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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
AND THE
STATE OF ARIZONA
AND THE
UNITED STATES DEPARTMENT OF THE NAVY

IN THE MATTER OF:)

The U.S. Department)
of the Navy)

Marine Corps Air Station)
Yuma)

Federal Facility
Agreement Under
CERCLA Section 120

Administrative
Docket Number: 92-11

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remedial action(s) for the Site. OU alternatives shall be identified as early as possible prior to proposal of OUs to EPA and the State. This process is designed to promote cooperation among Parties in identifying OU alternatives prior to the final selection of Operable Units; ^{adequately}

(b) Establish requirements for the performance of a Remedial Investigation to determine fully the nature and extent of the threat to the public health or welfare or the environment caused by the release and threatened release of hazardous substances, pollutants, or contaminants at the Site and to establish requirements for the performance of a Feasibility Study for the Site to identify, evaluate, and select alternatives for the appropriate remedial action(s) to prevent, mitigate, or abate the release or threatened release of hazardous substances, pollutants, or contaminants at the Site in accordance with CERCLA and applicable State law;

(c) Identify the nature, objective, and schedule of response actions to be taken at the Site. Response actions at the Site shall attain that degree of cleanup of hazardous substances, pollutants or contaminants mandated by CERCLA and applicable State law;

(d) Implement the selected remedial actions in accordance with CERCLA and applicable State law and meet the requirements of CERCLA section 120(e)(2). For the purposes of this Agreement, the "completion of investigation and study" referred to in CERCLA §120(e)(2) will be the date of signature of the Record of Decision.

(e) Assure compliance, through this Agreement, with RCRA and other federal and State hazardous waste laws and regulations for matters covered herein;

(f) Coordinate response actions at the Site with the mission and support activities at Marine Corps Air Station Yuma;

(g) Expedite the cleanup process to the extent consistent with protection of human health and the environment;

(h) Provide for State involvement in the initiation, development, selection and enforcement of remedial actions to be undertaken at Marine Corps Air Station Yuma, including the review of all applicable data as it becomes available and the development of studies, reports, and action plans; and to identify and integrate State ARARs into the remedial action process;

(i) Provide for operation and maintenance of any remedial action selected and implemented pursuant to this Agreement.

2. PARTIES

2.1 The Parties to this Agreement are EPA, the Marine Corps,

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and the State of Arizona. The terms of the Agreement shall apply to and be binding upon EPA, the State of Arizona, and the Marine Corps. The Department of the Navy hereby agrees to ensure the Marine Corps's performance of each of the Marine Corps's obligations hereunder.

2.2 This Agreement shall be enforceable against all of the Parties to this Agreement. This Section shall not be construed as an agreement to indemnify any person. The Marine Corps shall notify its agents, members, employees, response action contractors for the Site, and all subsequent owners, operators, and lessees of the Site, of the existence of this Agreement.

2.3 Each Party shall be responsible for ensuring that its contractors comply with the terms and conditions of this Agreement. Failure of a Party to provide proper direction to its contractors and any resultant noncompliance with this Agreement by a contractor shall not be considered a Force Majeure event or other good cause for extensions under Section 9 (Extensions), unless the Parties so agree. The Marine Corps will notify EPA and the State of the identity and assigned tasks of each of its contractors performing work under this Agreement upon their selection.

3. JURISDICTION

3.1 Each Party is entering into this Agreement pursuant to the following authorities:

(a) The U.S. Environmental Protection Agency (EPA), enters into those portions of this Agreement that relate to the remedial investigation/feasibility study (RI/FS) pursuant to CERCLA section 120(e)(1), 42 U.S.C. § 9620(e)(1), RCRA sections 6001, 3008(h) & 3004(u) and (v), 42 U.S.C. § 6961, 6928(h), 6924(u) & (v), and E.O. 12580;

(b) EPA enters into those portions of this Agreement that relate to operable units and final remedial actions pursuant to CERCLA section 120(e)(2), 42 U.S.C. § 9620(e)(2), RCRA sections 6001, 3008(h) and 3004(u) & (v), 42 U.S.C. § 6961, 6928(h), 6924(u) & (v), and E.O. 12580;

(c) The Marine Corps enters into those portions of this Agreement that relate to the RI/FS pursuant to CERCLA section 120(e)(1), 42 U.S.C. § 9620(e)(1), RCRA sections 6001, 3008(h) and 3004(u) & (v), 42 U.S.C. § 6961, 6928(h), 6924(u) & (v), E.O. 12580, the National Environmental Policy Act, 42 U.S.C. § 4321, and DERP;

(d) The Marine Corps enters into those portions of this Agreement that relate to operable units and final remedial

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actions pursuant to CERCLA section 120(e)(2), 42 U.S.C. § 9620(e)(2), RCRA sections 6001, 3008(h), and 3004(u) & (v), 42 U.S.C. § 6961, 6928(h), 6924(u) & (v), E.O. 12580 and the DERP; and

(e) The State of Arizona, represented by the Arizona Department of Environmental Quality (ADEQ), enters into this agreement pursuant to CERCLA sections 120(f) and 121, 42 U.S.C. §§9620(f) and 9621, and the Arizona Revised Statutes sections 49-202, paragraphs A and B, and 45-105.

4. DEFINITIONS

4.1 Except as noted below or otherwise explicitly stated, the definitions provided in CERCLA, CERCLA case law, and the NCP shall control the meaning of terms used in this Agreement.

(a) "ADEQ" shall mean the Arizona Department of Environmental Quality, its successors and employees, and its duly authorized representatives.

(b) "Agreement" shall mean this document and shall include all Appendices to this document except to the extent the Parties agree that any part of any Appendix is inconsistent with this Agreement. Except to such extent, all Appendices shall be made an integral and enforceable part of this document. Copies of Appendices shall be available as part of the administrative record, as provided in subsection 26.3.

(c) "ARARs" shall mean federal and State applicable or relevant and appropriate requirements, standards, criteria, or limitations selected pursuant to section 121 of CERCLA. ARARs shall apply in the same manner and to the same extent that such are applied to any non-governmental entity, facility, unit, or site, as set forth in CERCLA section 120(a)(1), 42 U.S.C. § 9620(a)(1), subject to CERCLA section 121(d)(4), 42 U.S.C. § 9621(d)(4) and E.O. 12580 § 2(d) & (g).

(d) "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act, Public Law 96-510, 42 U.S.C. § 9601 et seq., as amended by SARA and any subsequent amendments.

(e) "Days" shall mean calendar days, unless business days are specified. Any submittal that under the terms of this Agreement would be due on Saturday, Sunday, or Federal or State holidays shall be due on the following business day. References herein to specific numbers of days shall be understood to exclude the day of occurrence.

(f) "DERP" shall mean the Defense Environmental Restoration Program as defined in 10 U.S.C §2701

(g) "Department of Defense" shall mean the U.S. Department of Defense.

(h) "DRC" shall have the meaning given in subsection

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12.2.

(i) "EPA" shall mean the Environmental Protection Agency, its successors and employees, and its duly authorized representatives.

(j) "Facility" shall have the same definition as in CERCLA section 101(9), 42 U.S.C. § 9601(9).

(k) "Feasibility Study" or "FS" means a study conducted pursuant to CERCLA and the NCP which fully develops, screens and evaluates in detail remedial action alternatives to prevent, mitigate, or abate the migration or the release of hazardous substances, pollutants, or contaminants at and from the Site. The Marine Corps shall conduct and prepare the FS in a manner to support the intent and objectives of Section 17 (Statutory Compliance/RCRA-CERCLA Integration).

(l) "FOIA" shall mean the Freedom of Information Act, 5 U.S.C. § 552 et seq., and any subsequent amendments thereto.

(m) "Marine Corps" shall mean the U.S. Marine Corps (a component of the U.S. Department of the Navy) and its employees, members, agents, and authorized representatives. "Marine Corps" shall also include the U.S. Department of the Navy and the U.S. Department of Defense, to the extent necessary to effectuate the terms of this Agreement, including, but not limited to, appropriations, funding and Congressional Reporting Requirements.

(n) "Meeting," in regard to Project Managers, shall mean an in-person discussion at a single location or a conference telephone call of all Project Managers. A conference call will suffice for an in-person meeting at the concurrence of the Project Managers. Meetings shall be of two types: Progress meetings, and all other meetings (no formal designation). "Progress Meetings," are those that are formally required per subsection 18.3. Progress Meetings must be designated as such at least two weeks prior to the scheduled meeting date, and must be done so by the majority of the Project Managers. All other meetings may be scheduled as needed and, unless requested by a majority of the of Project Managers, do not carry the administrative reporting requirements of subsection 18.3.

(o) "National Contingency Plan" or "NCP" shall refer to the regulations contained in 40 C.F.R. § 300.1 et seq., including any amendments thereto.

(p) "Natural Resource Trustee(s)" and "Federal or State Natural Resource Trustees" shall have the same meaning and authority provided in CERCLA and the NCP.

(q) "Natural Resource Trustee(s) Notification and Coordination" shall have the same meaning as provided in CERCLA and the NCP.

(r) "On-Scene Coordinator" or "OSC" shall have the same meaning and authority as provided in the NCP.

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(s) "Operable Unit" or "OU" shall have the same meaning as provided in the NCP.

(t) "Operation and maintenance" shall mean activities required to maintain the effectiveness of response actions.

(u) "Parties" shall mean the parties to this Agreement.

(v) "Project Manager" shall have the meaning given in Section 18 of this Agreement.

(w) "QAPP" shall mean a Quality Assurance Project Plan.

(x) "RCRA" or "RCRA/HSWA" shall mean the Resource Conservation and Recovery Act of 1976, Public Law 94-580, 42 U.S.C. § 6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984, Public Law 98-616, and any subsequent amendments.

(y) "Remedial Design" or "RD" shall have the same meaning as provided in the NCP.

(z) "Remedial Investigation" or "RI" means that investigation conducted pursuant to CERCLA and the NCP, as supplemented by the substantive provisions of the EPA RCRA Facilities Assessment guidance. The RI serves as a mechanism for collecting data for Site and waste characterization and conducting treatability studies as necessary to evaluate performance and cost of the treatment technologies. The data gathered during the RI will also be used to conduct a baseline risk assessment, perform a feasibility study, and support design of a selected remedy. The Marine Corps shall conduct and prepare the RI in a manner to support the intent and objectives of Section 17 (Statutory Compliance/RCRA-CERCLA Integration).

(aa) "Remedy" or "Remedial Action" or "RA" shall have the same meaning as provided in section 101(24) of CERCLA, 42 U.S.C. § 9601(24), and the NCP, and may consist of Operable Units.

(bb) "Remove" or "Removal" shall have the same meaning as provided in section 101(23) of CERCLA, 42 U.S.C. § 9601(23), and the NCP.

(cc) "SARA" shall mean the Superfund Amendments and Reauthorization Act of 1986, Public Law 99-499.

(dd) "SEC" shall have the meaning given in subsection 12.6.

(ee) "Site," for purposes other than obtaining permits, shall include Marine Corps Air Station Yuma (including any adjacent real property subject to the jurisdiction of the Commanding Officer of Marine Corps Air Station Yuma), the Facility (as defined above) and any area necessary for performance of remedial actions. For purposes of obtaining permits, "on-site" shall have the meaning provided in the NCP and "off-site" shall mean all locations that are not on-site.

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(ff) "State" or "State of Arizona" shall mean the Arizona State government in its entirety, as represented by ADEQ, unless otherwise specified.

5. DETERMINATIONS

5.1 This Agreement is based upon the placement of Marine Corps Air Station Yuma, Arizona, on the National Priorities List by EPA on February 21, 1990, 55 Federal Register 6154.

5.2 Marine Corps Air Station Yuma is a facility under the jurisdiction, custody, or control of the U.S. Department of Defense within the meaning of E.O. 12580, 52 Federal Register 2923, 29 January 1987. The Department of the Navy is authorized to act in behalf of the Secretary of Defense for all functions delegated by the President through E.O. 12580 which are relevant to this Agreement.

5.3 Marine Corps Air Station Yuma is a federal facility under the jurisdiction of the Secretary of Defense within the meaning of CERCLA section 120, 42 U.S.C. § 9620, and SARA section 211, 10 U.S.C. § 2701 et seq., and subject to DERP.

5.4 The Department of the Navy is the authorized delegate of the President under E.O. 12580 for receipt of notification by the State of its ARARs as required by CERCLA section 121(d)(2)(A)(ii), 42 U.S.C. § 9621(d)(2)(A)(ii).

5.5 The authority of the Marine Corps to exercise the delegated removal authority of the President pursuant to CERCLA section 104, 42 U.S.C. § 9604, is not altered by this Agreement.

5.6 The actions to be taken pursuant to this Agreement are reasonable and necessary to protect the public health, welfare, or the environment.

5.7 There are areas within the boundaries of Marine Corps Air Station Yuma where hazardous substances have been deposited, stored, placed, or otherwise come to be located in accordance with 42 U.S.C. § 9601(9) & (14).

5.8 There have been releases of hazardous substances, pollutants or contaminants at or from Marine Corps Air Station Yuma into the environment within the meaning of 42 U.S.C. § 9601(22), 9604, 9606, and 9607.

5.9 With respect to these releases, the Marine Corps is an

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owner, operator and/or generator subject to the provisions of 42 U.S.C. § 9607 and within the meaning of Arizona Revised Statutes section 49-283.

5.10 Included as an Attachment to this Agreement is a map showing areas of known contamination, based on information available at the time of the signing of this Agreement.

6. WORK TO BE PERFORMED

6.1 The Parties agree to perform the tasks, obligations and responsibilities described in this Section in accordance with CERCLA and CERCLA guidance and policy; the NCP; pertinent provisions of RCRA and RCRA guidance and policy; E.O. 12580; applicable State laws and regulations; and all terms and conditions of this Agreement including documents prepared and incorporated in accordance with Section 7 (Consultation).

6.2 The Marine Corps agrees to undertake, seek adequate funding for, fully implement and report on the following tasks, with participation of the Parties as set forth in this Agreement:

- (a) Remedial Investigations of the Site;
- (b) Federal and State Natural Resource Trustee Notification and Coordination;
- (c) Feasibility Studies for the Site;
- (d) All response actions, including Operable Units, for the Site; and
- (e) Operation and maintenance of response actions at the Site.

6.3 The Parties agree to:

- (a) Make their best efforts to expedite the initiation of response actions for the Site, particularly for Operable Units; and
- (b) Carry out all activities under this Agreement so as to protect the public health, welfare and the environment.

6.4 Upon request, EPA and the State agree to provide any Party with guidance or reasonable assistance in obtaining and interpreting guidance relevant to the implementation of this Agreement.

6.5 The Parties recognize that any discovered release of hazardous substances determined to have originated off Marine Corps Air Station Yuma and to have been caused by a party other than the Marine Corps, including groundwater plumes mingled with plumes originating on Marine Corps Air Station Yuma, may be

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addressed by a separate agreement between the responsible parties and appropriate regulatory agencies. Nothing in this subsection 6.5 shall reduce or otherwise affect the Marine Corps's obligations under this Agreement except as may be specifically provided in such other agreement if EPA is a party thereto and such other agreement refers to this Agreement.

7. CONSULTATION: Review and Comment Process for Draft and Final Documents

7.1 Applicability: The provisions of this Section establish the procedures that shall be used by the Parties to provide each other with appropriate technical support, notice, review, comment, and response to comments regarding RI/FS and RD/RA documents, specified herein as either primary or secondary documents. In accordance with CERCLA section 120, 42 U.S.C. § 9620, and 10 U.S.C. § 2705, the Marine Corps will normally be responsible for issuing primary and secondary documents to EPA and the State. As of the effective date of this Agreement, all draft, draft final and final deliverable documents identified herein shall be prepared, distributed and subject to dispute in accordance with subsections 7.2 through 7.10 below. The designation of a document as "draft" or "final" is solely for purposes of consultation with EPA and the State in accordance with this Section. Such designation does not affect the obligation of the Parties to issue documents, which may be referred to herein as "final," to the public for review and comment as appropriate and as required by law.

7.2 General Process for RI/FS and RD/RA Documents:

(a) Primary documents include those reports that are major, discrete portions of RI/FS and/or RD/RA activities. Primary documents are initially issued by the Marine Corps in draft subject to review and comment by EPA and the State. Following receipt of comments on a particular draft primary document, the Marine Corps will respond to the comments received and issue a draft final primary document subject to dispute resolution. The draft final primary document will become the final primary document either thirty (30) days after receipt by EPA and the State of a draft final document if dispute resolution is not invoked or as modified by decision of the dispute resolution process. ← 60 days

(b) Secondary documents include those reports that are discrete portions of the primary documents and are typically input or feeder documents. Secondary documents are issued by the Marine Corps in draft subject to review and comment by EPA and the State. Although the Marine Corps will respond to comments received, the draft secondary documents may be finalized in the

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context of the corresponding primary documents. A secondary document may be disputed at the time the corresponding draft final primary document is issued.

7.3 Primary Documents:

(a) The Marine Corps shall complete and transmit drafts of the following primary documents for each operable unit and for the final remedy to EPA and the State, for review and comment in accordance with the provisions of this Section; provided, however, that the Marine Corps need not complete a draft primary document for an operable unit if (x) the same primary document completed or to be completed with respect to another operable unit covers all topics relevant to the operable unit at issue, and (y) the Parties agree in writing that such draft primary document need not be completed. Primary documents shall include:

- (1) RI/FS Workplans, including Field Sampling Plans, and Health and Safety Plans
- (2) QAPPS
- (3) Community Relations Plans (May be amended as appropriate to address Operable Units. Any such amendments shall not be subject to the threshold requirements of subsection 7.10. Any disagreement regarding amendment of the CRP shall be resolved pursuant to Section 12 (Dispute Resolution).)
- (4) RI Reports
- (5) FS Reports
- (6) Proposed Plans
- (7) Records of Decision (RODs)
- (8) Remedial Design Work Plan
- (9) Preliminary Remedial Design
- (10) Final Remedial Design
- (11) Remedial Action Work Plan (including Health and Safety Plan)
- (12) Construction Quality Assurance Plan
- (13) Construction Quality Control Plan
- (14) Contingency Plan
- (15) Project Closeout Report
- (16) Operation and Maintenance Plan (including Health and Safety Plan)

(b) Only draft final primary documents shall be subject to dispute resolution. The Marine Corps shall complete and transmit draft primary documents in accordance with the timetable and deadlines established in Section 8 (Deadlines).

