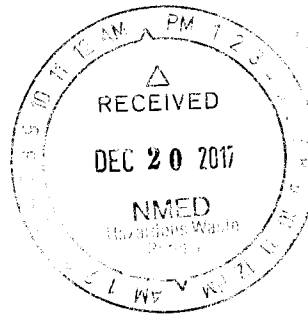




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FORT WINGATE DEPOT ACTIVITY
P.O. BOX 268
FORT WINGATE, NM 87316



ENTERED

December 15, 2017

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

Dear Mr. Kieling:

This letter is in reply to the NMED Disapproval letter dated August 12, 2015, reference number HWB-FWDA-15-007, regarding the Parcel 9 RCRA Facility Investigation Work Plan. The following are the Army's responses to comments received from NMED in the letter, detailing where each comment was addressed, and cross-referencing the numbered NMED comments. This letter also transmits the revised Work Plan, and a red-line strike-out electronic copy of the edits.

Comments:

1) General Comment

NMED Comment:

The Plan does not address how site risk will be conducted. For example, the Permittee does not discuss how data that includes both discrete and multi-incremental samples will combine to assess overall risk at each site. Additionally, the Plan does not address ecological risk. Based on the description of the surface conditions, there is a complete exposure pathway from soils to receptors and sufficient vegetation is present to sustain at least small game receptors. Revise the Plan to address ecological risk.

Army Response:

The Work Plan now provides a detailed risk evaluation approach in Section 7 explaining how the human health and ecological risk evaluations will be conducted. The risk evaluations will use both discrete and incremental results to characterize potential risks. Where both discrete and incremental samples are available, the greater of the two results will be used in the initial evaluation of cumulative risk to obtain a reasonable-to-conservative estimate of potential risks. If the risk thresholds are exceeded in the initial evaluation, then the discrete and incremental results may be evaluated separately as part of a refinement to the risk evaluation. The rationale for segregating discrete and incremental results will be provided in the risk evaluation report.

2) Permittee Statement – Section 4.1.2 Sampling Data, page 4-1, lines 36-38.

"If it is determined that an arsenic concentration is above the background value, the NMED Residential SSL of 4.25 mg/kg (cancer endpoint) is used for assessment of potential risk.

NMED Comment:

In this case, the incremental risk above background must be calculated. The background risk is based on the site-specific level of 5.6 mg/kg. This value must be compared to the



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calculated total risk for arsenic in an uncertainty discussion. The incremental risk due to arsenic is the difference between total risk and background risk. Revise the Plan to propose this approach and explain how the comparison of arsenic concentrations to the range of arsenic background levels will be performed.

Army Response – Section 7.3.4.2.1, page 7-6 and 7-7:

The statement in question has been removed from the revised discussion in Section 4.1.2. The approach to be used to evaluate metals background concentrations is provided in Section 7.3. Incremental risk due to arsenic concentrations above background levels is addressed in Section 7.3.4.2.1. The Army understands that NMED is requesting an assessment of the incremental risk associated with metals results greater than background levels when a metal is retained as a COPC. This assessment will be included when metals retained as COPCs have unacceptable risk identified after all refinements have been applied in the cumulative risk evaluation.

3) Permittee Statement – Section 4.1.2 Sampling Data, lines 10-12, page 4-2.

For metals, results were initially compared to background levels based on *the Soil Background Study and Data Evaluation Report, Version 2* (Shaw, 2010), with the exception of arsenic (discussed above).

NMED Comment:

Incremental (IM) sampling is proposed for delineating the nature and extent of explosives and metals in Areas of Concern (AOCs) 18 and 85 in Parcel 9. The data collected as part of the background study represents grab samples which are discrete data. Discrete sample results provide a measure of the distribution of concentrations in a relatively small volume of soil in a specified area, where as IM samples provide a measure of the distribution of mean concentrations, each of which is an estimate of the population mean for the entire decision unit. Due to the differences in attributes, a comparison of IM results to discrete background data is inappropriate. Comparison of an IM estimate of the mean to a discrete sample is likely to lead to decision errors (refer to Chapter 4 ITRC Incremental Sampling Methodology: <http://www.itrcweb.org/>). It is recommended that background IM data be collected for comparison to the site IM data. If the Permittee does not wish to conduct a background IM, then the Permittee must propose to use discrete samples for comparison or retain all detected metals from IM as being site related.

