

ORIGINAL LOG BOOK OF THE "FISH HAWK"

UNITED STATES FISH COMMISSION

STATION NUMBERS

Numbers 1639 to 1659

In our Practice

NOTES RELATING TO STATION NO. 1

100 dpa 10000
10000

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *2*Date, *1 Aug 1881*Time of day, *11:00 AM* : of tide, *ebb*Locality, *Long Beach*

Exact position,

Depth, *6.5*Nature of bottom, *Coarse*Dredging instrument used, *Beam*

Direction of drift, : distance,

Temperature of air,

therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, *1.0215*temp., *61*

" at depth of fathoms, "

" at bottom, "

Number of salinometer, *4212*Barometer reading, *30.25*State of sky, *Clear*Direction of wind, *W* : force,

Rain,

Direction of surface current, *SE* : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer, *F. J. ...*
Port ...

NOTES RELATING TO STATION NO.

Specimens of Coral, Sponge
Coltons, *Urticina*, *Geryonia*
& etc spawn attached
to sponge *Comes* *summa*

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *2*

Date,

Time of day, *11:20* : of tide.Locality, *1000 yds. N. of U.S. Coast*

Exact position,

Depth.

Nature of bottom.

Dredging instrument used.

Direction of drift, : distance,

Temperature of air. therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky,

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force.

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *4*
 Date, *14 Jan*
 Time of day, *11.45 P.*; of tide, *Ebb*
 Locality, *Off Cape Fear*
 Exact position,

 Depth, *0*
 Nature of bottom, *Coral*
 Dredging instrument used, *Dredge*
 Direction of drift, *S*; distance,
 Temperature of air, *4* therm. No. *5384*
 " of surface water, *52* "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, *23.5* temp.,
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer, *30.24*
 Barometer reading, *30.24*
 State of sky, *Clear*
 Direction of wind, *W*; force, *light*
 Rain,
 Direction of surface current, *SW*; force,
 " of bottom " : force,
 Name of vessel,
 Service to which attached,
 Name and rank of commanding officer,
 Name and position of observer,

NOTES RELATING TO STATION NO. _____

See Appendix 1, Figure 2

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 3
 Date, 14 Jan
 Time of day, 12:45 PM; of tide, Early flood
 Locality, Off Cape Cod
 Exact position,

 Depth, 57
 Nature of bottom, Coral
 Dredging instrument used, Dredge
 Direction of drift, SE; distance,
 Temperature of air, 59 therm. No., 54
 " of surface water, 59 " 5305
 " at depth of fathoms, "
 " at bottom, "
 Density at surface, 23.5 temp. 52.5
 " at depth of fathoms, "
 " at bottom, "
 Number of salinometer,
 Barometer reading, 30.24
 State of sky, bc
 Direction of wind, W; force,
 Rain,
 Direction of surface current, ✓; force,
 " of bottom " : force,
 Name of vessel,
 Service to which attached,
 Name and rank of commanding officer,
 Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *1*Date, *14 June*Time of day, *10:30*; of tide, *1*Locality, *Off Cape Cod*

Exact position,

Depth, *7*Nature of bottom, *Deep*Dredging instrument used, *Dredge*Direction of drift, *SW*; distance,Temperature of air, *52* therm. No., *1484*" of surface water, .. *52.5*

" at depth of fathoms, ..

" at bottom, ..

Density at surface, *1.024* temp., *52*

" at depth of fathoms, ..

" at bottom, ..

Number of salinometer, *3*Barometer reading, *30.1*State of sky, *Partly cloudy*Direction of wind, *W*; force, *2*

Rain.

