

ADEQ

A R K A N S A S
Department of Environmental Quality

February 27, 2006

Gerry Eddy
Environmental Engineer
Alcoa Extrusion, Inc.
P.O. Box 40
Magnolia, AR 71753

Re: ADEQ Pretreatment Compliance Assurance Visit at Alcoa (ARP000004)

Dear Mr. Eddy,

On 12/7/05 a compliance assurance visit (CAV) was conducted by ADEQ Pretreatment personnel to satisfy the requirements of the memorandum of agreement with EPA Region VI in our States' Pretreatment Program implementation procedures to "randomly sample and analyze the effluent from [Alcoa] and to conduct surveillance activities in order to identify, independent of information supplied by [Alcoa] occasional and continuing noncompliance with pretreatment standards" [see 40 CFR 403.8(f)(2)(v)].

The site visit observations, sampling analysis and subsequent information gained indicated Alcoa is compliant with the pretreatment standards for existing sources in 40 CFR 467.35, Subpart C.

This office wishes to extend its sincere appreciation to you and your staff for the transparent exchange of information and dialogue during the visit. Your non-adversarial attitude, willingness to "open the books", sharing of process knowledge and cooperation compliments the true spirit of environmental partnerships.

This CAV is one of the first conducted in the state with supporting documentation. ADEQ Pretreatment staff will continue this procedure in the future at all federally/state regulated (categorical) facilities located in cities (such as Magnolia) without approved Pretreatment Programs.

SUMMARY

Alcoa appears to be well within the calculated Maximum Daily & Average Monthly limits for both mass (loading) and indicated concentration limits.

Recent e-mail (attachment A-12) from ADEQ pretreatment personnel is confusing and needs clarification. It's clear in EPA's Development Document for Aluminum Forming as well as in 40 CFR 467.35, Subpart C "Cleaning and Etching Scrubber Liquor" production based limits are normalized (and should be reported) on the mass of aluminum cleaned or etched, not "production days".

It's recommended Alcoa approach the City of Magnolia to update/revise Alcoa's "Authorization to Discharge". This document should include a statement of basis for the sampling frequencies and parameters. This office is at the disposal of both the City of Magnolia and Alcoa to aid in drafting this document and/or further discussion.

Find attached various supporting documentation: calculations with tables; the "Pretreatment Industrial Inspection"; attachments/schematics and; ADEQ's "Certificate of Analysis" with its Chain of Custody.

If there are further questions or comments, please feel free to contact this office,

Sincerely,



Allen R. Gilliam

ADEQ State Pretreatment Coordinator
501.682.0625

cc: Dennis Benson, ADEQ NPDES Enforcement Branch Manager
Russell Thomas, Magnolia Wastewater System Superintendent, P.O. Box 666, Magnolia,
AR 71753
Syed Shahriyar, EPA Region VI, 1445 Ross Ave, MC 6WQ-PP, Dallas, TX 75202-2733
Lee Bohme, EPA Region VI, 1445 Ross Ave, MC 6WQ-PP, Dallas, TX 75202-2733

Attachments

Title 40: Protection of Environment
PART 467—ALUMINUM FORMING POINT SOURCE CATEGORY
Subpart C—Extrusion Subcategory

After the CAV, a good “visual” of the extrusion and subsequent processes it appears Alcoa’s wastewater is correctly regulated under the following:

§ 467.35 Pretreatment standards for existing sources.

(a) Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources.

(b) There shall be no discharge allowance for wastewater pollutants from the degassing operation.

(c) The mass of wastewater pollutants from the core and ancillary operations except those identified in paragraph (b), introduced into a POTW shall not exceed the following values:

#1) Core

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lb/million off-lbs) of extruded	
Chromium.....	0.15	0.061
Cyanide.....	0.098	0.041
Zinc.....	0.49	0.21
TTO.....	0.23
Oil & grease (alternate monitoring parameter)	18	8.8

#2) Extrusion Press Leakage

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/off-kg (lb/million off-lbs) of extruded	
Chromium.....	0.65	0.27
Cyanide.....	0.43	0.18
Zinc.....	2.16	0.90
TTO.....	1.02
Oil & grease (alternate monitoring parameter)	77	39

#3) Press Heat Treatment Contact Cooling Water (seldom used)

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average

	mg/off-kg (lb/million off-lbs) of aluminum quenched	
Chromium.....	0.90	0.37
Cyanide.....	0.59	0.25
Zinc.....	2.98	1.25
TTO.....	1.41
Oil & grease (alternate monitoring parameter)	110	53

#4) Cleaning or Etching Bath

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average

	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium.....	0.079	0.032
Cyanide.....	0.052	0.022
Zinc.....	0.26	0.109
TTO.....	0.124
Oil & grease (alternate monitoring parameter)	9.3	4.7

#5) Cleaning or Etching Rinse

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average

	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium.....	1.7	0.7
Cyanide.....	1.2	0.5
Zinc.....	5.7	2.4
TTO.....	2.7
Oil & Grease (alternate monitoring parameter)	200	100

#6) Cleaning or Etching Scrubber Liquor

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average

	mg/off-kg (lb/million off-lbs) of aluminum cleaned or etched	
Chromium.....	0.85	0.35
Cyanide.....	0.56	0.23
Zinc.....	2.82	1.18
TTO.....	1.34
Oil and grease (alternate monitoring parameter)	100	50

1) Calculation of Mass Limits under the National Pretreatment Standards

The following steps provide this office's basis for Alcoa's Pretreatment Standards from the above six (6) wastestreams (#3 – "Press Heat Treatment Contact Cooling Water" will not be considered at this time. "Bath is seldom used" and hasn't been according to facility's last semi-annual report nor was in use during the CAV).

Using the facility's 11/05 average production/day (1,878,700 lbs extruded/26 days) and the production mass-balance on Attachment A-9, the following is **given**:

0.0723 = Million off-lbs Al extruded/day (core & extrusion press leakage - #1 & #2)

0.032 + 0.012 = Million off-lbs Al cleaned/etched/day (lines 1 & 2 - #4)

0.032 + 0.012 = Million-off lbs Al clean/etch rinsed/day (lines 1 & 2 - #5)

0.004 = Million off-lbs Al cleaned/etched/day (paint line - #4)

0.004 = Million-off lbs Al clean/etch rinsed/day (paint line - #5)

0.027 Million-off lbs Al cleaned/etched/day (scrubber liquor - #6)

Mass limits:

Chromium Max. for any 1 day:

[* denotes multiple baths/subsequent rinses (building block) multiplier(s). Multiplier for lines 1 & 2 = 5; multiplier for paint line = 2]

= (0.15 + 0.65) lbs/mill off-lbs X 0.0723 mill off-lbs/day *extruded* [#1 & #2]

+ 0.079 lbs/mill off-lbs X 5* X (0.032 + 0.012) mill off-lbs/day *cleaned/etched* [#4]

+ 1.7 lbs/mill off-lbs X 5* X (0.032 + 0.012) mill off-lbs/day *clean/etch rinsed* [#5]

+ 0.079 lbs/mill off-lbs X 2* X 0.004 mill off-lbs/day *cleaned/etched* [#4]

+ 1.7 lbs/mill off-lbs X 2* X 0.004 mill off-lbs/day *clean/etch rinsed* [#5]

+ 0.85 lbs/mill off-lbs X 0.027 mill off-lbs/day *cleaned/etched* [#6]

= 0.058 + 0.017 + 0.374 + 0.0006 + 0.014 + 0.023

Chrome daily max limit = 0.49 lbs/day

Duplicate for Max monthly avg limits:

= (0.061 + 0.27) lbs/mill off-lbs X 0.0723 mill off-lbs/day *extruded* [#1 & #2]

+ 0.032 lbs/mill off-lbs X 5* X (0.032 + 0.012) mill off-lbs/day *cleaned/etched* [#4]

+ 0.7 lbs/mill off-lbs X 5* X (0.032 + 0.012) mill off-lbs/day *clean/etch rinsed* [#5]

+ 0.032 lbs/mill off-lbs X 2* X 0.004 mill off-lbs/day *cleaned/etched* [#4]

+ 0.7 lbs/mill off-lbs X 2* X 0.004 mill off-lbs/day *clean/etch rinsed* [#5]

+ 0.35 lbs/mill off-lbs X 0.027 mill off-lbs/day *cleaned/etched* [#6]

= 0.024 + 0.007 + 0.154 + 0.0003 + 0.006 + 0.009

Chrome monthly max limit = 0.2 lbs/day

2) Calculate "Equal" Concentration Limits (convert from lbs to mg/l)

Facility avg flow = 60 gpm = 0.086 MGD (a.m reading) & 109 gpm = 0.157 MGD (p.m. reading). Average flow = 0.122 MGD

$$\text{mg/l} = \frac{\text{lbs/day (pollutant limit)}}{(\text{conversion factor X avg flow in MGD})} = \frac{0.49}{8.34 \times .122}$$

Chrome max daily limit = 0.48 mg/l

Chrome monthly max = 0.22 mg/l

3) Chrome (avg) discharged indicated from ADEQ's analysis:

= (conversion factor)(flow in MGD)(concentration found [see attach. A-10])

$$= [(8.34)(0.086)(0.01) + (8.34)(0.157)(0.01)] / 2$$

$$= (0.007 + 0.013) / 2$$

$$= 0.01 \text{ lbs/day}$$

Repeat steps 1, 2 & 3 for remaining parameters:

Zinc daily max limit (*bold italicized numbers [production] would be the only variables*)

core & extr. + lines 1 & 2 + paint line + scrubber liquor

$$= (0.49+2.16) \times 0.0723 + (0.26+5.7) \times 5 \times 0.044 + (0.26+5.7) \times 2 \times 0.004 + 2.82 \times 0.027$$

$$= 0.19 + 1.31 + 0.05 + 0.076$$

$$= 1.6 \text{ lbs/day}$$

$$= 1.6 \text{ mg/l}$$

Zinc monthly max limit

$$= 0.08 + 0.55 + 0.02 + 0.032$$

$$= 0.682 \text{ lbs/day}$$

$$= 0.67 \text{ mg/l}$$

CN not calc'd nor analyzed for. Alcoa's previous semi-annual reports indicated consistent <0.07 mg/l for the parameter and CN is not present in their processes [see 40 CFR 467.03(a)(1)&(2)]. Facility should explore this certification statement clause to reduce monitoring costs for CN in the future.

