

MARSHALL ISLANDS FILE TRACKING DOCUMENT

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ADVANCE DRAFT

(Incomplete)

ENEWETAK FACT BOOK

Compiled By

Wayne Bliss

U.S. EPA

Environmental Monitoring and Support Laboratory

Las Vegas, Nevada

For

U.S. Energy Research and Development Administration

Nevada Operations Office

September 9, 1977

June 16, 1977

Site Name: FLORA and GENE
Other: ELUGELAB and TEITEIRIPUCCHI

FLORA and GENE have been blown away by nuclear explosives. For their sacrifice, inclusion in cleanup treatises seems a small tribute.

Prior to OPERATION IVY, GENE through IRENE were four islands in a linear arrangement at the north end of Enewetak Atoll. With a little dirt work these islands were connected by causeways, pipelines and cables. The attached sketch shows their original configuration.

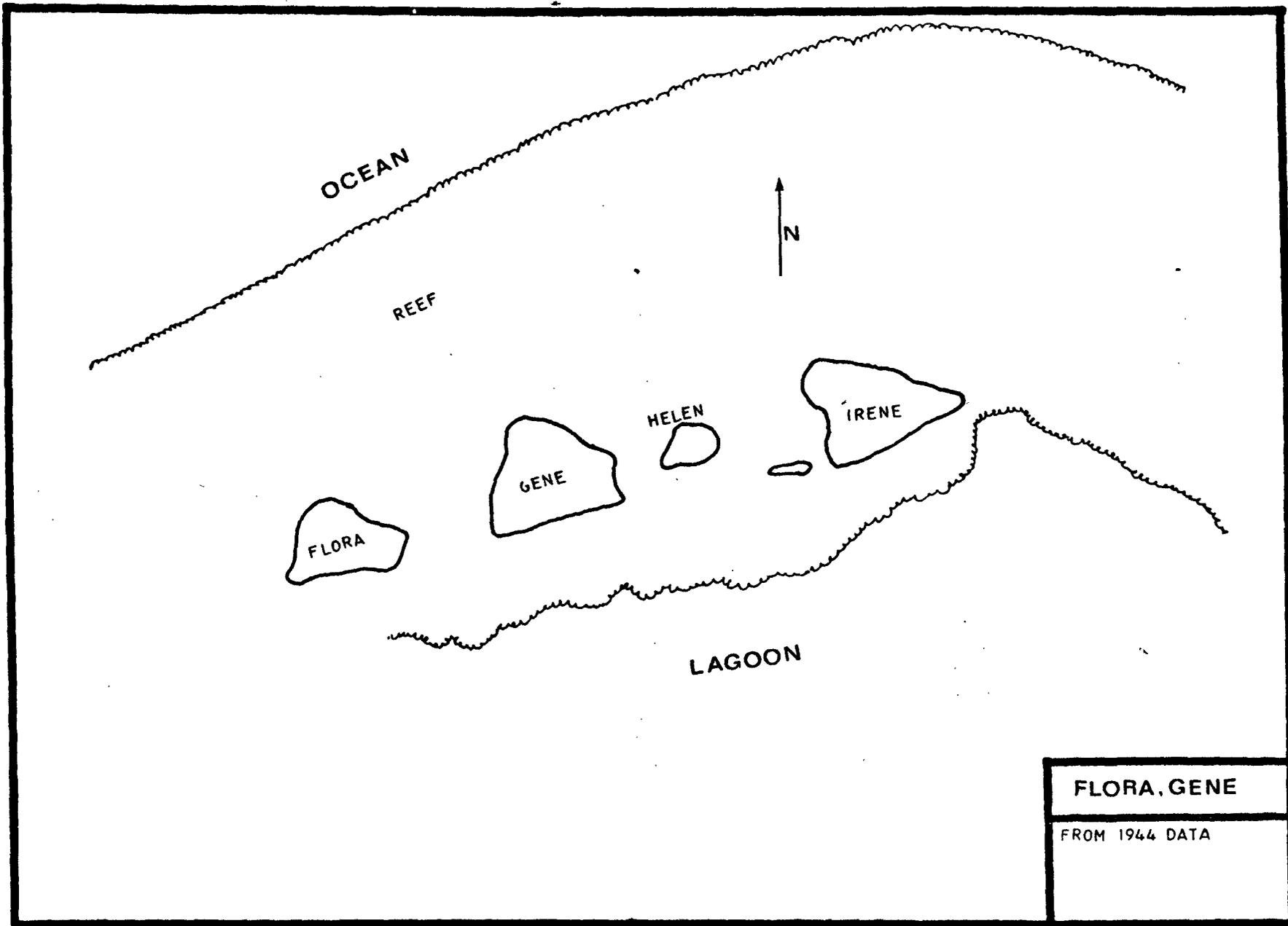
FLORA was the site of the MIKE EVENT of OPERATION IVY. MIKE was an experimental thermonuclear device detonated October 31, 1952, which yielded 10.4 megatons. MIKE cast FLORA to the winds; however, her location was to be used in many succeeding barge shots.

GENE, the site of one forward area camp, served as a work area through OPERATIONS CASTLE and REDWING. By the KOA EVENT, May 12, 1958, of OPERATION HARDTACK, PHASE I, GENE had followed FLORA into oblivion.

FLORA and GENE

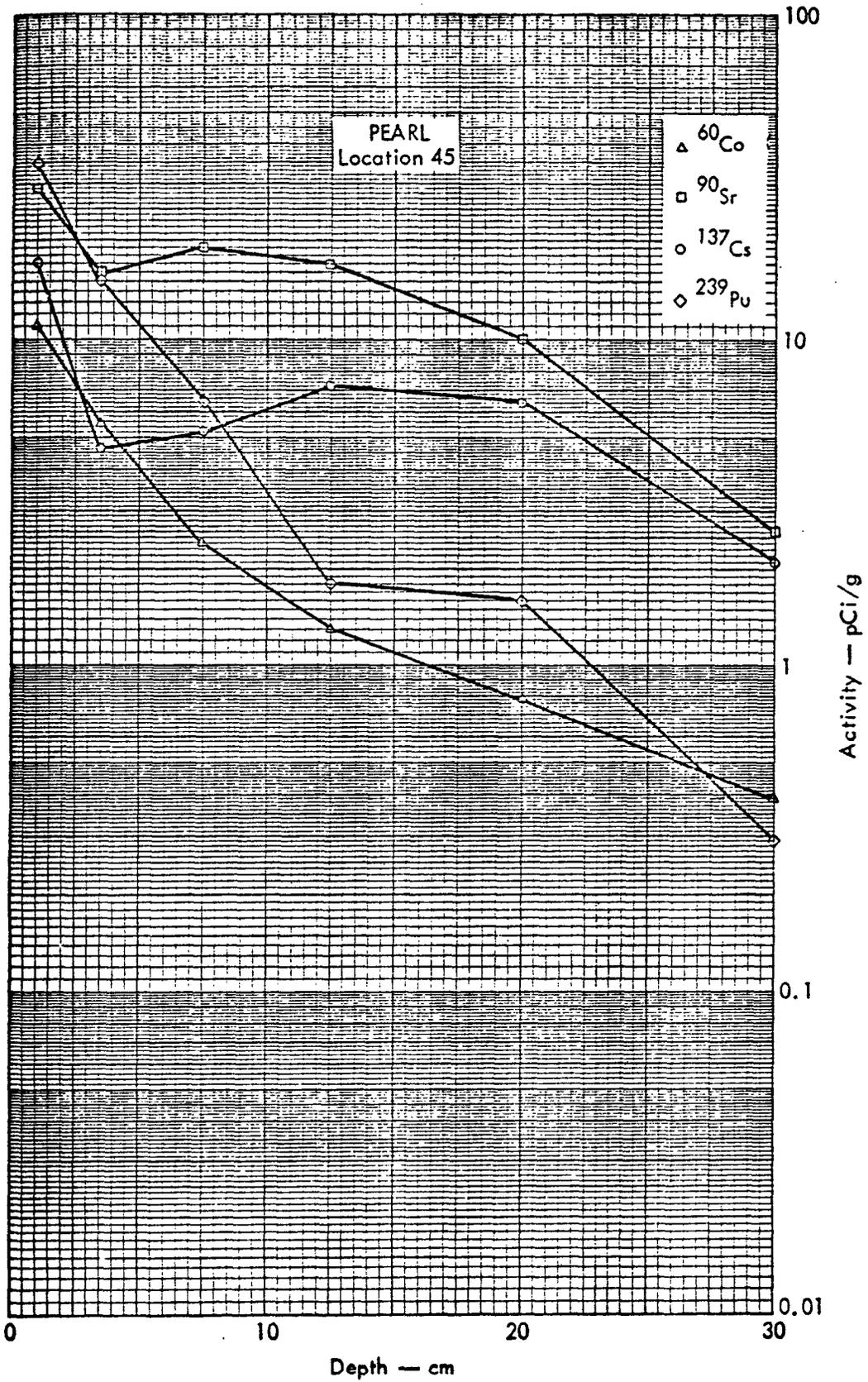
-2-

No radiological measurements have been made of these two areas in recent years. No estimate of cleanup, if any is warranted, has been made other than that incorporated with IRENE. Pipelines ran from IRENE to both MIKE and KOA and some of that debris may remain on the reef.



FLORA, GENE

FROM 1944 DATA



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Fig. B. 15.2a. Activities of selected radionuclides as a function of soil depth.

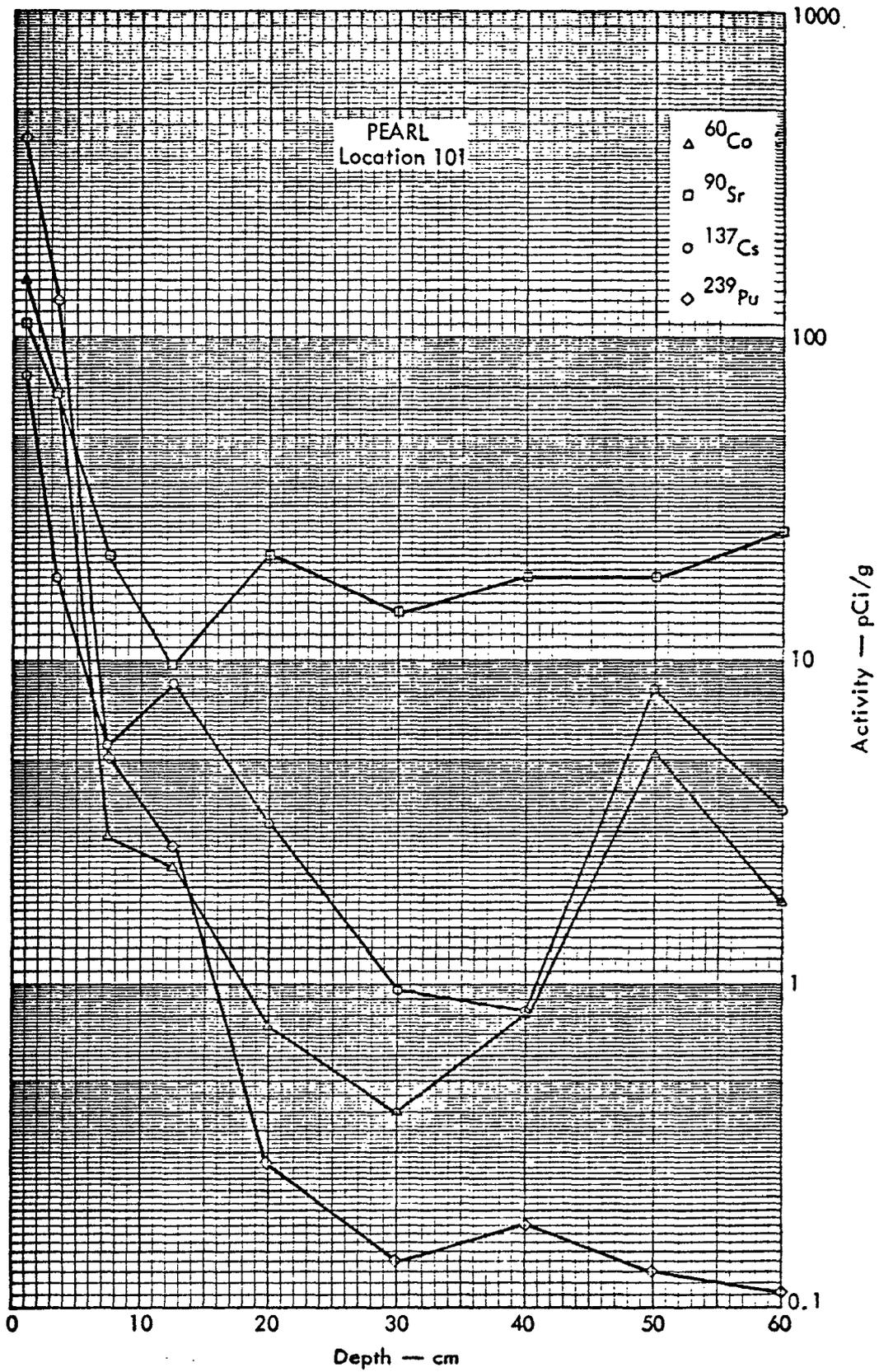


Fig. B.15.2g. Activities of selected radionuclides as a function of soil depth.

August 25, 1977

Site Name: DAVID
Board of Geo.: MUTI
Marshallese: JAPTAN

DAVID is located in the southeast quadrant of Enewetak Atoll adjacent to the Deep Entrance. It has a land area of about 79 acres (32 hectares). Coconut trees remain from a nineteenth century German plantation as well as numerous installations remain from U. S. operations. The island was first used by the U. S. to house animals used in nuclear test effects research. Later, during the REDWING OPERATION, it became the radio receiver site for the Atoll with a 20-man permanent camp. Following the termination of the nuclear testing program, when the Atoll became a down-range target area for the Navy's Pacific Missile Range and the Air Force Western Test Range, a 3000 square foot concrete building was constructed to house the Missile Impact Locating System -- Building 2182. DAVID was also used as a recreational area during nuclear test operations.

Some 50 - 75 Enewetakese people returned to DAVID in March 1977 and currently reside there.

The radiological condition of DAVID is good. The accumulated H+1 hr. gamma exposure rate from nuclear testing is 1 R/hr

DAVID

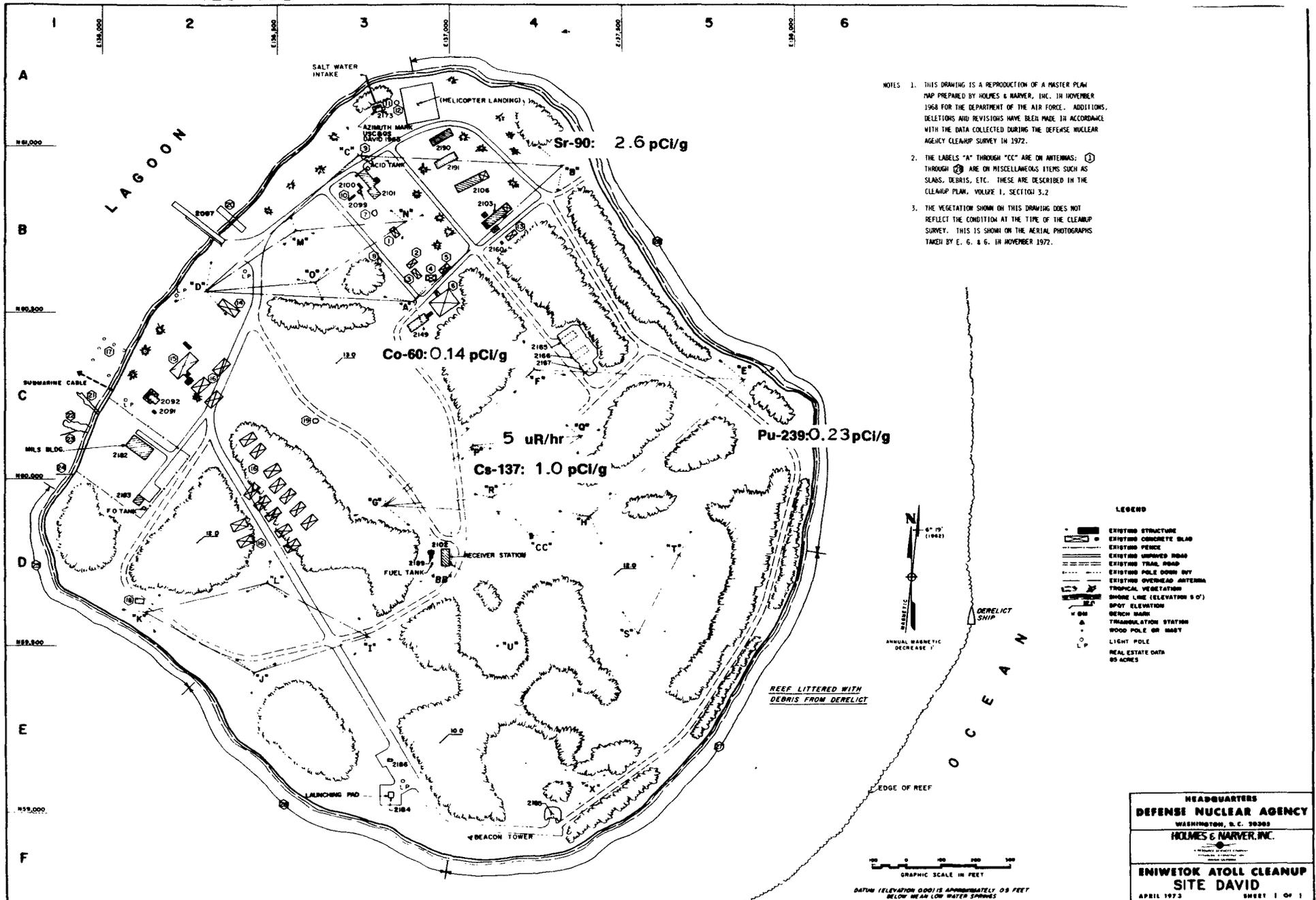
-2-

contributed by three events. The maximum 1m gamma exposure rate measured in 1972 was 5 uR/hr. The mean and range values for the prevalent radionuclides in surface soil samples were:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	
	<u>Mean</u>	<u>Range</u>
239Pu	0.05	0.004 - 0.23
90Sr	0.55	0.08 - 2.6
137Cs	0.39	0.03 - 1.0
60Co	0.03	0.009 - 0.14 +

No zero points, radioactive material burials, or other radiological hazards are known to exist on DAVID. Cleanup activities will include removal of physical hazards and structures as specified in the Engineering Plan.

CASE 3: UNLIMITED USE



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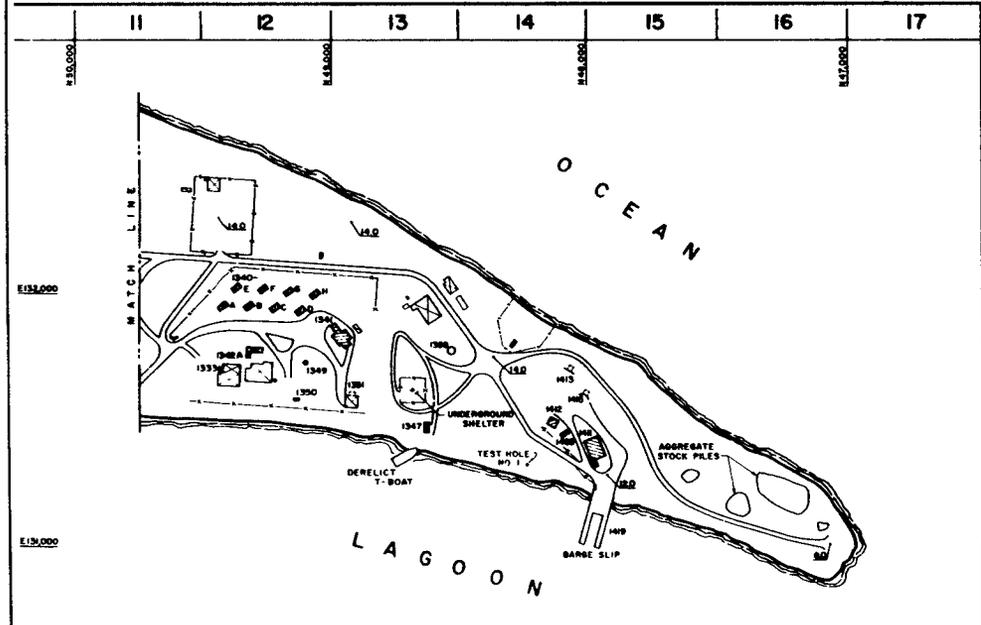
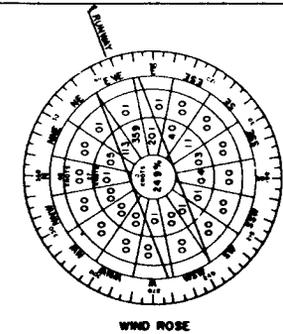
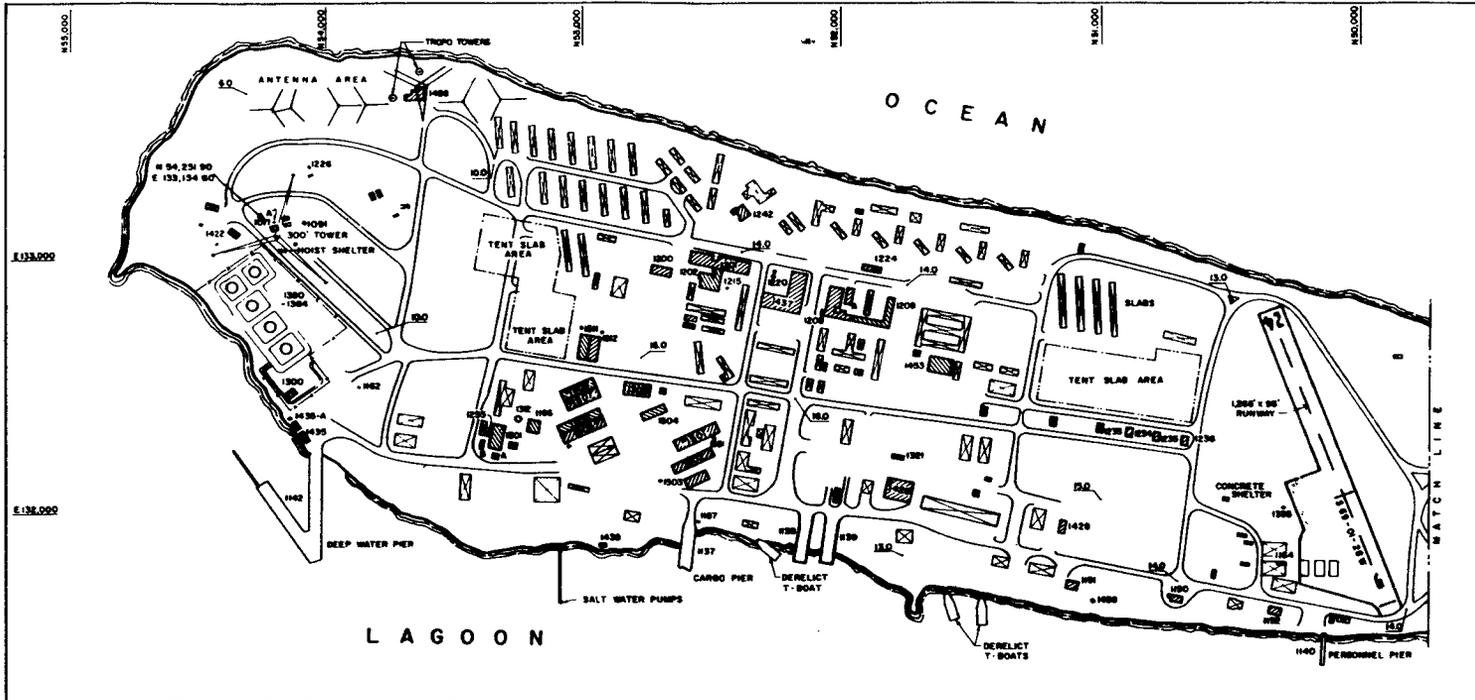
ELMER

-4-

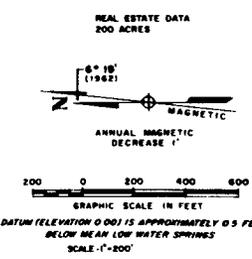
would be the fallout from the TEWA SHOT on Bikini which resulted in a 1.2 Rad exposure to ELMER. The fallout occurred over a period of several hours.

An incident occurred on ELMER which involved a ruptured foil containing plutonium. All materials contaminated were either successfully decontaminated or poured in concrete and buried at sea.

CASE 3: UNLIMITED USE



- LEGEND**
- EXISTING STRUCTURE
 - EXISTING CONCRETE SLAB
 - EXISTING FENCE
 - EXISTING ROAD OR PAVED AREA
 - EXISTING UNPAVED ROAD
 - EXISTING POLE DOWN GUY
 - EXISTING OVERHEAD ANTENNA
 - ANTENNA POLE
 - BENCH MARK
 - TRIANGULATION STATION
 - SPOT ELEVATION
 - TROPICAL VEGETATION
 - SHORE LINE (ELEVATION 5.0')
 - SEA WALL OR BARRICADE



ORIGIN OF PLANE GRID SYSTEM IS BASED ON CLARKE'S SPHEROID OF 1866 EXISTING PLANNING FEATURES AS OF 1 FEB 1963

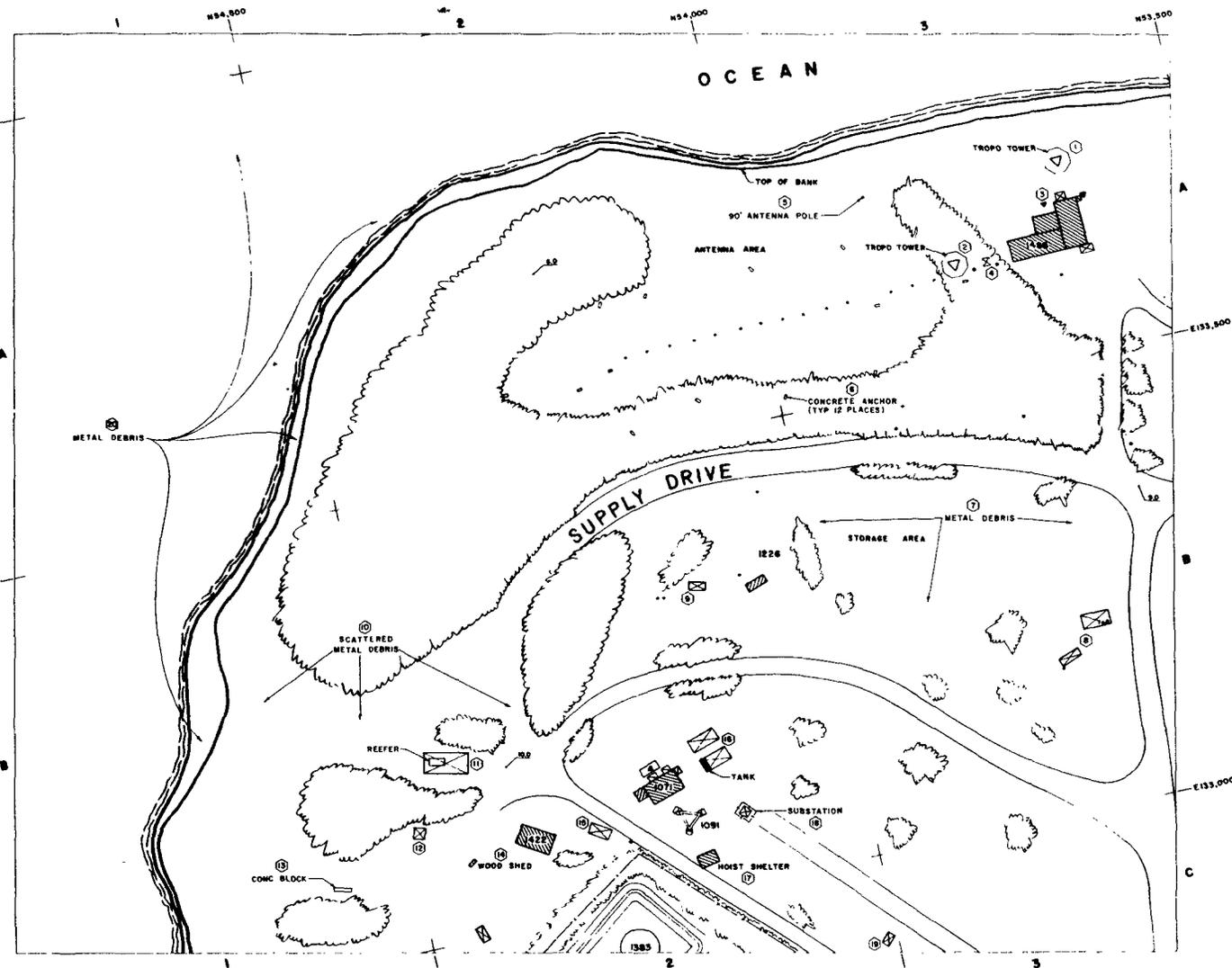
HEADQUARTERS
DEFENSE NUCLEAR AGENCY
WASHINGTON, D. C. 20305

HOLMES & NARVEY, INC.

**ENIWETOK ATOLL CLEANUP
PLOT PLAN - SITE ELMER**
APRIL 1973 SHEET 1 OF 1

11

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LEGEND	
	EXISTING STRUCTURE
	EXISTING CONCRETE SLAB
	EXISTING FENCE
	EXISTING ROAD ON FIRMED AREA
	EXISTING UNFIRMED ROAD
	EXISTING BOX CULVERT
	EXISTING PIPE CULVERT
	BENCH MARK
	TRIANGULATION STATION
	SPOT ELEVATION
	TROPICAL VEGETATION
	SHORE LINE (ELEVATION 50')
	SEA WALL OR BARRICADE
	EXISTING POLE DOWN GUY
	WOOD POLE OR MAST
	EXISTING AIRCRAFT TIEDOWN
	EXISTING OVERHEAD ANTENNA

GENERAL NOTES:

1. THIS DRAWING IS A REPRODUCTION OF A MASTER PLAN MAP PREPARED BY HOLMES & HARVER, INC. IN NOVEMBER 1968, FOR THE DEPARTMENT OF THE AIR FORCE. ADDITIONS, DELETIONS AND REVISIONS HAVE BEEN MADE IN ACCORDANCE WITH THE DATA COLLECTED DURING THE DEFENSE NUCLEAR AGENCY CLEANUP SURVEY IN 1972.
2. HEXAGON (∞) SYMBOLS ARE ON MISCELLANEOUS ITEMS SUCH AS SLABS, DEBRIS, ETC. THESE ARE DESCRIBED IN THE CLEANUP PLAN, PART I, SECTION 32.

3. THE VEGETATION, SHOWN ON THIS DRAWING DOES NOT REFLECT THE CONDITION AT THE TIME OF THE CLEANUP SURVEY. THIS IS SHOWN ON THE AERIAL PHOTOGRAPHS TAKEN BY E. G. & G. IN NOVEMBER 1972.



ANNUAL MAGNETIC DECREASE 1'



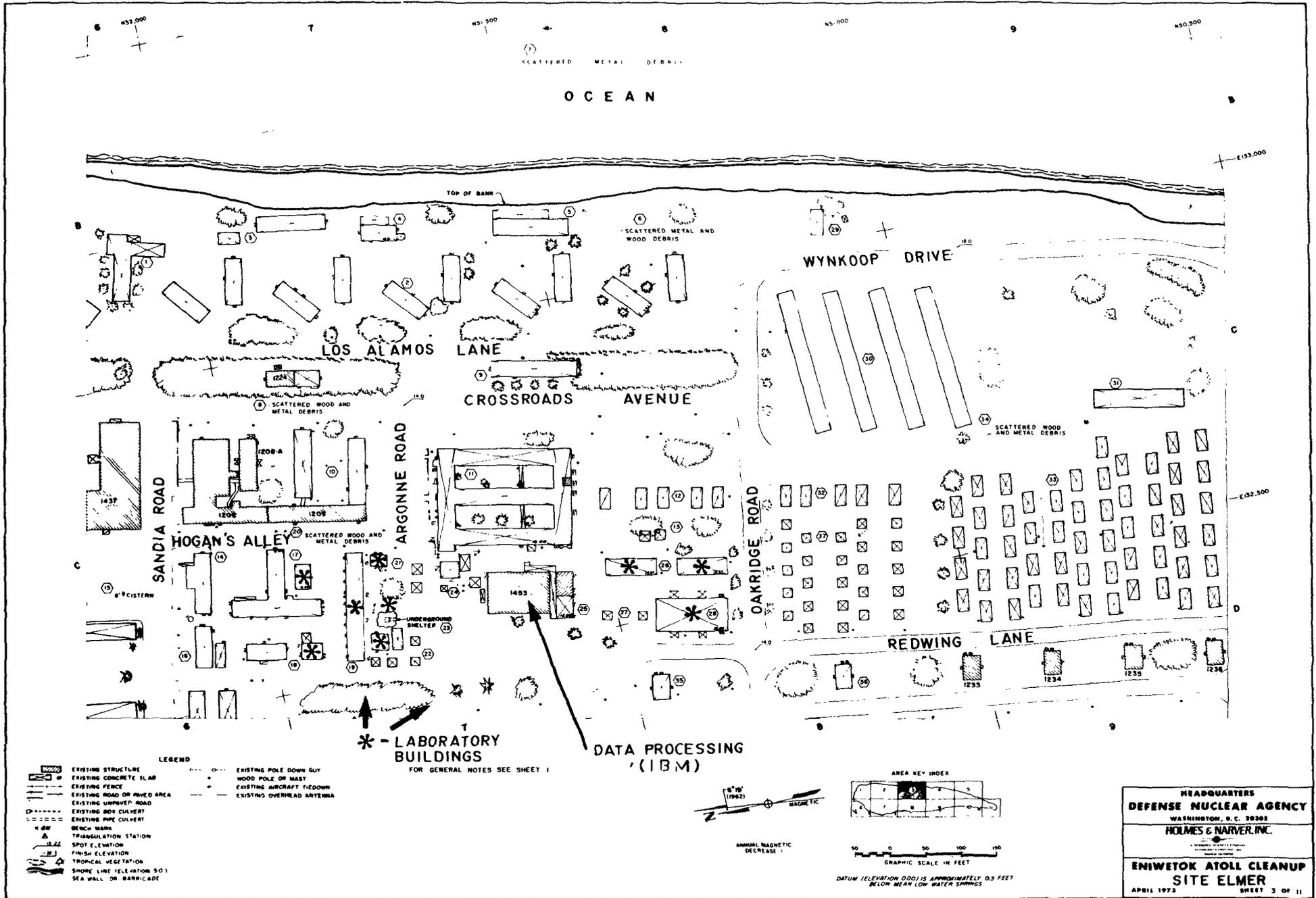
GRAPHIC SCALE IN FEET

DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS

HEADQUARTERS
DEFENSE NUCLEAR AGENCY
WASHINGTON, D. C. 20301
HOLMES & HARVER, INC.
ENIWEK ATOLL CLEANUP
SITE ELMER
APRIL 1973 SHEET 1 OF 11

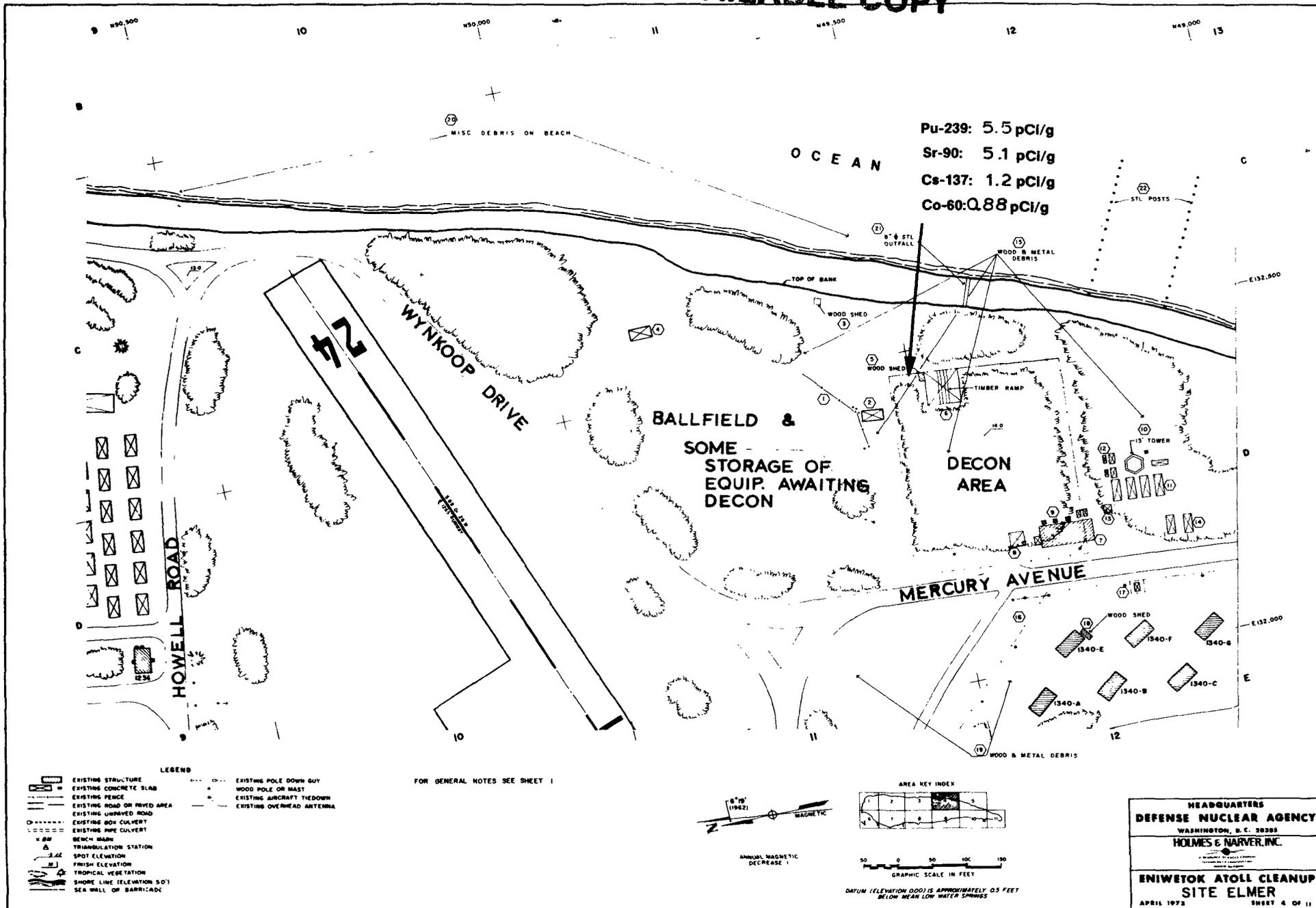
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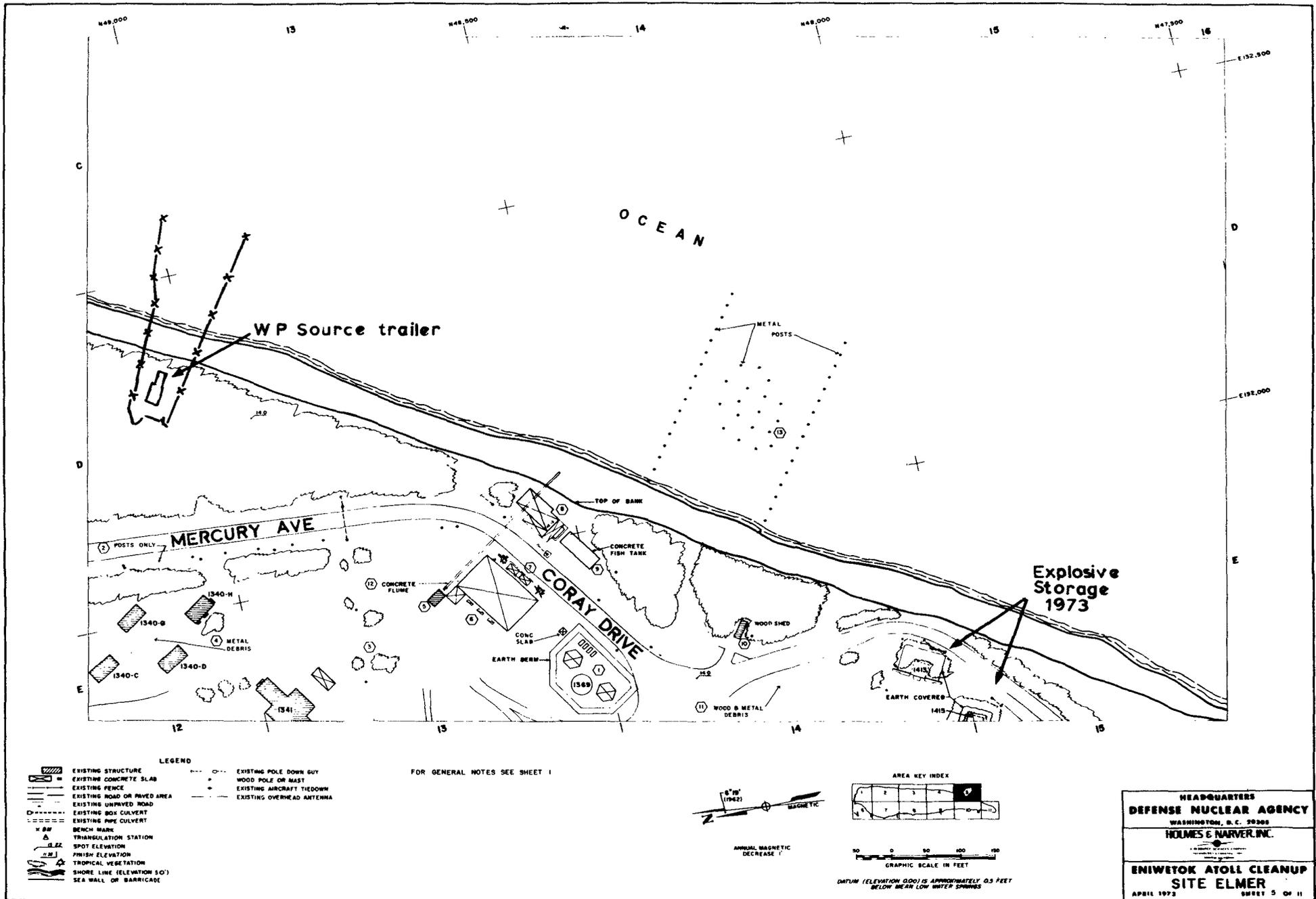
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11

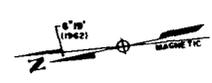
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LEGEND

- EXISTING STRUCTURE
- EXISTING CONCRETE SLAB
- EXISTING FENCE
- EXISTING ROAD OR PAVED AREA
- EXISTING UNPAVED ROAD
- EXISTING BOX CULVERT
- EXISTING PIPE CULVERT
- BENCH MARK
- TRIANGULATION STATION
- SPOT ELEVATION
- FINISH ELEVATION
- TROPICAL VEGETATION
- SHORE LINE (ELEVATION 10')
- SEA WALL OR BARRICADE
- EXISTING POLE DOWN GUY
- WOOD POLE OR MAST
- EXISTING AIRCRAFT TIEDOWN
- EXISTING OVERHEAD ANTENNA

FOR GENERAL NOTES SEE SHEET 1



ANNUAL MAGNETIC DECREASE 1'

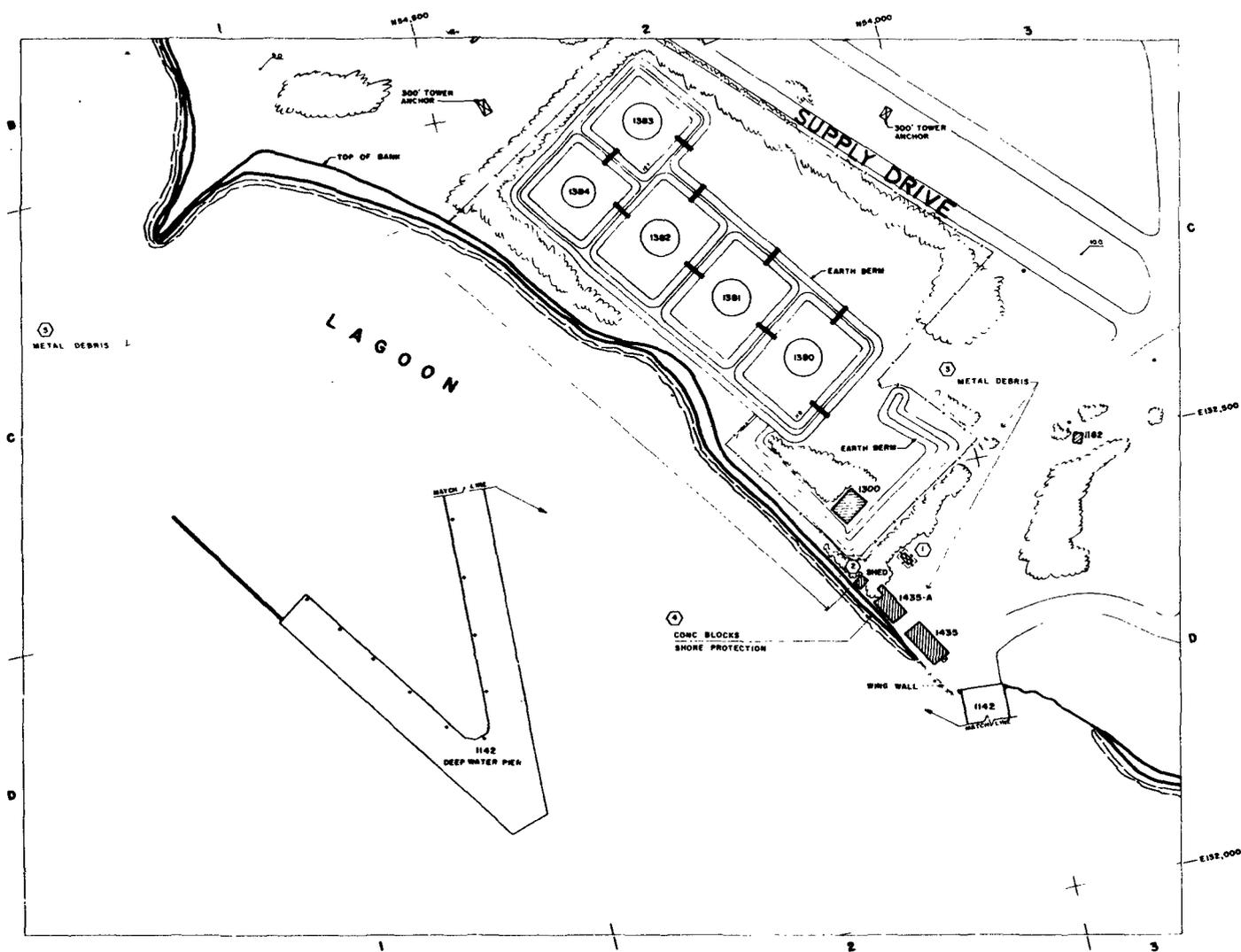


DATUM (ELEVATION 100) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPINDS

HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D. C. 20305
HOLMES & NARVER, INC.
 ENIWEK ATOLL CLEANUP
SITE ELMER
 APRIL 1973 SHEET 5 OF 11

b1

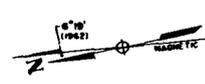
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LEGEND

