



**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Surface Water Quality Bureau

**SUSANA MARTINEZ
Governor**

**JOHN A. SANCHEZ
Lieutenant Governor**

Harold Runnels Building, N2050
1190 South St. Francis Drive (87505)
P.O. Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-0187 Fax (505) 827-0160
www.nmenv.state.nm.us



**DAVE MARTIN
Secretary**

**BUTCH TONGATE
Deputy Secretary**

**TOM SKIBITSKI
Acting Director
Resource Protection Division**

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

April 12, 2013

Mr. James McNicol, Generation Manager
City of Farmington, Electric Utility System
501 McCormick School Road
Farmington, NM 87401

Re: Minor Industrial, SIC 4911, NPDES Compliance Evaluation Inspection, City of Farmington, Electric Utility System, NM0000043, March 29, 2013

Dear Mr. McNicol,

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 to modify your operational and/or administrative procedures, as appropriate.

I wish to thank you for the cooperation extended to NMED personnel by Britt Chesnut and Brian Johnson while at the Electric Utility System. If you have any questions about this inspection report, please contact me at (505) 222-9587 or sarah.holcomb@state.nm.us.

Sincerely,
/s/ Sarah Holcomb
Sarah Holcomb
Environmental Scientist/Specialist
NMED Surface Water Quality Bureau

Cc: Hannah Branning, USEPA (6EN-AS) by e-mail
Darlene Whitten-Hill, USEPA (6EN-AS) by e-mail
Rashida Bowlin, 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 (6EN-P) by e-mail
Bob Italiano, NMED District 2 Manager (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 0 0 0 4 3 11 12 1 3 0 3 2 9 17 18 C 19 S 20 2					
Remarks					
S T E A M E L E C T R I C G E N E R A T I N G					
Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	
67 69	70 3	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) CITY OF FARMINGTON, ELECTRIC UTILITY SYSTEM, ANIMAS POWER PLANT, 501 MCCORMICK SCHOOL ROAD, FARMINGTON, NM; SAN JUAN COUNTY: From US 64 (east side of Farmington) at 1200 E. Broadway Ave., turn southwest onto McCormick School Rd., travel one block, plant on right.	Entry Time /Date 0752 / 3-29-2013	Permit Effective Date 10-1-2011
	Exit Time/Date 1100 / 3-29-2013	Permit Expiration Date 9-30-2016
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Mr. Britt Chesnut, Environmental Scientist (505) 599-8345	Other Facility Data	
Name, Address of Responsible Official/Title/Phone and Fax Number Mr. James McNicol, Power Plant Generation Manager, City of Farmington Electric Utility System 501 McCormick School Rd., Farmington, NM 87401 (505) 599-8342	Contacted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> *	GPS: N. 36.725611° W -108.191316° SIC: 4911

Section C: Areas Evaluated During Inspection

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

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

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

- INSPECTOR ARRIVED AT THE FACILITY AT 0752 HOURS ON MARCH 29, 2013. THE INSPECTOR CONDUCTED AN ENTRANCE INTERVIEW WITH MR. BRITT CHESNUT, WHERE SHE MADE INTRODUCTIONS, PRESENTED CREDENTIALS AND EXPLAINED THE PURPOSE OF THE INSPECTION.
- PLEASE SEE REPORT FOR FURTHER EXPLANATIONS.
- AN EXIT INTERVIEW TO DISCUSS THE PRELIMINARY FINDINGS OF THE INSPECTION WAS CONDUCTED WITH MR. CHESNUT AT THE FACILITY AT APPROXIMATELY 1100 HOURS ON MARCH 29, 2013.

Name(s) and Signature(s) of Inspector(s) Sarah Holcomb /s/ Sarah Holcomb	Agency/Office/Telephone/Fax 505-222-9587	Date 4-12-2013
Signature of Management QA Reviewer Bruce Yurdin /s/ Bruce Yurdin	Agency/Office/Phone and Fax Numbers 505-827-2795	Date 4-12-2013

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED YES)

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. DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED NO)

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. DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED NO)

1. TREATMENT UNITS PROPERLY OPERATED. S M O U NA

2. TREATMENT UNITS PROPERLY MAINTAINED. S M O U NA

3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED. S M O U NA

4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. S M O U NA

5. ALL NEEDED TREATMENT UNITS IN SERVICE S M O U NA

6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED. S M O 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 O N NA
 PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED. O 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 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. 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. Y N NA
 TYPE OF DEVICE Outfall 001 magnetic meter; Outfall 003 and 003A pump rate output
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. 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. 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

SECTION F - LABORATORY (CONT'D)

- 2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED Y N X NA
- 3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. O S X M U NA
- 4. QUALITY CONTROL PROCEDURES ADEQUATE. O S X M U NA
- 5. DUPLICATE SAMPLES ARE ANALYZED. 10 % OF THE TIME. X Y N NA
- 6. SPIKED SAMPLES ARE ANALYZED. 100 % OF THE TIME. X Y N NA
- 7. COMMERCIAL LABORATORY USED. X Y N NA

LAB NAME Farmington WWTP

LAB ADDRESS 800 Municipal Dr., Farmington NM

PARAMETERS PERFORMED pH, TSS, contracts oil & grease out to ERMI Environmental Labs in Allen, TX

SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS. X S M O U NA (FURTHER EXPLANATION ATTACHED NO).