O&G daily max limit

$$= 6.9 + 46 + 1.7 + 2.7$$

$$= 57.3 \text{ lbs/day}$$

$$= 56.3 \text{ mg/l}$$

O&G monthly max limit

$$= 3.46 + 23 + 0.84 + 0.14$$

$$= 27.4 \text{ lbs/day}$$

$$= 27 \text{ mg/l}$$

Pollutant lbs/day / mg/l	Cr	Zn	O&G
Max Daily Limits*	0.49 / 0.48	1.6 / 1.6	57.3 / 56.3
Avg. Monthly Limits*	0.2 / 0.2	0.682 / 0.67	27.4 / 27
ADEQ reported** See Attachs A-10	0.01 / <0.01	0.051 / <0.05	1.9 / 1.9

*Calculated based on 11/05 production data and subprocess breakdown provided by facility representative


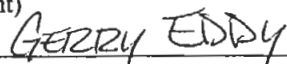
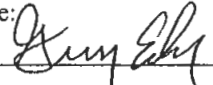
**Upon agreement with facility rep, the morning grab sample and flow (60 gpm = 0.086 MGD) were averaged with the afternoon grab sample with and flow (109 gpm = 0.157 MGD) to determine these numbers. Refer to ADEQ's "Certificates of Analysis" (Attachments A-10).

Cyanide was not calculated nor analyzed because of the sampling waiver in 40 CFR 467.03(a)(1)&(2). Alcoa's recent semi-annual reports consistently showed levels below the 0.07 ppm level.

Alcoa's calculations compare closely to those above and samples obtained during the compliance indicate compliance with the federal pretreatment standards.

Pretreatment Industrial Inspection

Facility Information

Facility Name: Alcoa Aluminum Extrusions		Site Address: 1617 North Washington	
Plant #2 (Plant #1 temporarily idled)		Magnolia, AR 71753	
Signatory Authority (Name & Title): James Whitefield / General Manager			
Phone: 870.234.4260		Mailing Address (if different): P.O. Box 40	
Fax: 870.234.1109			
Address: same		Corporate Owner Name and address (if applicable):	
Phone: same			
Fax: same		Phone:	
Contact Person (Name & Title): Gerry Eddy		Fax:	
		Corporate CEO:	
e-mail: gerry.eddy@alcoa.com		e-mail:	
Facility Permit/Tracking #ARP000004		Last Inspection Date: 7/28/04	
POTW (City) IU discharges to: Magnolia		POTW's NPDES #AR0043613	
Industrial Classification:	<input checked="" type="checkbox"/> Categorical	<input type="checkbox"/> Significant	
If Categorical, list which CFR #(s) the facility is subject to: 40 CFR 467.35 (Subpart C) PSES			
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A. Inspection Objectives			
B. Inspection Analysis			
II. Pre-Inspection Meeting		Page 3 of 7	
A. General Information			
B. Facility Permits			
C. Additional Comments			
III. Attachments "Yes" indicates item exists at the facility and attachments will be included			
"No" indicates item does not exist at the facility and attachments aren't necessary			
A. Industrial Processes		yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Page 4 of	
B. Pollution Prevention Activities		yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Page 5 of	
C. Pretreatment System		yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Page 6 of	
D. Chemical Storage		yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Page 6 of	
E. Spill/Slug Control Plan		yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Page 7 of	
F. Self-Monitoring/TOMP		yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Page 7 of	
Comments :			
Inspector's Name (Print): Allen Gilliam		Signature: 	
IU Rep's Name (Print): 		Signature: 	
Date and Time Inspection Ended: 12/7/05 / ~ 3:30 pm			

I. Summary of Inspection

A. Inspection and Objective (Complete Before Inspection)

<input type="checkbox"/> Permit Renewal	<input checked="" type="checkbox"/> Annual	<input type="checkbox"/> Spill/Slug	<input type="checkbox"/> Unscheduled
<input type="checkbox"/> New Construction	<input type="checkbox"/> Noncompliance	<input type="checkbox"/> Follow-up	<input type="checkbox"/> Complaint

Inspection Objective(s): Annual Compliance Assurance Visit (CAV) to verify processes, production and flow for this federally regulated production based facility. Grab sampling was conducted upon arrival and at time of departure. Facility rep simultaneously split samples and stated wastewater was representative/typical of their daily discharge to the city's sewage collection system.

Checklist of items reviewed and/or visually inspected:

<input checked="" type="checkbox"/> Pre-inspection Meeting	<input checked="" type="checkbox"/> (City) Permit Conditions	<input checked="" type="checkbox"/> Safety Concerns
<input checked="" type="checkbox"/> Process Inspection	<input checked="" type="checkbox"/> Pretreatment Process	<input type="checkbox"/> TOMP N/A
<input checked="" type="checkbox"/> Chemical Storage	<input checked="" type="checkbox"/> Discharge point(s)	<input checked="" type="checkbox"/> Spills/Slug Control Plan
<input checked="" type="checkbox"/> Records Review	<input checked="" type="checkbox"/> RCRA information	<input checked="" type="checkbox"/> Process/Flow/Pretreatment Schematics
<input checked="" type="checkbox"/> IU sampling procedures	<input checked="" type="checkbox"/> Flow/pH Meter(s)	<input checked="" type="checkbox"/> Calibration Records
<input type="checkbox"/> MSDS Inventory List	<input type="checkbox"/> New MSDS	<input checked="" type="checkbox"/> O&G alternative in lieu of TTO list

Comments: haz waste generator (conditionally exempt small quantity) #ARD055790422; currently using American Interplex for analysis; Air scrubber unit has to be run continually (adjacent to the bright dip tank) because of air permit constraints and to keep the rest of the process room's equipment from being exposed to the corrosive vapor emanating from the tank.

B. Inspection Analysis

Were there any deficiencies/violations identified and noted during the inspection? Yes No

Provide a brief narrative of deficiencies/violations or other concerns in the following areas: Concerns about the below ground concrete secondary containment bottom(s) showing areas etched (possible contamination below building?) were discussed as well as two (2) large diameter pretreatment open-top tanks were exposed to rainfall events, therefore, having to periodically "treat" clean water. Condition of sample tubing was also addressed. It appeared the tubing had an interior coating or "slime" of some type that could potentially "flake off" during sampling causing a misleading analytical result.

Records Review: Very adequate, Mr. Eddy was cooperative in providing/copying all info/documentation requested. Limits calculations based on production and flow was demonstrated on-site via computer software. MS Excel cells' formula/calcs appeared correct. Production data is supplied from operators on floor who provide lbs extruded, clean/etched and bright dipped (location/source of the air scrubber liquor) to accounting department where facility rep electronically networks to arrive at daily production from the various subprocesses. Flow meter included a hand written/signed and dated (8/05) label when last calibrated.

Facility rep. agreed his facility's process wastewaters were regulated under 40 CFR 467.35 Subpart C, Aluminum Extrusion category with the following six (6) subprocesses: Core, Extrusion Press Leakage, Press Heat Treatment (seldom used), Cleaning/Etching Baths and Rinses (multiple) and Cleaning and Etching Scrubber Liquor.

Attachment A-9 is the facility rep's estimate of production per sub-process. Because of this guideline's (40 CFR 467) building block approach in giving "credit" for multiple baths with subsequent rinses, this office concurs with the production multipliers (See cover letter with example calcs and discussion).

Process Area(s): See attach. A-3 for overall general plant layout. Three (3) extrusion presses were in operation (two 7" & one 11"). Any hydraulic leaks/non-contact coolant water are contained below the equipment in concrete sumps and pumped as necessary to the outside oil/water separator system. Oil is hauled off-site and separated water sent to pretreatment (see attach. A-1 and A-2). Solid aluminum billets are heated to around 830°F and pressed thru cast iron dies with very little leakage observed. Most products from this facility are for shower/bath stall frames. Some stadium seating is still done. Extrusions are air cooled by numerous huge fans on draw-out tables with press heat treatment tank (contact cooling) seldom used. Workpiece(s) are straightened and cut to desired lengths then sent through a heat treatment over (for 6 to 8 hrs at about 450°F).

A good percentage of extruded products are sent out as "mill finished" without being cleaned/etched, colored or painted (see attaches. A-4 & 9). A percentage of pre-extruded workpieces are brought in for further finishing. These are sent through either lines 1, 2 (cleaning/etching/anodizing/desmutting/bright dip/seal with rinses) or paint line (attaches. A-5, 6 or 7).

