



| Voyage #: | IN2017_E01 | | | | | | | |
|------------------|--------------------------------|--------------------------|---------------------------|--|--|--|--|--|
| Voyage title: | MNF Equipment Sea | MNF Equipment Sea Trials | | | | | | |
| Mobilisation: | Hobart: 5– 6 January | Hobart: 5– 6 January | | | | | | |
| Depart: | Hobart: 18:00 Friday 6 January | | | | | | | |
| Return: | Hobart: 07:00 Monday 9 January | | | | | | | |
| Voyage Manager: | Steve McCullum | Contact details: | Stephen.mccullum@csiro.au | | | | | |
| Chief Scientist: | N/A | Contact details: | | | | | | |
| Affiliation: | MNF (CSIRO) | Contact details: | Mark.scanlon@csiro.au | | | | | |

General

The CTD trials voyage will start & finish in Hobart. It will comprise predominantly of CTD system trials in preparation for future voyages, with other opportunistic function testing taking place as time permits.

- 2 -

Scientific Objectives

Nil

Voyage Objectives

The Primary objective of IN2017_E01 is to complete the sea trial regime as follows:

- Demonstrate the 2 x CTD system function correctly after recent winch modifications & wire re spooling;
- Verify RAPP software updates to the CTD winches;
- Deep towed camera system testing after modifications (SIT);
- Verify integrity of seismic air system after modifications (MNF);
- Complete weather radar function testing (SIT);
- Deploy work boat and compile a lesson's learnt / improvements list.

Voyage Activity Summary

The following list details the key activities planned for IN2017_E01:

- Transit from Hobart to CTD test location;
- Complete CTD testing;
- Complete seismic air system testing;
- Transit from CTD test location to Storm Bay;
- Complete towed camera system testing (Storm Bay);
- Transit from Storm Bay to Hobart.

Voyage Specific Risks

The key challenge around completion of the sea trials program will be managing safe operations in testing new / modified equipment for the first time. A number of high risk activities have been identified and will be mitigated as follows:

- Maintaining exclusion zone around wires under tension during load / function testing;
- Ensuring all personnel wear appropriate ear protection during seismic air system testing.

ASP Standard Operating Procedures, JSA's and toolbox meetings will be followed throughout the voyage to reduce risk to operations.

Investigator equipment (MNF & User) Requirements

N/A

Voyage Activity Plan

The following vessel schedule for IN2017_E01 is based on a steaming speed of 11 knots and is indicative in nature. The schedule has been arranged to allow for the first trawling trials to be completed in daylight hours with transits completed at night between trawling activities. Changes to the voyage execution plan may be made by the Master in conjunction with the Voyage Manager & to ensure the most efficient and safe use of the vessel is achieved. This may include re sequencing works taking into consideration the weather / sea state encountered on site.

| Dav | Data | Tiı | me | — Activity | | |
|----------|---|-------|--|---|--|--|
| Day | Date | From | То | | | |
| | | 18:00 | 19:30 | Depart PW4 & transit to Hobart PBG | | |
| Day | 6/01/2017 | 19:30 | 20:00 | Disembark pilot at Hobart PBG & steam to Storm Bay (5Nm, 0.5hrs @11knots) | | |
| 1 | 0/01/2017 | 20:00 | 21:30 | Deploy, test & recover work boat (1.5hrs) | | |
| | | 21:30 | 8:30 | Steam from Storm Bay to CTD test site (120Nm, 11Hrs @11knots) | | |
| Day 2 | 7/01/2017 | 8:30 | 23:59 | CTD Winch #1 Testing Start-up seismic air compressors & verify functioning satisfactorily post modifications On completion of winch motor synchronisation software updates : Deploy stbd trawl winch Deploy port trawl winch Deploy GP winch | | |
| Dav | | 5:00 | 16:30 | CTD Winch #2 Testing | | |
| 3 | 8/01/2017 | 16:30 | 3:30 | Steam from CTD test site to Storm Bay (120Nm, 11Hrs @11knots) | | |
| | | 3:30 | 5:30 | Deploy, test & recover deep towed camera (2hrs) | | |
| Day | 0/01/2017 | 5:30 | 6:00 | Transit Storm Bay to Hobart PBG (5Nm, 0.5hrs @11knots) | | |
| 4 | 6:00 7:00 Board pilot @ Hobart PBG & transit to PW4 (5Nm, 1hrs @5knots) | | Board pilot @ Hobart PBG & transit to PW4 (5Nm, 1hrs @5knots) | | | |
| | | 7:00 | 7:30 | Tie up alongside PW4 | | |