(c) Primary documents may include target dates for subtasks as provided in subsections 7.4(b) and 18.3. The purpose of target dates is to assist the Marine Corps in meeting deadlines, but target dates do not become enforceable by their inclusion in the primary documents and are not subject to Section

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8 (Deadlines), Section 9 (Extensions) or Section 13 (Enforceability).

7.4 Secondary Documents:

(a) The Marine Corps shall complete and transmit drafts of the following secondary documents for each operable unit and for the final remedy to EPA and the State for review and comment; provided, however, that the Marine Corps need not complete a draft secondary document for an operable unit if (x) the same secondary document or a primary document completed or to be completed with respect to another operable unit covers all topics relevant to the operable unit at issue, and (y) the Parties agree in writing that such draft secondary document need not be completed.

- (1) Site Characterization Summaries (part of RI)
- (2) Sampling and Data Results
- (3) Treatability Studies (only if generated)
- (4) Initial Screenings of Alternatives
- (5) Risk Assessments
- (6) Well closure methods and procedures
- (7) Detailed Analyses of Alternatives
- (8) Post-Screening Investigation Work Plans
- (10) Preliminary Review Report
- (11) Sampling Visit Work Plan
- (12) RCRA Facility Assessment
- (13) 15% Remedial Design
- (14) 35% Remedial Design
- (15) 60% Remedial Design

(b) Although EPA and the State may comment on the drafts of the secondary documents listed above, such documents shall not be subject to dispute resolution except as provided by subsection 7.2. Target dates for the completion and transmission of draft secondary documents shall be established by the Project Managers. The Project Managers also may agree upon additional secondary documents that are within the scope of the listed primary documents.

7.5 Meetings of the Project Managers. Meetings of the Project Managers shall be of two types as defined in subsection 4.1(n): "Progress Meetings," and all other meetings (no formal designation). Progress Meetings require that the Project Managers meet in person approximately every ninety (90) days to review and discuss the progress of work being performed at the Site, including progress on the primary and secondary documents. Upon agreement by the majority of the Project Managers, Progress Meetings may be held more frequently (but not more often than every thirty (30) days) or less frequently than ninety (90) days as needed. Prior to preparing any draft document specified in

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subsections 7.3 or 7.4 above, the Project Managers shall meet in an effort to reach a common understanding with respect to the contents of the draft document.

7.6 Identification and Determination of Potential ARARs:

(a) ADEQ will contact in writing those State and local governmental agencies that are a potential sources of ARARs in a timely manner as set forth in NCP § 300.515(d).

(b) Prior to the issuance of a draft primary or secondary document for which ARAR determinations are appropriate, the Project Managers shall meet to identify and propose all potential pertinent ARARs, including any permitting requirements that may be a source of ARARs. At that time and within the time period described in NCP § 300.515(h)(2), the State shall submit the proposed ARARs obtained pursuant to paragraph 7.6(a) to the Marine Corps, along with a list of agencies that failed to respond to the State's solicitation of ARARs and copies of the solicitations and any related correspondence.

(c) The Marine Corps will contact the agencies that failed to respond and again solicit their inputs.

(d) The Marine Corps will prepare draft ARAR determinations in accordance with CERCLA section 121(d)(2), 42 U.S.C. § 9621(d)(2), the NCP and pertinent guidance issued by EPA.

(e) In identifying potential ARARs, the Parties recognize that actual ARARs can be identified only on a site-specific basis and that ARARs depend on the specific hazardous substances, pollutants and contaminants at a site, the particular actions associated with a proposed remedy and the characteristics of a site. The Parties recognize that ARAR identification is necessarily an iterative process and that potential ARARs must be identified and discussed among the Parties as early as possible, and must be reexamined throughout the RI/FS process until a ROD is issued.

7.7 Review and Comment on Draft Documents:

(a) The Marine Corps shall complete and transmit each draft primary document to EPA and the State on or before the corresponding deadline established for the issuance of the document. The Marine Corps shall complete and transmit the draft secondary documents in accordance with the corresponding target dates.

(b) Review of any document by EPA and the State may concern all aspects of it (including completeness) and should include, but will not be limited to, technical evaluation of any aspect of the document and consistency with CERCLA, the NCP, applicable Arizona law, and any pertinent guidance or policy issued by EPA or the State (except that any State guidance that

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is not "promulgated" (as defined in the NCP) shall constitute a "to be considered" item (as that phrase is used in the NCP)). At the request of EPA and the State, and to expedite the review process, the Marine Corps shall make an oral presentation of the primary document to the Parties at the next scheduled meeting of the Project Managers following transmittal of the draft document, and shall do so with respect to secondary documents upon request of EPA and the State. Comments by the EPA and ADEQ shall be provided with adequate specificity so that the Marine Corps may respond and, if appropriate, make changes to the draft document. Comments shall refer to any pertinent sources of authority or references upon which the comments are based and, upon request of the Marine Corps, the EPA or the ADEQ commentor shall provide a copy of the cited authority or reference.

(c) Unless the Parties agree to another period, all draft documents shall be subject to a sixty (60) day period for review and comment. At or before the close of the comment period, EPA and the State shall transmit their written comments to the Marine Corps. For unusually lengthy or complex documents, EPA or the State may extend the sixty (60) day comment period for an additional thirty (30) days by written notice to the Marine Corps prior to the end of the sixty (60) day period. In appropriate circumstances, this period may be further extended in accordance with Section 9 (Extensions).

(d) Representatives of the Parties shall make themselves readily available during the comment period for purposes of informally responding to questions and comments on draft documents. Oral comments made during such discussions need not be the subject of a written response.

(e) In commenting on a draft document which contains a proposed ARAR determination, EPA or ADEQ shall include a reasoned statement of whether it objects to any portion of the proposed ARAR determination. To the extent that EPA or the State does object, it shall explain the basis for its objection in detail and shall identify any ARARs which it believes were not properly addressed in the proposed ARAR determination.

(f) Following the close of the comment period for a draft document, the Marine Corps shall give full consideration to all written comments. If the Marine Corps requests, the Parties shall hold a meeting to discuss such comments within fifteen (15) days of the close of the comment period on a draft secondary document or draft primary document. On a draft secondary document, the Marine Corps shall, within sixty (60) days of the close of the comment period, transmit to the EPA and the State its written response to the comments received. On a draft primary document, the Marine Corps shall, within sixty (60) days of the close of the comment period, transmit to EPA and the State a draft final primary document, which shall include the Marine

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Corps's response to all written comments received within the comment period. While the resulting draft final document shall be the responsibility of the Marine Corps, it shall be the product of consensus to the maximum extent possible.

(g) The Marine Corps may extend the sixty (60) day period for either responding to comments on a draft document or for issuing the draft final primary document for an additional thirty (30) days by providing written notice to EPA and the State prior to the end of the sixty (60) day period. In appropriate circumstances, this time period may be further extended in accordance with Section 9 (Extensions).

7.8 Availability of Dispute Resolution for Draft Final Primary Documents:

(a) Dispute resolution shall be available to the Parties for draft final primary documents as set forth in Section 12 (Dispute Resolution).

(b) When dispute resolution is invoked on a draft final primary document, work may be stopped in accordance with the procedures set forth in subsection 12.9 regarding dispute resolution.

7.9 Finalization of Documents: The draft final primary document shall serve as the final primary document if no party invokes dispute resolution regarding the document or, if invoked, at completion of the dispute resolution process should the Marine Corps's position be sustained. If the Marine Corps's determination is not sustained in the dispute resolution process, the Marine Corps shall prepare, within not more than sixty (60) days of resolution of the dispute, a revision of the draft final document which conforms to the results of dispute resolution. In appropriate circumstances, the time period for this revision period may be extended in accordance with Section 9 (Extensions).

7.10 Subsequent Modification of Final Documents: Following finalization of any primary document pursuant to subsection 7.9 above, any Party may seek to modify the document including seeking additional field work, pilot studies, computer modeling or other supporting technical work, only as provided in paragraphs 7.10(a) and (b) below. (These restrictions do not apply to the Community Relations Plan.)

(a) Any Party may seek to modify a document after finalization by submitting a concise written request to the Project Managers of the other Parties. The request shall specify the nature of the requested modification and how the request is appropriate under subparagraphs 7.10(b)(1) and (2) below.

(b) In the event that a consensus is not reached by the Project Managers on the need for a modification, any Party

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may invoke dispute resolution to determine if such modification shall be conducted. Modification of a document shall be required only upon a showing that:

(1) The requested modification is based on information that is new (i.e., information that becomes available or known after the document was finalized); and

(2) The requested modification could be of significant assistance in evaluating impacts on the public health or the environment, in evaluating the selection of remedial alternatives, or in protecting human health and the environment.

(c) Nothing in this Section shall alter EPA's or the State's ability to request the performance of additional work which was not contemplated by this Agreement. The Marine Corps' obligation to perform such work under this Agreement must be established by either a modification of a document or by amendments to this Agreement.

8. DEADLINES

8.1 All deadlines agreed upon before the effective date of this Agreement shall be made an Appendix to this Agreement. To the extent that deadlines have already been mutually agreed upon by the Parties prior to the execution of this Agreement, they will satisfy the requirements of this Section and remain in effect, shall be published in accordance with subsection 8.2, and shall be incorporated into the appropriate work plans.

8.2 Within twenty-one (21) days of issuance of the Record of Decision for any operable unit or for the final remedy, the Marine Corps shall propose deadlines for completion of the following draft primary documents:

- (a) Remedial Design Work Plan
- (b) Preliminary Remedial Design
- (c) Final Remedial Design
- (d) Remedial Action Work Plan (including Health and Safety Plan)
- (e) Construction Quality Assurance Plan
- (f) Construction Quality Control Plan
- (g) Contingency Plan
- (h) Project Closeout Report

Within fifteen (15) days of receipt, EPA, and ADEQ shall review and provide comments to the Marine Corps regarding the proposed deadlines. Within fifteen (15) days following receipt of the comments the Marine Corps shall, as appropriate, make revisions and reissue the proposal. The Parties shall meet as necessary to discuss and finalize the proposed deadlines. All agreed-upon

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deadlines shall be incorporated into the appropriate work plans. If the Parties fail to agree within thirty (30) days on the proposed deadlines, the matter shall immediately be submitted for dispute resolution pursuant to Section 12 (Dispute Resolution). The final deadlines established pursuant to this subsection shall be published by EPA, in conjunction with the State, and shall become an Appendix to this Agreement.

8.3 For any operable units not identified as of the effective date of this Agreement, the Marine Corps shall propose deadlines for all documents listed in subsection 7.3(a)(1) through (7) (with the exception of the Community Relations Plan and any document that comes within the proviso to such subsection) within twenty-one (21) days of agreement on the proposed operable unit by all Parties. These deadlines shall be proposed, finalized and published using the procedures set forth in subsection 8.2.

8.4 The deadlines set forth in this Section, or to be established as set forth in this Section, may be extended pursuant to Section 9 (Extensions). The Parties recognize that one possible basis for extension of the deadlines for completion of the Remedial Investigation and Feasibility Study Reports is the identification of significant new Site conditions during the performance of the remedial investigation.

9. EXTENSIONS

9.1 Timetables, deadlines and schedules shall be extended upon receipt of a timely request for extension and when good cause exists for the requested extension. Any request for extension by a Party shall be submitted to the other Parties in writing and shall specify:

- (a) The timetable, deadline or schedule that is sought to be extended;
- (b) The length of the extension sought;
- (c) The good cause(s) for the extension; and
- (d) The extent to which any related timetable and deadline or schedule would be affected if the extension were granted.

9.2 Good cause exists for an extension when sought in regard to:

- (a) An event of Force Majeure;
- (b) A delay caused by another Party's failure to meet any requirement of this Agreement;
- (c) A delay caused by or resulting from the good faith

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- invocation of dispute resolution or the initiation of judicial action;
- (d) A delay caused, or which is likely to be caused, by an extension (including an extension under subsection 7.7(c) and/or 7.7(g)) in regard to a related timetable and deadline or schedule;
 - (e) A delay caused by public comment periods or hearings required under State law in connection with the State's performance of this Agreement or by receipt of unusually extensive public comments under the NCP in connection with the Marine Corps's performance of this Agreement;
 - (f) Any work stoppage within the scope of Section 11 (Emergencies and Removals); or
 - (g) Any other event or series of events mutually agreed to by the Parties as constituting good cause.

9.3 Absent agreement of the Parties with respect to the existence of good cause, a Party may seek and obtain a determination through the dispute resolution process that good cause exists.

9.4 Within seven days of receipt of a request for an extension of a timetable, deadline or schedule, each receiving Party shall advise the requesting Party in writing of the receiving Party's position on the request. Any failure by a receiving Party to respond within the seven-day period shall be deemed to constitute concurrence with the request for extension. If a receiving Party does not concur in the requested extension, it shall include in its statement of nonconcurrence an explanation of the basis for its position.

9.5 If there is consensus among the Parties that the requested extension is warranted, the Marine Corps shall extend the affected timetable and deadline or schedule accordingly. If there is no consensus among the Parties as to whether all or part of the requested extension is warranted, the timetable and deadline or schedule shall not be extended except in accordance with a determination resulting from the dispute resolution process.

9.6 Within seven days of receipt of a statement of nonconcurrence with the requested extension, the requesting Party may invoke dispute resolution.

9.7 A timely and good faith request by the Marine Corps for an extension shall toll any assessment of stipulated penalties or application for judicial enforcement of the affected timetable

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and deadline or schedule until a decision is reached on whether the requested extension will be approved. If dispute resolution is invoked and the requested extension is denied, stipulated penalties may be assessed and may accrue from the date of the original timetable, deadline or schedule. Following the grant of an extension, an assessment of stipulated penalties or an application for judicial enforcement may be sought only to compel compliance with the timetable and deadline or schedule as most recently extended.

10. FORCE MAJEURE

10.1 A Force Majeure shall mean any event arising from causes beyond the control of a Party that causes a delay in or prevents the performance of any obligation under this Agreement, including, but not limited to:

- (a) acts of God;
- (b) fire;
- (c) war or national emergency declared by the President or Congress and affecting the Marine Corps;
- (d) insurrection;
- (e) civil disturbance;
- (f) explosion;
- (g) unanticipated breakage or accident to machinery, equipment or lines of pipe despite reasonably diligent maintenance;
- (h) adverse weather conditions that could not be reasonably anticipated;
- (i) unusual delay in transportation;
- (j) restraint by court order or order of public authority;
- (k) inability to obtain, at reasonable cost and after exercise of reasonable diligence, any necessary authorizations, approvals, permits, or licenses due to action or inaction of any governmental agency or authority other than the Department of the Navy (including Marine Corps);
- (l) delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures, despite the exercise of reasonable diligence; and
- (m) insufficient availability of appropriated funds which have been diligently sought. In order for Force Majeure based on insufficient funding to apply to the Marine Corps, the Marine Corps shall have made timely request for such funds as part of the budgetary process as set forth in Section 15 (Funding).

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A Force Majeure shall also include any strike or other labor dispute, whether or not within the control of the Party affected thereby. Force Majeure shall not include increased costs or expenses of response actions, unless (i) such increase could not reasonably have been anticipated at the time the estimate thereof was made and (ii) funding for such increase has been diligently sought and is not available.

11. EMERGENCIES AND REMOVALS

11.1 Discovery and Notification

If any Party discovers or becomes aware of an emergency or other situation that endangers public health or safety or the environment at or near the Site, which is related to or may affect the work performed under this Agreement, that Party shall immediately orally notify all other Parties. If the emergency arises from activities conducted pursuant to this Agreement, the Marine Corps shall then take immediate action to notify the appropriate State and local agencies and affected members of the public.

11.2 Work Stoppage

In the event any Party determines that activities conducted pursuant to this Agreement will cause or otherwise be threatened by a situation described in subsection 11.1, the Party may propose the termination of such activities. If the Parties mutually agree, the activities shall be stopped for such period of time as is required to abate the danger. In the absence of mutual agreement, the activities shall be stopped in accordance with the proposal, and the matter shall be immediately referred to the EPA Hazardous Waste Management Division Director for a work stoppage determination in accordance with Section 12.9.

11.3 Removal Actions

(a) The provisions of this Section shall apply to all removal actions as defined in CERCLA section 101(23), 42 U.S.C. § 9601(23), including all modifications to, or extensions of, the ongoing removal actions, and all new removal actions proposed or commenced following the effective date of this Agreement.

(b) Any removal actions conducted at the Site shall be conducted in a manner consistent with this Agreement, CERCLA, the NCP and E.O. 12580.

(c) Nothing in this Agreement shall alter the Marine Corps' authority with respect to removal actions conducted

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pursuant to section 104 of CERCLA, 42 U.S.C. § 9604.

(d) Nothing in this Agreement shall alter any authority the State or EPA may have with respect to removal actions conducted at the Site.

(e) All reviews conducted by EPA and the State pursuant to 10 U.S.C. § 2705(b)(2) will be expedited so as not to unduly jeopardize fiscal resources of the Marine Corps for funding the removal actions.