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	No Discharge						
003	No Discharge						
003A	No Discharge						

RECEIVING WATER OBSERVATIONS

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. S M U X 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. O S M U NA
- 3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: N/A (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

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

- 1. SAMPLES OBTAINED THIS INSPECTION. Y X 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

**Compliance Evaluation Inspection
City of Farmington Animas Steam Plant
NPDES Permit No. NM0000043
March 29, 2013**

Introduction

On March 29, 2013, Sarah Holcomb of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the City of Farmington, Electric Utility System, Animas Power Plant, 501 McCormick School Road, Farmington, NM 87401 in San Juan County. The Animas Power Plant is classified as a minor industrial discharger under the Federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. It is assigned NPDES permit number NM0000043. This permit regulates the discharge of once-through cooling water and screen wash to Willet Ditch thence to the Animas River in Segment 20.6.4.403 according to the *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC*. This segment includes the designated uses of public water supply, industrial water supply, irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, primary contact and warmwater aquatic life.

The NMED performs a certain number of CEIs for the U.S. Environmental Protection Agency (USEPA), Region VI, under the NPDES permit program, in accordance with the Federal Clean Water Act. USEPA uses these inspections to determine compliance with the NPDES permit program. This inspection report is based on information provided by the permittee's representatives, observations made by the NMED inspector, and records and reports kept by the permittee and/or NMED.

Upon arrival at the facility at 0752 hours on March 29, 2013, the inspector conducted an entrance interview with Mr. Brian Johnson, Operator, where she made introductions, presented credentials and explained the purpose of the inspection. Mr. Johnson notified Mr. Britt Chesnut, Environmental Scientist for Farmington Electric Utility System, who arrived shortly thereafter. The inspector then conducted a tour of the facility with Mr. Chesnut. An exit interview was conducted with Mr. Chesnut at the facility at approximately 1100 hours on March 29, 2013 to present the preliminary findings of the inspection.

Treatment Scheme

The Farmington Electric Utility System is owned and operated by the City of Farmington and serves approximately 44,000 customers. The service territory encompasses the City of Farmington, most of the populated area of San Juan County (including the City of Bloomfield and the San Juan River Valley west from the City to the Navajo Reservation) and a portion of Rio Arriba County northeast of the City. The Electric Utility System also provides transmission services for the City of Aztec, which owns its own substation and distribution facilities to Williams Field Services. The Animas Power Plant in the utility system was originally built in 1929 as a hydroelectric generating unit. From 1955 through 1959, four steam turbines and boilers were constructed. The approximately 50.3 megawatt steam electric generation facility consists of five generating units. Two conventional steam turbines (Units 1 and 2) are used in combined cycle arrangement with an 18,680 KW natural gas fired combustion turbine constructed in 1993. Two conventional steam units (Units 3 and 4) were retired in 2000 and 1995, respectively, due to the cost of operations/inefficiency of those units, according to the on-site permittee representative. The process used to develop electricity from steam includes turbine generators, heat recovery steam generator (HRSG), cooling towers, water pump station, sub-station and other supporting equipment.

Process water from operations of the power generating facility consists of noncontact once-through condenser cooling water sourced from Willet Ditch that discharges from Outfall 001 (although the facility is not using source water from Willets Ditch at this time due to water quality issues – they are using municipal source water), back-wash water from another Willet Ditch inlet water system that discharges from Outfall 003, and back-wash water from another Willet Ditch inlet water screen for the hydroelectric plant that discharges from Outfall 003A. The Animas Power Plant also draws condenser cooling water from the cooling tower in a separate closed circuit system (cooling tower to condenser to cooling tower). Make-up water for this system is municipal drinking water. The treated cooling water or tower blow-down wastewater from this system is not currently discharged to Willet Ditch, but enters the collection system for the City of Farmington Waste Water publicly owned treatment works (POTW).

Willet Ditch, plant intake, and Outfalls 001, 003 and 003A are located at the northeast corner of the facility directly east of a clarifier pump house that is no longer used according to the permittee on-site representative. When

Compliance Evaluation Inspection
City of Farmington Animas Steam Plant
NPDES Permit No. NM0000043
March 29, 2013

operating, gravity fed intake water from Willet Ditch is passed through a coarse material traveling screen to remove leaves, tree branches and trash. After the screen, intake water flows to a sump where it is pumped through the condenser cooling circuit then the noncontact once-through condenser cooling water is discharged from Outfall 001 directly downstream from the intake to Willet Ditch. Periodically, the traveling screen is back-washed to remove coarse built-up and these materials as well as backwash water is discharged from Outfall 003 (adjacent to Outfall 001). Outfall 001 is sampled from a port prior to mixing with Willet Ditch, except for temperature, which is at the end of Willet Ditch prior to discharging into the Animas River. Outfall 003 is sampled from the discharge of the screen backwash prior to mixing with Willet Ditch. The hydroelectric plant would also use water from Willet Ditch. Intake water from the ditch would pass through a coarse material screen similar to the one described above and sent through the turbine. Periodically, this screen is backwashed to remove coarse materials build-up. Coarse materials are collected and back-wash water is discharged from Outfall 003A, located approximately 100 feet northwest from Outfall 001 and Outfall 003. Outfall 003A is sampled from the discharge of the screen backwash prior to mixing with Willet Ditch. Solids removed from the traveling screens are placed in open drums, transferred to an on-site trash dumpster, then disposed at a municipal solid waste landfill.

