

4.1 WENDWG6-04.1A2 – Part B

Full results from IC-ENC Investigation on overlapping data scenarios on ECDIS

This paper details the full recorded results from which 4.1 WENDWG6-04.1A2 – Part A Report on scenarios and test cases on ECDIS was produced. For an overall summary of the results please refer to Part A.

The scenarios referred to in the paper relate to the following:

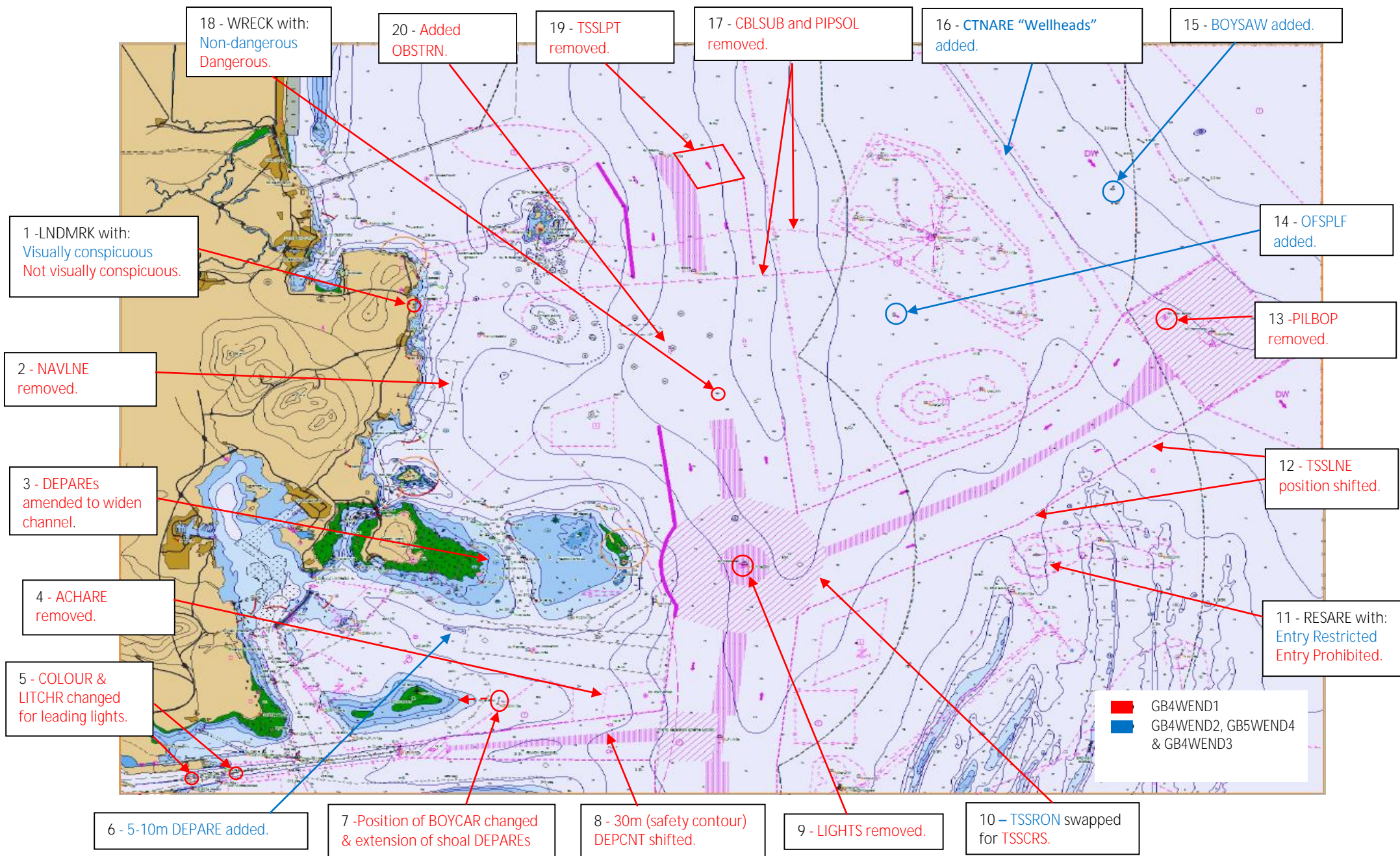
Scenario	Cell 1	Cell 2
1 – Same Scale, Same Usage Band	GB4WEND1 (scale 1:45,000)	GB4WEND2 (scale 1:45,000)
2 – Same Scale, Different Usage Band	GB4WEND1 (scale 1:45,000)	GB5WEND4 (scale 1:45,000)
3 – Different Scale, Same Usage Band	GB4WEND1 (scale 1:45,000)	GB4WEND3 (scale 1:22,000)

The assessment regarding the display of the amended objects refers to whether the amended item in question displays. If the table lists N for display, the cell will display the cell attribution prior to manual alteration.

WENDWG6-04.1A2 – Part B follows the outline listed:

- Figure A1 - Test Data - manually amended navigationally significant objects (numbered for result details)
- Results for ECDIS A – Table A
- Associated photos – Figure A2 – A13
- Results for ECDIS B – Table B
- Associated photos – Figure B1 – B9
- Results for ECDIS C – Table C
- Associated photos – Figure C1 – C2
- Results for ECDIS D – Table D
- Associated photos – Figure D1 – D19
- Results for ECDIS E – Table E
- Associated photos – Figure E1 – E4

Figure A1 – Test Data - manually amended navigational significant objects (numbers relate to results table)



Results for ECDIS A – Table A

WEND WG ECDIS TESTING			
ECDIS	ECDIS A	VERSION No.	XX
ENCRYPTED:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	ECDIS DISPLAY setting	ALL - DAY
SCENARIO 1	<p>Pan: At 40 & 50k GB4WEND1 displays. As pan across screen, when edges of GB4WEND1 & GB4WEND2 display selection switches to GB4WEND2. The point at which is switches isn't consistent.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 30k W GB4WEND 1 until 40k when switches to GB4WEND2 but at 100k switches back to GB4WEND1 (<i>Fig. A2</i>) At the centre of the cell GB4WEND1 displays but towards the edge of the cell GB4WEND2.</p> <p>Ship's passage: Initial cell is GB4WEND2, switches to GB4WEND1 as soon as hits cell. Expected navigational warnings triggered.</p>		
SCENARIO 2	<p>Pan: As above (Scenario 1)</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 10k W GB4WEND 1 until 15k when switches to GB5WEND4 but at 60k switches back to GB4WEND1 (<i>Fig. A3 & A4</i>). At the centre of the cell GB4WEND1 displays but towards the edge of the cell GB4WEND2.</p> <p>Ship's passage: Initial cell is GB5WEND4, switches to GB4WEND1 as soon as hits cell. Expected navigational warnings triggered – slightly different order to Scenario 1 but key items triggered. Scenario 2 & 3 produced the same warnings.</p>		
SCENARIO 3	<p>Pan: Less consistent pan, at 40 & 50k GB4WEND1 dominant cell except in the top right hand corner. (<i>Fig. A5 & A6</i>). Both cells are displayed in the pick list (<i>Fig. A7</i>). At 30k GB4WEND3 dominant for the whole of the cell.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) 10k GB4WEND3, at 40k GB4WEND1 up to 200k. At the centre of the cell at 10k GB4WEND3, at 40k GB4WEND1 up to 200k.</p> <p>Ship's passage: Initial cell is GB4WEND3, switches to GB4WEND1 as soon as hits cell. Expected navigational warnings triggered – slightly different order to Scenario 1 but key items triggered. Scenario 2 & 3 produced the same warnings.</p>		

Scenario 1

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y (amended)	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	Y	
12	Shift in TSS lanes	GB4WEND1	Y	Y	
13	PILBOP (deleted)	GB4WEND2	Y	Y	<i>Fig. A8 & A9</i>
14	OFSPLF	GB4WEND1	N	N	
15	BOYSAW	GB4WEND2	Y	Y	
16	CTNARE (wellheads)	GB4WEND2	Y	Y	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	N	
20	OBSTRN added to GB4WEND1	GB4WEND1	N	N	

Scenario 2

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	Y	
12	Shift in TSS lanes	GB4WEND1	Y	Y	
13	PILBOP (deleted)	GB5WEND4	Y	Y	
14	OFSPFL	GB4WEND1	N	N	
15	BOYSAW	GB5WEND4	Y	Y	
16	CTNARE (wellheads)	GB5WEND4	Y	Y	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB5WEND4	Y	Y	
20	OBSTRN added to GB4WEND1	GB4WEND1	N	N	

