# PARTS WASHER SAMPLING
## STAGE 4 - CONTINUOUS RINSE

Sample Personnel: Erwin Clark, Rick Clift

Date: 8/30/13

| Time | Meter Reading (1) | Gallons (2) | Fraction of Total Gallons (4) | Composite Volume (5) | Grab Sample Labels |
|---|---|---|---|---|---|
| 5:00 AM | 8173520 | NA | NA | NA | NA |
| 7:00 AM | 8173820 | 300 | 0.213 | 213 | ST4-1 |
| 9:00 AM | 8174240 | 420 | 0.298 | 298 | ST4-2 |
| 11:00 AM | 8174570 | 330 | 0.234 | 234 | ST4-3 |
| 1:00 PM | 8174930 | 360 | 0.255 | 255 | ST4-4 |
| | TOTAL (3): | 1,410 0 | TOTAL = 1.0 | TOTAL = 1000 ml | |

(1) Water meter reading for water line feeding stage 4 of washer.
(2) Subtract meter readings, for example 7 am reading minus 5 am reading.
(3) Sum of gallons for 7am, 9 am, 11 am, and 1 pm.
(4) Divide gallons in column (2) by total (3).
(5) Multiply fraction in column (4) by 1000 to determine portion from grab sample for Metals/Cyanide compositing.

**General Notes for Sampling:**

1. Samples for the Stage 4 washer should be collected the day before the four stages are to be dumped and recharged.
2. At 7 am, 9 am, 11 am, and 1 pm, read the water meter for Stage 4 and record in the above table.
3. After reading the water meter, collect a grab sample each time from the Stage 4 tank for later compositing for Metals and Cyanide analysis. Pour the grab sample into a 1000 ml plastic bottle labeled as ST4-1, ST4-2, ST4-3, or ST4-4, depending on collection time. Place the grab samples on ice until compositing.
4. Composite grab samples for Metals and Cyanide. Shake grab sample bottles, then using graduated cylinder, measure the composite volume given in the above table for each grab sample and pour into 1000 ml beaker. After combining all four portions, stir beaker and fill appropriate sample containers for Metals and Cyanide (do not over fill). Complete labels and chain-of-custody record.
5. Hold composite samples on ice until the following day when grab samples are subsequently collected prior to dumping and recharging all four tanks. After all samples are collected, deliver samples to the lab (ETC) in Memphis for analysis.

PARTS WASHER SAMPLING

Stages 1, 2, 3, and 4 Dumps

Sampling Personnel: Erwin Clark, Rick Cliff  Date: 8/30/13

| Time (1) | Stage No. | Volume (gal) | Fraction of Total (3) | Composite Volume, ml (4) | Grab Sample for TTO (5) |
|---|---|---|---|---|---|
| | 1 | 3300 | 0.357 | 357 | ST-1 |
| | 2 | 1320 | 0.143 | 143 | ST-2 |
| | 3 | 3300 | 0.357 | 357 | ST-3 |
| | 4 | 1320 | 0.143 | 143 | ST-4 |
| | | | | | |
| Total Volume Sampled: (2) | | 9,240 | | | |

## General Notes:

Grab samples can be taken any time prior to dumping tanks. Prior to sampling, stir each tank thoroughly to suspend any bottom sediments/sludges. After sampling, tanks can be dumped. Because the pH of Stage 3 is less than 5.5, the pH should be adjusted prior to dumping or the contents should be released slowly while dumping stages 1, 2, and 4.

(1) Time of collecting grab sample from each stage. Collect Metal/CN grab samples directly from each tank using a glass beaker, pour into 1000 ml plastic bottle, and hold on ice until compositing.

(2) If all four stages are not sampled, only total the volumes of the stages being sampled.

