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Naval Facilities Engineering Command  
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Contract No. N68711-92-D-4670

**COMPREHENSIVE LONG-TERM ENVIRONMENTAL  
ACTION NAVY  
CLEAN II**

**TECHNICAL MEMORANDUM  
REFUSE SURVEY  
MARINE CORPS AIR STATION  
EL TORO, CALIFORNIA**

**CTO-0124-T02/0081**

**March 1997**

Prepared by:

BECHTEL NATIONAL, INC.  
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Signature: \_\_\_\_\_

*Timothy W. Latas*  
Timothy W. Latas, R.G., CTO Leader

Date: \_\_\_\_\_

*3/3/97*

## **TECHNICAL MEMORANDUM REFUSE SURVEY**

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This Technical Memorandum presents the results of a survey to locate refuse in areas of Marine Corps Air Station (MCAS) El Toro north of Sites 2 and 17 (Figure 1). The survey was conducted on behalf of the Department of the Navy, Southwest Division Naval Facilities Engineering Command. The survey was performed on 03 through 05, 09, and 17 December by Bechtel National, Inc.

The need for this survey was precipitated by previous surveys showing scattered areas of refuse near Sites 2 and 17 (landfill sites) and in adjacent areas. In addition, access to the survey area had not been limited until recent fence construction so there was a potential for unauthorized dumping. The Department of the Navy plans to consolidate these areas of refuse in Sites 2 and 17 as a "housekeeping" effort prior to closure of these landfill sites.

### **SITE DESCRIPTION**

MCAS El Toro lies in a semiurban agricultural area in southern California, approximately 8 miles southeast of the city of Santa Ana and 12 miles northeast of the city of Laguna Beach. Land northwest of the station is used for agricultural purposes. The land to the south and northeast is mainly used for commercial, light-industrial, and residential purposes. Surrounding residential areas are the cities of Lake Forest, Irvine, and Laguna Hills.

The portion of MCAS El Toro where the refuse survey was conducted is adjacent to Sites 1, 2, and 17 (Figure 1). The survey area was separated into two different sections, one accessible through Site 2 and the other through Site 17. These sections are separated by the munitions magazine area and the Explosive Ordnance Disposal (EOD) area. Access to the area accessible through Site 2 is now restricted due to fence construction that occurred in the fall of 1996. Access to Site 17 and directly adjacent areas is restricted, however, there are no physical restrictions to areas northeast of Site 17.

The terrain in the survey area is mostly hilly with some relatively flat areas adjacent to Site 2. There are several minor drainages throughout the survey area, however, the only major drainage is Borrego Canyon Wash, which traverses Site 2. Vegetation in the survey area consists of grasses, shrubs (including areas of coastal sage shrub), cactus, and small trees. The thickness of vegetation varies from sparse to thick shrubs that prevent pedestrian surveys.

Roads in the survey area are dirt with some that have been partially overgrown with shrubs and grasses. Some of the roads near Sites 2 and 17 have recently been upgraded with gravel. Magazine Road is the only paved road that provides access from Irvine Boulevard to Site 1 (EOD range).

### **PROCEDURES**

The survey was conducted by slowly traversing the dirt roads in a four-wheel drive vehicle and looking for refuse. When views of the areas adjacent to the roads were

obscured by thick brush, the areas were inspected on foot. Portions of the survey area removed from currently used roads were surveyed on foot. Areas where the brush was too thick to examine on foot were surveyed using field glasses from nearby high spots.

When refuse was found, the location was marked with a wooden stake painted orange and given a unique designation so that it could be surveyed later. Photos were taken and a sketch of the refuse and the surrounding area were made in a bound logbook. In particular, indications of potential contamination were described, such as staining, product labels, and distressed vegetation.

## RESULTS

Most of the refuse found during the survey was metal, wood, or concrete debris including steel aircraft landing (Marsten) matting, metal and wood posts, fencing, and plywood boards (Table 1). This debris does not appear to pose an environmental threat through leaking or leaching of chemicals into underlying soil. Refuse locations are shown on Figure 1. In addition, photographs of the refuse sites are attached.

Refuse location RS-1 was removed from the list of refuse locations because it consisted of a possible well location near Site 2 (Figure 1). The feature appears to be a pressure-relief valve on a waterline near the site. A photograph of this location is attached, and the approximate location is shown on Figure 1.

Two refuse locations, RS-3 and RS-37, appear to potentially affect subsurface soils. RS-3 is a crushed 55-gallon drum, and RS-37 is a pile of trash that includes used oil filters and other automotive debris.

## RECOMMENDATIONS

The majority of the refuse found, excluding RS-3 and RS-37, should not require any additional environmental evaluation. This refuse can be removed and disposed in a landfill or other appropriate facility.

At locations RS-3 and RS-37, samples should be collected from underneath refuse to assess potential impacts to subsurface soil. Because the exact nature of the refuse is not known, the samples should be analyzed for a wide range of analytes, including total petroleum hydrocarbons, volatile organic compounds, semivolatile organic compounds, pesticides/PCBs, and metals.

If the analyses indicate that there has not been an impact to underlying soils, the refuse at RS-3 and RS-37 should be handled similarly to the other refuse. If the analyses indicate there has been an exceedance of risk-based concentrations for organic compounds as developed for Sites 2 and 17, background metal concentrations for MCAS El Toro, or reference levels for pesticides and herbicides, then the sites should be excavated until threshold levels are met. The excavated material would need to be characterized for proper disposal.

