Garner Environmental Services, Inc.
TASK PLAN
12-H0408-MR
September 15, 2012 Addendum
Offsite Residential and Industrial Well, and Soil/Sediment Sampling and Analysis Plan – September 15, 2012 Addendum

Revised 9-15-12: Based on operational activities conducted at the Stolthaven New Orleans, LLC (Stolthaven) facility located at 2444 English Turn Road Braithwaite, LA (Site), additional analytes have been added to the sampling method tables. In addition, flood-related sediments in inside homes and/or businesses are also being added to the environmental media sampled under this Task Plan.

Objective: The following task is to survey and sample offsite residential and industrial water wells, soil, and flood-related sediment in flooded areas surrounding the Site. The purpose of this sampling is to provide an initial assessment of potential impacts to groundwater and soil/sediment in off-site residential and industrial areas. Data collected from this task plan will assist in the development of additional offsite residential and industrial task plans, if needed. The final decision to perform groundwater sampling and analysis will be based on a review of the findings of soil/sediment sampling. These analyses may also be used to determine the potential source of chemicals detected in off-site soils or groundwater, if any. The plan will commence when approved by representatives of Garner Environmental Services, Inc. (Garner) and Unified Command (UC).

Safety: Site personnel will review and adhere to the site-specific Health and Safety Plan (HASP). Pre-task safety tailgate meetings to review job specific hazards will be conducted prior to sampling activities.

Purpose: Based on information obtained to date, additional analytical parameters are being added to this plan for off-site soil/sediment and groundwater.

Soil/Sediment Sampling

Off-site soil/sediment residential/industrial sampling locations will be selected by CTEH and Louisiana Department of Environmental Quality (LDEQ) personnel. Criteria for selection may include determination of 1) lateral extent of off-site product migration, if any, 2) requests from residents and/or business owners, and/or 3) other criteria intended to target sensitive receptors. This plan has been revised to include sediment sampling within homes/businesses, with permission, as additional information to determine off-site impact. These data will be used in conjunction with off-site soil sampling results to help determine off-site environmental impact. In addition, if well-water samples are obtained from any location as discussed below, this location will also be used for soil sampling. Sampling at the selected locations will occur pending approval of the landowners.

Well-Water Sampling

If soil/sampling sediment results indicate the need for groundwater assessment, CTEH® will search data from appropriate agencies and databases (e.g., Department of Natural Resources Strategic Online Natural Resources Information Systems (SONRIS), state and county departments of health), to develop a list and description of wells within approximately a 2-mile radius of wells from the Site on the East Bank of Plaquemines Parish. CTEH personnel may be utilized to assist in locating wells by investigating the area and interviewing residences if departmental records are believed to be incomplete. Wells within approximately a 2-mile radius of the Site, as identified during the departmental records search and other means, if applicable, may be sampled as part of this plan, pending approval from the well-owners. After records review, a representative number of offsite residential and industrial wells will be selected

in conjunction with LDEQ for sampling based on such factors as location, well depth, and use (drinking water, agricultural, etc.).

Procedure: The following procedures will be implemented for these tasks.

Soil/Sediment Sampling

1. One five-point composite soil sample from each selected residential/industrial location will be collected at a depth of 0 to 6 inches below the surface. Five aliquots will be selected as described in this plan, combined, and then homogenized for a representative composite soil sample. The five sample points within the identified location will be selected in a manner that will adequately characterize the soils at that location. Aliquots from the five locations may be collected from direct push Terra Core® sampling devices. For Terra Core® sampling device collected samples, the correct amount of soil aliquot (i.e., 5 grams) will be carefully transferred to the appropriately preserved laboratory supplied sample containers. Samples will be collected after vegetation, rocks, litter, and other non-native soil material which may bias the sample are carefully removed. Following homogenization, samples will be transferred to appropriately labeled laboratory jars. All soil samples will be collected from locations that are reasonable and safe to access.

2. An additional discrete soil/sediment sample will be collected from a depth of 0 to 6 inches below the surface at each residential/industrial location targeting the most impacted area based on visual observations. If flood-related sediment is selected for this sample, the depth of sample collection will not exceed the depth of the sediment at that location.

3. If permission from the homeowner/business owner is granted, a representative flood-related sediment sample will be collected, if present, from an entry-way and/or room with an outside door. A full-depth sediment sample will be obtained from the selected location.

4. Disposable tools will be used whenever possible to eliminate the need for decontamination. If non-disposable equipment that comes into contact with sampling media is required, the following steps will be undertaken: equipment will be decontaminated using a bristled brush and a solution comprised of a laboratory grade, non-phosphate detergent (e.g., Alconox or Liquinox), rinsed with water, then rinsed a second time with deionized water.

Well Sampling (if required)

1. CTEH® personnel will conduct the well survey searching appropriate databases.

2. CTEH® field personnel will investigate the radius area and interview residences, if necessary to locate additional wells.

3. Representative offsite residential/industrial well locations and additional soil sampling locations within the designated sample area will be selected in conjunction with LDEQ for sampling.

