

M67386.AR.000045
MCRCO KANSAS CITY
5090.3a

DECISION DOCUMENT FOR OIL SATURATED AREA SITE SS003 KANSAS CITY MO
12/1/1992
DEPARTMENT OF THE AIR FORCE

U.S. AIR FORCE
INSTALLATION RESTORATION PROGRAM

ADMINISTRATIVE
RECORD COPY

DECISION DOCUMENT

OIL SATURATED AREA
(SITE SS003)

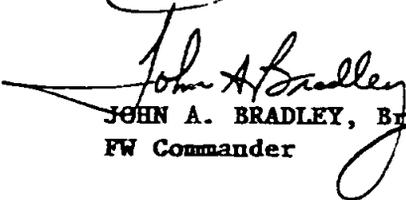
RICHARDS-GEBAUR AIR FORCE BASE, MO

DEC 1992

PREPARED BY

ENVIRONMENTAL DIVISION
HEADQUARTERS, U.S. AIR FORCE RESERVE
155 2ND STREET
ROBINS AIR FORCE BASE, GEORGIA 31098-1635

APPROVED/DISAPPROVED


JOHN A. BRADLEY, Brig Gen, USAFR
FW Commander

U.S. AIR FORCE
INSTALLATION RESTORATION PROGRAM

DECISION DOCUMENT

OIL SATURATED AREA
(SITE SS003)

RICHARDS-GEBAUR AIR FORCE BASE, MO

DEC 1992

PREPARED BY

ENVIRONMENTAL DIVISION
HEADQUARTERS, U.S. AIR FORCE RESERVE
155 2ND STREET
ROBINS AIR FORCE BASE, GEORGIA 31098-1635

CONTENTS

	Page
SUMMARY OF SITE CONDITIONS	1
DEMONSTRATION OF QA/QC FROM CLEANUP ACTIVITIES	6
CLEANUP RESULTS	7
OPERATION AND MAINTENANCE SUMMARY	7
PROTECTIVENESS	7
BIBLIOGRAPHY	8

FIGURES

Figure	Page
1. Location Map of Richards-Gebaur Air Force Base, Missouri	2
2. General Location Map of the Oil Saturated Area	3
3. Oil Saturated Area Site Map	4
4. RGAFB Oil Saturated Area Site SS003 Excavation	5

TABLES

Table	Page
1. Cleanup Sample Results at the Oil Saturated Area, SS003	7

Introduction

The objectives of this decision document are to describe the setting, present the technical findings of previous studies, evaluate QA/QC procedures, remedial activities, and ultimately document the Air Force Reserve (AFRES) position on the final status of the Installation Restoration Program (IRP) site, Oil Saturated Area (SS003) at Richards-Gebaur Air Force Base in Missouri.

Site Location

Richards-Gebaur Air Force Base is located two miles northwest of Belton, Missouri (see Figure 1). The Oil Saturated Area is located approximately 60 feet west and 40 feet south of the southwest corner of Building 704 (see Figure 3).

Environmental Setting

The mean annual rainfall in this area is 36.8 inches with a majority of the rainfall occurring from late spring into early fall. Average temperatures at Richards-Gebaur Air Force Base range from 28.8°F in January to 80°F in July. Due primarily to evapotranspiration, the net annual precipitation for the area is -5.2 inches.

The topography of the area gently slopes towards the south. The elevation of the site is about 1026 feet above mean sea level. To the south and west of the site are two drainage ditches which capture surface runoff and drain into Scope Creek (see Figure 2).

Richards-Gebaur Air Force Base is located in the Osage Plains region of the Central Lowland physiographic province. Surface soils at the site are comprised of Greenton silty clay loams overlying the weathered limestone clays originating from the underlying Iola Formation, Raytown Member Limestone. Underlying the Raytown Member Limestone is the Lane Formation (shale).

Site Background

From 1955 until 1980, the Oil Saturated Area was used for storage of waste engine oils and waste transmission fluids originating from motor vehicle maintenance. During the operational period of this waste storage area, contamination originated from spillage due to waste transfer, overfilled drums, and leaking drums.