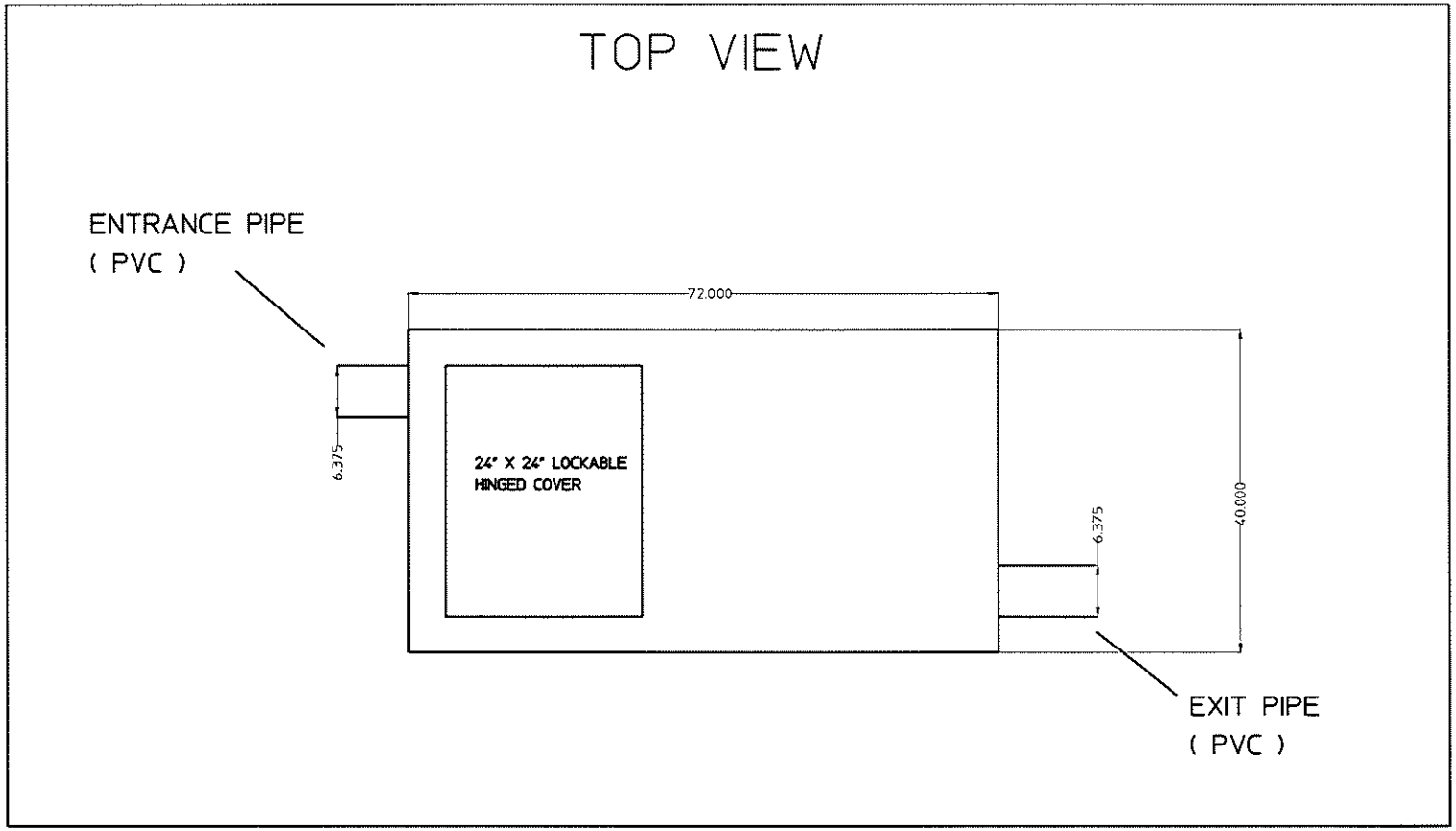
(3) Fraction of total is the stage volume divided by the total volume sampled (2). The sum of the fractions should add to 1.0.