Waypoints and stations

| Name | Lat | Long | Distance (Nm) | Transit Time (Hrs) | Total Distance (Nm) | Total Transit Time (Hrs) |
|-----------------|-------------|--------------|------------------|--------------------------|---------------------------|--------------------------------|
| PW4 | 42°53.170'S | 147°20.321'E | 0 | 0.0 | 0 | 0.0 |
| Sullivans Cove | 42°53.100'S | 147°20.396'E | 0.2 | 0.0 | 0 | 0.0 |
| Battery Pt | 42°53.096'S | 147°20.661'E | 2 | 0.2 | 0.2 | 0.2 |
| John Garrow Bcn | 42°54.757'S | 147°22.976'E | 1 | 0.1 | 2.2 | 0.3 |
| HBA PBG | 42°55.411'S | 147°22.974'E | 3.2 | 0.3 | 3.2 | 0.6 |
| White Rock | 42°58.583'S | 147°22.499'E | 4.8 | 0.4 | 6.4 | 1.0 |
| Iron Pot | 43°03.697'S | 147°23.455'E | 19.5 | 1.8 | 11.2 | 2.8 |
| Cape Raoul | 43°16.233'S | 147°43.853'E | 13.3 | 1.2 | 30.7 | 4.0 |
| Tasman Island | 43°16.223'S | 148°02.007'E | 85 | 7.7 | 44 | 11.7 |
| CTD Test Site | 42°31.882'S | 149°41.688'E | 2.5 | 0.2 | 129 | 12.0 |
| CTD Test Return | 42°34.273'S | 149°44.340'E | 86.4 | 7.9 | 131.5 | 19.8 |
| Tasman Island | 43°16.223'S | 148°02.007'E | 13.1 | 1.2 | 217.9 | 21.0 |
| Cape Raoul | 43°16.233'S | 147°43.853'E | 19.4 | 1.8 | 231 | 22.8 |
| Iron Pot | 43°03.697'S | 147°23.455'E | 5.5 | 0.5 | 250.5 | 23.3 |
| White Rock | 42°58.583'S | 147°22.499'E | 3.2 | 0.3 | 256 | 23.6 |
| HBA PBG | 42°55.411'S | 147°22.974'E | 0.3 | 0.0 | 259.1 | 23.6 |
| John Garrow Bcn | 42°54.757'S | 147°22.976'E | 2.7 | 0.2 | 259.4 | 23.8 |
| Battery Pt | 42°53.096'S | 147°20.661'E | 0.2 | 0.0 | 262.1 | 23.8 |
| Sullivans Cove | 42°53.100'S | 147°20.396'E | | | 262.4 | 23.8 |

Voyage Track

The voyage track in figure 1 below has been chosen as a direct route to an area off the shelf of Maria Island that provides a water depth in the range of 4000m. The voyage track will be adjusted as required by the Master / crew taking into consideration weather, other vessels and the other operational considerations as required.