- | | | | |
|--|------------------------------|--|---------------------------|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | |
| | EXISTING 80% CULVERT | | |
| | EXISTING 100% CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5'-0") | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1

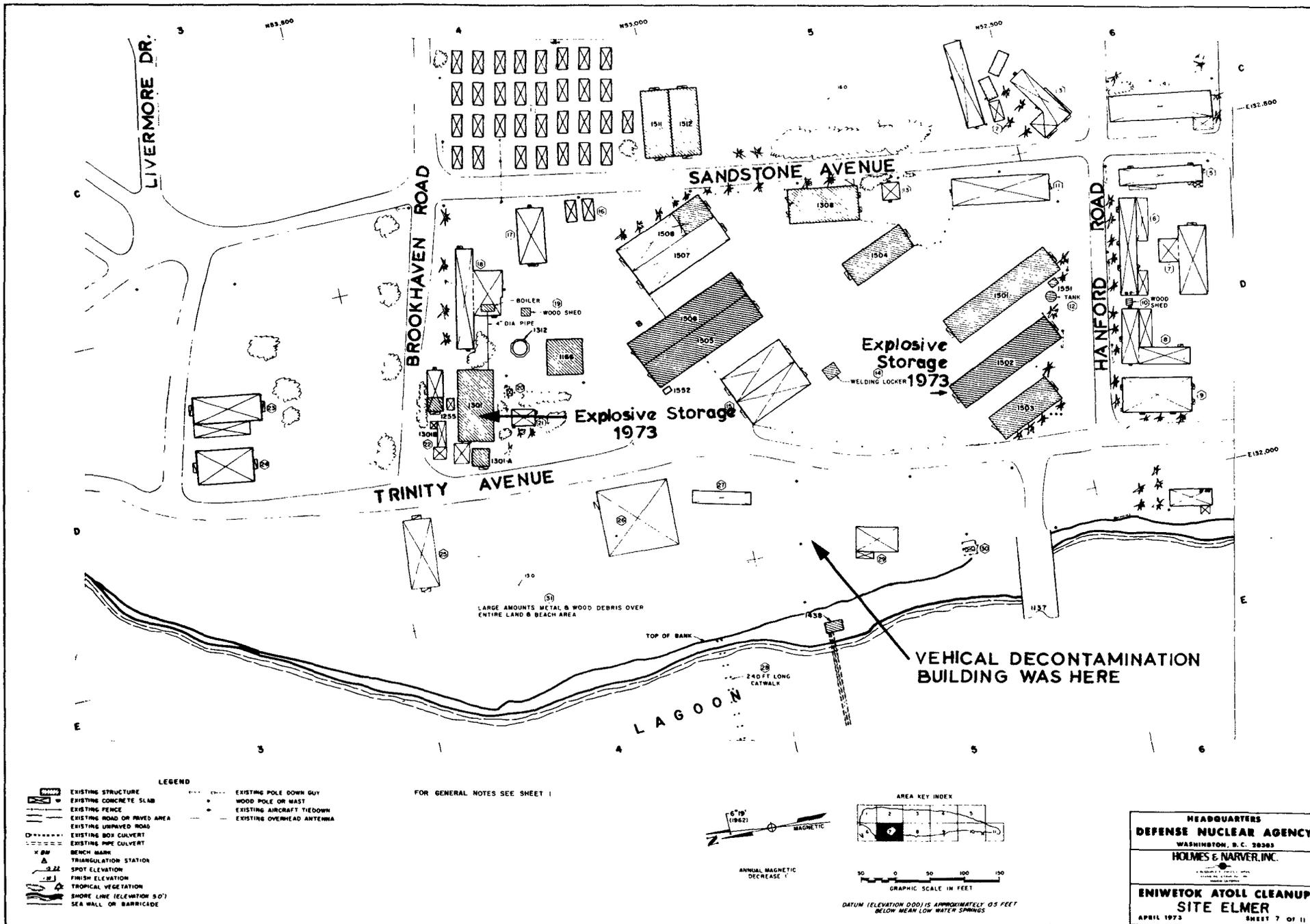


DATA (ELEVATION 0.00) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SWINGS

HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D.C. 20303
HOLMES & HARNER, INC.
 ENIWE TOK ATOLL CLEANUP
SITE ELMER
 APRIL 1973 SHEET 6 OF 11

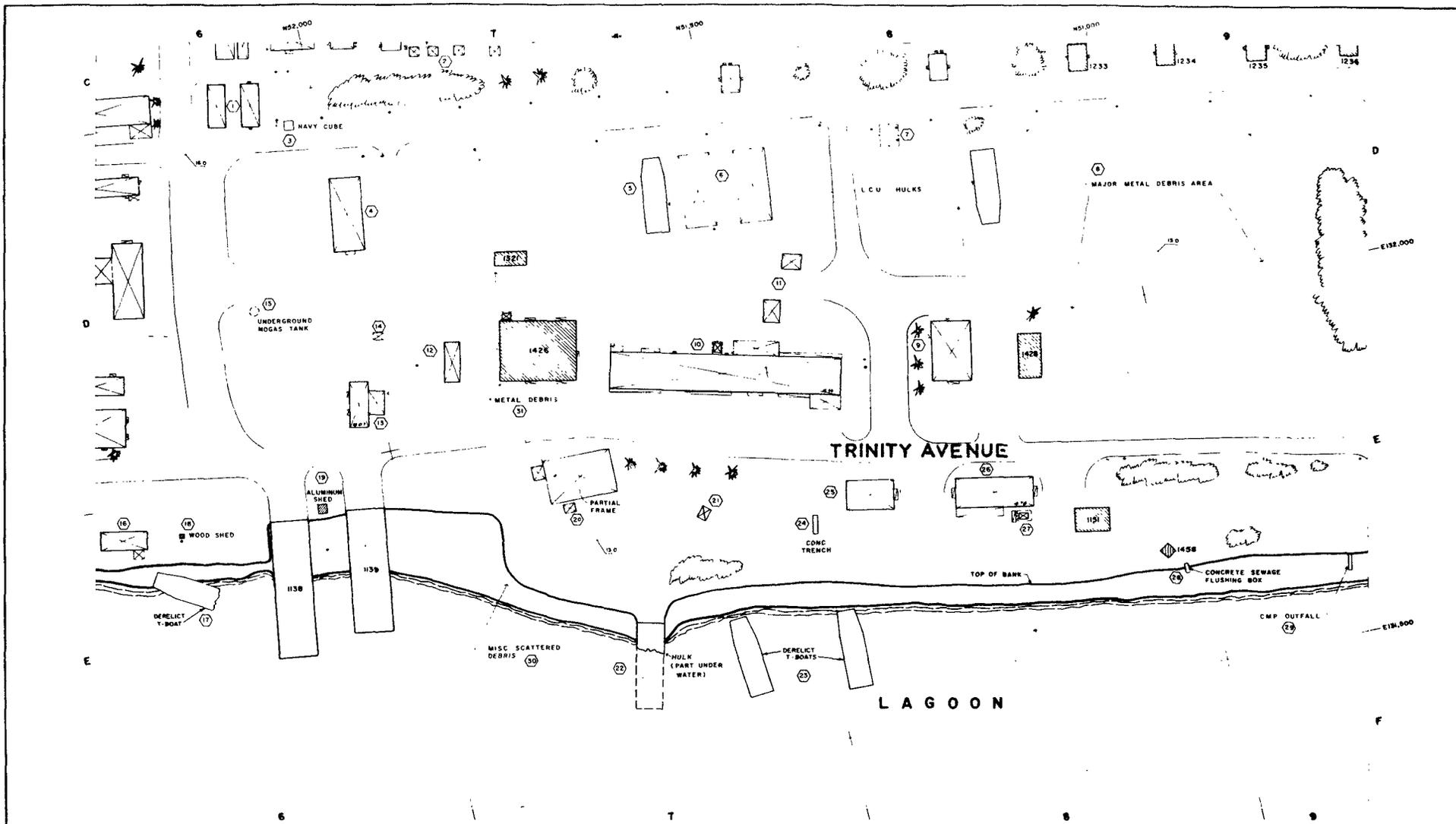
35

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10

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- LEGEND**
- | | | | |
|--|-----------------------------|--|---------------------------|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5.0) | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



DATUM (ELEVATION 0.00) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS

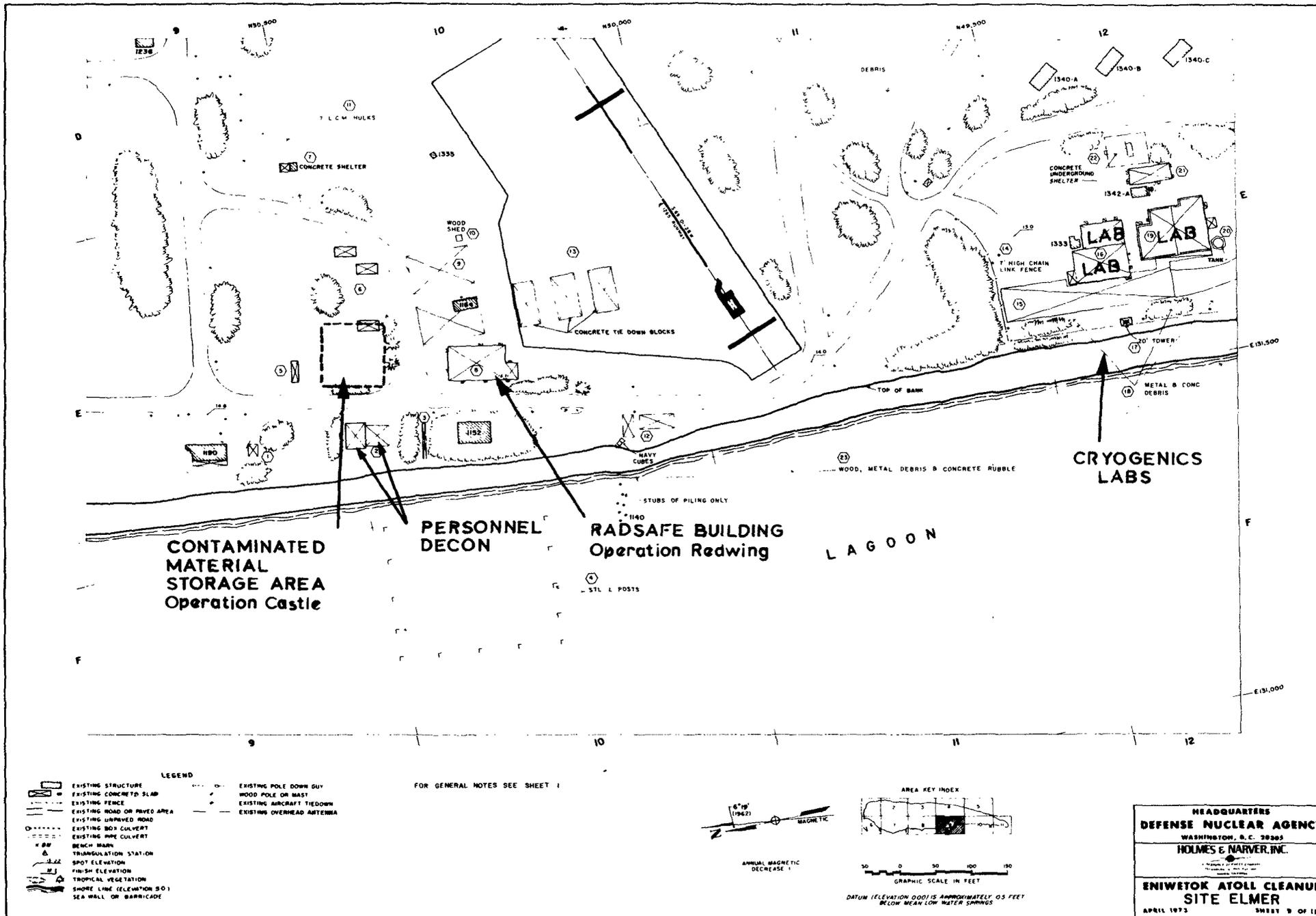
**HEADQUARTERS
DEFENSE NUCLEAR AGENCY**
WASHINGTON, D. C. 20340

HOLMES & NARVER, INC.
A FEDERAL ACQUISITION SERVICE
CONTRACTOR

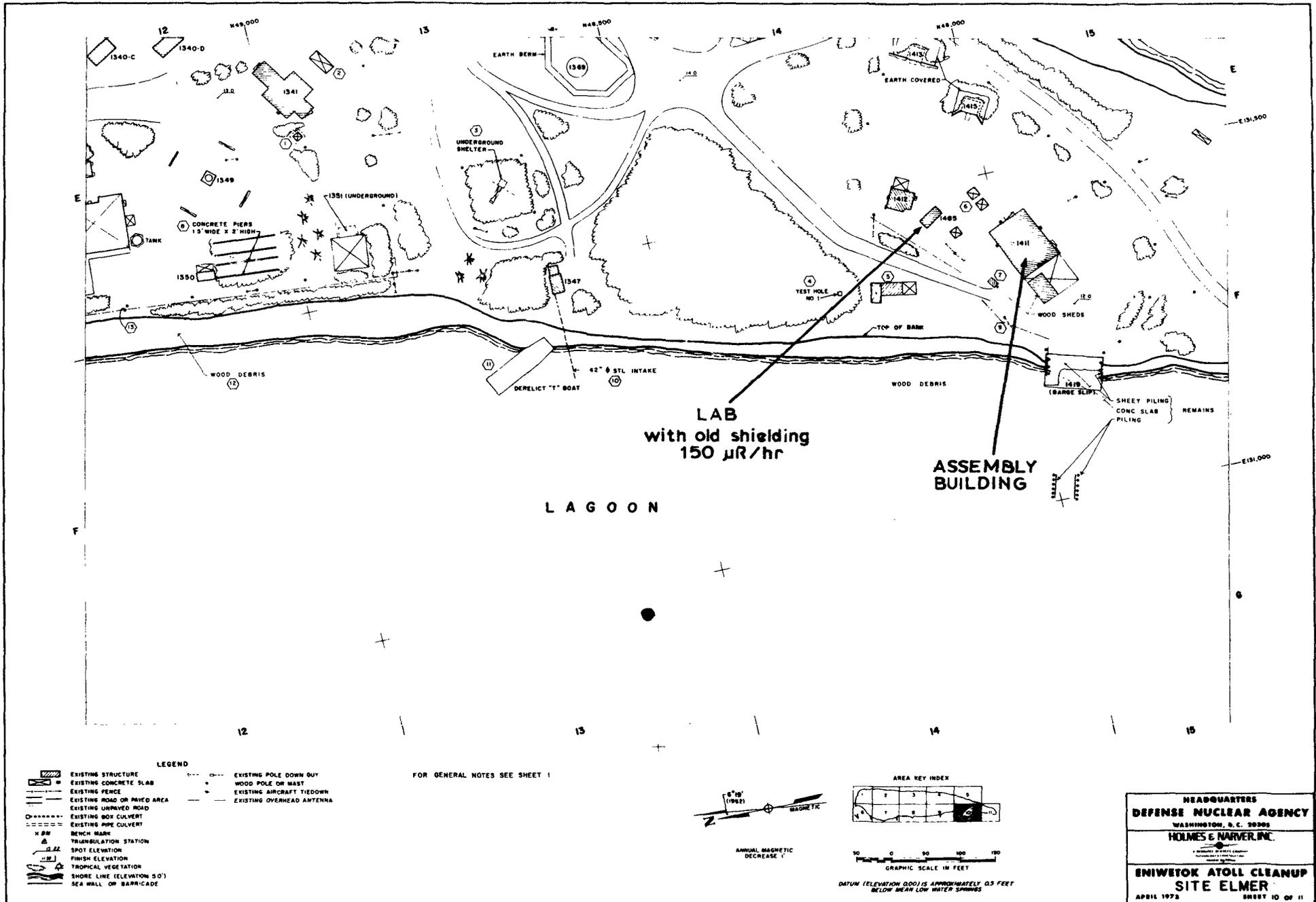
**ENIWEOT ATOLL CLEANUP
SITE ELMER**
APRIL 1973 SHEET 8 OF 11

22

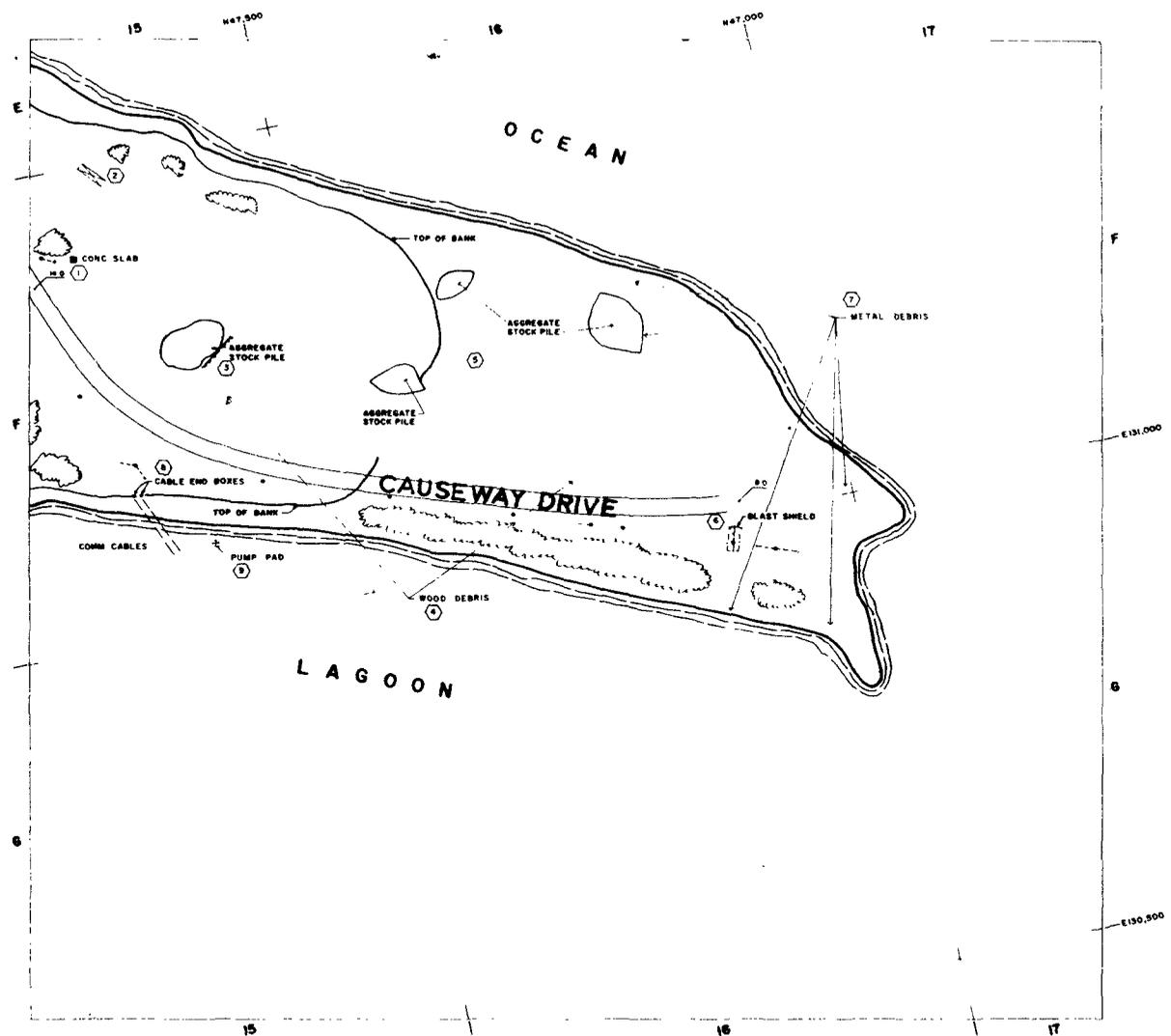
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23

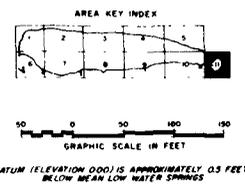
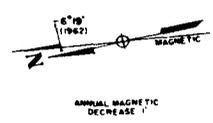


PC



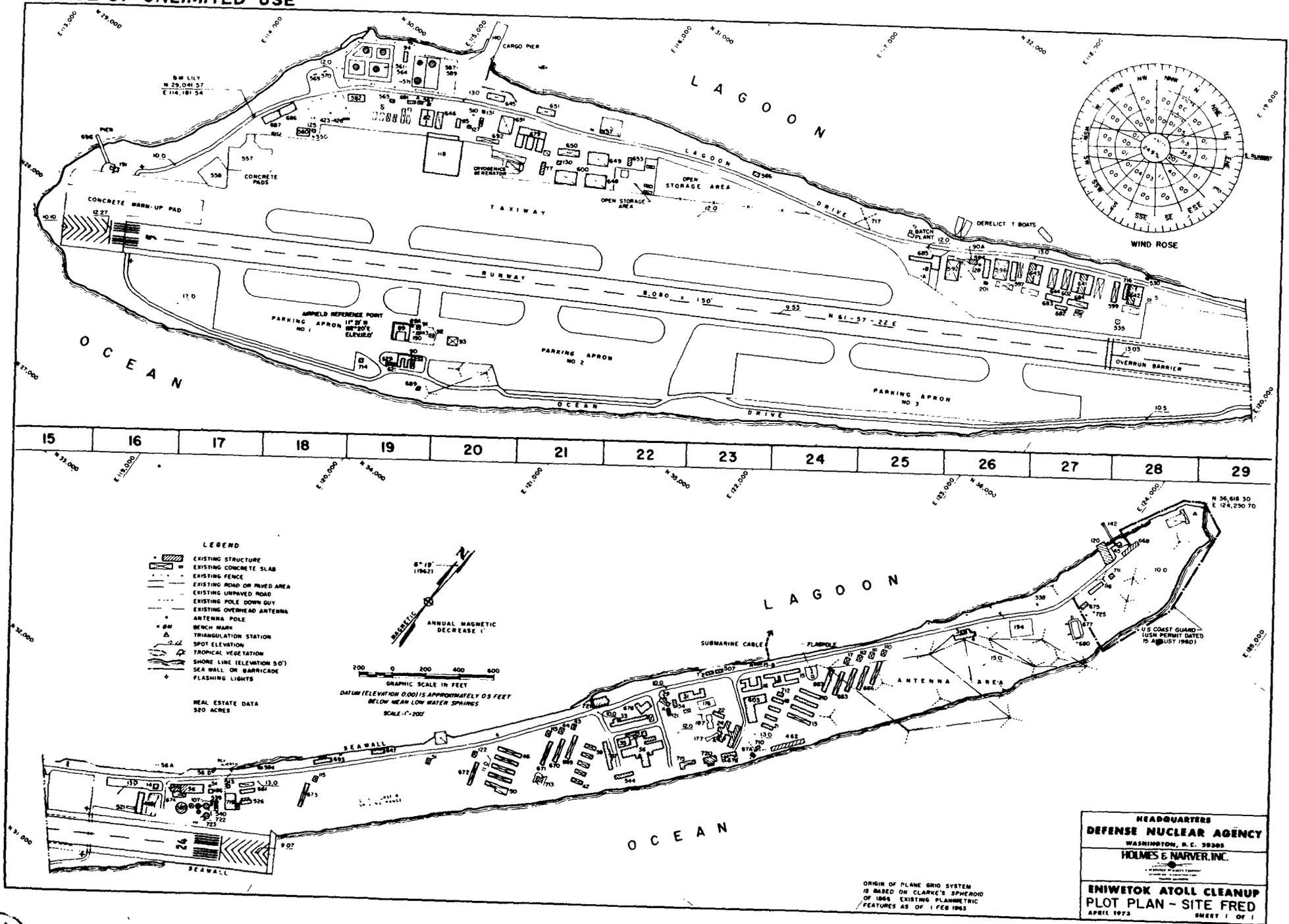
- LEGEND**
- | | | | |
|--|-----------------------------|--|----------------------------|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE ON MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIE-DOWN |
| | EXISTING ROAD ON PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5.0) | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D. C. 20363
HOLMES & NARVER, INC.
 ENIWETOK ATOLL CLEANUP
SITE ELMER
 APRIL 1972 SHEET 11 OF 11

CASE 3: UNLIMITED USE



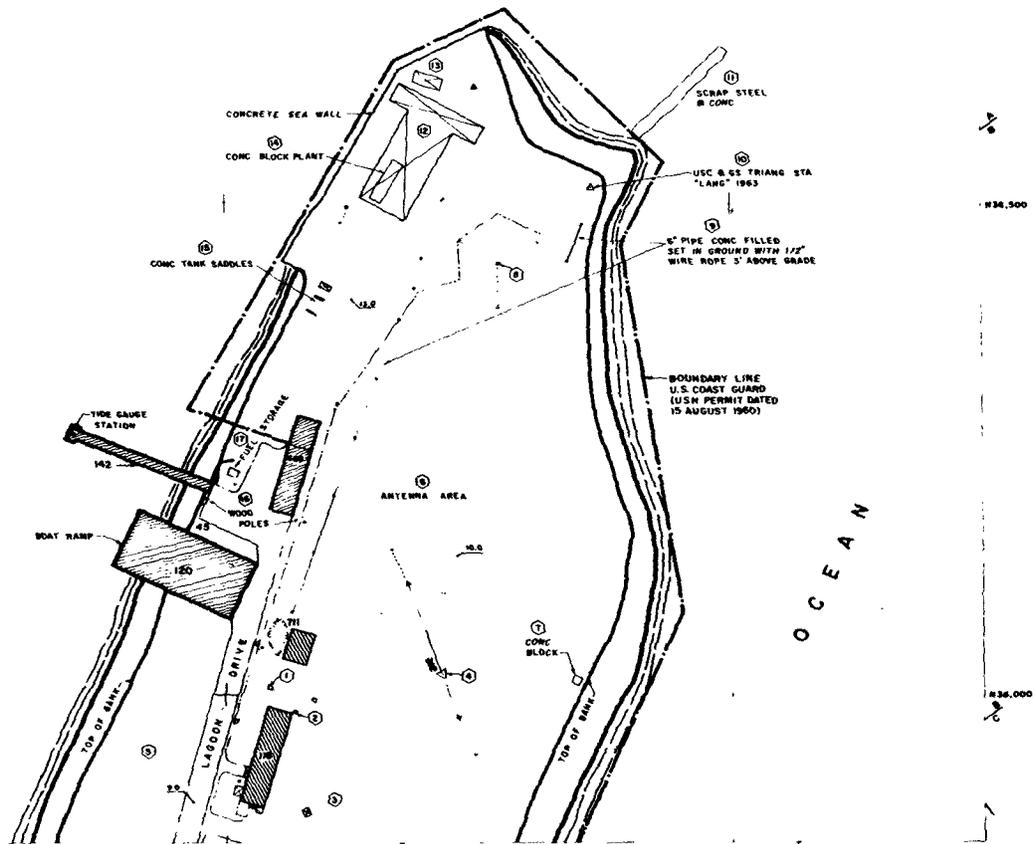
29

E123,000

E123,500

E124,000

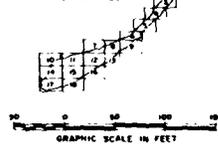
E124,500



LEGEND	
	EXISTING STRUCTURE
	EXISTING CONCRETE SLAB
	EXISTING FENCE
	EXISTING ROAD OR PAVED AREA
	EXISTING UNIMPROVED ROAD
	EXISTING PIPE CULVERT
	BENCH MARK
	TRIANGULATION STATION
	SPOT ELEVATION
	FINISH ELEVATION
	TROPICAL VEGETATION
	SHORE LINE (ELEVATION 5' 0'')
	SEA WALL OR BARRICADE
	EXISTING POLE DOWN GUY
	WOOD POLE OR MAST
	EXISTING AIRCRAFT TIEDOWN
	EXISTING OVERHEAD ANTENNA
	EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS @ 400 MAN CAMP

GENERAL NOTES:

- THIS DRAWING IS A REPRODUCTION OF A MASTER PLAN PREPARED BY HOLMES & NARVER, INC. (16 NOVEMBER 1968, FOR THE DEPARTMENT OF THE AIR FORCE. ADDITIONS, DELETIONS AND REVISIONS HAVE BEEN MADE IN ACCORDANCE WITH THE DATA COLLECTED DURING THE DEFENSE NUCLEAR AGENCY CLEANUP SURVEY IN 1972.
- LAGOON (<>) SYMBOLS ARE OF MISCELLANEOUS ITEMS SUCH AS SLABS, DEBRIS, ETC. THESE ARE DESCRIBED IN THE CLEANUP PLAN, VOLUME 1, SECTION 3.2

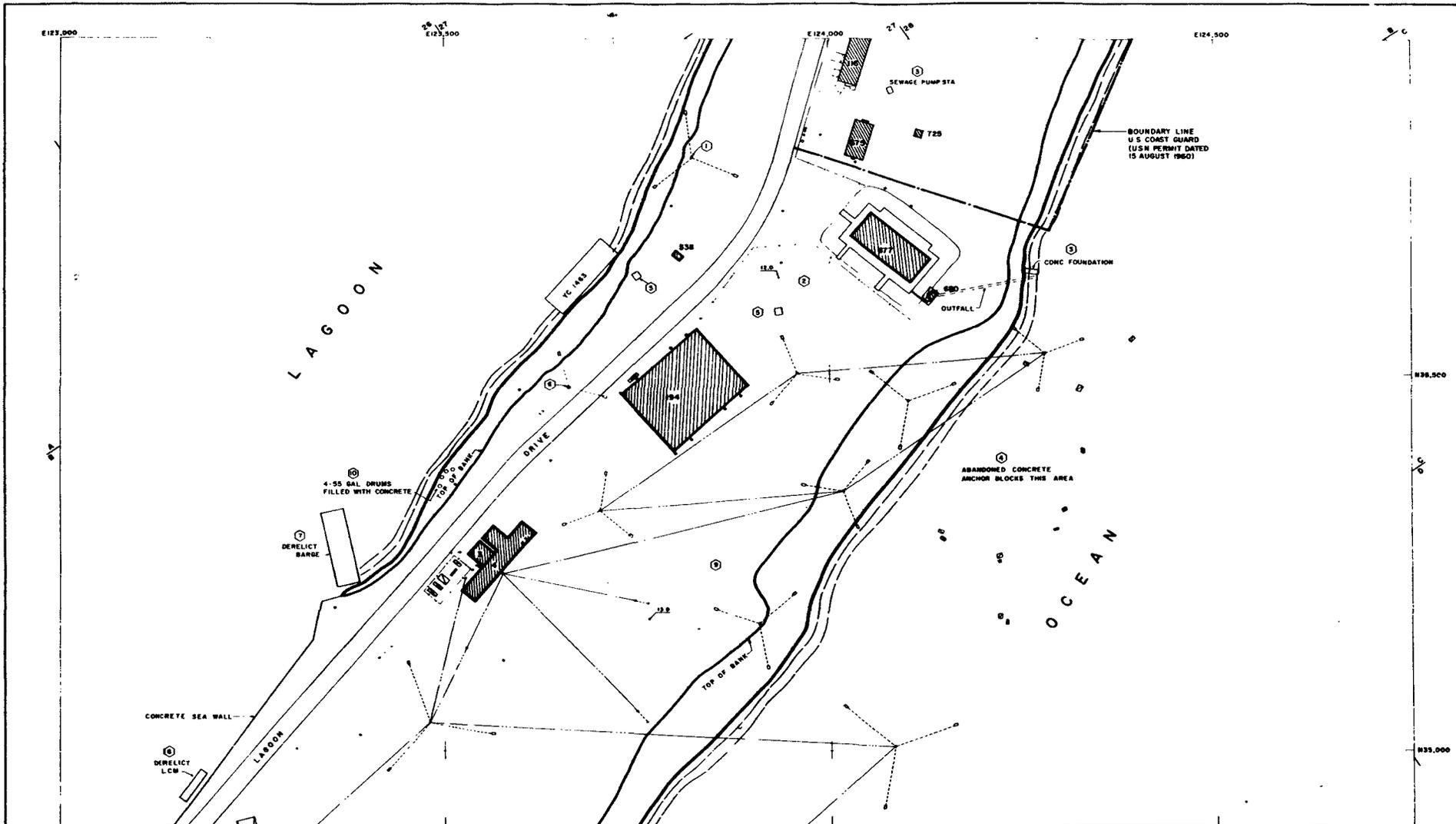
AREA KEY INDEX

DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D. C. 20306
HOLMES & NARVER, INC.
 A FEDERAL ACQUISITION SERVICE
 CONTRACTOR
**ENIWETOK ATOLL CLEANUP
 SITE FRED**
 APRIL 1973 SHEET 1 OF 18

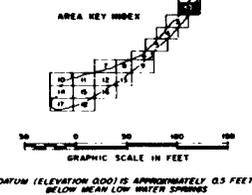
30



LEGEND

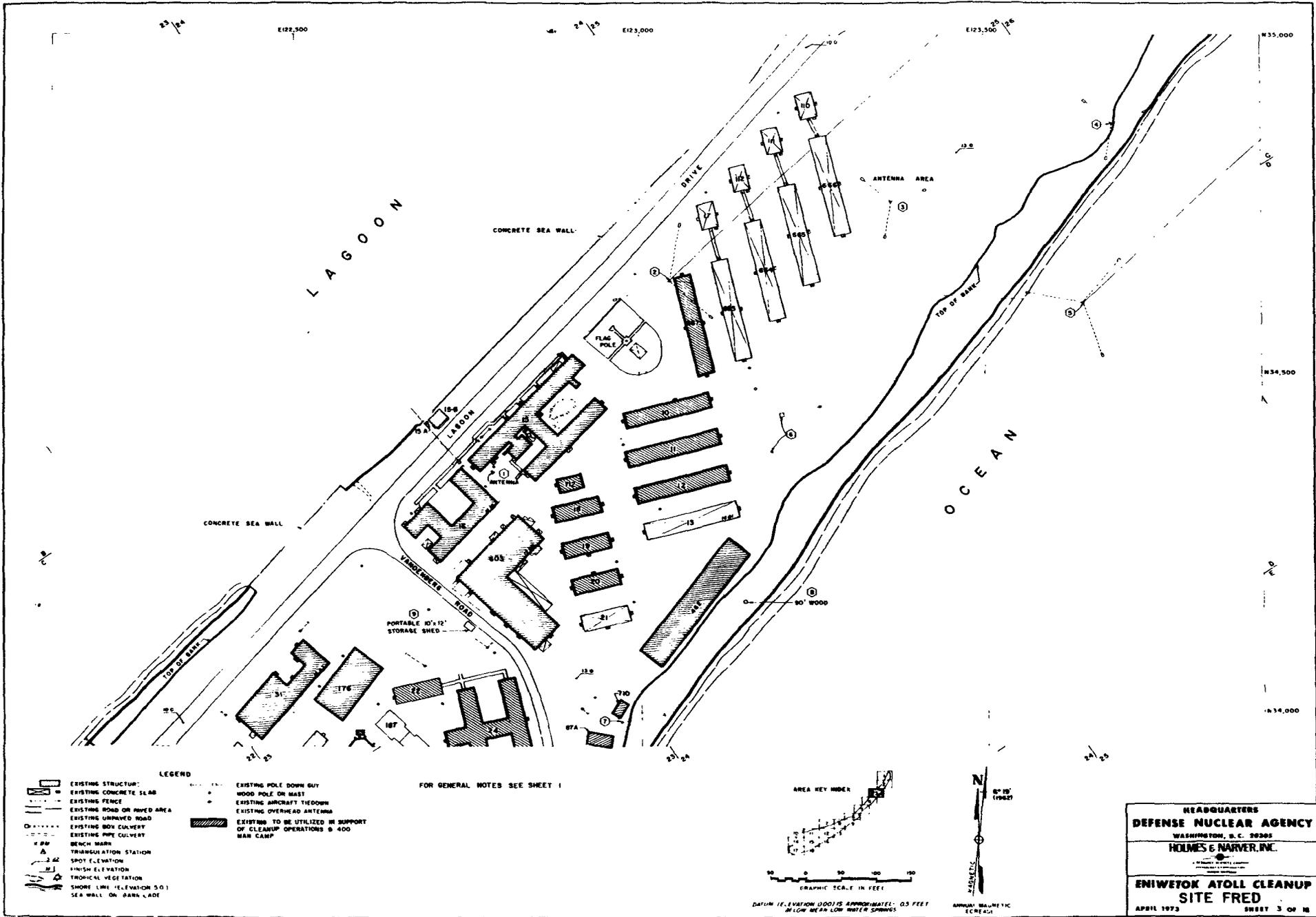
- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN BUY |
| | EXISTING CONCRETE ISLAND | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5.0') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



**HEADQUARTERS
DEFENSE NUCLEAR AGENCY**
WASHINGTON, D. C. 20305
HOLMES & NARVER, INC.
A FEDERAL RESERVE COMPANY
**ENIWETOK ATOLL CLEANUP
SITE FRED**
APRIL 1973 SHEET 2 OF 18

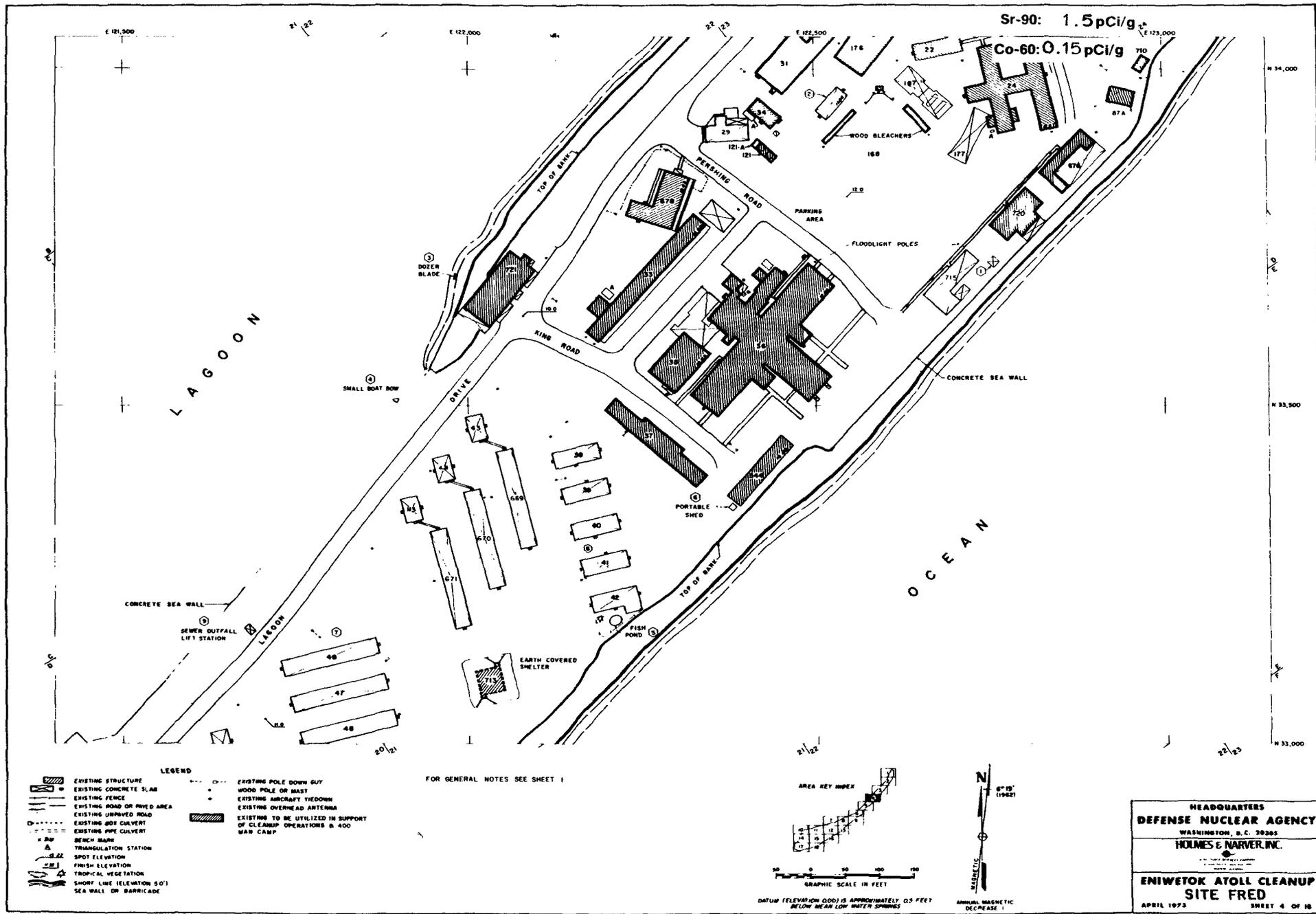
31



HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D. C. 20305
 HOLMES & NARVER, INC.

ENIWETOK ATOLL CLEANUP
SITE FRED
 APRIL 1973 SHEET 3 OF 18

32

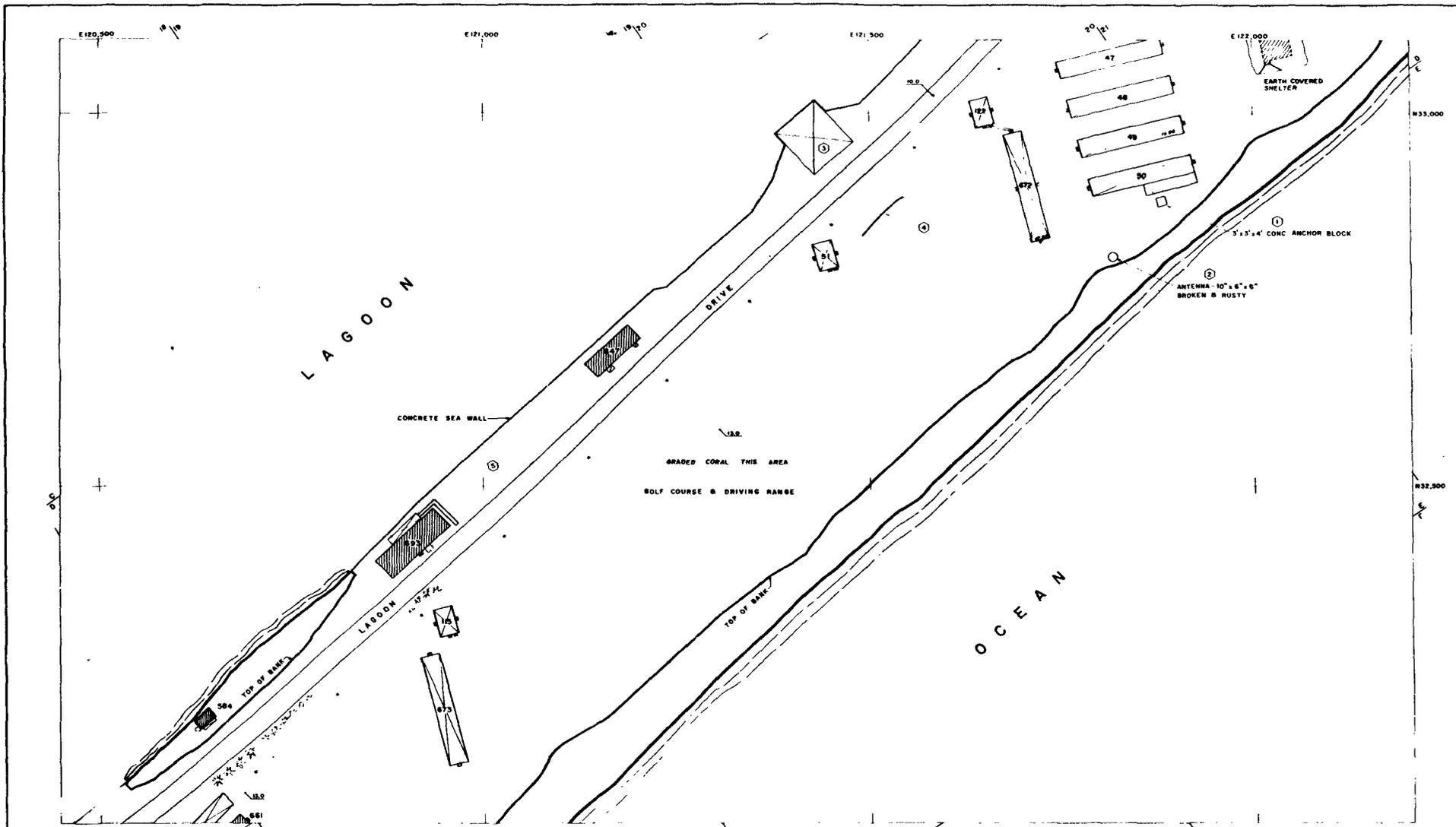


33

- LEGEND**
- EXISTING STRUCTURE
 - EXISTING CONCRETE SLAB
 - EXISTING FENCE
 - EXISTING ROAD OR PAVED AREA
 - EXISTING UNPAVED ROAD
 - EXISTING PIPE CULVERT
 - EXISTING PIPE CULVERT
 - BENCH MARK
 - TRIANGULATION STATION
 - SPOT ELEVATION
 - FINISH ELEVATION
 - TROPICAL VEGETATION
 - SEA WALL OR BARRICADE
 - EXISTING POLE DOWN GUY
 - WOOD POLE OR MAST
 - EXISTING AIRCRAFT TIEDOWN
 - EXISTING OVERHEAD ANTENNA
 - EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS @ 400 MAN CAMP

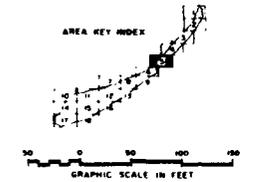
**HEADQUARTERS
DEFENSE NUCLEAR AGENCY**
WASHINGTON, D.C. 20305
HOLMES & NARVER, INC.

