DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

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2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5600

Mr. John Kieling, Manager
RCRA Permits Management Program
Hazardous Waste Bureau (HWB)
New Mexico Environment Department (NMED)
2905 Rodeo Park Road
Santa Fe New Mexico 87505

Dear Mr. Kieling

We are pleased to submit the attached technical memorandum outlining proposed changes to the Quarterly Pre-Remedy Monitoring and Site Investigation Reports for the Kirtland Air Force Base (KAFB) Bulk Fuels Facility (BFF) spill site. The technical memo outlines three initial changes that are proposed for the quarterly reports, beginning with the First Quarter calendar year (CY) 2015. These recommendations are a direct result of the collaborative efforts of the hydrogeology working group, which identified the need to evaluate and optimize current monitoring and reporting practices to better align with requirements under NMED guidance and industry standards to achieve a more effective monitoring and reporting program.

In addition to evaluation of groundwater sampling and reporting, the team continues to work collaboratively to evaluate all aspects of the project. As a result of the collaboration of the vadose zone working group, in-situ respiration testing was performed from April 6, 2015 through April 17, 2015 to inform the location and design of a more robust remedial strategy for the BFF vadose zone. Groundwater measurements and sampling for Second Quarter CY 2015 were postponed until April 20, 2015 in order to prevent any effects on barometric pressure in the vadose zone caused by opening and closing the groundwater monitoring well heads. We request that the Second Quarter CY quarterly report deadline be extended from September 30, 2015 to October 31, 2015 to accommodate this delay in groundwater sampling.

We appreciate your attention to this matter to initiate the first phase of monitoring and reporting optimization. The intention of the attached-requested changes is to make the quarterly report more usable for all stakeholders and the public, and we look forward to continued collaboration to improve project documents and activities. Please contact Mr. Wayne Bitner at 505.853.3484 or at ludie.bitner@us.af.mil, or Mr. Scott C. Clark at 505.846.9017 or at scott.clark@us.af.mil if you have any questions or concerns.

Sincerely,

TOM D. MILLER, Colonel, USAF
Commander

KAFB4252

cc:
NMED-EHD (Roberts, McQuillan)
NMED (Longmire)
NMED-HWB (Cobrain, McDonald)
NMED-GWQB (Cook, Bustamante, Huddleson)
NMED-PSTB (Reuter)
NMED-OGC (Kendall)
EPA Region 6 (King, Ellinger)
AFCEC-CZRX (Bodour)
USACE-ABQ District Office (Simpler, McBee, Phaneuf)
Public Info Repository (Central New Mexico Community College), Administrative Record/Information Repository (AR/IR), and File

Technical Memorandum:
Requested Changes to the First Quarter Calendar Year (CY) 2015 and Subsequent Reports

This technical memorandum presents the initial requests for the phased optimization of the Quarterly Pre-Remedy Monitoring and Site Investigation Reports (hereafter referred to as Quarterly Reports) for the Kirtland Air Force Base (KAFB) Bulk Fuels Facility (BFF) Spill Site. This memo outlines three initial changes that are proposed for the quarterly reports, beginning with the First Quarter CY 2015. The goals of these revisions are to make the Quarterly Reports more accessible and understandable to the public, to make the reports more manageable for stakeholders interested in evaluating monitoring data, and to make regulatory reviews less onerous, all while still adhering to the initial requirements set forth in the June 4, 2010 letter from the New Mexico Environment Department (NMED).

The following changes have been identified by collaborative efforts of the hydrogeology working group to prioritize data-driven decision making within the quarterly report. We respectfully request to implement these changes starting in the First Quarter CY 2015 Report:

1. Reduction of 97 Non-Detect Analytes

An initial analyte screening was performed as a result of hydrogeologic- and biogeochemistry-working group meetings in February 2015. The screening was completed per New Mexico Administrative Code (NMAC) 20.6.2.4103 part D, which allows discontinuation of sampling for an individual analyte after eight consecutive sampling quarters documenting the results are below the applicable enforceable groundwater standard. The analyte screening was performed by reviewing individual analyte data for all BFF sampling network wells for the most recent eight consecutive quarters, First Quarter CY 2013 through the Fourth Quarter CY 2014. Analytical data were compared against the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs) and the New Mexico Water Quality Control Commission (NM WQCC) Standards (NMAC 20.6.2.3103). The analyte screening identified 97 analytes for which there were no detections above regulatory standards from First Quarter CY 2013 through Fourth Quarter CY 2014, and therefore sampling is no longer required.