Figure 1:- Indicative Voyage track

Tests & Trials Activities

CTD Winch tests

The testing regime described in Inspection Test Plan (ITP) located in Appendix 1 will be the basis of CTD trials for each of the winches. All testing will be performed under the direction of the Chief Engineer in consultation with the RAPP technician. On successful completion of the testing, the ITP shall be signed off by the Chief Engineer & Rapp technician as a record of testing completed, with a punch list of any corrective actions required prepared. The high level plan for tests is as follows

- Deploy & retrieve rosette from CTD#1 3-4 times and verify functionality as per the ITP
- Disconnect CTD winch#1 wire from rosette
- Re terminate CTD winch#2 wire to the Rosette
- Deploy & retrieve rosette from CTD#2 3-4 times and verify functionality as per the ITP

Seismic Air System Function Testing

The seismic air system has been modified during the recent Hobart port period. Additional pipework has been added downstream of the Fischer valve, routing discharge / overpressure air overboard via a silencer located in the port side fan house on main deck. Both compressors will be operated during the function test as follows

- Startup port & stbd compressors run for 1-2hrs;
- Confirm air supply in sheltered science area;
- Confirm integrity of all pipework mounts ;
- Confirm both compressors operating soundly (no leaks, over pressure, over heating etc);
- Confirm integrity of additional accumulator bottle modification;
- Assess noise levels on the main deck during seismic compressor operation;
- Confirm whether 1 or 2 air intake goosenecks required to ventilate the compressor space.

A punch list of any remedial actions required prior to 2017_V01 will be developed by the chief engineer for action upon return to port.

Deep Tow Camera Testing

The deep tow camera will be modified to improve its underwater stability prior to IN2017_E01. Approximately 2hrs vessel time is required to deploy the deep towed camera with the following requirements

- Water depth greater than 50m
- Ship speed 2 knots through the water

The camera's behavior will be scrutinized by monitoring the pitch and roll sensors mounted to the unit, thus confirming if the modifications have been successful.

The plan is to deploy the deep tow camera from the towed body winch & perform deep tow camera testing in Storm bay during the return to Hobart. Deep tow camera testing may be performed opportunistically if there are unforeseen delays during CTD winch testing.

CSIRO Seagoing Instrumentation Team Tests & Trials

The Seagoing Instrumentation Team (SIT) have a number of tests and trials to be performed during IN2017_E01, the majority of which can be done independently and parallel to CTD trials. The CSIRO SIT function test regime includes:

• Weather radar function testing by subcontractor EEC (no vessel time required);

• VSAT function test by SIT/ DAP staff (no vessel time required);

The SIT team lead will be responsible for preparing function test procedures and collating and storing any testing / calibration data as required.

Work Boat testing

The vessels work boat will be deployed Storm Bay with the intention of assessing the safety & practicality of deployment, operation & recovery of the current work boat with the vessels main crane. The master & chief Engineer will prepare a list of recommendations after work boat tests

Personnel List

| ID | Surname | First name | Organisation | Role |
|----|------------|------------|--------------|--------------------------|
| 1 | Scanlon | Mark | CSIRO | Voyage Manager |
| 2 | Burton | Zoe | CSIRO | Operations Support |
| 3 | Tyndal | Aaron | CSIRO | Seagoing Instrumentation |
| 4 | Muir | Brett | CSIRO | Seagoing Instrumentation |
| 5 | Van Graas | Steve | CSIRO | DAP Support |
| 6 | Underwood | Mark | CSIRO | Observer |
| 7 | Youngblood | Jim | EEC | Weather Radar Technician |
| 8 | Milnes | Nathan | ASP | Electrician |

