02412

ÉLECTRICITÉ DE FRANCE

SERVICE DES LABORATOIRES ET ESSAIS HYDRAULIQUES

LABORATOIRE NATIONAL D'HYDRAULIQUE

ETUDE SUR MODELE REDUIT DES CONDITIONS DE NAVIGABILITE DU NIGER ENTRE KOULIKORO ET SEGOU

FIGURES

6, quai Watier - CHATOU - Seine-et-Oise

Tél. : 966.85.20

BORDEREAU DES FIGURES

Figures

COURBE DES DEBITS

ANNEE 1958-1959

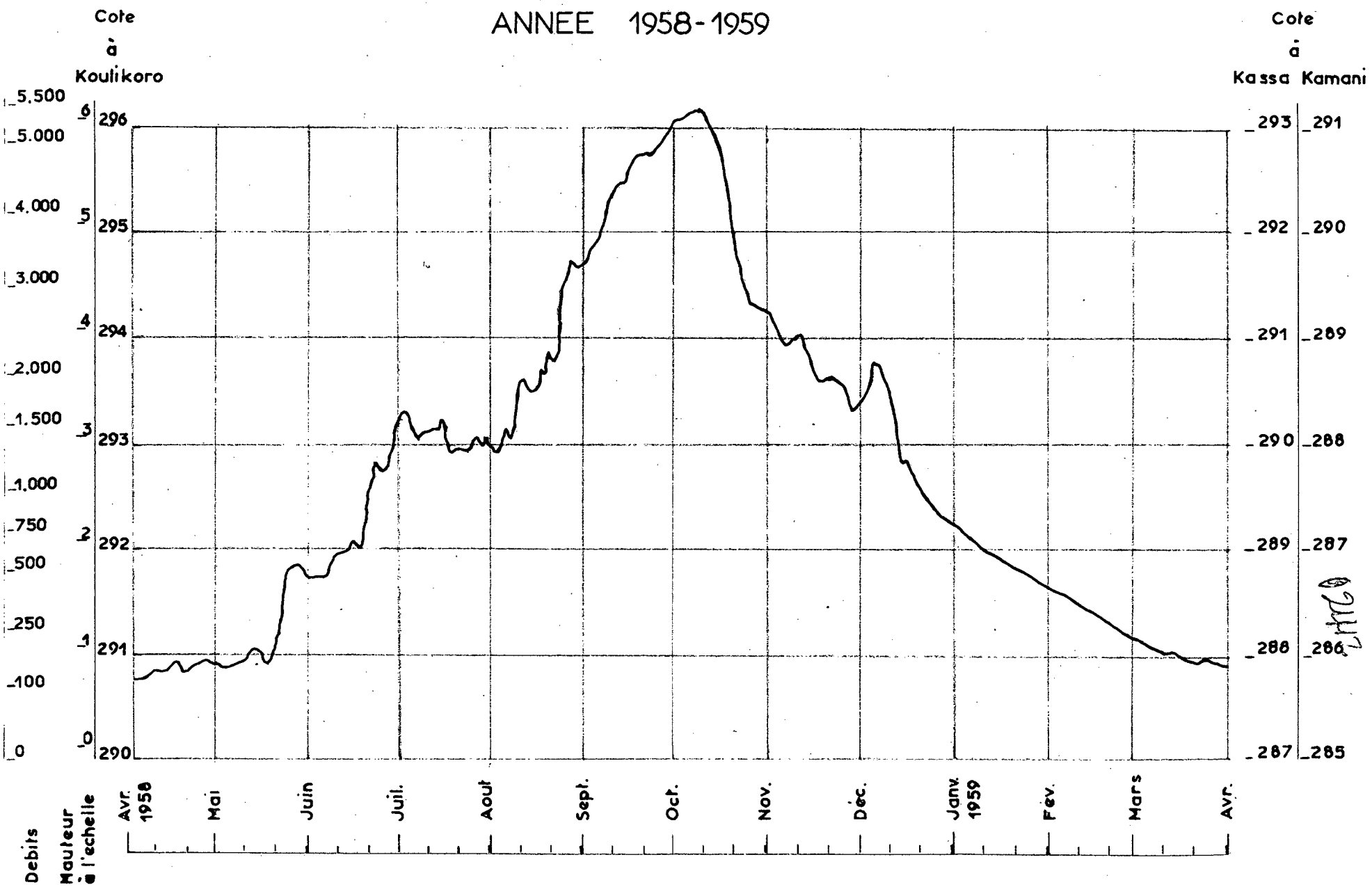


Fig : 1

ETALONNAGE DES LIGNES D'EAU

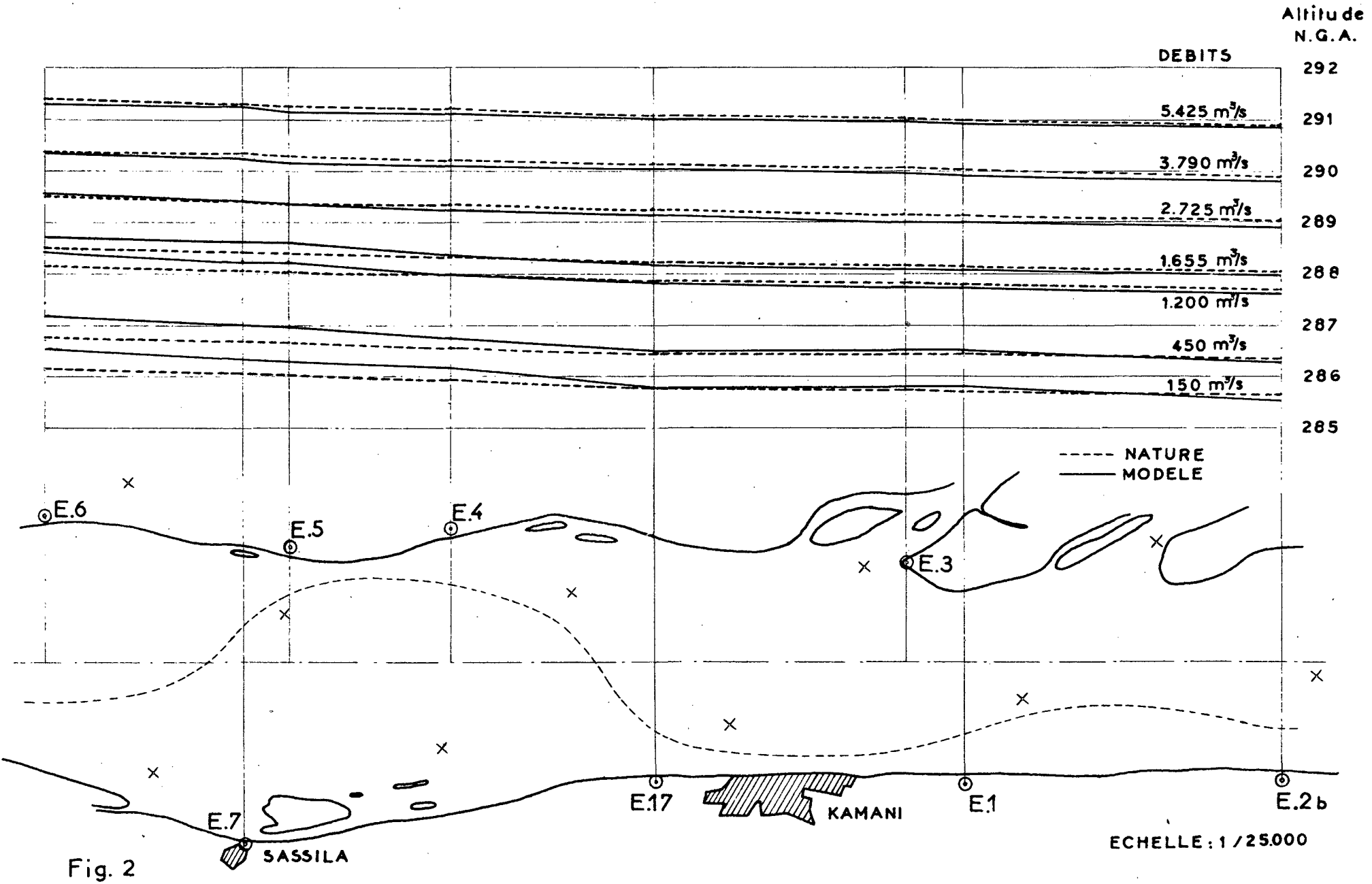


Fig. 2

ETALONNAGE DES VITESSES ET DES LIGNES DE COURANT

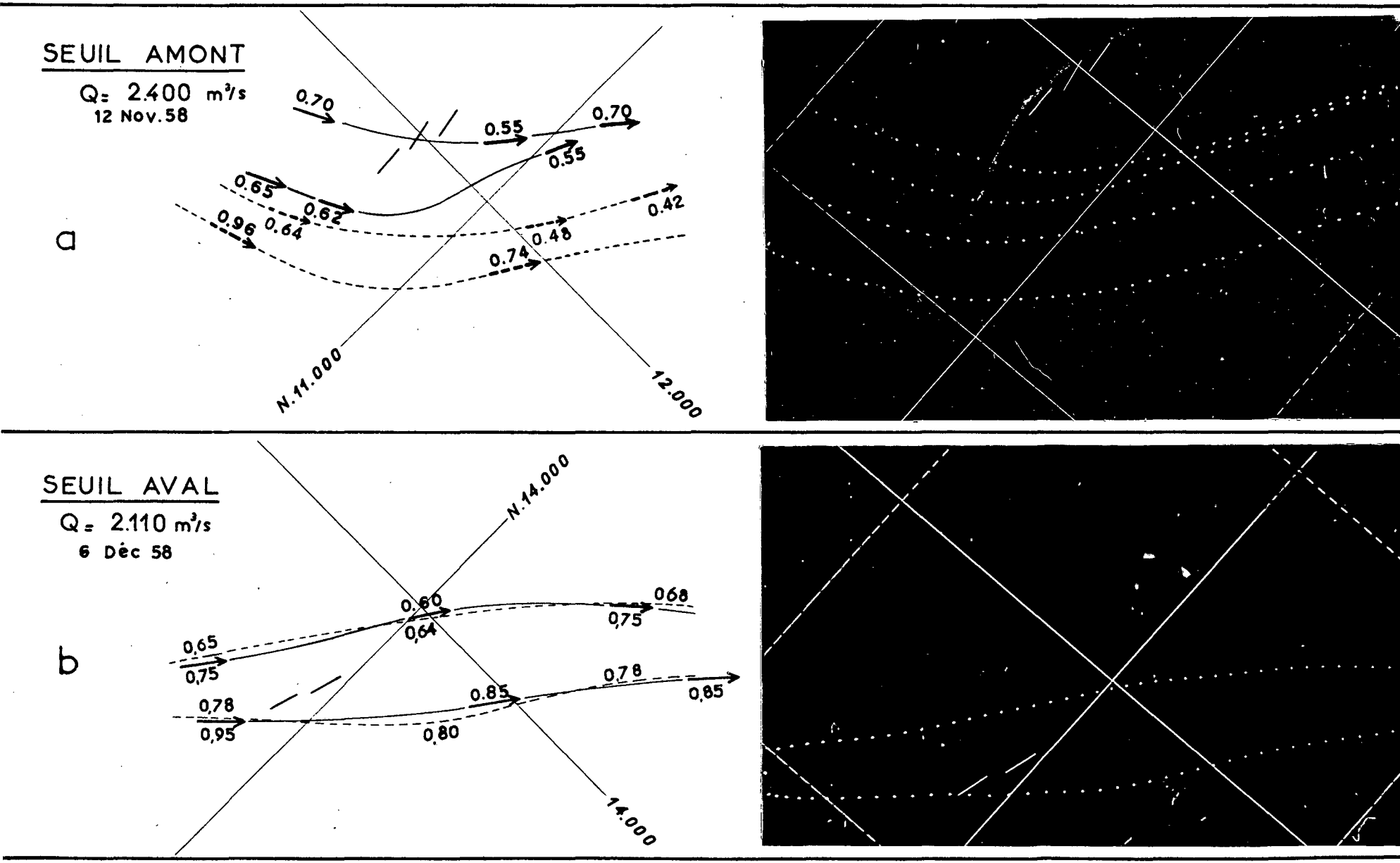


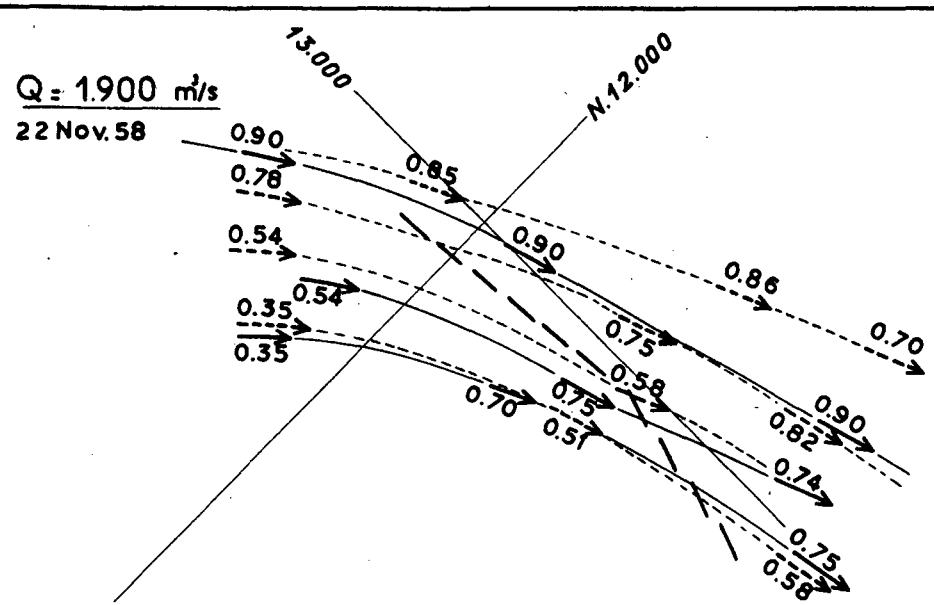
Fig. 3

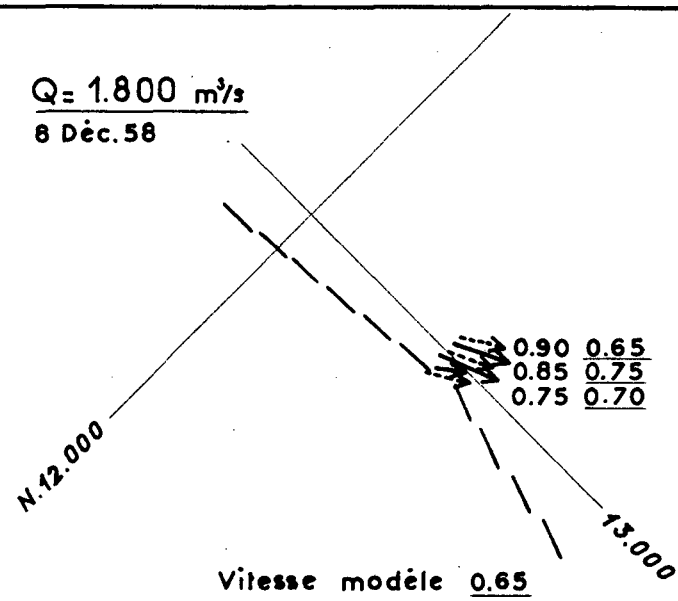
Courants de surface { nature ——— / modèle - - - - -