**ENIWETOK ATOLL CLEANUP
SITE FRED**
APRIL 1973 SHEET 4 OF 16



- LEGEND**
- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5'0) | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



ANNUAL MAGNETIC DECREASE 1'

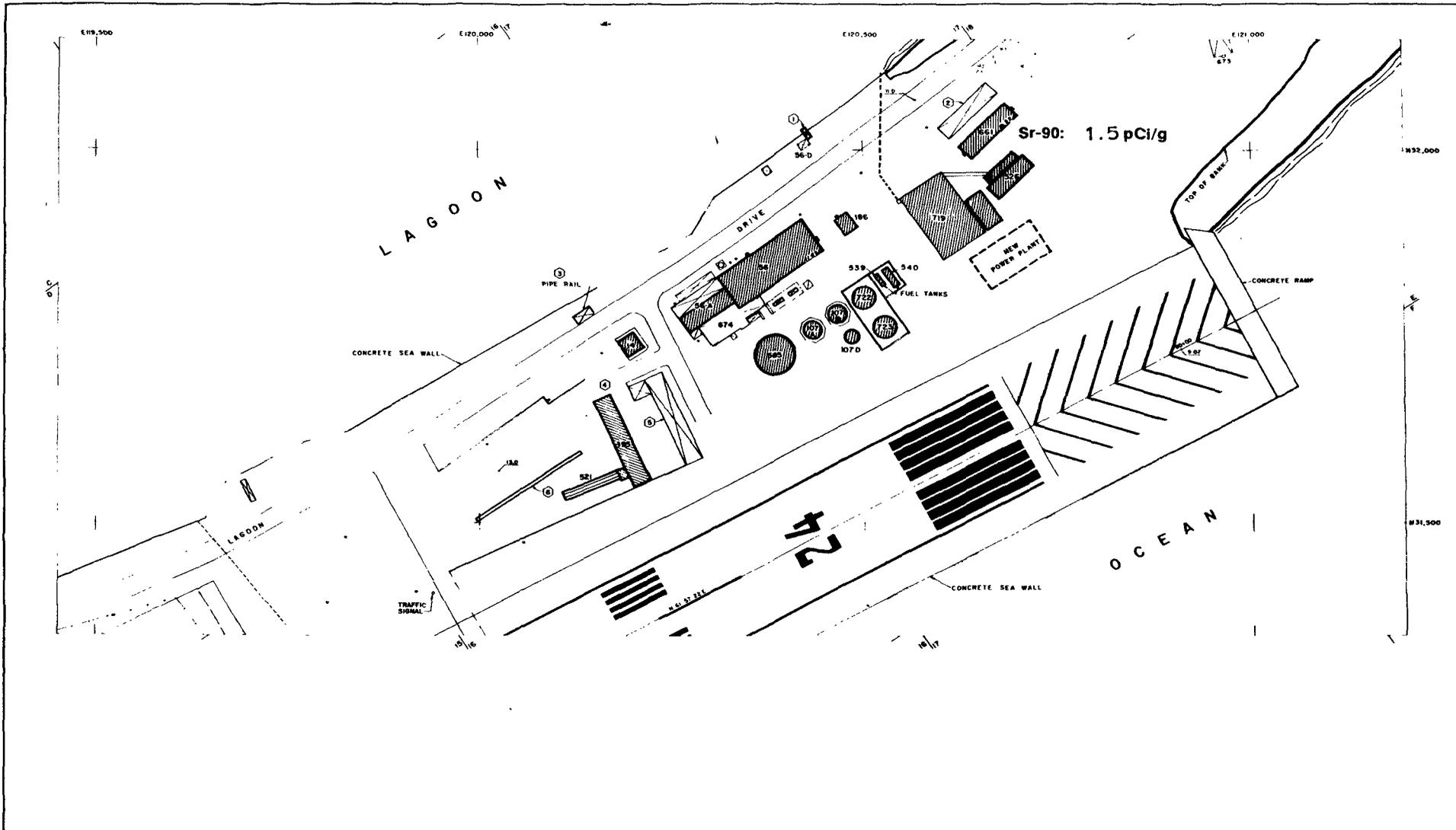
**HEADQUARTERS
DEFENSE NUCLEAR AGENCY**
WASHINGTON, D.C. 20301

HOLMES & NARVER, INC.

**ENIWETOK ATOLL CLEANUP
SITE FRED**

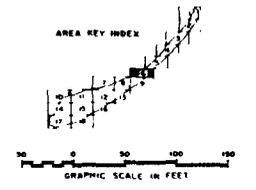
APRIL 1973 SHEET 5 OF 10

31



- LEGEND**
- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 50') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1

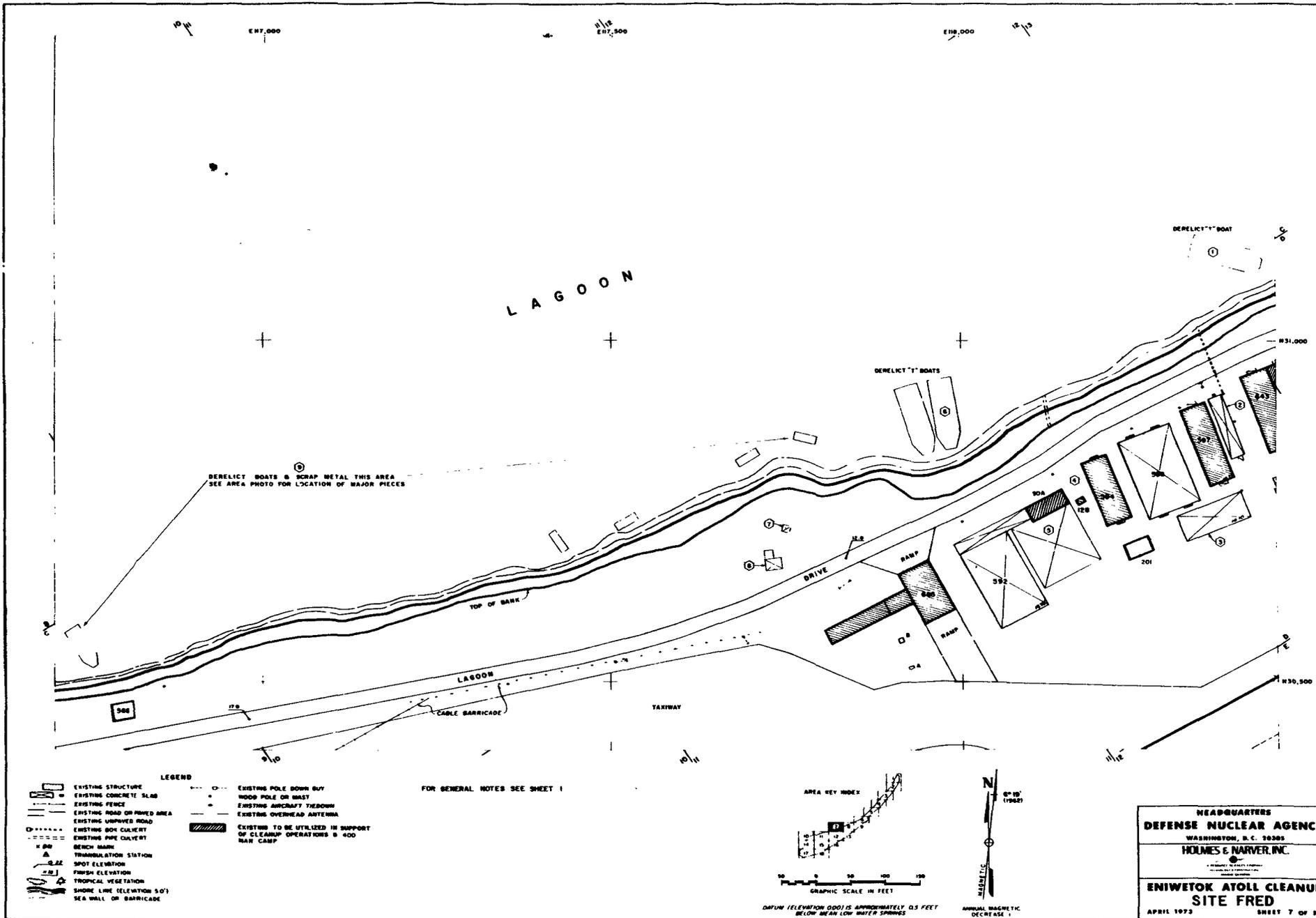


DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS

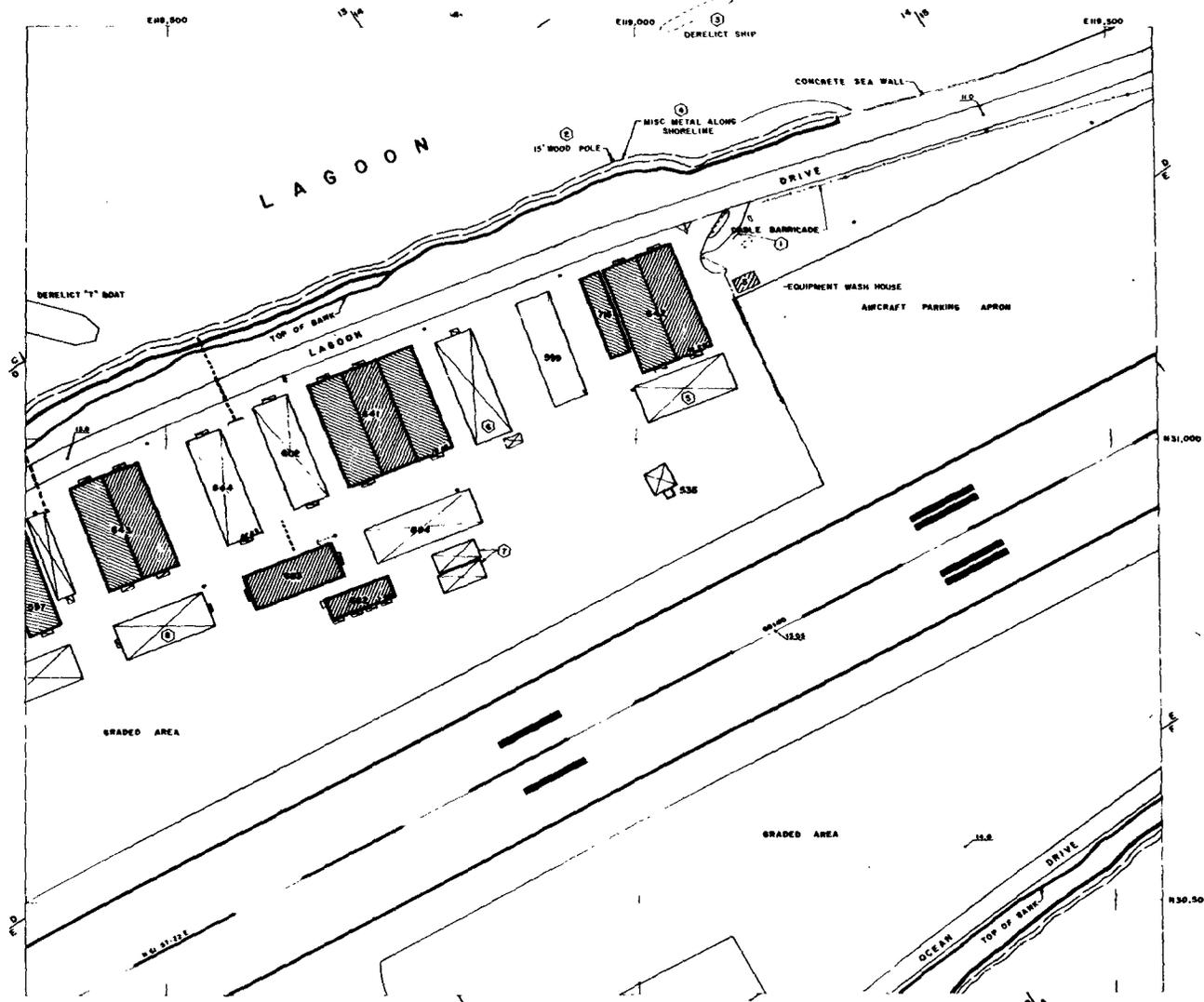


<p>HEADQUARTERS DEFENSE NUCLEAR AGENCY WASHINGTON, D. C. 20305 HOLMES & NARVER, INC.</p>
<p>ENIWETOK ATOLL CLEANUP SITE FRED</p>
<p>APRIL 1973 SHEET 6 OF 10</p>

31

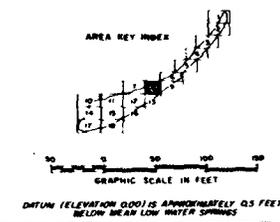


27



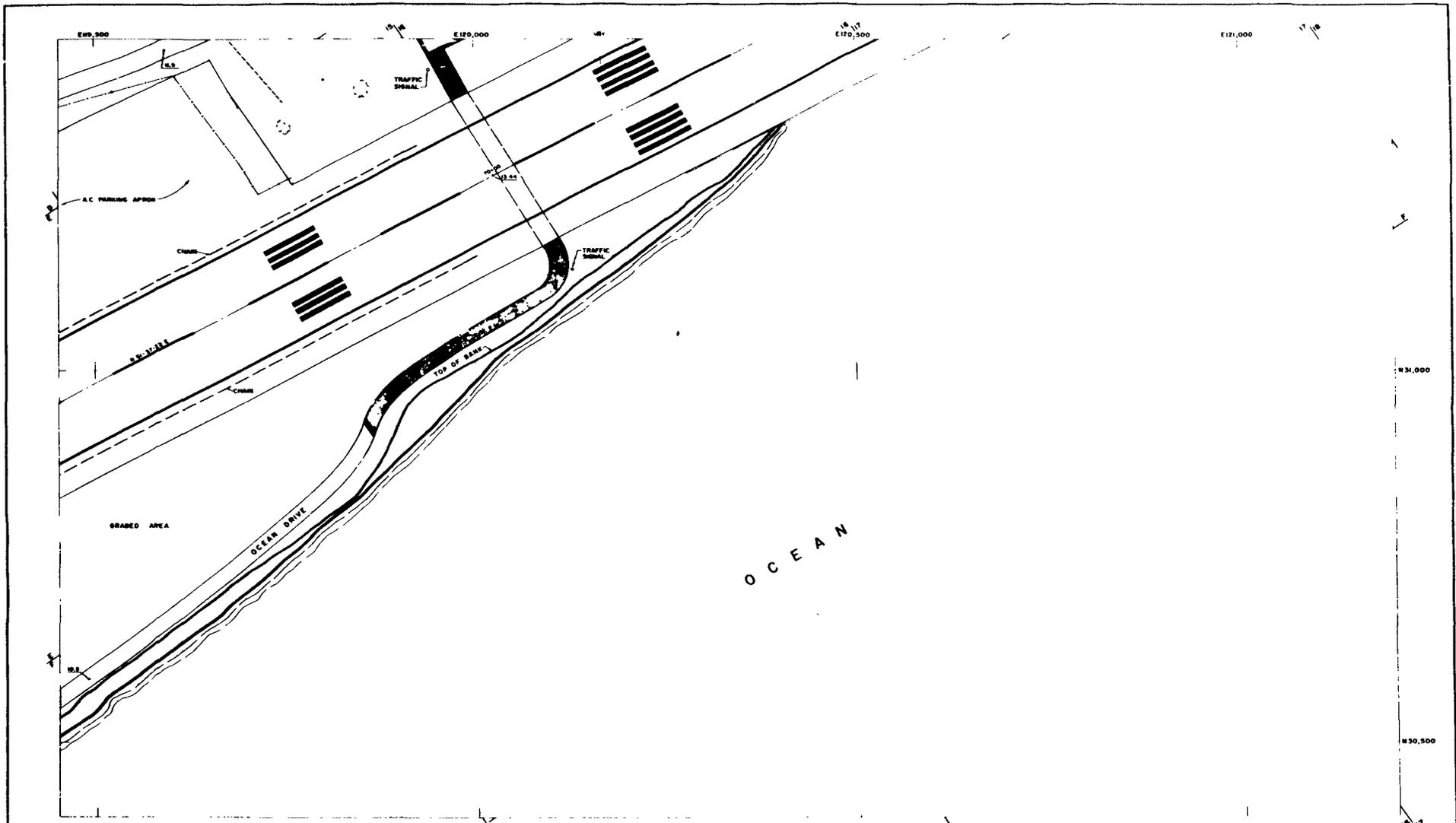
- LEGEND**
- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAX CAMP |
| | EXISTING BOR CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5.0') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



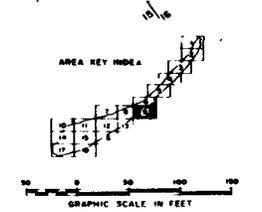
HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D.C. 20305
HOLMES & NARVER, INC.
 ENIWETOK ATOLL CLEANUP
SITE FRED
 APRIL 1973 SHEET 8 OF 10

(37)



- LEGEND**
- EXISTING STRUCTURE
 - EXISTING CONCRETE SLAB
 - EXISTING FENCE
 - EXISTING ROAD OR GRAVED AREA
 - EXISTING IMPROVED ROAD
 - EXISTING SIDE CULVERT
 - EXISTING PIPE CULVERT
 - BENCH MARK
 - TRIANGULATION STATION
 - SPOT ELEVATION
 - FINISH ELEVATION
 - TROPICAL VEGETATION
 - SHORE LINE (ELEVATION 50')
 - SEA WALL OR BARRICADE
 - EXISTING POLE DOWN GUY
 - WOOD POLE OR MAST
 - EXISTING AIRCRAFT TIEDOWN
 - EXISTING OVERHEAD ANTENNA
 - EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP

FOR GENERAL NOTES SEE SHEET 1



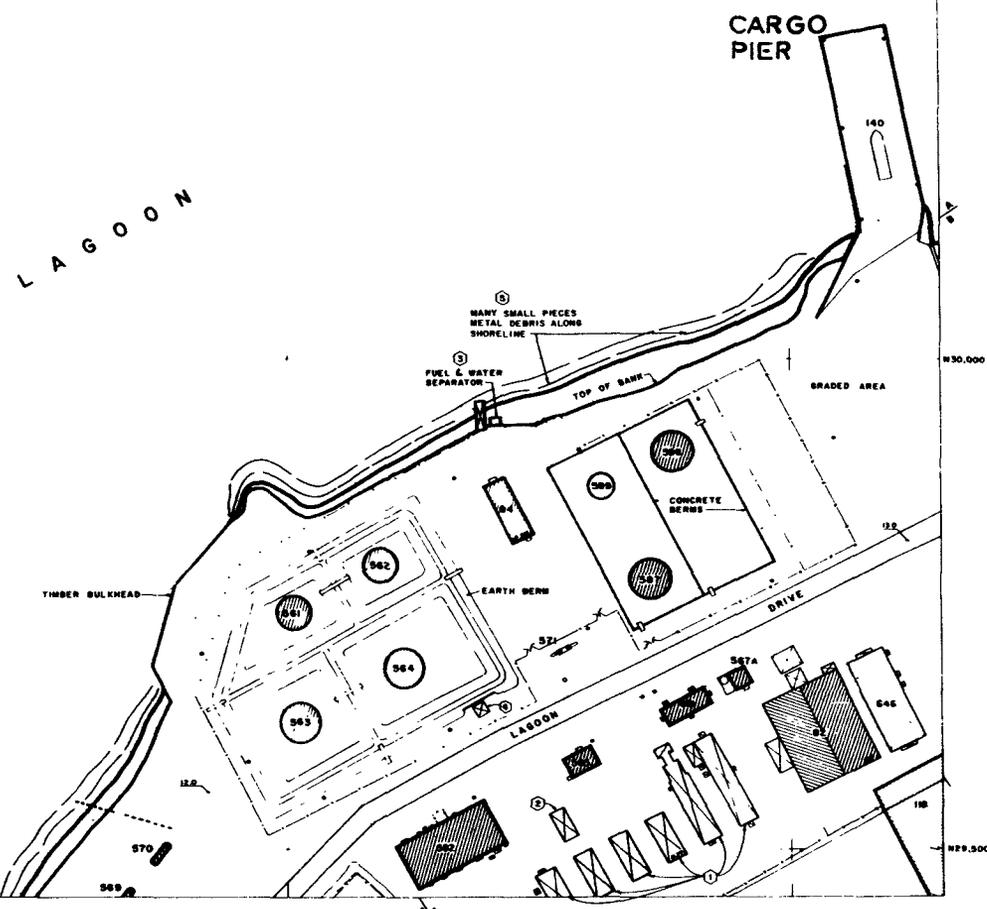
DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



HEADQUARTERS DEFENSE NUCLEAR AGENCY WASHINGTON, D.C. 20305 HOLMES & NARVER, INC.	
ENIWETOK ATOLL CLEANUP SITE FRED APRIL 1973 SHEET 9 OF 10	

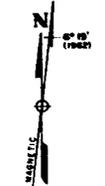
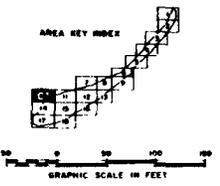
36

E113,500 E114,000 E114,500 E115,000 N30,500



- LEGEND**
- EXISTING STRUCTURE
 - EXISTING CONCRETE SLAB
 - EXISTING FENCE
 - EXISTING ROAD OR PAVED AREA
 - EXISTING UNPAVED ROAD
 - EXISTING BOX CULVERT
 - EXISTING PIPE CULVERT
 - BENCH MARK
 - TRANSMISSION STATION
 - SPOT ELEVATION
 - FINISH ELEVATION
 - TROPICAL VEGETATION
 - SHOW LINE (ELEVATION 7.0')
 - SEA WALL OR BARRICADE
 - EXISTING POLE DOWN GUY
 - WOOD POLE OR MAST
 - EXISTING AIRCRAFT TYEDOWN
 - EXISTING OVERHEAD ANTENNA
 - EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS B-400 MAN CAMP

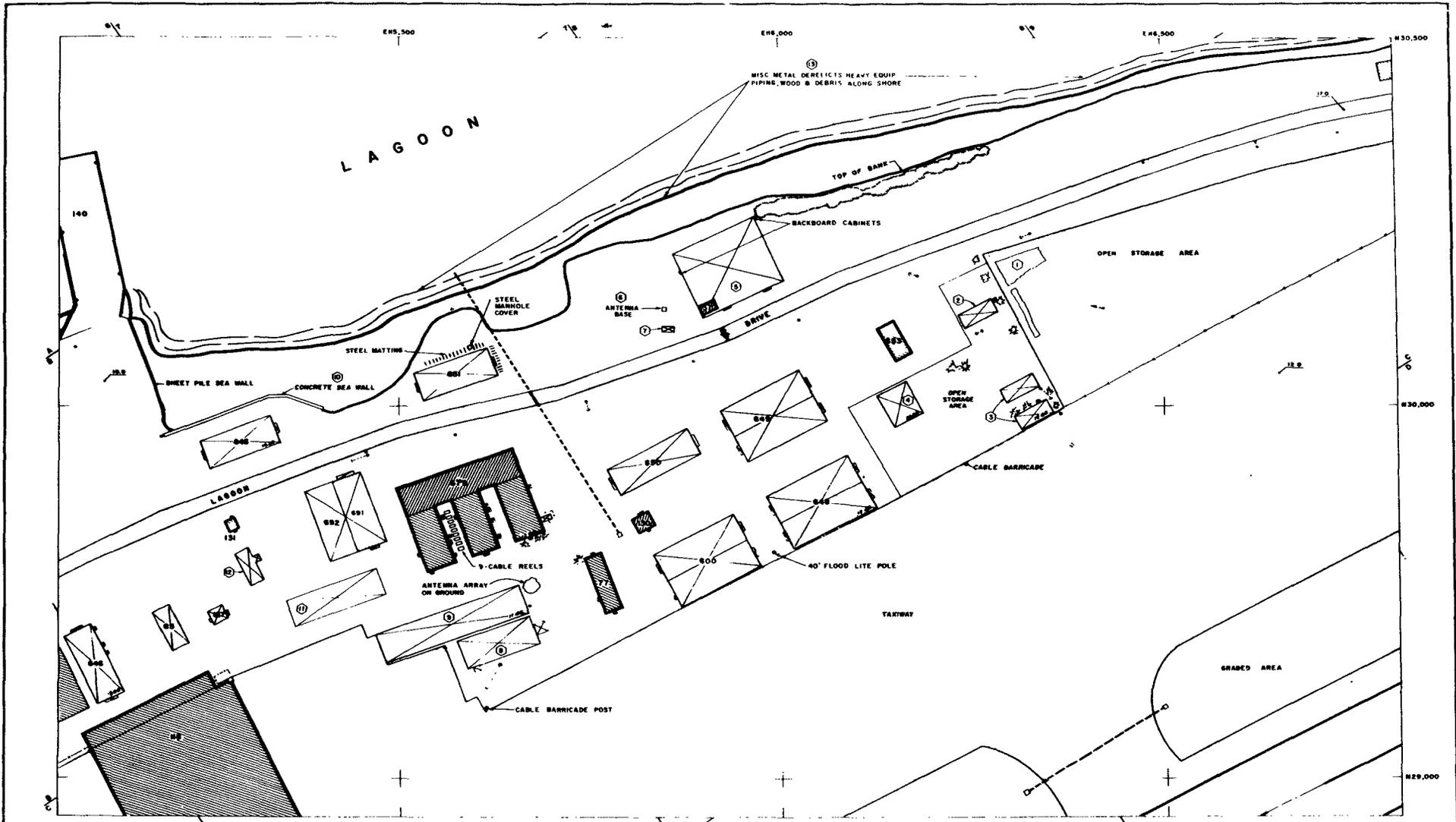
FOR GENERAL NOTES SEE SHEET 1



DATUM TELEVISION 000 IS APPROXIMATELY 03 FEET BELOW MEAN LOW WATER SPRINGS

**HEADQUARTERS
DEFENSE NUCLEAR AGENCY**
WASHINGTON, D. C. 20306
HOLMES & NARVER, INC.
**ENIWETOK ATOLL CLEANUP
SITE FRED**
APRIL 1975 SHEET 10 OF 18

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MISC METAL DERELICTS HEAVY EQUIP
PIPING, WOOD & DEBRIS ALONG SHORE

TOP OF BANK

BACKBOARD CABINETS

OPEN STORAGE AREA

ANTENNA BASE

BRIDGE

STEEL SHIMMIE COVER

STEEL MATTING

SHEET PILE SEA WALL

CONCRETE SEA WALL

CABLE BARRICADE

40' FLOOD LITE POLE

TARTRAY

ANTENNA ARRAY ON GROUND

9-CABLE REELS

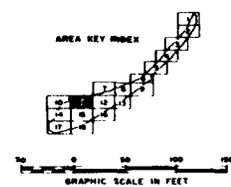
CABLE BARRICADE POST

GRADED AREA

LEGEND

- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT THROWDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAH CABP |
| | EXISTING ROCK CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5.0') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1

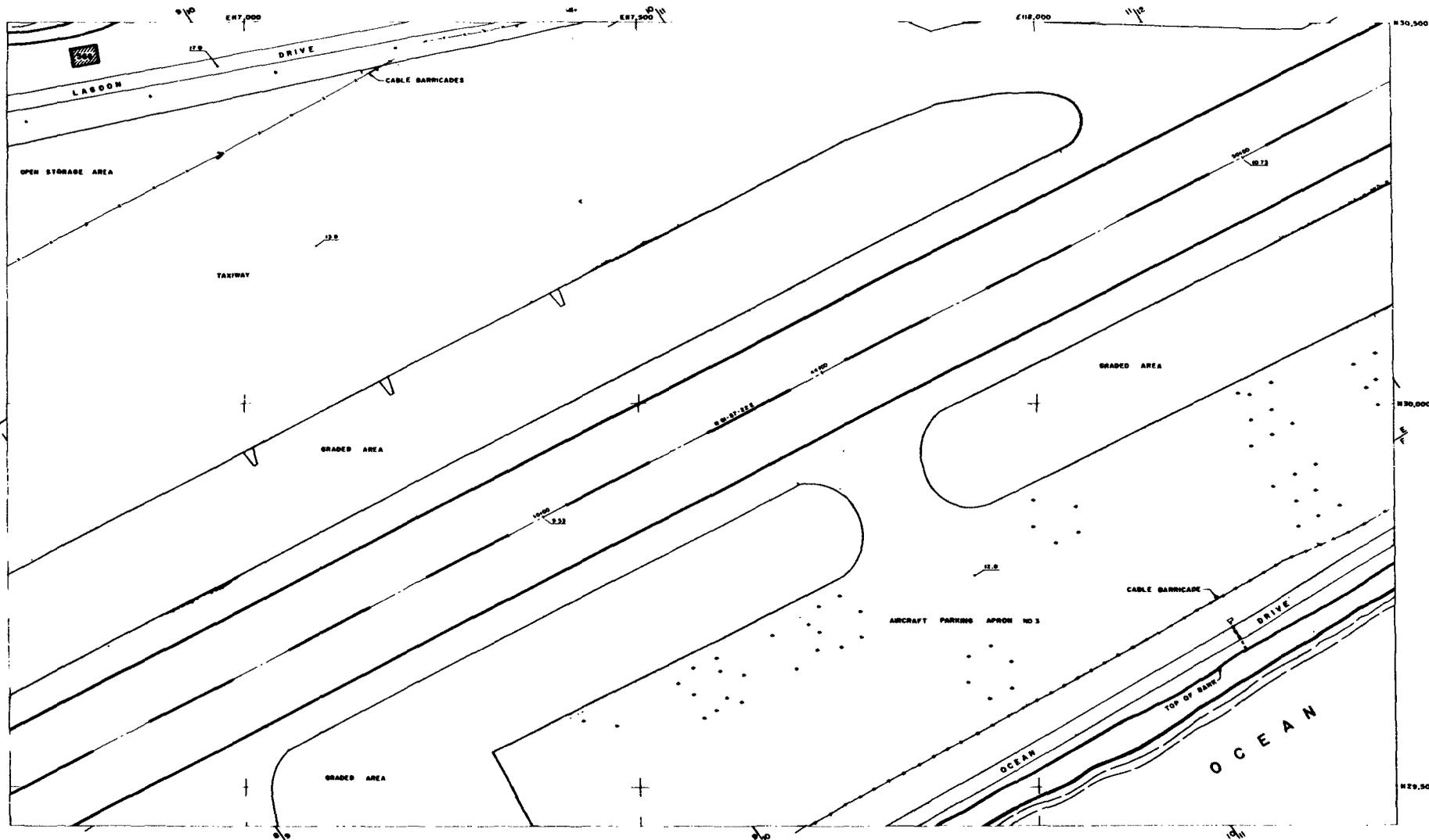


DATUM (ELEVATION 0.00) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



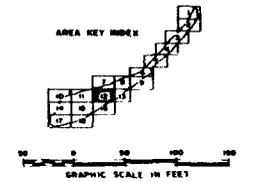
HEADQUARTERS
DEFENSE NUCLEAR AGENCY
WASHINGTON, D. C. 20305
HOLMES & NARVER, INC.
A MEMBER OF THE CH2M HILL GROUP
ENIWEOTOK ATOLL CLEANUP
SITE FRED
APRIL 1973 SHEET 11 OF 18

11C



- LEGEND**
- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN BUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TOUCHDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS @ 400 MAN CAMP |
| | EXISTING HIGH CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 50') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1

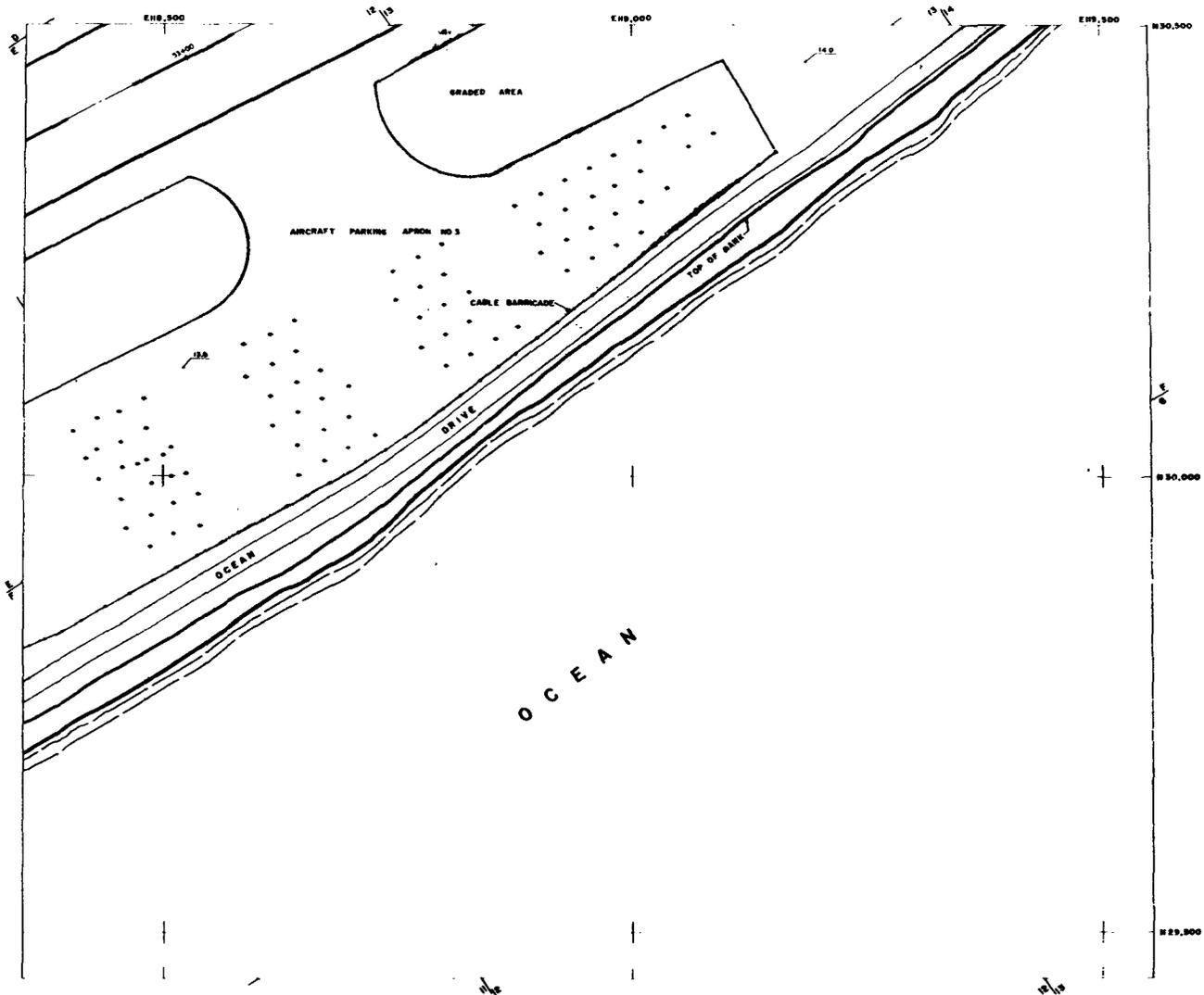


DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



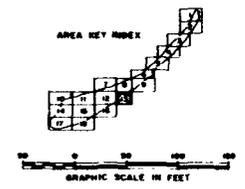
HEADQUARTERS DEFENSE NUCLEAR AGENCY WASHINGTON, D. C. 20305 HOLMES & NARVER, INC. <small>A Federal Reserve Bank Member</small>	
ENIWETOK ATOLL CLEANUP SITE FRED	
APRIL 1973	SHEET 12 OF 18

(15)



- LEGEND**
- EXISTING STRUCTURE
 - EXISTING CONCRETE SLAB
 - EXISTING FENCE
 - EXISTING ROAD OR PAVED AREA
 - EXISTING IMPROVED ROAD
 - EXISTING BOX CULVERT
 - EXISTING PIPE CULVERT
 - BENCH MARK
 - TRIANGULATION STATION
 - SPOT ELEVATION
 - FINISH ELEVATION
 - TROPICAL VEGETATION
 - SHORE LINE (ELEVATION 50')
 - SEA WALL OR BARRICADE
 - EXISTING POLE DOWN CUT
 - WOOD POLE OR MAST
 - EXISTING AIRCRAFT TIEDOWN
 - EXISTING OVERHEAD ANTENNA
 - EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP

FOR GENERAL NOTES SEE SHEET 1



DATUM (ELEVATION 000) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS

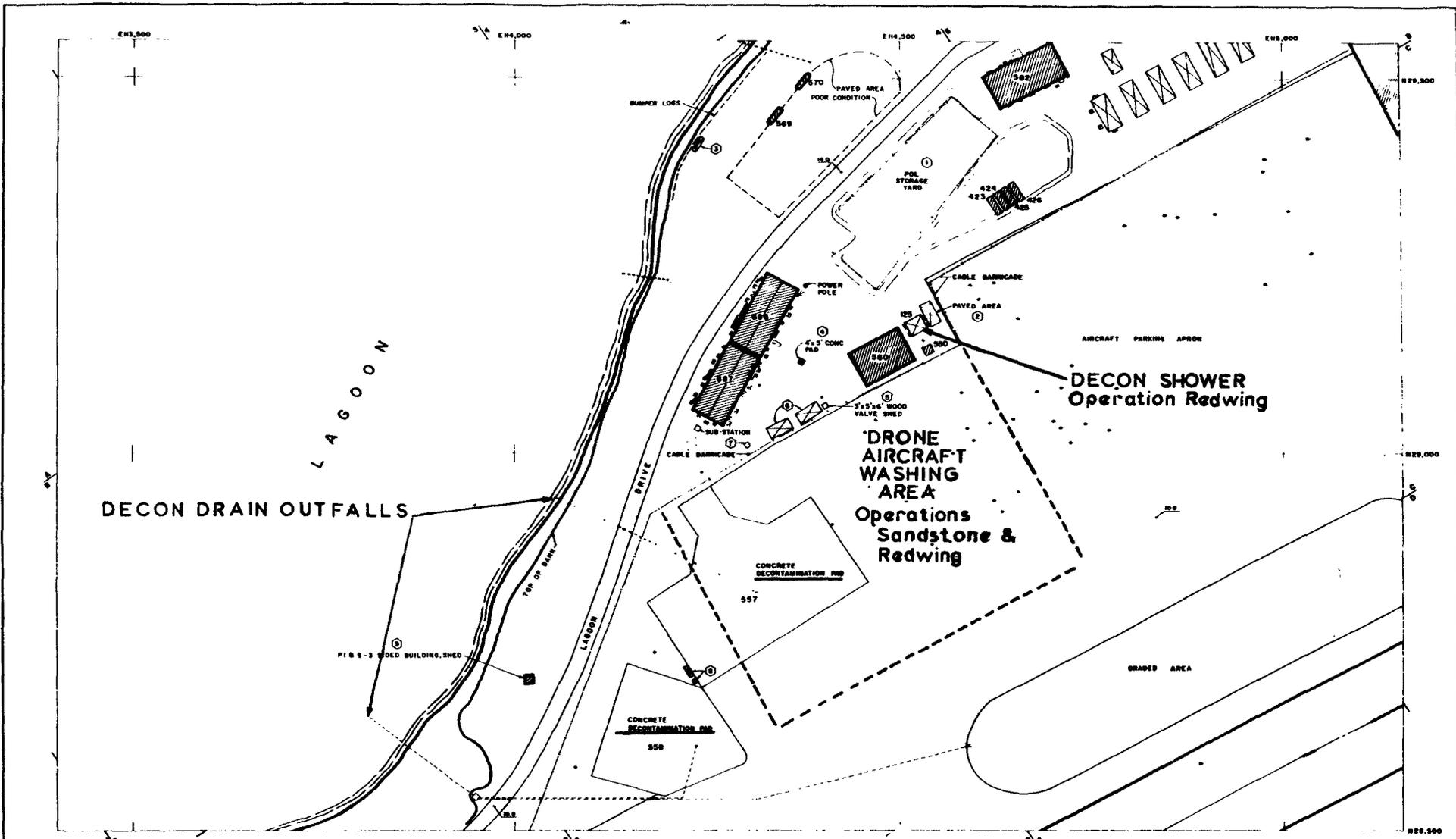
**HEADQUARTERS
DEFENSE NUCLEAR AGENCY**
WASHINGTON, D.C. 20306

HOLMES & NARVER, INC.

**ENIWETOK ATOLL CLEANUP
SITE FRED**

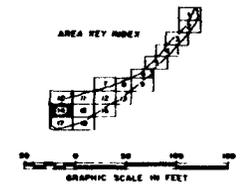
APRIL 1975 SHEET 13 OF 18

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- LEGEND**
- EXISTING STRUCTURE
 - EXISTING CONCRETE SLAB
 - EXISTING FENCE
 - EXISTING ROAD OR PAVED AREA
 - EXISTING UNPAVED ROAD
 - EXISTING PIPE CULVERT
 - EXISTING PIPE CULVERT
 - BENCH MARK
 - TRIANGULATION STATION
 - SPOT ELEVATION
 - FINISH ELEVATION
 - TROPICAL VEGETATION
 - SHORE LINE (ELEVATION 5'0")
 - SEA WALL OR BARRICADE
 - EXISTING POLE DOWN GUY
 - WOOD POLE OR MAST
 - EXISTING AIRCRAFT TIE-DOWN
 - EXISTING OVERHEAD ANTENNA
 - EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS 8 400 MAN CAMP

FOR GENERAL NOTES SEE SHEET 1



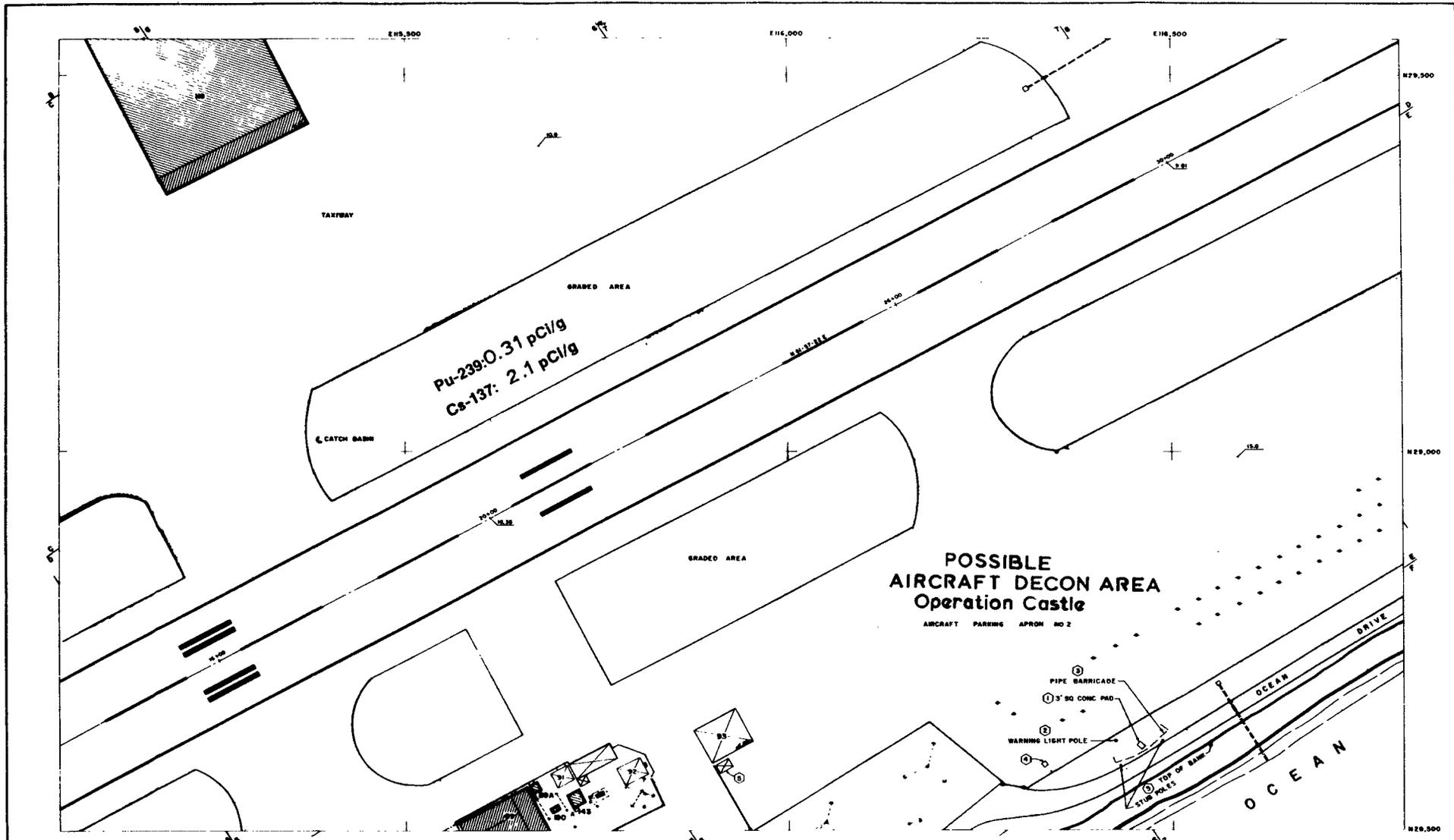
DRIVE (ELEVATION 0.0) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



HEADQUARTERS
DEFENSE NUCLEAR AGENCY
WASHINGTON, D. C. 20300
HOLMES & NARVER, INC.