Outfall 004, although included in the permit, has not yet been constructed. The outfall will most likely be constructed within the next two years, and will most likely be constructed in the same area of the facility as Outfalls 001, 003 and 003A.

**Compliance Evaluation Inspection
City of Farmington Animas Steam Plant
NPDES Permit No. NM0000043
March 29, 2013**

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 Evaluation – Overall rating of *Satisfactory*

The permit requires in Part I.A.4:

During the period from the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge combined cooling tower blowdown and low volume wastes to Willets Ditch thence to the Animas River, in segment number 20.6.4.403, from Outfall 004. Such discharges shall be limited and monitored by the permittee as specified below: ...

The permit requires in Part I.A.4:

EFFLUENT CHARACTERISTIC		DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		lbs/day, unless noted		mg/l, unless noted		MEASUREMENT FREQUENCY	SAMPLE TYPE
POLLUTANT	STORET CODE	30 DAY AVG	DAILY MAX	30-DAY AVG	DAILY MAX		
Phosphorus	00665	N/A	N/A	No Measureable (*4)	No Measureable (*4)	Once/Month (*1)	12-Hr Composite

(*1) When discharging.

(*4) There shall be no measureable phosphorus concentration in the discharge.

Findings for Permit Verification:

The Animas Steam Plant has not constructed Outfall 004 as of the time of this inspection. The facility has been sending this waste stream to the sanitary sewer system, thence to the Farmington POTW (NM0020583). This facility does have an active pretreatment program as mandated by their NPDES permit. The Farmington POTW just issued a new Categorical Industrial User permit (40 CFR 423) to the Animas Steam Plant, which contains a compliance schedule of two years to come into compliance with a Total Dissolved Solids (TDS) limit of 1460 mg/L in that permit. The compliance date for the facility is March 1, 2015. The Animas Steam Plant personnel plan to construct Outfall 004 within that two year time frame, and to start discharging to the Willets Ditch prior to the new TDS limit becoming effective in the pretreatment permit.

The permittee representative indicated at the time of the inspection that they would most likely take advantage of the unused clarifier building onsite to house the treatment mechanisms for Outfall 004. Please see Appendix A to the inspection report for a draft drawing of the treatment system that will be used to treat the wastewater going to Outfall 004. The City contracted CH2M Hill/OMI to engineer a treatment system that may consist of an incline plate clarifier system with FeCl₂ and Alum addition to precipitate out phosphorus.

Due to the upcoming Outfall 004 construction, a conversation took place during the inspection regarding phosphorus limits and what the requirements will be.

The phosphorus limit is contained in this NPDES permit due to the TMDL written for the Animas River segment that the facility discharges into Estes Arroyo to San Juan River – 20.6.4.403 NMAC. At the time the TMDL was written, there was no Waste Load Allocation assigned to the Animas Steam Plant because there was no discharge from the facility. This is why the “no measureable” limit was written into the permit – to account for the zero WLA in this situation. The permittee has started using a different corrosion inhibitor (CI) chemical - they changed from using sodium hexametaphosphate, which is a phosphorus based corrosion inhibitor, to the current use of GE’s

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GenGard, which is a polymer based corrosion inhibitor. Please see the attached MSDS in Appendix D for specific product information. According to the permittee's representative, phosphorus is still a concern in the discharge because of the soft phosphate deposits still left in the facility from the previous use of the sodium metahexaphosphate.

EPA at this time has not established a minimum quantification level (MQL) for phosphorus. The recommended method for analysis of phosphorus to comply with the NMED assessment criterion will most likely be EPA Method 365.4 or Standard Methods 4500-P E – both of these methods have a minimum quantification limit of 10 micrograms per liter. The ecoregion criteria for the Farmington area may suggest a limit of 0.015 mg/L Phosphorus for the AZ/NM Plateau as indicated in Table 4.1 of the 2005 TMDL.

According to EPA Region 6 Permits staff, this will most likely be addressed with a minor permit modification prior to the establishment and discharge from Outfall 004 to include a discrete permit limit for phosphorus.

Section D – Self Monitoring Evaluation – Overall rating of *Satisfactory*

The permit requires in Part III.C.5, Monitoring Procedures:

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

40 CFR Part 136.3 Table II (Required Containers, Preservation Techniques and Holding Times) requires for Method 1664A:

<i>Parameter Number/Name</i>	<i>Container</i>	<i>Preservation</i>	<i>Maximum Holding Time</i>
<i>41. Oil and Grease</i>	<i>G</i>	<i>Cool to ≤6°C, HCl or H2 SO4 to pH <2.</i>	<i>28 days</i>

Findings for Self Monitoring:

The inspector requested the sampling records for the samples taken during the fourth quarter of 2010 for Outfall 003. During review of those records, it was noted that the permittee is using Method 1668A for analysis of Oil & Grease, which is an approved method. However, in 40 CFR 136 Table II (as mentioned above), there are specific preservation methods allotted to this method. From the documentation that the inspector reviewed, there was documentation that the sample was initially properly preserved including acidification to less than pH 2.0. However, please see the Chain of Custody/Sampling forms included as Appendix C to this report. The contract lab (ERMI Environmental Laboratories) did not confirm the acidification of the sample.

