24 October 1990

MEMORANDUM

From: Code 1811.LH LMH
To: Project File (D.O. #21)

Subj: OPEN BURNING STUDY MEETING, MARINE CORPS AIR STATION (MCAS), EL TORO (CONTRACT N68711-89-D-2001-0021)

Encl: (1) List of Attendees at Meeting of 23 Oct 90
(2) Open Burning Site Description (from RCRA Part B Permit)

1. A meeting was held at MCAS El Toro on 23 October 1990 to discuss the open burning study, to visit the existing open burning facility at MCAS El Toro, and to visit the demilitarization furnace at Naval Weapons Station (NWS), Seal Beach. Enclosure (1) is the list of attendees at the various meetings.

2. Enclosure (2) includes a site description for the open burning facility at MCAS El Toro. Unexploded small caliber ammunition is burned in unlined, earthen trenches, approximately 4 feet wide, 25 feet long, and 10 feet deep. Timber or pallets are placed in the trench, below and above the ordnance, and diesel fuel is used to start the fires. EOD performs approximately eight burns per year, and they burn only on days designated as "burn days" by the South Coast Air Quality Management District. The residual material, which includes metal casings, remains in the trenches. Several trenches have been excavated, filled with residual material and debris, and covered during the operational history of the facility. The open burning facility is within 2000 feet of the MCAS property line. The adjacent land belongs to Irvine Ranch.

3. Ms. Jayne Fitzgerald (Dames & Moore) reviewed the contents of the work plan for the open burning study. The objectives of the project include a review of regulatory requirements and the development of three conceptual design alternatives for thermal treatment of explosive waste.

4. A summary of the items discussed at the various meetings follows:

a) MCAS El Toro has a waste discharge permit issued by the Orange County Sanitation Department discharge to the Irvine Ranch Water District sewage system. A copy of the permit was given to the Contractor.

b) The existing open burning facility does not have air or water permits. A RCRA Part B permit application has been submitted.

c) Lt Rehor said that he would rank the top three evaluation criteria for proposed open burning facilities as follows: permittability, timing, and cost.

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d) A drawing of the open burning facility at MCB Camp Pendleton was provided to the Contractor.

e) GySgt Hughes said that usually small caliber ammunition is burned and that the waste stream is highly variable. MCAS EOD occasionally participates in joint training exercises with the Orange County Sheriff's Department (Hazardous Devices Department) and the FBI. MCAS EOD has burned confiscated fireworks and ammunition for Orange County. EOD has burned black powder during training exercises. GySgt Hughes suggested two locations for a new facility.

f) Lt Rehor requested that the Contractor contact Ms. Linda Howard, Deputy Staff Civil Engineer (714 726-2266) regarding open burning facility siting and explosive arcs.

g) The MCAS El Toro burn site should be evaluated during the RCRA Facility Assessment (RFA).

h) Jayne Fitzgerald, Richard Carter, Ralph Hayes, and Lynn Hornecker met with Beverly Van Cleef at Naval Weapons Station (NWS), Seal Beach at 1300 hours and visited the demilitarization furnace at NWS Bg 97. NWS burns only Class C explosives and the residue is disposed of through DRMO. The furnace was designed through NWC Crane, built in 1984, and is operating under an EPA exemption from RCRA permits for small caliber explosives. The furnace will be evaluated under the Air Toxics program later this year.

Copy to:
Code 1821
Code 1811.LN

# Attendance List

10/23/90 Open Burning Study Meeting at El Toro

| Name | Org./Function | Phone |
|---|---|---|
| LTJG Michael Rehor | MCAS El Toro/Env Dir. | (714) 726-2821 |
| Sam Lam | MCAS El Toro/Env. Eng. | (714) 726-6607 |
| Ralph W Hayes | EL DORADO ENGR INC | (801) 966-8288 |
| Richard Carter | Dames & Moore Design | (714) 433-2000 |
| Jayne Fitzgerald | Dames & Moore/Proj. Mgr. & Regulatory Review | (714) 433-2000 |
| Art Chasin | MCAS El Toro/Eng. Div | (714) 726-6603 |
| Lynn Hornecker | SOUTHWESTNAVFACENGCOM Envr Engr | (619) 532-2456 |
| GySgt Hughes | MCAS El Toro EOD | |
| Beverly Van Cleef | NWS Seal Beach | 213 594 7655 |