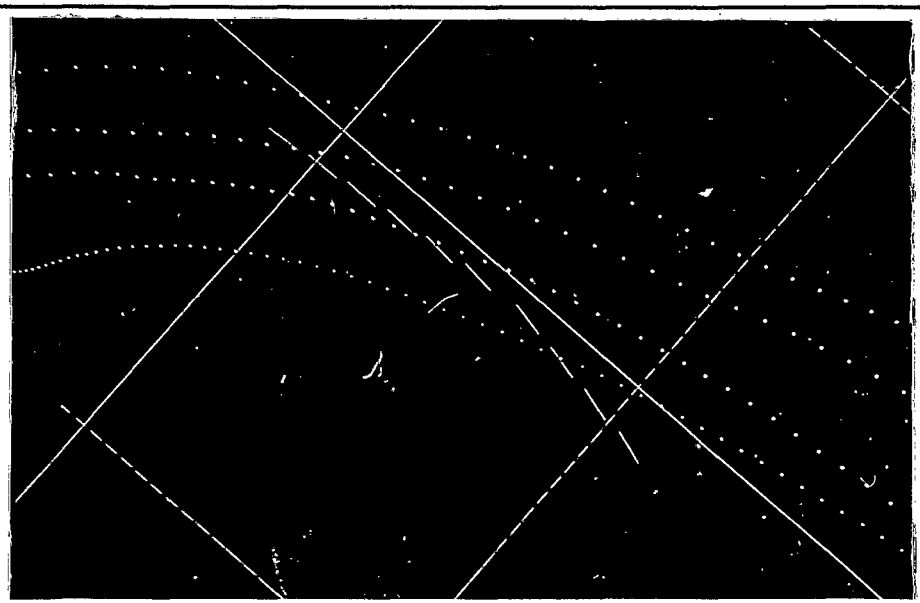
Echelle: 1/10.000

ETALONNAGE DES VITESSES ET DES LIGNES DE COURANT

SEUIL MOYEN







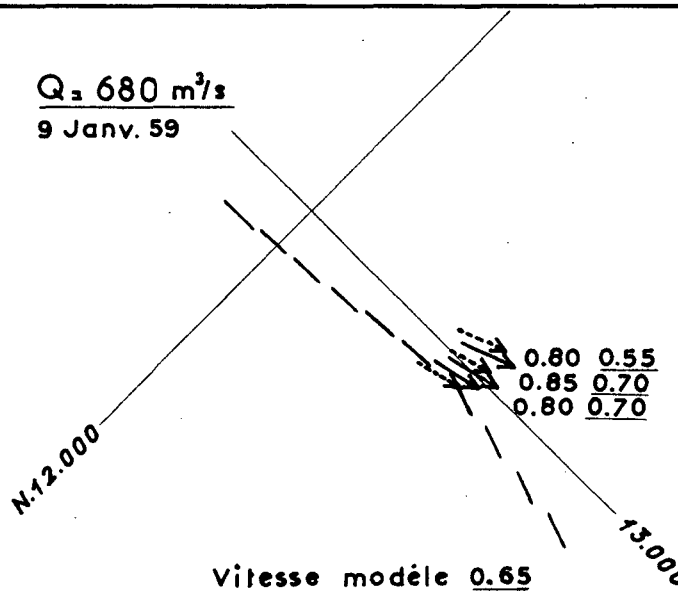


Fig: 4

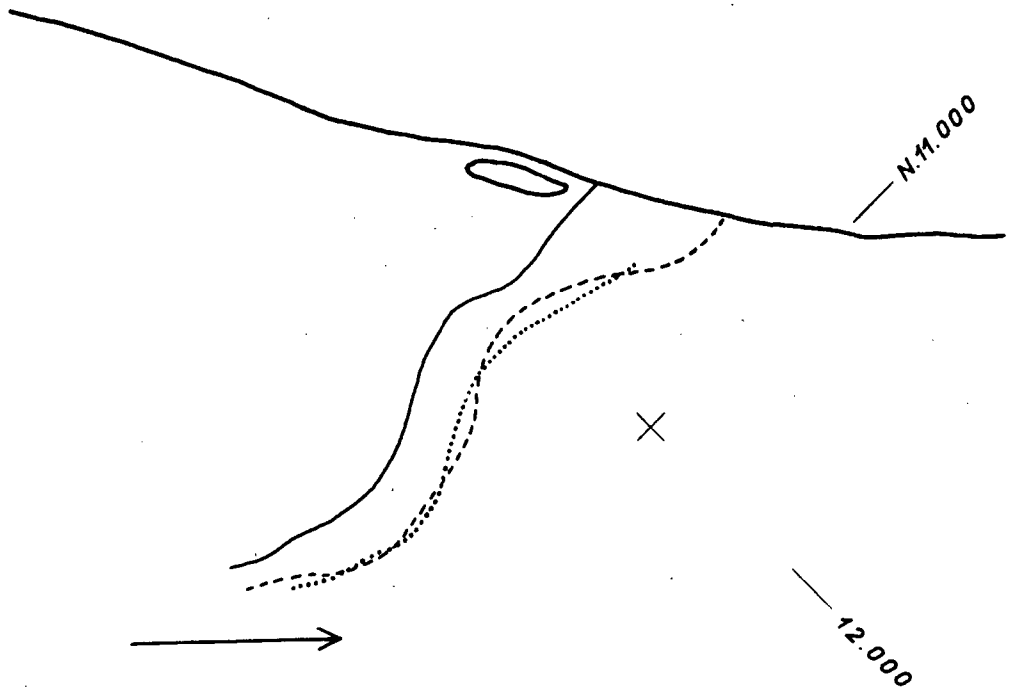
Courants de surface { nature ——— / modèle - - - - -

