M60050.002203
MCAS EL TORO
SSIC #5090.3

AGENDA

TECHNICAL REVIEW COMMITTEE PRESENTATION
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
MARINE CORPS AIR STATION EL TORO

SEPTEMBER 26, 1990

1. **INRODUCTION** (Nuzum-Navy RPM, Rogan-CH2M HILL PjM)
2. **BACKGROUND** (Rogan)
3. **INITIAL EVALUATION** (Rogan)
4. **WORK PLAN RATIONALE** (Rogan)
5. **RI/FS TASKS** (Rogan, Arends-CH2M HILL, Elliott-CH2M HILL)
6. **SCHEDULE** (Rogan)
7. **CONCLUSION** (Rogan)

Plans delivered Monday AM (1 Oct)

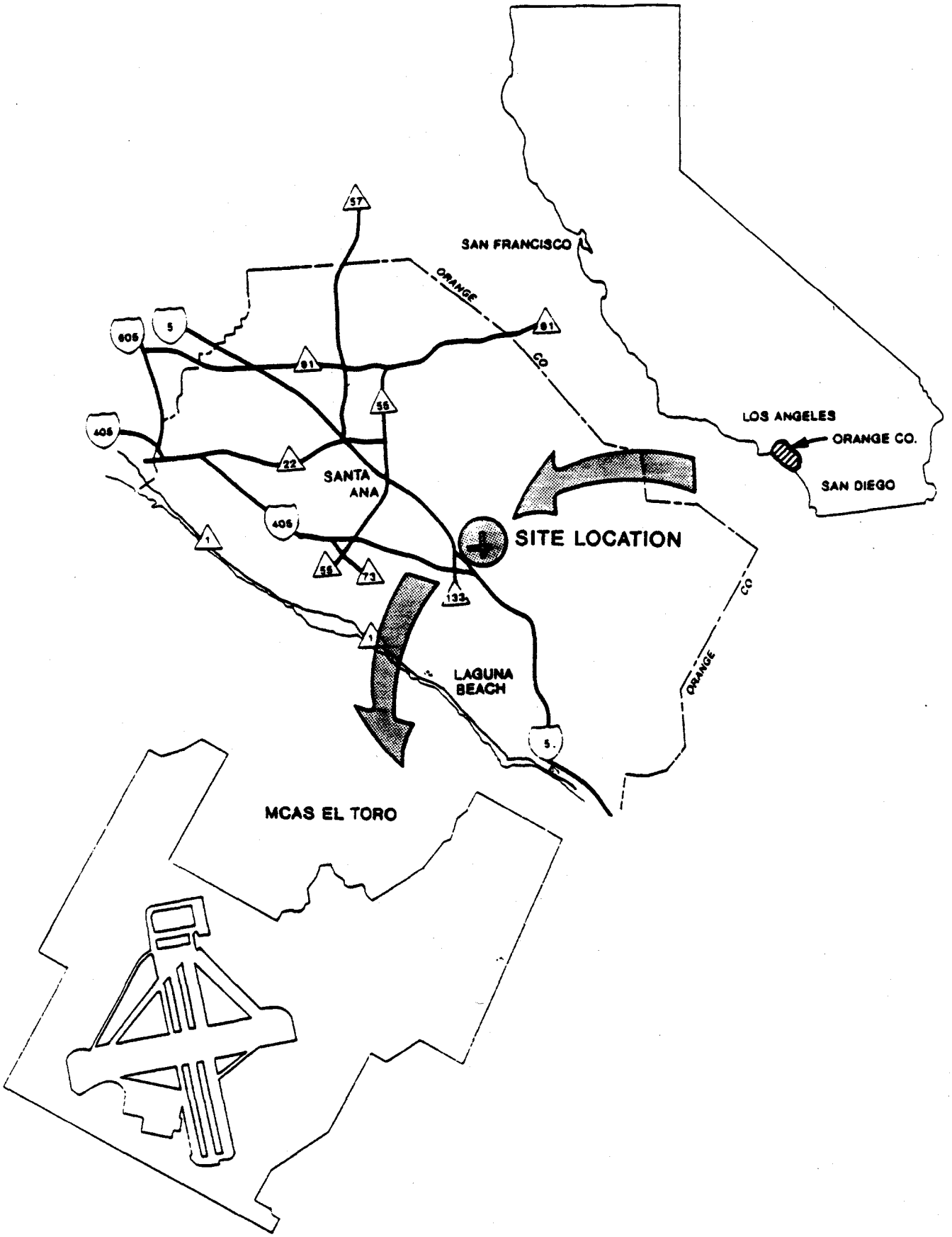


FIGURE 1
MCAS EL TORO
SITE LOCATION MAP

RI/FS WORK PLAN

MCAS EL TORO

* Rationale
  * Support the Risk Assessment
  * Support the Selection of Site Remedies
* Data Amount and Quality Vary
* Phased Approach
* Twenty-two Sites
* Three Operable Units

1) VOC
2) LANDFILLS + IR 10
3) OTHERS
4) WB + RFA

INITIAL EVALUATION

PRELIMINARY BASELINE RISK ASSESSMENT

LACK OF DATA
21/22 SITES

CONCEPTUAL SITE MODEL

OPERABLE UNITS

ARAR'S

WP
HSP
SAP

WORK PLAN RATIONALE

EXISTING DATA ANALYSIS

+

REMEDIAL ACTION ALTERNATIVES

+

DATA QUALITY OBJECTIVES

↓

DEVELOPMENT OF RI/FS WORK PLAN

+

DATA MANAGEMENT PLAN

RI/FS TASKS

PROJECT PLANNING

* Easements/Permits

* Expand Conceptual Site Model

* Subcontracts

* Laboratory

COMMUNITY RELATIONS

CHEMITILL REVISES
MONTGOMERY PRODUCT
WE WILL HAVE FRI 28 SEPT

FIELD INVESTIGATIONS

* Off-Base

* On-Base

RI/FS TASKS

(cont'd)

