Nutrients 5m + in spike of fluorescence if between 5's

Casts 1 & 2 were test Casts  Plot 5, fluoresc, par  Sal. bottle #s HX19200301 (Cast)(Sample)

Pg. 1 of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 3 | Alpha Helix | Inner Front 1 | | | | SBC1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = 152 | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 003 | 55 | 05.74 | N | 163 | W | 01 | JUN | 97 | | 19 | 43 | | | | | | | | | | | 27 | HX196 003 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks This line skips the shallowest point on PMEL CTD C: 1=PMEL 2 other reversing order

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | In Situ Deck Peds✓ | Salinity Bottle# | Nuts. Bottle# | Chlor. Bottle# | HPLC Bottle# | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 25 | | | | | | | X | | HX196 00301 | 6 | 6 | 3 | 1 |
| 2 | | | 20 | | | | | | | X | | | 5 | 5 | | 2 |
| 3 | | | 15 | | | | | | | X | | | 4 | 4 | | 3 |
| 4 | | | 10 | | | | | | | X | | | 3 | 3 | | 4 |
| 5 | | | 5 | | | | | | | X | | | 2 | 2 | 2 | 5 |
| 6 | | | 0 | | | | | | | | | | 1 | 1 | 1 | 6 |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |

0 (13) Terry's bottom-tripped bottle

Cruise HX196 Consecutive Station # 3 Name: SBC1 Time: 1997-06-01 19:43:13
Position: 55x 5.74'N 163x 51.44'W Deck Pressure Offset: 0.00 CTD #1

| | PRESSU (d-bar) | TEMP 1 (xC) | POTENT (xC) | COND 1 (mmho) | SALINT (psu) | SIGMAT (e) | FLUORT (V) | OXYGEN (ml/l) | T1-T2 (xC) | C1-C2 (mmho) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24.3 | 5.159 | 5.157 | 30.612 | 31.562 | 24.933 | 3.451 | 8.100 | 0.000 | 0.000 |
| 2 | 20.5 | 5.159 | 5.158 | 30.610 | 31.562 | 24.934 | 3.524 | 8.100 | 0.000 | 0.000 |
| 3 | 14.8 | 5.159 | 5.158 | 30.609 | 31.563 | 24.934 | 2.943 | 8.086 | 0.001 | 0.000 |
| 4 | 9.9 | 5.161 | 5.160 | 30.607 | 31.563 | 24.934 | 3.378 | 8.060 | 0.001 | -0.001 |
| 5 | 4.7 | 5.168 | 5.168 | 30.610 | 31.562 | 24.932 | 3.283 | 8.051 | 0.006 | 0.003 |
| 6 | 1.1 | 5.168 | 5.168 | 30.609 | 31.562 | 24.932 | 2.437 | 8.047 | 0.002 | 0.002 |

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBC2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | JD = 152 Mo. | Yr. | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 004 | 55 | 8 | 24 | 163 | 53 | 43 | W | 01 | Jun | 97 | 20 | 47 | | | | | | | | | 32 | HX196 004 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | 5.3/4.98 | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | In Situ Probes | Deck Probes | | Salinity Bottle | Nuts. Bottle# | Chlor bottle HAC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 30 | | | | | | | X | | | | HX196 00401 | 13 | 13 | | | 1 |
| 2 | | | 26 | | | | | | | X | | | | | 12 | 12 | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 11 | 11 | | | 3 |
| 4 | | | 15 | | | | | | | X | | | | | 10 | 10 | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 9 | 9 | | | 5 |
| 6 | | | 5 | | | | | | | X | | | | | 8 | 8 | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 7 | 7 | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

0 = Terry's

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 5 | Alpha Helix | Inner Front I | | | | SBC3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 005 | 55 | 10.69 | N | 163 | 55.50 | 01 | JUN | 97 | 21 | 55 | | | | | | | | | | 44 | HX196 005 |

| CTD Type & SN | Seabird 911+ |
|---|---|
| Press. SN | |
| Temp. SN | |
| Cond. SN | |

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salin-ometer | In Situ Peeds | Deck Peeds | Salinity Bottle | Nuts. Bottle | Chlor bottle# | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8 | | B 43 | | | | | | | X | | | | HX196 00501 | 23 | 10 | ✓ | | 1 |
| 2 | 9 | | 40 | | | | | | | X | | | | | 22 | 9 | | | 2 |
| 3 | 10 | | 35 | | | | | | | X | | | | | 21 | 8 | | | 3 |
| 4 | 11 | | 30 | | | | | | | X | | | | | 20 | 7 | | | 4 |
| 5 | 12 | | 25 | | | | | | | X | | | | | 19 | 6 | | | 5 |
| 6 | 1 | | 20 | | | | | | | X | | | | | 18 | 5 | | | 6 |
| 7 | 2 | | 15 | | | | | | | X | | | | | 17 | 4 | ✓ | | 7 |
| 8 | 3 | | 10 | | | | | | | X | | | | | 16 | 3 | | | 8 |
| 9 | 4 | | 5 | | | | | | | X | | | | | 15 | 2 | | | 9 |
| 10 | 5 | | 0 | | | | | | | X | | | | | 14 | 1 | ✓ | | 10 |
| 11 | 6 | | | | | | | | | X | | | | | | | | | 11 |
| 12 | 7 | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 6 | Alpha Helix | Inner Front I | | | | SBC 4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | JD = 2 Mo. | Yr. | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 006 | 55 | 13.11 | N | 163 57.30 | W | 01 | JUN | 97 | 22 | 46 | | | | | | | | | | 53 | HX196 006 |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinometer | Insitu Reads | Deck Reads | Salinity Bottle | Nuts. Bottle | Chlor Samp# | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | | 52 | | | | | | | X | | | | | | ✓ | | | 1 |
| 2 | 7 | | 50 | | | | | | | X | | | | HX196 00602 | | ✓ | | | 2 |
| 3 | 8 | | 45 | | | | | | | X | | | | | | ✓ | | | 3 |
| 4 | 9 | | 40 | | | | | | | X | | | | | | ✓ | | | 4 |
| 5 | 10 | | 35 | | | | | | | X | | | | | | ✓ | | | 5 |
| 6 | 11 | | 30 | | | | | | | X | | | | | | ✓ | | | 6 |
| 7 | 12 | | 25 | | | | | | | X | | | | | | ✓ | | | 7 |
| 8 | 1 | | 20 | | | | | | | X | | | | | | ✓ | ✓ | | 8 |
| 9 | 2 | | 15 | | | | | | | X | | | | | | ✓ | | | 9 |
| 10 | 3 | | 10 | | | | | | | X | | | | | | ✓ | | | 10 |
| 11 | 4 | | 5 | | | | | | | X | | | | | | ✓ | | | 11 |
| 12 | 5 | | 0 | | | | | | | X | | | | | | ✓ | ✓ | | 12 |

Terry O 52

✓ BOT TRIP ✓

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBC5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 007 | 55 | 15.50 | N | 163 | 59.37 | W | 01 | Jun | 97 | 23 | 38 | | | | | | | | | 59 | 007 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Big peak fluor 30m - NO DATA

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor Sample # | HPLC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 57 | | | | | | | X | | | | | | | | | | 1 |
| 2 | | | 55 | | | | | | | X | | | | | Redone | | | | | 2 |
| 3 | | | 50 | | | | | | | X | | | | | | | | | | 3 |
| 4 | | | 40 | | | | | | | X | | | | | | | | | | 4 |
| 5 | | | 35 | | | | | | | X | | | | | | | | | | 5 |
| 6 | | | 30 | | | | | | | X | | | | | | | | | | 6 |
| 7 | | | 25 | | | | | | | X | | | | | | | | | | 7 |
| 8 | | | 20 | | | | | | | X | | | | | | | | | | 8 |
| 9 | | | 15 | | | | | | | X | | | | | | | | | | 9 |
| 10 | | | 10 | | | | | | | X | | | | | | | | | | 10 |
| 11 | | | 5 | | | | | | | X | | | | | | | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | | | | | 12 |

0 = Terry ✓

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBCS |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = 253 Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | | | | | | | | | | | | | | | | | | | | | HX196 |
| 008 | 55 | 15 | N | 163 | W | 02 | Jun | 97 | 00 | 02 | | | | | | | | | | 59 | 007 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor Bottle | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 57 | | | | | | | X | | | | | | ✓ | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | | ✓ | | | 2 |
| 3 | | | 45 | | | | | | | X | | | | | | ✓ | | | 3 |
| 4 | | | 40 | | | | | | | X | | | | | | ✓ | | | 4 |
| 5 | | | 35 | | | | | | | X | | | | | | ✓ | | | 5 |
| 6 | | | 30 | | | | | | | X | | | | | | ✓ | | | 6 |
| 7 | | | 25 | | | | | | | X | | | | | | ✓ | | | 7 |
| 8 | | | 20 | | | | | | | X | | | | | | ✓ | | | 8 |
| 9 | | | 15 | | | | | | | X | | | | | | ✓ | ✓ | | 9 |
| 10 | | | 10 | | | | | | | X | | | | | | ✓ | | | 10 |
| 11 | | | 5 | | | | | | | X | | | | | | ✓ | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | ✓ | ✓ | | 12 |

— Leary pre-trip —

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBC 6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | | | | | | | | | | | | | | | | | | | | | Terry |
| 009 | 55 | 17.94 | | 164 | 13.34 | 02 | JUN | 97 | 00 | 52 | | | | | | | | | | 77 | 008 |

| CTD Type & SN | Seabird 911+ |
|---|---|
| Press. SN | |
| Temp. SN | |
| Cond. SN | |

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor Bottle | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 73 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 70 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 60 | | | | | | | X | | | | | | ✓ | | | 3 |
| 4 | | | 50 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 40 | | | | | | | X | | | | | | ✓ | | | 5 |
| 6 | | | 35 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | 30 | | | | | | | X | | | | | | ✓ | | | 7 |
| 8 | | | 25 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | 20 | | | | | | | X | | | | | | ✓ | ✓ | | 9 |
| 10 | | | 15 | | | | | | | X | | | | | | | | | 10 |
| 11 | | | 5 | | | | | | | X | | | | | | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | ✓ | | | 12 |

Initials

Terry ✓ OK

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBC 7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | 0105 | 5204 | 2 | 164 | 03 | 02 | Jun | 97 | 01 | 44 | | | | | | | | | | 85 | Terry 009 |

| CTD Type & SN | Monitor Checks on Deck | Monitor Checks at Surface | Times | JD/Time | Data Location Tape/Diskette I.D. | File Name/Header |
|---|---|---|---|---|---|---|
| Seabird 911+ | | | Data on | | | |
| Press. SN | Press. | | at Surface | | | |
| Temp. SN | Temp. | | Start Down | | | |
| Cond. SN | Cond. | | at Bottom | | | |
| | Other | | Start Up | | | |
| | | | at Surface | | | |
| | | | Data off | | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor bottle | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 80 | | | | | | | X | | | | | 73 | ✓ | | | 1 |
| 2 | | | 70 | | | | | | | X | | | | | 72 | | | | 2 |
| 3 | | | 60 | | | | | | | X | | | | HX196 01023 | 71 | ✓ | | | 3 |
| 4 | | | 50 | | | | | | | X | | | | | 70 | | | | 4 |
| 5 | | | 45 | | | | | | | X | | | | | 69 | ✓ | | | 5 |
| 6 | | | 40 | | | | | | | X | | | | | 68 | ✓ | | | 6 |
| 7 | | | 35 | | | | | | | X | | | | | 67 | ✓ | ✓ | | 7 |
| 8 | | | 30 | | | | | | | X | | | | | 66 | ✓ | | | 8 |
| 9 | | | 25 | | | | | | | X | | | | | 65 | | | | 9 |
| 10 | | | 20 | | | | | | | X | | | | | 64 | ✓ | ✓ | | 10 |
| 11 | | | 10 | | | | | | | X | | | | | 63 | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | 62 | ✓ | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 3BC8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HY196 | 55 | 22.90 | N | 164 | 05.44 | 02 | JUN | 97 | 02 | 37 | | | | | | | | | | 94 | 010 |

Terry

| CTD | |
|---|---|
| Type & SN | Seabird 911+ |
| Press. SN | |
| Temp. SN | |
| Cond. SN | |

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor Bottle | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 90 ✓ | | | | | | | X | | | | | 85 | ✓ | ✓ | | 1 |
| 2 | | | 80 ✓ | | | | | | | X | | | | | 196011 8402 | | | | 2 |
| 3 | | | 70 ✓ | | | | | | | X | | | | | 83 | | | | 3 |
| 4 | | | 60 ✓ | | | | | | | X | | | | | 82 | ✓ | | | 4 |
| 5 | | | 50 ✓ | | | | | | | X | | | | | 81 | | | | 5 |
| 6 | | | 45 ✓ | | | | | | | X | | | | | 80 | ✓ | | | 6 |
| 7 | | | 40 ✓ | | | | | | | X | | | | | 79 | ✓ | ✓ | | 7 |
| 8 | | | 35 ✓ | | | | | | | X | | | | | 78 | ✓ | | | 8 |
| 9 | | | 30 ✓ | | | | | | | X | | | | | 77 | | | | 9 |
| 10 | | | 20 ✓ | | | | | | | X | | | | | 76 | ✓ | | | 10 |
| 11 | | | 10 ✓ | | | | | | | X | | | | | 75 | | | | 11 |
| 12 | | | 0 ✓ | | | | | | | | | | | | 74 | ✓ | ✓ | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBC 9 |

| Consec. Cast # | Latitude Deg. Min. | N or S | Longitude Deg. | E or W | Date JD = Day Mo. Yr. | Time GMT Hr. Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | 01255253 | 2 | 164075 9 | | 02 JUN 97 | 0324 | | | | | | | | | | 97 | 011 Terry |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor bottle | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 90 | | | | | | | X | | | | | 97 | ✓ | | | 1 |
| 2 | | | 80 | | | | | | | X | | | | | 96 | | | | 2 |
| 3 | | | 70 | | | | | | | X | | | | HX196 01203 | 95 | | | | 3 |
| 4 | | | 60 | | | | | | | X | | | | | 94 | ✓ | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 93 | ✓ | | | 5 |
| 6 | | | 45 | | | | | | | X | | | | | 92 | ✓ | | | 6 |
| 7 | | | 40 | | | | | | | X | | | | | 91 | ✓ | | | 7 |
| 8 | | | 35 | | | | | | | X | | | | | 90 | | | | 8 |
| 9 | | | 30 | | | | | | | X | | | | | 89 | | | | 9 |
| 10 | | | 20 | | | | | | | X | | | | | 88 | ✓ | | | 10 |
| 11 | | | 10 | | | | | | | X | | | | | 87 | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | 86 | ✓ | | | 12 |

Initials: Terry 98

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 55 | 27.73 | | 164 | 09.48 | 02 | JUN | 97 | 04 | 16 | | | | | | | | | | 99 | SBC10 |

Terry

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CFC | HPE | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 90 | | | | | | | X | | | | | 110 | ✓ | ✓ | | 1 |
| 2 | | | 80 | | | | | | | X | | | | HX196 01302 | 109 | | | | 2 |
| 3 | | | 70 | | | | | | | X | | | | | 108 | | | | 3 |
| 4 | | | 60 | | | | | | | X | | | | | 107 | ✓ | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 106 | | | | 5 |
| 6 | | | 45 | | | | | | | X | | | | | 105 | ✓ | | | 6 |
| 7 | | | 40 | | | | | | | X | | | | | 104 | ✓ | ✓ | | 7 |
| 8 | | | 35 | | | | | | | X | | | | | 103 | ✓ | | | 8 |
| 9 | | | 30 | | | | | | | X | | | | | 102 | | | | 9 |
| 10 | | | 20 | | | | | | | X | | | | | 101 | ✓ | | | 10 |
| 11 | | | 10 | | | | | | | X | | | | | 100 | | | | 11 |
| 12 | | | 0 | | | | | | | X | | | | | 99 | ✓ | ✓ | | 12 |

Terry's bottle broke

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBC 11 |

| Consec. Cast # | Latitude Deg. Min. | N or S | Longitude Deg. | E or W | Date JD = Day Mo. Yr. | Time GMT Hr. Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 55 30 | N | 164 | 55 | 02 JUN 97 | 0507 | | | | | | | | | | 99 | 13 Terry |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 90 ✓ | Chl | D | | | | | X | | | | | 122 | ✓ | | | 1 |
| 2 | | | 80 ✓ | | | | | | | X | | | | | 121 | | | | 2 |
| 3 | | | 70 ✓ | | | | | | | X | | | | HX196 01403 | 120 | | | | 3 |
| 4 | | | 60 ✓ | | | | | | | X | | | | | 119 | ✓ | | | 4 |
| 5 | | | 50 ✓ | | | | | | | X | | | | | 118 | | | | 5 |
| 6 | | | 45 ✓ | | | | | | | X | | | | | 117 | ✓ | | | 6 |
| 7 | | | 40 ✓ | | | | | | | X | | | | | 116 | ✓ | | | 7 |
| 8 | | | 35 ✓ | | | | | | | X | | | | | 115 | ✓ | | | 8 |
| 9 | | | 30 ✓ | | | | | | | X | | | | | 114 | | | | 9 |
| 10 | | | 20 ✓ | | | | | | | X | | | | | 113 | ✓ | | | 10 |
| 11 | | | 10 ✓ | | | | | | | X | | | | | 112 | | | | 11 |
| 12 | | | 0 ✓ | | | | | | | | | | | | 111 | ✓ | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBE10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1Y4196 | 015 | 55.25 | N | 164 | 19.74 | 02 | JUN | 97 | 06 | 01 | | | | | | | | | | 101 | 14 | Terry |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor. | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 95 | <Chl.D> | | | | | | X | | | | | ~~1~~ 4 | ✓3 | ✓ | | 1 |
| 2 | | | 80 | | | | | | | X | | | | 1Y1196 01502 | 1 3 3 | | | | 2 |
| 3 | | | 70 | | | | | | | X | | | | | 1 3 2 | | | | 3 |
| 4 | | | 60 | | | | | | | X | | | | | 1 3 1 | | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 1 3 0 | | | | 5 |
| 6 | | | 45 | | | | | | | X | | | | | 1 2 9 | | | | 6 |
| 7 | | | 40 | | | | | | | X | | | | | ✓8 | ✓2 | ✓ | | 7 |
| 8 | | | 35 | | | | | | | X | | | | | 1 2 7 | ✓ | | | 8 |
| 9 | | | 30 | | | | | | | X | | | | | 1 2 6 | | | | 9 |
| 10 | | | 20 | | | | | | | X | | | | | 1 2 5 | | | | 10 |
| 11 | | | 10 | | | | | | | X | | | | | 1 2 4 | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | ✓3 | 1✓ | ✓ | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBE 8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 55 | 20 | 17 | 164 | 15 84 | 02 | JUN | 97 | 07 | 27 | | | | | | | | | | 98 | 15 Terry |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chlor | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 95 | <Chl | D> | | | | | X | | | | 11x196 01601 | 4 | ✓ | ✓ | | 1 |
| 2 | | | 45 | Chl max | | | | | | X | | | | | 5 | ✓ | ✓ | | 2 |
| 3 | | | 0 | S. | | | | | | X | | | | | 6 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBE 6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | 17 | 55.152 | | 164 11.74 | | 02 | JUN | 97 | 08 | 46 | | | | | | | | | | 75 | 16 Terry |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 70 | | | | | | | X | | | | HX196 01701 | 7 | ✓ | | | 1 |
| 2 | 5 | | 33 | Fl. max | | | | | | X | | | | | 8 | ✓ | | | 2 |
| 3 | 6 | | 0 | | | | | | | X | | | | | 9 | ✓ | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBE5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 (HX496) | 55 | 12.02 | | 164 09.67 | | 02 | JUN | 97 | | 09 | 32 | | | | | | | | | | 65 | 17 T |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | O2c | NPC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | | 61 | <Chl | DS | | | | | X | | | | | 10 | ✓ | ✓ | | 1 |
| 2 | 8 | | 16 | Slimy | | | | | | X | | | | | 11 | ✓ | ✓ | | 2 |
| 3 | 9 | | 0 | | | | | | | X | | | | | 12 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBE4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hx196 19 | 55 | 10.42 | | 164 | 07.78 | 02 | Jun | 97 | 1 | 01 | 14 | | | | | | | | | | 56 | 18 |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 52 | (CTD O) | | | | | | X | | | | Hx196 01901 | 13 | ✓ | ✓ | | 1 |
| 2 | 11 | | 16-20 | | | | | | | X | | | | | 14 | ✓ | ✓ | | 2 |
| 3 | 12 | | 0 | | | | | | | X | | | | | 15 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBE2 |

| Consec. Cast # hx196 | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 55 | 05 | 49 | 164 | 03 | 60 | 02 | JUN | 97 | 11 | 10 | | | | | | | | | 42 | 19T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks fluor. peaked >5 mm to bottom —