Technical Memorandum Refuse Survey

**Table 1**  
**Refuse Survey Results**

Designation	Type of Refuse	Comment
RS-2*	Wood pile	Spread over an area approximately 45 by 25 feet
RS-3	Crushed 55-gallon drum	
RS-4	Marsten matting	24- × 10-foot area
RS-5	Marsten matting	45- × 35-foot area
RS-6	Metal pipe, sheet metal, and brick debris	7 feet long, 4-inch diameter, 3-foot diameter
RS-7	Railroad tie, metal debris, asphalt	20- × 5-foot area
RS-8	Shopping cart	4 × 3 by 2 feet
RS-9	Tractor tire	4-foot diameter
RS-10	Blankets, wood, etc.	20-foot diameter of debris
RS-11	Wood debris	10- × 7-foot area
RS-12	Wheel and tire	3-foot diameter
RS-13	Wooden pole and sign	7 feet long (pole)
RS-14	Metal debris	18- × 2-foot
RS-15	Wood and metal debris	scattered over 100-foot diameter area
RS-16	Metal debris	4 feet across
RS-17	Metal and wood debris	15- × 15-foot area
RS-18	Metal posts with concrete bases	20- × 8-foot area
RS-19	Concrete debris	10- × 20-foot area
RS-20	Metal debris	2-foot diameter
RS-21	Plastic debris	Caught in fence
RS-22	Wood and metal debris	Scattered over 20- × 15-foot area
RS-23	Marsten matting	Scattered over 47- × 20-foot area
RS-24	Marsten matting	16- × 10-foot area
RS-25	Metal debris	5-foot diameter
RS-26	Marsten matting	10- × 2-foot area
RS-27	Plywood sheets	7- × 3-foot area
RS-28	Plywood sheet	8- × 4-foot area
RS-29	Cement blocks, pallet	13- × 9- and 13- × 4-foot areas, 5- × 4-foot area
RS-30	Metal debris styrofoam chunk	7-foot diameter area
RS-31	Metal pipe, debris	6- × 3-foot area
RS-32	Metal debris	2-foot diameter
RS-33	Metal, wood, and concrete debris	40- × 15-foot area
RS-34	Pallets, asphalt, concrete debris	100- × 35-foot area
RS-35	Concrete debris, rebar	35- × 8-foot area
RS-36	Metal object	6- × 6- × 3-foot object

(table continues)

Table 1 (continued)

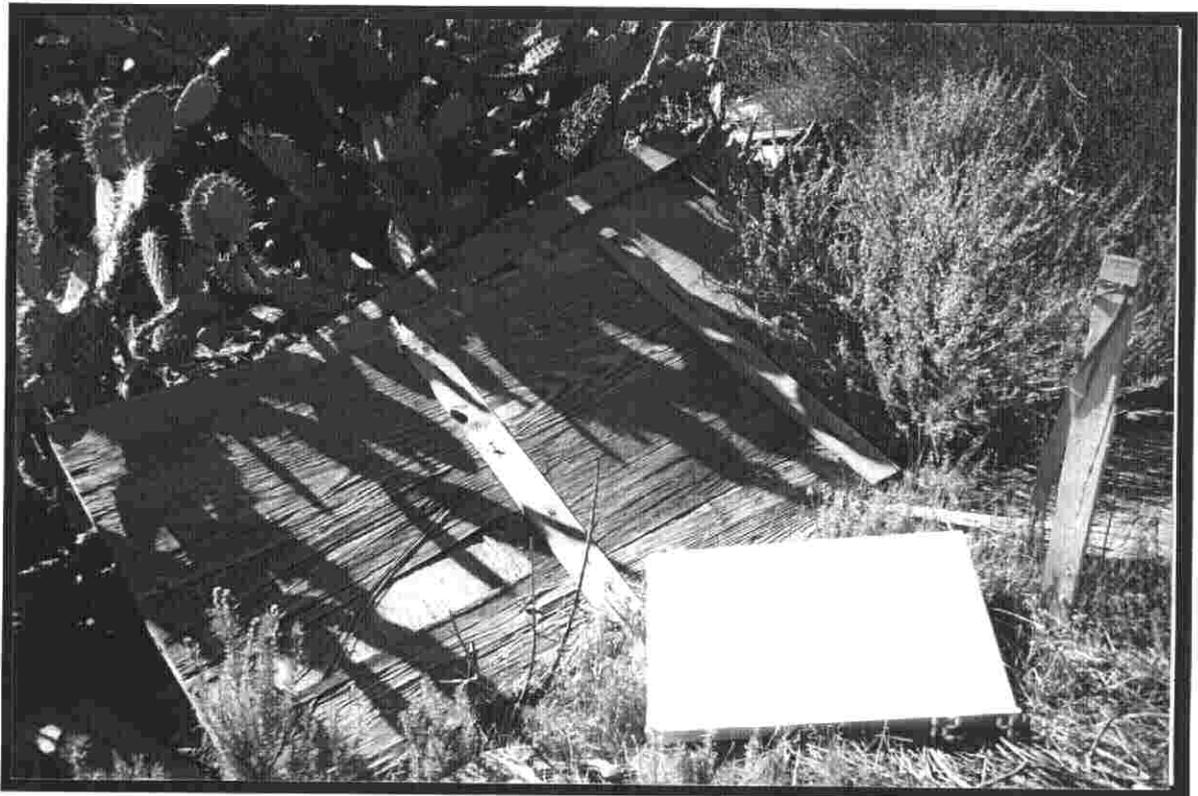
Designation	Type of Refuse	Comment
RS-37	Trash pile (oil filters, automotive debris in a soil matrix)	8- × 5- × 3-foot volume
RS-38	Concrete and fencing debris	13-foot diameter
RS-39	Motorcycle frame	6 feet across
RS-40	Marsten matting	10- × 6-foot area
RS-41	Wood debris, barbed wire	15- × 7-foot area
RS-42	Bathtub, metal pipe	3- × 5- × 2-foot object, 2-foot diameter by 22-foot long)
RS-43	Metal box, wood debris	35- × 20-foot area
RS-44	Concrete box, metal, and barbed wire debris	8- × 5-foot area
RS-45	Car body parts	20-foot-diameter area

Note:

- \* the RS-1 designation for this technical memorandum was removed because the location appears to be a pressure-relief valve for a water line



