

484001

99-4326

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ELECTROMAGNETIC IMAGES

of

THE COMSTOCK PROSPECT

ZEEHAN, TASMANIA.

By

R.J.G. Lewis

May 1999

MINERAL RESOURCES	
FILE REF: 123M/4	
18 MAY 1999	
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OFFICER	DATE
See folio 33	
NECESSARY TO	DATE

99-4326

ELECTROMAGNETIC IMAGES OF
THE COMSTOCK PROSPECT-123M/47
R J G LEWIS-OCEANIA

484002

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Layered	
Discrete	

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INTRODUCTION

In March, 1999 Geoinstruments Pty Ltd flew helicopter electromagnetic survey over the Comstock Prospect at Zeehan, Tasmania for Oceania Tasmania Pty Ltd. The prospect contains numerous old shallow workings for silver lead zinc and skarn plus sulphide mineralization (Taylor, 1993) with substantial depth extent on the Balstrup Fault. Processing of the data into apparent resistivity plots by Geoinstruments showed that the zone between the Tenth Legion Fault (which appears in outcrop to be a thrust dipping shallowly to the north) and the Balstrup Fault (a fault dipping steeply to the north) was all anomalously conductive. Within this zone there are at least four discrete zones of extremely low resistivity generally associated with nearby workings (Lewis, 1999). There are also anomalies outside this zone.

The data has now been processed into conductivity depth images which afford an explanation of the rather curious apparent resistivity results. The results further suggest an explanation of the general lack of depth extent of deposits in the Zeehan field, which is now seen to be associated with large scale structures, interpreted as thrust faults. They also suggest a new exploration paradigm for the shallow style of deposit and suggest potential new exploration targets. However, the penetration of the survey is limited and it does not detect the deep known mineralization on the Balstrup Fault.

THE DATA

The survey collected frequency domain data at five frequencies in the range 385Hz to 34kHz using a maximum coil separation of 6m. Data was collected on flight lines with a nominal spacing of 50m on both north south and east west lines providing superb coverage of the prospect. Magnetic and terrain data was recorded at the same time and have been interpreted by Leaman (1999). The small coils and their separation imply that the depth of penetration will be limited compared with systems using larger transmitter loops and separations. Data quality appears very good. Although the magnetic data is not included here an inspection shows that there is remarkably little correlation between features in the apparent resistivity data and the magnetics.

PROCESSING THE DATA

The data has been converted into two sets of images for each of the north-south and east-west data sets. One set consists of the images obtained by fitting a layered section to the data, the second attempts to synthesize the results from discrete conductors. This second set of profiles goes white where the process fails. The north-south and east-west sets are filed separately at the end of this report. Sections are labeled with northing or easting as appropriate. To return to both coordinates reference must be made to the line positions in Figures 4 & 5 as supplied by Geoinstruments.

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LIMITATIONS ON THE INTERPRETATIONS

The conductivities encountered here are extremely low and the resistivity contrasts are very high. Under these circumstances it is well known that the electromagnetic method suffers from the problem of equivalence i.e. conductivity and thickness of a conductor may be traded, in some cases over a wide range, provided that the conductivity thickness product remains constant. This is well shown in the two different sets of images. The layered section produces a thicker more resistive result than the discrete interpretation where the conductivities are larger and the sources smaller. The truth probably lies between these two results.

POSSIBLE CONDUCTORS

The crucial question that emerges from the discussion below is what is the nature of the conductive bodies revealed. A variety of evidence bears on this problem. Firstly measurements of samples of the sphalerite rich ore from the field shows that it is essentially an insulator. Secondly field observations show abundant pyrite associate with the ores which should be conductive together with graphitic slates which would also be expected to be conductive.

I have also examined the cores held in the Mines Department Core Store from drilling by RGC on the Balstrup Fault. This reveals significant sections of pyrrhotite rich sulphides which should be excellent conductors and some very graphitic rocks which while not well preserved would probably be conductive.

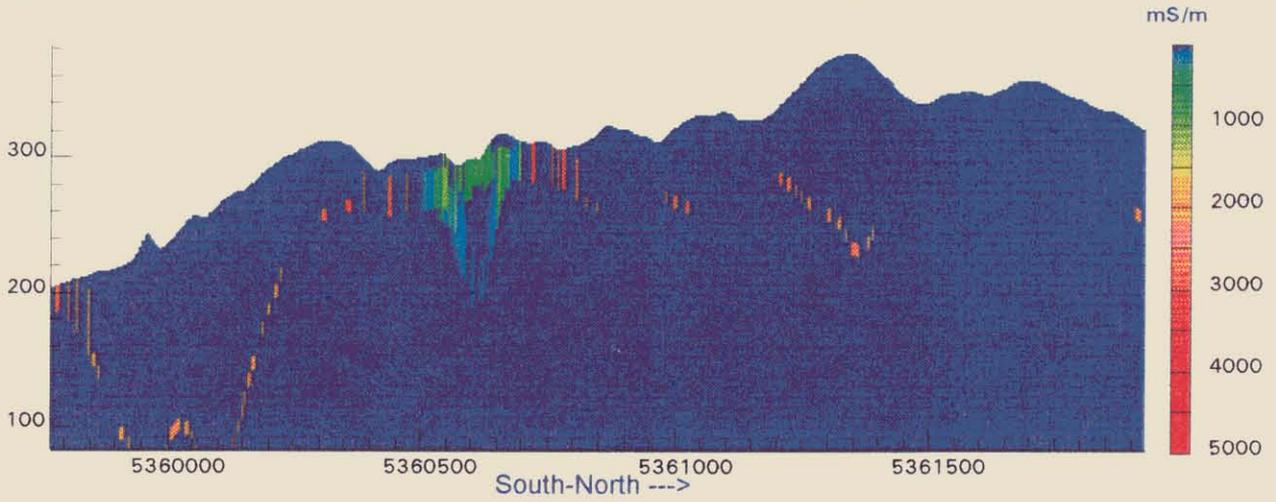
It follows that some of the massive sphalerite ores may not respond to an EM survey and to some extent their location depends on proximity to pyrite or pyrrhotite rich material. The graphite problem is hard to evaluate at this stage. However, early Turam surveys by geophysics students located sulphide conductors in graphitic slates near the Sylvester Mine.

5 cm

LINE 13(Layered CDI)

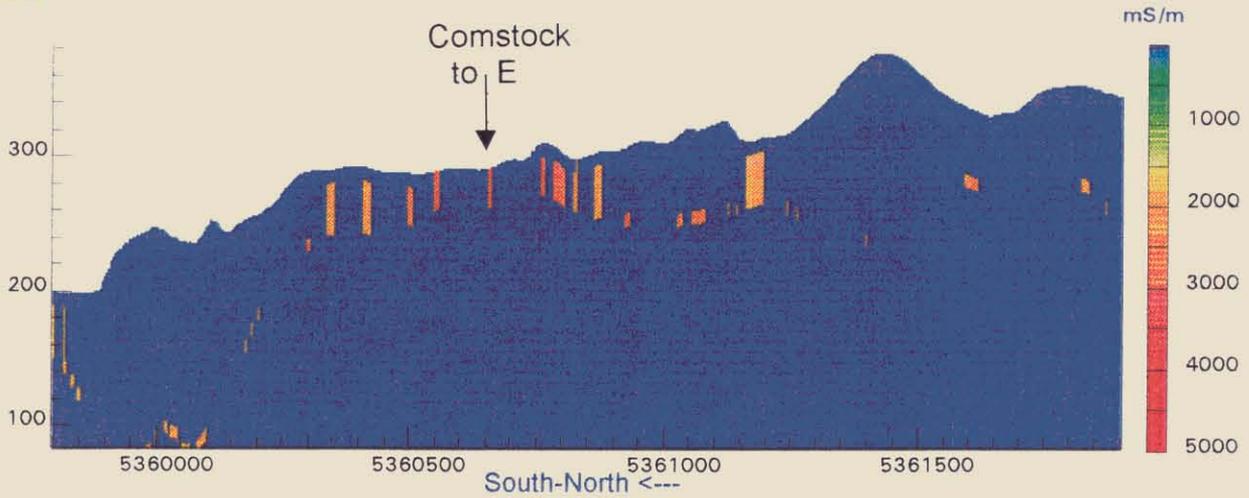
484007

metres



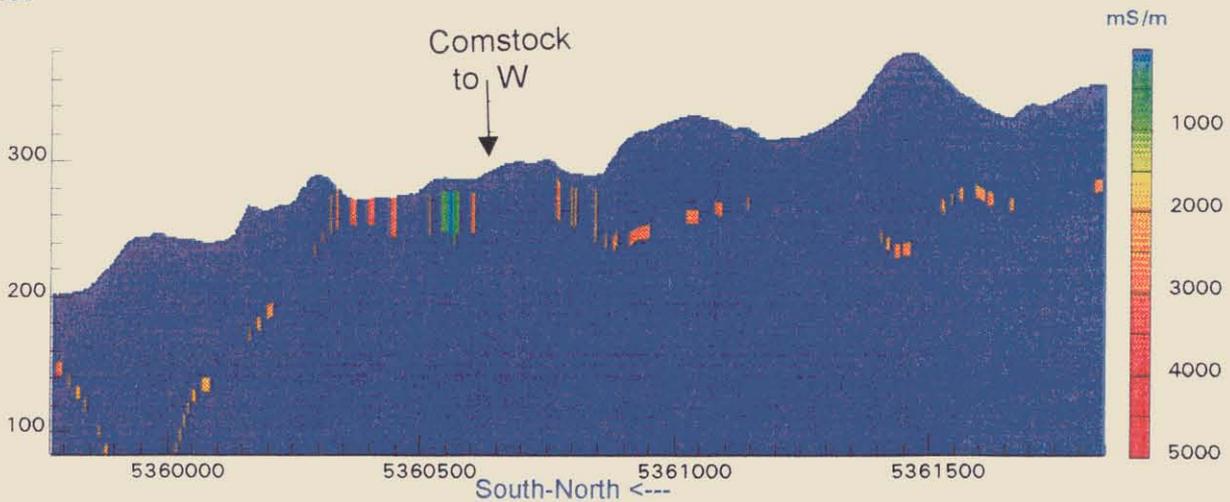
LINE 14(Layered CDI)

metres



LINE 15(Layered CDI)

metres



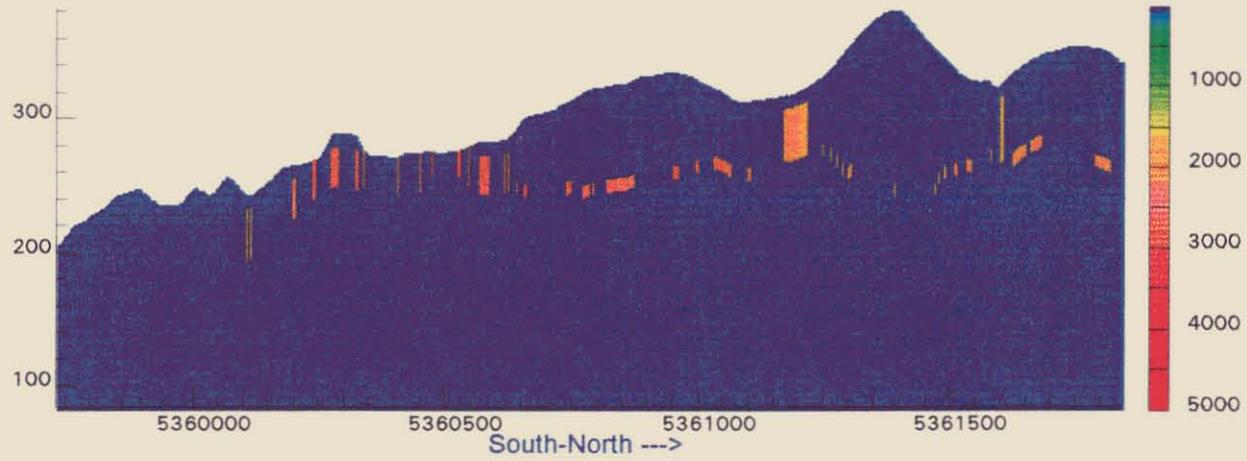
0 300 600(m)

5 cm

LINE 16(Layered CDI)

metres

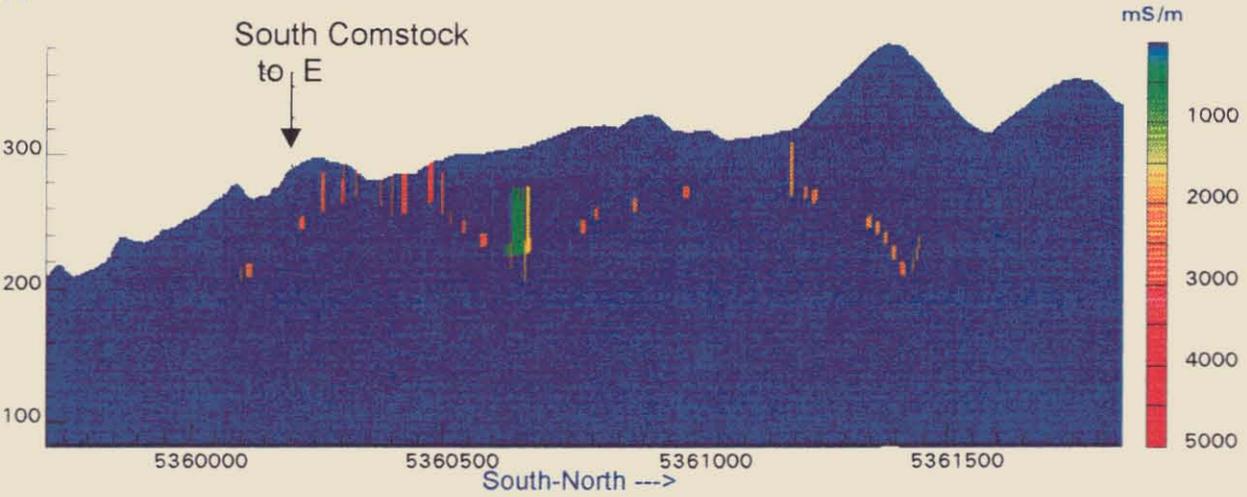
404003



LINE 17(Layered CDI)

metres

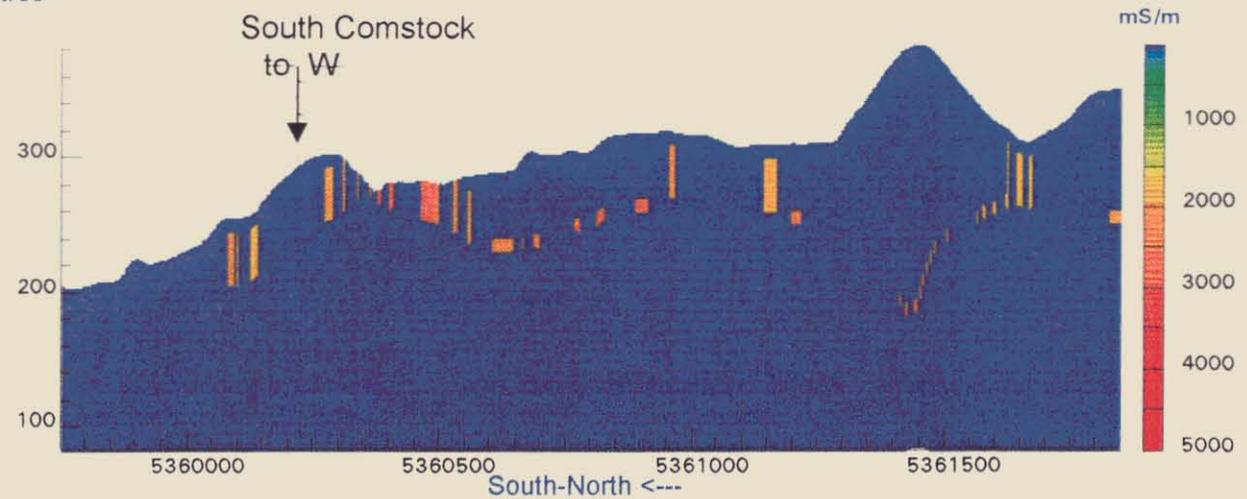
South Comstock
to E



LINE 18(Layered CDI)

metres

South Comstock
to W



0 300 600(m)

484009

there is no possibility that we are looking at a stratigraphic marker. The only explanation that appears reasonable is that here we have a folded thrust surface or surfaces parts of which have been mineralized/ metamorphosed/ metasomatized to produce very conductive material on the thrust plane.

The next question is one of identity. Is this the Tenth Legion Fault? The answer appears complex. On some sections e.g. north-south line 20 the surface outcrop matches that of the Tenth Legion. However, on the more westerly sections the surface extends to greater depths, is more crumpled and clearly is not the Tenth Legion. Thus it seems likely that while the Tenth legion may be involved in this structure other thrusts are involved as well. It is not always obvious that the Balstrup greatly disturbs this structure.

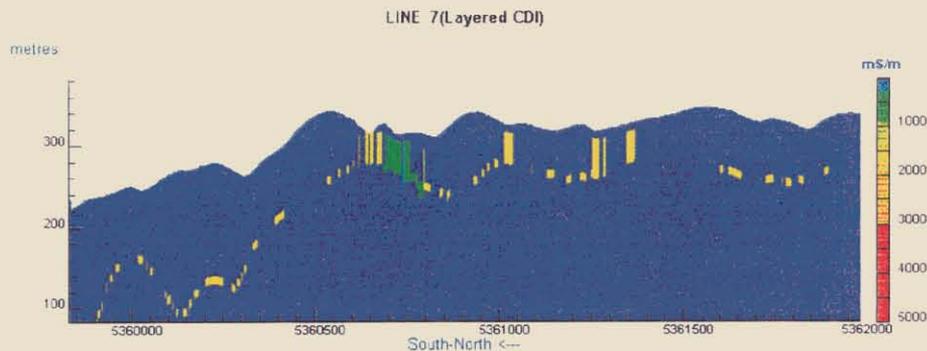


Figure 2.

CDI on line 7 of the north-south set. The folded layer with conductors is quite apparent. The area of green/yellow material is associated with an apparent resistivity low.

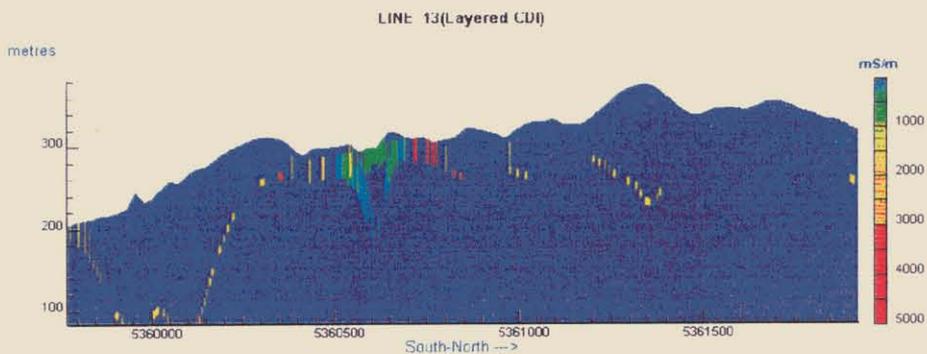


Figure 3.

As for Figure 2 but on Line 13 of the north south set.

Thus it appears possible that some of the material in the southwest of the prospect may also be allothonous and that ultramafics may be involved as well as the Oonah formation.

484010

In addition to the layer structures there are volumes of material of both higher (red) and lower (blue-green) conductivities than the layer material. Figure 3 affords a good example. These are found at the major apparent resistivity lows and are often proximal to known workings (which are indicated on the sections at the end of this report. The structural position with respect to the folded surface is consistent with fluid focussing into anticlinal structures in some cases. There are also indications of depth extent below the layer although the discrete sections tend to modify the sub layer image in most cases. Because of the extent of the conductors and the known mineralization locations these must be prime targets for investigation. There are also examples from outside the Tenth Legion/ Balstrup zone e.g. on lines 10 and 12 in the east west set.

On many sections there are small conductors that may or may not correspond to the position of the Balstrup Fault or its splays. The problem here is the inexact location of the fault.

The reason for the lack of depth extent of many deposits in the Zeehan field is now apparent. If these are typical structures (and there is no reason to suppose otherwise) then it may well be that the thrusts have acted as important mineralizing fluid conduits or controls and that much mineralization exists only above such structures.

Some caution is needed here as the conductors in the layer are so excellent that the survey is blind below them. However, the lack of conductors below holes in the layer conductors suggests that there are none in the detection range.

It is clearly important to determine what these layer conductors are. If they have economic potential then they make up in areal extent what they lack in depth and suggest a new approach to exploration in the prospect.

RECCOMENDATIONS FOR FURTHER WORK

There are too many anomalies for detailed analysis at this stage. I recommend that the images (with the blue background removed) be added to the Datamine system carrying other exploration data so that it can be related to all other geophysical data, geochemistry etc. In that way the range of targets may be considerably reduced. Fortunately the thrust conductors and those above it are shallow when it comes to drilling. I have found that the old workings, the Balstrup position and other features need to be better located for accurate comparison with this data.

The nature of the mineralization on the thrust surface needs examination. In places RGC mapped mineralization on the Tenth Legion Fault. If this should be widespread it would completely change the outlook for the prospect.

Until the data is integrated with the database it is difficult to match up features with the ill defined Balstrup Fault but it is certain that this survey did not see the deeper mineralization. If it is desired to explore this at depth down hole magnetometric resistivity in the existing holes should be extremely effective at looking substantial distances from the holes and has been used successfully on sphalerite rich ores elsewhere (Lewis, 1998).

There is currently a gravity survey underway on the prospect which may help considerably with target selection. Clearly heavy targets associated with low resistivity are to be preferred. I have been favoured with a preliminary plot of sparse gravity data which are interesting but it is too early to draw conclusions. However, if there are density variations between the material above and below the thrust or ultramafics are involved given the significant variations in thickness of the upper sheet this may need to be taken into account.

484012

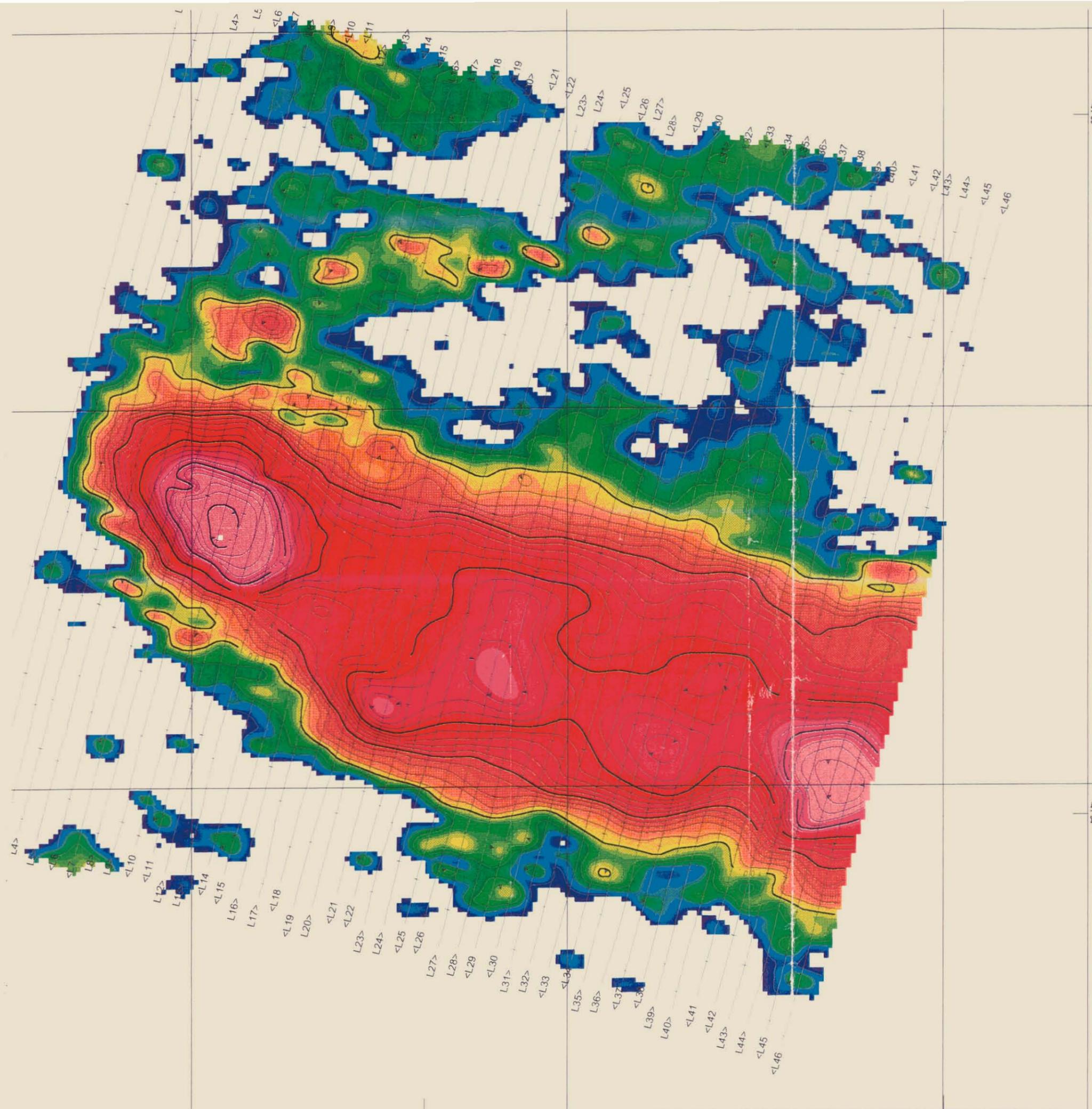
REFERENCES

Leaman, D.E., 1999, Review and implications of geophysical data, Comstock Prospect.

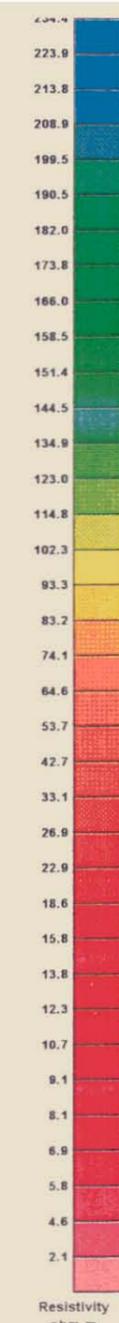
Lewis, R.J.G., 1998, The Art of DHMMR. An Applied Geophysical Research Pty Ltd publication available via www.agr.au.com

Lewis, R.J.G., 1999, A preliminary overview of a helicopter EM survey for Oceania Tasmania Pty Ltd at the Comstock Prospect, Zeehan, Tasmania.

Taylor, M.I., 1993, Skarn and sulphide mineralisation of the Sylvester Prospect, Zeehan, western Tasmania. Unpublished Honours thesis, Geology Department, University of Tasmania.



3620000N
41°53'
53610000N
53600000N
41°54'

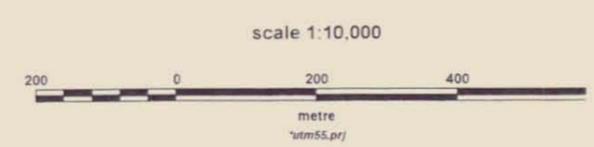


Grid North
Australia Map Grid Zone 55

484013

5 cm

- SURVEY SPECIFICATIONS:**
 Survey flown: March, 1999
 Traverse line spacing: 50 metres
 Traverse line Direction: 15/105/195/285 degrees
 Sensor height: 30 metres
 Data acquisition: Geolnstruments model G2001 system
 Aircraft: Aerospatiale Squirrel VH-JWD
- INSTRUMENTATION:**
 Magnetometer: Geometrics G822A Caesium vapour
 Installation: mounted in HEM bird
 Resolution: .001 nanoTesla
 Electromagnetics: Geotech 5 frequency Hummingbird sy
 Configuration: Towed Bird
- NAVIGATION:**
 Flight path navigation: Real time satellite differential GP:
 Navigation equipment: NovaTel 951R GPS receiver
 Flight path record: AGD 84 latitude/longitude
 Radar Altimeter: Sperry AA210
 GPS base station: Fugro (Melbourne)
- DATA PROCESSING**
 Magnetics: Tieline levelling applied
 Resistivity: Pseudo layer half-space model
 Logarithmic contour interval in ohm-metres

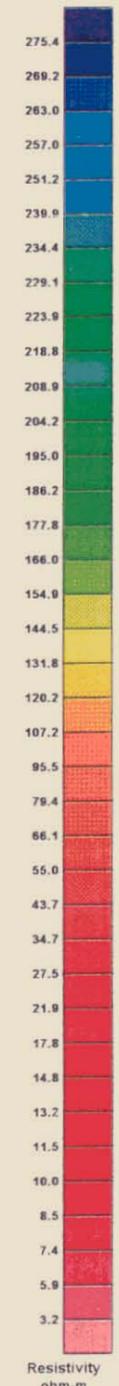
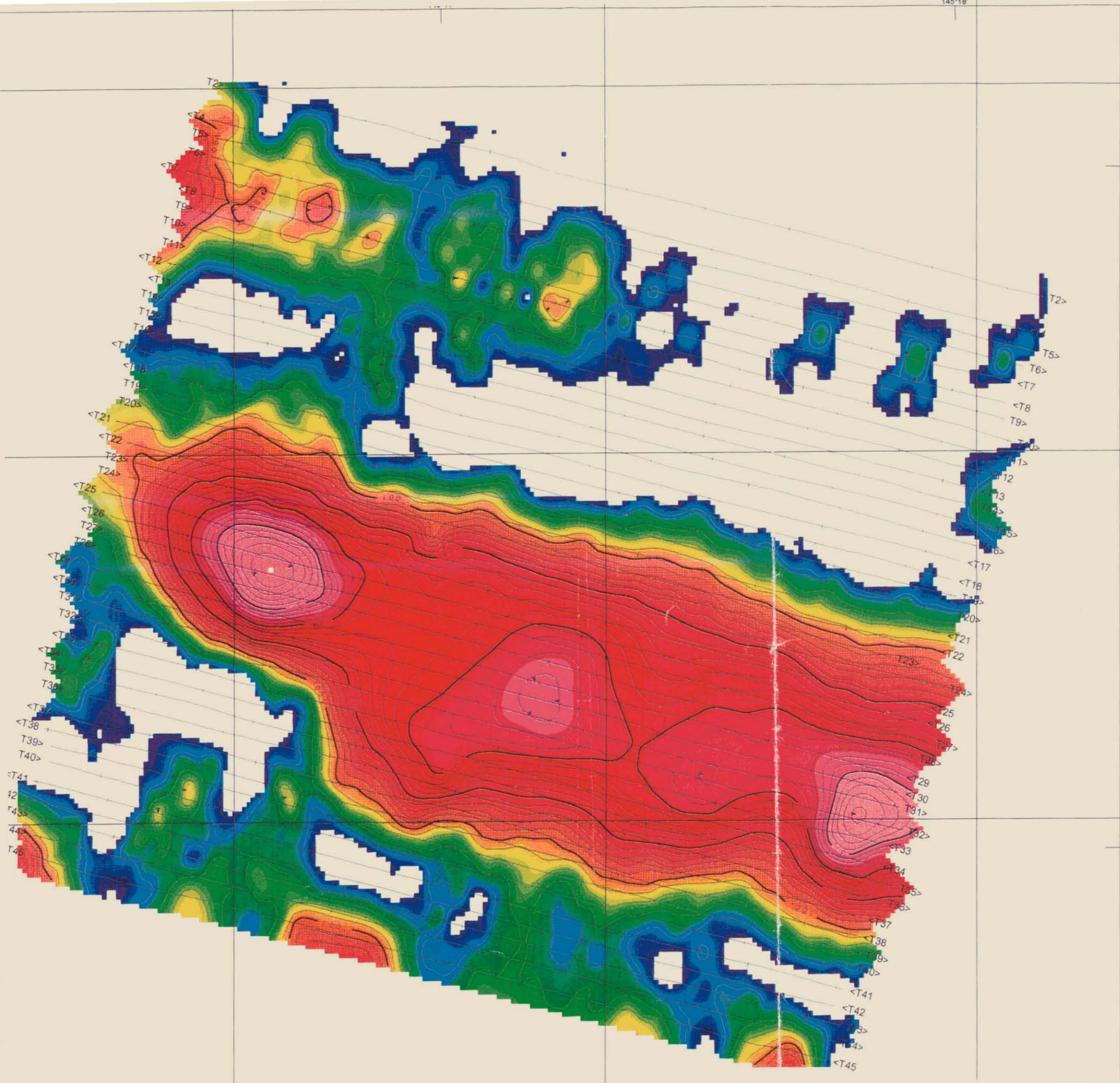


Oceania Tasmania Pty. Ltd.
 Comstock Silver Lead Zinc Prospect, Zeehan, T

APPARENT RESISTIVI 385 & 980 Hz - Lines

Comstock Block

Survey flown and processed by:
Geolnstruments Pty. Ltd.
 348 Rocky Point Rd., Ramsgate
 NSW 2217 Sydney



484014



Grid North
Australia Map Grid Zone 55



SURVEY SPECIFICATIONS:
 Survey flown: March, 1999
 Traverse line spacing: 50 metres
 Traverse line Direction: 15/105/195/285 degree
 Sensor height: 30 metres
 Data acquisition: Geoinstruments model G200
 Aircraft: Aerospatiale Squirrel VH-JWD

INSTRUMENTATION:
 Magnetometer: Geometrics G822A Caesium v
 Installation: mounted in HEM bird
 Resolution: .001 nanoTesla
 Electromagnetics: Geotech 5 frequency Humr
 Configuration: Towed Bird

NAVIGATION:
 Flight path navigation: Real time satellite diffe
 Navigation equipment: NovaTel 951R GPS rec
 Flight path record: AGD 84 latitude/longitude
 Radar Altimeter: Sperry AA210
 GPS base station: Fugro (Melbourne)

DATA PROCESSING
 Magnetics: Tieline levelling applied
 Resistivity: Pseudo layer half-space model
 Logarithmic contour interval in ohm-metr

scale 1:10,000



Oceania Tasmania Pty. Lt
 Comstock Silver Lead Zinc Prospect, Zee

APPARENT RESIST

385 & 980 Hz - T

Comstock Block

Survey flown and processed by:

484015

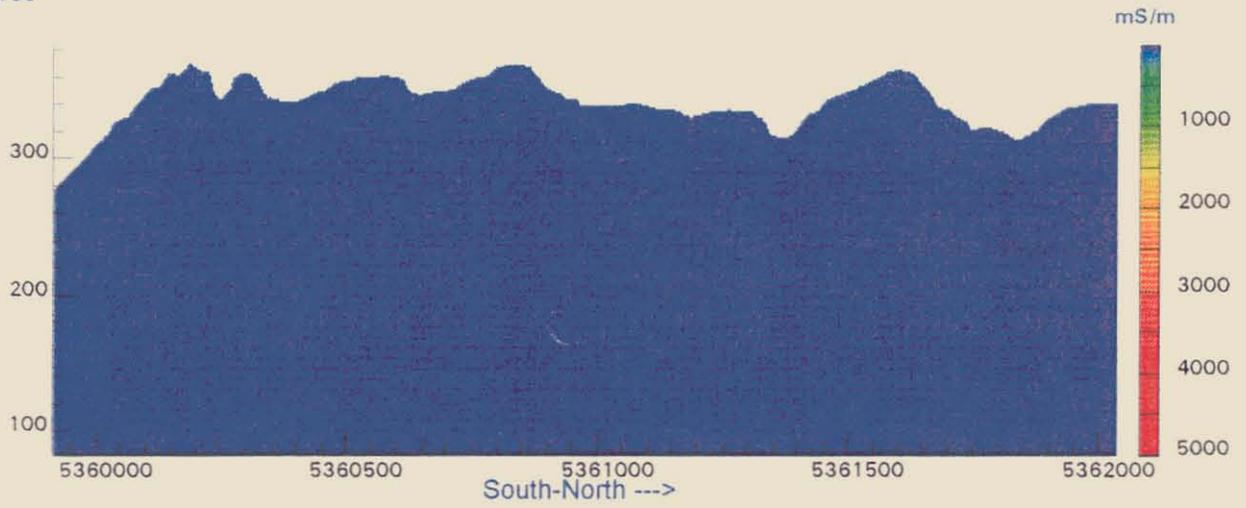
Appx 1

NORTH – SOUTH SECTIONS

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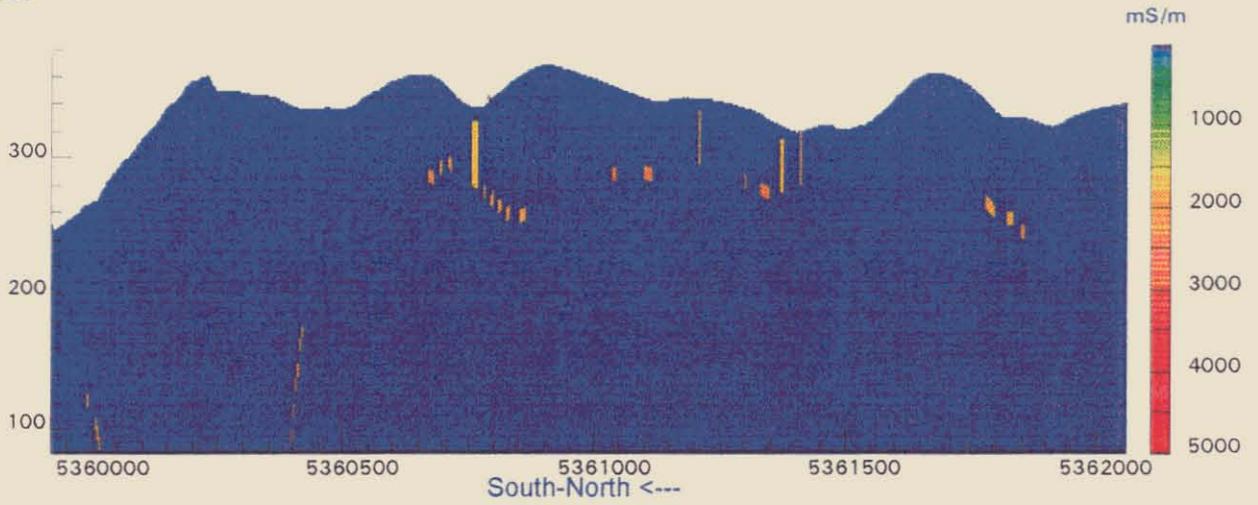
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metres



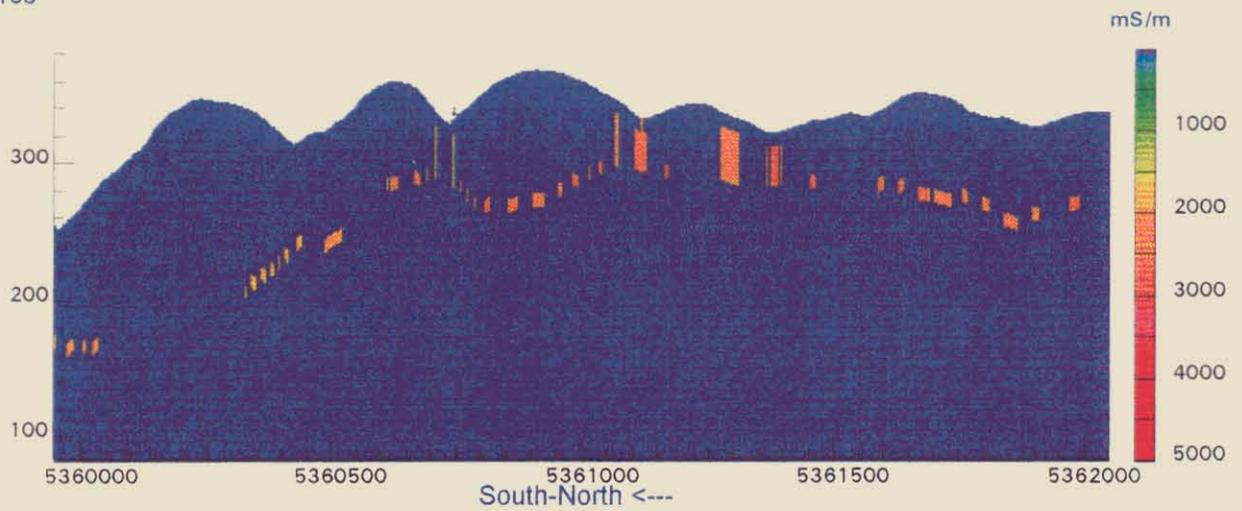
LINE 2(Layered CDI)

metres



LINE 3(Layered CDI)

metres



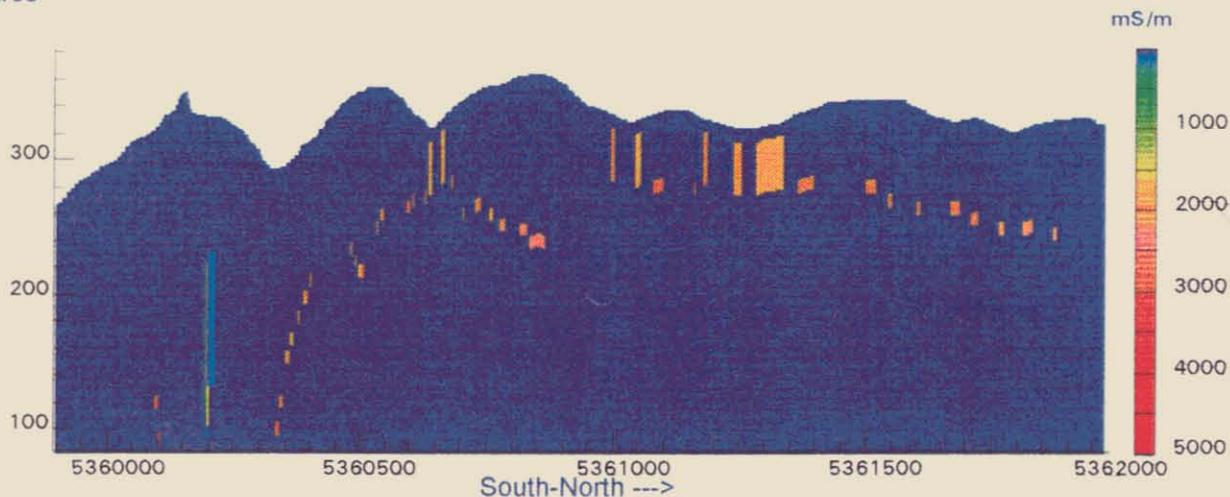
0 300 600(m)

5 cm

LINE 4(Layered CDI)

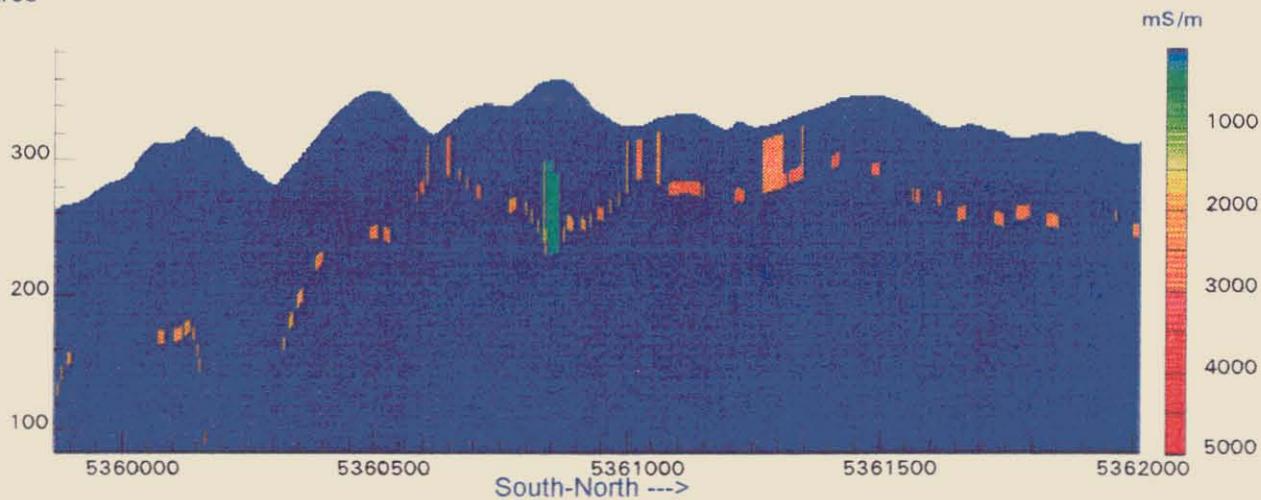
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metres



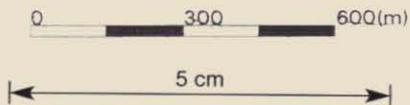
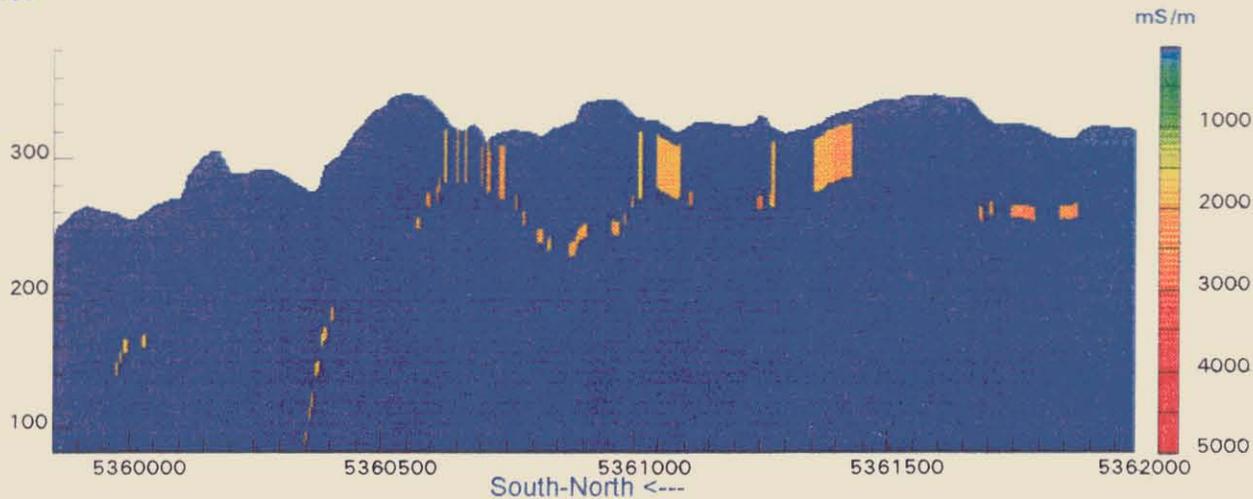
LINE 5(Layered CDI)

metres

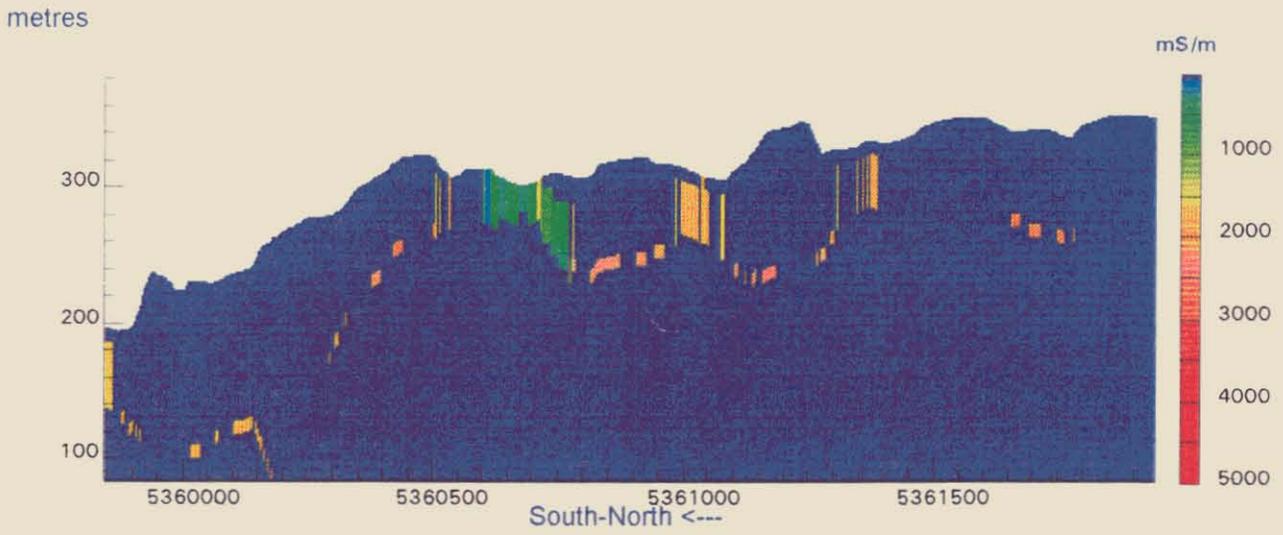


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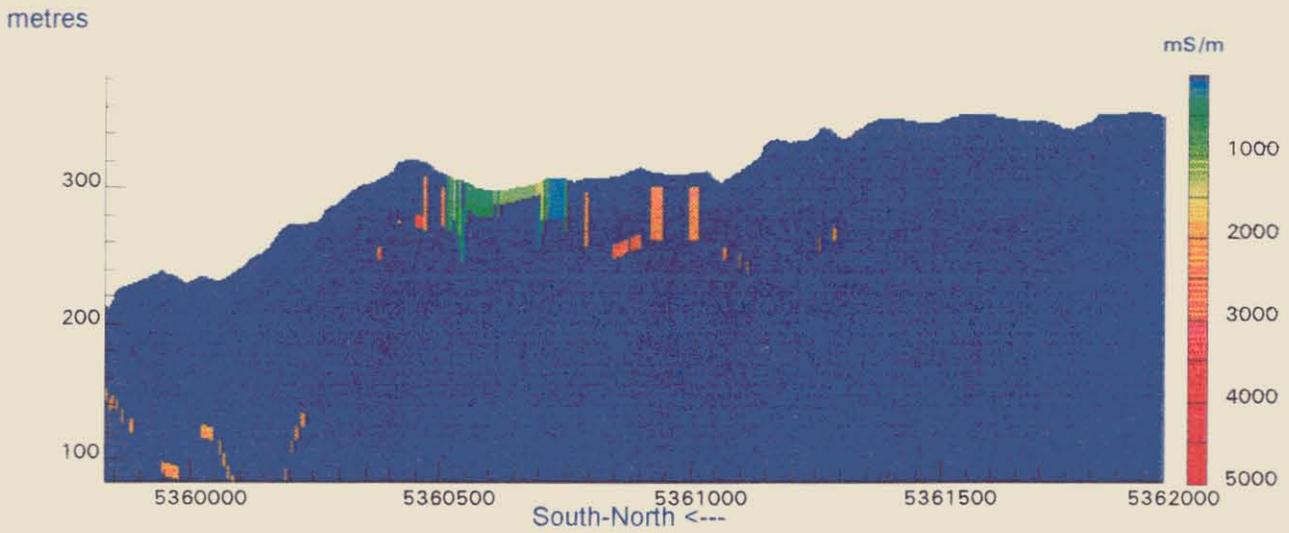
metres