The dies are periodically cleaned in a hot caustic (NaOH) bath with the its supernatant sent to pretreatment to aid in pH adjustment.

Numerous pollution prevention (P2) techniques are in use in these process areas including: De-I water for make-up on their anodizing line; counter current flow rinses; air agitation; bath/rinse filtration; in-process phosphoric acid regeneration/demineralizing unit (attaches. A-8) for the bright dip bath/rinse and water conservation (16 MGY) via flow meters/restrictors (smaller diameter orifices in hard lines).

Pretreatment System: (See attach. A-10) As mentioned above, oily wastewater from the extrusion press areas are pumped to an outside oil/water separator with the "clean" w.w. going to pretreatment. All other process and some non-process w.w. is pumped to an equalization basin then pH adjusted w/either sodium hydroxide or sulfuric acid, then sent to a clarifier where polymers are added for typical chemical precipitation. Treated w.w. is pumped to the city and the sludge is filter pressed and sent off-site for proper disposal.

Self Monitoring Procedures: Length of PVC tubing with PVC open-topped container connected at the bottom was used to gather samples.

Diversion/Sewer Meters: none mentioned or addressed

Spill/Slug Control Plan: facility rep did produce an operation manual that addressed situations regarding spills and containment and how they're to be maintained/managed. Time constraints did not allow for this office to review the manual in any detail.

Sampling Point: outside to the SW of the main pretreatment process area. Parshall flume was approx. 3 feet below metal-grated (approx. 3'X5') walkway. Flow is continuously monitored with last calibration date noted as 8/05. Samples were taken upon arrival at ~8:30 am and upon departure at ~ 3:30 pm. IU rep sampled at the same time. Flow at 8:30 was around 60 gpm and 109 gpm at 3:30. Concerns were voiced about the security of sampler "box" as there were no locking devices. Samples could easily be compromised.

II. Pre-Inspection Meeting

A. General Information

Date and Time Inspection Started: 12/07/05 @ approx. 8:15 a.m.		SIC code(s): 3354
IU Reps/Titles:	Control/Approval Authority Reps/Titles:	
Gerry Eddy / Environmental Engineer (Other facility reps were introduced and asked questions throughout the visit, but names were not recorded)	Allen Gilliam/ADEQ State Pretreatment Coordinator Syed Shahriyar/EPA Environmental Scientist (Region 6) Russell Thomas/Magnolia Superintendent (Quasi-Pretreatment City)	
End product(s): Extruded Aluminum Products, mainly shower/bath door frames	Approx. # of units produced: N/D	
Days of Operation: Monday thru Friday (normal)	Days of Production (if different): Monday thru Saturday	
Hours of Operation: 24	Hours of Production (if different): 0500 to 2200	
Shift 1, hrs.: 7 am to 3:00 pm	Shift 2, hrs.: 3 pm to 11 pm	Shift 3, hrs.: 11 pm to 7 am
# of Employees: ~550	Peak Mos.: N/A	"Off" Mos.: N/A
Are there any scheduled plant shutdowns? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> If yes, when? Christmas week		
Are there designated plant clean-up days? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> If yes, when? December 15 & 16		
Is the facility currently in compliance with all pretreatment reporting requirements and limits? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
If No, explain:		

Are there any Special Entry Procedures for the Discharge/Sample point locations? Yes No

However, standard hard hat, safety glasses, ear protection and steel toed boots are required for plant walk-thru.

Are there any Safety Concerns or Identified Hazards that the inspector should be aware of: Yes No

If Yes, explain: Overhead crane/hoist systems, conveyor systems w/potential snagging of clothes, areas with hot surfaces, caustic and acidic materials and forklift areas to avoid. Some areas of process floors are potentially slippery. Pedestrian traffic way lines and "gates" are set up for safest route through the facility.

Has there been any changes since the last inspection regarding the following items:

Plant/flow/process layout? Yes No If yes, obtain copy of updated schematic for facility file. N/A*

Processes? Yes No If yes, explain: *Casting house has temporarily been idled because of Al market.

Production Levels? Yes No If yes, explain: demand is less

Raw materials? Yes No If yes, explain:

Flow rates? Yes No If yes, explain: because demand and production is less, their flows have obviously been less

Are regulated, dilution and/or non-regulated wastestreams combined? yes no

Prior to Pretreatment System? yes no N/A

If Yes, was the CWF used to calculate limits? yes no N/A

mass-based limits are based on production. Dilution flows have no affect in the CWF limits

Prior to connection to the POTW sanitary sewer? yes no N/A

At connection to sanitary sewer? yes no N/A

Production and flows verified for Production-Based Standards? yes no N/A

What is the current avg. production rate and process flow? See attachment A-9 for 11/05 production (subprocesses) breakdown. Flow during the CAV was 60 gpm during the a.m. and 109 gpm during the p.m. sampling events

Is the prod. rate or flow substantially different (+/- 20%) from those used in calculating limits? yes no

B. Facility Permits

Permit Type	Permit No.	Expiration Date
Air	0576-AOP-R3	6/09
RCRA	ARD055790422 (CESQG)	N/D
NPDES	AR0022624 (voided)	(Expired) 7/31/97
Storm Water	ARR00A892	3/09

C. Additional Comments

(Note which section or attachment comments are regarding) None

Attachment A: Industrial Process(es)

List process(es) generating wastewater. Note if it's categorical (federally regulated w/pretreatment limits) or not

1. Core	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	4. Clean/Etch Bath	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. Extrusion Press Leakage	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	5. Clean/Etch Rinse	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3. Press H. Treat. Contact Cooling Water	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	6. Clean/Etch Scrub. Liquor	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Were processes visually inspected? Yes No N/A

Brief description of process(es): See above.

General observations of facility's indoor housekeeping: Clean working conditions considering type of processes employed. Negative pressure from air scrubbers in wet chemistry area (adjacent to the bright dip tank) maintained good air movement. Well marked safety "walk" lines and "gates" kept personnel aware of areas to stay clear of.

General observations of area outside facility's building: a quick drive-around showed area to be orderly and clean.

Check all sources of wastewater being discharged into the City's collection system. Indicate avg. gal/day, measured (M) or estimated (E). If batch (B) discharged, list frequency and volume (1000 gal/month, e.g.).

<input checked="" type="checkbox"/> Process Rinse Overflows: flow not specifically addressed	<input type="checkbox"/> Equip. Cleanup flow not addressed	<input type="checkbox"/> Floor Cleanup flow not addressed	<input checked="" type="checkbox"/> Spent Clean/Etch Bath Solutions:
<input checked="" type="checkbox"/> Product Cleaning flow not addressed	<input type="checkbox"/> Forklifts Maint./Wash flow not addressed	<input checked="" type="checkbox"/> Tank Dragout flow not addressed	<input checked="" type="checkbox"/> Air Pollution Devices

<input type="checkbox"/> Boiler Blowdown flow not addressed	<input checked="" type="checkbox"/> Spent Rinse Tanks flow not addressed	<input checked="" type="checkbox"/> Equipment Coolants flow not addressed	<input checked="" type="checkbox"/> Non-Contact Cooling Water: flow not addressed
<input checked="" type="checkbox"/> Stormwater (E)	<input checked="" type="checkbox"/> Sanitary (C & E) 10,000 gpd	<input checked="" type="checkbox"/> Total facility flow (C & M) on day of CAV, avg = .122 MGD	<input type="checkbox"/>

List Major Raw Materials and Chemicals used:

Limited time for site visit didn't allow for comprehensive review but, was available in facility rep's office.

Check Waste Stream(s) Federally Reg'd Pollutants of Concern from Process(es)

<input type="checkbox"/> BOD	<input checked="" type="checkbox"/> CN ⁻	<input checked="" type="checkbox"/> Metals (List) Cr & Zn	<input type="checkbox"/> Solvents (List)
<input type="checkbox"/> TSS	<input type="checkbox"/> Cl ₂	<input checked="" type="checkbox"/> TTO (IU analyzes entire list anyway)	<input checked="" type="checkbox"/> pH
<input checked="" type="checkbox"/> O&G (in lieu of TTO list)	<input type="checkbox"/> S ⁻		

Are there floor drains in the Process area? Yes No If yes list number and the location of all floor drains:

Attachment B: Pollution Prevention (P2) / Recycling Activities

Does the facility have a written P2 Plan? Yes No

Does this facility practice P2? Yes No See "Process Area" in section above

Environmental Management System in place? Yes No facility rep showed us their "Guidance for Compliance" manual (revision dated 5/99). Not enough time for comprehensive review.

ISO Certified? Yes No

Written Standard Operating Procedures? Yes No

Explain: Management System "not completed" as it's a work in progress.

Preventative Maintenance Program Yes No (hydraulic systems, valves, pumps, etc)

Explain: No time to evaluate/review

Water Reuse: Yes No

Explain: Discussed above in "Process Area" description

Cost Accounting to Track Savings: Yes No

Explain: N/D

Inventory Control / "Green Purchasing": Yes No (lean manufacturing/"env. friendly purchasing", etc)

Explain: N/D

Employee Training: Yes No

Explain: Annually by an outside consulting firm.

