

San Jacinto River Waste Pits Superfund Site Technical Document Review: Data Summary Report 2016

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What is the Data Summary Report 2016?

The Data Summary Report (Report) presents a summary of the results of five studies conducted on behalf of the Potentially Responsible Parties (PRPs) in 2016 as part of the Remedial Investigation/Feasibility Study (RI/FS) for the San Jacinto River Waste Pits (SJRWP) Superfund Site (Site). These studies were performed by the PRPs' consultants in response to direction from the U.S. Environmental Protection Agency (USEPA) received on August 6, 2015, and in subsequent meetings.

What was the Purpose of the Additional Studies?

USEPA requested the 2016 studies to “[c]onfirm that the [time-critical removal action (TCRA)] cap continues to prevent dioxin/furan migration from the waste pits to the San Jacinto River...” USEPA required the PRPs to collect new data for:

- Surface sediments surrounding the impoundments north of Interstate Highway 10 (I-10)
- Porewater of the TCRA armored cap
- Groundwater beneath the impoundments north of I-10 and south of I-10
- Surface water
- Tissue of Gulf killifish (*Fundulus grandis*)

Surface Sediment Sampling

In 2016, surface sediments (0 to 6 inches) were collected from 17 locations that were sampled in 2010, along with 11 locations that were not previously sampled. In general, the results indicate that the cap is currently successfully preventing the release of paper mill waste material.

Porewater Sampling

Porewater is the water in the spaces between rock, soil, or grains of sediment. Porewater samples from the armored cap were analyzed for the presence of three congeners that represent 90% of the exposure risk from wastes within the impoundment (TCDD, TCDF, and 2,3,4,7,8-PeCDF). These compounds were not detected in any of the porewater samples.

Groundwater Sampling

The RPs collected groundwater samples from the four wells beneath the impoundments north of I-10. Target congeners were the same as those in the 2016 porewater study: TCDD, TCDF, and 2,3,4,7,8-PeCDF. Target compounds were not detected in any of the groundwater water samples collected from beneath the impoundments north of I-10. The equilibrium-corrected groundwater concentrations of the samples were all below the state water quality criteria of 0.0797 pg/L TEQDF,M. This indicates that these compounds, present in the wastes in the northern

impoundments, are not transported to groundwater at concentrations of concern.

The RPs also collected groundwater samples from the ten wells in and adjacent to the southern impoundments. Target congeners were the same as those for the northern impoundments: TCDD, TCDF, and 2,3,4,7,8-PeCDF. In eight of the ten wells, none of the target compounds were detected and estimated concentrations of TEQDF,M in groundwater were below the Texas surface water quality standards (TSWQS) of 0.0797 pg/L. The two remaining samples were collected from wells completed in the waste material from the southern impoundments. In the samples from these wells, TCDF and TCDD were detected and estimated TEQDF,M concentrations are greater than the TSWQS.

Surface Water Sampling

Surface water samples were collected at seven locations (shown on Figure 6-1 of the report) once per week during each of three consecutive weeks. Samples were collected at five locations previously sampled by the TCEQ's dioxin total maximum daily load (TMDL) program from 2002 to 2004, and two new locations. The same methods used by the TMDL program were used in 2016 to enable direct comparisons of current and past conditions.

The upstream sample, SJSW001 (TMDL station 11197) – collected upstream of the USEPA preliminary site perimeter, showed an increase in TEQDF,M and TCDD. However, because of the upstream location, it is extremely unlikely that any increase in this area is related to releases from the downstream impoundments. The average concentrations from the water samples collected above and downstream of the waste pits all showed a reduction in concentrations.

Fish Tissue Sampling

Fish were collected along four nearshore transects within USEPA's preliminary Site Perimeter. Two composite samples (multiple fish combined and treated as a single sample) of Gulf killifish were collected from each transect, except SJTTR3, where only a single composite sample of this species could be obtained, likely because the armored cap does not provide attractive habitat for this species. With EPA approval, a second composite sample was collected from this location using one composite of five inland silversides (*Menidia beryllina*). All 17 2,3,7,8-substituted dioxin and furan congeners and percent lipids were analyzed in the eight composite samples.

The one composite sample from SJTTR3 (the transect adjacent to the TCRA armored cap) showed a large decrease in reported TEQDF,M concentration relative to 2010, primarily related to a decrease in the reported concentration of TCDD. At other transects, TEQDF,M concentrations in 2016 Gulf killifish were higher than those in killifish sampled in 2010, however the distribution of congeners is different than from previous samples, indicating that investigation of potential other sources may be warranted.