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 38 | | | | | | | X | | | | 196 02001 | 18 | ✓ | ✓ | | 1 |
| 2 | 2 | | 15 | | | | | | | X | | | | | 17 | ✓ | ✓ | | 2 |
| 3 | 3 | | 2 | | | | | | | X | | | | | 16 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBE1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 55 | 03 | 06 | 164 | 62 | 02 | Jun | | 11 | 45 | | | | | | | | | | 31 | 20 T |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Pl. pysed >12m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 28 | | | | | | | X | | | | HX196 02101 | 21 | ✓ | ✓ | | 1 |
| 2 | 5 | | 18 | | | | | | | X | | | | | 20 | ✓ | ✓ | | 2 |
| 3 | 6 | | 0 | | | | | | | X | | | | | 19 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBD 1 |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 22 | 55 | 04.44 | | 163 56.52 | | 02 | JUN | 97 | 14 | 31 | | | | | | | | | | 28 | 21 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | | 25 | | | | | | | X | | | | HX196 02201 | 24 | | | | 1 |
| 2 | 8 | | 9 | | | | | | | X | | | | | 23 | | | | 2 |
| 3 | 9 | | 0 | | | | | | | X | | | | | 22 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 630 2 |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | 023 | 55.06 | | 163 58.67 | | 02 | JUN | 97 | 15 | 15 | | | | | | | | | | 36 | 22 T |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Normal cast, to bottom.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 32 | | | | | | | X | | | | | | | | | 1 |
| 2 | 11 | | 20 | | | | | | | X | | | | | | | | | 2 |
| 3 | 12 | | 0 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5302 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 55 | 66.85 | | 163582.60 | | 02 | Jun | 97 | 15 | 30 | | | | | | | | | | 36 | 22 T |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Cast to chlorinex for deck pkgs

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 20 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | | | | | 5 |
| 6 | | | 20 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | | | | | 10 |
| 11 | | | 0 | | | | | | | X | | | | | | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBD2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 55 | 06.85 | | 163 58.65 | | 02 | JUN | 97 | 15 | 51 | | | | | | | | | | 36 | 22 T. |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |
| | |
| | |

Remarks Cast for 15N

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 32 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 32 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 15 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 15 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 4 | | | | | | | X | | | | | | | | | 5 |
| 6 | | | 4 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SB04 |

| Consec. Cast # | Latitude Deg. Min. N or S | Longitude Deg. E or W | Date JD = Day Mo. Yr. | Time GMT Hr. Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 55 11 69 | 164 02 66 | 02 Jun 97 | 17 02 | | | | | | | | | | 52 | 23 Terry |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | | 47 | | | | | | | X | | | | 174196 026601 | 27 | ✓ | | | 1 |
| 2 | 8 | | 13 | chlm max | | | | | | X | | | | | 26 | ✓ | | | 2 |
| 3 | 9 | | 0 | | | | | | | X | | | | | 25 | ✓ | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBD5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 55 | 14.18 | N | 164 | 46.5 | 02 | JUN | 97 | | 17 | 51 | | | | | | | | | | 59 | 24 Tierney |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 57 | | | | | | HX 156 02201 | X | | | | | 30 | | | | 1 |
| 2 | 11 | | 16 | | | | | | | X | | | | | 29 | | | | 2 |
| 3 | 12 | | 13 | | | | | | | X | | | | | 28 | | | | 3 |
| 4 | | | | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBD6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | 55 | 16 | 50 | N | 164 | 06 | 76 | W | 02 | JUN | 97 | 18 | 41 | | | | | | | 54 | 25 Terry |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 72 | | | | | | 196 02801 | X | | | | | 33 | | | | 1 |
| 2 | 2 | | 29 | | | | | | | X | | | | | 32 | | | | 2 |
| 3 | 3 | | 13 | | | | | | | X | | | | | 31 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBD 7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 55 | 19.08 | N | 164 08.69 | W | 02 | JUN | 97 | | 19 | 29 | | | | | | | | | | | 90 | 26 |

Terry

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on: ____

at Surface: ____

Start Down: ____

at Bottom: ____

Start Up: ____

at Surface: ____

Data off: ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Certified) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 87 | | | | | | HX196 02901 | X | | | | | 36 | | | | 1 |
| 2 | 5 | | 35 | | | | | | | X | | | | | 35 | | | | 2 |
| 3 | 6 | | 173 | | | | | | | X | | | | | 34 | | | | 3 |
| 4 | | | | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | BBD8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 55 | 21.48 | N | 164 10.71 | W | 02 | JAN | 97 | 20 | 17 | | | | | | | | | | | 95 | 27 |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on: ____

at Surface: ____

Start Down: ____

at Bottom: ____

Start Up: ____

at Surface: ____

Data off: ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 92.4 | | | | X | | | | | 39 | | | | 1 |
| 2 | | | | | | 28.6 | | | | X | | | | | 38 | | | | 2 |
| 3 | | | | | | 1.3 | | | | X | | | | | 37 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBD10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 55 | 26 | 34 | N 164 | 14 | W 02 | JUN | 97 | 21 | 42 | | | | | | | | | | 100 | 28 Terry |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 97.4 | | | | | | 14x197 03101 | X | | | | | 42 | | | | 1 |
| 2 | | | 29.0 | | | | | | | X | | | | | 41 | | | | 2 |
| 3 | | | 1.2 | | | | | | | X | | | | | 40 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBB10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 55 | 29 | N | 164 | 43 | 02 | JUN | 97 | 22 | 27 | | | | | | | | | | 96 | 29 |

Tonny

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 93 | | | | | | | X | | | | | 45 | | ✓ | | 1 |
| 2 | | | 30 | | | | | | | X | | | | ✓ | 44 | | ✓ | | 2 |
| 3 | | | 1.5 | | | | | | | X | | | | ~~43~~ | 43 | | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initial

31

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5838 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX196 | 33 | 55.24 | 28 | 164 00.15 | | 02 | Jun | 97 | 23 | 57 | | | | | | | | | | 93 | 30 Terry |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 91 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 33 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 42 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5588 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 55 | 24 | 23 | 164 | 00 18 | 03 | JUN | 97 | 00 | 16 | | | | | | | | | | 93 | 30 |

Terry

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks 2nd Cast same location for collection of water for pends.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | | 33 | | | | | | | X | | | | | | | | | 1 |
| 2 | 8 | | 33 | | | | | | | X | | | | | | | | | 2 |
| 3 | 9 | | 33 | | | | | | | X | | | | | | | | | 3 |
| 4 | 10 | | 33 | | | | | | | X | | | | | | | | | 4 |
| 5 | 11 | | 33 | | | | | | | X | | | | | | | | | 5 |
| 6 | 12 | | 33 | | | | | | | X | | | | | | | | | 6 |
| 7 | 1 | | 33 | | | | | | | X | | | | | | | | | 7 |
| 8 | 2 | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | 3 | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | 4 | | 0 | | | | | | | X | | | | | | | | | 10 |
| 11 | 5 | | 0 | | | | | | | X | | | | | | | | | 11 |
| 12 | 6 | | 0 | | | | | | | | | | | | | | | | 12 |

Initials

23

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 35 | Alpha Helix | Inner Front I | | | | SBB7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 55 | 21.92 | | 163 | 29 | 03 | Jun | 97 | 01 | 08 | | | | | | | | | | | 76 | 31 Terry |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 73 | | | | | | | X | | | | HX196 03501 | None | | | | 1 |
| 2 | | | 23 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 12 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBB6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 55 | 19.34 | | 163 | 56.19 | 03 | Jun | 97 | 01 | 53 | | | | | | | | | | 70 | 32 |

Terry

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 66 | | | | | | | X | | | | HX196 03601 | | | | | 1 |
| 2 | | | 18 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 1.5 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

17 m

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBB5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | 55 | 16 | 82 | 163 | 54 | 03 | JUN | 97 | 02 | 41 | | | | | | | | | | | 69 | 33 Terry |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 64 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 18 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 1.5 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBB4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S. S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 55 | 14 | 40 | 163 | 52 13 | 03 | JUN | 97 | 03 | 29 | | | | | | | | | | | 56 | 34 |

Terry

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 53 | | | | | | | X | | | | HX196 6 | 48 | | | | 1 |
| 2 | 11 | | 17 | | | | | | | X | | | | HX196 038 02 | 47 | | | | 2 |
| 3 | 12 | | 1.5 | | | | | | | X | | | | | 46 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 5332 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S. S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 55 | 00.52 | | 163 | 48.16 | | | | | | | | | | | | | | | | 41 | 35 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |
| | |
| | |

Remarks Max at bottom (pegged) 24.2° max

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 38 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 24 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 15 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SB B1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 55 | 07 | 10 | 163 | 46 42 | 03 | Jun | 97 | 05 | 32 | | | | | | | | | | | 33 | 360 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nutr. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 31 | | | | | | | X | | | | HY196 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | 04001 | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | 55 | 08.48 | | 163 | 41.09 | 03 | JUN | 97 | 06 | 00 | | | | | | | | | | | 41 | 32 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | | 39 | | | | | | | X | | | | | 6 | | | | 1 |
| 2 | 6 | | 30 | | | | | | | X | | | | | 5 | | | | 2 |
| 3 | 7 | | 20 | | | | | | | X | | | | | 4 | | | | 3 |
| 4 | 6 | | 15 | | | | | | | X | | | | | 3 | | | | 4 |
| 5 | 9 | | 10 | | | | | | | X | | | | | 2 | | | | 5 |
| 6 | 10 | | 0 | | | | | | | X | | | | | 1 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 3B A2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | 55 | 10.97 | | 163 | 43.24 | 03 | JUN | 97 | 06 | 44 | | | | | | | | | | | 46 | 38 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11 | | 42 | | | | | | | X | | | | | 11 | | | | 1 |
| 2 | 12 | | 30 | | | | | | | X | | | | | 10 | | | | 2 |
| 3 | 1 | | 20 | | | | | | | X | | | | | 9 | | | | 3 |
| 4 | 2 | | 10 | | | | | | | X | | | | | 8 | | | | 4 |
| 5 | 3 | | 0 | | | | | | | X | | | | | 7 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | 55 | 15.05 | | 163 | 47.23 | | 03 | Jun | 97 | 08 | 03 | | | | | | | | | | 58 | 39 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 55 ✓ | | | | | | | X | | | | | 17 | | | | 1 |
| 2 | 5 | | 40 ✓ | | | | | | | X | | | | | 16 | | | | 2 |
| 3 | 6 | | 30 ✓ | | | | | | | X | | | | | 15 | | | | 3 |
| 4 | 7 | | 21 | | | (pegged) – high chlor. | | | | X | | | | | 14 | | | | 4 |
| 5 | 8 | | 10 ✓ | | | | | | | X | | | | | 13 | | | | 5 |
| 6 | 9 | | 0 ✓ | | | | | | | X | | | | | 12 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S. S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | 55 | 18 | 20 | 163 | 49 28 | 03 | JUN | 97 | 09 | 07 | | | | | | | | | | | 66 | 40 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 62 | | | | | | | X | | | | HX196 04801 | 24 | | | | 1 |
| 2 | 11 | | 50 | | | | | | | X | | | | | 23 | | | | 2 |
| 3 | 12 | | 40 | | | | | | | X | | | | | 22 | | | | 3 |
| 4 | 1 | | 30 | | big peak at 30 | | | | | X | | | | | 21 | | | | 4 |
| 5 | 2 | | 20 | | | | | | | X | | | | | 20 | | | | 5 |
| 6 | 3 | | 10 | | | | | | | X | | | | | 19 | | | | 6 |
| 7 | 4 | | 0 | | | | | | | X | | | | | 18 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5BA6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 55 | 20.71 | | 163 | 51.16 | | 03 | JUN | 97 | 09 | 40 | | | | | | | | | | | 72 | 41 T |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | | 69 | | | | | | | X | | | | HX196 04501 | 33 | | | | 1 |
| 2 | 6 | | 60 | | | | | | | X | | | | | 32 | | | | 2 |
| 3 | 7 | | 50 | | | | | | | X | | | | | 31 | | | | 3 |
| 4 | 8 | | 40 | | | | | | | X | | | | | 30 | | | | 4 |
| 5 | 9 | | 30 | | | | | | | X | | | | | 29 | | | | 5 |
| 6 | 10 | | 20 | | | | | | | X | | | | | 28 | | | | 6 |
| 7 | 11 | | 14 | | | | | | | X | | | | | 27 | | | | 7 |
| 8 | 12 | | 10 | | | | | | | X | | | | | 26 | | | | 8 |
| 9 | 1 | | 0 | | | | | | | X | | | | | 25 | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBAP |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 55 | 25.59 | | 163 55.13 | | 03 | JUN | 97 | 10 | 40 | | | | | | | | | | 91 | 42T |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 87 | | | | | | | X | | | | | 43 | | | | 1 |
| 2 | 3 | | 80 | | | | | | | X | | | | | 42 | | | | 2 |
| 3 | 4 | | 70 | | | | | | | X | | | | | 41 | | | | 3 |
| 4 | 5 | | 60 | | | | | | | X | | | | | 40 | | | | 4 |
| 5 | 6 | | 50 | 20 | | | | | | X | | | | | 39 | | | | 5 |
| 6 | 7 | | 40 | | | | | | | X | | | | | 38 | | | | 6 |
| 7 | 8 | | 30 | | | | | | | X | | | | | 37 | | | | 7 |
| 8 | 9 | | 20 | | | | | | | X | | | | | 36 | | | | 8 |
| 9 | 10 | | 10 | | | | | | | X | | | | | 35 | | | | 9 |
| 10 | 11 | | 0 | | | | | | | X | | | | | 34 | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

35v

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBAID |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | 55 | 30 | 53 | 163 | 59 07 | 03 | Jun | 97 | 11 | 45 | | | | | | | | | | 95 | 43 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | | 92 | | | | | | | X | | | | | 54 | | | | 1 |
| 2 | 1 | | 80 | | | | | | | X | | | | | 53 | | | | 2 |
| 3 | 2 | | 70 | | | | | | | X | | | | | 52 | | | | 3 |
| 4 | 3 | | 60 | | | | | | | | | | | | 51 | | | | 4 |
| 5 | 4 | | 50 | | | | | | | X | | | | | 50 | | | | 5 |
| 6 | 5 | | 40 | | | | | | | X | | | | | 49 | | | | 6 |
| 7 | 6 | | 35 | | | | | | | X | | | | | 48 | | | | 7 |
| 8 | 7 | | 30 | | | | | | | X | | | | | 47 | | | | 8 |
| 9 | 8 | | 20 | | | | | | | X | | | | | 46 | | | | 9 |
| 10 | 9 | | 10 | | | | | | | X | | | | | 45 | | | | 10 |
| 11 | 10 | | 0 | | | | | | | X | | | | | 44 | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5BB3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 55 | 11 | 93 | 16 | 35 | 01 2 | 03 | Jun | 97 | 13 | 54 | | | | | | | | | 50 | 44 |

Terry

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | H x 196 04P01 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SB34 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | | | | | | | | | | | | | | | | | | | | | 45 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Ctd for deck prod.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBB4 (In Situ 1) |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | | | | | | | | | | | | | | | | | | | | | 45 T |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Ctd to match depths of in situ pods.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBB4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 55 | 14.56 | | 163.51 | | 02 | Jun | 97 | 23 | 46 | | | | | | | | | | | 46 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Cast for N-15, nuts, chl, HPLC

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBC1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 52 | 55.05 | | 163 | 51.36 | | 04 | Jun | 97 | 07 | 08 | | | | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks Deck Prod ?

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | 55 | 05.85 | | 163 51.30 | | 04 | Jun | 97 | 07 | 41 | | | | | | | | | | 56 | |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks: In Situ water?

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 5BA10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 55 | 30 | 58 | 163 | 59 06 | 05 | Jun | 97 | 04 | 22 | | | | | | | | | | 95 | 47T |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | | 90 | | | | | | | X | | | | H7196 05501 | 10 | | | | | 1 |
| 2 | 6 | | 80 | | | | | | | X | | | | | 9 | | | | | 2 |
| 3 | 7 | | 70 | | | | | | | X | | | | | 8 | | | | | 3 |
| 4 | 8 | | 60 | | | | | | | X | | | | | 7 | | | | | 4 |
| 5 | 9 | | 50 | | | | | | | X | | | | | 6 | | | | | 5 |
| 6 | 10 | | 40 | | | | | | | X | | | | | 5 | | | | | 6 |
| 7 | 11 | | 30 | | | | | | | X | | | | | 4 | | | | | 7 |
| 8 | 12 | | 20 | | | | | | | X | | | | | 3 | | | | | 8 |
| 9 | 1 | | 10 | | | | | | | X | | | | | 2 | | | | | 9 |
| 10 | 2 | | 15 | | | | | | | X | | | | | 1 | | | | | 10 |
| 11 | 3 | | | | | | | | | X | | | | | | | | | | 11 |
| 12 | 4 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 55 | 25.59 | | 163 | 55.04 | 05 | Jun | 97 | 06 | 16 | | | | | | | | | | 92 | 48 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | | 87 | | | | | | | X | | | | HY196 125601 | 20 | | | | 1 |
| 2 | 4 | | 80 | | | | | | | X | | | | | 19 | | | | 2 |
| 3 | 5 | | 70 | | | | | | | X | | | | | 18 | | | | 3 |
| 4 | 6 | | 60 | | | | | | | X | | | | | 17 | | | | 4 |
| 5 | 7 | | 50 | | | | | | | X | | | | | 16 | | | | 5 |
| 6 | 8 | | 40 | big peak in fluor. | | | | | | X | | | | | 15 | | | | 6 |
| 7 | 9 | | 34 | peak | in fluor. | | | | | X | | | | | 14 | | | | 7 |
| 8 | 10 | | 20 | | | | | | | X | | | | | 13 | | | | 8 |
| 9 | 11 | | 10 | | | | | | | X | | | | | 12 | | | | 9 |
| 10 | 12 | | 0 | | | | | | | X | | | | | 11 | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA6 |

| Consec. Cast # | Latitude Deg. Min. N or S | Longitude Deg. E or W | Date JD = Day Mo. Yr. | Time GMT Hr. Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 55 20 76 | 163 51 14 | | | | | | | | | | | | 73 | 49 T |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks NO peak, just rapidly high below ~25m.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 70 | | | | | | | X | | | | HY196 05401 | 28 | | | | | 1 |
| 2 | | | 60 | | | | | | | X | | | | | 27 | | | | | 2 |
| 3 | | | 50 | | | | | | | X | | | | | 26 | | | | | 3 |
| 4 | | | 40 | | | | | | | | | | | | 25 | | | | | 4 |
| 5 | | | 30 | | | | | | | X | | | | | 24 | | | | | 5 |
| 6 | | | 20 | | | | | | | X | | | | | 23 | | | | | 6 |
| 7 | | | 10 | | | | | | | X | | | | | 22 | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | 21 | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____ file may [illegible] SBA4

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SBA5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 55 | 18.31 | | 163 49.09 | | 05 | Jul | 97 | 07 | 37 | | | | | | | | | | 67 | 50 |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks peak 20-30

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 63 | | | | | | | X | | | | 1Hx196 105801 | 35 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 34 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 33 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 32 | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 31 | | | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 30 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 29 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 5BA4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | 55 | 15.87 | | 163 | 41.5 | 05 | Jun | 97 | 08 | 08 | | | | | | | | | | 59 | 51T |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks peak 15-25, dips at 40, back up below

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 55 | | | | | | | X | | | | | 42 | | | | | 1 |
| 2 | | | 50 | | | | | | | X | | | | 196 05902 | 41 | | | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 40 | | | | | 3 |
| 4 | | | 30 | | | | | | | | | | | | 39 | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 38 | | | | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 37 | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 36 | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA3A |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 55 | 14 | S | 163 | 46 W | 05 | JUN | 97 | 08 | 30 | | | | | | | | | | 57 | 52 T |

CTD Type & SN Seabird 9114
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 50 | | | | | | | X | | | | Hx196 06001 | 48 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 47 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 46 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 45 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 44 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 43 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | | | | | | | | | | | | | | | | | | | | 53 | 53T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks ~18-20m jelly in con. cell
peak 20, & w 40 & right at bottom

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 49 | | | | | | | X | | | | 196 06101 | 54 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 53 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 52 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 51 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 50 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 49 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA2A |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62 | 55 | 12 | 20 | 163 | 44 14 | 05 | Jun | 97 | 09 | 15 | | | | | | | | | | 49 | 54T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks 2-3 Below 10 peak 10?

