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MC REPORT 011
Volume 13

**ACOUSTIC ENVIRONMENTAL SCENARIOS
AND
PREDICTIONS FOR ASW**

**VOLUME 13
AREA 4B, SUMMER
PREDICTIONS FOR PASSIVE SONAR**

October 1972

LONG RANGE ACOUSTIC PROPAGATION PROJECT

AS 916610L



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Test and Evaluation; 6 FEB 1974 Other requests
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Director, Long Range Acoustic Propagation Project (ONR Code 102-OS).

ADDITION for

NYIS

WFO Section ☐

Bull Section ☐

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JUSTIFICATION

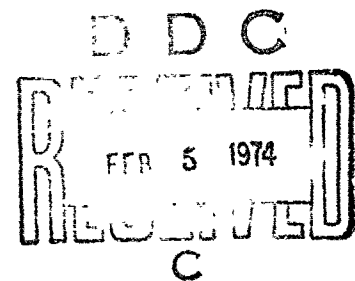
BY

DISTRIBUTION/AVAILABILITY CODES

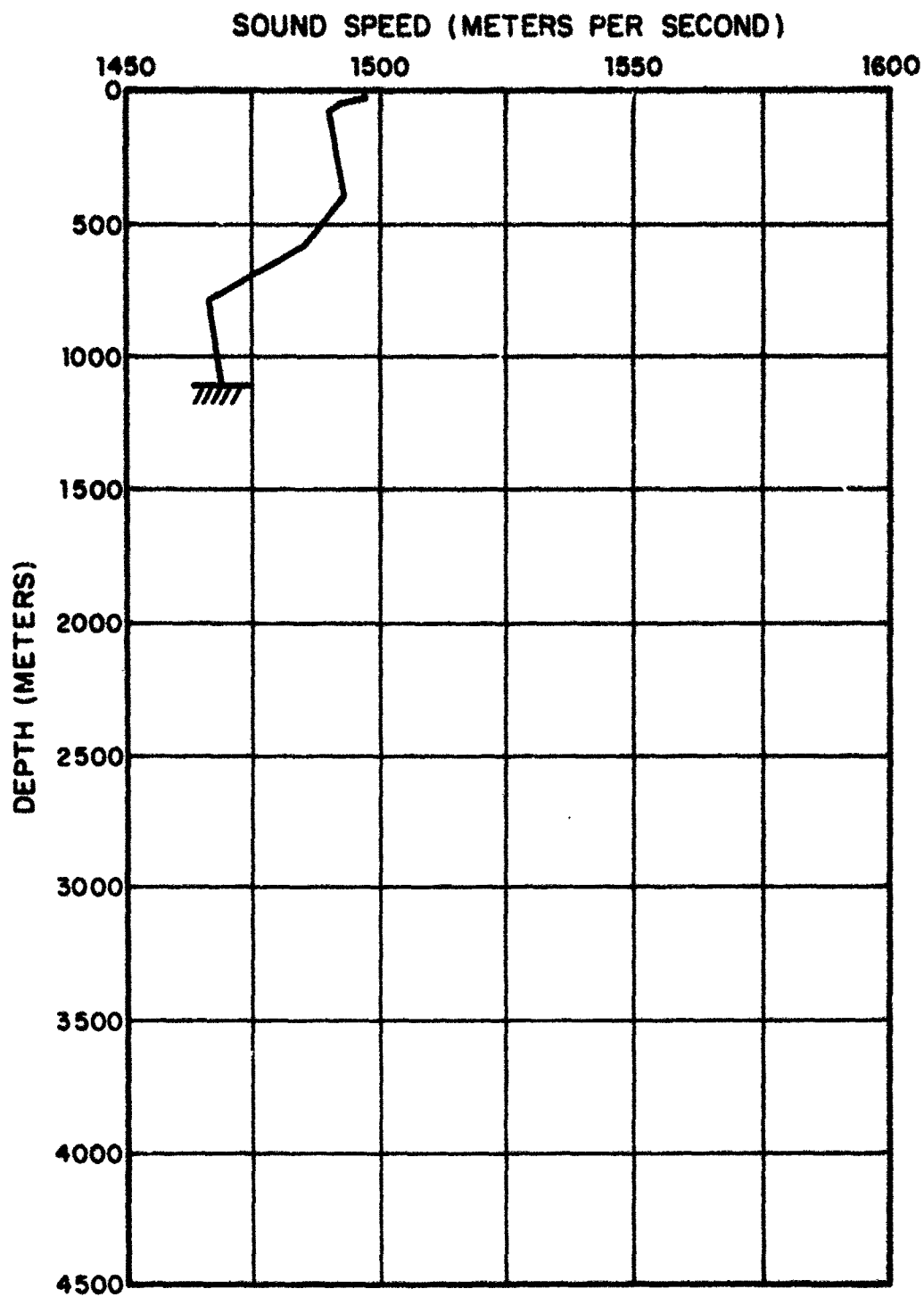
DATE	REVIEW	DATE	REVIEW

ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS
FOR ASW

Volume XIII: Area 4B SUMMER
PREDICTIONS FOR PASSIVE SONAR



Refer to Volume 1 of this report for an explanation of the
plot format and descriptions of models and ocean areas.



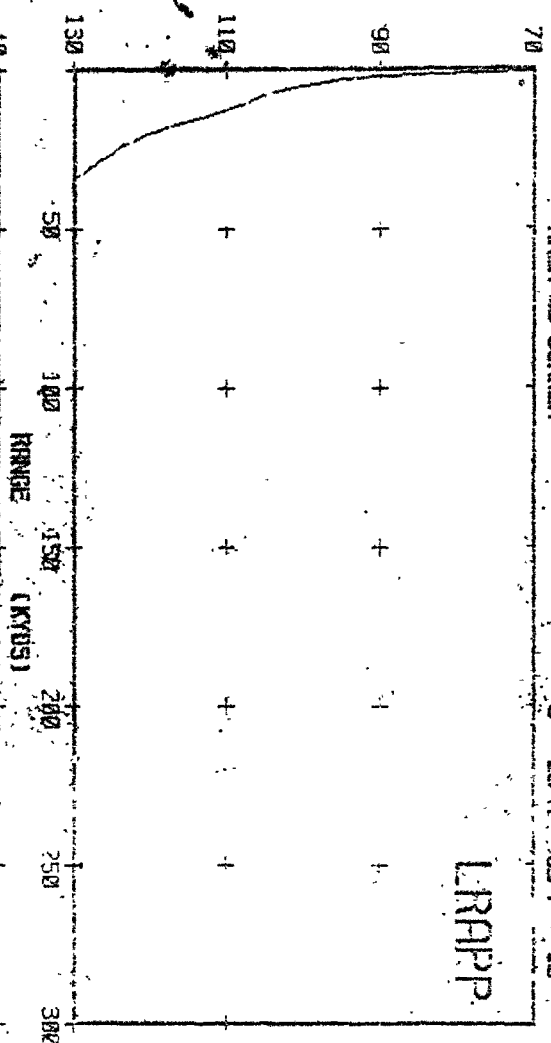
**SOUND SPEED PROFILE
AREA 4B, SUMMER**

PRELIMINARY

20 ft. 10

1450 M/S 1500 1550

DB LOSS

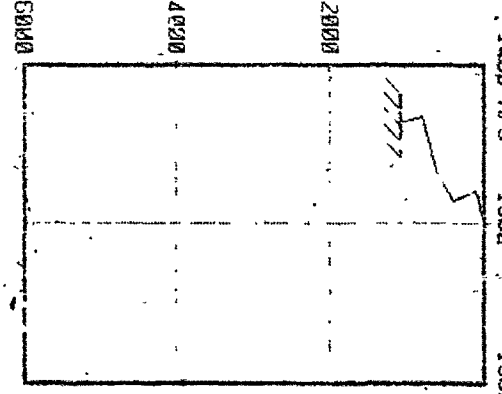


LRAPP

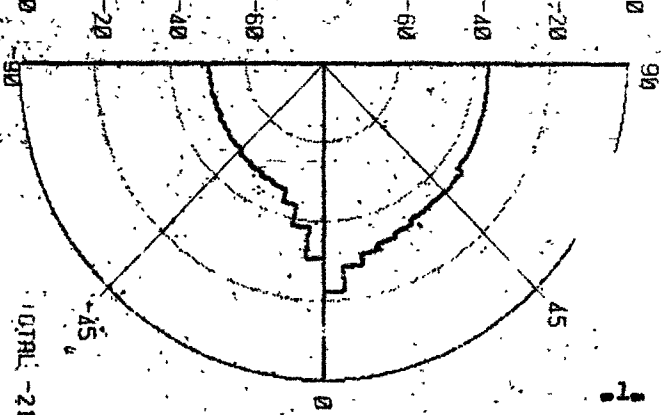
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



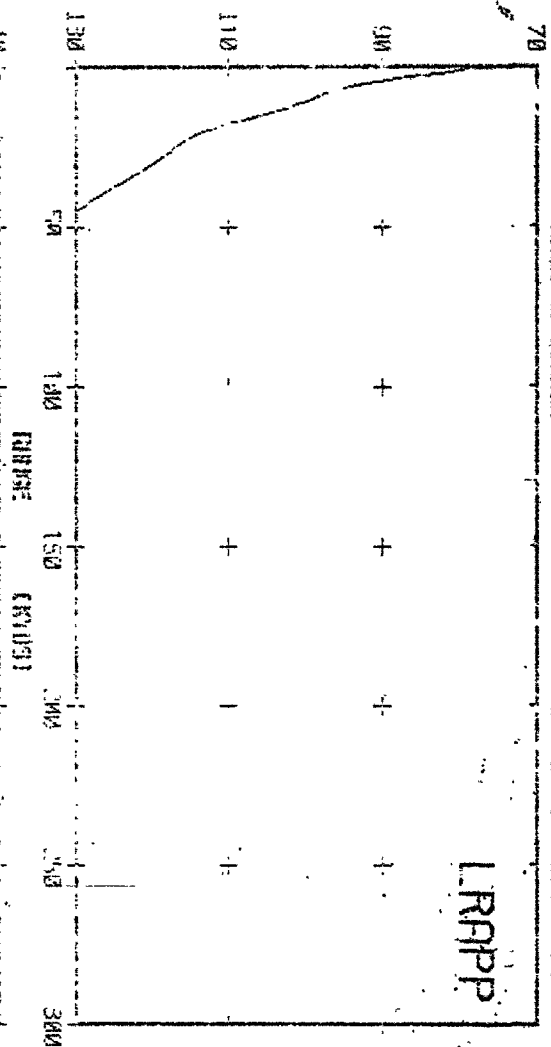
100% -21.3 DB

PRINCE AB SUMNER

S. 50 R. 00 F. 10

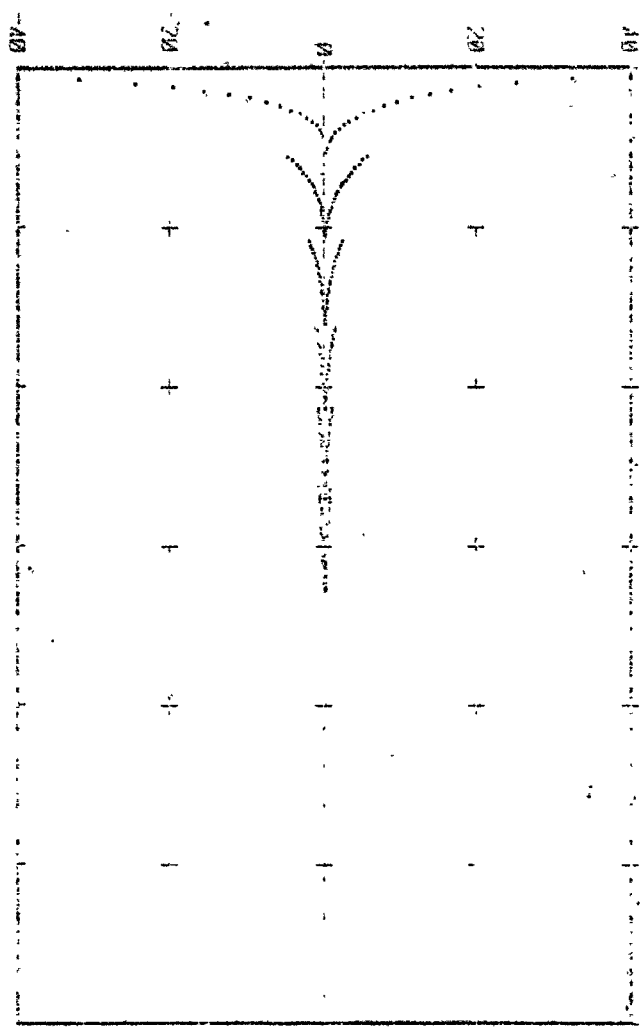
1450 M/S 1500 1550

DB LOSS

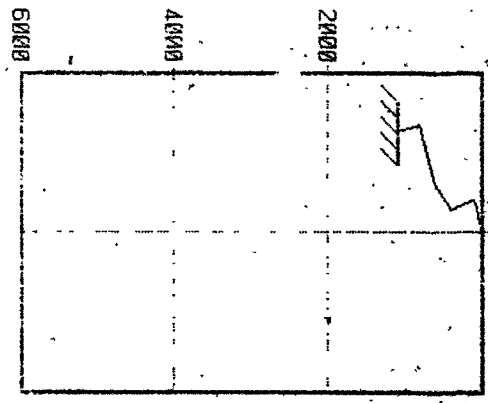


L.RAPP

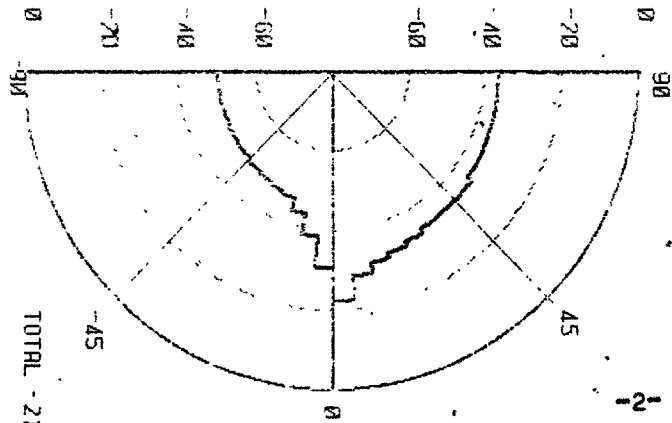
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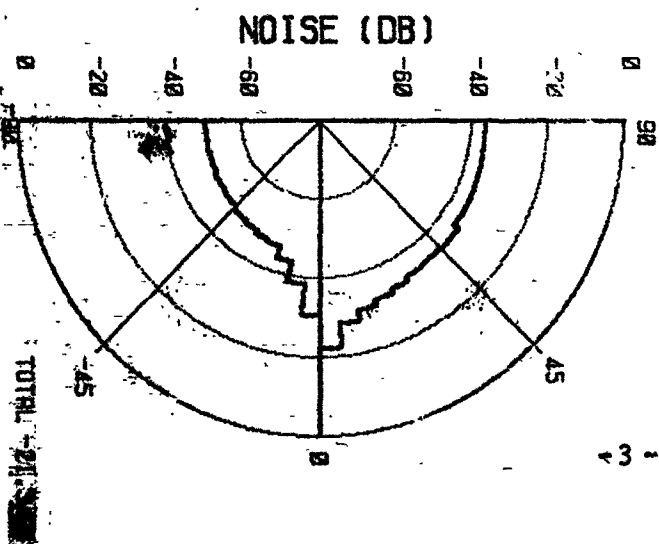
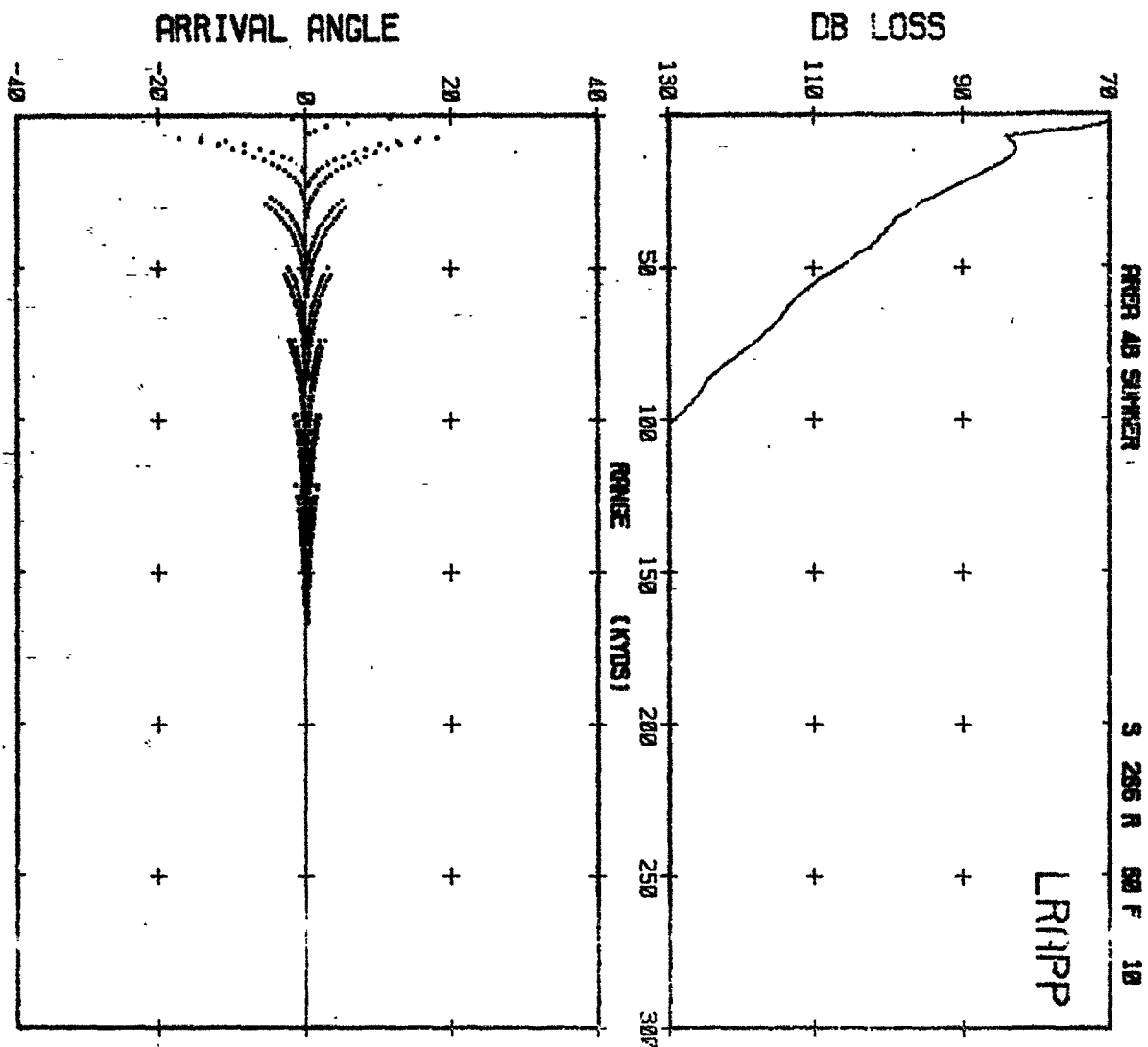
DEPTH IN METERS



NOISE (DB)

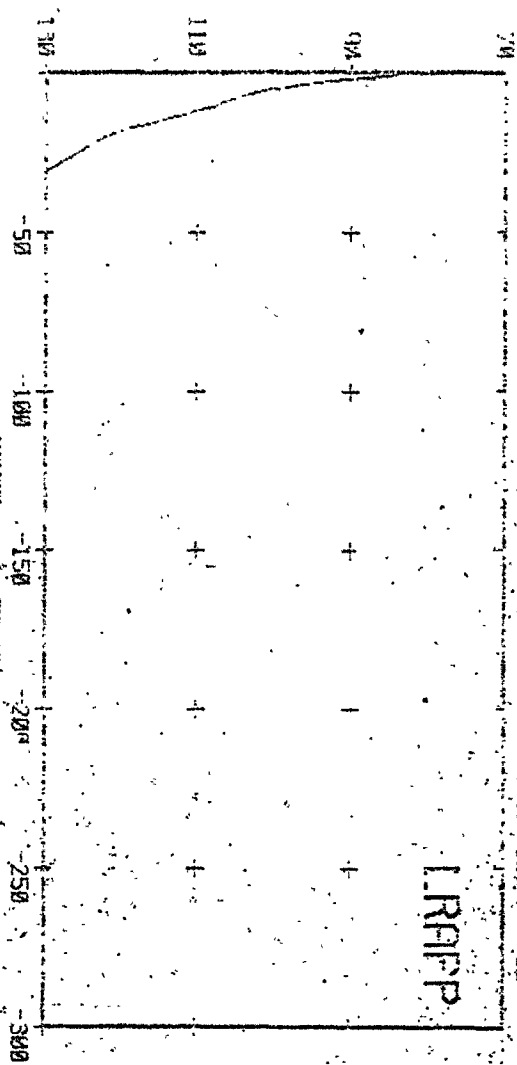


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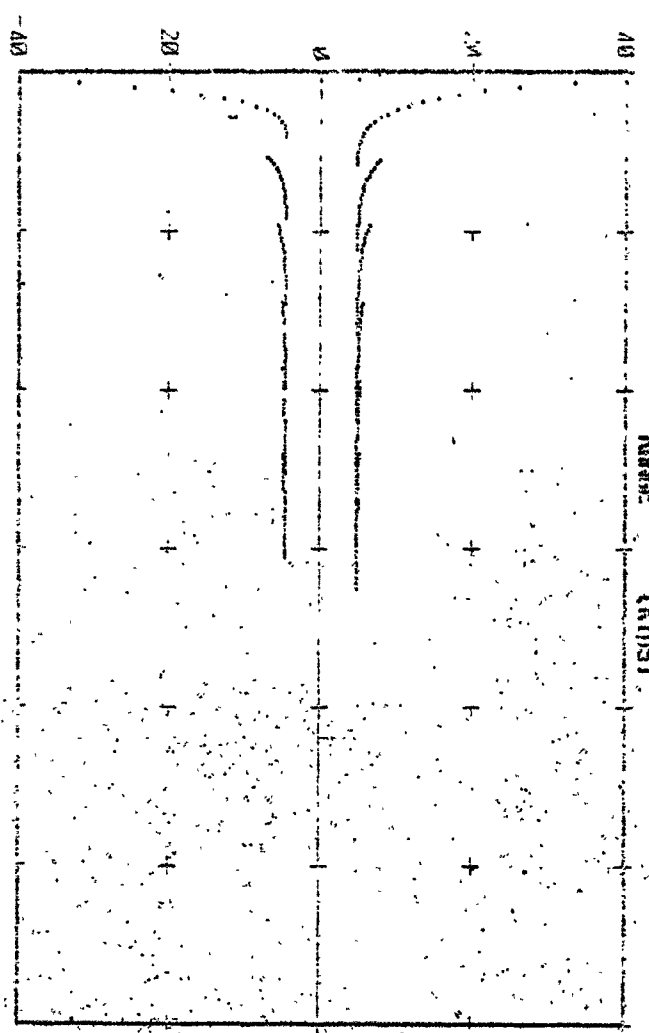


PREP: AG SURFER
 3. 29 N. 1450 W/S 1500 1550
 1. RAIP

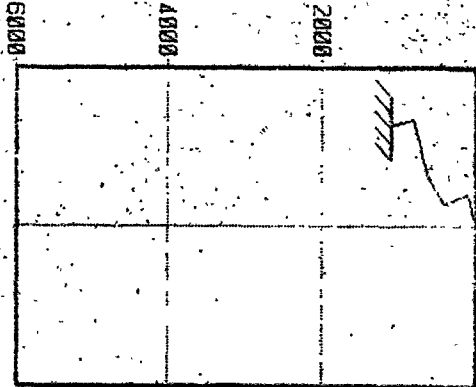
SS LOSS



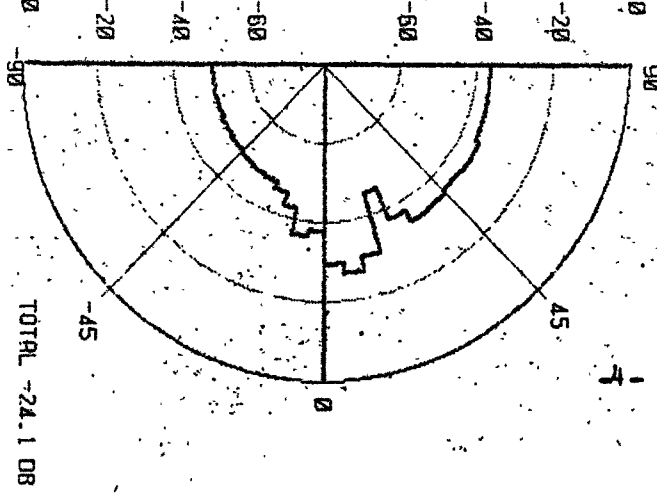
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



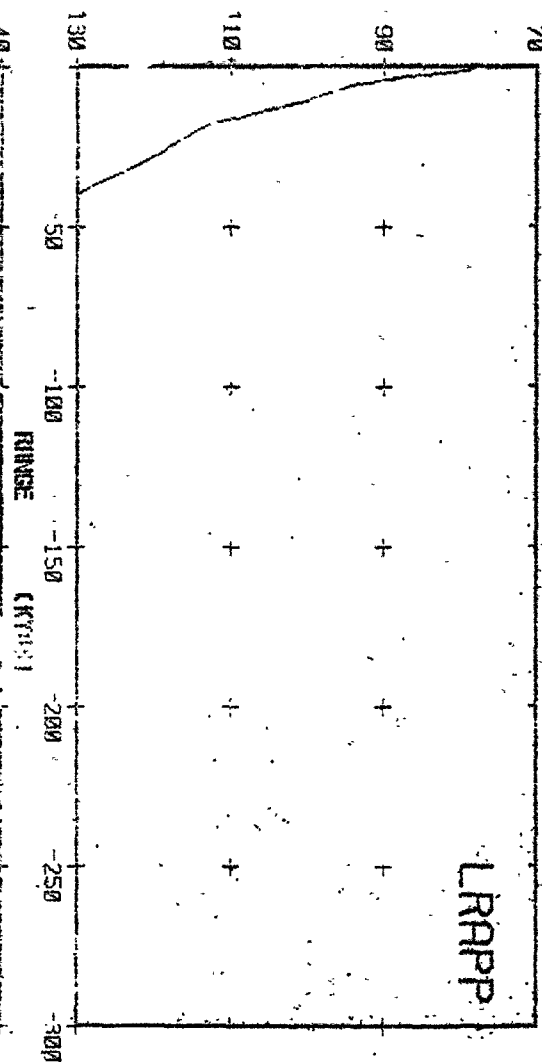
TOTAL -24.1 DB

GREEN 408 SUMMER

S 50 R 100 F 10

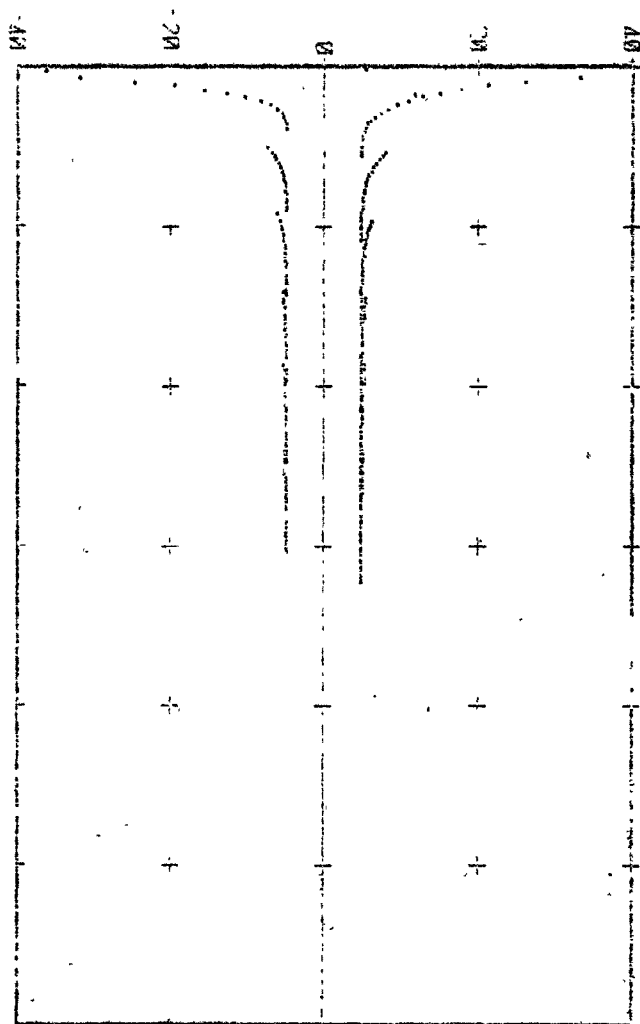
1450 W/S 1500 1550

DB LOSS

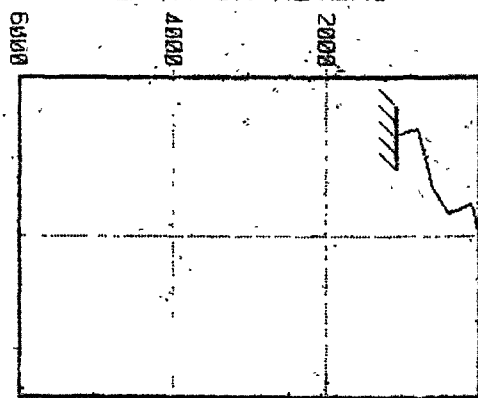


LRAPP

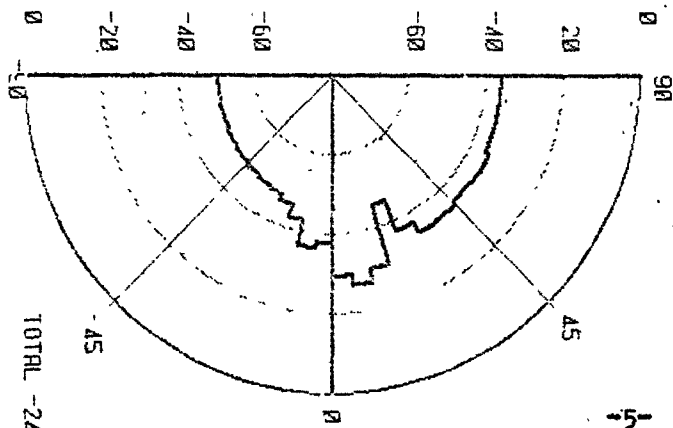
SURVIVAL ANGLE



DEPTH IN METERS

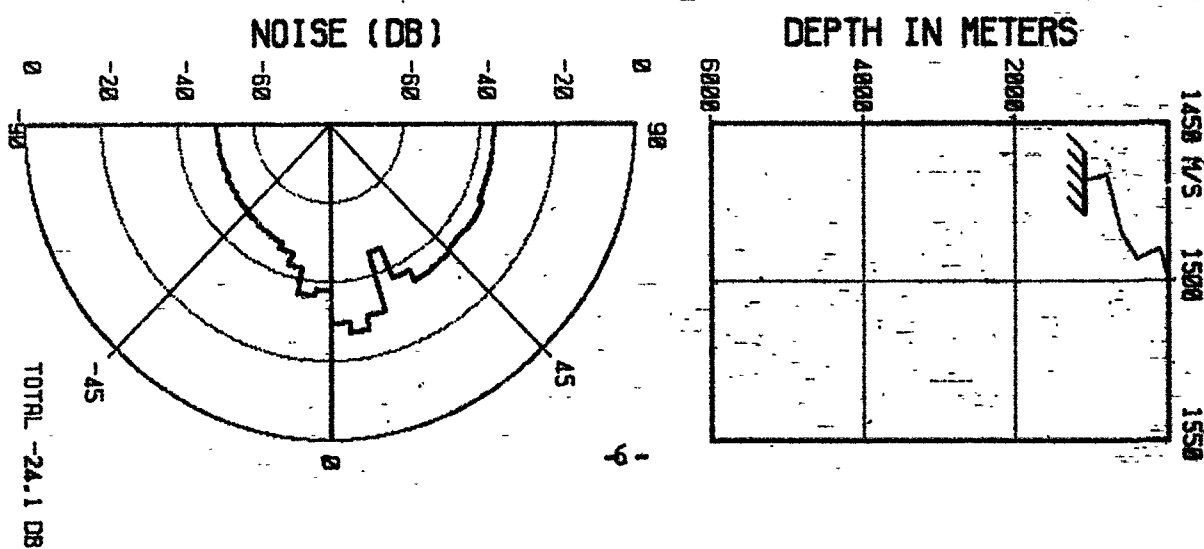
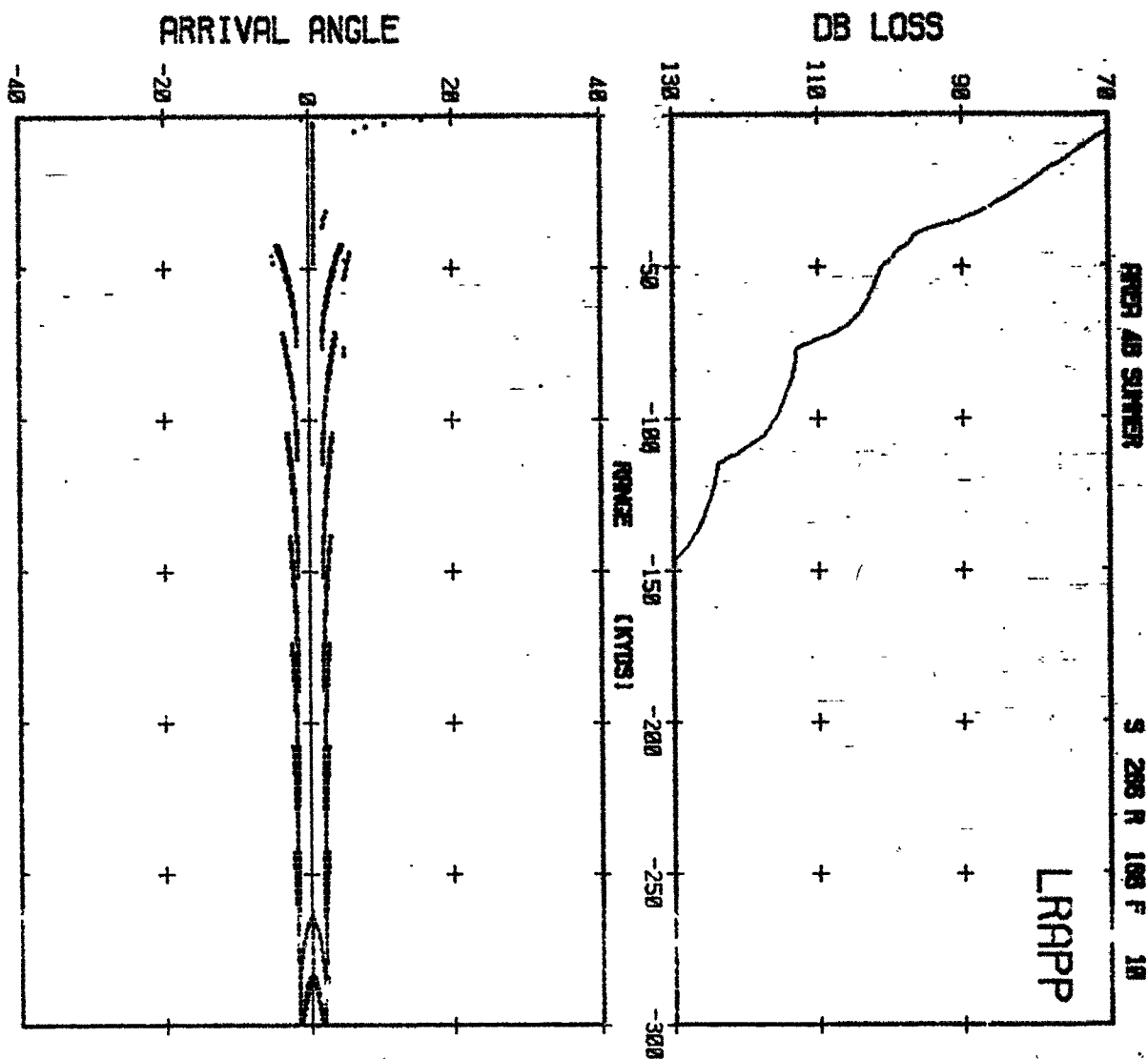


NOISE (DB)



TOTAL -24.1 DB

-5-

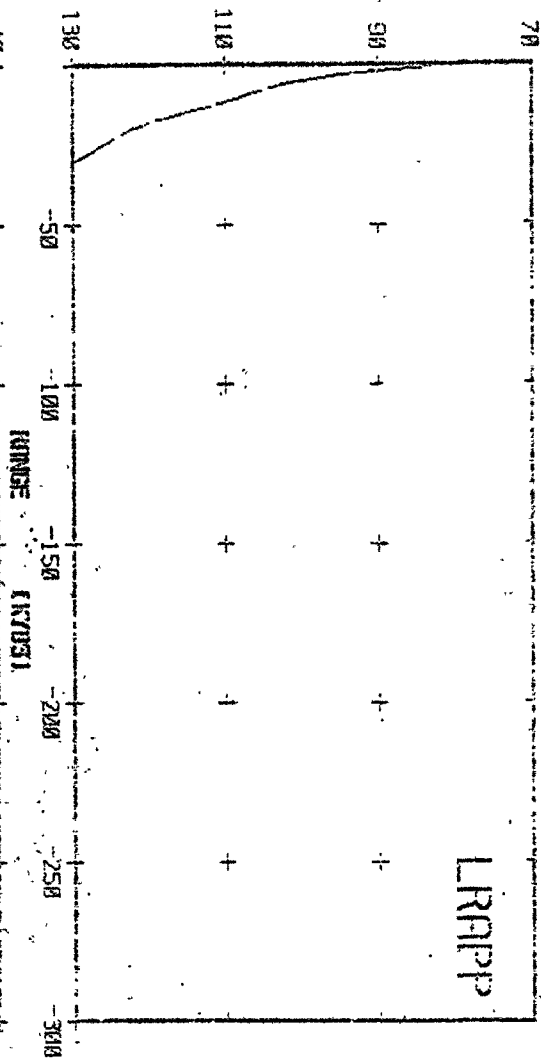


PRIOR AIR SURFER

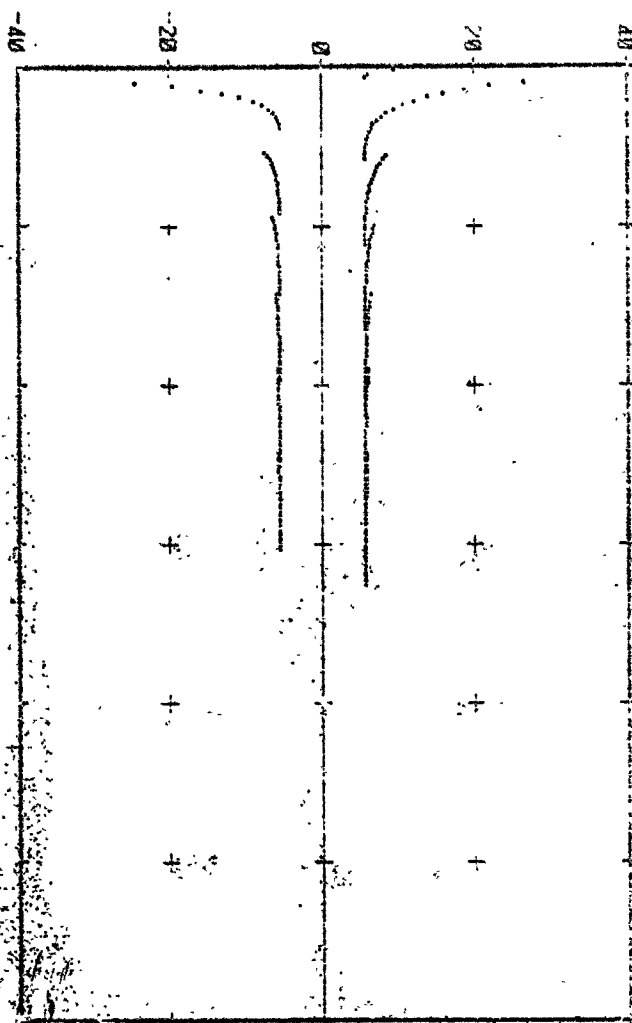
S 20 R 300 F 10

1450 M/S 1500 1550

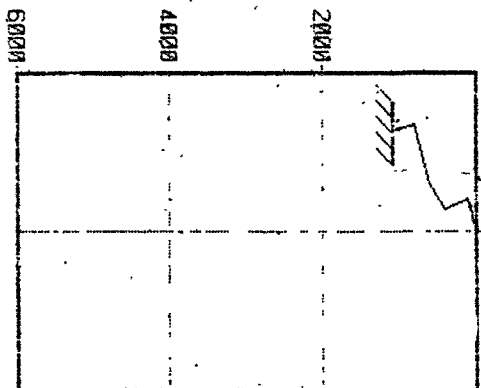
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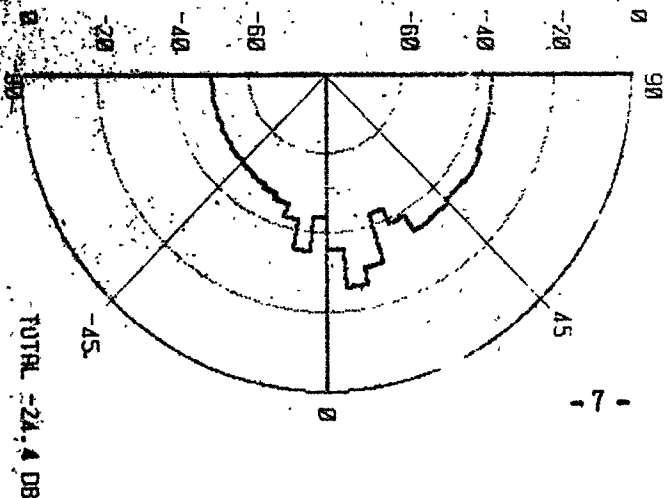
ARRIVAL ANGLE

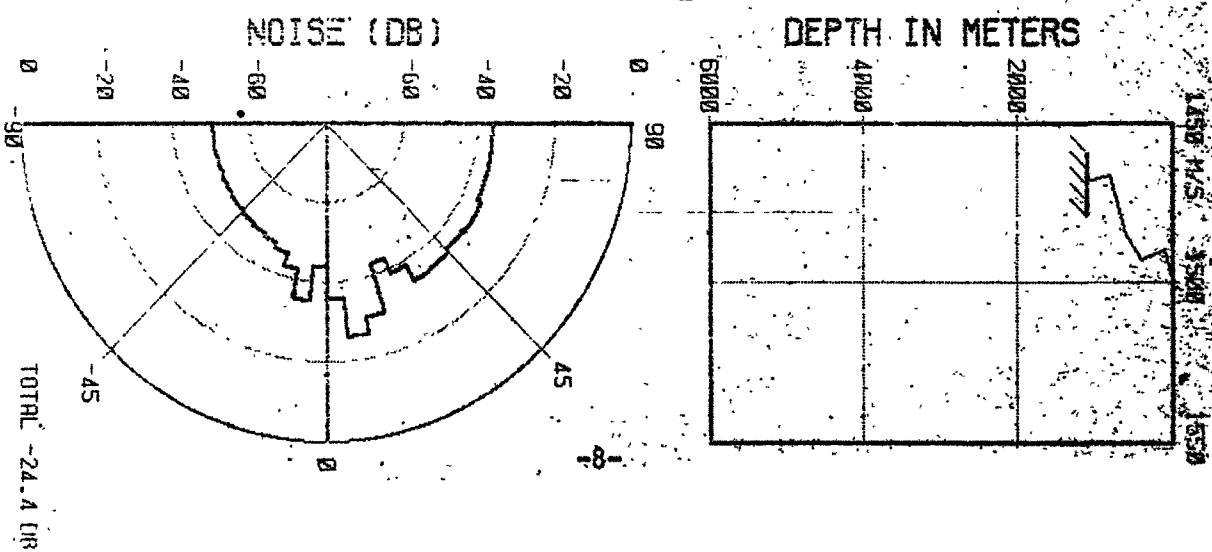
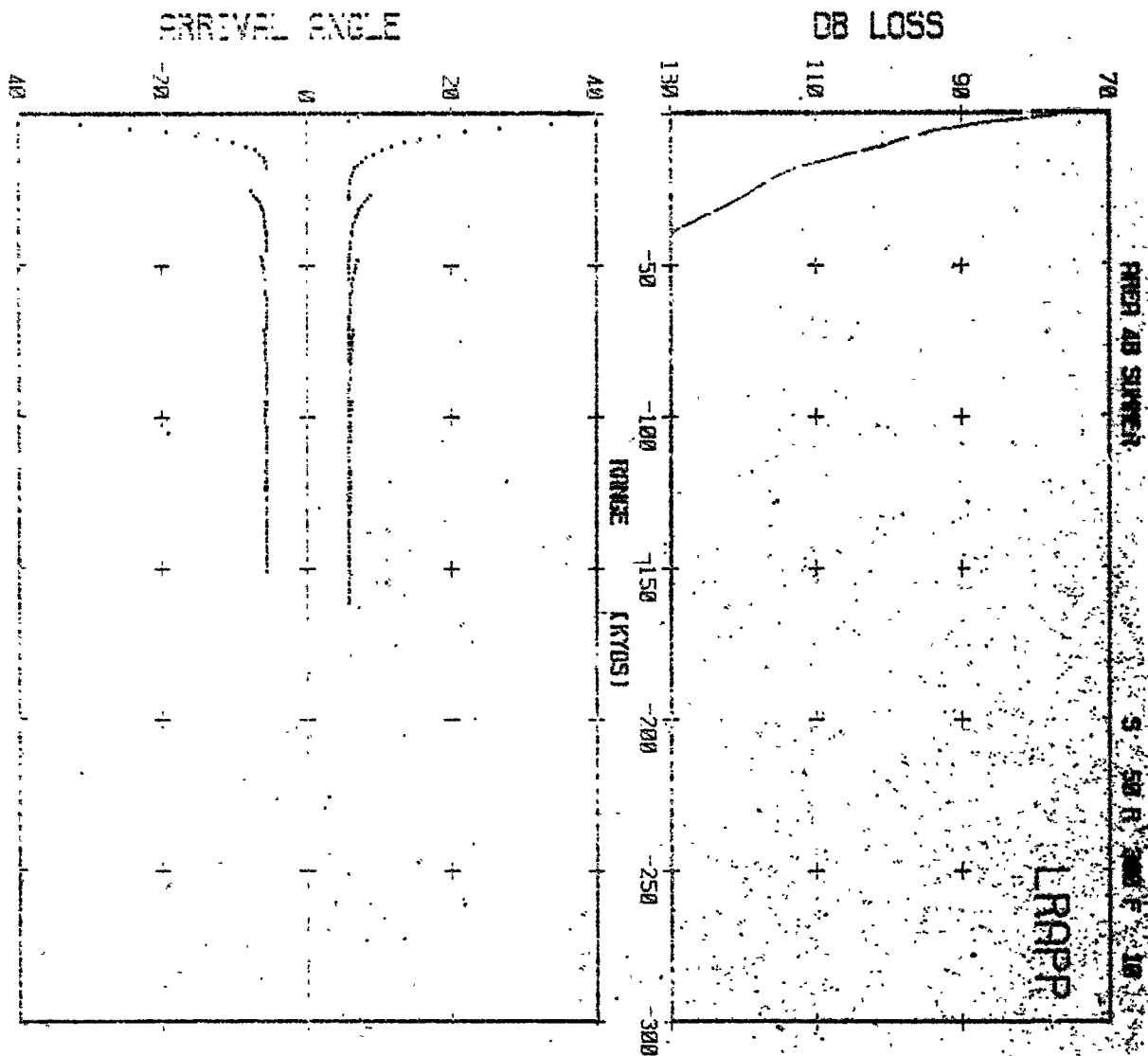


DEPTH IN METERS



NOISE (DB)



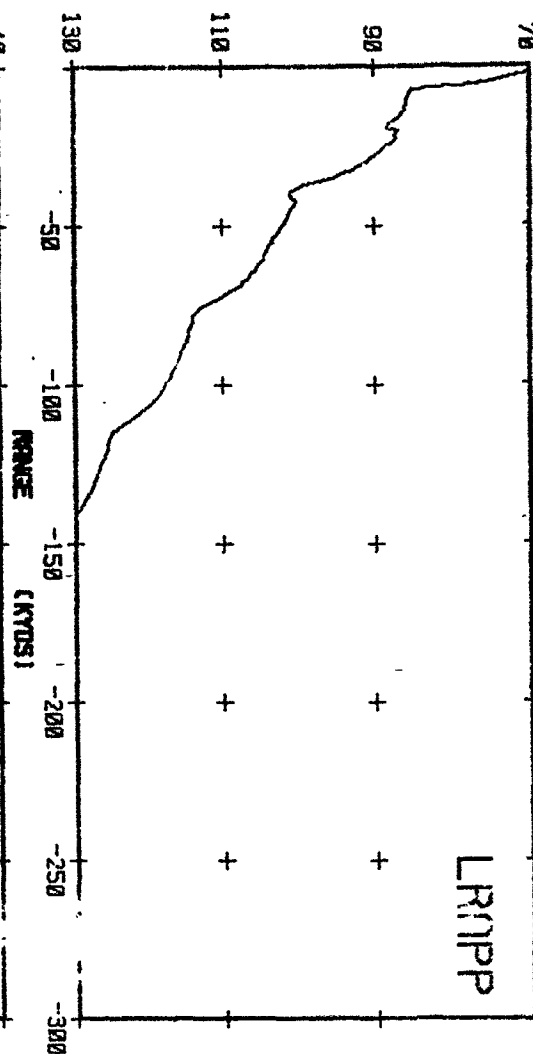


RIVER AB SUMMER

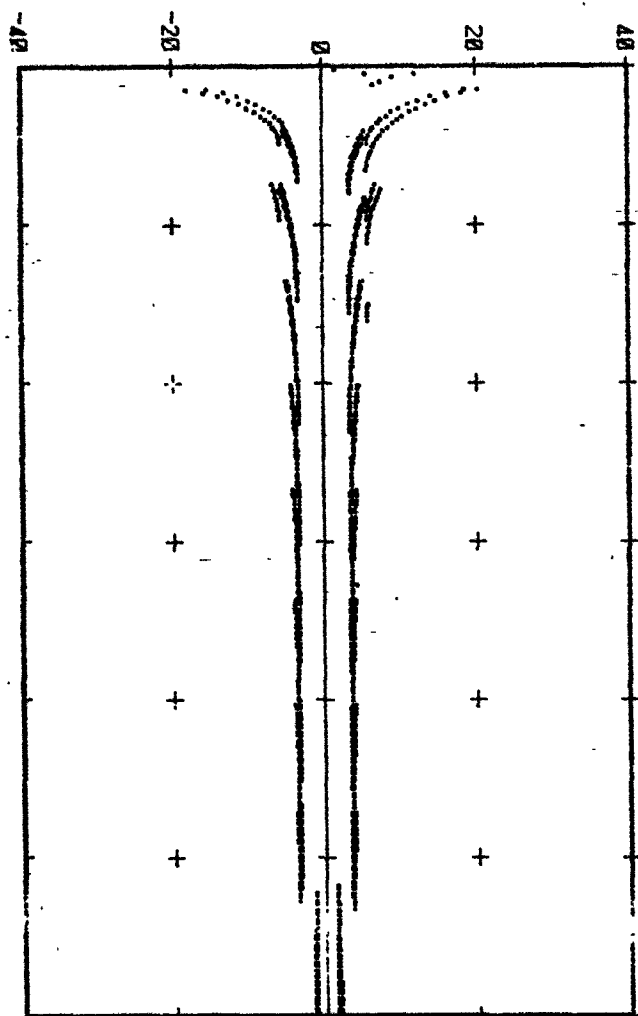
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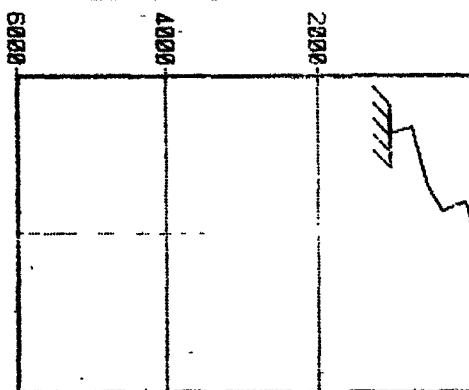
DB LOSS



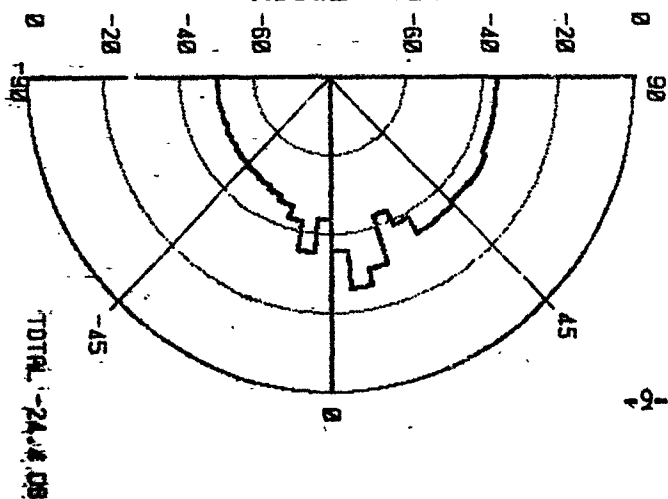
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



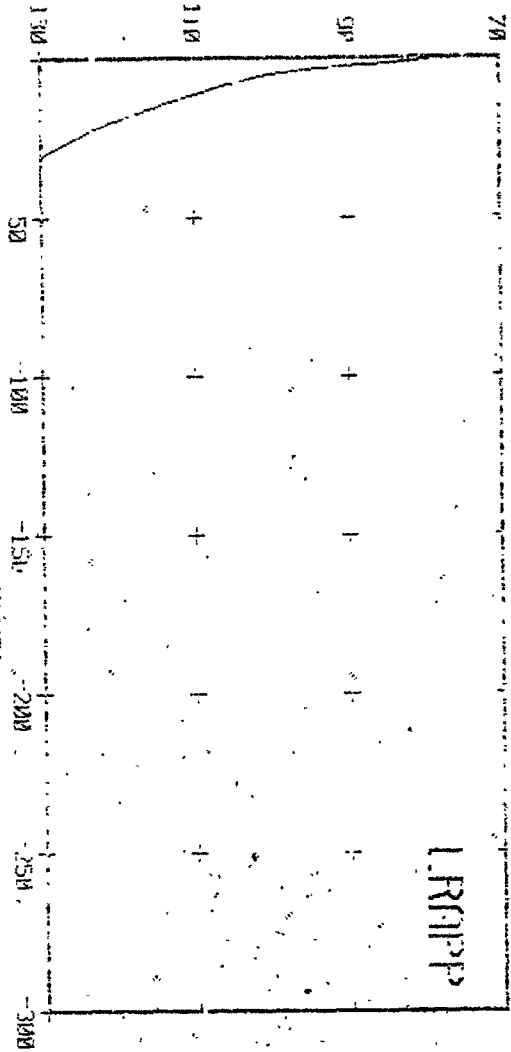
DB 1088

RIVER A3 SUMMER

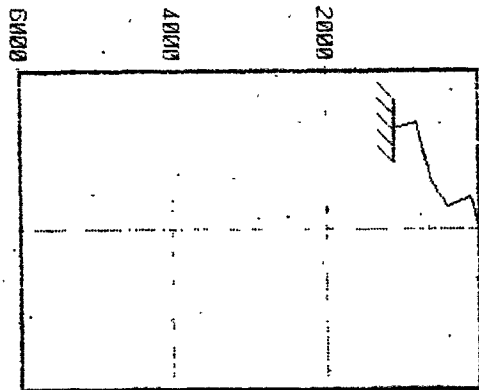
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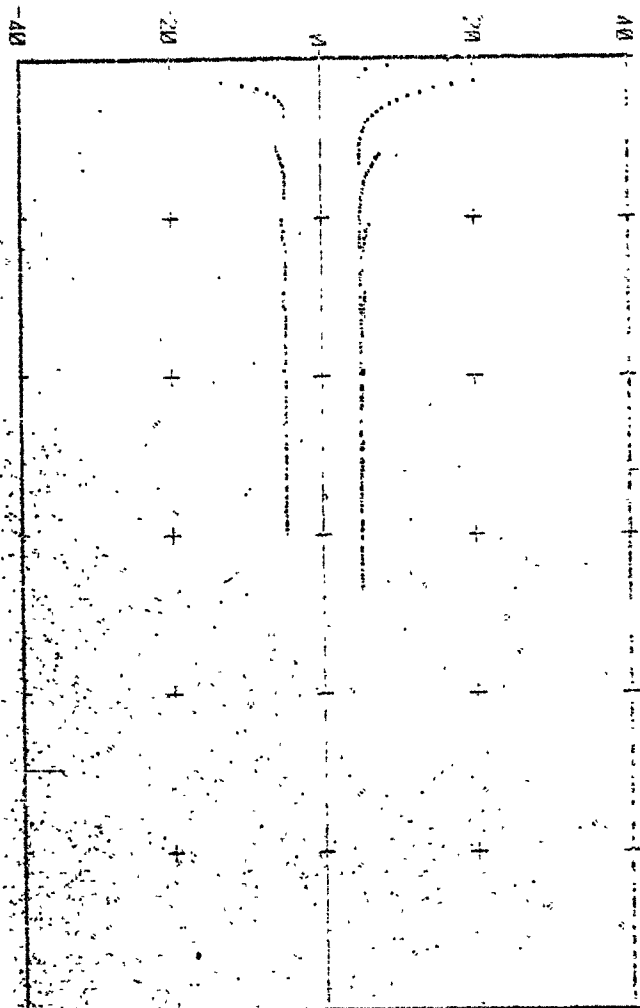
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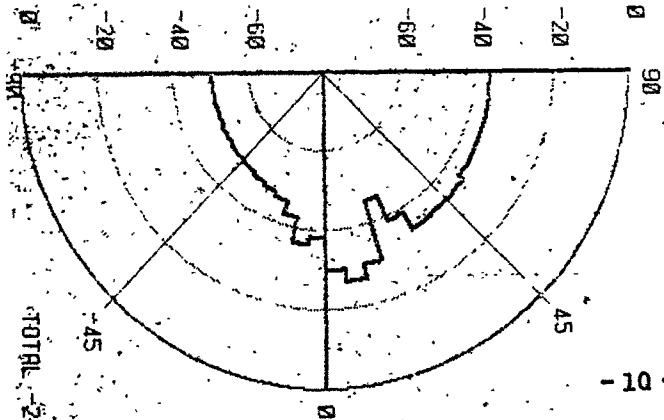
DEPTH IN METERS



ARRIVAL ANGLE



NOISE (DB)

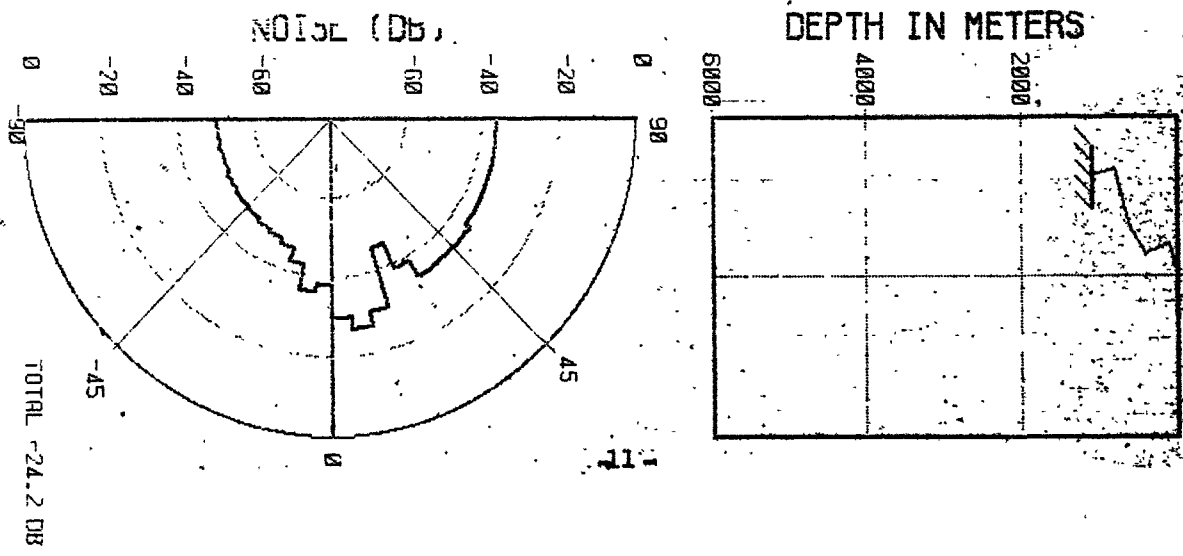
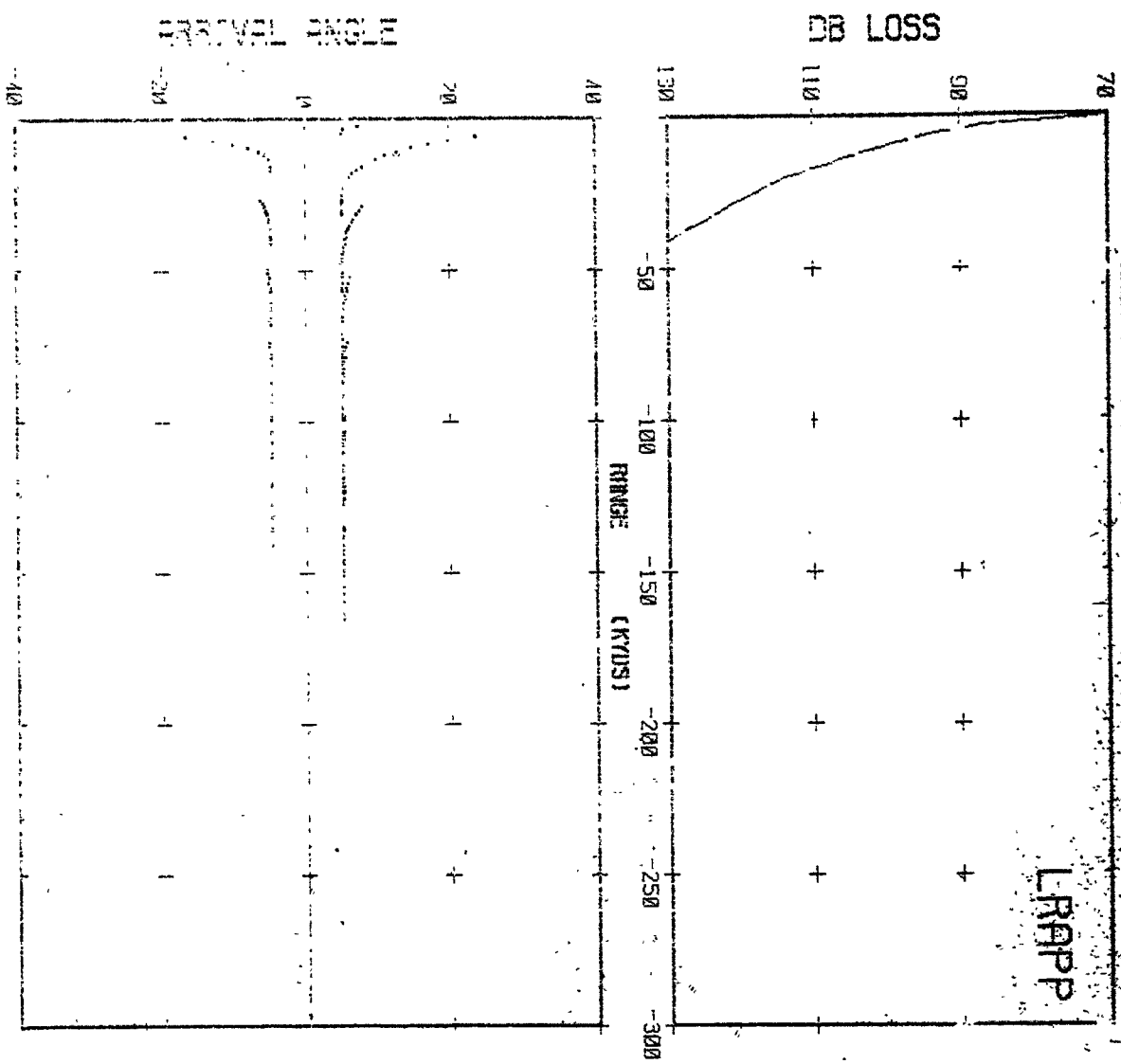


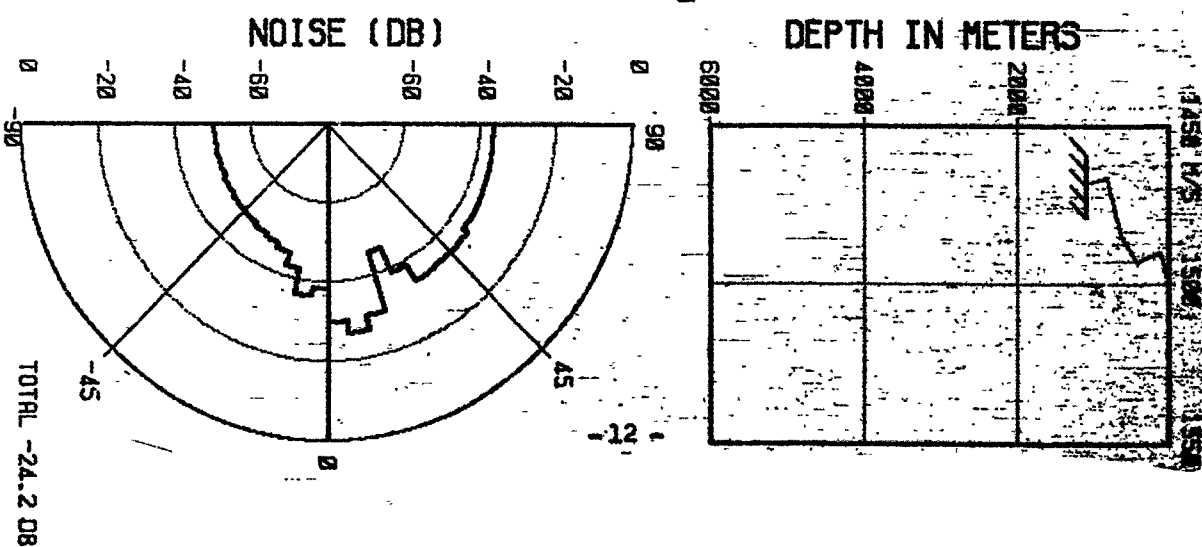
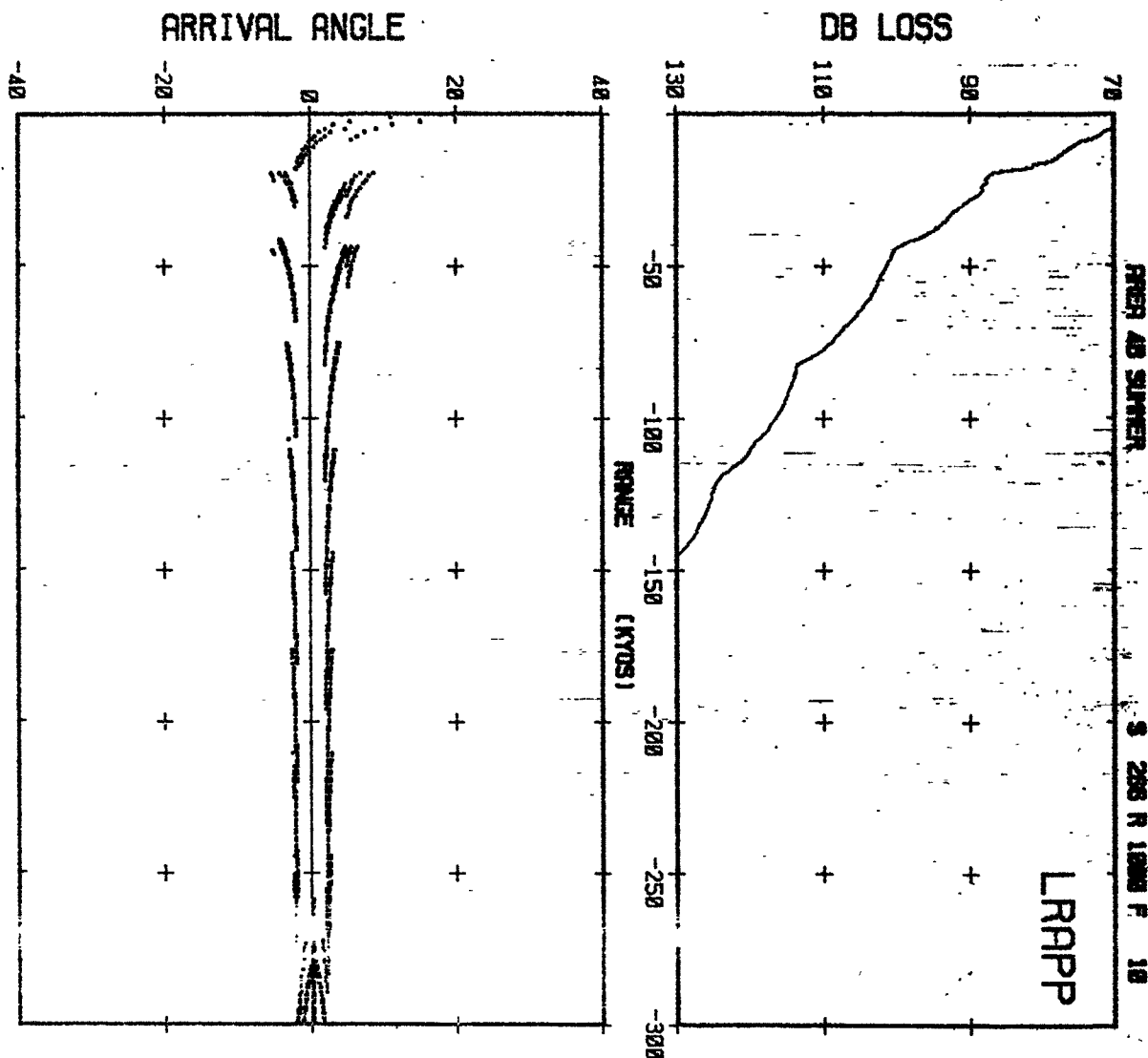
TOTAL -24.2 DB

RRR AB SUMER

S. 50 R 1000 F. 10

1450 N/S 1500 1550





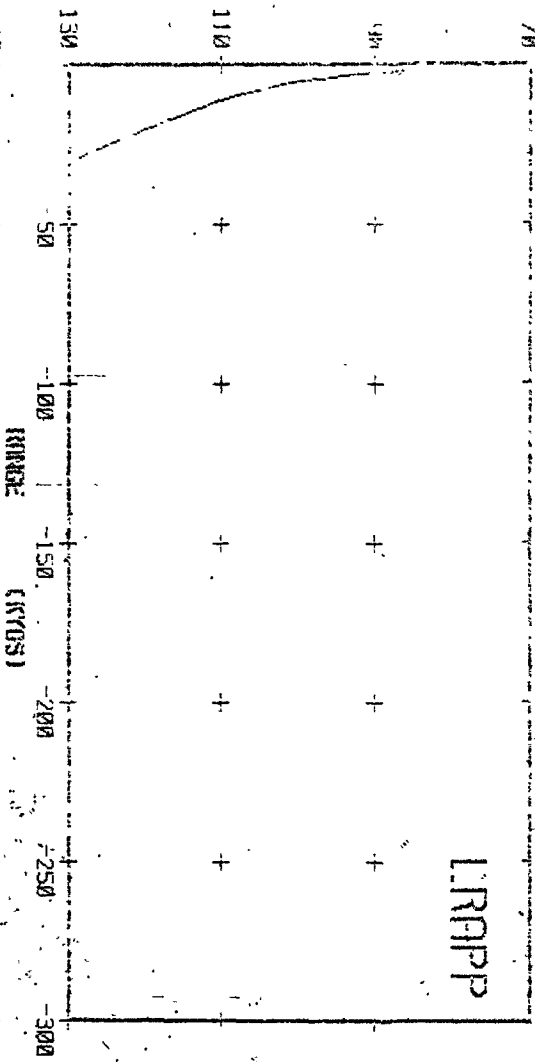
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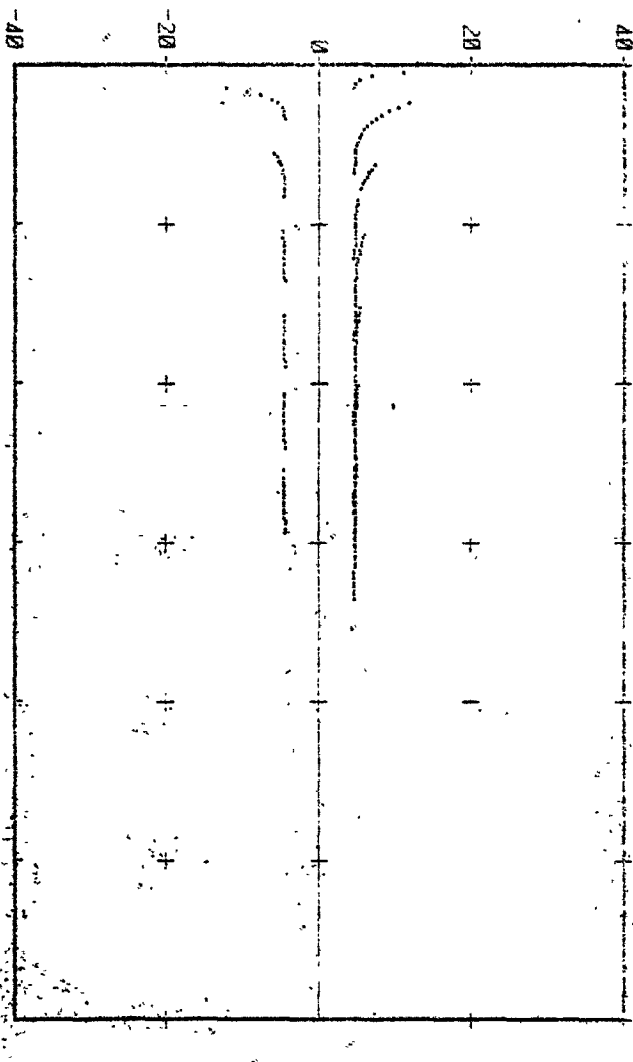
1450 M/S 1500 1550

LRRPP

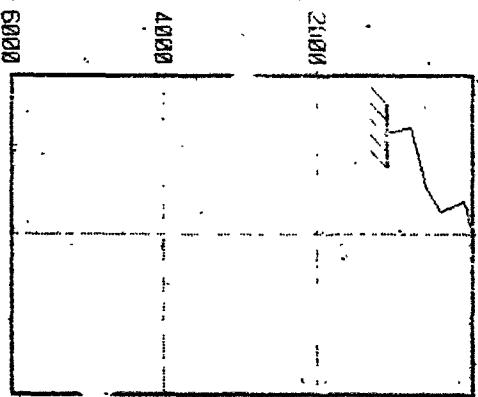
DB LOSS



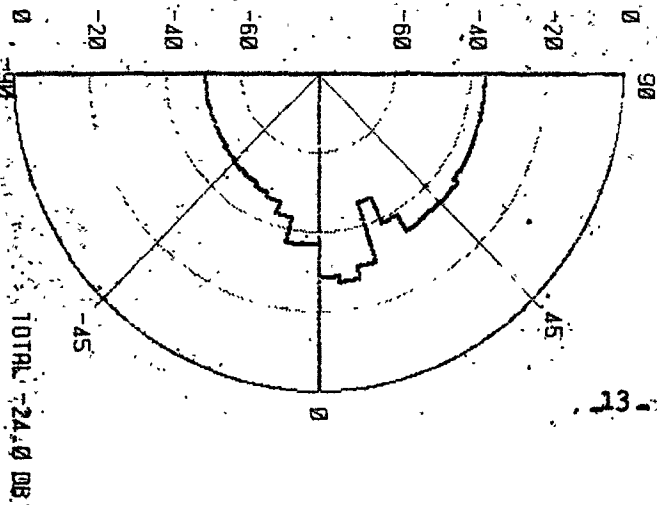
ARRIVAL ANGLE



DEPTH IN METERS

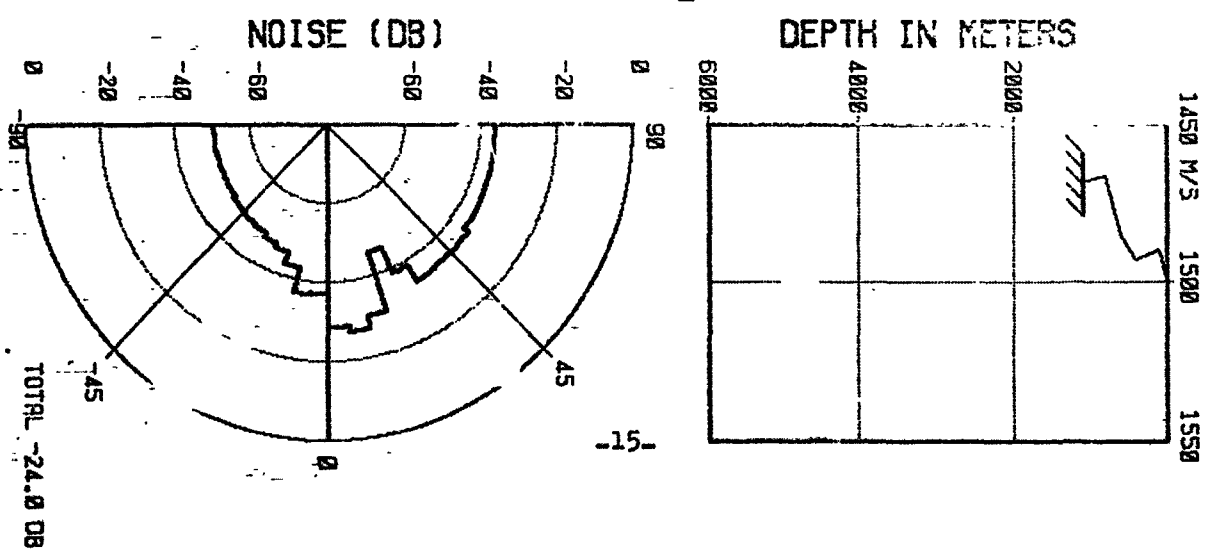
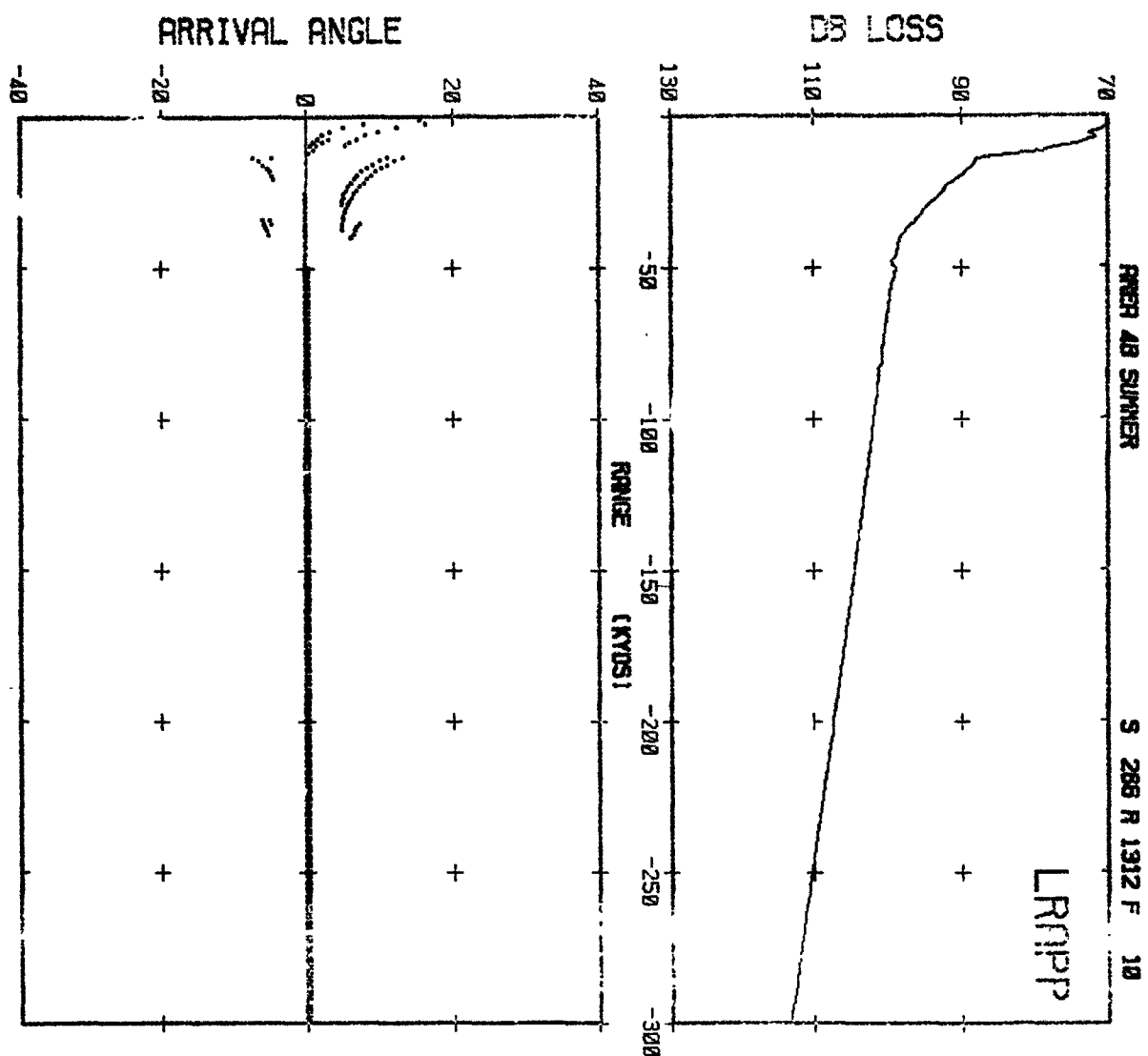


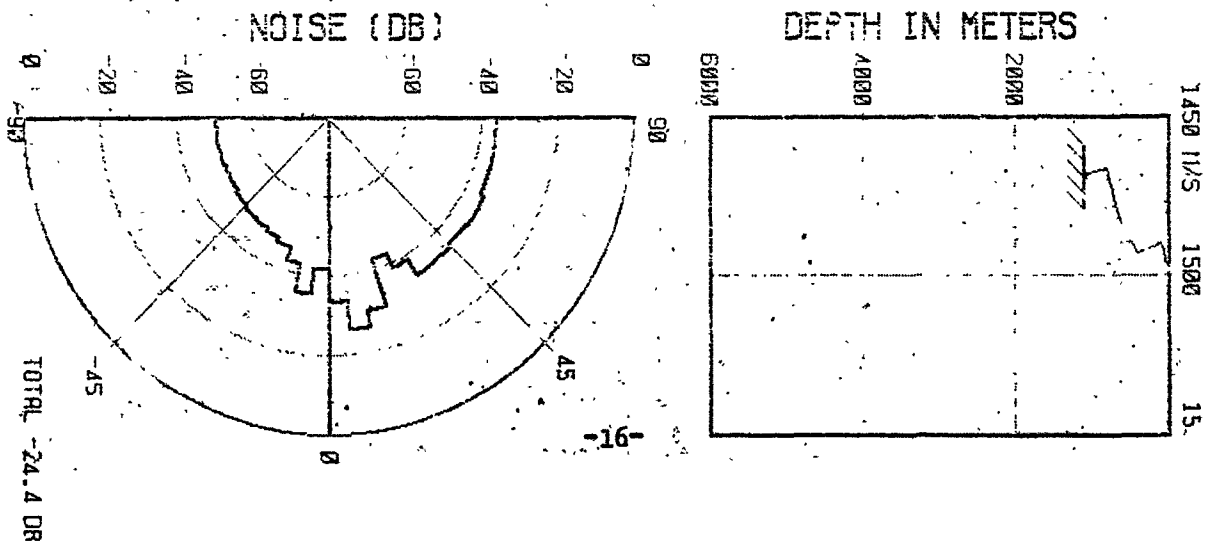
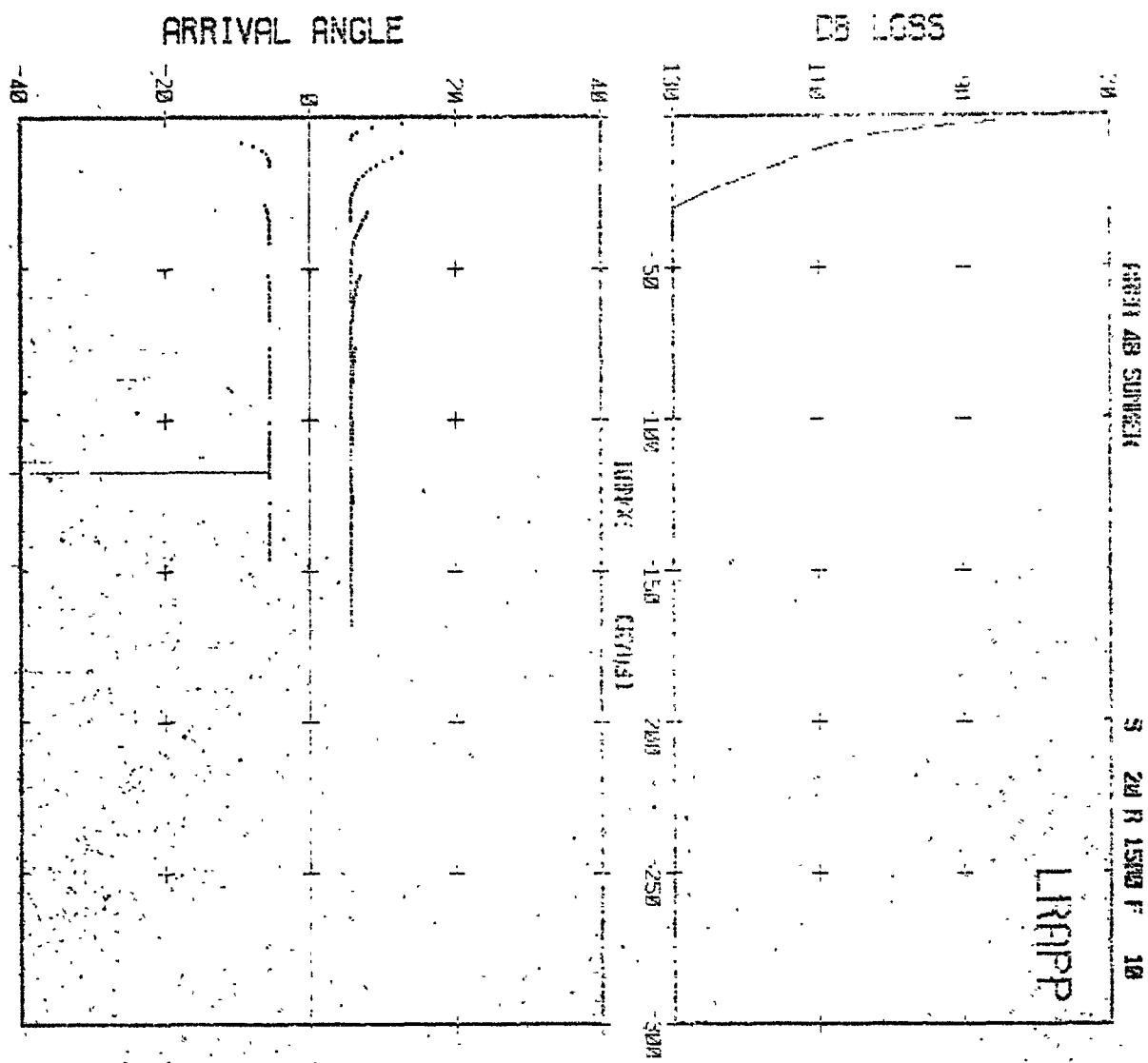
NOISE (DB)



TOTAL -24.0 DB

13

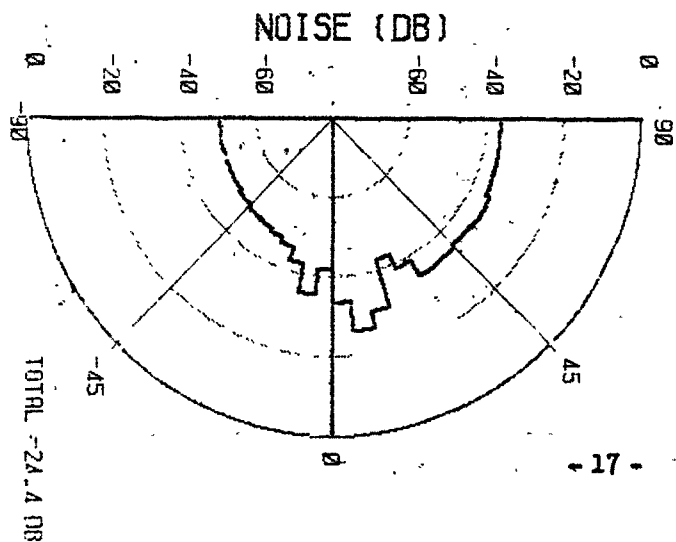
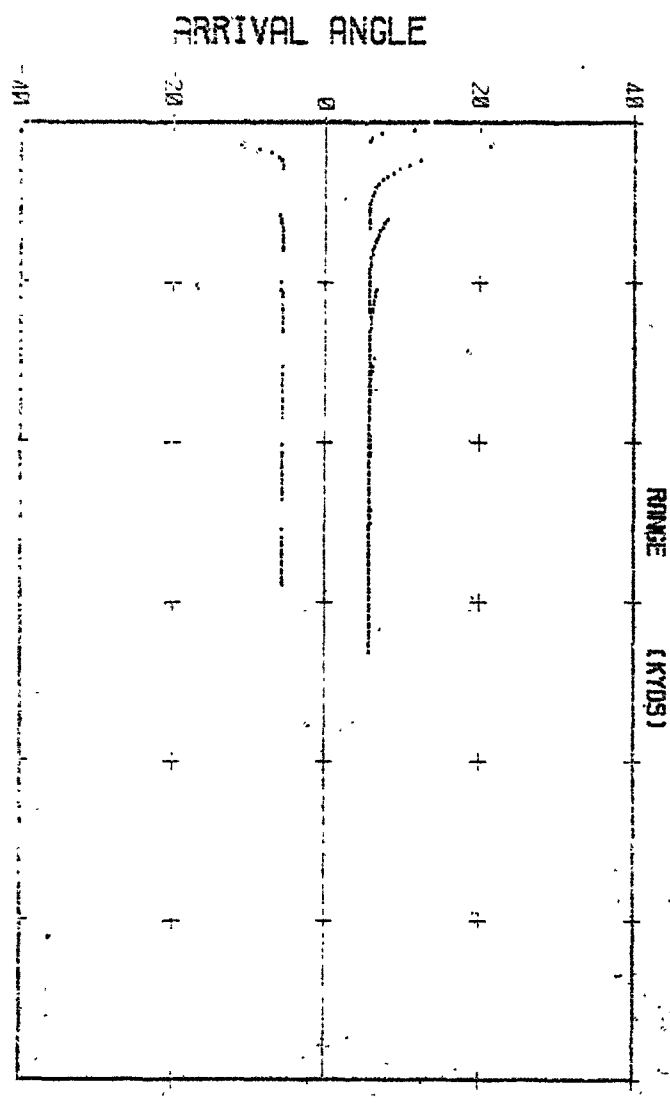
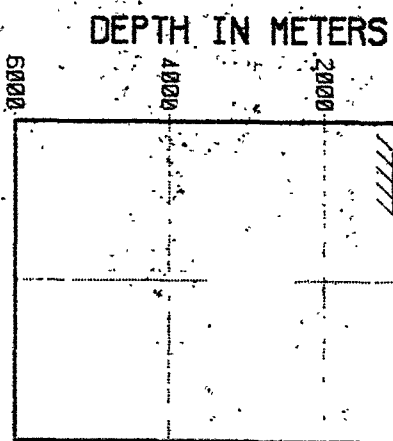
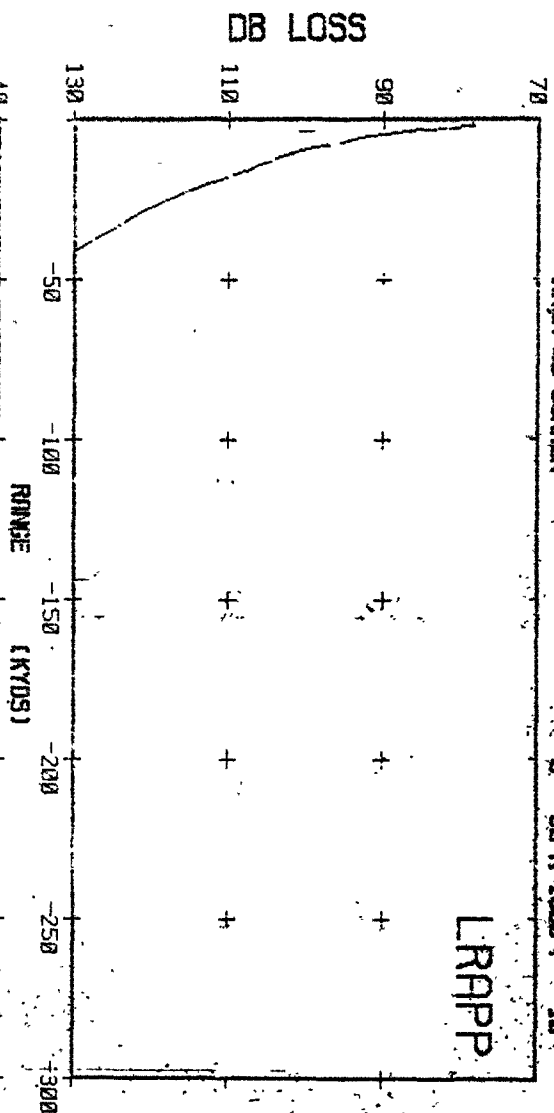


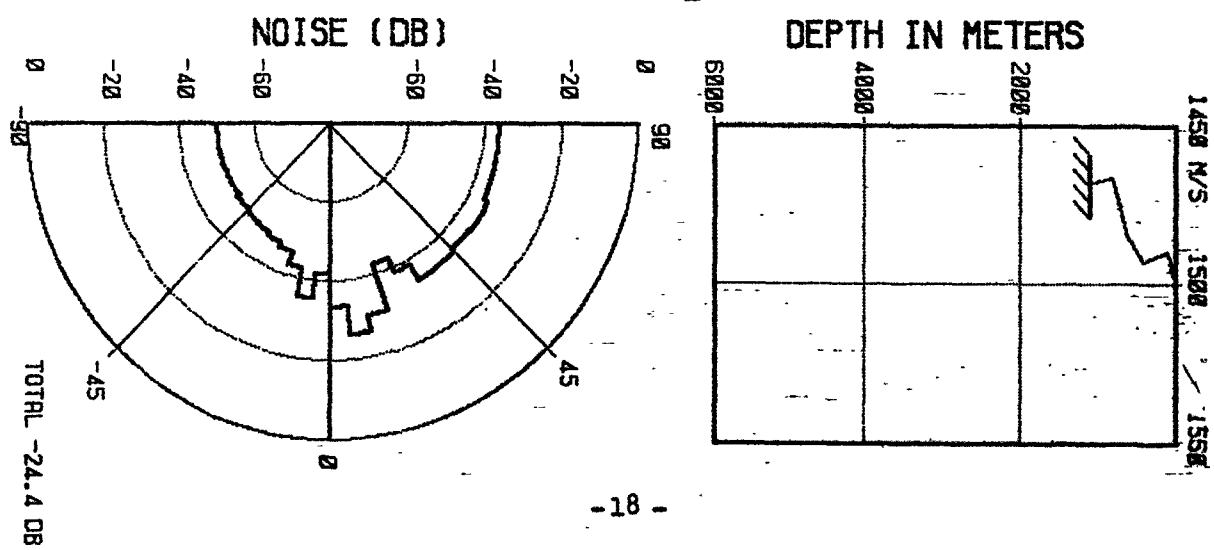
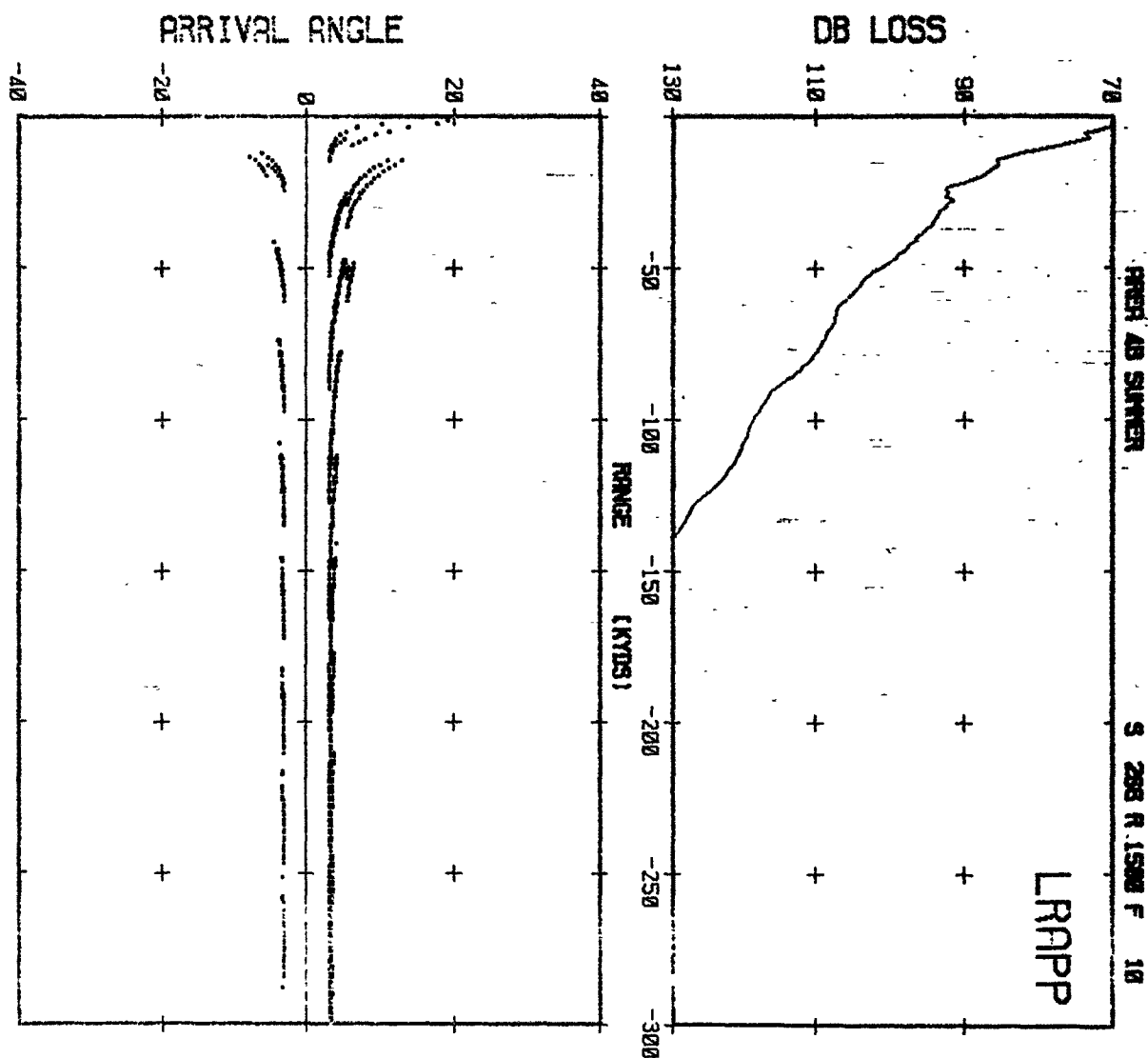


TOTAL -24.4 DB

5 - 58 R 1500 F 100

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1450	1500	1550



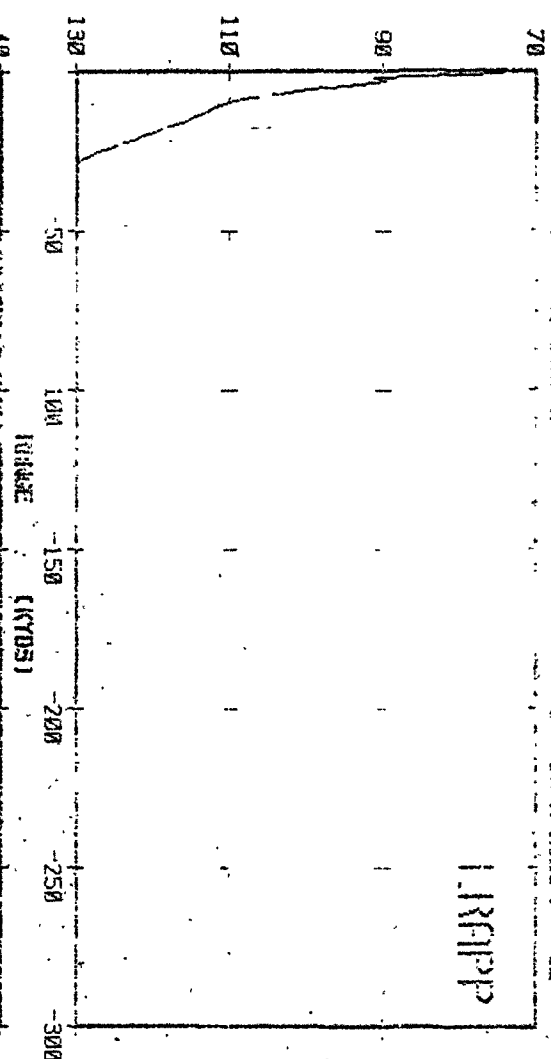


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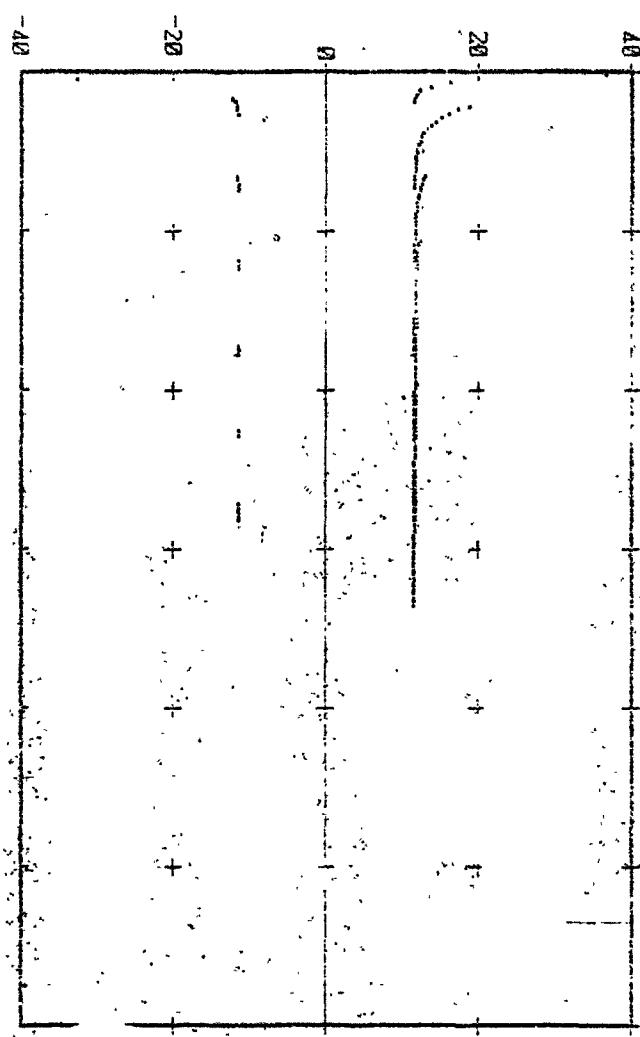
S 201 H 2625 F 10

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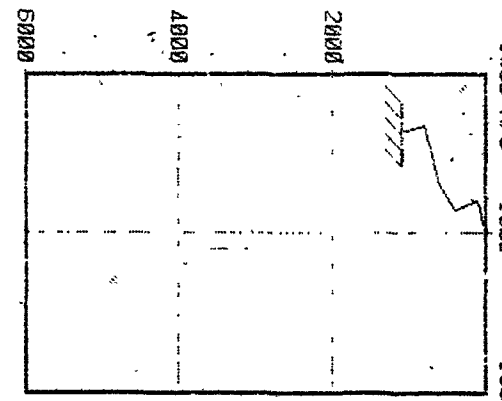
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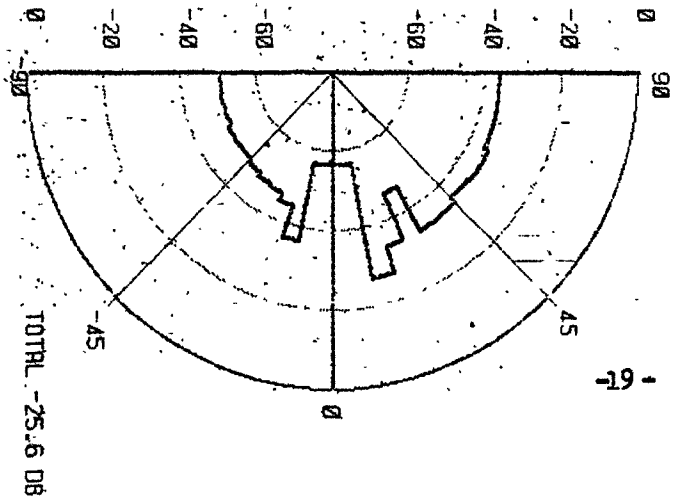
ARRIVAL ANGLE

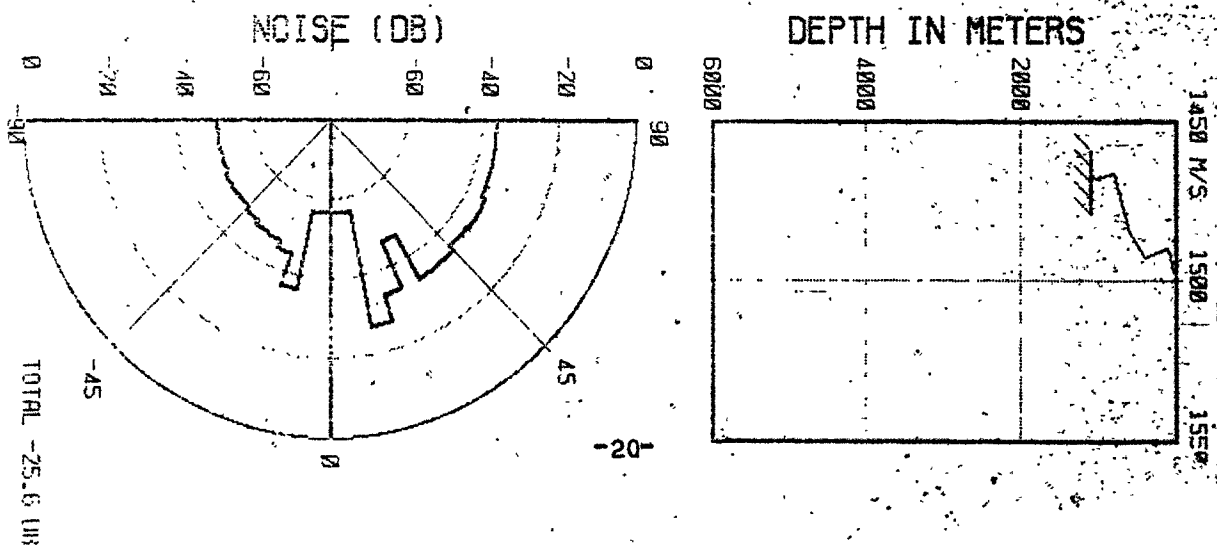
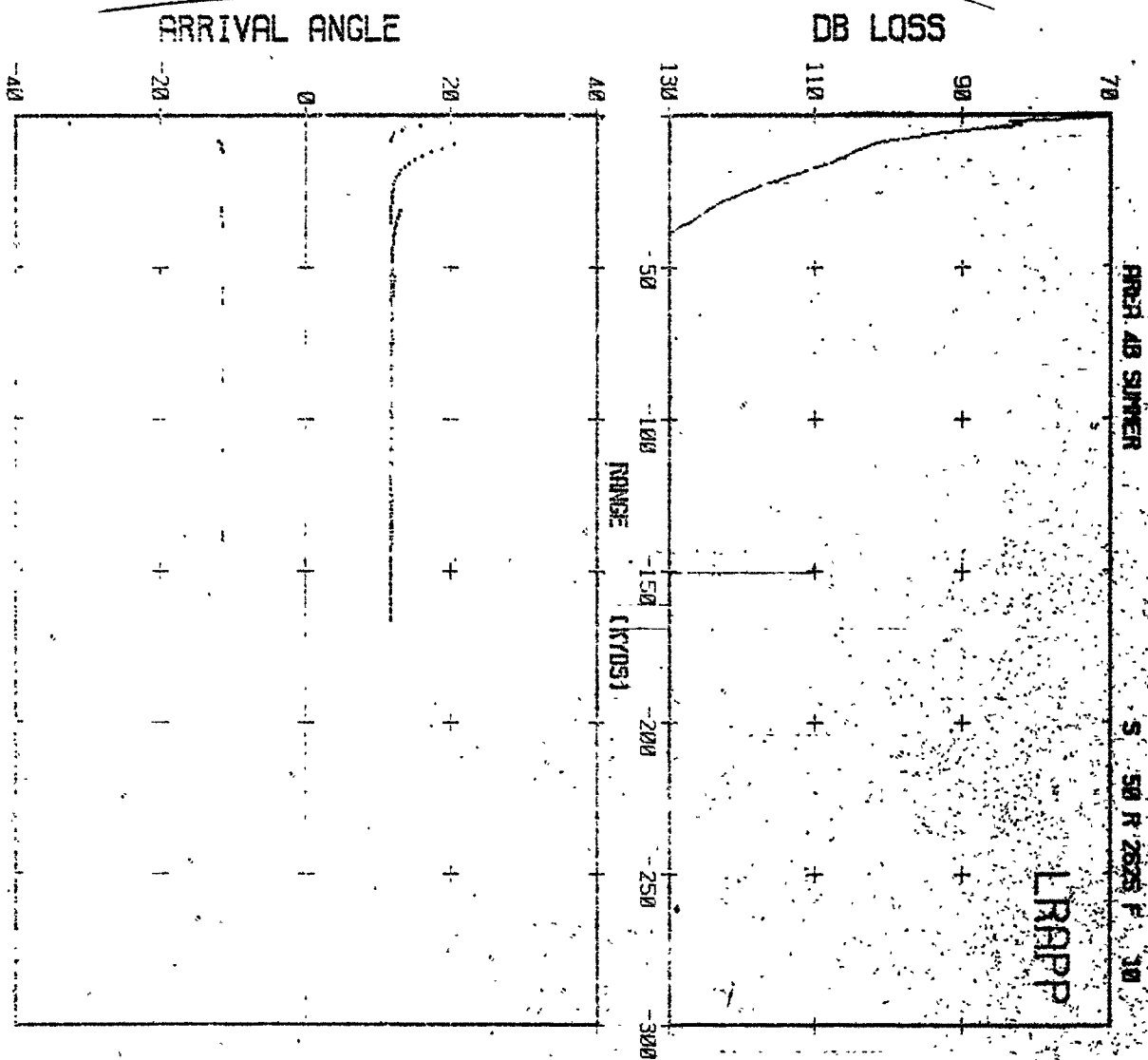


DEPTH IN METERS



NOISE (DB)



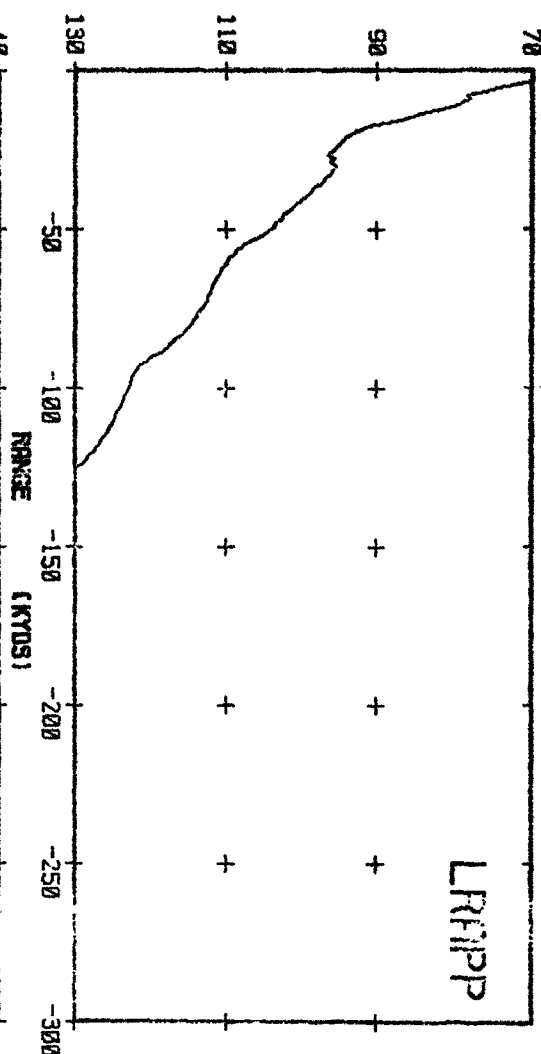


AREA AB SUMMEN

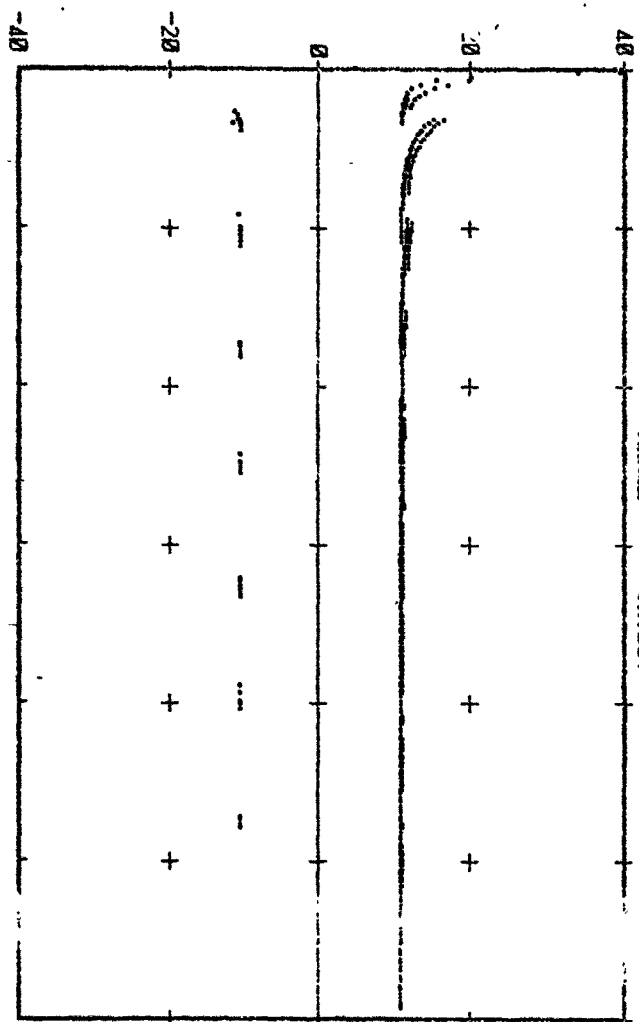
S 288 R 2625 F 18

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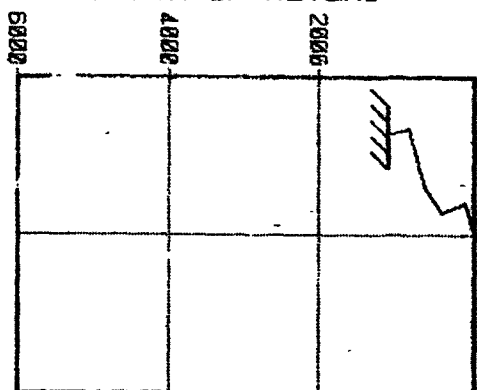
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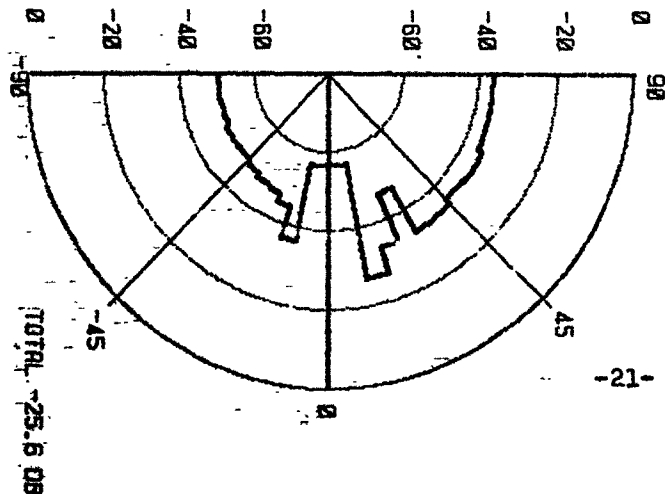
ARRIVAL ANGLE

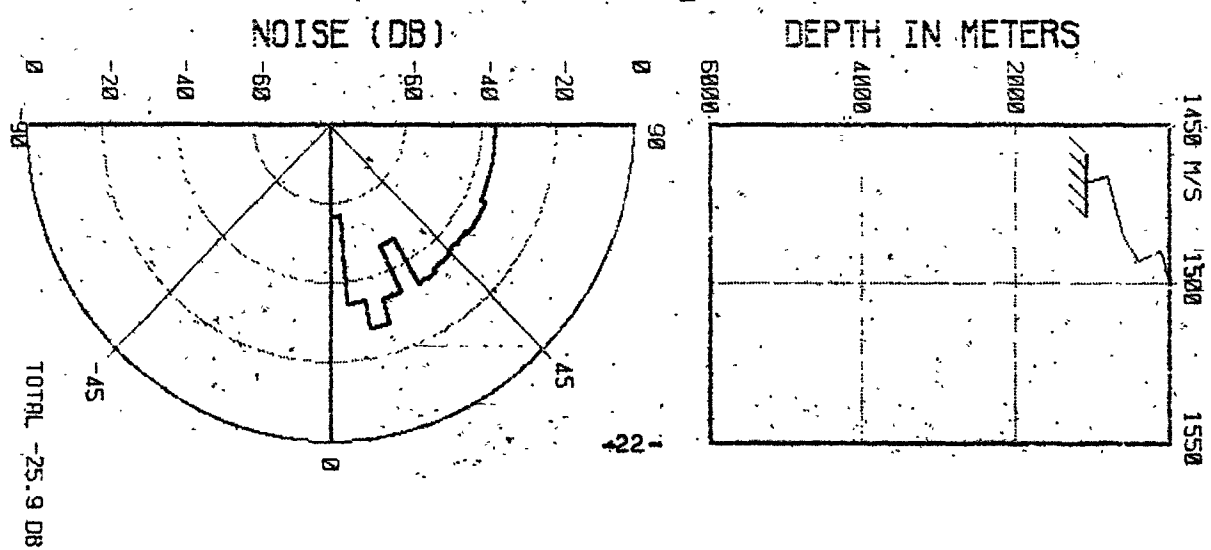
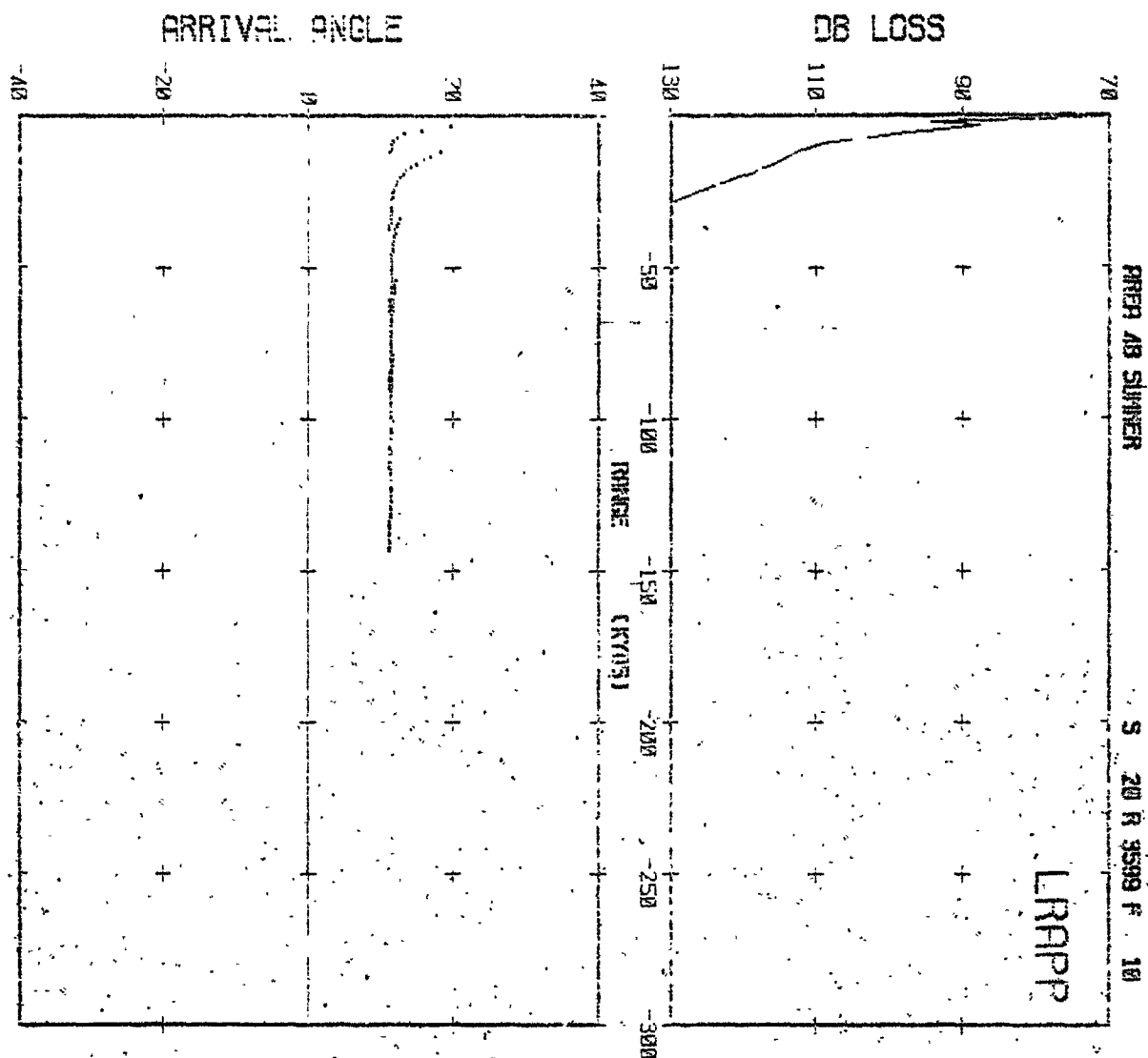


DEPTH IN METERS



NOISE (DB)



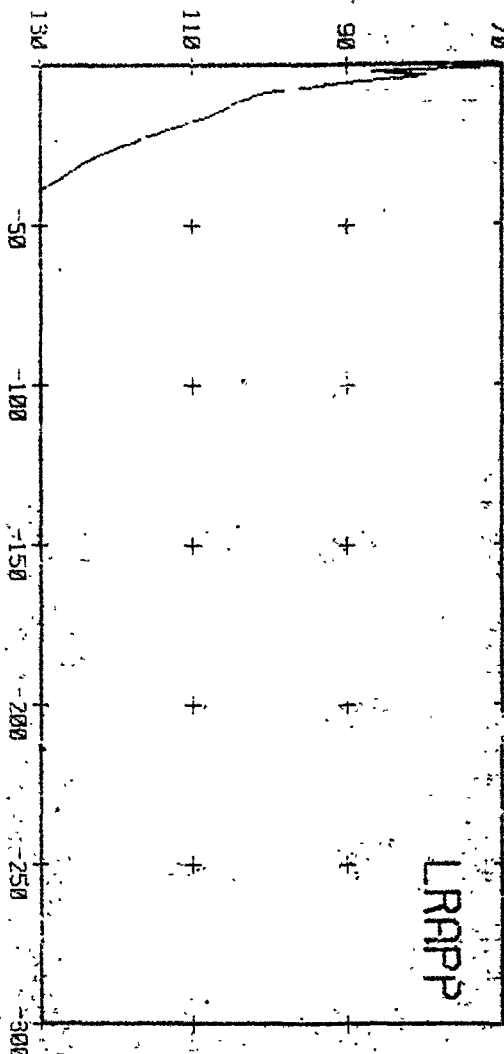


PRER AB SUMMER

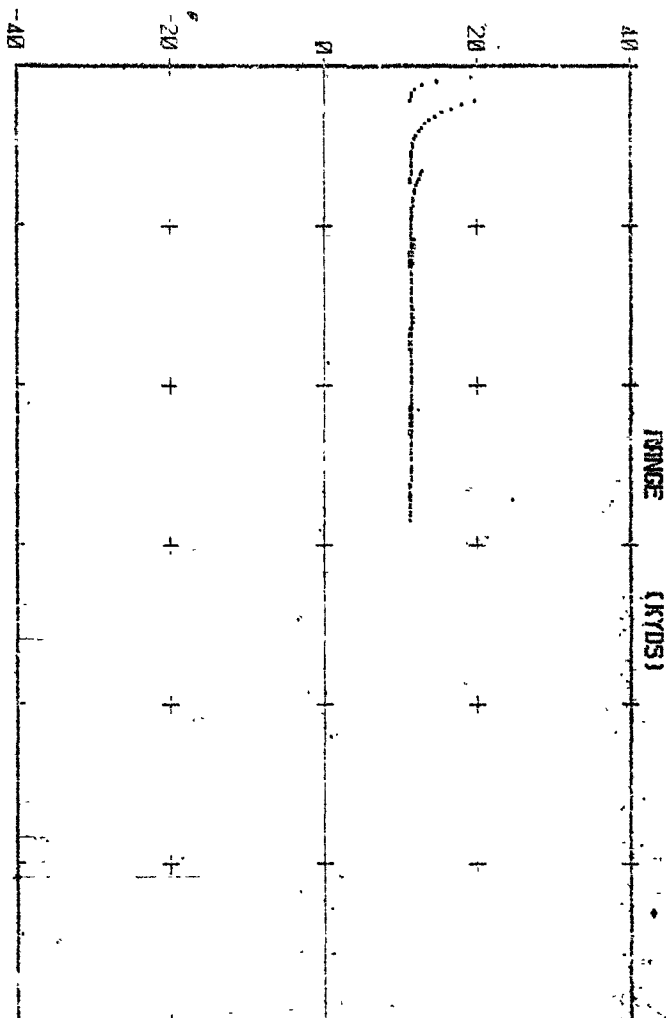
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LRAPP

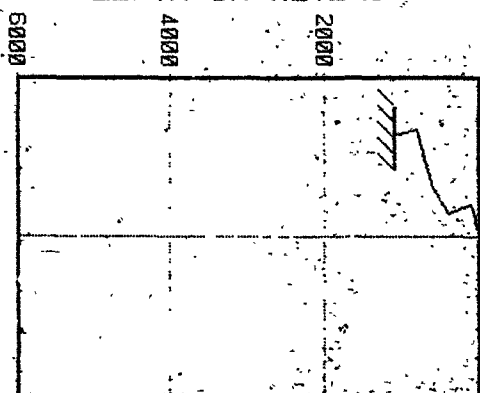
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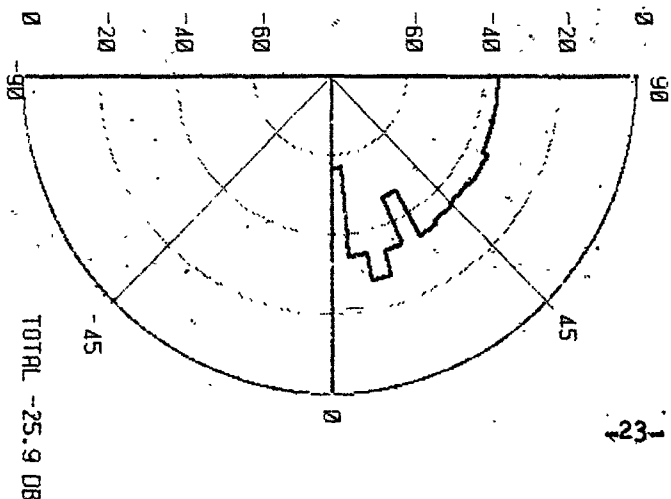
ARRIVAL ANGLE



DEPTH IN METERS



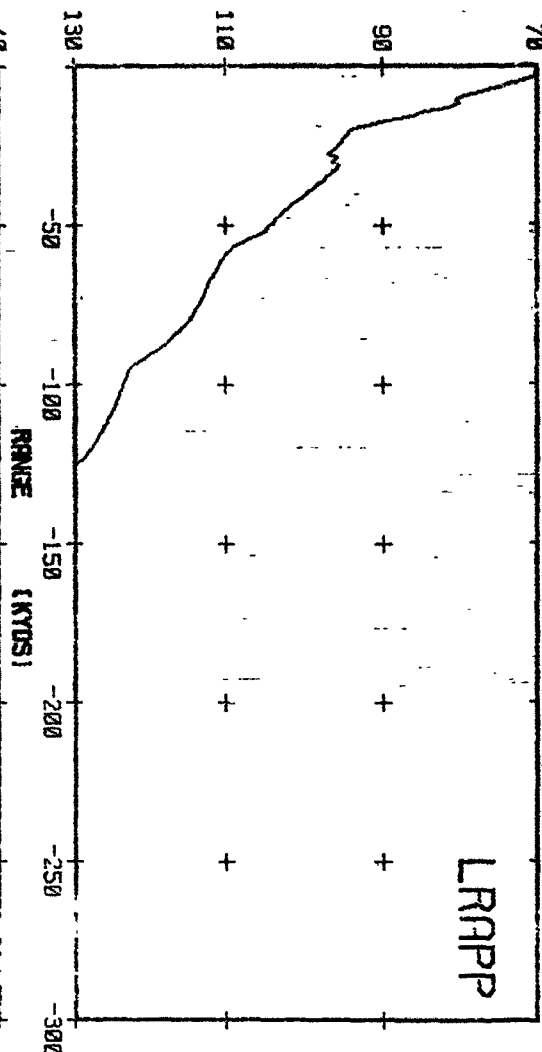
NOISE (DB)



RIVER 43 SUMMER

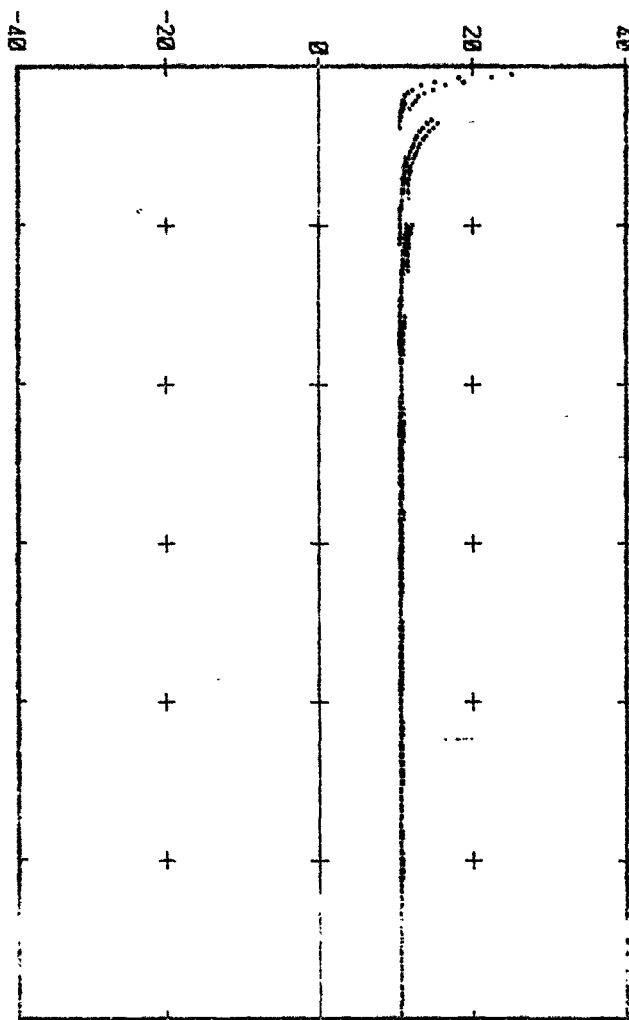
S 288 R 5593 F 18

DB LOSS

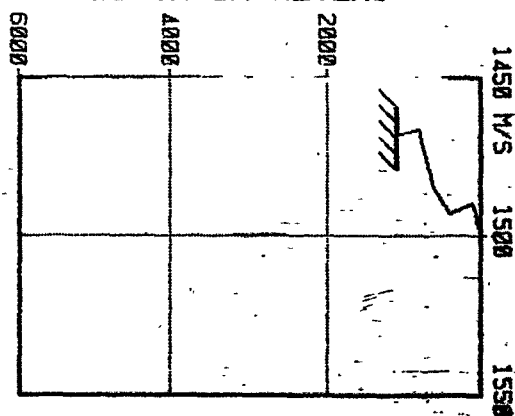


LRAPP

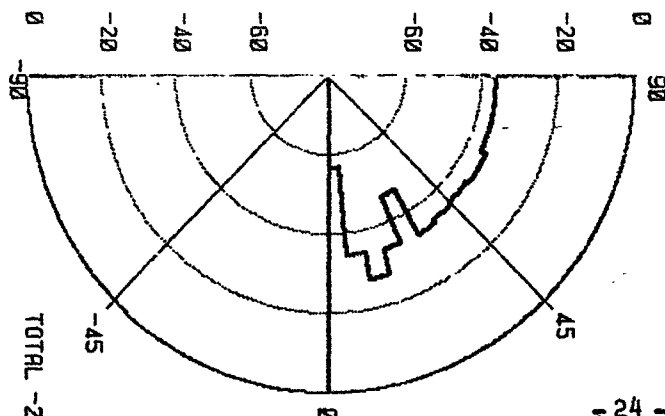
ARRIVAL ANGLE



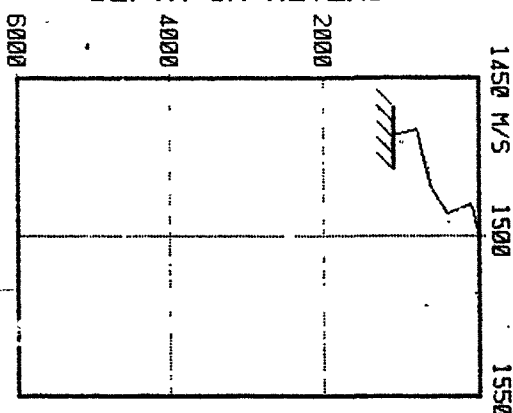
DEPTH IN METERS



NOISE (DB)



TOTAL -25.9 DB



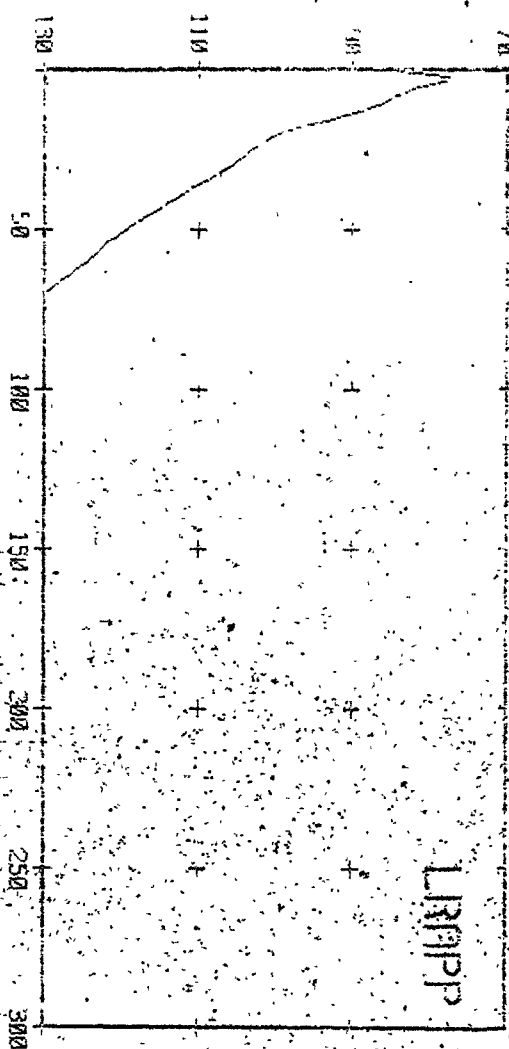
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AREA 40 SUMMER

S. 50 N. 100 E. 50

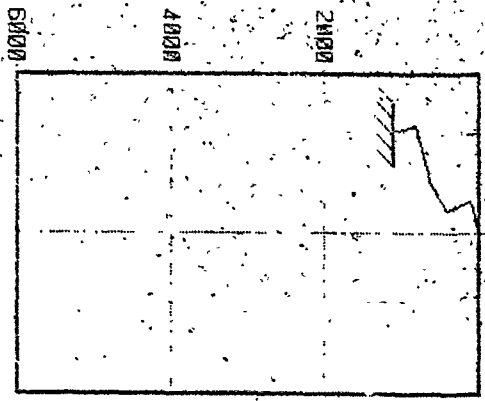
1450 M/S 1500 1550

DB LOSS

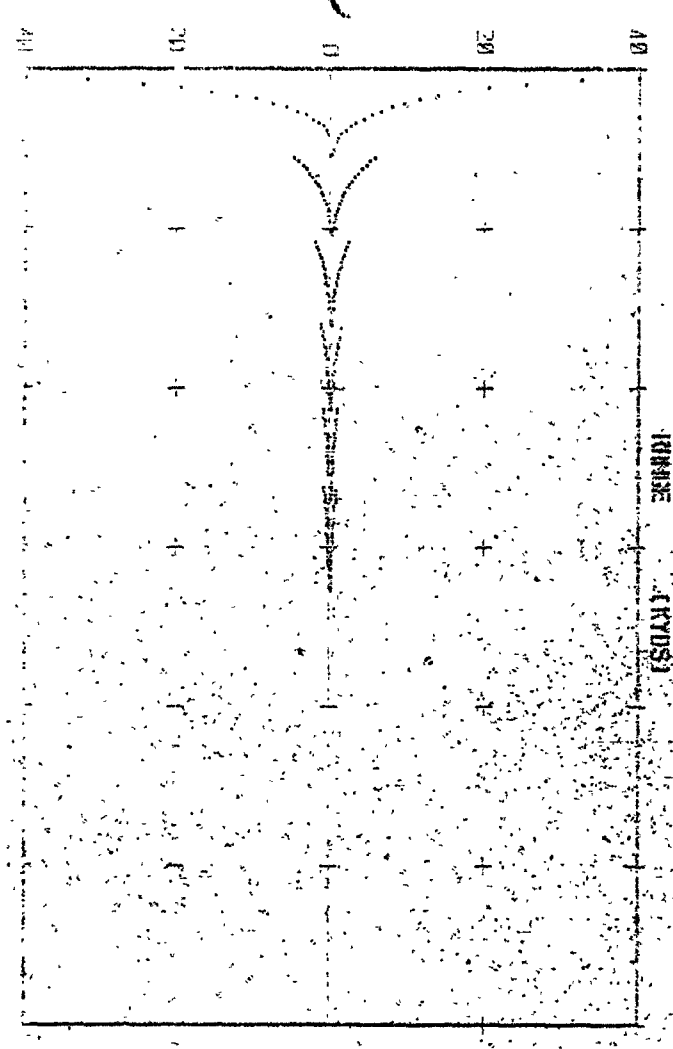


LRPP

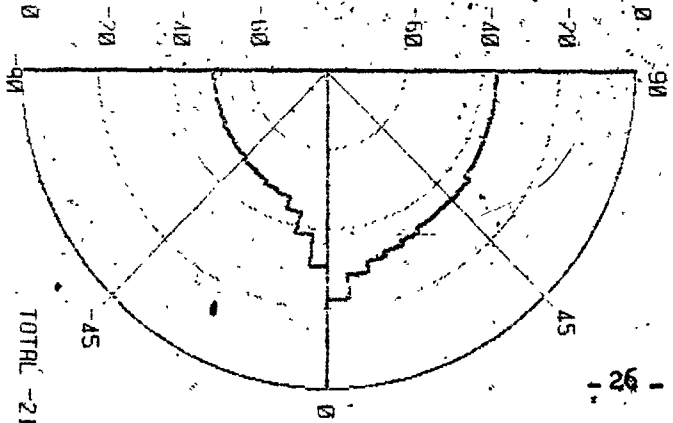
DEPTH IN METERS



CARVED ANGLE

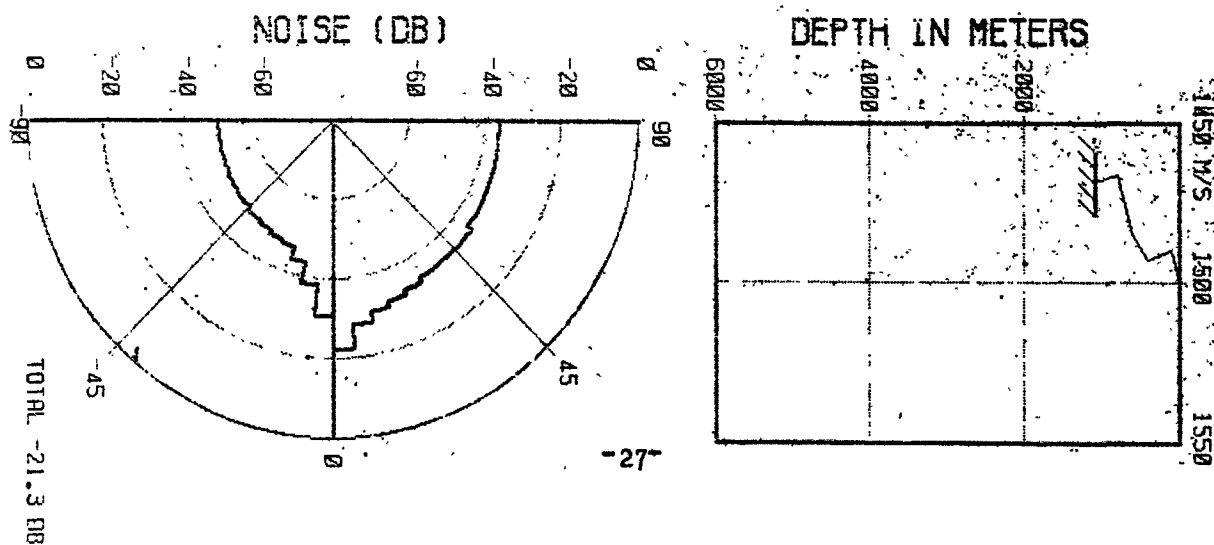
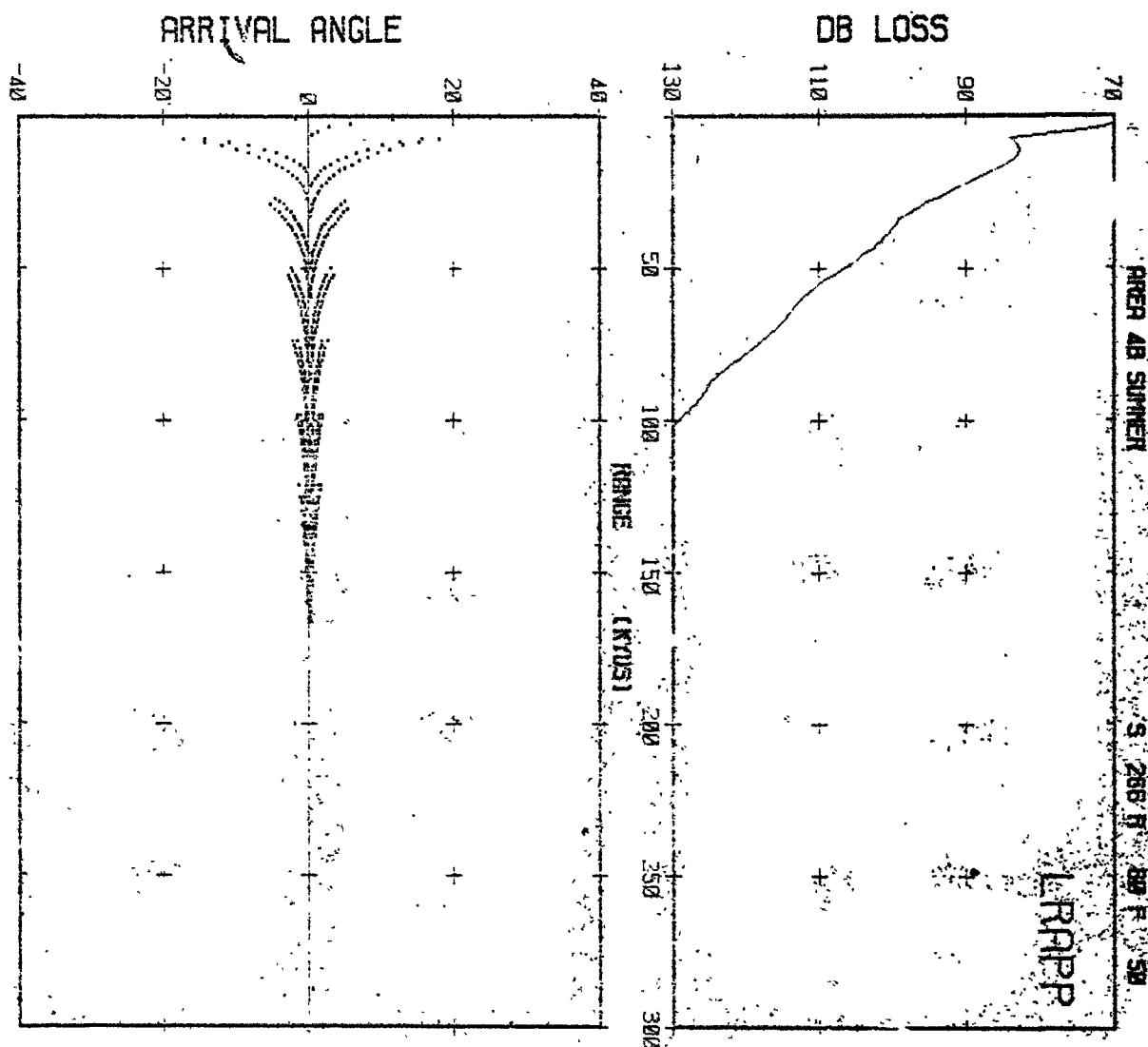


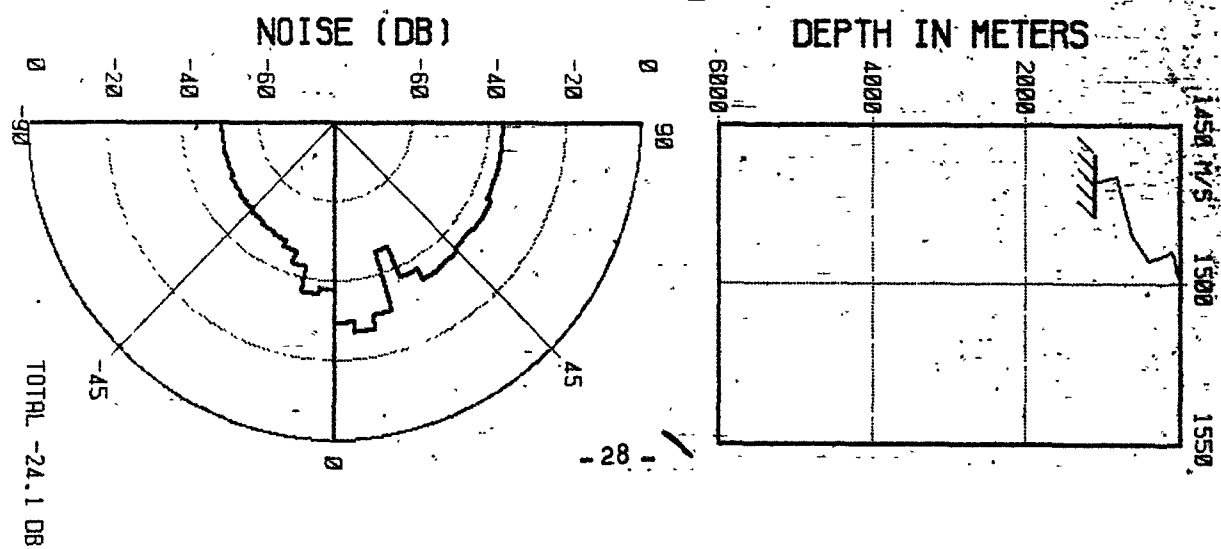
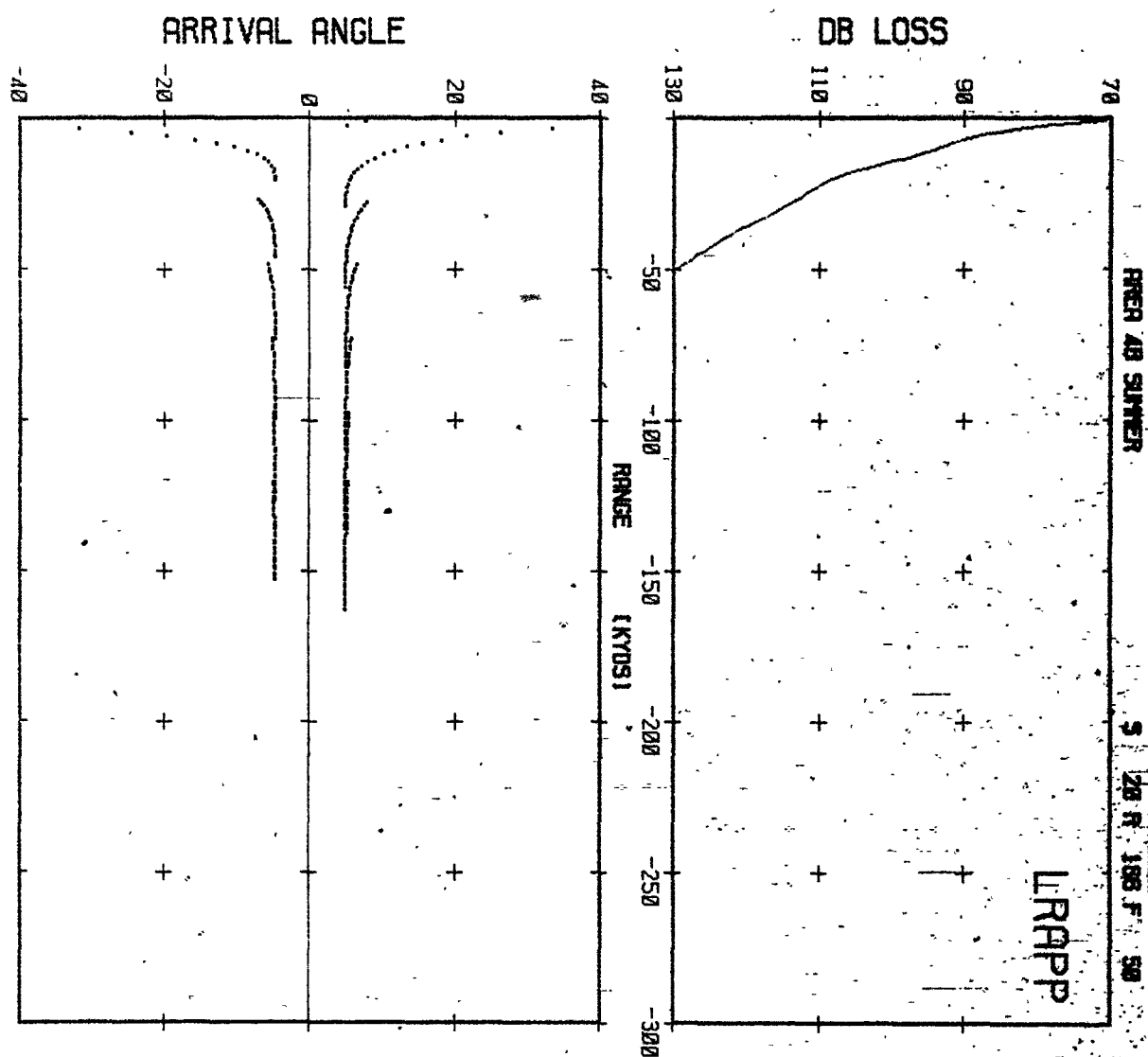
NOISE (DB)



TOTAL -21.3 DB

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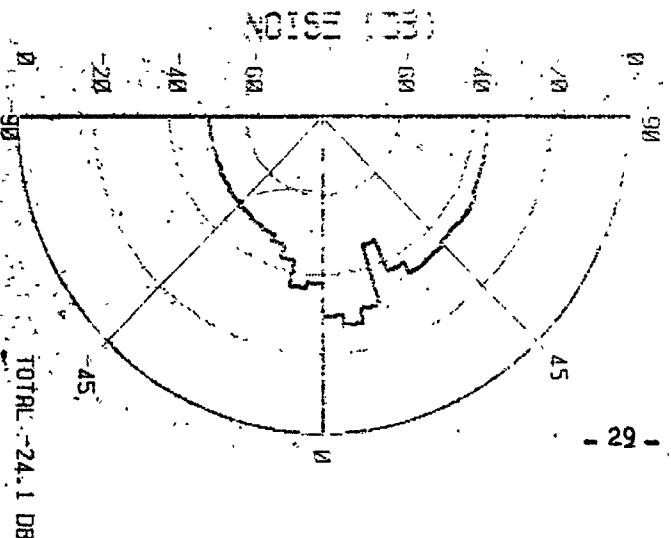
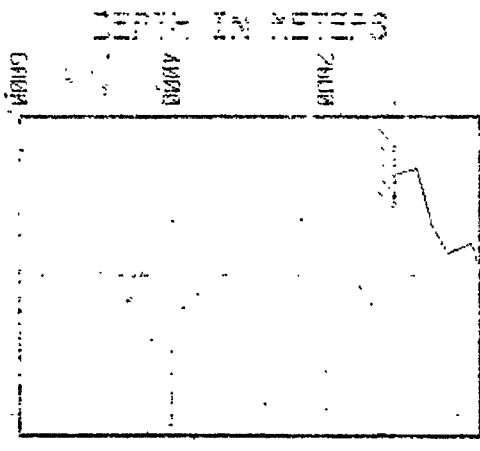
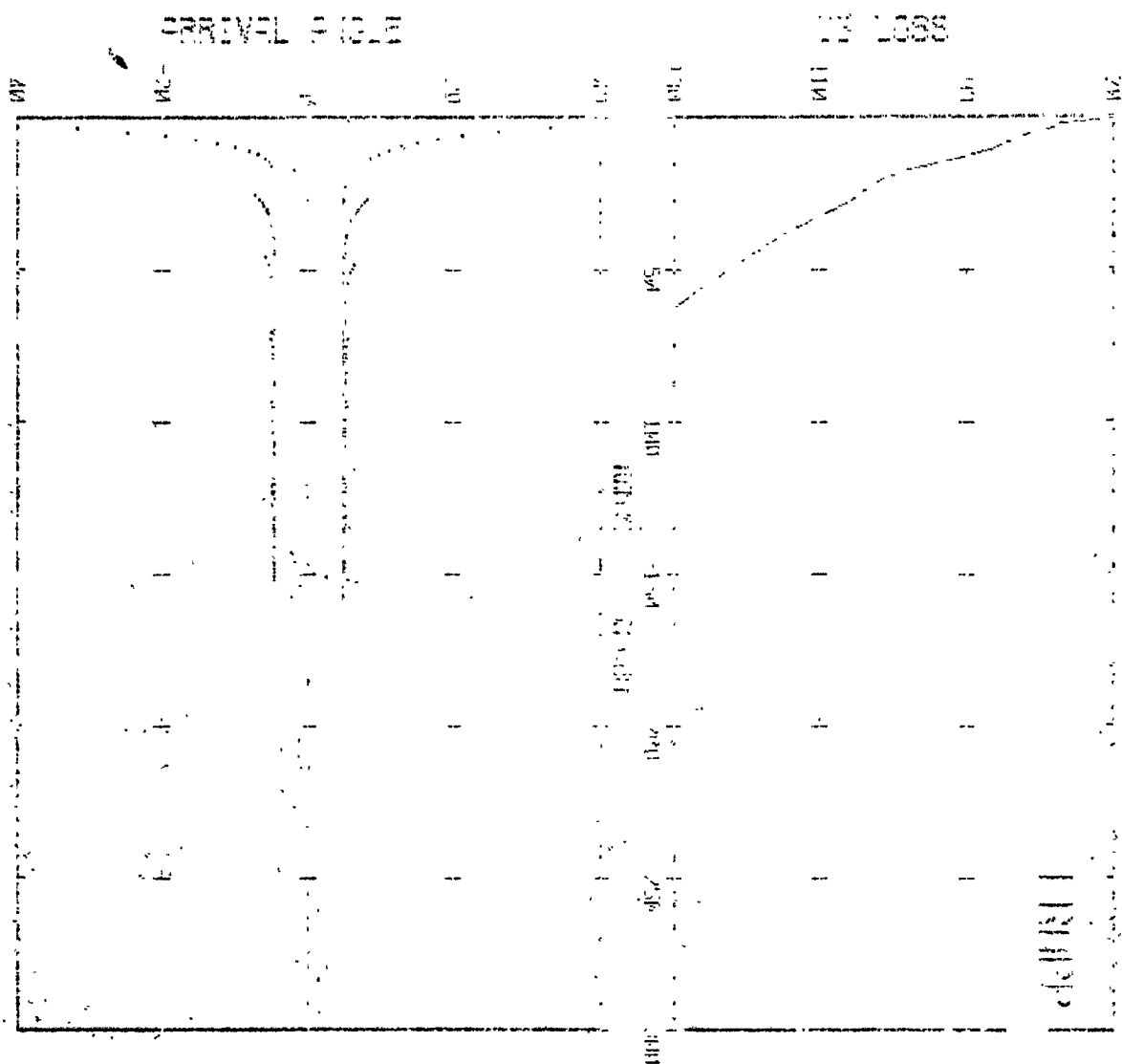




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1450 M/S 1500 1550

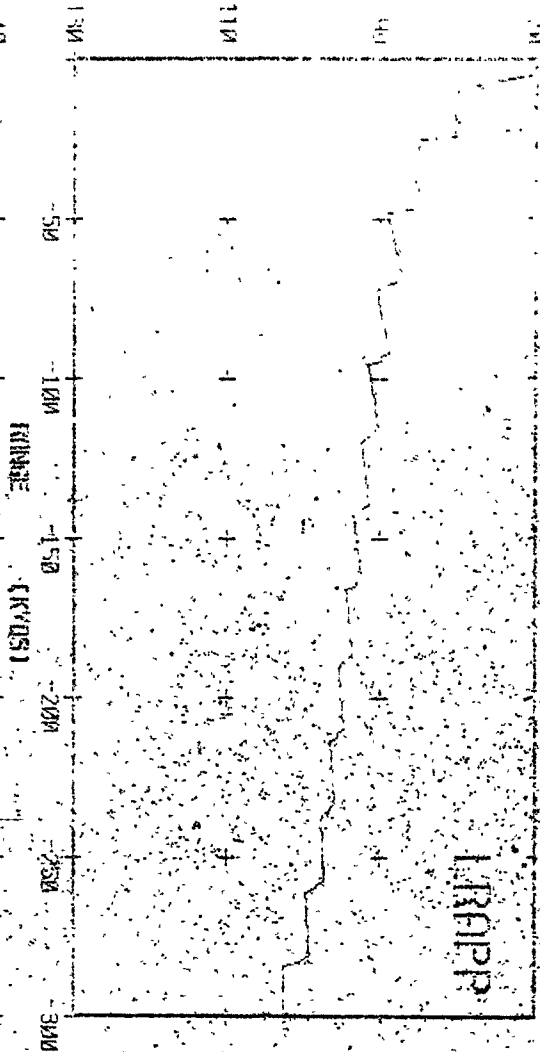


03 1085

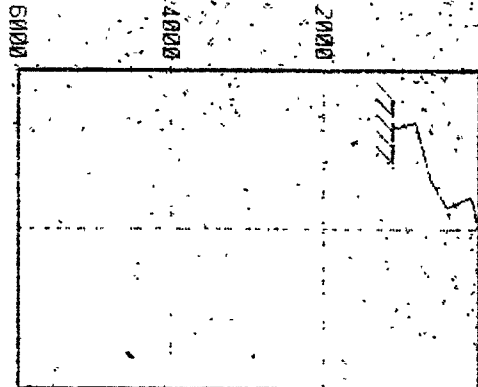
FRONT AIR SURFIER

S 286 ft 100 ft 50

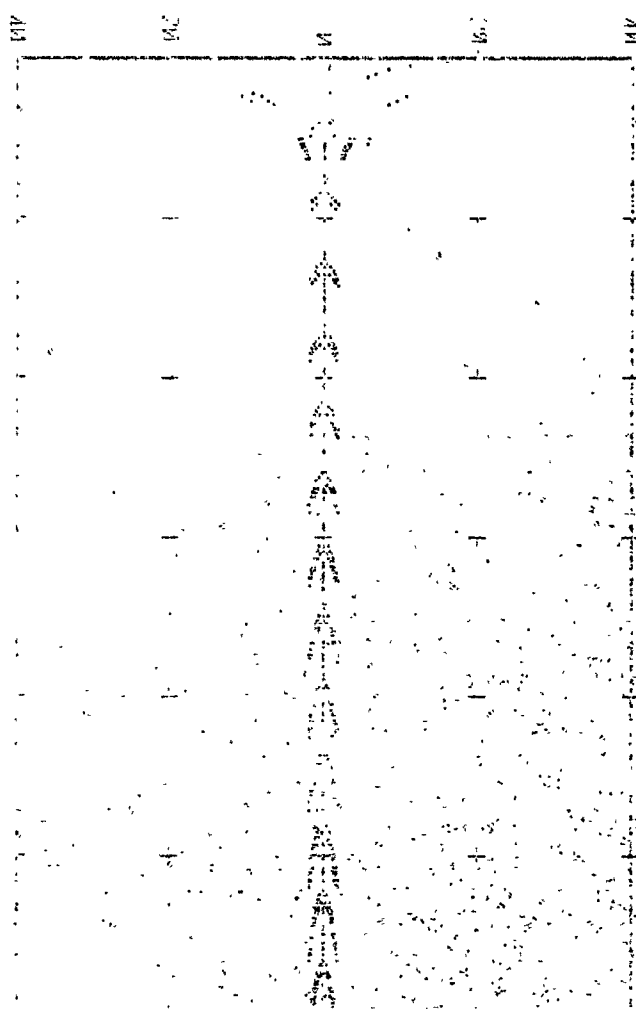
1450 M/S 1500 1550



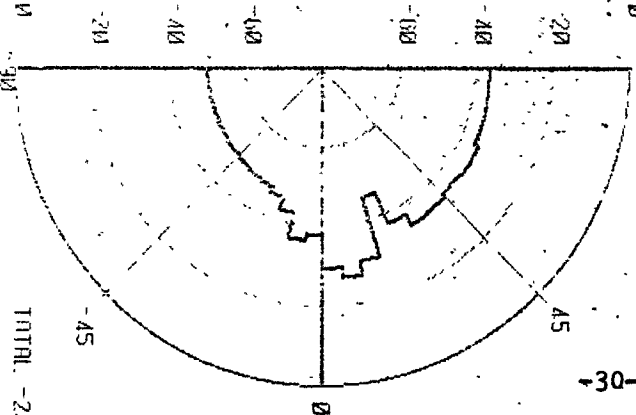
DEPTH IN METERS



ORIGINAL SCALE



NOISE (DB)



