The Office of Vince Ryan
County Attorney

February 24, 2015

CERTIFIED MAIL 7011 1570 0000 7520 1957
RETURN RECEIPT REQUESTED

Ms. Anne Foster
United States Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202

Subject: San Jacinto River Waste Pits Superfund Site – Significant Groundwater and Surface Water Concerns

Dear Ms. Foster:

Harris County has reviewed the groundwater data provided by the United States Environmental Protection Agency (EPA) pertaining to the San Jacinto River Waste Pits Superfund Site (SJRWP or Site). Harris County believes that the data set is incomplete and significantly inadequate to be used in determining a viable remedial alternative for the Site. Harris County also believes that the Sites' shallow groundwater is continuing to contribute contaminants to the dioxin/furan fish advisories in the San Jacinto River and downstream areas. Furthermore, Harris County continues to have the most serious questions regarding the integrity of the process under which the PRPs and their consultants, Anchor and Integral, have conducted their investigation of the Site and the RI/FS.

Absence of Sufficient Groundwater Data

The latest dioxin data from surface water samples collected in the San Jacinto River at I-10 as part of the Houston Ship Channel dioxin TMDL project (August 2011 data provided by TCEQ) do not indicate that dioxin/furan concentrations in water adjacent to the Site are declining. There are no data to assess water concentrations after the cap was put in place, nor to determine the influence of groundwater contamination on the receiving surface water.

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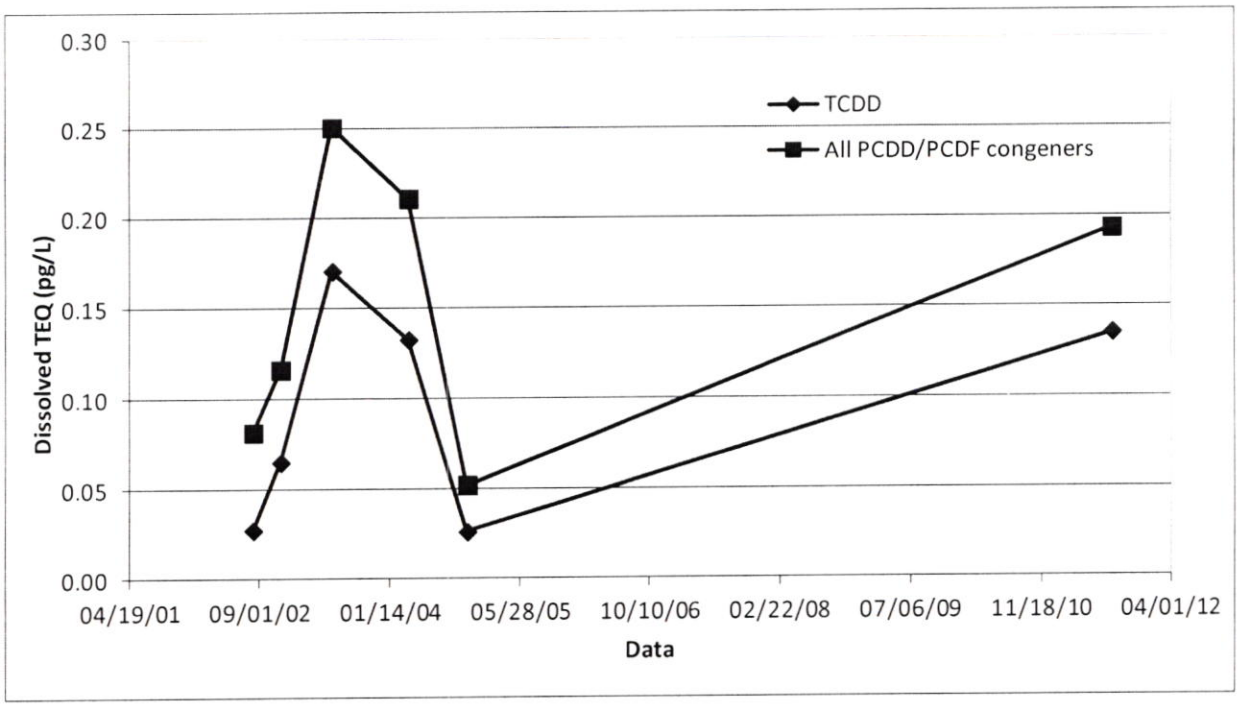

Note: data used to produce this plot are provided in Attachment 1 to this letter.

