



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

March 16, 2007

Mr. Orlando Monaco
Department of Navy
Base Realignment and Closure
Program Management Office-Northeast
4911 South Broad Street
Philadelphia, PA 19112-1303

Re: Site Inspection Workplan-Military Munitions Sites
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

Pursuant to Section VI of the Naval Air Station, Brunswick, Maine Federal Facility Agreement (Oct 1990), as amended, the Maine Department of Environmental Protection (MEDEP) has reviewed the draft final "Site Inspection Work Plan", dated February 2007, prepared by Malcolm Pirnie, Incorporated. Based on that review MEDEP has the following comments and issues.

General Comments:

1. Until MEDEP's comments on the draft Preliminary Assessment Addendum are satisfactorily addressed MEDEP cannot agree with eliminating the Quarry from the Site Inspection.
2. MEDEP anticipates that the former munitions bunkers west of the runway which were used to store high explosives and incendiary devices will be handled under the Resource Conservation and Recovery Act (RCRA) program as part of the base closure process.
3. For the sites with lead (i.e., Naval Air Station skeet range, Topsham Annex skeet range, and the Machine Gun Bore Sight Range) as a potential contaminant MEDEP suggests screening the areas with an X-Ray Florescence (XRF) or metal detector prior to sampling to determine the boundaries and maximum shot fallout zones. It would be extremely helpful in determining if the Machine Bore Sight Range berm was graded in place rather than removed. By the Navy own documents (Preliminary Assessment February 2006) it estimates that 1,641, 600 rounds of lead was discharged at this site. The XRF or metal detector would also be valuable for determining if the original NAS skeet range which was oriented to the north still has pellets on the embankment since the stream was dredged in the 1990's to create impoundment ponds.
4. Please provide the list of the potential propellants and explosives for each site.
5. If the Site Investigation (SI) field activities are not intended to determine the nature and extent then the proposed sampling must be sufficient to adequately determine presence or absence of MEC and/or MC.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

6. Without a layout of where the sampling points are to be located it is impossible to determine the adequacy of the proposal. The SI overall lacks detail in the form of proposed sample, boring and well locations, descriptions of compositing procedures, and detail of transect or grid size for the anomaly surveys. The text also indicates that locations will be based on features detected in the initial surveys and on site specific observations or former features. This suggests a two phase process is needed so that the final locations can be determined after the initial surveys are completed.
7. A Quality Assurance Project Plan must be provided as part of the workplan. The QAPP cannot be approved or reviewed with so many fields listed as "TBD".

Specific Comments:

8. Section 1, para 3: Any necessary deviations from the plan will be brought to the attention of the NAVFAC, MidAtlantic ..."

MEDEP and EPA must also be notified of any changes to the plan.

9. Section 2.2, para 3: In addition, the potential exists for MC in the surface soil. Contaminants potentially present at the site include..."

Please add perchlorate as a potential contaminant in groundwater.

10. Section 2.3, para 4: "Today, Building 55 sits on the approximate area of the former range. Approximately 0.5 acres of the former range SDZ area are paved over for the parking lot and storage area associated with Building 55."

Building 55 and the associated parking lot appear to sit on the approximate area of the compass rose and part of the range floor; however the former location of the backstop for the range is not currently covered. Please restate.

11. Section 2.4, para 2: "The former Skeet Range was used for the training of the military personnel during ...defined the SDZ of a skeet range as a 900-foot radius from the shooting field giving it an area of 58 acres."

While accurate it does not take into account that the configuration of the skeet range changed, therefore the acreage for the skeet range using a 900-foot radius is 78 acres according the Preliminary Assessment (Feb 2006). Please revise.

12. Section 2.6: It is unfortunate that there is no documentation regarding who provided the information that the Old Quarry was used for ordnance disposal. MEDEP called the consulting firm that developed the Remedial Investigation report and the ultimately called the consultant to whom the comment was made. His recollection was that it was by an unknown person during a tour of the Base, however it was not rebutted by the Navy during their review of the original Remedial Investigation. Therefore it cannot be discounted without further review or investigation.

In addition, there is clear documentation of disposal of munitions and ordnance at Site 12 from 1981 – 2004 and according to "Water Area Munitions Study, Naval Air Station, Brunswick (April 2005), the Navy used the Deep Sea Munitions Disposal Area off Cape Elizabeth, Maine, during the 1940's and early 1950's. That leaves the time period from between the early 1950's and the early 1980's unaccounted for as to where the Base disposed of it munitions and ordnance. It is possible that the land spreading in the 1990 covered the physical evidence.