ENIWETOK ATOLL CLEANUP
SITE FRED
APRIL 1973 SHEET 14 OF 18

15



Pu-239: 0.31 pCi/g
Cs-137: 2.1 pCi/g

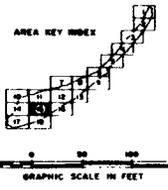
**POSSIBLE
AIRCRAFT DECON AREA
Operation Castle**

AIRCRAFT PARKING APRON NO 2

LEGEND

- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIE-DOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 5.0') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



DATUM (ELEVATION 0.00) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



ANNUAL MAGNETIC DECREASE 1'

HEADQUARTERS
DEFENSE NUCLEAR AGENCY
WASHINGTON, D. C. 20305
HOLMES & NARVER, INC.

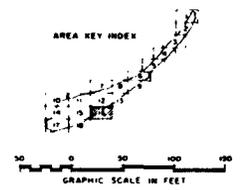
**ENIWETOK ATOLL CLEANUP
SITE FRED**
APRIL 1975 SHEET 15 OF 18

17



- LEGEND**
- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIE-DOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL WAVE STATION | | |
| | SHORE LINE (ELEVATION 50') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



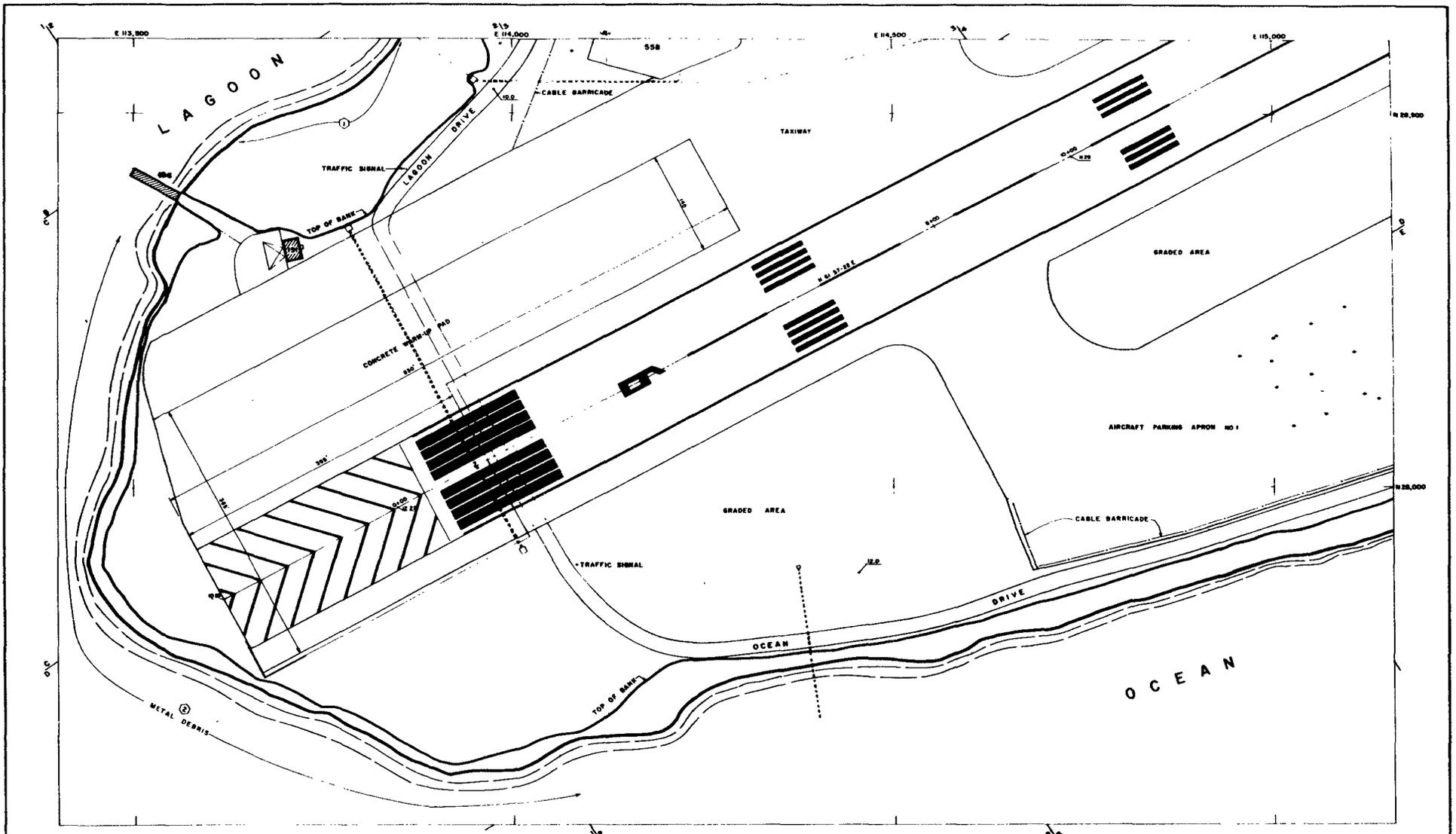
DATUM ELEVATION 000 IS APPROXIMATELY 05 FEET BELOW MEAN LOW WATER SPRINGS



ANNUAL MAGNETIC DECREASE 1

HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D. C. 20305
HOLMES & NARVER, INC.
 ENIWETOK ATOLL CLEANUP
SITE FRED
 APRIL 1973 SHEET 16 OF 18

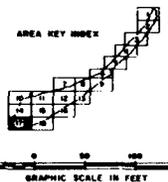
51



LEGEND

- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT TIEDOWN |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS B 400 MAN CAMP |
| | EXISTING BOX CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 0.0') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1

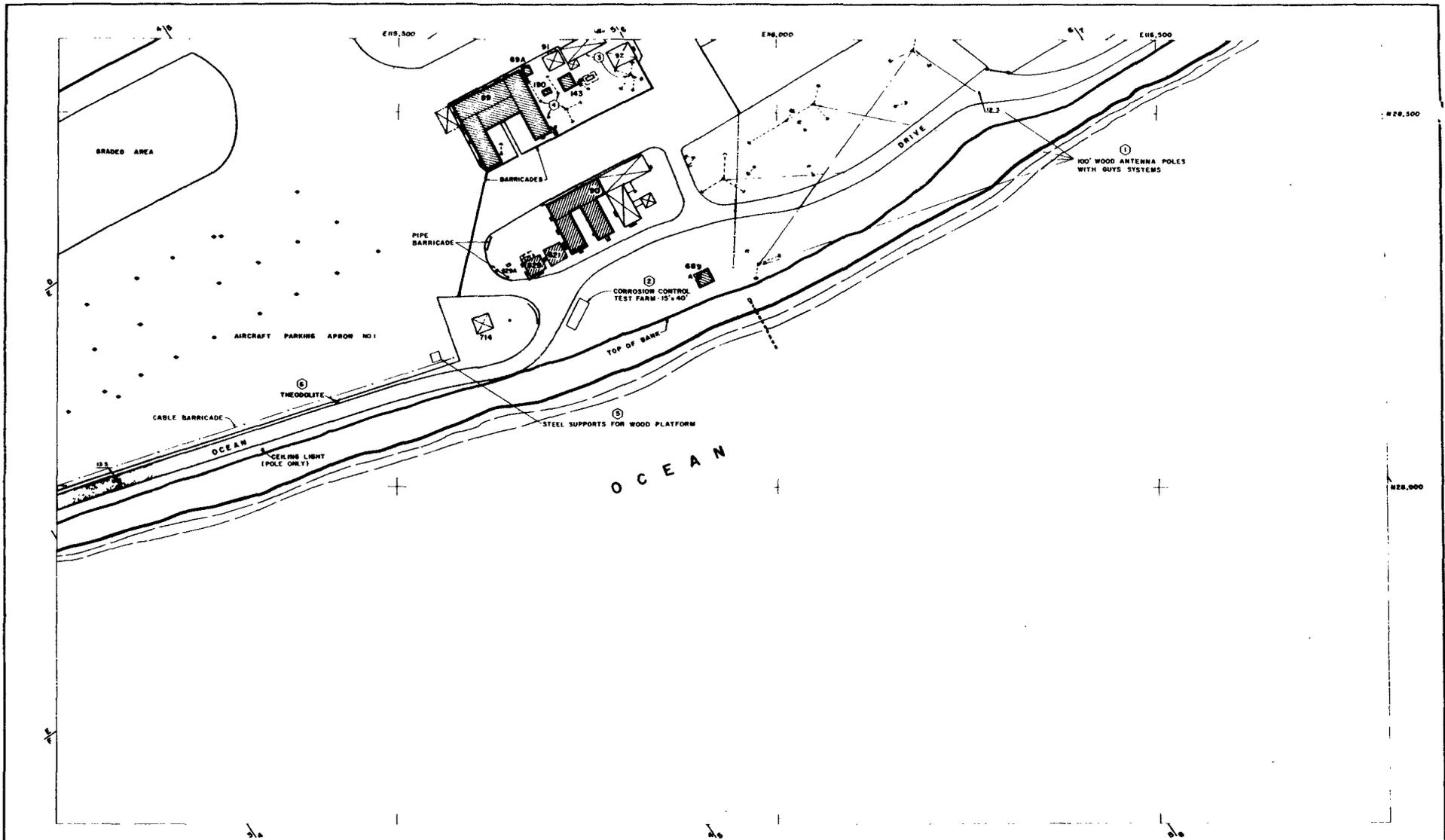


MAP (ELEVATION 0.00) IS APPROXIMATELY 0.5 FEET BELOW MEAN LOW WATER SPRINGS



HEADQUARTERS
DEFENSE NUCLEAR AGENCY
 WASHINGTON, D.C. 20305
HOLMES & NARVER, INC.
 ENIWETOK ATOLL CLEANUP
SITE FRED
 APRIL 1973 SHEET 17 OF 18

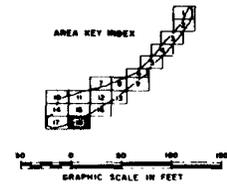
116



LEGEND

- | | | | |
|--|-----------------------------|--|---|
| | EXISTING STRUCTURE | | EXISTING POLE DOWN GUY |
| | EXISTING CONCRETE SLAB | | WOOD POLE OR MAST |
| | EXISTING FENCE | | EXISTING AIRCRAFT THEODOLITE |
| | EXISTING ROAD OR PAVED AREA | | EXISTING OVERHEAD ANTENNA |
| | EXISTING UNPAVED ROAD | | EXISTING TO BE UTILIZED IN SUPPORT OF CLEANUP OPERATIONS & 400 MAN CAMP |
| | EXISTING SOFT CULVERT | | |
| | EXISTING PIPE CULVERT | | |
| | BENCH MARK | | |
| | TRIANGULATION STATION | | |
| | SPOT ELEVATION | | |
| | FINISH ELEVATION | | |
| | TROPICAL VEGETATION | | |
| | SHORE LINE (ELEVATION 50') | | |
| | SEA WALL OR BARRICADE | | |

FOR GENERAL NOTES SEE SHEET 1



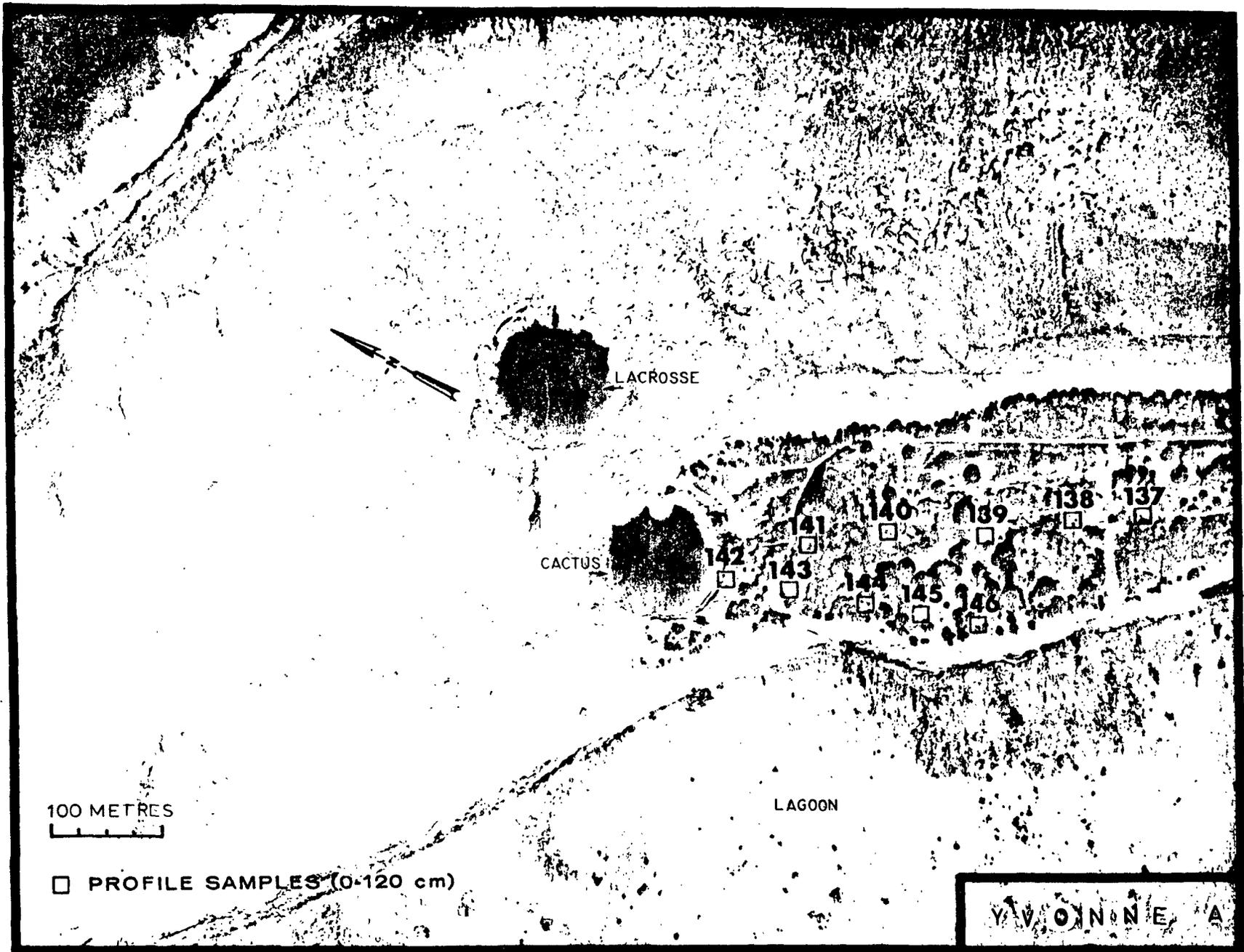
Datum (Elevation 000') is approximately 0.5 feet below mean low water springs.



ANNUAL MAGNETIC DECREASE 1'

HEADQUARTERS DEFENSE NUCLEAR AGENCY WASHINGTON, D. C. 20305 HOLMES & NARVER, INC. <small>A subsidiary of Parsons Technology Corporation</small>	
ENIWETOK ATOLL CLEANUP SITE FRED APRIL 1973 SHEET 10 OF 10	

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B.22.1.f. Soil-sample locations.

BEST AVAILABLE COPY

97

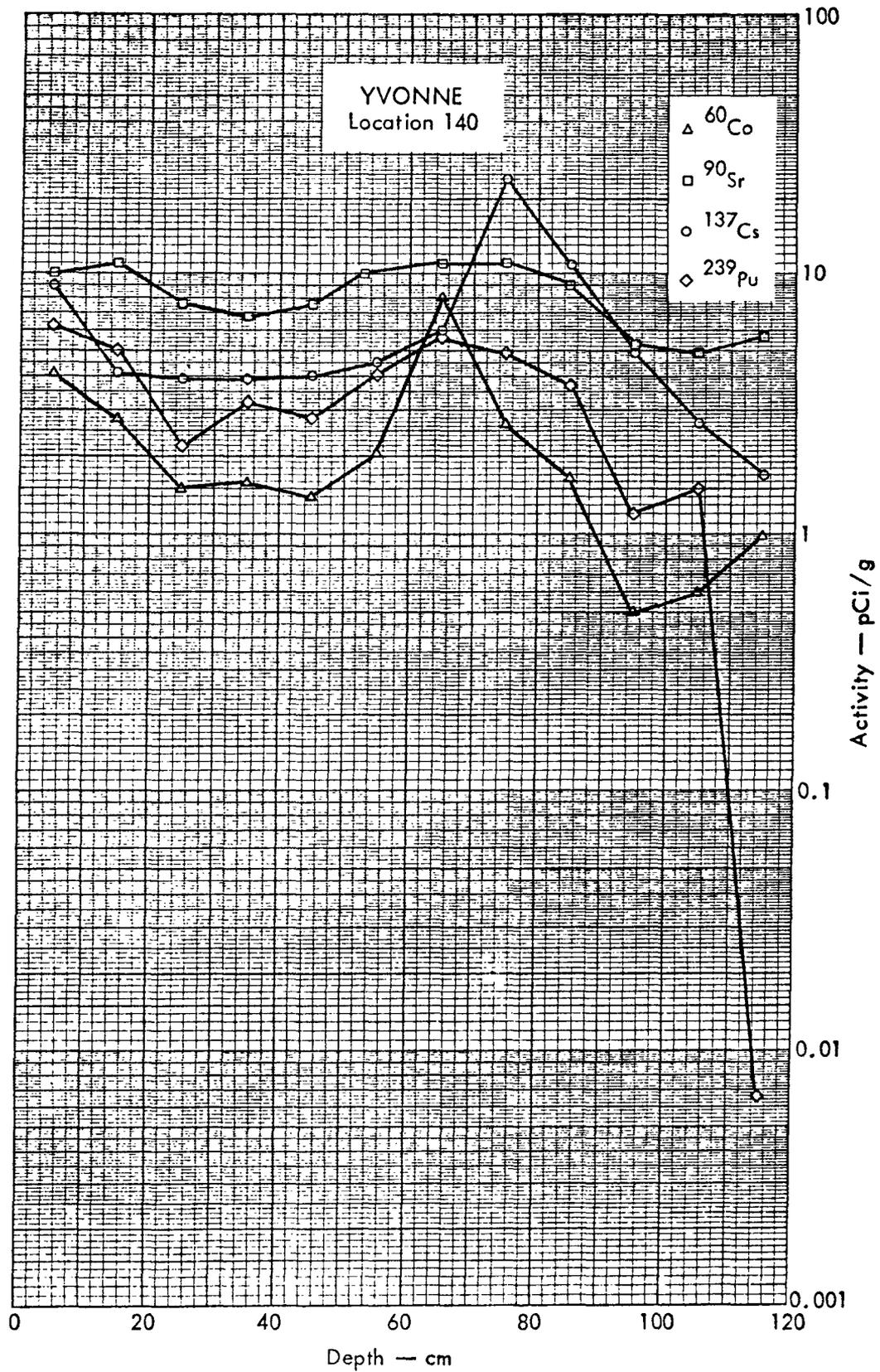


Fig. B. 22.2a. Activities of selected radionuclides as a function of soil depth.

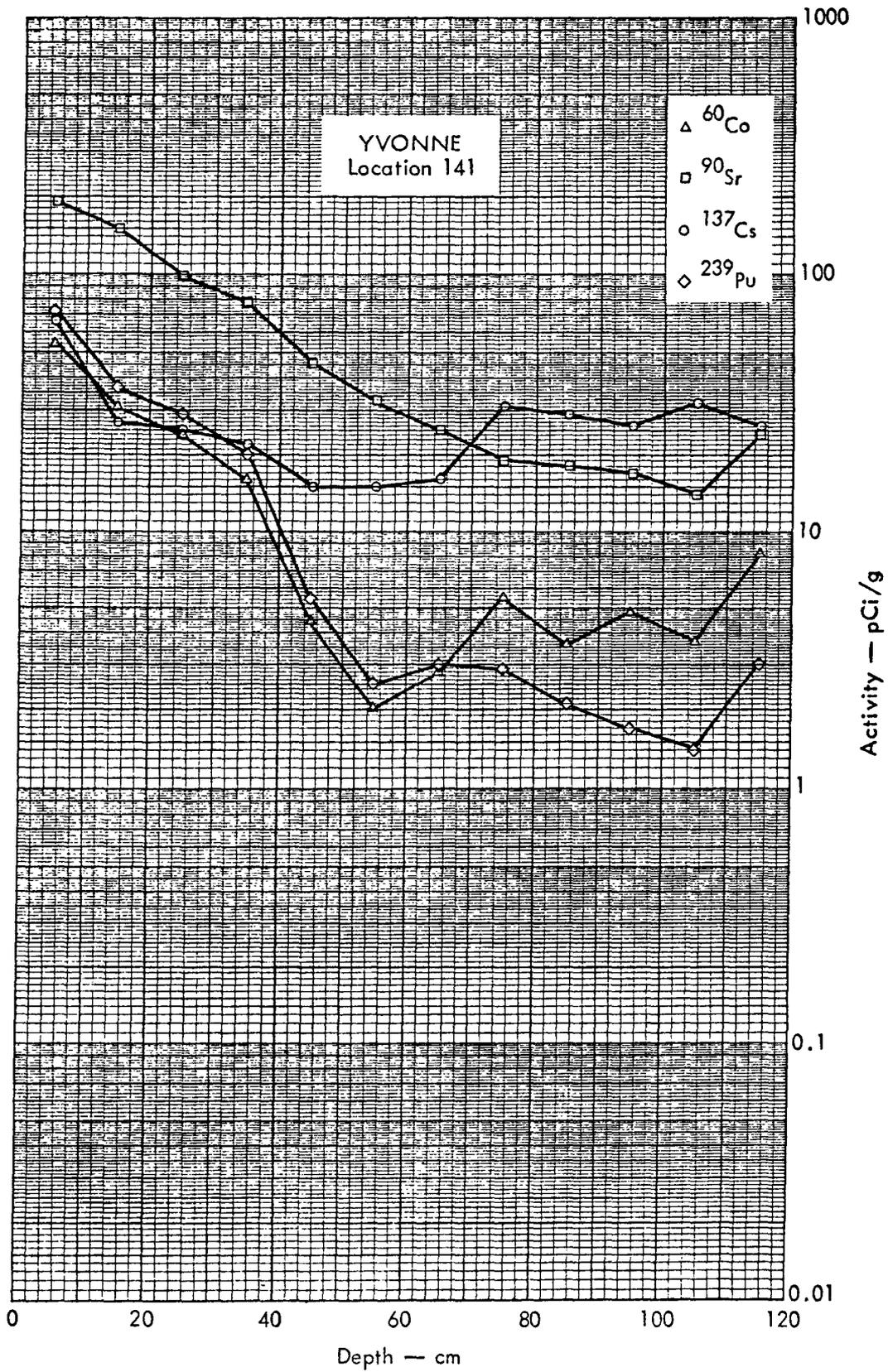


Fig. B. 22.2b. Activities of selected radionuclides as a function of soil depth.

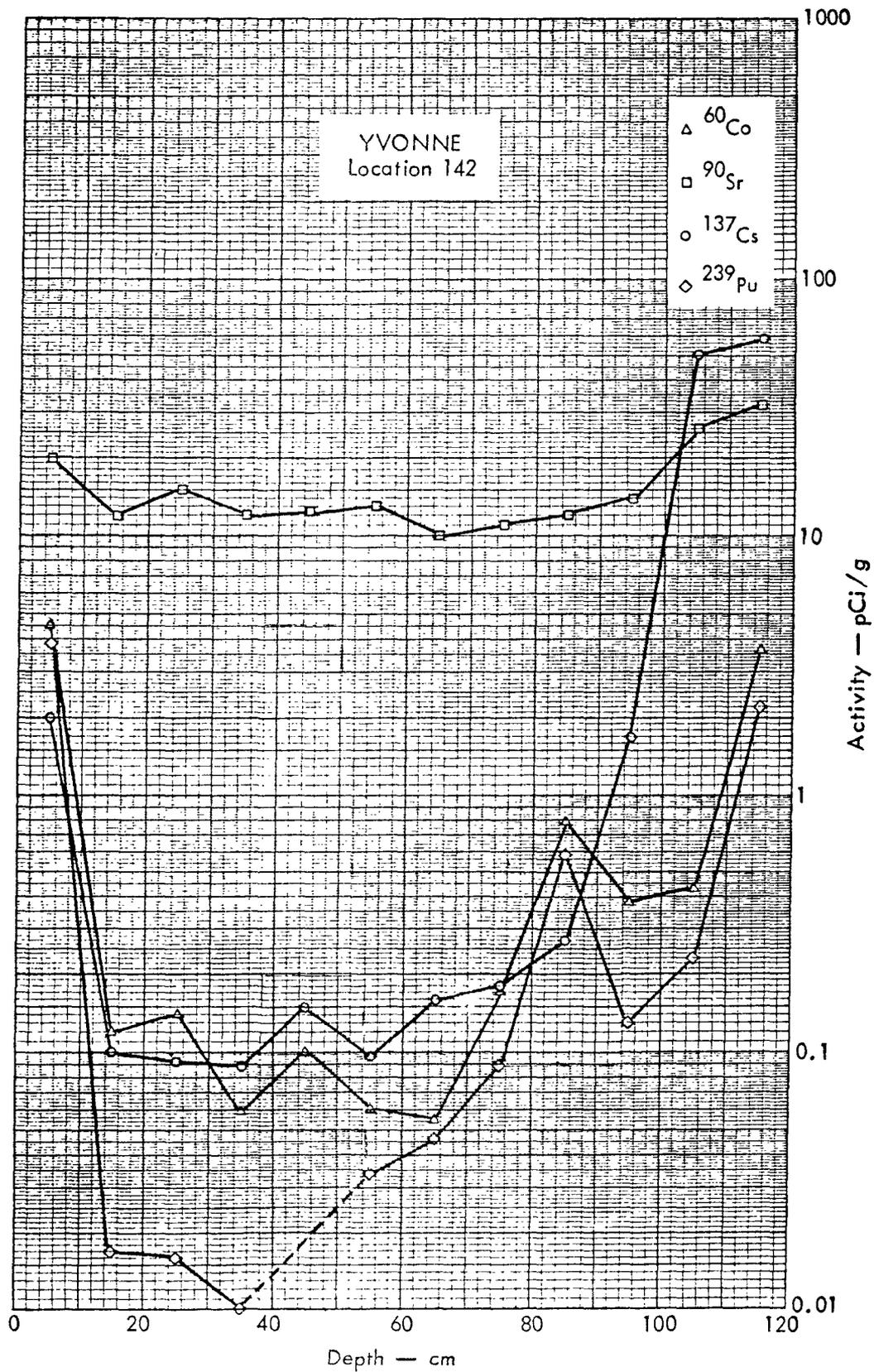


Fig. B. 22.2c. Activities of selected radionuclides as a function of soil depth.

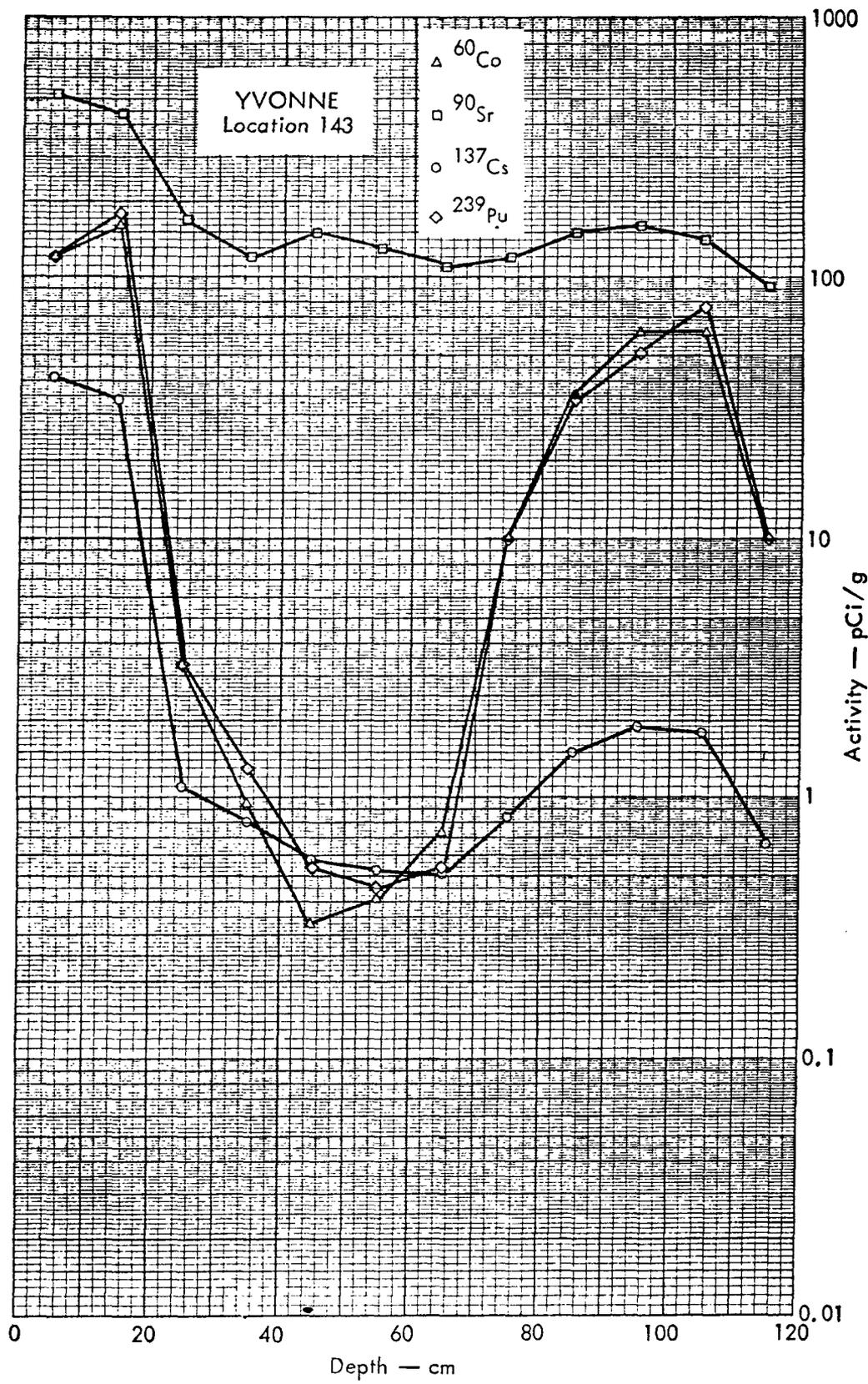


Fig. B.22.2d. Activities of selected radionuclides as a function of soil depth.

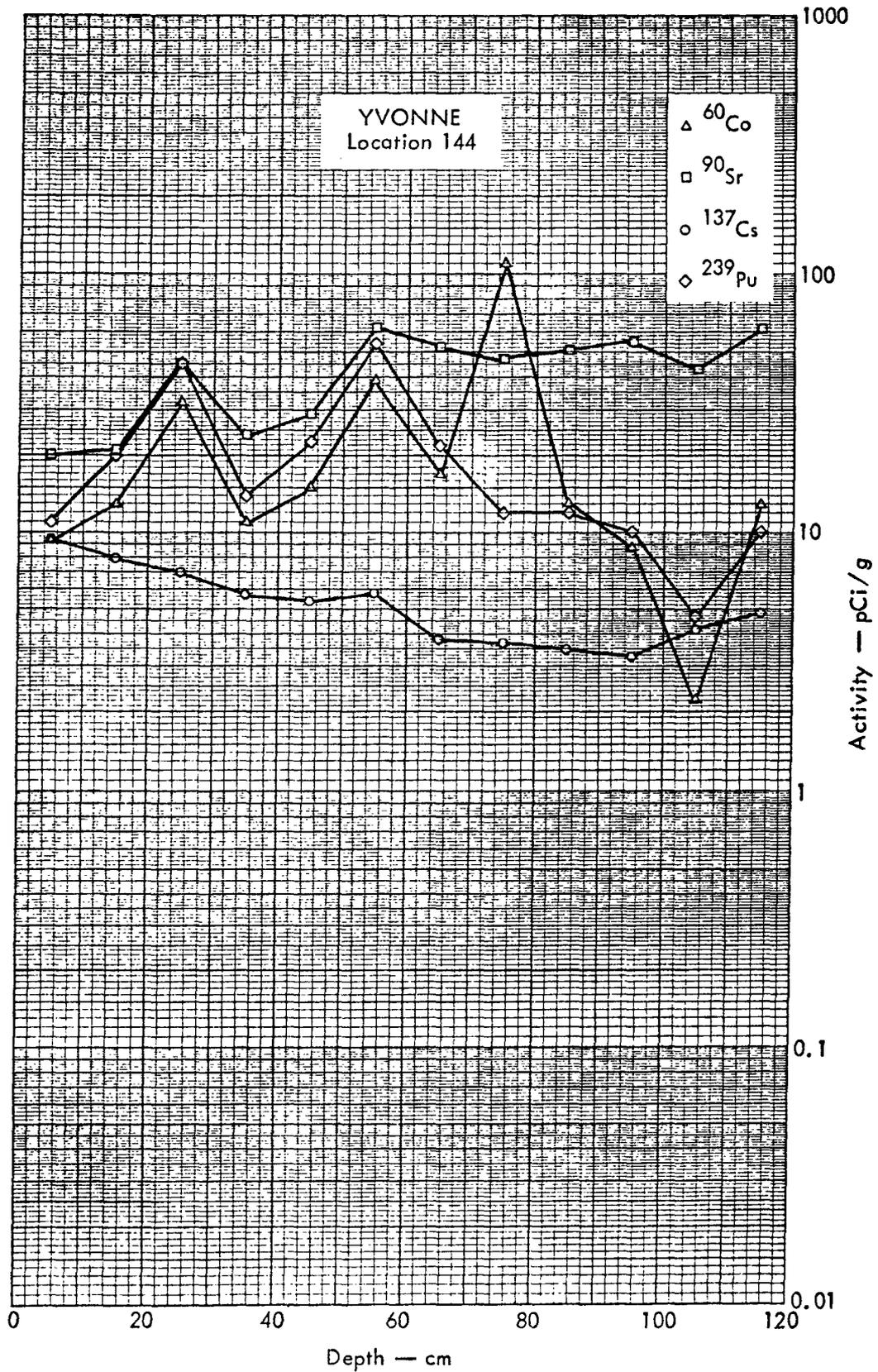


Fig. B. 22.2e. Activities of selected radionuclides as a function of soil depth.

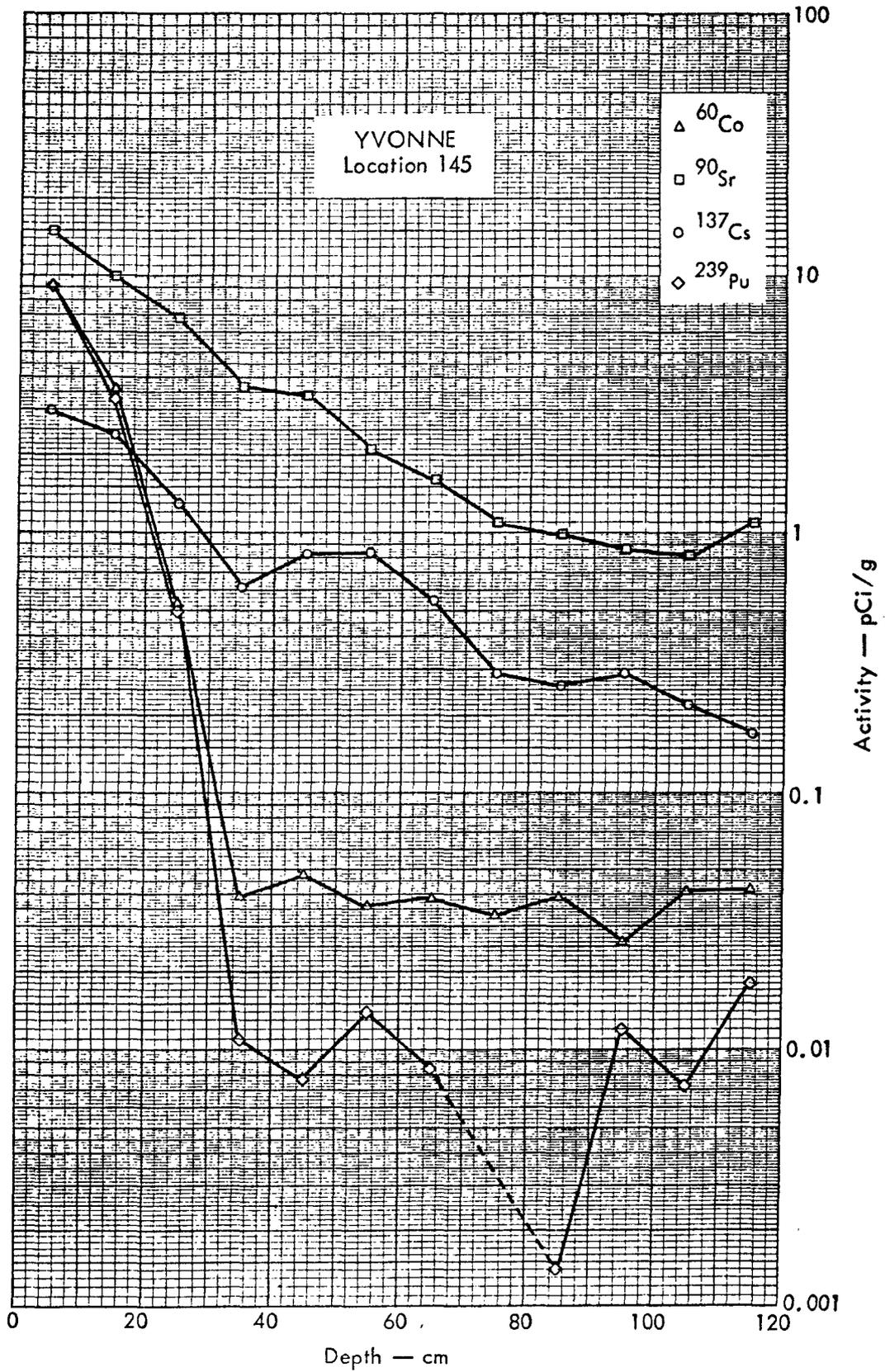


Fig. B. 22.2f. Activities of selected radionuclides as a function of soil depth.

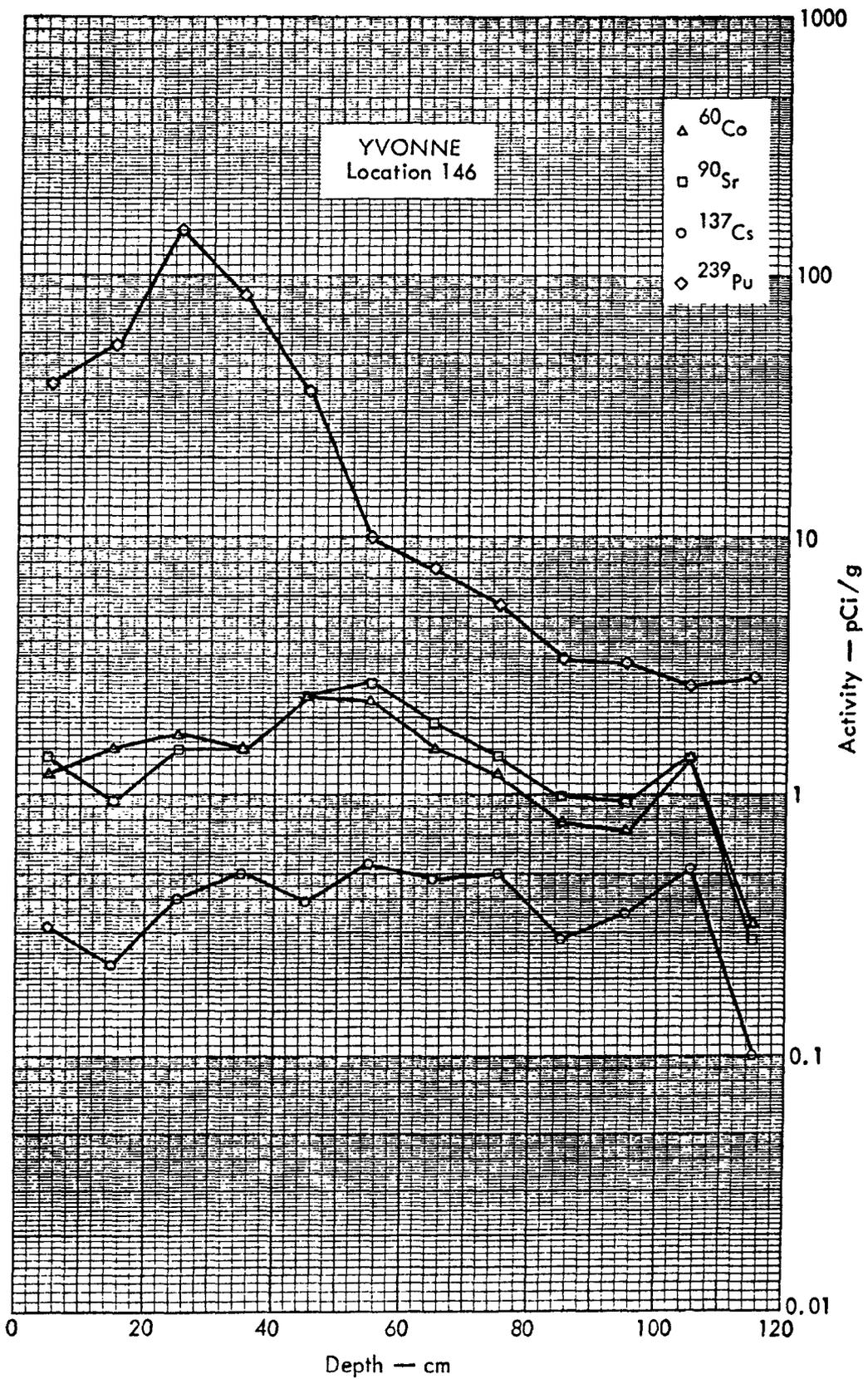


Fig. B. 22.2g. Activities of selected radionuclides as a function of soil depth.



B.23.1.f. Soil-sample locations.

BEST AVAILABLE COPY

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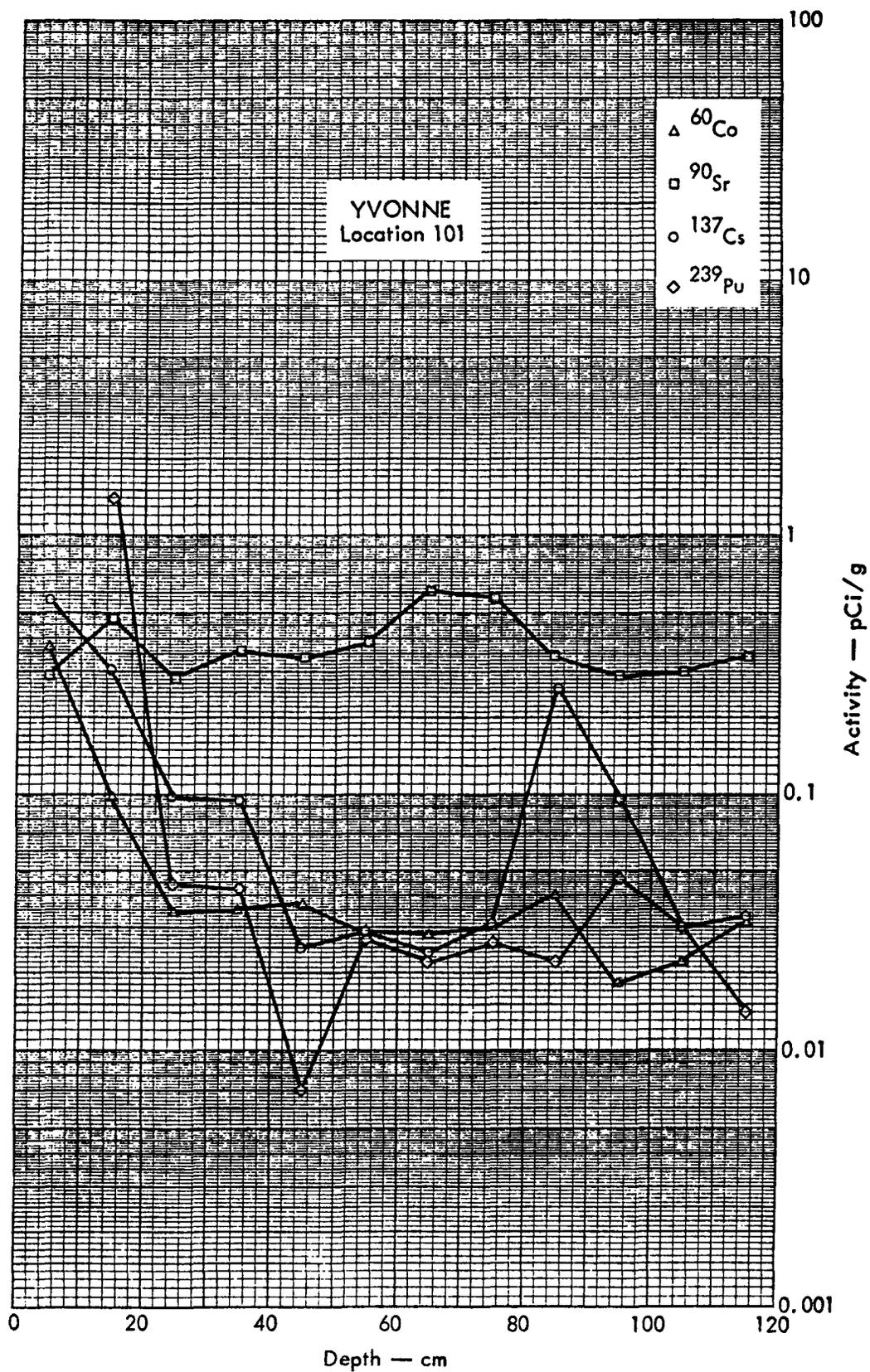


Fig. B. 23.2a. Activities of selected radionuclides as a function of soil depth.