Time Series of TEQ Concentrations in San Jacinto River at I-10

The existing groundwater data is very limited in both spatial and temporal extent to allow for an adequate interpretation of future contaminant migration potential. On the North side of I-10, only four temporary wells were previously installed to monitor the uppermost groundwater-bearing unit and three temporary wells were previously installed to monitor a deeper unit (with the units separated by clay). These temporary wells were located on what is currently the on-shore portion of the Site (site lithology is depicted in Figure 5-13, Anchor QEA, May 2013). Two of the temporary well pairs (SJMWS01/D01 and SJMWS03/D03) were located on what is the hydraulically upgradient portion of the Site along what appears to have been the original berm for the disposal basins. Based on the presented potentiometric surface map (Figures 3-6 and 3-17, Anchor QEA, May 2013), groundwater flows from the direction of I-10 on-site, beneath the former waste disposal units, with the temporary wells situated to monitor upgradient conditions. That leaves only two other temporary wells that were used to monitor contaminant concentrations in the uppermost groundwater-bearing unit. One of the temporary wells (SJMWS02) was located on the far north of the Site along what appears to have been the central berm separating the eastern and western waste disposal basins. The provided potentiometric surface map indicates the temporary well was located along the axis of a groundwater divide, which limits its potential to evaluate contaminant migration from other on-site areas. The final temporary well (SJMWS04) was located such that it could monitor a one-time condition caused by contaminant migration from the former disposal unit. Thus, effectively only one of the former temporary wells adequately monitored potential site concerns of groundwater contamination. Temporary well SJMWS04 showed a very high concentration of over 3700 pg/L dioxin/furan toxicity equivalents, which is over the State's PCL for Class 3 Groundwater. Therefore, only one sample effectively monitored site groundwater concerns from the northern pits in 2011 and no other groundwater samples have been collected to date.

Additional Groundwater Monitoring Wells Required

To adequately determine existing site conditions and predict future potential contaminant migration, permanent wells would need to be installed and monitored. These wells must be added both in the central portion of the Site within the former waste disposal unit boundaries (to represent "source area" concentrations) and along the shore portion of the site perimeter (to monitor the potential for off-shore contaminant migration). In addition, because part of the Site has subsided below the river stage, an off-shore investigation (within the original site perimeter) of groundwater within the uppermost unit is warranted to determine what contamination remains in the sand unit. In addition, 24 – 48 hour water level measurements should be made on all the wells to determine connectivity to the river. The existing data indicates the groundwater is in contact with the river and likely influenced by tidal action, and most shallow wells exhibited moderate to high hydraulic transmissivity, where that data was provided.

Proper classification of the groundwater-bearing unit is also required to determine appropriate critical protective concentration levels (PCLs). Although EPA provided a range of factors to convert the field-measured groundwater specific conductance to total dissolved solids (TDS) (Section 3.6.2.2.1, Anchor QEA, May 2013), the State of Texas requires a direct measurement of TDS be used when classifying a groundwater-bearing unit.

The existing available data indicates that each of the former temporary wells on the North side of I-10 was only sampled once (January 2011 or December 2011). This data set, again, is insufficient to determine how contaminant levels vary over time (seasonally, year-to-year, etc.) which is necessary for predictive contaminant fate and transport modeling and to determine any recent changes in groundwater concentrations. The existing data indicates a groundwater exceedance of the dioxin/furan toxicity equivalent PCL (Class 3 groundwater PCL) in former temporary well SJMWS04 (existing toxicity equivalent dioxin/furan data is summarized in the table below). Lateral and vertical delineation of the associated PCL exceedance zone should be completed. It will be critical to achieve the analytical detection limit that allows for determination not only of groundwater PCL exceedances, but also resulting surface water screening level exceedances due to groundwater contaminant migration to the river water. The fact that one of two relevant samples exceed the PCL is of great concern, since very limited sampling has been conducted and two of the four temporary wells were upgradient.

