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DEPARTMENT OF THE NAVY

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
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LESTER, PA 19113-2090

5090 IN REPLY REFER TO
Ser 1701/1823/WS

7-16-1992
AUG 18 1992

FOR THE MEMBERS OF THE TECHNICAL REVIEW COMMITTEE (TRC) FOR
INSTALLATION RESTORATION PROGRAM CORRECTIVE ACTIONS AT NAVAL
SURFACE WARFARE CENTER CRANE, IN

Enclosed is a copy of the minutes and the list of attendees for
TRC Meeting #6, held on 16 July 1992. Please contact me at (215)
595-0556 if you have any comments or questions concerning the
minutes.

TRC Meeting #7 is tentatively scheduled for 22 October 1992, in
Building 1 at 9:00 AM. We plan to discuss RCRA Facility
Investigation (RFI) Reports and the status of the current field
work effort.

The meeting is expected to last until 12:00 PM.

Sincerely,

WILLIAM C. SCHROCK
Remedial Project Manager
By direction of the Commanding Officer



Distribution:

U. S. EPA Region V, Carol Witt-Smith
NSWCC, Environmental Division, Jim Hunsicker (3 copies)
AMCCOM, Mary Ann Rondinella
CAAA, Stephan Schick
U. S. Army Corps of Engineers, Waterways Experiment Station, Bill
Murphy
U. S. Army Corps of Engineers, Waterways Experiment Station,
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Indiana Department of Environmental Management, Suzanne Volk
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Monroe County, Tim Crouch
City of Bedford, Jeanne Robinson
City of Bloomfield, Gale Robbins
Padanaram/Imperial Lumber, Aram Wright
SOUTHNAVFACENGCOM, Adrienne Wilson, Code 185ND

**MEETING MINUTES FOR
NAVAL SURFACE WARFARE CENTER, CRANE DIVISION
TECHNICAL REVIEW COMMITTEE MEETING NO. 6
JULY 17, 1992**

The meeting was called to order by Jim Hunsicker, NAVSURFWARCENDIV Environmental Division Manager at 0910. The first order of business involved the introduction of meeting attendees. Bill Schrock (NAVFAC, Northern Division, Remedial Project Manager) initiated introductions including the following meeting attendees:

Bill Schrock -	NAVFAC, Northern Division, Remedial Project Manager (RPM) for NAVSURFWARCENDIV
Jim Hunsicker -	NAVFAC, NAVSURFWARCENDIV, Environmental Division Manager
Tom Brent -	NAVSURFWARCENDIV
Cathy Andrews	NAVSURFWARCENDIV
Gerald Hill	NAVSURFWARCENDIV
Jim May -	U.S. Army Corps of Engineers (USACE), Vicksburg
Carol Witt Smith -	U.S. Environmental Protection Agency (USEPA)
Mark Barnhill -	Indiana Geological Survey
Ray Wade -	USACE
Suzanne Volk -	Indiana Department of Environmental Management (IDEM), Corrective Action Program
Bill Murphy -	USACE, Vicksburg
John Nohrstedt -	USACE
Steve Schick -	Crane Army Ammunition Activity, Environmental
Steve Walker -	NAVFAC, Southern Division
Adrienne Wilson -	NAVFAC, Southern Division
Marcella Dinton -	USACE
Bob Willis -	USACE, Wilmington District

Jeff Maletzke - SEC Donohue Inc.

Charlie Zeal - SEC Donohue Inc.

Following introductions, Bill Schrock asked if everyone had received TRC Meeting No. 5 minutes (previous meeting) and solicited any comments regarding the previous meeting. No comments were forthcoming.

0915 - 0945: Bob Willis presented the results of the RFI Phase II Soils Report for SWMU #10/15 (Rockeye). The presentation summarized the site description and history, investigation objectives, and findings, conclusions, and recommendations. A handout of material covered during the presentation was distributed to meeting attendees (see attached).

Questions, answers, and corresponding discussion ensued including the following:

Question asked by Carol Witt Smith: What is the prevailing wind direction? Question was clarified to reflect consideration of potential airborne contamination impact at background sampling locations.

Answer: Prevailing wind directions not known, however, explosives were not detected in background samples.

Question asked by Carol Witt Smith: What is the source of organics detected? Question was clarified to determine what constituents (other than explosives) should be analyzed for in Phase III.

Answer: Potential sources of organics may be attributable to solvents-or painting, degreasers, or fuel oil from boilers. However, the overall link between SWMU processes and organic contamination is unclear. Bob Willis elaborated further that TNT and RDX were detected above risk based concentrations behind Building 2734 and that Phase III investigative efforts would be focused within drainageways and behind Building 2734.

Question asked by Carol Witt Smith: Are the sumps sealed? What are they made of?

Answer: The sumps are constructed of concrete, it is not know if they are sealed. An integrity assessment has already been requested to decide the fate of the sumps (removal or repair).

0945 - 1000: John Nohrstedt presented the results of the RFI Phase II Soils Report for SWMU #04/02 (McComish Gorge). The presentation included summaries of the site description and history, investigation objectives, and findings, conclusions, and recommendations. A handout of material covered during the presentation was distributed to meeting attendees (see attached).

Questioning, initiated by Suzanne Volk, centered on the source of detected pthalates. Discussion ensued including suggestions by Carol Witt Smith that surgical gloves worn by sample collectors may have contributed to pthalate detections. Laboratory contamination was also offered as a source.

1000 - 1035: Mark Barnhill, a geologist with the Indiana Geological Survey, presented a discussion of the geology at Crane. Over 60 rock corings (approximately 4,300 feet of rock core) collected from within an area inclusive of Rockeye, the Dye Burial Ground, and Demo Area, suggest a depositional history influenced by tides - perhaps an estuary-like setting. Mark has constructed regional cross-sections and identified approximately 8 or 9 sedimentary facies. Details of the study are to be released as soon as a report is submitted to the Navy.

1035: Bill Schrock opened the meeting up to general comments and questions; none were received. Bill indicated that he would be transferring to NAVFAC Northwestern Division and that Adrienne Wilson would be assuming RPM responsibilities for NAVSURFWARCENDIV. The date for TRC Meeting No. 7 was set for October 22, 1992. Advance notice containing details of the next meeting will be mailed to TRC members.

1040: Meeting adjourned.