Appendix A – CTD winch inspection test plan

RV Investigator INSPECTION & TEST PLAN CTD Winches

| | | | | | | INSPECTO | | | |
|------------------|--|---|--|--|---|-----------------|----------------|----------------|---|
| ITEM NO. | ACTIVITY | BY | CONTROL DOCUMENT | ACCEPTANCE CRITERIA | VERIFYING DOCUMENT | ASP | | Rapp | 4 |
| H W R M | Inspection Surveillance Code Hold Point Witness Point Document Review Monitoring Point (Random Witness) | Presence o The verifyin Examination Work proce | f the inspections authority is mar g party must be notified in advan n to confirm that document is in a eds without the presence and an | Definition datory ce of the execution of the relevant act accordance with specified requirement y special information to the authority b | ivity. The absence of verifying au s ut the authority may attend this a | thority does no | ot suspend the | execution proc | ess. |
| 1.0 | Task Plan #1 - CTD Winch #1 (Inboard / Winch 6) - Manual M | lode | | | | | | | |
| 1.01 | Confirm Software updates completed | ASP | CTD Winch O&M Manual | Softwaree update complete by Rapp | This ITP | н | м | н | |
| 1.02 | Confirm all timeouts for winch, boom etc are set to a standard timeout duration (AHC Timeout, Brake timeout, winch timeout all set to standard duration) | ASP | CTD Winch O&M Manual | 120-180seconds (TBC on site) | | н | | | |
| 1.03 | Confirm Operation of Boom | ASP | CTD Winch O&M Manual | full extension of boom | This ITP | н | w | м | |
| 1.04 | Confirm CT mode operational during launch and recovery of Rosette | ASP | CTD Winch O&M Manual | in CT mode wire pays out automatically as operator booms out | This ITP | н | w | м | 21/8: currently operators not u this was stated as being due to see flashing screen to confirm keep a visual on the CTD boor mode. If not used CT capabilit |
| 1.05 | Confirm Payout Pay in / out of winch | ASP | CTD Winch O&M Manual | level winder spooling in correct direction | Visual Inspection | н | w | w | |
| 1.06 | Confirm AHC operational without payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | 21/8: AHC operational but not CTD cast to be peformed with to assess the AHC peformanc |
| 1.07 | Confirm AHC operational during manual payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | 21/8: Pay in / out operating fin a wrap it appears the system g manual spooling to finish a wra the operator looking at camera |
| 1.08 | Confirm AHC operational during autol payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 1.09 | Confirm tension teadout from Rapp feeding into the CSIRO system (From Motor readout) | ASP | CTD Winch O&M Manual | Motor tension data feeding into CSIRO system | This ITP | н | н | | 21/8: issue identified in softwa at the wrong address. Rapp (N ensure these parameters are p |
| 1.10 | Confirm tension teadout from Rapp feeding into the CSIRO system (From Load cell readout) | ASP | CTD Winch O&M Manual | Load cell data feeding into CSIRO system | This ITP | н | н | | 21/8: issue identified in softwa at the wrong address. Rapp (N ensure these parameters are p |
| 1.11 | Auto stop using dBar funtion working when not in AHC mode (using CSIRO pressure input as stop point) | ASP | CTD Winch O&M Manual | whinch stops at pre programmed depth +/-1m | This ITP | н | н | | 21/8: CSIRO to request this fu worked on one of the original s upgrades this has been lost |
| 1.12 | Auto stop using dBar funtion working when in AHC mode (using CSIRO pressure input as stop point) | ASP | CTD Winch O&M Manual | whinch stops at pre programmed depth +/-1m | This ITP | н | н | | 21/8: CSIRO to request this fu worked on one of the original s upgrades this has been lost |
| 1.13 | Confirm Winch switches out of auto pay out / haul in mode when joystick activated | ASP | CTD Winch O&M Manual | winch switches to manual mode | This ITP | н | н | | 21/8: ASP / Rapp advise this r effectively emergency stops th this funtionality is required and reduce risk of damage to winc |
| 1.14 | CTD brake re set & tested to WLL | ASP | CTD Winch O&M Manual | Brake render test to WLL of winch completed and held for 5 min | This ITP | н | н | м | 21/8: Brake adjusted under the operation |
| 1.15 | Confirm CTD brake automatically engages after 2 minutes of inactivitity | ASP | CTD Winch O&M Manual | | This ITP | н | н | | |
| 1.16 | Confirm displays are consistent on remote and manual controllers when in CT mode | ASP | CTD Winch O&M Manual | displays flash when NOT in CT | This ITP | н | н | м | |
| 1.17 | Confirm lockout (boom extend solenoid or HPU de-energised) on boom operation if both CTD brakes are ON | ASP | CTD Winch O&M Manual | | This ITP | н | н | | 21/8: CSIRO to review what fu request to ASP. Likely want a CT boom to be moved if the C is activated |

