Agenda 6B

July 1, 2021

Texas Commission on Environmental Quality
Corrective Action MC-127
Austin, Texas

Subject: Limited Phase II Environmental Site Assessment / TRRP Applicability Determination
Harbor of Refuge – City of Port Lavaca (site)
FM 1090 South of Port Lavaca
Port Lavaca, Texas
RN102335361, CN600755052

On behalf of our client, the City of Port Lavaca, CRG Texas Environmental Services, Inc. (CRG Texas) is pleased to present this summary report detaining the observations and findings from the recent limited Phase II Environmental Site Assessment (ESA) conducted at the above-mentioned site. The Harbor of Refuge Site is located just south of Port Lavaca, Texas off S. Virginia Street. A portion of the land is the site of a former landfill disposal site which accepted construction and other non-hazardous debris during its operation.

The limited Phase II included the installation of several 4 near surface soil borings and conversion of two of those borings to temporary groundwater monitoring wells (TMWs), collection of soil and groundwater samples for laboratory chemical analysis, and preparation of a Phase II ESA report. This effort was implemented to further evaluate minor exceedances of soil-to-groundwater transfer protective concentration levels (PCLs) documented during a recent Phase I ESA conducted on the property.

A total of four (4) soil borings were installed using a direct-push drilling rig at locations identified proximal to the sampling locations conducted during the recently completed Phase I ESA. The soil borings were advanced to a depth of 20 feet below grade. Groundwater was encountered in all 4 borings at depths of 7-12.5 feet below grade. A Texas-Licensed Water Well Driller performed all boring related activities under the supervision of a Texas-licensed Professional Geoscientist.

Soil samples recovered from each soil boring were continuously screened for odors and staining, and organic vapor concentrations were measured using an portable photoionization detector (PID). Samples were collected from each soil boring for laboratory chemical analyses as follows.

- Soil samples were collected at an approximate depth of 5 ft below grade, and from the highest observed PID response or the apparent capillary fringe (typically 10-12.5 ft) just above the soil-groundwater interface.
- Two borings were converted to temporary monitoring wells from which groundwater samples were collected.
- Soil and groundwater samples were analyzed for the listed analytes as presented below:

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- Total petroleum hydrocarbons (TPH) by Texas Method 1005;
- Volatile organic compounds (VOCs) by Method 8260;
- Metals by EPA Method 6010/6020/7471 as appropriate for the specific sample locations;

Given the proximity to the coast, groundwater samples were also analyzed for chlorides and total dissolved solids. The data was useful in determining the likely groundwater classification and applicable protective concentration levels (PCLs).

In the Phase I initial soil samples, arsenic, barium and lead were reported at concentrations exceeding the respective Tier I soil to groundwater transfer PCL in 3 of 5 surface soil samples. As such, the Phase II ESA was conducted to evaluate the groundwater exposure pathway. Detected COC concentrations in soil were initially evaluated against Tier I PCLs. Tier II PCLs were then calculated based upon site-specific parameters. None of the detected concentrations exceeded the compound specific calculated Tier II PCLs. It does not appear there is a soil issue requiring further investigation.

In groundwater, arsenic was reported at a concentration of 0.0928 mg/L in the initial field preserved sample, SB-3 (GW). An unpreserved aliquot of this sample was further analyzed for dissolved arsenic after being laboratory filtered. In the unpreserved, lab filtered sample, arsenic was reported at a concentration of 0.0426 mg/L. This concentration does exceed the Tier I Groundwater Ingestion PCL (0.01 mg/L) and, as such, the arsenic exceedance would be governed by TRRP.

The arsenic concentration in the other temporary well, SB-4 (GW), was reported at an estimated concentrations of 0.00212 mg/L, which is well below the Tier I Groundwater Ingestion PCL (0.01 mg/L). It should be noted, that the observed exceedance is limited to one sample which was collected from a temporary monitor well in close proximity to the coast (within 50 feet). The groundwater sample from this location also had a chloride concentration of 1,370 mg/L and a TDS of 3,040, indicating brackish water influenced by the waters of the nearby Lavaca & Matagorda Bays. Elevated levels of arsenic have been reported in Bay waters and documented in the literature in the Gulf Coast aquifer and other regional aquifers.

Groundwater arsenic concentrations are much higher in the southwestern area of the Gulf Coast (29 percent of wells exceed the MCL) than elsewhere in the Gulf Coast (3.5 percent of wells exceed the MCL). The sources of arsenic vary. GIS analysis indicates that groundwater arsenic concentrations are not necessarily related to cotton production. Some counties with high levels of arsenic contamination do not have any cotton production. In other areas, high arsenic concentrations in the shallow subsurface and correlation with nitrate suggests fertilizer or arsenical pesticide sources for another profile. The remaining profiles had low arsenic levels (< 10 ug/kg) that showed no systematic variation with land use or with depth (Gates, et. al, 2011).

Lead was also was reported at a concentration of 0.0313 mg/L in the initial field preserved sample, SB-3 (GW). An unpreserved aliquot of this sample was further analyzed for dissolved lead after being laboratory

filtered. Lead was reported at an estimated concentration of 0.000154 mg/L in the filtered sample. This concentration **does not** exceed the Tier I Groundwater Ingestion PCL (0.015 mg/L) and, as such, lead could likely be excluded as a COC.

There were no documented shallow groundwater wells within 0.5 miles of the site based on our review of the Texas Water Development Board website accessed May 17, 2021 (link shown below): (https://www3.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=sdr,

Although the site area adjacent to the Lavaca Bay, the site area passes the Tier I Exclusion Criteria Checklist (attached) as the affected portions are wholly contained within contiguous land characterized by: pavement, buildings, landscaped area, functioning cap, roadways, equipment storage area, manufacturing or process area, other surface cover or structure, or otherwise **disturbed** ground. There is no identified soil exposure pathway nor does there appear to be a pathway for impact to the nearest receiving body of water, Lavaca Bay. While COCs were detected in the identified media, there were no exceedances of Total Soil Combined or Soil-to-Groundwater transfer (soil) PCLs documented in the Phase II assessment.

Given the information provided herein and as found in the attached report, CRG Texas respectfully asks that the TCEQ consider exclusion of this site area from further action under TRRP.

Cordially,

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Attachment:
Report - Phase II ESA - TRRP Screening.pdf