



Stantec Consulting Services Inc.
11311 Aurora Avenue
Des Moines, Iowa 50322
Phone: (515) 253-0830

REVIEWED**By Mike Buchanan at 3:12 pm, Sep 13, 2024****VIA ELECTRONIC SUBMITTAL**

July 1, 2024

Mr. Michael Buchanan, Environmental Specialist
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
5200 Oakland Avenue, NE, Suite 100
Albuquerque, NM 87113

RE: Work Plan for Hydrocarbon Recovery Testing Activities
Fogelson #4-1
New Mexico Oil Conservation Division Incident Number

Mr. Buchanan:

On behalf of El Paso CGP Company, LLC (EPCGP), Stantec is submitting this Work Plan for enhanced hydrocarbon recovery using dual phase extraction (MDPE) methods at the Fogelson River Basin. MDPE activities are to be conducted from monitoring well MW-1R during this period to address any LNAPL where measurable LNAPL continues to be present. Soil vapor extraction (SVE) testing using 2021 indicated SVE technologies are feasible at the Site. The 2021 SVE testing indicated that SVE technologies are feasible at the Site to enhance recovery of remaining LNAPL and hydrocarbons. Figure 1 depicts the Site layout.

Stantec will retain the services of CalClean Inc. (CalClean) and personnel to perform a medium-term 30-day high vacuum MDPE event planned to begin in mid-July 2024. All equipment is planned to be removed following the event. CalClean has obtained a No Permit Required (NPR) from remediation equipment to be utilized during the MDPE event from the New Mexico Environmental Department. A copy of the NMED letter is included as Attachment A.

Review of the Work Plan for Hydrocarbon Recovery Testing Activities Fogelson #4-1: content satisfactory, work to proceed.

1. Proceed as planned to utilize the CalClean MDPE equipment for LNAPL recovery at the site.

2. Submit TO-15 and TO-3 lab analyses results to OCD in next annual report for the Fogelson #4-1 site.

3. Report results of the MDPE test, any anomalies, gauging, as well as groundwater sampling results post testing activities.

4. Include a narrative where hydrocarbon recovery is being conducted after tank is filled and hauled off site.

5. Submit the next annual report to OCD with results by April 1, 2025.

2

Stantec Inc. (Stantec) is submitting this Work Plan for enhanced hydrocarbon recovery using dual phase extraction (MDPE) methods at the Fogelson River Basin. MDPE activities are to be conducted from monitoring well MW-1R during this period to address any LNAPL where measurable LNAPL continues to be present. Soil vapor extraction (SVE) testing using 2021 indicated SVE technologies are feasible at the Site. The 2021 SVE testing indicated that SVE technologies are feasible at the Site to enhance recovery of remaining LNAPL and hydrocarbons. Figure 1 depicts the Site layout.

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MDPE Activities

MDPE is a process combining SVE with groundwater depression to maximize mass removal of LNAPL as both liquid and vapor phase hydrocarbons. CalClean's system consists of a truck-mounted, high vacuum, 25 horsepower, vapor extraction and treatment system capable of an air flow in excess of 400 cubic feet per minute (cfm) at vacuums reaching 29 inches of mercury (in Hg). Information detailing the CalClean MDPE equipment is provided in Attachment B. CalClean uses a stinger tube (drop tube) to simultaneously remove liquid LNAPL, dissolved-phase contaminated groundwater, and vapors from each extraction point. This method can induce a hydraulic gradient toward the extraction well, creating a groundwater depression and exposing the saturated zone or smear zone to SVE. The size of the cone of depression created is directly influenced by many factors including air flow of the system, vacuum, and the duration



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Reference: Work Plan for Hydrocarbon Recovery Testing Activities

of the MDPE event. CalClean's MDPE equipment that will be utilized allows multiple wells that are closely spaced to be manifolded together resulting in a single discharge point to the collection tank.

