

02.03-06/01/89-02229

SURFACE SOIL SAMPLING PLAN

TO

IDENTIFY SAFETY AND OCCUPATIONAL HEALTH HAZARDS

AT LOT 203

JUNE 1989

SURFACE SOIL SAMPLING PROCEDURES

1. SAMPLE SITE SELECTION

Sample site selection will be based on previous locations where soil samples were collected. These locations were chosen to be representative of areas used by onsite workers and accessible to the public during site visits to view property being sold. Further, these sites represent areas of documented and potential contamination by hazardous substances from past and present activities. Twelve sites will be sampled as shown on the m

2. EQUIPMENT TO BE USED

Organic Vapor Analyzer (Foxboro Model 128)

Hand Auger

EPA-approved Sample Containers

Latex Gloves

Sampler Decontamination supplies

- Detergent/brush wash
- Plastic bucket
- Distilled water for rinsing
- Nylon Brush

3. SAMPLING PROCEDURE

Upon arriving at the designated sampling site, a hand-augered sample will be collected from a depth of 0' to 12'. As soon as the auger is removed from the hole with the soil sample, the OVA will be inserted into the hole to identify the presence of any volatile organic compounds.

The sample will be placed in the sample container, sealed, labeled, and stored for shipping. Appropriate documentation will be prepared at the site.

SURFACE SOIL SAMPLING PROCEDURES (continued)

4. DECONTAMINATION PROCEDURES

Prior to moving to the next sample site, the hand auger will be decontaminated as follows:

Loose soil will be removed with a dry brush and returned to the sample hole. The hand auger will be immersed in a 5-gallon plastic bucket containing a detergent and brush for removing remaining soil and to clean all material from the sampler.

The sampler will be rinsed three times with at least 16 ounces of distilled water for final cleaning. Rinse water will be drained into the sample hole. Detergent liquid and sediment will be placed in the hole at the final sampling location.

LABORATORY ANALYSES

Samples will be analysed for Pesticides to include DDT, for PCB, and for Total Organic Hydrocarbons. Sample turn-around time is scheduled for two weeks.

SAMPLE SITE DESCRIPTIONS
LOT 203

SITE 1: NORTH END OF OFFICE TRAILER

SITE 2: 'DEMIL' AREA--30' SOUTH OF SE CORNER OF FENCED AREA,
ALONG SAME LINE AS EAST FENCE.

SITE 3: NEAR STRUCTURE 821--10' IN FRONT OF HEAD FACILITY

SITE 4: NEAR TIRE STORAGE AREA--30' EAST OF CORNER OF FENCE
AT DRAINAGEWAY

SITE 4: NORTH FENCE LINE, EAST END OF TIRE STORAGE AREA
IMMEDIATELY SOUTH OF GROUNDWATER MONITORING WELL

SITE 5: NORTH FENCE LINE, EAST END OF TIRE STORAGE AREA
IMMEDIATELY SOUTH OF GROUNDWATER MONITORING WELL.

SITE 6: 'OLD FIRE PIT' WEST OF AMMO BOX STORAGE ARE IN CEN-
TRAL PORTION OF LOT

SITE 7: AT JEEP CRUSHER 20' FROM TREELINE IN CENTRAL PORTION
SITE

SITE 8: EAST END OF TRANSFORMER STORAGE AREA

SITE 9: AT TRANSFORMERS WHERE SOIL STAINED

SITE 10: 50' SOUTH OF SITE 9, WHERE SOIL STAINED

SITE 11: AT DDT SITE, SOUTH END OF SECURED AREA

SITE 12: AT 100-200' NE OF OFC TRAILER, WHERE EQUIP-
MENT/VEHICLES ARE LINED UP FOR VIEWING.