SAMPLE ANALYSIS/VALIDATION

DATA EVALUATION

ASSESSMENT OF RISKS

TREATABILITY STUDIES, PILOT TESTING

RI REPORT

REMEDIAL ALTERNATIVES DEVELOPMENT/SCREEN

DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

FS REPORT

POST RI/FS SUPPORT

ENFORCEMENT SUPPORT

MISCELLANEOUS

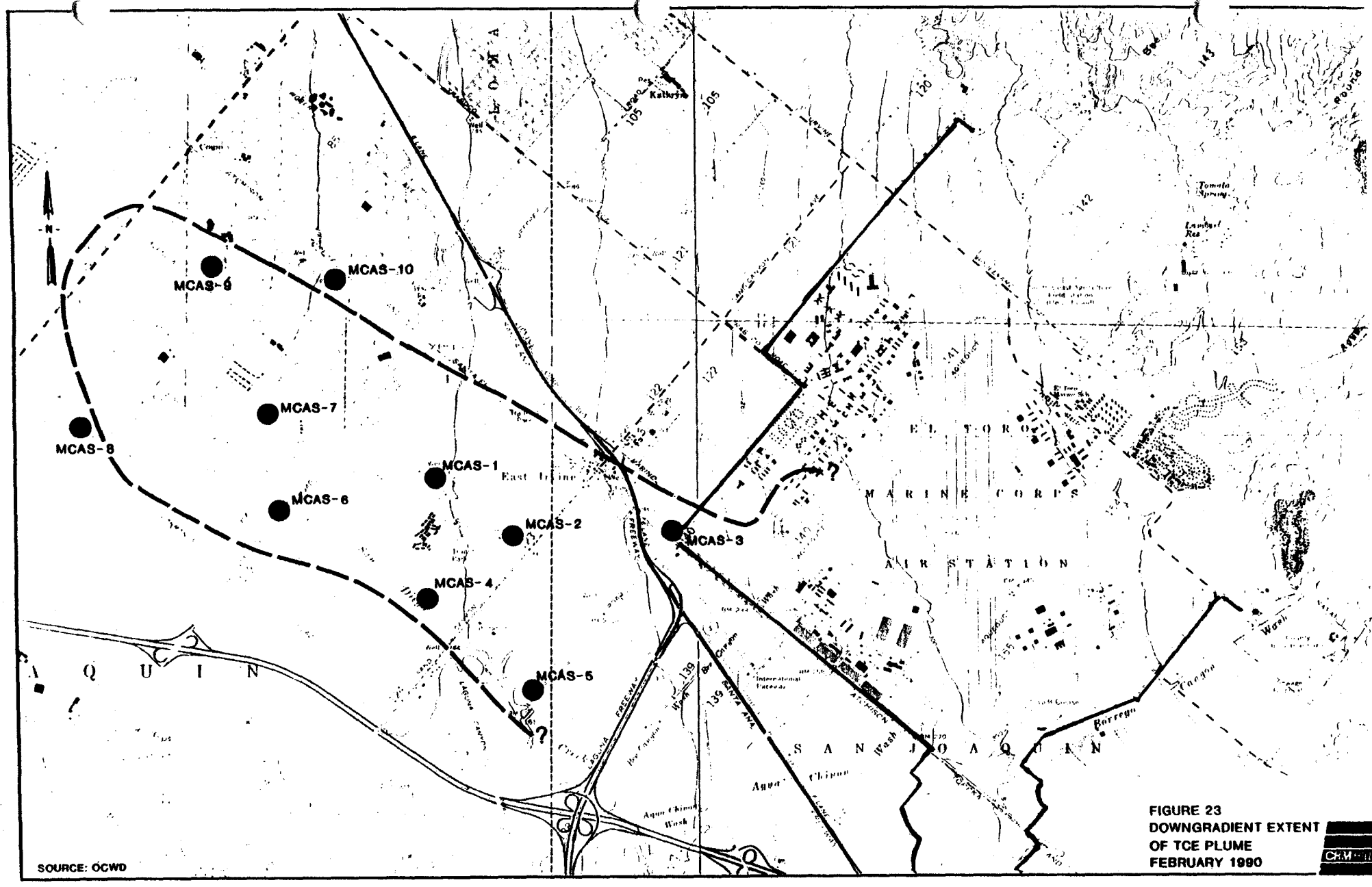


FIGURE 23
DOWNGRADIENT EXTENT
OF TCE PLUME
FEBRUARY 1990

LAO28730.18.SX

SITE 18 = OU 1

REGIONAL VOC INVESTIGATION
OBJECTIVES

- Identify potential sources of VOC contamination at MCAS El Toro
- Characterize the horizontal and vertical extent of contaminated groundwater onbase and offbase to complement the OCWD investigation
- Derive horizontal and vertical gradients of flow
- Characterize the geochemical facies of groundwater on and near MCAS El Toro
- Evaluate whether hydraulic continuity exists among shallow and deeper aquifer zones
- Derive physical aquifer parameters and characterize the rate and direction and flow
- Describe the geological stratigraphy
- Evaluate whether surface water runoff into washes has been a source of contamination

COMPONENTS OF THE REGIONAL VOC INVESTIGATION

Groundwater

- o Establish a monitoring network
  - 60 sampling points at 17 separate locations
    (8 clusters of 37 total monitoring wells)
    (21 individual wells)
    (43 of the 60 wells will be new)

- o 2 new aquifer test wells with 2 piezometers
    (future extraction wells?)

    plus...

