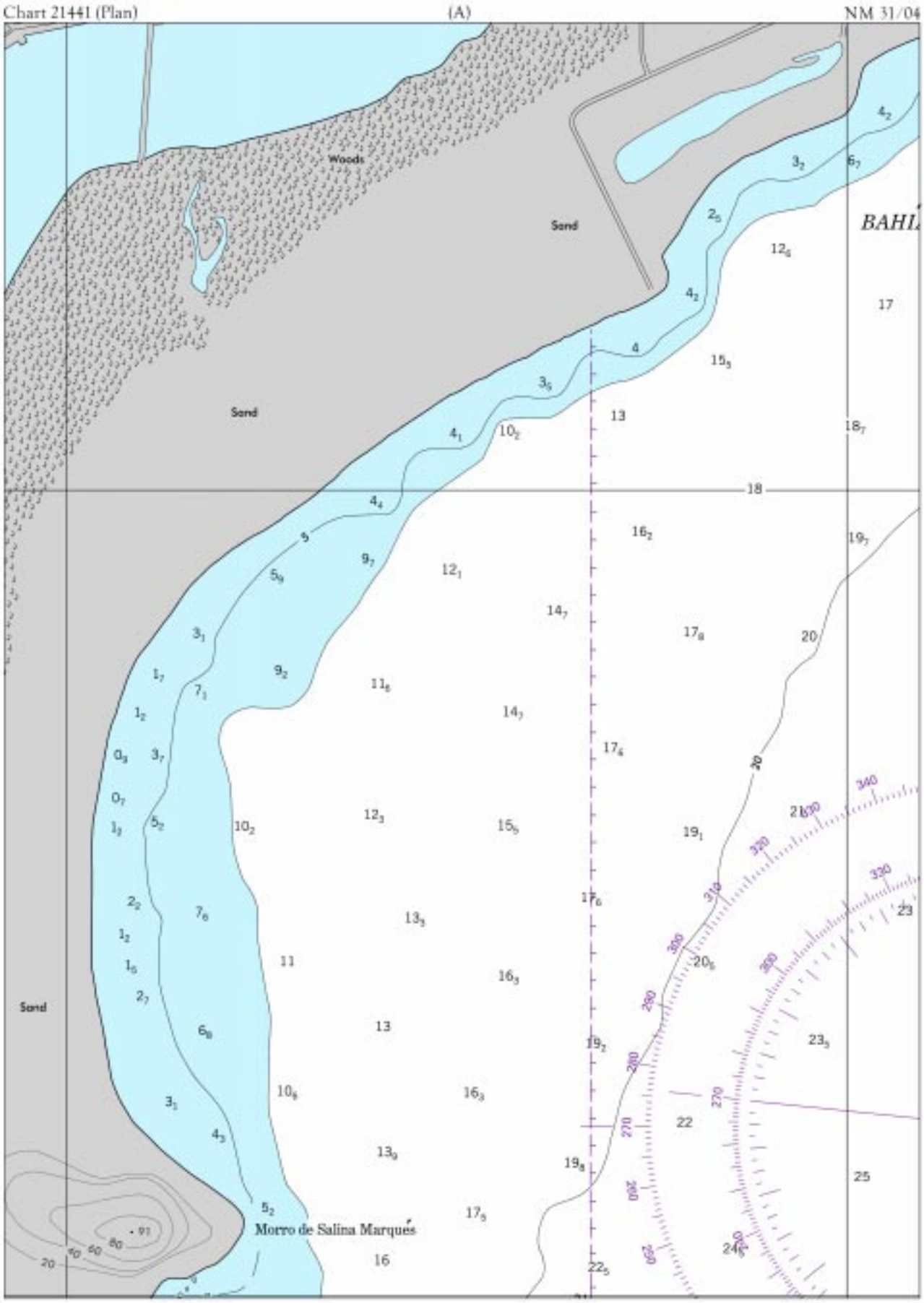


Chart 21441 (Plan)
(A)
NM 31/04
Woods
Sand
Sand
Sand
BAHI
Morro de Salina Marqués

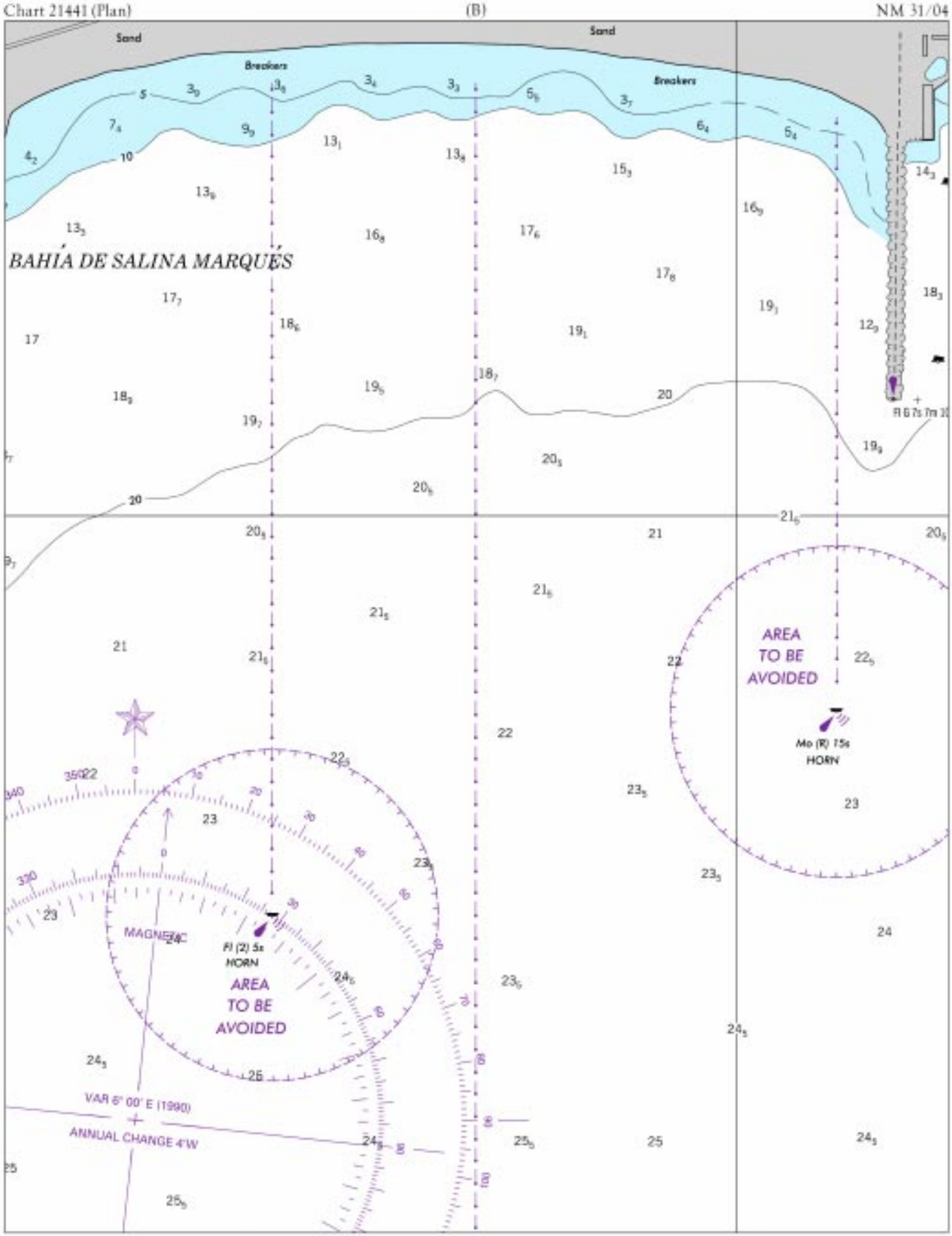


Chart 21441 (Plan)
(B)
NM 31/04
Sand
Sand
Breakers
Breakers
BAHÍA DE SALINA MARQUÉS
AREA TO BE AVOIDED
Mo (R) 15s
HORN
MAGNETIC
Fl (2) 5s
HORN
AREA TO BE AVOIDED
VAR 6° 00' E (1990)
ANNUAL CHANGE 4'W

