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DAIM-ODB

August 1, 2018

Mr. John Kieling
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

RE: Permittee Initiated Interim Measures Report, Parcel 6, Response to August 21, 2017
Disapproval Letter, Fort Wingate Depot Activity, McKinley County, New Mexico
EPA #NM6213820974, HWB-FWDA-16-011

Dear Mr. Kieling:

This letter presents our response to your comments presented in the disapproval letter dated August 21, 2017 regarding the Permittee Initiated Interim Measures Report, Parcel 6 for the Fort Wingate Depot Activity (FWDA) under RCRA Permit USEPA ID No. NM6213820974. The Report has been revised to incorporate the results of the additional sampling and removal activities as well as addresses each comment as described below. The report is being submitted separately as *Final Permittee-Initiated Interim Measures Report, Parcel 6, Revision 1.0*, July 27, 2018.

Copies of the disapproval letter and a copy of this response letter are included within Appendix A of the revised Report. A redline-strikeout version of the Report is included electronically with the submittal.

NMED COMMENT 1: Section 4.6, Waste Profile and Disposal, 4-2/17-18 and 21-22

Permittee Statements: "The sample was also analyzed for lead using TCLP." "Waste characterization results and disposal documentation is included as Appendix D."

NMED Comment: The result of TCLP analysis for lead was not included in Appendix D. Provide the laboratory analytical results and documentation to show the waste was characterized as nonhazardous in the revised Report.

Permittee Response: The text was incorrect; the analytical results and documentation to show the waste was characterized as non-hazardous have been included in Appendix D.

Revised text Section 4.6:

"Waste characterization included the collection of one composite sample of the excavated soil. The sample was analyzed for total lead using USEPA Method 6010C. The total lead concentration of the waste profile sample was 93.6 mg/kg. In accordance with USEPA Test Method 1311, Section 1.2, for Toxicity Characterization Leaching Procedure (TCLP) analysis, a total constituent analysis was used to prescreen the sample for waste determination. Section 1.2 allows for a total constituent analysis in lieu of the TCLP extraction. If a waste is 100 percent solid, as defined by the TCLP method, the results of the total constituent analysis may be divided by 20 to convert the total results into the maximum leachable concentration. This factor is derived from the 20:1 liquid-to-solid ratio employed in the TCLP. By applying the approved aforementioned TCLP prescreening method to the lead

concentration in the analytical results, the lead concentration does not exceed the lead RCRA Maximum Contaminant Level. Upon receipt of the results, a waste profile form was completed and submitted for approval to the Waste Management Painted Desert Landfill in Joseph City, Arizona. Upon approval, the waste was shipped under proper manifest for disposal as a nonhazardous solid waste. Waste characterization results and disposal documentation are included as **Appendix D.**"

NMED Comment 2: Section 5.3, Waste Profile Sampling and Disposal, 5-2/4-6 and Section 5.7 Waste Volume Determination, 5-10/36-38

Permittee Statements: "Waste profile sampling of the impacted soil of SWMU 8 - Former Building 537 included collection of two samples from the stockpiled excavated soil to meet the landfill requirement of one profile sample for each 100 cubic yards of waste." "Based on the comparison of the site elevation surveys, plus the additional material excavated, the volume of waste material removed from SWMU 8 - Former Building 537 was 429 cubic yards."

NMED Comment: Four samples were required to meet the landfill requirement although only two samples were collected for waste characterization. Provide an explanation for this discrepancy. In addition, the waste manifests in Appendix G indicate only 306 cubic yards of soil were transported to the landfill. Account for the remaining 123 cubic yards of excavated soil in the revised Report.

Permittee Response: The removal action at SWMU 8 occurred in 4 separate phases. One waste profile sample was collected following the initial removal on 10/20/15; 2 samples were collected on 12/08/15; a 4th sample was collected on 5/12/16; and a fifth sample was collected on January 18, 2018

The text was revised to reflect that 5 waste profile samples were collected. The appendix containing the waste profile sample results was modified to include all results.