KAFB proposes immediate discontinuation of sampling/reporting for these specific analytes and respectfully requests your review of the attached Table 1, "Kirtland AFB BFF Analyte Screening," for concurrence. Groundwater sampling for all other analytes and potential contaminants of concern will continue using the current sampling network at a quarterly frequency as required in the June 4, 2010 letter from the NMED.

2. Change to the Cumulative Nature of the Report

To support continued collaborative change the working group outlined additional changes that will make report data more accessible. This included the revision of text, tables, figures, and appendices beginning with the First Quarter CY 2015 report to include data only from that specific quarter. The quarterly reports are currently cumulative in response to the NMED Comment No. 31 from the August 17, 2011 letter requesting that, "quarterly reports should be updated each quarter to show the sum total knowledge (data and interpretation) of soil, soil vapor, and groundwater contamination."

This change would manifest itself in the First Quarter CY 2015 and subsequent Quarterly Reports in the following ways:

- Appendices documenting activities that occurred only during previous quarters will be removed. For example, Appendix N, which documents Pneulog® sampling performed in Second Quarter CY 2012, will be removed.

- Appendices documenting activities that occurred during First Quarter CY 2015 and during previous quarters will be amended to include only data from First Quarter CY 2015. For example, Appendix G, which documents field sampling data from First Quarter CY 2011 through the present, will be amended to only include data from the current quarter.

- The text will be amended to focus only on activities that took place during First Quarter CY 2015. However, operational information requiring the evaluation of data from past quarters will still be included. For example, the total mass recovery of the CATOX SVE system will continue to be included.

- Tables documenting activities that did not occur in First Quarter CY 2015 will be removed.

Although this change is requested, the Air Force still intends to respect the intention of Comment No. 31 in the August 17, 2011 letter. Appendix E, which includes data exports of all current and historical soil, soil vapor, and groundwater analytical data, along with a table of current and historical water level and light non-aqueous phase liquid (LNAPL) data, will continue to be included in First Quarter CY 2015. In addition, cumulative tables of surveyed wells and geophysically logged wells will also be included in the First Quarter CY 2015 report. By making the report non-cumulative, the text will be more concise and understandable, thus making the data more accessible for all users. In addition, report production will be more ecologically sustainable.

3. Reduction of Figures

The technical team identified specific figures in the quarterly report that do not represent the data currently driving decisions. In order to streamline the report, and highlight pertinent data, it is requested that selected figures be removed from the quarterly report beginning in First Quarter CY 2015. Although the following figures are requested to be removed for First Quarter CY 2015, the raw data will continue to be included in the report analytical tables. Additionally, these figures may be included in future reports, or created for working group meetings as requested. The following changes are requested:

- It is requested that total petroleum hydrocarbon (TPH) concentration figures for diesel range organics (DRO) and gasoline range organics (GRO) no longer be presented.

- 1,2,4-trimethylbenzene and naphthalene concentration figures will no longer be presented. Very few wells show detections for these analytes, and concentrations above regulatory groundwater standards are all located within the historical LNAPL area.

- Piper and stiff diagrams will not be included beginning in the First Quarter CY 2015 report. The conclusions drawn from these diagrams confirm the conclusions drawn from the analysis of degradation parameters, and are therefore non-unique.

- It is requested that potentiometric surface maps for intermediate and deep wells no longer be presented for the purpose of providing the most relevant and concise hydrologic conditions of the aquifer. This will not impact the distinction between shallow, intermediate, and deep zones for the purpose of plume definition. The technical team has recognized through the review of stratigraphic and analytical data as well as observation of rising groundwater trends, that due to overlapping filter-

pack depths of shallow and intermediate wells, distinct potentiometric surface maps for these zones do not represent hydrologically separate zones. Deep wells on the Kirtland AFB BFF site are screened at multiple depths in the aquifer, in accordance with NMED directive, and while this supports vertical plume definition, it does not represent a consistent hydrologic horizon that can be used for comparison. A comprehensive posting of water level elevations that consolidates the water levels measured at all shallow, intermediate, and deep wells will continued to be presented in quarterly reports.

