



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 19, 2008

In Reply Refer To: WTR-7

John James, Owner
Quality Finishing
12109 Branford Street, Unit D
Sun Valley, California 91352

Re: September 9, 2008 Clean Water Act Inspection

Dear Mr. James:

Enclosed is the December 19 report for our September 9, 2008 inspection of Quality Finishing. Please submit a short response to the findings in Sections 2 through 5, to EPA, the City of Los Angeles, and the Regional Water Quality Control Board, by **January 28, 2009**.

The main findings are summarized below:

- 1 Quality Finishing qualifies as a new source metal finisher under 40 CFR 433. The City of Los Angeles permit correctly applies standards and limits.
- 2 On-site treatment is not quite equivalent to the models used in setting the Federal standards. As a result, consistent compliance has not quite been reached. In particular, solids removal is overall less efficient than clarification. Operational controls which improve performance are employed, most notably segregated treatment by strength and composition, hard-piped delivery, and good process controls. The lack of on-demand rinsing may constitute dilution as a substitute for treatment.
- 3 The monthly self-monitoring is representative over the sampling day and reporting period. Some monitoring could be reduced.

I appreciate your helpfulness extended to me during this inspection. I remain available to the City of Los Angeles, and to you to assist in any way. Please do not hesitate to call me at (415) 972-3504 or e-mail at arthur.greg@epa.gov.

Sincerely,

Original signed by:

Greg V. Arthur
CWA Compliance Office

Enclosure

cc: Bellete Yohannes, Senior Inspector, City of Los Angeles
David Hung, RWQCB-Los Angeles



U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User: Quality Finishing
12109 Branford Street, Unit D, Sun Valley, California 91352
New Source Metal Finishing (40 CFR 433)

Treatment Works: City of Los Angeles
Hyperion Wastewater Treatment Plant
NPDES Permit CA0109991 - California WDRs R4-2005-0020)

Pretreatment Program: City of Los Angeles, Bureau of Sanitation

Date of Inspection: September 9, 2008

Inspection Participants:

US EPA: Greg V. Arthur, Region 9, CWA Compliance Office, (415) 972-3504
Howard Kahan, Region 9, Los Angeles Office

RWQCB-Los Angeles: None

City of Los Angeles: Bellete Yohannes, Senior Inspector, (323) 342-6046
David Jojola, Inspector
Miguel Rojas, Inspector, (323) 342-6179
Mike Lee, Inspector

Quality Finishing: John James, Owner, (818) 896-7418
Karen James, President

Report Prepared By: Greg V. Arthur, Environmental Engineer
December 19, 2008



1.0 Scope and Purpose

On September 9, 2008, EPA and the City of Los Angeles conducted a compliance evaluation inspection of Quality Finishing in Sun Valley, California. The purpose was to ensure compliance with the Federal regulations covering the discharge of non-domestic wastewaters into the sewers. In particular, it was to ensure:

- Classification in the proper Federal categories;
- Application of the correct standards at the correct sampling points;
- Consistent compliance with the standards; and
- Fulfillment of Federal self-monitoring requirements.

Quality Finishing is a significant industrial user (“SIU”) within sewer service areas administered by the City of Los Angeles whose compliance was assessed as part of an on-going EPA evaluation of industrial users in EPA Region 9 by sector. The inspection participants are listed on the title page. Arthur conducted the inspection.

1.1 Process Description

Quality Finishing is job-shop metal finisher of architectural aluminum and steel. The work involves chromate phosphate (alocrom) conversion coating, electrostatic painting, powder coating, and limited hand spray electroplating. Quality Finishing occupies four of six units in Building D as well as the outside yard. Unit 2 houses the metal finishing operations. Units 4, 5, and 6 house the painting and powder coating steps. The outside yard houses under roof the wastewater treatment unit, chemical storage, paint storage, and a steam cleaning stall. The other Units 1 and 3 are not owned or operated by Quality Finishing. Quality Finishing began operations in 1971 but installed the aluminum conversion coating line in 1999.

- Conversion Coating – alkaline etch/clean (NaOH), alocrom conversion coating ($\text{CrO}_3/\text{H}_3\text{PO}_4$).
- Painting and Coating Lines – electrostatic solvent-based painting dry booths, powder coating dry booth, curing oven, hand plating zero-discharge dry booth.

See Appendix 1 on page 14 for a schematic of the configuration and layout of wastewater handling. Also see Table 1 in Appendix 2 on page 15 for a process tank inventory. Photo documentation of this inspection follows in Section 1.7 on page 4.

1.2 Facility SIC Code

Quality Finishing is assigned the SIC code for coating and engraving (SIC 3479).