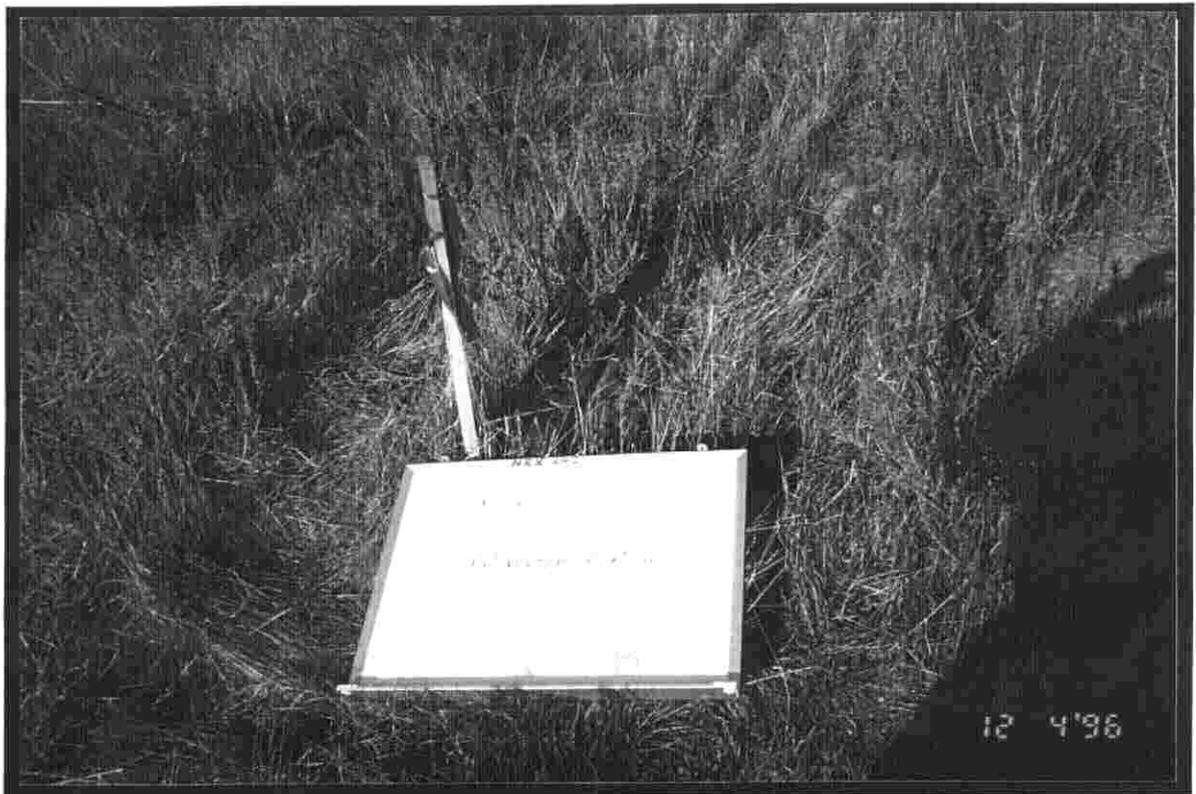
**RS-1: Pressure-relief valve for water line**



**RS-2: Wood debris**



**RS-3: Crushed 55-gallon drum**



**RS-4: Marsten matting**



**RS-5: Marsten matting**



**RS-6: Metal pipe, sheet metal, and brick debris**



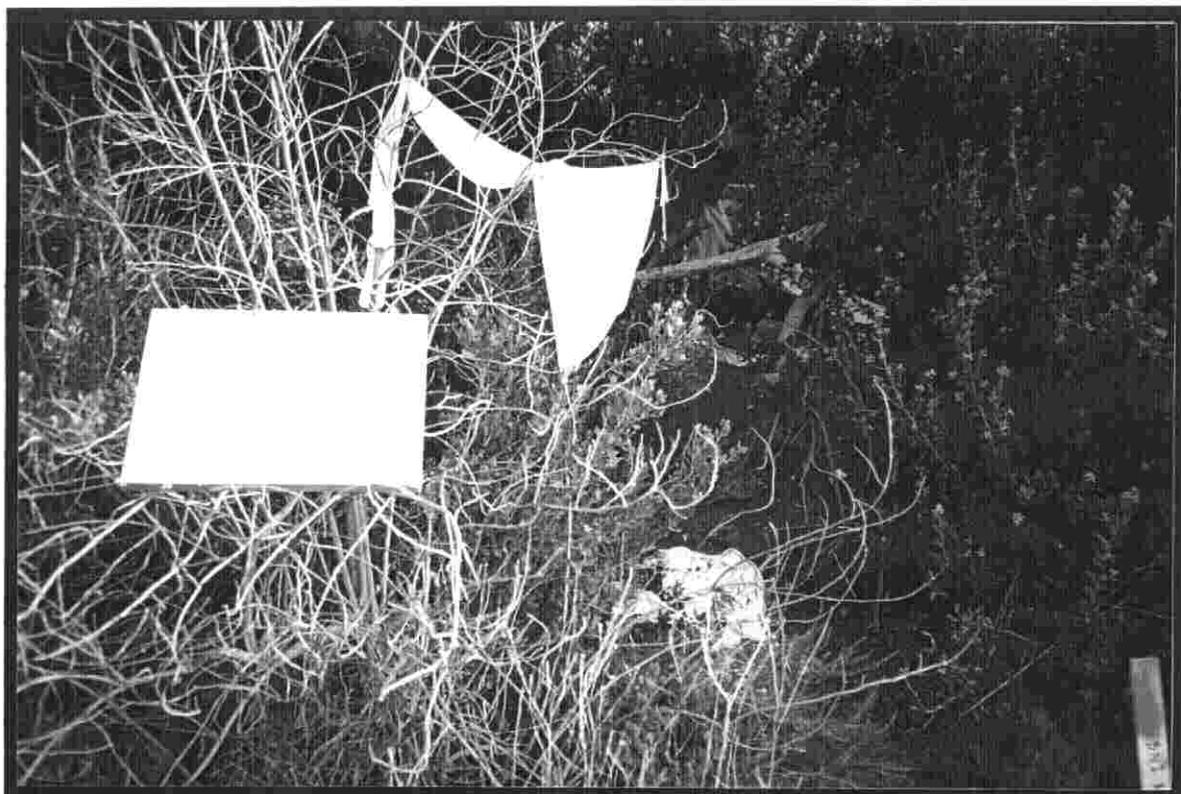
**RS-7: Railroad tie, metal debris, and asphalt**