Table 1
Kirtland AFB BFF Analyte Screening

Analyte	Analytical Method (EPA method)	Number Results	Analyte Detections above MCL in Last 8 Quarters (Q1-2013 - Q4-2014)
CALCIUM	Metals Method 6010C	1635	0
MAGNESIUM	Metals Method 6010C	1634	0
POTASSIUM	Metals Method 6010C	1630	0
SODIUM	Metals Method 6010C	1636	0
ACENAPHTHENE	PAHs Method 8270D, Low Detection Limit	1546	0
ACENAPHTHYLENE	PAHs Method 8270D, Low Detection Limit	1546	0
ANTHRACENE	PAHs Method 8270D, Low Detection Limit	1546	0
BENZO(A)ANTHRACENE	PAHs Method 8270D, Low Detection Limit	1546	0
BENZO(A)PYRENE	PAHs Method 8270D, Low Detection Limit	1546	0
BENZO(B)FLUORANTHENE	PAHs Method 8270D, Low Detection Limit	1546	0
BENZO(GHI)PERYLENE	PAHs Method 8270D, Low Detection Limit	1546	0
BENZO(K)FLUORANTHENE	PAHs Method 8270D, Low Detection Limit	1546	0
CHRYSENE	PAHs Method 8270D, Low Detection Limit	1546	0
DIBENZO(A,H)ANTHRACENE	PAHs Method 8270D, Low Detection Limit	1546	0
2,4,5-TRICHLOROPHENOL	SVOCs Method 8270D	904	0
2,4,6-TRICHLOROPHENOL	SVOCs Method 8270D	904	0
2,4-DICHLOROPHENOL	SVOCs Method 8270D	904	0
2,4-DINITROPHENOL	SVOCs Method 8270D	904	0
2,4-DINITROTOLUENE	SVOCs Method 8270D	904	0
2,6-DINITROTOLUENE	SVOCs Method 8270D	904	0
2-CHLORONAPHTHALENE	SVOCs Method 8270D	904	0
2-CHLOROPHENOL	SVOCs Method 8270D	904	0
2-NITROANILINE	SVOCs Method 8270D	904	0
2-NITROPHENOL	SVOCs Method 8270D	904	0
3,3'-DICHLOROBENZIDINE	SVOCs Method 8270D	904	0
3-NITROANILINE	SVOCs Method 8270D	904	0
4,6-DINITRO-2-METHYLPHENOL	SVOCs Method 8270D	904	0
4-BROMOPHENYL PHENYL ETHER	SVOCs Method 8270D	904	0
4-CHLORO-3-METHYLPHENOL	SVOCs Method 8270D	904	0