- o OCWD network

- o 52 new wells at 19 other sites (other IR SITES)
    (total of 95 new wells)

background wells est. near each wash

Surface Water

- o 4 major drainages during storm events
  - where washes enter and exit the base
  - San Diego Creek immediately downstream of wash confluences

- o if no storm events, then where standing water lies at locations above

- o if no surface water, then no samples collected

Sediment

- o 0-18" composites beneath washes at locations described above

Soil

- o angle borings 30°∠
  - up- and downgradient of the base along the 4 major washes
  - 60-foot length (50 feet bgs)
  - 6 samples at 10-foot intervals

TABLE 4-18-2

SAMPLE ANALYSIS: SITE 18-REGIONAL VOC INVESTIGATION

SAMPLE DESCRIPTION	PHASE [1]	SAMPLING EVENTS [2]	SAMPLES (ESTIMATE) [3]	EPA TARGETS [4]			WATER					WASTE			ADDITIONAL ANALYSIS
				VOLATILE/ SEMI-VOLATILE ORGANICS	PESTICIDES/PCBs	METALS	TEMPERATURE	pH	Sp CONDUCTIVITY	TDS	ANIONS	TOXICITY	% MOISTURE	BULK DENSITY	TOTAL PETROLEUM HYDROCARBON	
GROUNDWATER	L	1	60	X				X	X	X	X					SODIUM, POTASSIUM CALCIUM, MAGNESIUM
SOIL	S	1	48	X												
SURFACE WATER	L	1	11	X				X	X	X	X					SODIUM, POTASSIUM CALCIUM, MAGNESIUM
SEDIMENT	S	1	11	X												

1. PHASE: S = SOLID, L = LIQUID, G = GASEOUS
2. SAMPLING EVENTS : 1 = ONE TIME SAMPLING, 4 = QUARTERLY SAMPLING
3. SAMPLES: ESTIMATE OF NUMBER OF SAMPLES FOR ANALYSIS
4. EPA TARGETS: EPA TARGET COMPOUND LIST (PREVIOUSLY CALLED RAS ANALYSIS)

CH2M HILL

BRIEF OVERVIEW
INVESTIGATION OF ONSTATION SITES
MCAS EL TORO

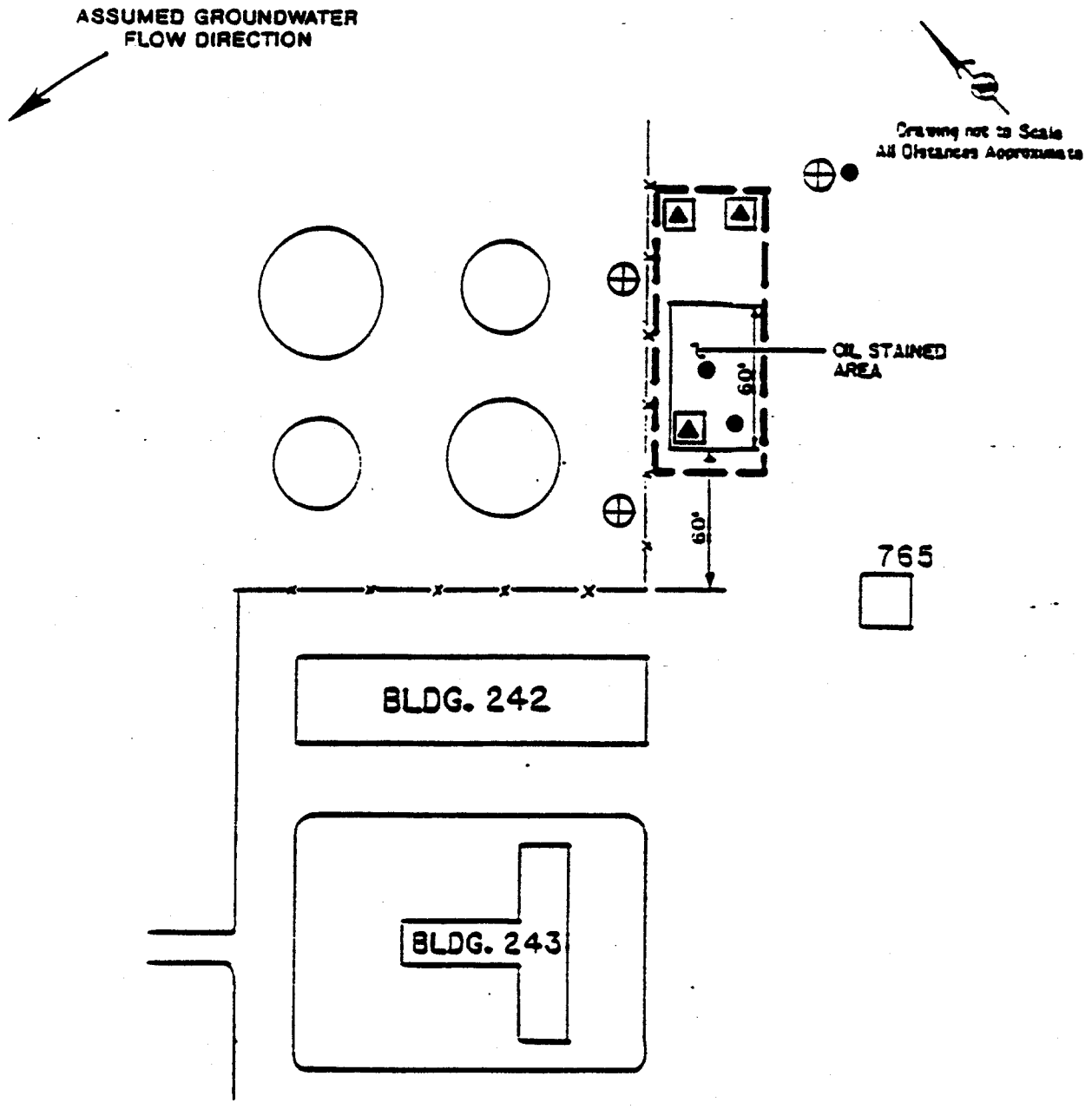
- o Objective
  - Is contamination present and at what concentration?