**RS-8: Shopping cart**



**RS-9: Tractor tire**



**RS-10: Blankets and wood debris**



**RS-11: Wood debris**



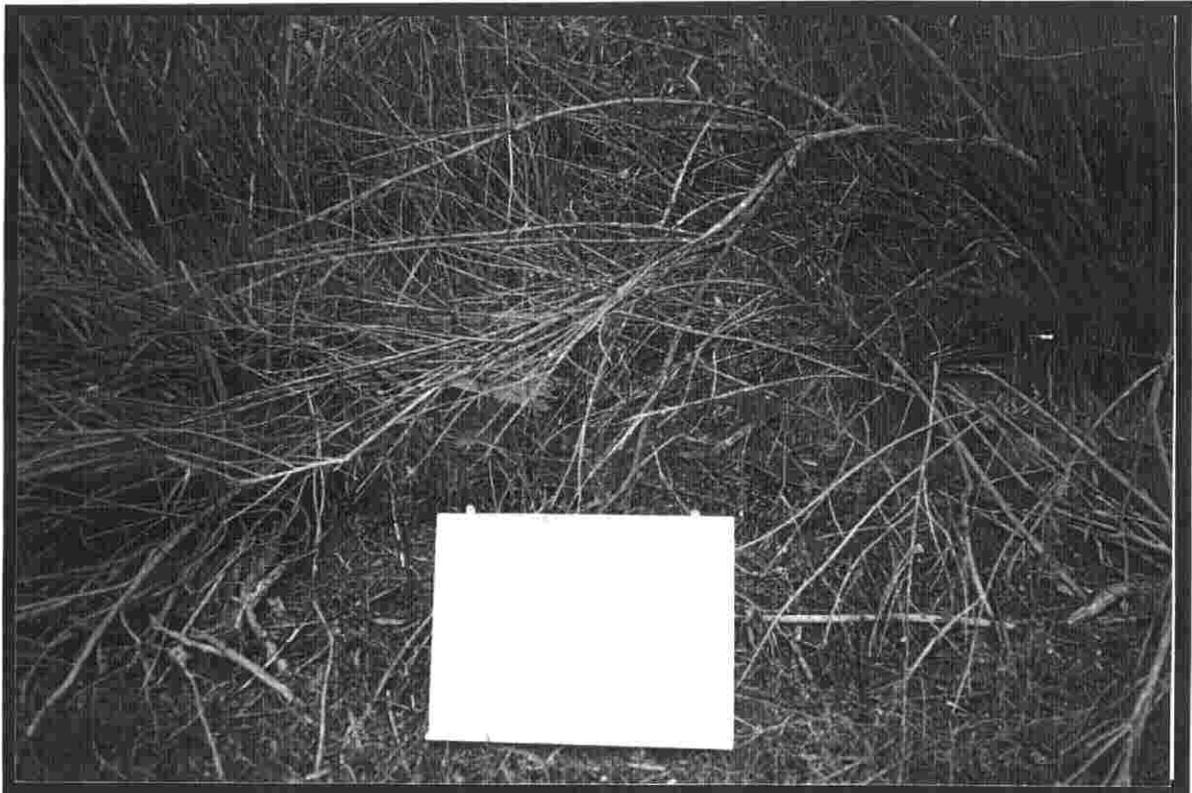
**RS-12: Wheel and tire**



**RS-13: Wooden post and sign**



**RS-14: Metal debris**



**RS-15: Wood and metal debris**



**RS-16: Metal debris**



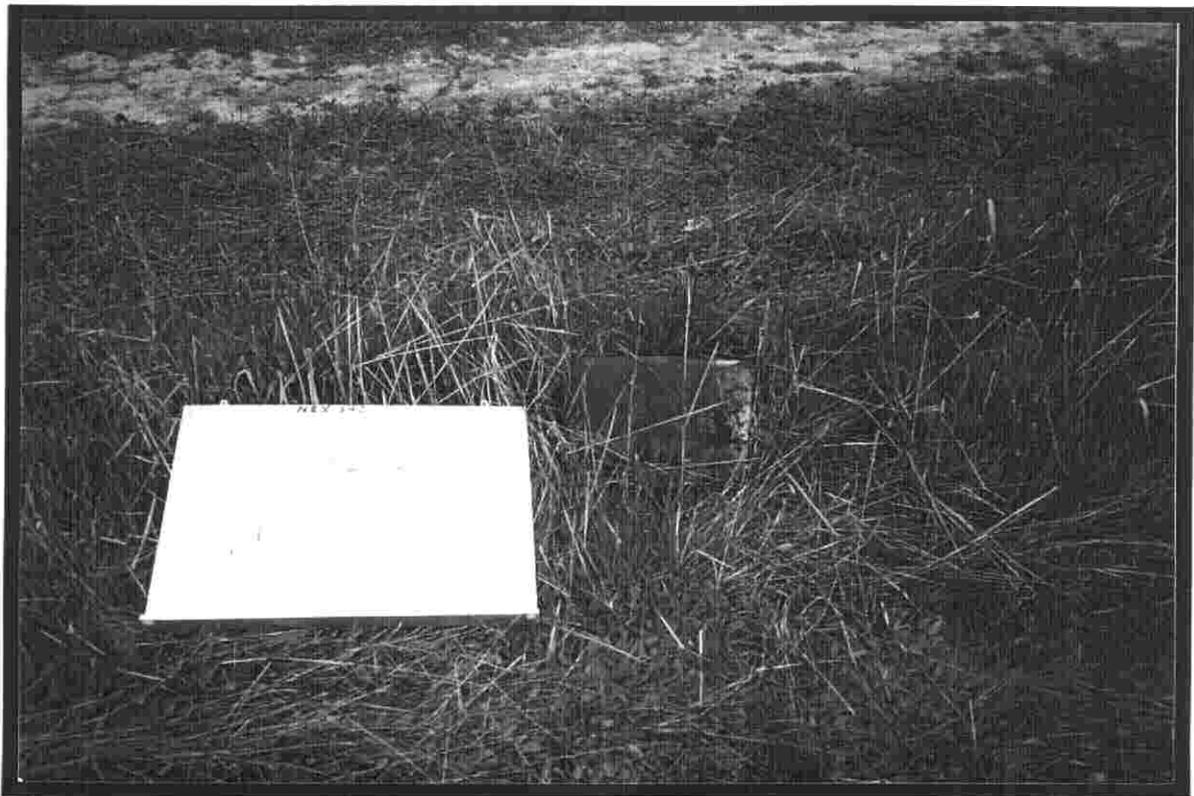