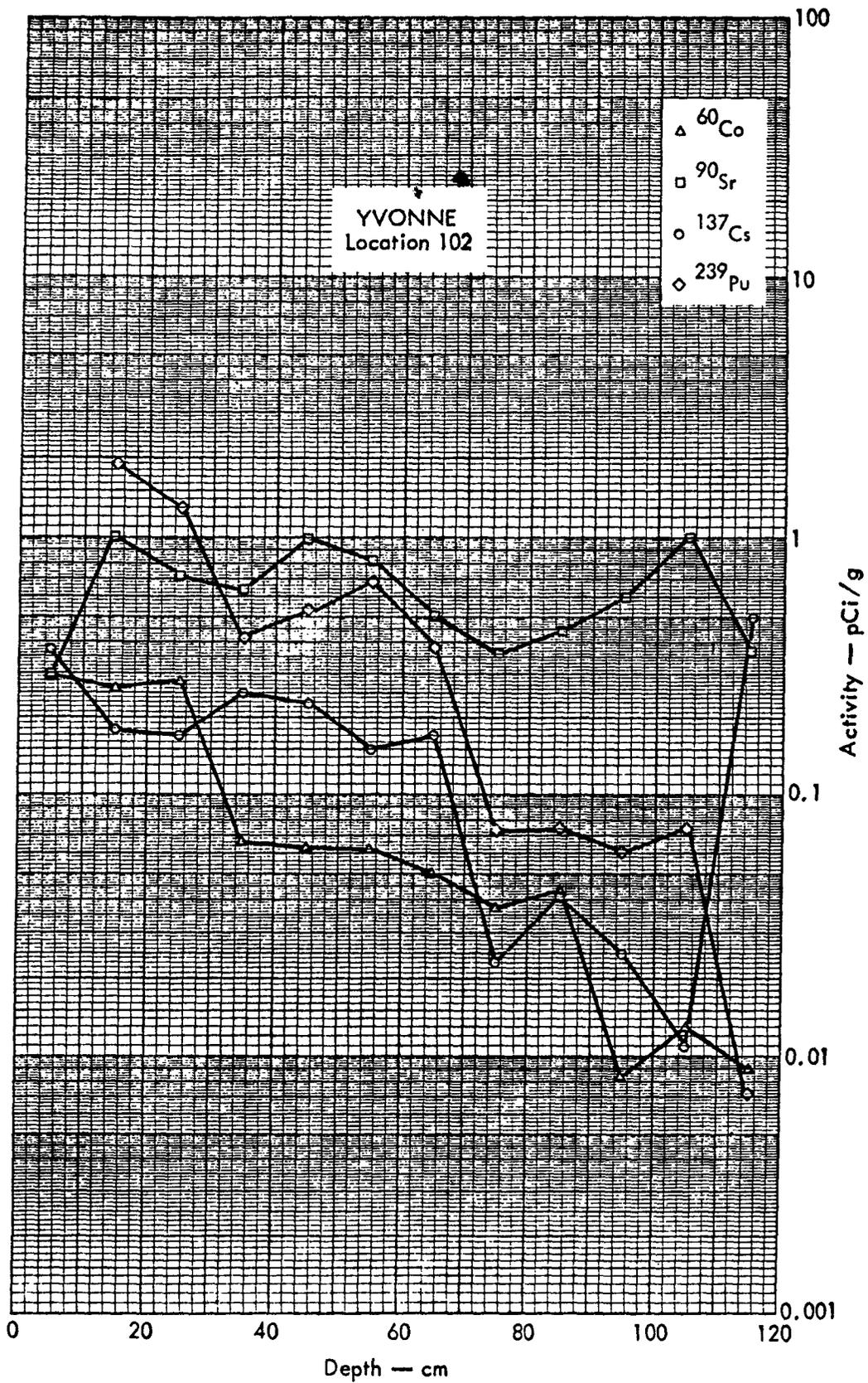


Fig. B. 23.2b. Activities of selected radionuclides as a function of soil depth.

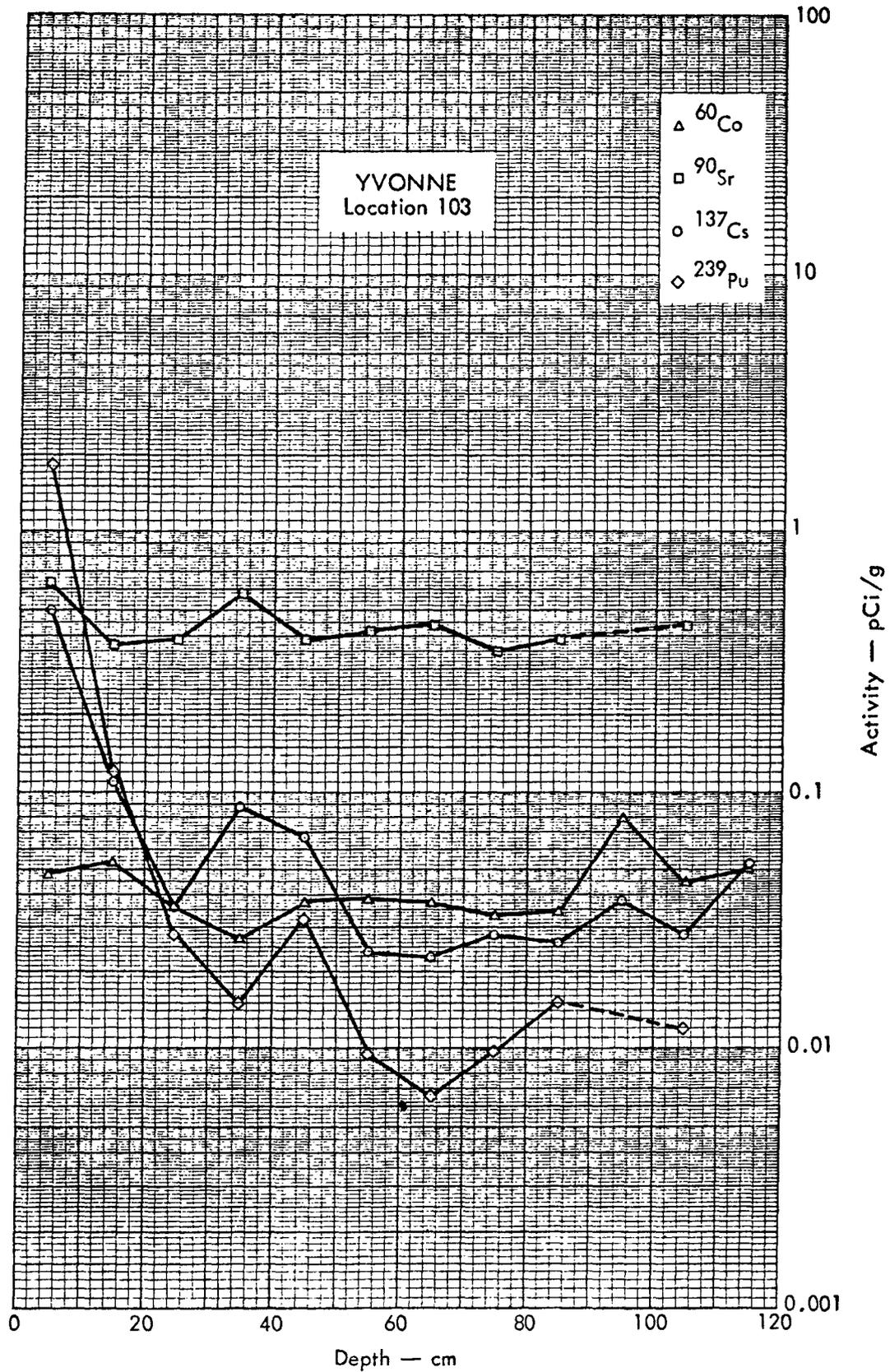


Fig. B. 23.2c. Activities of selected radionuclides as a function of soil depth.

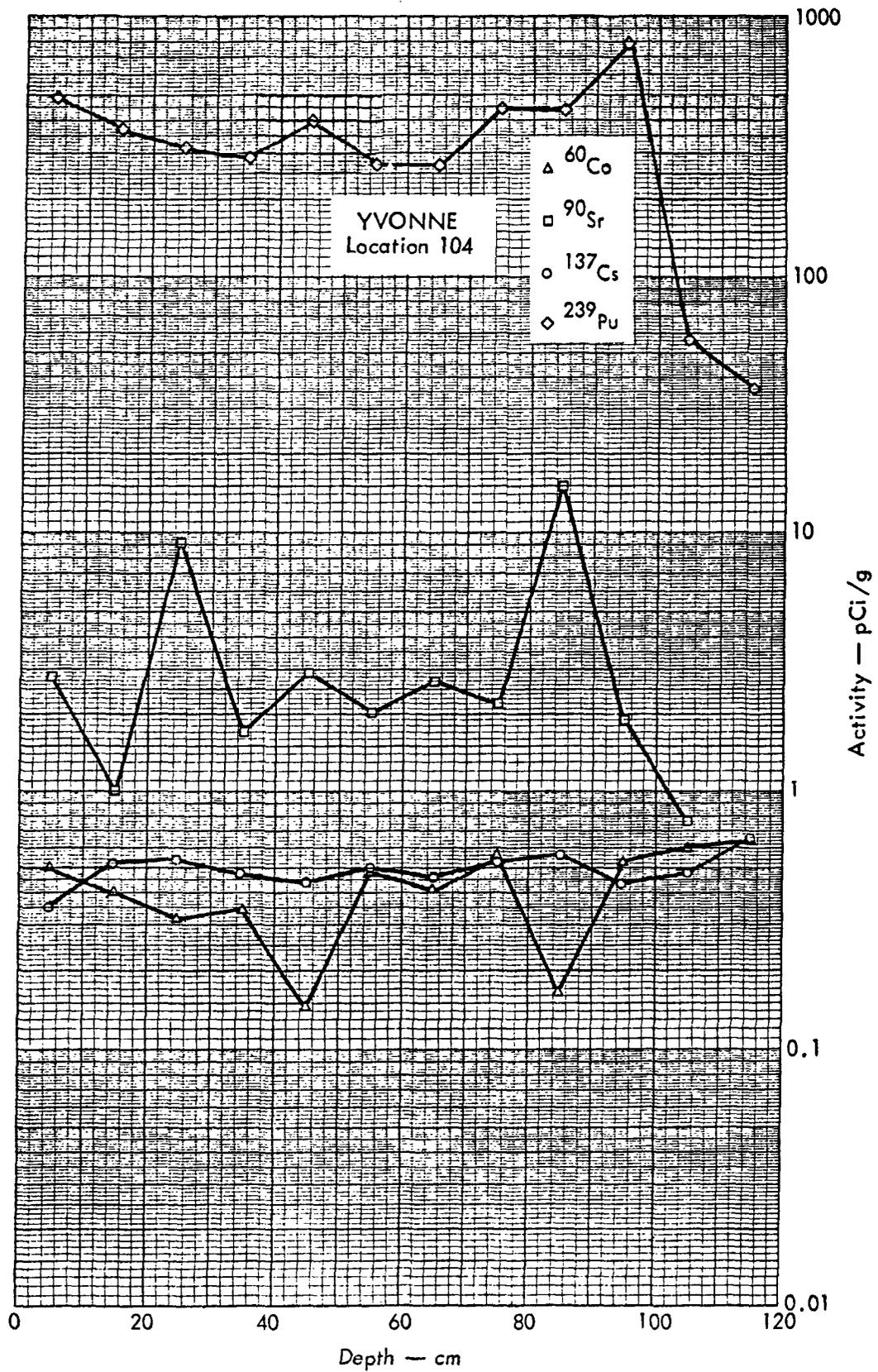


Fig. B. 23.2d. Activities of selected radionuclides as a function of soil depth.

(60)

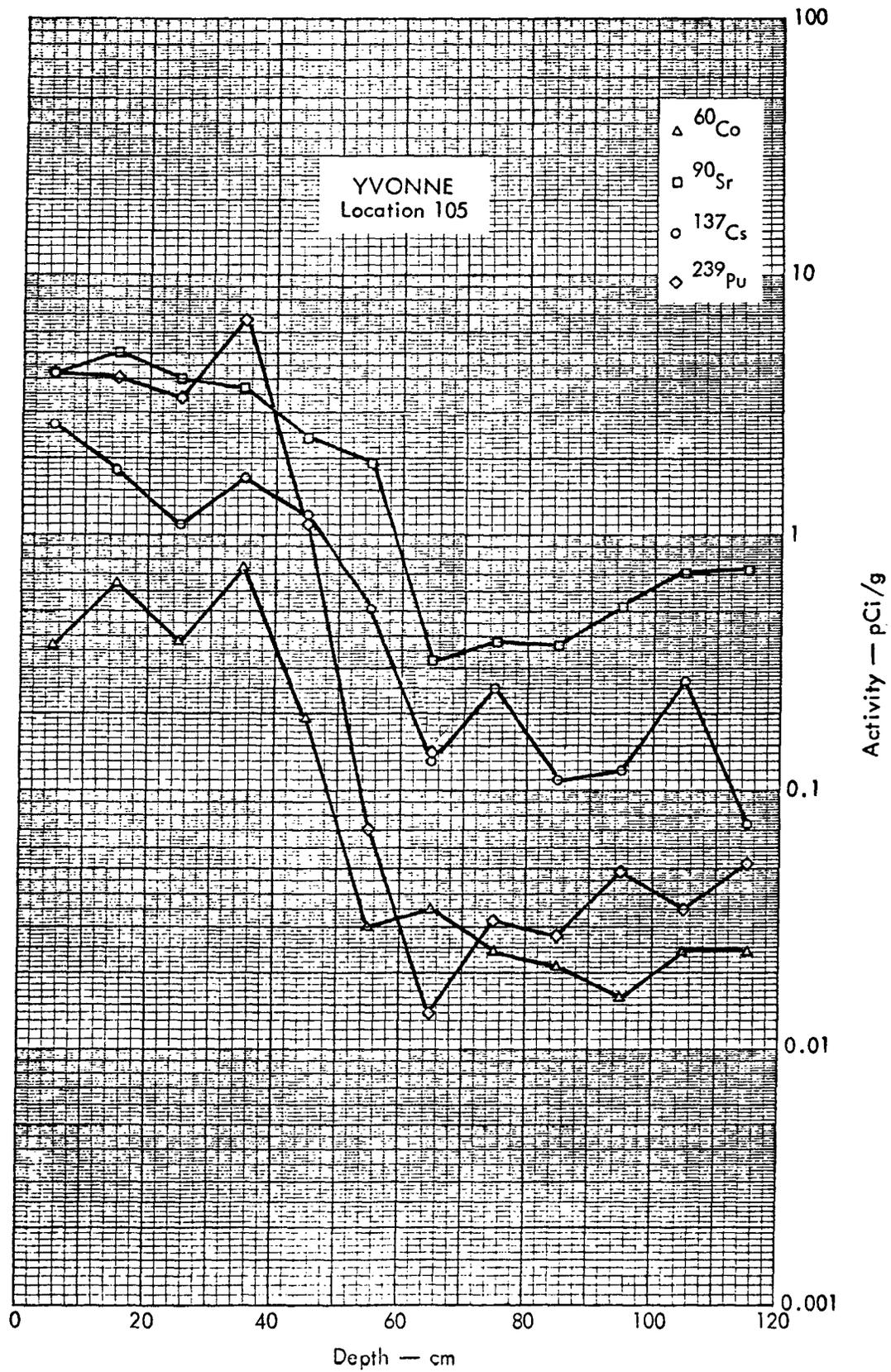


Fig. B. 23.2e. Activities of selected radionuclides as a function of soil depth.

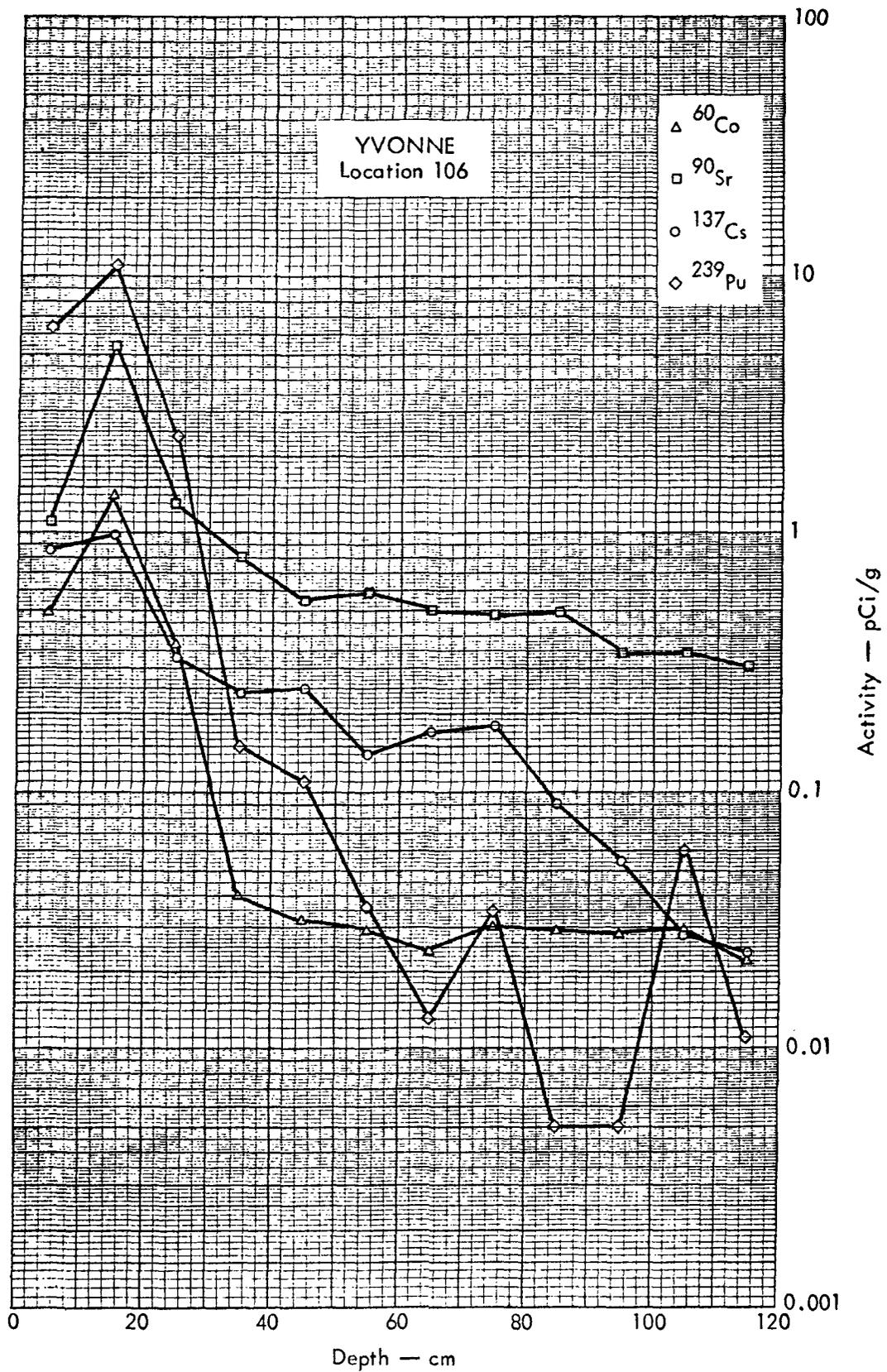


Fig. B. 23.2f. Activities of selected radionuclides as a function of soil depth.

(12)

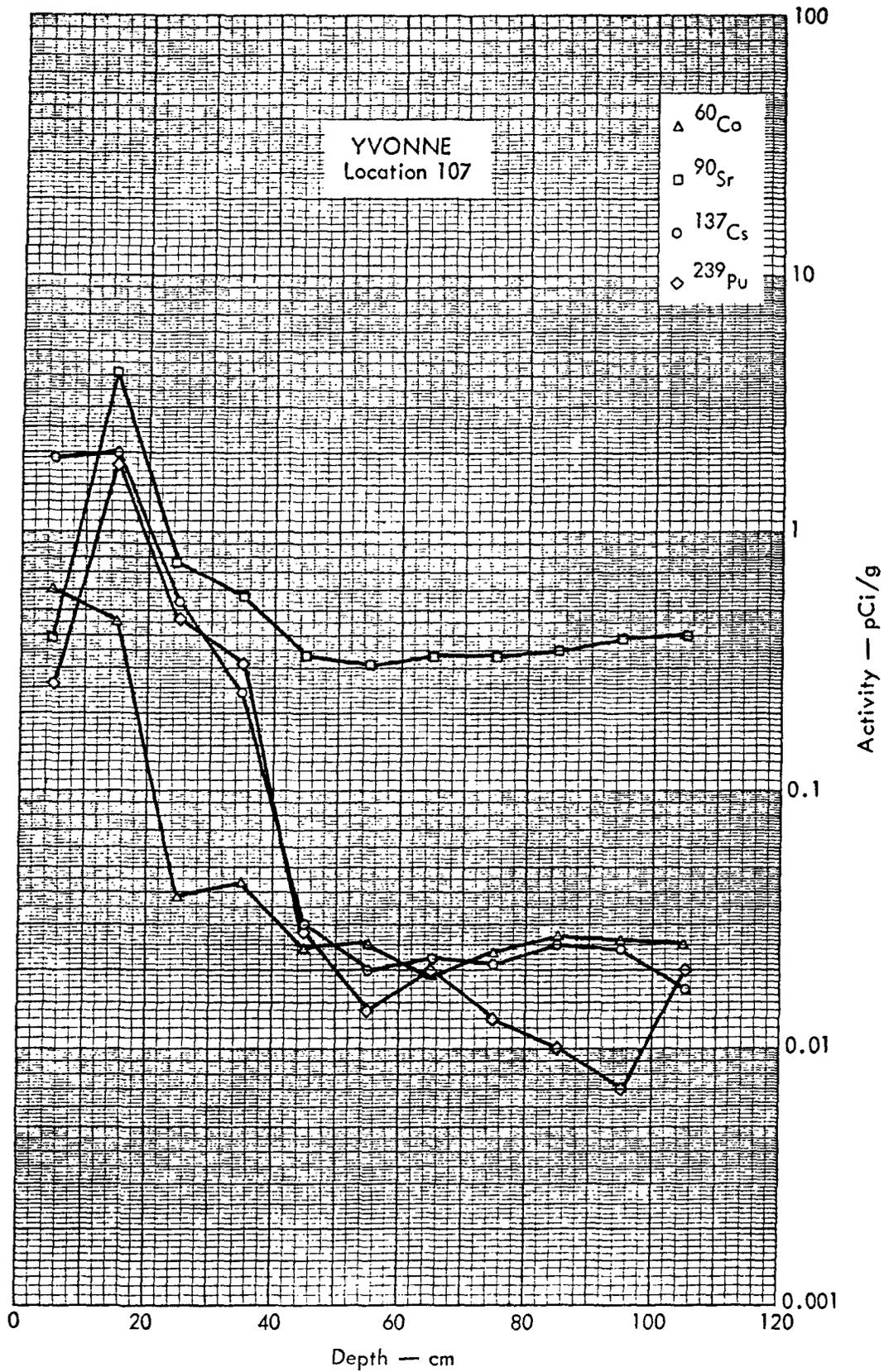


Fig. B. 23.2g. Activities of selected radionuclides as a function of soil depth.

(63)

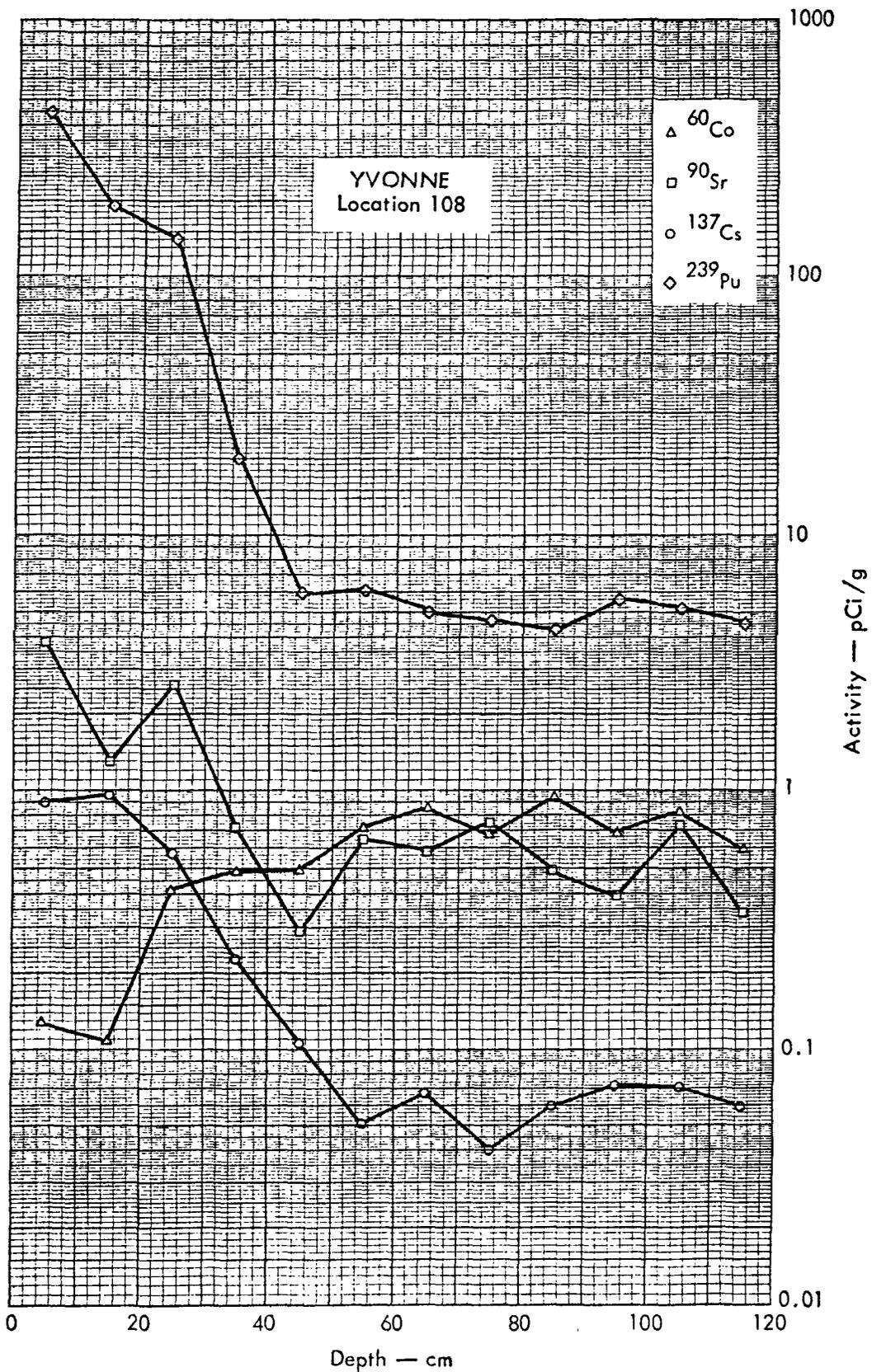


Fig. B. 23.2h. Activities of selected radionuclides as a function of soil depth.

(64)

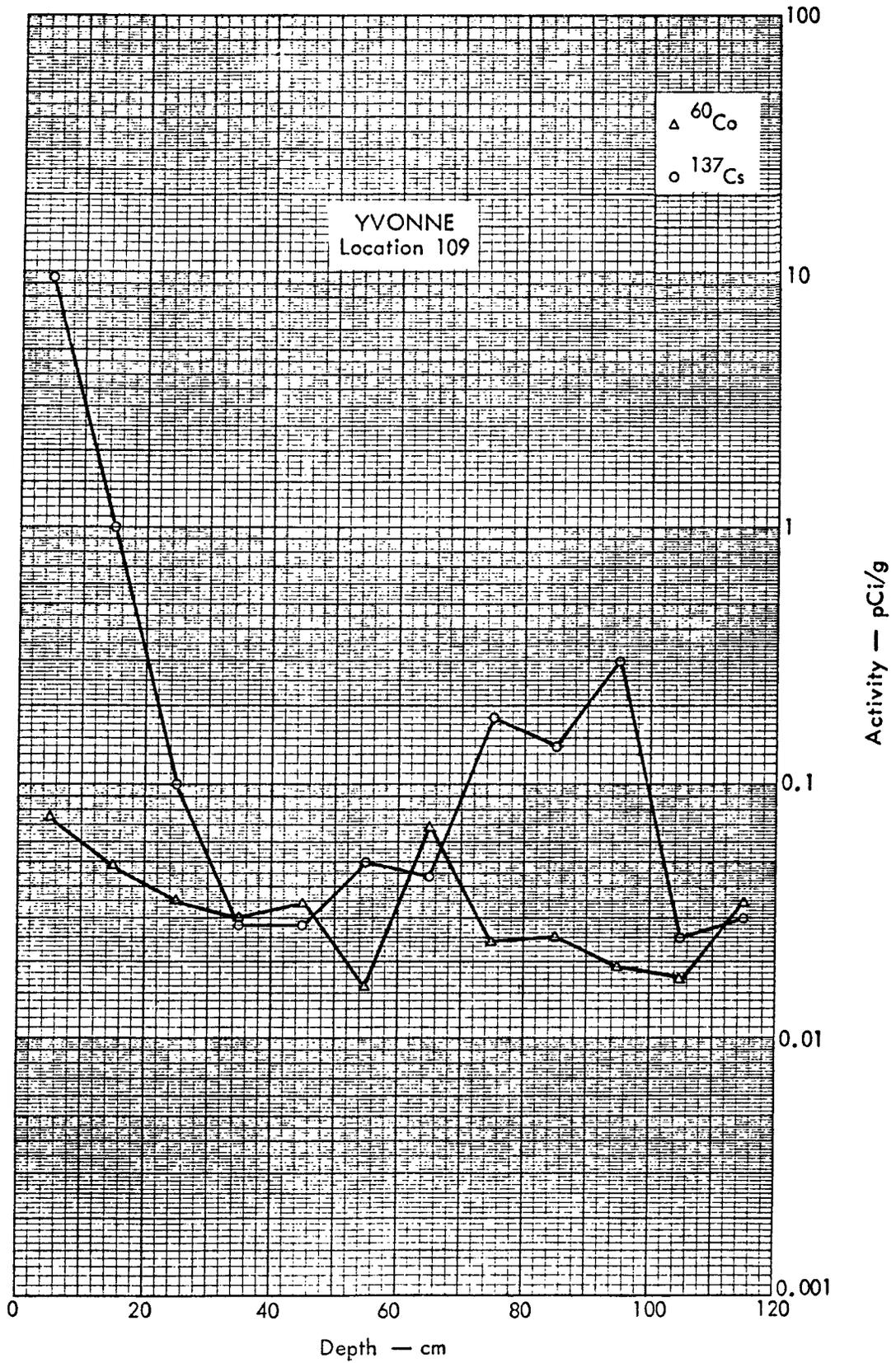


Fig. B. 23.2i. Activities of selected radionuclides as a function of soil depth.

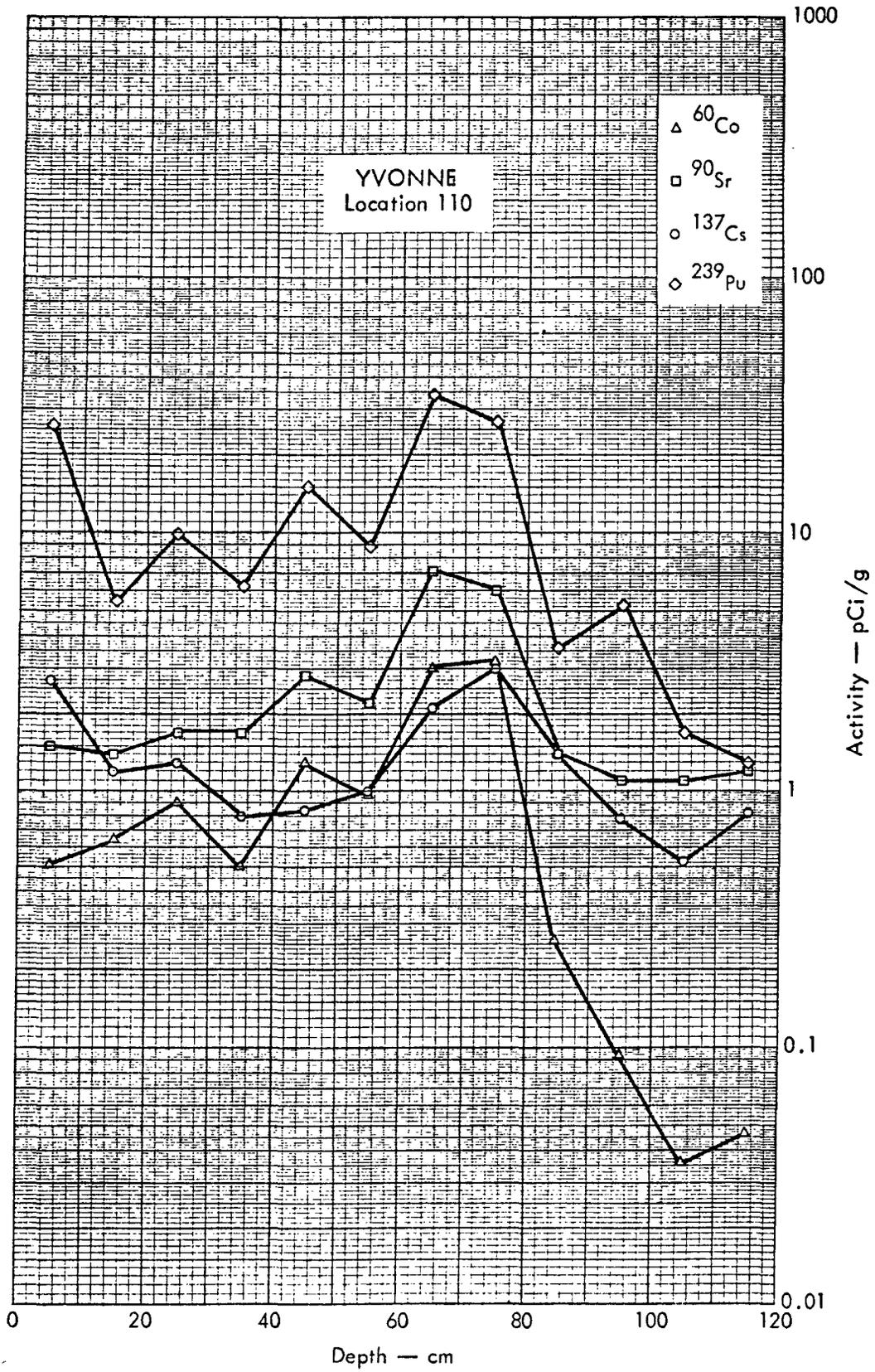


Fig. B.23.2j. Activities of selected radionuclides as a function of soil depth.

(66)

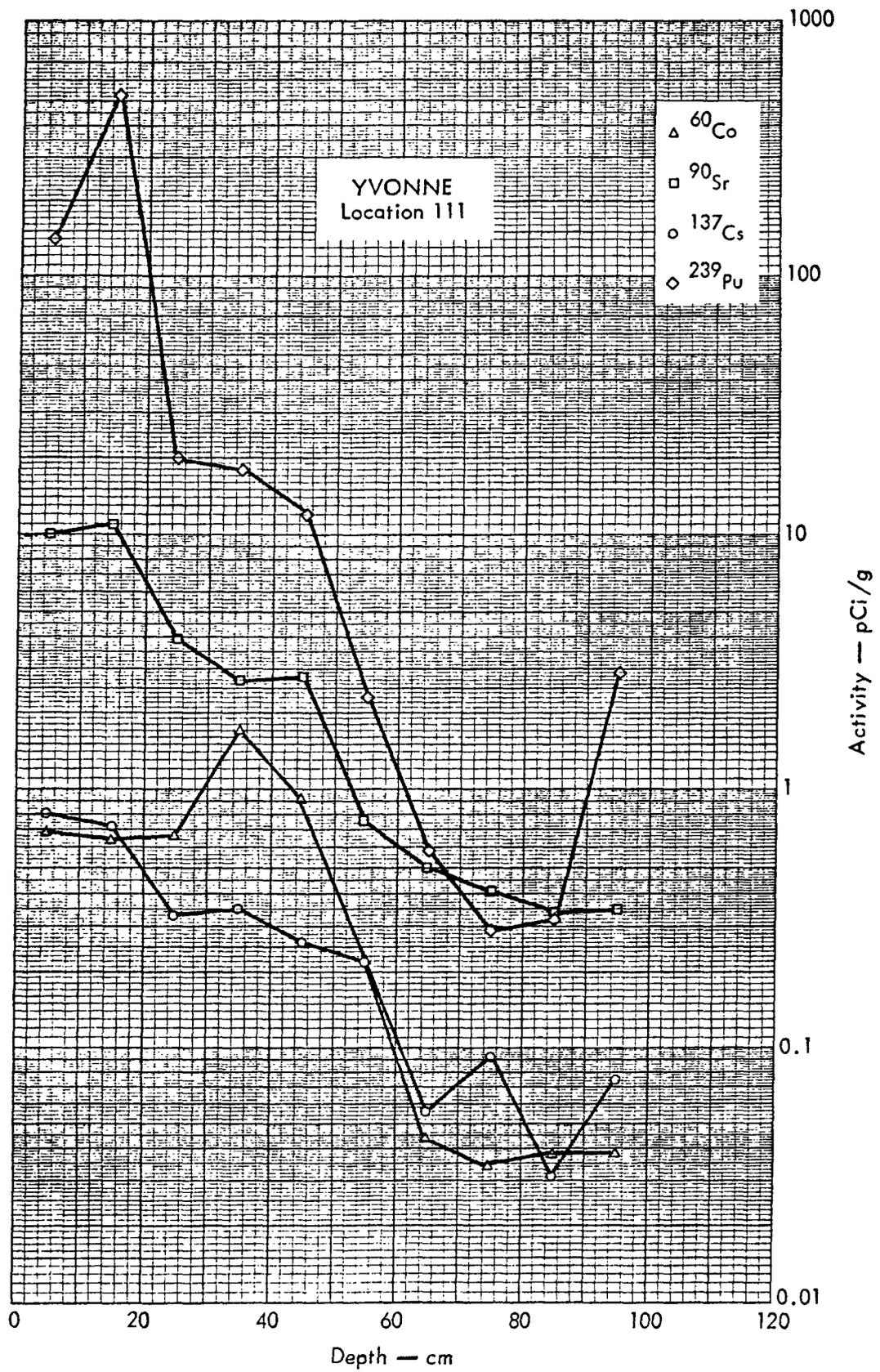


Fig. B. 23.2k. Activities of selected radionuclides as a function of soil depth.

(65)

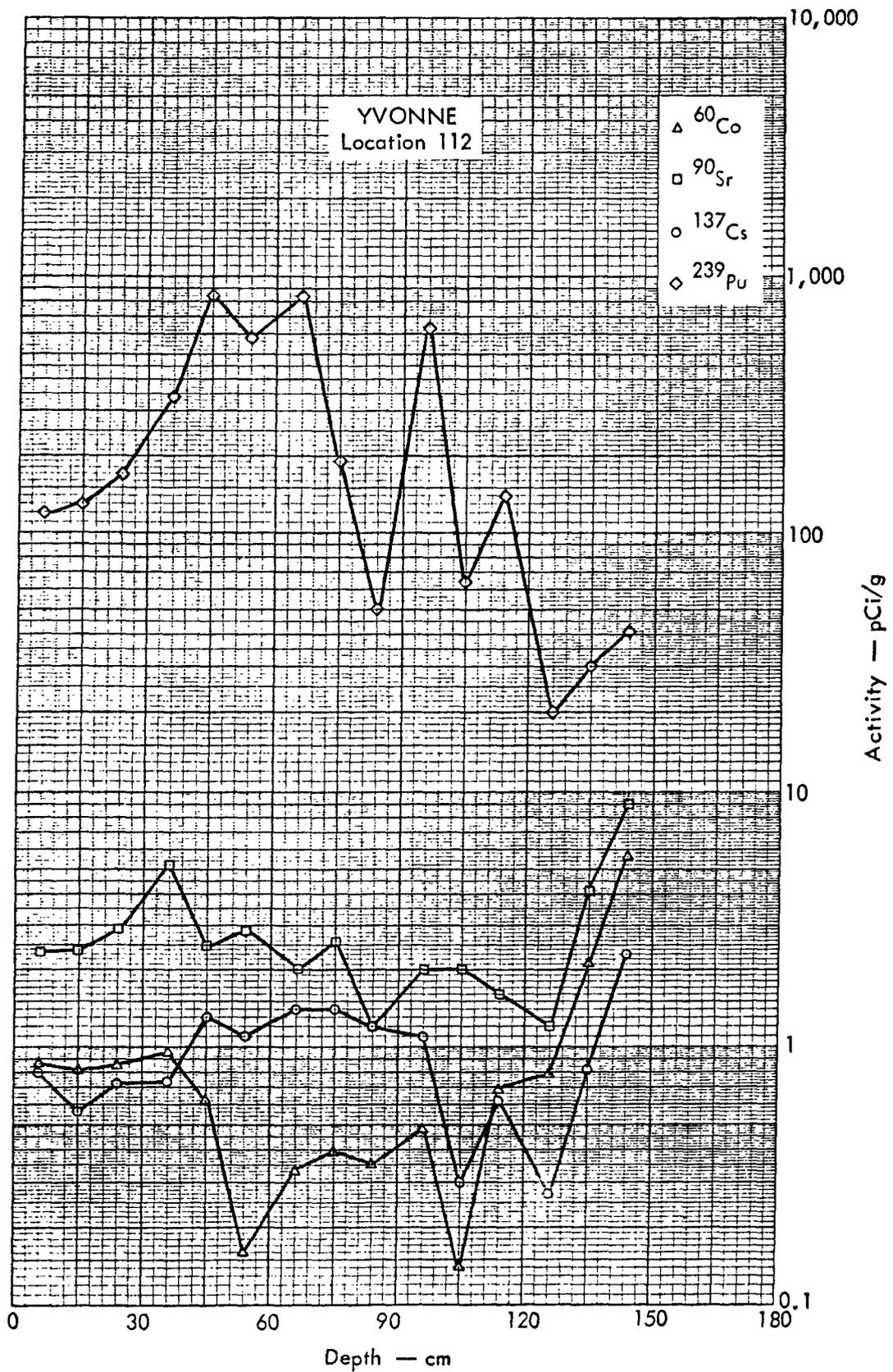


Fig. B. 23.21. Activities of selected radionuclides as a function of soil depth.