(f) If a Party determines that there is an endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance, pollutant or contaminant at or from the Site, the Party may request that the Marine Corps take such response actions as may be necessary to abate such danger or threat and to protect the public health or welfare or the environment. Such actions might include provision of alternative drinking water supplies or other response actions listed in CERCLA section 101(23) or (24), or such other relief as the public interest may require.

11.4 Notice and Opportunity to Comment

(a) The Marine Corps shall provide the other Parties with timely notice and opportunity to review and comment upon any proposed removal action for the Site, in accordance with 10 U.S.C. § 2705(a) and (b). The Marine Corps agrees to provide the information described below pursuant to such obligation.

(b) For emergency response actions, the Marine Corps shall provide EPA and the State with notice in accordance with subsection 11.1. Such oral notification shall, except in the case of extreme emergencies, include adequate information concerning the Site background, threat to the public health and welfare or the environment (including the need for response), proposed actions and costs (including a comparison of possible alternatives, means of transportation of any hazardous substances off-site, and proposed manner of disposal), expected change in the situation should no action be taken or should action be delayed (including associated environmental impacts), any important policy issues, and the Marine Corps On-Scene Coordinator recommendations. Within forty-five (45) days of completion of the emergency action, the Marine Corps will furnish EPA and the State with an Action Memorandum addressing the information provided in the oral notification, and any other information required pursuant to CERCLA and the NCP, and in accordance with pertinent EPA guidance, for such actions.

(c) For other removal actions, the Marine Corps will provide EPA and the State with any information required by CERCLA or the NCP, and in accordance with pertinent EPA guidance, such

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as the Action Memorandum, the Engineering Evaluation/Cost Analysis (when required under the NCP) and, to the extent it is not otherwise included, all information required to be provided in accordance with paragraph 11.4(b). Such information shall be furnished at least forty-five (45) days before the response action is to begin.

(d) All activities related to ongoing removal actions shall be reported by the Marine Corps in the progress reports described in Section 18 (Project Managers).

11.5 Any dispute between the Parties as to whether a proposed non-emergency response action is (a) properly considered a removal action, as defined by 42 U.S.C. § 9601(23), or (b) consistent, to the extent deemed practicable under CERCLA section 104(a)(2), with any remedial action shall be resolved pursuant to Section 12 (Dispute Resolution). Such dispute may be brought directly to the DRC or the SEC (each as defined in Section 12) at any Party's request.

11.6 Alternative Dispute Resolution for Subsection 11.3(f)

(a) The following procedures shall apply only to disputes as to whether the Marine Corps will take any removal action requested under subsection 11.3(f). Such disputes shall be submitted to the DRC, which shall have ten (10) days to unanimously resolve the dispute. The DRC shall forward an unresolved dispute to the SEC within four (4) days of the end of the ten-day period.

(b) The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The EPA representative on the SEC is the Regional Administrator of EPA Region 9. The Department of the Navy's representative on the SEC is the Commanding Officer, Southwest Division, Naval Facilities Engineering Command. The ADEQ representative on the SEC is the ADEQ Assistan Director Office of Waste Programs. The SEC members shall, as appropriate, confer, meet and exert their best efforts to resolve the dispute and issue a written decision. If unanimous resolution of the dispute is not reached within seven (7) days, the Department of the Navy SEC representative shall issue a written position on the dispute. EPA or the State may, within four (4) days of the such representative's issuance of the Department of the Navy's position, issue a written notice elevating the dispute to the Department of the Navy's Secretariat Representative for resolution in accordance with all applicable laws and procedures. In the event EPA or the State elects not to elevate the dispute to the Secretariat Representative within the designated four (4) day escalation period, EPA and the State

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shall be deemed to have agreed with the Department of the Navy SEC representative's written position with respect to the dispute.

(c) Upon escalation of a dispute to the Department of the Navy's Secretariat Representative pursuant to subsection 11.6(b) above, the Secretariat Representative will review and resolve the dispute within seven (7) days. Before resolving the dispute, the Secretariat Representative shall, upon request, meet and confer with the EPA Administrator and the ADEQ Director to discuss the issue(s) under dispute. The Secretariat Representative shall provide the EPA and the State with its final decision in writing. If EPA or the State does not concur with such decision, the nonconcurring party must transmit indication thereof to the Secretariat Representative within fourteen (14) days of receipt of such decision. Failure to transmit such nonconurrence will be presumed to signify concurrence. If EPA or the State does not concur, such agency will retain any right it possesses with regard to the issue raised in the dispute under this subsection.

12. DISPUTE RESOLUTION

12.1 Except as specifically set forth in subsection 11.6 or elsewhere in this Agreement, if a dispute arises under this Agreement, the procedures of this Section shall apply. Any Party may invoke this dispute resolution procedure. All Parties to this Agreement shall make reasonable efforts to informally resolve disputes at the Project Manager or immediate supervisor level. If resolution cannot be achieved informally, the procedures of this Section shall be implemented to resolve a dispute.

12.2 Within thirty (30) days after: (a) receipt by EPA and the State of a draft final primary document pursuant to Section 7 (Consultation), or (b) any action which leads to or generates a dispute, the disputing Party shall submit to the Dispute Resolution Committee (DRC) a written statement of dispute setting forth the nature of the dispute, the work affected by the dispute, the disputing Party's position with respect to the dispute and the technical, legal or factual information the disputing Party is relying upon to support its position.

12.3 Prior to any Party's issuance of a written statement of a dispute, the disputing Party shall engage the other Party in informal dispute resolution among the Project Managers and/or their immediate supervisors. During this informal dispute resolution period the Parties shall meet as many times as are necessary to discuss and attempt resolution of the dispute.

12.4 The DRC will serve as a forum for resolution of

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dispute for which agreement has not been reached through informal dispute resolution. The Parties shall each designate one individual and an alternate to serve on the DRC. The individuals designated to serve on the DRC shall be employed at the policy level Senior Executive Service (SES) or equivalent or be delegated the authority to participate on the DRC for the purposes of dispute resolution under this Agreement. The EPA representative on DRC is the Deputy Director for Superfund, Hazardous Waste Management Division, EPA Region 9. The Department of the Navy's designated member is the Director, Facilities Management, Southwest Division, Naval Facilities Engineering Command. The ADEQ representative is the ADEQ Section Manager, Emergency and Remedial Section, Office of Waste Programs. Written notice of any delegation of authority from a Party's designated representative on the DRC shall be provided to all other Parties pursuant to the procedures of Section 21 (Notification).

12.5 Following elevation of a dispute to the DRC, the DRC shall have twenty-one (21) days to unanimously resolve the dispute and issue a written decision. If the DRC is unable to unanimously resolve the dispute within this twenty-one (21) day period, the written statement of dispute shall be forwarded to the Senior Executive Committee (SEC) for resolution within seven (7) days after the close of the twenty-one (21) day resolution period.

12.6 The SEC will serve as the forum for resolution of disputes for which agreement has not been reached by the DRC. The EPA representative on the SEC is the Regional Administrator of EPA Region 9. The Department of the Navy's representative on the SEC is the Commanding Officer, Southwest Division, Naval Facilities Engineering Command. The ADEQ representative on the SEC is the ADEQ Assistant Director, Office of Waste Programs. The SEC members shall, as appropriate, confer, meet and exert their best efforts to resolve the dispute and issue a written decision. If unanimous resolution of the dispute is not reached within twenty-one (21) days, EPA's Regional Administrator shall issue a written position on the dispute. The Department of the Navy or the State may, within fourteen (14) days of the Regional Administrator's issuance of EPA's position, issue a written notice elevating the dispute to the Administrator of EPA for resolution in accordance with all applicable laws and procedures. In the event the Department of the Navy or the State elects not to elevate the dispute to the Administrator within the designated fourteen (14) day escalation period, the Department of the Navy and the State shall be deemed to have agreed with the Regional Administrator's written position with respect to the dispute.

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12.7 Upon escalation of a dispute to the Administrator of EPA pursuant to subsection 12.6 above, the Administrator will review and resolve the dispute within twenty-one (21) days. Upon request, and prior to resolving the dispute, the EPA Administrator shall meet and confer with the Department of the Navy's Secretariat Representative and the ADEQ Director to discuss the issue(s) under dispute. Upon resolution, the Administrator shall provide the Department of the Navy and the State with a written final decision setting forth resolution of the dispute. The duties of the Administrator set forth in this Section shall not be delegated.

12.8 The pendency of any dispute under this Section shall not affect any Party's responsibility for timely performance of the work required by this Agreement, except that the time period for completion of work affected by such dispute shall be extended for a period of time usually not to exceed the actual time taken to resolve any good faith dispute in accordance with the procedures specified herein. All elements of the work required by this Agreement which are not affected by the dispute shall continue and be completed in accordance with the applicable timetable and deadline or schedule.

12.9 When dispute resolution is in progress, work affected by the dispute will immediately be discontinued if the Hazardous Waste Management Division Director for EPA Region 9 requests, in writing, that work related to the dispute be stopped because, in EPA's opinion, such work is inadequate or defective, and such inadequacy or defect is likely to yield an adverse effect on human health or the environment, or is likely to have a substantial adverse effect on the remedy selection or implementation process. ADEQ may request the EPA Hazardous Waste Management Division Director to order work stopped for the reasons set out above. To the extent possible, the Party seeking a work stoppage shall consult with the other Parties prior to initiating a work stoppage request. After work stoppage, if a Party believes that the work stoppage is inappropriate or may have potential significant adverse impacts, the Party may meet with the other Parties to discuss the work stoppage. Following this meeting and further considerations of this issue, the EPA Hazardous Waste Management Division Director will issue, in writing, a final decision with respect to the work stoppage. The final written decision of the EPA Hazardous Waste Management Division Director may immediately be subject to formal dispute resolution. Such dispute may be brought directly to either the DRC or the SEC, at the discretion of the Party requesting dispute resolution.

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12.10 Within twenty-one (21) days of resolution of a dispute pursuant to the procedures specified in this Section (or before such later date as is agreed by the Parties), the Marine Corps shall incorporate the resolution and final determination into the appropriate plan, schedule or procedures and proceed to implement this Agreement according to the amended plan, schedule or procedures. The deadline set forth above may in appropriate circumstances be extended in accordance with Section 9 (Extensions).

12.11 Except as set forth in Section 31 (Covenant Not to Sue and Reservation of Rights), resolution of a dispute pursuant to this Section (as it may be modified pursuant to subsection 11.6) constitutes a final resolution of any dispute arising under this Agreement. All Parties shall abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Section.

13. ENFORCEABILITY

13.1 The Parties agree that:

(a) Upon the effective date of this Agreement, any standard, regulation, condition, requirement or order which has become effective under CERCLA and is incorporated into this Agreement is enforceable by any person pursuant to CERCLA section 310, and any violation of such standard, regulation, condition, requirement or order will be subject to civil penalties under CERCLA sections 310(c) and 109;

(b) All timetables or deadlines associated with the RI/FS shall be enforceable by any person pursuant to CERCLA section 310, and any violation of such timetables or deadlines will be subject to civil penalties under CERCLA sections 310(c) and 109;

(c) All terms and conditions of this Agreement which relate to remedial actions, including corresponding timetables, deadlines or schedules, and all work associated with remedial actions, shall be enforceable by any person pursuant to CERCLA section 310(c), and any violation of such terms or conditions will be subject to civil penalties under CERCLA sections 310(c) and 109; and

(d) Any final resolution of a dispute pursuant to Section 12 (Dispute Resolution) of this Agreement which establishes a term, condition, timetable, deadline or schedule shall be enforceable by any person pursuant to CERCLA section 310(c), and any violation of such terms, condition, timetable, deadline or schedule will be subject to civil penalties under

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CERCLA sections 310(c) and 109.

13.2 Nothing in this Agreement shall be construed as authorizing any person to seek judicial review of any action or work where review is barred by any provision of CERCLA including CERCLA section 113(h).

13.3 Nothing in this Agreement shall be construed as a restriction or waiver of any rights the EPA or the State may have under CERCLA, including but not limited to any rights under sections 113, 121, and 310, 42 U.S.C. § 9613, 9621, and 9659, and/or applicable state law. The Marine Corps does not waive any rights it may have under CERCLA sections 120 and 121, SARA section 211 and E.O. 12580.

13.4 The Parties agree to exhaust their rights under Section 12 (Dispute Resolution) prior to exercising any rights to judicial review that they may have.

13.5 The Parties agree that all Parties shall have the right to enforce the terms of this Agreement.

14. STIPULATED PENALTIES

14.1 In the event that the Marine Corps (a) fails to submit a primary document listed in Section 7 (Consultation) to EPA and the State pursuant to the appropriate timetable or deadline in accordance with the requirements of this Agreement, or (b) fails to comply with a term or condition of this Agreement which relates to an operable unit or final remedial action (unless excused under this Agreement), EPA may assess a stipulated penalty against the Marine Corps. The State may also recommend to EPA that a stipulated penalty be assessed. A stipulated penalty may be assessed in an amount not to exceed \$5,000 for the first week (or part thereof), and \$10,000 for each additional week (or part thereof) for which a failure set forth in this subsection occurs.

14.2 Upon determining that an event described in subsection 14.1(a) or 14.1(b) has occurred, EPA shall notify the Marine Corps in writing. If the failure in question is not already subject to dispute resolution at the time such notice is received, the Marine Corps shall have fifteen (15) days after receipt of the notice to invoke dispute resolution on the question whether such event has in fact occurred. The Marine Corps shall not be liable for the stipulated penalty assessed by EPA if the event is determined, through the dispute resolution

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process, not to have occurred. No assessment of a stipulated penalty shall be final until the conclusion of dispute resolution procedures related to the assessment of the stipulated penalty.

14.3 The annual reports required by CERCLA section 120(e)(5), 42 U.S.C. § 9620(e)(5), shall include, with respect to each final assessment of a stipulated penalty against the Marine Corps under this Agreement, each of the following:

- (a) The federal facility responsible for the failure;
- (b) A statement of the facts and circumstances giving rise to the failure;
- (c) A statement of any administrative or other corrective action taken at the relevant federal facility, or a statement of why such measures were determined to be inappropriate;
- (d) A statement of any additional action taken by or at the federal facility to prevent recurrence of the same type of failure; and
- (e) The total dollar amount of the stipulated penalty assessed for the particular failure.

14.4 Stipulated penalties assessed pursuant to this Section shall be payable to the Hazardous Substances Response Trust Fund only in the manner and to the extent expressly provided for in acts authorizing funds for, and appropriations to, the Department of Defense. EPA and the State agree, to the extent allowed by law, to share equally any stipulated penalties paid on behalf of Marine Corps Air Station Yuma between the Hazardous Substance Response Trust Fund and an appropriate State fund.

14.5 In no event shall this Section give rise to a stipulated penalty in excess of the amount set forth in CERCLA section 109, 42 U.S.C. § 9609.

14.6 This Section shall not affect the Marine Corps' ability to obtain an extension of a timetable, deadline or schedule pursuant to Section 9 (Extensions).

14.7 Nothing in this Agreement shall be construed to render any officer or employee of the Marine Corps personally liable for the payment of any stipulated penalty assessed pursuant to this Section.

15. FUNDING

15.1 It is the expectation of the Parties to this Agreement that all obligations of the Marine Corps arising under this

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Agreement will be fully funded. The Marine Corps agrees to seek sufficient funding through the Department of Defense budgetary process to fulfill its obligations under this Agreement.

15.2 In accordance with CERCLA section 120(e)(5)(B), 42 U.S.C. § 9620 (e)(5)(B), the Marine Corps shall include, in its submission to the Department of Defense annual report to Congress, the specific cost estimates and budgetary proposals associated with the implementation of this Agreement.

15.3 Any requirement for the payment or obligation of funds, including stipulated penalties, by the Marine Corps established by the terms of this Agreement shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341. In cases where payment or obligation of funds would constitute a violation of the Anti-Deficiency Act, the dates established requiring the payment or obligation of such funds shall be appropriately adjusted.

15.4 If appropriated funds are not available to fulfill the Marine Corps' obligations under this Agreement, EPA and the State reserve the right to initiate an action against any other person, or to take any response action, which would be appropriate absent this Agreement.

15.5 Funds authorized and appropriated annually by Congress under the "Environmental Restoration, Defense" appropriation in the Department of Defense Appropriation Act and allocated by the Deputy Assistant Secretary of Defense for Environment to the Department of the Navy will be the source of funds for activities required by this Agreement consistent with section 211 of CERCLA, 10 U.S.C. Chapter 160. However, should the Environmental Restoration, Defense appropriation be inadequate in any year to meet the total Department of the Navy CERCLA implementation requirements, the Department of Defense shall employ and the Department of the Navy shall follow a standardized Department of Defense prioritization process which allocates that year's appropriations in a manner which maximizes the protection of human health and the environment. A standardized Department of Defense prioritization model shall be developed and utilized with the assistance of EPA and the states.

16. EXEMPTIONS

16.1 The obligation of the Marine Corps to comply with the

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provisions of this Agreement may be relieved by:

- (a) A Presidential order of exemption issued pursuant to the provisions of CERCLA section 120(j)(1), 42 U.S.C. § 9620(j)(1), or RCRA section 6001, 42 U.S.C. § 6961; or
- (b) The order of an appropriate court.

16.2 The State reserves any statutory right it may have to challenge any Presidential order relieving the Marine Corps of its obligations to comply with this Agreement.

