



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX – PACIFIC SOUTHWEST REGION
75 Hawthorne Street
San Francisco, CA 94105-3901

Jan 20, 2012

In Reply Refer To: WTR-7

Ms. Socorro Velasco
General Manager
Variety Metal Finishing
1166 Campbell Avenue
San Jose, CA 95126

Re: August 19, 2011 Clean Water Act Inspection

Dear Ms. Velasco:

Enclosed is the January 19, 2012 report for our inspection of Variety Metal Finishing at the above address in San Jose, CA.

The main findings are summarized below:

1. This facility is subject to the federal categorical standard for metal finishing, 40 CFR 433, because of the following metal finishing services it performs on site: electroplating, electroless plating, chemical etching, chemical coating, and anodizing.
2. Over the past several years, the facility has had problems consistently complying with the federal and local cyanide limits and the federal total toxic organics (TTO) limit. As recently as February 2010, the City of San Jose discovered the facility violating both the federal and local cyanide limits, with a measurement of 18 mg/l.
3. This facility is operating under a Permanent Injunction and Stipulated Final Judgment, issued by the Superior Court of California, County of Santa Clara, in February 2009.

By February 29, 2012, please submit a short response letter to the Summary of Findings in Section 3.0 of this report. Your letter should include an individual response to each of the numbered findings in Section 3.0.

Please send your letter to the attention of Anna Yen at EPA (and include the code "WTR-7" in the address above), with copies to the City of San Jose - Environmental Services Department and to the San Francisco Bay Regional Water Quality Control Board.

We would like to thank you for your cooperation during the inspection. If you have any questions, please call Anna Yen at (415) 972-3976 or e-mail her at yen.anna@epa.gov.

Sincerely,
<Original
signed by>

Ken Greenberg
Chief, Clean Water Act Compliance Office

Enclosure

cc (enclosure by email):

Rene Eyerly, City of San Jose, Environmental Services Department
Michael Chee, Regional Water Quality Control Board, San Francisco Bay Region

**U.S. Environmental Protection Agency
Region 9
Clean Water Act Compliance Office**

Industrial User Inspection Report

Industrial User: Variety Metal Finishing
Industrial User Address: 1166 Campbell Avenue, San Jose, CA 95126

Inspection Date: August 19, 2011

EPA Region 9 Inspector: Anna Yen, Environmental Engineer
Water Division, CWA Compliance Office

City of San Jose Inspector: Jack Dickinson, Environmental Inspector II

Facility Contacts During Inspection: Socorro Velasco, General Manager
Angel Ruelas, Operator

Report Date: January 19, 2012

Report prepared by Anna Yen

1.0 Scope and Purpose

The purpose of the industrial user inspection on August 19, 2011 was to determine the pretreatment standards and requirements that apply to this facility and to ensure compliance with those standards and requirements.

This facility is an industrial user which discharges to the local publicly owned treatment works (POTW), the San Jose/Santa Clara Water Pollution Control Plant.

1.1 General and Process Description

Operations began at this facility in March 1986. Variety Metal Finishing (“Variety”) provides metal finishing services for a variety of customers, including those in the medical, high-tech, and communications fields. Variety's metal finishing services include gold, silver, and copper electroplating; electroless nickel plating; anodizing; chromating; and passivating. Variety also performs chemical etching. Variety does not own any of the products it manufactures. Therefore, as defined in 40 CFR 433.11(c), Variety is a job

shop.

Variety starts with raw materials of aluminum, steel, copper, and brass. All tanks sit on concrete risers or on their own legs above the secondary containment concrete floor. Floor grating above the secondary containment serve as walkways around the tanks. The concrete floor under the walkways are graded slightly higher and slope down to the rest of the concrete containment area which all slopes down to a few sumps located at key points in the concrete floor. Sumps collect dragout and spray rinse tank discharge. A sump pump inside each sump is controlled by a level float. This pump transfers liquid accumulated in the sump to one of three bins, depending on the area of the room the sump is located in.

The three bins separately collect cyanide wastewaters, nickel wastewaters, and chromium wastewaters, respectively. A sump pump in each of these bins then pumps the liquid to the wastewater treatment system. The chromium and nickel wastewaters eventually combine once they reach the wastewater treatment system, but these are kept separate from the cyanide wastewaters until after the cyanide sample point. *See Photos 1-3 in Attachment 1.*

Rinse Procedures

All rinse tanks at the facility are static rinse tanks or spray rinse tanks. Variety does not reuse any of its rinse waters. Variety's spray rinse tanks are designed specifically for spray rinsing. These tanks are equipped with a hang bar and high-pressure spray nozzles which spray a mixture of steam and water. The tanks also have an outlet point towards the top of the tank. The liquid that reaches this point exits the tank, collecting in a sump in the secondary containment below, and, from there, is pumped to the wastewater treatment system. Employees using these tanks hang the metal part on the hanging bar, then spray rinse the metal part over the tank. *See Photos 4-5 in Attachment 1.*

Replacement of Tank Contents

Variety has all spent acids and soaps hauled away for offsite disposal. Rinses from the pre-cleaning tanks are sent to the wastewater treatment system. Cyanide (static) rinses from the gold, silver, and copper plating processes are sent offsite for reclaim. Variety makes only additions to the plating tanks of these processes.