- o Phased Approach for Field Investigation

- o Types of Samples
  - Groundwater
  - Surface water
  - Soil
  - Sediment

- o Dual Function for Wells
  - To investigate the site
  - To contribute to the regional VOC investigation

OU2 - 4 LF's + IR Sites
OU3 - All Else



MONITORING WELL

SOIL BORING SAMPLE AT 2.5 & 5.0 FT.

SOIL BORING 25 FT. SAMPLE EVERY 5 FT.

FIGURE 16
SAMPLING PLAN FOR SITE 13:
OIL CHANGE AREA

MODIFIED FROM JMM, 1988

CH2M HILL

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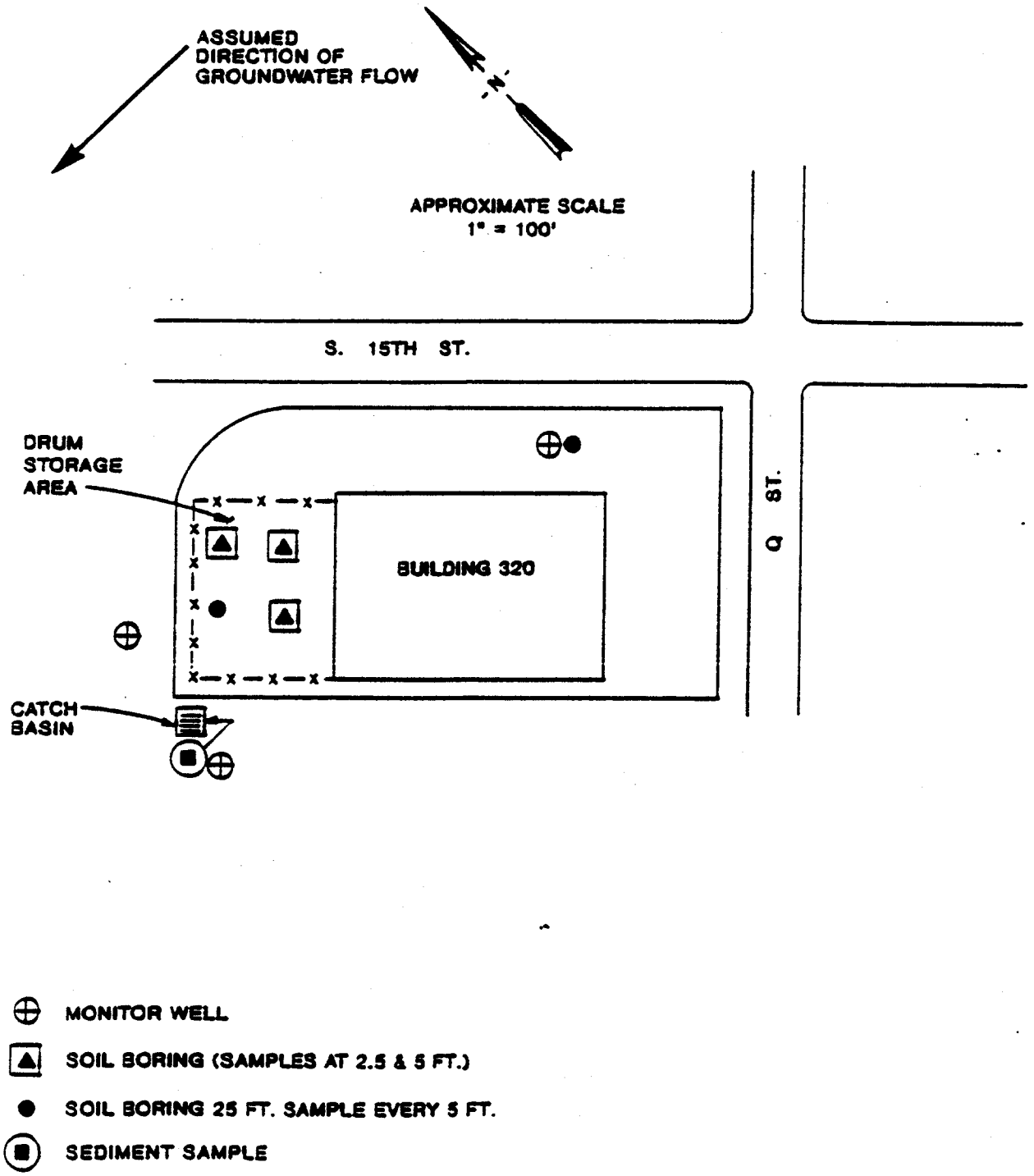

FIGURE 24
SAMPLING PLAN FOR SITE 21:
BUILDING 320: MATERIALS MANAGEMENT

CH2M HILL

Table 4
Summary of Proposed Work at MCAS El Toro