17. STATUTORY COMPLIANCE/RCRA-CERCLA INTEGRATION

17.1 The Parties intend to integrate into this comprehensive Agreement the Marine Corps's CERCLA response obligations with the Marine Corps's (a) RCRA corrective action obligations, and (b) State corrective/remedial action obligations, in each case relating to releases of hazardous substances, hazardous wastes, pollutants or contaminants covered by this Agreement and which have been or will be adequately addressed by the remedial actions provided for under this Agreement. Therefore, the Parties intend that activities covered by this Agreement will achieve compliance with CERCLA, 42 U.S.C. § 9601 et seq.; satisfy the corrective action requirements of RCRA section 3004(u) & (v), 42 U.S.C. § 6924(u) & (v), for a RCRA permit, and RCRA section 3008(h), 42 U.S.C. § 6928(h), for interim status facilities; and meet or exceed all applicable or relevant and appropriate federal and State laws and regulations, to the extent required by CERCLA section 121, 42 U.S.C. § 9621.

17.2 Based upon the foregoing, the Parties intend that any remedial action selected, implemented and completed under this Agreement will be protective of human health and the environment such that remediation of releases covered by this Agreement shall obviate the need for further corrective action under RCRA or otherwise applicable State hazardous waste or water quality protection laws (i.e., no further corrective action shall be required). The Parties agree that with respect to releases of hazardous waste covered by this Agreement, RCRA and such State laws shall be considered an applicable or relevant and appropriate requirement pursuant to CERCLA section 121, 42 U.S.C. § 9621.

17.3 The Parties recognize that the requirement to obtain permits for response actions undertaken pursuant to this Agreement shall be as provided in CERCLA and the NCP. The Parties further recognize that ongoing hazardous waste management

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activities at Marine Corps Air Station Yuma may require the issuance of permits under federal and State laws. This Agreement does not affect the requirements, if any, to obtain such permits. However, if a permit is issued to the Marine Corps for ongoing hazardous waste management activities at the Site, the issuing party shall reference and incorporate in a permit condition any appropriate provision, including appropriate schedules (and the provision for extension of such schedules), of this Agreement into such permit. The Parties intend that any judicial review of any permit condition which references this Agreement shall, to the extent authorized by law, only be reviewed under the provisions of CERCLA.

17.4 Underground Tanks (UTs)

a. For purposes of work performed under this Agreement, the definition of UT is as follows: "underground storage tanks" (USTs) as defined in 42 U.S.C. §6991(1); and underground tanks which store RCRA, Subtitle "C" "hazardous wastes", as defined in 42 U.S.C. §6903(5).

b. The purpose of this subsection is to coordinate UT site investigations and remediations with activities conducted under this Agreement.

c. Unless the Parties determine that UT work should be included in the Installation Restoration Program pursuant to §17.4(d), such work will remain outside the scope of this Agreement. The activities described in Part A of Attachment "E" will be performed to serve as a basis for making such a determination.

d. Under the following circumstances, UT closures (as appropriate) and/or contamination from UTs will be handled pursuant to the terms of this Agreement:

- (1) UTs from which CERCLA hazardous substances have been released;
- (2) UTs from which, based on analytical data, petroleum products have been released and have commingled with CERCLA hazardous substances; or
- (3) Any UT remediation requiring the removal of free product or groundwater treatment, where removal of such free product or groundwater will create a hydraulic zone of influence that, based on analytical data, includes any portion of a CERCLA area of contamination.

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e. For UTs not covered by this Agreement, where implementation of applicable federal or state operational and/or corrective action requirements (including applicable federal and state UST requirements) will have an adverse impact on CERCLA work, other than creating a hydraulic zone of influence, implementation of UT requirements will be completed on a timeline and in a manner which the Parties determine to be compatible with CERCLA activities conducted at the site. Adverse impacts include, but are not limited to, removal of UTs or soils where such removal would interfere with ongoing RI/FS operations or impede access to a CERCLA area of contamination.

f. Determinations under §17.4 will be subject to Section 12 (Dispute Resolution) of this Agreement.

18. PROJECT MANAGERS

18.1 Within ten (10) days after the date of execution of this Agreement, EPA, the Marine Corps, and ADEQ shall each designate a Project Manager and an alternate (each hereinafter referred to as Project Manager), for the purpose of overseeing the implementation of this Agreement. The Project Managers shall be responsible on a daily basis for assuring proper implementation of the RI/FS and the RD/RA in accordance with the terms of the Agreement. In addition to the formal notice provisions set forth in Section 21 (Notification), to the maximum extent possible, communications among the Marine Corps, EPA, and the State on all documents, including reports, comments, and other correspondence concerning the activities performed pursuant to this Agreement, shall be directed through the Project Managers. A contractor may not serve as Project Manager, unless the other Parties shall consent in writing.

18.2 The Marine Corps, EPA, and ADEQ may change their respective Project Managers. The other Parties shall be notified in writing within five days of the change.

18.3 The Project Managers shall meet to discuss progress through meetings formally designated as "Progress Meetings." These meetings are defined in subsection 4.1(n) and are further described in subsection 7.5. Although the Marine Corps has ultimate responsibility for meeting its respective deadlines or schedule, the Project Managers shall assist in this effort by consolidating the review of primary and secondary documents whenever possible, and by scheduling Progress Meetings to review reports, evaluate the performance of environmental monitoring at the Site, review RI/FS or RD/RA progress, discuss target dates

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for elements of the RI/FS to be conducted in the following one hundred and eighty (180) days, resolve disputes, and adjust deadlines or schedules. At least one week prior to each scheduled Progress Meeting, the Marine Corps will provide to the other Parties a draft agenda and summary of the status of the work subject to this Agreement. Unless the Project Managers agree otherwise, the minutes of each progress meeting, the meeting agenda and all documents discussed during the meeting that were not previously provided shall constitute a progress report. The Marine Corps will send to all Project Managers (a) within ten business days after the meeting, all such documents not previously provided and (b) within twenty-one calendar days after the meeting, the minutes and agenda. If an extended period occurs between Progress Meetings, the Project Managers may agree that the Marine Corps shall prepare an interim progress report and provide it to the other Parties. The report shall include the information that would normally be discussed in a Progress Meeting. All other meetings as defined in subsection 4.1(n) shall not carry any of the administrative requirements of this subsection, unless specifically agreed to by the majority of the Project Managers.

18.4 The authority of the Project Managers shall include, but is not limited to:

- (a) Taking samples and ensuring that sampling and other field work is performed in accordance with the terms of any final work plan and QAPP;
- (b) Observing, and taking photographs and making such other reports on the progress of the work as the Project Managers deem appropriate, subject to the limitations set forth in Section 25 (Access to Marine Corps Air Station Yuma) hereof;
- (c) Reviewing records, files and documents relevant to the work performed, subject to the limitations set forth in subsection 23.1 hereof;
- (d) Determining the form and specific content of the Project Manager meetings and of progress reports based on such meetings; and
- (e) Recommending and requesting minor field modifications to the work to be performed pursuant to a final work plan, or to techniques, procedures, or design utilized in carrying out such work plan.

18.5 Any minor field modification proposed by any Party pursuant to this Section must be approved orally by all Parties' Project Managers to be effective. The Marine Corps Project Manager will make a contemporaneous record of such modification and approval in a written log, and a copy of the log entry will

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be provided as part of the next progress report. Even after approval of the proposed modification, no Project Manager will require implementation by a government contractor without approval of the appropriate Government Contracting Officer.

18.6 The Project Manager for the Marine Corps shall be responsible for day-to-day field activities at the Site. The Marine Corps Project Manager or other designated representative of Marine Corps Air Station Yuma shall be present at the Site or reasonably available to supervise work during all hours of work performed at the Site pursuant to this Agreement. For all times that such work is being performed, the Marine Corps Project Manager shall inform the IRP manager at Marine Corps Air Station Yuma of the name and telephone number of the designated representative responsible for supervising the work.

18.7 The Project Managers shall be reasonably available to consult on work performed pursuant to this Agreement and shall make themselves available to each other for the pendency of this Agreement. The absence of EPA, ADEQ, or Marine Corps Project Managers from the Facility shall not be cause for work stoppage of activities taken under this Agreement.

19. PERMITS

19.1 The Parties recognize that under sections 121(d) and 121(e)(1) of CERCLA, 42 U.S.C. § 9621(d) and 9621(e)(1), and the NCP, portions of the response actions called for by this Agreement and conducted entirely on-site are exempted from the procedural requirement to obtain a federal, State, or local permit but must satisfy all the promulgated (as defined in NCP § 300.400(g)(4)) applicable or relevant and appropriate federal and State substantive standards, requirements, criteria, or limitations which would have been included in any such permit.

19.2 This Section is not intended to relieve the Marine Corps from any applicable regulatory requirements, including obtaining a permit, whenever it proposes a response action involving either the movement of hazardous substances, pollutants, or contaminants off-site, or the conduct of a response action off-site.

19.3 The Marine Corps shall notify EPA and the State in writing of any permit required for off-site activities as soon as it becomes aware of the requirement. The Marine Corps agrees to obtain any permits necessary for the performance of any work under this Agreement. Upon request, the Marine Corps shall

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provide EPA and the State copies of all such permit applications and other documents related to the permit process. Copies of permits obtained in implementing this Agreement shall be appended to the appropriate submittal or progress report. Upon request by the Marine Corps Project Manager, the Project Managers of EPA and the State will assist Marine Corps Air Station Yuma to the extent feasible in obtaining any required permit.

20. QUALITY ASSURANCE

20.1 In order to provide quality assurance and maintain quality control regarding all field work and sample collection performed pursuant to this Agreement, the Marine Corps agrees to designate a Quality Assurance Officer (QAO) who will ensure that all work is performed in accordance with approved work plans, sampling plans and QAPPs. The QAO shall maintain for inspection a log of quality assurance field activities and provide a copy to the Parties upon request.

20.2 To ensure compliance with the QAPP, the Marine Corps shall, upon request by EPA or the State, use its best efforts to obtain access to all laboratories performing analysis on behalf of the Marine Corps pursuant to this Agreement. If such access is not obtained for any laboratory, EPA or the State may reject all or portions of the data generated by such laboratory and require the Marine Corps to have the same or comparable data analyzed by a laboratory that will grant such access.

21. NOTIFICATION

21.1 All Parties shall transmit primary and secondary documents, and comments thereon, and all notices required herein by next day mail, hand delivery, or facsimile, or by certified mail if transmitted sufficiently ahead of the applicable deadline. Notifications shall be deemed effective upon receipt.

21.2 Notice to the individual Parties pursuant to this Agreement shall be sent to the addresses specified by the Parties. Initially these shall be as follows:

EPA:

Marlon Mezquita, Project Manager,
U.S. Environmental Protection Agency, Region 9
Hazardous Waste Management Division, H-7-5
75 Hawthorne Street
San Francisco, CA 94105

EPA Region IX/State of Arizona/Marine Corps FFA
Marine Corps Air Station Yuma

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State:

Michael Van Fleteren, Project Manager,
Remedial Projects Unit
Office of Waste Programs
Arizona Department of Environmental Quality
2005 N. Central Avenue
Phoenix, AZ 85004

Marine Corps:

Jim Pettis, Remedial Project Manager
Southwest Division (Code 1812.JI)
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190;

Information copy to: Commanding Officer
Bldg. 888 (Code 3JG)
Facilities Management Department
Marine Corps Air Station
Yuma, AZ 85369

21.3 All routine correspondence may be sent via first class mail to the above addresses.

22. DATA AND DOCUMENT AVAILABILITY

22.1 Each Party shall make all sampling results, test results or other data or documents generated through the implementation of this Agreement available to the other Parties. All quality assured data shall be supplied within sixty (60) days of its collection. If the quality assurance procedure is not completed within sixty (60) days, raw data or results shall be submitted within the sixty (60) day period and quality assured data or results shall be submitted as soon as they become available. The procedures of Section 9 (Extensions) shall apply to the sixty-day period referred to herein.

22.2 The sampling Party's Project Manager shall notify the other Parties' Project Managers not less than 10 days in advance of any sample collection. If it is not possible to provide 10 days prior notification, the sampling Party's Project Manager shall notify the other Project Managers as soon as possible after becoming aware that samples will be collected. Each Party shall allow, to the extent practicable, split or duplicate samples to be taken by the other Parties or their authorized

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representatives. Other Parties desiring to collect split or duplicate samples shall inform the sampling Party before the time of sample collection. Each Party receiving split or duplicate samples shall on request provide the sampling Party with its chain of custody documents relating to such sample.

23. RELEASE OF RECORDS

23.1 The Parties may request of one another access to or a copy of any record or document relating to this Agreement or the Installation Restoration Program. If the Party that is the subject of the request (the originating Party) has the record or document, that Party shall provide to the requesting Party access to or a copy of the record or document; provided, however, that no such access or copy need be provided if the record or document is identified as confidential and is subject to a claim of confidentiality because of attorney-client privilege or attorney work product or under the following provisions of FOIA: deliberative process, enforcement confidentiality, or properly classified for national security under law or executive order.

23.2 Records or documents identified by the originating Party as confidential pursuant to (a) non-disclosure provisions of FOIA other than those listed in subsection 23.1 above, or (b) the Arizona Public Records Act, section 39-121 or ARS 49-205 of the State of Arizona law, shall be released to the requesting Party if the requesting Party states in writing that it will not release the record or document to the public without first consulting with the originating Party and either (x) receiving the originating Party's prior approval or (y) if the originating Party does not approve, giving the originating Party opportunity to contest, in accordance with applicable statutes and regulations, the preliminary decision to release. Records or documents which are provided to the requesting Party and which are not identified as confidential may be made available to the public without further notice to the originating Party.

23.3 The Parties will not assert one of the above exemptions, including any available under FOIA or the Arizona Public Records Act, even if available, if no governmental interest (including the interest established by law in protecting confidential business information) would be jeopardized by access or release as determined solely by the asserting Party.

23.4 Subject to section 120(j)(2) of CERCLA, 42 U.S.C. § 9620(j)(2), any documents required to be provided by Section 7 (Consultation) and analytical data showing test results will not

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be subject to subsection 23.2 or the proviso to subsection 23.1.

23.5 This Section does not change any requirement regarding press releases in Section 26 (Public Participation and Community Relations).

23.6 Disputes between EPA and the Marine Corps concerning matters covered by this Section 23 shall be subject to Section 12 (Dispute Resolution). Disputes between (a) ADEQ and (b) EPA or the Marine Corps shall not be subject to Section 12 and shall instead be pursued through the originating Party's standard procedures concerning releasability of documents under FOIA or the Arizona Public Records Act.

24. PRESERVATION OF RECORDS

24.1 Notwithstanding any document retention policy to the contrary, during the pendency of this Agreement and for a minimum of ten years after its termination, (a) the Marine Corps shall preserve all records and documents that were at any time in its possession or in the possession of its contractors and (b) each other Party shall preserve all records and documents it prepared or to which it substantially contributed, in each case that relate to (x) the implementation of the Installation Restoration Program at the Site, or (y) the actions carried out pursuant to this Agreement. After this ten-year period, each Party shall notify the other Parties at least 45 days prior to destruction of any such records or documents. Upon request by any party, the requested party shall make available such records or copies of any such record, unless withholding is authorized and determined appropriate by law.

25. ACCESS TO MARINE CORPS AIR STATION YUMA

25.1 Without limitation of any authority conferred on EPA or the State by statute or regulation, EPA, the State or their authorized representatives shall be allowed to enter Marine Corps Air Station Yuma at reasonable times for purposes consistent with the provisions of the Agreement, subject to any statutory and regulatory requirements necessary to protect national security or mission essential activities. Such access shall include, but not be limited to, reviewing the progress of the Marine Corps in carrying out the terms of this Agreement; ascertaining that the work performed pursuant to this Agreement is in accordance with approved work plans, sampling plans and QAPPs; and conducting such tests as EPA, the State, or the Project Managers deem necessary.

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25.2 The Marine Corps shall honor all reasonable requests for access by the EPA or the State, conditioned upon presentation of proper credentials. The Marine Corps Project Manager or his/her designee will provide briefing information, coordinate access and escort to restricted or controlled-access areas, arrange for base passes and coordinate any other access requests which arise.

25.3 EPA and the State shall provide reasonable notice (which shall, if practical, be 48 hours' advance notice) to the Marine Corps Project Manager to request any necessary escorts. EPA and the State shall not use any camera, sound recording or other recording device at Marine Corps Air Station Yuma without the permission of the Marine Corps Project Manager. The Marine Corps shall not unreasonably withhold such permission.

25.4 The access by EPA and the State granted in subsection 25.1 shall be subject to those regulations necessary to protect national security or mission essential activities. Such regulation shall not be applied so as to unreasonably hinder EPA or the State from carrying out their responsibilities and authority pursuant to this Agreement. In the event that access requested by either EPA or the State is denied by the Marine Corps, the Marine Corps shall provide an explanation within 48 hours of the reason for the denial, including reference to the applicable regulations, and, upon request, a copy of such regulations. The Marine Corps shall expeditiously make alternative arrangements for accommodating the requested access. The Parties agree that this Agreement is subject to CERCLA section 120(j), 42 U.S.C. § 9620(j), regarding the issuance of Site Specific Presidential Orders as may be necessary to protect national security.

25.5 If EPA or the State requests access in order to observe a sampling event or other work being conducted pursuant to this Agreement, and access is denied or limited, the Marine Corps agrees to reschedule or postpone such sampling or work if EPA or the State so requests, until such mutually agreeable time when the requested access is allowed. The Marine Corps shall not restrict the access rights of the EPA or the State to any greater extent than the Marine Corps restricts the access rights of its contractors performing work pursuant to this Agreement.

25.6 All Parties with access to Marine Corps Air Station Yuma pursuant to this Section shall comply with all applicable health and safety plans.