Recovered liquids will be transferred to a portable storage tank during the 30-day testing event. Recovered vapors will pass through and be treated using a thermal oxidizer before discharge to the atmosphere. Using this method, typical vapor destruction efficiencies are greater than 99%. Vapor samples will be collected before entering and leaving the treatment unit to confirm that vapor concentrations are being treated effectively during the system operation.

Based on historical data, monitoring wells MW-1R, MW-5, and MW-10 will be utilized as extraction points during the testing event. It is anticipated that initial extraction will utilize MW-5 and MW-10 simultaneously. However, the results of the initial setup will be evaluated and well combinations and duration of extraction on each well may be modified during the 30-day period. The MDPE equipment will be operated continuously for the duration of the 30-day period, subject to any necessary equipment maintenance. CalClean staff will stay on-site for the duration of the testing event in a portable camper with contained facilities. CalClean is alerted if an alarm condition (i.e., high vacuum, high water level, high temperature, etc.) is experienced, and the equipment will automatically shut down until the condition is cleared by CalClean staff. If more than two hours a day are spent on equipment maintenance or the system is shut down for any reason, the downtime will be added to the end of the testing event.

Stantec will be onsite during startup, the first seven days of the test, and for the final day of shutdown and demobilization. Stantec staff will document the initial and final site conditions, supervise the set-up and removal of the remediation equipment, and review system recovery volumes and effluent vapor concentrations to optimize hydrocarbon impact removal, in coordination with on-site CalClean staff. Vacuum readings and groundwater elevations at nearby monitoring wells will be collected to provide additional information regarding radius of influence (ROI) and groundwater flow patterns resulting from the extraction testing activities. CalClean personnel will provide oversight of the MDPE test efforts and with concurrence from Stantec will adjust equipment, as necessary, to optimize hydrocarbon recovery and liquid recovery volume. Stantec office staff will also receive and review daily reports from CalClean and work with on-site staff for the duration of the testing event to help optimize operations. The equipment, including the portable storage tank will be removed upon completion of the MDPE testing event and no equipment or materials will be left at the Site.

Vapor and/or air monitoring for total volatile organic compounds (VOCs), oxygen (O₂), carbon monoxide (CO₂), carbon dioxide (CO), hydrogen sulfide (H₂S), and low explosive limit (LEL) will be performed to evaluate the effectiveness of the MDPE testing activities and for the health and safety of field staff. Total VOCs will be monitored using a calibrated photo-ionization detector (PID) and a 4-gas explosimeter will be used to monitor O₂, CO₂, CO, H₂S, and LEL. To evaluate mass removal rates, vapor sample(s) will be collected during the MDPE testing event at the



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extraction wellhead via Summa® canister. To evaluate thermal oxidizer combustion efficiency, additional Summa® canister samples will be collected from the stack (post-ox) to compare against wellhead Summa sample results collected from the extraction wellhead. The samples will be collected at the end of the first 24 hours of the MDPE testing event operation, after approximately 7 days into the MDPE testing event, and on the final day of MDPE testing event. The Summa® canisters will be submitted to Eurofins Environment Testing Southeast, LLC, in Pensacola, Florida 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 on site in a portable tank, located in secondary containment, for temporary storage during the testing event. As needed during completion of the testing event and/or upon completion of the testing event, a local waste hauler will mobilize to the site to pump out the tank and remove the liquids from the Site for disposal. The recovered liquids will be transported to Envirotech Inc. in Bloomfield New Mexico for disposal under a C-138 ticket. Following the MDPE testing event, Stantec will complete a metering report documenting the amount of liquids removed, pursuant to NMOSE requirements.

Following the MDPE testing event, data collected from routine quarterly groundwater gauging and semi-annual groundwater sampling events at the Site will be used to evaluate the effectiveness of the MDPE testing event and provide recommendations for additional activities, if warranted. The data and results for the MDPE testing event will be summarized in the annual groundwater monitoring report for the Site. The report 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.