Section F – Laboratory Evaluation – Overall rating of *Marginal*

The permit requires in Part III.5.C, Monitoring Procedures:

- c. *An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.*

40 CFR Part 136.3 Table II (Required Containers, Preservation Techniques and Holding Times) requires for Method 1664A:

<i>Parameter Number/Name</i>	<i>Container</i>	<i>Preservation</i>	<i>Maximum Holding Time</i>
<i>41. Oil and Grease</i>	<i>G</i>	<i>Cool to ≤6°C, HCl or H2 SO4 to pH <2.</i>	<i>28 days</i>

Findings for Laboratory:

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City of Farmington Animas Steam Plant
NPDES Permit No. NM0000043
March 29, 2013

The inspector noted that the QC from the contract lab on the oil and grease method was close to being unacceptable. The acceptable total recovery for a matrix spike in the 1668A method (according to EPA) is 78-114% for the HEM (hexane extractable method), which is what this contract lab used. The recovery listed in the QC data associated with this sample was between 80-81%, which is at the extreme low end of this range. The permittee should be sure to keep an eye on the QC data to ensure that the test is valid.

On the sample receiving form at the contract lab, the instructions receiving samples for oil and grease analysis are specifically not to measure the pH of samples received. (Please see the sample receiving form included as Appendix C to this report.) This may indicate a lack of proper QC procedures at the contract lab, ERMI Environmental Laboratories.

NMED/SWQB

Official Photograph Log

Photo # 1

Photographer: Sarah Holcomb	Date: 3-29-2013	Time: 0914 hours
City/County: Farmington/San Juan County		
Location: Farmington Animas Steam Plant, 501 McCormick School Rd.		
<p>Subject: This is the area next to Outfall 001. The pipe to the left in the photo is Outfall 001 to Willets Ditch. As you can see, there is a gate where the inflow enters the pit from Willets Ditch for intake water to the facility, according to the permittee representative. The facility is not using intake water from Willets Ditch at this time because of quality issues and is using a domestic water source. The pipe to the right is another outlet for Outfall 001. This cannot be activated without turning a valve and unplugging the pipe.</p>		



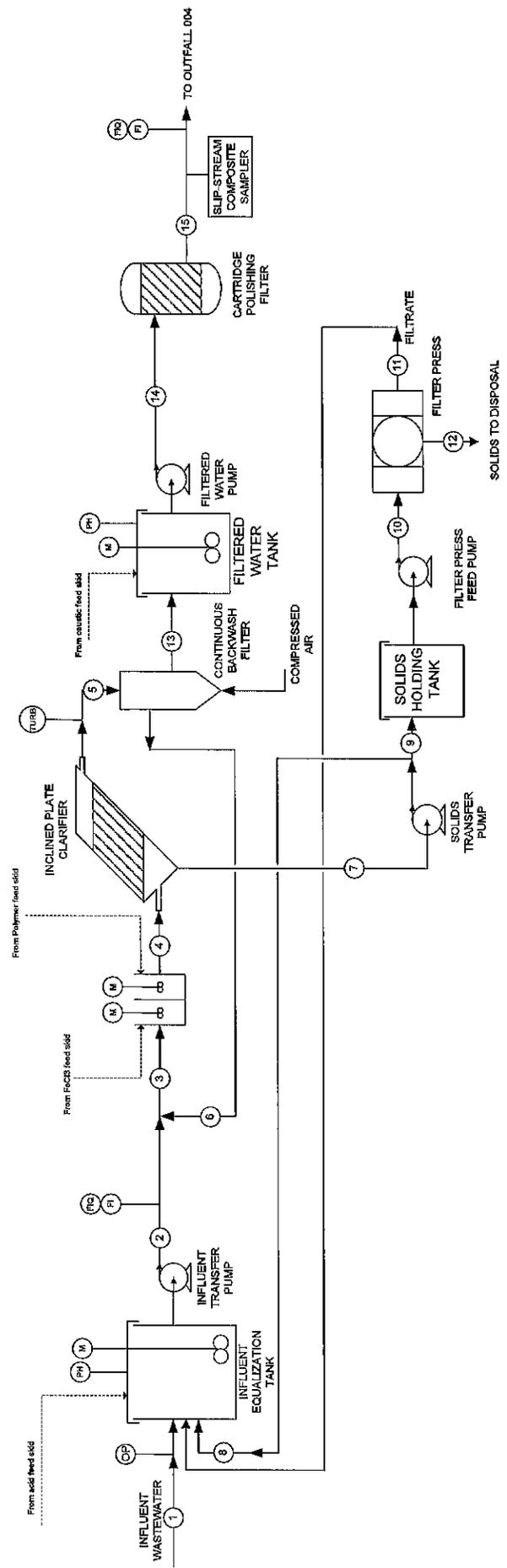
NMED/SWQB

Official Photograph Log

Photo # 2

Photographer: Sarah Holcomb	Date: 3-29-2013	Time: 0918 hours
City/County: Farmington/San Juan County		
Location: Farmington Animas Steam Plant, 501 McCormick School Rd.		
Subject: Storage tank located outdoors. Unit was covered due to a previous inspection finding and concrete catchment was located as drip containment for loading/unloading operations.		