Scenario 3

No.	Object/Feature	Which cell displays?		Display?		Pick report		Photo no.	
		50 k	30k	50k	30k	50k	30k	50k	30k
1	LNDMRK (convis)	GB4WEND1	GB4WEND3	N	Y	N	Y		<i>Fig. A10</i>
2	NAVLNE	GB4WEND1	GB4WEND3	N	Y	N	Y		
3	Amended channel	GB4WEND1	GB4WEND3	Y	N	Y	N		
4	ACHARE	GB4WEND1	GB4WEND3	N	Y	N	Y		<i>Fig. A11</i>
5	LIGHTS amended	GB4WEND1	GB4WEND3	Y	N	Y	N		
6	Shoal depth	GB4WEND1	GB4WEND3	N	Y	N	Y		
7	BOYCAR amended	GB4WEND1	GB4WEND3	Y	N	Y	N		
8	Safety Contour 30m (amended)	GB4WEND1	GB4WEND3	Y	N	Y	N		
9	LIGHTS	GB4WEND1	GB4WEND3	N	Y	N	Y		
10	TSSCRS	GB4WEND1	GB4WEND3	Y	Y	N	N	<i>Fig. A12</i>	<i>Fig. A13</i>
11	RESARE (prohibited)	GB4WEND1	GB4WEND3	Y	N	Y	N		
12	Shift in TSS lanes	GB4WEND1	GB4WEND3	Y	N	Y	N		
13	PILBOP (deleted)	GB4WEND1	GB4WEND3	N	Y	N	Y		
14	OFSPLF	GB4WEND1	GB4WEND3	N	Y	N	Y		
15	BOYSAW	GB4WEND1	GB4WEND3	N	Y	N	Y		
16	CTNARE (wellheads)	GB4WEND1	GB4WEND3	N	Y	N	Y		
17	CBLSUB & PIPSOL	GB4WEND1	GB4WEND3	N	N	N	N		
18	WRECKS (dangerous)	GB4WEND1	GB4WEND3	Y	N	Y	N		
19	TSSLPT	GB4WEND1	GB4WEND3	N	Y	N	Y		
20	OBSTRN added to GB4WEND1	GB4WEND1	GB4WEND3	N	Y	N	Y		

Associated photos – Figure A2 – A13

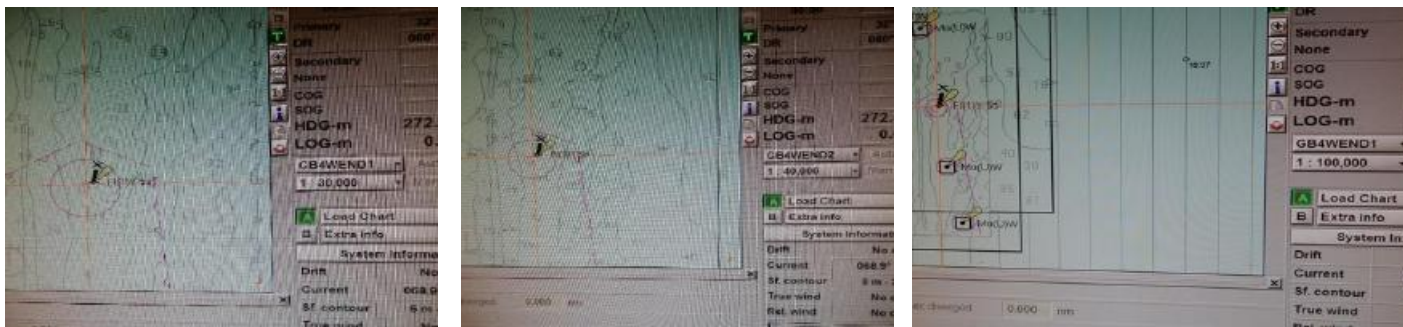


Figure A2 – ECDIS A differing chart selection based on display scale

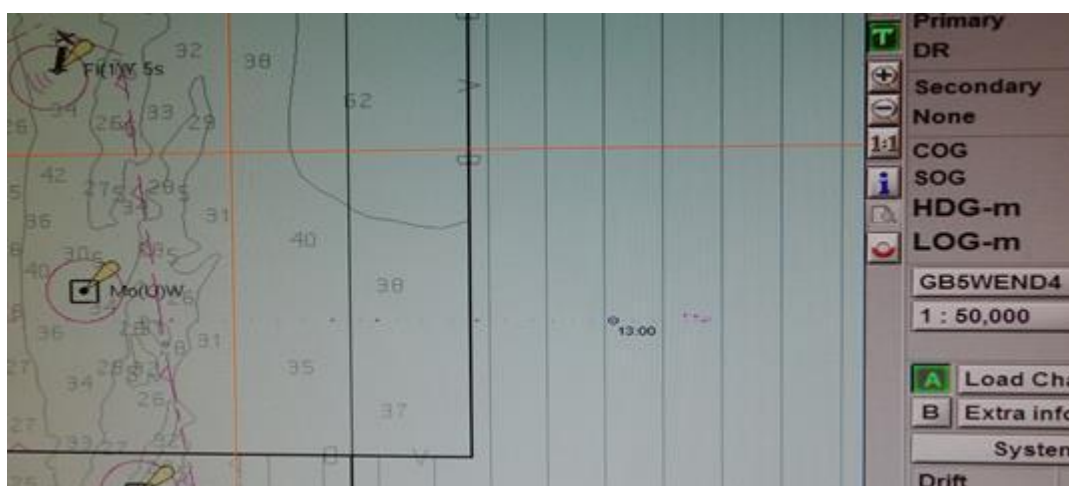


Figure A3 – Zoom in Scenario 2 GB5WEND4 displaying



Figure A4 – Zoom in Scenario 2 GB4WEND1 displaying



Figure A5 – Scenario 3 panning of cell display GB4WEND1



Figure A6 – Scenario 3 panning of cell display GB4WEND3

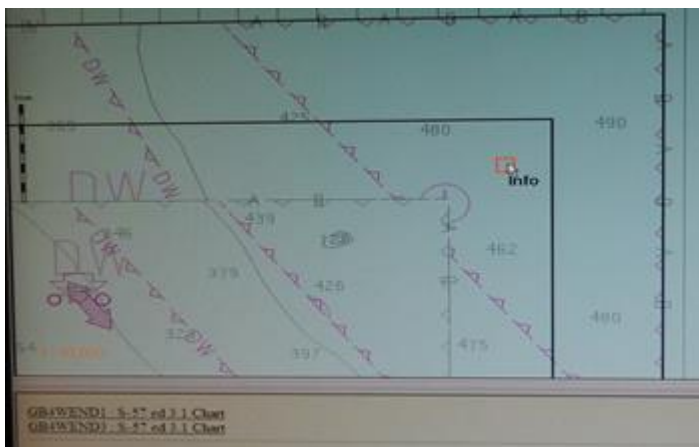


Figure A7 – Both cells listed in the Pick report for Scenario 3



Figure A8 – PILBOP not displaying on GB4WEND1



Figure A9 – PILBOP displaying on GB4WEND2



Figure A10 – LNDMRK (convis) displaying on GB4WEND3



Figure A11 – ACHARE displaying on GB4WEND3



Figure A12 – TSSCRS displaying on GB4WEND1



Figure A13 – TSSRON displaying on GB4WEND3

Results for ECDIS B – Table B

WEND WG ECDIS TESTING			
ECDIS	ECDIS B	VERSION No.	XX
ENCRYPTED:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	ECDIS DISPLAY setting	Other (full)
SCENARIO 1	<p>Pan: Zone of no coverage displays around the edge of GB4WEND1 (<i>Fig. B1</i>), when click. When click in the no coverage area pick report lists both cells but displays GB4WEND1. Pan and pick report not consistent. In GB4WEND2 area generally selects and displays that cell. Results often not consistent or repeatable. Appears to store memory of where previously clicked.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 10k GB4WEND1, 20k GB4WEND2 until 100k. Same zooming in. At the centre of the cell GB4WEND1 displays from 10k – 125k, when the display switches to GB4WEND2.</p> <p>Ship's passage: Initial cell is GB4WEND2, switches to GB4WEND1 as soon as hits cell limits. Expected navigational warnings triggered.</p>		
SCENARIO 2	<p>Pan: Zone of no coverage displays around the edge of GB4WEND1, pick report displays GB4WEND1. In GB4WEND1 areas, always dominant cell. In GB5WEND4 only areas always dominant cell.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell). At 10k GB4WEND1 until 150k. At the centre of the cell GB4WEND1 displays from 10k – 150k. In GB4WEND4 only area from 10k-150k GB4WEND4.</p> <p>Ship's passage: Initial cell is GB5WEND4, switches to GB4WEND1 as soon as hits cell limits. Expected navigational warnings triggered.</p>		
SCENARIO 3	<p>Pan: Pan results similar to previous scenarios. At 50k GB4WEND1 is the dominant cell but both are often listed in the pick report – not consistent. At 20-30k GB4WEND3 is dominant, except in the bottom right of cell (<i>Fig. B2</i>). If initially click on GB4WEND1 will remain on this cell until pan across screen until in GB4WEND3 only area.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 10 – 60k GB4WEND1, at 75k switches to GB4WEND1. At the centre of the cell GB4WEND3 until 50k and then switches to GB4WEND1.</p> <p>Ship's passage: Initial cell is GB4WEND3, switches to GB4WEND1 as soon as hits cell limits. Expected navigational warnings triggered.</p>		