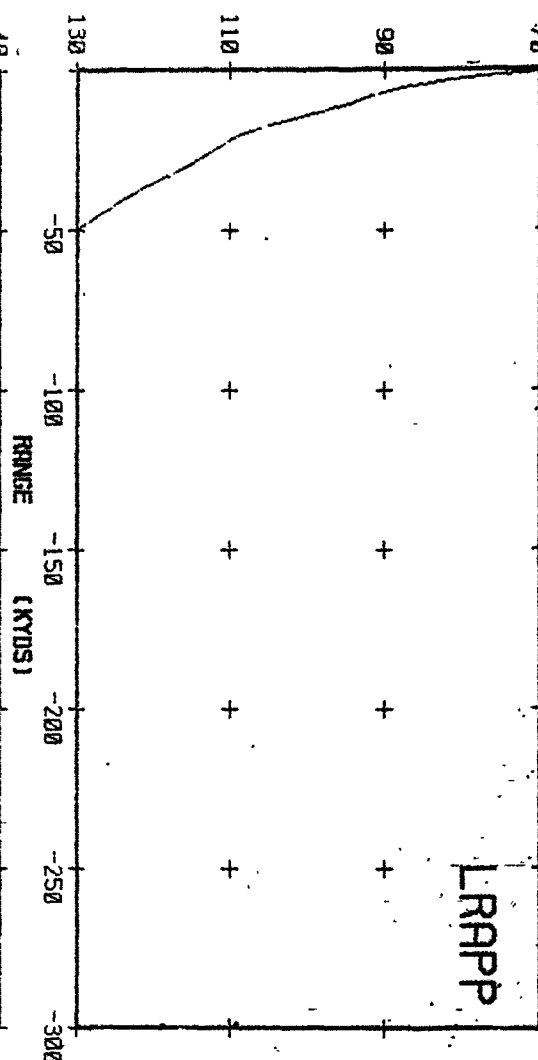
TOTAL -24.1 DB

AREA 4B SUMMER

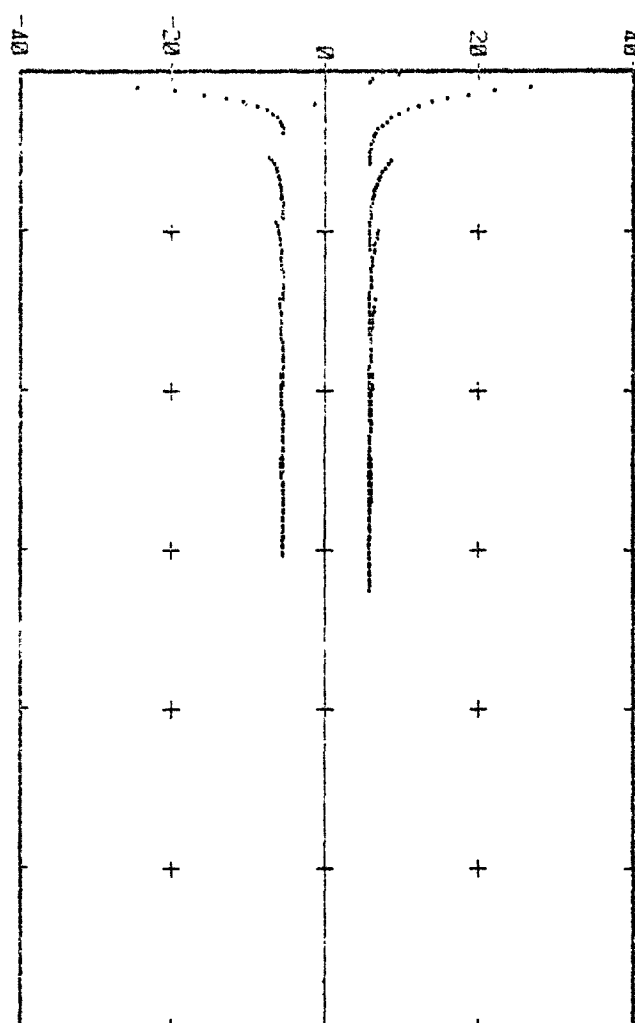
S 20 R 300 F 50

1450 M/S 1500 1550

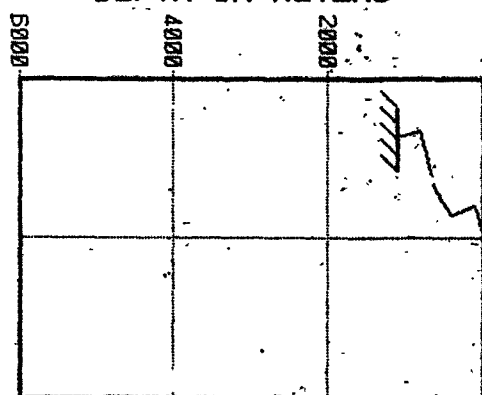
DB LOSS



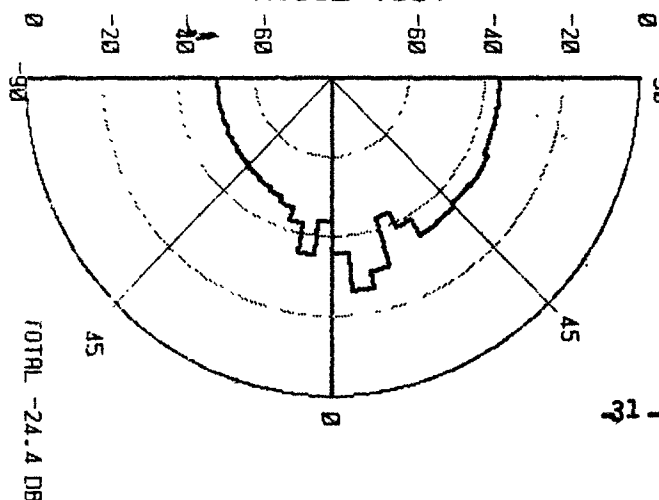
ARRIVAL ANGLE

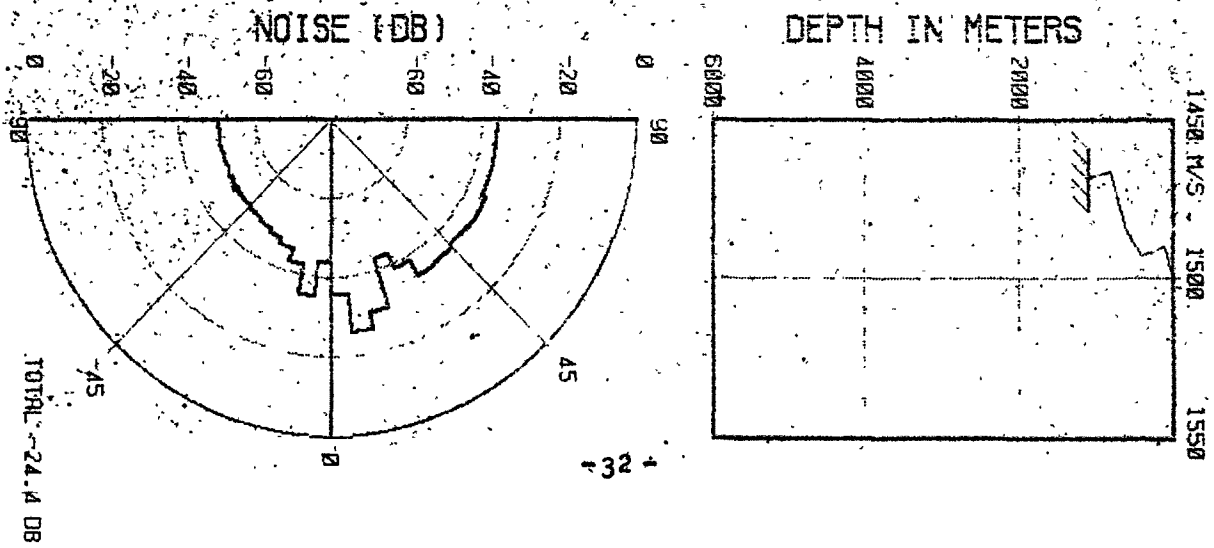
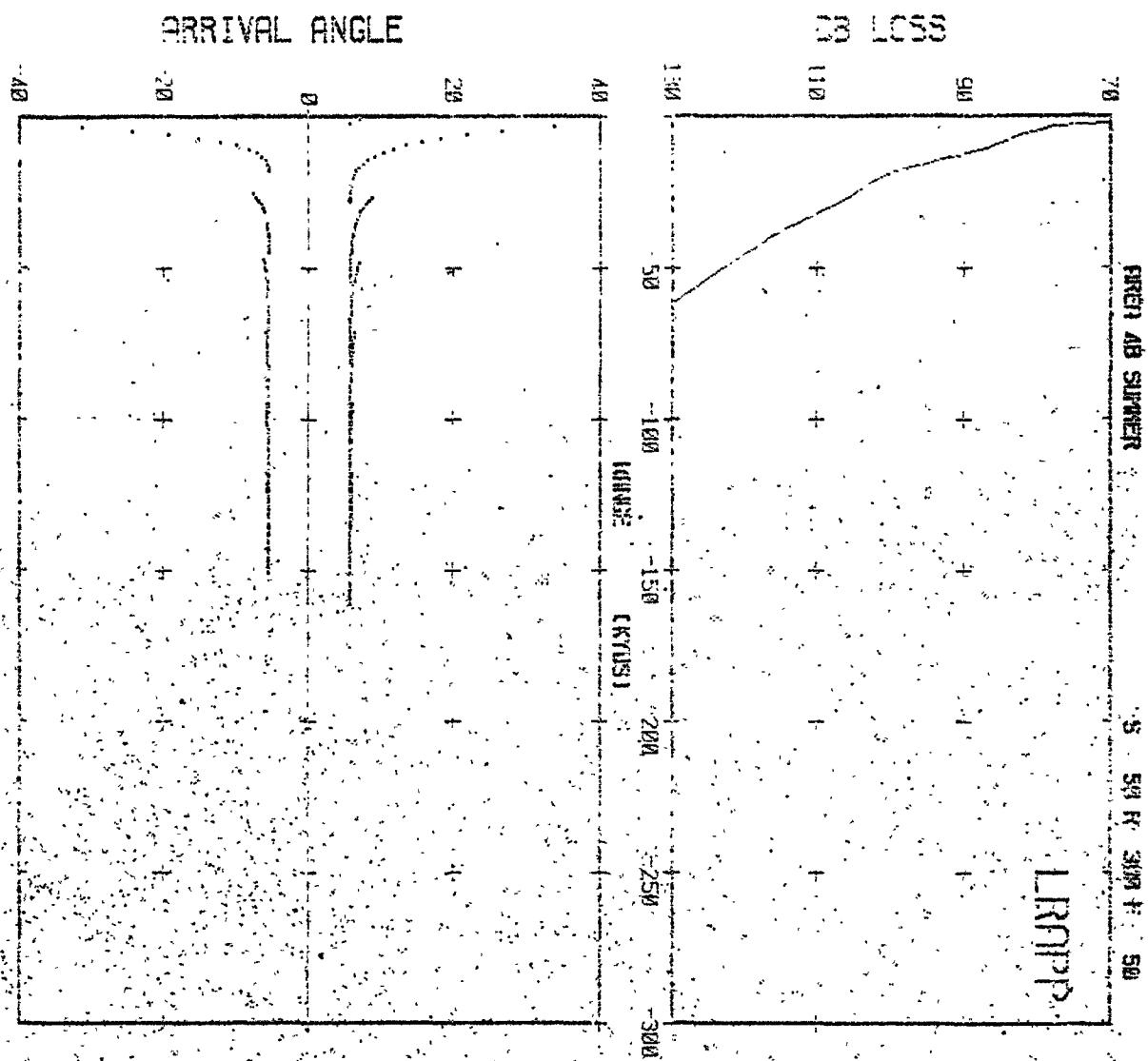


DEPTH IN METERS



NOISE (DB)



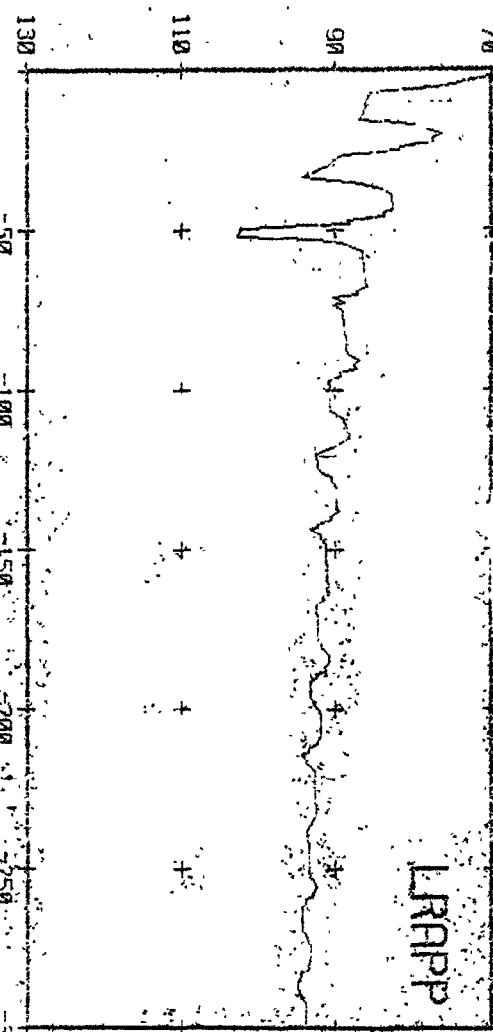


AREA AB SUMMER

3. 280 F. 300 F. 50

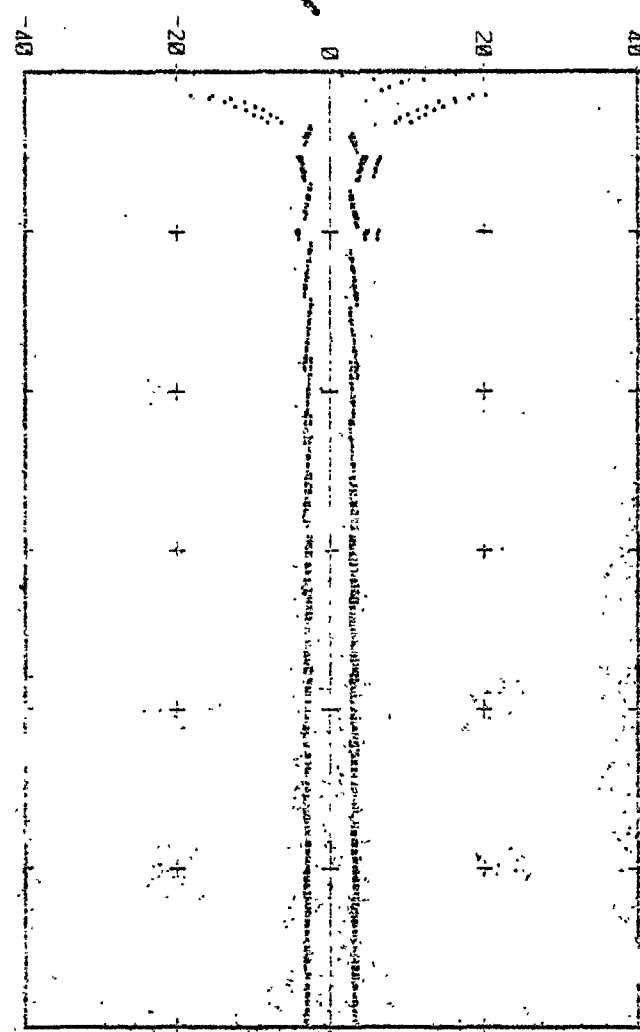
1450 H/S 1500 1550

DB LOSS

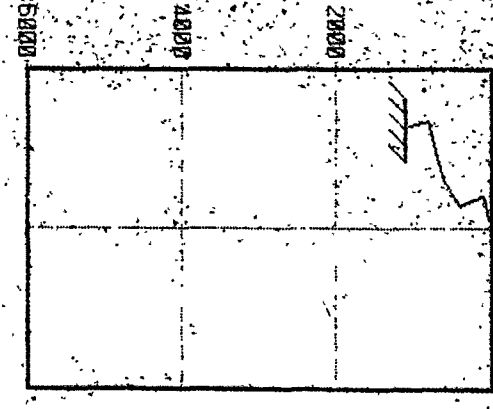


RANGE (KMS)

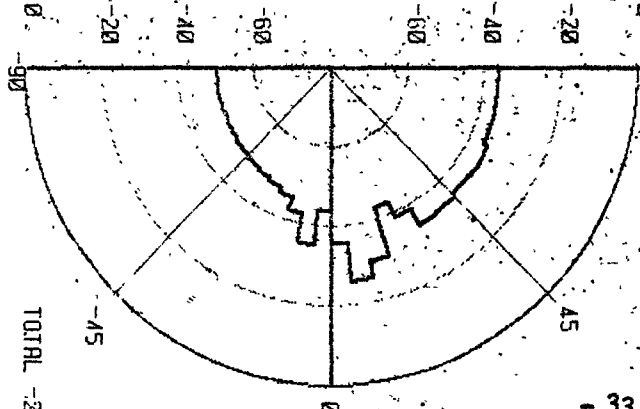
ARRIVAL ANGLE



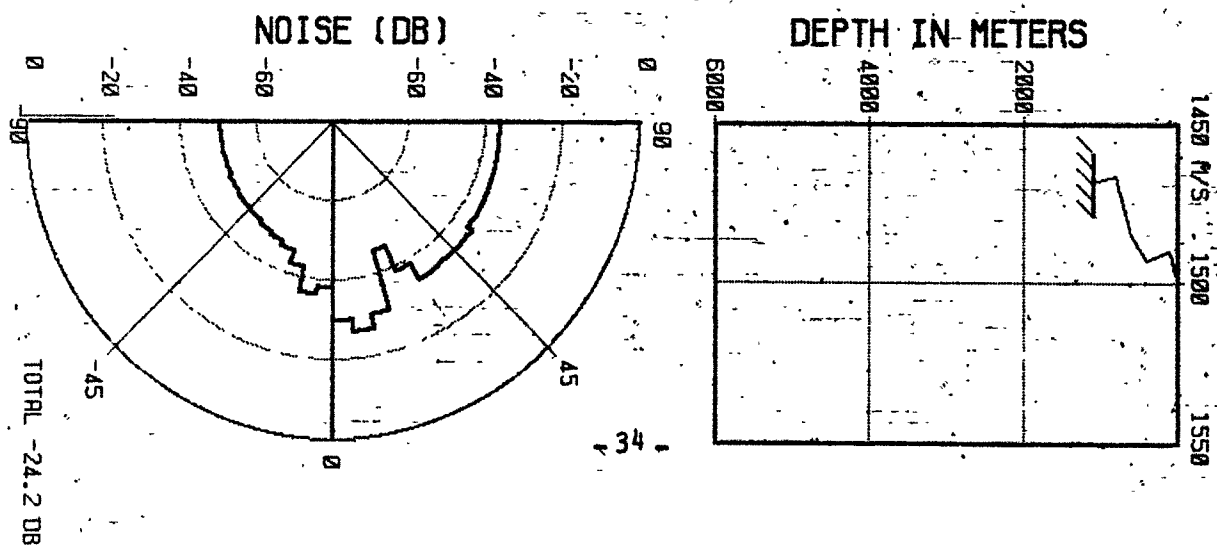
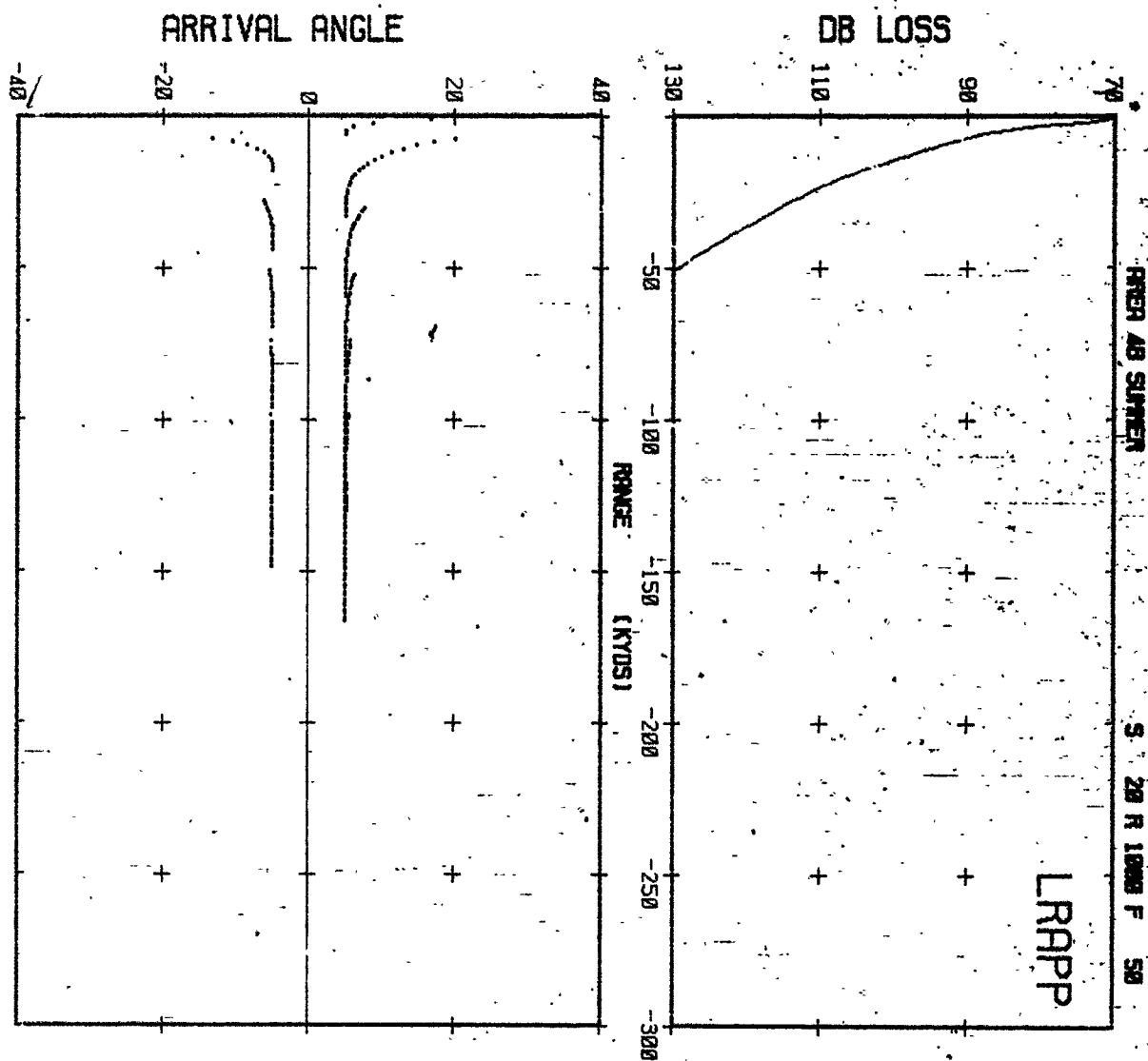
DEPTH IN METERS



NOISE (DB)



TOTAL -24.4 DB

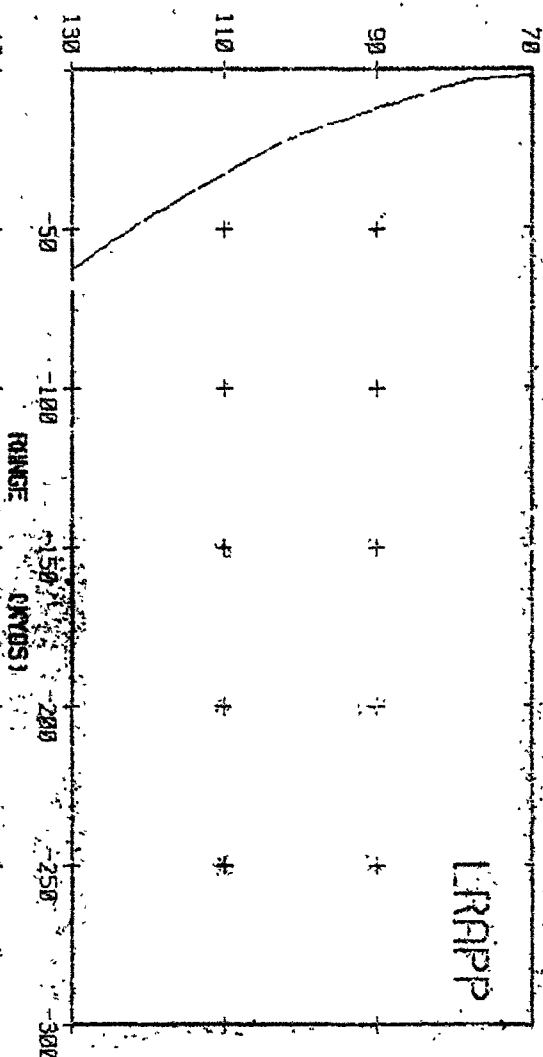


PIREX AB SIGHTER

S. 50° R. 1000 F. 50

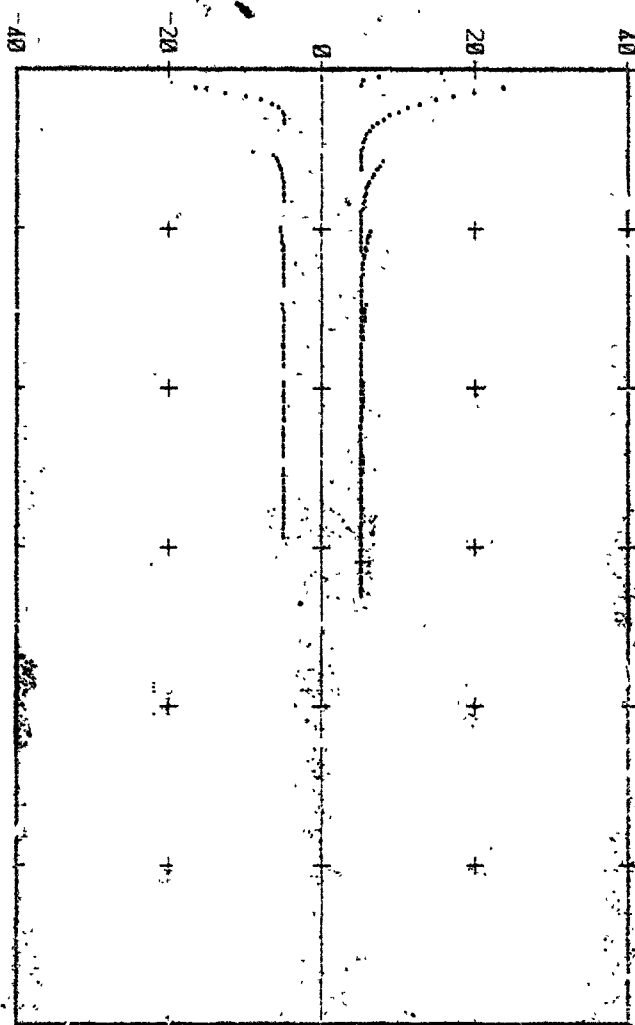
1450 M/S 1500 1550

DB LOSS

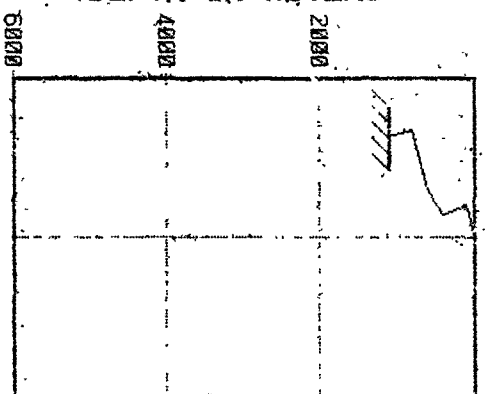


LRAPP

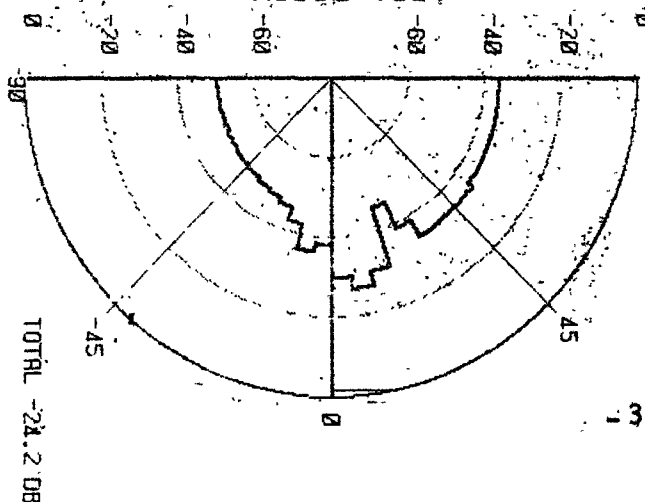
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -24.2 DB



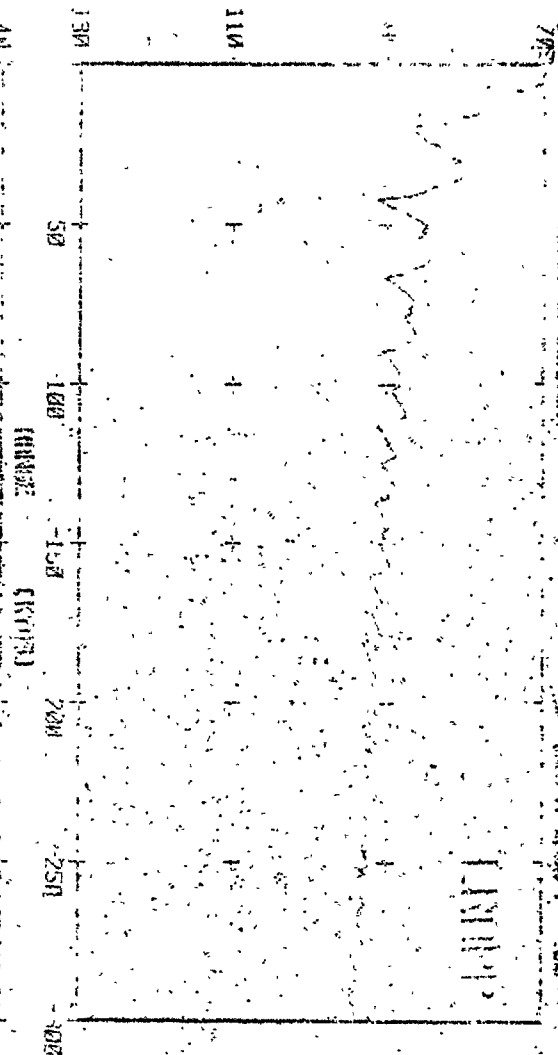
FROM AIR SURFAC

260 P. 1400 P. 50

1450 M/S 1500

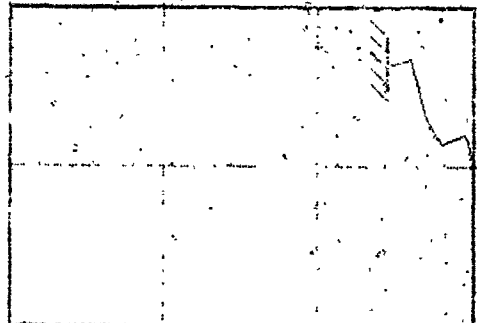
1550

030 1000

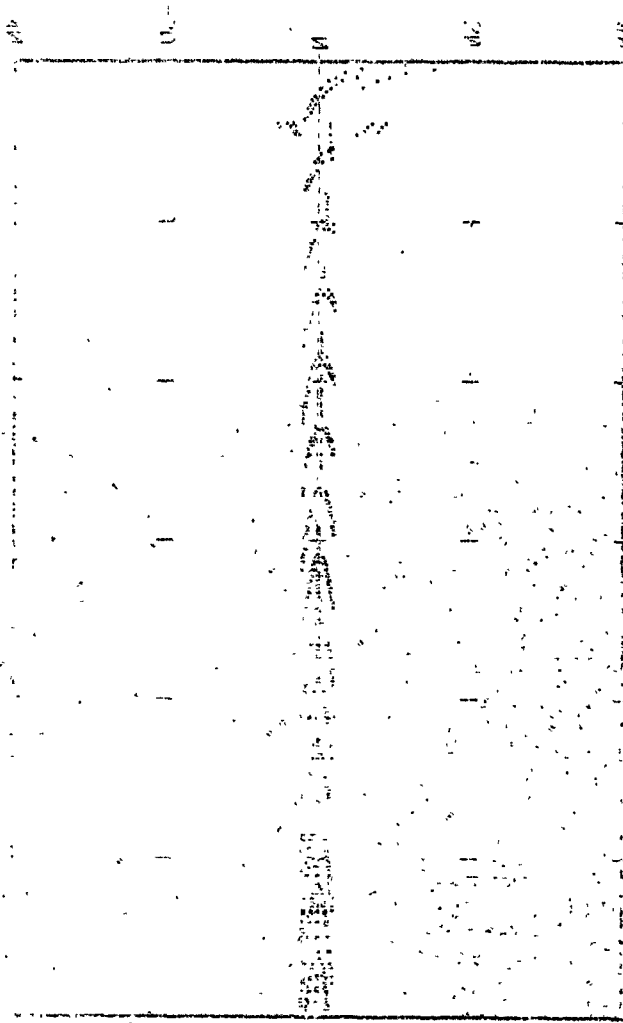


(HORIZ) (KNOTS)

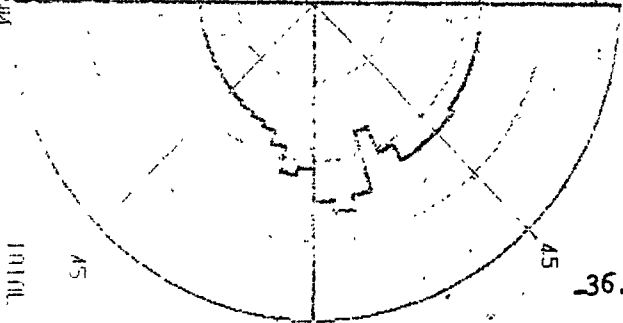
0 2000 4000 6000



030 1000



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-36-

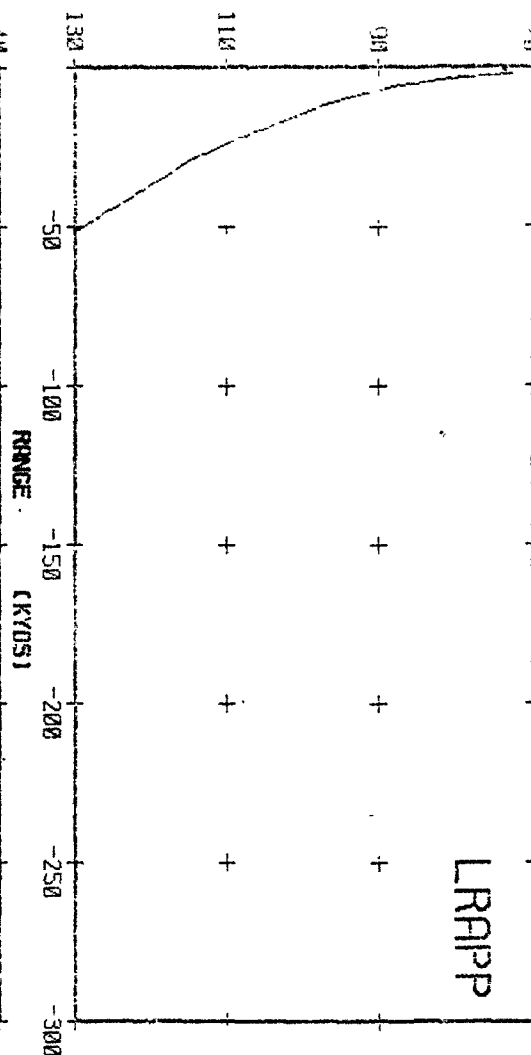
INITIAL 24 JUL

FREN AIR SURFEN

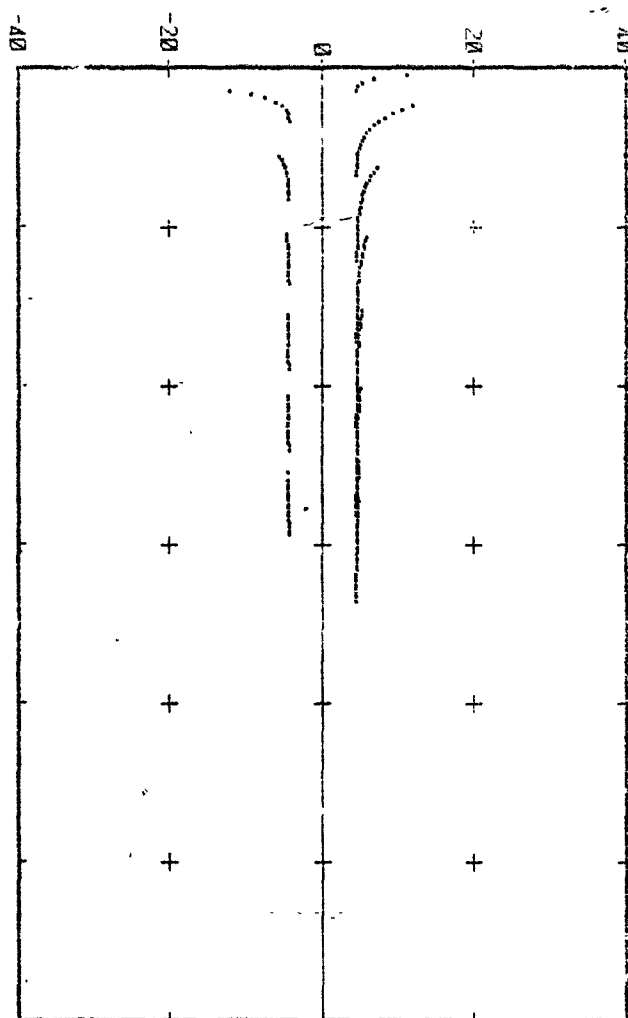
S 20 R 1312 F 50

1450 M/S 1500 1550

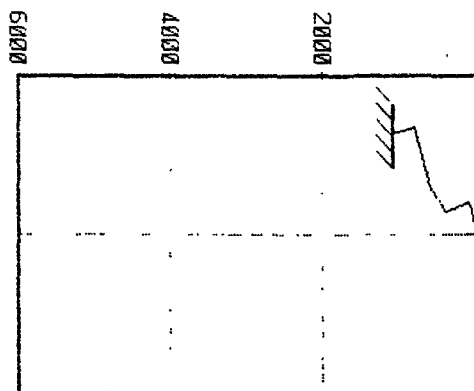
DB LOSS



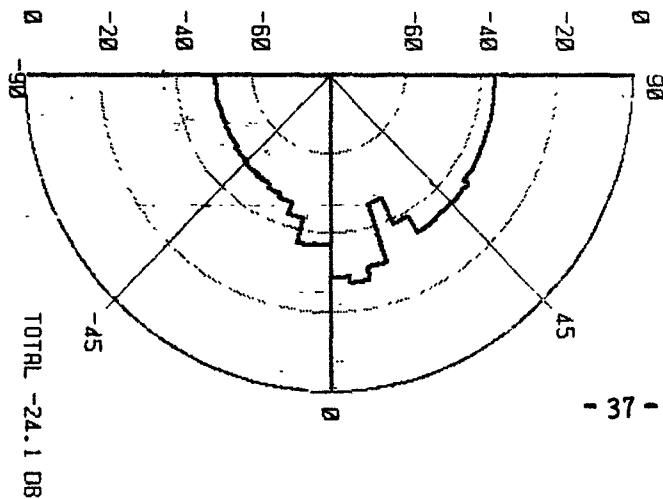
ARRIVAL ANGLE

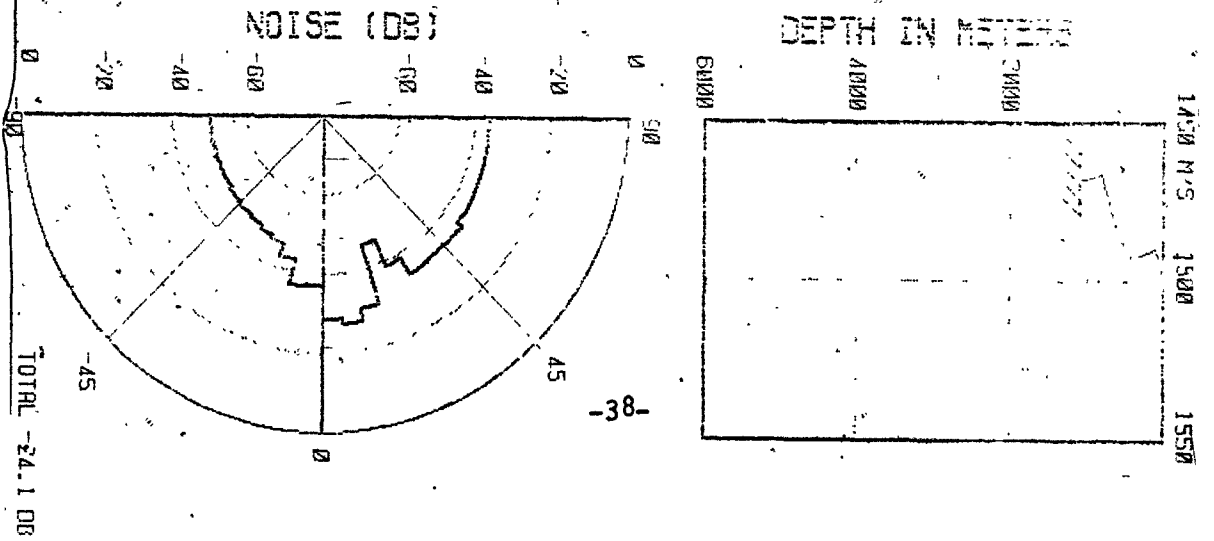
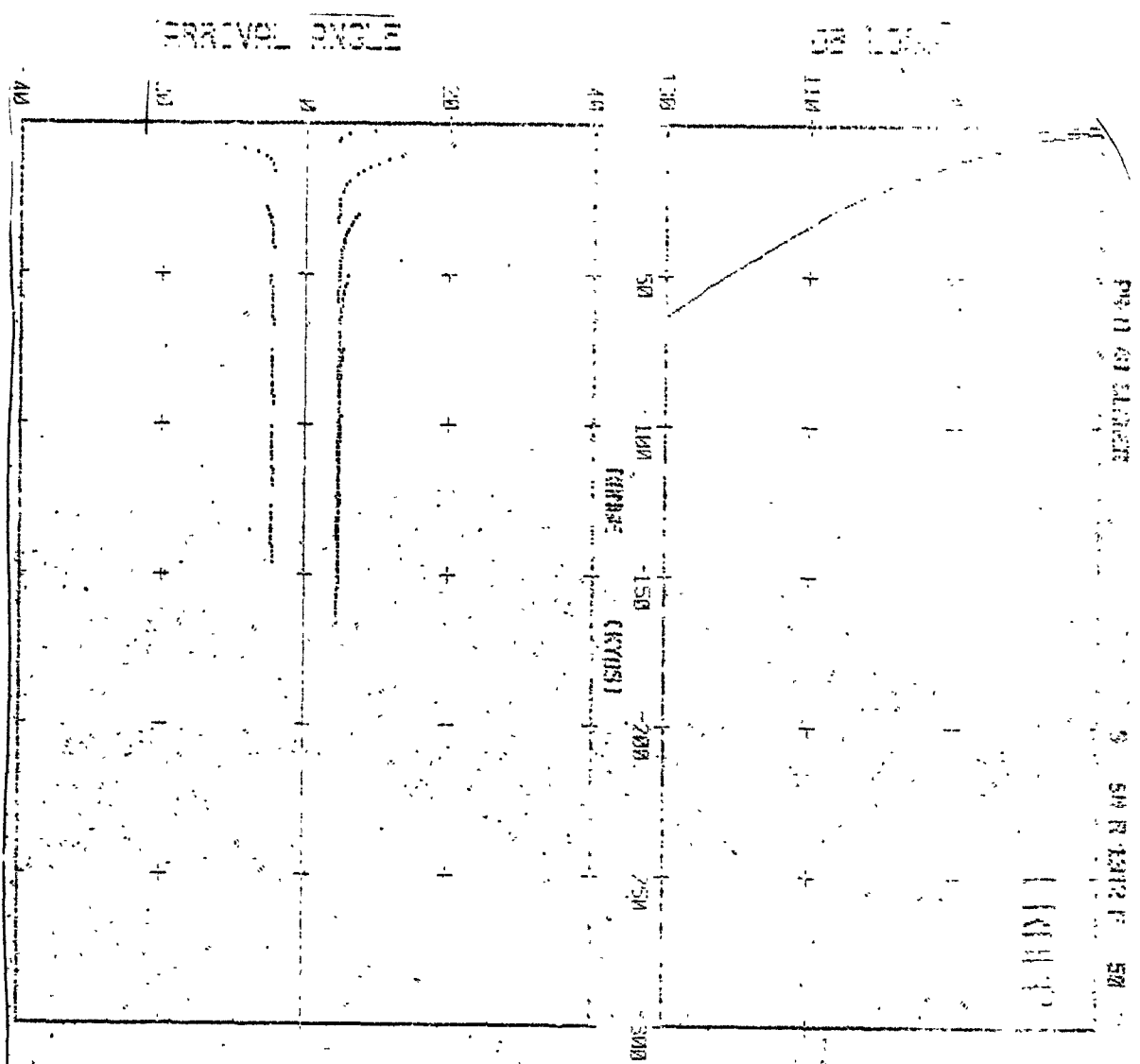


DEPTH IN METERS



NOISE (DB)





INNER AB SURFEN

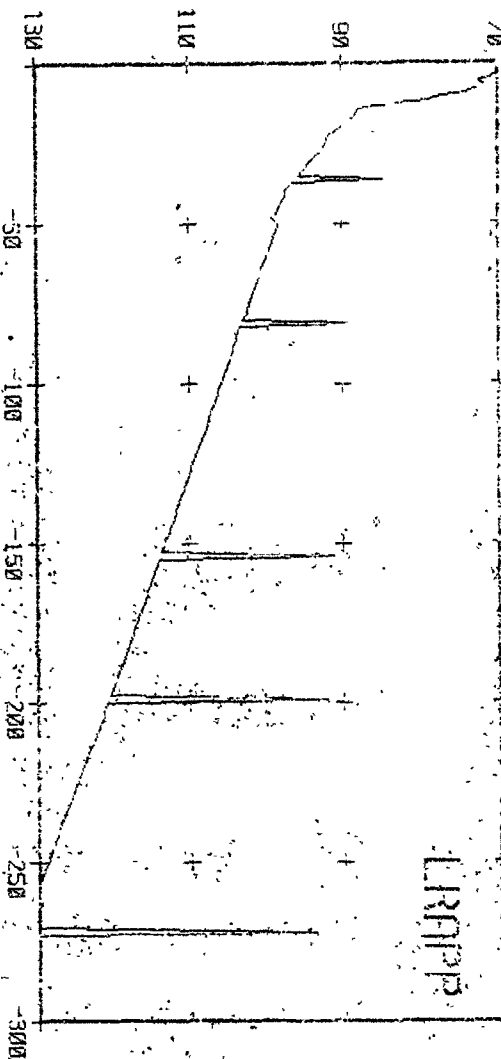
200 N. 130° E. 100

1450 1455 1500

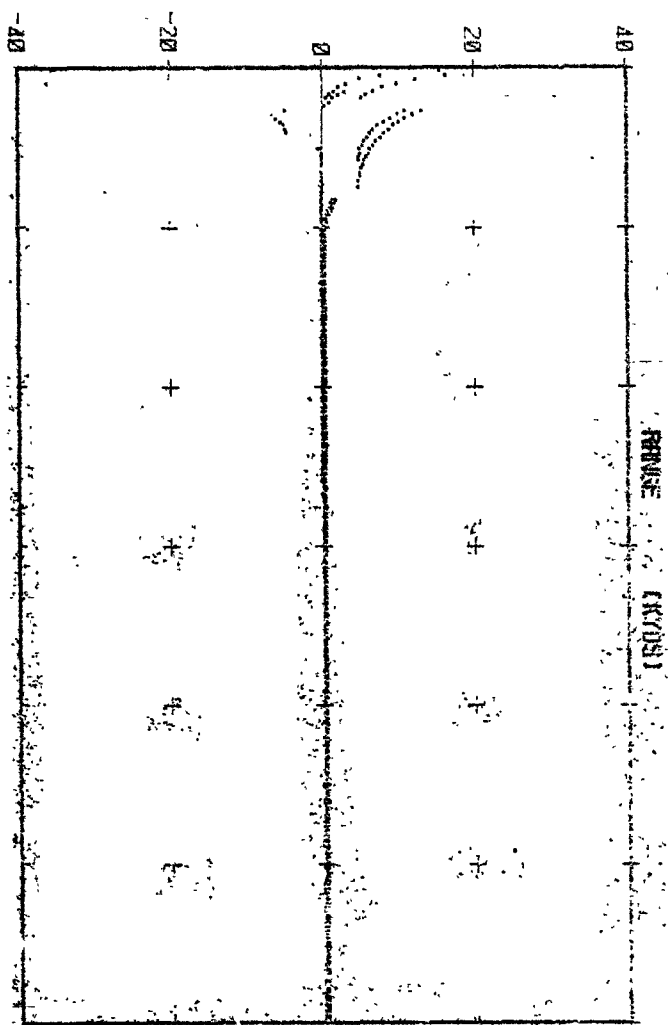
1550

LRNPP

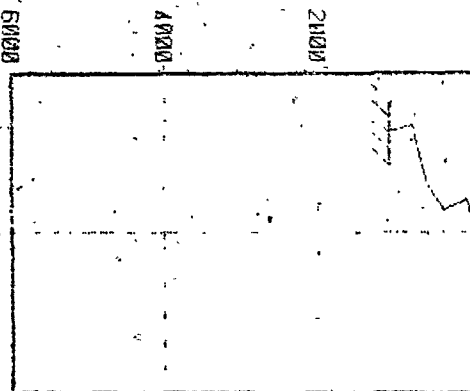
DB LOSS



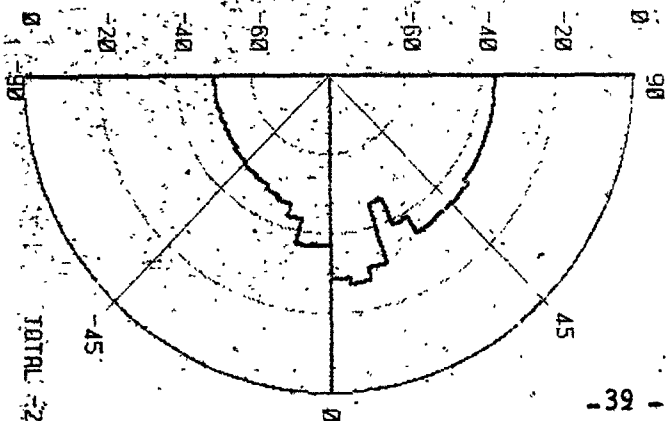
ARRIVAL ANGLE



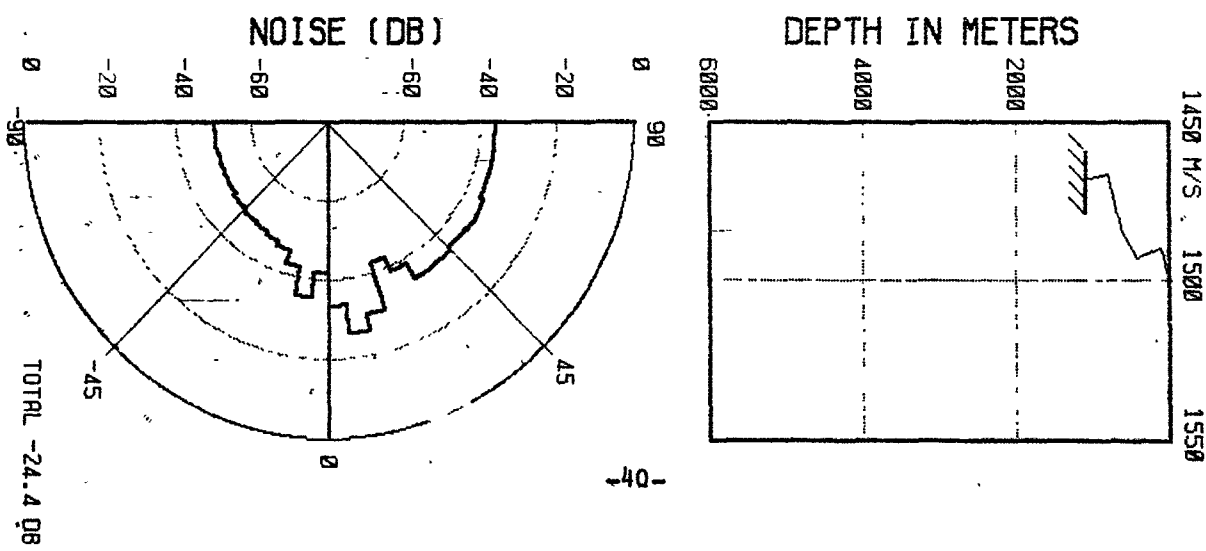
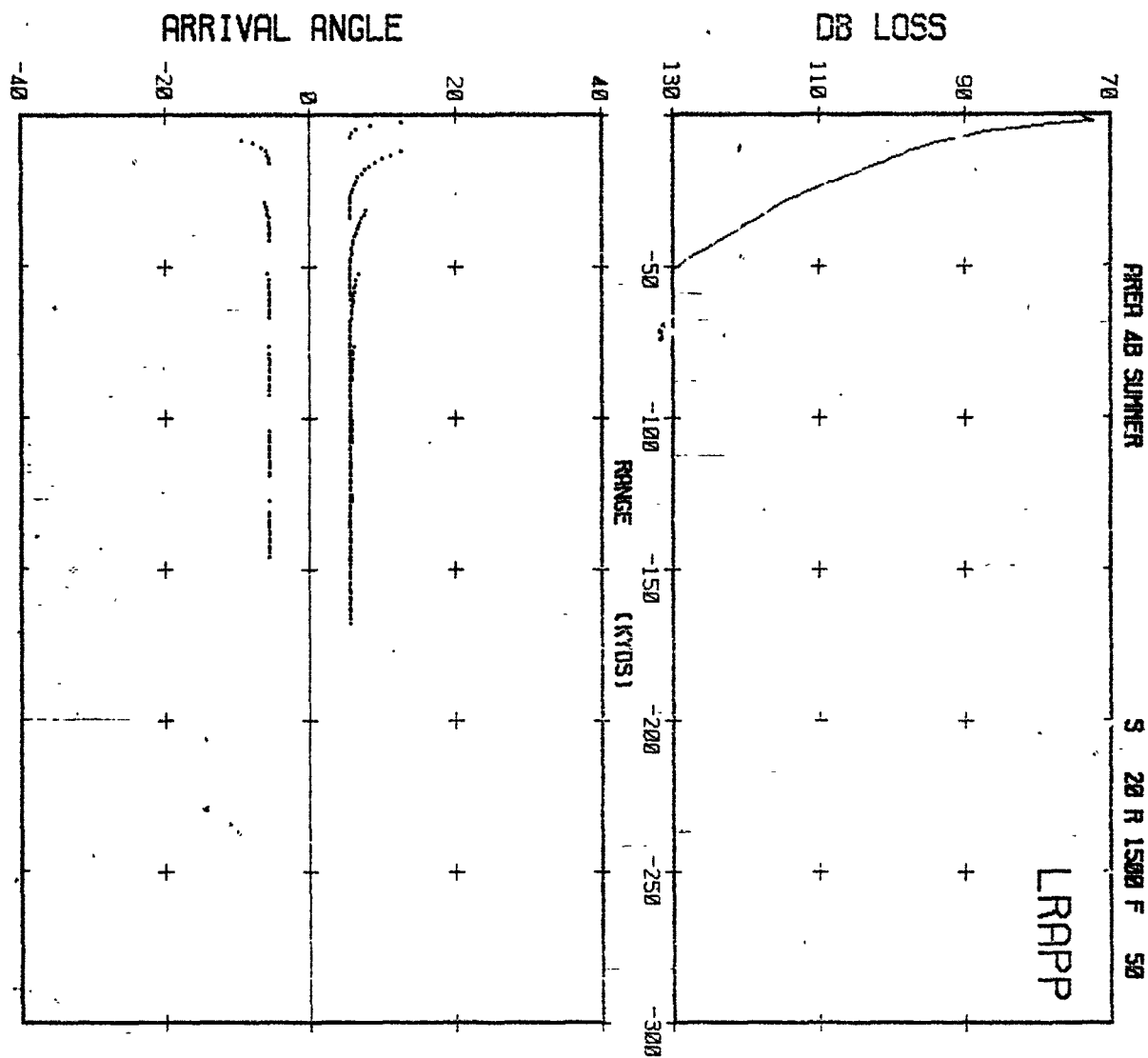
DEPTH IN METERS



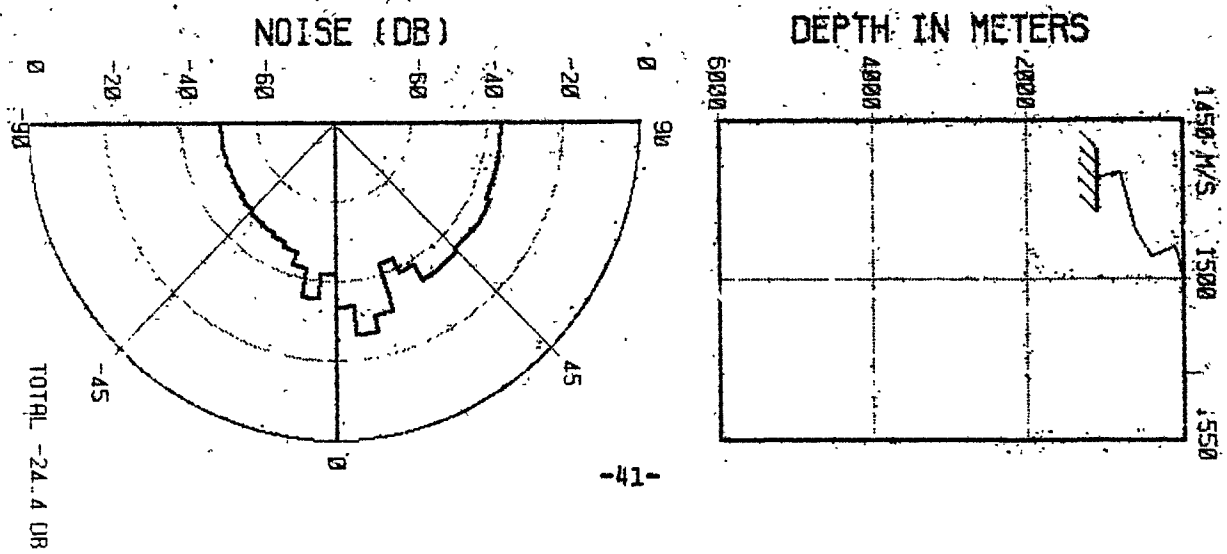
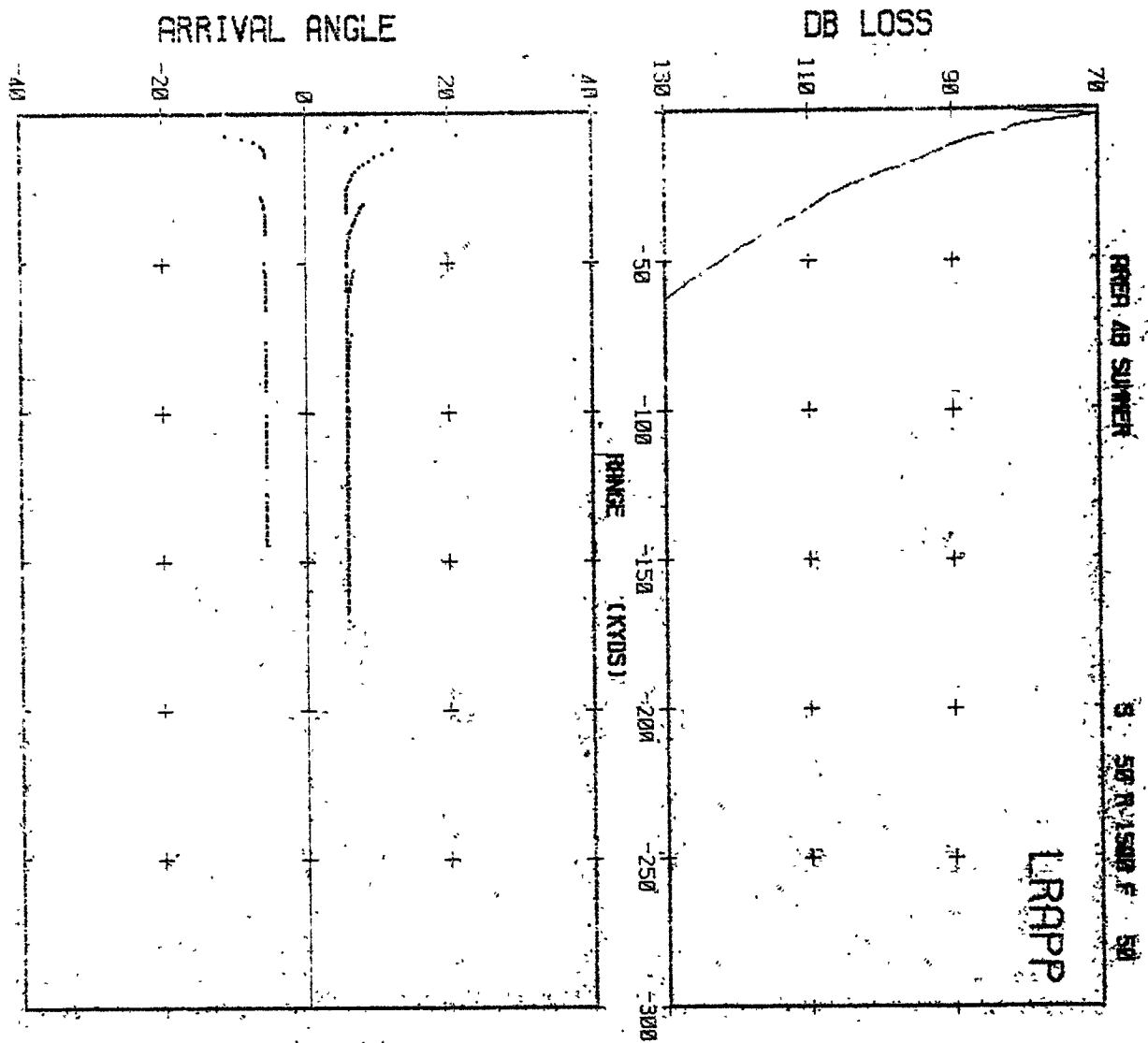
NOISE (DB)

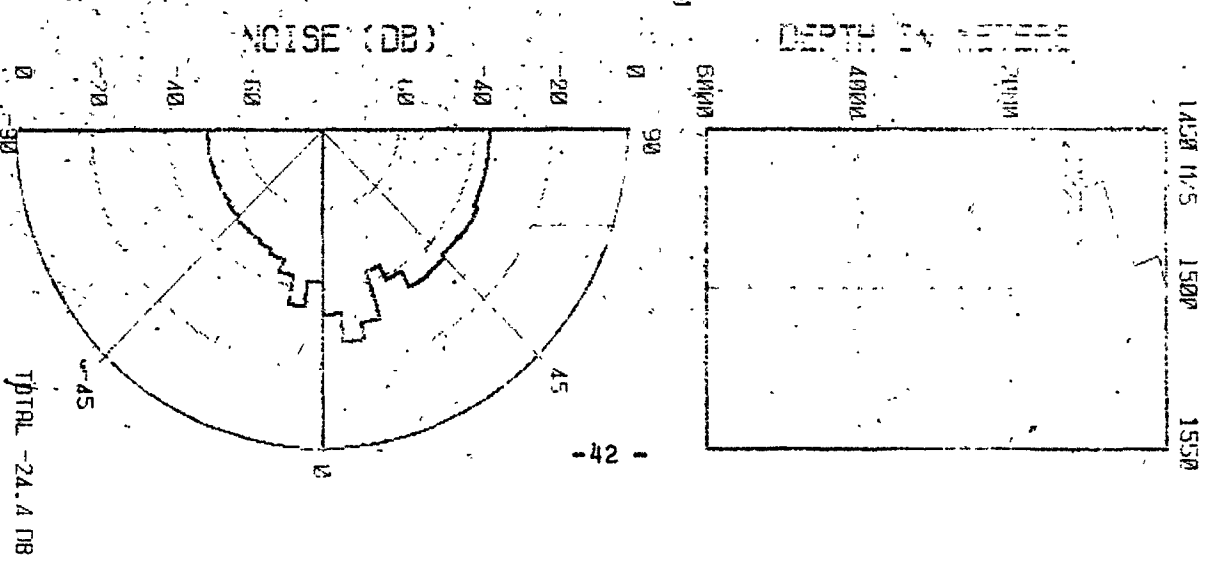
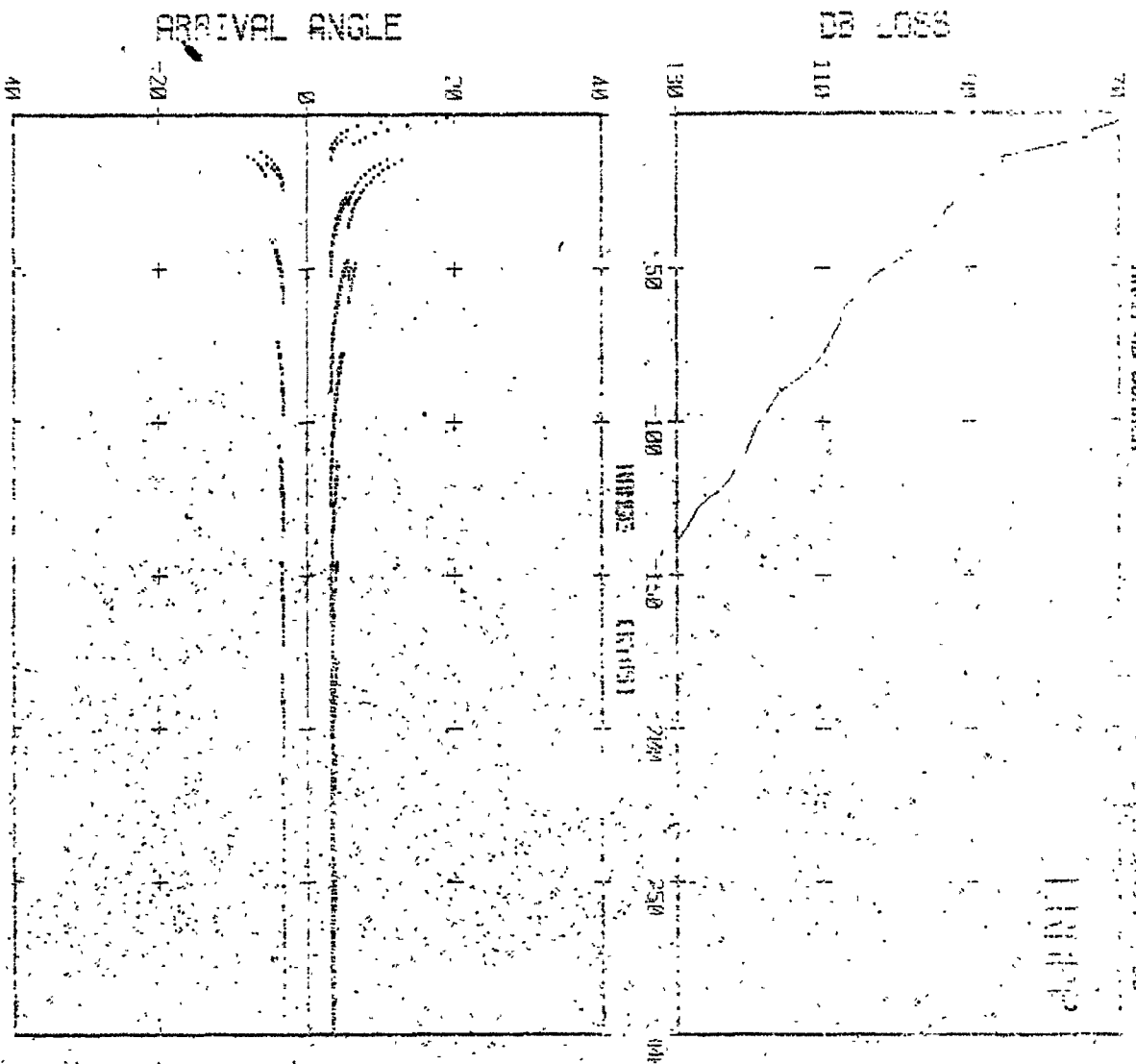


TOTAL -24.1 DB



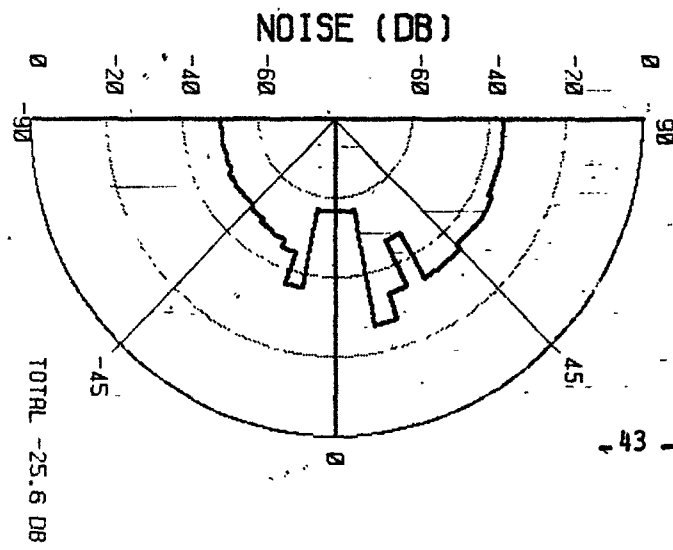
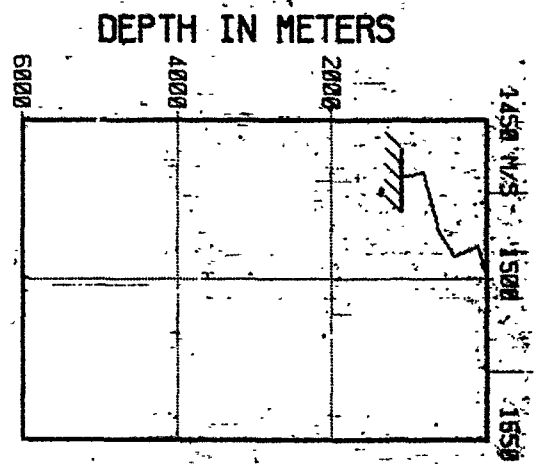
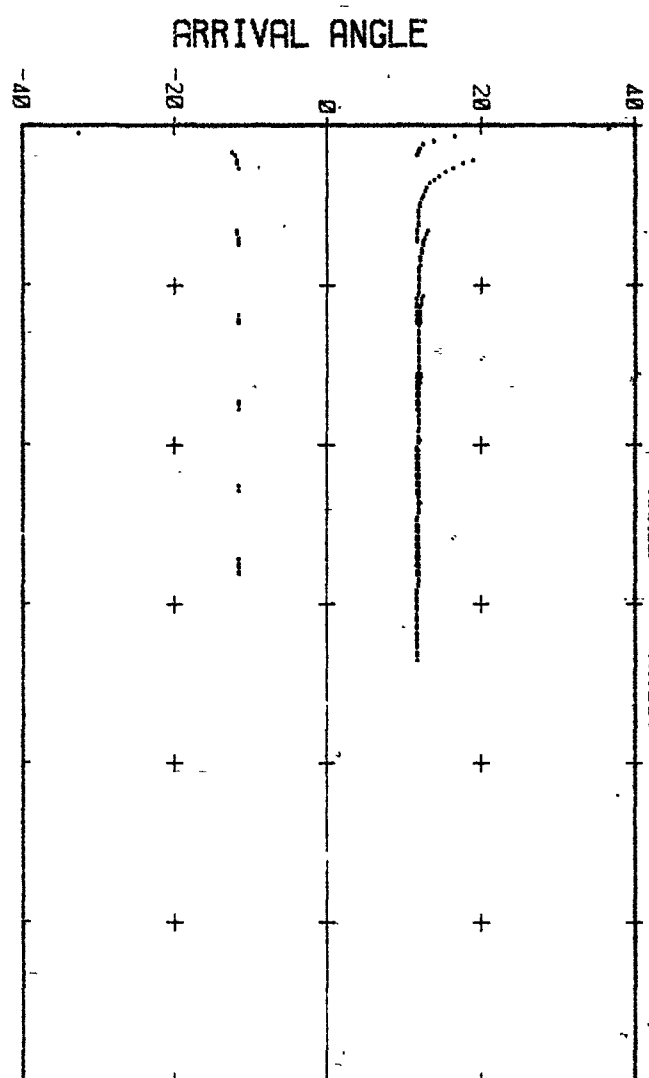
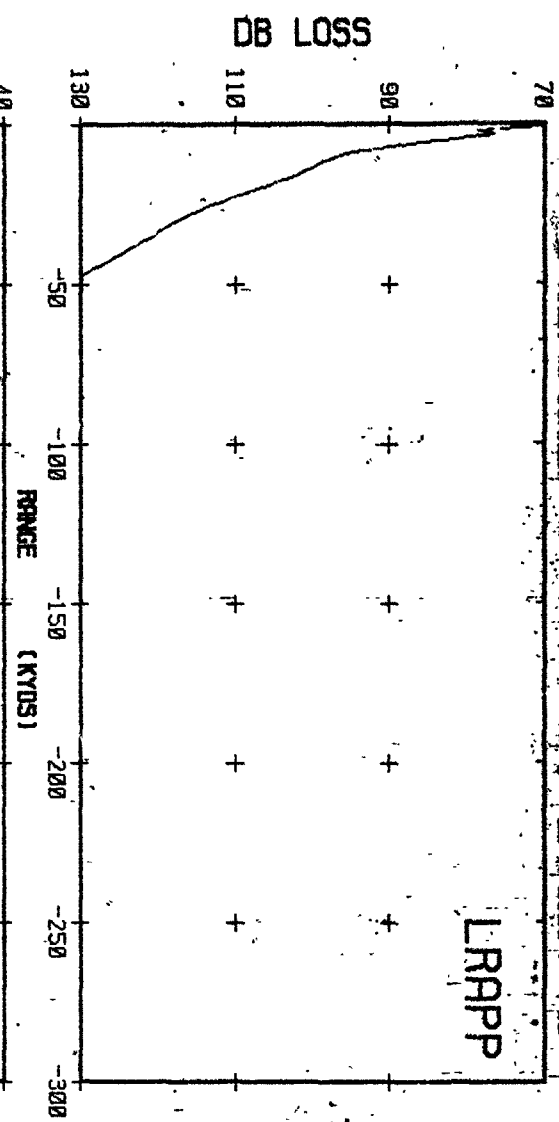
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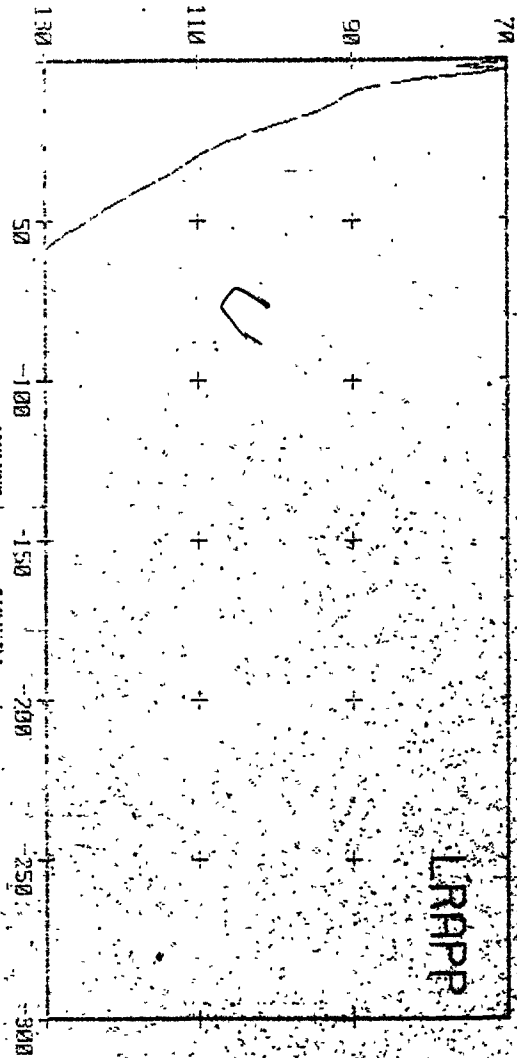


W 58 FROM AB SUMMER S 20 N 2025 F 50

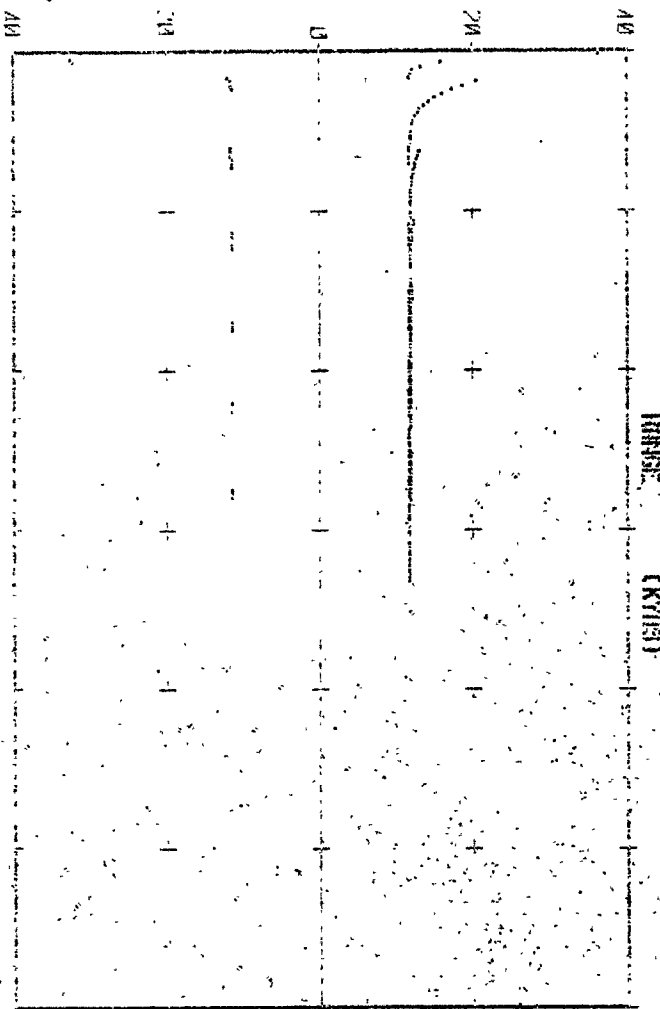
LRAPP



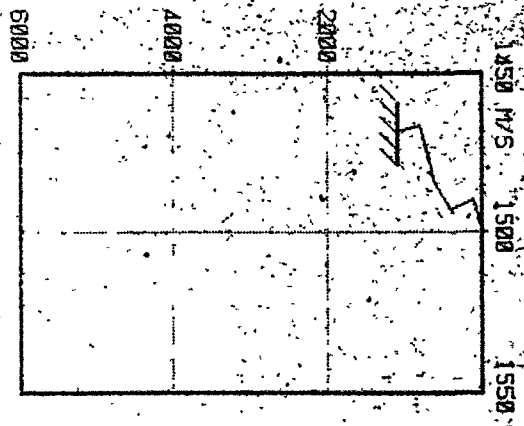
DB LOSS



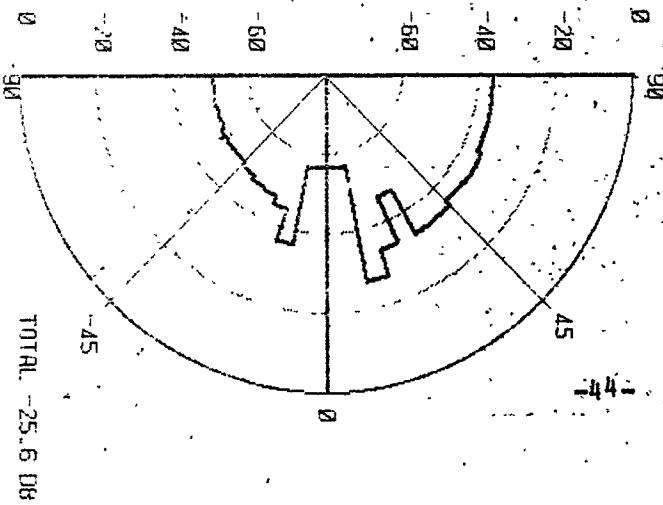
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

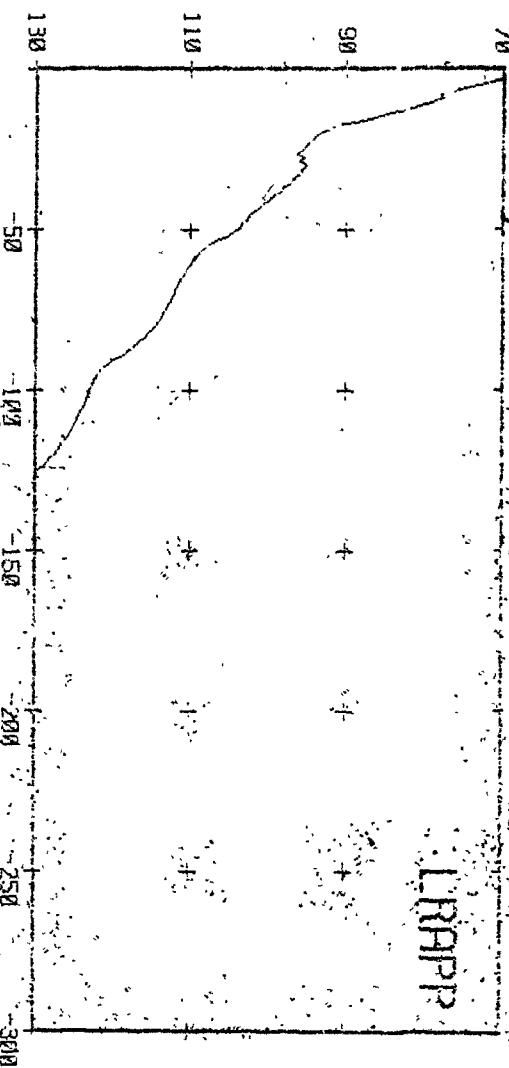


RREB AB SUMMER

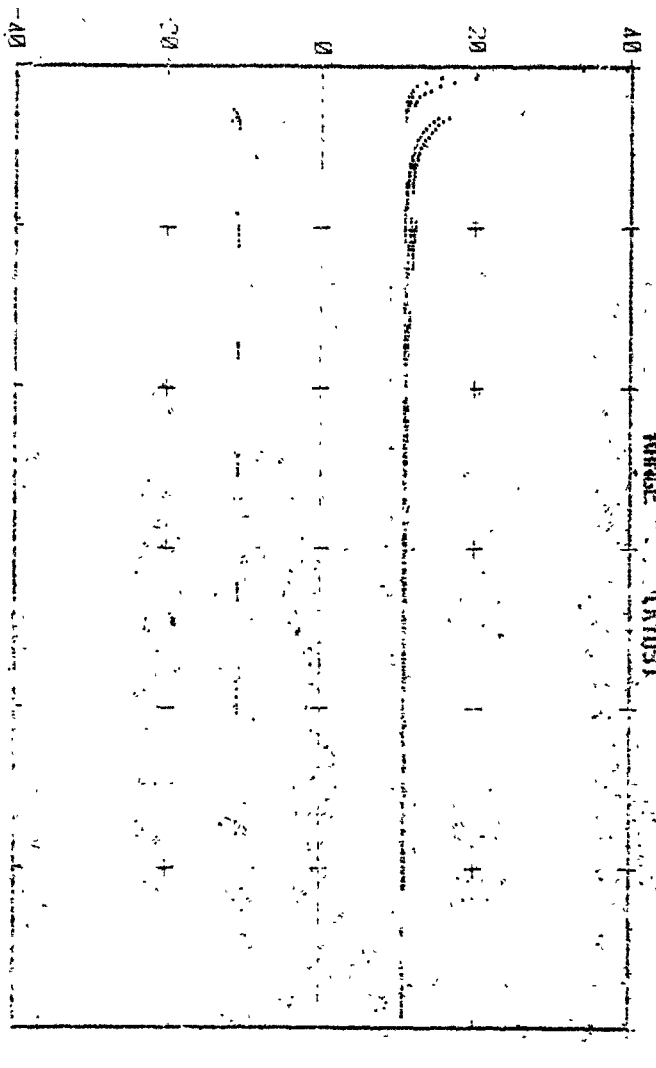
S. 250 N. 20.5 F. 50

LRAPP

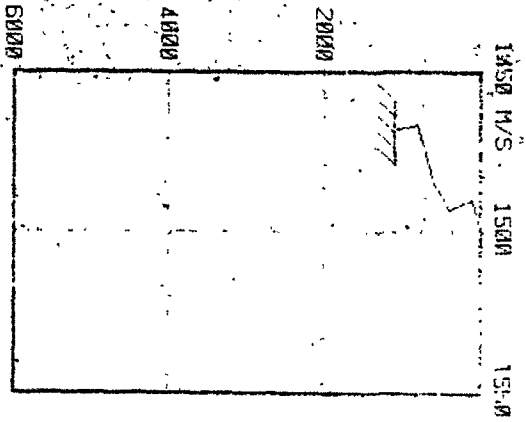
DB LOSS



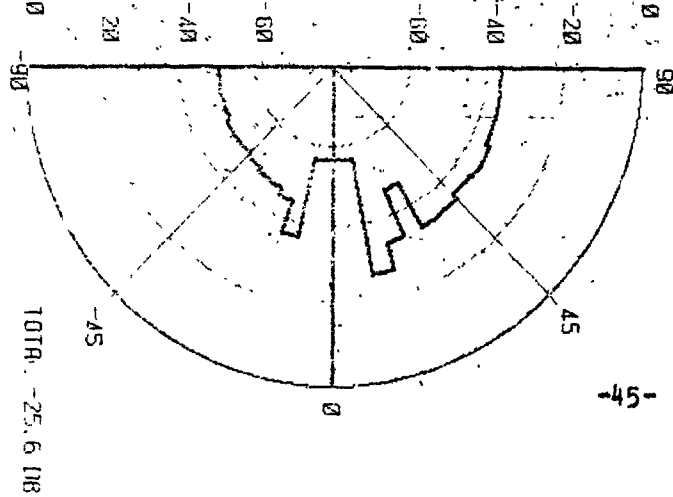
ARRIVAL ANGLE



DEPTH IN METERS

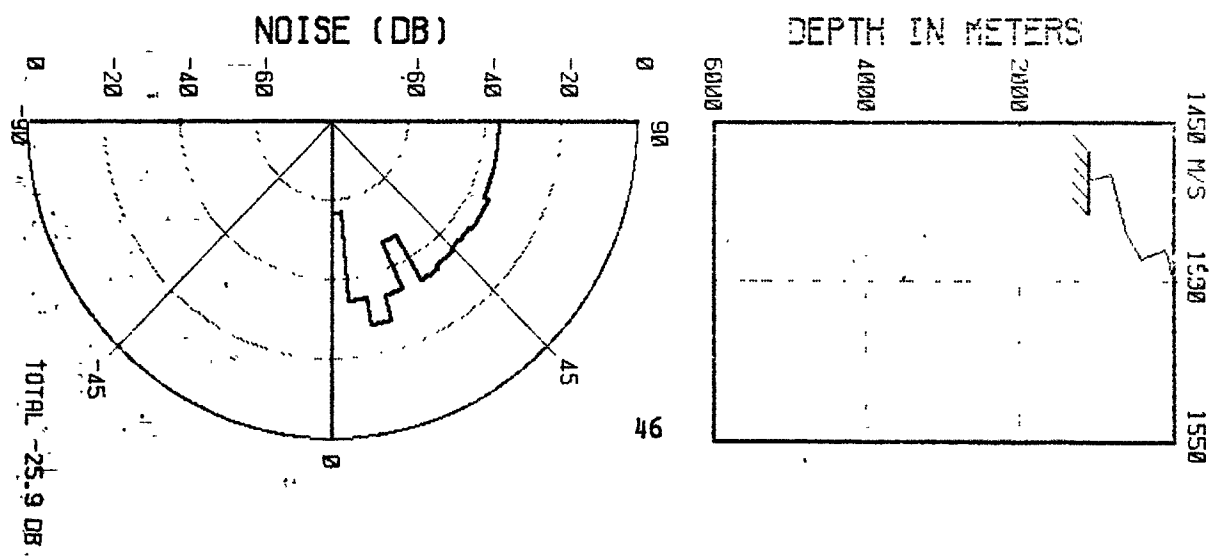
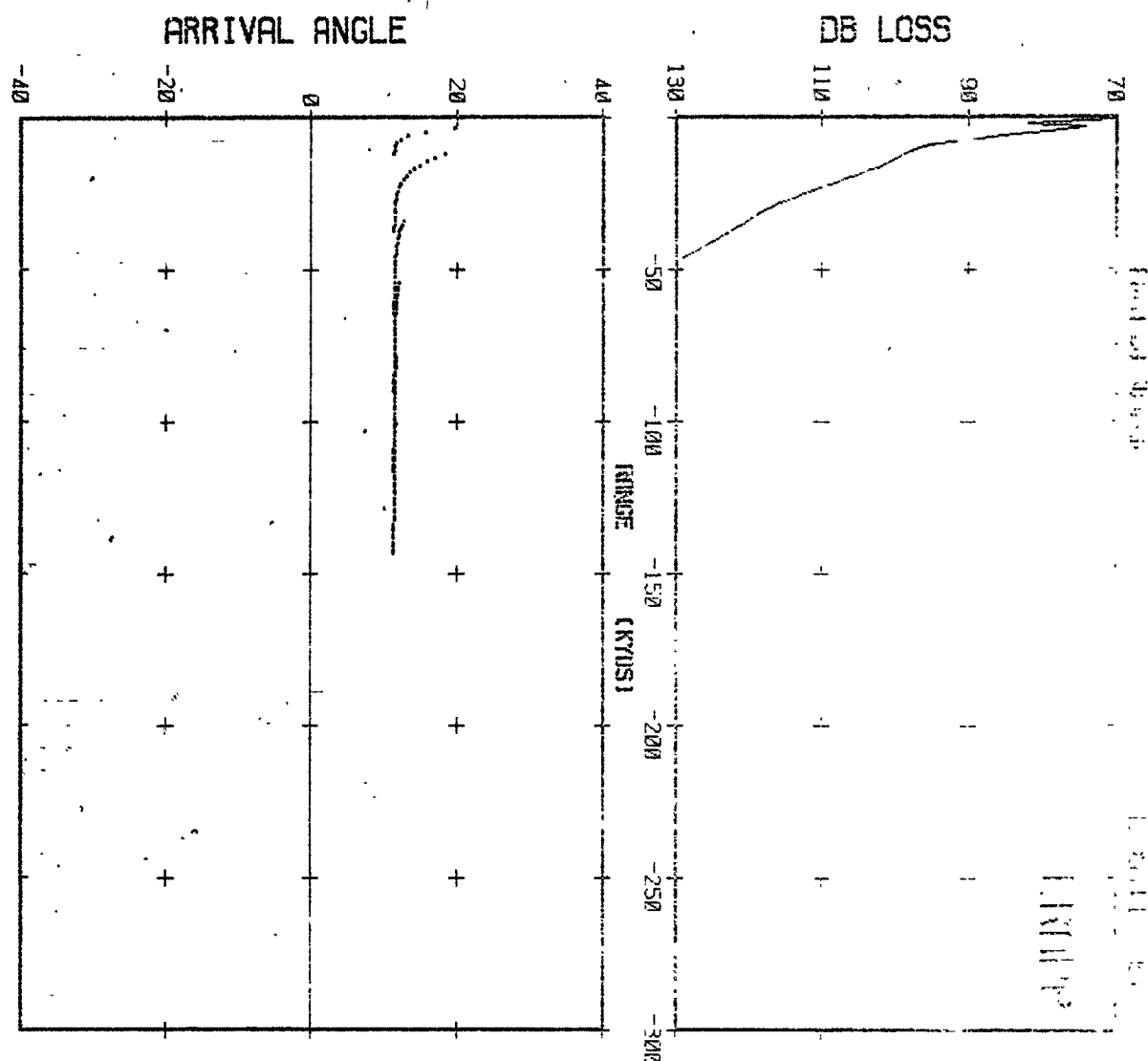


NOISE DB



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TOTR. -25.6 DB

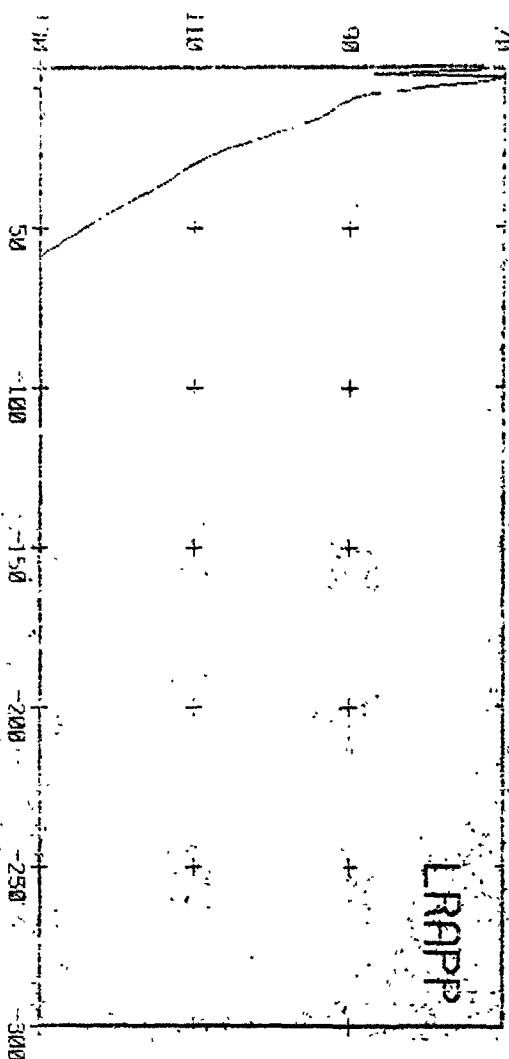


CRH1 AIR SURVEY

3 50 R. 3519 F. 50

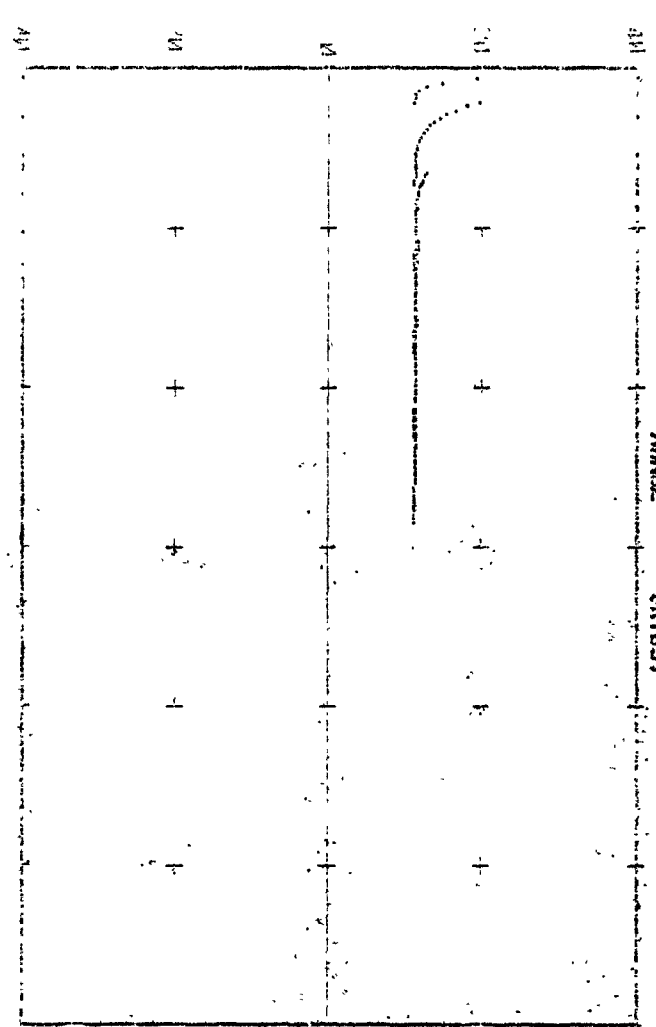
1450 M/S 1500 1550

DB LOSS

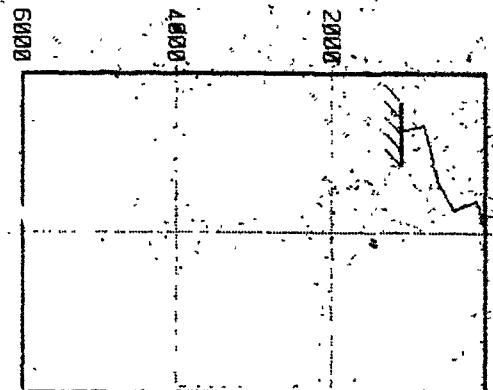


LRAPP

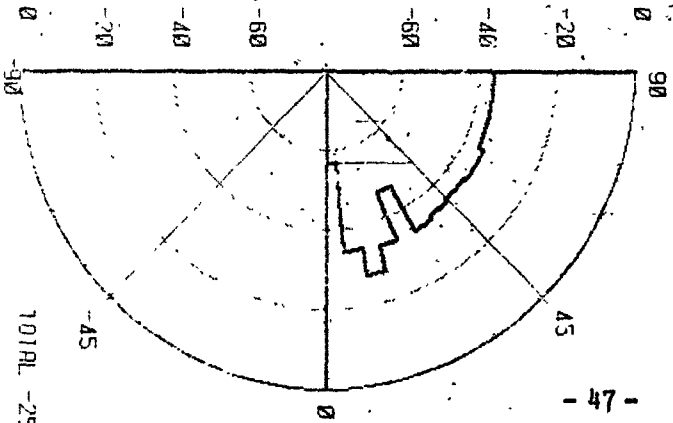
ARRIVAL ANGLE



DEPTH IN METERS

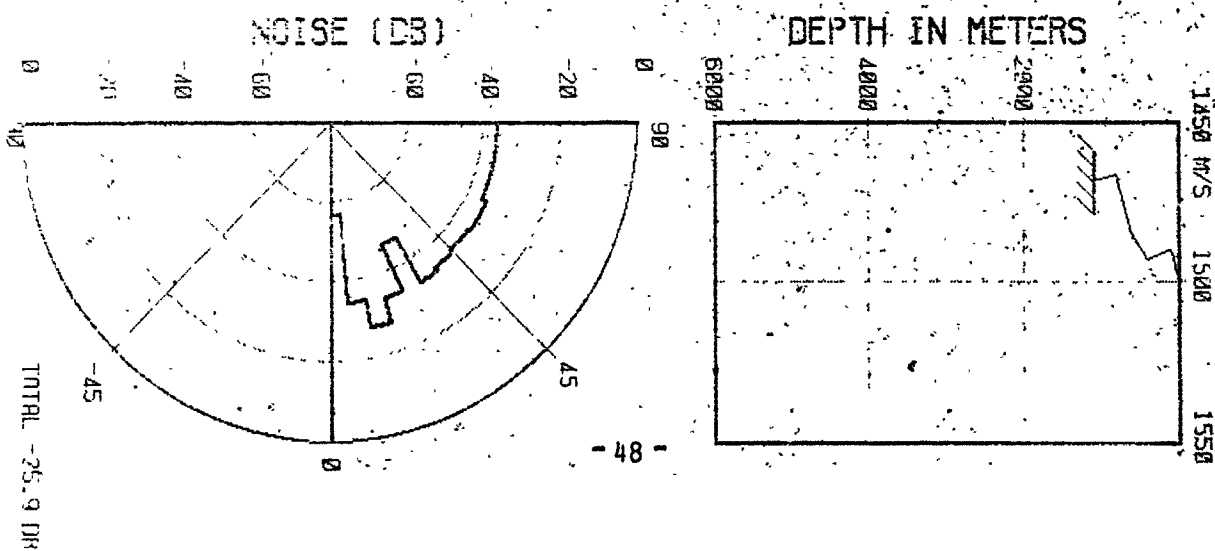
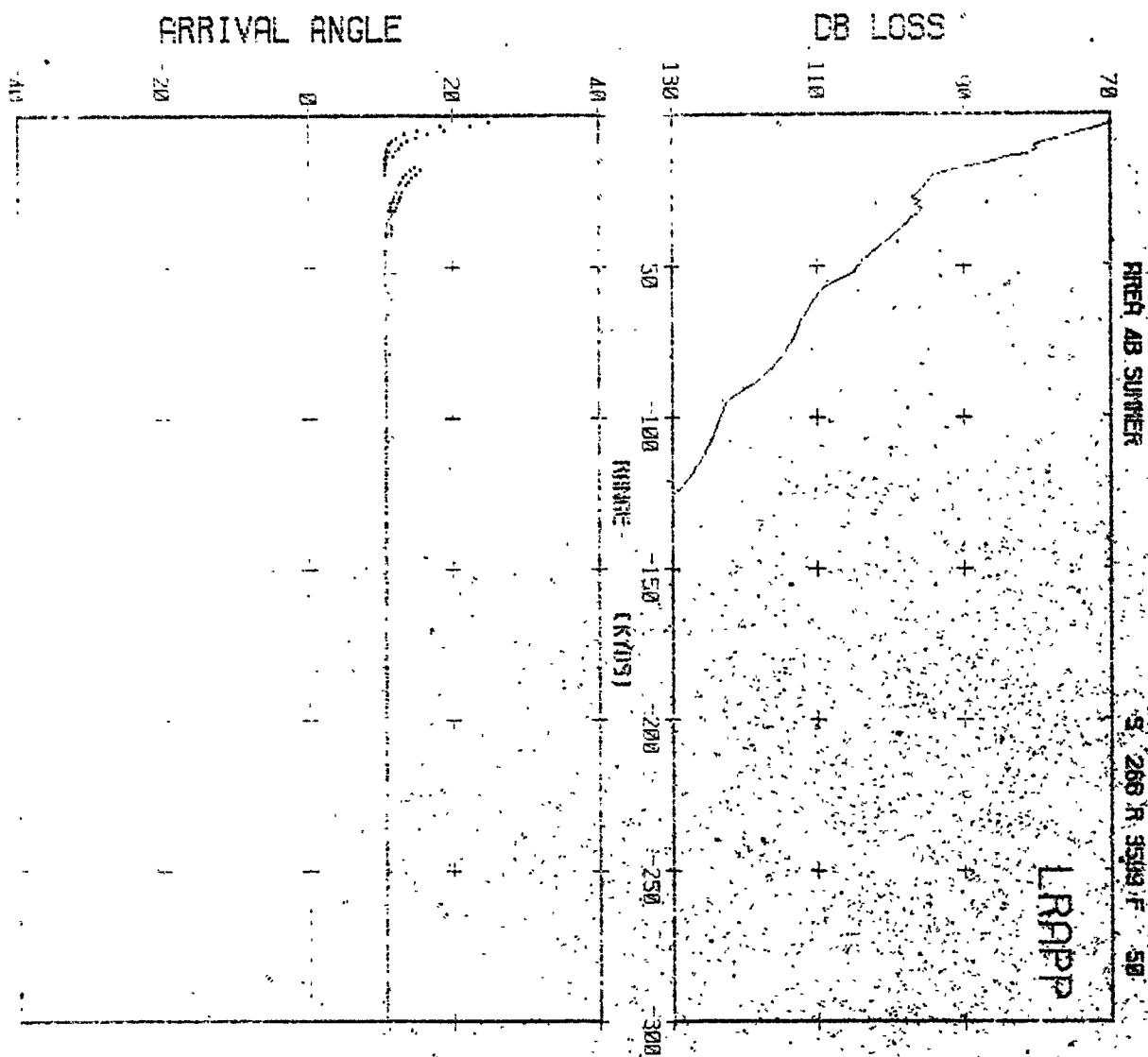


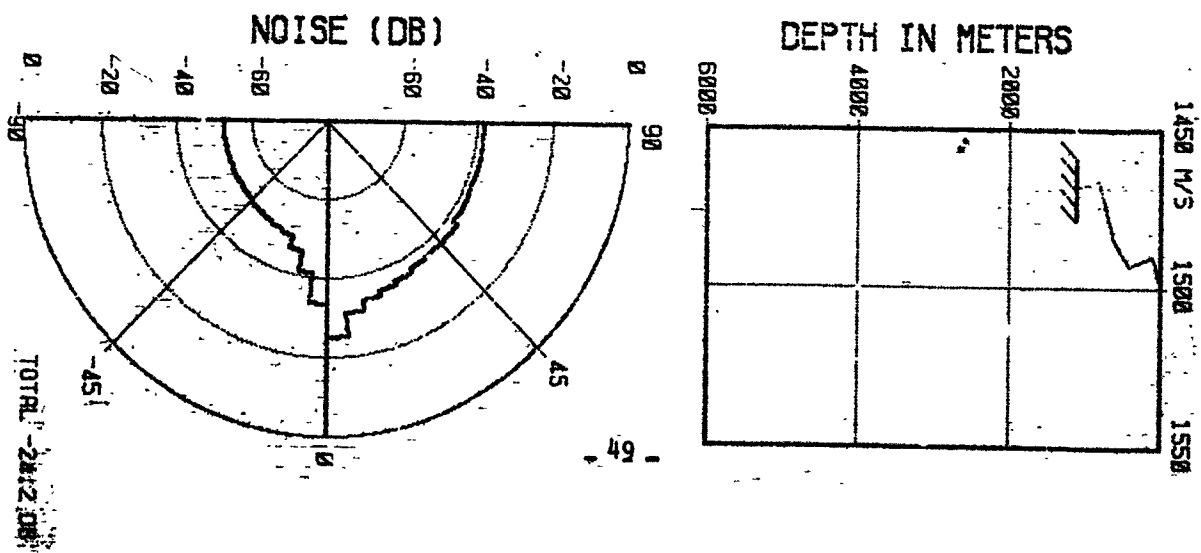
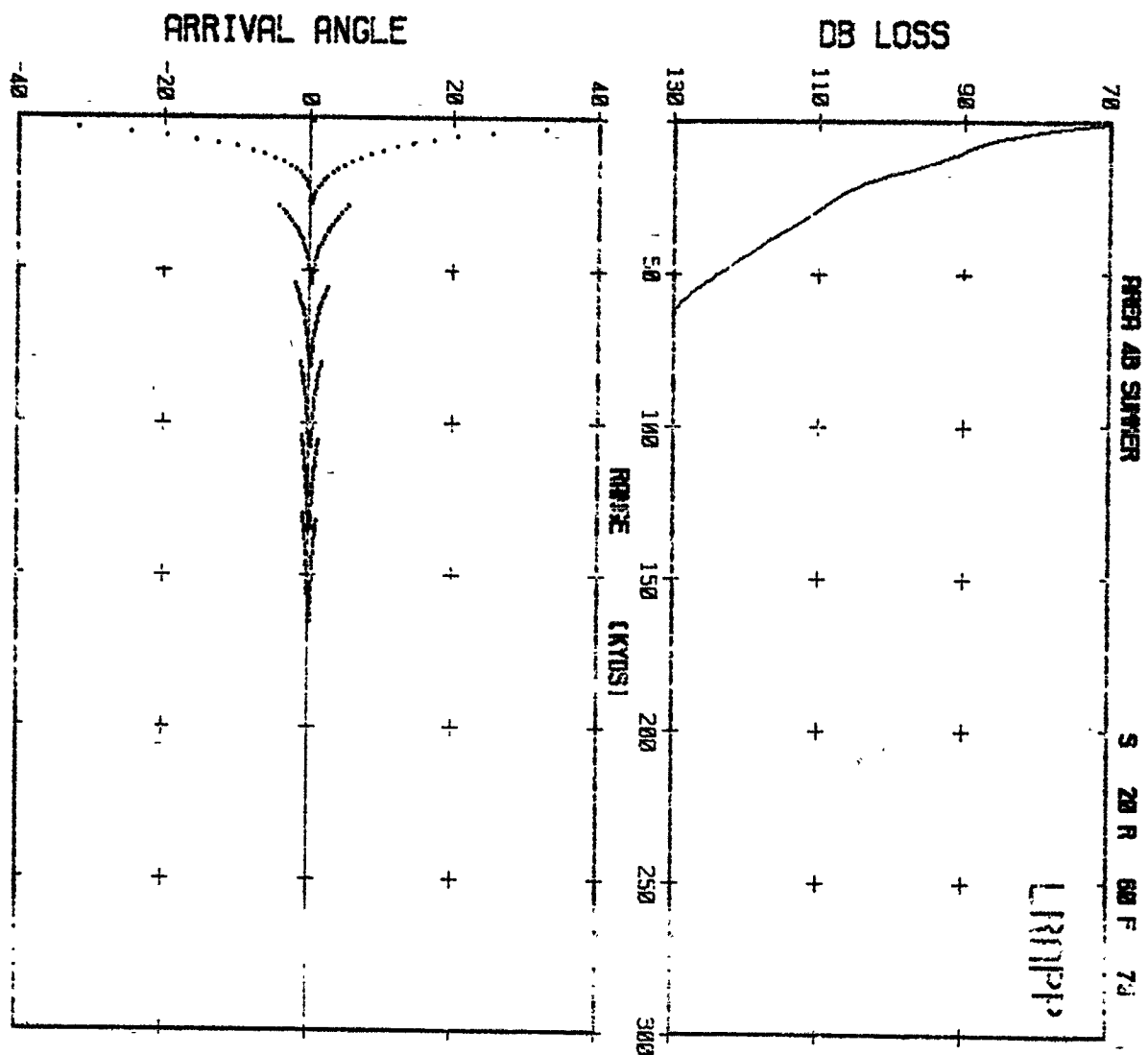
NOISE (DB)

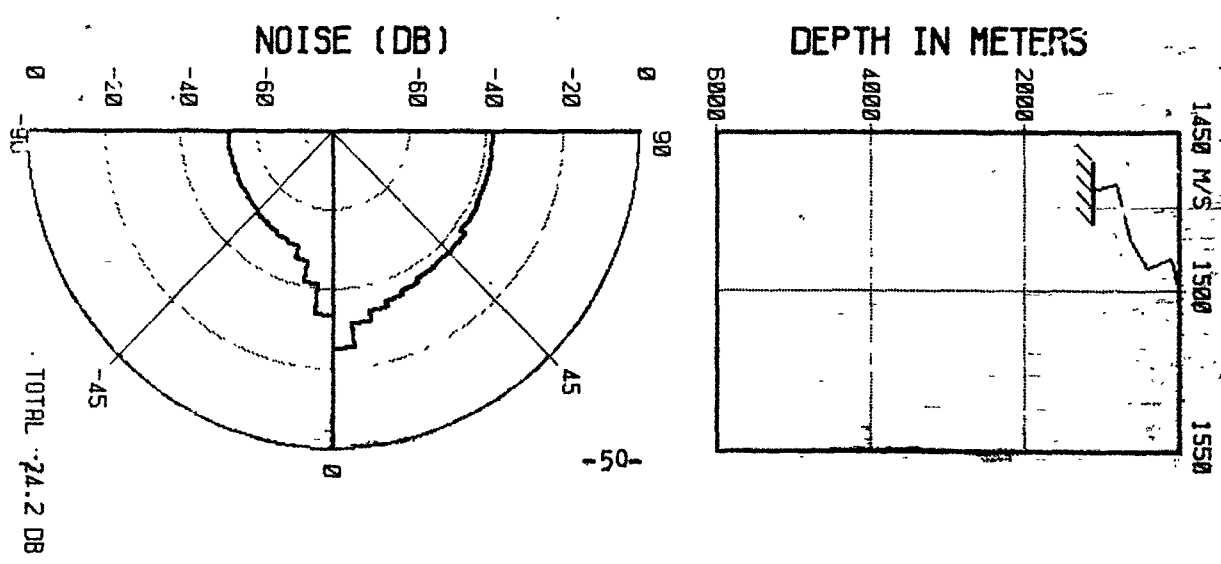
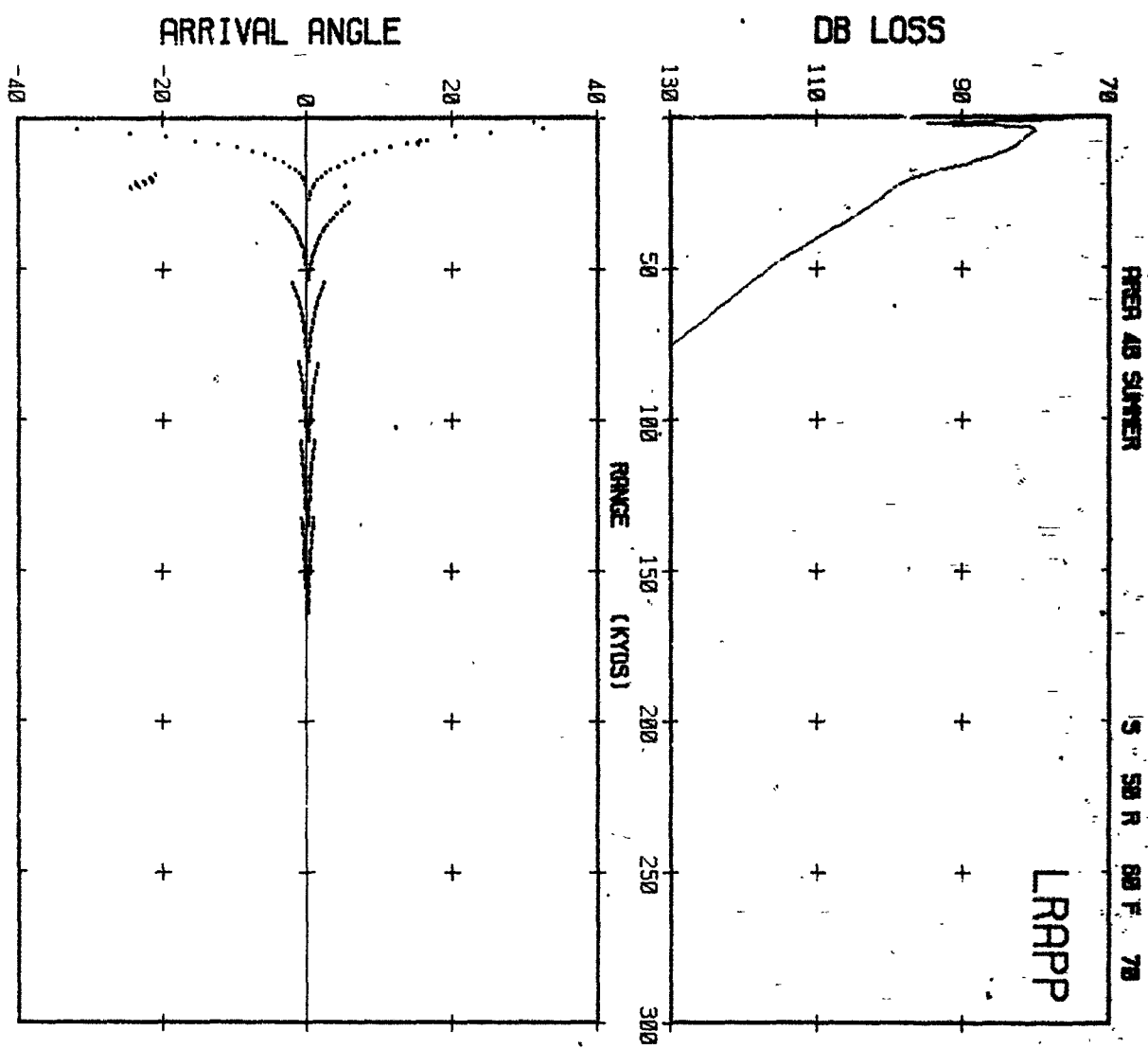


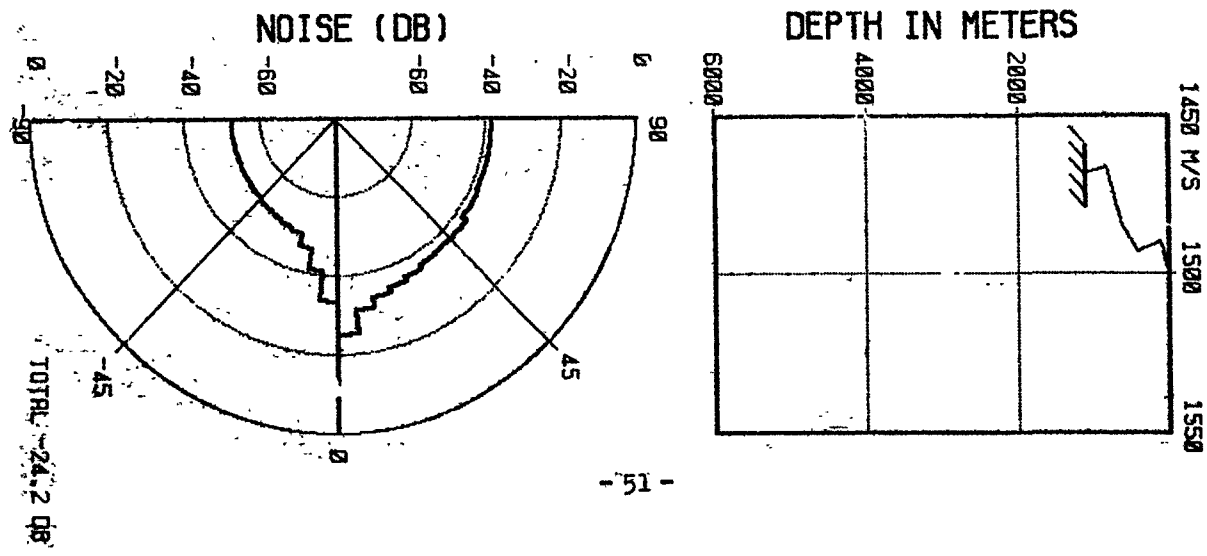
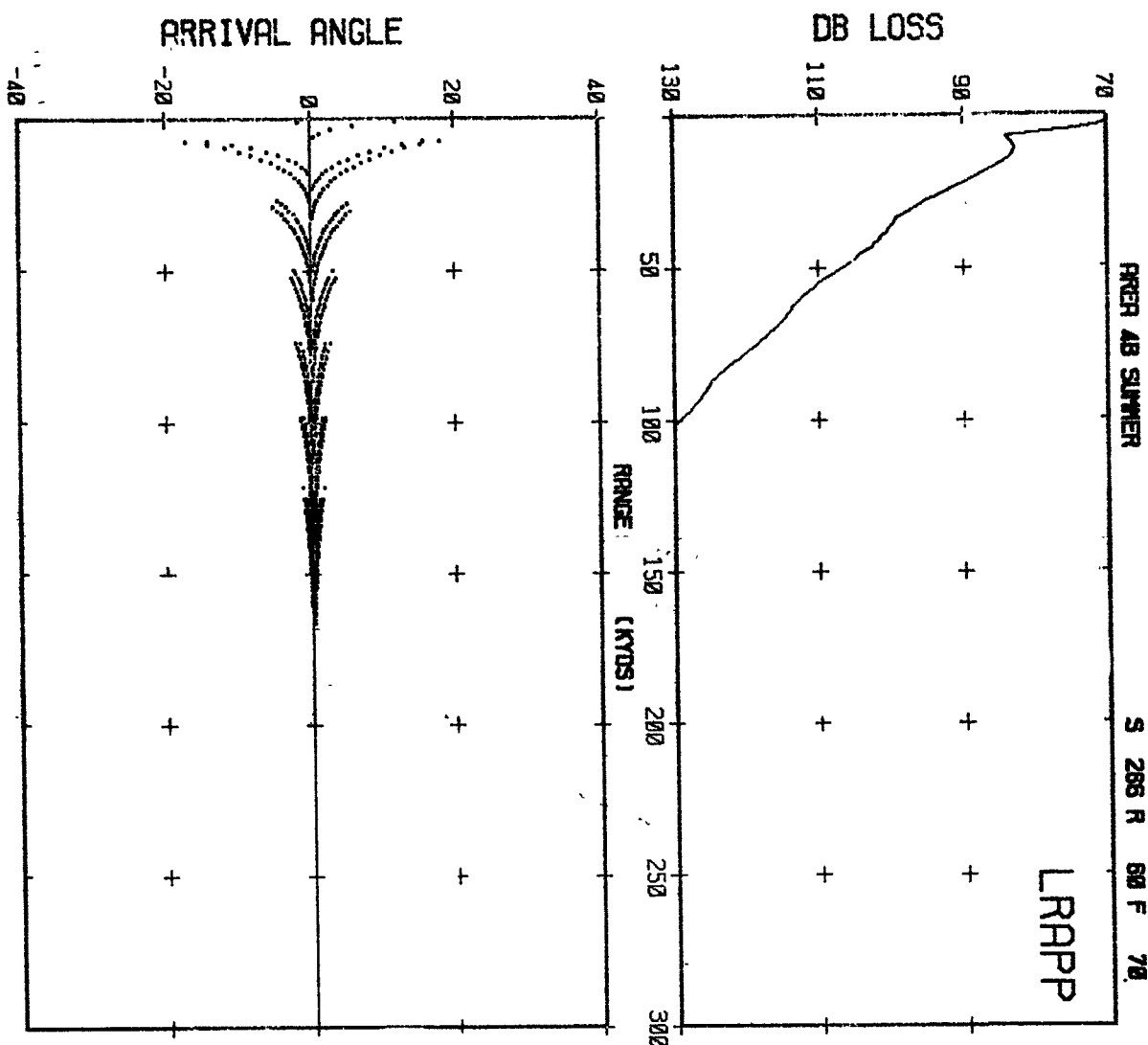
TOTAL -25.9 DB

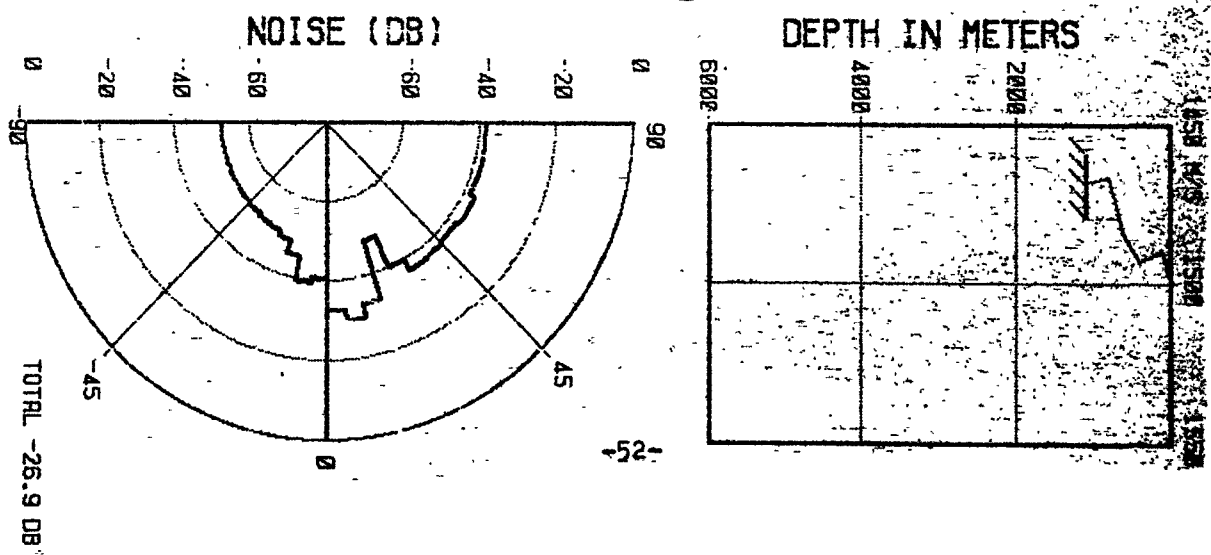
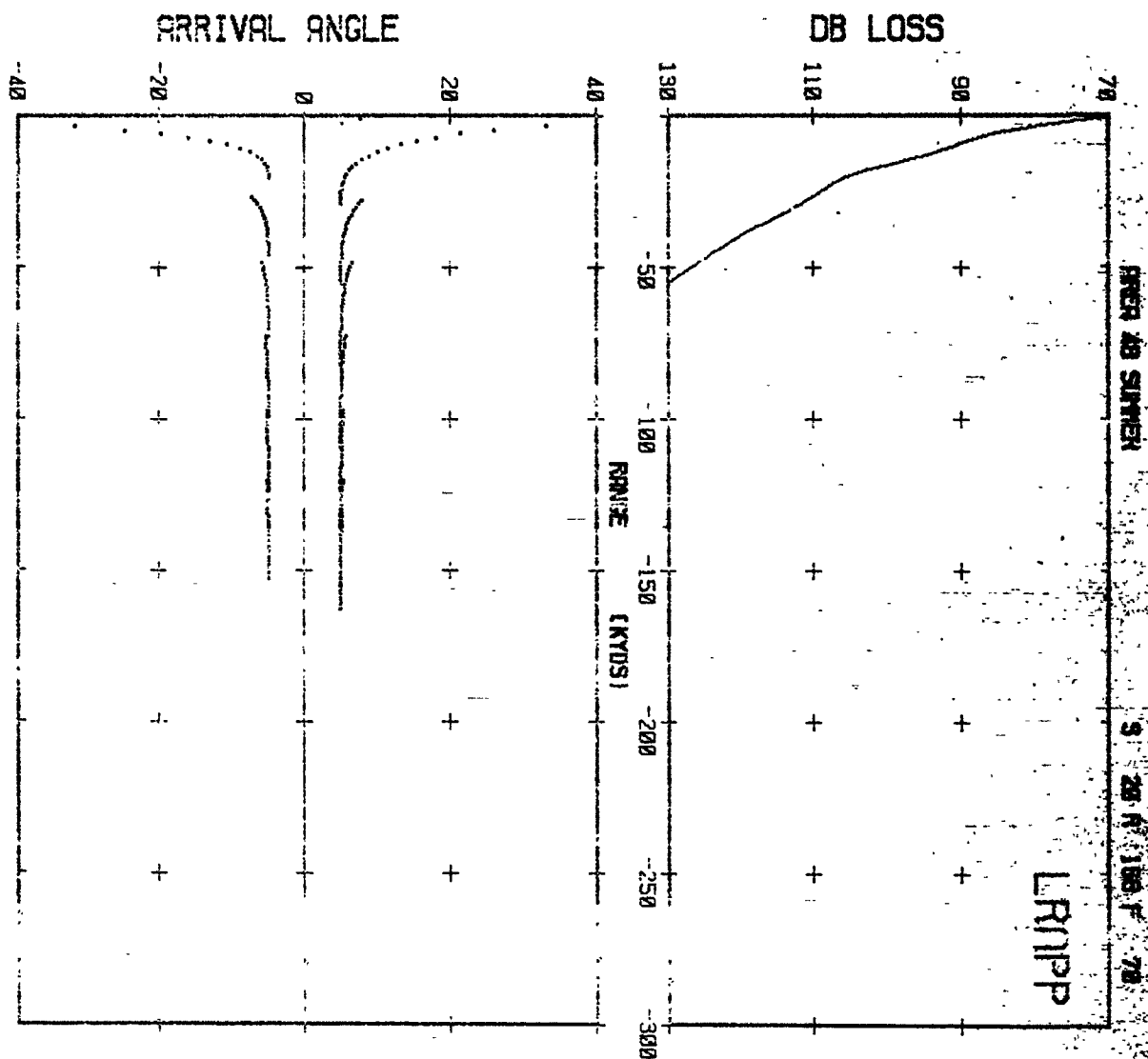
- 47 -









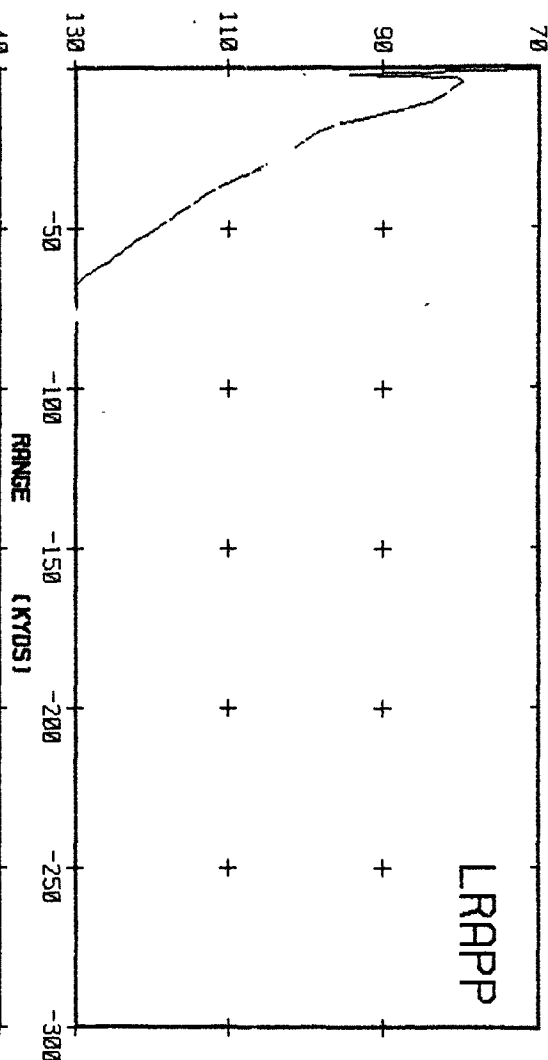


ARRR AB SUMMER

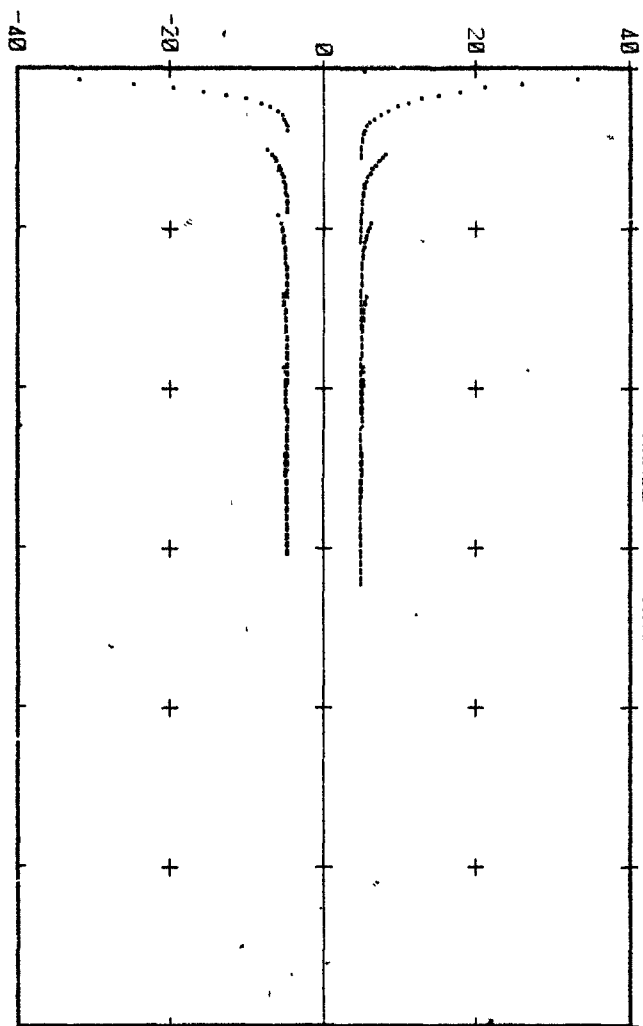
S 50 R 166 F 70

LRAPP

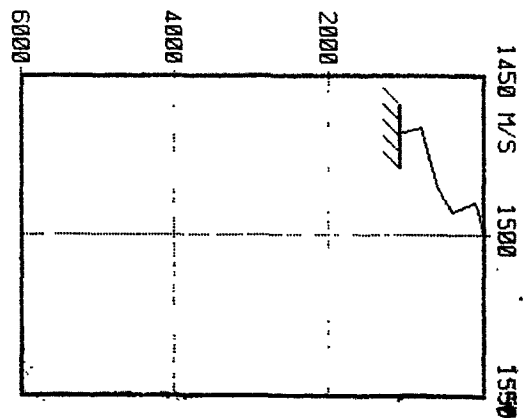
DB LOSS



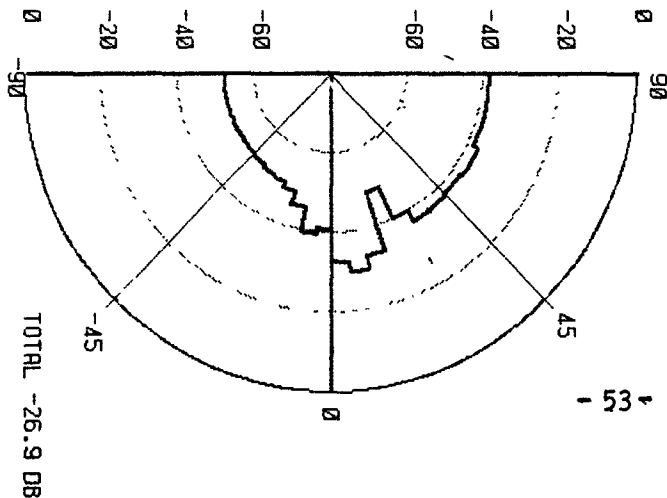
ARRIVAL ANGLE



DEPTH IN METERS

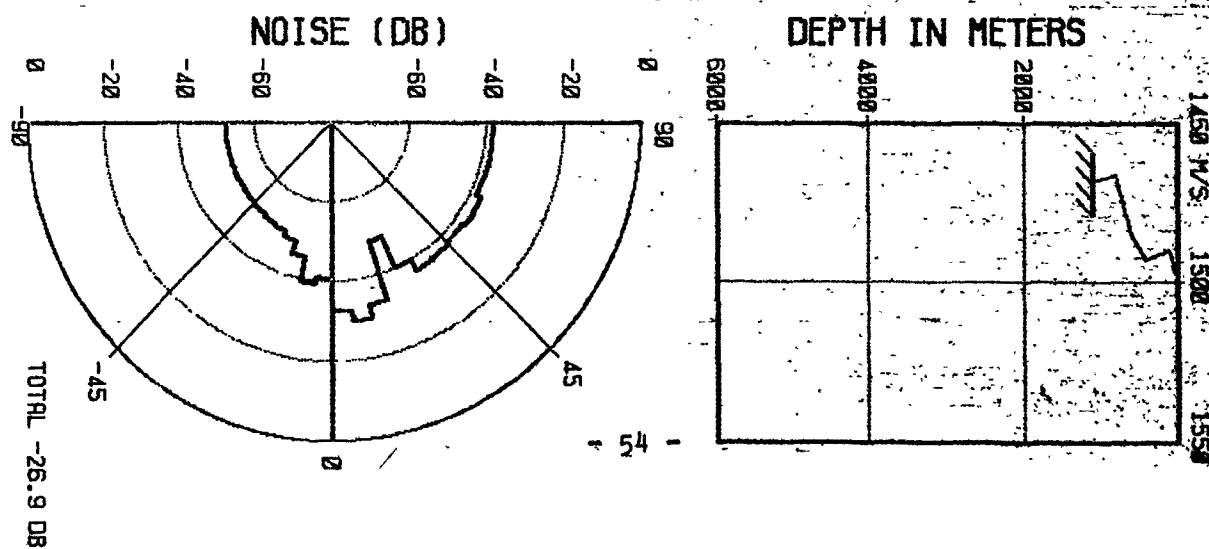
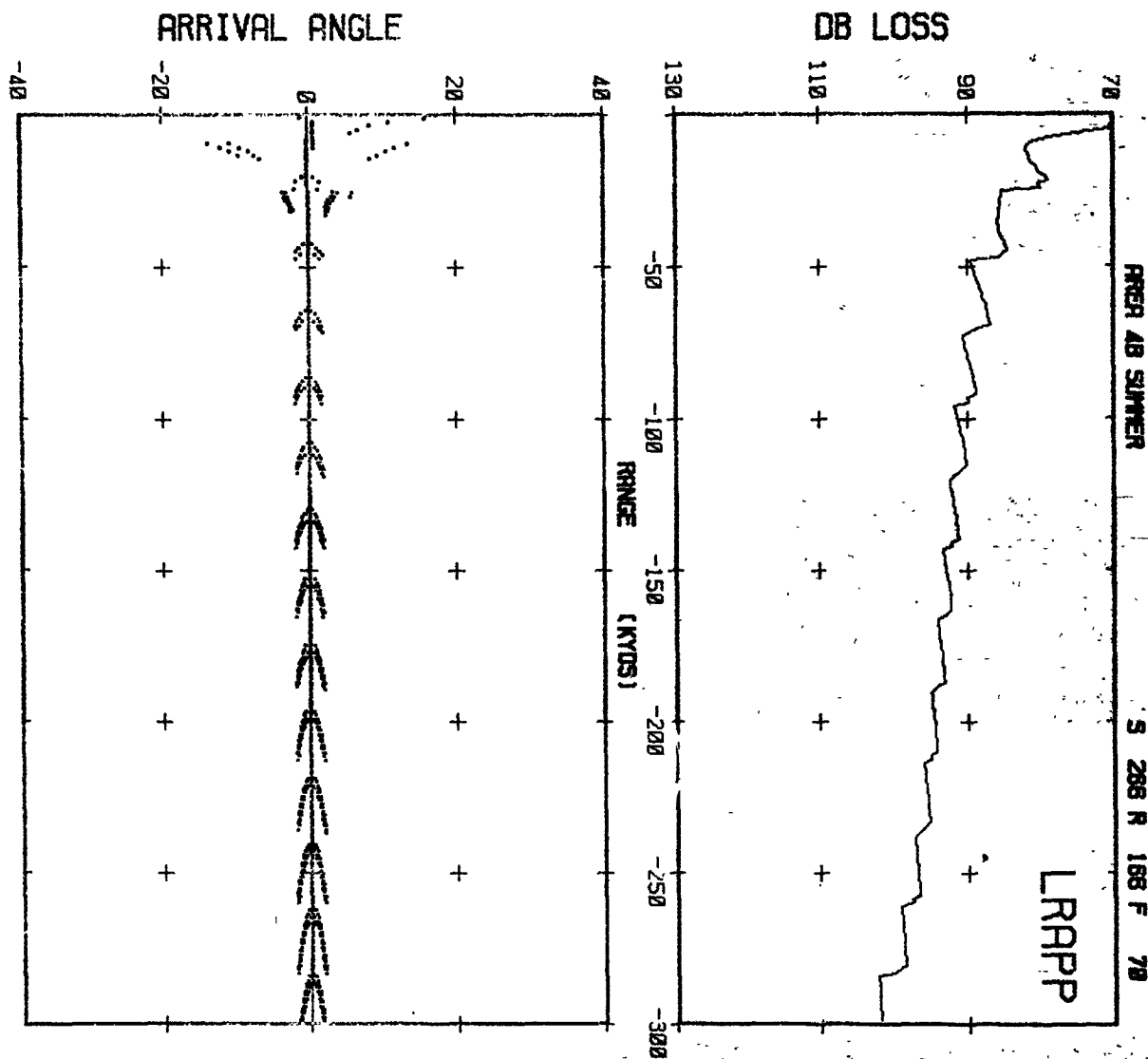


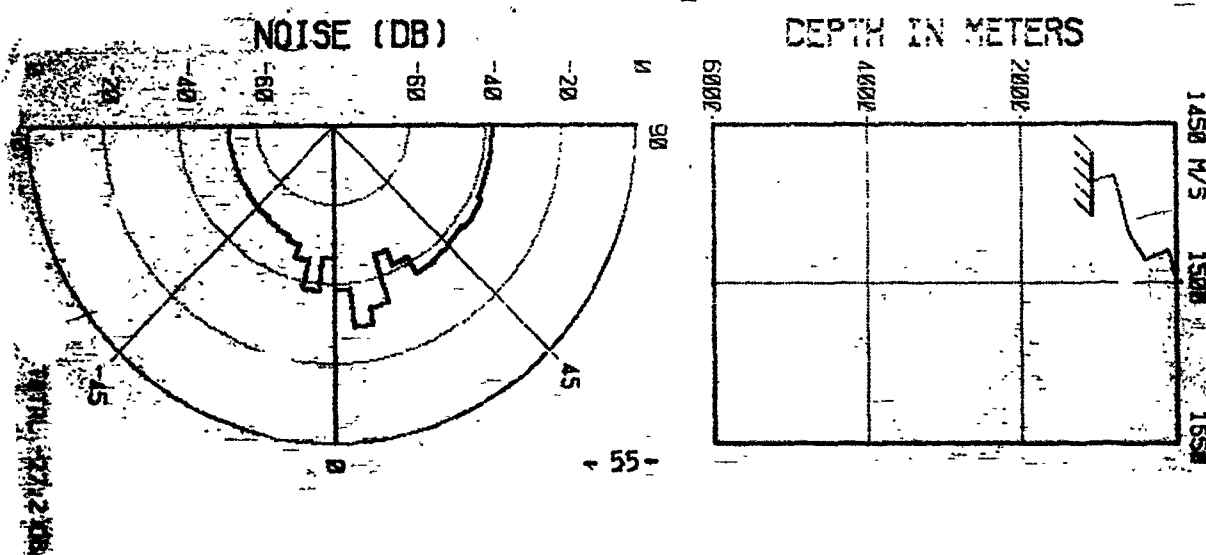
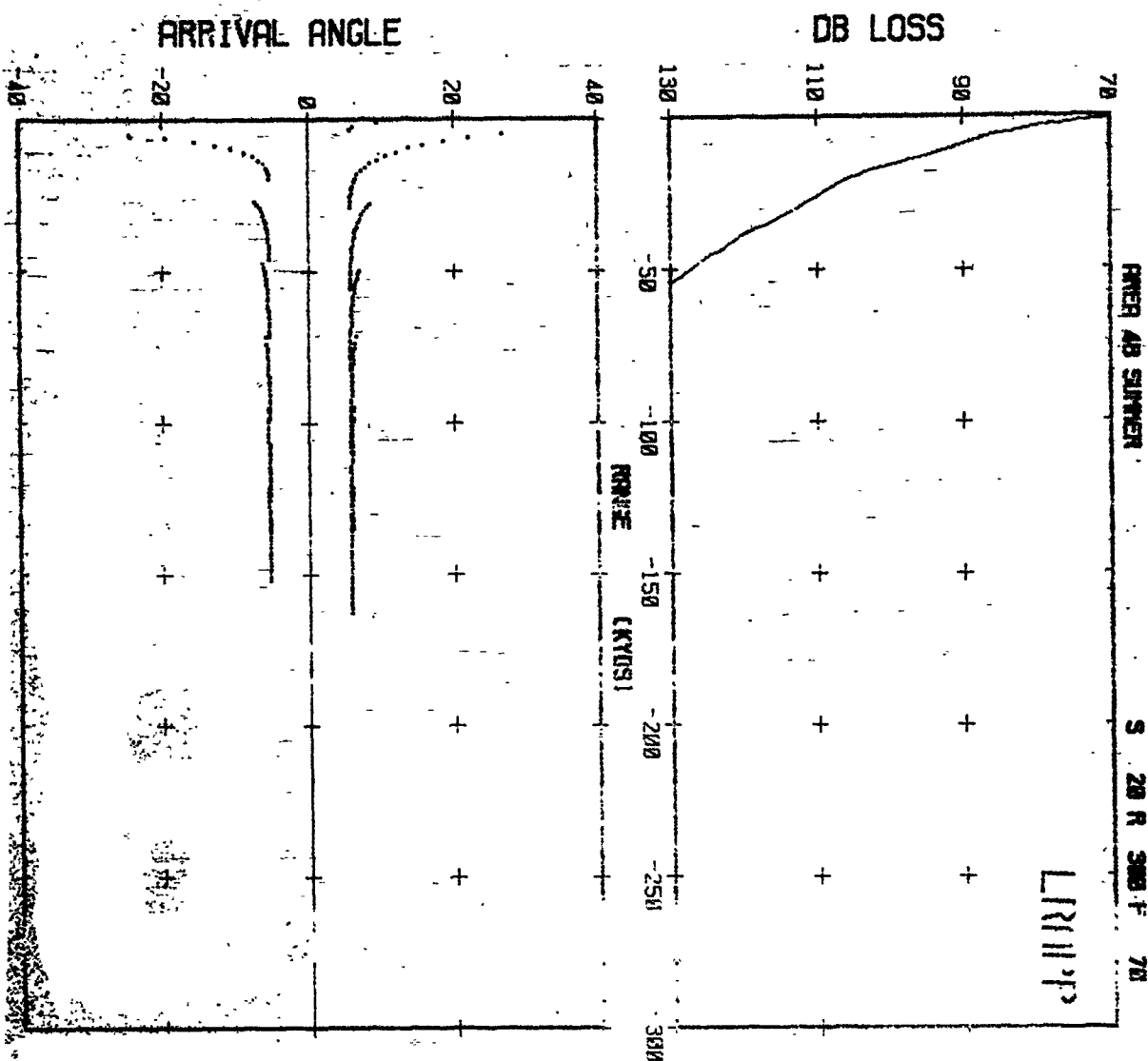
NOISE (DB)

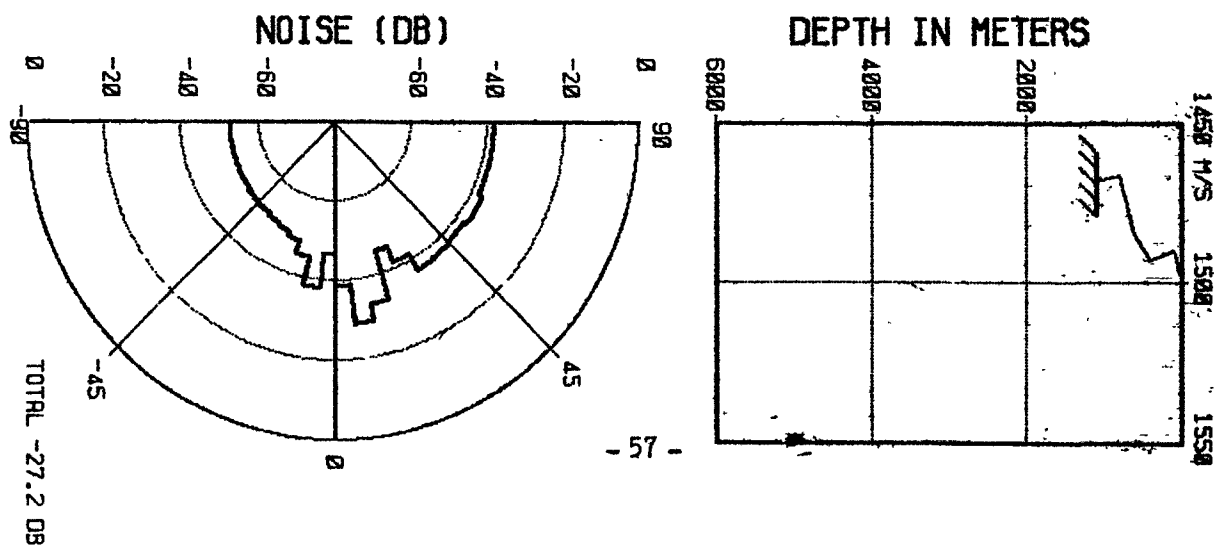
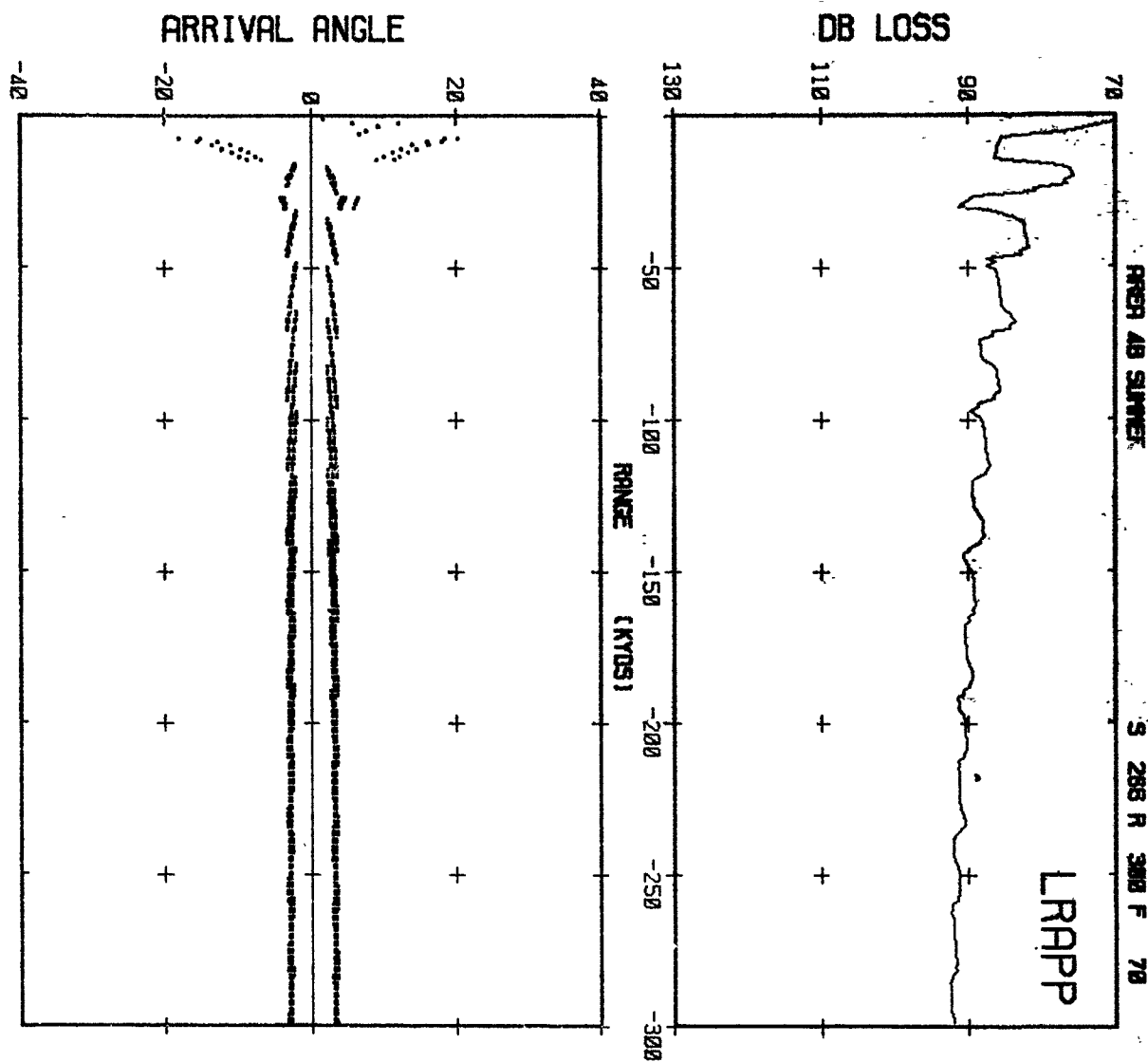


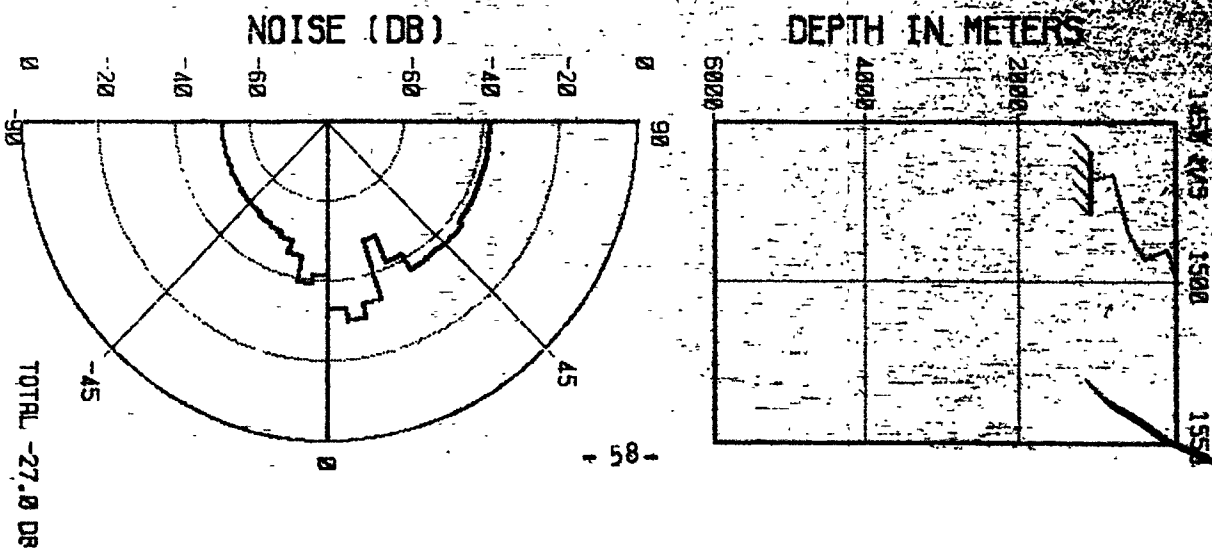
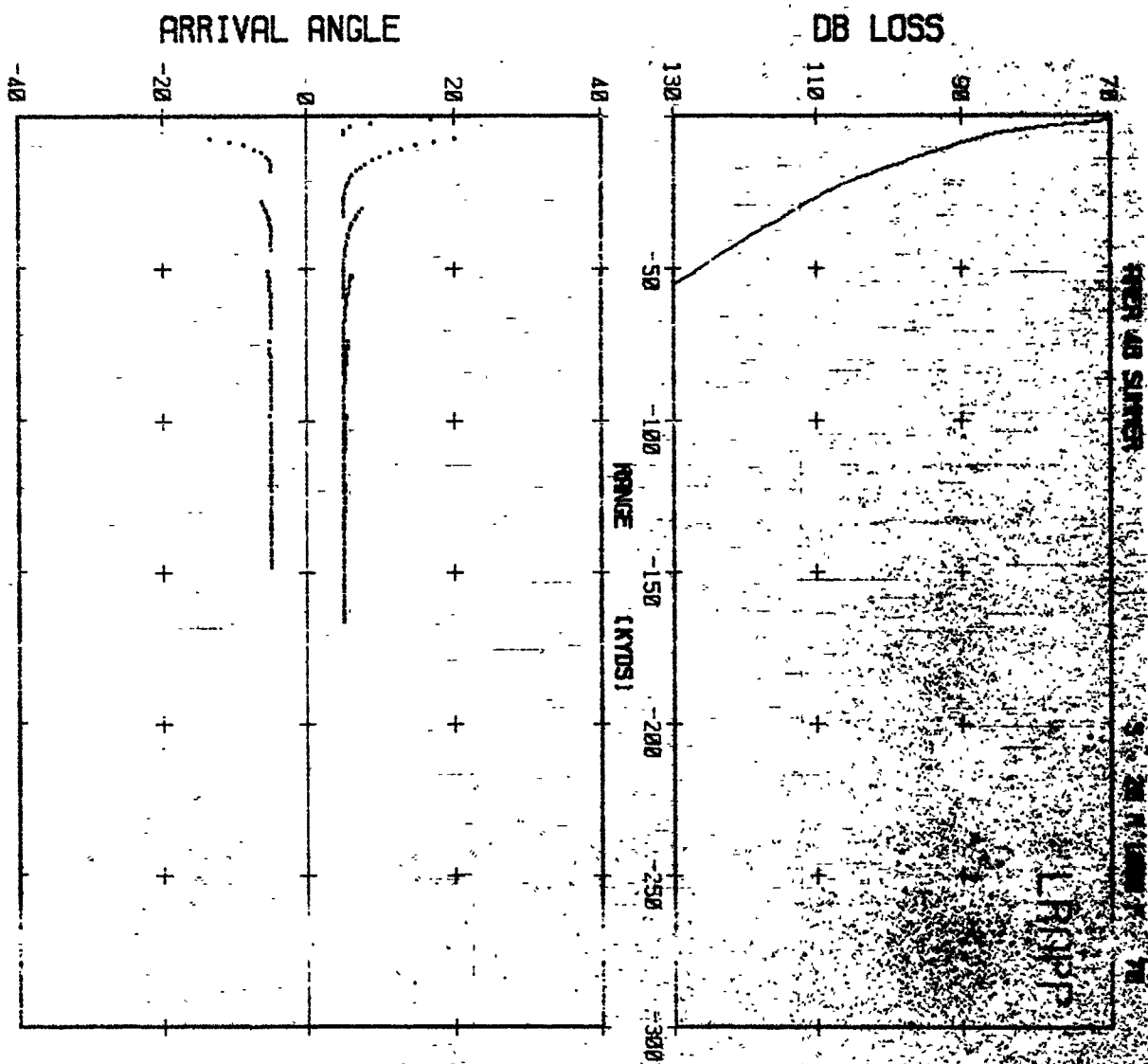
TOTAL -26.9 DB

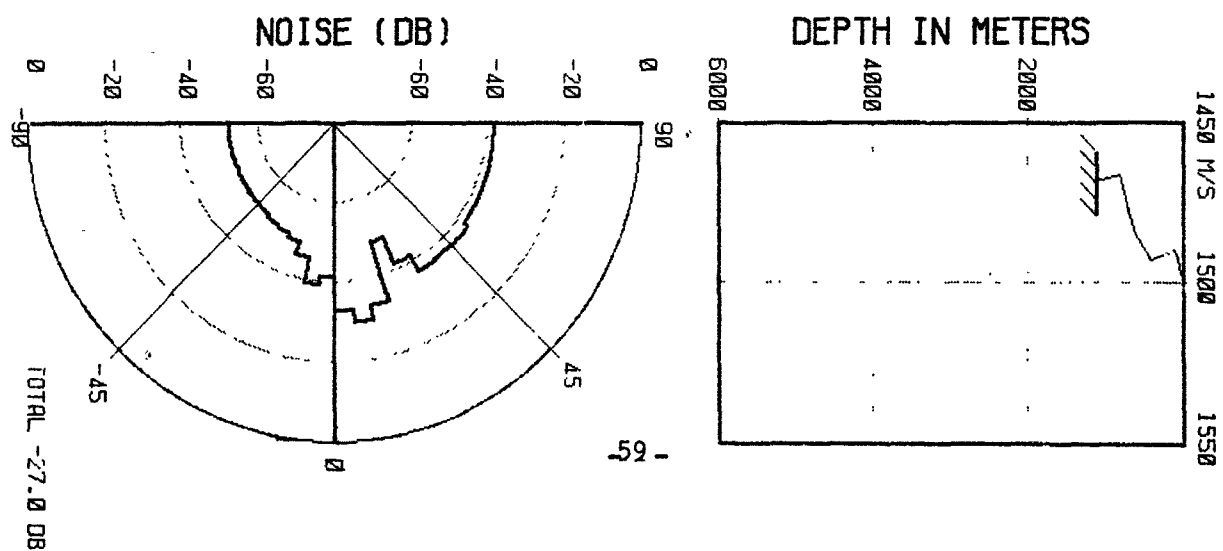
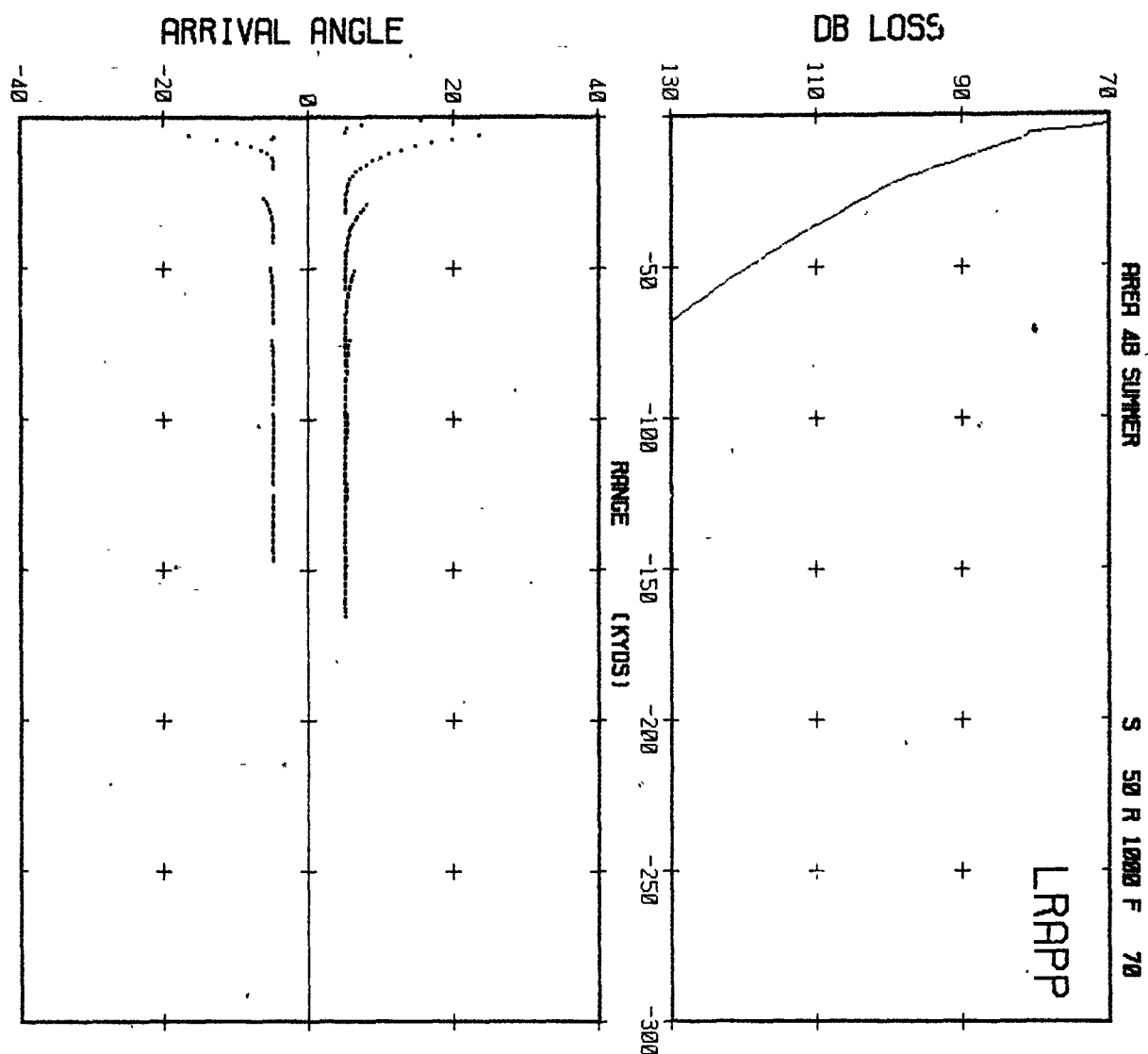
53