Army Response – Section 4.1.2, page 4-2, and Section 7.3.4.2.2, page 7-7:

The statement in question has been removed from the revised discussion in Section 4.1.2. The discussion of the coordinated effort used to determine site-specific background levels through Shaw, 2010; USACE, 2013; and NMED, 2013 has been expanded in Section 4.1.2. This background study provides an unbiased, adequate, and reasonable representation of background conditions at FWDA and can be utilized when evaluating both discrete and ISM metals analyses for soil. Section 7.3.4.2.2 describes how incremental samples will be evaluated against site-specific background values.



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4) Permittee Statement – Section 4.3 Data Quality Objectives, lines 27-30, page 4-2 and Section 6.1.3, Contaminants of Potential Concern, page 6-1.

“The process used for development of the data quality objectives (DQO) for additional characterization and/or remediation activities in Parcel 9, as well as quality assurance and quality control (QA/QC) procedures associated with the field activities described in this document are presented in the Quality Assurance Project Plan (QAPP) (Appendix D).”

NMED Comment:

NMED only reviews the Work Plan, not site-specific Quality Assurance Project Plans (QAPP). In future submittals, relevant information contained in the QAPP must be included in the appropriate sections of Work Plans and Reports. In addition, Section 6.1.3 includes a table that lists the analytical method, holding times and other laboratory sample information. In future Plans, this type of table must be provided at the end of each section or provide a general table in an appendix and reference the table within the main text.

Army Response:

Comment noted/Concur. The Work Plan has been revised to include relevant information from the QAPP, such as the data quality objectives, which are now in Table 4-1 in the Work Plan. Tables listing analytical methods, holding times, and other laboratory sample information are now located at the end of applicable sections.

5) Permittee Statement – Section 4.4.3 Incremental Soil Sampling, lines 29-32, page 4-3, Figure 4-1 and Section 5.3.2 Incremental Surface Soil Sampling of Igloo Drainage Areas, lines 4-14, page 5-7.

“For igloos, the DU will be comprised of the areas to the left and right of the igloo apron and directly across the road (only if the igloo apron drains over the road). Each ISM sample will consist of thirty subsamples for igloos or fifty subsamples for former building areas.”

“The ISM DUs for Igloo A1000 will consist of the drainage areas from both drain outlets and from the paved aprons at the igloo. The drainage areas are in the unpaved areas on both sides of the paved igloo apron (Figure 4-1). Personnel will collect 30 subsamples from the lowest areas or points in the drainage swales of each side of the igloo drain outlets and from the drainage directly across the paved road from the apron if indicated by field observation. If the access road acts as a drainage divide and no water from the apron runs over it, then the proposed incremental sample locations will consist of 15 subsamples collected on each side of the apron beginning at the drain outlet and roughly equally spaced to the ditch at the road. If water runs across the road from the apron, then personnel will collect 10 subsamples evenly spaced from each drain to the ditch at the road and subsample across the road in a line between the ends of the igloo wing walls.”

NMED Comment:

Revise the proposed sampling in areas that are sloping over the road to utilize two decision units (DUs): one to collect 15 subsamples each from the left and right sides of the apron/slab (DU 1) and another to collect 30 subsamples from directly across the road (DU 2). Propose to collect a total of 2 multi-incremental (MI) samples for each igloo. Also correct the Legend



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in Figure 4-1 to state discrete sample rather than composite. Additionally, propose to use one DU containing a total of 30 subsamples collecting 15 subsamples on the right side of the apron and 15 subsamples from the left side of the apron for areas that are on a flat surface.

The proposed sampling will consist of collection of subsamples from both sides of the apron as well as in the ditch across the road, if the analytical results show elevated levels of contaminants, the location (side of apron or ditch) of contamination will not be apparent. In the event incremental sample data result in unacceptable risk, the Plan must include a step out approach for determining the specific area(s) of concern. Revise the Plan to include a step out approach for determining a specific area of concern.

Army Response – Section 5.5.3, pages 5-5 to 5-6, Figure 5-5, and Figure 5-6:

Comment noted/Concur. The incremental sampling approach for Igloo A1000 has been revised in Section 5.5.3. Fifteen increments will be collected from the left and the right drainages next to the igloo apron, for a total of 30 increments in one sample. Additionally, if the igloo is located at a higher elevation relative to the access road, or if the slope of land in front of igloos would permit surface water flow to carry contaminants across the road, a second decision unit will be established directly across the road, spanning the entire width of the igloo parallel to the access road. The incremental sample taken from this second decision unit will also consist of 30 increments. Figure 4-1 has been removed from the Work Plan, but Figure 5-5 has been added to show sampling at Igloo A1000 specifically, and discrete and incremental samples are labeled correctly.