Scenario 1

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	Both in report but only GB4WEND1 lists RESARE. Not consistent.	<i>Fig. B3-B5</i>
12	Shift in TSS lanes	GB4WEND1	Y	Both in report but only GB4WEND1 lists TSSLPT	<i>Fig. B6</i>
13	PILBOP (deleted)	GB4WEND1	N	Both in report but neither list PILBOP	<i>Fig. B7</i>
14	OFSPLF	GB4WEND1	N	N	
15	BOYSAW	GB4WEND1	N	Both in report but neither list BOYSAW	<i>Fig. B8</i>
16	CTNARE (wellheads)	GB4WEND1	N	Both in report but only GB4WEND2 lists CTNARE	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	Both in report but neither list TSSLPT	
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Y	<i>Fig. B9</i>

Scenario 2

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	Y	Y	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	Y	
12	Shift in TSS lanes	GB4WEND1	Y	Y	
13	PILBOP (deleted)	GB4WEND1	N	N	
14	OFSPFL	GB4WEND1	N	N	
15	BOYSAW	GB4WEND1	N	N	
16	CTNARE (wellheads)	GB4WEND1	N	N	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	N	
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Y	

Scenario 3

No.	Object/Feature	Which cell displays?		Display?		Pick report		Photo no.	
		50k	30k	50k	30k	50k	30k	50k	30k
1	LNDMRK (convis)	GB4WEND1	GB4WEND3	N	Y	N	Y		
2	NAVLNE	GB4WEND1	GB4WEND3	N	Y	N	Y		
3	Amended channel	GB4WEND1	GB4WEND3	Y	N	Y	N		
4	ACHARE	GB4WEND1	GB4WEND3	N	Y	N	Y		
5	LIGHTS amended	GB4WEND1	GB4WEND1	Y	Y	Y	Y		
6	Shoal depth	GB4WEND1	GB4WEND3	N	Y	N	Y		
7	BOYCAR amended	GB4WEND1	GB4WEND3	Y	N	Y	N		
8	Safety Contour 30m (amended)	GB4WEND1	GB4WEND3	Y	N	Y	N		
9	LIGHTS	GB4WEND1	GB4WEND3	N	Y	N	Y		
10	TSSCRS	GB4WEND1	GB4WEND3	Y	N	Y	N		
11	RESARE (prohibited)	GB4WEND1	GB4WEND3	Y	N	Both in report but only GB4WEND1 lists RESARE	N		
12	Shift in TSS lanes	GB4WEND1	GB4WEND3	Y	N	Y	N		
13	PILBOP (deleted)	GB4WEND1	GB4WEND3	N	Y	Both listed in report but not PILBOP	Y		
14	OFSPLF	GB4WEND1	GB4WEND3	N	Y	N	Y		
15	BOYSAW	GB4WEND1	GB4WEND3	N	Y	Both listed in report but not BOYSAW	Y		
16	CTNARE (wellheads)	GB4WEND1	GB4WEND3	N	Y	N	Y		
17	CBLSUB & PIPSOL	GB4WEND1	GB4WEND3	N	Y	N – both cells listed in report	Y		
18	WRECKS (dangerous)	GB4WEND1	GB4WEND3	Y	N	Y	N		
19	TSSLPT	GB4WEND1	GB4WEND3	N	Y	N	Y		
20	OBSTRN added to GB4WEND1	GB4WEND1	GB4WEND3	Y	N	Y	N		

Comments:

Both cells being reported in the Pick report isn't consistent, depends on where you previously clicked and whether the screen has refreshed.

Associated photos – Figure B1-B9

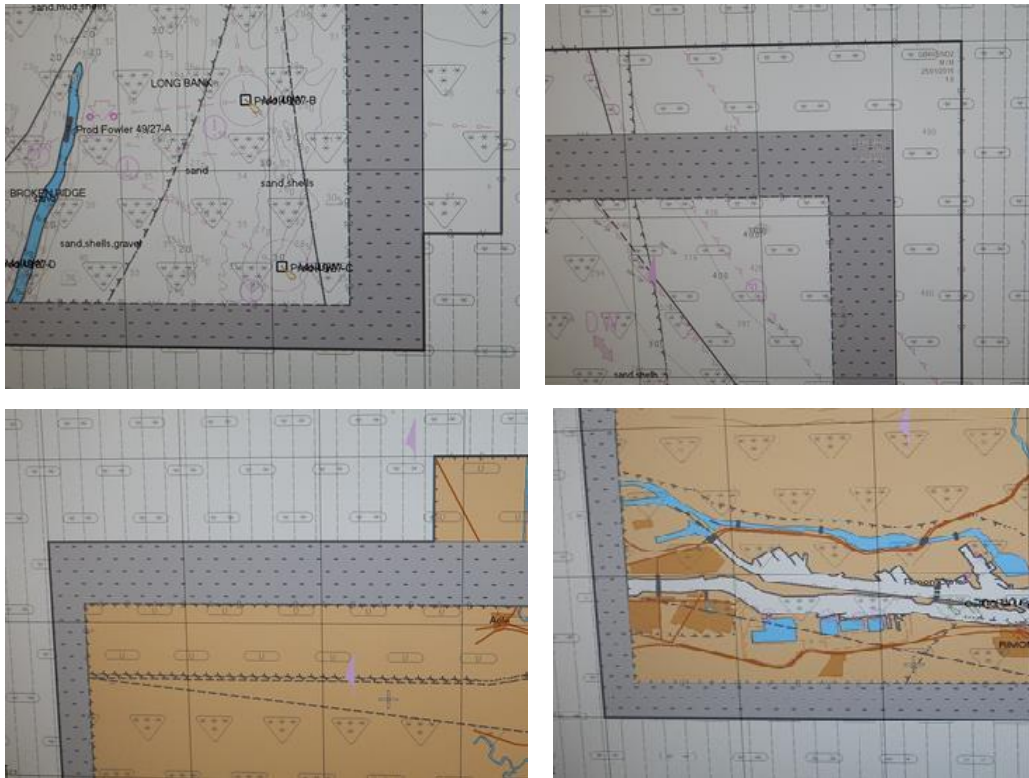


Figure B1 – zone of no coverage at edge of GB4WEND1 displaying.