Health and Safety

A Site-Specific Health and Safety Plan (HASP) has been prepared for MDPE testing activities. The HASP includes guidance on the personal protective equipment (PPE) necessary for field activities, identified hazards associated with the field activities, and directions to the nearest medical facility. Flame-resistant clothing and Level D protective equipment will be worn, as required. A copy of the HASP will be on site at all times while work is being performed. The HASP will apply to Stantec employees, Stantec's subcontractors, and visitors at the Site. Typically, subcontractors will operate under their own HASP, which will be reviewed and referenced by Stantec prior to the start of the field activities.

During the testing MDPE event, periodic ambient air monitoring will be conducted with a PID and explosimeter. Monitoring instruments will be calibrated prior to use according to the manufacturer's specifications. Calibration information will be recorded in the field log book.



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Schedule

The anticipated scheduled start of the 30-day MDPE testing event is the week of July 15, 2024. The results of the MDPE testing event, will be documented in the 2024 Annual Report, and is anticipated to be submitted by April 1, 2025.

Please feel free to contact Joseph Wiley, Project Manager for EPCGP, 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 'Stephen Varsa'.

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

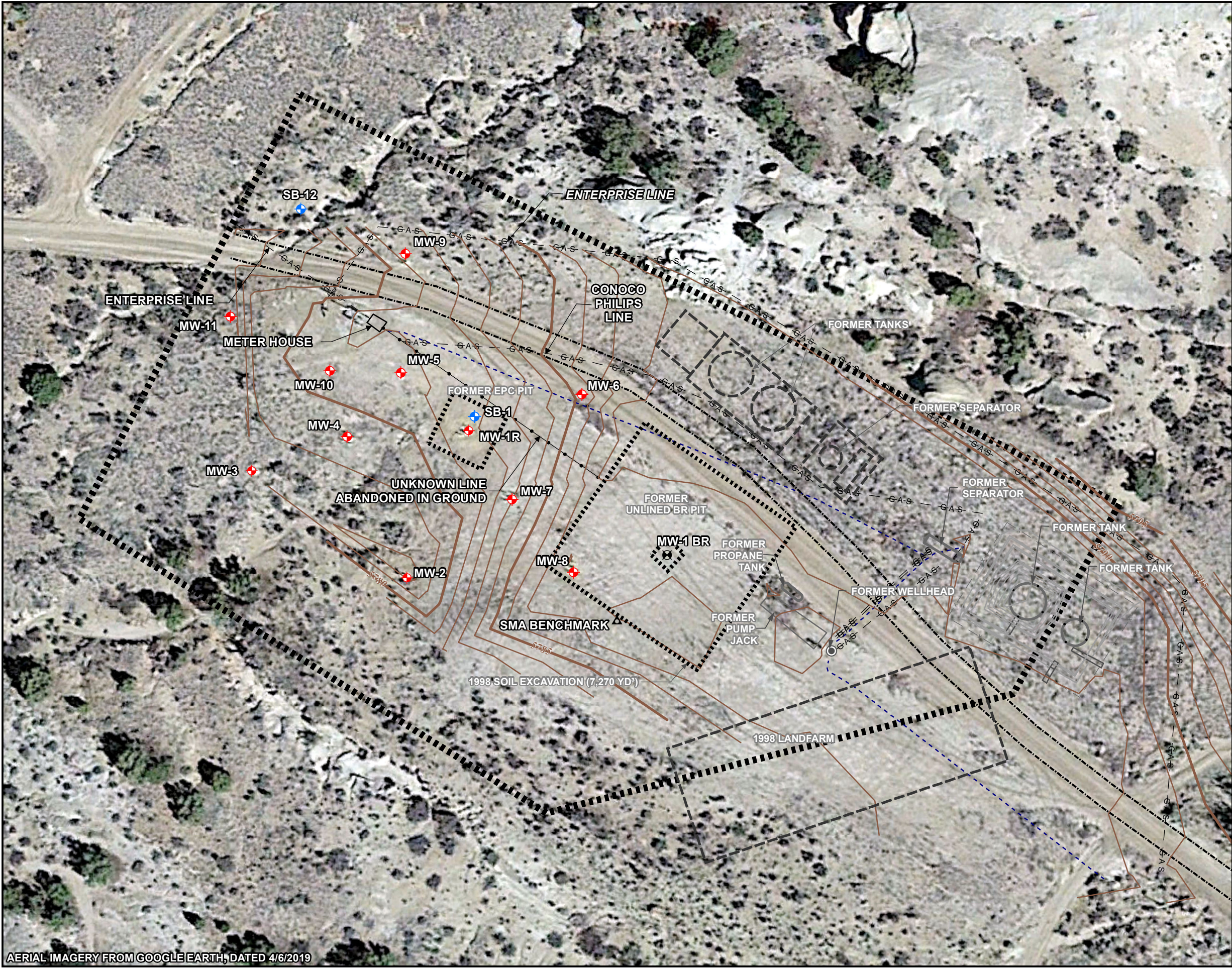
cc: Joseph Wiley, EPCGP
United States Bureau of Land Management (Grant NMNM133839)