Chart 21441 (Plan) (C) NM 31/04

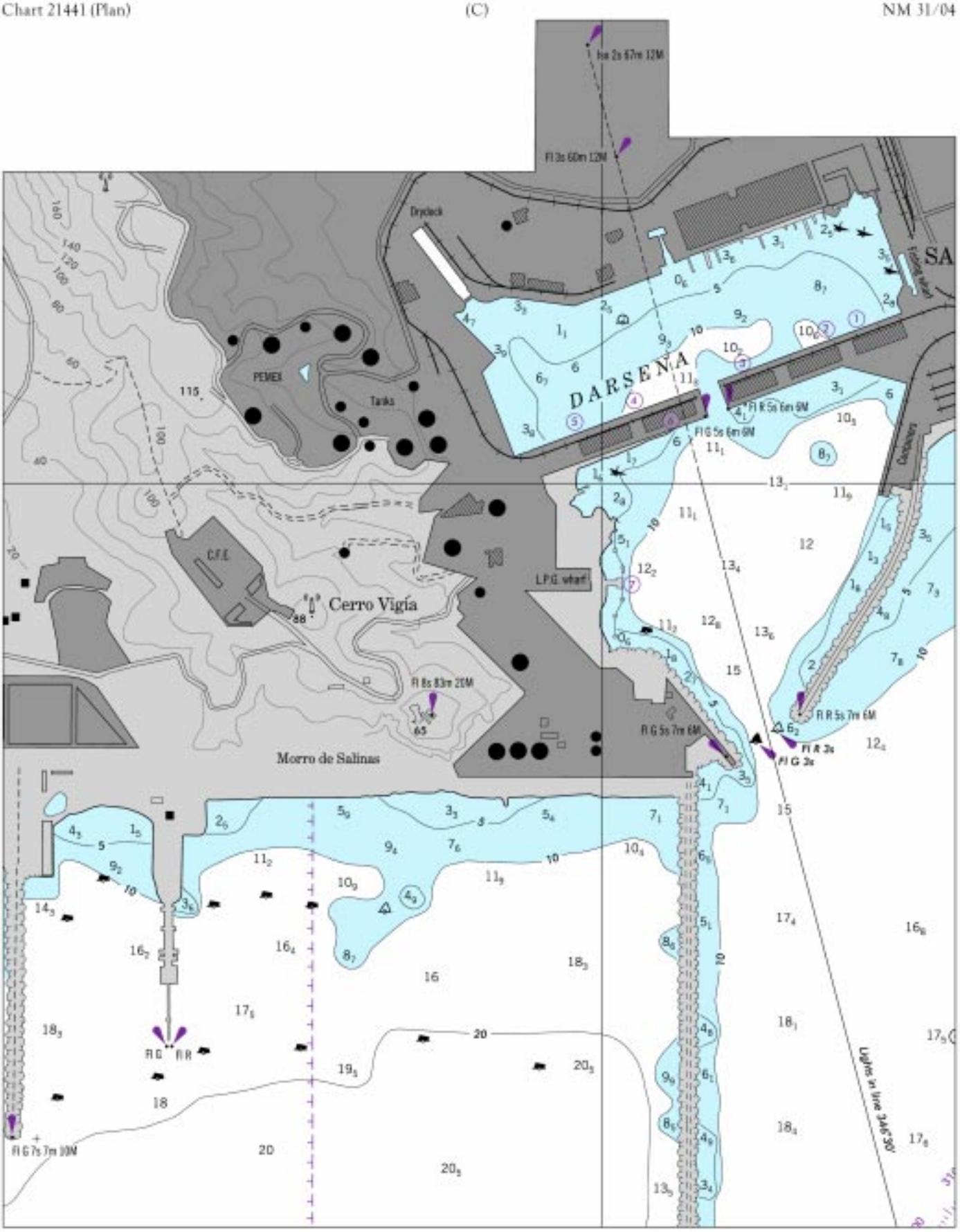


Chart 21441 (Plan) (D) NM 31/04

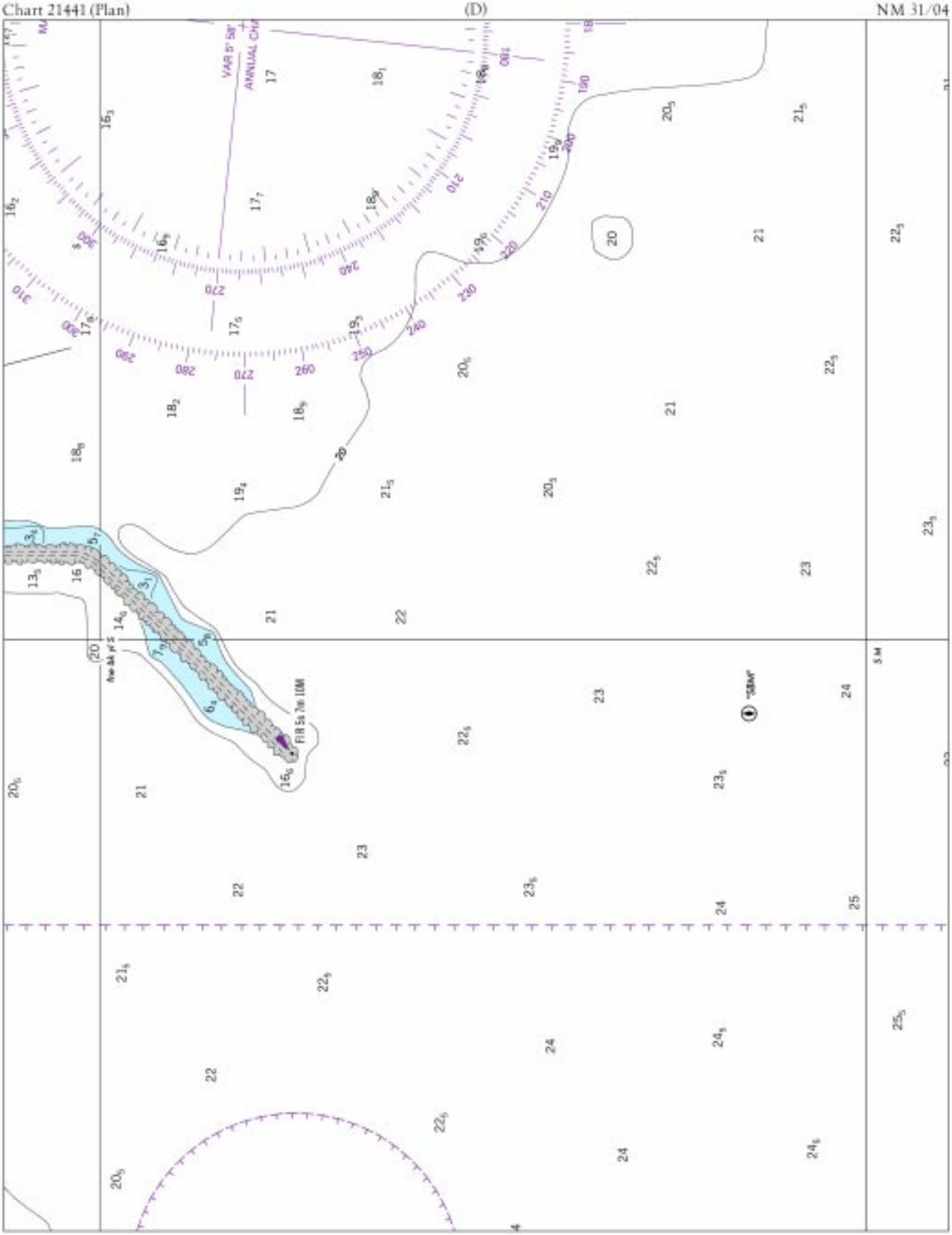