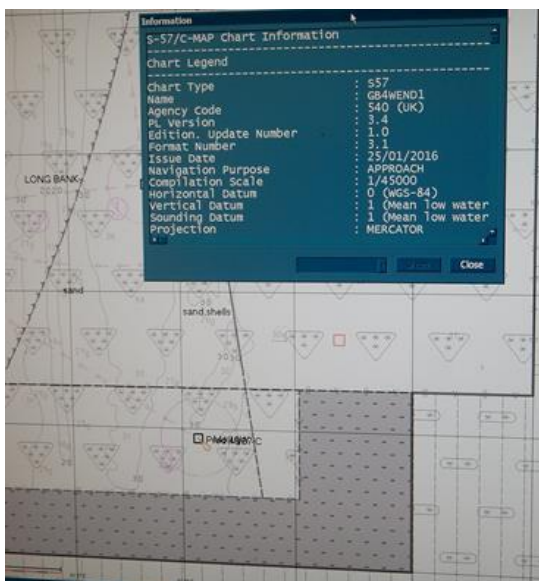


Figure B2 – Scenario 3 GB4WEND1 dominant cell at 30k in bottom right corner of cell. For the rest of the cell GB4WEND3 is dominant at 30k

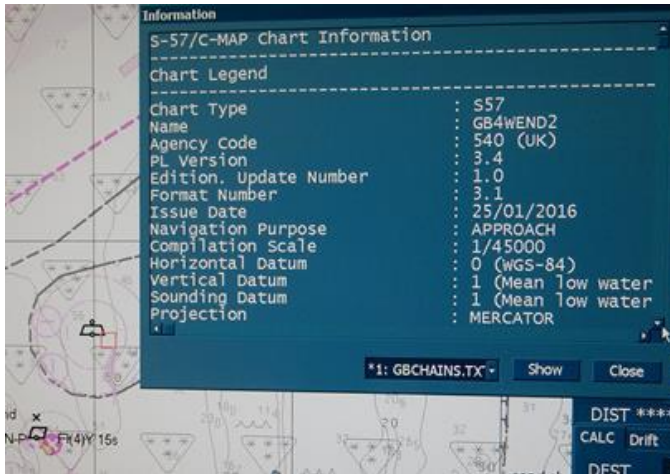


Figure B3 – RESARE with Pick report displaying GB4WEND2 at 50k

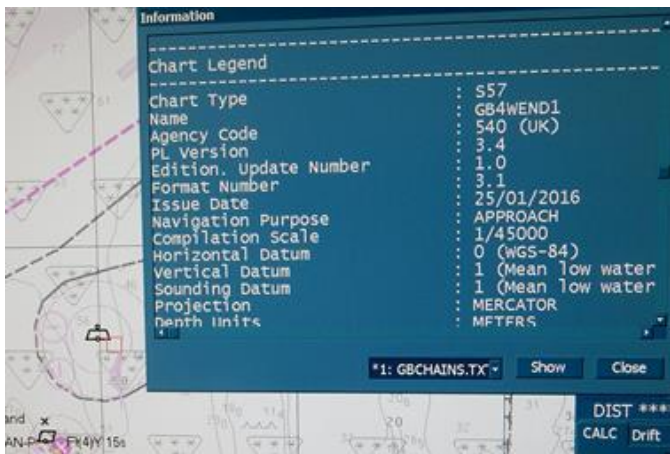


Figure B4 – RESARE with the same Pick report in B3 displaying GB4WEND1 at 50k

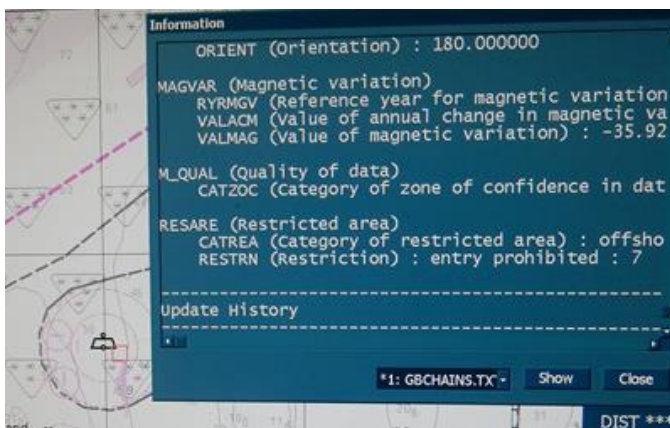


Figure B5 – RESARE Pick report (same as B3 & B4) with GB4WEND1 & GB4WEND3 listed but only GB4WEND1 lists the RESARE.

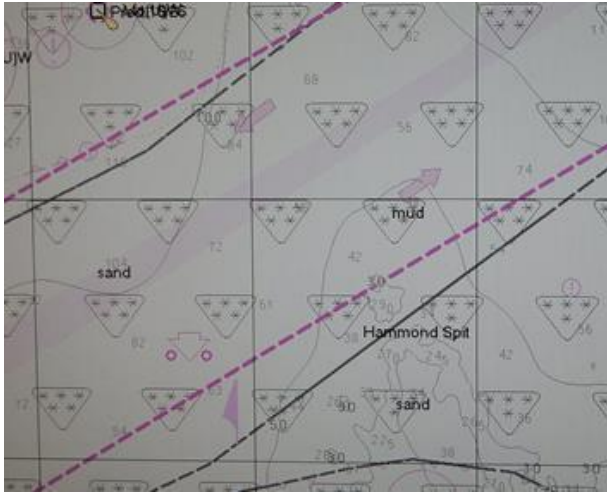


Figure B6 – Shift in Traffic Separation Scheme

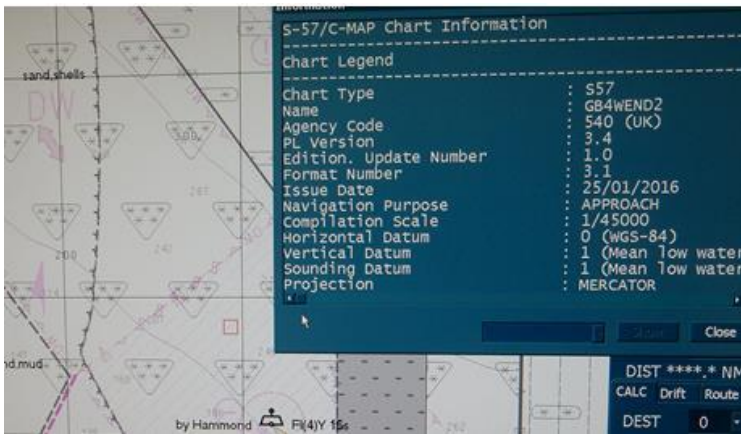


Figure B7 – GB4WEND2 listed as primary cell in Pick report but PILBOP does not display as GB4WEND1 is the display cell. Both cells GB4WEND1 & GB4WEND2 are listed in the Pick report, neither include the PILBOP.

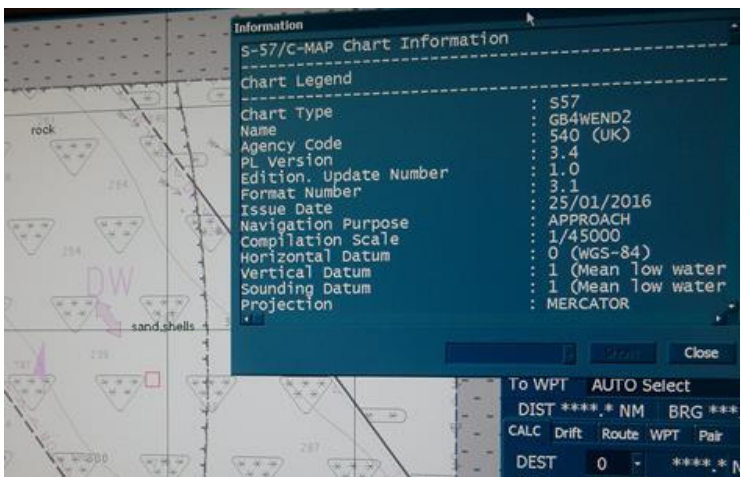


Figure B8 – GB4WEND2 listed as initial cell in Pick report but BOYSAW does not display as GB4WEND1 is the display cell. Both cells GB4WEND1 & GB4WEND2 are listed in the Pick report, neither include the BOYSAW.

