

DAFTAR PUSTAKA

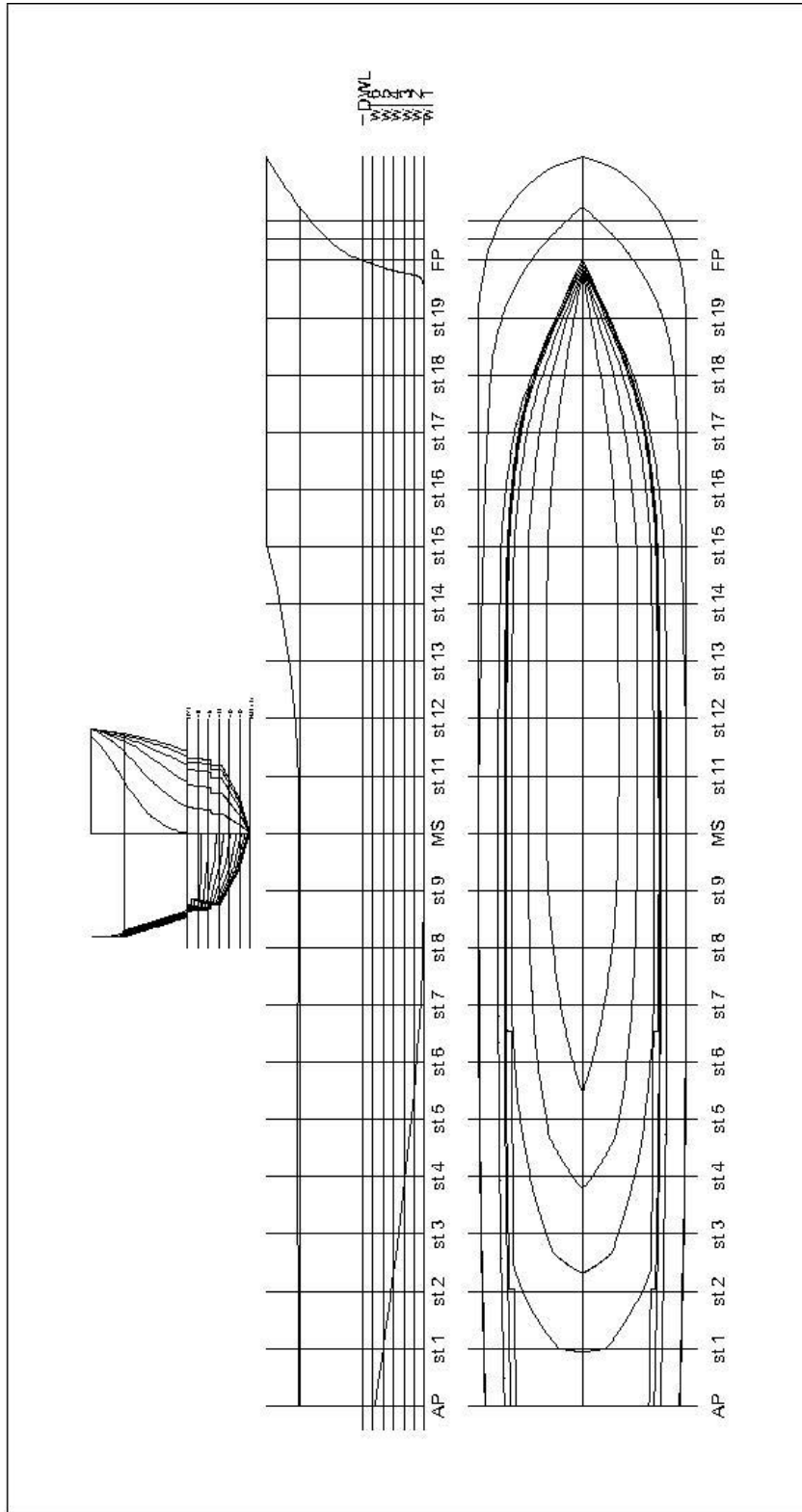
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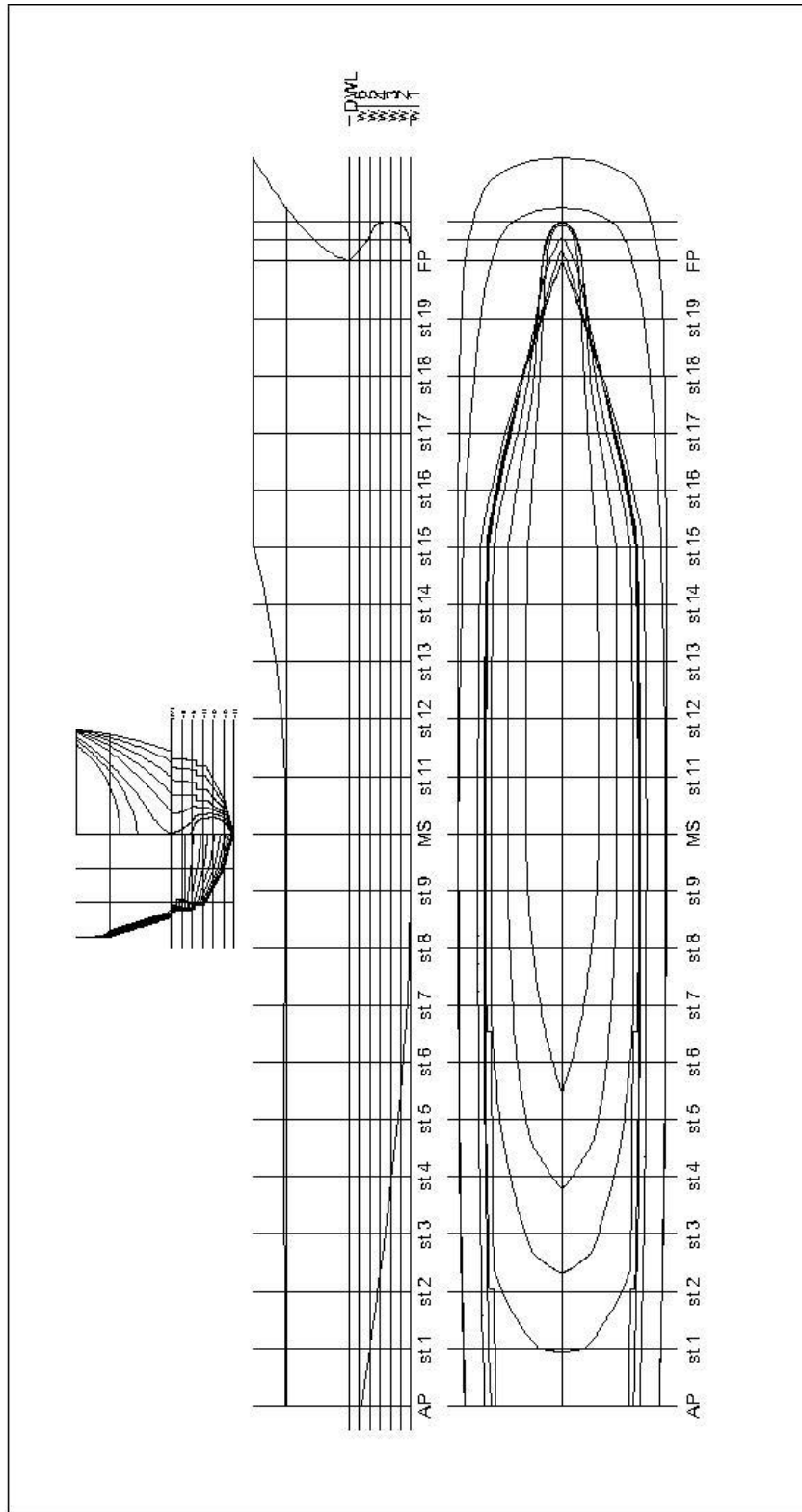
LAMPIRAN 1

(Data Kapal)

1. Lines Plan Haluan Miring (Initial)



2. Lines Plan Haluan Bulbous Bow



4. Data Hydrostatics Haluan Miring

Hydrostatics at DWL ✕

	Measurement	Value	Units
1	Displacement	91.81	t
2	Volume (displaced)	89.575	m ³
3	Draft Amidships	1.500	m
4	Immersed depth	1.500	m
5	WL Length	27.600	m
6	Beam max extents on WL	3.754	m
7	Wetted Area	145.407	m ²
8	Max sect. area	4.229	m ²
9	Waterpl. Area	92.287	m ²
10	Prismatic coeff. (Cp)	0.768	
11	Block coeff. (Cb)	0.576	
12	Max Sect. area coeff. (Cm)	0.751	
13	Waterpl. area coeff. (Cwp)	0.891	
14	LCB length	14.026	from z
15	LCF length	12.669	from z
16	LCB %	50.820	from z
17	LCF %	45.902	from z
18	KB	0.953	m
19	KG fluid	0.000	m
20	BMt	1.093	m
21	BML	54.699	m
22	GMt corrected	2.046	m
23	GML	55.652	m
24	KMt	2.046	m
25	KML	55.652	m
26	Immersion (TPc)	0.946	tonne/
27	MTc	1.858	tonne.
28	RM at 1deg = GMt.Disp.sin(3.279	tonne.
29	Length:Beam ratio	7.352	
30	Beam:Draft ratio	2.503	
31	Length:Vol ^{0.333} ratio	6.169	
32	Precision	Medium	61 sta

Density (water)

Std. densities

VCG

5. Data Hydrostatics Haluan Bulbous Bow

Hydrostatics at DWL
✕

	Measurement	Value	Units
1	Displacement	91.81	t
2	Volume (displaced)	89.569	m ³
3	Draft Amidships	1.500	m
4	Immersed depth	1.500	m
5	WL Length	27.600	m
6	Beam max extents on WL	3.754	m
7	Wetted Area	148.599	m ²
8	Max sect. area	4.229	m ²
9	Waterpl. Area	90.207	m ²
10	Prismatic coeff. (Cp)	0.767	
11	Block coeff. (Cb)	0.576	
12	Max Sect. area coeff. (Cm)	0.751	
13	Waterpl. area coeff. (Cwp)	0.871	
14	LCB length	14.090	from z
15	LCF length	12.406	from z
16	LCB %	51.052	from z
17	LCF %	44.948	from z
18	KB	0.945	m
19	KG fluid	0.000	m
20	BMt	1.058	m
21	BML	51.557	m
22	GMt corrected	2.003	m
23	GML	52.501	m
24	KMt	2.003	m
25	KML	52.501	m
26	Immersion (TPc)	0.925	tonne/
27	MTc	1.753	tonne.
28	RM at 1deg = GMt.Disp.sin(3.209	tonne.
29	Length:Beam ratio	7.352	
30	Beam:Draft ratio	2.503	
31	Length:Vol ^{0.333} ratio	6.169	
32	Precision	Medium	61 sta

Density (water)

Std. densities

VCG

6. Data Hydrostatics Haluan X-Bow

Hydrostatics at DWL ✕

	Measurement	Value	Units
1	Displacement	91.81	t
2	Volume (displaced)	89.574	m ³
3	Draft Amidships	1.500	m
4	Immersed depth	1.500	m
5	WL Length	27.600	m
6	Beam max extents on WL	3.754	m
7	Wetted Area	145.128	m ²
8	Max sect. area	4.291	m ²
9	Waterpl. Area	91.819	m ²
10	Prismatic coeff. (Cp)	0.756	
11	Block coeff. (Cb)	0.576	
12	Max Sect. area coeff. (Cm)	0.765	
13	Waterpl. area coeff. (Cwp)	0.886	
14	LCB length	14.002	from z
15	LCF length	12.593	from z
16	LCB %	50.731	from z
17	LCF %	45.629	from z
18	KB	0.950	m
19	KG fluid	0.000	m
20	BMt	1.092	m
21	BML	53.661	m
22	GMt corrected	2.042	m
23	GML	54.612	m
24	KMt	2.042	m
25	KML	54.612	m
26	Immersion (TPc)	0.941	tonne/
27	MTc	1.823	tonne.
28	RM at 1deg = GMt.Disp.sin(3.272	tonne.
29	Length:Beam ratio	7.351	
30	Beam:Draft ratio	2.503	
31	Length:Vol ^{0.333} ratio	6.169	
32	Precision	Medium	57 sta

Density (water)

Std. densities

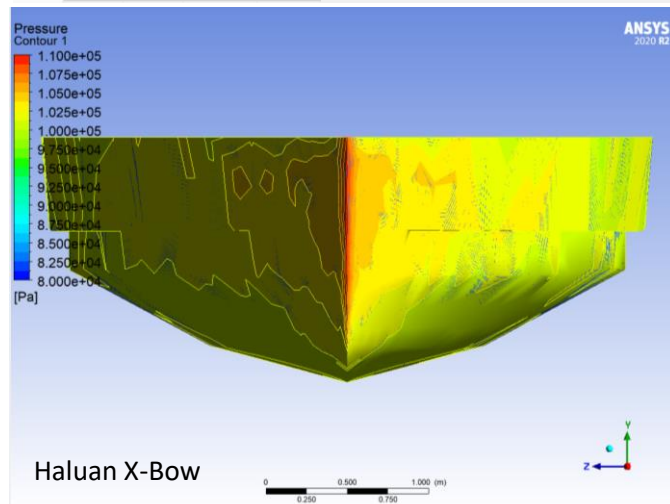
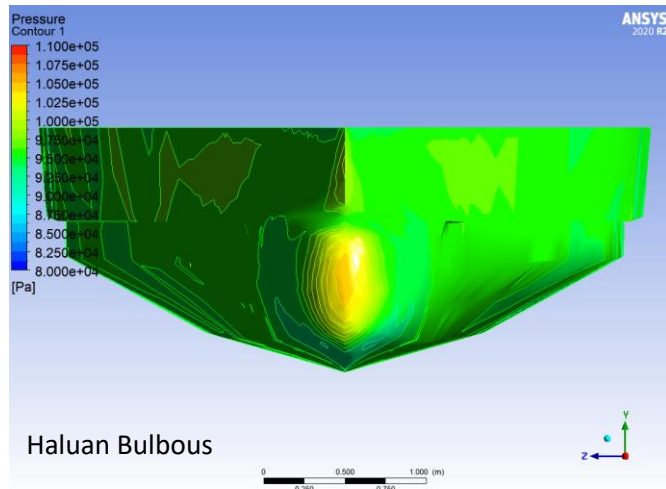
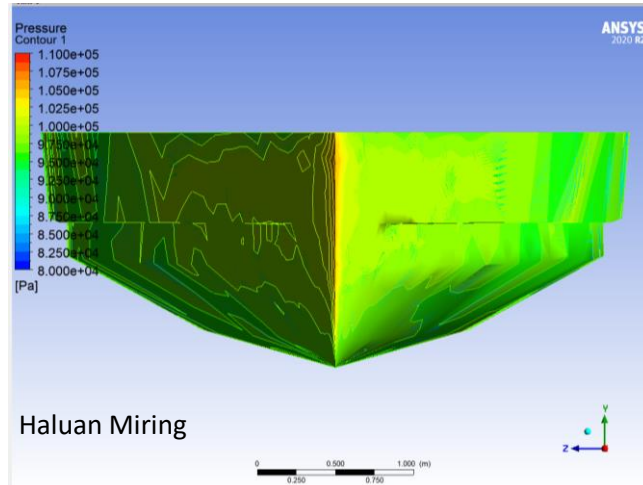
VCG

LAMPIRAN 2

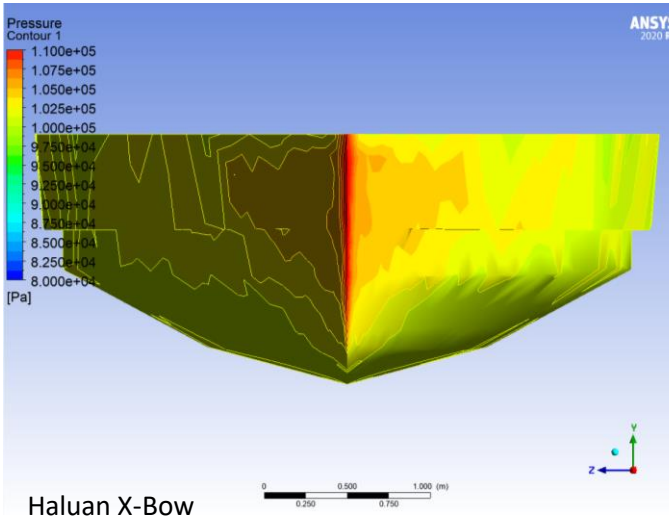
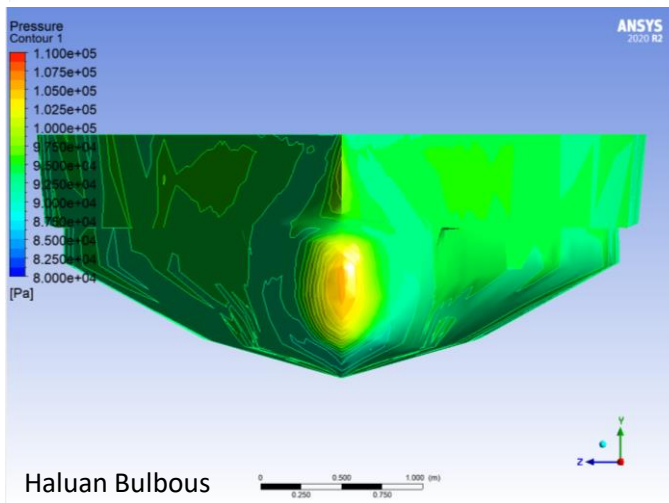
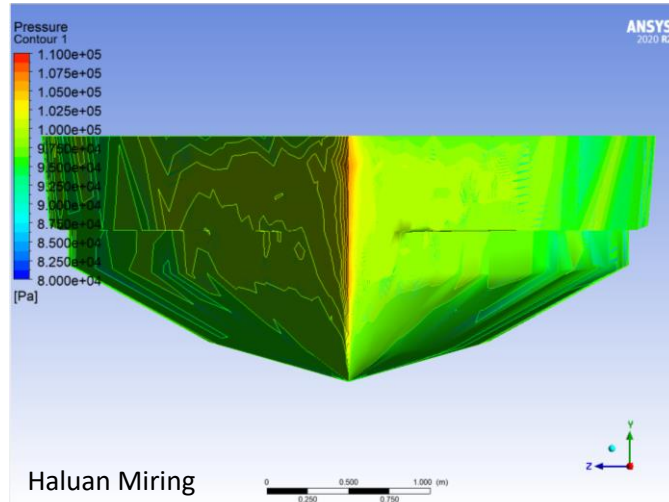
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Elemen Mesh Default