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| using CT mode during launch & recovery, to operators needing to look at remote to m CT mode is engaged and not being able to om. CSIRO / ASP to confirm preferred L&R lity to be removed. |
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| ot peforming as well as expected. Second h vessel motions and CTD pressure logged ace |
| ne however issues as wire gets to the end of get's confuesed and sometimes requires rrap / start a new wrap. This relies heavily on ra's during pay in / out |
| |
| rare of the CSIRO system looking for outputs (Norway) to send updated python script to picked up by CSIRO system |
| rare of the CSIRO system looking for outputs (Norway) to send updated python script to picked up by CSIRO system |
| functionality re instated, noting it's only ever sea trials and since subsequent softwaree |
| functionality re instated, noting it's only ever I sea trials and since subsequent softwaree |
| method of switching out of auto mode the winches. CSIRO / ASP to review whether nd if not remove funtionality from system to ches |
| guidance from Rapp, noting the method in ns manual was not followed. |
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| funtionality / lockout they want and put a software command that does not allow the CT winch has timed out until override swith |

RV Investigator INSPECTION & TEST PLAN CTD Winches

| ITEM NO | ΔΟΤΙΛΙΤΧ | BV | | ACCEPTANCE CRITERIA | | INSPECTIO | | ANCE CODE | |
|----------|--|------|----------------------|---|---|-----------|-------|-----------|--|
| TTEM NO. | Admini | 51 | CONTROL DOCOMENT | ACCEPTANCE ON TENA | VERAL HING DOCUMENT | ASP | CSIRO | Rapp | |
| 1.18 | Confirm lineout reading from Rapp system feeding into CSIRO system | ASP | CTD Winch O&M Manual | Lineout data received by CSIRO system | This ITP | н | н | | 21/8: issue identified in softw at the wrong address. Rapp ensure these parameters are |
| 1.19 | Confirm lineout speed from Rapp system feeding into CSIRO system | ASP | CTD Winch O&M Manual | Lineout spped data received by CSIRO system | This ITP | н | н | | 21/8: issue identified in softwat the wrong address. Rappensure these parameters are |
| 2.0 | Task Plan #2 - CTD Winch #1 (Inboard / Winch 6) - Remote I | Vode | | • | | | | | |
| 2.01 | Confirm Software updates completed | ASP | CTD Winch O&M Manual | Softwaree update complete by Rapp | This ITP | н | м | н | |
| 2.02 | Confirm all timeouts for winch, boom etc are set to a standard timeout duration (AHC Timeout, Brake timeout, winch timeout all set to standard duration) | ASP | CTD Winch O&M Manual | 120-180seconds (TBC on site) | | н | | | |
| 2.03 | Confirm Operation of Boom | ASP | CTD Winch O&M Manual | full extension of boom | This ITP | н | w | м | |
| 2.04 | Confirm CT mode operational during launch and recovery of Rosette | ASP | CTD Winch O&M Manual | in CT mode wire pays out automatically as operator booms out | This ITP | н | w | м | |
| 2.05 | Confirm Payout Pay in / out of winch | ASP | CTD Winch O&M Manual | level winder spooling in correct direction | Visual Inspection | н | w | w | |
| 2.06 | Confirm AHC operational without payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 2.07 | Confirm AHC operational during manual payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 2.08 | Confirm Winch switches out of auto pay out / haul in mode when joystick activated | ASP | CTD Winch O&M Manual | winch switches to manual mode | This ITP | н | н | | |