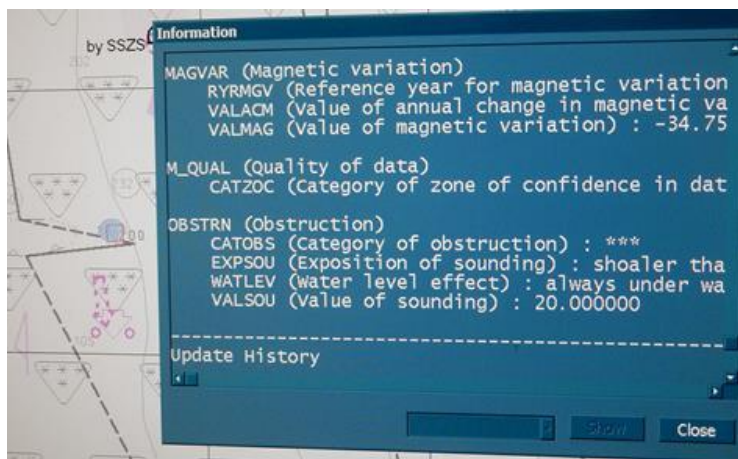


Figure B9 – OBSTRN displaying on GB4WEND1

Results for ECDIS C – Table C

WEND WG ECDIS TESTING			
ECDIS	ECDIS C	VERSION No.	XX
ENCRYPTED:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	ECDIS DISPLAY setting	All - daylight
SCENARIO 1	<p>Pan: Initially loads up at 45k. GB4WEND1 displays at 50 & 40k. Switches to GB4WEND2 as soon as cell limits enters the display. Similar to ECDIS A.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 20 k GB4WEND1, 25k GB4WEND2, 125k GB4WEND1 At the centre of cell GB4WEND1 until 25k and then switches to GB4WEND2 at 150k switches to GB4WEND1.</p> <p>Ship's passage: n/a</p>		
SCENARIO 2	<p>Pan: Initially loads up at 45k. GB4WEND1 displays at 50 & 40k. Switches to GB4WEND2 as soon as cell limits enters the display. Similar to ECDIS A.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 10k GB4WEND1, at 25k GB5WEND4 until 125k when switches to GB4WEND1. At the centre of the cell at 10k GB4WEND1, at 25k when switches to GB5WEND4 at 125k switches back to GB4WEND1</p> <p>Ship's passage: n/a</p>		
SCENARIO 3	<p>Pan: Initially loads up at 45k. GB4WEND3 is the dominant chart, displaying in all areas of the display except in GB4WEND1 only limits.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) GB4WEND3 until 100k when it switches to GB4WEND1. At the centre of the cell displays GB4WEND3 from 10k until 100k when display switches to GB4WEND1.</p> <p>Ship's passage: n/a</p>		

Scenario 1

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND2	N	N	
12	Shift in TSS lanes	GB4WEND2 (if move cursor slightly to the West switches to GB4WEND1 and amended cells display)	N	N	<i>Fig. C1 & C2</i>
13	PILBOP (deleted)	GB4WEND2	Y	Y	
14	OFSPLF	GB4WEND1	N	N	
15	BOYSAW	GB4WEND2	Y	Y	
16	CTNARE (wellheads)	GB4WEND1	N	N	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	N	
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Y	

Scenario 2

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB5WEND4	N	N	
12	Shift in TSS lanes	GB4WEND1	Y	Y	
13	PILBOP (deleted)	GB5WEND4	Y	Y	
14	OFSPLF	GB4WEND1	N	N	
15	BOYSAW	GB5WEND4	Y	Y	
16	CTNARE (wellheads)	GB4WEND1	N	N	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	N	
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Y	

Scenario 3

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND3	Y	Y	
2	NAVLNE	GB4WEND3	Y	Y	
3	Amended channel	GB4WEND3	N	N	
4	ACHARE	GB4WEND3	Y	Y	
5	LIGHTS amended	GB4WEND3	N	N	
6	Shoal depth	GB4WEND3	Y	Y	
7	BOYCAR amended	GB4WEND3	N	N	
8	Safety Contour 30m (amended)	GB4WEND3	N	N	
9	LIGHTS	GB4WEND3	Y	Y	
10	TSSCRS	GB4WEND3	N	N	
11	RESARE (prohibited)	GB4WEND3	N	N	
12	Shift in TSS lanes	GB4WEND3	N	N	
13	PILBOP (deleted)	GB4WEND3	Y	Y	
14	OF SPLF	GB4WEND3	Y	Y	
15	BOYSAW	GB4WEND3	Y	Y	
16	CTNARE (wellheads)	GB4WEND3	Y	Y	
17	CBLSUB & PIPSOL	GB4WEND3	Y	Y	
18	WRECKS (dangerous)	GB4WEND3	N	N	
19	TSSLPT	GB4WEND3	Y	Y	
20	OBSTRN added to GB4WEND1	GB4WEND3	N	N	

SAME RESULTS AT 30K

Associated photos – Figure C1 – C2

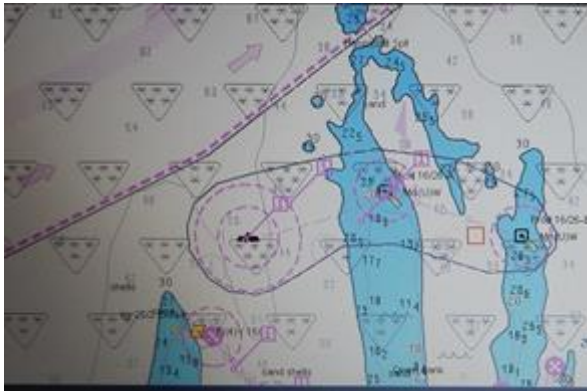


Figure C1 – Original TSSLPT capture as displayed on GB4WEND2



Figure C2 – Amended TSSLPT capture as displayed on GB4WEND1

Results for ECDIS D – Table D

WEND WG ECDIS TESTING			
ECDIS	ECDIS D	VERSION No.	XX
ENCRYPTED:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ECDIS DISPLAY setting	Custom (all) & Day
SCENARIO 1	<p>Pan: Very erratic panning view with screen often turning blue when pan to the centre of the screen (<i>Fig. D1</i>). GB4WEND1 is the dominant cell in the display. The cell will often only display between 60-90k (comp. scale is 40k). At certain points will display at 40k but not all, mainly along edge of cell. View of cell worsens as move towards centre of cell. As pan across cell do get different cells displaying (<i>Fig. D2 & D3</i>). In overlap area (<i>Fig. D4</i>) pick report brings up both GB4WEND1 & GB4WEND2.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) GB4WEND1 is dominant display and information in pick report but as scrolling in and out the GB4WEND2 limits flickers in and out of display (<i>Fig. D5</i>) At centre the cell display disappears from view at scales larger than 64k. Does display from 64k - 90k. Very erratic sometimes won't display at 80k. At 91k cell stops displaying – blue screen. When the screen goes blue often doesn't reappear when zoom back to previous scale, often have to pan across entire cell (<i>Fig. D6</i>).</p> <p>Ship's passage: N/A</p>		
SCENARIO 2	<p>Pan: Erratic display as above GB4WEND1 & GB5WEND4 displaying on the pick report in the overlap area of the cells. GB5WEND4 predominantly displays with GB4WEND1 displaying in areas outside of GB5WEND4 limits. The no coverage area of GB4WEND1 displays in land tan tint (<i>Fig. D7</i>).</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell). At 45k GB4WEND1 displays (<i>Fig. D8</i>) and at 43k (<i>Fig. D9</i>) both cells displaying. Pick report brings up GB5WEND4 whole time. At the centre just GB5WEND4 displays the whole time.</p> <p>Ship's passage: N/A</p>		
SCENARIO 3	<p>Pan: GB4WEND3 is the dominant cell except at the edges of the cell where GB4WEND1 displays. No coverage displays as land. Pan at 45k is erratic with cell information disappearing and the blue screen appearing (<i>Fig. D10 & D11</i>).</p> <p>Zoom: At centre GB4WEND3 displays until the blue screen at 45k At 32 33.257S 061 173454E GB4WEND3 displays until 43k at 45k GB4WEND1 becomes dominant cell.</p> <p>Ship's passage: N/A</p>		

Scenario 1

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1 (64k) amended	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	Both – full	<i>Fig. D12 & D13</i>
12	Shift in TSS lanes	GB4WEND1	Y	Both – full	<i>Fig. D14</i>
13	PILBOP (deleted)	GB4WEND1	N	Both – full	<i>Fig. D15</i>
14	OFSPFL	GB4WEND1	N	N	
15	BOYSAW	GB4WEND1	N	N	
16	CTNARE (wellheads)	GB4WEND1	N	Both – full	
17	CBLSUB & PIPSOL	GB4WEND1	N	Both – full	<i>Fig. D16</i>
18	WRECKS (dangerous)	GB4WEND1	Y (non dang)	Both – full	<i>Fig. D17 & D18</i>
19	TSSLPT	GB4WEND1	N	Both – full	
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Both cells listed (so not on WEND2)	