Echelle : 1/10.000

MOUVEMENT DES FONDS

ETALONNAGE DES GRANDES DUNES

SEUIL AMONT



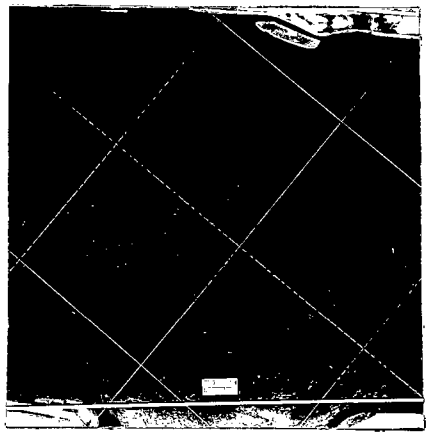
Echelle : 1/10.000

CRETE DU BANC

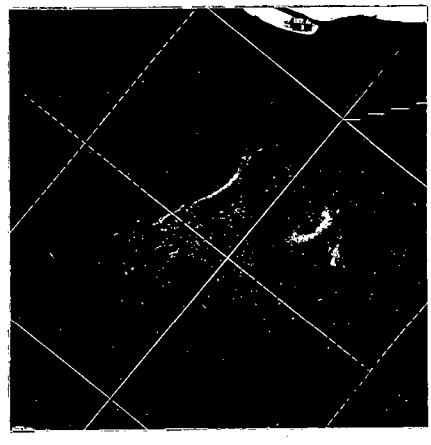
——— Nature en Déc. 57

----- Nature en Nov. 58

..... Modèle après une année schématique



Décembre 57



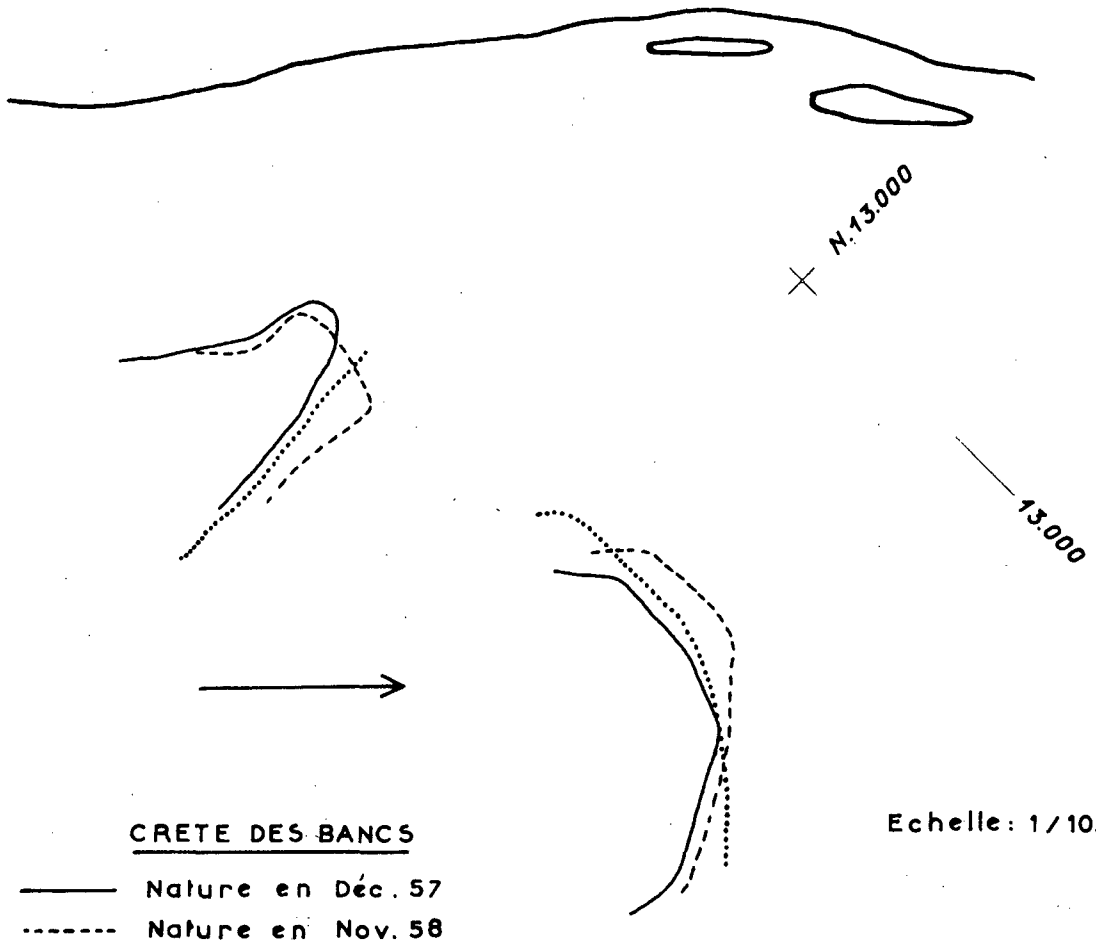
Novembre 58

Fig.: 5

MOUVEMENT DES FONDS

ETALONNAGE DES GRANDES DUNES

SEUIL MOYEN



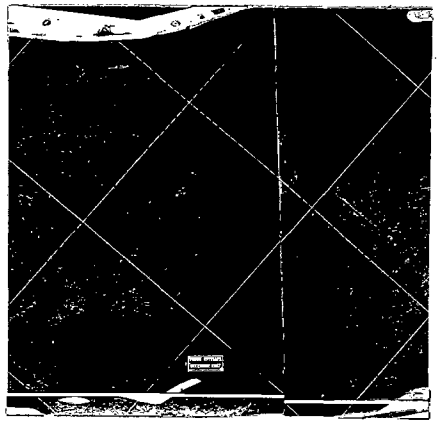
CRETE DES BANCS

——— Nature en Déc. 57

------- Nature en Nov. 58

..... Modèle après une année schématique

Echelle: 1/10.000



Décembre 57

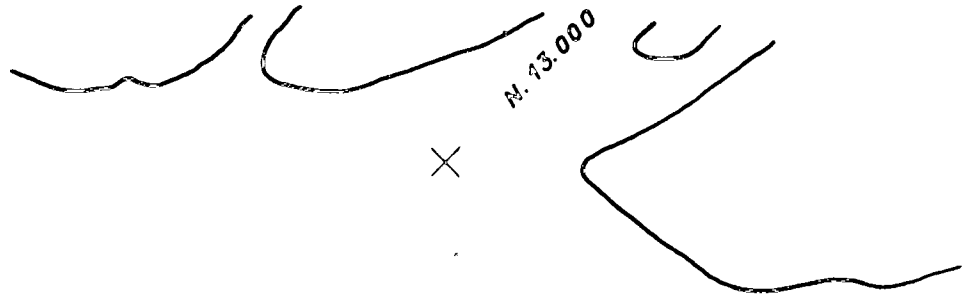
Novembre 58

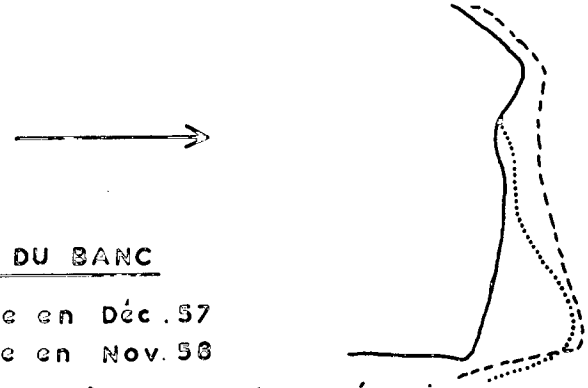
Fig: 6

MOUVEMENT DES FONDS

ETALONNAGE DES GRANDES DUNES

SEUIL AVAL



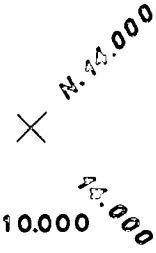


CRETE DU BANC

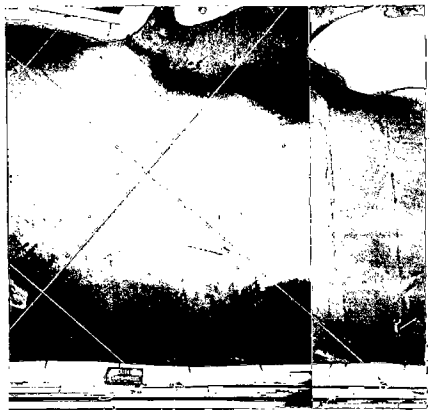
——— Nature en Déc. 57

- - - - - - - Nature en Nov. 58

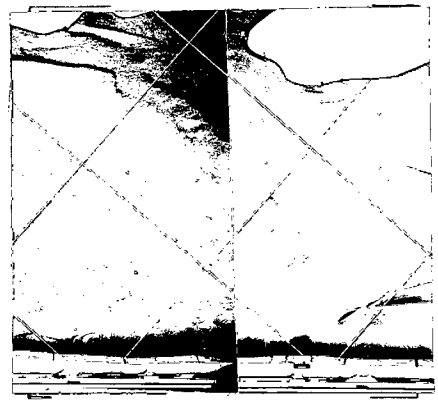
..... Modèle après une année schématique



Echelle: 1/10.000



Décembre 57

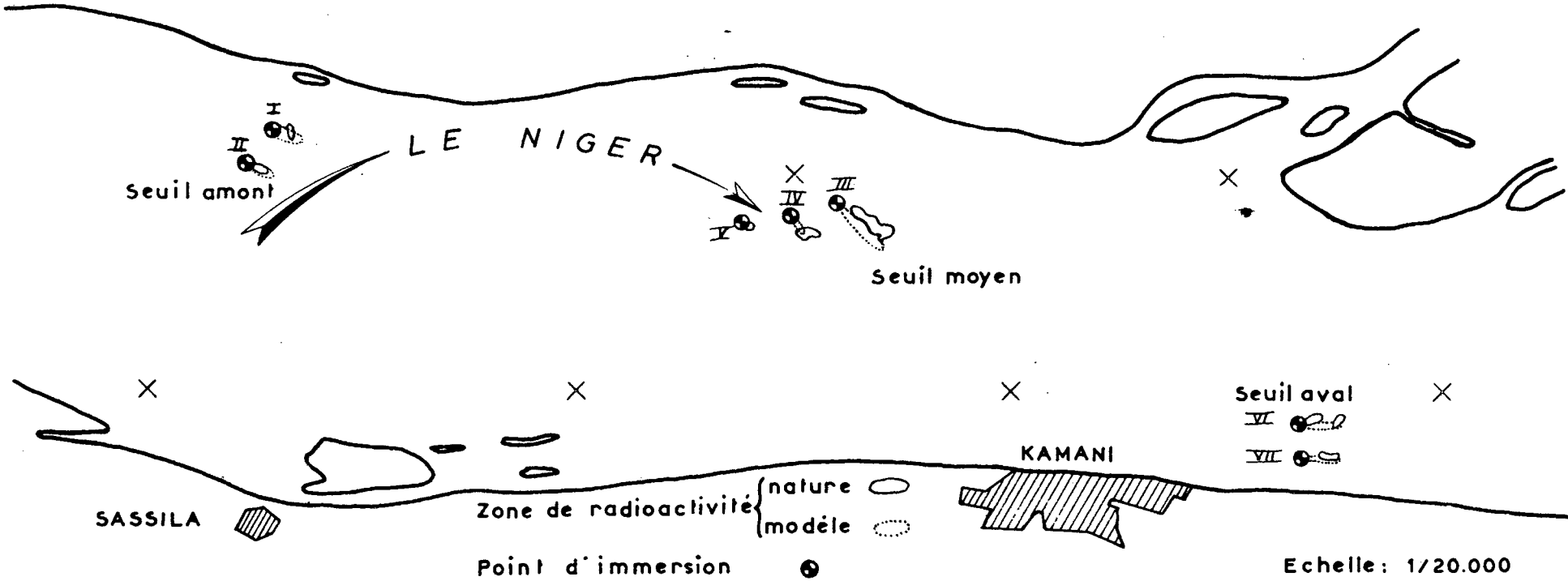


Novembre 58

Fig.: 7

MOUVEMENT DES FONDS

ETALONNAGE D'APRES LES TRACEURS RADIO-ACTIFS



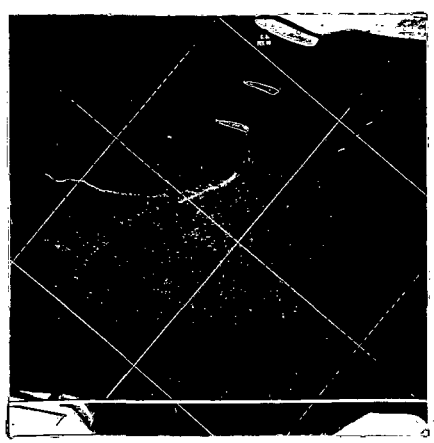
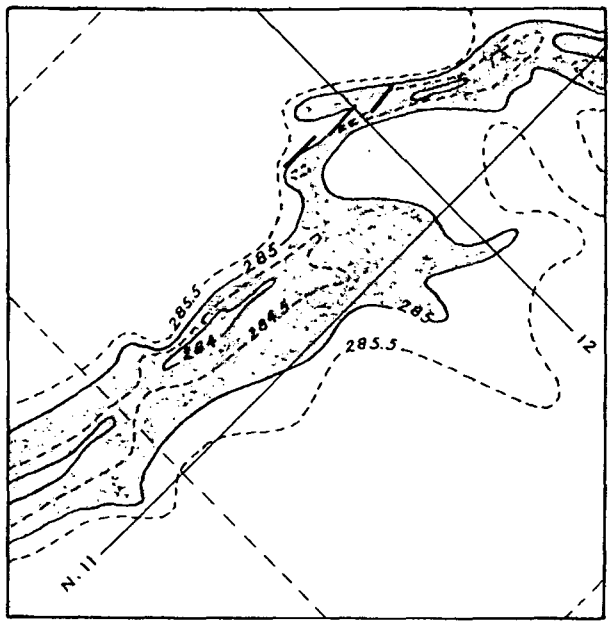