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | | | | | 59 | | | | 1 |
| 2 | | | 30 | | | R high | | | | X | | | | 196 06202 | 58 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 57 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 56 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 55 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SB2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 55 | 10.98 | | 163 43.12 | | 05 | JUN | 97 | 09 | 39 | | | | | | | | | | 46 | 55 T |

CTD Type & SN Seabird 9114

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks flume, trapped but streight

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 43 | | | | | | | X | | | | 196 06301 | 64 | | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | 63 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 62 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 61 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 60 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

257

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SRA 1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | 55 | 08 | 56 | 162 | 41 23 | 05 | Jun | 97 | 10 | 10 | | | | | | | | | | 42 | 56T |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks: peak 25

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | | | | 196 06401 | 69 | | | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | 68 | | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 67 | | | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 66 | | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 65 | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | | 12 |

90 - 50 32 40 94

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5BC11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 55 | 30 | 18 | 164 | 11 | 54 | 05 | Jun | 97 | 20 | 06 | | | | | | | | | 98 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks: Deck prods water. Cast went to 5 off bottom

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 40 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5BC11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | 55 | 30 | 05 | 164 | 11 | 56 | 05 | Jun | 97 | | | | | | | | | | | 98 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks: Insitu probs, cast only to 50 m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 10 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 0 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 53C 11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 55 | 30.29 | | 164 | 45 | 05 | Jun | 97 | 20 | 54 | | | | | | | | | | | 57T |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks: 15 N

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 35 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | 35 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 35 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | | | | | 5 |
| 6 | | | 20 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Iniciale

get

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | | | | | | | | | | | | | | | | | | | |

CTD & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |

Get [redacted]

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 69 | | | | | | | | | | | | | | | | | | | |

CTD Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | SB410 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70 | 55 | 30.57 | | 163 | 59.25 | 07 | Jun | 97 | 00 | 39 | | | | | | | | | | | 92 | 59T(?) |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks nutrient amendment station for Terry Dean

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 6 | | | | | | | X | | | | HX 196 07001 | | | | | 1 |
| 2 | 2 | | 42 | C max | | | | | | X | | | | | | | | | 2 |
| 3 | 3 | | 42 | C max | | | | | | X | | | | | | | | | 3 |
| 4 | 4 | | 1.5 | sfc | | | | | | X | | | | | | | | | 4 |
| 5 | 5 | | 1.5 | sfc | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | SBA0 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | 55 | 6.15 | | 163 | 39.09 | 07 | Jun | 97 | 06 | 07 | | | | | | | | | | 34 | 60T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Added station to be sure in mixed water

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 31 | | | | | | | X | | | | HX196 07/01 | 67 | | | | 1 |
| 2 | | | 25 | | | | | | | X | | | | | 66 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 65 | | | | 3 |
| 4 | | | 15 | | | | | | | X | | | | | 64 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 63 | | | | 5 |
| 6 | | | 5 | | | | | | | X | | | | | 62 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 61 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 5PAO |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | 55 | 06 | 10 | 163 | 38 98 | 07 | Jun | 97 | 06 | 38 | | | | | | | | | | 34 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Didn't get Terry's HPLC sample last cast!!

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 15 | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

First Station Port Moller / C. Seniavin Grid

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | 56 | 37.75 | | 159 | 53.25 | | 09 | Jun | 97 | 14 | 08 | | | | | | | | | | 38 | 61 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks: Deck Prod Chl, nuts

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | HPLC | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 35 | | | | | | | X | | | | 74 → | | ✓ | | | 1 |
| 2 | 2 | | 25 | | | | | | | X | | | | 73 → | | ✓ | | | 2 |
| 3 | | | 15 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 15 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 15 | | | | | | | X | | | | | | | | | 5 |
| 6 | | | 15 | | | | | | | X | | | | 72 → | | ✓ | | ✓ | 6 |
| 7 | | | 10 | | | | | | | X | | | | 71 → | | ✓ | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | 70 → | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | | | | | 10 |
| 11 | 11 | | 0 | | | | | | | X | | | | | | ✓ | | ✓ | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 74 | 56 | 39 | 83 | 159 | 57 02 | 09 | Jun | 97 | 14 | 38 | | | | | | | | | | 48 | 62 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | O2 | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 45 | | | | | | | X | | | | 14x196 07461 | 90 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 79 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 78 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 77 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | ~~76~~ | 76 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | ~~75~~ | 75 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA 4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 56 | 41 | | 86 | | 160 | 00 | 06 | | 09 | Jun | 15 | 06 | | | | | | | | | 63 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Bad Salin (Jelly)

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salin-ometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 | 56 | 41 | 89 | 160 | 00 | 19 | 09 | Jun | 97 | 15 | 15 | | | | | | | | | 51 | 63 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 47 | | | | | | | X | | | | | 86 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | 196 07602 | 85 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 84 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 83 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 82 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 81 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PMA5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | 56 | 43.94 | | 160 | 03.37 | 09 | Jun | 97 | 15 | 42 | | | | | | | | | | 55 | 64 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks 2° con. had jelly by ~ 35m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Oxy | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 50 | | | | | | | X | | | | 196 07701 | 92 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 91 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | 196 07703 | 90 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 89 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 88 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 87 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | 56 | 46.01 | | 160 06.48 | | 09 | Jun | 97 | 16 | 10 | | | | | | | | | | 58 | 65 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 55 | * ~ | blip | only | | | | X | | | | | 98 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | 196 07802 | | | 196 07802 | 97 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 96 | ✓ | | | 3 |
| 4 | | | 20 | another | | blip | | | | X | | | | | 95 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 94 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 93 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Transmiss. is odd? ~10

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79 | 56 | 48 | 07 | 160 | 09 67 | 09 | Jun | 97 | 16 | 39 | | | | | | | | | | 60 | 66 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | O/L | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 55 | | | | | | | X | | | | 196 07901 | 104 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 103 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 102 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 101 | ✓ | | | 4 |
| 5 | | | 10 | * P. max (~1) | | | | | | X | | | | | 100 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 99 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMA9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 56 | 52 | 14 | 160 | 59 3 | 09 | Jun | 97 | 17 | 27 | | | | | | | | | | | | 68 | 67 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 62 | | | | | | | X | | | | 196 08001 | 111 | ✓ | | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 110 | ✓ | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 109 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 108 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 107 | ✓ | | | 5 |
| 6 | | | 10 | * pretty weaper | | | | | | X | | | | | 106 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 105 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 81 | Alpha Helix | Inner Front I | | | | PM All |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | | | | | | | | | | | | | | | | | | | | 68 | 68 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks ~~Deck Probe~~ [redacted]

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 63 | | | | | | | X | | | | | 118 | ✓ | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 117 | ✓ | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 116 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 115 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 114 | ✓ | ✓ | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 113 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 112 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PMA11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | 56 | 56.26 | | 162224 | | 09 | Jun | 97 | 18 | 52 | | | | | | | | | | 68 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Deck Proofs

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 | | 20 | | | | | | | X | | | | | | | | | 1 |
| 2 | 10 | | 20 | | | | | | | X | | | | | | | | | 2 |
| 3 | 11 | | 20 | | | | | | | X | | | | | | | | | 3 |
| 4 | 12 | | 20 | | | | | | | X | | | | | | | | | 4 |
| 5 | 1 | | 20 | | | | | | | X | | | | | | | | | 5 |
| 6 | 2 | | 20 | | | | | | | X | | | | | | | | | 6 |
| 7 | 3 | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | 4 | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | 5 | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | 6 | | 0 | | | | | | | X | | | | | | | | | 10 |
| 11 | 7 | | 0 | | | | | | | X | | | | | | | | | 11 |
| 12 | 8 | | 0 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PMCN |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | 56 | 52.18 | | 160 | 31.23 | | 09 | Jun | 97 | 19 | 35 | | | | | | | | | | 68 | 68 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 63 | | | | | | | X | | | | | 3 | ✓ | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 2 | ✓ | ✓ | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 1 | | ✓ | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 122 | ✓ | ✓ | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 121 | ✓ | ✓ | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 120 | ✓ | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 119 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC90 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | 56 | 50 | 12 | 160 | 27 | 94 | 09 | Jun | 97 | 20 | 14 | | | | | | | | | 63 | 70 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | I | CIC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 60 | | | | | | | X | | | | 08401 | 10 | | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 9 | | ✓ | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 8 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 7 | DOM | ✓ | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 6 | DOM | ✓ | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 5 | DOM | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 4 | DOM | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PMC9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 85 | 56 | 48 | 10 | 160 | 24 74 | 09 | Jun | 97 | 20 | 56 | | | | | | | | | | 69 | 71 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CFC | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 64 | | | | | | | X | | | | 190 08501 | 17 | ✓ | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 16 | ✓ | ✓ | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 15 | | ✓ | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 14 | ✓ | ✓ | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 13 | ✓ | ✓ | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 12 | ✓ | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 11 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 86 | 56 | 45 | 98 | 160 | 21 | 57 | 09 | Jun | 97 | 21 | 39 | | | | | | | | | 62 | 72 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTL | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 59 | | | | | | | X | | | | | 24 | ✓ | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | 196 08602 | 23 | ✓ | ✓ | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 22 | | ✓ | | 3 |
| 4 | | | 30 | | | | | | | | | | | | 21 | ✓ | ✓ | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 20 | ✓ | ✓ | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 19 | ✓ | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 18 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

18

Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 87 | Alpha Helix | Inner Front 1 | | | | PMC 7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 87 | 56 | 43.98 | | 160 | 18.4 | 09 | JUN | 97 | 22 | 20 | | | | | | | | | | | 61 | 73 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | DOM | Chl | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 55 | | | | | | | X | | | | 196 08701 | 30 | ✓ | ✓ | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 29 | ✓ | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 28 | ✓ | ✓ | | 3 |
| 4 | | | 20 | ~ | | | | | | X | | | | | 27 | ✓ | ✓ | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 26 | ✓ | ✓ | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 25 | ✓ | ✓ | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

25

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88 | 56 | 41 | | 88 | | 160 | 15 | 25 | 09 | JUN | 97 | 23 | 00 | | | | | | | | 61 | 74 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | DOM | Chl | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 56 | | | | | | | X | | | | 196 08801 | 37 | | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 36 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 35 | | ✓ | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 34 | | ✓ | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 33 | | ✓ | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 32 | | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 31 | | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 89 | 56 | 39.80 | | 160 | 12.10 | 09 | JUN | 97 | 23 | 41 | | | | | | | | | | 52 | 75 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 48 | | | | | | | X | | | | 14x196 08901 | 43 | ✓ | ✓ | | 1 |
| 2 | | | 40 | F. Pres | | | | | | X | | | | | 42 | | ✓ | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 41 | ✓ | ✓ | | 3 |
| 4 | | | 20 | F. pres | | | | | | X | | | | | 40 | ✓ | ✓ | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 39 | ✓ | ✓ | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 38 | ✓ | ✓ | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

38

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PMC4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | 56 | 37.81 | | 160 | 08.99 | 10 | Jun | 97 | 00 | 19 | | | | | | | | | | 48 | 76 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks: Con 1 bad on upcast I think

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 43 | | | | | | | X | | | | | 48 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | 196 09002 | 47 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 46 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 45 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 44 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| 91 | Alpha Helix | Inner Front I | | | | PMC 3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 91 | 56 | 35.73 | | 160 | 05.86 | 10 | Jun | 97 | 00 | 56 | | | | | | | | | | | 44 | 77 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks: C1-C2 high upcast

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | | | | | X | | | | | 53 | | | | 1 |
| 2 | | | 30 | ( | 2 hrs ?) | | | | | X | | | | | 52 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 51 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 50 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 49 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PMC2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | 56 | 33 | | 66 | | 160 | 02 | 69 | | 10 | Jun | 97 | 01 | 34 | | | | | | | | 30 | 78 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks (Stacks 3m)

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 26 | | | | | | | X | | | | | 57 | | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | 56 | | | | 2 |
| 3 | | | 10 | | | | | | | X | | | | | 55 | | | | 3 |
| 4 | | | 0 | | | | | | | X | | | | | 54 | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

54

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93 | 56 | 31.53 | | 159 | 60 | 10 | Jun | 97 | 02 | 07 | | | | | | | | | | | 22 | 79 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | Dom | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 18 | | | | | | | X | | | | | 60 | | | | 1 |
| 2 | | | 10 | | | | | | | X | | | | | 59 | | | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | 58 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PME2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 94 | 56 | 29 | 40 | 160 | 11 | 96 | 10 | Jun | 97 | 03 | 01 | | | | | | | | | 250 | 80T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | ellC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 23 | | | | | | | X | | | | 196 09401 | 63 | ✓ | ✓ | | 1 |
| 2 | | | 10 | | | | | | | X | | | | | 62 | ✓ | | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | 61 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PME3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95 | 56 | 31.47 | | 160 | 14.97 | 10 | Jun | 97 | 03 | 27 | | | | | | | | | | | 33 | 81 |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 30 | | | | | | | X | | | | 196 09501 | 67 | ✓ | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | 66 | | | | 2 |
| 3 | | | 10 | | | | | | | X | | | | | 65 | ✓ | | | 3 |
| 4 | | | 0 | | | | | | | X | | | | | 64 | ✓ | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PME4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96 | 56 | 33.53 | | 160 18.25 | | 105 | Jun | 97 | 03 | 56 | | | | | | | | | | 44 | 82 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | | | | | 72 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | 71 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 70 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 69 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 68 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMES |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 97 | 56 | 35.53 | | 160 21.37 | | 10 | Jun | 97 | 04 | 24 | | | | | | | | | | | 50 | 83 |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 47 | | | | | | | X | | | | HX196 09701 | 78 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 77 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 76 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 75 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 74 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 73 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PME 6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 | 56 | 37.64 | | 160 | 24.56 | 10 | Jun | 97 | 04 | 53 | | | | | | | | | | 57 | 84T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CFC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 53 | | | | | | | X | | | | | 84 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | 196 09802 | 83 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 82 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 81 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 80 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 79 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PME 7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99 | 56 | 39 | 72 | 160 | 27 65 | 10 | JUN | 97 | 05 | 22 | | | | | | | | | | 62 | 85 T |

| CTD | |
|---|---|
| Type & SN | Seabird 911+ |
| Press. SN | |
| Temp. SN | |
| Cond. SN | |

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 59 | | | | | | | X | | | | | 91 | ✓ | | | 1 |
| 2 | | | 50 | | | | | | | X | | | | H×196 09902 | 90 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 89 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 88 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 87 | ✓ | | | 5 |
| 6 | | | 10 | Not there in water | | | | | | X | | | | | 86 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 85 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMF9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 56 | 43.89 | | 160 | 33.95 | | 10 | Jun | 97 | 06 | 11 | | | | | | | | | | | 68 | 86 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |
| | |
| | diffs |

Remarks upcast cond way off for 0, 10, 20 m samples Big jelly over both cells?

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 65 | | | | | | | X | | | | 196 10001 | 98 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | | | | 97 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 96 | | | | 3 |
| 4 | | | 30 | | | | | | | | | | | | 95 | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 94 | | | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 93 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 92 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | PME11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 56 | 48 | 00 | 160 | 40 19 | 10 | JUN | 97 | 07 | 01 | | | | | | | | | | 66 | 87 T |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |

Remarks: Salinity in downcast above ~20 m. & upcast all levels

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 63 | | | | | | | X | | | | | 105 | ✓ | ✓ | | 1 |
| 2 | | | 50 | | | | | | | X | | | | 196 10102 | 104 | ✓ | | | 2 |
| 3 | | | 40 | | | | | | | X | | | | | 103 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 102 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | 101 | ✓ | | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | 100 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 99 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102 | | | | | | | | | | | | | | | | | | 52 | 89 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks: Deck Pods

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 103 | | | | | | | | | | | | | | | | | | 22 | |

CTD Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks Deck Pods

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 104 | | | | | | | | | | | | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B St | | |
| at Sparks D | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | | | | | | | | | | | | | | | | | | | | 89 |

CTD Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 106 | 56 | 52 | 09 | 160 | 31 | 42 | 11 | Jun | 97 | 20 | 34 | | | | | | | | | 68 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 63 | | | | | | | X | | | | 196 10601 | | | | | | 1 |
| 2 | | | 13 | | | | | | | X | | | | | | | | | | 2 |
| 3 | | | 13 | | | | | | | X | | | | | | | | | | 3 |
| 4 | | | 13 | | | | | | | X | | | | | | | | | | 4 |
| 5 | | | 13 | | | | | | | X | | | | | | | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | PMC11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | 56 | 52 | 20 | 160 | 31 04 | 11 | JUN | 97 | 20 | 55 | | | | | | | | | | 67 | 91 |

CTD
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Amendments

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 | | 40 | | | | | | | X | | | | | | | | | 1 |
| 2 | 10 | | 40 | | | | | | | X | | | | | | | | | 2 |
| 3 | 11 | | 40 | | | | | | | X | | | | | | | | | 3 |
| 4 | 12 | | 40 | | | | | | | X | | | | | | | | | 4 |
| 5 | 1 | | 25 | | | | | | | X | | | | | | | | | 5 |
| 6 | 2 | | ~~25~~ | or | | | | | | X | | | | | | | | | 6 |
| 7 | 3 | | ~~25~~ | ch | | | | | | X | | | | | | | | | 7 |
| 8 | 4 | | ~~25~~ | max | | | | | | X | | | | | | | | | 8 |
| 9 | 5 | | ~~20~~ | | | | | | | X | | | | | | | | | 9 |
| 10 | 6 | | 10 | | | | | | | X | | | | | | | | | 10 |
| 11 | 7 | | 5 | | | | | | | X | | | | | | | | | 11 |
| 12 | 8 | | 0 | | | | | | | | | | | | | | | | 12 |

Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | CNE11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 108 | 57 | 14 | 95 | 163 | 22 21 | 12 | Jun | 97 | 17 | 11 | | | | | | | | | | 59 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks Deck Prod water 30m/min