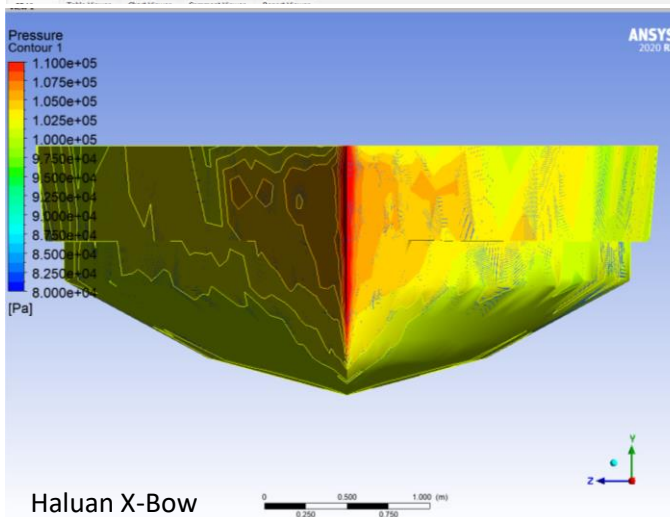
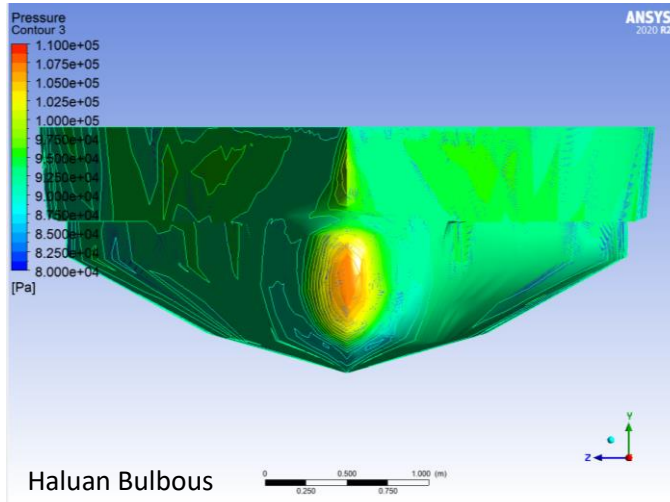
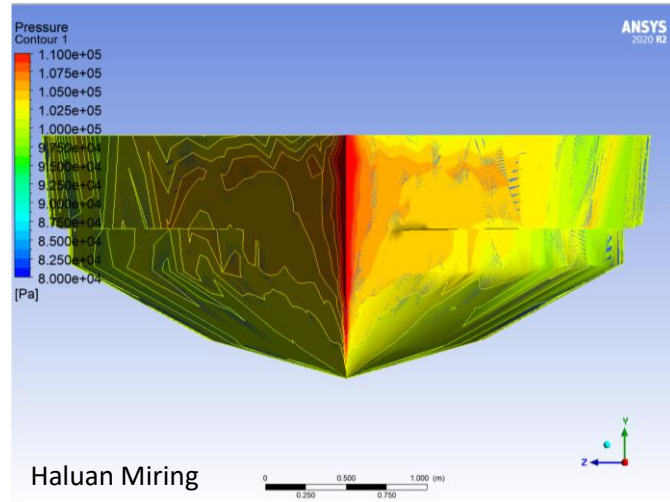
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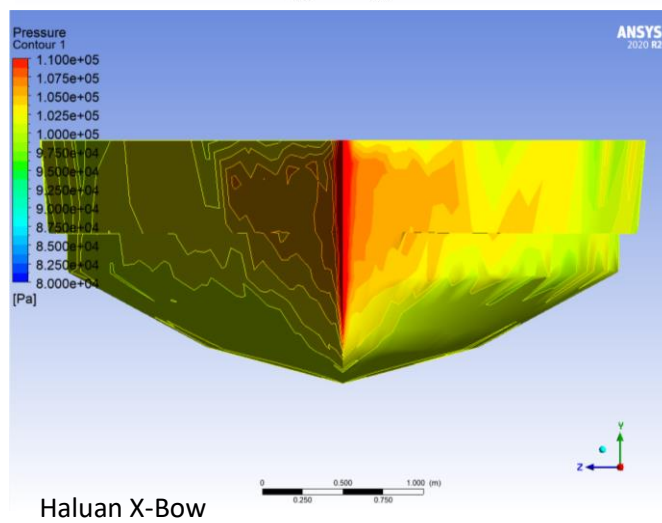
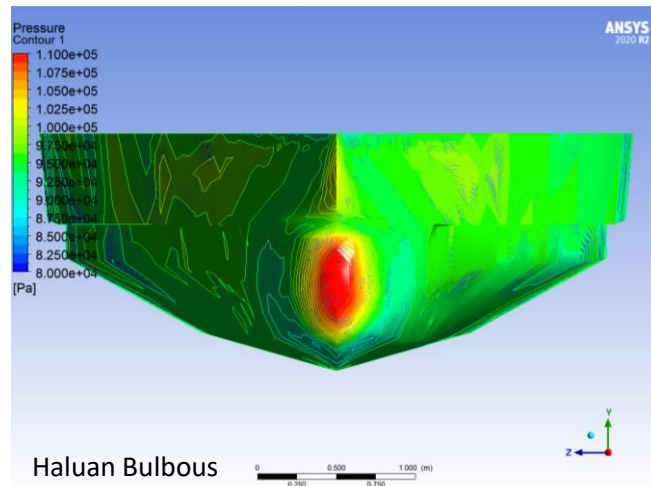
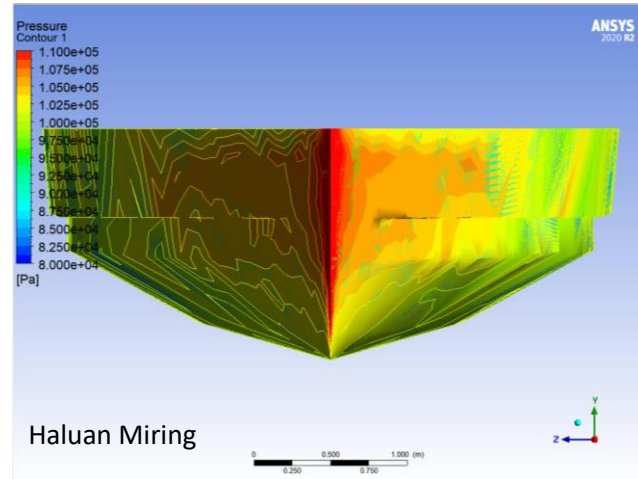
8. Visualisasi Pressure Area (Tampak Depan Kecepatan 9 Knot)



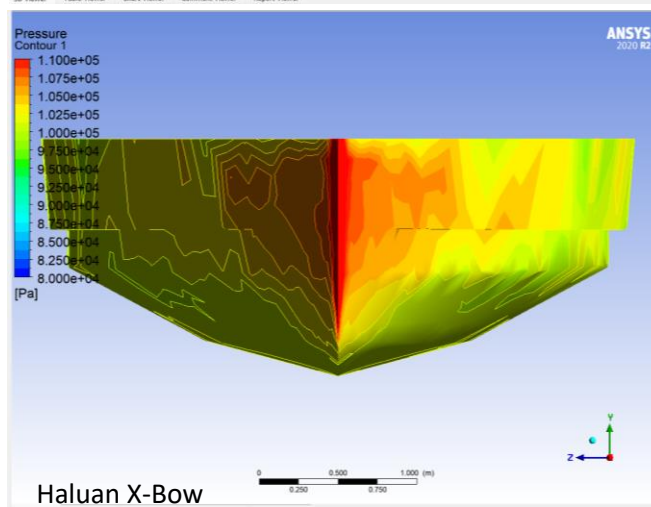
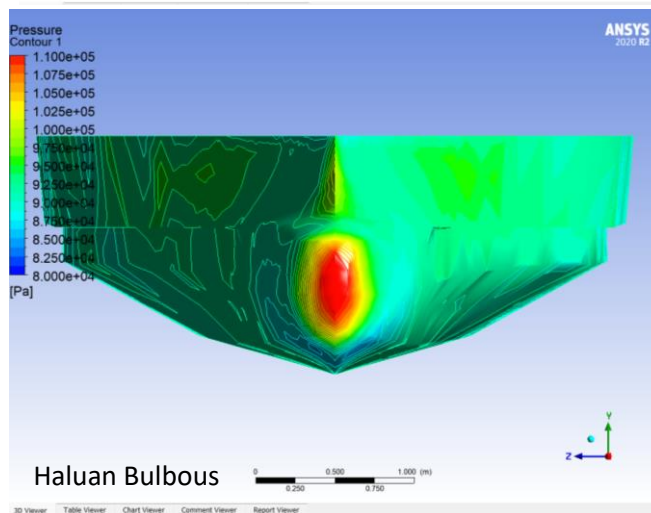
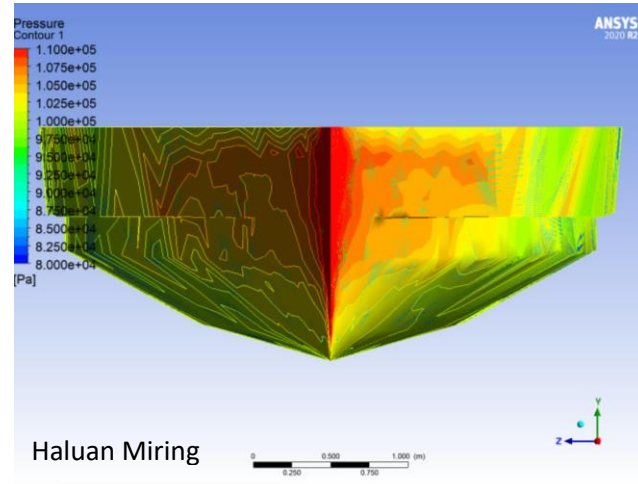
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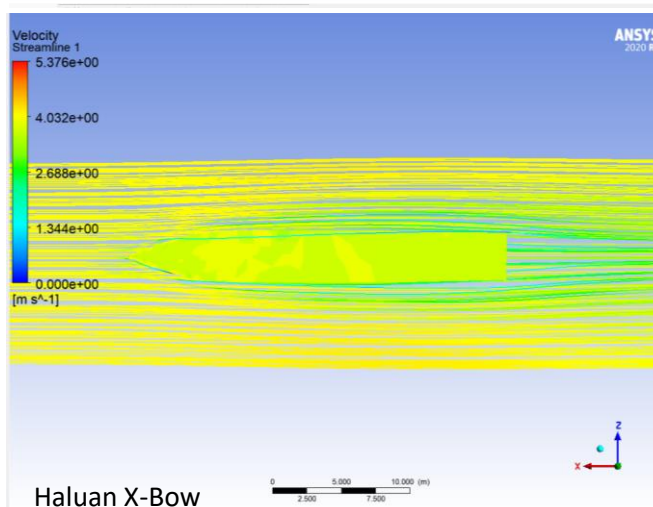
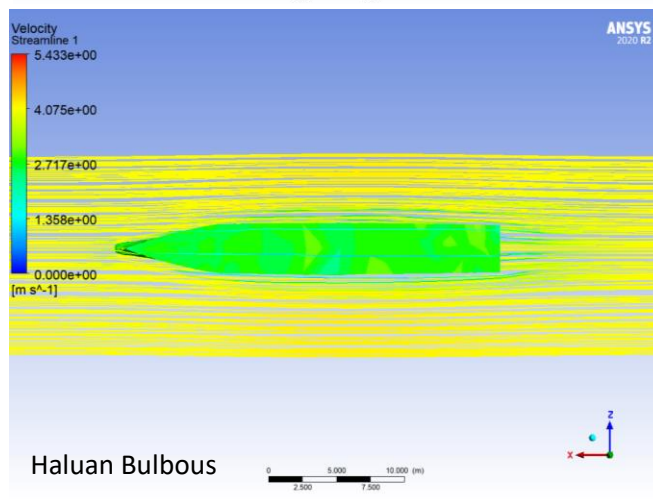
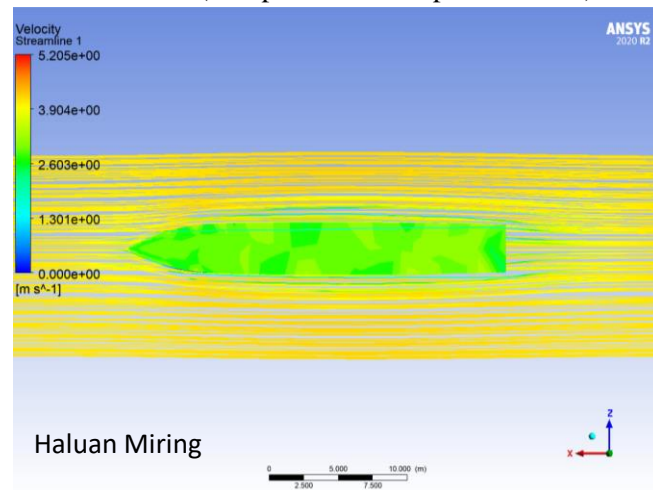
10. Visualisasi Pressure Area (Tampak Depan Kecepatan 11 Knot)



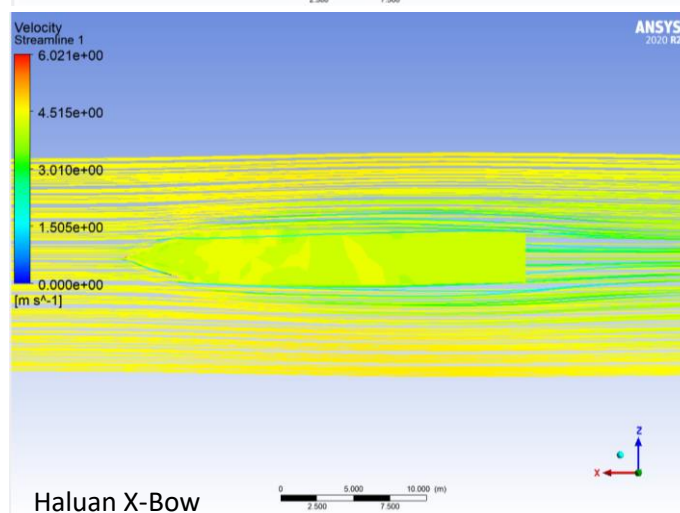
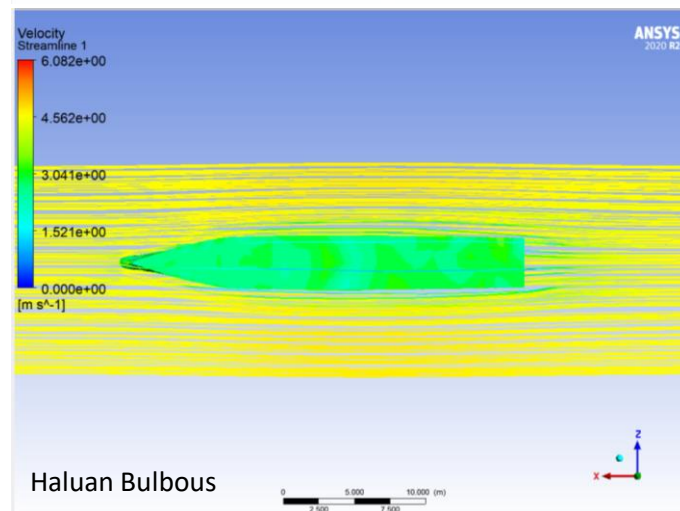
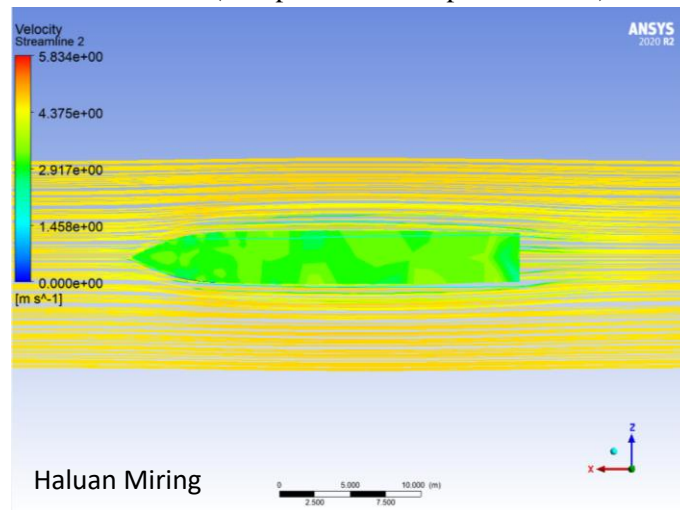
11. Visualisasi Pressure Area (Tampak Depan Kecepatan 12 Knot)



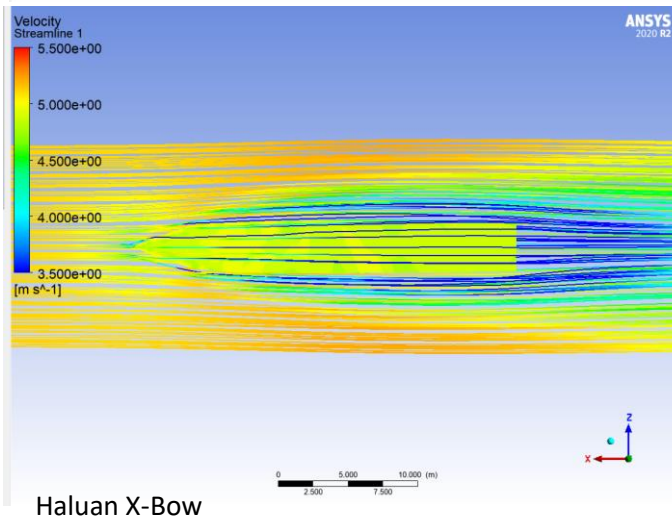
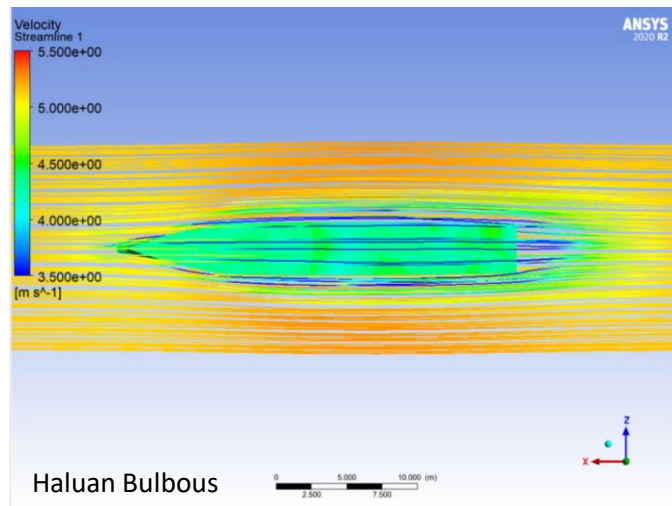
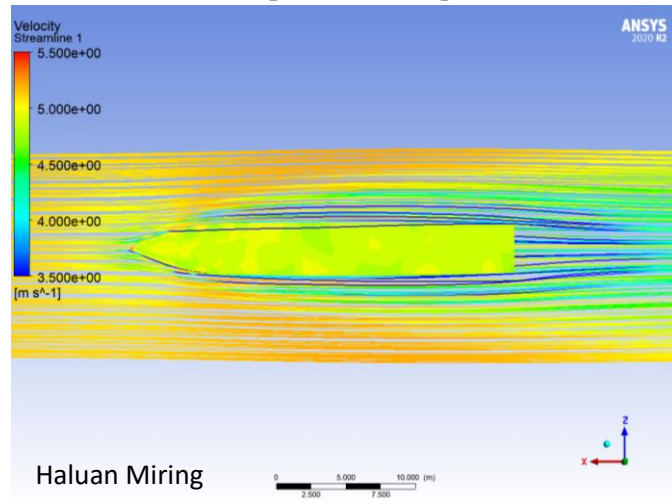
12. Visualisasi Streamline (Tampak Atas Kecepatan 8 Knot)