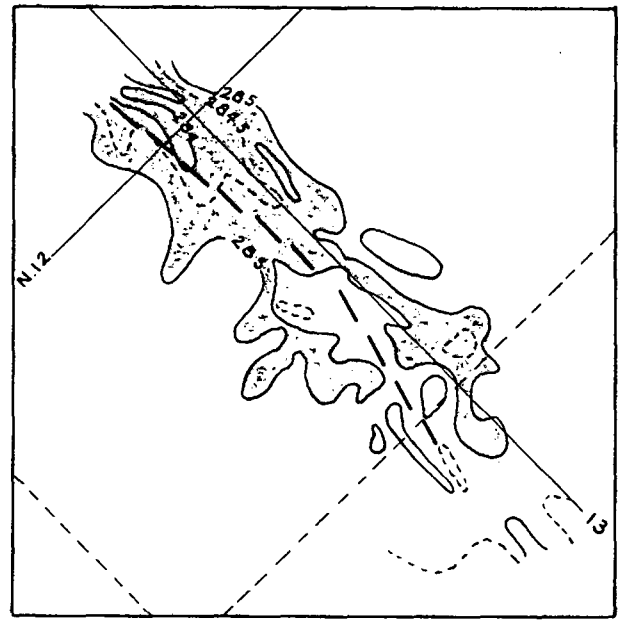
Fig.8

ETALONNAGE DES FONDS AU VOISINAGE DES PANNEAUX

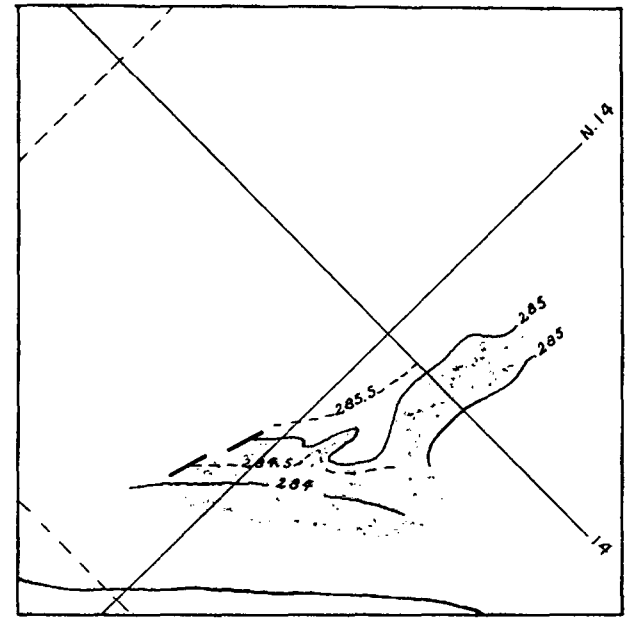
LEVES NATURE



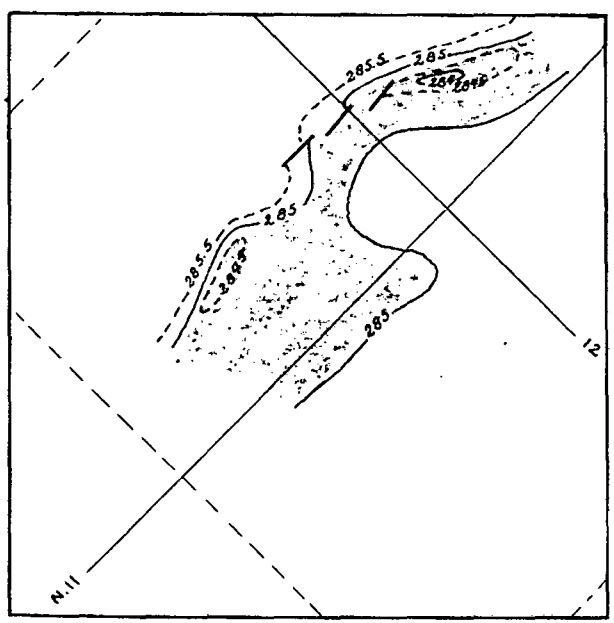
Seuil Amont

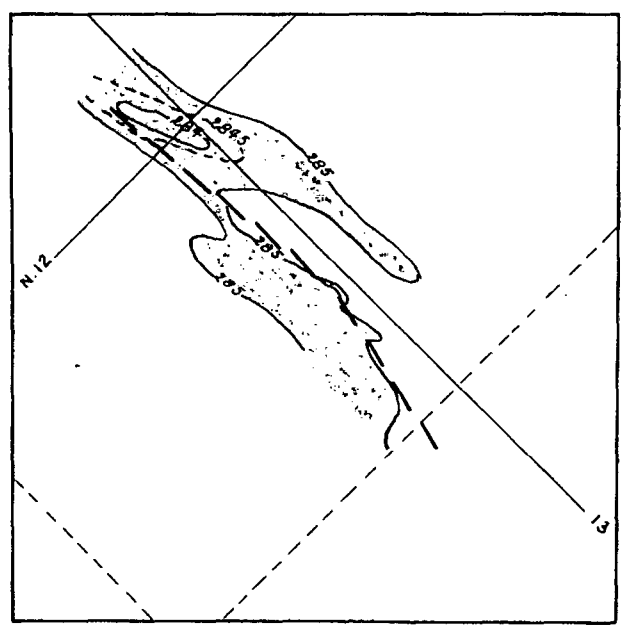


Seuil Moyen



Seuil Aval





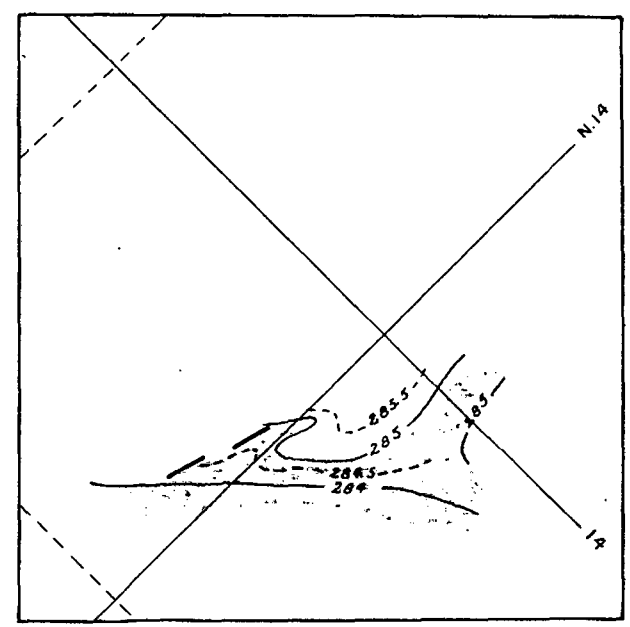


Fig: 9

LEVES MODELE

Echelle : 1/10.000

ETUDE DE LA CIRCULATION TRANSVERSALE

(panneaux de fond)

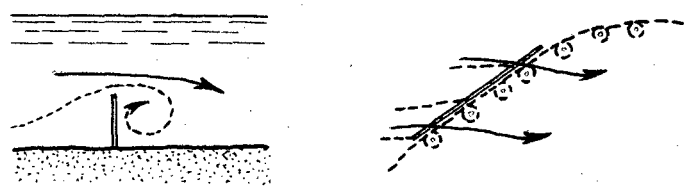
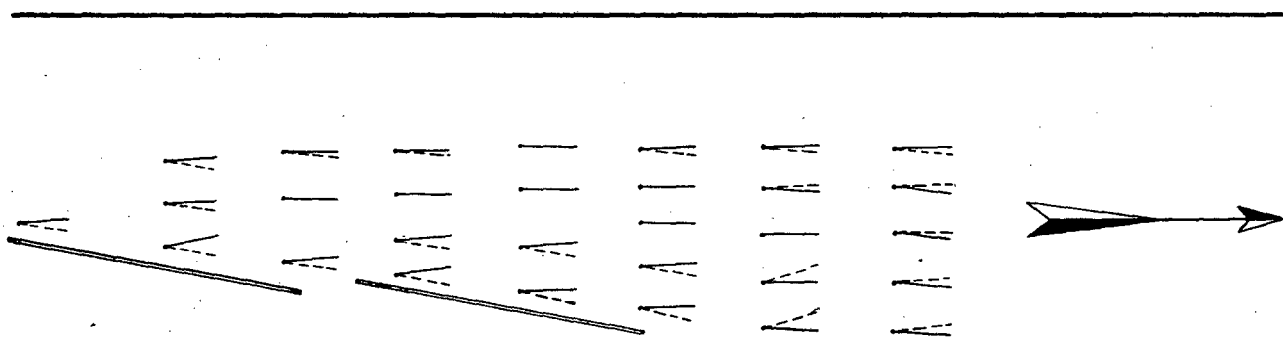