**RS-17: Metal and wood debris**



**RS-18: Metal posts with concrete bases**



**RS-19: Concrete debris**



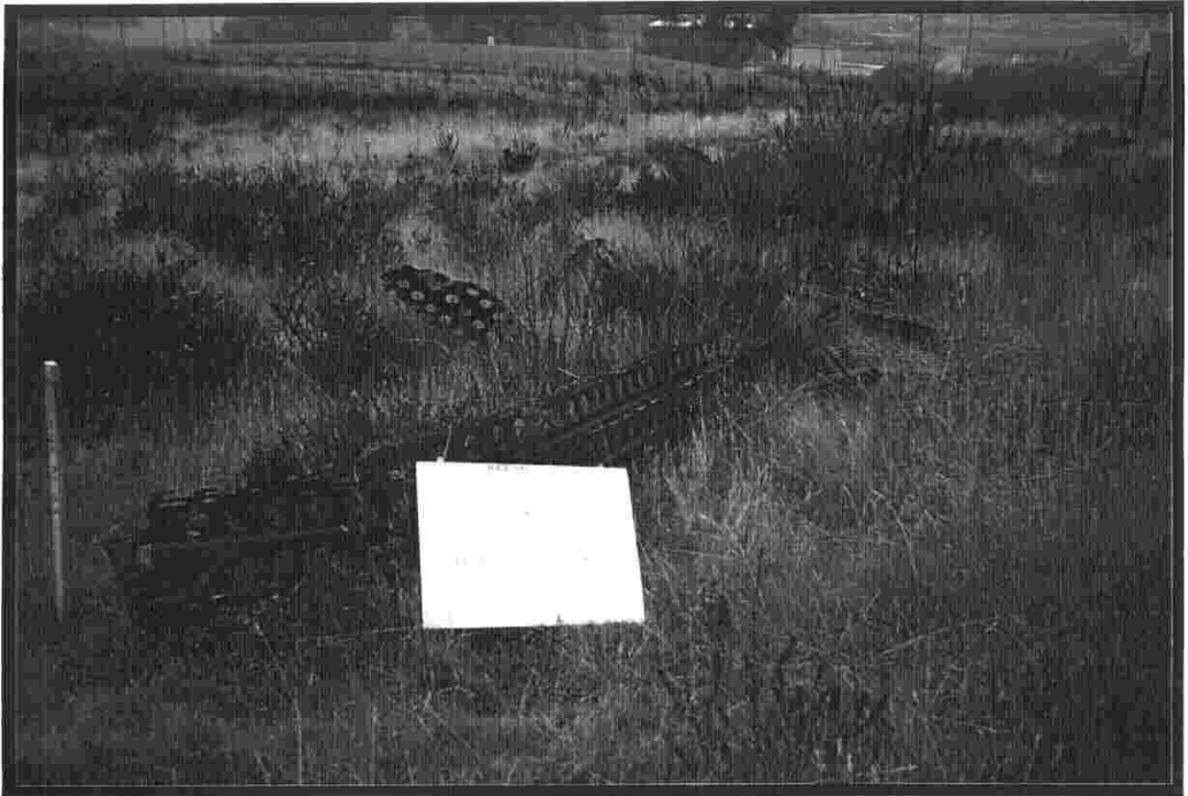
**RS-20: Metal debris**



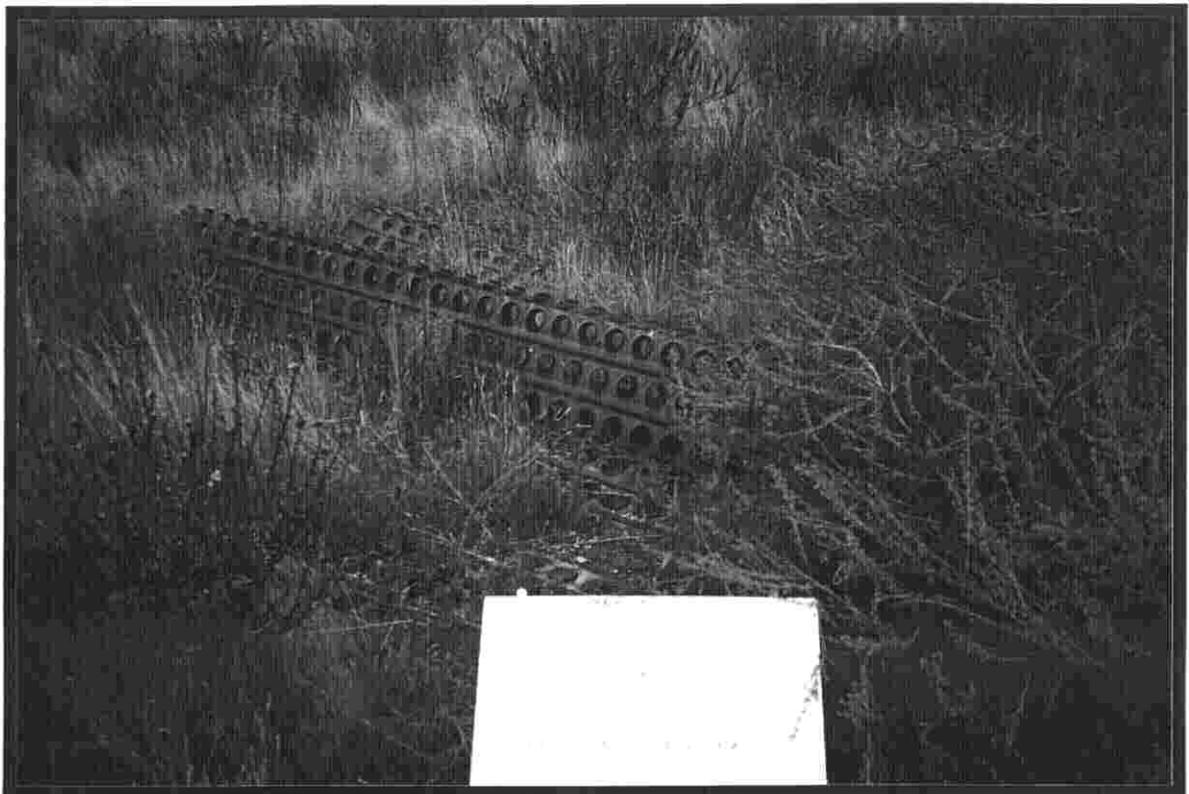
**RS-21: Plastic debris**



**RS-22: Wood and metal debris**



**RS-23: Marsten matting**



**RS-24: Marsten matting**



**RS-25: Metal debris**



**RS-26: Marsten matting**



**RS-27: Plywood sheets**



**RS-28: Plywood sheets and eucalyptus branch**



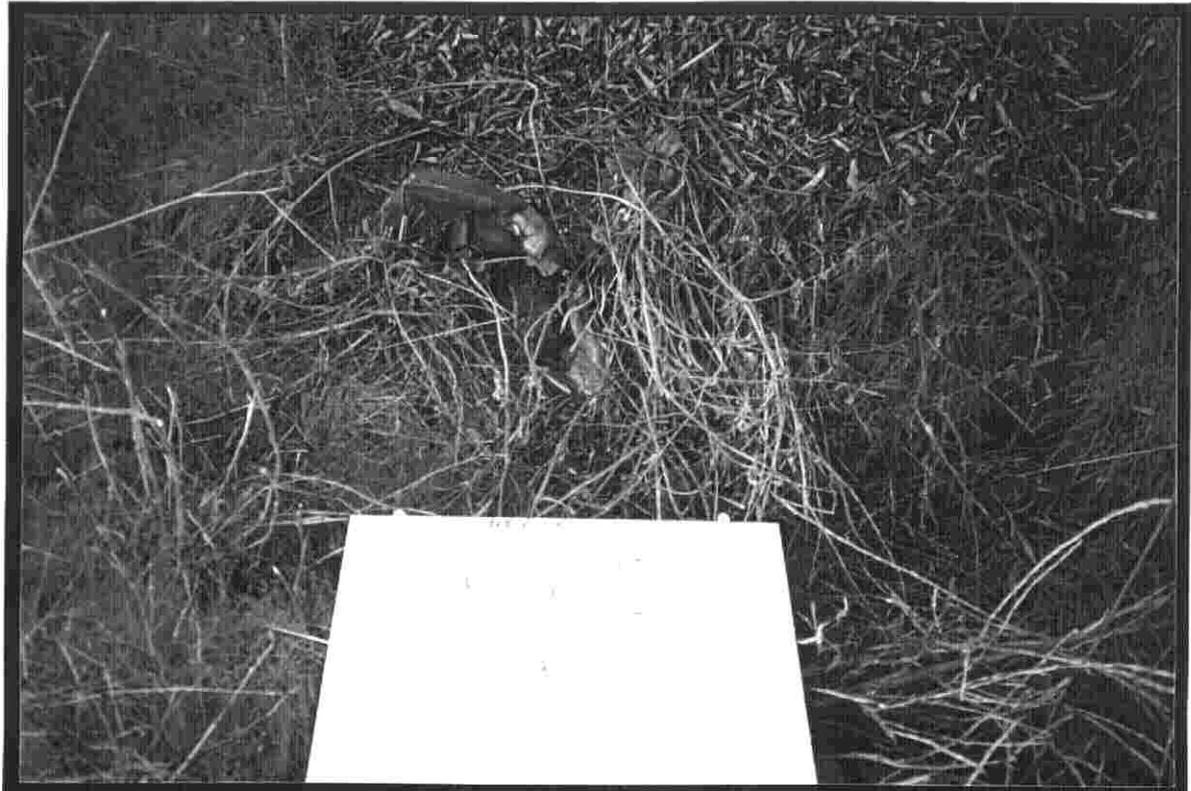
**RS-29: Cement blocks and pallet**



**RS-30: Metal debris and Styrofoam**



**RS-31: Metal pipe and debris**



**RS-32: Metal debris**



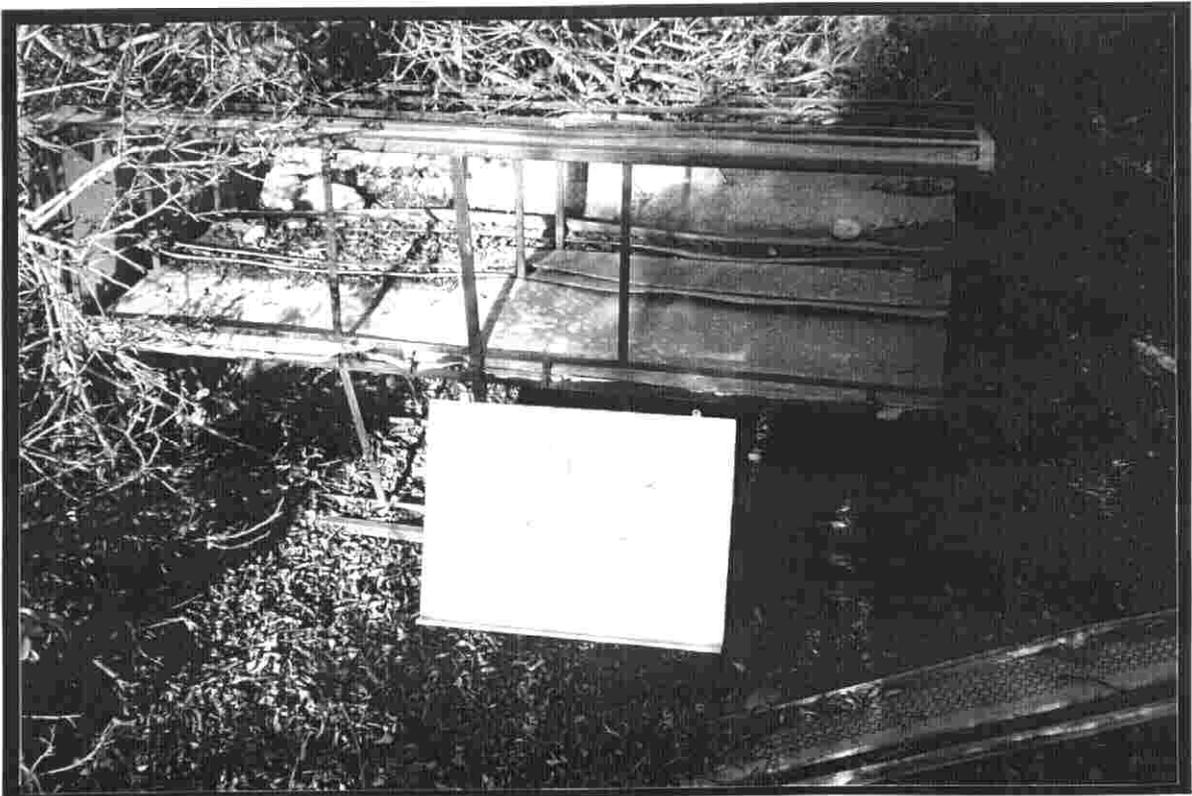
**RS-33: Metal, wood, and concrete debris**



