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May 11, 2020 File:185704918

Anastasia Duarte, REHS/RS Retail Environmental Remediation Administrator, Pacific Division Speedway LLC 3450 South 344th Way, Suite 201 Auburn, WA 98001

RE: Work Plan for Task 3 Install 2 Chemox Injection Wells at Speedway Store 5325 (Formerly Tesoro 2Go Mart 52, Wasilla, Alaska)

Dear Ms. Duarte,

This letter presents a work plan prepared by Stantec for the implementation of Task 3 that was proposed in the 2020 Annual Work Plan for Speedway Store 5325 (formerly Tesoro 2Go Mart #52) located at Mile 49, 7172 Parks Highway, Wasilla, Alaska (see Figure 1 Site Location Map). The Work Plan was presented during an annual work plan meeting with Speedway (formerly Tesoro), Alaska Department of Environmental Conservation (ADEC) and Stantec on December 12, 2019. Pete Campbell, Project Manager/Engineer, represented ADEC. The 2020 Corrective Action Work Plan for this site was subsequently approved by ADEC for implementation.

This task consists of the drilling, installation, and development of two 4-inch diameter chemox injection wells to be located north of Remediation Well RW-16-1 (see Figure 2 – Site Plan). The wells will be used for injection of large doses of chemox product consisting of Klozur One®. These 4-inch wells will significantly facilitate the amount of chemox that can be injected into the underlying soil and groundwater as compared to the limited and restricted application of chemox currently being applied in RW-16-1. In addition, RW 16-1 will be used as a monitoring well to measure the effectiveness of the chemox treatment. The injection wells will be identified as RW 20-1 and RW 20-2. The proposed approximate locations for the wells are shown on the attached site plan drawing. The exact locations may be adjusted to avoid underground utilities.

The proposed chemox injection wells will be installed with Geoprobe[™] 8040DT rig that uses a direct push drill method or a comparable drill rig. The precise locations for the wells will be determined after Stantec receives the findings of underground utility locates. Prior to drilling the bore holes, a vacuum truck was used to extract the upper 8-feet of overburden. A qualified staff person from Stantec will supervise the installation of the wells.

Based on the previous findings of contamination at a depth of 38-feet in RW 16-1, it is anticipated the total depth of the injection wells will be approximately 40 to 42-feet. These wells will be constructed of 4-inch diameter Schedule 40 polyvinyl chloride (PVC) well casing and be screened with a 10 to 20 feet long Schedule 40 PVC 0.010 slotted casing. The length of well screen will be determined during drilling subject to the hydrogeologic findings. The following section describes the methods that will be used for drilling, sampling, and installation of the injection wells:

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- Soil samples will be recovered with a 2- to 3-inch diameter dual tube sampling technique, which produces continuous soil samples in 5-foot intervals. Continuous sample recovery will begin at the surface and continue to the depth of completion, or approximately 5 feet below the water level at the time of drilling. Samples will be visually/manually examined for lithology, color, density, moisture content, and indications of petroleum contamination.
- A photoionization detector (PID), calibrated with 100 parts per million by volume isobutylene gas standard, will be used to field screen the soil samples to estimate the zones with the highest level of petroleum contamination. The field screening samples will be placed into plastic Ziploc® bags to enhance volatilization before headspace screening. Headspace screening will be conducted on 5-foot intervals.
- A minimum of two discrete analytical soil samples will be collected from the soil boring from the locations with the highest PID readings. The analytical soil samples collected from the recovered cores will be submitted for laboratory analysis of contaminates of concern including:
 - GRO by Alaska Test Method (AK) 101
 - DRO by AK102
 - VOCs by U.S. Environmental Protection Agency Solid Waste Method (SW) 8260
 - PAHs by SW8270 Selective Ion Monitoring (SIM).
- Laboratory samples will be placed in clean laboratory-supplied amber glass jars, and samples for volatile organics will be preserved with methanol. The soil samples will be delivered in accordance with current chain-of-custody procedures to TestAmerica Laboratories, Inc. of Anchorage, AK. Quality control samples consisting of duplicate and trip blank samples will be collected and analyzed.
- Excess soils derived during the investigation will be stored onsite in drums and labeled with their contents. After analytical results are received from the laboratory, soil found to be contaminated above the appropriate ADEC SCLs will disposed of at an appropriate treatment and/or disposal facility as approved by the ADEC.
- A filter pack will be placed up to 2 feet above the well's slotted interval. The remaining annulus will be filled to the ground surface with an annular space seal consisting of hydrated bentonite.
- The well will be developed by surging with use of a surge block, bailer, and/or submersible pump. Well development will be performed until water quality parameters stabilize or for 1 hour, whichever occurs first. Water quality parameters to be monitored include pH (± 0.1), conductivity (± 3%), dissolved oxygen (± 10%), and oxidation-

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reduction potential (± 10 millivolts). If a low yielding well be encountered, the well will be developed in accordance with ADEC's *Monitoring Well Guidance* of September 2013, with the addition of potable water.

- The well will be purged prior to sampling. Purging with a bailer or a well purge pump will take place after well development. All sampling activities will be completed in accordance with ADEC's *Underground Storage Tanks Procedures Manual– Standard Sampling Procedures* (March 22, 2017). Purging of the well will be considered complete when the following conditions occur:
 - A minimum of three casing volumes of water have been removed.
 - Water quality parameters stabilize for a minimum of three parameters (minimum of four if using temperature as an indicator): temperature (+ 3%), pH (+ 0.1), conductivity (+ 3%), redox potential (+ 10 millivolts [mv]), dissolved oxygen (+ 10%), and turbidity (+ 10%).
- A representative groundwater sample from the new completed well will be collected with a new bailer or a well purge pump. The analytical water samples collected from the well plus duplicate samples will be submitted for laboratory analysis for contaminates of concern that include GRO (AK101), DRO (AK102), VOC (SW8260), PAHs (SW8270SIM) and sodium.
- Laboratory samples will be placed in clean laboratory-supplied amber glass jars, and samples for volatile organics will be preserved with methanol. The water samples will be delivered in accordance with current chain-of-custody procedures to TestAmerica Laboratories, Inc. of Anchorage, AK. Required quality control samples will be collected and analyzed and will include duplicate and trip blank samples.
- The well will be horizontally surveyed by swing-tie measurements to estimate its location
 with respect to the surrounding monitoring wells and site improvements. The static water
 levels in the chemox injection wells and surrounding monitoring wells will be measured
 with respect to the top of each well casing to estimate ground water flow direction and
 gradient. The elevation of the static water level will be based on a datum established
 during a vertical control survey completed by Stantec.

The above described field work is scheduled to occur by the end of July 2020. Stantec will notify ADEC of the proposed drilling date at least 3 working days prior to the start of the field work. After completion of the field and laboratory work, Stantec will prepare a report on the findings of the subsurface investigation that will include a geologic log of the soil borings, well construction logs, appropriate field notes, and the results of the field and laboratory analyses. The report will be prepared for Tesoro's review and, upon acceptance, will be submitted to ADEC.

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If you have any questions or need additional information on this Work Plan, please feel free to contact me at (907) 227-9883.

Regards,

Stantec Consulting Services Inc.

Bob Gilfilian

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 Attachment:
 Figure 1 – Site Location Map

 Figure 2 – Site Plan for Chemox Injection Wells Proposed Locations

DATE: 07-MAY-2020