Chart 21441 (Plan) (E) NM 31/04

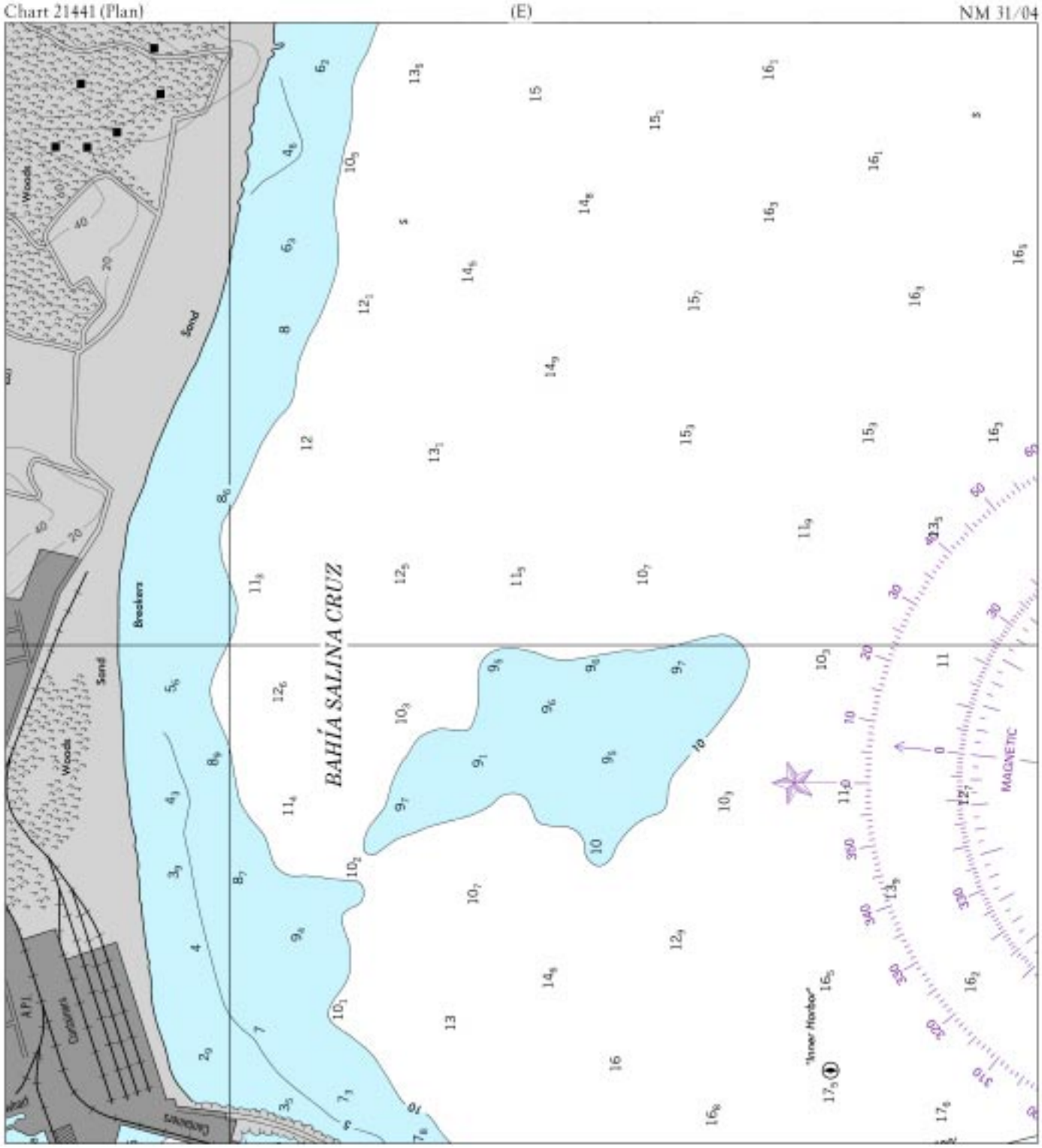
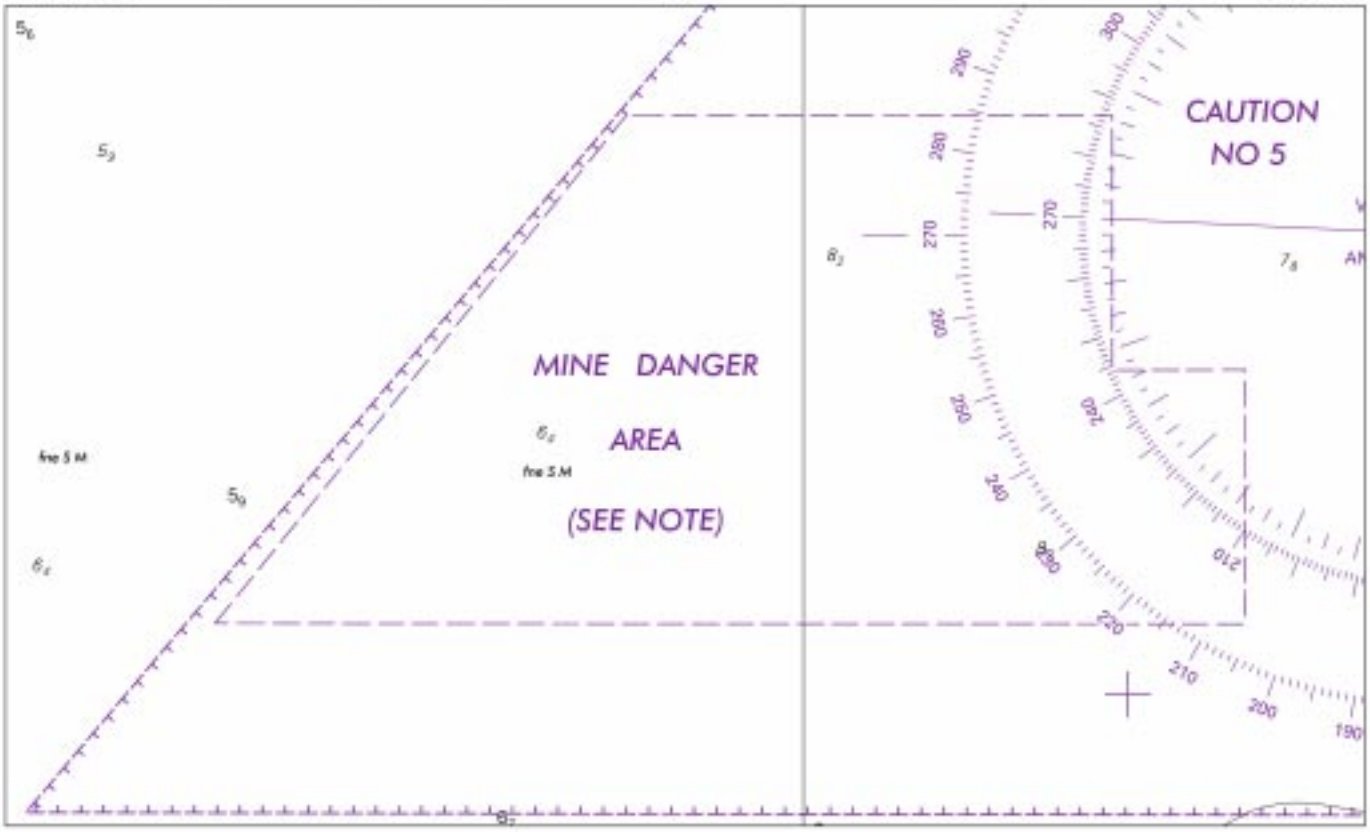