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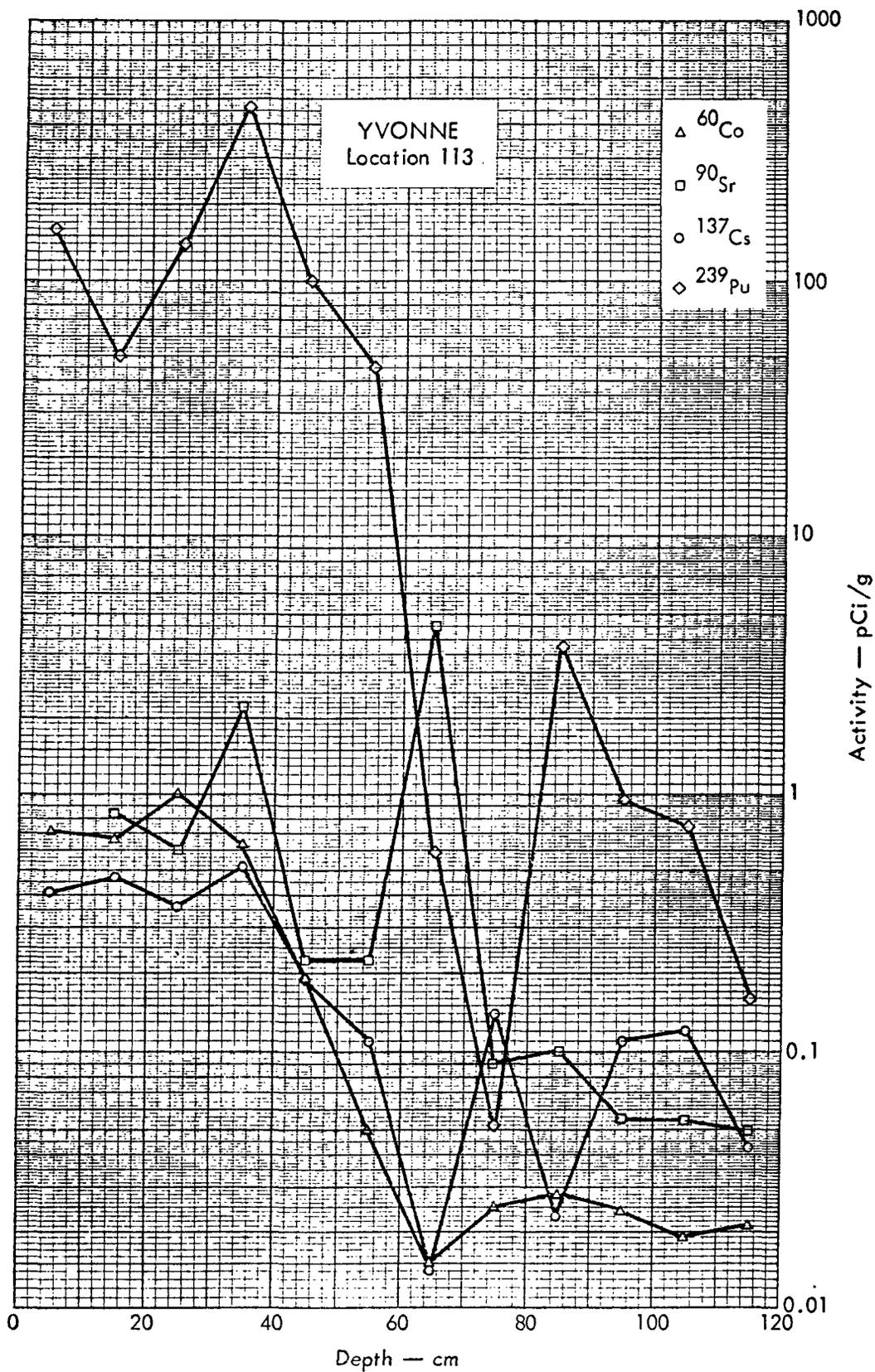


Fig. B. 23.2m. Activities of selected radionuclides as a function of soil depth.

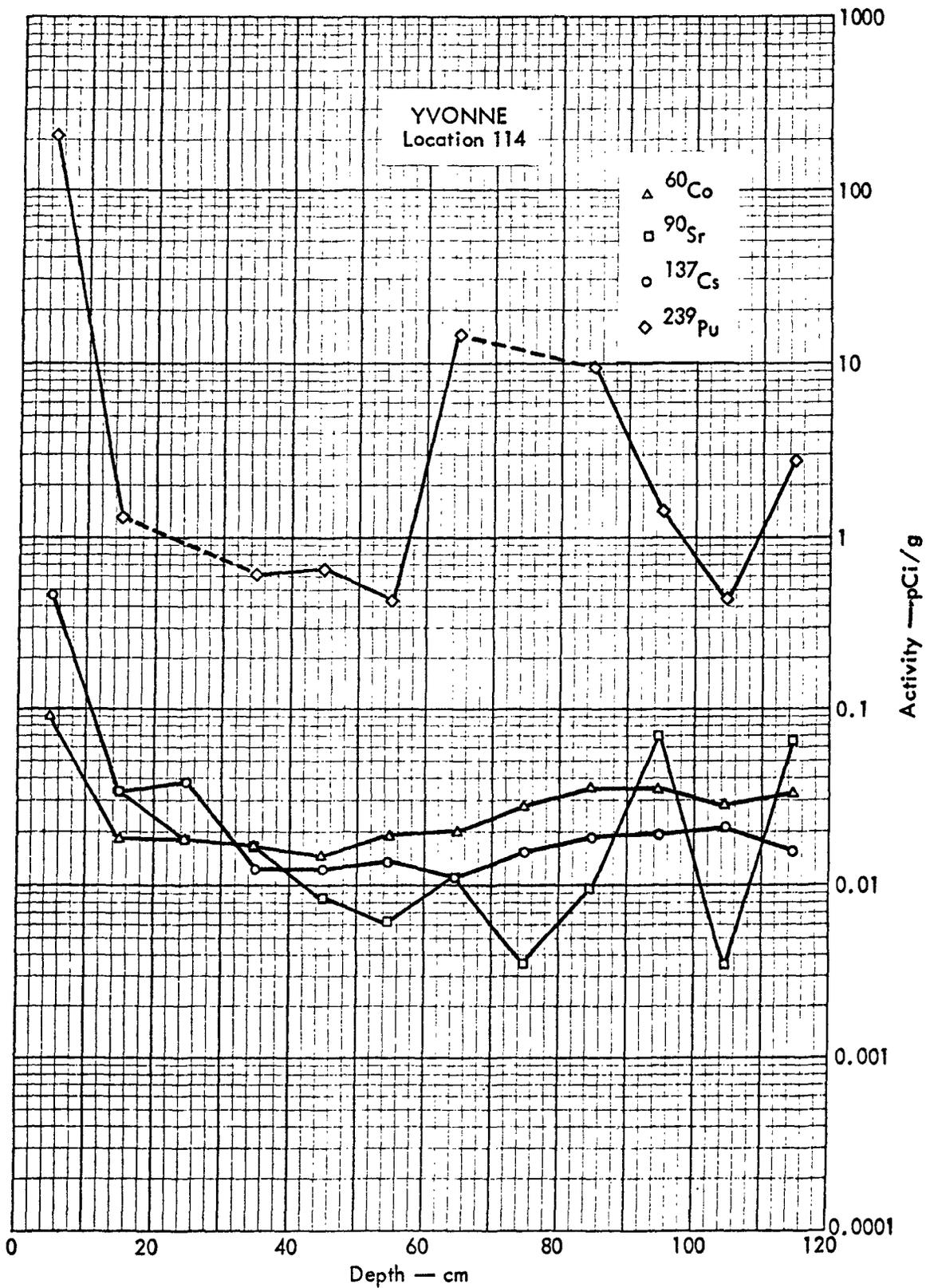


Fig. B. 23.2n. Activities of selected radionuclides as a function of soil depth.

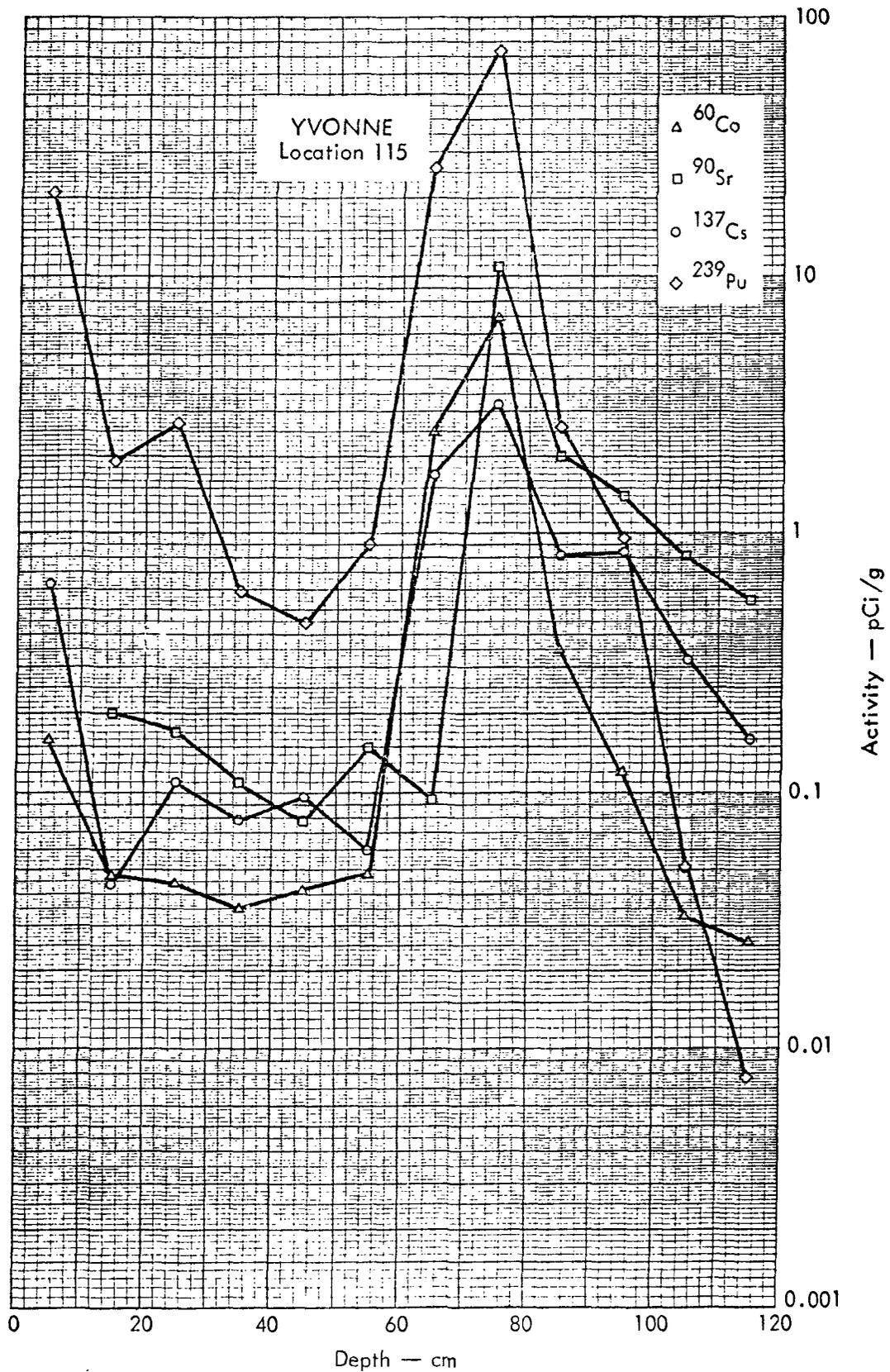


Fig. B. 23.20. Activities of selected radionuclides as a function of soil depth.

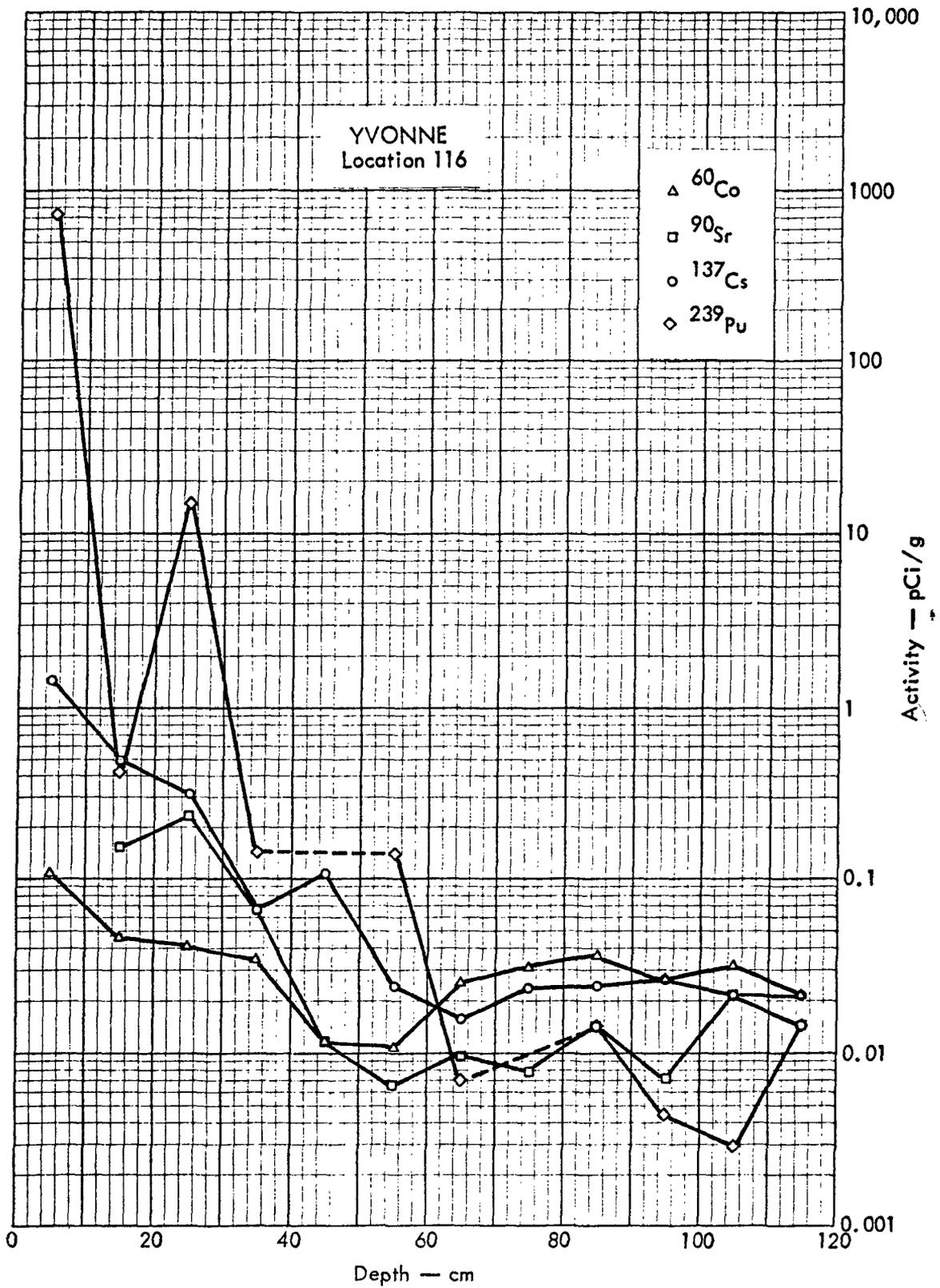


Fig. B. 23.2p. Activities of selected radionuclides as a function of soil depth.

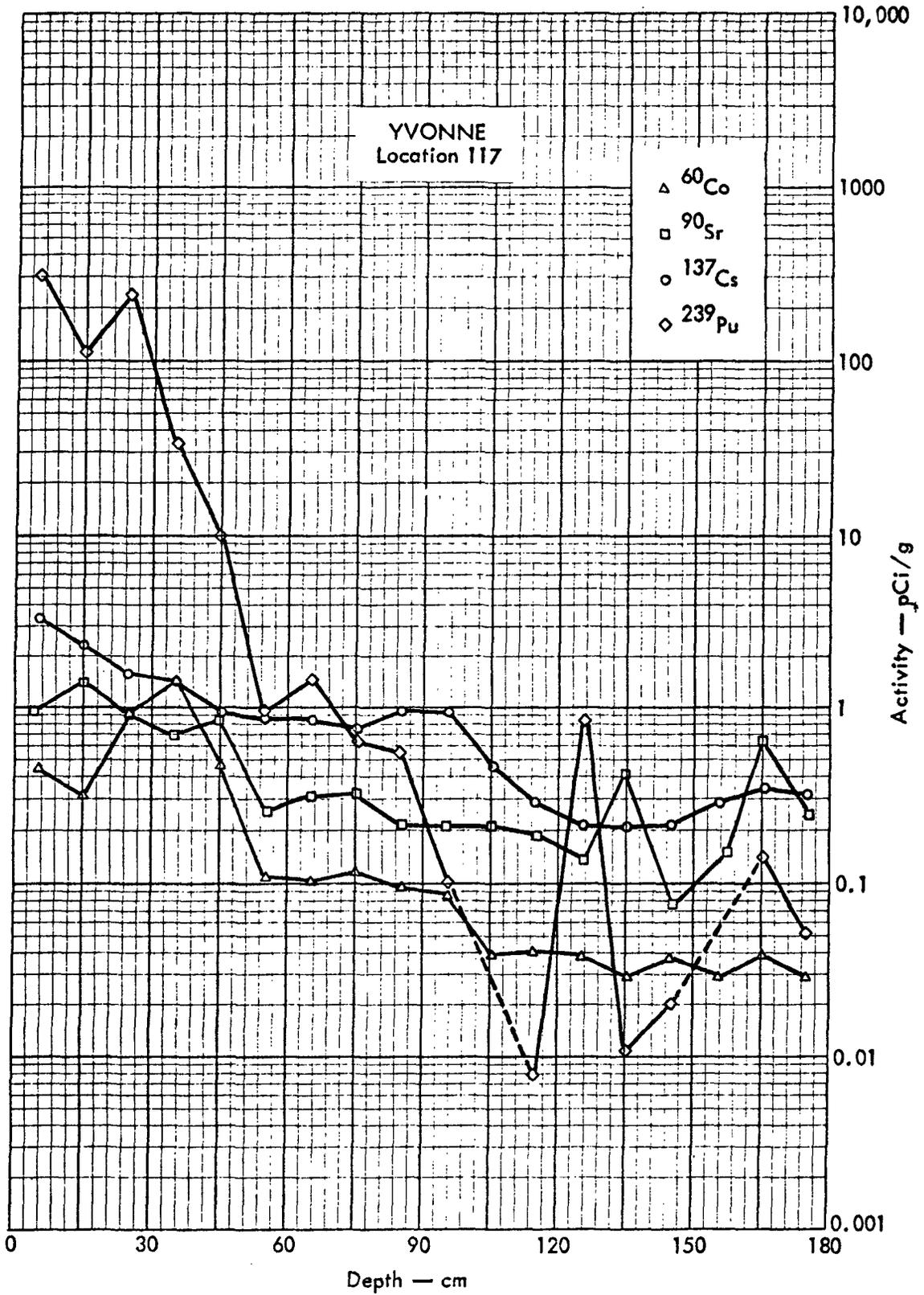


Fig. B. 23.2q. Activities of selected radionuclides as a function of soil depth.

(73)

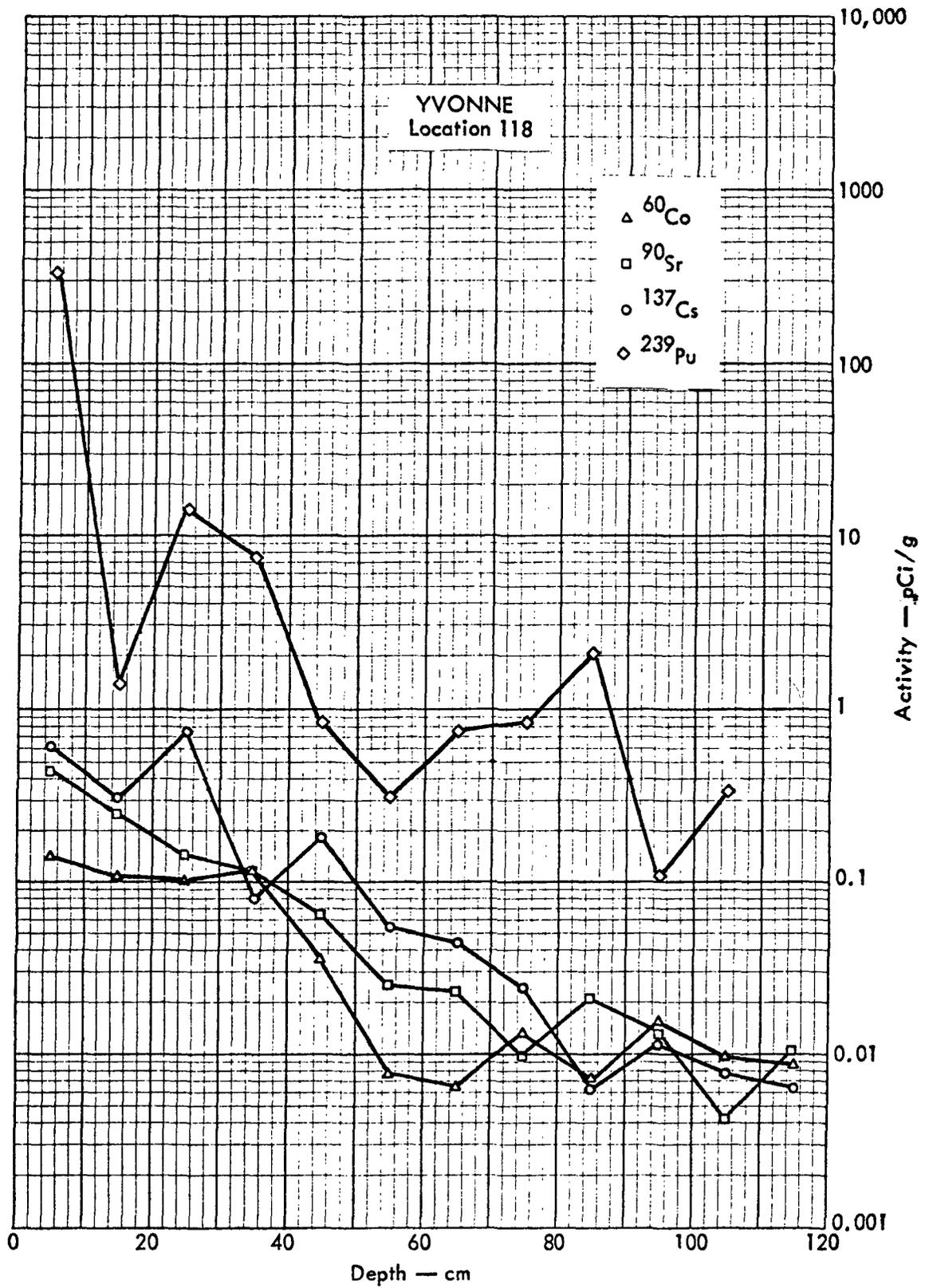


Fig. B. 23.2r. Activities of selected radionuclides as a function of soil depth.

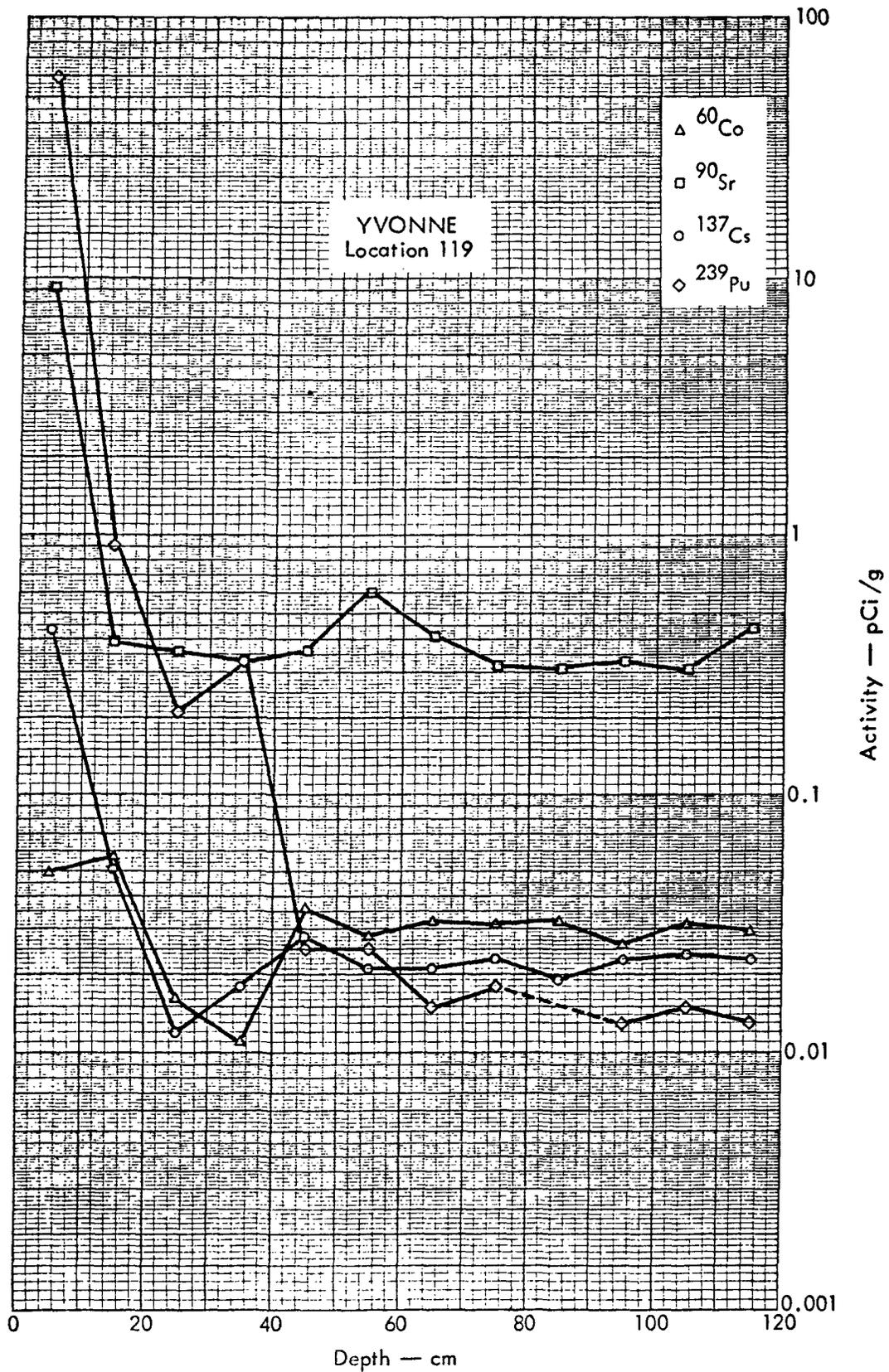


Fig. B. 23.2s. Activities of selected radionuclides as a function of soil depth

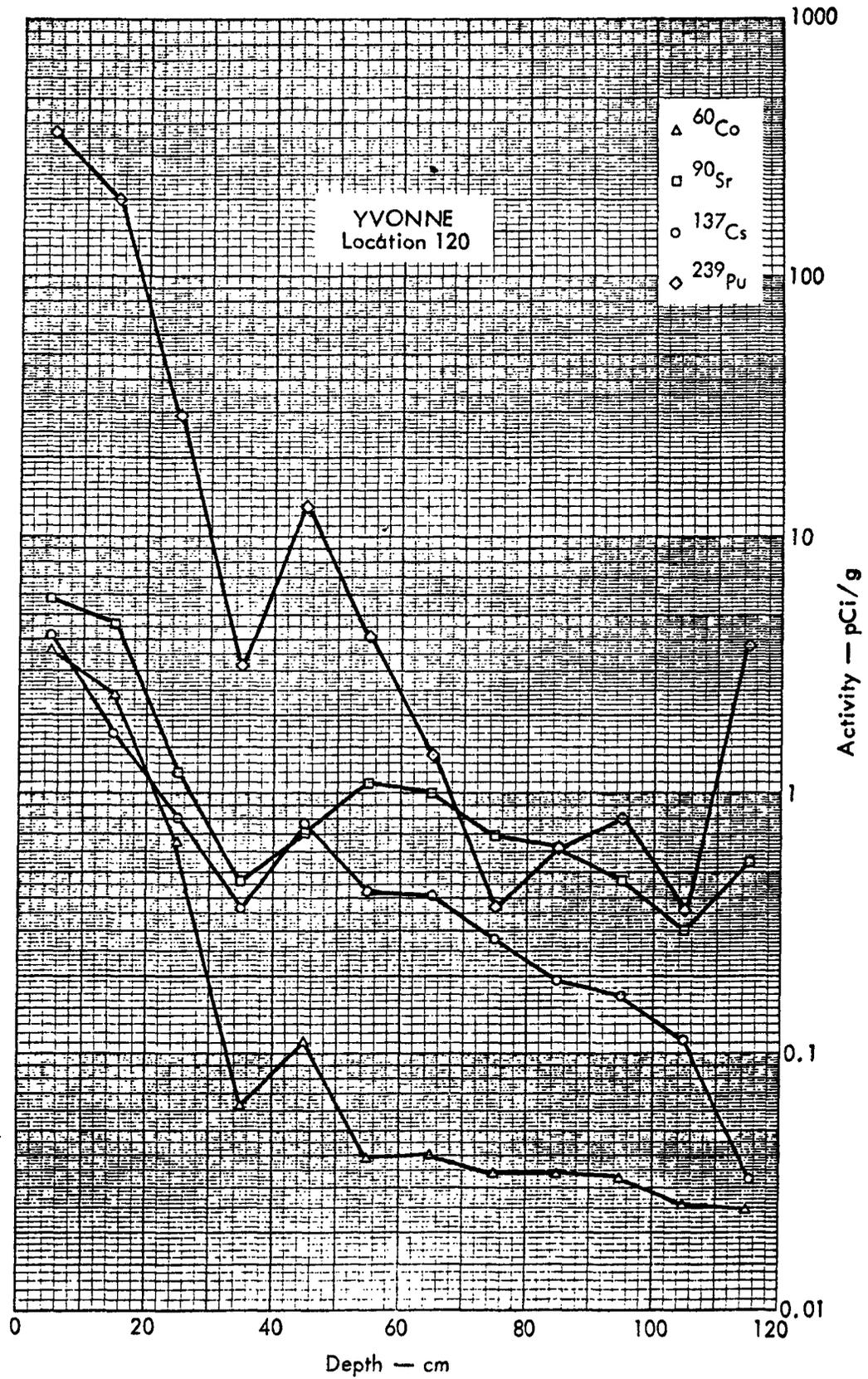


Fig. B. 23.2t. Activities of selected radionuclides as a function of soil depth.

(76)

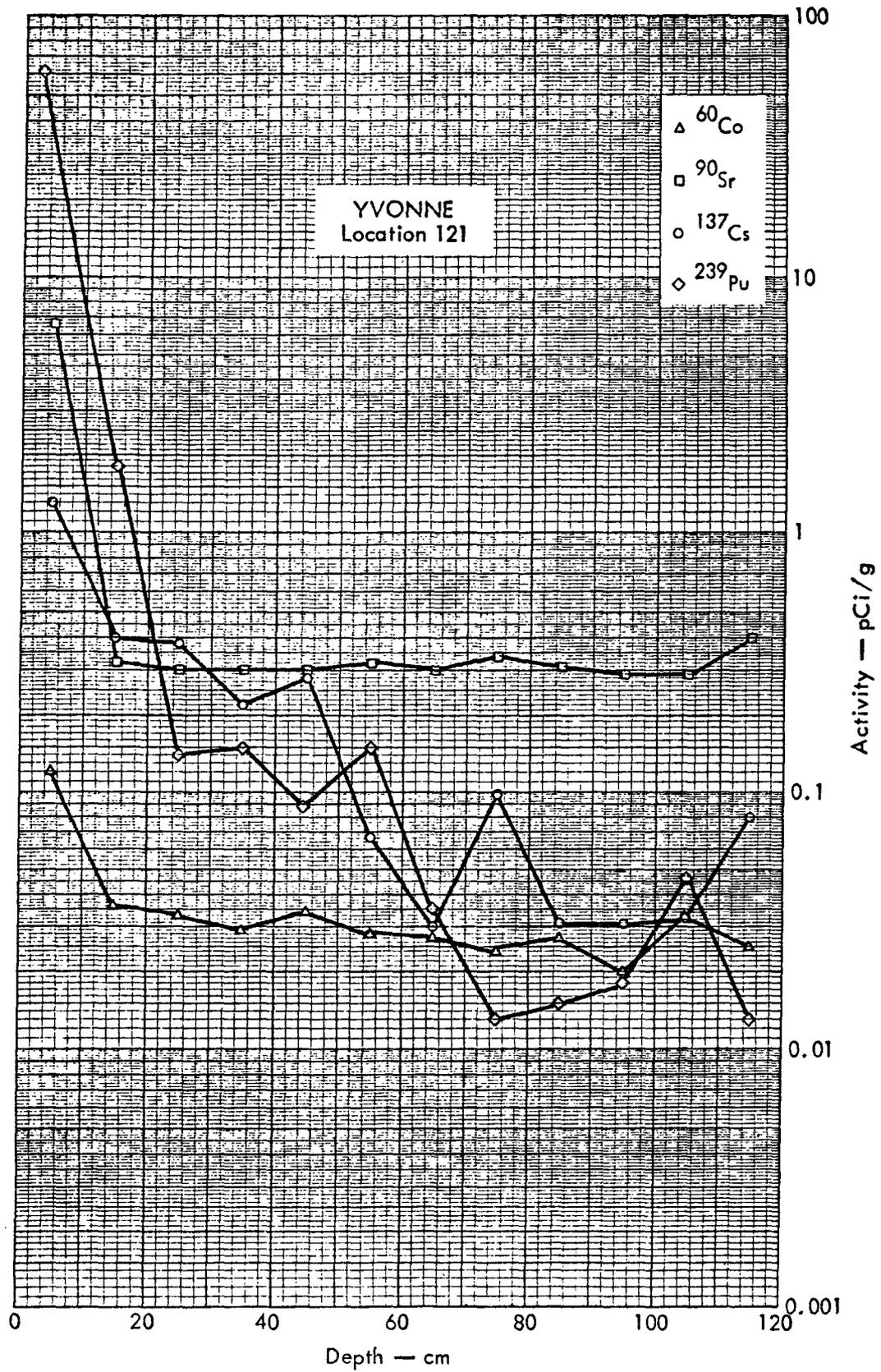


Fig. B. 23.2u. Activities of selected radionuclides as a function of soil depth.

(77)

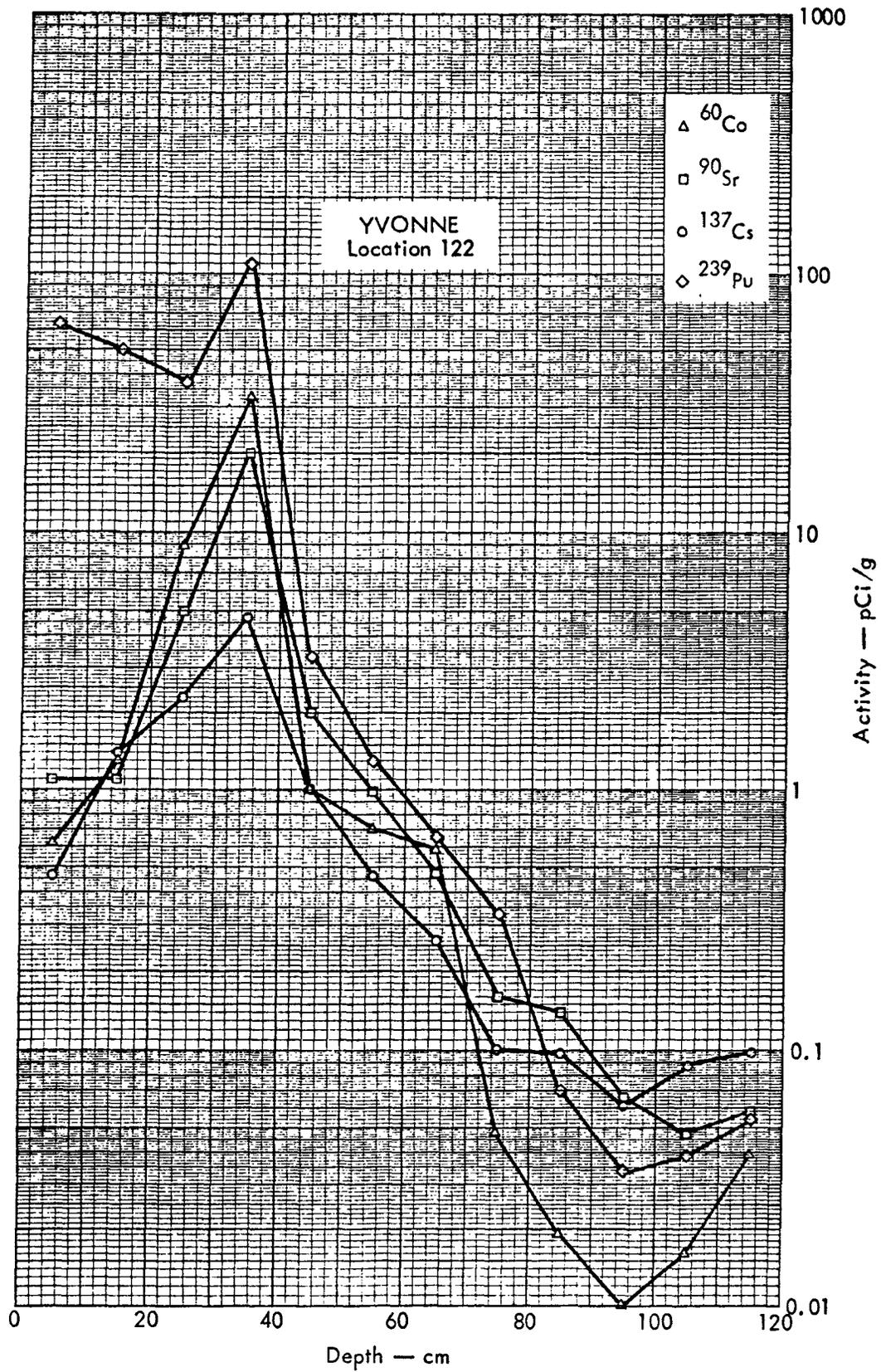


Fig. B. 23.2v. Activities of selected radionuclides as a function of soil depth.

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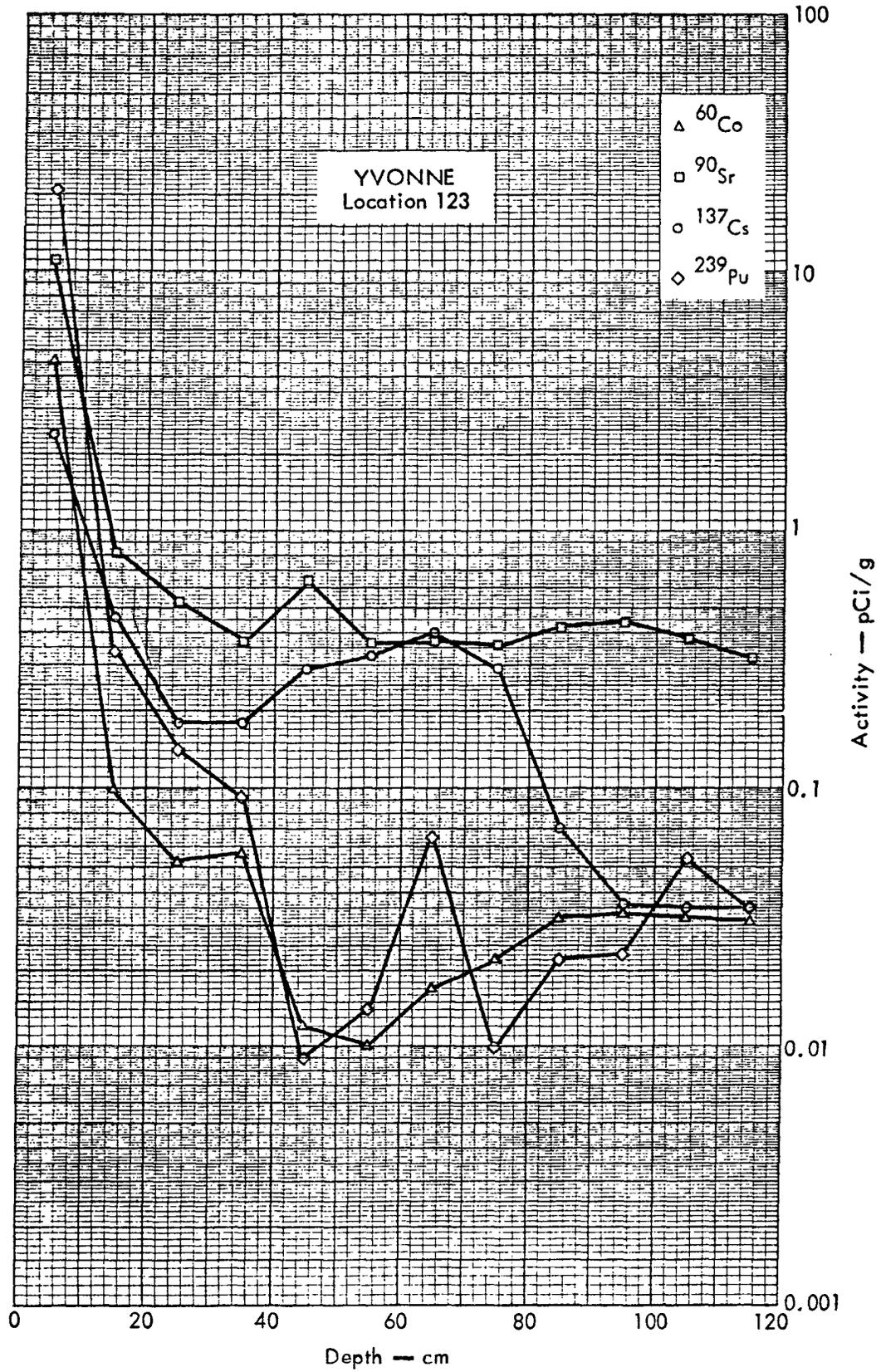


Fig. B. 23.2w. Activities of selected radionuclides as a function of soil depth.

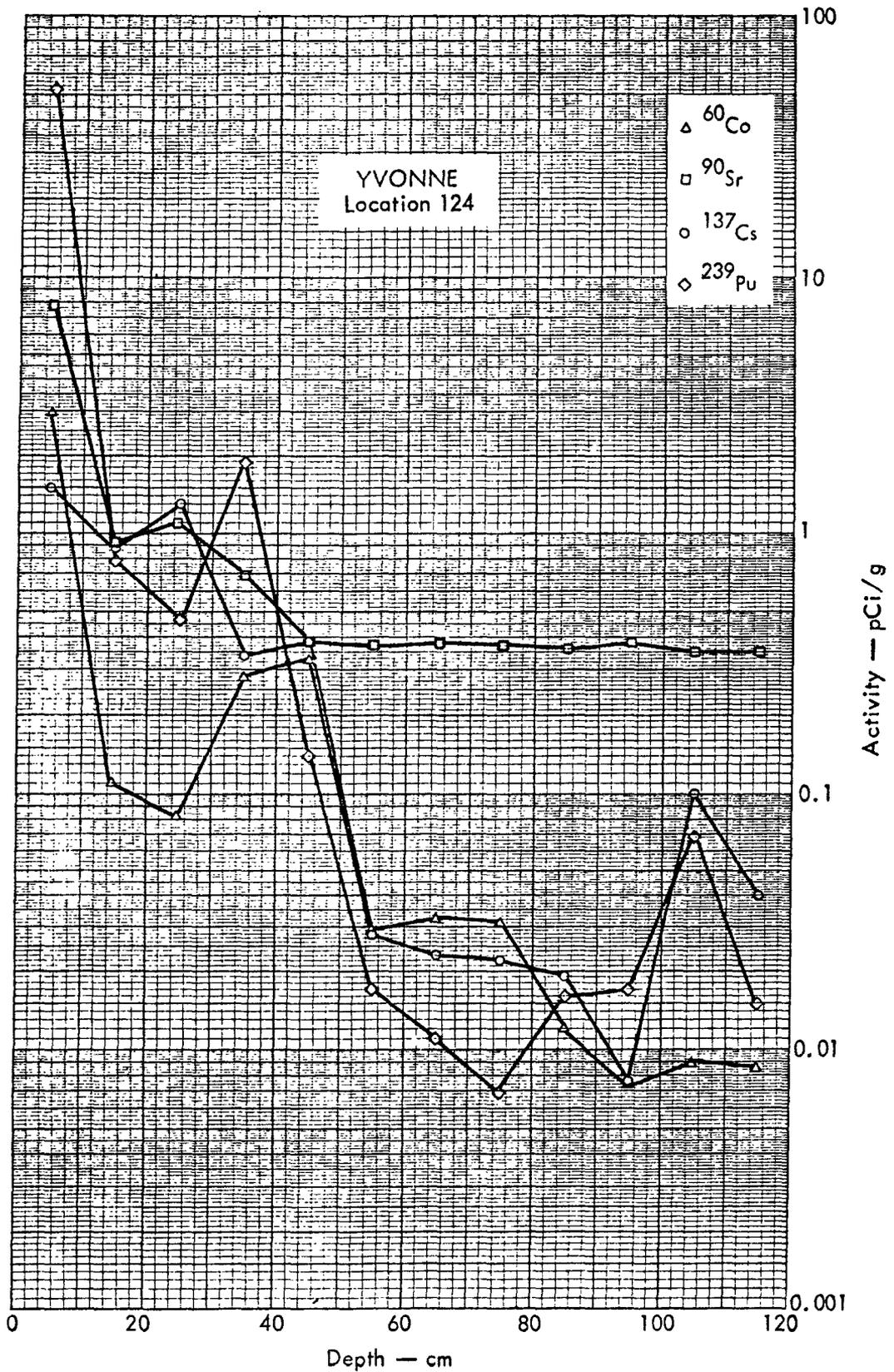


Fig. B. 23.2x. Activities of selected radionuclides as a function of soil depth.