TR/MISC/BA6

AGENDA
NAVAL SURFACE WARFARE CENTER CRANE TRC MEETING
JULY 16, 1992

INTRODUCTION

RFI PHASE II SOILS REPORT - ROCKEYE (SWMU 10/15)

RFI PHASE II SOILS REPORT - M^cGOMISH GORGE (SWMU 04/02)

INDIANA GEOLOGICAL SURVEY - GEOLOGY OF CRANE

OTHER ISSUES/COMMENTS

NEXT TRC MEETING

ROCKEYE SWMU #10/15 PHASE II SOILS STUDY

I. SITE DESCRIPTION

- Ten-acre site on flattened ridge crest, n. central portion of NSWCC
- Drains to Sulphur and Turkey Creeks and Greenwood Lake (Furst Creek)

II. SITE HISTORY

- A bomb-production facility, began in mid-1950's as a press-loading operation for 3-inch projectiles; conversion to case-filling Rockeye cluster bomb facility in 1967-68
- Discharges of explosive-contaminated wastewater discharged to sumps, with overflow to nearby streams
- Pollution abatement equipment installed in late 1970's, reducing contaminant releases
- Beginning in 1981, installed groundwater monitoring wells, totaling 107 wells by 1992

III. OBJECTIVES OF INVESTIGATION

- Describe soil conditions around site
- Identify & characterize contaminants from sumps
- Trace route of contamination movement away from sumps

IV. FINDINGS OF INVESTIGATION

Used 13 borings, 33 surface samples, EPA chemical analytical methods (SW 846), and USCS classification for soils. Noted the following-

- Probable soil contamination by explosives, possibly volatile and semi-volatile organics, and perhaps metals
- Contaminants noted near sumps, along drainageways leading from Rockeye, along the facility perimeter, and behind production building

V. CONCLUSIONS AND RECOMMENDATIONS

Conclusions -

- Clear case for presence of explosive compound contamination in the soils
- Less firm case for volatiles, semivolatiles, and indefinite for metals, (although metals also found in groundwater from Phase III groundwater study)

Recommendations -

- RCRA Facilities Investigation, Phase III Soils Study with following sampling:
 - Surface soil & air monitoring/testing near production exhaust vents
 - Soil borings for background areas (Background North and Area C)
 - Soil borings near facility perimeter
 - Surface water and sediment samples from drainageways & receiving streams
- Consideration of sump removal

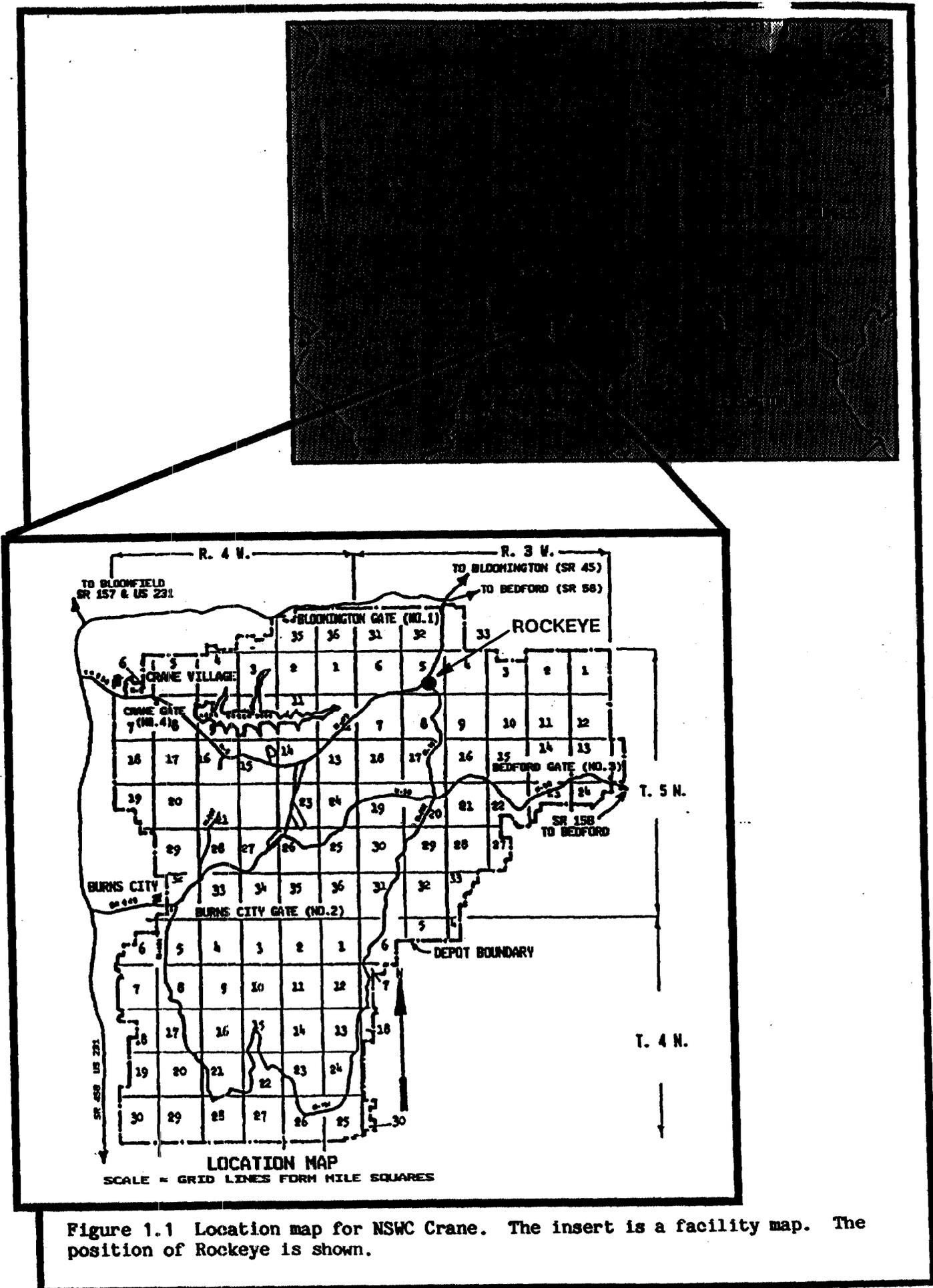


Figure 1.1 Location map for NSWC Crane. The insert is a facility map. The position of Rockeye is shown.