Direction of surface current, ..; force,

" of bottom ..; force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

Winyah Bay S. Carolina

A Lake platter
Locality of large
scale

643

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 1639

Date, Jan 3 - 1891

Time of day, 10 a.m. : of tide, 1/2 of flood

Locality, 1/2 mile N of wharf on South

Exact position, Island

Winyah Bay, South Carolina

Depth, 4 fathoms

Nature of bottom, Hard sandy bottom

Dredging instrument used, 7 ft Trawl and small oyster dredge

Direction of drift, ; distance,

Temperature of air, 54° therm. No. #

" of surface water, 46° " 1251

" at depth of fathoms, "

" at bottom, 48 1/2 "

Density at surface, 1000.8 ; temp., 46°

" at depth of fathoms, "

" at bottom, 1008.4 ; " 48

Number of salinometer, 7066

Barometer reading, 30.19

State of sky, Clear

Direction of wind, N ; force, 2

Rain,

Direction of surface current, ; force,

" of bottom " ; force,

Name of vessel, "Fish Hawk"

Service to which attached, U.S.F.C.

Name and rank of commanding officer, A. N. Mott

St. U.S.F.

Name and position of observer, C. N. Cleveland

Threat U.S.F.

~~17~~

NOTES RELATING TO STATION NO. 1700

Travel was turned back &
about a speck of small
cystine was obtained

Winyah Bay S. Carolina

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RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1640 1701
Date, Jan 3, 1891
Time of day, 10.45 AM of tide. 1st of flood
Locality, Winyah Bay - same
Exact position, locality as 1703 with
near Inlet
Depth, 5 fathoms and 2 ft
Nature of bottom, coarse brown sand
Dredging instrument used, Large & small
Oyster dredges
Direction of drift, : distance,
Temperature of air, 48 therm. No., 7066
" of surface water, 47 " 1041
" at depth of fathoms, "
" at bottom, 50 " 7066
Density at surface, 1.0012 at temp., 47
" at depth of fathoms, "
" at bottom, 1.0154 1.0135 " 50
Number of salinometer, 7046
Barometer reading, 30.19
State of sky, Clear
Direction of wind, N ; force, 2
Rain,
Direction of surface current, : force,
" of bottom, " ; force,
Name of vessel, Fish Hawk
Service to which attached, U S F C
Name and rank of commanding officer, R P Platt
Lieut. U.S.N.
Name and position of observer, C H Cleveland
Mate U.S.N.

NOTES RELATING TO STATION NO. 1701

about 3 bushel of small
dead oyster shells and
some large old ones
a little dead coral.
a few small oysters alive
and covered with small
barnacles

Winyah Bay So Carolina

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RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1641 1702
Date, Jan 3rd 1891
Time of day, 11 am ; of tide, 1st of Flood
Locality, Winyah Bay So Carolina
Exact position, as 1701
Depth, 4 fathoms + 3 feet
Nature of bottom, hard shells
Dredging instrument used, Large & small
Oyster dredge with
Direction of drift, : distance,
Temperature of air, 46 therm. No., 7066
" of surface water, 47 " 1041
" at depth of fathoms, "
" at bottom, 49.5 " 7041
Density at surface, 1.0012^{cor} temp., 47°
" at depth of fathoms, "
" at bottom, 1.0134-1.0115 " 49.5
Number of salinometer, 7046 surface 7050 bottom
Barometer reading, 30.19
State of sky, Clear
Direction of wind, N ; force, 2
Rain,
Direction of surface current, ; force,
" of bottom " ; force,
Name of vessel, U. S. F. C. S. "Fish Hawk"
Service to which attached, U. S. F. Com
Name and rank of commanding officer, R. Platt
Lieut. U. S. Navy
Name and position of observer, C. H. Cleveland
Mate U. S. Navy

NOTES RELATING TO STATION NO. 1702

about 4 bushels small
oysters same character
as 1701

Winyah Bay So Carolina

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RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1642 1703
Date, Jan 3rd 1891
Time of day, 11.30 am : of tide, Flood
Locality, Winyah Bay directly
East of wharf on South Island
Exact position, 400 yards distant
Depth, 5 fathoms + 1 foot
Nature of bottom, hard bottom
Dredging instrument used, Large & small
Oyster dredges
Direction of drift, ; distance,
Temperature of air, 48 therm. No., 7066
.. of surface water, 48 .. 1041
.. at depth of fathoms, ..
.. at bottom, ..
Density at surface, 1.0052 ^{Temp.} temp., 48
.. at depth of fathoms, ..
.. at bottom, 1.0124 ^{Cor} 1.0105 .. 50
Number of salinometer, 7046-7050
Barometer reading, 30.19
State of sky, Clear
Direction of wind, N ; force, 2
Rain,
Direction of surface current, ; force,
.. of bottom " ; force,
Name of vessel, Fishhawk
Service to which attached, U S F C
Name and rank of commanding officer, R P. Platt
Lieut U S N
Name and position of observer, C H. Cleveland
Mate U S N