1.3 Facility Wastewater Sources

The chromate phosphate conversion coating line and the steam cleaning stall generate spents, rinses, wash waters, spills, and residuals. Wastewaters from the conversion coating line in



Unit 2 are hard-piped into two pump stations, one for chromium-bearing wastewaters and a second for alkaline wastewaters. The pump stations feed into hard-piped delivery lines to the wastewater treatment unit. The steam cleaning wash down collects in blind floor sump which is pumped by portable pump and hose through carbon to the wastewater treatment unit. The painting and powder coating lines do not generate wastewaters. *See* Photo #1 in Section 1.7 on page 4 of this report.

Spent Solutions – The imparted contamination from the processing of parts and the progressive drop in solution strength results in the generation of spents. The generation rates depend on bath usage, effectiveness of bath contamination control, and the amount of drag-out lost into the rinses or to the floor. The alkaline spents are treated on-site. The conversion coating spents are hauled off-site as hazardous roughly once every six months.

Rinses – Quality Finishing employs continuous overflow rinsing. Single-stage rinsing follows alkaline cleaning and etching. Two-stage countercurrent rinsing follows conversion coating with the tail water from the second-stage rinse tank returned as make-up for the first. The steam cleaning wash down collects in blind sump.

Residuals – Quality Finishing generates alkaline tank bottom sludges, spent carbon cartridges, and industrial wastewater treatment sludges for off-site disposal as hazardous.

1.4 Facility Process Wastewater Handling

Discharge - Quality Finishing discharges non-domestic wastewaters to the City of Los Angeles domestic sewers through a single connection designated in this report by permit number as IWD-493279. Domestic sewage discharges through separate connections downstream of the industrial connection. The December 31, 2007 City of Los Angeles permit identifies the final discharge point as the secured sampling facility after the last stage clarifier. The permit lists the average discharge to the sewers to be 2,079 gallons per day (“gpd”). *See* Appendix 1 on page 14 for a schematic of the configuration and lay-out of the wastewater handling. *See* Photo #2 in Section 1.7 of this report on page 4.

Composition - The process-related wastewaters listed in section 1.3 above would be expected to contain chromium, copper, lead, nickel, zinc, acidity, surfactants, other pollutants cleaned off of parts, and the minerals entrained in the water supply.

Delivery - The conversion coating line rinses and spents discharge by gravity through hard-piping to pump stations. The pump station contents are then delivered by hard-piping to the on-site wastewater treatment unit. The steam cleaning stall drains to a blind sump for pumping by portable pump and hose to the on-site wastewater treatment unit.

Treatment – Quality Finishing provides segregated treatment for low-strength conversion coating rinses and alkaline spents and rinses for combined discharge through final clarification steps. The wastewater treatment unit provides for the removal of metals and solids, and the neutralization of acidic and alkaline conditions, through chromium reduction,



hydroxide metals precipitation, and pH adjustment. *See* Appendix 1 on page 14 of this report. *Also* see Section 3.2 of this report on page 8.

1.5 Sampling Record

Quality Finishing self-monitors bimonthly as required by the City of Los Angeles permit. The City of Los Angeles also collects its own samples quarterly.

1.6 POTW Legal Authorities

City of Los Angeles - The Bureau of Sanitation administers the pretreatment program in the City areas serviced by the regional Hyperion system. The Hyperion wastewater treatment plant operates under the requirements of the State of California, Los Angeles RWQCB's Waste Discharge Requirements, No. R4-2005-0020, issued in 2005. The WDRs, which also function as NPDES permit No. CA0109991, require the implementation of an approved pretreatment program throughout the sewer service area. Under this authority, the City issued permit No.W-493279 authorizing discharge of non-domestic wastewater to the sewers.

1.7 Photo Documentation

Two of the 3 photographs taken during this inspection are depicted below and saved as *qualityfinishing-01.jpg* through *-03.jpg*.



*Photo #1: Conversion Coating Line
Taken By: Greg V. Arthur
Date: 09/09/08*



*Photo #2: IWD-493279, Final Discharge Point
Taken By: Greg V. Arthur
Date: 09/09/08*



2.0 Sewer Discharge Standards and Limits

Federal categorical pretreatment standards (where they exist), national prohibitions, State groundwater, and the local limits (where they exist) must be applied to the sewered discharges from industrial users. (40 CFR 403.5 and 403.6).

Summary

The Federal standards in 40 CFR 433 for new source metal finishing apply to all process wastewater discharges from Quality Finishing through IWD-493279. The chromium conversion coating line, which generates nearly all of the facility process wastewaters, was installed in 1999 and thus qualifies Quality Finishing as a new source. The City of Los Angeles permit correctly advances standards reflecting the application of Federal standards for new sources as adjusted to account for non-contact dilution waters. The permit correctly advances local limits. The application of Federal standards, national prohibitions, and local limits was determined through visual inspection. *See* Table 2 in Appendix 2 on page 15 of this report for the permit limits.

Requirements

- None.

Recommendations

- None.

2.1 Classification by Federal Point Source Category

Quality Finishing qualifies as a job-shop metal finisher subject to the Federal metal finishing standards for new sources in 40 CFR 433.

