

ORIGINAL LOG BOOK OF THE "FISH HAWK"

UNITED STATES FISH COMMISSION

STATION NUMBERS

1891  
Numbers 1639 to 1659

in am Parton

# 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. 1

On dye fouled &  
lost

## RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *2*Date, *14 Jan*Time of day, *11 AM*; of tide, *Ebb*Locality, *Off Cape Fear*

Exact position,

Depth, *6.5*Nature of bottom, *coral*Dredging instrument used, *dredge*

Direction of drift,

; distance,

Temperature of air,

therm. No.,

" of surface water,

" at depth of fathoms,

" at bottom,

Density at surface, *24.16*temp., *51*" at depth of *5.5* fathoms,

" at bottom,

Number of salinometer, *5249*Barometer reading, *30.25*State of sky, *Clear*Direction of wind, *NE.*

; 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, *Forward on**Port Side main deck*

NOTES RELATING TO STATION NO. ....

Specimens of Coral, Sponge  
Scolopora, Urticina, Geryonia  
& cell spawn attached  
to sponge coral & Sargassum

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *2*

Date,

Time of day, *11.20* ; of tide,Locality, *500 yds. to U.S.V. of ...*

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. *2*  
 Date, *14 Jan*  
 Time of day, *11.45 PM*; of tide, *Ebb*  
 Locality, *Off Cape Fear*  
 Exact position,  
  
 Depth, *8*  
 Nature of bottom, *Coral*  
 Dredging instrument used, *Dredge*  
 Direction of drift, *S*; distance,  
 Temperature of air, *54* therm. No. *545*  
 " 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, *5384*  
 Barometer reading, *30.24*  
 State of sky, *Clear*  
 Direction of wind, *North*; 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. \_\_\_\_\_

All sample, 1 full load

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 3  
 Date, 14 Jan  
 Time of day, 2:45 PM of tide, Casey flood  
 Locality, Off Cape Fear  
 Exact position,  
  
 Depth, 5 f  
 Nature of bottom, Coral  
 Dredging instrument used, Dredge  
 Direction of drift, W; distance,  
 Temperature of air, 54 therm. No., -54  
 " of surface water, 52 " 5355  
 " at depth of fathoms, " "  
 " at bottom, " "  
 Density at surface, 23.5 temp. 52.5  
 " at depth of fathoms, " "  
 " at bottom, " "  
 Number of salinometer, 5-1-1  
 Barometer reading, 30.24  
 State of sky, Clear  
 Direction of wind, N; force,  
 Rain,  
 Direction of surface current, W; 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.

*E. Star Fish. Found 7/10/1911*

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. *4*Date, *14 Jan 09*Time of day, *2:10 PM*; of tide, *Flood*Locality, *Off Cape Fear*

Exact position,

Depth, *7*Nature of bottom, *Rock*Dredging instrument used, *Small dredge*Direction of drift, *SW*; distance,Temperature of air, *53* therm. No., *5424*" of surface water, " *5355*

" at depth of fathoms, "

" at bottom, "

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

" at depth of fathoms, "

" at bottom, "

Number of salinometer, *5355*Barometer reading, *30.04*State of sky, *Clear*Direction of wind, *N*; force, *light*

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.

~~2000~~ ~~10/10/10~~  
~~Sponge, Cover~~

Winyah Bay So Carolina

To be plotted

A <sup>1</sup>/<sub>2</sub> fathoms of layer

643

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 1639 (old 1700)

Date, Jan 3 1891

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

Locality, 1/2 mile N of wharf on South

Exact position, Islands

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 " 1041

" 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, USFC

Name and rank of commanding officer, R Platt

St Ugn

Name and position of observer, C H Cleveland

Master of

17

NOTES RELATING TO STATION NO. 1700

Trawl was towed badly &  
about a peck of small  
oysters was obtained



# Winyah Bay So Carolina

613

## RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1640 (1701)  
Date, Jan 3, 1891  
Time of day, 10.45 AM. of tide. 1<sup>st</sup> of Flood  
Locality, Winyah Bay - same  
Exact position, Locality as 1700 later  
near Inlet  
Depth, 5 fathoms and 2 ft  
Nature of bottom, Green 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, 10012 for fresh temp., 47  
" at depth of fathoms, "  
" at bottom, 10154 10135 " 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 Platt  
Lieut. Apr  
Name and position of observer, C H Cleveland  
Mate Apr