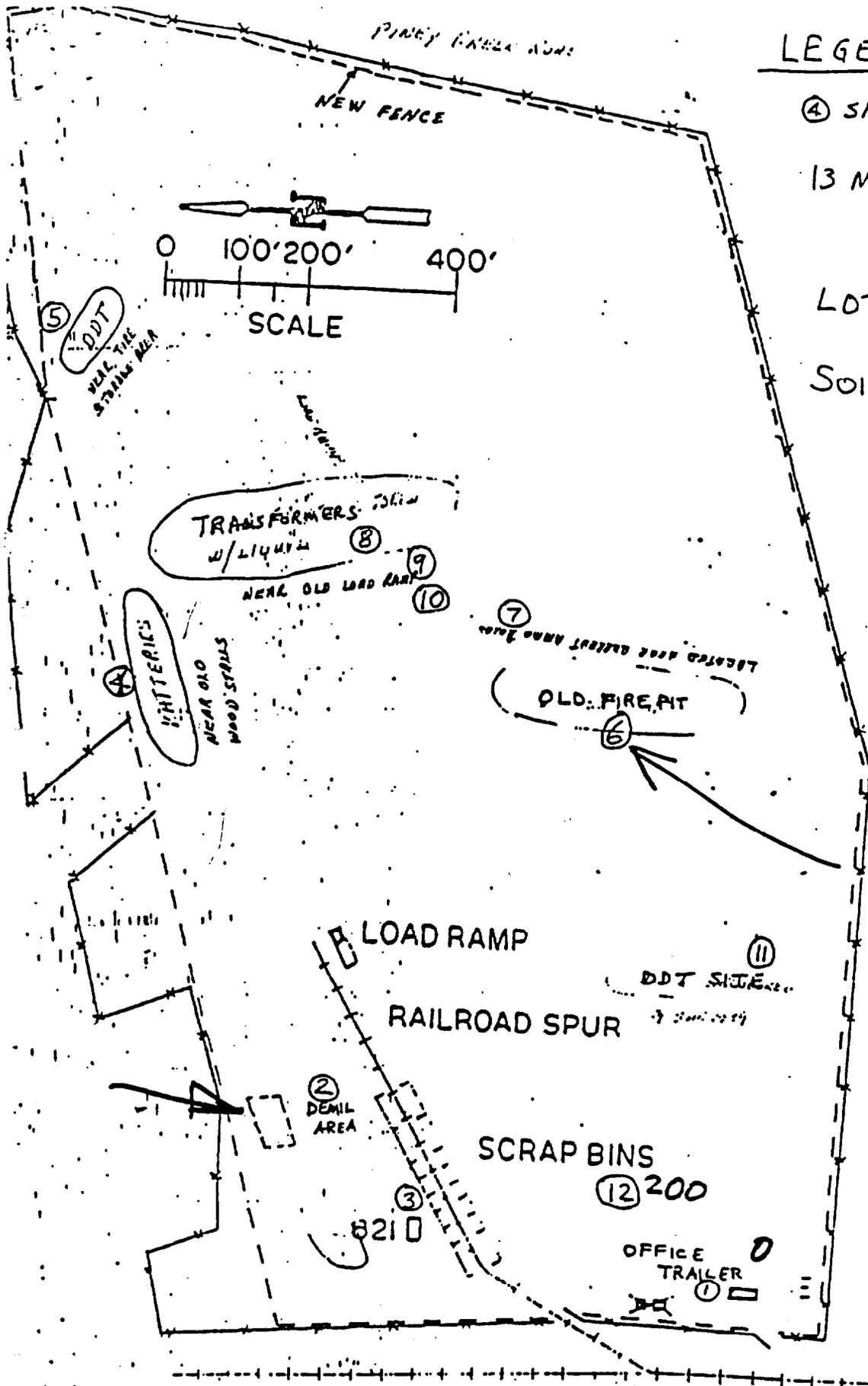
LEGEND

④ SAMPLE NUMBER

13 MARCH 89

LOT 203

SOIL SAMPLES





DEPARTMENT OF THE NAVY
NAVAL HOSPITAL
CAMP LEJEUNE, NORTH CAROLINA 28542-5008



INFLUENT REFER TO

6260.32f
89-472-32f
17 May 89

From: Commanding Officer
To: Commanding General, Marine Corps Base, Camp Lejeune,
NC 28542 (Attn: Chief, DRMO)