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 53 | | | | | | | X | | | | 196 | | | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | 10801 | | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 109 | 57 | 15.00 | | 163 | 22.20 | 12 | Jun | 97 | 17 | 33 | | | | | | | | | | 58 | 92 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks Deep Water 20m/min

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 53 | | | | | | | X | | | | | 111 | ✓ | ✓ | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 110 | ✓ | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 109 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 108 | ✓ | ✓ | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 107 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 106 | ✓ | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 57 | 19 | 72 | 163 | 17 16 | 12 | JUN | 97 | 18 | 29 | | | | | | | | | | 53 | 93 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | | 47 | | | | | | | X | | | | | 117 | ✓ | | | 1 |
| 2 | 6 | | 40 | | | | | | | X | | | | 196 11002 | 116 | ✓ | | | 2 |
| 3 | 7 | | 30 | | | | | | | X | | | | | 115 | ✓ | | | 3 |
| 4 | 8 | | 20 | | | | | | | X | | | | | 114 | ✓ | | | 4 |
| 5 | 9 | | 10 | | | | | | | X | | | | | 113 | ✓ | | | 5 |
| 6 | 10 | | 0 | | | | | | | X | | | | | 112 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

112

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 111 | 57 | 24.37 | | 163 12.19 | | 12 | Jun | 97 | 19 | 20 | | | | | | | | | | 52 | 94 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | | | | 196 11101 | 3 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | 2 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 1 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 119 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 118 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

118

Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | CNE6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 112 | 57 | 26.75 | | 163 | 09.36 | 12 | JUN | 97 | 19 | 54 | | | | | | | | | | | 95 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CFC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 49 | | | | | | | X | | | | 196 11201 | 9 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 8 | ✓ | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 7 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 6 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 5 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 4 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |



Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 113 | 57 | 29.17 | | 163 06.91 | | 12 | JUN | 97 | 20 | 28 | | | | | | | | | | 50 | 96 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

fluor below 10m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 47 | | | | | | | X | | | | 196 11301 | 15 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 14 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 13 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 12 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 11 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 10 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

14 ft Seachest

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 114 | 57 | 31 | | 38 | | 163 | 04 | 73 | 12 | JUN | 97 | 21 | 00 | | | | | | | | 50 | 97 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salin-ometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 48 | | | | | | | X | | | | | 21 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | 196 114 02 | 20 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 19 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 18 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 17 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 16 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

16

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 115 | 57 | 33.78 | | 163 | 02.03 | 125 | 4 | 97 | 21 | 33 | | | | | | | | | | 49 | 98 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CFC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 46 | | | | | | | X | | | | 196 11501 | 27 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 26 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 25 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 24 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 23 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 22 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Initials

65 Vr=5

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNC 2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 57 | 36.31 | | 162 | 59.35 | 12 | 04 | 97 | 22 | 05 | | | | | | | | | | 48 | 99 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | | | | 11601 | 33 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | | | | 32 | | | | 2 |
| 3 | | | 33 | | | | | | | X | | | | | 31 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 30 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 29 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 28 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNE 1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117 | 57 | 38.40 | | 162 | 57.20 | 12 | JUN | 97 | 22 | 35 | | | | | | | | | | 47 | 100 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 43 | | | | | | | X | | | | 11701 | 39 | | | | 1 |
| 2 | | | 35 | F Max | | | | | | X | | | | | 38 | ✓ | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | 37 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | 36 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | 35 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 34 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | CNEX1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 118 | 57 | 40 | 70 | 162 | 54 | 63 | | | | | | | | | | | | | | 45 | 101 |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 42 | | | | | | | X | | | | 196 11801 | 44 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | 43 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | 42 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | | | | 41 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 40 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNEX 2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 119 | 57 | 43.03 | | 162 | 52.09 | 12 | Jun | 97 | 23 | 39 | | | | | | | | 44 | 102 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | 196 11901 | 49 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | 48 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 47 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 46 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 45 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNLx3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 57 | 45.36 | | 162 | 49.60 | 13 | 04 | 97 | 00 | 09 | | | | | | | 46 | 103 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | 196 12001 | 54 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | 53 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | 52 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 51 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 50 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNFX4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 57 | 47.66 | | 162 | 47.12 | 13 | JUN | 97 | 00 | | | | | | | | | 46 | 104 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Start | | |
| at Start | | |
| Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 43 | | | | | | | X | 196 12101 | 60 | | | | 1 |
| 2 | | | ~~[illegible]~~ | | | | | | | X | | ~~[illegible]~~ | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 58 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 58 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 57 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 56 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

55

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNEx6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 122 | 57 | 52 | 28 | 162 | 42 01 | 13 | JUN | 97 | 01 | 31 | | | | | | | | 43 | 105 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CHL | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | | | | | X | 196 12201 | 63 | ✓ | ✓ | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | | 3 |
| 4 | | | 20 | | | | | | | X | | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | 62 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | | 10 |
| 11 | | | 0 | | | | | | | X | | 61 | ✓ | ✓ | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCX8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 123 | 58 | 00 | 04 | 162 | 47.57 | 13 | JUN | 97 | | | | | | | | | | 41 | 106 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 38 | | | | | | | X | 196 12301 | 68 | | | | 1 |
| 2 | | | 30 | | | | | | | X | | 67 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 66 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | 65 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 64 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Terry's bottle (40)m ____ (>69 chl ✓ Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNCX 6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 124 | 57 | 55.47 | | 162 | 52.57 | 13 | JUN | 97 | | 03 | 41 | | | | | | | 43 | 107 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Surface | | |

Remarks highest f below 30 highest at bot

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 42 | | | | | | | X | | 74 | | | | 1 |
| 2 | | | 30 | | | | | | | X | 196 12402 | 73 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 72 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | 71 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 70 | | | | 5 |
| 6 | | | Terry | | | | | | | X | | 75 | chl | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNC x4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125 | 57 | 50.78 | | 162 | 57.62 | 13 | 04 | 97 | 04 | 26 | | | | | | | | 42 | 108 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | | 80 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | 196 1250A | 79 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | 78 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 77 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | 76 | ✓ | | | 5 |
| 6 | | | Terry | | | | | | | X | | 81 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCx 2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 126 | 57 | 46.21 | | 163 | 02.57 | | 13 | JUN | 97 | | 05 | 11 | | | | | | | | 45 | 109 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Sample | | |
| at Surface | | |
| Data | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 42 | | | | | | | X | | 86 | | | | 1 |
| 2 | | | 30 | | | | | | | X | 196 12602 | 85 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 84 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | 83 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 82 | | | | 5 |
| 6 | | | TB | | | | | | | X | | 87 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CN C1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 127 | 57 | 41.57 | | 163 | 07.57 | 13 | Jun | 97 | | 06 | 11 | | | | | | | | 46 | 110 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | | 92 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | 196 12702 | 91 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | 90 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | 89 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 88 | ✓ | | | 5 |
| 6 | | | TB | | | | | | | X | | 93 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNC3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sea St. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 128 | 57 | 36.94 | | 163 | 12.54 | | 13 | Jun | 97 | | 06 | 58 | | | | | | | 47 | 111 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | 196 12801 | 98 | | | | 1 |
| 2 | | | 30 | | | | | | | X | | 97 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 96 | | | | 3 |
| 4 | | | 10 | | | | | | | X | | 95 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 94 | | | | 5 |
| 6 | | | TB | | | | | | | X | | 99 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNC5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 129 | 57 | 32.20 | | 163 | 17.62 | 1 | 30 | Jun | 97 | 07 | 44 | | | | | | | | 49 | 112 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CHC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 45 | | | | | | | X | 196 12901 | 104 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | 103 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 102 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 101 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 100 | ✓ | | | 5 |
| 6 | | | TB | | | | | | | X | | 105 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

100

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNC7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 130 | 57 | 27 | | 5 | 53 | | 16 | 32 | 27 | 2 | 13 | Jun | 97 | 08 | 36 | | | | | 51 | 113 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 48 | | | | | | | X | 196 13001 | 111 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 110 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 109 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 108 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 107 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 106 | | | | 6 |
| 7 | | | TB | | | | | | | X | | 112 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

106

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNC9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 131 | 57 | 22.93 | | 163 | 27.69 | 13 | Jun | 97 | 09 | 29 | | | | | | | 53 | 114 |

CTD Type & SN Seabird 9114

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CFC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 51 | | | | | | | X | 196 13101 | 118 | ✓ | | | 1 |
| 2 | | | 40 | | | | | | | X | | 116 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 115 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 114 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | 113 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 120 | ✓ | | | 6 |
| 7 | | | TB | | | | | | | X | | 119 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |



Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNCU |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 132 | 57 | 18 | 20 | 163 | 32 | 77 | 13 | JUN | 97 | | 10 | 25 | | | | | | | | 59 | 115 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 57 | | | | | | | X | 196 13201 | 7 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 6 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | 5 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | 4 | | | | 4 |
| 5 | | | 20 | | | | | | | X | | 3 | | | | 5 |
| 6 | | | 10 | | | | | | | X | | 2 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 1 | | | | 7 |
| 8 | | | TB | | | | | | | X | | 8 | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNC13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 133 | 57 | 11 | | 32 | 163 | 40 | 03 | | 13 | JUN | 97 | 11 | 38 | | | | | | 65 | 116 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 62 | | | | | | | X | 196 13301 | 15 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 14 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | 13 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | 12 | | | | 4 |
| 5 | | | 20 | | | | | | | X | | 11 | | | | 5 |
| 6 | | | 10 | | | | | | | X | | 10 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 9 | | | | 7 |
| 8 | | | TB | | | | | | | X | | 16 | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNC14 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 134 | 57 | 06.68 | | 163 | 44.93 | 13 | JUN | 97 | | 12 | 35 | | | | | | | 68 | 117 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Surface | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 65 | | | | | | | X | 196 13401 | 23 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 22 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | 21 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | 20 | | | | 4 |
| 5 | | | 20 | | | | | | | X | | 19 | | | | 5 |
| 6 | | | 10 | | | | | | | X | | 18 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 17 | No kip | | | 7 |
| 8 | | | TB | | | | | | | X | | 24 | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

17

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNC14 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 135 | 57 | 06 | 67 | 163 | 45 | 14 | 13 | Jun | 97 | | 13 | 04 | | | | | | | 68 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks: Prods

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 35 | | | | | | | X | | | | | | 1 |
| 2 | | | 35 | | | | | | | X | | | | | | 2 |
| 3 | | | 35 | | | | | | | X | | | | | | 3 |
| 4 | | | 35 | | | | | | | X | | | | | | 4 |
| 5 | | | 35 | | | | | | | X | | | | | | 5 |
| 6 | | | 35 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | | 10 |
| 11 | | | 0 | | | | | | | X | | | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNC14 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 136 | 57 | 06 | 74 | 163 | 45.27 | W | 13 | 04 | 97 | | 13 | 32 | | | | | | | 67 | 117 |

**CTD**
Type & SN Seabird 9114
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks $^{15}N$ HPLC Chl.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 65 | | | | | | | X | | | | | | 1 |
| 2 | | | 65 | | | | | | | X | | | | | | 2 |
| 3 | | | 65 | | | | | | | X | | | | | | 3 |
| 4 | | | 65 | | | | | | | X | | | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis | Vis | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 137 | | | | | | | | | | | | | | | | | | |

CTD
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNCx17 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 137 | 58 | 37 56 | | 162 | 07 P5 | 14 | Jun | 97 | | 08 | 11 | | | | | | | 33 | 123 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks Cape Newenham

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 33 | | | | | | | X | 196 13701 | 4 | ✓ | | | 1 |
| 2 | | | 20 | | | | | | | X | | 3 | ✓ | | | 2 |
| 3 | | | 10 | | | | | | | X | | 2 | ✓ | | | 3 |
| 4 | | | 0 | | | | | | | X | | 1 | ✓ | | | 4 |
| 5 | | | TB | | | | | | | X | | 5 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNCX16 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea St. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138 | 58 | 32.77 | | 162 | 12.36 | 14 | JUN | 97 | 09 | 05 | | | | | | | 42 | 124 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | 196 13801 | | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | 6 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCX15 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 139 | 58 | 28 | 09 | 162 | 17 | 59 | 14 | Jun | 97 | 09 | 54 | | | | | | 46 | 125 |

CTD Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | 139 01 | 10 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | 9 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | 8 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 7 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | 6 | ✓ | | | 5 |
| 6 | | | TB | | | | | | | X | | 11 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNCX 14 |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea St. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140 | 58 | 23 | 44 | 162 | 247 | 14 | Jun | 97 | 10 | 42 | | | | | | | 37 | 126 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Cfc | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 35 | | | | | | | X | | | ✓ | | | 1 |
| 2 | | | 20 | | | | | | | X | 196 14002 | | ✓ | | | 2 |
| 3 | | | 10 | | | | | | | X | | | ✓ | | | 3 |
| 4 | | | 0 | | | | | | | X | | | ✓ | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

12

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNCx13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 58 | 18 | 86 | 162 | 27 | 43 | 14 | Jun | 97 | 11 | 29 | | | | | | 31 | 127 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at End | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CTD | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 30 | | | | | | | X | | 15 | ✓ | | | 1 |
| 2 | | | 20 | | | | | | | X | | 14 | ✓ | | | 2 |
| 3 | | | 10 | | | | | | | X | | 13 | ✓ | | | 3 |
| 4 | | | 0 | | | | | | | X | | 12 | ✓ | | | 4 |
| 5 | | | TB | | | | | | | X | | 16 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCX 12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 142 | 58 | 14 | 17 | 162 | 32 | 41 | 14 | Jun | 97 | 12 | 14 | | | | | | 36 | 128 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 33 | | | | | | | X | 196 14201 | | | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | | 2 |
| 3 | | | 10 | | | | | | | X | | | | | | 3 |
| 4 | | | 0 | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCX11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143 | 58 | 09.30 | | 162 | 37.30 | 14 | Jun | 97 | | 1302 | | | | | | | | | 38 | 129 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nots. Bottle | Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 37 | | | | | | | X | | 25 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | 20 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 15 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 12 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | ~~25~~ | didn't get | | | 5 |
| 6 | | | TB | | | | | | | X | | 28 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCx10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45 | 04.82 | | 124 | 52 | 14 | Jun | 97 | 13 | 46 | | | | | | | 38 | |

CTD
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | CTD | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 36 | | | | | | | X | 196 14401 | | ✓ | | | | 1 |
| 2 | | | 30 | | | | | | | X | | | ✓ | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | ✓ | | | | 3 |
| 4 | | | 10 | | | | | | | X | | | ✓ | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | ✓ | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCSON |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 145 | 58 | 09 | 36 | 162 | 37 | 14 | JUN | 97 | 19 | 03 | | | | | | | | |

CTD Type & SN Seabird 9plus

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks Deck Peels 7

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNCX 41 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 146 | 58 | 09 | 37 | 162 | 37 | 47 | | 14 | JUN | 97 | 19 | 25 | | | | | | 131 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks 5 at Surface - Dean?

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNEX6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 147 | 57 | 52 | | 37 | | 162 | 42 | 02 | 15 | June | 97 | 1507 | | | | | | | 45 |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | 196 14701 | 5 | ✓ | | | | 1 |
| 2 | | | 30 | | | | | | | X | | 4 | ✓ | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 3 | ✓ | | | | 3 |
| 4 | | | 10 | | | | | | | X | | 2 | ✓ | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 1 | ✓ | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNEX8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea St. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 148 | 57 | 56.93 | | 162 | 36.97 | 15 | Jun | 97 | 15 | 49 | | | | | | | 42 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 37 | | | | | | | X | 196 14801 | | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNEX10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 149 | 58 | 16.6 | N | 162 31.95 | W | 15 | 06 | 97 | 16 | 31 | | | | | | | 40 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Stop | | |

Remarks 3 at 20m, 3 at 0 } for Steve prod.

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8 | | | 36 | | | | | | X | 196 149-01 | 9 | ✓ | | | 1 |
| 2 | 9 | | | 20 | | | | | | X | | 8 | ✓ | | | 2 |
| 3 | 10 | | | 20 | | | | | | X | | | | | | 3 |
| 4 | 11 | | | 20 | | | | | | X | | | | | | 4 |
| 5 | 12 | | | 20 | | | | | | X | | | | | | 5 |
| 6 | 1 | | | 10 | | | | | | X | | 7 | ✓ | | | 6 |
| 7 | 2 | | | 0 | | | | | | X | | 6 | ✓ | | | 7 |
| 8 | 3 | | | 0 | | | | | | X | | | | | | 8 |
| 9 | 4 | | | 0 | | | | | | X | | | | | | 9 |
| 10 | 5 | | | 0 | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNEX11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 58 | 06.29 | N | 162 | 27.01 | W | 15 | JUN | 97 | 17 | 19 | | | | | | 40 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Start Remarks | | |
| at Start D | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | | 33 | | | | | | | X | 196 150-01 | | ✓ | | | 1 |
| 2 | 7 | | 20 | | | | | | | X | | | ✓ | | | 2 |
| 3 | 8 | | 10 | | | | | | | X | | | ✓ | | | 3 |
| 4 | 9 | | 0 | | | | | | | X | | | ✓ | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNEX 12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 151 | 58 | 10.99 | N | 162 22.01 | W | 15 | JUN | 97 | 17 | 59 | | | | | | | | 35 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 31 | | | | | | | X | 196 151-01 | 13 | ✓ | | | 1 |
| 2 | 11 | | 20 | | | | | | | X | | 12 | ✓ | | | 2 |
| 3 | 12 | | 10 | | | | | | | X | | 11 | ✓ | | | 3 |
| 4 | 1 | | 0 | | | | | | | X | | 10 | ✓ | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | CNEY13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 152 | 58 | 15.73 | N | 162 | 17.03 | 15 | 6 | 97 | 18 | 40 | | | | | | | | 35 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CHR | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 31 | | | | | | | X | 1962-152-01 | | ✓ | | | | 1 |
| 2 | 3 | | 20 | | | | | | | X | | | ✓ | | | | 2 |
| 3 | 4 | | 10 | | | | | | | X | | | ✓ | | | | 3 |
| 4 | 5 | | 0 | | | | | | | X | | | ✓ | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNEX14 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 153 | 58 | 20 | 30 | N | 162 | 12 | 07 | W | 15 | JUN | 97 | 19 | 20 | | | | | 46 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | | 42 | | | | | | | X | | 18 | | | | 1 |
| 2 | 7 | | 30 | | | | | | | X | 196 153-02 | 17 | | | | 2 |
| 3 | 8 | | 20 | | | | | | | X | | 16 | | | | 3 |
| 4 | 9 | | 10 | | | | | | | X | 196 153-04 | 15 | | | | 4 |
| 5 | 10 | | 0 | | | | | | | X | | 14 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNEX 15 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 154 | 58 | 25 | 04 N | 162 | 692 W | 15 | JUN | 97 | 20 | 02 | | | | | | | | 46 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11 | | 44.5 | | | | | | | X | 196 154.01 | | ✓ | | | 1 |
| 2 | 12 | | 30.8 | | | | | | | X | | | ✓ | | | 2 |
| 3 | 1 | | 20.8 | | | | | | | X | | | ✓ | | | 3 |
| 4 | 2 | | 10.8 | | | | | | | X | | | ✓ | | | 4 |
| 5 | 3 | | 1.0 | | | | | | | X | | | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | CNEX8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 155 | 57 | 56.85 | | 162369 | | 16 | Jun | 97 | | 03 | 01 | | | | | | | | 42 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks: Pods

