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**APPROVED**

May 26, 2023

**Mr. Nelson Velez**  
**Environmental Specialist – Advanced**  
**New Mexico Oil Conservation Division**  
**1000 Rio Brazos Road**  
**Aztec, New Mexico 87410**

**Work Plan for Plugging and Abandonment of Dry Monitoring Wells and Installation of Additional Monitoring Wells**  
**Lovington Gathering WTI**  
**Lea County, New Mexico**  
**NMOCD Incident ID: nAPP2108928398**

Dear Mr. Velez:

GHD Services, Inc., (GHD) on behalf of Plains Pipeline, L.P. (Plains) has prepared the following Work Plan for plugging and abandonment (P&A) of three (3) monitoring wells and installation of five (5) additional monitoring wells at the Plains-Lovington Gathering WTI release site (Site), New Mexico Oil Conservation Division (NMOCD) Incident ID: nAPP2108928398. The locations with GPS coordinates for the proposed monitoring wells are depicted on the attached Proposal Figure.

Approval of the Work Plan for Plugging and Abandonment of Dry Monitoring Wells and Installation of Additional Monitoring Wells with the following conditions:

1. Please include which facility P&A'd concrete waste from wells were disposed of as well as all investigation derived waste in the 2024 annual report.
2. Please upload all permits obtained from OSE and electronically submit for the incident file.
3. Include the elevations and specific locations for all new monitoring wells in the next annual report.
4. Include analyses for soil borings in addition to all new monitoring well sampling results.

## 1. Project Information

The Site is located approximately 6.5 miles southeast of Lovington and in the SE ¼, NE ¼, Section 6, Township 17 South, Range 37 East in Lea County, New Mexico. The coordinates of this Site are 32.8649° N and 103.2853° W. The Site's groundwater is impacted with dissolved phase hydrocarbons.

On October 1, 2016, GHD assumed groundwater remediation and project management responsibilities for the Site. Plains will obtain approval from the landowner(s), and a New Mexico Licensed Water Well Driller will obtain New Mexico Office of the State Engineer (NMOSE) permits to install the additional wells.

## 2. Scope of Work

Plugging and abandonment (P&A) of monitoring wells (MW-6, MW-8, and MW-10) which consistently have either no measurable water column or have water columns measured at less than five (5) feet, installation of replacement monitoring well (MW-6R), and the installation of new monitoring wells (MW-13, MW-14, MW-15, and MW-16) to maintain delineation and to further evaluate the groundwater conditions at the Site. A detailed map with the proposed monitoring well locations with GPS coordinates are depicted on the attached Proposal Figure. Details of the work are as follows:

- Monitoring wells (MW-6, MW-8, and MW-10) will be plugged and abandoned in accordance with NMOSE protocol. The protective monument and concrete well pad will be removed, transported off-site, and disposed of at a NMOCD-approved disposal facility as directed by Plains.
- A water well driller, licensed by the State of New Mexico, will install three (3) 2-inch monitoring wells (MW-6R, MW-13, MW-14) and two (2) 4-inch monitoring wells (MW-15 and MW-16) according to the requirements of the State of New Mexico. The NMOCD District 2 Office in Artesia, New Mexico will be notified of the drilling activities at least three (3) days before activities begin.
- A request for clearance of utilities (New Mexico One Call) will be made by the drilling contractor five (5) days before drilling activities begin. Responses from all notified parties and clearance by Plains' personnel will be verified by GHD before activities begin.
- Using air-rotary drilling techniques, five (5) Soil borings (one for each monitoring well) will be drilled to a total depth (TD) of approximately 113 feet (ft.) below ground surface (bgs) or 15 ft. beyond the depth groundwater is encountered. Presently, the Site's groundwater is approximately 98 ft. bgs.
- Samples of each boring's soil profile will be collected every five (5) ft. and screened for organic vapors by using the headspace screening technique with a photoionization detector (PID). Soil samples from the soil borings will be submitted to a Plains approved analytical laboratory. Analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) will be conducted using United States Environmental Protection Agency (USEPA) Method SW846-8021B, analysis of total petroleum hydrocarbons (TPH [GRO/DRO/MRO]) using USEPA Method SW846-8015M, and analysis of chloride by USEPA Method 300.0.
- Based on PID readings, drill cuttings will either be thin spread at the well location or placed in investigative derived waste (IDW) labeled 55-gallon drums for later disposal at a NMOCD-approved disposal facility as directed by Plains.
- 20-foot lengths of 2-inch (MW-6R, MW-13, and MW-14) and 4-inch diameter (MW-15 and MW-16), schedule 40 PVC slotted casing with 0.010-inch slots will be set in each well from 15 ft. below the water table (approximately 113 ft. bgs) up to five (5) ft. above the water table (approximately 93 ft. bgs).
- 2-inch (MW-6R, MW-13, and MW-14) or 4-inch (MW-15 and MW-16) diameter, schedule 40 PVC blank casing will be installed in each well above the slotted casing to the ground surface and with a surface riser of approximately 30 inches above the ground surface.
- Filter pack sand will be installed in each well from TD up to a point three (3) ft. above the top of the slotted casing (approximately 114 ft. bgs).
- A seal composed of bentonite chips will be installed in each well and hydrated from the top of the filter pack (approximately 114 ft. bgs) up to two (2) ft. bgs. A concrete seal will be installed in each well from the top of the bentonite seal to the surface to form a pad that measures 2' x 2' x 4".
- A locking, steel, aboveground vault will be installed to approximately 30 inches above the ground surface.
- Well development will consist of a combination of surging the measured water column to settle the filter pack sand and purging 10 water column volumes (approximately 25 gallons) using either a stainless-steel bailer or 2-inch submersible pump. Purged groundwater will be captured in IDW labeled 55-gallon drums for later disposal at a NMOCD-approved disposal facility as directed by Plains.
- Locations and elevations of the tops of casing in all new wells will be determined by a Professional Land Surveyor who is licensed by the State of New Mexico.
- A lithologic boring log annotated with organic vapor readings and descriptions of soil using the Unified Soil Classification System will be prepared for each well.
- Groundwater samples from MW-6R, MW-13, MW-14, MW-15, and MW-16 will be collected during either the quarterly sampling event or after well completion if the quarterly sampling event has been conducted.
- Results of the monitoring well drilling, installation, and sampling activities will be included in the 2023 Annual Report of Groundwater Monitoring Report.

GHD is prepared to conduct the proposed activities subsequent to the availability and scheduling of a Plains approved drilling contractor. Please contact J.T. Murrey at [JT.Murrey@ghd.com](mailto:JT.Murrey@ghd.com) or (361) 252-6136 or myself at [John.Ferguson@ghd.com](mailto:John.Ferguson@ghd.com) or (432) 894-7848 should you have questions or to discuss in more detail.