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

643

## RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1641 1702  
Date. Jan 3<sup>rd</sup> 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 used  
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 <sup>to</sup> temp., 47°  
" at depth of fathoms, <sup>cor</sup> "  
" 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. Regan  
Name and position of observer, C. H. Cleveland  
Mate Regan

NOTES RELATING TO STATION NO. 1702

about 4 bushel small  
oysters same character  
as 1701

# Winyah Bay So Carolina

643

## RECORD OF DREDGING.

### TEMPERATURE AND DENSITY.

Station No. 1642 1703  
Date, Jan 3<sup>rd</sup> 1891  
Time of day, 11.30 am : of tide, Flood  
Locality, Winyahs Bay directly  
East of wharf on South Island  
Exact position, 400 yards distant  
Depth, 5 fathoms + 1 foot  
Nature of bottom, chann 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 <sup>to</sup> fresh temp., 48  
" at depth of fathoms, "  
" at bottom, 1.0124 <sup>cor</sup> 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. Latta  
Lieut Ugr  
Name and position of observer, C H Cleveland  
Mate Ugr

NOTES RELATING TO STATION NO. 1703

About one bushel small  
system and dirt shells  
and gravel

# Winyah Bay S. Carolina

643

## 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 the island and  
 Exact position, 400 yds S. S. W. of wreck buoy

Depth, 5 fathoms 41 fms

Nature of bottom, hard sandy bottom

Dredging instrument used, Large & small  
 Oyster dredge

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 <sup>Pract</sup> freshcup, 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. U. S. N.

Name and position of observer, C. H. Cleveland  
 Mate U. S. N.

NOTES RELATING TO STATION NO. 1704

Sand and deer skulls  
and horn mud



# Winyah Bay So Carolina

## RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1644 (1705-)  
Date, Jan 3<sup>rd</sup> 1891  
Time of day, 12 : of tide, F. low  
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, 10052 <sup>from</sup> 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, USYC  
Name and rank of commanding officer, R Platt  
Lieut. U.S.N.  
Name and position of observer, C. H. Leonard  
Dredger

NOTES RELATING TO STATION NO.

Large Oyster Dredge was disconnected, by getting caught on the bottom and about 1/2 bushel gravel, 4 sand was obtained in the small Oyster dredge

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1645  
 Date, July 16 1891  
 Time of day, 10.05 : of tide, Flood  
 Locality, Cooper River S.C. G.S.  
 Exact position, Inside mouth of river 1/4 mile  
300 yds from marsh, south side  
 Depth, 2 3/4 to 4 ft.  
 Nature of bottom, Soft  
 Dredging instrument used, Cyprus dredge + Sme (B.P.)  
 Direction of drift, up river ; distance, 400 yds.  
 Temperature of air, 62° therm. No., 7060  
 " of surface water, 49° " 7041  
 " at depth of ~~—~~ fathoms, " "  
 " at bottom, 51° " "  
 Density at surface, 1.0226 } 1.0209 temp., 49°  
 " at depth of ~~—~~ fathoms } " "  
 " at bottom, 1.0228 } 1.0209 " 51°  
 Number of salinometer, 7046  
 Barometer reading, 30.74  
 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.S. Fish Hawk  
 Service to which attached, Fish Commission  
 Name and rank of commanding officer, Lieut. W. H. Smith  
 Name and position of observer, W. H. Smith  
Master, U.S.S.