Chart 62434 (A) NM 31/04



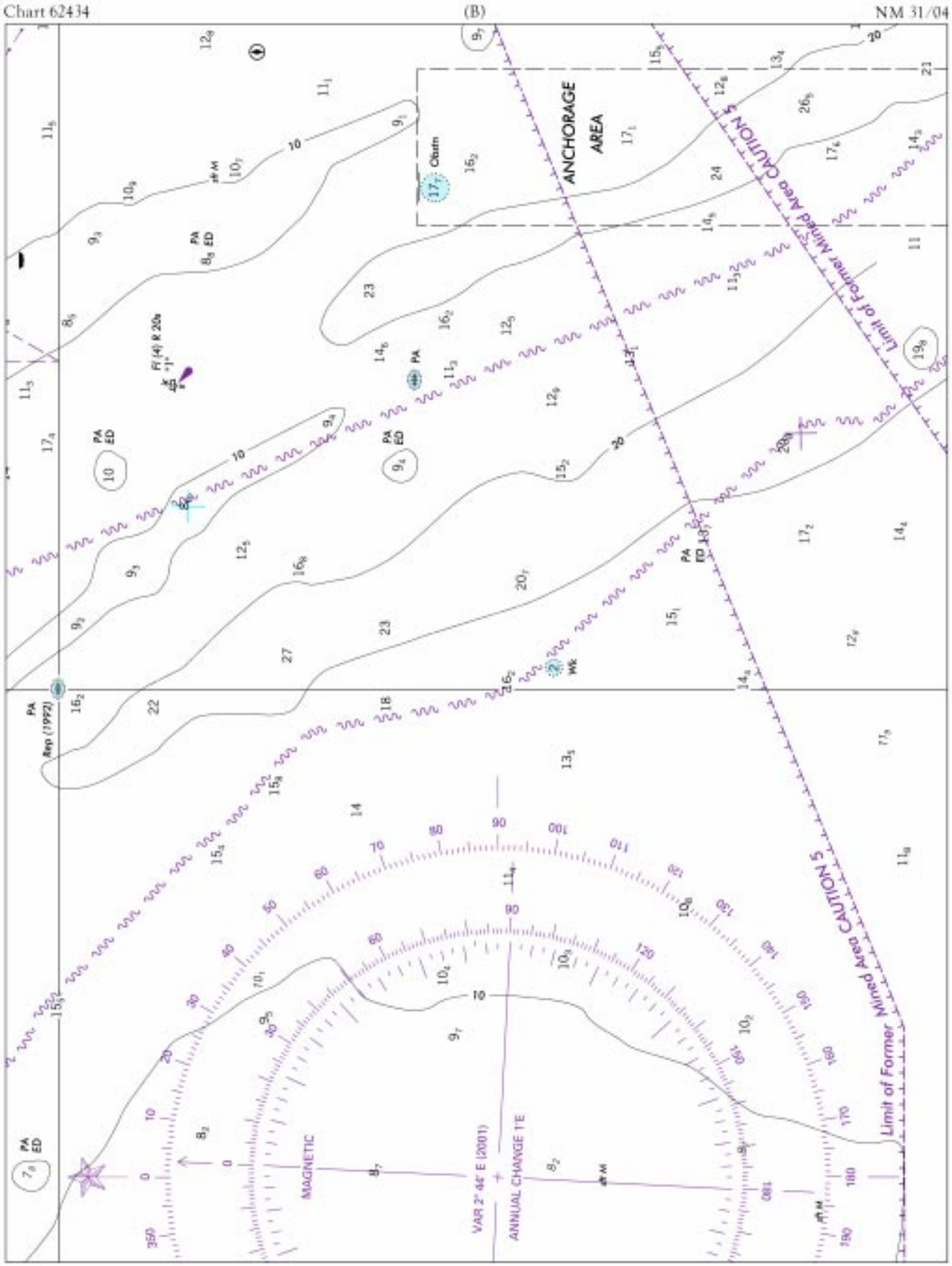
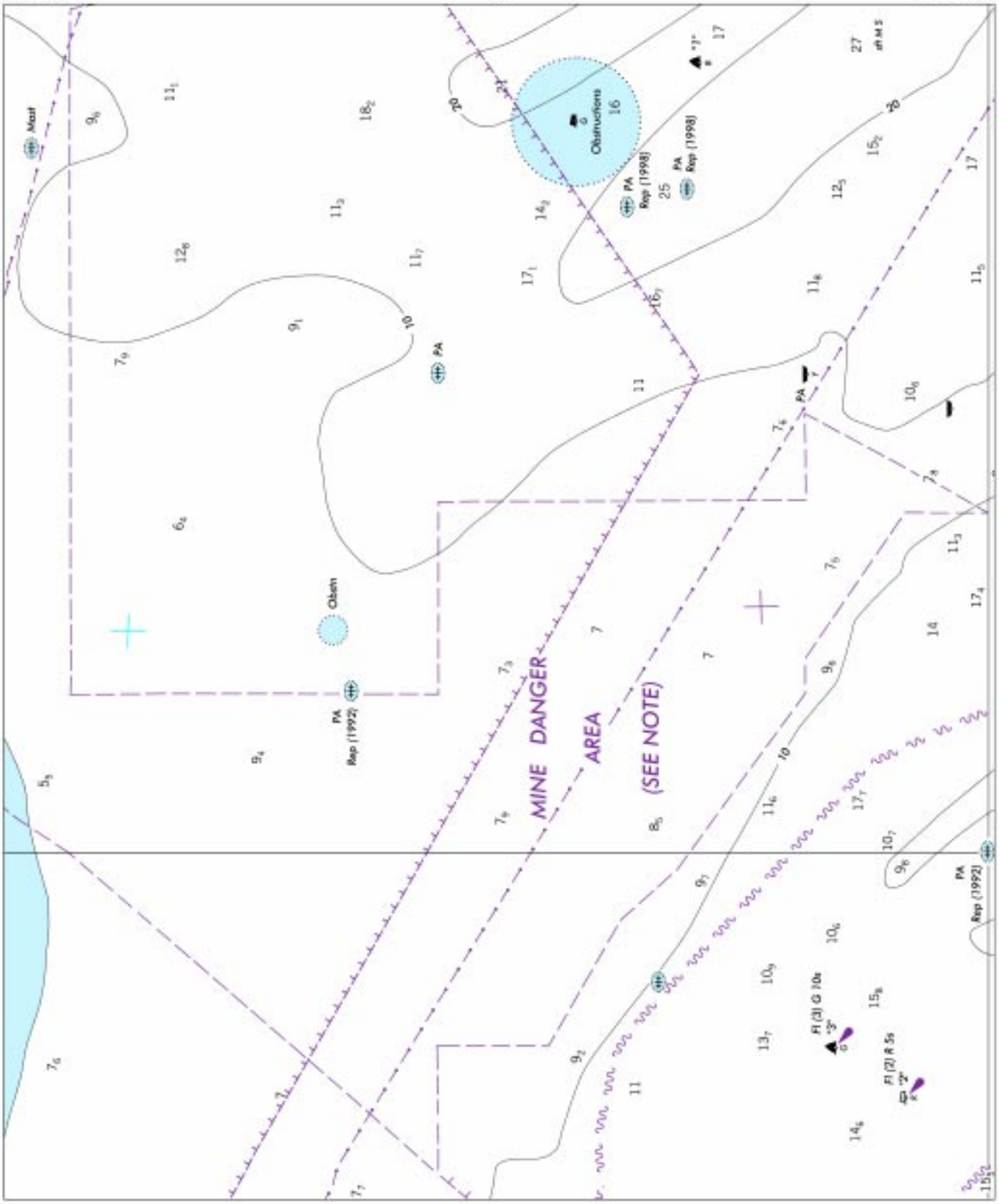


Chart 62434
(B)
NM 31/04
ANCHORAGE AREA
Limit of Former Mined Area CAUTION 5
Limit of Former Mined Area CAUTION 5
MAGNETIC
VAR 2° 44' E (2001)
ANNUAL CHANGE 1'E

Chart 62434 (C) NM 31/04



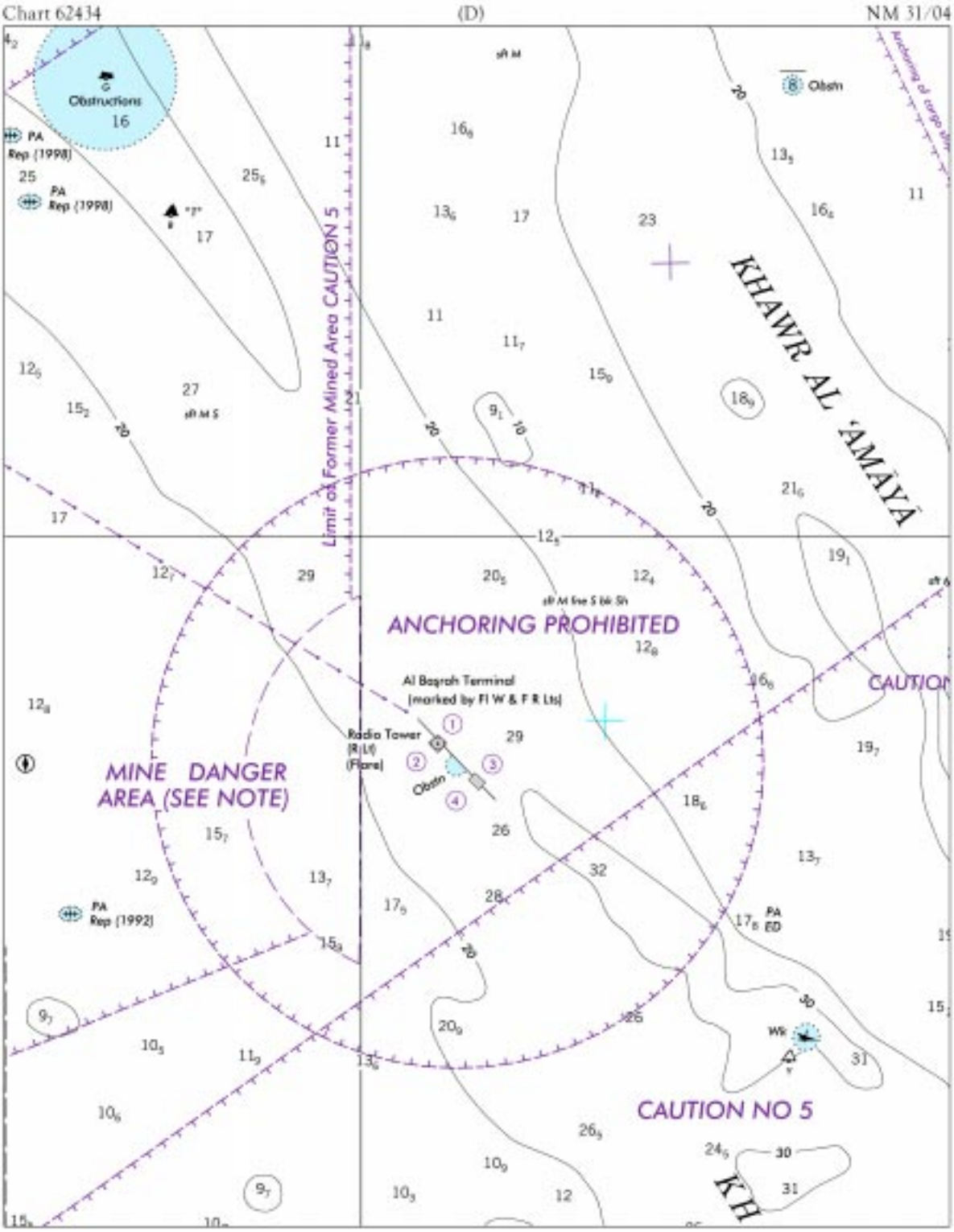


Chart 62434
(D)
NM 31/04
Obstructions
16
PA
Rep (1998)
PA
Rep (1998)
Limit of Former Mined Area CAUTION 5
KHAWR AL 'AMAYA
Obstn
ANCHORING PROHIBITED
Al Basrah Terminal
(marked by Fl W & F R Lts)
Radio Tower
(R Lt)
(Flare)
Obstn
MINE DANGER
AREA (SEE NOTE)
PA
Rep (1992)
CAUTION
CAUTION NO 5
KH