Contract N68711-89-D-2001
D.O. #21

Enclosure (1)

**Jayne K. Fitzgerald**
Senior Environmental Scientist

DAMES & MOORE

6 HUTTON CENTRE DRIVE, SUITE 700
SANTA ANA, CALIFORNIA 92707
(714) 433-2000
FAX (714) 433-2364 (714) 433-2365
A PROFESSIONAL LIMITED PARTNERSHIP

**Richard Carter, P.E.**
Associate

DAMES & MOORE

6 HUTTON CENTRE DRIVE, SUITE 700
SANTA ANA, CALIFORNIA 92707
(714) 433-2000
FAX (714) 433-2364 (714) 433-2365
A PROFESSIONAL LIMITED PARTNERSHIP

**EL DORADO ENGINEERING, INC.**
DESIGNERS/CONSULTANTS

RALPH W. HAYES
PRESIDENT

2964 WEST 4700 SOUTH
SUITE 109
SALT LAKE CITY, UTAH 84118-2554

PHONE
(801) 966-8288
FAX (801) 966-8499

Between the foothills and the pressure area of the Tustin Basin the groundwater occurs at greater depths. Shallow borings drilled to 30 feet at the station encountered no strata yielding water. Water levels indicate the depth to water for the unconfined aquifer is 120 to 140 feet below land surface. Since some recharge occurs in the area, the depth to the water table is expected to be somewhat less than the depth to the static water level of the irrigation wells penetrating the aquifer at greater depths. A recently completed test boring near the western perimeter of MCAS El Toro suggests groundwater levels more than 100 feet below ground surface. It should also be noted that the water levels have risen about 60 feet in the main aquifer between 1971 and 1986.

Discontinuous perched water bodies may occur in the shallow subsurface above the aquifer. The geologic conditions would cause perched bodies to vary in thickness, depth to water, and flow direction, although the general direction of flow would roughly parallel the regional gradient of the main aquifer. The soils beneath the majority of the station are well-drained, and allow direct infiltration of precipitation, surface runoff, and irrigation to recharge the perched water.

## 2.3 SITE DESCRIPTION

The following general requirements are provided on Exhibit 2-1.

- Contour Interval: 5'
- Map Scale: 1" = 200'
- Coverage: Greater than 1000' beyond the EOD Range Boundary
- Map Date and Source: 1978 - NAVFAC Drawing Number 6066338

The topographic map shows all roads, streams, buildings, features, and treatment areas. The legal boundary, zoning, and wind rose is also provided. No injection or withdrawal wells, underground utilities or occupied structures exist at the EOD Range.

SOURCE: RCRA Part B Permit Application of November 1988



Enclosure (2)

The EOD Range is located at latitude 33° 41' 30" and longitude 117° 41' 15". Township 5S, Range 8W, Section 176 (San Bernadino Base Line). Since the EOD Range is an existing facility rather than a new facility, the seismic standard does not apply. This facility's boundary is outside of the 100-year floodplain (FEMA, 1984).

## 2.4 TRAFFIC INFORMATION

The EOD Range is an area designated as off-limits to unauthorized personnel. The entire area is surrounded by a fence and locking gates. As a result, traffic is limited to EOD personnel either inspecting the site or actually detonating wastes. The roads are compacted dirt and gravel.

The largest size vehicle is a 3 ton capacity truck used to carry wastes to the site. Approximately 5-10 vehicles travel the area per week.