NOTES RELATING TO STATION NO. 1045

Quantity of <sup>blue</sup> mud & sand.  
Small quantity of gorgonias  
" " " sponge  
and a few dead shells

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1645  
 Date, Jan 16 1891  
 Time of day, 10.16<sup>am</sup>; of tide, Flood.  
 Locality, Cooper River S. C. Bl. L.  
 Exact position, 500 yds above Light House  
 wharf lower entrance  
 Depth, 5 fms  
 Nature of bottom, Hard clay.  
 Dredging instrument used, Dredge with net 13.2.  
 Direction of drift, Up river; distance, 200 yds  
 Temperature of air, 64. therm. No., 7050  
 " of surface water, 50 " 7041  
 " at depth of — fathoms. " "  
 " at bottom, 50 " "  
 Density at surface 10224 } 1.0205<sup>cor</sup> temp., 50°  
 " at depth of — fathoms, } ✓ " "  
 " at bottom, 10226 } 1.0207 " 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, U.S. Fish Hawk  
 Service to which attached, Fish Commission  
 Name and rank of commanding officer, Lt. Platt  
Lieut USN  
 Name and position of observer, J. C. L. Smith  
Master USN

NOTES RELATING TO STATION NO. 1625

Quantity of Sand.

9 sponges.

Small no. of Crabs by some

Quantity of small dead shells and sponge

1 Starfish

Pinnas

5

# 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 E. H. wharf  
inside entrance to river  
 Depth, 4 fms 4 ft.  
 Nature of bottom, Hard Clay  
 Dredging instrument used, Dredge & Sme B.  
 Direction of drift, 200 yds; distance, up stream  
 Temperature of air, 58 therm. No., 7050  
 " of surface water, 51° " 7041  
 " at depth of — fathoms, " "  
 " at bottom, 50° " "  
 Density at surface, 10266 } 102479 temp., 51°  
 " at depth of — fathoms, " "  
 " at bottom, 10266 } 102470 " 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, R. Platt  
Lieut USN  
 Name and position of observer,  
L. J. G. Smith  
Matr USN

# Contents of Dredges

NOTES RELATING TO STATION NO. 1647

Quantity of Sand mixed  
with mud.

Stone Crab

Blue Crabs

Sea Cucumbers.

Gorgonias

Sponges.

lot of dead shells, snail



## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 1648.

Date, Jan 16 1891.

Time of day, 10 45 ; of tide, Flood

Locality,

Exact position, Just below L.H. wharf in  
Calitogue Pond. 800 yds off.

Depth, 8 fms 2 ft

Nature of bottom, soft.

Dredging instrument used, Dredge.

Direction of drift, <sup>up the sound</sup>; distance, 400 yds.

Temperature of air, 56° therm. No., 7054

" of surface water, 53° " 7081

" at depth of  fathoms, " "

" at bottom, 52 " "

Density at surface, 10228 } 1.021 } <sup>Cor</sup> temp. 53°

" at depth of  fathoms, } ✓ " "

" at bottom, 10228 } 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.F.C.

Name and rank of commanding officer, R. Clark  
Lieut. U.S.F.

Name and position of observer,

S. J. L. Smith  
Mate U.S.F.

# Contents of dredge

NOTES RELATING TO STATION NO. 1648

Large quantity of blue  
mud & clay, a little sand  
few dead shells.

# RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 1649  
 Date, Jan 16 1891  
 Time of day, 11.06 am; of tide, Flood  
 Locality, Calitogue Sound L.C.  
 Exact position, Calitogue Sound. Southern  
Bay. right above point in mid  
stream  
 Depth, 7 fms  
 Nature of bottom, silt  
 Dredging instrument used,  dredge  
 Direction of drift, up Sound; distance, 500 yds.  
 Temperature of air, 57° therm. No., 7557  
 " of surface water, 49.5 " 7547  
 " 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°  
 Number of salinometer, 7046  
 Barometer reading, 30.23  
 State of sky, Cloudy  
 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, P. Platt  
Lieut. U.S.N.  
 Name and position of observer, A. J. C. Smith  
Mate U.S.N.