| 2.09 | Confirm CTD brake automatically engages after [HOLD] seconds of inactivitity | ASP | CTD Winch O&M Manual | | This ITP | н | н | | |
| 2.10 | Confirm Displays are consistent on remote and manual controllers when in AHC mode | ASP | CTD Winch O&M Manual | displays flash when NOT in AHC | This ITP | н | н | м | |
| 2.11 | Confirm lockout (boom extend solenoid or HPU de-energised) on boom operation if both CTD brakes are ON | ASP | CTD Winch O&M Manual | modo | This ITP | н | н | | (if one winch is active the or removes the need to spece |
| 3.0 | Task Plan #3 - CTD Winch #2 (Outboard / Winch 7) - Manual | Mode | • | • | · | | | | |
| 3.01 | Confirm Software updates completed | ASP | CTD Winch O&M Manual | Softwaree update complete by Rapp | This ITP | н | м | н | |
| 3.02 | Confirm all timeouts for winch, boom etc are set to a standard timeout duration (AHC Timeout, Brake timeout, winch timeout all set to standard duration) | ASP | CTD Winch O&M Manual | 120-180seconds (TBC on site) | | н | | | |
| 3.03 | Confirm Operation of Boom | ASP | CTD Winch O&M Manual | full extension of boom | This ITP | н | w | м | |
| 3.04 | Confirm CT mode operational during launch and recovery of Rosette | ASP | CTD Winch O&M Manual | in CT mode wire pays out automatically as operator booms out | This ITP | н | w | м | |
| 3.05 | Confirm Payout Pay in / out of winch | ASP | CTD Winch O&M Manual | level winder spooling in correct direction | Visual Inspection | н | w | w | |
| 3.06 | Confirm AHC operational without payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 3.07 | Confirm AHC operational during manual payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 3.08 | Confirm AHC operational during autol payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 3.09 | Confirm tension teadout from Rapp feeding into the CSIRO system (From Motor readout) | ASP | CTD Winch O&M Manual | Motor tension data feeding into CSIRO system | This ITP | н | н | | |
| 3.10 | Confirm tension teadout from Rapp feeding into the CSIRO system (From Load cell readout) | ASP | CTD Winch O&M Manual | Load cell data feeding into CSIRO system | This ITP | н | н | | |
| 3.11 | Auto stop at depth funtion working when not in AHC mode (using CSIRO pressure input as stop point) | ASP | CTD Winch O&M Manual | whinch stops at pre programmed depth +/-1m | This ITP | н | н | | |
| 3.12 | Auto stop at depth funtion working when in AHC mode (using CSIRO pressure input as stop point) | ASP | CTD Winch O&M Manual | whinch stops at pre programmed depth +/-1m | This ITP | н | н | | |
| 3.13 | Confirm Winch switches out of auto pay out / haul in mode when joystick activated | ASP | CTD Winch O&M Manual | winch switches to manual mode | This ITP | н | н | | |

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| are of the CSIRO system looking for outputs Norway) to send updated python script to picked up by CSIRO system |
| are of the CSIRO system looking for outputs Norway) to send updated python script to picked up by CSIRO system |
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| ther will be inactive with the brake on – this |
| ly which which is connected to the boom). |
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RV Investigator INSPECTION & TEST PLAN CTD Winches