NOTES RELATING TO STATION NO. 1703

About one bushel small
oysters and dirt shells
and gravel

Winyah Bay So Carolina

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RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 1643 1704
Date, Jan 3 1891
Time of day, 11.50 am: of tide, Flood
Locality, Winyah Bay - 600 yds
west of upper wharf on Tulee and
Exact position, 400 yds SSW of wreck buoy
Depth, 5 fathoms & 1 fath
Nature of bottom, hard sandy bottom
Dredging instrument used, Large & small
Oyster dredges
Direction of drift, : distance.
Temperature of air, 56 therm. No., 7066
" of surface water, 49 " 7041
" at depth of fathoms, "
" at bottom, 50.5 " 7041
Density at surface, 10094 ^{dry} / ^{fresh} temp., 49
" at depth of fathoms, cor "
" at bottom, 10200 1.018 " 50
Number of salinometer, 37046 * 7041
Barometer reading, 30 19
State of sky, Clear
Direction of wind, N : force, 4-
Rain,
Direction of surface current, : force,
" of bottom " : force,
Name of vessel, Fishhawk
Service to which attached, U S F C
Name and rank of commanding officer, R P Platt
Lieut USN
Name and position of observer, C H Cleveland
Mate USN

NOTES RELATING TO STATION NO. 1704

Sand and dead shells
and horn mud

Winyah Bay So Carolina

645

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1644 1705-
Date, Jan 3rd 1891
Time of day, 12 : of tide, Flood
Locality, Winyah Bay So Carolina
Exact position, identically over the
first position 1700
Depth, 4 fathoms & 5 feet
Nature of bottom, hard
Dredging instrument used, large & small
Oyster dredge
Direction of drift, : distance.
Temperature of air, 56.5 therm. No., 7066
" of surface water, 50 " 7041
" at depth of fathoms, "
" at bottom, 51' " 7041
Density at surface, 10082 ^{above} fresh temp., 50'
" at depth of fathoms, { cor "
" at bottom, 10192 { 1.017 " 51
Number of salinometer, 7046 & 7041 &
Barometer reading, 30.19
State of sky, Clear
Direction of wind, N ; force, 2
Rain,
Direction of surface current, ; force,
" of bottom " ; force,
Name of vessel, Fish Hawk
Service to which attached, USFC
Name and rank of commanding officer, R P Platt
Lieut. U.S.N.
Name and position of observer, C H Cleveland
Dredger

NOTES RELATING TO STATION NO.

Large Oyster Dredge was
disconnected, by getting
caught on the bottom
and about 1/2 bushel
gravel & sand was
obtained in the small
Oyster dredge

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 648
 Date, July 16 1891
 Time of day, 10.05 : of tide, Flowing
 Locality, Cooper River, S. C. 6.5
 Exact position, side mouth of river 1/4 mile
300 yds. from beach, south side
 Depth, 10
 Nature of bottom, Silt
 Dredging instrument used, Cope's dredge (20')
 Direction of drift, W. by S. ; distance, 400 yds.
 Temperature of air, 62° therm. No., 7050
 " of surface water, 49° " 7041
 " ~~at depth of~~ fathoms, " "
 " at bottom, 51° " "
 Density at surface, 1.0226 ^{cor} 1.0206 temp., 49°
 " at depth of fathoms, " "
 " at bottom, 1.0228 1.0209 " 51°
 Number of salinometer, 7046
 Barometer reading, 30.24
 State of sky, b. c.
 Direction of wind, South ; force, 2
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, U. S. Fish Com. Steamer
 Service to which attached, U. S. Fish Com.
 Name and rank of commanding officer, John A. Smith
 Name and position of observer, W. A. Mearns