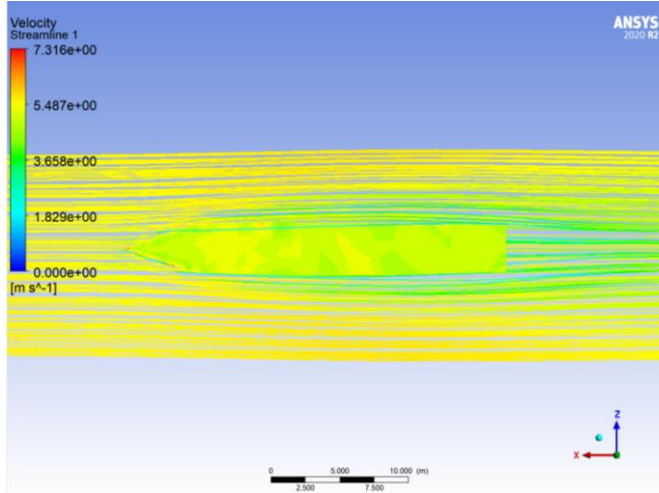
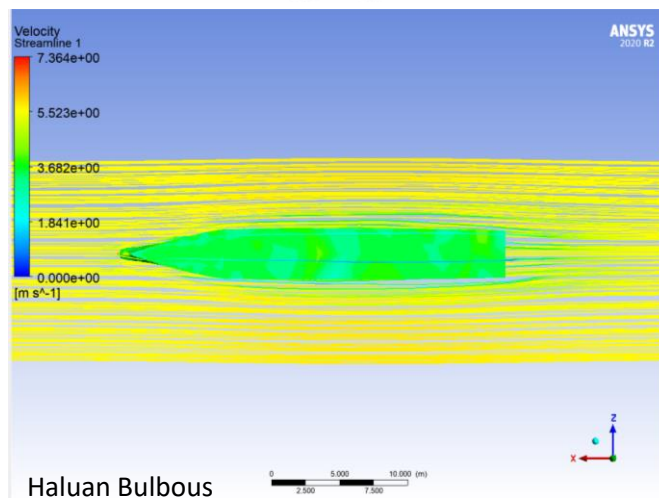
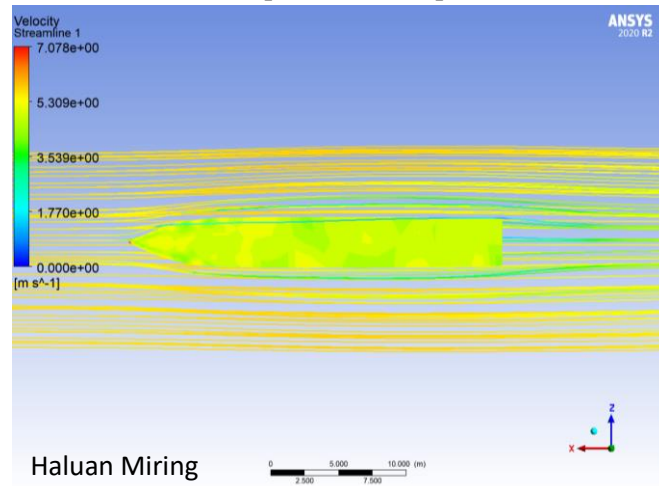
13. Visualisasi Streamline (Tampak Atas Kecepatan 9 Knot)



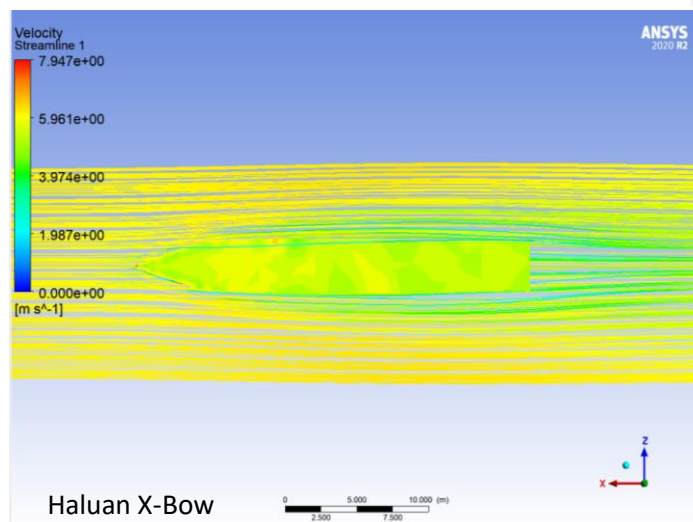
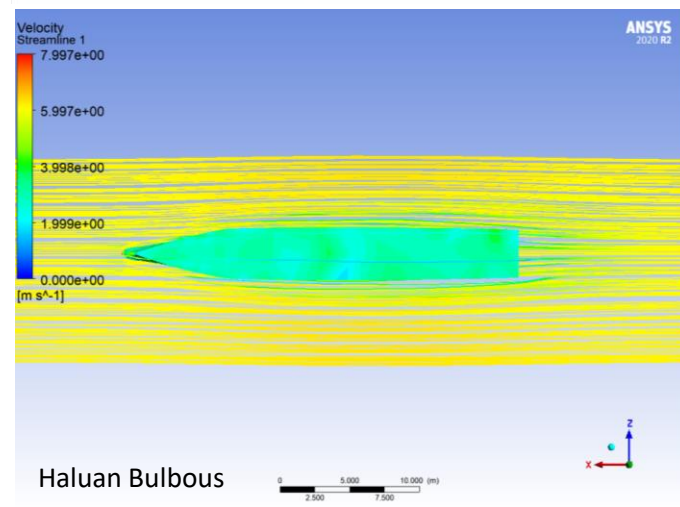
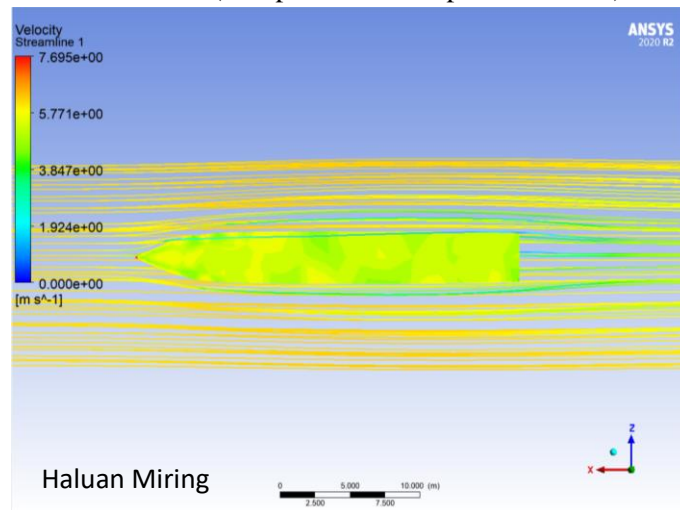
14. Visualisasi Streamline (Tampak Atas Kecepatan 10 Knot)



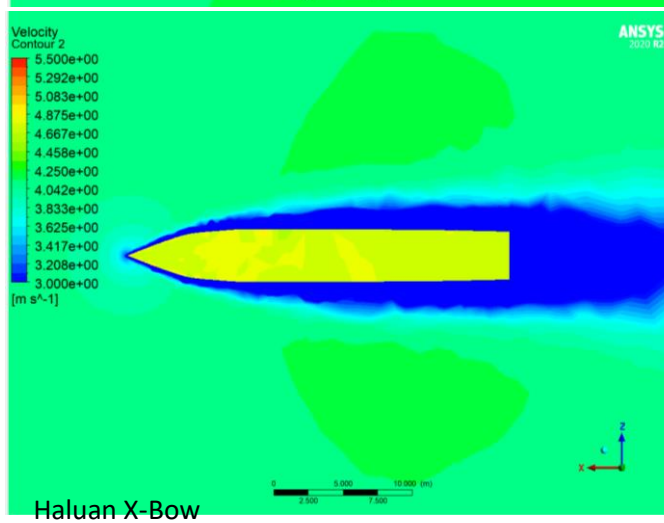
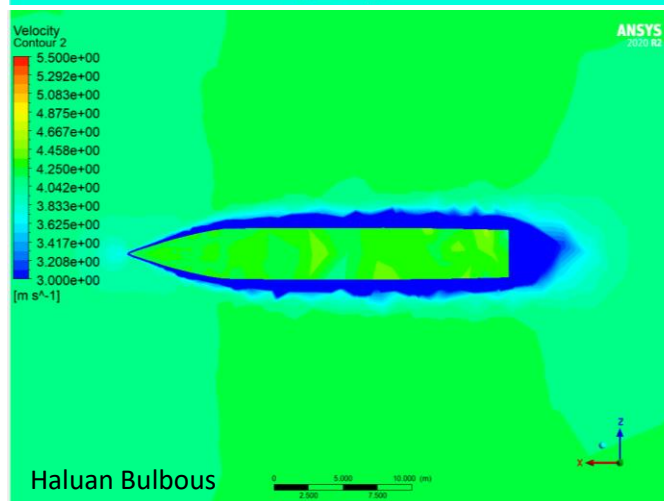
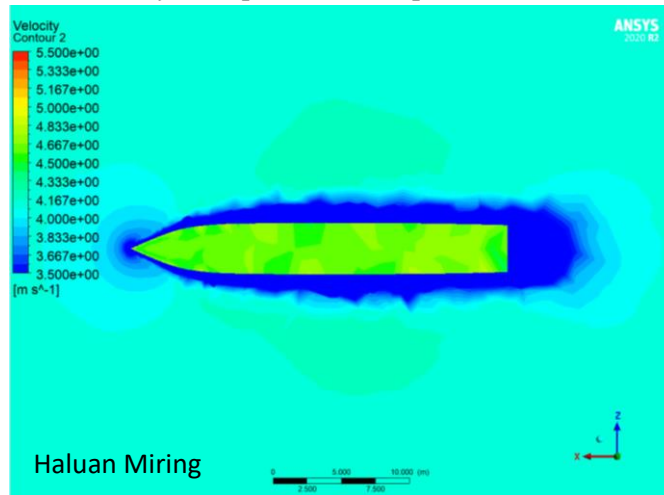
15. Visualisasi Streamline (Tampak Atas Kecepatan 11 Knot)



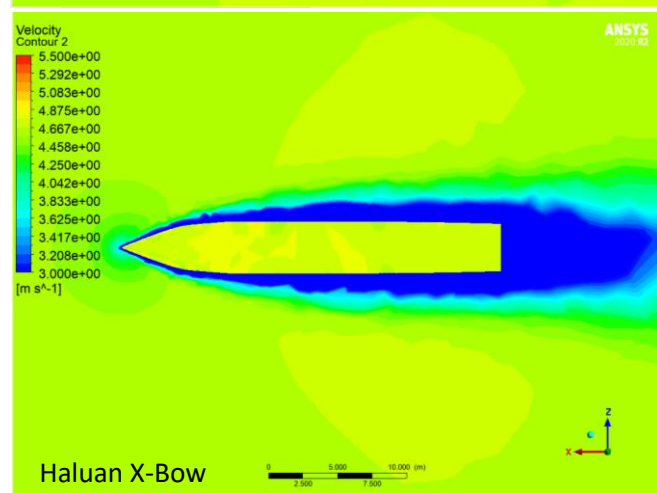
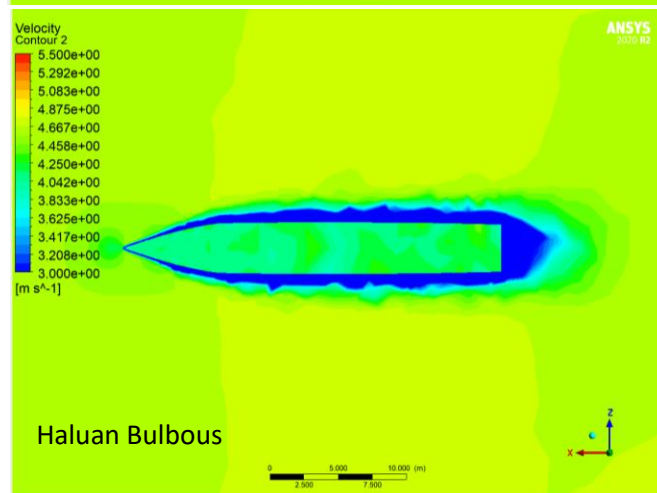
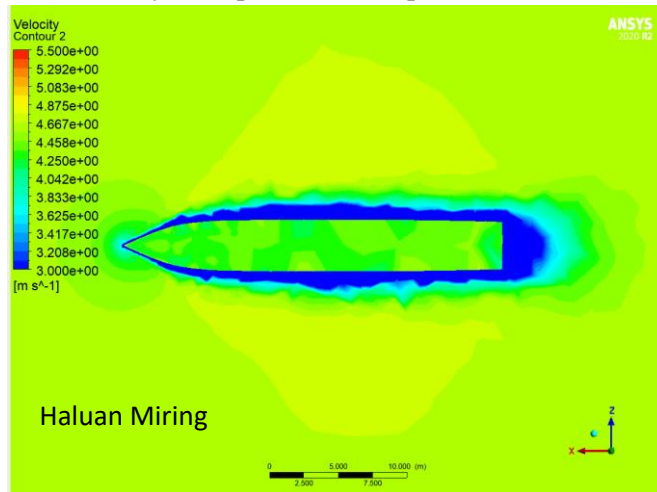
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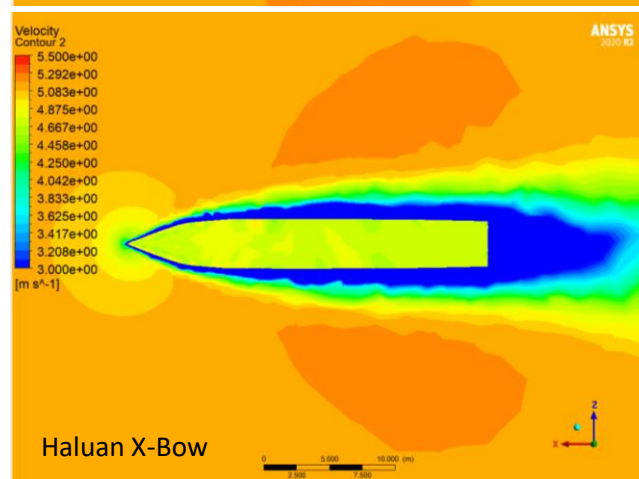
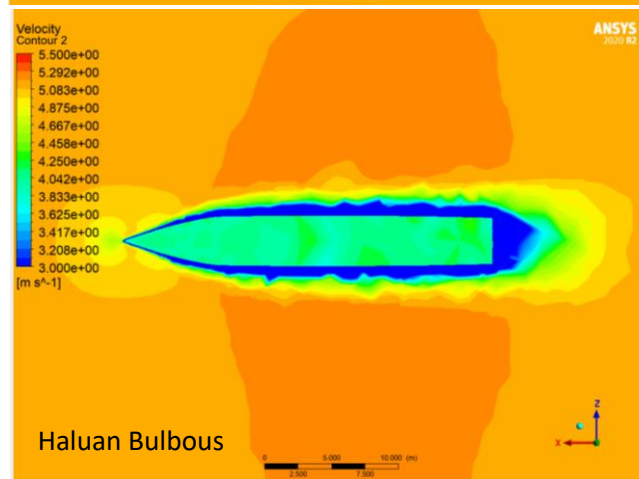
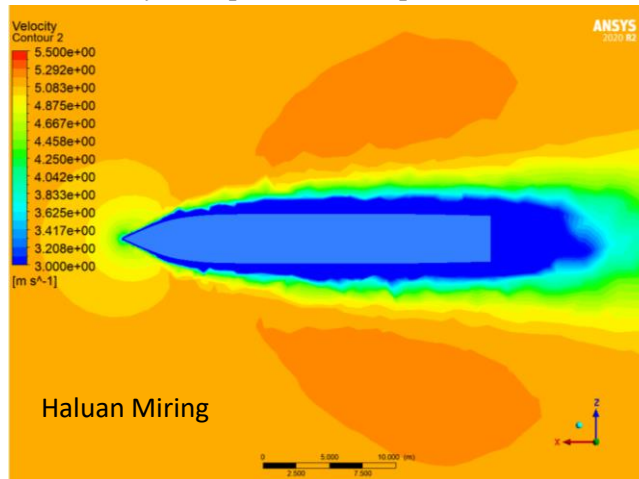
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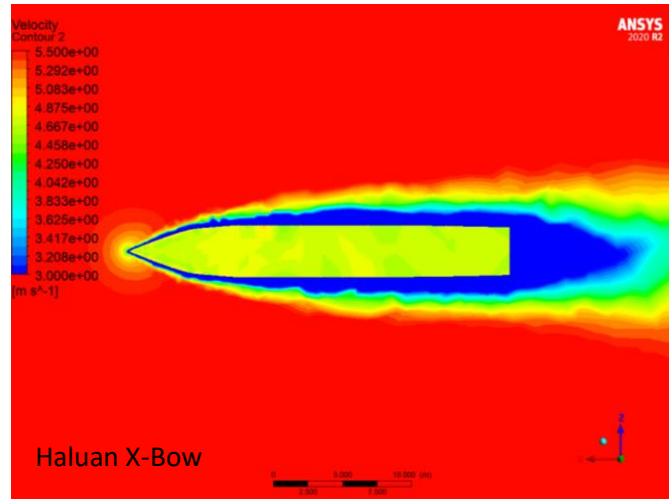
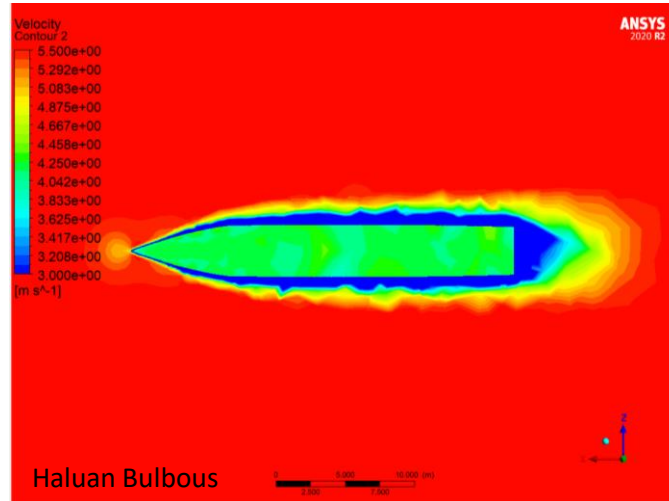
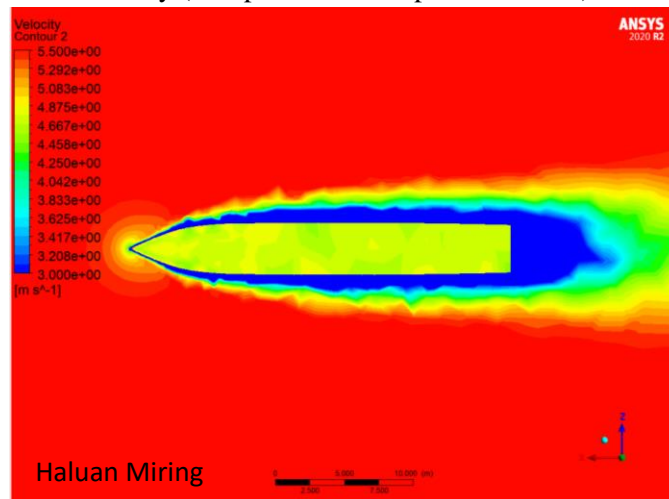
18. Visualisasi Velocity (Tampak Atas Kecepatan 9 Knot)