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 38 | | | | | | | X | 196 | | | | | 1 |
| 2 | 5 | | 19 | | | | | | | X | 15501 | | | | | 2 |
| 3 | 6 | | 19 | | | | | | | X | | | | | | 3 |
| 4 | 7 | | 19 | | | | | | | X | | | | | | 4 |
| 5 | 8 | | 0 | | | | | | | X | | | | | | 5 |
| 6 | 9 | | 0 | | | | | | | X | | | | | | 6 |
| 7 | 10 | | 0 | | | | | | | X | | | | | | 7 |
| 8 | 11 | | | | | | | | | X | | | | | | 8 |
| 9 | 12 | | | | | | | | | X | | | | | | 9 |
| 10 | 1 | | | | | | | | | X | | | | | | 10 |
| 11 | 2 | | | | | | | | | X | | | | | | 11 |
| 12 | 3 | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIEX12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 156 | 59 | 21 | 22 | 167 | 18.81 | | 17 | 04 | 97 | | 04 | 12 | | | | | | | 32 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | Ship shaded PAR | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 29 | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIEx13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 157 | 59 | 25 | | 167 | 13 | 58 | 17 | JUN | 97 | 04 | 49 | | | | | | 30 | |

**CTD**
Type & SN Sealand 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | Ship shaded PAR | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 25 | | | | | | | X | 196 | | | | | 1 |
| | | | | | | | | | | | 15701 | | | | | |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.I | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIE X11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158 | 59 | 16 | 48 | 167 | 23 | 17 | JUN | 97 | 06 | 00 | | | | | | | | 36 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks: Ship shaded PAR

| Pos. | Bot. | T Rack | Trip Depth | Time @ Dept | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 31 | | | | | | | X | 158 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIEXID |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 159 | 59 | 11.84 | | 167 29.08 | | 17 | Jun | 97 | | 06 | 36 | | | | | | | 39 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 345 | | | | | | | X | 159 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Darkir Front I | | | NIEX 8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 160 | 59 | 07 | 16 | 167 | 34 29 | 17 | JUN | 97 | | 07 | 14 | | | | | | | 41 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 37 | | | | | | | X | 160 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIEX6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 161 | 59 | 02.41 | | 167 | 39.52 | 17 | Jun | 97 | | 07 | 52 | | | | | | | 41 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 39 | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N1Ex4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 162 | 58 | 57 | 91 | 167 | 44 | 42 | 17 | JUN | 97 | 08 | 27 | | | | | | 42 | |

CTD Type & SN Sealed 9114

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nutr. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | 162 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIEx2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 163 | 58 | 53.16 | | 167 | 49.84 | 17 | Jun | 97 | | 09 | 06 | | | | | | | 42 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | | | | | X | 163 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIEI |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 164 | 58 | 48 | 49 | 167 | 54 | 94 | 17 | Jun | 97 | 09 | 44 | | | | | | | 43 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 42 | | | | | | | X | 164 01 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Initials

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIE3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 165 | 58 | 43 | 76 | 168 | 00 | 19 | 17 | Jun | 97 | 10 | 22 | | | | | | | | 47 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Data Location | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 45 | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIES |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 166 | 58 | 39.15 | | 168 | 05.31 | 17 | Jun | 97 | 11 | 01 | | | | | | | 50 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 49 | | | | | | | X | 196 | | | | | 1 |
| 2 | | | | | | | | | | X | 16601 | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIE6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 167 | 58 | 36.82 | | 168 | 07.93 | 17 | Jun | 97 | 11 | 25 | | | | | | | 51 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondi hand) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 50 | | | | | | | X | 167 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NE7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 168 | 58 | 34 | 55 | 168 | 034 | 17 | Jun | 97 | 11 | 47 | | | | | | | | 53 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 52 | | | | | | | X | 168 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIE9 |

| Consec. Cast # | Latitude Deg. Min. | N or S | Longitude Deg. | E or W | Date JD = Day Mo. Yr. | Time GMT Hr. Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 169 | 58 29 81 | | 168 15 58 | | 17 Jun 97 | 12 29 | | | | | | | 59 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen Hd) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 57 | | | | | | | X | 169 01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

4.70

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NLE11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 170 | 58 | 25.17 | | 168 | 20.77 | 17 | Jun | 94 | | 1310 | | | | | | | | 62 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Nuts. Bottle | Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 60 | | | | | | | X | 170 01 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N1D11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sis | Vis | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 171 | 58 | 26 | S | 168 | 26 | W | 17 | Jun | 97 | | 13 | 38 | | | | | | | | | |

**CTD**
Type & SN Seabird 9114
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | | | | | | | X | 196 17101 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NB9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 172 | 58 | 31.50 | | 168 | 21.09 | 17 | JUN | 97 | | 14 | 19 | | | | | | | 59 | |

CTD Type & SN Sealed 911

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 54 | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N107 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | 58 | 36.14 | | 168 | 15.94 | 17 | 04 | 97 | 14 | 58 | | | | | | | 53 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B St | | |
| at S D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 47 | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NB6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis | Vis | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 174 | 58 | 38.47 | | 168 | 13.48 | 17 | Jun | 97 | 15 | 22 | | | | | | | 52 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 47 | | | | | | | X | 196 17401 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N105 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sis | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 58 | 40 | 80 | 168 | 10 | 69 | 17 | JUN | 97 | | 1547 | | | | | | | | 50 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B Sc | | |
| at S D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 46 | | | | | | | X | 196 17501 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N103 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 176 | 58 | 45.45 | | 168 | 05.64 | 17 | JUN | 97 | 16 | 26 | | | | | | | 47 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 43 | | | | | | | X | 196 17601 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1D2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 177 | 58 | 47.84 | | 168 | 03.13 | 17 | Jun | 97 | 16 | 55 | | | | | | | 46 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | | | | | X | 196 17701 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIC1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 178 | 58 | 51.72 | | 168 | 58.1 | 17 | JUN | 97 | 17 | 29 | | | | | | | 45 | |

CTD Type & SN Sealaid 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks: 178 — didn't "start" NO

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | X | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Junior Front 1 | | | NIC 2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 189 | 58 | 49.40 | | 168 | 08.50 | 17 | Jun | 97 | 17 | 55 | | | | | | | 45 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at End | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Depth @ Trip | Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | | | | X | 180 01 | | | | | 1 |
| 2 | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIC 3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 58 | 47.04 | | 168 | 11.09 | 17 | JUN | 97 | 18 | 17 | | | | | | | 47 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 42 | | | | | | | X | 196 18101 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front 1 | | | N1C4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 8 2 | 5 8 4 4 | 7 5 | | 1 6 8 1 3 | 4 9 | 1 7 | JUN | 9 7 | 1 8 | 3 9 | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 44 | | | | | | | X | 196 18201 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NICS |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 183 | 58 | 42.34 | | 268 | 16.36 | 17 | Jun | 97 | 19 | 05 | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 4 | | | | | | | X | 196 18301 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | NIC 6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 184 | 58 | 40.09 | | 168 | 18.76 | 17 | JUN | 97 | 19 | 28 | | | | | | | 51 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks: Next to surface mooring

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen Hd) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 46 | | | | | | | X | 196 18401 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIC 7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 185 | 58 | 37.76 | | 168 | 41.1 | 17 | JUN | 97 | 19 | 53 | | | | | | | 53 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 51 | | | | | | X | 196 18501 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIC 8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 186 | 58 | 35.43 | | 168 | 23.85 | 17 | JUN | 97 | 20 | 20 | 0 | | | | | | | 55 | |

CTD Type & SN Sealed 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 53 | | | | | | | X | 196 18601 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1C9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 187 | 58 | 33.10 | | 168 | 29.42 | 17 | JUN | 97 | 20 | 52 | | | | | | | 58 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Dep | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 57 | | | | | | | X | 196 18701 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N1C10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 188 | 58 | 30.8 | 3 | 168 | 29.31 | 17 | JUN | 97 | 21 | 16 | | | | | | | 61 | |

CTD Type & SN Sealed 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 59 | | | | | | X | 18801 | | | | | 1 |
| 2 | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NLC10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 189 | 58 | 28.47 | | 168 | 31.85 | | 17 | JUN | 97 | | 21 | 41 | | | | | | | 63 | |

CTD Type & SN Sealed 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B Stop | | |
| at D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | | | | | | | X | 18901 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

0 10 20 30 40 50 60
0 20
0 20

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1C12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 190 | | | | | | 17 | JUN | 97 | | | | | | | | | | 64 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CFC | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 60 | | | | | | X | 19001 | 25 | ✓ | | | | 1 |
| 2 | | | | 50 | | | | | | X | | 24 | ✓ | | | | 2 |
| 3 | | | | 40 | | | | | | X | | 23 | ✓ | | | | 3 |
| 4 | | | | 30 | | | | | | X | | 22 | ✓ | | | | 4 |
| 5 | | | | 20 | | | | | | X | | 21 | ✓ | | | | 5 |
| 6 | | | | 10 | | | | | | X | | 20 | ✓ | | | | 6 |
| 7 | | | | 0 | | | | | | X | | 19 | ✓ | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Initials

35 0

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N1 C12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 45 | 26 | N | 168 | 35.06 | W | 17 | Jun | 97 | | 22 | 24 | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks: Prod, N15

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 35 | | | | | | | X | | | | | | 1 |
| 2 | | | 35 | | | | | | | X | | | | | | 2 |
| 3 | | | 35 | | | | | | | X | | | | | | 3 |
| 4 | | | 35 | | | | | | | X | | | | | | 4 |
| 5 | | | 35 | | | | | | | X | | | | | | 5 |
| 6 | | | 35 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | | 10 |
| 11 | | | 0 | | | | | | | X | | | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NICI2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis | Vis | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 192 | 58 | 26.35 | | 168 | 34.48 | 17 | Jun | 97 | 22 | 57 | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

N15 Monterey

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 30 | | | | | | | X | | | | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIB11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 193 | 58 | 30 | N | 168 | 37 | 20 | 17 | JUN | 95 | | 23 | 30 | | | | | | | 63 | |

CTD Type & SN Sealed 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11 | | 61.1 | | | | | | | X | 19619301 | | 1 |
| 2 | | | | | | | | | | X | | | 2 |
| 3 | | | | | | | | | | X | | | 3 |
| 4 | | | | | | | | | | X | | | 4 |
| 5 | | | | | | | | | | X | | | 5 |
| 6 | | | | | | | | | | X | | | 6 |
| 7 | | | | | | | | | | X | | | 7 |
| 8 | | | | | | | | | | X | | | 8 |
| 9 | | | | | | | | | | X | | | 9 |
| 10 | | | | | | | | | | X | | | 10 |
| 11 | | | | | | | | | | X | | | 11 |
| 12 | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NJ89 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 194 | 58 | 34.4 | N | 168 | W | 18 | JUN | 97 | | 00 | 12 | | | | | | | 59 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | | 57.8 | | | | | | | X | 19619401 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N1B4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 195 | 58 | 39 | 35 | 168 | 25 | 75 | W | 18 | 7 | 4 | 1997 | 00 | 52 | | | | | 53 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 51.9 | | | | | | | X | 961950 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | 51 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 196 | 58 | 41.74 | N | 168 24.13 | W | 18 | JUN | 97 | 01 | 15 | | | | | | | | | |

CTD
Type & SN Sealived 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 49.7 | | | | | | | X | 196 | 196 | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | 1/B5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 197 | 58 | 44.05 | N | 168 | 51 | W | 18 | 04 | 99 | 07 | 01 | 40 | | | | | 50 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Nuts. Bottle | Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | | 48.1 | | | | | | | X | 1961970 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | N1153 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 198 | 58 | 48 | 71 N | 168 | 38 W | 18 | 5 | 97 | | 02 | 17 | | | | | | | 48 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at End | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 42 | | | | | | | X | 196 198-01 | | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sanir Front I | | | NIB2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 199 | 58 | 51 | 07 N | 168 | 13 | 79 W | 18 | JUN | 97 | 02 | 39 | | | | | | | 47 | |

CTD Type & SN Sealaved 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | | 43 | | | | | | | X | 196 199-01 | | | | | 1 |
| 2 | | | | | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIA3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | SS | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 58 | 50 | 34 N | 168 | 21 72 W | 18 | JUN | 97 | 03 | 11 | | | | | | | 48 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | | 43 | | | | | | | X | HX196 200-01 | 28 | | | | 1 |
| 2 | 7 | | 35 | | | | | | | X | | 27 | | | | 2 |
| 3 | 8 | | Ø | | | | | | | X | | 26 | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1A5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 201 | 58 | 45 | 63 N | 168 | 26 | 97 W | 18 | JUN | 97 | 03 | 53 | | | | | | | 51 | |

CTD Type & SN Seabird 9114

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10 | | 47 | | | | | | | X | HY196 201-01 | 31 | | | | 1 |
| 2 | 11 | | 38 | | | | | | | X | | 30 | | | | 2 |
| 3 | 12 | | Ø | | | | | | | X | | 29 | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1A6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 202 | 58 | 43 | 31 N | 168 | 29 40 W | 18 | JUN | 97 | 04 | 18 | | | | | | | 52 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | 48 | | | | | | | X | +1X196 202-01 | 34 | | | | | 1 |
| 2 | 2 | | 30 | | | | | | | X | | 33 | | | | | 2 |
| 3 | 3 | | Ø | | | | | | | X | | 32 | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| 203 | Alpha Helix | Inner Front 1 | | | A1A7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 203 | 58 | 40.97 | N | 168 | 31.96 | W | 18 | JUN | 97 | 04 | 43 | | | | | | 54 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 50 | | | | | | | X | HY196 203-01 | 37 | | | | 1 |
| 2 | 5 | | 35 | | | | | | | X | | 36 | | | | 2 |
| 3 | 6 | | 0 | | | | | | | X | | 35 | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIA 9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204 | 58 | 36.31 | | 168 | 37.35 | 18 | JUN | 97 | 05 | 23 | | | | | | | | 59 | |

CTD Type & SN Sealved 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at B | | |
| at D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 54 | | | | | | | X | 20401 | 40 | | | | 1 |
| 2 | | | 27 | | | | | | | X | | 39 | | | | 2 |
| 3 | | | 0 | | | | | | | X | | 38 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1A11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 205 | 58 | 31.60 | | 168 | 42.53 | 18 | 04 | 97 | 06 | 03 | | | | | | | 64 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Surface | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 57 | | | | | | | X | 196 20501 | 43 | | | | 1 |
| 2 | | | 37 | | | | | | | X | | 42 | | | | 2 |
| 3 | | | 0 | | | | | | | X | | 41 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| 206 | Alpha Helix | Inner Front 1 | | | N1A12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 206 | 58 | 29 | 35 | 167 | 45 | 09 | 18 | Jun | 97 | 06 | 25 | | | | | | | 65 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | | | | | | | X | 196 206 01 | 46 | | | | 1 |
| 2 | | | 43 | (Dum use) | | | | | | X | | | | | | 2 |
| 3 | | | 39 | | | | | | | X | | 45 | | | | 3 |
| 4 | | | 0 | | | | | | | X | | 44 | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NIAB |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 207 | 58 | 24.60 | | 168 | 54.40 | 18 | Jul | 97 | 07 | 06 | | | | | | | 67 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | | | | | | | X | 196 20701 | 49 | | | | 1 |
| 2 | | | 34 | | | | | | | X | | 48 | | | | 2 |
| 3 | | | 0 | | | | | | | X | | 47 | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1A14 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea St. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 208 | 58 | 20 | 0 | 168 | 55 | 18 | JUN | 97 | | 07 | 45 | | | | | | | 68 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 66 | | | | | | | X | 196 20801 | 52 | | | | 1 |
| 2 | | | 27 | | | | | | | X | | 51 | | | | 2 |
| 3 | | | 0 | | | | | | | X | | 50 | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | NIA7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 209 | 58 | 40 | N | 168 | 32 | 25 | W | 18 | JUN | 97 | 19 | 34 | | | | | | 54 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks prod

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 30 | | | | | | | X | | | | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | | 4 |
| 5 | | | Ø | | | | | | | X | | | | | | 5 |
| 6 | | | Ø | | | | | | | X | | | | | | 6 |
| 7 | | | Ø | | | | | | | X | | | | | | 7 |
| 8 | | | Ø | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

3 at 10 4 at 25 4 sfc

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NICX16 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 210 | 59 | 43 | 07 | 167 | 08 | 19 | Jun | 97 | | 14 | 04 | | | | | | | 32 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Start ____ CHL NIS for Bean

Remarks: Prod S // N ultracline b, Fmax, top unhl C1 then 10m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. | | Bottle | Bottle | CHL | 15N prod | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 25 | | | | | | | X | DOM | ✓ | | | | 1 |
| 2 | | | 25 | | | | | | | X | | ✓ | ✓ | | | 2 |
| 3 | | | 25 | | | | | | | X | | ✓ | d HPLC | | | 3 |
| 4 | | | 25 | | | | | | | X | | 3 | 3 | | | 4 |
| 5 | | | 10 | | | | | | | X | | | | | ✓ | 5 |
| 6 | | | 10 | | | | | | | X | | | | | ✓ | 6 |
| 7 | | | 10 | | | | | | | X | DOM | 2 | 2 | | ✓ | 7 |
| 8 | | | 0 | | | | | | | X | DOM | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | ✓ | | | 9 |
| 10 | | | 0 | | | | | | | X | | | d HPLC | | | 10 |
| 11 | | | 0 | | | | | | | X | | 1 | 1 | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

d DOM at each level

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NICX14 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 211 | 58 | 33.73 | | 167 | 19.22 | 19 | JUN | 97 | | 15 | 33 | | | | | | | 31 | |

CTD Type & SN Sealed 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl. | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 26 | (Fmax) | | | | | | X | 196 21101 | 6 | ✓ | DOM | | 1 |
| 2 | | | 15 | | | | | | | X | | 5 | ✓ | DOM | | 2 |
| 3 | | | 0 | | | | | | | X | | 4 | ✓ | DOM | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NICX13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 212 | 59 | 29 | 04 | 167 | 24.35 | 19 | Jun | 97 | | 16 | 19 | | | | | | | 31 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | Dom | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 26 | | | | | | | X | 196 21201 | 9 | ✓ | ✓ | | 1 |
| 2 | | | 15 | | | | | | | X | | 8 | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 7 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NICX 12 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 213 | 59 | 24 | 35 | 116 | 29 | 54 | 19 | Jun | 97 | 17 | 04 | | | | | | | 33 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | Dom | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 29 | | | | | | | X | 196 21301 | 12 | ✓ | ✓ | | 1 |
| 2 | | | 15 | | | | | | | X | | 11 | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 10 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1CX11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 45 | 19.69 | | 167 | 34.70 | 19 | Jun | 97 | 17 | 49 | | | | | | | 37 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Nuts. Bottle | Chl | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 32 | | | | | | | X | 196 21401 | 15 | ✓ | ✓ | | 1 |
| 2 | | | 20 | | | | | | | X | | 14 | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 13 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NICX10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 215 | 59 | 15.07 | | 167 | 39.91 | 19 | Jun | 97 | 18 | 35 | | | | | | | 40 | |

CTD Type & SN Seabird 9114

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | Dom | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 36 | | | | | | | X | 21501 | 18 | ✓ | ✓ | | 1 |
| 2 | | | 26 | | | | | | | X | | 17 | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 16 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NICX8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 65 | 10.40 | | 167 | 45.14 | 19 | Jun | 97 | 198 | | | | | | | | | | 41 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 35 | | | | | | | X | 196 21601 | 21 | ✓ | ✓ | | 1 |
| 2 | | | 25 | | | | | | | X | | 20 | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 19 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

0 10 20 30

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | NC46 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 217 | 59 | 05 | 66 | 167 | 50 | 37 | 19 | JUN | 97 | 20 | 03 | | | | | | | 41 | |

**CTD**

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks: prods

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | Dom | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 40 | | | | | | | X | 196 21701 | 24 | ✓ | | | 1 |
| 2 | | | 28 | | | | | | | X | | | | | | 2 |
| 3 | | | 28 | | | | | | | X | | | | | | 3 |
| 4 | | | 28 | | | | | | | X | | 22 | | | | 4 |
| 5 | | | 28 | | | | | | | X | | 23 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 22 | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | 22 | ✓ | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NICY 10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 218 | 59 | 05.74 | | 167 | 50.72 | 19 | Jun | 97 | 20 | 26 | | | | | | | 41 | |