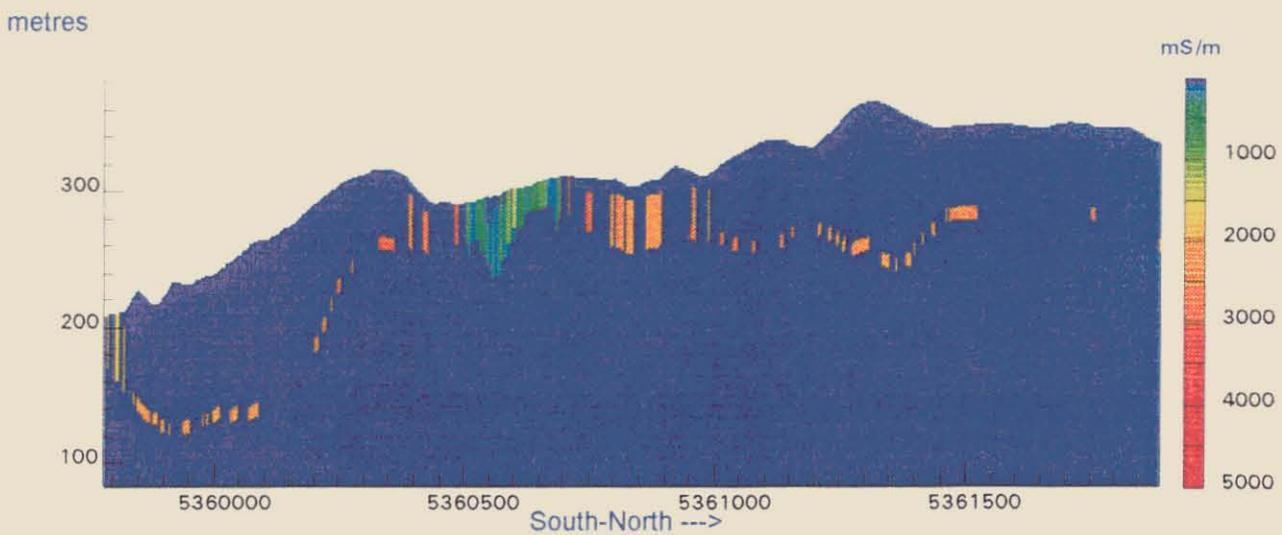
LINE 10(Layered CDI)



LINE 11(Layered CDI)



LINE 12(Layered CDI)



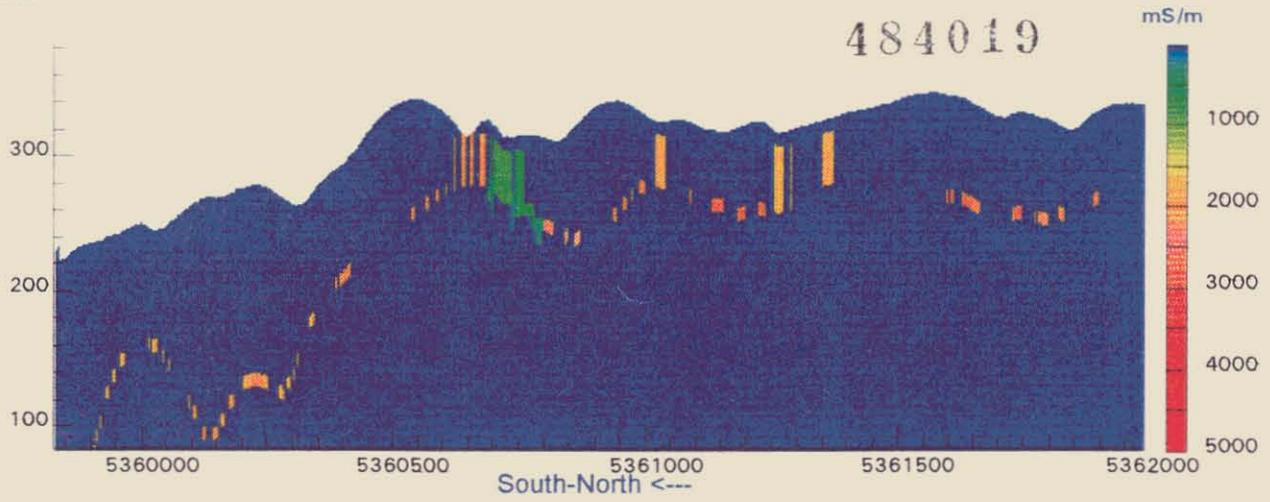
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5 cm

5 cm

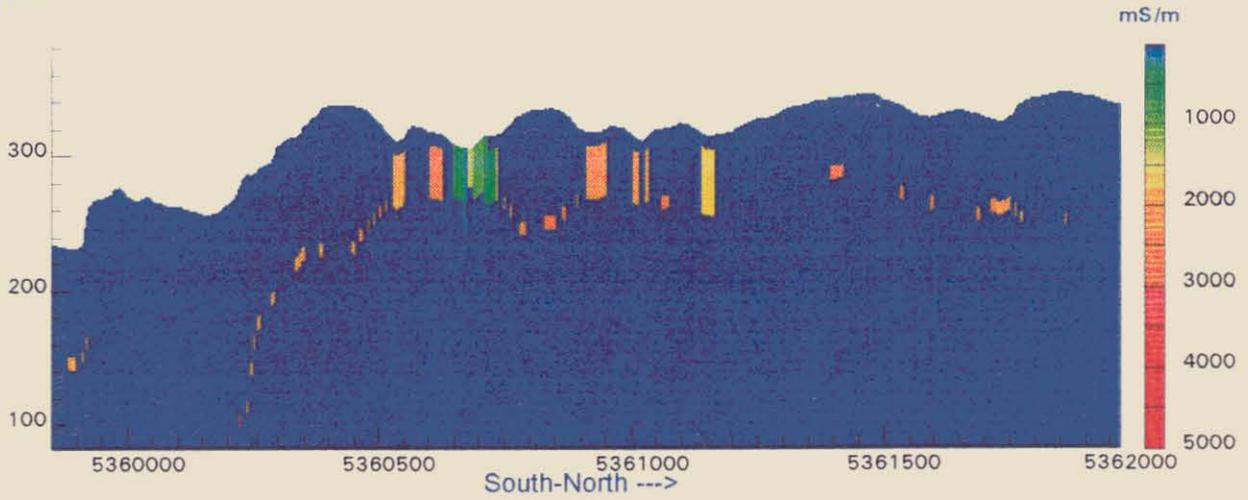
LINE 7(Layered CDI)

metres



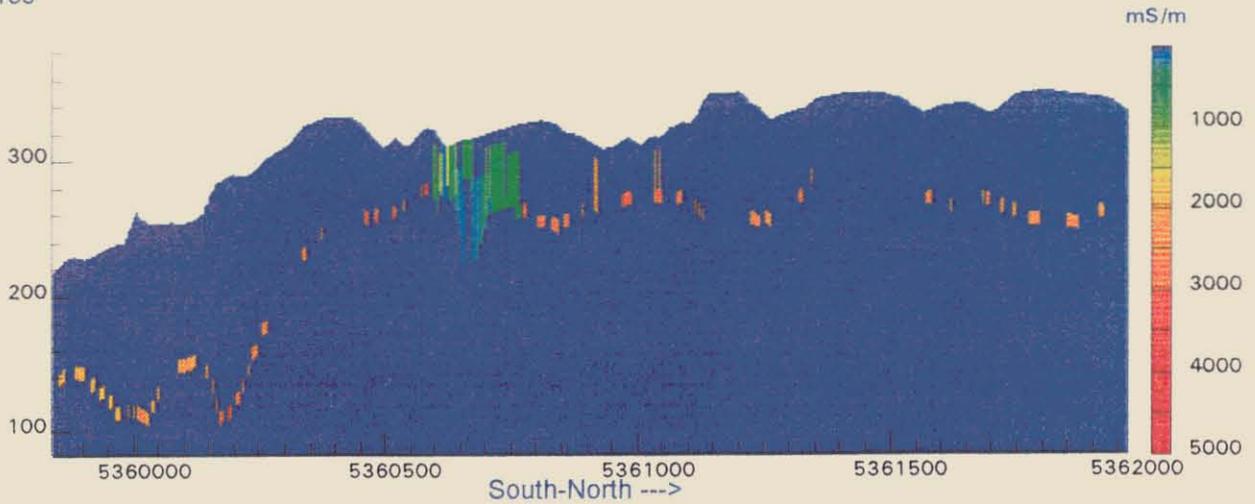
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metres

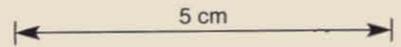


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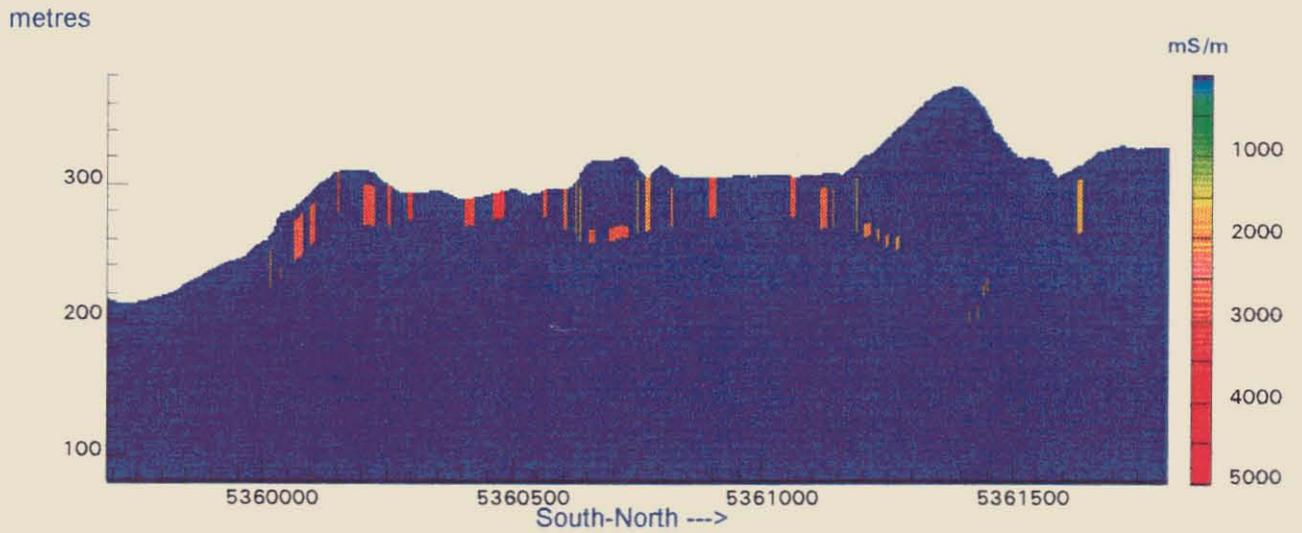
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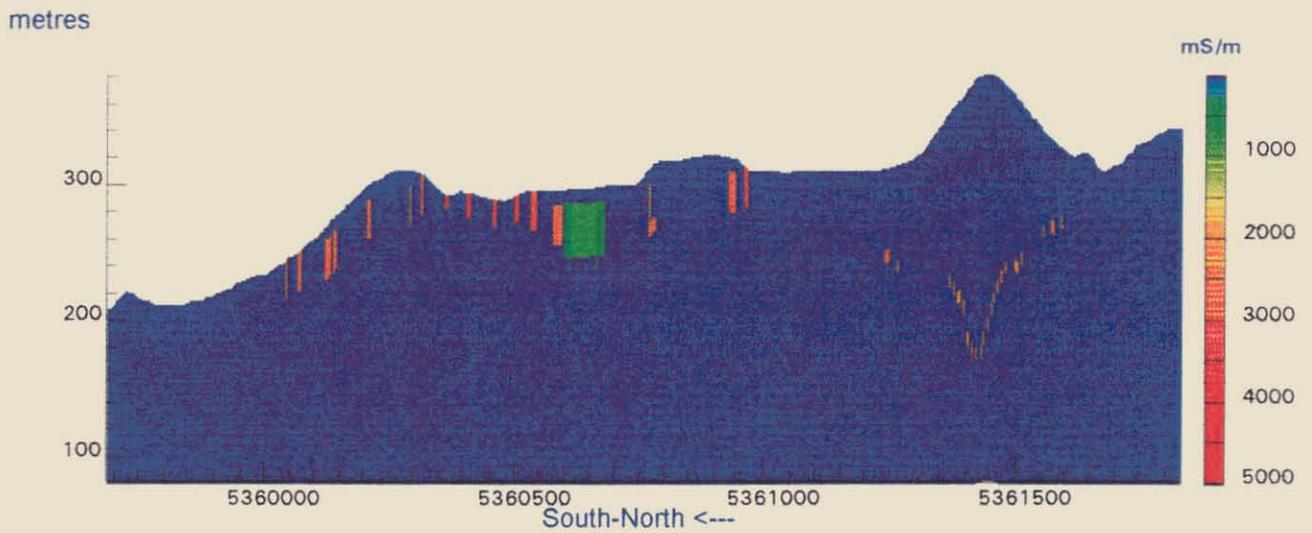
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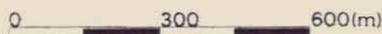
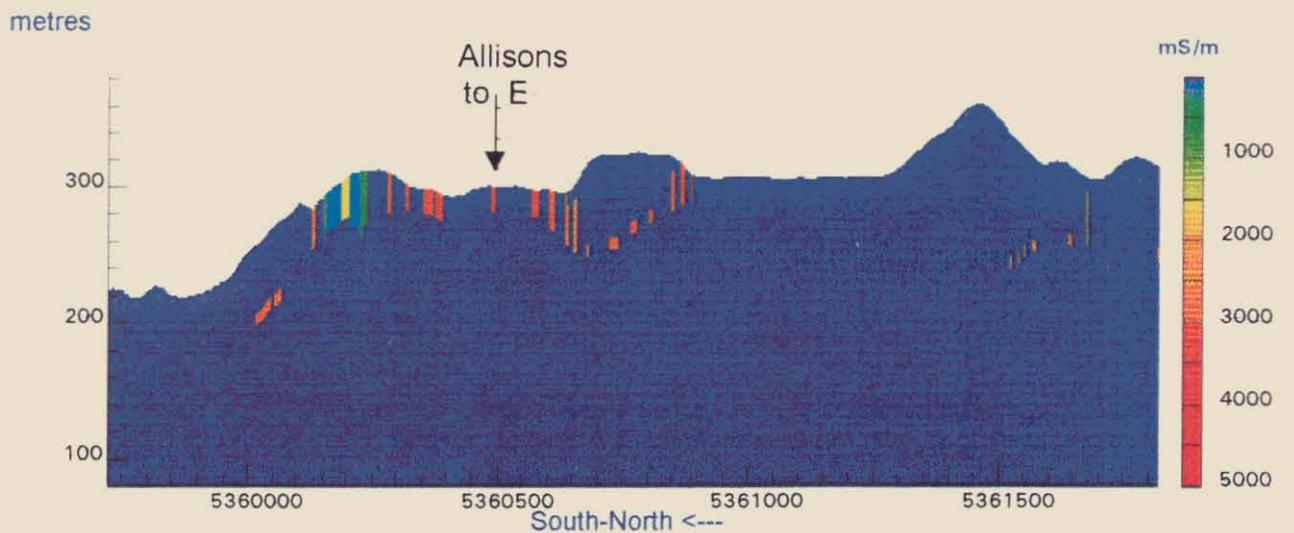
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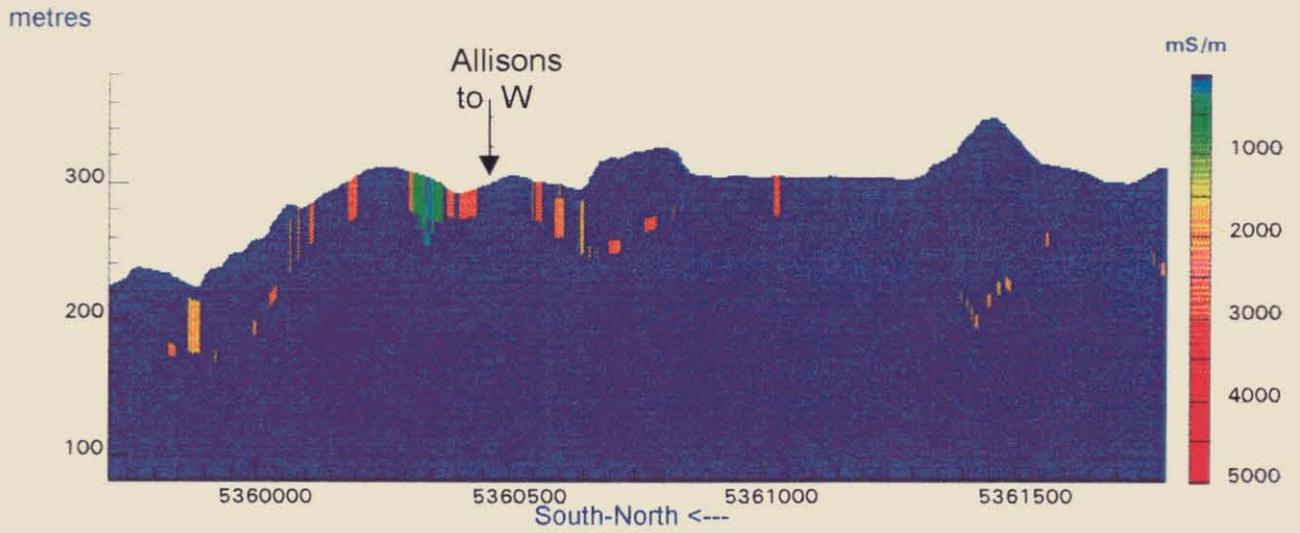
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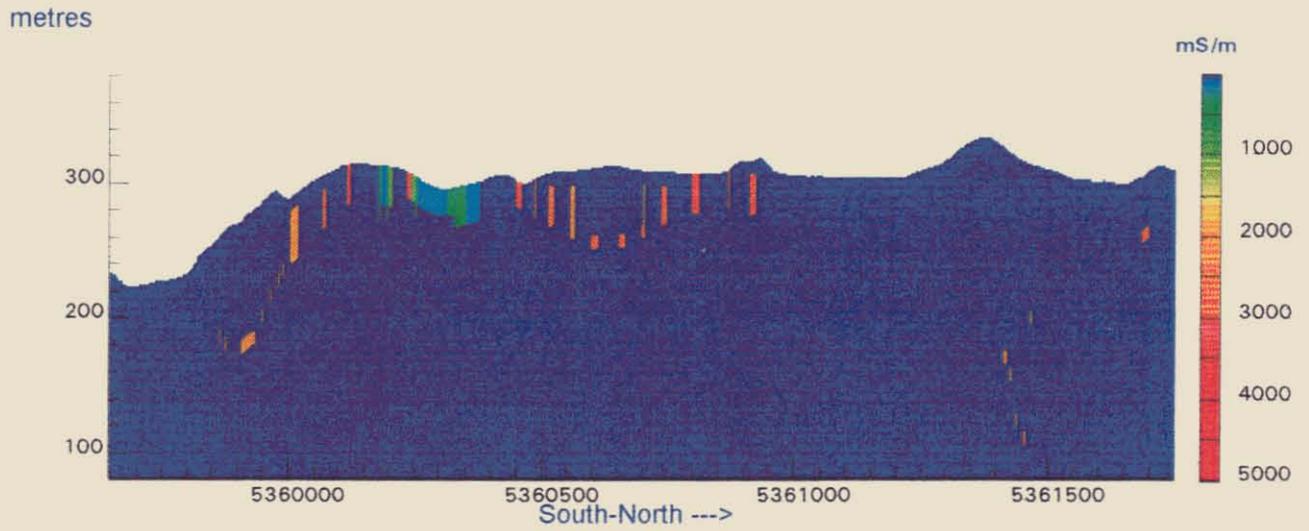
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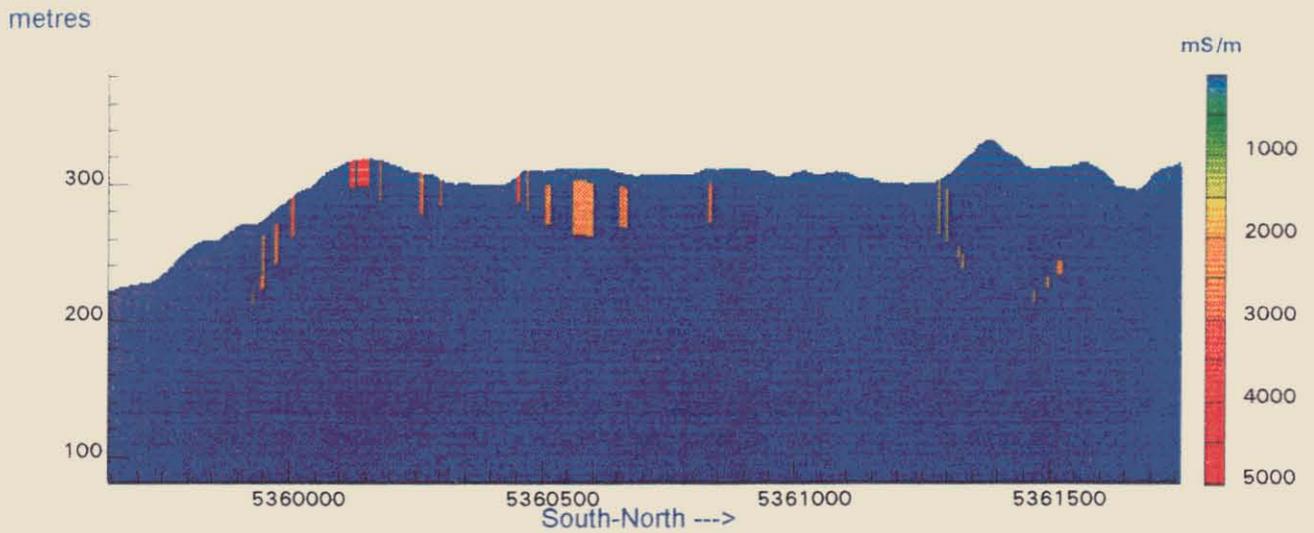
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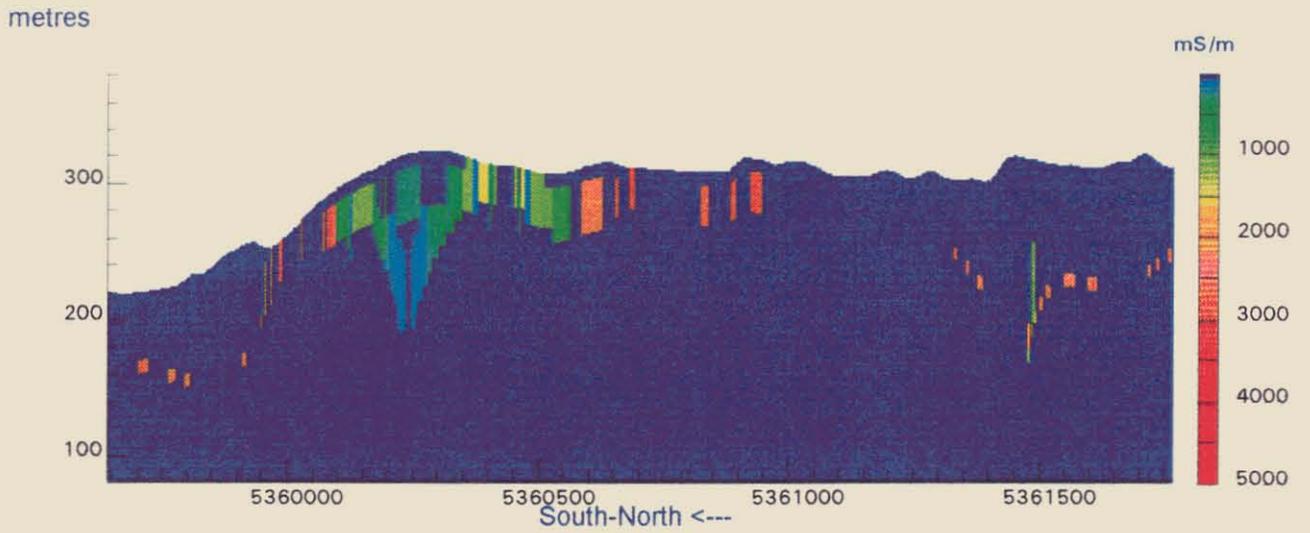
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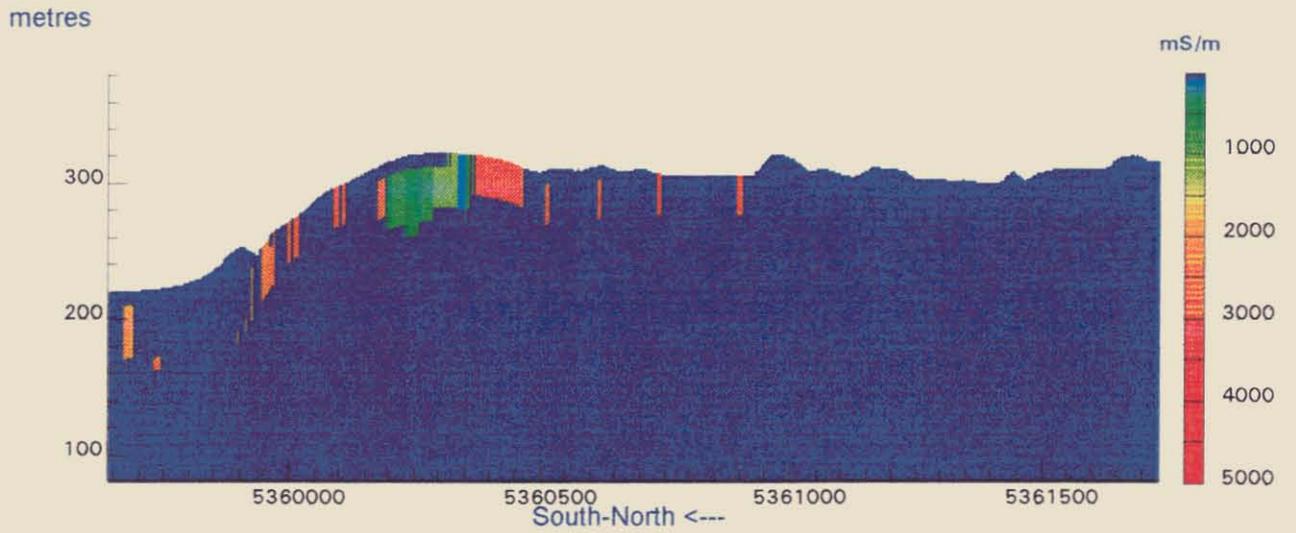
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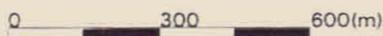
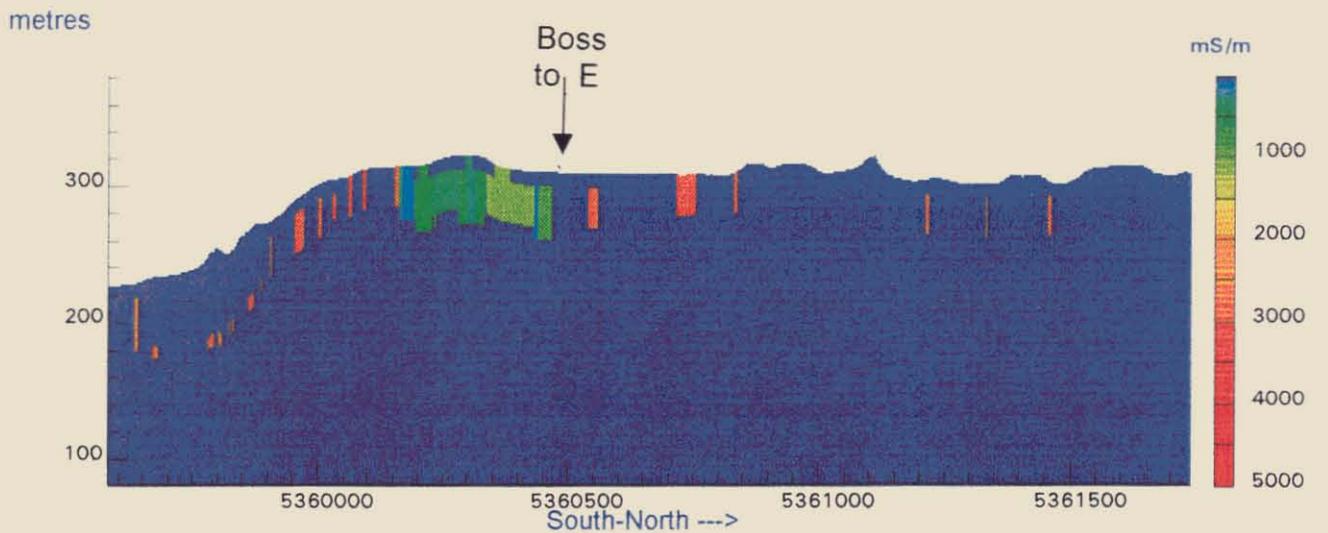
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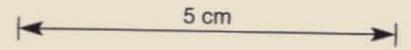


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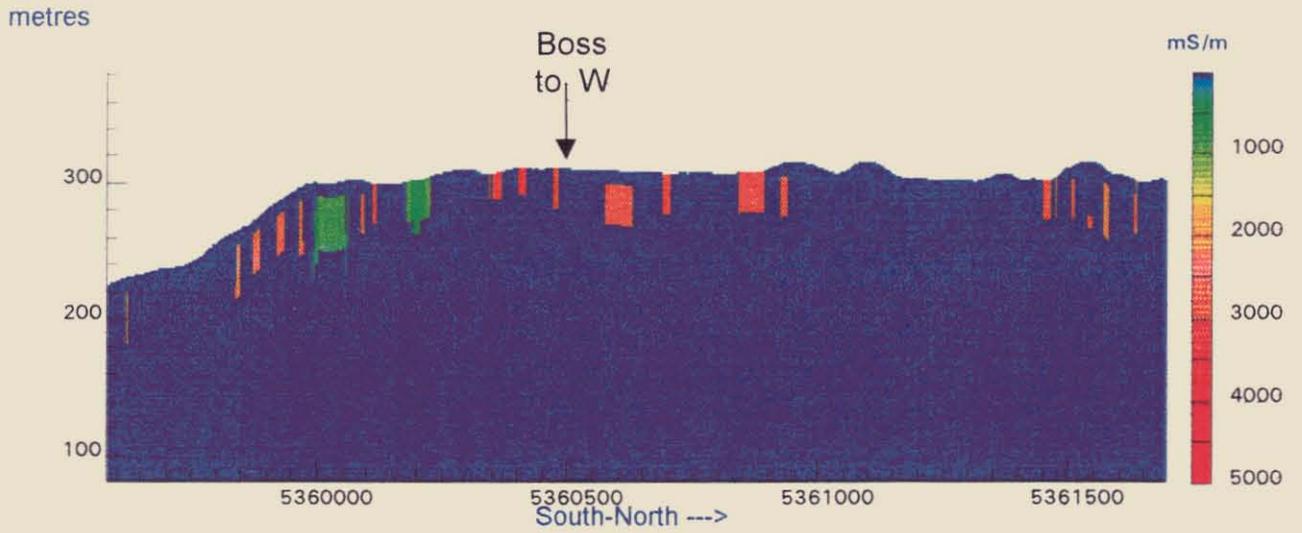


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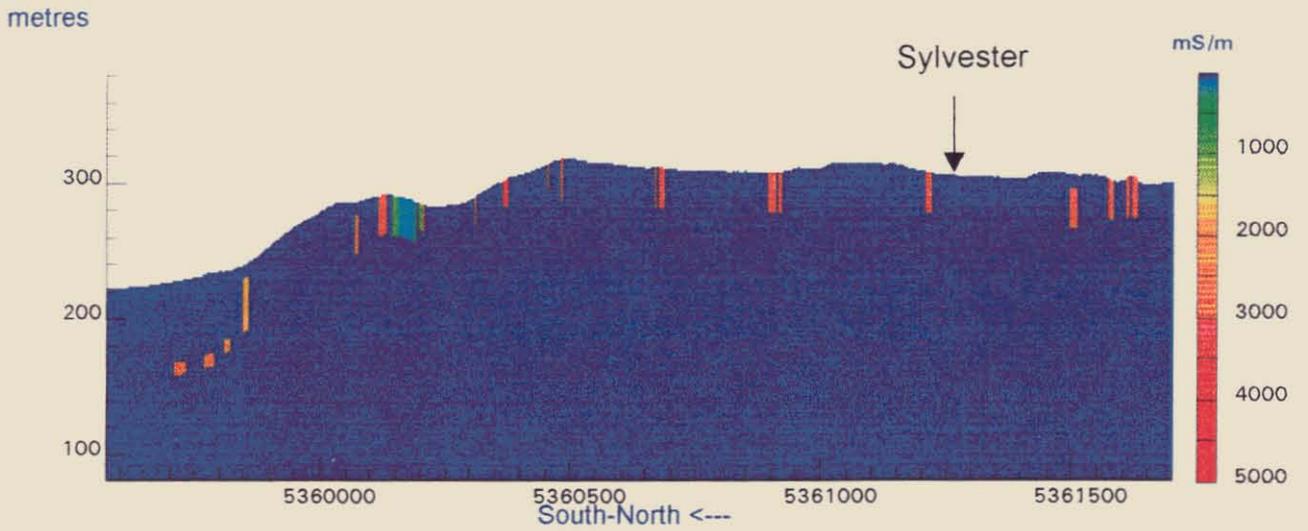




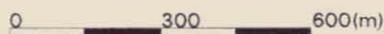
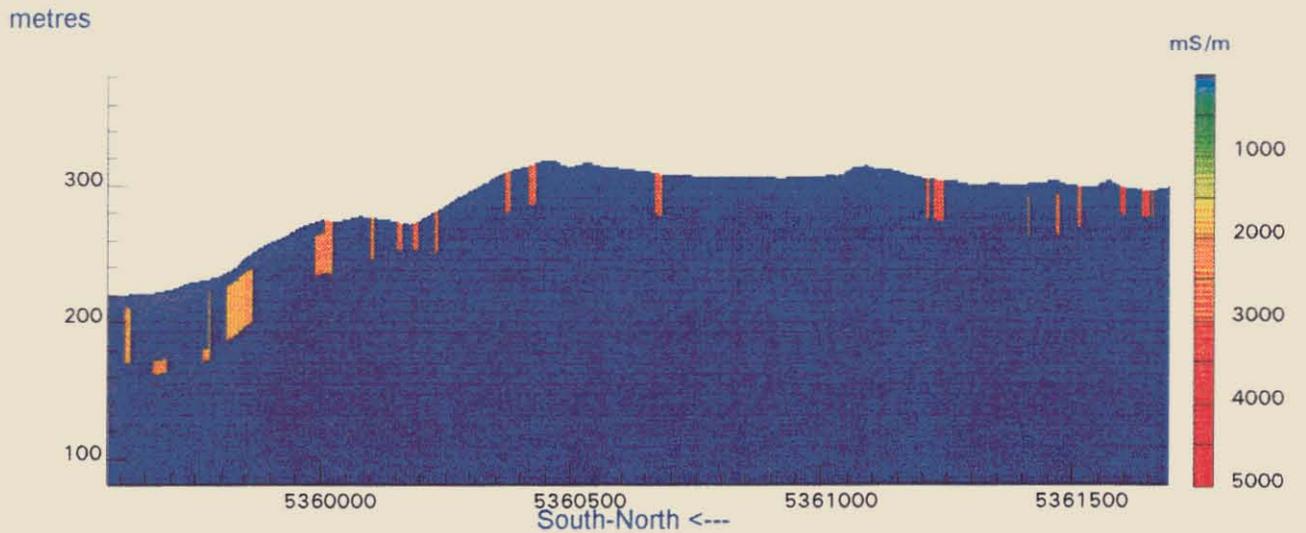
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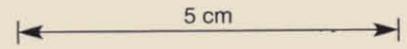


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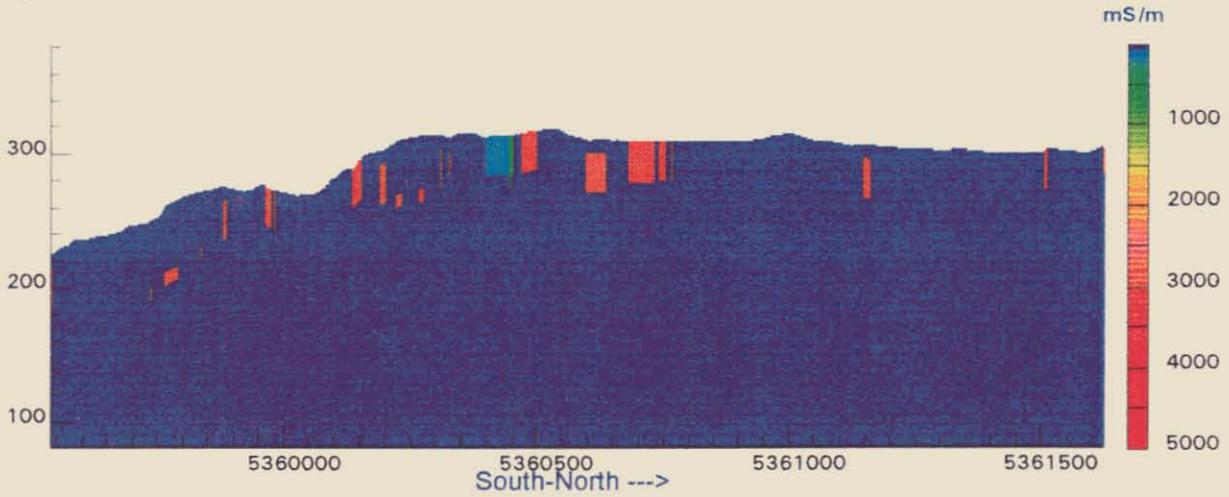
LINE 30(Layered CDI)





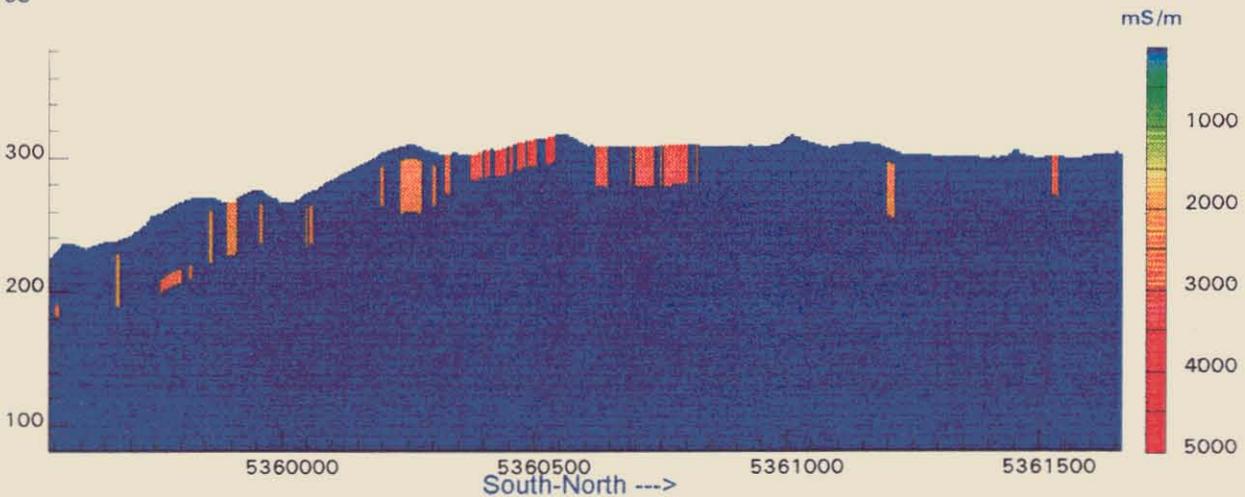
LINE 31(Layered CDI)

metres



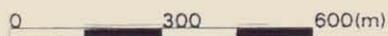
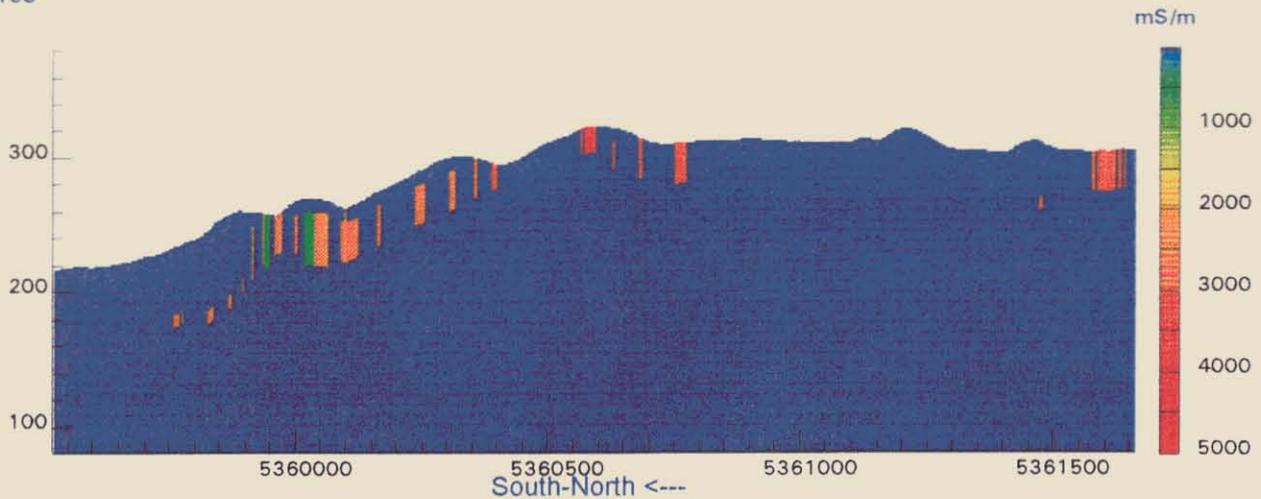
LINE 32(Layered CDI)

metres

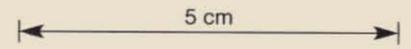


LINE 33(Layered CDI)

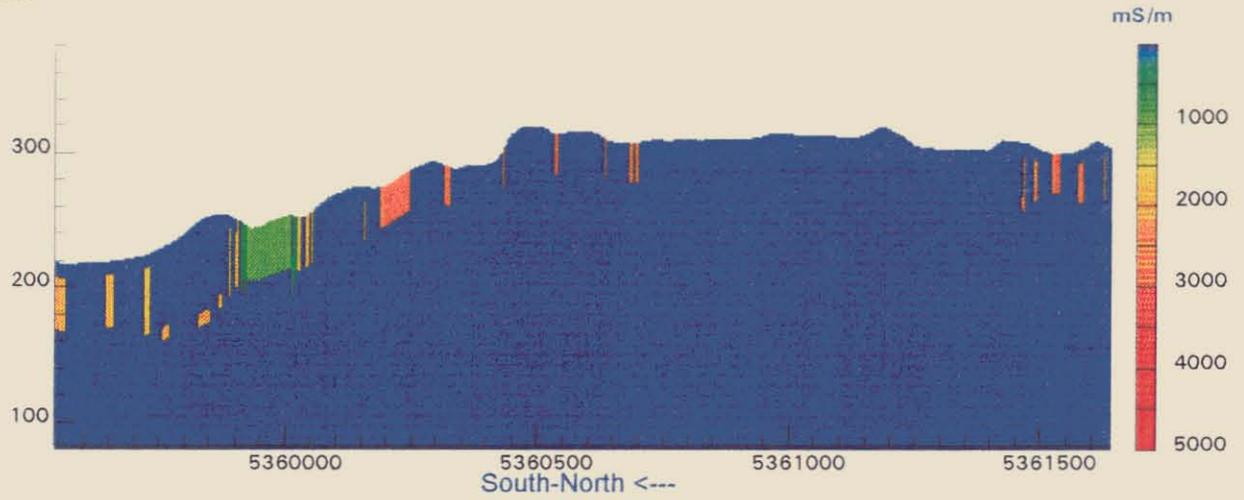
metres



LINE 34(Layered CDI)

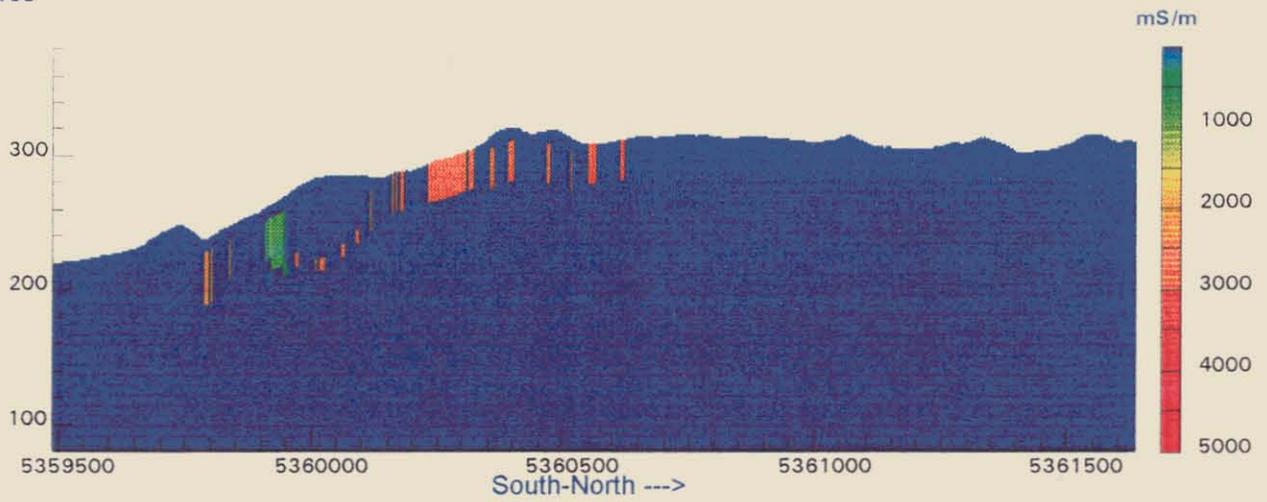


metres



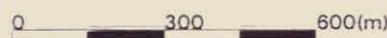
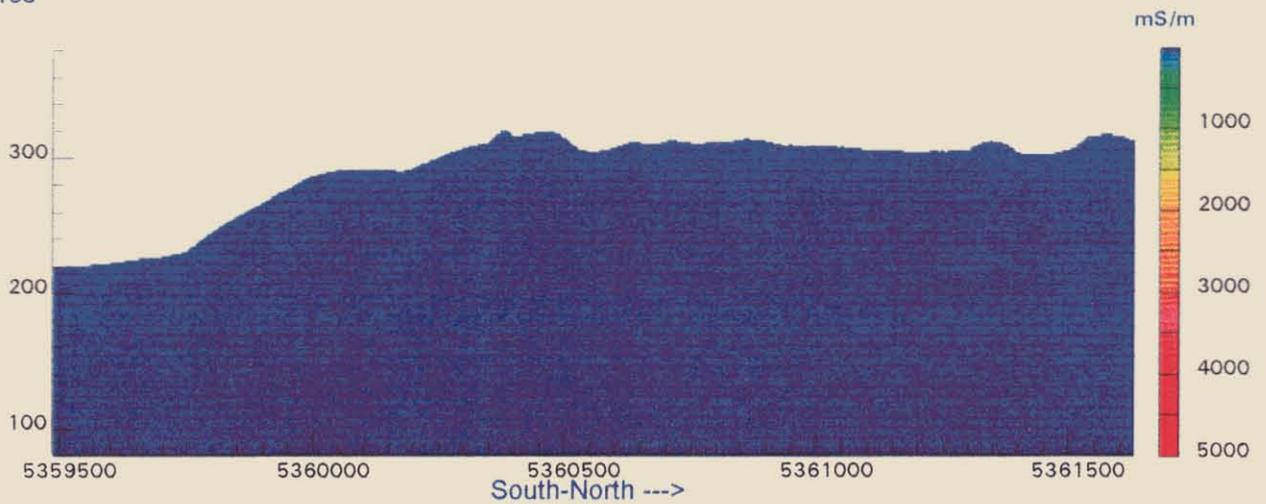
LINE 35(Layered CDI)

metres

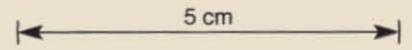


LINE 36(Layered CDI)