Site Number	Number of Proposed Groundwater Wells	Number of Proposed Vertical Soil Borings	Number of Proposed Angle Borings	Number of Groundwater Samples	Number of Shallow Soil Samples	Number of Deep Soil Samples	Number of Sediment Samples	Number of Surface Runoff Samples
1	3	-	-	3	16	-	-	-
2	4	-	-	4	-	-	-	4
3	5	-	-	5	-	-	-	3
4	2	-	-	2	8	-	1	-
5	4	-	-	4	-	-	-	-
6	2	-	-	2	10	-	-	-
7	1	-	-	1	10	-	1	-
8	4	5	-	4	8	25	-	-
9	2	1	-	2	6	5	-	-
10/22	3	3	-	3	20	15	-	-
11	-	2	-	-	10	10	1	-
12	1	2	-	2	16	10	-	-
13	3	3	-	3	6	15	-	-
14	1	1	-	1	12	5	1	-
15	-	-	-	-	10	-	-	-
16	3	1	2	3	6	17	-	-
17	4	-	-	4	4	-	-	-
18	43	-	8	60	-	48	11	11
19	3	4	2	3	-	32	-	-
20	4	-	-	4	10	-	1	-
21	3	2	-	3	6	10	1	-
TOTAL	95	24	12	113	158	192	17	18