MEDEP also reviewed historic aerial photos from the 1940-1980's. From that review it appears that Site 12 was not used until after 1970's, which is consistent with the information provided in Preliminary Assessment Addendum. In contrast, there was evidence of activity at the Old Quarry during that time period. The Quarry was also located near the bunkers on the west side of the runway. If possible, a more detailed examination of aerial photos needs to be performed. Also the Navy needs to perform interviews with former Navy personnel who were stationed at the Base in the 1950's through the 1970's. Unfortunately the interviews performed for this addendum include personnel who have only been at Brunswick Naval Air Station since 1990.

Without more convincing evidence that the Quarry was not used for destroying ordnance, it will have to be investigated.

13. Section 2.7, Topsham Annex, para 1: The majority (27 acres) of the SDZ extends off-base onto private property transferred to the MSAD No. 75.

MEDEP is concerned that the SDZ is primarily on private property, therefore the Navy must characterize and remediate, as necessary, the entire range.

14. Map 2-1: Please add the pre 1950 configuration for the Naval Air Station skeet range to the figure.

15. Map 2-4: Figure 2-4 needs to be revised to show surface danger zone for both configurations of the skeet range.

16. Section 3.3., SI Fieldwork, para 1: Please explain what instrument is being used for the instrument assisted visual field work if the magnetometer is being used for anomaly avoidance only as stated in Table 3-1. This also conflicts with is written in Appendix A, sections 4.3 and 4.6, which states "A detector-aided, nonintrusive site survey will be conducted over the ... acres of the MRS in order to identify surface anomalies and MEC items." Please resolve these contradictions.

17. Table 3-1, Summary of MEC SI Activities, Munitions Bunker West Area, Activity: "Conduct a 100%, detector-aid, nonintrusive site survey..."

It is unclear what is meant by 100% site survey. Does it mean that the 100% of the 29 acres will be visually surveyed and transects will be completed with a magnetometer or other detector? Please clarify the proposed procedure and how it will differ from the hand-held detector used for anomaly avoidance.

18. Table 3-1, Summary of MEC SI Activities, Site 12 EOD Area: Conduct a 100%, detector-aid, nonintrusive site survey..."

It is unclear what is meant by 100% (100% of the 112.7 acres?); please clarify. (As stated in MEDEP comments on the Preliminary Assessment-Addendum, Navy personnel stated that the demolition area may have moved around within Site 12 and is not just the currently bermed area.)

19. Table 3-1, Summary of MEC SI Activities, Quarry: "No MEC activities."

MEDEP strongly disagrees. See comment 12 above.

20. Section 3.3.1.2, Para. 1: Data Analysis:

The SAP and the QAPP are missing much of the information including DQOs, calibration requirements, and proposed data validation.

21. Table 3-2:

a.) At this time MEDEP can not concur with the number of surface soil samples proposed in this table.

b.) Muntions Bunker Area West: 15 composite surface soil samples are proposed for a 29 acre site - roughly one composited sample per two acres. Please provide the rationale for this number of samples, the compositing scheme and what criteria will be used to determine where the samples will be taken.

c.) Machine Gun Boresight Range: 5 composite surface soil samples are proposed for a 0.03 acres site (firing line to berm). This may be adequate if it can be determined whether the berm was removed or just graded out in the vicinity, however prior screening prior with a metal detector or an XRF will be needed before the number of soil samples can be determined. No groundwater samples are proposed, yet in the Preliminary Assessment it was estimated that 1.6 million rounds (30 and 50 caliber bullets) were discharged into the berm. Groundwater sampling must be performed unless it can be determined that the berm was removed and that expended rounds were collected and disposed of offsite.

d.) NAS Skeet Range: 20 composite surface soil samples are proposed for a 73 acres site. Without prior screening to determine where to sample, this number is inadequate. The majority of the shot fallout zone appears to be over the streams and their floodplain wetland. Additional sediment sampling is necessary and due to the amount of run off and sediment from the storm drains it may be necessary to do some sediment sampling at depth.

e.) Site 12 EOD: 25 composite surface samples may be adequate if only the bermed area (1.5 acres) is being characterized but it is not adequate for the entire 112.7 acres. The 3 groundwater samples may be adequate; however the site is shallow to bedrock and direct push may be necessary to just determine the amount of soil coverage. Ultimately it may be necessary to install bedrock wells..

f.) Topsham Annex Skeet Range: 20 composite surface soil samples are proposed for a 29 acres site. If the preliminary screening with an XRF or metal detector is performed to direct the sampling locations to the maximum shot fallout zone this may be adequate. MEDEP agrees with EPA regarding the necessity to sample groundwater at this site.

g.) State criteria for soil, groundwater, and surface water, if lower than that of Region 9, must also be used for comparison regarding for whether to continue with a Remedial Investigation. The sediment criteria agreed upon for the other IR sites should also be considered where appropriate.