Schéma de principe



Visualisation des courants

——— surface

----- fond

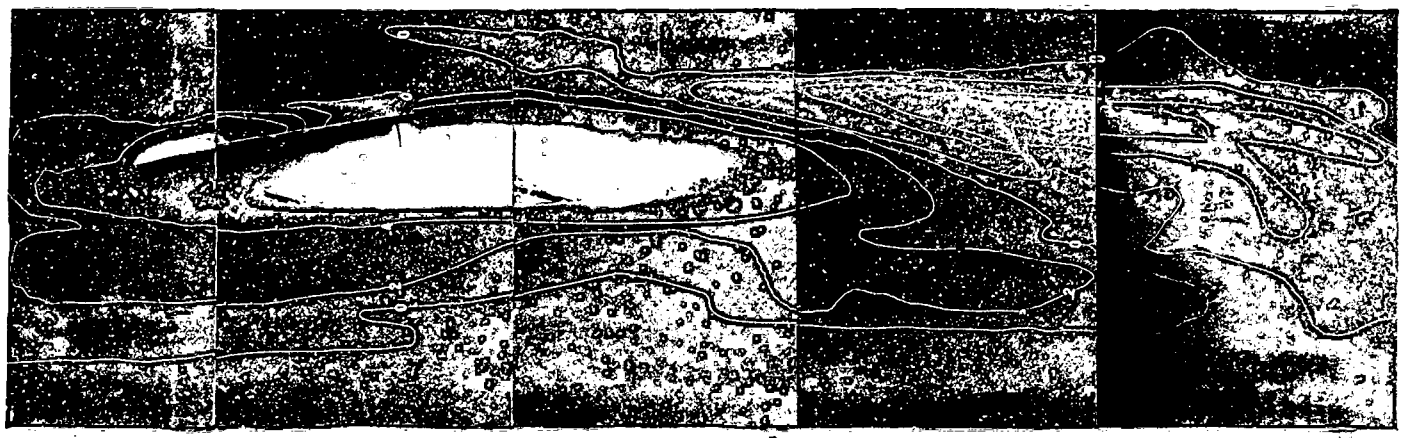
Fig: 10

ESSAIS EN CANAL

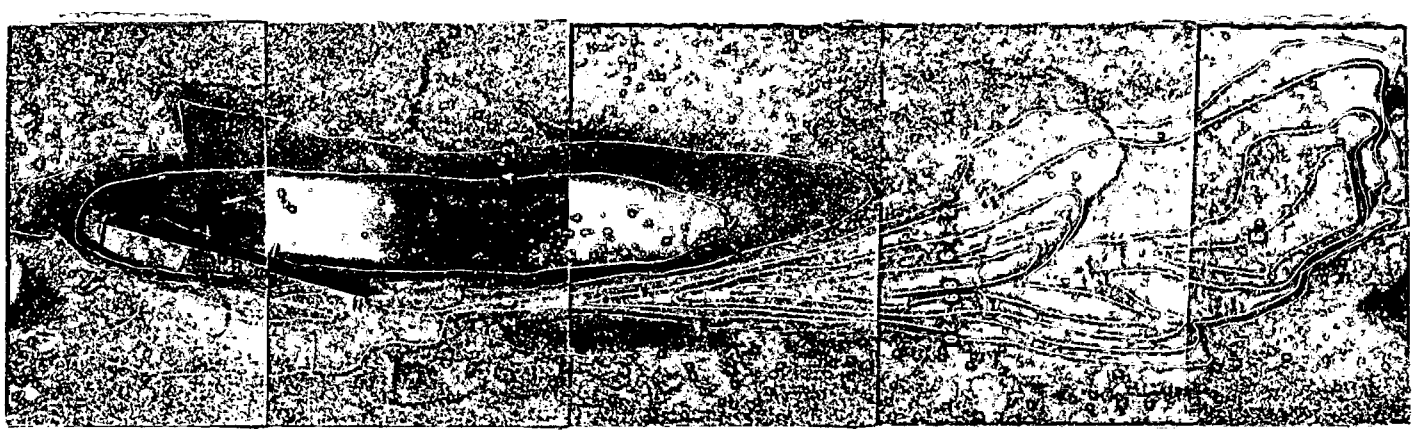
RESULTATS COMPARATIFS

$\ell = 1.25\,m$

$h = 240\ m/m$



$\alpha = 10^{\circ}$



$\alpha = 15^{\circ}$

Fig. 11

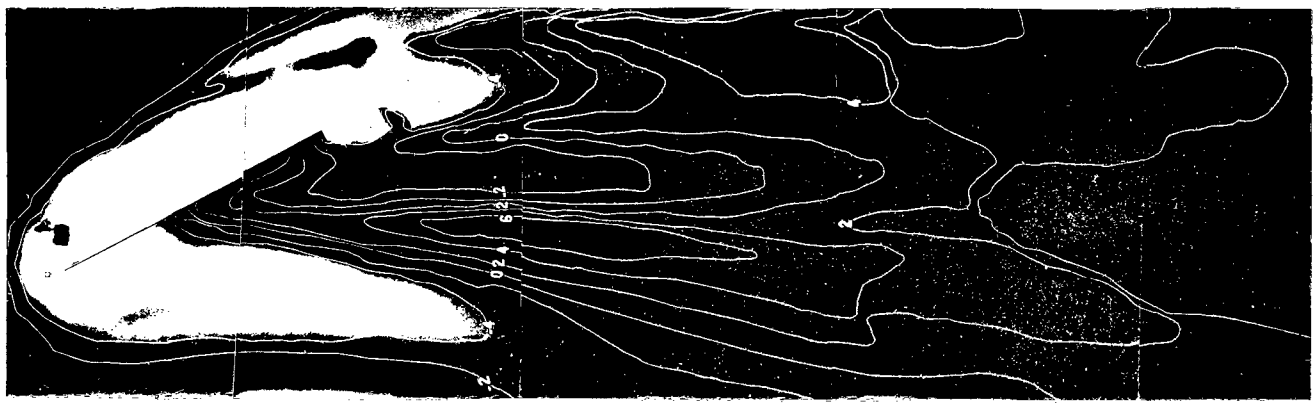
ESSAIS EN CANAL

RESULTATS COMPARATIFS

$\ell = 1.25\,m$

$h = 240\,m/m$

$\alpha = 20^{\circ}$

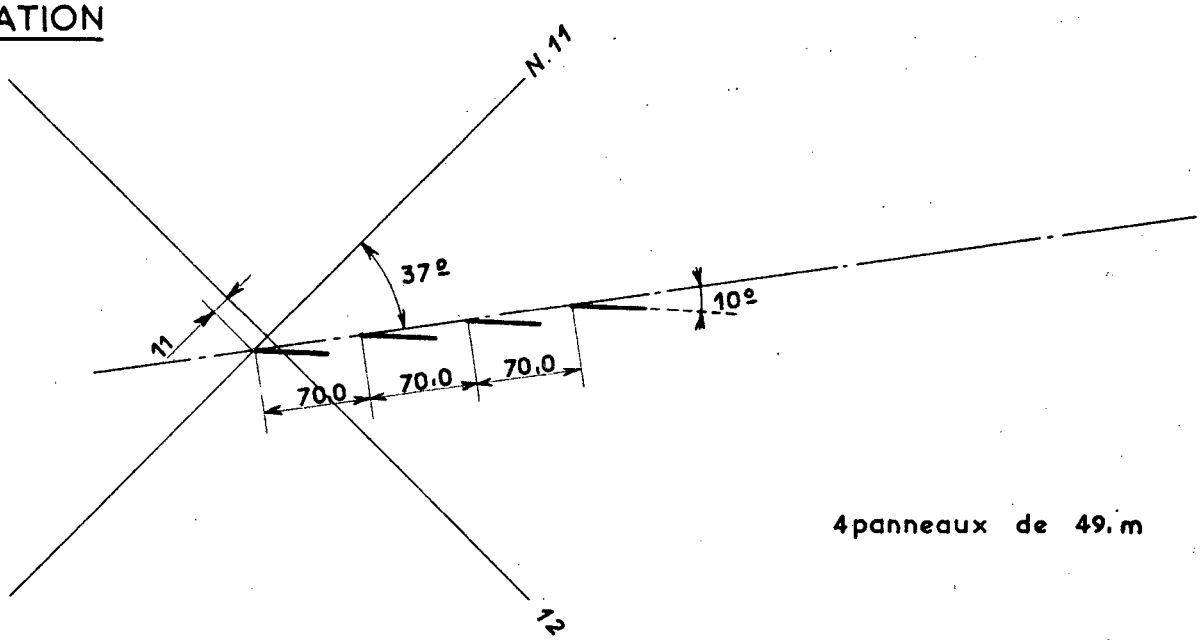


$\alpha = 25^{\circ}$

Fig. 12

SEUIL AMONT

IMPLANTATION



4 panneaux de 49. m

Echelle : 1/5.000

PHOTO

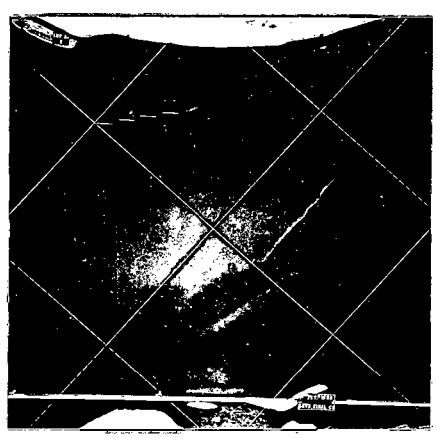
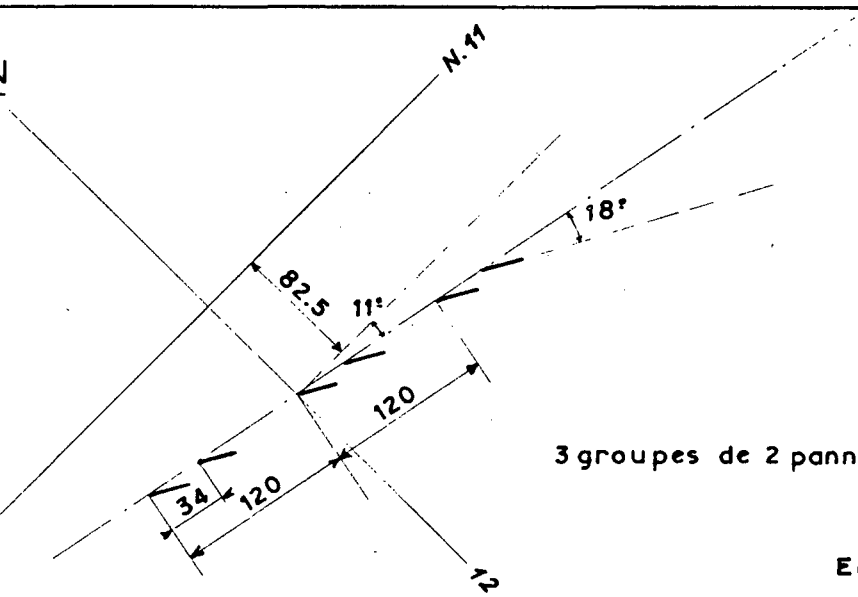


