



N00221_000721
MARE ISLAND
SSIC NO. 5090.3.A



Department of Toxic Substances Control



Alan C. Lloyd, PhD
Agency Secretary
Cal/EPA

700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

August 4, 2005

Mr. Dwight Gemar
Weston Solutions, Inc.
750 Dump Road
Mare Island
Vallejo, California 94592

Dear Mr. Gemar:

Mare Island Navy Draft Munitions Response Action Work Plan, Western Magazine Area, dated February 2005

Dear Mr. Gemar:

The Department of Toxic Substances Control has reviewed the subject document. The attached comments are forwarded to you for your consideration.

Should you have any questions regarding this letter, please call me at (510) 540-3773.

Sincerely,

Chip Gribble
Remedial Project Manager
Base Closure Unit
Office of Military Facilities

Attachment

cc: Mr. Jerry Dunaway
Mr. Gary Riley
Ms. Carolyn d'Almeida

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 6
To	Jerry Dunaway	From
Co.	DTSC	Co.
Dept.		Phone #
Fax #	619-532-0940	Fax #
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Agency Secretary
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Department of Toxic Substances Control

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Arnold
Schwarzenegger
Governor

MEMORANDUM

TO: Charles Gribble, P.E.
Office of Military Facilities

FROM: Rizgar Ghazi, P.E. *Rizgar Ghazi*
Office of Military Facilities

DATE: August 3, 2005

SUBJECT: MARE ISLAND: DRAFT MUNITIONS RESPONSE ACTION WORK PLAN
WESTERN MAGAZINE AREA

DOCUMENT REVIEWED:

We have reviewed the "Draft Munitions Response Action Work Plan, Western Magazine Area (Work Plan)" dated February 2005. The document was prepared by Weston Solutions, Inc., for the Department of the Navy, Naval Facilities Engineering Command Southwest.

General Comments:

1. Navy Quality Assurance Plan: A quality assurance plan (QAP) is not provided as part of this Work Plan. As we have previously conveyed to the Navy, it is not clear what the Navy's role is in performing requisite quality assurance oversight. The Work Plan must be revised to include a section discussing how the Navy will oversee the munitions response actions taken by the contractor. These revisions should include details of the Navy's quality assurance plan as well as a description of work to be performed by an independent, third party Quality Assurance ordnance contractor.

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Revisions should include the specifications that once the grids have been signed off by the primary, or production contractor and that contractor's Quality Control officer, a minimum of 10% of the grids will be geophysically surveyed by the Navy as well as by the third party contractor. The intent of the additional geophysical surveying is to ensure that the instruments used by the production contractor are operating at nominal levels, that field operations are conducted according to design plans, and anomaly selection/reacquisition have been performed in accordance with the approved Work Plan.

2. **Blind Seeding Program:** The Department of Toxic Substances Control (DTSC) has determined that use of a "blind seeding" program is an important integral part of the quality control and quality assurance and should be included as part of this munitions response action. Blind seeding ensures that personnel operation geophysical instruments (analog or digital) in the field for purposes in citing and locating buried Munitions and Explosives of Concern (MEC) items have performed their function in a quality manner. Blind seeding should be used through all phases of the investigation, including blind seeding by the field contractor for production, independent Quality Assurance third party contractor, and the Navy Explosive Ordnance and Demolition oversight. We recommend that the Navy and its contractors discuss this matter further with DTSC before implementing a blind seeding program.
3. **Independent Third Party Quality Assurance:** DTSC supports the use of independent third part quality assurance oversight. We believe that the use of an independent third party is valuable in overseeing the work being provided by the contractor when they are directly reporting to the Government (Navy) and the oversight agency (DTSC). Based on the report as presented, DTSC is not clear what type of relationship or contracting mechanism exists between the production contractor and the third party quality assurance contractor. DTSC requests funding to hire a third party independent contractor for this project, or at a minimum, we request that the proposed contract between the contractor and the independent third party be provided to DTSC for examination to determine if it provides the appropriate independence, reporting, oversight and testing.
4. **MEC Detection:** The Work Plan does not provide a discussion regarding the performance capabilities of geophysical (analog or digital) instruments in detecting items of concern at depth. For example, it is stated that the goals of the project are to do a minimum clearance depth of four feet overall and ten feet in the vicinity of the used or maintained utilities. However, the Work Plan does not state if the items of concern (20mm projectile as an example) can be detected at the required clearance depths. The Work Plan should add a section and an accompanying table to discuss and show the detection depth with the confidence

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interval for each item of concern for the type of instrument proposed for use at the site. The work plan should also provide the proposed technique, rationale or approach to confirm that the clearance, when complete, will meet the minimum clearance depth of four feet overall and ten feet in the vicinity of the used or maintained utilities, if the confidence level is below 100 percent at those depths.