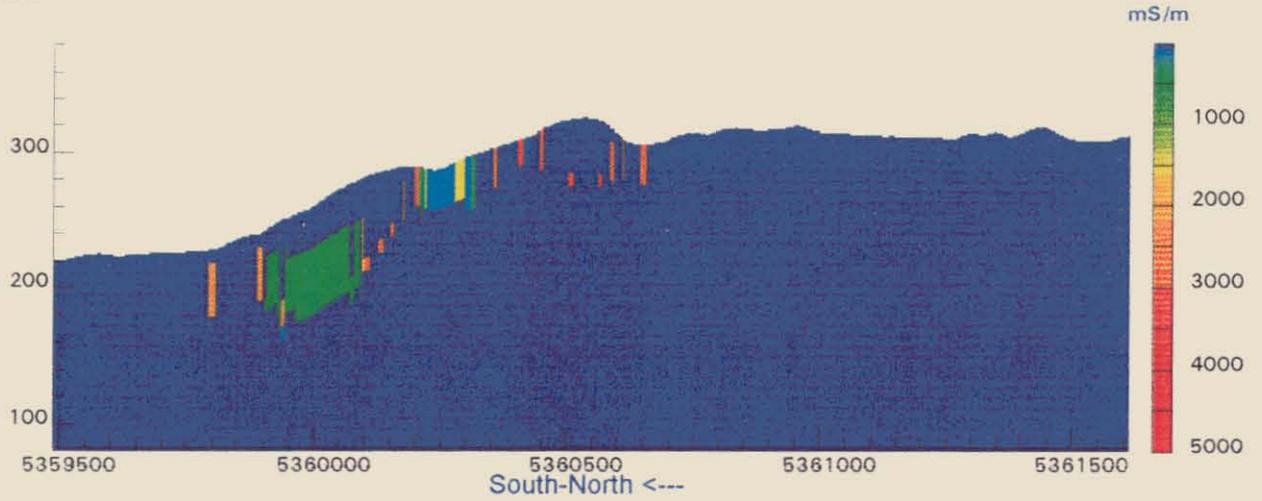
metres



LINE 37(Layered CDI)

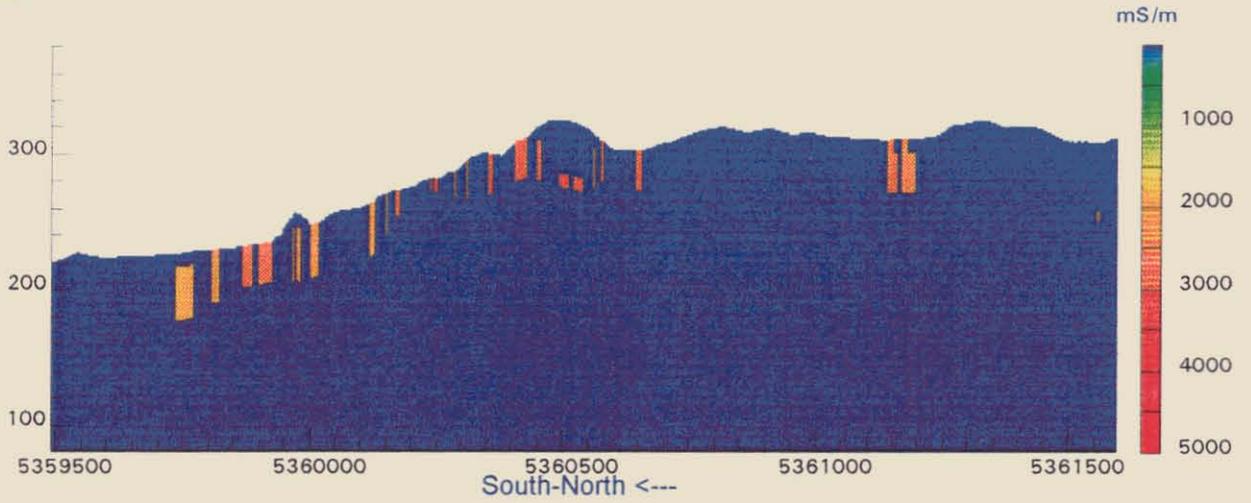


metres



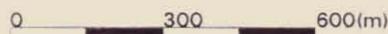
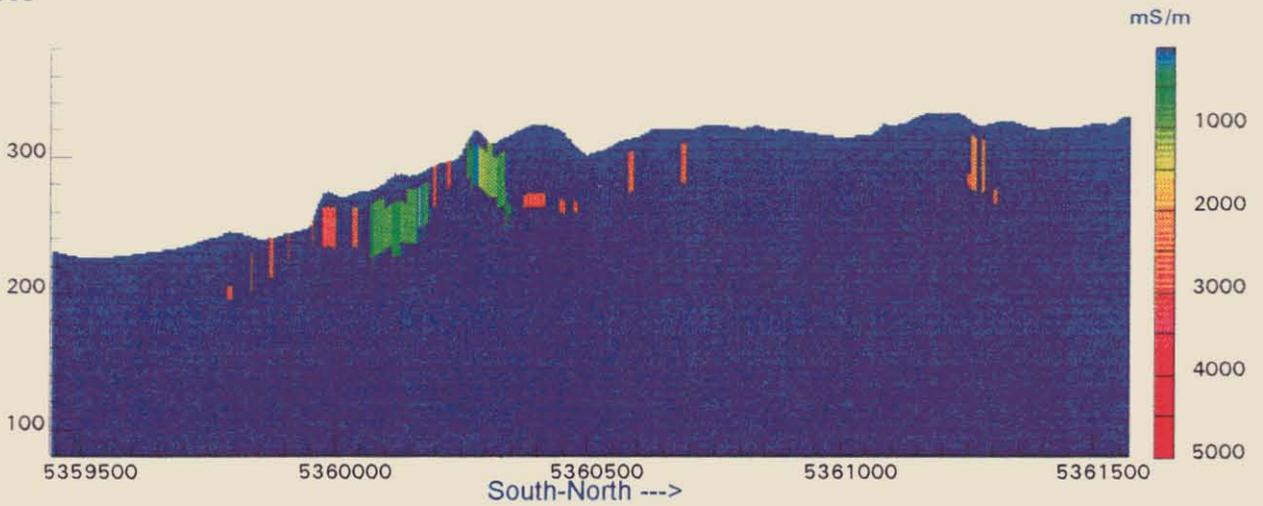
LINE 38(Layered CDI)

metres



LINE 39(Layered CDI)

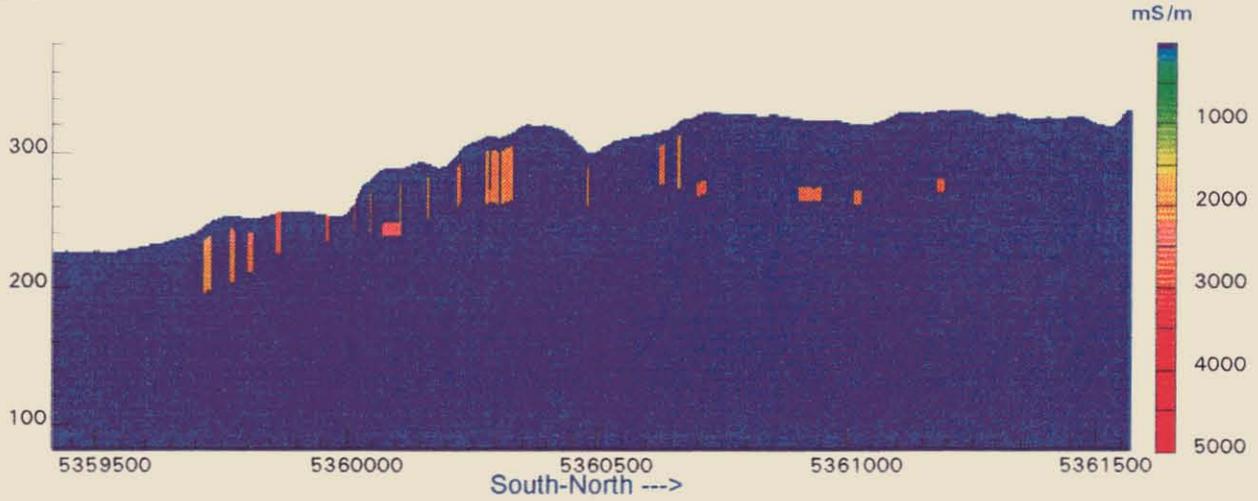
metres



5 cm

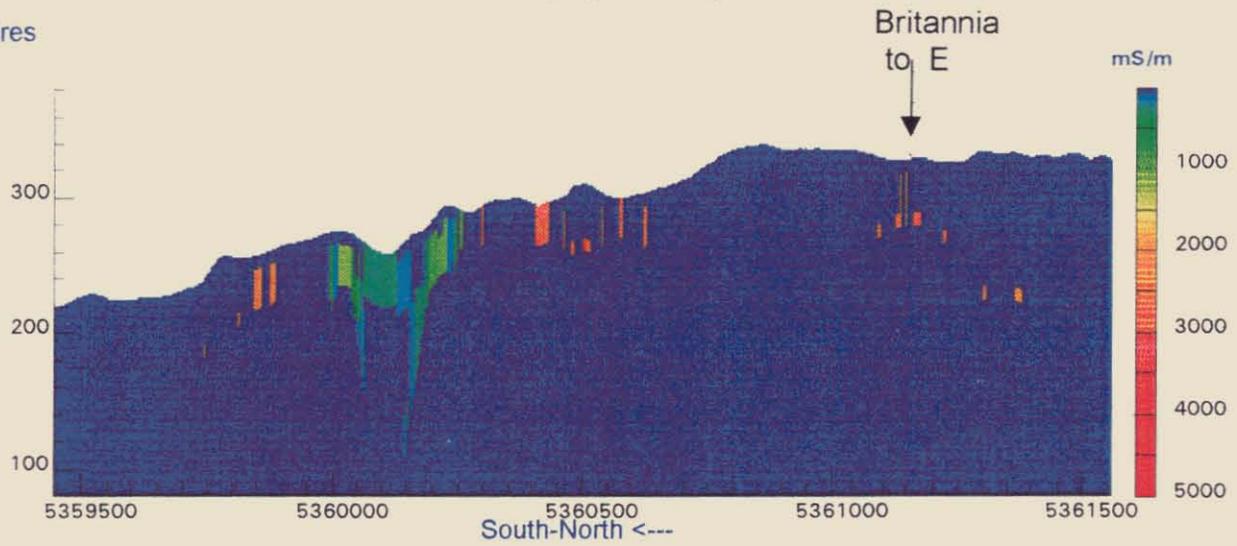
LINE 40(Layered CDI)

metres



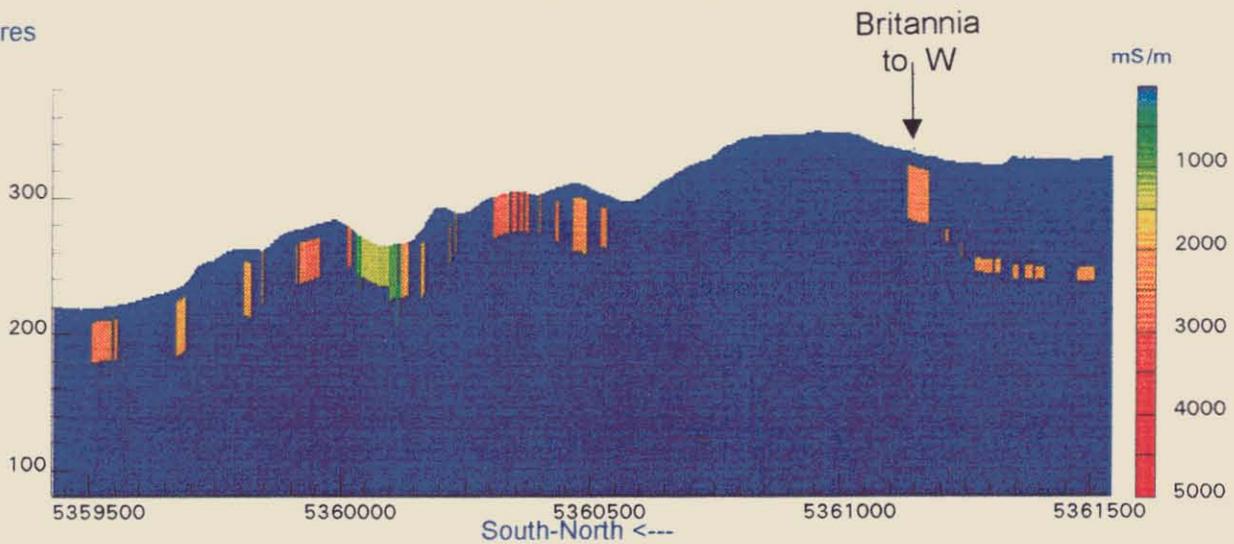
LINE 41(Layered CDI)

metres

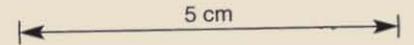


LINE 42(Layered CDI)

metres

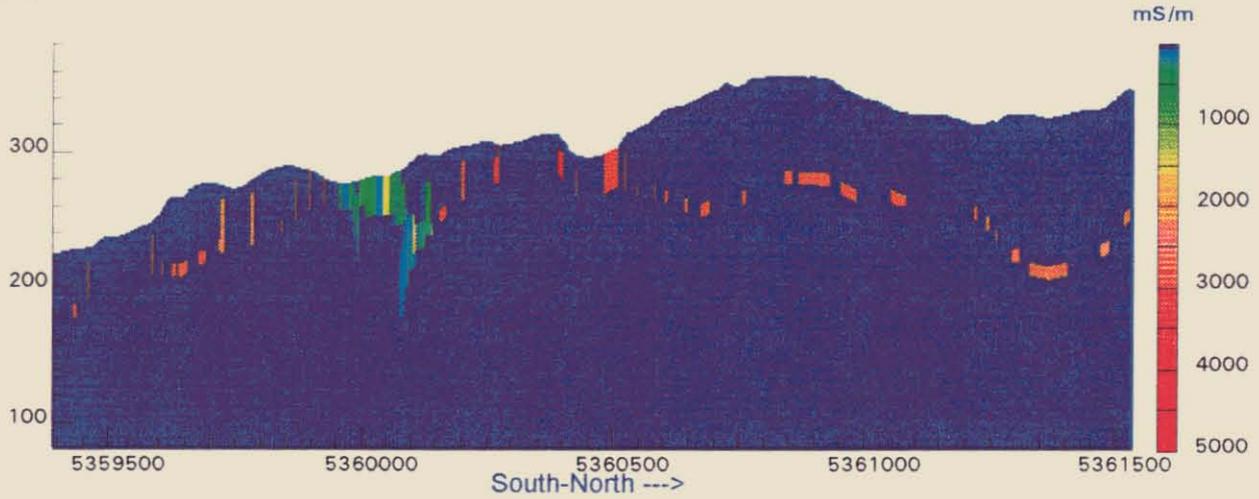


0 300 600(m)



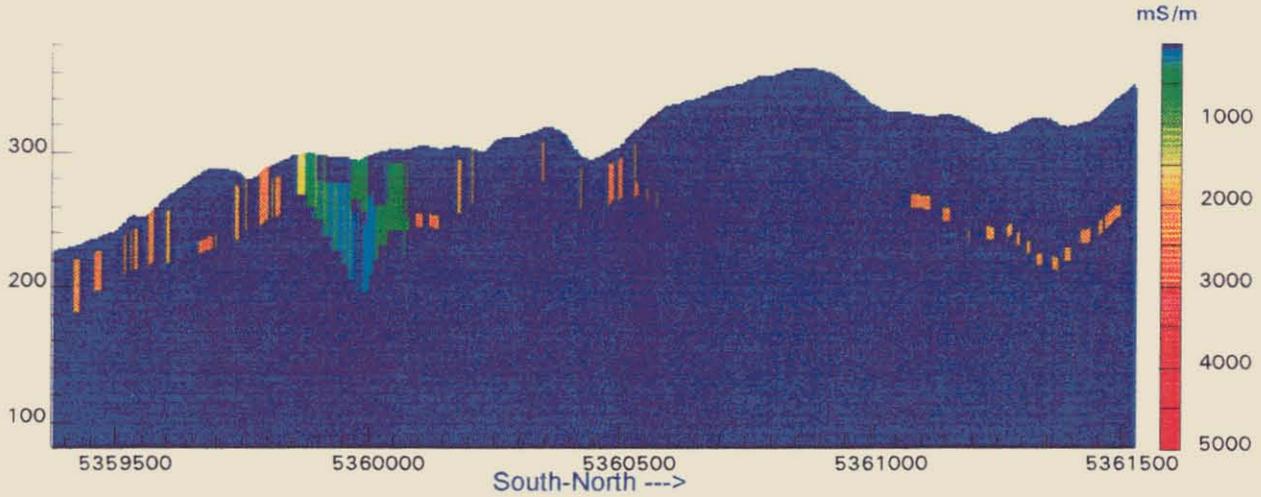
LINE 43(Layered CDI)

metres



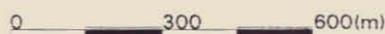
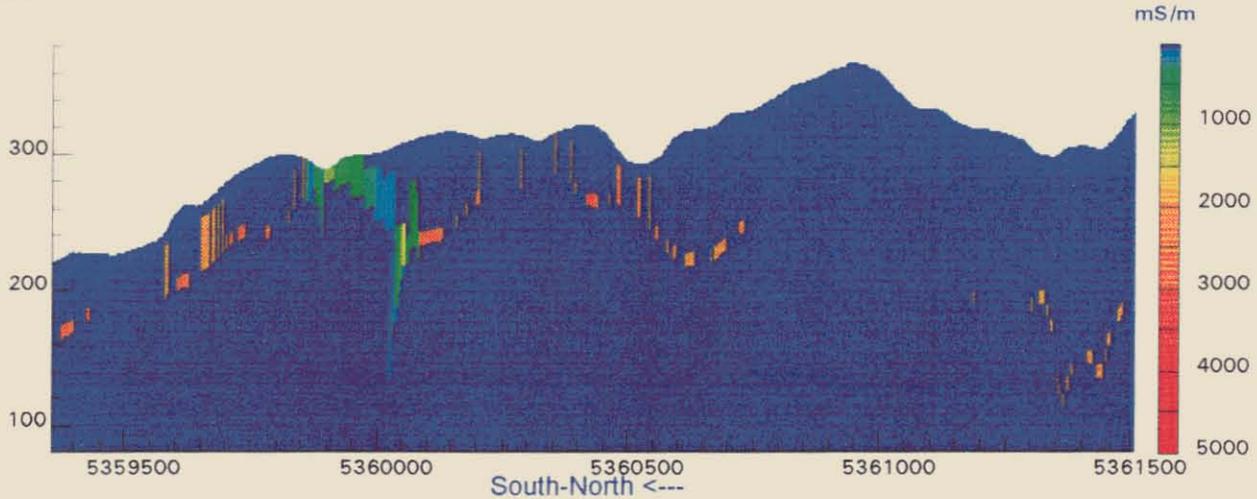
LINE 44(Layered CDI)

metres



LINE 45(Layered CDI)

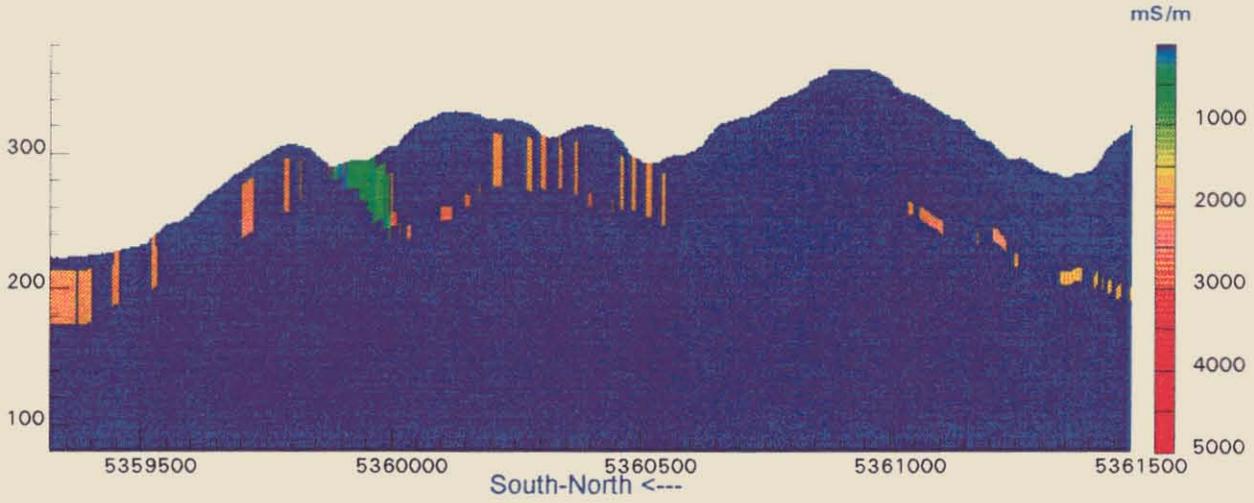
metres



484029

LINE 46(Layered CDI)

netres

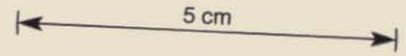


5 cm

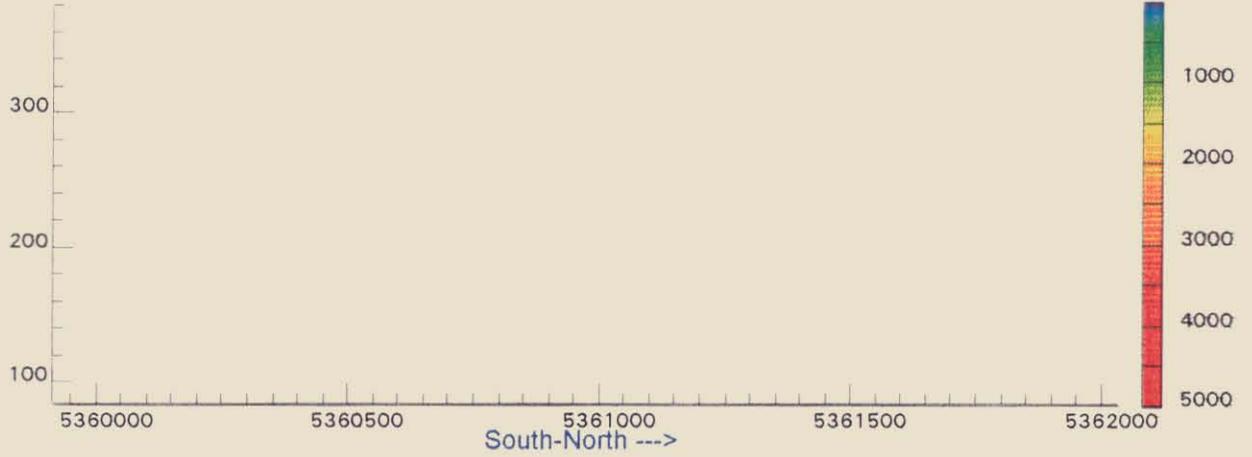
0 300 600(m)

484030

LINE 1(CDI)

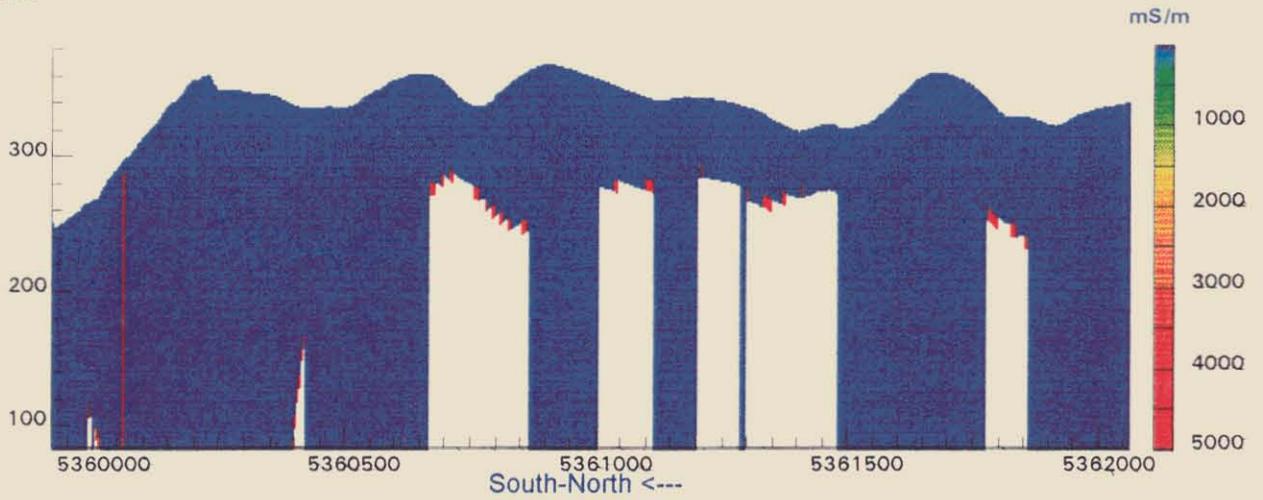


metres



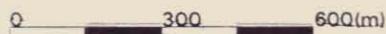
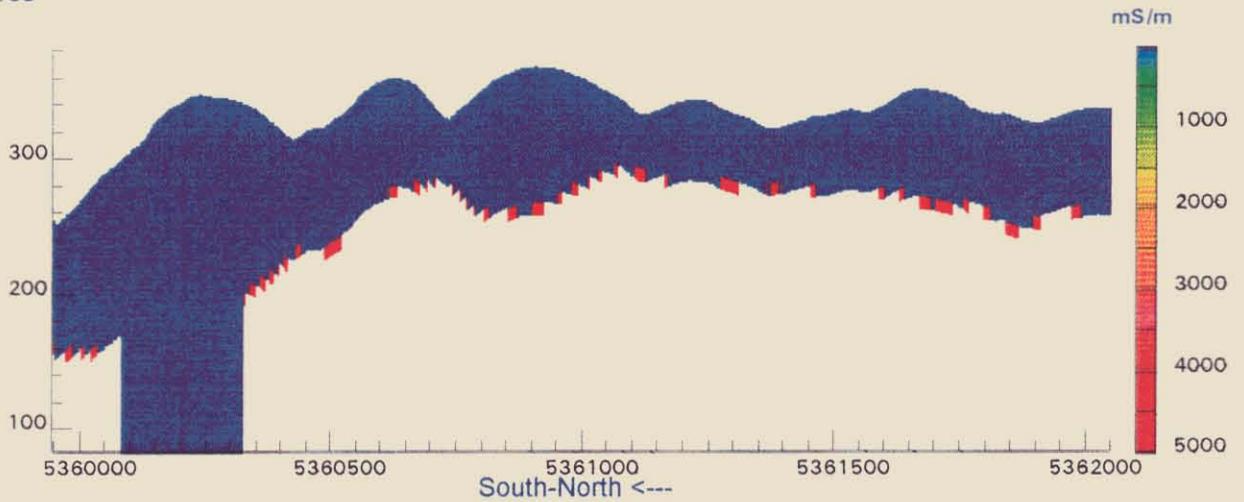
LINE 2(CDI)

metres



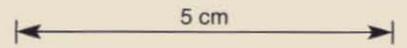
LINE 3(CDI)

metres

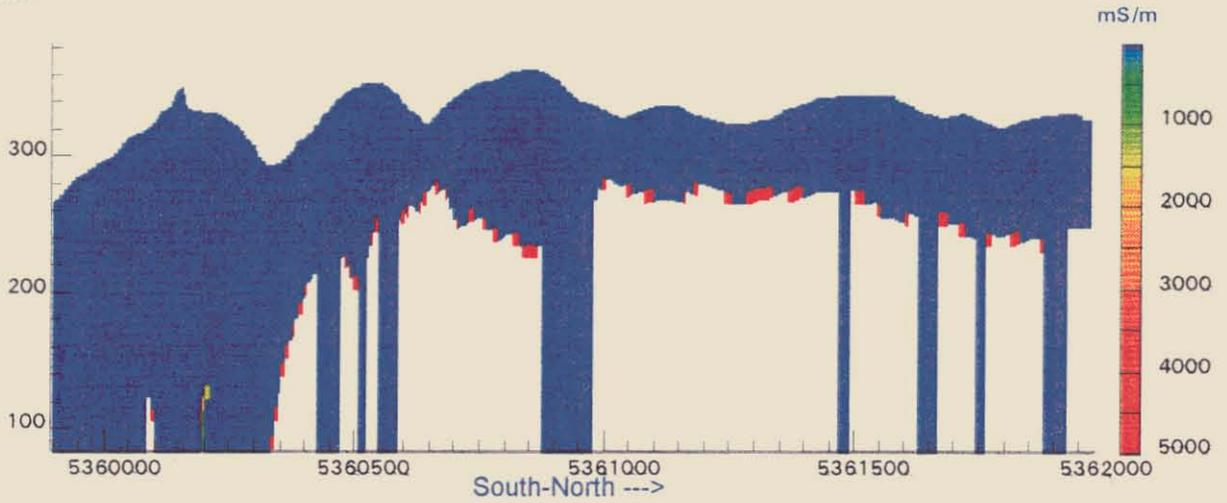


484031

LINE 4(CDI)

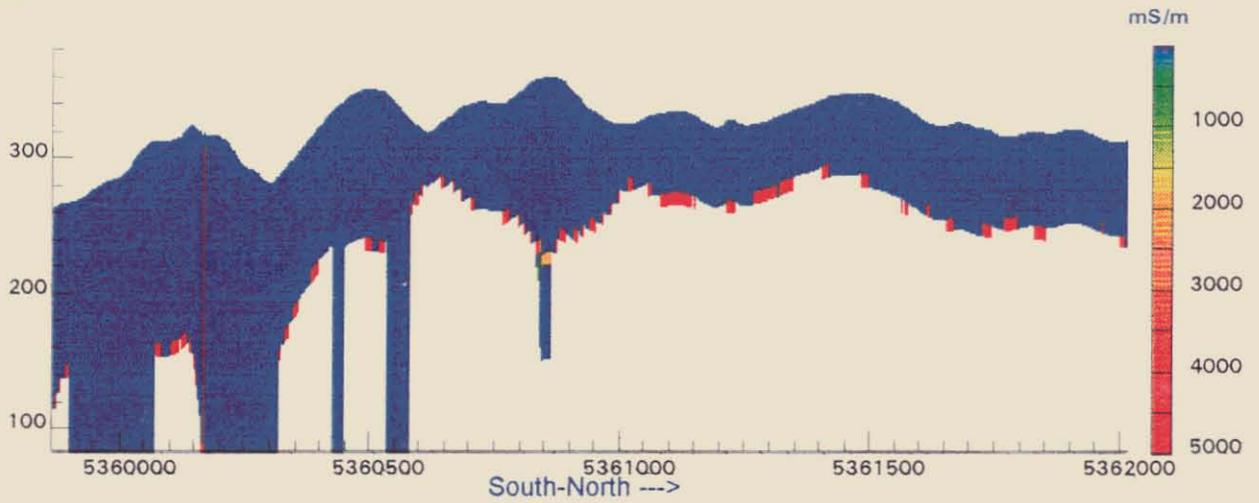


metres



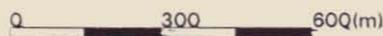
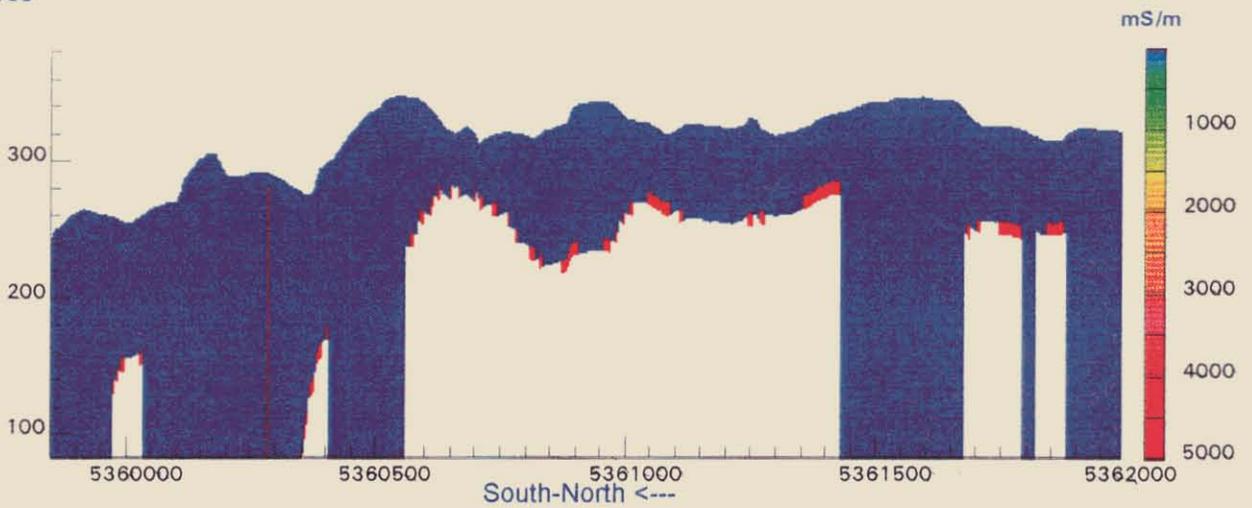
LINE 5(CDI)

metres



LINE 6(CDI)

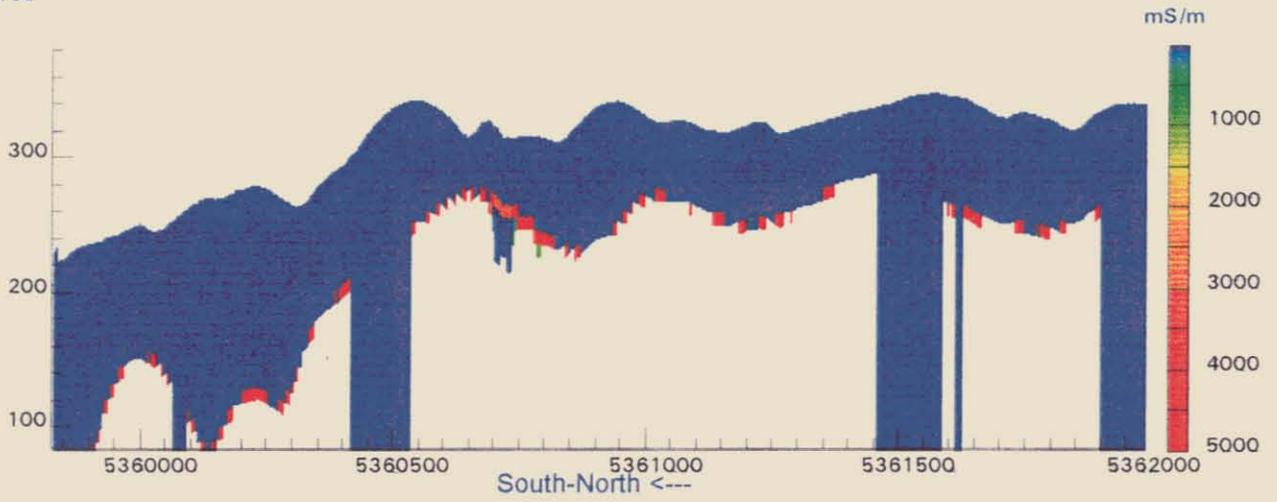
metres



484032

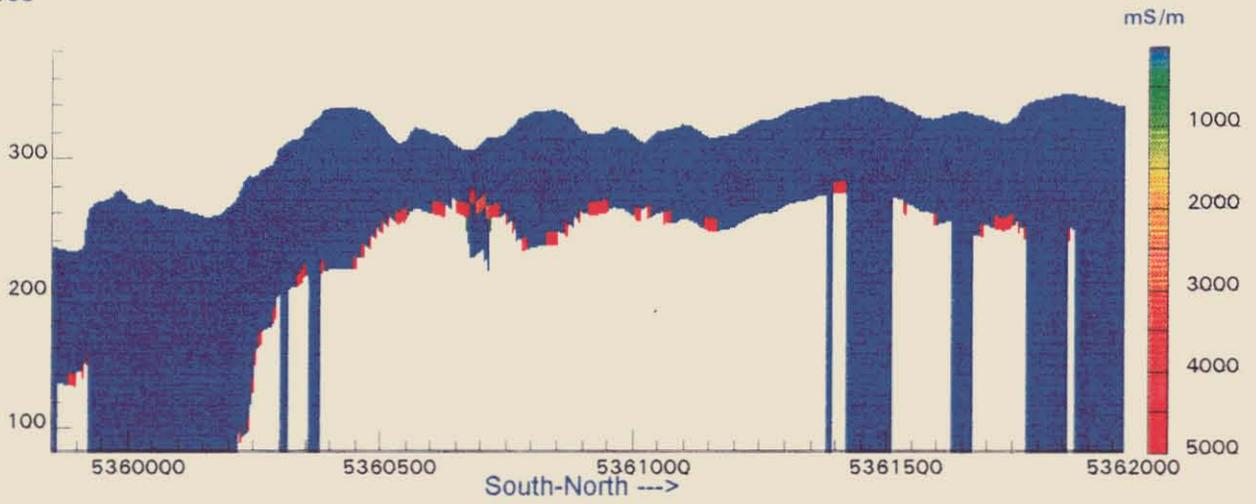
LINE 7(GDI)

metres



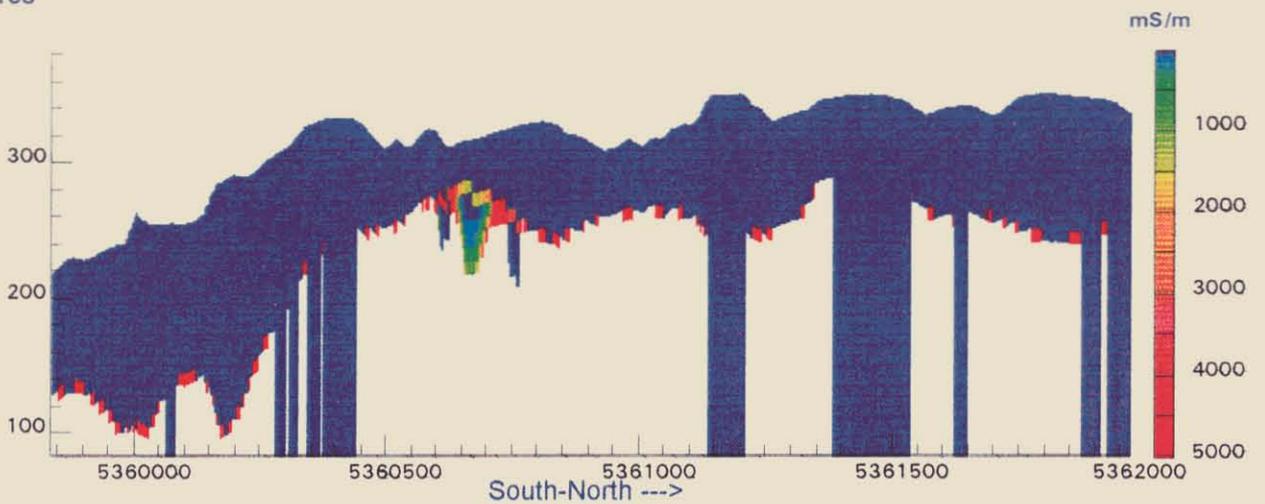
LINE 8(GDI)

metres



LINE 9(GDI)

metres



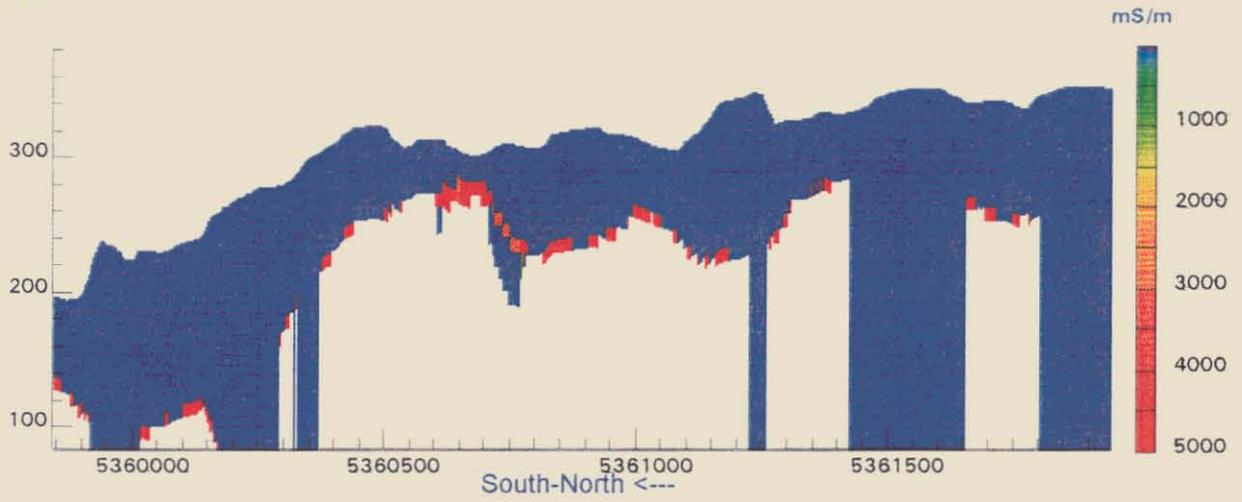
0 300 600(m)

5 cm

484033

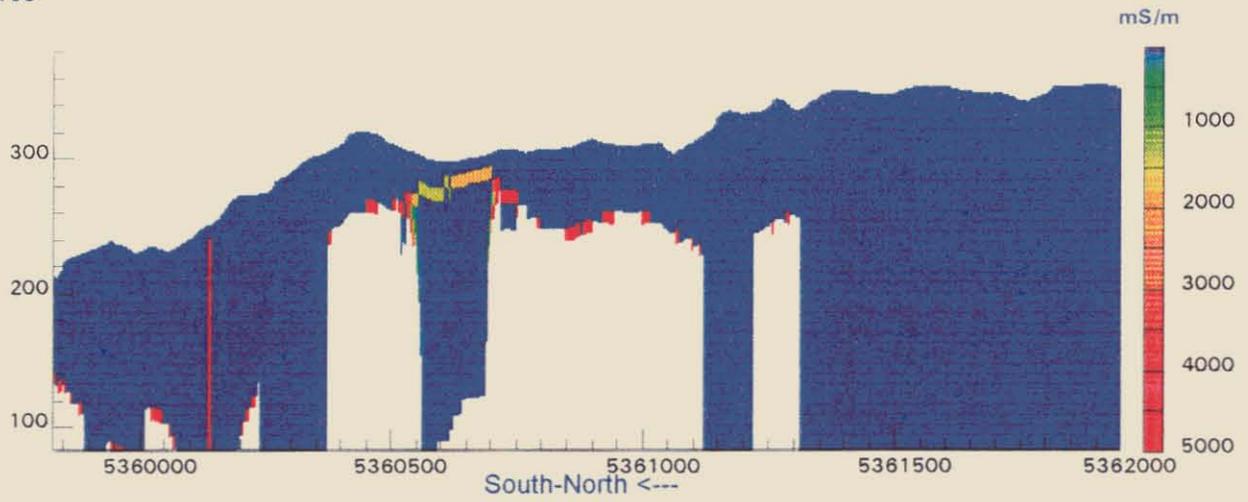
LINE 10(CDI)

metres



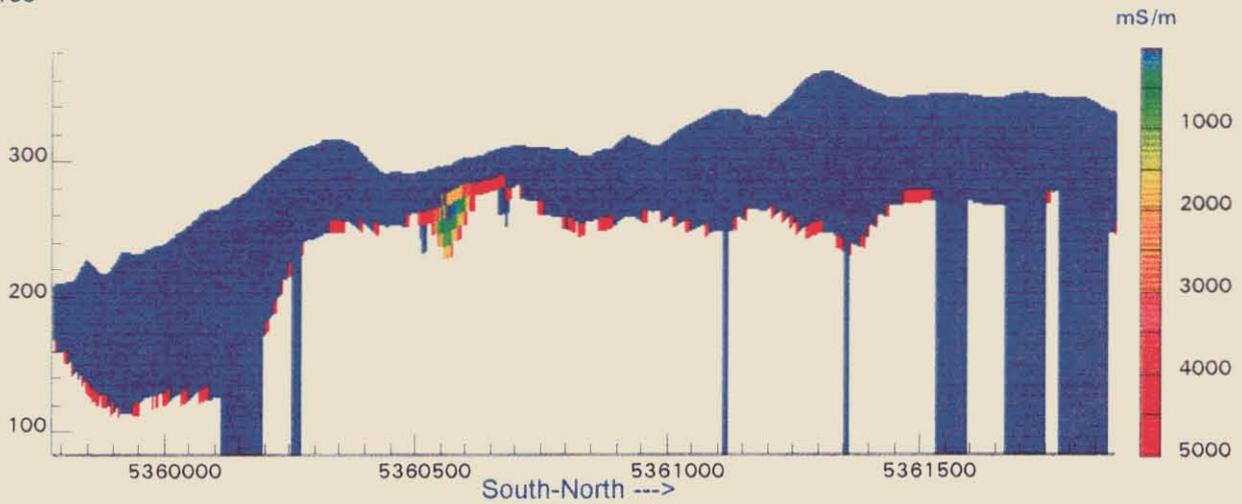
LINE 11(CDI)

metres



LINE 12(CDI)

metres



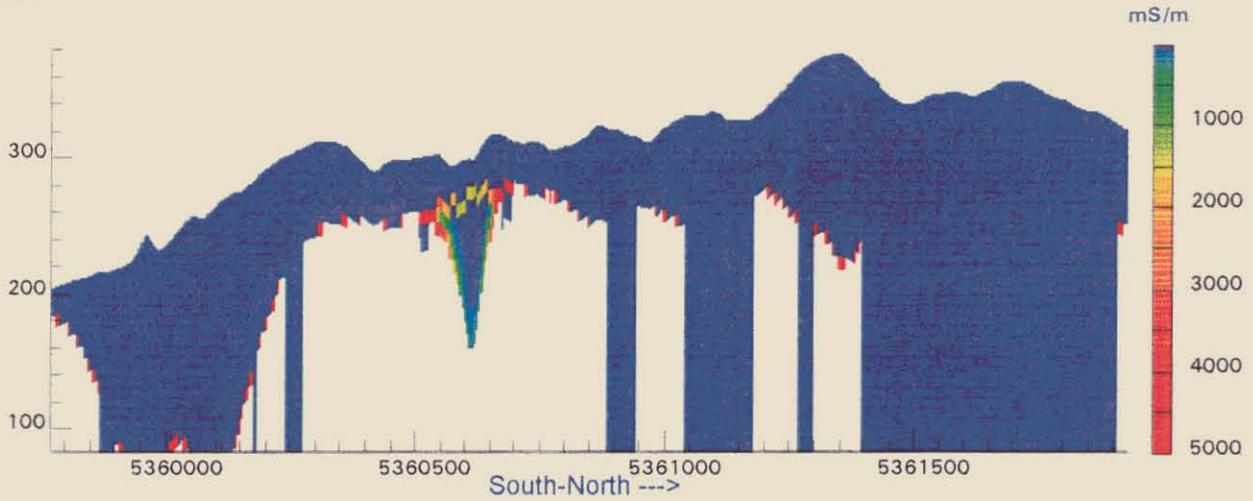
0 300 600(m)