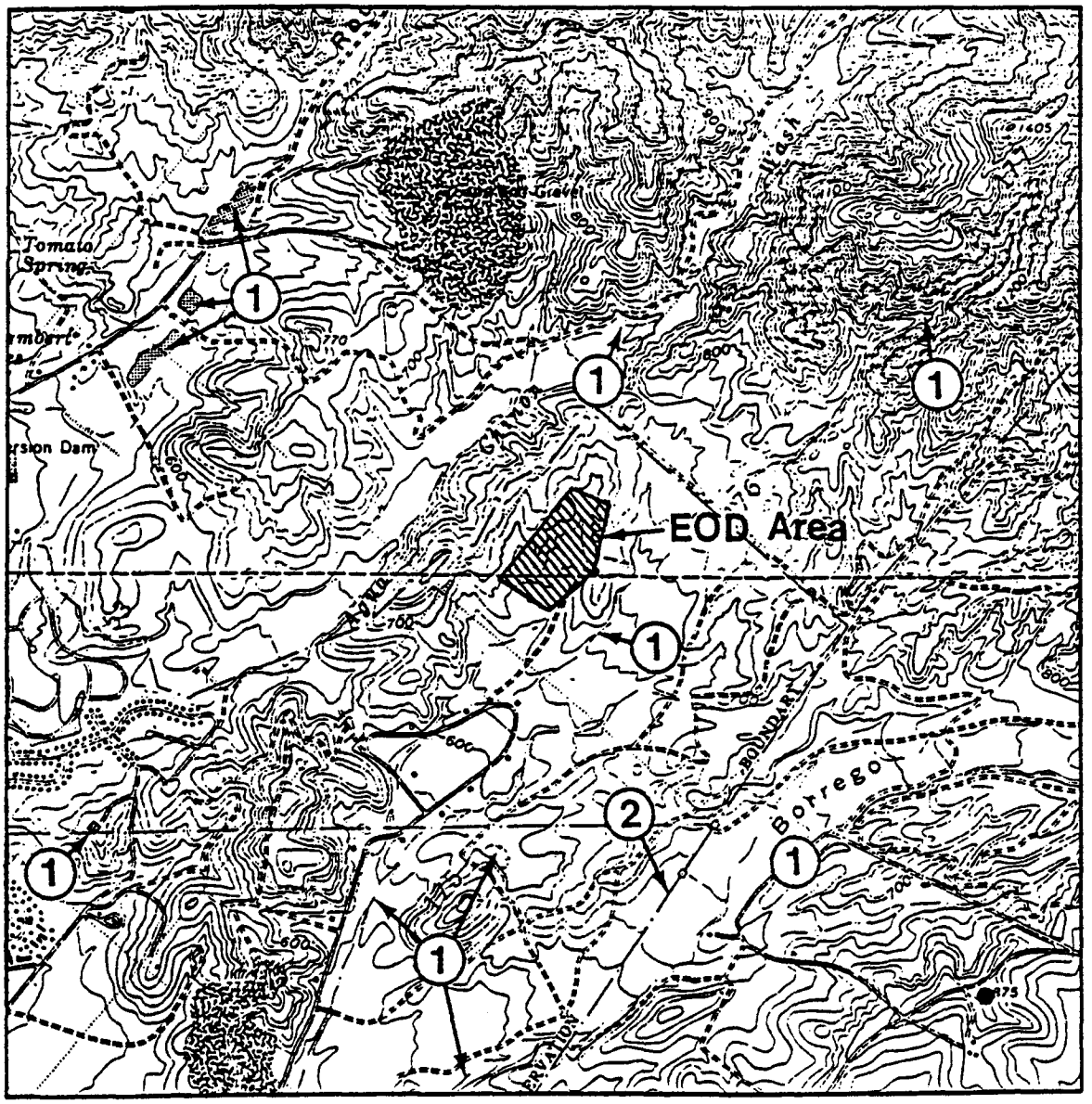


**EXHIBIT 1-1**

**ONE-MILE RADIUS MAP**

**Scale: 1" = 2000'**

**NOTE:**

OB/OD Area is Shaded

(1) Surface Water

(2) U. S. Marine Corps Air Station Boundary

No Known Underground Injection Wells or Intake Wells within 1/4 mile

Source: El Toro Quadrangle
U. S. Geological Survey