Site Investigative History

An IRP Records Search for Richards-Gebaur Air Force Base was completed by CH2M Hill in March of 1983. The Records Search was an installation-wide study that identified past disposal/spill sites and made an assessment of each site's potential for adverse environmental impact. The Oil Saturated Area was identified as a potentially harmful site based on the visible oil-stained soils around the former storage area. No samples were collected at this time.



Figure 1. LOCATION MAP OF RICHARDS-GEBAUR AIR FORCE BASE, MISSOURI

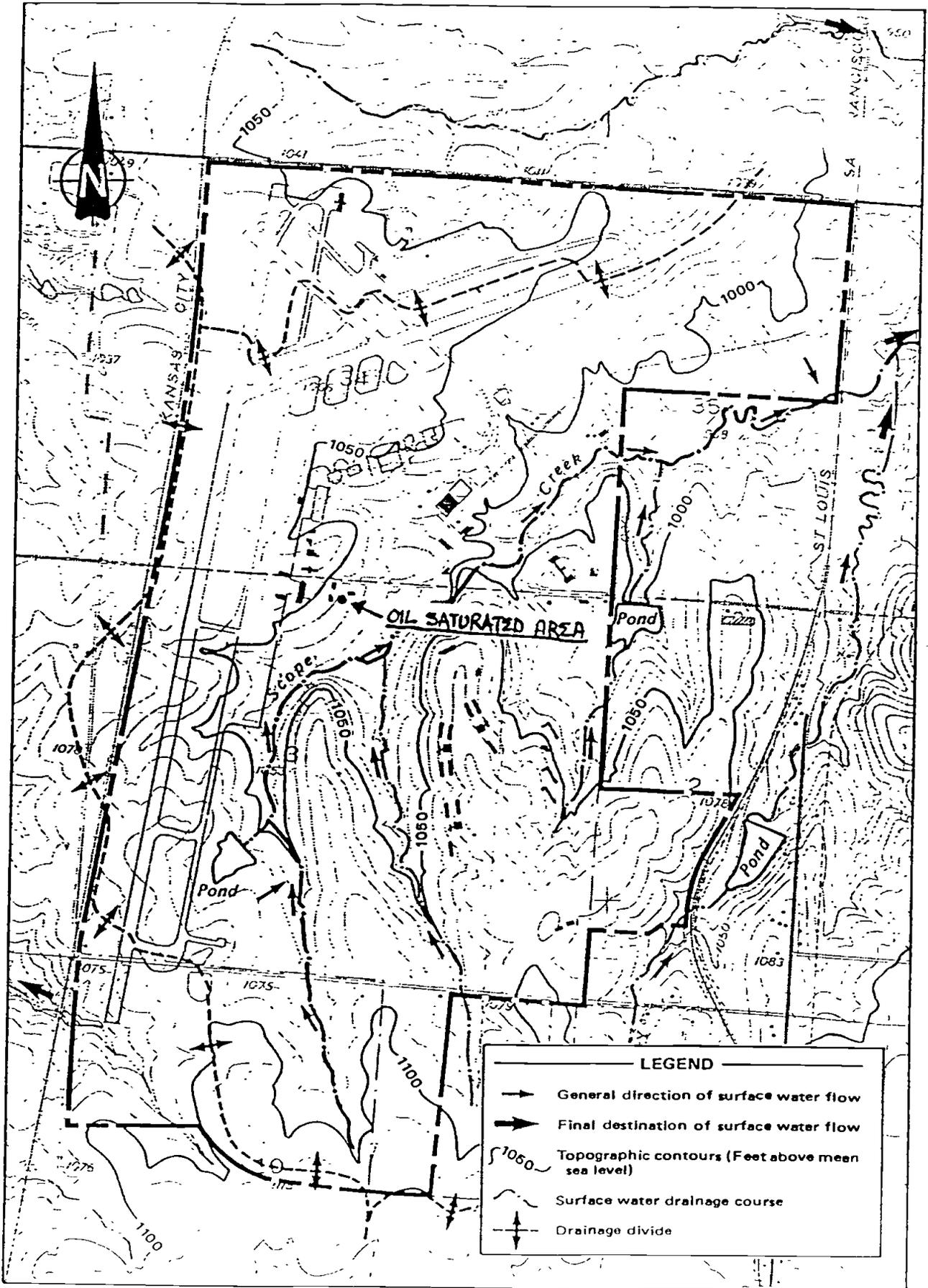


FIGURE 2 GENERAL LOCATION MAP OF OIL SATURATED AREA

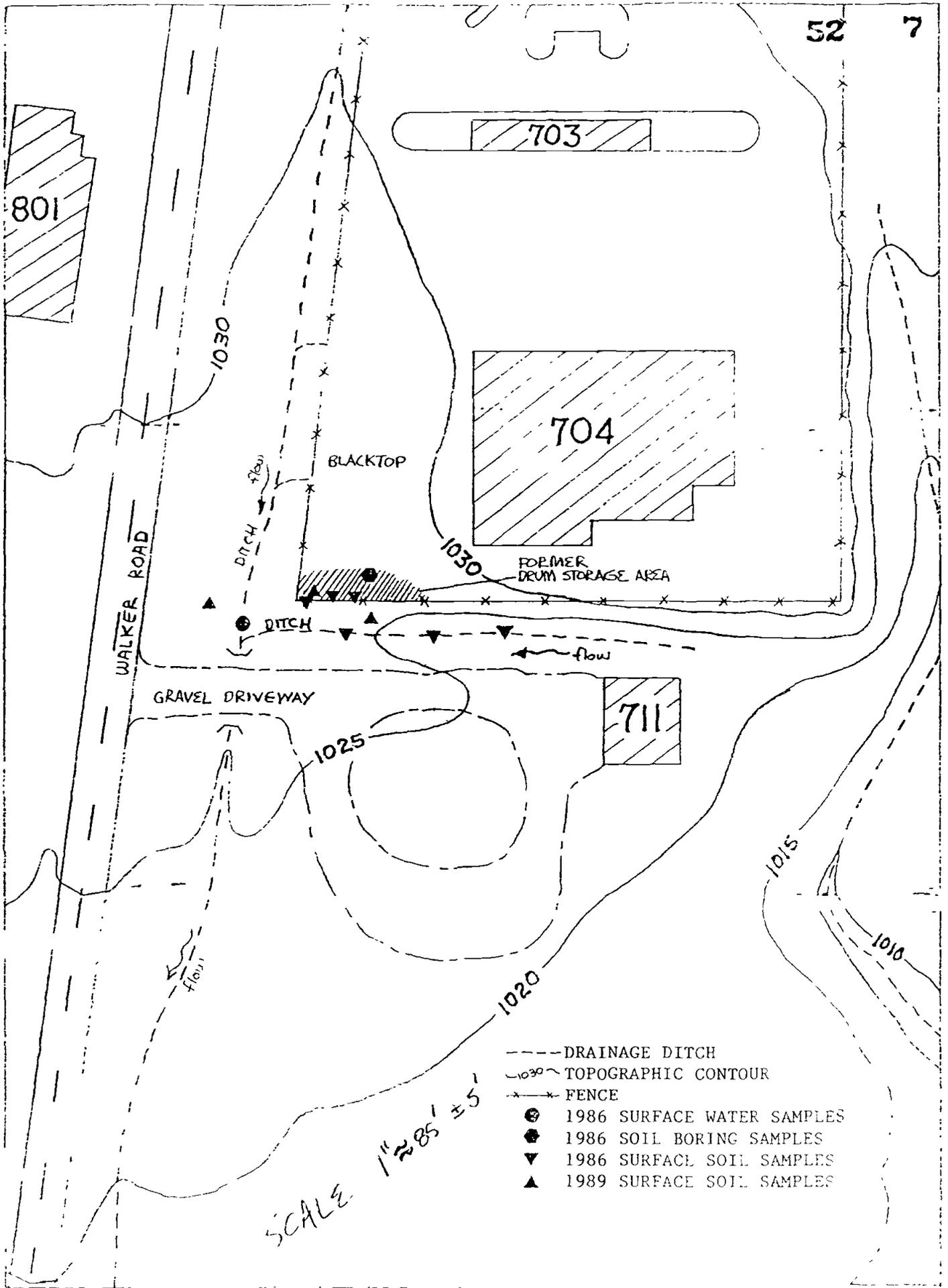
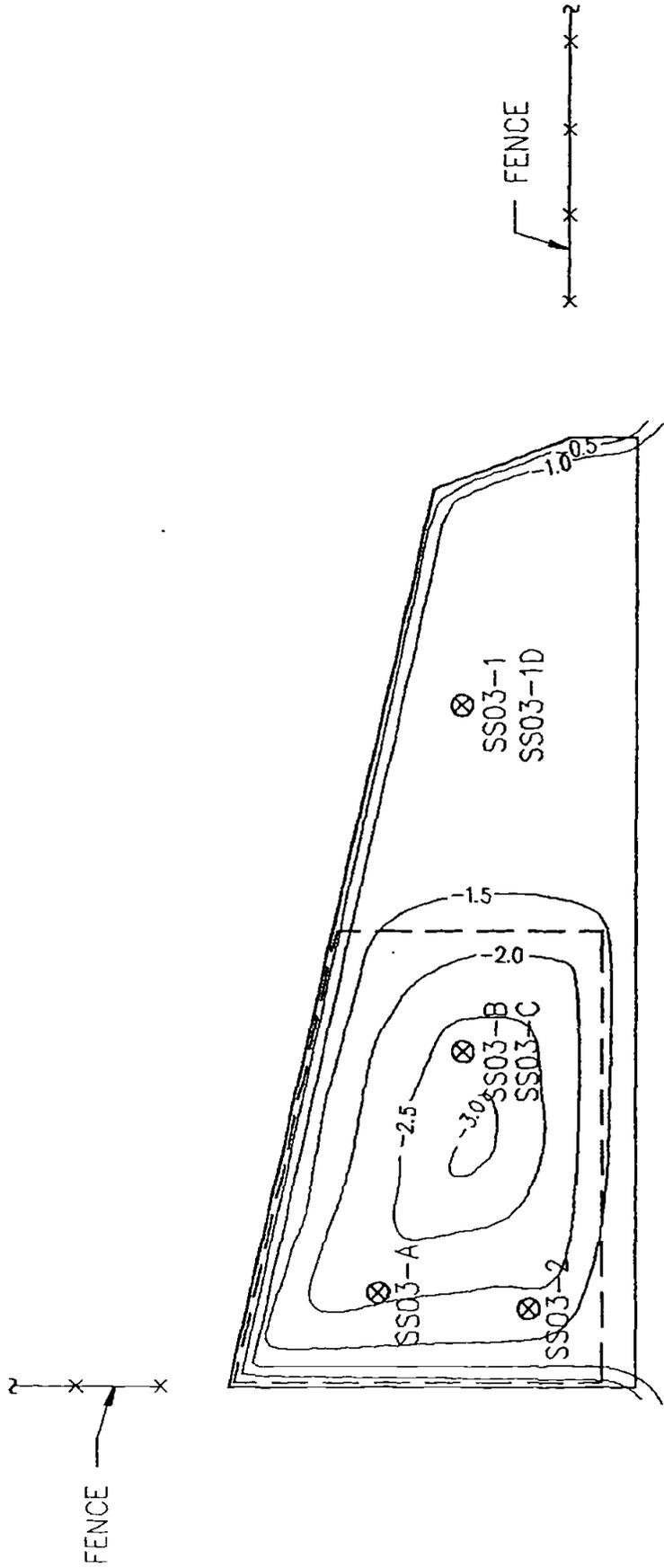