The reported 429 cubic yards of excavated soil was established by pre- and post-removal surveys. The volume specified on the manifest is an estimated volume by truck. The landfill fees are actually on a per ton basis as weighed at the gate.

The discrepancy between the surveyed volume and the total based upon the volumes listed per truck is due to the fact that the volumes per truck are estimates. It is also possible that there is a slight over estimation in the volumes calculated from the surveys due to a large area with very shallow excavation depths.

Our field recording procedures include maintaining a signed manifest of each truck as it leaves the site. The Site Superintendent (SS) records the truck number, the manifest number, and the time that truck leaves the site. Further, the SS reconciles that we have a returned bill of lading from the landfill for each load.

Revised Text Section 5.3:

"Waste profile sampling of the excavated soil from SWMU 8 - Former Building 537 included the collection of a total of five samples as follows: one was collected on October 20, 2015; two were collected on December 08, 2015; one was collected on May 12, 2016; and, one was collected on

January 18, 2018. Samples were submitted for analysis for PCBs, PAHs, SVOCs, RCRA 8 Metals, volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPH) diesel range organics (DRO)/oil range organics (ORO). Sample analytical data was evaluated and provided to the disposal facility and a waste profile was established prior to transportation and disposal operations.

NMED Comment 3: Section 5.4, Confirmation Sampling, 5-2/22-34

Permittee Statement: "One discrete sample was collected from each excavation area bottom in Areas A, B, and F. Two discrete samples were collected from the excavation area bottom in Areas C and E. Five discrete samples were collected from the excavation area bottom in Area D. All excavation area bottom samples were analyzed for PCBs using USEPA Method 8082A. The excavation area bottom sample collected from Area F was also analyzed for PAHs using USEPA Method 8270 SIM and SVOCs using USEPA Method 8270D. One discrete sample was collected from the sidewalls of each excavated area every 50 feet along the entire perimeter or sidewall of each removal area. Four discrete sidewall samples were collected from Areas A, B, E, and F. Six discrete sidewall samples were collected from Area C. Eleven discrete sidewall samples were collected from Area D. All sidewall samples were analyzed for PCBs using USEPA Method 8082A. The sidewall sample collected from Area F was also analyzed for PAHs using USEPA Method 8270 SIM and SVOCs using USEPA Method 8270D."

NMED Comment: The samples collected from Areas A through E were analyzed for PCBs, but not for SVOCs. Analysis for SVOCs using EPA Method 8270D was directed by the NMED Approval with Modifications letter, dated May 29, 2015. Since the excavated areas have already been backfilled, the Permittee must collect sidewall samples from the native soil adjacent to the original sampling locations (one foot or less laterally from the backfill perimeter, and at the same depth where original sidewall samples were collected). Soil samples must also be collected from the same bottom sample locations; from native soil directly below the backfill. All of the samples must be analyzed for SVOCs using EPA Method 8270D. Include the analytical results and discussion in the revised Report. Revise the Report to reevaluate the risk and propose additional corrective action, as necessary. In addition, the Permittee was directed to collect sidewall samples in Areas A, B, E and F at ten feet intervals, and in Areas C and D at fifteen feet intervals along the excavation perimeter according to the May 29, 2015 letter. It appears that the sidewall samples were collected every fifteen feet in Areas A and E and every twenty feet in Area D. The number of samples must be increased in Areas A, D, and E to meet the requirements specified in NMED's Approval with Modifications (May 29, 2015). Revise Figure 5-2 and 5-3 to include additional sidewall sampling locations. The additional sidewall samples must be collected at depths corresponding to the previous samples and must be analyzed for PCBs using EPA Method 8082A and SVOCs using EPA Method 8270D. Revise the Report to reevaluate the risk and propose additional corrective action, as necessary.

Permittee Response: We agreed to the collection of the additional samples as recommended.

New Figures 5-3 and 5-4 of the revised report show the sample locations that were discussed and approved by NMED via email correspondence (included in Appendix A of the Report). The risk evaluation was also revised to incorporate the results of these samples.