Subj: DRMO (LOT 203)

Ref: (a) AC/S, Facilities mtg of 24 Apr 89
(b) 'Occupational Safety & Health Guidance Manual
for Hazardous Waste Site Activities', NIOSH/OSHA/
USCG/EPA, Pub. #85-115, October 1985
(c) 'Characterization of Hazardous Waste Sites - A
Methods Manual: Volume II. Available Sampling
Methods' Second Edition. EPA 600/4-84-076

Encl: (1) Copy of Section 6 (Site Characterization) from
reference (b)
(2) Copy of Section 1, 2 and Appendices A, B, C, D, and
E from reference (c)

1. During reference (a), the current status regarding soil contamination at Lot 203 was discussed. Significant findings to date and other concerns we have include:

a. Preliminary soil sample results indicate significant levels of lead, chromium, and mercury. No analysis of these samples was performed for organic compounds.

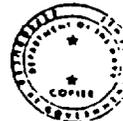
b. Hazard evaluation (assessment) procedures need to be conducted properly. The section from reference (b) on site characterization (enclosure (1)) should be reviewed. Also, reference (c) was obtained and the soil sampling methodologies reviewed. The pertinent extracts from this reference are provided in enclosure (2) and should be followed by either base or contract personnel who perform the sampling. You can obtain these references from the Superintendent of Documents, Washington, DC.

c. Review by the Occupational Health Physician of the medical records of current DRMO employees who worked at Lot 203 revealed no significant physical abnormalities to date.

2. The following comments/recommendations are submitted:

a. Complete the preliminary assessment of Lot 203 by obtaining additional subsurface soil samples for organic analysis using the proper sampling methodology and sample submission procedures in enclosure (2). The samples should be analyzed for Pesticides, PCB's, Aromatic/Aliphatic Hydrocarbons, and pH. If any of the above results are positive, specific compound identification should be requested. Also, be sure to contact the

ENC: (2)



Subj: DRMO (LOT 203)

analytical laboratory for specific guidance on proper sample collection, preservation, storage, labeling and shipping methods.

b. Sample Quality Assurance/Quality Control needs to be considered. Specifically, quality assurance samples (background and duplicates) and document control (chain of custody) procedures should be developed as discussed in enclosure (2).

c. As discussed in references (a) and (b), the safety of personnel who collect the soil samples must be considered. These personnel should wear (at a minimum) 'Level C' personal protective equipment during this type of work.

d. Upon completion of the preliminary assessment, please forward a copy of the soil sample results to us. Depending on these results, air sampling of personnel for exposure to lead, chromium, mercury and possibly organic compounds will be performed by us. During the interim, pursue utilization of a contractor for a detailed hazard assessment of Lot 203.

3. Point of contact on this subject is either LCDR Ellis or Ms. J. Stegall at extension 5707 or 2707.

A. B. WOOD
By direction

Copy to:
AC/S Facilities
Base Safety

JTC DATA REPORT # 89-136

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 546

Complete

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.
202 Perry Parkway
Gaithersburg, Maryland 20877

April 11, 1989

Ann E. Rosecrance (301) 926-6802

Ann E. Rosecrance
Laboratory Director

Laura Petrick

Location: Camp Lejeune Date of Receipt: 3-29-89 Turnaround: 10 days
 Date: 4-11-89 Case No. 546 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 89-136 Table 1 of 2