5 cm

484034

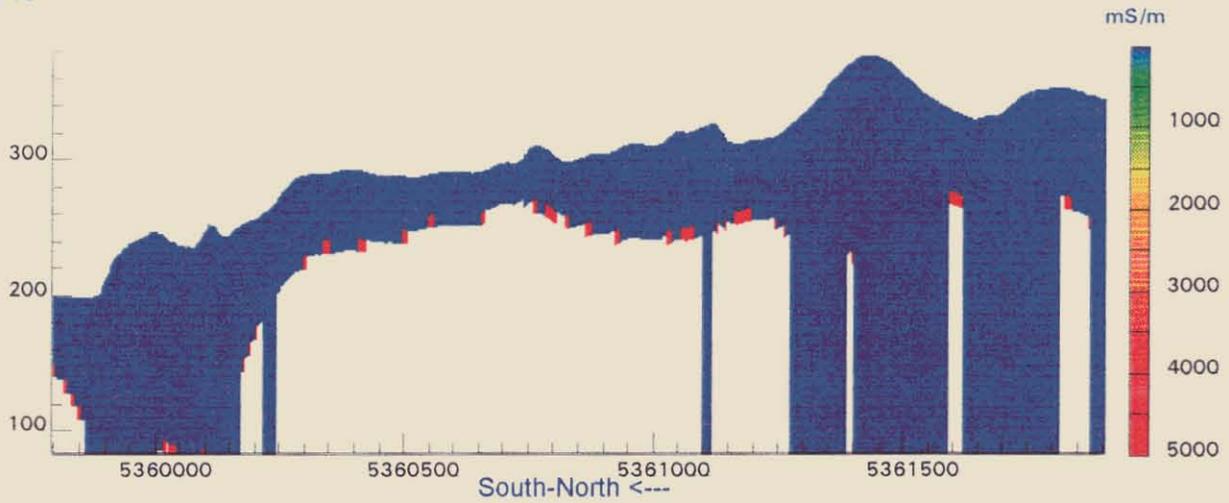
LINE 13(CDI)

metres



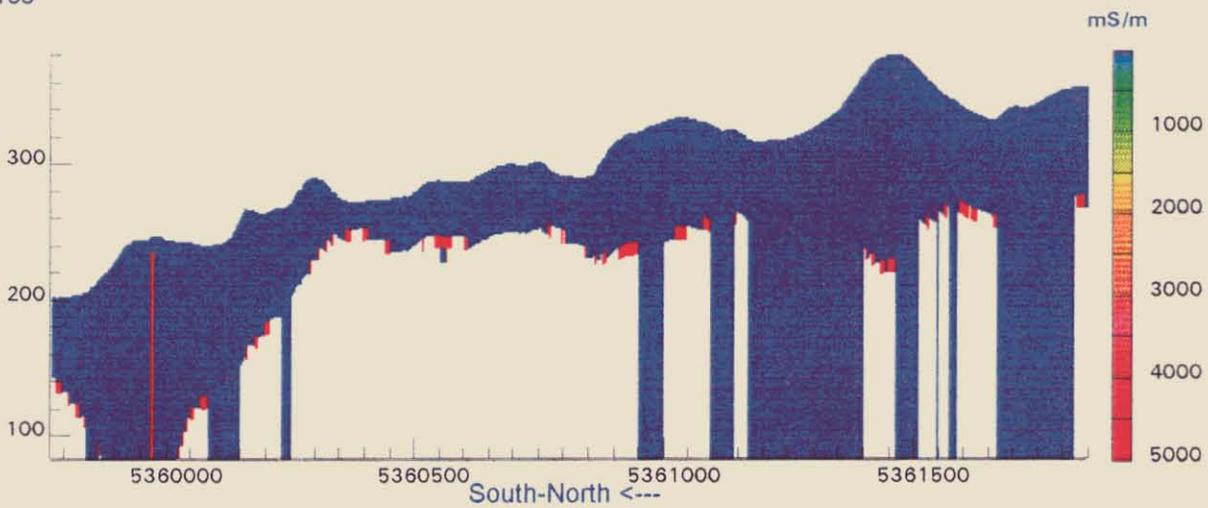
LINE 14(CDI)

metres



LINE 15(CDI)

metres



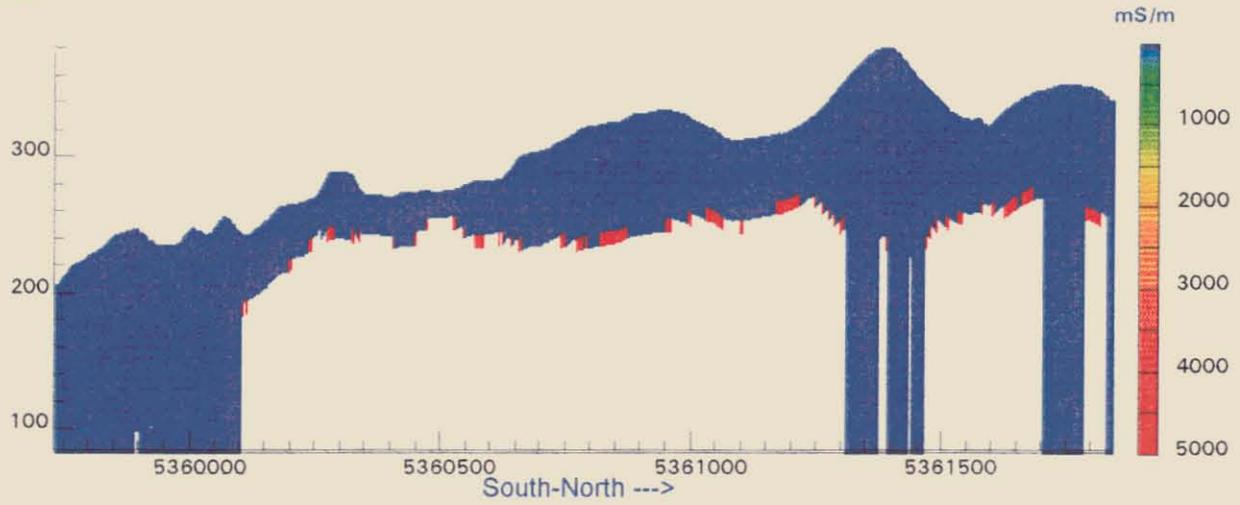
0 300 600(m)

5 cm

484035

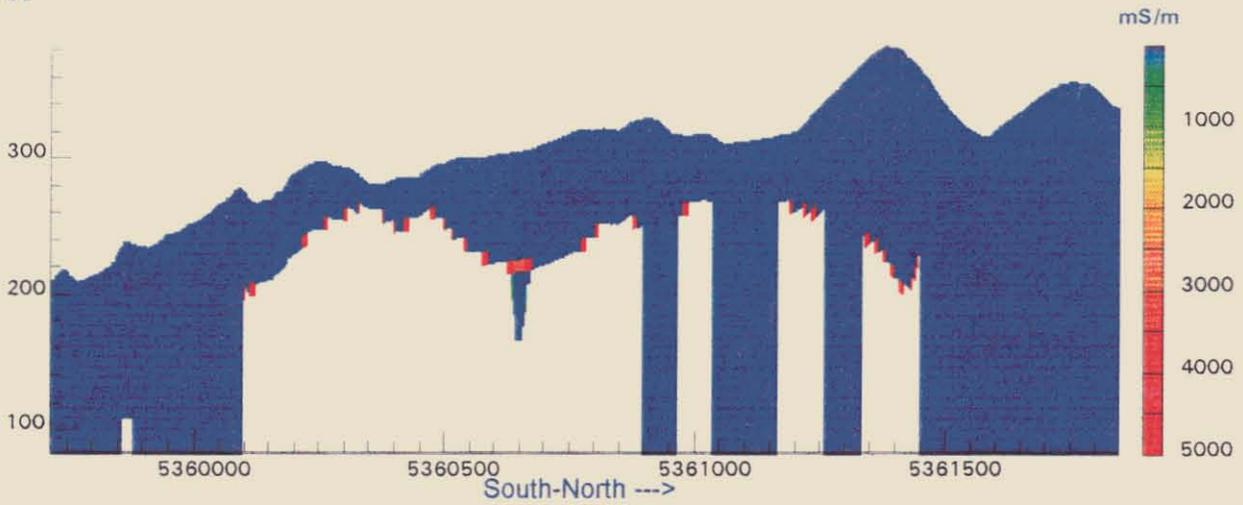
LINE 16(CDI)

metres



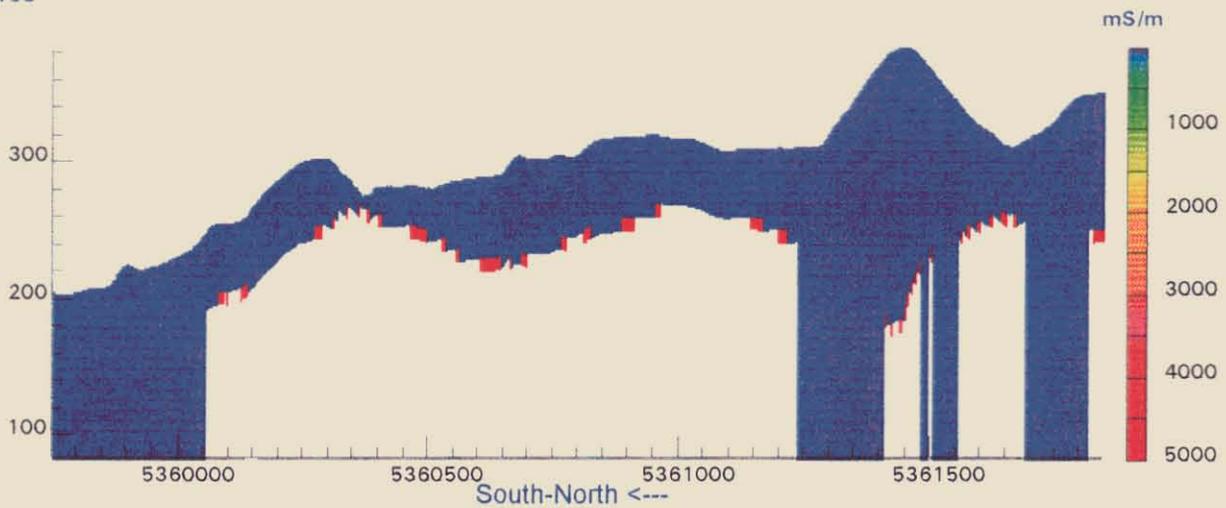
LINE 17(CDI)

metres



LINE 18(CDI)

metres



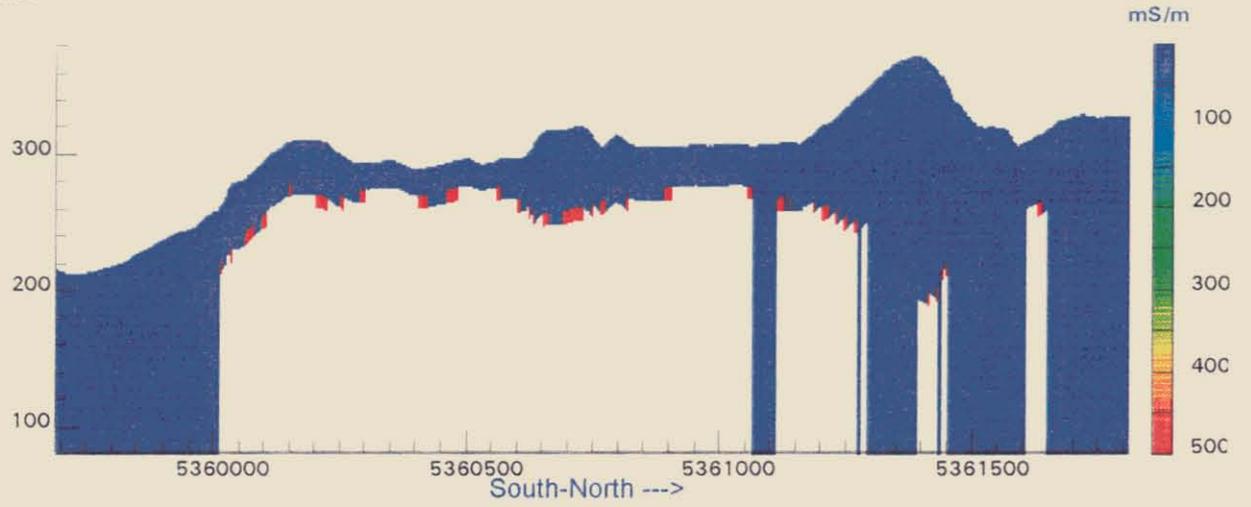
0 300 600(m)

5 cm

484036

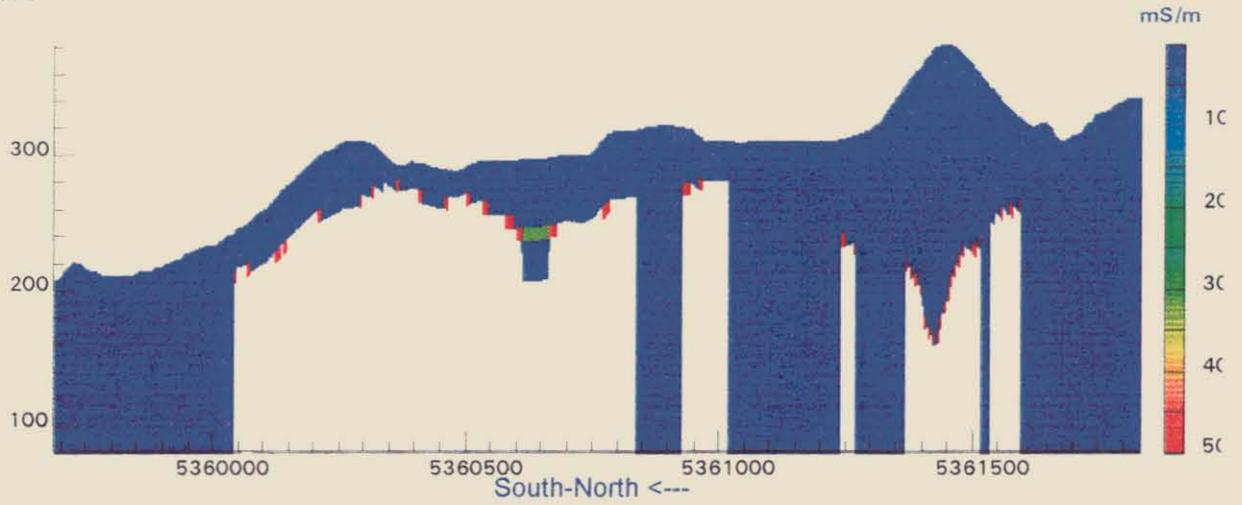
LINE 20(CDI)

metres



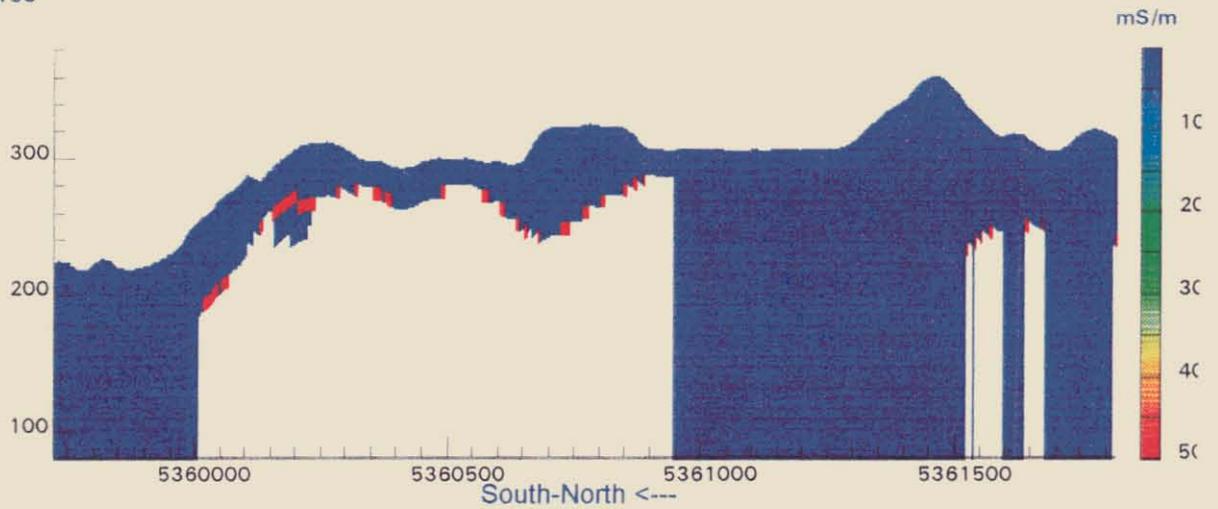
LINE 19(CDI)

metres



LINE 21(CDI)

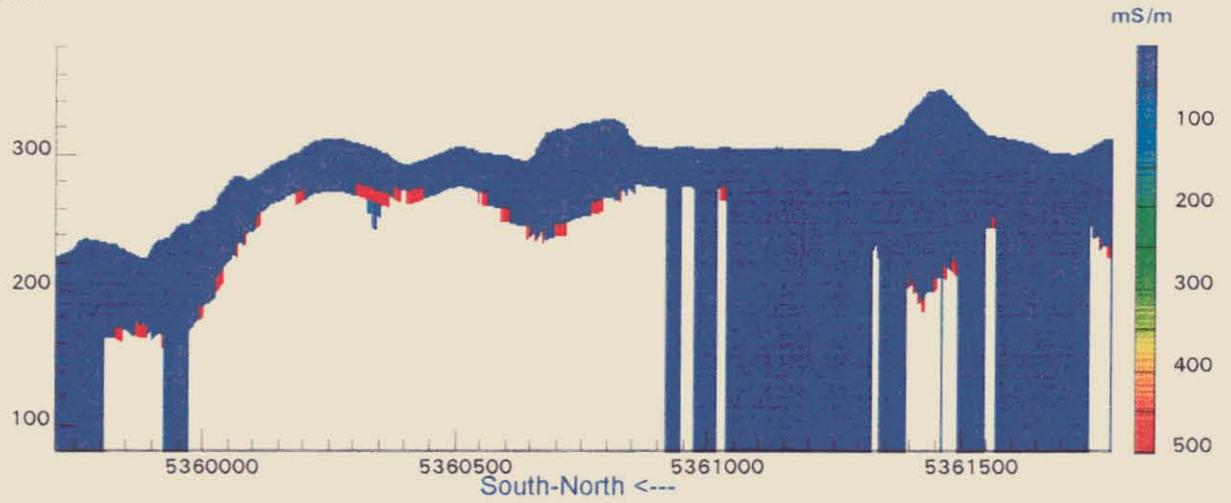
metres



484037

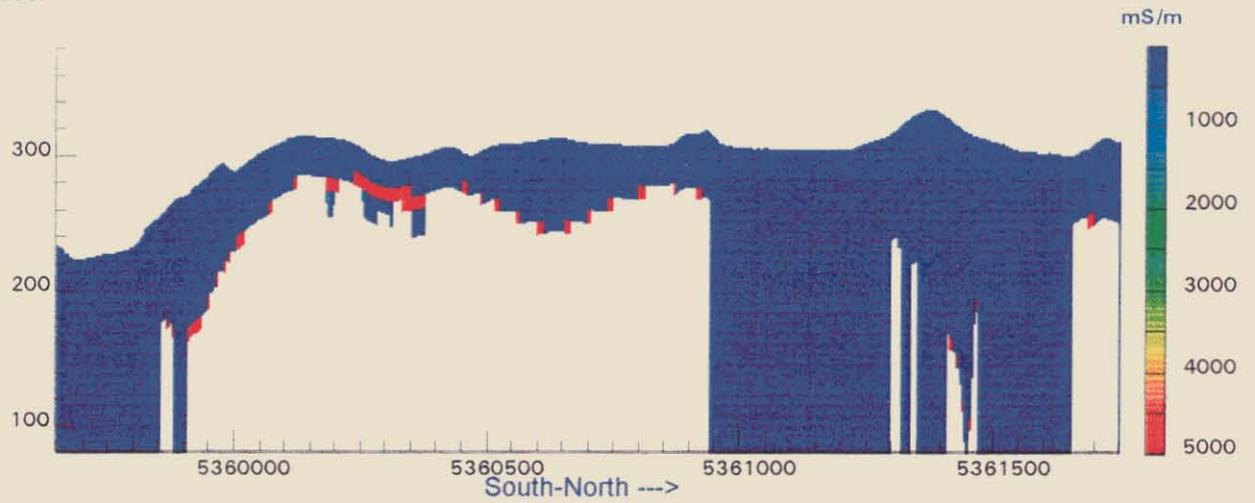
LINE 22(CDI)

metres



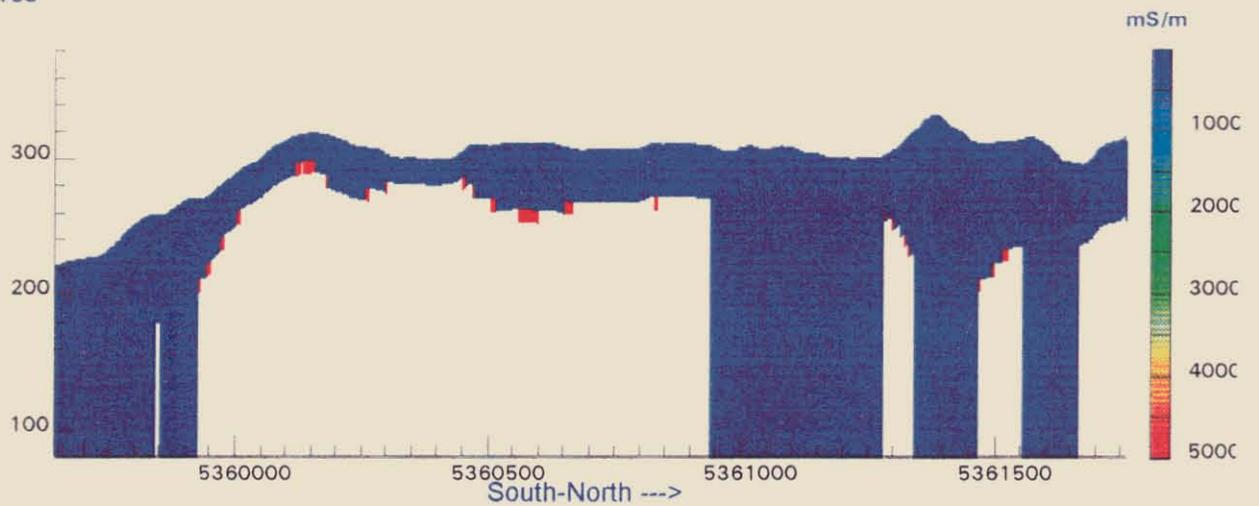
LINE 23(CDI)

metres



LINE 24(CDI)

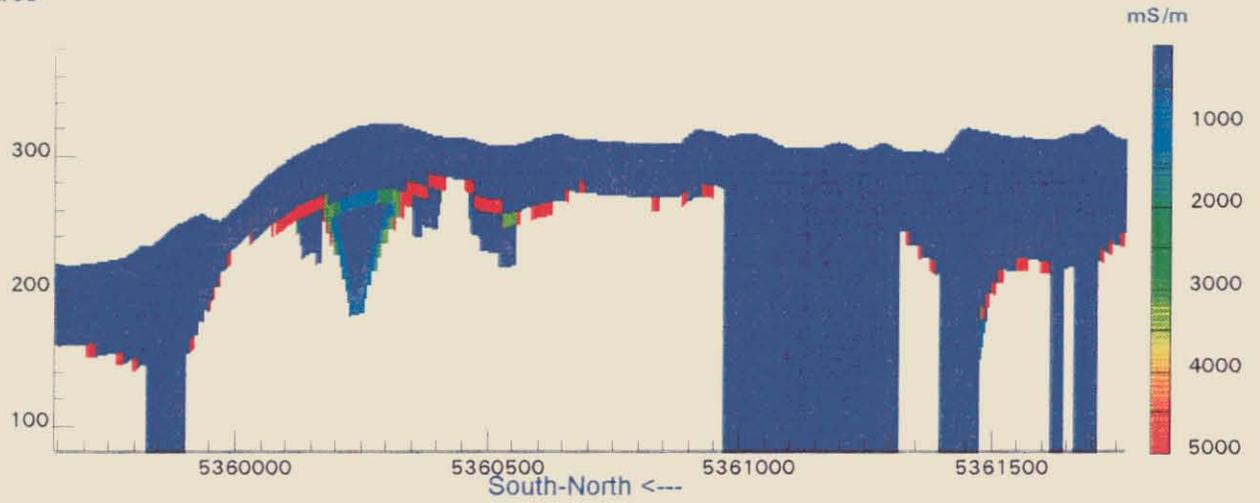
metres



484038

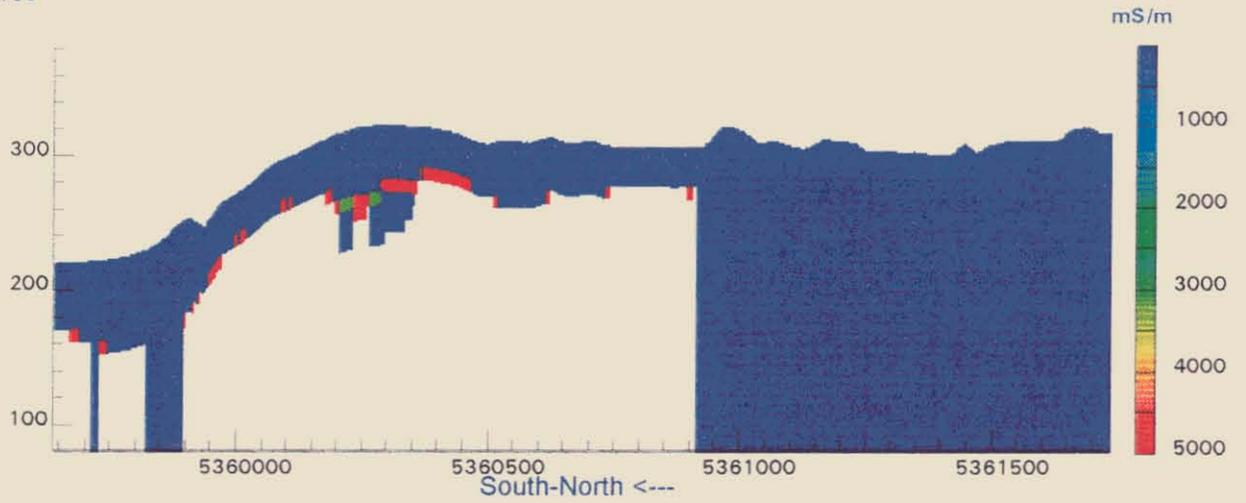
LINE 25(CDI)

metres



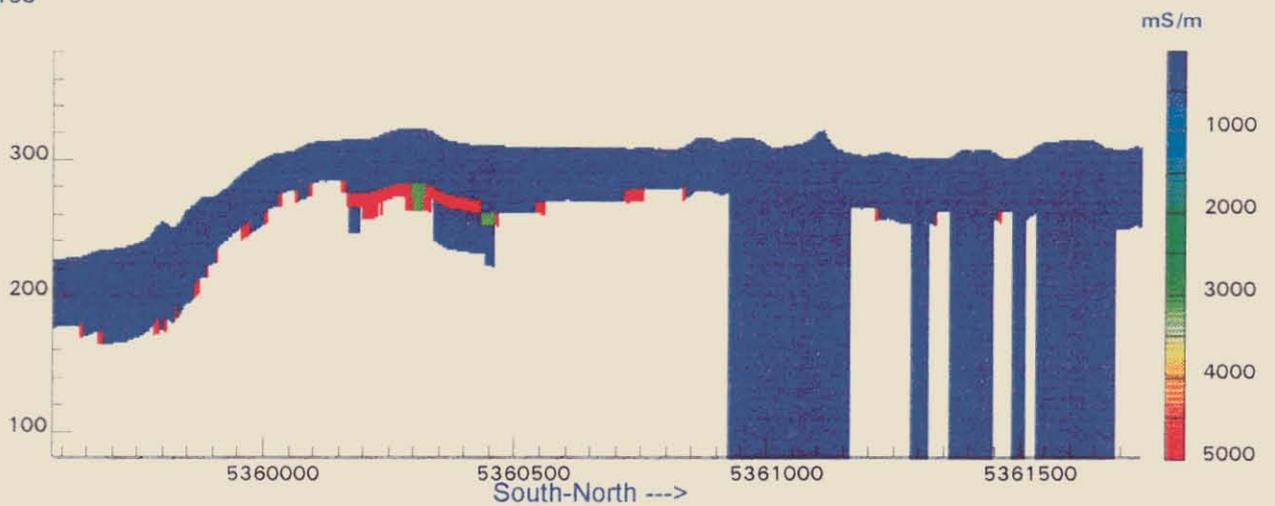
LINE 26(CDI)

metres



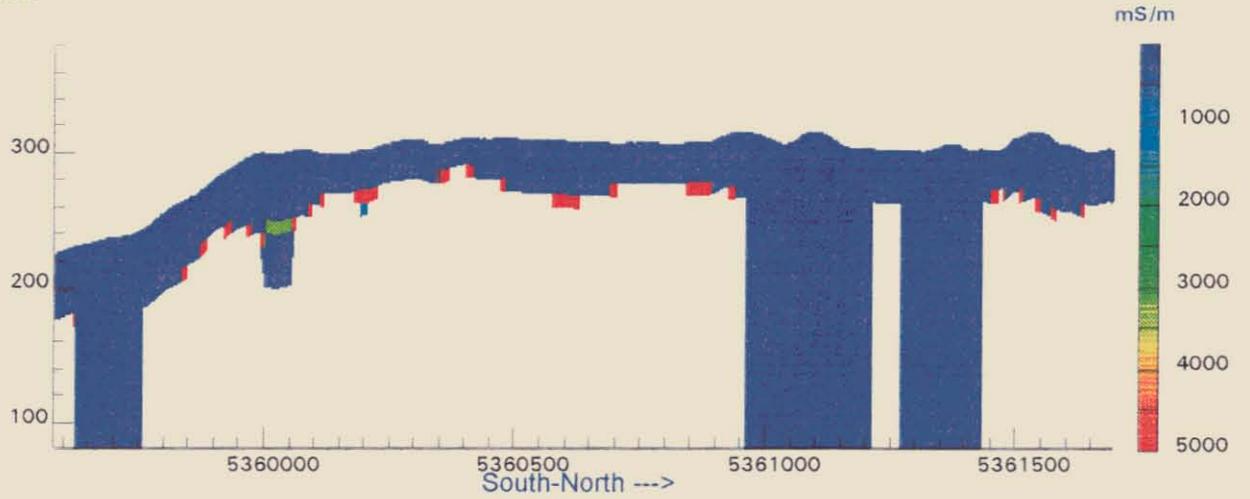
LINE 27(CDI)

metres



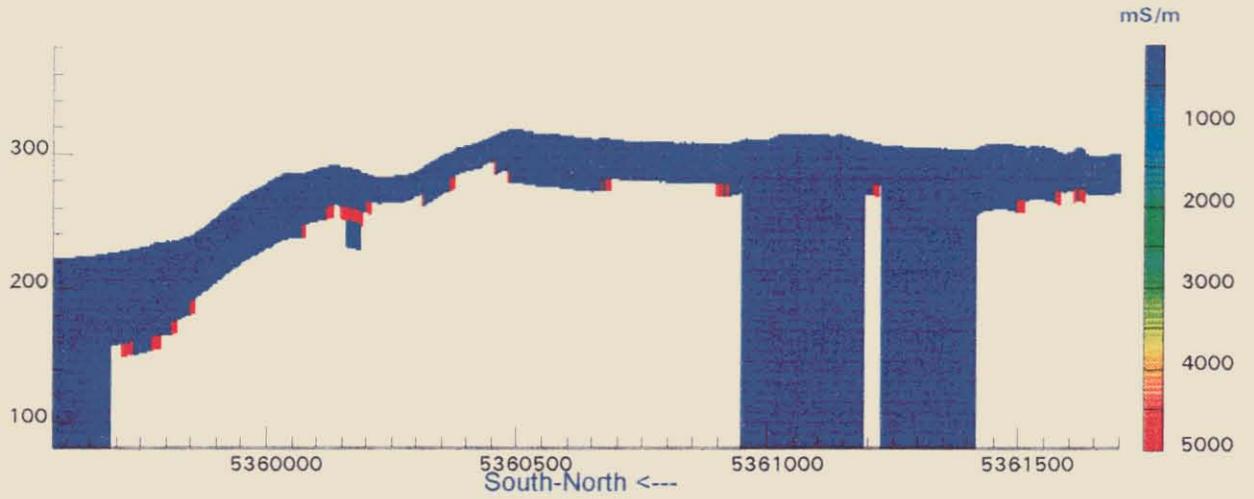
LINE 28(CDI)

metres



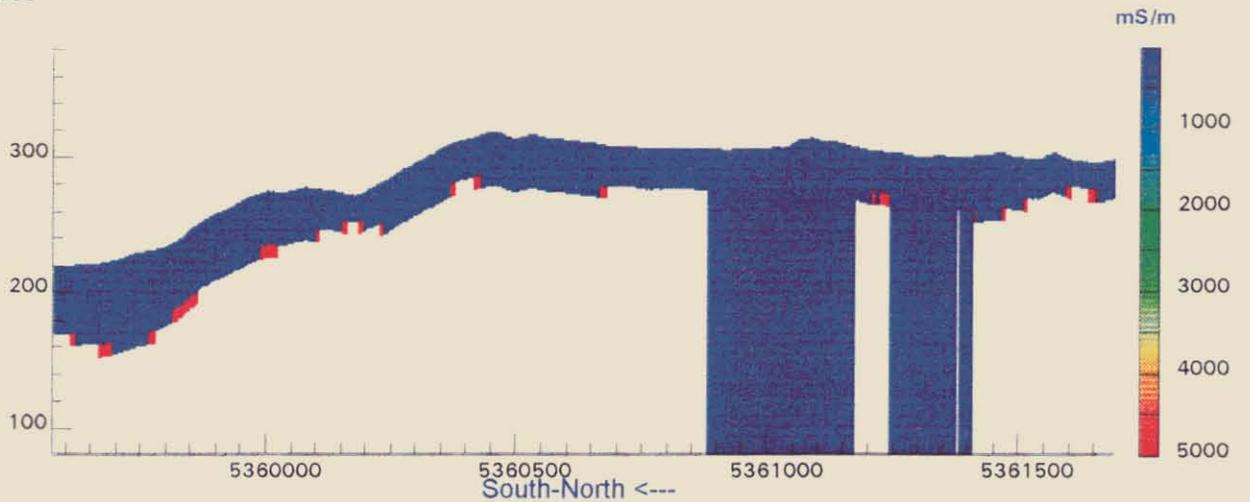
LINE 29(CDI)

metres



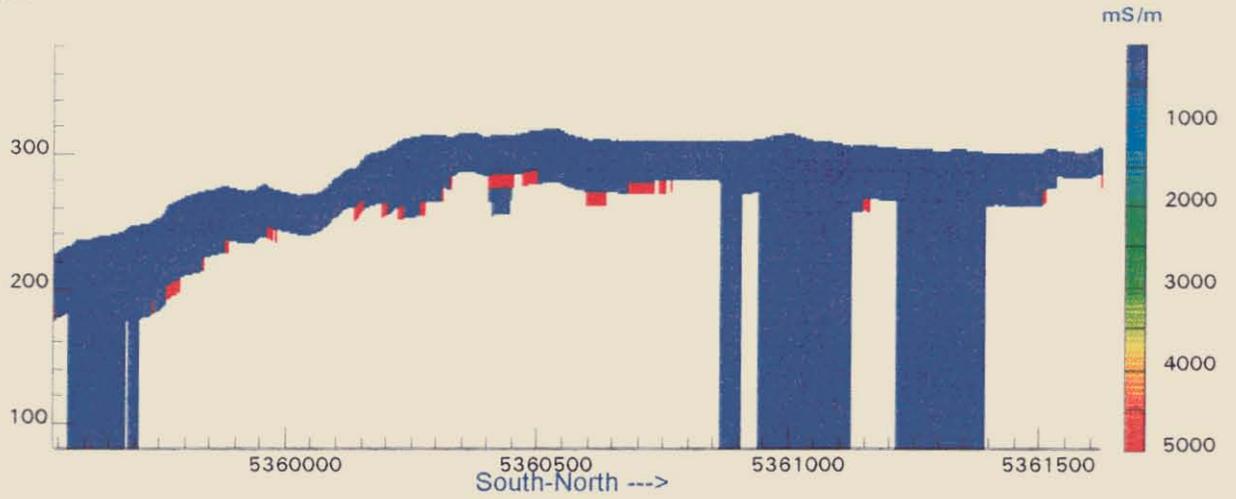
LINE 30(CDI)

metres



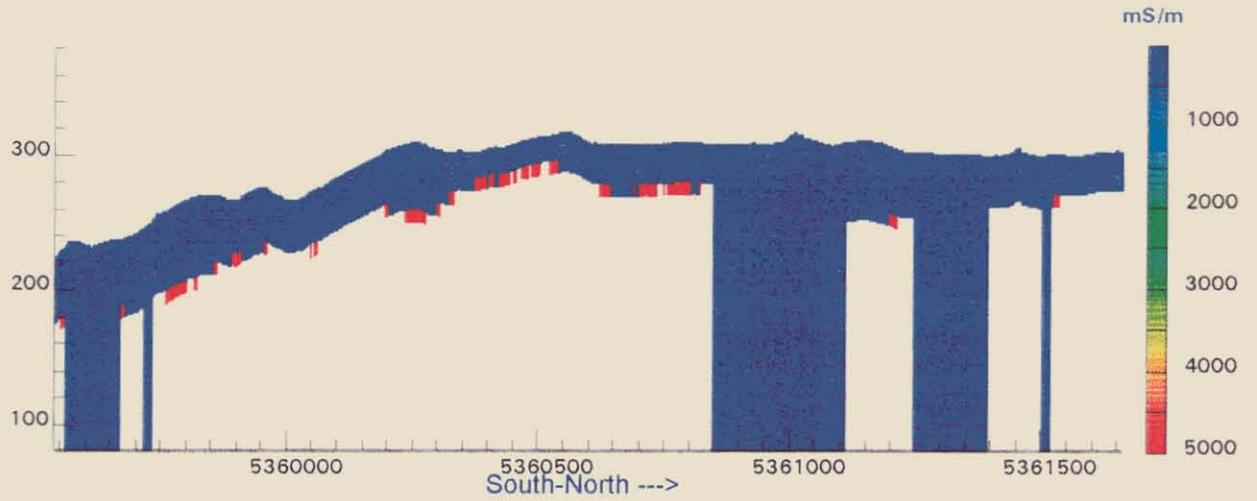
LINE 31(CDI)

metres



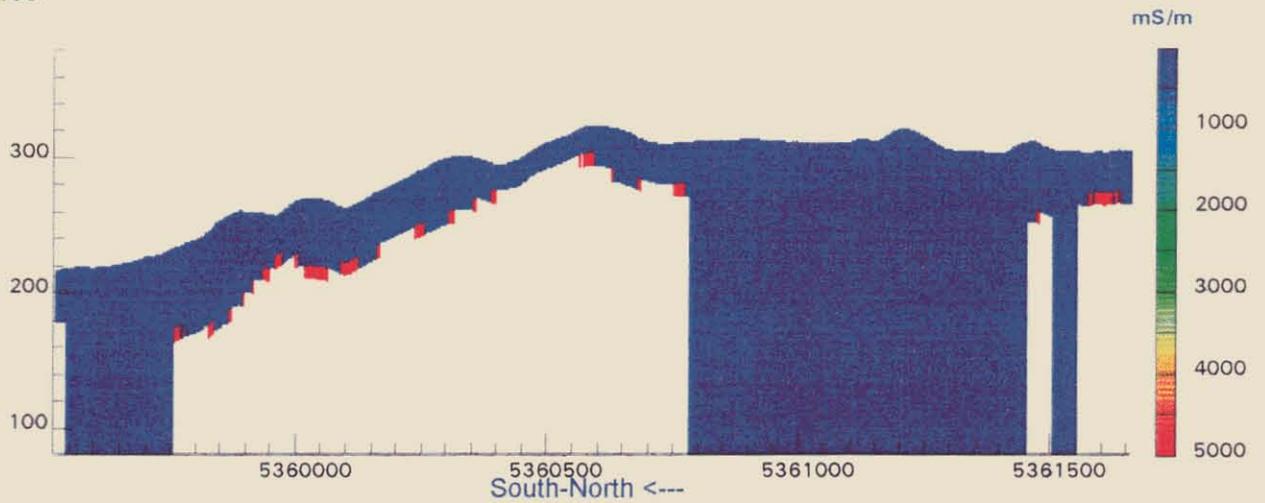
LINE 32(CDI)

metres



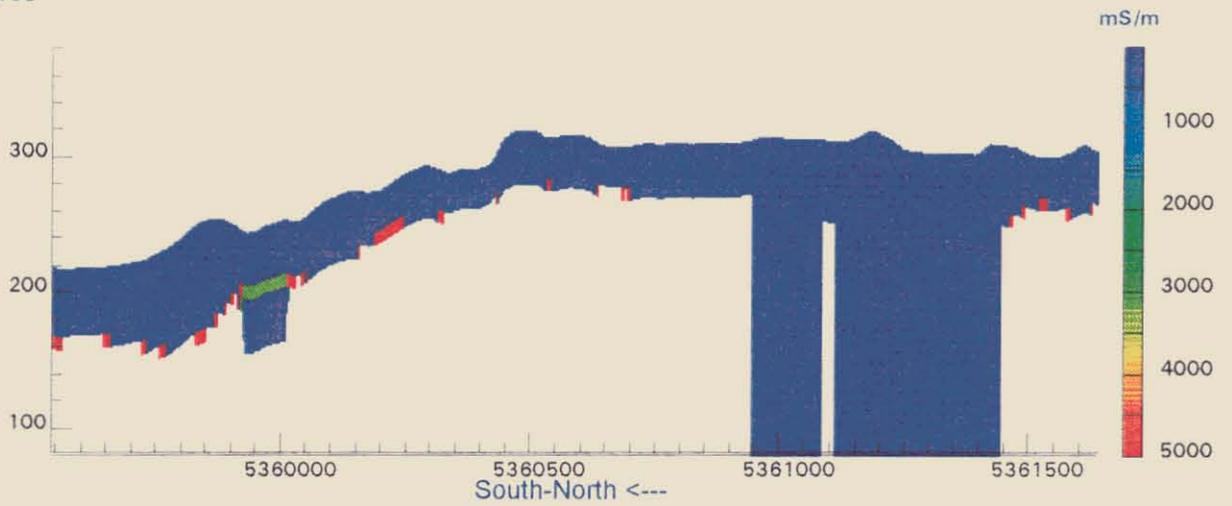
LINE 33(CDI)

metres



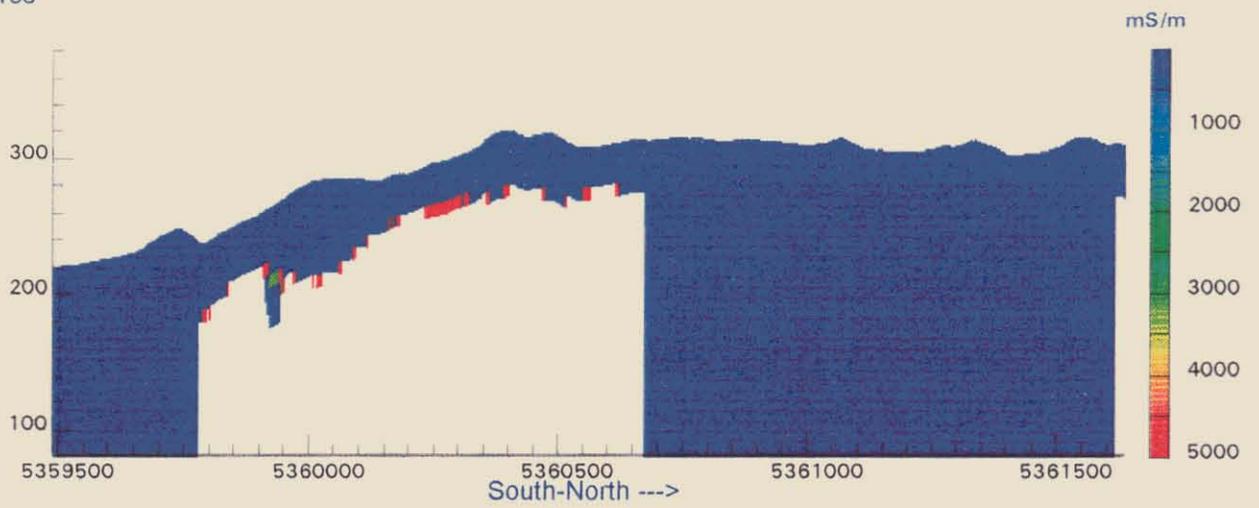
484041
metres

LINE 34(CDI)



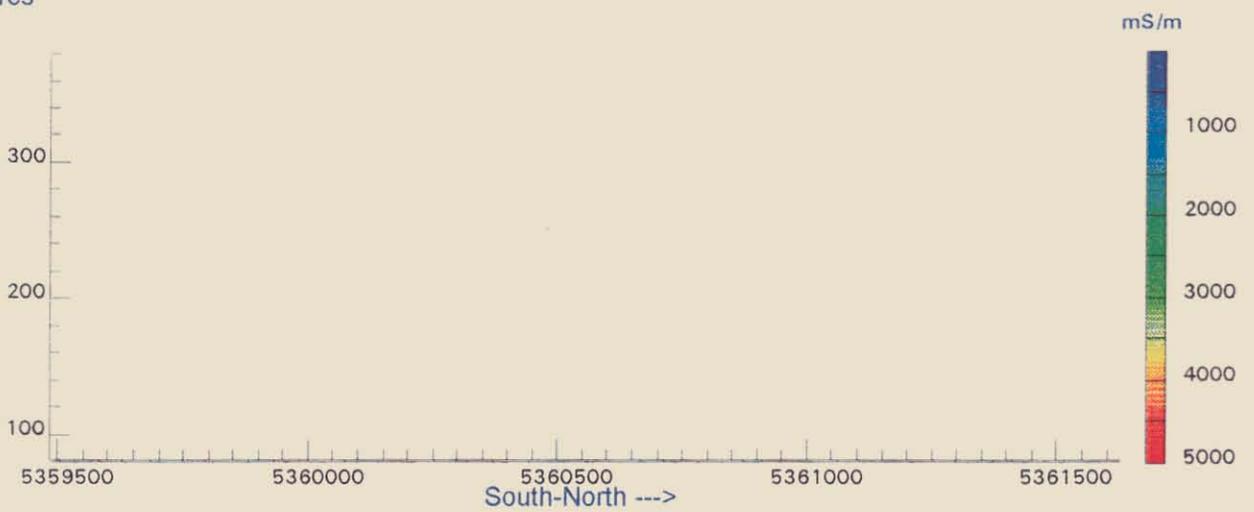
metres

LINE 35(CDI)



metres

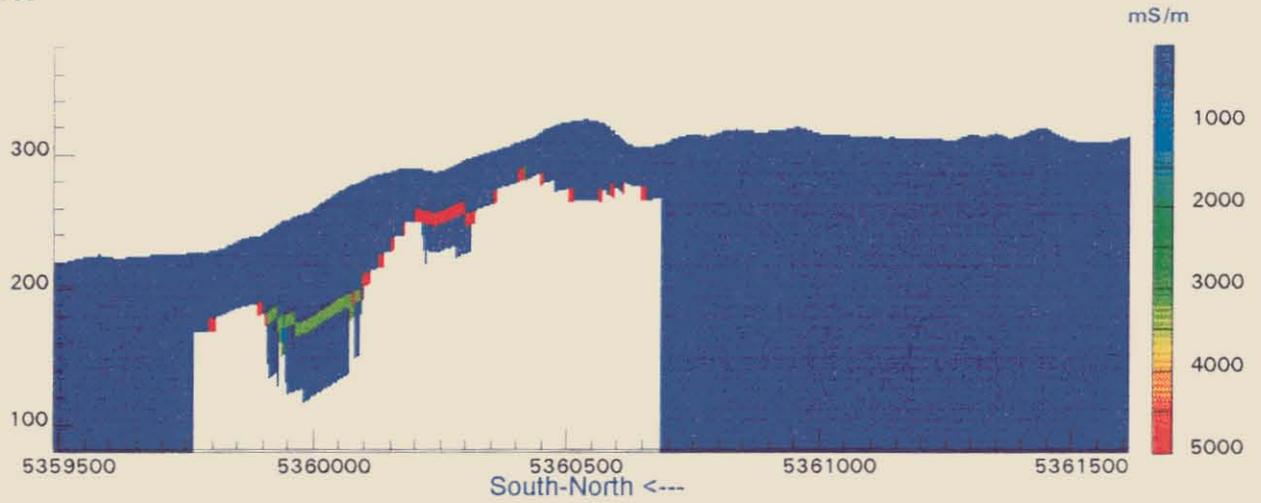
LINE 36(CDI)