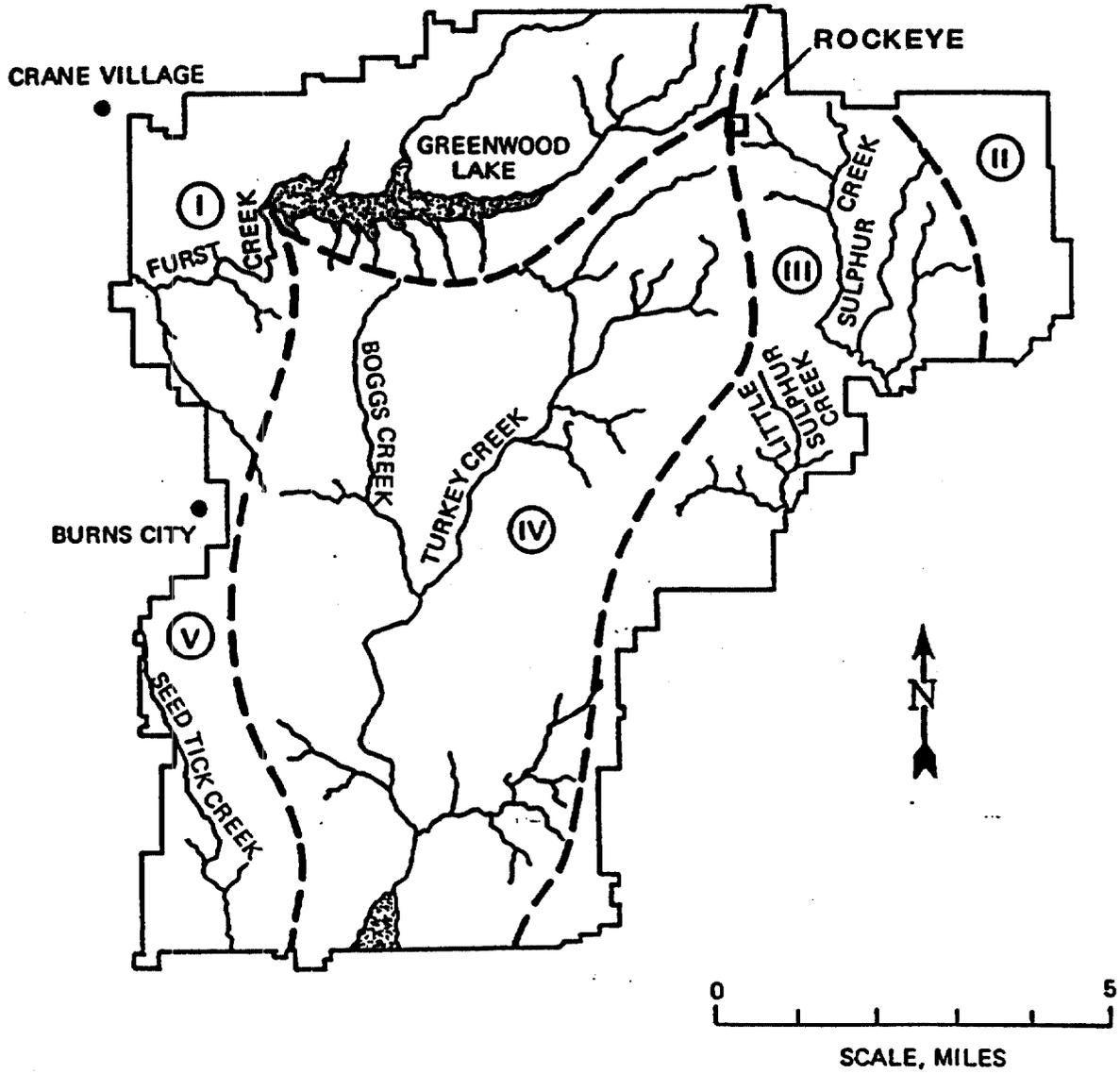


FIGURE 1.1A SURFACE DRAINAGE OF NSWCC

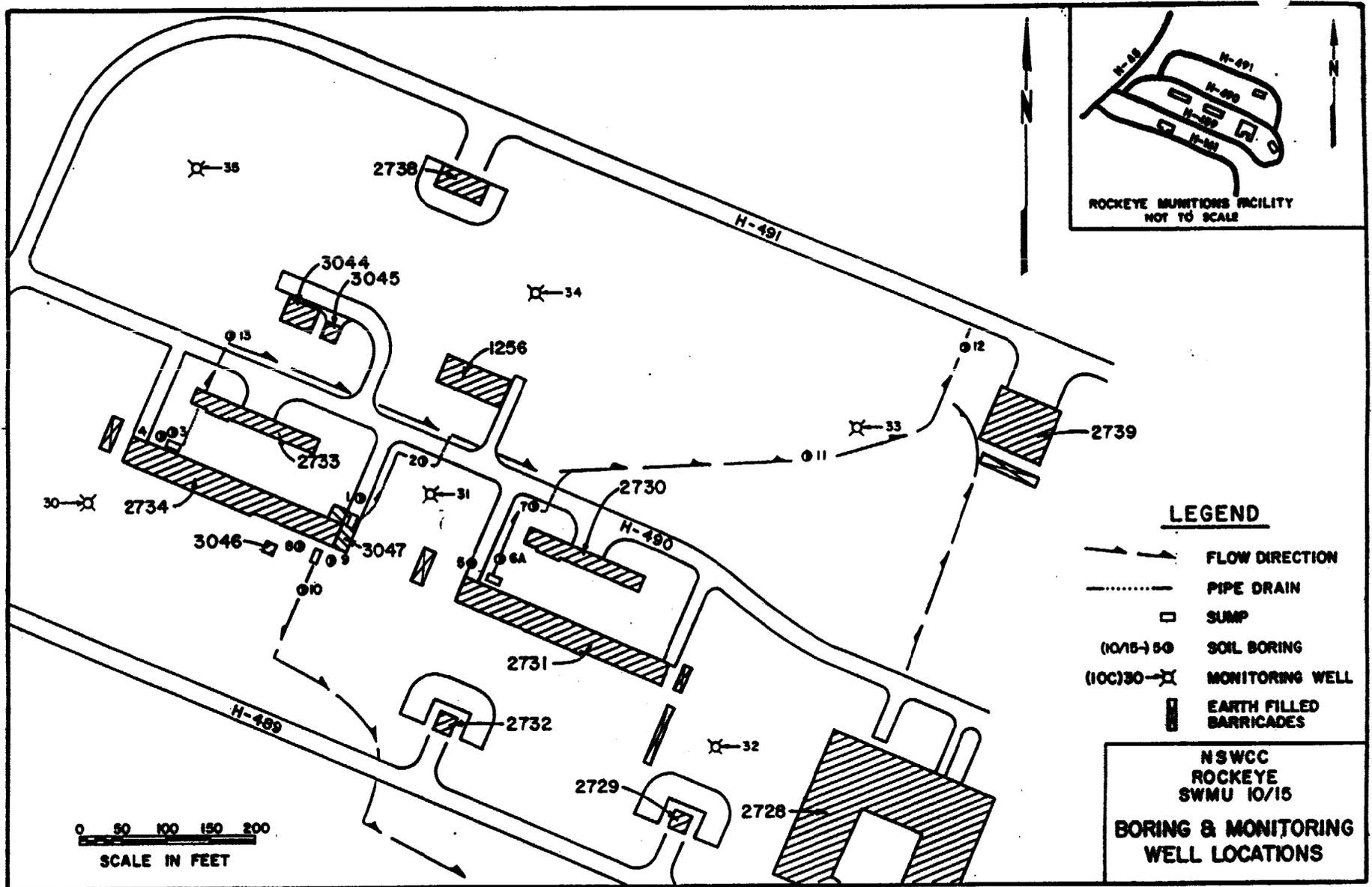


FIGURE 3.1

SOIL THICKNESS

NORTHING

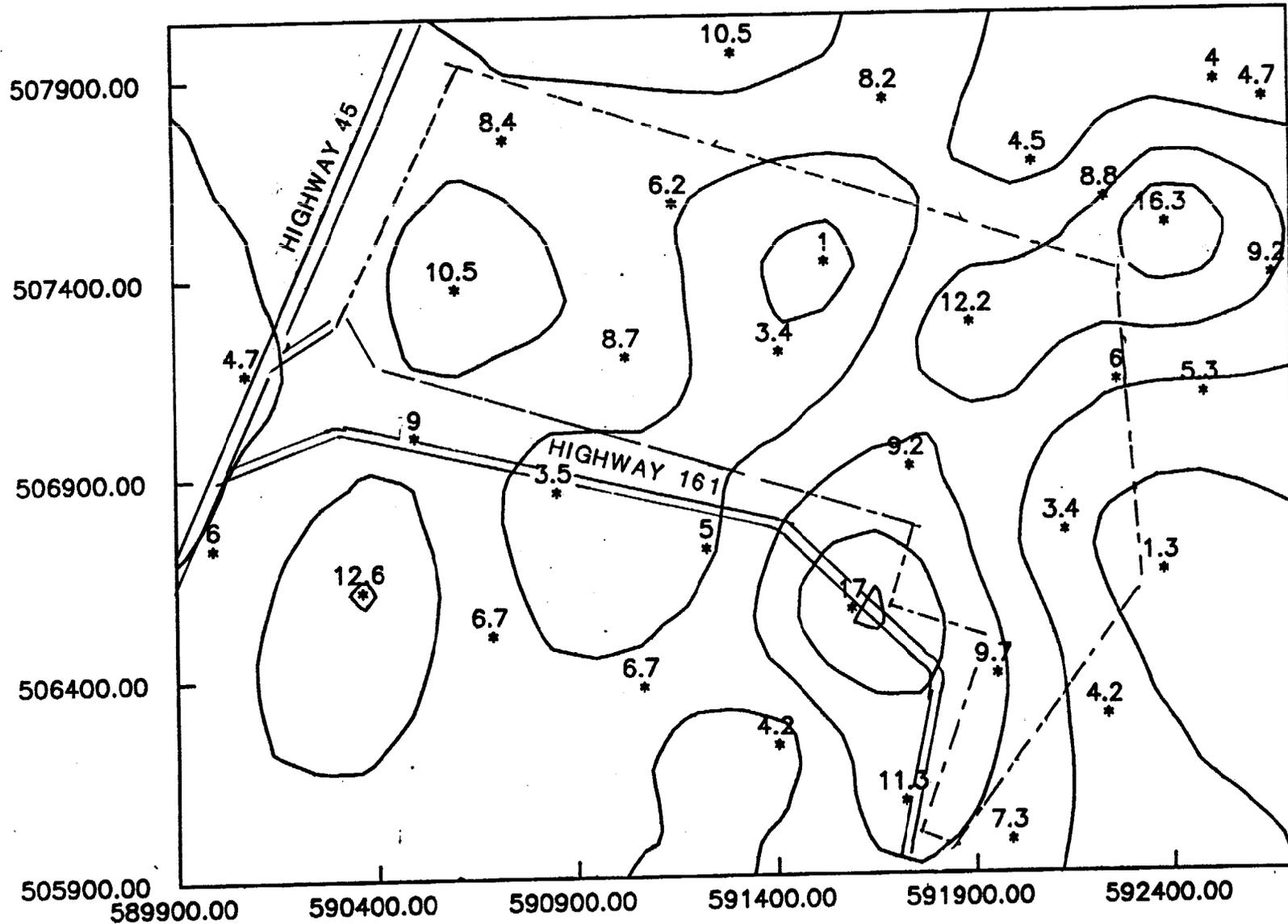


Fig. 4.5 ROCKEYE SOIL THICKNESS MAP

EASTING

LEGEND
 16.3 * SOIL BORING LOCATION AND THICKNESS

SCALE 1 inch = 400 FEET

CONTOUR INTERVAL = 5 FEET

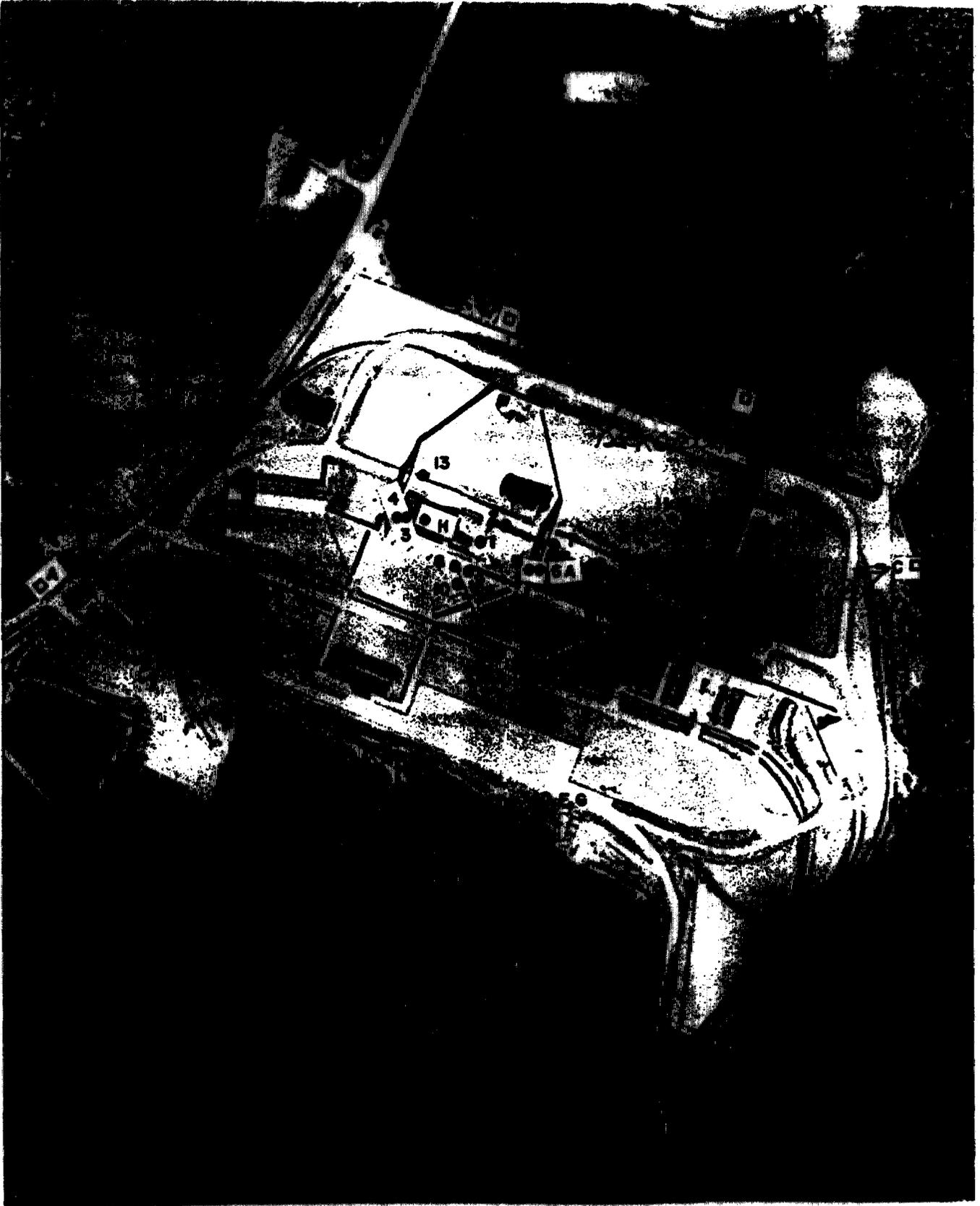


Figure 5.1. Rockeye (Munitions Facility) - NSWC Crane, Indiana, SWMU #10/15. Locations of soil borings and surface sample areas. Soil borings are indicated by numbers 1 through 13 and surface soil scrapes are indicated by letters A through H. Locations marked BN1 through 3 were "background north" surface soil samples. See Figure 5.2 for specific boring information and Figures 5.3 - 5.5 for surface soil scrape sample information. This figure is based on photography taken October 11, 1953. Approximate figure scale is 1:5000.

MCCOMISH GORGE #04/02 PHASE II SOILS STUDY

I. SITE DESCRIPTION