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1645
 Date. Jan 16 1891
 Time of day, 10:30 AM of tide, low
 Locality, Boys' Island, Wash. D.C.
 Exact position, Boys' Island above Light House
about lower entrance
 Depth, 5 fms
 Nature of bottom, fine sand
 Dredging instrument used, Long line dredge
 Direction of drift, up river; distance, 200 yds
 Temperature of air, 64, therm. No., 151
 " of surface water, 50 " 144
 " at depth of fathoms, " "
 " at bottom, 50 " "
 Density at surface 10224 } cor temp., 50
 " at depth of fathoms, 4 " "
 " at bottom, 10226 } 10207 " 50
 Number of salinometer, 7046
 Barometer reading, 30.24
 State of sky, B.C.
 Direction of wind, low; force, 2
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, U.S. Fish Commission
 Service to which attached, Fish Commission
 Name and rank of commanding officer, W. H. Cress
Ensign
 Name and position of observer, W. H. Cress
Ensign

NOTES RELATING TO STATION NO. 100

Quantity of Sand.

Quantity of shells.

Small shells: Crabs, Lytus

Quantity of small dead

shells and sponges

1 Starfish

Purmas

S

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1647
 Date, Jan. 16 1891
 Time of day, 10.30 : of tide, Flood
 Locality, Cooper River S. C. St. S.
 Exact position, about 400 yds. off L. H. wharf
inside entrance to river
 Depth, 4 fms 4 ft.
 Nature of bottom, Hard Clay
 Dredging instrument used, Dredge & Sml B. S.
 Direction of drift, 200 yds ; distance, up stream
 Temperature of air, 58 therm. No., 7250
 " of surface water, 51 " 7041
 " at depth of — fathoms, " "
 " at bottom, 50 " "
 Density at surface 10266 1.02479 temp., 51
 " at depth of — fathoms, " "
 " at bottom, 10266 1.02470 " 50
 Number of salinometer, 7046
 Barometer reading, 30.24
 State of sky, B. C.
 Direction of wind, South ; force, 2
 Rain.
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, Fish Hawk
 Service to which attached, U. S. Fish Comm.
 Name and rank of commanding officer, P. S. Platt
Lieut. U. S. N.
 Name and position of observer,
L. J. G. Smith
(Mat. U. S. N.)

Subjects of Studies

NOTES RELATING TO STATION NO. 1647

Shoreline. Sand mixed
with mud.

Stone Crab

Blue Crab

Sea cucumbers.

Sea urchins

Worms

lots of dead shells, found

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 1647.

Date, Jan 16 1895.

Time of day, 10 45 : of tide. Flood

Locality,

Exact position, Just below Mill race, in
Calibogue Sound, 800 yds off.

Depth, 8 fms 2 ft

Nature of bottom, soft.

Dredging instrument used, Sledge.

Direction of drift, to the south; distance, 400 yds.

Temperature of air, 56° therm. No., 7051

" of surface water, 53° " "

" at depth of --- fathoms, " "

" at bottom, 52 " "

Density at surface, 1.0228 / 1.0211 ^{cor} temp., 53°

" at depth of --- fathoms, ✓ " "

" at bottom, 1.0228 / 1.021 " 52

Number of salinometer, 7046

Barometer reading, 30.24

State of sky, b, c.

Direction of wind, South ; force, 2

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, U.S. Fish Com.

Name and rank of commanding officer, J. S. ...

Name and position of observer,

J. S. ...
Mate

Clouds of red

NOTES RELATING TO STATION NO. 108

Large number of
mud crabs
per 100 sq. m.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 1649
 Date, Jan 10 1891
 Time of day, 11:00 AM; of tide, Flood
 Locality, Baltimore Harbor, Md.
 Exact position, 1/2 mile from shore
 Depth, 7 fms.
 Nature of bottom, s. s.
 Dredging instrument used,
 Direction of drift, ; distance, 500 yds.
 Temperature of air, therm. No.,
 " of surface water, "
 " at depth of fathoms, "
 " at bottom, "
 Density at surface 10226 } 1.0206 temp., 49.5
 " at depth of fathoms, } "
 " at bottom, 10234 } 1.0215 " 50.0
 Number of salinometer, 7045
 Barometer reading, 30.2 E
 State of sky, Cloudy
 Direction of wind, ; force, 2
 Rain,
 Direction of surface current, ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached,
 Name and rank of commanding officer,
 Name and position of observer,
 S. C. Smith
 U.S. Fish Com.