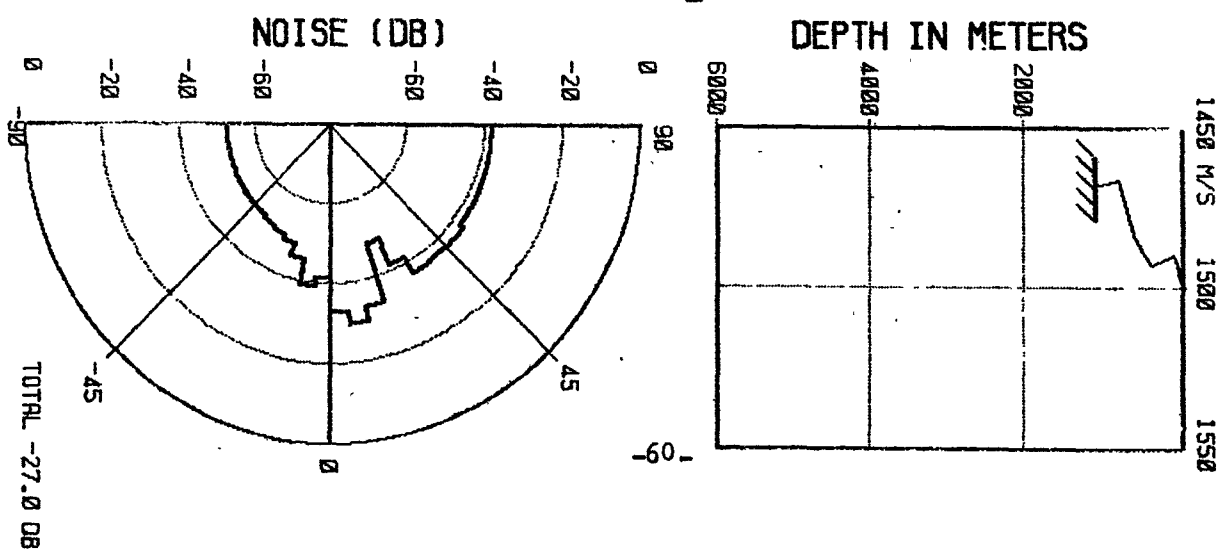
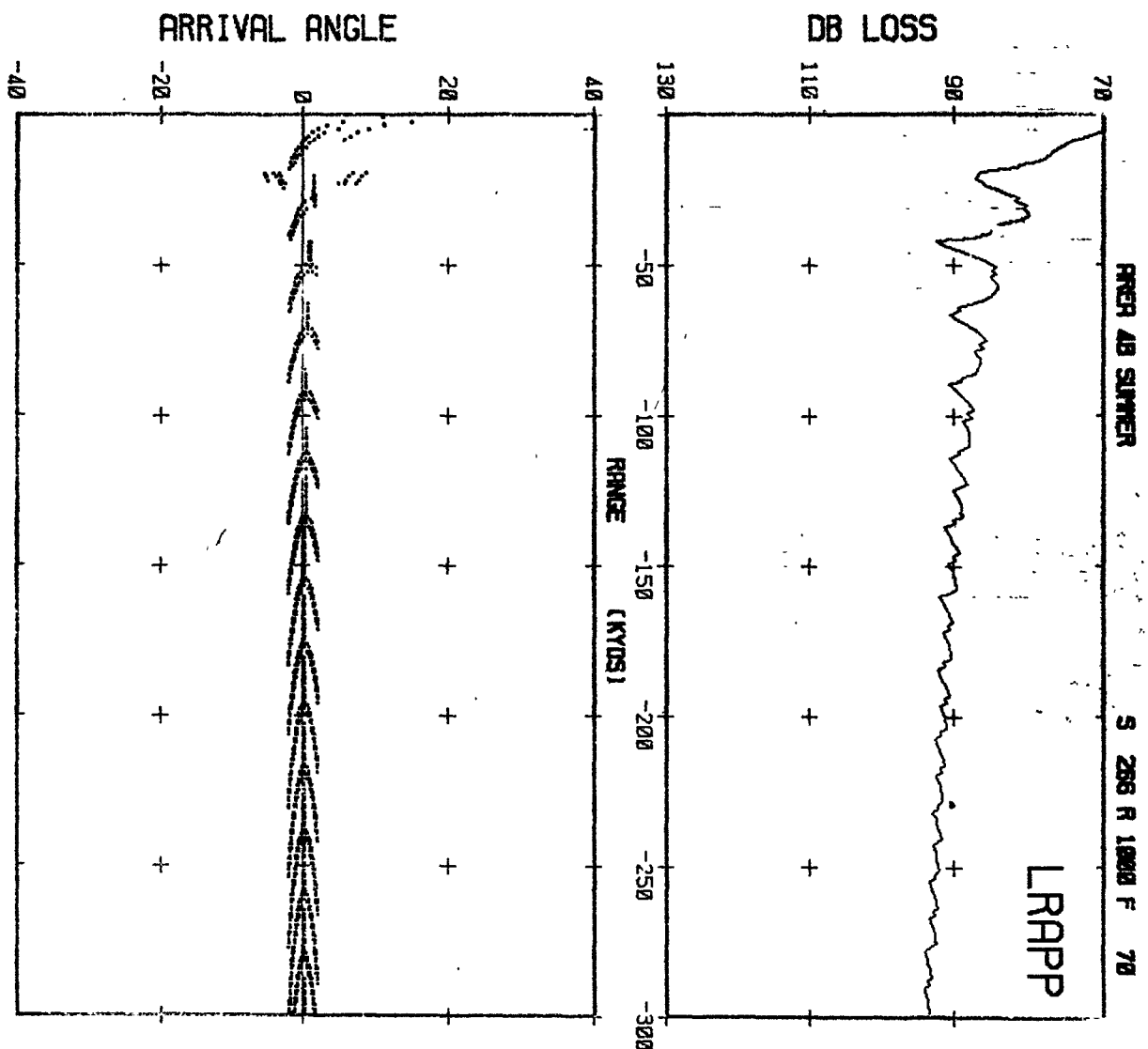












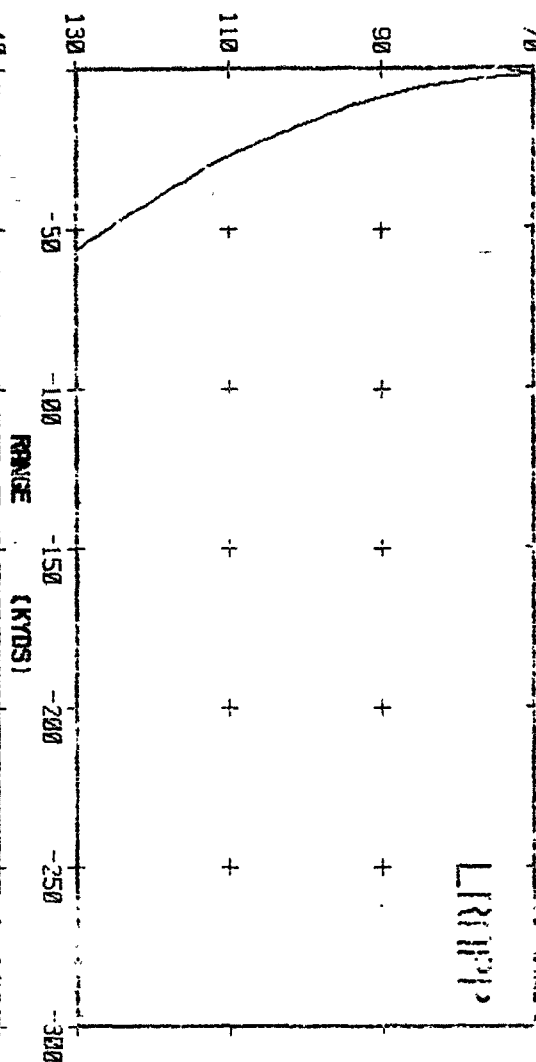
RIVER AB SINKER

S 20 R 1312 F 70

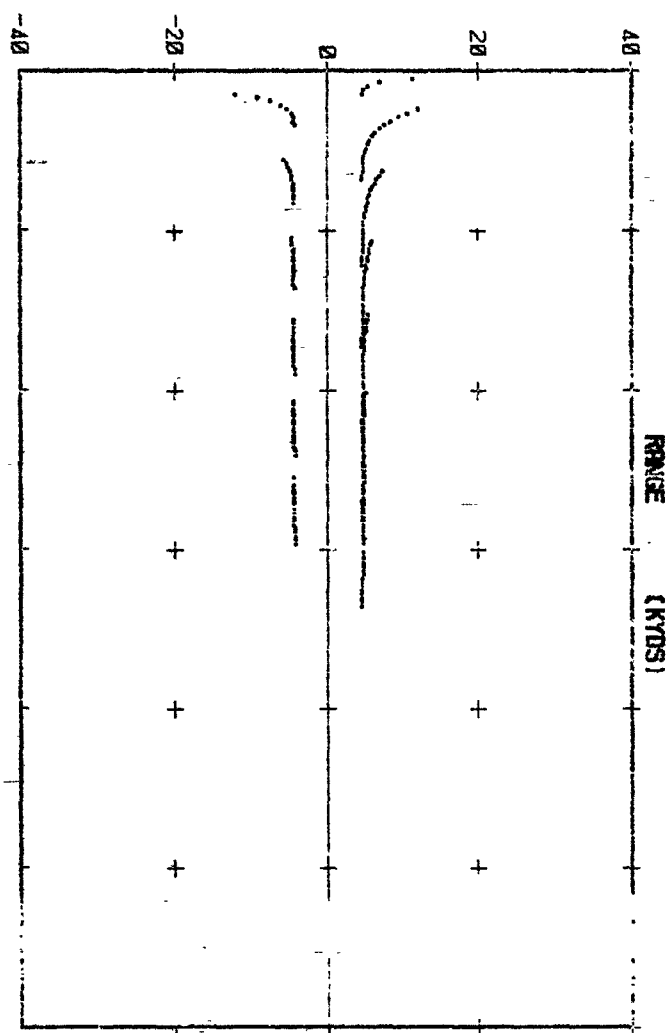
1450 M/S 1500

1550

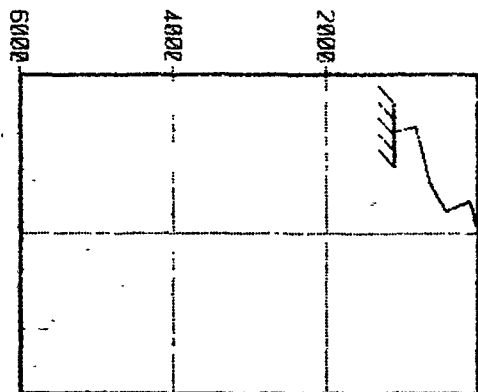
DB LOSS



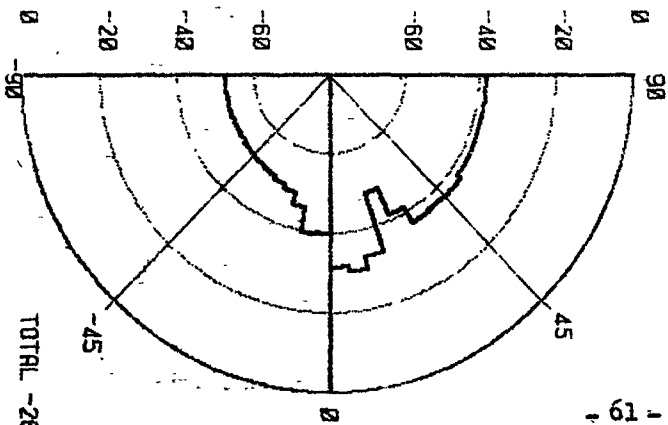
ARRIVAL ANGLE



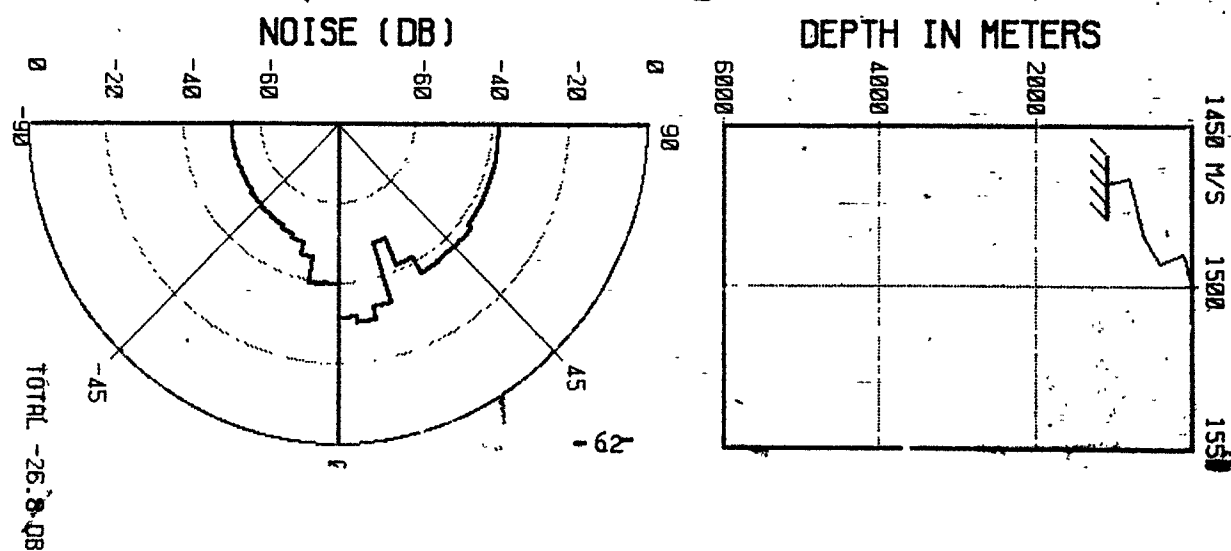
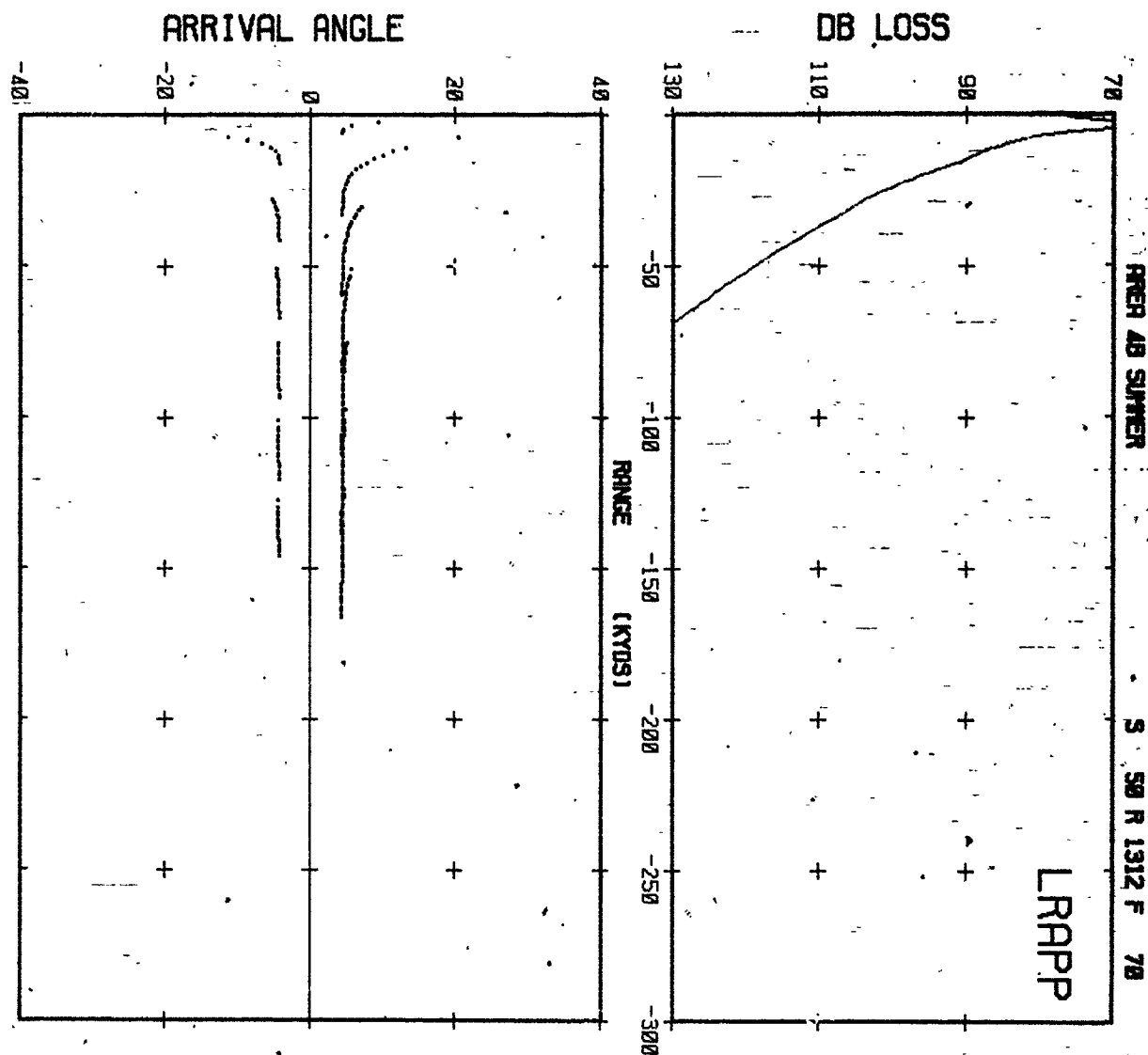
DEPTH IN METERS



NOISE (DB)



TOTAL -26.8 DB

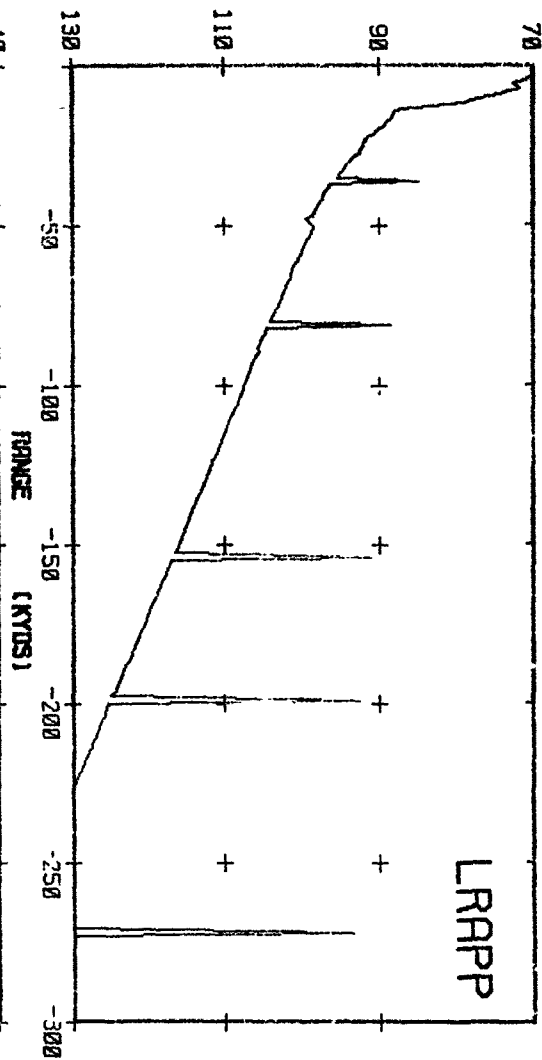


ARRR 4B SUMMER

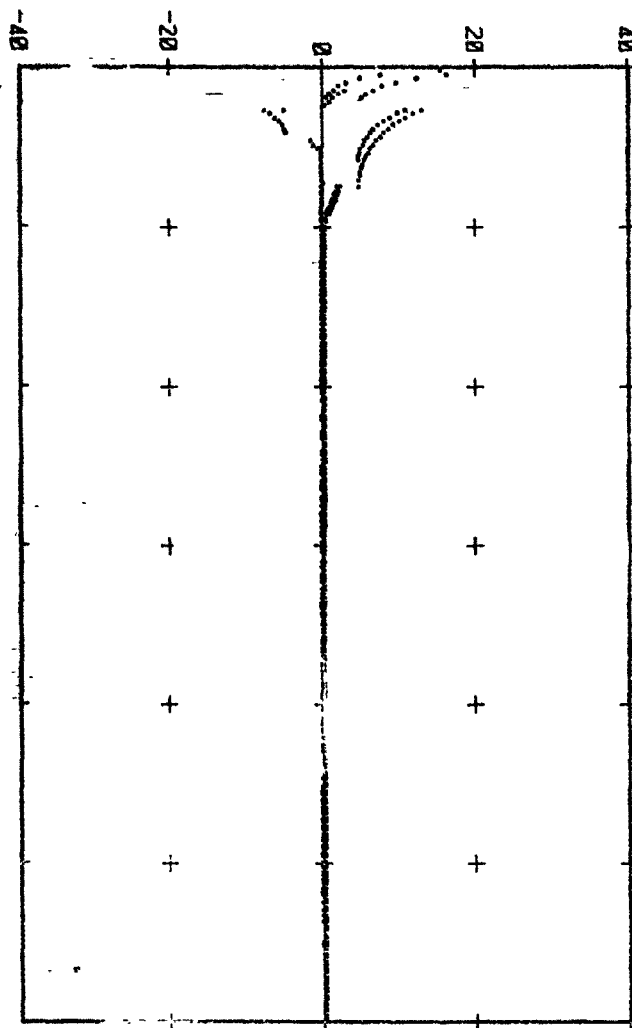
S 288 R 1312 F 78

1450 M/S 1500 1550

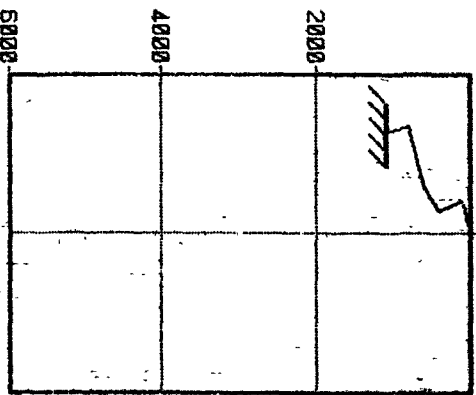
DB LOSS



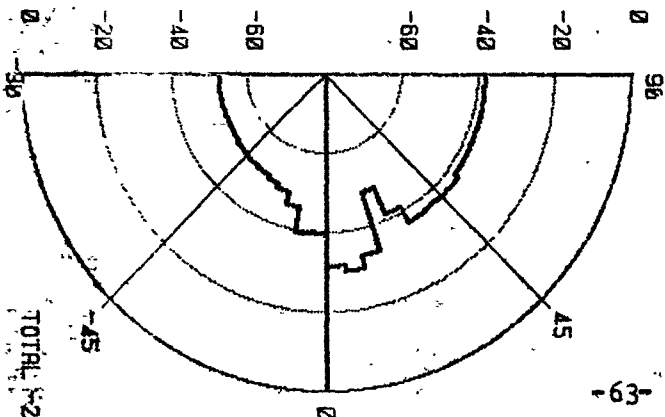
ARRIVAL ANGLE



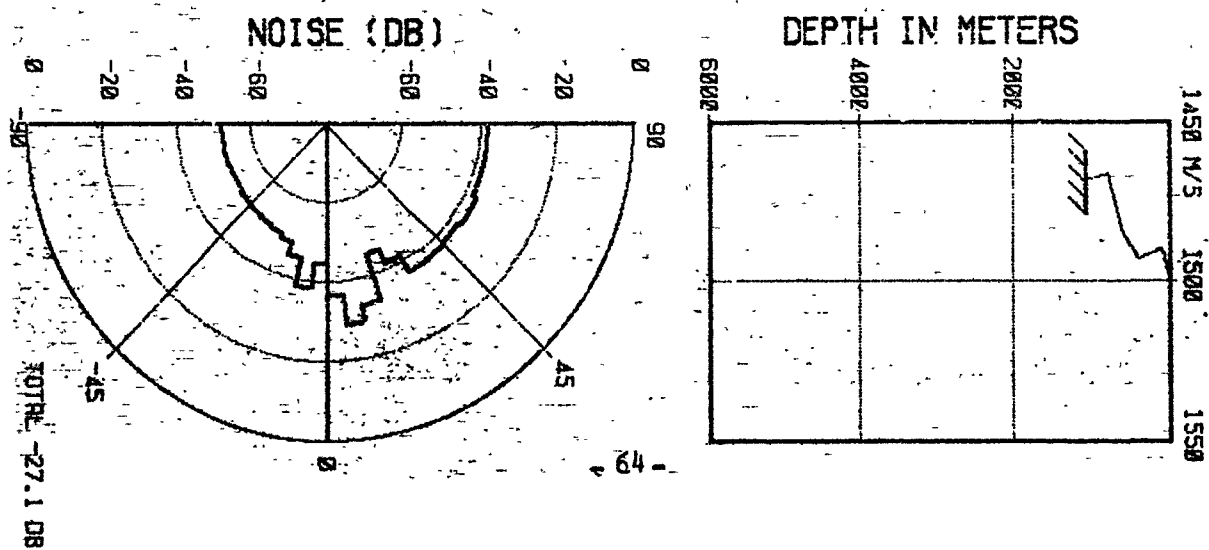
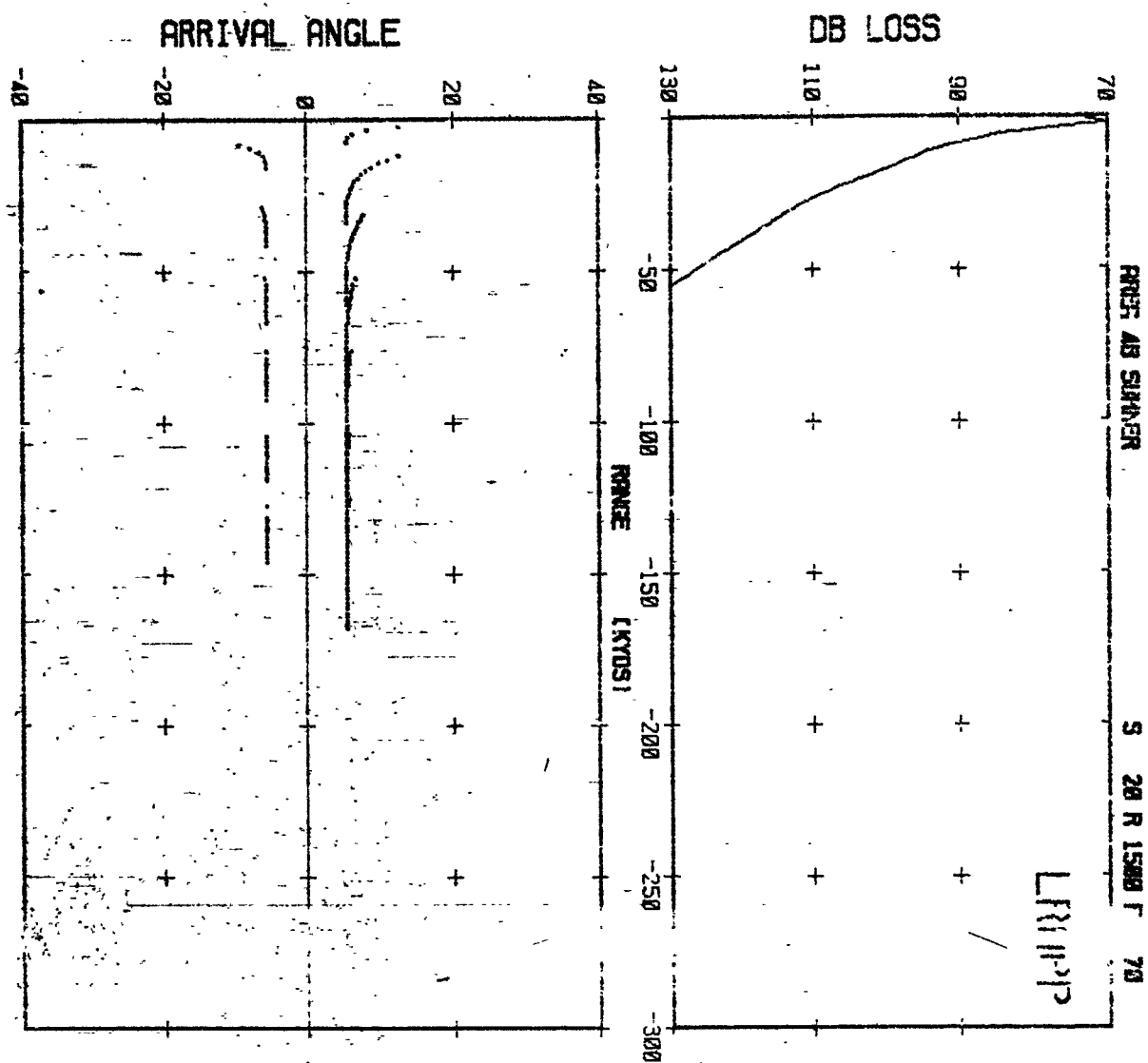
DEPTH IN METERS



NOISE (DB)

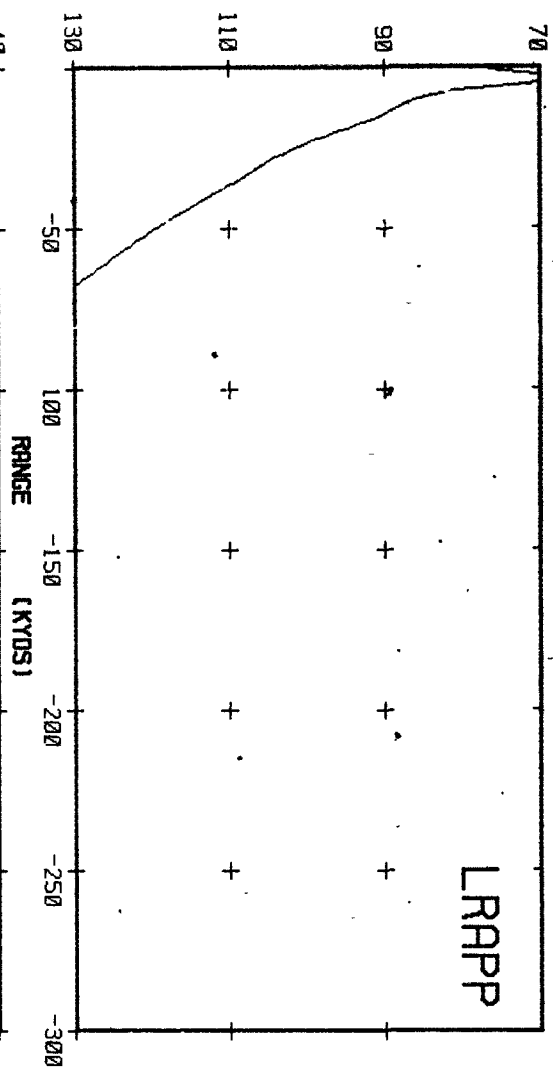


TOTAL: -26.8 DB

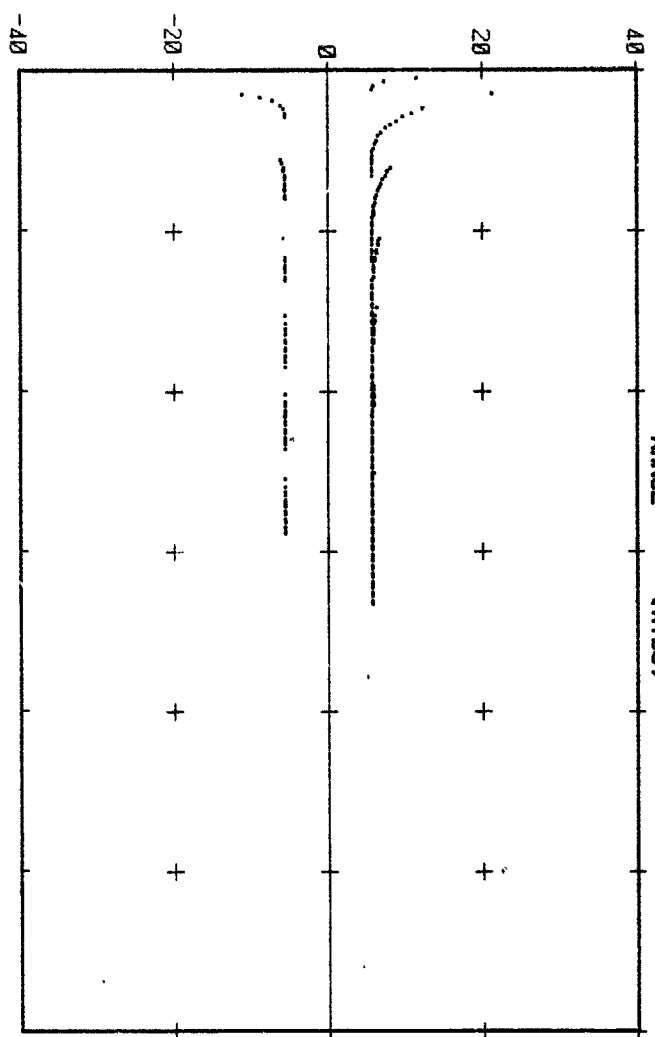


FRER AB SUMMER S 50 R 1500 F 70

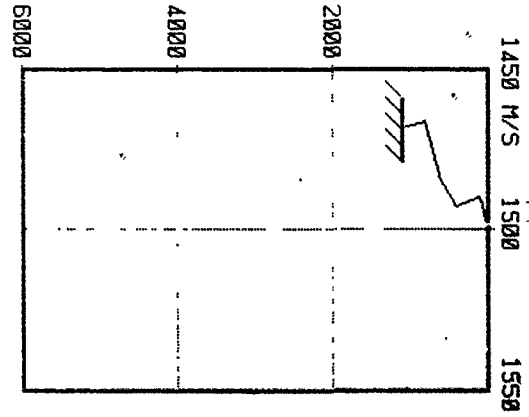
DB LOSS



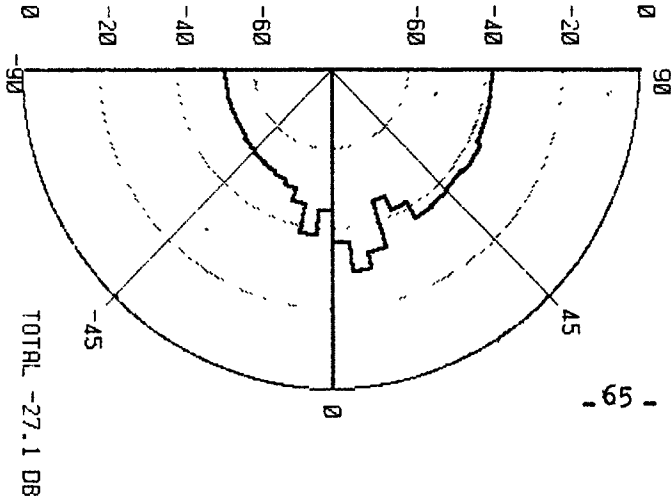
ARRIVAL ANGLE

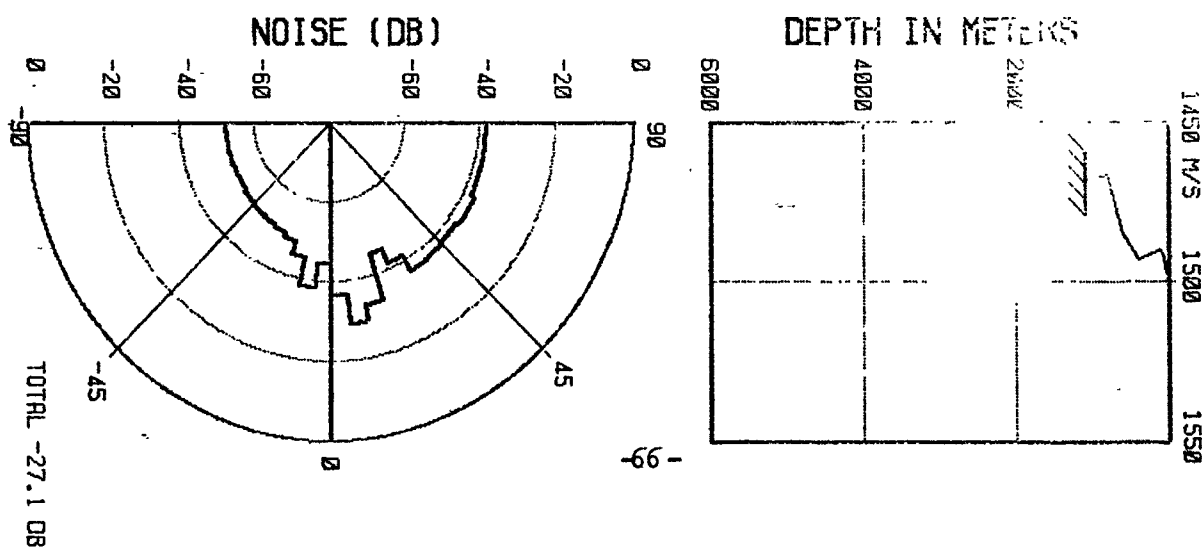
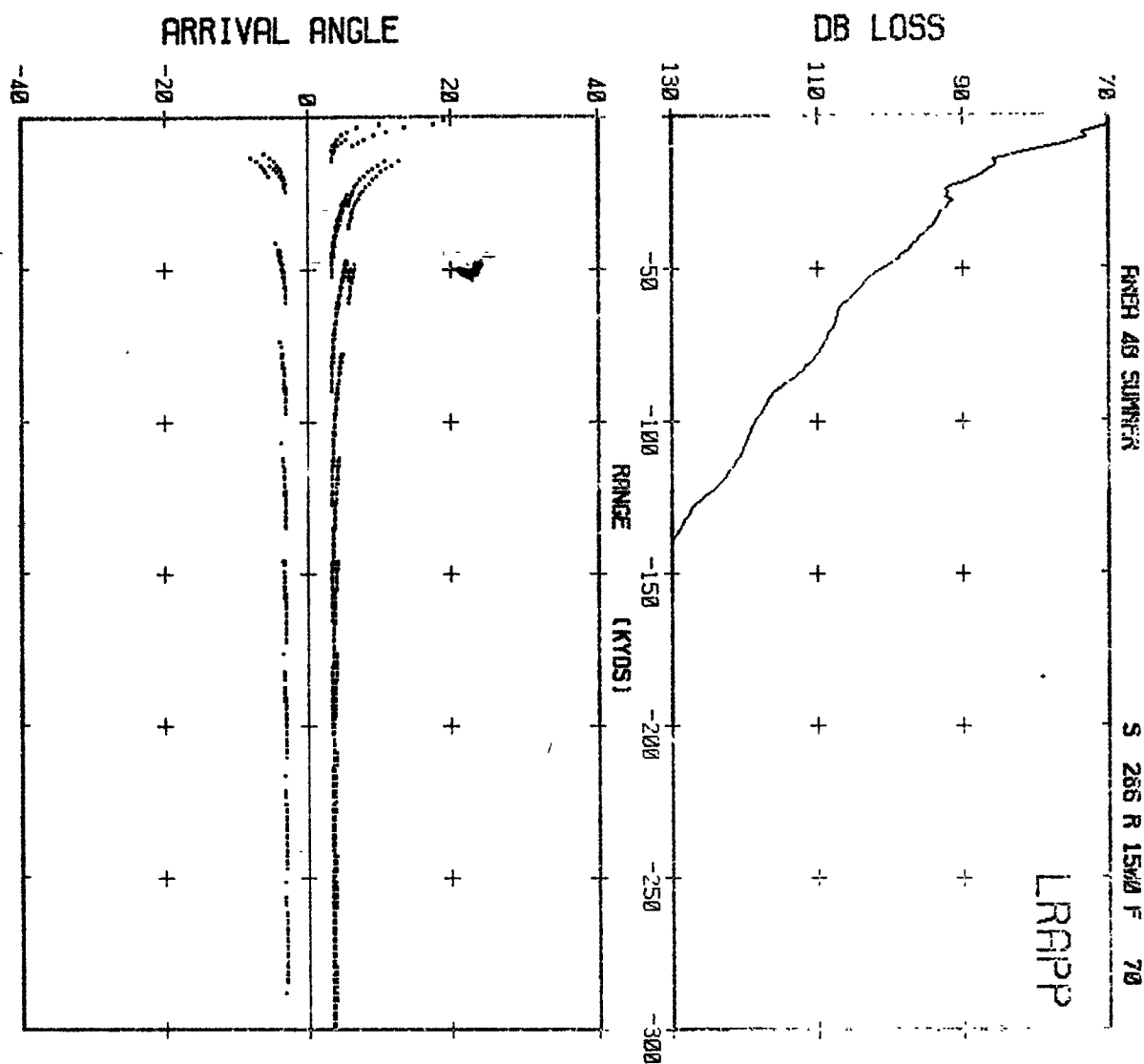


DEPTH IN METERS



NOISE (DB)



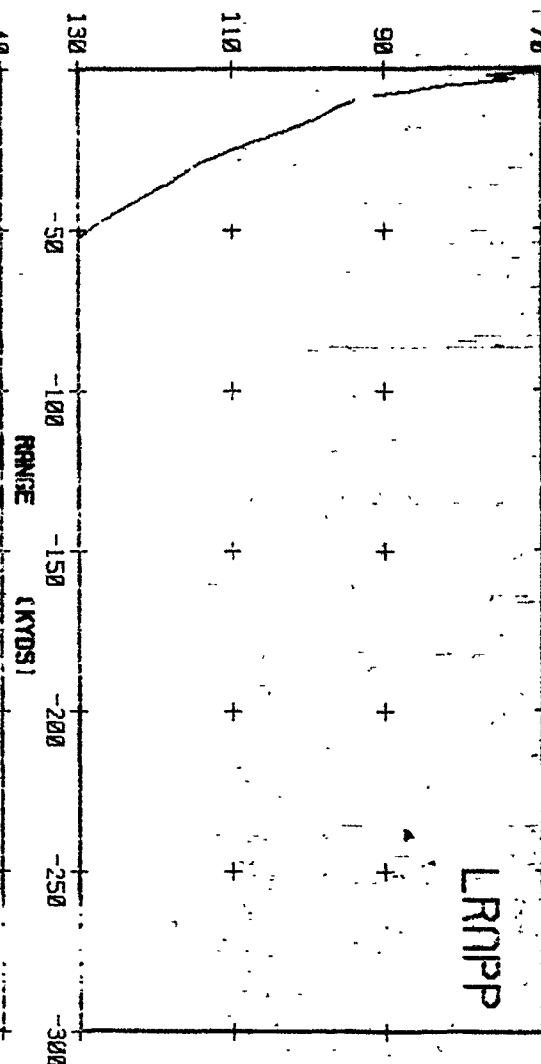


RIVER AB SUMMER

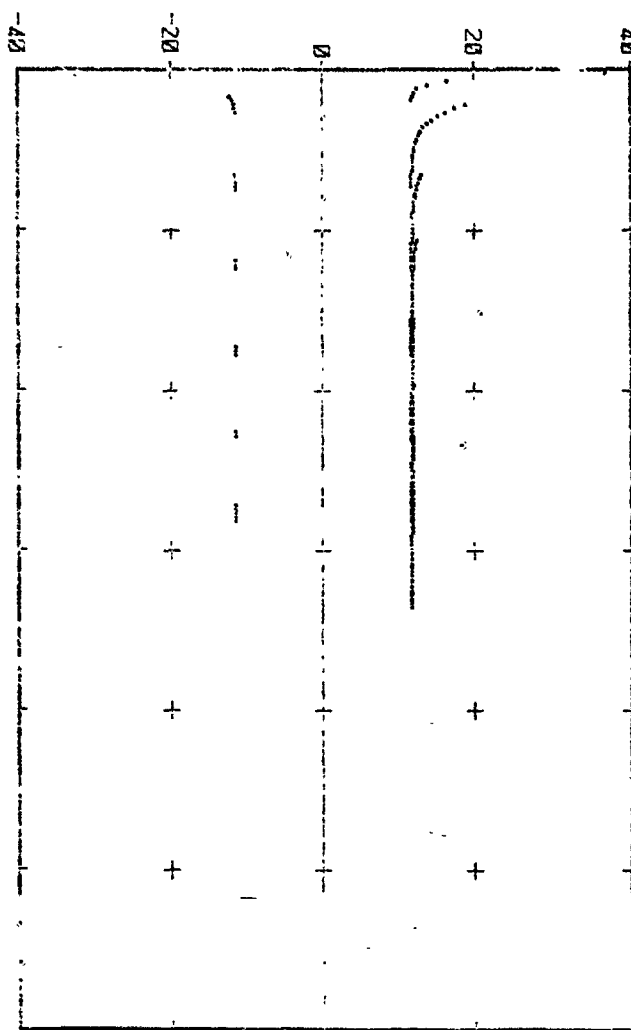
S 20 N 26.25 F 70

1450 1455 1500 1550

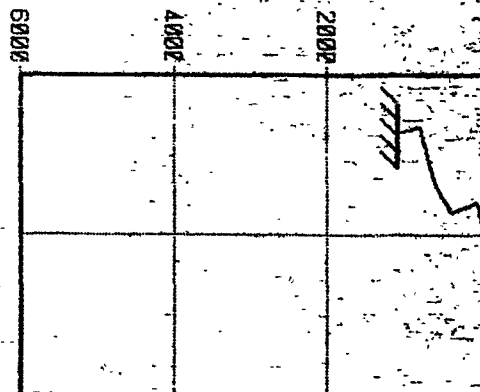
DB LOSS



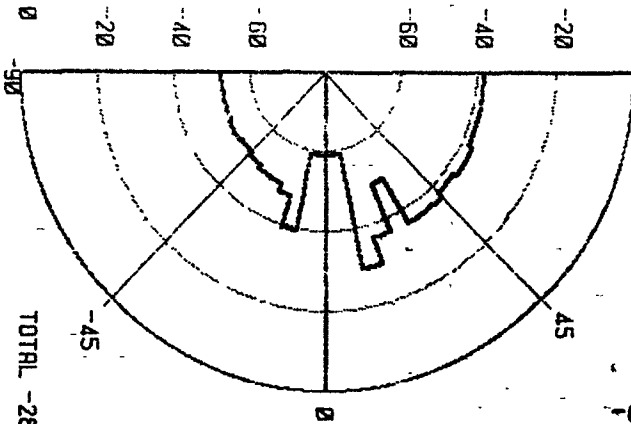
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



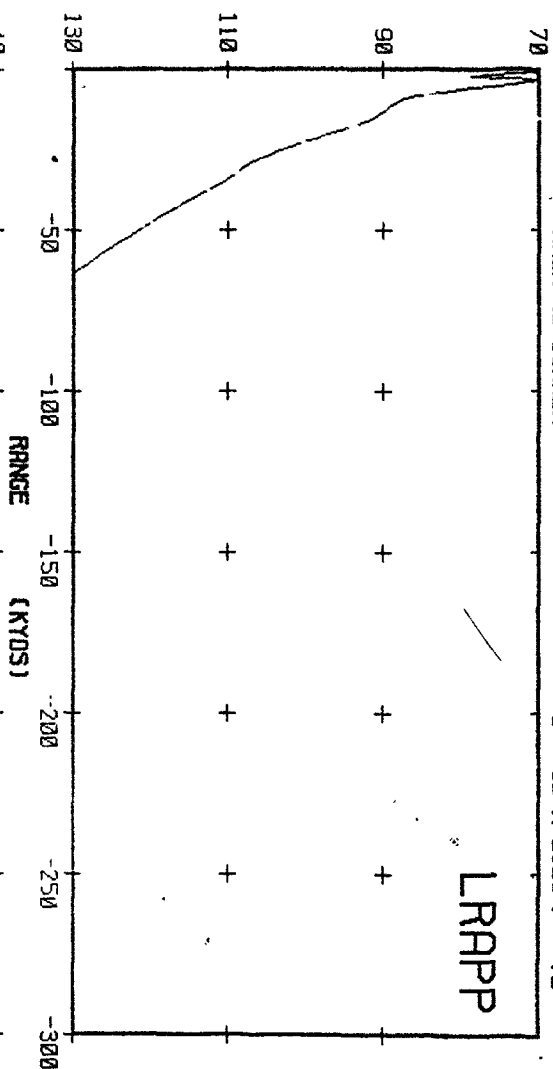
TOTAL -28.3 DB

RRR AB SUMMER

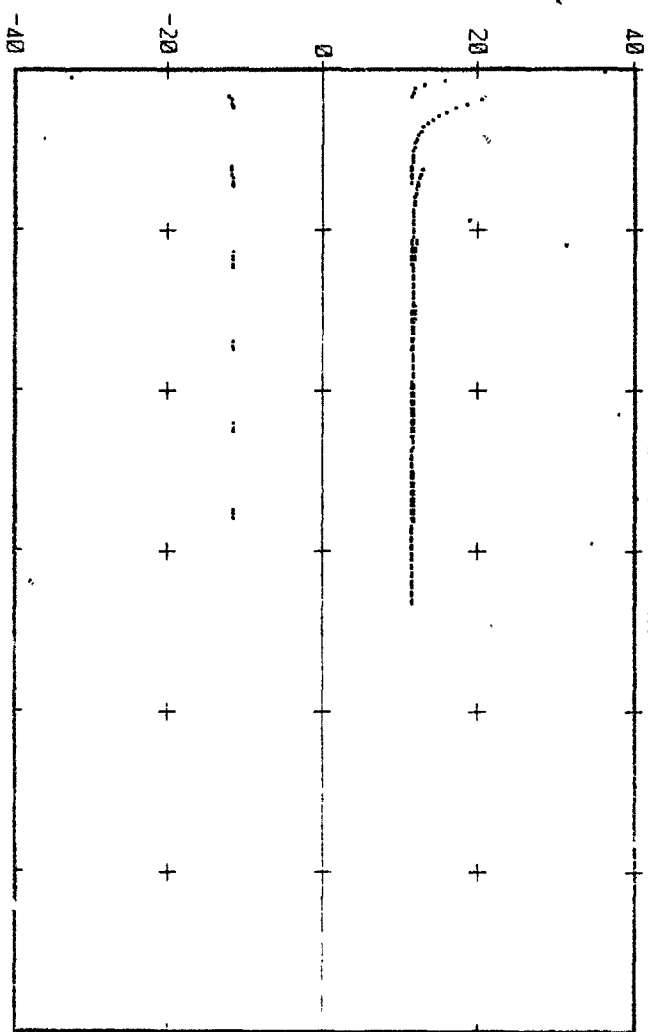
S 50 R 2625 F 70

1450 M/S 1500 1550

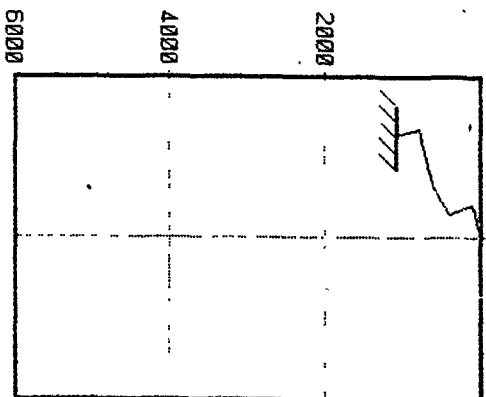
DB LOSS



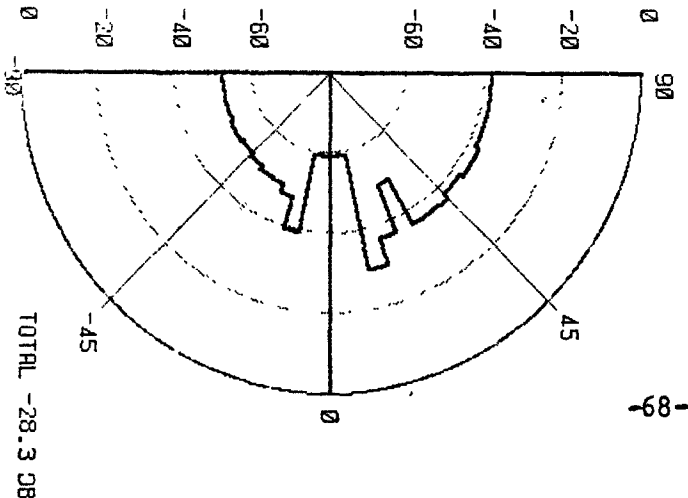
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

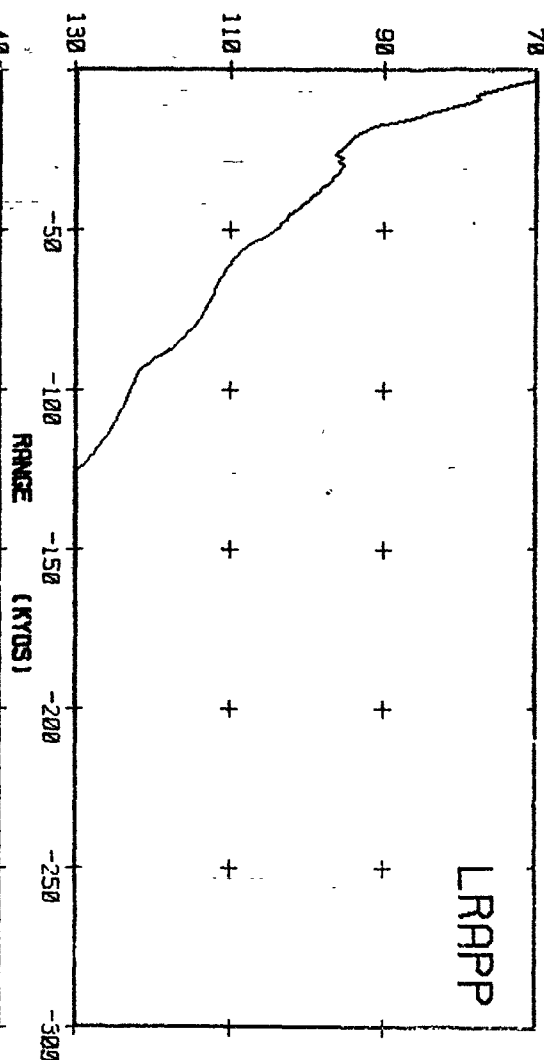


FRER AB SUMMER

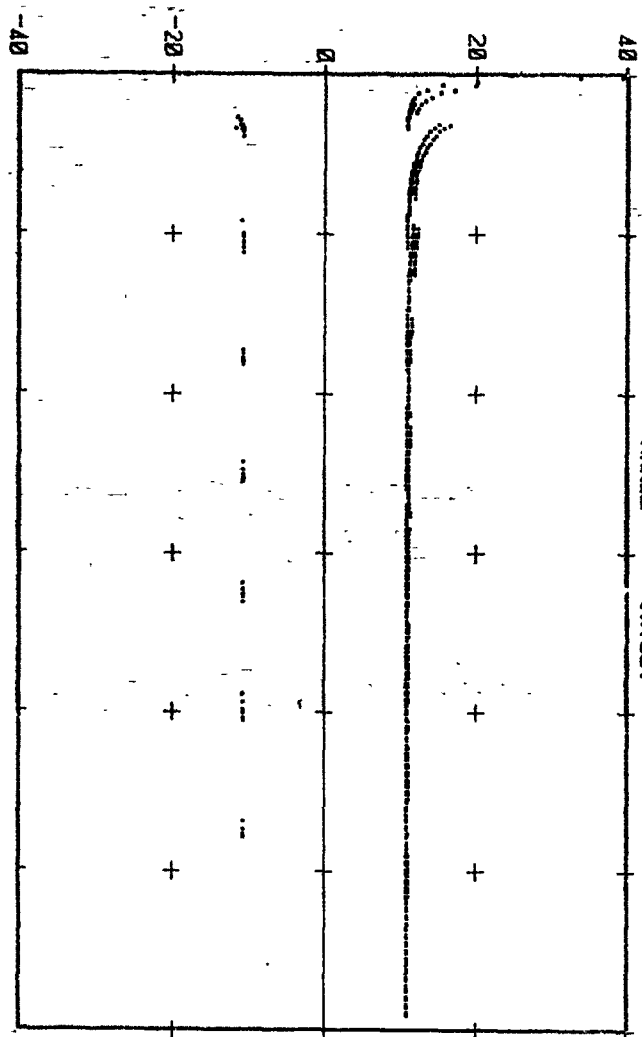
S 266 R 2625 F 70

LRAPP

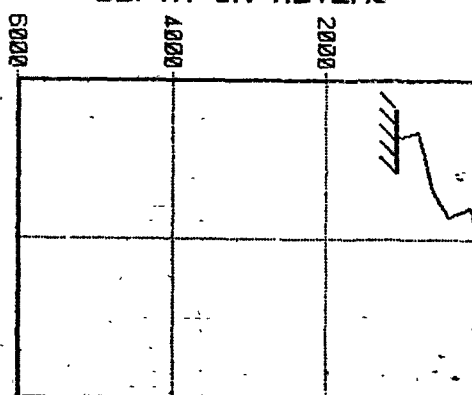
DB LOSS



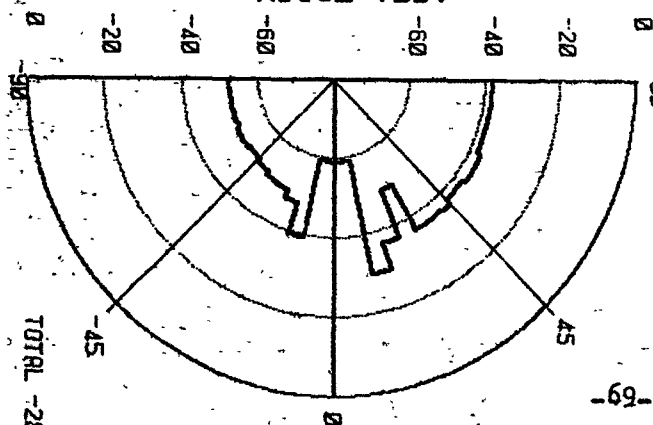
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -28.3 DB

GREEN AIR SINKER

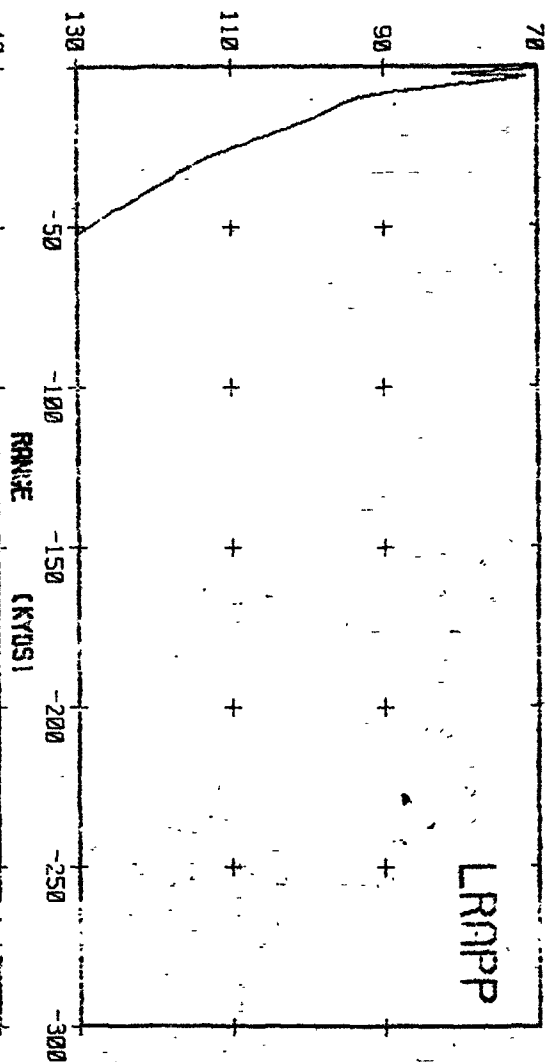
S 28 R 3598 F 70

1450 H45

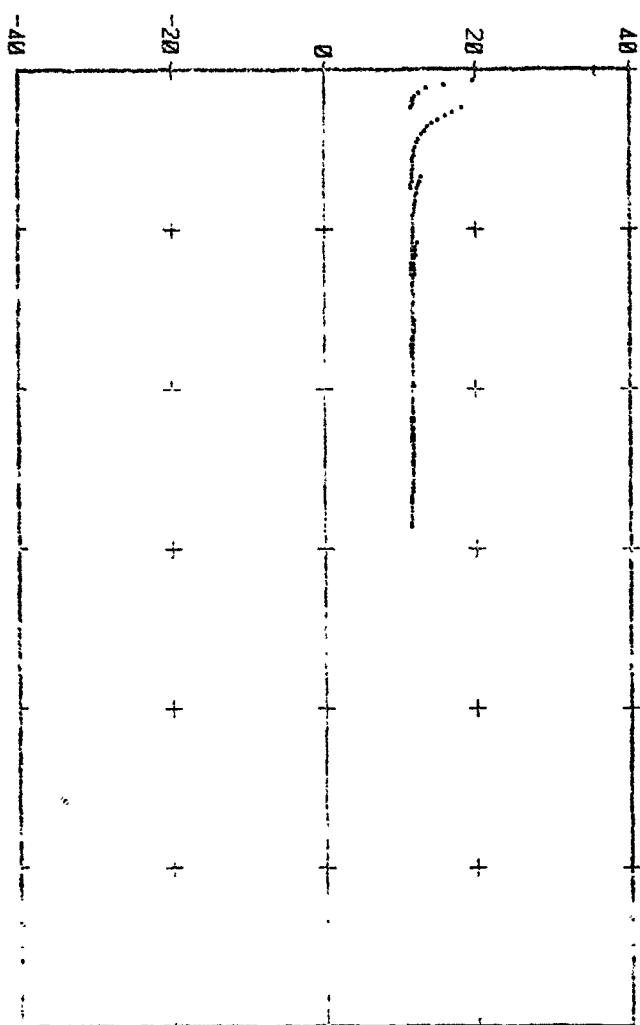
1500

1550

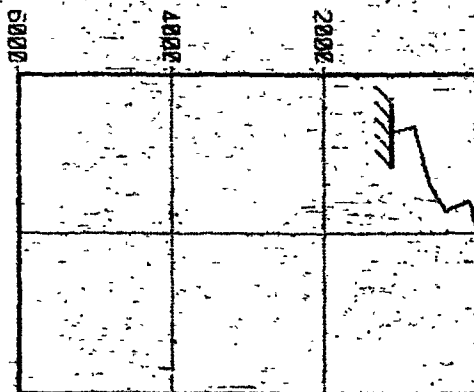
DB LOSS



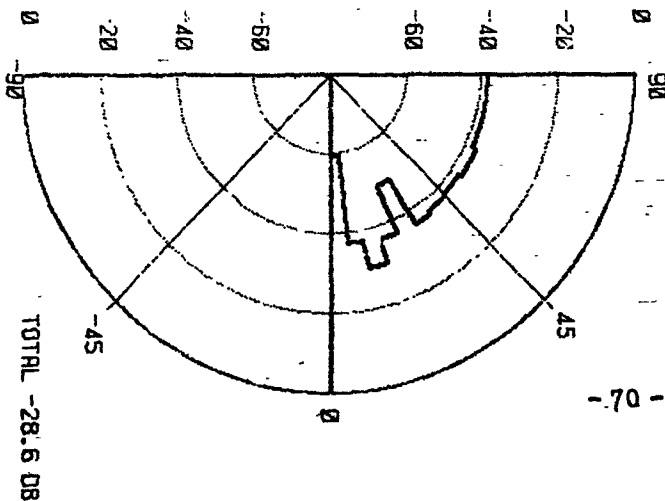
ARRIVAL ANGLE

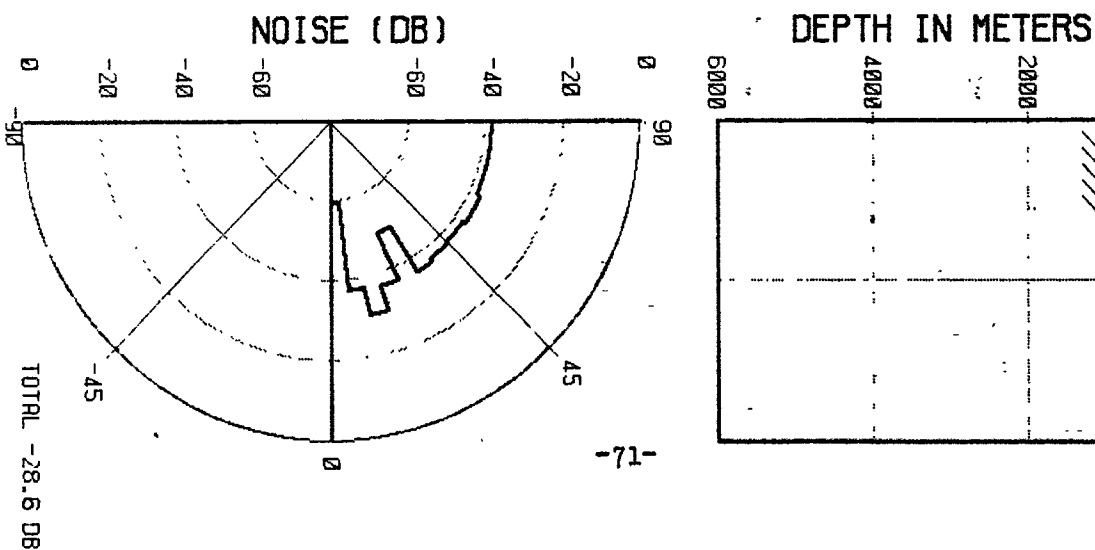
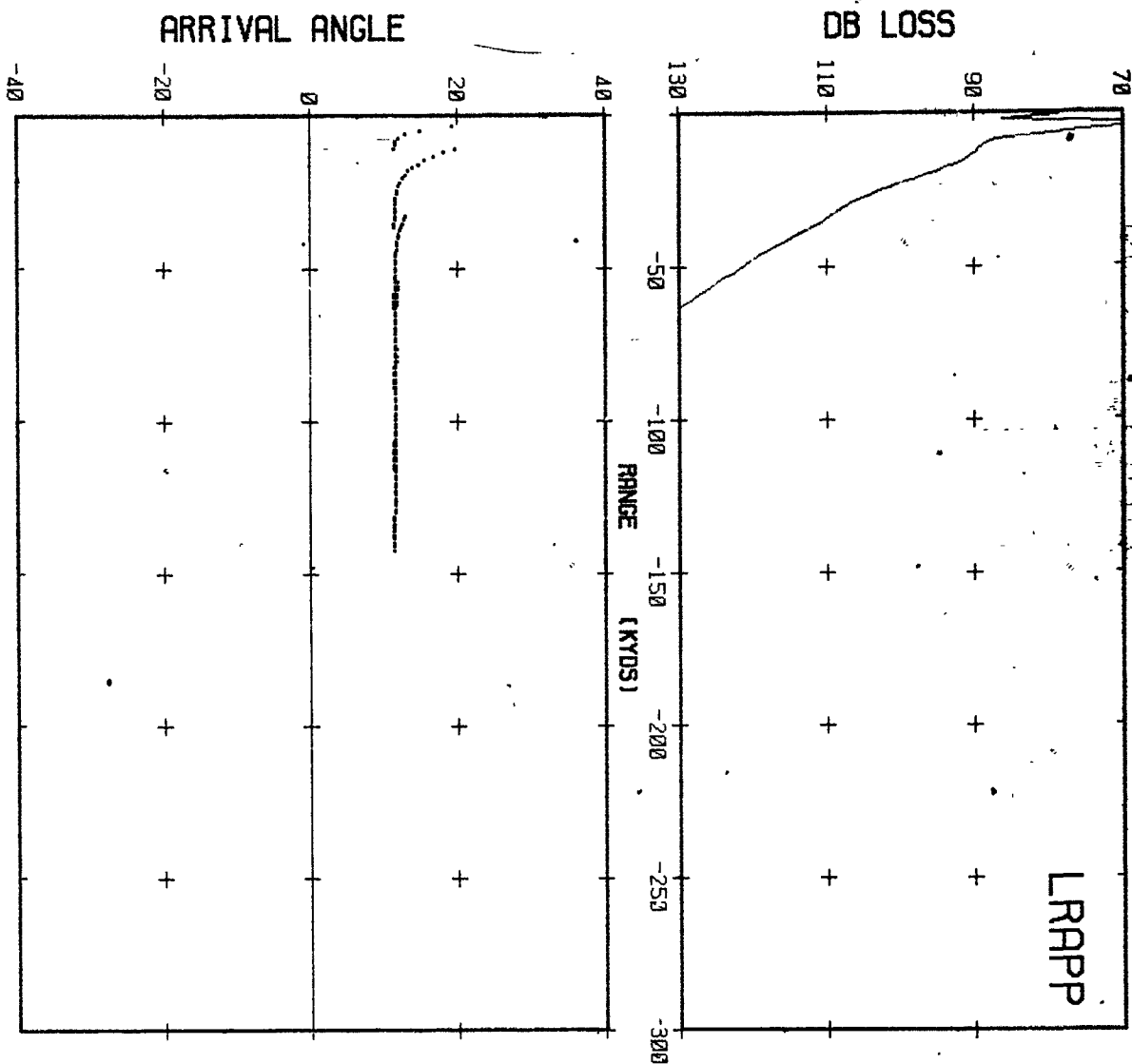


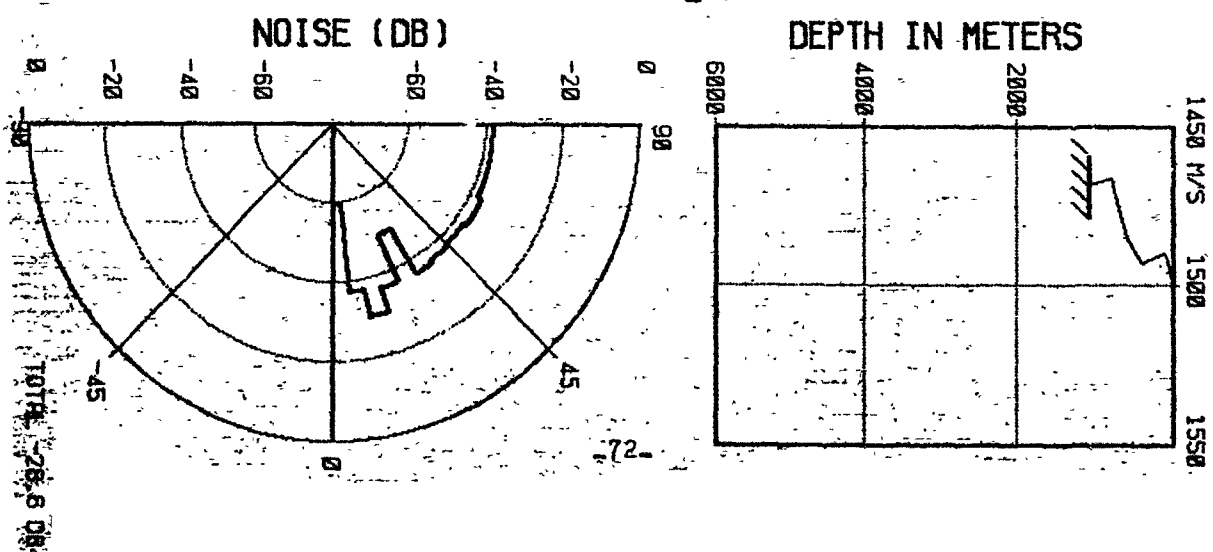
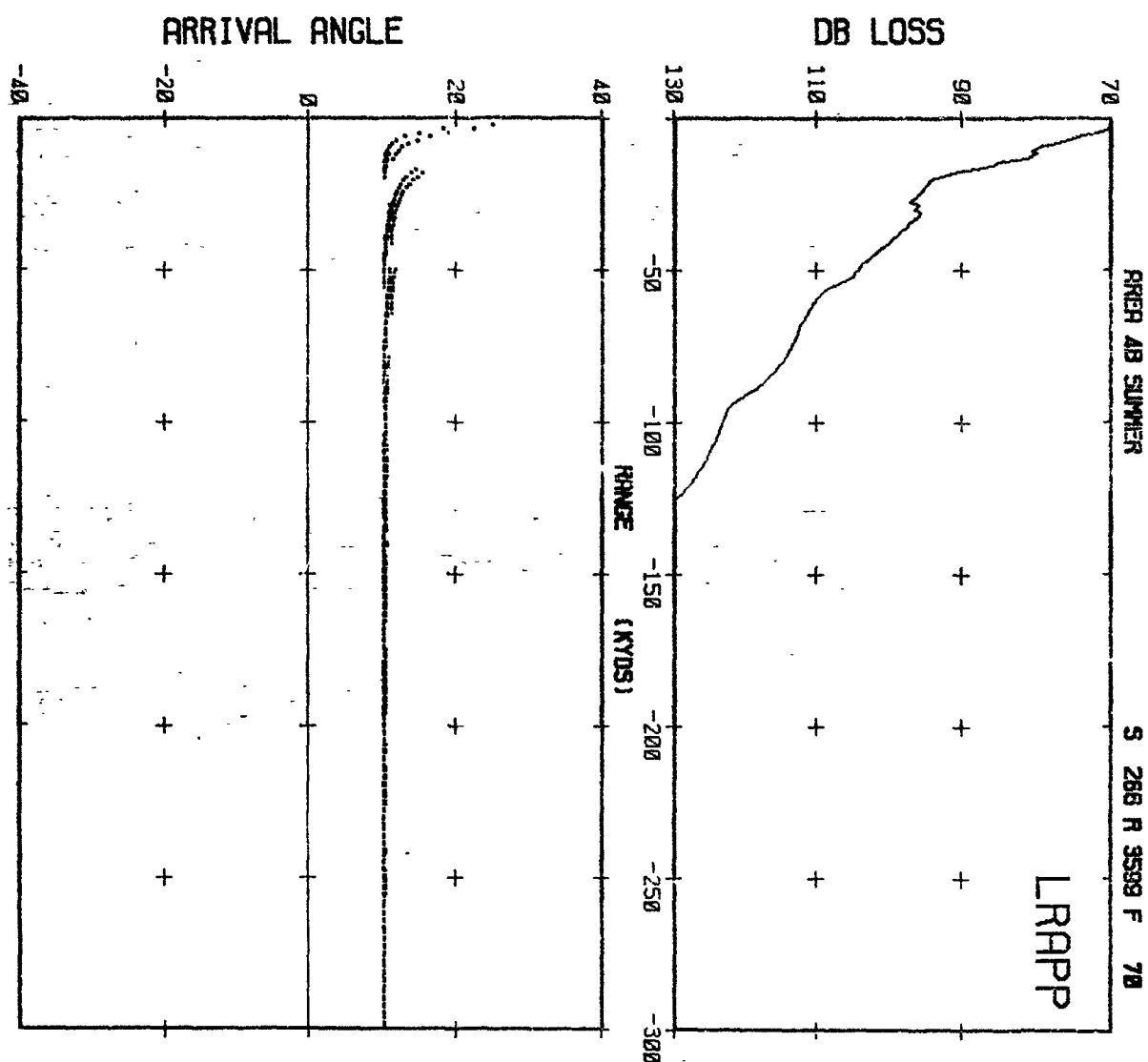
DEPTH IN METERS



NOISE (DB)





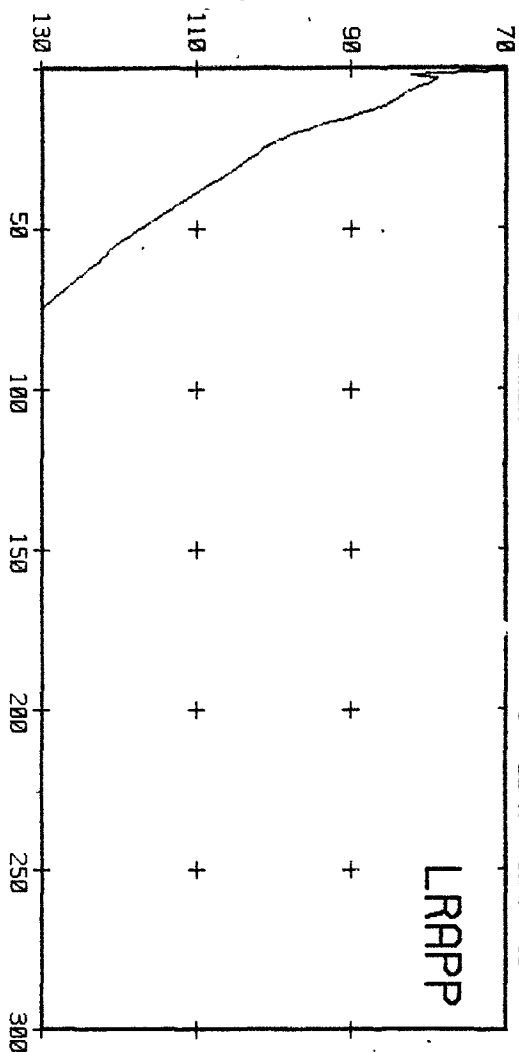


PRER AB SUMMER

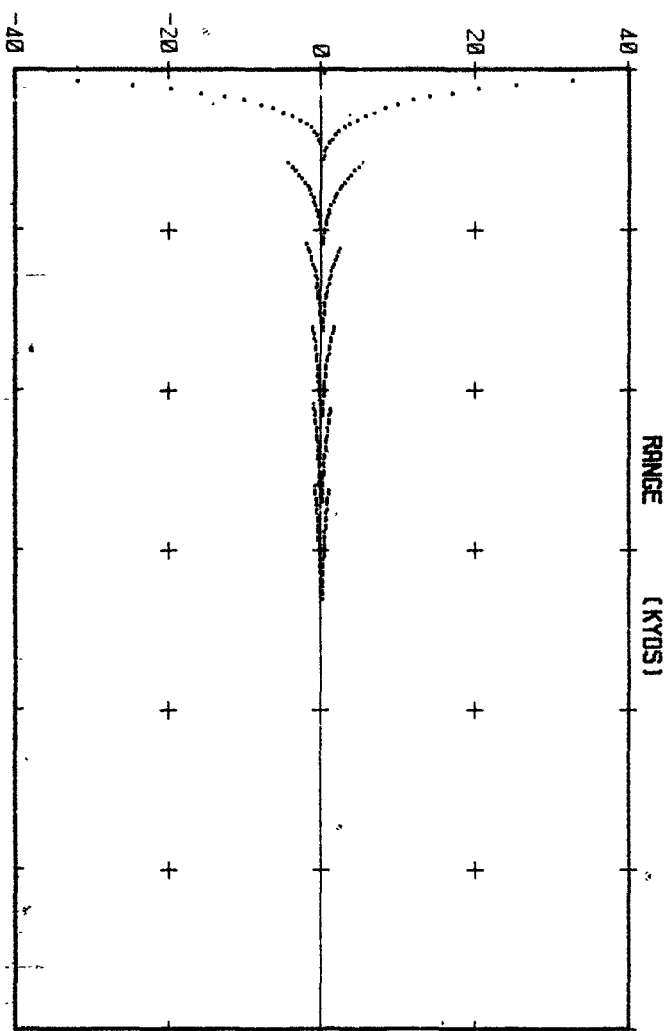
S 20 R 60 F 150

1450 M/S 1500 1550

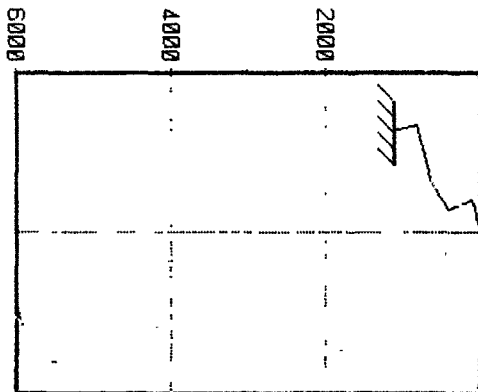
DB LOSS



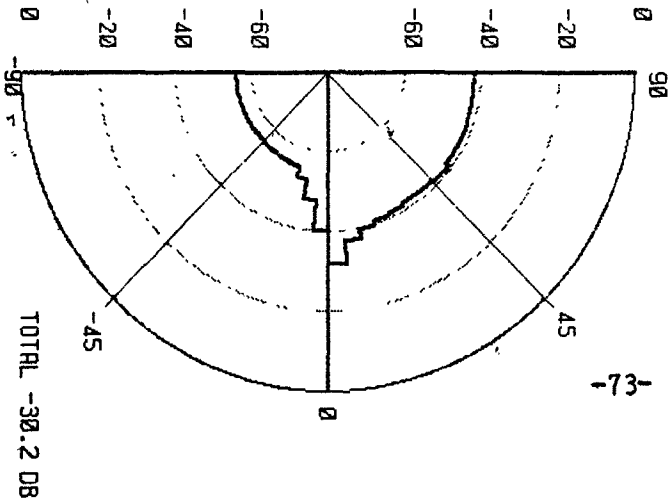
ARRIVAL ANGLE



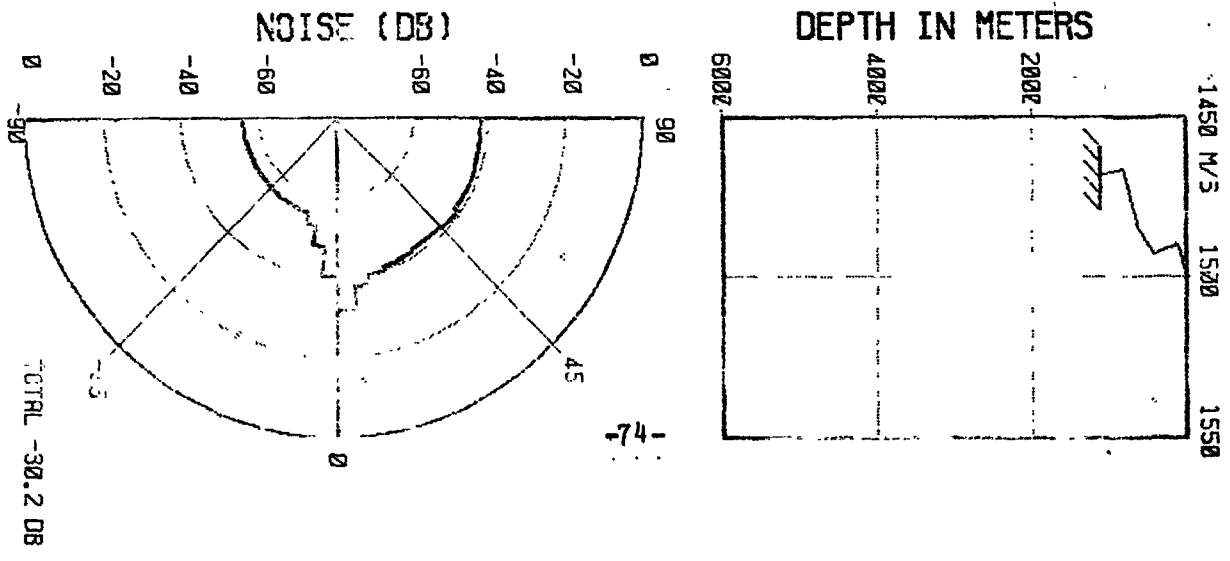
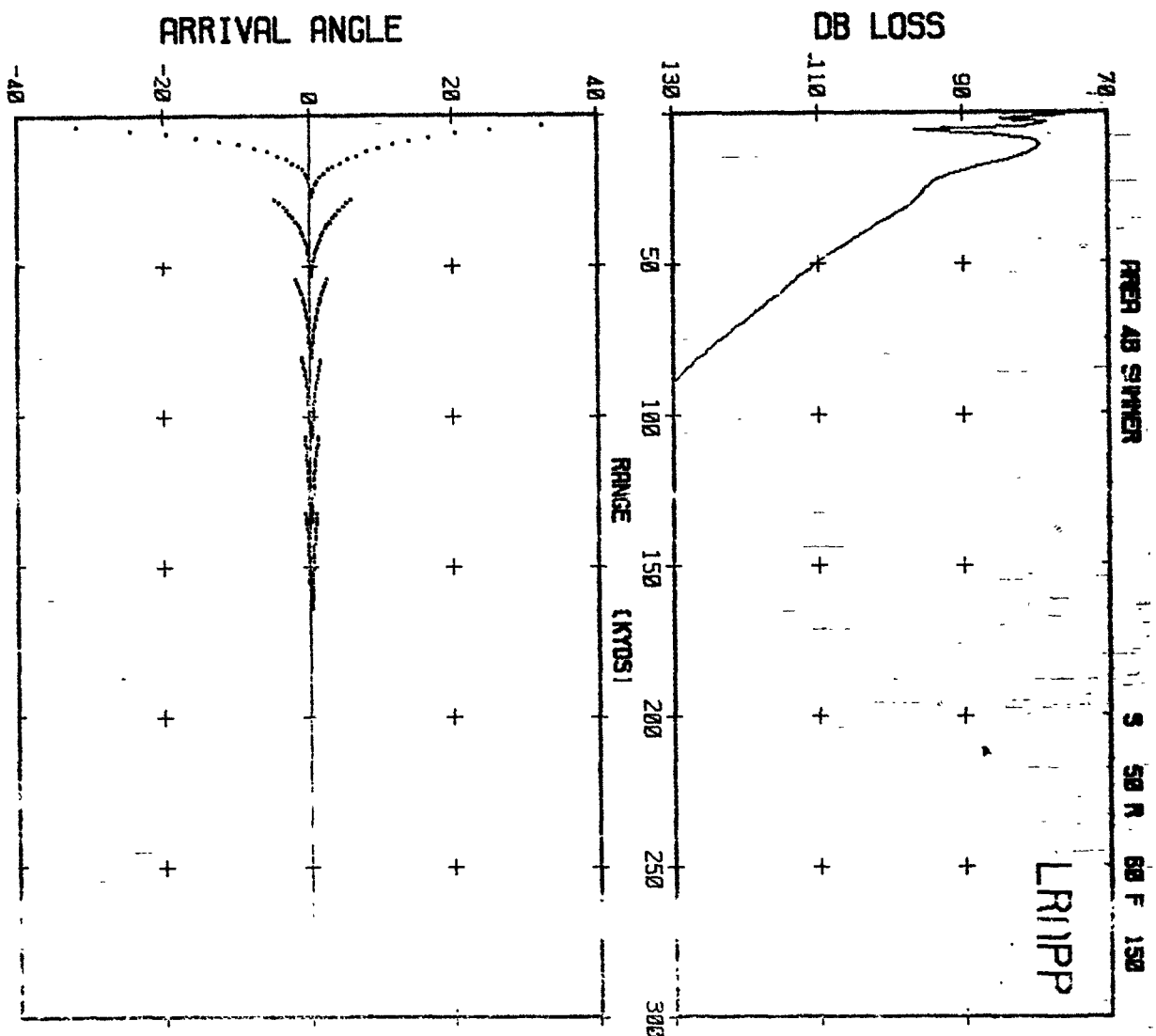
DEPTH IN METERS

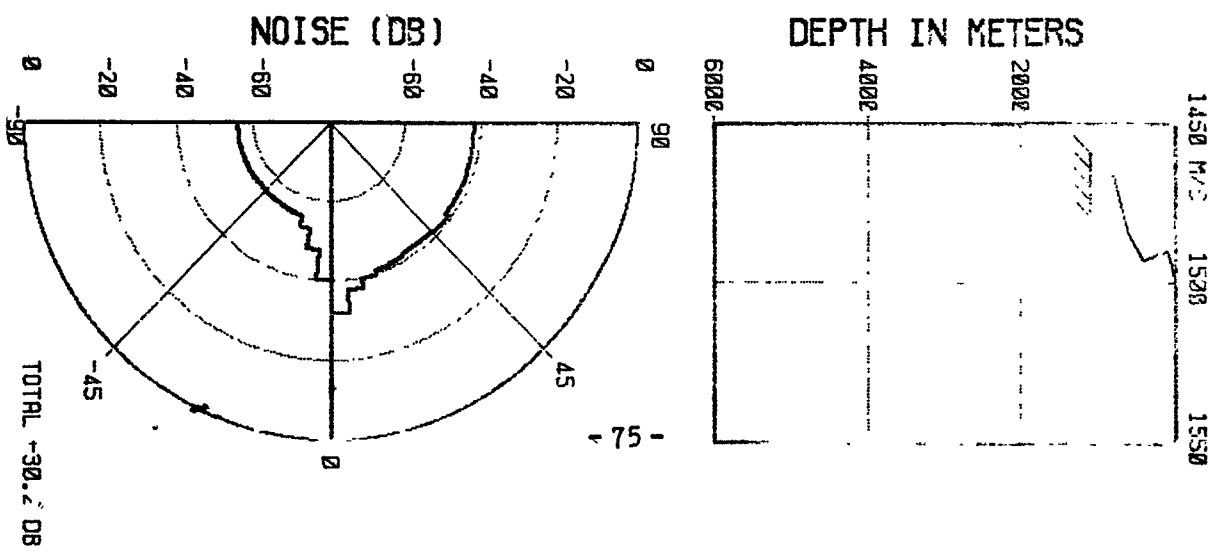
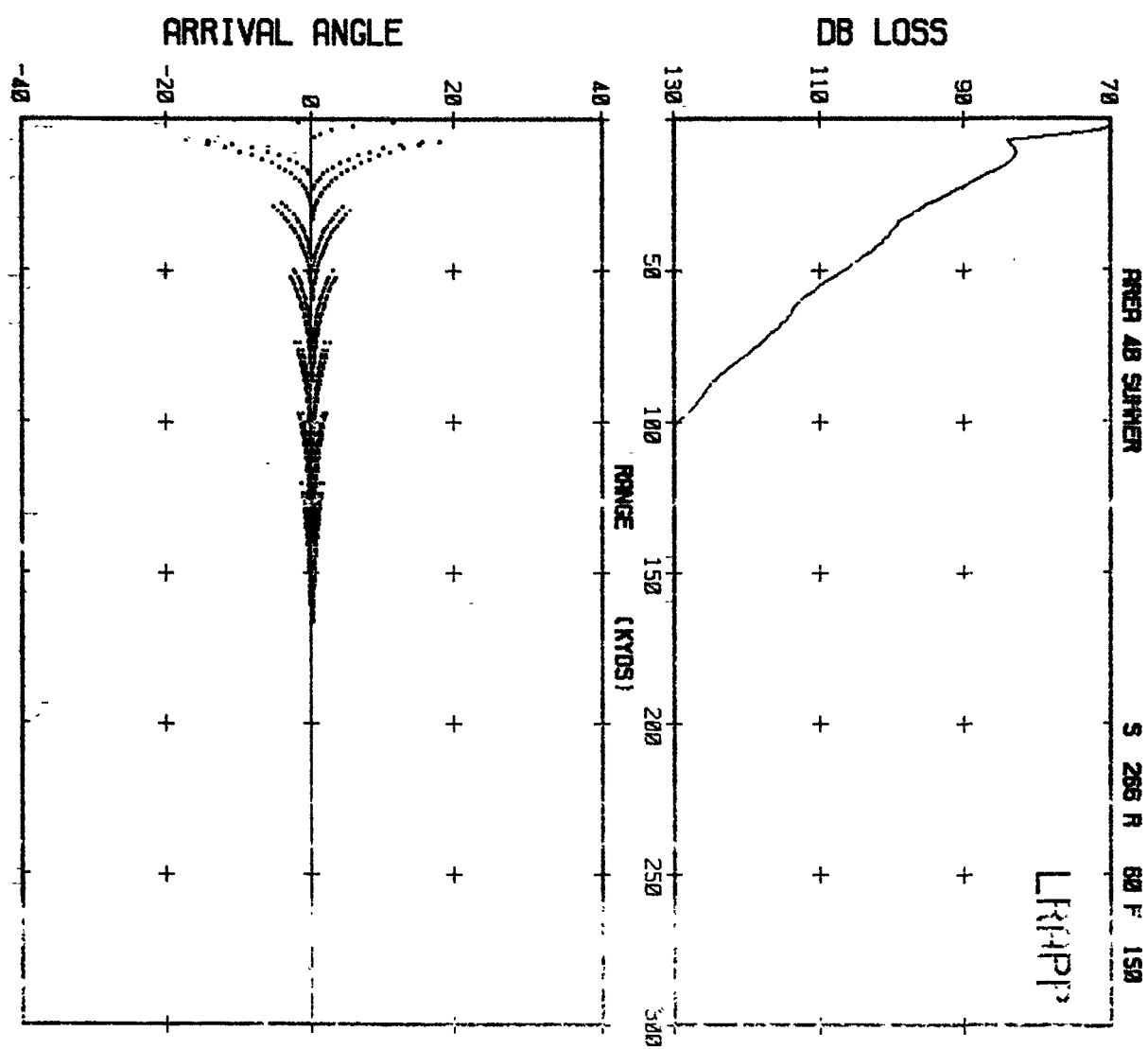


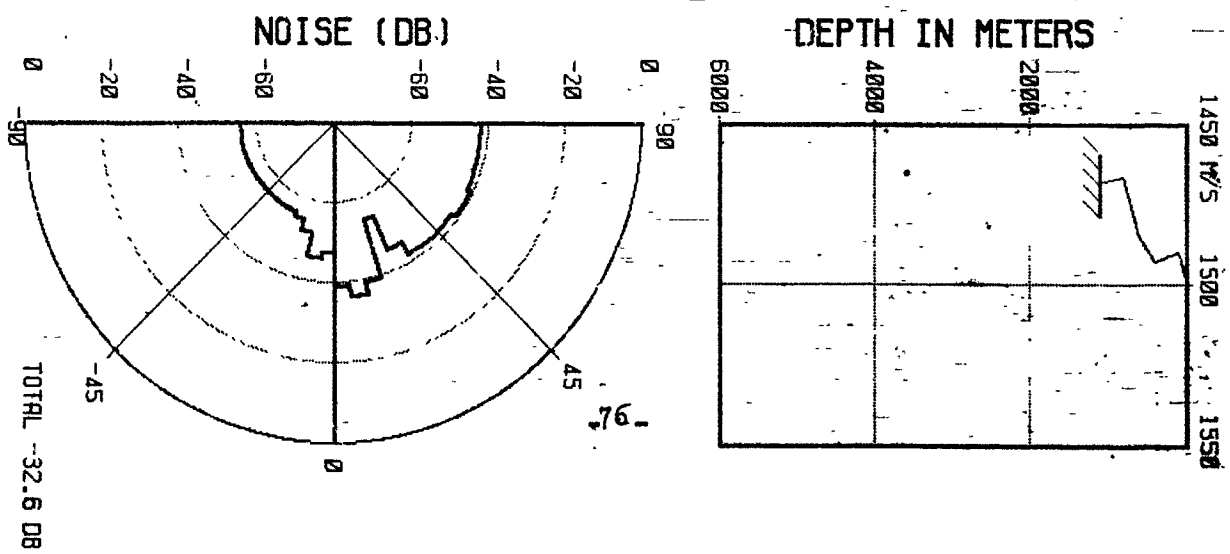
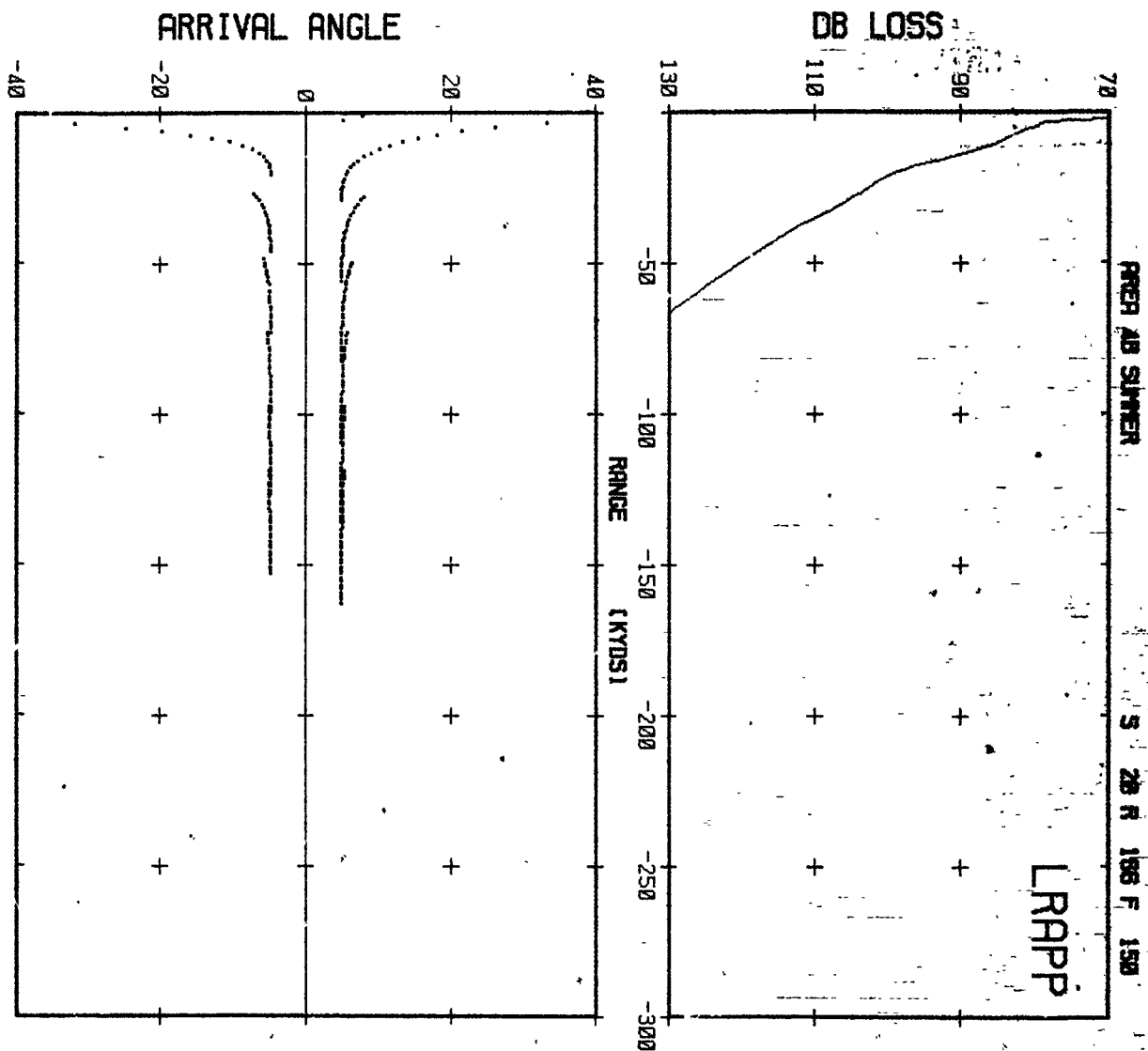
NOISE (DB)



TOTAL -30.2 DB





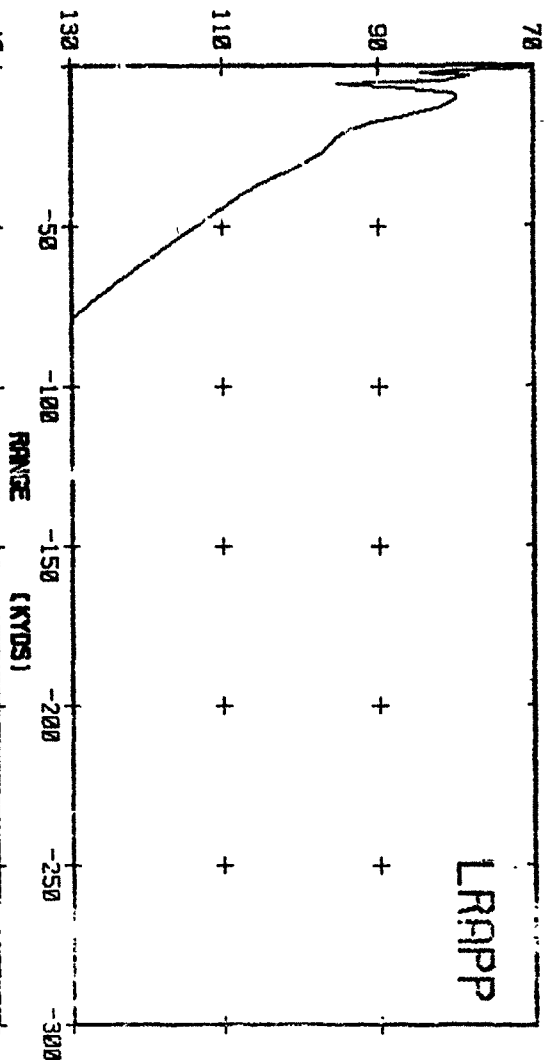


RIVER AB SUMMER

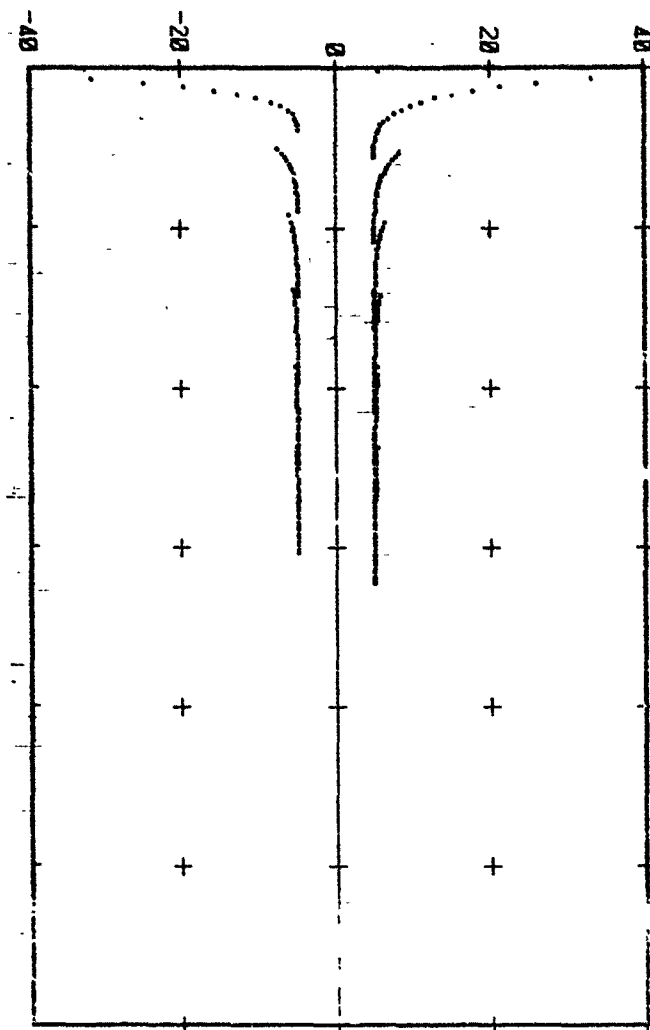
S 50 R 100 F 150

LRAPP

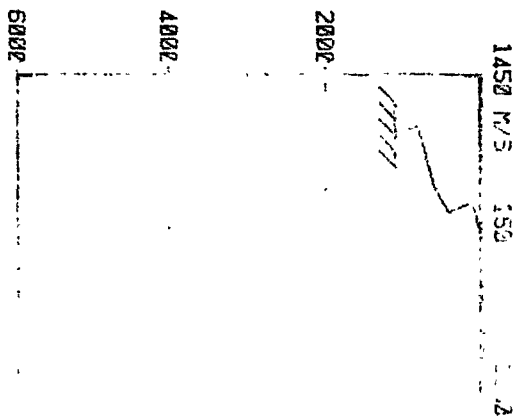
DB LOSS



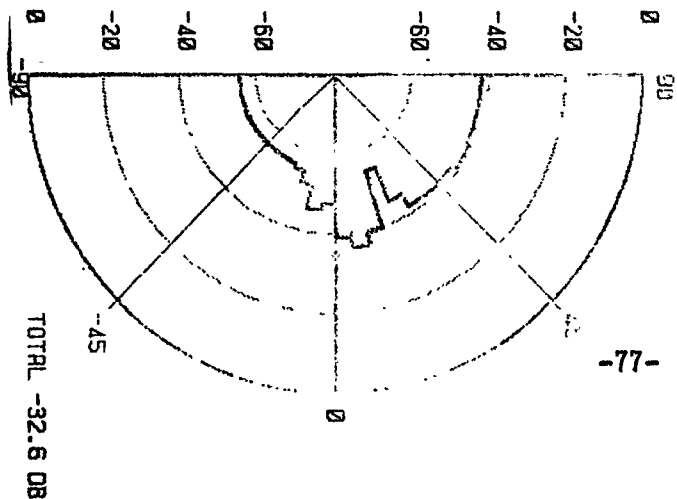
ARRIVAL ANGLE



DEPTH IN METERS

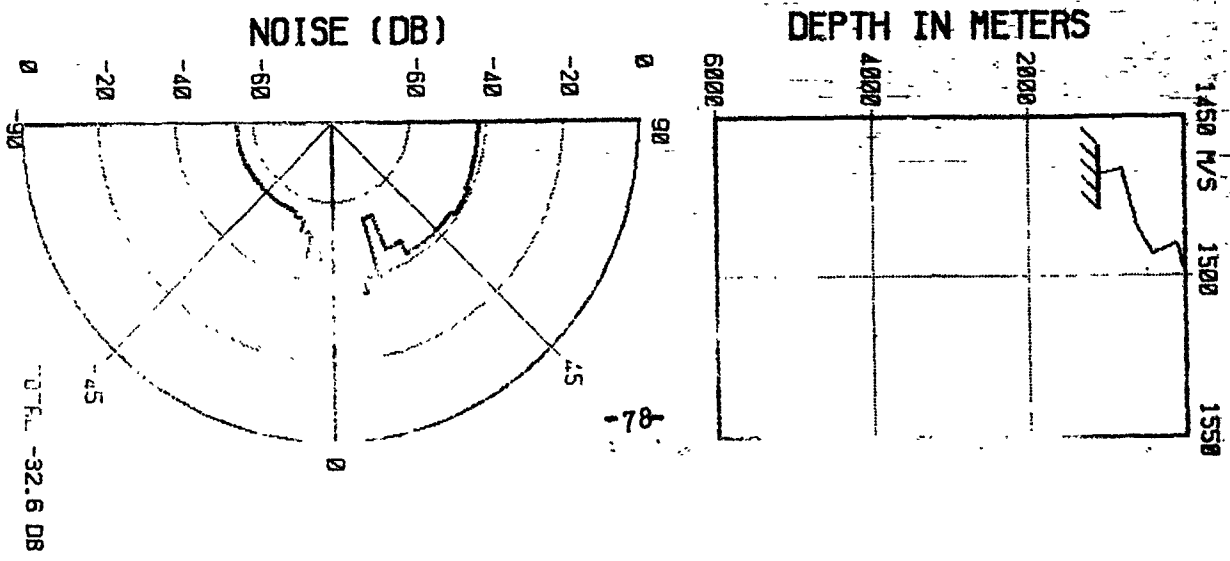
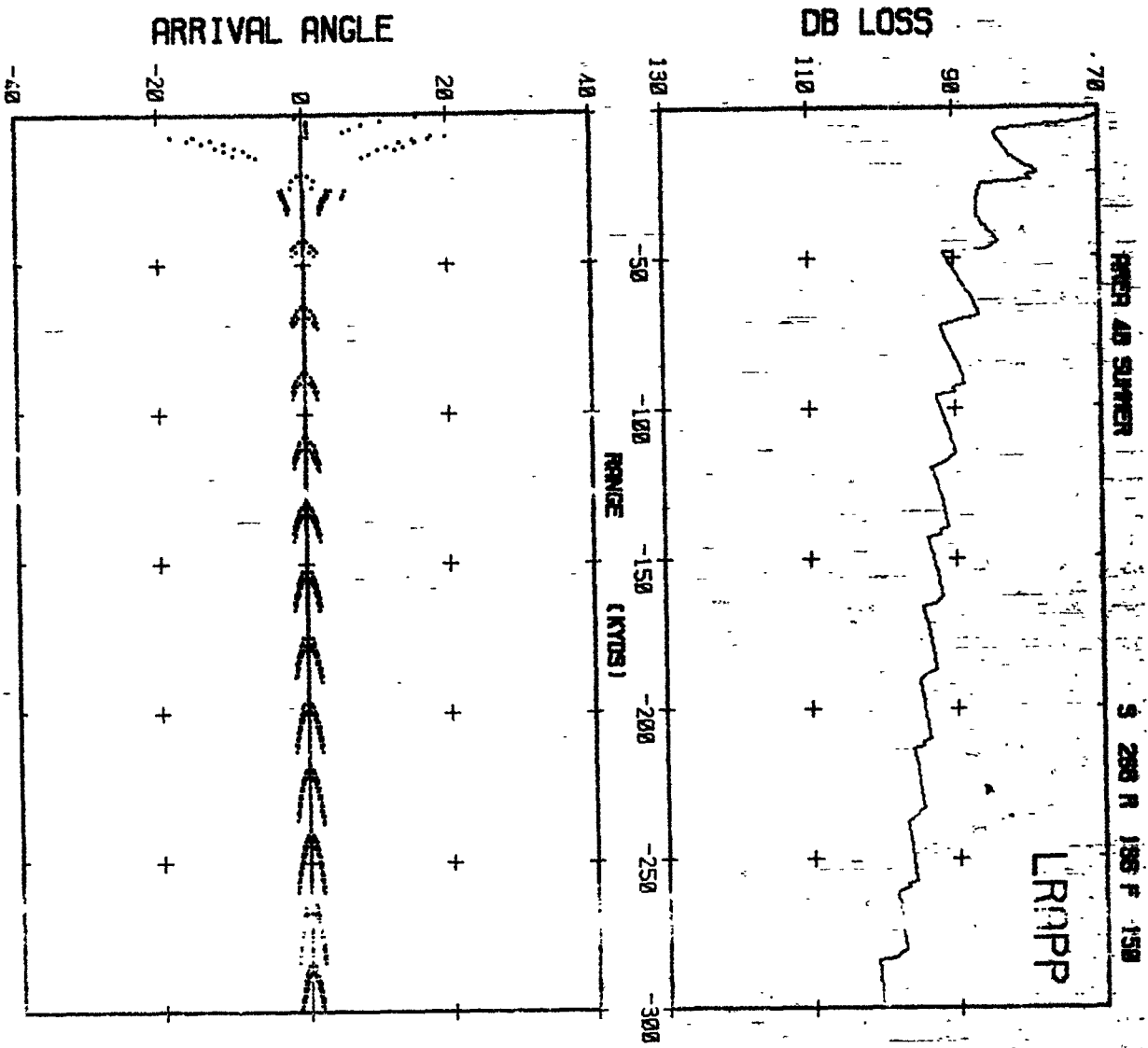


NOISE (DB)



TOTAL -32.6 DB

-77-



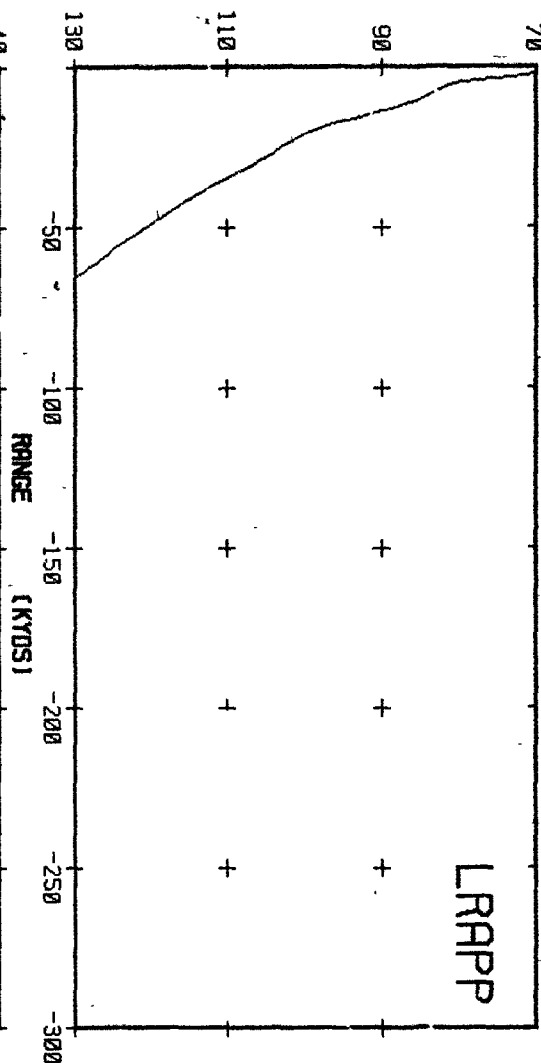
AREA 4B SUMMER

S 20 R 300 F 150

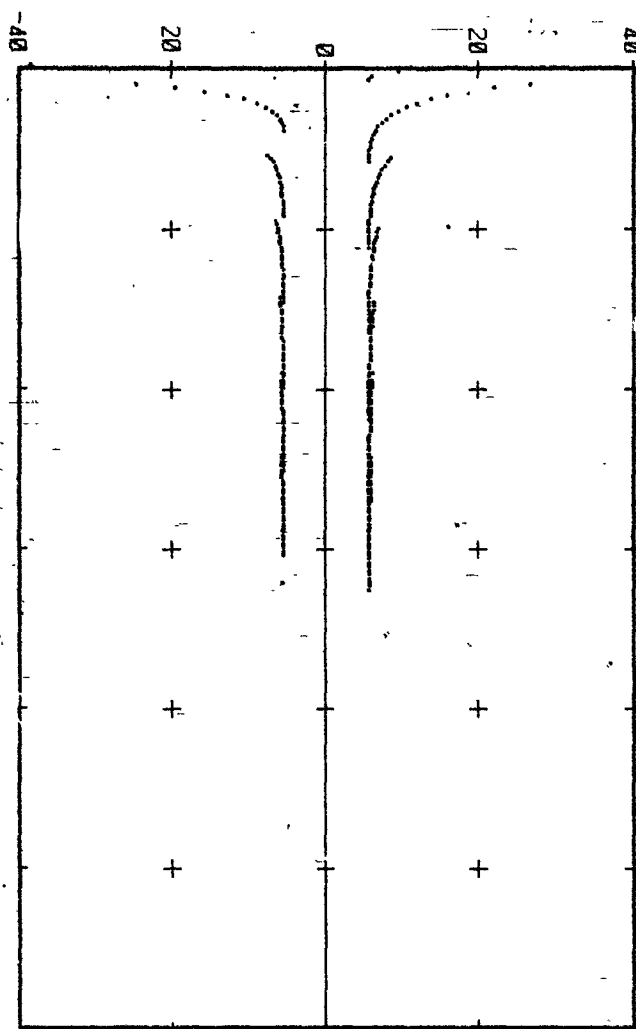
1450 M/S 1500

1550

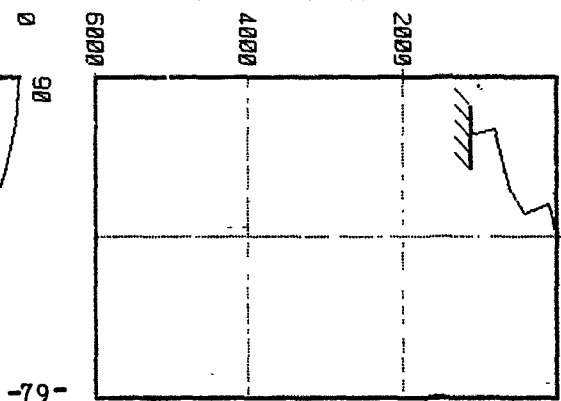
DB LOSS



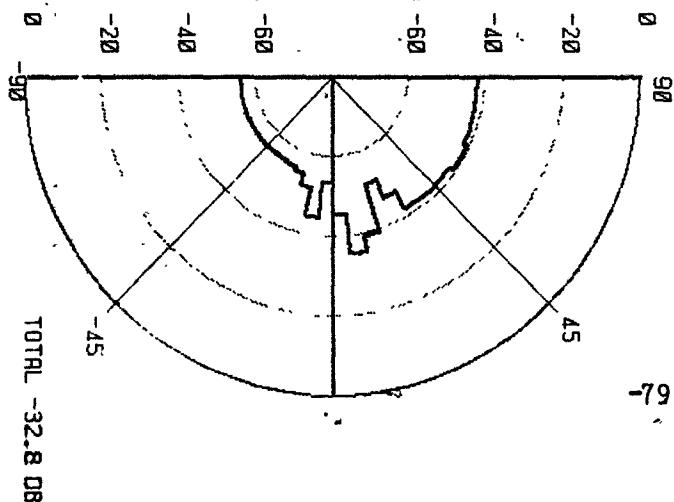
ARRIVAL ANGLE

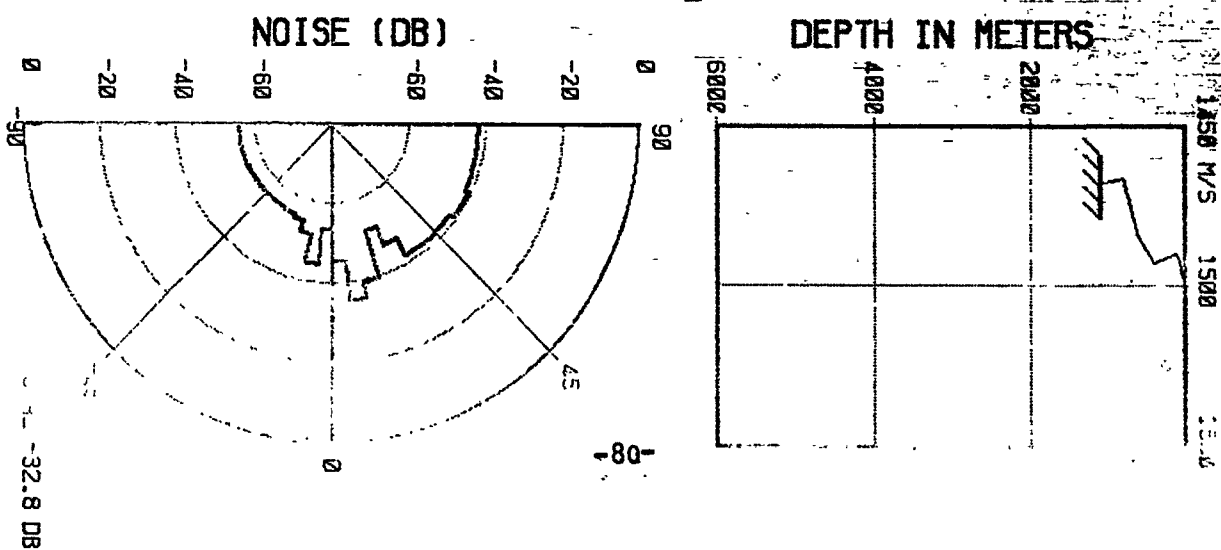
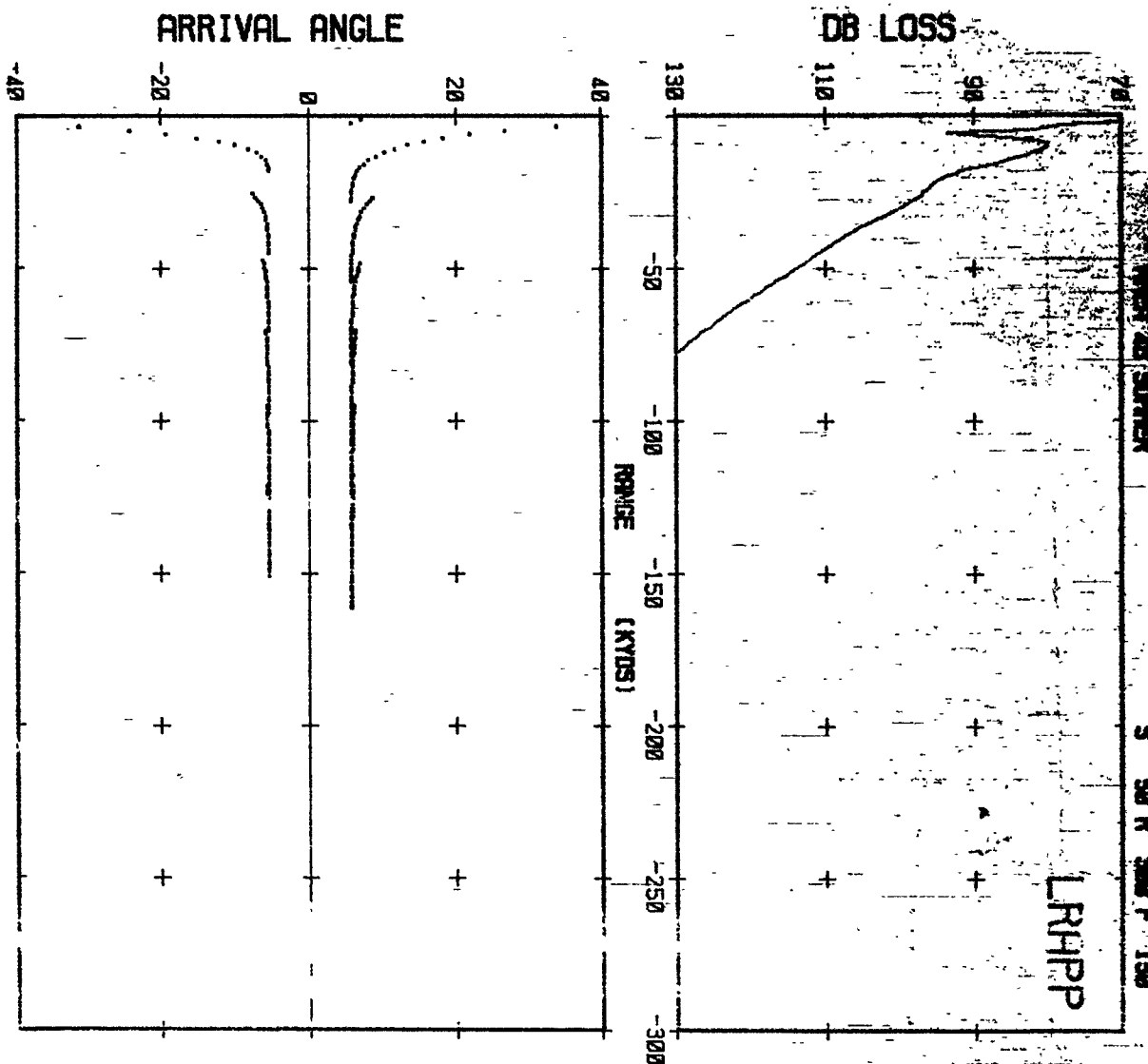


DEPTH IN METERS



NOISE (DB)





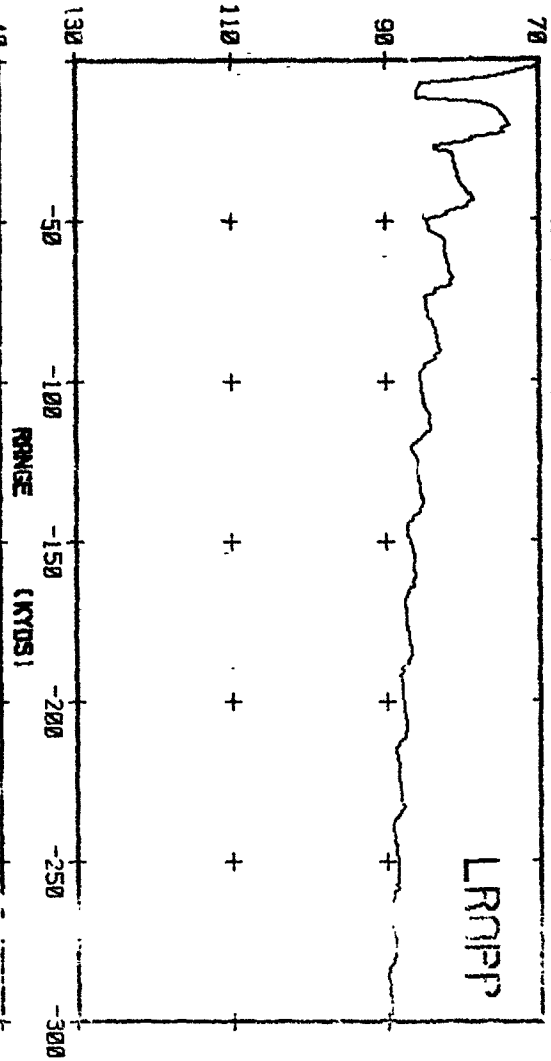
RECH AB SUMMER

S 200 R 300 F 150

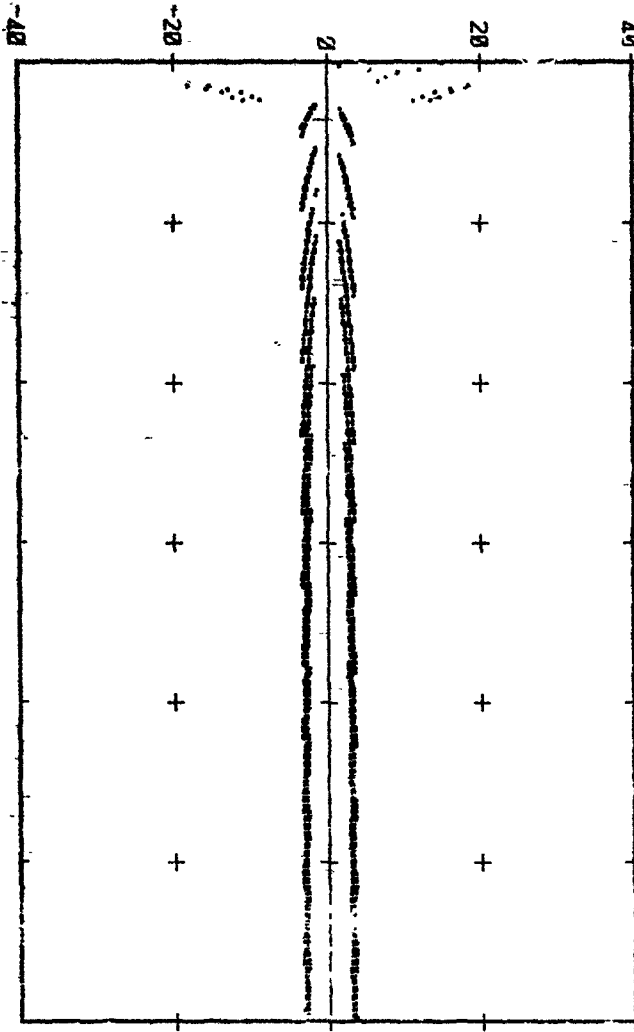
1450 M/S 1520

1510

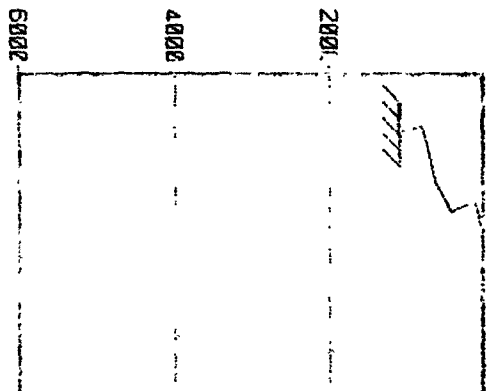
DB LOSS



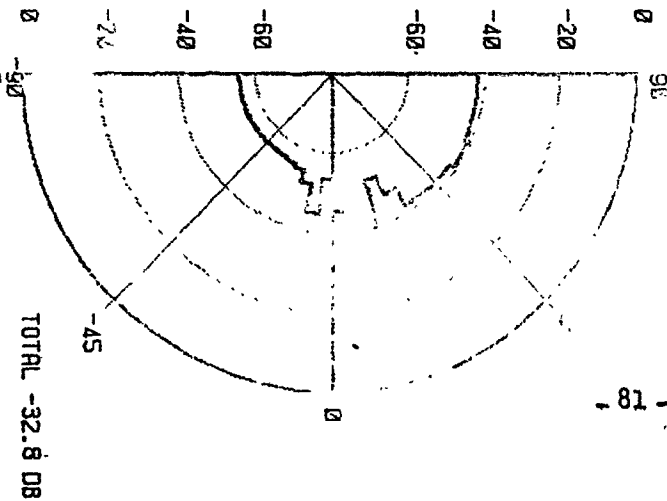
ARRIVAL ANGLE

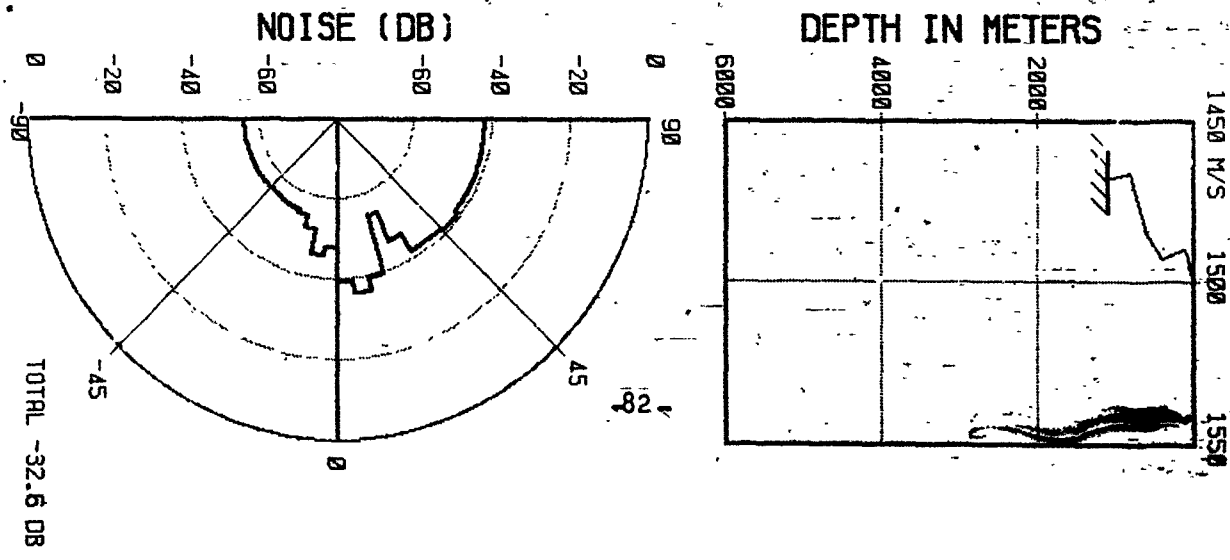
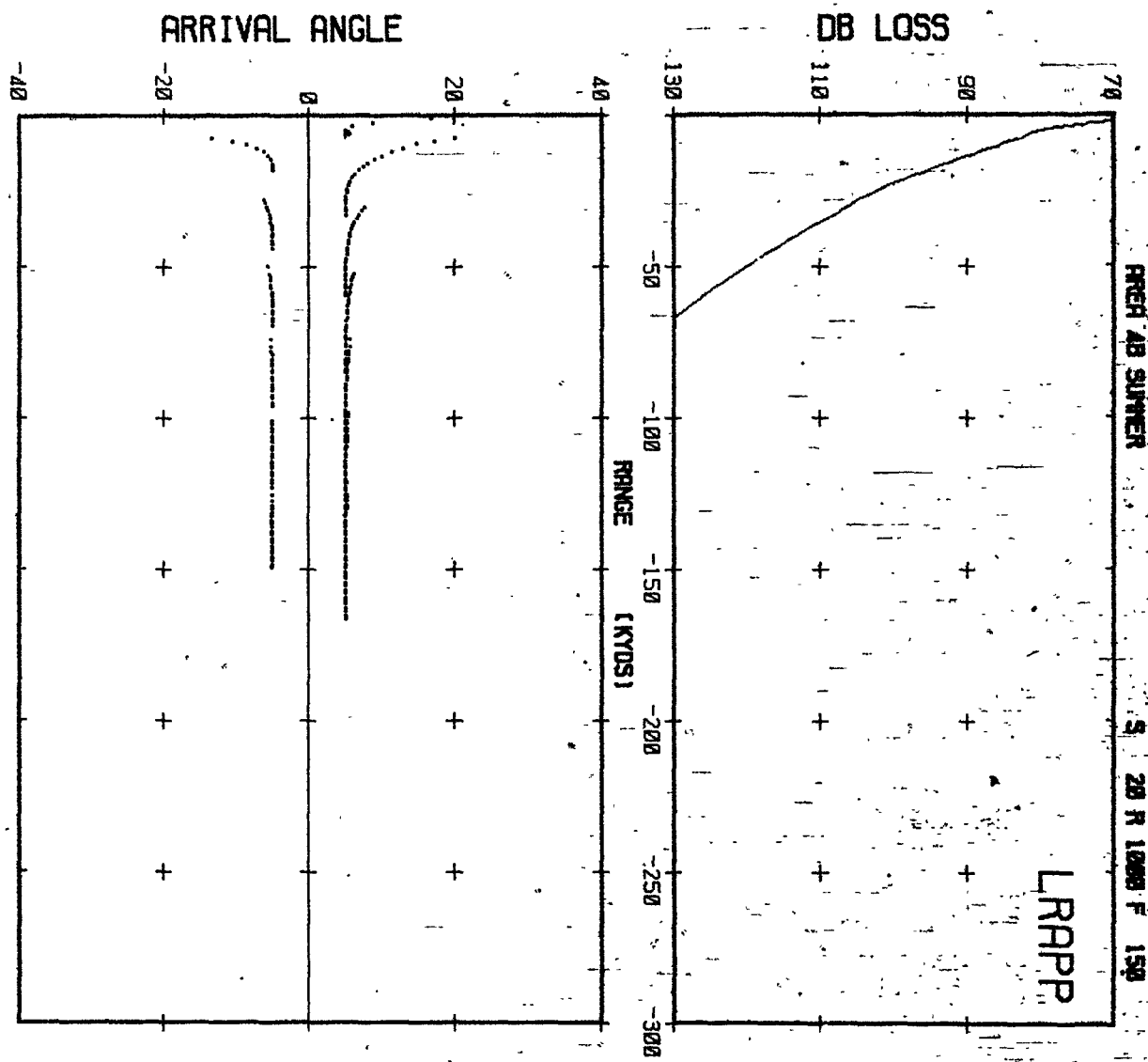


DEPTH IN METERS



NOISE (DB)



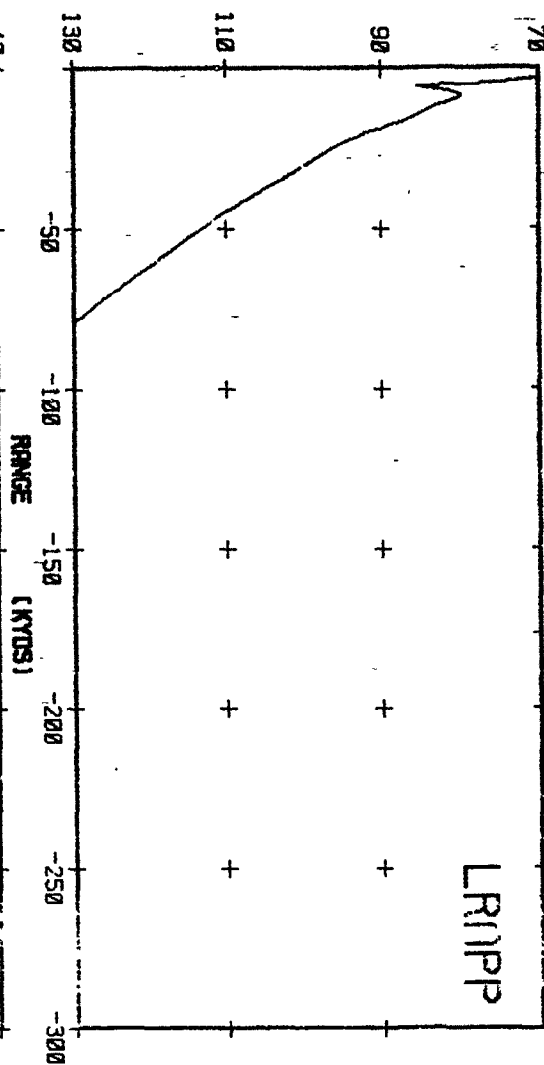


AREA AB SUMMER

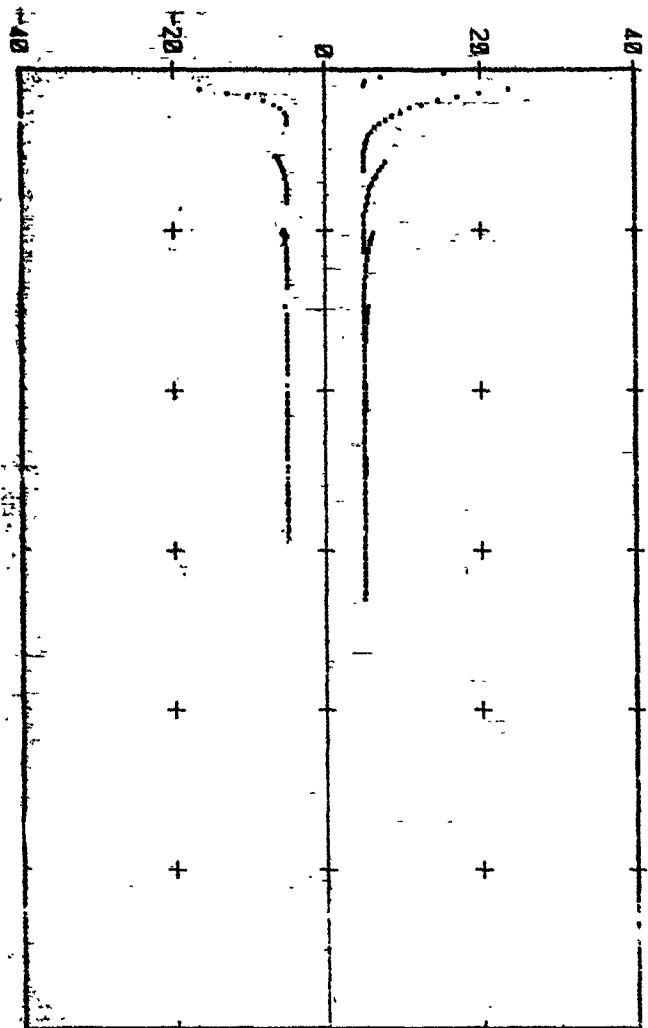
S 50 R 1000 F 150

LR11PP

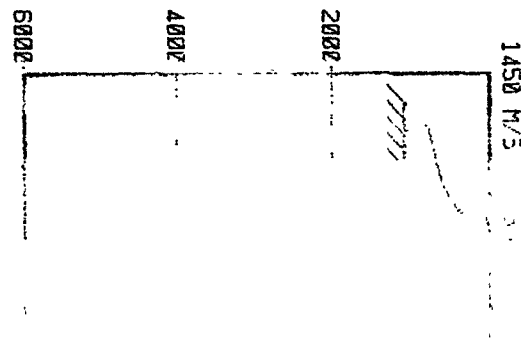
DB LOSS



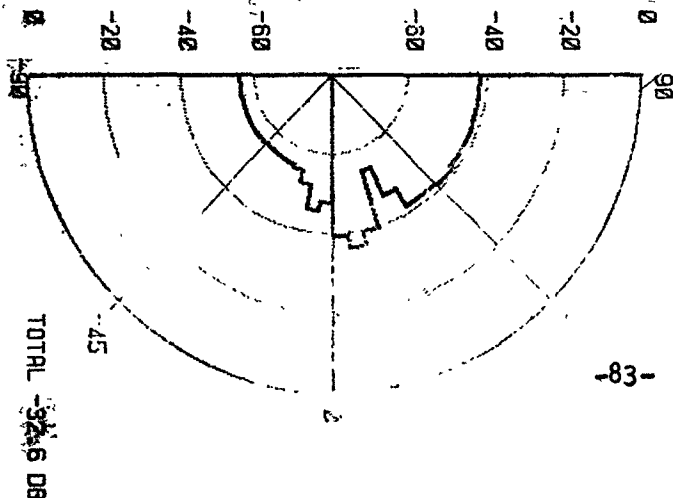
ARRIVAL ANGLE



DEPTH IN METERS

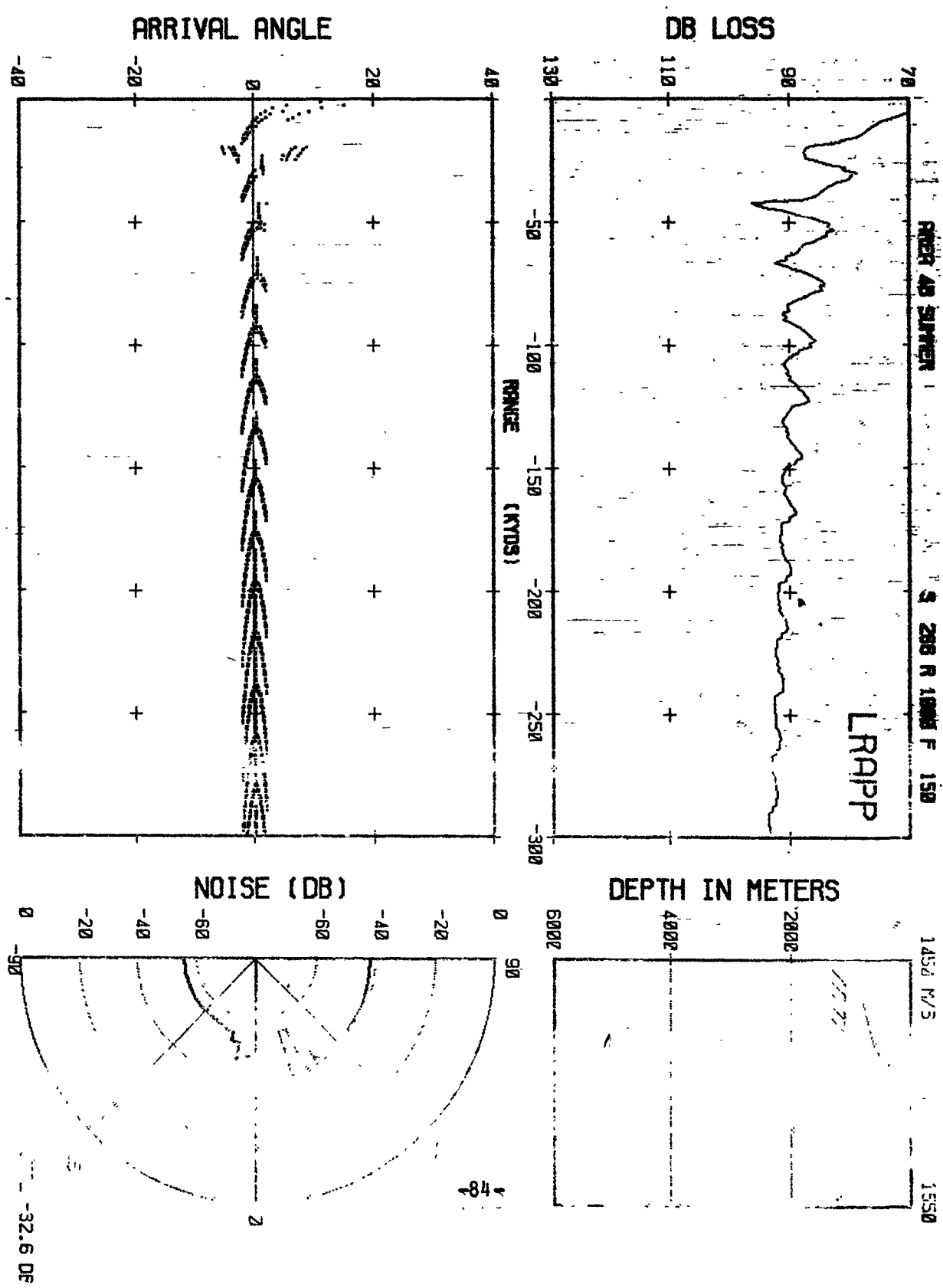


NOISE (DB)

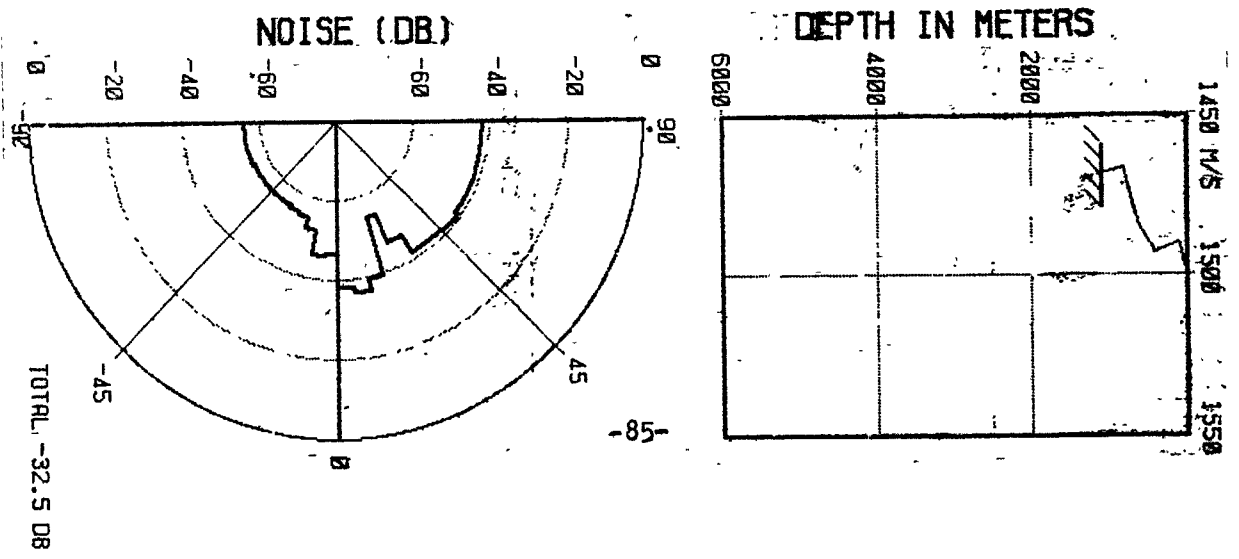
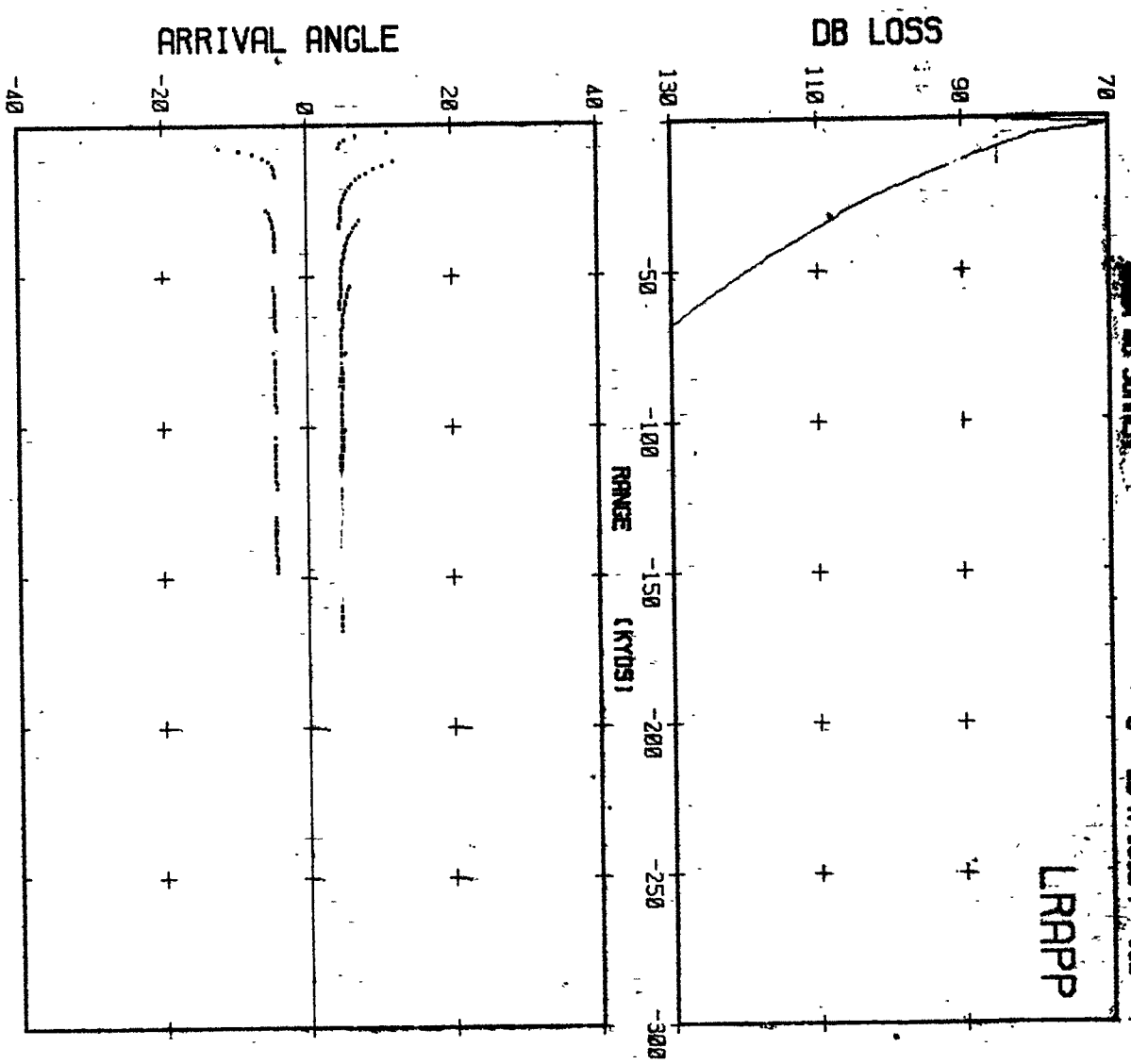


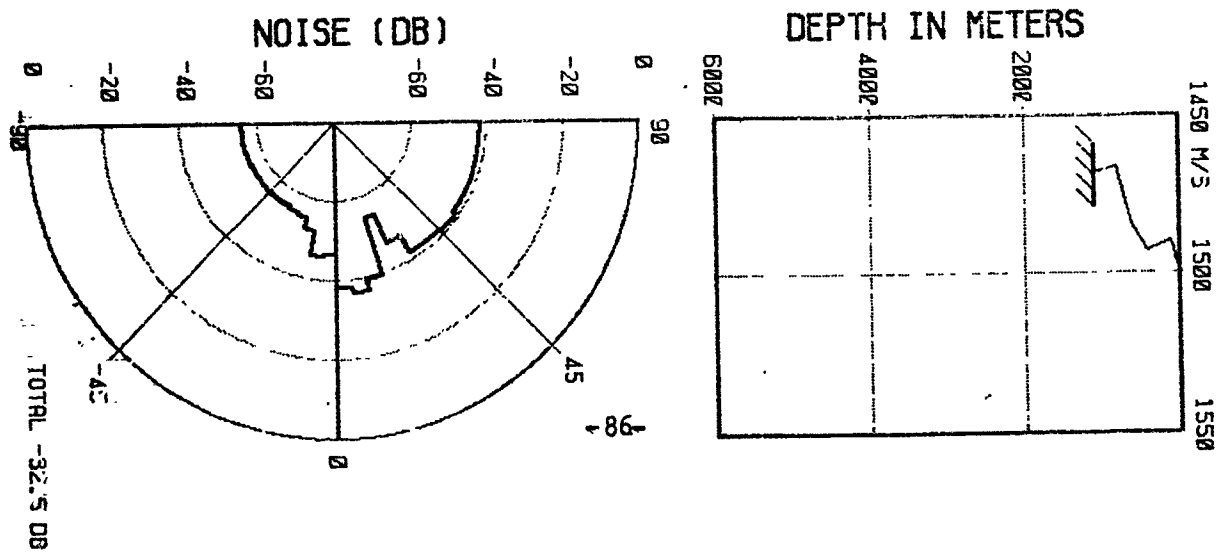
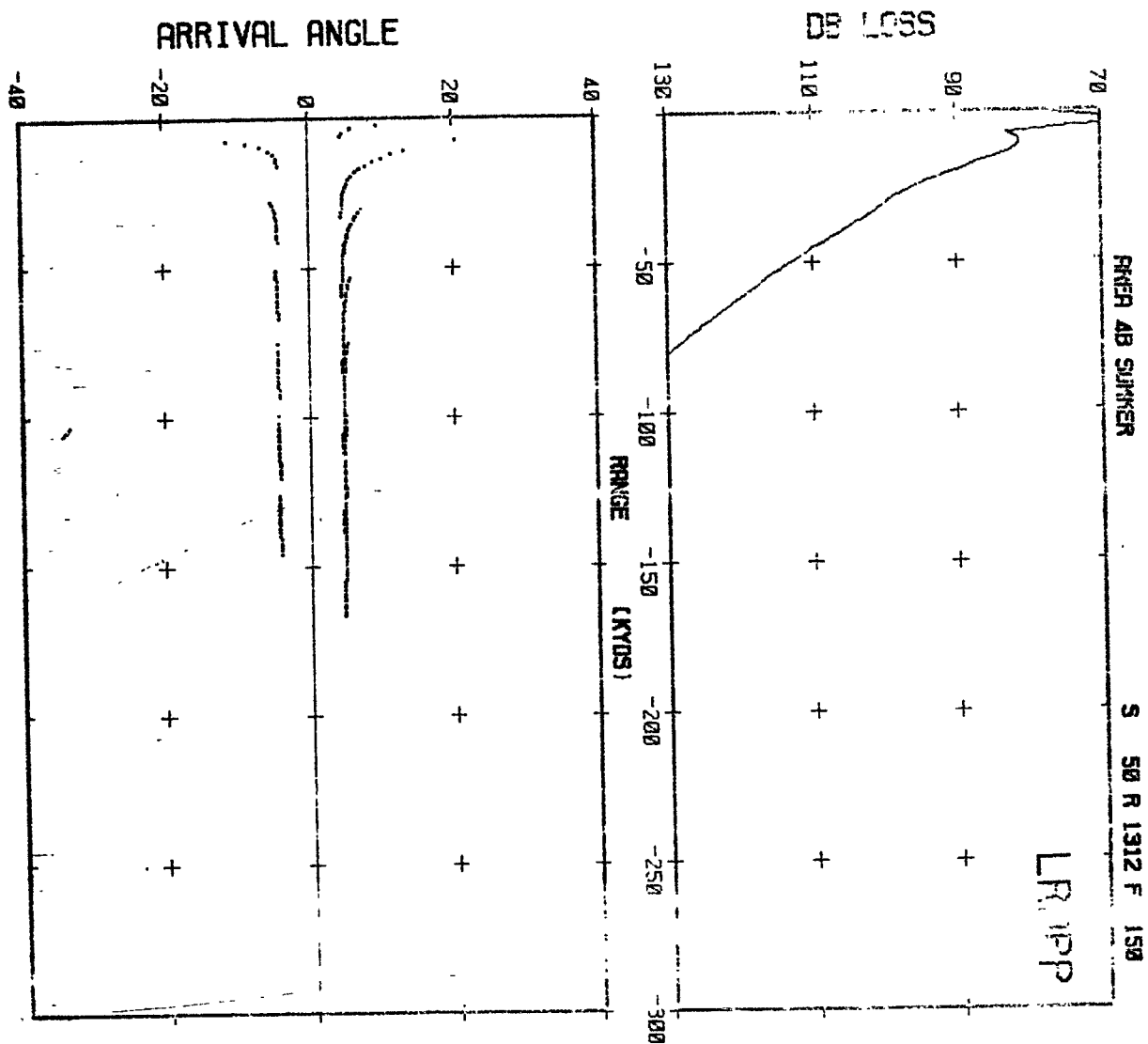
TOTAL -32.6 DB

1. Name of the vessel
 2. Date of the survey
 3. Name of the commanding officer
 4. Name of the observer
 5. Name of the recorder
 6. Name of the navigator
 7. Name of the engineer
 8. Name of the deck officer
 9. Name of the gunner
 10. Name of the quartermaster
 11. Name of the steward
 12. Name of the cook
 13. Name of the carpenter
 14. Name of the blacksmith
 15. Name of the cooper
 16. Name of the sailmaker
 17. Name of the cooper
 18. Name of the cooper
 19. Name of the cooper
 20. Name of the cooper



0800 AB SURFET S 20 N 1512 F 150

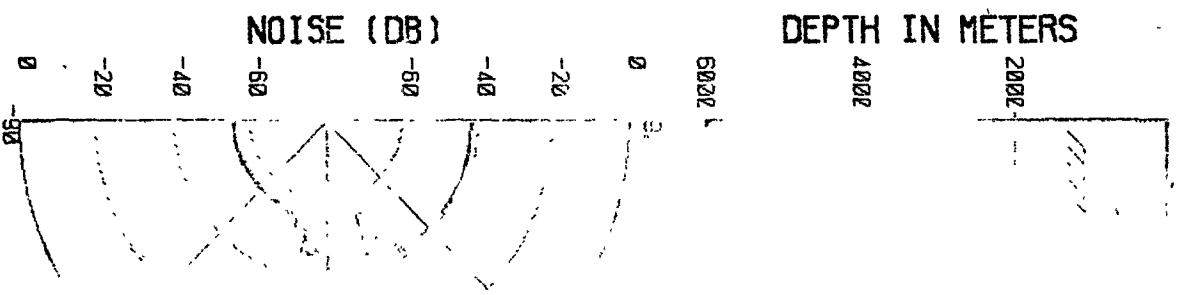
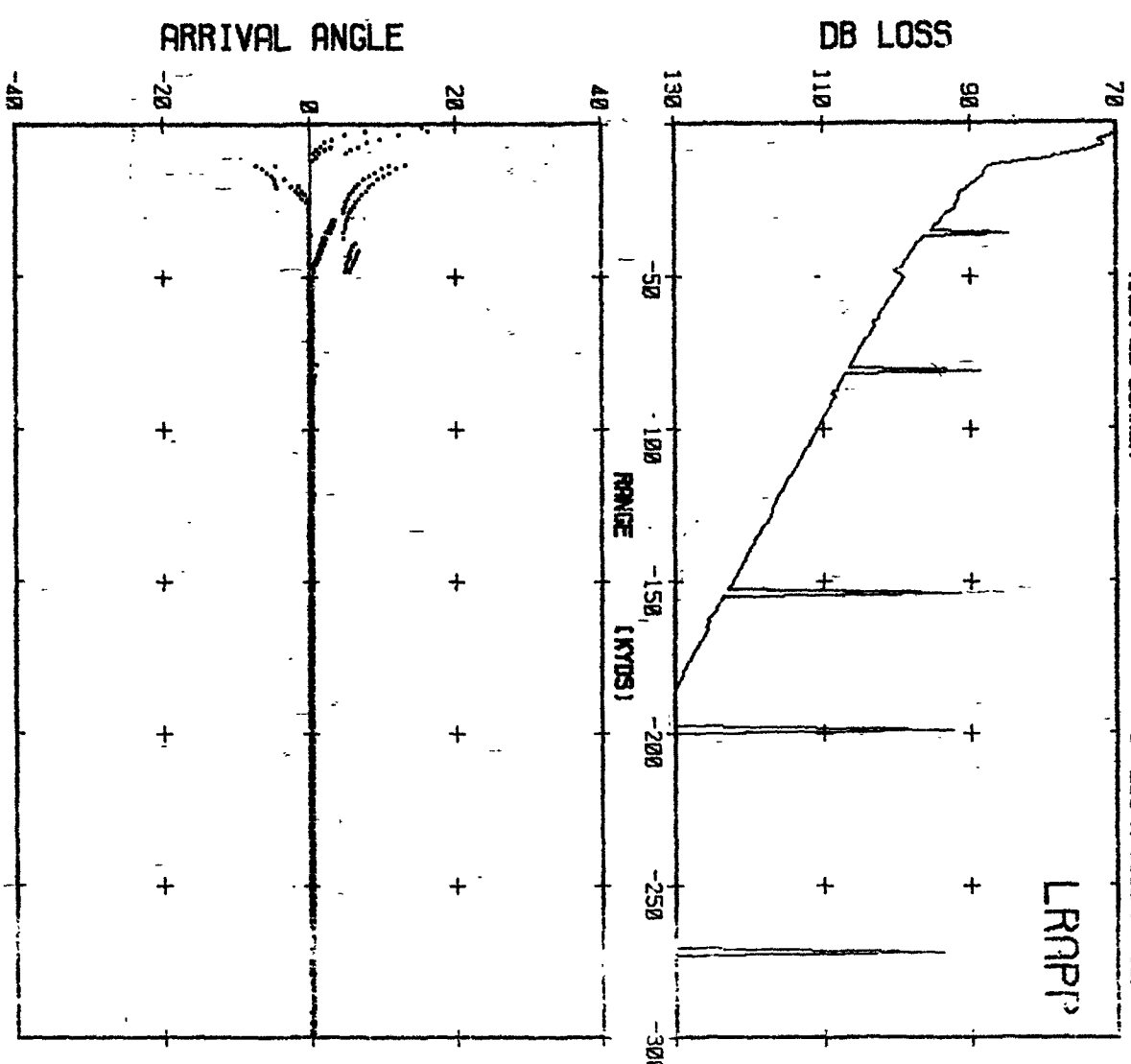