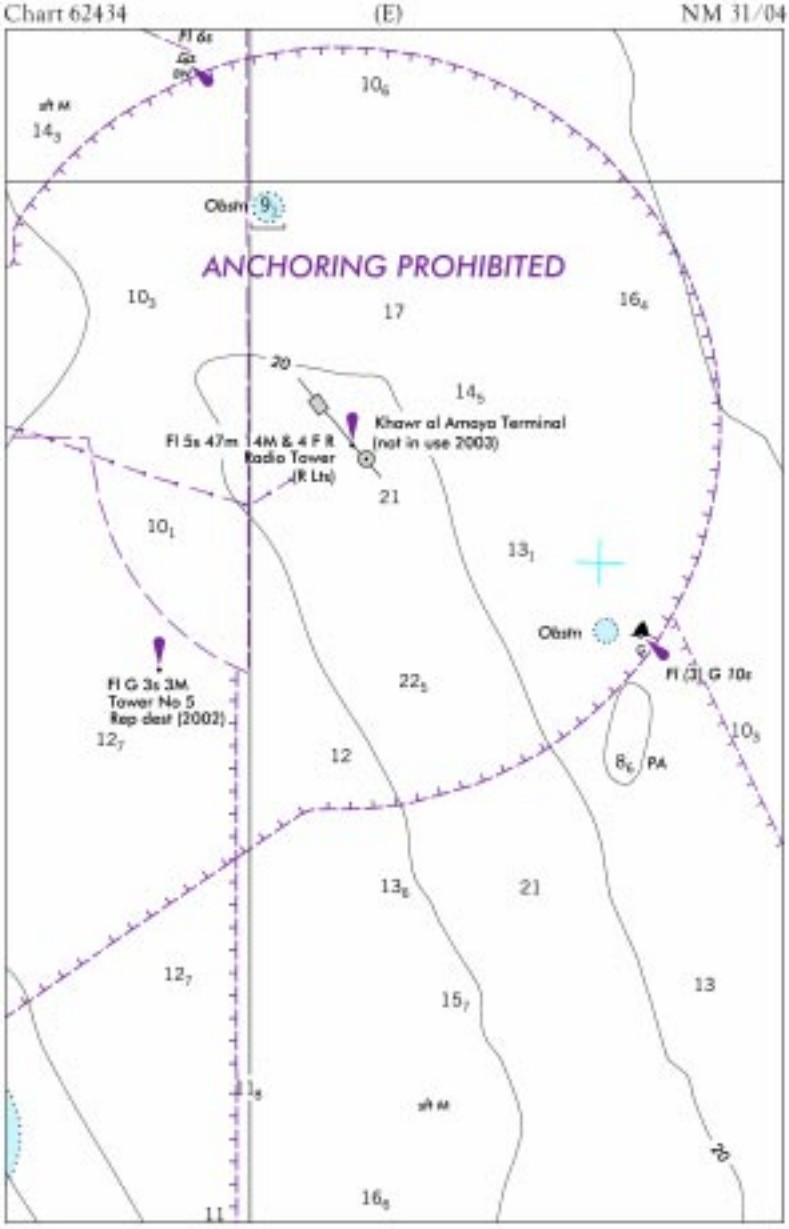


Chart 62434
(E)
NM 31/04
Fl 6s
Obstn
ANCHORING PROHIBITED
Khawr al Amaya Terminal
(not in use 2003)
Fl 5s 47m 14M & 4 F R
Radio Tower
(R Lts)
Obstn
Fl (3) G 10s
Fl G 3s 3M
Tower No 5
Rep dest (2002)
PA

Chart 62490
NM 31/04
Anchoring Prohibited (Pipelines)
MINE DANGER AREAS
(see Note)
Al Basrah Terminal
Khawr

Chart 62540 NM 31/04

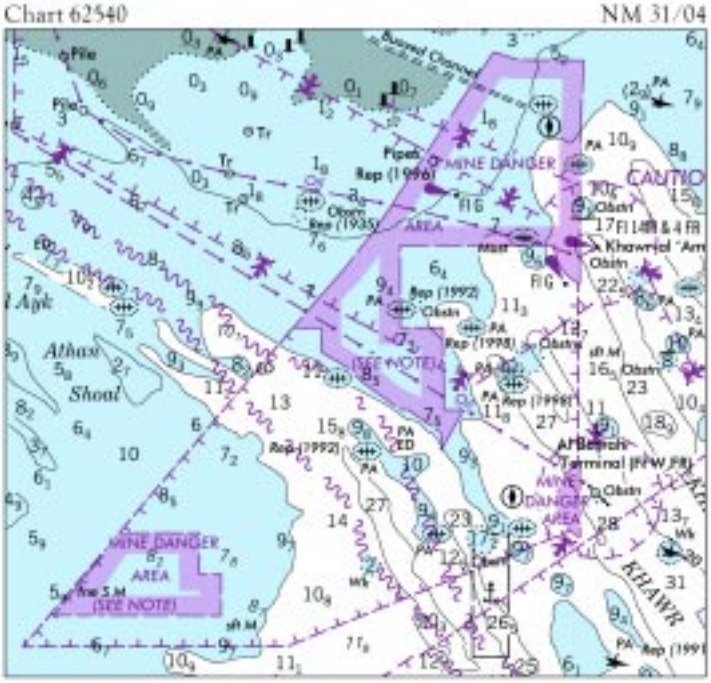
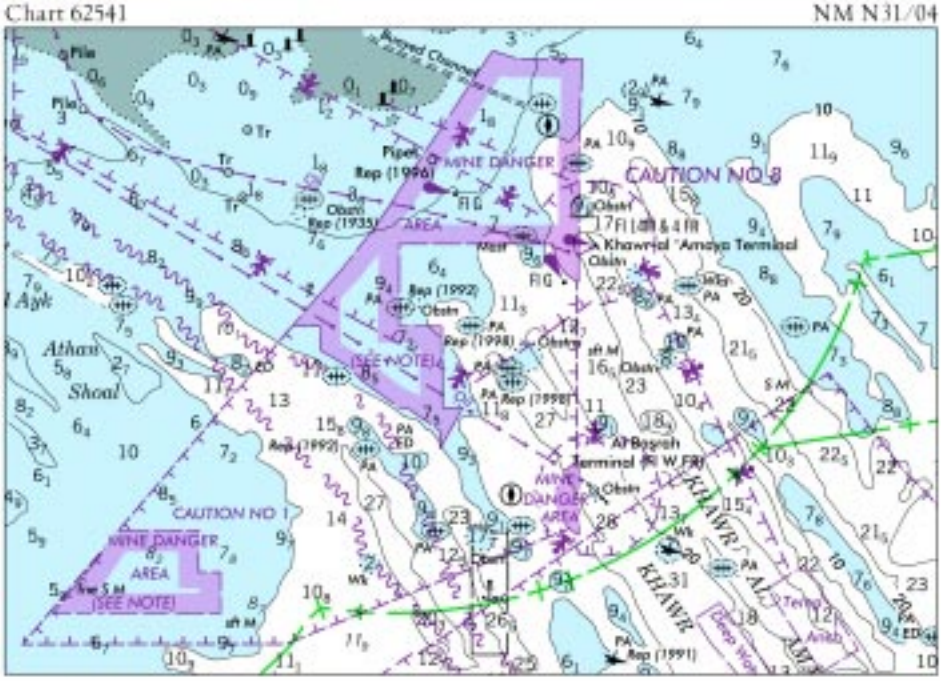