- Site occupies approximately 5 acres in the northwestern portion of NSWCC.
- Site drains to Upper Culpepper Branch.

II. SITE HISTORY

- The MG dump site was used for an unknown period of time between 1942 and 1972. Records of its use are indefinite.
- Undefined amounts and types of garbage and trash were buried at the site. (ie. wood, paper, construction material, plaster filled warheads, metal shavings and industrial waste)
- Today, the site is not used and it has revegetated.

III. OBJECTIVES OF INVESTIGATION

- Describe soil conditions around site.
- Identify and characterize the operation residuals.

IV. FINDINGS OF INVESTIGATION

- Soils across the site ranged from 0' to over 60' in thickness.
- Soil types included clays (CL), silts (ML and MH), and sands (SC, SM, and SP).
- Soils containing plastic, rubber, metal, and wood wastes were found in borings 1, 2, 5, 6, 7, 8, 9, and 10.
- Permeabilities of silty sand soil samples were on the order of 4×10^{-5} cm/sec.
- Ground water was encountered 3 to 10 feet below the ground surface.
- MG is not contaminated with volatile organics, pesticides, herbicides, or PCBs.

V. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- The area presumed to be contaminant free, the background area, was found to have been affected by the dumping operations at the site.
- A release of inorganics, semivolatile organics, and explosive wastes to the soils of the MG area is likely to have occurred.

Recommendations

- RCRA Facilities Investigation, Phase III Soils Study.
 - Site specific background data is needed to determine the natural variability of the MG Soils.
 - The boundaries of the MG site should be determined. Additional boring is required to accurately delineate area and depth of actual contamination.
 - Contamination detected in soil borings 04/02-1A-90 and 04/02-02-90 should be delimited.

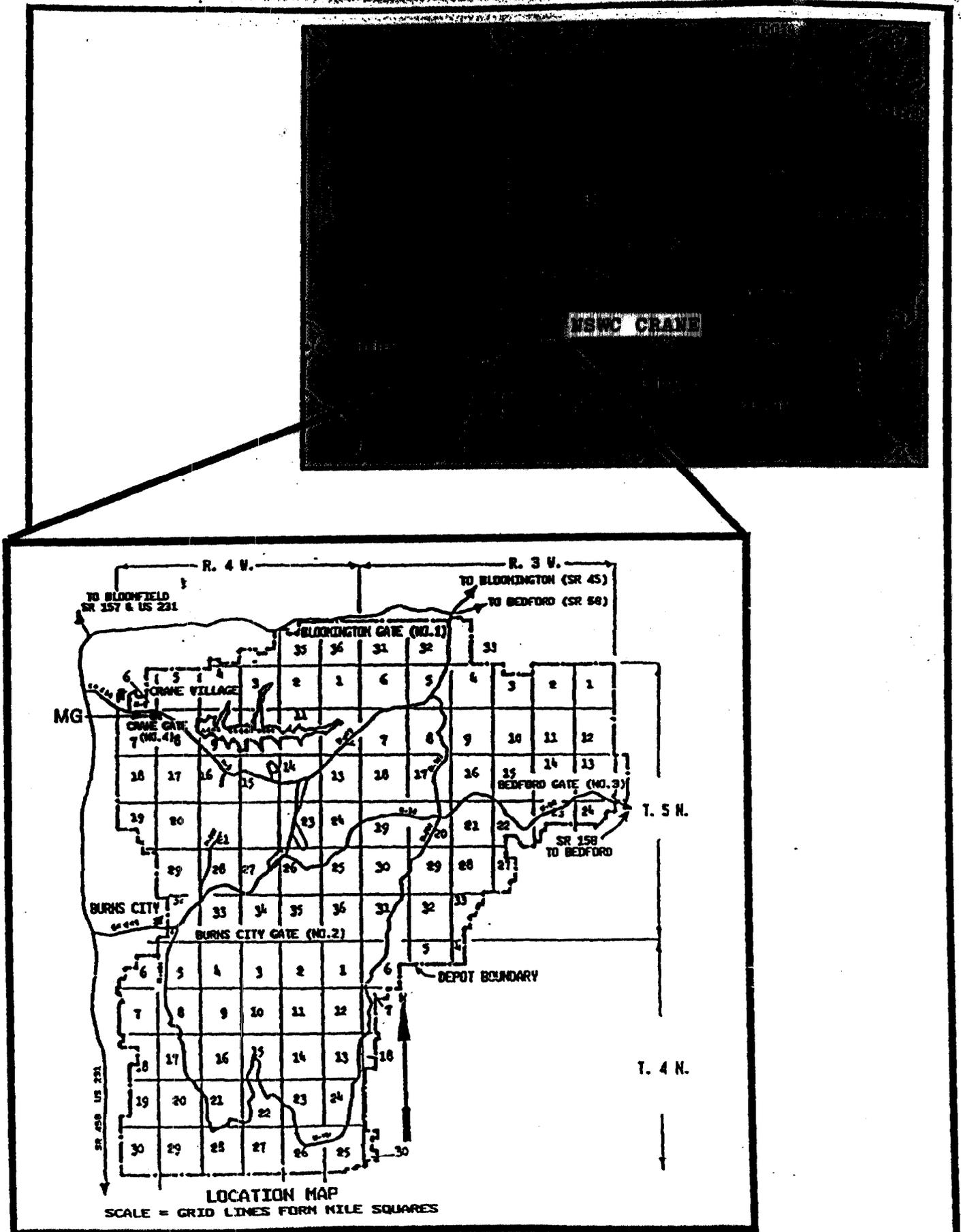


Figure 1.1 Location map showing the location of NSWCC and McComish Gorge.