484042

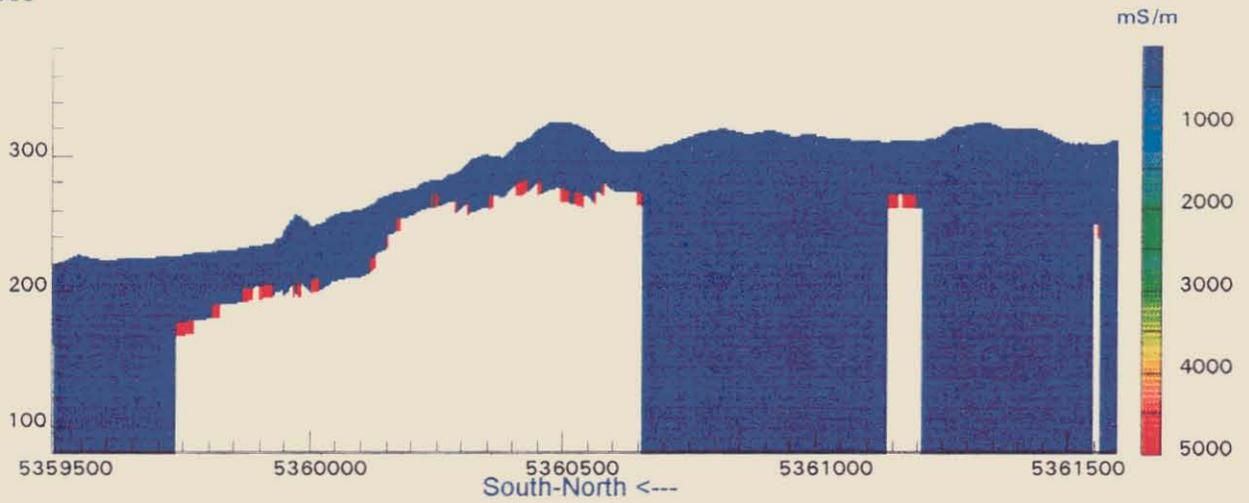
LINE 37(CDI)

metres



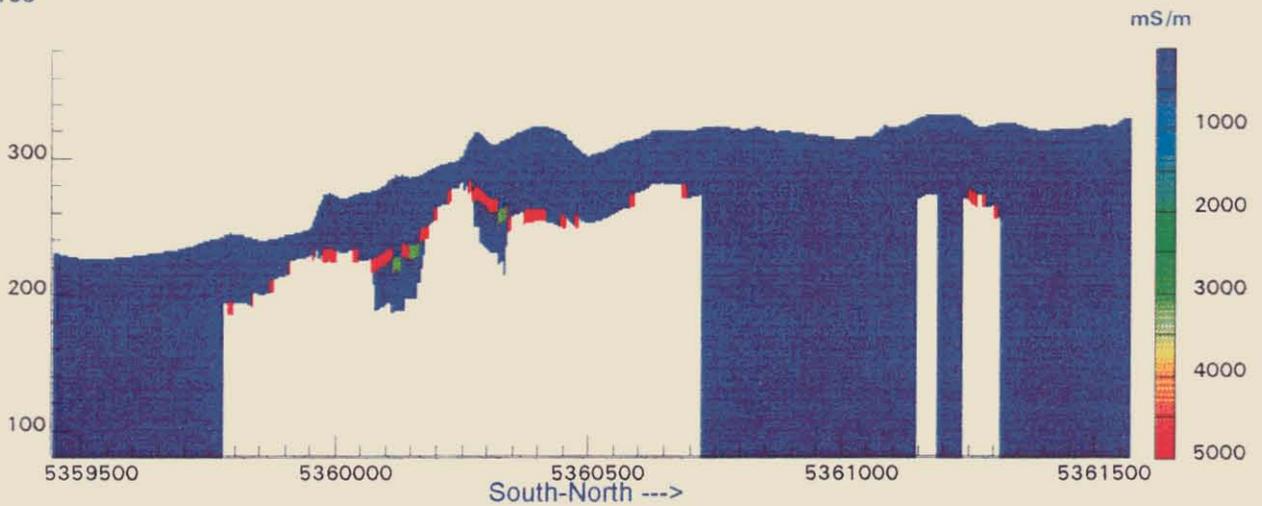
LINE 38(CDI)

metres



LINE 39(CDI)

metres



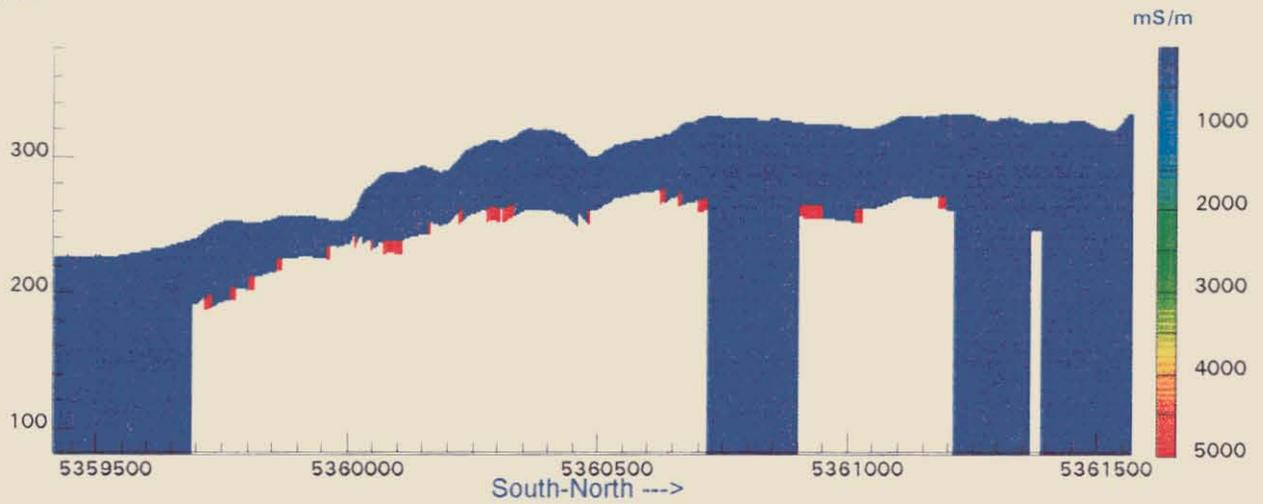
0 300 600(m)

5 cm

484043

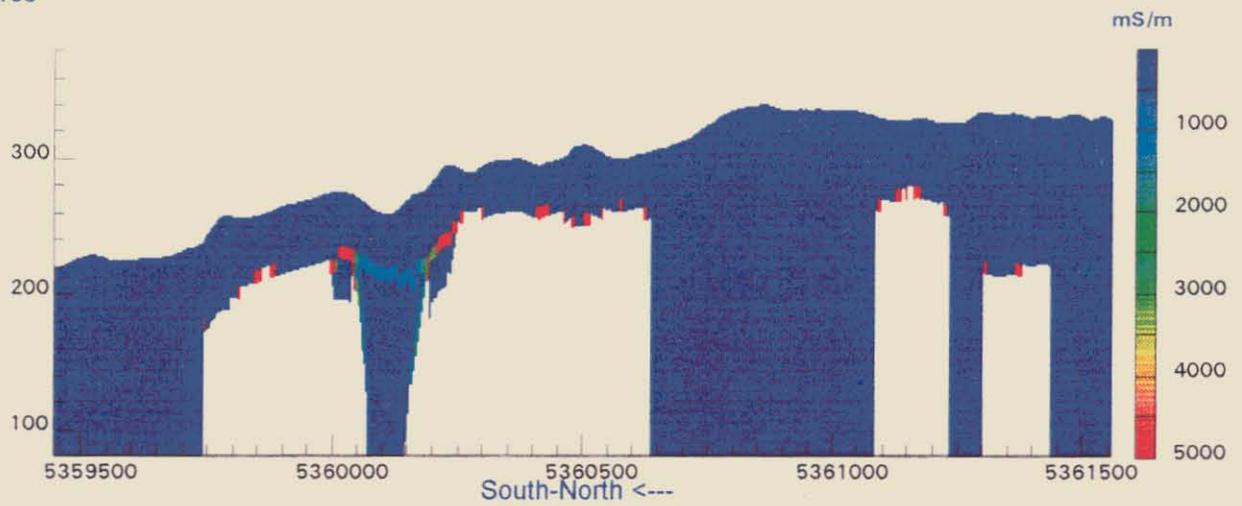
LINE 40(CDI)

metres



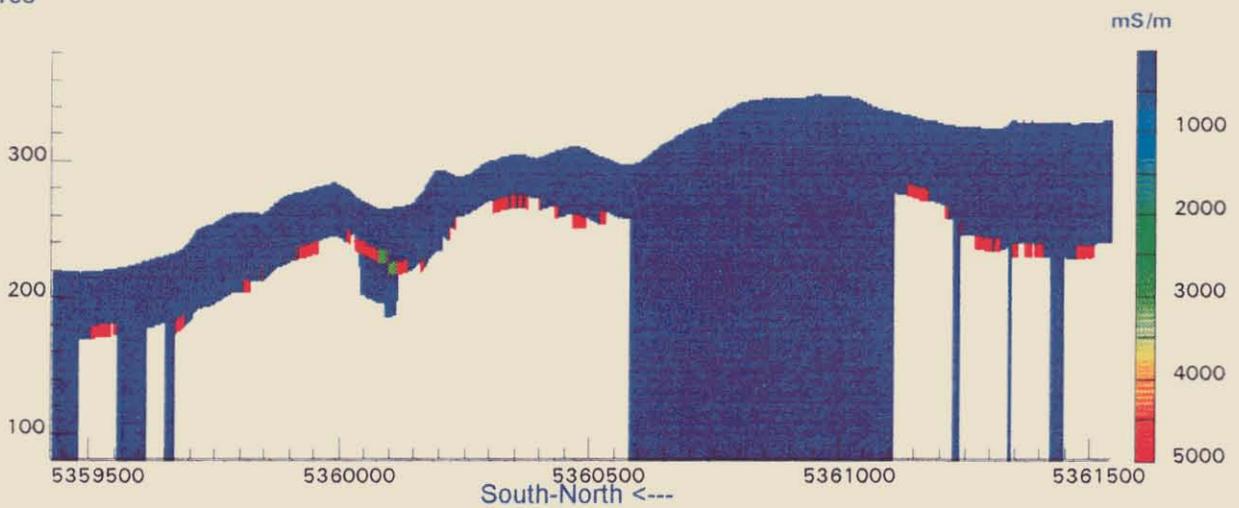
LINE 41(CDI)

metres



LINE 42(CDI)

metres



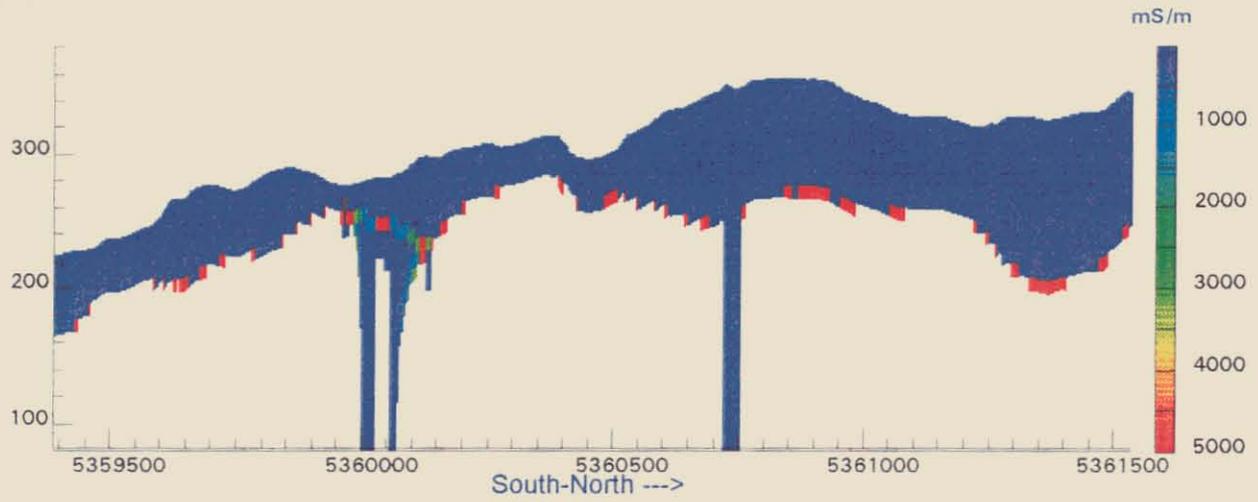
0 300 600(m)

5 cm

484044

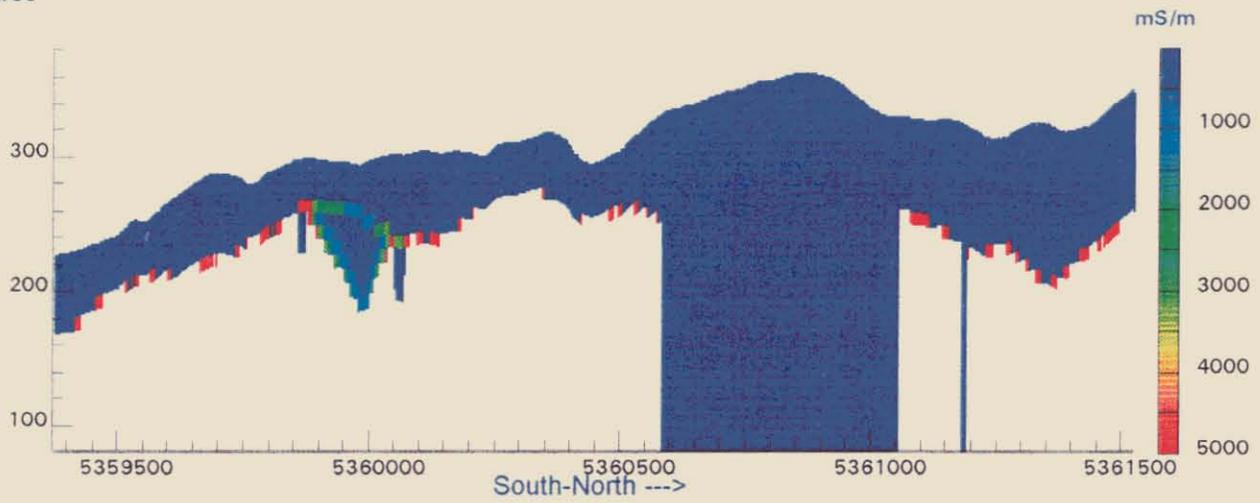
LINE 43(CDI)

metres



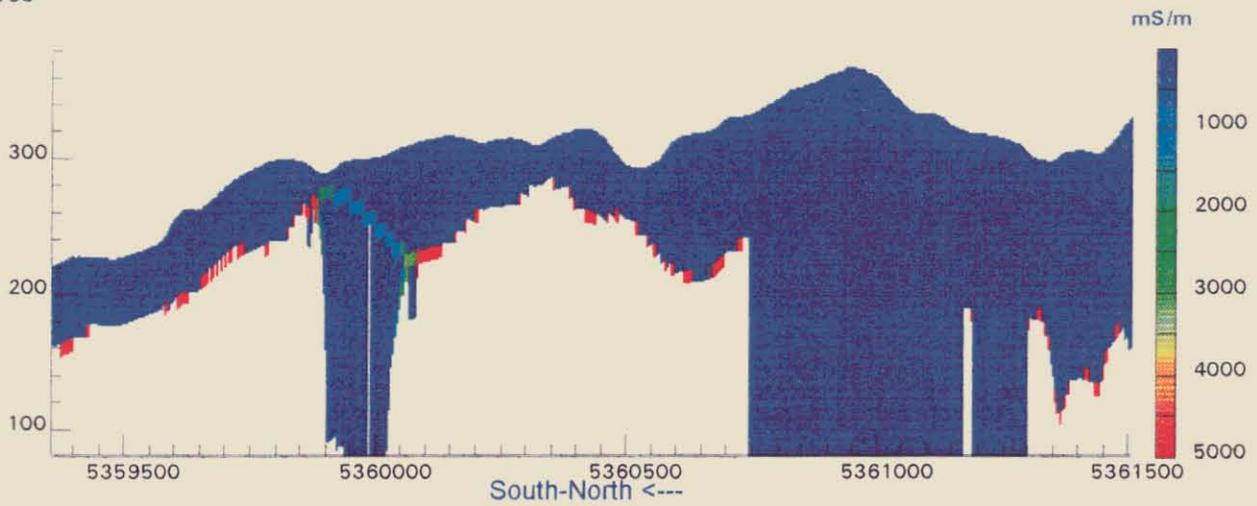
LINE 44(CDI)

metres



LINE 45(CDI)

metres



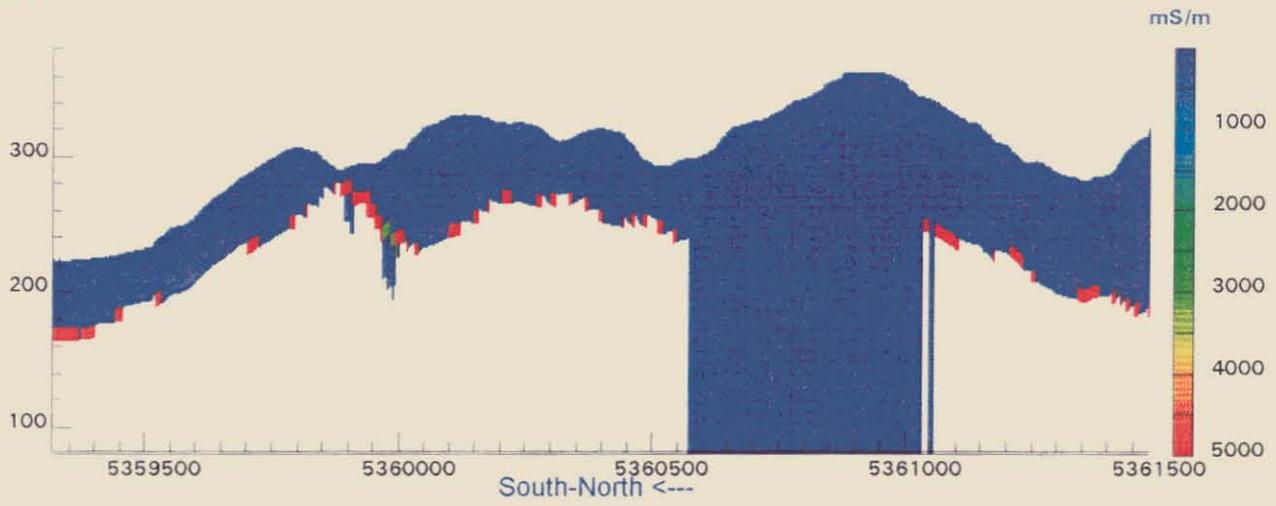
0 300 600(m)

5 cm

484045

LINE 46(CDI)

metres



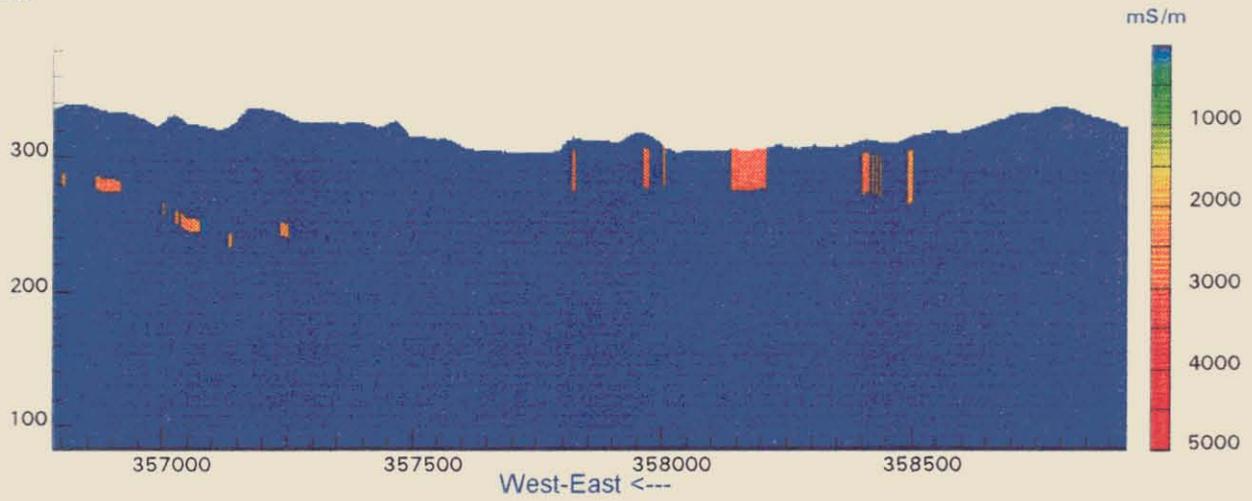
484046

EAST- WEST SECTIONS

484047

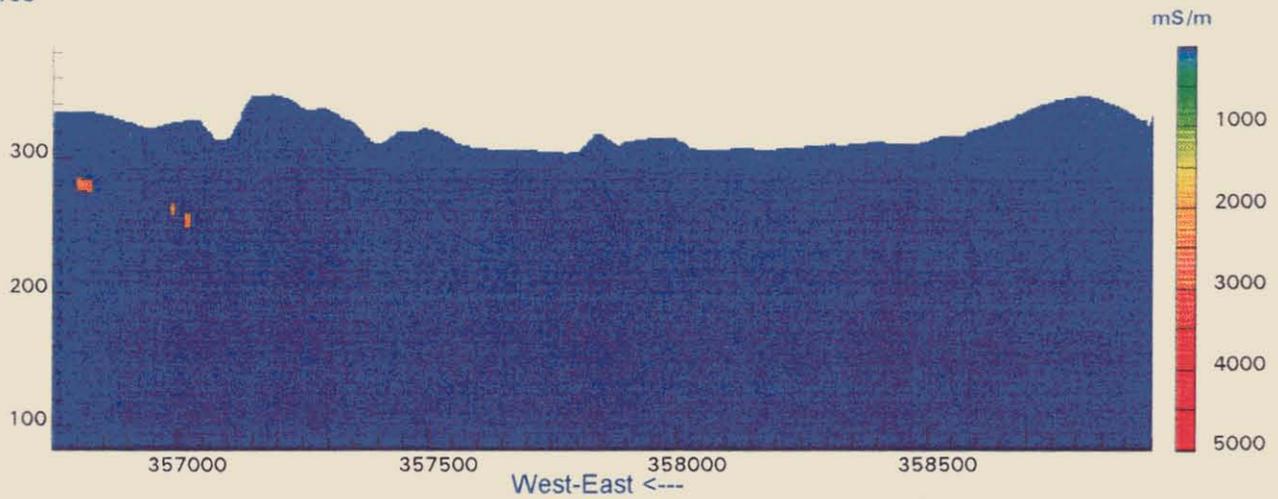
LINE 18(Layered CDI)

metres



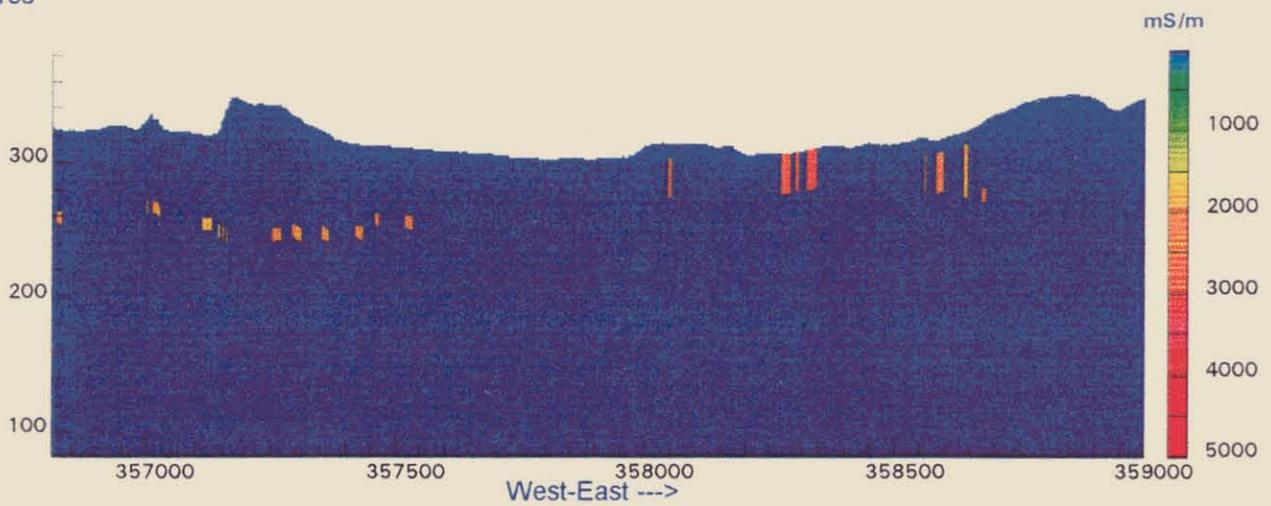
LINE 17(Layered CDI)

metres



LINE 16(Layered CDI)

metres



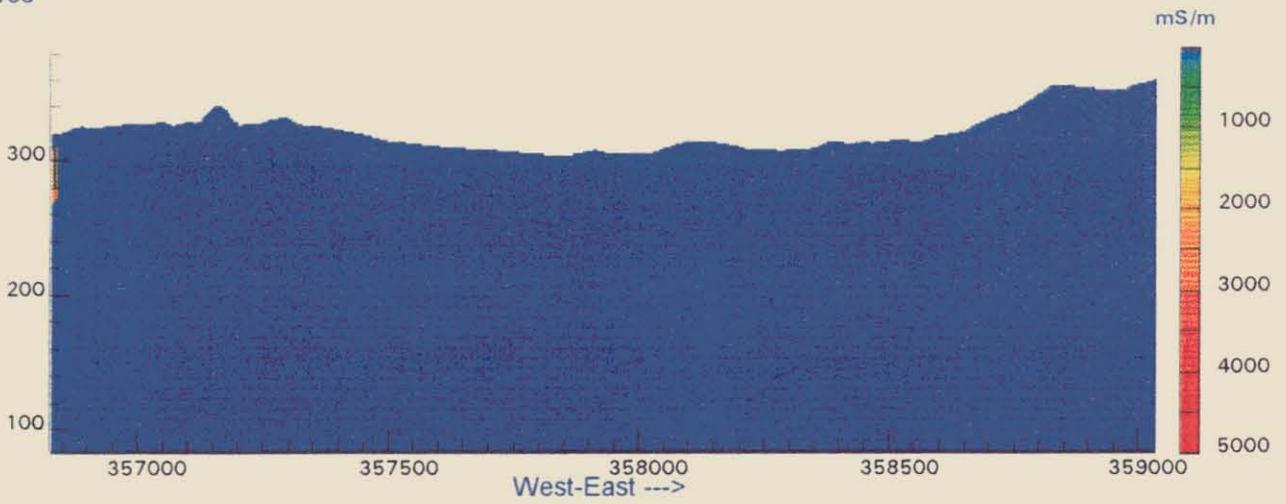
0 300 600(m)

5 cm

484048

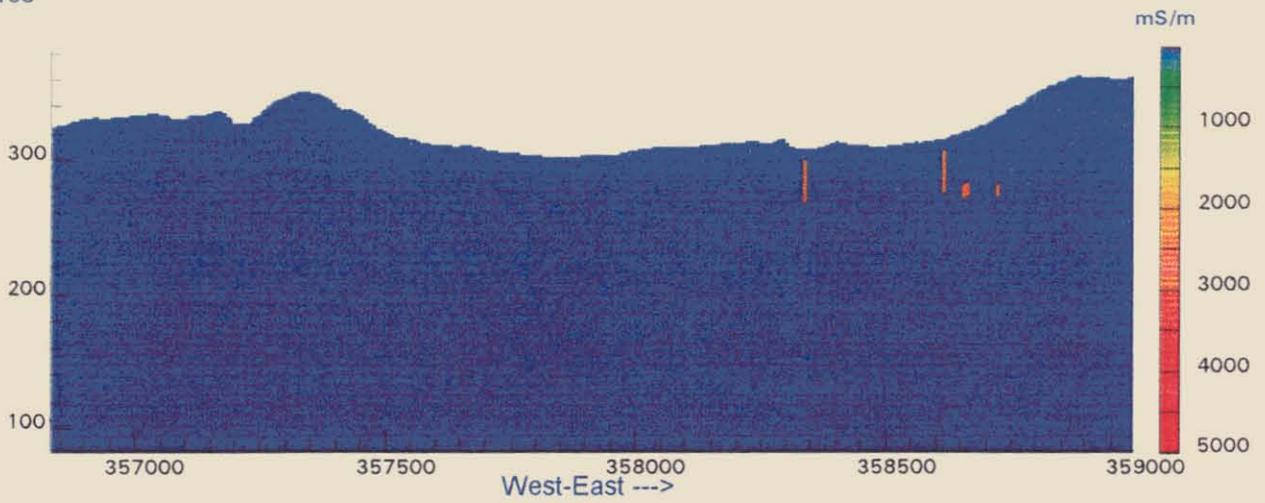
LINE 15(Layered CDI)

metres



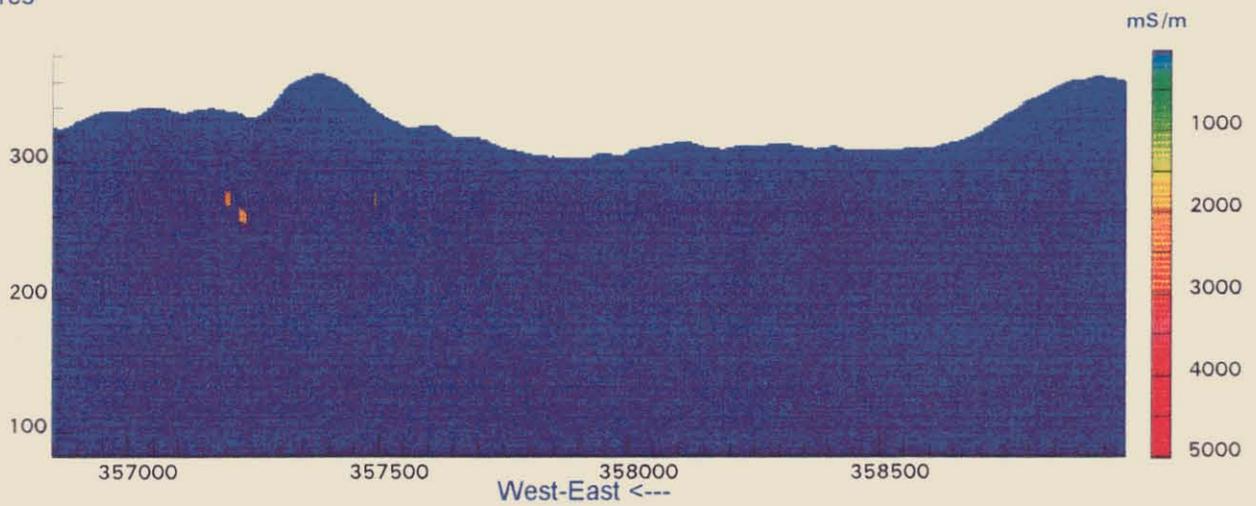
LINE 14(Layered CDI)

metres



LINE 13(Layered CDI)

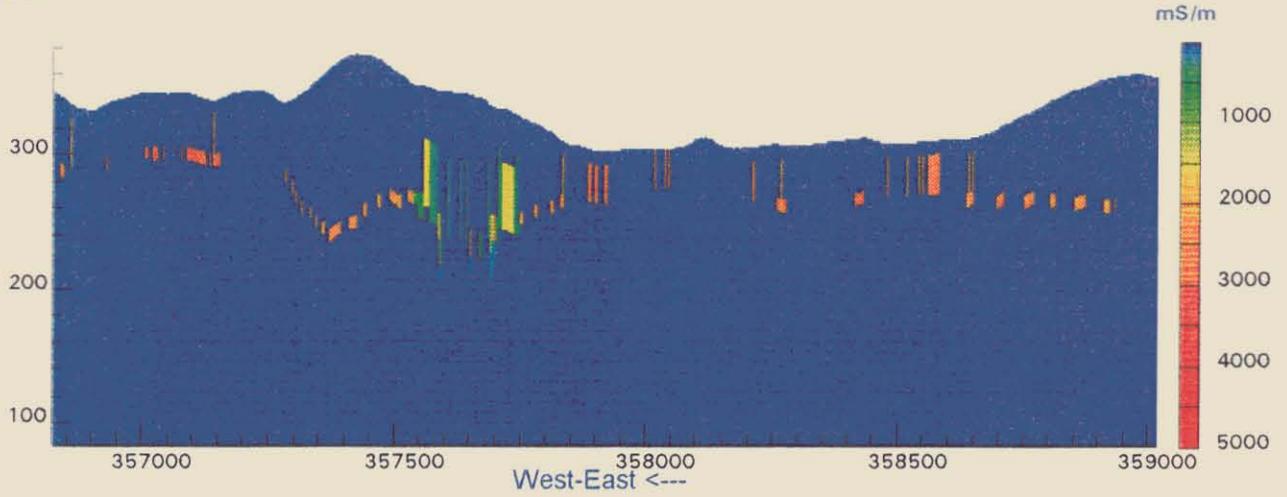
metres



484049

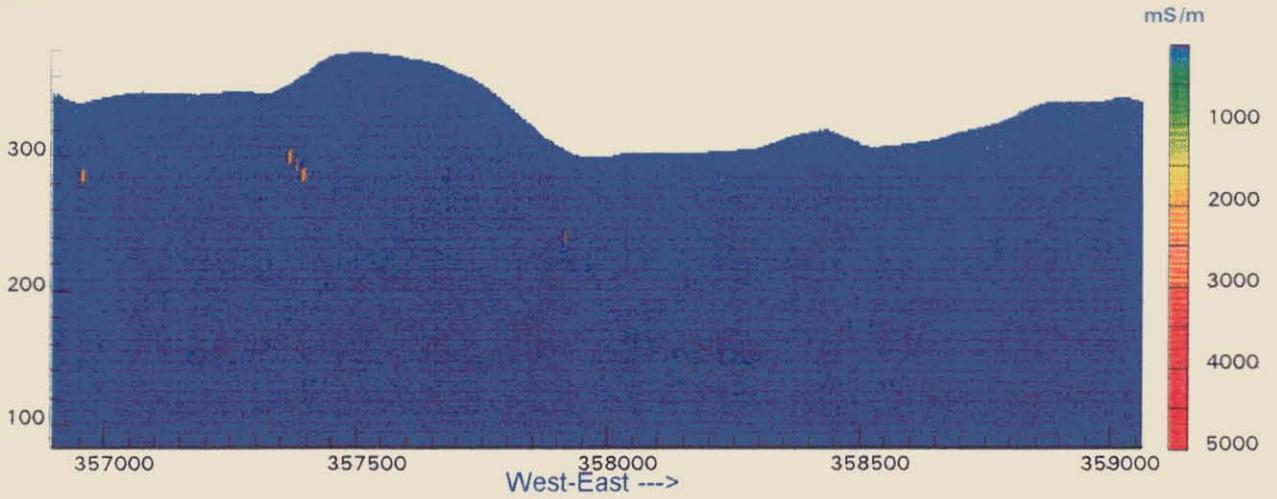
LINE 12(Layered CDI)

metres



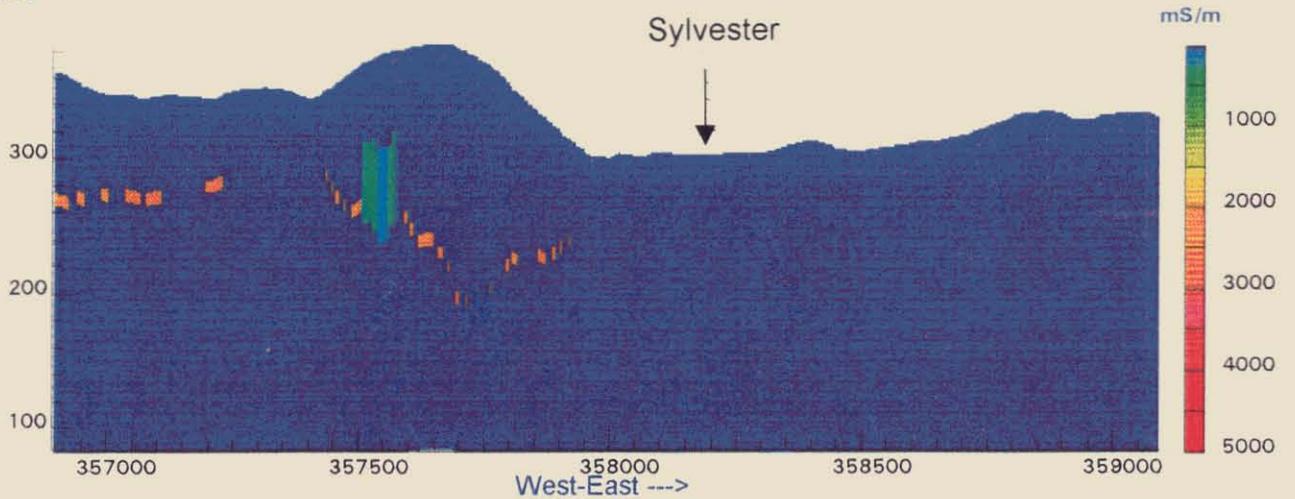
LINE 11(Layered CDI)

metres



LINE 10(Layered CDI)

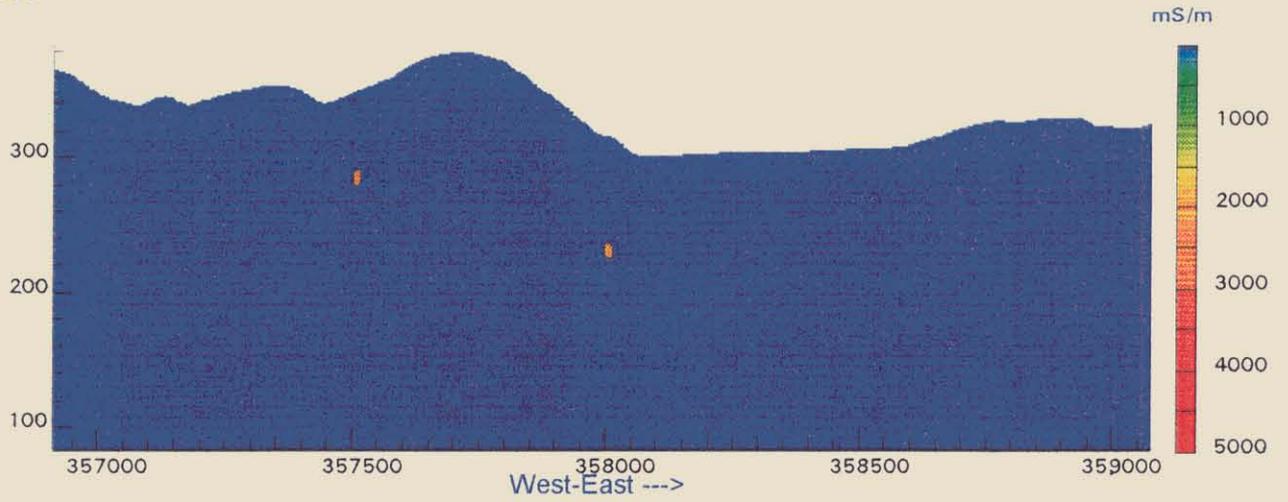
metres



484050

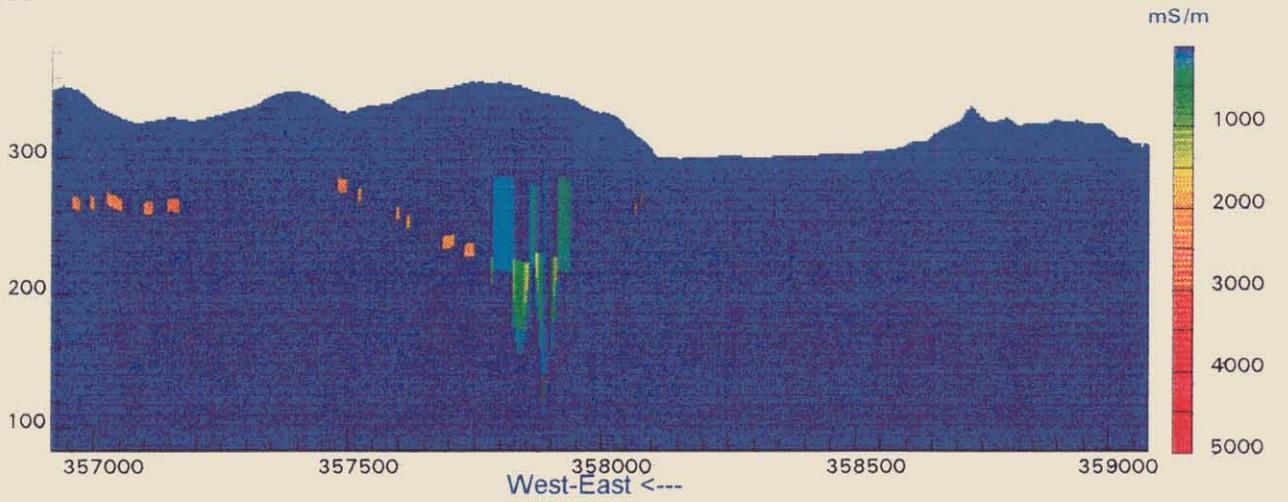
LINE 9(Layered CDI)

metres



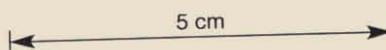
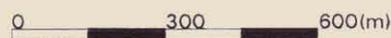
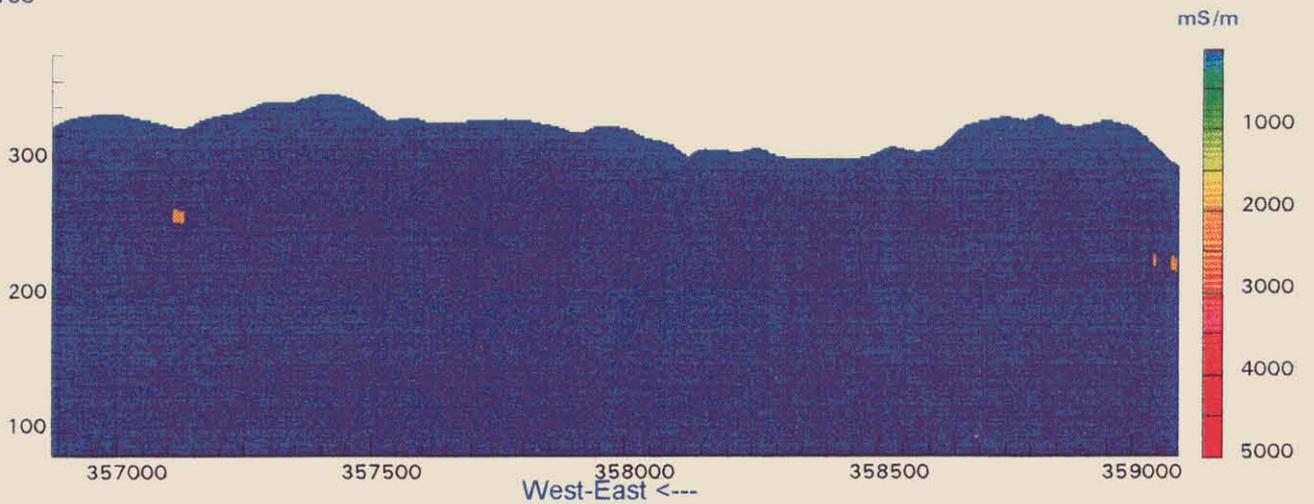
LINE 8(Layered CDI)

metres



LINE 7(Layered CDI)

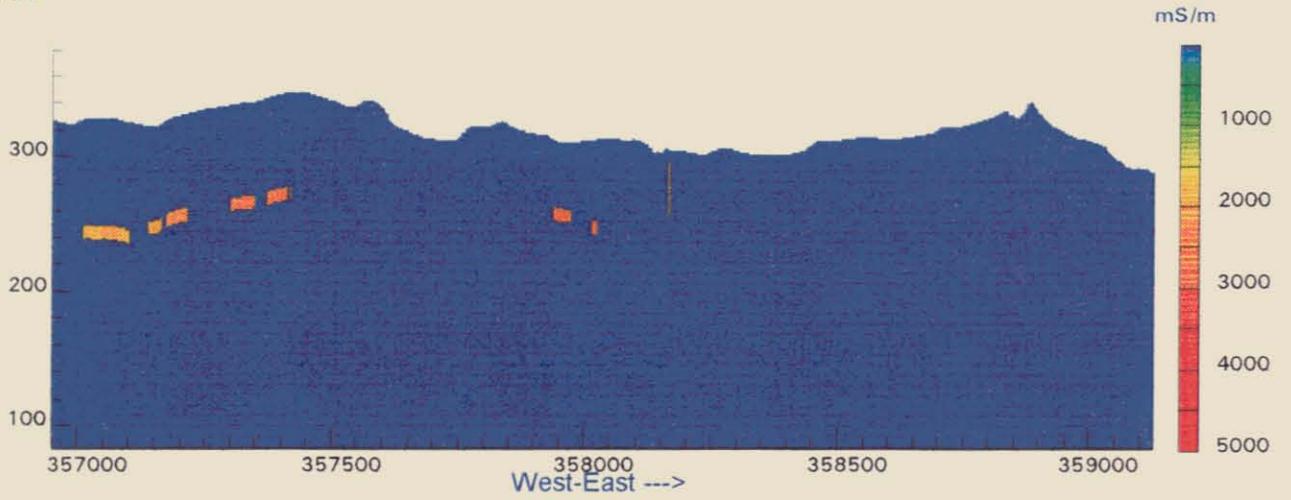
metres



484051

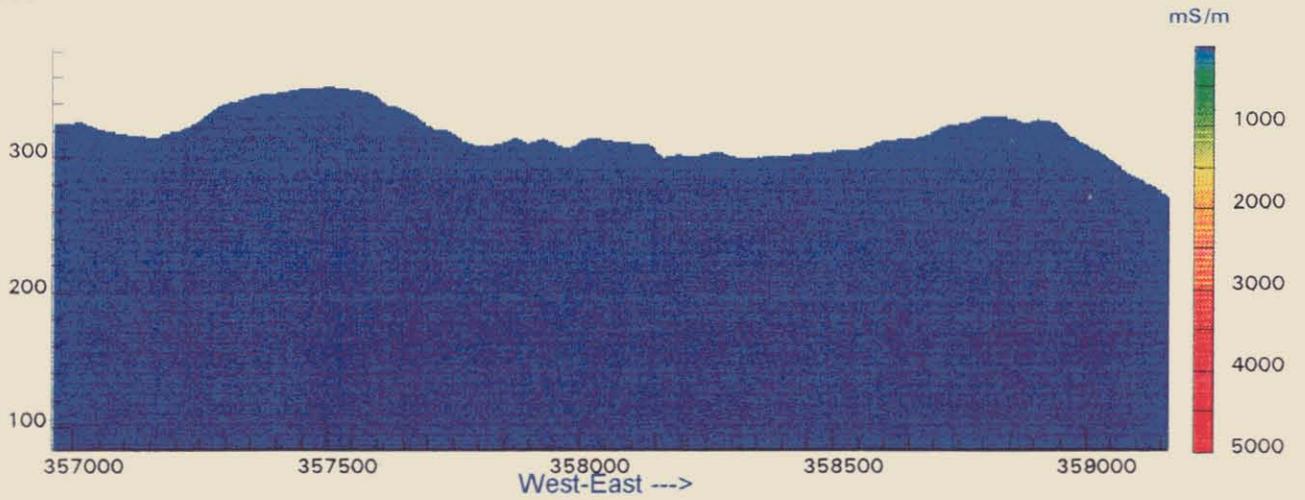
LINE 6(Layered CDI)

metres



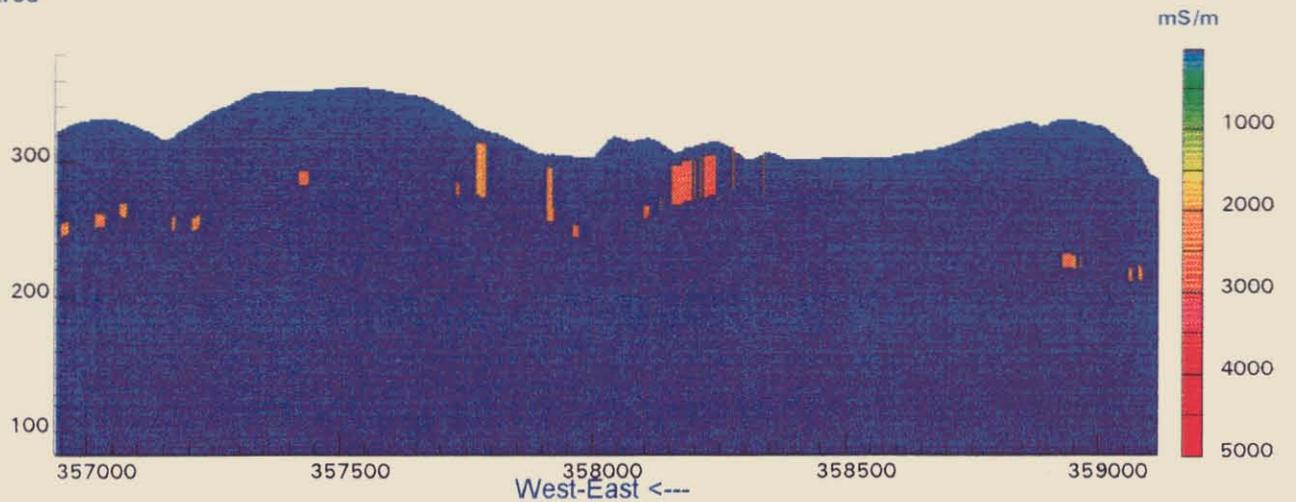
LINE 5(Layered CDI)

metres



LINE 4(Layered CDI)

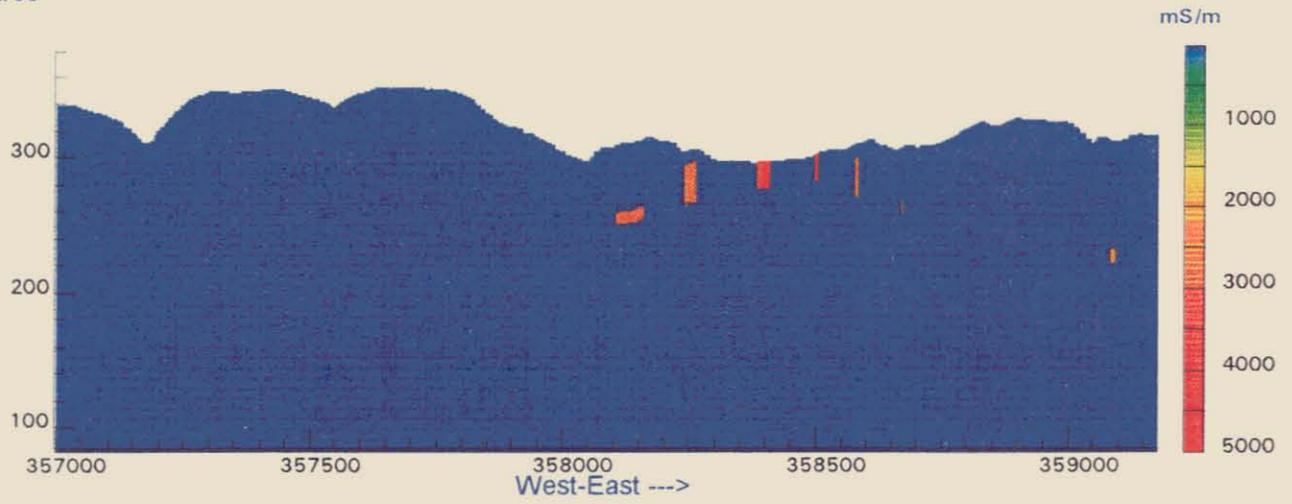
metres



484052

LINE 2(Layered CDI)