AREA 48 SUMMER

S 286 R 1312 F 150

LRNPP

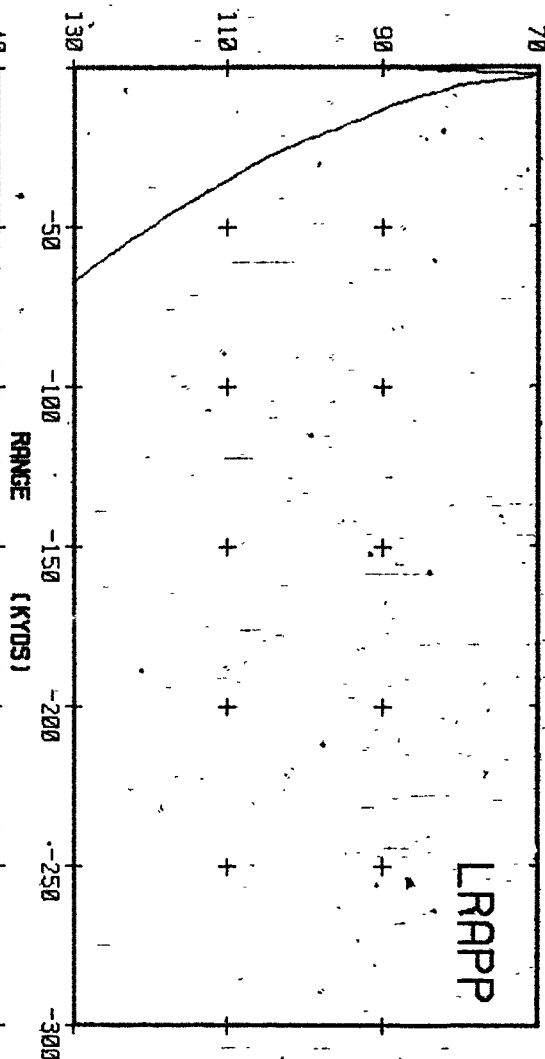


PRER AB SUMMER

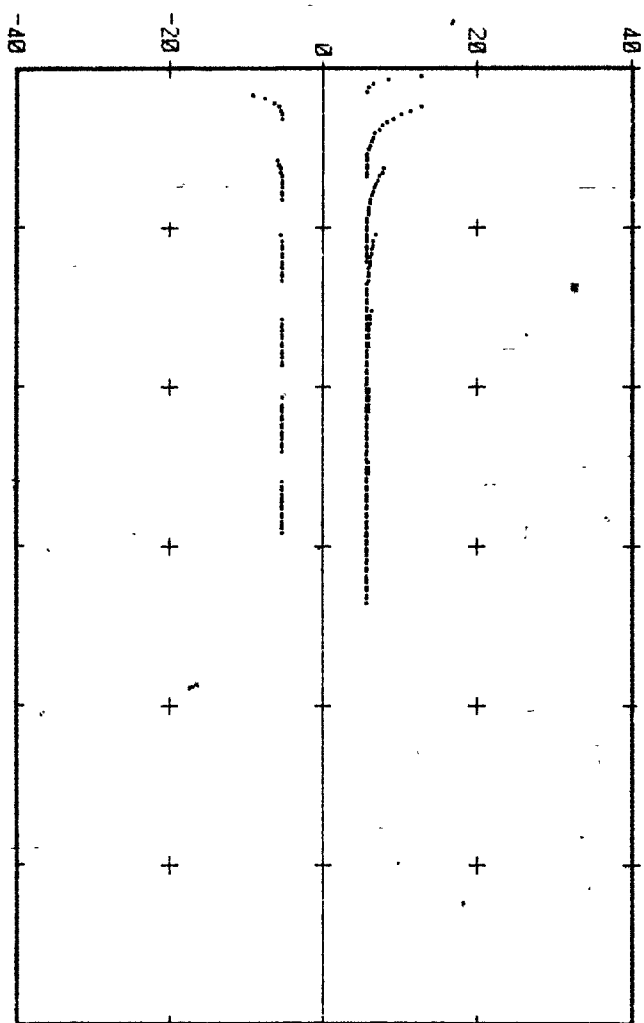
5 20 R 1500 F 150

1450 M/S 1500 1550

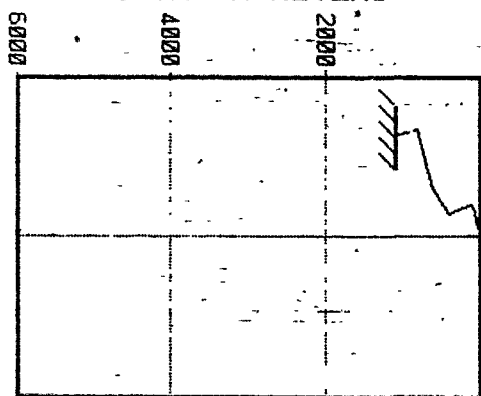
DB LOSS



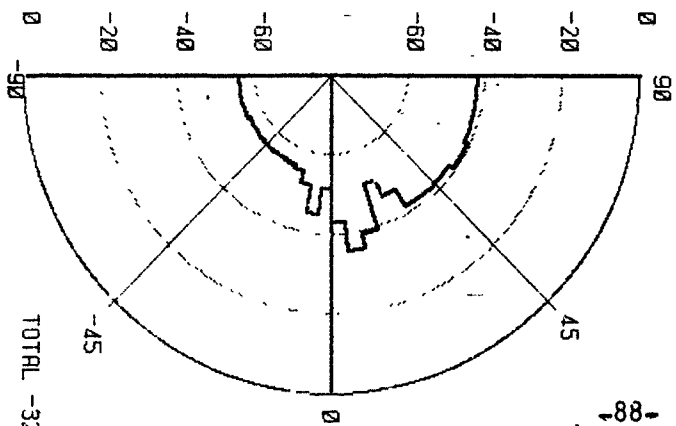
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -32.8 DB

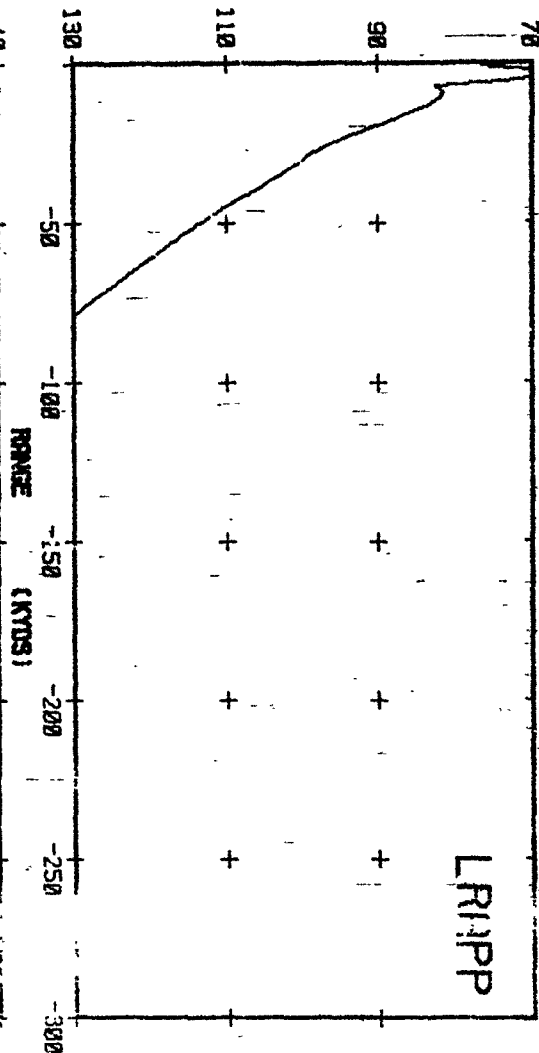
FROM AB SUMMER

S 50 R 1500 F 150

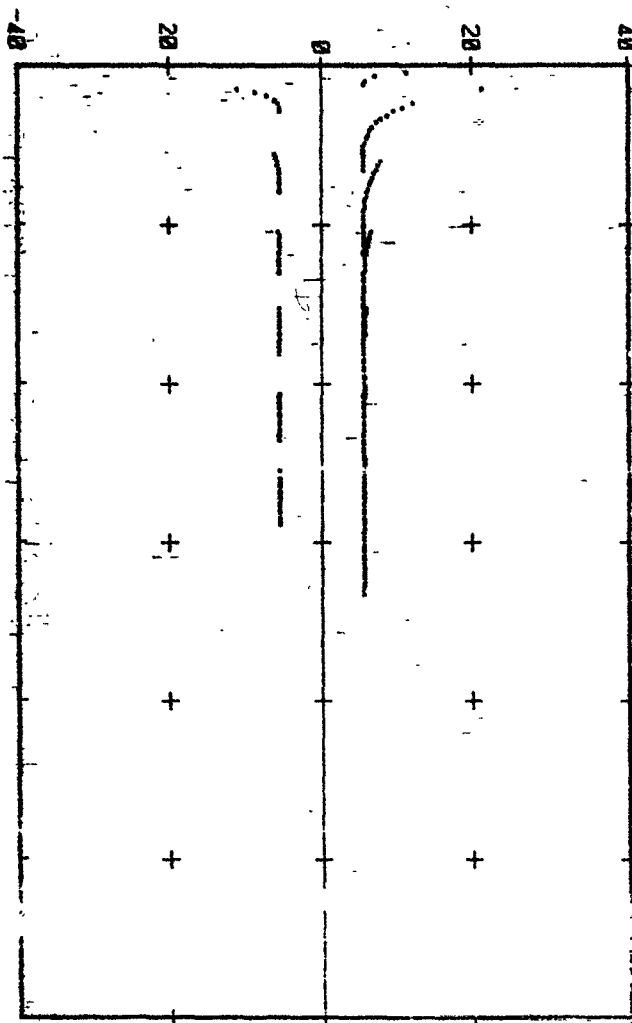
1450 M/3 1500

1550

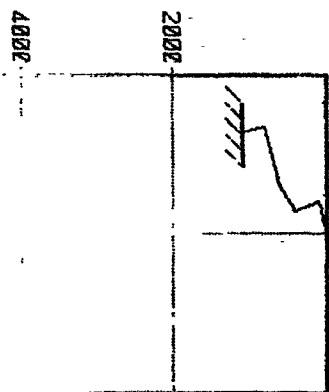
DB LOSS



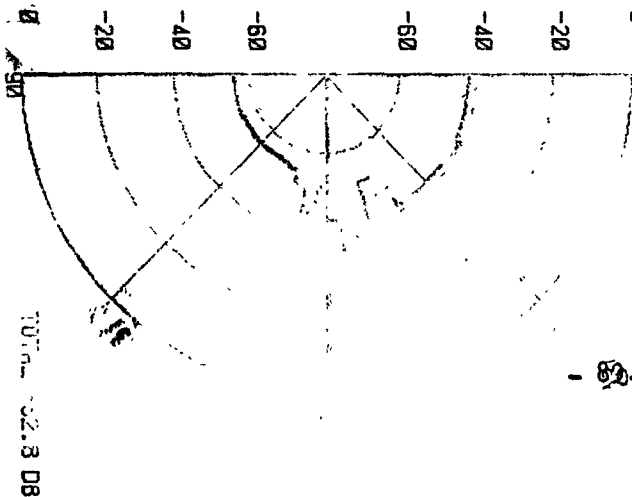
ARRIVAL ANGLE

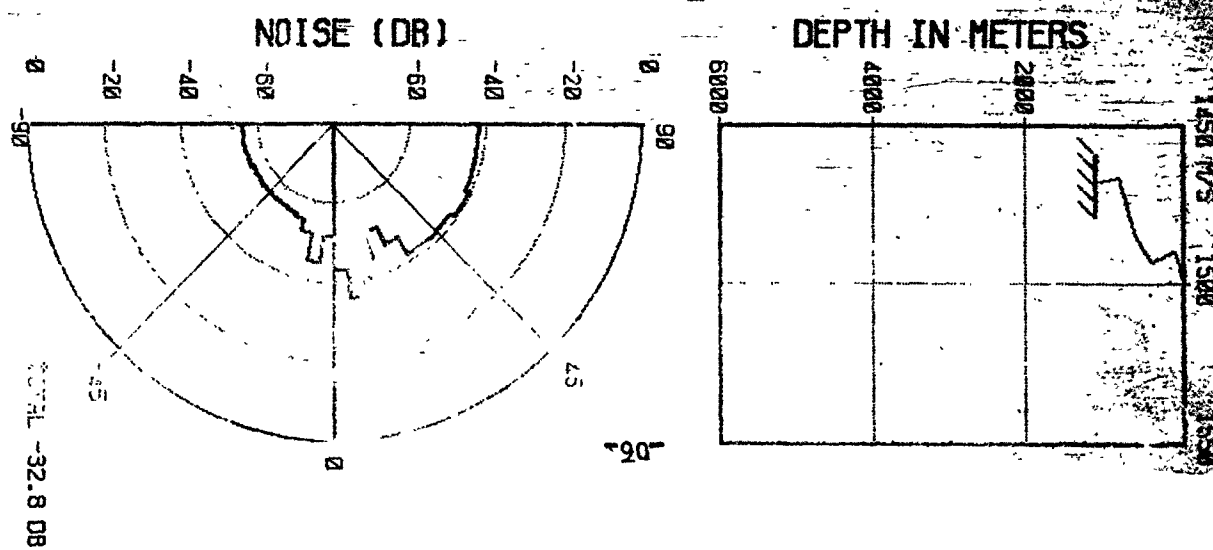
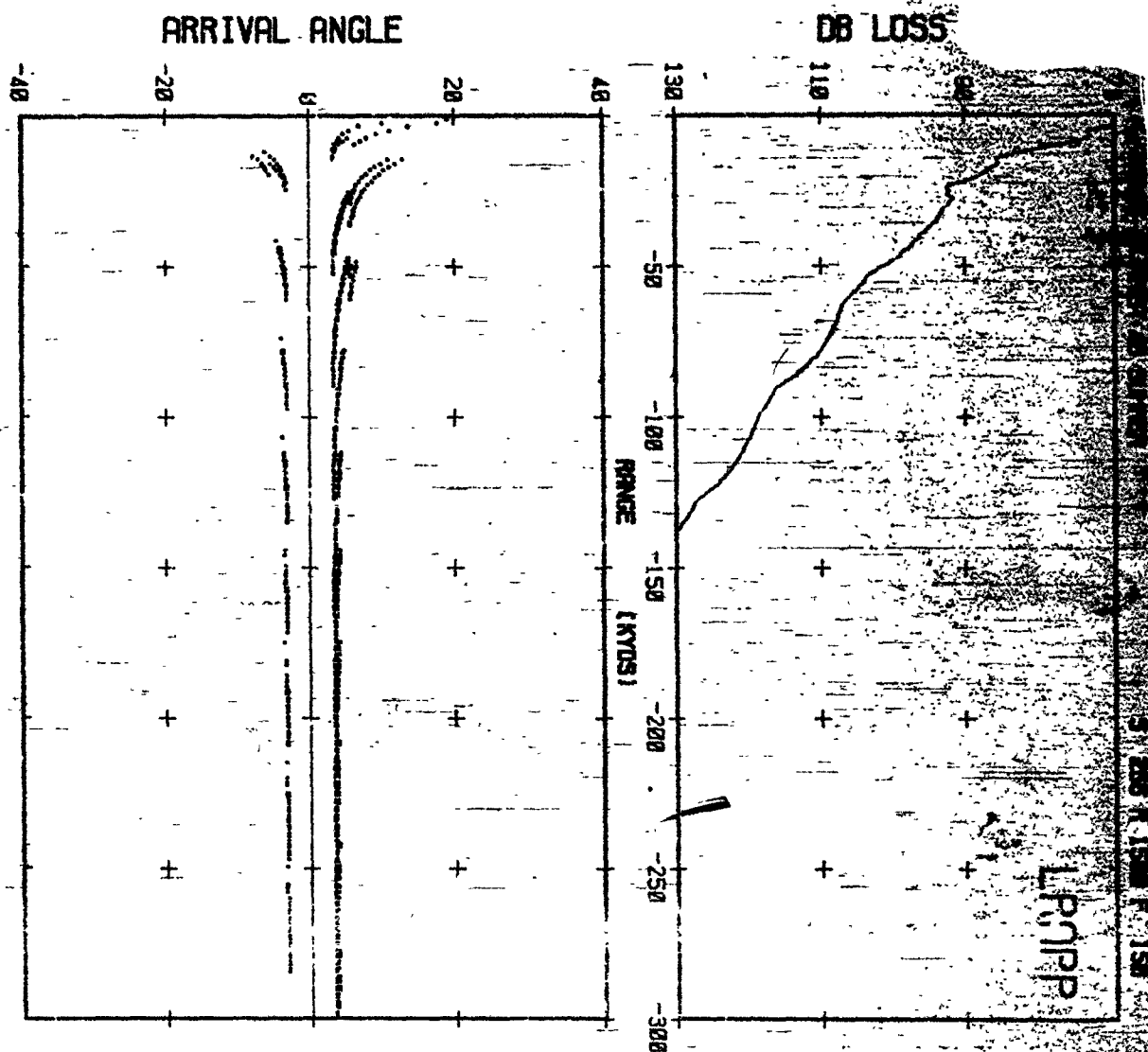


DEPTH IN METERS



NOISE (DB)





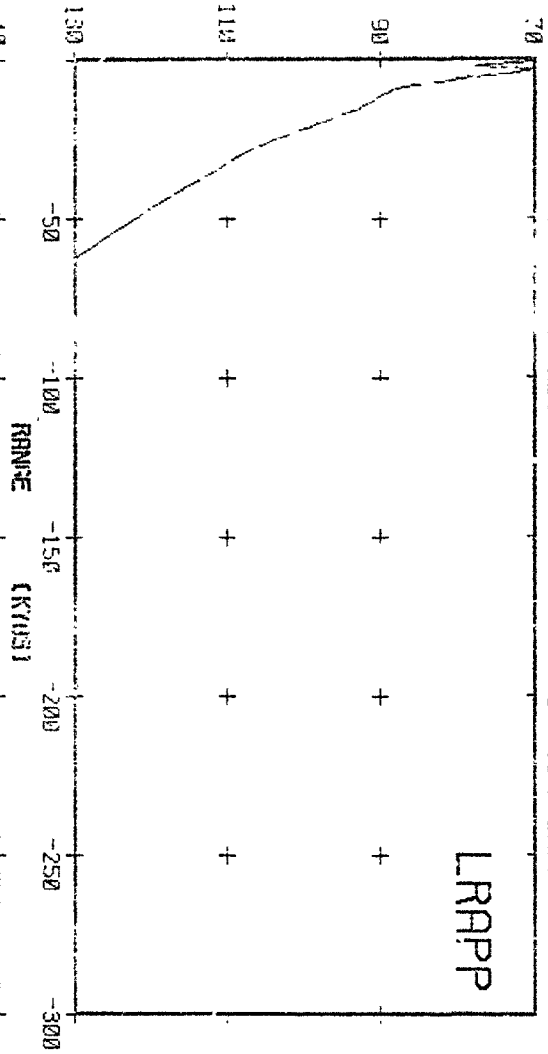
PRIN AB SUMMER

S 20 R 2625 F 150

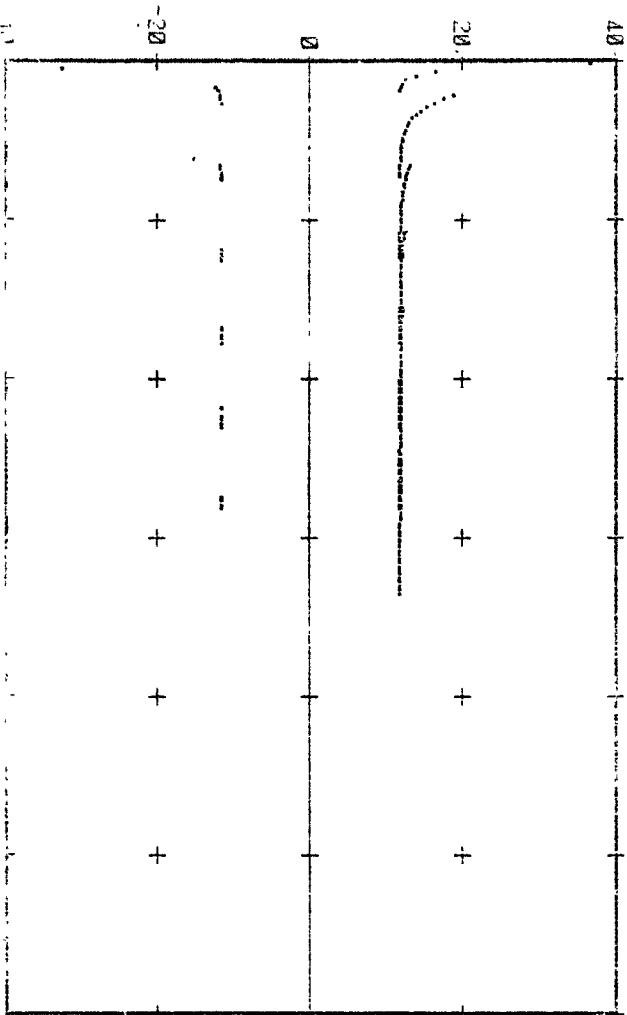
1450 M/S 1500

1550

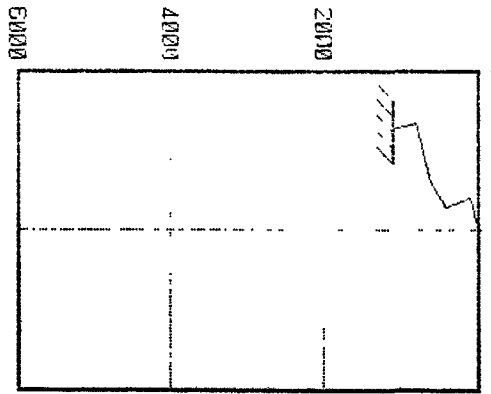
DB LOSS



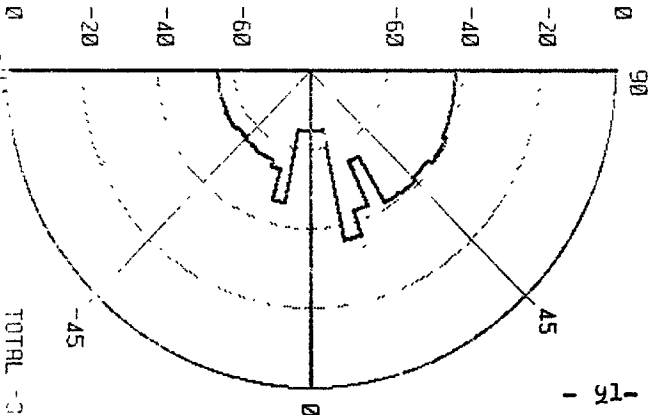
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



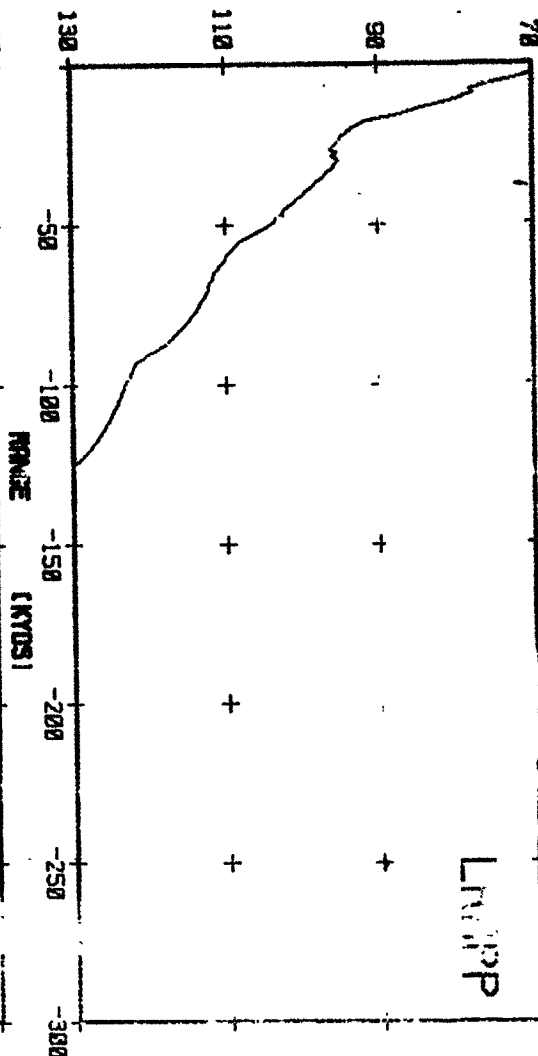
TOTAL -07.8 012

AREA 48 SUMMER

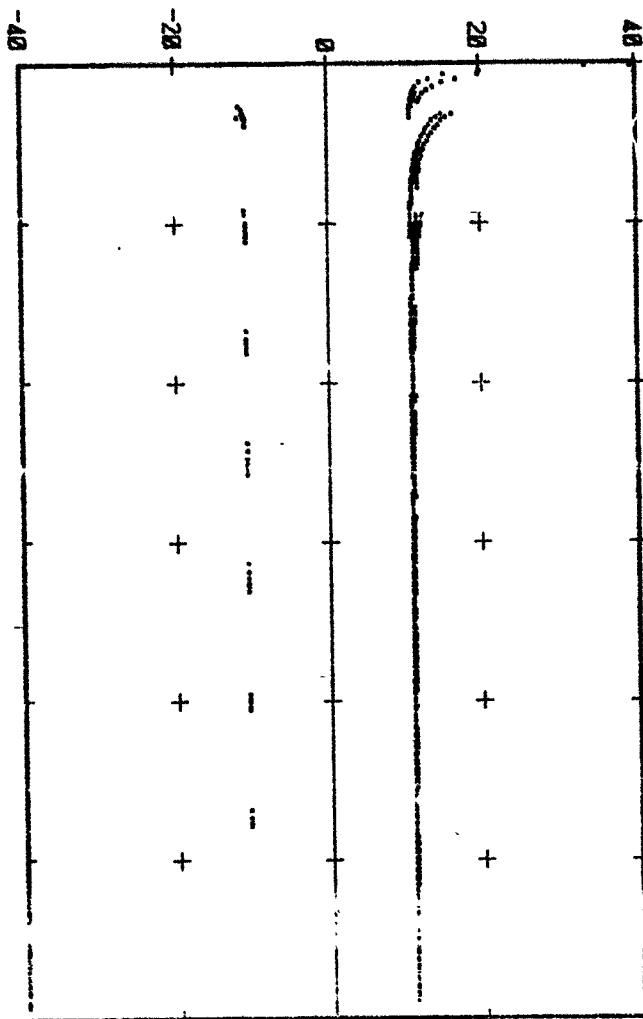
S 268 N 3525 F 150

1452

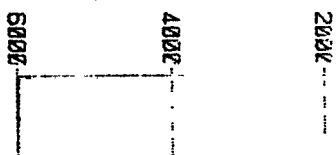
DB LOSS



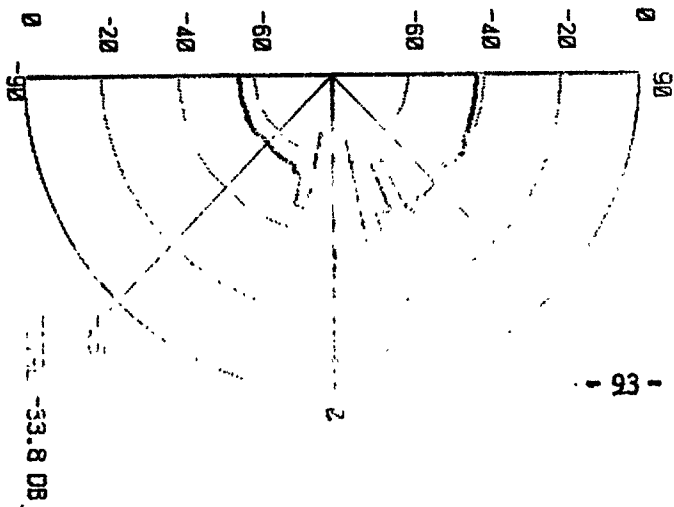
ARRIVAL ANGLE



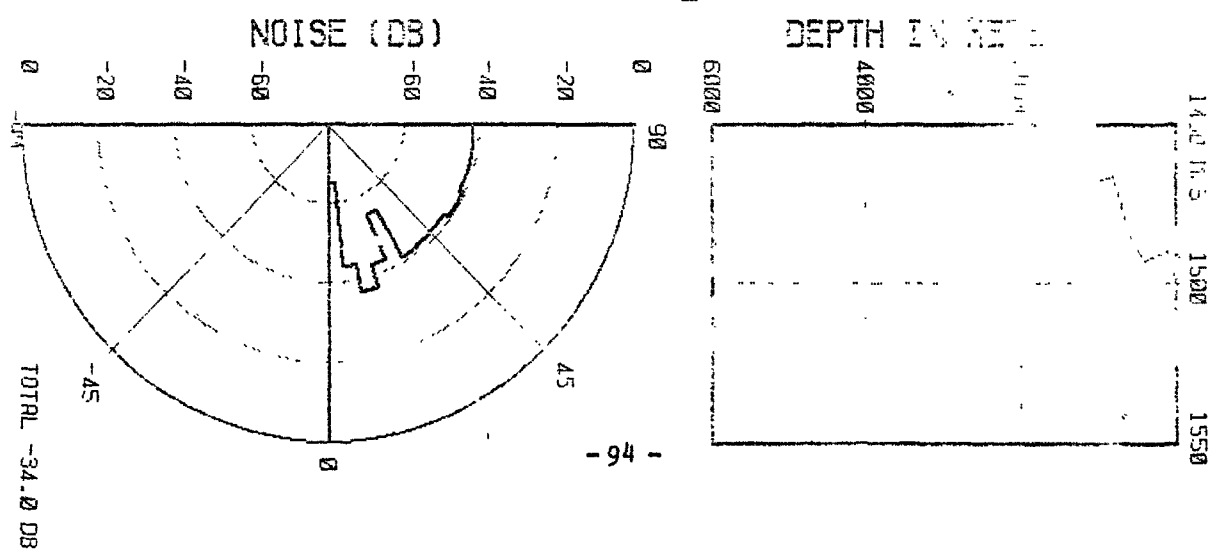
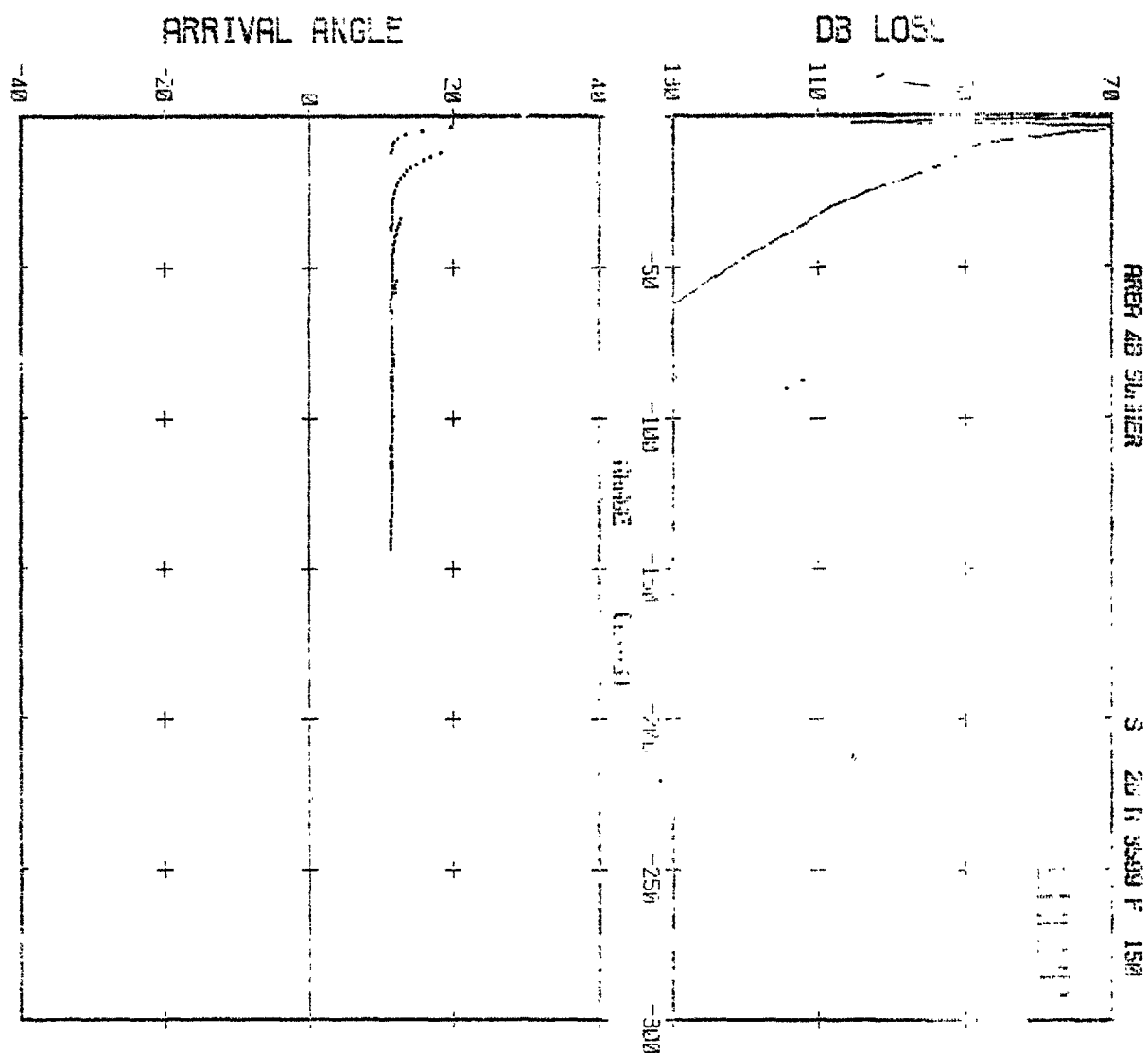
DEPTH IN METERS



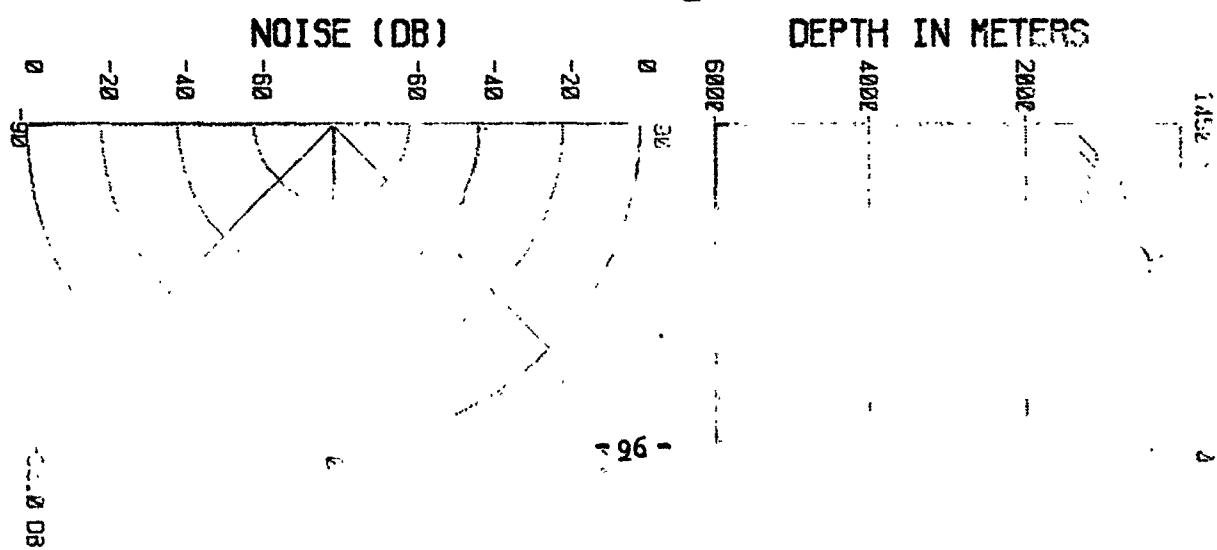
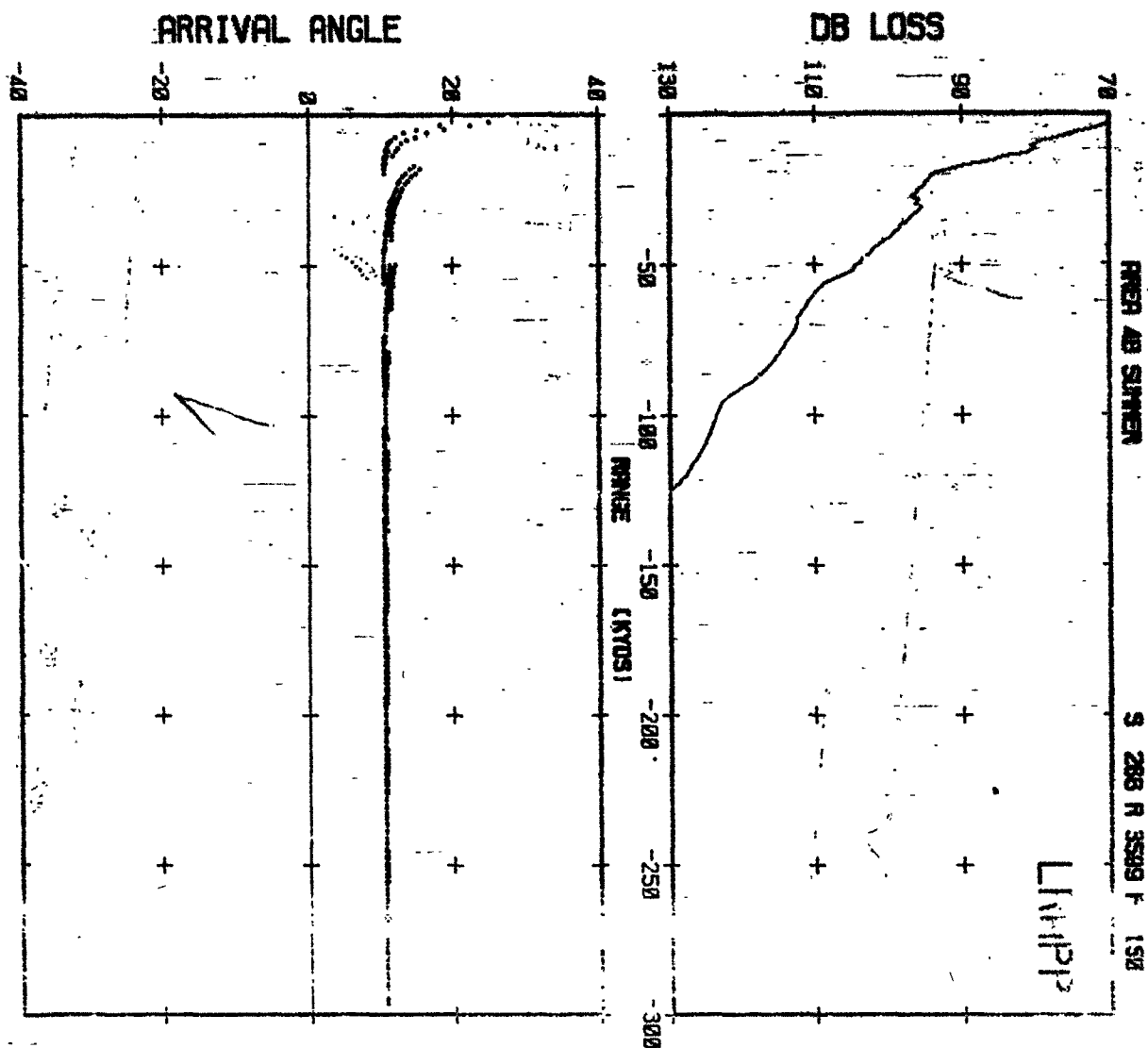
NOISE (DB)



- 93 -

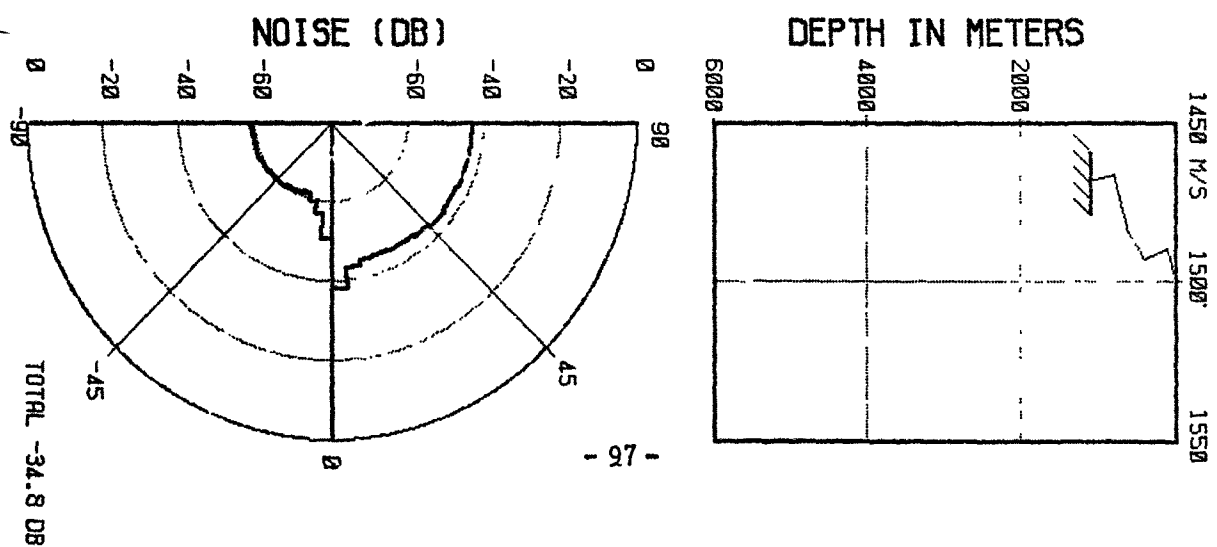
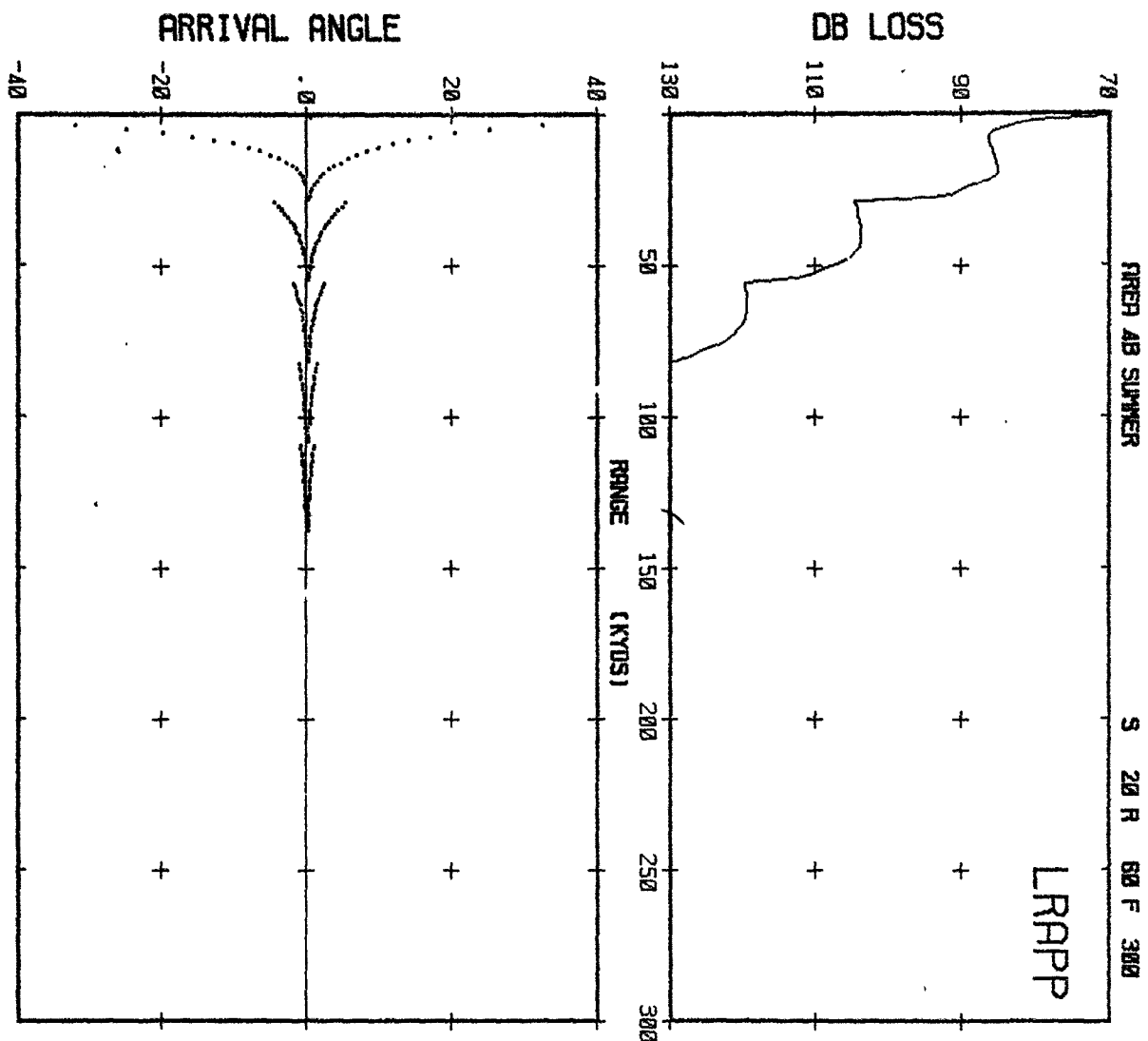


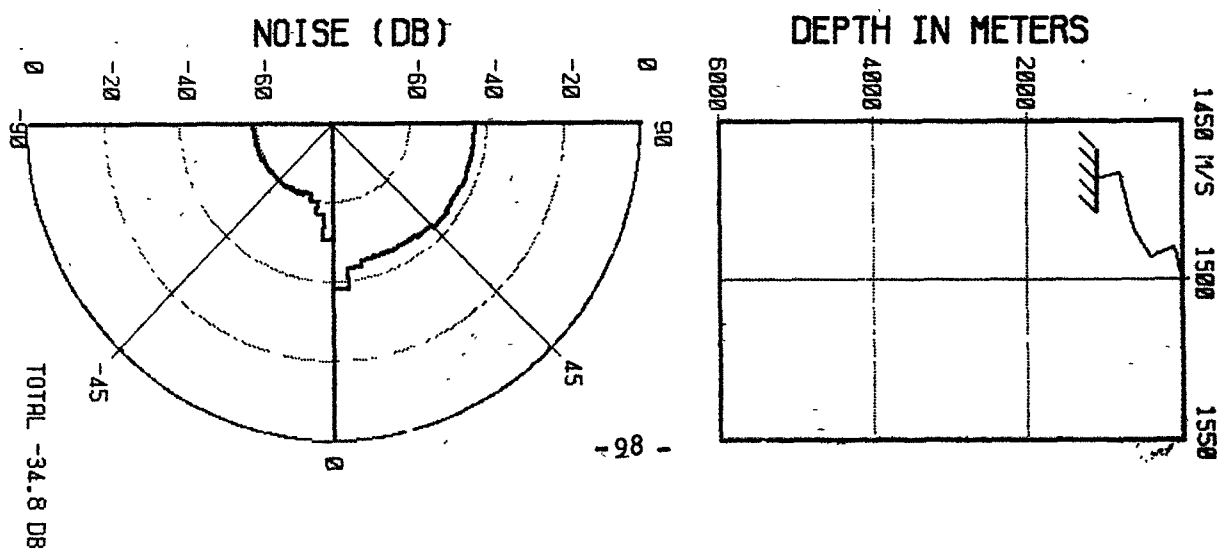
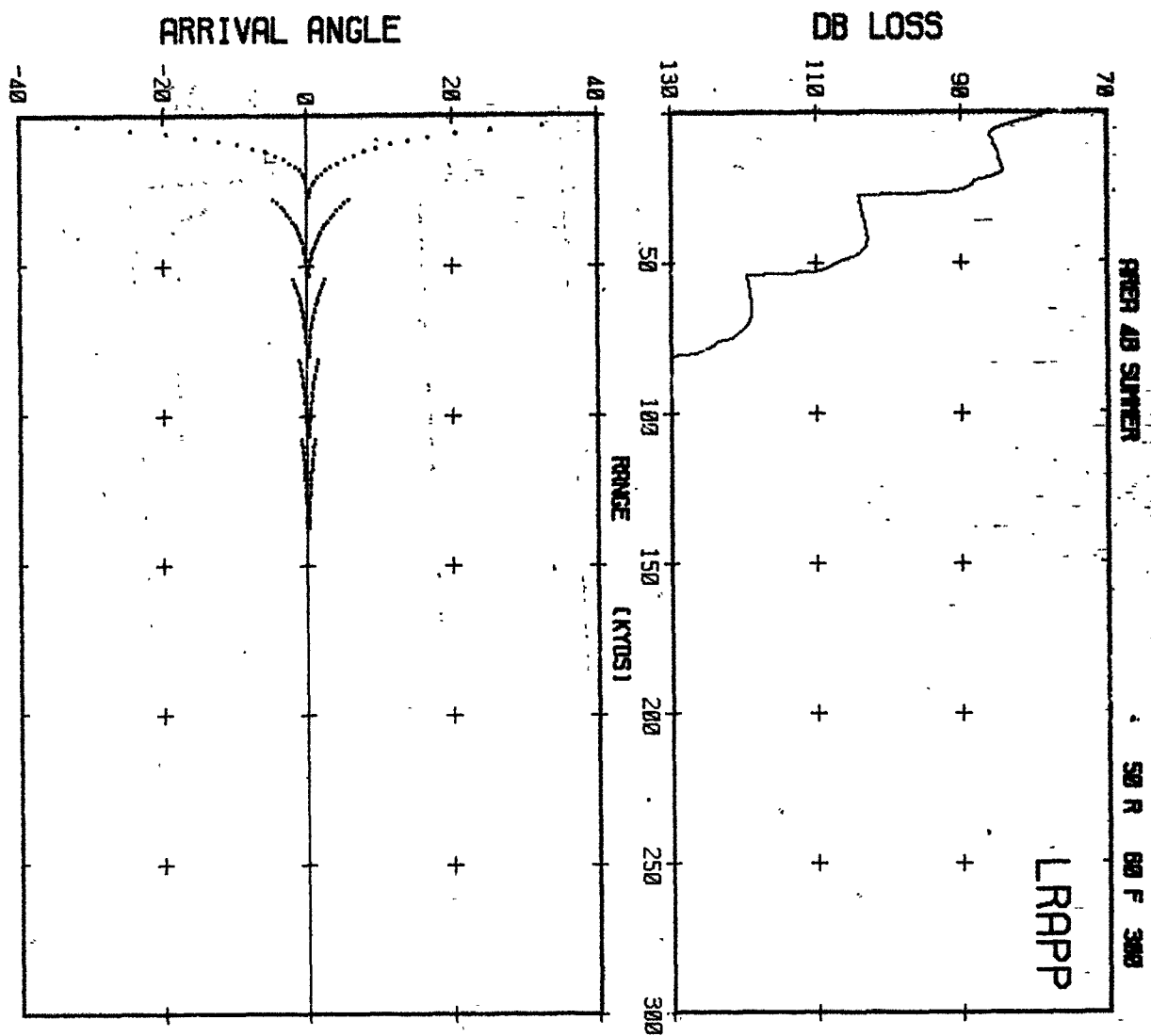
TOTRL -34.0 DB



0.0 DB

96 -



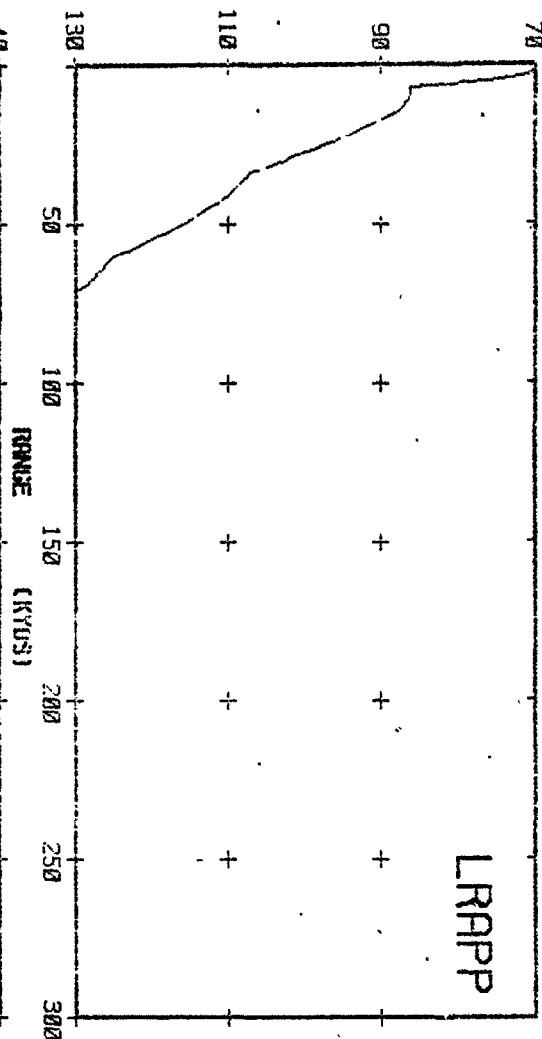


RIVER AIR SUMMER

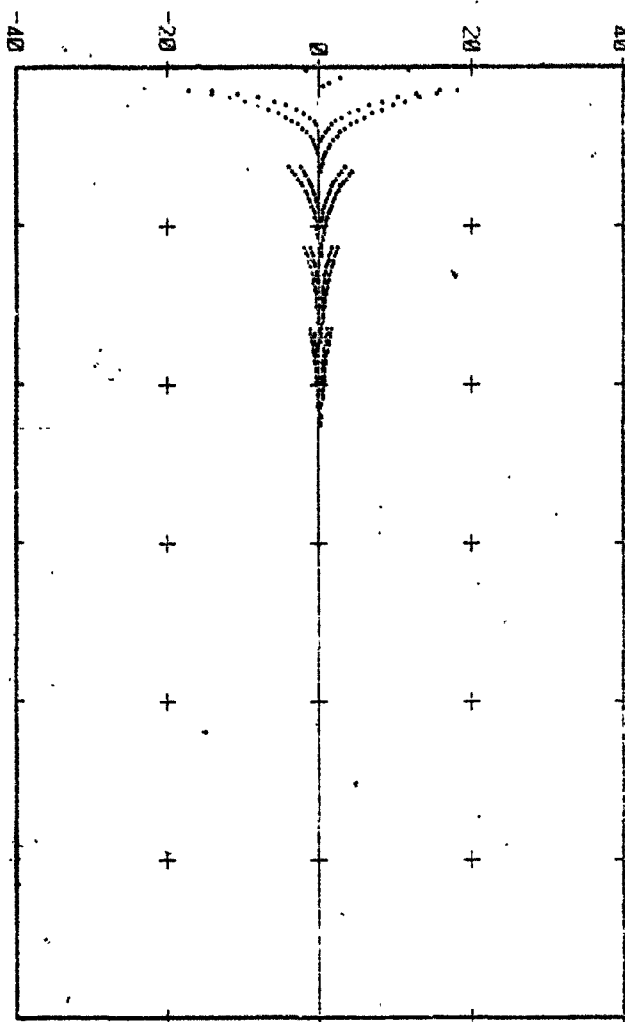
S 266 R 60 F 300

1450 M/S 1500 1550

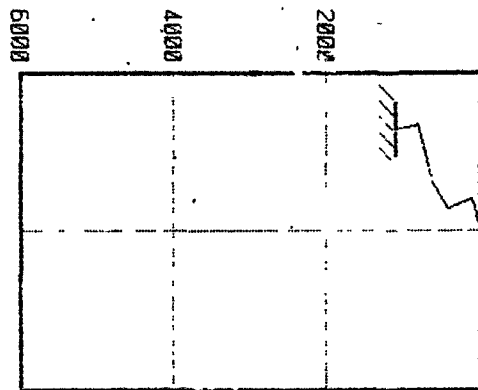
DB LOSS



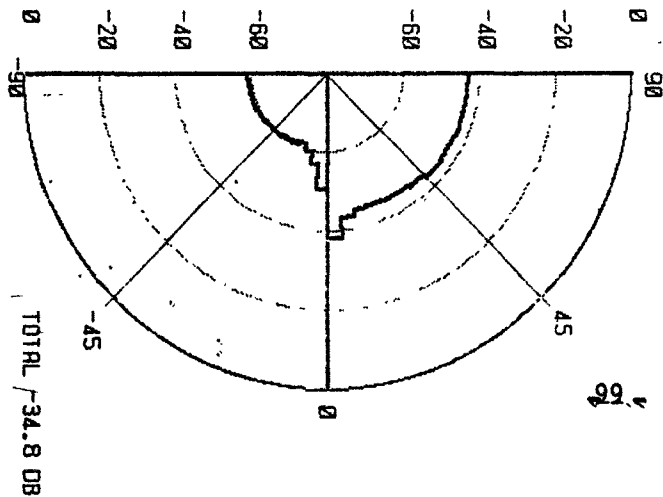
ARRIVAL ANGLE

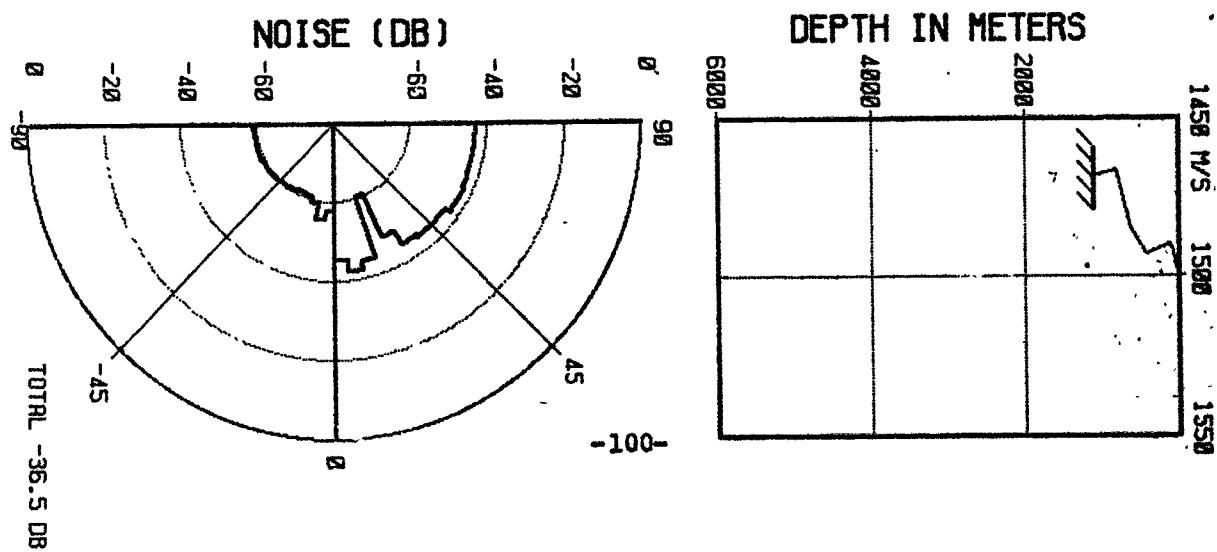
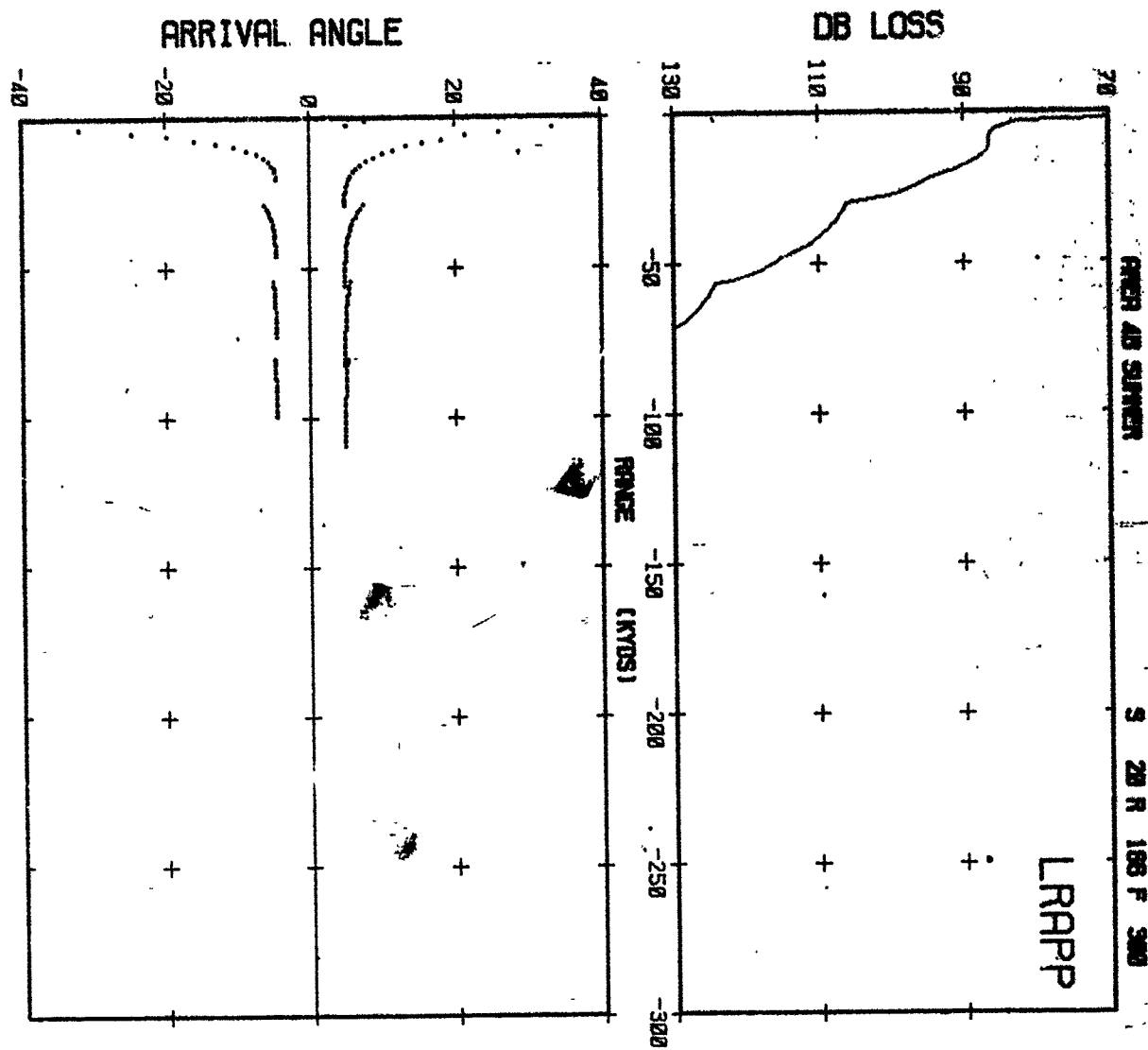


DEPTH IN METERS



NOISE (DB)





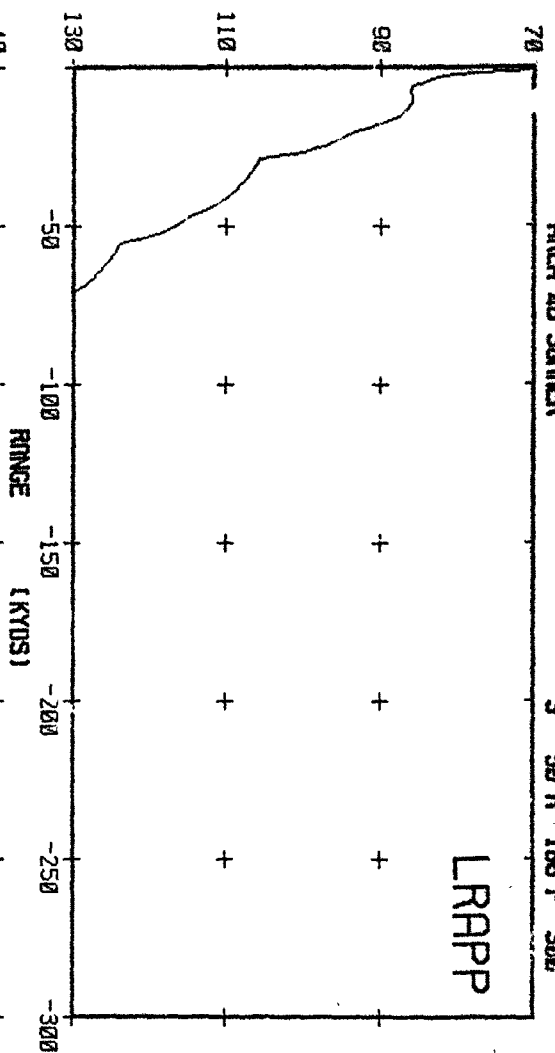
ARRR AB SLINGER

S 50 R 166 F 300

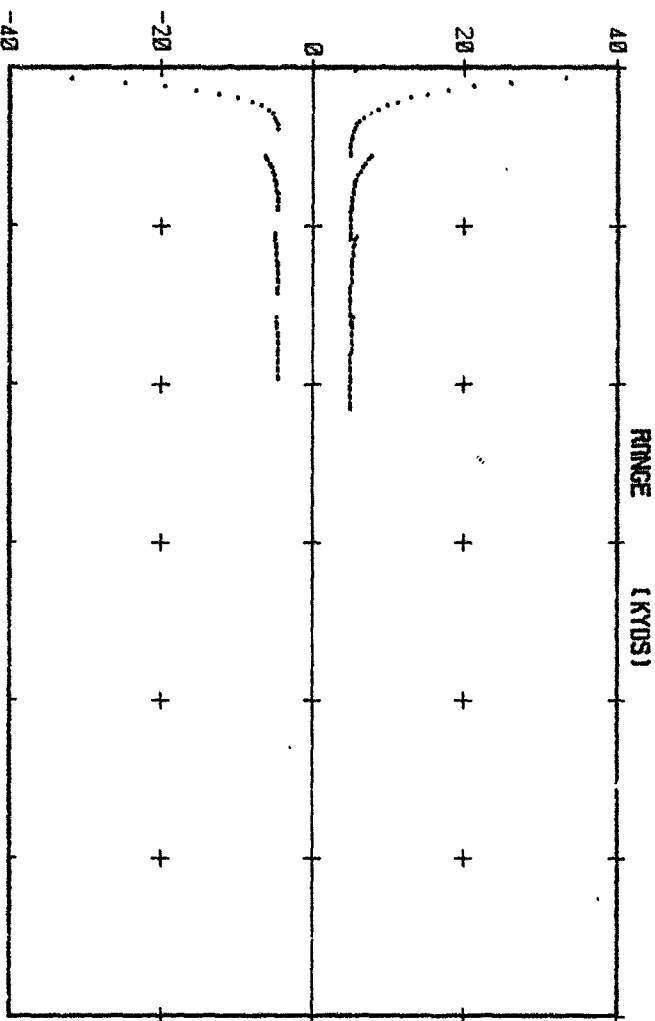
1450 M/S 1500 1550

LRAPP

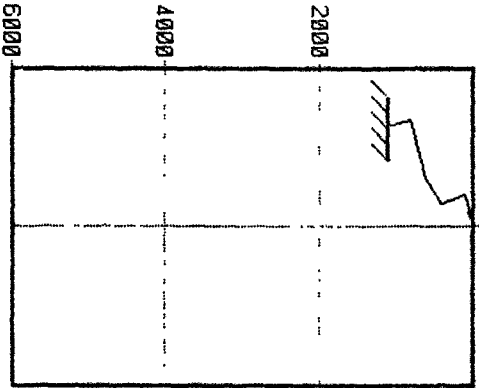
DB LOSS



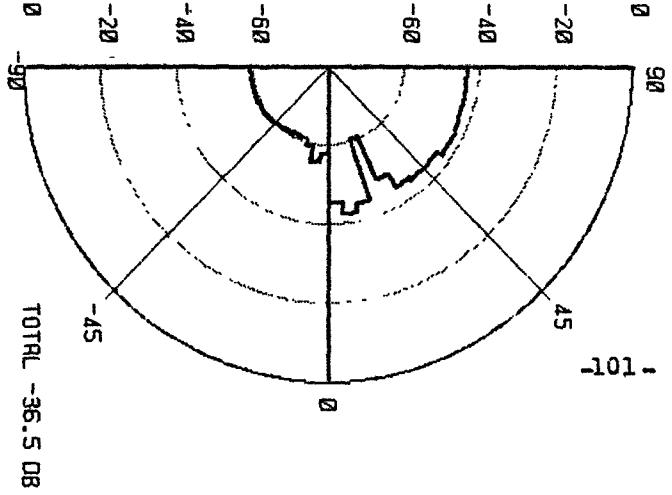
ARRIVAL ANGLE



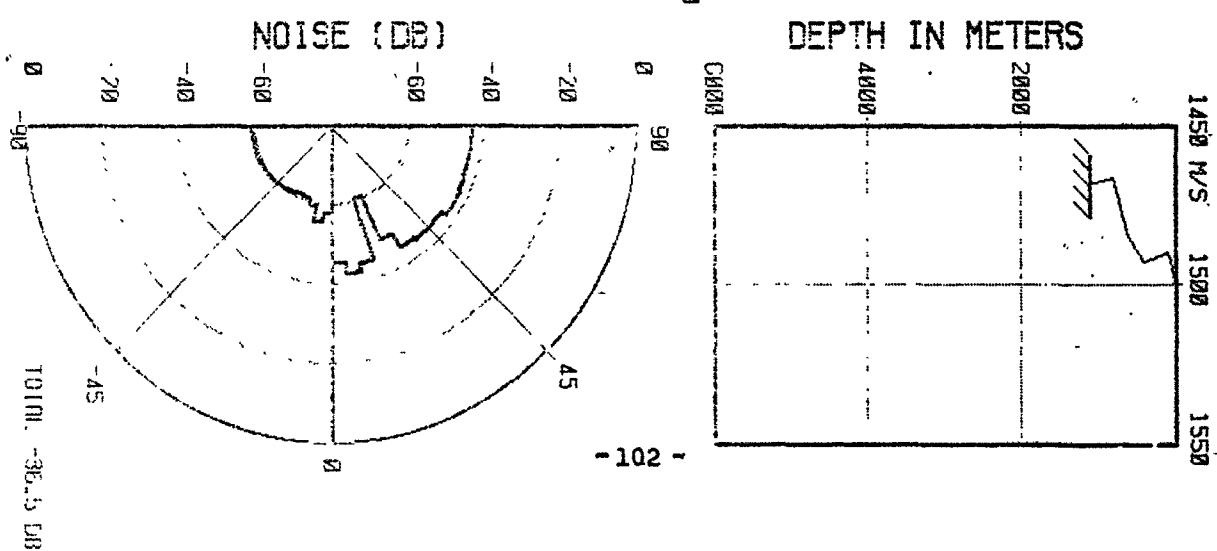
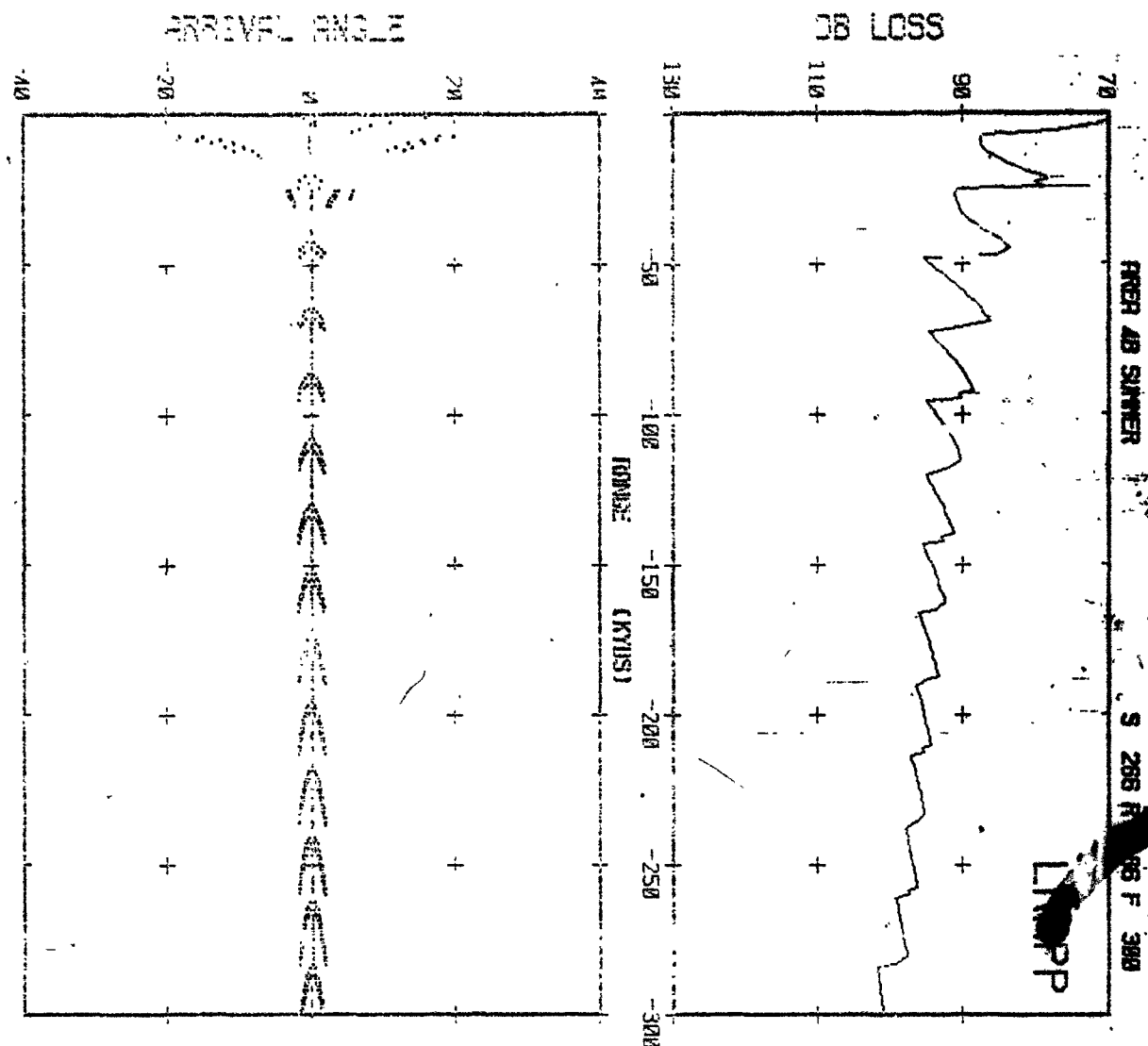
DEPTH IN METERS

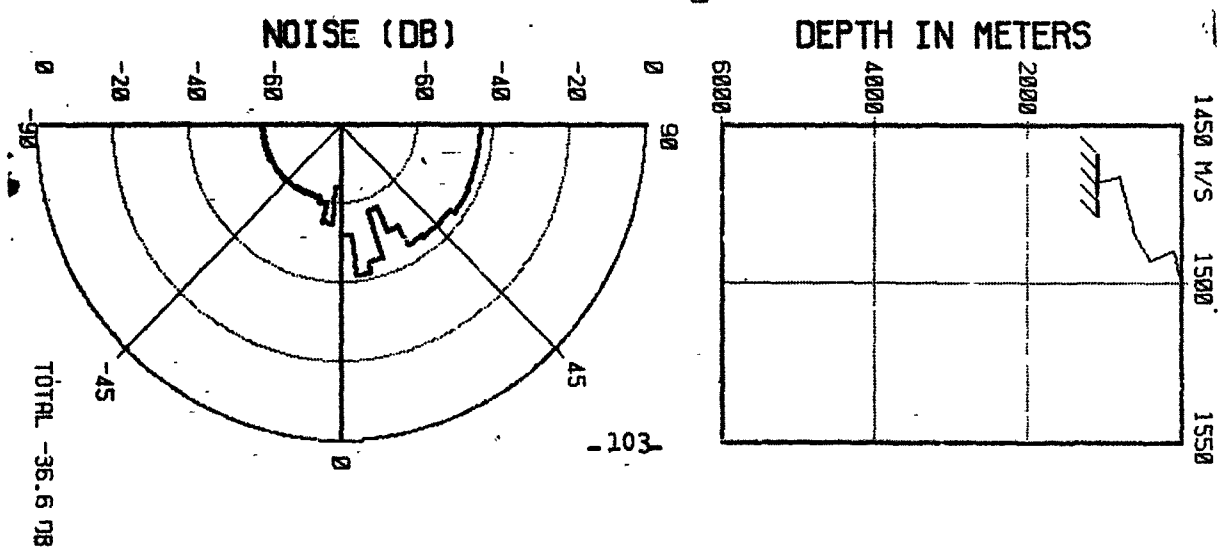
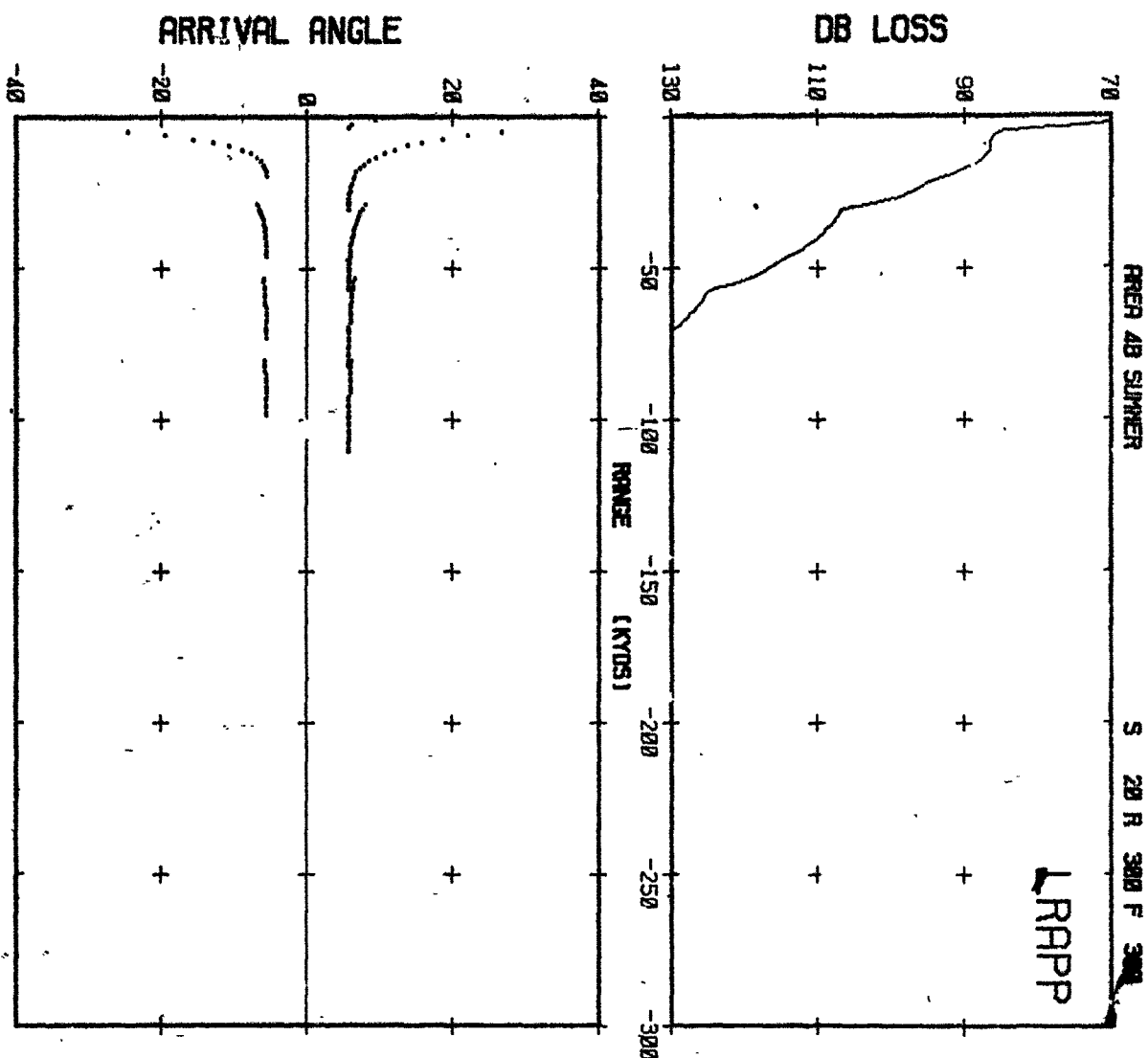


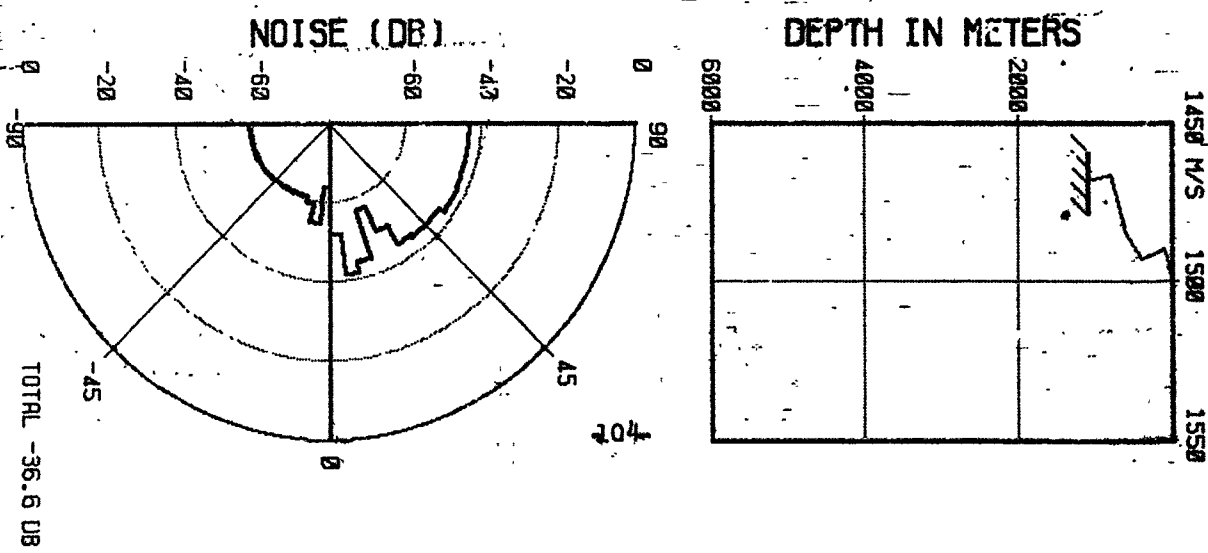
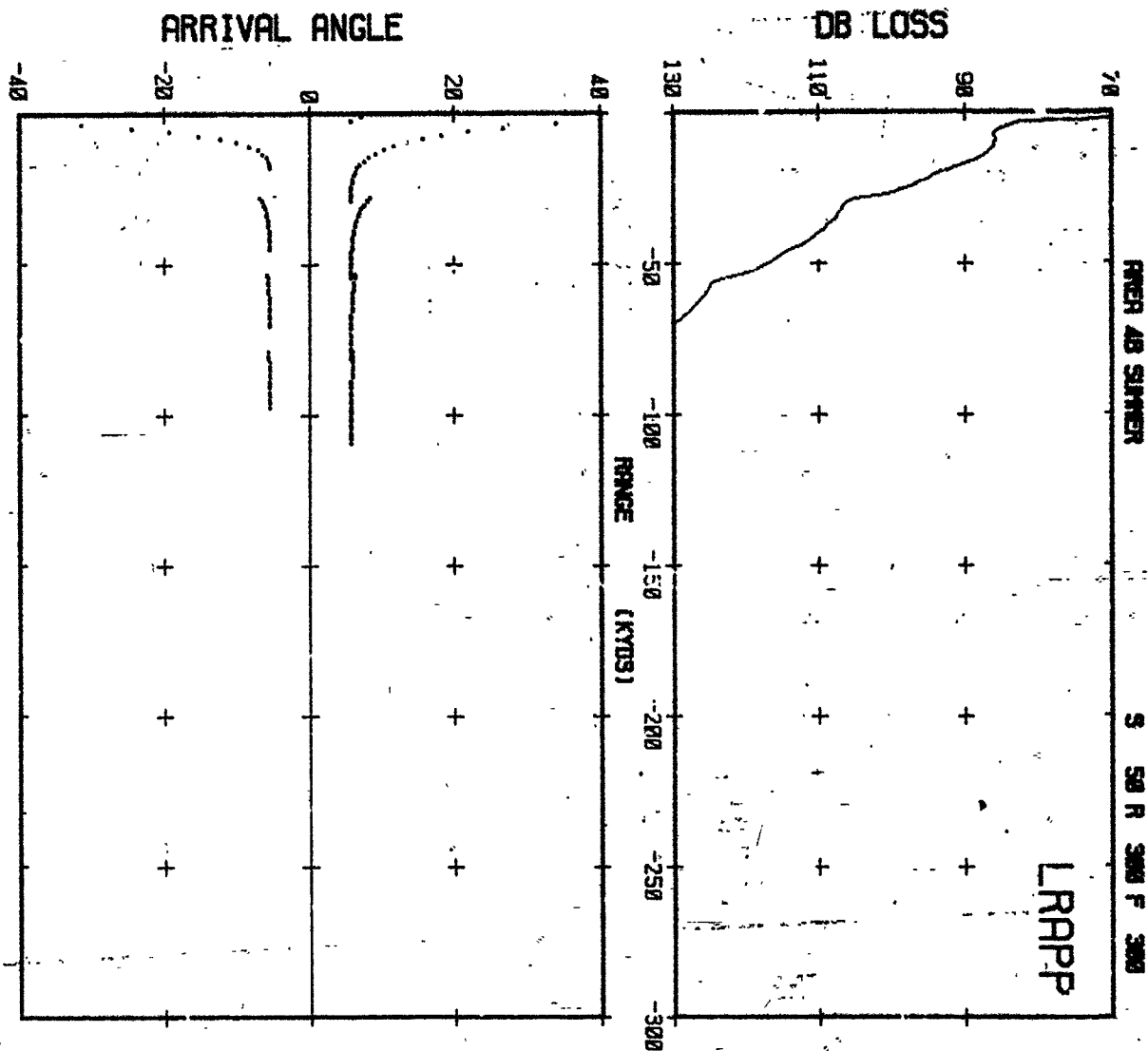
NOISE (DB)



TOTRL -36.5 DB







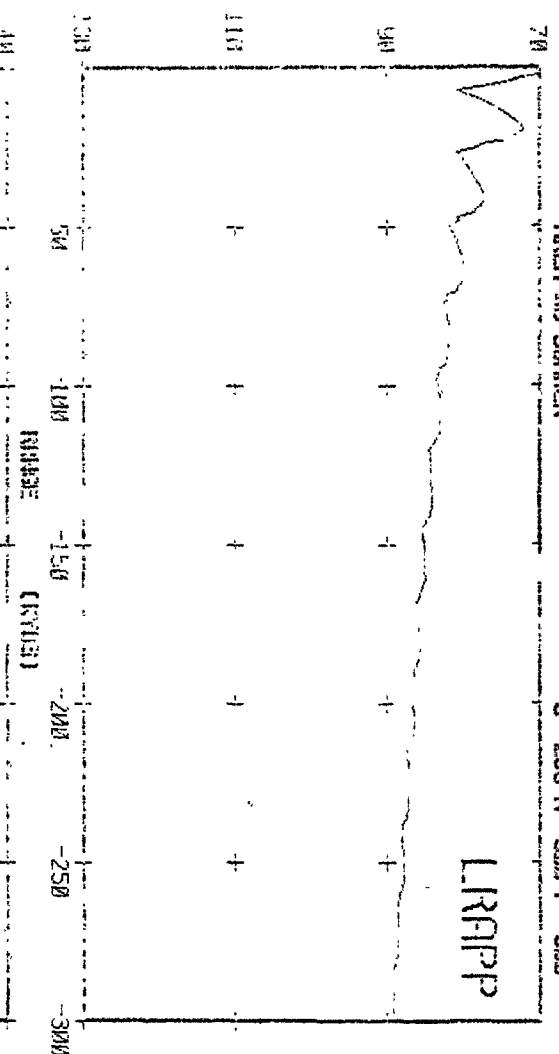
GREEN AIR SURVEY

S 266 R 35M F 300

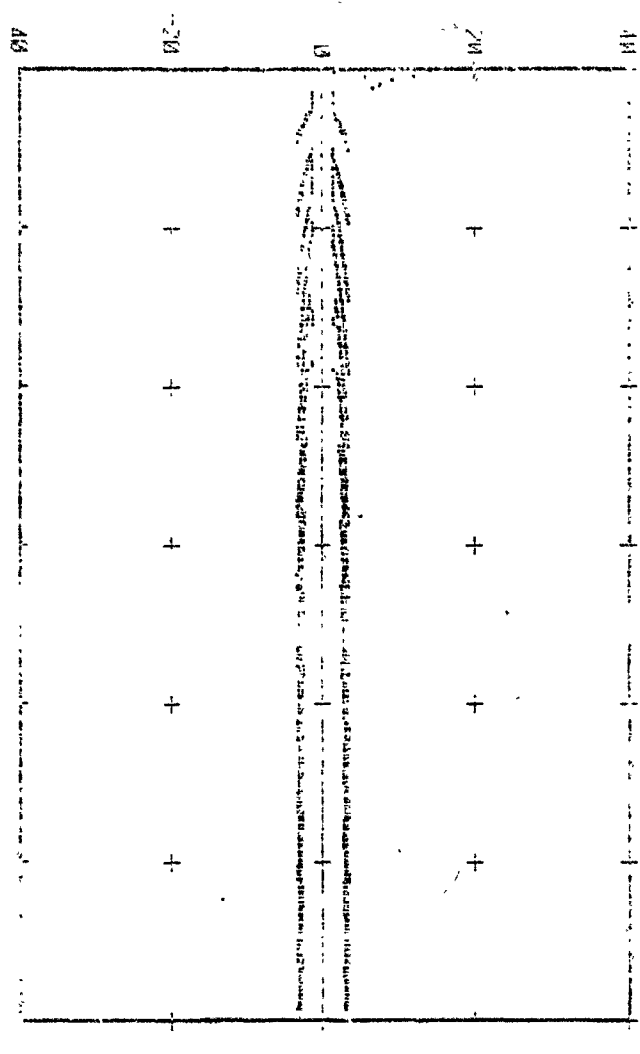
1450 M/S 1500

1550

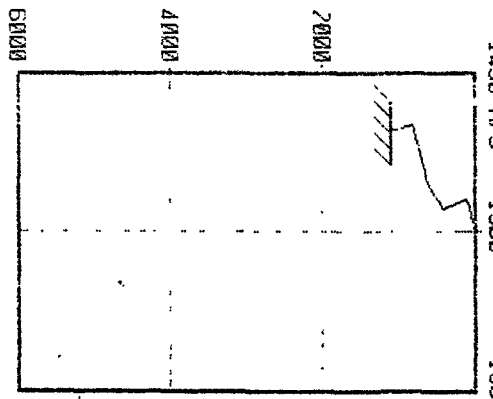
LOSS



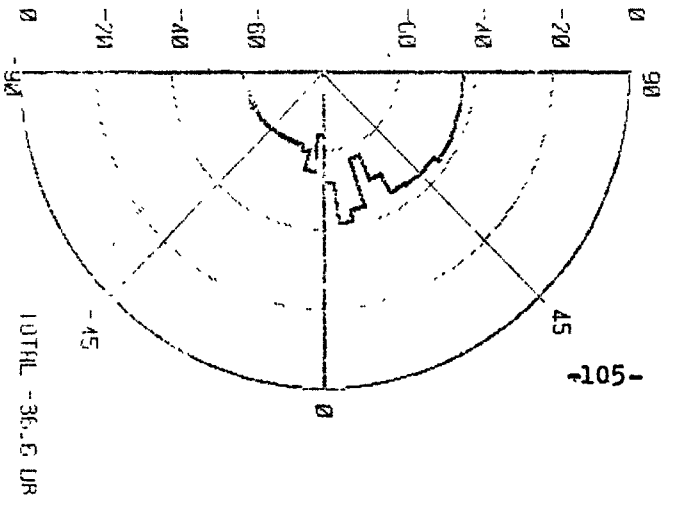
ARRIVAL ANGLE

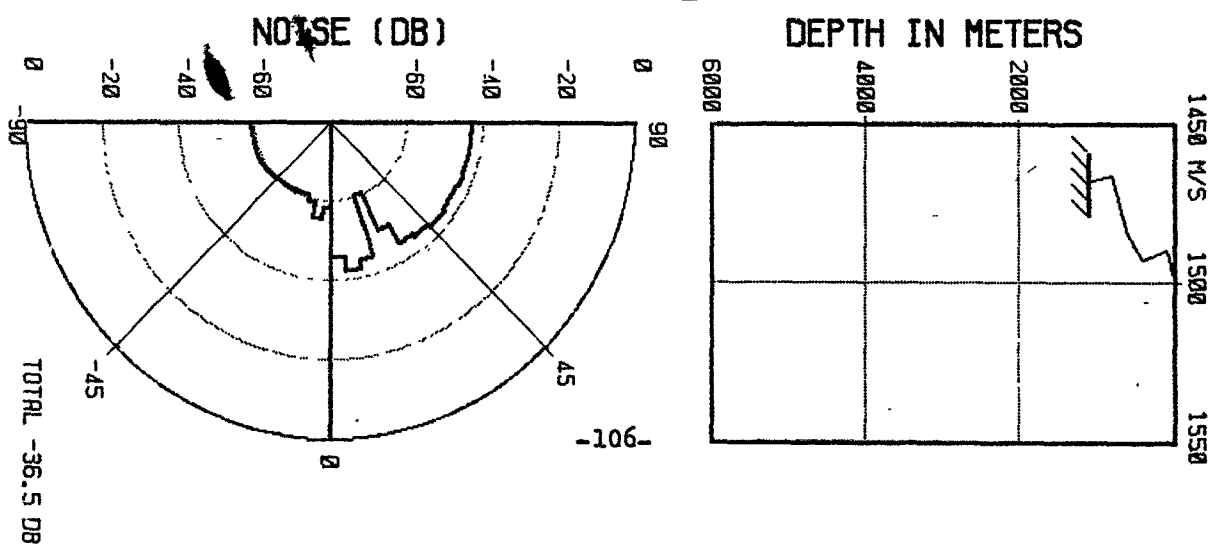
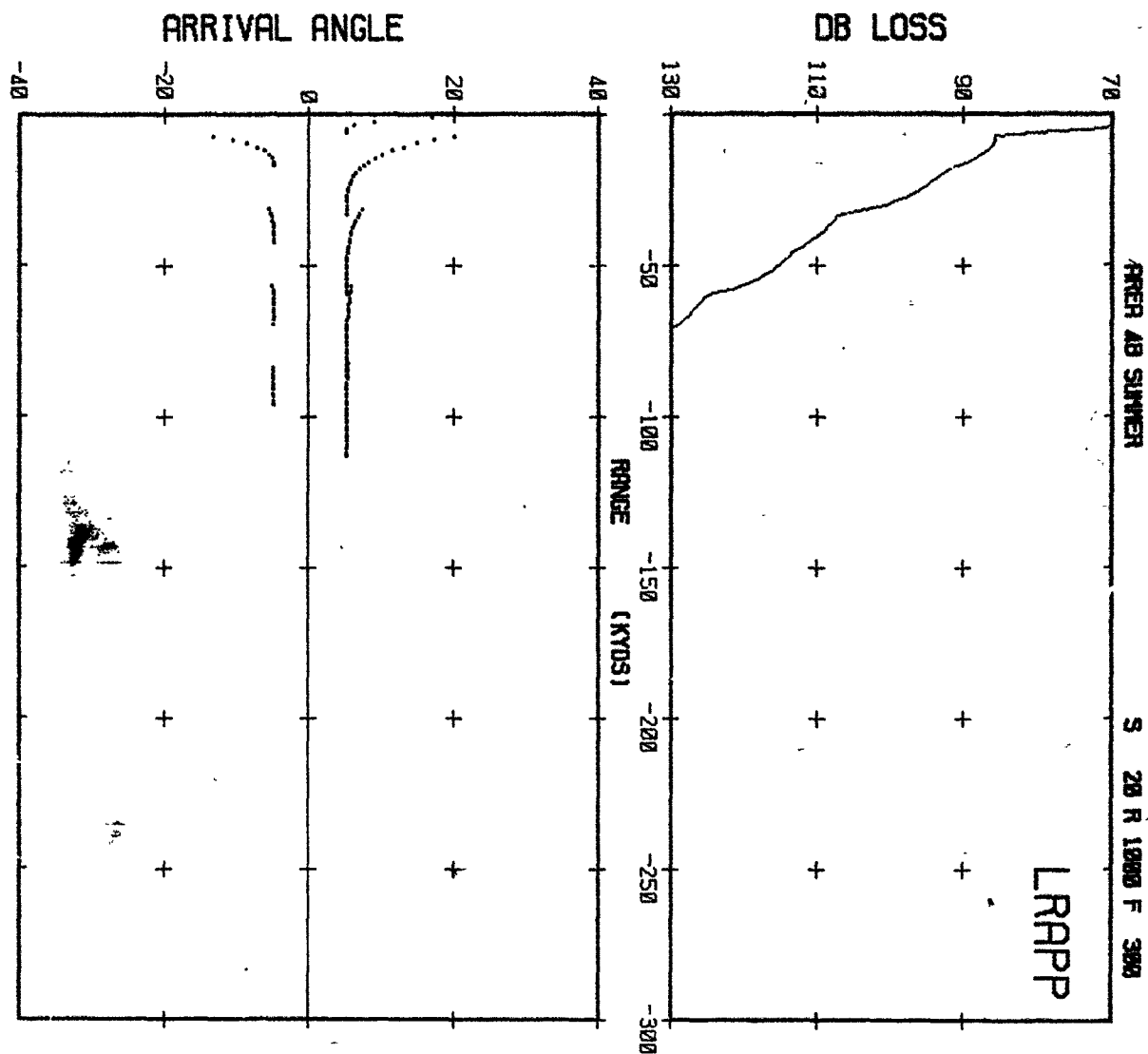


DEPTH IN METERS



NOISE (DB)

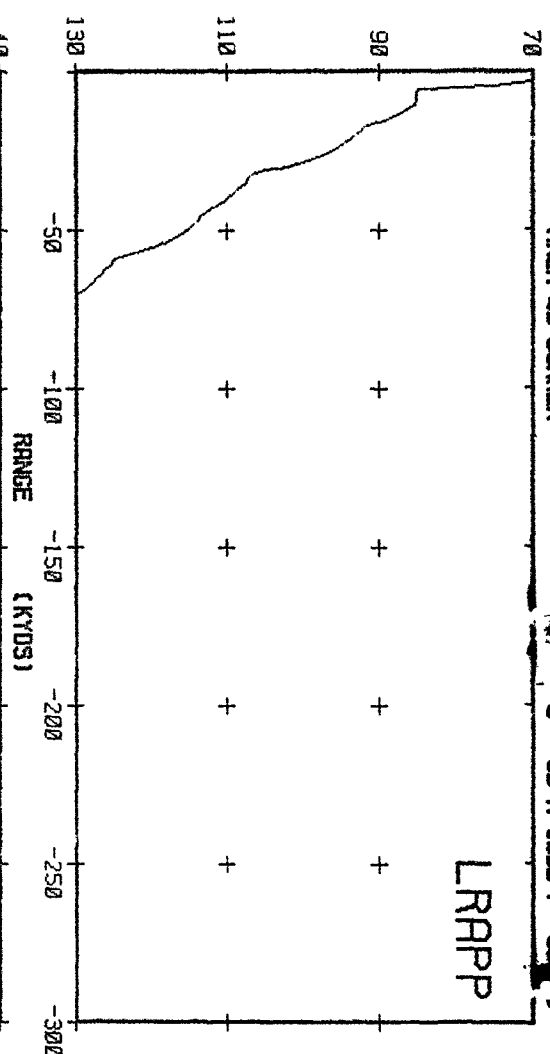




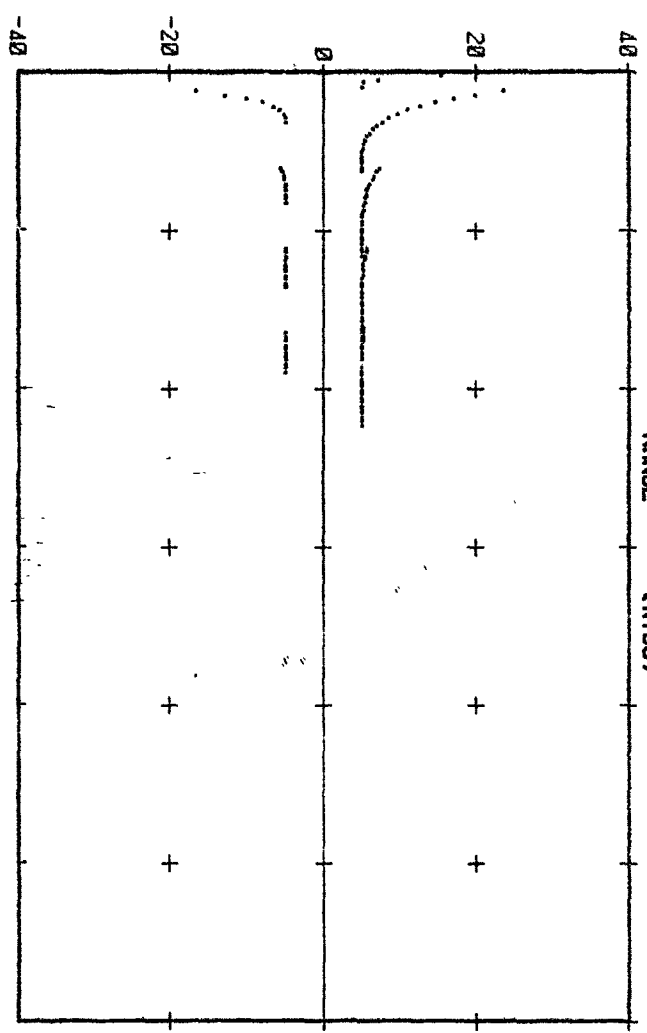
AREA 4B SUMNER

1450 M/S 1500 1550

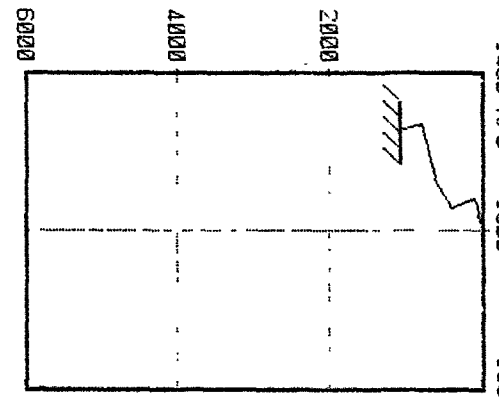
DB LOSS



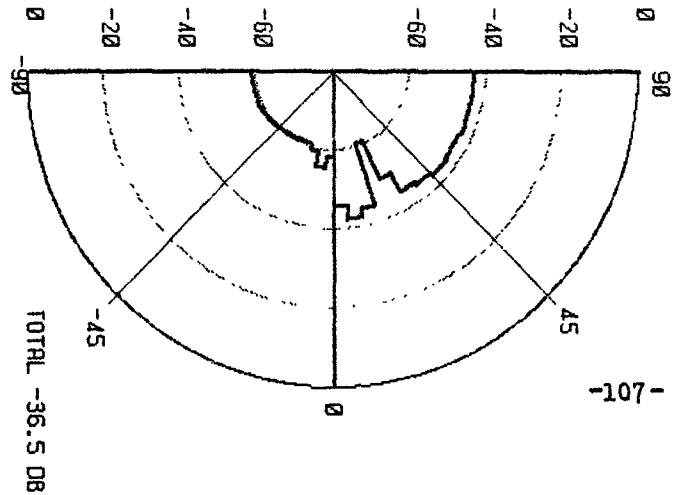
ARRIVAL ANGLE



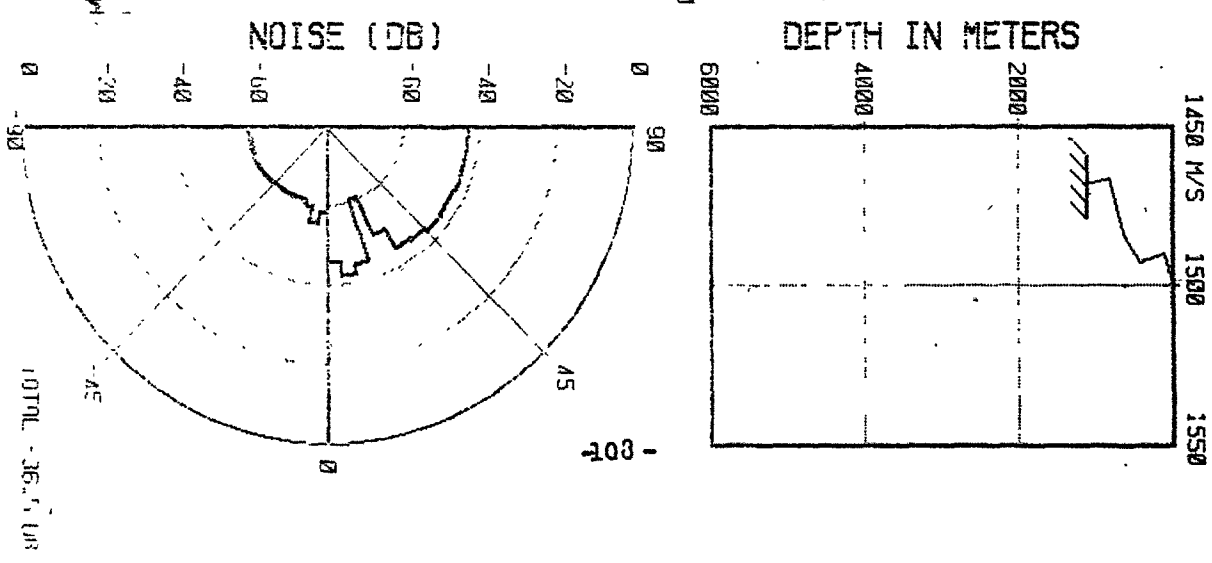
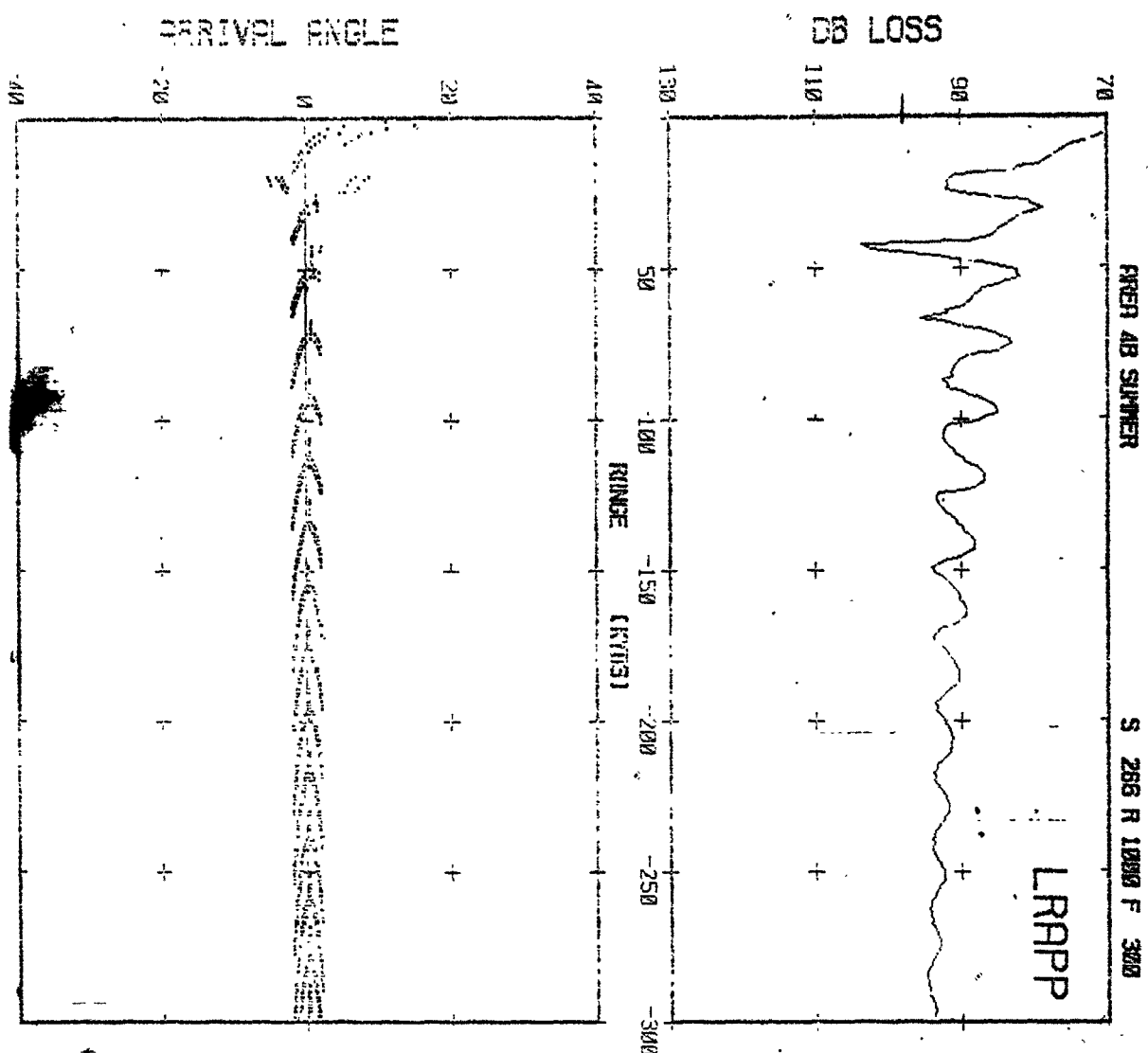
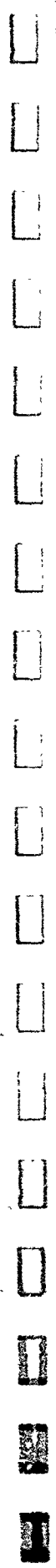
DEPTH IN METERS



NOISE (DB)



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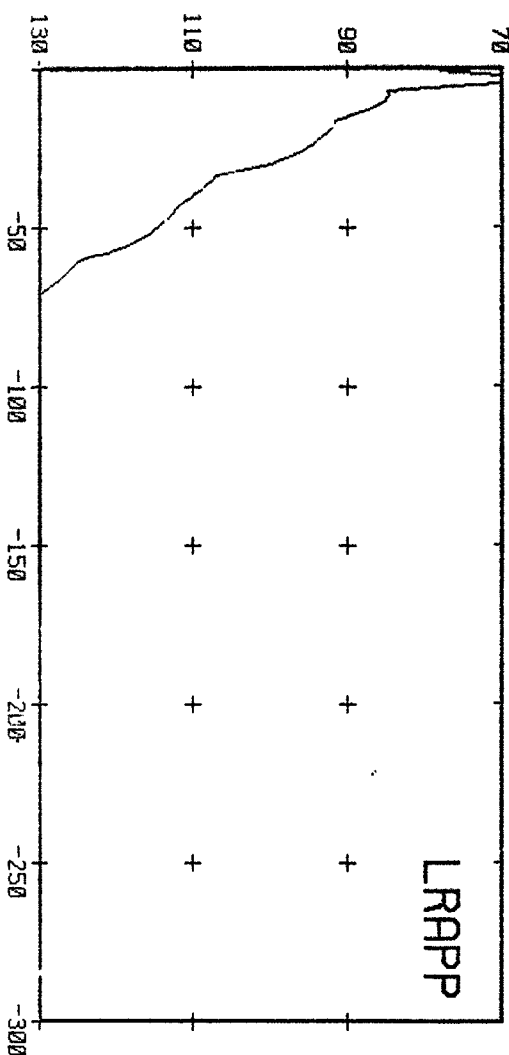
	14.00	M.S.	15.00	15.00
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AREA 4B SUMMER

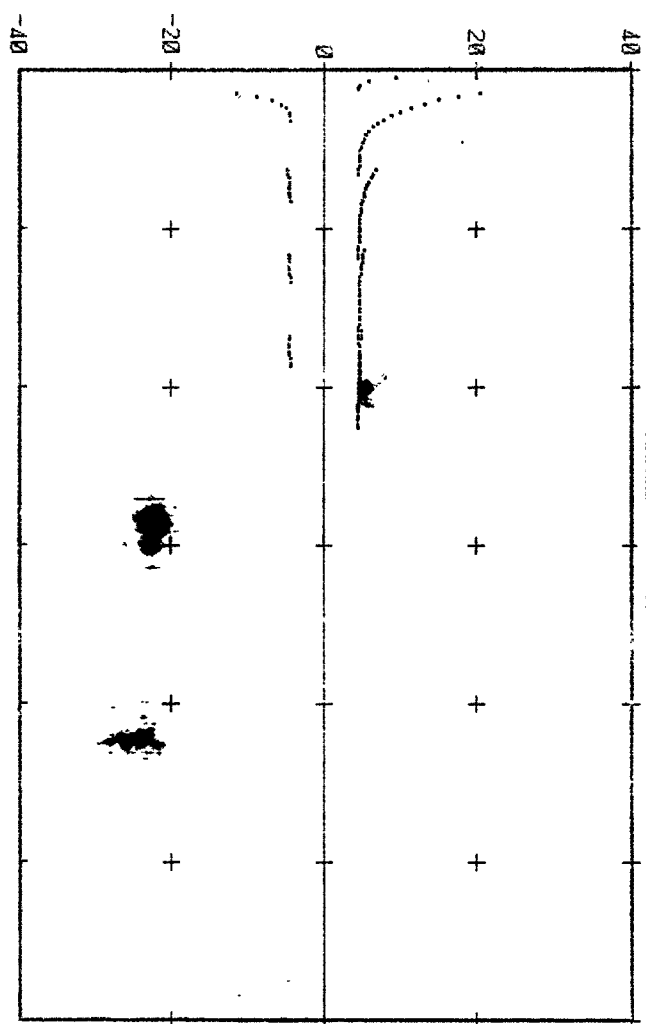
S 50 R 1312 F 300

LRAPP

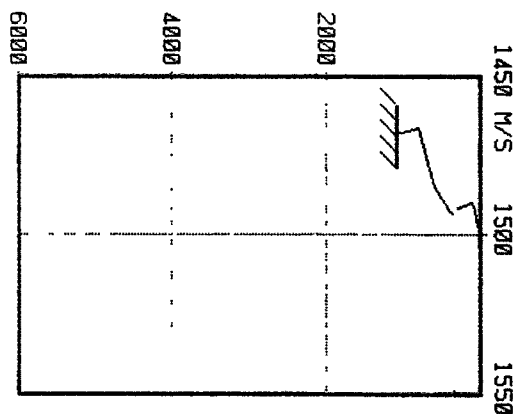
DB LOSS



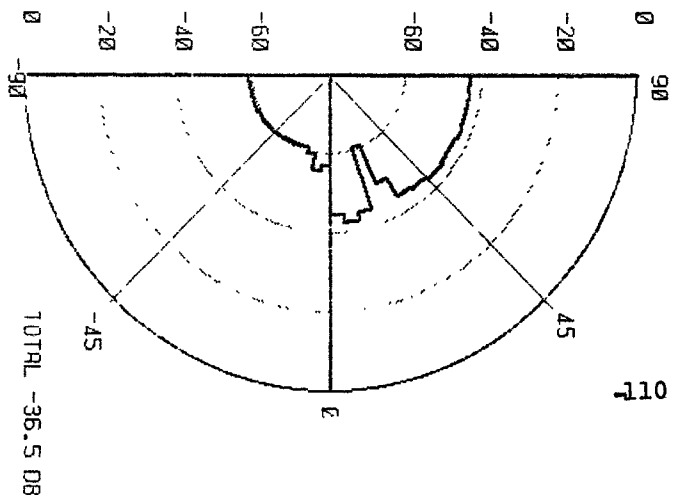
ARRIVAL ANGLE



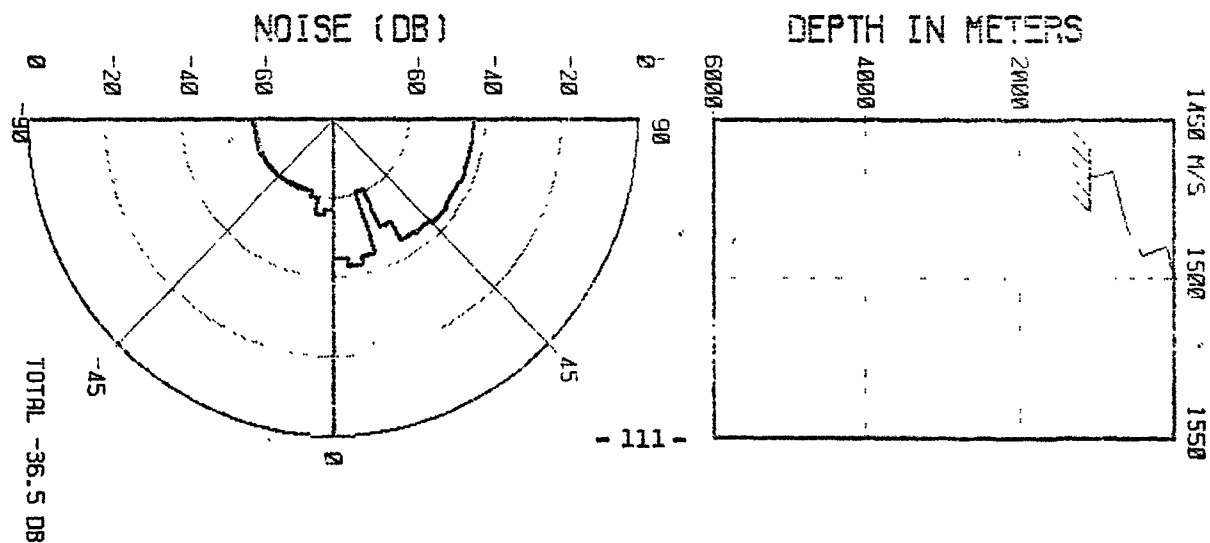
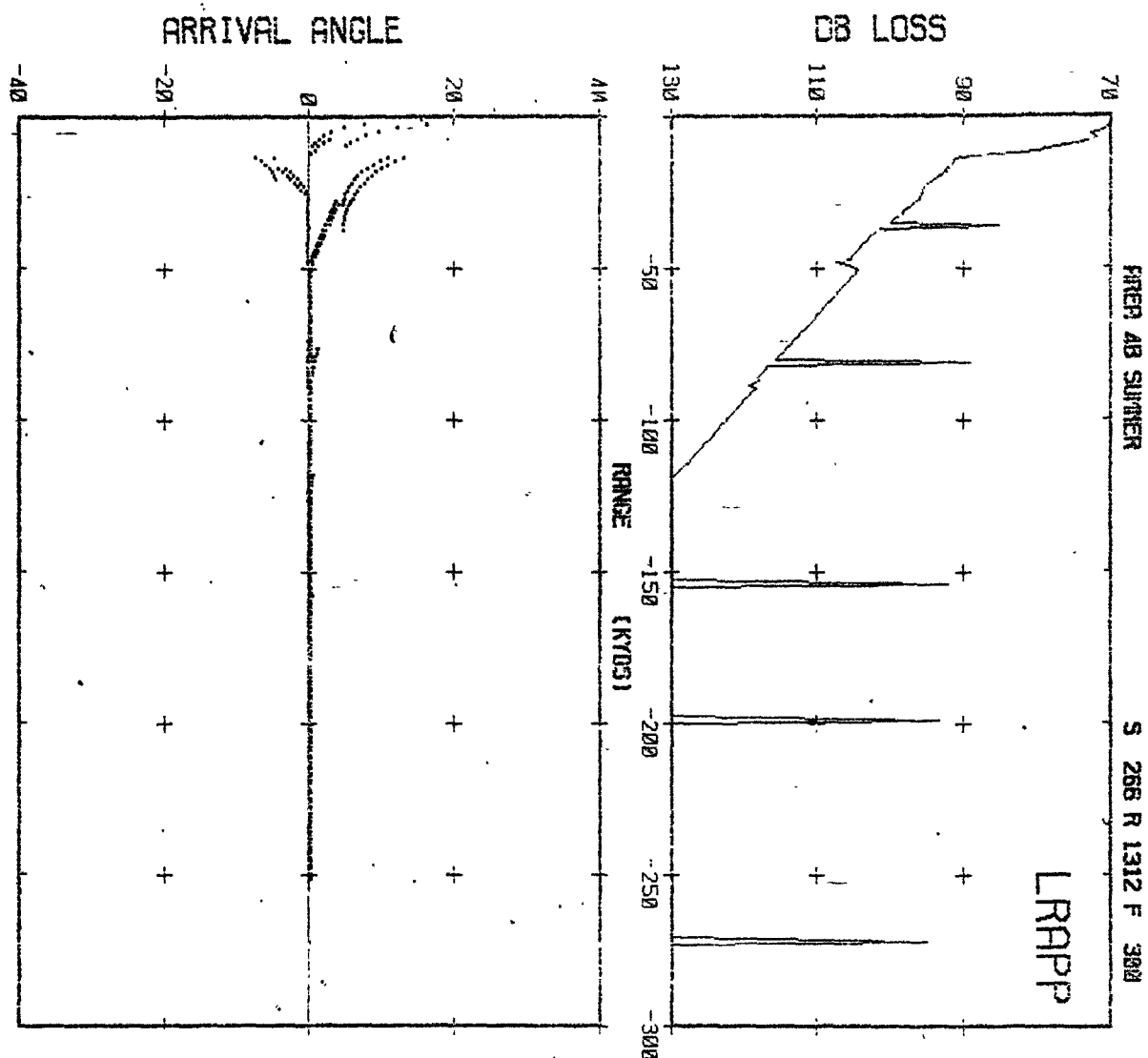
DEPTH IN METERS

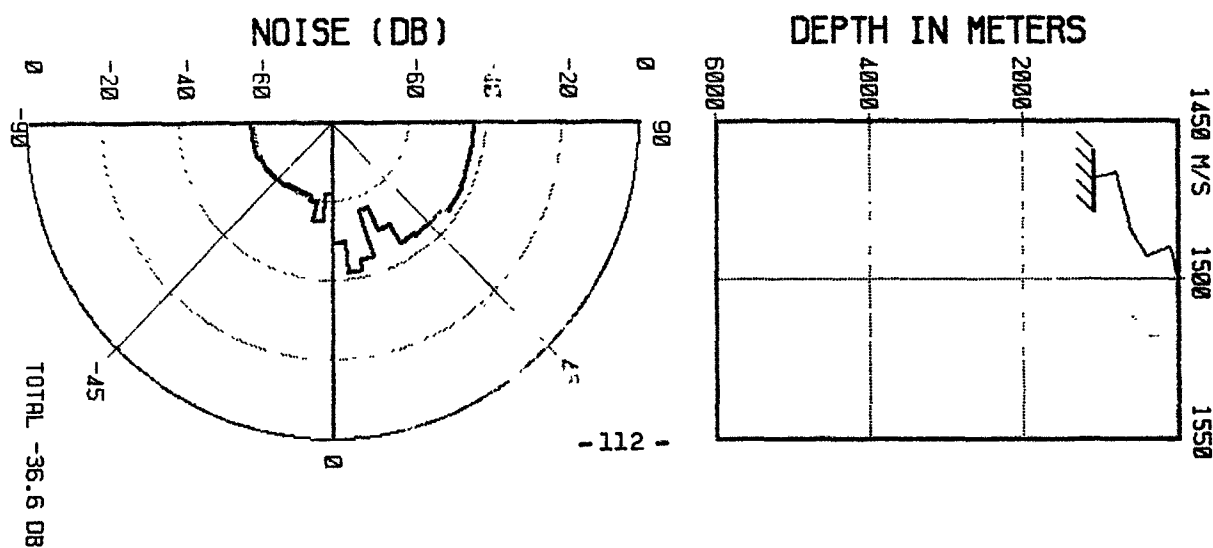
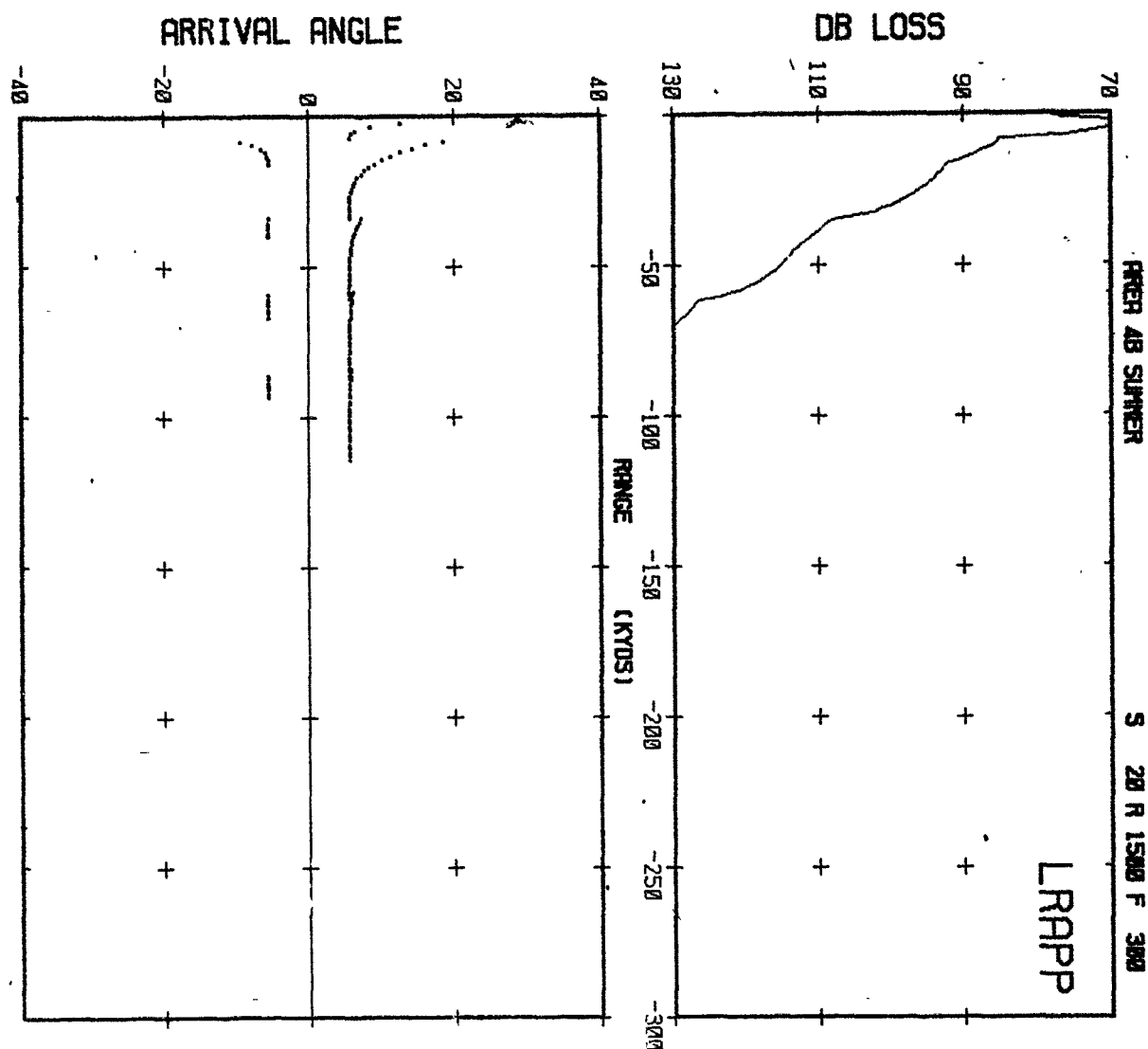


NOISE (DB)



TOTAL -36.5 DB



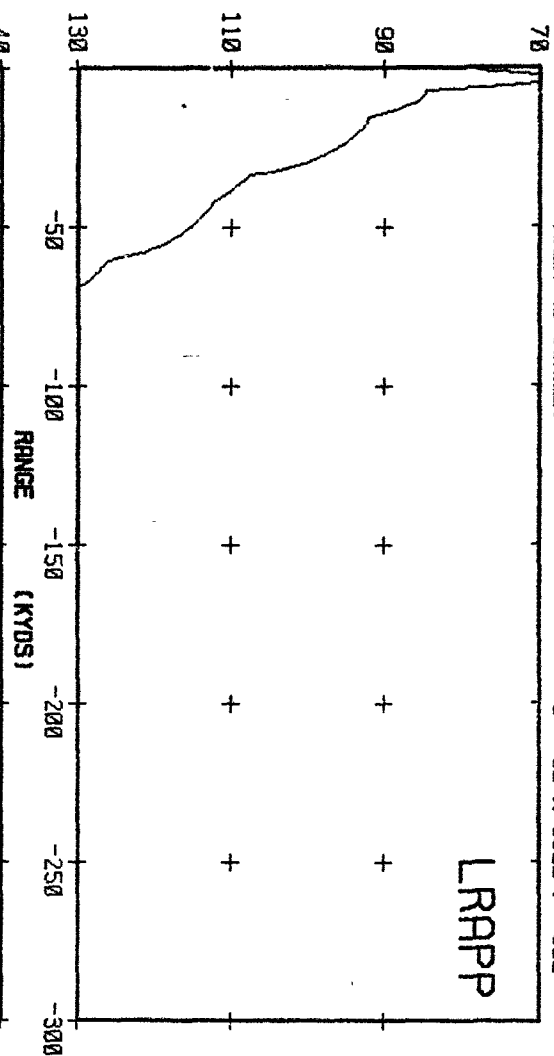


AREA 4B SUMMER

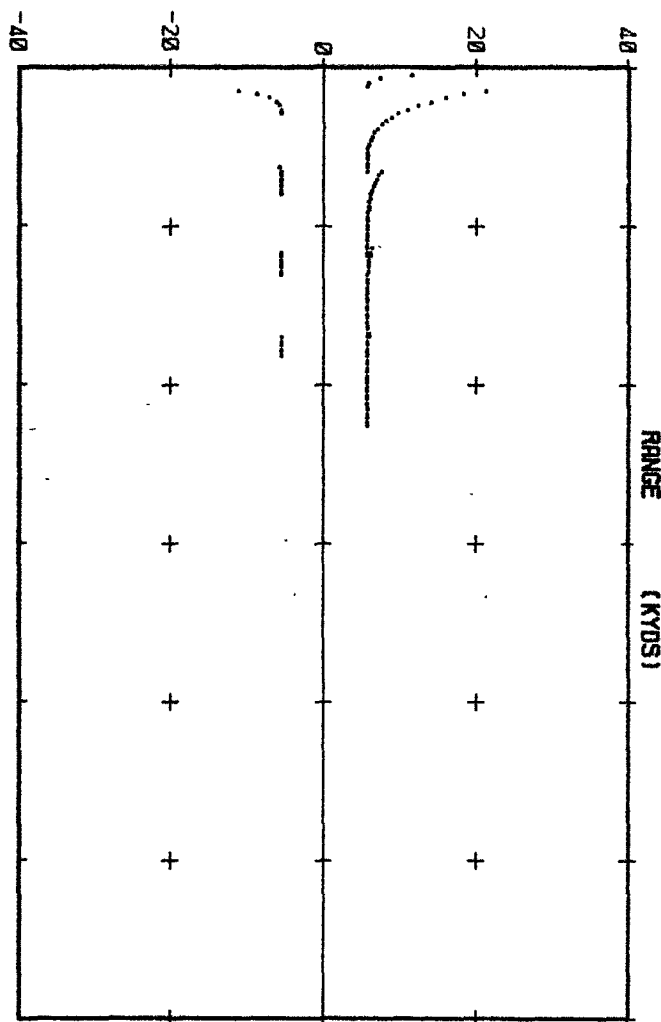
S 50 R 1500 F 300

1450 M/S 1500 1550

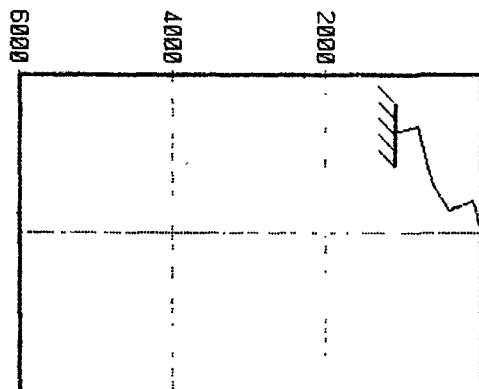
DB LOSS



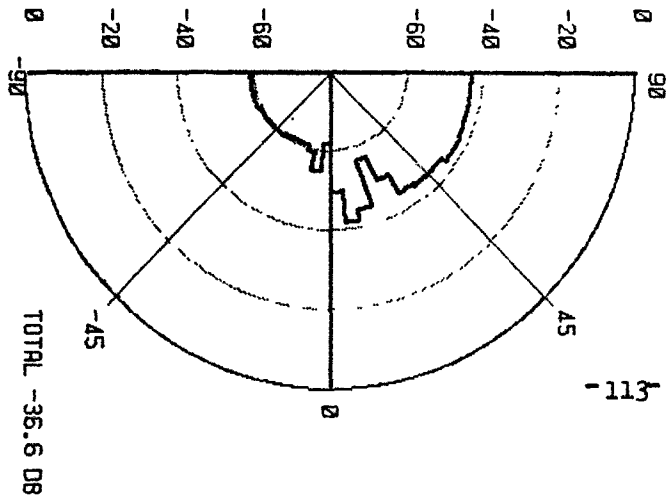
ARRIVAL ANGLE

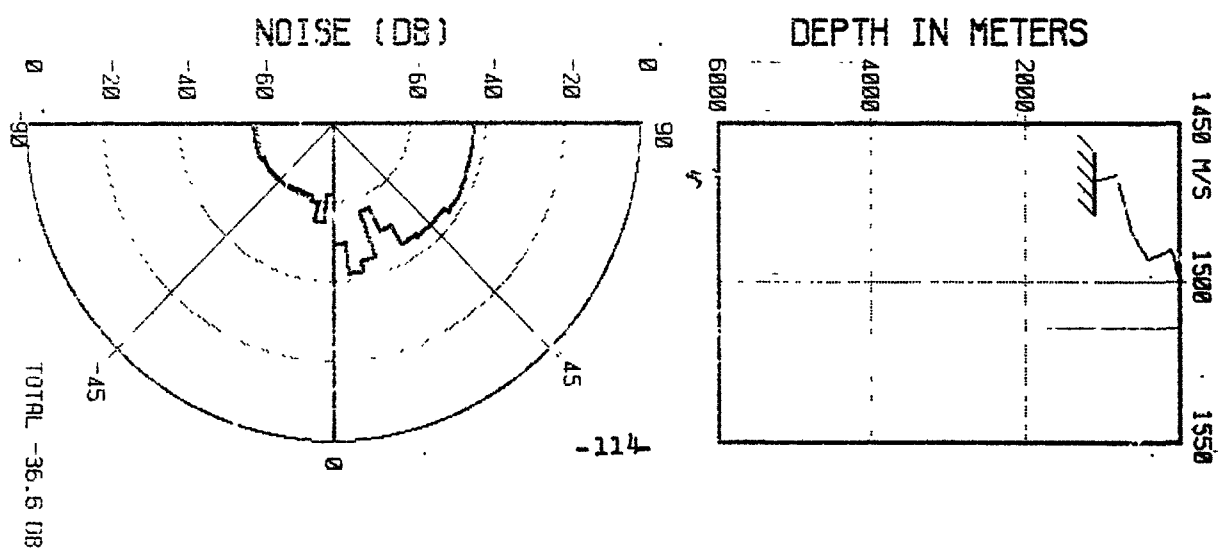
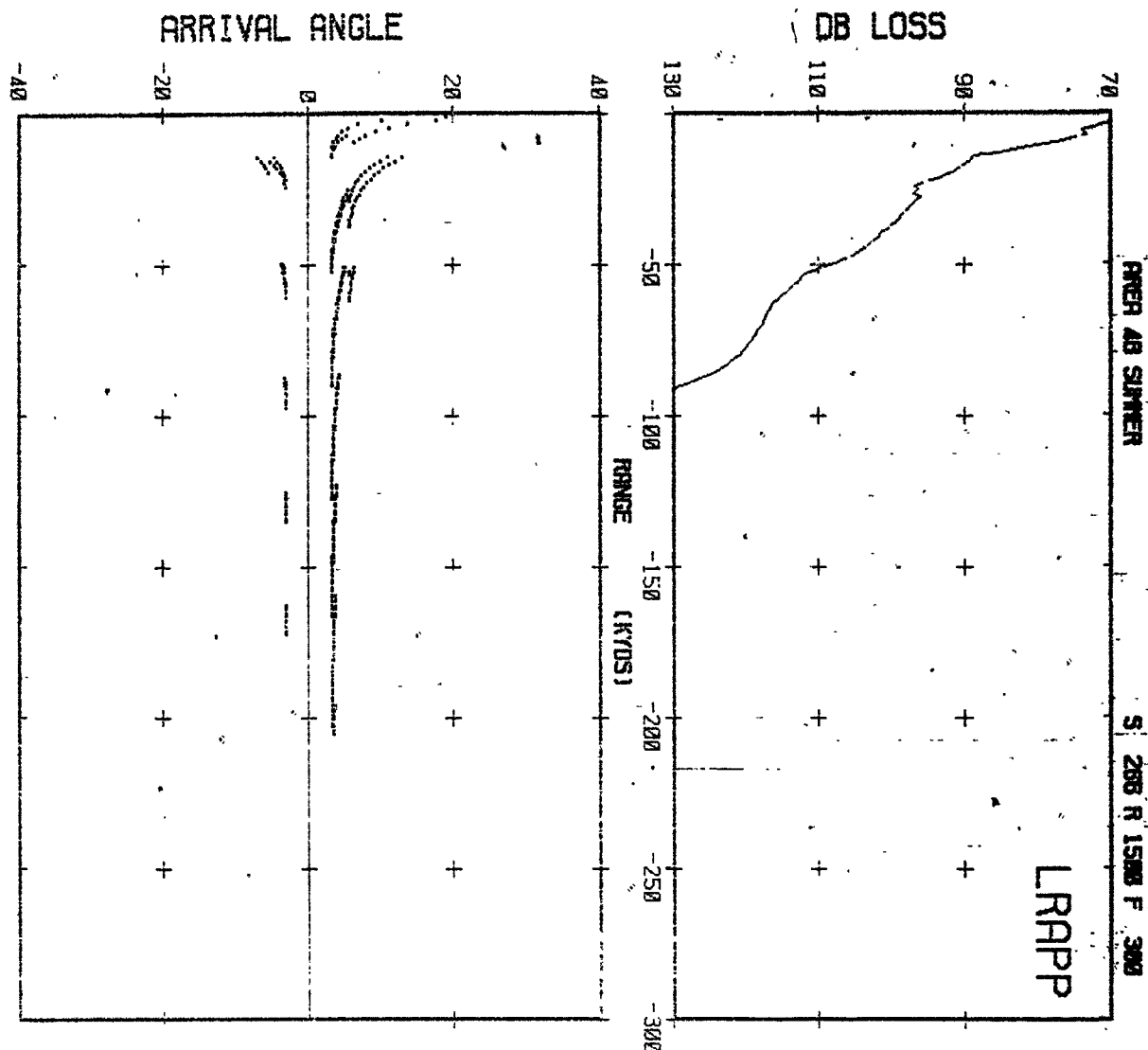


DEPTH IN METERS



NOISE (DB)





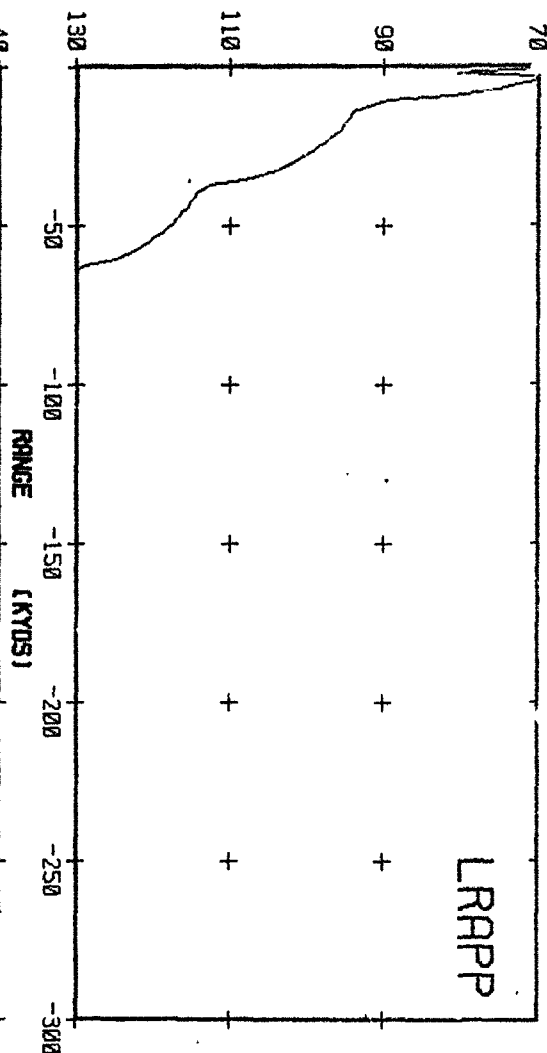
AREA 4B SUMMER

3 20 R 2625 F 300

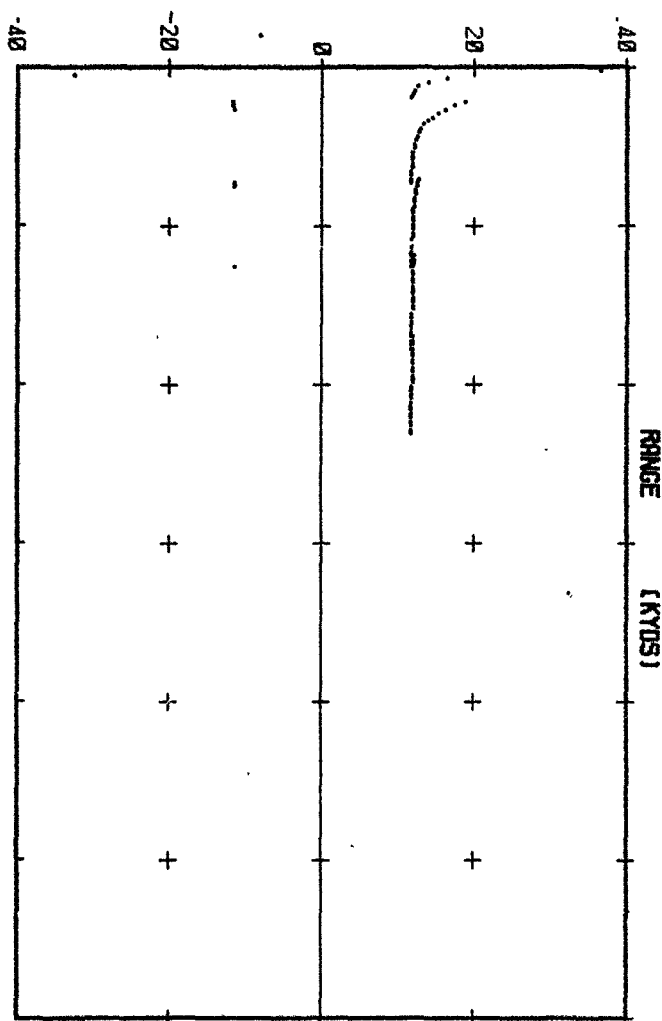
1450 M/S 1500

1550

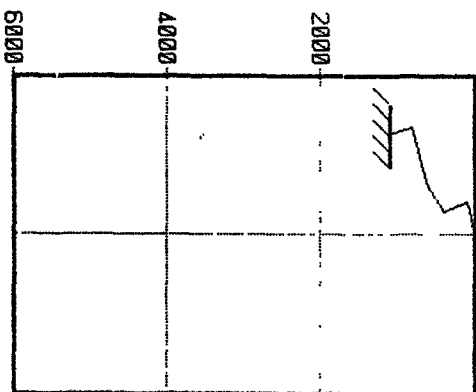
DB LOSS



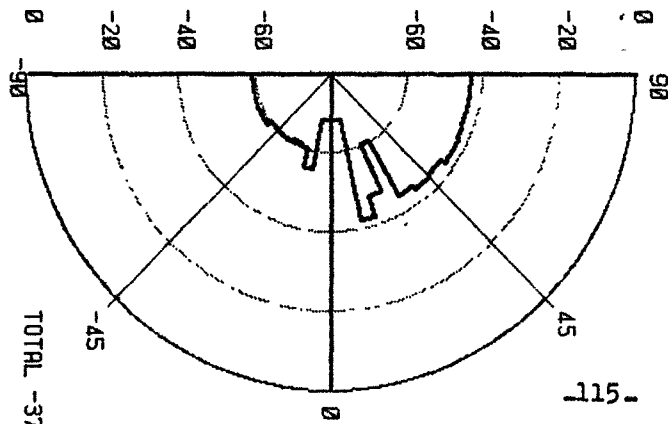
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

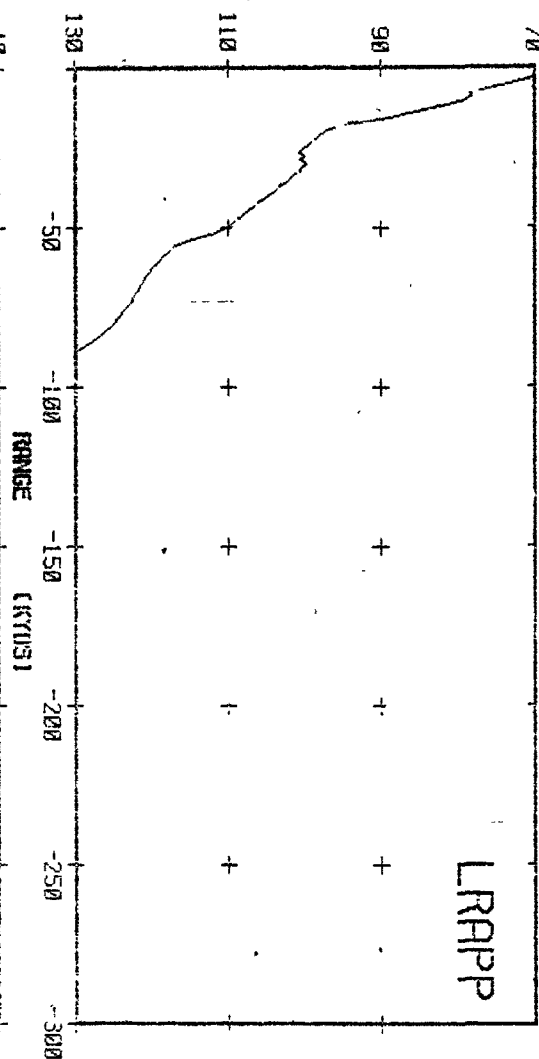


AREA AB SUMMER

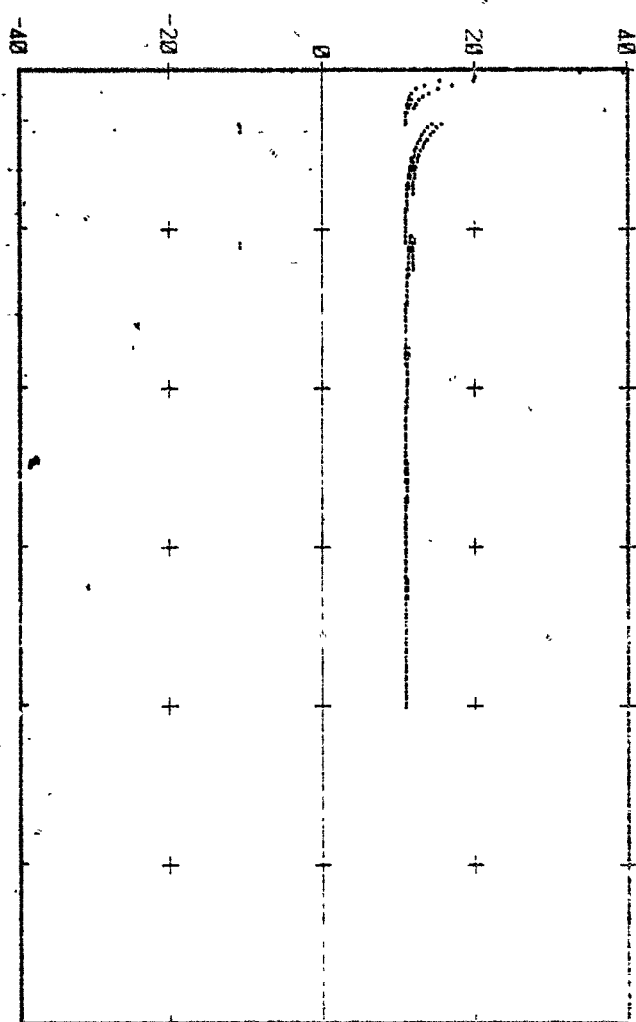
S 266 R 2625 F 380

1450 M/S 1500 1550

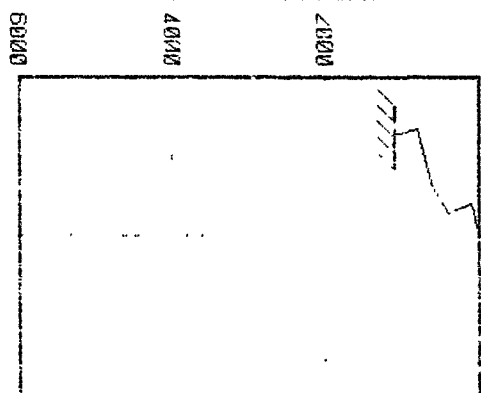
DB LOSS



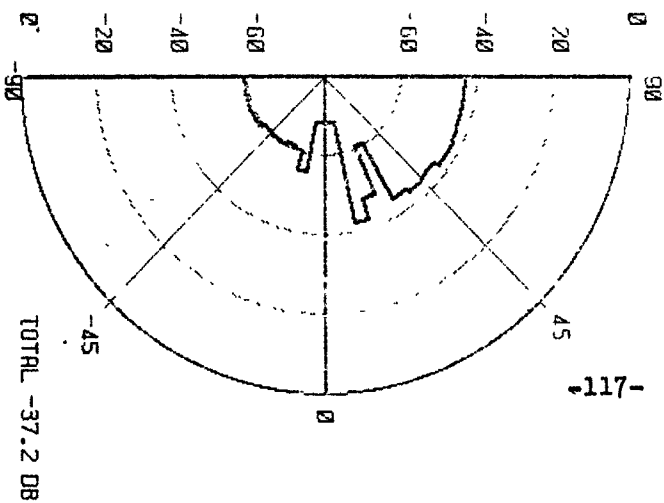
ARRIVAL ANGLE



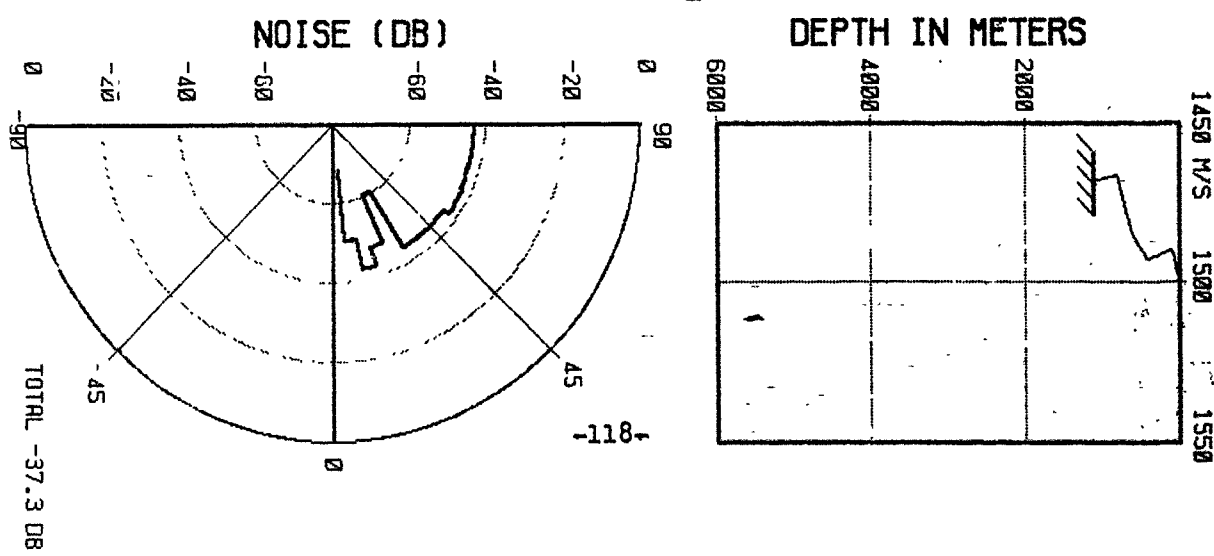
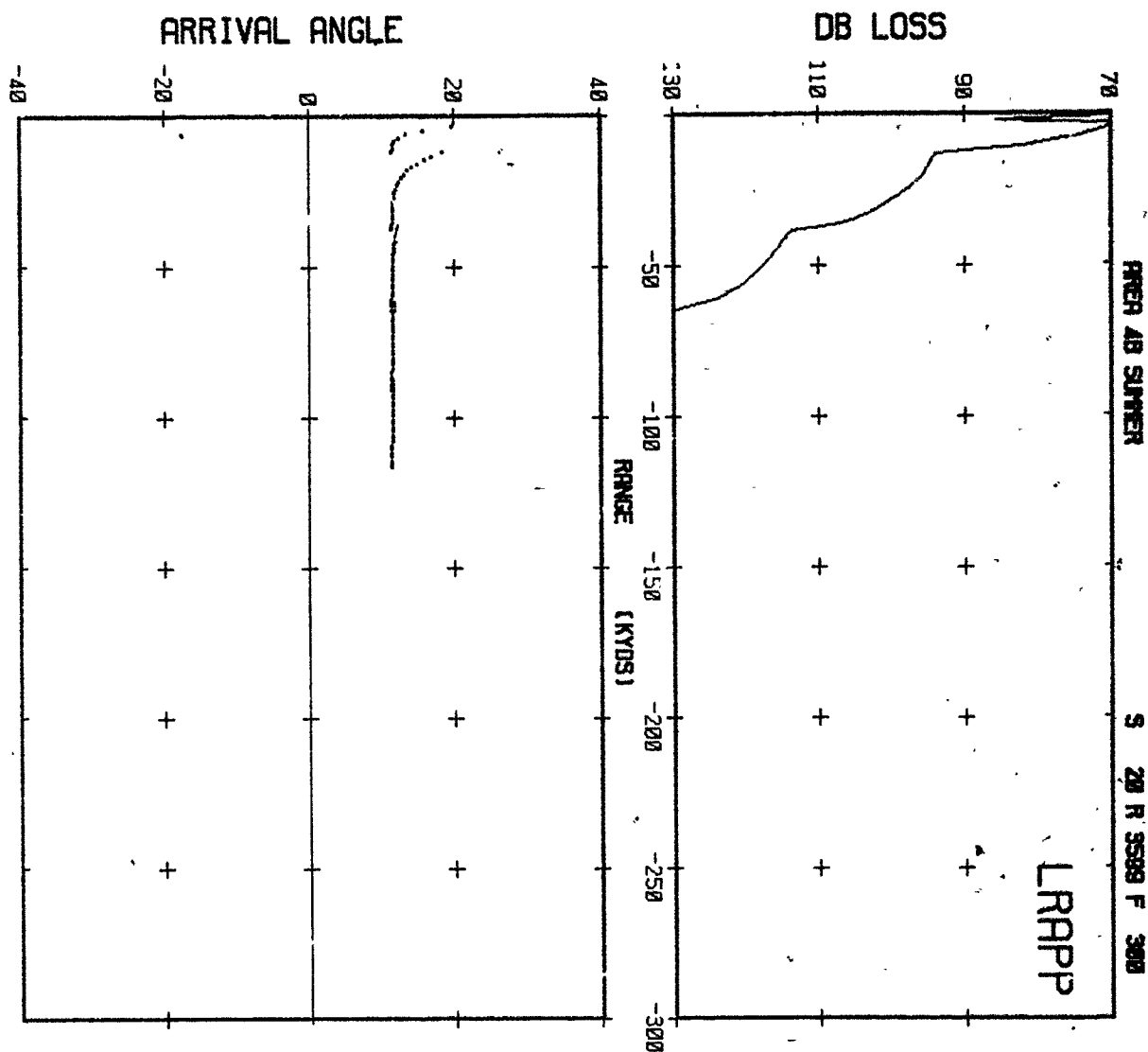
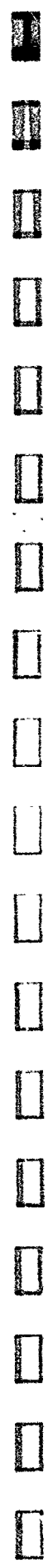
DEPTH IN METERS



NOISE (DB)



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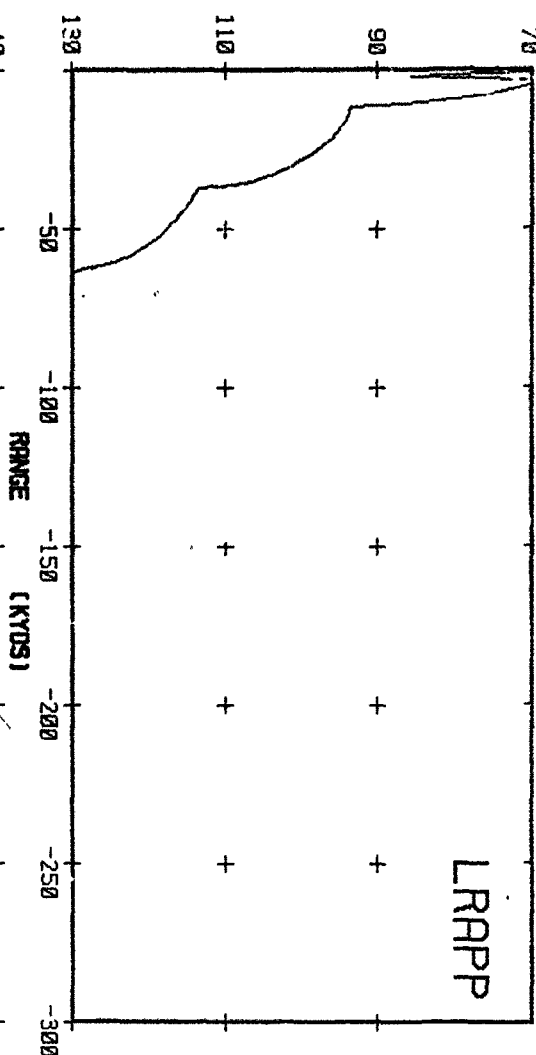
AREA 4B SUMNER

3 50 R 9509 F 300

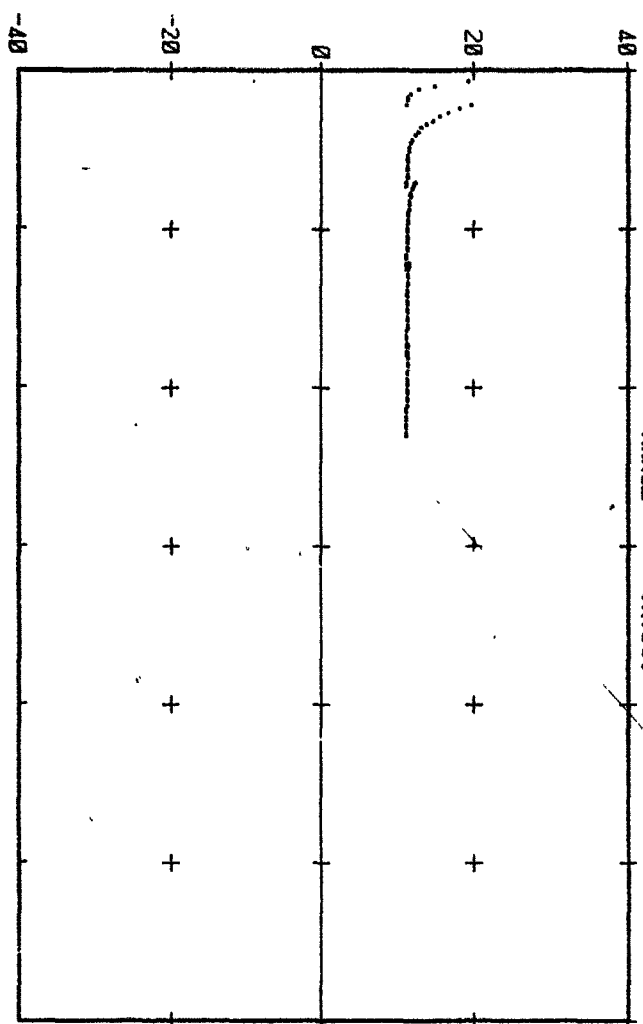
1450 M/S 1500

1550

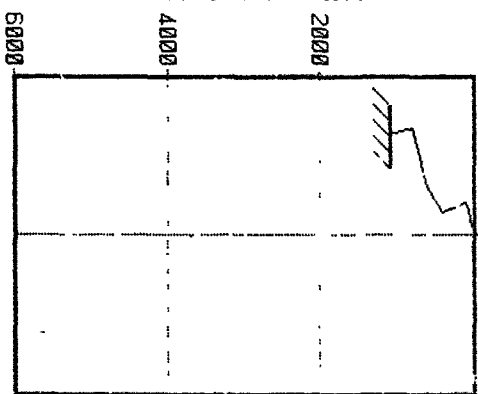
DB LOSS



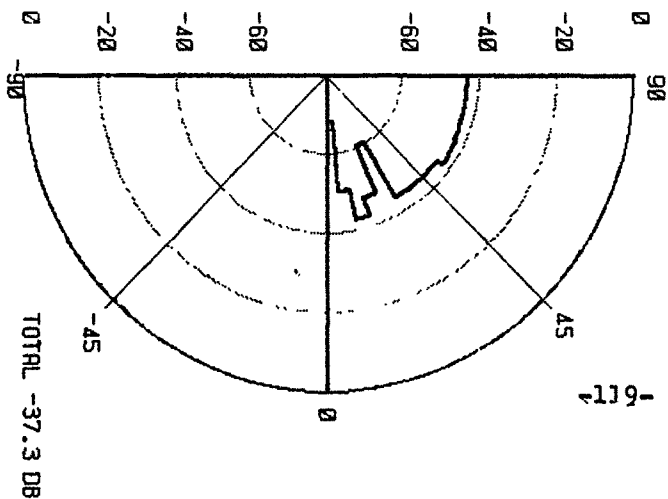
ARRIVAL ANGLE

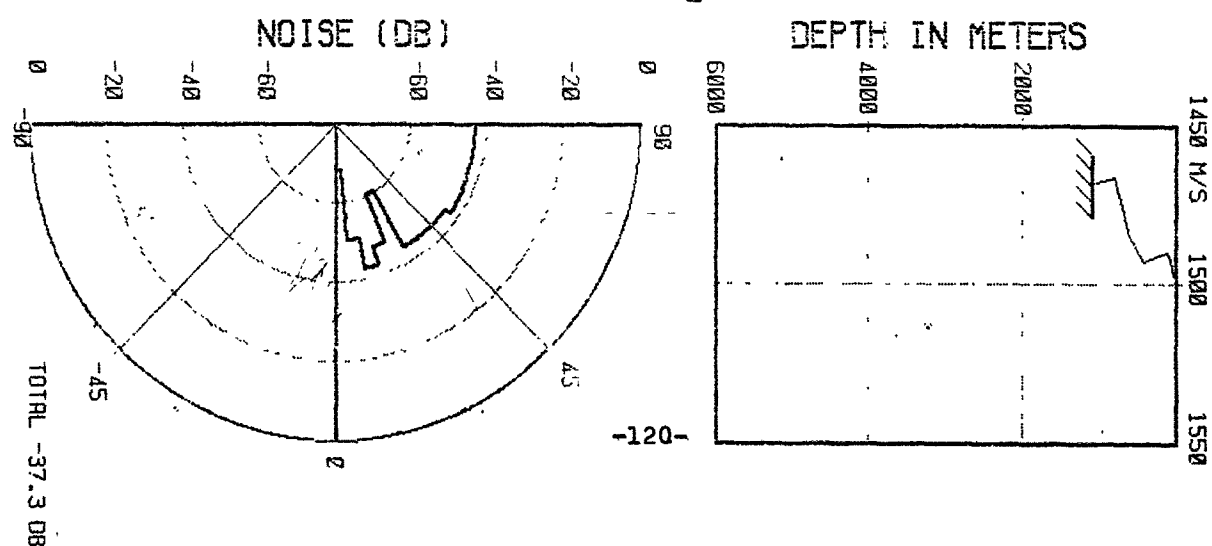
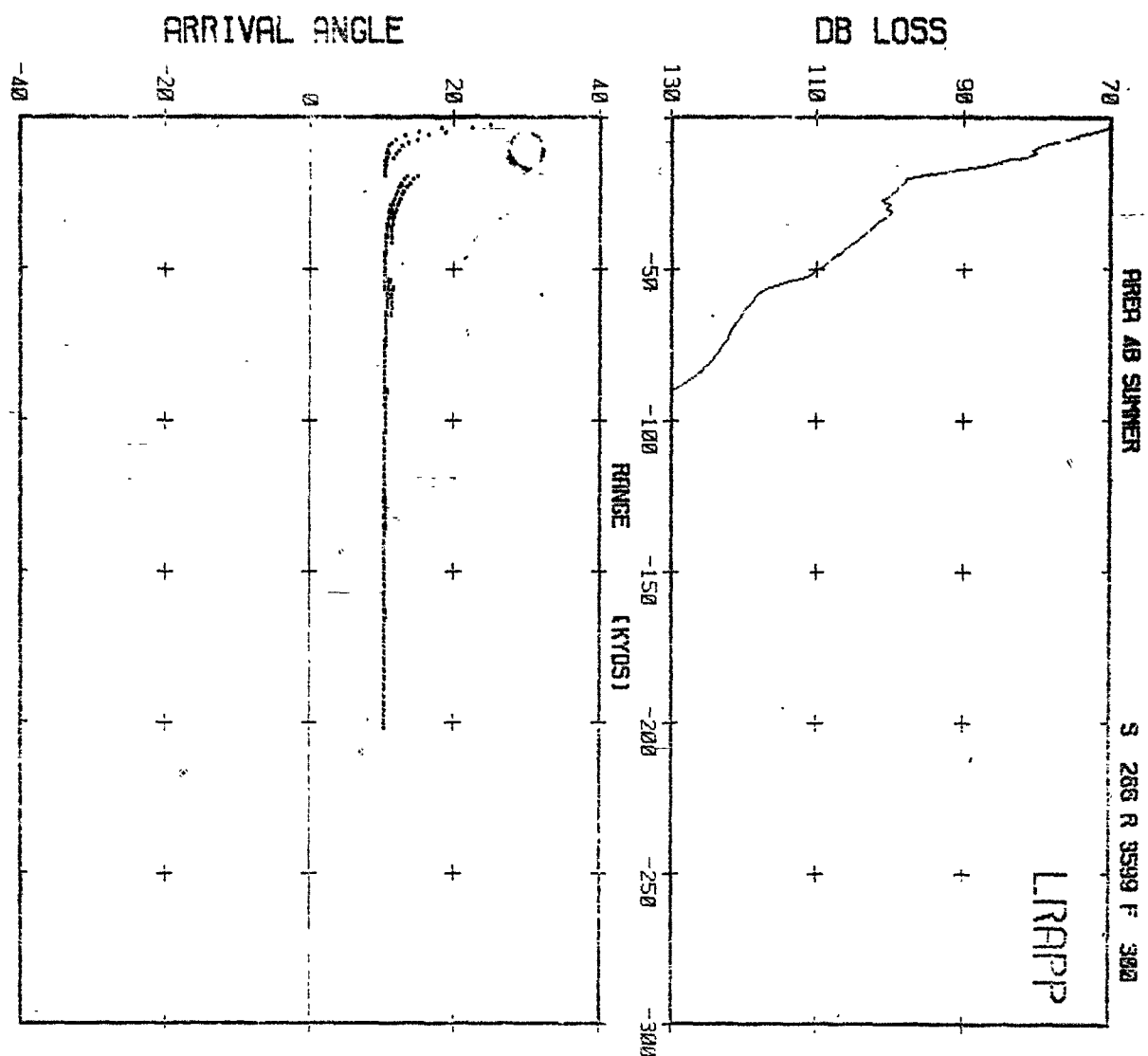