Table 1

Kirtland AFB BFF Analyte Screening

4-CHLOROANILINE	SVOCs Method 8270D	904	0
4-CHLOROPHENYL PHENYL ETHER	SVOCs Method 8270D	904	0
4-NITROANILINE	SVOCs Method 8270D	904	0
4-NITROPHENOL	SVOCs Method 8270D	904	0
ACENAPHTHENE	SVOCs Method 8270D	904	0
ACENAPHTHYLENE	SVOCs Method 8270D	904	0
ANTHRACENE	SVOCs Method 8270D	904	0
ATRAZINE	SVOCs Method 8270D	904	0
BENZALDEHYDE	SVOCs Method 8270D	904	0
BENZIDINE	SVOCs Method 8270D	904	0
BENZO(A)ANTHRACENE	SVOCs Method 8270D	904	0
BENZO(A)PYRENE	SVOCs Method 8270D	904	0
BENZO(B)FLUORANTHENE	SVOCs Method 8270D	904	0
BENZO(GHI)PERYLENE	SVOCs Method 8270D	904	0
BENZO(K)FLUORANTHENE	SVOCs Method 8270D	904	0
BENZOIC ACID	SVOCs Method 8270D	904	0
BIS(2-CHLOROETHOXY)METHANE	SVOCs Method 8270D	904	0
BIS(2-CHLOROETHYL)ETHER	SVOCs Method 8270D	904	0
BIS(2-CHLOROISOPROPYL)ETHER	SVOCs Method 8270D	650	0
CARBAZOLE	SVOCs Method 8270D	904	0
CHRYSENE	SVOCs Method 8270D	904	0
DIBENZO(A,H)ANTHRACENE	SVOCs Method 8270D	904	0
DIMETHYL PHTHALATE	SVOCs Method 8270D	904	0
DI-N-BUTYL PHTHALATE	SVOCs Method 8270D	904	0
DI-N-OCTYL PHTHALATE	SVOCs Method 8270D	904	0
HEXACHLOROBENZENE	SVOCs Method 8270D	904	0
HEXACHLOROBUTADIENE	SVOCs Method 8270D	874	0
HEXACHLOROCYCLOPENTADIENE	SVOCs Method 8270D	904	0
HEXACHLOROETHANE	SVOCs Method 8270D	904	0
NITROBENZENE	SVOCs Method 8270D	904	0
N-NITROSO-DI-N-PROPYLAMINE	SVOCs Method 8270D	904	0
N-NITROSODIPHENYLAMINE	SVOCs Method 8270D	904	0
1,1,1,2-TETRACHLOROETHANE	VOCs Method 8260B	905	0
1,1,1-TRICHLOROETHANE	VOCs Method 8260B	905	0
1,1,2,2-TETRACHLOROETHANE	VOCs Method 8260B	905	0
1,1-DICHLOROETHANE	VOCs Method 8260B	906	0

Table 1

Kirtland AFB BFF Analyte Screening

1,1-DICHLOROETHENE	VOCs Method 8260B	905	0
1,1-DICHLOROPROPENE	VOCs Method 8260B	905	0
1,2,3-TRICHLOROBENZENE	VOCs Method 8260B	905	0
1,2,3-TRICHLOROPROPANE	VOCs Method 8260B	905	0
1,2,4-TRICHLOROBENZENE	VOCs Method 8260B	905	0
1,2-DIBROMO-3-CHLOROPROPANE	VOCs Method 8260B	905	0
1,2-DICHLOROBENZENE	VOCs Method 8260B	905	0
1,2-DICHLOROPROPANE	VOCs Method 8260B	905	0
1,3-DICHLOROBENZENE	VOCs Method 8260B	905	0
1,3-DICHLOROPROPANE	VOCs Method 8260B	905	0
1,4-DICHLOROBENZENE	VOCs Method 8260B	905	0
2,2-DICHLOROPROPANE	VOCs Method 8260B	905	0
4-CHLOROTOLUENE	VOCs Method 8260B	905	0
BROMOBENZENE	VOCs Method 8260B	905	0
BROMOCHLOROMETHANE	VOCs Method 8260B	905	0
BROMODICHLOROMETHANE	VOCs Method 8260B	905	0
BROMOFORM	VOCs Method 8260B	905	0
BROMOMETHANE	VOCs Method 8260B	905	0
CARBON TETRACHLORIDE	VOCs Method 8260B	905	0
CHLOROBENZENE	VOCs Method 8260B	906	0
CHLOROETHANE	VOCs Method 8260B	905	0
CHLOROFORM	VOCs Method 8260B	907	0
CIS-1,2-DICHLOROETHENE	VOCs Method 8260B	905	0
CIS-1,3-DICHLOROPROPENE	VOCs Method 8260B	905	0
DIBROMOCHLOROMETHANE	VOCs Method 8260B	905	0
DIBROMOMETHANE	VOCs Method 8260B	905	0
HEXACHLOROBUTADIENE	VOCs Method 8260B	1544	0
STYRENE	VOCs Method 8260B	905	0
TETRACHLOROETHENE	VOCs Method 8260B	906	0
TRANS-1,2-DICHLOROETHENE	VOCs Method 8260B	905	0
TRANS-1,3-DICHLOROPROPENE	VOCs Method 8260B	905	0
VINYL CHLORIDE	VOCs Method 8260B	905	0