

ORIG
(Red)

PAGE 4-1 OF THE DRAFT ESI REPORT -- The May, 1992 ESI was conducted prior to sealing work on the blacktop cap on the encapsulation area. This work was completed by mid-June, 1992, and resulted in the filling of all cracks in a water-tight manner and the application of a fresh coat of sealer on the blacktop cap.

The observation concerning a small devegetated patch in the region of the old lagoon is extremely misleading. This small devegetated area was inadequately covered with topsoil when the remediation work was done in the late 1970's. If some specific environmental cause for the devegetated area was suspected, HALLIBURTON NUS could clearly have obtained samples at that time but did not do so. In the absence of any evidence suggesting some suspicious environmental cause for the devegetated area, there should be no reference to that observation in this report. The ESI Report should acknowledge that no environmental cause for the devegetated area has been identified.

PAGE 4-2 OF THE DRAFT ESI REPORT -- This page of the report refers to results for chromium analyses from a well purportedly serving the "Hughes's residence" on Asch Avenue. The correct name of the street is Arch Avenue. The "Hughes's residence" apparently refers to a home that at one time had been owned by a family with the last name of Hughes. That residence had been served by a shallow, hand-dug well that is no longer in existence. The residence is now occupied by the Cosners. They installed a new well in 1986 that has not yielded any measurable amount of chromium in annual sampling. The reference to the

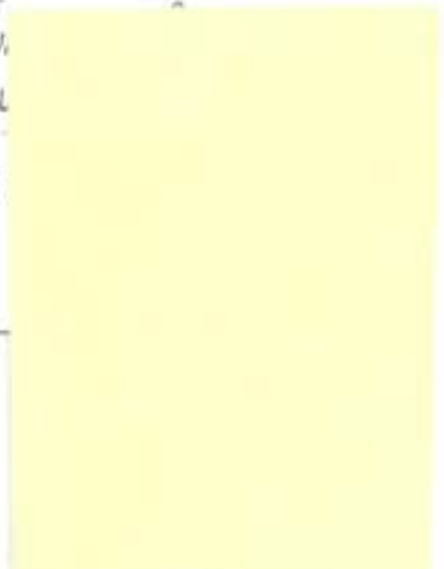
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LL

W
JA

AR001507



Monthly Sampling of Ackesby Cr. Ground Precision Eng. 4-21-62
Glendon Pump. Lackawanna Co.

To: Pill

Thru: George Petchko HP
100 PAGES see 86

From: L.C. Inalaco 5/2/62
W.D.S.

2 sets

E. Kupsky
Aquatic Biologist

Samples collected from Ackesby Cr. and springs
tributary to it showed increases in Cr_T concentrations
at almost all stations. Even the control stations
showed Cr_T concentrations as high as 0.06 ppm.

The Altus spring at the entrance road showed
0.08 ppm Cr_T . This spring never showed any chrome
levels until last summer. Levels ranging from
0.02 to 0.08 have consistently ^{been} obtained since that
time. In light of these results, it seems necessary
to have B. Barry re-evaluate the possible boundary
of contamination since this spring is across the
creek from Precision and was not expected to
exhibit the results I have been obtaining.

Chrome levels obtained at the control
stations again raises the possibility of air-borne
emissions from Precision being a problem.

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ORIGINAL
(R.4)

A

In 1975-76, two scrubbers were installed on the south side of the plant to handle the fumes that were pulled off of the chromate acid baths. These scrubbers leaked sporadically, causing the ground surface underneath the scrubbers to become chromium laden. Furthermore, for about 10 years prior to the installation of these scrubbers, a blower house was used to pull the fumes out of the plant, discharging them at the location shown on Plate 2.

For approximately 2 years since the installation of the new scrubbers, an "evaporative recovery still" was in operation concentrating the scrubber water and discharging that into a containment vessel for shipment away from the plant. This was discontinued in the fall of 1978.

One other effluent source observed in 1978 was the discharge of air-borne contaminants from the strip tank blower fan port and a once daily washdown of the fan duct work totaling approximately 5 gallons per day of water measured at 64,000 ppm total chromium. This discharge occurred to the surface of the ground on the southwestern side of the plant. This discharge was allowed to flow overland aided by runoff from the plant to the power line right-of-way 200 feet west of the plant for a period of about 2 years. Additionally, floor drains designed to catch overflow spillage from the strip tank inside the plant, transmitted that overflow to a 900-gallon partially buried septic tank located near the southwest corner of the building (Plate 2). From there, the overflow was then allowed to exit directly to this same power line. These discharges were to have ceased by July 1978.