Scenario 2

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB5WEND4	Y	Y	
2	NAVLNE	GB5WEND4	Y	Y	
3	Amended channel	GB5WEND4	N	N	
4	ACHARE	GB5WEND4	Y	Y	
5	LIGHTS amended	GB5WEND4	N	N	
6	Shoal depth	GB5WEND4	Y	Y	<i>Fig. D19</i>
7	BOYCAR amended	GB5WEND4	N	N	
8	Safety Contour 30m (amended)	GB5WEND4	N	N	
9	LIGHTS	GB5WEND4	Y	Y	
10	TSSCRS	GB5WEND4	N	N	
11	RESARE (prohibited)	GB5WEND4	N	N	
12	Shift in TSS lanes	GB5WEND4	N	N	
13	PILBOP (deleted)	GB5WEND4	Y	Y	
14	OFSPFL	GB5WEND4	Y	Y	
15	BOYSAW	GB5WEND4	Y	Y	
16	CTNARE (wellheads)	GB5WEND4	Y	Y	
17	CBLSUB & PIPSOL	GB5WEND4	Y	Y	
18	WRECKS (dangerous)	GB5WEND4	N	N	
19	TSSLPT	GB5WEND4	N	N	
20	OBSTRN added to GB4WEND1	GB5WEND4	N	N	

Scenario 3

No.	Object/Feature	Which cell displays?		Display?		Pick report		Photo no.	
		50 k	30k	50k	30k	50k	30k	50k	30k
1	LNDMRK (convis)	GB4WEND3 (43k)	GB4WEND3	Y	Y	Y	Y		
2	NAVLNE	GB4WEND3	GB4WEND3	Y	Y	Y	Y		
3	Amended channel	GB4WEND3	GB4WEND3	N	N	N	N		
4	ACHARE	GB4WEND3	GB4WEND3	N	N	N	N		
5	LIGHTS amended	GB4WEND1 (45k)	GB4WEND3	Y	N	Y	N		
6	Shoal depth	GB4WEND3 (43k)	GB4WEND3	Y	Y	Y	Y		
7	BOYCAR amended	GB4WEND3 (43k)	GB4WEND3	N	N	N	N		
8	Safety Contour 30m (amended)	GB4WEND3 (43k)	GB4WEND3	N	N	N	N		
9	LIGHTS	GB4WEND3 (43k)	GB4WEND3	Y	Y	Y	Y		
10	TSSCRS	GB4WEND3 (43k)	GB4WEND3	N	N	N	N		
11	RESARE (prohibited)	GB4WEND3 (43k)	GB4WEND3	N	N	N	N		
12	Shift in TSS lanes	GB4WEND1 (45k)	GB4WEND3	Y	N	Y	N		
13	PILBOP	GB4WEND1 (45k)	GB4WEND3	N	Y	N	Y		
14	OFSPLF	GB4WEND3 (43k)	GB4WEND3	Y	Y	Y	Y		
15	BOYSAW	GB4WEND1 (45k)	GB4WEND3	N	Y	N	Y		
16	CTNARE (wellheads)	GB4WEND1 (45k)	GB4WEND3	N	Y	N	Y		
17	CBLSUB & PIPSOL	GB4WEND1 (45k)	GB4WEND3	N	Y	N	Y		
18	WRECKS (dangerous)	GB4WEND3 (43k)	GB4WEND3	N	N	N	N		
19	TSSLPT	GB4WEND1 (45k)	GB4WEND3	N	Y	N	Y		
20	OBSTRN added to GB4WEND1	GB4WEND3 (43k)	GB4WEND3	N	N	N	N		

Associated photos – Figure D1 – D19



Figure D1 – screen displaying blue while panning at 44k



Figure D2 – Screen displaying GB4WEND1 at 82k

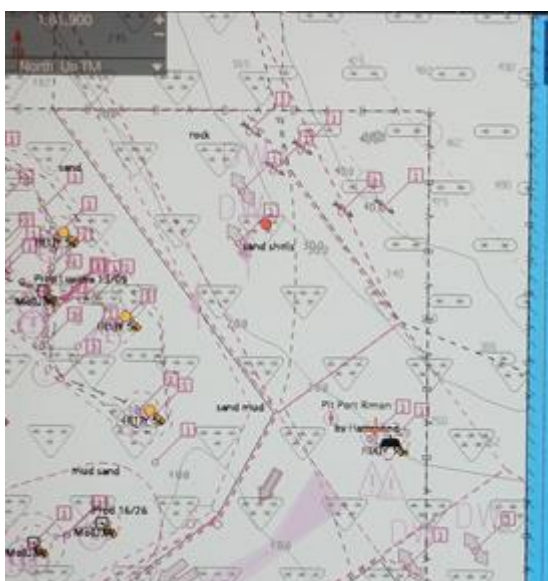


Figure D3 – Screen displaying GB4WEND2 at 82k following slight northward pan from Figure D2.

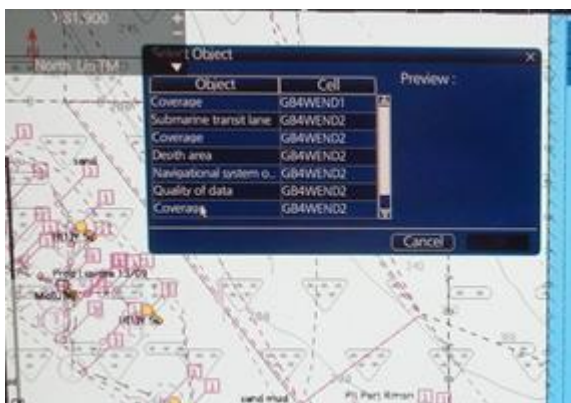


Figure D4 – GB4WEND1 & GB4WEND2 both displaying in the Pick report at 82k.

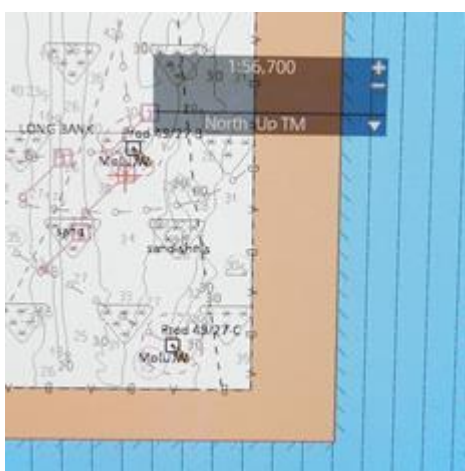


Figure D5 – GB4WEND1 & GB4WEND2 Differing overlap view based on display scale

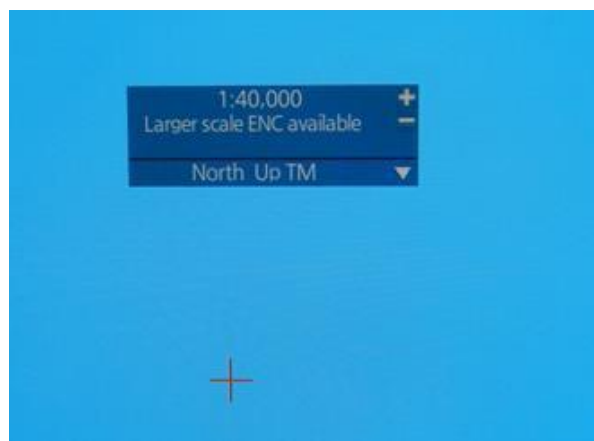
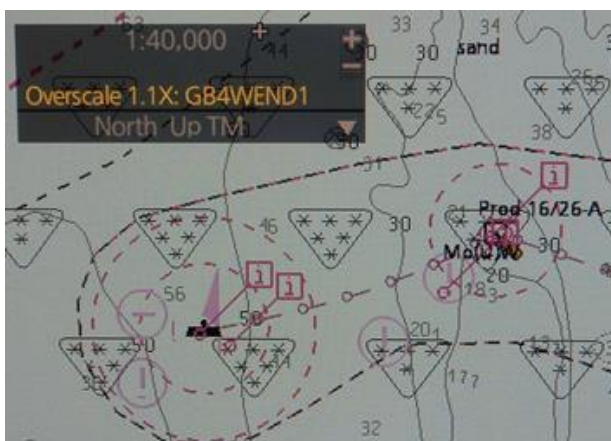


Figure D6 – Display changing to blue display as pan across screen



Figure D7 – ECDIS D displaying M_COVR as land tint



Figure D8 – GB4WEND1 displaying at 45k

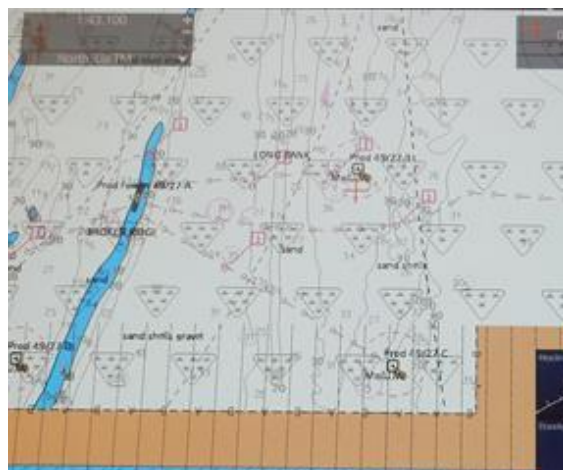


Figure D9 – Both cells displaying overlap at 43k



Figure D10 - TSSLPT highlighted on ECDIS D at 45k



Figure D11 – TSSLPT highlighted on ECDIS D at 45k having panned slightly to the south