Fig. 14

SEUIL AMONT

IMPLANTATION

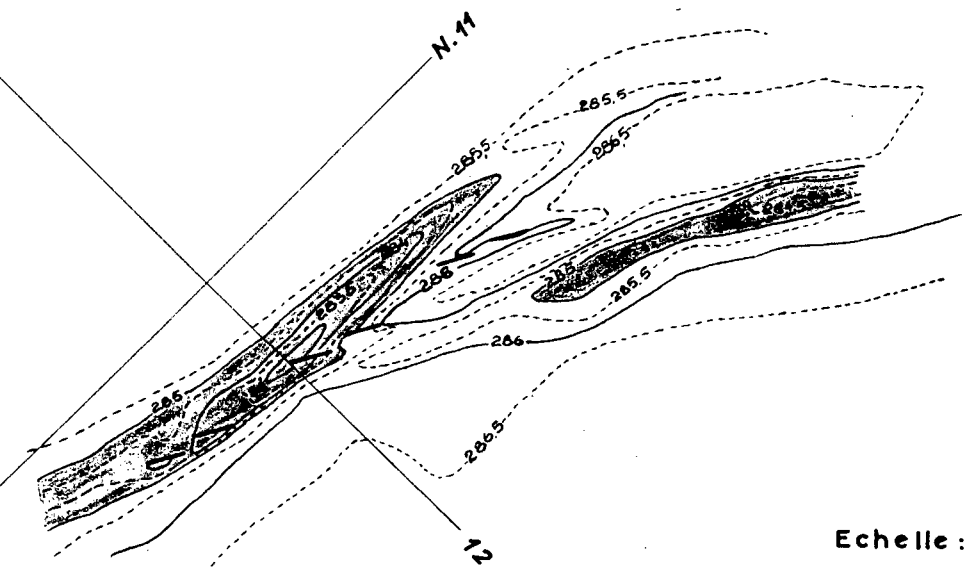
2



3 groupes de 2 panneaux de 25 m

Echelle: 1/5.000

LEVE



Echelle : 1 / 5.000

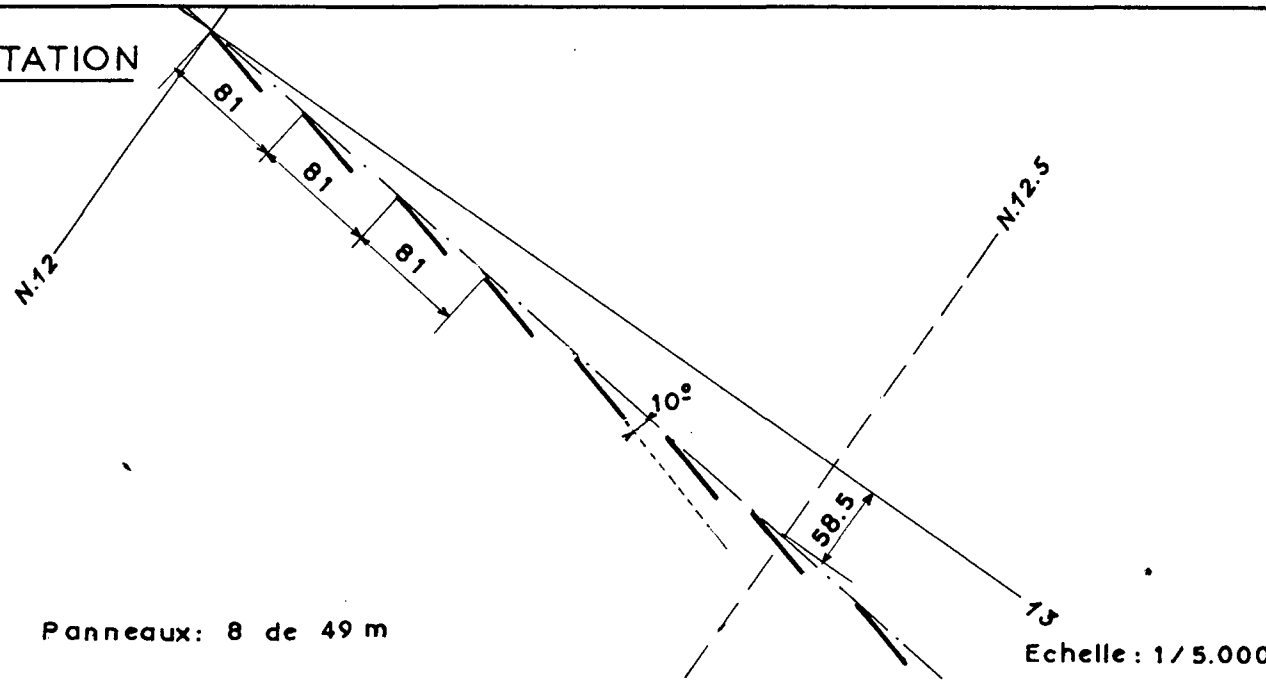
PHOTO

Fig. 15

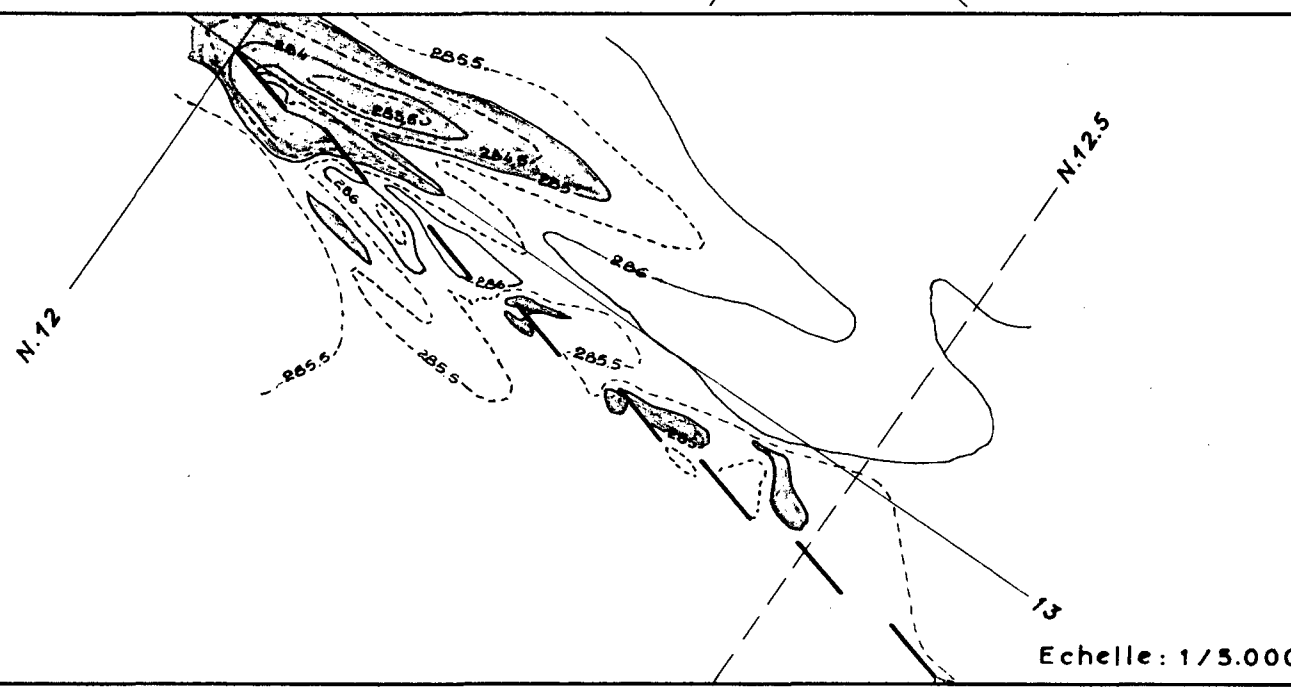
SEUIL MOYEN

IMPLANTATION

1



LEVE

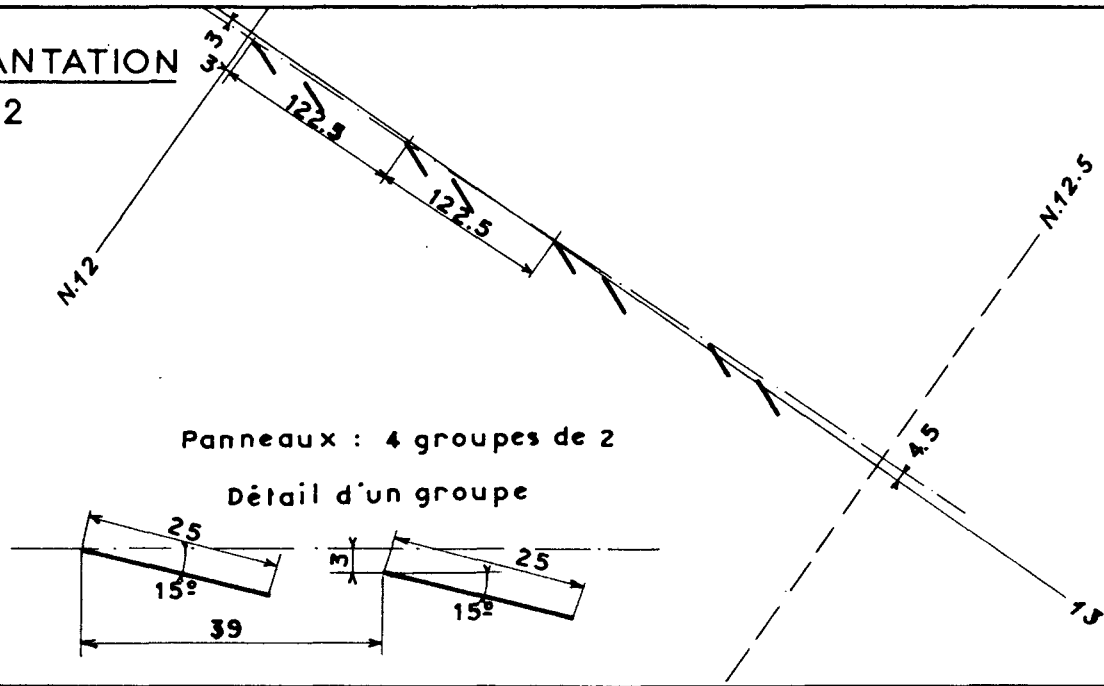


PHOTO

Fig 15

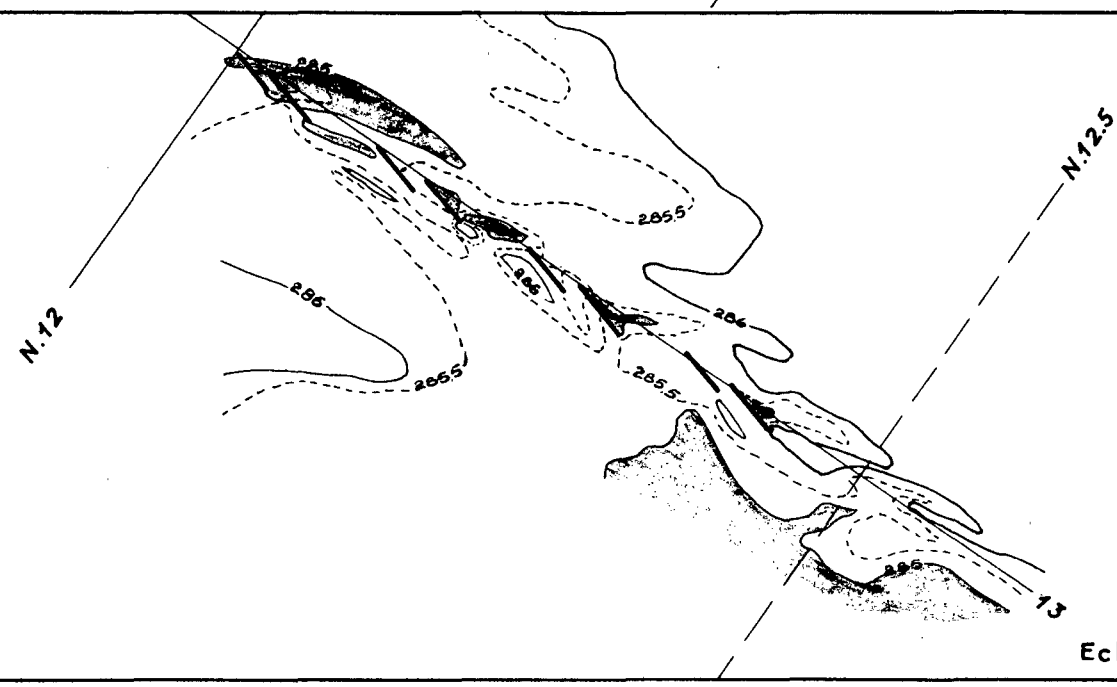