**CTD**

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks: In Situ match

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 30 | | | | | | | X | | | | | | 1 |
| 2 | | | 20 | | | | | | | X | | | | | | 2 |
| 3 | | | 10 | | | | | | | X | | | | | | 3 |
| 4 | | | 0 | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

18

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | NICX4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea Sta. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21901 | 08 | | | 167 | 55.54 | 19 | JUN | 97 | 22 | 32 | | | | | | | | 42 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 39 | | | | | | | X | 196 21901 | 27 | ✓ | ✓ | | 1 |
| 2 | | | 27 | | | | | | | X | | 26 | – | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 25 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NICX2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 220 | 58 | 56.37 | | 168 | 00.82 | 19 | Jun | 97 | 23 | 16 | | | | | | | 42 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen Shot) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | | | | | X | 196 22001 | 30 | ✓ | ✓ | | 1 |
| 2 | | | 27 | | | | | | | X | | 29 | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | 28 | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ___ of ___

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | 8/16 | NIC 1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 15 | 85 | 179 | 168 | 093 | 29 | Jun | 97 | | 0001 | | | | | | | | | 44 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen hd) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Nuts. Bottle | Chl | DOM(3) | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 42 | | | | | | | X | 196 22101 | 35 | ✓ | ✓ | | 1 |
| 2 | | | 30 | | | | | | | X | | 34 | ✓ | | | 2 |
| 3 | | | 20 | | | | | | | X | | 33 | ✓ | ✓ | | 3 |
| 4 | | | 10 | | | | | | | X | | 32 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | 31 | ✓ | ✓ | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. II | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | N1C3 |

| Consec. Cast # | Latitude Deg. Min. N or S | Longitude Deg. E or W | Date JD = Day Mo. Yr. | Time GMT Hr. Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 222 | 58 47 05 | 168 11 16 | 20 Jun 97 | 0047 | | | | | | | 47 | |

**CTD**

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Stop | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | DOM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 45 | | | | | | | X | 196 222 01 | 40 | / | | | 1 |
| 2 | | | 30 | | | | | | | X | | 39 | / | – | | 2 |
| 3 | | | 20 | | | | | | | X | | 38 | / | | | 3 |
| 4 | | | 10 | | | | | | | X | | 37 | / | | | 4 |
| 5 | | | 0 | | | | | | | X | | 36 | / | – | l | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Junior Front 1 | | | NLC5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | SS | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 223 | 58 | 42 | 43 | 168 | 33 | 26 | JUN | 97 | 01 | 35 | | | | | | | 50 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks: ~ fluorolant ~ .3 below/5m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 47 | | | | | | | X | 196 22301 | 46 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 45 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 44 | | | | 3 |
| 4 | | | 20 | | | | | | | | | 43 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 42 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 41 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

42

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | N C7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 224 | 58 | 37.75 | | 168 | 42 | 20 | JUN | 97 | 02 | 24 | | | | | | | | 53 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 49 | | | | | | | X | 196 22401 | 52 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 51 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 50 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 49 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 48 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 47 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | | | | | | | 11 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIC9 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 225 | 58 | 33.09 | | 168 | 26.57 | 20 | Jun | 97 | | 03 | 13 | | | | | | | | 59 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks: bottom T 1.0 / 0.99

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 54 | | | | | | | X | 22501 | 58 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 57 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 56 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 55 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 54 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 53 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

bottom T 0.38

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIC 11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 226 | 58 | 28.43 | | 168 | 31.75 | 20 | Jun | 97 | | 04 | 04 | | | | | | | 63 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B Sc | | |
| at D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl. | DOM | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 58 | | | | | | | X | 196 22601 | 65 | ✓ | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 64 | (X) | | | | 2 |
| 3 | | | 40 | | | | | | | X | | 63 | ✓ | | | | 3 |
| 4 | | | 30 | | | | | | | X | | 62 | ✓ | | | | 4 |
| 5 | | | 20 | | | | | | | X | | 61 | ✓ | | | | 5 |
| 6 | | | 10 | | | | | | | X | | 60 | ✓ | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 59 | ✓ | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

beachest ~0.2 T bird

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NIC13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 227 | 58 | 21.38 | | 168 | 39.59 | 20 | JUN | 97 | | 05 | 09 | | | | | | | 67 | |

CTD Type & SN Sealand 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | | | | | | | X | 22701 | 72 | ✓ | | | 1 |
| 2 | | | 50 | Similar | | | | | | X | | 71 | X | | | 2 |
| 3 | | | 40 | | | | | | | X | | 70 | ✓ | | | 3 |
| 4 | | | 30 | | | | | | | X | | 69 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | 68 | ✓ | | | 5 |
| 6 | | | 10 | | | | | | | X | | 67 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | 66 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

66

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | NC13 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 228 | 58 | 16.74 | | 168 | 44.71 | 20 | Jun | 97 | 05 | 57 | | | | | | | | 69 | |

CTD
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 64 | | | | | | | X | 196 22801 | 79 | ✓ | | | 1 |
| 2 | | | 50 | | | | | | | X | | 78 | X | | | 2 |
| 3 | | | 40 | | | | | | | X | | 77 | ✓ | | | 3 |
| 4 | | | 30 | | Flow | | | | | | | 76 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | 75 | ✓ | | | 5 |
| 6 | | | 10 | | | | | | | X | | 74 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | 73 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Initials

20 June 97 ~1500 LOCAL

Pg ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sanir Front 1 | | | |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min | Sea | Vis. | Wind Dir. | Wind Sp | Cloud | Type | Weath | Bottom Depth, m | Sta Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 229 | | | | | | | | | | | | | | | | | | | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks 15 N Gp + Dacks Rod

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sec. Cond. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 25 | | | | | | | X | | | | | | 1 |
| 2 | | | 25 | | | | | | | X | | | | | | 2 |
| 3 | | | 25 | | | | | | | X | | | | | | 3 |
| 4 | | | 0 | | | | | | | | | | | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | | 5 |
| 6 | | | 0 | | | | | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DARR Front I | | | NIEX14 |

| Consec Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 230 | 59 | 30.49 | N | 167 | 08.50 | 21 | 06 | 97 | | 14 | 47 | | | | | | | 29 | |

CTD
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks 15N

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Scientific Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 24 | | | | | | | X | | | | | | 1 |
| 2 | 5 | | 24 | | | | | | | X | | | | | | 2 |
| 3 | 6 | | 24 | | | | | | | X | | | | | | 3 |
| 4 | 7 | | 24 | | | | | | | X | | | | | | 4 |
| 5 | 8 | | 15 | | | | | | | X | | | | | | 5 |
| 6 | 9 | | 15 | | | | | | | X | | | | | | 6 |
| 7 | 10 | | 15 | | | | | | | X | | | | | | 7 |
| 8 | 11 | | 15 | | | | | | | X | | | | | | 8 |
| 9 | 12 | | 0 | | | | | | | X | | | | | | 9 |
| 10 | 1 | | 0 | | | | | | | X | | | | | | 10 |
| 11 | 2 | | 0 | | | | | | | X | | | | | | 11 |
| 12 | 3 | | 0 | | | | | | | | | | | | | 12 |

0
15
30
45
60

Pg ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sarkar Front 1 | | | Terry 1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD Day | Mo. | Yr | Time GMT Hr. | Min | SS | Vis | Wind Dir. | Wind Sp | Cloud | Type | Weath | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 231 | 58 | 08 | 72 | 169 | 02 | 63 | 22 | Jun | 97 | 08 | 16 | | | | | | | 71 | |

CTD
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN
65
30

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks Terry wants every 15 m

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | (Secondary) Sal. | | Salinity Nuts. Bottle | Bottle | | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 68 | | | | | | | X | 231 01 | 5 | | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 4 | | | | | 2 |
| 3 | | | 35 | | | | | | | X | | 3 | | | | | 3 |
| 4 | | | 20 | | | | | | | | | 2 | | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 1 | | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg ____ of ____

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta # | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DARR Front 1 | | | Terry 2 |

| Consec Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr | JD | Time GMT Hr. | Min | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 232 | 58 | 03.91 | | 169 19.20 | | 22 | Jul | 97 | | 09 | 32 | | | | | | | | 69 | |

CTD
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

0
15
30
45
60

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 66 | | | | | | | X | | 60 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 9 | | | | 2 |
| 3 | | | 35 | | | | | | | X | | 8 | | | | 3 |
| 4 | | | 15 | | | | | | | | | 7 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 6 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DARR Front 1 | | | Terry 3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo | Yr | Time GMT Hr. | Min | SS | Vis. | Wind Dir. | Wind Sp | Cloud Type | Weather | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 233 | 57 | 59.13 | | 169 | 35.88 | 22 | Jun | 97 | 10 | 43 | | | | | | | 70 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Se | | |
| at S | | |

Remarks

D

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 67 | | | | | | | X | | 16 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 14 | | | | 2 |
| 3 | | | 26 | | | | | | | X | | 13 | | | | 3 |
| 4 | | | 15 | | | | | | | | | 12 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 11 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DAKIR Front 1 | | | Tellery 4 |

| Consec. Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo | Yr. | JD = | Time GMT Hr. | Min. | SS | Vis | Wind Dir | Wind Sp | Cloud | Type | Weath | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 234 | 57 | 54.49 | | 169 | 52.61 | 22 | Jun | 97 | | 1153 | | | | | | | | | 72 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 69 | | | | | | | X | | 20 | | | | 1 |
| 2 | | | 50 | | | | | | | X | | 19 | | | | 2 |
| 3 | | | 35 | | | | | | | X | | 18 | | | | 3 |
| 4 | | | 15 | | | | | | | X | | 17 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 16 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ___ of ___

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | SPI-11 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 235 | 57 | 49.04 | | 176 | 15.98 | 22 | Jun | 97 | | 14 | 05 | | | | | | | 75 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Scan | | |

Remarks: 1.7 bottom T

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | CTD | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 69 | | | | | | | X | | 24 | ✓ | | | | 1 |
| 2 | | | 37 | | | | | | | X | | 23 | ✓ | | | | 2 |
| 3 | | | 20 | | | | | | | X | | 22 | ✓ | | | | 3 |
| 4 | | | 0 | | | | | | | | | 21 | ✓ | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

Pg ___ of

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | SPI-10 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr | JD = | Time GMT Hr. | Min. | Wind Dir. | Wind Sp | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 236 | 57 | 43.61 | | 170 | 15.96 | 22 | Jun | 97 | | 14 | 49 | | | | | 74 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen/Final) Press. | Temp. | Cond. | Final | | Salinity Nuts. Bottle | Bottle | O/R | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 69 | | | | | | | X | HX196 23601 | 28 | ✓ | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 27 | ✓ | | | | 2 |
| 3 | | | 25 | | | | | | | X | | 26 | ✓ | | | | 3 |
| 4 | | | 0 | | | | | | | | | 25 | ✓ | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DANCE Front 1 | | | SP1-9 |

| Consec Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr | Time GMT Hr. | Min. | SS | Vis. | Wind Dir. | Wind Sp | Cloud | Type | Weath | Bottom Depth m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 237 | 57 | 38 | | 23 | 170 | 15 | 91 | | 22 | 5 | 4 | 97 | 15 | 32 | | | | | 74 |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 68 | | | | | | | X | 23701 | 31 | ✓ | | | 1 |
| 2 | | | 24 | | | | | | | X | | 30 | ✓ | | | 2 |
| 3 | | | 0 | | | | | | | X | | 29 | ✓ | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | SP1-8 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 238 | 57 | 32.84 | | 170 | 15.95 | 22 | Jun | 97 | 16 | 17 | | | | | | | | 72 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Cat | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 68 | | | | | | | X | 23801 | 34 | ✓ | | | 1 |
| 2 | | | 25 | | | | | | | X | | 33 | ✓ | | | 2 |
| 3 | | | 0 | | | | | | | X | | 32 | ✓ | | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | SP1-7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 239 | 57 | 30.15 | | 170 | 15.97 | 20 | JUN | 97 | | 16 | 43 | | | | | | | 70 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Sets. Bottle | Bottle | CTL | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 65 | | | | | | | X | 23901 | 37 | ✓ | | | 1 |
| 2 | | | 27 | | | | | | | X | | 36 | ✓ | | | 2 |
| 3 | | | 0 | | | | | | | X | | 35 | ✓ | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

35

b p Amin p

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Darr Front I | | | SP1-6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weat. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 240 | 57 | 27.46 | | 170 | 15.93 | 22 | JUN | 97 | | | | | | | | | | | |

CTD

Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks 5.2

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Oil | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 63 | | | | | | X | 24001 | 42 | ✓ | | | 1 |
| 2 | | | | 42 | | | | | | X | | 41 | ✓ | | | 2 |
| 3 | | | | 35 | | | | | | X | | 40 | ✓ | | | 3 |
| 4 | | | | 25 | | | | | | | | | | | | 4 |
| 5 | | | | 25 | | | | | | X | | | | | | 5 |
| 6 | | | | 25 | | | | | | | | | | | | 6 |
| 7 | | | | 25 | | | | | | X | | 39 | ✓ | | | 7 |
| 8 | | | | 0 | | | | | | X | | 38 | ✓ | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

37

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DARR Front 1 | | | SPL-5 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sis | Vis | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 57 | 24.74 | | 170 | 15.98 | 22 | 04 | 97 | | 17 | 48 | | | | | | | 70 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Stop | | |

Remarks: Prod 5.56 2.81

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nos. Bottle | Bottle | CHC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 66 | | | | | | | X | | 47 | ✓ | | | 1 |
| 2 | | | 45 | | | | | | | X | | 46 | ✓ | | | 2 |
| 3 | | | 30 | | | | | | | X | | 45 | ✓ | | | 3 |
| 4 | | | 29 | | | | | | | | | | | | | 4 |
| 5 | | | 29 | | | | | | | X | | | | | | 5 |
| 6 | | | 29 | | | | | | | | | L | | | | 6 |
| 7 | | | 15 | | | | | | | X | | 44 | ✓ | | | 7 |
| 8 | | | 0 | | | | | | | X | | 43 | ✓ | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

5 10
4 25
3

Pg ____ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | SPI-4 |

| Consec Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 57 | 22 | 09 | 170 | 158 | 22 | JUN | 97 | 18 | 24 | | | | | | | 62 | |

CTD
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks SWIS 5.4 31.68 3.17

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Fluor. | | Salinity Bottle | Nutr. Bottle | CHL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 58 | | | | | | | X | 24201 | 50 | ✓ | | | 1 |
| 2 | | | 30 | | | | | | | X | | | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | | 4 |
| 5 | | | 30 | | | | | | | X | | 49 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | 48 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

5

43

4.8 31.7

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sanir Front I | | | SP1-3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | SS | Vis. | Wind Dir. | Wind Sp | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 43 | 57.19 | N | 170 | 15.87 | 22 | JUN | 97 | 18 | 59 | | | | | | | 57 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Sample Bottle | Nutr. Bottle | CTR | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 52 | | | | | | | X | 24301 | 54 | ✓ | | | | 1 |
| 2 | | | 30 | | | | | | | X | | 53 | | | | | 2 |
| 3 | | | 30 | | | | | | | X | | | | | | | 3 |
| 4 | | | 30 | | | | | | | | | | | | | | 4 |
| 5 | | | 30 | | | | | | | X | | | ✓ | | | | 5 |
| 6 | | | 15 | | | | | | | X | | 52 | ✓ | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 51 | ✓ | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

51

4.7 3173

Pg. ____ of ____

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sakir Front 1 | | | SP1-2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Ss | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 244 | 57 | 16.67 | | 170 | 16.04 | 22 | Jun | 97 | 19 | 32 | | | | | | | | 40 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

D

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Gal. | | Salinity Vals. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 36 | | | | | | | X | 2440. | 57 | | | | 1 |
| 2 | | | 19 | | | | | | | X | | | | | | 2 |
| 3 | | | 19 | | | | | | | X | | | | | | 3 |
| 4 | | | 19 | | | | | | | X | | | | | | 4 |
| 5 | | | 19 | | | | | | | X | | 56 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 55 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

55

Pg. ____ of ____

| Consec Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | SP1-1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp | Cloud Type | Weath. | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 245 | 57.13 | 9 | P | 170 | 15.97 | 22 | JUN | 97 | 20 | 04 | | | | | | | | 17 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B Sc | | |
| at S D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | Chl | HPLC | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 18 | | | | | | | X | | 60 | ✓ | ✓ | 1 |
| 2 | | | 18 | | | | | | | X | | 59 | | | 2 |
| 3 | | | 0 | | | | | | | X | | 58 | ✓ | | 3 |
| 4 | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | 5 |
| 6 | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | 7 |
| 8 | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | 9 |
| 10 | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | 11 |
| 12 | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | SANIR Front 1 | | | Swept |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sea | Vis | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 246 | 57 | 09 | 10 | W 1 | 50 | 26 | 65 | W | 22 | 10 | 19 | 17 | 21 | 08 | | | | 46 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Scintillator Fluor. | | Salinity Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | 44.4 | | | | | | | X | | 64 | 3 | | | 1 |
| 2 | 5 | | 30.5 | | | | | | | X | | 63 | | | | 2 |
| 3 | 6 | | 19.9 | | | | | | | X | | 62 | 2 | | | 3 |
| 4 | 7 | | 9.6 | | | | | | | | | 61 | | | | 4 |
| 5 | 8 | | 2.1 | | | | | | | X | | 60 | 1 | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| 247 | Alpha Helix | Inner Front I | | | SA 5-1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weatr | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 247 | 56 | 30.98 | N | 169 | 35.04 | W | 23 | JUN | 97 | 02 | 29 | | | | | | | 52 | |

**CTD**

Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 48 | | | | | | | X | HX 196 247-01 | 70 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 69 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 68 | | | | 3 |
| 4 | | | 20 | | | | | | | | | 67 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 66 | | | | 5 |
| 6 | | | Ø | | | | | | | X | | 65 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

6 0 40 20 S

Pg. ___ of ___

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta I.I | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | SARIF Front 1 | | | S65-2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 248 | 56 | 28.89 | | 169 | 35.07 | 23 | 6 | 97 | | 02 | 52 | | | | | | | 94 | |

CTD

Type & SN Seabird 911+

Press. SN ___

Temp. SN ___

Cond. SN ___

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Surface | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CFC | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 91 | | | | | | | X | | 75 | ✓ | | | 1 |
| 2 | | | 60 | | | | | | | X | | 74 | | | | 2 |
| 3 | | | 40 | | | | | | | X | | 73 | ✓ | | | 3 |
| 4 | | | 20 | | | | | | | | | 72 | | | | 4 |
| 5 | | | 5 | | | | | | | X | | 71 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sakir Front 1 | | | S65-3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 249 | 56 | 26.91 | | 169 | 35.11 | 23 | Jun | 97 | | 03 | 15 | | | | | | | 965 | |

CTD

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B | | |
| at S | | |

Remarks

D

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Data Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 89 | | | | | | | X | 24901 | 80 | | | | 1 |
| 2 | | | 60 | | | | | | | X | | 79 | | | | 2 |
| 3 | | | 30 | | | | | | | X | | 78 | | | | 3 |
| 4 | | | 10 | | | | | | | | | 77 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 76 | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

76

Pg ____ of ____

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Junior Front 1 | | | 565.4 |

| Consec Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr | Time GMT Hr. | Min | SS | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250 | 46 | 21 | 50 | 169 | 35 | 07 | 23 | JUN | 1970 | 40 | 00 | | | | | | 141 | |

