Department of Environmental Protection Memorandum
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To: GAC Chemical file
From: Karen Knuuti, Division of Solid Waste Management, BRWM
Date: October 18, 2013
Subject: Complaint investigation

David Wright received a complaint from Ron Huber, representing the Friends of Penobscot Bay, on August 8, 2013. Friends of Penobscot Bay wants GAC to stabilize its eroding shoreline.Between then and our visit, additional concerns were raised: Eroding shoreline may include old waste and demo debris; is there contamination from the old sulfuric acid plant and if so, could the soil be neutralized; was phosphogypsum (potentially radioactive) disposed on site; and an old saltwater pump house blocks access across the intertidal zone.

Wilkes Harper (Brownfields/VRAP), Susanne Miller (EMRO Regional Director), and I went to the site on October 11, 2013 to do a site walkover. John Pond from CES (GAC's consultant) accompanied us. We met with David Colter, COO of GAC, before and after our walkover.

We accessed the shore at a location near the fomter sulfuric acid plant. GAC has employees do a weekly shoreline check to pick up trash, and this is where they access the shore. In this location, the bank is low, thinly vegetated, and slopes to the beach. The shoreline of the property has eroded in places; some are slumped, leaving a nearly vertical face, and some are more gradually sloped (as in the location we walked down). Old cribwork remnants are visible just above the base of the bank shortly north of our access point. The exposed soil where we accessed the shore and above the old cribwork was a very light gray with particle sizes ranging from tine to cobble. Erosion appears to be gradual. I noted some wood and a slab of concrete high on the beach. Some bricks and a few pieces of ceramic were visible on the shore (David Colter said the ceramic was from the tower of the sulfuric acid plant). Concrete, bricks, and ceramic would be considered inert.

Areas of yellow and orange discoloration were apparent on the surface in the intertidal area west of the point. I dug several holes in the lower parts of the intertidal area; in two, I saw a thin (about 1 inch or less) white layer in the otherwise dark gray or black sediment. I did not see anything that I would call a seep. The tide was still falling and water was still draining from the (lower areas, so we may have been too early. A light-colored band (zero to maybe 2 feet wide) was visible on rocks below the high tide line; on close inspection, it appeared to be dried silt or clay. The band did not extend along the entire shore.

An old asphalt covered pipeline is visible extending south from the point; we could not see the end, and asked David Colter to try to find out its purpose and if it was intact or had been terminated. He later communicated to us that it was used previously for unloading ammonia from the platform in the harbor, but has since been sealed and capped. Small slumped areas were visible in the bank south of where we accessed the shore and at the southernmost part of the point. This sediment was light colored with a pale brown tinge, and was mostly fine-grained with some gravel and cobble sized particles. East of the point (heading toward the old saltwater pump station), the shoreline had been stabilized at some point in the past with a rather unusual wood cribwork. Some rocks have fallen out of this. There was wood and brick on the shore on this side of the point as well, and some chunks of asphalt pavement.

We returned to the upland and looked around the former sulfuric acid plant and the location of what had been the bauxite storage building (building was removed after it started to fall down).

Small pieces of sulfur were visible on the surface near the sulfuric acid plant, and some yellow surface discoloration was apparent, primarily south and west of the plant. This area is bare to poorly vegetated (based on aerial photos, it was a travel area and site of a structure in the past).

A small gully leads to the shore just north of where we accessed the shore. It looks as though surface water runoff from the poorly vegetated area would flow over the bank to the shore. The flow would be toward the southern part of where we noted discoloration in the intertidal area.

The area of the former bauxite storage building is now used for storage of aluminum trihydrate.. Sometimes it is delivered in dump trucks too large to fit through the door in the alum building; these trucks dump on the concrete base that remains, and smaller trucks are used to transport it to the building. Some trihydrate is also stored in the vicinity in large fiber bags. John Pond said all the stormwater runoff from this area is collected and sent through the water treatment structure prior to discharge.

We leamed GAC had proposed a VRAP for some part of the property in the late 1990s; there's a letter to the company dated 1/12/1996 that references the need for deed restrictions prohibiting the use of groundwater and including excavation restrictions. Following the inspection, Wilkes located the certificate of completion; the attached map shows a different portion of the site than the one we walked over, but there is some inconsistency in how the site is described.

Regarding phosphogypsum, it is not clear if this waste would have been produced by the superphosphate process. I saw no indication of large quantities of waste in the area we walked over.

I reviewed boring logs from an investigation on the point in the late 1980s in which 6 borings were made in the area. 5 borings describe till, primarily described as silty sand, and some gravel and cobbles. Some wood is noted in 2 borings; concrete, brick, and wood in 1 boring; and sulfur in 1 boring. No other waste materials are noted.

We could see the pump house that blocks access along the shore, although we did not go that far. The DEP does not control shoreline access. The Dept. of Agriculture, Conservation, and Forestry, Division of Parks and Lands may have some involvement; they do submerged lands leases.