| ITEM NO. | ACTIVITY | BY | CONTROL DOCUMENT | ACCEPTANCE CRITERIA | VERIFYING DOCUMENT | INSPECTIO | | ANCE CODE | |
|----------|---|------|----------------------|---|---|-----------|-------|-----------|--|
| | | - | | | | ASP | CSIRO | Rapp | |
| 3.14 | CTD brake re set & tested to WLL | ASP | CTD Winch O&M Manual | Brake render test to WLL of winch completed and held for 5 min | This ITP | Н | н | м | |
| 3.15 | Confirm CTD brake automatically engages after [HOLD] seconds of inactivitity | ASP | CTD Winch O&M Manual | | This ITP | н | н | | |
| 3.16 | Confirm Displays are consistent on remote and manual controllers when in AHC mode | ASP | CTD Winch O&M Manual | Both operation rrom & remote displays flash when NOT in AHC mode | This ITP | Н | н | м | |
| 3.17 | Confirm lockout (boom extend solenoid or HPU de-energised) on boom operation if both CTD brakes are ON | ASP | CTD Winch O&M Manual | | This ITP | н | н | | (if one winch is active the or removes the need to spec |
| 3.18 | Confirm lineout reading from Rapp system feeding into CSIRO system | ASP | CTD Winch O&M Manual | Lineout data received by CSIRO system | This ITP | н | н | | |
| 3.19 | Confirm lineout speed from Rapp system feeding into CSIRO system | ASP | CTD Winch O&M Manual | Lineout spped data received by CSIRO system | This ITP | н | н | | |
| TP 4 | Task Plan #4 - CTD Winch #2 (Outboard / Winch 7) - Remote | Mode | | | | | | | |
| 2.01 | Confirm Software updates completed | ASP | CTD Winch O&M Manual | Softwaree update complete by Rapp | This ITP | н | м | н | |
| 2.02 | timeout duration (AHC Timeout, Brake timeout, winch timeout | ASP | CTD Winch O&M Manual | 120-180seconds (TBC on site) | | н | | | |
| 2.03 | Confirm Operation of Boom | ASP | CTD Winch O&M Manual | full extension of boom | This ITP | н | w | м | |
| 2.04 | Confirm CT mode operational during launch and recovery of Rosette | ASP | CTD Winch O&M Manual | in CT mode wire pays out automatically as operator booms out | This ITP | н | w | м | |
| 2.05 | Confirm Payout Pay in / out of winch | ASP | CTD Winch O&M Manual | level winder spooling in correct direction | Visual Inspection | н | w | w | |
| 2.06 | Confirm AHC operational without payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 2.07 | Confirm AHC operational during manual payout / pay in | ASP | CTD Winch O&M Manual | Maximum change in depth of CTD rosette [HOLD] | Visual inspection, monitoring of CTD depth log | н | н | w | |
| 2.08 | Confirm Winch switches out of auto pay out / haul in mode when joystick activated | ASP | CTD Winch O&M Manual | winch switches to manual mode | This ITP | н | н | | |
| 2.09 | Confirm CTD brake automatically engages after [HOLD] seconds of inactivitity | ASP | CTD Winch O&M Manual | | This ITP | н | н | | |
| 2.10 | Confirm Displays are consistent on remote and manual controllers when in AHC mode | ASP | CTD Winch O&M Manual | displays flash when NOT in AHC | This ITP | н | н | м | |
| 2.11 | Confirm lockout (boom extend solenoid or HPU de-energised) on boom operation if both CTD brakes are ON | ASP | CTD Winch O&M Manual | | This ITP | н | н | | (if one winch is active the or removes the need to spec |
| TP 5 | ASP Crew - Training | | • | | | | | | |
| 5.01 | Crew Trained in L&R in manual mode | ASP | | | This ITP | Н | Н | | |
| 5.02 | Crew trained in L&R in CT mode | ASP | | Signed Crow Training attendance | This ITP | Н | н | | |
| 5.03 | Crew familiarised with new standardised timeout settings | ASP | records | records submitted to MNE | This ITP | н | н | | |
| 5.04 | Crew familiarised in autodepth operations | ASP | | records submitted to MINF | This ITP | Н | Н | | |
| 5.05 | Crew familiarised that both manual and remote screens flash | ASP |] | | This ITP | Н | Н | | |

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| ther will be inactive with the brake on – this ify which winch is connected to the boom). |
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