Were deep in header

CTD/ Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Surface | | |

Remarks

| Pos | Bot | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen hd) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 135 | | | | | | | X | 22001 | 85 | ✓ | | | 1 |
| 2 | | | 100 | | | | | | | X | | 84 | ✓ | | | 2 |
| 3 | | | 50 | | | | | | | X | | 83 | ✓ | | | 3 |
| 4 | | | 25 | | | | | | | X | | 82 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | 81 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ___ of ___

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta # | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sarah Front 1 | | | 565-5 |

| Consec Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude Min. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min | Ws | Vis | Wind Dir. | Wind Sp | Cloud | Type | Weath | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 251 | 56 | 16 | 09 | 169 | 35 | 00 | 23 | Jun | 97 | | 04 | 46 | | | | | | | | 235 | |

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

CTD Type & SN: Seabird 911+

Press. SN:

Temp. SN:

Cond. SN:

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Stop | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 223 | | | | | | | X | | 91 | ✓ | | | 1 |
| 2 | | | 150 | | | | | | | X | | 90 | ✓ | | | 2 |
| 3 | | | 100 | | | | | | | X | | 89 | ✓ | | | 3 |
| 4 | | | 50 | | | | | | | X | | 88 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | 87 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | 86 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | 565-6 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | SS | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 252 | 56.107 | | | 169.35.10 | | 23 | Jun | 97 | 05 | 45 35 at depth | | | | | | | 413 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 407 | | | | | | | X | | 97 | ✓ | | | 1 |
| 2 | | | 200 | | | | | | | X | | 96 | ✓ | | | 2 |
| 3 | | | 100 | | | | | | | X | | 95 | ✓ | | | 3 |
| 4 | | | 50 | | | | | | | X | | 94 | ✓ | | | 4 |
| 5 | | | 20 | | | | | | | X | | 93 | ✓ | | | 5 |
| 6 | | | 0 | | | | | | | X | | 92 | ✓ | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

92

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | S65-7 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 253 | 56 | 05.31 | | 169 | 35.07 | 23 | Jun | 97 | 06 | 27 | | | | | | | 170 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location** Wrong in log

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen hi) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | CTL | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 167 | | | | | | | X | 25301 | 104 | ✓ | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 103 | ✓ | | | | 2 |
| 3 | | | 50 | | | | | | | X | | 102 | ✓ | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 101 | ✓ | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 100 | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

100

Pg ____ of

Consec Cast # | Vessel: Alpha Helix | Proj & Leg: Dark Front 1 | Event # | Vessel Sta ID | Sta Designation: S65-8

| Consec Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | Time GMT Hr. | Min. | SS | Vis | Wind Dir. | Wind Sp | Cloud | Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 54 | 55.59 | N | 169 | 34.89 | 23 | Jun | 97 | 07 | 21 | | | | | | | | 399 | |

Start 4

bottom

CTD/
Type & SN: Sealand 9111
Press. SN
Temp. SN
Cond. SN

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Salinity Data CHL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 399 | | | | | | | X | | 110 | | | |
| | | 200 | | | | | | | X | | 109 | | | |
| | | 100 | | | | | | | X | | 108 | | | |
| | | 50 | | | | | | | | | 107 | ✓ | | |
| | | 18 | | | | | | | X | | 106 | ✓ | | |
| | | 0 | | | | | | | X | | 105 | ✓ | | |
| | | | | | | | | | X | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | X | | | | | |
| | | | | | | | | | X | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

105

Pg ___

Consec Cast = | Vessel: Alpha Helix | Proj & Leg: Dark Front I | Event # | Vessel Sta. ID | Sta. Designation: 565-9

| Consec Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo | Yr | Time GMT Hr. | Min | SS | Vis. | Wind Dir | Wind Sp | Cloud Type | Weather | Bottom Depth, m | Sta. Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 255 | 55 | 54.47 | | 169 | 35.03 | 23 | Jun | 97 | 08 | 15 | | | | | | | 1673 | |

CTD Type & SN: Sealand 911+

Press. SN: ___

Temp. SN: ___

Cond. SN: ___

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nutr. Bottle | Chl. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 1771 | | | | | | | X | | 118 | | | | 1 |
| 2 | | 1000 | | | | | | | X | 25502 | 117 | | | | 2 |
| 3 | | 500 | | | | | | | X | | 116 | | | | 3 |
| 4 | | 200 | | | | | | | | | 115 | | | | 4 |
| 5 | | 50 | | | | | | | X | | 114 | | | | 5 |
| 6 | | 20 | | | | | | | | | 113 | | | | 6 |
| 7 | | 0 | | | | | | | X | | 112 | ✓ | | | 7 |
| 8 | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | 12 |

Pg ____ of

Consec Cast # | Vessel: Alpha Helix | Proj & Leg: Dark Front 1 | Event # | Vessel Sta ID | Sta Designation: 564-1

| Consec Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | SS | Vis | Wind Dir | Wind Sp | Cloud | Type | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 256 | 56 | 31 | 46 | 169 | 32 | 59 | 23 | Jun | 97 | 23 | 20 | | | | | | | 62 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos | Bot. | T Rack | Top Depth | Time @ Depth | Time @ Top | Monitor Values (Secondary) Press. | Temp. | Cond | Sal. | | Salinity Bottle | Salinity Value | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 59 | | | | | | | X | 25561 | 203 | | | | 1 |
| 2 | | | 40 | | | | | | | X | | 202 | | | | 2 |
| 3 | | | 20 | | | | | | | X | | | | | | 3 |
| 4 | | | 20 | | | | | | | | | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | | | | | 5 |
| 6 | | | 20 | | | | | | | | | 201 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 200 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ____ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Darkfront 1 | | | 364-2 |

| Consec. Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | Wind Dir. | Wind Sp | Cloud Type | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 257 | 56 | 27.84 | | 169 | 25.67 | 24 | Jun | 97 | | 00 | 07 | | | | 99 | |

CTD Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Surface | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Sets. Bottle | Date | | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 96 | | | | | | | X | 25601 | 208 | | | | | 1 |
| 2 | | | 75 | | | | | | | X | | 207 | | | | | 2 |
| 3 | | | 50 | | | | | | | X | | 206 | | | | | 3 |
| 4 | | | 25 | | | | | | | | | 205 | | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 204 | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

150

Pg ___ of ___

Consec. Cast # | Vessel: Alpha Helix | Proj & Leg: Dark Front 1 | Event # | Vessel Sta ID | Sta Designation: 564-3

| Consec. Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | SS | Vis | Wind Dir | Wind Sp | Cloud Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 258 | 56 | 23.94 | | 169 | 18.70 | 24 | Jun | 97 | 056 | | | | | | | | | 119 | |

CTD Type & SN: Seabird 911+

Press. SN: ___

Temp. SN: ___

Cond. SN: ___

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Seconds) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Time | CHL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 113 | | | | | | | X | 25701 | 216 | | | | |
| 2 | | | 100 | | | | | | | X | | 214 | | | | |
| 3 | | | 75 | | | | | | | X | | 213 | ✓ | | | |
| 4 | | | 50 | | | | | | | | | 212 | | | | |
| 5 | | | 25 | | | | | | | X | | 211 | ✓ | | | |
| 6 | | | 18 | | | | | | | X | | | | | | |
| 7 | | | 18 | | | | | | | X | | | | | | |
| 8 | | | 18 | | | | | | | | | | | | | |
| 9 | | | 18 | | | | | | | X | | 210 | ✓ | | | |
| 10 | | | 0 | | | | | | | X | | 209 | ✓ | | | |
| 11 | | | | | | | | | | X | | | | | | |
| 12 | | | | | | | | | | | | | | | | |

Pg ___ of

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shelf Front I | | | 564-4 |

| Consec. Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | SS | Vis | Wind Dir | Wind Sp | Cloud Type | Weather | Bottom Depth m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 258 | 56 | 20.22 | | 169 | 12.91 | 24 | 04 | 97 | 014 | 18 | | | | | | | | 135 | |

CTD/
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

**Monitor Values** (Secondary)

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Bottle | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 132 | | | | | | | X | 25801 | 222 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 221 | | | | 2 |
| 3 | | | 75 | | | | | | | X | | 220 | | | | 3 |
| 4 | | | 50 | | | | | | | X | | 219 | | | | 4 |
| 5 | | | 25 | | | | | | | X | | 218 | | | | 5 |
| 6 | | | 15 | | | | | | | X | | 217 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 216 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

216

Pg ____ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Dover Front 1 | | | S64_5 |

| Consec. Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr. | Min | Sea | Vis | Wind Dir. | Wind Sp | Cloud | Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 269 | 56 | 16.43 | | 169 | 04.92 | 24 | Jun | 97 | | 02 | 39 | | | | | | | | 143 | |

CTD

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Cape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen hrs) Press. | Temp. | Cond. | Sal. | | Salinity Vals. Bottle | Bottle | CHL | | | | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 138 | | | | | | | X | 25901 | 222 | | | | | 1 |
| 2 | | | 89 | | | | | | | X | | 227 | ✓ | | | | 2 |
| 3 | | | 75 | | | | | | | X | | 226 | ✓ | | | | 3 |
| 4 | | | 50 | | | | | | | | | 225 | ✓ | | | | 4 |
| 5 | | | 25 | | | | | | | X | | 224 | ✓ | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 223 | ✓ | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

223

05

Pg ___ of

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. # | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Dark Front 1 | | | 364-6 |

| Consec. Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr. | Min | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta. No. or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 261 | 56 | 1264 | | 168580 | | 24 | Jun | 97 | | 03 | 28 | | | | | 168 | |

CTD/ Type & SN Seabird 911+

Press. SN ___

Temp. SN ___

Cond. SN ___

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | 59.4 nmi |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nos. Bottle | Bottle | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1164 | | | | | | | X | 26101 | 234 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 233 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | 232 | | | | 3 |
| 4 | | | 29 (max) | | | | | | | | | 231 | | | | 4 |
| 5 | | | 10 | | | | | | | X | | 230 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 229 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ___ of

Consec. Cast # | Vessel: Alpha Helix | Proj & Leg: Shelf Front I | Event # | Vessel Sta. ID | Sta. Designation: 364-7

| Consec. Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | Wind Dir | Wind Sp | Cloud Type | Bottom Depth, m | Sta. Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 262 | 56 | 08 | 83 | 168 | 51 | 14 | 24 | Jun | 97 | 04 | | | | | 424 | |

CTD
Type & SN: Seabird 911+
Press. SN
Temp. SN
Cond. SN

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |

Remarks

D

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen Shot) Press. | Temp. | Cond. | Sal. | | Salinity Bottle No. | CTL | HPLC | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 417 | | | | | | | X | | 7 | | | |
| 2 | | | 300 | | | | | | | X | 26202 | 6 | | | |
| 3 | | | 200 | | | | | | | X | | 5 | | | |
| 4 | | | 100 | | | | | | | | | 4 | | | |
| 5 | | | 40 | | | | | | | X | | 3 | ✓ | | |
| 6 | | | 21 max | | | | | | | X | | 2 | ✓ | ✓ | |
| 7 | | | 0 | | | | | | | X | | 1 | ✓ | | |
| 8 | | | 0 | | | | | | | | | | | | |
| 9 | | | | | | | | | | X | | | | | |
| 10 | | | | | | | | | | X | | | | | |
| 11 | | | | | | | | | | X | | | | | |
| 12 | | | | | | | | | | | | | | | |

Pg. ____ of

Consec. Cast # | Vessel: Alpha Helix | Proj & Leg: Dark Front 1 | Event # | Vessel Sta. ID | Sta. Designation: 564-8

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | SS | Vis. | Wind Dir | Wind Sp | Cloud | Type | Weather | Bottom Depth, m | Sta. Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 263 | 56 | 50.2 | | 168 44.11 | | 24 | 5 | 1997 | | 05 | 15 | | | | | | | | | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Stop | | |

Remarks: D

**Monitor Values** (Secondary)

| Pos | Bot | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Press. | Temp. | Cond. | Sal. | | Salinity Data Bottle | Salinity Data File | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 10 | | | | | | | X | 26301 | 14 | | | | 1 |
| 2 | | | 500 | | | | | | | X | | 13 | | | | 2 |
| 3 | | | 200 | | | | | | | X | | 12 | | | | 3 |
| 4 | | | 100 | | | | | | | | | 11 | | | | 4 |
| 5 | | | 50 | | | | | | | X | | 10 | | | | 5 |
| 6 | | | 16 max | | | | | | | | | 9 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | 8 | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ___ of

Consec. Cast # | Vessel: Alpha Helix | Proj & Leg: Dark Front 1 | Event # | Vessel Sta. ID | Sta. Designation: PC-3

| Consec. Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo | Yr | JD | Time GMT Hr. | Min | SS | Vis. | Wind Dir. | Wind Sp | Cloud Type | Bottom Depth, m | Sta. Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 264 | 56 | 09 | 05 | 168 | 36 | 06 | 24 | Jun | 97 | 06 | 25 | | | | | | 368 | |

CTD Type & SN: Seabird 911+

Press. SN: ___

Temp. SN: ___

Cond. SN: ___

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks: D

| Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Sets. Bottle | Bottle | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 360 | | | | | | | X | 2640 | 20 | | | | |
| 2 | | 250 | | | | | | | X | | 19 | | | | |
| 3 | | 100 | | | | | | | X | | 18 | | | | |
| 4 | | 50 | | | | | | | X | | 17 | | | | |
| 5 | | 30 | | | | | | | X | | 16 | | | | |
| 6 | | 0 | | | | | | | X | | 15 | | | | |
| 7 | | | | | | | | | X | | | | | | |
| 8 | | | | | | | | | X | | | | | | |
| 9 | | | | | | | | | X | | | | | | |
| 10 | | | | | | | | | X | | | | | | |
| 11 | | | | | | | | | X | | | | | | |
| 12 | | | | | | | | | | | | | | | |

15

Pg. ___ of

Consec. Cast # | Vessel: Alpha Helix | Proj & Leg: Inner Front 1 | Event # | Vessel Sta. ID | Sta Designation: PC-2

| Consec. Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | SS | Vis | Wind Dir | Wind Sp | Cloud | Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 265 | 56 | 12.05 | | 168 | 28.99 | 24 | Jun | 97 | | 07 | 15 | | | | | | | | 194 | |

CTD Type & SN: Seabird 911+

Press. SN: ___

Temp. SN: ___

Cond. SN: ___

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Sets. Bottle | Time | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 190 | | | | | | | X | 210501 | 25 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 24 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | 23 | | | | 3 |
| 4 | | | 25 | | | | | | | | | 22 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 21 | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Sanir Front 1 | | | PC-1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sis | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 266 | 56 | 15.60 | | 168 | 22.14 | 24 | 04 | 97 | 08 | 04 | | | | | | | 162 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 450 | | | | | | | X | 26601 | 30 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 29 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | 28 | | | | 3 |
| 4 | | | 20 | | | | | | | X | | 27 | | | | 4 |
| 5 | | | 0 | | | | | | | X | | 26 | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | 057 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | 55 | 38 | N | 167 | W | 24 | JUN | 97 | 1655 | | | | | | | | 138 | |

CTD Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Nutr. Bottle | Bottle | CM | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 133 | | | | | | | X | 26701 | 6 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 5 | | | | 2 |
| 3 | | | 75 | | | | | | | X | | 4 | | | | 3 |
| 4 | | | 50 | | | | | | | X | | 3 | | | | 4 |
| 5 | | | 28 | m | | | | | | X | | | | | | 5 |
| 6 | | | 28 | | | | | | | X | | | | | | 6 |
| 7 | | | 28 | | | | | | | X | | | | | | 7 |
| 8 | | | 28 | | | | | | | X | | 2 | ✓ | | | 8 |
| 9 | | | 0 | | | | | | | X | | 1 | ✓ | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | 0506 |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Sea St. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta. Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 268 | 55 | 33 | 0 N | 167 | 45 99 | 24 | Jun | 97 | 10 | 25 | | | | | | | 138 | |

CTD/
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nuts. Bottle | Bottle | Clr | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 134 | | | | | | | X | 26801 | 12 | | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 11 | | | | | 2 |
| 3 | | | 60 | | | | | | | X | | 10 | | | | | 3 |
| 4 | | | 30 | | | | | | | X | | 9 | | | | | 4 |
| 5 | | | 20 | | | | | | | X | | 8 | ✓ | | | | 5 |
| 6 | | | 0 | | | | | | | X | | 7 | ✓ | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

50 10 0

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | 055 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Mo. | Yr. | JD = | Time GMT Hr. | Min. | Sky | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 269 | 55 | 25.98 | | 168 | 04.10 | 24 | Jun | 97 | | 2000 | | | | | | | | 208 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| at Stop | | |

Remarks: upcast really different deepening water or lateral drifts?

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values Press. | Temp. | Cond. | Sal. (Scientific) | | Salinity Bottle | Nuts. Bottle | Chl | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 205 | | | | | | | X | 26901 | 17 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | 16 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | 15 | ✓ | | | 3 |
| 4 | | | 10 | | | | | | | X | | 14 | ✓ | | | 4 |
| 5 | | | 10 | | | | | | | X | | 13? | | | | 5 |
| 6 | | | 10 | | | | | | | X | | | | | | 6 |
| 7 | | | 10 | | | | | | | X | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | V? Yes | ✓ | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | X | | | | | | 12 |

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Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 054 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270 | 55 | 22.94 | | 168 | 10.01 | 24 | Jun | 97 | 20 | 52 | | | | | | | | | | 430 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl. | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 436 | | | | | | | X | | | | 27001 | 24 | | | | 1 |
| 2 | | | 300 | | | | | | | X | | | | | 23 | | | | 2 |
| 3 | | | 200 | | | | | | | X | | | | | 22 | | | | 3 |
| 4 | | | 100 | | | | | | | X | | | | | 21 | | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 20 | ✓ | | | 5 |
| 6 | | | 15 | | | | | | | X | | | | | 19 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 18 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 053 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 271 | 55 | 19.98 | | 168 | 15.06 | 24 | Jun | 97 | 21 | 49 | | | | | | | | | | 1468 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CFC | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1481 | | | | | | | X | | | | | 31 | | | | 1 |
| 2 | | | 1000 | | | | | | | X | | | | | 30 | | | | 2 |
| 3 | | | 500 | | | | | | | X | | | | | 29 | | | | 3 |
| 4 | | | 100 | | | | | | | X | | | | | 28 | | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 27 | ✓ | | | 5 |
| 6 | | | Spike | | | | | | | X | | | | | 26 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 25 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 052 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 272 | 55 | 06 | 96 | 168 | 28 | 94 | 25 | Jun | 97 | 00 | 36 | | | | | | | | | 1744 | |

**CTD**
Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks to 200

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTL | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 250 | | | | | | | X | | | | | 36 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 35 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | | | | 34 | | | | 3 |
| 4 | | | Max | | | | | | | X | | | | | | ✓ | | | 4 |
| 5 | | | " | | | | | | | X | | | | | | | | | 5 |
| 6 | | | " | | | | | | | X | | | | | | | | | 6 |
| 7 | | | " | | | | | | | X | | | | | 33 | ✓ | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | 32 | ✓ | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

32

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 052 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 273 | 55 | 07 | 03 | 166 | 29 | 08 | 25 | Jun | 97 | 01 | 09 | | | | | | | | | 1794 | |

| CTD Type & SN | Seabird 911+ |
|---|---|
| Press. SN | |
| Temp. SN | |
| Cond. SN | |

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | |
|---|---|
| Tape/Diskette I.D. | File Name/Header |
| | |
| | |
| | |

Remarks to 100 with PAR

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | DOM | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 19 | | | | | | | X | | | | | | ✓ | | | 1 |
| 2 | | | 19 | | | | | | | X | | | | | | ✓ | | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | | ✓ | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 051 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 274 | 54 | 57.95 | | 168 | 44.94 | 25 | Jun | 97 | 02 | 43 | | | | | | | | | | 2000 | |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Che | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 250 | | | | | | | X | | | | | 41 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 40 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | | | | 39 | ✓ | | | 3 |
| 4 | | | 25 | | | | | | | X | | | | | 38 | ✓ | | | 4 |
| 5 | | | 0 | | | | | | | X | | | | | 37 | ✓ | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 052 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 275 | 55 | 07 | 03 | 168 | 28.82 | 25 | Jun | 97 | 15 | 02 | | | | | | | | | | | 1745 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks: Repeat of high-chlorophyll cast — No samples, not high chl