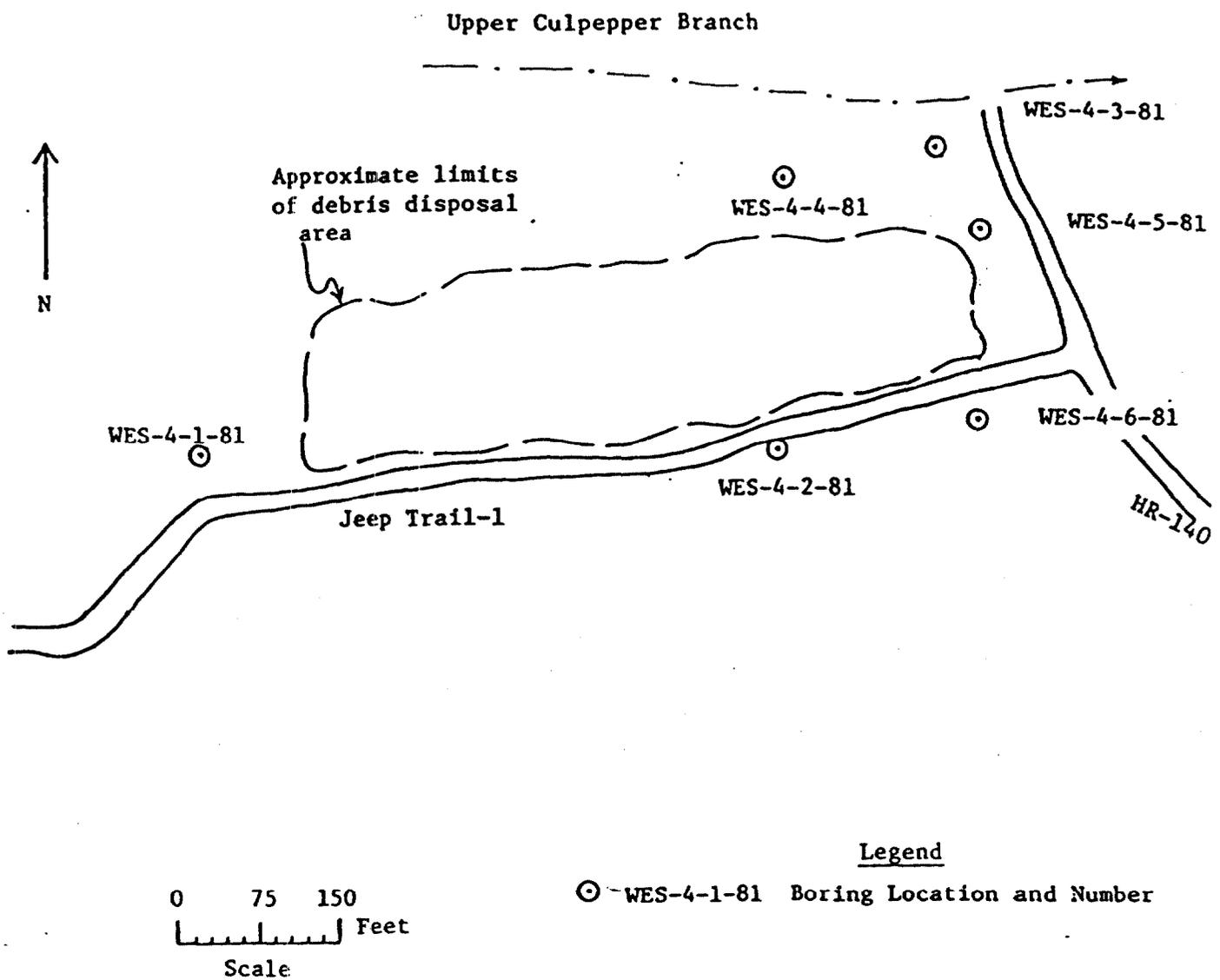
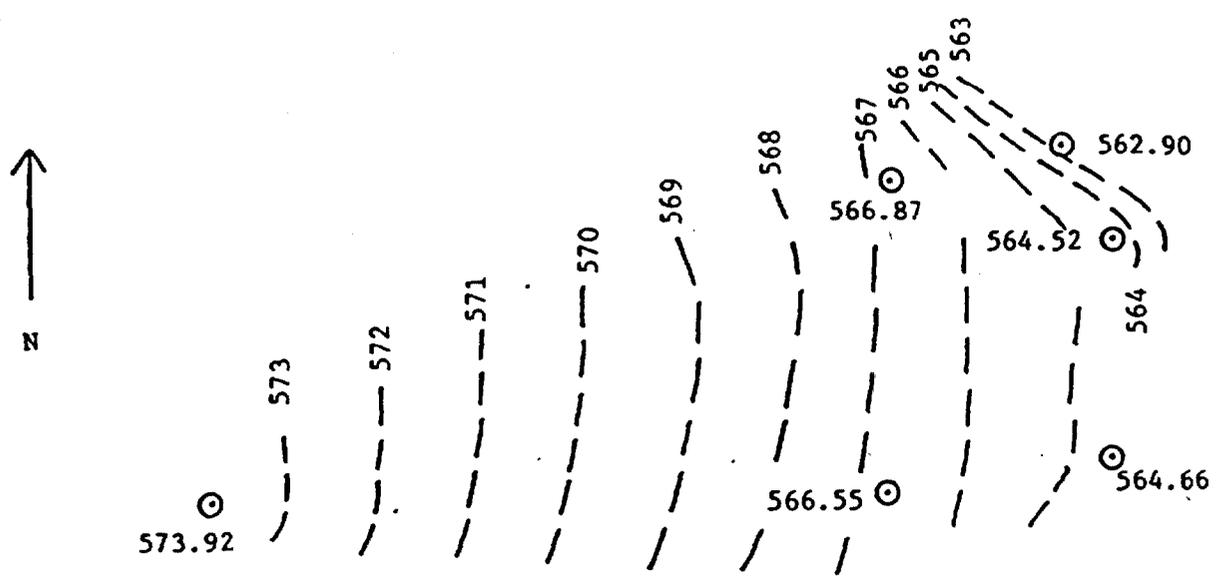


Figure 2.1 Monitoring Well Locations at McComish Gorge, (modified after Dunbar, 1982).