FIGURE 3. OIL SATURATED AREA SITE MAP



LEGEND

- APPROXIMATE LIMIT OF EXCAVATION NOV. 19, 1991
- - - APPROXIMATE LIMIT OF EXCAVATION FEB. 6, 1992
- ⊗ SOIL SAMPLE LOCATION
- CONTOUR INTERVAL 0.5 FT

Figure 4
 RICHARDS-GEBBAUR AFB
 OIL SATURATED AREA
 SITE SS03 EXCAVATION

BURNS & MCDONNELL
 ENGINEERS-ARCHITECTS-CONSULTANTS
 Airway City, Missouri

A Phase II Stage 2 Confirmation/Quantification Study was completed by Ecology and Environment, Inc. in July of 1988. The purpose of this study was to confirm or refute the presence of contaminants at the installation. This study collected eight surface soil samples, advanced one soil boring, and took one surface water sample from the Oil Saturated Area. The soils were analyzed for Total Petroleum Hydrocarbons (TPHs), volatile organic compounds (VOCs), and lead. The surface water sample was analyzed for TPHs, VOCs, total dissolved solids, and lead. The study concluded that a limited amount of contamination was present at the site.

A Remedial Investigation (RI) was conducted by O'Brien & Gere in 1990. The purpose of this study was to confirm previous results, determine lateral and vertical limits of contamination, and assess the risk posed by past waste disposal sites at Richards-Gebaur AFB. At the Oil Saturated Area, this study consisted of collecting and analyzing three surface soil samples which were analyzed for Priority Pollutant semi-volatile compounds, base/neutral extractable Priority Pollutants (VOCs), Priority Pollutant purgeable aromatic compounds (VOCs), and total metals. The RI concluded that hydrogeologic and geologic conditions limited the mobility of metals and other contaminants at this site and groundwater was not impacted. The study concluded that a limited amount of contamination was present in the soil at levels above recommended Missouri guidelines, however the site posed no risk to human health (Lifetime Carcinogenic Risk of 5.86×10^{-10}).

An Interim Remedial Action (IRA) was performed by Burns & McDonnell in 1992. The purpose of this study was to determine lateral and vertical limits of contamination, remove the limited quantity of contaminated soil to an off-site state-licensed facility for permanent disposal and confirm cleanup with proper sampling. The closure report concluded that the removal action achieved cleanup levels cleaner than recommended Missouri guidelines and the site poses no risk to human health.

DEMONSTRATION OF QA/QC FROM CLEANUP ACTIVITIES

QA/QC Protocol Selected

Burns & McDonnell used the QA/QC Project Plan developed by Southwest Laboratory of Oklahoma, Inc which uses USEPA's most recent guidance. USEPA considers data by this lab as sound, legally defensible and of known precision and accuracy. Both site samples and QA/QC samples were handled in a manner which met or exceeded state requirements on hazardous waste samples.

On-site Inspections

Representatives from Burns & McDonnell and Richards-Gebaur AFB performed multiple on-site inspections to ensure the QA/QC Project Plan developed by Southwest Laboratory of Oklahoma, Inc was used. No incident of nonconformance with the QA/QC Project Plan was recorded.

Equipment Acceptance

Equipment used by Burns & McDonnell in collecting the samples was outlined in the QA/QC Project Plan and no objections were raised by the state of Missouri. The equipment used by Southwest Laboratory of Oklahoma, Inc met all known Missouri requirements for laboratory equipment. Equipment calibration met or exceeded state requirements on hazardous waste samples.

CLEANUP RESULTS

File
PME

52 10

Two post-excavation in situ soil samples (SS03-1 & SS03-2) were collected to confirm cleanup. SS03-2 results exceeded the target cleanup level so additional excavation was performed. Two additional post-excavation in situ soil samples (SS03-A & SS03-B) were collected to confirm cleanup.

Sample ID	TPH (mg/kg)	Lead (mg/kg)	Comments
SS03-1	33	21.2	In situ soil sample
SS03-2	28,000	22.6	Excavated soil sample
SS03-A	53	N/A	In situ soil sample
SS03-B	12	N/A	In situ soil sample
SS03-C	ND	N/A	SS03-B duplicate

TABLE 1, Cleanup Sample Results at the Oil Saturated Area, SS003

Cleanup on TPH levels exceeds the most stringent Missouri guidance available (UST guidance). Also, cleanup on lead levels exceeds the most stringent Missouri guidance available (Missouri Dept. of Health school yard guidance). Approximately 27 cubic yards of soil was removed from the Oil Saturated Area and transported to Johnson County Landfill, MO by A.E. Wolfe Environmental Services. The maximum contamination levels detected in the excavated soils were 28,000 mg/kg TPH and 63.1 mg/kg lead.