4. Where feasible, grab samples of drinking water wells will be collected from spigots in locations in the water system prior to any water treatment (e.g., reverse osmosis, chlorination, etc), and the point closest to the well that is safely accessible. Samples will be collected directly into the

laboratory supplied container at a controlled rate to limit volatilization and introducing bias into the sample. The potable well system will be purged 15 to 30 minutes prior to sampling to ensure fresh ground water is collected.

Field Notes

1. The following field notes will be collected for each residential water and soil sample:
    a. Observations regarding staining, sheen, color, odor, etc
    b. GPS coordinates of sampling points
    c. Photo-documentation of sample area
    d. Date and time
    e. Depth of soil sample collection
    f. Any water treatment system in place
2. Sample containers will be clearly labeled with the following information:
    a. Unique sample identification
    b. Sample Type (e.g., discrete or composite)
    c. Sampler initials
    d. Date and time sample collected
    e. Preservative
3. Field samples will be contained and preserved in accordance with appropriate USEPA specifications consistent with the intended analysis.
4. Evidence of collection, shipment, laboratory receipt, and laboratory custody while samples are in the laboratory's possession will be documented by maintaining a Chain Of Custody (COC) that records each sample and the individuals responsible for sample collection, shipment, and receipt at the project laboratory. All Samples will be accompanied by a COC Record.
5. Samples will be submitted to Pace Analytical Services, Inc. (Pace), in St. Rose, Louisiana. If Pace is at capacity samples will also be submitted to Gulf Coast Analytical Laboratories, Inc. (GCAL) in Baton Rouge, Louisiana.
6. Sample results and COCs will be provided to Garner following receipt and CTEH© review. Initially, the requested laboratory turn-around-time (TAT) for receipt of results will be 24-hours. The TAT may be decreased to 5 days if warranted.
7. Two splits of each sample will be provided to Garner each day in coolers with ice.
8. Appropriate measures will be taken to notify residents of sampling results.

Sampling Methods:
Soil/sediment samples will be analyzed using the following method.

Analysis	Method	Containers	Preservative	Hold Time
Total Organic Carbon (TOC)	9060	100 grams of soil from a 4oz soil jar	Unpreserved; maintained on ice at 4° C	28 days
TPH Fractions	Mass EPH (mod)	30 grams of soil from a 4oz soil jar	Unpreserved; maintained on ice until 4° C	14 days

Volatiles Organic Compounds (VOCs) plus Tentatively Identified Compounds (TICs)	8260	5 gram soil in each of 4-40mL VOA vial; 1-2 oz soil jar (5035 Terracore kit)	2 vials preserved with methanol, 2 vials preserved with sodium bisulfate, 2 oz soil jar unpreserved, but include no headspace; maintained on ice at 4° C	14 days
Semi-Volatile Organic Compounds (SVOCs) plus TICs	8270	30 grams of soil from a 4oz soil jar	Unpreserved; maintained on ice until 4° C	14 days
Diethanolamine	EPA MS888 Modified	4 ounce jar for soil	Unpreserved; maintained on ice until 4° C	14 days
Metals (Lead)	6010	30 grams of soil from a 4oz soil jar	Unpreserved; maintained on ice until 4° C	6 months

Water samples will be analyzed using the following method.

Analysis	Method	Containers	Preservative	Hold Time
TPH Fractions	Mass EPH (mod)	2 – 1 Liter Amber Bottles	Preserved with HCl; maintained on ice until 4° C	14 days
Volatiles Organic Compounds (VOCs) plus Tentatively Identified Compounds (TICs)	8260	3-40mL VOA vials	Preserved with HCl; maintained on ice until 4° C	14 days
Semi-Volatile Organic Compounds (SVOCs) plus TICs	8270	2 – 1 L ambers	Unpreserved; maintained on ice until 4° C	7 days
Diethanolamine	EPA MS888	2 – 1 Liter Amber Bottles	Unpreserved; maintained on ice until 4° C	7 days
Metals (Lead)	6010	1 250- 500mL plastic	Preserved with HNO3; maintained on ice until 4° C	6 months

Quality Assurance: The goal of the field Quality Assurance (QA) program is to document that samples are collected without introducing a bias (i.e., the effects of accidental cross- or systematic

contamination are eliminated) and refers to the sampling and analysis procedures for generating valid and defensible data. To provide QA for the proposed sampling, the following QA will occur:

- Field Duplicate Sample (1 in 10 samples). Initially field duplicates will be collected at a frequency of 1 in 10 and then may be changed to 1 in 20 at a later point.
- Two Field Split Samples provided to Garner
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) (1 in 20 samples)
- Laboratory quality control (procedures will be conducted in a manner consistent with relevant State and federal regulatory guidance)
- Data validation by eDATApro (an independent 3rd party validator). 100% of the samples will undergo a Level 2 validation, with 10% selected for a Level 4 validation.

	Name/Position	Signature	Date Signed
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