(80)

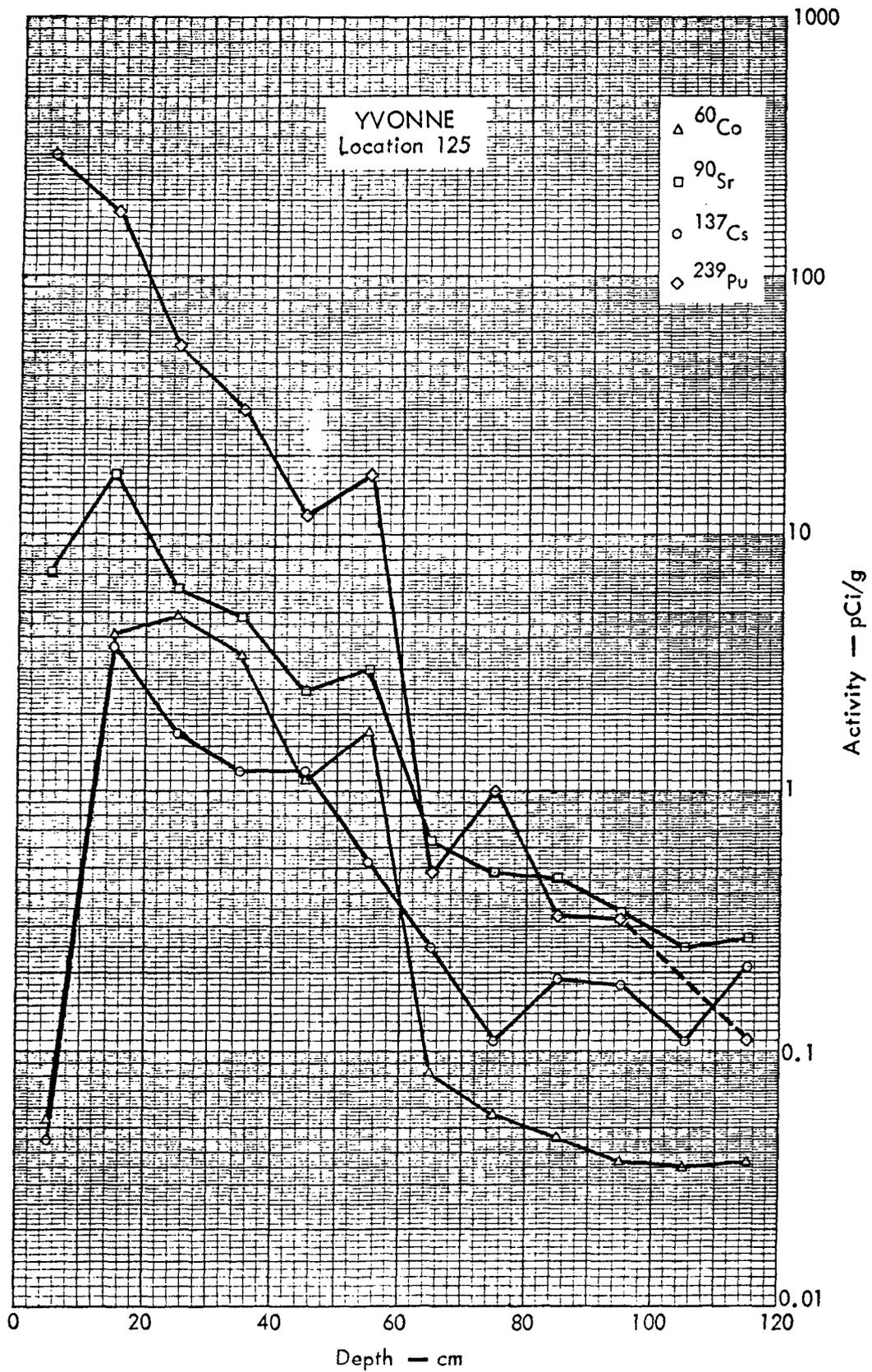


Fig. B. 23.2y. Activities of selected radionuclides as a function of soil depth.

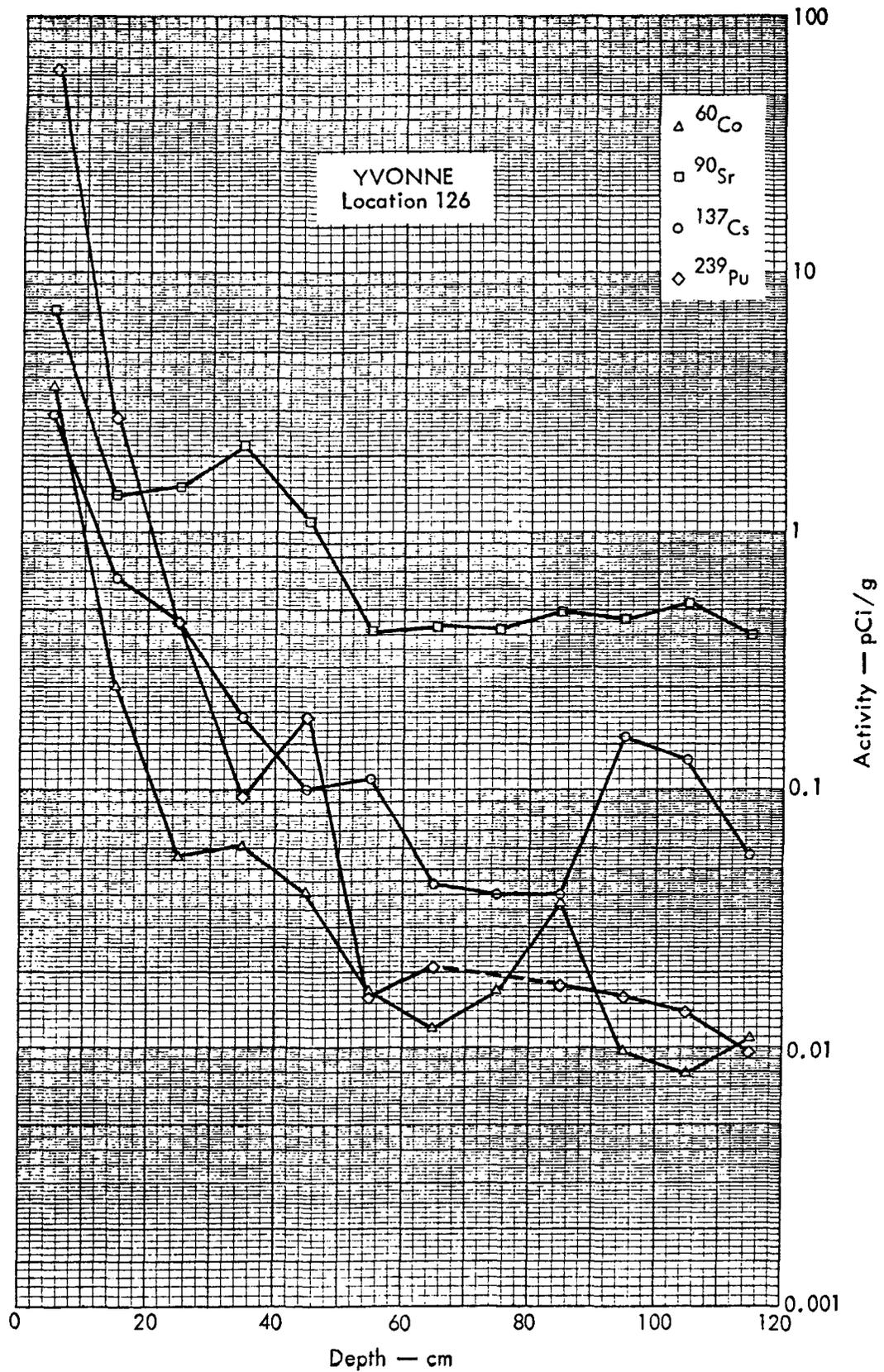


Fig. B. 23.2z. Activities of selected radionuclides as a function of soil depth.

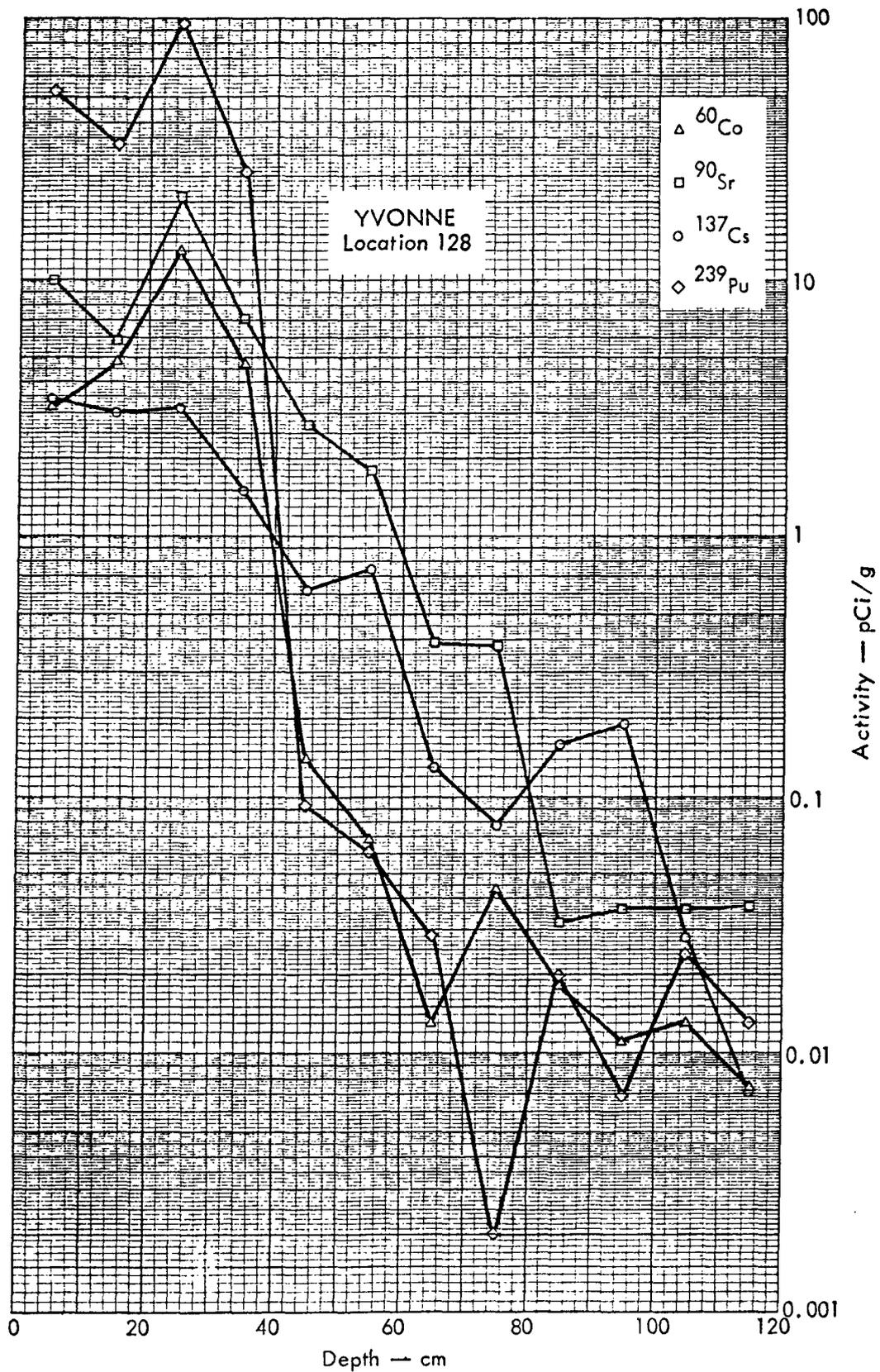


Fig. B. 23.2aa. Activities of selected radionuclides as a function of soil depth.

(52)

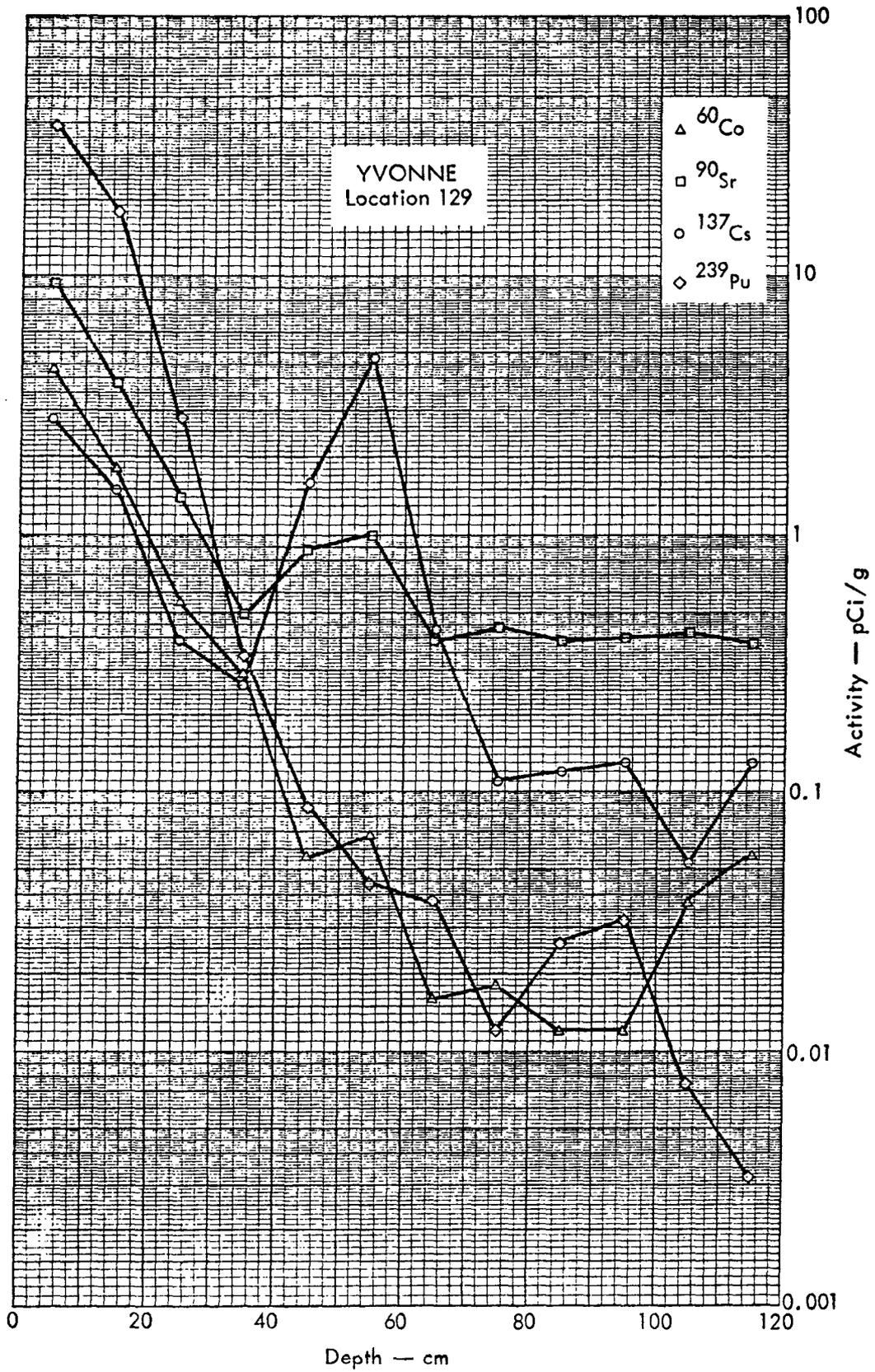


Fig. B. 23.2bb. Activities of selected radionuclides as a function of soil depth.

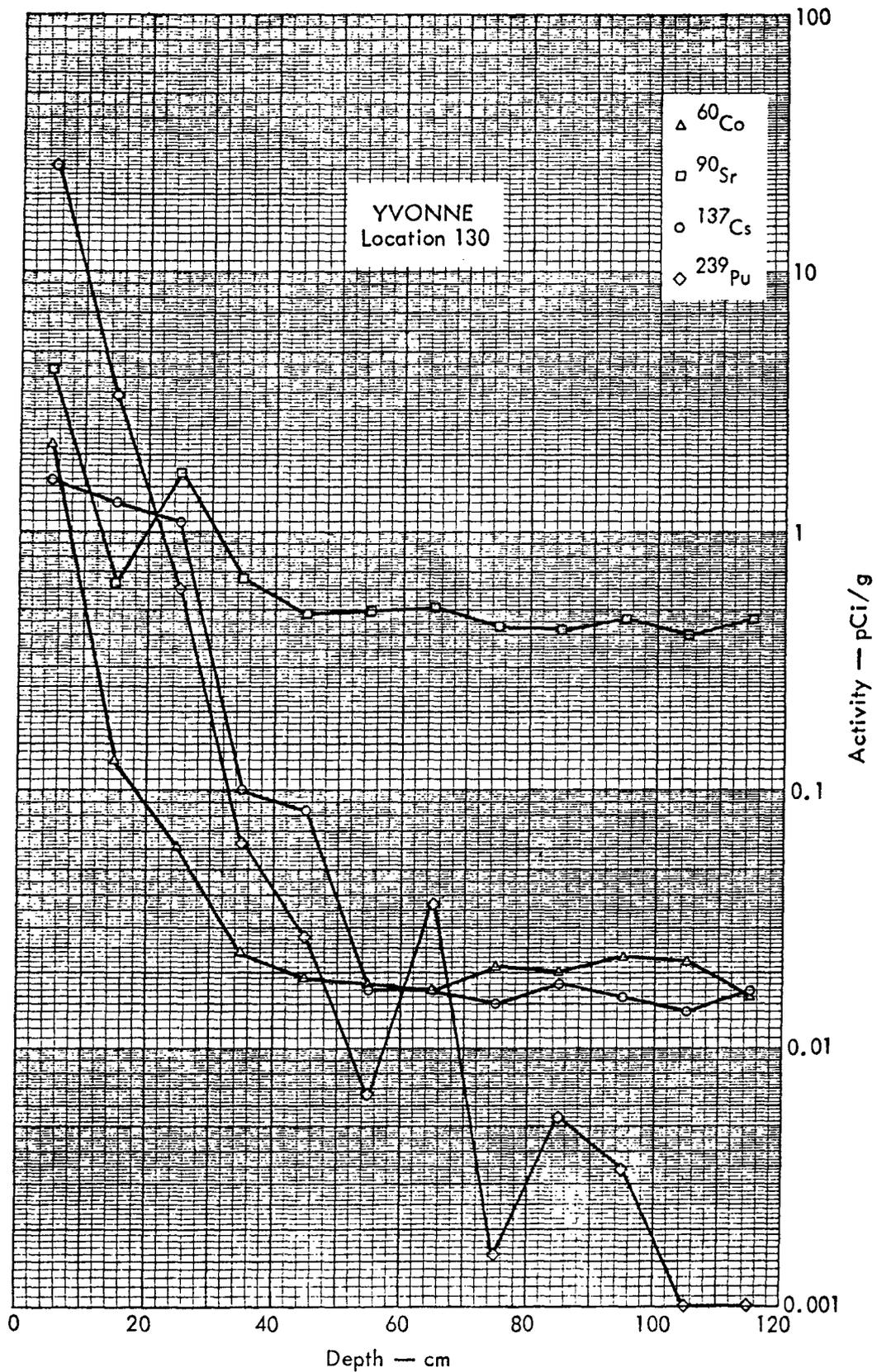


Fig. B. 23.2cc. Activities of selected radionuclides as a function of soil depth.

(5)

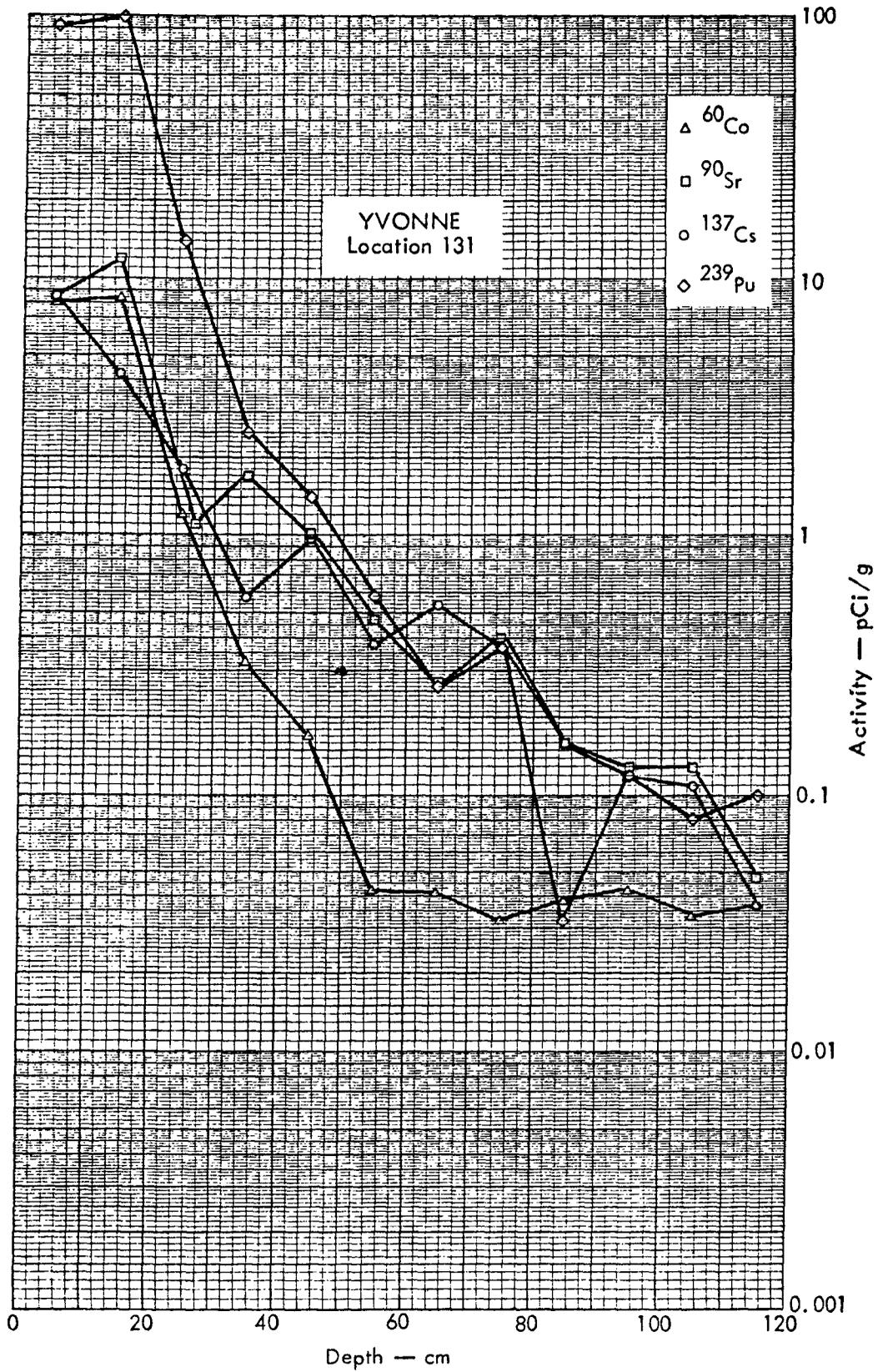


Fig. B. 23.2dd. Activities of selected radionuclides as a function of soil depth

(96)

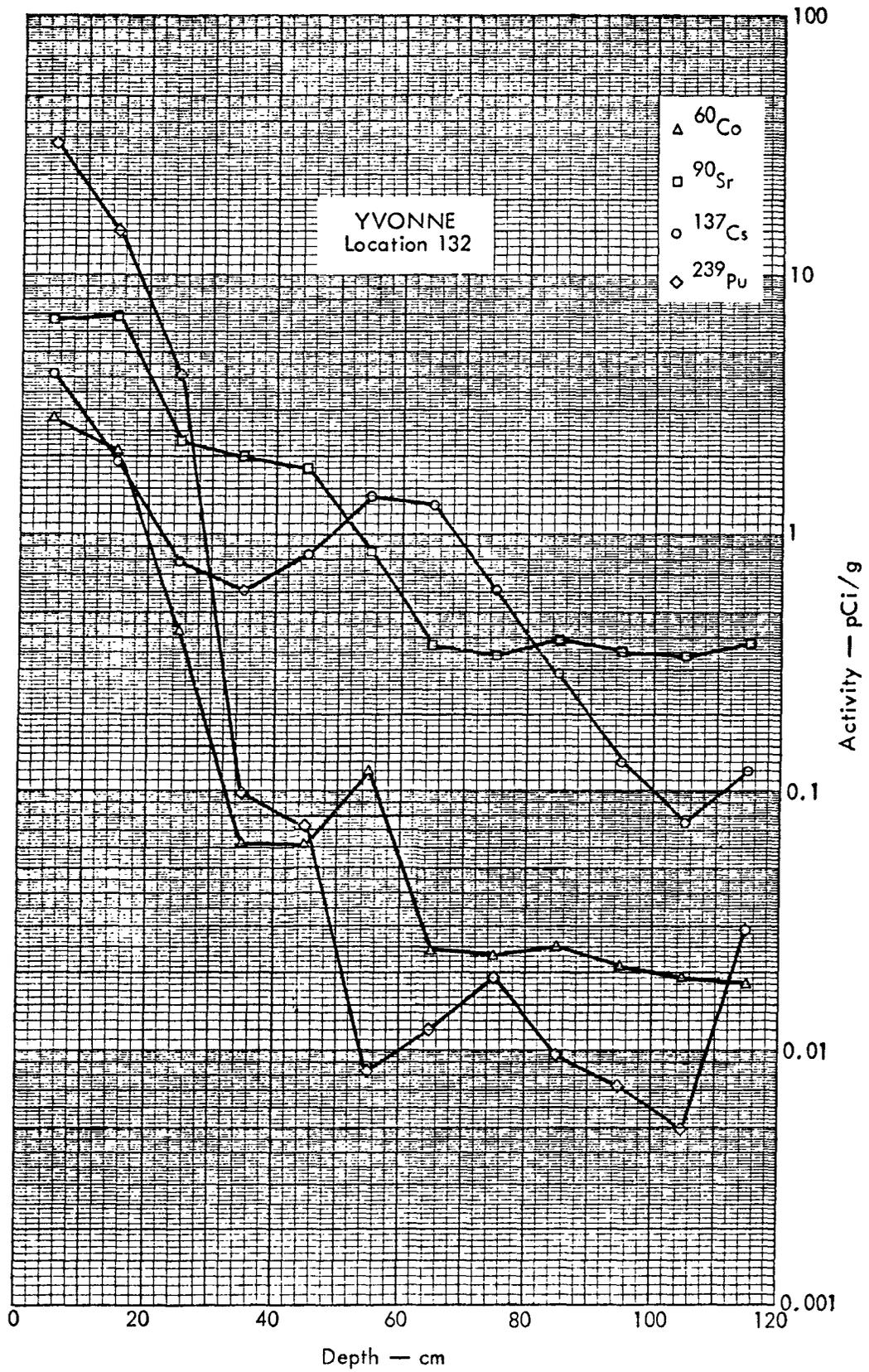


Fig. B. 23.2ee. Activities of selected radionuclides as a function of soil depth.

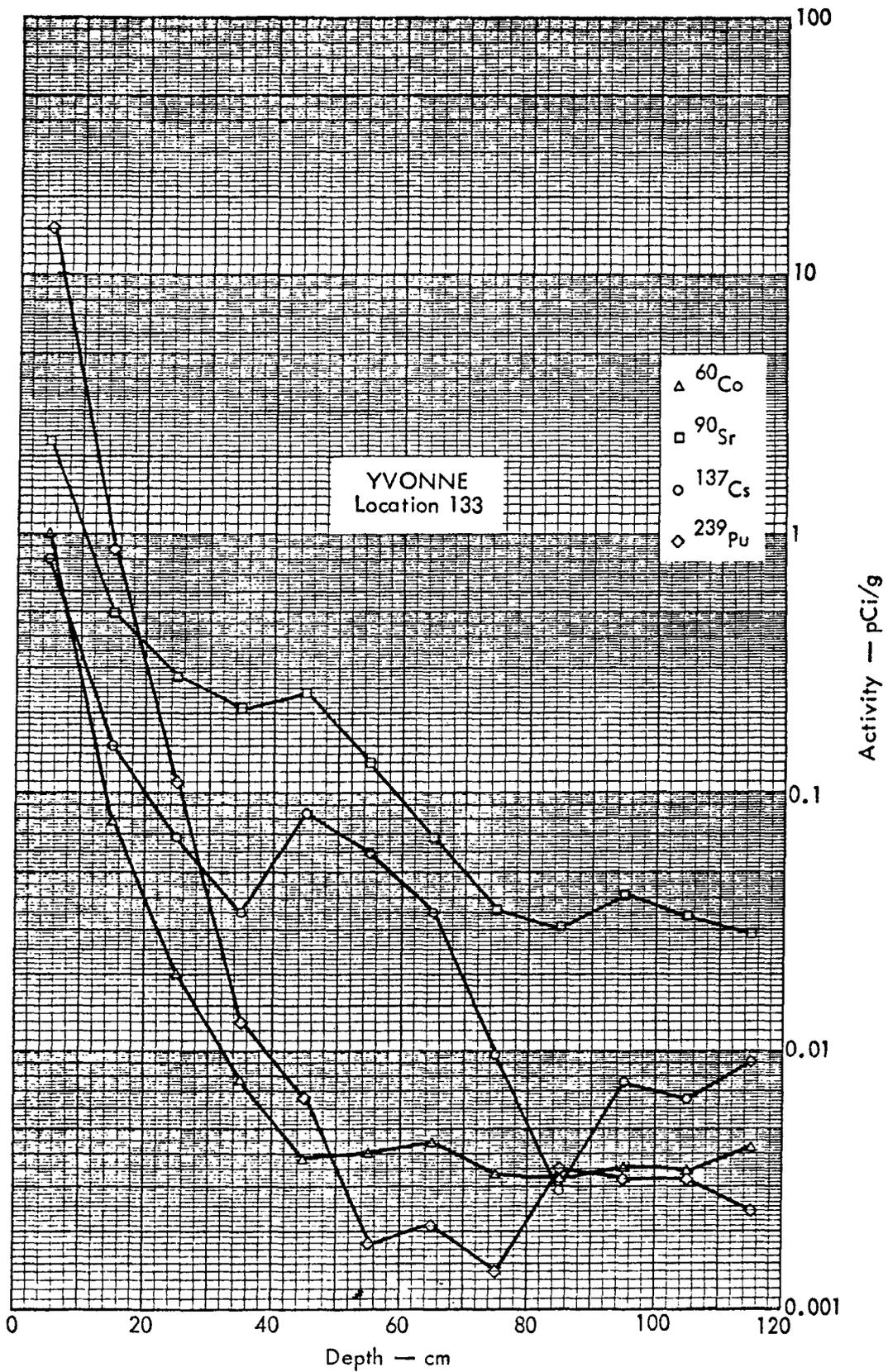


Fig. B. 23.2ff. Activities of selected radionuclides as a function of soil depth.

(45)

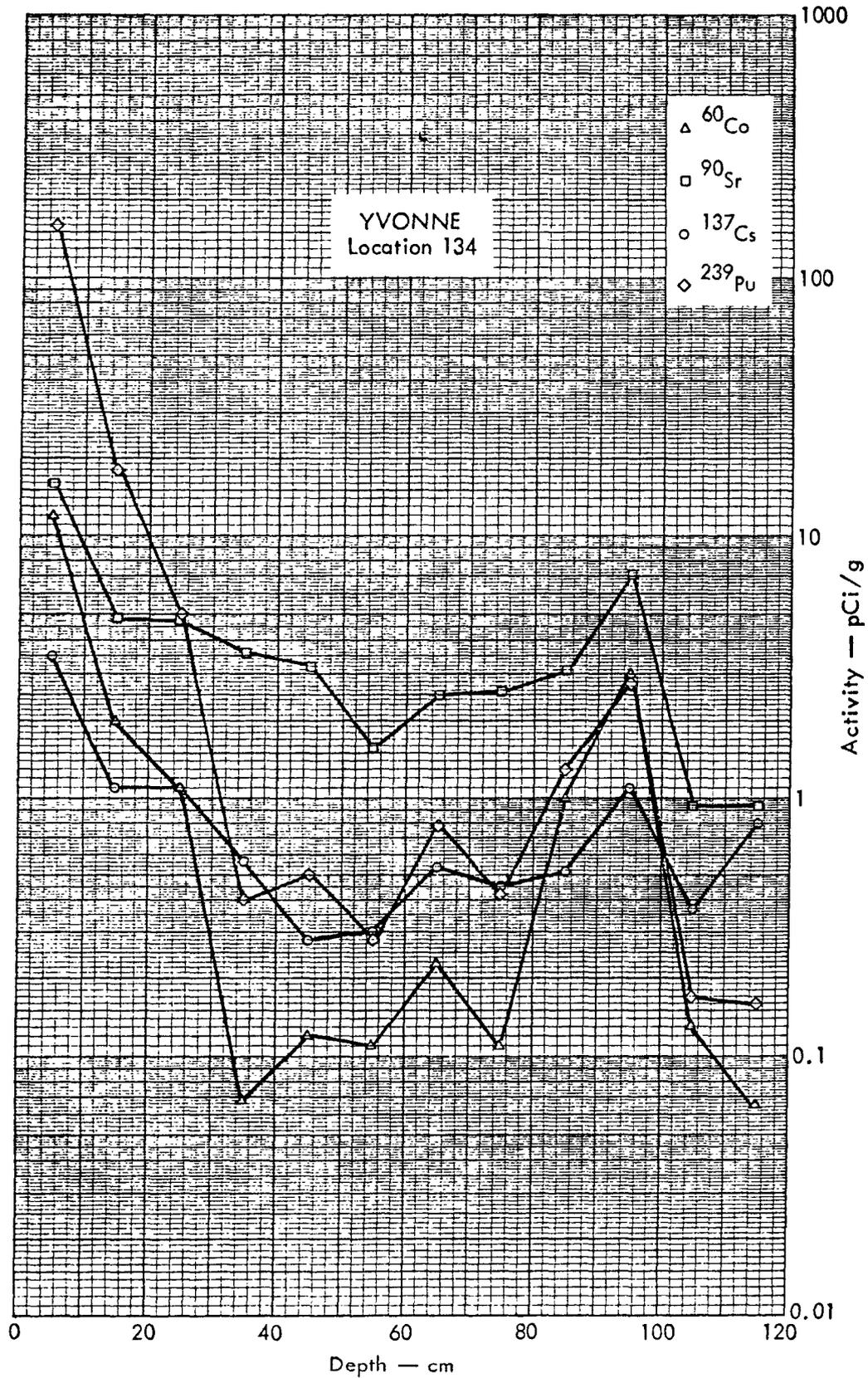


Fig. B. 23.2gg. Activities of selected radionuclides as a function of soil depth.

29

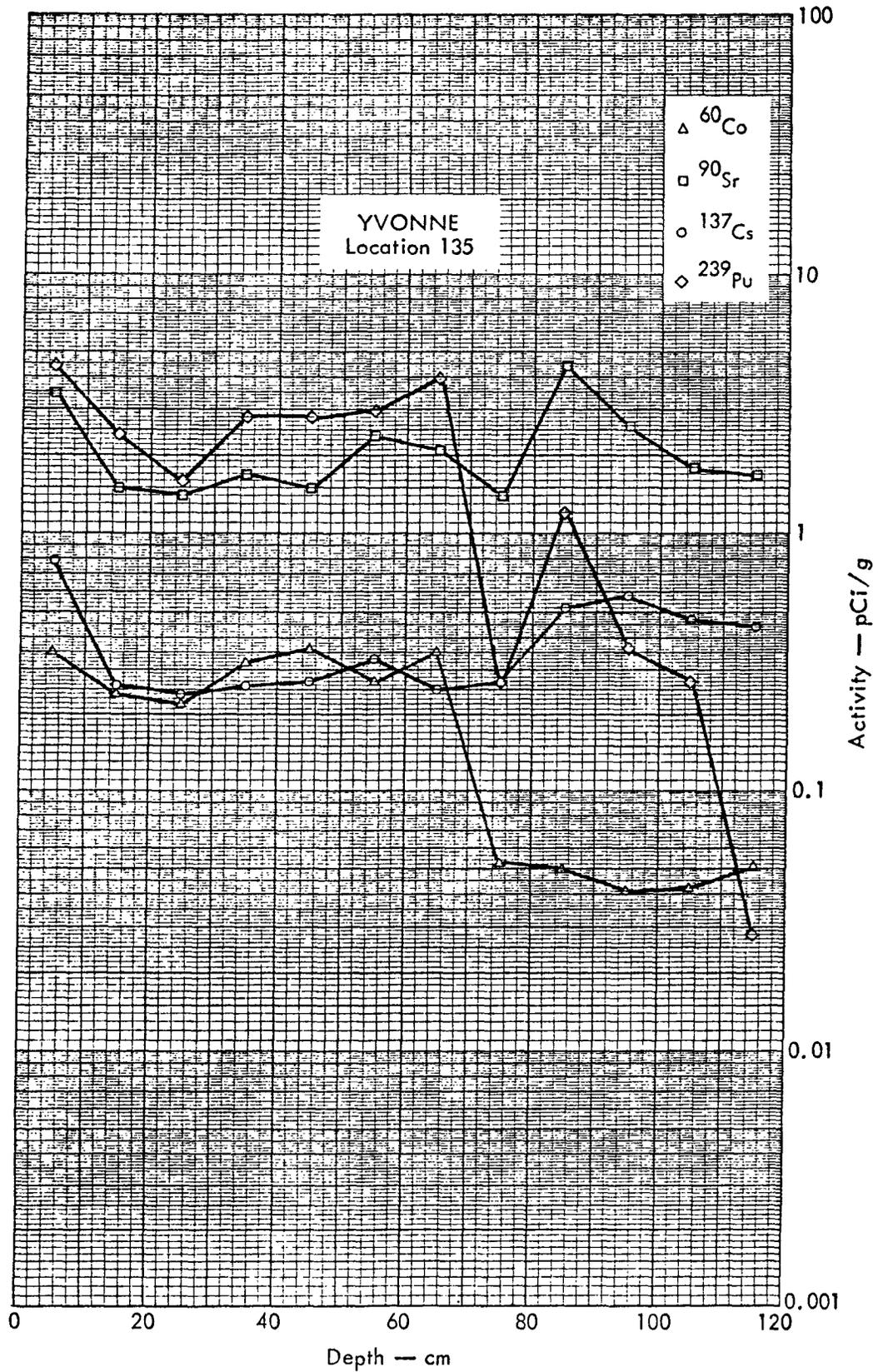


Fig. B. 23.2hh. Activities of selected radionuclides as a function of soil depth.

(90)

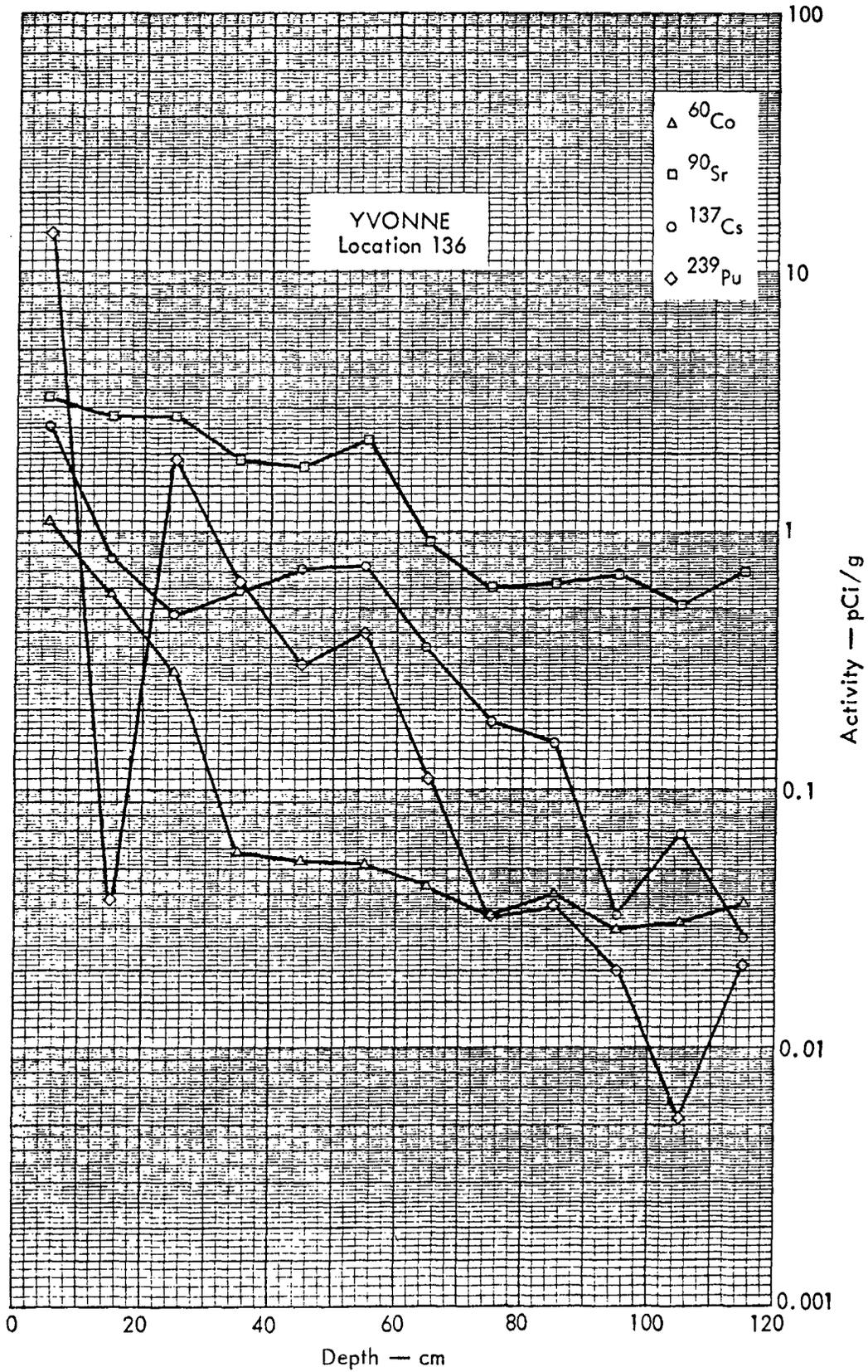


Fig. B. 23.2ii. Activities of selected radionuclides as a function of soil depth.

91

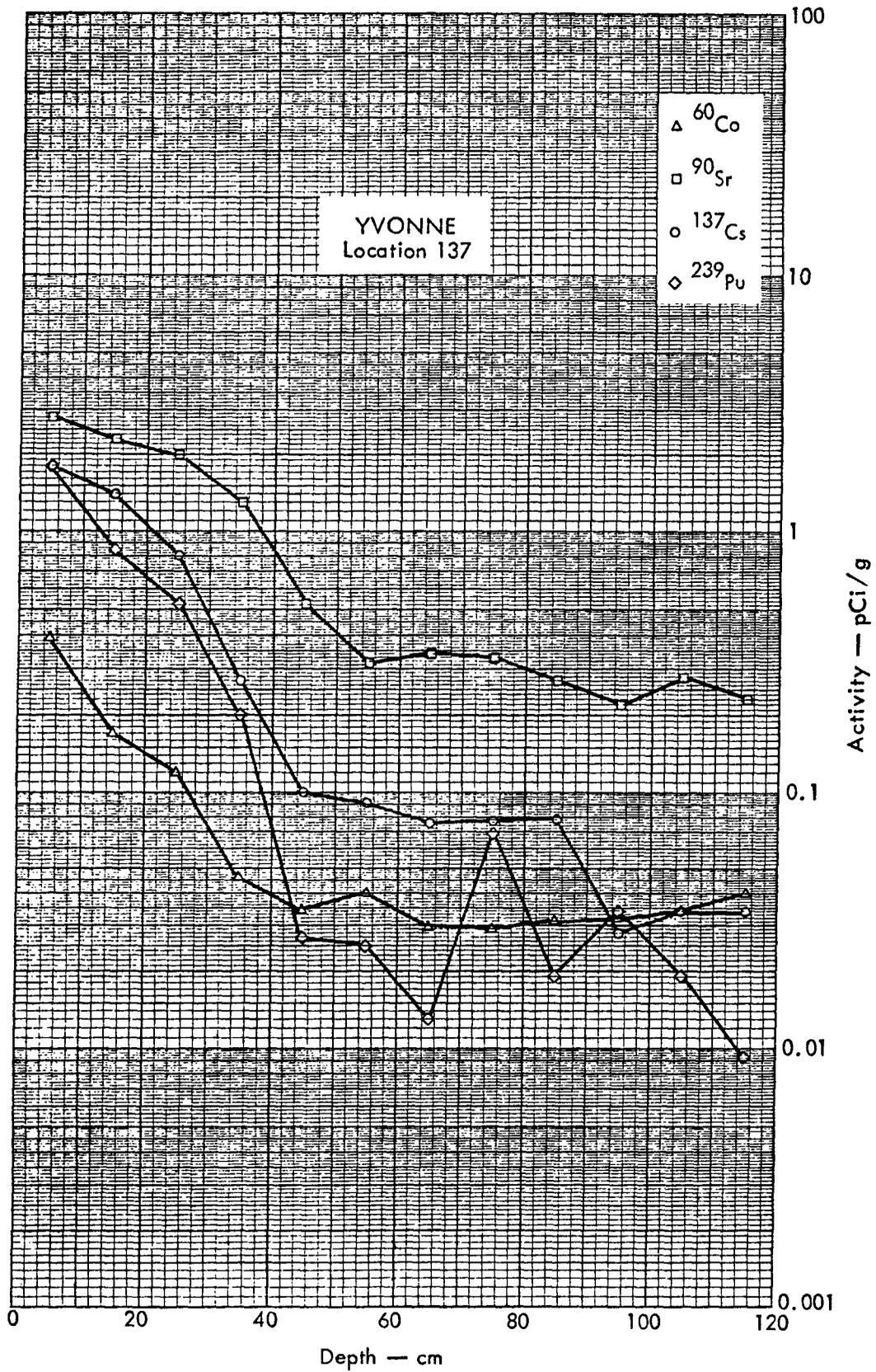


Fig. B. 23.2jj. Activities of selected radionuclides as a function of soil depth.