If analysis of discrete samples reveals constituents of concern exceed applicable screening levels, a decision will be made as to whether screening level refinements are appropriate. If unacceptable risk remains, soil removals with confirmatory sampling will be conducted beneath former drain locations. This approach is mentioned in the text in Section 5.5.3, and screening level refinements are described in Section 7.

If analysis of incremental samples reveals constituents of concern exceed applicable screening levels, a decision will be made as to whether screening level refinements are appropriate. If unacceptable risk remains, 3-foot-wide step-out DUs will be established and sampled. Additional step-out DUs will be sequentially added to the sides of the DUs with exceedances in the event the extent of contamination is not defined in a step-out. This approach is detailed in Section 5.5.3 and the first step-out DUs are shown on Figure 5-6.

6) Permittee Statement – Section 5.2.2 Sampling Data, lines 18-21, page 5-4.

“Due to the inconsistent readings between the XRF and confirmation samples and the cost to prepare the XRF samples for better consistency with laboratory samples, the Army decided not to use XRF samples in future sampling events unless a more efficient preparation method is found.”

NMED Comment:

Historical x-ray fluorescence (XRF) data were used in the risk evaluation. The XRF data were used in the screening analyses presented in Table 5-2 and were compared to



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background data, which are discrete laboratory results. Revise the Plan to include a discussion on the uncertainties associated with screening out XRF data in the risk assessment through a comparison to the background data and discuss whether the uncertainties in the XRF data are likely to under- or over-estimate risk and hazard.

Army Response – Section 5.2.2, pages 5-2 to 5-4, Section 7.1.1, page 7-2, and Table 5-1:

Concur. The Work Plan has been revised to include a discussion of the uncertainties associated with historical XRF data in Section 5.2.2. Historical XRF results are included on Table 5-1 for completeness; however, they are not compared to current risk screening levels, and no XRF results will be used in the risk evaluation, as noted in Section 5.2.2 and Section 7.1.1. A footnote has also been added to Table 5-1 to indicate this.

7) NMED Comment – Table 5.2, page 5-21.

Revise Table 5.2 to define the three asterisk (***) notation for chromium. In addition, some of the definition/notation at the end of the table is not visible due to formatting. Adjust the cells of worksheet so that all of the information is readable.

Army Response:

Comment noted. The original Table 5-2 has been removed from the Plan as part of the revisions to the risk evaluation approach. All other Work Plan tables have been formatted so all information is readable.

8) Permittee Statement – Section 5.2.2, Sampling Data, lines 28-32.

“Three wipe samples were collected from the interior of each of five igloos to determine if explosives residues were present in the igloos. The first wipe sample was collected from the center of the left floor drainage trough, the second from the middle of the floor and the third from the center of the right floor drainage trough. The wipe samples were analyzed for explosives. Of the 24 wipe samples collected, explosives were detected in two igloos [. . .].”

NMED Comment:

The wipe sample analysis was reviewed by the Agency for Toxic Substance and Disease Registry (ATSDR), Health Consultation for the FWDA. The review recommended additional sampling in the igloo interiors after concluding that the existing data appeared inadequate to characterize the extent of contamination. ATSDR issued a report on April 1, 2009 detailing their concerns regarding the inadequacy of the wipe sampling data, along with a suggested sampling approach to resolve the issue. NMED also clarified its position with regard to the igloo interiors in letters dated July 22, 2009 and October 1, 2010. This issue may be addressed with a proposal for an alternative approach (e.g., encapsulation of the igloos interiors) that may be applied facility wide. This comment is applicable to any section in this Plan that references this sampling event.



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Army Response:

All references to wipe samples and/or sampling within the interior of the igloos have been removed from the Work Plan text. The historical wipe sample data are discussed in Appendix A for completeness. No wipe sample data will be used for decision making.

9) Permittee Statement – Section 7.1, Project Scheduling and Reporting Requirements, page 13-1.

“The projected schedule for conducting the RFI activities at Parcel 9 is located in the QAPP (Appendix D).

NMED Comment:

A project schedule must be included in the Plan. Revise the Plan to include a project schedule.

Army Response:

Comment noted. The project schedule is included in the Work Plan as Appendix E.

If you have questions or require further information, please call me at (330) 358-7312.

Sincerely,

PATTERSON.MAR
K.C.1229214493

Digitally signed by
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DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=PATTERSON.MAR.K.C.1229214493
Date: 2017.12.15 16:42:17 -0500

Mark Patterson
BRAC Environmental Coordinator

Enclosures

CF:

Media

D Cobrain, NMED HWB
B Wear, NMED HWB
M Suzuki, NMED HWB
M Patterson, FWDA BEC
Saqib Khan, USACE SWT