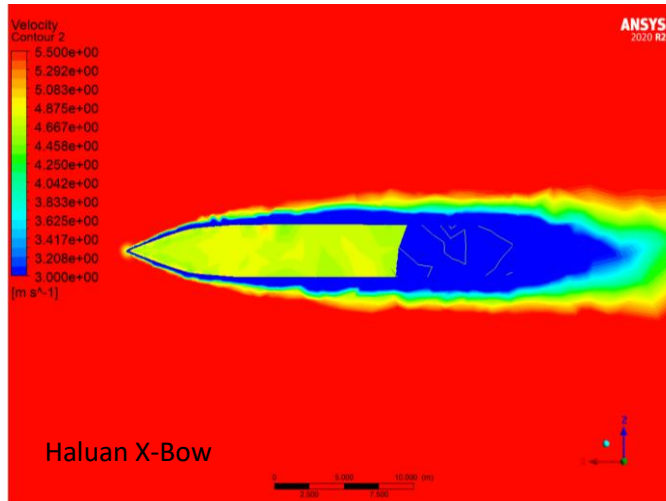
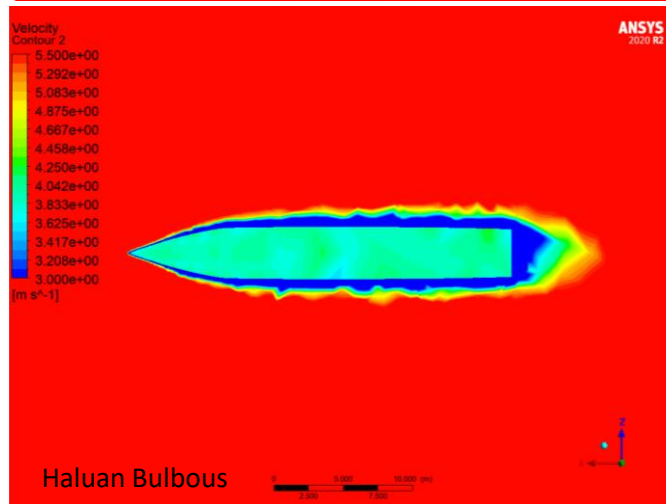
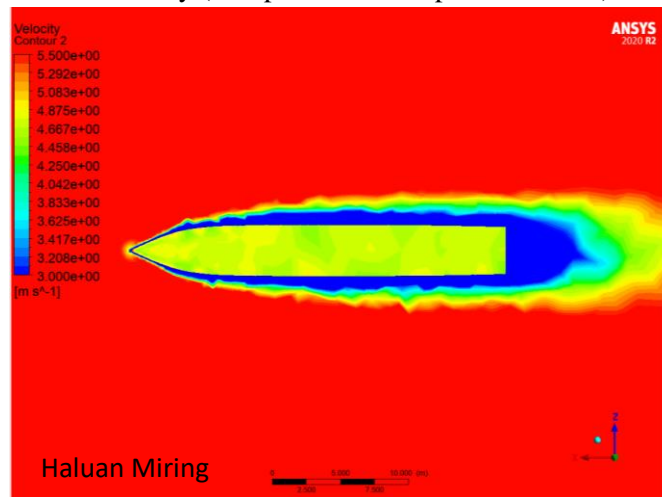
19. Visualisasi Velocity (Tampak Atas Kecepatan 10 Knot)



20. Visualisasi Velocity (Tampak Atas Kecepatan 11 Knot)



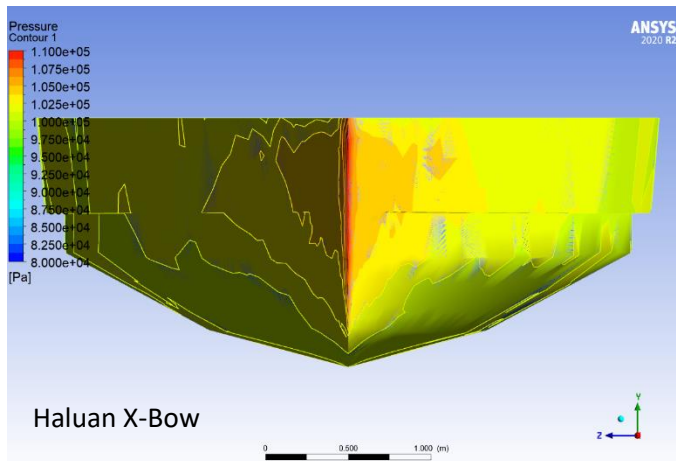
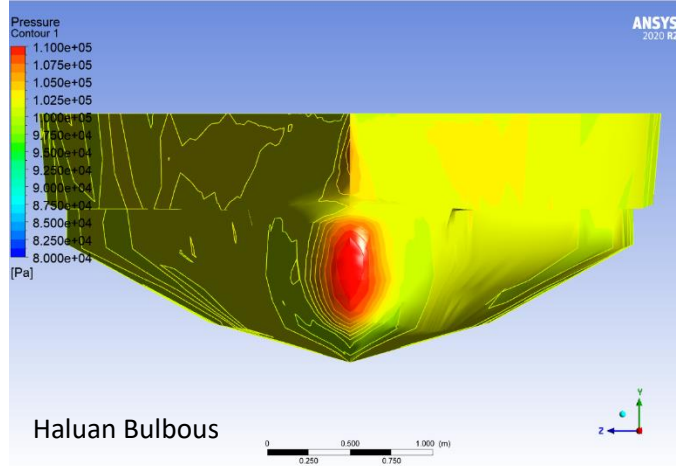
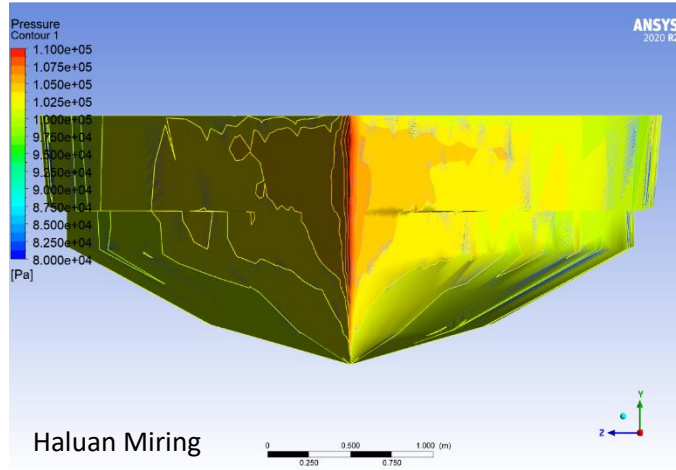
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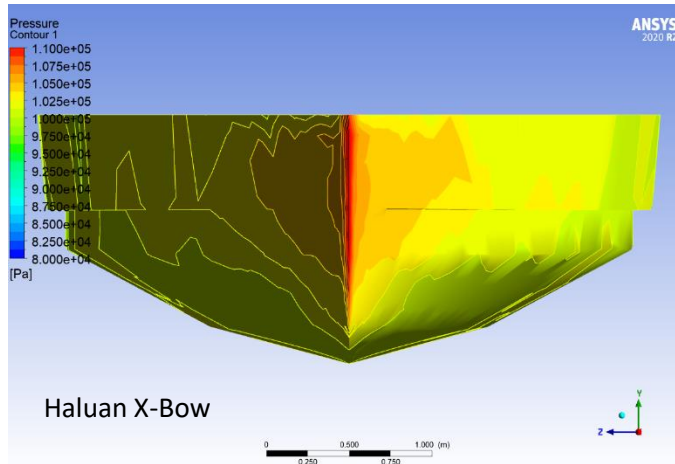
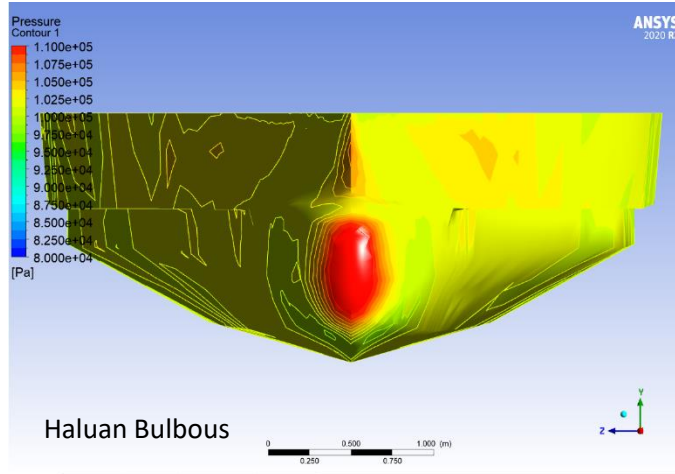
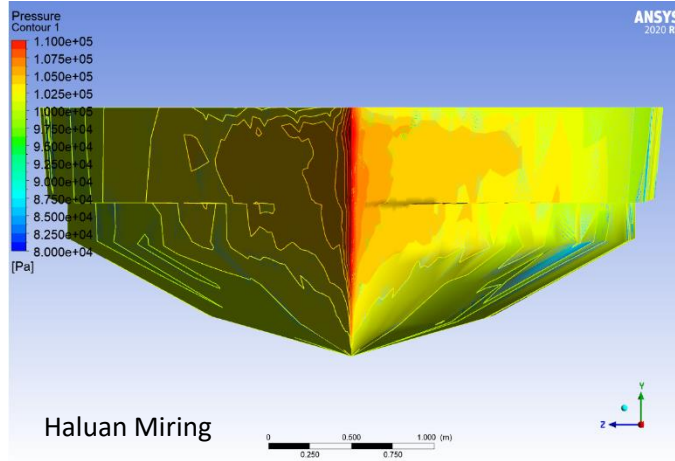
Elemen Mesh

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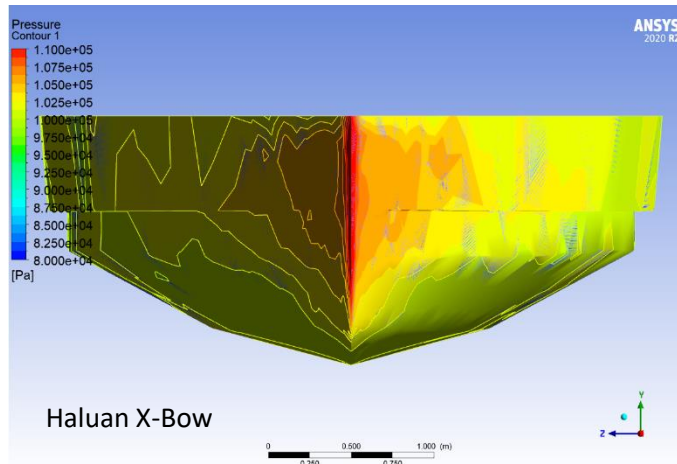
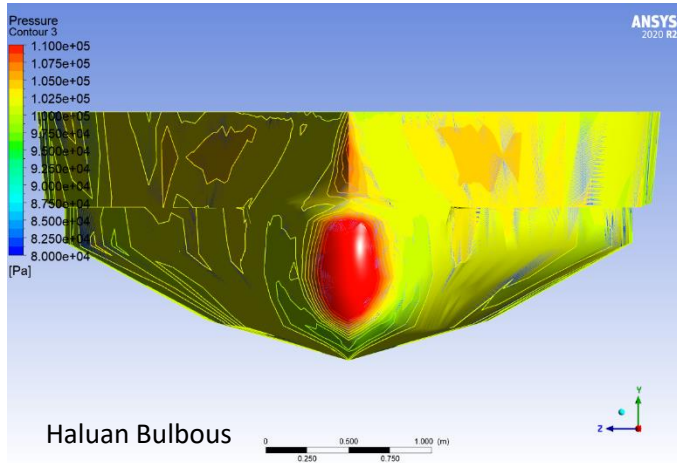
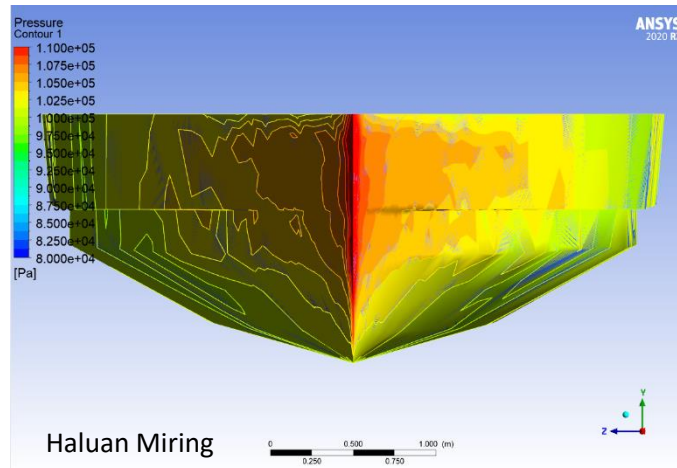
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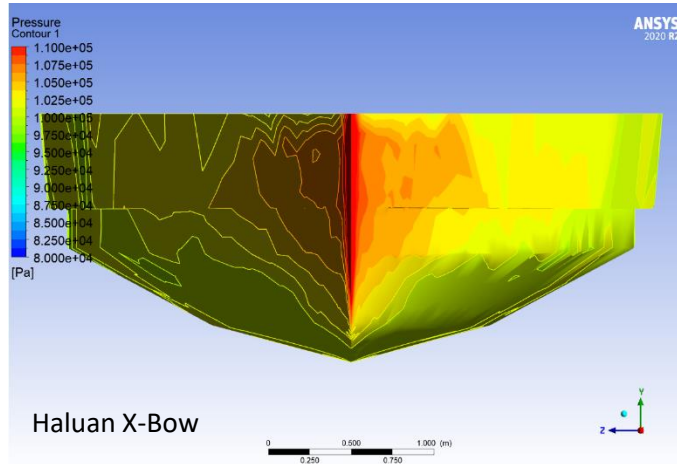
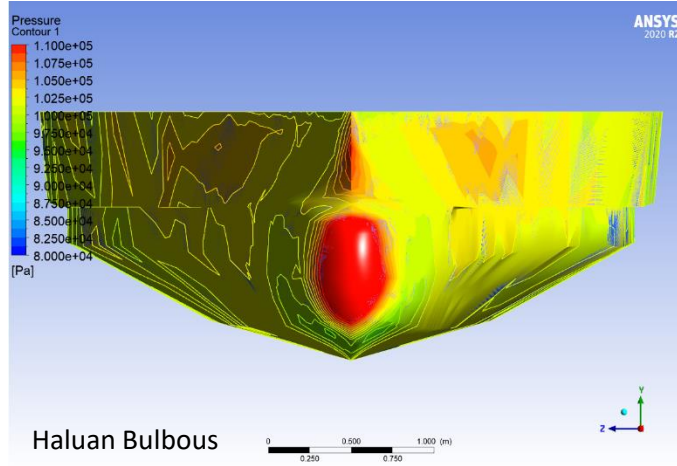
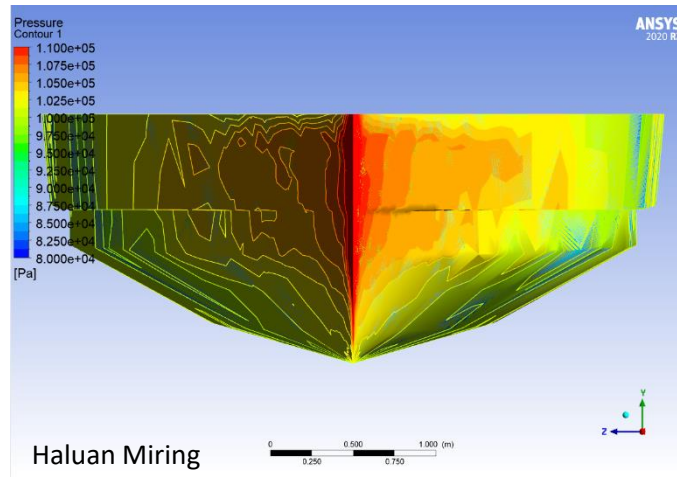
23. Visualisasi Preasure Area (Tampak Depan Kecepatan 9 Knot)



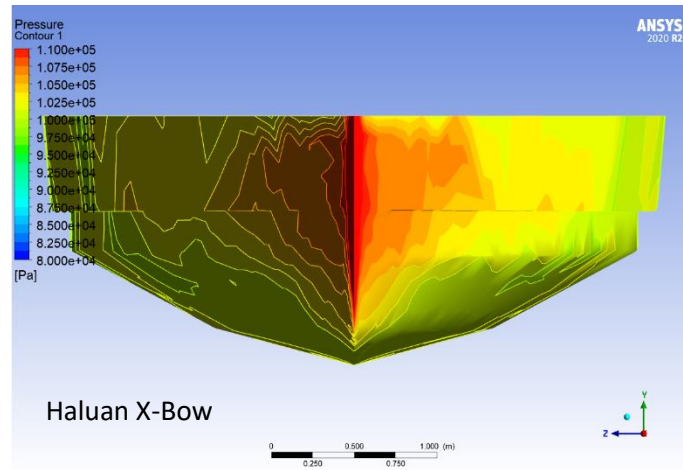
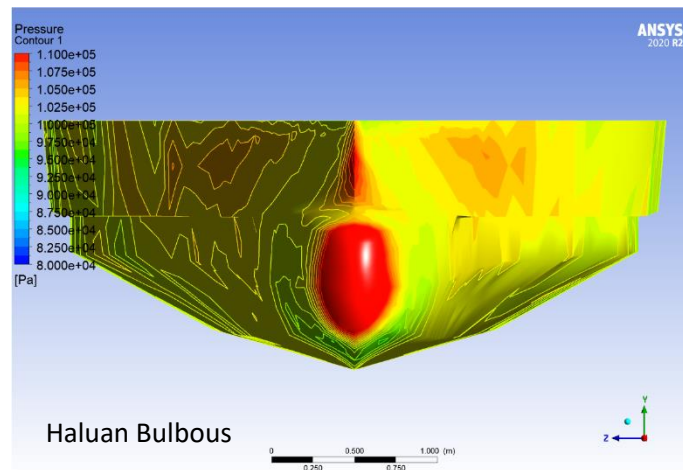
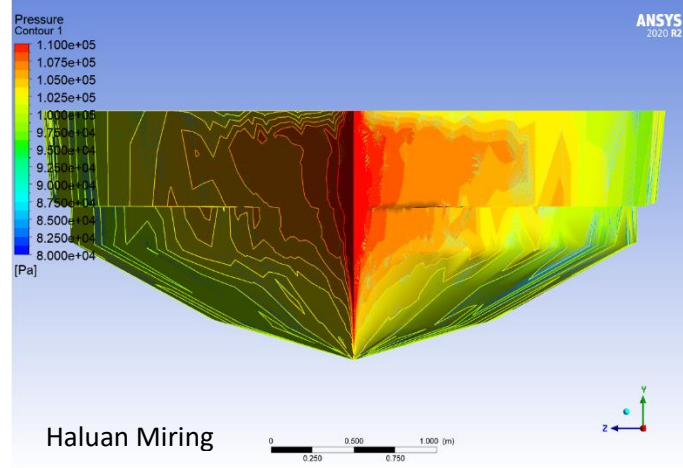
24. Visualisasi Pressure Area (Tampak Depan Kecepatan 10 Knot)