NOTES RELATING TO STATION NO. 1649

Small quantity of sponge  
dead / Foliar shells.  
Suidia Starfish (several)  
Furcoids  
ordinary red starfish  
Pterogonids  
- 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, Flood  
 Locality, Calibogue Sound S.C.  
 Exact position, Line between Marsh & Beach  
 Islands middle of Calibogue Sound  
 Depth, 6 fms 4 ft  
 Nature of bottom, Sand  
 Dredging instrument used, Dredge  
 Direction of drift, With the current : distance, 300 yds.  
 Temperature of air, 62° therm. No., 727  
 " of surface water, 49.5 " 727  
 " at depth of — fathoms, " "  
 " at bottom, 51.0 " "  
 Density at surface, 1.0228<sup>1.0228</sup> temp., 49.5°  
 " at depth of — fathoms, { 1.0208  
 " at bottom, 1.0226<sup>1.0209</sup> " 51.0  
 Number of salinometer,  
 Barometer reading, 30.72  
 State of sky, Blue & cloudy  
 Direction of wind, South ; force, 2  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, U.S. Fish Com  
 Service to which attached, U.S. Fish Com  
 Name and rank of commanding officer, R. Platt  
 Lieut USN  
 Name and position of observer, J. C. Smith  
 - Mate USN

NOTES RELATING TO STATION NO. 1650

~~for~~  
Number of Starfish  
" " Blue Crabs.  
Lot of sponges  
Dead Periwinkle shell  
Sea Cucumbers.  
few small dead shells.  
lumps of coal + few  
stones + 1 piece Phosphate rock.  
young Stone Crabs  
few live nereidites

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. 2651  
 Date, Jan. 16 1891  
 Time of day, 11.43 ; of tide, Flood.  
 Locality, Caribou Sound  
 Exact position, Off south end of May River, middle of the sound.  
 Depth, 10 fms.  
 Nature of bottom, Hard.  
 Dredging instrument used, Sledge.  
 Direction of drift, ~~in 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 } 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, Cloudy  
 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, R. Platt  
 Lieut. U.S.N.  
 Name and position of observer, S. J. L. Fish.  
 Mate U.S.N.

NOTES RELATING TO STATION NO. 105

Contents of Trough.

Large quantity of sponge.  
several devil crabs.

live Penicillaria.

live drillmanus

" *Manispa* - Stone Crab

number of gorgonias.

Large quantity of sea oysters  
about one year old.

lot of gravel

live sea squirts



# RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. *1652.*Date, *Jan 21.*Time of day, *10:00*; of tide, *Ebb 1/2*Locality, *Skull Creek, S.C.*Exact position, *Head of Skull Creek**Boyd's off*Depth, *5 fms*Nature of bottom, *Blue clay mud*Dredging instrument used, *Dredge*Direction of drift,  *toward T.P. sound*; distance, *100 yds*Temperature of air, *55* therm. No.," of surface water, *55* "" at depth of *—* fathoms, "" at bottom, *55* "Density at surface, *1.023* *1.0215* temp., *50*" at depth of *—* fathoms, "" at bottom, *1.023* *1.0216* "Number of salinometer, *1015*Barometer reading, *30.72*State of sky, *Cloudy*Direction of wind, *S.W.*; 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, *Watt*Name and position of observer, *S. J. ...*  
*March 1912*

NOTES RELATING TO STATION NO. 1632

Continuity of bridge

Blue mud - small  
quantity of detrital organic  
matter

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1653*  
 Date, *Jan. 21 1891*  
 Time of day, *9.10 am* : of tide, *Ebb*  
 Locality, *Port Royal Sound* <sup>*off Skull Creek*</sup>  
 Exact position, *Hilton Head Pt. just open to eastward.*  
 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., *7046*  
 " of surface water, *49.5°* " *7041*  
 " at depth of  fathoms, " "  
 " at bottom, *49°* " "  
 Density at surface *1.0245 - 1.0225* temp. *49.5°*  
 " at depth of  fathoms, " "  
 " at bottom, *1.0245 - 1.0225* " *49°*  
 Number of salinometer, *7046*  
 Barometer reading, *30.23*  
 State of sky, *cloudy*  
 Direction of wind, *S. S. E* ; force, *1*  
 Rain,  
 Direction of surface current, : force,  
 " of bottom " ; force,  
 Name of vessel, *Fish Hawk*  
 Service to which attached, *U. S. F.*  
 Name and rank of commanding officer, *T. Platt*  
*Lieut. U. S. F.*  
 Name and position of observer,  
*S. J. C. Smith*  
*mate U. S. F.*