25.7 To the extent the activities pursuant to this

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Agreement must be carried out on other than Marine Corps property, the Marine Corps shall use its best efforts, including its authority under CERCLA section 104, to obtain access agreements from the owners which shall provide reasonable access for the Marine Corps, EPA, and the State and their representatives. The Marine Corps may request the assistance of the State in obtaining such access, and upon such request, the State will use its best efforts to obtain the required access. In the event that the Marine Corps is unable to obtain such access agreements, the Marine Corps shall promptly notify EPA and the State.

25.8 With respect to non-Marine Corps property on which monitoring wells, pumping wells, or other response actions are to be located, the Marine Corps shall use its best efforts to ensure that any access agreements will provide for the continued right of entry for all Parties to this Agreement for the performance of such remedial activities, and that no conveyance of title, easement, or other interest in the property will be consummated without the continued right of entry.

25.9 Nothing in this Section shall be construed to limit EPA's and the State's full right of access as provided in 42 U.S.C. § 9604(e) and Arizona Revised Statutes Section 49-203, except as that right may be limited by 42 U.S.C. § 9620(j)(2), E.O. 12580, or other applicable national security regulations or federal law.

26. PUBLIC PARTICIPATION AND COMMUNITY RELATIONS

26.1 The Parties agree that any proposed removal actions and remedial action alternative(s) and plan(s) for remedial action at the Site arising out of this Agreement shall comply with the administrative record and public participation requirements of CERCLA sections 113(k) and 117, 42 U.S.C. § 9313(k) and 9617, relevant community relations provisions in the NCP, EPA guidances, and, to the extent they may apply, State statutes and regulations. The State agrees to inform the Marine Corps of all State requirements which it believes pertain to public participation. The provisions of this Section shall be carried out in a manner consistent with, and shall fulfill the intent of, Section 17 (Statutory Compliance/RCRA-CERCLA Integration).

26.2 The Marine Corps shall develop and implement a community relations plan (CRP) addressing the environmental activities and elements of work undertaken by the Marine Corps,

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except as provided in Section 11 hereof.

26.3 The Marine Corps shall establish and maintain an administrative record at a place, at or near the federal facility, which is freely accessible to the public, which record shall provide the documentation supporting the selection of each response action. The administrative record shall be established and maintained in accordance with relevant provisions in CERCLA, the NCP, and EPA guidances. A copy of each document placed in the administrative record, not already provided, will be provided by the Marine Corps to the other Parties. The administrative record developed by the Marine Corps shall be updated and new documents supplied to the other Parties on at least a quarterly basis. An index of documents in the administrative record will accompany each update of the administrative record.

26.4 Except in case of an emergency, any Party issuing a press release with reference to any of the work required by this Agreement shall advise the other Parties of such press release at least 48 hours prior to issuance.

27. FIVE-YEAR REVIEW

27.1 Consistent with 42 U.S.C. § 9621(c), E.O. 12580 §2(d), (e), and (g), and applicable EPA guidance (e.g., OSWER Directives 9320.2-03A, 9320.2-03B, and 9355.7-02) and in accordance with this Agreement, if the selected remedial action results in any hazardous substances, pollutants or contaminants remaining at the Site, the remedial action program shall be reviewed at least every five (5) years after the initiation of the final remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

27.2 If, upon such review, any of the Parties proposes additional work or modification of work, such proposal shall be handled under subsection 7.10 of this Agreement.

27.3 To synchronize the five-year reviews for all operable units and final remedial actions, the following procedure will be used: Review of operable units will be conducted every five years counting from the initiation of the first operable unit, until initiation of the final remedial action for the Site. At that time a separate review for all operable units shall be conducted. Review of the final remedial action (including all operable units) shall be conducted every five years thereafter.

27.4 Prior to termination of this Agreement, the Parties

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may develop a Memorandum of Understanding to implement five-year reviews subsequent to termination, if appropriate, based on forthcoming EPA guidance.

28. TRANSFER OF REAL PROPERTY

28.1 Except as may be provided in a separate agreement between EPA and a fee simple transferee who is a Potentially Responsible Party, the Marine Corps shall retain liability in accordance with CERCLA notwithstanding any change in ownership or possession of the property interests comprising the federal facility. The Marine Corps shall not transfer any of the property interests comprising the federal facility except in compliance with Section 120(h)(3) of CERCLA, 42 U.S.C. §9620(h)(3), in the case of transfers by deed, and Section 120(h)(1) of CERCLA, 42 U.S.C. §9620(h)(1), in the case of transfers not by deed.

28.2 Prior to any transfer (whether or not it is conveyed by deed) of any portion of the property comprising the federal facility where any release of hazardous substances has come to be located and meets the threshold requirements stated in regulations promulgated pursuant to CERCLA Section 120(h)(2), or which is necessary for investigation or the performance of response action under this Agreement, the Marine Corps will make provision for the following:

(a) Written notice to the transferee (including lessee, sublessee or other recipient) of the investigation and cleanup effort that the Marine Corps is engaged in at the Yuma Marine Corps Air Station, of the existence of this Agreement, and of the availability of the administrative record file;

(b) Using its best efforts to give all of the Parties at least thirty (30) days notice of such transfer, of any provisions made for continued implementation of this Agreement (including, but not limited to, any additional response actions if required), and of how the property is to be used after the transfer is complete;

(c) Using its best efforts to give all of the Parties notice of any activity by any subsequent transferee that may affect the RI/FS or any response action.

28.3 Prior to any non-deed transfer, the Marine Corps agrees to provide for the following to be included in documents evidencing such transfers:

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(a) That the Parties to this Agreement have continuous rights of access to and over such property, in accordance with Section 25;

(b) That such transferee will not make subsequent transfers without the approval of the Marine Corps and that the Marine Corps will provide copies of such subsequent transfers to each of the Parties to this Agreement by certified mail within fourteen (14) days after the effective date of such subsequent transfer;

(c) That such transferee will not impede activities associated with the RI/FS or any response action taken under this Agreement;

(d) That such a transfer will not alter the rights and obligations of the Parties under this Agreement.

29. AMENDMENT OR MODIFICATION OF AGREEMENT

29.1 This Agreement can be amended or modified solely upon written consent of all Parties. Such amendments or modifications may be proposed by any Party and shall be effective the third business day following the day the last Party to sign the amendment or modification sends its notification of signing to the other Parties. The Parties may agree to a different effective date.

30. TERMINATION OF THE AGREEMENT

30.1 At the completion of the remedial action, the Marine Corps shall prepare a Project Closeout Report certifying that all requirements of this agreement have been completed. The provisions of this Agreement shall be deemed satisfied and terminated upon receipt by the Marine Corps of written notice from EPA, with concurrence of the State, that the Marine Corps has demonstrated that all the terms of this Agreement have been completed. If EPA denies or otherwise fails to grant a termination notice within 90 days of receiving a written Marine Corps request for such notice, EPA shall provide a written statement of the basis for its denial and describe the Marine Corps actions which, in the view of EPA, would be a satisfactory basis for granting a notice of completion. Such denial or failure to grant shall be subject to dispute resolution.

30.2 This Section shall not affect the requirements for periodic review at maximum five-year intervals of the efficacy of the remedial actions.

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31. COVENANT NOT TO SUE AND RESERVATION OF RIGHTS

31.1 In consideration for the Marine Corps's compliance with this Agreement, and based on the information known to the Parties or reasonably available on the effective date of this Agreement, EPA, the Marine Corps, and the State agree that compliance with this Agreement shall stand in lieu of any administrative, legal, and equitable remedies against the Marine Corps available to them regarding the releases or threatened releases of hazardous substances including hazardous wastes, pollutants or contaminants at the Site which are the subject of any RI/FS conducted pursuant to this Agreement and which have been or will be adequately addressed by the remedial actions provided for under this Agreement. The above notwithstanding, EPA and the State reserve all rights each may have with regard to the Marine Corps's taking any removal action requested under subsection 11.3(f) after exhaustion of the alternative dispute resolution process set forth in subsection 11.6.

31.2 Notwithstanding this Section or any other Section of this Agreement, the State shall retain any statutory right it may have to obtain judicial review of any final decision of the EPA on selection of remedial action pursuant to any authority the State may have under CERCLA, including sections 121(e)(2), 121(f), 310, and 113.

32. OTHER CLAIMS

32.1 Nothing in this Agreement shall constitute or be construed as a bar or release from any claim, cause of action or demand in law or equity by or against any person, firm, partnership or corporation not a signatory to this Agreement for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous substances, hazardous waste, pollutants, or contaminants found at, taken to, or taken from the federal facility. Unless specifically agreed to in writing by the Parties, EPA and the State shall not be held as a party to any contract entered into by the Department of the Navy (including the Marine Corps) to implement the requirements of this Agreement.

32.2 This Agreement shall not restrict EPA, the State or the Marine Corps from taking any legal or response action for any matter not part of the subject matter of this Agreement.

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33. RECOVERY OF EPA EXPENSES

33.1 The Parties agree to amend this Agreement at a later date in accordance with any subsequent national resolution of the issue of cost reimbursement. Pending such resolution, EPA reserves any rights it may have with respect to cost reimbursement.

34. STATE SUPPORT SERVICES

34.1 Compensation for State support services rendered in connection with this Agreement are governed by the Defense/State Memorandum of Agreement, executed on May 31, 1990, between ADEQ on behalf of the State and the Department of Defense. In the event such Memorandum of Agreement is terminated or no longer in effect for any reason, subsections 34.2 through shall 34.12 shall apply.

34.2 The Marine Corps agrees to request funding and reimburse the State, subject to the conditions and limitations set forth in this Section and subject to Section 15 (Funding), for all reasonable costs it incurs in providing services in direct support of the Marine Corp's environmental restoration activities pursuant to this Agreement at the Site. The reasonable costs shall include but not be limited to personnel costs, which shall include employee related expenses and indirect labor charges; travel costs and State per diem allowances; supplies; and contractor costs. The indirect rate shall be the then current Federal rate.

34.3 Reimbursable expenses shall consist only of actual expenditures required to be made and actually made by the State in providing the following assistance to Marine Corps Air Station Yuma:

(a) Timely technical review and substantive comment on reports or studies which the Marine Corps prepares in support of its response actions and submits to the State.

(b) Identification and explanation of unique State requirements applicable to military installations in performing response actions, especially State ARARs.

(c) Field visits to ensure investigations and cleanup activities are implemented in accordance with agreed upon conditions between the State and the Marine Corps that are established in the framework of this Agreement.

(d) Support and assistance to the Marine Corps in the conduct of public participation activities in accordance with federal and State requirements for public involvement.

(e) Participation in the review and comment functions

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of Marine Corps Technical Review Committees.

(f) Other services specified in this Agreement.

34.4 Within ninety (90) days after the end of each quarter of the federal fiscal year, the State shall submit to the Marine Corps an accounting of all State costs actually incurred during that quarter in providing direct support services under this Section. Such accounting shall be accompanied by cost summaries and be supported by documentation which meets federal auditing requirements. The summaries will set forth employee-hours and other expenses by major type of support service. All costs submitted must be for work directly related to implementation of this Agreement and not inconsistent with either the National Contingency Plan (NCP) or the requirements described in OMB Circulars A-87 (Cost Principles for State and Local Governments) and A-128 (Audits for State and Local Cooperative Agreements with State and Local Governments) and Standards Forms 424 and 270. The Marine Corps has the right to audit cost reports used by the State to develop the cost summaries. Before the beginning of each fiscal year, the State shall supply a budget estimate of its anticipated activities in the next year.

34.5 Except as allowed pursuant to subsections 34.6 or 34.7 below, within ninety (90) days of receipt of the accounting provided pursuant to subsection 34.3 above, the Marine Corps shall reimburse the State in the amount set forth in the accounting.

34.6 In the event the Marine Corps contends that any of the costs set forth in the accounting provided pursuant to subsection 34.4 above are not properly payable, the matter shall be resolved through the process set forth in subsection 34.10 below.

34.7 The Marine Corps shall not be responsible for reimbursing the State for any costs actually incurred in the implementation of this Agreement in excess of one percent (1%) of the Marine Corps's total lifetime project costs incurred through construction of the remedial action(s). Circumstances could arise whereby fluctuations in the Marine Corps estimates or actual final costs through the construction of the final remedial action creates a situation where the State receives reimbursement in excess of one percent of these costs. Under these circumstances, the State remains entitled to payment for services rendered prior to the completion of a new estimate if the services are within the ceiling applicable under the previous estimate. This Section does not cover the cost of services rendered prior to October 17, 1986; services and properties not owned by the federal government; and activities funded from

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sources other than Defense Environmental Restoration Account appropriations.

(a) Funding of support services must be constrained so as to avoid unnecessary diversion of the limited Defense Environmental Restoration Account funds available for the overall cleanup, and

(b) Support services should not be disproportionate to overall project costs and budget.

34.8 Either the Marine Corps or the State may request, on the basis of significant upward or downward revisions in the Marine Corps's estimate of its total lifetime costs through construction used in subsection 34.7 above, a renegotiation of the cap. Failing an agreement, either the Marine Corps or the State may initiate dispute resolution in accordance with 34.10 below.

34.9 The State agrees to seek reimbursement for its expenses solely through the mechanisms established in this Section, and reimbursement provided under this Section shall be in settlement of any claims for State response costs relative to the Marine Corps's environmental restoration activities at the Site.

34.10 Section 12 (Dispute Resolution) notwithstanding, this subsection shall govern any dispute between the Marine Corps and the State regarding the application of this Section or any matter controlled by this Section including, but not limited to, allowability of expenses and limits on reimbursement. While it is the intent of the Marine Corps and the State that these procedures shall govern resolution of disputes concerning State reimbursement, informal dispute resolution is encouraged.

(a) The Marine Corps and the State Project Managers shall be the initial points of contact for coordination of dispute resolution under this Subsection.

(b) If the Marine Corps and the State Project Managers are unable to resolve a dispute, the matter shall be referred to the ADEQ Assistant Director, Office of Waste Programs and the Commanding Officer, Southwest Division, Naval Facilities Engineering Command as soon as practicable, but in any event within five (5) working days after the dispute is elevated by the Project Managers.

(c) If the persons listed in paragraph 34.10(b) above

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are unable to resolve the dispute within ten (10) working days, the matter shall be elevated to the Department of the Navy's Secretariat representative and the ADEQ Director.

(d) In the event persons listed in paragraph 34.10(c) above are unable to resolve a dispute, the State retains any legal and equitable remedies it may have to recover its expenses. In addition, the State may withdraw from this Agreement by giving sixty (60) day notice to the other Parties.

34.11 Nothing herein shall be construed to limit the ability of the Marine Corps to contract with the State for technical services that could otherwise be provided by a private contractor including, but not limited to:

(a) Identification, investigation, and cleanup of any contamination beyond the boundaries of Marine Corps Air Station Yuma;

(b) Laboratory analysis; or

(c) Data collection for field studies.

34.12 Nothing in this Agreement shall be construed to constitute a waiver of any claims by the State for any expenses incurred prior to the effective date of this Agreement, except to the extent those claims are waived or satisfied by payment under or by the DSMOA.

35. STATE PARTICIPATION CONTINGENCY

35.1 If the State fails to sign this Agreement within thirty (30) days of notification of the signature by both EPA and the Marine Corps, this Agreement will be interpreted as if the State were not a Party and any reference to the State in this Agreement will have no effect.

35.2 If subsection 35.1 applies,

(a) the Marine Corps agrees to transmit all primary and secondary documents to ADEQ at the same time such documents are transmitted to EPA; and

(b) EPA intends to consult with ADEQ with respect to the above documents and during implementation of this Agreement.

36. EFFECTIVE DATE AND PUBLIC COMMENT

36.1 The provisions of this Section shall be carried out in a manner consistent with, and shall fulfill the intent of Section 17 (Statutory Compliance/RCRA-CERCLA Integration).

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36.2 Within fifteen (15) days of the date of the execution of this Agreement, the Marine Corps shall announce the availability of this Agreement to the public for a forty-five (45) day period of review and comment, including publication in at least two major local newspapers of general circulation. Comments will be sent to the other Parties so that they are received within seven (7) days after the end of the comment period. The Parties shall review such comments within fourteen (14) days after such seven-day period and shall meet within seven (7) days after such 14-day period to determine whether this Agreement should be made effective in its present form.

(a) If the Parties determine that this Agreement should be made effective in its present form, the Marine Corps shall, within thirty (30) days after the second seven (7) day period set forth above, as determined necessary by the Parties, prepare a written response to the public comments for review and concurrence of the other Parties. EPA shall within seven (7) days after such 30 day period notify all Parties in writing that this Agreement is being made effective, and this Agreement shall become effective on the date that Marine Corps Air Station Yuma receives such notification.

(b) If the Parties determine that this Agreement should be modified, the Parties shall, within fourteen (14) days after the second seven (7) day period set forth above in Section 36.2, discuss any proposed changes. The Marine Corps shall, within thirty (30) days after the close of this fourteen (14) day period, prepare a written response to the public comments for review and concurrence of the other Parties, and the Agreement, as modified, shall be re-executed by the Parties, with EPA signing last, and shall become effective on the date it is signed by EPA.

(c) If the Parties cannot agree to modify this Agreement, the Parties shall submit, within fourteen (14) days after the second seven (7) day period set forth above in Section 36.2, and in accordance with Section 12 (Dispute Resolution), their written notices of position concerning those provisions still in dispute to the DRC. If the DRC is unable to resolve the dispute, the dispute shall be elevated to the SEC. If changes are agreed upon by the DRC or SEC, the Marine Corps shall then, within thirty (30) days prepare a written response to the public comments for review and concurrence of the other Parties, and the Agreement, as modified, shall be re-executed by the Parties, with EPA signing last, and shall become effective on the date it is signed by EPA.

