



Stantec Consulting Services Inc.  
11153 Aurora Avenue  
Des Moines, Iowa 50322  
Phone: (515) 253-0830  
Fax: (515) 253-9592

**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 Enhanced Hydrocarbon Recovery Activities  
Miles Federal #1A  
New Mexico Oil Conservation Division Case Number 3RP-223-0

Mr. Bayliss:

On behalf of El Paso CGP Company, LLC (EPCGPC), Stantec Consulting Services Inc. (Stantec) has prepared this Work Plan to complete enhanced hydrocarbon recovery activities utilizing mobile dual phase extraction (MDPE) methods at the above-referenced site (Site). Groundwater concentrations in excess of New Mexico Water Quality Control Commission (NMWQCC) Standards remain in one Site monitoring well, MW-1. Soil sampling completed in 2016 adjacent to MW-1 indicated soil concentrations in excess of New Mexico Oil Conservation Division (NMOCD) Soil Closure Criteria are present at depth near the saturated zone. The area of elevated soil hydrocarbon concentrations may also be the source of light non-aqueous phase liquids historically detected in MW-1 (last observed in June of 2010). In order to expedite closure of the Site, a MDPE event is proposed, utilizing MW-1, to evaluate the effectiveness of this method to remove hydrocarbons located above and in the shallow groundwater zone.

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 hydrocarbon mass removal 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



**Reference: Work Plan for Enhanced Hydrocarbon Recovery Activities**

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.

MDPE activities will be completed from monitoring well MW-1 in one day. 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, 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. To evaluate mass removal rates, a vapor sample will be collected during the MDPE event at the extraction wellhead 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, which will be removed by Sierra Oilfield Services from the Site following completion of 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.

Data from the MDPE event and subsequent groundwater monitoring events will assist in evaluating 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.



June 29, 2017  
Mr. Randy Bayliss  
Page 3 of 3

**Reference: Work Plan for Enhanced Hydrocarbon 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.**

Stephen Varsa, P.G.  
Senior Hydrogeologist  
Phone: (515) 251-1020  
steve.varsa@stantec.com

cc: Joseph Wiley, EPCGPC  
Brandon Powell, NMOCD  
Jillian Aragon, BLM