-6/11/89

Doc No: 6260 -

NAVY SAMPLE ID	JTC SAMPLE ID	EP Tox Metals - Totals							
		As mg/kg	Ba mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Se mg/kg	Ag mg/kg	Hg mg/kg
1	61-2866	<5.5	<11	<0.3	4.9	10	<5.5	1.0	0.15
2	61-2867	<5.4	<11	0.4	8.0	44	<5.4	<0.5	0.22
3	61-2868	<5.3	<11	0.3	8.8	44	<5.3	<0.5	0.23
4	61-2869	<5.4	<11	<0.3	1.7	10	<5.4	<0.5	0.17
5	61-2870	<5.4	<11	<0.3	1.3	<5	<5.4	<0.5	0.20
6	61-2871	<5.5	<11	1.9	3.7	126	<5.5	1.1	0.22
7	61-2872	<5.7	<12	<0.3	3.1	26	<5.7	0.8	0.21
8	61-2873	<5.5	<11	<0.3	2.1	21	<5.5	<0.6	0.61
9	61-2874	<5.6	<11	<0.3	1.7	8	<5.6	<0.6	0.16
10	61-2875	<5.5	45	2.3	5.5	32	<5.5	<0.5	0.22
11	61-2876	<5.6	27	0.8	9.8	80	<5.6	<0.6	0.27
12	61-2877	<5.4	<11	<0.3	1.8	13	<5.4	0.6	0.22

Location: Camp Lejeune Date of Receipt: 3-29-89 Turnaround: 10 days
 Date: 4-11-89 Case No. 546 to Naval Facilities Engineering Command, Norfolk, Virginia
 JTC Data Report No. 89-136 Table 2 of 2

NOE 100-6600-2.03-6/1/89

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		% Solid							
1	61-2866	90.7							
2	61-2867	92.5							
3	61-2868	94.5							
4	61-2869	92.7							
5	61-2870	92.3							
6	61-2871	90.2							
7	61-2872	87.2							
8	61-2873	90.3							
9	61-2874	89.6							
10	61-2875	91.0							
11	61-2876	88.9							
12	61-2877	92.2							

Doc No: CLEW -

411187

Partial Results

JTC DATA REPORT # 89-283

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 616

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

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202 Perry Parkway
Gaithersburg, Maryland 20877

August 8, 1989

Ann E. Rosecrance

Ann E. Rosecrance
Laboratory Director

Location: Camp Lejeune Date of Receipt: 7-13-89 Turnaround: routine

Date: 8-8-89 Case No. 616 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 89-283 Table 1 of 1

Doc No: CLEJ - 2.03 - 6/1/89

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		Total Petroleum Hydrocarbons mg/kg	% Solids						
1	61-3184	142	91.4						
2	61-3185A	85	93.4						
2 Dup	61-3185B	85	93.2						
3	61-3186	<78	96.1						
4	61-3187	<80	94.0						
5	61-3188	<78	96.6						
6	61-3189A	<86	87.2						
6 Dup	61-3189B	<81	93.0						
7	61-3190	1570	93.2						
8	61-3191	85	94.2						
9	61-3192	4330	93.4						
10	61-3193	360	93.1						
11	61-3194	93	94.9						
12	61-3195A	<80	93.7						
12 Dup	61-3195B	<80	93.9						
13	61-3196	<76	98.4						

Addendum

JTC DATA REPORT # 89-283

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 676

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

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August 31, 1989

Ann E. Rosecrance

Ann E. Rosecrance
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JTC Environmental Consultants, Inc.

Location: Camp Lejeune. Date of Receipt: 7-13-89 Turnaround: routine

Date: 8-31-89 Case No. 616 Add to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 89-283 Table 1 of 1

NAVY SAMPLE ID	JTC SAMPLE ID	EP Tox Metals - Totals							
		As mg/kg	Ba mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Se mg/kg	Ag mg/kg	Hg mg/kg
13	61-3196	1.5	<10	<0.2	<0.5	1.3	2.7	<0.5	0.12

Doc # 89-283-611/89