Contents of outgo

NOTES RELATING TO STATION NO. 1658

Bridge came up empty.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. *1654*  
 Date, *Jan. 21. 1891.*  
 Time of day, *9<sup>25</sup> am* ; of tide, *5/8 Ebb*  
 Locality, *Chester River, S. C.*  
 Exact position, *at Muddy Creek in line of  
S. E. point of dam below. In mid channel*  
 Depth, *4 fms*  
 Nature of bottom, *Hard*  
 Dredging instrument used, *Dredge*  
 Direction of drift, *down stream* ; distance, *100 yds*  
 Temperature of air, *52°* therm. No., *7059*  
 " of surface water, *49°* " *7041*  
 " 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, *30.73*  
 State of sky, *Cloudy*  
 Direction of wind, *SSE* ; 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, *R. H. Hall*  
 Name and position of observer, *L. C. H. Smith*  
*Ensign U. S. N.*

NOTES RELATING TO STATION NO. 1664.

Contents of dredge

Dredge empty, as the bottom  
is very fine sand.

# RECORD OF DREDGING, TEMPERATURE AND DENSITY.

Station No. 1655  
 Date, Mch. 4 '91  
 Time of day, 9:15 am; of tide, First of Flood  
 Locality, North Edisto River S.C.  
 Exact position, at the Entrance to  
 Russell Creek.  
 Depth, 5 fms 2 ft  
 Nature of bottom, Hard.  
 Dredging instrument used, Dredge.  
 Direction of drift, N of Edisto; distance, 100 yds  
 Temperature of air, 64 therm. No., 7066  
 " of surface water, 58 " 7041  
 " at depth of \_\_\_\_\_ fathoms, "  
 " at bottom, 58° " 7041  
 Density at surface, 1.0216 temp., 58°  
 " at depth of \_\_\_\_\_ fathoms, 1.0205  
 " at bottom, 1.0224 " 58°  
 Number of salinometer, 7053  
 Barometer reading, 30.01  
 State of sky, Cloudy to overcast  
 Direction of wind, South; force, 1  
 Rain,  
 Direction of surface current, ; force,  
 " of bottom " ; force,  
 Name of vessel, U.S.F.C. Fish Hawk  
 Service to which attached, U.S. Fish Com  
 Name and rank of commanding officer, R. Platt  
 Secret U.S.N.  
 Name and position of observer,  
 S. J. C. Smith  
 Mate U.S.N.

NOTES RELATING TO STATION NO. 1655

Contents of Lodge

- 1 Blue Crab.
- 1 Georgian



## RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. *1656*  
 Date, *Mch. 4, 1891*  
 Time of day, *9:30 AM*; of tide, *Young Moon*  
 Locality, *North Edisto River S.C.*  
 Exact position, *Mouth of Leadonwah Creek*  
 Depth, *6 fms 5 ft.*  
 Nature of bottom, *Hard*  
 Dredging instrument used, *Dredge*  
 Direction of drift, *up Edisto*; distance, *100 yds.*  
 Temperature of air, *63°* therm. No., *7066*  
 " of surface water, *57* " *700*  
 " at depth of ~~—~~ fathoms, " "  
 " at bottom, *58°* " "  
 Density at surface, *1.020* <sup>*1.018*</sup> temp., *57°*  
 " at depth of ~~—~~ fathoms, " "  
 " at bottom, *1.0226* <sup>*1.0215*</sup> " *58°*  
 Number of salinometer, *7053*  
 Barometer reading, *30.01*  
 State of sky, *Cloudy + overcast*  
 Direction of wind, *South*; force, *1*  
 Rain, *Slight 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, *R. Platt*  
*Lieut USN*  
 Name and position of observer,  
*S. J. G. Smith*  
*Mat USN*

NOTES RELATING TO STATION NO. 1656

## Contents of dredge

Sea shells, oysters

" " Periwinkles  
Bloody clams

Gorgonias, yellow with shells.