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(d) If the SEC cannot resolve the dispute and the proposed changes would impose substantial additional obligations on a Party, such Party may withdraw from this Agreement. Withdrawal by the Marine Corps shall not affect the obligation of the Marine Corps to comply with CERCLA section 120, 42 U.S.C. § 9620, or limit the enforcement powers of EPA or the State.

36.3 Any response action underway upon the effective date of this Agreement shall be subject to the terms of this Agreement unless the Parties agree otherwise.

36.4 At the start of the public comment period, the Marine Corps will also transmit copies of this Agreement, for review and comment, to the appropriate Federal Natural Resource Trustees. The State will transmit copies to appropriate State and local agencies and compile and consolidate comments from these agencies. The State will work with the Marine Corps prior to the start of the public comment period to develop the list of appropriate State and local agencies.

37. BASE CLOSURE

37.1 The Marine Corps does not currently plan to close Marine Corps Air Station Yuma. However, in the event that Marine Corps Air Station Yuma is closed, such closure, except as is otherwise specifically provided by law, will not affect the Marine Corps's obligation to comply with the terms of this Agreement and to specifically ensure the following:

(a) Continuing rights of access for EPA and the State in accordance with the terms and conditions of Section 25 (Access to Marine Corps Air Station Yuma);

(b) Availability of a Project Manager to fulfill the terms and conditions of the Agreement;

(c) Designation of alternate DRC members as appropriate for the purposes of implementing Section 12 (Dispute Resolution); and

(d) Adequate resolution of any other problems identified by the Project Managers regarding the effect of base closure on the implementation of this Agreement.

37.2 Base closure will not of itself constitute a Force Majeure under Section 10 (Force Majeure), nor will it constitute good cause for extensions under Section 9 (Extensions), unless agreed by the Parties.

38. APPENDICES AND ATTACHMENTS

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38.1 Appendices shall be an integral and enforceable part of this Agreement. They shall include the most current versions of:

- (a) Deadlines previously established.
- (b) Site-specific outline of key elements to be included in the RI/FS Workplan, QAPP, Community Relations Plan, RI Report, FS Report and Treatability Studies.
- (c) All final primary and secondary documents which will be created in accordance with Section 7 (Consultation).
- (d) All deadlines which will be established in accordance with Section 8 (Deadlines) and which may be extended in accordance with Section 9 (Extensions).
- (e) All final primary documents and all completed secondary documents agreed upon by the Parties prior to the effective date of this Agreement.

38.2 Attachments shall be for information only and shall not be enforceable parts of this Agreement. The information in these attachments is provided to support the initial review and comment upon this Agreement, and they are only intended to reflect the conditions known at the signing of this Agreement. None of the facts related therein shall be considered admissions by, nor are they legally binding upon, any Party with respect to any claims unrelated to, or persons not a Party to, this Agreement. They shall include:

- (a) Map(s) of Marine Corps Air Station Yuma (see also subsection 5.10)
 - (b) Chemicals of Concern
 - (c) Statement of Facts
 - (d) Installation Restoration Program Activities
 - (e) Underground Tanks
-

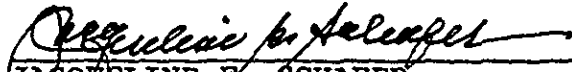
EPA Region IX/State of Arizona/Marine Corps FFA
Marine Corps Air Station Yuma

August 16, 1991

Each undersigned representative of a Party certifies that he or she is fully authorized to enter into the terms and conditions of this Agreement and to legally bind such Party to this Agreement.

UNITED STATES DEPARTMENT OF THE NAVY

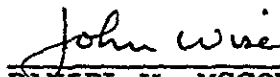
3, October 1991
DATE



JACQUELINE E. SCHAFER
Assistant Secretary of the Navy
(Installations and Environment)

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY

1.7.92
DATE




for DANIEL W. MCGOVERN
Regional Administrator, Region 9

STATE OF ARIZONA

DEPARTMENT OF ENVIRONMENTAL QUALITY

12-6-91
DATE



EDWARD Z. FOX, Director
Arizona Department of Environmental
Quality

EPA Region IX/State of Arizona/Marine Corps FFA
Marine Corps Air Station Yuma

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Appendices

- A) Deadlines Previously Established
- B) Outline of Topics to Be Addressed in the RI/FS
- C) All Final and Secondary Documents Which Will Be Created in Accordance With Section 7 (Consultation)
- D) All Deadlines Which Will Be Established In Accordance With Section 8 (Deadlines) and Which May Be Extended in Accordance With Section 9 (Extensions)

January 29, 1992

Appendix A
Deadlines Previously Established

Documents not submitted before the effective date of this agreement:

1. In accordance with Section 8.1 of this Agreement, the following deadlines for submission of Draft Primary Documents have been agreed upon by the Parties before the effective date of this Agreement:

	OU #1	OU #2	OU#3
RI/FS Workplan (Includes Field Sampling Plan, Quality Assurance Project Plan, Health and Safety Plan and Community Relations Plan)	15 OCT 92	15 OCT 92	TBD**
RI Report (Includes Baseline Risk Assessment)	15 APR 95	03 OCT 94	TBD**
FS Report (Includes treatability study results)	15 JUN 95	01 MAY 95	TBD**
Proposed Plan	15 DEC 95	29 AUG 95	TBD**
ROD (Includes Responsiveness Summary)	15 JUL 96	01 APR 96	TBD**

2. The following target dates for submission of Draft Secondary Documents have been agreed upon by the Parties before the effective date of this Agreement. The Marine Corps will add RFA/CS Areas of Concern (AOCs) requiring further investigation into the OU #1 or OU #2 schedules where feasible without delaying Primary Document deadlines. RFA/CS AOCs which are not added to OU #1 or OU #2 will be assigned to OU #3.

Preliminary Review/Visual Site Inspection Report	31 OCT 92
Sampling Visit Work Plan	31 JAN 93
RFA Report	01 JUN 93
Geophysics, Land/Soilgas Survey (Tech. Memo #1)	15 JUN 92
Offsite Monitor Well Survey (Tech. Memo #2)	03 AUG 92
Areas of Concern Screening Criteria (Tech. Memo #3)	17 AUG 92
Expanded Scoping Summary Report (Tech. Memo #4)	01 SEP 92
Geophysics, Land/Soilgas Summary (Tech. Memo #5)	16 NOV 92
Offsite Well Survey Summary Report (Tech. Memo #6)	15 FEB 93
Groundwater Summary Report (Tech. Memo #7)	30 JUN 93
Site Characterization Summary (Tech. Memo #8)	16 JUL 93

Definitions of Operable Units (OUs):

OU #1 = Regional groundwater unit;
OU #2 = Surfacedisposal units and Landfill units;
OU #3 = RFA/CS Areas of Concern unit

TBD** Deadlines for OU#3 to be negotiated approximately August 01, 1993 to October 01, 1993.

TECHNICAL MEMOS

Appendix A of the Federal Facilities Agreement (FFA) was modified for submission of various draft secondary documents (see attached). The following addresses the content of eight Technical Memos (Tech Memo) outlined in the revised Appendix A of the FFA via an EPA 29 January 1992 Letter of Transmittal. These Tech Memos have been identified according to their designation and listing in Appendix A of the FFA (page 55).

Technical Memo 1

This Tech Memo will briefly describe the planned field activities associated with geophysical investigations, land surveys, and (optional) soil gas surveys. Specifically, this memo will address the types and general locations of geophysical surveys and their intended purpose, land surveys, and optional soil gas work, as required. The Tech Memo will be brief but will provide enough detail so that the reviewer can understand the proposed approach. These field scoping investigations primarily address seven CERCLA Areas of Contamination (CAOCs). The seven CAOCs include 4, 6, 7, 8, 9, 10 and 12. This Tech Memo will be submitted for review and comment and conference calls (or meetings, if appropriate) will be held to discuss or clarify the approach for each activity to ensure the MCAS Yuma Team is in concurrence. Minor revisions based on discussions will be included in the final Tech Memo.

Technical Memo 2 (Offsite Monitor Well Survey)

This Tech Memo will describe how the offsite well survey will be performed, present the proposed upgradient and downgradient well locations and their construction details, and a groundwater sampling plan for sampling of 14 wells (4 existing and 10 new) at MCAS Yuma so data can begin to be collected. This memo will be submitted for review and comment, and conference calls (or a meeting) will be held to discuss the general approach and obtain the concurrence of the MCAS Yuma Team. Following concurrence, a final copy of the Tech Memo will be distributed.

Technical Memo 3 (Areas of Concern Screening Criteria)

This Tech Memo (summary report) will describe the site screening criteria proposed for the RI/FS, RFA, and other investigations at the MCAS. This site screening criteria is a very important element in the new seven step DQO process. This screening will allow an objective approach for which locations can be screened from further investigation as data are collected or if other site information should dictate. This screening criteria requires comment and review since they will become an integral part of the RI report if sites are screened from further investigation before execution of the Phase IB or Phase II investigations, if required. This Tech Memo will be submitted for review and discussion. It is anticipated, based on previous discussions, that several meetings will be required to clarify the content of this element. A final version will be issued following concurrence.

Technical Memo 4 (Expanded Scoping Summary Report)

This summary report Tech Memo will present the findings of the extensive document reviews, interviews of key personnel, aerial photo analysis, chemical of concern investigations, the infrared aerial survey results, and the results of research into field screening techniques that may be applicable at MCAS Yuma. Much of this information will also be reflected in the Phase IA work plan revision. Upon submission of a draft version, discussions will be held either by conference calls or at a meeting to obtain comments. A final version will be issued following discussion.

Technical Memo 5 (Geophysics, Land/Soil Gas Summary)

This Tech Memo will present the results of the geophysical investigations, land surveys, and (optional) soil gas surveys. In the event the soil-gas survey option is exercised, the results of the investigation and research of other field screening techniques (head tests, X-ray fluorescence, etc.) will also be included. This Tech Memo will not present the summary of any groundwater investigations since this information will be presented in Tech Memo 6. The groundwater investigations are separated because the base groundwater study is somewhat independent of more site-specific investigations. Data documented in this Tech Memo will be included in the Phase IA and IB work plans, as appropriate. As with other Tech Memos, a draft will be submitted for review and comment. A final version will be issued following discussion.

Technical Memo 6 (Offsite Well Survey Summary Report)

This summary report specifically documents the information obtained from the offsite well survey, installation of upgradient and downgradient wells, and the preliminary results from groundwater sampling at 14 wells (upgradient and downgradient) at MCAS Yuma. The information from this memo will be an important component of the future groundwater investigation and RI report. The Tech Memo will be submitted following the completion of the new well installation and the first quarter of sampling (and analytical results). A brief addendum addressing the quarterly sampling will be submitted following the completion of the second, third, and fourth quarters of groundwater sampling from the 14 wells.

Technical Memo 7 (Groundwater Summary Report)

This Tech Memo will present the findings from the Phase 1a groundwater investigations as they affect MCAS Yuma groundwater (OU1). This report will summarize following analysis and evaluation of groundwater data collected during interim quarterly groundwater sampling events.

Technical Memo 8 (Site Characterization Summary)

This Tech Memo will present and summarize the results of the Phase 1a sampling program. This information will provide the basis for recommendations for the Phase 1b sampling program and for discussions to agree on the overall approach for the Phase 1b sampling effort. The Tech Memo will be organized to address each CAOC separately to expedite review and comment on the information obtained during the Phase 1a effort and the proposed Phase 1b program.

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Appendix B
Topics to Be Addressed In
The Remedial Investigation/Feasibility Study
and Related Reports

The following are list of topics to be included at a minimum in the RI/FS Documents in Section 7.3(a)(1)-(5) and 7.4(a)(3), as set forth in the most recent version of the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (OSWER Directive 9355.3-01, Interim Final, October, 1988) and applicable State law. The documents shall also include additional topics and tasks, as appropriate, as set forth in the guidance.

**YUMA MARINE CORPS AIR STATION
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY WORK PLAN**

- 1.0 Executive Summary
- 2.0 Introduction/Installation Description
- 3.0 Conceptual Site Model (Evaluation of existing data)
 - 3.1 Regional Yuma Setting
 - Meteorology
 - Topography (significant features that would affect surface water migration)
 - Geology (include description of confining layers)
 - Hydrogeology (include description of preferred migration pathways)
 - Potential Exposure Points or Receptors (Preliminary Human Health and Environmental Impacts)
 - Potential Expedited Response Actions
 - 3.2 Yuma Marine Corps Air Station Setting
 - Meteorology
 - Topography
 - Geology
 - Hydrogeology
 - Areas of Concern
 - Types and Volumes of Wastes Present (Suspected Sources)
 - Potential Exposure Points/Receptors
 - Potential Expedited Response Actions
 - Preliminary Identification of Operable Units or Study Zones
 - Preliminary Identification of Remedial Action Objectives/Remedial Action Alternatives
 - 3.3 YMCAS Remedial Investigation Objectives (Data Gaps) for each Operable Unit or Study Zone
 - Data Quality Objectives (Stage 1 and Stage 2)
 - Site Characterization
 - Baseline Risk Assessment
 - Description of Sampling Strategy (Stage 3)
 - 3.4 YMCAS Feasibility Study Objectives (Data Gaps) for each Operable Unit or Study Zone

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Appendix B (continued)

- Treatability Study Needs
- Applicable or Relevant and Appropriate Requirements (ARARs)

3.5 Work Plan Rationale (Site Management Strategy)

- Description of phased approach
- Criteria for obtaining additional data
- Data Management
- Redefining Operable Units

4.0 RI/FS Tasks

- 4.1 As mentioned in the RI/FS guidance
 - To include revisions to Community Relations Plan
- 4.2 Modification of Work Plan
- 4.3 Agency Coordination/Notification
 - ATSDR
 - Natural Resource Trustees
 - Others
- 5.0 Costs and Key Assumptions
- 6.0 Schedule (including Operable Units)
- 7.0 Project Management

QUALITY ASSURANCE PROJECT PLAN

- Title Page
- Table of Contents
- 1. Project Description
- 2. Project Organization and Responsibilities
- 3. QA Objectives for Measurement of Data
- 4. Sampling Procedures
- 5. Sample Custody
- 6. Calibration Procedures
- 7. Analytical Procedures
- 8. Data Reduction, Validation and Reporting
- 9. Internal Quality Control
- 10. Performance and Systems Audits
- 11. Preventative Maintenance
- 12. Data Assessment Procedures
- 13. Corrective Action
- 14. Quality Assurance Reports

FIELD SAMPLING PLANS

- 1. Site Background
- 2. Sampling Objectives
- 3. Sample Location and Frequency
- 4. Sample Designation
- 5. Sampling Equipment and Procedures
- 6. Sample Handling and Analysis

Appendix B (continued)

COMMUNITY RELATIONS PLAN

1. Overview of Community Relations Plan
 2. Capsule Site Description
 3. Community Background
 4. Highlights of Program
 5. Techniques and Timing
- Appendices

RI REPORT

Executive Summary

1. Introduction
 - 1.1 Purpose of Report
 - 1.2 Site Background
 - 1.2.1 Site Description
 - 1.2.2 Site History
 - 1.2.3 Previous Investigations
 - 1.3 Report Organization
2. Study Area Investigation
 - 2.1 Includes field activities associated with site characterization. These may include physical and chemical monitoring of some, but not necessarily all, of the following:
 - 2.1.2 Surface Features (topographic mapping, etc.) (natural and manmade features)
 - 2.1.3 Contaminant Source Investigations
 - 2.1.4 Surface-water and Sediment Investigations
 - 2.1.5 Geologic Investigations
 - 2.1.6 Soil and Vadose Zone Investigations
 - 2.1.7 Ground Water Investigations
 - 2.1.8 Human Population Surveys
 - 2.1.9 Ecological Investigations
 - 2.2 If technical memoranda documenting field activities were prepared, they may be included in an appendix and summarized in this chapter.
3. Physical Characteristics of the Study Area
 - 3.1 Includes results of field activities to determine physical characteristics. These may include some, but not necessarily all, of the following:
 - 3.1.1 Surface Features
 - 3.1.2 Meteorology
 - 3.1.3 Surface Water Hydrology
 - 3.1.4 Geology
 - 3.1.5 Soils
 - 3.1.6 Hydrogeology
 - 3.1.7 Demography and Land Use
 - 3.1.8 Ecology
4. Nature and Extent of Contamination
 - 4.1 Presents the results of site characterization, both natural chemical com-

Appendix B (continued)

ponents and contaminants in the following:

- 4.1.1 Sources
- 4.1.2 Soils and Vadose Zone
- 4.1.3 Ground Water
- 4.1.4 Surface Water and Sediments
- 4.1.5 Air
- 4.1.6 Biota
- 4.1.7 Fish and Wildlife
- 5. Contaminant Fate and Transport
 - 5.1 Potential Routes of Migration (i.e., air, ground water, etc.)
 - 5.2 Contaminant Persistence
 - 5.2.1 If they are applicable (i.e., for organic contaminants), describe estimated persistence in the study area environment and physical, chemical, and/or biological factors of importance for the media of interest.
 - 5.3 Contaminant Migration
 - 5.3.1 Discuss factors affecting contaminant migration for the media of importance (e.g., sorption onto soils, solubility in water, movement of ground water, etc).
 - 5.3.2 Discuss modeling methods and results, if applicable.
- 6. Baseline Risk Assessment
 - 6.1 Human Health Evaluation
 - 6.1.1 Exposure Assessment
 - 6.1.2 Toxicity Assessment
 - 6.1.3 Risk Characterization
 - 6.2 Environmental Evaluation
- 7. Summary and Conclusions
 - 7.1 Summary
 - 7.1.1 Nature and Extent of Contamination
 - 7.1.2 Fate and Transport
 - 7.1.3 Risk Assessment
 - 7.2 Conclusions
 - 7.2.1 Data Limitations and Recommendations for Further Work
 - 7.2.3 Recommended Remedial Action Objectives