Revised Text Section 5.4

“Following review of the Permittee-Initiated Interim Measures Report, NMED issued a Disapproval Letter dated August 21, 2017. Comment No. 3 of the letter instructed that sidewall samples in Areas A, B, E, and F be collected at 10-foot intervals and at 15-foot intervals in Areas C and D and analyzed for SVOCs using USEPA Method 8270. The letter also instructed that samples must be collected from the same sample bottom sample locations from Areas A, B, C, D, E, and F and analyzed for SVOCs using USEPA Method 8270.

Amec Foster Wheeler remobilized to SWMU 8 on October 4 and 5, 2017 to re-collect confirmation samples as instructed by the NMED Disapproval Letter. The samples were collected and analyzed as follows and are depicted on Figure 5-4:

- One discrete sample was collected from each excavation area bottom in Areas A, B, and F. Two discrete samples were collected from the excavation area bottom in Areas C and E. Five discrete samples were collected from the excavation area bottom in Area D. All excavation area bottom samples were analyzed for PCBs using USEPA Method 8082A, PAHs using USEPA Method 8270 SIM and SVOCs using USEPA Method 8270D.
- One discrete sample was collected from the sidewalls of excavated Areas A, B, E and F every 10 feet along the entire perimeter or sidewall of each removal area. One discrete sample was collected from the sidewalls of excavated Areas C and D every 15 feet along the entire perimeter or sidewall of each removal area. Six discrete sidewall samples were collected from Area A. Five discrete sidewall samples were collected from Area B. Seven discrete sidewall samples were collected from Area C. Fourteen discrete sidewall samples were collected from Area D. Seven discrete sidewall samples were collected from Area E. Four discrete sidewall samples were collected from Areas F. All sidewall samples were analyzed for PCBs using USEPA Method 8082A, PAHs using USEPA Method 8270 SIM and SVOCs using USEPA Method 8270D.
- Three discrete sidewall samples and one discrete bottom sample were collection from the additional removal area from Area C. All sidewall samples were analyzed for PCBs using USEPA Method 8082A, PAHs using USEPA Method 8270 SIM and SVOCs using USEPA Method 8270D.

The analytical results indicated that COPC concentrations exceeded the screening levels in one sample from Area A (0608B537AEC-07D-SO), one sample from Area B (0608B537BEC-0.0-0.5D-SO) and one sample from Area C (0608B537CEC-16D-SO [formerly 0608B537CEC-09 SO]).

Additional soil removal was performed on January 17, 2018 and confirmation samples were collected from Areas A, B and C. One discrete bottom confirmation sample (0608B537AEC02-0.0-0.5D-SO) and two discrete sidewall samples (0608B537AEC-11D-SO and 0608B537AEC-12D-SO) were collected from Area A. One discrete bottom sample (0608B537BEC-1.0-1.5D-SO) was collected from Area B. Two discrete bottom samples

(0608B537CEC04-0.0-0.5D-SO and 0608B537CEC05-0.0-0.5D-SO) and two discrete sidewall samples (0608B537CEC-17D-SO and 0608B537CEC-18D-SO) were collected from Area C. Figure 5-5 depicts the final removal areas and confirmation samples at SWMU 8."

NMED Comment 4: Section 5.6.1, Data Quality Objectives, 5-4/33-38 and Section 5.6.9 Uncertainty Discussion, 5-10/28

Permittee Statements: *"The comparison indicated that all laboratory reporting limits would be less than the cleanup levels, except for two analytes being analyzed using USEPA Method 8270D (benzidine and n-nitrosodimethylamine). Table 5-1 of this report demonstrates that the actual reporting limit achieved for each analyte was less than its corresponding cleanup level, except for benzidine and n-nitrosodimethylamine, as expected based on the comparison provided in the work plan." "The Army proposes no further action relating to these compounds."*

NMED Comment: NMED concurs that these compounds are not associated with any facility activity; thus, no further action relating to these compounds is necessary. However, the Permittee must use an analytical method capable of providing lower detection limits for these compounds in the future. No revision to the Report is necessary.