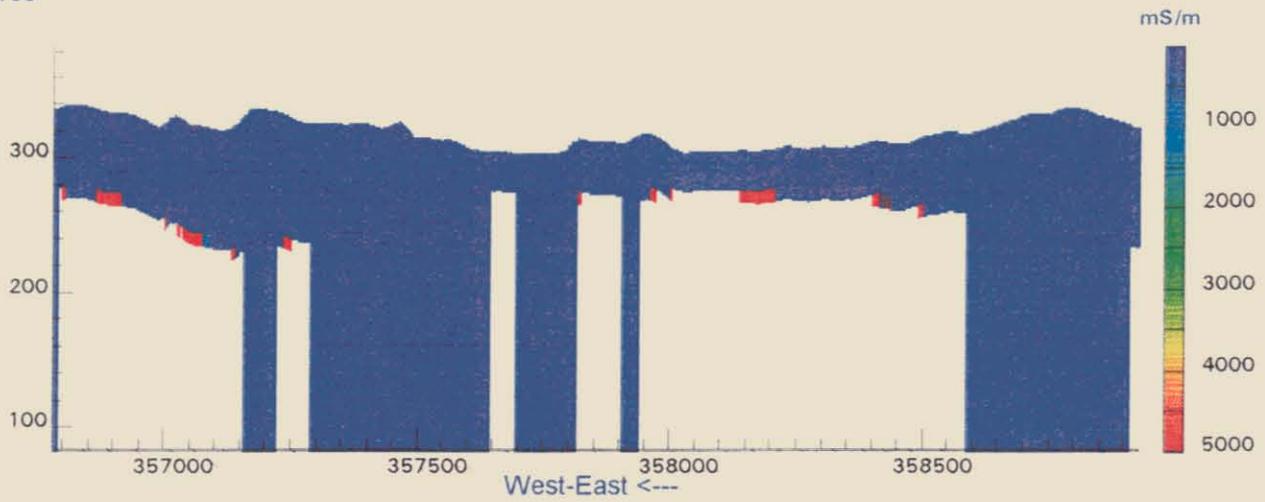
metres



484053

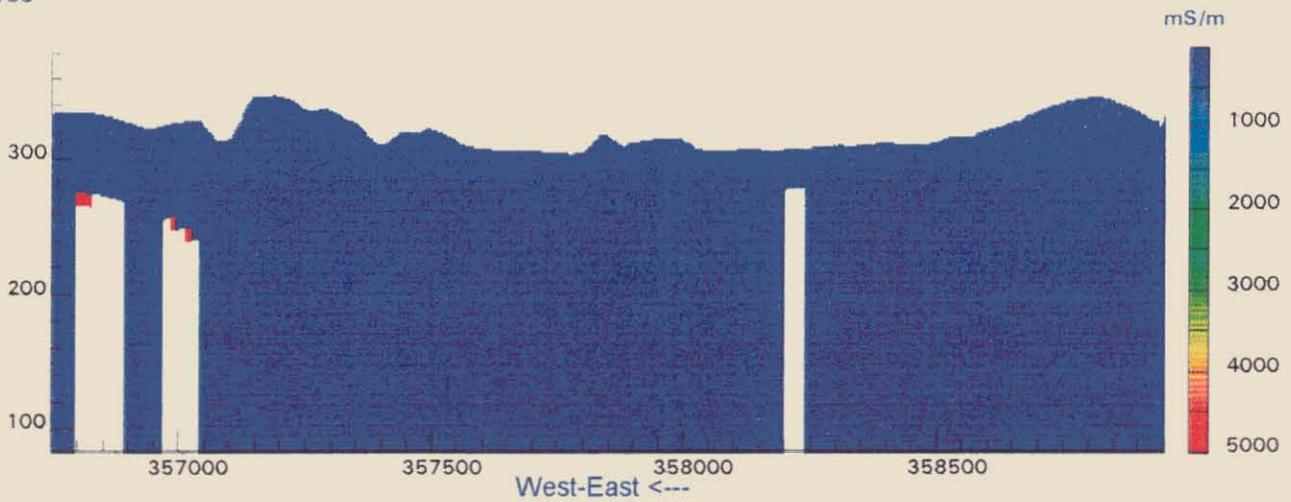
LINE 18(CDI)

metres



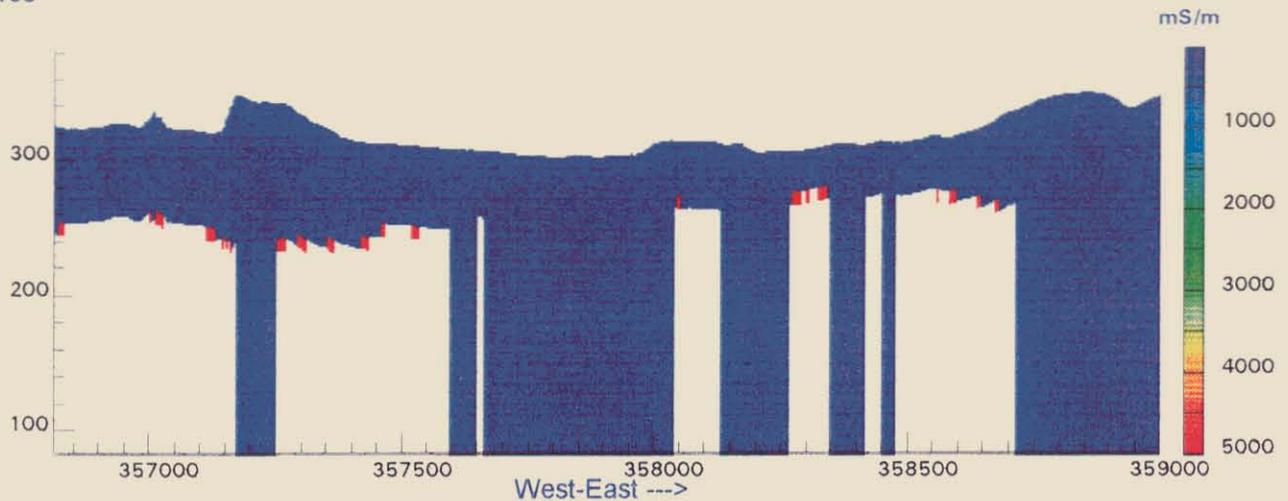
LINE 17(CDI)

metres



LINE 16(CDI)

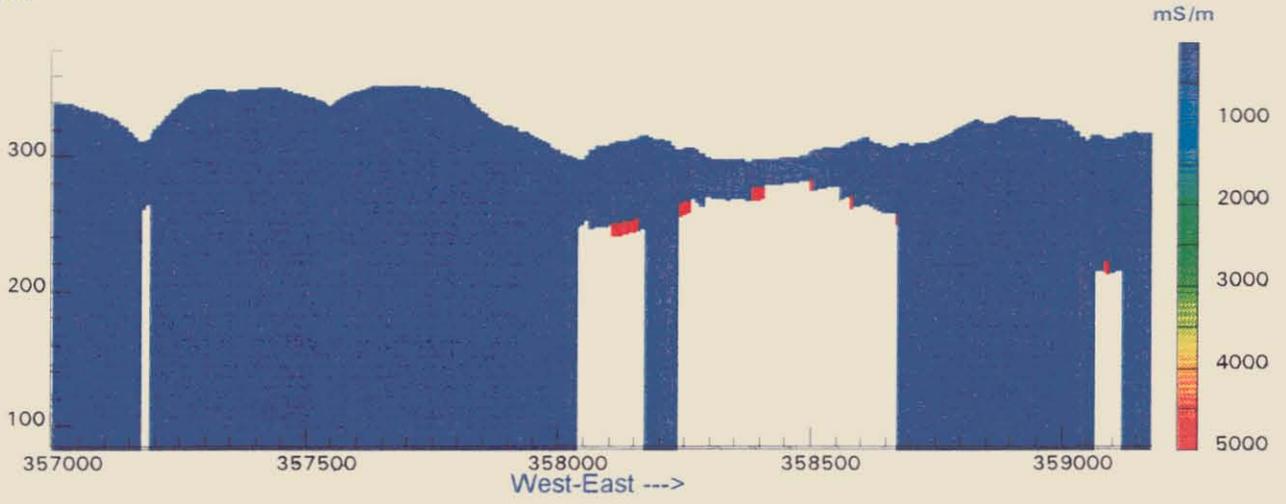
metres



484054

LINE 2(CDI)

metres



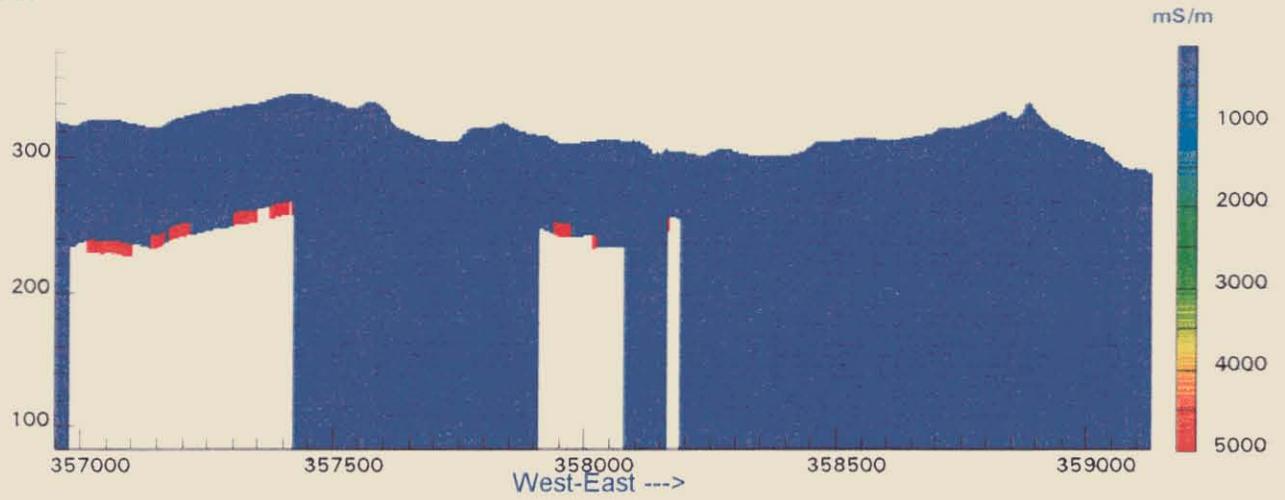
0 300 600(m)

5 cm

484055

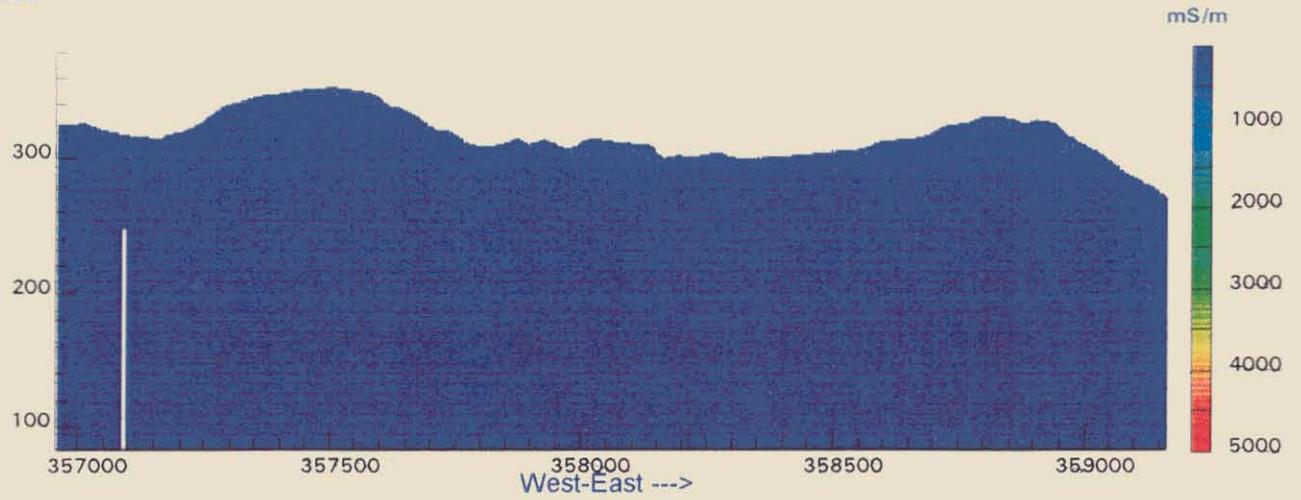
LINE 6(CDI)

metres



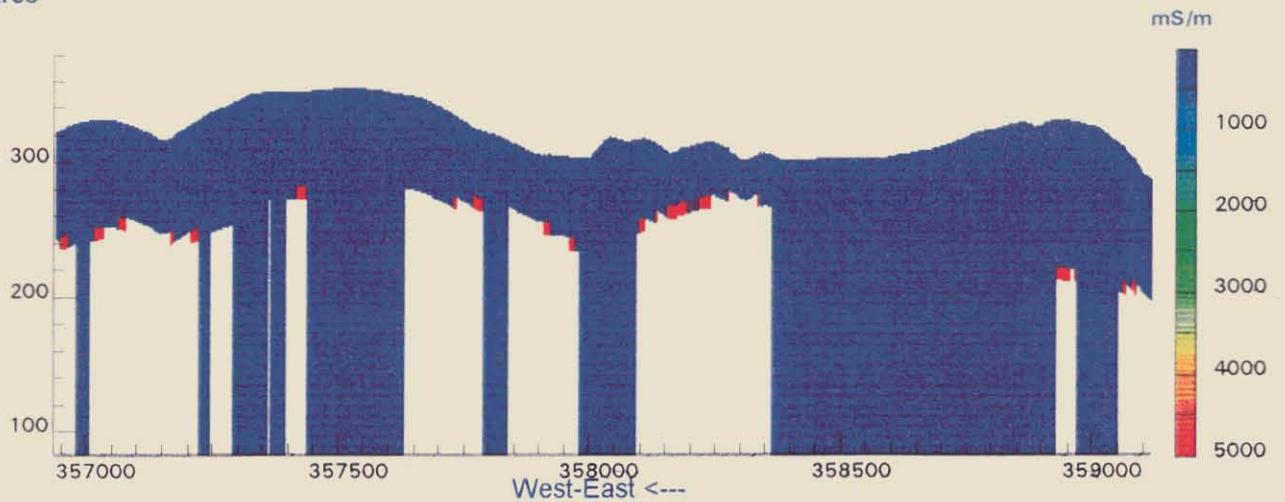
LINE 5(CDI)

metres



LINE 4(CDI)

metres



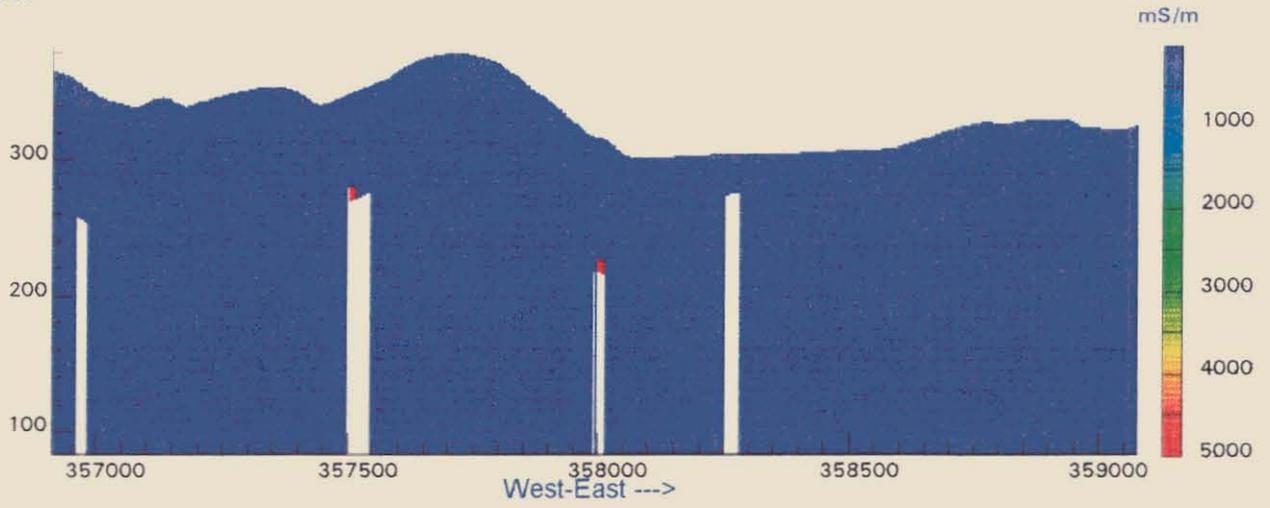
0 300 600(m)

5 cm

484056

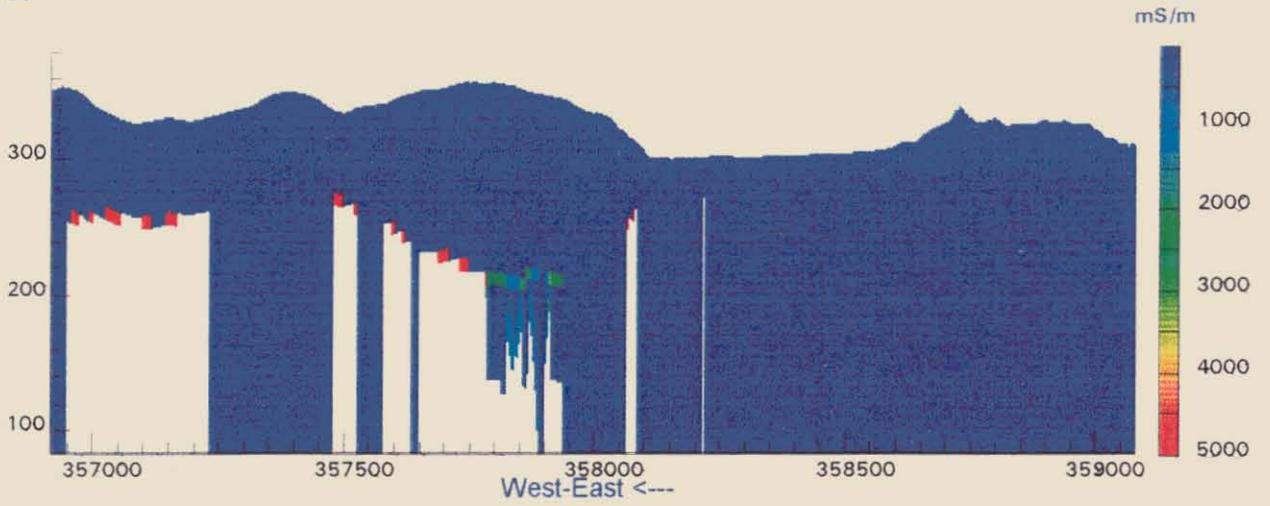
LINE 9(CDI)

metres



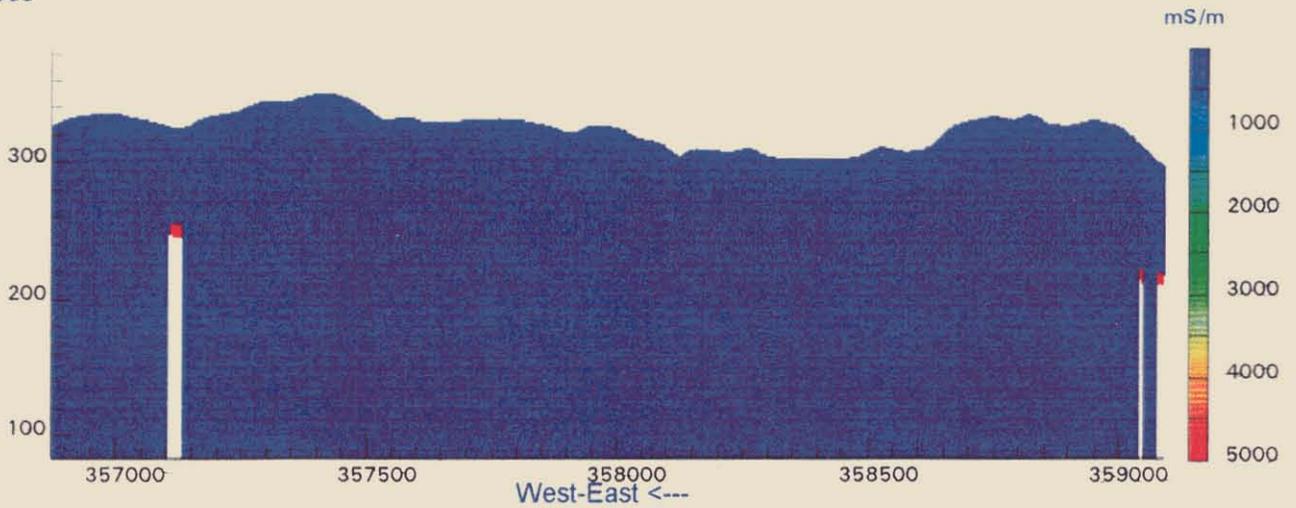
LINE 8(CDI)

metres



LINE 7(CDI)

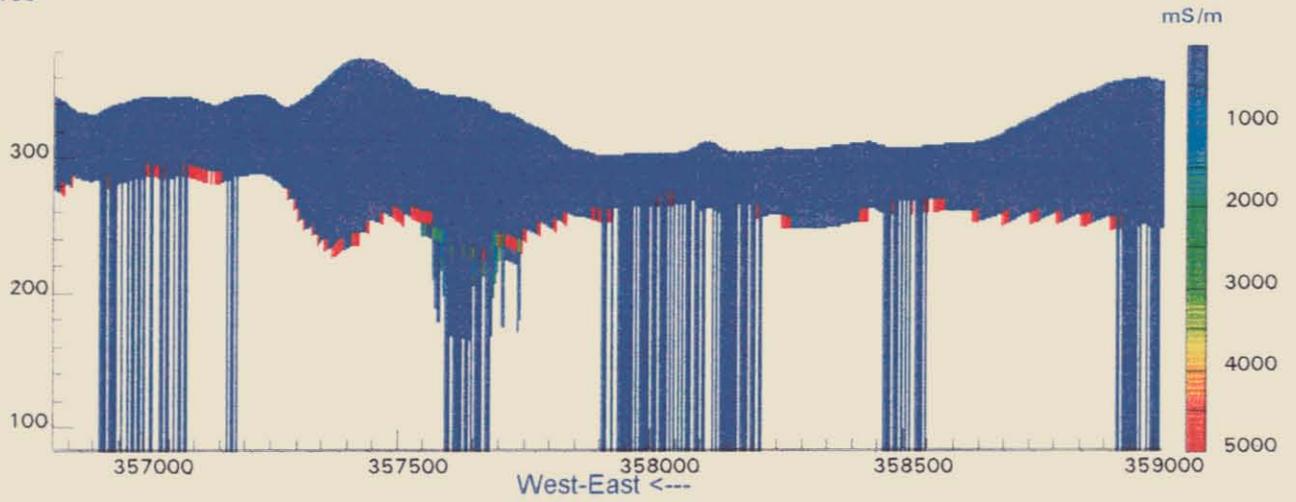
metres



484057

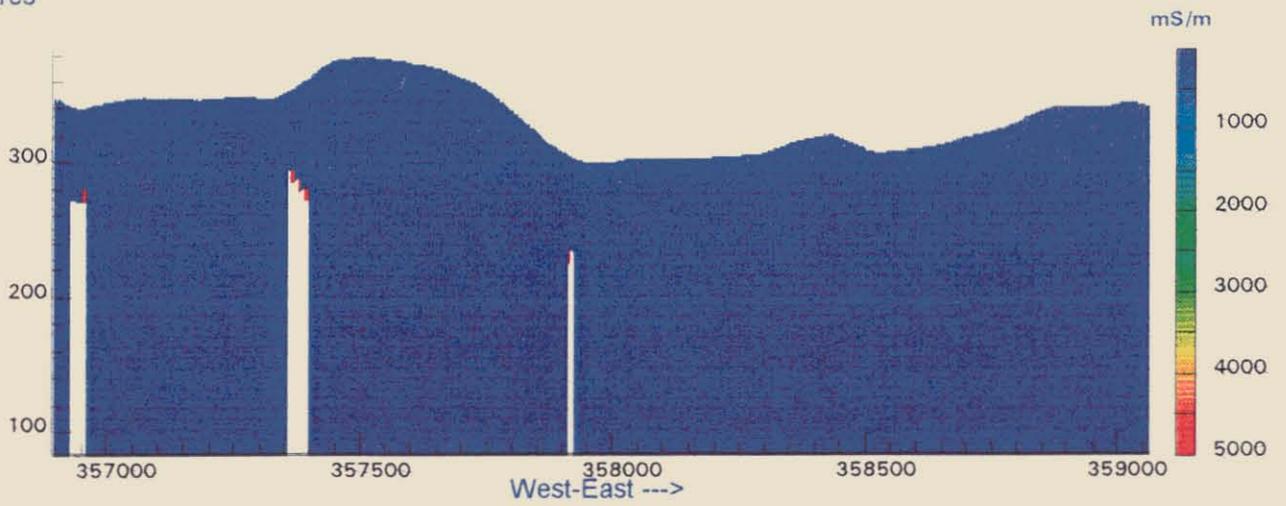
LINE 12(CDI)

metres



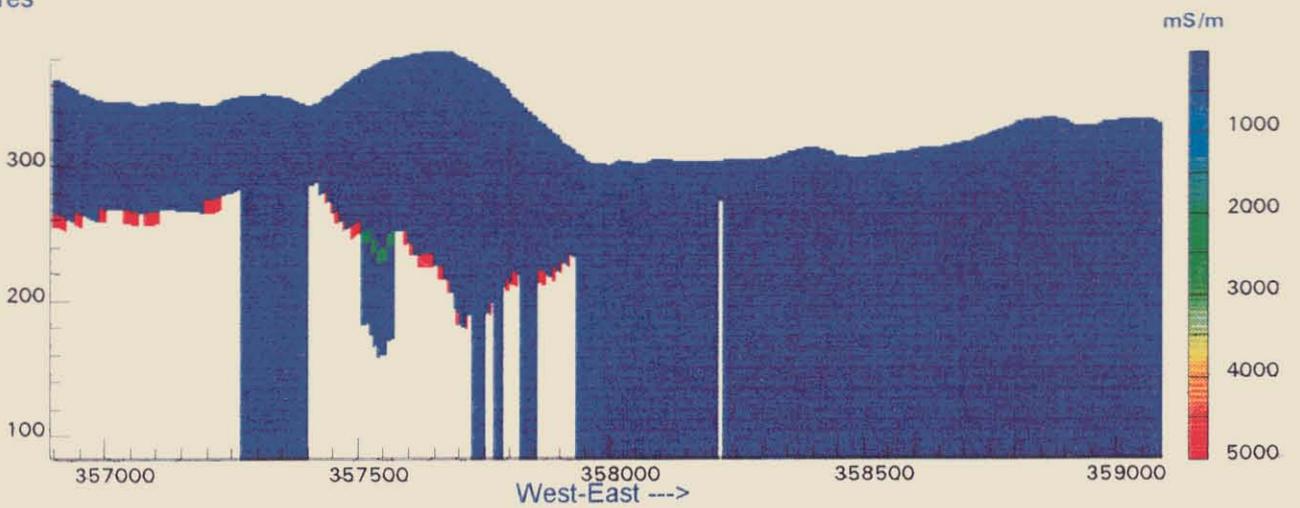
LINE 11(CDI)

metres



LINE 10(CDI)

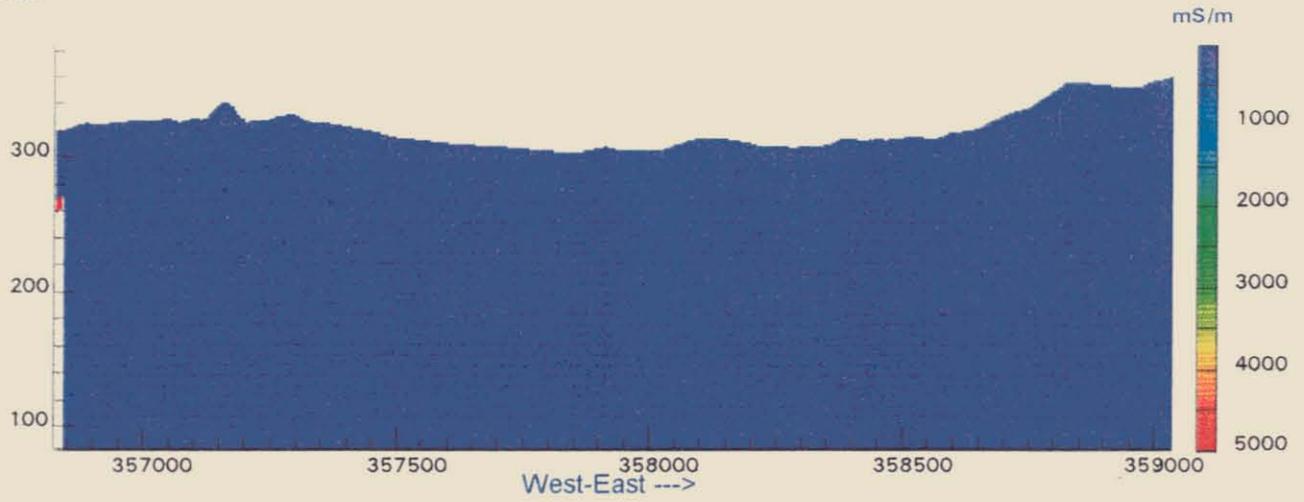
metres



484058

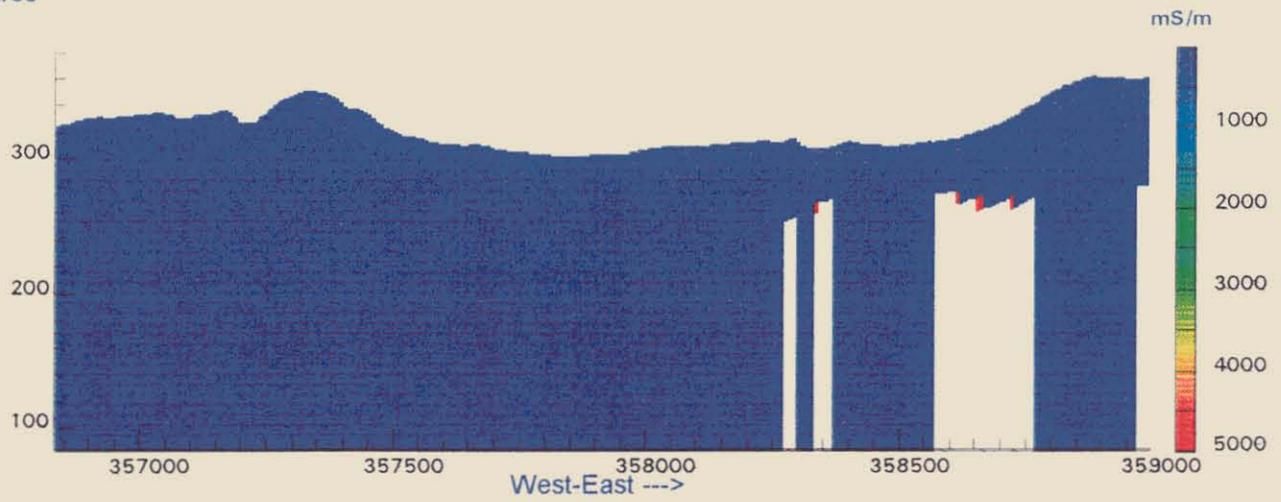
LINE 15(CDI)

metres



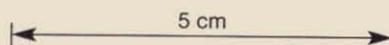
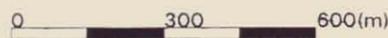
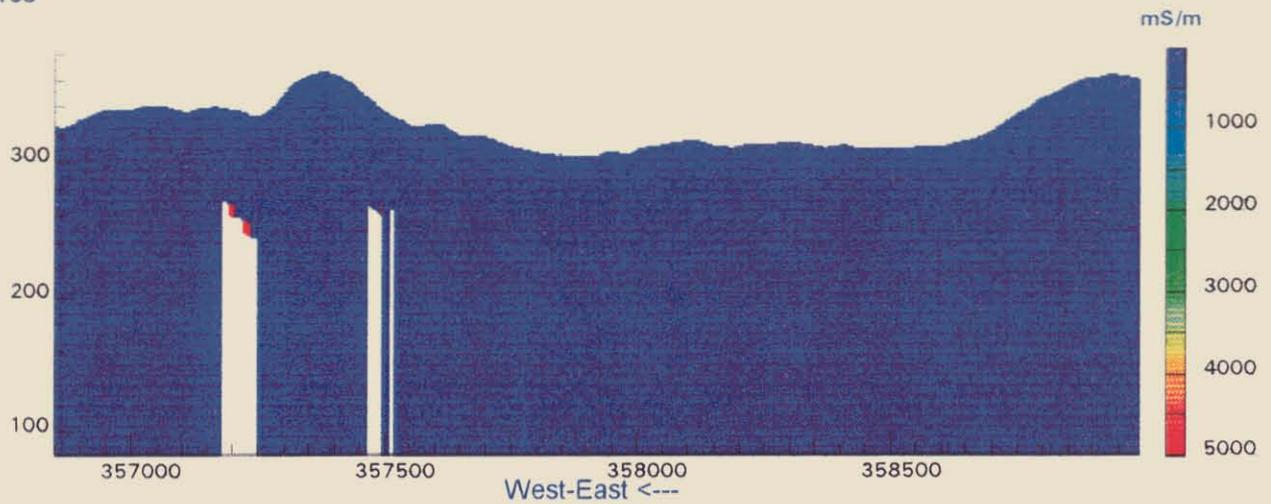
LINE 14(CDI)

metres

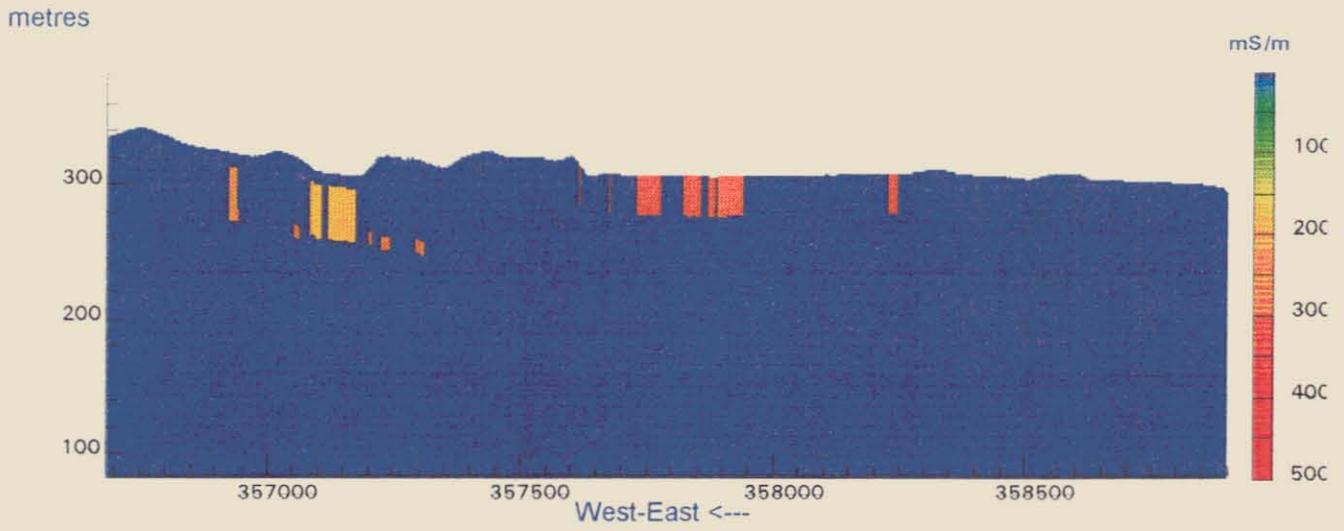


LINE 13(CDI)

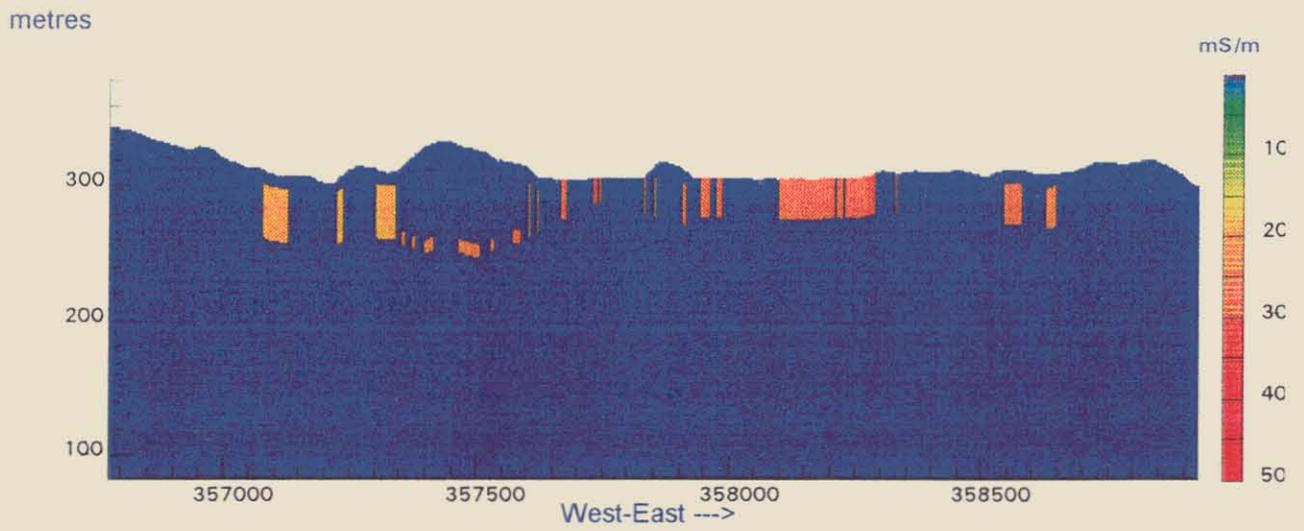
metres



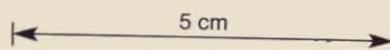
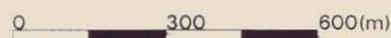
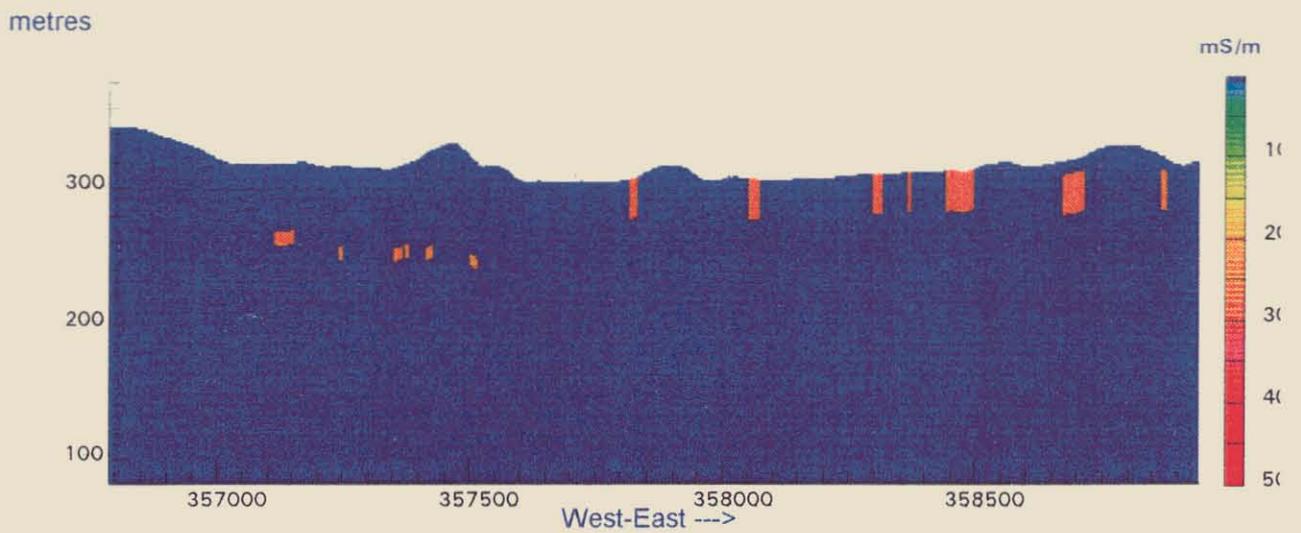
LINE 21(Layered CDI)



LINE 20(Layered CDI)

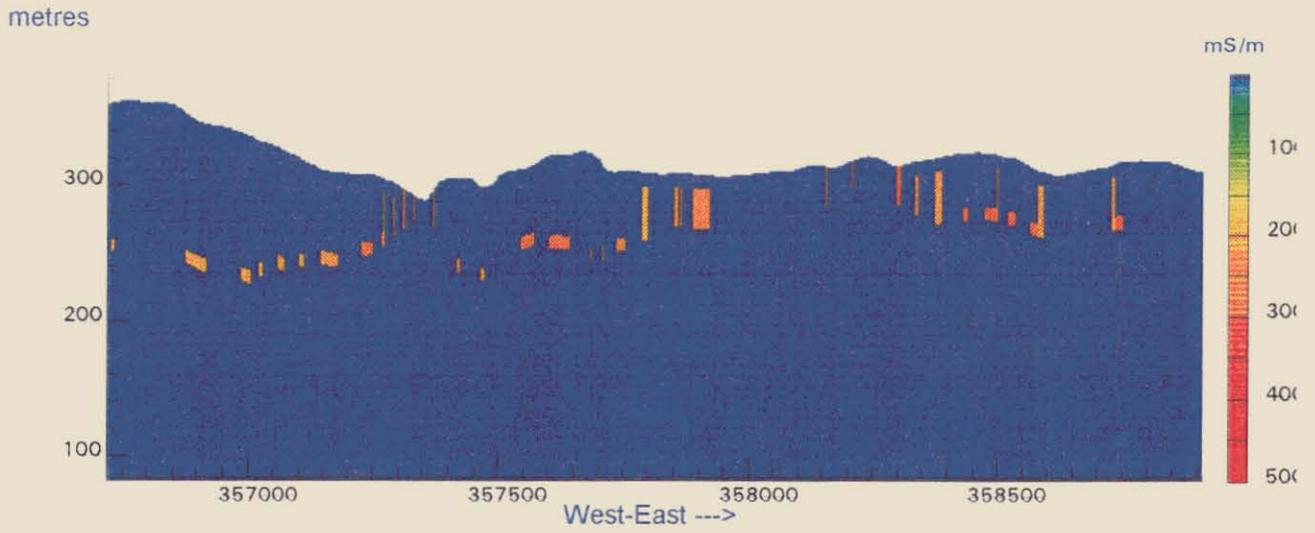


LINE 19(Layered CDI)

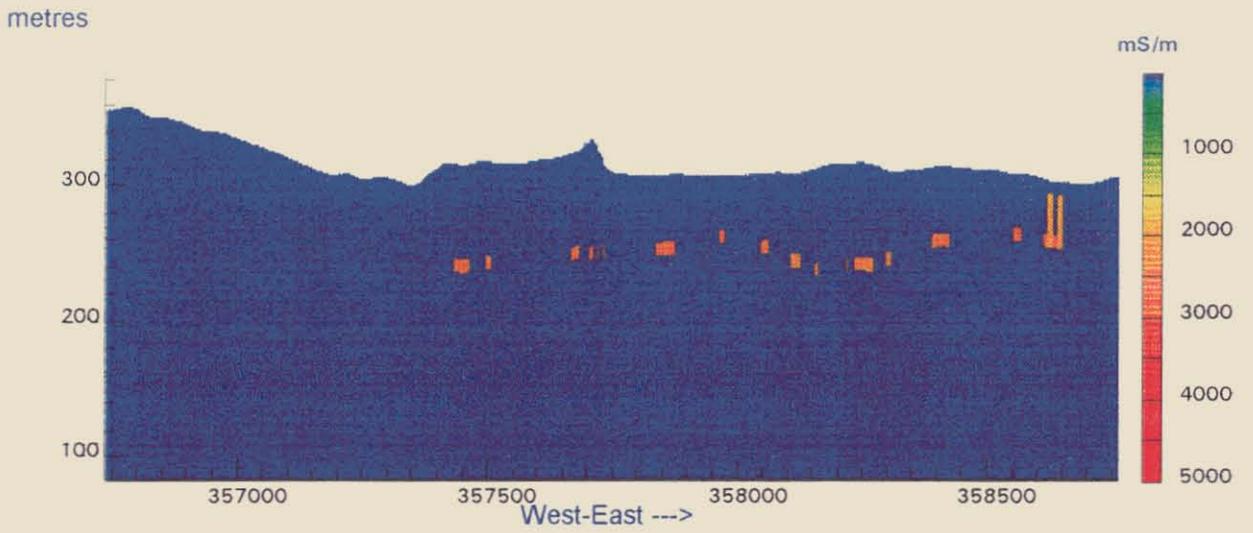


484060

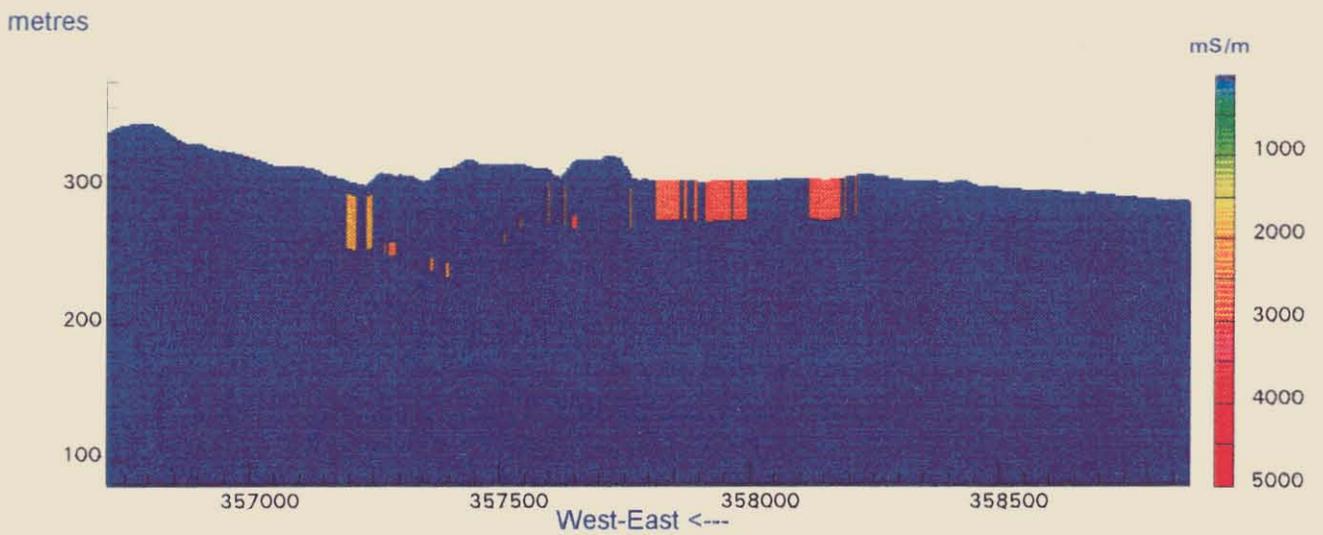
LINE 24(Layered CDI)



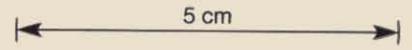
LINE 23(Layered CDI)