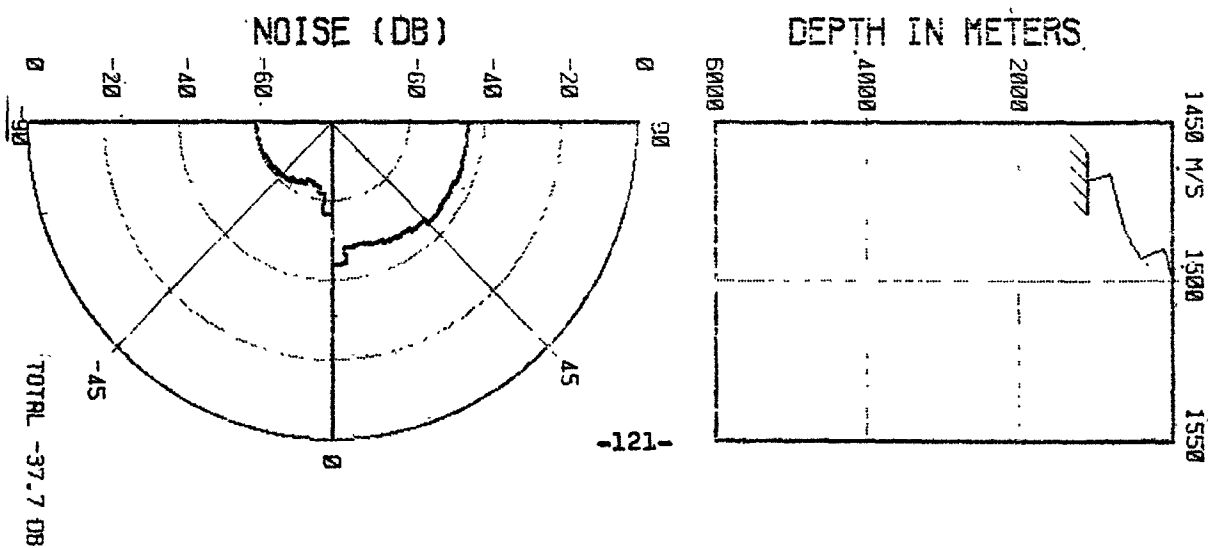
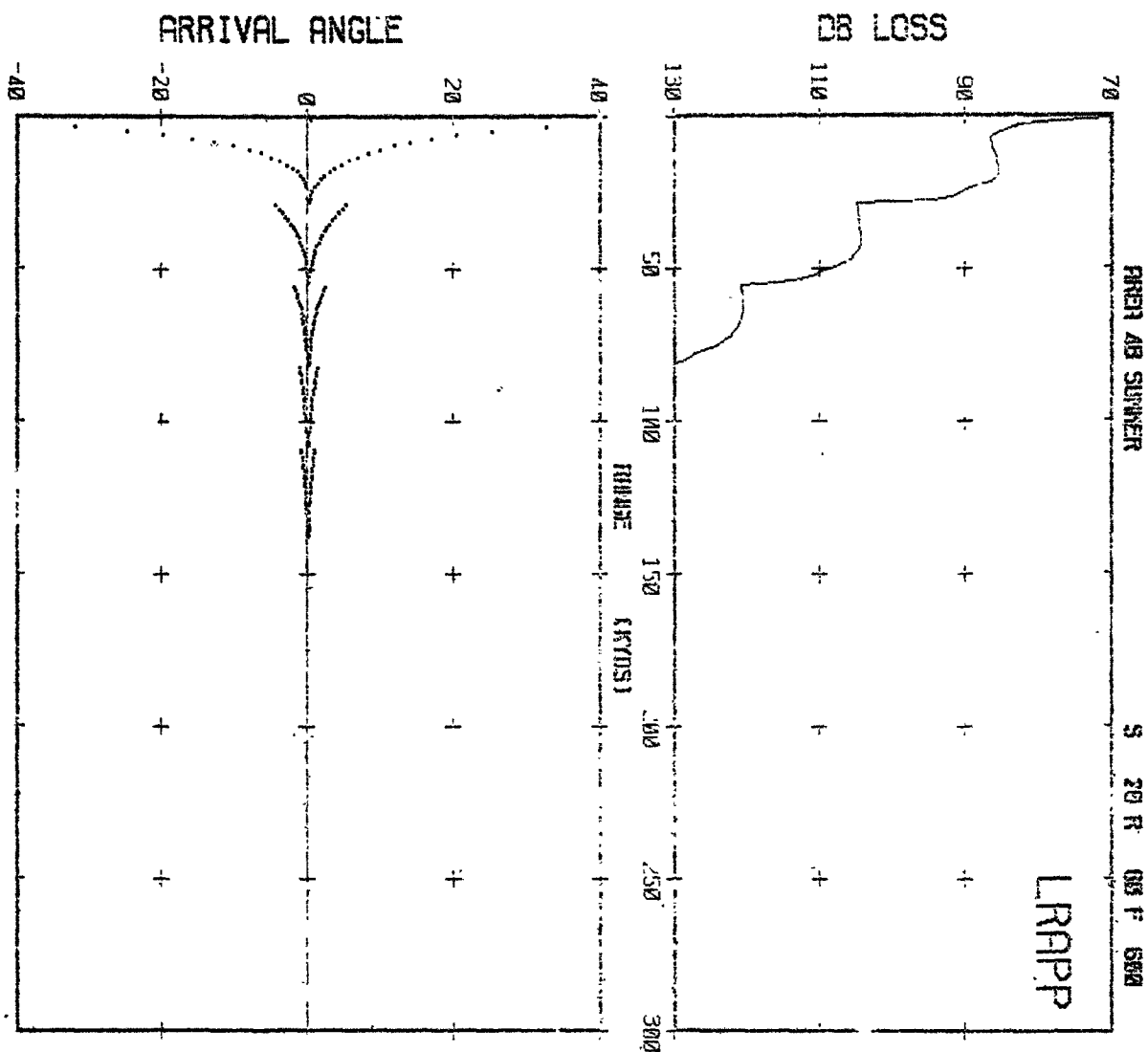
DEPTH IN METERS

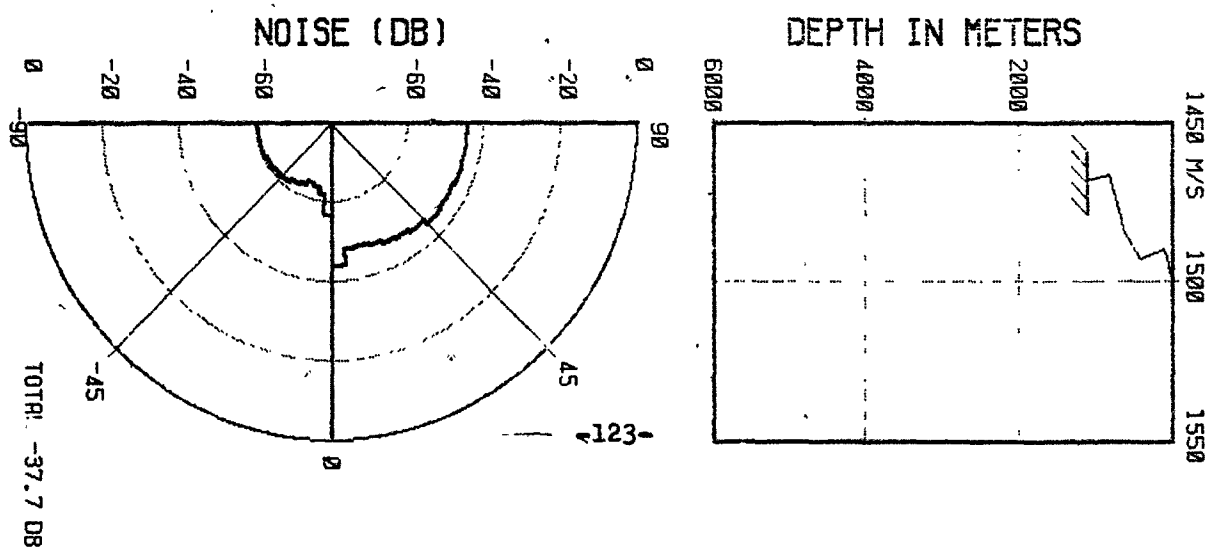
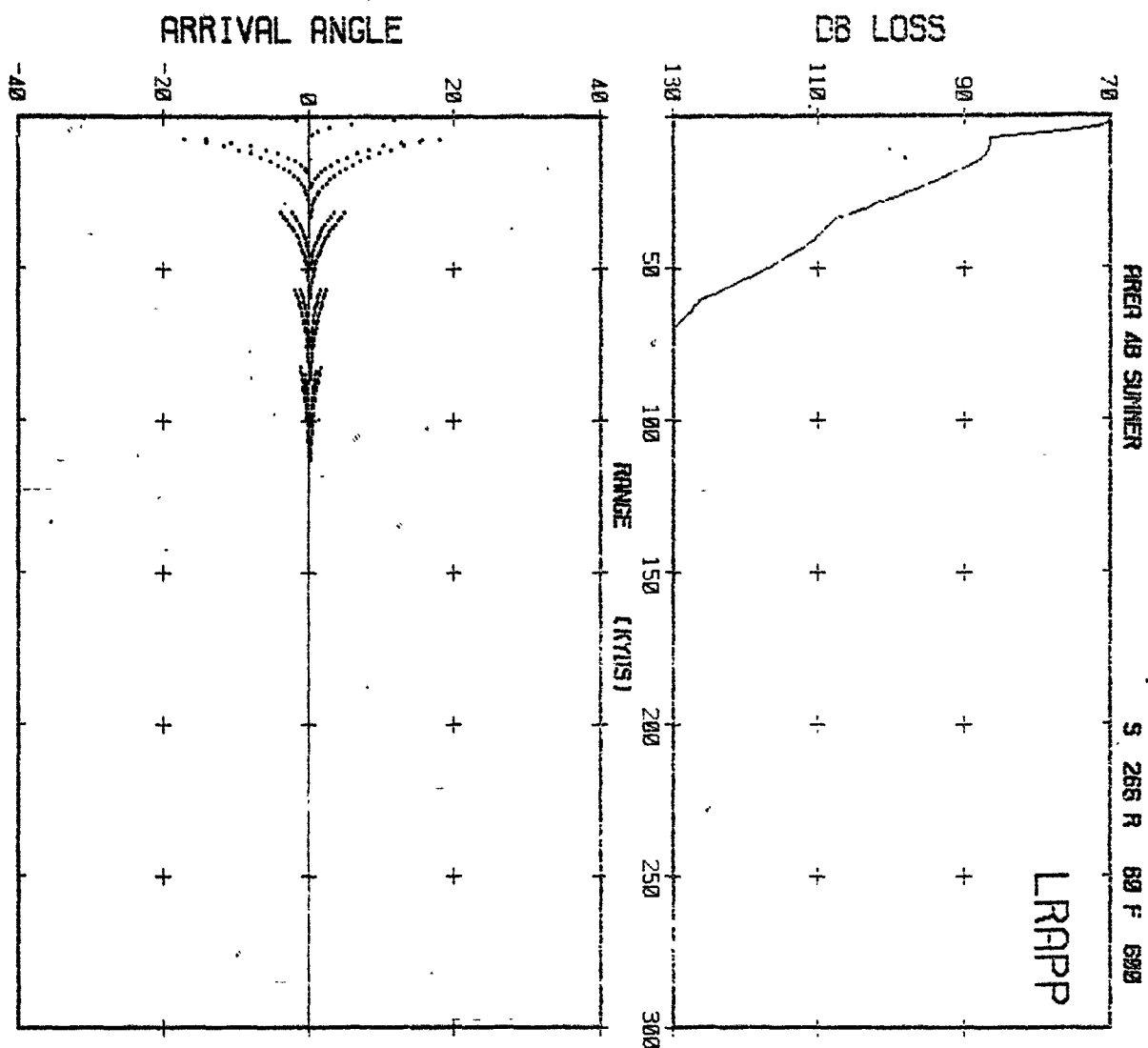


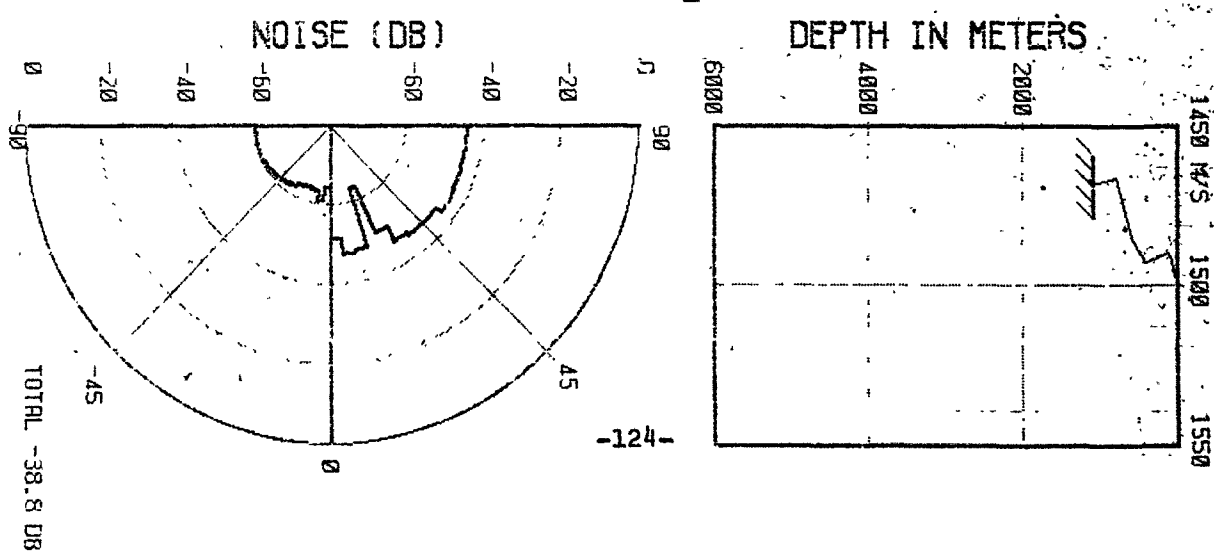
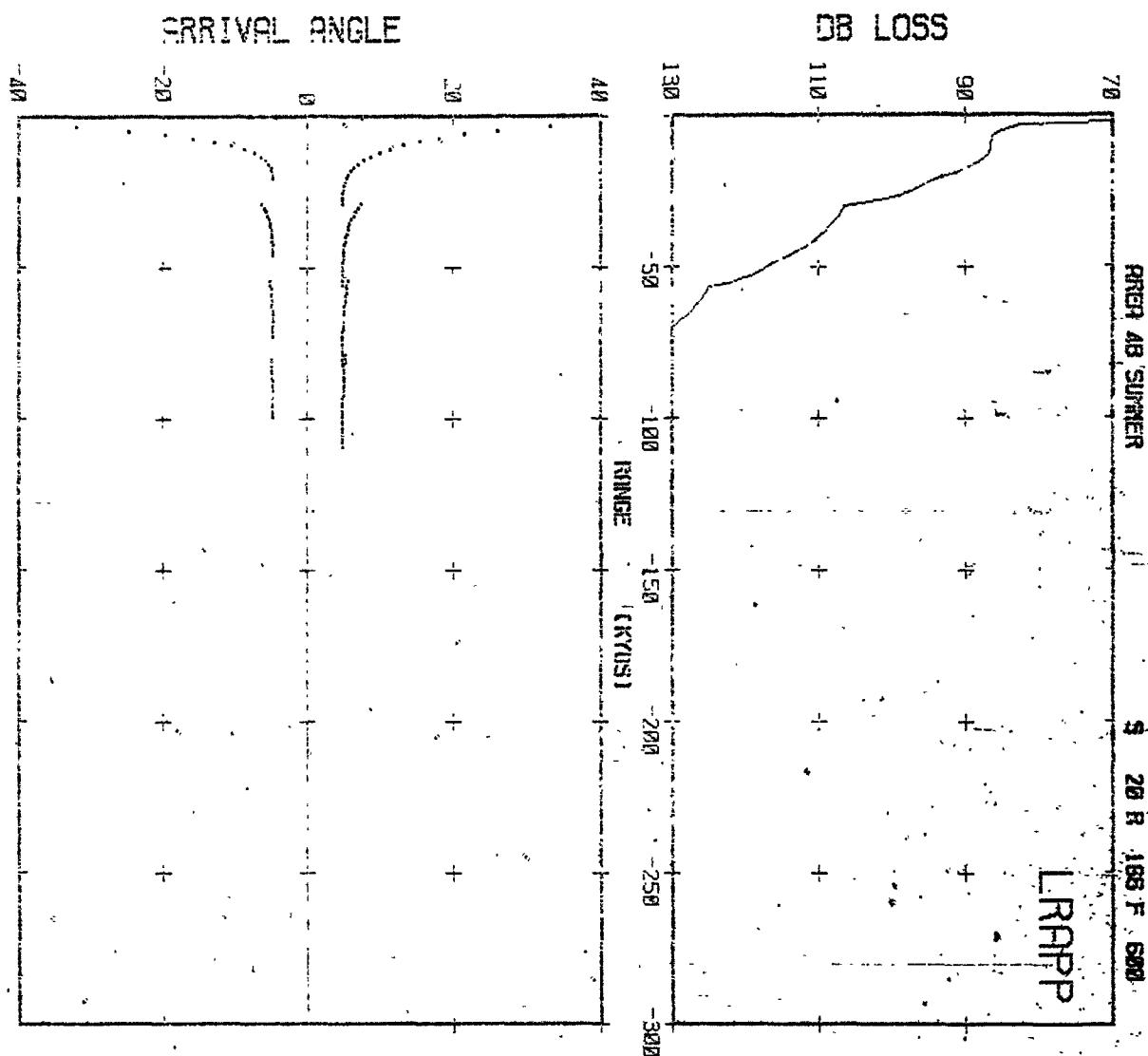
NOISE (DB)

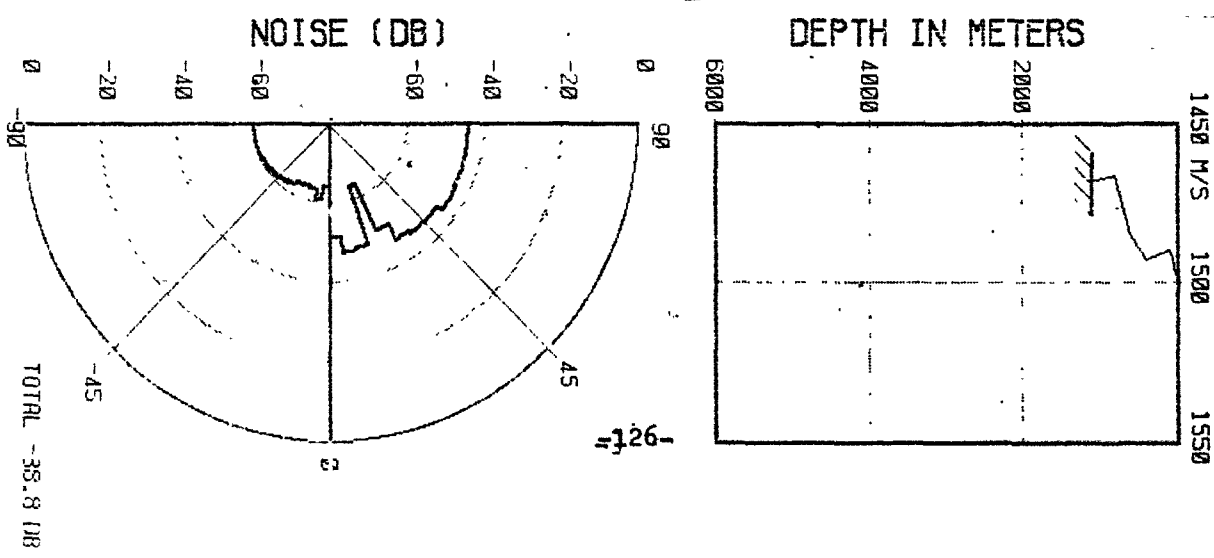
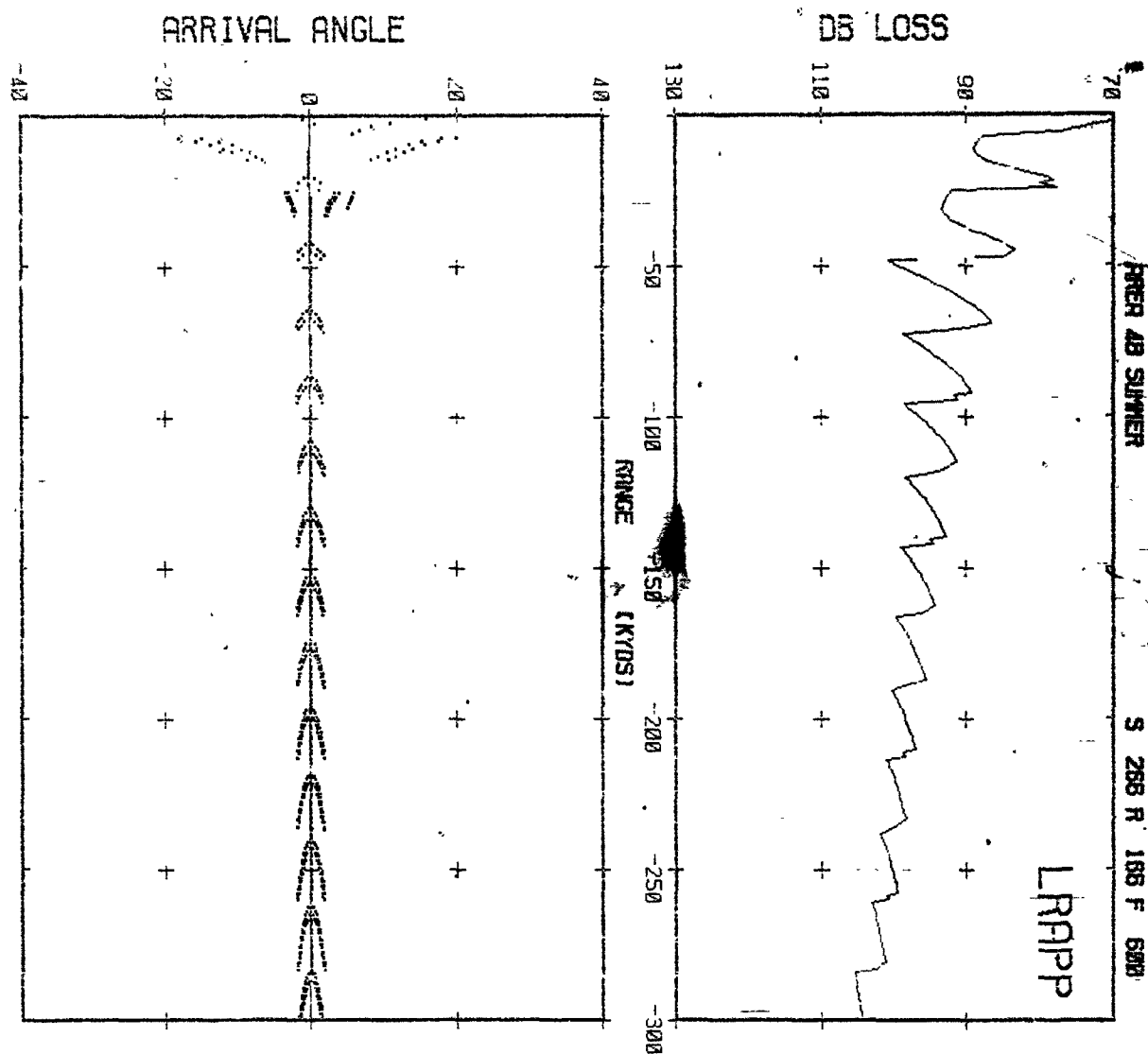












TOTAL -35.8 DB

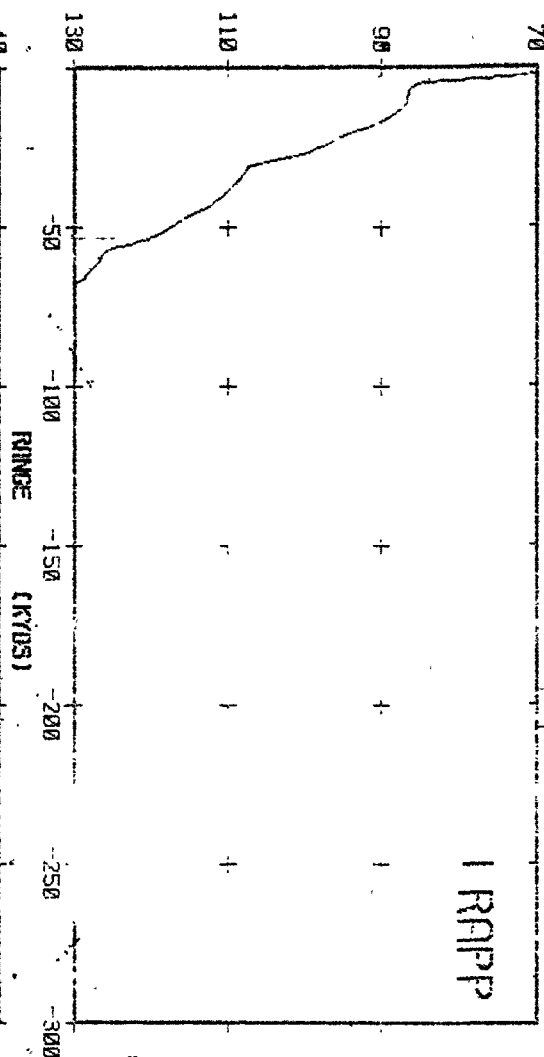
-126-

PRER AB SUMMER

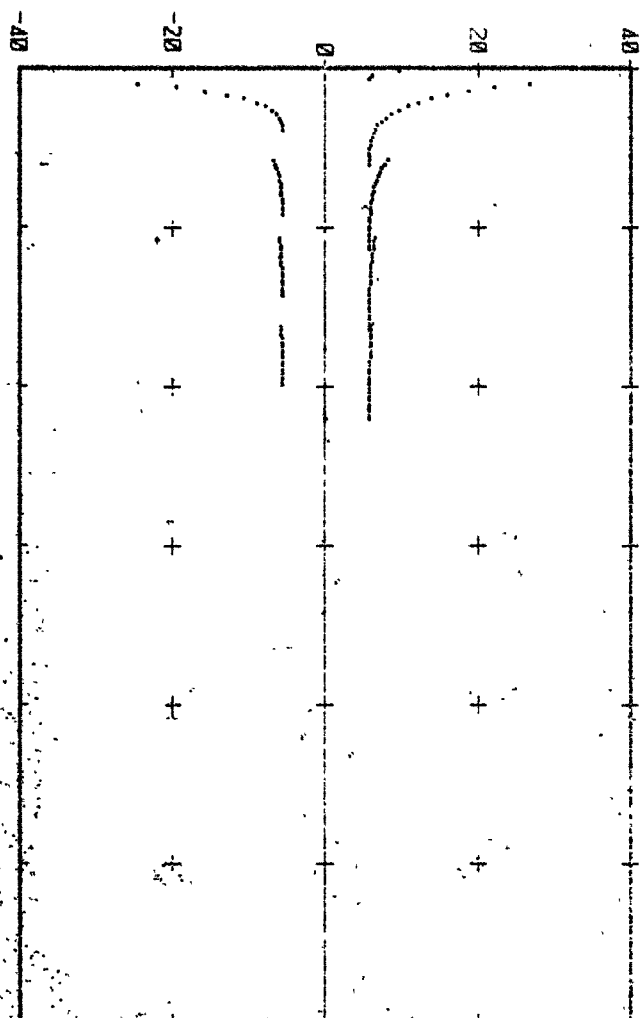
S 20 R 3M F 6901

1450 M/S 1500 1550

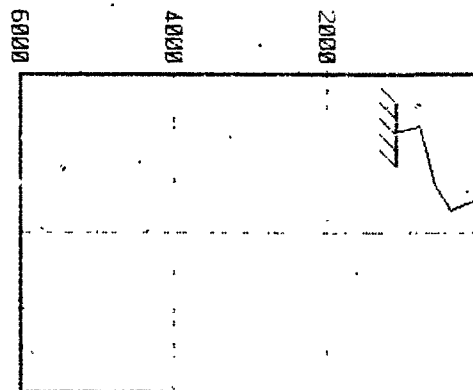
DB LOSS



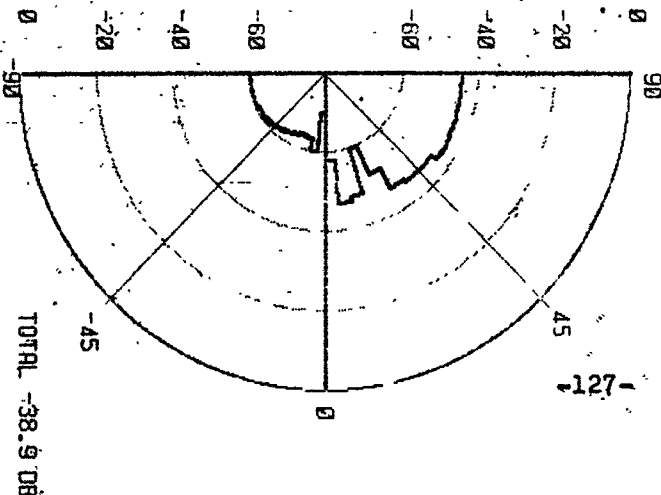
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



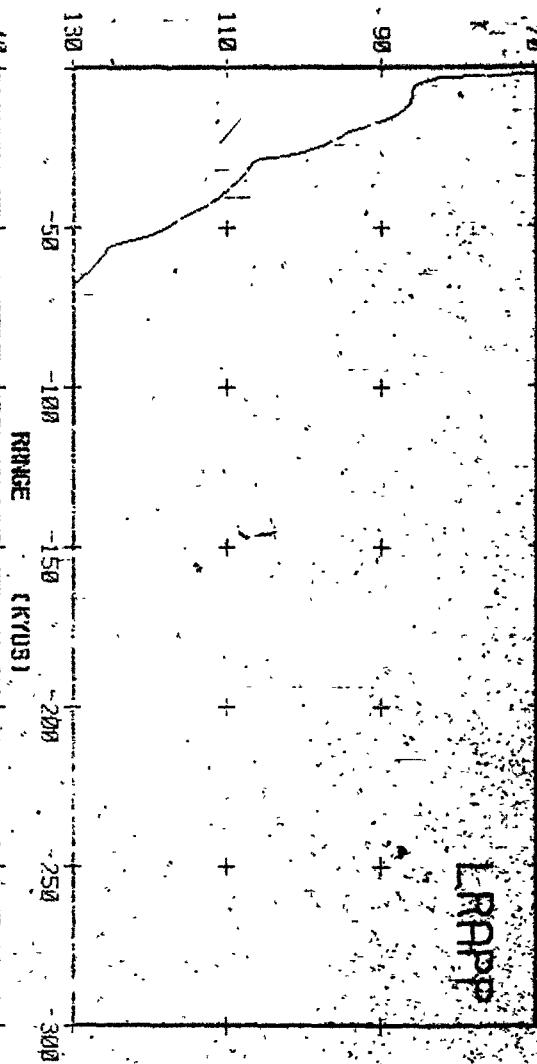
GREEN AB SUMMER

9:00 H. 300 F. 600

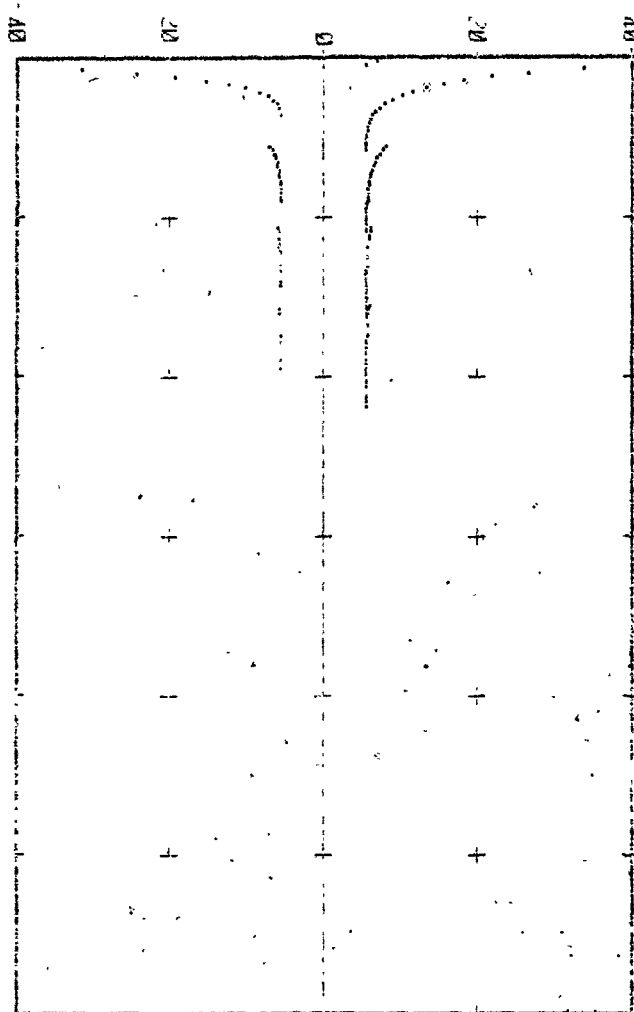
1450 M/S 1800

1550

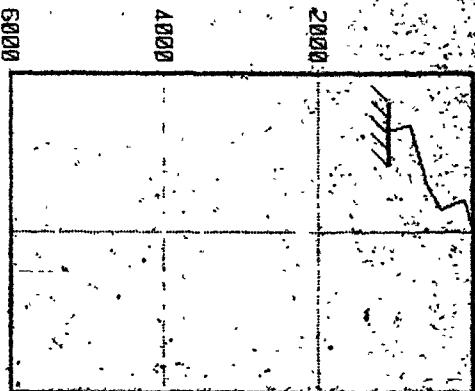
DB LOSS



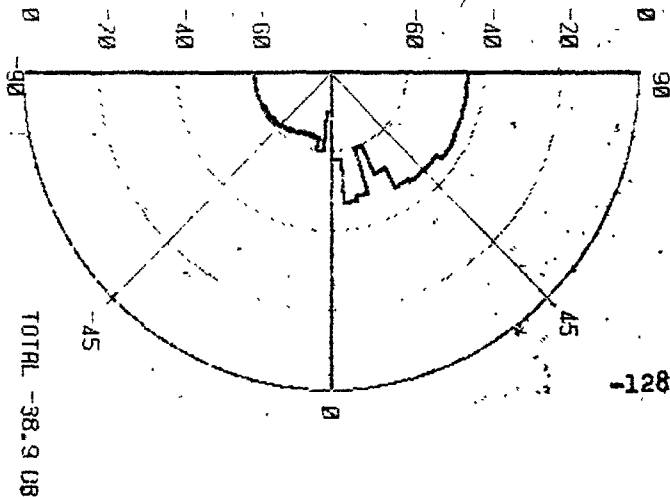
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

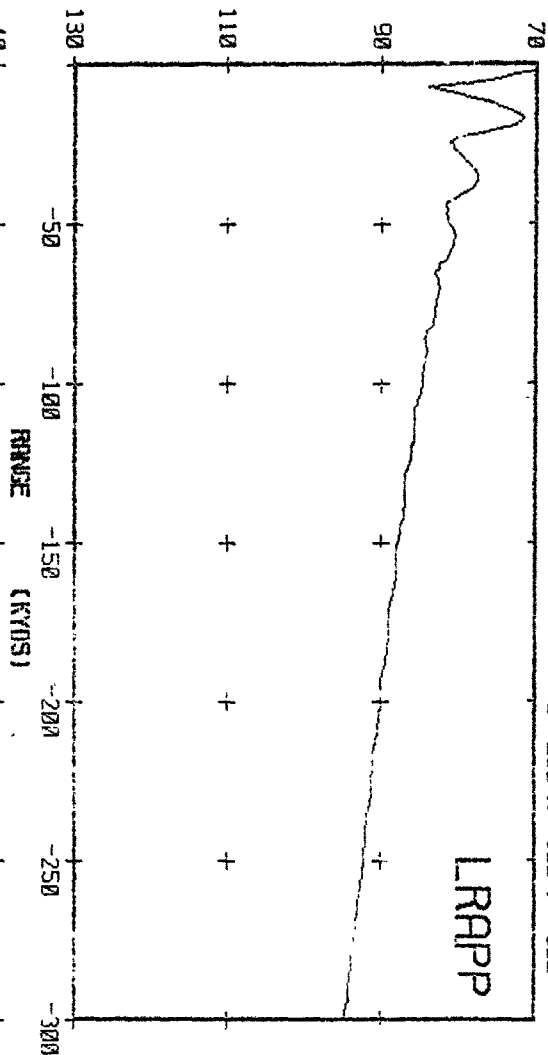


AREA AB SUMMER

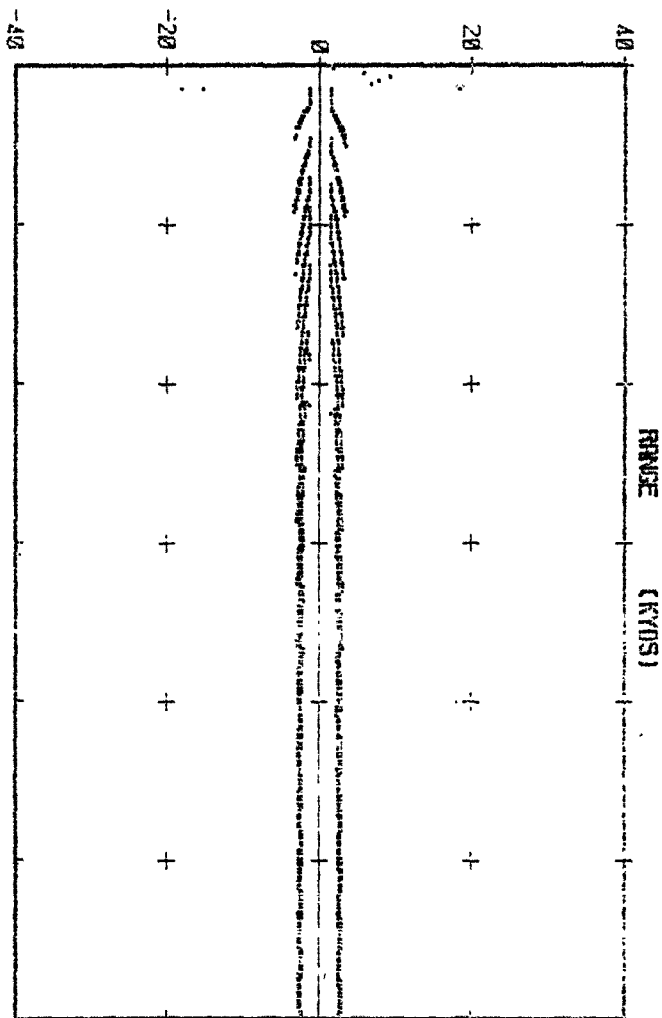
S 266 R 300 F 600

1450 M/S 1500 1550

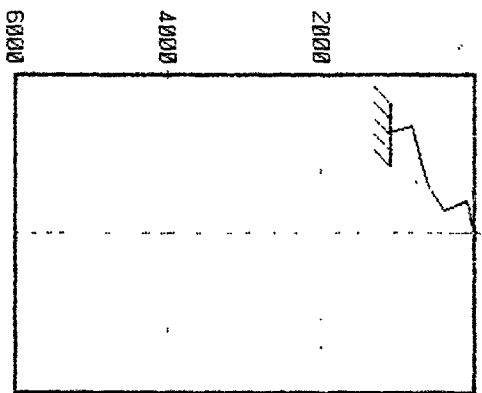
DB LOSS



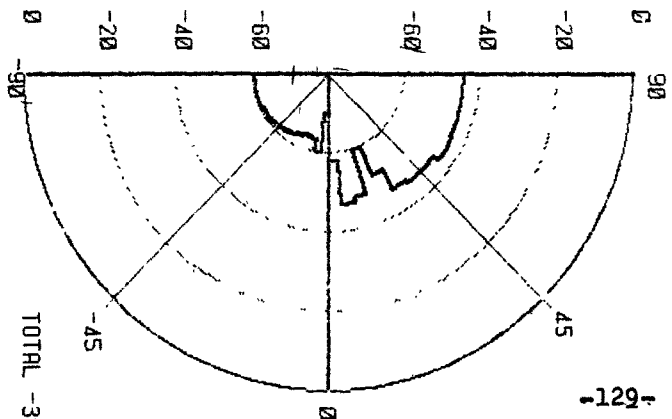
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



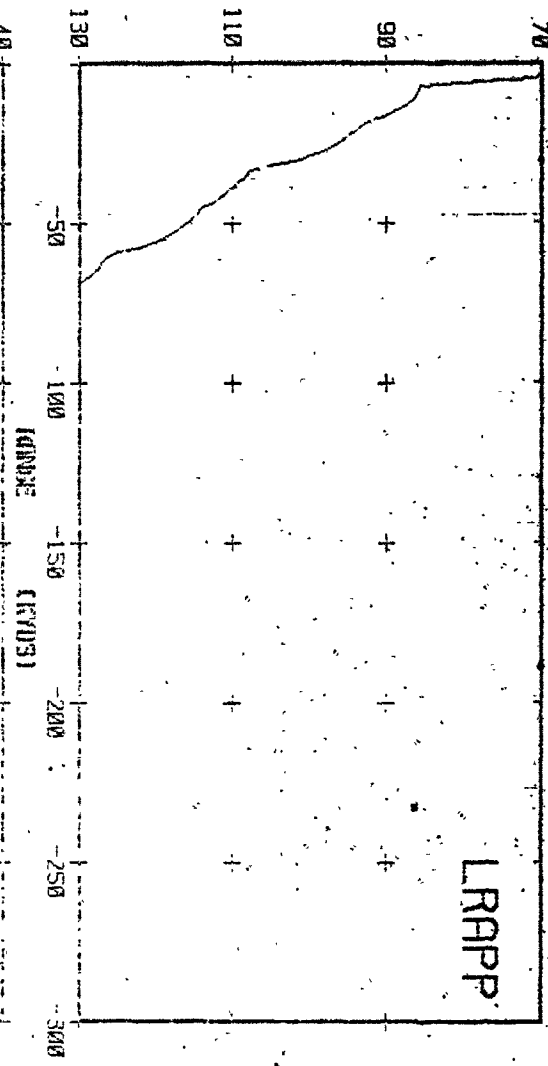
ORDER AB SUMNER

S 20 R 1000 F 600

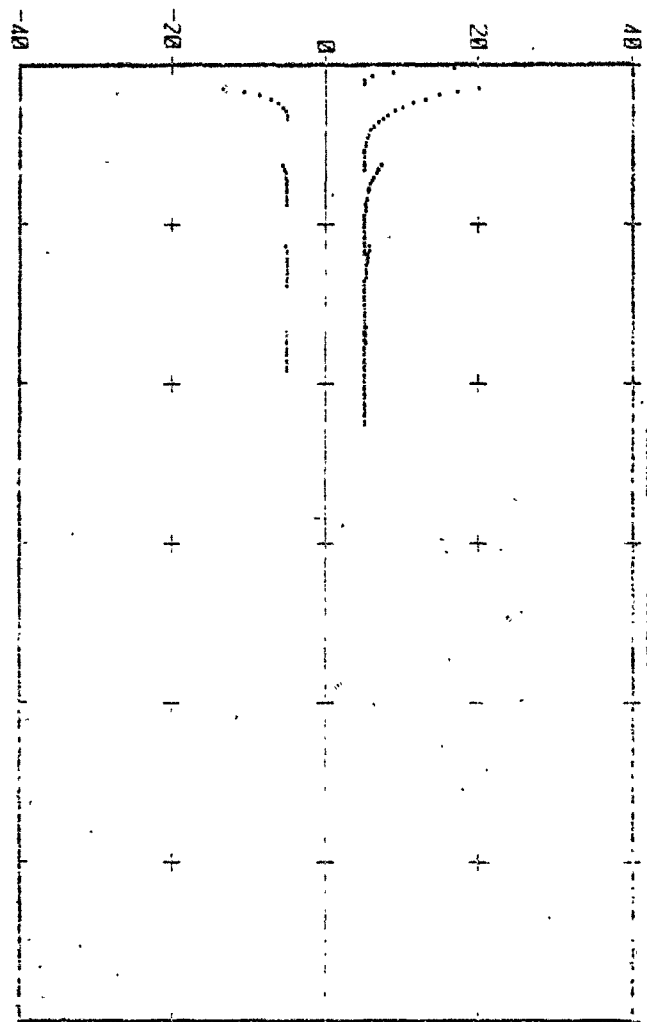
1450 MYS 1500

1550

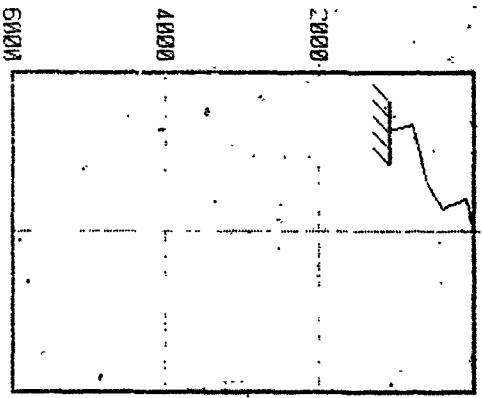
DB LOSS



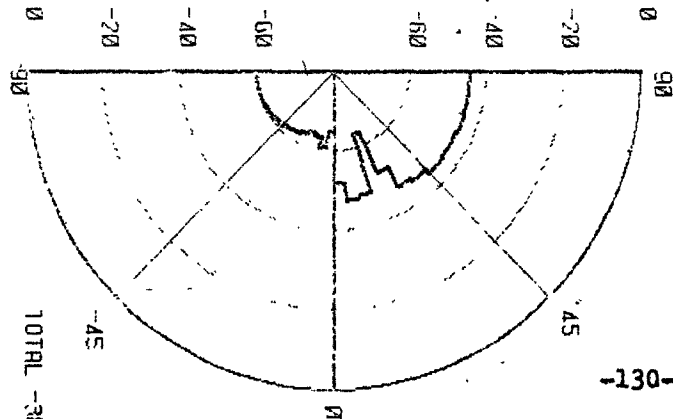
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



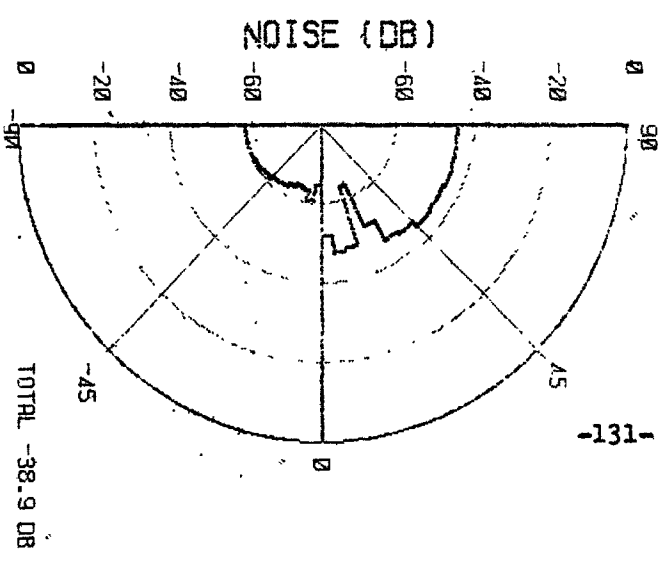
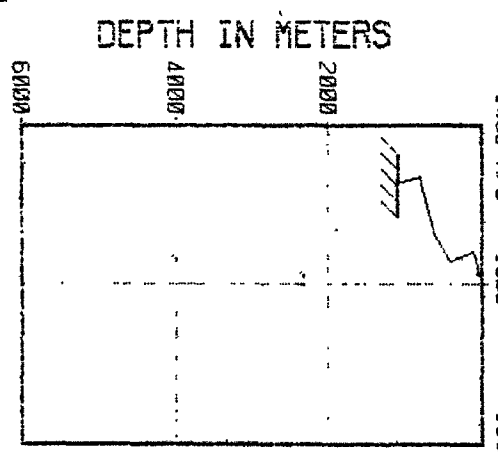
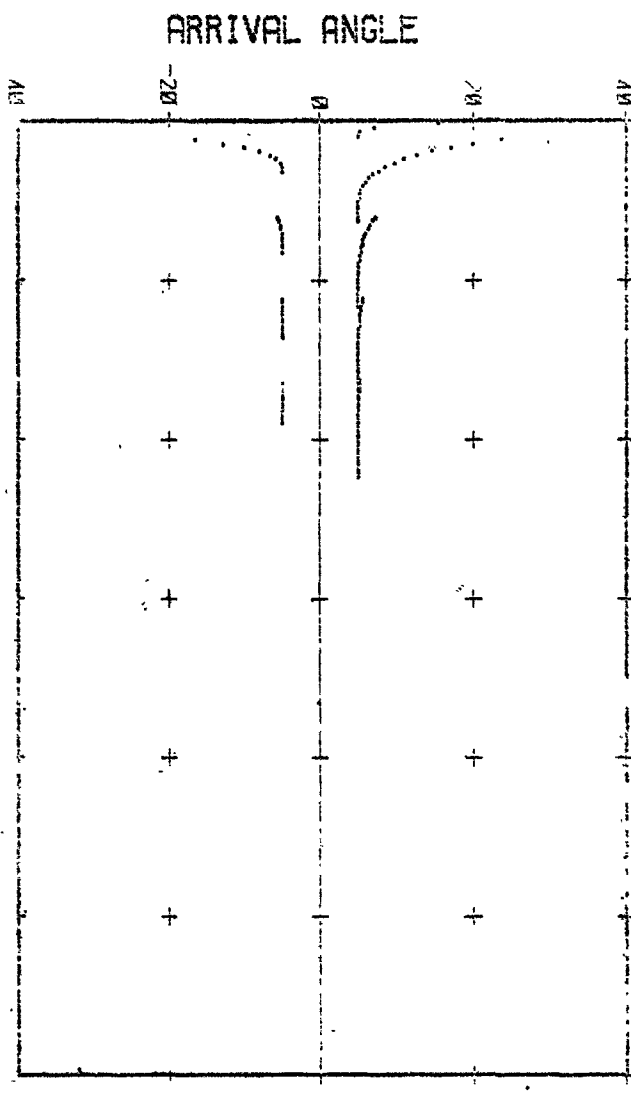
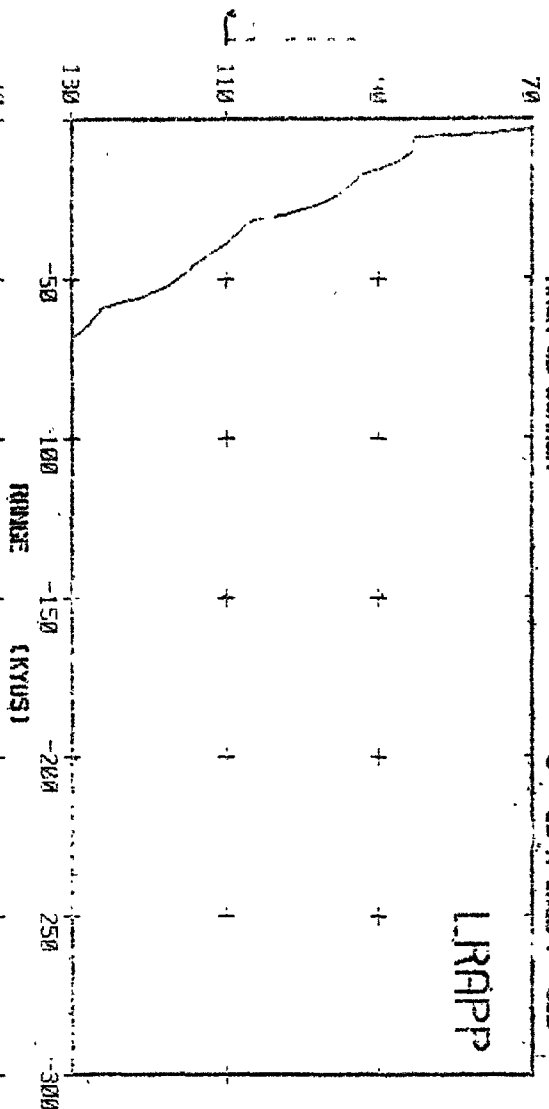
TOTAL -78.9 DB

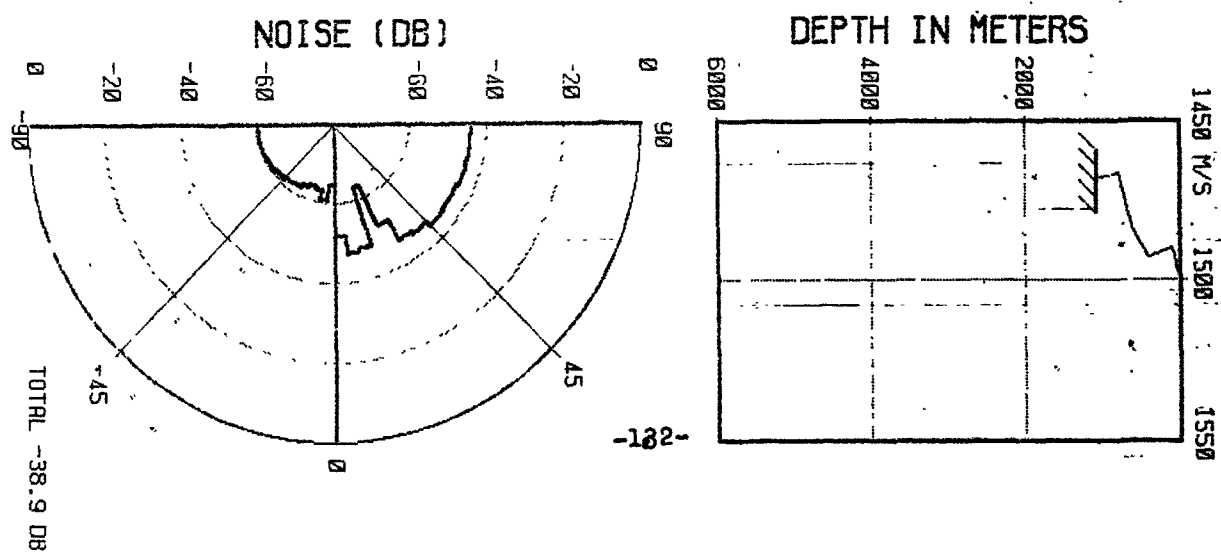
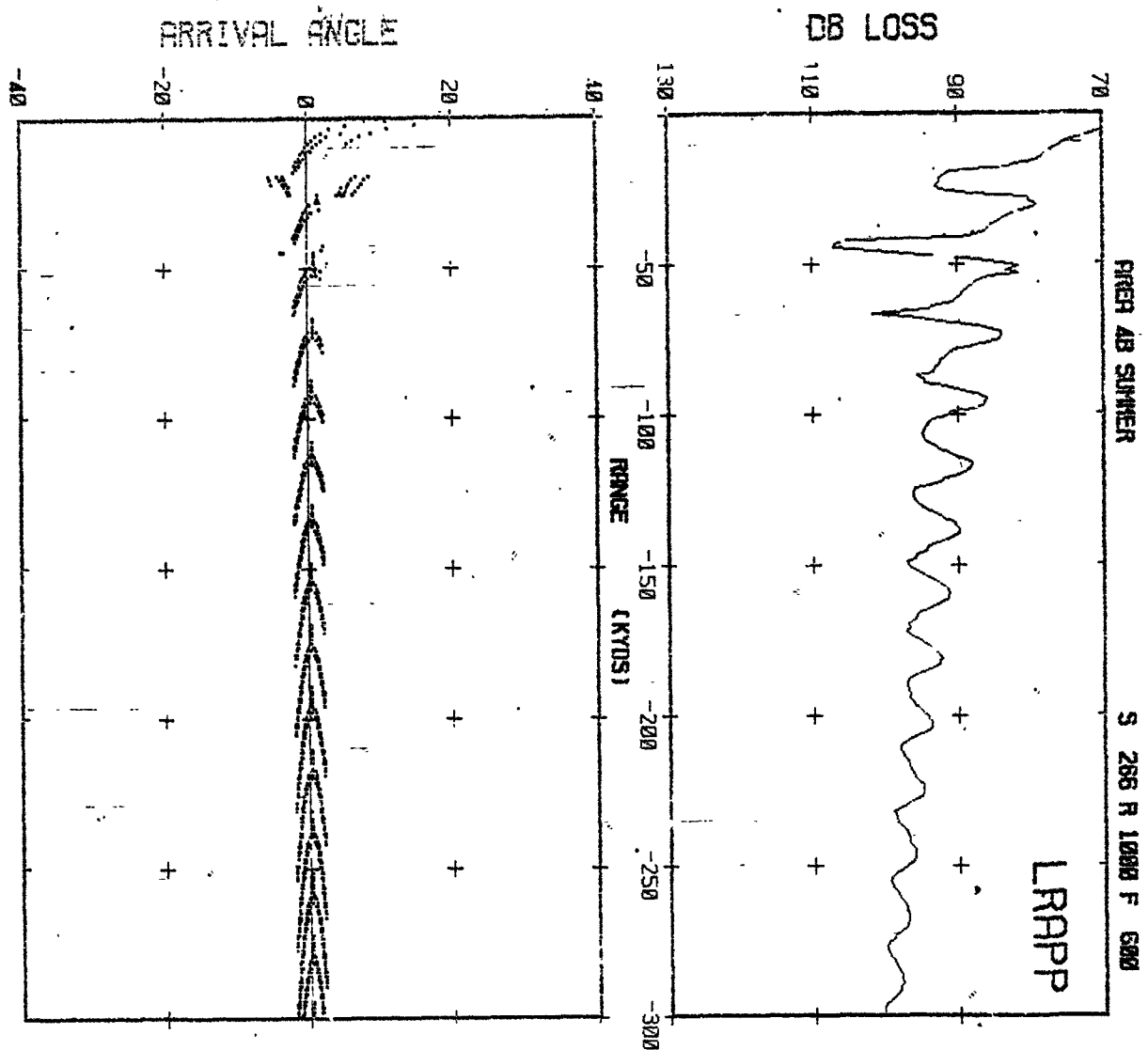
GREEN AB SUMMER

S 50 R 1000 F 600

1450 M/S 1500 1550

LRAPP





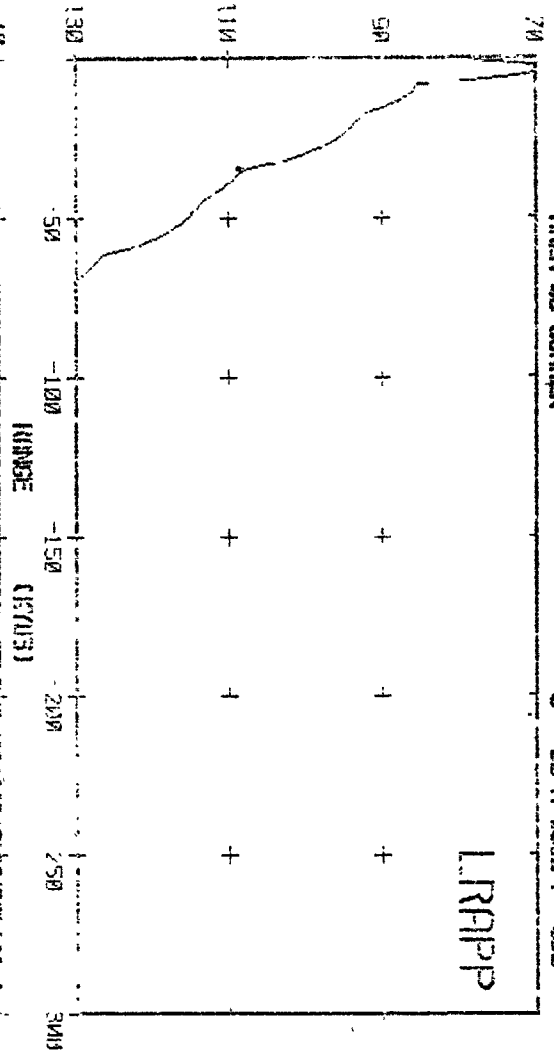
PRER AB SUMMER

S 20 R 1312 F 683

1450 M/S 1500 1510

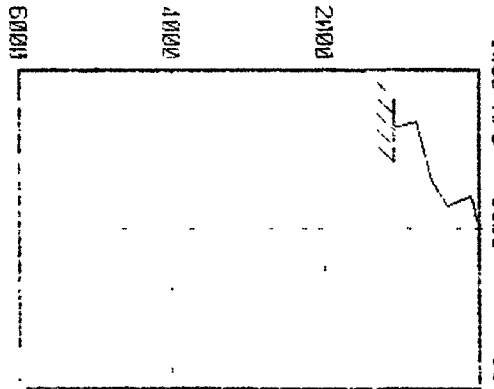
05 1088

LRAPP

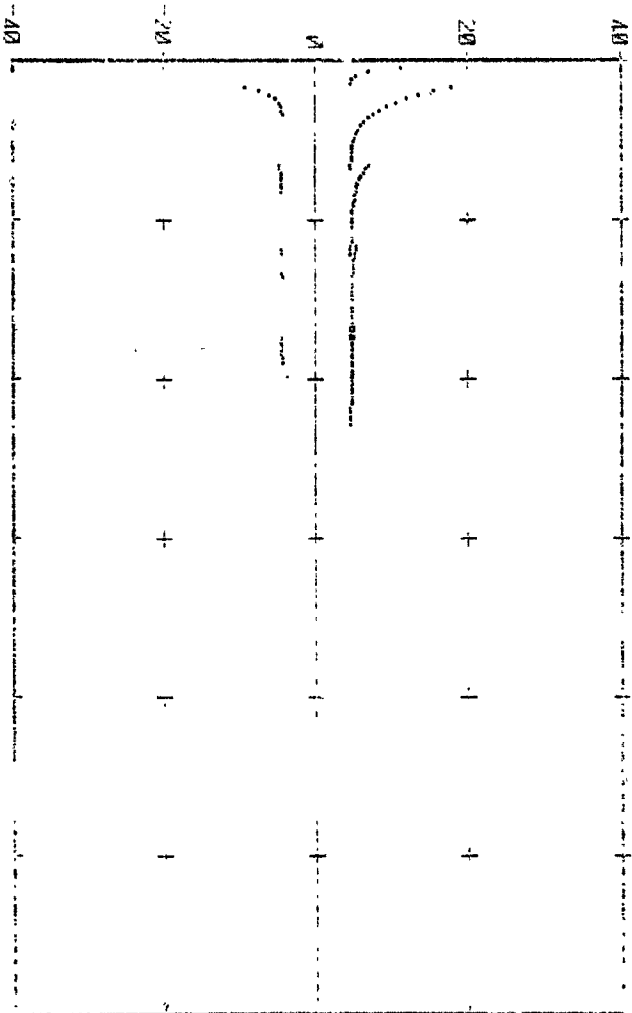


RANGE (KILOM)

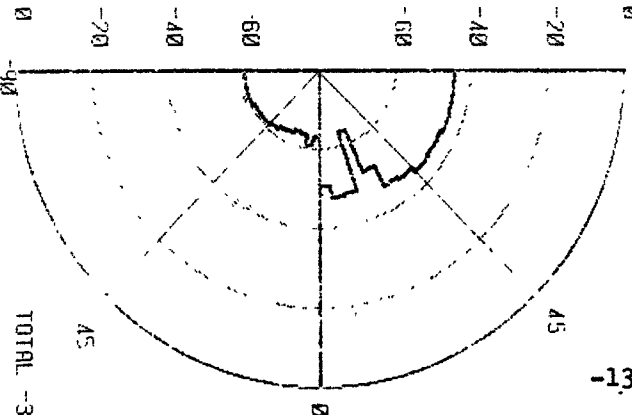
DEPTH IN METERS



ARRIVAL ANGLE

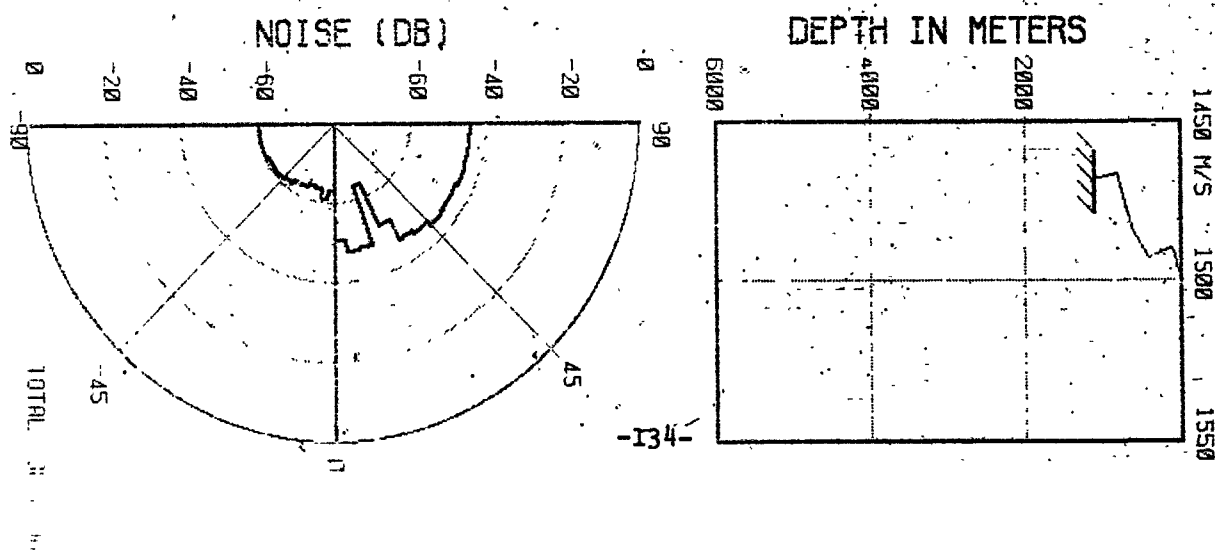
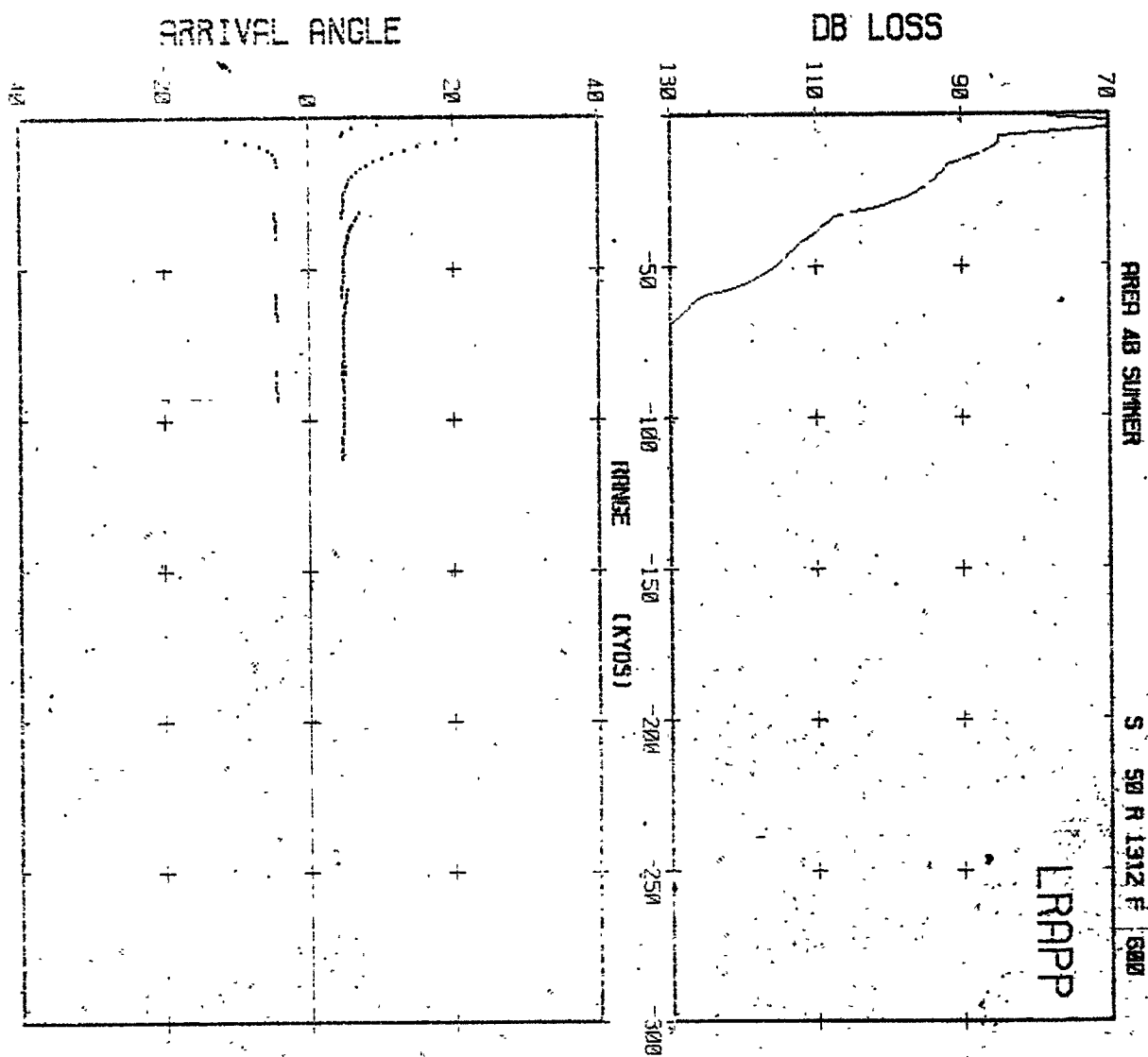


NOISE (DB)



TOTAL -38.6174

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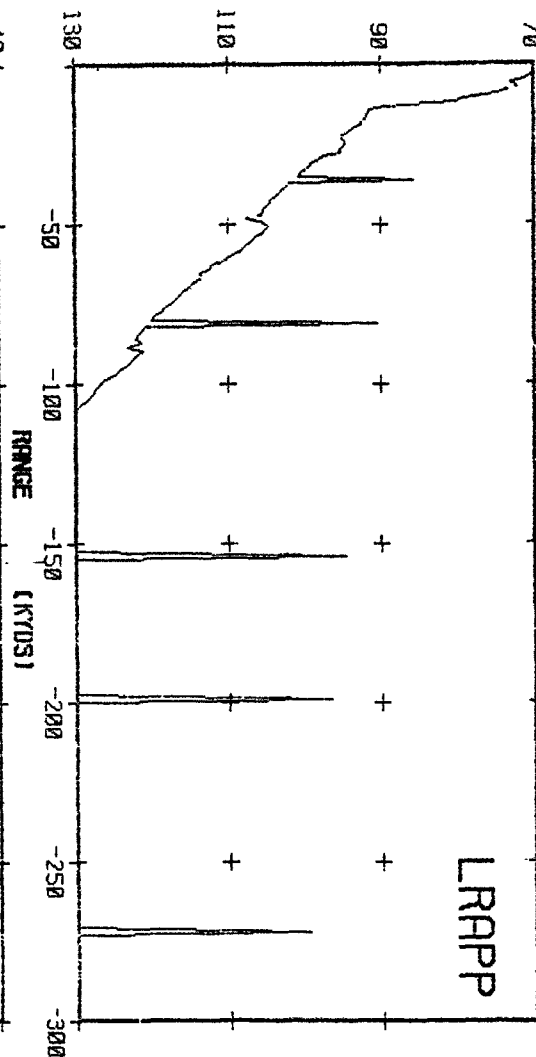


AREA 4B SUMMER

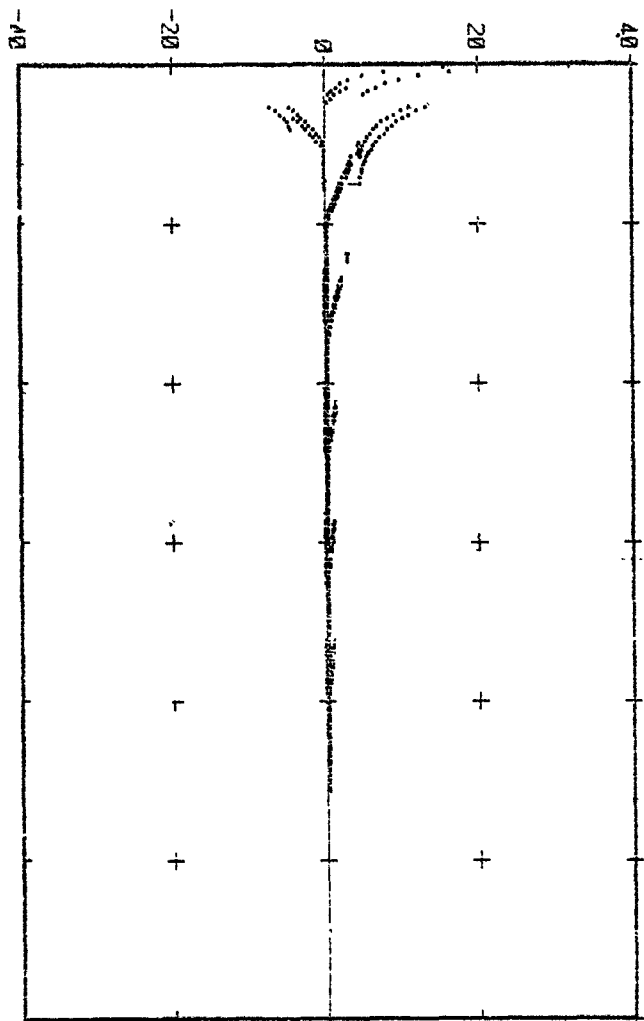
S 268 R 1312 F 600

1450 M/S 1500 1550

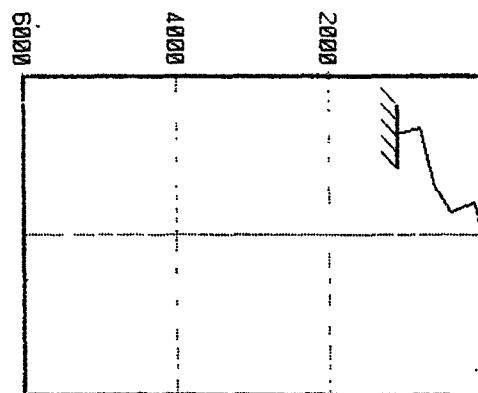
DB LOSS



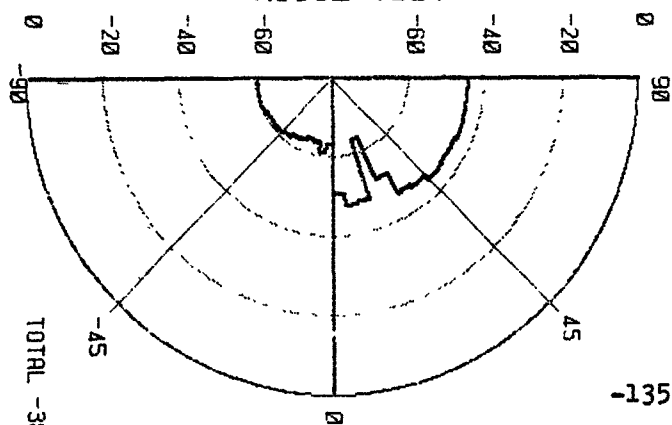
ARRIVAL ANGLE



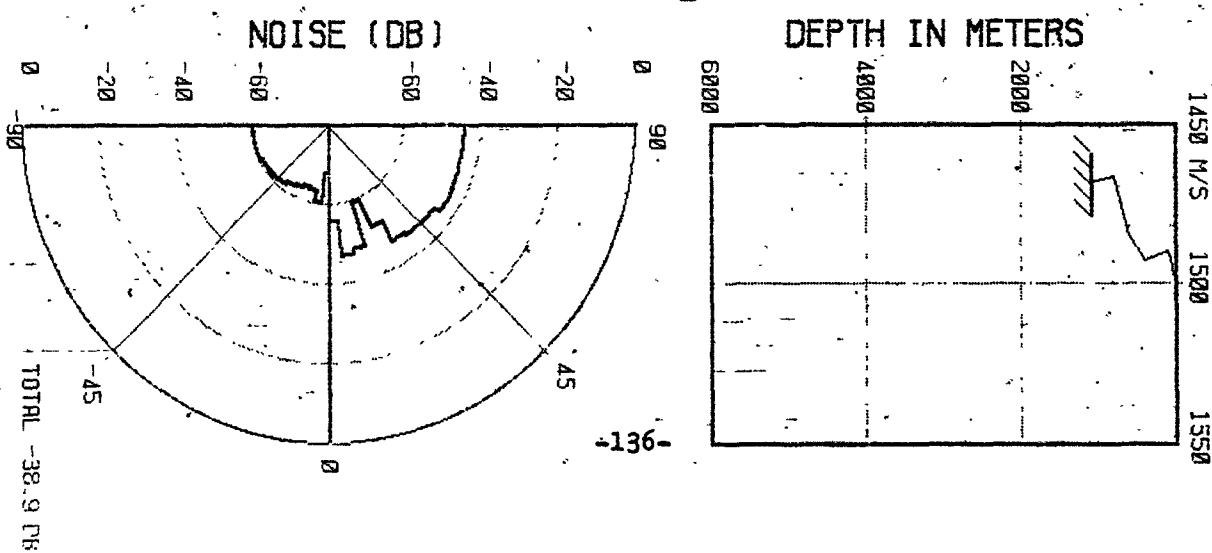
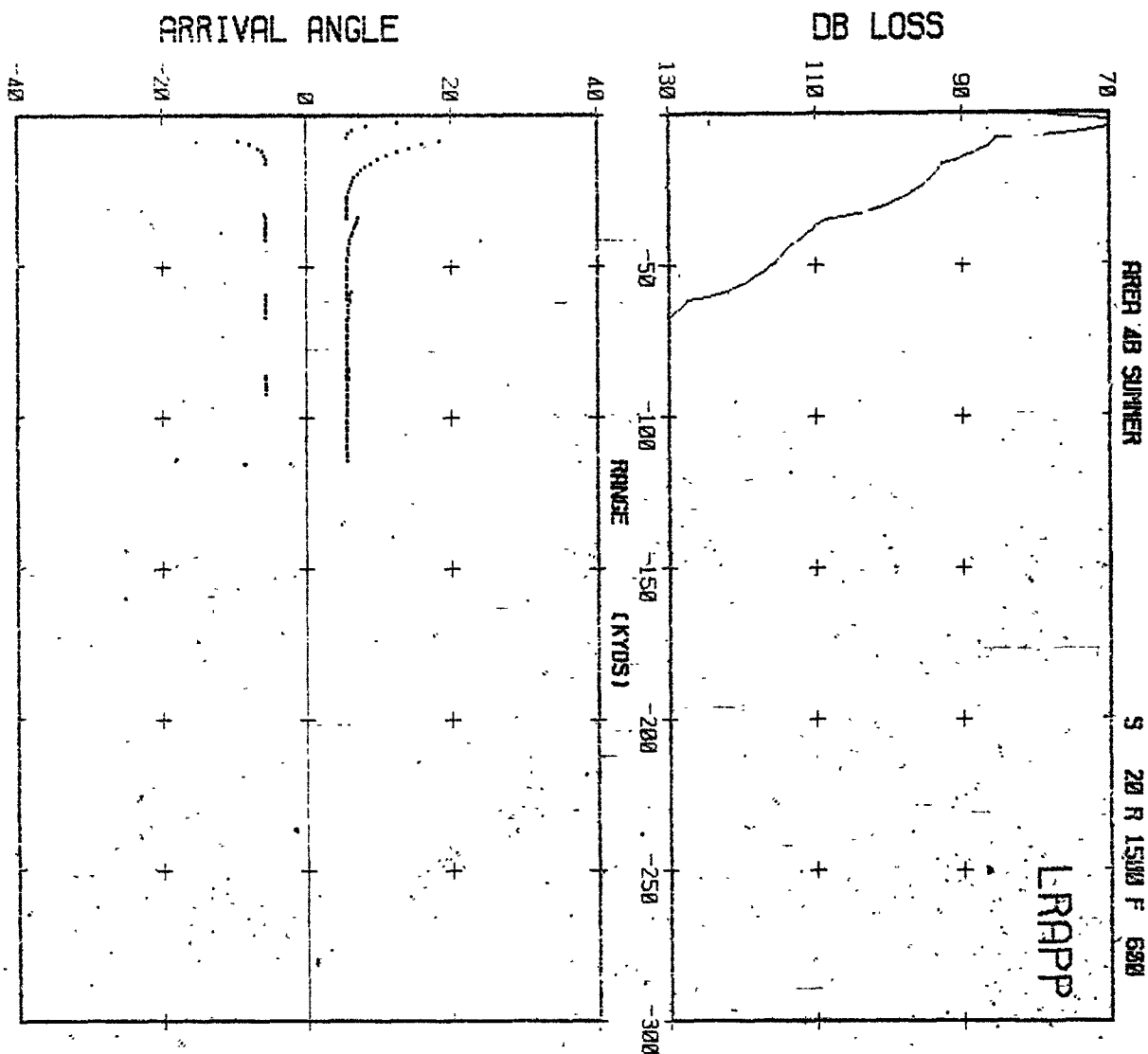
DEPTH IN METERS



NOISE (DB)



TOTAL -38.8 DB

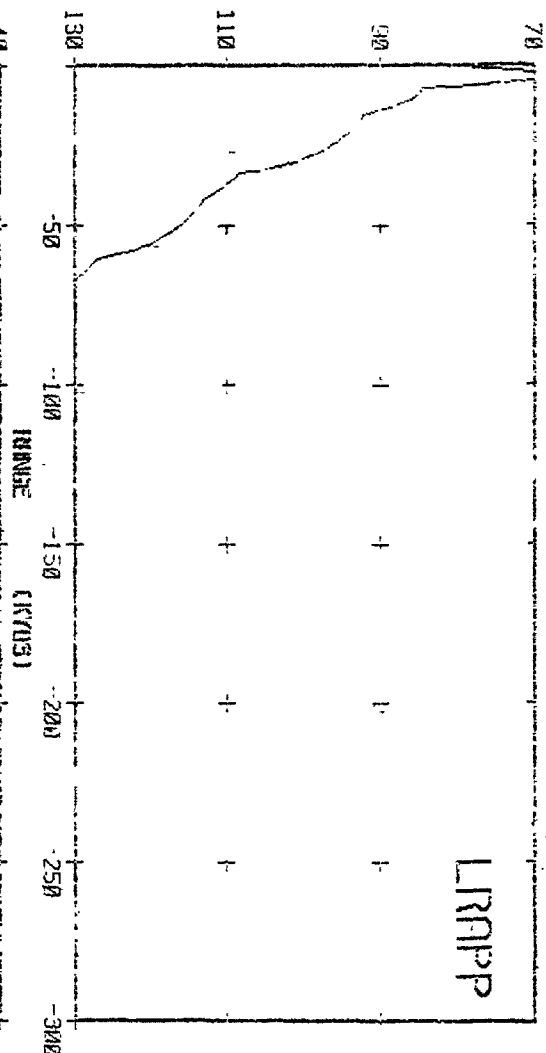


FINER AB SUMMER

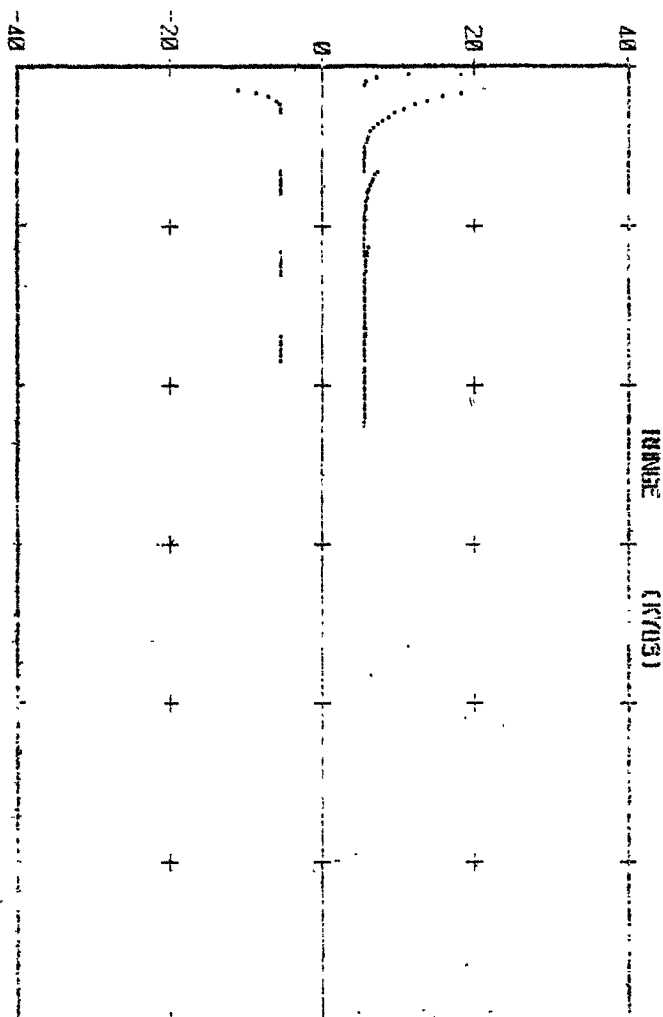
S 50 R 1500 F 600

1450 M/S 1500 1550

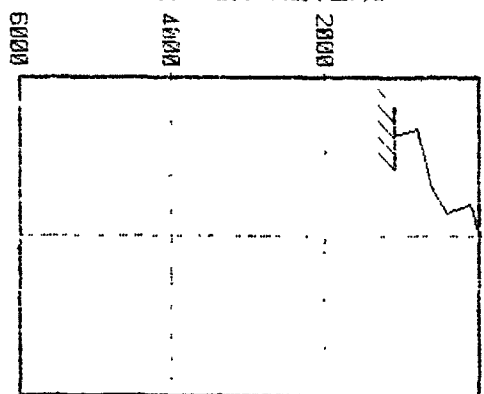
DB LOSS



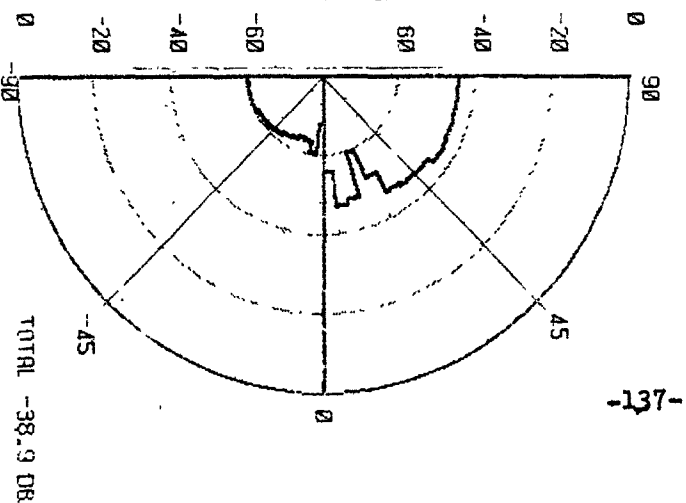
ARRIVAL ANGLE



DEPTH IN METERS

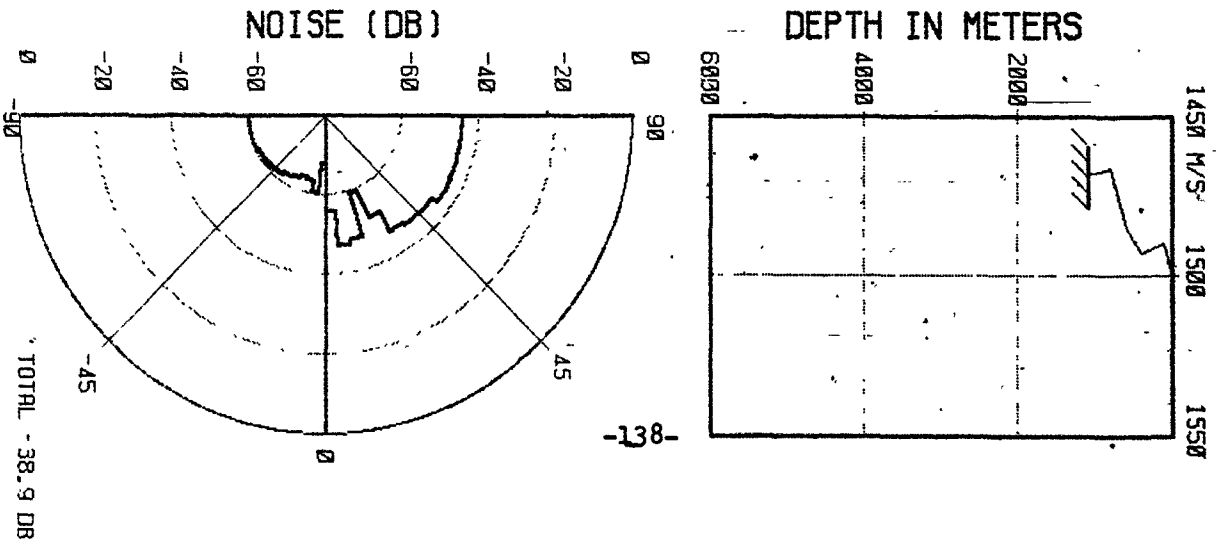
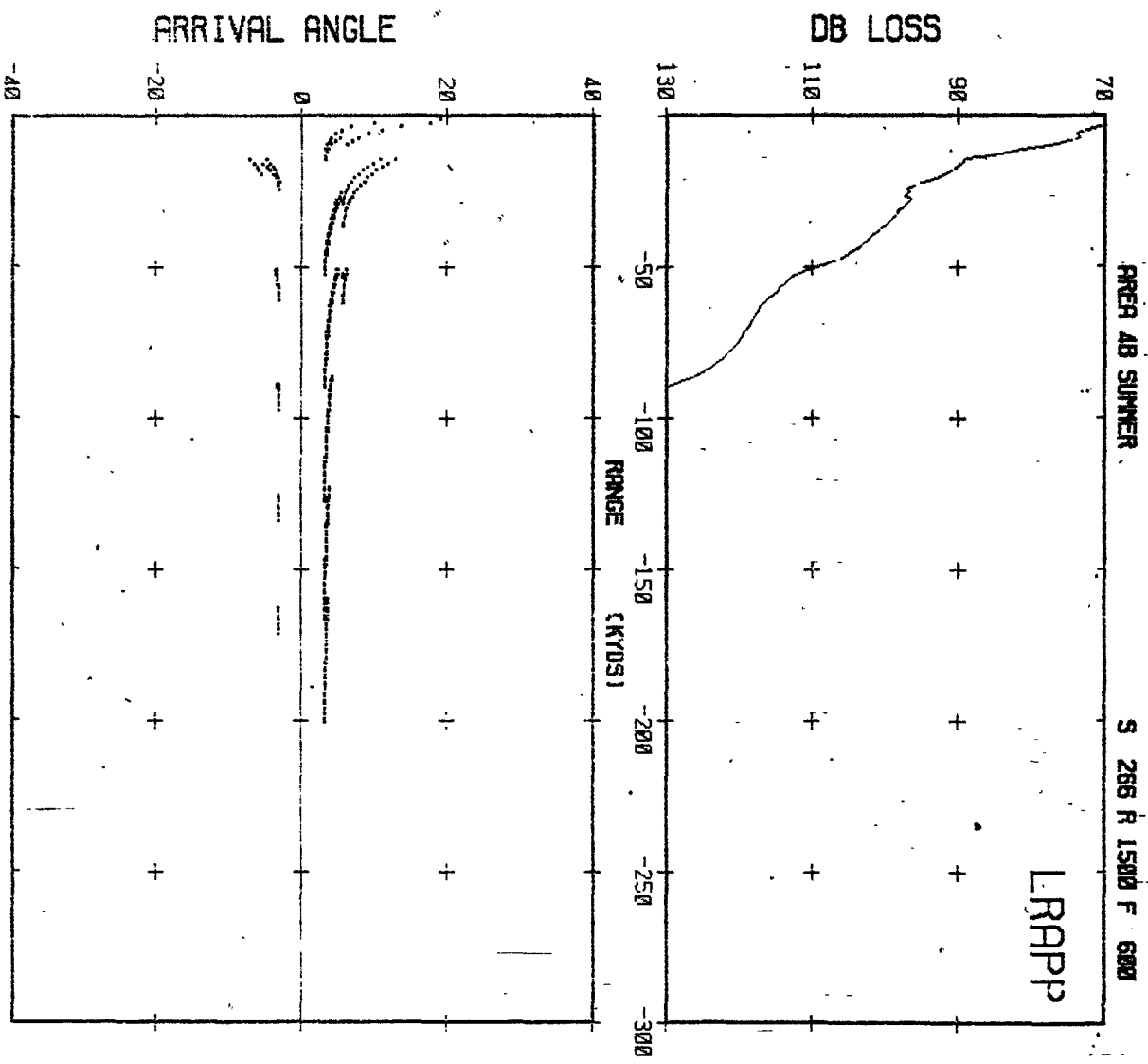
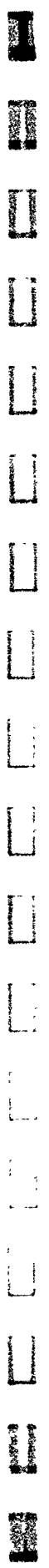


NOISE (DB)



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TOTAL -38.9 DB

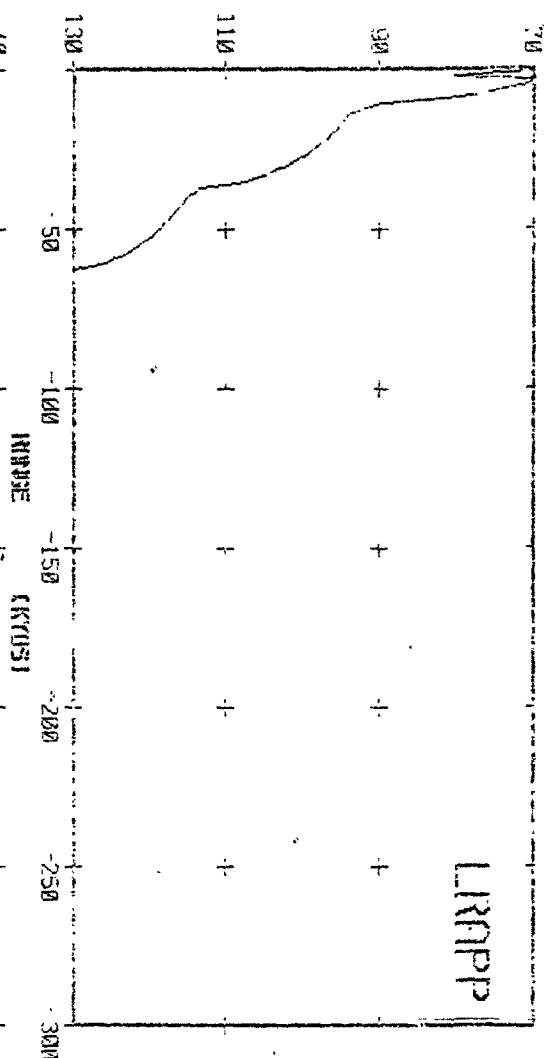


FIRE 4B SUMMER

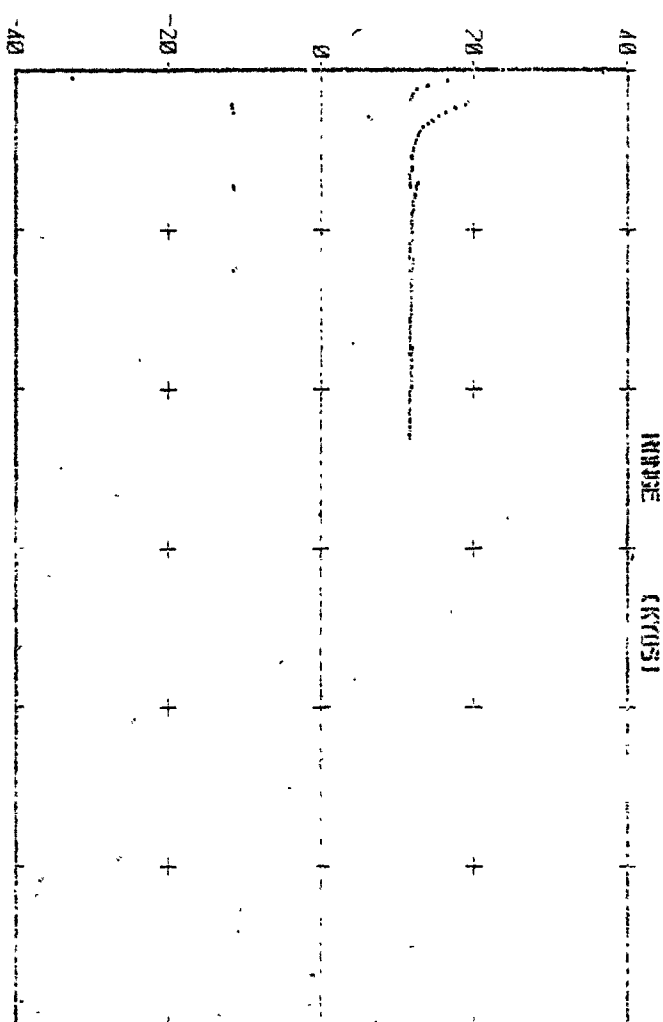
S 20 R 2525 F 600

1450 M.S 1500 1550

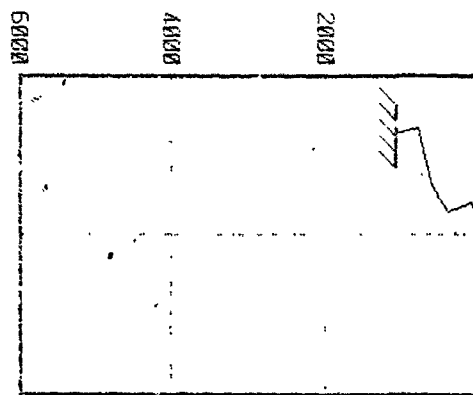
DB LOSS



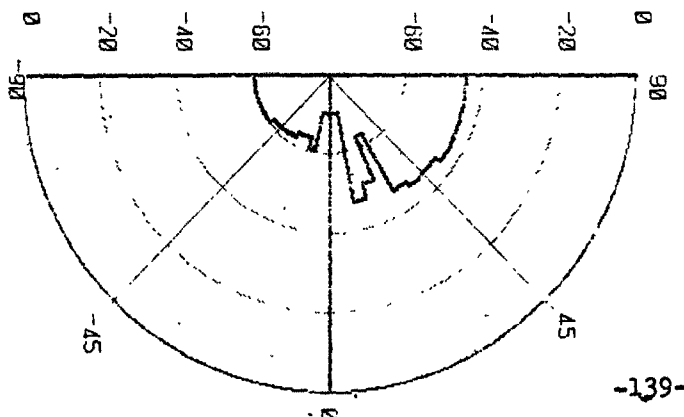
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

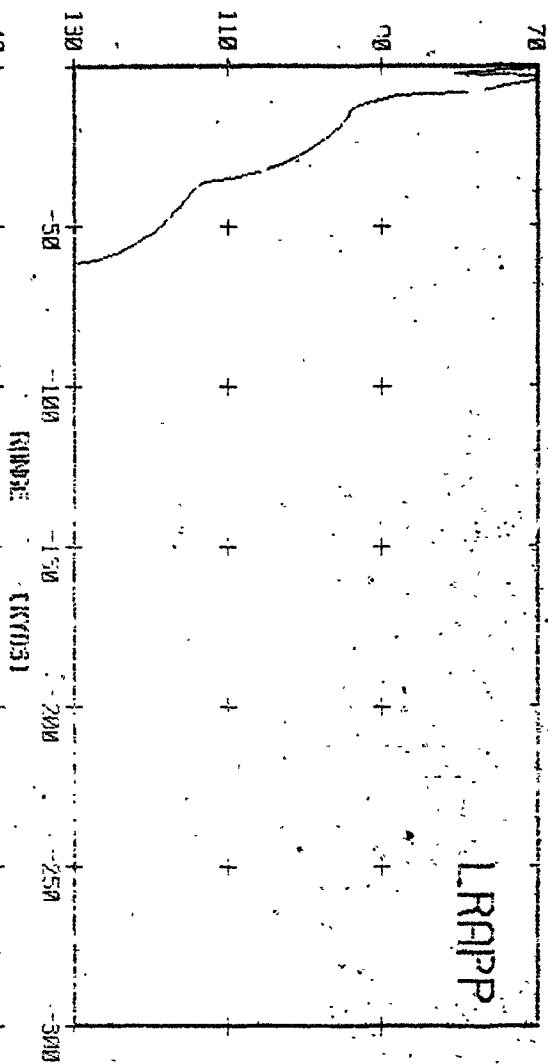


PREP AB SUNKER

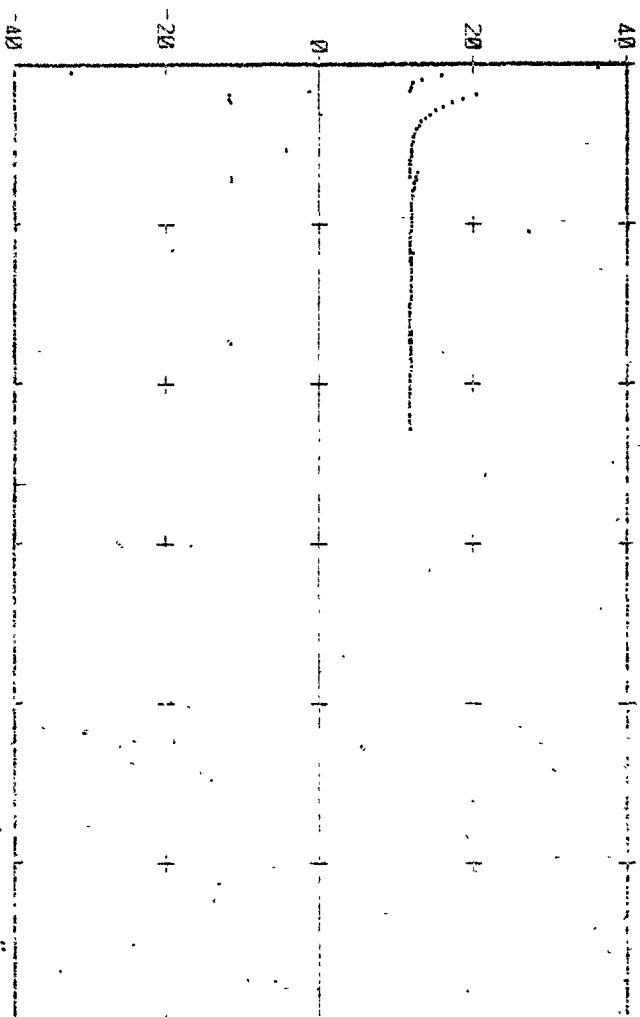
S 50 R 2625 600

1450 M/S 1500 1550

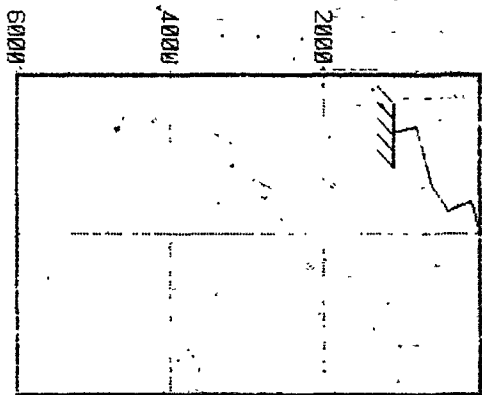
DB LOSS



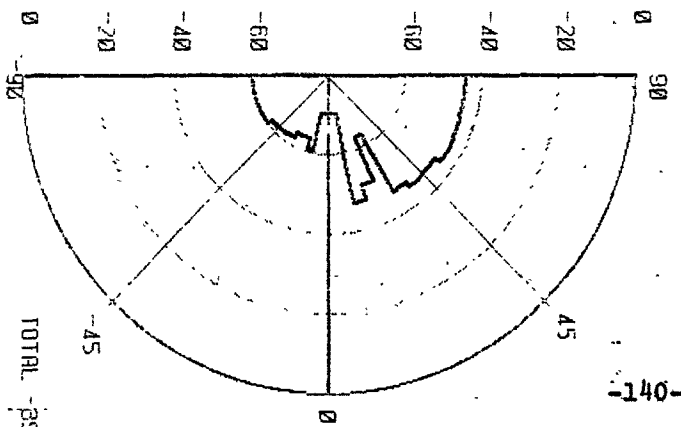
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

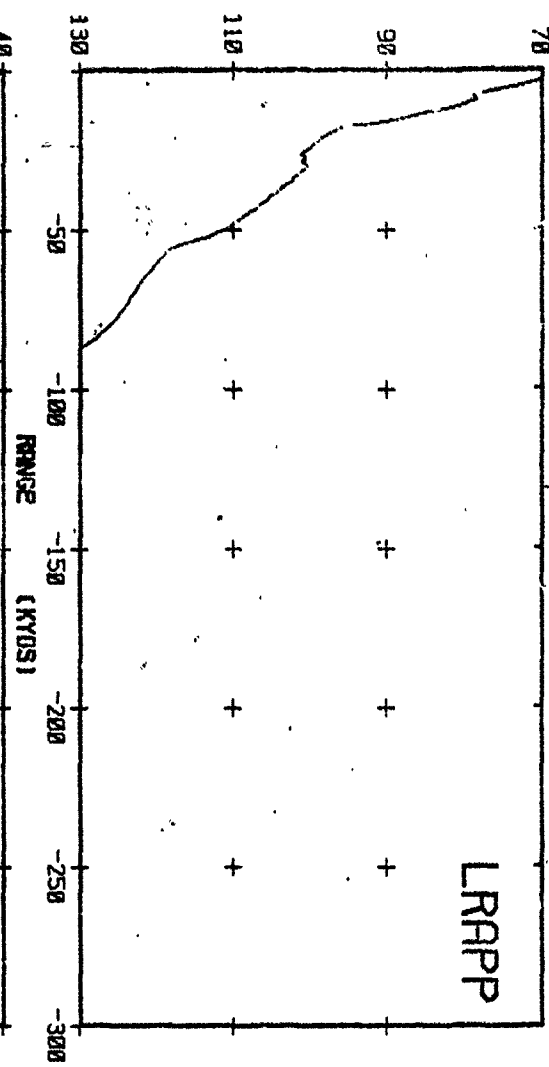


AREA AB SUMMER

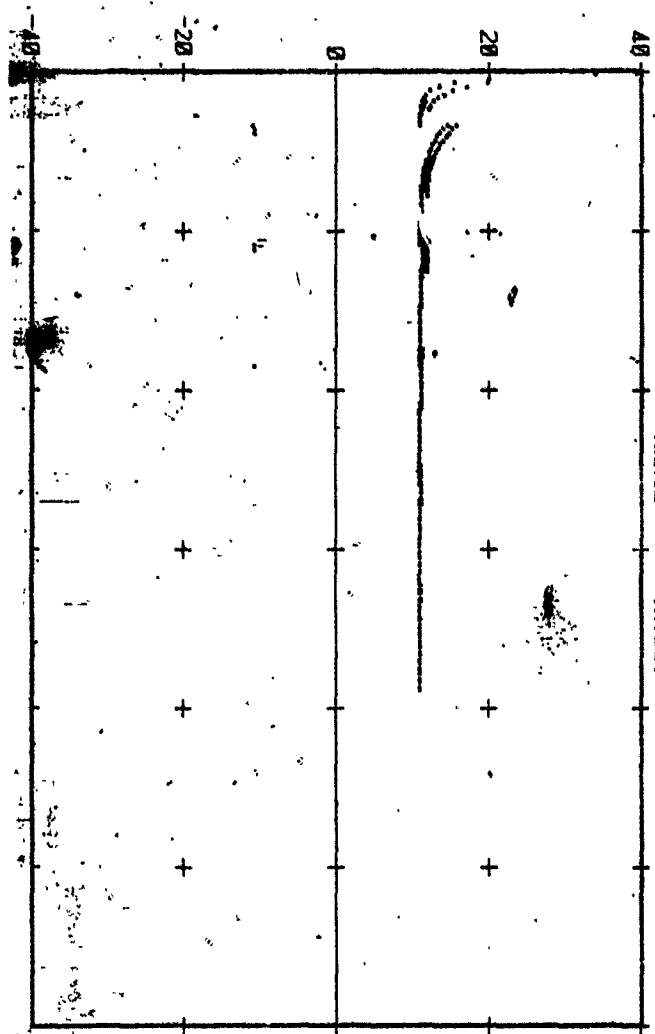
S 268 R 2625 F 600

1450 M/S 1500 1550

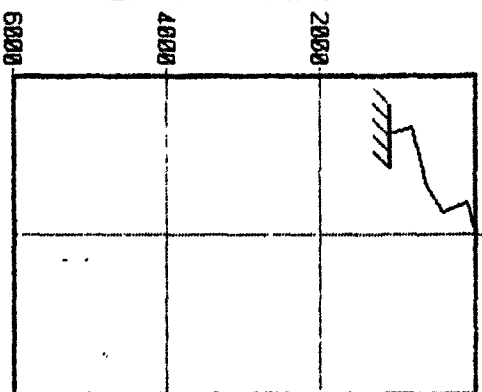
DB LOSS



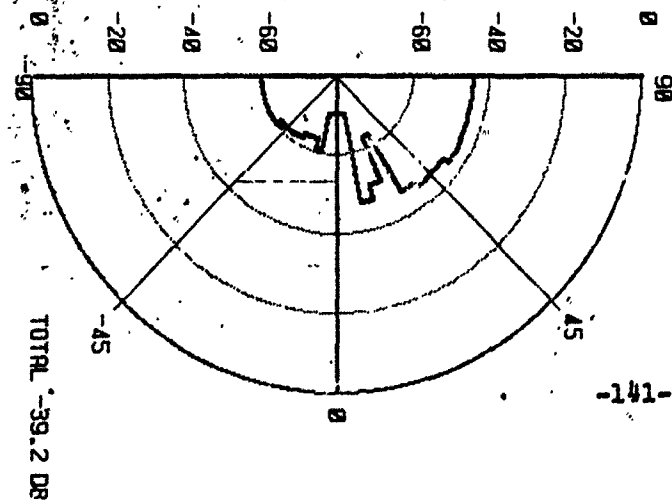
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



FINCH AB SUMMER

S 50 R 5509 F 600

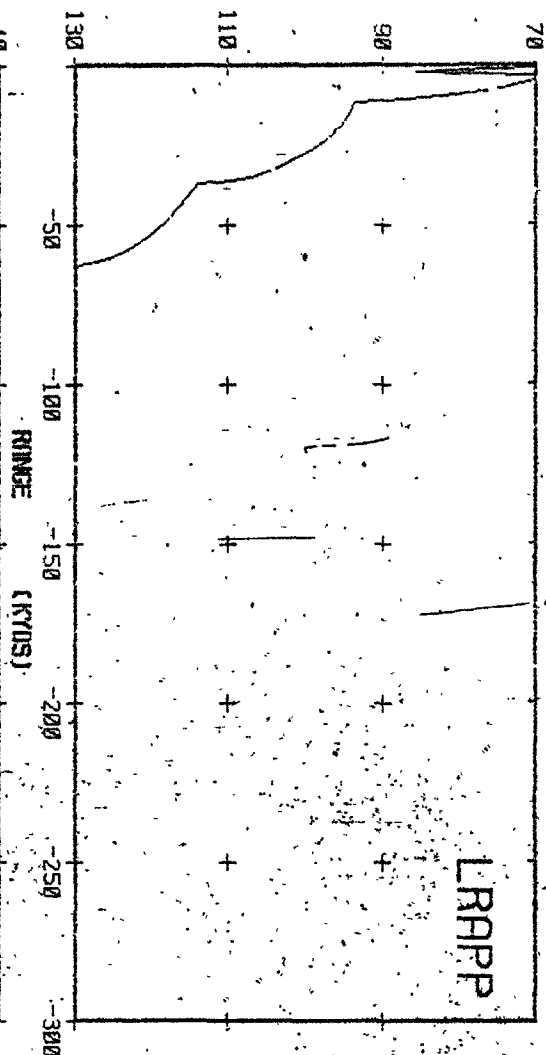
1450 M/S

1500

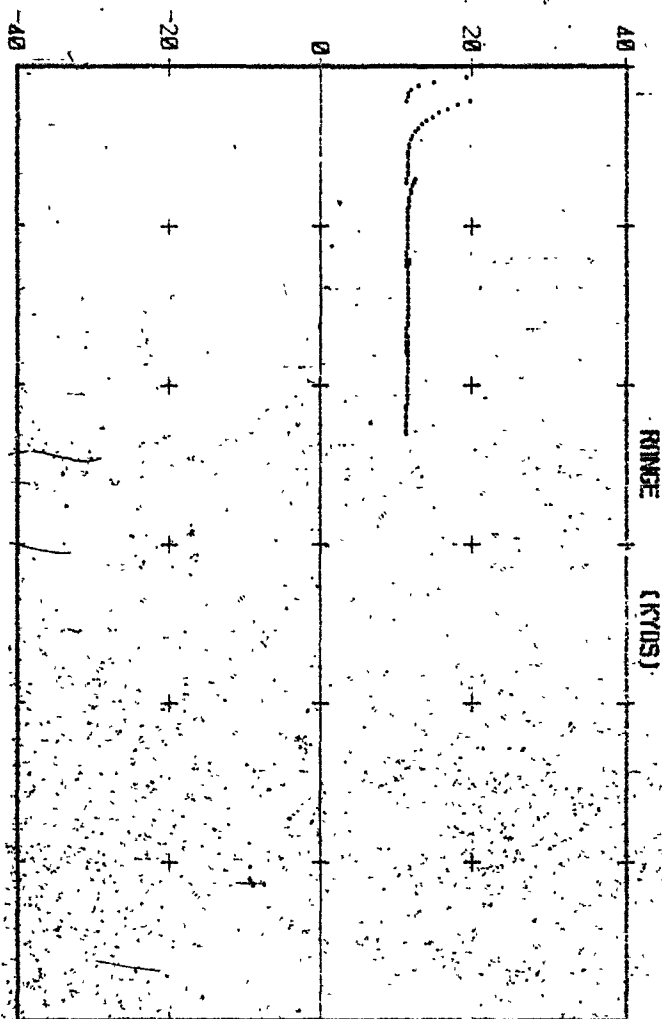
1550

LRAPP

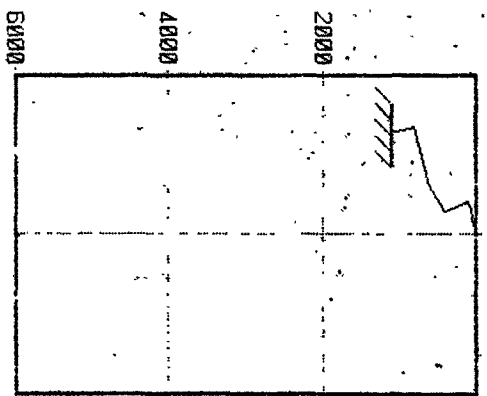
DB LOSS



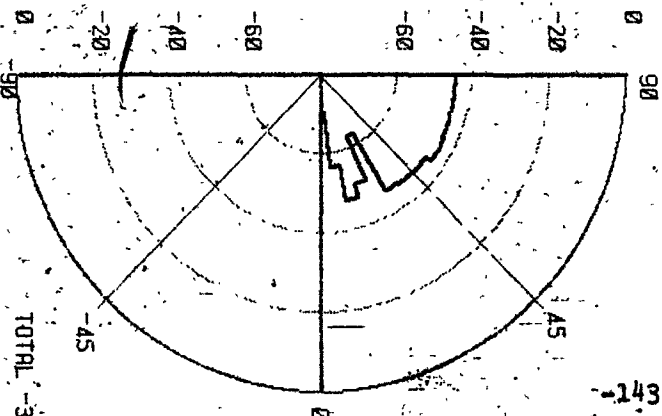
ARRIVAL ANGLE



DEPTH IN METERS

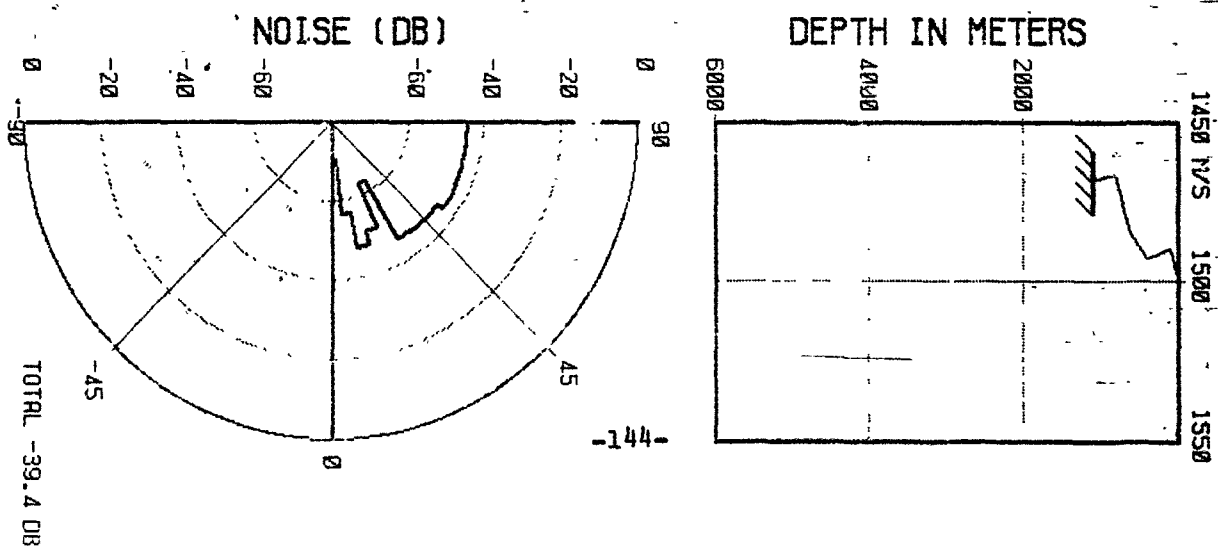
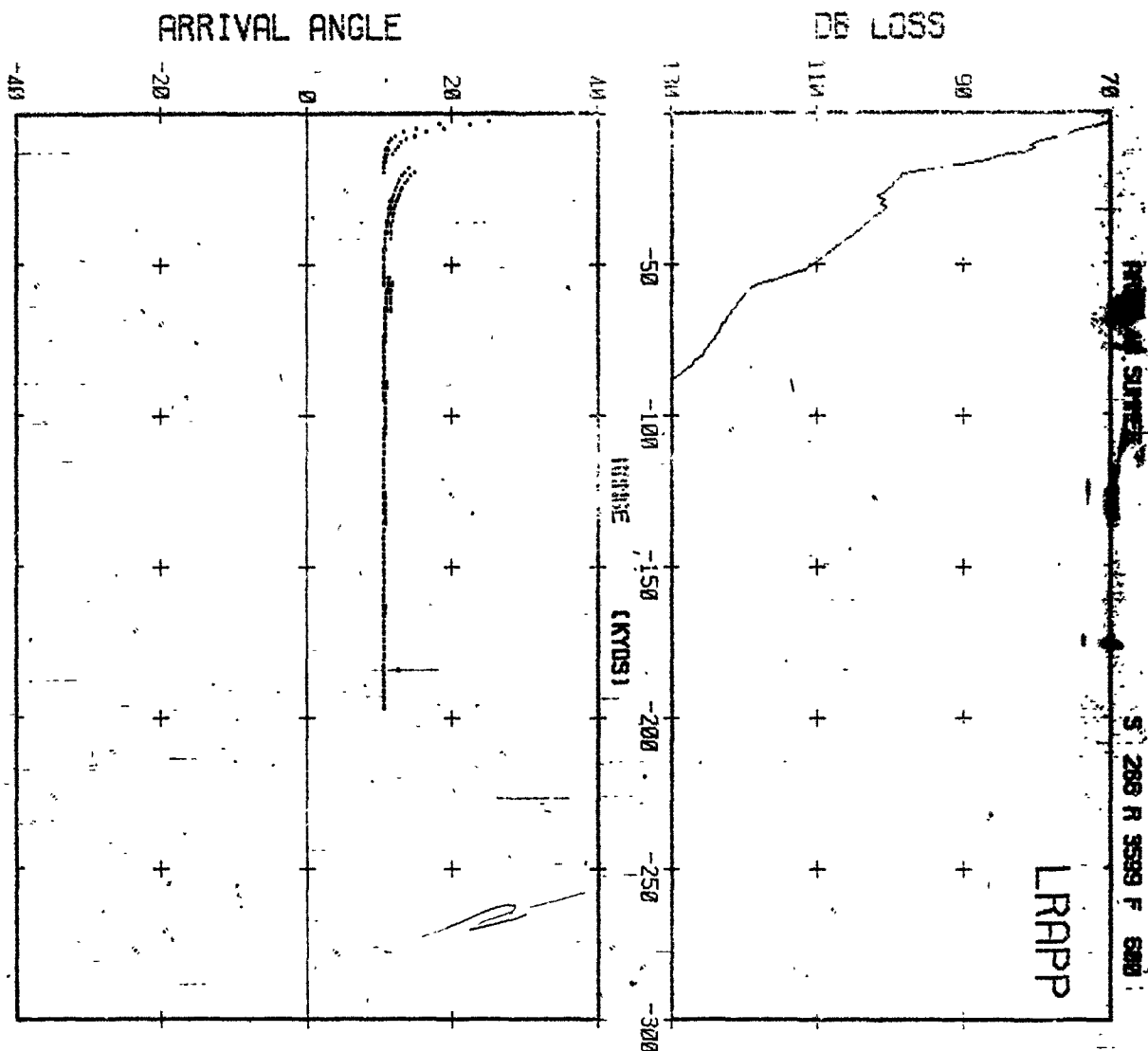


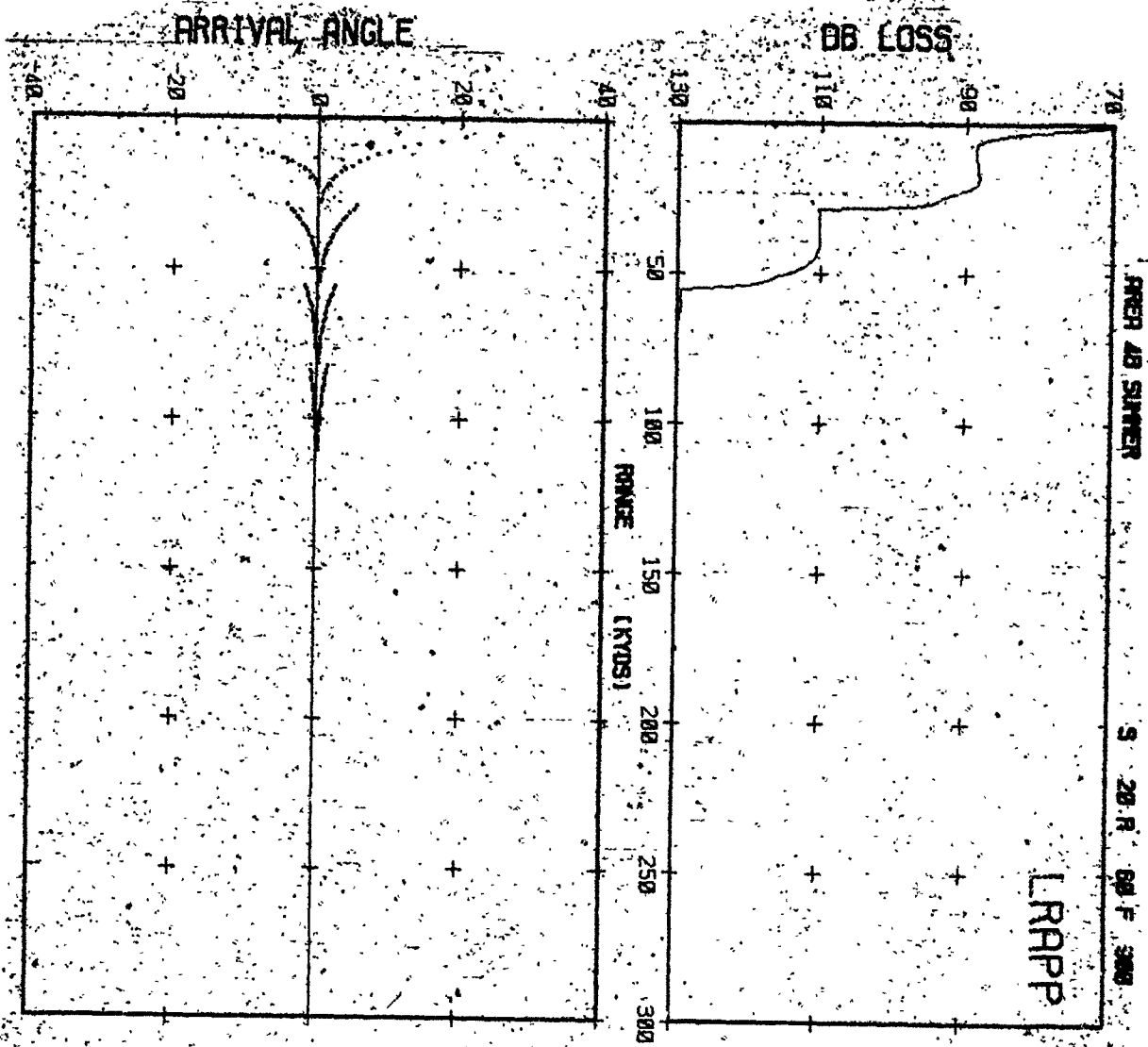
NOISE (DB)

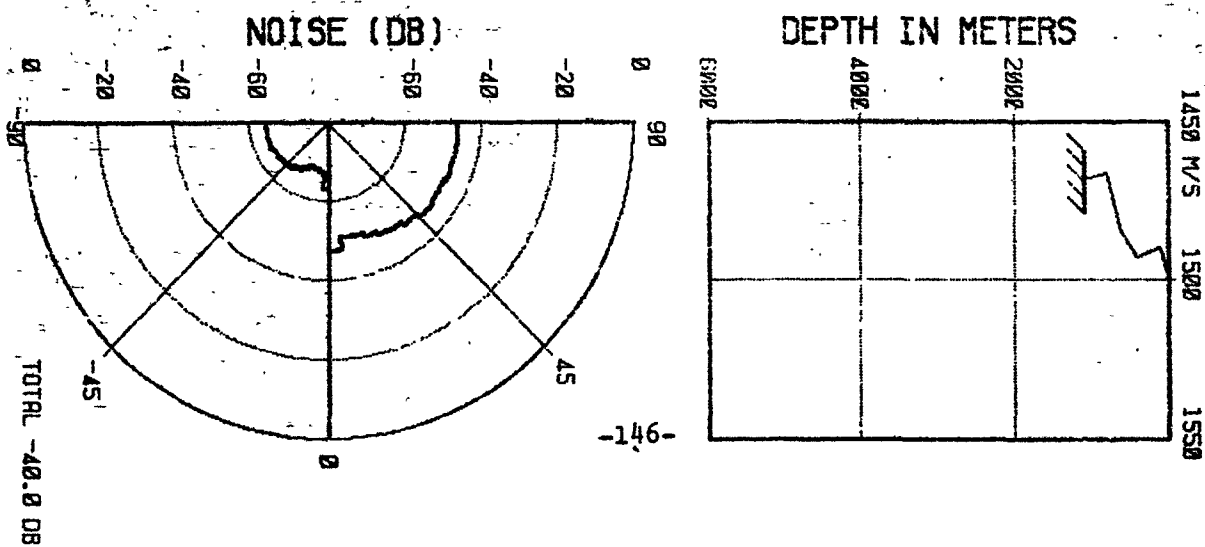
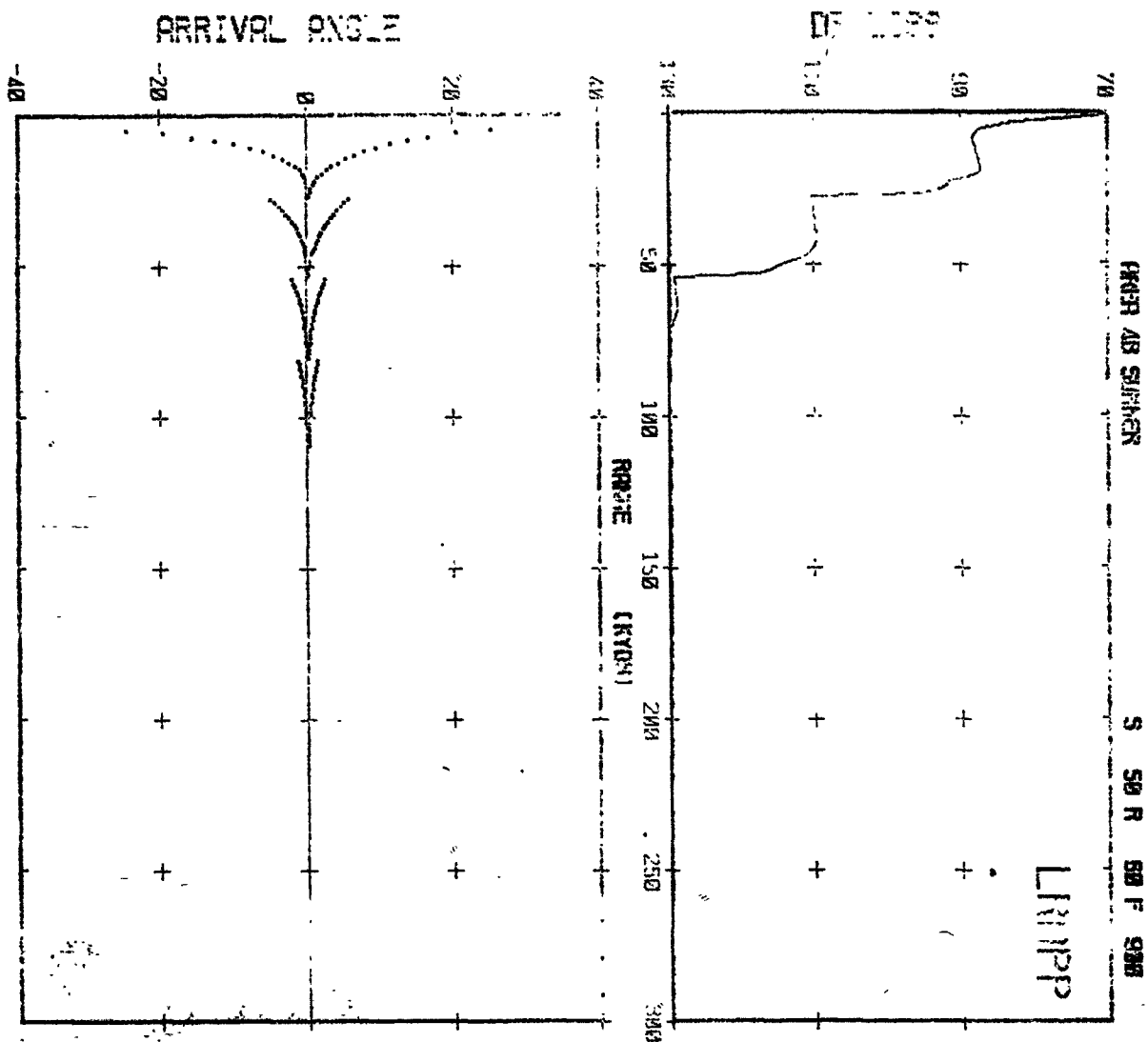


TOTAL -39.4 DB

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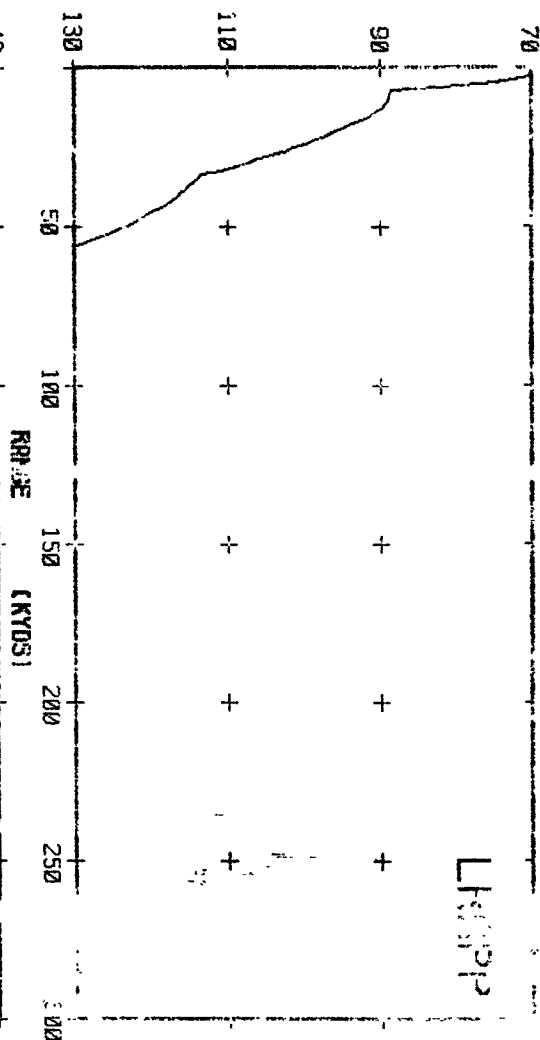


RINER AIR SURINER

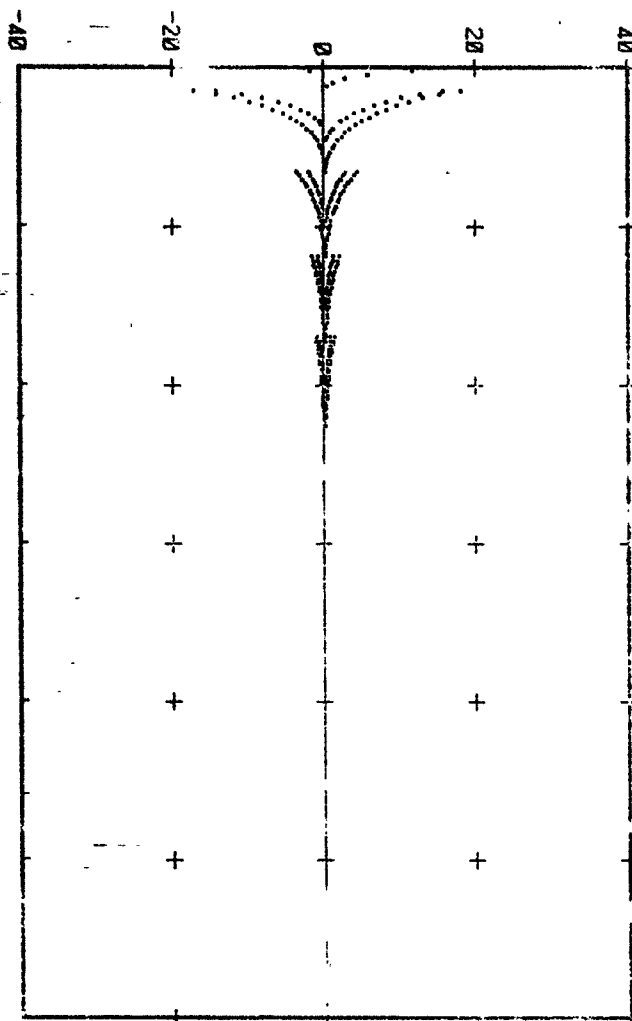
S 268 R 60 F 331

1450 M/S 1500 1550

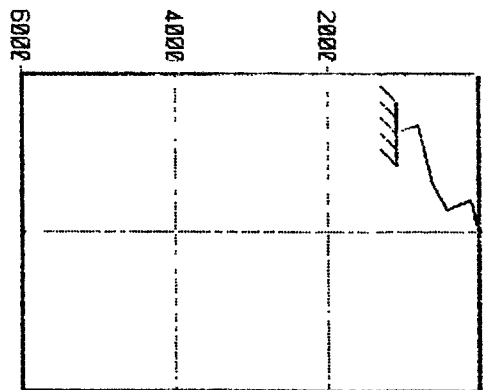
DB LOSS



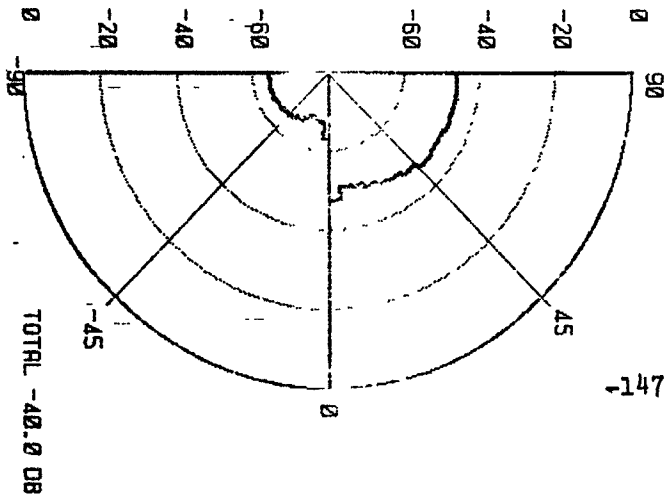
ARRIVAL ANGLE

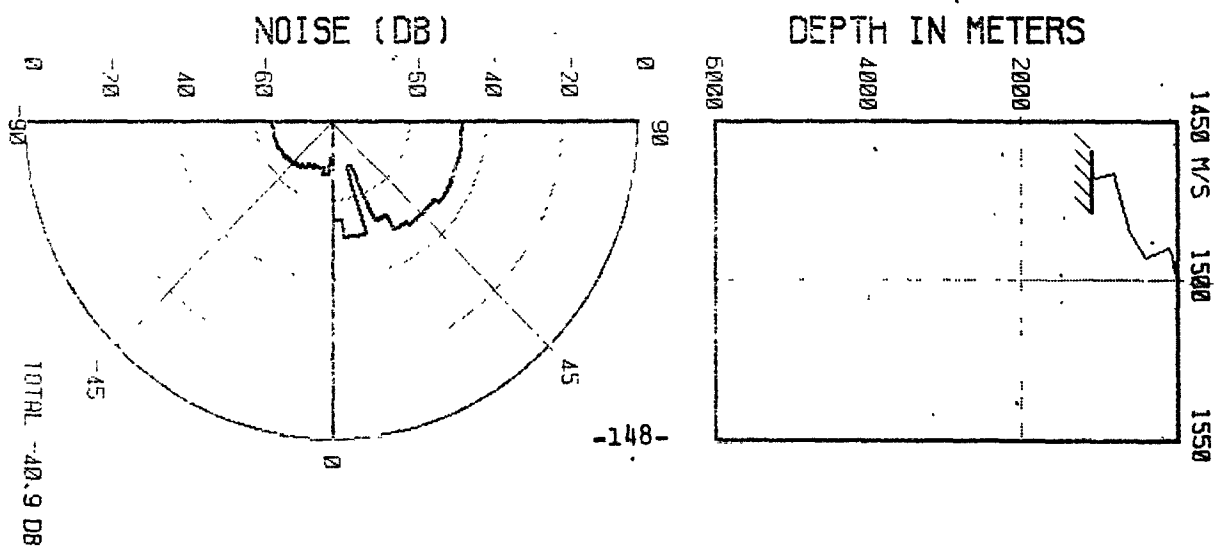
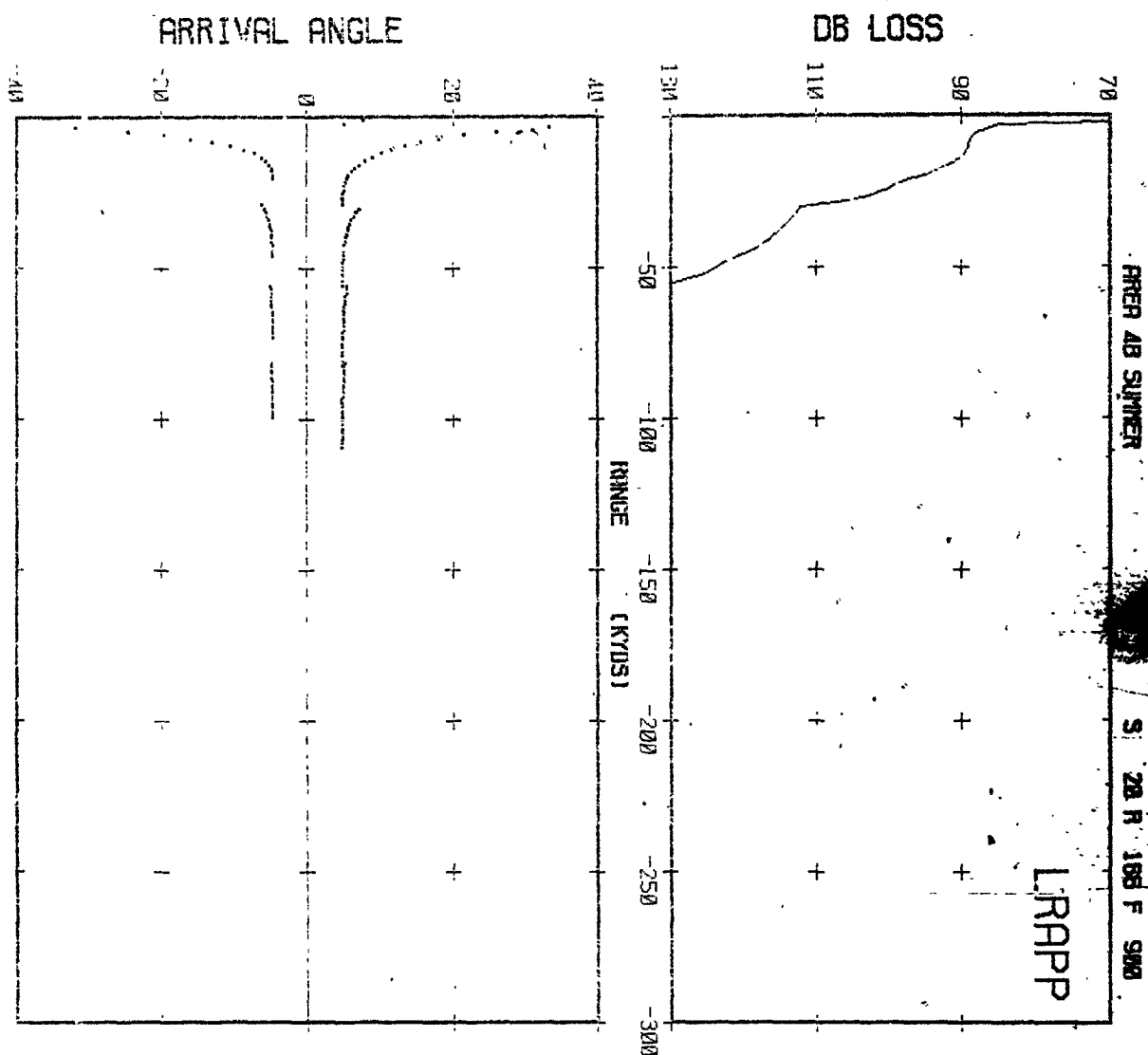


DEPTH IN METERS



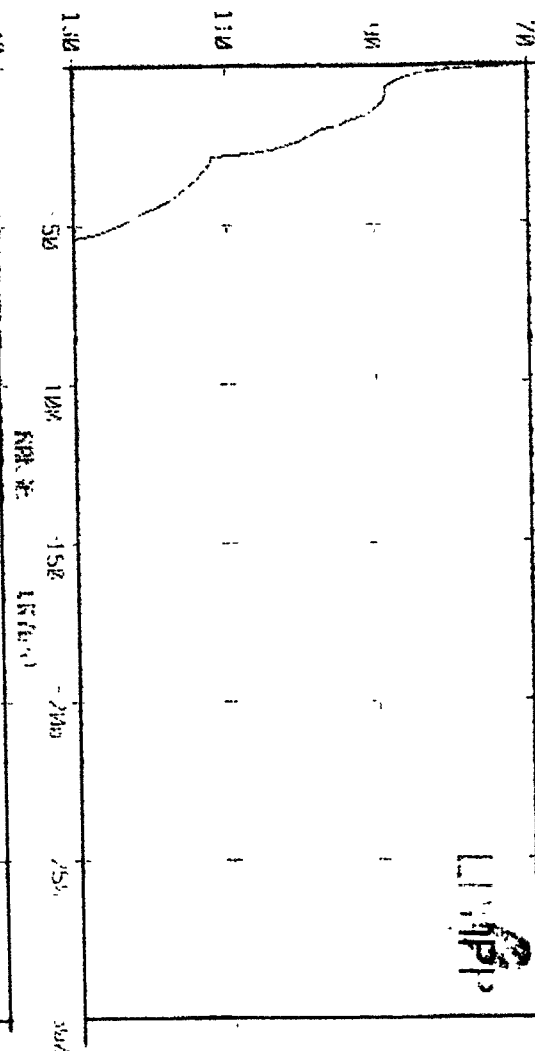
NOISE (DB)



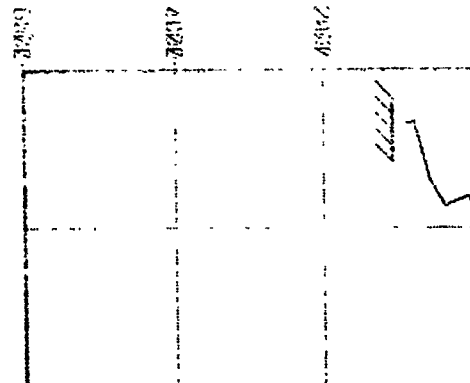


FRONT AIR SECTION

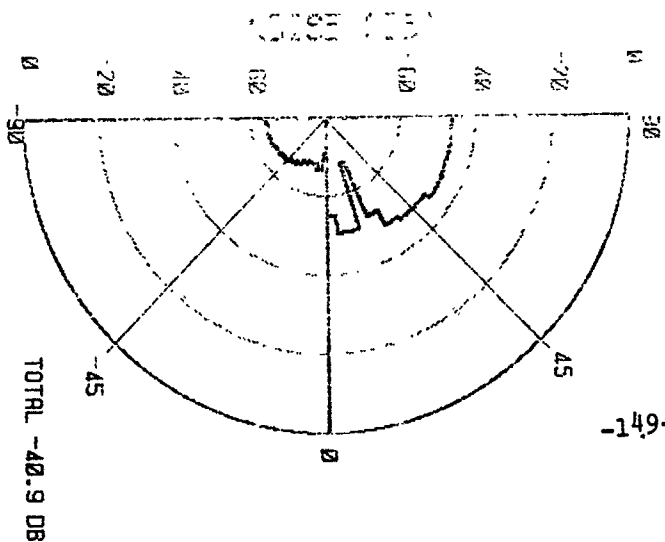
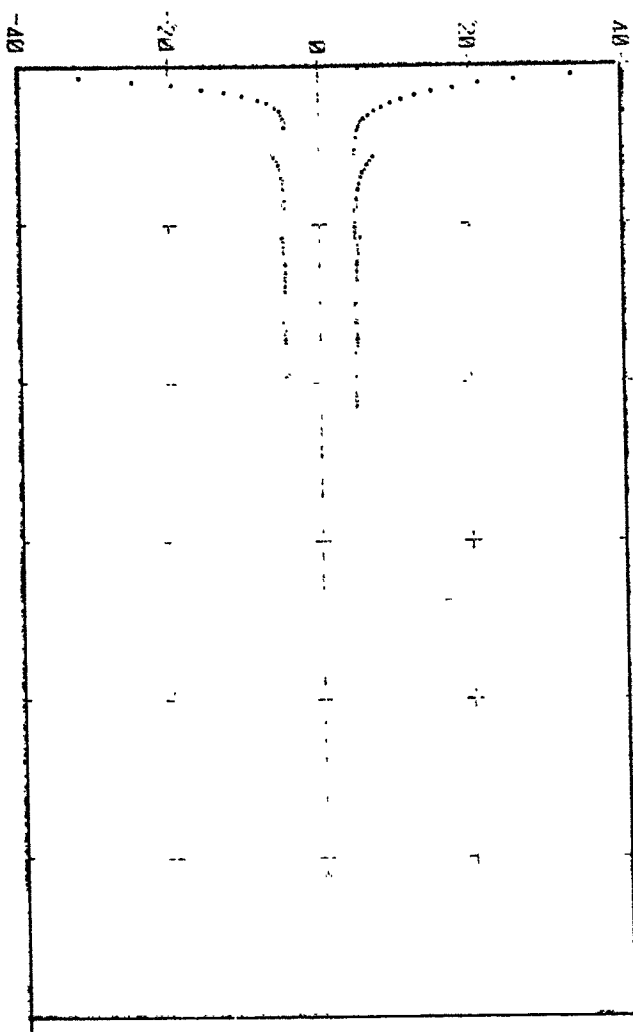
S 50 R 160 I 100



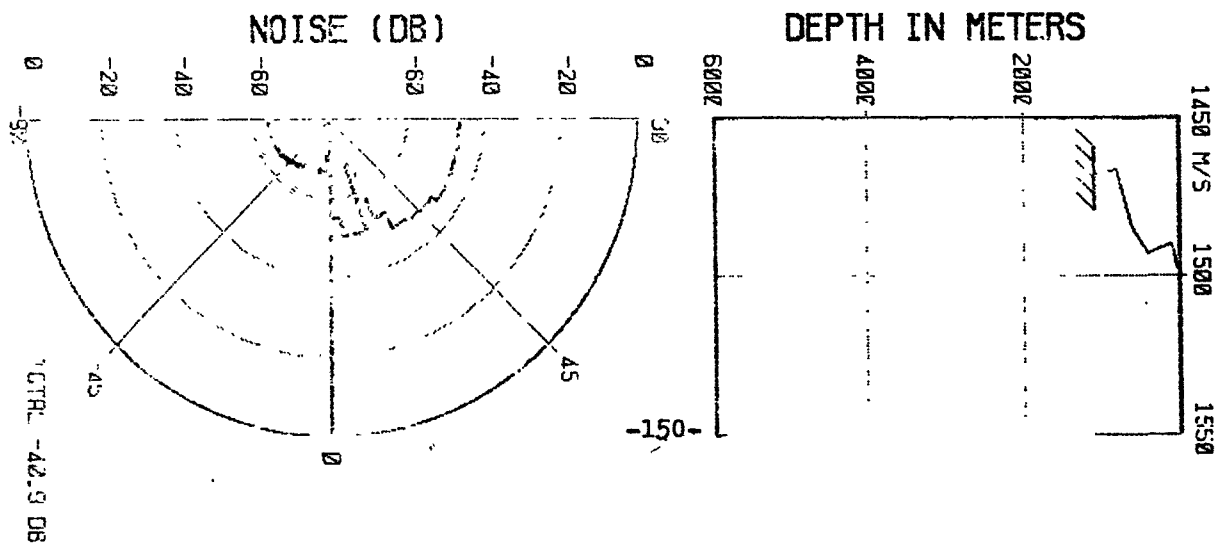
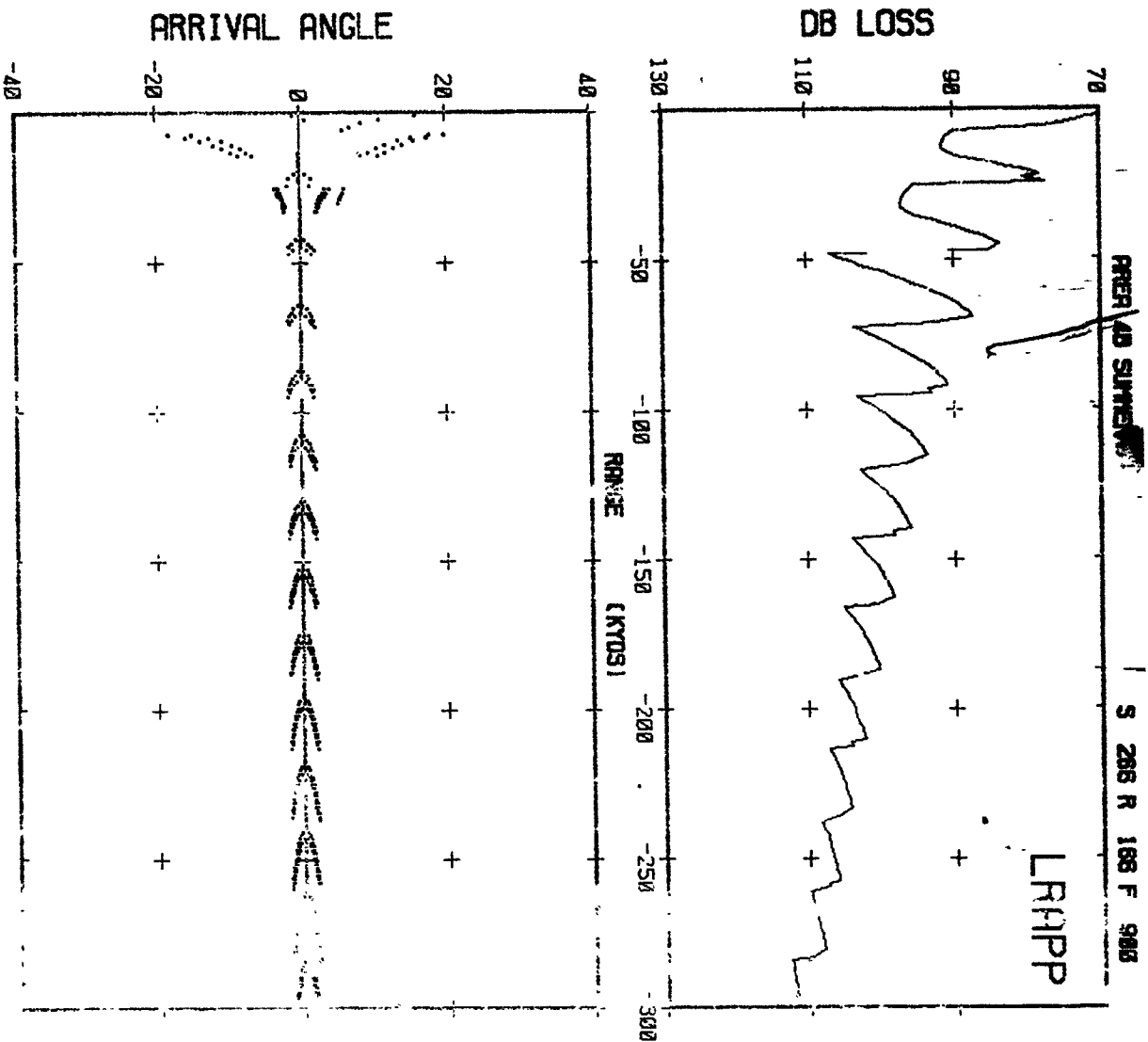
1450 M/S 1500 1550



ARRIVAL ANGLE



TOTAL -40.9 DB

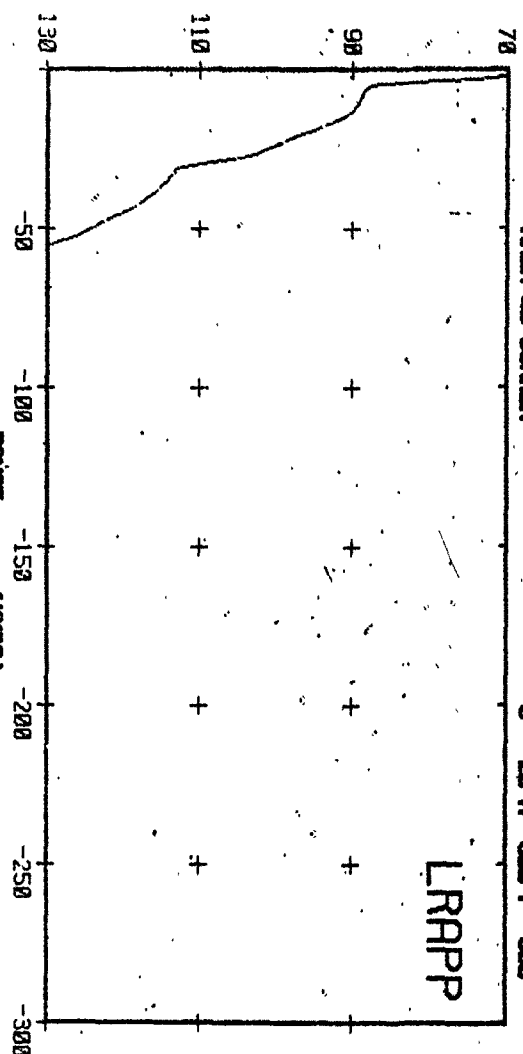


RIVER AB SUMMER

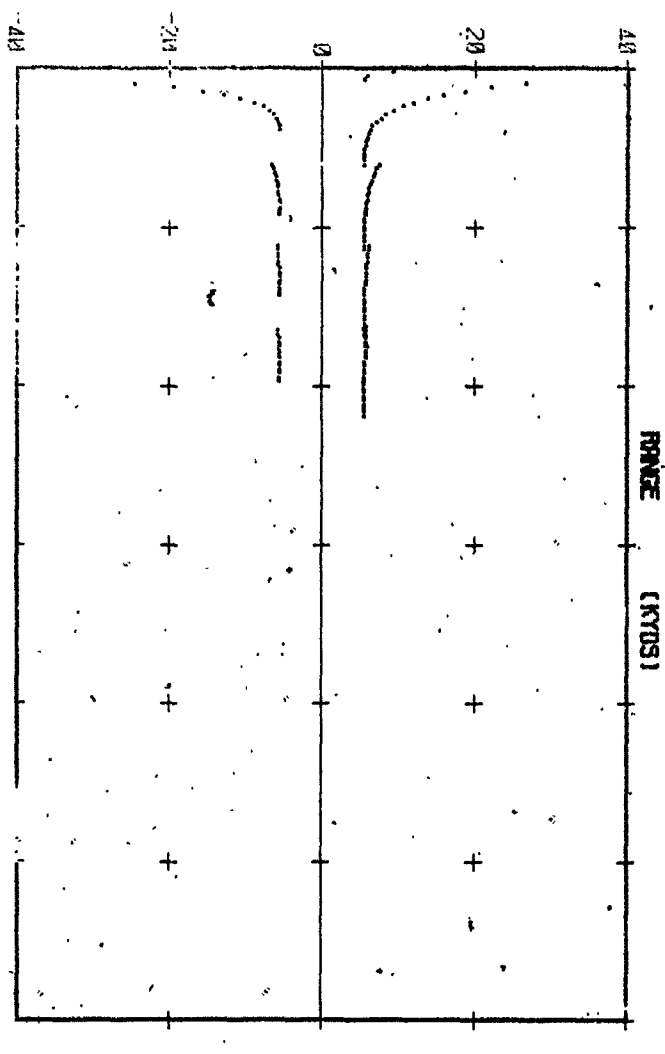
S 20 R 300 F 900

1450 M/S 1500 1550

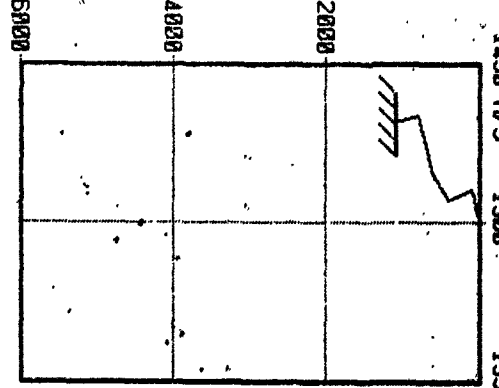
DB LOSS



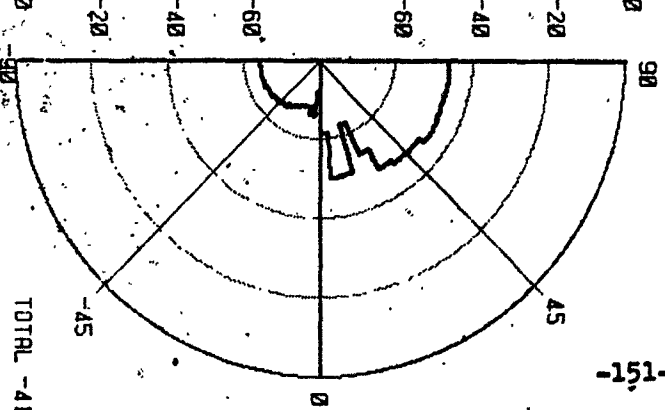
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