For the electroless nickel plating process, Variety uses each process tank for up to six to seven metal turnovers before making a new batch. Variety has storage tanks located next to and hard-plumbed to the electroless nickel tanks. The contents are hauled away for offsite disposal.

For the anodize process, the anodize tank contents are analyzed every two to three months. The frequency with which Variety replaces these tank contents depends on the results of these analyses, but on average, Variety replaces the tank contents approximately once per year.

For the tin plating and alodine processes, Variety only made additions to the process tanks.

Variety seemed uncertain as to exactly which wastewaters are sent to the wastewater treatment system and which ones are hauled away. For example, at first, Variety stated that rinses from the precleaning process lines were hauled offsite, but when questioned again, Variety then stated that those rinse waters are sent to the onsite wastewater treatment system.

All rinse waters from spray rinse booths ultimately end up at the onsite wastewater treatment system.

Onsite Wastewater Treatment System

See Section 1.3

1.2 Facility Wastewater Sources

Variety generates the following wastewaters:

- Rinse waters from spray rinse tanks of metal finishing processes
- Other spent metal finishing baths
- Any dragout or spillage collected in secondary containment area
- Boiler blowdown
- Air compressor condensate

With the exception of the second and last items listed above, the above listed wastewaters are all sent to an onsite wastewater treatment system. See Section 1.1 for a description of how other spent metal finishing baths are handled. The air compressor condensate is simply collected in a bucket and hauled away. *See Photo 6 in Attachment 1.* The boiler blowdown stream is collected in a bucket next to the boiler. Approximately once every two days, an employee hand carries the bucket to the onsite wastewater treatment system.

The wastewater, separated by type (chromium, nickel, or cyanide), is pumped from the three respective bins to the first two tanks of the onsite wastewater treatment system. Once treated, the wastewater is sent to one of four 5000-gallon holding tanks. Prior to discharging from these tanks, a sample is collected and sent to a lab for analysis. Variety has a locked sample box, which was required by the City of San Jose (“the City”), downstream of the holding tanks and upstream of the connection to the local sewer system. As specified in Variety’s permit, Variety must batch discharge and is allowed to discharge only upon receiving approval by the City based on the analytical results of the sample. Once Variety receives approval, the treated wastewater flows through the sample box into the local sewer system.

EPA notes Variety’s positive practices of efficient water use such as having drip guards between tanks, majority of rinse tanks that are static rinse tanks, and rinse tanks equipped with hang bars and set up specifically for spray rinse and high pressure steam/water rinse.

EPA encourages Variety to continue its efforts and consider additional efficient water use practices such as reusing rinse waters as makeup water for process tanks and countercurrent rinses, to name only a few of many options.

1.3 Facility Process Wastewater Treatment System

The wastewater is first pumped into one of two tanks of Variety's wastewater treatment system. The cyanide-contaminated wastewater goes into one tank, and nickel- and chromium-contaminated wastewaters go into the other tank. Ferrous sulfate and sulfuric acid are added to the nickel/chromium tank. Calcium hypochlorite is added to the other tank. Variety stated that the chemicals are typically metered in automatically and mixed using an air sparging system. However, on the day of our inspection, because of equipment problems and ongoing repairs, Variety was adding the chemicals in by hand. *See Photos 7-8 of Attachment 1.*

The cyanide wastewater then proceeds to a high-pH tank, followed by a low-pH tank. Caustic is automatically metered into the high-pH tank to achieve a pH in the range of 10.5 to 11.5. Similarly, caustic is automatically metered into the low-pH tank to achieve a pH in the range of 8.5 to 9.5. This wastewater, along with the nickel/chromium wastewater from the first tank, flow through two separate pipes to a partially divided tank. The wastewater that has been treated for cyanide flows to the part of the tank that serves as the cyanide sample point. This wastewater overflows into the rest of the tank which contains the wastewater that has been treated for chromium. This combined wastewater is then conveyed to pH Adjustment Tank 1, followed by pH Adjustment Tank 2. The contents are then sent to Clarifier 1, followed by Clarifier 2, where polymer is added. The effluent flows to a holding tank containing filters and is then pumped to Clarifier 3. The bottoms from Clarifiers 1 and 2 are sent to the filter press. The filter cake is sent to a dryer before being placed in bags for hauling offsite. *See Photos 9-14 of Attachment 1.*