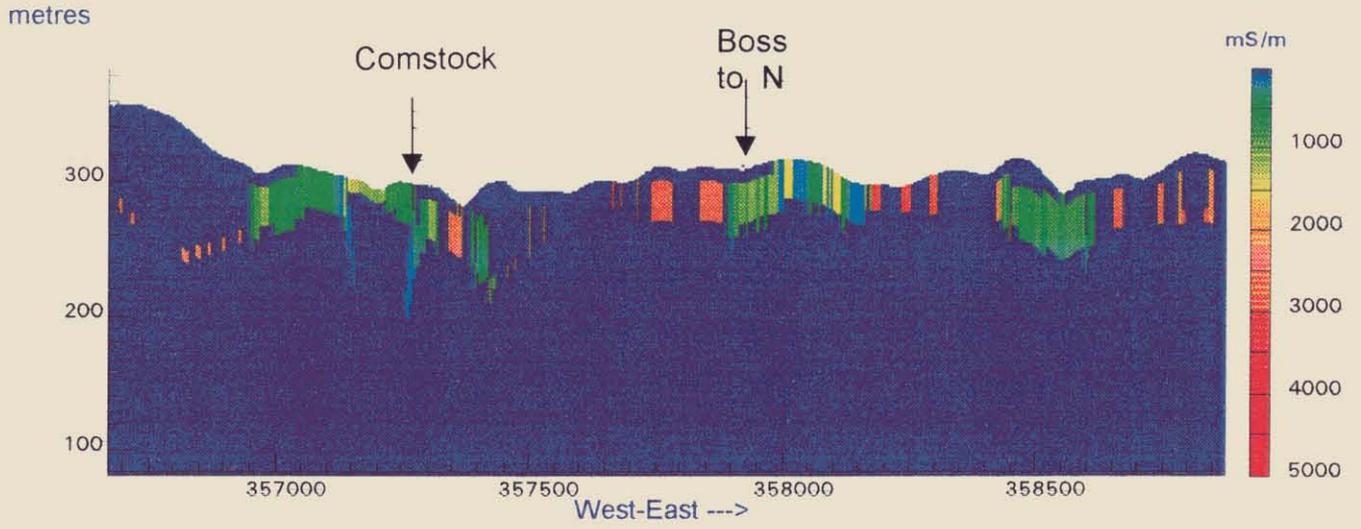
LINE 22(Layered CDI)



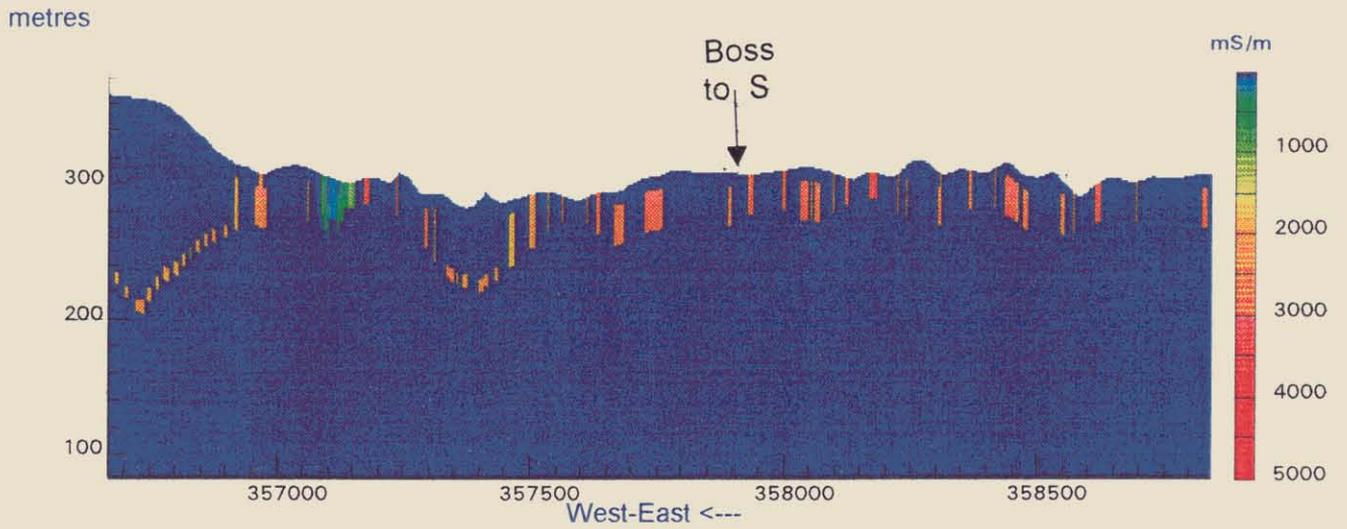
484061



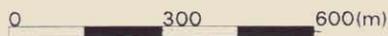
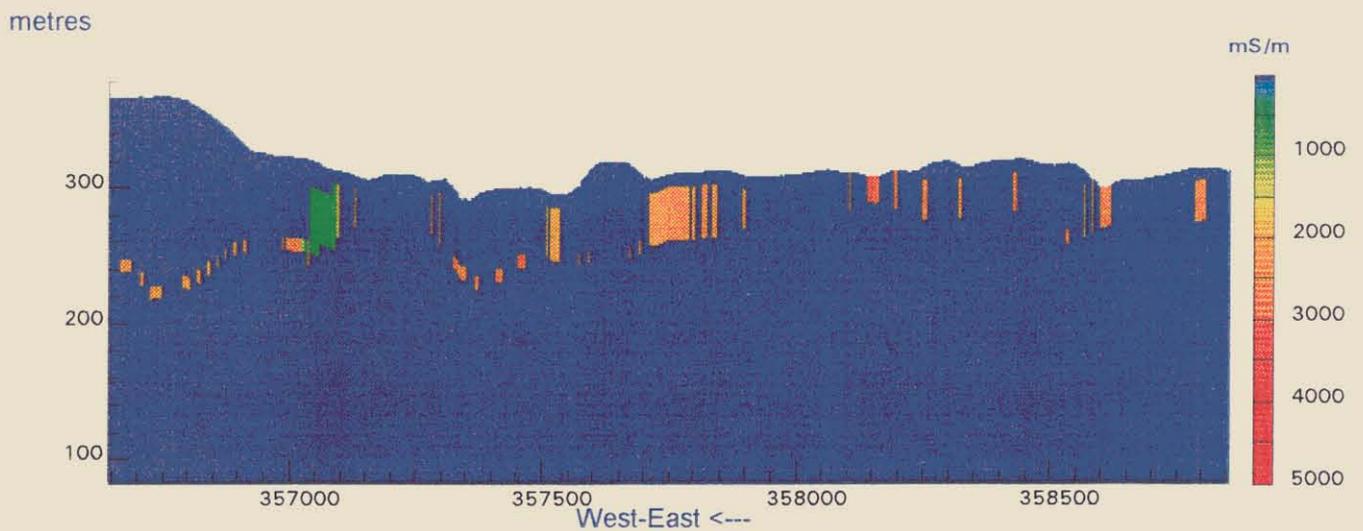
LINE 27(Layered CDI)

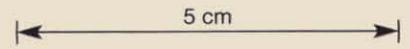


LINE 26(Layered CDI)

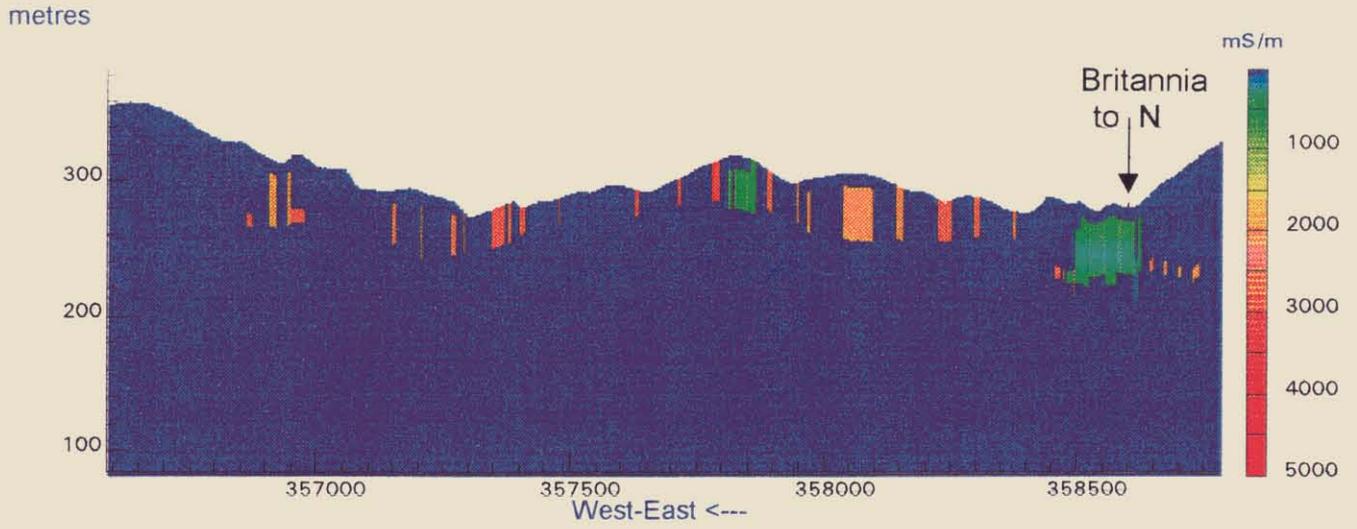


LINE 25(Layered CDI)

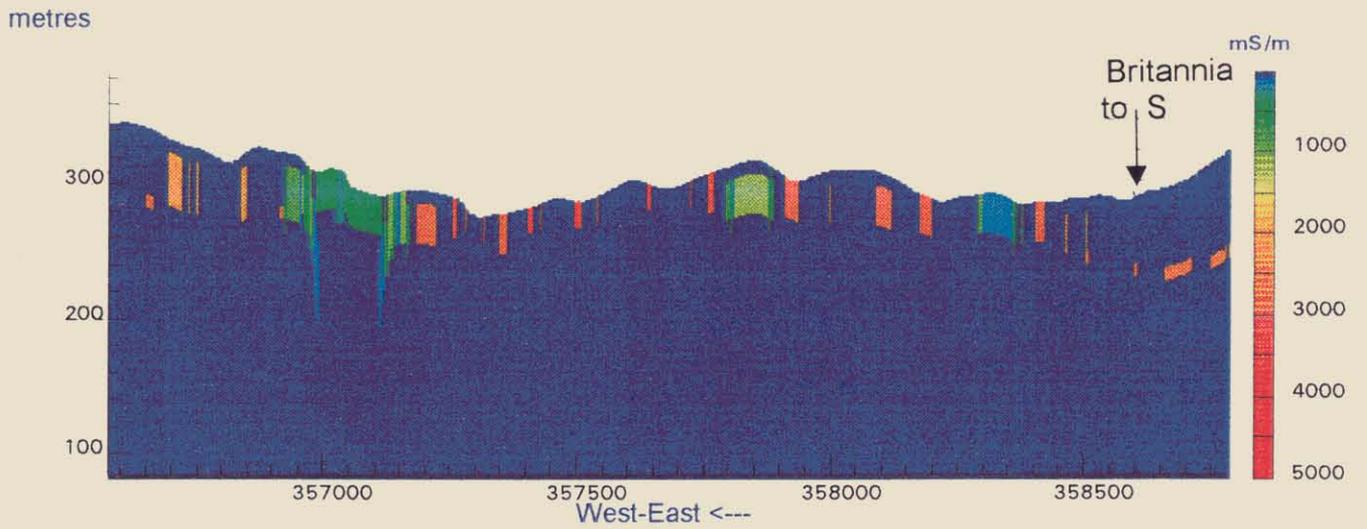




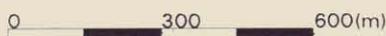
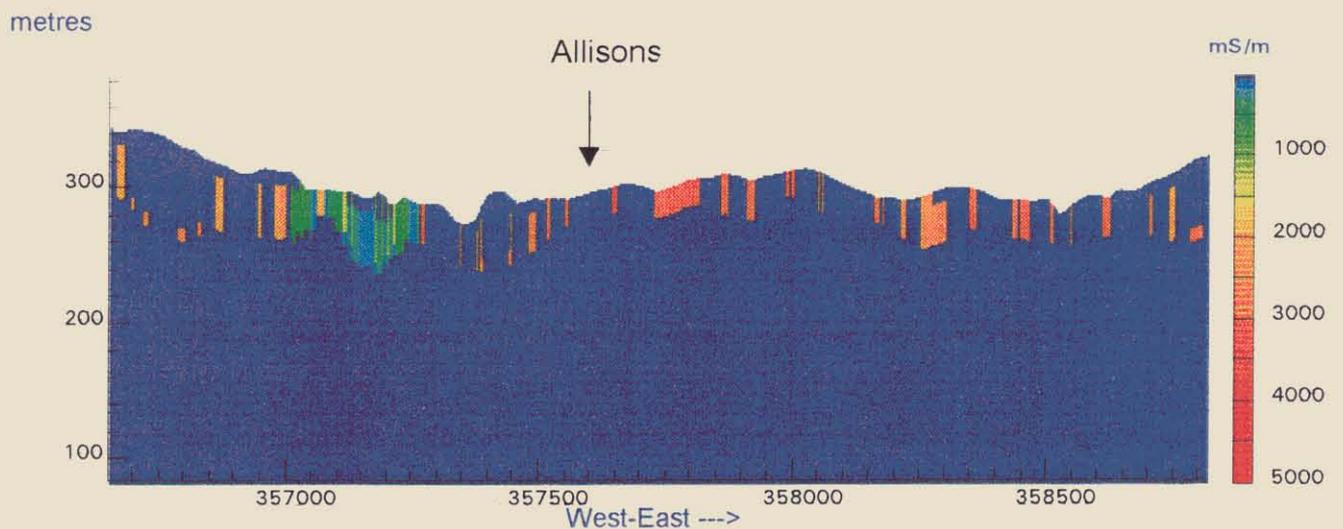
LINE 30(Layered CDI)



LINE 29(Layered CDI)



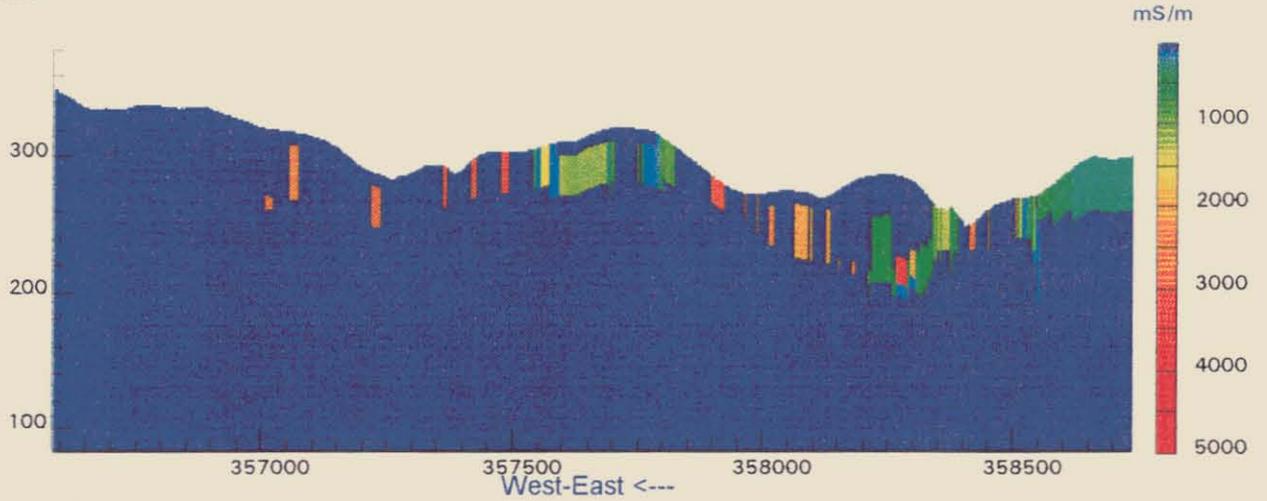
LINE 28(Layered CDI)



484063

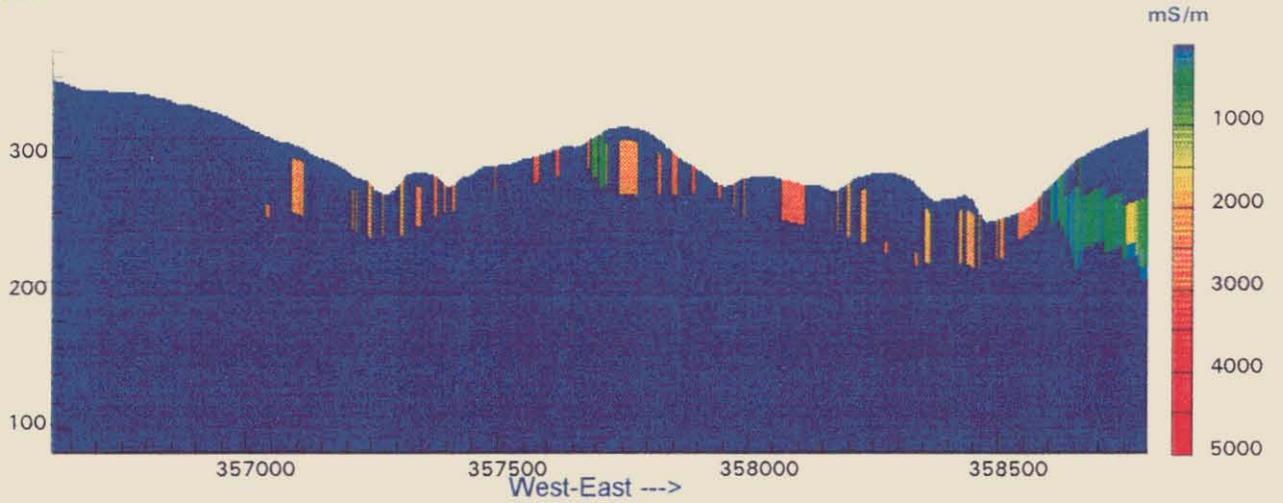
LINE 33(Layered CDI)

metres



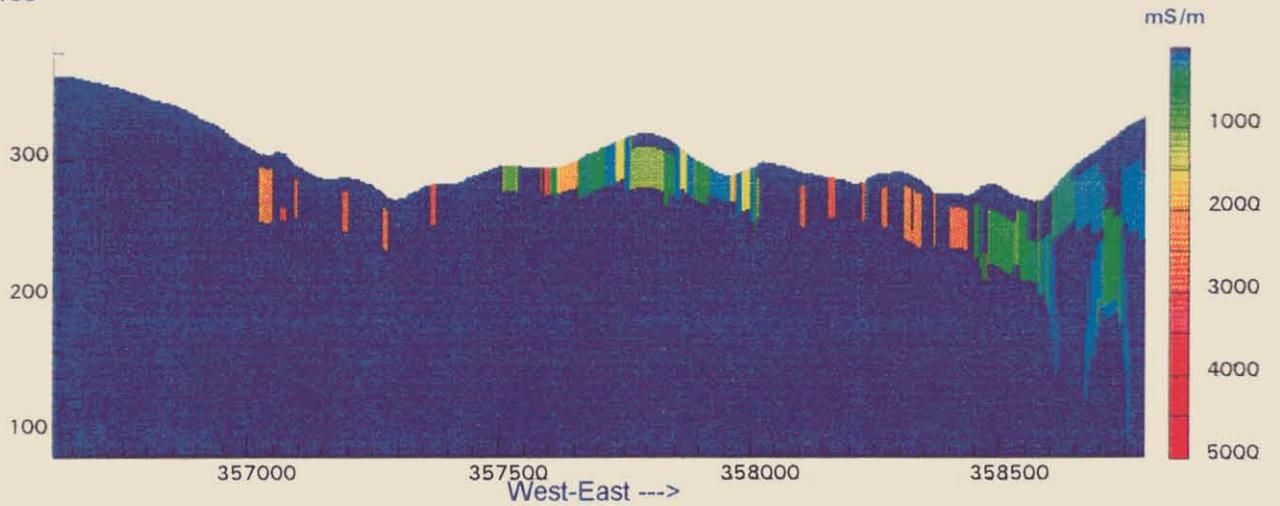
LINE 32(Layered CDI)

metres



LINE 31(Layered CDI)

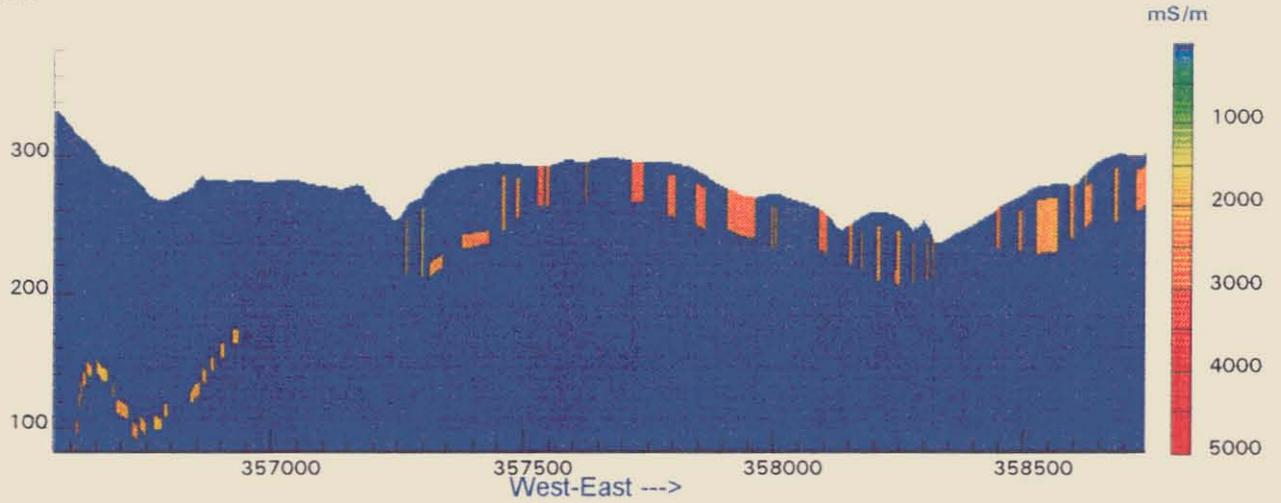
metres



484064

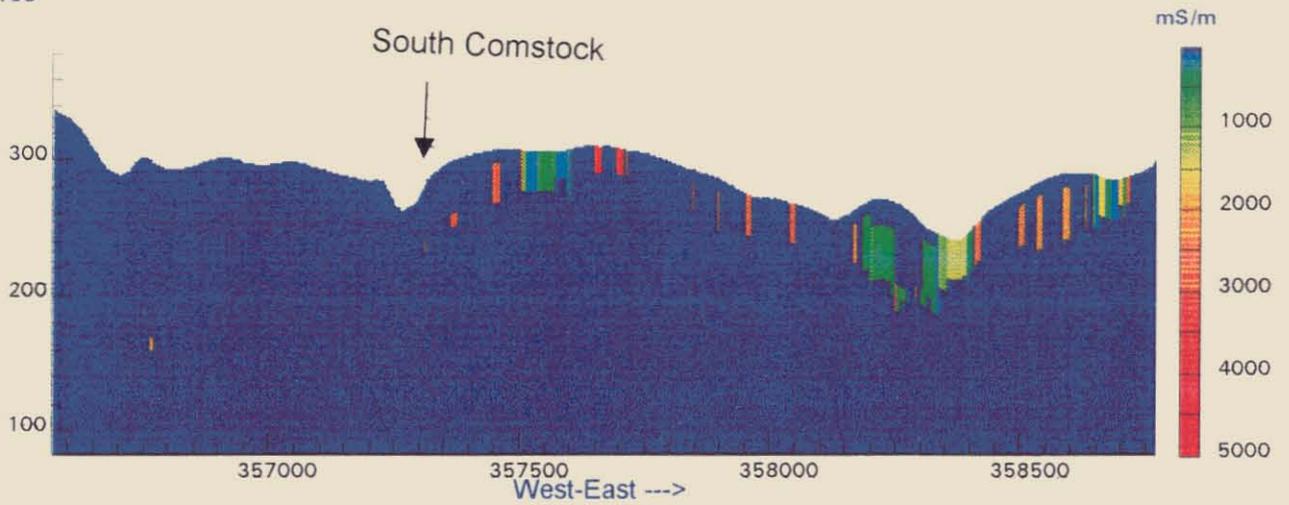
LINE 36(Layered CDI)

metres



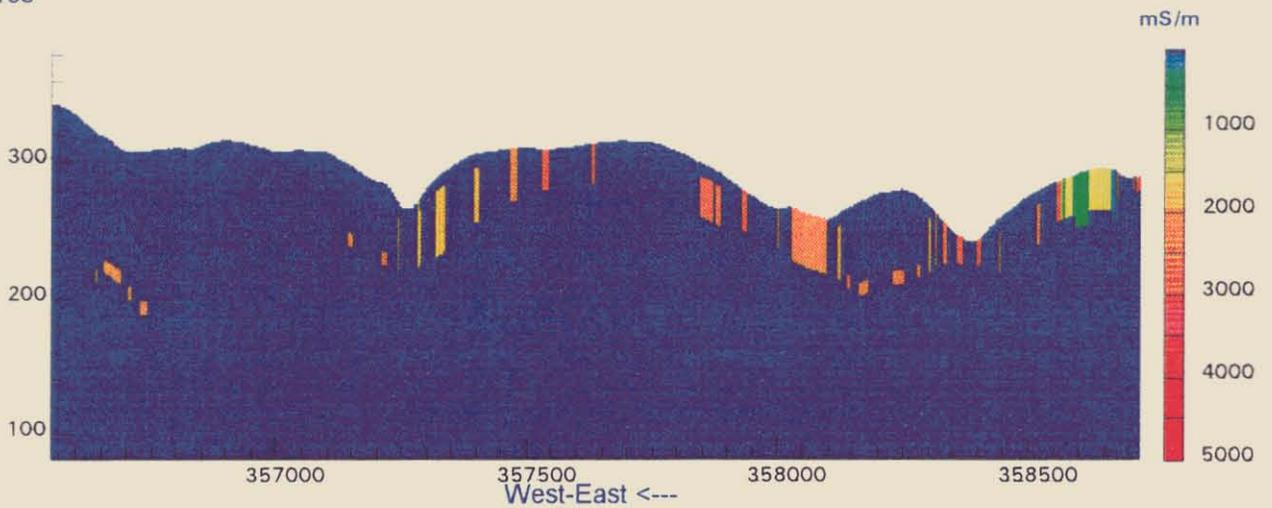
LINE 35(Layered CDI)

metres

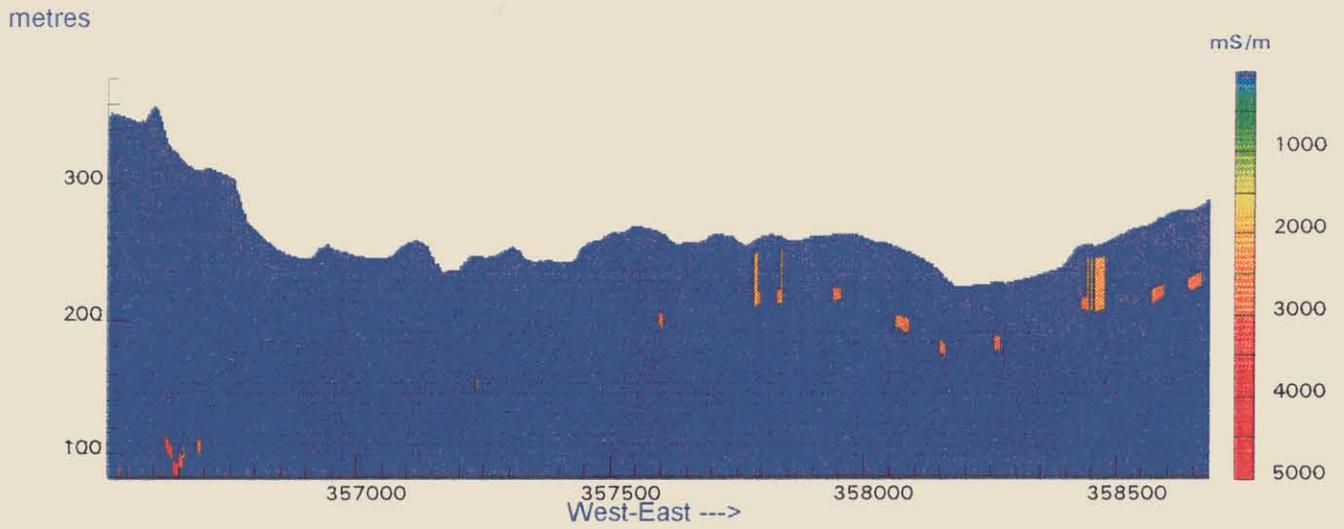


LINE 34(Layered CDI)

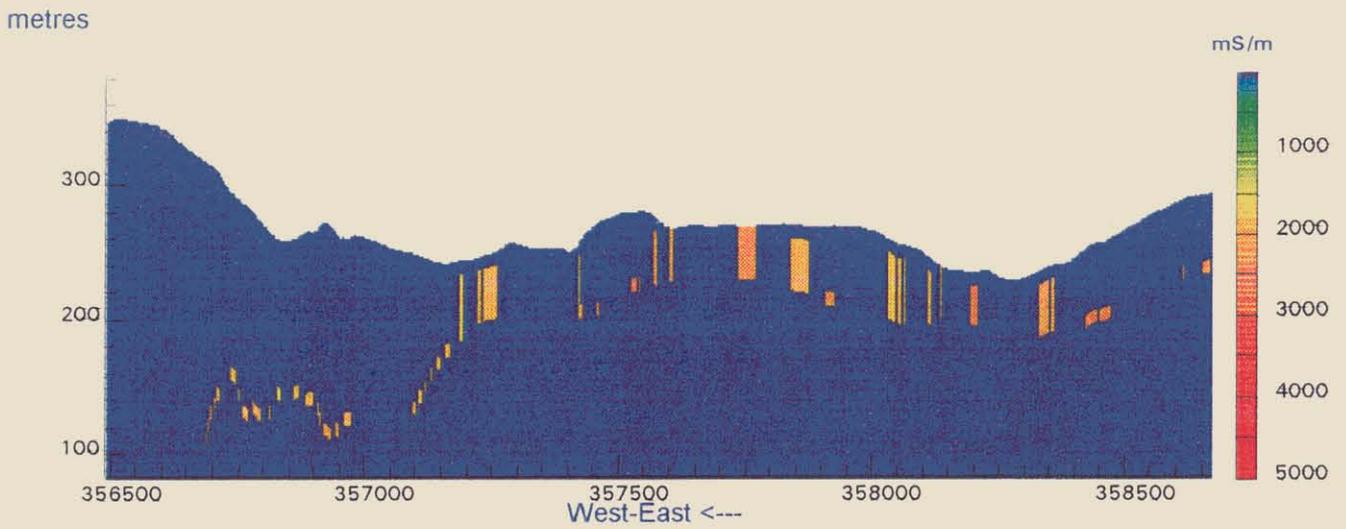
metres



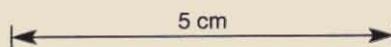
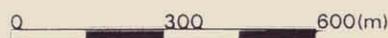
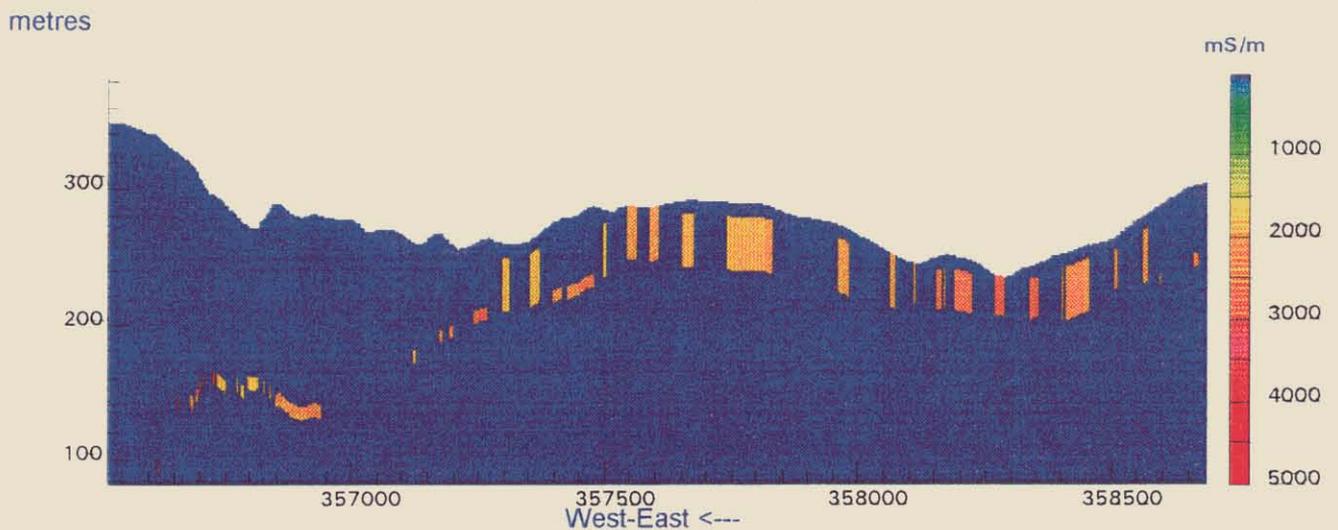
LINE 39(Layered CDI)



LINE 38(Layered CDI)



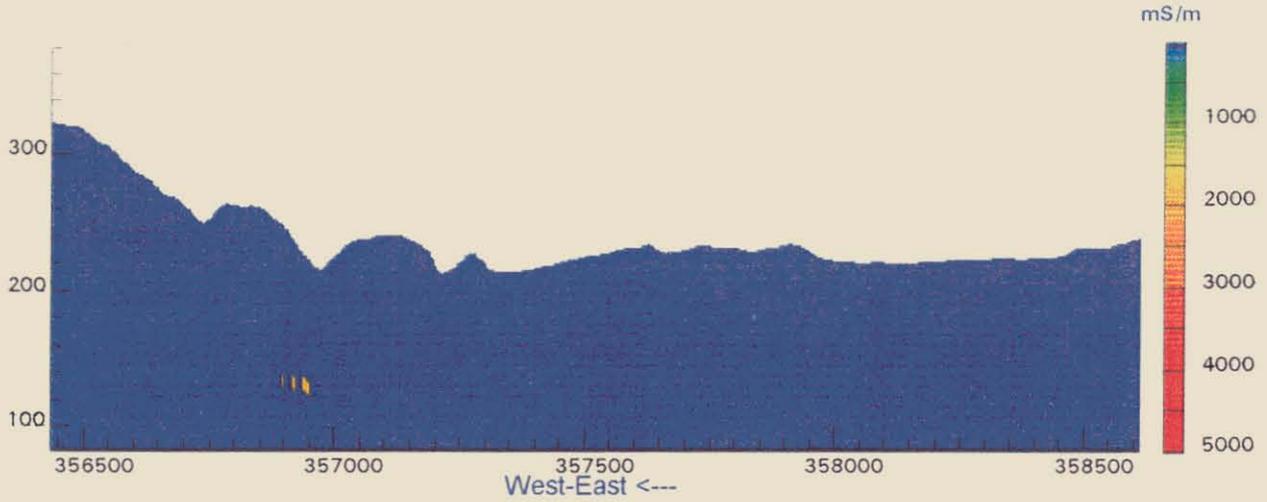
LINE 37(Layered CDI)



484066

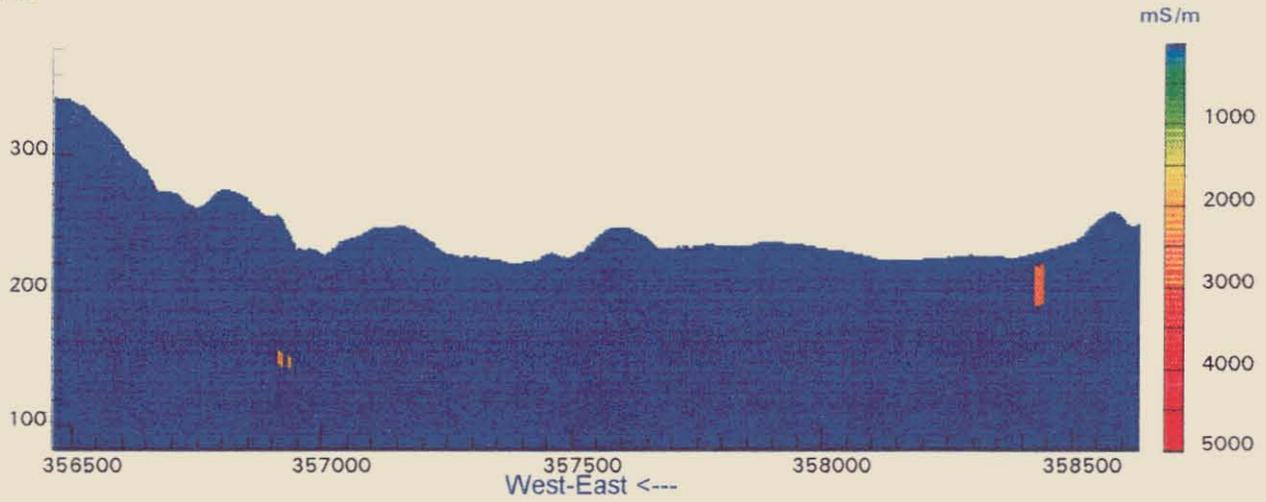
LINE 42(Layered CDI)

metres



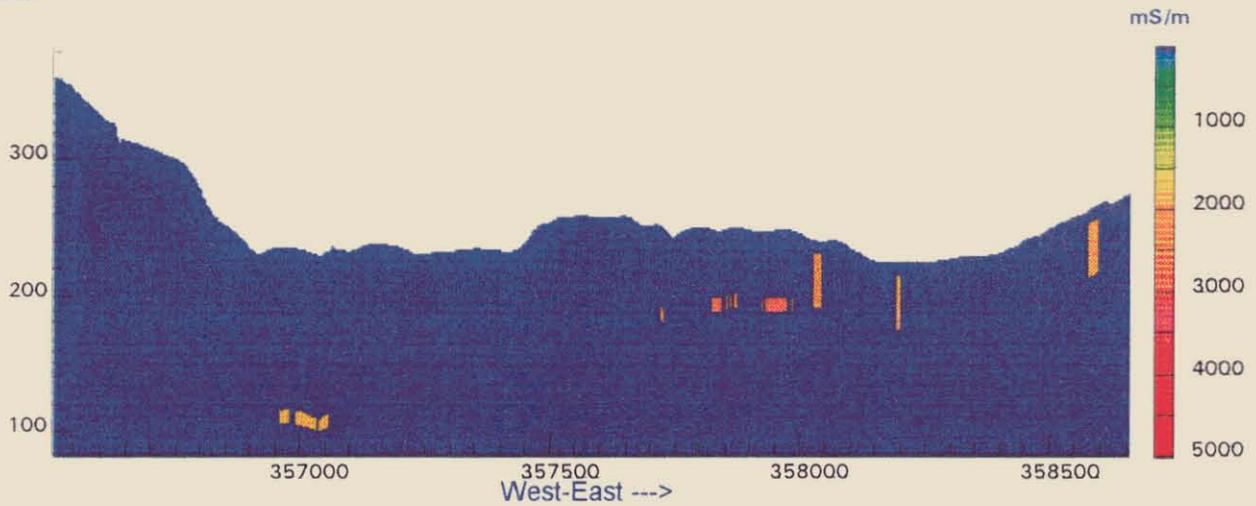
LINE 41(Layered CDI)

metres



LINE 40(Layered CDI)

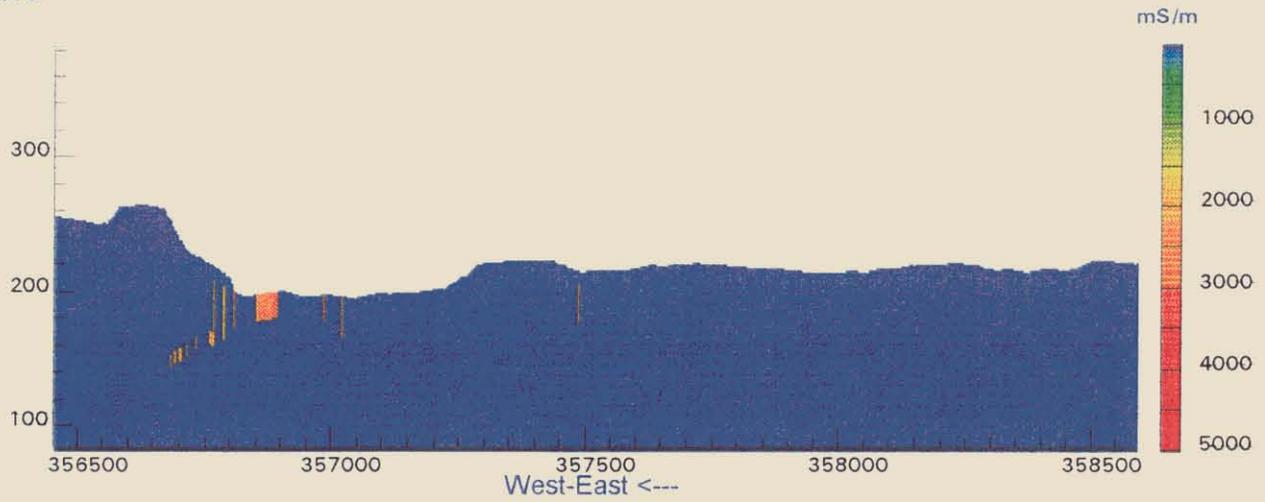
metres



484067

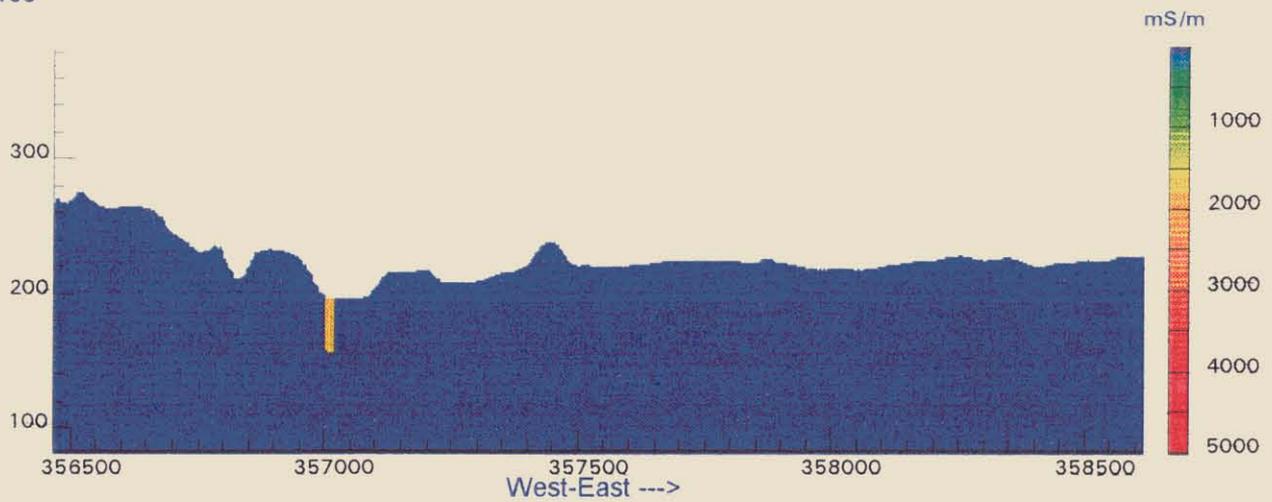
LINE 45(Layered CDI)

metres



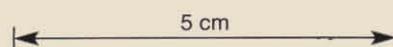
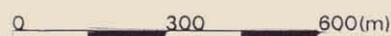
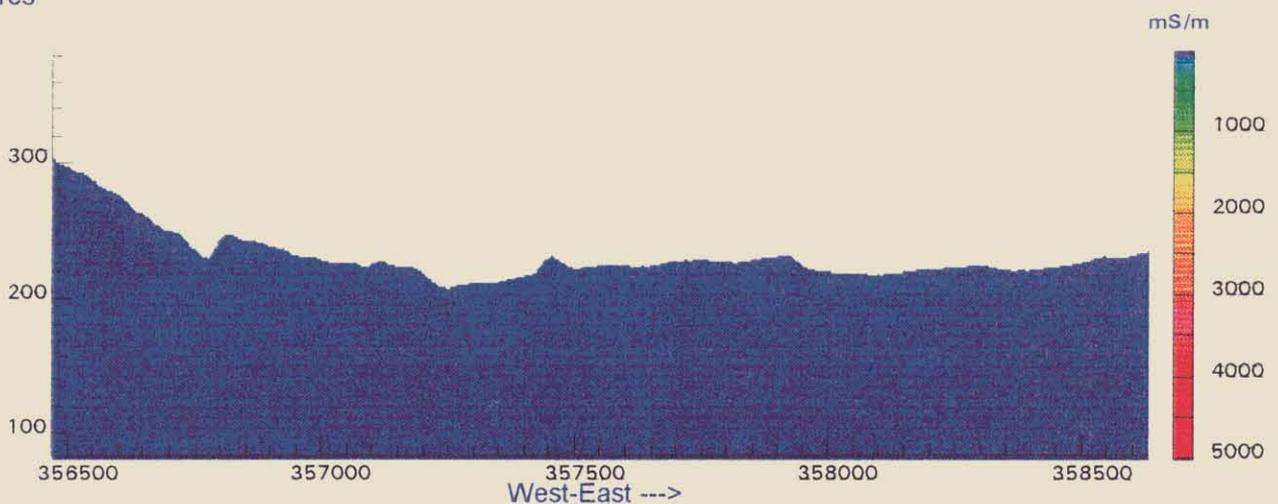
LINE 44(Layered CDI)

metres



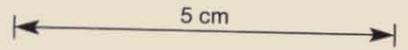
LINE 43(Layered CDI)

metres

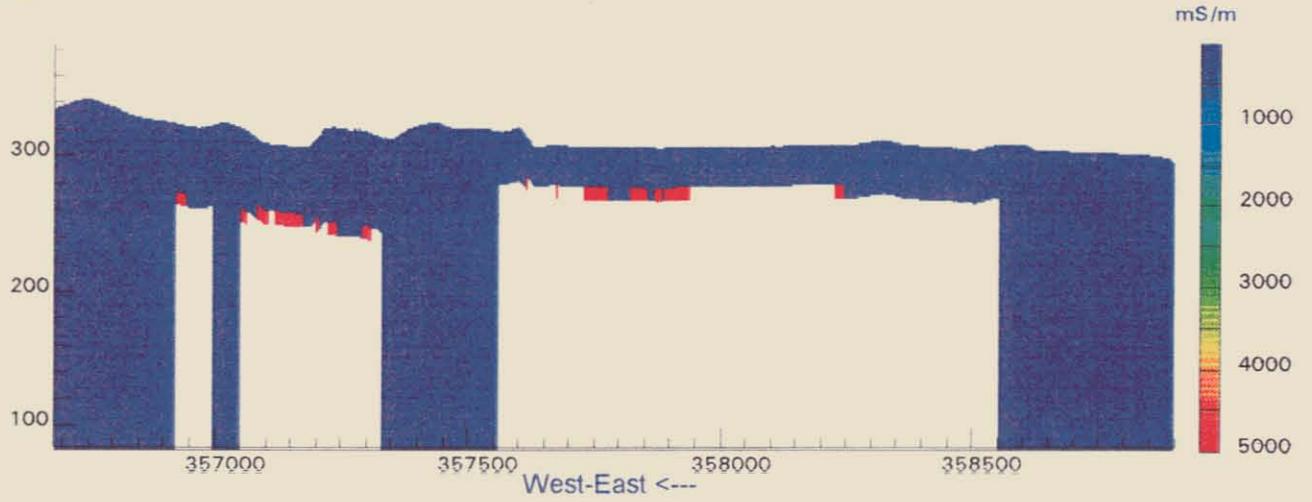


484068

LINE 21(CDI)