FS REPORT

Executive Summary

- 1. Introduction
 - 1.1 Purpose and Organization of Report
 - 1.2 Background Information (Summarized from RI)
 - 1.2.1 Site Description
 - 1.2.2 Site History
 - 1.2.3 Nature and Extent of Contamination
 - 1.2.4 Contaminant Fate and Transport
 - 1.2.5 Baseline Risk Assessment

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Appendix B (continued)

2. Identification and Screening of Technologies
 - 2.1 Introduction
 - 2.2 Remedial Action Objectives - Presents the development of remedial action objectives for each medium of interest (ground water, soil, surface water, air, ecological, etc.). For each medium, the following should be discussed:
 - 2.2.1 Contaminants of Interest
 - 2.2.2 Allowable Exposure Based on Risk Assessment (Including ARARs)
 - 2.2.3 Development of Remediation Goals
 - 2.3 General Response Actions - For each medium of interest, describes the estimation of areas or volumes to which treatment, containment, or disposal technologies may be applied.
 - 2.4 Identification and Screening of Technology Types and Process Options - For each medium of interest, describes:
 - 2.4.1 Identification and Screening of Technologies
 - 2.4.2 Evaluation of Technologies and Selection of Representative Technologies
3. Development and Screening of Alternatives
 - 3.1 Development of Alternatives - Describes rationale for combination of technologies/media into alternatives. Note: This discussion may be by medium or for the site as a whole.
 - 3.2 Screening of Alternatives (if conducted)
 - 3.2.1 Introduction
 - 3.2.2 Alternative 1
 - 3.2.2.1 Description
 - 3.2.2.2 Evaluation of:
 - Effectiveness
 - Implementability
 - Cost
 - 3.2.3 Alternative 2
 - 3.2.3.1 Description
 - 3.2.3.2 Evaluation
 - 3.2.4 Alternative 3
4. Detailed Analysis of Alternatives
 - 4.1 Introduction
 - 4.2 Individual Analysis of Alternatives
 - 4.2.1 Alternative 1
 - 4.2.1.1 Description
 - 4.2.1.2 Assessment of:
 - Overall Protection
 - Compliance with ARARs
 - Long-term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility or Volume

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Appendix B (continued)

- Through Treatment
- Short-Term Effectiveness
- Implementability
- Cost
- State Acceptance
- Community Acceptance

4.2.2 Alternative 2

4.2.2.1 Description

4.2.2.2 Assessment

4.2.3 Alternative 3

4.3 Comparative Analysis

Bibliography

Appendices

TREATABILITY INVESTIGATIONS

The need for treatability testing should be identified as early in the RI/FS process as possible. The purpose is to provide information needed for the detailed analysis of alternatives and to allow selection of a remedial action with a reasonable certainty of achieving the response actions. In general, treatability testing will include the following:

1. A work plan for Bench or Pilot Scale - see Chapter 5 of the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (October, 1988), for example work plan outlines
2. Performing field sampling, and or bench testing or pilot testing
3. Evaluating data from field studies and or bench or pilot testing
4. Preparing a brief report documenting the results of the testing

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Appendix C
All Final Primary and Secondary Documents
Which Will Be Created
In Accordance With Section 7 (Consultation)

(To be incorporated by reference)

EPA Region IX/State of Arizona/Marine Corps FFA
Marine Corps Air Station Yuma

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Appendix D
All Deadlines Which Will Be Established In
Accordance With Section 8 (Deadlines) and Which
May Be Extended in Accordance With Section 9 (Extensions)

(To be incorporated by reference)

EPA Region IX/State of Arizona/Marine Corps FFA
Marine Corps Air Station Yuma

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Attachments

- A) Site Maps
- B) Chemicals of Concern
- C) Statement of Facts
- D) IRP Activities
- E) Underground Tanks

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Attachment A

- Figure 1. Location Map - Marine Corps. Air Station - Yuma, Arizona
- Figure 2. Potentially contaminated areas - Marine Corps. Air Station - Yuma, Arizona

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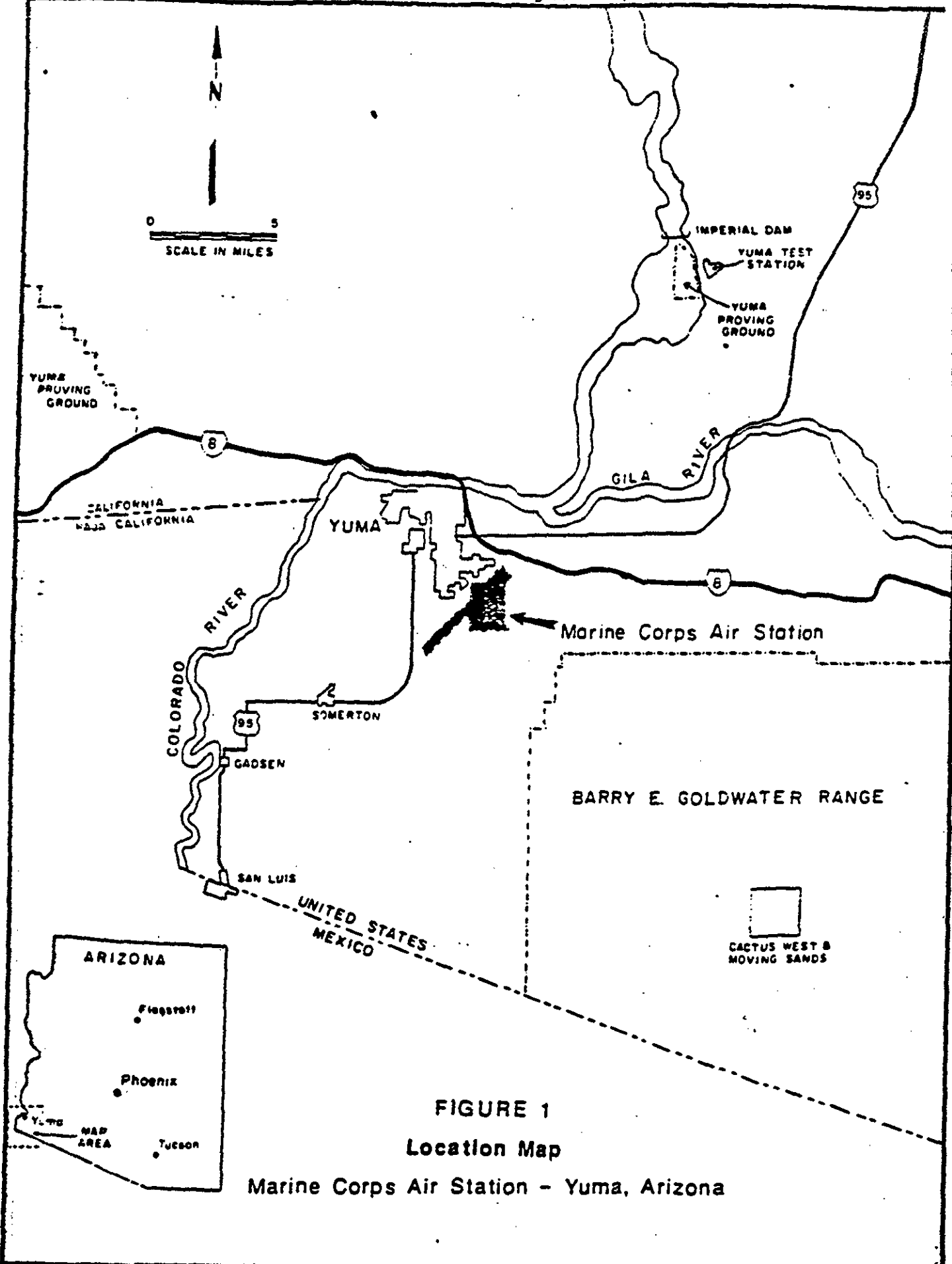
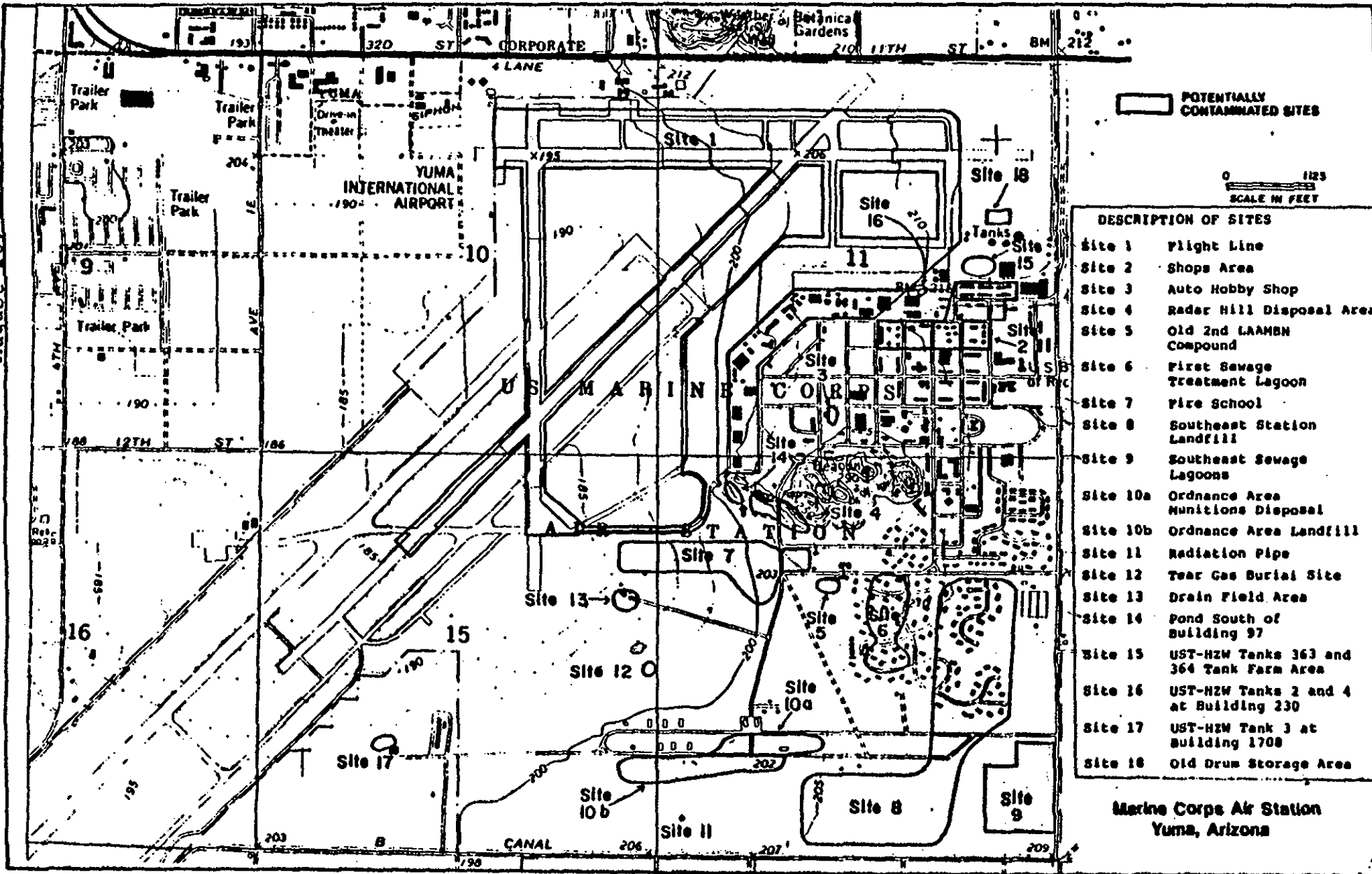


FIGURE 1
Location Map

Marine Corps Air Station - Yuma, Arizona

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POTENTIALLY CONTAMINATED SITES

0 125
SCALE IN FEET

DESCRIPTION OF SITES

- Site 1 Flight Line
- Site 2 Shops Area
- Site 3 Auto Hobby Shop
- Site 4 Radar Hill Disposal Area
- Site 5 Old 2nd LAAMB Compound
- Site 6 First Sewage Treatment Lagoon
- Site 7 Fire School
- Site 8 Southeast Station Landfill
- Site 9 Southeast Sewage Lagoons
- Site 10a Ordnance Area Munitions Disposal
- Site 10b Ordnance Area Landfill
- Site 11 Radiation Pipe
- Site 12 Tear Gas Burial Site
- Site 13 Drain Field Area
- Site 14 Pond South of Building 97
- Site 15 UST-HZW Tanks 363 and 364 Tank Farm Area
- Site 16 UST-HZW Tanks 2 and 4 at Building 230
- Site 17 UST-HZW Tank 3 at Building 1708
- Site 18 Old Drum Storage Area

Marine Corps Air Station
Yuma, Arizona

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**Attachment B
Potential Contaminants**

The Chemicals of Concern (COCs) for the Yuma Marine Corps Air Station (YMCAS) are not fully known at the time of this Agreement. To investigate the presence of contaminants at YMCAS a Remedial Investigation will be conducted and a Baseline Risk Assessment will be performed to assess the threat to human health and the environment posed by the contaminants discovered if there is no remedial action taken.

In accordance with EPA requirements for conducting RI/FS's, the COCs will be fully identified in the Baseline Risk Assessment. For the purposes of this Agreement, a preliminary list of potential COCs is presented below. This list is based on available information on site usage. This list is presented for informational purposes, and should only be considered a preliminary list which will be revised during the RI/FS as data are collected.

Toxicity information will be provided when the COCs have been identified in the Baseline Risk Assessment. The chief source(s) of the toxicity information will be one or more of the following:

- o The Integrated Risk Information System (IRIS) - An EPA data base which is updated monthly.
- o Health Effects Assessment Summary Tables (HEAST) - Prepared by EPA's Environmental Criteria and Assessment Office for use at both Superfund and RCRA sites.
- o Superfund Chemical Profiles - Toxicological profiles prepared by the Agency for Toxic Substances and Disease Registry, U.S. Public Health Service.

The RI/FS will focus on contaminants known or suspected to have been used at YMCAS, which may include, but are not limited to the compounds listed below.

The Chemical Abstracts Service Registry Number ("CAS") is a numeric designation assigned by the American Chemical Abstracts Service and uniquely identifies a specific chemical compound. This entry allows one to identify a substance regardless of the name or naming system used.

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CHEMICALS OF CONCERN - MCAS, YUMA

Chemical Compound	CAS No.
ORGANICS	
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Acetone	67-64-1
Benzene	71-43-2
Benzenesulfonyl chloride	(Benzene Sulfonchloride) 98-09-9
Benzyl alcohol	100-51-6
Bis (2-chloroethyl) ether	111-44-4
Bis (2-ethylhexyl) phthalate	(BEHP) 117-81-7
α -Bromobenzyl cyanide	5798-79-8
Bromodichloromethane	75-27-4
Bromoform	75-25-2
Carbon tetrachloride	(Freon 10; Halon 104; Tetrachloromethane) 56-23-5
p-Chloroacetophenone	99-91-2
2-Chloroacetophenone	(2-Chloroacetophenone) 532-27-4
Chlorobenzene	(Benzene chloride) 108-90-7
o-Chlorobenzylidene malononitrile	2698-41-1
1-Chloroethene	(Vinyl chloride; Chloroethene) 75-01-4
Chloroform	67-66-3
4-Chloro-3-methylphenol	59-50-7
Chrysene	218-01-9
Cresol all isomers	Ortho-, meta-, para- Cresitic acid 1319-77-3
m-Cresol	(3-Methyl phenol) 108-39-4
o-Cresol	(2-Methyl phenol) 95-48-7
p-Cresol	(4-Methyl phenol) 106-44-5
Dibromochloromethane	124-48-1
1,2-Dibromomethane	(Ethylene dibromide (EDB)) 106-93-04
1,1-Dichloro-1,1- difluoromethane	(Freon 12; Halon 122) 75-71-8
1,1-Dichloroethane	75-34-03
1,2-Dichloroethane	(1,2-DCA; Ethylene dichloride (EDC)) 07-06-2
1,1-Dichloroethene	(1,1-DCE; 1,1-Dichloroethylene) 75-35-4
1,2-Dichloroethene	(1,2-Dichloroethylene) 540-59-0
Mixture of isomers: trans-1,2-Dichloroethane	156-60-5
cis-1,2-Dichloroethane	156-59-2
Diethyl phthalate	84-66-2
Dimethyl methyl phosphonate	(DMMP) 756-79-6
2,4-Dimethyl-6-tertiary butyl phenol	none noted
Di-n-Butyl phthalate	(DBP) 84-74-2
2,4-dinitrotoluene	121-14-2
2,6-Dinitrotoluene	606-20-2

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CHEMICALS OF CONCERN - MCAS, YUMA