Specific Comments:

1. Section 1.1, Purpose, Page 1-2. It is stated that the objective of the Work Plan is to locate and identify any remaining metallic anomalies indicative of potential military munitions 20 mm and larger. The rationale provided is that the 20 mm represents the smallest munitions containing high explosives encountered at the site. The Work Plan limits its investigation to munitions containing high explosives only. Smaller and other not high explosive types of MEC items were found during previous investigations at the site. This limitation is inconsistent with the goals outlined in the introduction that all (any) munitions remaining will be mitigated. DTSC does not make an exception during a clean up whether a MEC item contains high or low explosives, white phosphorus, chemical or biological agents. DTSC requires that all anomalies detected be intrusively investigated to ensure that the known risk is reduced and remaining risk can be addressed. The objectives of the investigation should be revised to include any MEC that was either handled at the site or found during previous investigations.
2. Section 2.3.5, Wetland Area (MRS5), page 2-13. The text states that no additional action is considered necessary for the wetland areas. The justification provided is that similar dredge pond bottom areas have been extensively surveyed, and no MEC items have ever been found. This explanation can not be supported since MEC and MEC related items were found along the entire perimeter of the Western Magazine Area wetlands. Since the MEC and MEC related materials were disposed through these planned actions, there is a reasonable probability that MEC was disposed in the wetlands as well. A complete (100 % of the area) investigation is necessary along the perimeter of the wetlands and 100 yard beyond the mean low-tide point both inland and below the low-tide point. Beyond the 100 yards, the interior of the wetland should be investigated as proposed by the Work Plan to determine if additional investigation is necessary.
3. Section 3.1, Techniques and Instruments, Page 3-2. Please refer to our comment about MEC items larger than 20mm projectile being investigated. The objective of the geophysical survey should be revised to identify the smallest MEC or "munitions-like" anomalies that were found at the Western Magazine Area.

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4. Section 3.1.5, GeoVizor, Page 3-5. The text states the GeoVizor was tested by the United States Army Corps of Engineers (USACE) in 2004 and the results are still being evaluated. Please provide additional information regarding this study. If available, provide the actual final or preliminary reports.
5. Section 3.2, Roads, Rail Lines, and Vicinity of Magazines (MRS 1), Page 3-7. The Work Plan states that the objectives for MRS 1 are to validate the previous Digital Geophysical Mapping (DGM) survey and to investigate any additional anomalies that may have been missed in the subsequent investigations. The Work Plan does not propose any additional geophysical surveys. DTSC acknowledges that the previous DGM survey should be reviewed as part of the removal action effort. However, it should not be a substitute for the improved instruments and field techniques in use, including equipment prove-outs, equipment monitoring, detection capabilities, application of instrument in the field, lane width and identification of root cause for any failures. The entire area should be geophysically surveyed to ensure consistent quality of work including the appropriate quality assurance and quality control (QA/QC) application.
6. Section 11.7, Specific QA/QC Measures, Page 11-7. The text states that the initial equipment calibration "prove-out" surveys will be performed prior to the start of survey activities. The Work Plan incorrectly uses the term "prove-out" as a process for equipment calibration. We agree that equipment calibration is required during a geophysical prove-out or prior to taking the instruments for use in the field. Geophysical prove-out is a process for testing, evaluating and demonstrating that a particular geophysical instrument/system and approach can meet the performance requirements established for the geophysical survey. During the prove-out, you are actually vetting instruments, approach and systems for use at the job from a field of instruments available. In this case, the instruments have already been selected and you are not attempting to select a specific tool for this removal action. It is unclear whether the proposed equipment to be used will address the goals as presented. Additional information is available at the ITRC web site (www.itrcweb.org/Documents/UXO-3.pdf) regarding geophysical prove-out.

DTSC believes that the Navy should establish a process for evaluating geophysical instruments specific to the site conditions at Mare Island. This would enable the quick selection of equipment for all the future removal and remedial actions at the site. We would like to refer you to a study (Ordnance Detection and Discrimination Study (ODDS)) conducted at former Fort Ord as part of the Ordnance and Explosives (now MEC) Remedial Investigation/Feasibility Study to evaluate geophysical instruments and survey processes that may provide as guidance for future MEC investigations at Mare Island. This study outlines how the geophysical instruments were evaluated in a variety of conditions in the field specific to Fort Ord. The ODDS study can be

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found at the Fort Ord web site (www.fortordcleanup.com).

7. Section 11.7, Specific QA/QC Measures, Page 11-8. DTSC is requesting that all communications, inspection reports, assessments and any activities related to the oversight of the site by the third party be provided to DTSC at the same time it is being provided to the contractor and the Navy.
8. Section 11.7, Specific QA/QC Measures, Page 11-8. DTSC requests that the independent third party re-processes 100 percent of the geophysical data until confidence in the geophysical mapping, anomaly selection, re-acquisition and removal can be assured. Once this assurance is obtained and DTSC concurs, this reprocessing can be reduced down to a minimum of 10% for the geophysical data.
9. Section 11.7, Specific QA/QC Measures, Page 11-8. As discussed above, the third party contractor should implement a blind seeding program as part of their quality assurance oversight. The types of seeds should be simulated munitions as opposed to inert munitions and be of equal mass for which the seed represents. The location and QA seeds shall be withheld and unknown to the production contractor.
10. Section 13.2.1.5, Unexploded Ordnance Quality Control Specialist (UXOQCS), page 13-4. DTSC requests that all reports regarding the quality control aspects including inspections of UXO and explosives operations for compliance be included in the distribution list.

Reviewed by:

Mr. Bill Kilgore, P.E. 
Office of Military Facilities

cc:

Mr. Donn Diebert, P.E.
Chief
Office of Military Facilities