New or Existing Sources – Quality Finishing is subject to Federal standards for new sources. Under the definitions in 40 CFR 403.3(k), a process constructed at an existing source job-shop metal finisher after August 31, 1982 is a new source (1) if it entirely replaces a process which caused a discharge from an existing source or (2) if it is substantially independent of the existing sources on-site. This means that after the 1982 deadline, the new source standards apply to the original installation of metal finishing lines, rebuilt or moved lines, or existing lines converted to do new operations. The preamble to the final 1988 Federal rule states that the new source standards apply when “an existing source undertakes major construction that legitimately provides it with the opportunity to install the best and most efficient production process and wastewater treatment technologies” (*Fed Register, Vol.53, No.200, October 17, 1988, p.40601*).

Quality Finishing qualifies as a new source because of the addition of new chromate phosphate conversion processing line in 1999.



2.2 Local Limits and National Prohibitions

Local limits and the national prohibitions are meant to express the limitations on non-domestic discharges necessary to protect the sewers, treatment plants and their receiving waters from adverse impacts. In particular, they prohibit discharges that can cause the pass-through of pollutants into the receiving waters or into reuse, the operational interference of the sewage treatment works, the contamination of the sewage sludge, sewer worker health and safety risks, fire or explosive risks, and corrosive damage to the sewers. The national prohibitions apply nationwide to all non-domestic sewer discharges. The City of Los Angeles local limits apply to non-domestic discharges in the Hyperion service area.

2.3 Federal Categorical Pretreatment Standards New Source Metal Finishing - 40 CFR 433.17

| 40 CFR 433.17 | Cd | Cr | Cu | Pb | Ni | Ag | Zn | CNt | Can | TTO |
|----------------------|------|------|------|------|------|------|------|------|------|------|
| daily-maximum (mg/l) | 0.11 | 2.77 | 3.38 | 0.69 | 3.98 | 0.43 | 2.61 | 1.20 | 0.86 | 2.13 |
| month-average (mg/l) | 0.07 | 1.71 | 2.07 | 0.43 | 2.38 | 0.24 | 1.48 | 0.65 | 0.32 | - |

Applicability - Under 40 CFR 433.10(a), the metal finishing standards apply to the process wastewaters from Quality Finishing because the facility's operations involve conversion coating. The metal finishing standards "... apply to plants that perform ..." the core operations of electroplating, electroless plating, etching, anodizing, chemical coating, or printed circuit board manufacturing and they extend to other on-site operations associated with metal finishing and specifically listed in 40 CFR 433.10(a), such as cleaning, painting, and electrostatic painting. If any of the core operations are performed, the new source metal finishing standards apply to discharges from any of the core and associated operations. As a result, the metal finishing standards apply to all process wastewater discharges from Quality Finishing to IWD-493279.

Basis of the Standards - The new source metal finishing standards were based on a model pretreatment unit that comprises metals precipitation, settling, sludge removal, source control of toxic organics, no discharge of cadmium-bearing wastewaters, and if necessary, cyanide destruction and chromium reduction. The best-available-technology standards were set where metal finishers with model treatment operated at a long-term average and variability that achieved a compliance rate of 99% (1 in 100 chance of violation).

Adjustments – First, under 40 CFR 433.12(c), the cyanide standards as applied to metal finishing wastewater discharges must be adjusted to account for dilution from non-cyanide bearing waste streams. However, the cyanide standards default as unadjusted when a facility like Quality Finishing does not generate any cyanide-bearing wastewaters. Second, under 40 CFR 403.6(d,e), the Federal categorical pretreatment standards at IWD-495146 must be adjusted to account for dilution from non-contact cooling waters, cooling tower bleed, and boiler blowdown. These flows are specifically listed as dilution waters in 40 CFR 403.6(e), and they account for only 5 gpd of the calculated 2,079 gpd total average discharge from Quality Finishing. Nevertheless, the combined wastestream formula must be used to adjust the standards downward.



$$C_{493279} = \frac{C_{433} Q_{433}}{Q_{433}} \left[\frac{Q_{\text{total}} - Q_{\text{dilution}}}{Q_{\text{total}}} \right]$$

C_{493279} = Fed Standards at IWD-493279
 C_{433} = Fed Standards from 40CFR 433
 Q_{total} = Flow at IWD-493279
 Q_{433} = Flow Regulated by 40CFR 433
 Q_{dilution} = Flow Classified as Dilution

Third, the Federal standards in 40 CFR 433.12 also allow facilities with an approved toxic organics management plan to certify instead of sample for toxic organics. The City of Los Angeles approved the toxic organics management plan for Quality Finishing in 2008 thereby now exempting the facility from toxic organics self-monitoring.

Compliance Deadline - New sources were required to comply on the first day of discharge.

2.4 Federal Prohibitions

The Federal standards in 40 CFR 403.6(d) and 403.17(d) prohibit dilution as a substitute for treatment, and the bypassing of any on-site treatment necessary to comply with standards, respectively. The City of Los Angeles permit establishes these prohibitions through incorporation of provisions against the dilution as a substitute for treatment (Permit Part 6.B.8) and bypassing treatment necessary to comply (Permit Part 6.C.4).