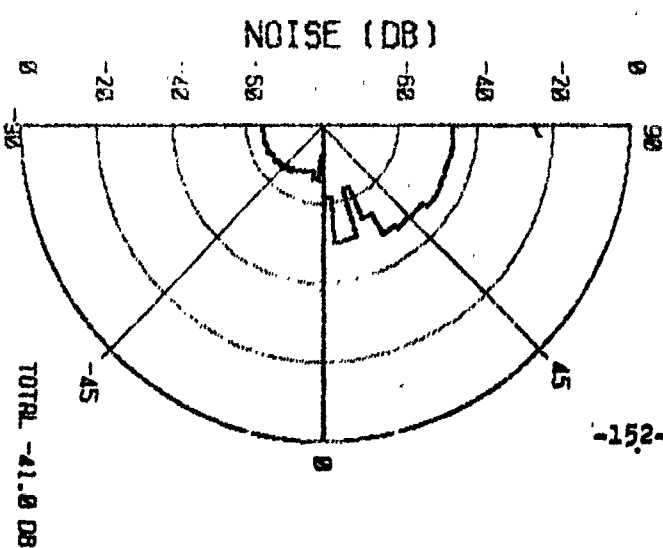
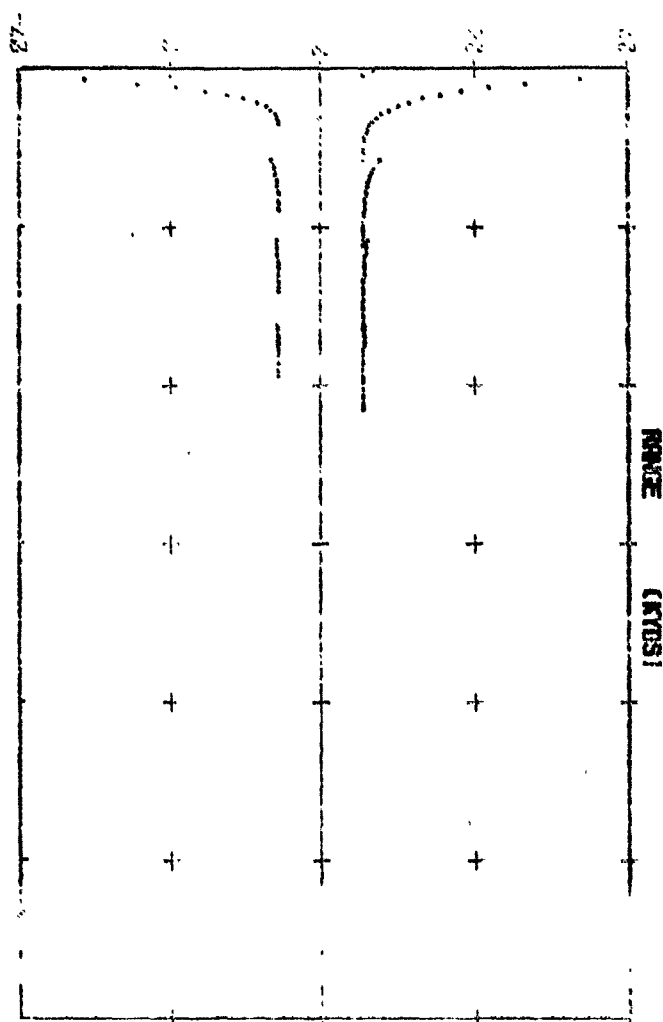
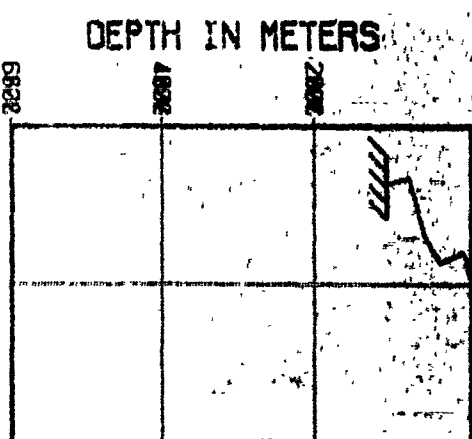
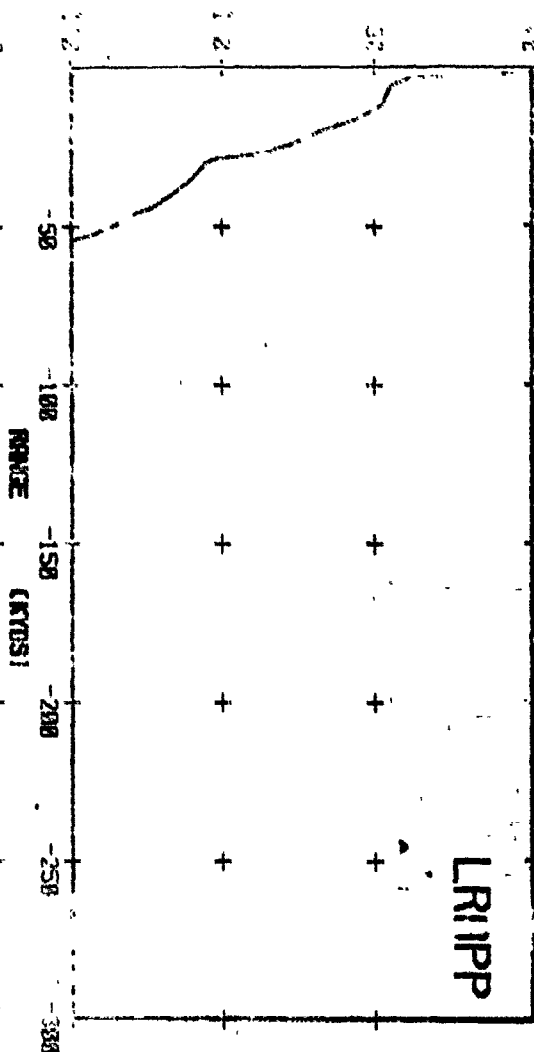


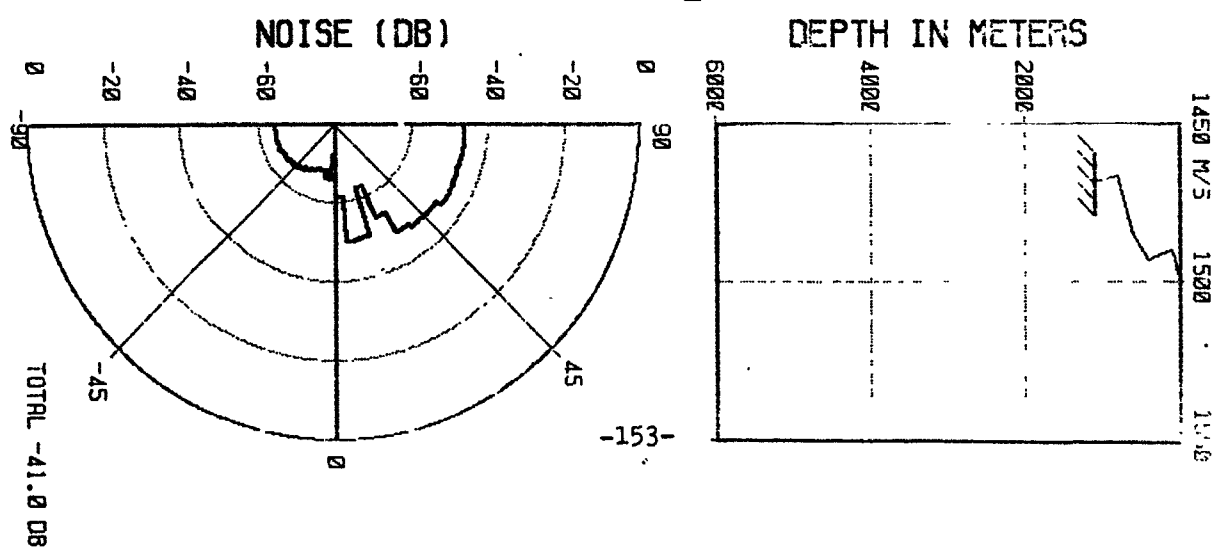
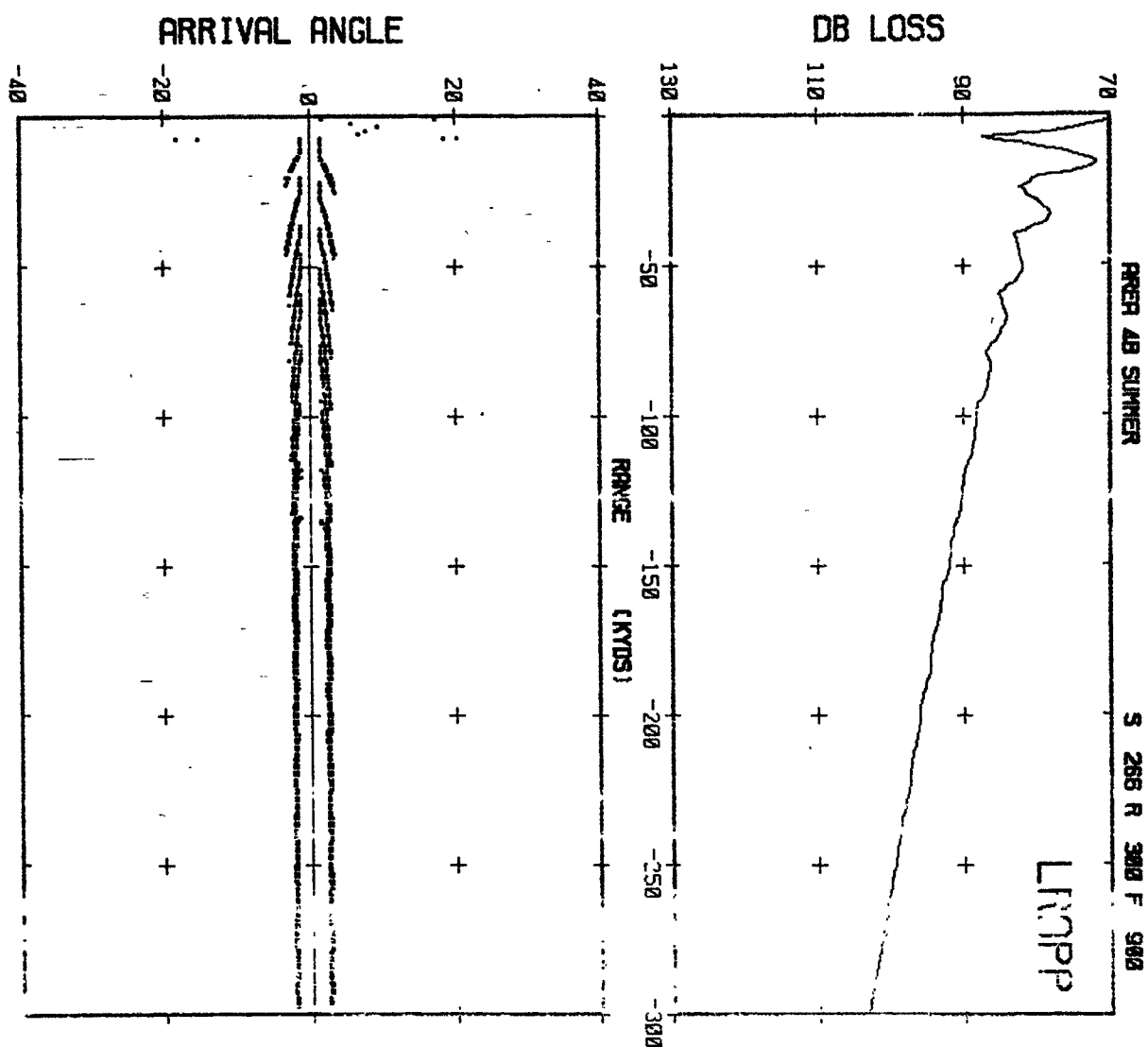
TOTAL -41.0 DB

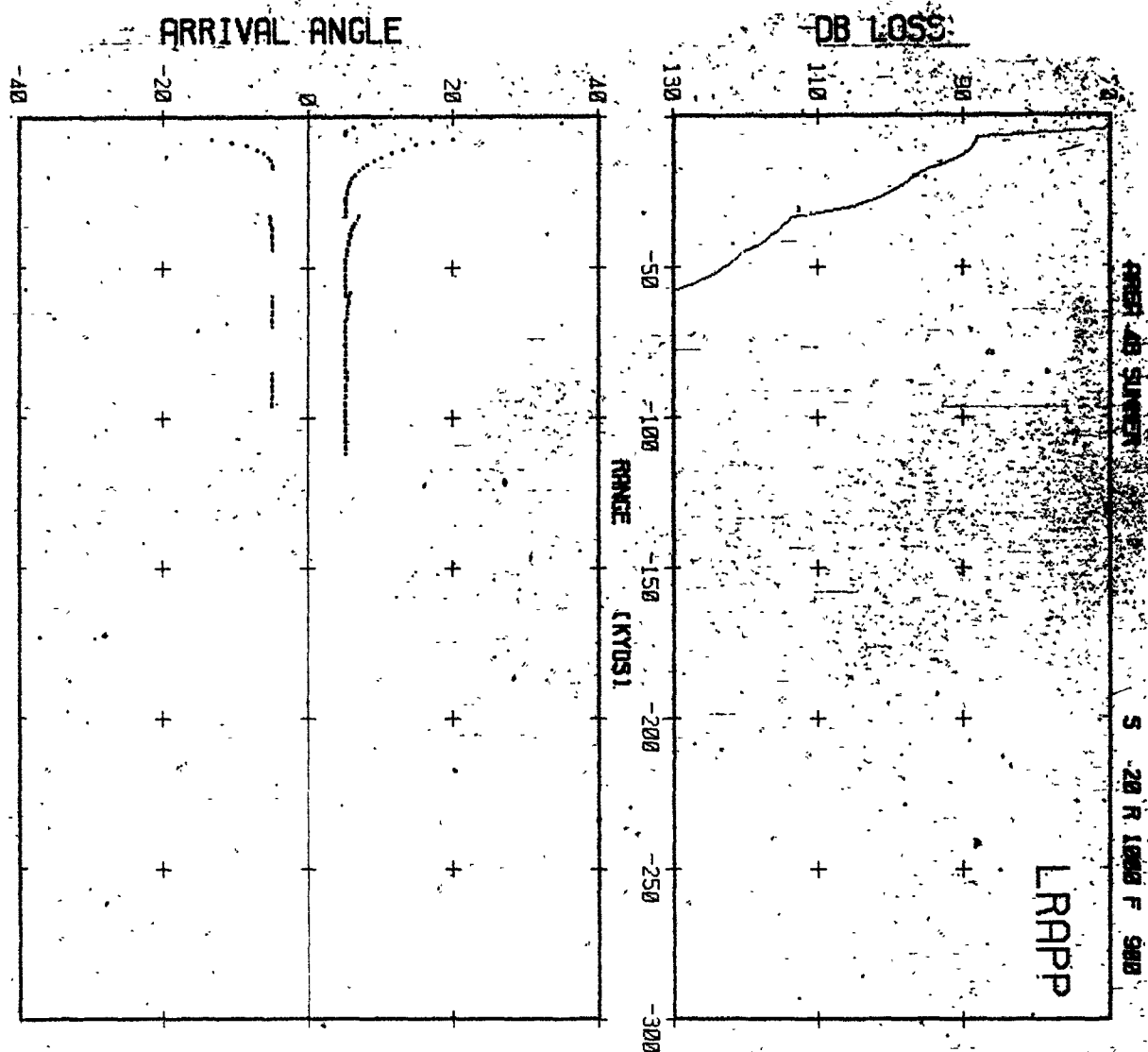
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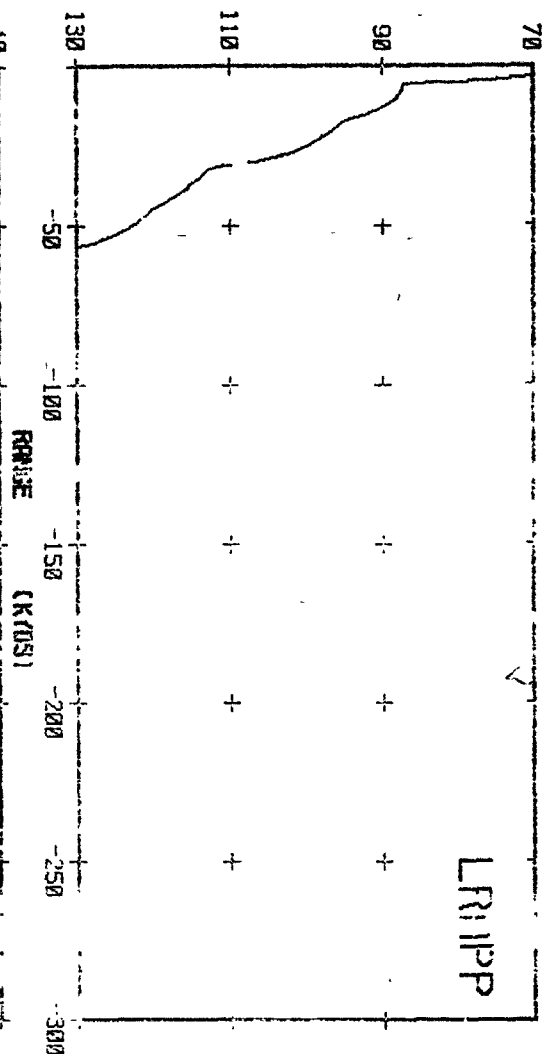


REFR AB SURFAC

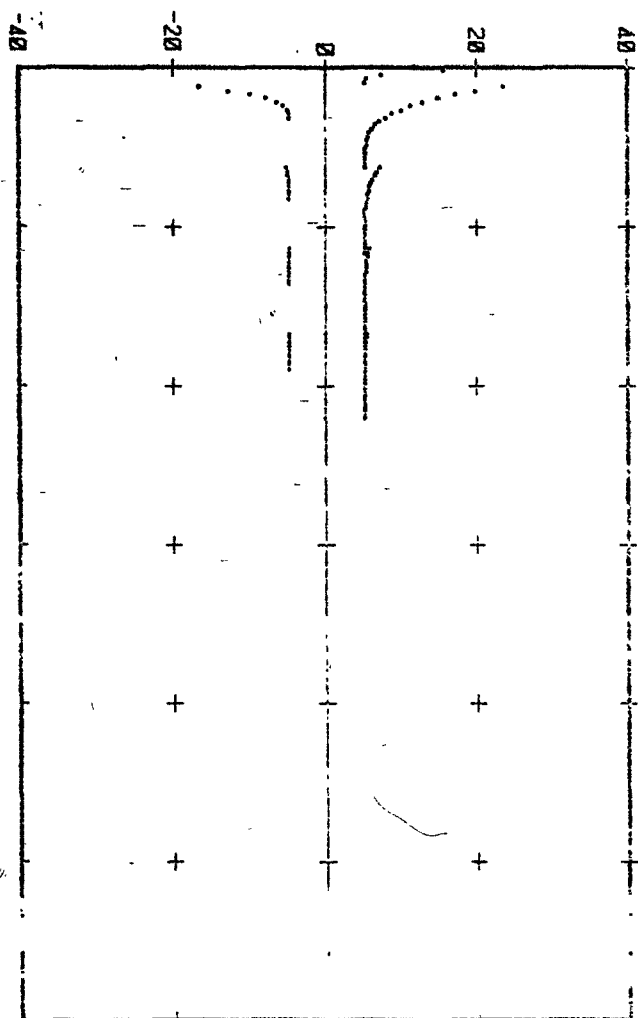
S 50 R 1000 F 989

1450 M/S 1500 1550

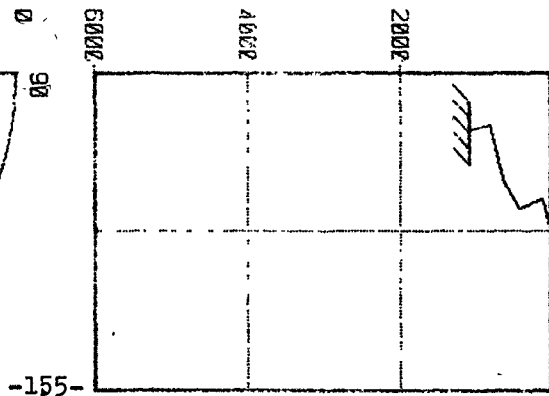
DB LOSS



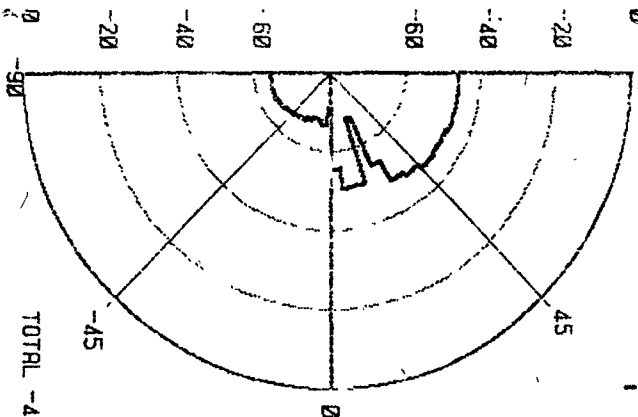
ARRIVAL ANGLE



DEPTH IN METERS

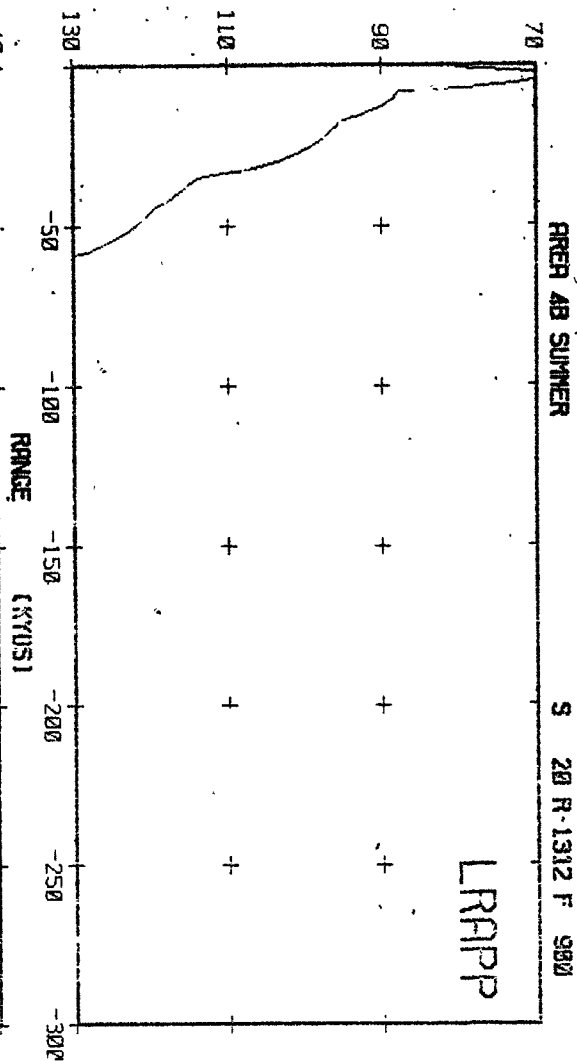


NOISE (DB)

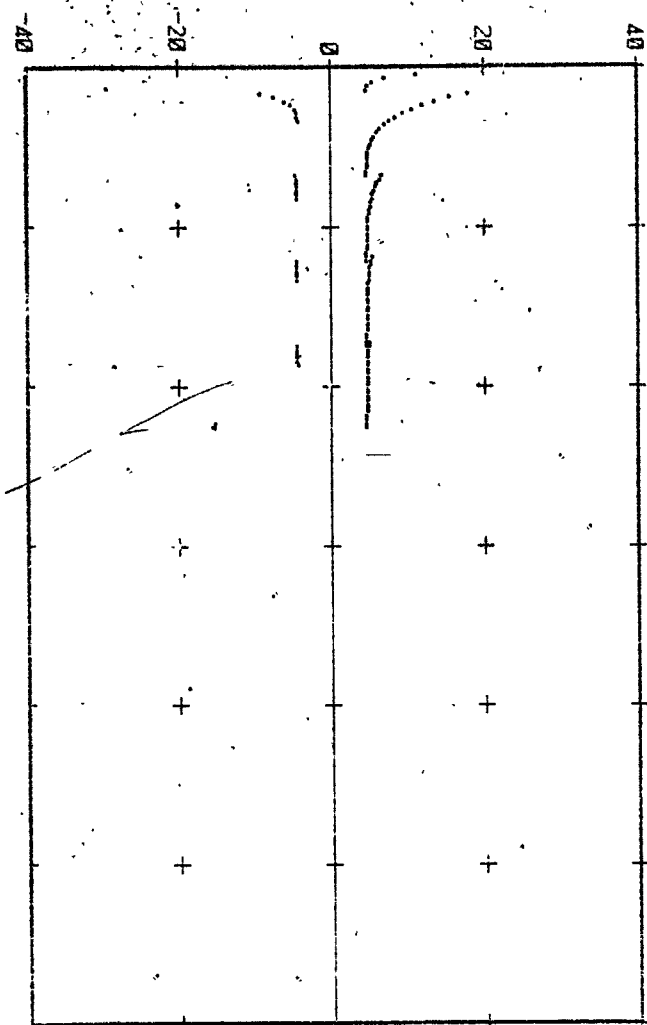


TOTAL -41.0 DB

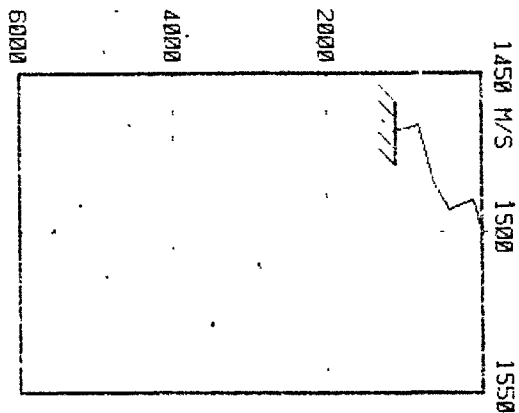
DB LOSS



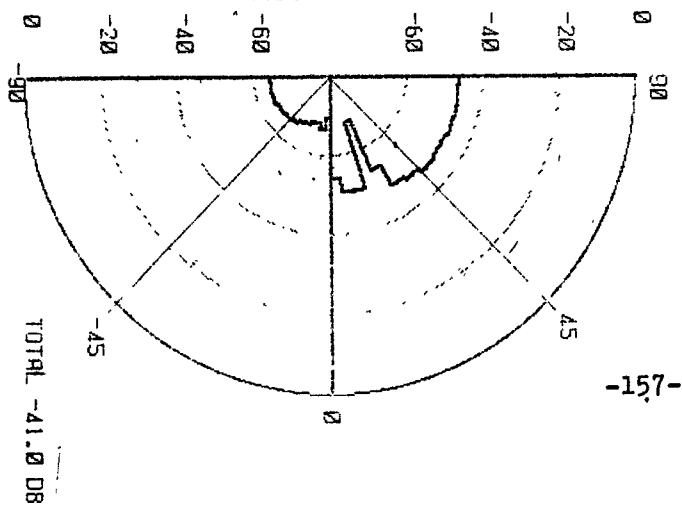
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

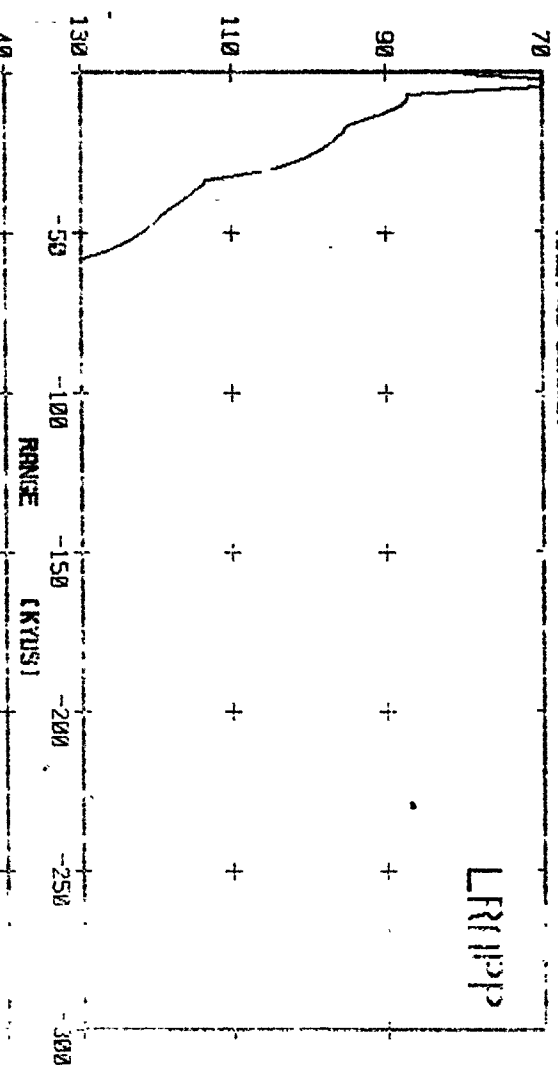




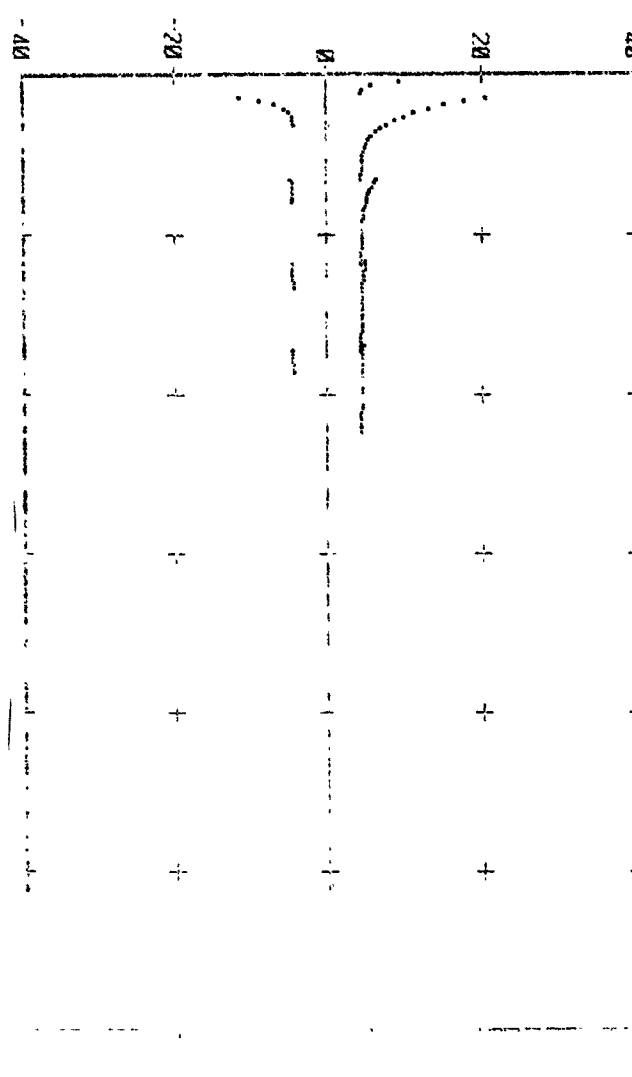
FRIST AB SUMMER S 50 R 1312 F 343

LFRIIPP

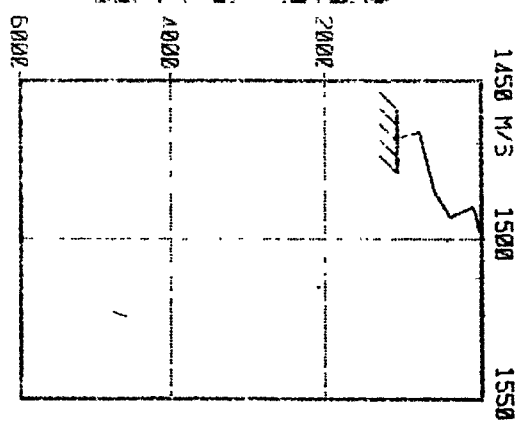
DB LOSS



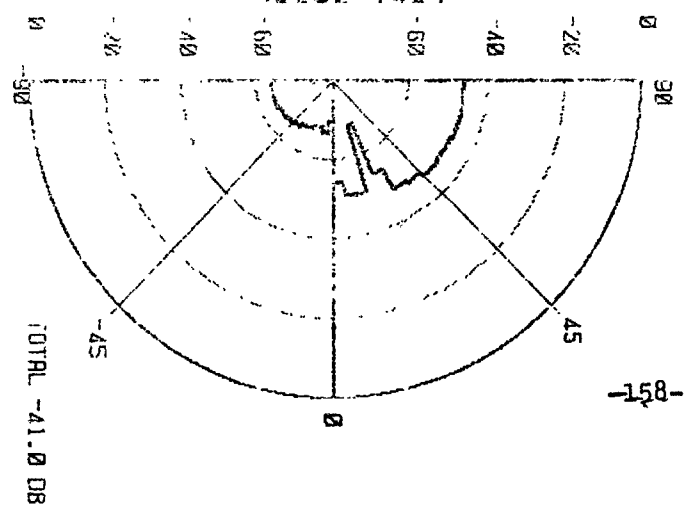
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



OTRL -41.0 DB

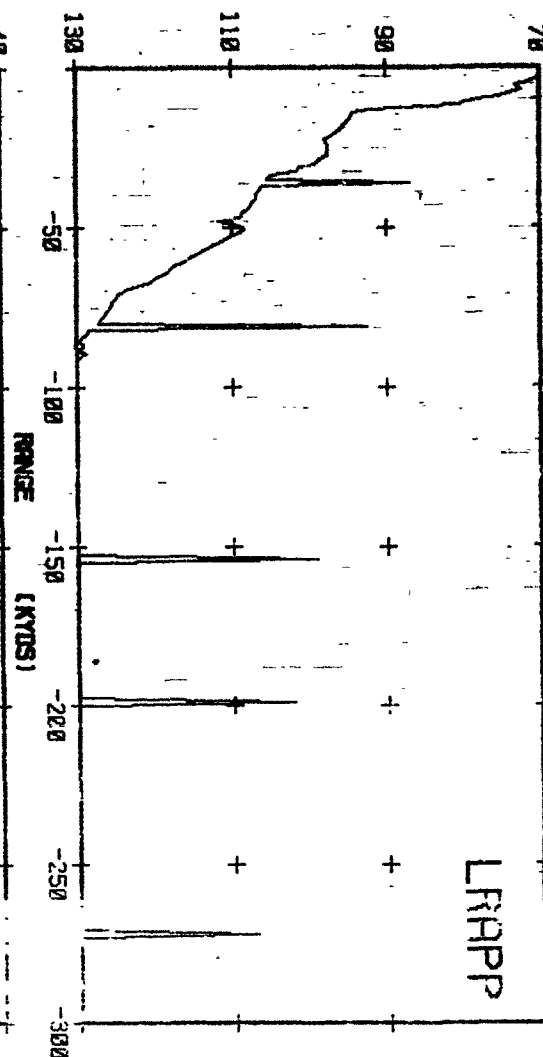
RIVER AS SUMMER

S 268 R 1312 F 900

1450 M. 530

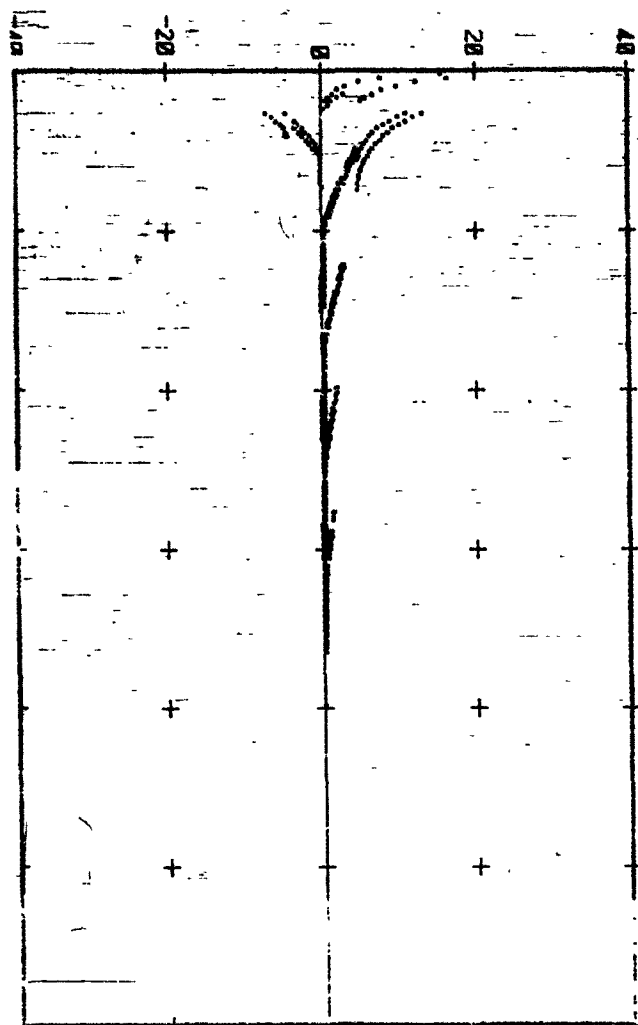
13

DB LOSS

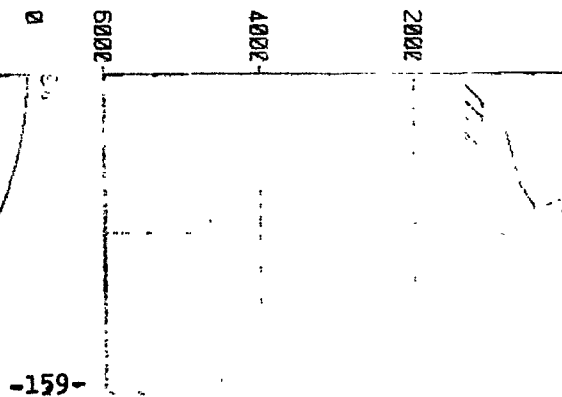


LRAPP

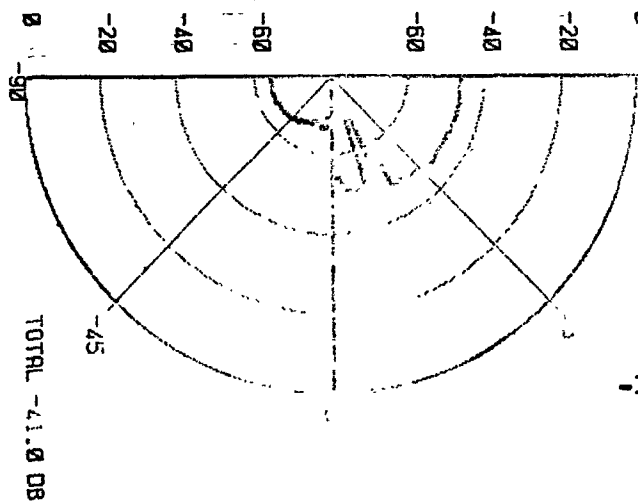
ARRIVAL ANGLE



DEPTH IN METERS

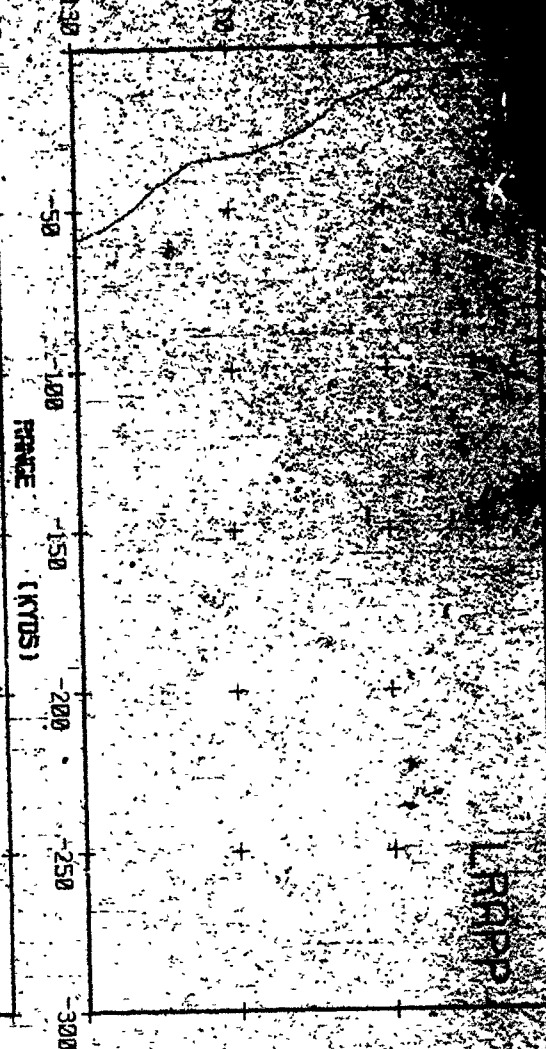
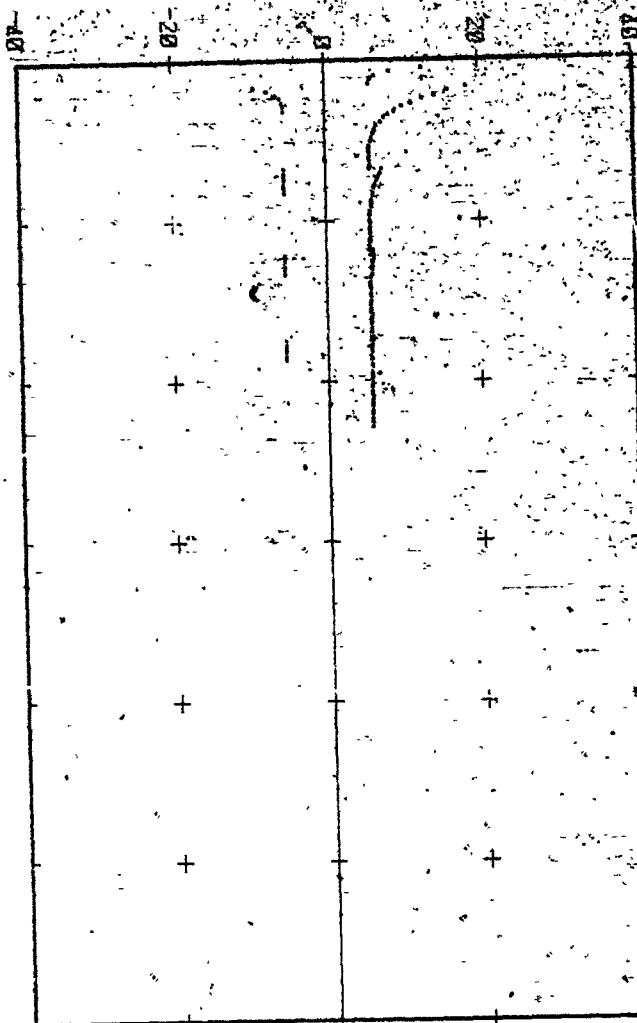


NOISE (DB)

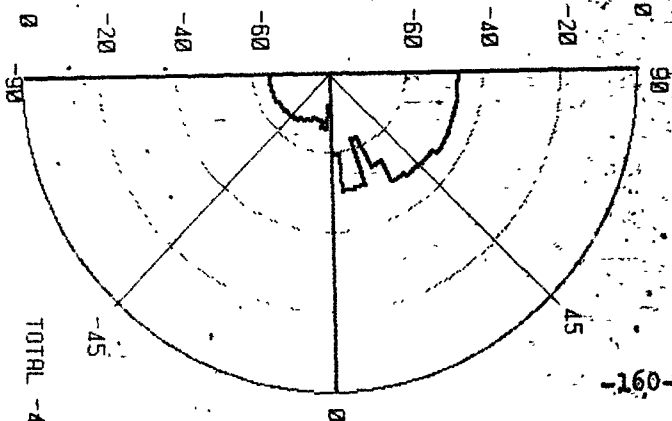


TOTAL -41.0 DB

ARRIVAL ANGLE



NOISE (DB)



DEPTH IN METERS



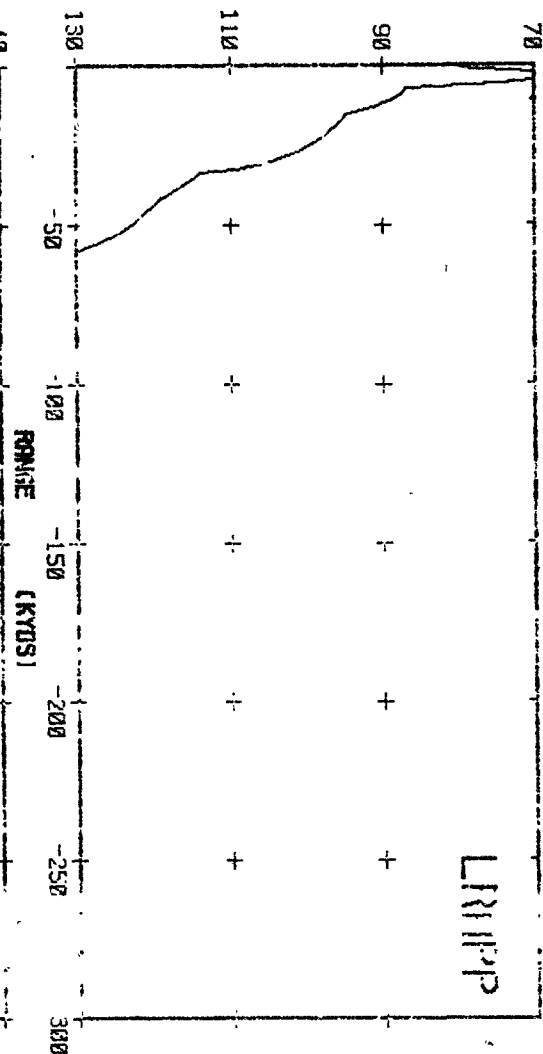
TOTAL -41.1 DB

RICH AB SUMMER

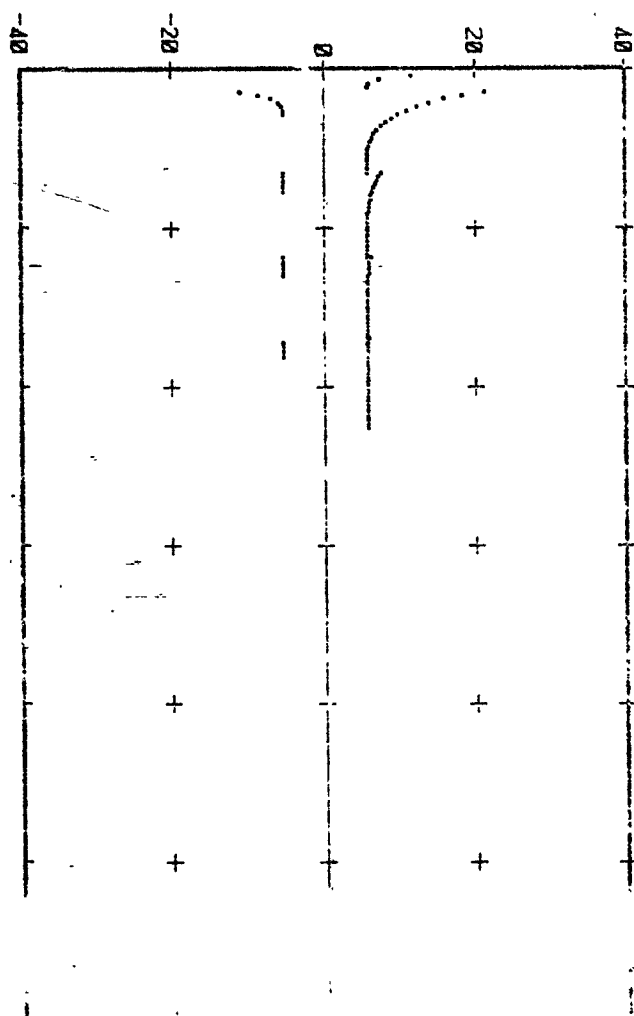
S 50 R 1500 F 000

1450 M/S 1500 1550

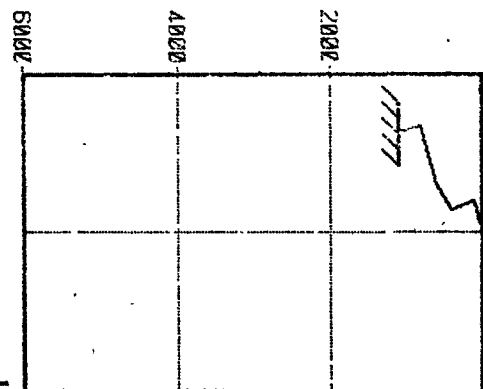
DB LOSS



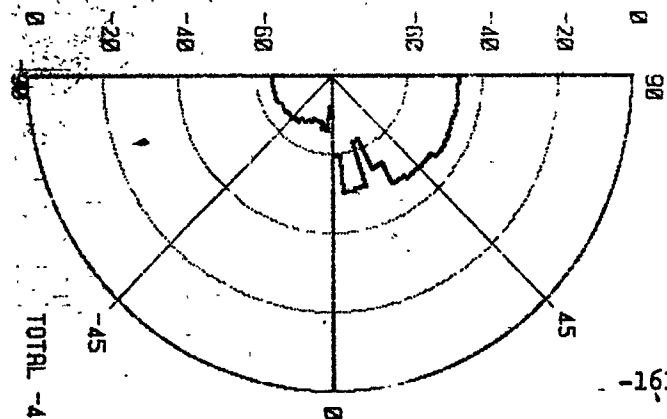
ARRIVAL ANGLE



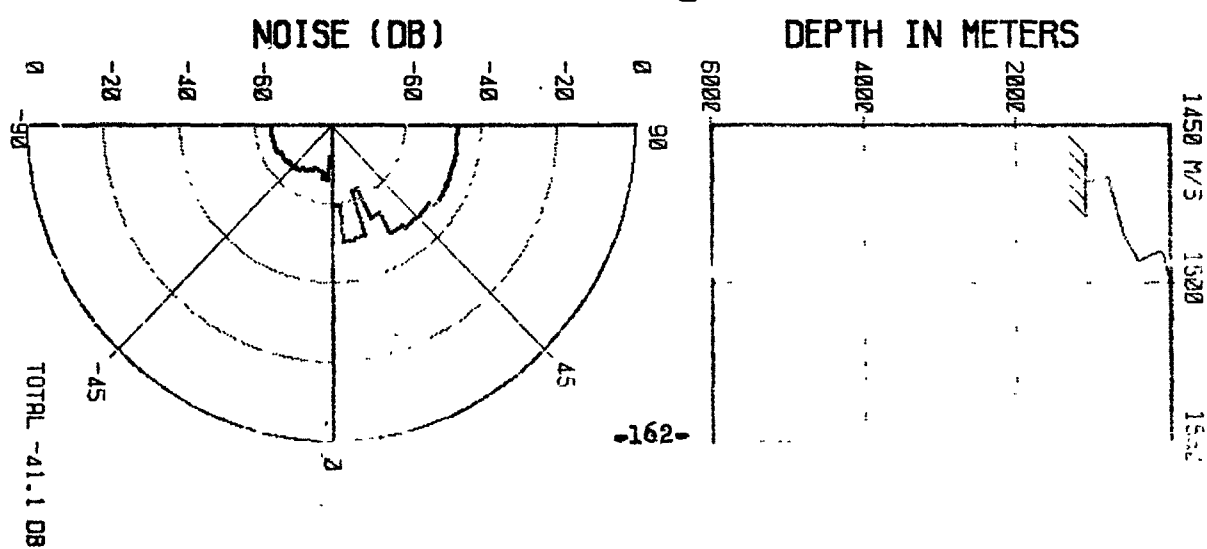
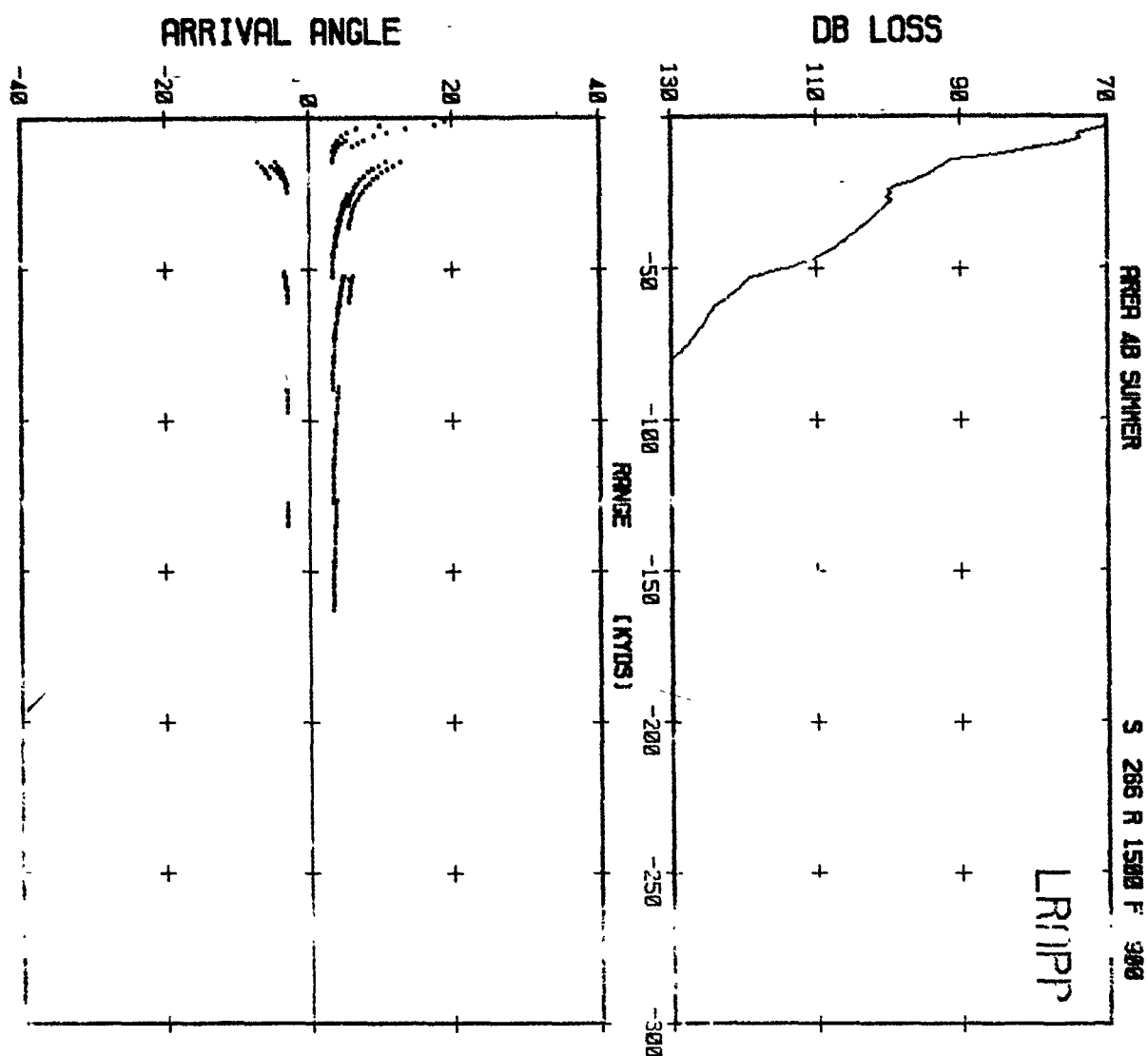
DEPTH IN METERS



NOISE (DB)



TOTAL -41.1 DB

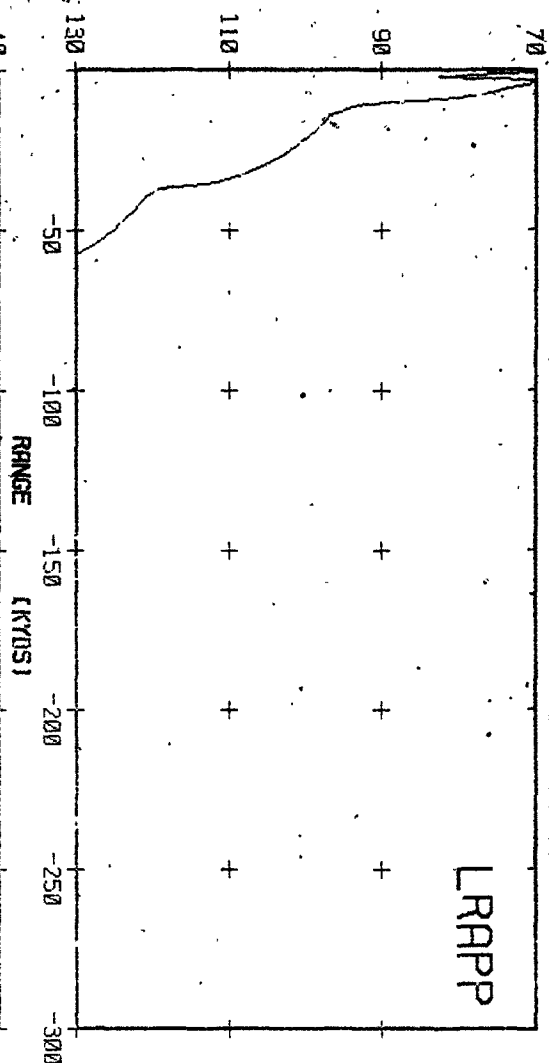


PRER AB-SUMMER

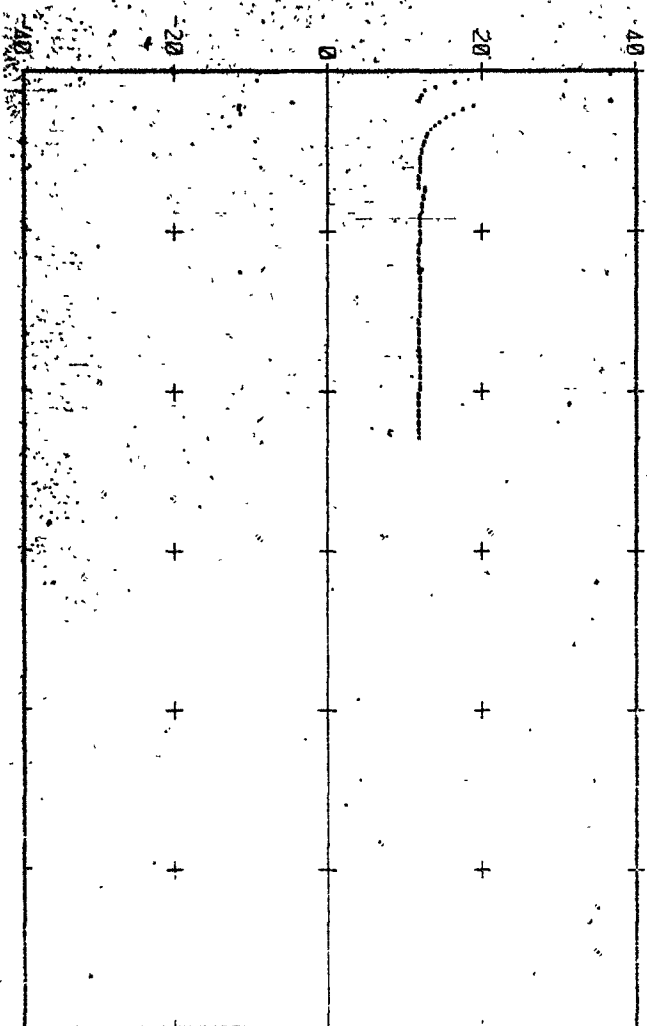
S 20 R 2625 F 900

1450 M/S 1500 1550

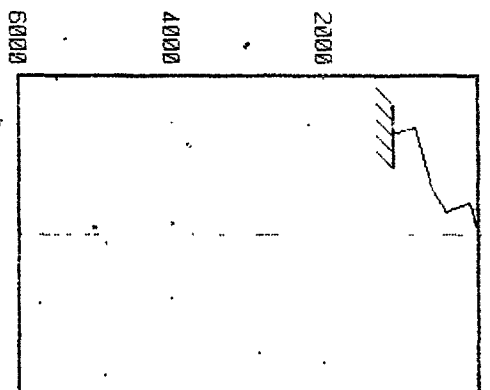
DB LOSS



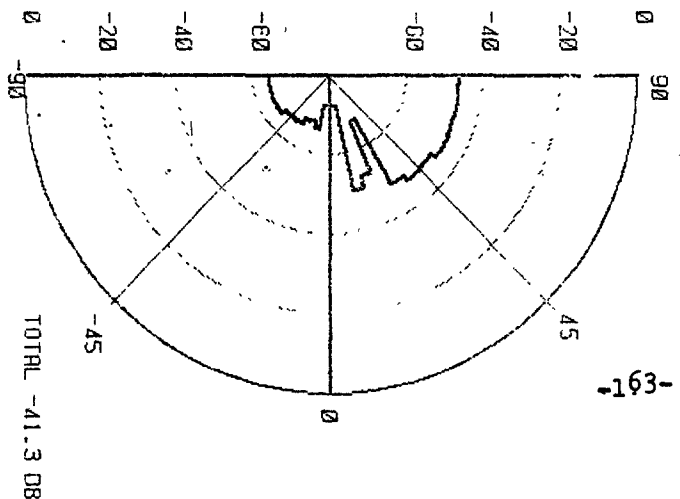
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

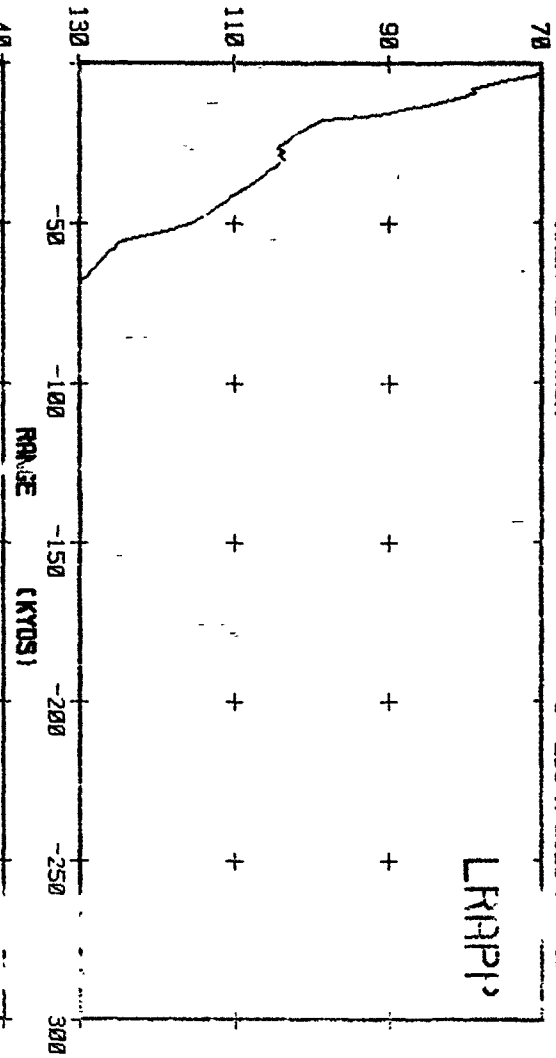


REVER AB SUMMER

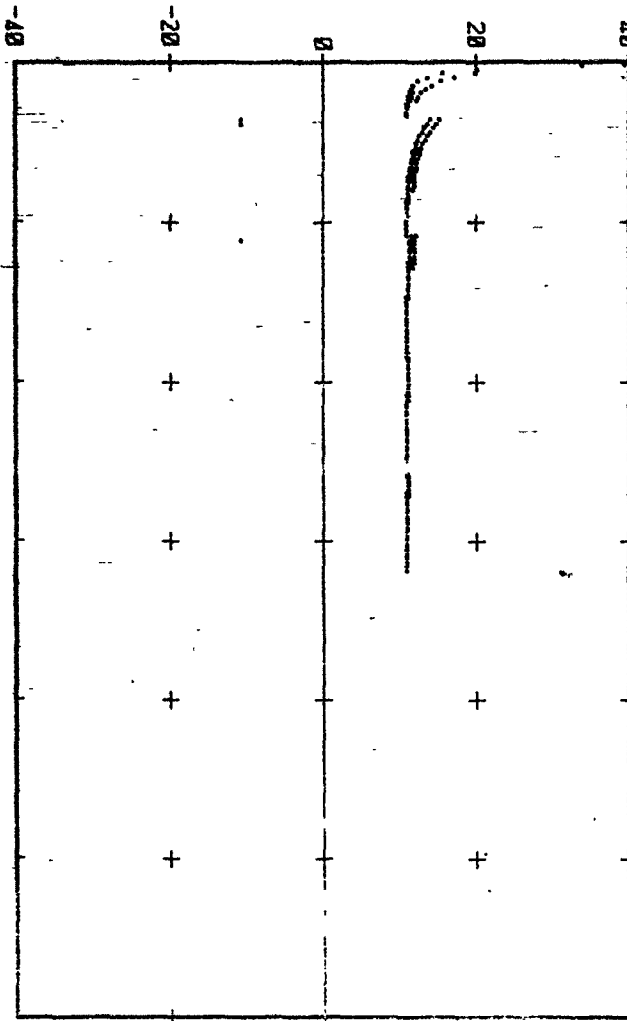
S 266 R 2625 F NDB

LRIAPP

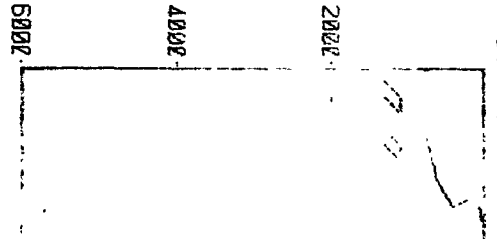
DB LOSS



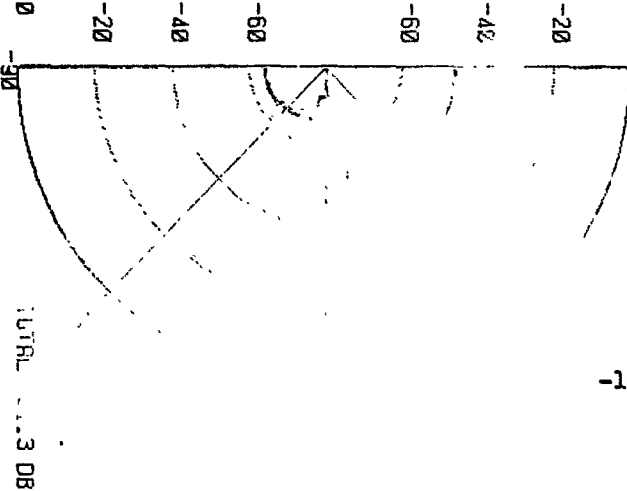
ARRIVAL ANGLE

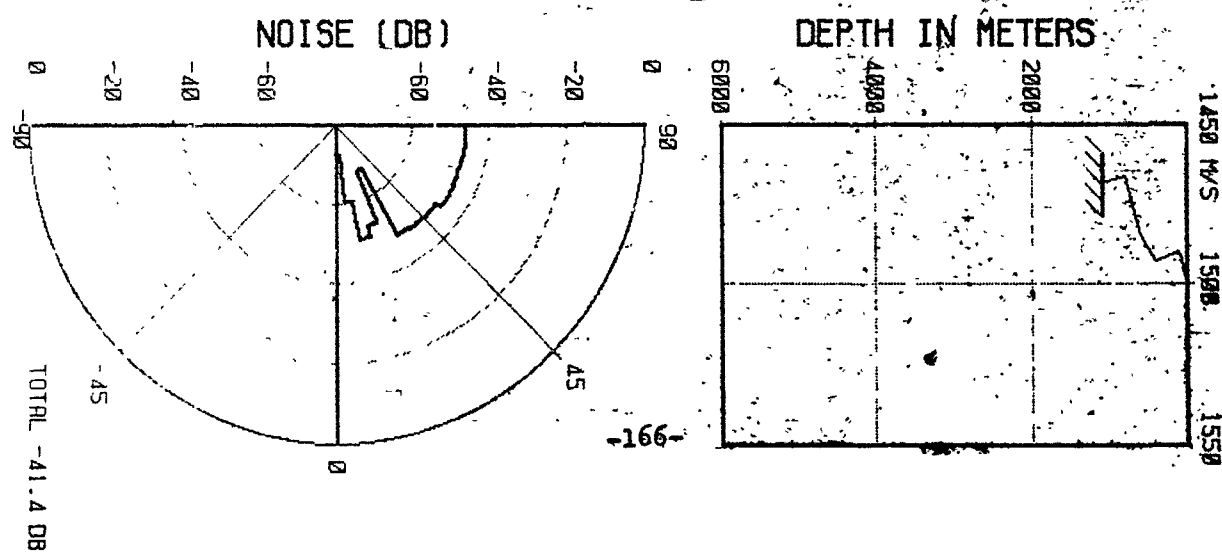
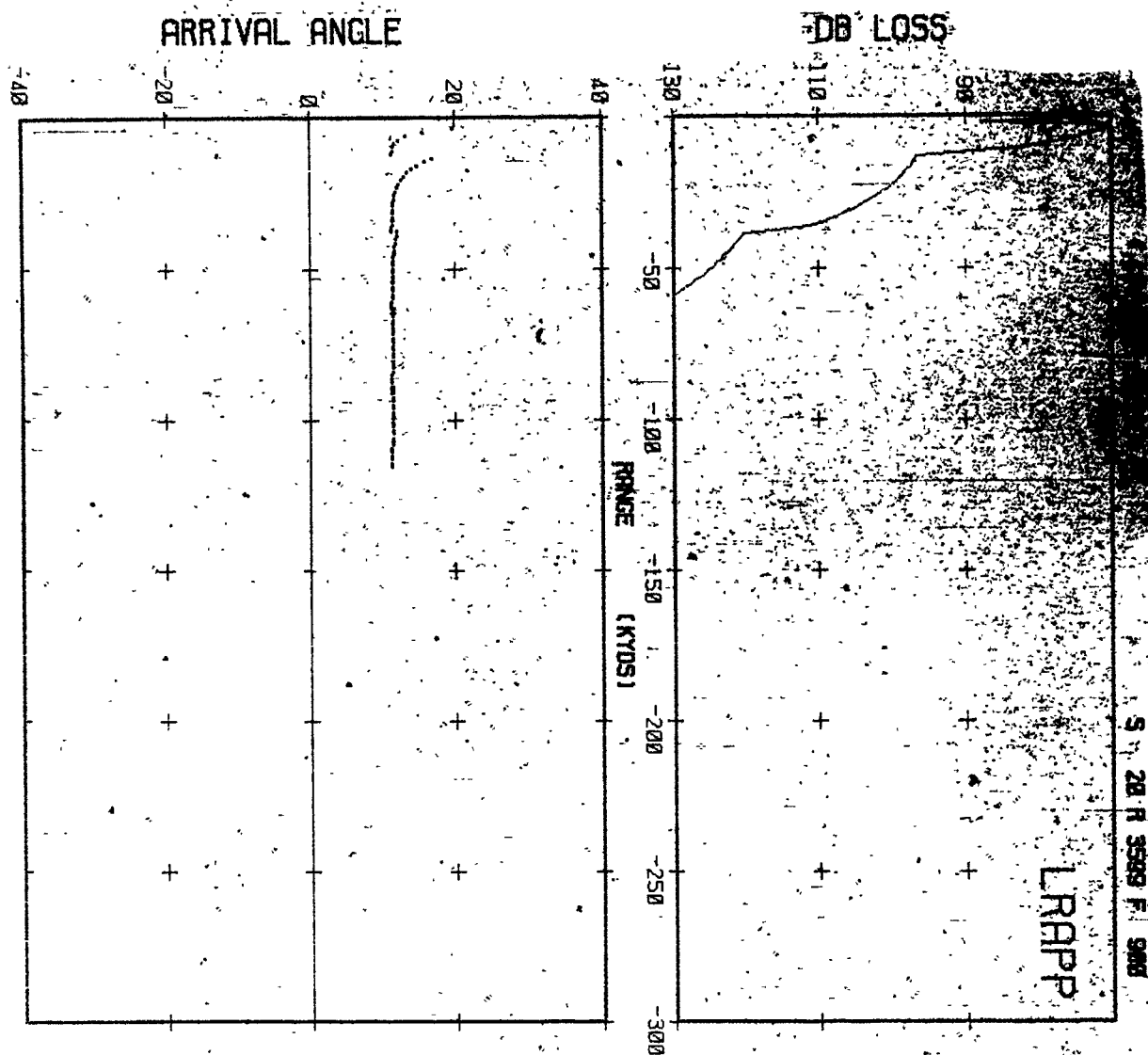


DEPTH IN METERS



NOISE (DB)



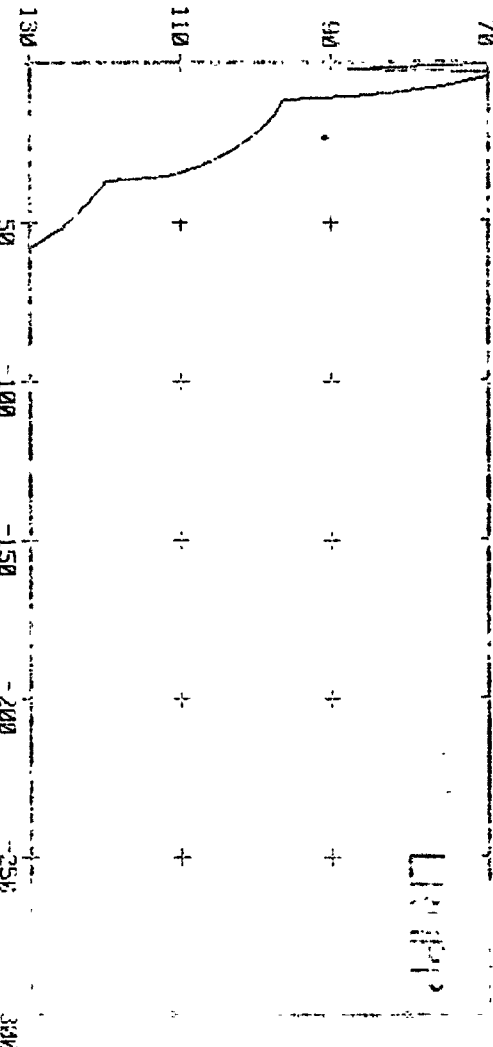


RIVER AIR SURFER

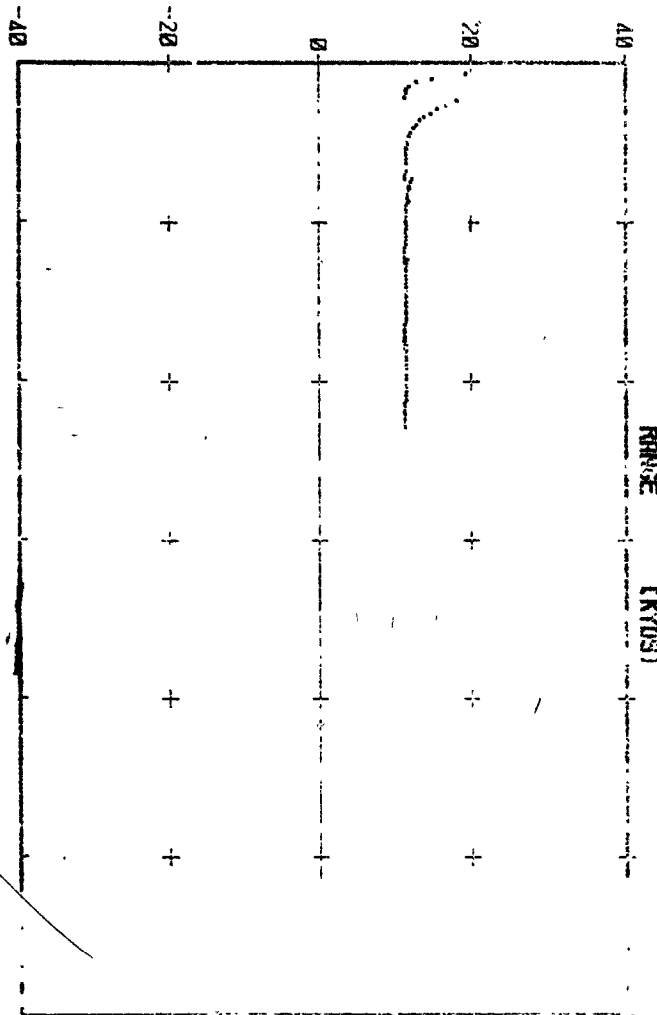
S 50 R 3500 1 001

1450 M/S 1520 1550

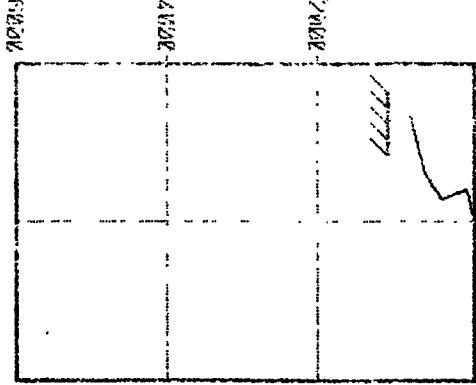
DB LOSS



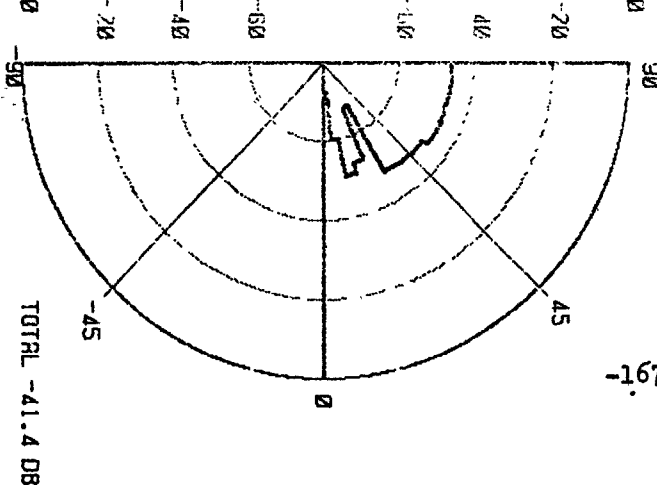
ARRIVAL ANGLE



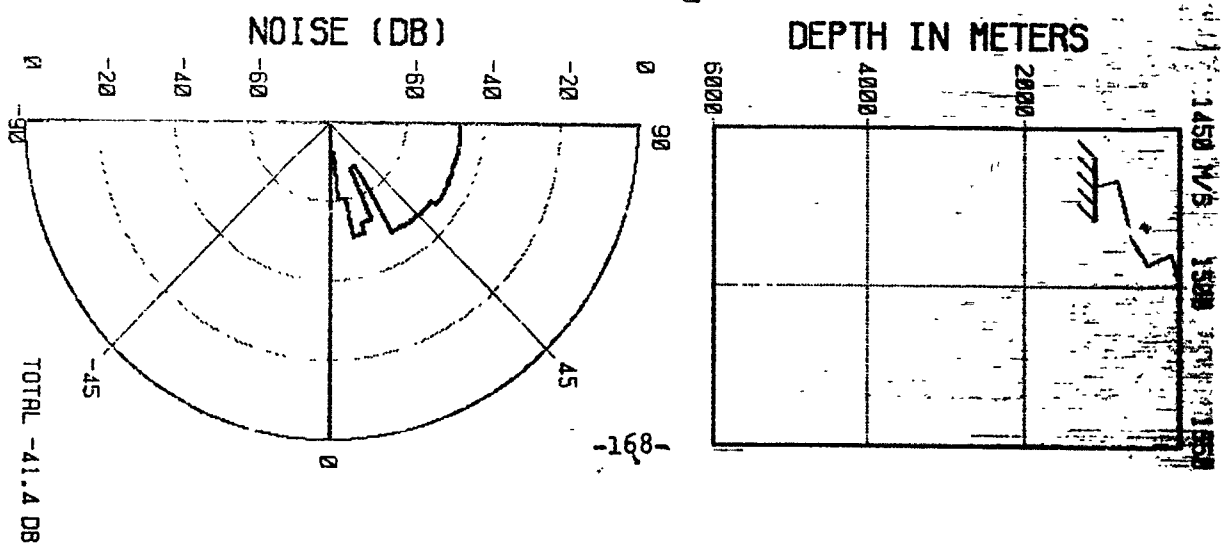
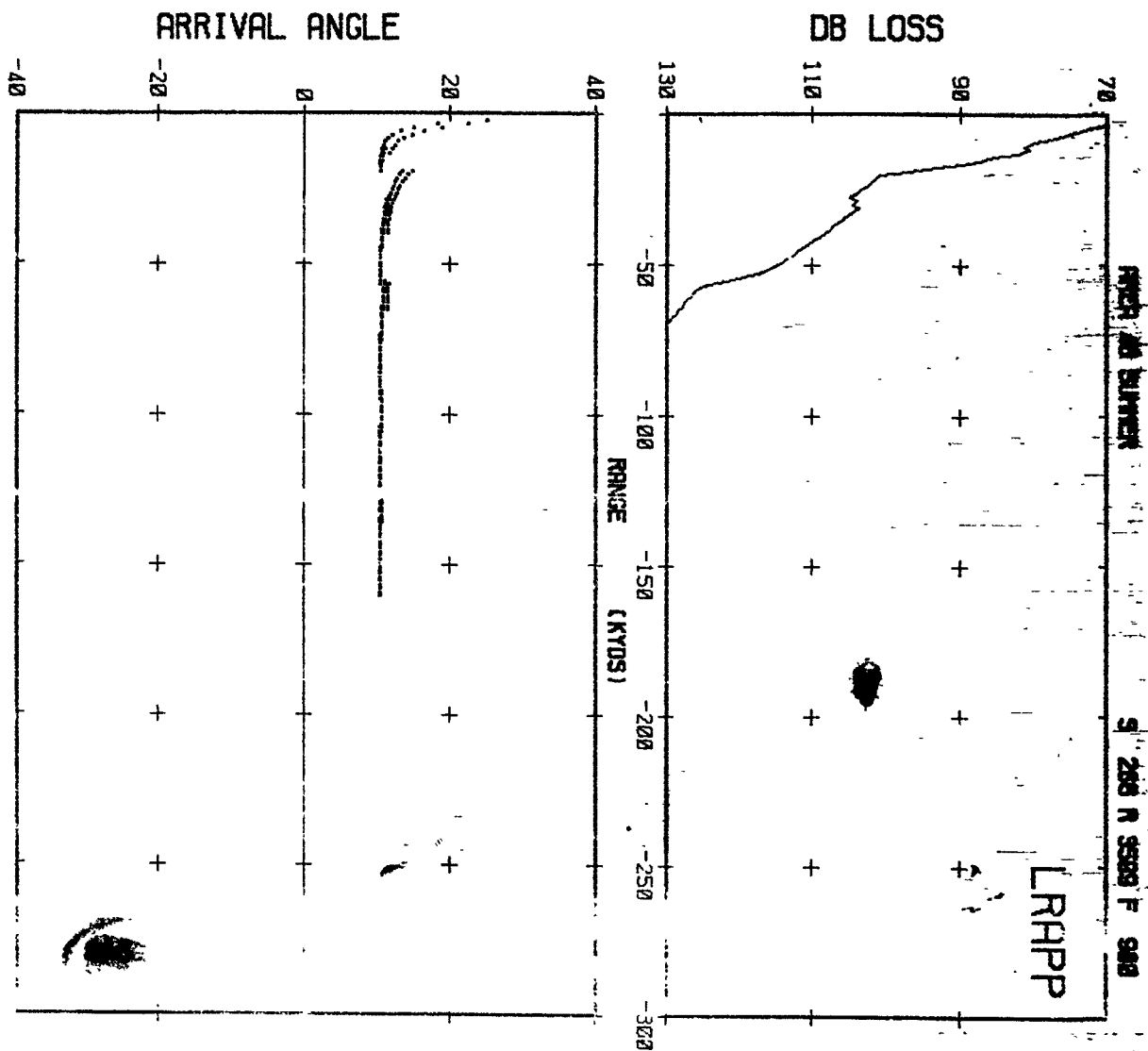
DB LOSS

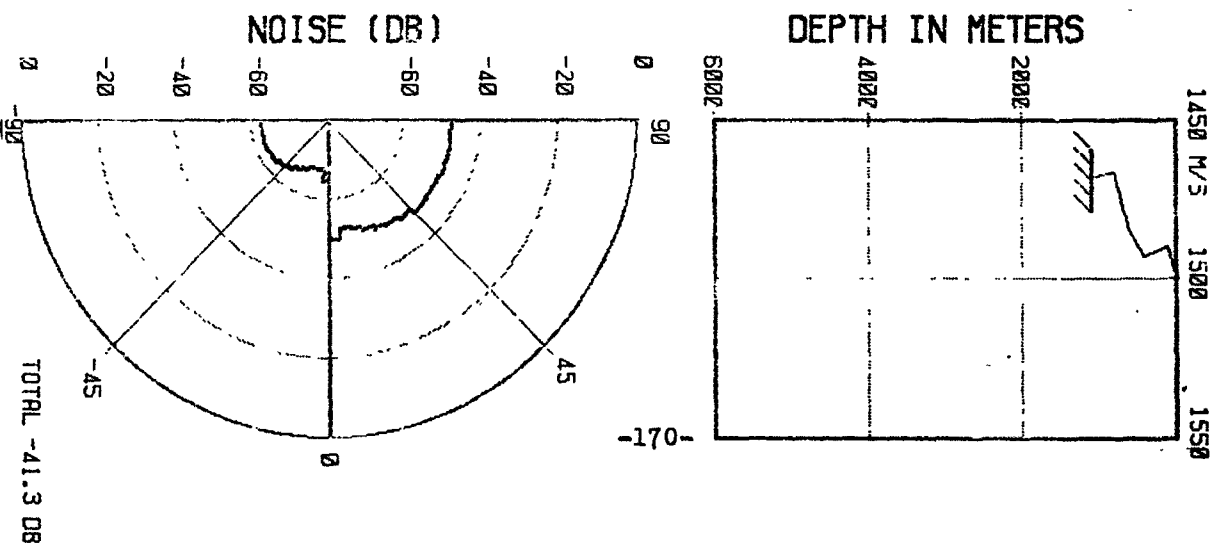
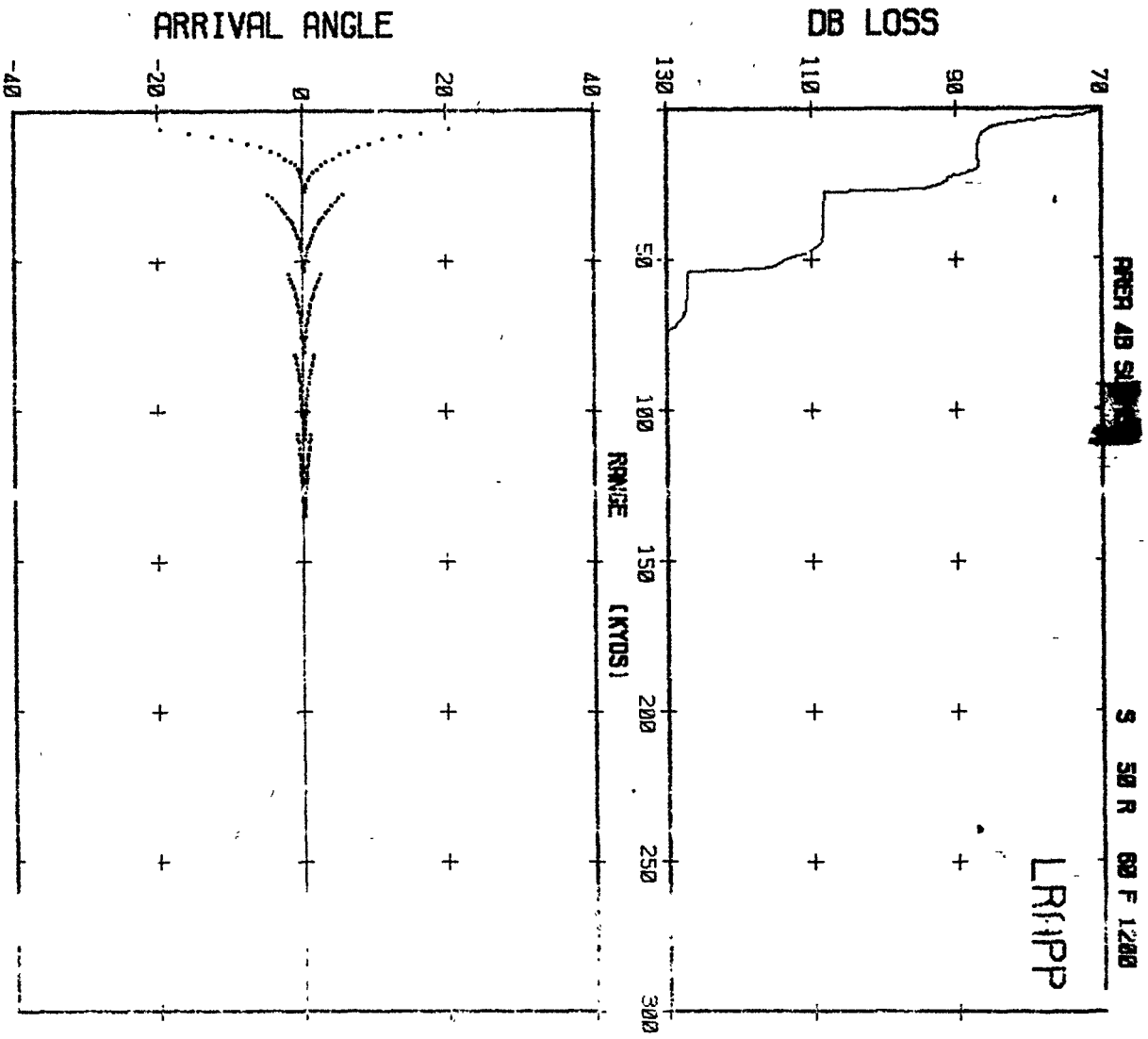


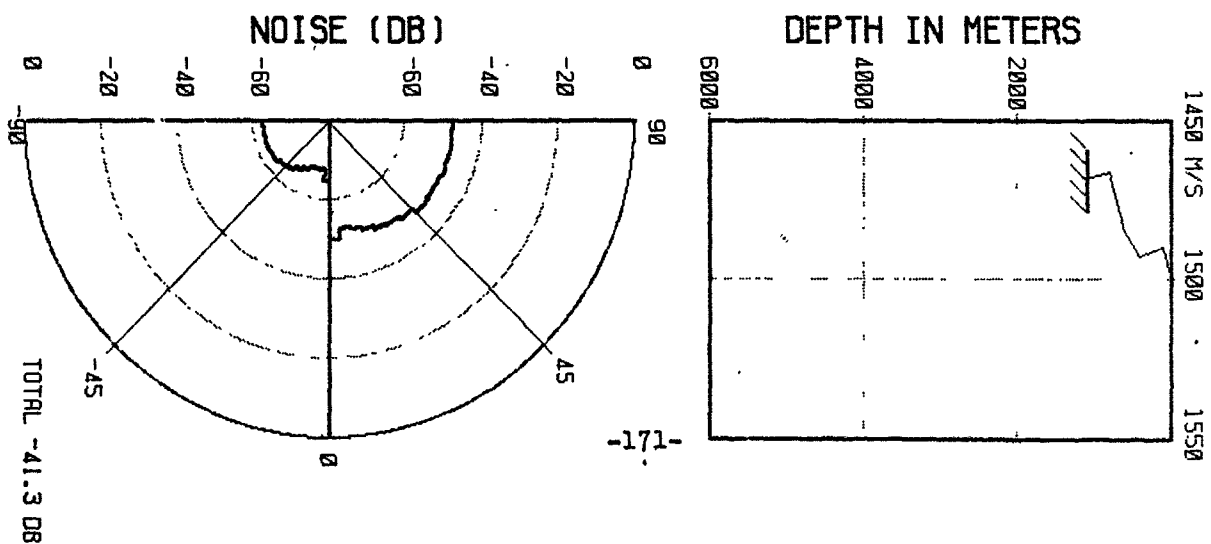
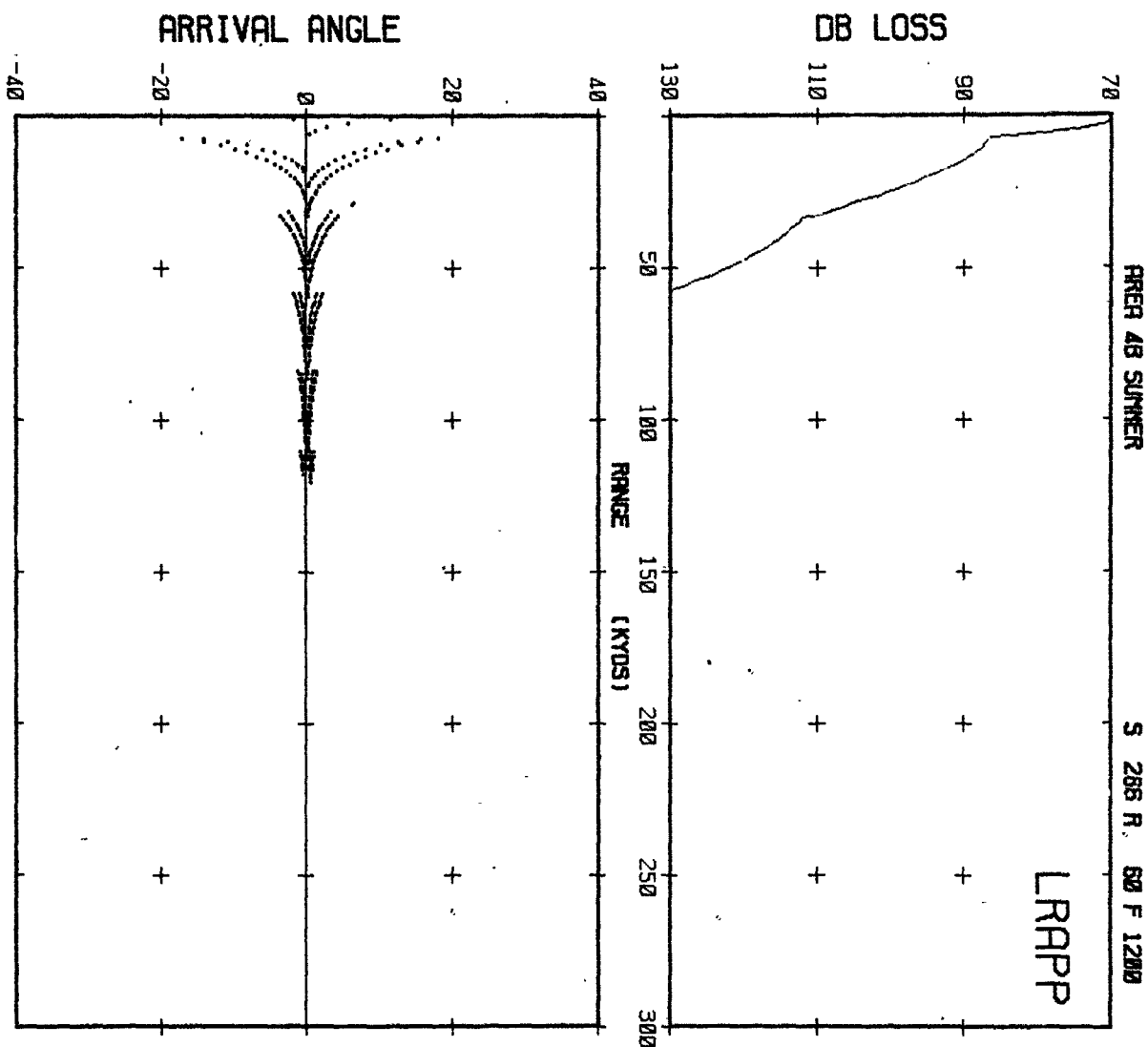
NOISE (DB)



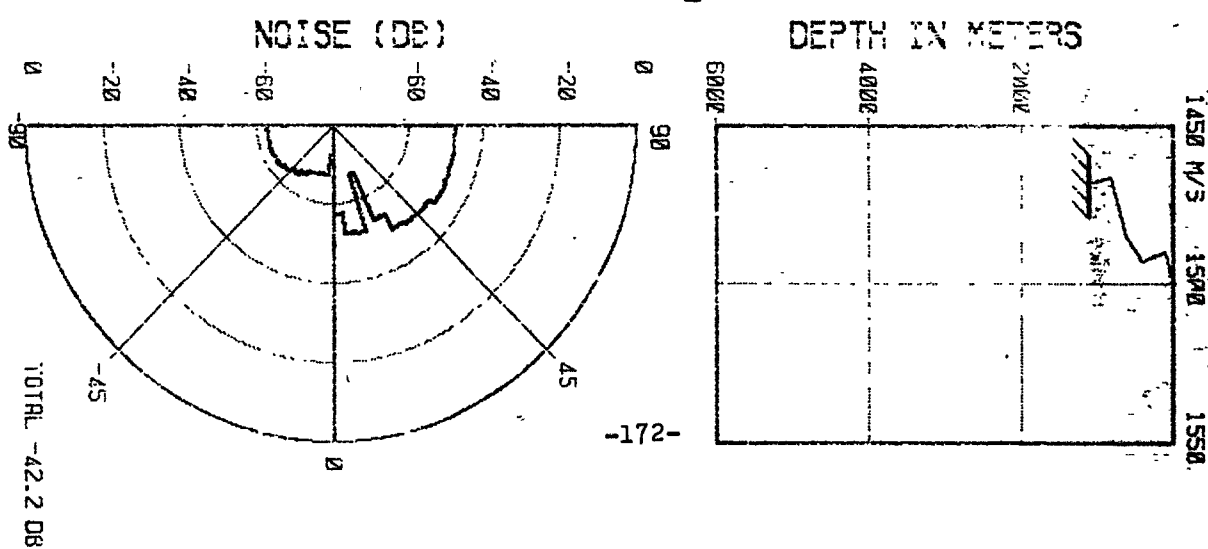
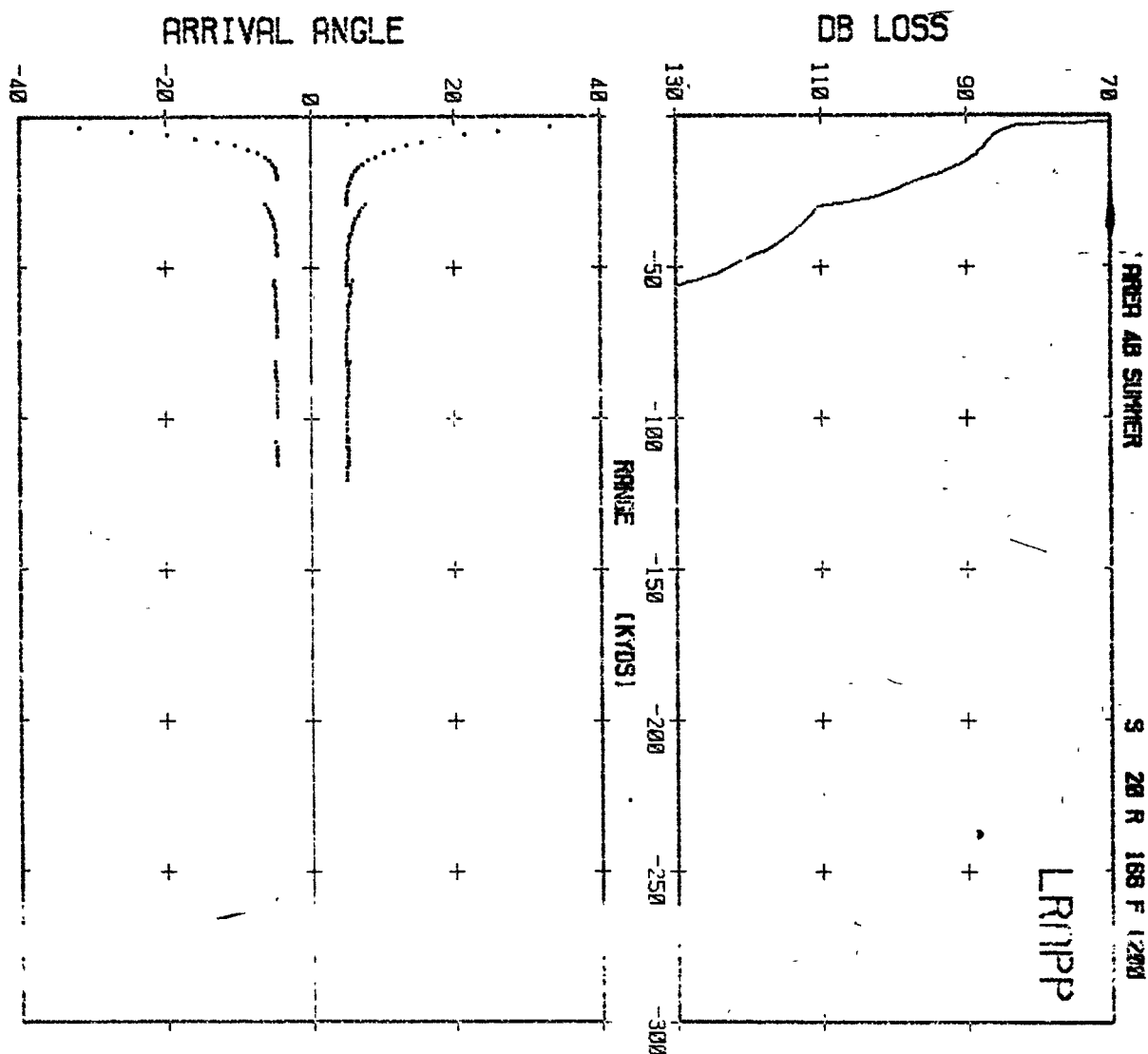
TOTAL -41.4 DB







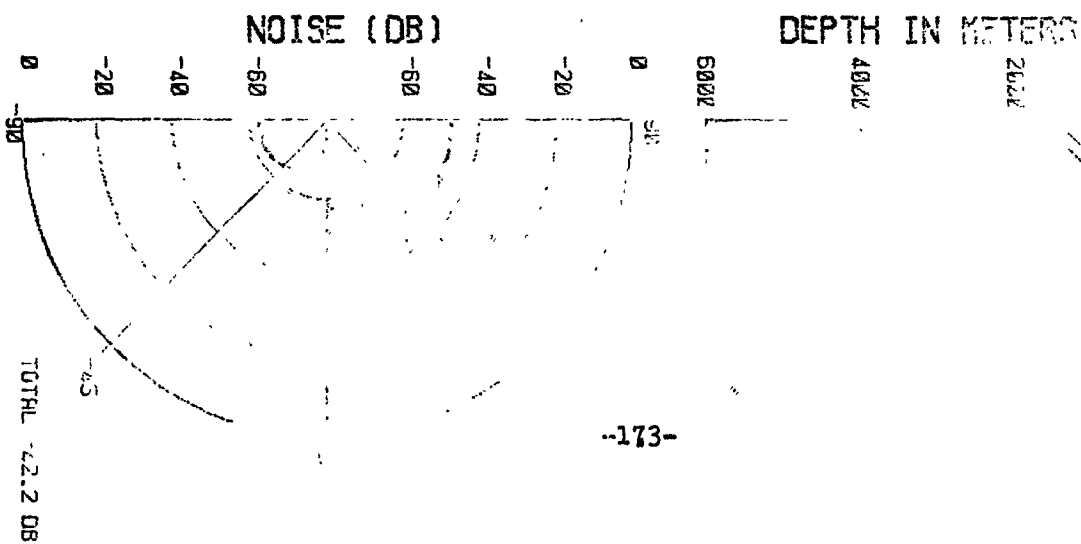
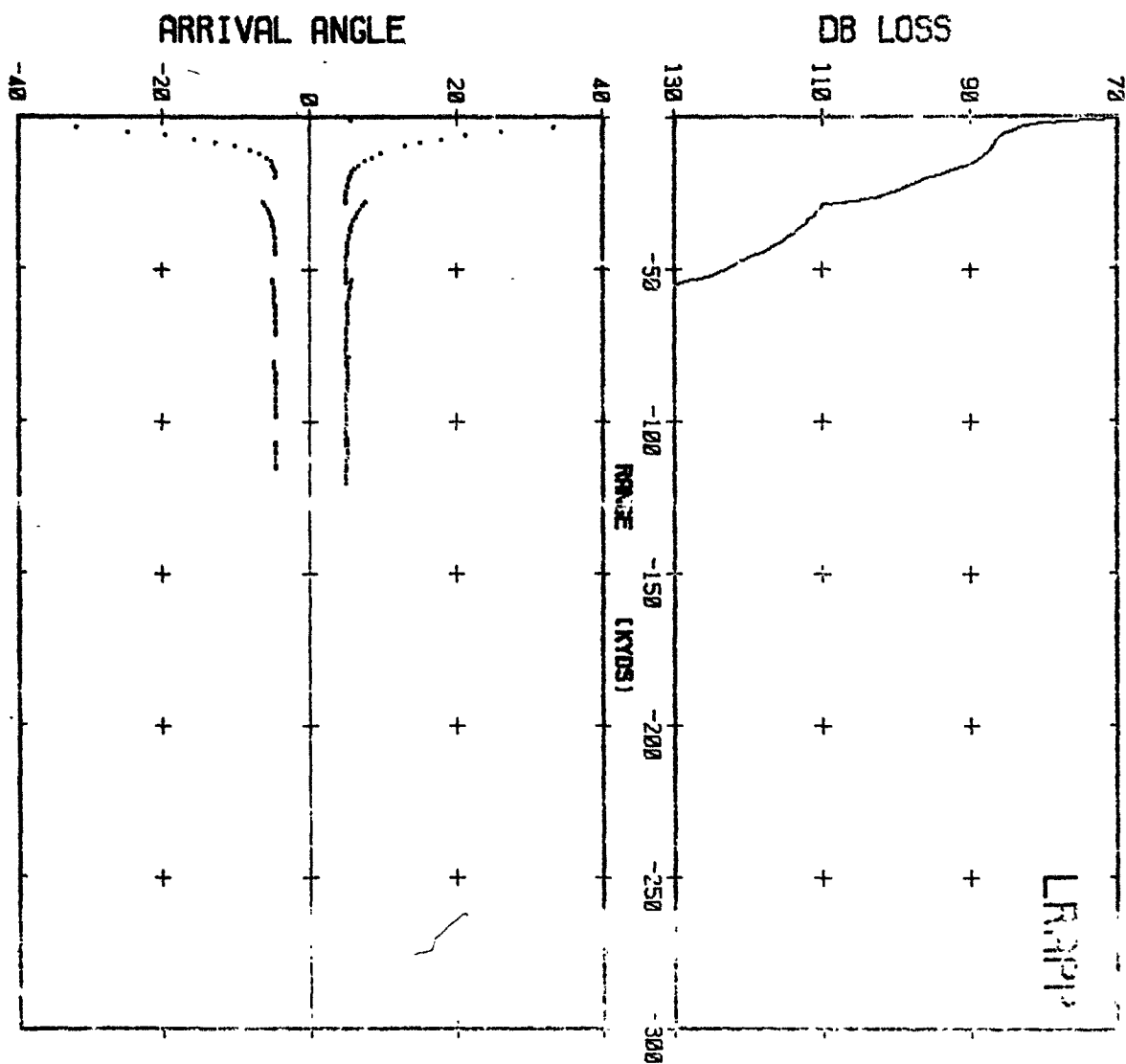
TOTAL -41.3 DB

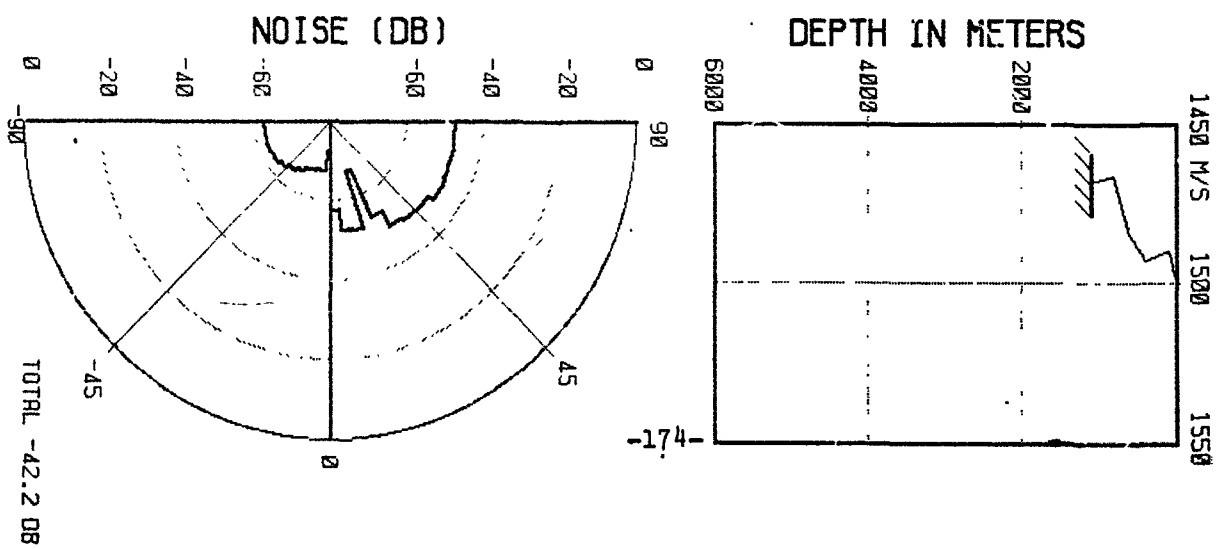
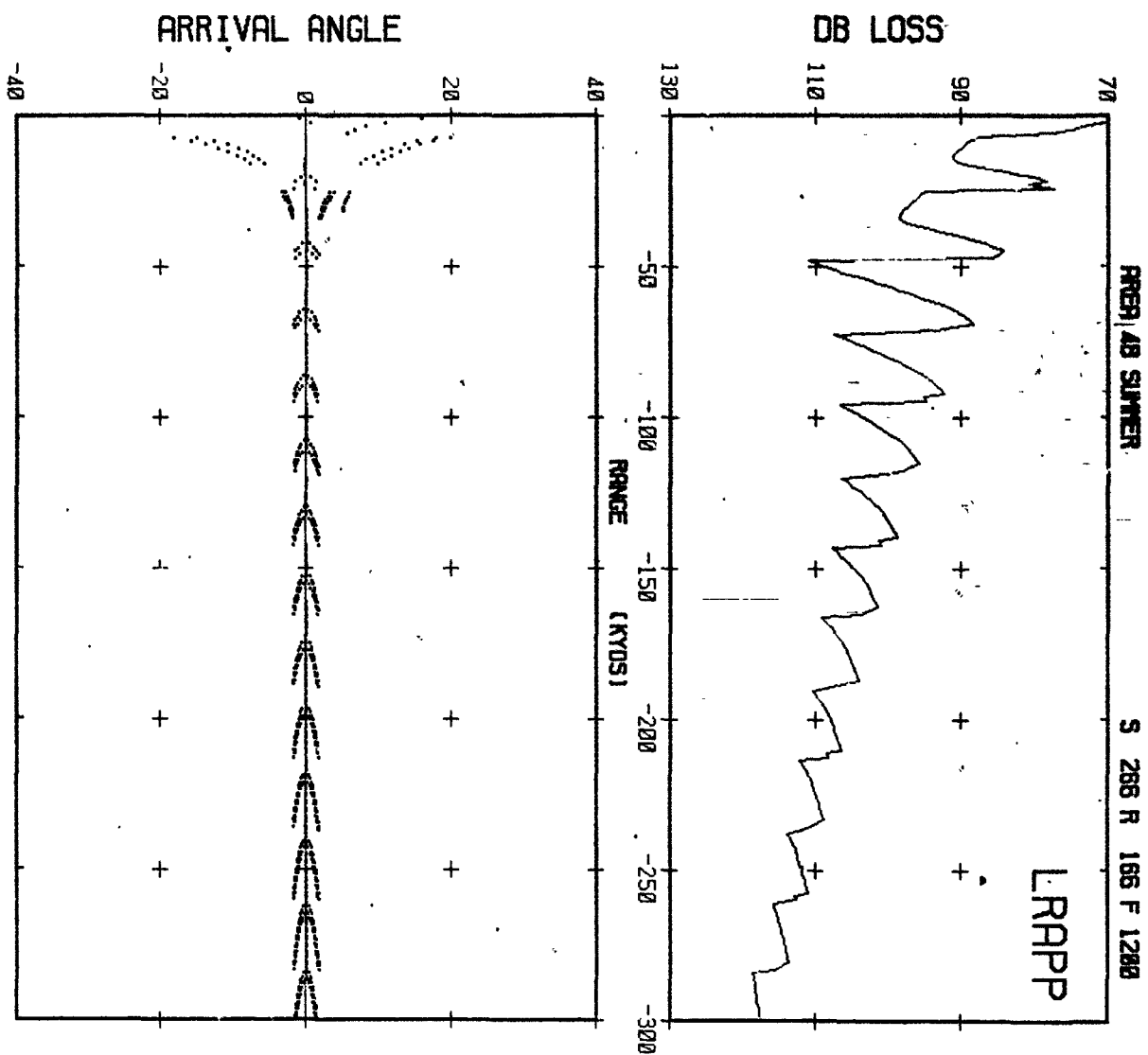


AREA 48 SUMMER

S 50 R 166 F 1234

141





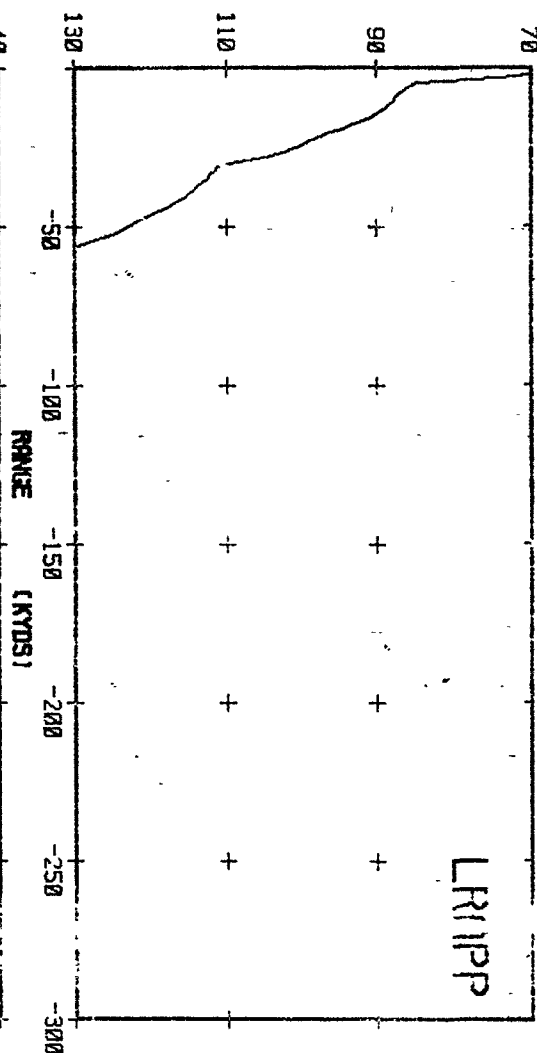
AREA 4B SUMMER

S 20 R 300 F 1200

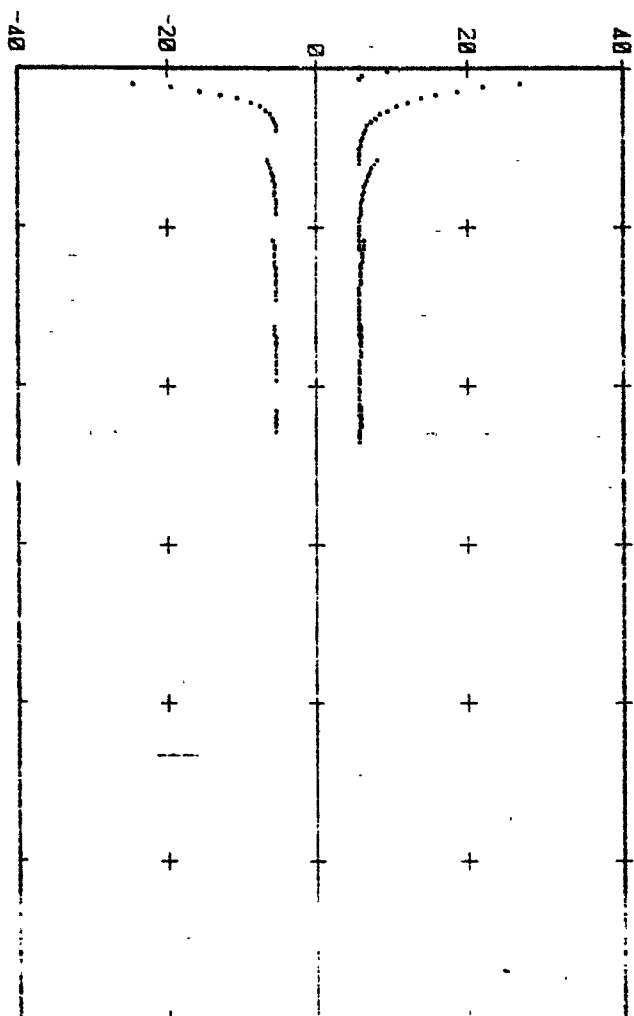
1450 M/S 1500

1550

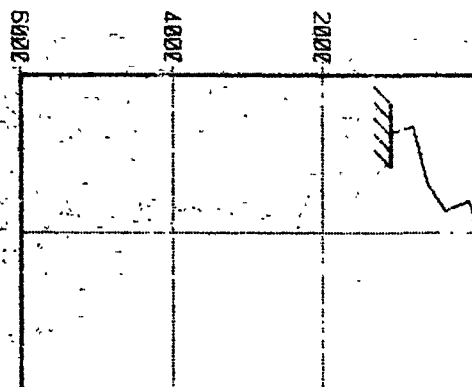
DB LOSS



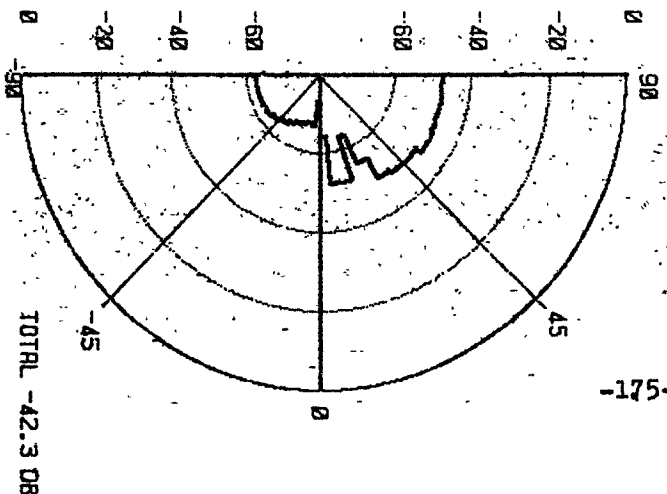
ARRIVAL ANGLE

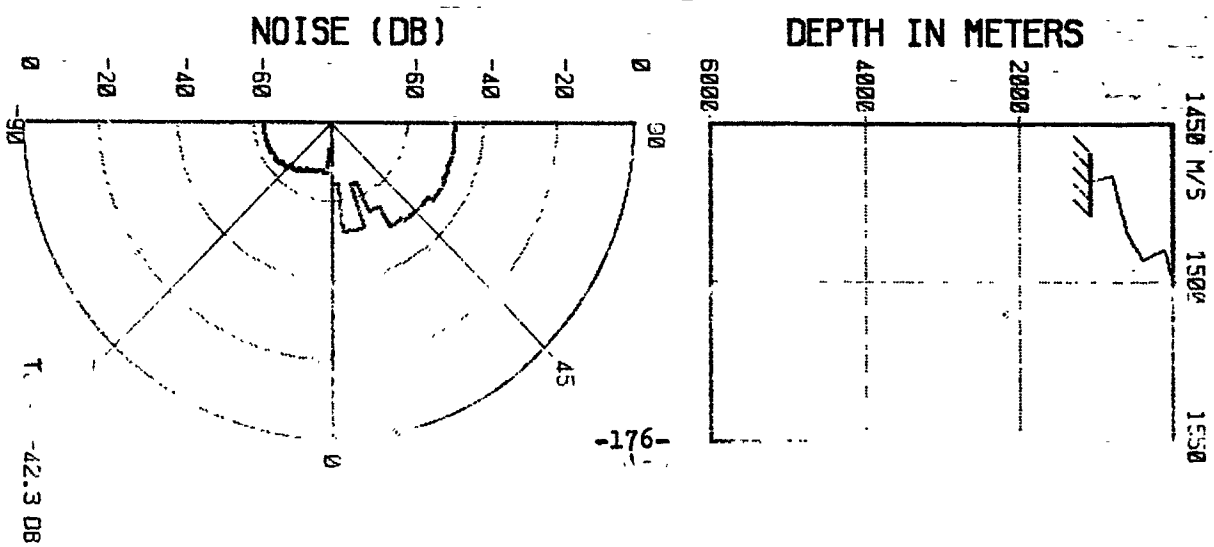
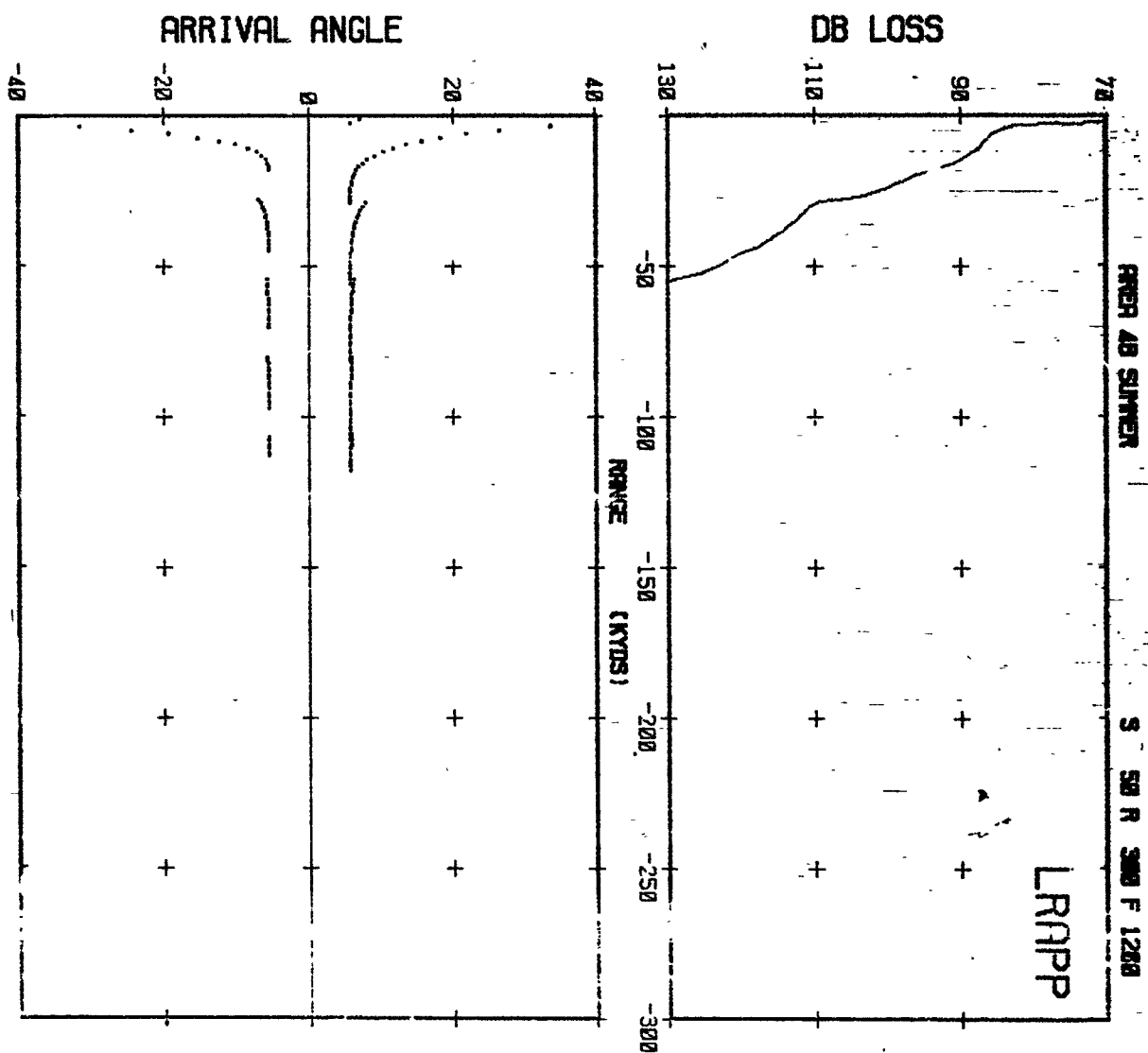


DEPTH IN METERS



NOISE (DB)



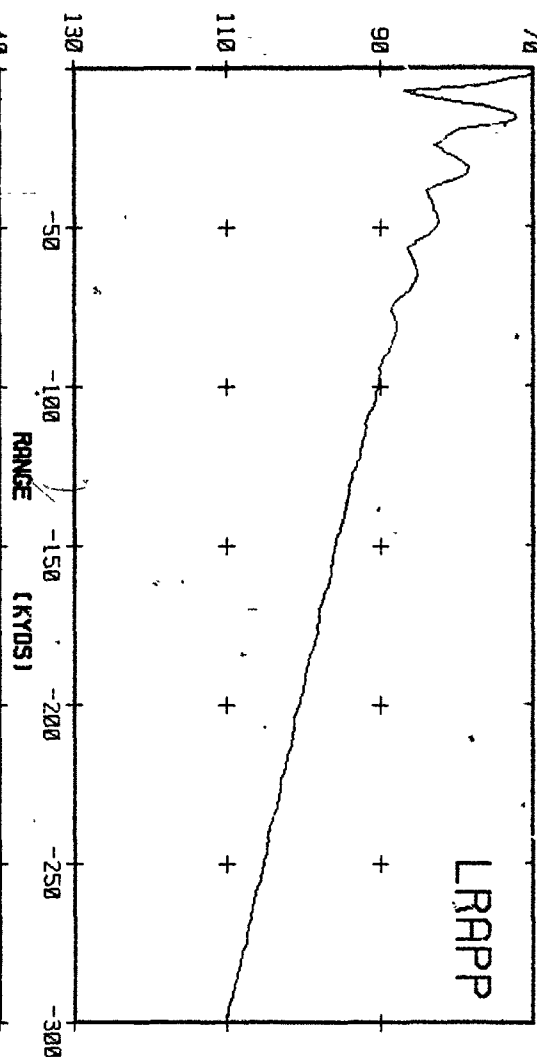


AREA 4B SUMMER

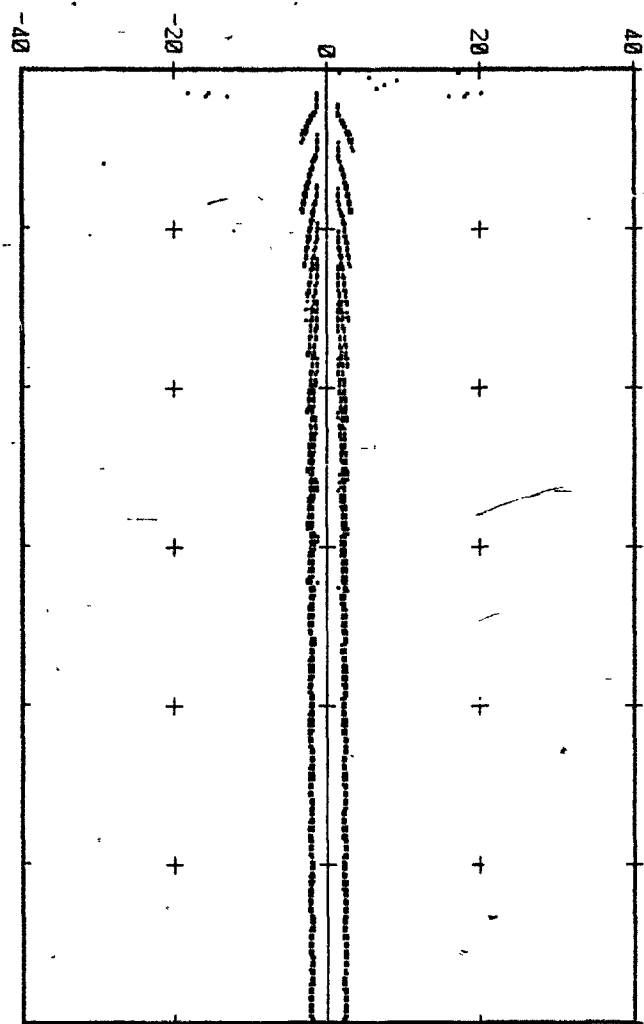
S 266 R 300 F 1200

1450 M/S 1520 1550

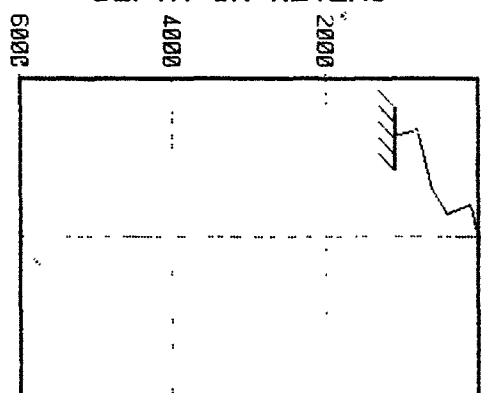
DB LOSS



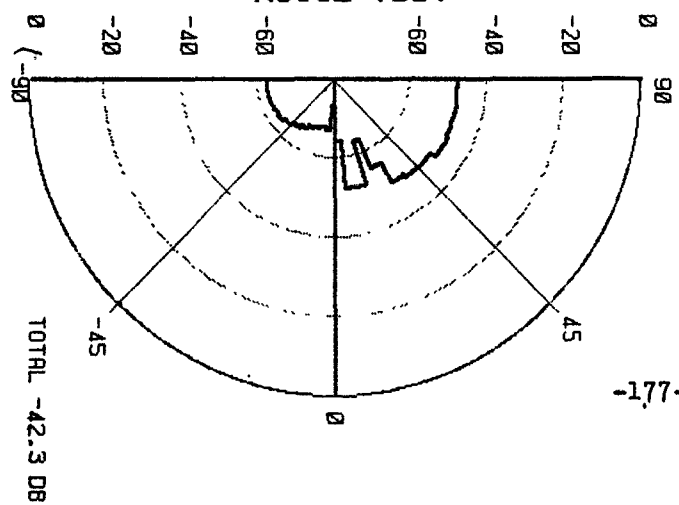
ARRIVAL ANGLE



DEPTH IN METERS

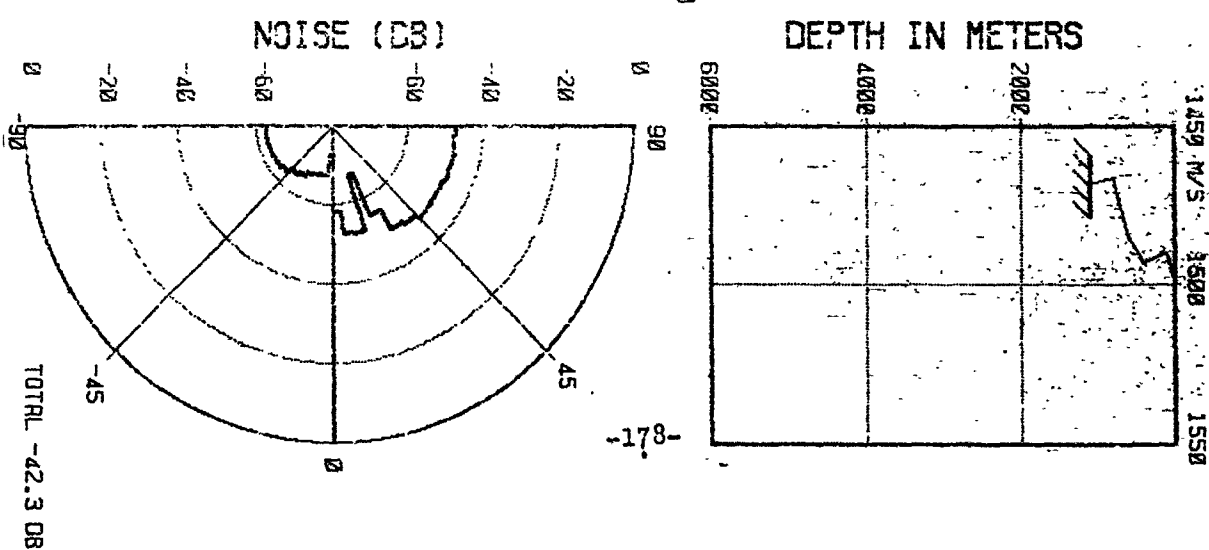
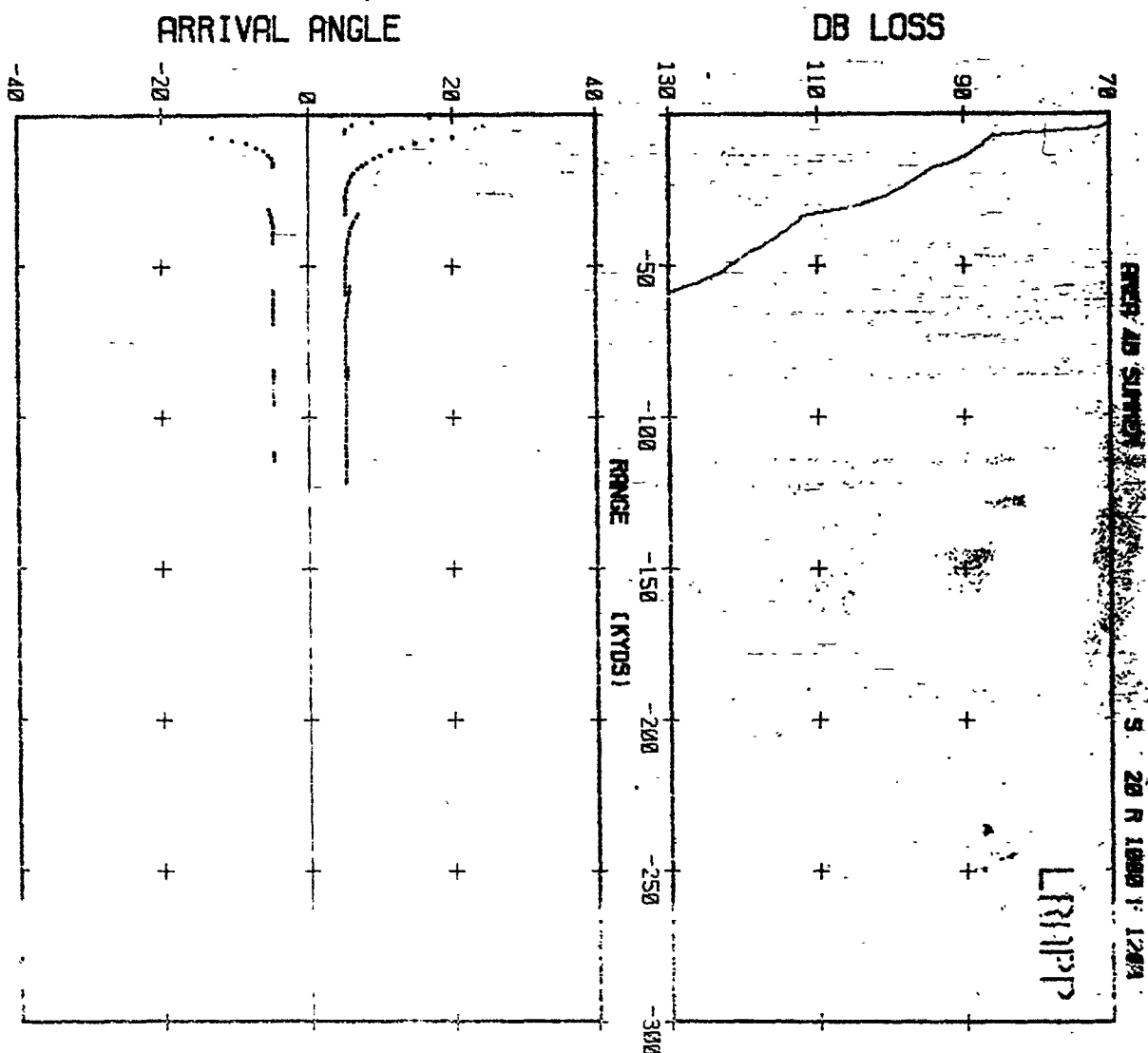


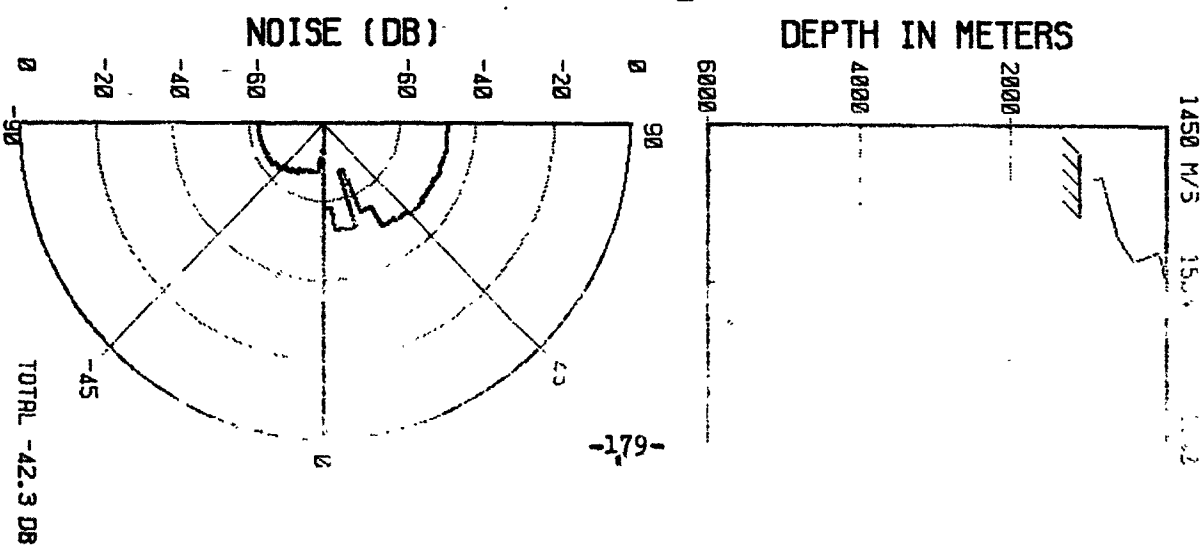
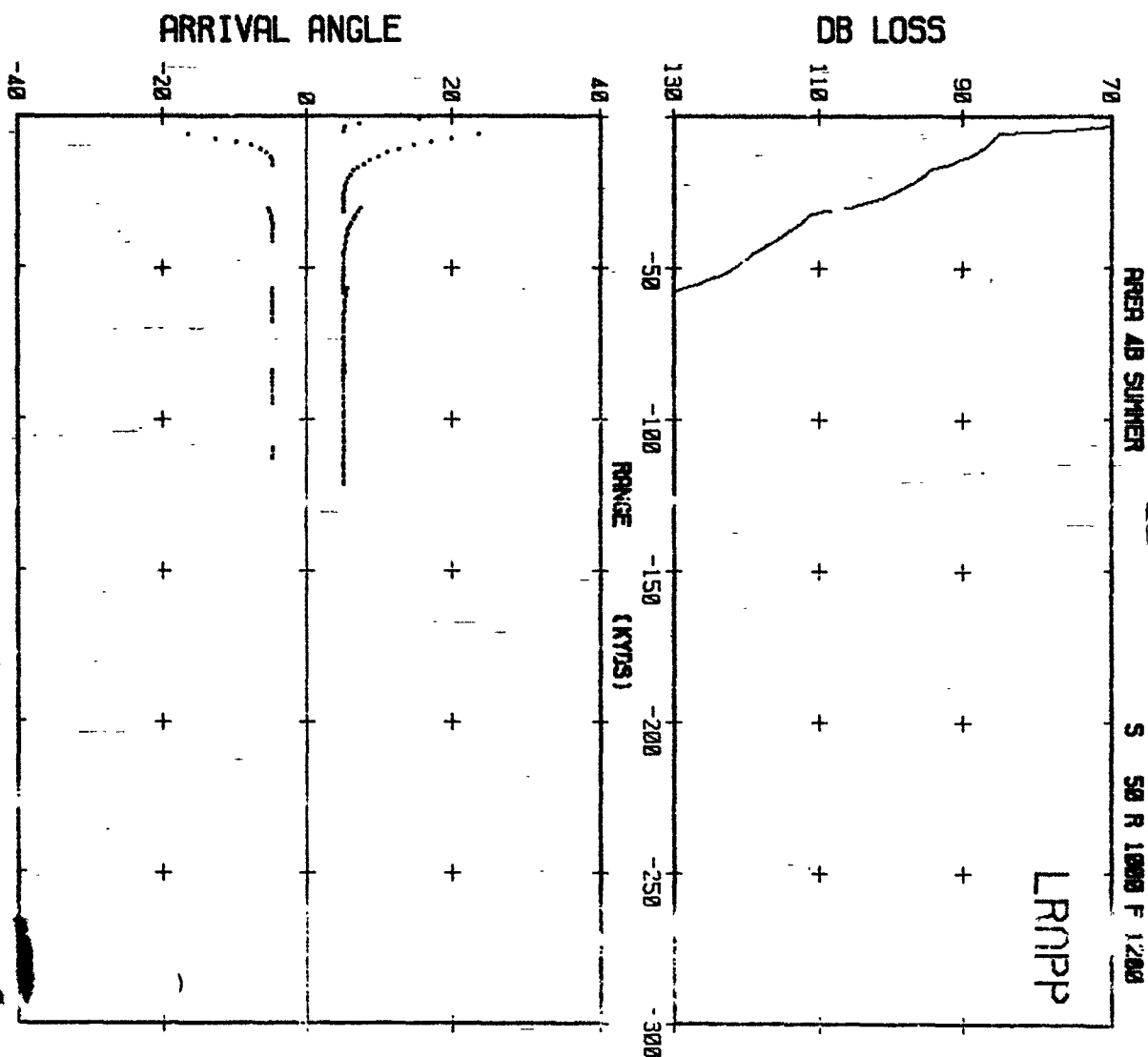
NOISE (DB)



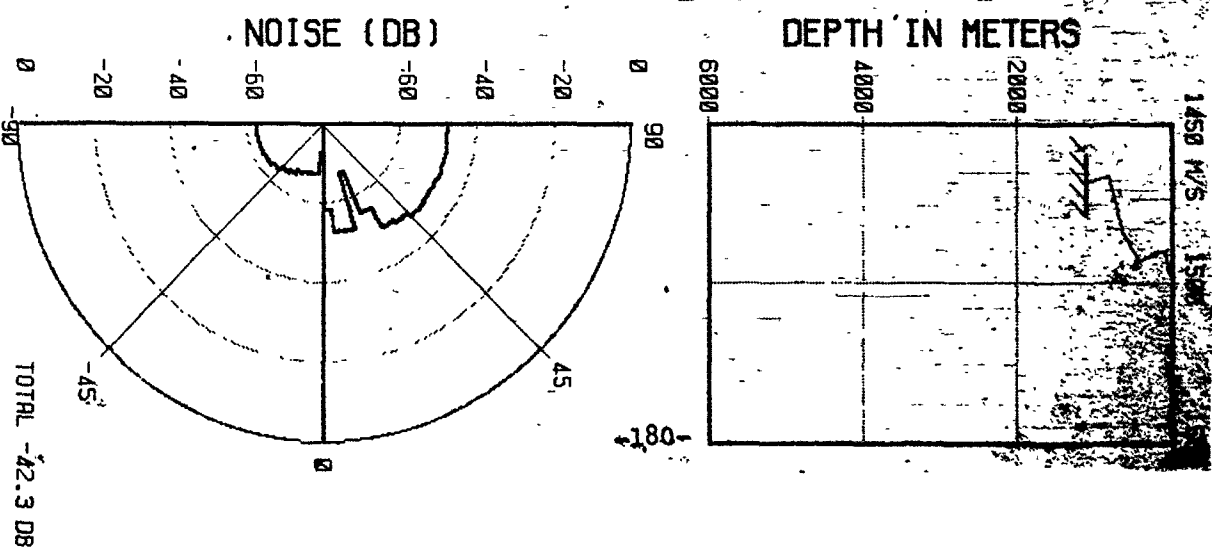
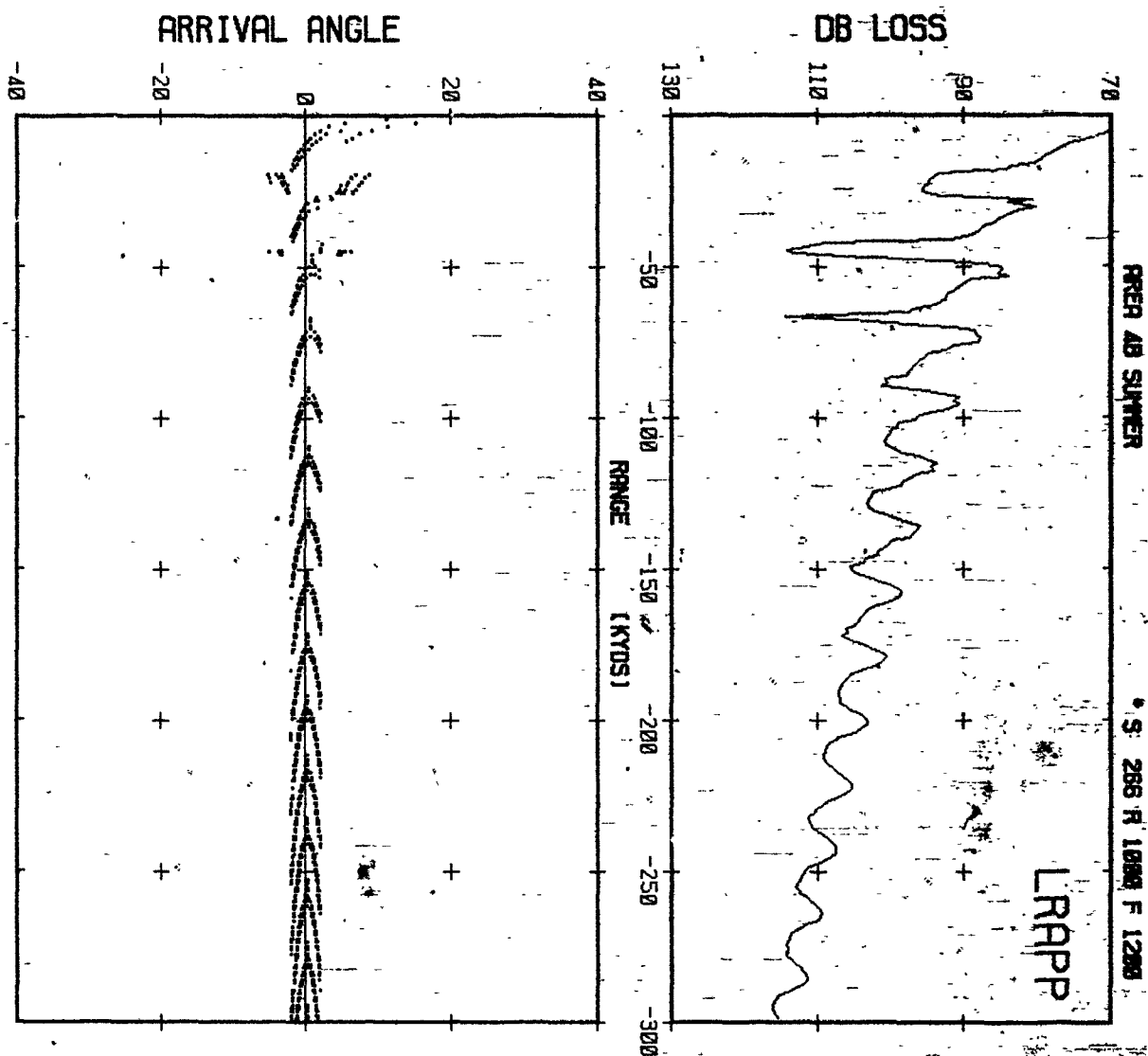
-177-

TOTAL -42.3 DB





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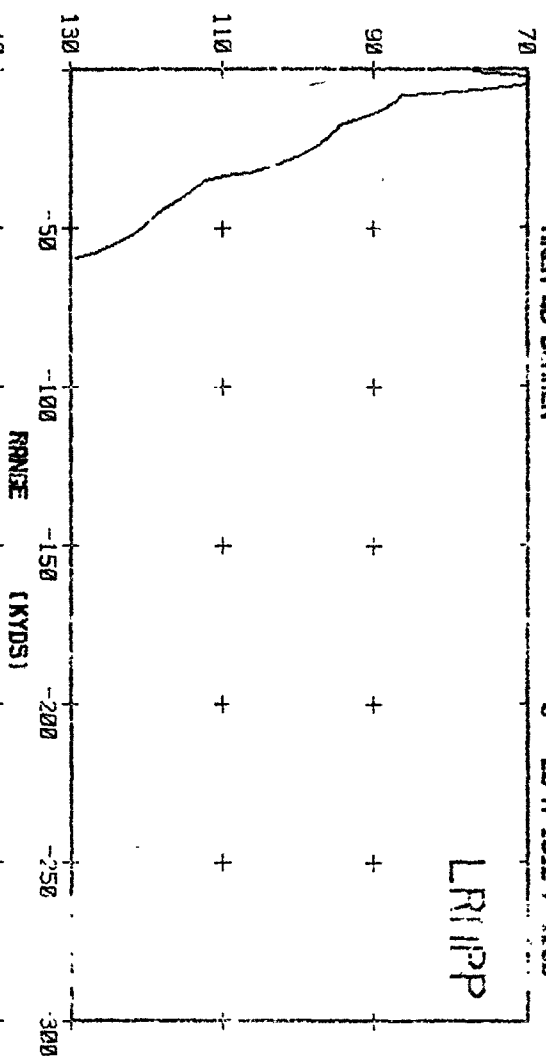


ARRA 4B SINKER

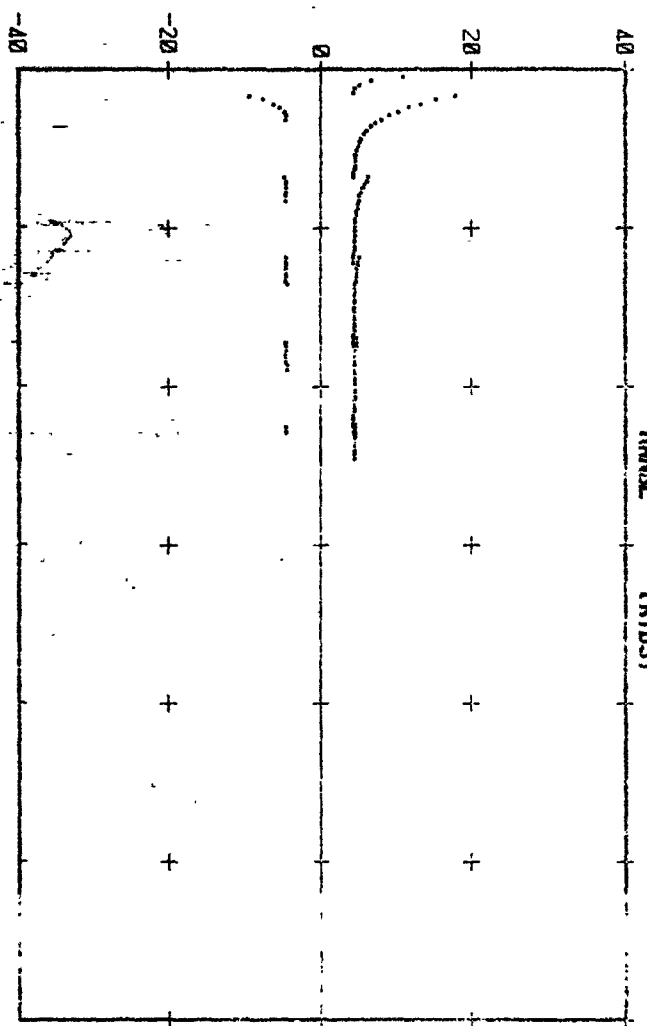
S 20 R 1312 F 1248

1450 M/S 1500 1550

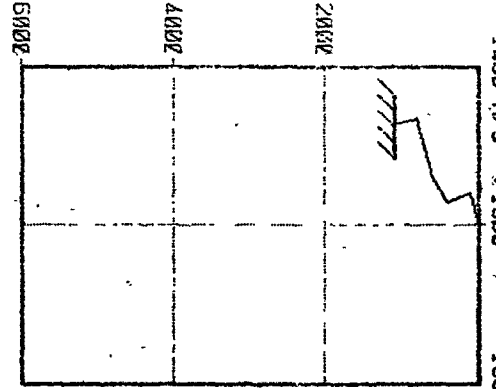
DB LOSS



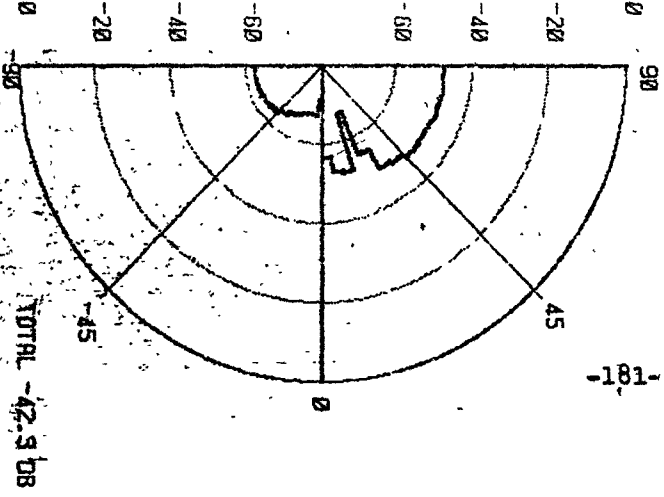
ARRIVAL ANGLE

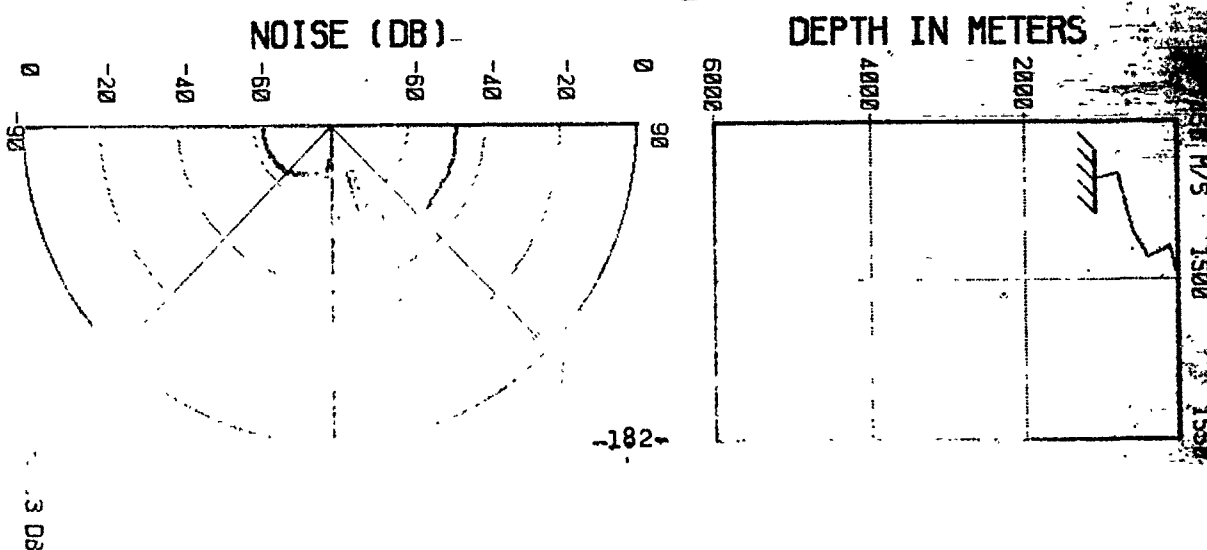
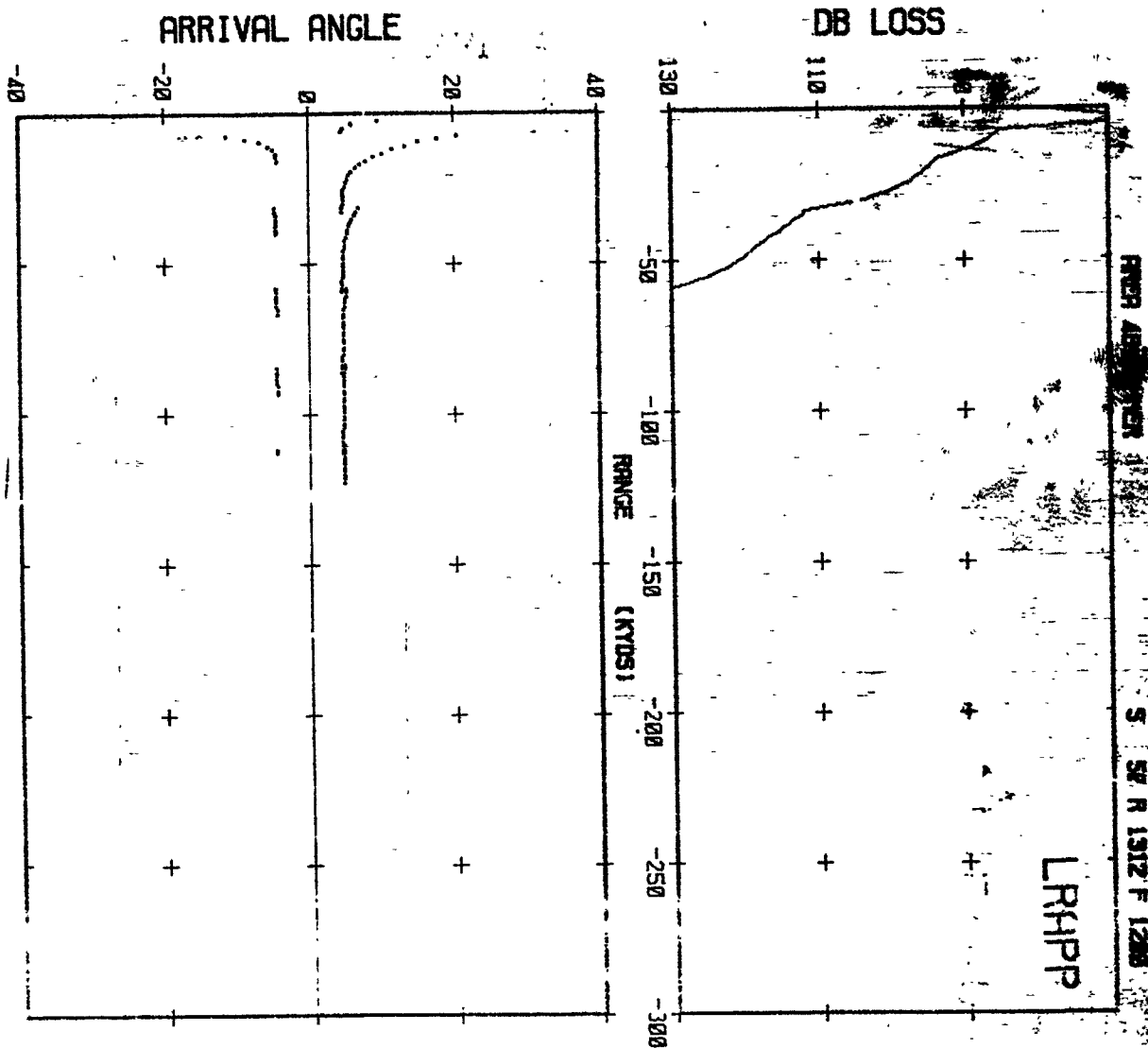


DEPTH IN METERS



NOISE (DB)