Legend

- ⊙ 573.92 Boring Location and Water Table Elevation, ft MSL
- 568 — Water Table Contour, ft MSL
Water Measurements from 29 Nov 81

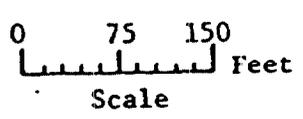


Figure 2.2 Water Table Contour Map of McComish Gorge, (Dunbar, 1982).

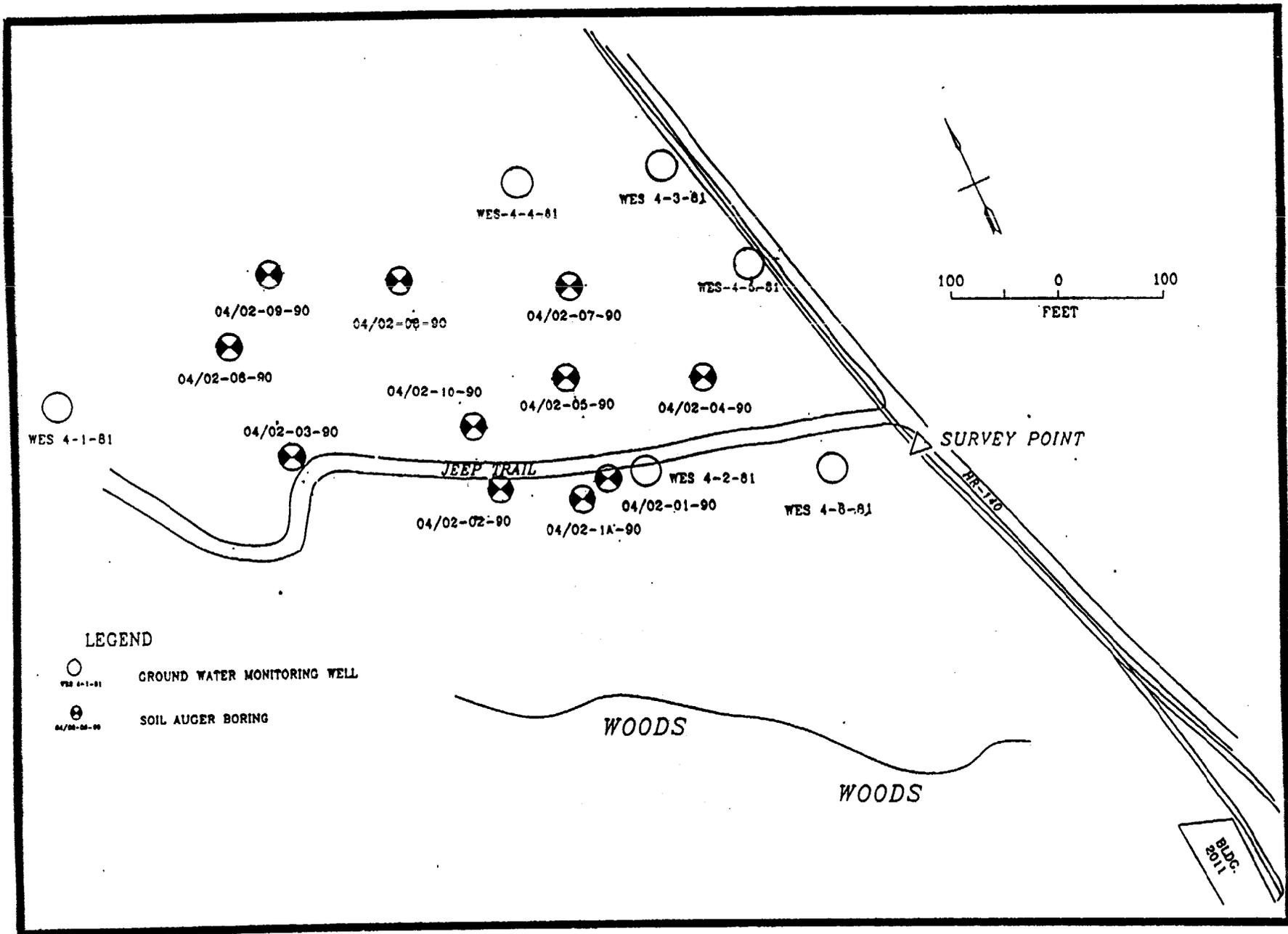


Figure 3.1 Location Map of Borings and Monitor Wells @ Crane NSWCC, McComish Gorge Site.