NOTES RELATING TO STATION NO. 2007

Small quantity of spores
dead & hollowed out
Luidia marginata (Sacc) at
Fam. side
ordinary red flatfish
Pienogonids
- in small dead shells
Small flatfish

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1650
 Date Jan. 16, 1891.
 Time of day, 11.30 : of tide, ebb
 Locality, Calibogue Sound S.C.,
 Exact position, Line between March & Pennell
 Delmas middle of Calibogue Sound
 Depth, 6 fms 4 ft.
 Nature of bottom, Sand.
 Dredging instrument used, dredge.
 Direction of drift, N.E. : distance, 300 yds.
 Temperature of air, 52° therm. No. 7
 " of surface water, 49.5 " "
 " at depth of - - fathoms, " "
 " at bottom, 51 " "
 Density at surface, 1.0228, 1.0208 temp., 49.5°
 " at depth of - - fathoms, 1.0207 " "
 " at bottom, 1.0253, 1.0207 " 51°
 Number of salinometer, "
 Barometer reading, 30.72
 State of sky, B. & C.
 Direction of wind, South ; force, 2
 Rain, "
 Direction of surface current, " ; force, "
 " of bottom " " ; force, "
 Name of vessel, "
 Service to which attached, U.S. Fish Com.
 Name and rank of commanding officer, Lt. Hall
 " " " " " "
 Name and position of observer,
 J. C. Smith
 U.S. Fish Com.

NOTES RELATING TO STATION NO. 1657

~~for~~

Number of Starfish
" " Blue Crabs.

Lot of sponges
Dead Periwinkle shell
Sea Cucumbers.

few small dead shells.
lumps of coral & few
stones + 1 piece of coral.
young Stone Crabs
few live nereid's

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. 451
 Date, Jan 5 1880.
 Time of day, 1143 ; of tide, Flood.
 Locality, Calibogue Sound
 Exact position, S. South end of May
 River middle of the sound.
 Depth, 10 fms
 Nature of bottom, Hard.
 Dredging instrument used, Sledge.
 Direction of drift, by the sound distance, 300 yds.
 Temperature of air, 61 ° therm. No., 7050
 " of surface water, 49.5 ° " 7041
 " at depth of — fathoms. " "
 " at bottom, 51 ° " "
 Density at surface, 1.0226 ^{cor} 1.0208 temp., 49.5 °
 " at depth of — fathoms, ✓ " "
 " at bottom, 1.0226 1.0207 " 51 °
 Number of salinometer, 7046
 Barometer reading, 30.21
 State of sky, B. c. d.
 Direction of wind, South ; force, 3.
 Rain,
 Direction of surface current. ; force,
 " of bottom " ; force,
 Name of vessel, Fish Hawk
 Service to which attached, U.S. Fish Com.
 Name and rank of commanding officer, Lt. Hall
 Name and position of observer, Lieut. W. H.
 Mate

NOTES RELATING TO STATION NO. 1001

Contents of boxes

Two Quaints of Stone

Several small crabs

live Periwinkles

live drillmanus

Two "Mantle" - Stone Crabs

numbers of limpets

Several small crabs

about one year old

lots of green

live sea squirts

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *1652*
 Date, *Dec 21 1882*
 Time of day, *10:30*; of tide, *ebb*
 Locality, *Blue Creek Se*
 Exact position, *300 yds*
 Depth, *10*
 Nature of bottom, *fine sand*
 Dredging instrument used, *dredge*
 Direction of drift, *drift*; distance, *1/2 mi*
 Temperature of air, therm. No.,
 " of surface water, "
 " at depth of *10* fathoms, "
 " at bottom, "
 Density at surface, *1.025* temp.,
 " at depth of *10* fathoms, "
 " at bottom, *1.025*
 Number of salinometer,
 Barometer reading, *30.5*
 State of sky, *Clear*
 Direction of wind, *SE*; force,
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, *Fish Hawk*
 Service to which attached,
 Name and rank of commanding officer,
 Name and position of observer,