From Clarifier 3, Variety sends the contents to two more clarifier tanks. Polymer is added once again, and the bottoms are sent to the filter press. The effluent is sent to one of two 730-gallon holding tanks. Variety takes samples of the effluent from one of these tanks for testing. If pollutant levels are low enough, Variety pumps the effluent to one of four 5000-gallon holding tanks. *See Photo 15 of Attachment 1.* Prior to discharging from these tanks, a sample is collected and sent to a lab for analysis. Variety has a locked sample box, which was required by the City, downstream of the holding tanks and upstream of the connection to the local sewer system. This sample box is required to allow access only to City personnel. As specified in Variety's permit, Variety is allowed to discharge only upon receiving approval by the City based on the analytical results of the sample. Also as specified in its permit, Variety must discharge on a batch basis. *See Photos 16-17 of Attachment 1.*

During the inspection, the City inspector pointed out to EPA that the City had discovered that the discharge line that runs from the final tank under the concrete floor to the local

sewer system had, in one segment, almost completely corroded away. The City required Variety to replace approximately 200 feet of this pipe in 2006. *See Photo 18 of Attachment 1.*

1.4 Wastewater Discharge

Wastewater from this facility discharges to the San Jose/Santa Clara Water Pollution Control Plant. As lead agency of a regional joint powers authority, the City of San Jose operates the wastewater treatment plant, which is subject to requirements under an NPDES permit (No. CA-0037842) issued by the Regional Water Quality Control Board.

2.0 Compliance with Federal Categorical Standards

This facility is subject to the federal categorical standard for metal finishing, 40 CFR 433. Therefore, it is a categorical industrial user (CIU). Variety's metal finishing services of electroplating, electroless plating, chemical etching, chemical coating, and anodizing trigger applicability of this categorical standard.

The City has permitted this facility as a new source, listing the "Pretreatment standards for new sources" in 40 CFR 433.17 as the applicable federal limits. An industrial user is subject to the federal categorical standard for metal finishing if it performs any of the following six core operations listed in 40 CFR 433: electroplating, electroless plating, chemical coating, chemical milling/etching, anodizing, and printed circuit board manufacturing.

In addition to compliance issues with cyanide limits in 2005 that the City reported to EPA in recent annual pretreatment reports (see Section 2.2 below), the facility showed inconsistent compliance with the federal total toxic organics (TTO) limit in 2008. In 2009, a Permanent Injunction and Stipulated Final Judgment was issued to the facility (See Section 2.2 below for details on Variety's local limit violations and ensuing enforcement actions by the City.) Since then, the facility violated both the federal and local cyanide limits in February 2010, with a measurement of 18 mg/l. *See Attachment 2 for a portion of the compliance monitoring data for TTO and total cyanide.*

2.1 Compliance with Other Federal Pretreatment Requirements

This facility is a categorical industrial user (CIU) and, therefore, is also a significant industrial user (SIU) because it is subject to a federal categorical standard. Like any industrial user, it must comply with pretreatment requirements in 40 CFR 403, including, but not limited to, national prohibitions in 40 CFR 403.5 and reporting requirements in 40 CFR 403.12. Note that some requirements in 40 CFR 403 are applicable specifically to SIUs and some even more specifically to CIUs.

2.2 Compliance with Local Limits and Actions by the City

The facility's most recent pretreatment permit issued by the City is Permit No. SJ-111B. The facility's final sample point is a locked sample box, which the City required Variety to install, and, as described in the permit, is "located on the south side of the treatment area, in tank #103, after all treatment and immediately prior to final discharge to sanitary sewer." The facility's sample point is indicated on a diagram in the permit. The facility's federally-required cyanide sample point is, as described in the permit, "located after cyanide treatment in tank #92, prior to combining with all other wastestreams flowing to heavy metal removal." This sample point is also indicated on the same diagram in the permit. The facility's permit requires Variety to batch discharge, to sample semiannually, and to sample before being allowed to batch discharge. In addition, Variety must keep a log of sanitary sewer batch discharges.