2.5 Point(s) of Compliance

The permit designates the final clarifier outside the facility as the location of the secured sampling point (designated in this report as IWD-493279).

Federal Standards - Federal categorical pretreatment standards apply end-of-process-after-treatment to all Federally-regulated discharges to the sewers. The sample point IWD-493279 is a suitable end-of-process-after-treatment sample point representative of the day-to-day discharge of Federally-regulated wastewaters from Quality Finishing for all parameters.

Local Limits - Local limits and the national prohibitions apply end-of-pipe to non-domestic flows. The sample point designated as IWD-493279 is a suitable end-of-pipe sample point representative of the day-to-day non-domestic wastewater discharges from Quality Finishing.

2.5 Compliance Sampling

The national prohibitions are instantaneous-maximums and are comparable to samples of any length including single grab samples. Federal categorical pretreatment standards are daily-maximums comparable to 24-hour composite samples. The 24-hour composite samples can be replaced with single grabs or manually-composited grabs that are representative of the sampling day's discharge. The City of Los Angeles permit establishes these sampling protocols by specifying the type of sampling required by parameter (Permit Part 3.A.1). *See* Section 5.0 of this report on page 13 and Table 2 of Appendix 2 on page 15.



3.0 Compliance with Federal Categorical Standards

Industrial users must comply with the Federal categorical pretreatment standards that apply to their process wastewater discharges. 40 CFR 403.6(b).

Categorical industrial users must comply with the prohibition against dilution of the Federally-regulated waste streams as a substitute for treatment. 40 CFR 403.6(d).

Industrial users must comply with the provision restricting the bypass of treatment necessary to comply with any pretreatment standard or requirement. 40 CFR 403.17(d).

Quality Finishing employs wastewater treatment that is not equivalent to the BAT models used in originally setting the Federal standards. The filter press and shallow clarifiers are not as efficient in the removal of suspended solids as a Lamella-type model clarifier. Quality Finishing has instituted good built-in controls that improve reliability and performance, most notably the hard-piping of nearly all waste streams to treatment, segregated treatment by strength and chemistry, and good reaction end-point metering. But overall, Quality Finishing has not quite achieved consistent compliance with the Federal standards. *See* Table 3 in Appendix 2 on page 16 of this report for a summary of the compliance sampling.

Requirements

- None.

Recommendations

- All flows should undergo final chemical-aided settling through a Lamella-type clarifier.
- The filter press should be dedicated to remove solids from clarifier sludges with the return of the filtrate for treatment through metals precipitation and settling.
- The rinse tanks should be retrofitted to operate only on-demand.

3.1 Sampling Results

The two year 2006-2008 sample record for Quality Finishing collected from the final clarifier consists of bimonthly self-monitoring and quarterly sampling collected by the City of Los Angeles. All metals samples were 24-hour composites. The others were grabs. *See* Section 5.0 on page 13 of this report.

3.2 Best-Available-Technology Treatment

Quality Finishing is currently designed and operated with what is not quite equivalent to best-available-technology (“BAT”) model treatment, and as a result, the sampling results do



not consistently comply with all of its Federal standards. The samples for chromium are not indicative of consistent compliance, with average and calculated 99th% peak concentrations of 0.574 and 3.360 mg/l chromium. The samples for the other Federally-regulated pollutants easily met all Federal standards at IWD-493279, with average and calculated 99th% peak concentrations of 0.006 and 0.022 mg/l cadmium, 0.101 and 0.930 mg/l copper, 0.014 and 0.068 mg/l lead, 0.031 and 0.174 mg/l nickel, <0.001 and 0.002 mg/l silver, 0.109 and 0.432 mg/l zinc, <0.004 mg/l total cyanide, and 0.034 and 0.172 mg/l total toxic organics.

These sampling results indicate that the statistical probability of violating the Federal standards falls between 3% for any sampling day and 7% for any monthly-average. Violation rates like these that are higher than the 1% used in setting the Federal standards point to deficiencies in either the design or the operation of the model treatment. Quality Finishing possesses treatment equivalent in design to the BAT model treatment in some ways but involving less efficient methods of solids removal. The notable improvements (+) and deficiencies (-) in the design and operation observed during this inspection are listed below.

- + Hard-piped delivery from the sources to the wastewater treatment units.
- + Separate wastewater delivery systems segregated by strength and chemical composition.
- + Separate wastewater treatment units for alkaline spents and chromium-bearing rinses.
- + Good influent equalization for the treatment of the chromium-bearing rinses.
- + Good process controls and reaction end-point monitoring.
- Solids removal by filter press is less efficient than clarification.
- Final clarifiers are not as efficient as chemical-aided Lamella-type clarification.
- Potential dilution as a substitute for treatment. *See* Section 3.3 of this report.