NOTES RELATING TO STATION NO. 1010

Continued from page 1

Blue mud + some
of the same
can be seen

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *1653*

Date, *Jan. 21 1891*

Time of day, *9 AM* : of tide, *ebb*

Locality, *off the coast of New York*

Exact position, *North of New York open to seaward.*

Depth, *5 fms.*

Nature of bottom, *hard*

Dredging instrument used, *dredge*

Direction of drift, *down stream* distance, *100 yds*

Temperature of air, *53°* therm. No., *7041*

" of surface water, *47.5°* " *7041*

" ~~at depth of~~ fathoms, " "

" at bottom, *47.5°* " "

Density at surface *1.0245-1.0225* temp., *47.5°*

" ~~at depth of~~ fathoms, " "

" at bottom, *1.0245-1.0225* " *49°*

Number of salinometer, *1046*

Barometer reading, *30.23*

State of sky, *cloudy*

Direction of wind, *S.W.* : force, *1*

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, *U.S.S. Albatross*

Service to which attached, *U.S. Fish Com.*

Name and rank of commanding officer, *Comdr. J. A. Smith*

Name and position of observer, *John G. Smith*

Content of ...

NOTES RELATING TO STATION NO. 1656

... ..

...

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1654.
 Date, Jan. 21. 1891.
 Time of day, 9:25 AM : of tide, 3/4 Ebb
 Locality, The Great River, E. C.
 Exact position, 1/2 mile S. of bridge in line of
 E. C. point of view. In mud channel
 Depth, 4 fms
 Nature of bottom, Hard
 Dredging instrument used, Long
 Direction of drift, ^{down} stream; distance, 100 yds
 Temperature of air, 52° therm. No., 7050
 " of surface water, 49° " 7040
 " at depth of — fathoms, " "
 " at bottom, 50° " "
 Density at surface, 1.0244 { 1.0224 temp., 49°
 " at depth of — fathoms, " "
 " at bottom, 1.0246 { 1.0227 " 50°
 Number of salinometer, 7046
 Barometer reading, 30.23
 State of sky, Cloudy
 Direction of wind, S by E; force, 1
 Rain.
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, Fish Hawk
 Service to which attached, U. S. Fish Com
 Name and rank of commanding officer, J. H.
 Name and position of observer, J. H.

NOTES RELATING TO STATION NO. 1507.

Station 1507

One of the bottles
with the sand.

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 1655
 Date, March 4 '91
 Time of day, 7:15 AM : of tide, Flood
 Locality, ...
 Exact position, at the entrance to
 Russell Creek.
 Depth, 5 fms 2 ft
 Nature of bottom, Hard.
 Dredging instrument used, Dredge.
 Direction of drift, ... distance, 100 yds
 Temperature of air, 64 therm. No., 7066
 " of surface water, 58 " 7041
 " at depth of _____ fathoms, " "
 " at bottom, 55° " 7041
 Density at surface, 1.0216 temp., 58°
 " at depth of _____ fathoms, " "
 " at bottom, 1.0224 " 58°
 Number of salinometer, 7053
 Barometer reading, 30.01
 State of sky, Clouds ...
 Direction of wind, South ; force, 1
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, U.S.C. Fish Hawk
 Service to which attached, U.S. Fish Com.
 Name and rank of commanding officer, P. Platt
 Name and position of observer,
 J. S. Smith
 Mate U.S.A.

