TOXIC ORGANIC MANAGEMENT PLAN

for

Maclean-ESNA
611 Country Club Road
Pocahontas, AR 72455

Revised August 2011
by:

Poague & Associates, Inc.
2315 Parkway Lane
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611 Country Club Road
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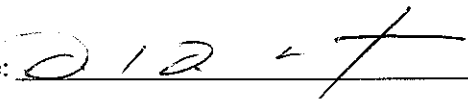
MANAGEMENT APPROVAL

This Toxic Organic Management Plan (TOMP) will be implemented as herein described.

Signature: 

Name: Dave Merwitz
Title: General Manager

Facility Information:
MacLean-ESNA a subsidiary of MacLean-FOGG Company
611 Country Club Road
Pocahontas, AR 72455
Randolph County

Phone: 870-892-5201

SIC code: 3452 – Bolts, Nuts, Screws, Rivets, and Washers
NAICS: 332722 - Bolt, Nut, Screw, Rivet, and Washer manufacturing

Publicly Owned Treatment Works (POTW) – Pocahontas City Sewer

Applicability of the EPA control of Total Toxic Organics to MacLean-ESNA
MacLean-ESNA conducts chromating and also chemical etching and milling operations at the Pocahontas facility. These processes invoke the EPA regulations for "Metal Finishing" under 40 CFR 433 Subpart A. This regulation requires control of a specific list of chemicals known as Toxic Organics. (see Appendix A)
Metal Finishing companies are regulated for Total Toxic Organics (TTO), and are required to either (1) perform self-monitoring for all TTO's or (2) implement a Toxic Organic Management Plan (TOMP) and submit a certification statement with each self-monitoring report that concentrated toxic organics are not being discharged to the sewerage system.
MacLean-ESNA has elected to implement a TOMP and submit certification statements with its self-monitoring "Discharge Monitoring Reports" (DMR's)
Federal Regulations state "a discharger shall submit a solvent management plan that specifies to the satisfaction of the permitting authority (or, in the case of indirect dischargers, the control authority) the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and procedures for ensuring that toxic organics do not routinely spill or leak into the wastewater. The control authority for MacLean-ESNA is the Arkansas Department of Environmental Quality, Water Division.

A. Process Description

MacLean-ESNA manufactures elastic stop nuts and precision machined components. The manufacturing processes include metal forming, metal cutting, passivation and metal cleaning.

- Wastewater types and volumes are depicted on Figure 1: Process Flow diagram.
- The current wastewater pre-treatment system is depicted on Figure 2: Pretreatment Process diagram.

Maclean-ESNA brings in bar stock to manufacture nylon fasteners (lock/stop nuts), some with protective caps. The manufacturing processes include cut-off, stamping or multi-head forming punches, precision tapping (screw) machining, nylon insert insertion. Self-contained CNC machining units use water soluble coolants. Spent coolants are collected in drums and disposed by a waste service company. Tramp oil from any machining or oil removal systems is captured and recycled/disposed by a waste service company. Wastewater from the facility goes to a Wastewater Pretreatment system before being discharged to the city sewer. Descriptions of the seven processes that feed the Wastewater Pretreatment System are listed below and coincide with Figure 1: Process Flow diagram.

There are seven process sources of water that feed the Wastewater Pretreatment Process.