The sampling results reflect and are the result of the inconsistent performance of the existing treatment at Quality Research. Quality Finishing identified the cause of the violations to be the replacement of the filter press plates. This operational shortcoming is illustrative of a more fundamental reason behind inconsistent performance. Filter presses are not designed to discharge clear filtrate. Instead, their function is to remove bulk solids with a recognition that fine solids will pass through. The BAT models used in setting the Federal standards did not involve filter pressing or shallow clarifiers but rather involved Lamella-type clarification, usually chemically-aided with polymer, to produce clear effluent. Also, it is possible that the lack of on-demand rinsing especially following alkaline cleaning dilutes the generated wastewaters, thus masking the need for model treatment to meet the Federal standards.

3.3 Dilution as a Substitute for Treatment

The Federal standards in 40 CFR 403.6(d) prohibit "dilution as a substitute for treatment" in order to prevent compromising BAT model treatment with dilute waste streams. In particular, this prohibition applies when sample results for a diluted waste stream are below the Federal standards and the apparent compliance is used to justify discharge without treatment. There are two conditions that need to be established in order to make a determination of non-compliance with this prohibition. First, some or all of the Federally-regulated wastewaters must discharge without undergoing BAT model treatment or its equivalent. Second, there must be some form of excess water usage within a Federally-regulated process.



Quality Finishing meets the first condition of non-compliance since the alkaline rinses discharge untreated for metals and the solids removal for all other waste streams is less efficient than the model clarifiers. Quality Finishing may meet the second condition as well if the overflowing rinses discharge continuously irrespective of whether there are parts undergoing processing. The most common methods of linking rinsing to production include conductivity-controlled make-up water inlet valves and on-demand kick-plate switches, although there are many others.

3.4 Bypass Provision

The Federal standards in 40 CFR 403.17 prohibit the bypassing of any on-site treatment necessary to comply with standards unless the bypass was unavoidable to prevent the loss of life, injury, or property damage, and there were no feasible alternatives. This provision explicitly prohibits bypasses that are the result of a short-sighted lack of back-up equipment for normal downtimes or preventive maintenance. It also explicitly prohibits bypasses that could be prevented through wastewater retention or the procurement of auxiliary equipment. It specifically allows bypasses that do not result in violations of the standards as long as there is prior notice and approval from the sewerage agency or State.

Compliance with this provision cannot be determined at this time since it is possible that the violations of Federal standards could have been caused by the direction of wastewaters around metals precipitation.



4.0 Compliance with Local Limits and National Prohibitions

All non-domestic wastewater discharges to the sewers must comply with local limits and the national prohibitions. 40 CFR 403.5(a,b,d).

Industrial users must comply with the provision restricting the bypass of treatment necessary to comply with any pretreatment standard or requirement. 40 CFR 403.17(d).

The sample record indicates that Quality Finishing, even with the inconsistent performance of the on-site treatment, complies with all of its local limits for metals, cyanide, organics, and sulfides, and would be expected to comply with the national prohibitions for flammability. *See* Table 3 of Appendix 2 on page 16 of this report. *Also* see Sections 3.0 and 5.0 on pages 8 and 13 of this report.

Requirements

- None.

Recommendations

- None.

4.1 National Objectives

The general pretreatment regulations were promulgated in order to fulfill the national objectives to prevent the introduction of pollutants that:

- (1) cause operational interference with sewage treatment or sludge disposal,
- (2) pass-through sewage treatment into the receiving waters or sludge,
- (3) are in any way incompatible with the sewerage works, or
- (4) do not improve the opportunities to recycle municipal wastewaters and sludge.

This inspection did not include an evaluation of whether achievement of the national objectives in 40 CFR 403.2 have been demonstrated by the Hyperion wastewater treatment plant through consistent compliance with its sludge and discharge limits.

4.2 Local Limits for Oxygen Demanding Pollutants and The National Prohibition Against Interference

High-Strength Organics - The process-related wastewaters discharged to the sewers are not expected to be high enough in organics strength to pose a risk of interference, with the organics strength significantly less than domestic sewage.

Metals and Cyanide - There were no violations of the local limits for arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc, and total cyanide.



4.3 Local Limits for Toxic Metals, Cyanide, and Other Pollutants and The National Prohibition Against Pass-Through

Metals and Cyanide – There were no violations of the local limits for arsenic, cadmium, chromium, copper, lead, nickel, silver, zinc, and total cyanide.

Toxic Organics – There are no local limits for toxic organics.

Oil and Grease – There were no violations of the local limits for oil and grease and none are expected in the future.

4.4 Local Limits for pH and Sulfides, and The National Prohibitions Against Safety Hazards and Corrosive Structural Damage

Corrosion - Sewer collection system interferences related to the formation of hydrogen sulfide and the resulting acidic disintegration of the sewers are not expected. The wastewaters discharged to the sewers are not high-strength in biodegradable organics and were consistently within the local limits for pH.