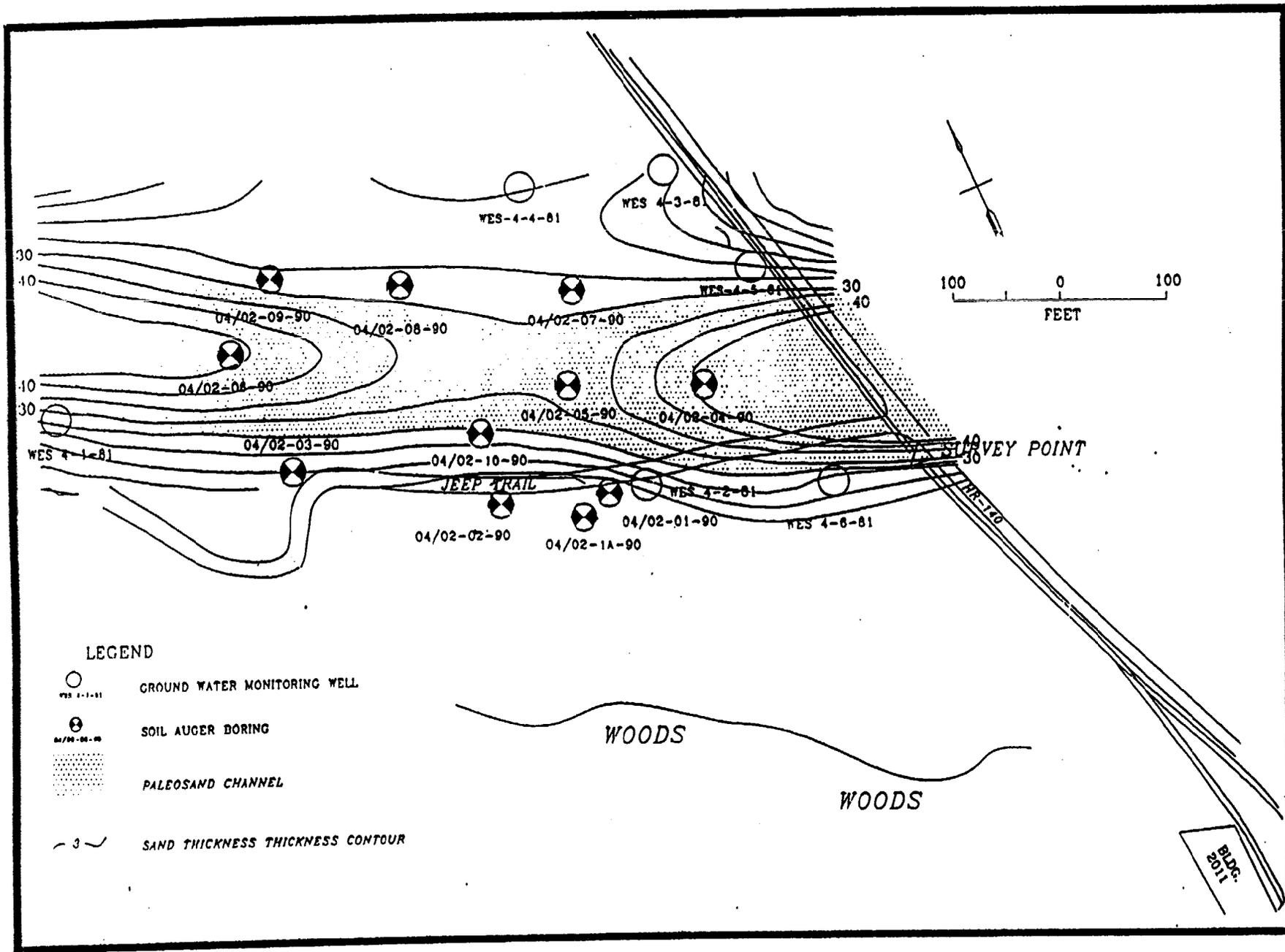


Figure 4.10 Sand Thickness Map of Crane NSWC, McComish Gorge Site.

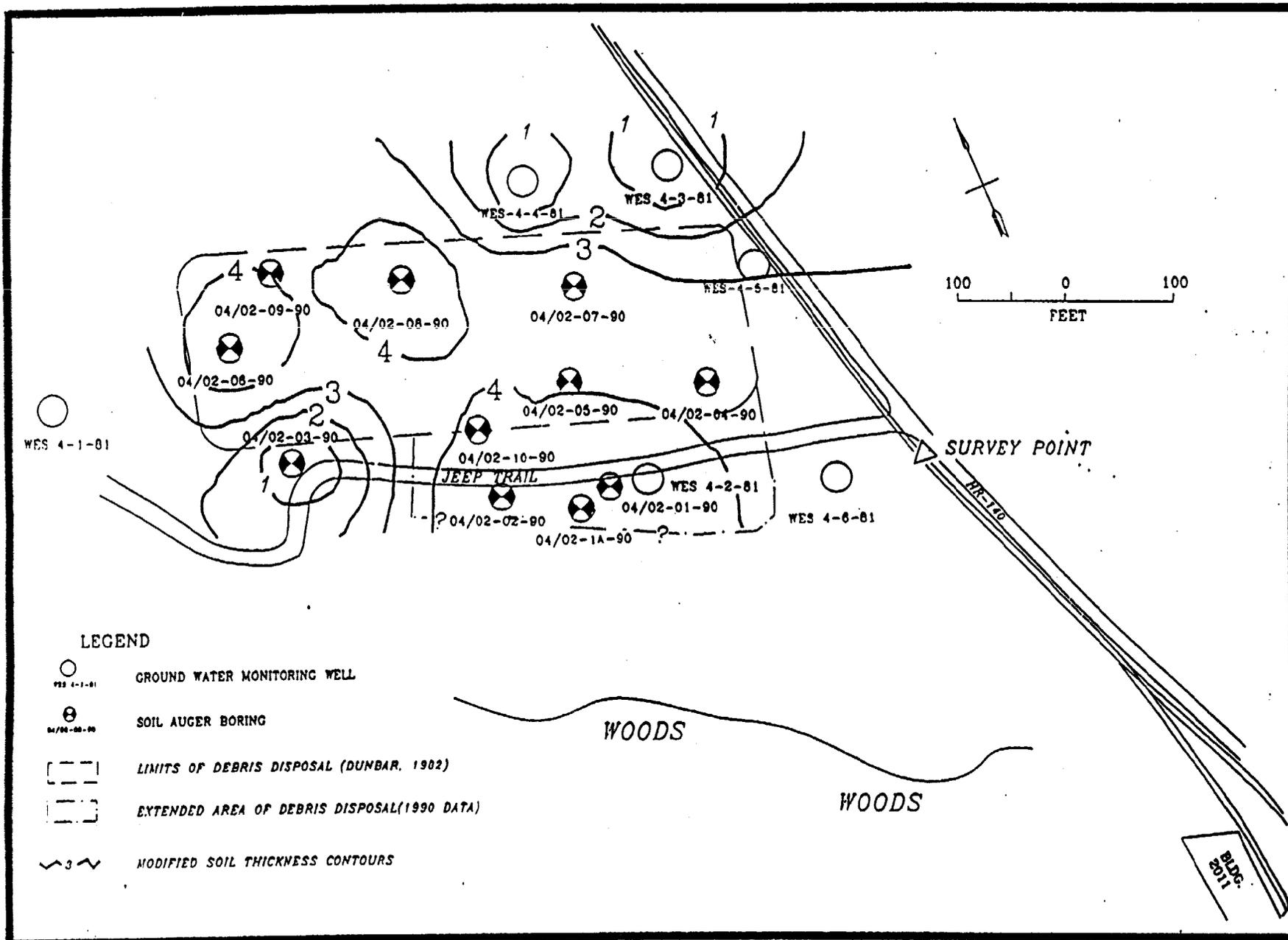


Figure 4.11 Modified Soil Thickness Map of Crane NSWC, McComish Gorge Site.



DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
CRANE, INDIANA 47522-5000

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095

JUN 24 1992

MEMORANDUM

From: 095

Subj: SIXTH TECHNICAL REVIEW COMMITTEE MEETING

1. The sixth Technical Review Committee meeting is scheduled for 16 July 1992 from 0900 to 1130 in the Building 1 conference room. The agenda for the meeting is as follows:

INTRODUCTION

RFI PHASE II SOILS REPORT - ROCKEYE (SWMU 10/15)

RFI PHASE II SOILS REPORT - McCOMISH GORGE (SWMU 04/02)

INDIANA GEOLOGICAL SURVEY - GEOLOGY OF CRANE

OTHER ISSUES/COMMENTS

NEXT TRC MEETING

2. Code 095 point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-1132.

Phillip Keith, Acting for

JAMES M. HUNSICKER

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