Chemical Compound		CAS No.
ORGANICS - Cont..		
Di-n-octyl phthalate		117-84-0
Ethylbenzene		100-41-04
Ethyl iodoacetate		523-48-3
Ethylene glycol		107-21-1
Fluoranthene		206-44-0
Fluorene		86-73-7
Hexachloroethane		67-72-1
Methylene Chloride	(1,1-dichloromethane)	75-09-2
Methyl ethyl ketone	(2-butanone; (MEK))	78-93-3
2-Methylnaphthalene		91-57-6
m-nitroaniline		99-09-2
Napthalene		91-20-3
Phenanthrene		85-01-8
Phenol		108-95-02
Polyalkylene glycols and di-esters		none noted
Polychlorinated dibenzo-	(PCDD Dioxins)	none noted
Polychlorinated dibenzo-	(PCDF Dioxins)	none noted
Polyethylene glycol		25322-68-3
Styrene		100-42-5
2,3,7,8-Tetrachlorodi- benzofuran		51207-31-9
2,3,7,8-Tetrachlorodibenzo- p-dioxin		1746-01-6
1,1,2,2-Tetrachloroethane		79-34 5
1,1,2,2-Tetrachloroethene	(Tetrachloroethylene; Perchloroethylene (PCE))	127-18-4
Tetraethyl lead	(organic lead)	78-00-2
Tetramethyl lead	(organic lead)	75-74-1
Toluene	(Methyl benzene)	108-88-3
Total fuel hydrocarbons		none noted
Total petroleum hydrocarbons		none noted
1,1,1-Trichloroethane	(TCA; Chloroethene; Methyl Chloroform)	71-55-6
1,1,2-Trichloroethane	(Vinyl trichloride; beta-Trichloroethane)	79-00-5
1,1,2-Trichloroethene	(Trichloroethylene; (TCE))	79-01-6
Trichlorofluoroethane		75-69-04
Triethyl phosphate	(TEP)	78-40-0
Trioctyl phosphate		none noted
Tritolyl phosphate		1330-78-5
Tris (2-ethylhexyl)phosphate		none noted
Urethane	(Ethyl Carbinate)	51-79-6
Xylenes(Total)		1330-20-7
1,2-Dimethyl benzene	o-benzene	95-47-6
1,3-Dimethyl benzene	m-benzene	108-38-3
1,4-Dimethyl benzene	p-benzene	106-42-3
Xyllyl bromide		28258-59-5

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CHEMICALS OF CONCERN - MCAS, YUMA

Chemical Compound		CAS No.
PESTICIDES/HERBICIDES/PCBs		
Aldrin		309-00-2
alpha-BHC		319-84-6
beta-BHC		319-85-7
delta-BHC		319-86-8
gamma-BHC, lindane		58-89-9
Chlordane		57-74-7
2,4-Dichlorophenoxy acetic acid	(2,4-D)	94-75-7
Dieldrin		60-57-1
Disulfoton		298-04-4
Endosulfan I		959-98-8
Endosulfan II		33213-65-9
Endosulfan sulfate		1031-07-8
Endrin		72-20-8
Endrin aldehyde		7421-93-4
Heptachlor		76-44-8
Heptachlor epoxide		1024-57-3
Methoxychlor		72-43-5
Methyl parathion		296-00-0
Parathion		56-38-2
Polychlorinated biphenyls	(PCBs)	1336-36-3
Aroclor-1016		12674-11-2
Aroclor-1221		11104-28-2
Aroclor-1232		11141-16-5
Aroclor-1242		53469-21-9
Aroclor-1248		12672-29-6
Aroclor-1254		11097-69-1
Aroclor-1260		11096-82-5
1,1,1-Trichloro-2,2-bis- 4-Chlorophenylethane and isomers, metabolites:	4,4'-DDT p,p'-DDT	50-29-3
1,1,1-Trichloro-2- 2-chlorophenyl-2- 4'-chlorophenylethane	2,4'-DDT o,p'-DDT	789-02-6
1,1-Dichloro-2,2-bis 4-chlorophenyl-ethane	4,4'-DDD p,p'-DDD	72-54-8
1,1-Dichloro-2,2- 2-chlorophenyl-2,4'- chlorophenylethane	2,4'-DDD o,p'-DDD	53-19-0
1,1-Dichloro-2,2 bis 4-chlorophenyl ethene	4,4'-DDE p,p'-DDE	72-55-9
1,1-Dichloro-2,2-2- chlorophenyl-2-4'- chlorophenyl ethene	2,4'-DDE o,p'-DDE	none noted
2,4,5-Trichlorophenoxy acetic acid	2,4,5-T	93-76-5
2,4,5-Trichlorophenoxy propionic acid	(2,4,5-TP; Silvex)	93-72-1
Toxaphene		8001-35-2

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CHEMICALS OF CONCERN - MCAS, YUMA

Chemical Compound	CAS No.
METALS/INORGANICS	
Aluminum	7429-90-5
Antimony	7440-36-0
Arsenic	7740-38-12
Asbestos	1332-21-4
Barium	7440-39-3
Beryllium	7440-41-7
Cadmium	7440-43-9
Calcium	7440-70-2
Chloride	none noted
Chromium	7440-47-03
Cobalt	7440-48-4
Copper	7440-50-8
Iron	7439-89-6
Lead	7439-92-01
Magnesium	7439-95-4
Managanese	7439-96-5
Mercury	7439-97-6
Molybdenum	7439-98-7
Nickel	7440-02-0
Nitrate	none noted
Nitrate	none noted
Phosphate	none noted
Potassium	7440-09-7
Potassium Hydroxide	1310-58-3
Radium-226	7440-14-4
Selenium	7782-49-2
Silver	7440-22-04
Sodium	7440-23-5
Sodium Hydroxide	1310-73-2
Sulfate	none noted
Sulfuric Acid	7664-93-9
Thallium	7440-28-0
Vanadium	7440-62-2
Zinc	7440-66-6

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Attachment C

Statement of Facts

For the purposes of this Agreement, the following constitutes a summary of the facts upon which this Agreement is based. None of the facts related herein shall be considered admissions by any party, nor shall they be used by any person for purposes unrelated to this Agreement.

The data presented herein were either gathered through limited sampling or through documentation which was not conclusive. The accuracy of these data will be substantiated during the Remedial Investigation phase.

Yuma Marine Corps Air Station (YMCAS) occupies approximately 3000 acres of land. It is located about 12 miles north of the Mexican border and 5 miles south of the Colorado river. While YMCAS sits on the Yuma Mesa (a plateau 75 feet higher than the Yuma Valley), the City of Yuma is situated in the Yuma Valley directly northwest of YMCAS.

The local ground water direction is northwest from YMCAS towards the City of Yuma. Preliminary Assessment/Site Inspection sampling has confirmed soil and ground water contamination.

The city of Yuma is inhabited by approximately 60,000 permanent residents, but this population triples in the winter due to an influx of visitors from the northern part of Arizona and other states. YMCAS is occupied by approximately 5,000 personnel.

Site 1 - Flight Line Area

This site occupies a ten foot wide area along the runways, aprons, and taxiways containing a total of 100,000 square feet of surface area. During the 1940's aircraft were reportedly parked and serviced along all of the runways, taxiways, and aprons. From the 1950's to the 1970's, disposal and spills related to aircraft maintenance has been isolated to the areas around the hangars, aprons, and the north east end of the runways.

Site 2 - Shops Area

This area has been used for vehicle maintenance and Public Works shops since the 1940's. Various spills and disposal onto the ground occurred throughout this area until the early 1980's. Shops and operations located in this area consist of a metal shop, paint shop, electrical shop, pesticide shop, air conditioning shop, ground equipment support, motor transportation, and 2nd Light Anti-Aircraft Missile Battalion (2nd LAAMB) motor transportation.

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Site 3 - Auto Hobby Shop

From 1960 to early 1980's waste motor oil, cleaning solvents, battery acid, and anti-freeze were routinely disposed of on the ground outside the hobby shop. Motor oil was routinely drained onto the ground when changing oil in the motor vehicles.

The volume of oil is estimated to be between 10,000 and 20,000 gallons, and as much as 10,000 gallons of Stoddard solvent may have been disposed of here.

Site 4 - Radar Hill Disposal Area

During the 1940's and early 1950's, this area was used for burning station trash; this included almost everything that could not be reused or recycled. Reportedly some waste thinners, solvents, paints, and oils and their containers were also disposed of here. The ash and residue was pushed out away from the hill to the south and covered with clean soil.

Site 5 - Old 2nd LAAMBN Compound

This site is approximately 200 feet by 300 feet in size. From the late 1960's until 1974, the 2nd LAAMBN vehicle maintenance and storage yard was located at this site. Routine vehicle servicing, maintenance and fueling operations at this site during the 1960's and 1970's resulted in disposal and spills of fuel, oil and solvents. An estimated 1,000 to 2,000 gallons of MOGAS (leaded automotive gasoline), and 3,000 to 4,000 gallons of diesel fuel were spilled at this site.

In order to control dust, wastes were disposed on the ground around the compound. These wastes included: used motor oil, transmission fluid, cleaning and degreasing solvents (trichloroethylene, trichloroethane, and Stoddard Solvent), anti-freeze, and neutralized battery acid. An estimated 1,500 gallons of waste oil mixture was disposed of.

Site 6 - First Sewage Treatment Lagoon

From 1941 to 1943 the lagoon (about 200 by 300 feet in size) was used as an evaporation/infiltration pond for sewage. This first sewage treatment facility consisted of an Imhoff Tank near Radar hill that discharged to the lagoon. The volumes of waste water discharged to this facility (estimated from station population and activity records) was about 100 to 200 million gallons total. Prior to being discharged to the sewer, industrial wastewater was neither segregated nor treated. Solvents, thinners, cleaning compounds, and oils were included in the waste stream that discharged to the sewers.

Site 7 - Fire School

Three general areas were identified where burns occurred, including at least six separate fire pits. Fire and crash training schools have been conducted at these areas since the early

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1950's. During the 1950's, the pits on the east side of Frazier Avenue were used, in the 1960's, two pits west of Frazier Avenue were used. From the 1970's on, three pits south of the runway taxiways were used.

Much of the non-recycled flammable waste liquid generated on base was collected and sent to the fire school. During fire and crash training school, flammable wastes was floated on water in a shallow unlined pit. The fuel was ignited and the trainees would proceed to extinguish the fire. Water and unburned flammables were allowed to infiltrate into the ground in and around the pit.

Site 8 - Southeast Station Landfill

Between 1953 and 1969, 10 to 20 pits and trenches were used in this area for general disposal of station trash. The pits varied in size from 20 by 30 feet across and 10 feet deep to 200 by 200 feet and 30 feet deep. Wastes were burned before they were covered and buried. Both household trash and waste placed in dumpsters from the shops was disposed of at this site.

Most of the waste was wood, metal, and paper; however, solvents, paints, thinners, oils and greases in rags, sorbent, and nearly empty one to five gallon containers were also disposed of here.

Site 9 - Southeast Sewage Lagoons

Six lagoons covered a total area of about 14 acres (700 by 900 feet). The lagoons were used for waste water treatment from 1944 until 1970 when the station began discharging to the Yuma waste water treatment plant. Following primary treatment in and Imhoff tank, the wastewater was discharged to the lagoons where it evaporated or infiltrated into the ground. Oils, paints, acids, caustics, detergents, and photographic fixer and developer were reportedly discharged to the sewers during the period of operation. When the lagoons were closed in 1970, they were filled with the sludge in place and graded flat.

Site 10 - Ordnance Area Disposal Sites

During the mid 1970's 250 to 300 pounds of 50 caliber ammunition was buried north of Building 2114. Between 1968 and 1978, Napalm mixing equipment was rinsed out onto the ground (0 - 100 gallons of water per day). Napalm is composed of an aluminum soap of various fatty acids mixed with gasoline or jet fuel. During the late 1960's and 1970's, general trash generated in the ordnance area was buried in shallow pits and trenches. This area continues to be used for ordnance storage and handling.

Site 11 - Radioactive Disposal Site

During Air Force operations (1951 - 1959), two iron pipes (12 inch diameter by 18.5 feet long) were buried upright at this location. The pipes were used for disposal of radioactive gages, tubes and dials and sealed with concrete. In April of 1980, the

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Navy Radiological Affairs Support Office (RASO) examined and removed these pipes. They were subsequently disposed of by the Air Force off-station. The RASO report describing this operation concluded that no signs of residual radiation was found in the soil and there were no signs of any contamination having escaped from the pipes.

Site 12 - Tear Gas Burial Site

Approximately 300 pounds of dry crystal tear gas components in sacks were buried at this site in 1977. Tear gas is generally composed of various halogenated organic compounds including xylyl bromide, ethyl iodoacetate, chloroacetophenone, bromobenzyl cyanide, and benzenesufonyl.

In late 1984, construction earth moving operations in this area failed to reveal any of this material. Either the chemicals were buried deeper than the reach of these operations or they were mixed with the soil and simply not recognized.

Site 13 - Marine Wings Weapons Unit (MWWU) Drain Field

Rinseates generated from cleaning the filling and mixing equipment used for Tear Gas and Napalm weapons were disposed of to septic tanks. In 1985, results from a separate field investigation detected halogenated organic compounds and solvents in the ground water.

Site 14 - Lagoon South of Building 97

Drainage from a wash rack, built between Buildings 101 and 103, drains to an oil/water separator. Drainage from the hangar at Building 97 is also treated by another oil/water separator. Between 1973 and 1984, water discharged from these oil/water separators flowed to a lagoon south of Building 97.

Site 15 - Leaky Hazardous Waste USTs #363 and #364

Two underground storage tanks were installed in 1943 and subsequently removed in 1987 following failure of volumetric tank tests. Each tank had a capacity of 25,000 gallons and received overflow from YMCAS waste generation points for storage prior to disposal. The contents of the tanks reportedly included: miscellaneous solvents, paint thinners, paint wastes, degreasing and stripping residues, diesel fuels and jet fuels.

Site 16 - Leaky Hazardous Waste USTs, Building 230 #2 and #4

Two underground storage tanks were installed in 1979. UST #4 was reportedly abandoned in 1988 following failure of a tank pressure test. UST #2 was reported to be leaking in September 1989 and was removed that same year. Each tank has a capacity of 1,000 gallons and received miscellaneous hazardous waste solvents from the paint shop, and the maintenance and tire shops areas of Building 230. These solvents reportedly included: paint strip-

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pers, thinners, degreasing agents, methyl ethyl ketone, epoxy paint stripper, isopropyl alcohol, aliphatic thinner and epoxy catalysts.

Site 17 - Leaky Hazardous Waste UST, Building 1708 #3

This tank was installed in 1985 and was subsequently "closed" in 1988 after it failed a volumetric tank test. The tank had a capacity of 14,000 gallons and reportedly received decontamination solution wastes such as triphosphate detergents mixed with oil residue.

Site 18 - Drum Storage Area

This area has been used for the storage of 55-gallon drums. These drums have contained various materials/wastes such as Petroleum, Oil and Lubricants (POLs), solvents and investigation derived wastes.

References:

1. Sterns, Conrad and Schmidt Engineers (SCS) and Landau Associates, Initial Assessment Study, 1985
2. Jacobs Engineering, Final Sampling and Analysis Plan for leaking Underground Storage Tanks, 1990.
3. Personal observations, 1989 - 1991.

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Attachment D

Installation Restoration Activities

In 1976 the Department of Defense (DOD) initiated the Installation Restoration Program (IRP) to evaluate, characterize, and control the potential migration of possible contaminants resulting from past operations and disposal practices on DOD facilities.

The four phases of the IRP are:

- Phase 1 - Problem Identification/Records Search
- Phase 2 - Problem Confirmation/Quantification Study
- Phase 3 - Technology Base Development
- Phase 4 - Corrective Action

In response to the DOD IRP, the Navy Assessment and Control of Installation Pollutants (NACIP) Program was instituted. NACIP was conceived as a three-phase process, including an Initial Assessment Study (IAS) (identification of sites); Confirmation Study (CS) (investigation of sites), and; Corrective Measures Implementation.

The NACIP Program was instituted in 1980 and replaced by the current IRP in 1983. Since the current IRP was authorized, modifications have been made to include compliance with CERCLA/SARA and use of National Contingency Plan terminology and procedures. As a result of these changes, the Navy now complies with NCP terminology and requirements and follows the EPA Remedial Investigation/Feasibility Study (RI/FS) process.

The number of sites thus far identified under the IRP is eighteen, which are described in Attachment C, Statement of Facts. It should be noted that the discovery and identification of IR sites (or RI sites) will be an iterative, on-going process. During the course of the investigation new information may be obtained or new sites observed that will require inclusion or deletion of sites into or from the RI/FS. In addition, the RCRA Corrective Action requirements that must be fulfilled under the terms of this Agreement, require identification of Solid Waste Management Units that must be evaluated for inclusion in the RI/FS. State requirements for addressing releases may be included, as well.

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Attachment E
Underground Tanks (UTs)

A. Procedures For Evaluating Adverse Impact On CERCLA Investigations and Response Actions

1. Record Search: The Marine Corps will submit the findings of a record search to the EPA and the State for all formerly and currently operating UTs known to exist at the effective date of this Agreement. This information will be presented in the Draft Installation Restoration Underground Tank Report (a secondary document). Similar information will be presented for UTs discovered during the CERCLA process. This information will be transmitted by formal correspondence in accordance with applicable state and federal law. The following information will be submitted for each UT:

- a. Location of all UTs including their associated piping, in relation to buildings, utility trenches, other facilities and waste management units;
- b. Age and materials of construction of the tanks/piping
- c. Size and dimensions of the tanks
- d. Contents of the tanks (past and present use)
- e. Inventory and release detection method records

2. Inclusion Under the Federal Facility Agreement:

a. The Parties will utilize the record search information to determine which UTs will be handled pursuant to this Agreement, as provided in subsection 17.4(d).

b. For those UTs where available information is inconclusive regarding its eligibility for inclusion under this Agreement, a release detection investigation will be performed. The results of this investigation will be used to determine if the UT will be handled pursuant to this Agreement.

B. Investigation and Response Action

UTs determined to be subject to the terms of this Agreement under subsection 17.4(d)(1) through (3) shall be investigated and closed through ongoing RI/FS and RD/RA activities. If the UT is determined to be leaking, the tank's contents will be removed, to the extent necessary, to prevent further release. If, as demonstrated by analytical data, it is agreed by a majority of the Parties that contamination from a UT subject to the terms of this Agreement poses a substantial and immediate threat to human health or the environment, remediation or other response action may be expedited through an appropriate CERCLA removal action option in accordance with Section 11 (Emergencies and Removals).