Based on the City's latest annual pretreatment report to EPA, following is the noncompliance and enforcement history of the last several years. Due to Variety's wastewater discharge of elevated cyanide levels discovered by the City during surveillance sampling in 2005, the Superior Court of California, County of Santa Clara issued a Permanent Injunction and Stipulated Final Judgment (Stipulated Judgment) to Variety on February 6, 2009. Besides the monetary penalties, two key provisions of the Stipulated Judgment are as follows: 1) Variety must install and maintain, at Variety's sole expense, an additional, locked monitoring point into the sewer lateral; and 2) If, after the date of filing of the Stipulated Judgment, Variety violates any of the laws or regulations described in the Stipulated Judgment, Variety must, upon request of the City, immediately pay a \$25,000 stipulated penalty for each violation to the City. The City collected a sample on February 8, 2010 from the cyanide sample point at Variety's facility, and the result for total cyanide was 18 mg/l. As of the date of this inspection report, the City has not required Variety to pay the \$25,000 stipulated penalty for this violation.

Prior to the Stipulated Judgment, Variety violated the federal TTO limit in April and June of 2008. One of the violations was an exceedance of the federal standard by 134%. The City issued Variety a warning notice and a verbal warning in June of that year for those violations.

3.0 Summary of Findings

1. This facility is subject to the federal categorical standard for metal finishing, 40 CFR 433, because of the following metal finishing services it performs on site: electroplating, electroless plating, chemical etching, chemical coating, and anodizing.
2. This facility is an SIU and a CIU. The facility is subject to applicable pretreatment requirements in 40 CFR 403.
3. Under its current permit, Variety must batch discharge and must receive approval from the City of San Jose before discharging.
4. Over the past several years, the facility has had problems consistently

complying with the federal and local cyanide limits and the federal TTO limit. As recently as February 2010, the City of San Jose discovered Variety violating both the federal and local cyanide limits, with a measurement of 18 mg/l.

5. Variety is operating under a Permanent Injunction and Stipulated Final Judgment (Stipulated Judgment), issued by the Superior Court of California, County of Santa Clara, in February 2009. As of the date of this inspection report, the City has not required Variety to pay the \$25,000 stipulated penalty for the cyanide violation in 2010, which is an option the City has under the terms of the Stipulated Judgment.

Attachment 1: Photos



Photo 1

Typical process line
Taken by Anna Yen on August 19, 2011



Photo 2

Bins collecting process wastewater –
each bin holds chromium-, cyanide-, or nickel-contaminated wastewaters
Taken by Anna Yen on August 19, 2011



Photo 3

One of the floor drain sumps on the process floor
Taken by Anna Yen on August 19, 2011



Photo 4

Taken by Anna Yen on August 19, 2011



Photo 5

Taken by Anna Yen on August 19, 2011

Photos 4 & 5: Employees spray rinsing parts over rinse tank



Photo 6

Air compressor condensate collection point
Taken by Anna Yen on August 19, 2011



Photo 7

Taken by Anna Yen on August 19, 2011



Photo 8

Taken by Anna Yen on August 19, 2011

Photos 7 & 8: Inlet lines to first tank of wastewater treatment system



Photo 9

Federal cyanide sample point
Taken by Anna Yen on August 19, 2011



Photo 10

Clarifier 1 – view of top
Taken by Anna Yen on August 19, 2011



Photo 11

Clarifier 2 – view of top
Taken by Anna Yen on August 19, 2011



Photo 12

Holding tank
Taken by Anna Yen on August 19, 2011



Photo 13

Clarifier 3

Taken by Anna Yen on August 19, 2011



Photo 14

Filter press

Taken by Anna Yen on August 19, 2011



Photo 15

5000-gallon holding tanks
Taken by Anna Yen on August 19, 2011



Photo 16

Inlet line to sample box
– remains disconnected until Variety
receives approval from the City of San
Jose to discharge to the sewer system
Taken by Anna Yen on August 19, 2011



Photo 17

Sample box- all inlet/outlet points
sealed, top is locked down
Taken by Anna Yen on August 19, 2011



Photo 18

Sanitary sewer line below
– visible signs on concrete indicating past work to
replace this section of corroded sewer pipe

Taken by Anna Yen on August 19, 2011

Attachment 2: Compliance Monitoring Records Review

Federal Categorical Limits in mg/L (40 CFR 433.17):	TTO	Cyanide (Total)
Daily	2.13	1.20
Monthly		0.65
Measured Levels (mg/L)		
Sample Date	TTO	Cyanide (Total)*
3/23/2011	ND	ND
9/29/2010	1.05	0.047
3/15/2010	0.09	0.102
3/5/2010		0.046
2/8/2010		18
11/23/09		0.506
3/23/2009	0.029	ND
9/11/2008	0.105	ND
7/18/2008	0.91	
6/5/2008	2.62	
4/7/2008	5.0	0.08

* Only a portion of cyanide measurements are listed here. The total number of cyanide measurements between 4/7/2008 and 3/23/2011 are too many to list in this table. The only violation of the federal cyanide limit during this time period is shown in the table.

Key:

xxx Out of compliance with federal daily and/or monthly limit of 40 CFR 433.17