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | | max | | | | | | | X | | | | | | | | | 1 |
| 2 | | | m | | | | | | | X | | | | | | | | | 2 |
| 3 | | | m | | | | | | | X | | | | | | | | | 3 |
| 4 | | | m | | | | | | | X | | | | | | | | | 4 |
| 5 | | | m | Not X | | | | | | X | | | | | | | | | 5 |
| 6 | | | wa | | | | | | | X | | | | | | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | 0 | | | | | | | X | | | | | | | | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | | | | | 10 |
| 11 | | | 0 | | | | | | | X | | | | | | | | | 11 |
| 12 | | | 0 | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | OS2A |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 276 | 55 | 09 | 23 | N | 168 | 26 | 52 | W | 25 | JUN | 97 | 16 | 02 | | | | | | | | 1744 | |

| CTD Type & SN | Press. SN | Temp. SN | Cond. SN |
|---|---|---|---|
| Seabird 911+ | | | |

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**

| Tape/Diskette I.D. | File Name/Header |
|---|---|
| | |

Remarks High Chlorophyll Cast

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | APLC | N15 | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | | 13 | | | | | | | X | | | | | | | | | 1 |
| 2 | 6 | | 13 | | | | | | | X | | | | | | | | | 2 |
| 3 | 7 | | 13 | | | | | | | X | | | | | | | | | 3 |
| 4 | 8 | | 13 | | | | | | | X | | | | | | | | | 4 |
| 5 | 9 | | 13 | | | | | | | X | | | | | | | | | 5 |
| 6 | 10 | | 13 | | | | | | | X | | | | | | | | | 6 |
| 7 | 11 | | 13 | | | | | | | X | | | | | | | | | 7 |
| 8 | 12 | | 13 | | | | | | | X | | | | | | ✓ | ✓ | ✓ | 8 |
| 9 | 1 | | Ø | | | | | | | X | | | | | | | | | 9 |
| 10 | 2 | | Ø | | | | | | | X | | | | | | | | | 10 |
| 11 | 3 | | Ø | | | | | | | X | | | | | | | | | 11 |
| 12 | 4 | | Ø | | | | | | | X | | | | | | ✓ | ✓ | ✓ | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 089 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 277 | 55 | 53.97 | | 166 | 54.07 | 26 | Jun | 97 | 04 | 43 | | | | | | | | | | 136 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | POM | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 130 | | | | | | | X | | | | 27701 | 49 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 48 | | | | 2 |
| 3 | | | 75 | | | | | | | X | | | | | 47 | | | | 3 |
| 4 | | | 50 | | | | | | | X | | | | | 46 | | | | 4 |
| 5 | | | 30 | | | | | | | X | | | | | 45 | | | | 5 |
| 6 | | | max 22 | | | | | | | X | | | | | 44 | ✓ | ✓ | | 6 |
| 7 | | | 20 | | | | | | | X | | | | | 43 | | ✓ | | 7 |
| 8 | | | 0 | | | | | | | X | | | | | 42 | | ✓ | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 038 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 278 | 55 | 46 | 03 | 167 | 00 | 26 | JUN | 97 | 06 | 18 | | | | | | | | | | 138 | |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 130 133 | | | | | | | X | | | | 27801 | 56 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 55 | | | | 2 |
| 3 | | | 75 | | | | | | | X | | | | | 54 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 53 | | | | 4 |
| 5 | | | max 18 | | | | | | | X | | | | | 52 | | | | 5 |
| 6 | | | 15 | | | | | | | X | | | | | 51 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 50 | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 058 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 279 | 55 | 46.03 | | 167 | 10.14 | 26 | Jun | 97 | 15 | 03 | | | | | | | | | | 137 | |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____
File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTC | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 132 | | | | | | | X | | | | 27901 | 63 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 62 | | | | 2 |
| 3 | | | 75 | | | | | | | X | | | | | 61 | | | | 3 |
| 4 | | | 50 | | | | | | | X | | | | | 60 | | | | 4 |
| 5 | | | (30) | | | | | | | X | | | | | 59 | ✓ | | | 5 |
| 6 | | | max ✓23 | | | | | | | X | | | | | | | | | 6 |
| 7 | | | ✓23 | | | | | | | X | | | | | | | | | 7 |
| 8 | | | ✓23 | | | | | | | X | | | | | | | | | 8 |
| 9 | | | ✓23 | | | | | | | X | | | | | 58 | ✓ | ✓ | | 9 |
| 10 | | | 0 | | | | | | | X | | | | | 57 | ✓ | ✓ | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 057 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | Longitude E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 280 | 55 | 38 | 98 | 167 | 30 04 | 26 | Jun | 97 | 16 | 36 | | | | | | | | | | 138 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTL | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 133 | | | | | | | X | | | | 28001 | 69 | | | | 1 |
| 2 | | | 86 | (bump in Sal) | | | | | | X | | | | | 68 | | | | 2 |
| 3 | | | 57 | (60) | | | | | | X | | | | | 67 | | | | 3 |
| 4 | | | 35 | | | | | | | X | | | | | 66 | ✓ | ✓ | | 4 |
| 5 | | | may 20 | | | | | | | X | | | | | 65 | ✓ | ✓ | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 64 | ✓ | ✓ | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Initials

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 056 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 281 | 55 | 32.98 | | 167 | 45.95 | 26 | Jun | 97 | 17 | 56 | | | | | | | | | | 139 | |

CTD Type & SN: Seabird 911+
Press. SN: ____
Temp. SN: ____
Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CHL | HAIC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 133 | | | | | | | X | | | | 28101 | 76 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 75 | | | | 2 |
| 3 | | | 75 | | | | | | | X | | | | | 74 | | | | 3 |
| 4 | | | 50 | | | | | | | X | | | | | 73 | | | | 4 |
| 5 | | | 25 | | | | | | | X | | | | | 72 | ✓ | | | 5 |
| 6 | | | may 12 | | | | | | | X | | | | | 71 | ✓ | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 70 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

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Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | 035 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 282 | 55 | 26 | 00 | 168 | 01 | 26 | Jun | 97 | 19 | 29 | | | | | | | | | | | 204 | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | CTK | HPK | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 196 | | | | | | | X | | | | 28201 | 82 | | | | 1 |
| 2 | | | 100 | | | | | | | X | | | | | 81 | | | | 2 |
| 3 | | | 50 | | | | | | | X | | | | | 80 | | | | 3 |
| 4 | | | 30 | | | | | | | X | | | | | 79 | ✓ | | | 4 |
| 5 | | | max 16 | | | | | | | X | | | | | 78 | ✓ | ✓ | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 77 | ✓ | ✓ | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

77

Initials

50 max 5.

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 054 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 283 | 55 | 22.98 | | 168 | 10.11 | 26 | Jun | 97 | 20 | 16 | | | | | | | | | | 437 | |

| CTD Type & SN | Seabird 911+ |
|---|---|
| Press. SN | |
| Temp. SN | |
| Cond. SN | |

| Monitor Checks | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

| Times | JD/Time |
|---|---|
| Data on | |
| at Surface | |
| Start Down | |
| at Bottom | |
| Start Up | |
| at Surface | |
| Data off | |

| Data Location | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| | | |
| | | |
| | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 421 | | | | | | | X | | | | 28301 | 88 | | | | 1 |
| 2 | | | 200 | | | | | | | X | | | | | 87 | | | | 2 |
| 3 | | | 100 | | | | | | | X | | | | | 86 | | | | 3 |
| 4 | | | 50 | | | | | | | X | | | | | 85 | | | | 4 |
| 5 | | | trace 21 | | | | | | | X | | | | | 84 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 83 | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

1490 7 Fmax 0

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 053 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 284 | 55 | 19.93 | | 168 | 15.06 | 26 | Jun | 97 | 21 | 09 | | | | | | | | | | 1470 | |

CTD Type & SN: Seabird 911+

Press. SN: ____

Temp. SN: ____

Cond. SN: ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on: ____

at Surface: ____

Start Down: ____

at Bottom: ____

Start Up: ____

at Surface: ____

Data off: ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Cit | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1475 | | | | | | | X | | | | 28401 | 95 | | | | 1 |
| 2 | | | 500 | | | | | | | X | | | | | 94 | | | | 2 |
| 3 | | | 200 | | | | | | | X | | | | | 93 | | | | 3 |
| 4 | | | 100 | | | | | | | X | | | | | 92 | | | | 4 |
| 5 | | | 80 | | | | | | | X | | | | | 91 | ✓ | | | 5 |
| 6 | | | 21 Fmax | | | | | | | X | | | | | 90 | ✓ | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 89 | ✓ | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initial

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | 052 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 285 | 55 | 07 | 0 | 2 | 168 | 28 | 86 | 27 | 5 | 4 | 97 | 00 | 10 | | | | | | | 1735 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1510 | | | | | | | X | | | | | 102 | | | | 1 |
| 2 | | | 500 | | | | | | | X | | | | | 101 | | | | 2 |
| 3 | | | 200 | | | | | | | X | | | | | 100 | | | | 3 |
| 4 | | | 100 | | | | | | | | | | | | 99 | | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 98 | | | | 5 |
| 6 | | | 34 fmax | | | | | | | X | | | | | 97 | | ✓ | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 96 | | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

2 at 0

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event# | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | OS1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date Day | Date Mo. | Date Yr. | JD = | Time GMT Hr. | Time GMT Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | 65 | 58 | 02 | 168 | 44.90 | 27 | Jun | 97 | | 02 | 47 | | | | | | | | | | | 2000 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nutr. Bottle | CH4 | HPC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 1438 | | | | | | | X | | | | 28601 | 109 | | | | 1 |
| 2 | | | 500 | | | | | | | X | | | | | 108 | | | | 2 |
| 3 | | | 200 | | | | | | | X | | | | | 107 | | | | 3 |
| 4 | | | 100 | | | | | | | X | | | | | 106 | | | | 4 |
| 5 | | | 50 | | | | | | | X | | | | | 105 | | | | 5 |
| 6 | | | 0 | | | | | | | X | | | | | 104 | | | | 6 |
| 7 | | | 0 | | | | | | | X | | | | | 103 | ✓ | ✓ | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | ED1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 287 | 55 | 27 | 41 | 166 | 26 | 97 | | | | | | | | | | | | | | | |

CTD Type & SN Seabird 911+
Press. SN ____
Temp. SN ____
Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time
Data on ____
at Surface ____
Start Down ____
at Bottom ____
Start Up ____
at Surface ____
Data off ____

**Data Location**
Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 718 | | | | | | | X | | | | 28701 | | | | | 1 |
| 2 | | | 25 | | | | | | | X | | | | | | | | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | | | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | FD2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 288 | 55 | 12.69 | | 168 02.99 | | 27 | Jun | 97 | 09 | 48 | | | | | | | | | | 1050 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | H | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 753 | | | | | | | X | | | | 28801 | | | | | 1 |
| 2 | | | 26 | | | | | | | X | | | | | | ✓ | | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | | ✓ | | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | | OS2-1 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 289 | 54 | 08 | N | 168 | 35 | 27 | JUN | 97 | 18 | 58 | | | | | | | | | | 1200 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Nuts. Bottle | Bottle | Chl ? | HPLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 503 | | | | | | | X | | | | HV 196 289-01 | | | | | 1 |
| 2 | | | Ø | | | | | | | X | | | | | | | | | 2 |
| 3 | | | Ø | | | | | | | X | | | | | | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

max 10

Pg. ____ of ____

| Consec. Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. I.D. | Instructions | Sta. Designation |
|---|---|---|---|---|---|---|
| | Alpha Helix | Inner Front I | | | | OS2-2 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min. | Dry Bulb | Wet Bulb | Bar. mb | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta. Name or I.D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 290 | 54 | 14.36 | | 168 22.40 | | 27 | Jun | 97 | 20 | 17 | | | | | | | | | | 2000 | |

CTD Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Times** JD/Time

Data on ____

at Surface ____

Start Down ____

at Bottom ____

Start Up ____

at Surface ____

Data off ____

**Data Location**

Tape/Diskette I.D. ____ File Name/Header ____

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | Salinometer | | | | Salinity Bottle | Nuts. Bottle | Chl | HOLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 512 | | | | | | | X | | | | 29001 | | | | | 1 |
| 2 | | | max 17 | | | | | | | X | | | | | | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | | | 12 |

Initials

0(2)

Pg ____ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Dark Front I | | | 052-3 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD Day | Mo. | Yr. | Time GMT Hr. | Min | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 291 | 54 | 20.39 | | 168 | 9.05 | 27 | Jun | 97 | 21 | 42 | | | | | | | 1235 | |

CTD

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| Sc | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | Nutr. Bottle | Chl | HPLC | | T Rack |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | 510 | | | | | | X | | | | | | 1 |
| 2 | | | | 0 | | | | | | X | | | ✓ | ✓ | | 2 |
| 3 | | | | 0 | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Dark Front I | | | 052-4 |

| Consec. Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo | Yr. | Time GMT Hr. | Min | Sea | Vis. | Wind Dir. | Wind Sp. | Cloud | Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 25 | 46 | 58 | 167 | 55 | 27 | JUN | 97 | 23 | 08 | | | | | | | | 1094 | |

CTD

Type & SN Seabird 911+

Press. SN ____

Temp. SN ____

Cond. SN ____

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S | | |
| Start | | |
| at B | | |
| St | | |
| at S | | |
| D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nutr. Bottle | Bottle | Chl | HOLC | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 510 | | | | | | | X | 29201 | | | | | 1 |
| 2 | | | 22 | | | | | | | X | | | ✓ | ✓ | | 2 |
| 3 | | | 0 | | | | | | | X | | | ✓ | ✓ | | 3 |
| 4 | | | | | | | | | | X | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | X | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | X | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | X | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

0 x 2 bathy

Pg ___ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Dark Front 1 | | | 052-5 |

| Consec. Cast # | Latitude Deg | Latitude Min. | N or S | Longitude Deg | E or W | Date Day | Mo | Yr | JD | Time GMT Hr | Min | SS | Vis. | Wind Dir. | Wind Sp | Cloud Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 35 | 43 | 2 | 64 | 167 | 42 | 1 | 28 | JUN | 97 | 00 | 40 | | | | | | 847 | |

CTD/

Type & SN Seabird 911+

Press. SN

Temp. SN

Cond. SN

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Bottle | CTC | HPIC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 512 | | | | | | | X | 29301 | | | |
| 2 | | | 0 | | | | | | | X | | | | |
| 3 | | | 0 | | | | | | | X | | ✓ | ✓ | |
| 4 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | X | | | | |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | X | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | X | | | | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | X | | | | |
| 12 | | | | | | | | | | | | | | |

12

Pg ___ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | DARR Front I | | | 052-6 |

| Consec Cast # | Latitude Deg | Latitude Min | N or S | Longitude Deg | E or W | Date JD Day | Mo | Yr | Time GMT Hr | Min | Sea Ss | Vis. | Wind Dir. | Wind Sp | Cloud Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 45 | 43 | 8 | 09 | 167 | 28 | 53 | 28 | 09 | 97 | 02 | 08 | | | | | 625 | |

CTD Type & SN Seabird 911+

Press. SN ___

Temp. SN ___

Cond. SN ___

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Bottom | | |
| Remarks | | |

| Bot. | Bot | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Scientific) Press. | Temp. | Cond. | Sal. | | Salinity Sample Bottle | Bottle | Chl | HPLC | | Bot. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 500 | | | | | | | X | | 29401 | | | | 1 |
| 2 | | | 3 | | | | | | | X | | | — | ✓ | | 2 |
| 3 | | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

13

30 + 10

Pg ___ of

| Consec Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. # | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Snake Front 1 | | | 052-7 |

| Consec Cast # | Latitude Deg. | Latitude Min. | N or S | Longitude Deg. | E or W | Date JD Day | Mo | Yr | Time GMT Hr. | Min | Sea | Vis | Wind Dir. | Wind Sp | Cloud Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 295 | 54 | 44.98 | | 167 | 14.96 | 28 | JUN | 97 | 03 | 37 | | | | | | | 454 | |

CTD

Type & SN Digital 911+

Press. SN

Temp. SN

Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at End | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Screen h.) Press. | Temp. | Cond. | Fluor. | | Salinity Vals. Bottle | Bottle | Chl | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 444 | | | | | | | X | 29501 | | | | | | 1 |
| 2 | | | 30 | | | | | | | X | | | ✓ | | | | 2 |
| 3 | | | max 15 | | | | | | | X | | | ✓ | | | | 3 |
| 4 | | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | | 12 |

12

Pg. ____ of

| Consec Cast # | Vessel | Proj. & Leg | Event # | Vessel Sta. ID | Sta. Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Inner Front 1 | | | OS2-8 |

| Consec. Cast # | Latitude Deg. | Min. | N or S | Longitude Deg. | E or W | Date JD = Day | Mo. | Yr. | Time GMT Hr. | Min | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weath. | Bottom Depth, m | Sta Name or I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 296 | 54.5 | 13 | | 167 | 12 | 28 | Jun | 97 | 05 | 00 | | | | | | | 288 | |

CTD/
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

**Monitor Checks**

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

**Data Location**

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at S Start | | |
| at B Sc | | |
| at S D | | |

Remarks

| Pos. | Bot. | T Rack | Trip Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Nos. Bottle | Bottle | | | | Pos. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | bot | | | | | | X | | | | | | 1 |
| 2 | | | mex 16 | | | | | | X | | | | | | 2 |
| 3 | | | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | 12 |

153
90
63

Pg. ___ of

| Consec. Cast # | Vessel | Proj & Leg | Event # | Vessel Sta. ID | Sta Designation |
|---|---|---|---|---|---|
| | Alpha Helix | Shark Front 1 | | | 052-9 |

| Consec. Cast # | Latitude Deg | Min. | N or S | Longitude Deg. | E or W | Date JD Day | Mo | Yr. | Time GMT Hr. | Min | S.S. | Vis. | Wind Dir. | Wind Sp. | Cloud Type | Weather | Bottom Depth, m | Sta Name or ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 297 | 54 | 57.35 | | 166 | 47.60 | 28 | June | 97 | 06 | 18 | | | | | | | 161 | |

CTD/
Type & SN Seabird 911+
Press. SN
Temp. SN
Cond. SN

Monitor Checks

| | on Deck | at Surface |
|---|---|---|
| Press. | | |
| Temp. | | |
| Cond. | | |
| Other | | |

Data Location

| | Tape/Diskette I.D. | File Name/Header |
|---|---|---|
| at Start | | |
| at Start | | |
| at Start | | |
| at Start | | |

Remarks

| Pos | Bot. | T Rack | Trip Depth | Time @ Depth | Time @ Trip | Monitor Values (Secondary) Press. | Temp. | Cond. | Sal. | | Salinity Vals. Bottle | Bottle | | | | Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 64 | | | | | | | X | | | | | | 1 |
| 2 | | | 64 | | | | | | | X | | | | | | 2 |
| 3 | | | 0 | | | | | | | X | | | | | | 3 |
| 4 | | | | | | | | | | | | | | | | 4 |
| 5 | | | | | | | | | | X | | | | | | 5 |
| 6 | | | | | | | | | | | | | | | | 6 |
| 7 | | | | | | | | | | X | | | | | | 7 |
| 8 | | | | | | | | | | | | | | | | 8 |
| 9 | | | | | | | | | | X | | | | | | 9 |
| 10 | | | | | | | | | | | | | | | | 10 |
| 11 | | | | | | | | | | X | | | | | | 11 |
| 12 | | | | | | | | | | | | | | | | 12 |

12