OPERATION AND MAINTENANCE SUMMARY

Approximately 12 cubic yards of soil was excavated and stockpiled 19 Nov 91. The stockpiled soil was placed within an isolated environment designed to collect leachate, prevent rainwater infiltration, withstand wind, sun and hail damage and prevent contact with surface waters. Soil samples were collected on 19 Nov 91. Soil was excavated on 19 Nov 91 remained under cover protected from the elements until 6 Feb 92. Approximately 15 cubic yards of soil was excavated and stockpiled on top of the previously stockpiled soils on 6 Feb 92. Additional soil samples were collected on 6 Feb 92, and the excavation was backfill with clean soil and seeded with grass. Stockpiled soils remained under cover protected from the elements until 2 Apr 92 when A.E. Wolfe Environmental Services transported the contaminated soil to Johnson County Landfill, MO.

PROTECTIVENESS

When making a decision for cleanup based on risk alone, USEPA recommends cleaning up a site only when the odds of contracting cancer exceeds 1 in 1,000,000. Prior to the excavation and removal of contaminated soils, this site posed a Lifetime Carcinogenic Risk of 1 in 1,700,000,000 (5.86×10^{-10}).

Missouri UST guidance yields a suggested cleanup level for TPH of 200 mg/kg for site conditions at the Oil Saturated Area. The maximum level of TPH remaining in the soil at this site is 53 mg/kg.

Missouri Department of Health recommends that land containing lead in excess of 238 mg/kg in surface soils should not be used for day care centers or school yards. The maximum level of lead detected in the soil at this site was 23 mg/kg. This level is considered the background level for lead.

Based on the success of the interim remedial efforts, the Air Force Reserve is closing this site, and will perform no additional work at the site known as Oil Saturated Area, SS003, located at Richards-Gebaur AFB MO. The Air Force status of the site will henceforth be categorized as "No Further Response Action Planned" as defined within the Installation Restoration Program.

BIBLIOGRAPHY

Richards-Gebaur AFB, Administrative Record, 1984-1992, Installation Restoration Program

CH2M Hill, March 1983, Installation Restoration Program Records Search for Richards-Gebaur Air Force Base, Missouri, prepared for Air Force Engineering and Services Center Directorate of Environmental Planning, Tyndall Air Force Base, Florida 32403, and, Air Force Reserve, Robins Air Force Base, Georgia

Ecology and Environment, Inc., July 1988, Installation Restoration Program Phase II Confirmation/Quantification Stage 2 Final Report, prepared for Headquarters Air Force Reserve (HQ AFRES/SGPB), Robins Air Force Base, Georgia

O'Brien & Gere Engineers, Inc., May 1990, Installation Restoration Program Draft Remedial Investigation, prepared for Headquarters Air Force Reserve/DEPV, Robins Air Force Base, Georgia

Burns & McDonnell, Oct 1991, Work Plan (for SS003 and SS004), prepared for Richards-Gebaur AFB, Missouri

Burns & McDonnell, May 1992, Final Closeout Report (for SS003 and SS004), prepared for Richards-Gebaur AFB, Missouri



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 442 COMBAT SUPPORT GROUP (AFRES)
RICHARDS-GEBAUR AIR FORCE BASE, MISSOURI 64147-5000

File: / 3 - 1
P.M.E.
52 12

REPLY TO DEEV (Mrs Roberts, 2091)
ATTN OF

8 January 1991

SUBJECT Installation Restoration Program (IRP) Decision Documents (DDs), Richards-
Gebaur AFB, MO

TO HQ AFRES/DEPV
AFRCE-CR/ROV

1. Reference your letter dated 26 July 1990, same subject.
2. Attached are the approved and signed DDs for Site SS03, Oil Saturated Area and Site SS04, Hazardous Waste Drum Storage Area.
3. Both documents will be submitted to the Region VII EPA Federal Facility Coordinator and the Missouri Department of Natural Resources Superfund Section for their review and comments. However, we will wait to send the DDs together with HQ AFRES/DEPV response to the state and EPA on the Draft Final Remedial Investigation Report.
3. If you have any questions contact Mrs Blanca Roberts at Autovon 463-2091.


JOHN P. HURD, JR.
Base Civil Engineer

1 Atch
Decision Documents Cover Sheet