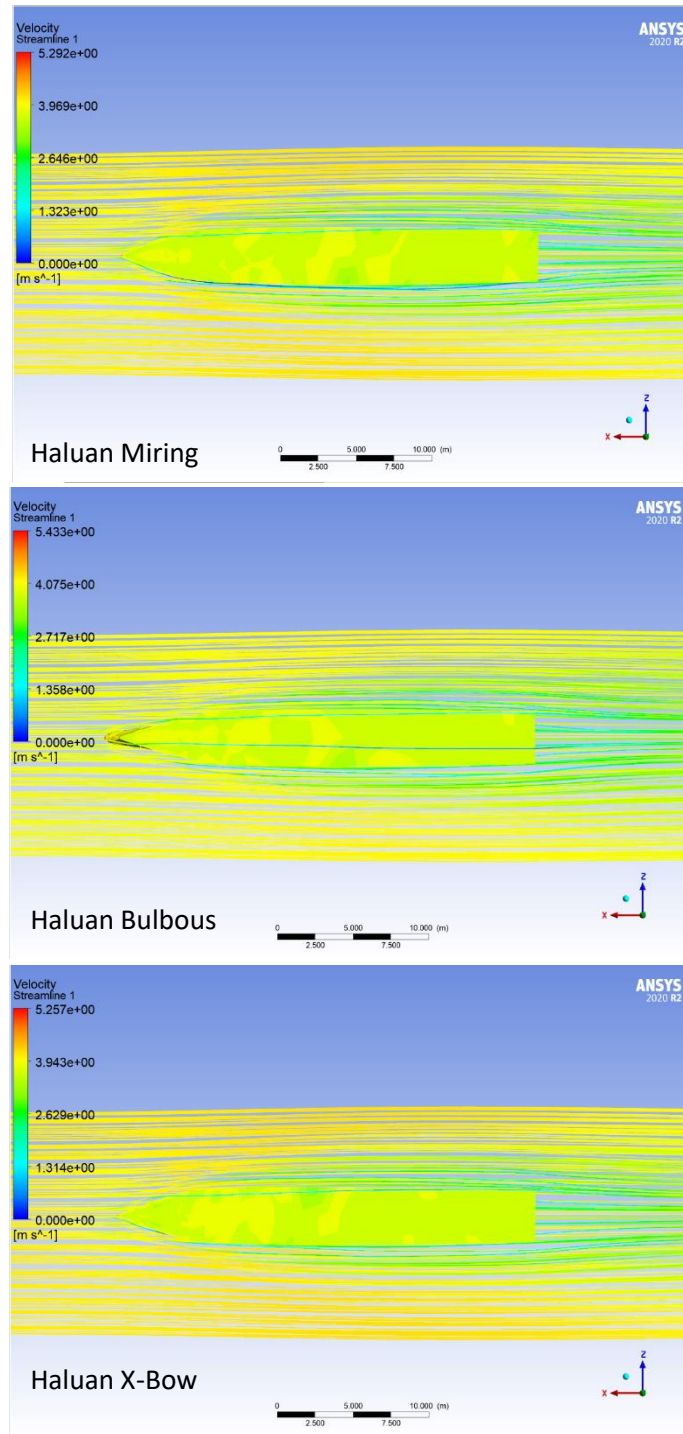
25. Visualisasi Preasure Area (Tampak Depan Kecepatan 11 Knot)



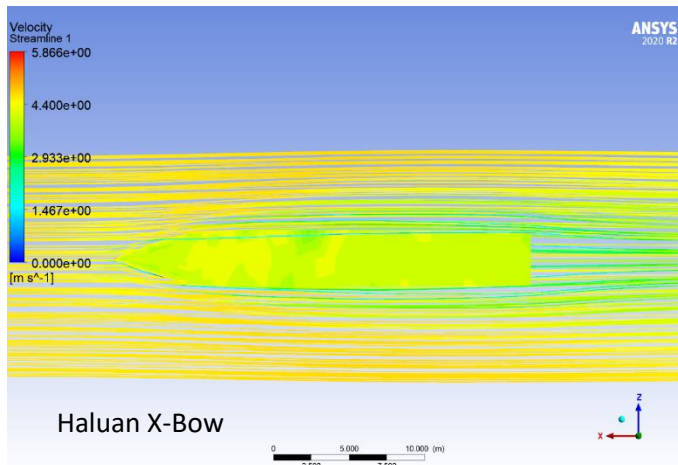
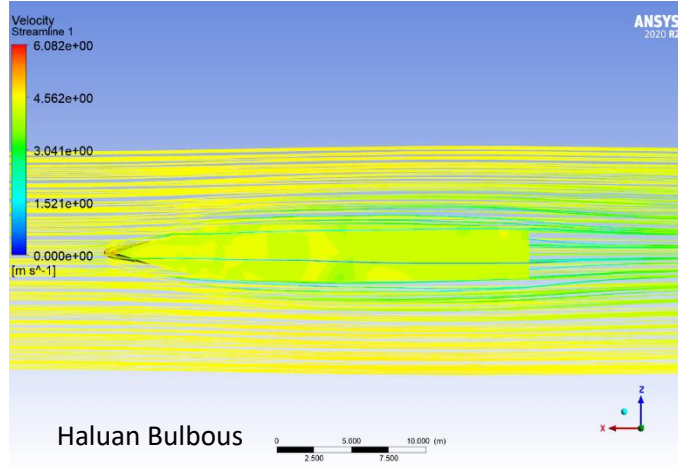
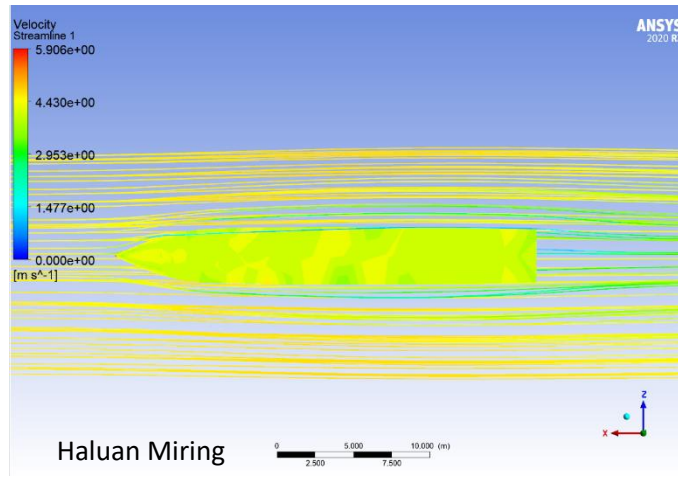
26. Visualisasi Pressure Area (Tampak Depan Kecepatan 12 Knot)



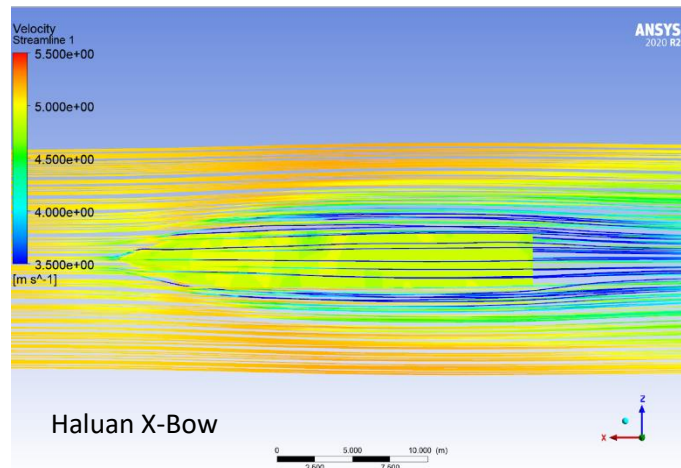
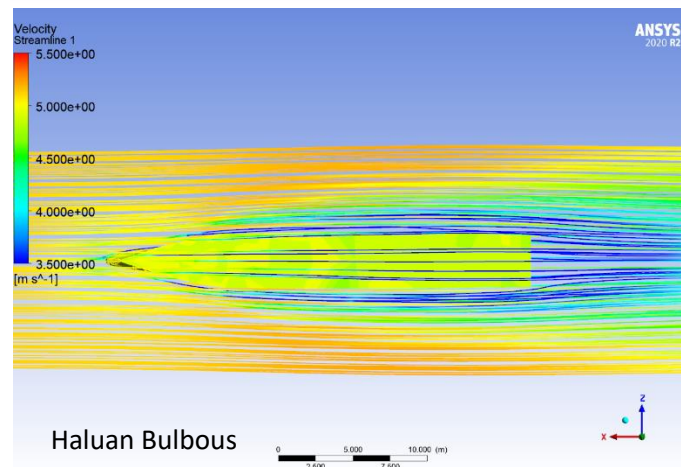
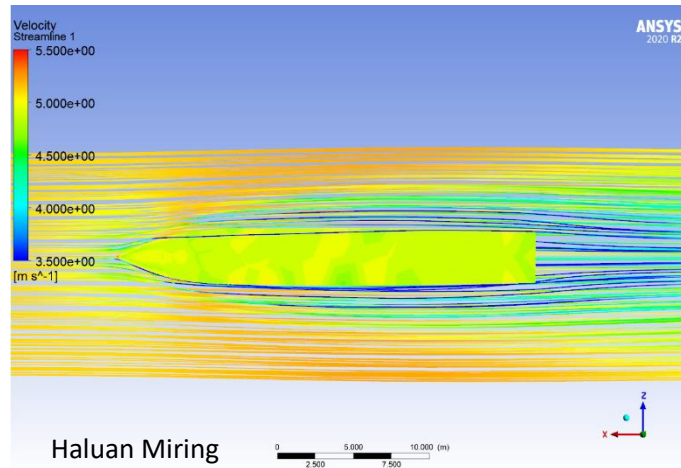
27. Visualisasi Streamline (Tampak Atas Kecepatan 8 Knot)



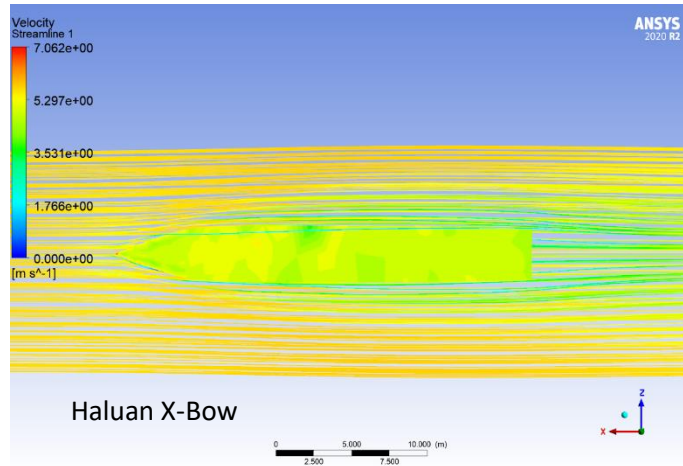
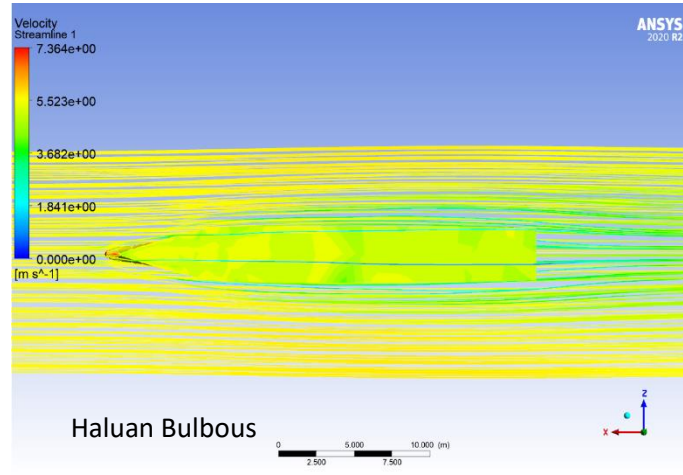
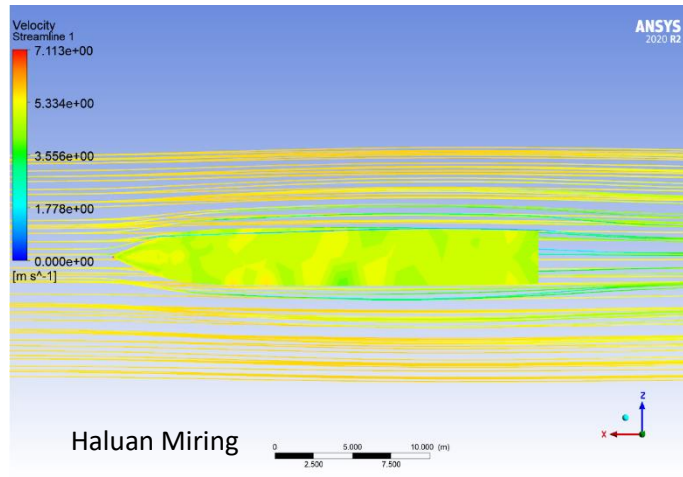
28. Visualisasi Streamline (Tampak Atas Kecepatan 9 Knot)



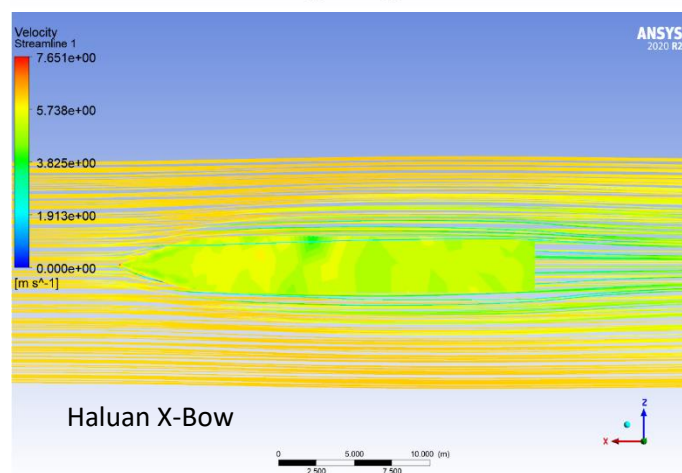
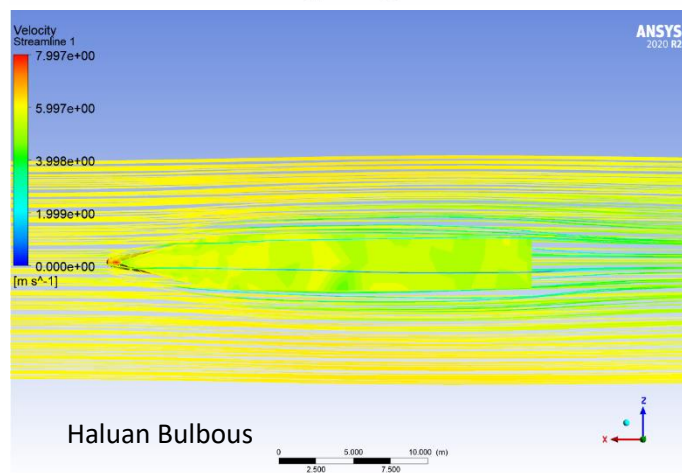
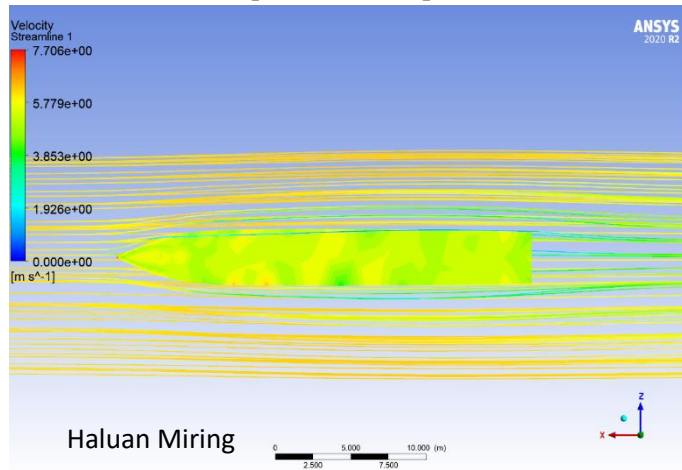
29. Visualisasi Streamline (Tampak Atas Kecepatan 10 Knot)



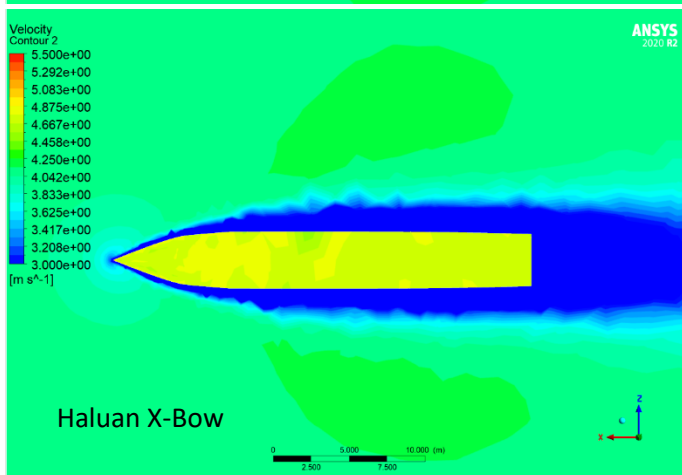
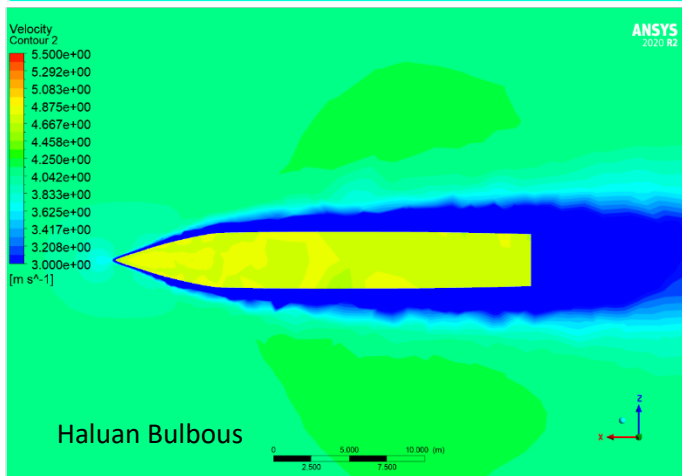
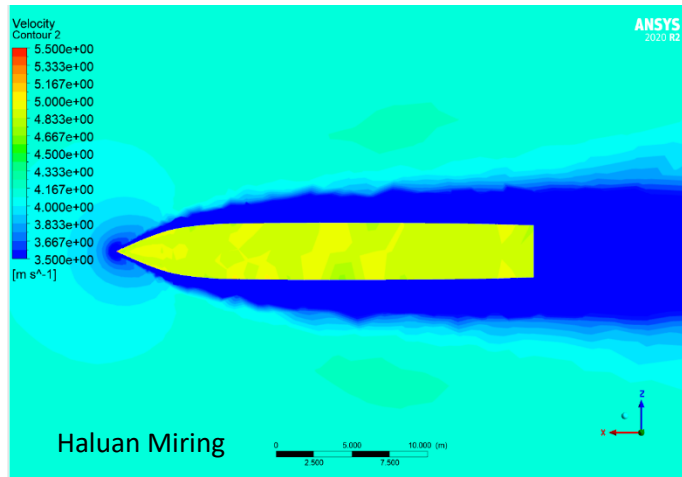
30. Visualisasi Streamline (Tampak Atas Kecepatan 11 Knot)