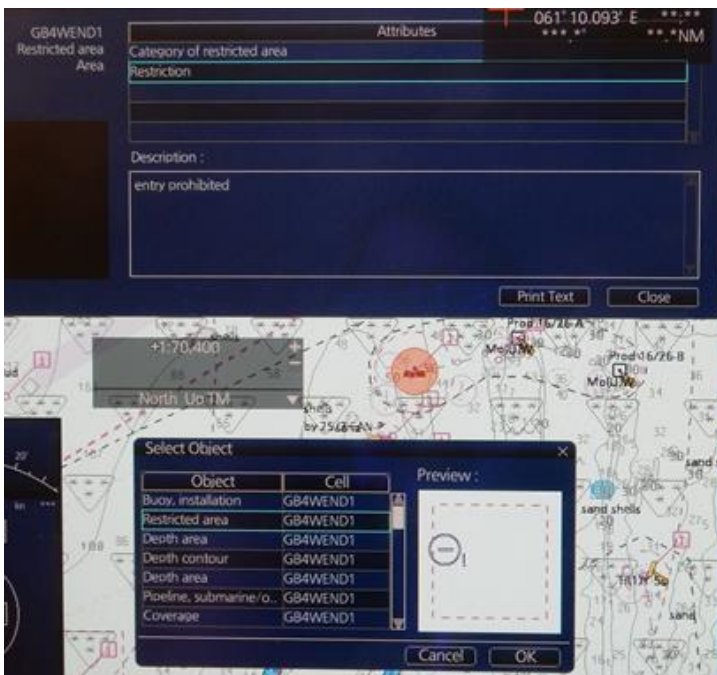


Figure D12 – ECDIS D displaying RESARE with multiple cells listed in Pick Report. GB4WEND1 displays entry prohibited



Figure D13 – ECDIS D displaying RESARE with multiple cells listed in Pick Report. GB4WEND2 displays entry restricted

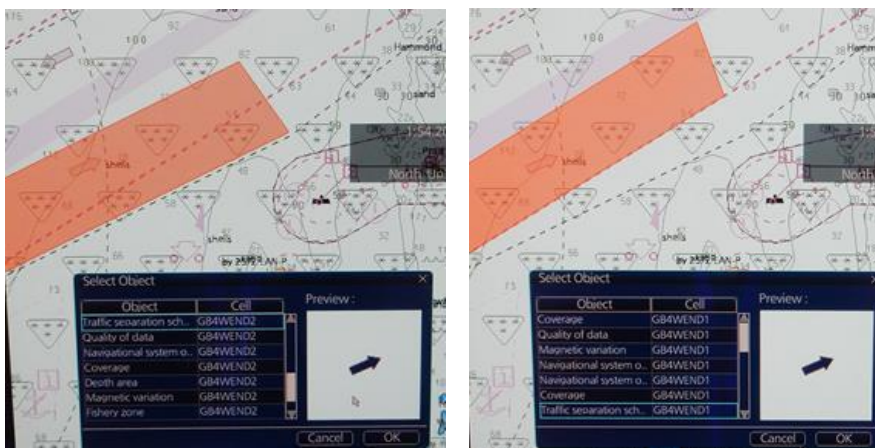


Figure D14 – ECDIS D both cells displaying in the same Pick report, can highlight both.

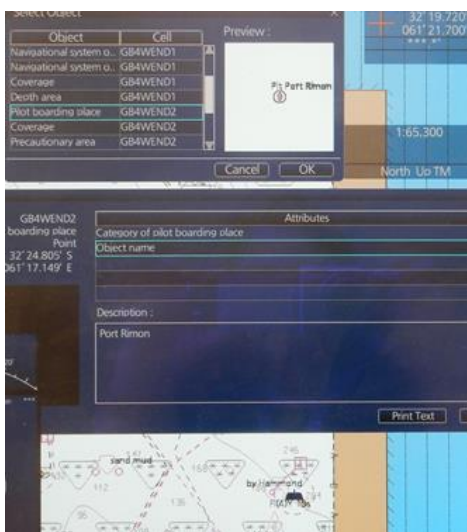


Figure D15 – PILBOP listed in Pick report but not displaying on the cell.



Figure D16 – PIPSOL can be highlighted from the Pick report but doesn't display on the cell



Figure D17 – ECDIS D displaying GB4WEND1 WRECKS with dangerous wreck attribution

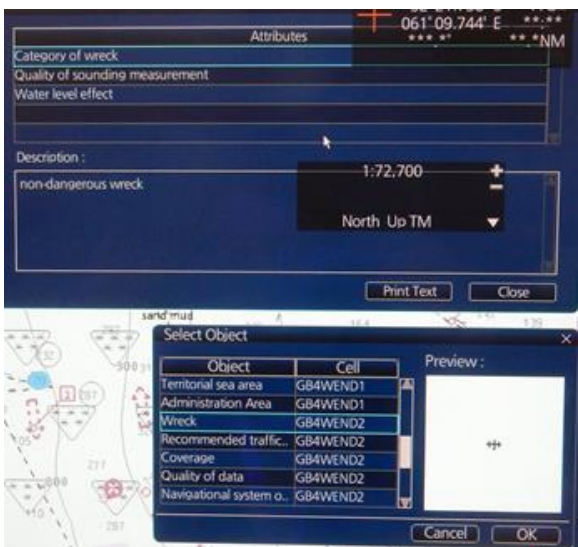


Figure D18 – ECDIS D displaying GB4WEND2 WRECKS with dangerous wreck attribution



Figure D19 – Shoal depth displaying on GB5WEND4

Results for ECDIS E – Table E

WEND WG ECDIS TESTING			
ECDIS	ECDIS E	VERSION No.	XX
ENCRYPTED:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ECDIS DISPLAY setting	Other (full)
SCENARIO 1	<p>Pan: Initially loads up at 45k. GB4WEND1 dominant cell but in GB4WEND2 only area selects and displays that cell. Switch over in display at GB4WEND1 edge. Towards edge of GB4WEND1 both cells display in the pick report. No coverage area on GB4WEND1 displays (<i>Fig. E1</i>). Appears to store memory of where previously clicked.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell) At 20 - 100k GB4WEND1 displays but both cells are listed in the pick report in overlapping areas. At 125k switches between no information in pick report and at other times both cells. At the centre of the cell GB4WEND1 displays and is the only cell listed in the pick report until 125k when both cells list, coincides with the cell limits displaying.</p> <p>Ship's passage: N/A</p>		
SCENARIO 2	<p>Pan: Initially loads at 45k. GB4WEND1 is the dominant cell and only switches to GB5WEND4 when inside the limits of GB5WEND4 only.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell). At 10k GB4WEND1 until 125k. At the centre of the cell GB4WEND1 displays from 10k – 150k. No coverage area displays on GB4WEND1 (<i>Fig. E2</i>).</p> <p>Ship's passage: N/A</p>		
SCENARIO 3	<p>Pan: Initially loads at 22k. At the centre of the cell GB4WEND1 displays and is solely listed in the pick report. As move to the edge of the cell GB4WEND3 lists in pick list. GB4WEND1 provides fuller detail on the Pick report.</p> <p>Zoom: At location 32 33.257S 061 17.454E (towards edge of cell). At 10k just GB4WEND3, at 20k GB4WEND3 displays but both cells listed in pick report. Display switches to GB4WEND1 at 50k with both cells in report. At 75k just GB4WEND1 displaying and in report. At the centre of the cell GB4WEND3 displays from 10-40k, at 50k switches to GB4WEND1.</p> <p>Ship's passage: N/A</p>		

Scenario 1

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	N – no info in the pick report	<i>Fig. E3</i>
12	Shift in TSS lanes	GB4WEND1	Y	Both in report but only GB4WEND1 lists TSSLPT	
13	PILBOP (deleted)	GB4WEND1	N	Both in report but neither list PILBOP	
14	OFSPFL	GB4WEND1	N	N	
15	BOYSAW	GB4WEND1	N	Both in report but neither list BOYSAW	
16	CTNARE (wellheads)	GB4WEND1	N	Both in report but only GB4WEND2 lists CTNARE	
17	CBLSUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	Both in report but neither list TSSLPT	<i>Fig. E4</i>
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Y	