Chart 62541 NM N31/04



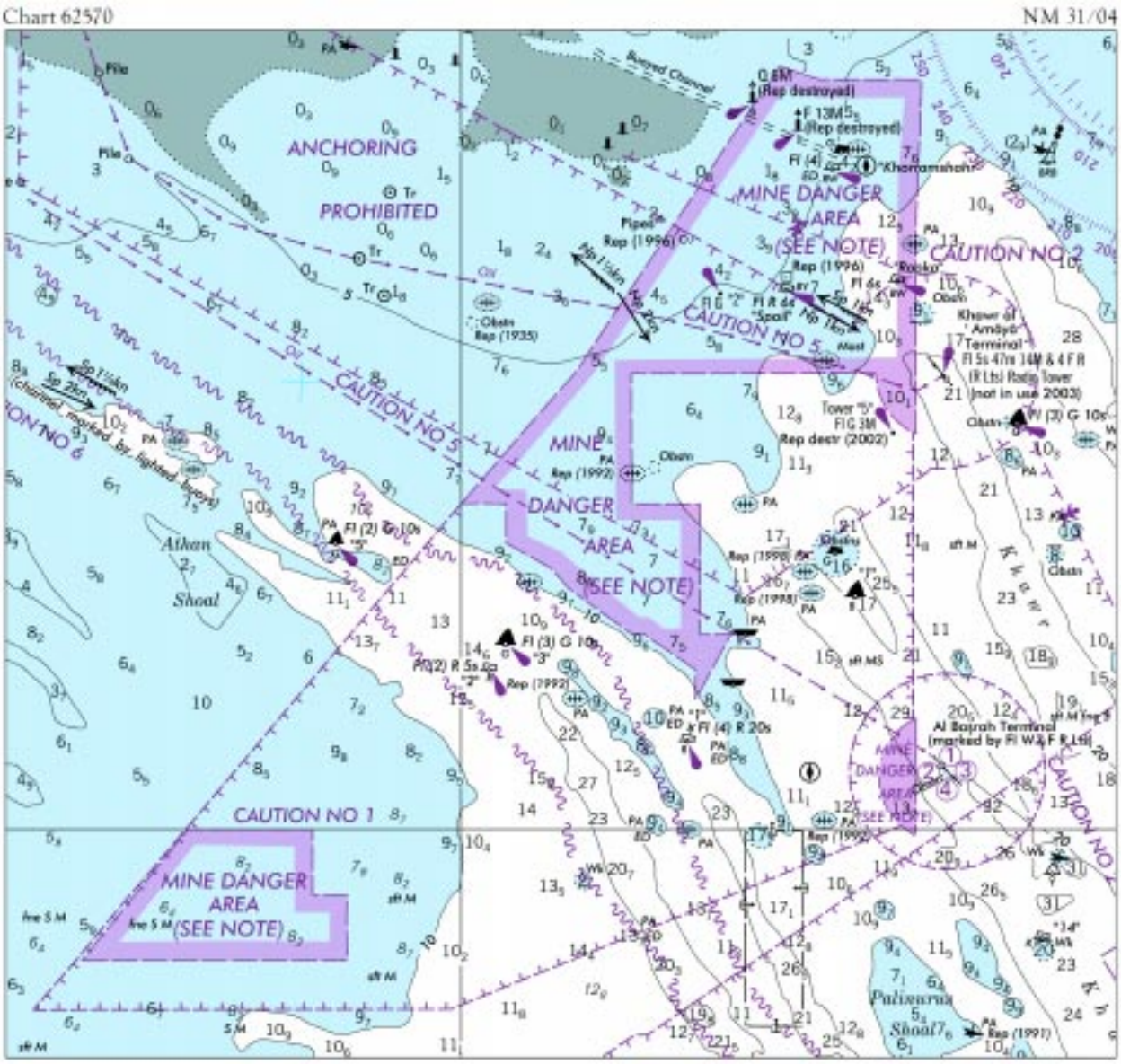


Chart 62570
NM 31/04
ANCHORING
PROHIBITED
MINE DANGER
AREA
(SEE NOTE)
CAUTION NO 2
CAUTION NO 5
MINE
DANGER
AREA
(SEE NOTE)
Athan
Shoal
CAUTION NO 1
MINE DANGER
AREA
(SEE NOTE)
Palisearna
Shoal

Chart 62590
(A)
NM 31/04
Shoal
CAUTION
MINE DANGER
AREA
CAUTION NO 1

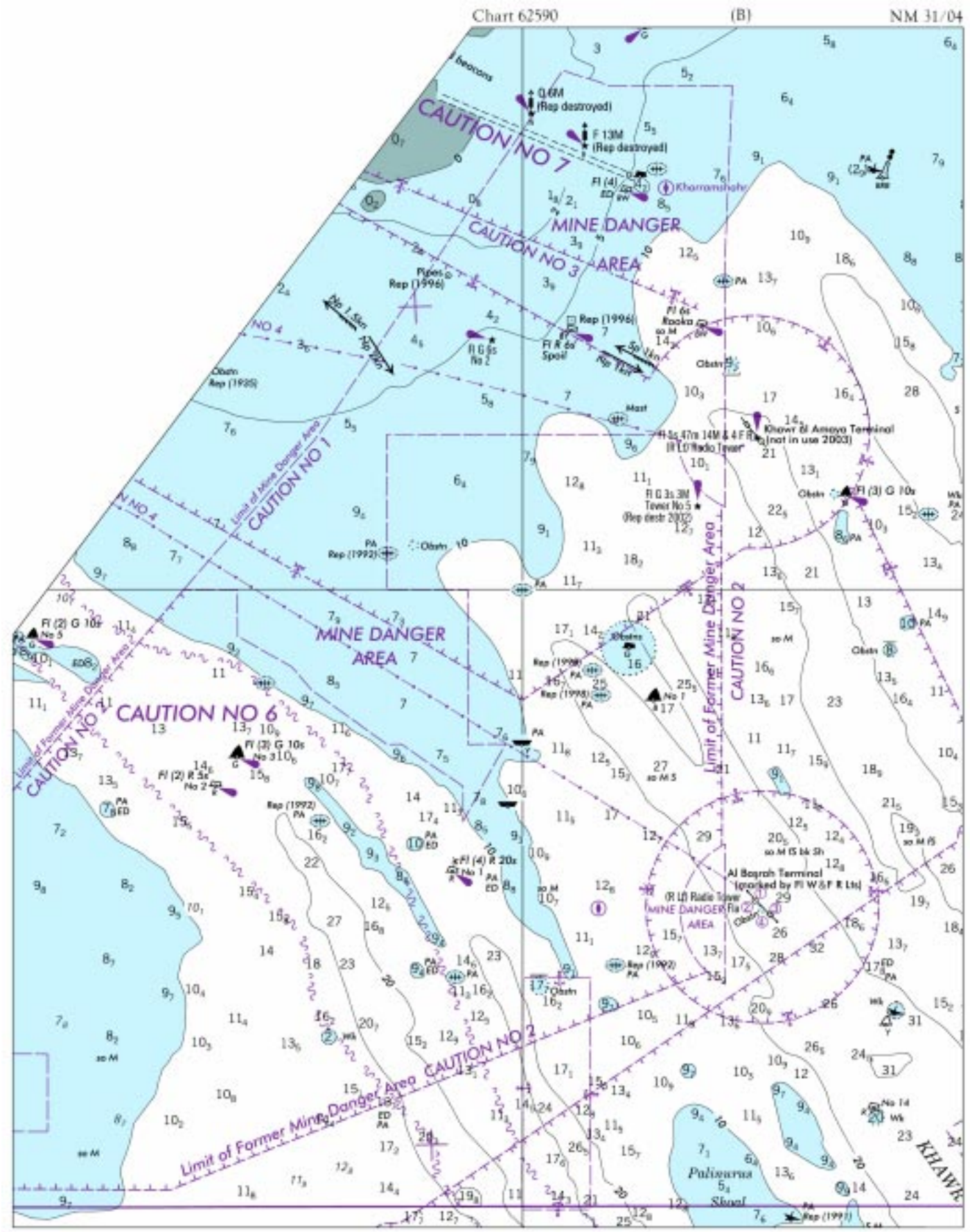


Chart 62590
(B)
NM 31/04
CAUTION NO 7
MINE DANGER AREA
CAUTION NO 3
CAUTION NO 1
CAUTION NO 6
CAUTION NO 2
Limit of Former Mine Danger Area
Khorramshahr
Khawr Al Amaya Terminal
Al Basrah Terminal
Palwarna Shoal
KHAWR

