NM2 - ____3_____

GENERAL CORRESPONDENCE YEAR(S):

___2013 - 2016____

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division

May 21, 2015

Jeff Peace
BP America Production Company
200 Energy Court
Farmington, New Mexico 87401

RE: 2014 Annual Vadose Zone Monitoring Report Reviews
BP America Production Company
Permit NM-2-003 Crouch Mesa Waste Management Facility
Location: Unit O of Section 2, Township 29 North, Range 12 West, NMPM
San Juan County, New Mexico

Dear Mr. Peace:

The Oil Conservation Division (OCD) has completed the review of BP America Production Company's (BP) 2014 Annual Vadose Zone Monitoring Report which includes the results from the following sampling events: 1st Quarter March 31, 2014; 2nd Quarter June 30, 2014; August 29, 2014 3rd Quarter; and November 7, 2014 4th Quarter. The review of the 2014 vadose zone (native soils beneath the biopiles) monitoring data has resulted in the discovery of some issues that must be addressed in order for BP to remain compliant with Permit NM2-003 and 19.15.36 NMAC (Part 36).

OCD has reviewed the administrative files for the facility and has been unable to locate the semi-annual treatment zone (soils to be remediated) monitoring required of 19.15.36.15.D NMAC. Pursuant to the transitional provisions of Part 36 (19.15.36.20.A NMAC), "Existing surface waste management facilities shall comply with the operational, waste acceptance and closure requirements provided in 19.15.36 NMAC, except as otherwise specifically provided in the applicable permit or order, or in a specific waiver, exception or agreement that the division has granted in writing to the particular surface waste management facility." In accordance with 19.15.36.15.D NMAC, "The operator shall collect and analyze at least one composite soil sample, consisting of four discrete samples, from the treatment zone at least semi-annually using the methods specified below for TPH and chlorides." As underlined in the above reference of Subsection D of 19.15.36.15 NMAC, the "methods specified below for TPH and chlorides" are those identified in Subsection F of 19.15.36.15 NMAC: such as "TPH, as determined by EPA method 418.1 or other EPA method approved by the division..." OCD is willing to accept an equivalent method to EPA Method 418.1 that is capable of demonstrating a carbon range from C_6 to C_{36}. Please review OCD's letter dated June 30, 2011 and titled "*Compliance with the Transitional Provisions of the Surface Waste Management Facilities rule (Rule 36) and Treatment and Vadose Monitoring Requirements at Existing Landfarms*" for expectation of

compliance. If the sampling has occurred, please provide OCD copies of the laboratory results to demonstrate compliance. If not, please initiate the required sampling and submit the results.

In accordance with Paragraph (1) of 19.15.36.15.E NMAC, "The operator shall monitor the vadose zone beneath the treatment zone in each landfarm cell." Pursuant to Paragraph (3) of 19.15.36.15.E NMAC, "The operator shall collect and analyze a minimum of four randomly selected, independent samples from the vadose zone, using the methods specified below for the constituents listed in Subsections A and B of 20.6.2.3103 NMAC at least every five years and shall compare each result to the higher of the PQL or the background soil concentrations to determine whether a release has occurred." OCD has reviewed the administrative file and has been unable to locate the five year vadose zone monitoring program demonstration. Part 36 became effective February 14, 2007. The five year sampling event has been due since March 2012, please complete the demonstration. As underlined in the above reference of Paragraph (3) of 19.15.36.15.E NMAC, the "methods specified below for the constituents listed in Subsections A and B of 20.6.2.3103 NMAC" are those identified in Subsection F of 19.15.36.15 NMAC: such as "determined by *EPA SW-846 methods 6010B or 6020* or other EPA method approved by the division..." Please perform the five year vadose zone monitoring program demonstration on all of the active landfarm cells and submit the sampling results and comparison to background and/or PQLs demonstrating compliance of Paragraph (3) of 19.15.36.15.E NMAC by EPA SW-846 methods 6010B or 6020.