1) Well water is used as "non contact cooling water" for the Hydraulic Press. This water enters the Pretreatment Process directly in the Effluent Channel, and is therefore not pretreated. This water is a "dilute" and is taken into account in the DMR calculations
2) City water is used as "non contact cooling water" for the Lepel Induction Heater. This water enters the Pretreatment Process directly in the Effluent Channel, and is therefore not pretreated. This water is a "dilute" and is taken into account in the DMR calculations.
3) City water is used in the Passivation process. The Passivation process consists of three tanks. Tank 1 contains Nitric Acid and Sodium Dichromate Dyhydrate. Tank 2 contains Nitric Acid. Tank 3 contains rinse water. Parts are run through either Tank 1 or Tank 2, then rinsed in Tank 3. Tank 3 has a constant flow of process water to the pretreatment system when the passivation process is running. Parts taken out of Tank 3 are then run through a spin dryer, which slings any remaining rinse water off the parts. The water from the spin dryer is collected and put back into Rinse Tank 3. Tanks 1 and 2 are pumped out when needed, to remove sludge. All contents of Tanks 1 and 2 are collected in drums and disposed by a hazardous waste service.
4) City water is used in the Rust Removal process. This consists of two tanks, Tank 4 contains phosphoric acid, and Tank 5 contains rinse water. Parts are run through Tank 4, then Tank 5. Tank 5 has a constant flow of process water to the pretreatment system when the derusting process is running. Parts taken out of Tank 5 are then run through a spin dryer, which slings any remaining rinse water off the parts. The water from the spin dryer is collected and put back into Rinse Tank 5. The Tank 4 is pumped out when needed, to remove sludge. All contents of Tank 4 are collected in drums and disposed by a hazardous waste service
5) City water is used for the Product Deburring process. This consists of deburring tumblers which drain to a settling pit (#6), then to the Pretreatment system. The settling Pit #6 is pumped out when needed, to remove sludge. All contents of the pit are collected by a vacuum truck and disposed by a hazardous waste service.
6) City water is used to feed the facility boilers. The boiler blow-down process generates very low water volume and goes directly to the Pretreatment system
7) Condensate is generated during the air compressor blow-down process. This water is very low volume and goes directly to the Pretreatment system. This water is a "dilute" and is taken into account in the DMR calculations.

B Identification of Toxic Organic Chemicals at the facility

a See appendix A for the List of Toxic Organic Chemicals that are regulated by 40 CFR 433 Metal Finishing.

b. See Appendix B for the List of Toxic Organic compounds present at the facility and their disposal methods.

C. Identification of Other potential sources of Toxic Organic Pollutant introduction to the Wastewater Treatment System

a Acid Room (Passivation and Rust Removal processes) - Floor drains in the acid room are connected to the main wastewater system. Therefore, spills of small quantities of chemicals could enter the treatment system. However, drums of Toxic Organic chemicals are not stored inside the acid room, and spill kits are available in the area. MacLean ESNA has an Emergency Preparedness and Response Plan that addresses spill response and to not allow spills to enter the public sewer or waterways.

b Drums/pails/containers in use throughout the facility - Spills could occur by accidental dumping, spillage during routine transfer, etc. MacLean ESNA has an Emergency Preparedness and Response Plan that addresses spill response and to not allow spills to enter the public sewer or waterways.

c Chemical Storage Areas - Chemicals are stored in bulk quantities in the Chemical Storage area. The chemical storage area is fenced and has secondary containment. Spills could occur by accidental dumping, spillage during routine transfer, etc. Such spills, however, cannot enter the wastewater treatment system since all the chemical storage areas do not have floor drains and spill kits are available.

d. Parts Washers Tank 9 – The facility uses parts washers to clean the parts before shipping. The water from these parts washers is pumped to an evaporation tank. The evaporation tank has an oil/grease removal system. Oil and Grease is collected in a drum and disposed by a waste service. The water is heated and evaporated, so that none of the water is sent to the pretreatment system. This tank is not connected to the pretreatment system. Sludge is collected in drums and disposed by a hazardous waste service. (See Table 1 below for chemicals)

e Carbowax Tank 7 – The Carbowax tank is used to apply wax to certain parts, as requested by customers. This tank is not connected to the pretreatment system. It is pumped out when necessary, and collected in drums, and disposed by a hazardous waste service. (See Table 1 below for chemicals)

f. Cetyl Alcohol Tank 8 - The Cetyl tank is used to apply certain chemicals to certain parts, as requested by customers. This tank is not connected to the pretreatment system. It is pumped out when necessary, and collected in drums, and disposed by a hazardous waste service. (See Table 1 below for chemicals)

D. Preventive Measures – The following are measures that will be taken to prevent toxic organic chemicals from entering into the sanitary sewer system.

a. Training - All personnel involved in chemical handling and clean-up activities will receive training in the proper handling and disposal of solvents and clean-up materials in order to keep regulated toxic organics out of the sanitary sewer system.

b. Chemical Storage Area – The Chemical storage area will be maintained in a neat and orderly manner.

- The storage area shall be inspected weekly
- Containers shall be labeled and maintained in good condition
- Containers shall be kept closed except when filling or removing chemicals
- Leaks and spills will be cleaned up immediately

c. Manufacturing Area – Manufacturing Equipment will be maintained in good working condition
   - ➢ Leaking equipment and or piping will be repaired immediately
   - ➢ Leaks or spills will be cleaned up immediately

d. Emergency Preparedness and Response – Employees who handle chemicals that could be spilled to the floor drains leading to the pretreatment system and eventually the city sewer system shall be trained to the Emergency Preparedness and Response Plan. This plan outlines spill response and containment procedures, and instructions to keep spills out of the city sewer system.

E. Pretreatment Standards

PART 433—METAL FINISHING POINT SOURCE CATEGORY

Subpart A—Metal Finishing Subcategory

§ 433.10 Applicability; description of the metal finishing point source category.
(a) Except as noted in paragraphs (b) and (c), of this section, the provisions of this subpart apply to plants which perform any of the following six metal finishing operations on any basis material:

- Electroplating,
- Electroless Plating,
- Anodizing,
- Coating (chromating, phosphating, and coloring),
- Chemical Etching and Milling,
- Printed Circuit Board Manufacture

If any of those six operations are present, then this part applies to discharges from those operations and also to discharges from any of the following 40 process operations: Cleaning, Machining, Grinding, Polishing, Tumbling, Burnishing, Impact Deformation, Pressure Deformation, Shearing, Heat Treating, Thermal Cutting, Welding, Brazing, Soldering, Flame Spraying, Sand Blasting, Other Abrasive Jet Machining, Electric Discharge Machining, Electrochemical Machining, Electron Beam Machining, Laser Beam Machining, Plasma Arc Machining, Ultrasonic Machining, Sintering, Laminating, Hot Dip Coating, Sputtering, Vapor Plating, Thermal Infusion, Salt Bath Descaling, Solvent Degreasing, Paint Stripping, Painting, Electrostatic Painting, Electropainting, Vacuum Metalizing, Assembly, Calibration, Testing, and Mechanical Plating.

Pretreatment Standards for the Metal Finishing Category (40 CFR 433)

Pretreatment Standards for Existing Sources (PSES)

Pollutant	Daily Maximum, mg/l	Max. Monthly Avg, mg/l
Cadmium	0.69	0 26
Chromium	2.77	1 71
Copper	3 38	2.07
Lead	0 69	0.43
Nickel	3.98	2 38
Zinc	2.61	1 48
Silver	0.43	0 24
Cyanide (total)	1.2	0.65
Total Toxic Organics	2 13	--

No user introducing wastewater pollutants into a publicly owned treatment works under the provisions of this subpart shall augment the use of process wastewater as a partial or total substitute for adequate treatment to achieve compliance with this standard.

- An existing source submitting a certification in lieu of monitoring pursuant to § 433 12 (a) and (b) of this regulation must implement the toxic organic management plan approved by the control authority.
- An existing source subject to this subpart shall comply with a daily maximum pretreatment standard for TTO of 4.57 mg/l

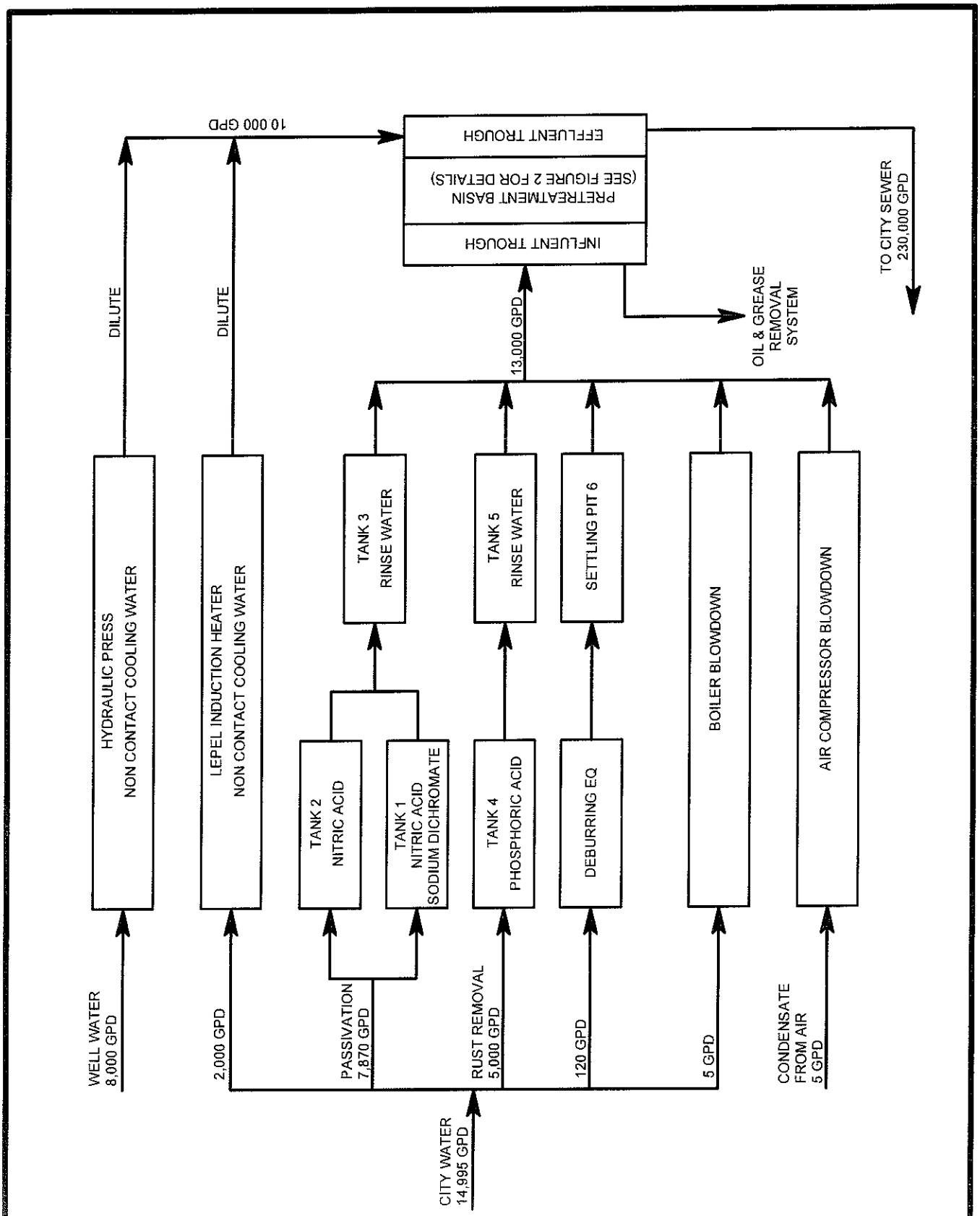


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FIGURE 1

PROCESS FLOW DIAGARM
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Table 1
Process Tanks and their contents

Tank number	Chemical Trade name, if any	Chemical name
Tank #1		Nitric Acid Sodium Dichromate Dyhydrate
Tank #2		Nitric Acid
Tank #3		Fresh water with chemical drag-out from tanks 1 & 2
Tank #4		Phosphoric Acid
Tank #5		Fresh water with chemical drag-out from tank 4
Settling Pit #6	MI Clean PW 16LT	Sodium Hydroxide Sodium Metasilicate Sodium Phosphate, Dibasic Borates, Tetra, Sodium salts – pentahydrate Diethylene Glycol N-Butyl ether
	Almet B	Sodium Metasilicate Triphosphoric Acid Pentasodium salt Triethanolamine Polyethylene Glycol Octyphenol Ether
	Cutting Compound DG 16	Aluminum Oxide
	Burnishing Compound 203	Powdered Mild Alkaline Salt (not regulated)
	Cutting Compound 17 DST	Quartz
	Emerald ICP 1	Amine soap and surfactants (not regulated)
	Lusterlume BASC	Powdered mild alkaline soap (not regulated)
	R2 Rust inhibitor	Sodium Nitrate Sodium Carbonate Sodium Hexametaphosphate

NOTE: Tanks 7, 8, 9 are not connected to the Pretreatment System and therefore not on the Process Flow Diagram. They are located in the Acid Room and listed here for reference and tank contents.

Tank 7 (Carbowax)	4 Chlorobenzotrifluoride Carbowax	**Benzene – Toxic Organic** Polyethylene Glycol
Tank 8 (Cetyl Alcohol)	Cetyl Alcohol NF 4 Chlorobenzotrifluoride	1-Hexadecanol 1-Octacecanol 1-Tetradecanol **Benzene – Toxic Organic**
Tank 9 (Parts washer waste water)	R2 Rust inhibitor Cleaner P 005M Gillite 162X	Sodium Nitrate Sodium Carbonate Sodium Hexametaphosphate Sodium Carbonate Sodium Metasilicate Triphosphoric Acid Pentasodium salt Polypropylene Glycol Nonylphenol, branched, ethoxlyated

	Rustarest 230	Amides, coco, N,N-bis(hydroxyethyl) 2,2,2-nitrilotriethanol 2,2-iminodiethanol Naphtha Sodium Sulfonate 2-Butoxy Ethanol

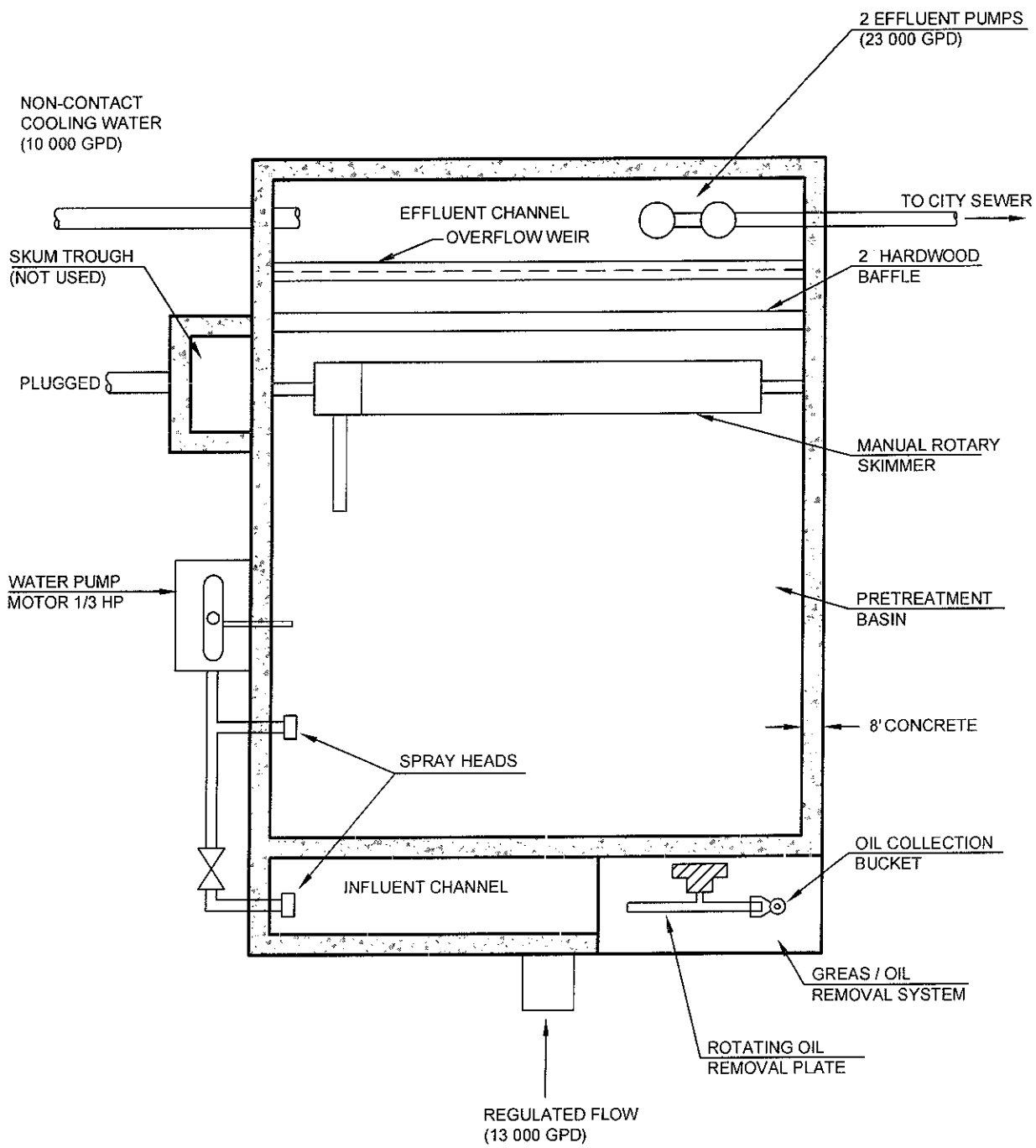

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FIGURE 2

PRETREATMENT PROCESS
MACLEAN-ESNA

POCAHONTAS, ARKANSAS

Appendix A

List of Toxic Organic Chemicals that are regulated by 40 CFR 433 Metal Finishing, as listed on the EPA website, last revised July 2010

Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobenzene
1,2,-Dichloroethane
1,1,1-Trichloroethane
Hexachloroethane
1,1-Dichloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
Chloroethane
Bis (2-chloroethyl) ether
2-Chloroethyl vinyl ether (mixed)
2-Chloronaphthalene
2,4,6-Trichlorophenol
Parachlorometa cresol
Chloroform (trichloromethane)
2-Chlorophenol
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3-Dichlorobenzidine
1,1-Dichloroethylene
1,2-Trans-dichloroethylene
2,4-Dichlorophenol
1,2-Dichloropropane
1,3-Dichloropropylene (1,3-dichloropropene)
2,4-Dimethylphenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
1,2-Diphenylhydrazine
Ethylbenzene
Fluoranthene
4-Chlorophenyl phenyl ether
4-Bromophenyl phenyl ether
Bis (2-chloroisopropyl) ether
Bis (2-chloroethoxy) methane
Methylene chloride (dichloromethane)

Methyl chloride (chloromethane)
Methyl bromide (bromomethane)
Bromoform (tribromomethane)
Dichlorobromomethane
Chlorodibromomethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-Nitrophenol
4-Nitrophenol
2,4-Dinitrophenol
4,6-Dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-Benzanthracene
(benzo(a)anthracene)
Benzo(a)pyrene (3,4-benzopyrene)
3,4-Benzofluoranthene (benzo(b)fluoranthene)
11,12-Benzofluoranthene
(benzo(k)fluoranthene)
Chrysene
Acenaphthylene
Anthracene
1,12-Benzoperylene (benzo(ghi)perylene)
Fluorene
Phenanthrene
1,2,5,6-Dibenzanthracene
(dibenzo(a,h)anthracene)
Indeno(1,2,3-cd) pyrene (2,3-o-phenlene pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride (chloroethylene)
Aldrin
Dieldrin
Chlordane (technical mixture and metabolites)
4,4-DDT
4,4-DDE (p,p-DDX)

4,4-DDD (p,p-TDE)
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
(BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
(PCB-polychlorinated biphenyls)
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
PCB-1016 (Arochlor 1016)
Toxaphene

Appendix B

List of Toxic Organic compounds present at the facility and their disposal methods. as of August 2011

Product/Chemical Name	Regulated Constituent	Annual Quantity	Disposal Method
4-Chlorobenzotrifloride	Benzene	3204 lbs	Hazardous waste disposal
Micarta	Phenol	2.5 lbs	Block Consumed during use
Buehler Epo-Met F, Epo-Met G	Phenol	< 1 lb	Epoxy powder consumed during use
Gasoline	Benzene	300 lbs	Consumed during use