Chart 62591
(A)
NM N31/04
Shoal
MINE DANGER
AREA
CAUTION NO 1

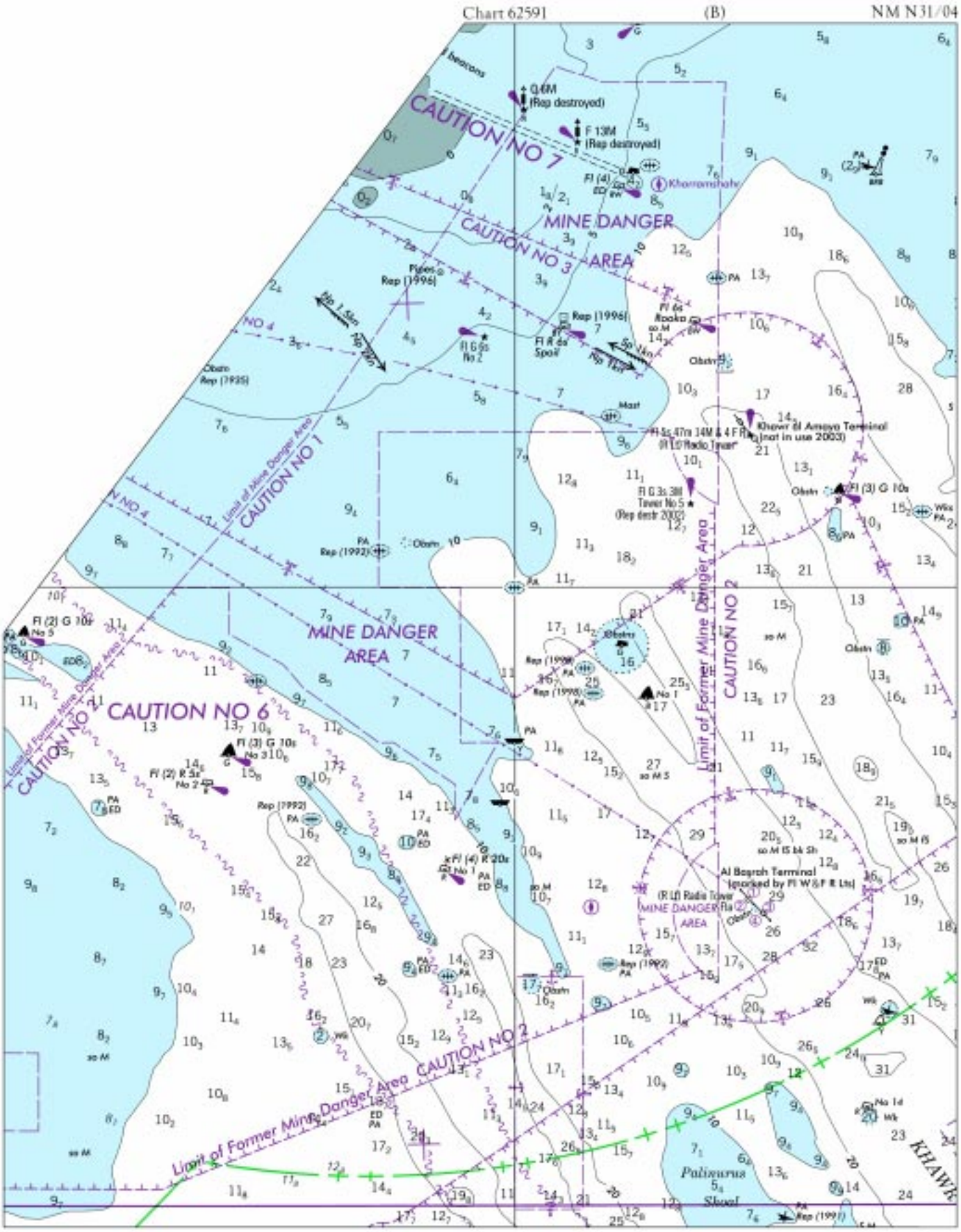


Chart 62591
(B)
NM N31/04
CAUTION NO 7
MINE DANGER AREA
CAUTION NO 3
CAUTION NO 1
CAUTION NO 6
CAUTION NO 2
Limit of Former Mine Danger Area
Khawr al Amaya Terminal
Al Basrah Terminal
Palinurus Shoal
KHAWR

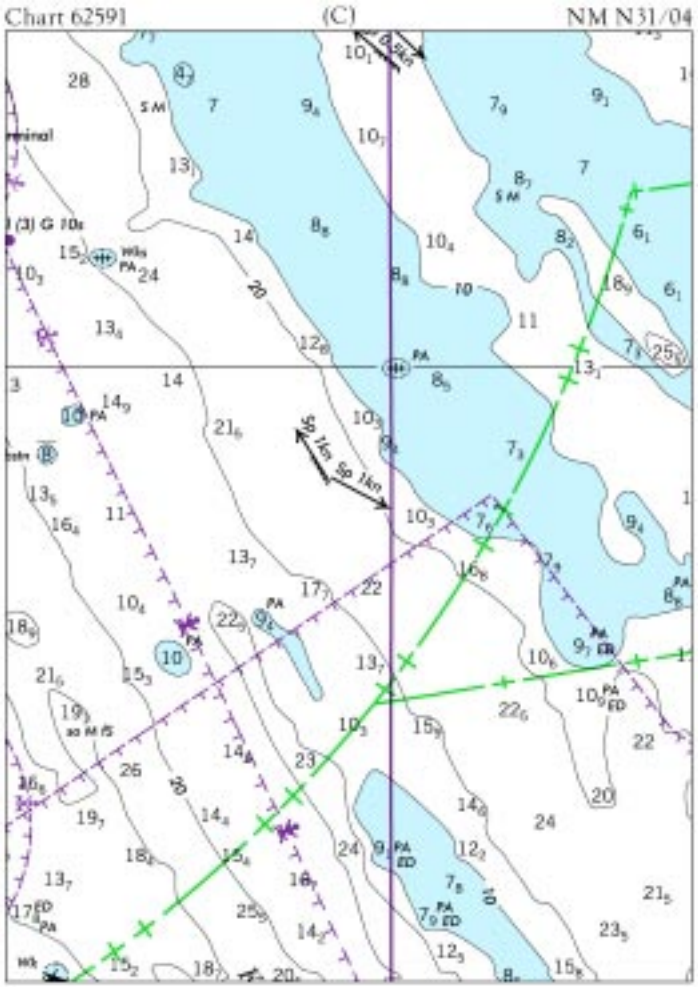


Chart 62591
(C)
NM N31/04

Chart 12311 NM 31/04

CHRISTINA RIVER CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO APR 2004

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT CHRISTINA RIVER DATUM					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT MILES)	DEPTH (FEET)
ENTRANCE CHANNEL TO THE UPPER END OF THE TURNING BASIN	35.3	34.9	34.9	4-04	500-340	0.70	38
THENCE TO THE LOBDELL CANAL	34.6	33.4	34.1	4-04	400	0.33	35
TURNING BASIN (OPPOSITE TERMINAL WHARF)	36.3	36.7	36.5	4-04	320	0.34	38

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 12312 NM 31/04

CHRISTINA RIVER CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO APR 2004

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT CHRISTINA RIVER DATUM					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT MILES)	DEPTH (FEET)
ENTRANCE CHANNEL TO THE UPPER END OF THE TURNING BASIN	35.3	34.9	34.9	4-04	500-340	0.70	38
THENCE TO THE LOBDELL CANAL	34.6	33.4	34.1	4-04	400	0.33	35
TURNING BASIN (OPPOSITE TERMINAL WHARF)	36.3	36.7	36.5	4-04	320	0.34	38

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18521 NM 31/04

COLUMBIA RIVER CHANNEL DEPTHS
ENTRANCE TO MILLER SANDS RANGE

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUNE 14, 2004

* SEE FOOTNOTES						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH (FEET)
ENTRANCE RANGE	57	55	45	42	6-04	2640	3.3	48
SAND ISLAND RANGE (CLATSOP SPIT)	46	50	48	43	6-04	2640	2.2	48
LOWER DESDEMONA SHOAL	43	44	41	36	5-04	600	3.4	40
UPPER DESDEMONA SHOAL	42	43	47	45	12-03	600	3.6	40
TANSY POINT TURN AND RANGE	39	40	39	32	3-04	600	4.8	40
ASTORIA RANGE	41	42	43	41	3-04	600	2.7	40
TONGUE POINT CHANNEL	38	41	41	41	5-04	600	2.2	40
HARRINGTON POINT RANGE	38	39	39	33	5-04	600	2.6	40
MILLER SANDS RANGE	37	43	39	34	6-04	600	2.2	40

* CONTROLLING DEPTHS ROUNDED TO THE NEAREST FOOT
* CONTROLLING DEPTHS IN CHANNELS ENTERING FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER FROM THE ENTRANCE TO HARRINGTON POINT AND COLUMBIA RIVER DATUM ABOVE THAT POINT. PROJECT LENGTHS ARE IN STATUTE MILES.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18523 NM 31/04

COLUMBIA RIVER CHANNEL DEPTHS
MILLER SANDS RANGE TO GULL ISLAND TURN AND CHANNEL
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUNE 14, 2004