Permittee Response: *The Army concurs with above NMED comment. The contractor will provide the laboratory with a list of desired target analytes and required sensitivity criteria for future sampling events. The laboratory will be instructed to specify whether the desired limits can be met using the best SW-846 method available. In cases where it is not possible to meet sensitivity criteria the laboratory will be instructed to inform the Army prior to completing a work plan.*

NMED Comment 5: Section 6.4, Confirmation Sampling, 6-2/20-26 and Section 6.6.3 Data Used in the Evaluation and Identification of COPCs, 6-5/30-39 and 6-6/1-5

Permittee Statements: *"Following the removal of surface debris from Feature 4, nine discrete excavation confirmation samples were collected from Area A and 13 discrete confirmation samples from Area B. Each sample was analyzed for RCRA 8 metals using USEPA Method 6010C and Method 7471B; PCBs using USEPA Method 8082A; PAHs using USEPA Method 8270 SIM; SVOCs using USEPA Method 8270D; VOCs using USEPA Method 8260C; pesticides using USEPA Method 8081B and asbestos using USEPA Method 600/R 93/166. A total of 22 discrete samples and five field duplicate sample were collected from Feature 4."*

"Area A - The debris in this area occurred in mounds that were several feet thick in the center, tapering off to a few inches along the edges of the mounds. During the initial excavation, nine samples and three duplicates were collected from below the base of the excavation at depths up to 2.0 feet bgs (4AEC01-0.0-0.5D-SO through 4AEC09-0.0-0.5D-33 SO). During a subsequent excavation to address cleanup level exceedances in two locations (4AEC05-0.0-0.5D-SO and 4AEC08-0.0-0.5D-SO), two additional samples were collected below the base of the excavation at approximately 3.5 feet bgs and 3.0 feet bgs (4AEC05-1.0-1.5D-SO and 4AECOB-1.0-1.5D-SO).

Area B – The debris in this area was thickest to the north at just over a foot, tapering to less than 6 inches thick on the south. During the initial excavation, thirteen samples and two

duplicates were collected from below the base of the excavation at depths up to 1.0 feet bgs (4BEC01-0.0-0.5D-SO through 4BEC013-0.0-0.5D-SO). During a subsequent excavation to address cleanup level exceedances at one location (4BEC03-0.0-0.5D-SO), one additional sample was collected below the base of the excavation at approximately 2.0 feet bgs (4BEC03-1.0-1.5D-SO)."

NMED Comment: The Permittee is required to collect discrete samples every 20 ft from the sidewalls of the excavation when debris is removed from depths greater than one foot bgs according to the May 29, 2015 letter. It appears that no sidewall samples were collected even though the excavation depth exceeded one foot bgs in several areas. The Permittee should have collected sidewall samples from areas where the excavation depths exceeded one foot bgs. Collect sidewall samples from the native soils at the limits of excavation and analyze them for all analytical parameters specified above. In addition, the Permittee is required to collect discrete samples at the base of the excavation using a 20-ft by 20-ft sampling grid according to the letter. The number of base samples collected by the Permittee appears to be less than the number of base samples required by the NMED (i.e., one sample per 400 ft²). Explain the variance in the revised Report; otherwise, additional base samples must be also collected and analyzed. Any additional base samples must be collected from native soils directly beneath the backfill. Include the analytical results and discussion in the revised Report. If the base of the excavation is sloped such that sidewall sampling is not possible, clarify the conditions in the revised Report. Provide photographs of the Area A excavation. Revise the Report to reevaluate the risk and propose additional corrective action, as necessary.

Permittee Response:

The sample locations, as shown on Figure 6-2 of the revised report, were discussed and approved by NMED via email correspondence (included in Appendix A of the Report). The risk evaluation was also revised to incorporate the results of these samples.

The removal action for SWMU 20 Feature 4 was generally a surface debris removal action. In some areas, additional excavation continued into the underlying soils extending to depths exceeding 1 foot in Area B and several small areas up to 2 feet in Area A. To comply with NMED's request, perimeter soil samples were collected every 20 feet around both Areas A and B.

Section 6.0 has been re-written to include the results and risk analysis for all samples including new sample locations Shown on Figure 6-2.