CH2MHILL

Phosphiteous Removal Process Conceptual Design
Process Flow Diagram
 FEUS Animas Plant

Outfall 001	pH	Temp	Temp	Al, total	al, total	al, dissolved	al, dissolved	flow	flow	TDS	TDS	
	6.6-9.0	80° F	80.6° F	report	report	report	report	report mgd	report mgd	report	report	
	Min/Max	30d avg	daily max	mo avg	daily max	mo avg	daily max	30d avg	daily max	mo avg load	mo avg conc	
Oct-10	8.3/8.3		55.12	60	0.21	0.21	0.1	0.1	11.42	11.6	44758	472
Nov-10	ND											
Dec-10	ND											
Jan-11	ND											
Feb-11	ND											
Mar-11	ND											
Apr-11	ND											
May-11	ND											
Jun-11	ND											
Jul-11	ND											
Aug-11	ND											
Sep-11	ND											
Oct-11	ND											
Nov-11	ND											
Dec-11	ND											
Jan-12	ND											
Feb-12	ND											
Mar-12	ND											
Apr-12	ND											
May-12	ND											
Jun-12	ND											
Jul-12	ND											
Aug-12	ND											
Sep-12	ND											
Oct-12	ND											
Nov-12	ND											
Dec-12	ND											

Outfall 003	flow	flow
	report	report
	30d avg load	daily max
October-10	0.0018	0.0018
November-10	0.0018	0.0018
December-10	0.017	0.017
January-11	ND	
February-11	ND	
March-11	ND	
April-11	0.0225	0.054
May-11	0.0018	0.0018
June-11	0.0018	0.0018
July-11	0.0018	0.0018
August-11	0.0018	0.05
September-11	0.0018	0.0018
October-11	0.018	0.047
November-11	0.002	0.002
December-11	ND	
January-12	ND	
February-12	ND	
March-12	ND	
April-12	ND	
May-12	ND	
June-12	ND	
July-12	ND	
August-12	ND	
September-12	ND	
October-12	ND	
November-12	ND	
December-12	ND	

Outfall 3Q (003)	pH	TSS	TSS	oil and grease	oil and grease
	6.6/9.0	30	100	15	20
	min/max	30d avg	daily max	30d avg	daily max
nov to dec 2010	8.5/8.5	-20	-20	2.6	2.6
jan to mar 2011	ND				
apr to jun 2011	8.3/8.3	11	17	5	5
jul to sep 2011	8.2/8.2	1	1	1	1
oct to dec 2011	8.3/8.3	1	1	5	5
jan to mar 2012	ND				
apr to jun 2012	ND				
jul to sep 2012	ND				
oct to dec 2012	ND				

Outfall 003A	flow	flow
	report	report
	mo avg	daily max
Oct-10	ND	
Nov-10	ND	
Dec-10	ND	
Jan-11	ND	
Feb-11	ND	
Mar-11	ND	
Apr-11	ND	
May-11	ND	
Jun-11	ND	
Jul-11	ND	
Aug-11	ND	
Sep-11	ND	
Oct-11	ND	
Nov-11	ND	
Dec-11	ND	
Jan-12	ND	
Feb-12	ND	
Mar-12	ND	
Apr-12	ND	
May-12	ND	
Jun-12	ND	
Jul-12	ND	
Aug-12	ND	
Sep-12	ND	
Oct-12	ND	
Nov-12	ND	
Dec-12	ND	

Outfall 003A-Q (003A)	pH	TSS	TSS	oil and grease	oil and grease
	min/max	30	100	15	20
	30d avg	daily max	30d avg	daily max	
10 to 12/2010	ND				
1 to 3/2011	ND				
4 to 6/2011	ND				
7 to 9/2011	ND				
10 to 12/2011	ND				
1 to 3/2012	ND				
4 to 6/2012	ND				
7 to 9/2012	ND				
10 to 12/2012	ND				



Environmental Laboratories
 Bethany Tech Center • Suite 190
 400 W. Bethany Rd. • Allen, Texas 75013

State Certifications
 Arkansas: 88-0647
 Oklahoma: 8727



Louisiana: 02007
 Kansas: E-10388
 Texas: T104704232-10-1

Report of Sample Analysis

Anachem, Inc.
 8 Prestige Circle, Ste 104
 Allen, TX 75002
 ATTN: Deb Speed

Page: Page 1 of 4
 Project: None
 Project #: 1012029-01A
 Print Date/Time: 12/10/10 15:38

Attached is our analytical report for the samples received for your project. Below is a list of your individual sample descriptions with our corresponding laboratory number. We also have enclosed a copy of the Chain of Custody that was received with your samples and a form documenting the condition of your samples upon arrival. Please note any unused portion of the samples may be discarded upon expiration of the EPA holding time for the analysis performed or after 30 days from the above report date, unless you have requested otherwise.

ERMI Environmental Laboratories certifies that all results contained in this report were produced in accordance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) unless otherwise noted. The results presented apply to the samples analyzed in accordance with the chain-of-custody document(s) furnished with the samples. This report is intended for the sole use of the customer for whom the work was performed and must be reproduced, without modification, in its entirety.