Flammability - Flammability would not be expected because sampling shows that the discharges to the sewer entrain negligible amounts of volatile organics.



5.0 Compliance with Federal Monitoring Requirements

Significant industrial users must self-monitor for all regulated parameters at least twice per year unless the sewerage agency monitors in place of self-monitoring. 40 CFR 403.12(e) & 403.12(g).

Each sample must be representative of the sampling day's operations. Sampling must be representative of the conditions occurring during the reporting period. 40 CFR 403.12(g) and 403.12(h).

Permit Requirements - Quality Finishing has successfully fulfilled the self-monitoring requirements set forth in the city permit. Over the past two years, the sample record shows that Quality Finishing (1) submitted bimonthly sample results for all permit listed parameters, (2) began submittal of toxic organics management self-certifications, (3) collected all samples from the designated compliance sampling point, (4) correctly obtained 24-hour composites for metals and grabs for the other pollutants, and (5) followed appropriate chain-of-custody procedures.

Representativeness - The sample record also appears representative of the discharge to the sewers over the sampling day and the six-month reporting period. In particular, sampling as required by the permit is frequent enough to capture the intermittent release of batch treated high-strength wastewaters. Some pollutants present at concentrations well below the Federal standards and local limits do not need to be sampled as frequently as currently required by the permit.

Requirements

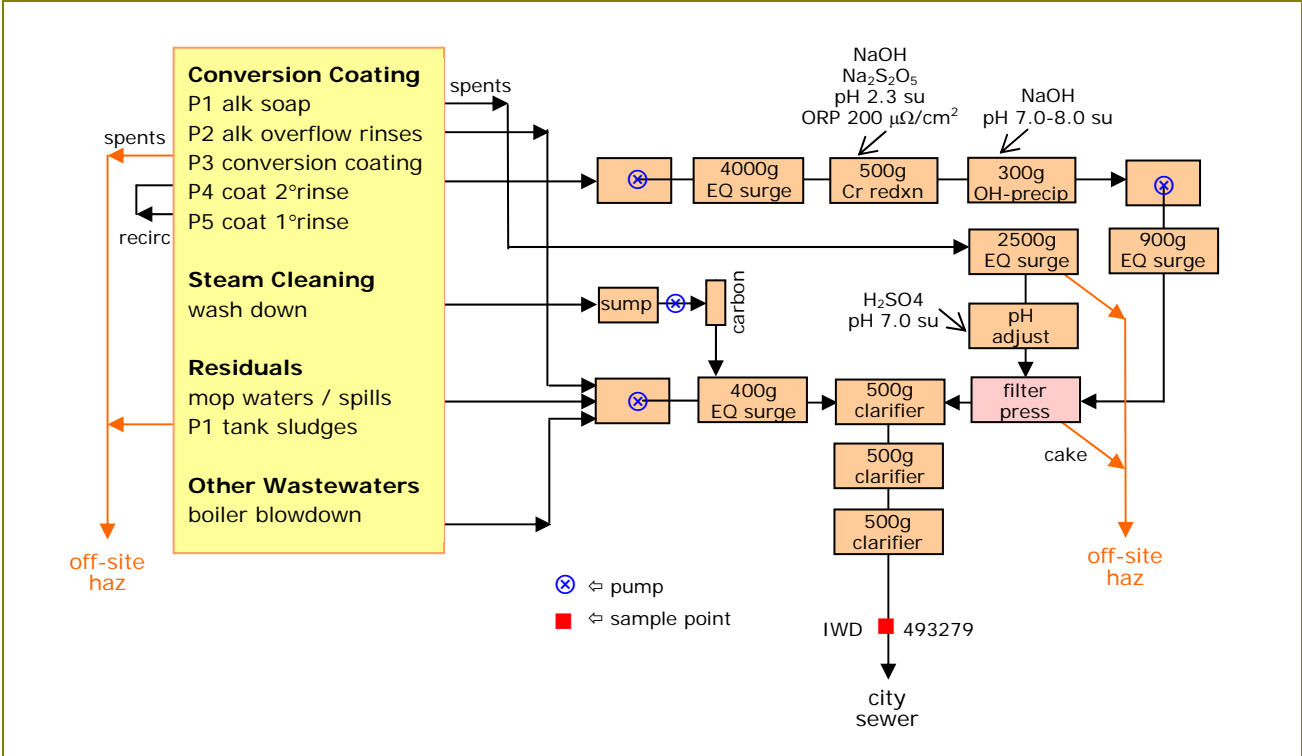
- *See* Table 2 of Appendix 2 for the self-monitoring and city monitoring requirements for IWD-493279 that would be considered to be representative of the discharge.