Revised Text Section 6.4

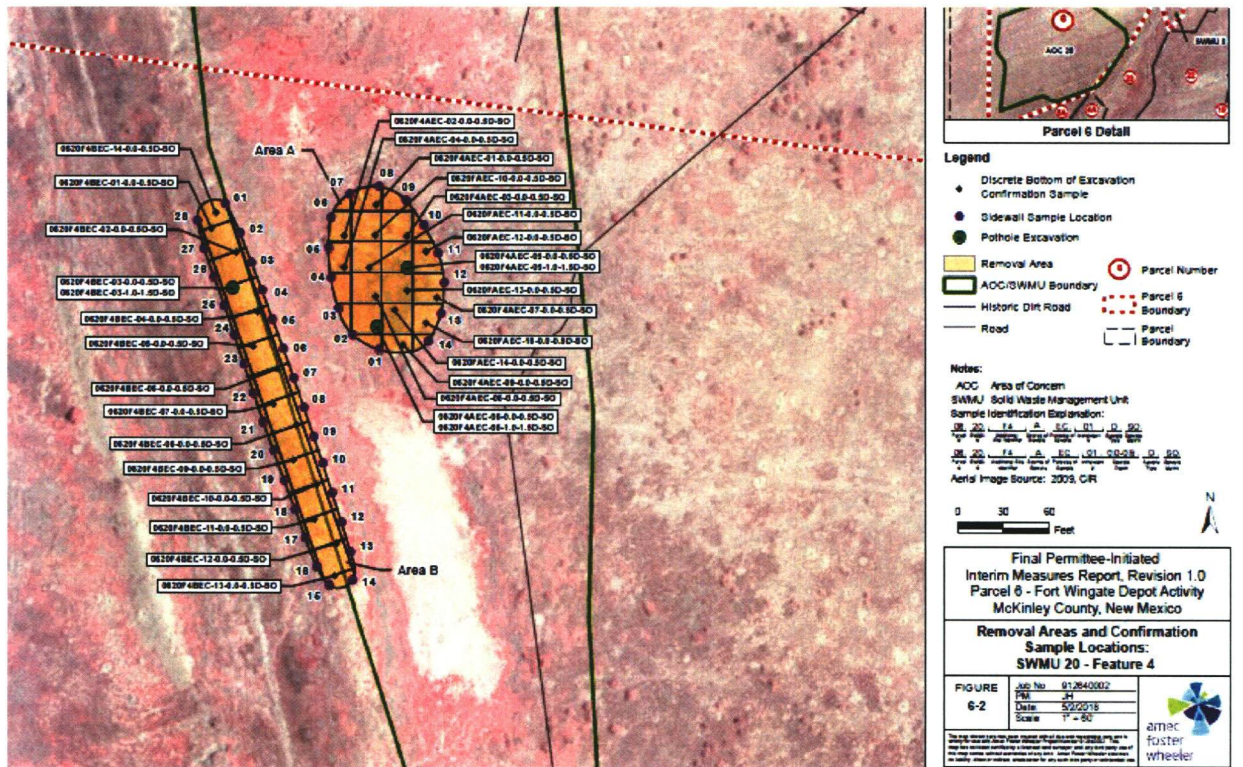
6.4 Confirmation Sampling

Following the removal of surface debris from Feature 4, fourteen discrete sidewall perimeter confirmation samples and fifteen discrete excavation bottom confirmation samples were collected from Area A. Twenty-eight discrete sidewall perimeter confirmation samples and fourteen discrete excavation bottom confirmation samples were collected from Area B. Each sample was analyzed for RCRA 8 metals using USEPA Method 6010C and Method 7471B; PCBs using USEPA Method 8082A; PAHs using USEPA Method 8270 SIM; SVOCs using USEPA Method 8270D; VOCs using USEPA Method 8260C; pesticides using USEPA Method 8081B and asbestos using USEPA Method 600/R-93/166.