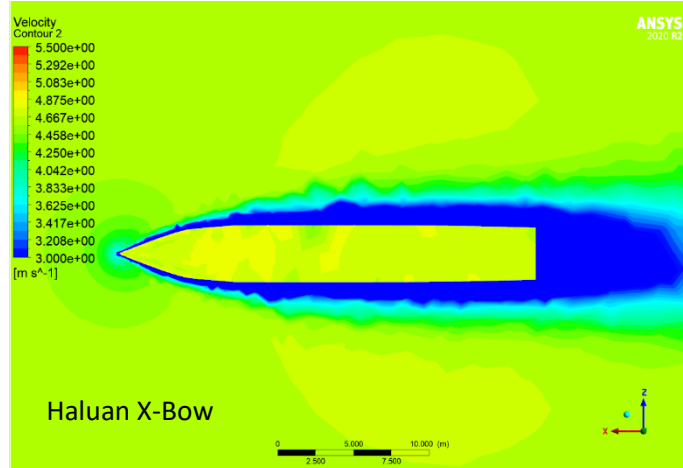
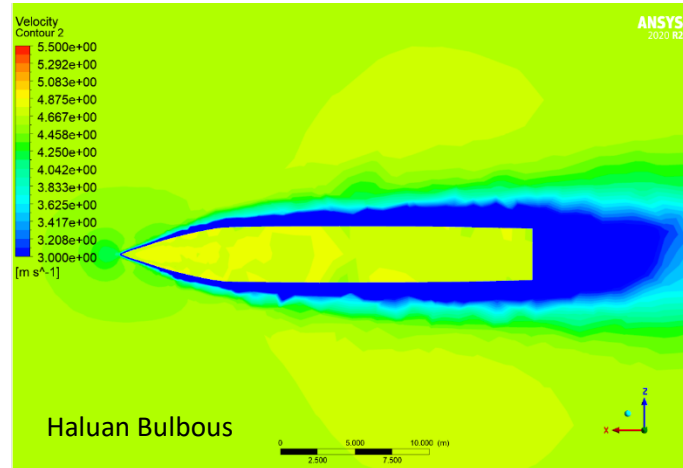
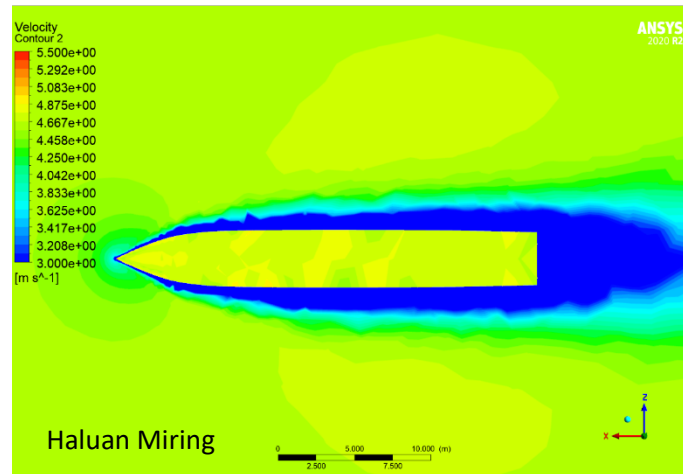
31. Visualisasi Streamline (Tampak Atas Kecepatan 12 Knot)



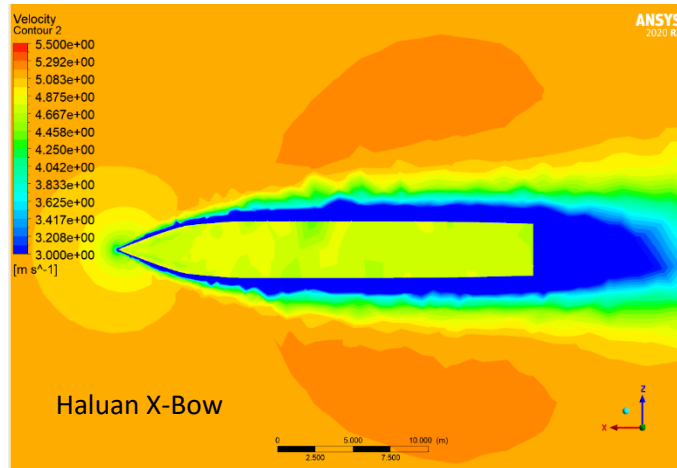
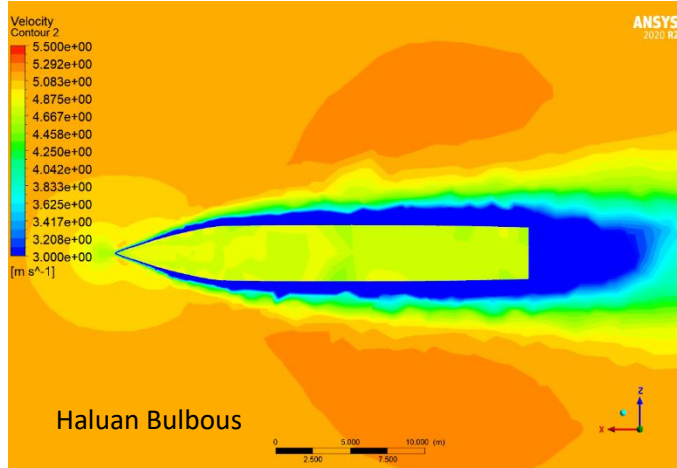
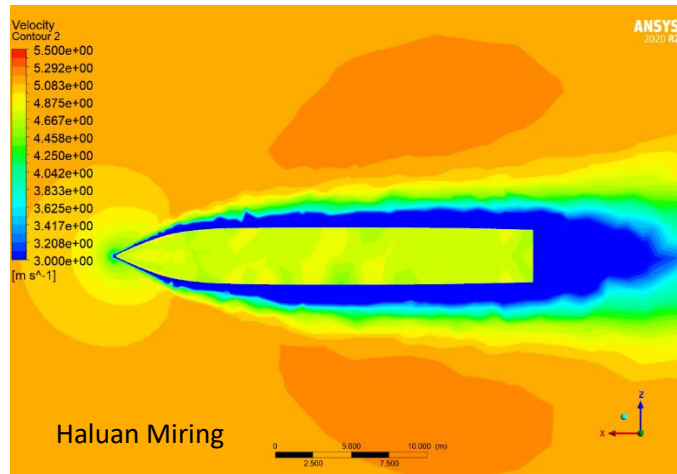
32. Visualisasi Velocity (Tampak Atas Kecepatan 8 Knot)



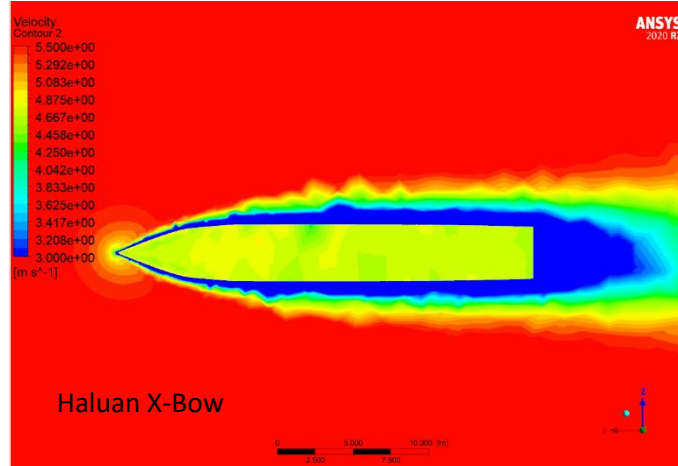
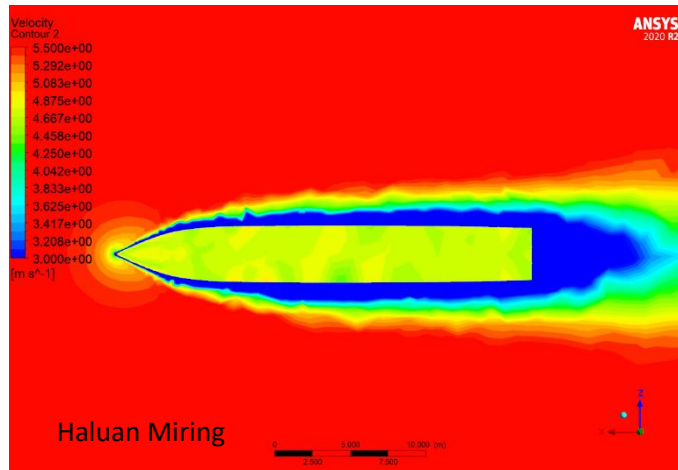
33. Visualisasi Velocity (Tampak Atas Kecepatan 9 Knot)



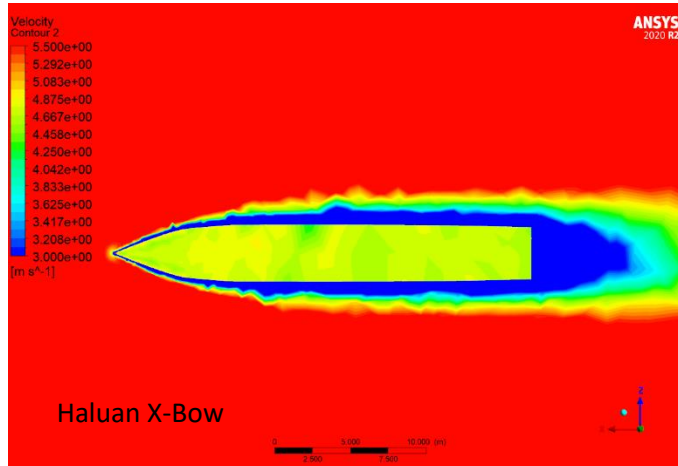
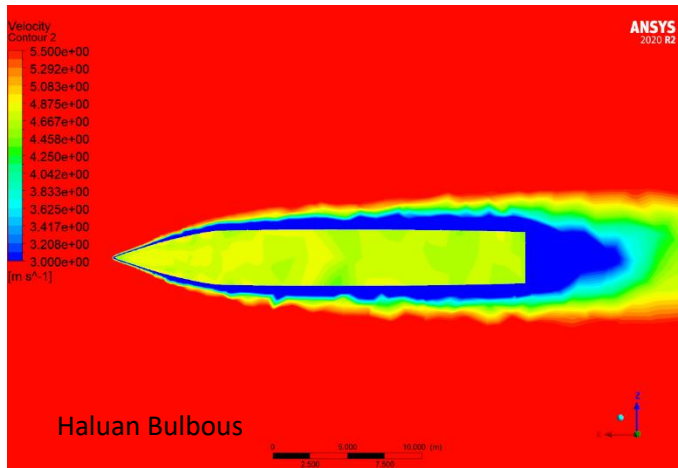
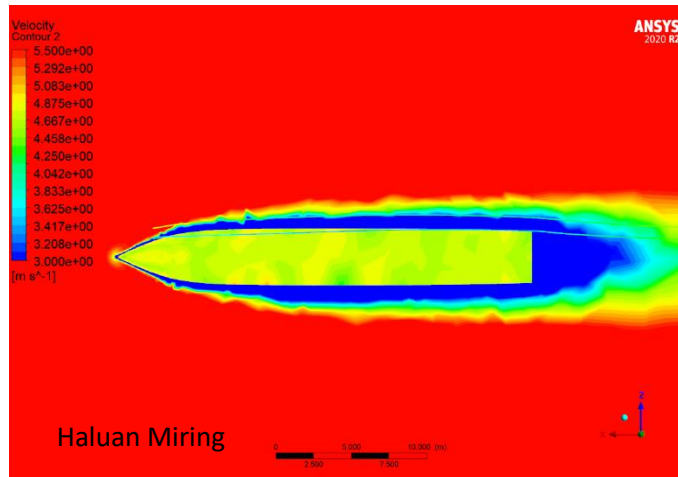
34. Visualisasi Velocity (Tampak Atas Kecepatan 10 Knot)



35. Visualisasi Velocity (Tampak Atas Kecepatan 11 Knot)



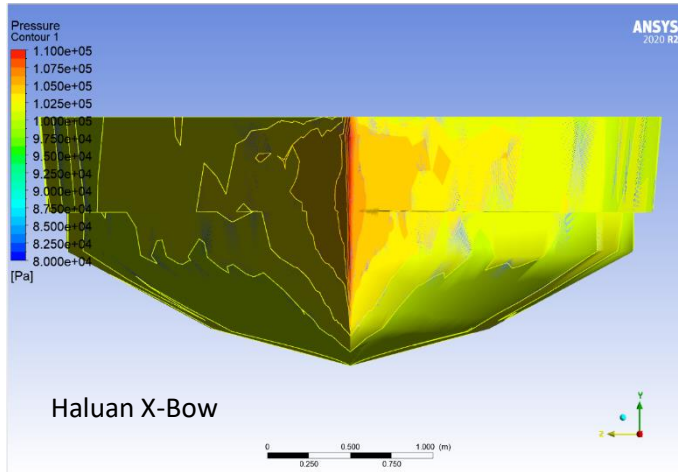
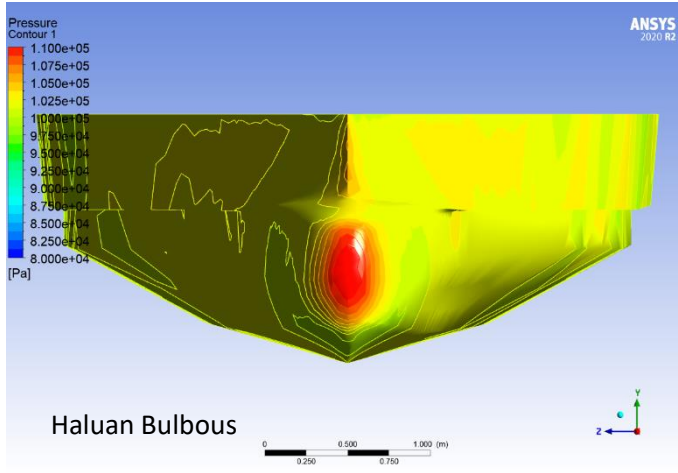
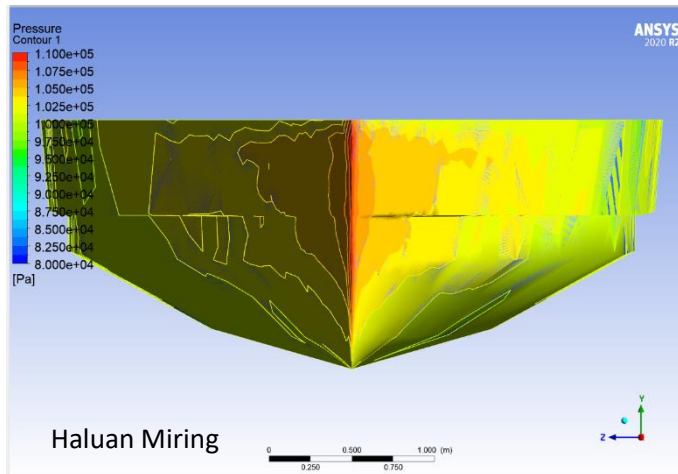
36. Visualisasi Velocity (Tampak Atas Kecepatan 12 Knot)



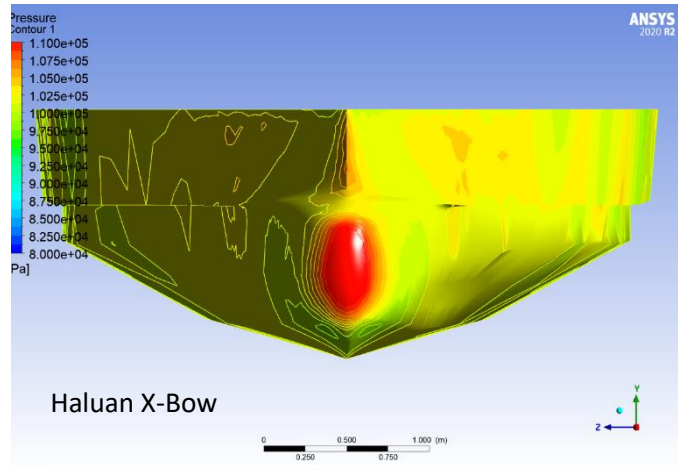
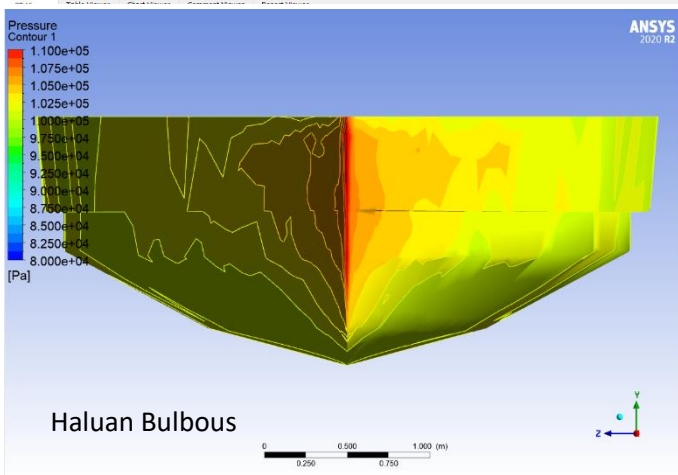
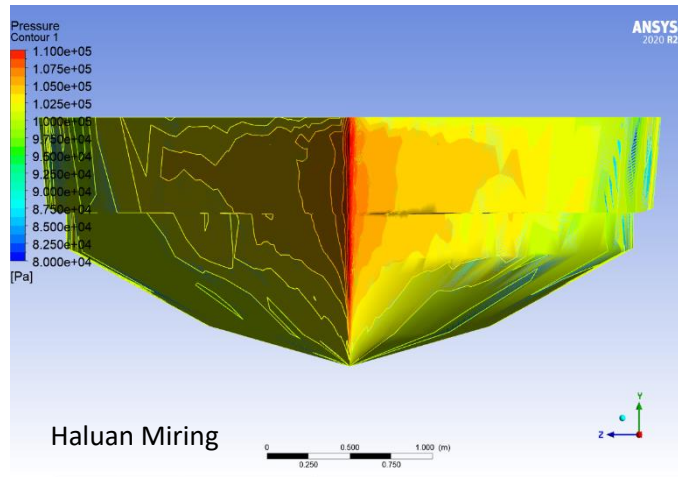
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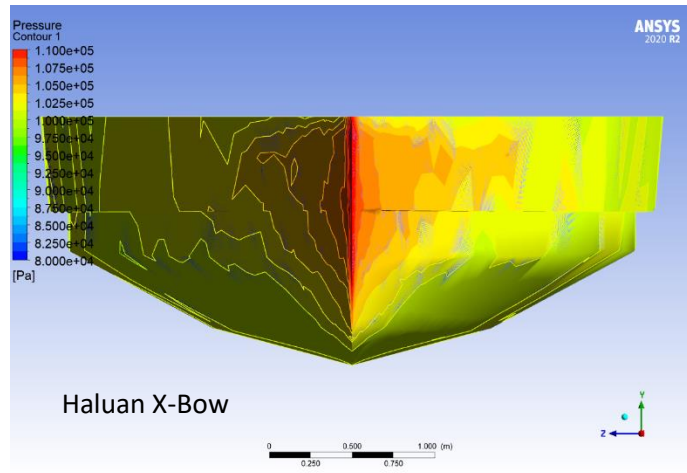
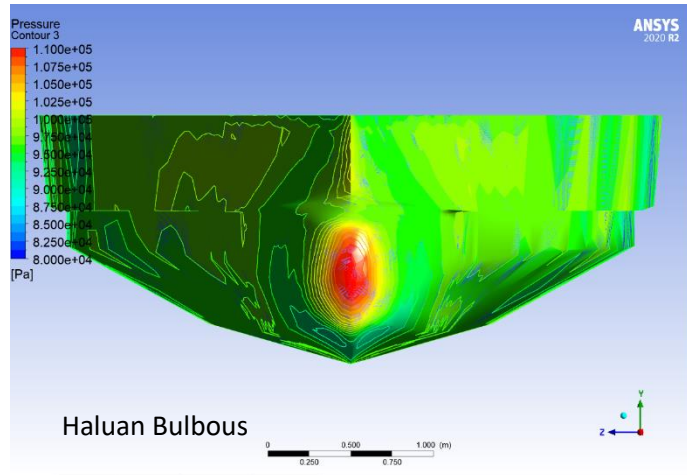
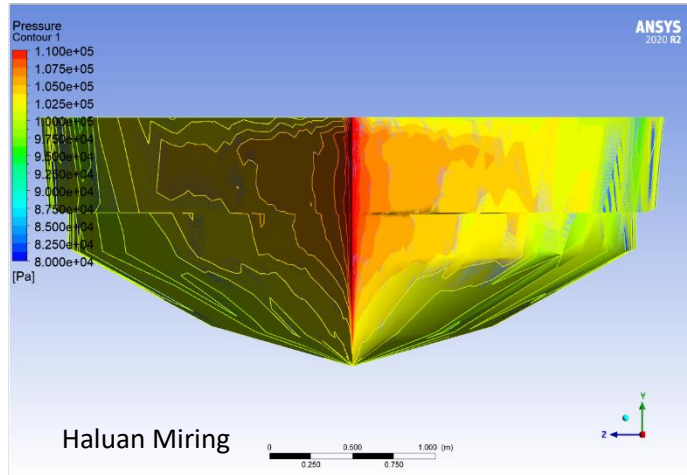
37. Visualisasi Pressure Area (Tampak Depan Kecepatan 8 Knot)