On the South side of I-10, there are five wells that monitor the uppermost groundwater-bearing unit and one well that monitors a deeper unit (with the units separated by clay). Based on the presented potentiometric surface map (Figure 2-1, Anchor QEA, November 2013), groundwater flows from the south-east to the north-west, beneath the former western waste disposal unit (based on EPA's historical photograph). All five shallow wells appear to have been located on (or near) the western waste disposal unit berm (with well SJMW002 on the upgradient side and the rest on the downgradient side). There are no wells present that would monitor the eastern waste disposal unit. To adequately determine existing site conditions and predict future potential contaminant migration, additional wells would be needed. These wells should be located to monitor the former eastern waste disposal unit. Wells should also be located within the central portions of the former waste disposal units so that representative "source area" concentrations can be determined (for use in predictive contaminant fate and transport modeling).

The existing available data indicates that each well on the South side of I-10 has only been sampled once (May 2012 or July 2013). This data set is insufficient to determine how contaminant levels vary over time (seasonally, year-to-year, etc.) which is necessary for predictive contaminant fate and transport modeling. The existing data indicates one groundwater exceedance of the dioxin/furan toxicity equivalent PCL (Class 2 groundwater PCL) in well SJMW004S (existing toxicity equivalent dioxin/furan data is summarized in the table below). Lateral and vertical delineation of the associated PCL exceedance zone should be completed. It will be critical to achieve the analytical detection limit that allows for

determination not only of groundwater PCL exceedances, but also resulting surface water screening level exceedances due to groundwater contaminant migration to the river water.

This woeful lack of groundwater data seriously compromises the evaluation conducted by the PRP group of contaminant levels and transport to the environment. It makes the groundwater to surface water pathway unable to be assessed due to lack of data and this should be addressed prior to completion of a remedy selection. Unless this pathway is addressed and appropriate levels of groundwater clean-up established, the only possible remedy selection is complete removal and groundwater remediation.

Capping Only Approach Should Not be Adopted for this Site

Harris County has previously presented its concerns regarding the proposed remedial action. We would like to reiterate the concern over a "capping only" approach to the Site on the North side of I-10. The likely connection of the shallow groundwater-bearing unit with the surface water of the river would be a complete pathway for off-site contaminant migration. If existing waste material ("source area") is not removed, then containment must be achieved not only for vertical infiltration of precipitation, but also for horizontal migration of groundwater away from the Site and into the river. A vertical barrier tagged into the clay underlying the uppermost contaminated groundwater-bearing unit would need to be installed around the Site perimeter to prevent contaminant migration (e.g., bentonite-slurry wall, reactive barrier, etc.) and continued release of dioxin/furans into the river and contribution to the fish advisory. This barrier would also need to be resistant to the extreme weather conditions that can occur in this part of Texas (as discussed in previous correspondence). Contaminated groundwater is also likely to contaminate the cap materials of the inundated zone over time through vertical tidally enhanced diffusive flux. To minimize this and delay cap contamination, a substantial reactive barrier layer such as activated carbon would be required between the cap and underlying sediments.

Therefore, we strongly believe the site groundwater is not adequately characterized and that based on very limited existing data, the current contamination source must be removed to decrease the amount of dioxin/furan continually leaking from the Site into the San Jacinto River water and contributing to the fish advisory. In addition, we believe that a containment wall is also required to keep the contaminated shallow groundwater from exiting the site and maintaining the fish advisory. Thus we request that at least six additional wells be placed on the north side of I-10 and that new wells be installed at all temporary well locations so that they can be resampled along with conducting a 24 – 48 hr water level measurement study at all wells. Furthermore, Harris County requests that permanent wells be installed and that Harris County be able to sample all temporary well locations, existing and future wells within the next three months. Please provide information on accomplishing this task.

Systematic Bias in RI/FS Investigation

On July 15, 2014, Harris County informed the EPA regarding the systematic bias in the RI/FS Investigation conducted by the PRPs and their consultants.[1] We provided the EPA with affidavits signed by the responsible parties' attorneys that revealed that the PRPs' consultants, Anchor and Integral, were actually retained as part of the responsible parties' legal strategy to assist with their defense, not to conduct an independent scientific investigation. We also provided the EPA with information about the documents Harris County obtained showing that the site work, studies and underlying information for key reports submitted by Anchor, Integral, International Paper, Waste Management and MIMC to the government as the basis for evaluating remedial alternatives at the Site were actually prepared as part of the PRPs' legal defense and litigation strategy. Harris County further provided the EPA with information

[1] A copy of Harris County's July 15, 2014 letter is attached to this letter for reference.

establishing that the PRPs' consultants had an insurmountable conflict of interest in preparing what are required to be independent reports that the EPA and public are being asked to rely on to evaluate site risks and remedies.