Sample Identification

<u>Laboratory ID #</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>	<u>Received Date/Time</u>
1012109-01	1012029-01A	Aqueous	12/02/10 15:07	12/03/10 14:55

Thank you for the opportunity to serve your environmental chemistry analysis needs. If you have any questions or concerns regarding this report please contact our Customer Service Department at the phone number below.

Respectfully submitted,

Kendall K. Brown
 President



Environmental Laboratories
 Bethany Tech Center • Suite 190
 400 W. Bethany Rd. • Allen, Texas 75013

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 Oklahoma: 8727



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Report of Sample Analysis

Anachem, Inc.
 8 Prestige Circle, Ste 104
 Allen, TX 75002
 ATTN: Deb Speed

Page: Page 2 of 4
 Project: None
 Project #: 1012029-01A
 Print Date/Time: 12/10/10 15:38

<u>Laboratory ID #:</u> 1012109-01	<u>Sample Type</u> Unknown	<u>Matrix</u> Aqueous	<u>Sample Collected By</u> Not Provided
<u>Sample Description</u> 1012029-01A		<u>Sample Date/Time</u> 12/02/10 1507	

Analyte(s)	Result	SRL	MRL	Units	F*	Method	Batch	Analysis Date/Time	Anlst	Flag
Conventional Chemistry Parameters										
Oil & Grease (HEM)	ND	2.65	2.6	mg/l	1.02	EPA 1664A	0L10007	12/10/10 1000	KTF	

Std Rpt v.2.7-072610



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 400 W. Bethany Rd. • Allen, Texas 75013

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Report of Sample Analysis

Anachem, Inc.
 8 Prestige Circle, Ste 104
 Allen, TX 75002
 ATTN: Deb Speed

Page: Page 3 of 4
 Project: None
 Project #: 1012029-01A
 Print Date/Time: 12/10/10 15:38

Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	*SRI	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 0L10007										
Blank (0L10007-BLK1)										
Prepared & Analyzed: 12/10/10 10:00										
Oil & Grease (HEM)	ND	2.60	mg/l							
Laboratory Control Sample (0L10007-BS1)										
Prepared & Analyzed: 12/10/10 10:00										
Oil & Grease (HEM)	32.3	2.60	mg/l	40.0		81	78-114			
Laboratory Control Sample Duplicate (0L10007-BSD1)										
Prepared & Analyzed: 12/10/10 10:00										
Oil & Grease (HEM)	32.0	2.60	mg/l	40.0		80	78-114	0.9	18	
Matrix Spike (0L10007-MS1)										
Prepared & Analyzed: 12/10/10 10:00										
Oil & Grease (HEM)	34.6	2.83	mg/l	43.5	ND	80	78-114			
					Source: 1012112-01					



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 Bethany Tech Center • Suite 190
 400 W. Bethany Rd. • Allen, Texas 75013

State Certifications

Arkansas: 88-0647
 Oklahoma: 8727



Louisiana: 02007
 Kansas: E-10388
 Texas: T104704232-10-1

Report of Sample Analysis

Anachem, Inc.
 8 Prestige Circle, Ste 104
 Allen, TX 75002
 ATTN: Deb Speed

Page: Page 4 of 4
 Project: None
 Project #: 1012029-01A
 Print Date/Time: 12/10/10 15:38

Notes and Definitions

The results presented in this report were generated using those methods given in 40 CFR Part 136 for Water and Wastewater samples and in SW-846 for RCRA/Solid Waste samples.

- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- LCS/LCSD Laboratory Control Sample/Laboratory Control Sample Duplicate
- MS/MSD Matrix Spike/Matrix Spike Duplicate
- RPD Relative Percent Difference
- mg/kg milligrams per kilogram
- mg/l milligrams per liter
- ug/kg micrograms per kilogram
- ug/l micrograms per liter
- exc Not covered under scope of NELAP accreditation.
- F* Calculated factor rounded to 3 significant figures. Concentration factor when <1.00 and dilution factor when >1.00.
- Anlst Analyst Initials
- SRL Sample Reporting Limit
- MRL Method Reporting Limit
- naa This analysis/parameter is not accreditable under the current NELAP program

Anachem, Inc.
8 Prestige Circle, Suite 104
Allen, TX 75002-

TEL: (800) 966-1186
FAX: (972) 727-9686

Subcontractor:

ERMI, Inc
400 W. Bethany
Allen, TX 75002

TEL: (972) 727-1123
FAX: (972) 727-1175
Acct #:

IR-01 Temp 4.6cc

03-Dec-10

CHAIN-OF-CUSTODY RECORD

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests
1012029-01A	Liquid	12/2/2010 3:07:00 PM	1 PMPER AMBER BOTTL	1664A OIL & GREASE

1012109-01

Comments:

Relinquished by: <u>Michael J. Gal</u>	Date/Time: <u>12/3/10 1455</u>
Relinquished by: <u>ERMI Leslie Underwood</u>	Date/Time: <u>12/3/10 1455</u>

Lab Number(s): 1012109

ERM1

Sample Preservation Documentation*

On Ice (Circle One) **YES** OR NO (check if on Dry Ice _____)