B

In addition, floor drains in plating areas have reportedly been plugged to prevent chrome contaminated water from entering the footer drain and all other discharge lines. New rinse tanks have been installed to take the place of this active discharge. The rinse tanks gradually build up the concentration of chrome with each successive rinse. The resultant solution is then systematically reintroduced to the chromium baths during a remade dilution

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Handwritten initials: DJ

This is not to say, however, that the principal direction of ground water movement below the plant is vertical. In this regard, the previously described shale unit identified from the drilling and shown in cross section on Plate 3 represents a significant horizontal barrier to vertical ground water percolation. This may also be true of successively lower shale units as well. The effect of this shallow shale unit is in this case to separate shallow horizontal ground water movement from a deeper system apparent in the deeper wells. The variation in head potential between the two systems is so great as to result in a 14-foot static water level in boring PNC-4 completed above the shale and a 95-foot static water level in well PNC-22 which is located only 40 feet away from PNC-4, but completed to a depth of 125 feet.

Because the geologic strata are essentially horizontal and the topography drops off progressively to the north of the plant, the top of this shale unit subcrops around the hill generally at a distance of 150 to 200 feet from the north and west sides of the plant (Plate 2). Beyond the limits of this shale the head drop between the shallow system and the deep system persists as evidenced by the different static water levels in boring PNC-8 vs. well PNC-23 and boring PNC-5 vs. well PNC-24 (Plate 3). However, water quality data discussed later in this report suggests that greater vertical percolation rates may occur in these areas.

HISTORICAL WASTE HANDLING PROCEDURES

Up until July 1970, all wastewater from the plant was either discharged through the tile field and openly onto the ground surface around the plant or concentrated materials were retained in 55-gallon drums and shipped to the Mount Vernon plant for reprocessing. The lower concentration rinse waters associated with the plant procedures have been allowed to flow into floor drains, ultimately discharging to the surface by way of the footer drain outlet, about 100 feet northwest of the building.

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IRDAS
CASE NO. 18180 (WATER)
PRECISION NATIONAL

Action:

- A. Furnace AA post digestion spike recovery for selenium in some samples were less than 10%. See Ref. A.

Notes:

1. Aluminum, barium, calcium, copper, iron, magnesium, manganese, sodium, vanadium, and zinc were present at concentrations greater than the IDL in the field blanks. See Ref. 1.
2. Lead was present at concentrations greater than the IDL in the field blanks. See Ref. 2.
3. Mercury was present at concentrations greater than the IDL in the field blanks. See Ref. 3.
4. Aluminum, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, manganese, potassium, silver, sodium, vanadium, and zinc were present at concentrations greater than the IDL in the laboratory blanks. See Ref. 4.
5. Arsenic and lead were present at concentrations greater than the IDL in the laboratory blanks. See Ref. 5.
6. Duplicate analysis results for manganese, iron and zinc were outside the $\pm 20\%$ RPD. See Ref. 6.
7. Matrix spike percent recovery for iron was outside the 75-125% control limits. Post digestion matrix spike for iron was performed. See Ref. 7.
8. Matrix spike percent recovery for thallium was outside the 75-125% control limits. See Ref. 8.
9. Furnace AA spike sample results for arsenic, lead, selenium, and thallium of some samples were outside the 85-115% control limits. See Ref. 9.
10. ICP serial dilution for calcium was outside the 10% difference. See Ref. 10.

5.0 TOXICOLOGICAL EVALUATION

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5.1 SUMMARY

Chromium was detected in several home wells and all monitoring wells. Both hexavalent and total chromium were measured in unfiltered home well samples. Total chromium was measured in filtered and unfiltered monitoring well samples. Chromium was detected in five of the nine sampled home wells. All three home wells sampled in the alternate source area (to the north of the site) had detectable concentrations of chromium. All detected chromium concentrations in the home wells were below the Maximum Contaminant Level (MCL).

Ingestion of two liters of water per day by a 70-kilogram adult would not result in exposure that exceeds the reference dose (RfD) for chromium, based on maximum detected concentrations. Ingestion of one liter per day by a 15-kilogram child may result in unacceptable exposure levels for hexavalent chromium. Neither hexavalent chromium nor trivalent chromium have been identified as oral carcinogens.

Lead was detected in two home wells at levels that exceed EPA's action level. Ingestion of lead in water may increase overall carcinogenic risk and may result in an increase in the potential for receptors to experience noncarcinogenic effects. Antimony was detected in one home well at a concentration that exceeds the MCL. Ingestion of antimony in water by an adult or child may result in adverse health effects based on a comparison with the RfD.

Several inorganics were detected in unfiltered and filtered monitoring well samples at levels that exceed MCLs. Only filtered samples, however, are considered to represent possible potable water quality. Total chromium was detected in filtered samples at levels that exceed the MCL, and, if ingested, would result in exposure that exceeds the RfD (for hexavalent chromium). No other inorganics were detected in filtered samples at levels greater than MCLs.

Inorganics in soil samples from the alternate source area were within normal ranges. Likewise, inorganics in surface water and sediments were not detected at levels that pose a human health concern. Aluminum, iron, and chromium (assuming the +6 valence state) were detected at levels that exceed federal AWQCs for the protection of aquatic life. Likewise, the concentration of chromium in sediment at the farthest downstream sampling location (SD-7) exceeds EPA's threshold level for protection of aquatic life. Several of the inorganics detected in surface water or sediments have the potential to bioconcentrate; thus, a theoretical increase in risk from the ingestion of fish cannot be ruled out.