Spent Solvent Reclamation? Yes No N/A

Explain: N/D

Recycle Paper, Aluminum, Boxes, and Pallets? Yes No

Explain: Cardboard and wood

Recycle Waste Oil and Lubricants? Yes No

Explain: Used oil sent off-site to recycler

Other Activities

P2 Equipment/Practices in use:

<input type="checkbox"/> Overflow Alarms	<input checked="" type="checkbox"/> Aqueous Cleaning Solutions
<input type="checkbox"/> Fog Spray Rinsing	<input checked="" type="checkbox"/> Countercurrent Rinsing
<input checked="" type="checkbox"/> Dragout Plates between tanks	<input type="checkbox"/> Seal-Less Pumps
<input type="checkbox"/> Air Jets to Blow Parts Dry	<input checked="" type="checkbox"/> Secondary Containment of Process Solutions
<input type="checkbox"/> Aqueous Paint Stripping Solutions	<input type="checkbox"/> Bead Blasting to Remove Paint
<input checked="" type="checkbox"/> Water Soluble Cutting Fluids	<input type="checkbox"/> Recycle Overspray
<input checked="" type="checkbox"/> In-Process Recycle (Ion Exchange, Reverse Osmosis)	<input type="checkbox"/> Conductivity Meters
<input checked="" type="checkbox"/> Demineralizing/Regeneration of Phosphoric acid bath	<input checked="" type="checkbox"/> Bath / Rinse Filtration

Attachment C: Pretreatment System

Was the pretreatment system visually inspected during this visit? Yes No N/A

Check which of the following are utilized for pretreatment prior to discharge to sanitary sewer:

<input type="checkbox"/> Dissolved air floatation	<input type="checkbox"/> Membrane Tech.	<input type="checkbox"/> Ion Exchange	<input type="checkbox"/> Biological Treatment
<input type="checkbox"/> Centrifugation	<input checked="" type="checkbox"/> Flow Equalization	<input type="checkbox"/> Ozonation	<input type="checkbox"/> Chlorinating
<input checked="" type="checkbox"/> Chemical Precipitation	<input checked="" type="checkbox"/> Oil/Water Separation	<input checked="" type="checkbox"/> Reverse Osmosis	<input type="checkbox"/> Grit Removal
<input type="checkbox"/> Sludge Filter Press	<input type="checkbox"/> Grease Trap	<input type="checkbox"/> Screen	<input type="checkbox"/> Solvent Separation
<input checked="" type="checkbox"/> pH Adjustment	<input type="checkbox"/> Sand Trap	<input checked="" type="checkbox"/> Sedimentation	<input type="checkbox"/> Silver Recovery
<input type="checkbox"/> Belt/Disk Oil Skimmer	<input checked="" type="checkbox"/> Demineralizer	<input type="checkbox"/>	<input type="checkbox"/>

Provide Brief Description of Pretreatment System (leaks, cleanliness, equipment not in working order):

See above and attachment A-10. System appeared well maintained and clean. The only concerns were voiced about the open topped tanks exposed to rain events where they would be treating "clean water".

Does the description match the schematic currently on file? Yes No N/A

System Operator(s) Names: Howard Vines – Class III; Stevan Bailey – Class III & Paul Massey – Class II

Does discharge permit require licensed operator? Yes No N/A

Is the System Operator(s) licensed by the State of Arkansas (per Reg. #3?) Yes No N/A

Is the discharge from the Pretreatment System? Batch Continuous Combination

If any discharges are batch type or combination, describe the following:

Volume of each batch: 3,200 gallons per day/or week depending on sub process

Describe process from which batch originated (spent bath, e.g.): spent anodizing, cleaning, etching & dye baths

Approximate duration of batch discharge: not determined

Meter Type	Calibration Procedure and Frequency	Comments (Totalizer Reading)
Milltronics	Outside firm once per year	Not noted during visit

Attachment D: Chemical Storage Area(s)

Does the facility have a designated chemical storage area(s)? Yes No

Was this area(s) visually inspected? Yes No N/A

Describe Chemical Storage Area(s)	Are there floor drains in this area?	If yes, where does this drain lead to?
1. caustic, sulfuric acid	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Pretreatment <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Storm Sewer
2. phosphoric and nitric acid (pumped)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Pretreatment <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Storm Sewer
3. gasoline	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pretreatment <input type="checkbox"/> Sanitary Sewer <input checked="" type="checkbox"/> Storm Sewer

Does the Chemical Storage Area(s) contain any of the following?

<input checked="" type="checkbox"/> Dikes, Berms for Containment	<input type="checkbox"/> Plugs for Floor Drains
<input type="checkbox"/> Secondary Tanks for Holding	<input type="checkbox"/> Premix (low) Concentrations
<input type="checkbox"/> Alarms	<input checked="" type="checkbox"/> Chain restraints, limited access
<input checked="" type="checkbox"/> Spills Control Kits for Cleanup	<input type="checkbox"/> Notification Procedures
<input type="checkbox"/> Chemical desegregation within Storage Area	<input type="checkbox"/> Other

Chemical Inventory List (MSDS) on file? Yes No N/A

Were any new MSDS reviewed during the Inspection? Yes No N/A

If yes, list below: Not enough time for a comprehensive review.

Chemical storage comments: None

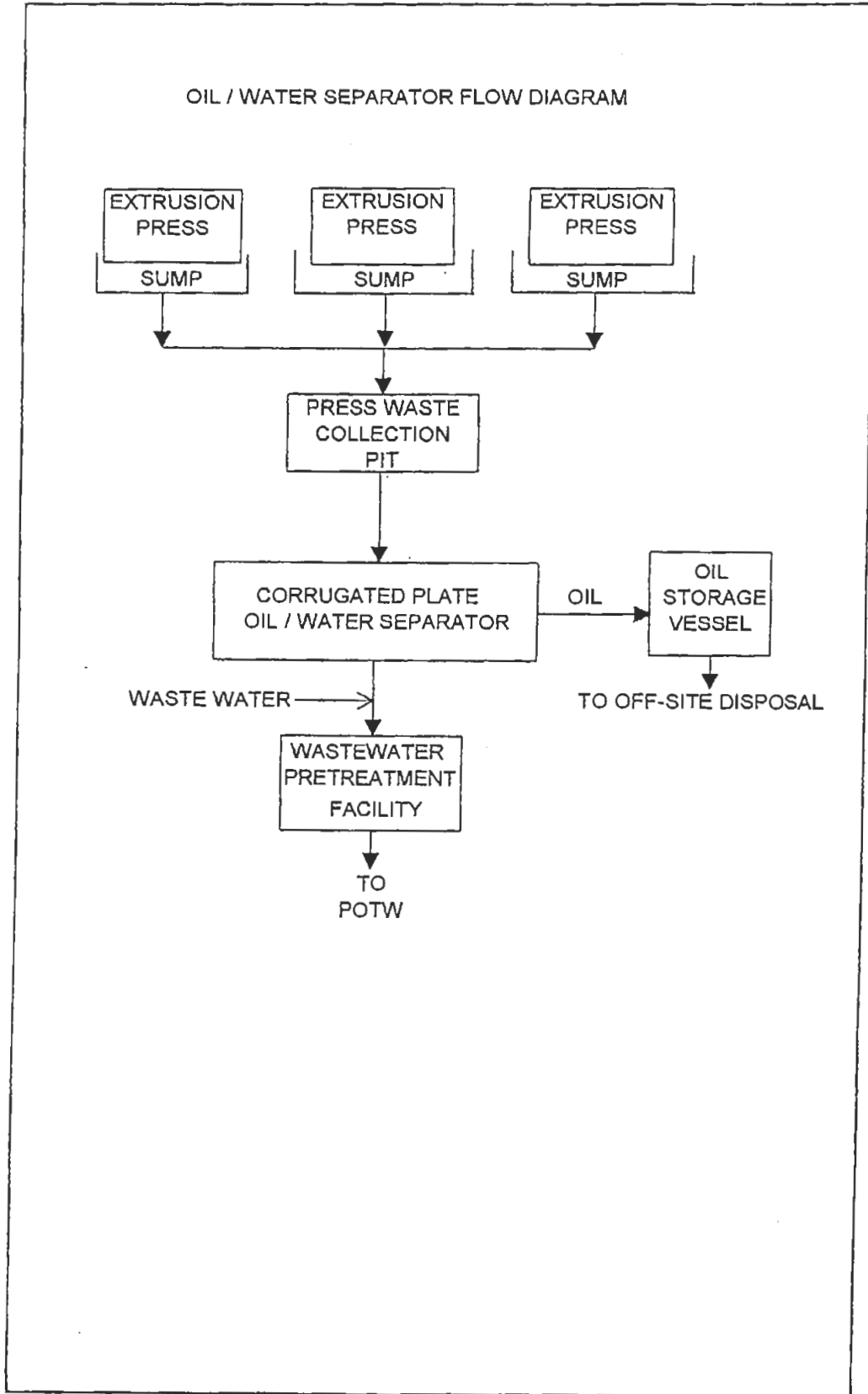
Chemical handling procedures: totes, forklifts, barrels dolly, buckets, hardline