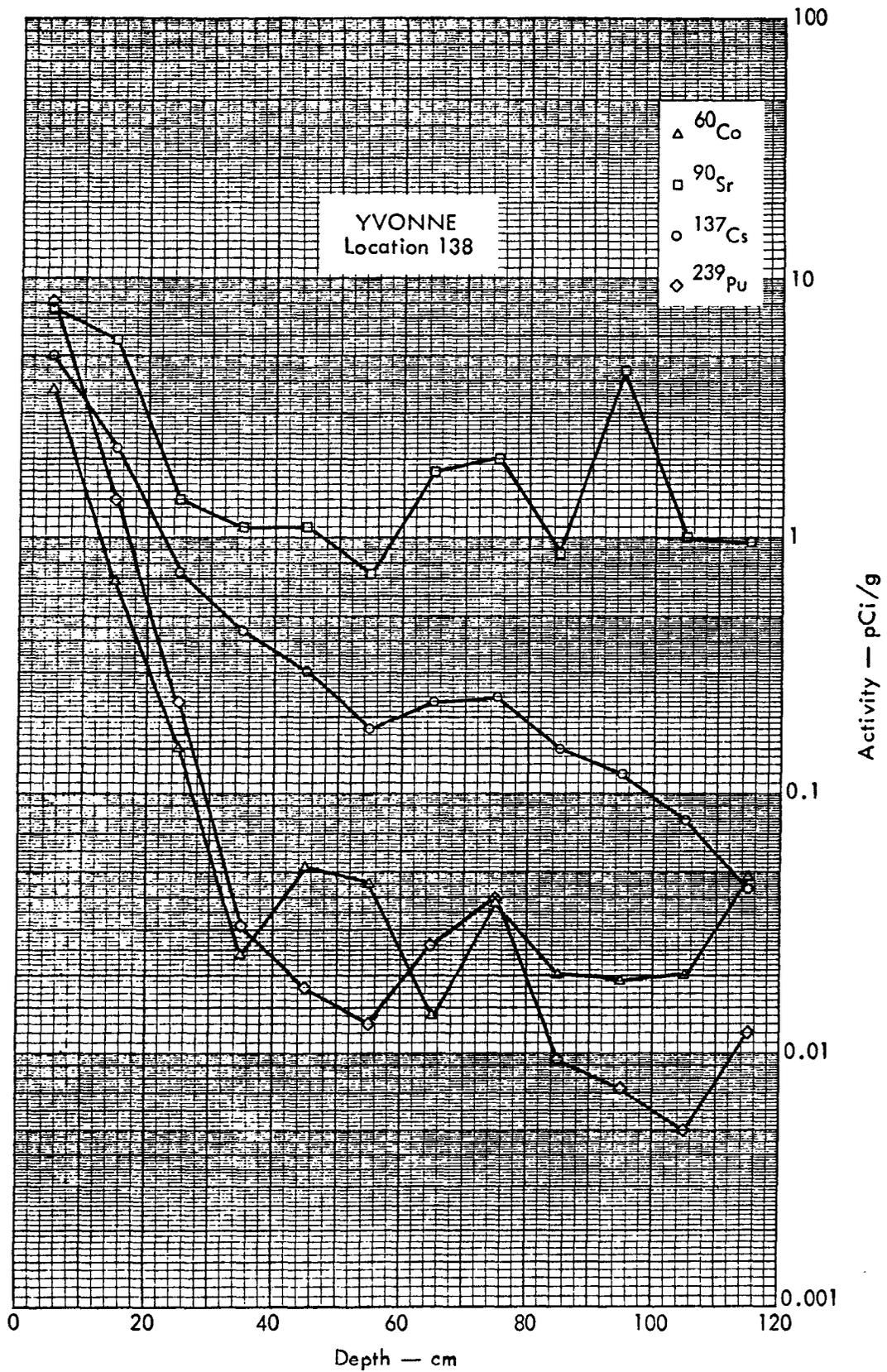


Fig. B. 23.2kk. Activities of selected radionuclides as a function of soil depth.

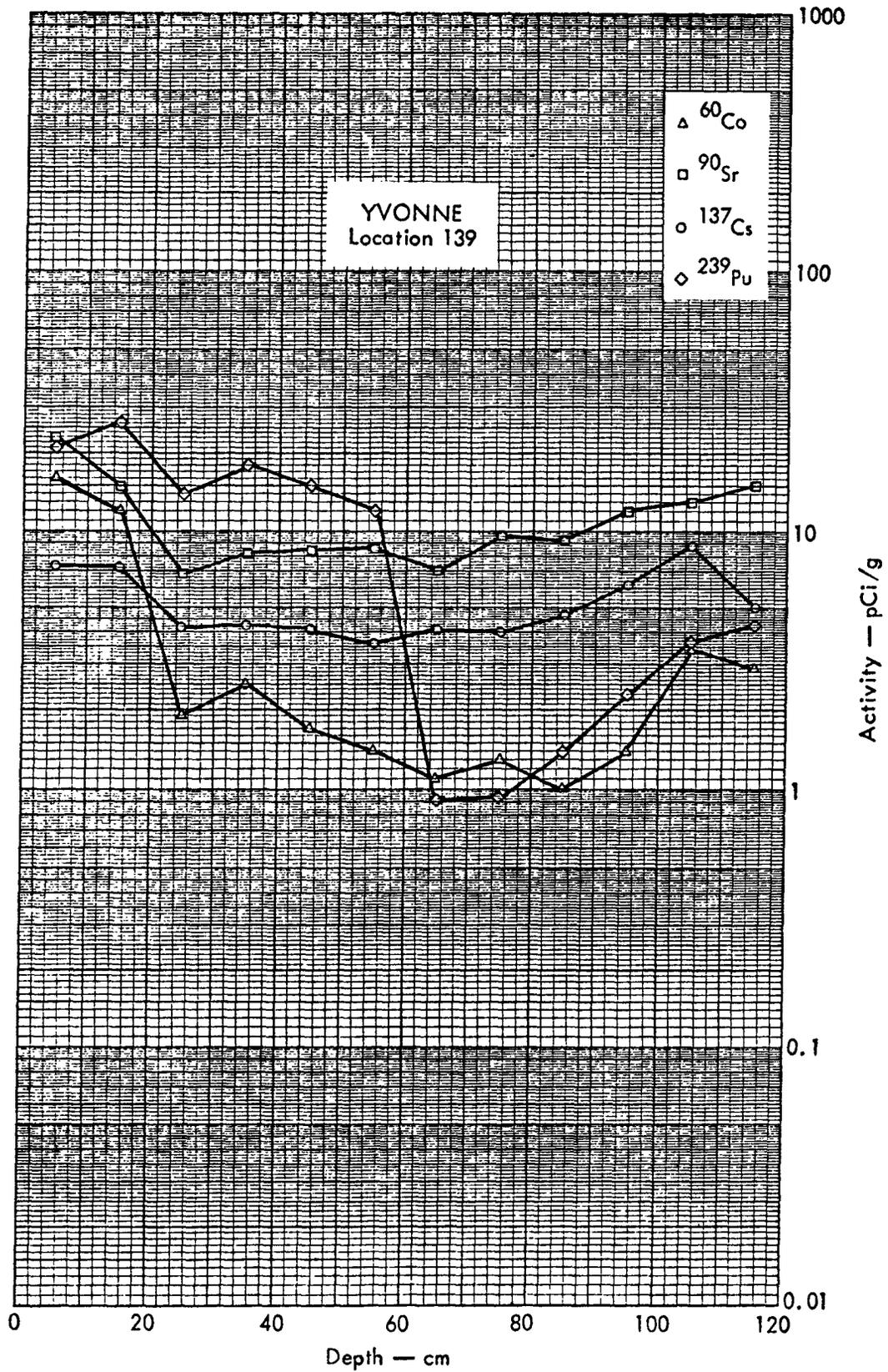
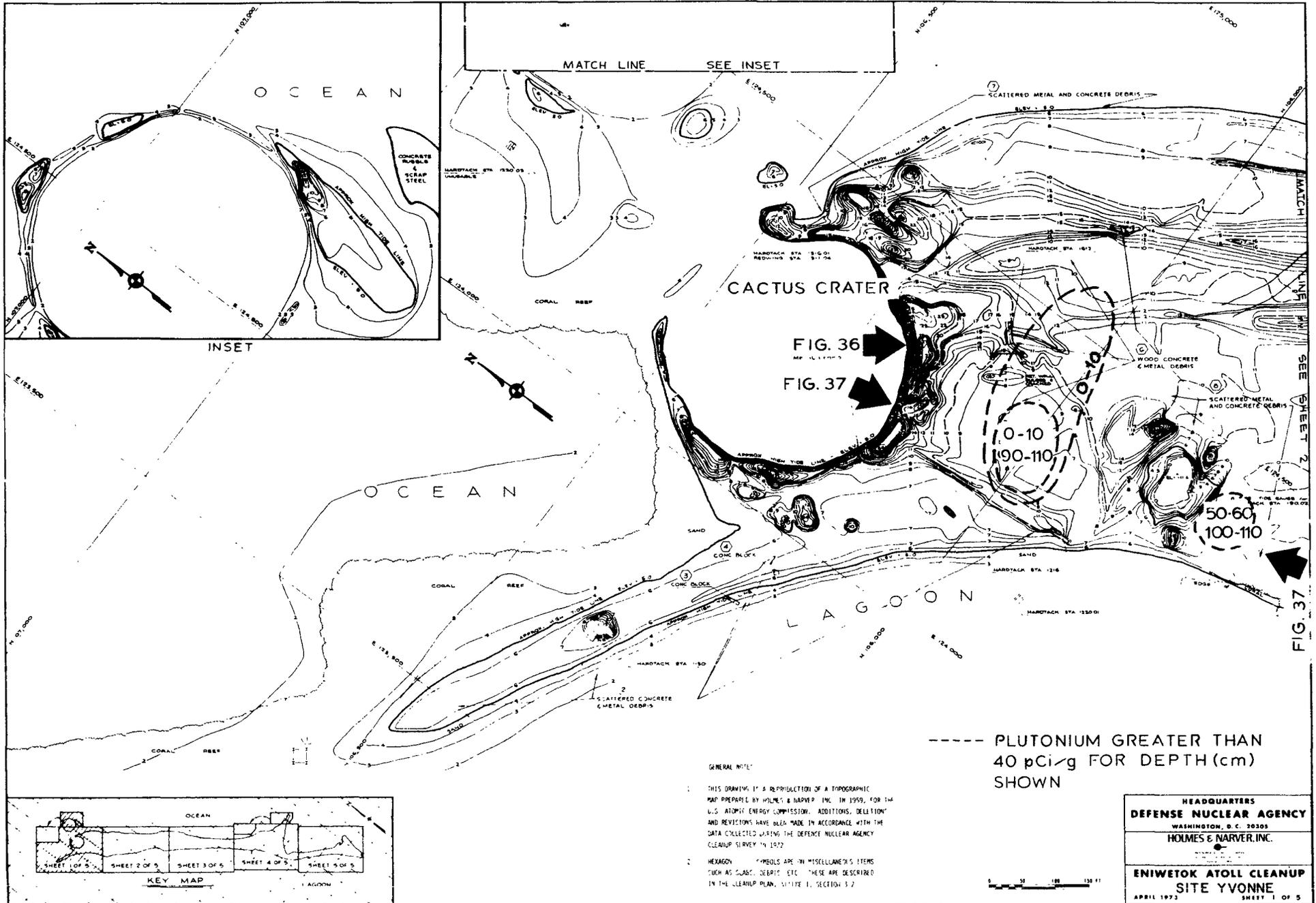


Fig. B. 23.211. Activities of selected radionuclides as a function of soil depth.

(44)

PLUTONIUM INFORMATION



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PLUTONIUM INFORMATION

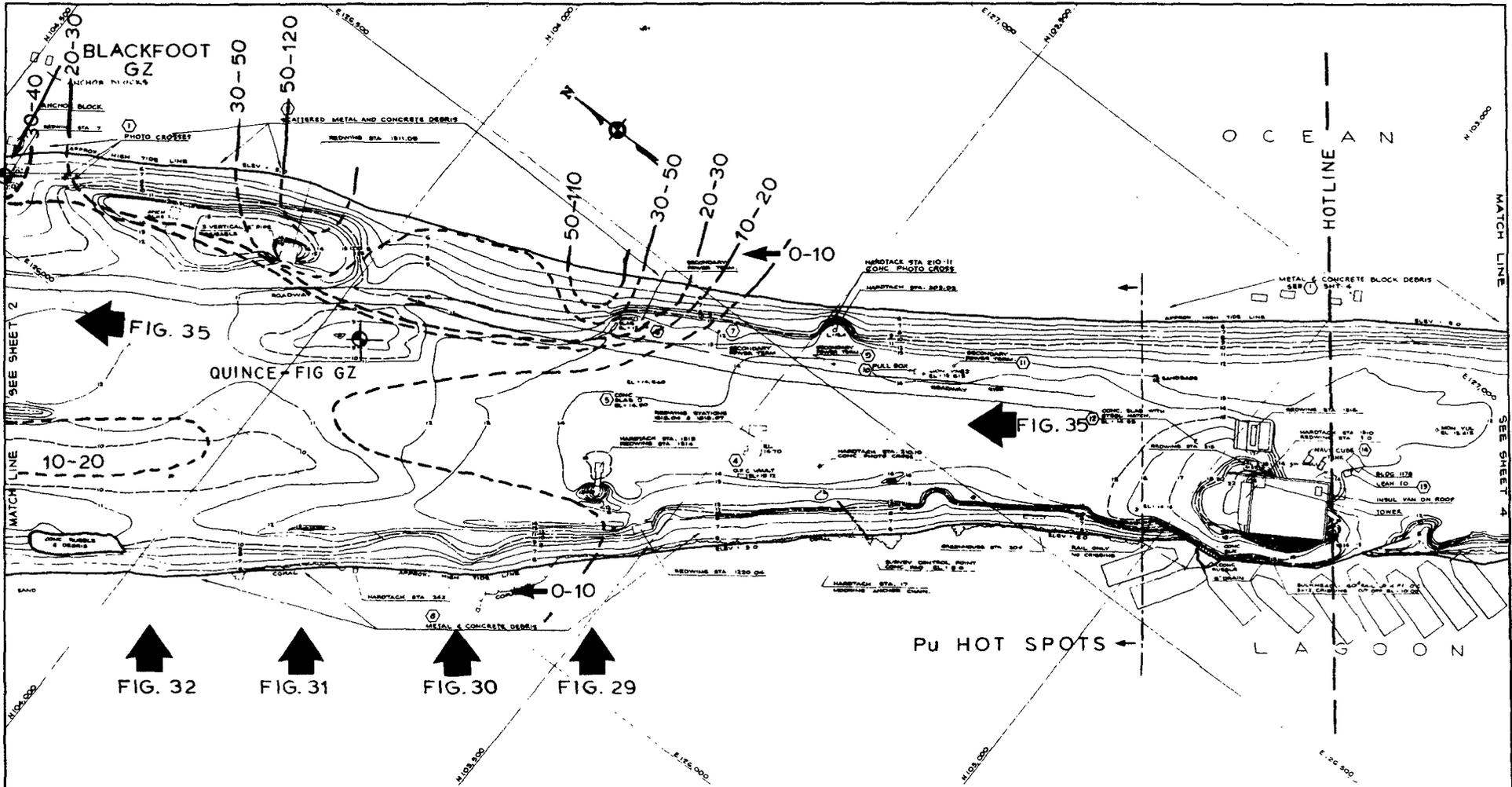


FIG. 32

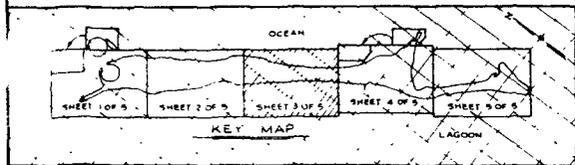
FIG. 31

FIG. 30

FIG. 29

--- PLUTONIUM GREATER THAN
40 pCi/g FOR DEPTH (cm)
SHOWN

FOR GENERAL NOTES SEE SHEET

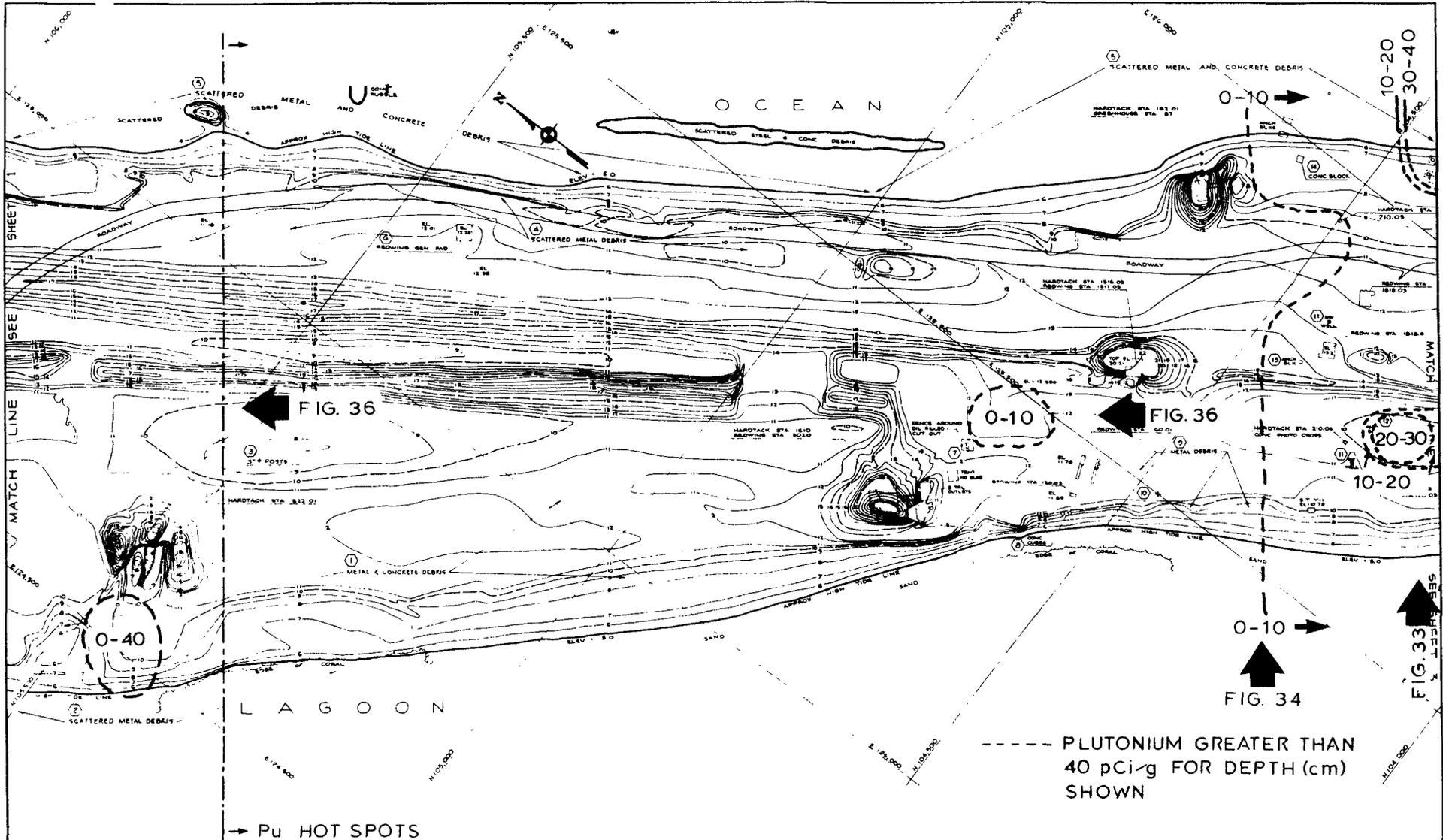


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WASHINGTON, D. C. 20305
HOLMES & NARVER, INC.

ENIWEOK ATOLL CLEANUP
SITE YVONNE
APRIL 1973 SHEET 3 OF 5

9b

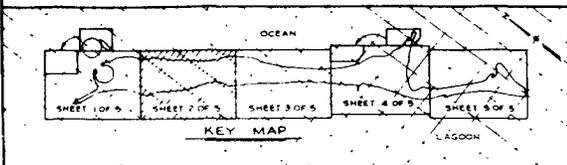
PLUTONIUM INFORMATION



→ Pu HOT SPOTS

--- PLUTONIUM GREATER THAN 40 pCi/g FOR DEPTH (cm) SHOWN

FOR GENERAL NOTES SEE SHEET 1



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ENIWETOK ATOLL CLEANUP SITE YVONNE APRIL 1993 SHEET 2 OF 5

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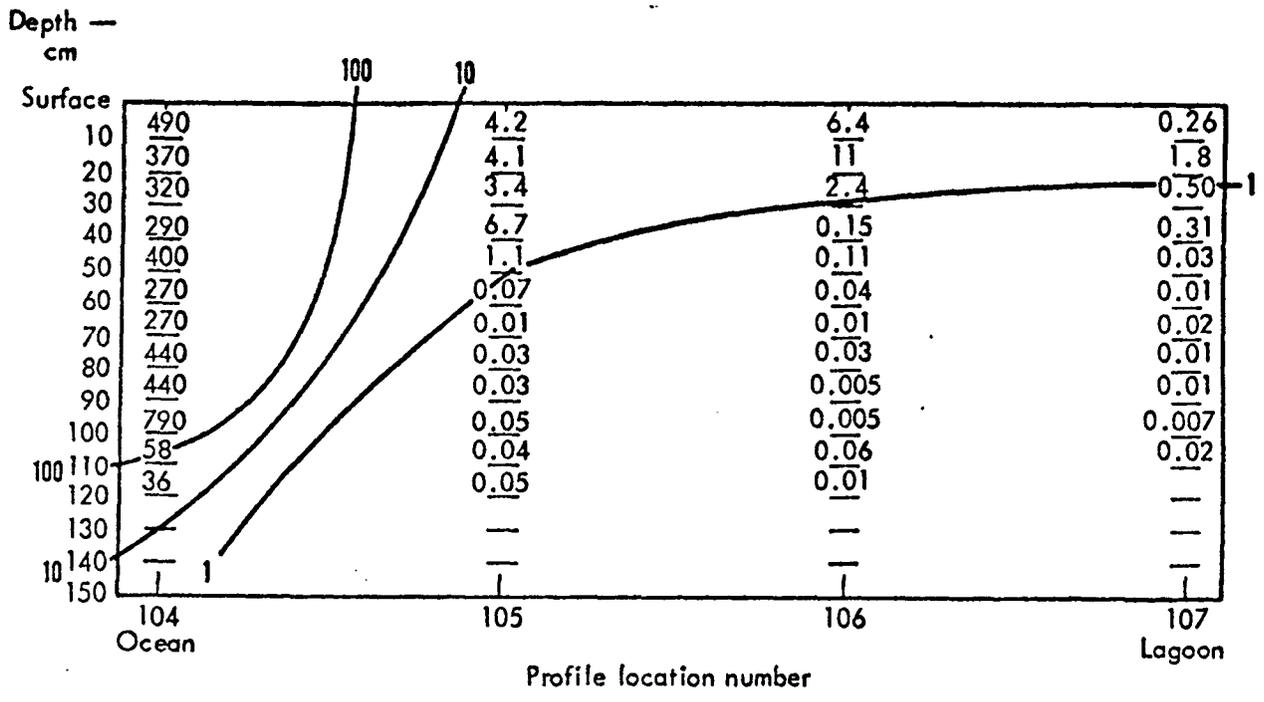


Fig. 29. Plutonium profile data, Locations 104-107, YVONNE.

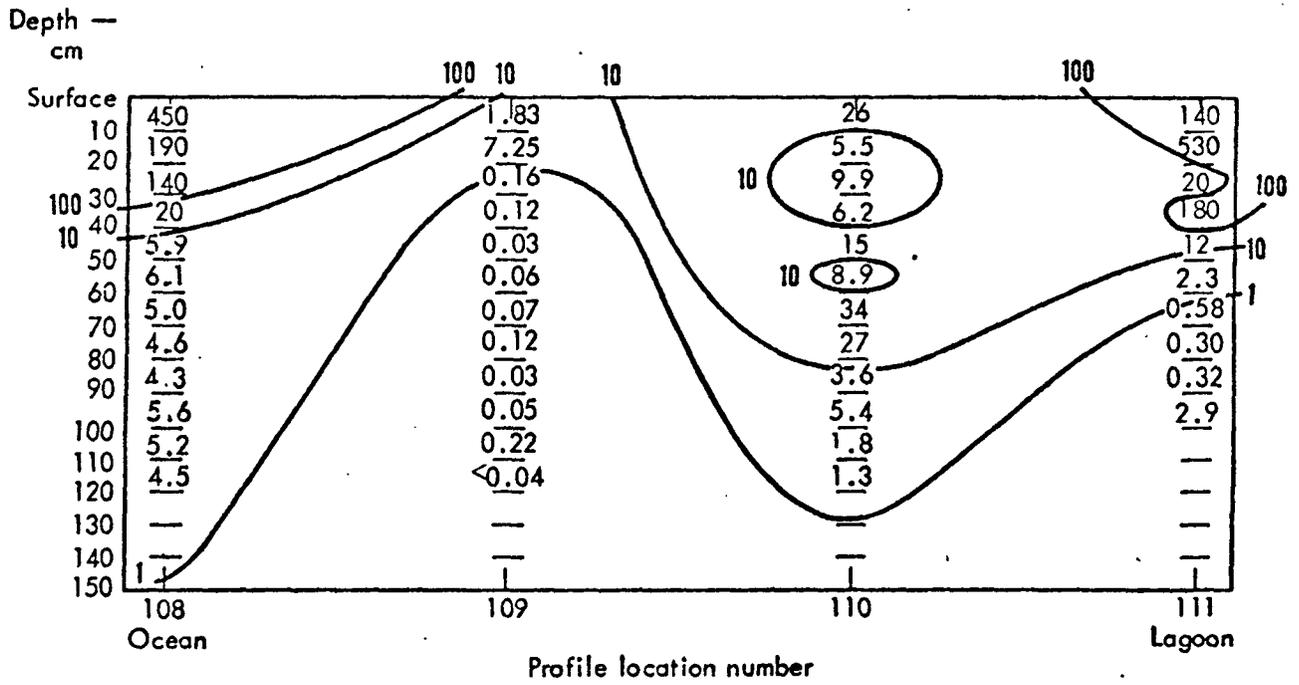


Fig. 30. Plutonium profile data, Locations 108-111, YVONNE.

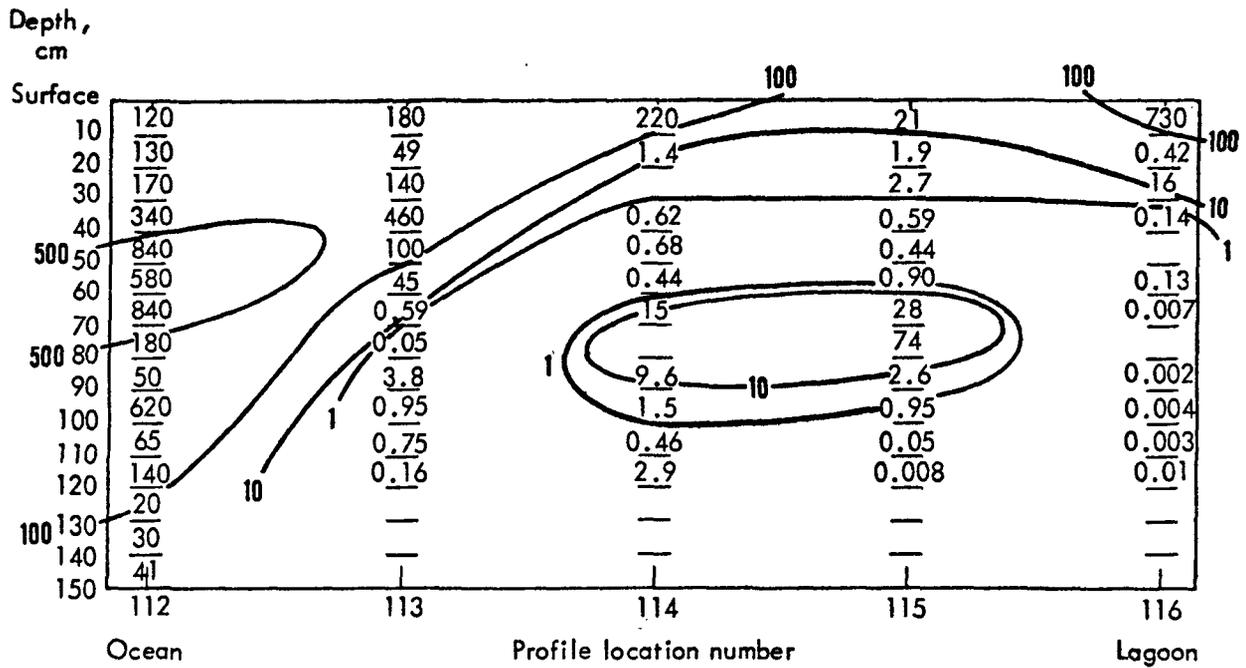


Fig. 31. Plutonium profile data, Locations 112-116, YVONNE.

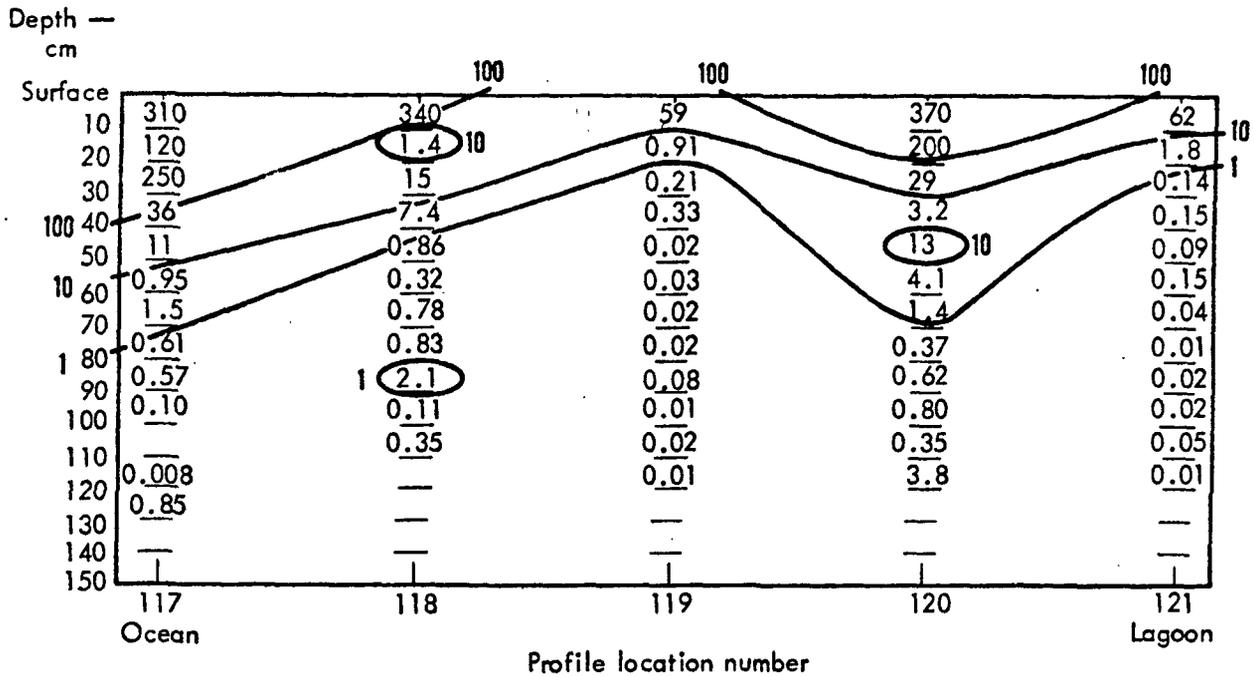


Fig. 32. Plutonium profile data, Locations 117-121, YVONNE.

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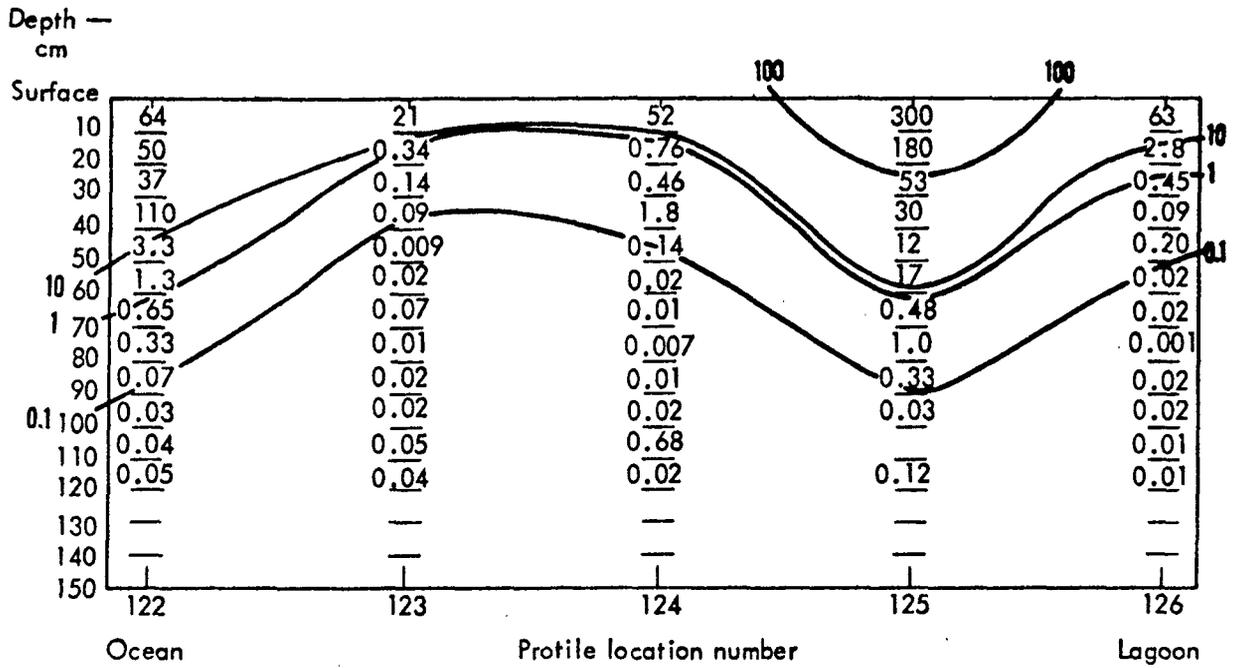


Fig. 33. Plutonium profile data, Locations 122-126, YVONNE.

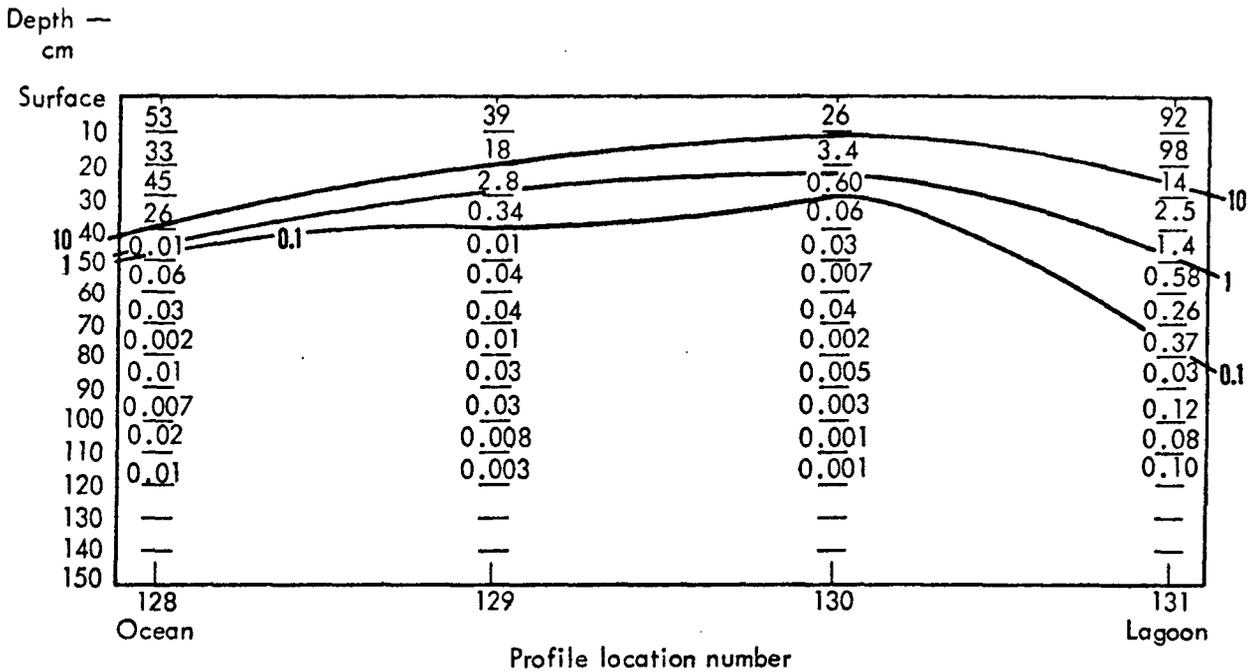


Fig. 34. Plutonium profile data, Locations 128-131, YVONNE.

(100)

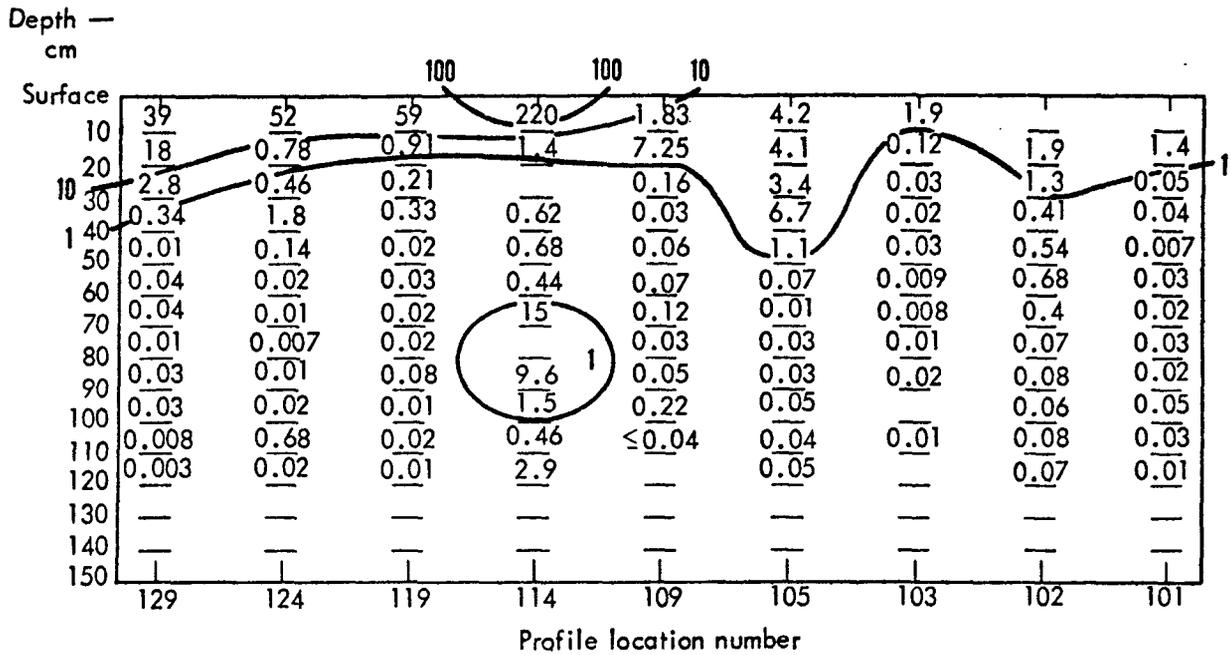


Fig. 35. Plutonium profile data, Locations 101-103, 105, 109, 114, 119, 124, and 129, YVONNE.

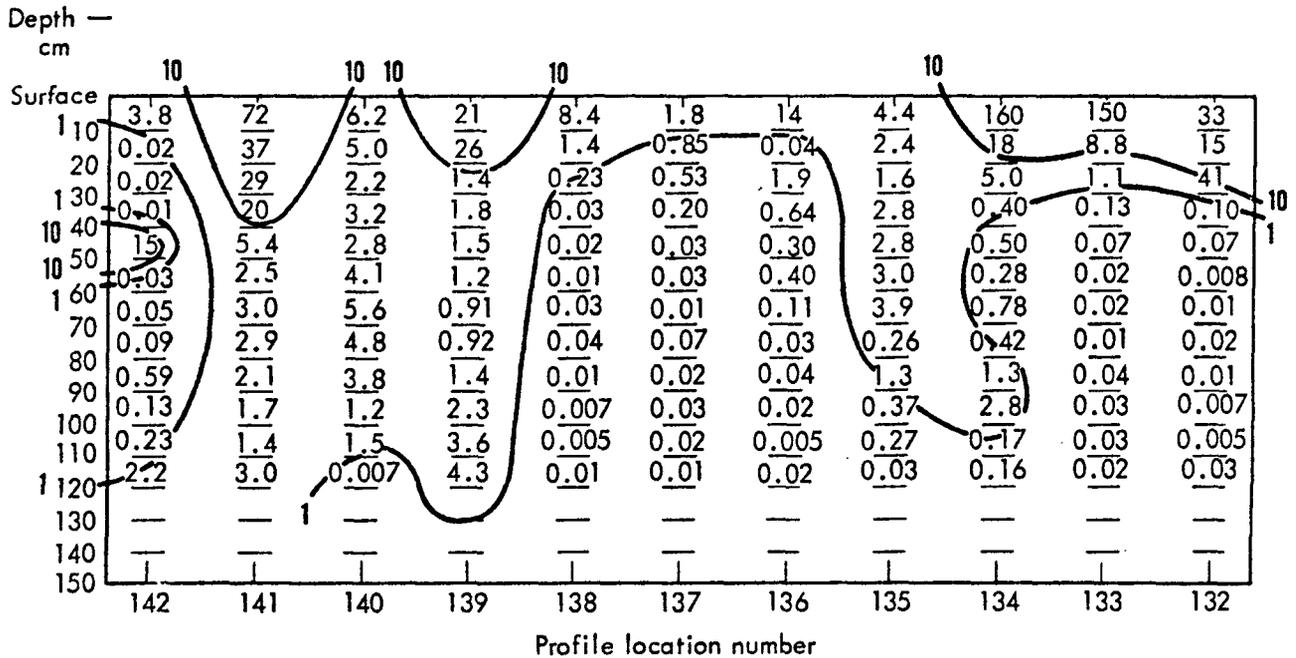


Fig. 36. Plutonium profile data, Locations 132-142, YVONNE.

101

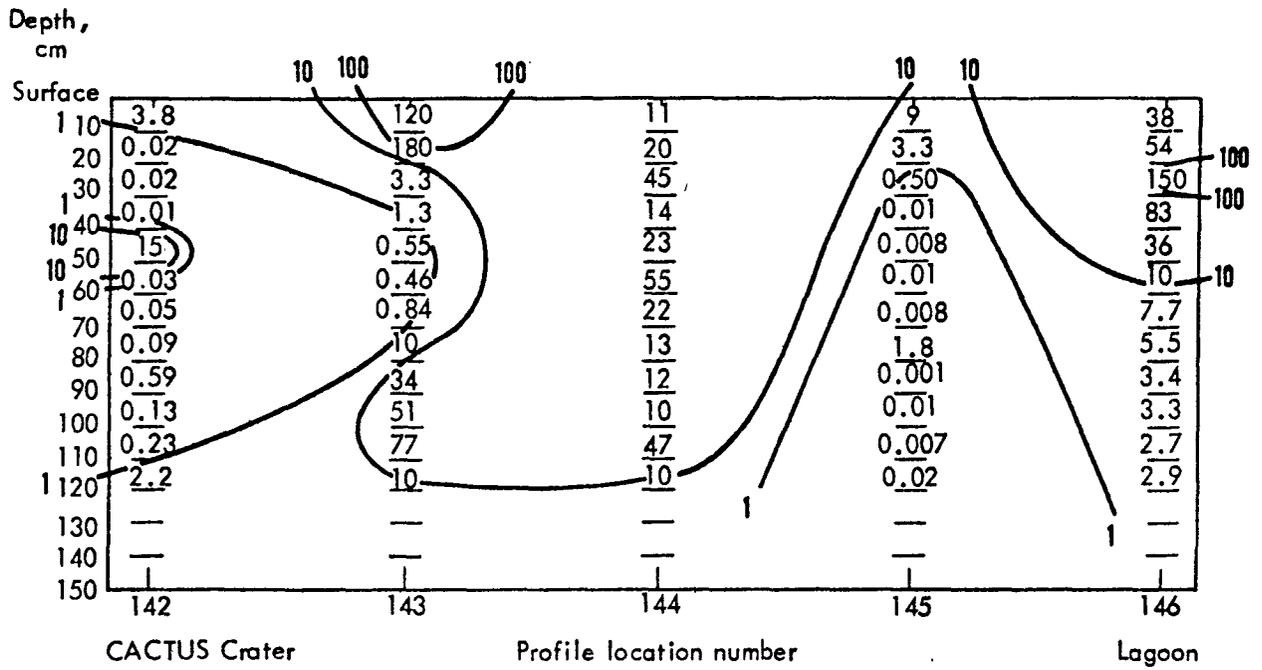


Fig. 37. Plutonium profile data, Locations 142-146, YVONNE.