Harris County informed the EPA about the depth and degree of the conflict of interest of the PRPs' litigation consultants based upon the testimony of those consultants who refused to answer basic questions about their impartiality or to identify who actually wrote and contributed to the reports submitted to the government. The PRPs have also refused to reveal to the EPA or the public more than 45,000 documents underlying and/or forming the basis of the conclusions of the Feasibility Study, claiming in their privilege logs that information related to the site remediation work is part of their litigation strategy and defense.

Harris County is aware of no response to its July 15, 2014 letter regarding the PRPs' consultants' fundamental conflict of interest, any measures taken to alleviate the PRPs' consultants' systematic and pervasive conflict of interest, or any effort to require the PRPs to produce the documents which they used to form the basis of their recommendations, reports, and conclusions. A brief review of the 3,886 page privilege log in which the PRPs have identified the documents that they refuse to produce establishes that neither the EPA nor members of the public have had the opportunity to adequately review and/or comment upon the RI/FS process because the PRPs have withheld critical information regarding their work. Harris County has attached a brief excerpt from the 3,886 page list of the 45,000 documents that the PRPs refuse to produce. In that brief excerpt, it is clear that the PRPs are refusing to disclose communications with their chosen laboratories regarding what appear to be sampling results or the interpretation of those results (see entries 151-155 on page 14, entries 281-283 on page 25), thousands of communications among their consultants not involving counsel about unspecified topics (see entries 992-995 on page 84),[2] and thousands of documents that have no description from which the EPA or the public can determine why they are withheld (see entries 1032-1034 on page 88). These are just a few of the examples of the thousands upon thousands of documents that the PRPs refuse to disclose about the RI/FS process. Without these documents the EPA, other governmental entities, and the public cannot comment meaningfully about the investigation or the conclusions reached from that investigation.

Harris County requests that the EPA require a complete review of the groundwater monitoring plan, testing methods, data and test results for the reasons stated in this letter, and because the circumstances surrounding the previous investigation, testing, and interpretation of testing results establish that the people of Harris County have yet to have an independent scientific analysis regarding the potential threat to the groundwater from the dioxin-containing sludge at the Site. Harris County requests that the EPA require the PRPs to produce the sampling results and other information related to or connected with the monitoring of the groundwater sampling at the Site, as well as all of the withheld documents that relate to the site remediation work which cannot be withheld from the public. Harris County strongly requests that the EPA require further monitoring of the groundwater at the Site as set forth earlier in this letter.

Finally, Harris County requests that a copy of this letter and attachments be provided to the U.S. Army Corps of Engineers team that is reviewing the site work at this time.

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[2] It should be noted that these entries and thousands more are claimed to be privileged under the consulting expert privilege although Harris County did not file its civil penalty action until December of 2011.

As always, Harris County appreciates the EPA's attention to these Site issues and would look forward to answering any questions the EPA might have about this letter.

Very truly yours,

VINCE RYAN
Harris County Attorney

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Summary Table of Dioxin/Furan Groundwater Results

	Groundwater Classification	Sample Date	Toxicity Equivalent (dioxins/furans) (pg/L)	Toxicity Equivalent (dioxins/furans) (dissolved) (pg/L)
Class 2 PCL			**30**	**30**
Class 3 PCL			**3000**	**3000**
SJMWD01	Class 3	1/8/2011	<1.24	---
SJMWD02	Class 3	1/5/2011	<1.5	---
SJMWD03	Class 3	1/7/2011	<1.37	---
SJM WS01	Class 3	1/8/2011	<1.35	---
SJMNS02	Class 3	1/5/2011	2.64 J	---
SJMWS03	Class 3	1/7/2011	<1.17	---
SJMWS04	Class 3	12/28/2011	**3770**	---
SJMW001	Class 3	5/1/2012	47.3 J	---
SJMW002	Class 2	5/2/2012	13.6 J	---
SJMW003	Class 3	5/1/2012	17.1 J	---
SJMW004D	Class 3	7/12/2013	<1.14	<0.263
SJMW004S	Class 2	5/17/2013	**60.2 J**	9.22 J
SJMW005	Class 2	7/11/2013	<1.3	<0.285

Note:"<" = less than the indicated method detection limit

"J" = analyte detected above the method detection limit but below the reporting limit

Bolded value in shaded cell exceeds associated PCL