1 Blue Crab

2 live Periwinkles

Annelids

Brittle stars (few)

Quantity of Hydroids

several pieces Phosphate Rock

Small broken dead shells

Tunicates. -

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

Caprellas.

Amphipods.

Took specimen of bottom water here

To be plotted on  
Tracings of large scale  
with photostator

RECORD OF DREDGING,

TEMPERATURE AND DENSITY.

Station No. 1657 (See angles in sounding)  
Date, Mch 13, (Book A No 2)  
Time of day, 10:50 AM; of tide, 3/4 flood  
Locality, Charleston Station  
Exact position,

Depth, 4 Fms  
Nature of bottom, Soft  
Dredging instrument used, Beam trawl 7 ft.

Direction of drift, up stream; distance, 200 yds.

Temperature of air, 63° therm. No., 7079

" of surface water, 58° .. 7041

" at depth of fathoms, ..

" at bottom, 58° ..

Density at surface, 1.0238 temp., 58°

" at depth of fathoms, ..

" at bottom, 1.0238 .. 58°

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, Fish Hawk

Service to which attached, U.S. Fish Com

Name and rank of commanding officer, R. Platt,

Sicut W.M.

Name and position of observer,

J. J. Smith  
Lieut. W.M.

NOTES RELATING TO STATION NO. 1657

Contents of Net.

Net empty.

## RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. 1628 Cee Boundary Bk. A?

Date, Mar 12 1891

Time of day, 11.10 am ; of tide, 3/4 Flood,

Locality, Charleston Harbor

Exact position,

Depth, 7 fms

Nature of bottom, soft sticky

Dredging instrument used, 7 ft beam trawl

Direction of drift, ; distance,

Temperature of air, 63° therm. No., 7079

" of surface water, 58° " 7041

" at depth of fathoms, "

" at bottom, 58 " "

Density at surface, 1.0235 temp., 58

" at depth of fathoms, "

" at bottom, 1.0238 " 58

Number of salinometer, 7046

Barometer reading, 29.86

State of sky, Overcast

Direction of wind, S. S. W. ; force, 4

Rain, Drizzling

Direction of surface current, : force,

" of bottom " : force,

Name of vessel, Fish Hawk

Service to which attached, Fish Com.

Name and rank of commanding officer, Lieut. Comdr.

Name and position of observer, A. G. Smith

NOTES RELATING TO STATION NO. 1658

## Contents of Trawl

Small quantity of blue mussel  
1 Blue Crab,  
1 Small Flounder  
Tongue sole. Several.  
Goby  
few small Lady Crabs  
" " Fairy Shrimps.  
" " Shrimps -  
1 " Sand Star fish  
" Hermit Crabs

## RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. *1659* *See sounding book A2*  
 Date, *Mch. 13 91*  
 Time of day, *11:30 am*; of tide, *7/8 Flood.*  
 Locality, *Charleston Harbor.*  
 Exact position,  
  
 Depth, *7 fms 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, *overcast.*  
 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,  
*S. J. C. Smith*  
*mate USN*

NOTES RELATING TO STATION NO.

1659

## Contents of Drawl

Lot of Porogonias

Sponges

Small Crabs.

Tringa Sole

1 Spider Crab

6 Stake

1 Stone Crab

Shrimp (a number)  
worms.

Amphipods

Millican Sole.

Dead Shells different  
Kinds.



# 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.

## 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.

# 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, \_\_\_\_\_

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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. \_\_\_\_\_

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Time of day, \_\_\_\_\_ ; of tide, \_\_\_\_\_

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Depth, \_\_\_\_\_

Nature of bottom, \_\_\_\_\_

Dredging instrument used, \_\_\_\_\_

Direction of drift, \_\_\_\_\_ ; distance, \_\_\_\_\_

Temperature of air, \_\_\_\_\_ therm. No., \_\_\_\_\_

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" at bottom, \_\_\_\_\_ "

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" at bottom, \_\_\_\_\_ "

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Barometer reading, \_\_\_\_\_

State of sky, \_\_\_\_\_

Direction of wind, \_\_\_\_\_ ; force, \_\_\_\_\_

Rain, \_\_\_\_\_

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NOTES RELATING TO STATION NO.

## RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

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Nature of bottom, \_\_\_\_\_

Dredging instrument used, \_\_\_\_\_

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Temperature of air, \_\_\_\_\_ therm. No., \_\_\_\_\_

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Barometer reading, \_\_\_\_\_

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NOTES RELATING TO STATION NO.

# RECORD OF DREDGING.

## TEMPERATURE AND DENSITY.

Station No. \_\_\_\_\_

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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, \_\_\_\_\_

" at depth of \_\_\_\_\_ fathoms, \_\_\_\_\_

" at bottom, \_\_\_\_\_

Density at surface, \_\_\_\_\_ temp., \_\_\_\_\_

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" at bottom, \_\_\_\_\_

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Barometer reading, \_\_\_\_\_

State of sky, \_\_\_\_\_

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Rain, \_\_\_\_\_

Direction of surface current, \_\_\_\_\_ ; force, \_\_\_\_\_

" of bottom " \_\_\_\_\_ ; force, \_\_\_\_\_

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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, \_\_\_\_\_

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Dredging instrument used, \_\_\_\_\_

Direction of drift, \_\_\_\_\_ ; distance, \_\_\_\_\_

Temperature of air, \_\_\_\_\_ therm. No., \_\_\_\_\_

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Number of salinometer, \_\_\_\_\_

Barometer reading, \_\_\_\_\_

State of sky, \_\_\_\_\_

Direction of wind, \_\_\_\_\_ ; force, \_\_\_\_\_

Rain, \_\_\_\_\_

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## TEMPERATURE AND DENSITY.

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Depth, \_\_\_\_\_

Nature of bottom, \_\_\_\_\_

Dredging instrument used, \_\_\_\_\_

Direction of drift, \_\_\_\_\_ ; distance, \_\_\_\_\_

Temperature of air, \_\_\_\_\_ therm. No., \_\_\_\_\_

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" at bottom, \_\_\_\_\_ "

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Barometer reading, \_\_\_\_\_

State of sky, \_\_\_\_\_

Direction of wind, \_\_\_\_\_ ; force, \_\_\_\_\_

Rain, \_\_\_\_\_

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" of bottom " \_\_\_\_\_ ; force, \_\_\_\_\_

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Name and position of observer, \_\_\_\_\_

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

Station No. \_\_\_\_\_

Date, \_\_\_\_\_

Time of day, \_\_\_\_\_ ; of tide, \_\_\_\_\_

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Exact position, \_\_\_\_\_

Depth, \_\_\_\_\_

Nature of bottom, \_\_\_\_\_

Dredging instrument used, \_\_\_\_\_

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Temperature of air, \_\_\_\_\_ therm. No., \_\_\_\_\_

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" at bottom, \_\_\_\_\_ "

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Barometer reading, \_\_\_\_\_

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Direction of wind, \_\_\_\_\_ ; force, \_\_\_\_\_

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Name and position of observer, \_\_\_\_\_

NOTES RELATING TO STATION NO.

# RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

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Time of day, \_\_\_\_\_ ; of tide, \_\_\_\_\_

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Nature of bottom, \_\_\_\_\_

Dredging instrument used, \_\_\_\_\_

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NOTES RELATING TO STATION NO.

# RECORD OF DREDGING,

## TEMPERATURE AND DENSITY.

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Date, \_\_\_\_\_

Time of day, \_\_\_\_\_ ; of tide, \_\_\_\_\_

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Depth, \_\_\_\_\_

Nature of bottom, \_\_\_\_\_

Dredging instrument used, \_\_\_\_\_

Direction of drift, \_\_\_\_\_ ; distance, \_\_\_\_\_

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Barometer reading, \_\_\_\_\_

State of sky, \_\_\_\_\_

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Name of vessel, \_\_\_\_\_

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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, \_\_\_\_\_

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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, \_\_\_\_\_

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, "

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Barometer reading,

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Direction of wind, ; force,

Rain,

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Name of vessel,

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Name and position of observer,

NOTES RELATING TO STATION NO. \_\_\_\_\_