Parameters	Containers #	Containers Size	Required Preservation	Sample Container	Circle pH Note any discrepancy
Metals			pH < 2	Glass or Plastic	pH < 2
Dissolved Metals			Unpreserved prior to being filtered, Cool**	Glass or Plastic	
Hexavalent Chromium			CWA - pH 9.3-9.7, Cool; RCRA - Cool	Glass or Plastic	Checked At Analysis
Semivolatiles, Pesticides, PCBs, Herbicides			Cool	Glass only with Teflon lid	Chlorine <input type="checkbox"/> yes <input type="checkbox"/> no
VOA (BTEX, MTBE, 624, 8260, TPH-GRO)			Cool, pH < 2 Zero Head Space	40 ml VOA vial	DO NOT OPEN
VOA (TPH-1005)			Cool, Zero Head Space Please check if collected in pre-weighed vials	40 ml VOA vial	DO NOT OPEN
Phos., NO ₃ /NO ₂ , NH ₃ N, COD, TKN, TOC			Cool, pH < 2	Glass or Plastic	pH < 2
TDS, BOD, CBOD, Cond, pH, TSS, F, SO ₄ , Cl, Alk, Sulfite			Cool	Glass or Plastic, Plastic only if F	
Phenols, TPH-DRO			Cool, pH < 2	Glass only Teflon lid _____ Foil lid _____	pH < 2
Oil & Grease, TPH (by 1664a)	1	1L	Cool, pH < 2	Glass only Teflon lid <input checked="" type="checkbox"/> Foil lid _____	DO NOT Check pH
Cyanide			Cool, pH > 12	Glass or Plastic	pH > 12 Chlorine <input type="checkbox"/> yes <input type="checkbox"/> no Sulfide <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> na
Sulfide			Cool, pH > 9	Glass or Plastic	pH > 9
Bacteria			Cool	Plastic Sterile Cup	
Soil, Sludge, Solid, Oil, Liquid			Cool Note: please check if collected in pre-weighed vials		

Metals Preserved By Login yes no

Trip Blanks Received yes no

COMMENTS: _____

*This form is used to document sample preservation. Circle parameter requested. Fill in number and size of containers received. Check pH (adjust if needed) and note if different from what is required and make a notation of any samples not received on ice. Note any incorrect sample containers or preservation on chain-of-custody.

**Cool means cooled to ≤6°C but not frozen

Preservation Checked By [Signature]

Date

12-3-10

Time

1646

1000.0-3.2

2/17/09

kdy 7/10/08

Q:\Form Masters\1000.0-3.2 Sample Preservation Form



ANACHEM INC.

8 Prestige Circle, Suite 104 Allen, Texas 75002
972-727-9003 • FAX # 972-727-9686 • 1-800-966-1186



Report Information		Project Information	
Company Name <i>CH2M Hill - OMI, Inc.</i>		Requested Turn Around Time (rushes must be verified with lab) 0% 25% 50% 100%	
Address <i>615 S. Carlton Ave.</i>		Project Name <i>Animas 003</i>	
City <i>Farmington</i> State <i>NM</i> Zip <i>87401</i>		Project Location <i>Animas Power Plant</i>	
Contact Name <i>M. Peterson</i>		Project # <i>402544 - AS.11.00.00</i> Quote # ____ PO # ____	
Contact Email <i>Monica.Peterson@ch2m.com</i>		Sampler Name <i>Eric Jaquez</i>	
Phone <i>505/315-6953</i> Ext. <i>—</i> Fax <i>505/564-2660</i>		Sampler Signature <i>[Signature]</i>	
Billing Information (Only if Different from above)		Logged in By: <i>[Signature]</i> Special Instructions	
Company Name <i>Same</i>		Matrix Codes L - Liquid S - Solid W - Wipes A - Air	
Address		Presevation Codes 1 - None 4 - HCl 2 - HNO ₃ 5 - NaOH 3 - H ₂ SO ₄ 6 - Ice 7 - Other	
City State Zip		Requested Analysis	
Contact Name			
Phone Fax			

Oil & Grease by 1664A

ANACHEM use only ANACHEM Order ID:	Customer Sample ID	Sample Info		Matrix	# of Containers	Pres Code	(C)omp / (G)rab	Hold	Requested Analysis				
		Date	Time						Oil & Grease	Bottle type	RG411 / Dry Weight	TRRF / Dry Weight	
<i>1012-029</i>	<i>003 Out 2010-0394</i>	<i>12/2/10</i>	<i>1507</i>	<i>L</i>	<i>1 3/6</i>				<i>X</i>				

*In the event that Anachem determines that a sample is hazardous, the client will pay for sample disposal OR accept returned sample.