Figure 1	Site Plan
Attachment A	New Mexico Environmental Department No Permit Required Letter
Attachment B	MDPE System Schematic

FIGURE



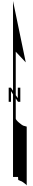
\\cd1001-c200\CTX-CIFSS\VDN\Redirect\shansen\Desktop\GIS-NEW\MXDs\FOGELSON 4-1 COM #14\2023 MAPS\Fogelson_SITEMAP_2023.mxd



AERIAL IMAGERY FROM GOOGLE EARTH, DATED 4/6/2019

LEGEND:

- APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT OR EXCAVATION
- GAS LINE
- UNDERGROUND CABLE
- RIGHT OF WAY BOUNDARY
- MONITORING WELL
- SOIL BORING
- FORMER WELLHEAD
- SMA BENCHMARK
- FORMER MONITORING WELL (NOT EPCGP-OWNED)



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2024-02-28	SAH	SAH	SRV

TITLE: **SITE PLAN**

PROJECT: **FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO**



Figure No.:

1

ATTACHMENT A





MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

March 25, 2024

Noel Shenoi
Principal Environmental Engineer
CALClean, Inc.
1790 N. Case Street
Orange, CA 92865

Air Quality No Permit Required (NPR)
No. 10234
Agency Interest No. 39716 - PRN20240001
CalClean SVE systems
AIRS No. 357771665

Dear Mr. Shenoi:

This letter acknowledges the receipt of your request for a permit applicability determination dated March 19 2024 for an Oil & Gas facility in New Mexico. The request was received by the Department on March 19, 2024.

Operation of numerous identical truck-mounted soil vapor extraction (SVE) systems, used for remediation at gas station sites and other sites with petroleum hydrocarbons, such as oil field sites, pipeline sites, may commence State-Wide (excluding Bernalillo County unless additional approval received), as represented in the request.

The Department has not conducted a review of the information or verified any emission calculations or regulatory analysis. It is the responsibility of the owner and/or operator of the facility to determine applicability and to comply with all existing, revised, and new applicable regulations. This includes requirements to apply for a 20.2.72 NMAC - Construction Permits or 2.73 - Notice of Intent and Emissions Inventory Requirements. The owner and/or operator of the facility is advised to keep records of the emission calculations and regulatory applicability.

As there are emission sources remaining at the site the department will change the status from a Notice of Intent to a No Permit Required. Please be advised that changing the status of the facility is based on the company's determination the site no longer requires a Notice of Intent due to changes in production or equipment and that the AQB has not reviewed the emissions from the remaining sources.

This facility may be subject to state and federal regulations ***such as*** those found in Table 1.