**RS-34: Pallets and asphalt debris**



**RS-35: Concrete debris and reinforcement bar**



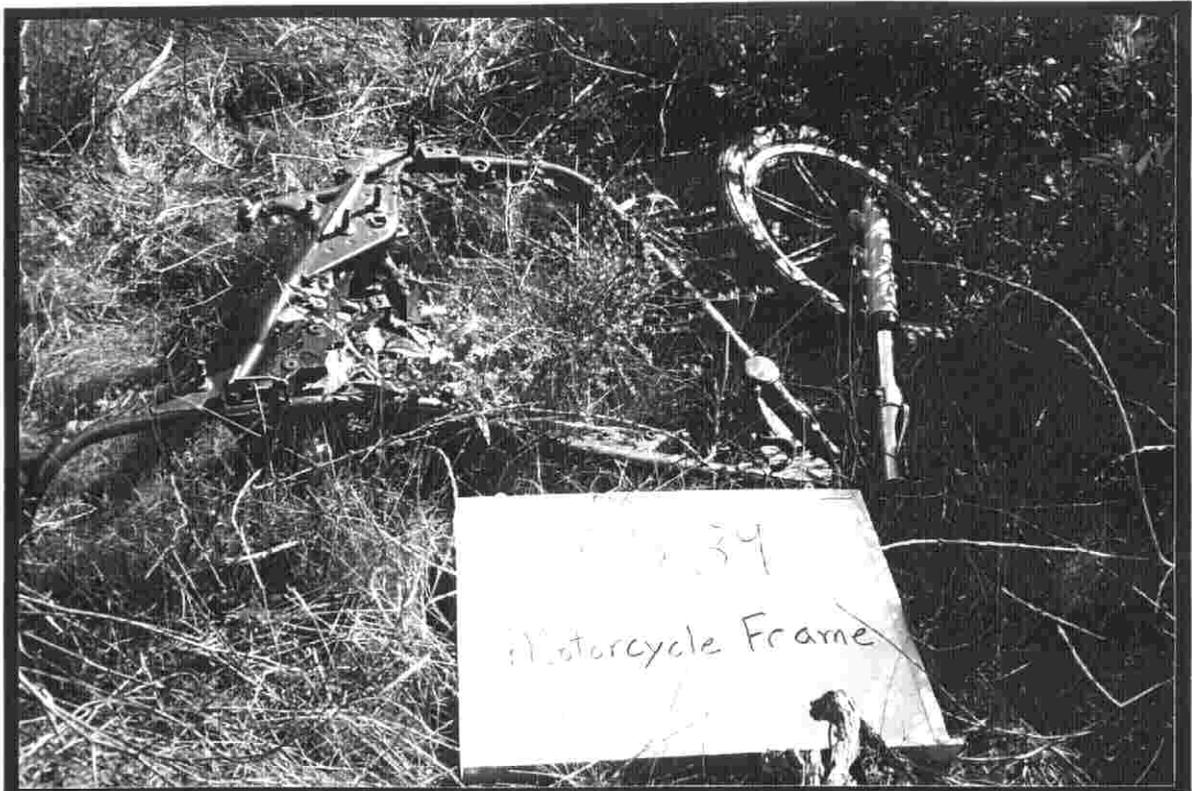
**RS-36: Metal object**



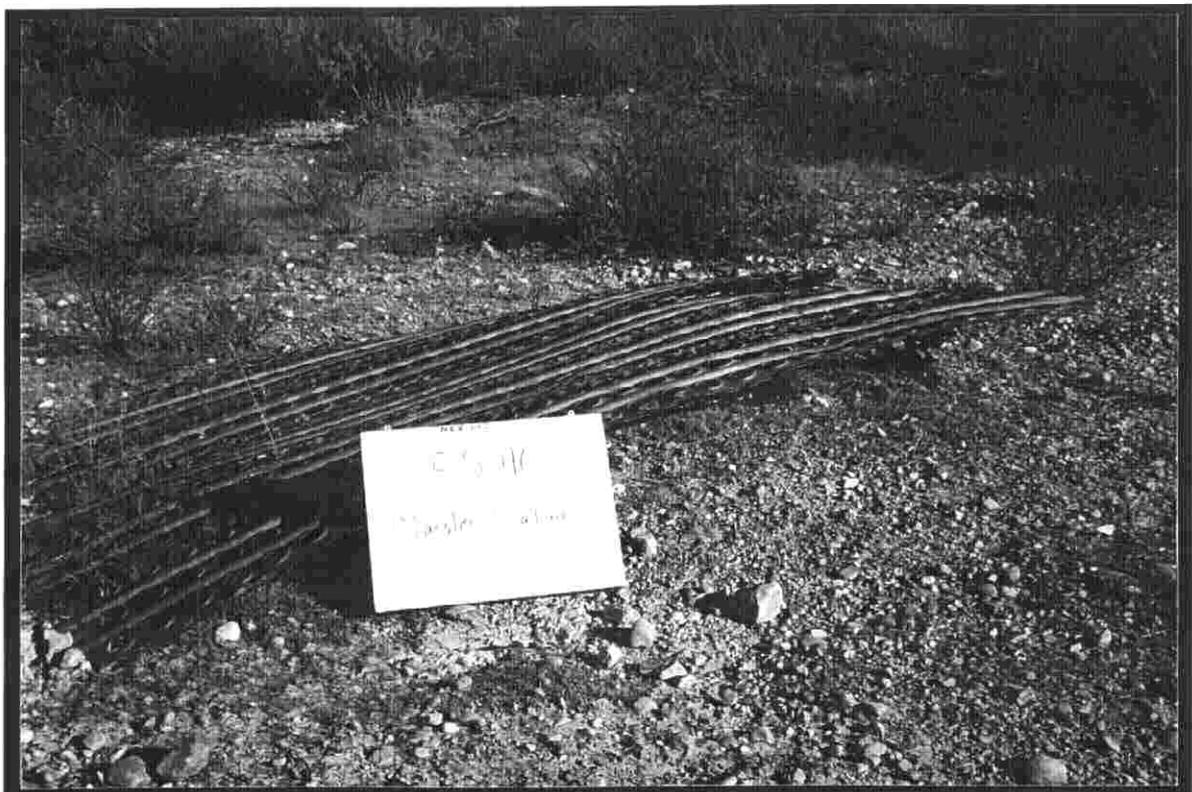
**RS-37: Trash (oil filters and automotive debris)**