Recommendations

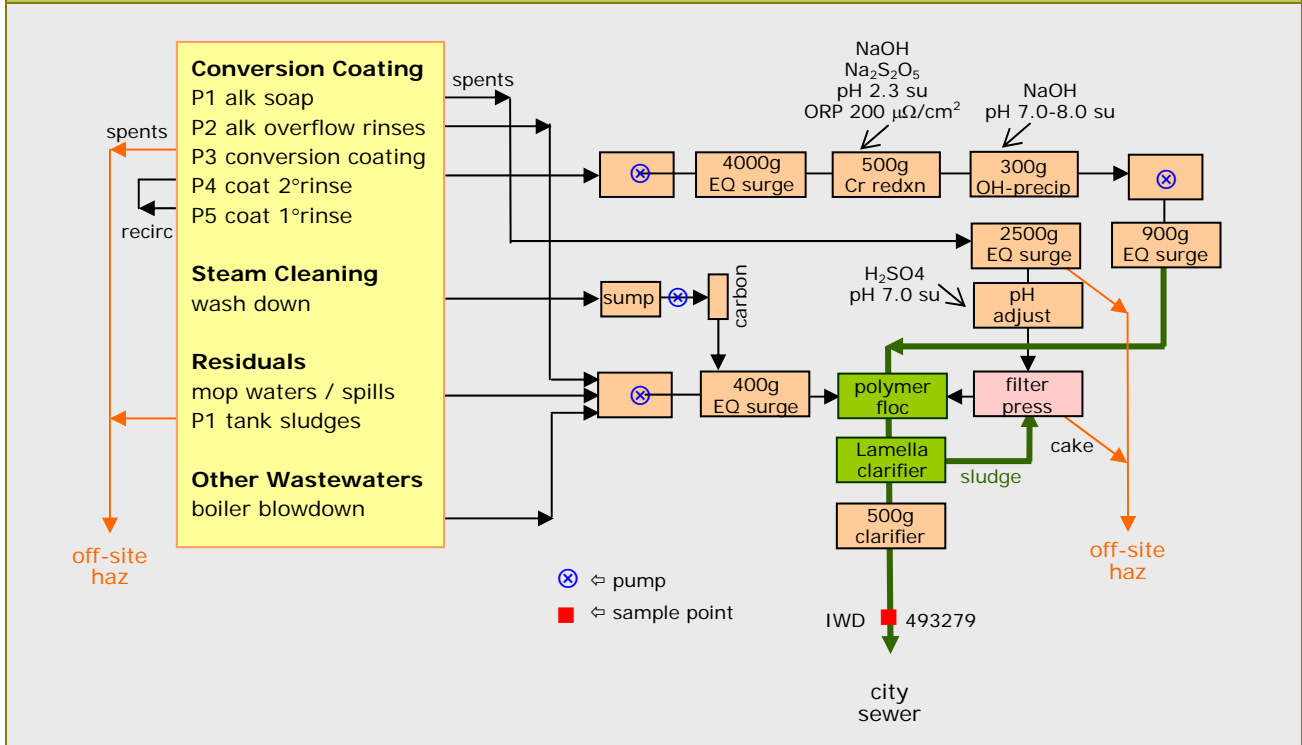
- Self-certification statements should include copies of the hazardous waste manifests documenting the off-hauling of spents, spent static rinses, and residuals.



Appendix 1 Quality Finishing - Configuration and Layout



Recommended Configuration and Layout





| Appendix 2 - Table 1 | | | | | |
|-------------------------------------------------------------|---------|--------------------------|----------------------|------------|---------------------------|
| Quality Finishing - Tank Inventory, Tank Number, and Volume | | | | | |
| Chromium Conversion Coating | | | Steam Cleaning Stall | | |
| gals | | | gals | | |
| 1800 | Tank P1 | alkaline soap | ? | Blind Sump | wash down collection sump |
| 1600 | Tank P2 | rinse for T2 | | | |
| 1600 | Tank P3 | chromic/phosphoric acid | | | |
| 1600 | Tank P4 | 2° overflow rinse for T3 | | | |
| 1600 | Tank P5 | 1° overflow rinse for T3 | | | |

| Appendix 2 - Table 2 | | | | | | |
|-------------------------------------------------------------------------|---------------------------|----------------------------|--------------------------------|------------------------|---------------------------------------|-----------|
| Sewer Discharge Standards and Limits for Quality Finishing @ IWD-493279 | | | | | | |
| Pollutants of concern | Federal standards (d-max) | Federal standards (mo-avg) | national prohibition (instant) | local limits (instant) | monitoring frequency for IWD-493279 ⑤ | |
| | | | | | discharger | city |
| arsenic | - | - | - | 3.0 | ③ | ③ |
| cadmium | 0.11 | 0.07 | - | 15.0 | 1/six-mos | 1/six-mos |
| chromium | 2.76 | 1.71 | - | 10.0 | 1/two-mos | 1/six-mos |
| copper | 3.37 | 2.07 | - | 15.0 | 1/two-mos | 1/six-mos |
| lead | 0.69 | 0.43 | - | 5.0 | 1/two-mos | 1/six-mos |
| nickel | 3.97 | 2.37 | - | 12.0 | 1/two-mos | 1/six-mos |
| silver | 0.43 | 0.24 | - | 5.0 | 1/six-mos | ③ |
| zinc | 2.60 | 1.48 | - | 25.0 | 1/two-mos | 1/six-mos |
| total cyanide | 0.07 | 0.07 | - | 10.0 | 1/six-mos | 1/six-mos |
| amenable cyanide | - | - | - | 2.0 | ③ | ③ |
| total toxic organics | 2.12 | - | - | - | 1/two-mos④ | 1/year |
| dissolved sulfides | - | - | - | 0.10 | ③ | ③ |
| oil and grease (total) | - | - | - | 600 | ③ | 1/year |
| flow (gpd) | - | - | - | - | daily | - |
| pH (s.u.) | - | - | <5.0 | 5.5-11.0 | continuous | 1/six-mos |
| explosivity | - | - | <140°F ① | ② | ③ | ③ |