NOTES RELATING TO STATION NO. 1655

1. [Faint handwritten text]

1. [Faint handwritten text]

1. [Faint handwritten text]

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1656*
 Date, *March 2, 1891*
 Time of day, *9.30 A.M.*; of tide, *Young Flood*
 Locality, *North Edition River*
 Exact position, *mouth of Leadonwah Creek*

 Depth, *6th 200*
 Nature of bottom, *Hard*
 Dredging instrument used, *Dredge*
 Direction of drift, *Up E. side*; distance, *100 yds.*
 Temperature of air, *63°* therm. No., *066*
 " of surface water, *57* " " " " " " " "
 " at depth of - fathoms, " " " " " " " "
 " at bottom, *58°* " " " " " " " "
 Density at surface, *1.020* ^{*1.0188*} temp., *57°*
 " at depth of fathoms, " " " " " " " "
 " at bottom, *1.0226* ^{*1.0215*} " " " " " " " "
 Number of salinometer, *7053*
 Barometer reading, *30.01*
 State of sky, *Cloudy*
 Direction of wind, *SW*; force, *1*
 Rain, *Light drizzle*
 Direction of surface current, " : force, "
 " of bottom " " : force, "
 Name of vessel, *Fish Hawk*
 Service to which attached, *U.S. Fish Com.*
 Name and rank of commanding officer, *W. H. Hatt*
 Lieut. U.S.N.
 Name and position of observer,
 S. J. G. Smith
 Master U.S.N.

NOTES RELATING TO STATION NO. 352

Contents of dredge

Dead shells of other

" " Periwinkles
12 body remains

10 or 12 small yellow with shell.

1 Blue Crab

2 live Periwinkles

Amelids

Brittle stars, few

Quantity of Hydroids

several pieces Phosphate Rock

small broken dead shells

Tunicates. -

The tooth part of dredge
was broken in use
so caused dredging.

Cancellas.

Amphipods.

For a specimen of bottom
water here

To be plotted on
Tonnage or Log...
645 with photo...
RECORD OF DREDGING,
TEMPERATURE AND DENSITY.

Station No. 1657 (See angle in boundary)
Date, March 12, Basket No 2
Time of day, 10:50 AM; of tide, low
Locality, ...
Exact position,

Depth, 4 fms
Nature of bottom, ...
Dredging instrument used, ...
Direction of drift, ... Stream; distance, ...

Temperature of air, 63° therm. No., 7079
" of surface water, " " 7041
" at depth of fathoms, " "
" at bottom, " "

Density at surface, 1.0235 temp., 58°
" at depth of fathoms, " "
" at bottom, 1.0238 " "

Number of salinometer, 7046
Barometer reading, 29.87
State of sky, overcast
Direction of wind, South; force, 4

Rain, -
Direction of surface current, : force,
" of bottom " : force,

Name of vessel, ...
Service to which attached, ...
Name and rank of commanding officer, ...
Name and position of observer, ...

NOTES RELATING TO STATION NO. 1677

Condition of soil

1677

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. *111* *See Sunday Book A?*
 Date, *March 1891*
 Time of day, *11.10* of tide, *3/4 Flood*
 Locality, *Chambers on Franklin*
 Exact position,

 Depth, *7 fms*
 Nature of bottom, *fine shaly*
 Dredging instrument used, *7 fms dredge*
 Direction of drift, ; distance,
 Temperature of air, *63°* therm. No. *7079*
 " of surface water, *58°* " *7071*
 " at depth of fathoms, " "
 " at bottom, *58* " "
 Density at surface, *1.020* temp.,
 " at depth of fathoms, "
 " at bottom, *1.020* "
 Number of salinometer, *7045*
 Barometer reading, *29.8*
 State of sky, *Cloudy*
 Direction of wind, *S.W.*; force, *4*
 Rain,
 Direction of surface current, : force,
 " of bottom " : force,
 Name of vessel, *U.S.S. Fish Hawk*
 Service to which attached, *U.S. Fish Com.*
 Name and rank of commanding officer, *Comdr. J. H. ...*
 Name and position of observer,

NOTES RELATING TO STATION NO.