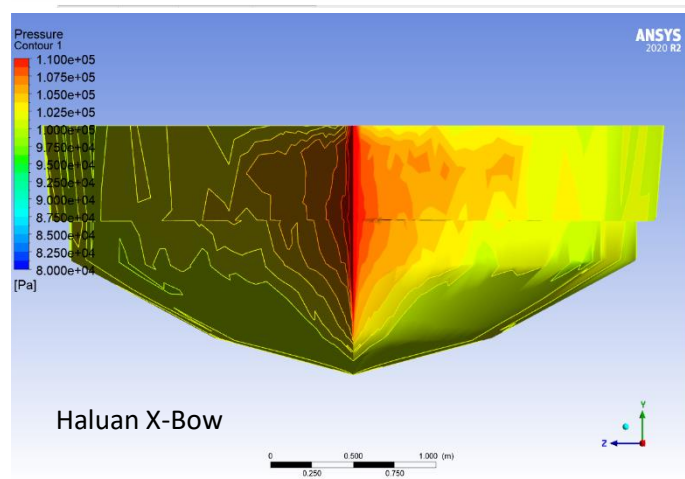
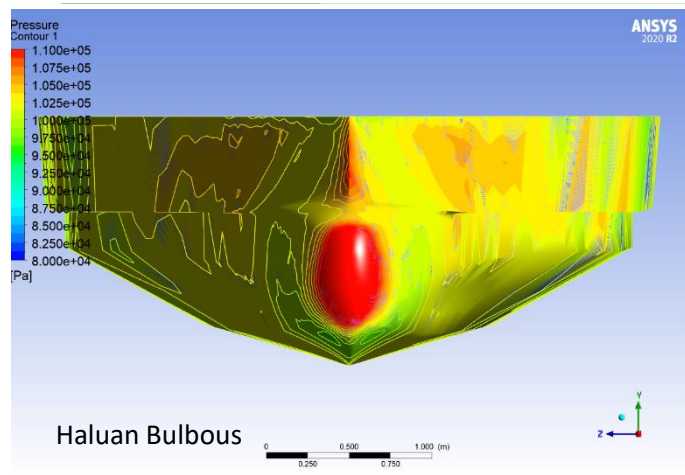
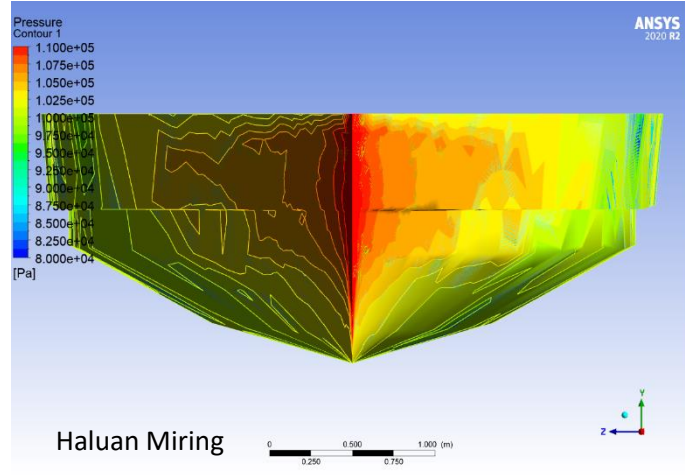
38. Visualisasi Pressure Area (Tampak Depan Kecepatan 9 Knot)



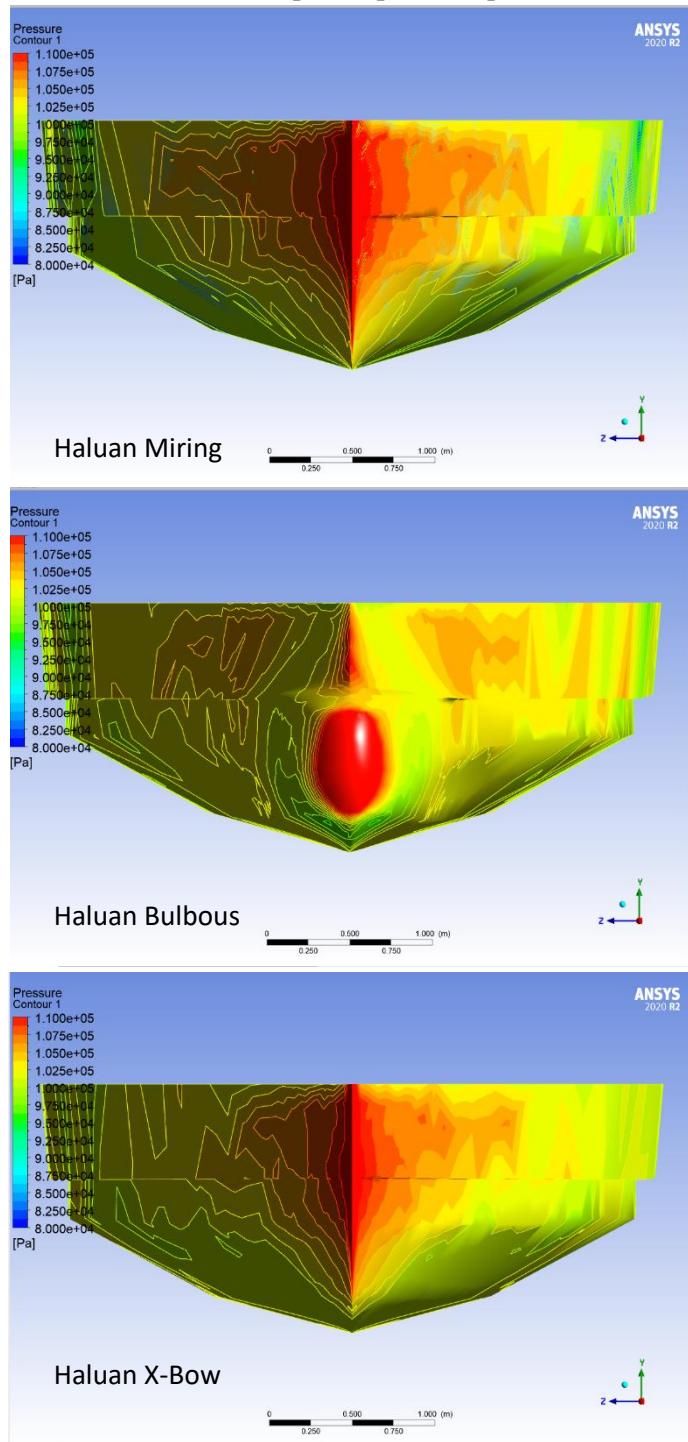
39. Visualisasi Preasure Area (Tampak Depan Kecepatan 10 Knot)



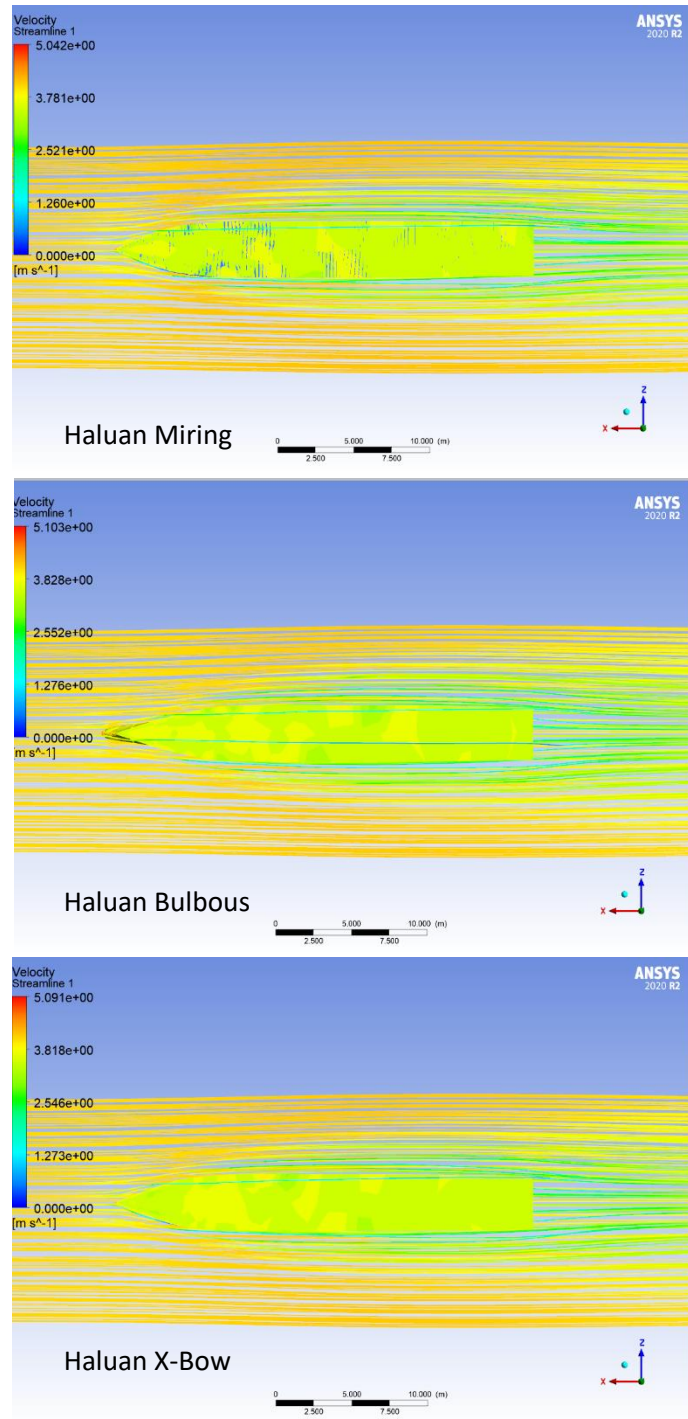
40. Visualisasi Preasure Area (Tampak Depan Kecepatan 11 Knot)



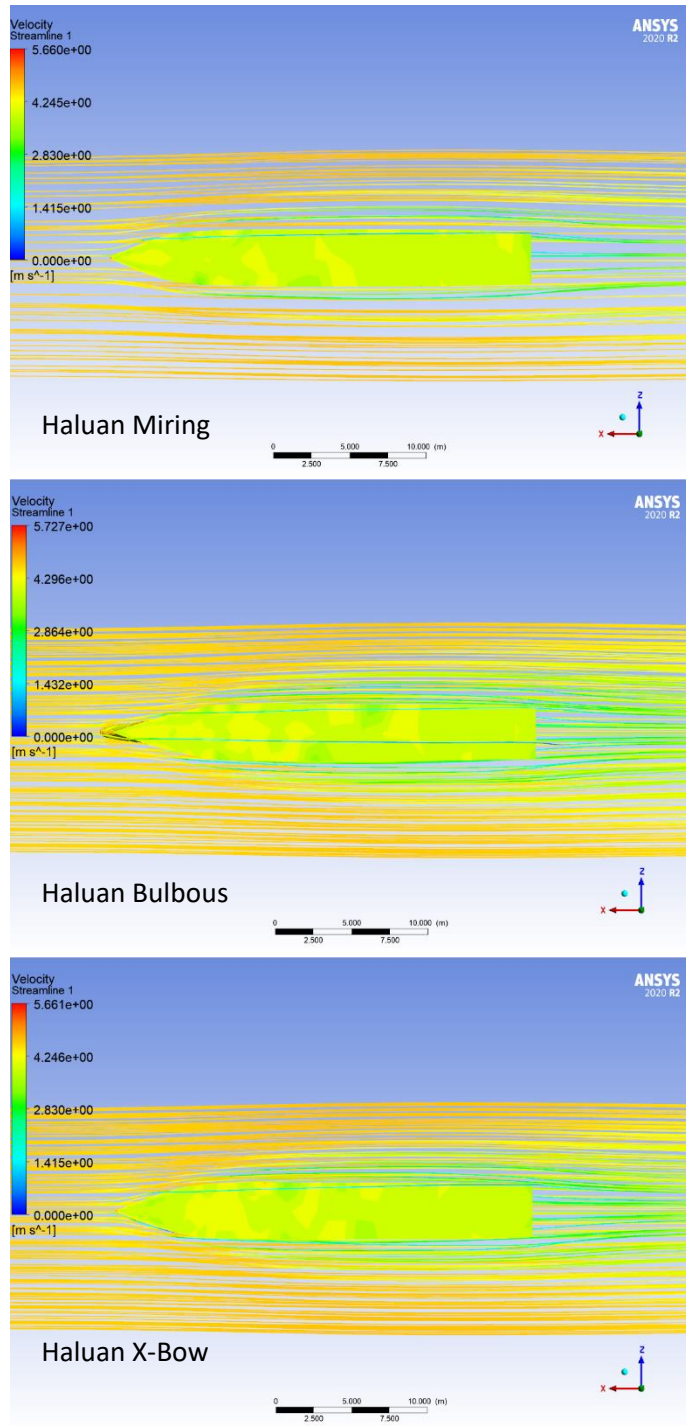
41. Visualisasi Pressure Area (Tampak Depan Kecepatan 12 Knot)



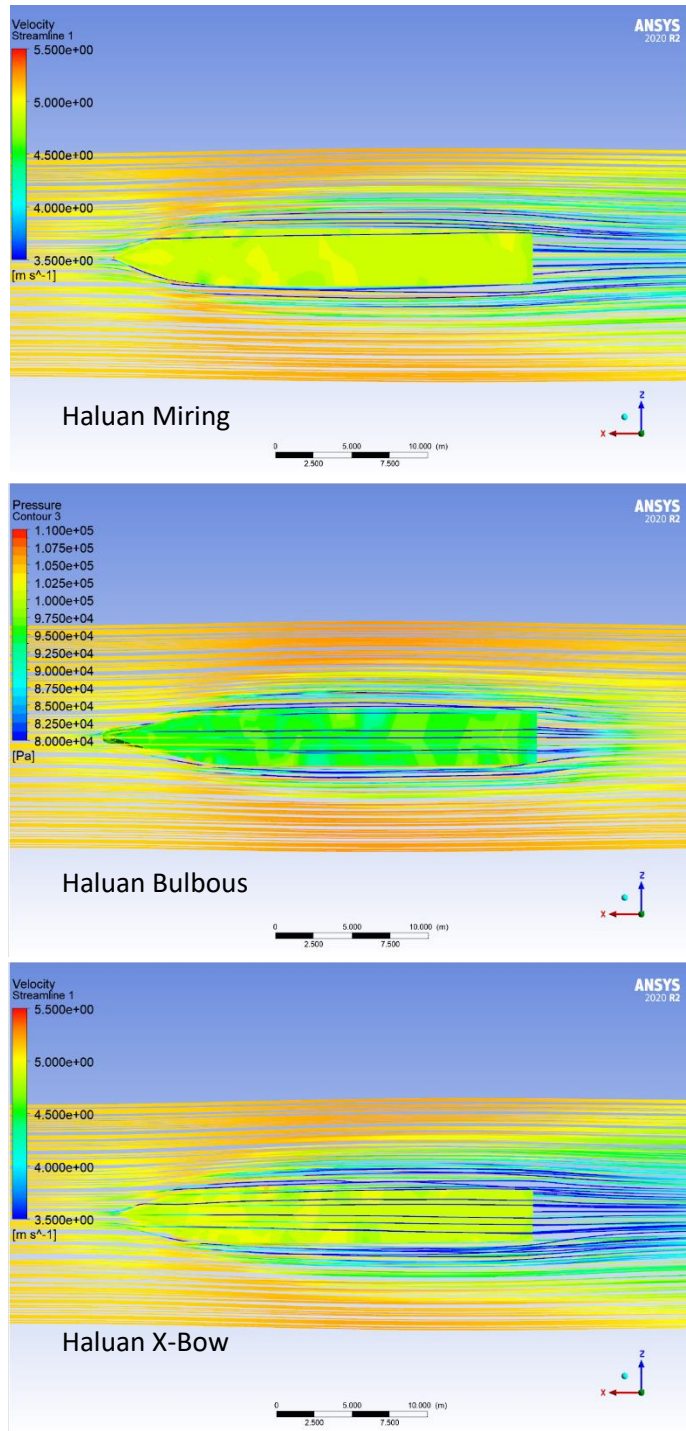
42. Visualisasi Streamline (Tampak Atas Kecepatan 8 Knot)