Regards,



**John Ferguson**  
Project Scientist

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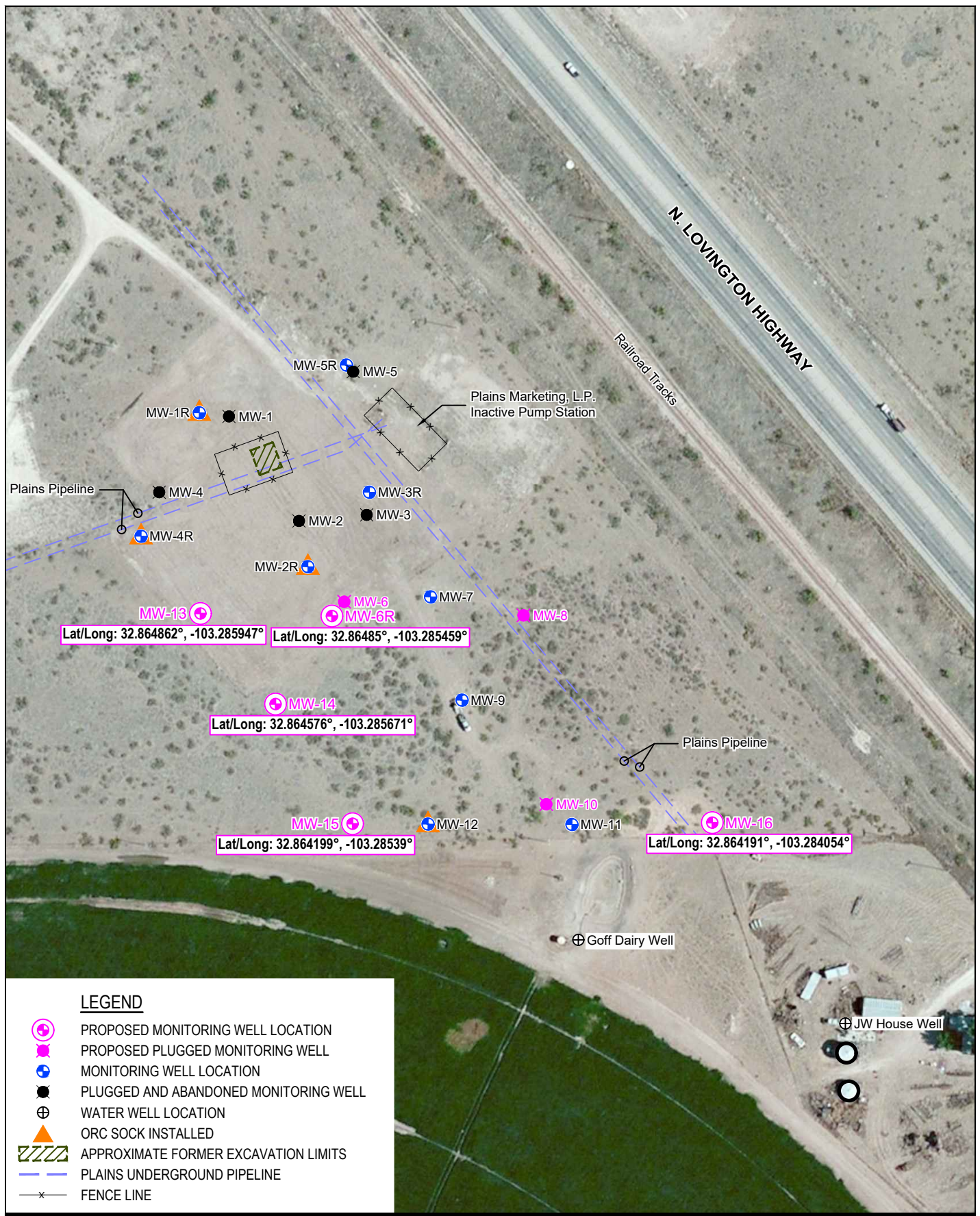
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Project Director

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JF/mss/1

Encl: Figure 1 - Proposed Monitoring Well Locations





**District I**  
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Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
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 227994

**CONDITIONS**

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID:	34053
	Action Number:	227994
	Action Type:	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

**CONDITIONS**

Created By	Condition	Condition Date
michael.buchanan	Approval of the Work Plan for Plugging and Abandonment of Dry Monitoring Wells and Installation of Additional Monitoring Wells with the following conditions: 1. Please include which facility P&A'd concrete waste from wells were disposed of as well as all investigation derived waste in the 2024 annual report. 2. Please upload all permits obtained from OSE and electronically submit for the incident file. 3. Include the elevations and specific locations for all new monitoring wells in the next annual report. 4. Include analyses for soil borings in addition to all new monitoring well sampling results.	7/9/2024