(4) Calculate the Composite Volume (in ml) for the Metals/CN sample by multiplying the Fraction of Total (3) by 1000. Measure the calculated volume (ml) using a graduated cylinder and pour into a 1000 ml beaker. After combining all portions in one beaker, mix contents, and then pour directly into sample bottles for Metals and Cyanide being careful to not overfill the bottles.

(5) Collect TTO grab samples directly from each tank using a glass beaker, being careful to not agitate the sample. Pour TTO grab samples directly into sample vials (2 for each stage). The grab samples for TTO will be composited by the lab (ETC) prior to analysis using the Fraction of Total (3) in the table above. This fraction must be noted on the sample label and the chain-of-custody record.

Complete the chain-of-custody record after compositing the Metals and Cyanide samples and as TTO samples are collected. Note the fraction for compositing TTO samples.

Other Notes: _____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6.375
40.000
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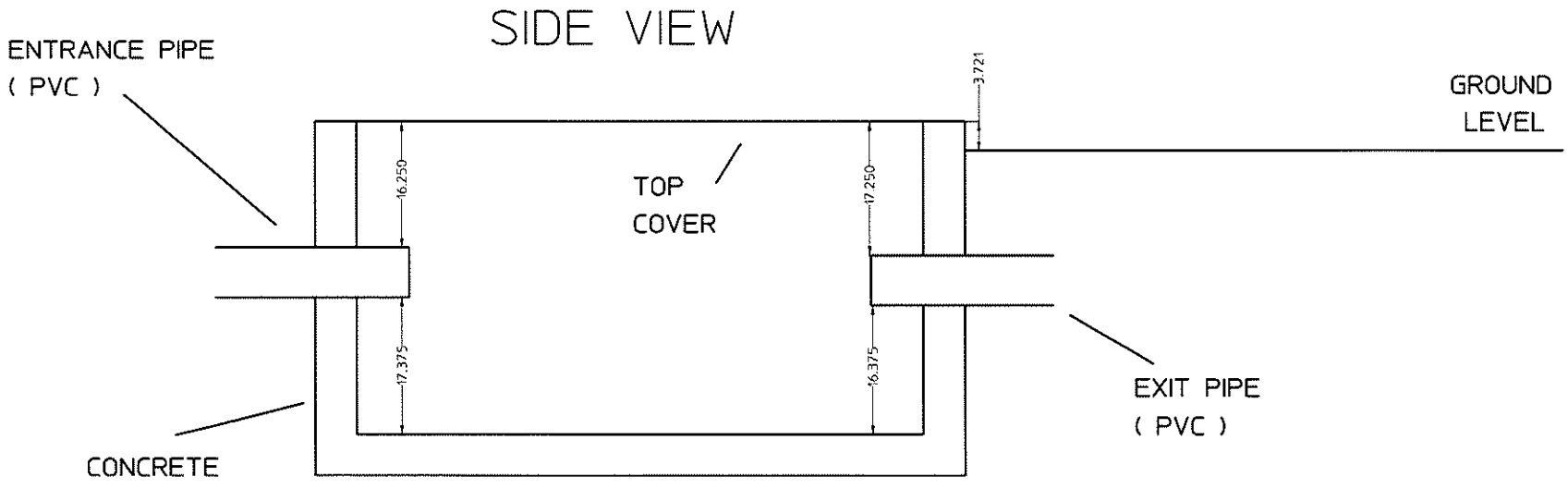
( PVC )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( PVC )
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GROUND
LEVEL
16.250
TOP
COVER
17.250
17.375
16.375
EXIT PIPE
( PVC )
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March 5, 2014

Mr. Allen Gilliam
State Pretreatment Coordinator
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Re: February 2014 Semi-annual Pretreatment Report

Dear Mr. Gilliam:

This purpose of this letter is to provide the additional information that was requested in your e-mail of February 21, 2014. The two items requested were a sampling and fractioning rationale and a comprehensive process description.