Scenario 2

No.	Object/Feature	Which cell displays?	Display?	Pick report	Photo no.
1	LNDMRK (convis)	GB4WEND1	N	N	
2	NAVLNE	GB4WEND1	N	N	
3	Amended channel	GB4WEND1	Y	Y	
4	ACHARE	GB4WEND1	N	N	
5	LIGHTS amended	GB4WEND1	Y	Y	
6	Shoal depth	GB4WEND1	N	N	
7	BOYCAR amended	GB4WEND1	Y	Y	
8	Safety Contour 30m (amended)	GB4WEND1	Y	Y	
9	LIGHTS	GB4WEND1	N	N	
10	TSSCRS	GB4WEND1	Y	Y	
11	RESARE (prohibited)	GB4WEND1	Y	Y	
12	Shift in TSS lanes	GB4WEND1	Y	Y	
13	PILBOP	GB4WEND1	N	N	
14	OF SPLF	GB4WEND1	N	N	
15	BOYSAW	GB4WEND1	N	N	
16	CTNARE (wellheads)	GB4WEND1	N	N	
17	CBL SUB & PIPSOL	GB4WEND1	N	N	
18	WRECKS (dangerous)	GB4WEND1	Y	Y	
19	TSSLPT	GB4WEND1	N	N	
20	OBSTRN added to GB4WEND1	GB4WEND1	Y	Y	

Scenario 3

No.	Object/Feature	Which cell displays?		Display?		Pick report		Photo no.	
		50 k	30k	50k	30k	50k	30k	50k	30k
1	LNDMRK (convis)	GB4WEND1	GB4WEND3	N	Y	N	Y		
2	NAVLNE	GB4WEND1	GB4WEND3	N	Y	N	Y		
3	Amended channel	GB4WEND1	GB4WEND3	Y	N	Y	N		
4	ACHARE	GB4WEND1	GB4WEND3	N	Y	N	Y		
5	LIGHTS amended	GB4WEND1	GB4WEND3	Y	N	Y	Both listed in pick report. GB4WEND3 light details pre- amendment		
6	Shoal depth	GB4WEND1	GB4WEND3	N	Y	N	Y		
7	BOYCAR amended	GB4WEND1	GB4WEND3	Y	N	Y	N		
8	Safety Contour 30m (amended)	GB4WEND1	GB4WEND3	Y	N	Y	N		
9	LIGHTS	GB4WEND1	GB4WEND3	N	Y	N	Y		
10	TSSCRS	GB4WEND1	GB4WEND3	Y	N	Y	N		
11	RESARE (prohibited)	GB4WEND1	GB4WEND3	Y	N	Y	N		
12	Shift in TSS lanes	GB4WEND1	GB4WEND3	Y	N	Y	N		
13	PILBOP (deleted)	GB4WEND1	GB4WEND3	N	Y	N	Y		
14	OFSPLF	GB4WEND1	GB4WEND3	N	Y	N	Y		
15	BOYSAW	GB4WEND1	GB4WEND3	N	Y	N	Y		
16	CTNARE (wellheads)	GB4WEND1	GB4WEND3	N	Y	N	Y		
17	CBLSUB & PIPSOL	GB4WEND1	GB4WEND3	N	Y	N	Y		
18	WRECKS (dangerous)	GB4WEND1	GB4WEND3	Y	N	Y	N		
19	TSSLPT	GB4WEND1	GB4WEND3	N	Y	N	Y		
20	OBSTRN added to GB4WEND1	GB4WEND1	GB4WEND3	Y	N	Y	N		

Associated photos – Figure E1-E4

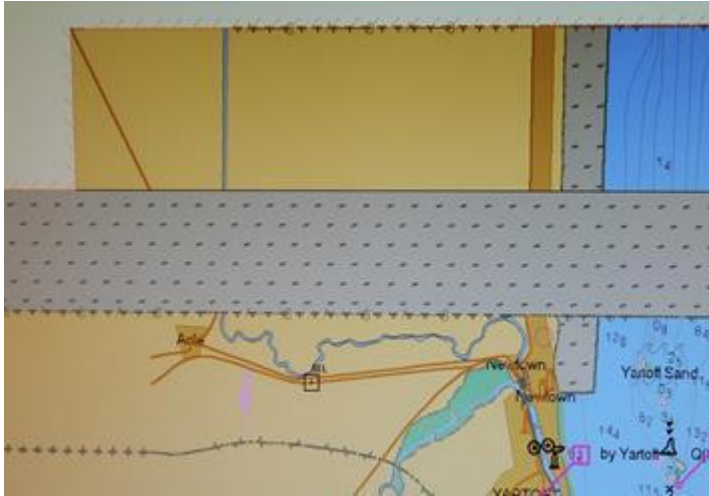


Figure E1 – No coverage area displaying on GB4WEND1 and showing overlap with GB4WEND2.

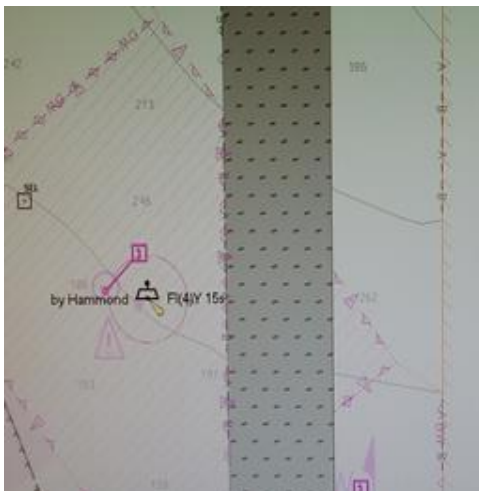


Figure E2 - No coverage area displaying on GB4WEND1 and showing overlap with GB4WEND2.

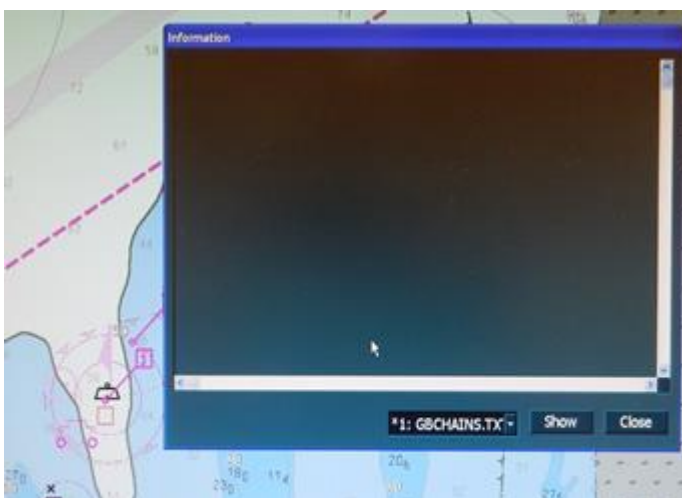


Figure E3 – ECDIS E RESARE selected but no information listed in the Pick report

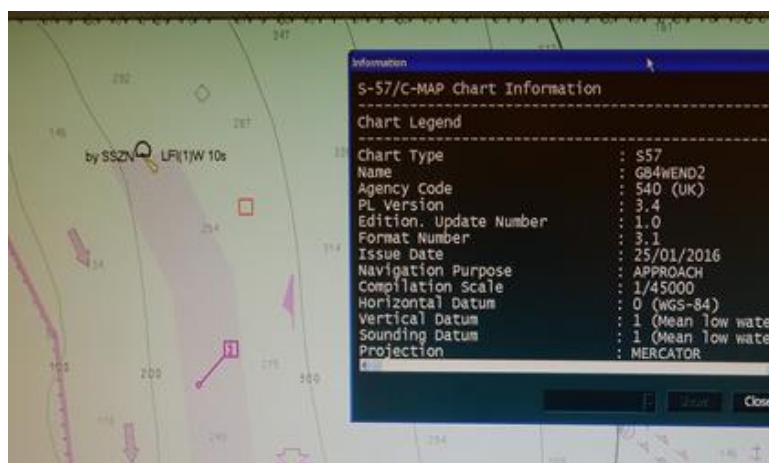


Figure E4 – GB4WEND1 displaying with both cells listed in the Pick report, neither list TSSLPT