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VIA ELECTRONIC SUBMITTAL

June 29, 2017

Randy Bayliss, PE - Hydrologist, District III
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Work Plan for Light Non-Aqueous Phase Liquid Recovery Activities
Johnston Federal #4
New Mexico Oil Conservation Division Case Number 3RP-201-0

Mr. Bayliss:

On behalf of El Paso CGP Company, LLC (EPCGPC), Stantec Consulting Services Inc. (Stantec) has prepared this Work Plan to complete enhanced light non-aqueous phase liquid (LNAPL) recovery activities utilizing mobile dual phase extraction (MDPE) methods at the above-referenced site (Site). Measureable free product, up to 0.79 feet in thickness, was measured in monitoring wells MW-1, MW-3, MW-8, and MW-11 in 2016. Measureable free product, although diminished, remained present in monitoring wells MW-3 and MW-8 following 8-hour MDPE events completed from wells MW-3 and MW-8 on November 30 and December 1, 2016, respectively. The 8-hour MDPE events indicated MDPE methods can be more efficient than manual free product recovery efforts previously completed at the Site.

Stantec will retain the services of AcuVac Remediation (Acuvac) to mobilize and provide equipment and personnel to perform the MDPE activities. MDPE is a process combining soil vapor extraction (SVE) with groundwater depression to maximize mass removal of LNAPL as both liquid and vapor phase hydrocarbons. Acuvac uses a submersible pump to simultaneously remove dissolved-phase contaminated groundwater, induce a hydraulic gradient toward the extraction well, and to create the groundwater depression, exposing the capillary fringe or smear zone to SVE. Recovered liquids will be transferred to a portable storage tank to be provided by Sierra Oilfield Services (Sierra), under contract with Stantec. Recovered vapors will be used as fuel and burned in the MDPE internal combustion engine (ICE), resulting in near complete combustion of the vapors. The power generated by the ICE is used to create the induced vacuum for SVE.



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MDPE activities will be completed from monitoring wells MW-1, MW-3, MW-8, and MW-11 for three continuous days. Stantec will also mobilize field staff to oversee daily Site activities, complete health and safety monitoring, and assist with data collection. During the MDPE event, groundwater, and liquid and vapor hydrocarbon recovery rates will be measured, and groundwater depression and radius of influence will be estimated. Acuvac will provide staff to oversee MDPE efforts overnight, including adjusting equipment to optimize hydrocarbon recovery rates and monitor liquid recovery.

Vapor and/or air monitoring for total volatile organic compounds, oxygen, carbon monoxide, carbon dioxide, and hydrogen sulfide will be performed to evaluate the effectiveness of the MDPE event and for the health and safety of field staff. As the amount of hydrocarbons recovered is not expected to sustain operation of the SVE blower for the duration of the event with available on-board propane, a supplemental propane tank will be obtained for use at the site. To evaluate mass removal rates, a vapor sample will be collected during the MDPE event in the extraction wellhead manifold via Summa canister. The Summa canister will be submitted to TestAmerica Laboratories, Inc., for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) using Method TO-3, and Total Petroleum Hydrocarbons (TPH) using Method TO-15.

Recovered liquids will be containerized in a portable tank, and Sierra Oilfield Services will conduct daily visits to remove recovered liquids from the Site during the event. The water will be transported to Basin Disposal for treatment and disposal. Stantec will coordinate with EPCGP to obtain signed C-138 forms prior to the MDPE event.

A gauging event to measure free product thickness in monitoring wells MW-1, MW-3, MW-8, and MW-11 will also be completed approximately one month following completion of the MDPE event to help evaluate whether additional MDPE events should be considered. The data, results, and conclusions of the MDPE event will be summarized as an attachment to be included with the annual groundwater monitoring report for the Site. The attachment will include a narrative of the activities completed, a tabulated summary of the data collected, estimated hydrocarbon recovery rates and totals, laboratory analytical reports, waste disposal documentation, and other pertinent information.



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Reference: Work Plan for Light Non-Aqueous Phase Liquid Recovery Activities

Please feel free to contact Joseph Wiley, Project Manager for EPCGPC, at (713) 420-3475, or me if you have any questions or require additional information.

Sincerely,

Stantec Consulting Services Inc.

A handwritten signature in blue ink, appearing to read "Steve Varsa".

Stephen Varsa, P.G.
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cc: Joseph Wiley, EPCGPC
Brandon Powell, NMOCD