Sampling Rationale

Prior to the sampling event on August 30, 2013, the only compositing done by the lab (ETC) was for TTO analysis, and those compositing fractions were shown on the chain-of-custody record for laboratory use. Beginning with the August 30, 2013 sampling, all sample compositing was performed on-site by Roach personnel since the TTO certification was submitted in lieu of TTO analysis. The composite samples taken on August 30, 2013 included one for the fourth-stage continuous rinse (typical daily discharges) and one for the four stages of the parts washer prior to dumping and recharge of the tanks (maximum discharge).

The fourth stage (rinse) of the parts washer has a continuous discharge, and a water meter is used to record the volume of water that enters the tank (also representative of the discharge). The meter reading is manually recorded at the beginning of each work day, and on sampling days the meter reading is recorded again every two hours during the operating day as grab samples are collected from the tank. The fourth-stage composite sample is made by compositing the grab samples based on water usage during the two-hour periods. A record of the meter readings and calculation of compositing fractions is kept with the sampling records. A copy of the record for the sampling performed on August 30, 2013 is attached.

All four tanks of the four-stage washer are dumped and recharged about every three months. At the end of the workday (usually around 1 pm) when the four tanks are scheduled for dumping and recharge, a grab sample is collected from each tank prior to dumping. Each tank is thoroughly mixed, and a grab sample is then collected prior to slowly releasing the tank contents simultaneously. These four grab samples are composited on-site based on tank volumes. A copy of the record for the sampling performed on August 30, 2013 is attached.

As shown by the sewer schematic attached to your e-mail of February 21, there is an on-site manhole located in an open field outside of the building, and the discharges from the parts washer travel through this manhole. A detailed drawing of this manhole is attached. This manhole was originally designed about 30 years ago as a grease/solids trap and has a large holding compartment. Also, the manhole is located in an area that is not easily accessed particularly in wet weather and during the winter months when the outside doors at the back of the plant are kept closed. Thus, for convenience and with approval of ADEQ, Roach decided to sample at the process tanks. We believe that the samples collected by the methods described above are representative of the discharges to the city sewer. Past sampling shows that levels of metals and cyanide discharged to the city sewer have been consistently well below the permit limits.

Process Description

The powder-coat paint line consists of five separate, sequential processes: a parts washer, a drip-off line, a drying oven, a powder-coat paint booth, and a curing oven. Aluminum and steel parts for painting are loaded on an overhead conveyor that moves the parts through the powder-coat paint line processes. These parts are relatively clean and oil-free due to the nature of the raw materials used and the fabrication processes used at the plant.

The parts washer has four stages, all operated at ambient temperature. The first stage has a 3300 gallon tank charged with clean water (no chemicals are added), and has a metal enclosure above the tank where parts are sprayed with the tank water as they pass through on the overhead conveyor. The second stage is identical to the first stage but has a 1320 gallon tank. The third stage operation is identical to the first two stages, but it has a 3300 gallon tank charged with a dilute solution of phosphoric acid. After the initial charge, a pump is used to continuously add a purchased product (5-10% phosphoric acid) to the third-stage tank at a rate of approximately 2 ml per second to account for carryout. The first three stages have no discharge, and any water lost by carryout is added to maintain a constant water level in the tanks. The fourth stage operates similar to the first three stages and has a 1320 gallon tank. However, water is continuously added (about 1500 gallons per day) to the fourth stage to maintain a clean water rinse for parts, and water is continuously discharged to the sewer.

As parts leave the parts washer, they travel overhead toward the drying oven. Any dripping water from the parts is captured by a tray at floor level and is pumped back into the fourth stage of the parts washer. After parts travel through the drying oven, they enter the spray booth where powder-coat paint is applied. Parts then pass through a curing oven.

Certification

I certify under penalty of law that I have personally examined and am familiar with the information in this letter, and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please let me know if you have questions or if something more is needed.

Sincerely,

G. W. Roach , Jr.
President