RELINQUISHED BY <i>[Signature]</i>	DATE <i>12/2/10</i>	TIME <i>1520</i>	RECEIVED BY <i>[Signature]</i>	DATE <i>12-2-2010</i>	TIME <i>1520</i>
RELINQUISHED BY <i>[Signature]</i>	DATE <i>12-2-10</i>	TIME <i>1539</i>	RECEIVED BY <i>[Signature]</i>	DATE	TIME
RELINQUISHED BY <i>1012-029</i>	DATE	TIME	RECEIVED BY <i>[Signature]</i>	DATE <i>12/3/10</i>	TIME <i>9:45AM</i>



Material Safety Data Sheet

Issue Date: 13-MAR-2012
Supercedes: 07-FEB-2012

GENGARD GN8201

1 Identification

Identification of substance or preparation
GENGARD GN8201

Product Application Area
Corrosion inhibitor

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 13-MAR-2012

2 Hazard(s) identification

EMERGENCY OVERVIEW

DANGER

Corrosive to skin. Corrosive to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard: Corrosive to skin
Odor: Slight Ammonia; Appearance: Amber To Dark Brown, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; Corrosive to skin.

ACUTE EYE EFFECTS:
Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:

May cause severe irritation or burning of mouth, throat, and gastrointestinal tract with severe chest and abdominal pain, nausea, vomiting, diarrhea, lethargy and collapse. Possible death when ingested in very large doses.

TARGET ORGANS:

Prolonged or repeated exposures may cause primary irritant dermatitis.

MEDICAL CONDITIONS AGGRAVATED:

Not known.

SYMPTOMS OF EXPOSURE:

May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
1310-73-2	SODIUM HYDROXIDE Corrosive; toxic (by ingestion)	3-7
202420-04-0	CHLOROTOLYLTRIAZOLE SODIUM SALT Potential irritant	1-5

4 First-aid measures

SKIN CONTACT:

URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

EYE CONTACT:

URGENT! Immediately flush eyes with water for 30 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.

INHALATION:

If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Rinse mouth with plenty of water. Dilute contents of stomach using 4-10 fluid ounces (120-300 mL) of milk or water.

NOTES TO PHYSICIANS:

Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, hydrogen chloride

FLASH POINT:

> 213F > 101C P-M(CC)

MISCELLANEOUS:

Corrosive to skin

UN 3267;Emergency Response Guide #153

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container.

Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement, a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Alkaline. Corrosive(Eyes). Do not mix with acidic material.

STORAGE:

Store below 100F (38C). Keep containers closed when not in use. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store away from acids. Do not store in aluminum containers.

8 Exposure controls / personal protection

EXPOSURE LIMITS**CHEMICAL NAME****SODIUM HYDROXIDE**

PEL (OSHA): 2 MG/M3

TLV (ACGIH): TWA (Ceiling) = 2 MG/M3

CHLOROTOLYLTRIAZOLE SODIUM SALT

PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

ENGINEERING CONTROLS:

Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER

WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED
WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of
the following particulate respirators: N95, N99, N100, R95,
R99, R100, P95, P99 or P100.

SKIN PROTECTION:

gauntlet-type rubber, butyl or neoprene gloves, chemical
resistant apron -- Wash off after each use. Replace as
necessary.

EYE PROTECTION:

splash proof chemical goggles, face shield

9 Physical and chemical properties

Spec. Grav. (70F,21C)	1.183	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	21	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-6		
Viscosity(cps 70F,21C)	90	% Solubility (water)	100.0

Odor	Slight Ammonia
Appearance	Amber To Dark Brown
Physical State	Liquid
Flash Point	P-M(CC) > 213F > 101C
pH As Is (approx.)	13.4
Evaporation Rate (Ether=1)	< 1.00
Percent VOC:	0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

Contact with strong acids may cause a violent reaction releasing
heat.

INCOMPATIBILITIES:

May react with acids or strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, hydrogen chloride

11 Toxicological information

Oral LD50 RAT:	3110 mg/kg
NOTE - Calculated value according to GHS additivity formula	
Dermal LD50 RABBIT:	>5000 mg/kg
NOTE - Calculated value according to GHS additivity formula	

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay (Estimated)
LC50= 649 mg/L

Fathead Minnow 96 Hour Static Acute Bioassay (Estimated)
LC50= 168; No Effect Level= 88 mg/L

BIODEGRADATION

BOD-28 (mg/g): 46
BOD-5 (mg/g): 26
COD (mg/g): 240
TOC (mg/g): 78

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(pH).

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Corrosive to skin

DOT: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(ACRYLATE TERPOLYMER,
SODIUM HYDROXIDE)
8, UN3267, PG III, RQ

DOT EMERGENCY RESPONSE GUIDE #: 153

Note: Some containers may be DOT exempt, please check BOL for exact container classification

IATA: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(ACRYLATE TERPOLYMER,
SODIUM HYDROXIDE)
8, UN3267, PG III

IMDG: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(ACRYLATE TERPOLYMER,
SODIUM HYDROXIDE)
8, UN3267, PG III

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

2,281 gallons due to SODIUM HYDROXIDE;

NSF Registered and/or meets USDA (according to 1998 Guidelines):

Registration number: Not Registered

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC

ENFORCEMENT ACT (PROPOSITION 65):

This product contains one or more ingredients at trace levels known

to the state of California to cause cancer.
MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS VII		CODE TRANSLATION
Health	3	Serious Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	CORR	DOT corrosive
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
	-----	-----	-----
MSDS status:	02-SEP-2010		** NEW **
	01-FEB-2011	8	02-SEP-2010
	05-APR-2011	11	01-FEB-2011
	07-FEB-2012	2,4,5,8,14,16	05-APR-2011
	13-MAR-2012	3	07-FEB-2012