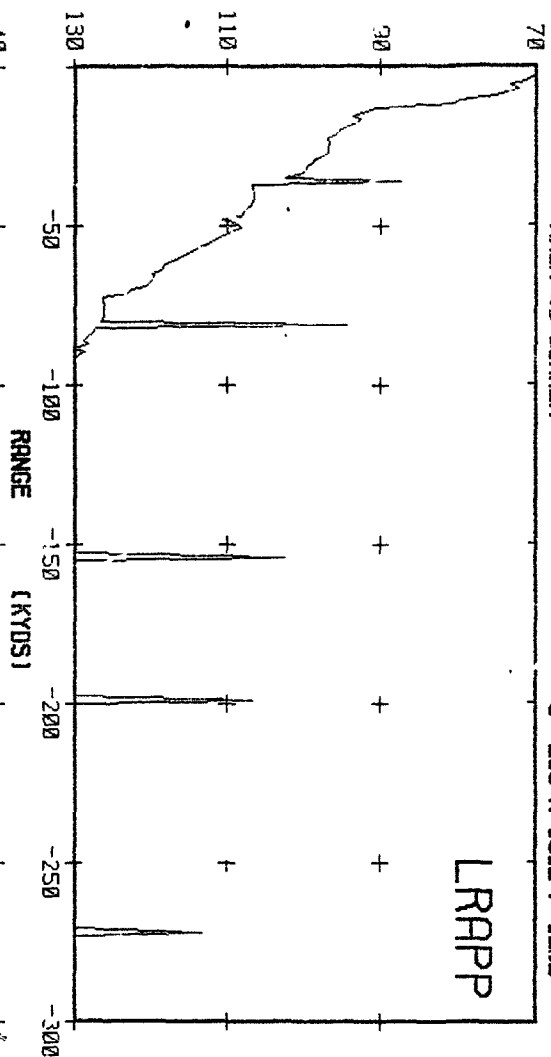
3 DB

PRER AB SUMMER

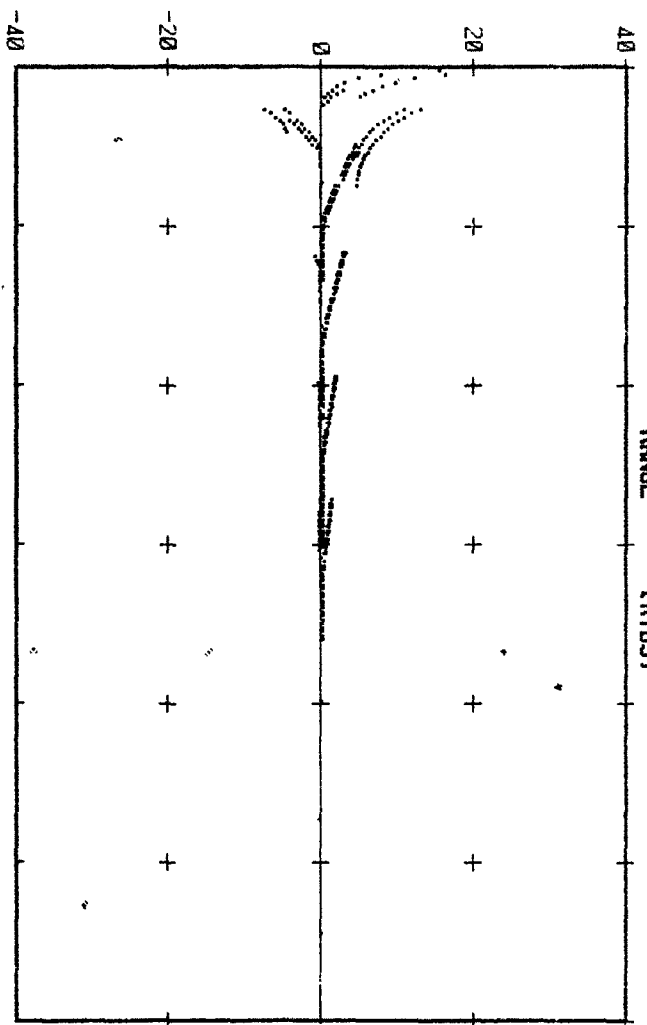
S 266 R 1312 F 1200

LRAPP

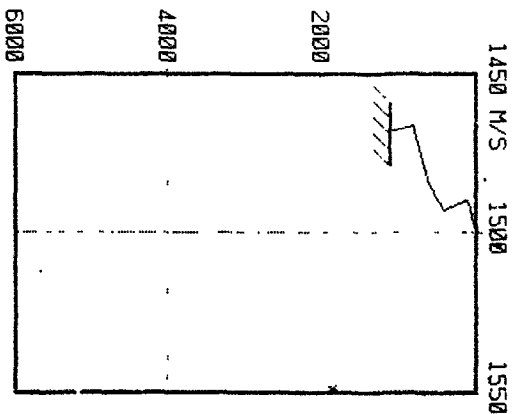
DB LOSS



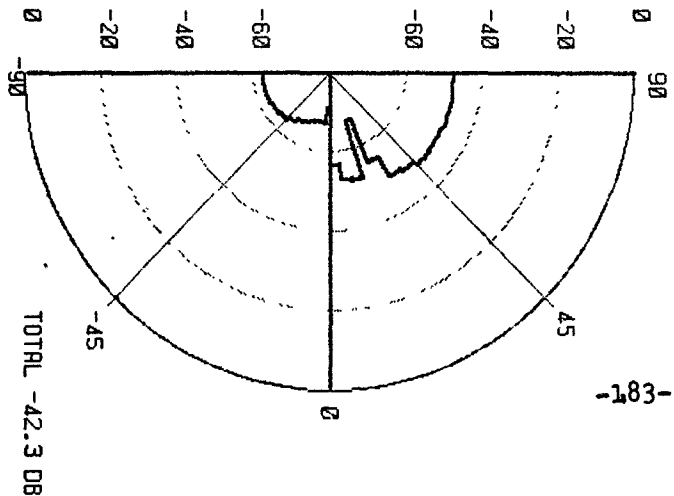
ARRIVAL ANGLE

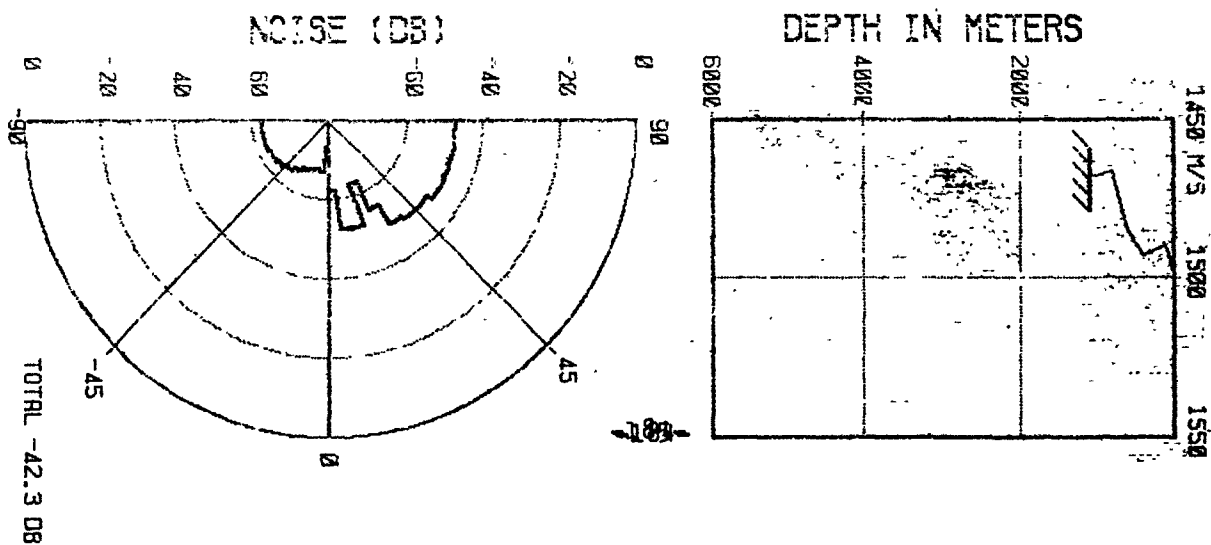
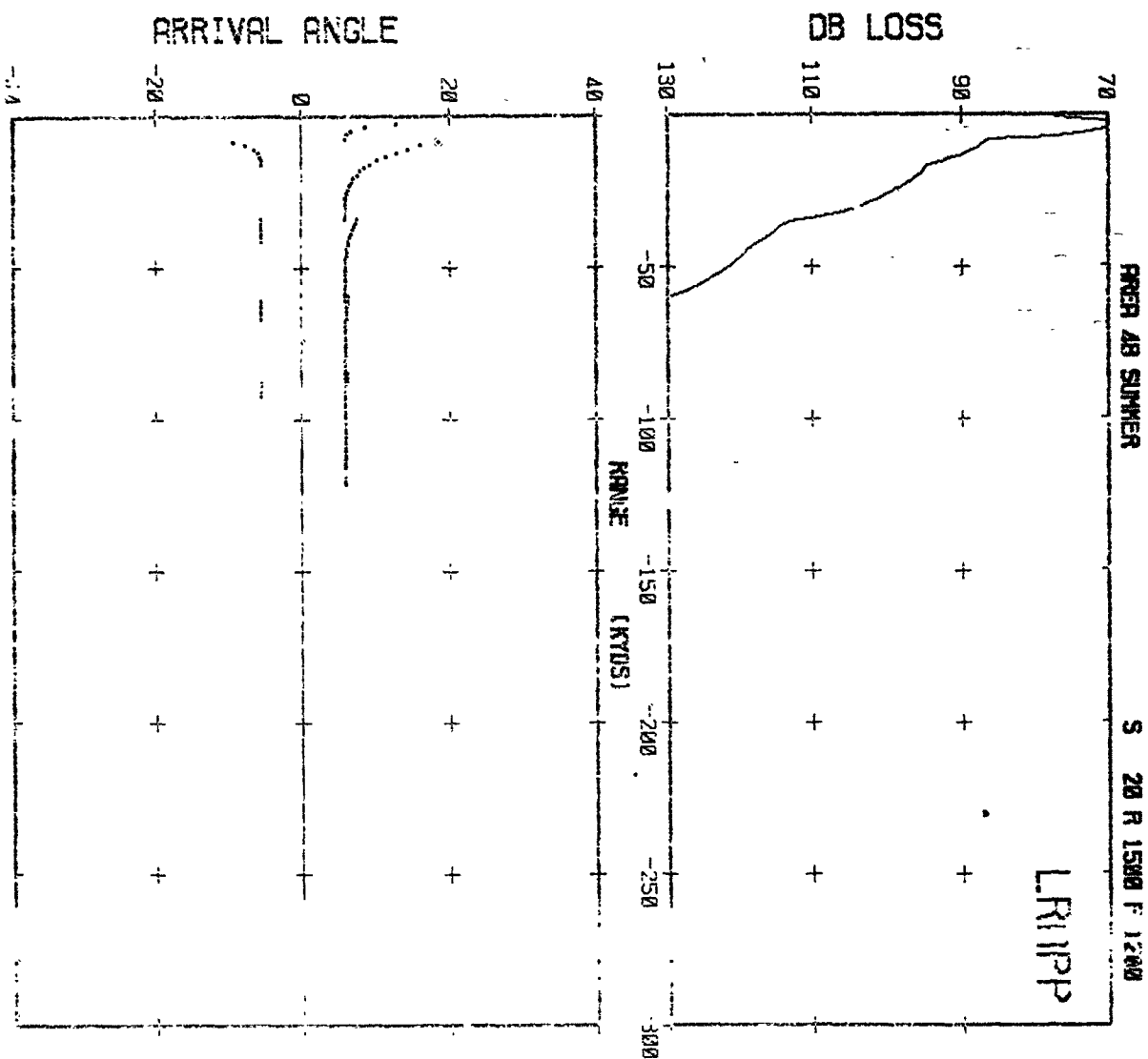


DEPTH IN METERS



NOISE (DB)



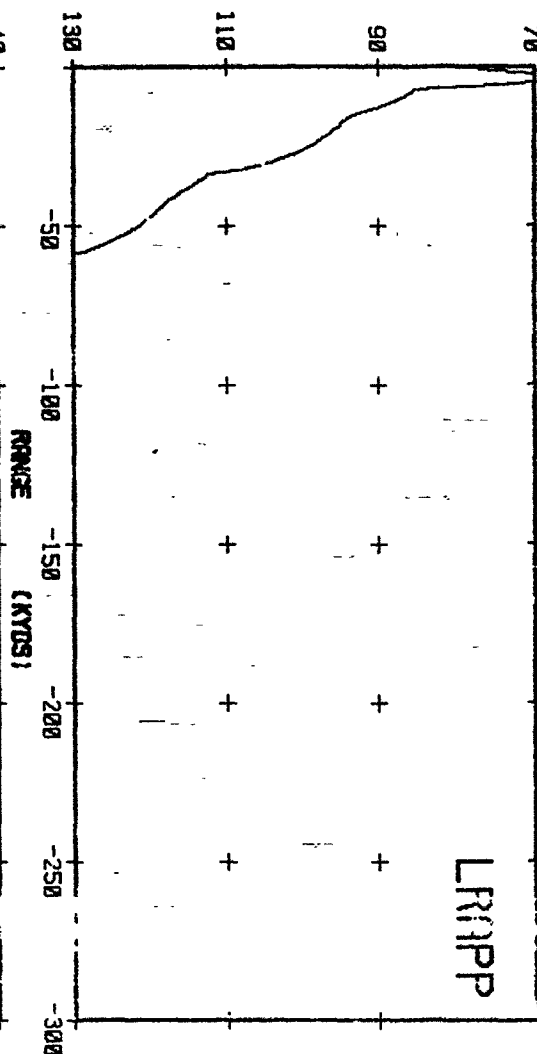


FRER AB SUMMER

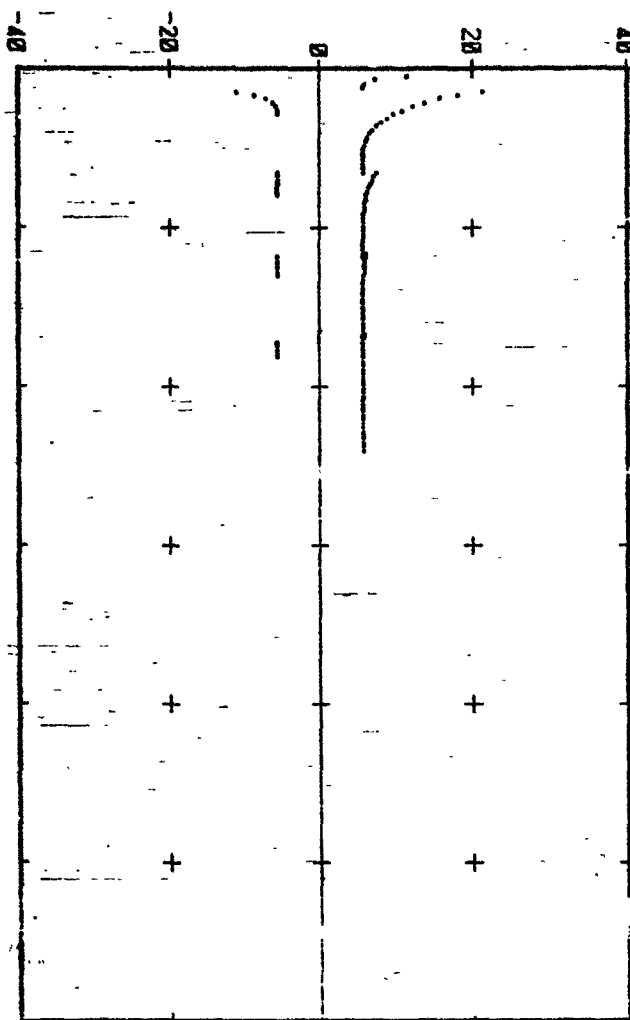
S SB R 1500 F 1200

1450 M/S

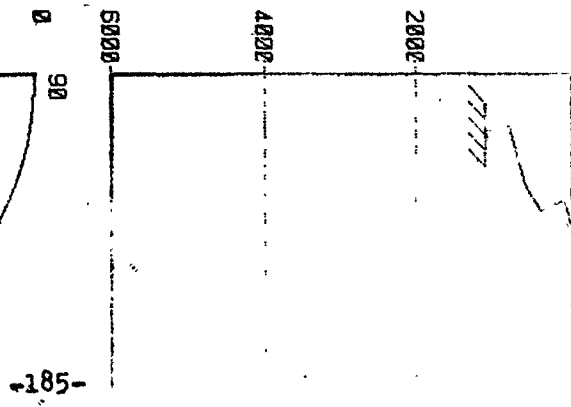
DB LOSS



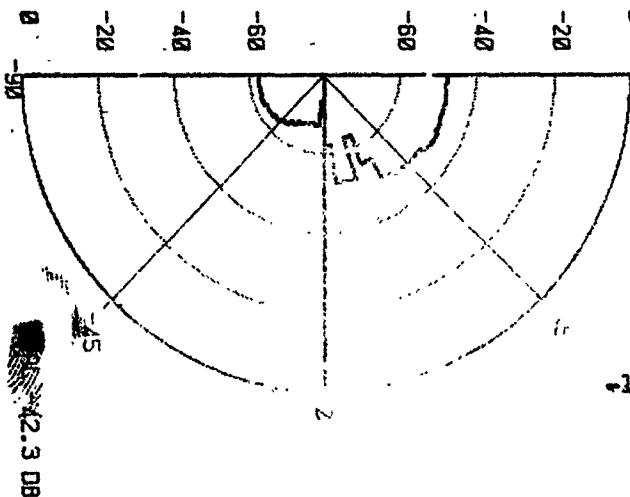
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

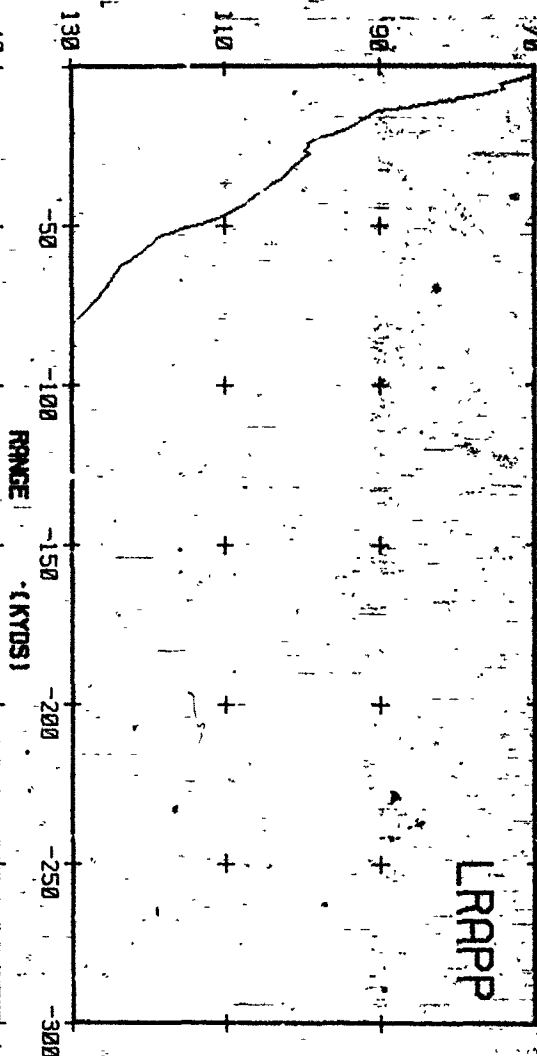


OVER 40 SUMMER

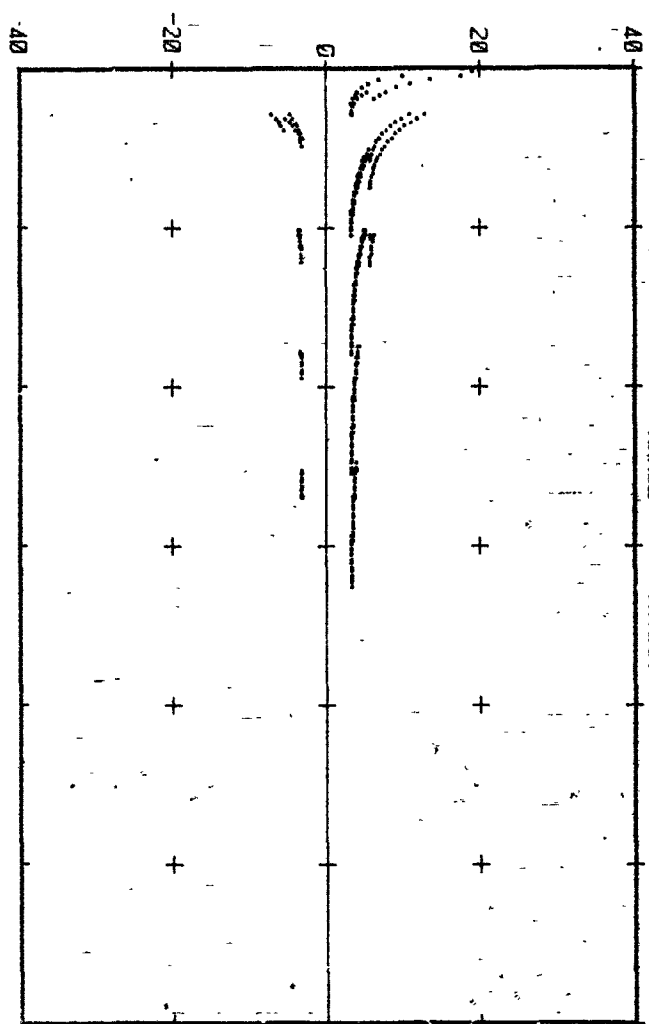
S 200 IN 1520 F 1200

1450 W/S 1500 1550

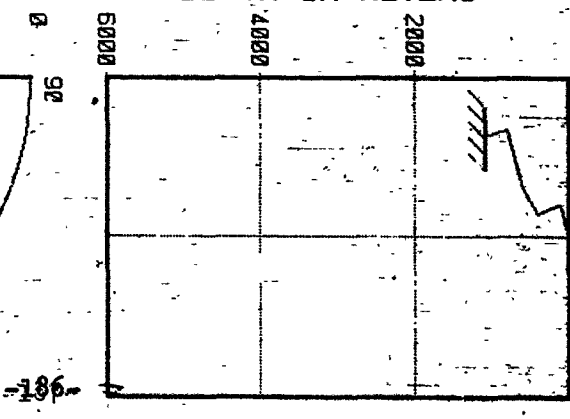
DB LOSS



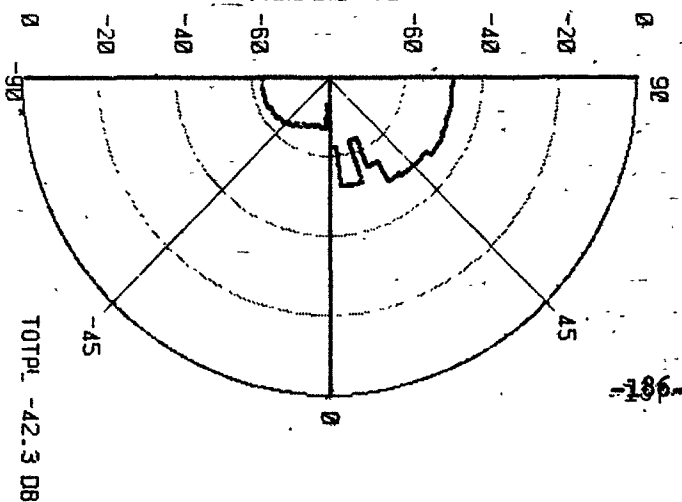
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

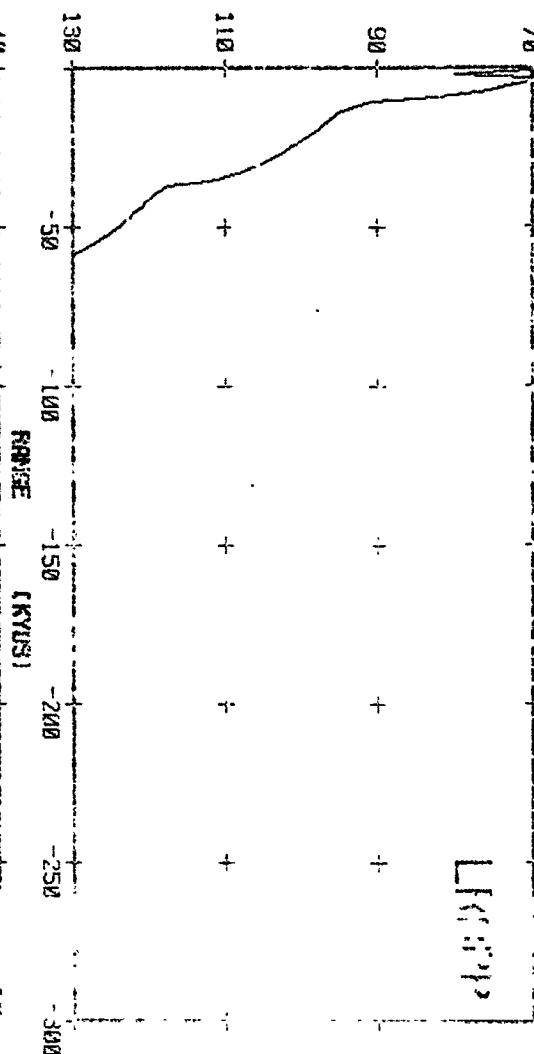


FIREH AB SIGHTER

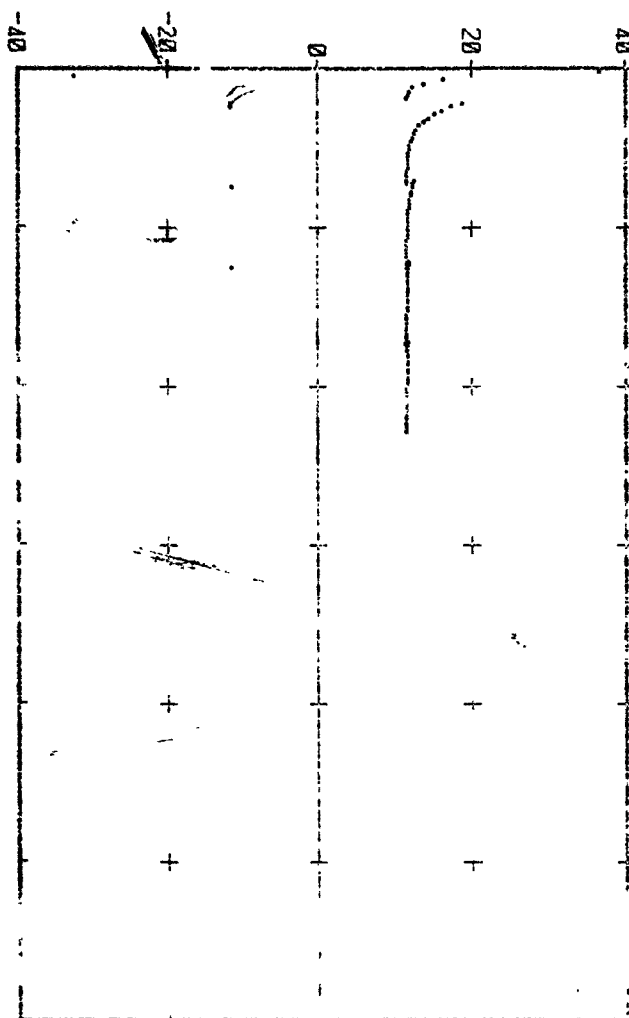
S 20 R 2625 F 1.1M

1450 H/S 1520 1550

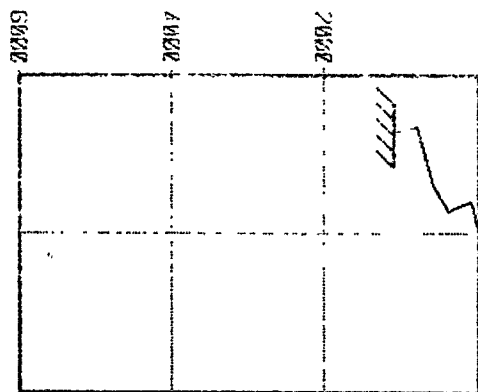
DB LOSS



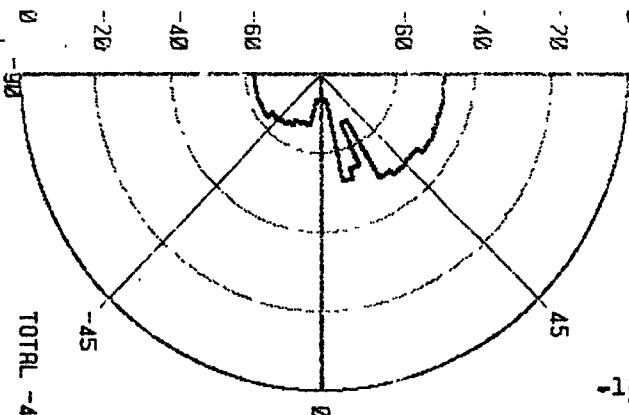
ARRIVAL ANGLE



RELATIVE ANGLE

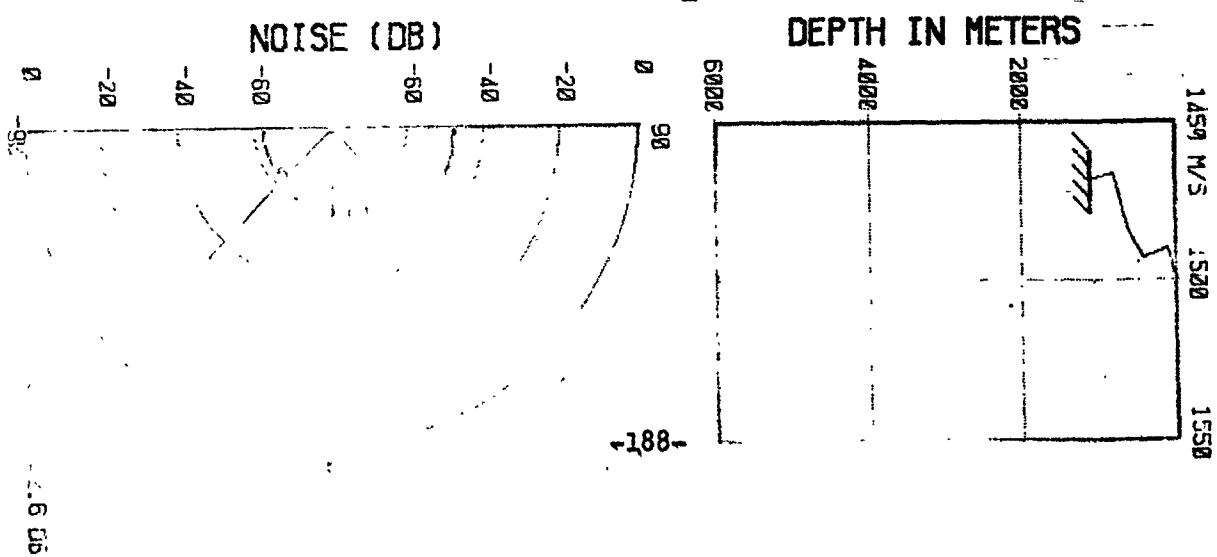
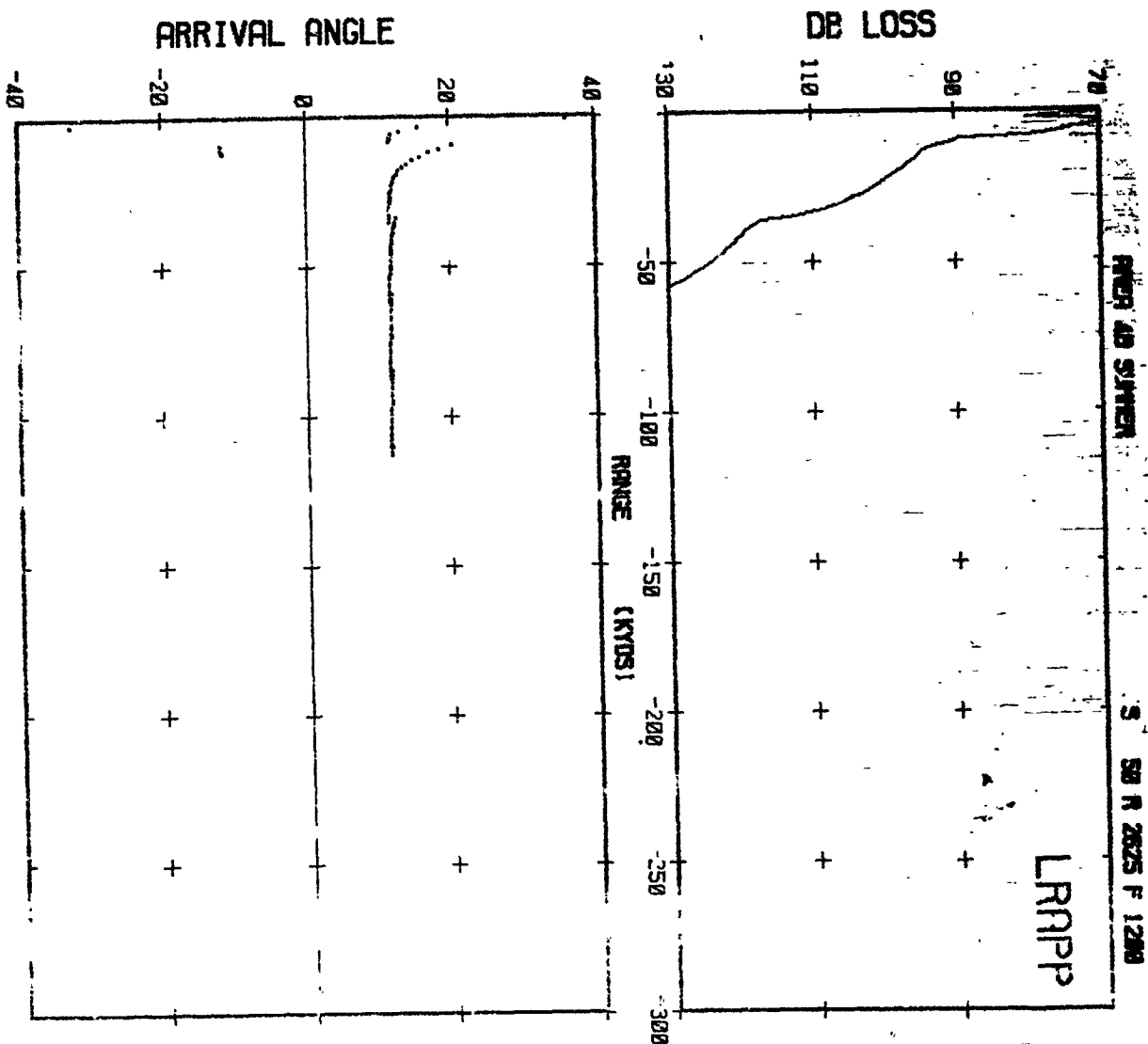


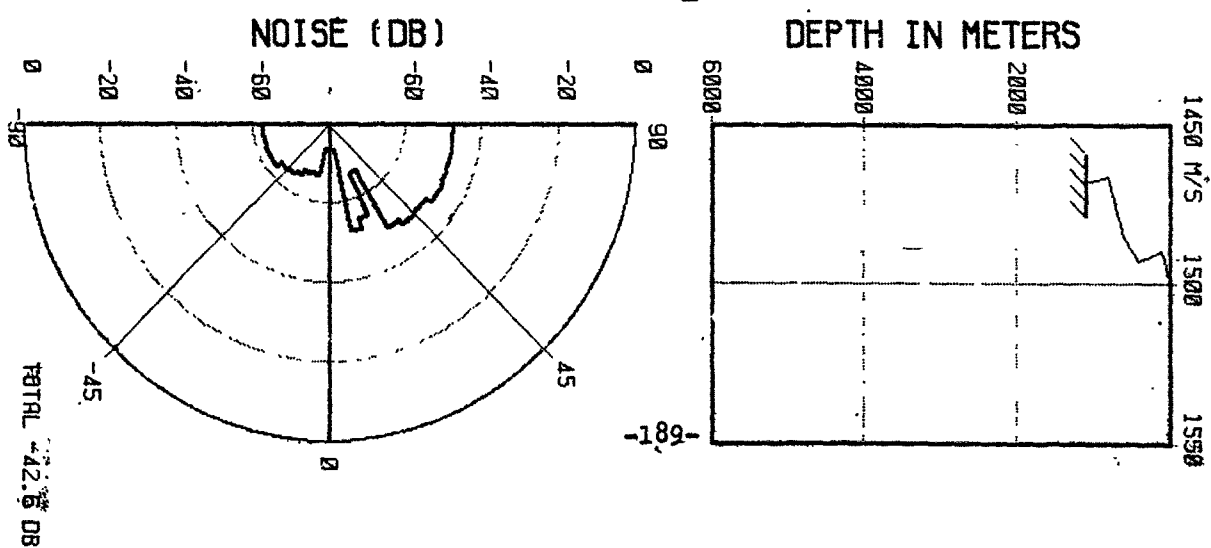
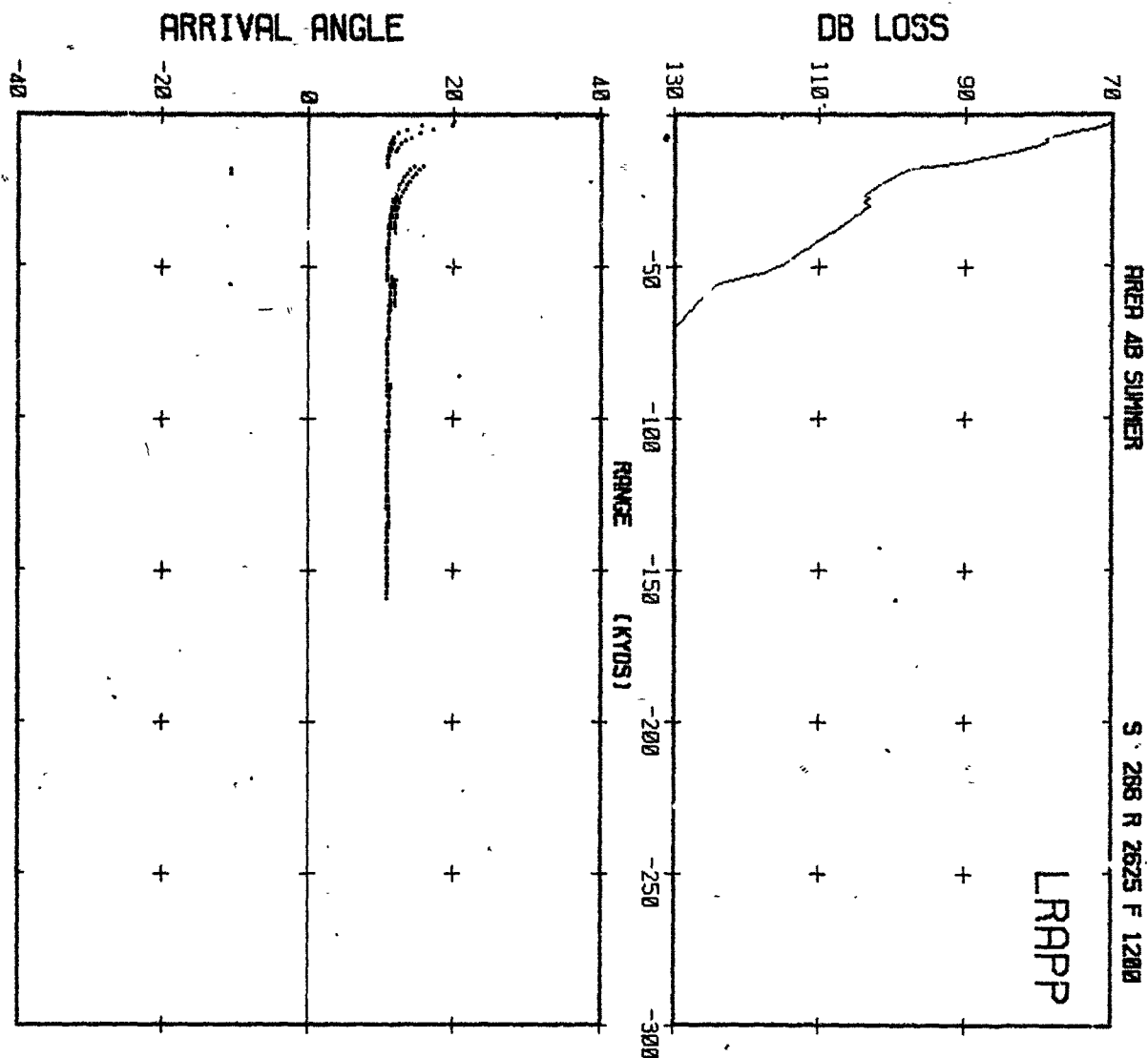
NOISE (DB)

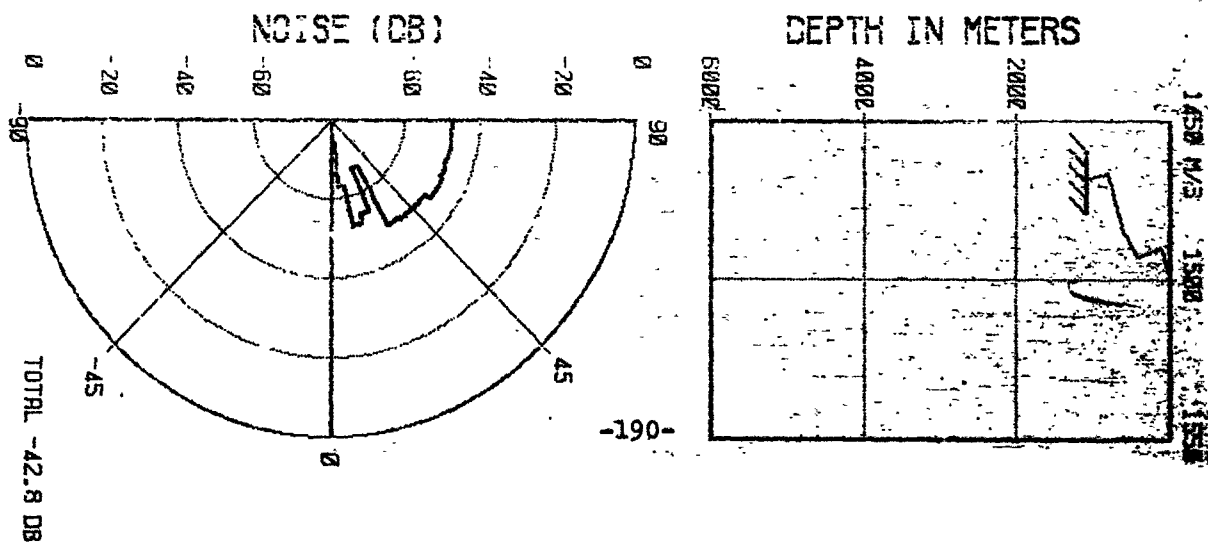
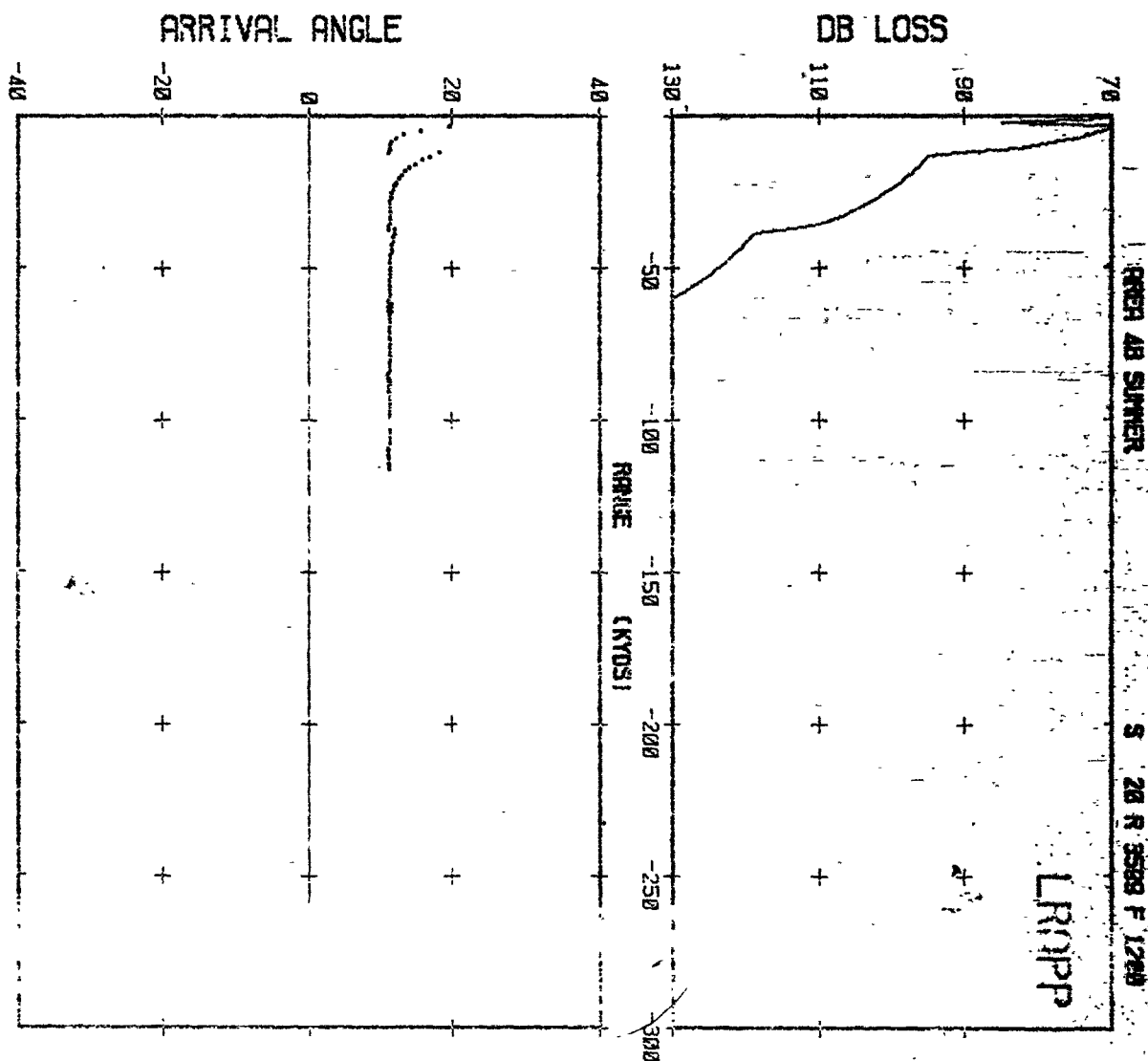


TOTAL -42.6 DB

-187-





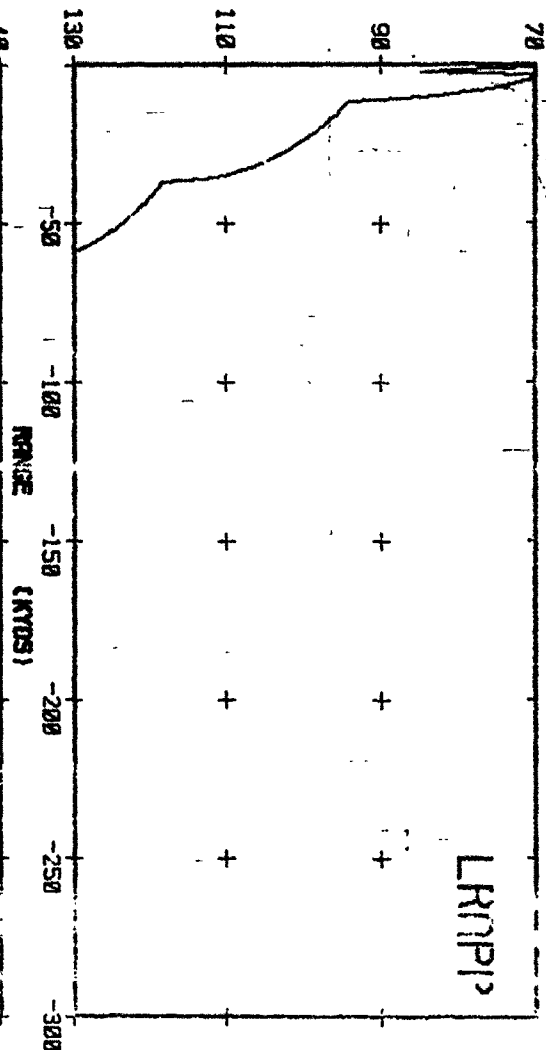


AREA 40 SUMMER

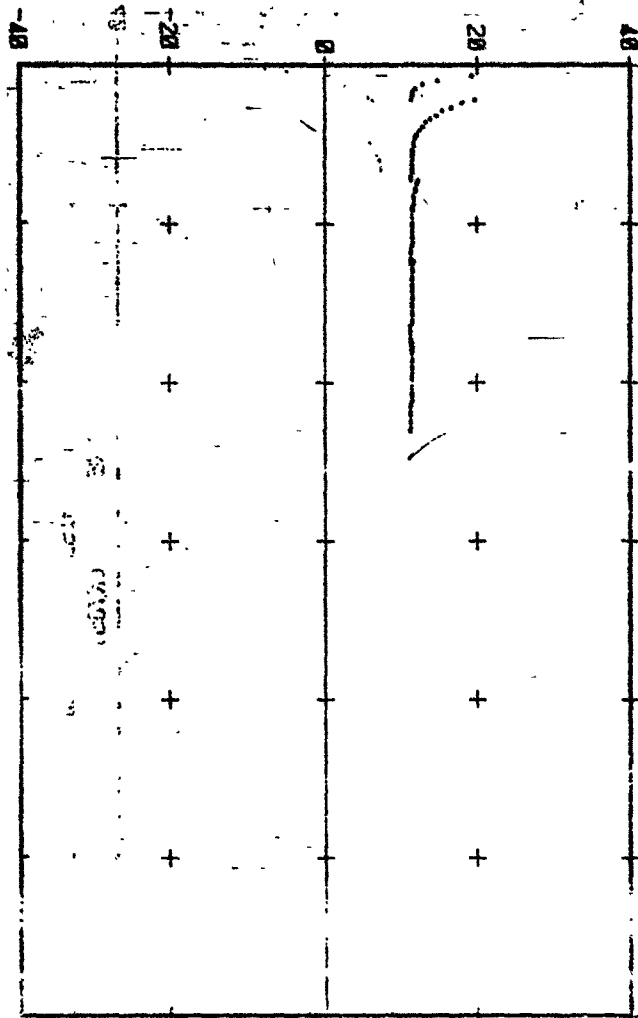
S 50 R 3598 F 1290

LRNPI

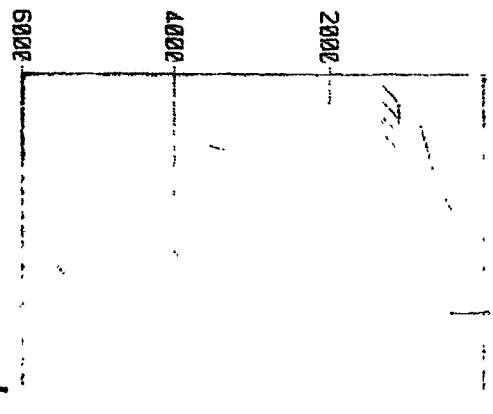
DB LOSS



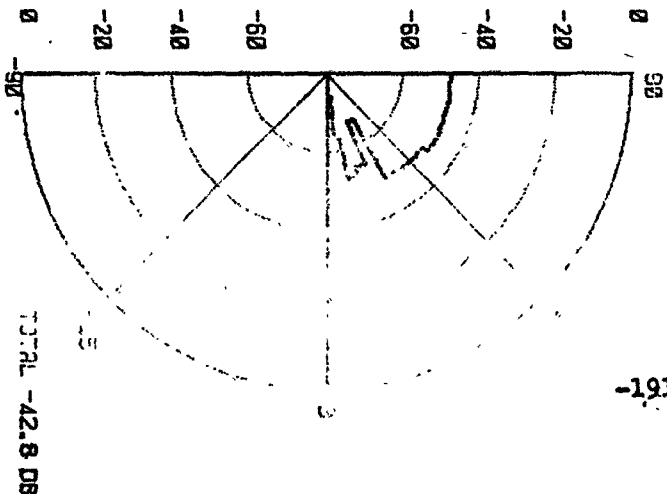
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



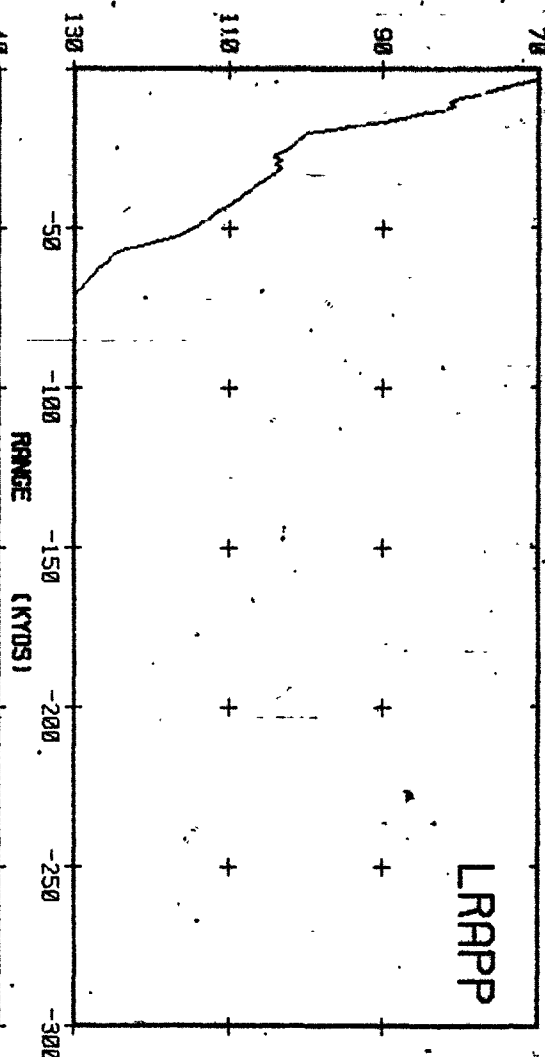
AREA 4B SUMMER

S 206 R 3599 F 1200

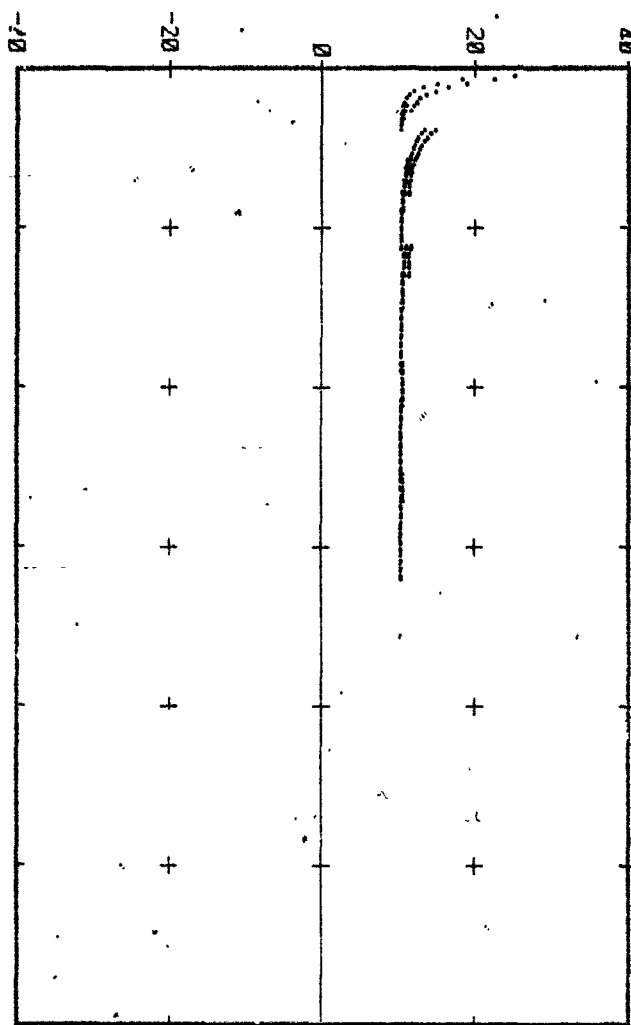
1450 M/S 1500

1550

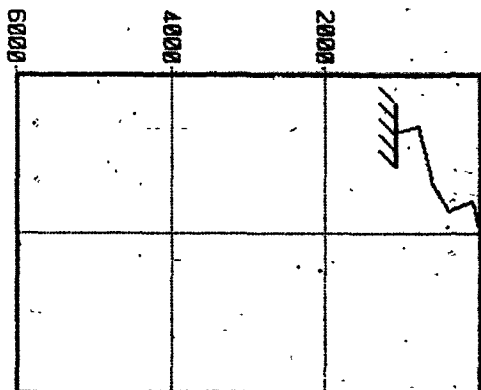
DB LOSS



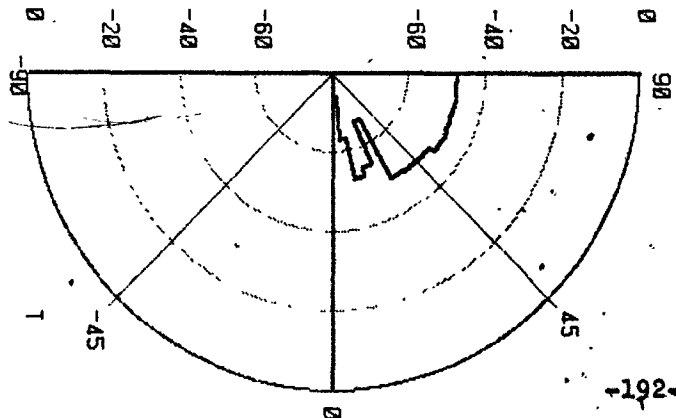
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)

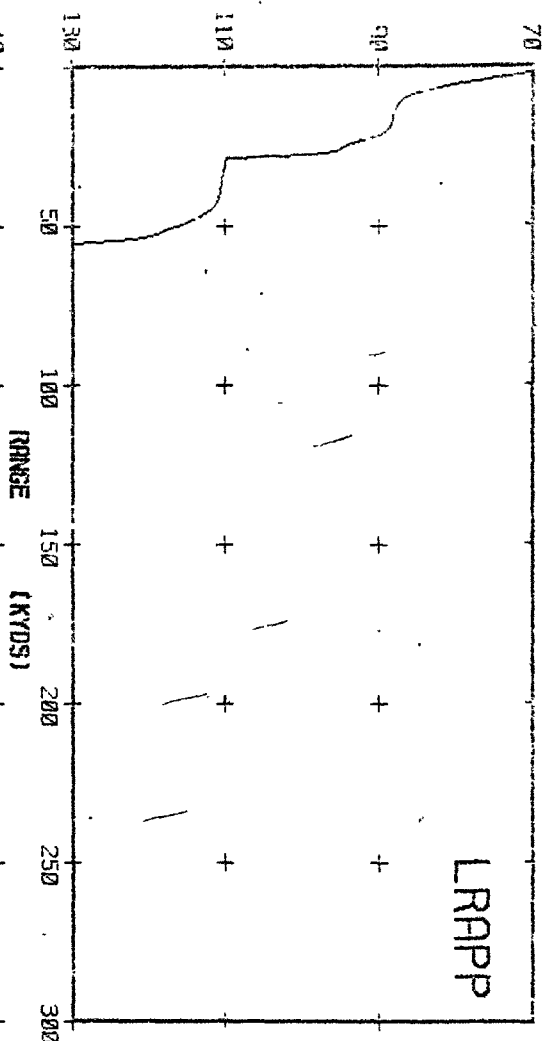


PIPER AB SUMMER

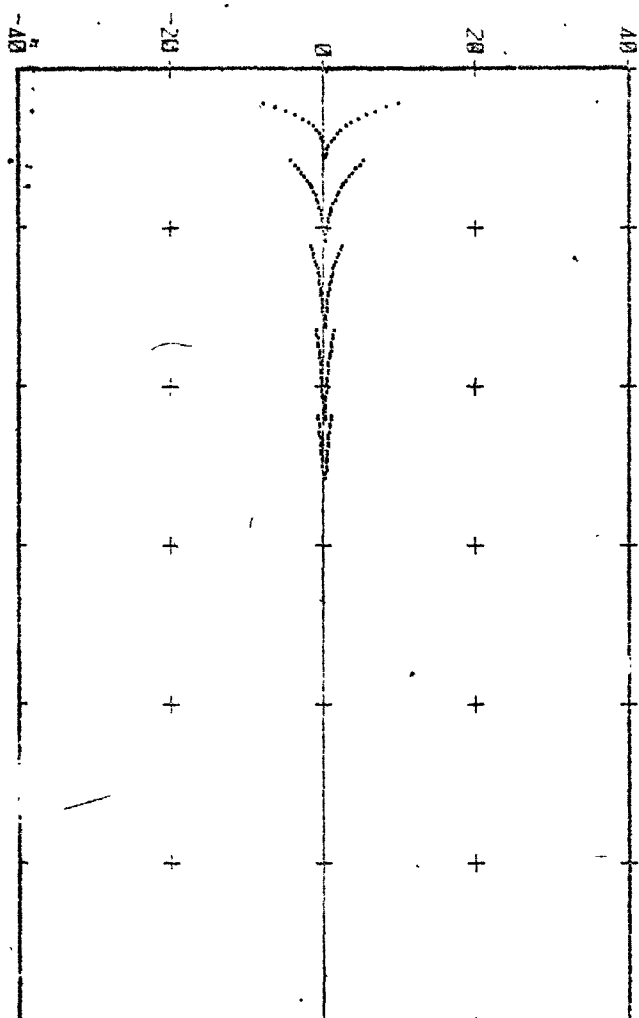
S 20 R 60 F 2000

1450 M/S 1500 1554

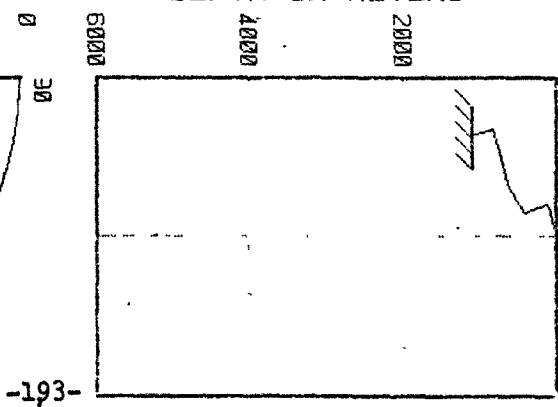
DB LOSS



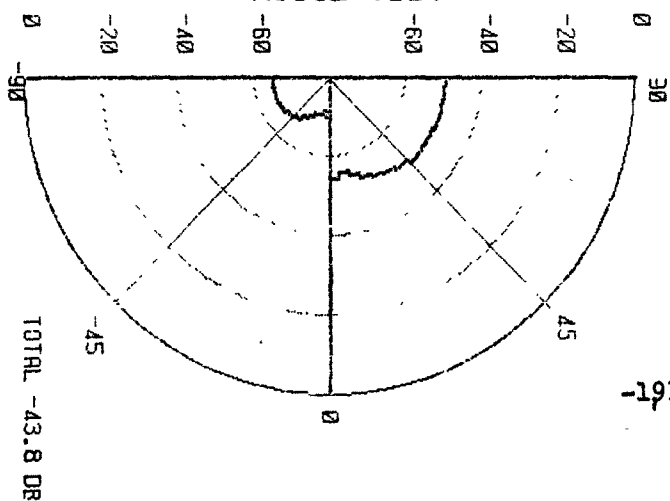
ARRIVAL ANGLE



DEPTH IN METERS



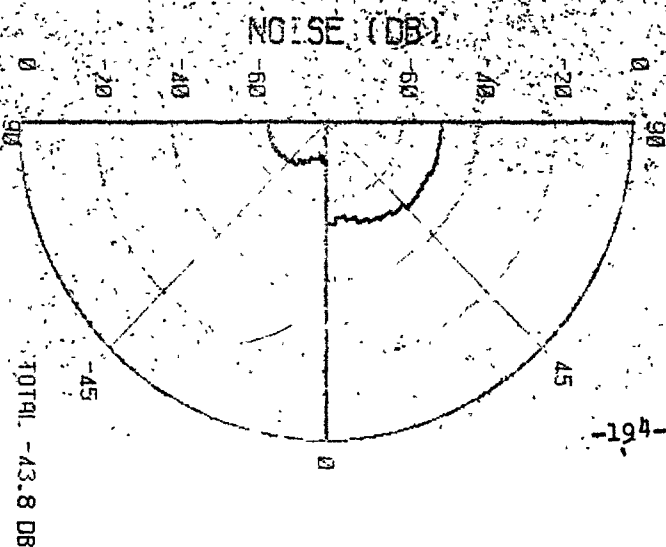
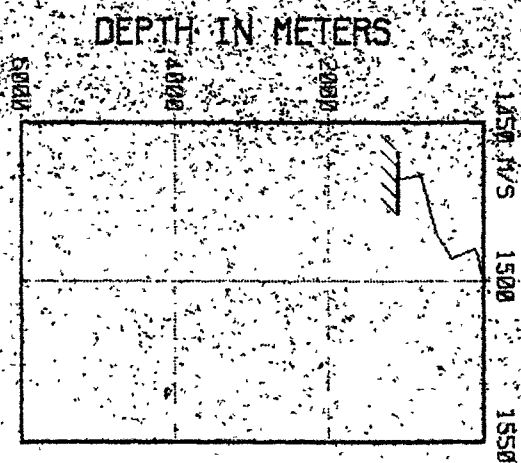
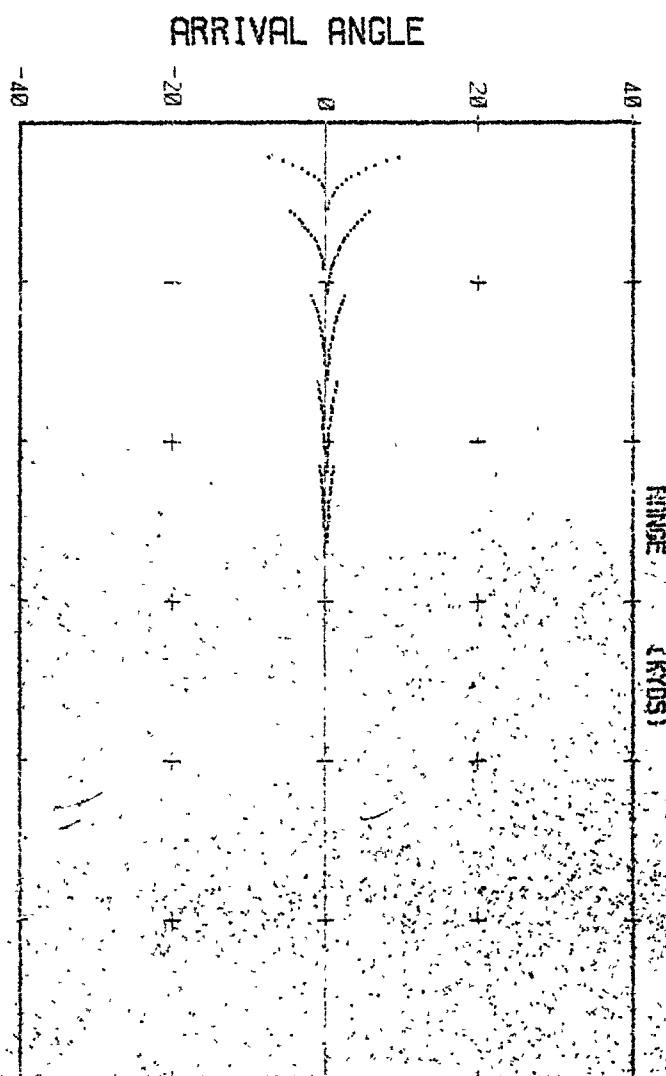
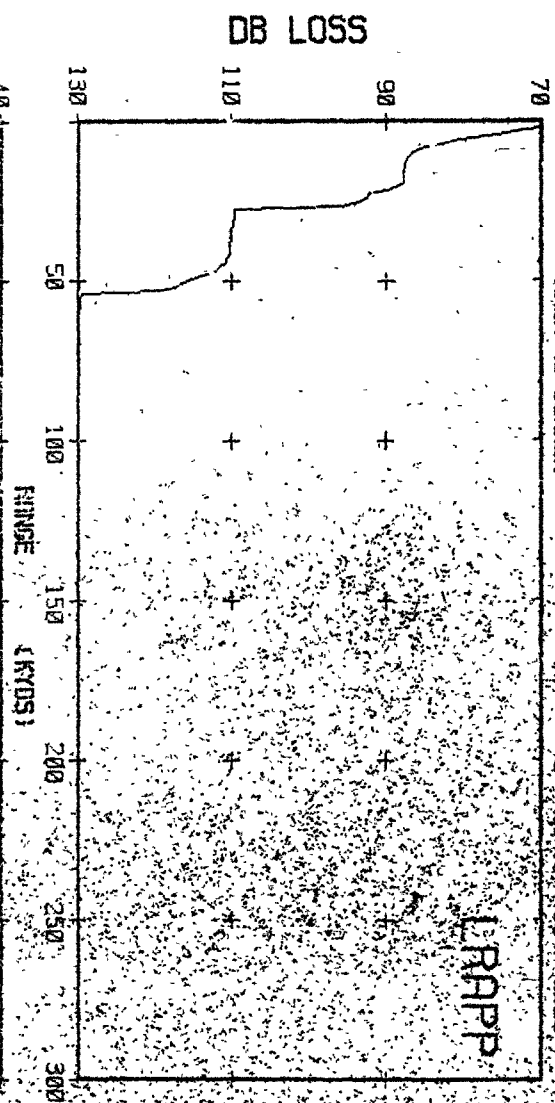
NOISE (DB)



PRER 4B SUMNER

5:50 P. 60 F. 2000

1450	145	1500	1550



GREEN AB SUMMER

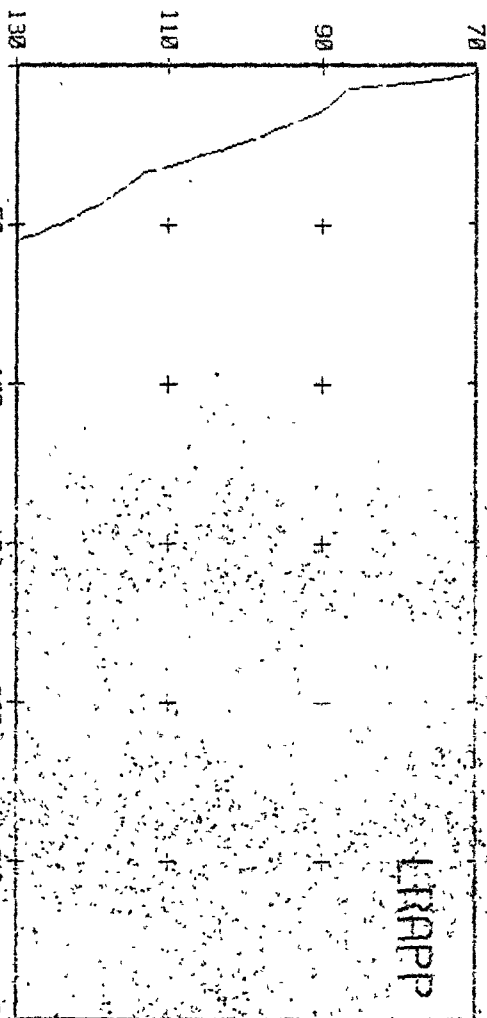
S 265.8 00 F 20.00

1450 H.S.

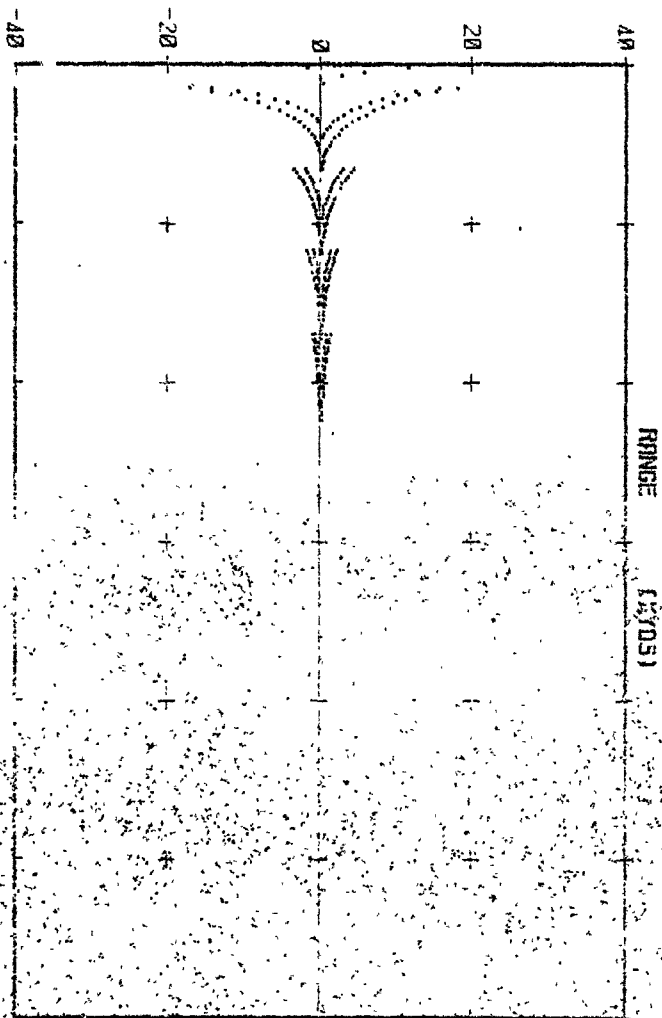
1500

1550

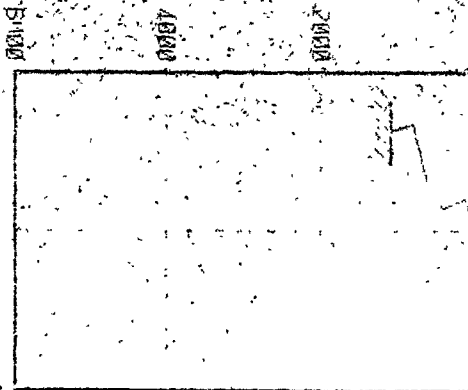
DB LOSS



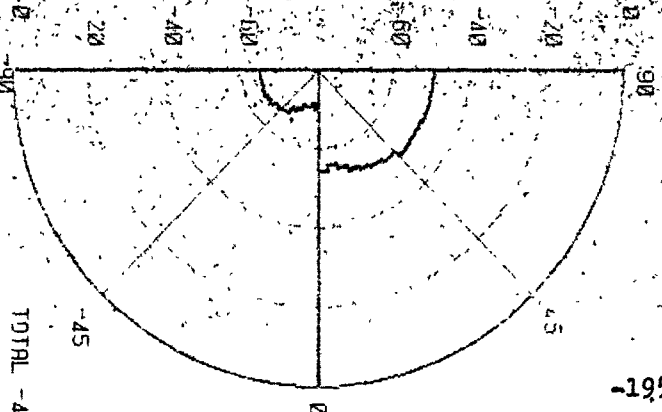
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



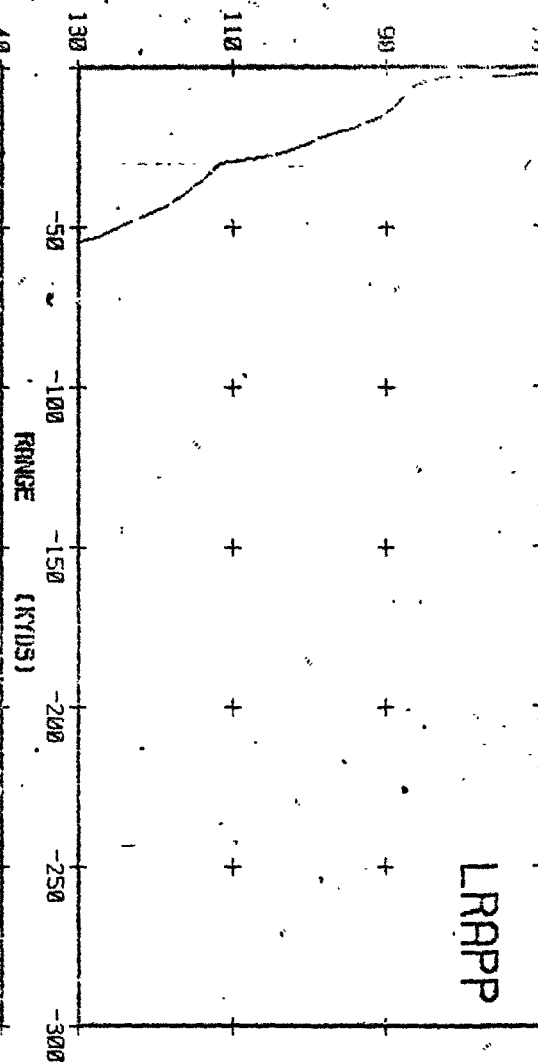
TOTAL -43.8 DB

FIREH A/B SUMMER

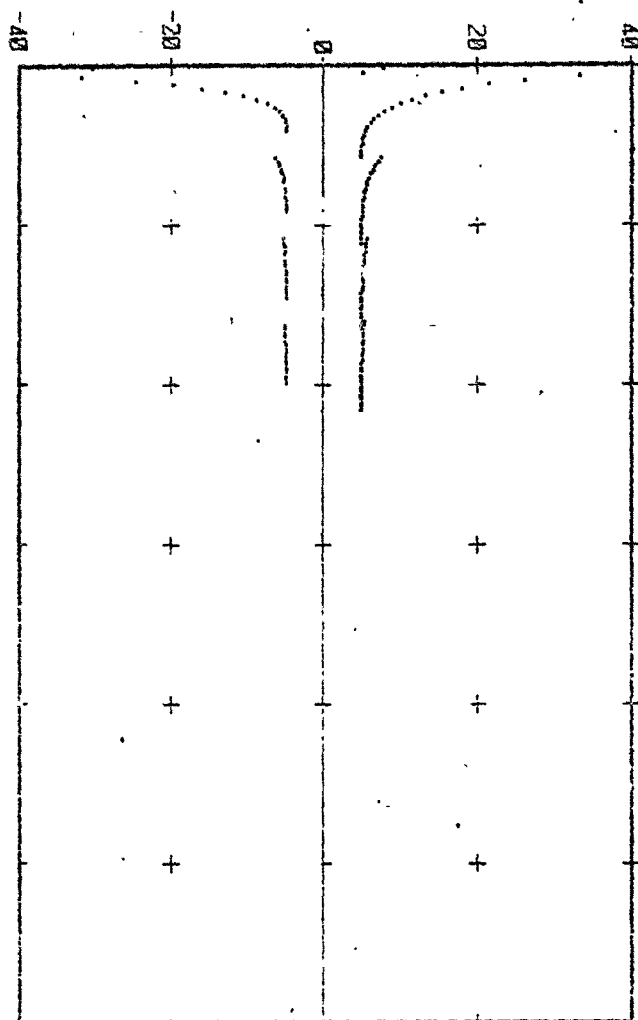
S 20 R 163 F 2000

LRAPP

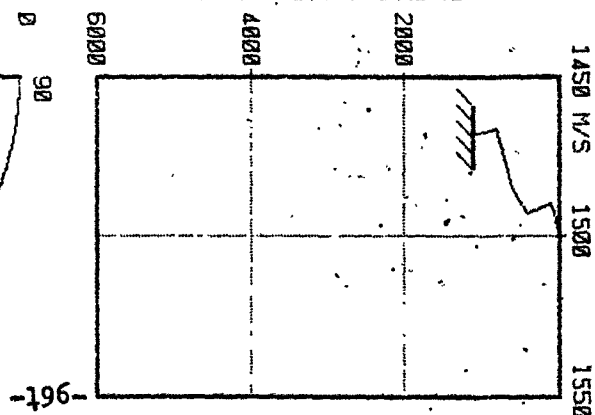
DB LOSS



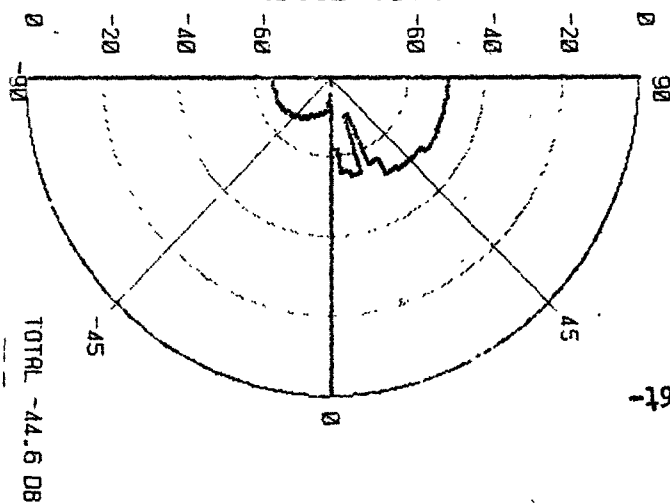
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -44.6 DB

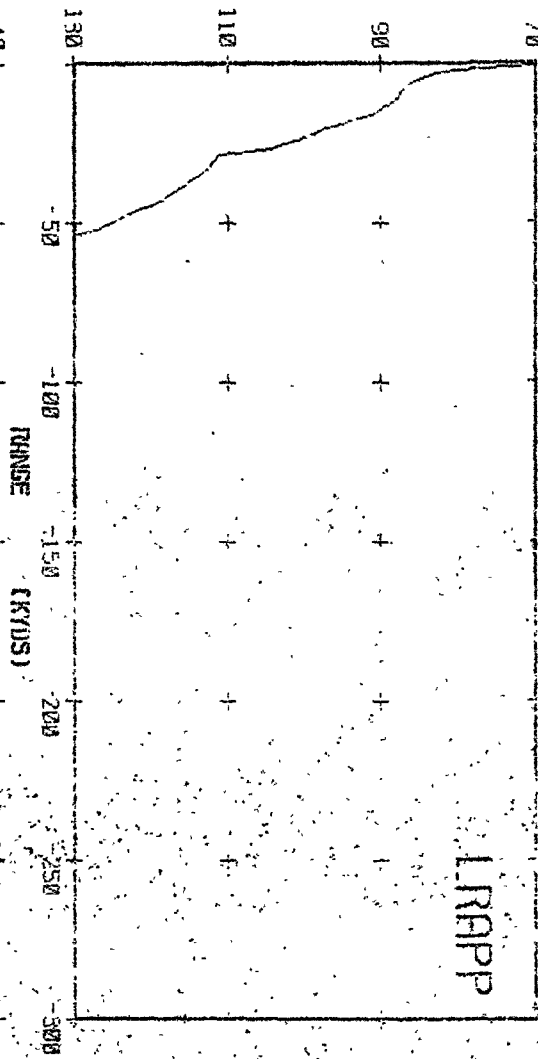
GREEN AB SUMMER

S. SM. R. 1100 F. 2000

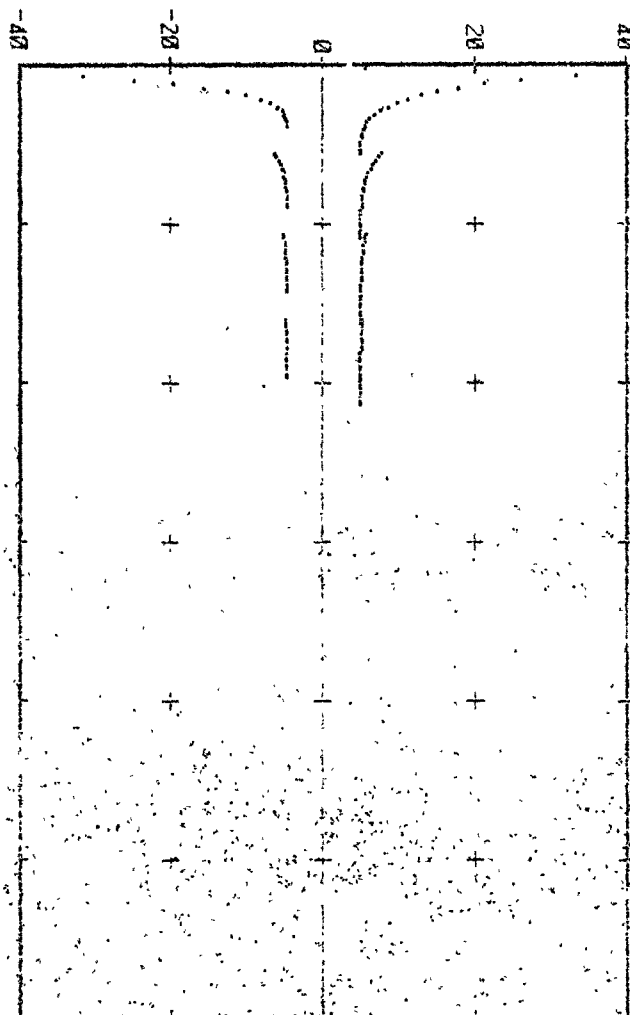
1450 M/S 1500 1550

LRAPP

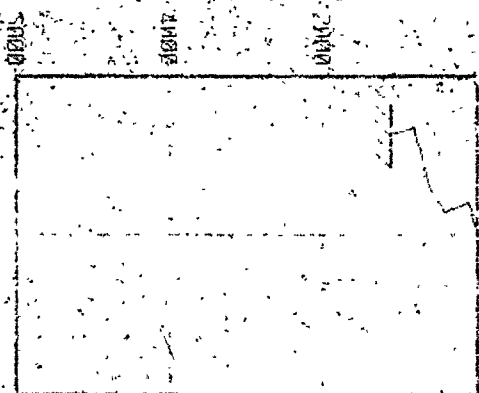
DB LOSS



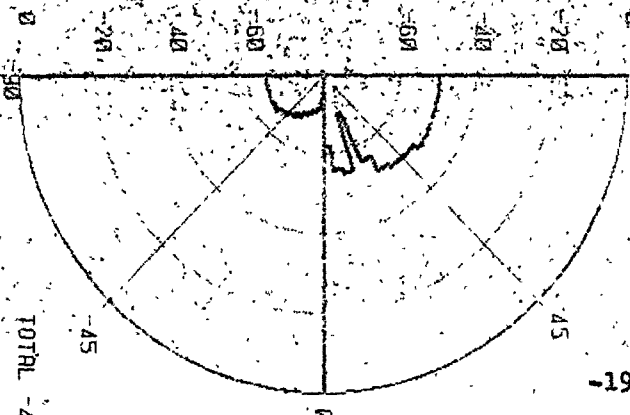
ARRIVAL ANGLE



DEPTH IN METERS

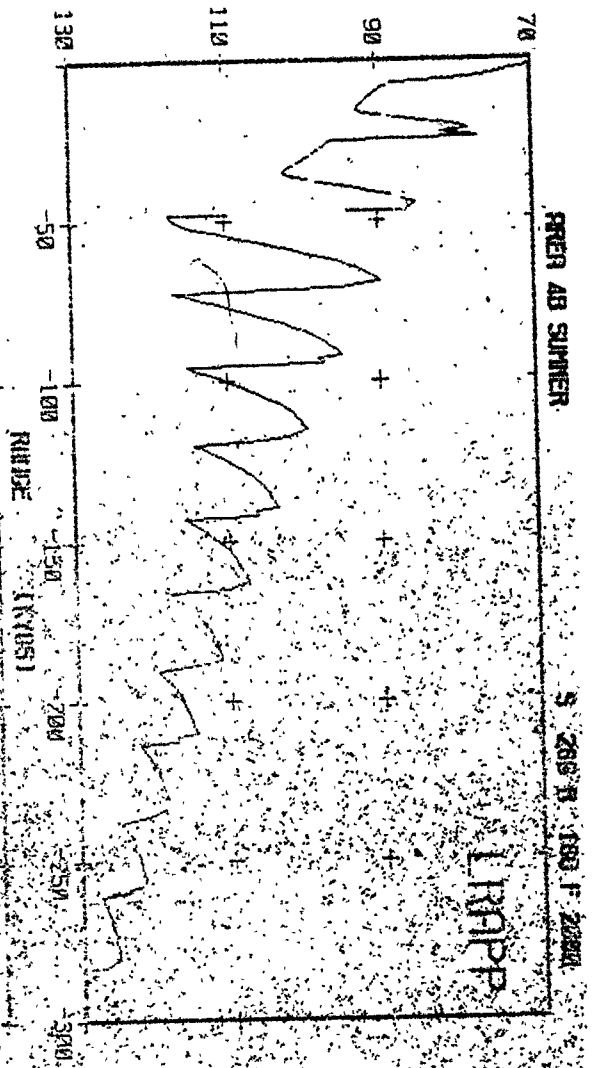


NOISE (DB)



TOTAL -44.6 DB

DB LOSS

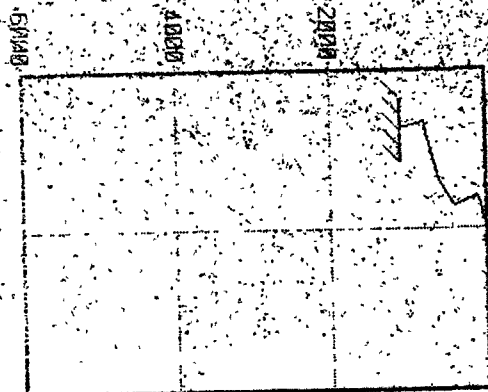


GREEN AB SUMMER

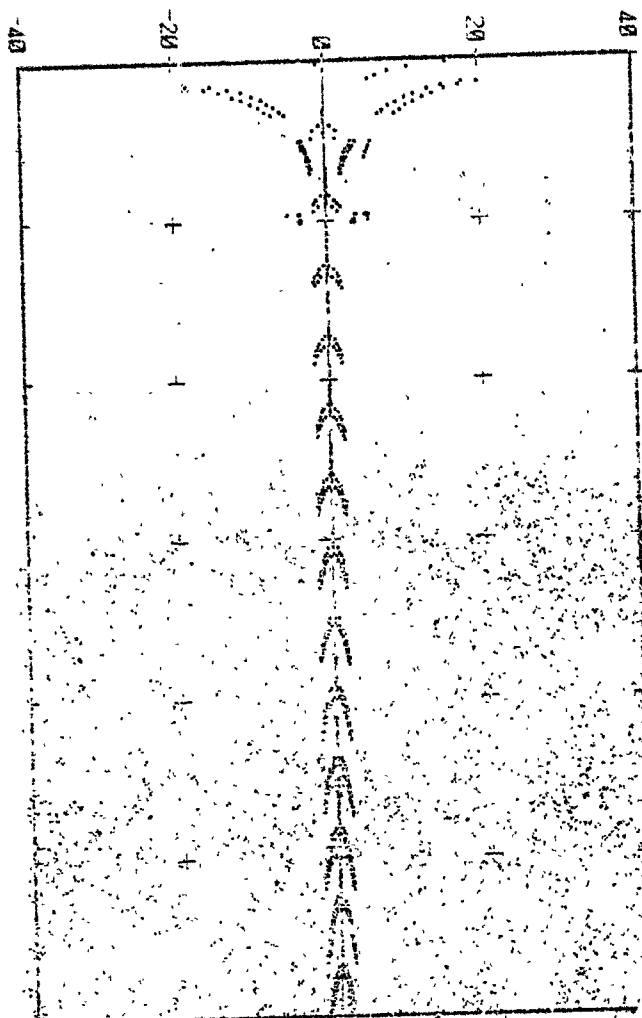
5 260 H. 180 F. 2200

1450 M/S 1500 1550

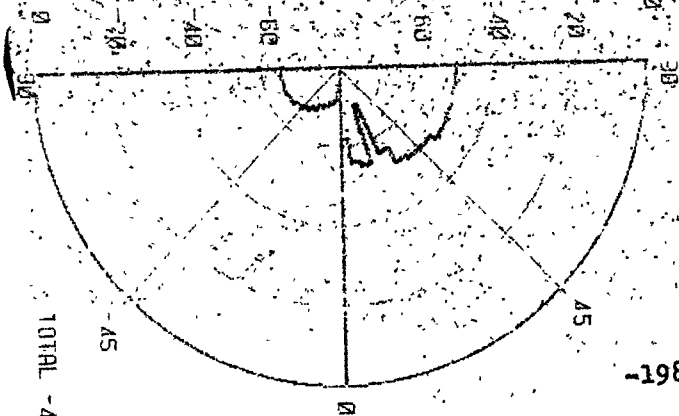
DEPTH IN METERS



ARRIVAL ANGLE



NOISE (dB)



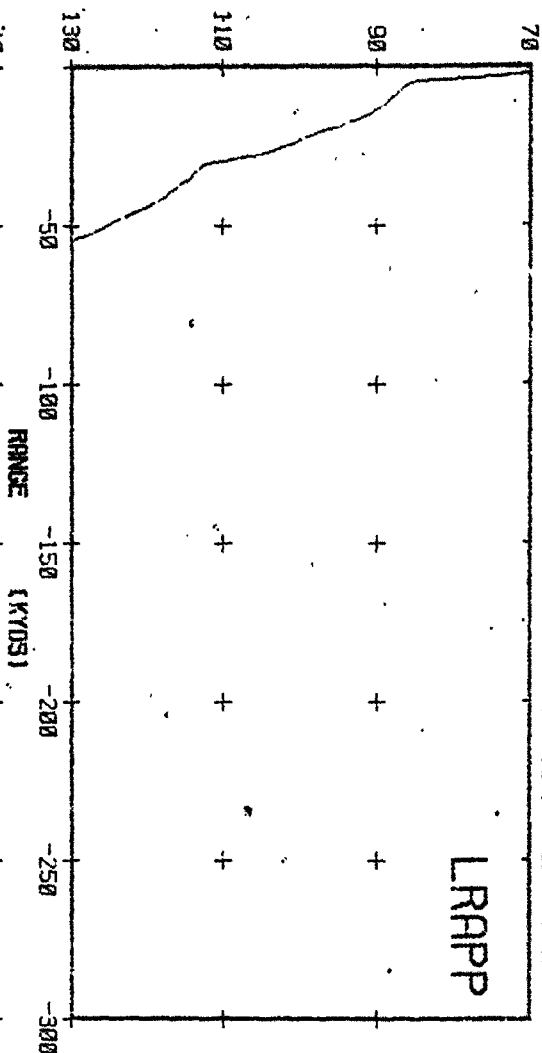
TOTAL -44.6 DB

PRIER AB SUMMER

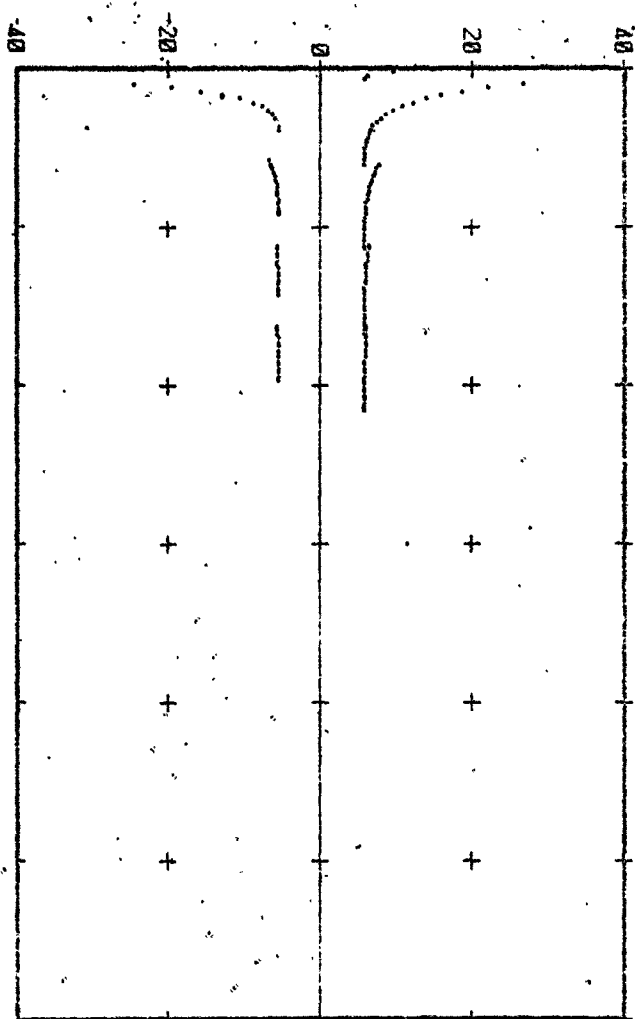
S 20 R 300 F 2000

1450 M/S 1500 1550

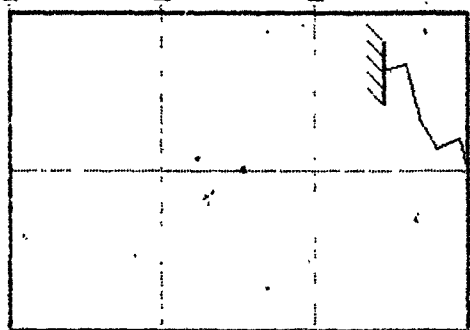
DB LOSS



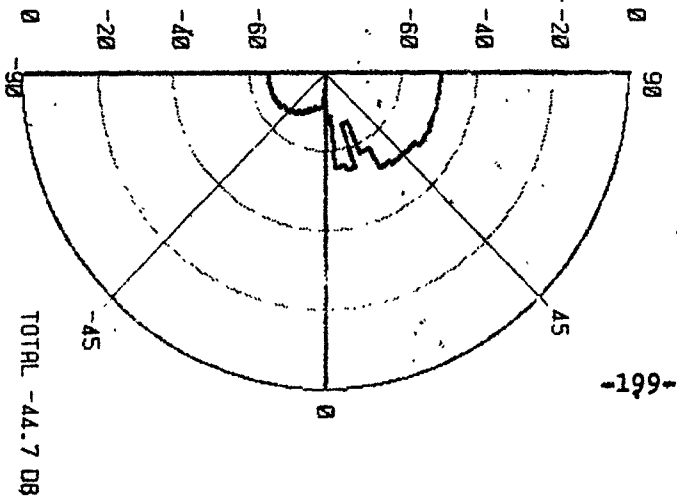
ARRIVAL ANGLE



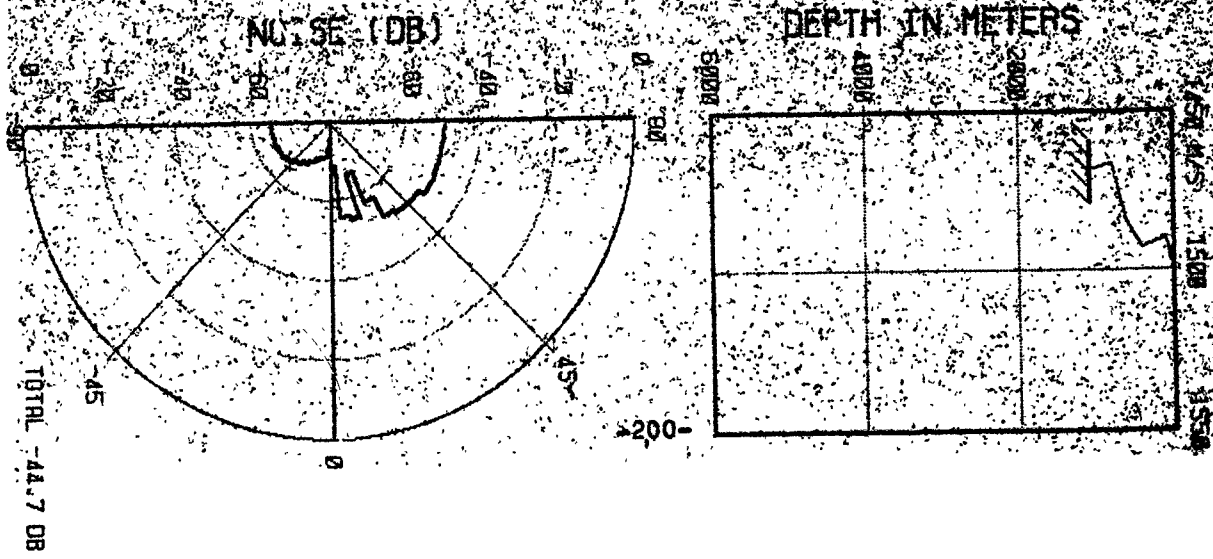
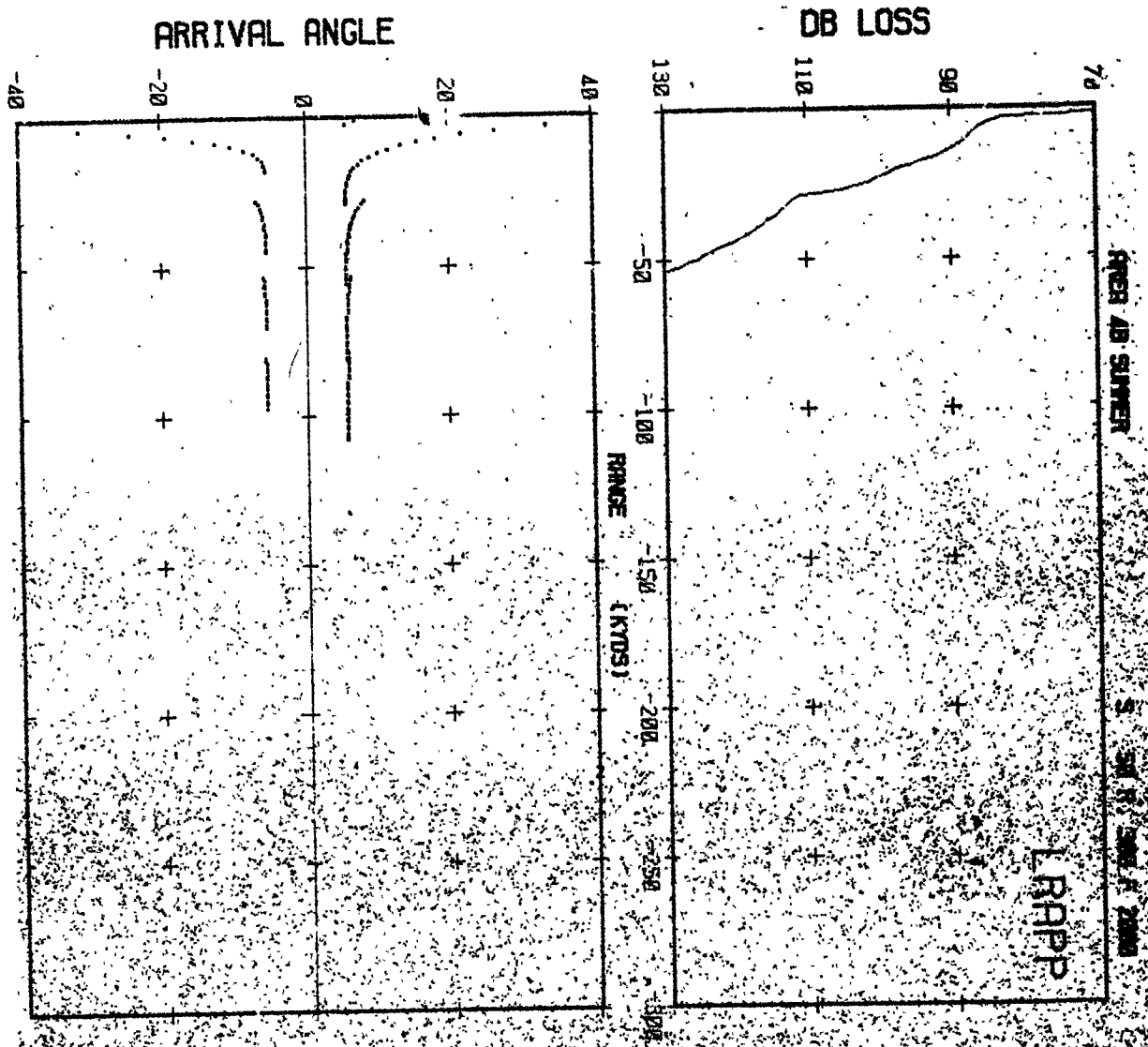
DEPTH IN METERS



NOISE (DB)



TOTAL -44.7 DB



AREA AB SUMMER

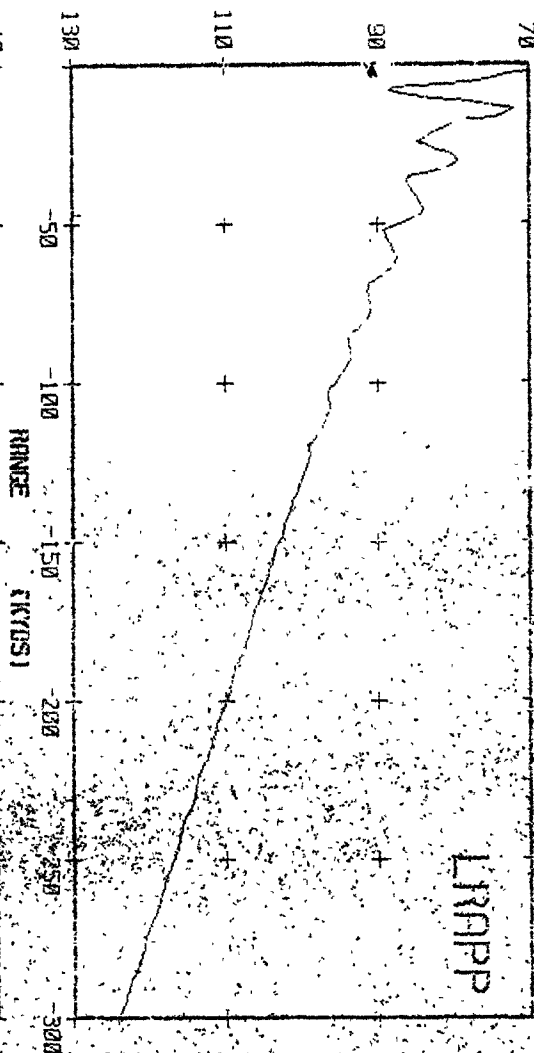
S 205 R 300 F 2000

1750 M/S

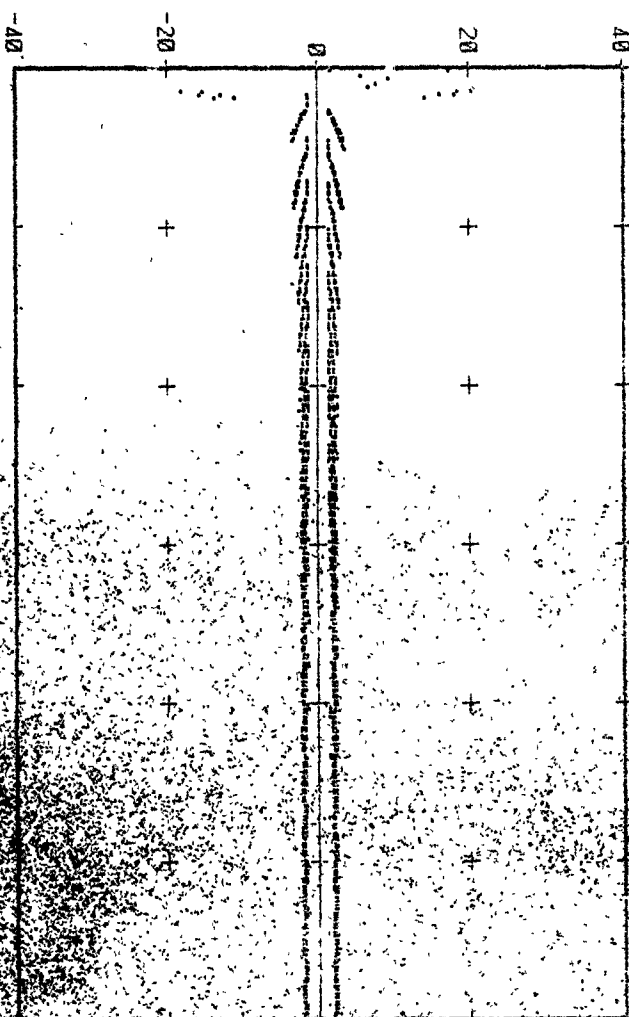
1500

1550

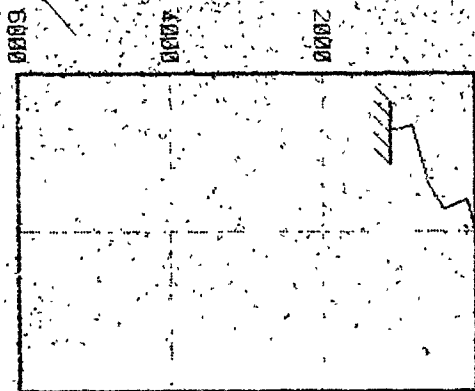
DB LOSS



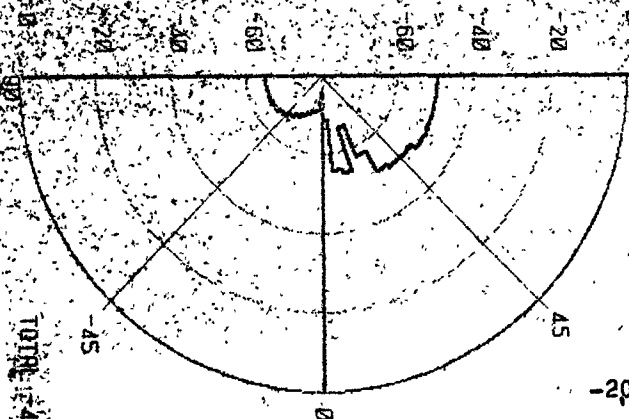
ARRIVAL ANGLE



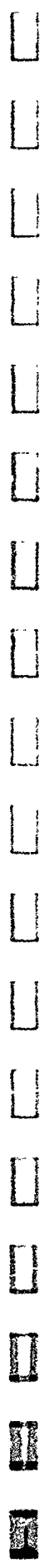
DEPTH IN METERS



NOISE (DB)



TOTAL 44.7 DB



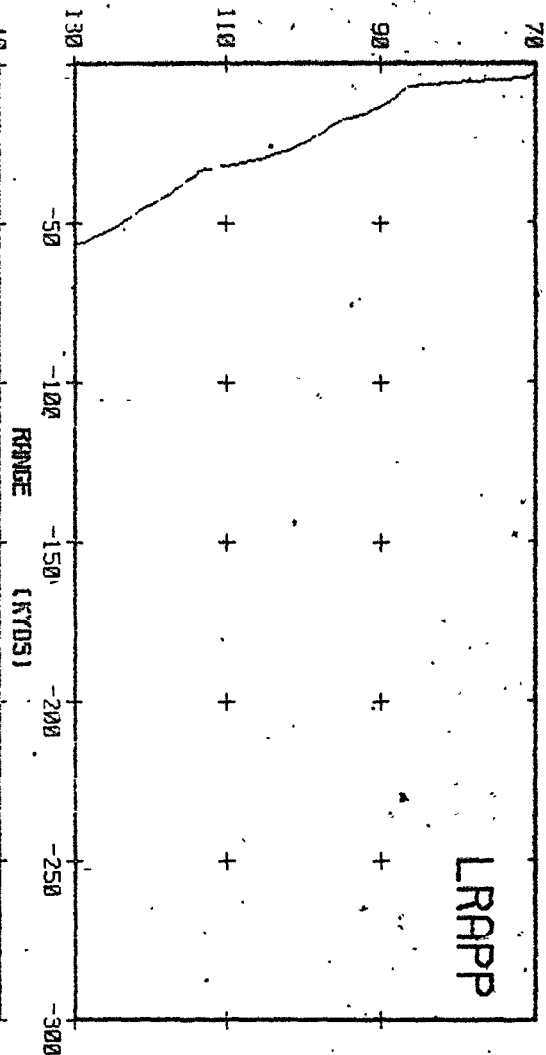
PRER AB SUMMER

S 20 R 1000 F 2000

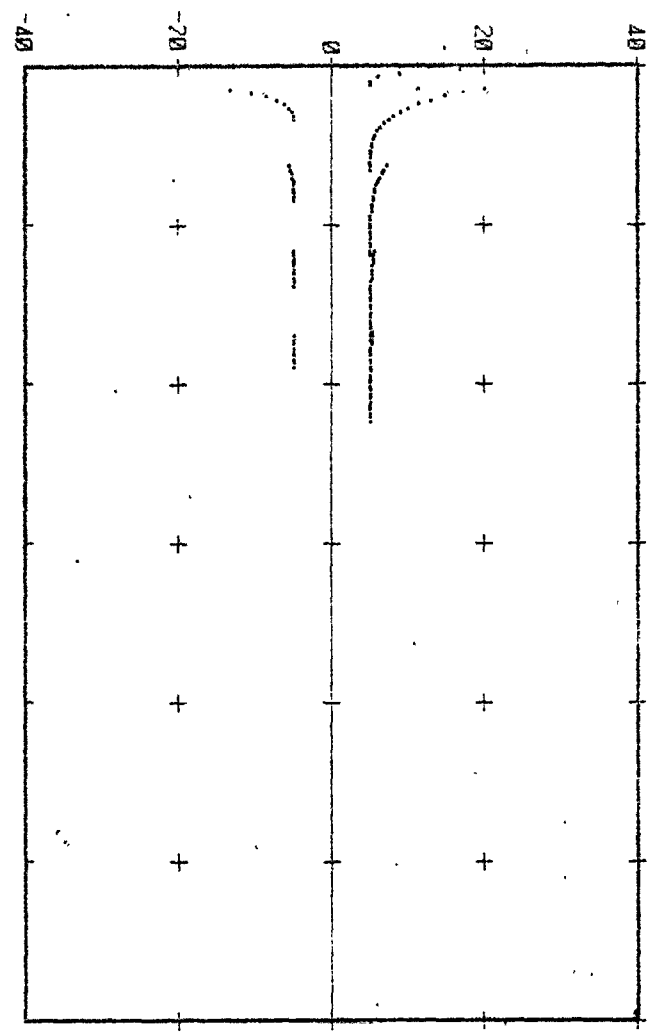
1450 M/S 1500

1550

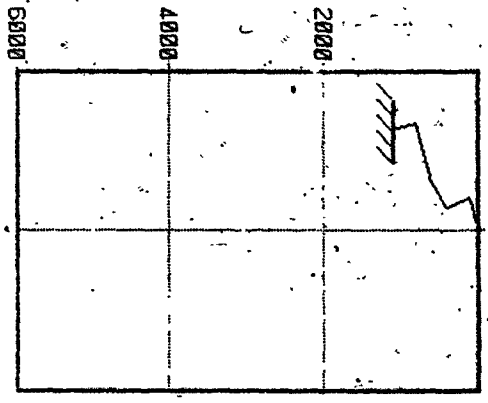
DB LOSS



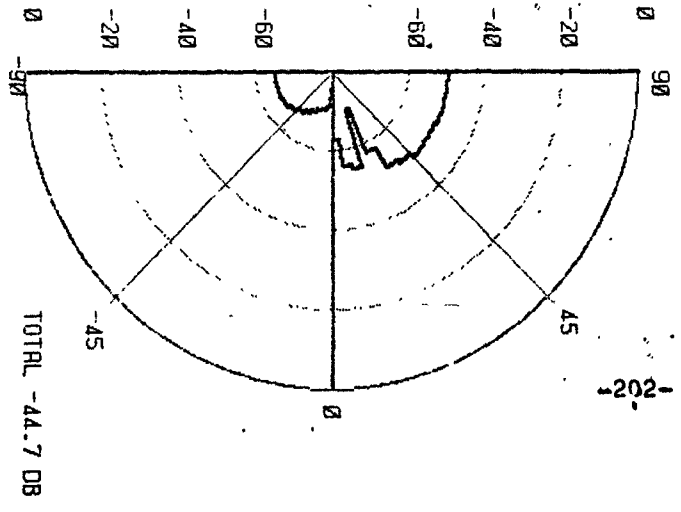
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



TOTAL -44.7 DB

ARRR AB SUNKER

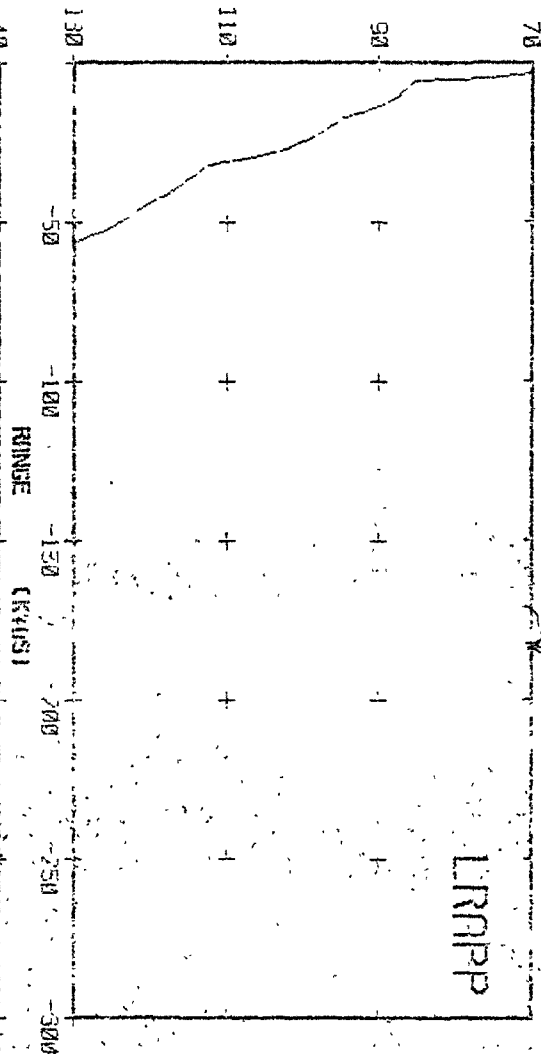
S 50° R 12000 F 2000

1450 M/S

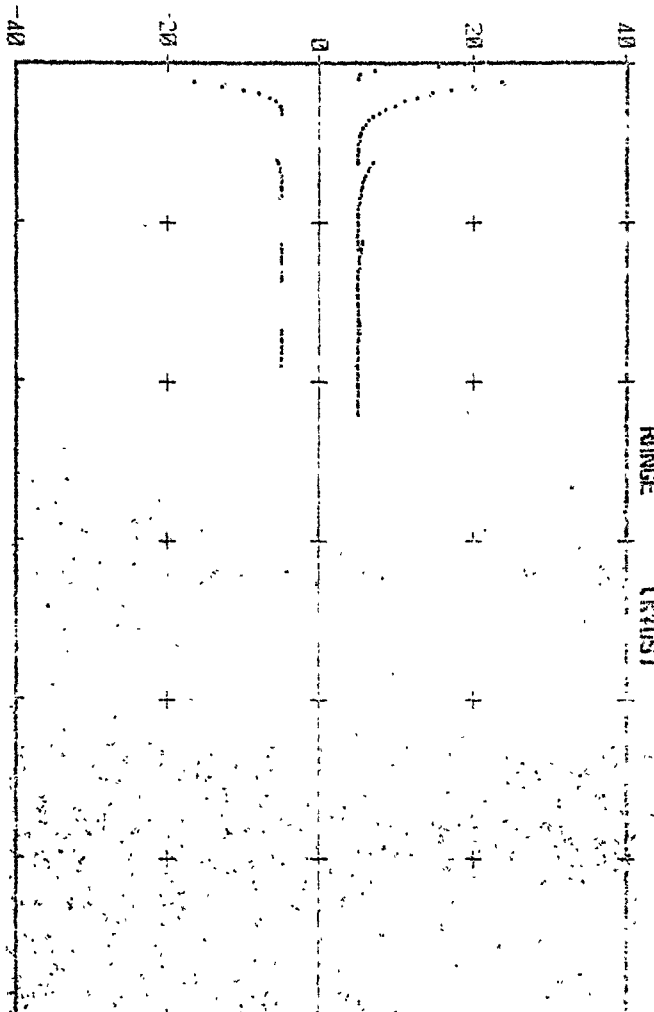
1500

1550

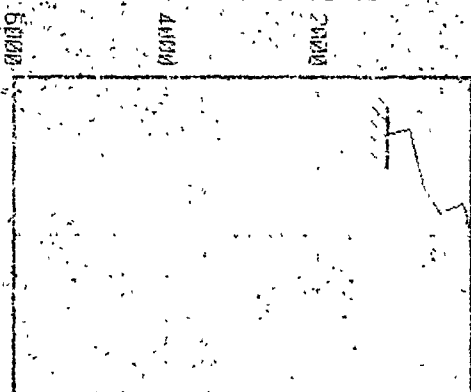
DB LOSS



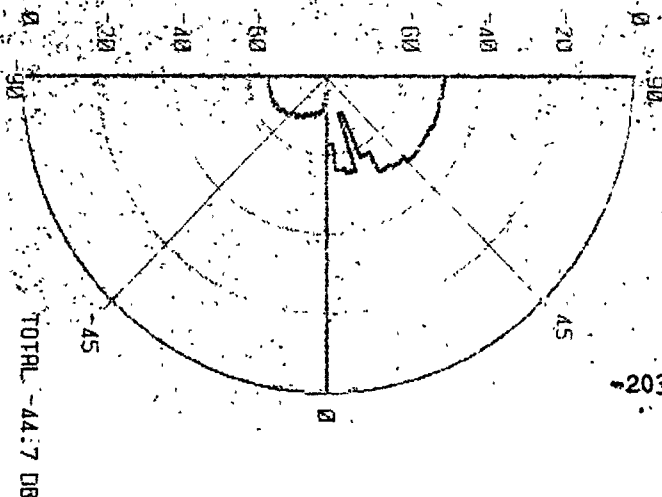
ARRIVAL ANGLE



SUBMERGED



NOISE (DB)

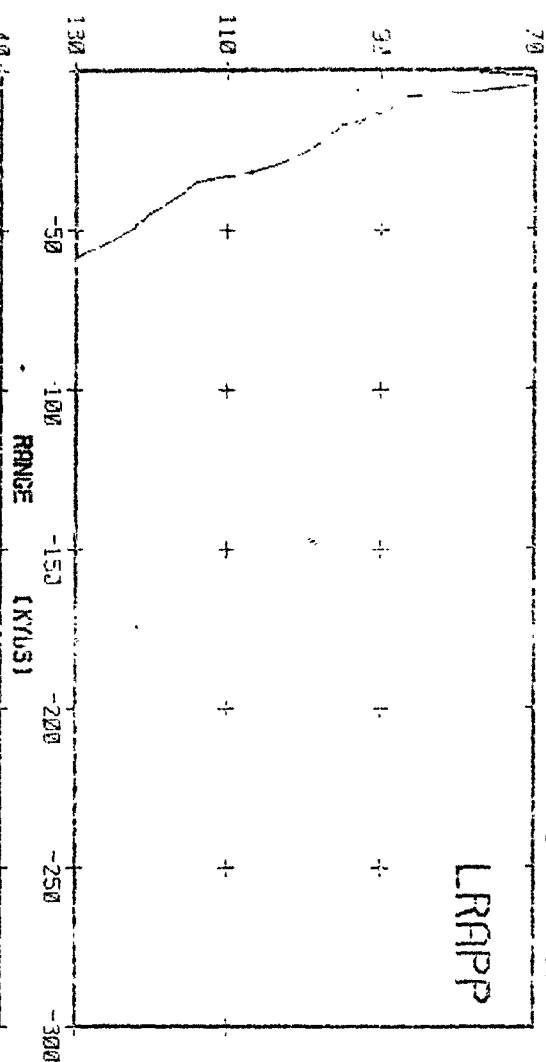


SHR4 AB SUMMER

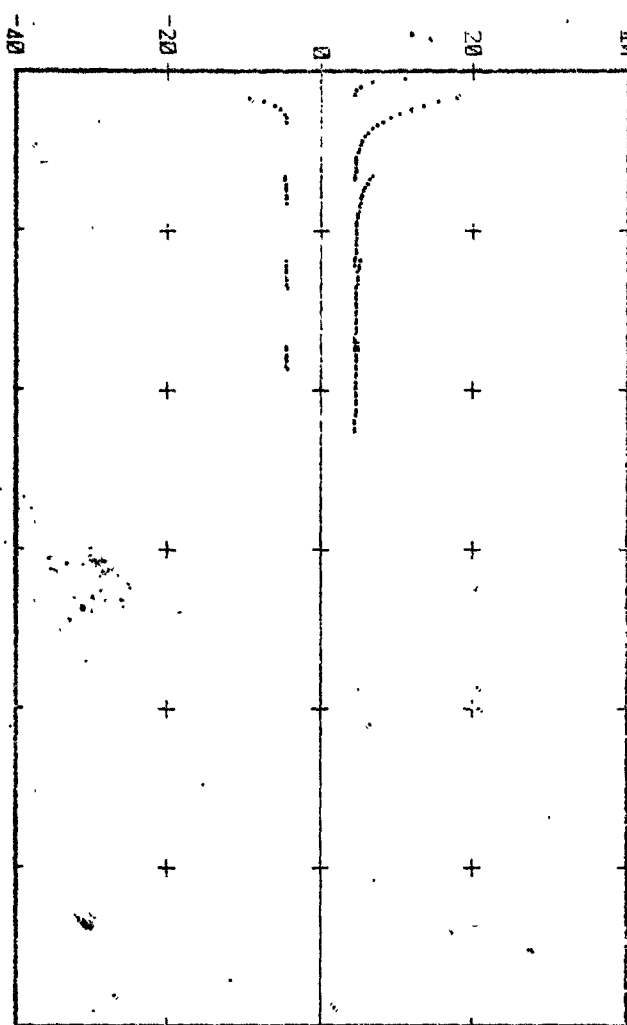
S 20 R 1312 F 2000

LRAPP

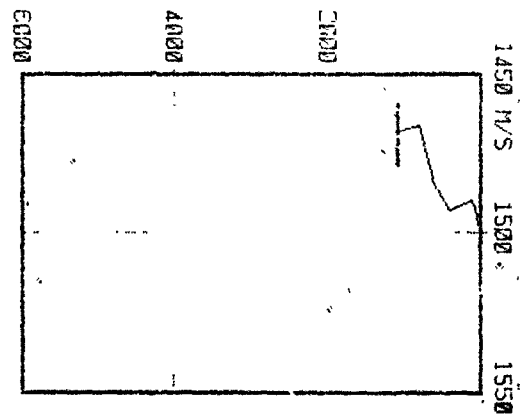
DB LOSS



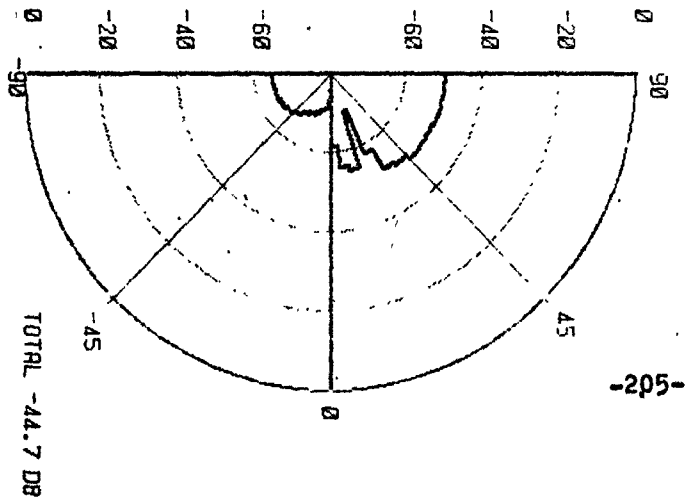
ARRIVAL ANGLE



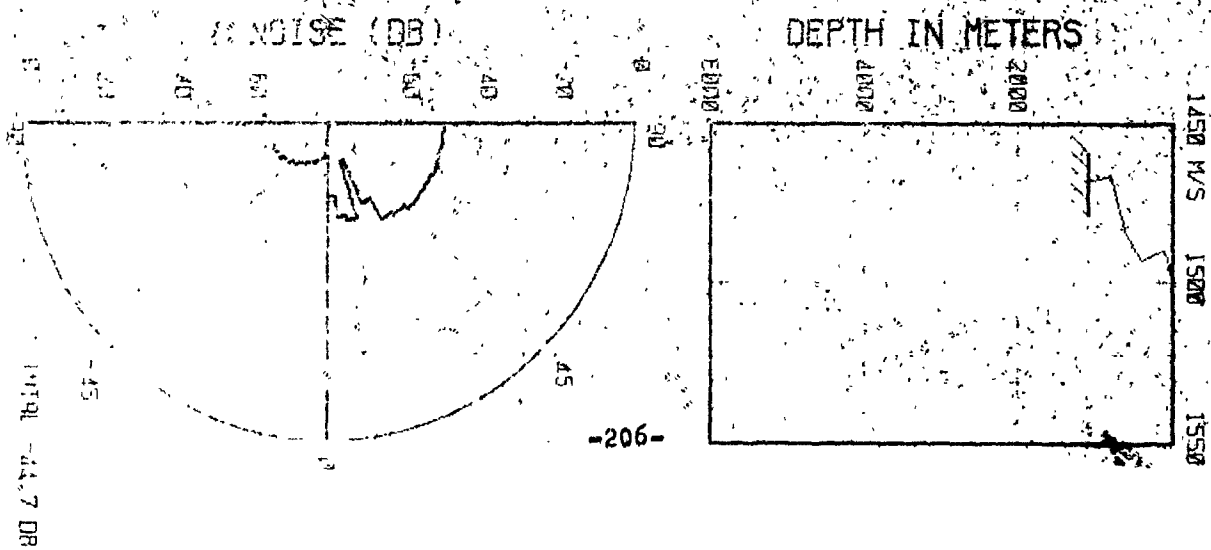
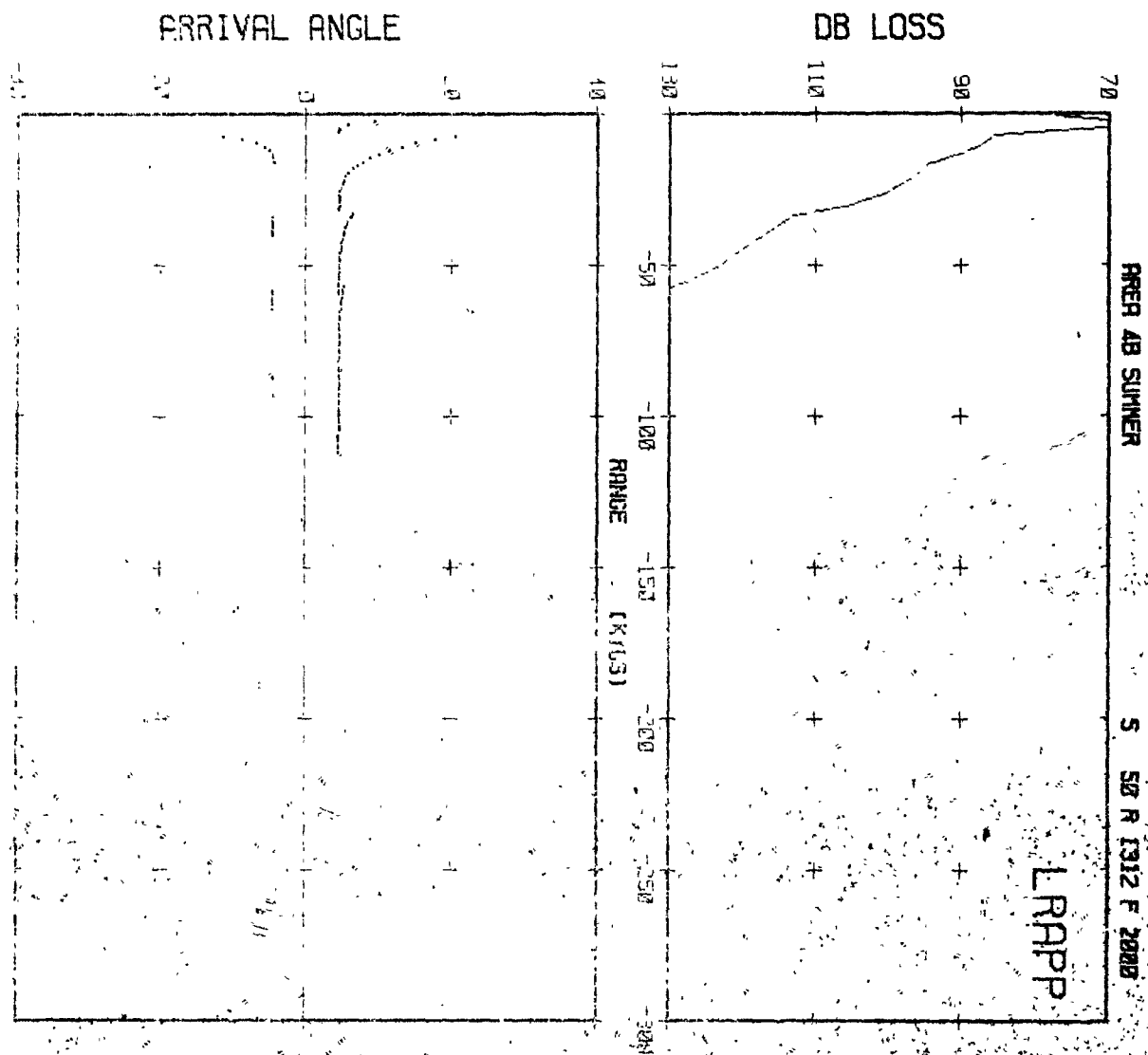
DEPTH IN METERS



NOISE (DB)



TOTAL -44.7 DB

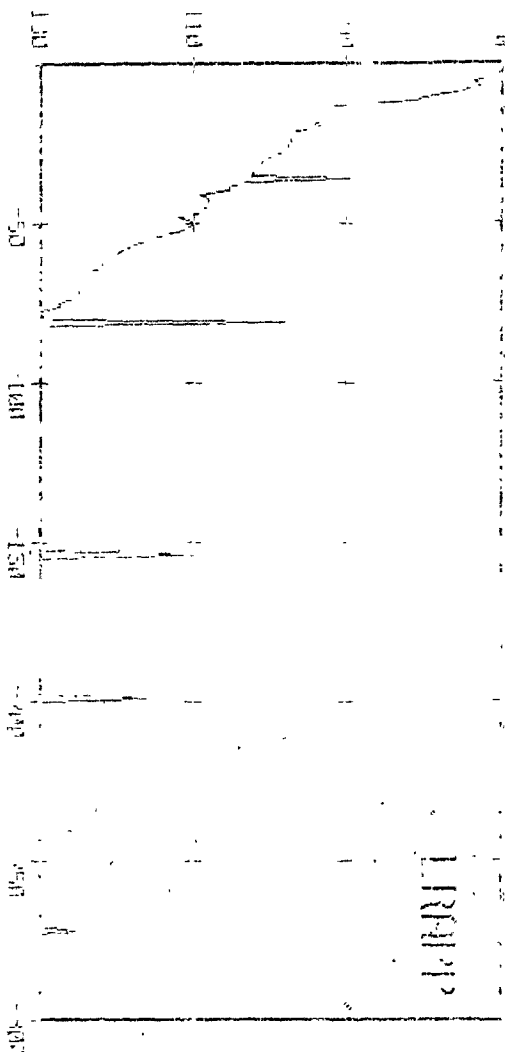


FIRE AR SUMMER

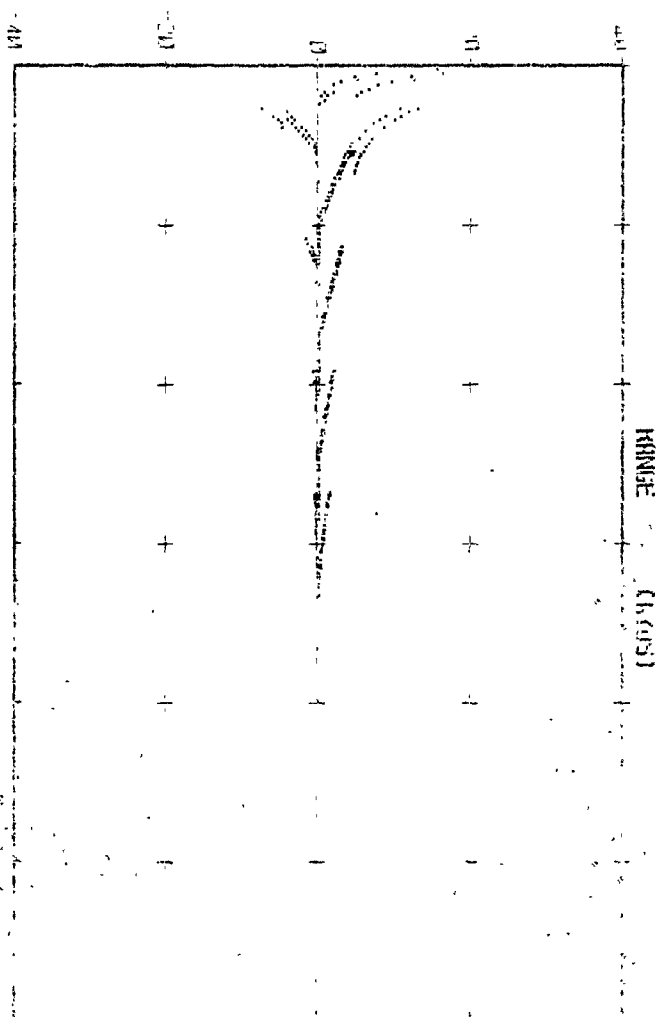
5 SEP 1912 F 2000

1400 1500 1500

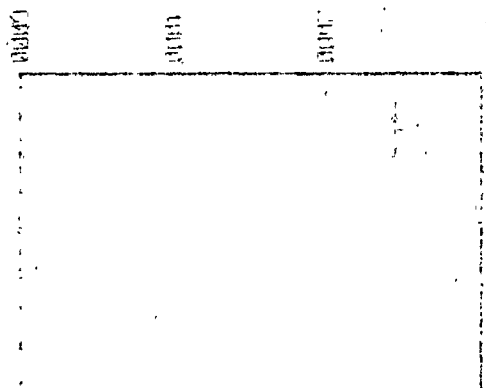
DB LOSS



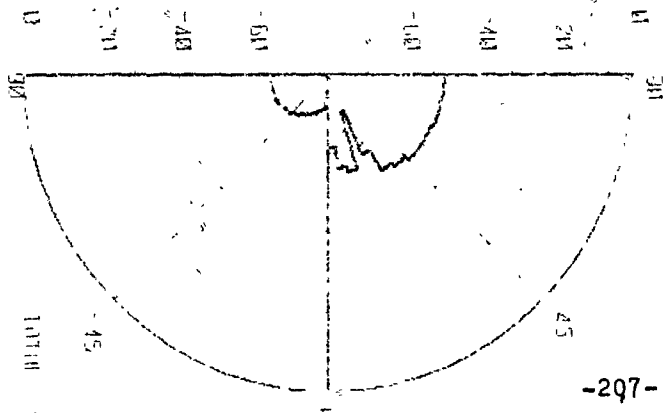
ARRIVAL ANGLE

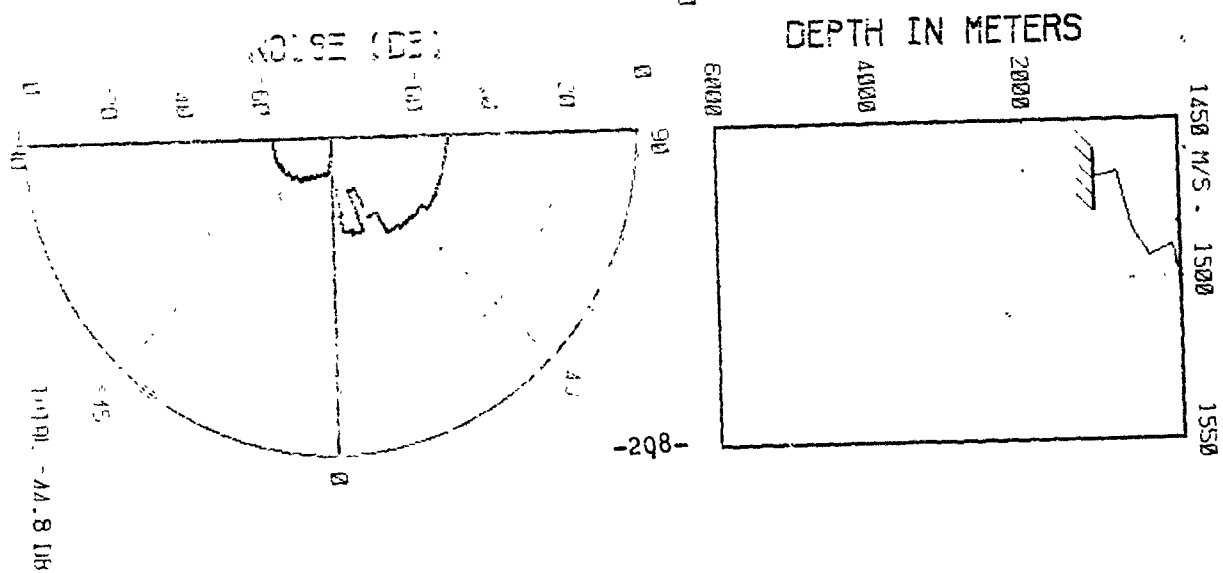
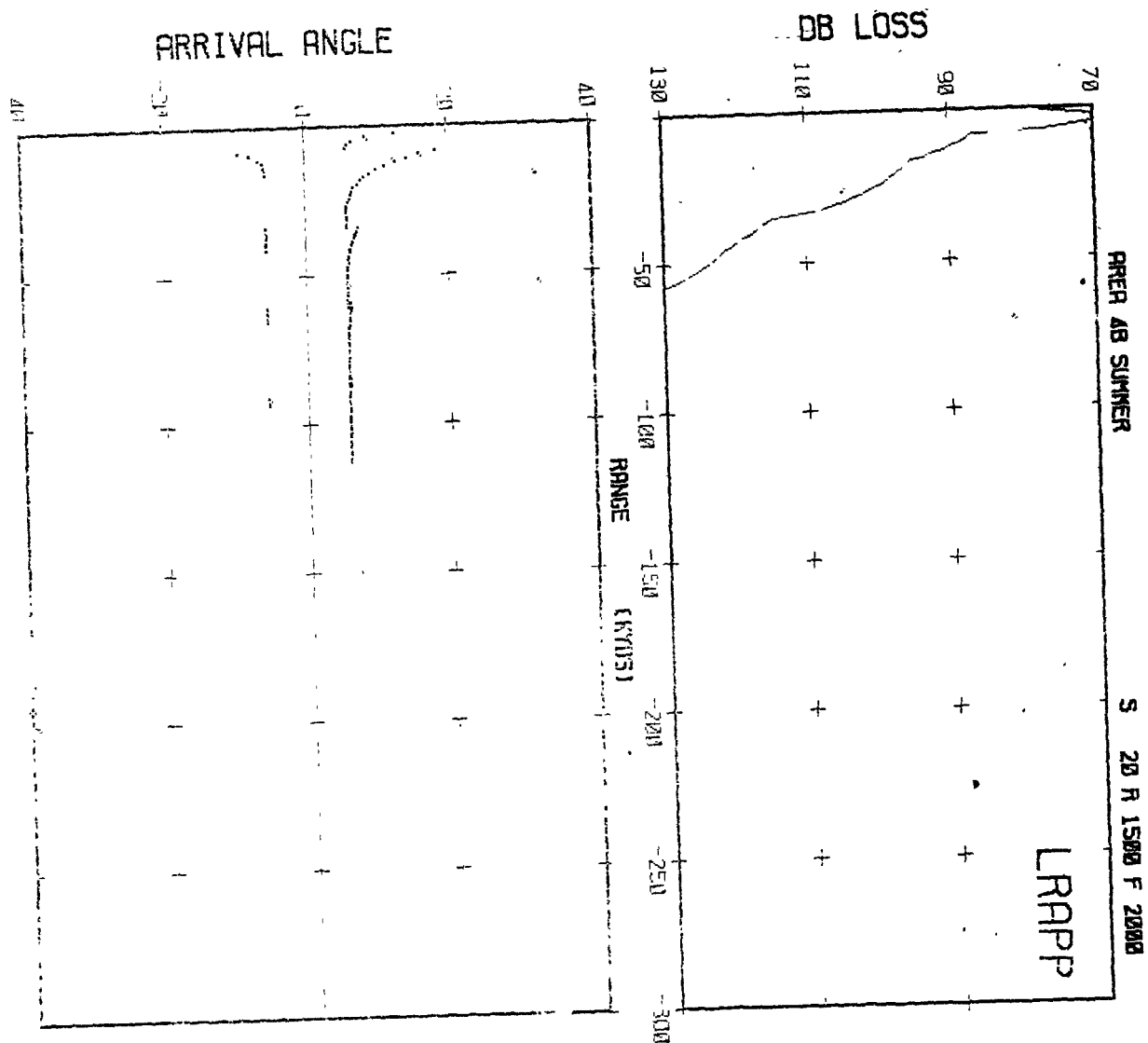


DEPTH IN METERS



NOISE (DB)

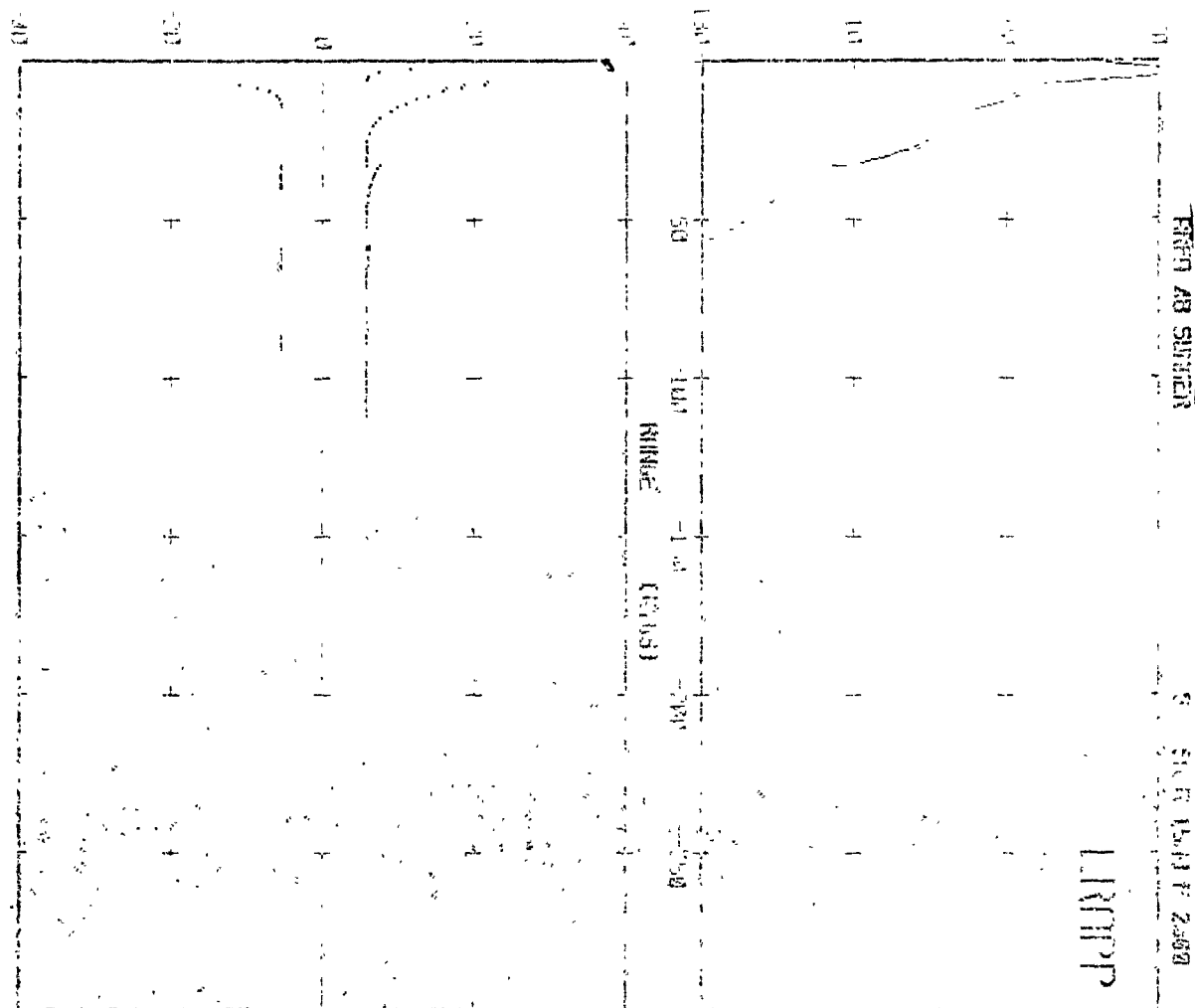




1111

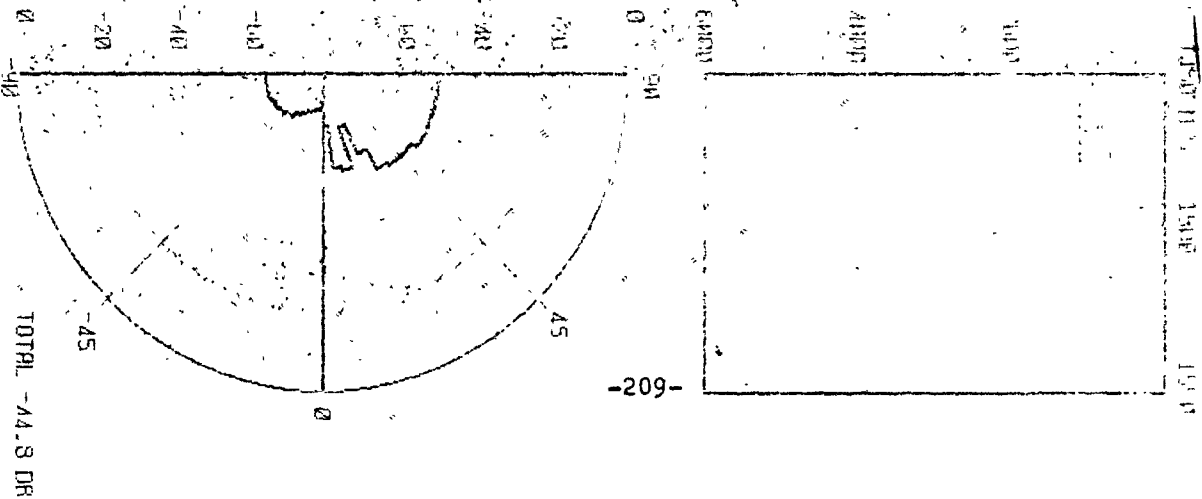
ARRIVAL ANGLE

DB LOSS



NOISE DB

RECEIVED SIGNAL

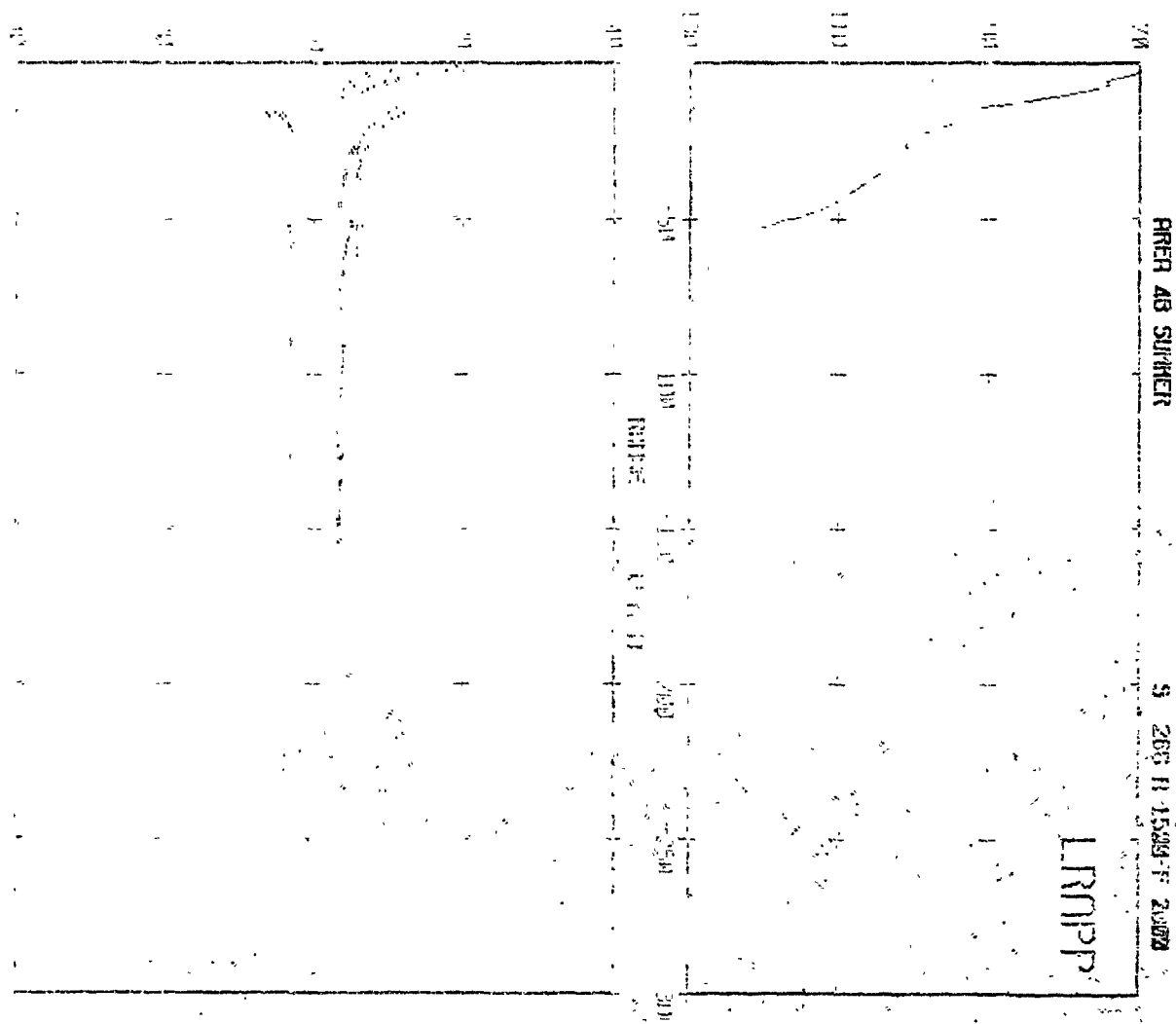


TOTAL -44.8 DB

I

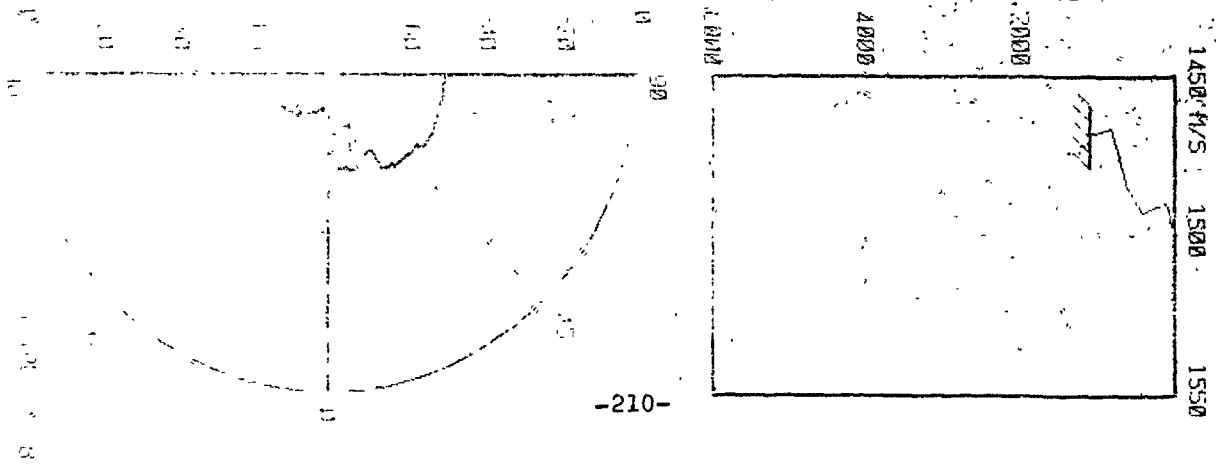
ARRIVAL ANGLE

DB LOSS



ARRIVAL ANGLE

DEPTH IN METERS

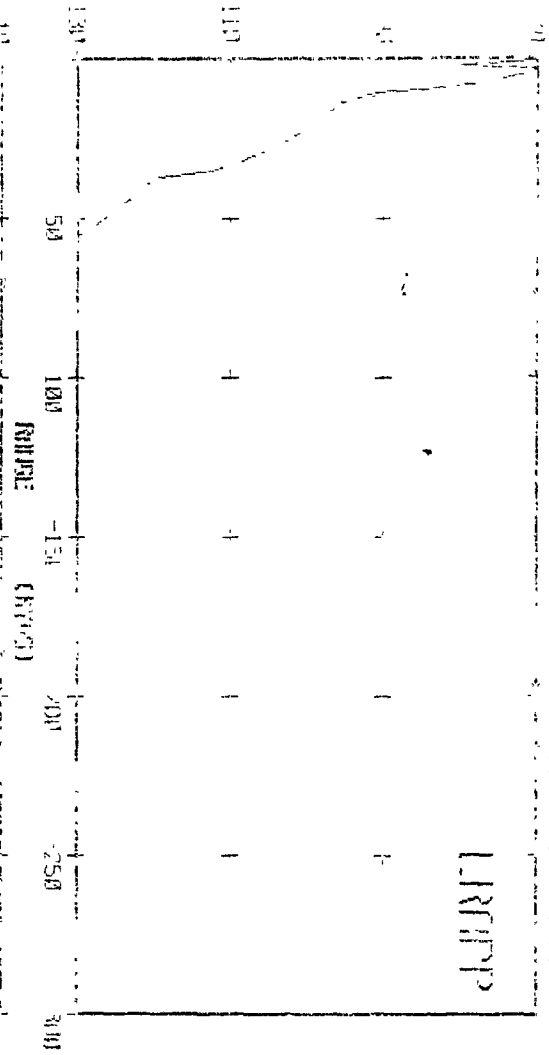


FORM 23 SUBMIT

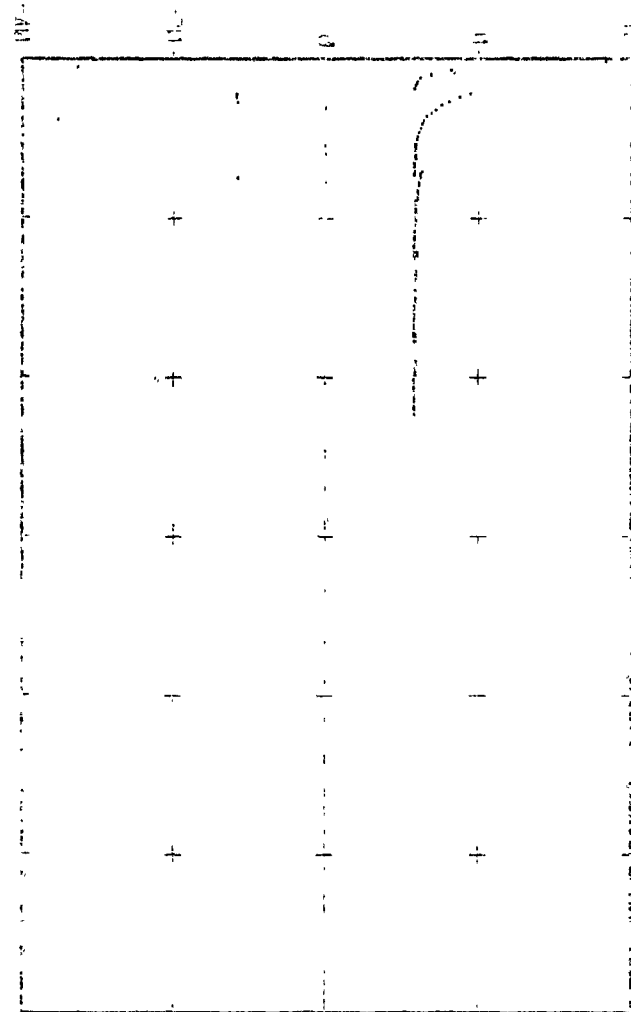
S 20 H 2025 F 2000

LRRFP

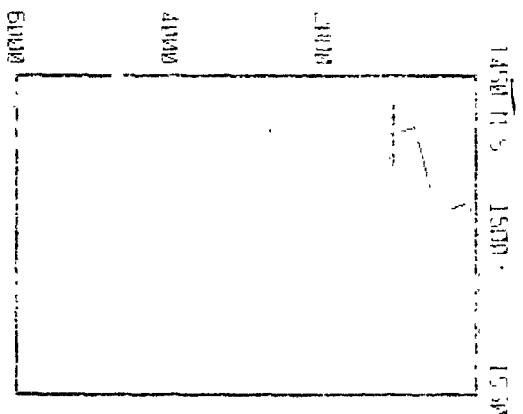
DB LOSS



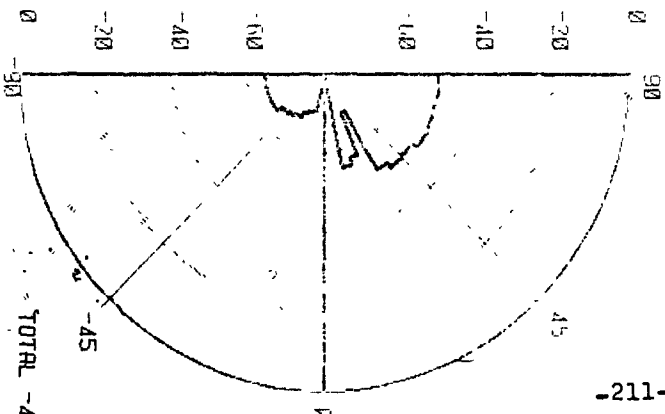
ARRIVAL ANGLE



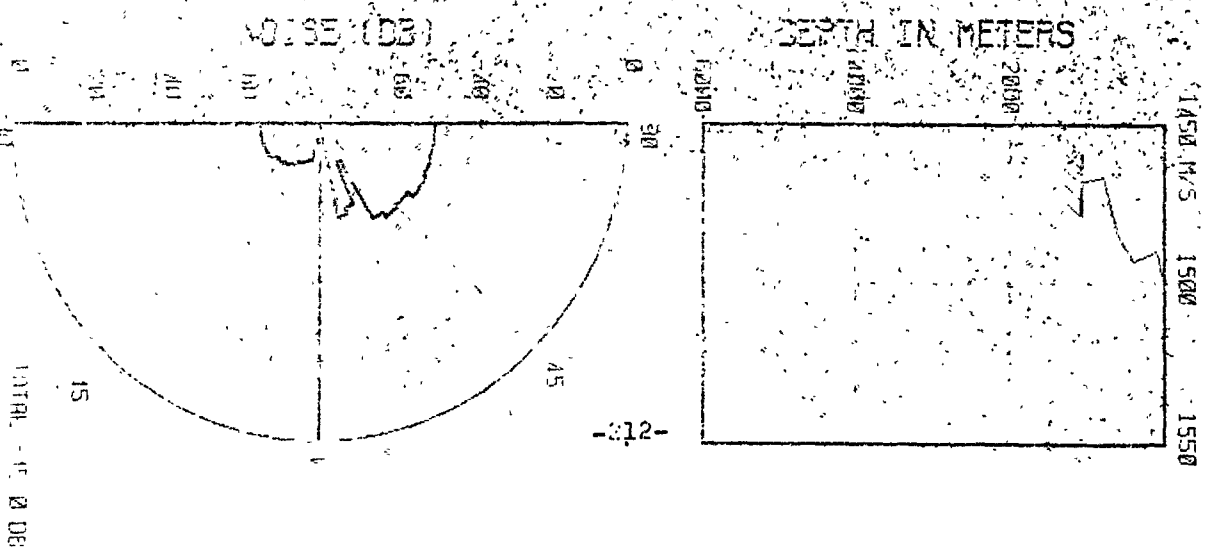
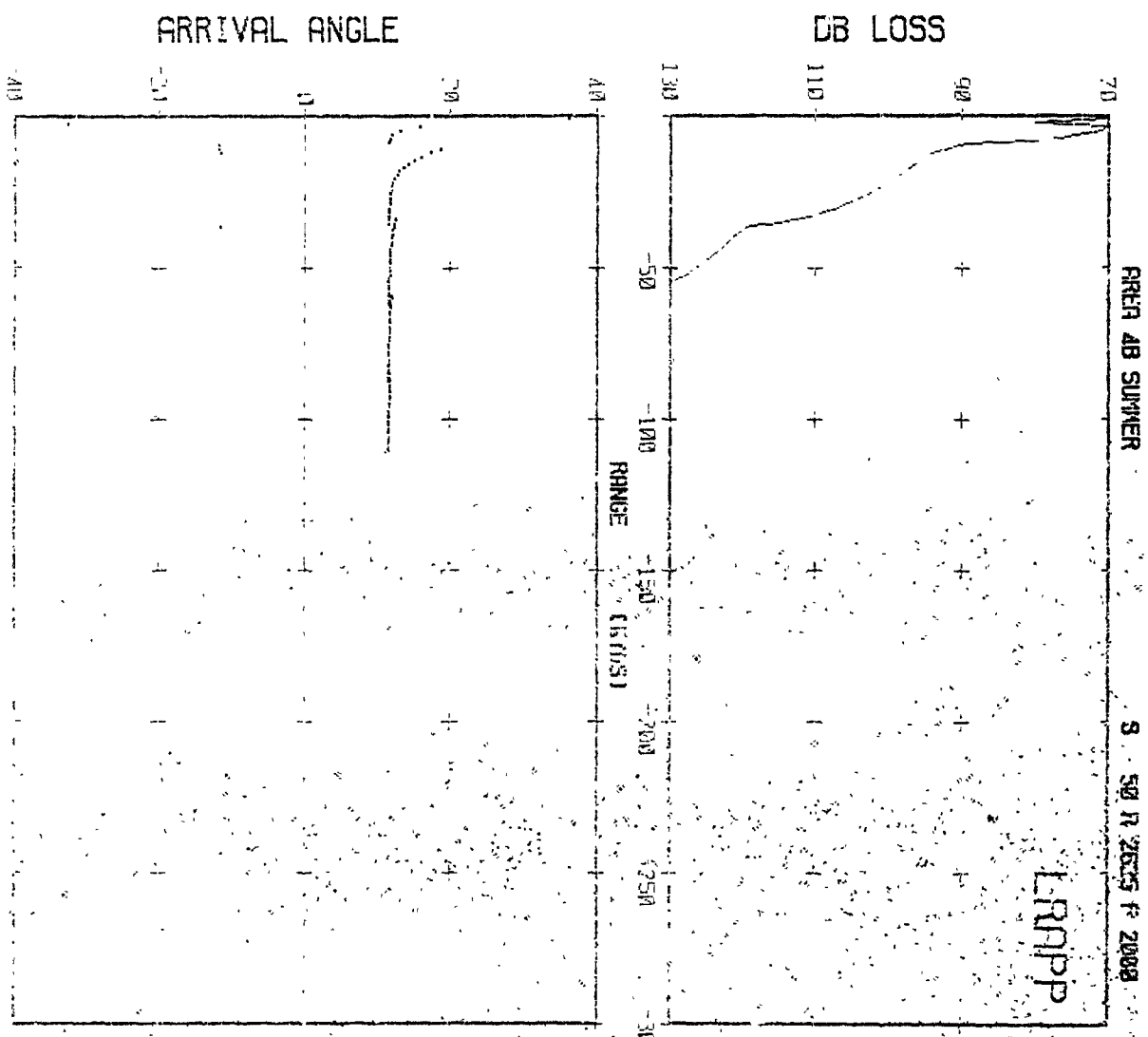
DB LOSS (dB)