In regards to utilizing the proper TPH test method for vadose zone monitoring, in accordance with Paragraph (2) of 19.15.36.15.E NMAC the operator shall analyze the samples from the vadose zone "using the methods specified below for TPH, BTEX and chlorides and shall compare each result to the higher of the PQL or the background soil concentrations to determine whether a release has occurred." The "methods specified below for TPH, BTEX and chlorides" are those identified in Subsection F of 19.15.36.15 NMAC: such as "TPH, as determined by *EPA method 418.1* or other EPA method approved by the division..." Pursuant to the Transitional Provisions of Subsection A of 19.15.36.20.NMAC, "Existing surface waste management facilities shall comply with the operational, waste acceptance and closure requirements provided in 19.15.36 NMAC, except as otherwise specifically provided in the applicable permit or order, or in a specific waiver, exception or agreement that the division has granted in writing to the particular surface waste management facility." The most common vadose zone monitoring (commonly referred to, but incorrectly as "Treatment Zone Monitoring" within existing landfarm permits) condition in an existing landfarm permit is as follows: "The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and heavy metals annually." The permit condition only identified the constituent and does not specify the test method. Part 36 specifies EPA Method 418.1 as the required vadose zone analyses for TPH. OCD is willing to accept an equivalent method to EPA Method 418.1 that is capable of demonstrating a carbon range from C_6 to C_{36} (e.g. Method 8015 for GRO/DRO/MRO or ORO). Please submit all future vadose zone sampling results demonstrating TPH by EPA Method 418.1 or an equivalent method. Please review OCD's letter dated June 30, 2011 and titled "*Compliance with the Transitional Provisions of the Surface Waste Management Facilities rule (Rule 36) and Treatment and Vadose Monitoring Requirements at Existing Landfarms*" for expectation of compliance.

Pursuant to 19.15.36.15.E NMAC, the operator is required to compare the vadose results "to the higher of the PQL [Practical Quantitative Limit] or the background soil concentrations to determine whether a release has occurred." OCD's review of the administrative files for the facility resulted in the discovery of the initial facility background data set from January 1999, based upon the activation of Cell 5. The January 18, 1999 background data set provided results for the following 34 parameters: pH, conductivity, total dissolved solids, sodium absorption ratio, total alkalinity, total hardness, bicarbonate, carbonate, hydroxide, nitrates, nitrites, chloride, fluoride, phosphate, sulfate, iron, calcium, magnesium, potassium, sodium, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, gasoline range organics (GRO), diesel range organics (DRO), benzene, toluene, ethyl benzene, and total xylene. The facility background data set is missing parameters to complete the current quarterly vadose zone monitoring assessment and the 5 year vadose zone monitoring assessment. The January 18, 1999 background data set is missing results for THP by EPA method 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36} to complete the current quarterly vadose zone monitoring assessment and results for copper, iron, manganese, and zinc for the five year vadose zone monitoring assessment. Please establish background for TPH by 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36} and for the additional metals "determined by *EPA SW-846 methods 6010B or 6020* or other EPA method approved by the division..." Please provide OCD a demonstration to establish the facility background and/or PQLs. If statistics are used in the demonstration, please provide references from EPA statistical guidance documents to support proposed statistical methods.

OCD compared the January 1999 background data set to the 1st, 2nd, and 3rd quarter vadose zone monitoring results for DRO, GRO, BTEX, and chlorides. OCD determined that chloride was analyzed with a reporting limit of 30 mg/kg. The January 1999 background data set has an established chloride background of 1.6 mg/L, based upon detection. Please ensure that the laboratory's reporting limit does not exceed the established background and/or PQLs for all future vadose zone sampling events. Also, please submit all future vadose zone sampling results demonstrating TPH by EPA Method 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36}.

OCD compared the January 1999 background data set to the 4th quarter vadose zone monitoring results for DRO, GRO, BTEX, major cations/anions and RCRA 8 metals. OCD determined common exceedances to all cells for fluoride, sulfate, calcium, magnesium, potassium, and chromium. None of these exceedances were recognized in the assessment nor was a response action plan proposed or included with the submittal, as required of 19.15.36.15.E.(5) NMAC. The assessment provided in the report's cover letter stated "Analytical test results indicate the facility met standards with each sample event." If a different facility background data set was utilized for the assessment, please provide OCD a copy of the laboratory data set in order to establish an updated and revised facility background with OCD. If not, please demonstrate compliance to 19.15.36.15.E.(5) NMAC. Please ensure that the laboratory's reporting limit does not exceed the established background and/or PQLs for all future vadose zone sampling events. Also, please submit all future vadose zone sampling results demonstrating TPH by EPA Method 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36}.

