



JERRY AYCOCK
PLANTATION PIPE LINE
1000 WINDWARD CONCOURSE
SUITE 450
ALPHARETTA GA 30005

JUN 16 2017

Re: Weekly and Monthly Report Reviews, Monitoring Well Installation Approval, and Pilot Study Plan Review
Plantation Pipe Line Lewis Drive Release, 112 Lewis Dr., Belton SC
Site #18693
Petroleum Pipe Line Release Reported December 8, 2014
Weekly Startup Status Update for Week 3, March 21-27, 2017, e-mailed March 31, 2017
Weekly Startup Status Update for Week 4, March 28, 2017- April 4, 2017, received April 13, 2017
Weekly Startup Supplemental Data Transmittal for Week 4, April 4-6, 2017, received April 21, 2017
Response to Comments received April 12, 2017
March 2017 Final Monthly Status Update, received May 3, 2017
Request for Well Permit to Install Additional Monitoring Wells, received May 9, 2017
Shallow Bedrock Zone-Biosparging Pilot Study Plan, received May 9, 2017
Anderson County

Dear Mr. Aycock,

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (DHEC) has reviewed the referenced documents. The following was noted:

Weekly Startup Status Updates:

1) Twenty-five recovery wells, recovery trench points, and recovery sumps were reported as having measureable free phase petroleum product in the referenced weekly reports without being evacuated of free product. During a November 4, 2016 meeting, where representatives from DHEC, CH2M, and Plantation Pipe Line were in attendance, the need for continued evacuation of free product when measureable was relayed by DHEC. Further, in a January 27, 2017 correspondence (Coleman to Aycock), DHEC requested the continuation of free product recovery as long as measureable levels of product exist. Measureable free phase petroleum product must be evacuated from recovery wells, recovery trench points, and recovery sumps.

2) The Weekly Startup Supplemental Data Transmittal for Week 4 noted recovery sump RS-19, recovery trench point RT-2H, and monitoring well TW-46 had been damaged and "are no longer reliable for calculating groundwater elevation". RS-19 and TW-46 must be properly abandoned per the South Carolina Well Standards, R. 61-71 Section H.2.e. In evaluating these points, it was noted that TW-46 contained 2.13 feet of free phase petroleum product the last time it was monitored (December 7, 2016). Monitoring Well TW-46 is located between MW-11 and MW-15. It is located approximately 150 feet down-gradient of MW-11, approximately 150 feet up-gradient of MW-15, and approximately 260 feet up-gradient

of Brown's Creek. Groundwater collected from MW-11 contained high levels of dissolved phase contamination as of January 2016 whereas groundwater collected from MW-15 had no contaminant detections as of January 2016. Replacement of TW-46 with a permanent shallow groundwater monitoring well, a permanent groundwater monitoring well screened to the transition zone, and permanent bedrock monitoring well is required in order to monitor the migration of free product in the area. Please provide a monitoring well installation plan with the described monitoring wells within 30 days of the date stamped on this correspondence. Also provide well abandonment records for TW-46 and RS-19 within 30 days of the date stamped on this correspondence.

March 2017 Final Monthly Status Update:

3) Under the "Future Activities" section it is stated that air flow in the stream aerators will be increased up to 12 standard cubic feet per minute. Please provide details and an explanation for the increase in the sparging rate.

4) In the future, any changes requested in regard to the Corrective Action Plan must be provided in a stand-alone document that clearly notes a proposed change to the Corrective Action Plan.

Request for Well Permit to Install Additional Monitoring Wells

5) Please find the attached approval for the proposed installation of MW-06B, MW-09B, MW-46, MW-47, MW-48B, and MW-49. MW-43 and MW-43B were previously approved in a January 20, 2017, correspondence (Coleman to Aycock), Approval # MW-10964.

6) Boring of the bedrock wells should be conducted in a manner that allows fracture location and orientation to be determined in that contamination has been documented in the bedrock and sparging in the bedrock has been proposed.

7) Groundwater samples should not to be collected for a minimum of 7 days after monitoring well development to allow the aquifer to equilibrate.

8) Please ensure a Monitoring Well Installation Report, containing well completion forms and geology, is provided within 30 days of the installation of the monitoring wells, as stated in the South Carolina Well Standards (R.61-71).

9) Please revise the Quality Assurance Project Plan (QAPP) to include the new monitoring well locations and the additional surface water sampling location, SW-14, in Cupboard Creek. The due date for the revision will be forthcoming when the QAPP: Revision 3 is reviewed.

Shallow Bedrock Zone-Biosparging Pilot Study Plan (Pilot Plan)

10) The Pilot Plan states that a reasonable displacement will be maintained. Clarify the mechanism for remediation in the shallow bedrock in the plan. If bioremediation is the mechanism, provide parameters that will be collected to measure the effectiveness. If volatilization is the mechanism, provide parameters that will be collected to measure the effectiveness.

11) The Pilot Plan states that flow rate will be increased to 25-30 standard cubic feet per minute (scfm), the target flow rate in the shallow bedrock biosparging wells. Please provide a basis for the decision to set 25-30 scfm as a target flow rate. Please explain if the air flow rate is based upon the expected metabolic needs of microorganisms to successfully remediate the contamination present in the bedrock. Additionally, please provide any data collected to technically justify the proposed target level.

12) The Pilot Plan proposes to utilize two bedrock wells, MW-01B and MW-44B, both located in a south-eastern direction of the biosparging wells and approximately 150 to 250 feet from the sparging wells to determine the zone of influence. Please provide how the zone of influence in the bedrock will be determined.

13) The Pilot Plan states that a brief Technical Memorandum for review by DHEC will be provided upon completion of the Pilot Study. A comprehensive Pilot Study Report must be provided rather than a brief Technical Memorandum.

Reporting

14) Monthly status Update Reports must continue to be provided. Upon review of data over time, alterations to the reporting frequency can be evaluated. Evaluation of the reporting frequency must be discussed in the Annual Report.

Continue to provide documents in paper format and pdf via a disk with Site ID # 18693 and Plantation Pipe Line Lewis Drive Release noted in a prominent location. Should you have any questions, I can be reached at (803) 898-0628 or colemabj@dhec.sc.gov. Faxes can be sent to (803) 898-0673.

Sincerely,



Bobbi Coleman, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Enc: Monitoring Well Approval 11117

CC: Chris McCluskey, Upstate Region EQC (Anderson Office) w/attach.
William Waldron, CH2M Hill, 3120 Highwoods Blvd., Suite 214, Raleigh NC, 27604 w/attach.
Gary Poliakoff, Poliakoff & Associates, PO Box 1571, Spartanburg SC, 29304 w/attach.
Scott Lewis, 15 Edgewood Dr., Williamston SC 29697 w/attach.
Eric Lewis, 421 Reedy Fork Rd., Greenville SC 29605 w/attach.
Technical File w/attach.



Monitoring Well Approval Form

Approval is hereby granted to: CH2M
(On behalf of): Plantation Pipeline
Facility: Plantation Pipeline Lewis Drive Release, 112 Lewis Dr., Belton SC
Site ID Number: 18693
County: Anderson

This approval is for the installation of three (3) permanent shallow groundwater monitoring wells and three (3) bedrock monitoring wells, as requested in the "Request for Well Permit to Install Monitoring Wells", received May 9, 2017. These wells shall be installed following the South Carolina Well Standards, R.61-71 and all applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Bobbi Coleman (tel: (803) 898-0628 or e-mail: colembj@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells, sumps, and trenches shall be abandoned within 30 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Agency approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: May 26, 2017

Approval #: MW-11117

Bobbi Coleman, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management