22. Section 3.3.2.2, Surface Water/Groundwater Sampling, para 2:

a.) The Navy is proposing two groundwater samples for the NAS Skeet Range to be taken from an existing site well. Please clarify if the groundwater samples are to be taken from the two existing wells rather than one well. Please provide the monitoring well number(s) and location(s). There are two existing wells (MW-NASB-077 and MW-NASB-078), which are located more in the vicinity of the firing point rather than the vicinity of the maximum shot fallout zone. Since there does not appear to be an existing monitoring well in the maximum shot fall out zone, please explain how the selected sampling point(s) will provide a representative groundwater sample for the skeet range.

b.) The Navy is proposing three direct push wells for Site 12 EOD Area. This site appears to be shallow to bedrock. Direct push may be necessary to determine soil coverage at the site, however to obtain a representative groundwater sample it may be necessary to install bedrock wells. The 1990 Remedial Investigation information for Site 12 is limited to three test pits. What is the rationale for the three direct push locations? Depending upon the bedrock topography, shallow groundwater flow may be to the east, south or southwest, while migration in the bedrock will depend upon the dominant fractures, foliations, and other features. Additional information is required to determine the best location for sampling groundwater at the site.

23. Section 3.3.2.4, Chemistry Analysis:

a.) The Navy must provide a list of the analytes of concern for each of the sites.

b.) Para. 6: Please define "a comprehensive data level of QA/QC", ie Tier III or other.

24. Section 6, para 1, bullet 4: As stated in section 1.1, the objective of this work plan is to determine the presence or absence of munitions and explosives of concern and munitions constituents, therefore, as designed, there are not enough sample points to refine the MRS boundaries. Please delete this bullet.

Appendix A:

25. Section 3, Project Scope and Objectives, Para. 3: "Metals concentrations will be compared to the Anticipated Typical Concentration Levels..."

Please provide a reference for these criteria. Metals concentrations must also be compared to EPA and MEDEP residential soil criteria.

26. Section 3.1.1, Data Quality Objectives:

This section outlines the process in general, but does not indicate the rationale used, the conditions considered appropriate, or the tolerable limits for the project.

27. Section 4.4, Machine Gun Boresight Range:

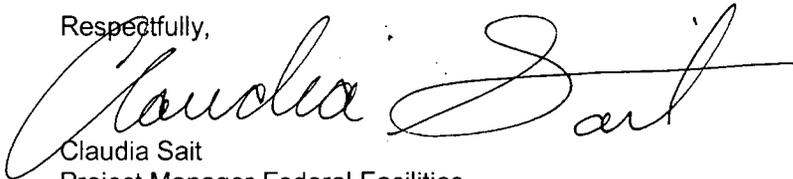
a.) The Navy proposes to base the soil samples based on visual observation. It would be better combine visual observation with pre-screening using a metal detector or an XRF. If the material from the berm was bulldozed then it is possible the MC could be a few inches beneath the surface. The best instrument for the situation should be used.

b.) Para 2: This paragraph states the 5 composites soil samples will be analyzed for lead and propellants. The propellants and the lead will not necessarily be co-located. By the time the bullet hit the berm the propellants on the bullet should be minimal. Therefore additional samples will be necessary ensure that the propellants were not discharged along the range floor.

28. Section 4.5, Skeet Range: Please see comments 21.d and 22.a above.
29. Section 4.9, Sampling:
Additional detail or SOPs are needed to evaluate the collection methods, at least for the groundwater sampling. For example what field parameters will be collected?
30. Section 4.14, Field Equipment:
The table should include the detector or instrumentation to be utilized for the 100% coverage of appropriate areas for MEC.

Please contact me at (207) 287-7713 or claudia.b.sait@maine.gov, if you have any questions or comments.

Respectfully,



Claudia Sait
Project Manager-Federal Facilities
Bureau of Remediation & Waste Management

- Cf: File
- Chris Evans-MEDEP
 - Dale Mosher-BNAS
 - Christine Williams-EPA
 - Carolyn Lepage-Lepage Environmental
 - Hien Dinh-Malcolm Pirnie
 - Ed Benedikt
 - Carol Warren-(email only)
 - Catherine Guido-ECC (email only)