Table 1: Other Regulations

Citation	Title
20.2.38 NMAC	Hydrocarbon Storage Facilities
20.2.50 NMAC	Oil and Gas Sector: Ozone Precursor Pollutants
20.2.61 NMAC	Smoke and Visible Emissions
20.2.70 NMAC	Operating Permits
40 CFR 60 Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

CALClean, Inc.
CALClean SVE systems - NPR No. 10234
March 25, 2024

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Citation	Title
40 CFR 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) For Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
40 CFR 60, Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Production Transmission and Distribution
40 CFR 63 Subpart HH	National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities
40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines

Please be advised that this No Permit Required determination was based upon the application submitted and these sources, when constructed, will be subject to inspection.

If you have any questions, please do not hesitate to contact me at 505-629-2718 or Joseph.Kimbrell@env.nm.gov.

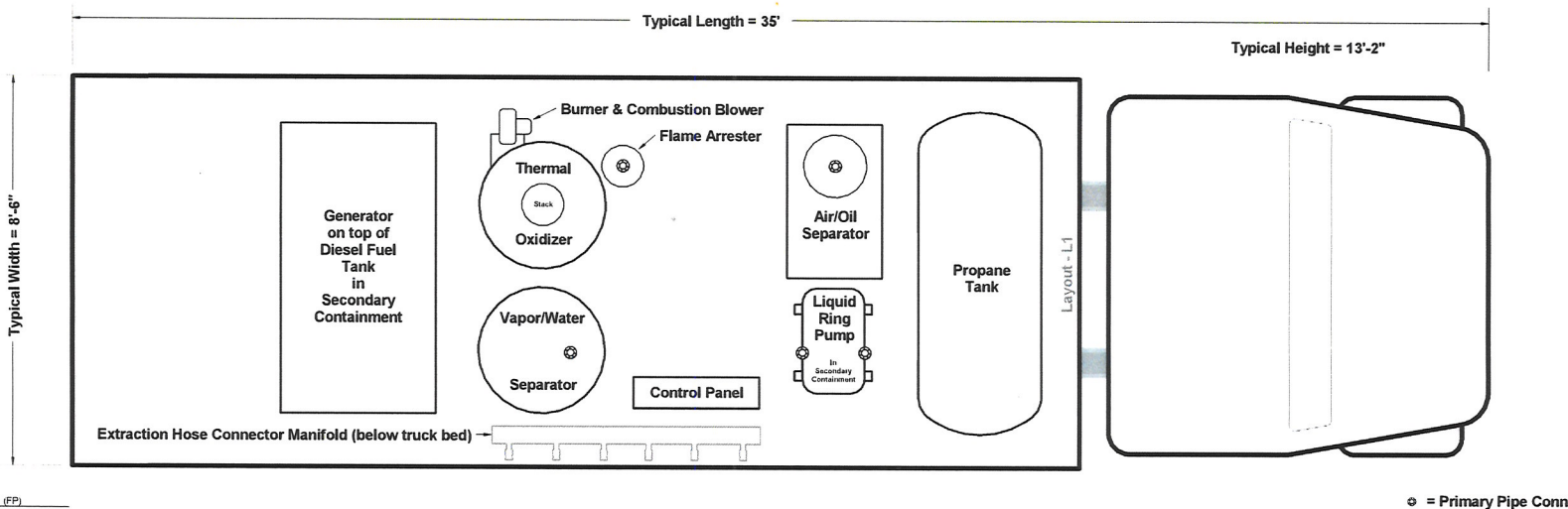
Sincerely,

Joseph Kimbrell
Technical Services Manager
Permits Section
Air Quality Bureau

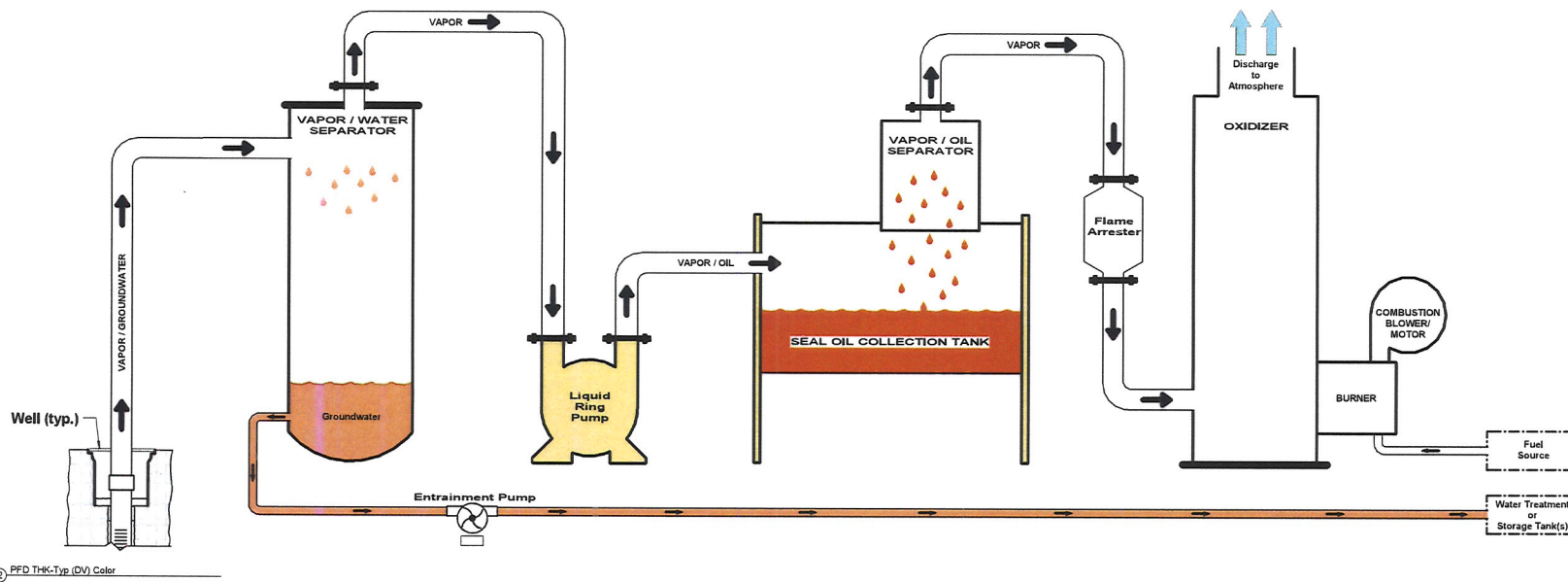
ATTACHMENT B



General Layout of a Typical CalClean Truck Mounted Mobile Remediation System (MRS)



Process Flow of a Typical CalClean Mobile Remediation System (MRS)



CONFIDENTIAL

TYPICAL

Truck Mounted
Mobile
Remediation
Systems

using the
Thermocatalytic
method of treatment

LEGAL NOTICE: This is the intellectual property of CalClean, Inc. This design is proprietary and patent pending. It is for use by CalClean's customers for review purposes only.

Designed By: Gordon Melin

Drafted By: Power & Data

Approved By: Gordon Melin

Print Date: 9/13/2019 10:46:13 AM

Layout and Flow Diagrams
Truck

TYP-2.0

DESIGNSv2

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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District III
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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 360287

CONDITIONS

Operator: El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	OGRID:
	7046
	Action Number: 360287
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the Work Plan for Hydrocarbon Recovery Testing Activities Fogelson #4-1: content satisfactory, work to proceed. 1. Proceed as planned to utilize the CalClean MDPE equipment for LNAPL recovery at the site. 2. Submit TO-15 and TO-3 lab analyses results to OCD in next annual report for the Fogelson #4-1 site. 3. Report results of the MDPE test, any anomalies, gauging, as well as groundwater sampling results post testing activities. 4. Include a narrative where hydrocarbon recovery is being disposed after tank is filled and hauled off site. 5. Submit the next annual report to OCD with results by April 1, 2025.	9/13/2024