The analytical results indicated that COPC concentrations exceeded the NMED direct contact SSLs in two samples from Area A (4AEC05-0.0-0.5D-SO and 4AEC08-0.0-0.5D-SO) and in one sample

from Area B (4BEC03-0.0-0.5D-SO). Additional soil was removed from Areas A and B and three new confirmation samples were collected on March 7, 2016 (4AEC05-1.0-1.5D-SO, 4AEC08-1.0-1.5D-SO, and 4BEC03-1.0-1.5D-SO). The analytical results from the three new confirmation samples indicated that COPC concentrations were below the NMED direct contact SSL. Figure 6 2 depicts the areas requiring secondary removal and additional confirmation sample locations at Feature 4 and the laboratory report summaries are included in Appendix J

New Figure 6-2



NMED Comment 6: Section 6.6.1, Data Quality Objectives, 6-4/23-30

Permittee Statement: "The comparison indicated that all anticipated laboratory reporting limits would be less than the cleanup levels, except for two analytes being analyzed by USEPA Method 8270D (benzidine and n-nitrosodimethylamine) and two analytes being analyzed by USEPA Method 8260C (1,2,3-trichloropropane and 1,2-dibromo-3-chloropropane). The actual reporting limits achieved for each analyte tested were below the corresponding cleanup levels, except for the four analytes identified above, as expected based on the comparison provided in the work plan."

NMED Comment: The Permittee must use an analytical method capable of providing lower detection limits for these compounds in the future. No revision to the Report is necessary. See Comment 4.

Permittee Response: *The contractor will provide the laboratory with a list of desired target analytes and required sensitivity criteria for future sampling events. The laboratory will be instructed to specify whether the desired limits can be met using the best SW-846 method available. In cases where it is not possible to meet sensitivity criteria the laboratory will be instructed to inform the Army prior to completing a work plan.*

NMED Comment 7: Section 6.6.8, Risk Evaluation Results, 6-10/1-2

Permittee Statements: *"The results of the initial cumulative risk evaluation for all other COPCs indicate that the estimated cancer risk of 1×10^{-5} does not exceed the NMED target level of 1×10^{-5} ."*

NMED Comment: Provide the estimated cancer risk with appropriate significant figures to show that the value does not exceed 1×10^{-5} .

Permittee Response: *The risk evaluation was revised to incorporate additional sample results and to evaluate additional receptors/pathways. The risk evaluation results are now presented in Section 6.6.2.8, summarized in Section 6.6.4, and on Table 6-9. Cancer risk estimates in the text and on the summary table are shown to two significant figures where the cancer risk is close to target risk threshold, to demonstrate if the estimated cancer risk is greater than or less than the target risk threshold. Cancer risk estimates in the text and on the summary table are shown to one significant figure where the cancer risk is clearly greater than or less than the target risk threshold. Cancer risk estimates are shown to two significant figures on the individual risk tables for each receptor or pathway.*

The human health risk evaluation was re-done in its entirety to include this approach and all new samples. The following includes the revised text of the Risk Evaluation Summary (Section 6.6.4) addressing the human health risk evaluation, including Table 6-9.

Revised Text Section 6.6.4

"The potential health risks have been sufficiently characterized by the risk screening step, the metals background evaluation, the initial cumulative risk evaluation, and a refined cumulative risk evaluation. The risk evaluation incorporated use of refined exposure point concentrations. The results are summarized in Table 6-9.

The human health risk evaluation identified the potential for an unacceptable level of cancer risk to residential receptors from direct contact with PAHs in soil. However, the estimated refined cancer risk of 1.3×10^{-5} only slightly exceeds the NMED target risk threshold of 1.0×10^{-5} , no PAHs individually contribute to a cancer risk greater than 1×10^{-5} , and the estimated cancer risk is associated with less than 4% of the samples at only 3 of 71 sampling locations at SWMU 20 – Feature 4. For these reasons, the Army does not believe that further corrective measures are warranted to address potential cancer risks from PAHs in soil. No unacceptable noncancer hazards were predicted for residential receptors, and no unacceptable cancer risk or noncancer hazards were predicted for construction workers, or for the soil to groundwater pathway.

If you have questions or require further information, please call me at (505) 721-9770.

Sincerely,

PATTERSON.MAR Digitally signed by
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