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
MILLER SANDS RANGE	37	40	39	34	5-04	600	2.2	40
PILLAR ROCK LOWER RANGE	37	41	40	39	5-04	600	3.0	40
PILLAR ROCK UPPER RANGE	34	41	40	40	5-04	600	1.9	40
WELCH ISLAND REACH	41	42	43	37	6-04	600	3.2	40
SKAMOKAWA CHANNEL	35	39	40	38	5-04	600	3.3	40
STEAMBOAT REACH	48	48	45	42	5-04	600	1.4	40
PUGET ISLAND RANGE AND TURN	40	41	39	37	5-04	600	3.5	40
WAUNA RANGE	38	39	39	38	5-04	600	2.2	40
DRISCOLL RANGE	40	38	40	40	5-04	600	1.7	40
WESTPORT TURN AND RANGE	38	39	41	42	5-04	600	2.0	40
WESTPORT CHANNEL	39	40	41	39	5-04	600	2.4	40
EUREKA LOWER CHANNEL	42	43	44	43	5-04	600	2.1	40
EUREKA UPPER CHANNEL	42	43	43	42	5-04	600	0.8	40
OAK POINT CHANNEL	44	46	46	44	4-04	600	2.4	40
GULL I TURN AND CHANNEL	45	48	41	37	4-04, 5-04	600	2.2	40

* CONTROLLING DEPTHS ROUNDED TO THE NEAREST FOOT
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES TO THE ABOVE INFORMATION

Chart 18524 (Left Panel) NM 31/04

COLUMBIA RIVER CHANNEL DEPTHS
GULL ISLAND TURN AND CHANNEL TO SAINT HELENS TURN
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUNE 14, 2004

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
GULL I TURN AND CHANNEL	45	48	41	37	4, 6-04	600	2.2	40
STELLA RANGE	37	40	40	37	6-04	600	2.8	40
FISHER I CHANNEL	39	40	39	40	5-04	600	0.9	40
WALKER I CHANNEL	39	42	40	36	6-04	600	1.5	40
BARLOW PT. CHANNEL	43	44	40	39	5-04	600	1.3	40
SLAUGHTERS CHANNEL	39	41	40	40	5-04	600	2.3	40
SLAUGHTERS TURN AND CHANNEL OPPOSITE THE TURNING BASIN	38	39	40	39	5-04	600	1.7	40
COTTONWOOD ISLAND LOWER RANGE	36	39	40	39	5-04	600	1.7	40
COTTONWOOD ISLAND TURN	43	42	40	39	6-04	600	2.7	40
COTTONWOOD ISLAND UPPER RANGE	41	41	41	41	6-04	600	1.6	40
KALAMA LOWER RANGE	41	39	39	31	6-04	600	1.8	40
KALAMA UPPER RANGE	38	41	40	36	6-04	600	2.2	40
BYBEE LEDGE CHANNEL	40	42	42	40	6-04	600	2.1	40
MARTIN ISLAND CHANNEL	41	41	39	38	6-04	600	2.1	40
MARTIN ISLAND RANGE	40	42	42	42	6-04	600	1.4	40
COLUMBIA CITY CHANNEL	39	41	38	39	6-04	600	1.2	40
ST. HELENS RANGE	38	39	41	36	5-04	600	2.0	40
ST. HELENS TURN	44	42	42	38	5-04	600	1.7	40

* CONTROLLING DEPTHS ROUNDED TO NEAREST FOOT
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18525 NM 31/04

COLUMBIA RIVER CHANNEL DEPTHS
SAINT HELENS TURN TO TOMAHAWK BAR

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORTS OF JUNE 14, 2004

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
ST. HELENS TURN	44	42	42	38	5-04	600	1.7	40
WARRIOR ROCK RANGE	39	41	39	43	5-04	600	1.3	40
DUCK CLUB TURN	37	39	42	43	5-04	600	1.4	40
HENRICI RANGE	39	39	40	39	5-04	600	2.6	40
FALES CHANNEL	41	41	40	38	5-04	600	1.1	40
KNAPP POINT CHANNEL	40	42	39	37	4-04	600	1.8	40
WILLOW LOWER RANGE	40	41	40	38	4-04	600	2.1	40
WILLOW UPPER RANGE	41	43	40	45	5-04	600	1.1	40
MORGAN BAR	41	43	40	49	5-04	600	1.0	40
MORGAN CHANNEL	46	44	41	42	5-04	600	1.5	40
VANCOUVER LOWER CHANNEL	46	46	46	47	5-04	500	1.0	40
VANCOUVER RANGE	41	42	42	41	5-04	500	1.3	40
VANCOUVER UPPER CHANNEL	41	42	40	38	5-04	500	0.9	40
VANCOUVER LOWER TURNING BASIN	35	38	42	41	5-04	800	1.0	40
VANCOUVER UPPER TURNING BASIN	32	27	25	24	5-04	800	0.9	35
TOMAHAWK BAR	18	18	18	17	11-03	300	3.7	27

* CONTROLLING DEPTHS ROUNDED TO THE NEAREST FOOT
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18526 NM 31/04

COLUMBIA RIVER CHANNEL DEPTHS
MORGAN CHANNEL TO TOMAHAWK BAR

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUNE 14, 2004

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
MORGAN CHANNEL	46	44	41	42	5-04	600	1.5	40
VANCOUVER LOWER CHANNEL	46	46	46	47	5-04	500	1.0	40
VANCOUVER RANGE	41	42	42	41	5-04	500	1.3	40
VANCOUVER UPPER CHANNEL	41	42	40	38	5-04	500	0.9	40
VANCOUVER LOWER TURNING BASIN	35	38	42	41	5-04	800	1.0	40
VANCOUVER UPPER TURNING BASIN	32	27	25	24	5-04	800	0.9	35
TOMAHAWK BAR	18	18	18	17	11-03	300	3.7	27

* CONTROLLING DEPTHS ROUNDED TO THE NEAREST FOOT
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18531 (Lower Panel) NM 31/04

COLUMBIA RIVER CHANNEL DEPTHS
TOMAHAWK BAR TO BONNEVILLE LOCKS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF JUNE 14, 2004

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
TOMAHAWK BAR	18	18	17	11-03	300	3.7	27
AIRPORT BAR	18	18	18	3-04	300	2.8	27
GOVERNMENT ISLAND LOWER RANGE	16	17	17	3-04	300	1.1	27
GOVERNMENT ISLAND MIDDLE RANGE	14	18	18	3-04	300	1.8	27
FISHER QUARRY CHANNEL RANGE	26	24	21	3-04	300	1.0	27
GOVERNMENT ISLAND RANGE	25	30	25	3-04	300	1.1	27
GOVERNMENT ISLAND UPPER RANGE	17	18	21	3-04	300	0.8	27
LADY ISLAND RANGE	18	21	23	3-04	300	2.1	27
LADY ISLAND CHANNEL AND UPPER RANGE	20	28	19	3-04	300	0.9	27
WASHOUGAL LOWER RANGE	21	28	28	3-04	300	1.5	27
WASHOUGAL UPPER RANGE	19	26	30	3-04	300	1.1	27
GARY ISLAND RANGE	16	15	15	3-04	300	0.9	27
REED ISLAND RANGE	16	15	14	3-04	300	2.2	27
TUNNEL POINT CHANNEL	24	25	28	10-03	300	0.8	27
ROOSTER ROCK CHANNEL	26	23	25	10-03	300	1.2	27
CAPE HORN CHANNEL	34	32	31	10-03	300	2.4	27
CANDIANA CHANNEL	16	28	36	10-03	300	1.0	27
FASHION REEF LOWER RANGE	12	19	21	10-03	300	2.2	27
MULTNOMAH FALLS BAR RANGE	13	23	16	10-03	300	1.3	27
MULTNOMAH FALLS TURN	12	20	21	10, 11-03	300	0.8	27
MULTNOMAH FALLS UPPER RANGE	16	21	24	11-03	300	3.2	27
MCGOWANS CHANNEL	39	34	25	11-03	300	1.1	27
WARRENDALE LOWER RANGE	20	22	23	11-03	300	0.9	27
WARRENDALE UPPER RANGE	21	28	22	11-03	300	0.8	27
HAMILTON ISLAND REACH	21	30	27	11-03	300	0.9	27
ENTRANCE TO BONNEVILLE LOCKS	22	22	22	3-00	300	0.6	27

* CONTROLLING DEPTHS ROUNDED TO THE NEAREST FOOT

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18588 NM 31/04

COQUILLE RIVER CHANNEL

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF MAY 2004 AND SURVEYS TO APR 2004

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
A. ENTRANCE CHANNEL	14	16	14	4-04	200	0.33	13.0
ENTRANCE CHANNEL TO PORT DOCK (43°01'15.8"N, 124°24'50.5"W)	15	13	7	4-04	200	0.63	13.0
THENCE TO END OF PROJECT	11	13	14	4-04	150	0.38	13.0

A. THE ENTRANCE CHANNEL IS SUBJECT TO FREQUENT CHANGES AND THE DEEPEST WATER IS NOT ALWAYS ON THE RANGE.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 18773 NM 31/04

SAN DIEGO HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 2003

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
SAN DIEGO HARBOR ENTRANCE CHANNEL	45.2	46.9	44.6	6, 8-03	600	2.1	42

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION