

Key Excerpts from the U.S. Army Corps of Engineers' August 2016 Report *Comparison of Armored Cap vs. Removal Remedial Alternatives* *at the San Jacinto River Waste Pits Superfund Site*

At the request of the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers (USACE) has evaluated removal vs. capping alternatives for the San Jacinto River Waste Pits Superfund Site. Impoundments were originally constructed there in 1965 and used from September 1965 until May 1966 for disposal of paper mill waste. In 2011, paper waste within the impoundments was isolated under a \$9 million engineered Armored Cap consisting of 59,000 tons of stone, and thick specially protective layers of geo-technical materials covering approximately 15.7 acres.

Following completion of its modeling and analysis, USACE issued a final report in August 2016 on its findings regarding the remedy alternatives of removal vs. capping. The USACE 2016 Report concludes that:

- "...full removal...would be expected to significantly increase short-term exposures to contaminants." ¹
- "Modeling...clearly demonstrated that sediment residuals are predicted to be eroded from the areas that would be dredged... even during non-storm, i.e. normal, conditions..." ²
- Compared to capping " ... short-term releases for the new full removal [alternative] is about 400,000 times greater than the releases from the intact cap.... " ³

KEY FINDINGS & EXCERPTS – Risks and Effectiveness of Removal vs. Capping

In modeling and assessing the removal of underlying material from the site and the resulting risk of contaminants being released into the water column and affecting fish tissue concentrations, USACE's 2016 Final Report notes the following:

- If flooding occurred during remedial construction, even with Best Management Practices (BMPs) deployed, "releases may be up to five times greater" if these BMPs were overtopped. ⁴
- If a storm occurred "during the actual removal/dredging operation, the likelihood of extremely significant releases of contaminated sediment occurring is very high." ⁵
- For several years after removal, fish tissue contamination will be dozens of times greater than under current conditions with removal using enhanced BMPs. With a removal remedy that doesn't involve enhanced BMPs, it would be hundreds of times greater than under current conditions. ⁶

In addition, the USACE 2016 Report acknowledges that following removal of the existing cap and underlying material, dioxin-impacted material would remain in place at the Site, concluding that " ... short-term releases [of residuals]... would subsequently be available for redistribution during erosion events from high flows or storm events." ⁷

In contrast, the USACE 2016 Report concludes that enhancing the current Armored Cap would be highly effective in permanently preventing releases of contaminants to the environment, noting:

- "...expected resuspension and short-term releases from capping are virtually non-existent ... " ⁸
- "...reliability has been routinely achieved at other armored cap sites and facilities" ⁹
- "the cap is expected to be highly effective in controlling the flux of contaminants and reducing the exposure concentration of contaminants in the water column." ¹⁰

Summary: The USACE Report found that significant risk of substantial releases of waste materials to the San Jacinto River exists if removal of the Armored Cap occurs. The report found removal would also result in an increase in fish tissue concentrations of dioxin. This risk would exist regardless of what construction practices are used. Removal will also result in delaying the natural environmental recovery that has begun since the Armored Cap was constructed. In contrast: "The evaluations performed to address the effectiveness of the existing repaired TCRA cap with the proposed modifications outlined in the capping Alternative 3N showed that the cap is expected to be highly effective in controlling the flux of contaminants and reducing the exposure concentration of contaminants in the water column." ¹¹

FOOTNOTES TO KEY EXCERPTS

- 1) *Page 5, 2nd paragraph*
- 2) *Page 185, 2nd paragraph*
- 3) *Page 6, 1st paragraph*
- 4) *Page 7, 2nd paragraph*
- 5) *Page 185, 2nd paragraph*
- 6) *Page 6, 1st paragraph*
- 7) *Page 5, 2nd paragraph*
- 8) *Page 4, 1st paragraph*
- 9) *Page 3, 2nd paragraph*
- 10) *Page 3, 3rd paragraph*
- 11) *Page 3, 3rd paragraph*