① Closed-cup flashpoint
 ② Narrative prohibition against the introduction of flammable or explosive substances
 ③ As part of periodic priority pollutant scans in order to identify changes in discharge quality
 ④ Monthly self-certification to following the approved toxic organics management plan is allowed in lieu of self-monitoring.
 ⑤ Recommended **reductions in green**. Recommended **increases in red**.



Appendix 2 - Table 3

April 2006 - July 2008 Sample Record for Quality Finishing @ IWD-493279

| pollutants (µg/l) | effluent sampling results | | | | violation rate ③ | | | sample count |
|---------------------------|---------------------------|--------|------|------|------------------|--------|---------|--------------|
| | mean | 99th% | min | max | d-max | mo-avg | instant | |
| arsenic | 2.8 | 11.0 | <2.5 | 17 | - | - | 0/23 | 23 |
| cadmium | 5.7 | 21.7 | <0.3 | 30 | 0/23 | 0/19 | 0/23 | 23 |
| chromium | 573.9 | 3360.3 | 40 | 5560 | 1/23 | 2/19 | 0/23 | 23 |
| copper | 100.1 | 930.4 | 14 | 880 | 0/23 | 0/19 | 0/23 | 23 |
| iron | 103.2 | 189.5 | 56 | 185 | - | - | 0/11 | 11 |
| lead | 14.2 | 68.3 | <1.1 | 90 | 0/23 | 0/19 | 0/23 | 23 |
| molybdenum | 15.5 | 39.0 | 4.3 | 39 | - | - | 0/11 | 11 |
| nickel | 31.1 | 174.1 | 3.8 | 220 | 0/23 | 0/19 | 0/23 | 23 |
| silver | 0.4 | 1.8 | <0.2 | 2.1 | 0/23 | 0/19 | 0/23 | 23 |
| zinc | 108.7 | 432.3 | 16 | 470 | 0/23 | 0/19 | 0/23 | 23 |
| total cyanide | <4.0 | <4.0 | <4.0 | <4.0 | 0/22 | 0/19 | 0/22 | 22 |
| amenable cyanide | <4.0 | <4.0 | <4.0 | <4.0 | - | - | 0/22 | 22 |
| total toxic organics | 33.6 | 171.9 | 1.3 | 280 | 0/22 ① | - | 0/20 | 20 ① |
| dissolved sulfides | <30 | <30 | <30 | <30 | - | - | 0/22 | 22 |
| chloride (mg/l) | 46.0 | 87.4 | 19.8 | 77 | - | - | - | 16 |
| oil+grease - petro (mg/l) | 4.8 | 13.1 | <3.0 | 12.9 | - | - | 0/22 | 22 |
| flow (gpd) | 3623 | 5176 | 2490 | 4561 | - | - | - | 609 |
| pH (s.u.) | 7.4 ② | - | 6.0 | 9.3 | - | - | 0/22 | 22 |
| explosivity | - | - | - | - | - | - | - | - |

① Monthly self-certifications to following an approved toxic organics management plan.

② pH median

③ The list of violations by sample date and the violation probabilities follow below.

| sample dates | type | sampler | standards / local limits | violation | days |
|--------------|---------|-----------|-------------------------------|-----------|------|
| Feb 2008 | 24-hour | POTW | Fed mo-avg - chrome 1.71 mg/l | 2.43 | 29 |
| 03/05/07 | 24-hour | POTW | Fed d-max - chrome 2.76 mg/l | 5.56 | 1 |
| Mar 2007 | 24-hour | POTW + IU | Fed mo-avg - chrome 1.71 mg/l | 2.80 | 31 |

| violation probability | mean (µg/l) | std dev (µg/l) | statistical probability | percent |
|-----------------------|-------------|----------------|-------------------------|---------|
| Fed d-max - chromium | µ = 573.9 | σ = 1195.9 | α(2760) = 0.0338 | ~3% |
| Fed mo-avg - chromium | µ = 541.8 | σ = 787.1 | α(1710) = 0.0702 | ~7% |