

GRC
API Separator
Release

MEETING SUMMARY
GIANT REFINING COMPANY – CINIZA REFINERY
SITE VISIT
SEPTEMBER 8, 2005

The following summarizes hazardous waste releases at Giant Refining Company's Ciniza refinery based on a meeting between NMED, OCD and representatives of Giant Refining Company on September 8, 2005. The releases are related to events that reportedly occurred in August and September 2005 in the vicinity of the API Separator, Aeration Ponds 1 and 2, and the Evaporation Ponds.

API release #1:

A pipe failure occurred between the (new) API separator and benzene stripper #2. The release was the result of failure of a pump that conveys water from the API separator to the benzene strippers. Giant estimates that approximately 750 gallons of wastewater was released to a ditch, located on the east and north sides of the Aeration Ponds and Evaporation Pond 1, that drains downhill toward the west toward a storm water retention pond located west of Evaporation Pond 10. Approximately 5-10 cubic yards of soil contaminated by the release were removed from the ditch and stockpiled in the OCD land farm. The release occurred downstream of the API separator and upstream of the benzene strippers and aggressive biologic treatment (ABT) system; therefore, the waste codes for the released wastewater are D018 and F037 and, potentially, F038.

The pump was repaired in approximately two days. During the repair period, all refinery wastewater was routed from the API separator through benzene stripper #1 (approximately 60-120 gpm). Benzene was detected at a concentration (1 mg/L) greater than the maximum concentration for toxicity characteristic of 0.5 mg/L in a sample of Evaporation Pond 1 influent water (from Aeration Pond 2), collected during the period that benzene stripper #2 was off line. Therefore, the wastewater discharged from Aeration Pond 1 to Evaporation Pond 1 was characteristic for benzene (D018) during the period when all refinery wastewater was routed through benzene stripper #1. Benzene was not detected at a concentration greater than the toxicity characteristic of 0.5 mg/L in a sample of Evaporation Pond 1 effluent water collected at the discharge point to Evaporation Pond 2 during the same period.

Based on an estimated average flow of 90 gpm for two days (2880 minutes) the volume of characteristic hazardous waste (D018) discharged to Evaporation Pond 1 was approximately 259,200 gallons (6,171 barrels). Concentrations of benzene in wastewater samples collected from the effluent discharged from Aeration Pond 2 to Evaporation Pond 1 decreased to less than 100 µg/L after benzene stripper #2 resumed operation.

API release #2:

A second release occurred during a storm event when a weir, located upstream from the API separator overflowed. The wastewater also was released to the ditch that runs east

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and then north of the Aeration Ponds and Evaporation Pond 1 and downhill to the west toward the storm water retention pond located west of Evaporation Pond 10. Approximately 10 cubic yards of soil contaminated by the release were removed from the ditch after this incident and stockpiled in the OCD land farm. The release occurred upstream of the API separator; therefore, the waste codes for the released wastewater are D018 and F037 and, potentially, F038.

API release #3:

Giant discovered breakthrough of oil and sludge from the API separator resulting in the release of oil to the benzene strippers, aeration ponds and evaporation ponds. The breakthrough resulted from a pump failure in the API separator sump. Giant is currently recovering the oil in the sump using a vacuum truck and plans to replace the pump. NMED and OCD representatives observed oil on the water surface in the Aeration Ponds, Evaporation Pond 1, Evaporation Pond 2 and Evaporation Pond 10 on September 8, 2005. The release of oil and sludge from the API separator sump includes waste codes K051 and F037, K049 and, potentially, F038.

Giant is currently using booms and a vacuum truck to recover phase-separated hydrocarbons from Evaporation Pond 1 and anticipates recovering the phase-separated hydrocarbons present in Evaporation Pond 2. Giant attributed the staining observed along a large portion of the shoreline of Evaporation 2 to the release from the API separator sump.

Old API release:

A black layer of oil was observed floating on the water in the old API separator. Giant reported that the thickness of the oil was 2 inches or less and was observed after a storm event. The source of the oil was unknown at the time of the site meeting. Giant speculated that the source was either somewhere in the process area or possibly from Crude Tank 101, which had recently been emptied and was undergoing cleaning to remove residual sludge (crude tank sediment [bottoms] K169) so that the seal on the floating roof could be replaced. The old API separator discharges directly to Aeration Pond 1. Giant had not yet tested the oil to determine the fuel fingerprint. Giant reported that they had been attempting to identify the source of the oil for the previous two weeks and would continue to investigate until they were able to determine the source of the release.