In the last sentence of the second paragraph of the 2014 Annual Vadose Zone Monitoring Report cover letter, dated November 24, 2014, it states "Cell 5 is used for storage of remediated soils

from composting/landfarming operations." OCD has searched the administrative file (OCD Online) and has been unable to locate any requests from BP for the closure of any biopiles or approvals from OCD for a closure plan and/or closure of any biopiles. Please provide an explanation for the soils BP describes as "remediated." Also, please explain why the soils are stored in Cell 5 and what happens to the remediated soils when they are removed from Cell 5. Also, please provide copies of BP's requests and OCD approvals associated with the storage of "remediated" soils within Cell 5.

The first sentence of the third paragraph of the 2014 Annual Vadose Zone Monitoring Report cover letter, dated November 24, 2014, it states "Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone during the quarterly monitoring." The "sampling protocol" was provided in the submittal. Pursuant to the November 25, 1998 permit, the vadose zone "sample will be taken between two (2) to three (3) feet below the native ground surface. Please identify the depth in which sample are obtained on the laboratory chain of custody for all future vadose zone sampling events.

Please note that submittal of treatment zone monitoring results alone does not constitute a request for a successive/additional lift. Furthermore, the permit condition specifies "Authorization from the OCD must be obtained prior to application of successive lifts and/or removal of remediated soils." OCD requires such request to be made under a separate cover from other reporting and include the supporting analytical results and an updated facility map that illustrates and identifies the individual landfarm cells within the facility boundary and indicate the approximate location within the landfarm cells in which the samples were obtained.

Please provide OCD copies of the treatment zone (soils to be remediated) laboratory results to demonstrate compliance of the semi-annual sampling required of 19.15.36.15.D NMAC within 45 days of the date of this letter and/or initiate the required sampling and submit the results. Please ensure that THP is assessed by EPA method 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36} for future demonstrations. Also, please submit all future vadose zone (native soils) sampling results demonstrating TPH by EPA Method 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36}. Please ensure that the laboratory's reporting limit does not exceed the established background and/or PQLs for all future vadose zone sampling events. Please establish background for TPH by 418.1 or an equivalent method capable of demonstrating a carbon range from C_6 to C_{36} and for the additional metals "determined by *EPA SW-846 methods 6010B or 6020* or other EPA method approved by the division..." within 60 days of the date of this letter. Please provide OCD a demonstration to establish the facility background within 60 days of the date of this letter. If statistics are used in the demonstration, please provide references from EPA statistical guidance documents to support proposed statistical methods. If the January 1999 background data set is the only background data for the comparison to determine whether a release has occurred in the vadose zone, please demonstrate compliance to 19.15.36.15.E.(5) NMAC by initiated the additional sampling for the landfarm cells that demonstrate exceedances in the November 7, 2014 4th Quarter vadose zone monitoring results and submit a response action plan within 90 days of the date of this letter. If a different facility background data set was utilized for the assessment, please provide OCD a copy of the laboratory data set in order to establish an updated and revised facility background with OCD. Please provide an explanation for the soils BP describes as "remediated" in Cell 5 within 30 days of the date of this letter. Also, please explain why the soils are stored in Cell 5 and what

happens to the remediated soils when they are removed from Cell 5 and provide OCD copies of BP's requests and OCD approvals associated with the storage of "remediated" soils within Cell 5 within 30 days of the date of this letter. Please identify the depth in which sample are obtained on the laboratory chain of custody for all future vadose zone sampling events.

OCD has implemented some new policies for submittals. For future submittals, please include a cover letter from the owner/operator, on the owner's/operator's company letterhead, that recognizes the owner/operator has reviewed the submittal, signed by the owner/operator. Also, please provide an updated facility map, for each individual sampling event, that identifies the individual landfarm cells within the facility boundary and indicate the approximate location within the landfarm cells in which the samples were obtained. If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3487 or brad.a.jones@state.nm.us.

Sincerely,

Brad A. Jones
Environmental Engineer

BAJ/baj

cc: OCD District III Office, Aztec
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