ARRIVAL ANGLE (deg)



TOTAL -45.0 DB

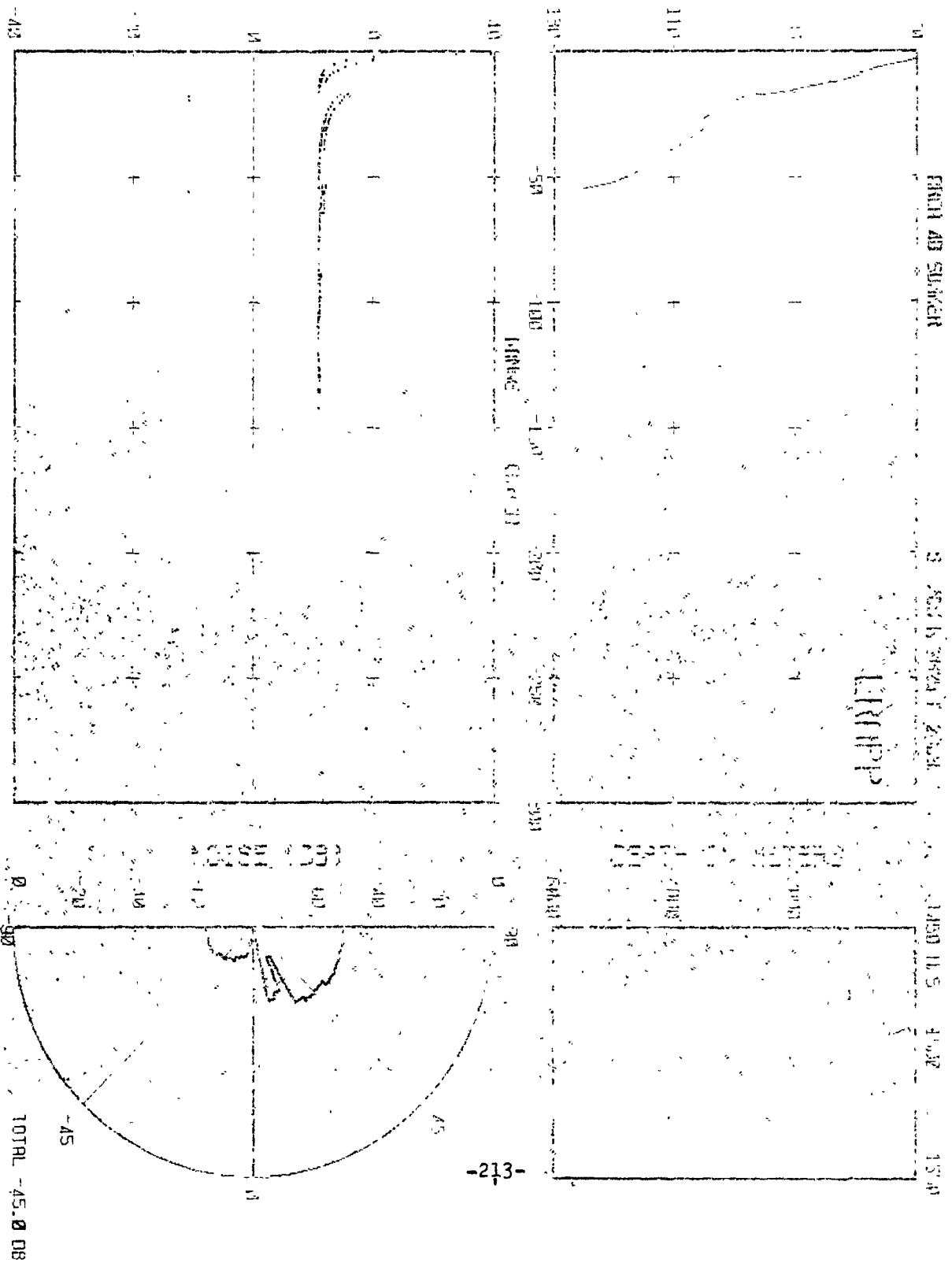


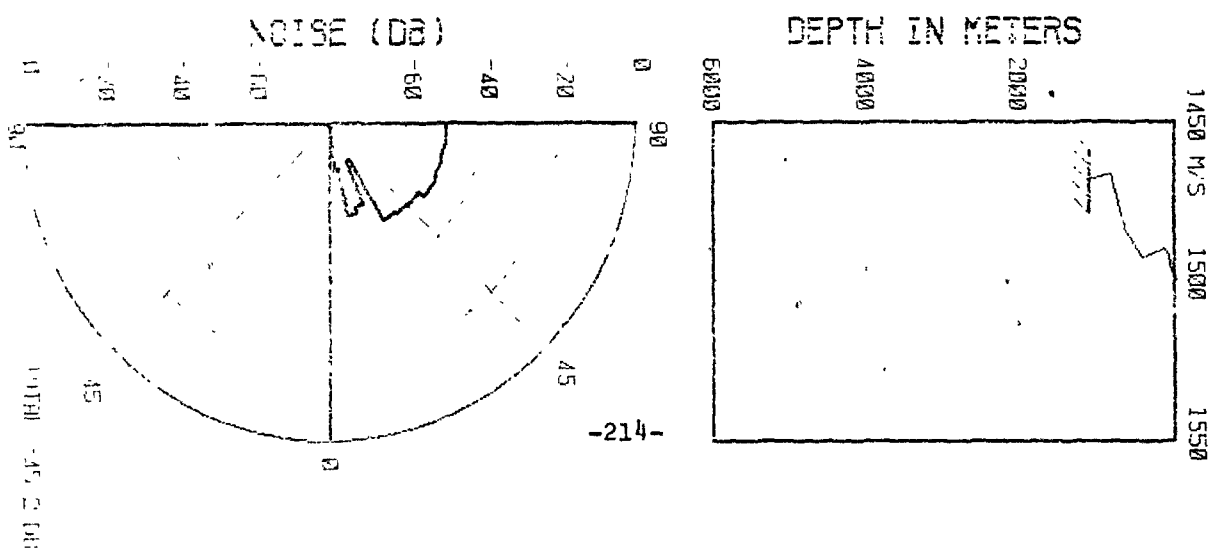
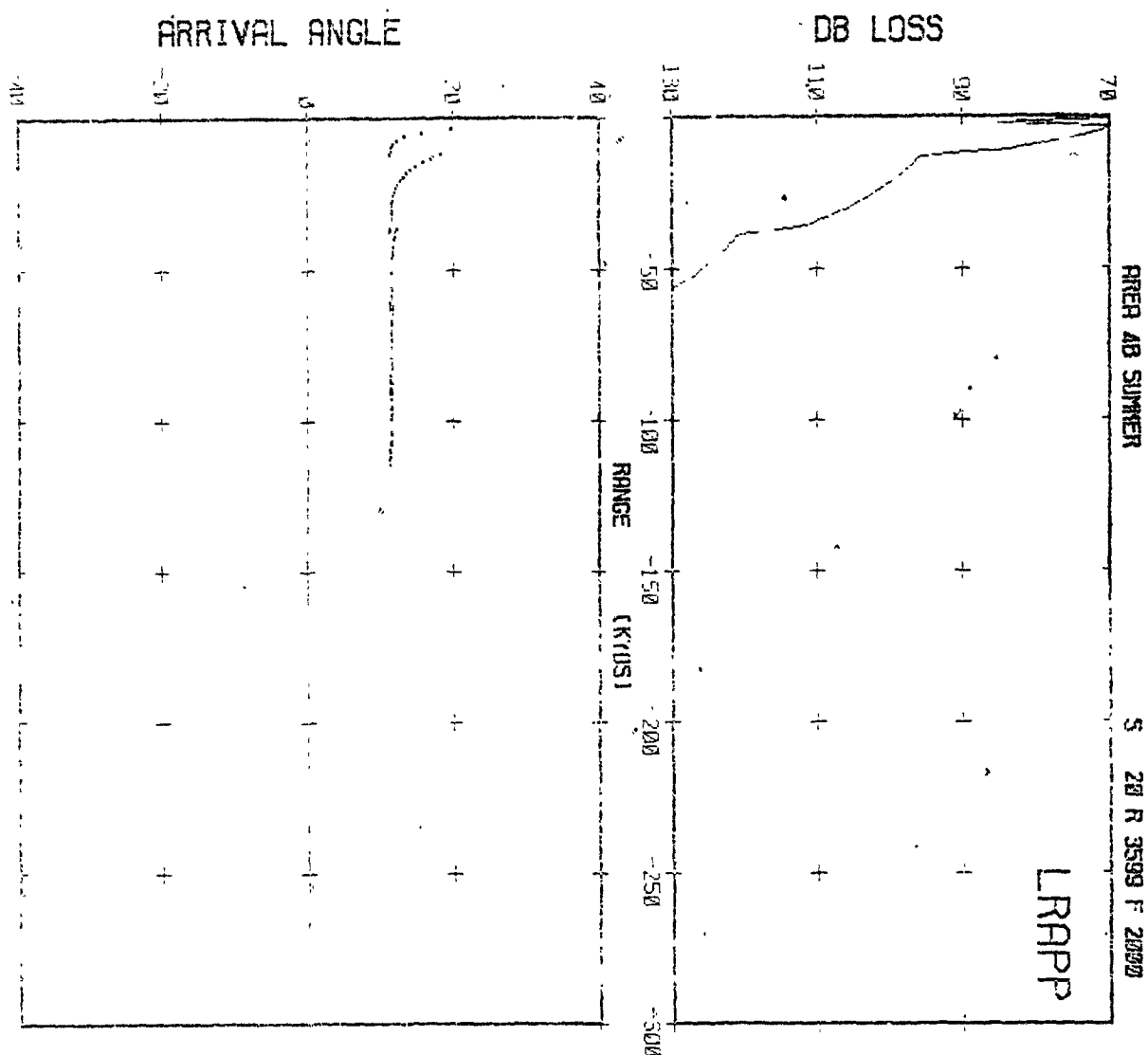
RRR AB SUMMER

S 50 N 2000

1550 M/S 1500 1550

DA LOSS



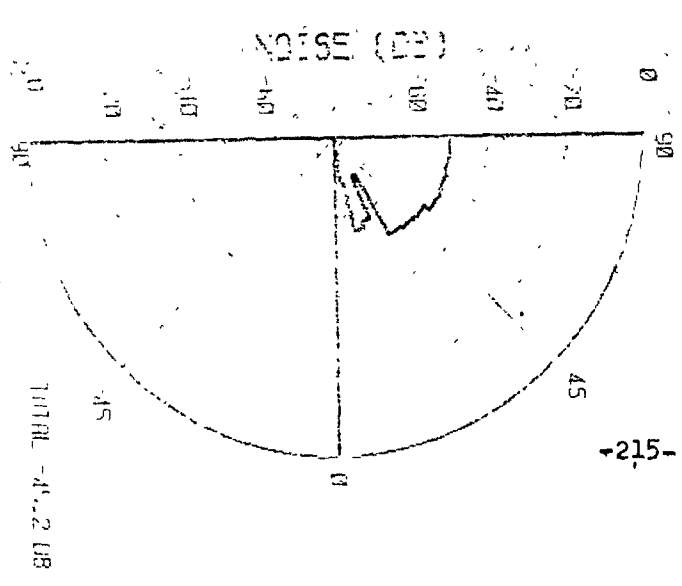
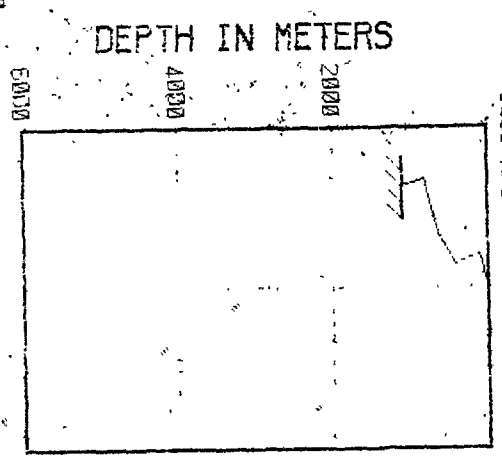
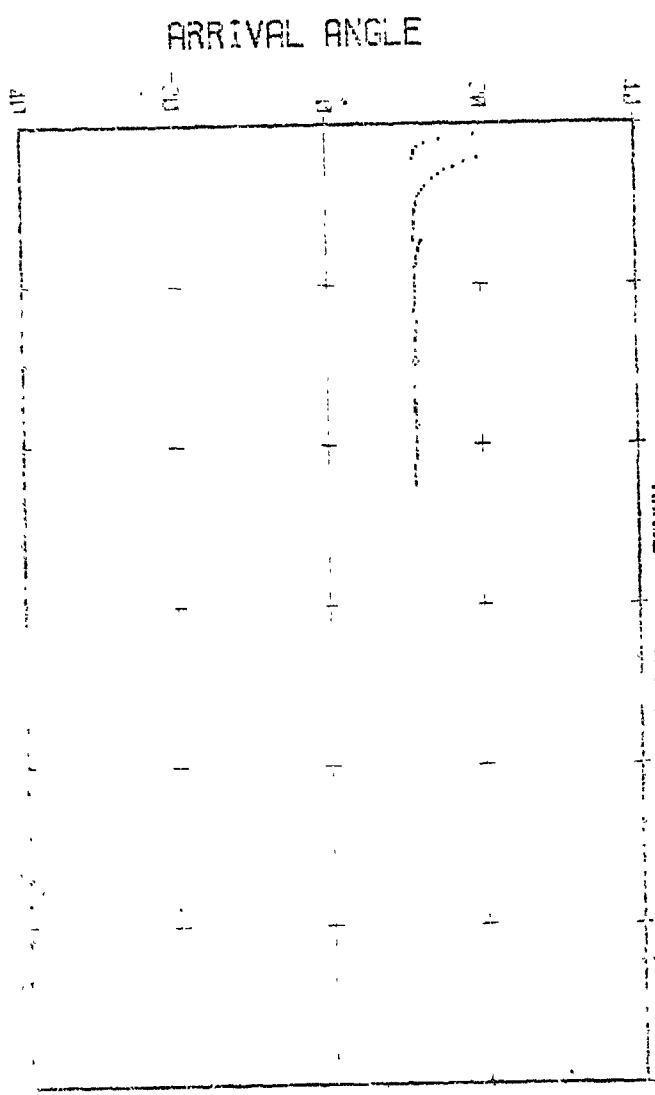
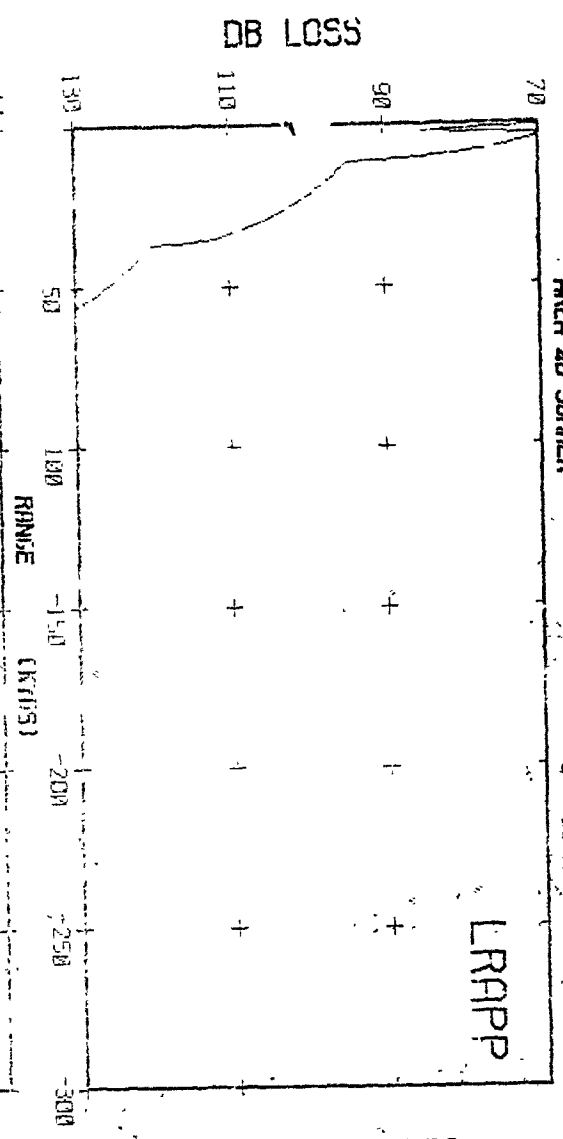


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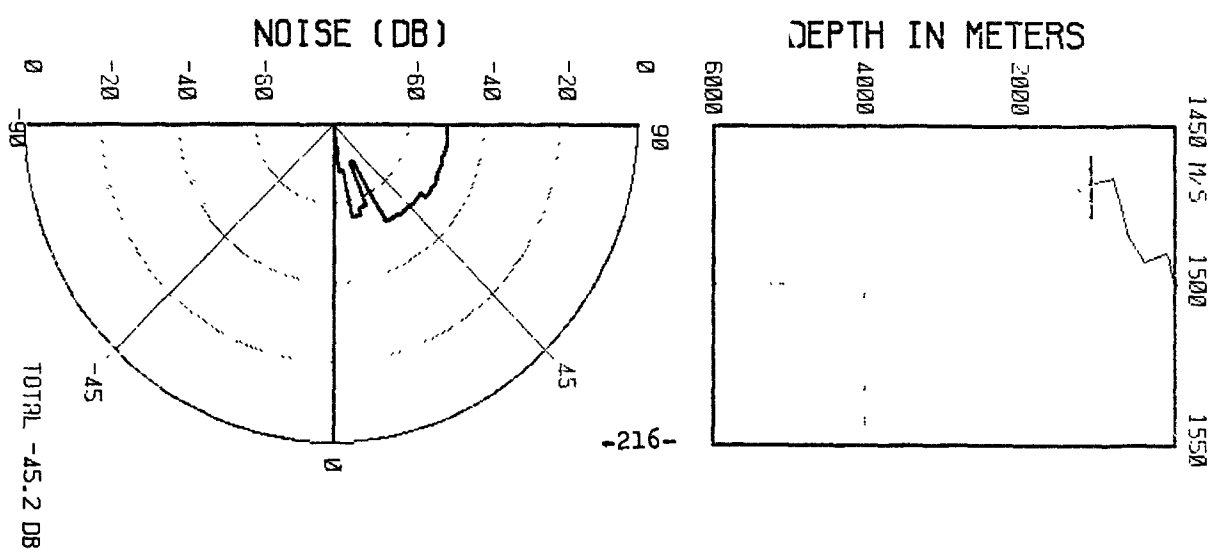
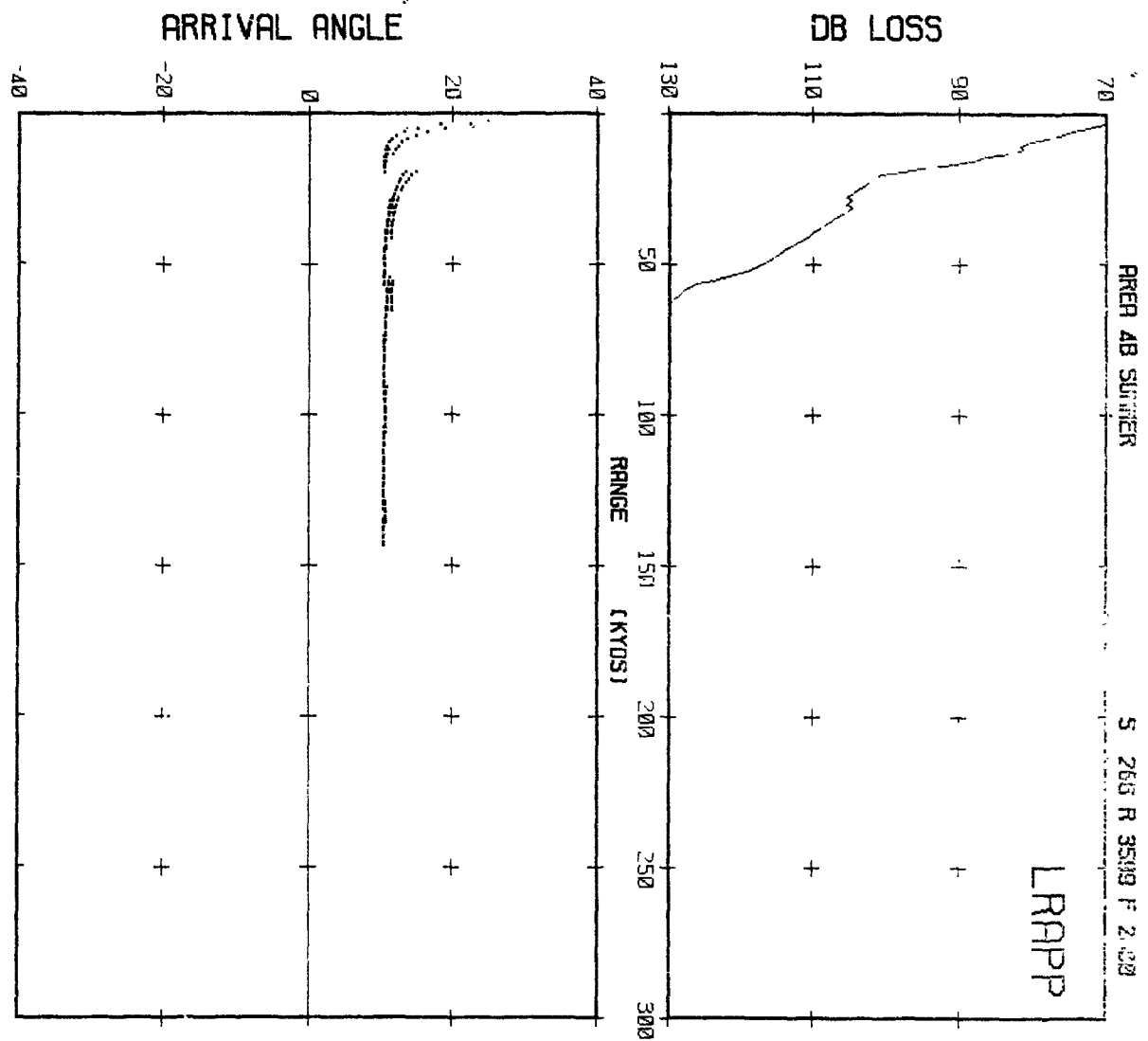
AREA 4B SUMMER

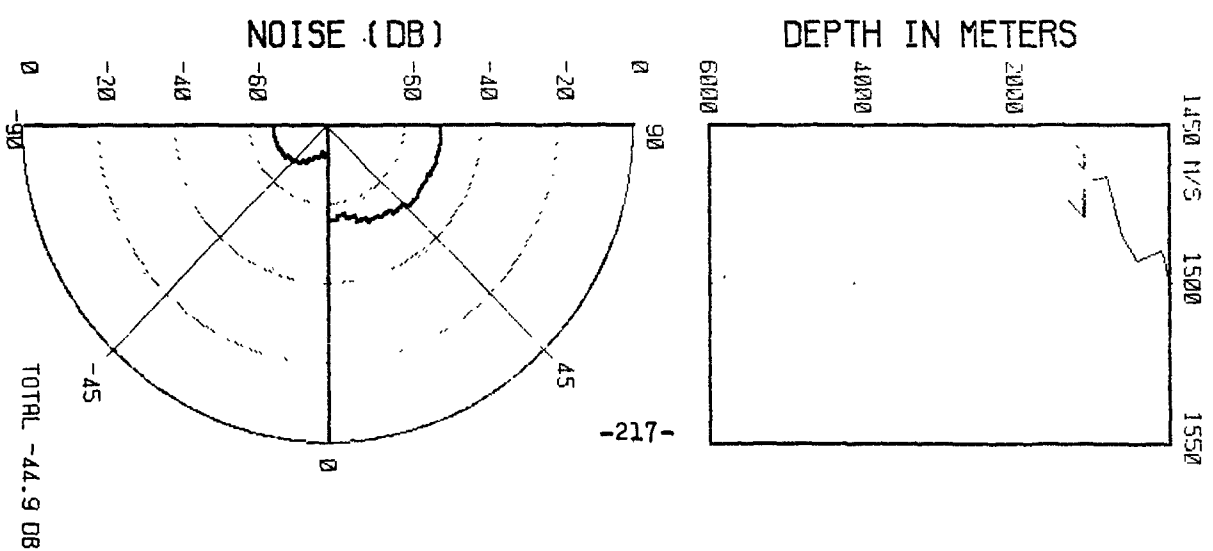
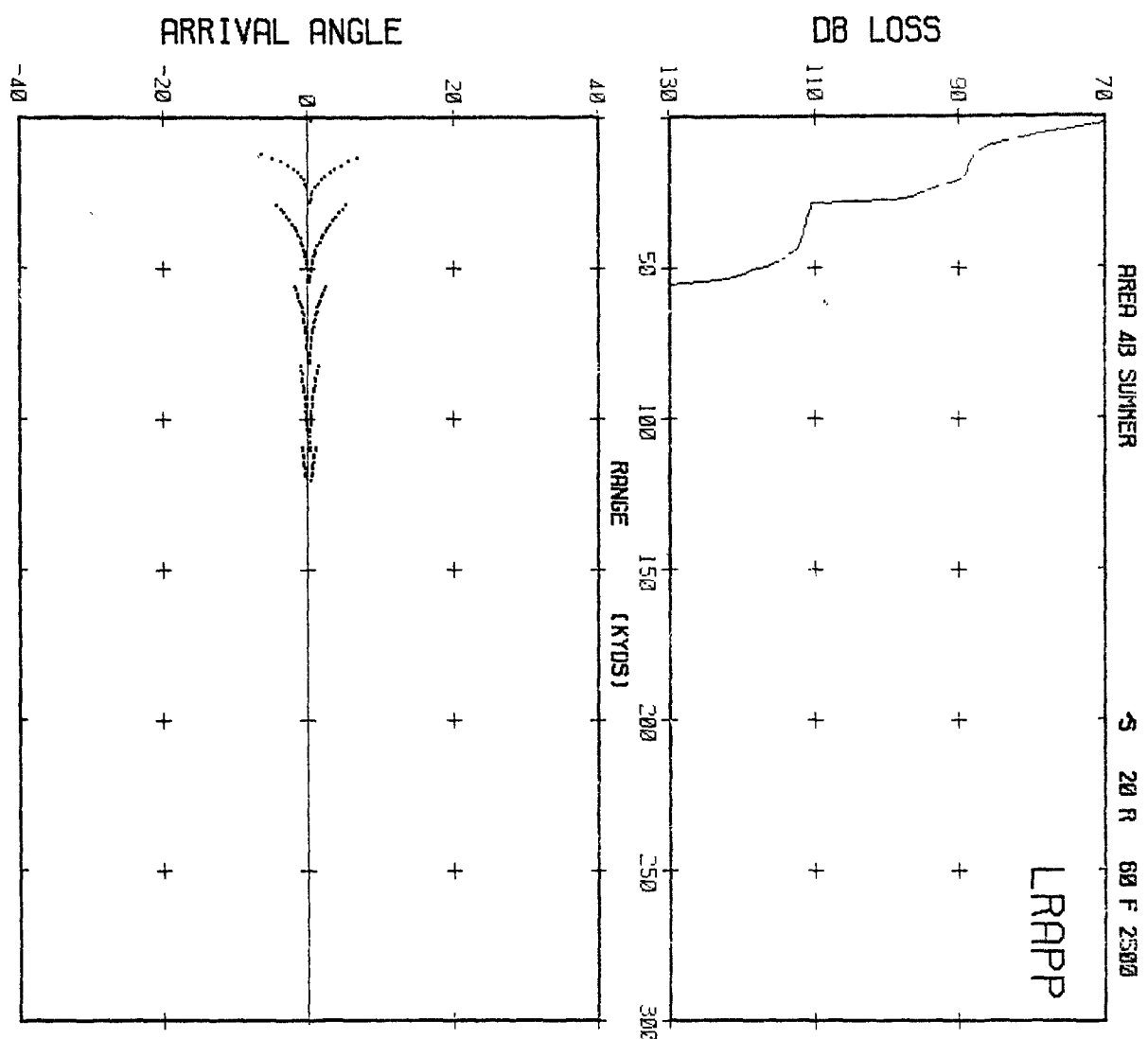
S 50 R 3539 F 2000

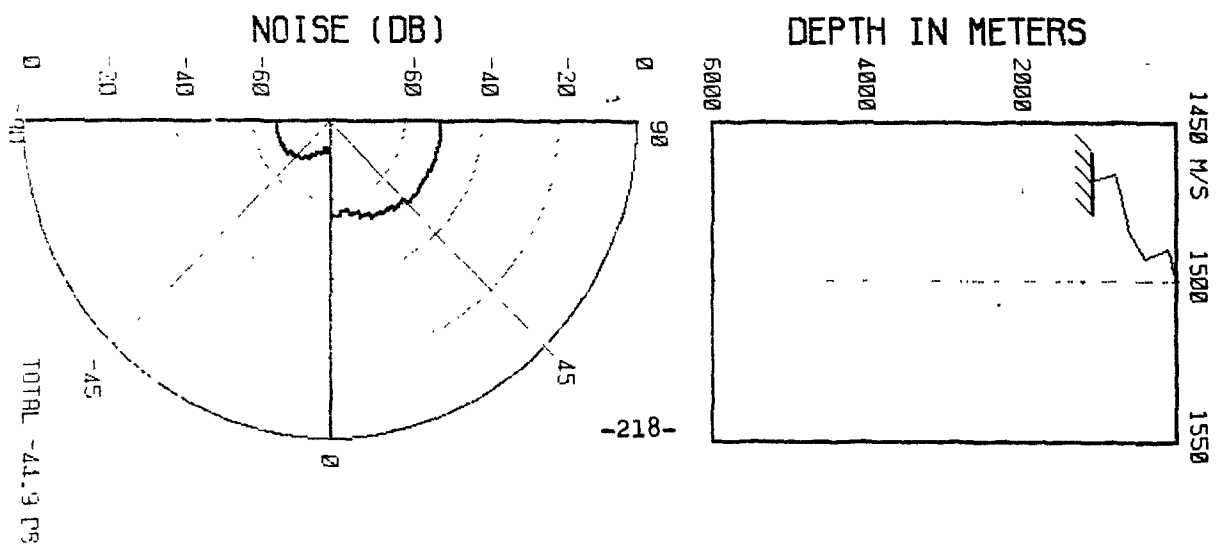
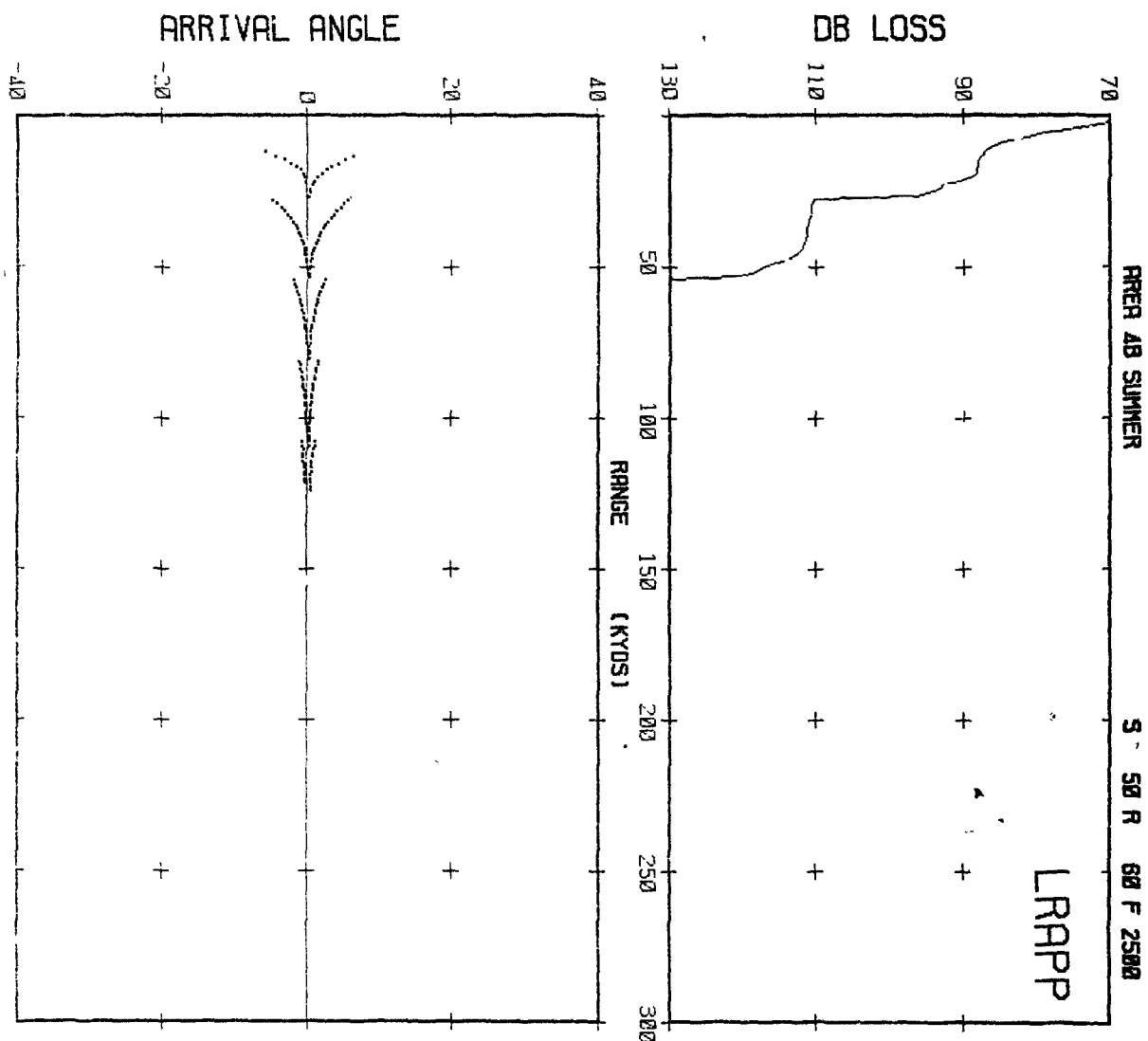
3450 M/S	1500	1550
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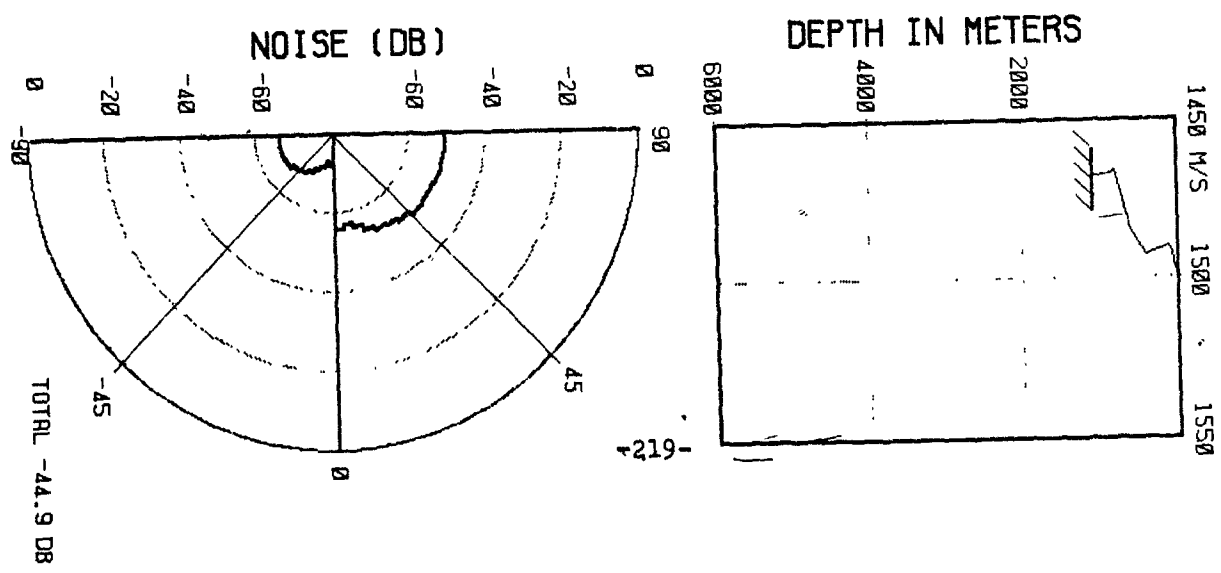
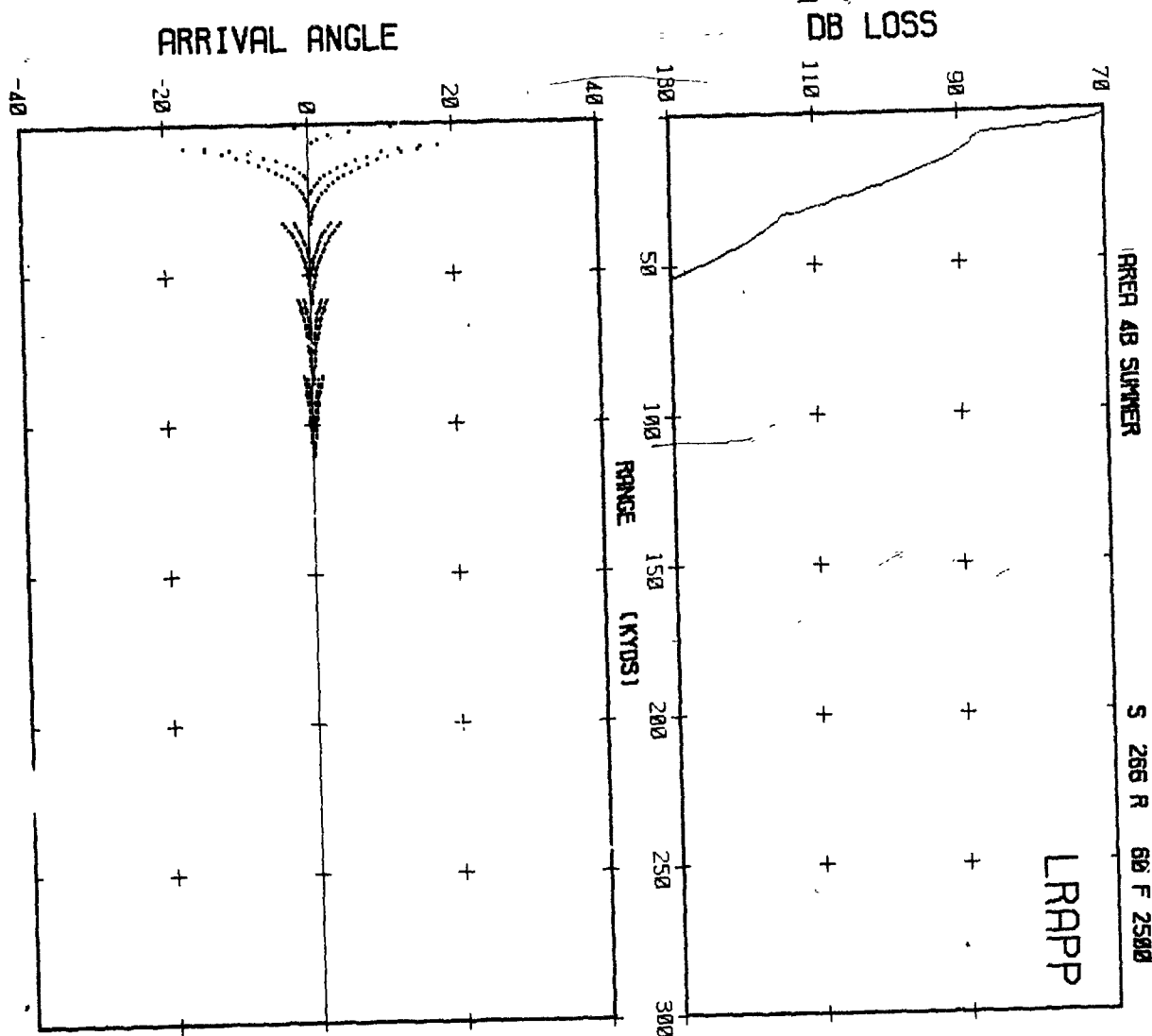


-215-







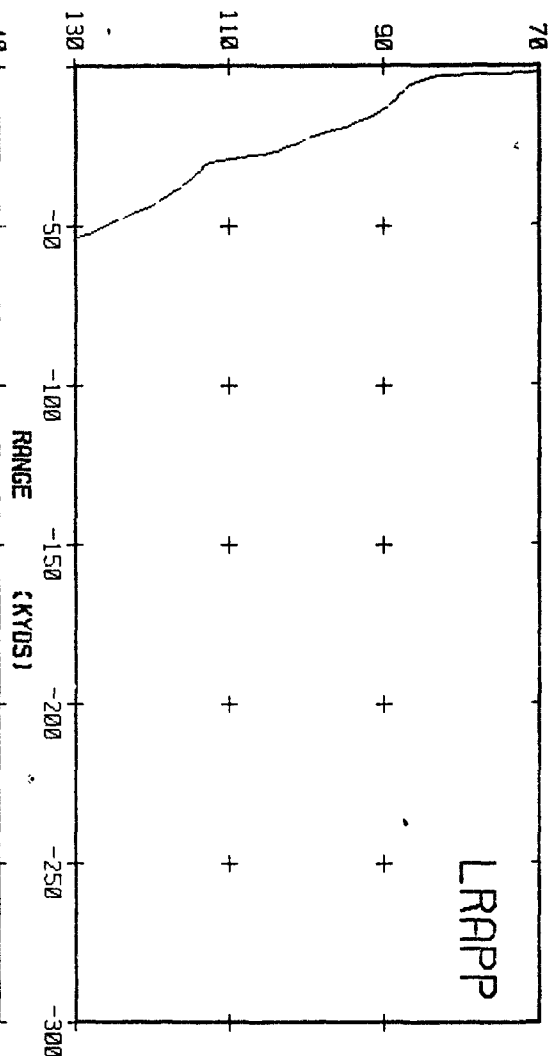


ARRER AB SUMMER

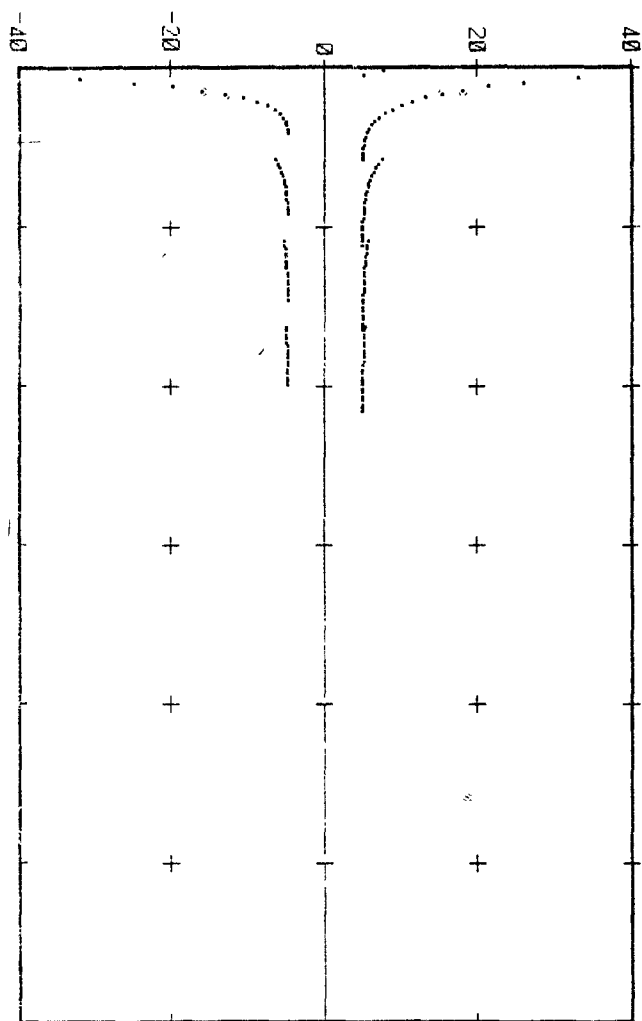
S 20 R 186 F 2500

LRAPP

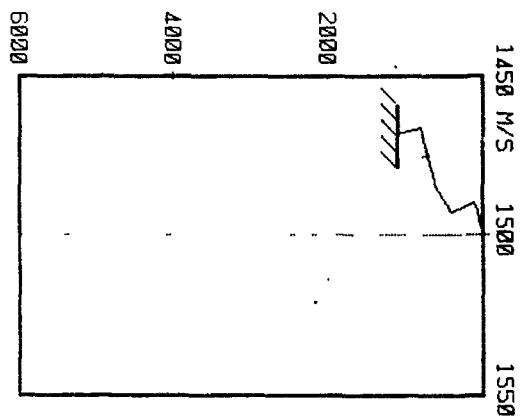
DB LOSS



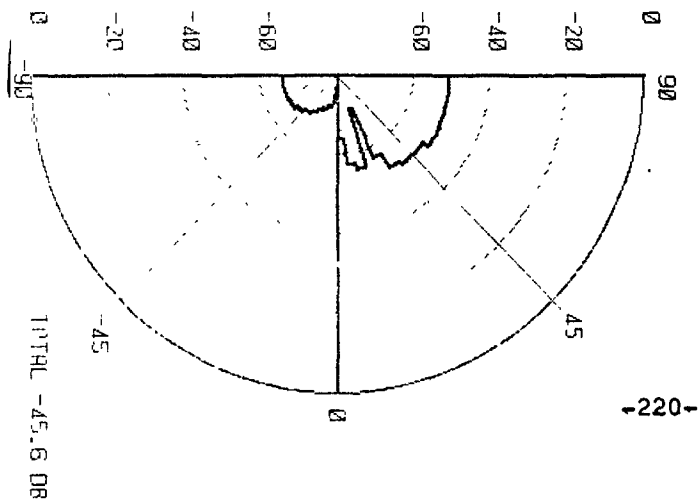
ARRIVAL ANGLE

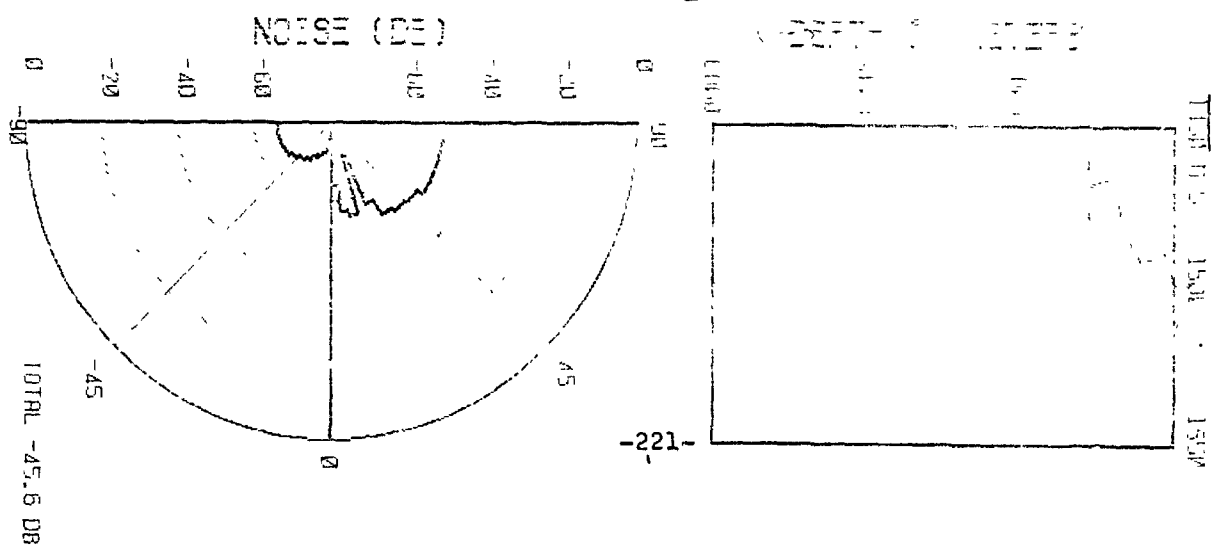
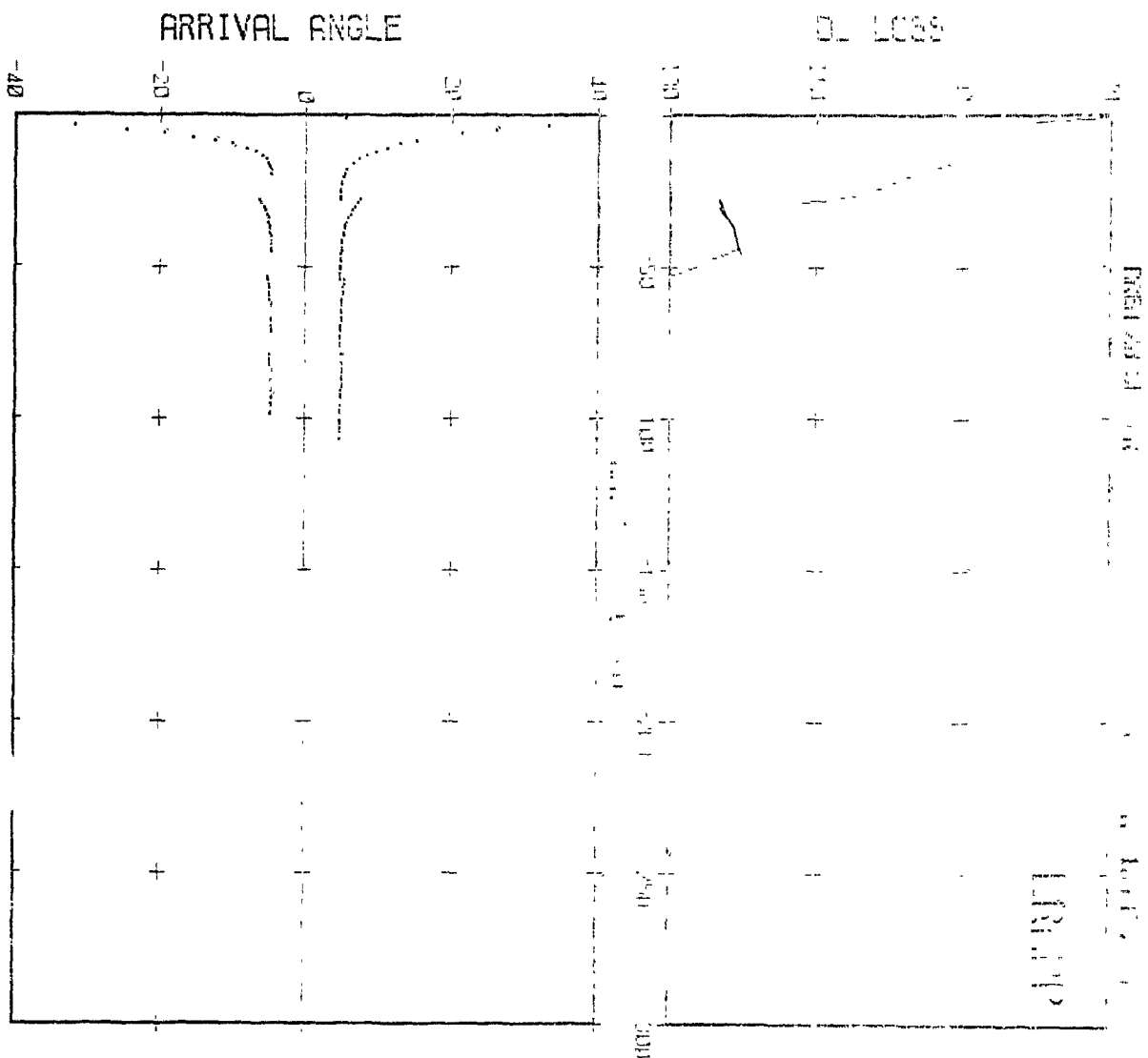


DEPTH IN METERS



NOISE (DB)



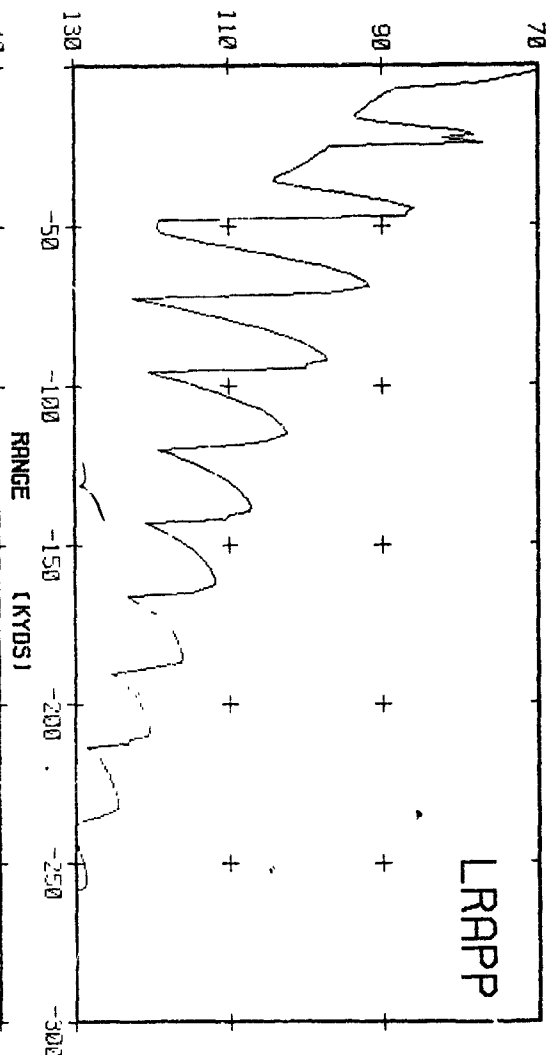


AREA 4B SUMMER

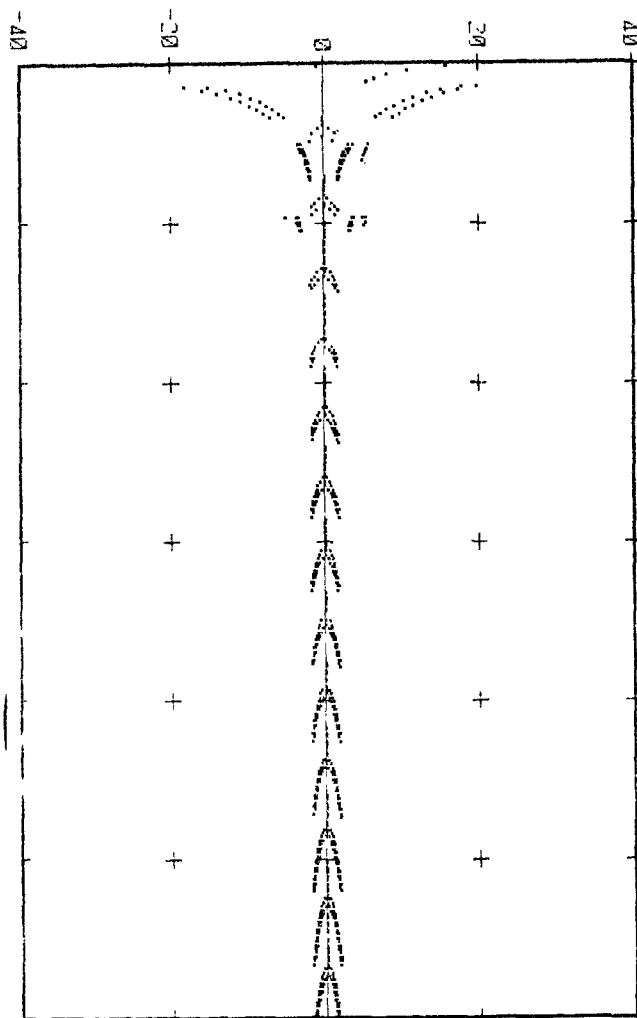
S 268 R 166 F 2500

LRAPP

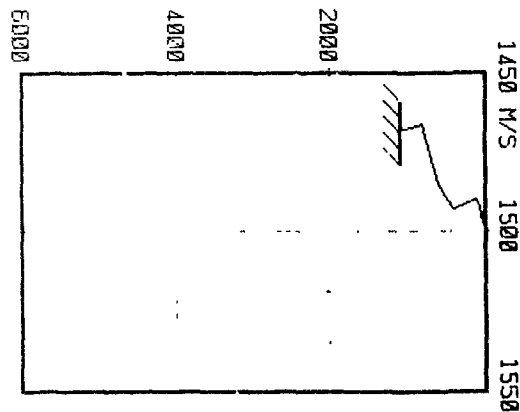
DB LOSS



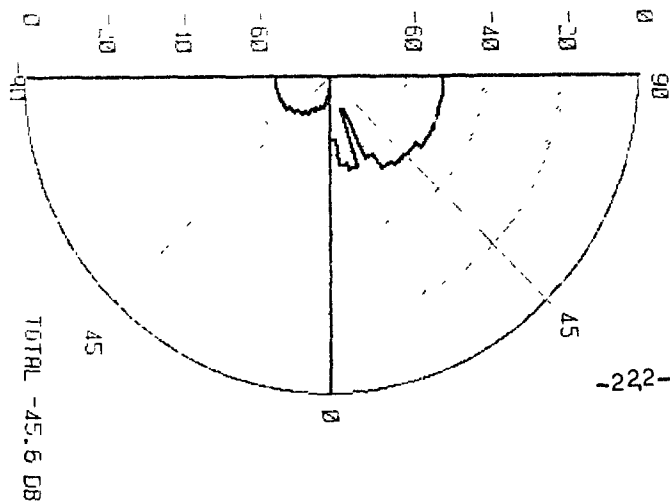
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



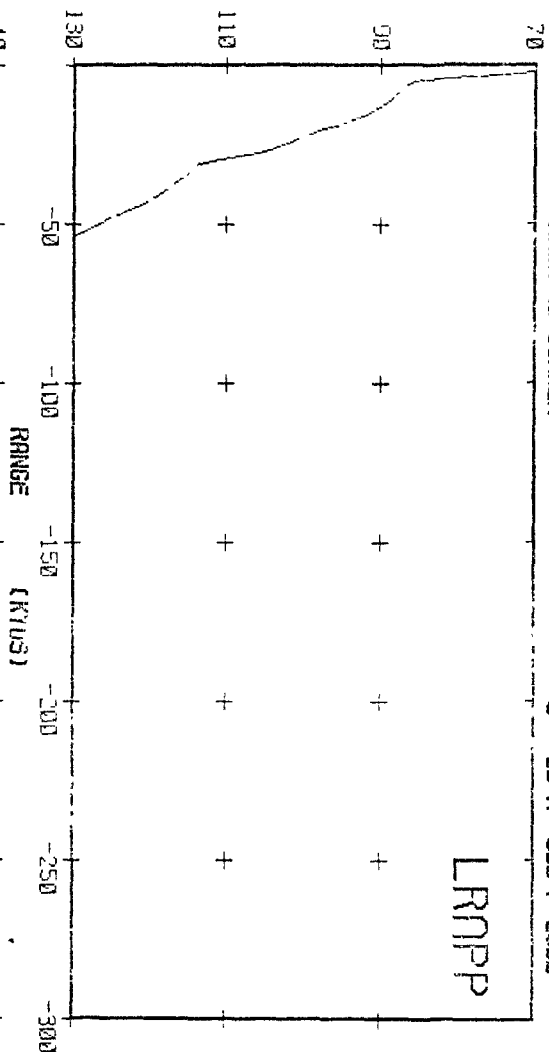
-222-

GREY AB SUMMER

S 20 R 300 F 2500

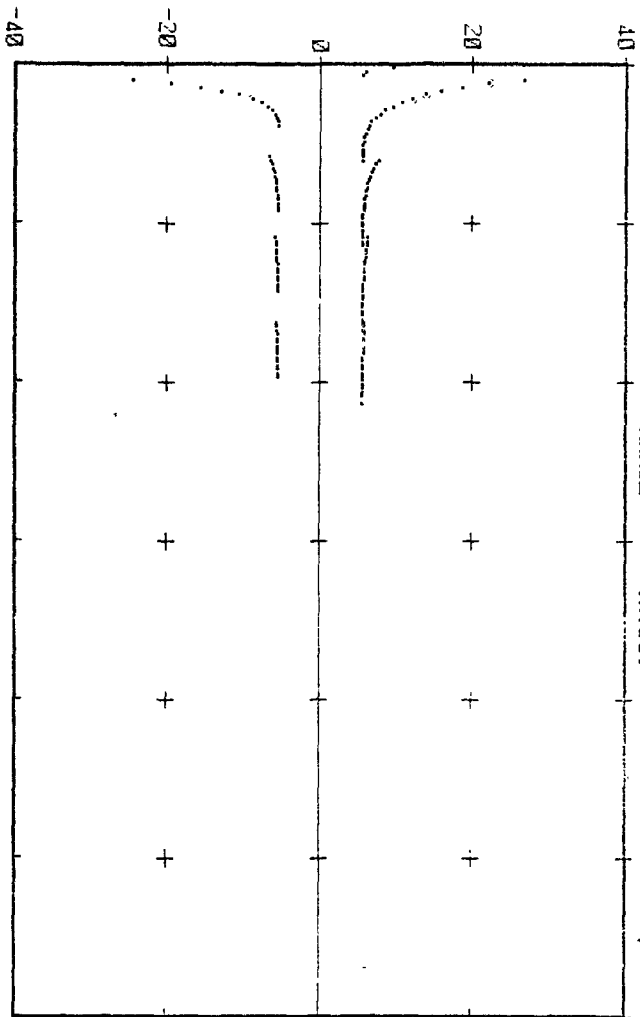
1450 M/S 1500 1550

DB LOSS

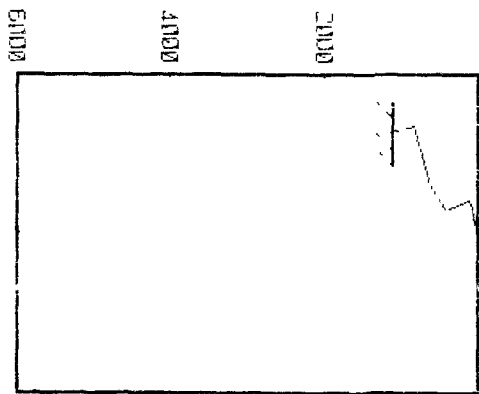


LRNPP

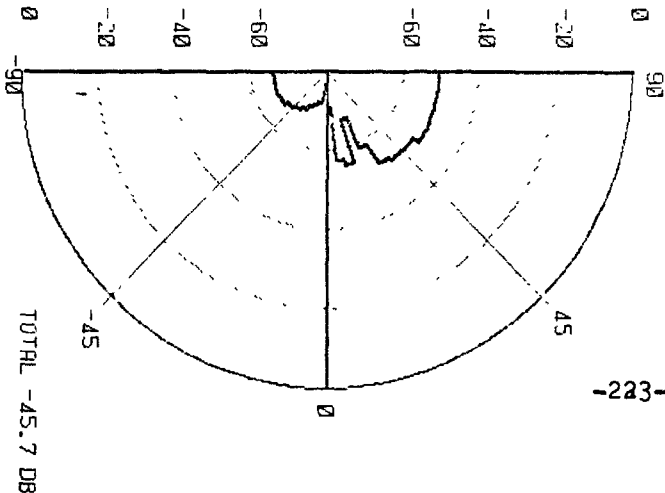
ARRIVAL ANGLE



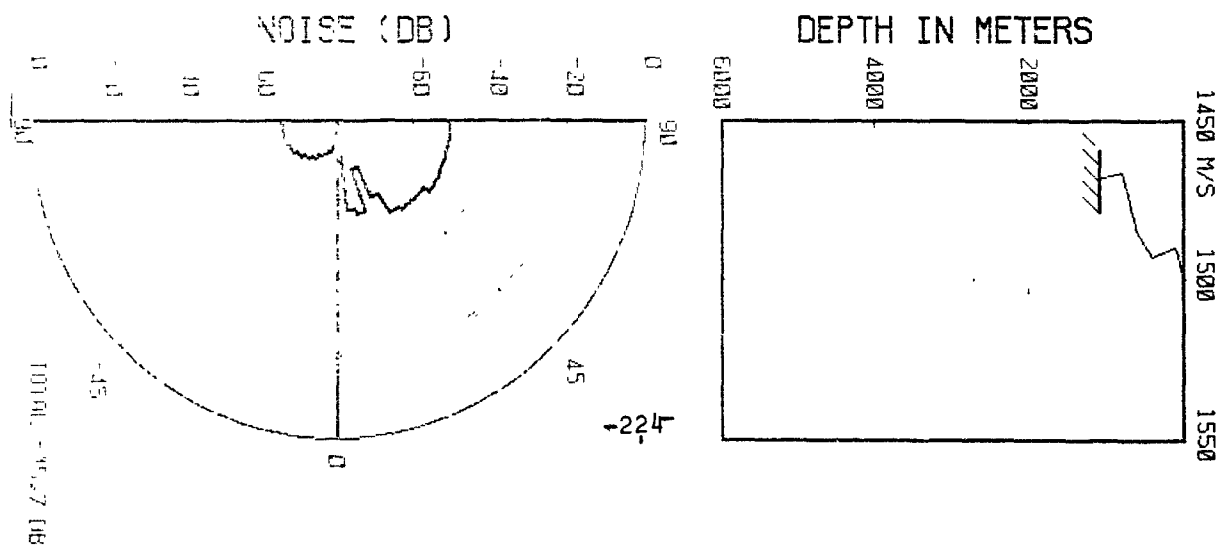
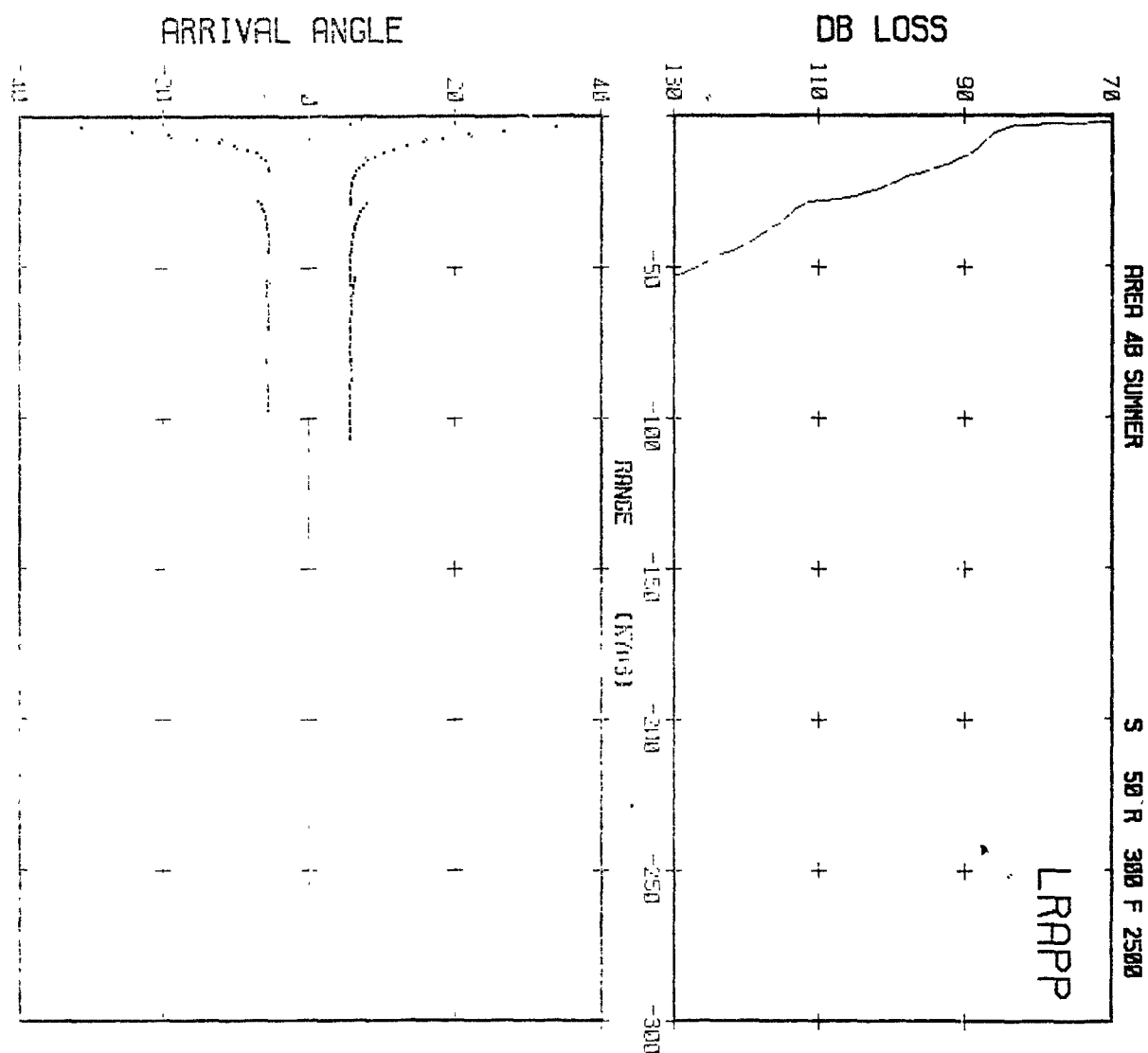
DEPTH IN METERS

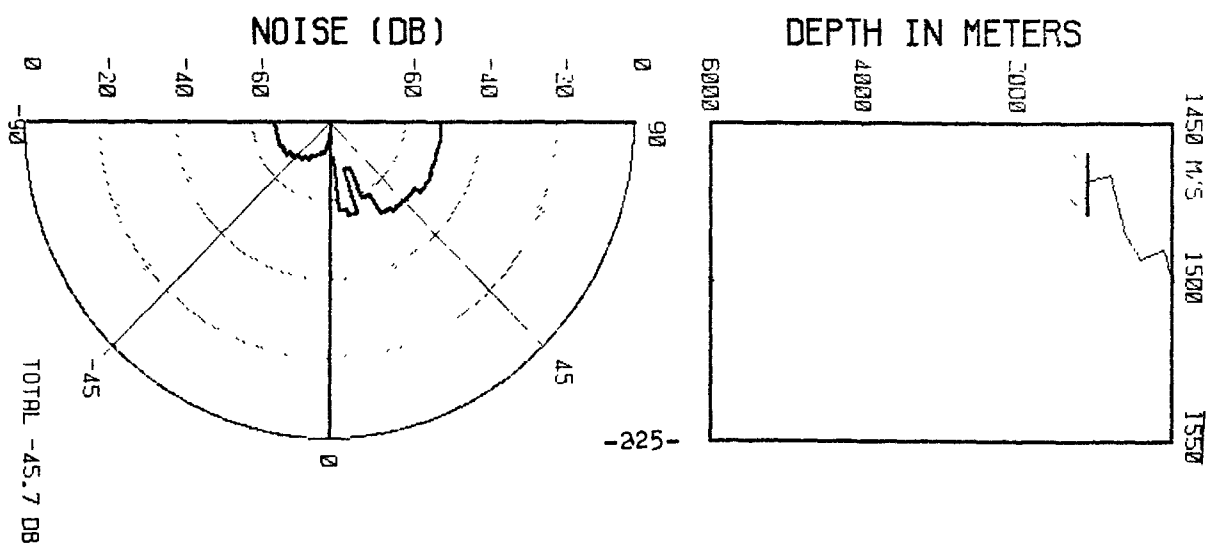
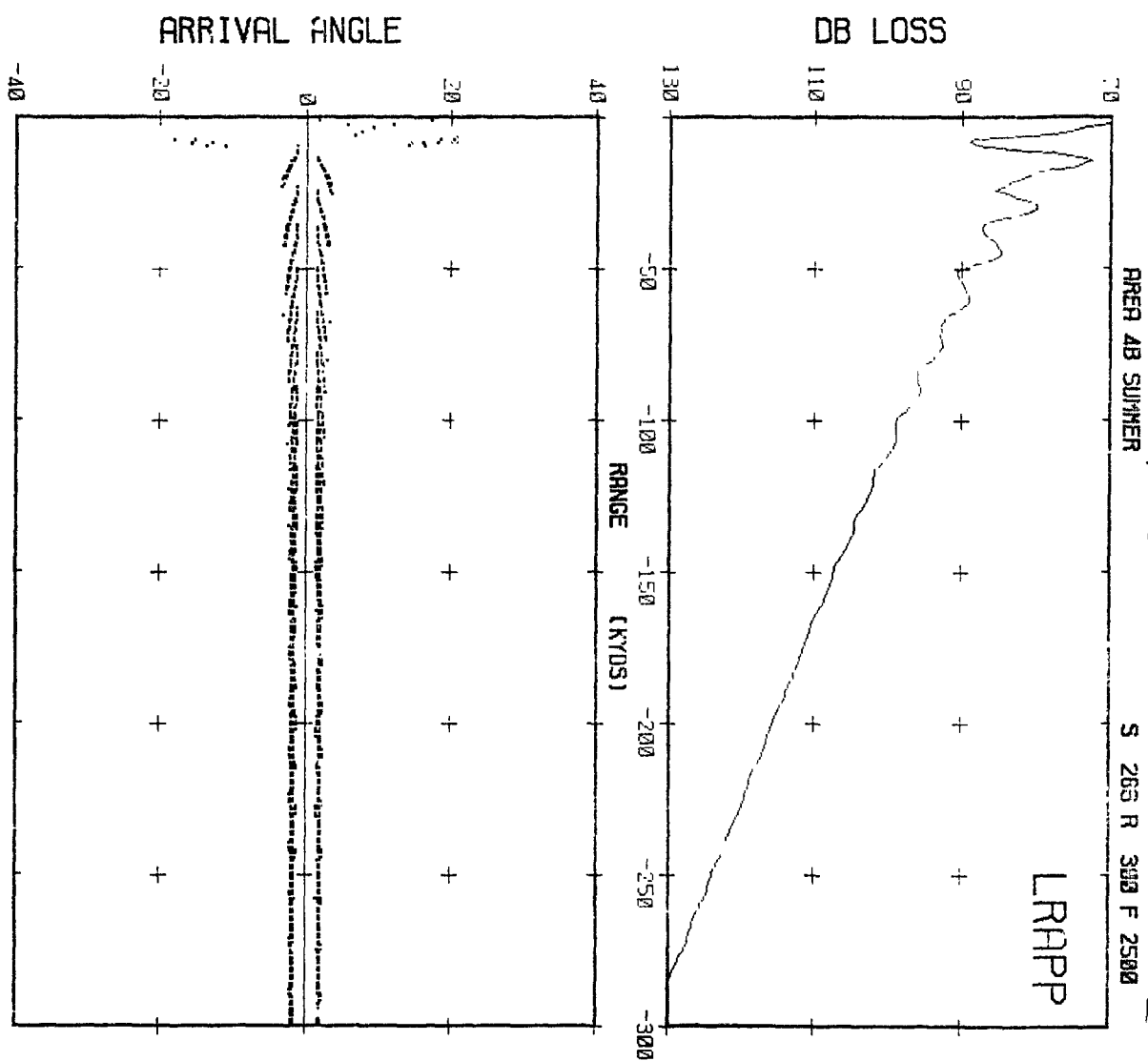


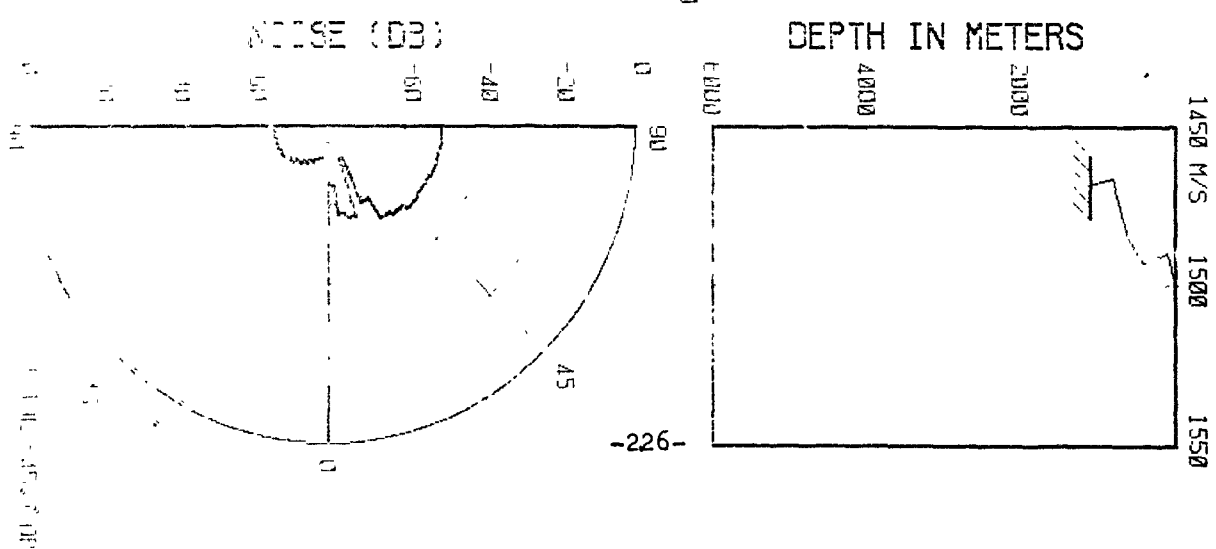
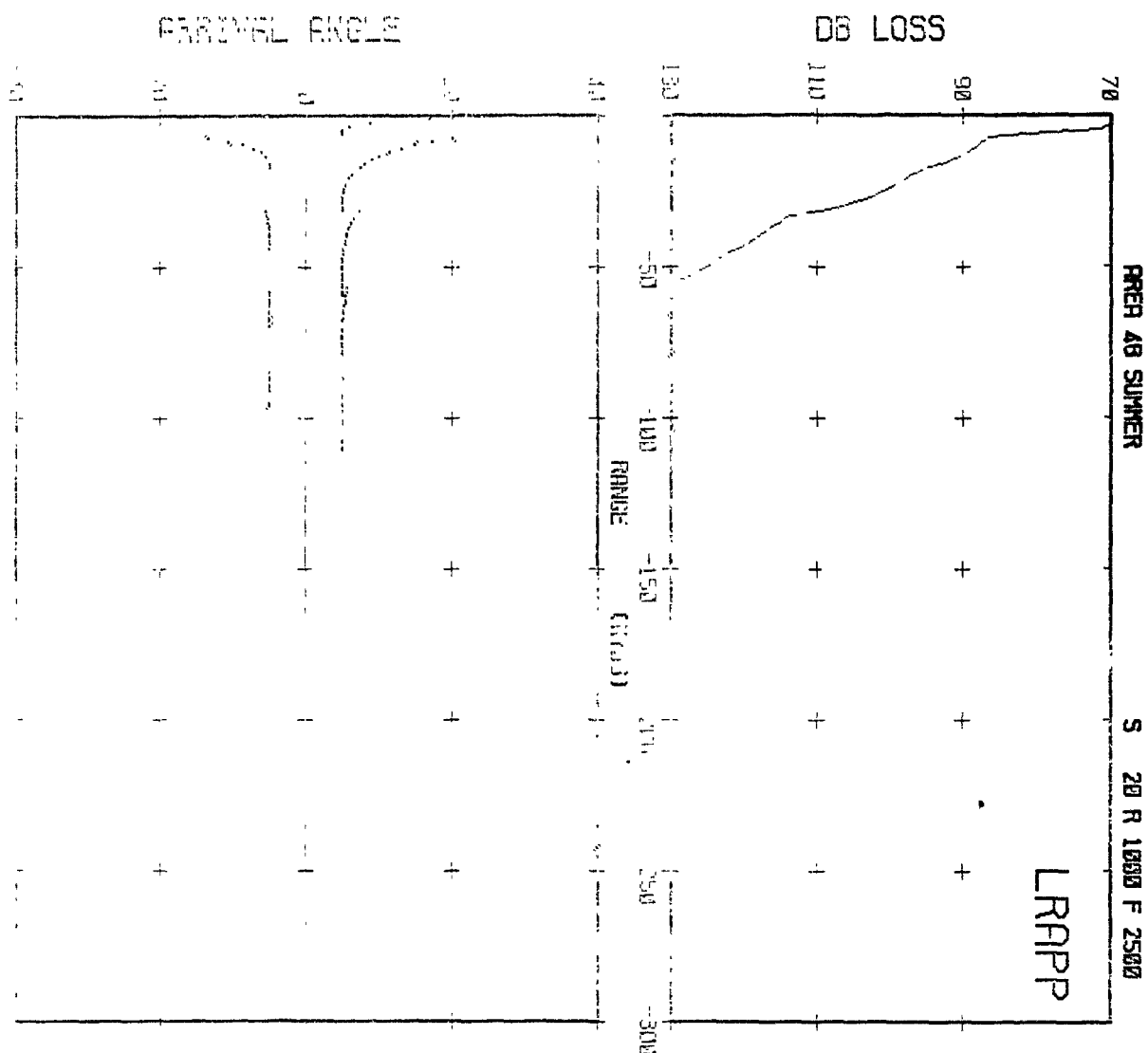
NOISE (DB)



TOTAL -45.7 DB





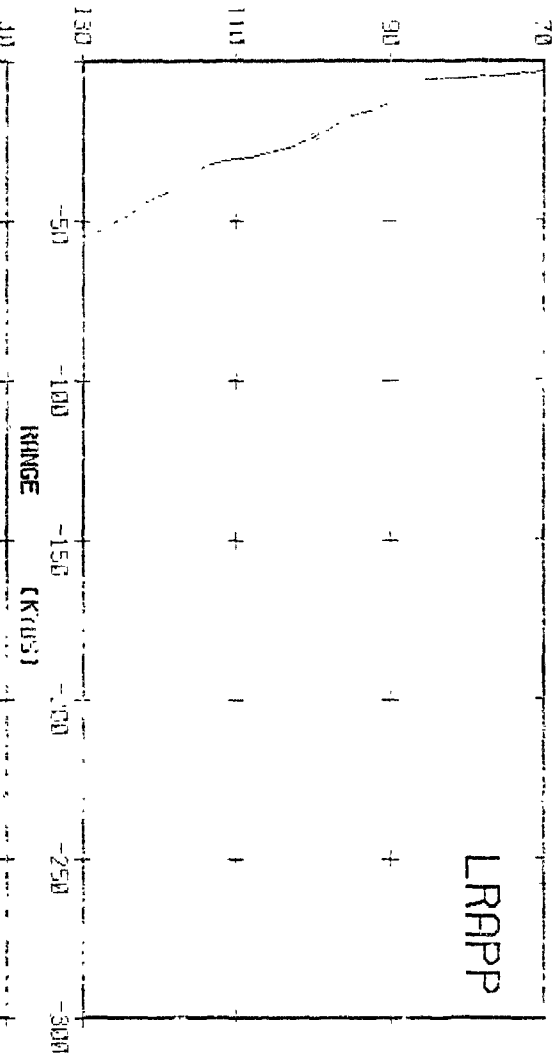


GREEN 63 - 10000

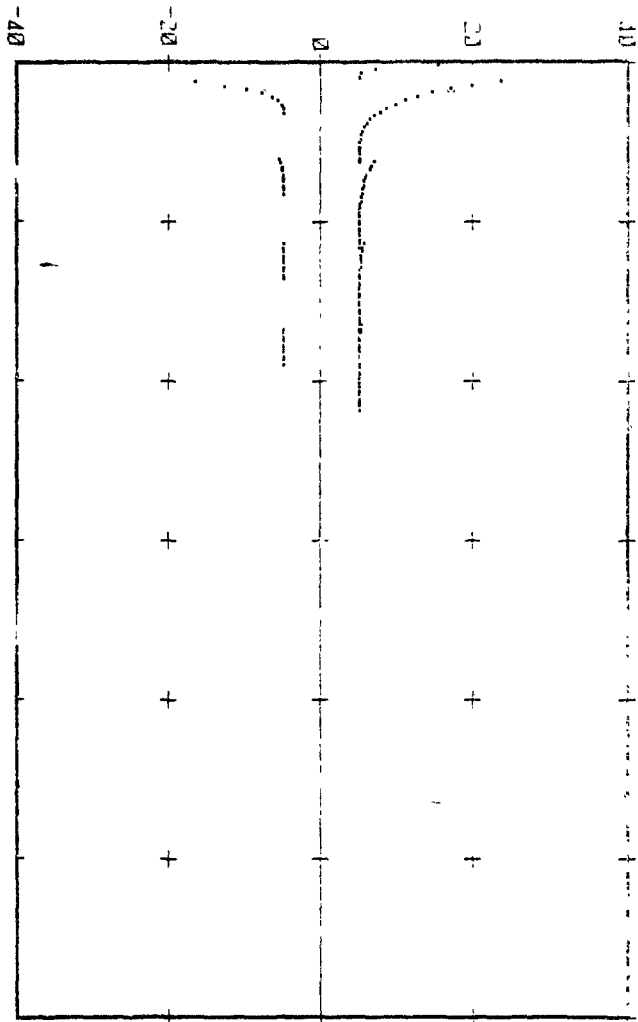
S 50 R 1000 F 2500

1450 11.5 1500 1550

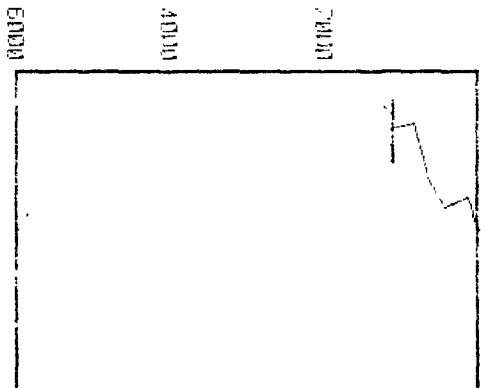
DB LOSS



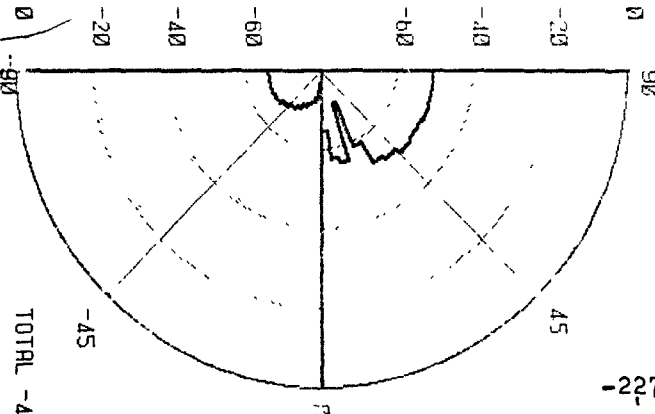
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)



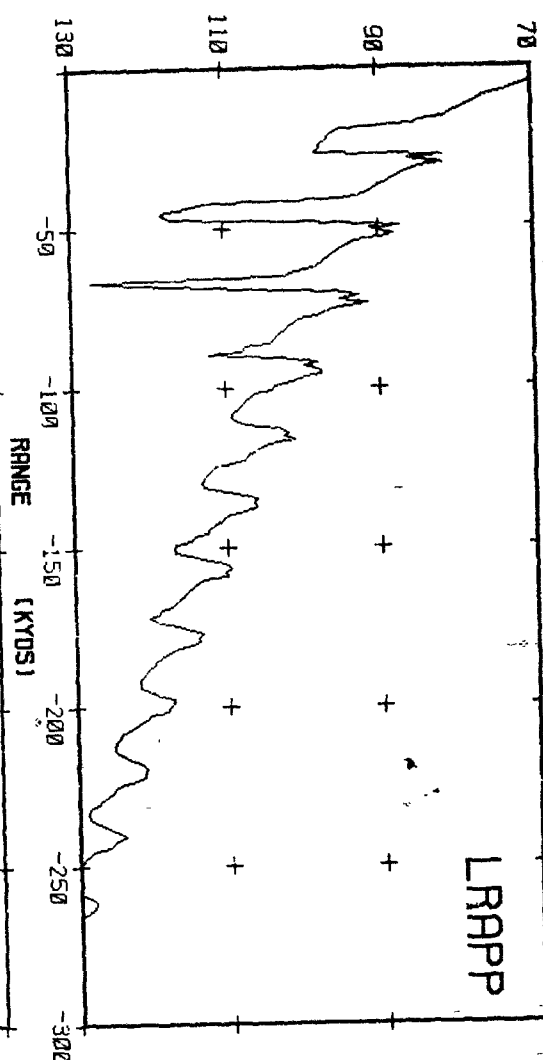
TOTAL -45.7 DB

AREA AB SLIVER

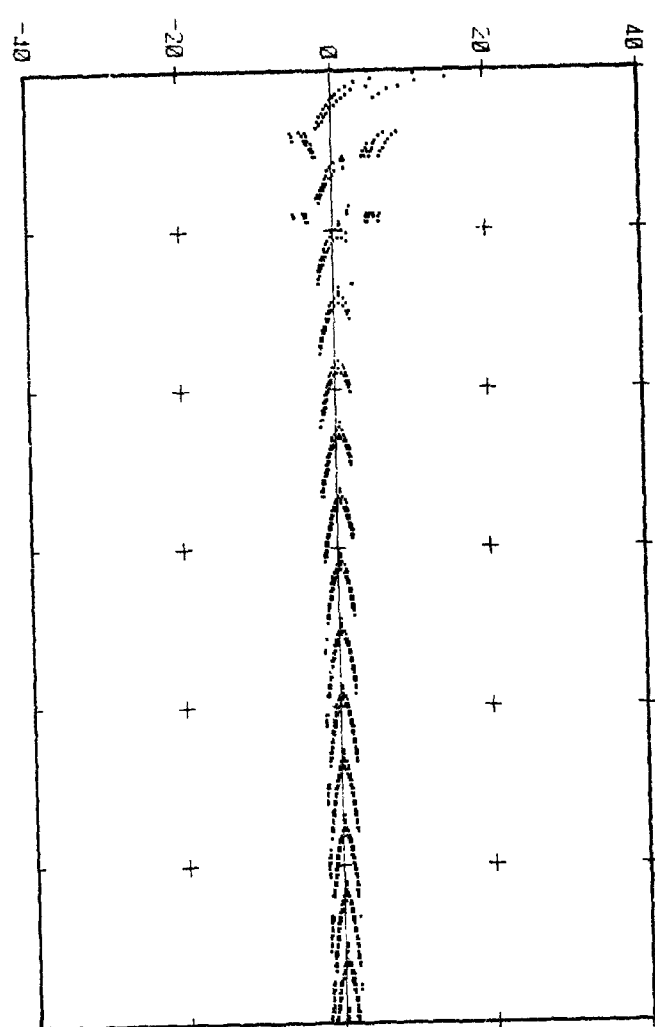
S 288 R 1000 F 2500

LRAPP

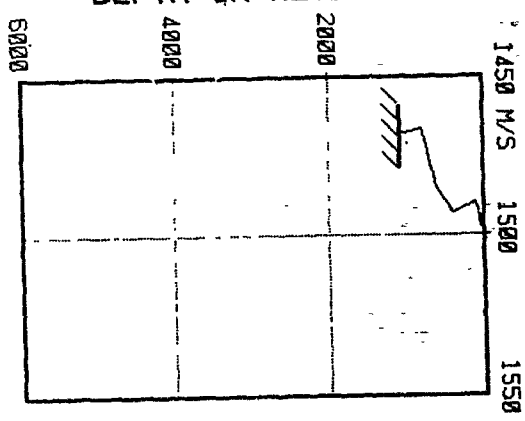
DB LOSS



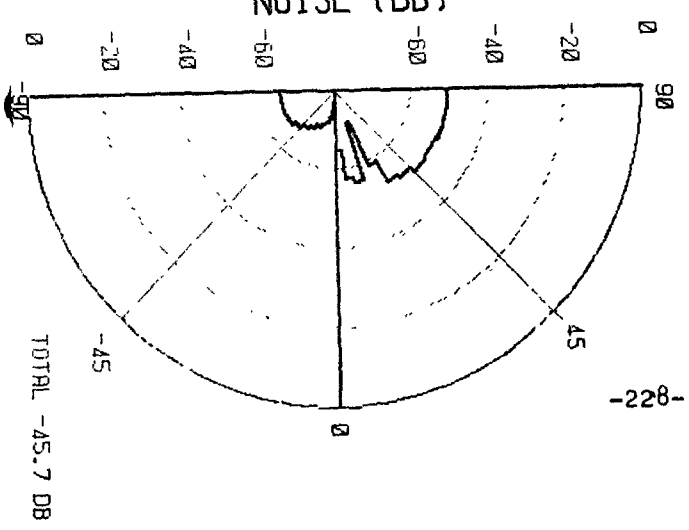
ARRIVAL ANGLE



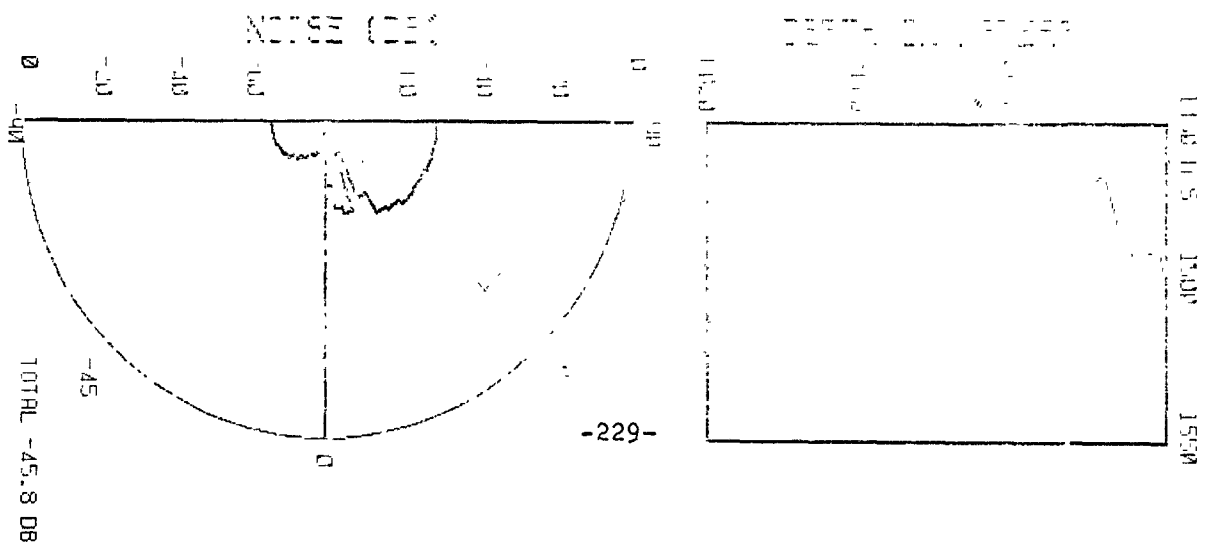
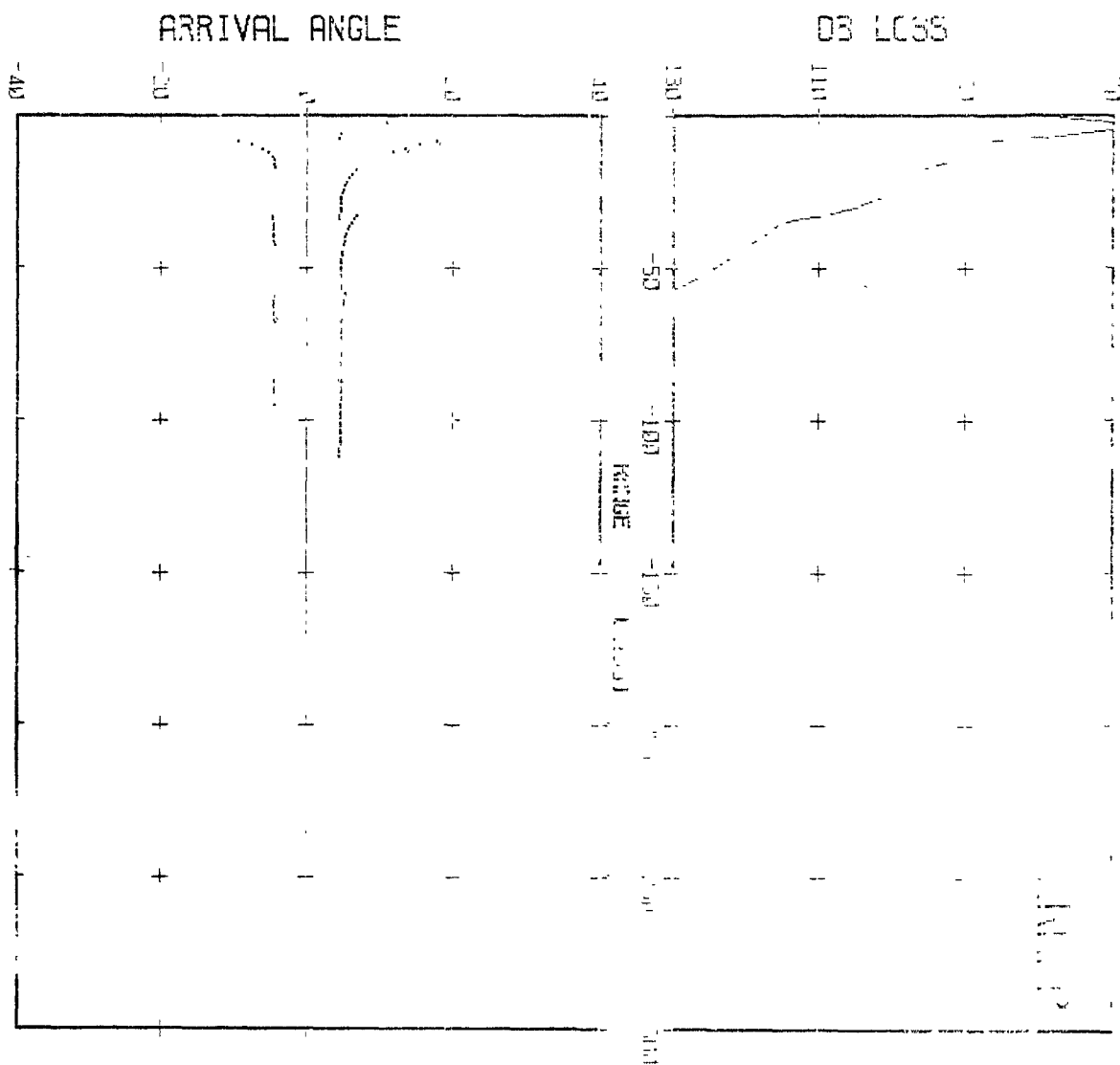
DEPTH IN METERS

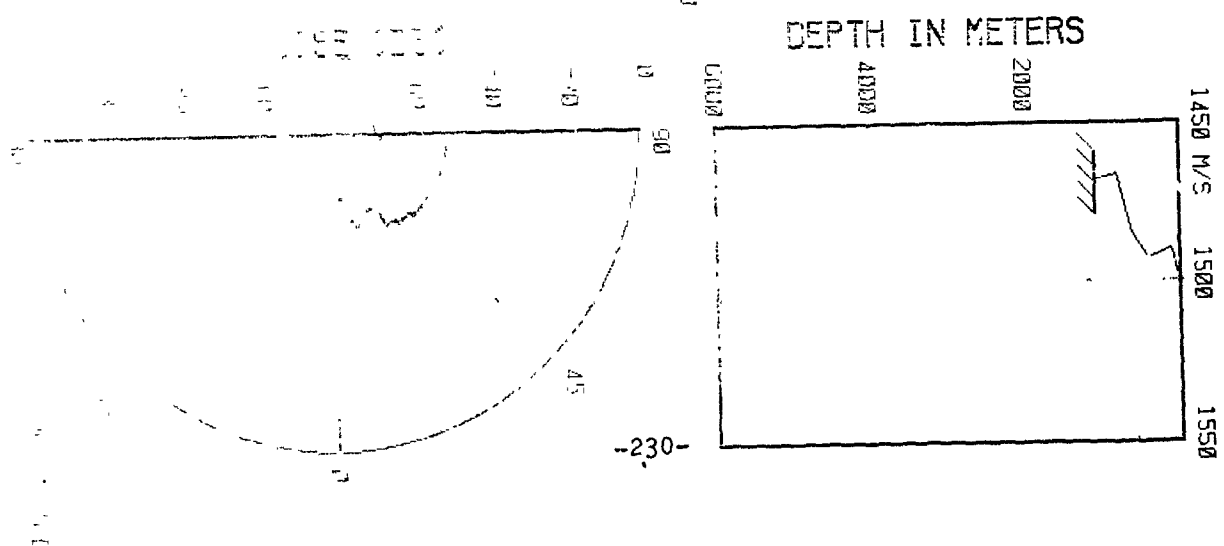
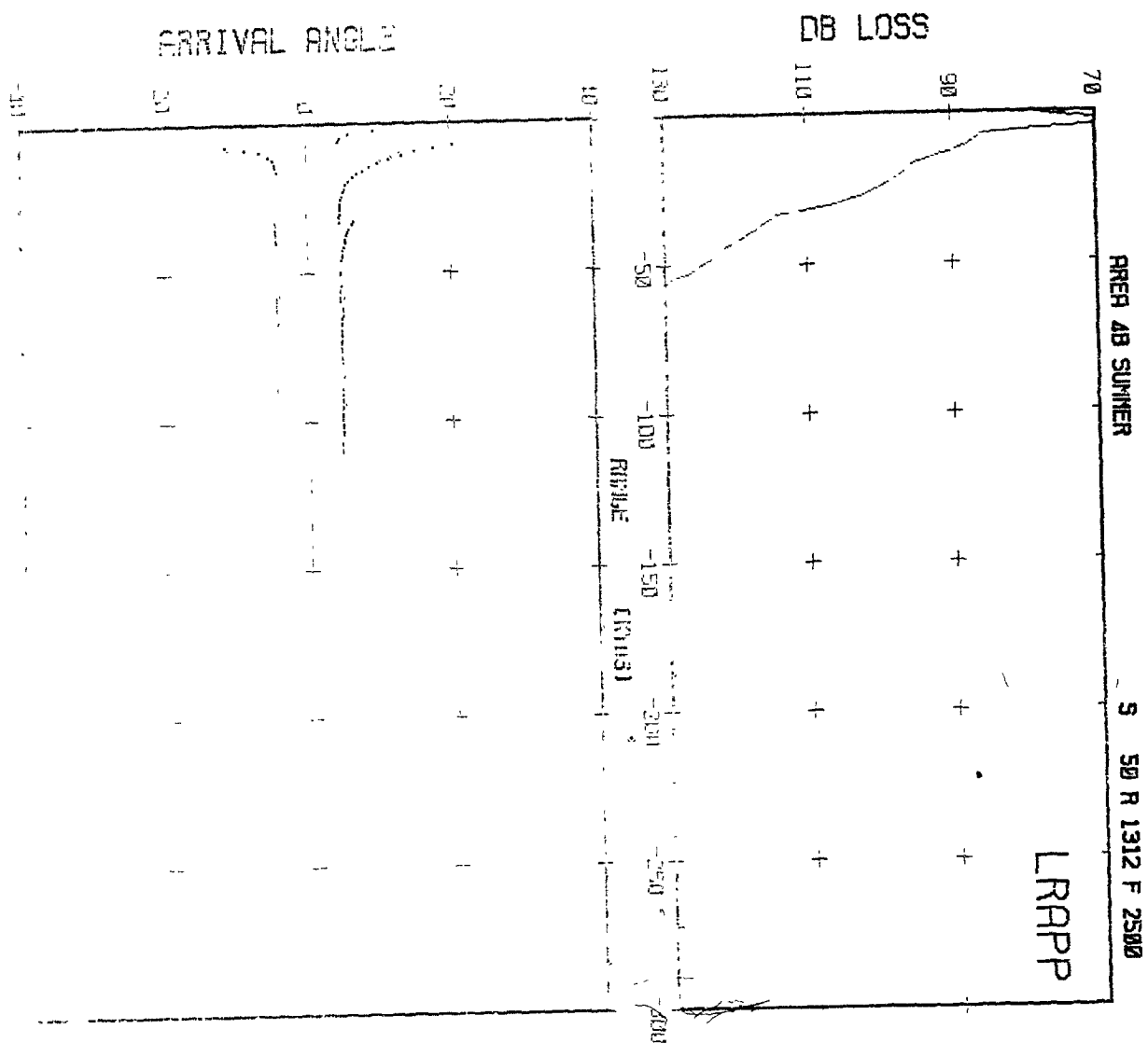


NOISE (DB)



11415 1900 1550



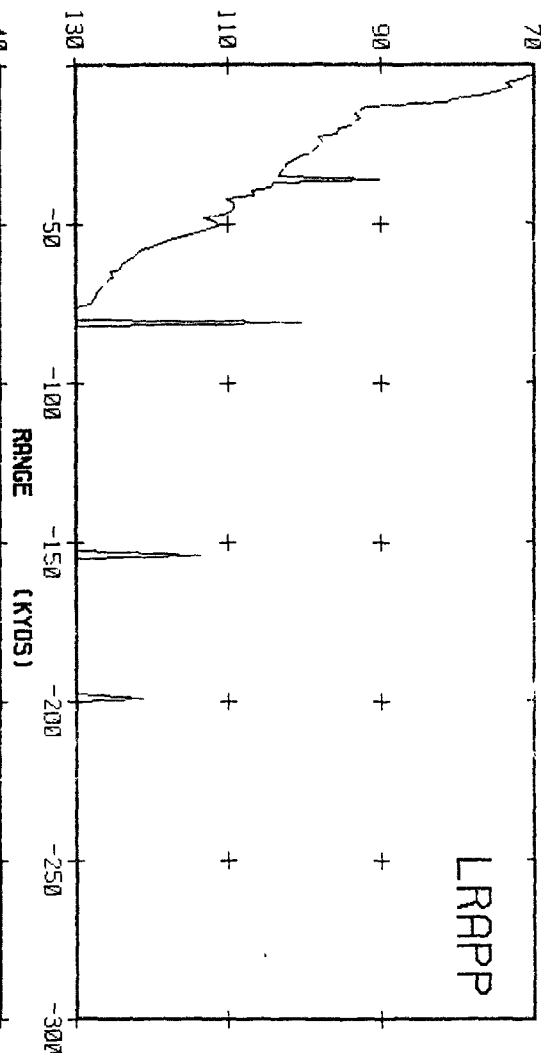


AREA 4B SUMMER

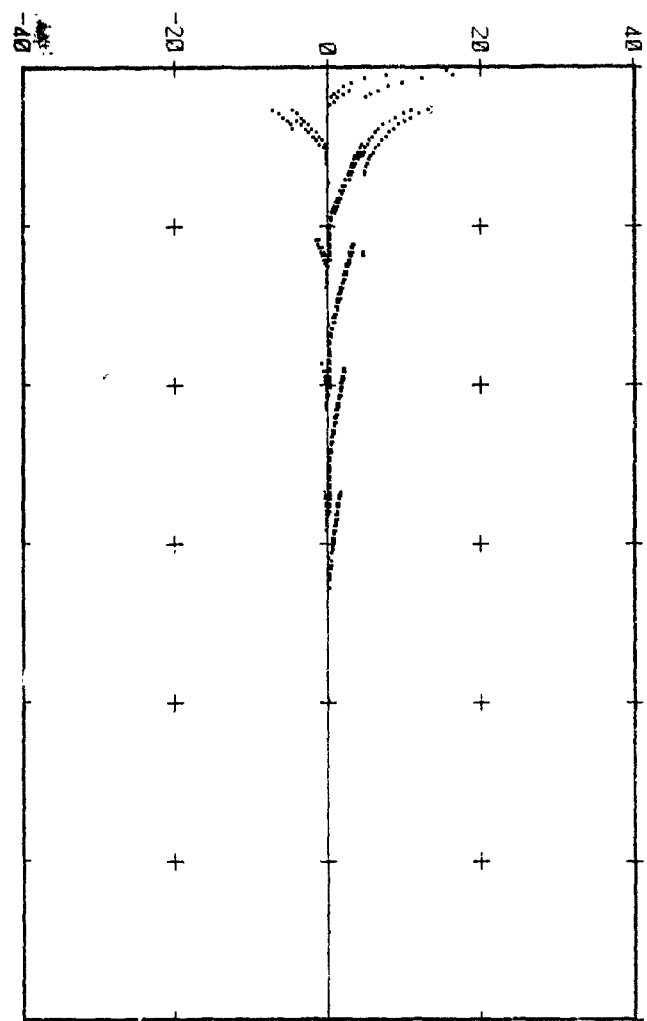
S 266 R 1312 F 2500

1450 M/S, 1500 1550

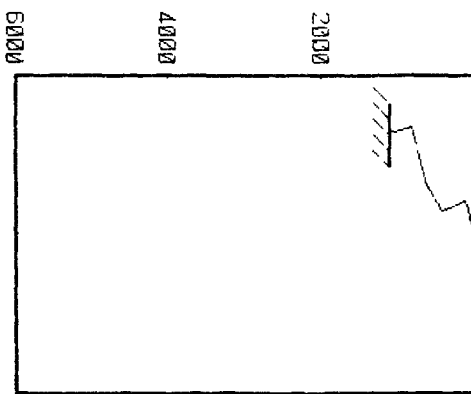
DB LOSS



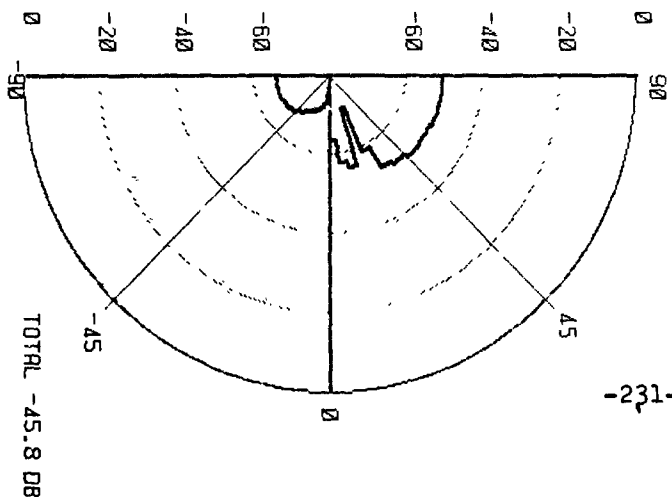
ARRIVAL ANGLE

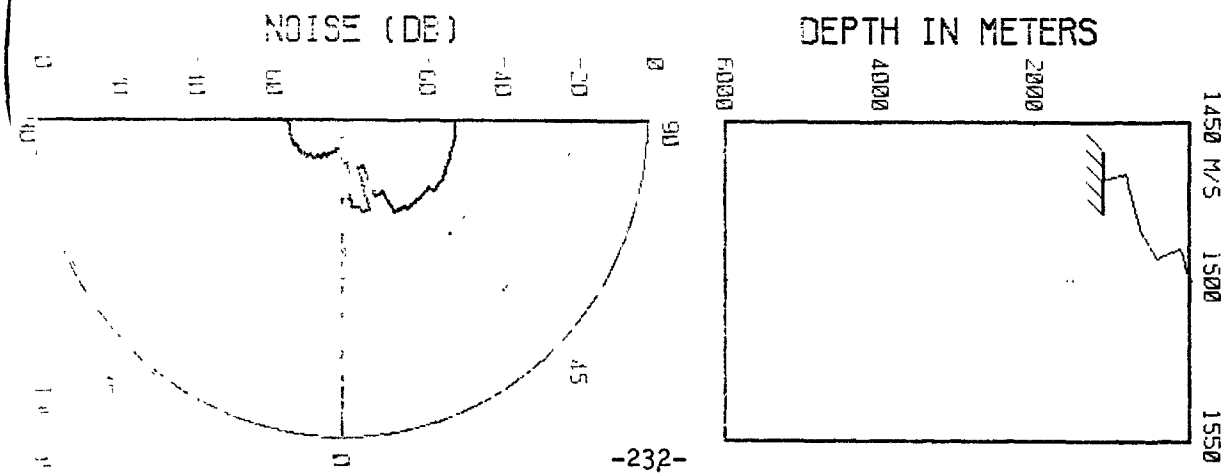
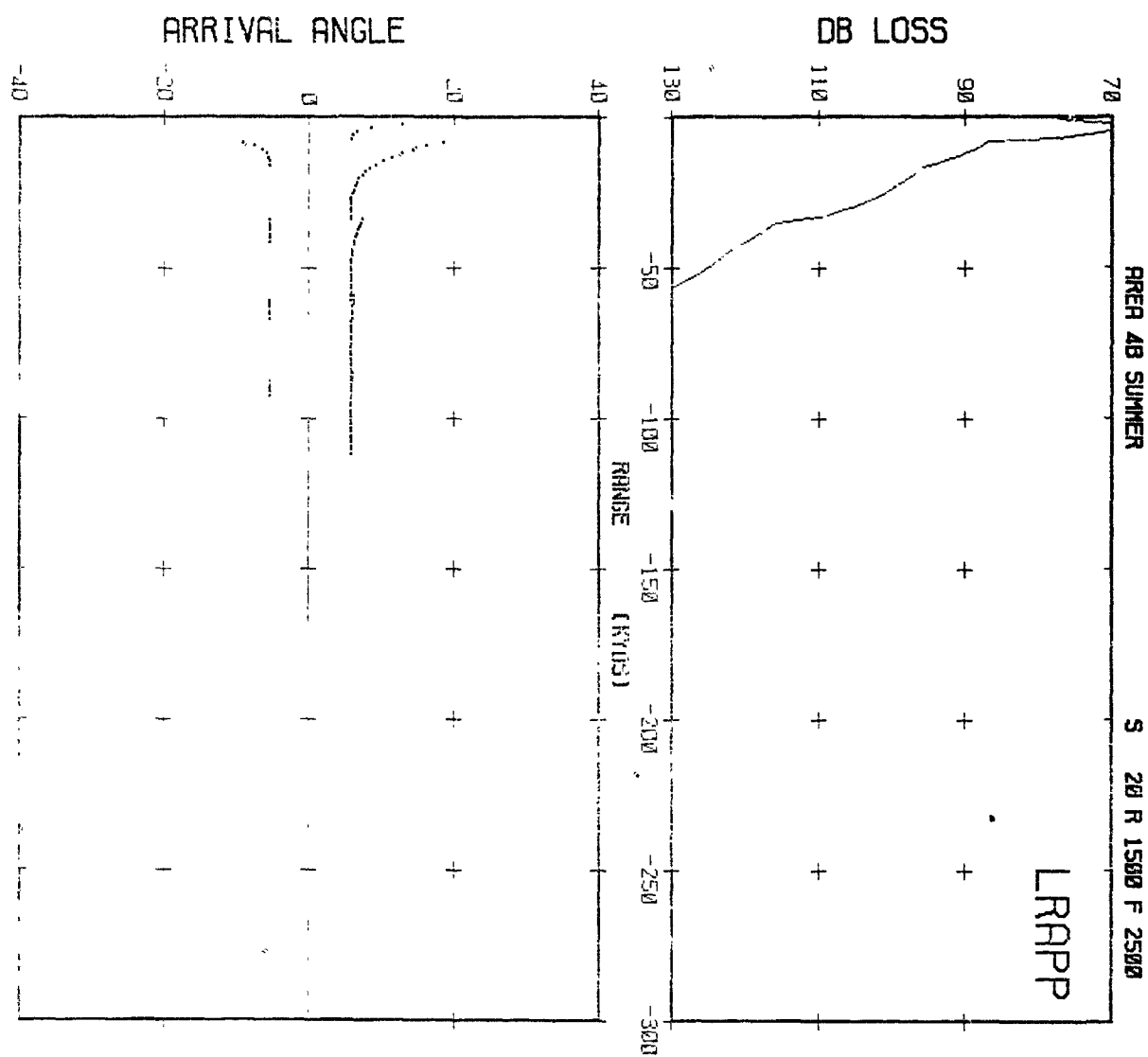


DEPTH IN METERS



NOISE (DB)



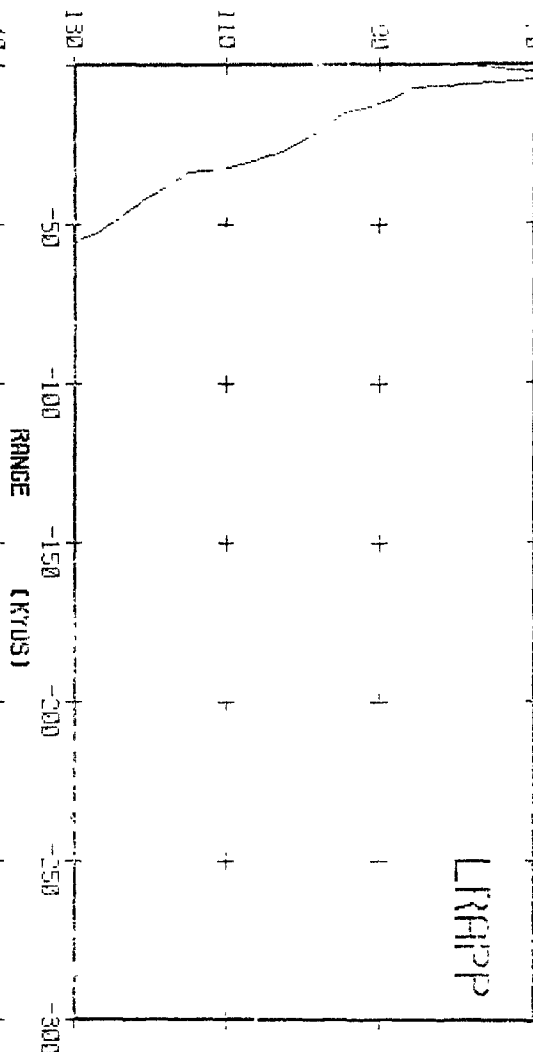


AREA 4B SUMMER

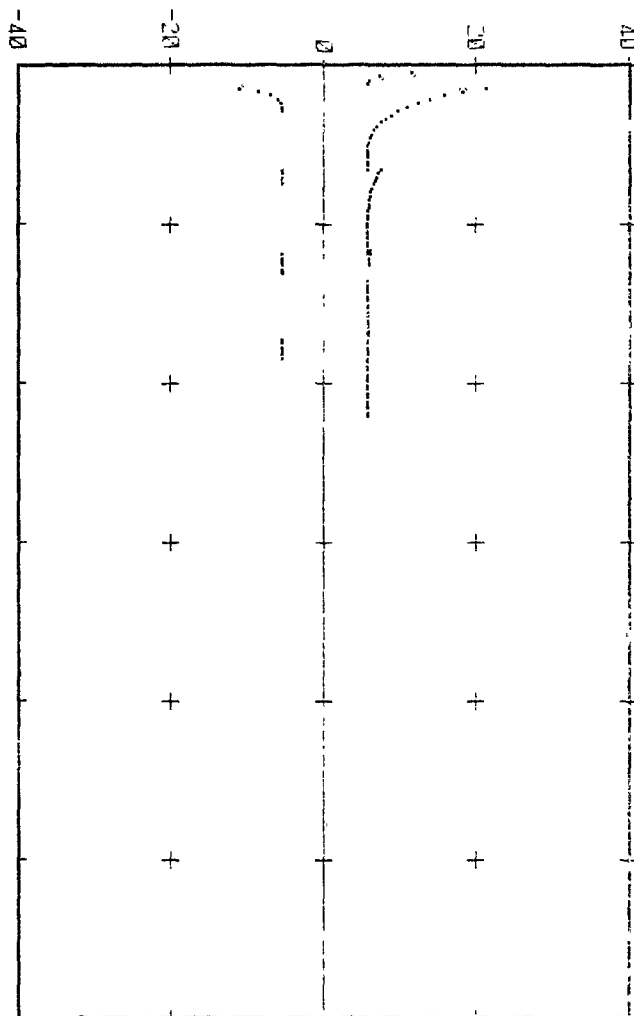
S 50 R 1500 F 2500

1450 M S 1500 1550

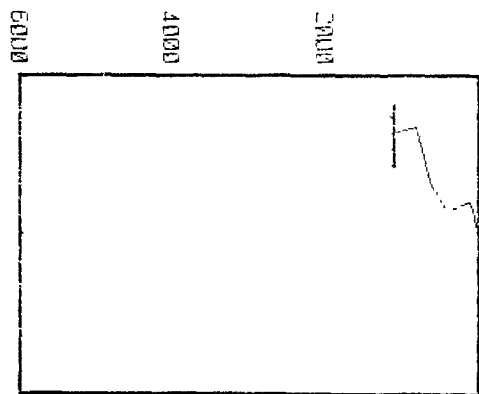
DB LOSS



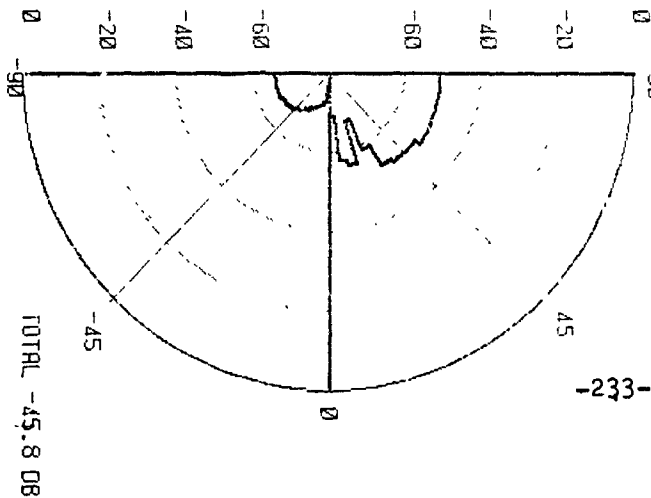
ARRIVAL ANGLE



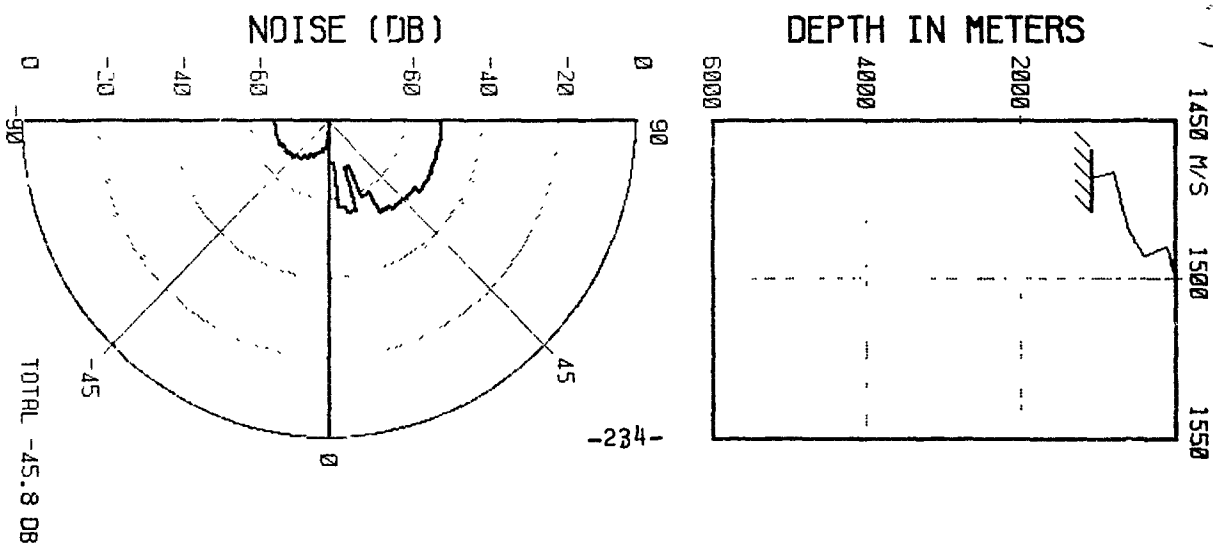
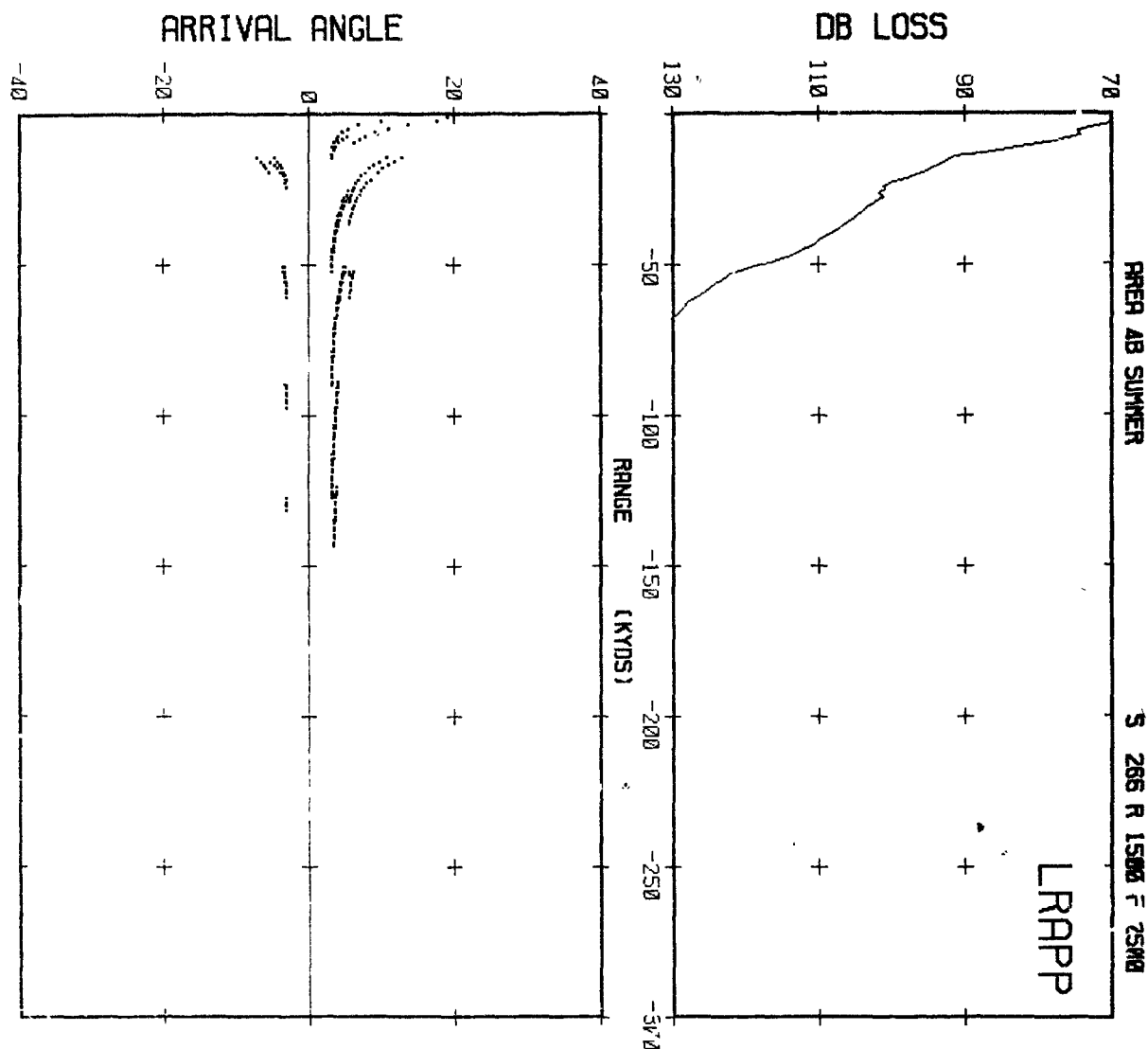
DEPTH IN METERS

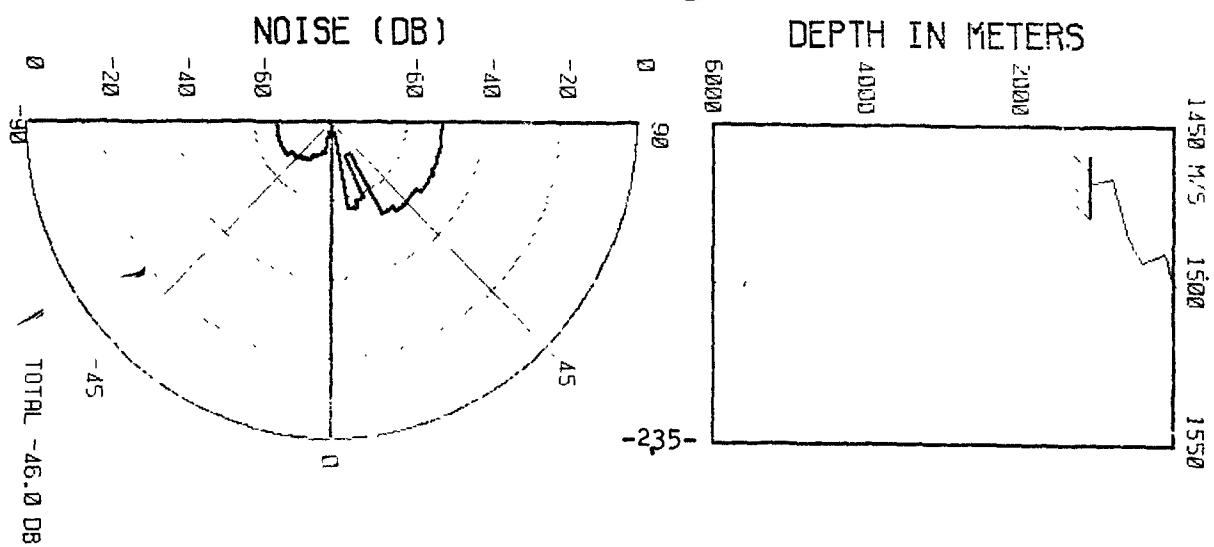
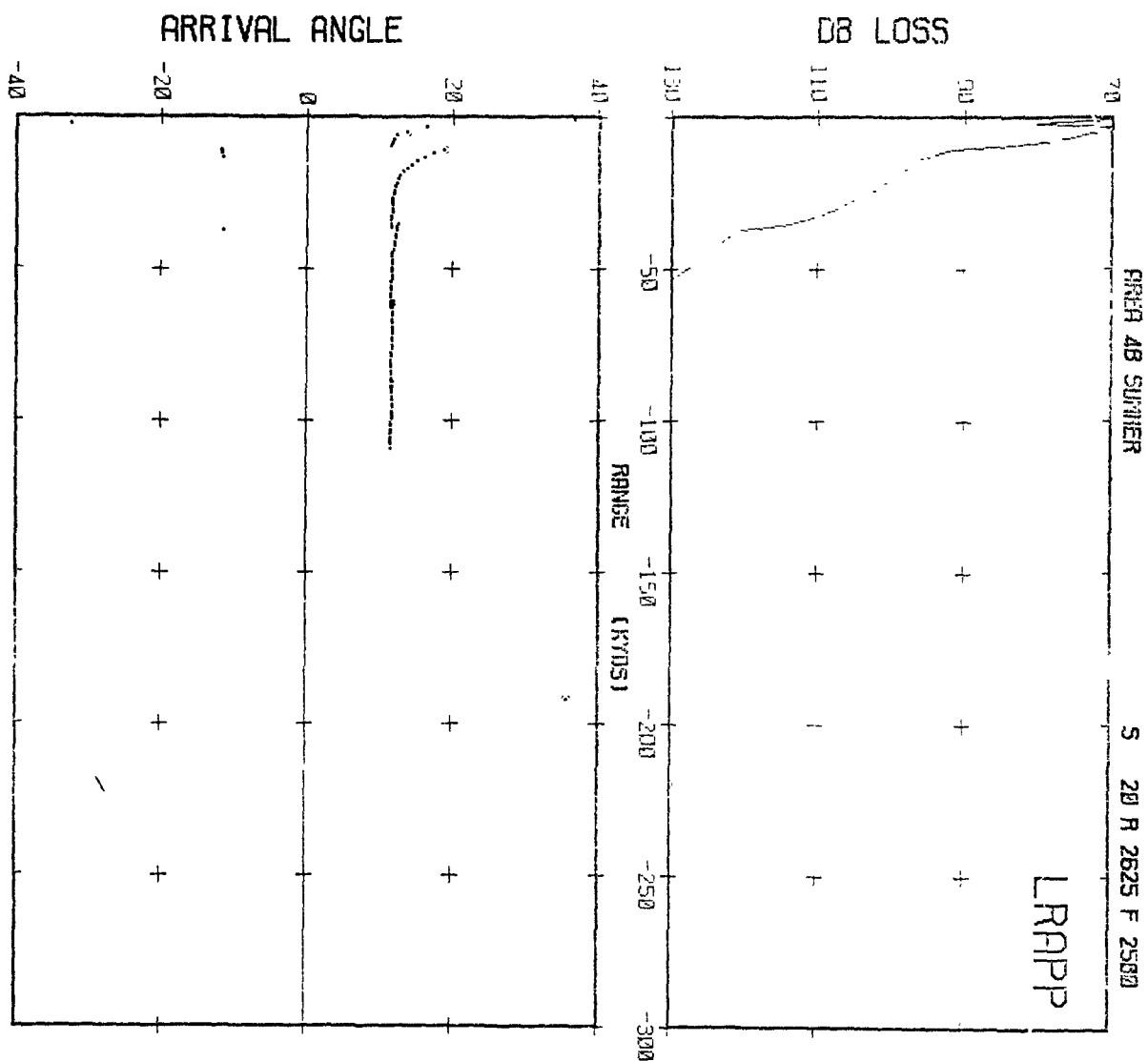


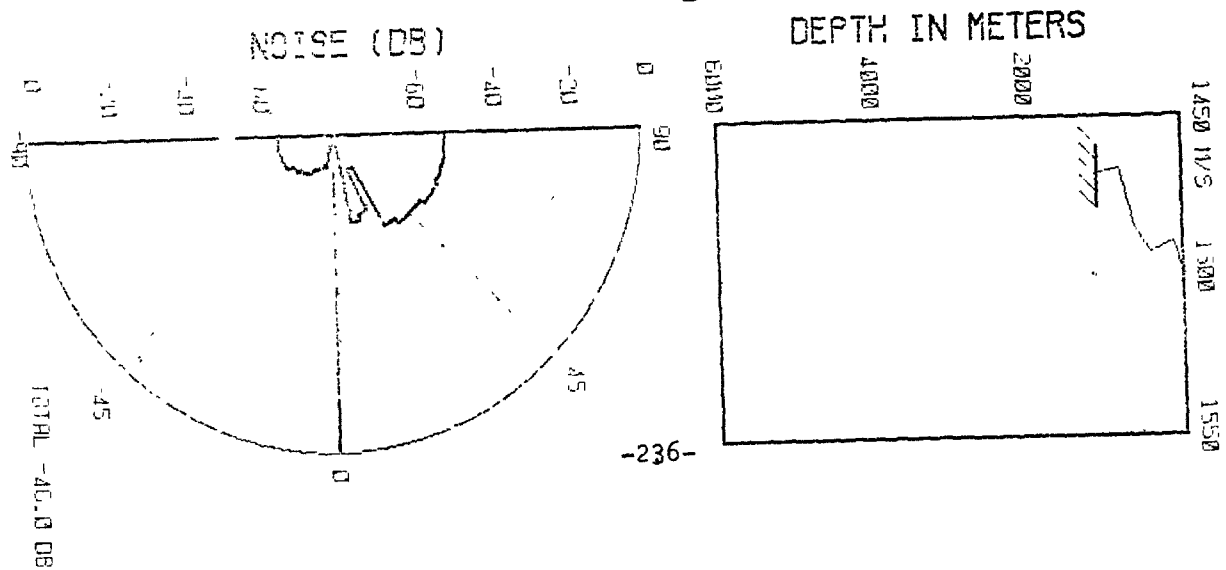
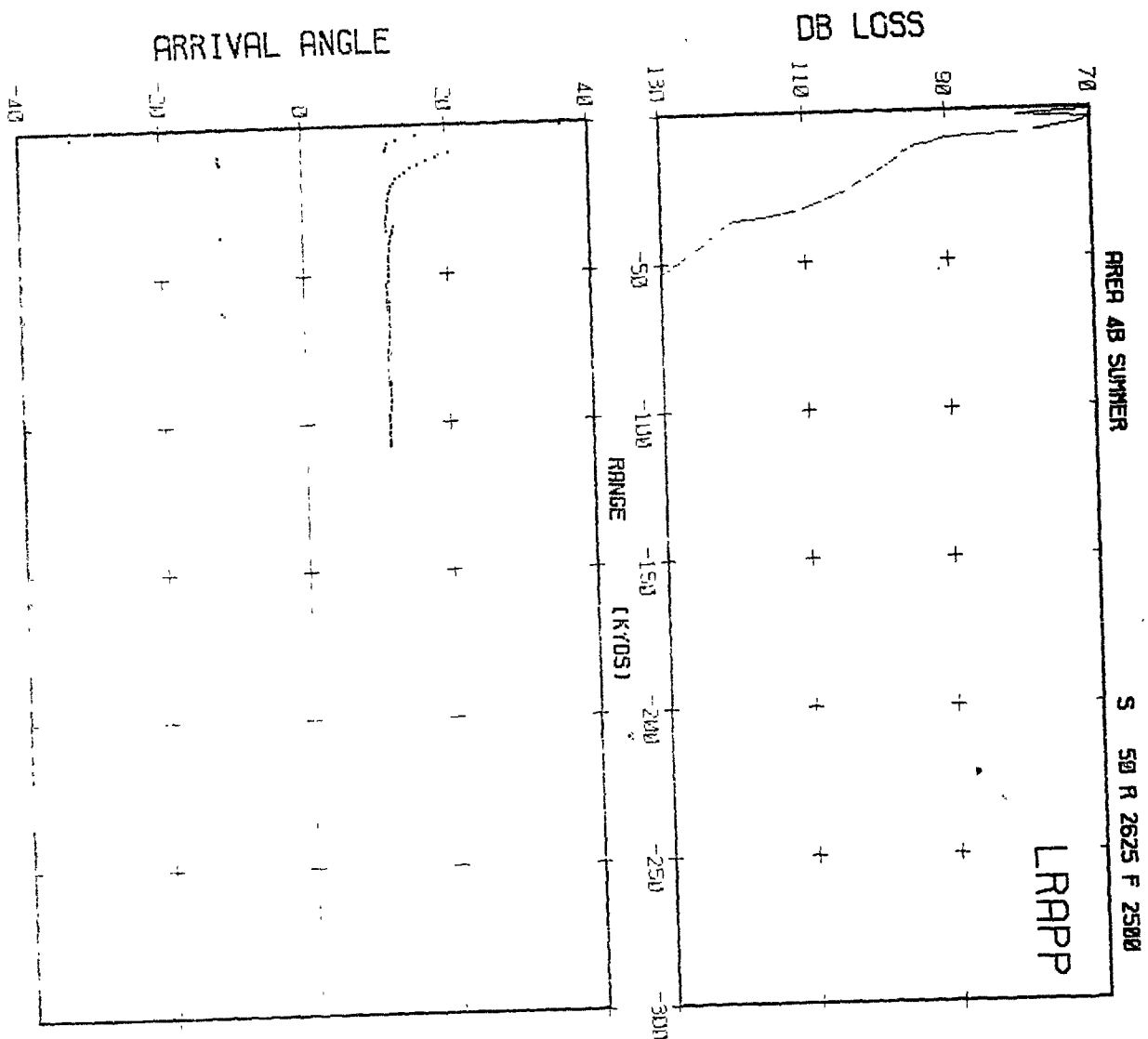
NOISE (DB)

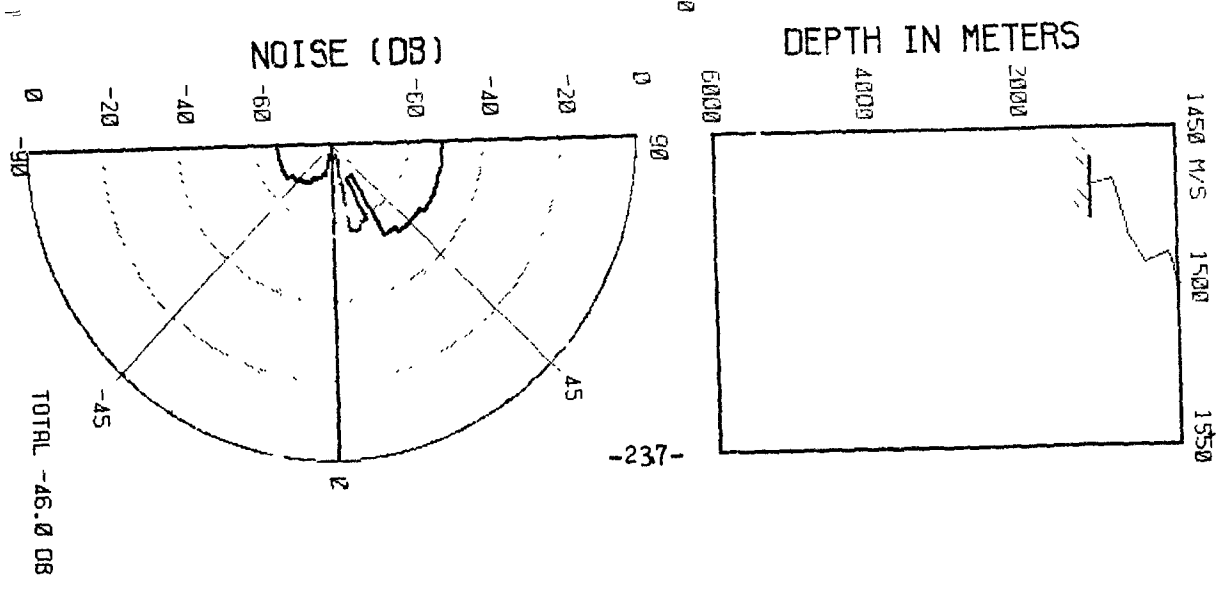
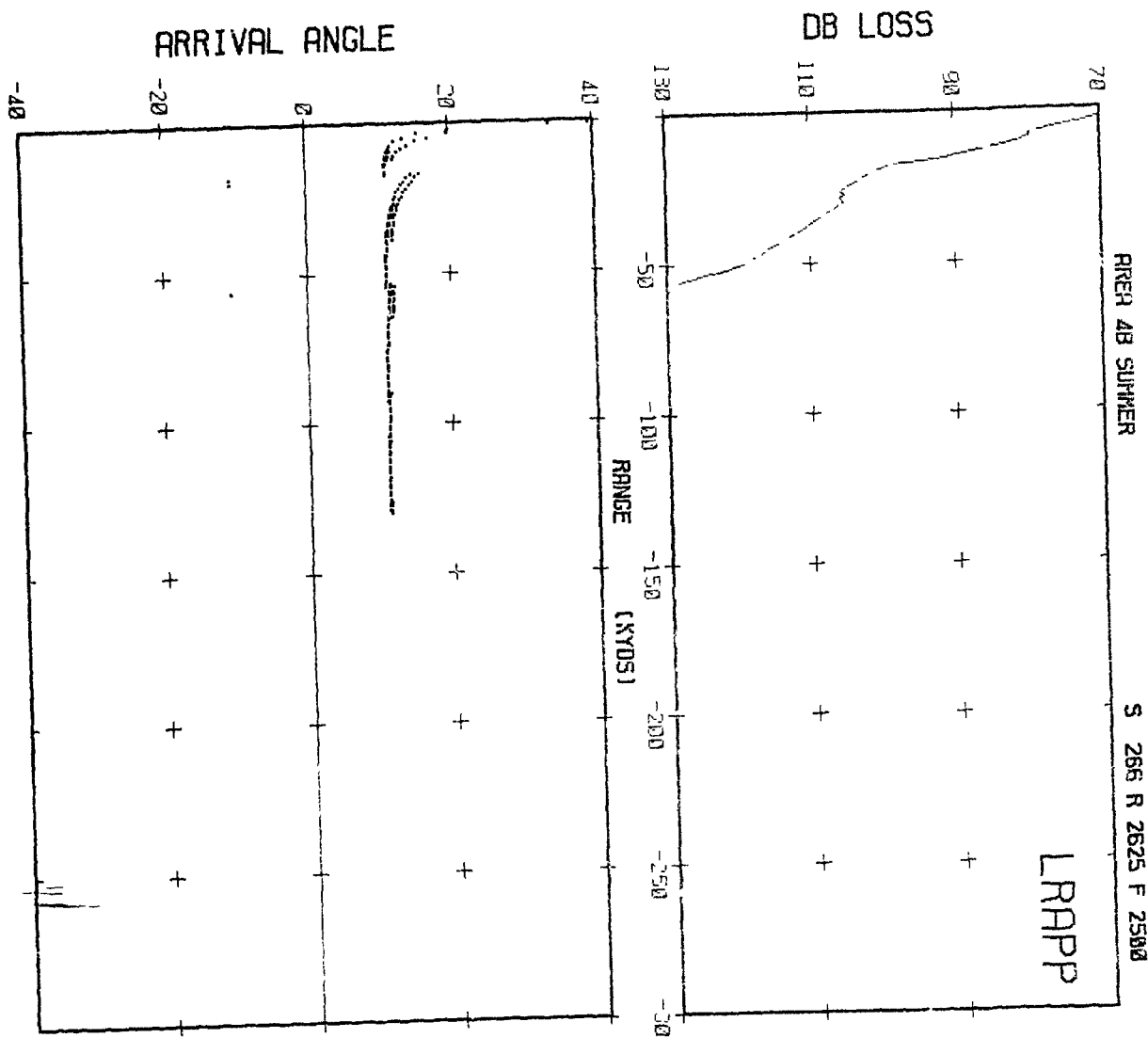


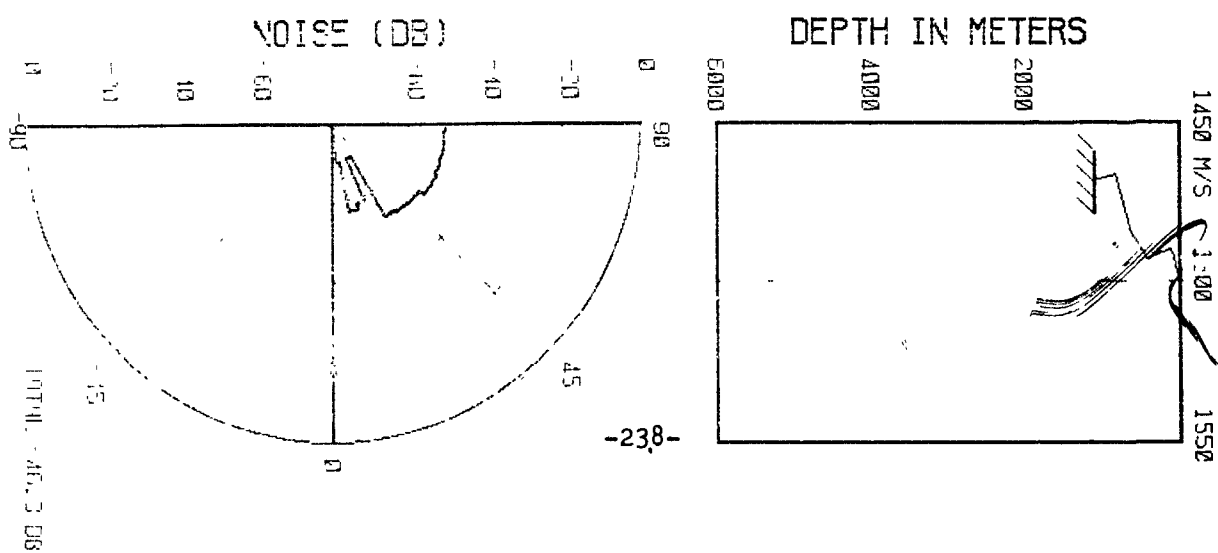
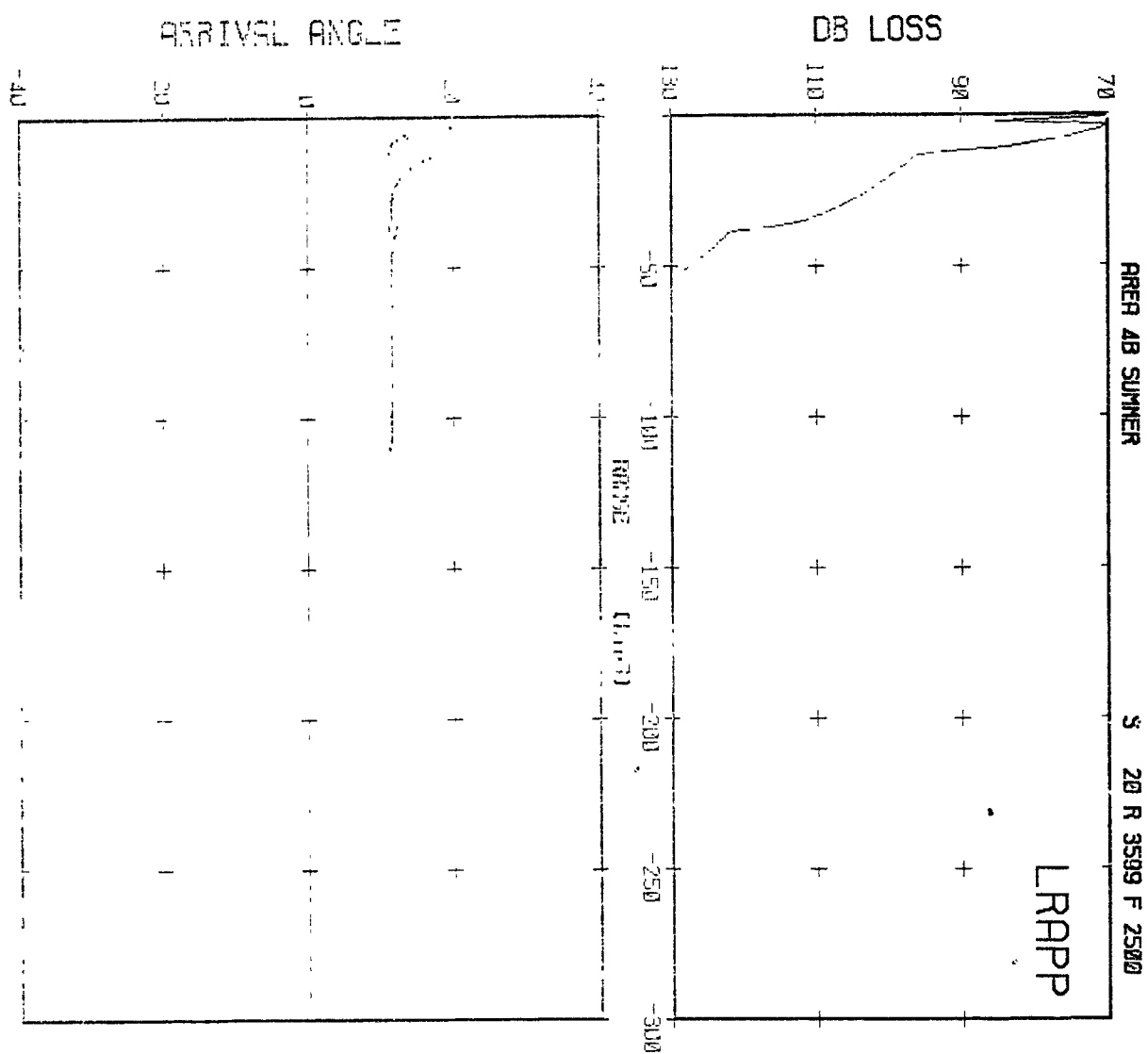
-233-









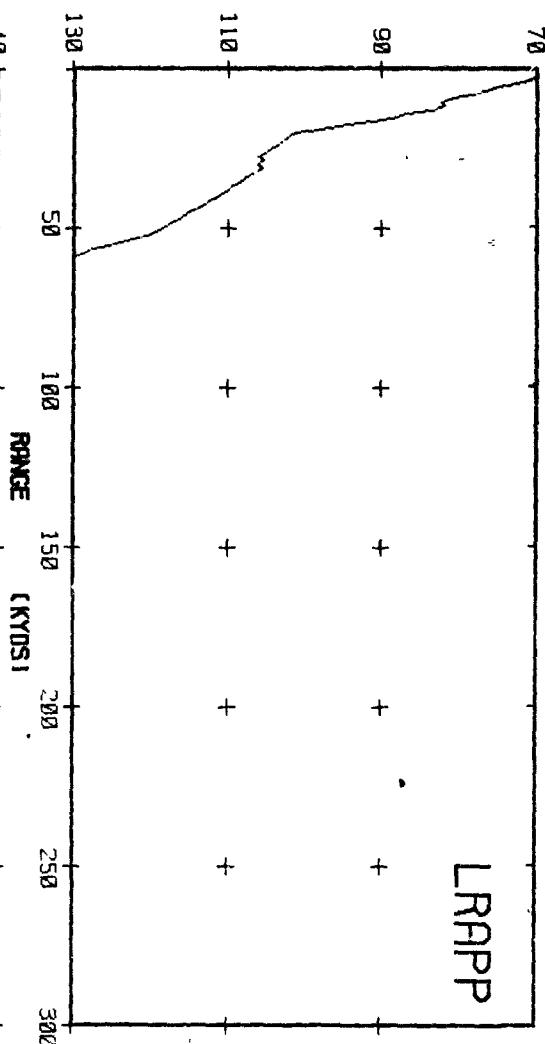


RRR AB SUMER

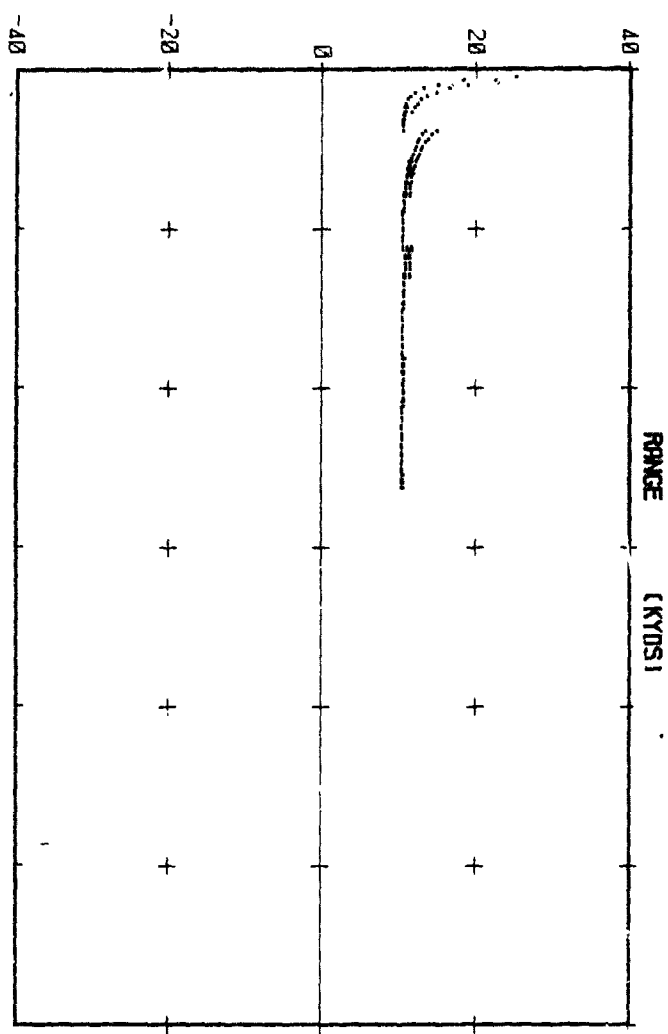
S 266 R 3599 F 2500

LRAPP

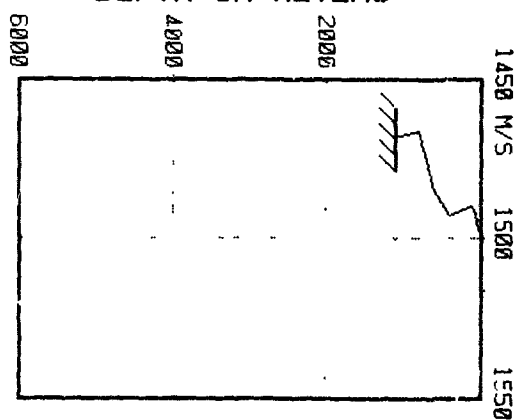
DB LOSS



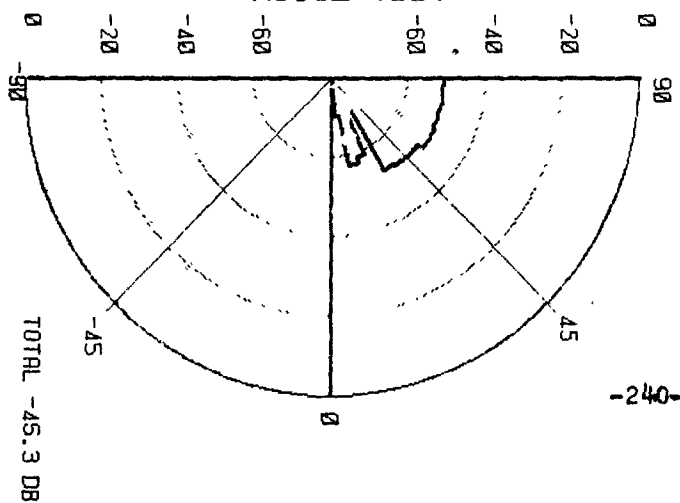
ARRIVAL ANGLE



DEPTH IN METERS



NOISE (DB)





DEPARTMENT OF THE NAVY

OFFICE OF NAVAL RESEARCH
875 NORTH RANDOLPH STREET
SUITE 1425
ARLINGTON VA 22203-1995

IN REPLY REFER TO:

5510/1
Ser 321OA/011/06
31 Jan 06

MEMORANDUM FOR DISTRIBUTION LIST

Subj: DECLASSIFICATION OF LONG RANGE ACOUSTIC PROPAGATION PROJECT (LRAPP) DOCUMENTS

Ref: (a) SECNAVINST 5510.36

Encl: (1) List of DECLASSIFIED LRAPP Documents

1. In accordance with reference (a), a declassification review has been conducted on a number of classified LRAPP documents.
2. The LRAPP documents listed in enclosure (1) have been downgraded to UNCLASSIFIED and have been approved for public release. These documents should be remarked as follows:

Classification changed to UNCLASSIFIED by authority of the Chief of Naval Operations (N772) letter N772A/6U875630, 20 January 2006.

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3. Questions may be directed to the undersigned on (703) 696-4619, DSN 426-4619.

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By direction

Subj: DECLASSIFICATION OF LONG RANGE ACOUSTIC PROPAGATION PROJECT
(LRAPP) DOCUMENTS

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Declassified LRAPP Documents

Report Number	Personal Author	Title	Publication Source (Originator)	Pub. Date	Current Availability	Class.
Unavailable	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME VII. AREA 3A SUMMER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0910342	U
Unavailable	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME VIII. AREA 3B WINTER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0910343	U
Unavailable	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME IX. AREA 3B SUMMER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0910344	U
Unavailable	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME V. AREA 2 SUMMER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0911224	U
Unavailable	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME XI. AREA 4A SUMMER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0912560	U
Unavailable	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME X. AREA 4A WINTER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0916556	U
MC-011 VOL. 14	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME XIV. AREA 5 WINTER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0916557; ND	U
MC-011 VOL. 13	Unavailable	ACOUSTIC ENVIRONMENTAL SCENARIOS AND PREDICTIONS FOR ASW. VOLUME XIII. AREA 4B SUMMER PREDICTIONS FOR PASSIVE SONAR	Maury Center for Ocean Science	721001	AD0916610; ND	U
MCR008	Goodman, R. R., et al.	THE NEAT 1 EXPERIMENT (U)	Maury Center for Ocean Science	721001	NS; ND	U
Unavailable	Cherry, W. R.	LRAPP BEAMFORMER	Scripps Institution of Oceanography Marine Physical Laboratory	721015	ADA081876	U
ONR ACR-186	Gregory, J. B.	PROJECT LRAPP TEST BED- TECHNOLOGY USED IN THE DEVELOPMENT OF A DEEP-OCEAN STABLE PLATFORM (U)	Office of Naval Research	721024	AD 052-3370 AD0910344 ; ND	U
MC-010	Unavailable	CHURCH GABBRO EXERCISE PLAN- LRAPP (U)	Maury Center for Ocean Science	721026	ND	U
WHOI-72-87	Daubin, S. C., et al.	THE ACODAC SYSTEM	Woods Hole Oceanographic Institution	721101	AD0756628; ND	U
NRLR7516	Fleming, H. S., et al.	PROJECT NEAT 1 ENVIRONMENTAL DATA REPORT (U) (USNS J.W. GIBBS)	Naval Research Laboratory	721129	NS; ND AD 52-3374	U