Carson's Island

Since [unclear] [unclear]

1 Blue Crab

1 Small Ground Squirrel

Tongue [unclear] [unclear]

July

for small [unclear] Crabs

" " [unclear] Hake

" " [unclear]

1 [unclear]

" [unclear]

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No. *1659* *See summary book A*
 Date, *Mch. 13 91*
 Time of day, *11:30 am* : of tide, *7/8 Flood*
 Locality, *Charleston Harbor*
 Exact position,

 Depth, *7 Fth 5 feet.*
 Nature of bottom, *Soft sticky*
 Dredging instrument used, *7 ft Beam Trawl*
 Direction of drift, ; distance,
 Temperature of air, *62°* therm. No., *7079*
 " of surface water, *57.5°* .. *7041*
 " at depth of fathoms, ..
 " at bottom, *58°* ..
 Density at surface, *1.0238* temp., *57.5°*
 " at depth of fathoms, ..
 " at bottom, *1.0238* .. *58°*
 Number of salinometer, *7046*
 Barometer reading, *29.86*
 State of sky, *B, C, C, C*
 Direction of wind, *S. S W* ; force, *5*
 Rain,
 Direction of surface current, : force.
 " of bottom " : force.
 Name of vessel, *Fish Hawk*
 Service to which attached, *U.S. Fish Com.*
 Name and rank of commanding officer, *R. Platt*
Lieut USN
 Name and position of observer,
J. E. Smith

NOTES RELATING TO STATION NO. 1027

Composition of Sample

100% *Stake*
100% *Stone Crab*
100% *Shrimp*
100% *Worms*

Stake

100% *Stone Crab*

5 Stake

1 Stone Crab

Shrimp (a number)
worms

Dead Shells

100% *Stake*

Stake

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, ; of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, : force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used.

Direction of drift, ; distance,

Temperature of air. therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface. temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force,

Rain,

Direction of surface current. : force.

" of bottom " : force.

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used.

Direction of drift, ; distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms. "

" at bottom. "

Density at surface. temp.,

" at depth of fathoms, "

" at bottom. "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current. : force.

" of bottom " : force.

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms. "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer.

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force.

Name of vessel.

Service to which attached,

Name and rank of commanding officer.

Name and position of observer.

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RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth.

Nature of bottom,

Dredging instrument used.

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, : force.

Rain.

Direction of surface current, : force.

" of bottom " : force.

Name of vessel.

Service to which attached,

Name and rank of commanding officer,

Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force.

Rain.

Direction of surface current, : force.

" of bottom " : force.

Name of vessel,

Service to which attached,

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Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, : force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer,

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

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RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

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Name and position of observer.

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, : force.

Rain,

Direction of surface current, : force,

" of bottom " : force,

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

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Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

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" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer.

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain.

Direction of surface current, : force.

" of bottom " : force.

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Name and position of observer,

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Time of day, : of tide.

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Exact position,

Depth,

Nature of bottom,

Dredging instrument used.

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

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" at bottom, "

Density at surface, temp.,

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Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force.

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth.

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance,

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer.

Barometer reading.

State of sky,

Direction of wind, ; force.

Rain.

Direction of surface current, : force,

" of bottom " : force,

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Name and rank of commanding officer.

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer.

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

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Density at surface, temp.,

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Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

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Name and rank of commanding officer.

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TEMPERATURE AND DENSITY.

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Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky.

Direction of wind, ; force.

Rain.

Direction of surface current, : force.

" of bottom " : force.

Name of vessel,

Service to which attached.

Name and rank of commanding officer.

Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading,

State of sky,

Direction of wind, ; force.

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

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Name and rank of commanding officer,

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms. "

" at bottom. "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom. "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force,

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached.

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING.

TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, : force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer,

NOTES RELATING TO STATION NO.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, ; of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, ; distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms, "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force,

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO.

RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No.

Date,

Time of day, : of tide.

Locality,

Exact position,

Depth,

Nature of bottom,

Dredging instrument used,

Direction of drift, : distance.

Temperature of air, therm. No.,

" of surface water, "

" at depth of fathoms. "

" at bottom, "

Density at surface, temp.,

" at depth of fathoms, "

" at bottom, "

Number of salinometer,

Barometer reading.

State of sky.

Direction of wind, ; force.

Rain,

Direction of surface current, : force.

" of bottom " : force,

Name of vessel,

Service to which attached,

Name and rank of commanding officer.

Name and position of observer.

NOTES RELATING TO STATION NO. _____