SEUIL MOYEN

IMPLANTATION 2



Echelle: 1/5.000

LEVE



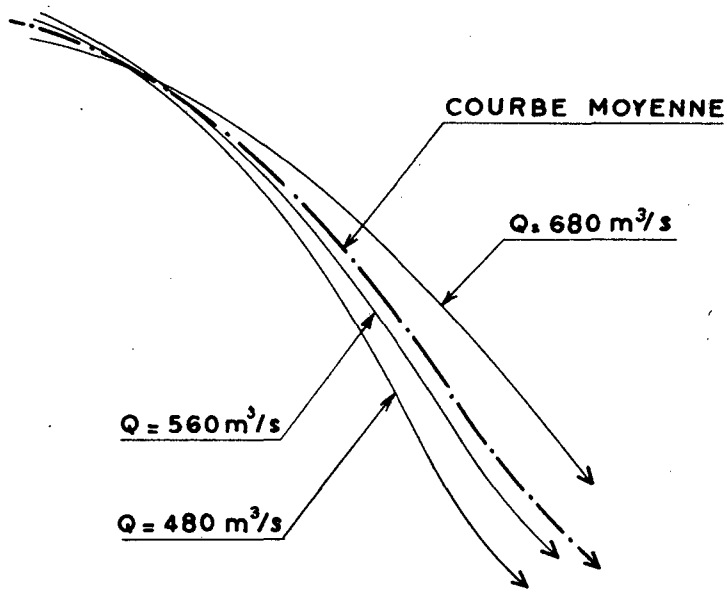
Echelle: 1/5.000

PHOTO

Fig: 17

PANNEAUX DE FOND
METHODE GENERALE D'IMPLANTATION

DETERMINATION DE LA COURBE MOYENNE



Lignes des courants superficiels aux vitesses les plus élevées

PRINCIPE D'IMPLANTATION DES PANNEAUX

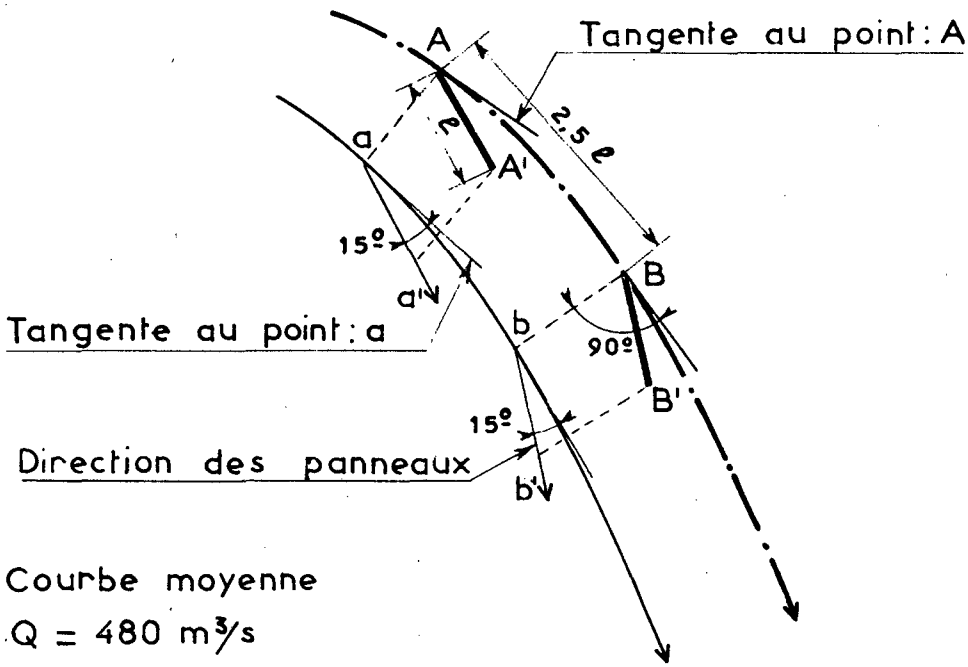


Fig. 18