Attachment E: Spill/Slug Control Plan

Does the facility have a Spill/Slug control plan? Cursory visit did not see "potential".	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
If yes are the following: 403.8(f)(2)(v)(A-D) requirements in place?	
Is the spill/slug control plan <2 years old?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> N/A
(A) Describes discharge practices including non routine batch (slug) discharges	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> N/A
(B) Describes storage and handling of chemicals	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
(C) Procedures for immediate notification to POTW of slug discharges	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
(D) 1. Describes measures for controlling toxic/hazardous pollutants	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
2. Describes procedures and equipment for emergency response	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
3. Describes follow-up to limit damage suffered by POTW or environment	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
4. Does the facility have Spill/Slug Notification Procedures posted?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
5. Are worker personnel provided training in the event of a spill or slug discharge?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> N/A
If no:	
Does the facility have Spill/Slug Notification Procedures posted? N/D	<input type="checkbox"/> yes <input type="checkbox"/> no
Is it posted in areas where chemicals are used and stored? N/D	<input type="checkbox"/> yes <input type="checkbox"/> no
If Yes how many?	
Are appropriate personnel provided training in the event of a spill or slug discharge?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Have there been any non-routine, episodic discharges or chemical spills in the past year?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
(Briefly Describe, Include Dates): N/A	
Was the City notified of these occurrences? <input type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> N/A	

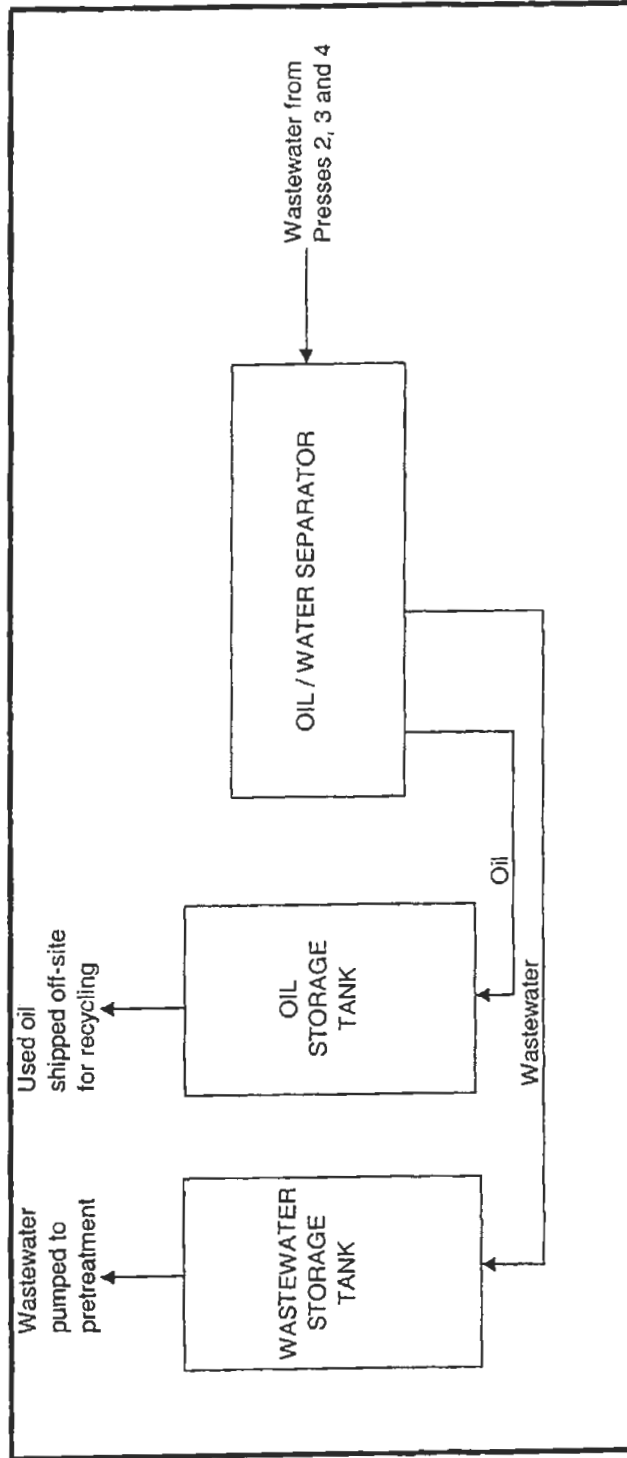
Attachment F: Self-Monitoring

Have Operator (or person collecting the sample) to describe how composite and grab samples are collected and preserved. Record descriptions. Include name of individual and title.		
Visually observed during visit.		
Where is the sample point located?		
<input type="checkbox"/> End of Process	<input checked="" type="checkbox"/> Pretreatment Effluent with	<input checked="" type="checkbox"/> Total Flow
<input type="checkbox"/> Combined Flow	<input checked="" type="checkbox"/> Metered Flow	<input type="checkbox"/> Flow Actuator
<input type="checkbox"/> Private Manhole	<input type="checkbox"/> Utility Manhole	<input type="checkbox"/> Advance Notice Required
<input type="checkbox"/> Safety Hazards Identified	<input type="checkbox"/>	<input type="checkbox"/>
Is the Sample Collection Site Adequate?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Does the facility rep. request a split sample on this sampling/inspection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Does the facility perform self-monitoring tests in-house?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
If no, record the name and address of Contract Lab: American Interplex		
Automatic Sampler <input checked="" type="checkbox"/> or Manual <input checked="" type="checkbox"/> (for grabs)		
IU Self-Monitoring Results reviewed:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Is the Contract Lab certified by ADEQ for test parameters?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Dates and Times of Sample Analysis Recorded?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct Methods Used for Test Analysis (Refer To 40CFR Part 136)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
EPA recommended holding times being met (Refer to 40CFR Part 136)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody Records for Self-Monitoring Samples Reviewed	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Were correct Sample Types Collected	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Dates and times of Sample Collection Recorded?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Were Samples preserved correctly (refer to 40CFR Part 136)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Were Self Monitoring records on file for past 3 years?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