Table 5
Proposed Laboratory Analyses for MCAS El Toro Samples

Site No.	Type of Sample	Number of Samples	Volatile Organics	Semi-volatile Organics	Metals	TPH	Fuel Hydro-carbons	Pesti-cide/ PCBs	pH	Specific Conducti-vity	TDS	Selected Anions	Gross Alpha/ Beta	Dioxins
1	W	3	X	X	X	X	X	X	X	X	X	X	X	-
	S	16	X	X	X	X	X	-	-	-	-	-	-	-
2	W	8	X	X	X	X	X	X	X	X	X	X	-	-
3	W	8	X	X	X	X	X	X	X	X	X	X	-	X
4	W	2	X	X	X	X	X	X	X	X	X	X	-	-
	S	8	X	X	X	X	X	X	-	-	-	-	-	-
	SED	1	X	X	X	X	X	X	-	-	-	-	-	-
5	W	4	X	X	X	X	X	X	X	X	X	X	-	-
6	W	2	X	X	X	X	X	X	X	X	X	X	-	-
	S	10	X	X	X	X	X	-	-	-	-	-	-	-
7	W	1	X	X	X	X	X	X	X	X	X	X	-	-
	S	10	X	X	X	X	X	-	-	-	-	-	-	-
	SED	1	X	X	X	X	X	-	-	-	-	-	-	-
8	W	4	X	X	X	X	X	X	X	X	X	X	-	-
	S	33	X	X	X	X	X	X	-	-	-	-	-	-
9	W	2	X	X	X	X	X	X	X	X	X	X	-	-
	S	11	X	X	X	X	X	-	-	-	-	-	-	-
10/ 22	W	3	X	X	X	X	X	X	X	X	X	X	-	-
	S	35	X	X	X	X	X	X	-	-	-	-	-	-
11	S	20	-	-	-	-	-	X	-	-	-	-	-	-
	SED	1	-	-	-	-	-	X	-	-	-	-	-	-
12	W	2	X	X	X	X	X	X	X	X	X	X	-	-
	S	26	X	X	X	X	X	X	-	-	-	-	-	-

Table 5
(Continued)

Site No.	Type of Sample	Number of Samples	Volatile Organics	Semi-volatile Organics	Metals	TPH	Fuel Hydro-carbons	Pesti-cide/ PCBs	pH	Specific Conducti-vity	TDS	Selected Anions	Gross Alpha/ Beta	Dioxins
13	W	3	X	X	X	X	X	X	X	X	X	X	-	-
	S	21	X	X	X	X	X	X	-	-	-	-	-	-
14	W	1	X	X	X	X	X	X	X	X	X	X	-	-
	S	17	X	X	X	X	X	-	-	-	-	-	-	-
	SED	1	X	X	X	X	X	-	-	-	-	-	-	-
15	S	10	X	X	X	X	X	-	-	-	-	-	-	-
16	W	3	X	X	X	X	X	X	X	X	X	X	-	-
	S	23	X	X	X	X	X	-	-	-	-	-	-	-
17	W	4	X	X	X	X	X	X	X	X	X	X	-	X
	S	4	X	X	X	X	X	X	-	-	-	-	-	-
18	W	71	X	X	-	-	-	-	X	X	X	X	-	-
	S	48	X	X	-	-	-	-	-	-	-	-	-	-
	SED	11	X	X	-	-	-	-	-	-	-	-	-	-
19	W	3	X	X	X	X	X	X	X	X	X	X	-	-
	S	32	X	X	X	X	X	-	-	-	-	-	-	-
20	W	4	X	X	X	X	X	X	X	X	X	X	-	-
	S	10	X	X	X	X	X	X	-	-	-	-	-	-
	SED	1	X	X	X	X	X	X	-	-	-	-	-	-
21	W	3	X	X	X	X	X	X	X	X	X	X	-	-
	S	16	X	X	X	X	X	X	-	-	-	-	-	-

NOTE: W = Water
S = Soil
SED = Sediment