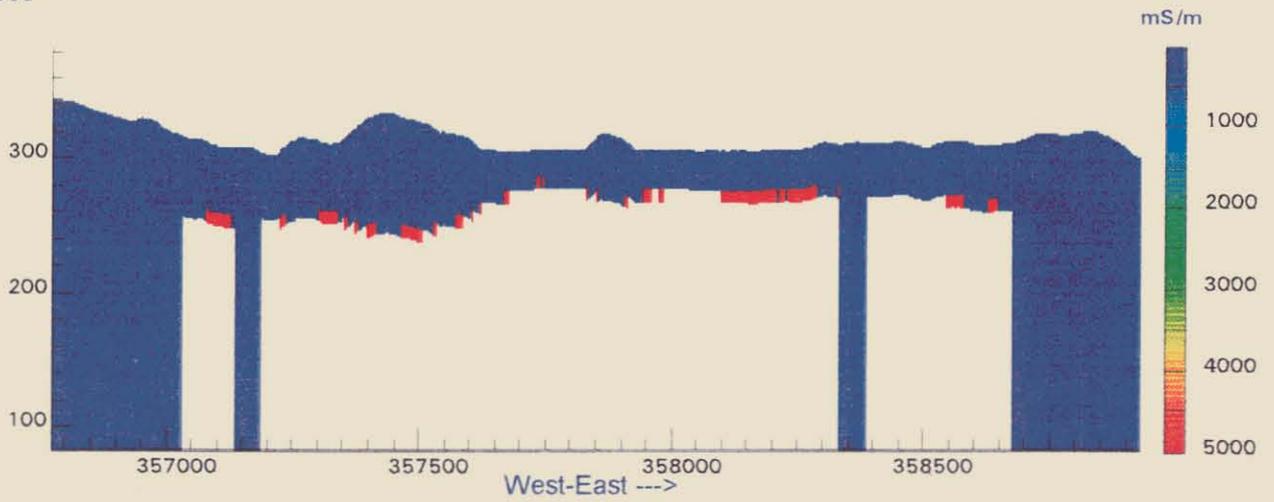


metres



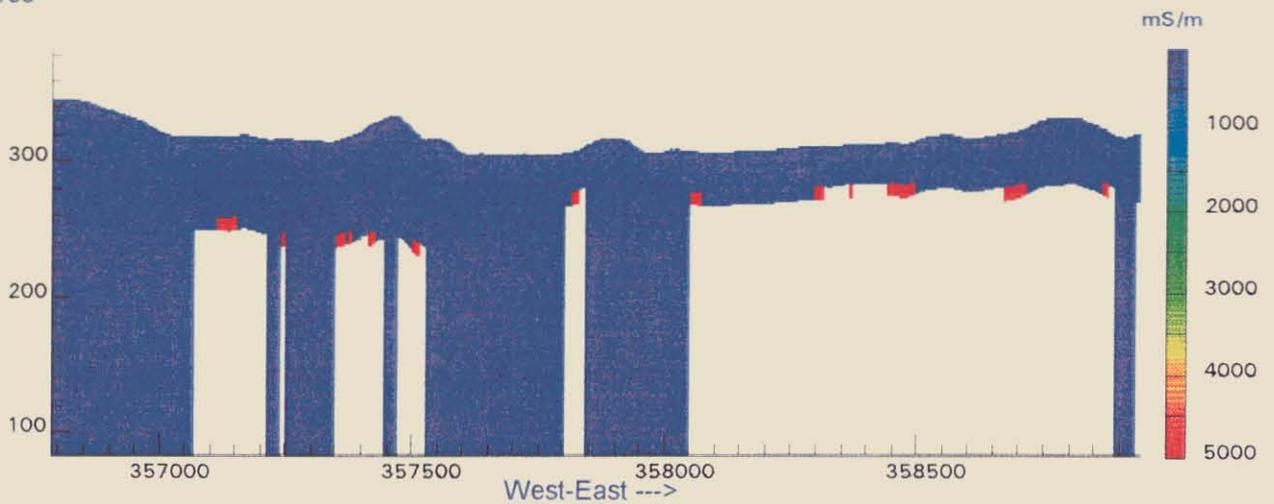
LINE 20(CDI)

metres



LINE 19(CDI)

metres

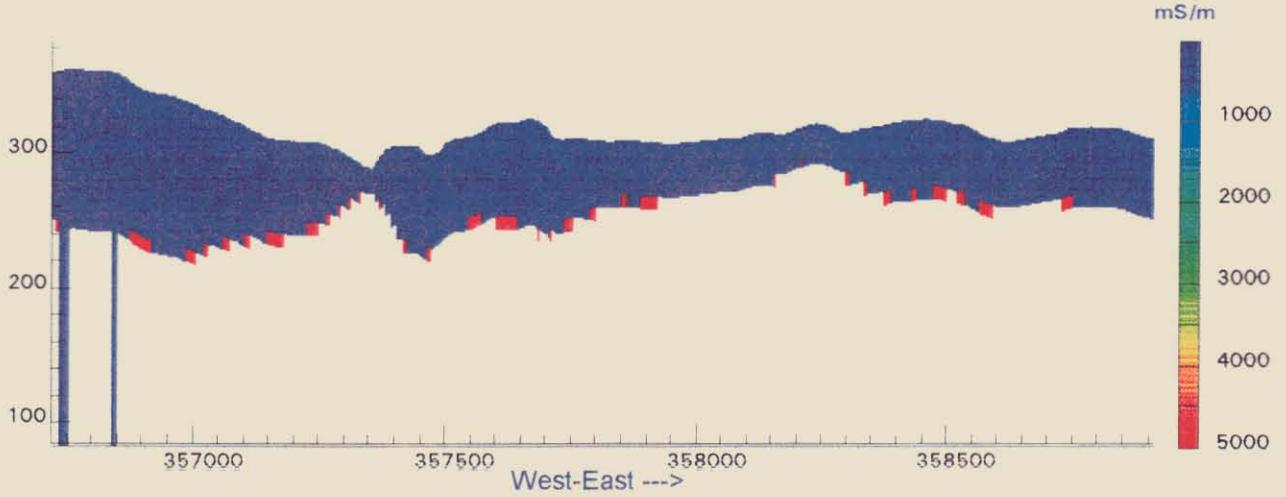


484069

5 cm

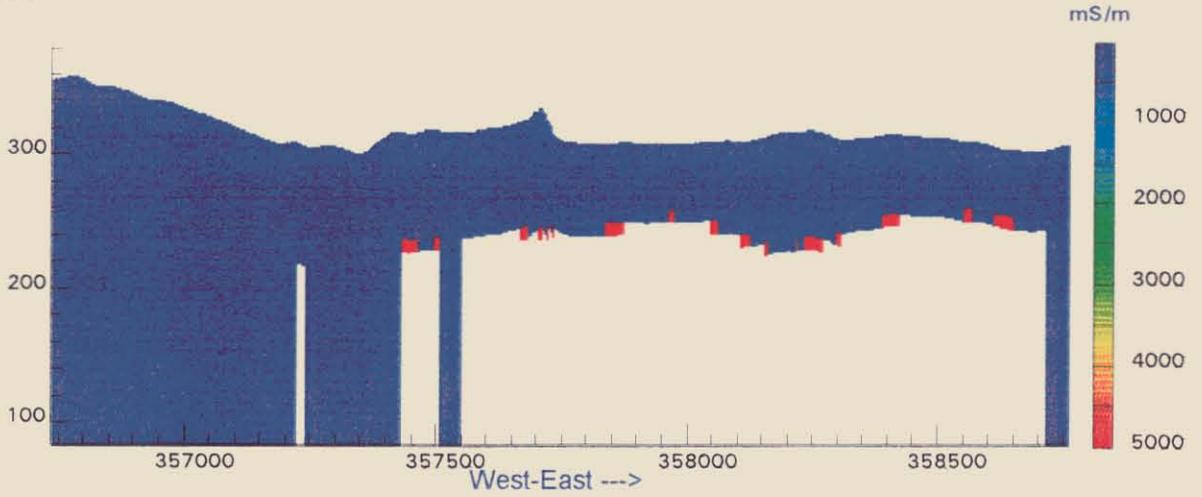
LINE 24(CDI)

metres



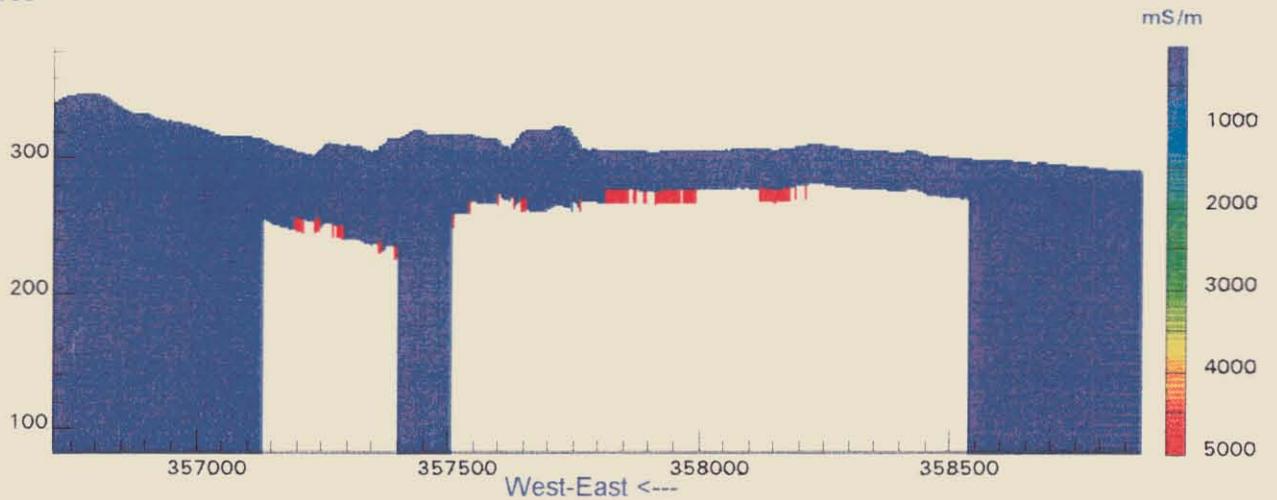
LINE 23(CDI)

metres



LINE 22(CDI)

metres



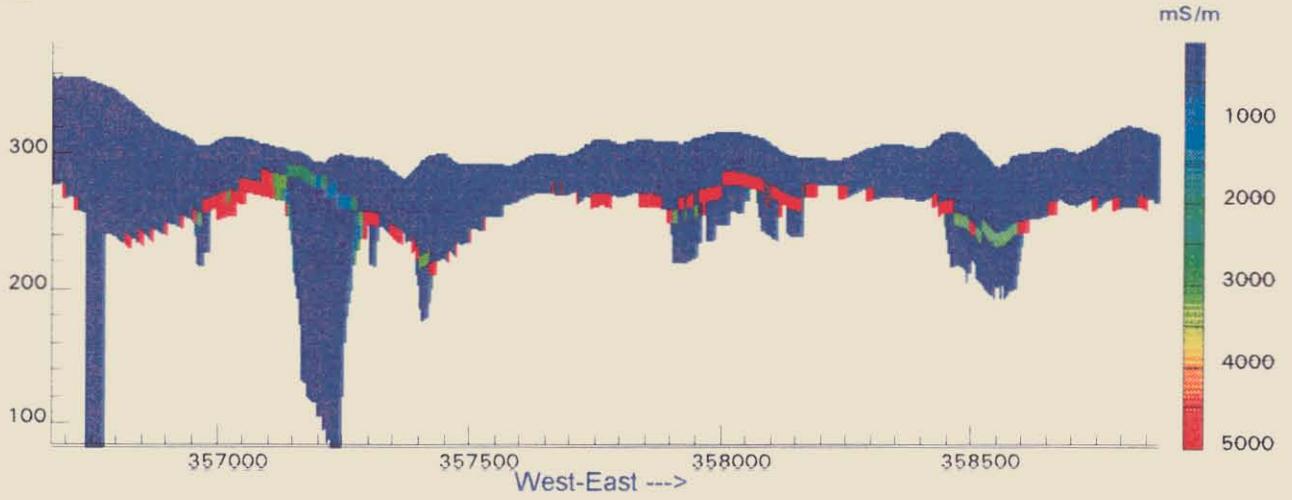
0 300 600(m)

484070

5 cm

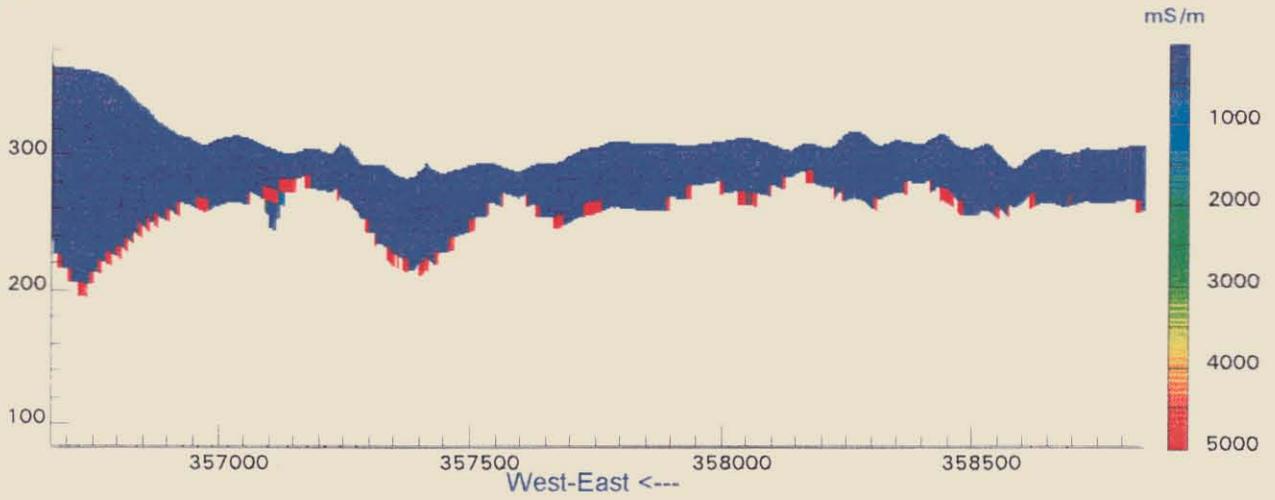
LINE 27(CDI)

metres



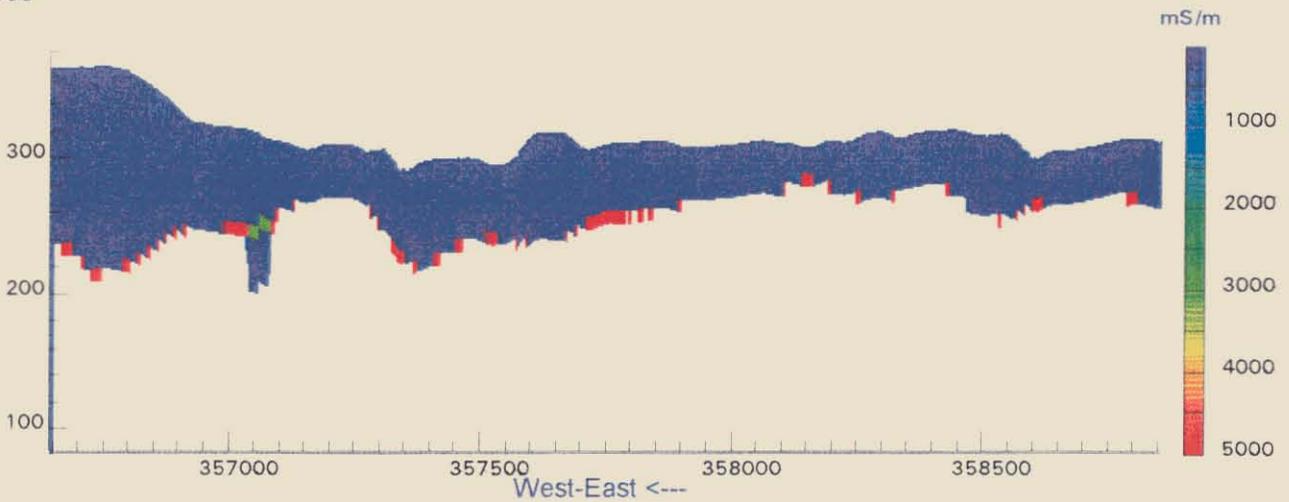
LINE 26(CDI)

metres



LINE 25(CDI)

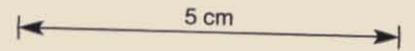
metres



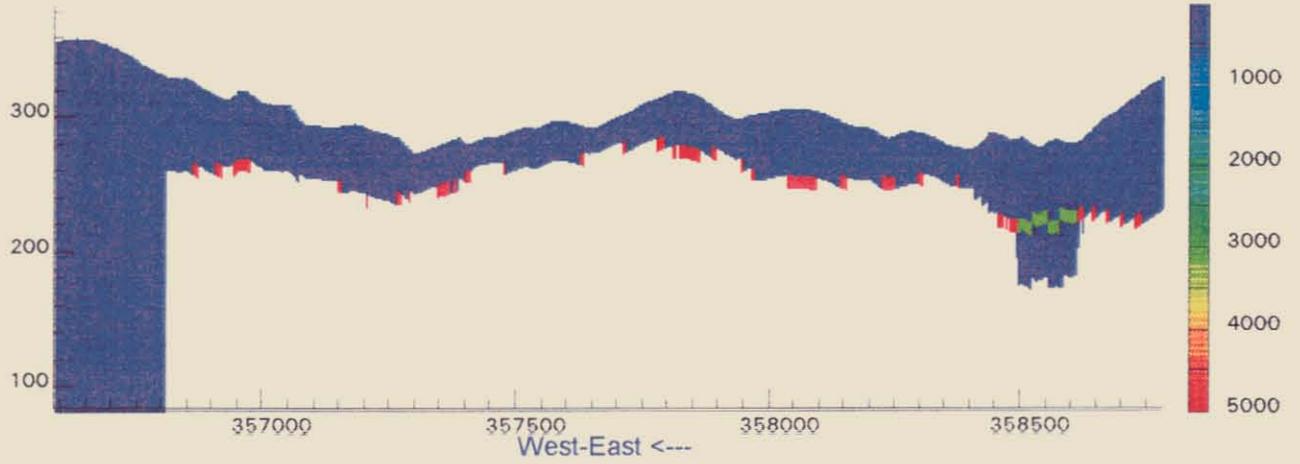
0 300 600(m)

484071

LINE 30(CDI)

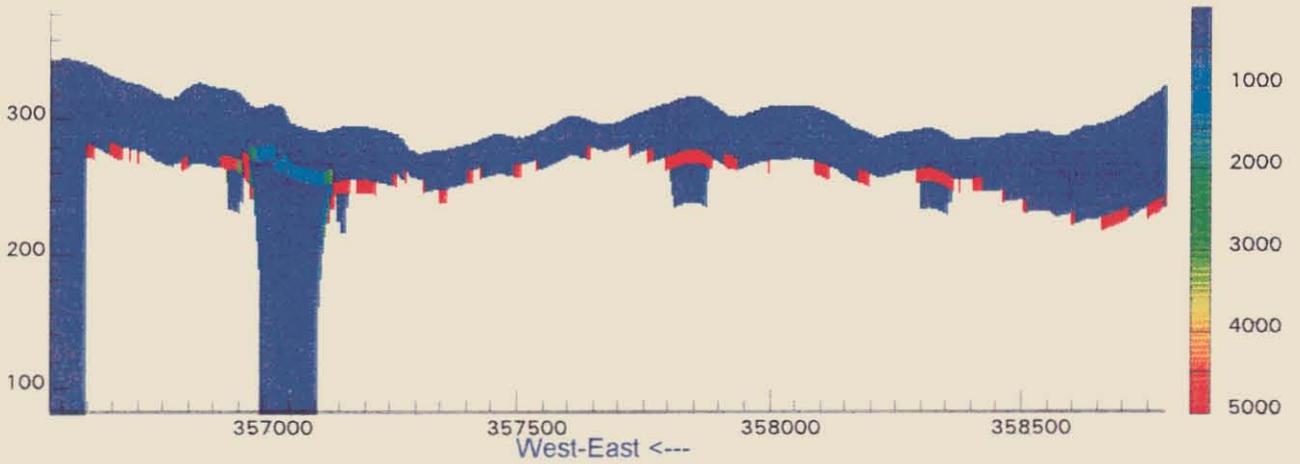


metres



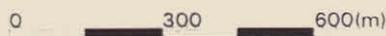
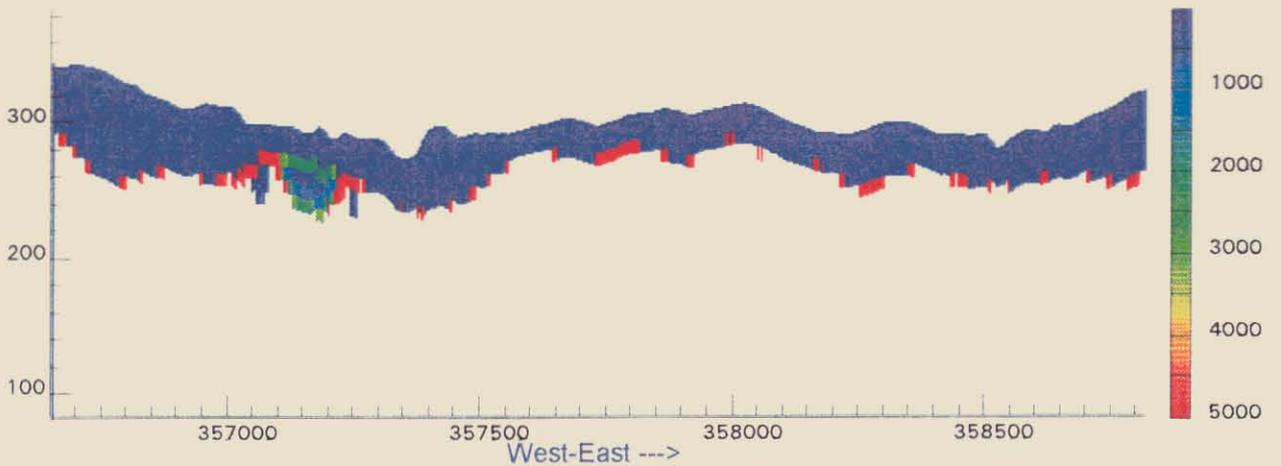
LINE 29(CDI)

metres

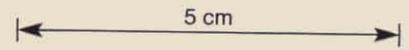


LINE 28(CDI)

metres

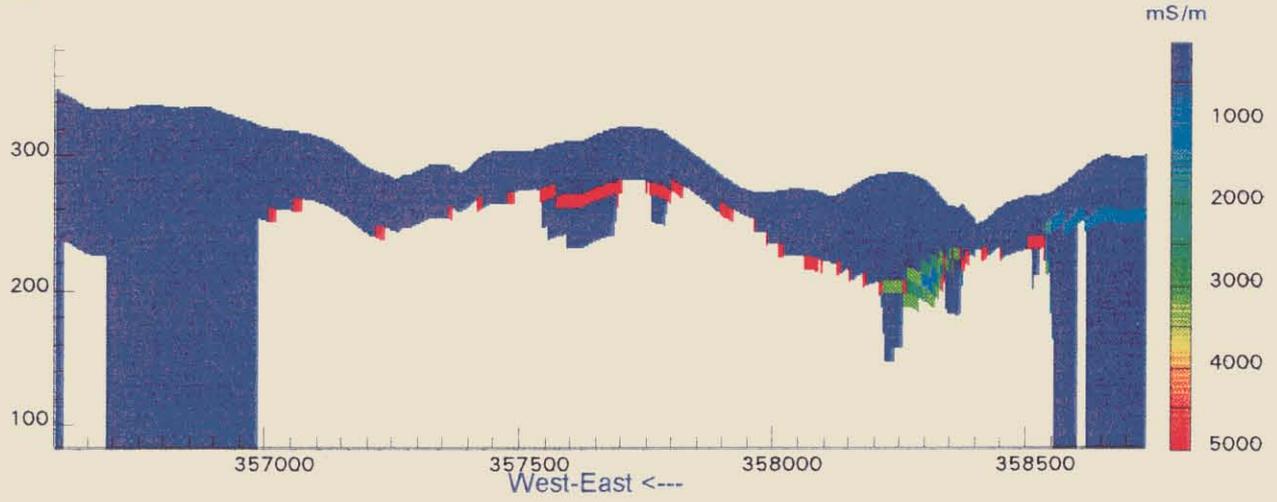


484072



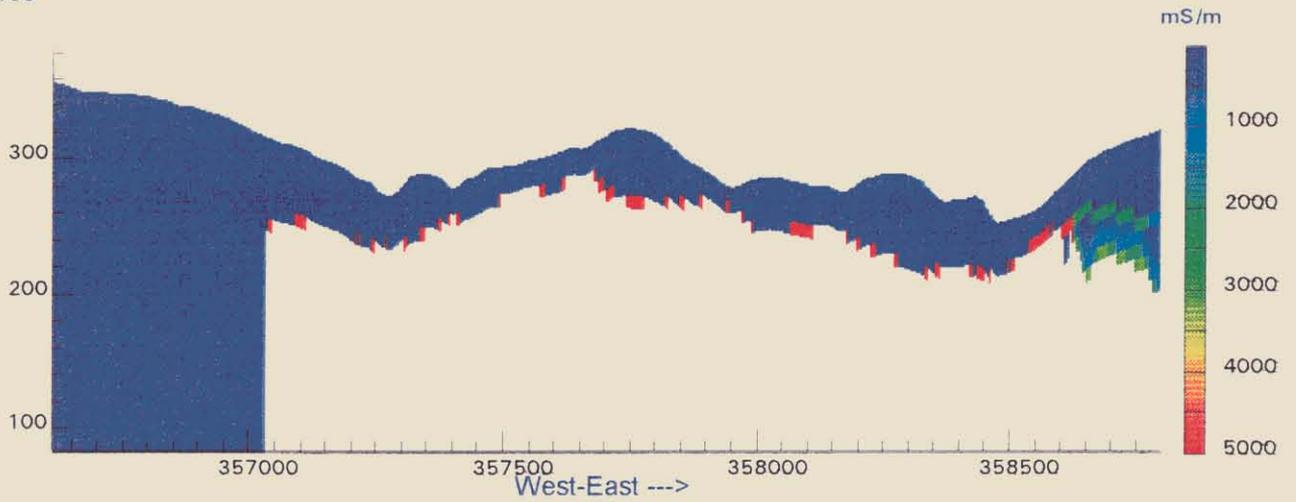
LINE 33(CDI)

metres



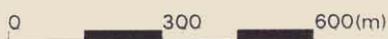
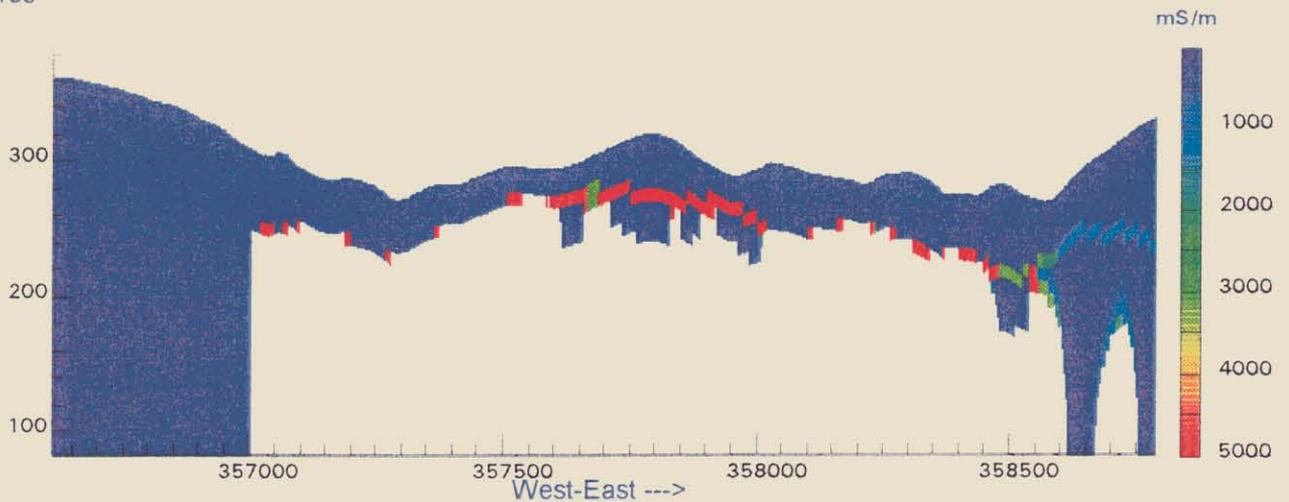
LINE 32(CDI)

metres



LINE 31(CDI)

metres

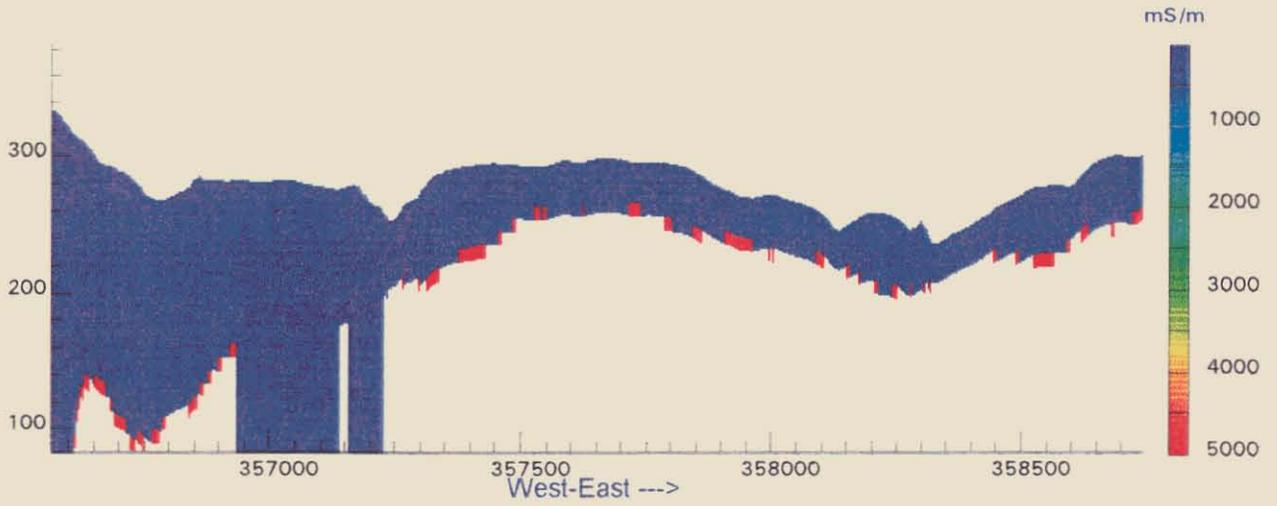


484073

5 cm

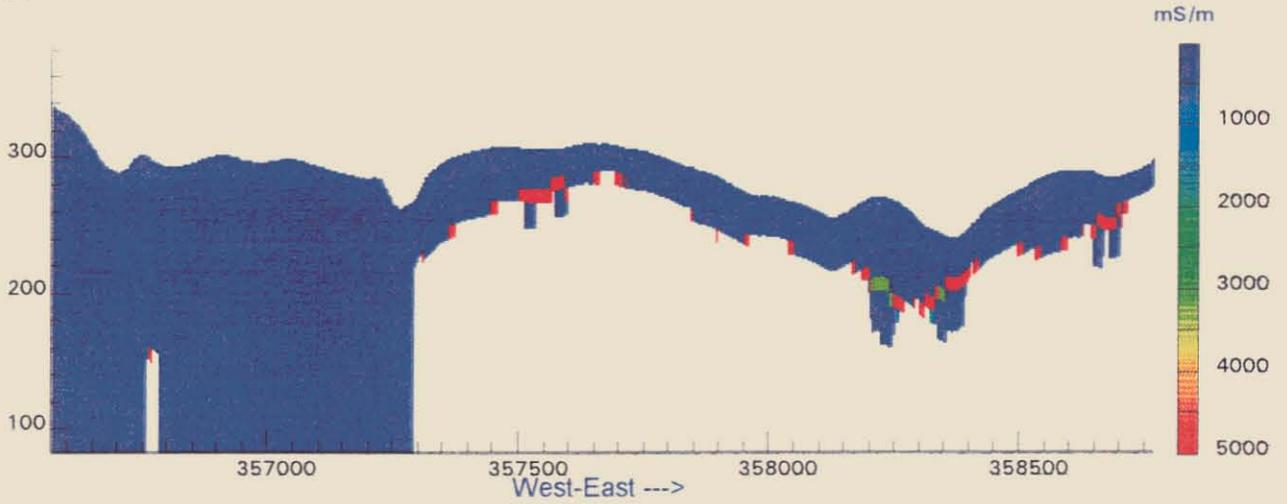
LINE 36(CDI)

metres



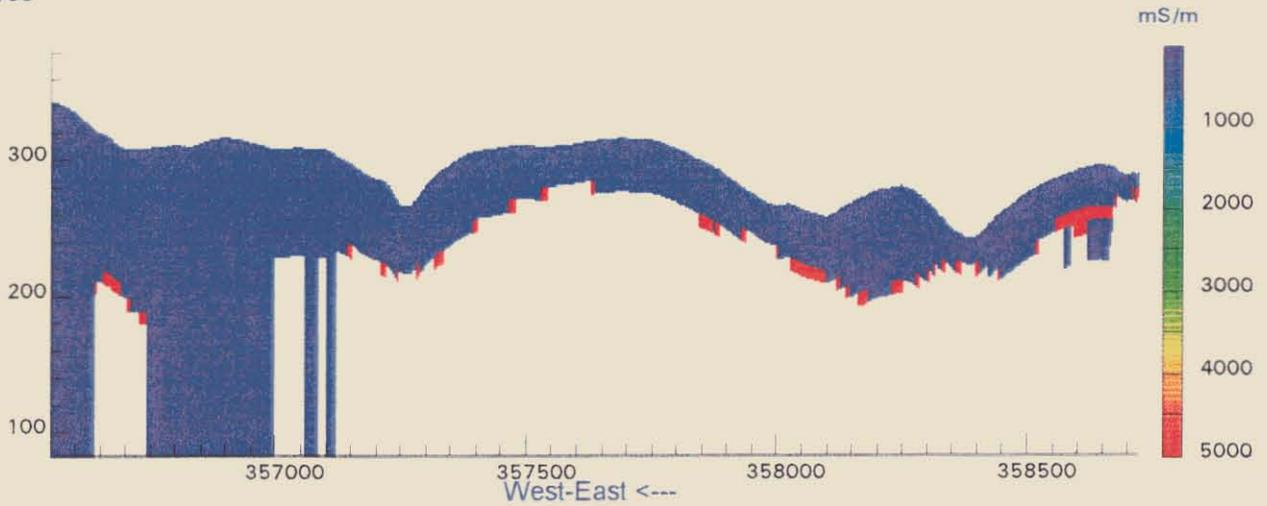
LINE 35(CDI)

metres



LINE 34(CDI)

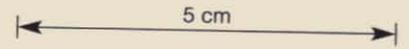
metres



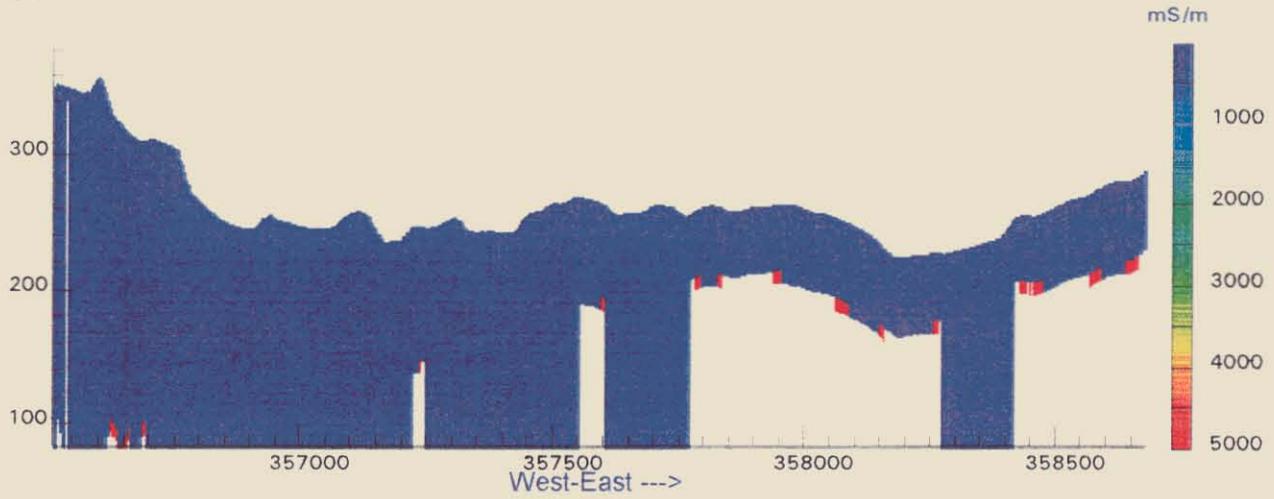
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484074

LINE 39(CDI)

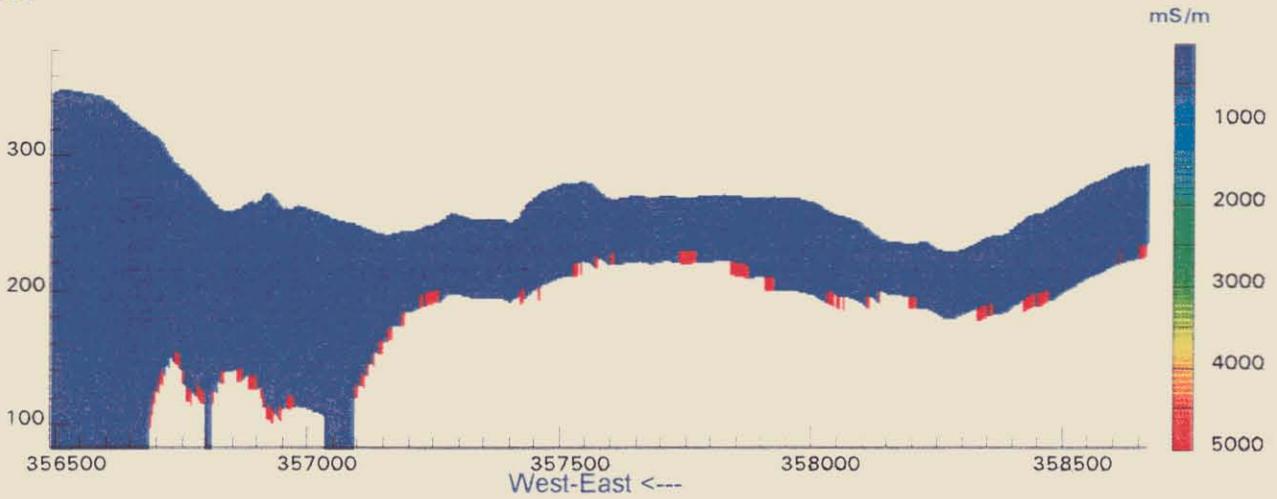


metres



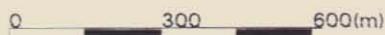
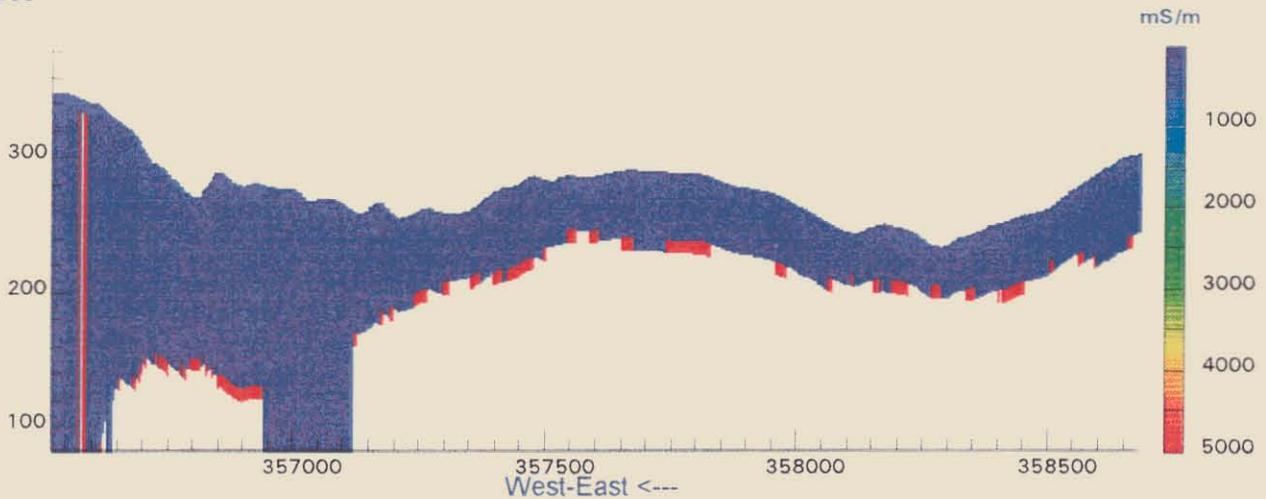
LINE 38(CDI)

metres



LINE 37(CDI)

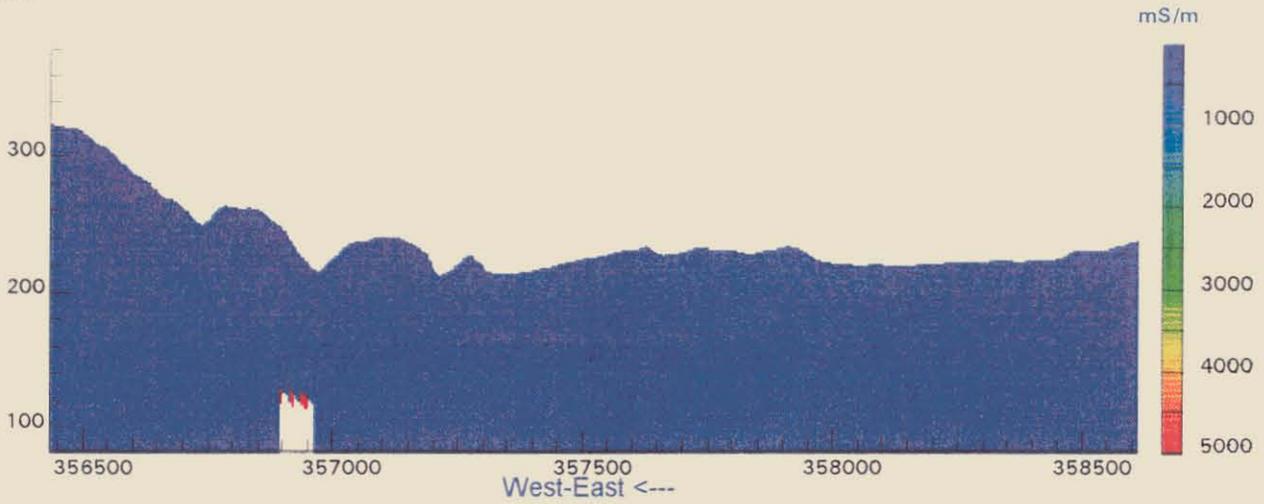
metres



484075

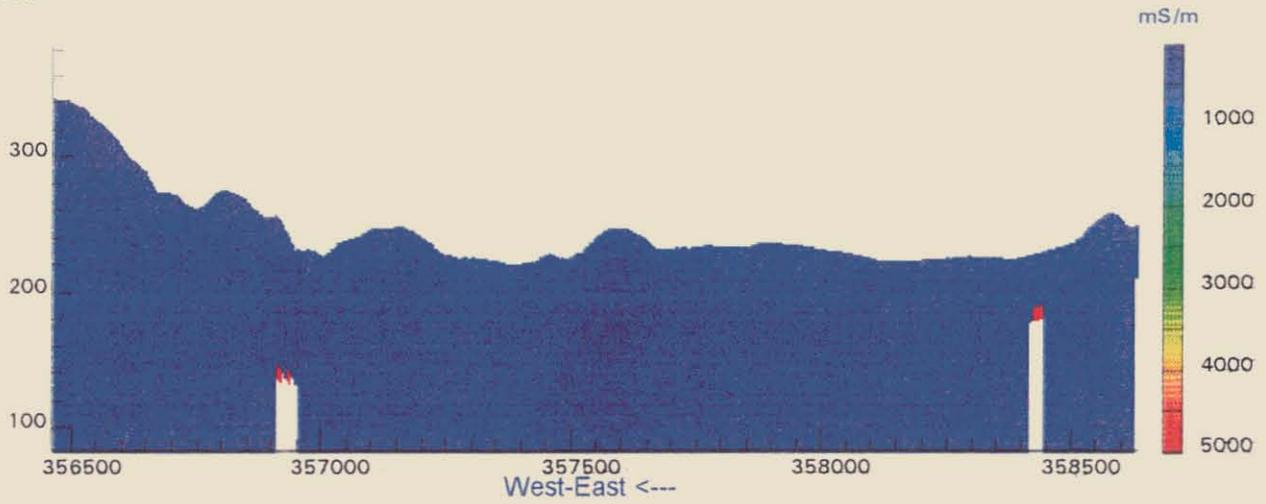
LINE 42(CDI)

metres



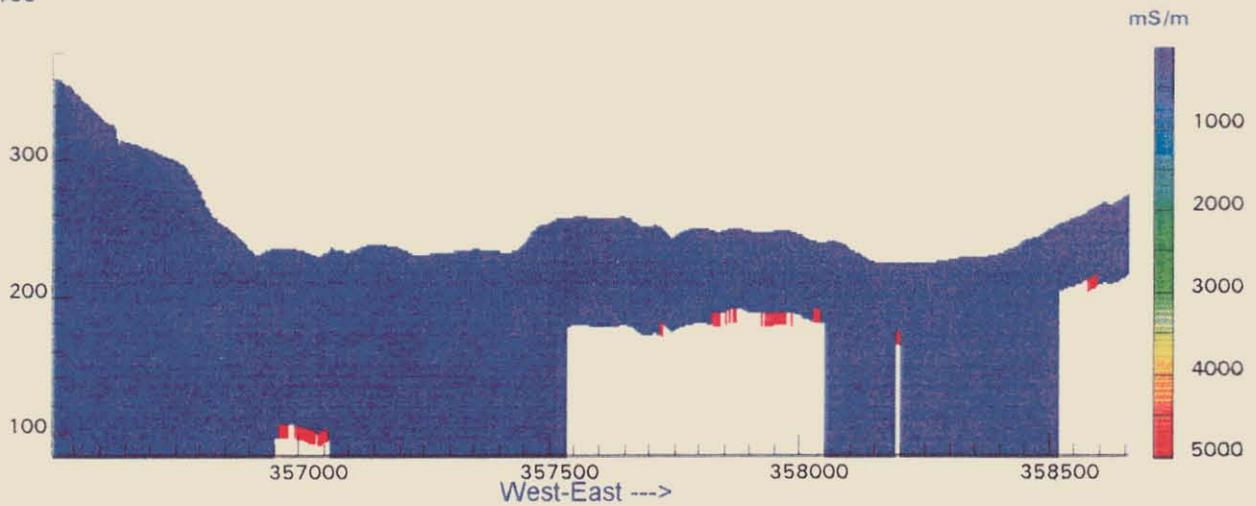
LINE 41(CDI)

metres



LINE 40(CDI)

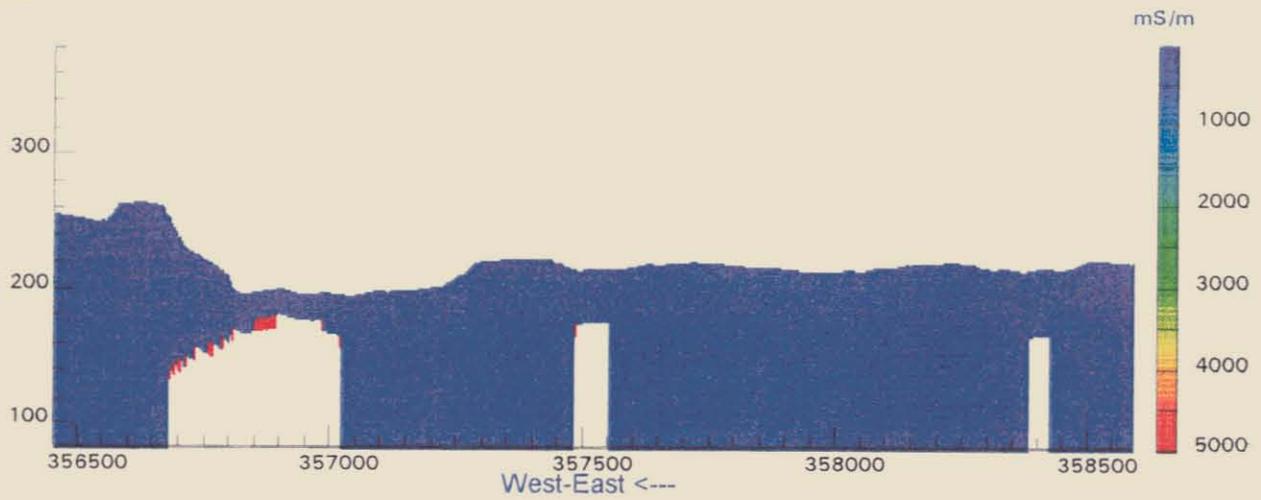
metres



484076

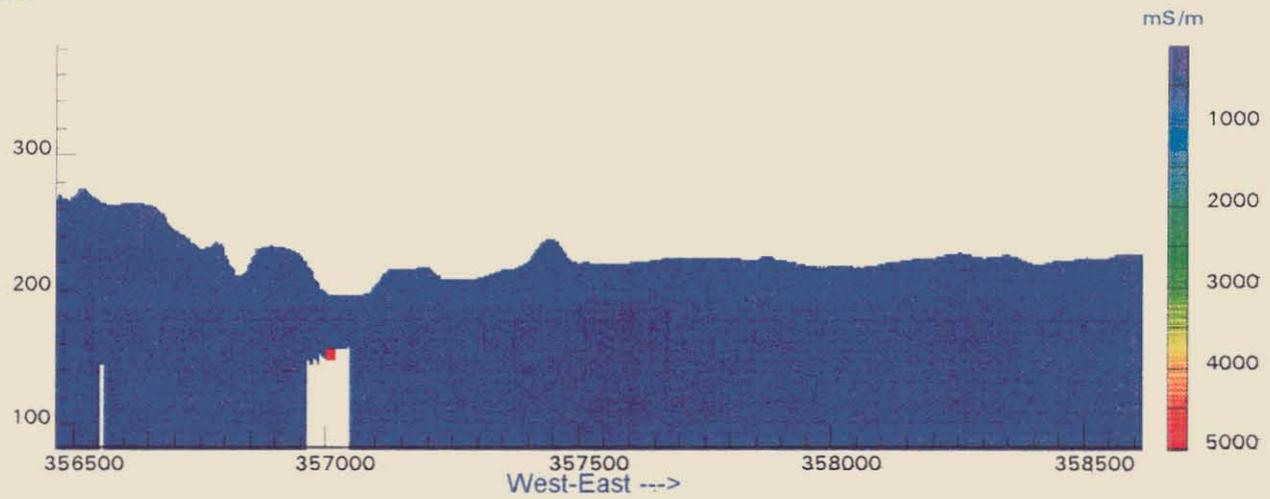
LINE 45(CDI)

metres



LINE 44(CDI)

metres



LINE 43(CDI)

metres