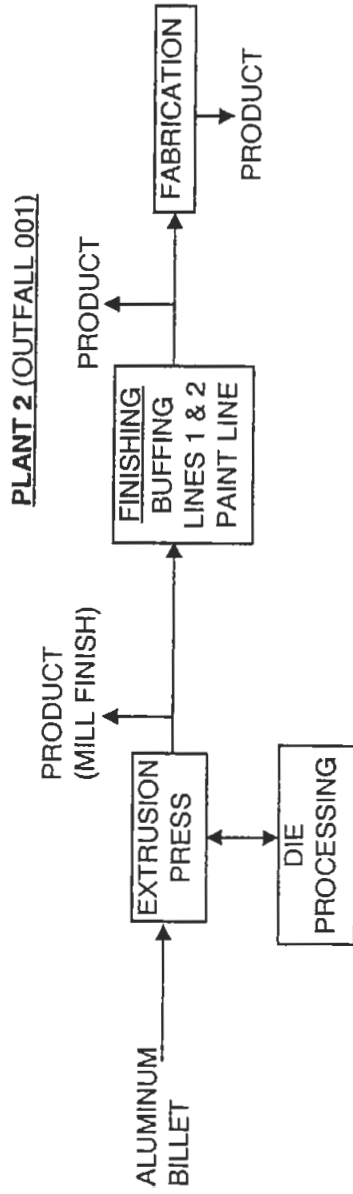


A-2

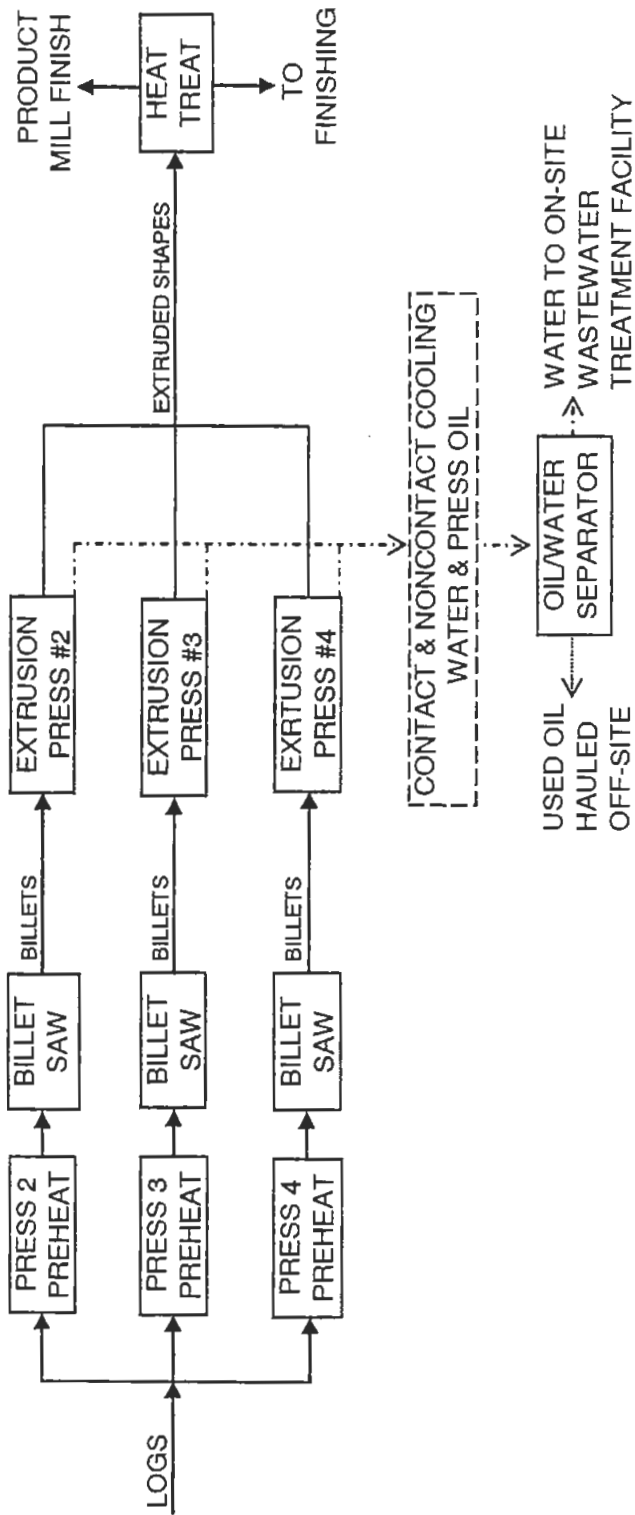
OIL / WATER SEPARATOR SYSTEM



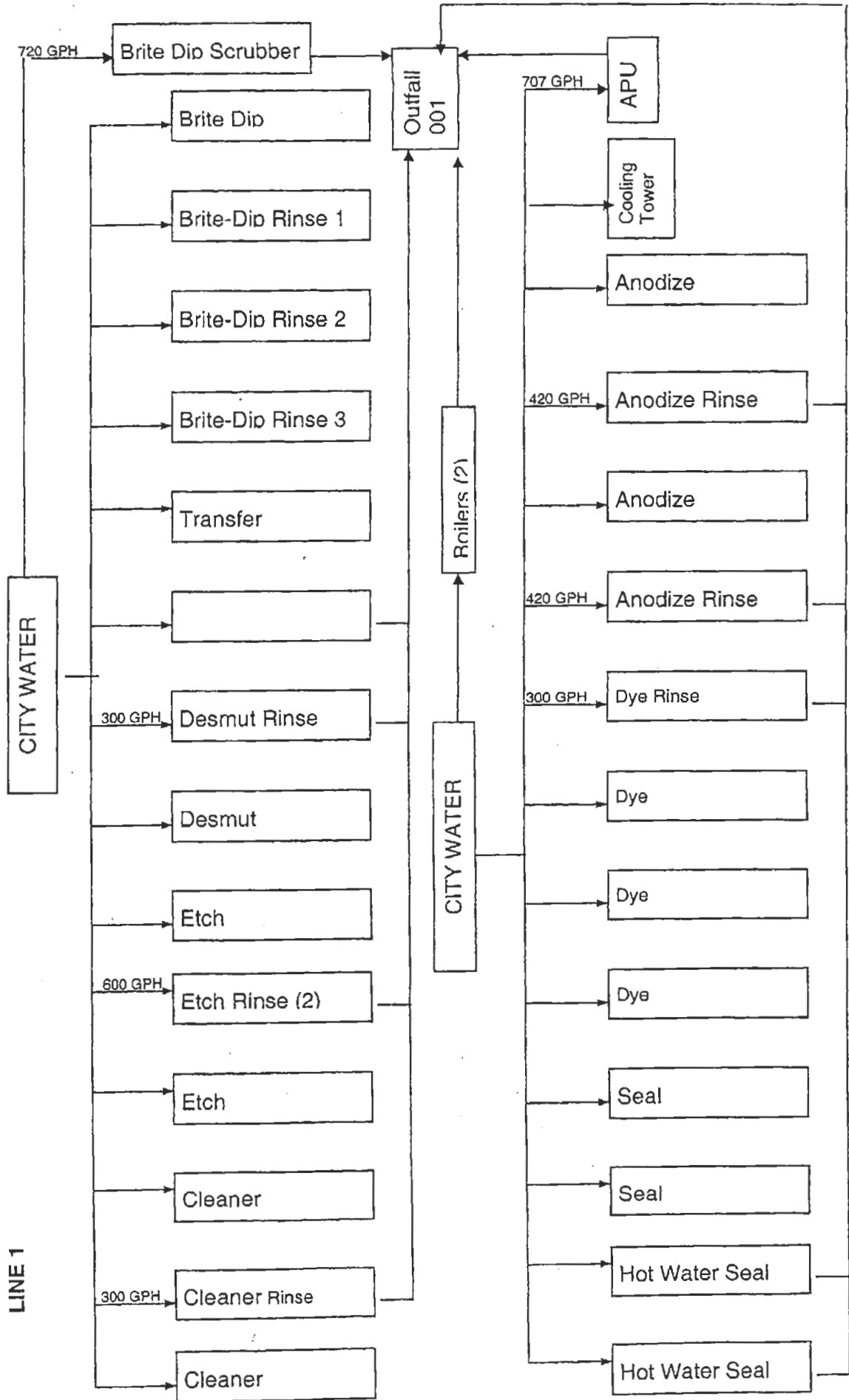
OVERALL FACILITY PROCESS FLOW DIAGRAM



EXTRUSION PROCESS FLOW DIAGRAM

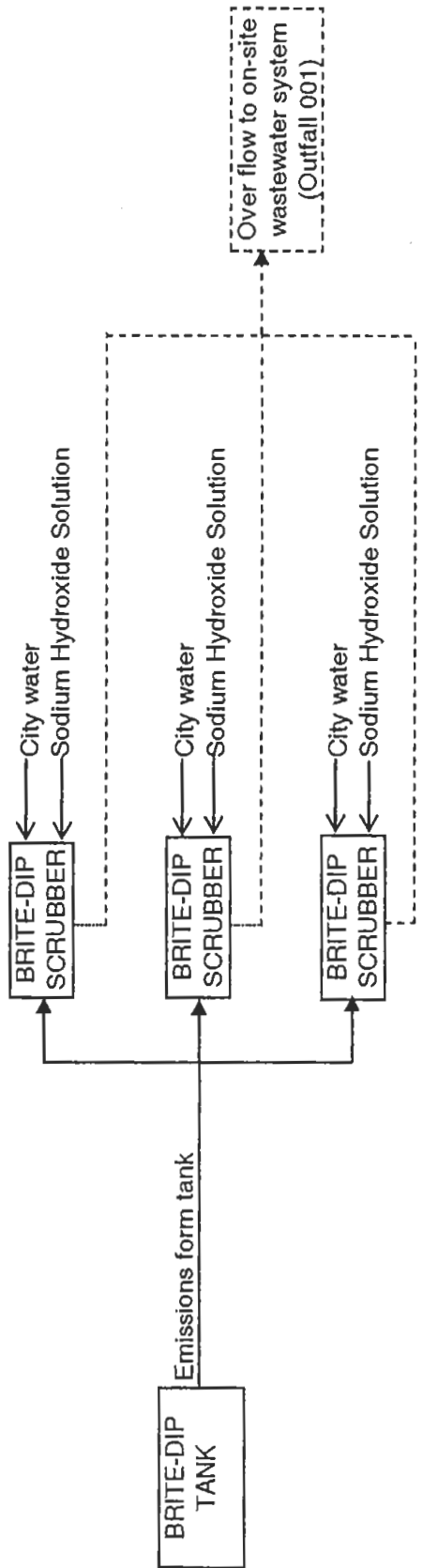


Alcoa Extrusions, Inc. - Magnolia Operations
Water Balance
Water Consumption Metrics

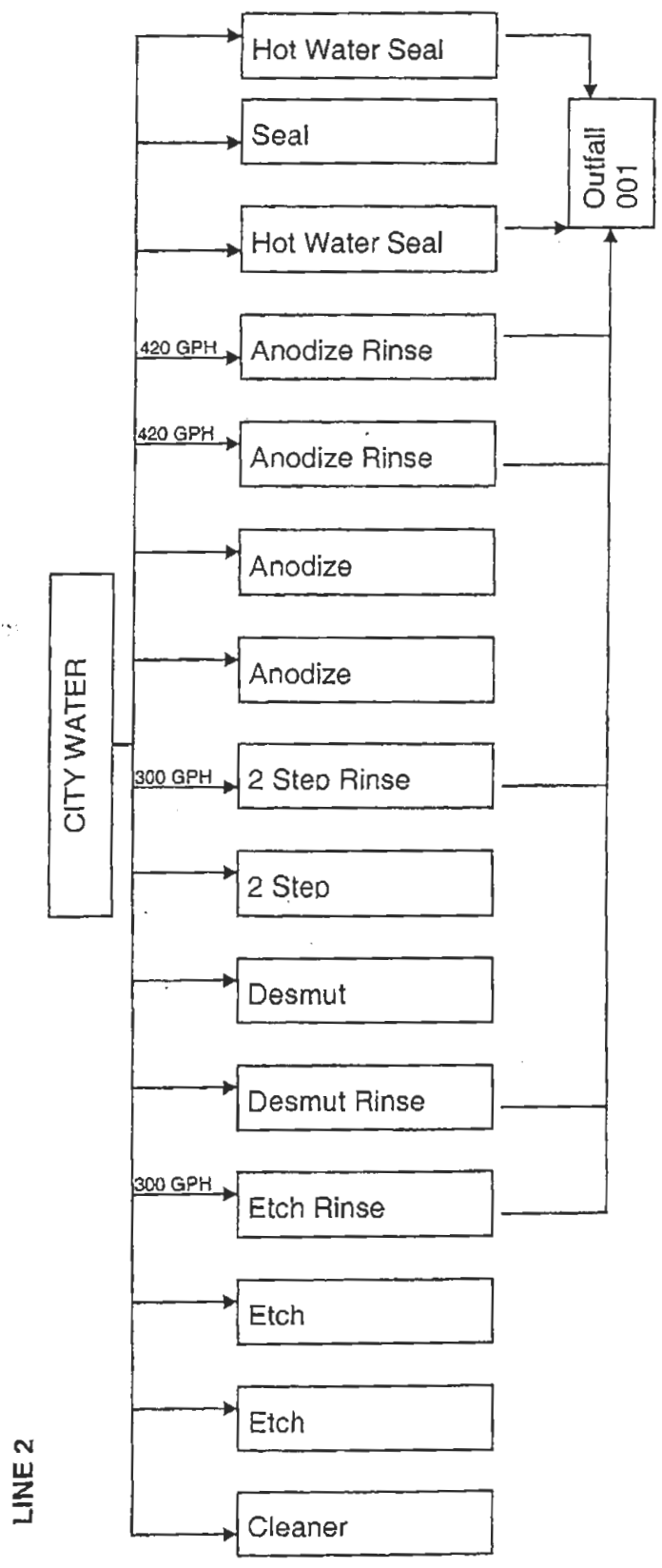


A-5

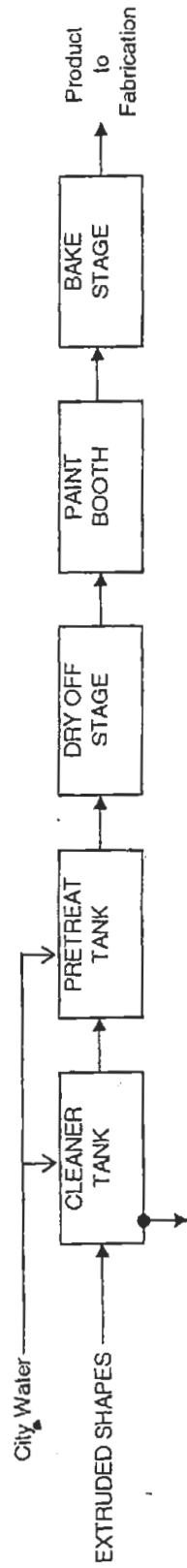
LINE 1 BRITE-DIP SCRUBBER SYSTEM



A-6

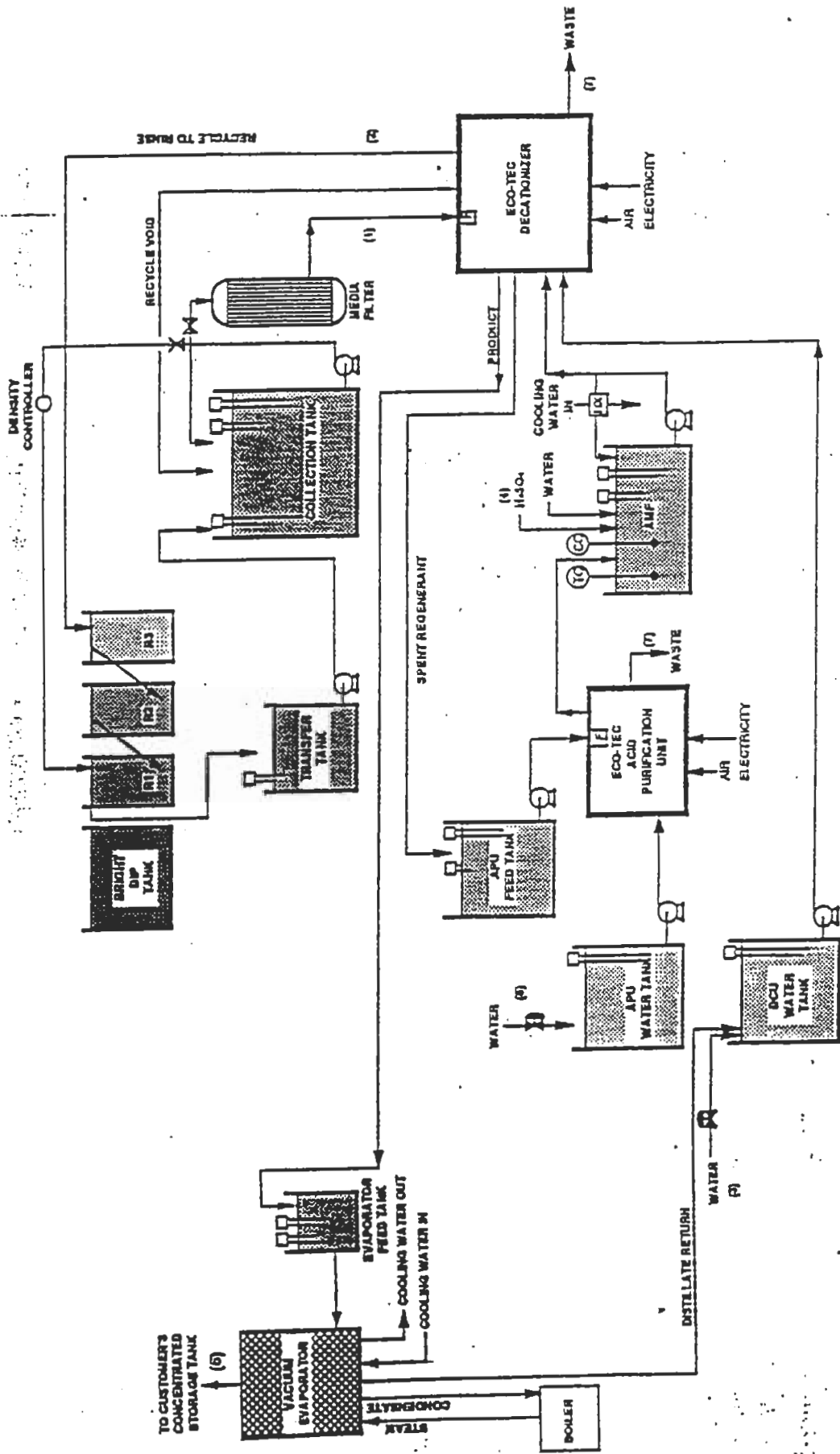


FINISHING (PAINT LINE) PROCESS FLOW DIAGRAM



Indicates continuous wastewater flow to on-site wastewater treatment system (Outfall 001)

A-8



ECO-TEC INC
 222 BRACK ROAD SOUTH
 PICKERING, ONTARIO,
 CANADA, L1W 3S8
 Phone: (416) 431-3408
 Fax: (416) 431-3409



APPENDIX A
 PROCESS SCHEMATIC
 PHOSPHORIC ACID RECOVERY SYSTEM
 FOR
 ALUMAX

DATE: July 14, 1992 DRAWN BY: CKH

Revised 11/1/92

2.3 Operation of the System

(Please refer to the Process Schematic in Appendix A)

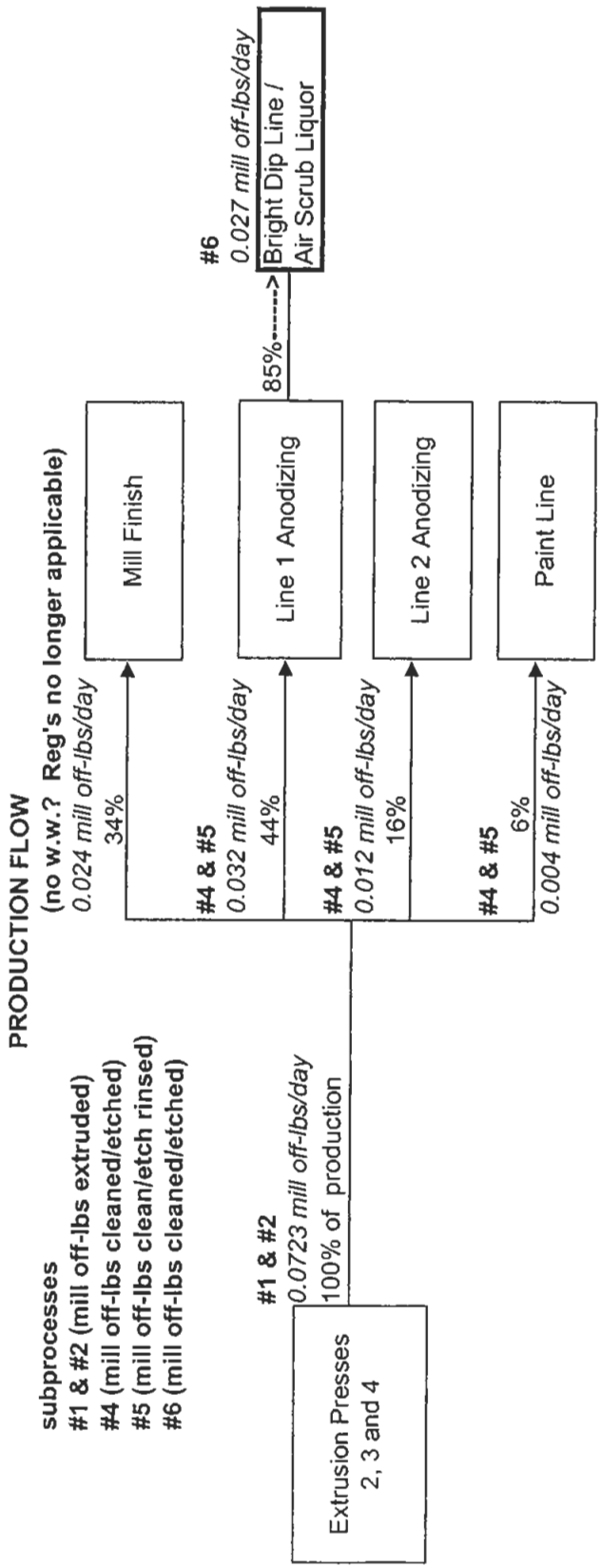
Contaminated rinse solution overflows from R1 into a transfer station which pumps the solution to a collection tank. The DCU feed pump circulates solution between the collection tank and the first rinse (R1) until the concentration of phosphoric acid reaches 250 g/L (maximum). The concentration is monitored by a density controller. At this point the solution from the collection tank is pumped through a multi-media filter and into the decationizer. The feed solution is passed through a polishing cartridge filter mounted on the DCU prior to entering the DCU bed. The aluminum is removed, and the resulting purified phosphoric acid is sent to the evaporator feed tank (onstream step).

The onstream step lasts for approximately 20 minutes. At this point the Decationizer is ready for regeneration. Prior to regeneration, the bed is rinsed out with water to minimize phosphoric acid losses. Part of the wash water is returned to the collection tank. The last part of the wash water is returned to the final rinse tank (R3). This will cause the rinse tanks to counter flow from R3 to R1, replacing the volume lost from the collection tank.

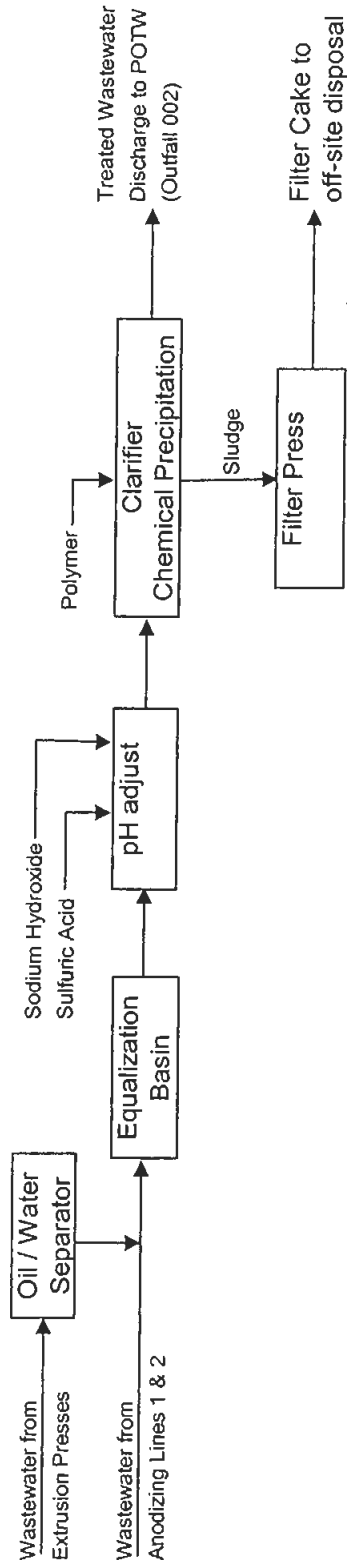
Regeneration of the Decationizer is accomplished using sulfuric acid which is pumped from the Acid Makeup and Feed Tank (AMF). Spent regenerant from the decationizer is collected in the Acid Purification Unit (APU) feed tank for recovery of the spent sulfuric acid.

Acid fed to the APU is purified of aluminum and sent to the AMF tank for reuse in the decationizer. Water is pumped down through the resin bed of the APU recovering the acid in a reusable form. Concentrated sulfuric acid is automatically added to the AMF tank to bring the sulfuric acid concentration up to the proper concentration, thus making up for system losses. The concentration is measured by a conductivity controller.

The purified phosphoric acid rinse water in the evaporator feed tank is sent to a vacuum evaporator. In the evaporator the solution is concentrated under vacuum and then pumped back to a product holding tank (customer supplied). The concentrated product is returned to the bright dip baths as required.



WASTEWATER TREATMENT SYSTEM FLOW DIAGRAM



A-11

Company Name

Company Address
Phone: Fax:

- CERTIFICATE OF ANALYSIS -

Attn:

Phone:
FAX:

Ext:

Our Lab#: 2005-3449

Your Sample ID: Alco Plant #1

Sample Type: *Morning grab*
Flow = 40 gpm

Report Date: 24-Jan-06

Oil & Grease

Oil and Grease 1.7 mg/L 12/19/2005

ICP/MS-T

Aluminum		770	µg/L	12/19/2005
Antimony	<	100.0	µg/L	12/19/2005
Arsenic	<	25.0	µg/L	12/19/2005
Barium	<	100.0	µg/L	12/19/2005
Beryllium	<	5.00	µg/L	12/19/2005
Boron		6440	µg/L	12/19/2005
Cadmium	<	10.00	µg/L	12/19/2005
Calcium		13.3	mg/L	12/19/2005
Chromium	<	10.00	µg/L	12/19/2005
Cobalt	<	25.0	µg/L	12/19/2005
Copper		37.4	µg/L	12/19/2005
Iron	<	1000	µg/L	12/19/2005
Lead	<	10.00	µg/L	12/19/2005
Magnesium		2.36	mg/L	12/19/2005
Manganese		73.1	µg/L	12/19/2005
Nickel		275	µg/L	12/19/2005
Potassium		17.6	mg/L	12/19/2005
Selenium	<	50.0	µg/L	12/19/2005
Silicon Dioxide		4.27	mg/L	12/19/2005
Silver	<	50.0	µg/L	12/19/2005
Sodium		1910	mg/L	12/19/2005
Thallium	<	25.0	µg/L	12/19/2005

A-11

Company Name

Company Address
Phone: Fax:

- CERTIFICATE OF ANALYSIS -

Attn:

Phone:
FAX:

Ext:

Our Lab#: 2005-3449

Your Sample ID: Alco Plant #1

Sample Type:

Report Date: 24-Jan-06

Vanadium	<	25.0	µg/L	12/19/2005
Zinc	<	50.0	µg/L	12/19/2005

A-11

Company Name

Company Address
Phone: Fax:

- CERTIFICATE OF ANALYSIS -

Attn: Phone: Ext:
Our Lab#: 2005-3450 FAX:
Your Sample ID: Alco Plant #1
Sample Type: Afternoon Grab Report Date: 24-Jan-06
Flow = 109 gpm

Oil & Grease

Oil and Grease	2.0	mg/L	12/19/2005
----------------	-----	------	------------

ICP/MS-T

Aluminum	3220	µg/L	12/19/2005
Antimony	< 100.0	µg/L	12/19/2005
Arsenic	< 25.0	µg/L	12/19/2005
Barium	< 100.0	µg/L	12/19/2005
Beryllium	< 5.00	µg/L	12/19/2005
Boron	6140	µg/L	12/19/2005
Cadmium	< 10.00	µg/L	12/19/2005
Calcium	6.97	mg/L	12/19/2005
Chromium	< 10.00	µg/L	12/19/2005
Cobalt	< 25.0	µg/L	12/19/2005
Copper	36.8	µg/L	12/19/2005
Iron	< 1000	µg/L	12/19/2005
Lead	< 10.00	µg/L	12/19/2005
Magnesium	1.77	mg/L	12/19/2005
Manganese	40.1	µg/L	12/19/2005
Nickel	139	µg/L	12/19/2005
Potassium	28.6	mg/L	12/19/2005
Selenium	< 50.0	µg/L	12/19/2005
Silicon Dioxide	4.56	mg/L	12/19/2005
Silver	< 50.0	µg/L	12/19/2005
Sodium	2090	mg/L	12/19/2005
Thallium	< 25.0	µg/L	12/19/2005

A-11

Company Name

Company Address
Phone: Fax:

- CERTIFICATE OF ANALYSIS -

Attn:

Phone:
FAX:

Ext:

Our Lab#: 2005-3450

Your Sample ID: Alco Plant #1

Sample Type:

Report Date: 24-Jan-06

Vanadium	<	25.0	µg/L	12/19/2005
Zinc	<	50.0	µg/L	12/19/2005

A-12

Torrence, Rufus

From: Torrence, Rufus
Sent: Monday, July 18, 2005 2:37 PM
To: gerry.eddy@alcoa.com
Subject: Alcoa July 2005 Semi-Annual Report

Gerry,

I just reviewed the report and I have some concerns:

Is plant #1 still idle; I noticed that you submitted an analysis from American Interplex for Outfall 002.

You interchanged the max and ave concentrations in the form;

AMMC => Actual Measured Max Conc
AMAC => Actual Measured Ave Conc

All production rates and flow must be "normalized" over the six-month reporting period. Normalization means that all rates and flows have a common number of days (the largest number of days reported). Since the Clean/Etch Scbr Liq production days was 181, the same number of days must be used to normalize the core production since this is the largest number of days. Therefore, the average core production is not 16,767,200/120 but 16,767,200/181 which equals 92,636.5 lbs/day.

Rufus

7-19-05 @ 8:15 am

Gerry Eddy called:

Plant #1 still idle; he sampled NC Cooling Water

Will put concs in correct place on the next report.

Will start normalizing on next report, too.