**RS-38: Concrete and fencing debris**



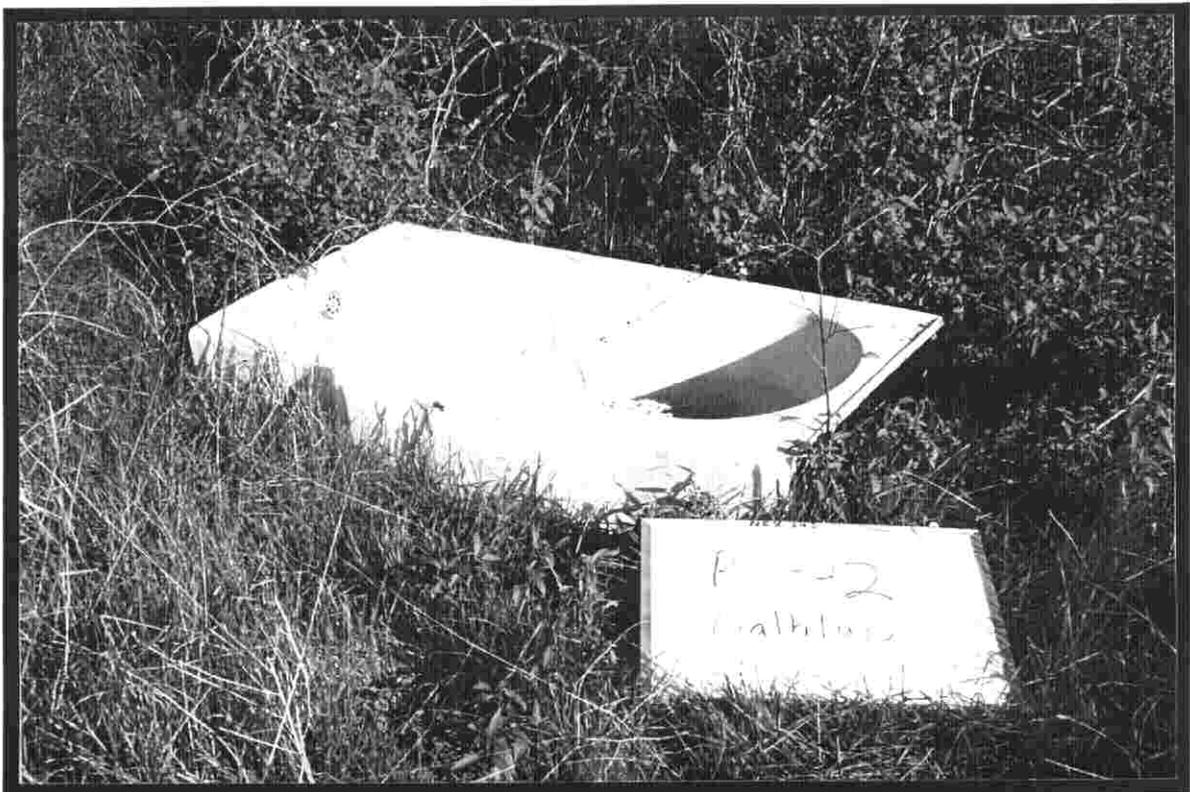
**RS-39: Motorcycle frame**



**RS-40: Marsten matting**



**RS-41: Wood debris and barbed wire**



**RS-42: Bathtub and metal pipe**



**RS-43: Metal box and wood debris**

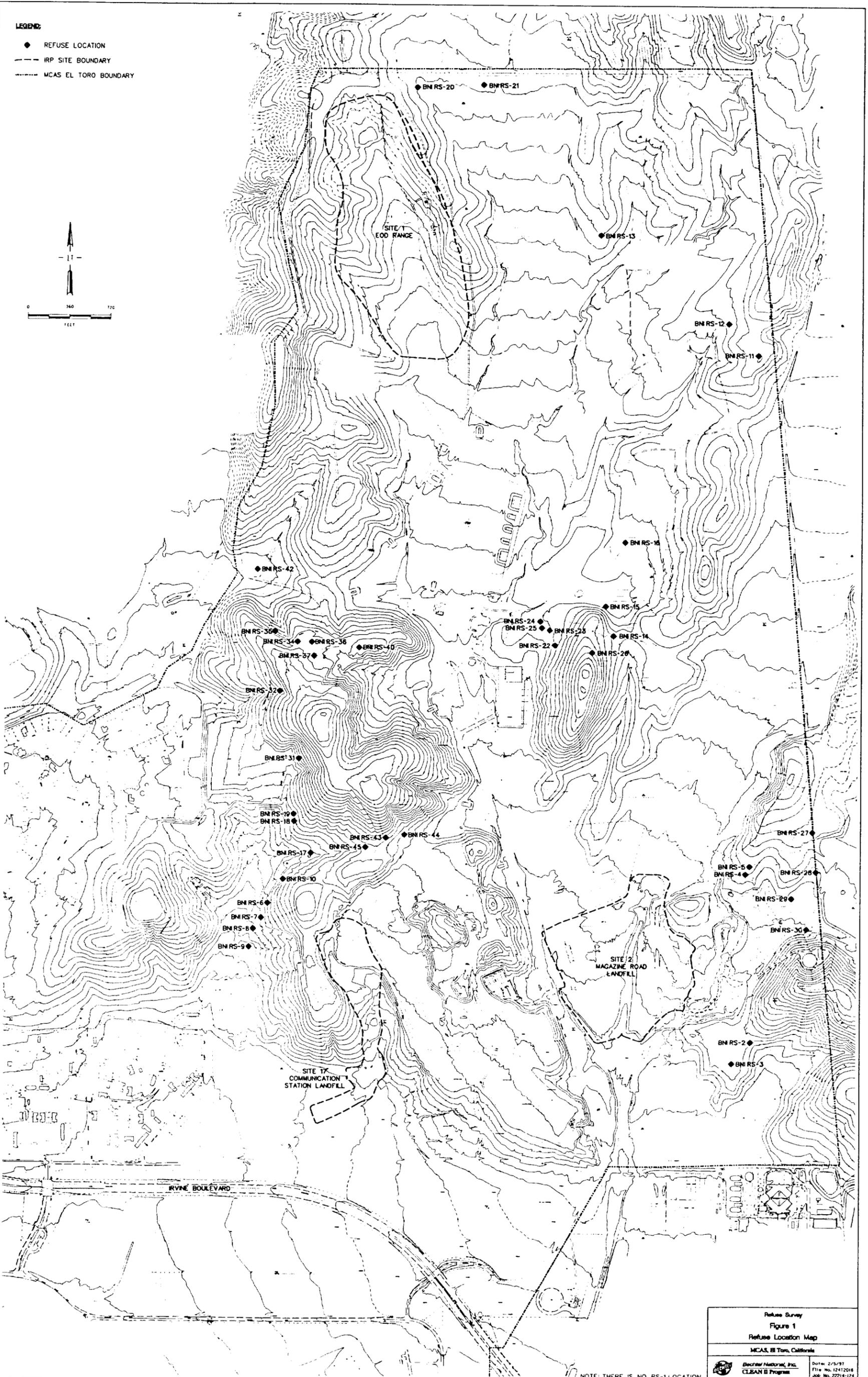
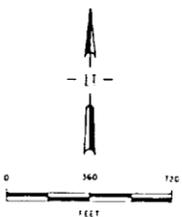


**RS-44: Concrete box, metal, and barbed wire debris**



**RS-45: Car body parts**

**LEGEND:**  
 ● REFUSE LOCATION  
 --- IRP SITE BOUNDARY  
 - - - - MCAS EL TORO BOUNDARY



Refuse Survey	
Figure 1	
Refuse Location Map	
MCAS, El Toro, California	
 DoD	Bocham National, Inc.
	CLEAN II Program
Date: 2/5/97	File No. 12412018
	Job No. 22214-124

NOTE: THERE IS NO RS-1 LOCATION