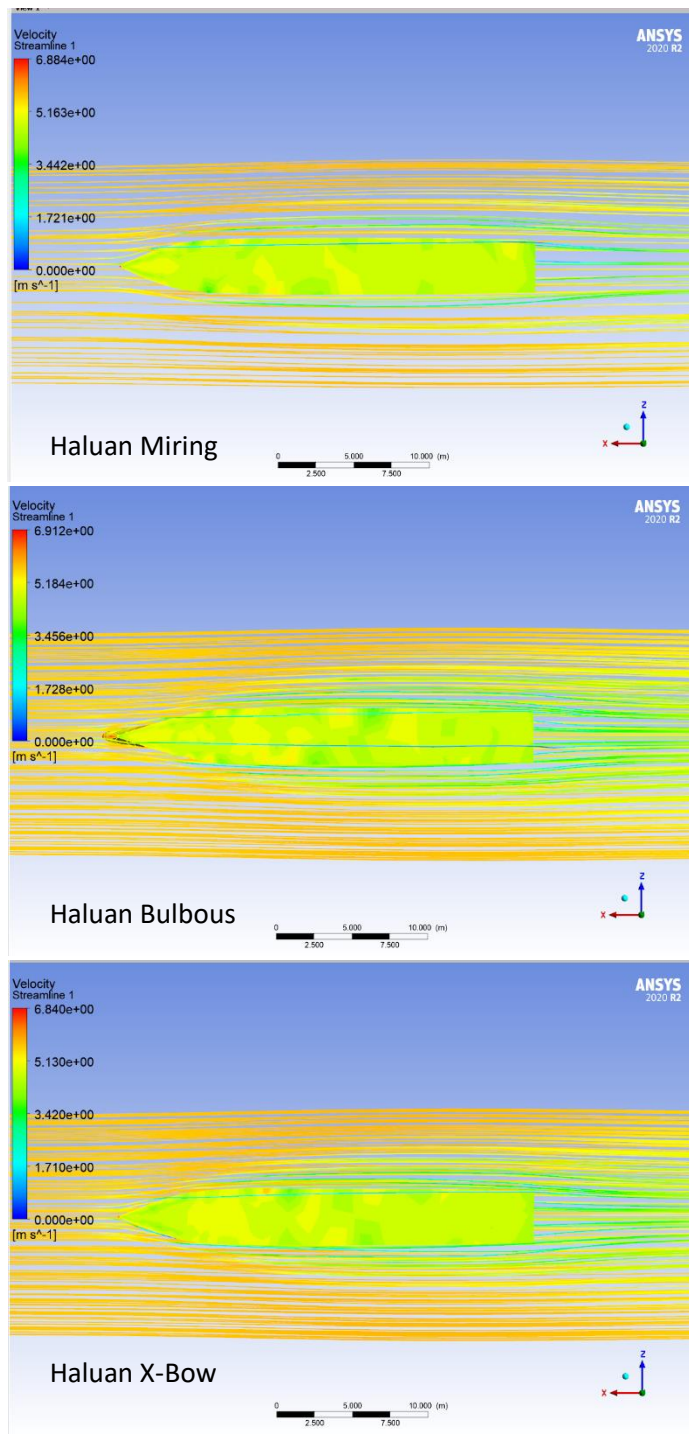
43. Visualisasi Streamline (Tampak Atas Kecepatan 9 Knot)



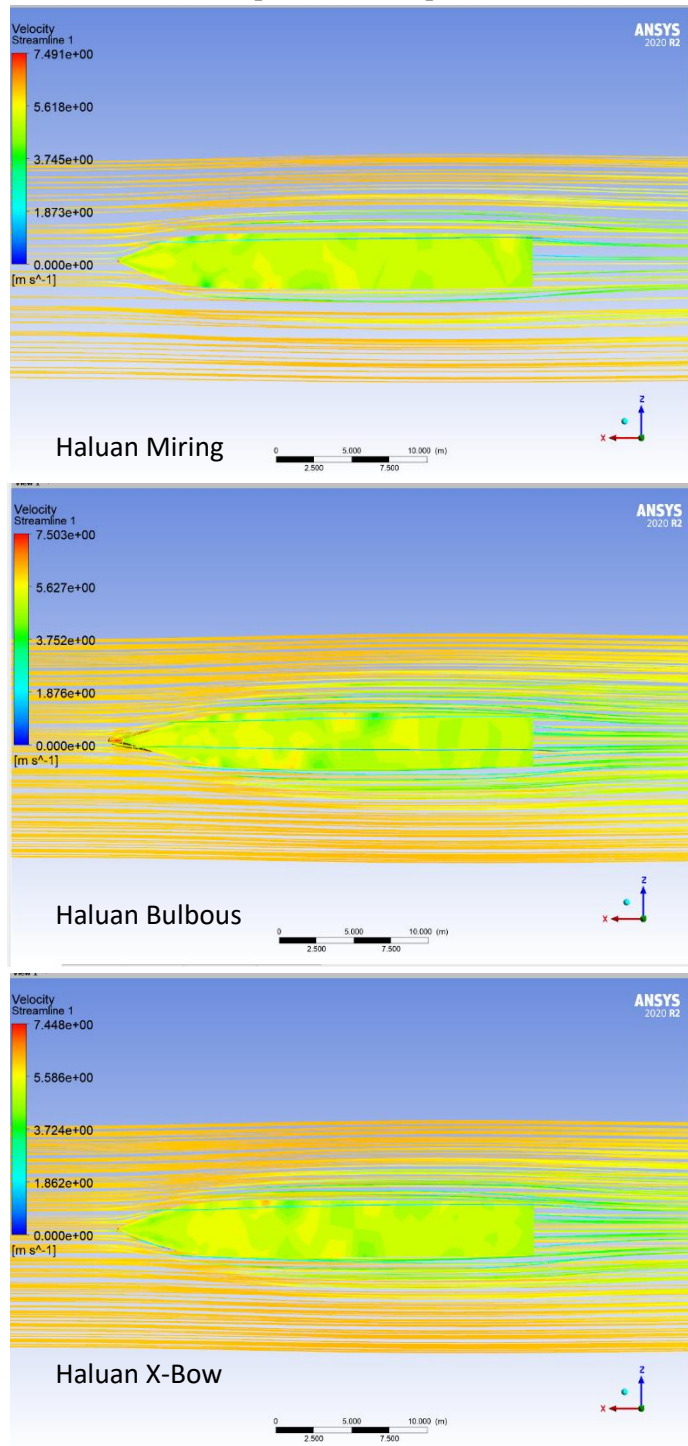
44. Visualisasi Streamline (Tampak Atas Kecepatan 10 Knot)



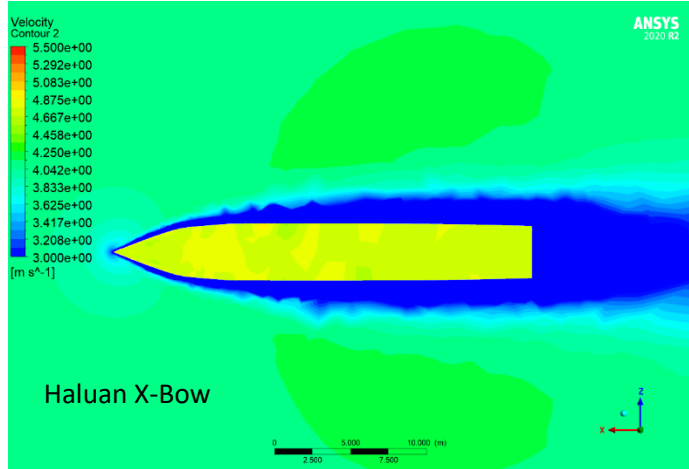
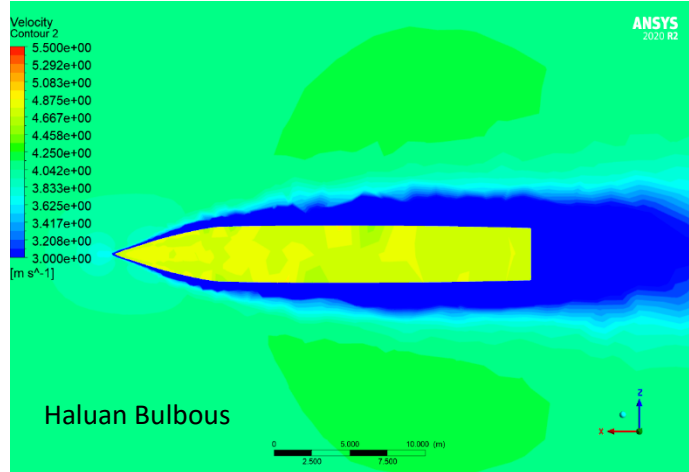
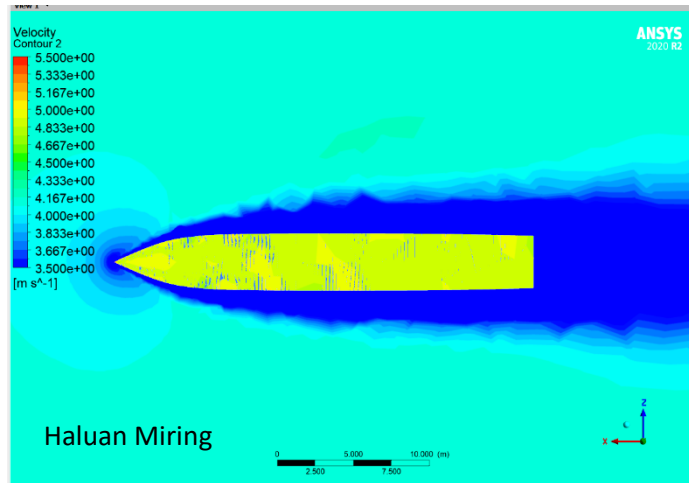
45. Visualisasi Streamline (Tampak Atas Kecepatan 11 Knot)



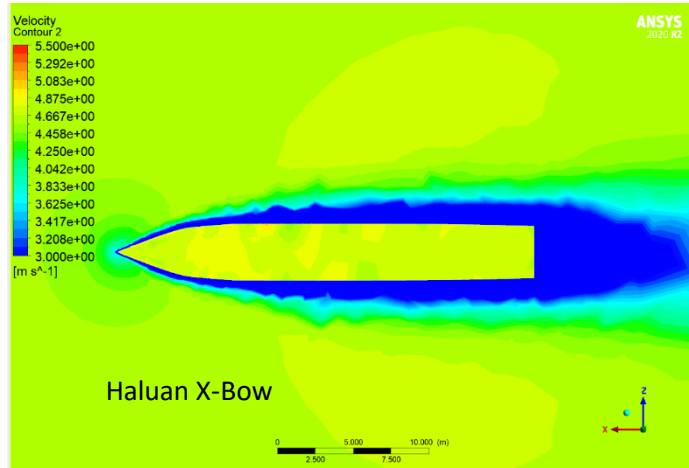
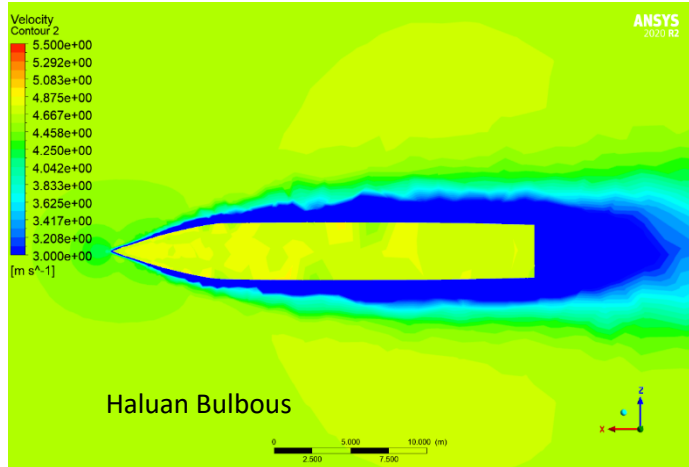
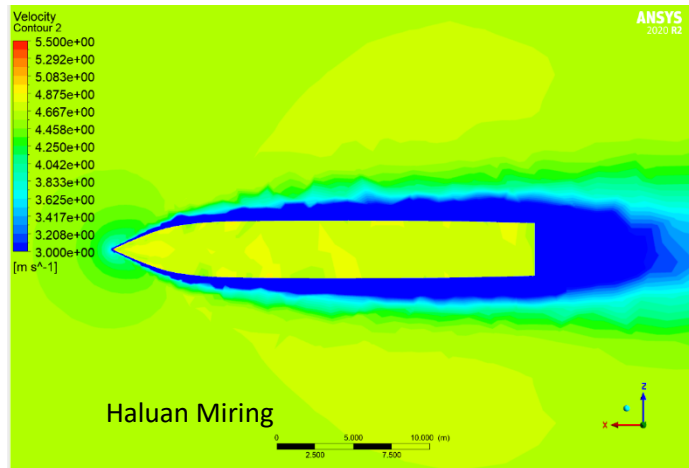
46. Visualisasi Streamline (Tampak Atas Kecepatan 12 Knot)



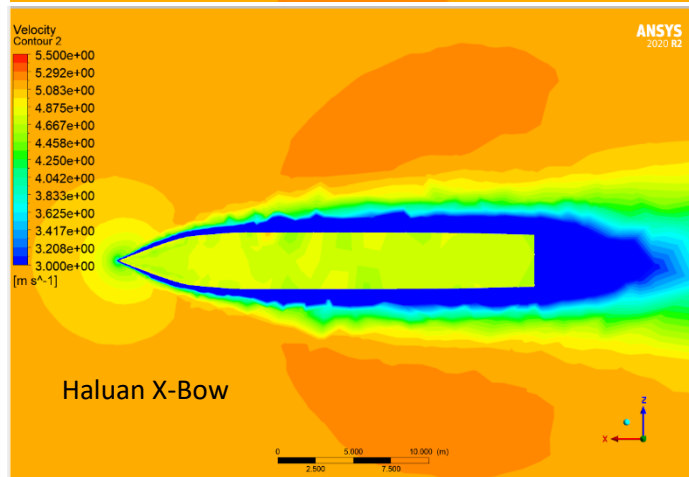
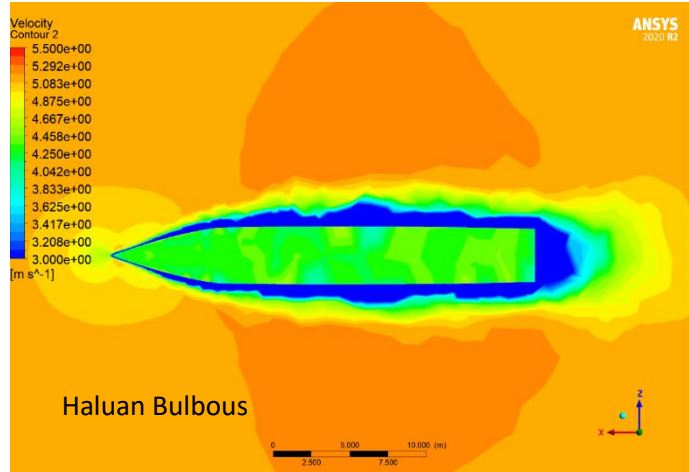
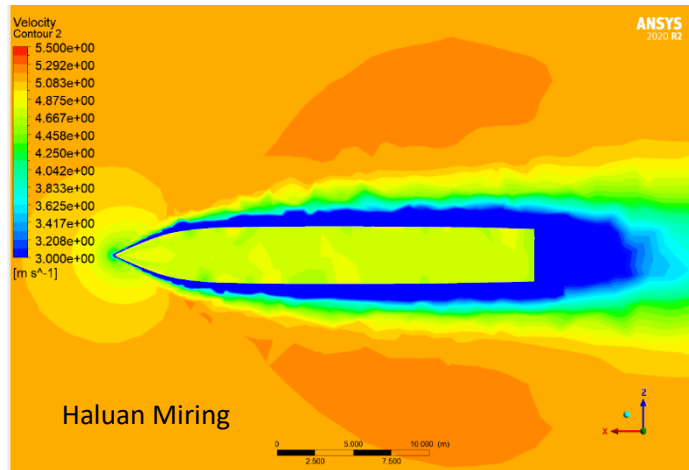
47. Visualisasi Velocity (Tampak Atas Kecepatan 8 Knot)



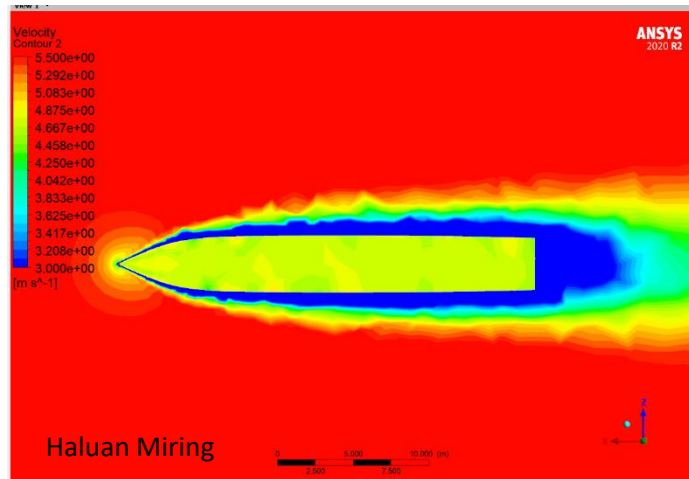
48. Visualisasi Velocity (Tampak Atas Kecepatan 9 Knot)



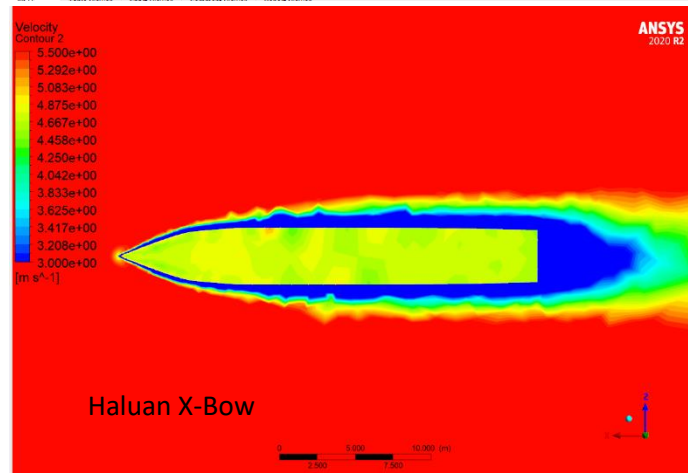
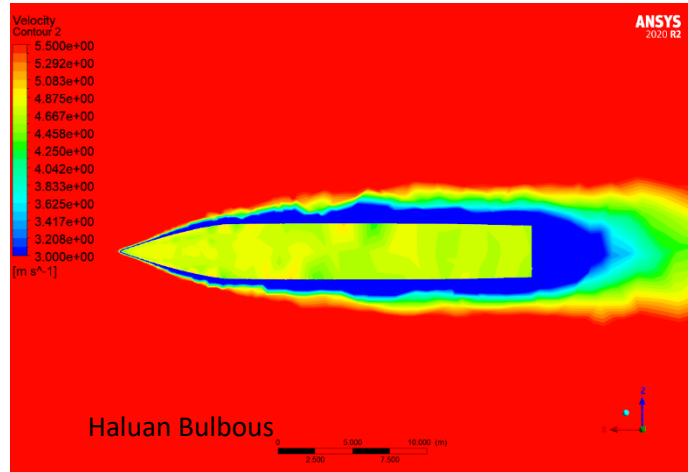
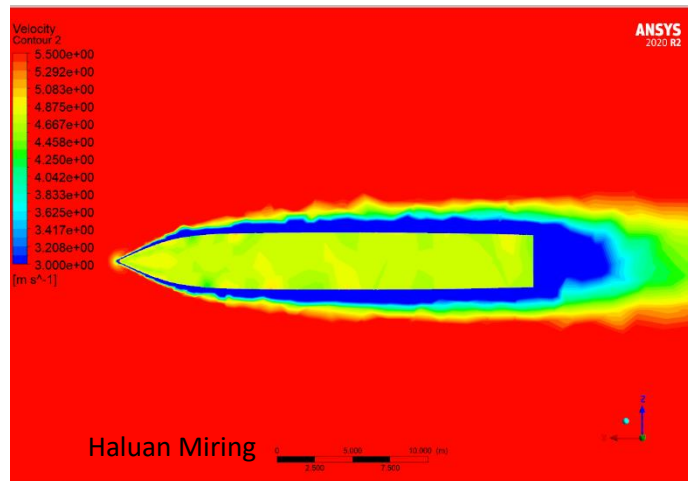
49. Visualisasi Velocity (Tampak Atas Kecepatan 10 Knot)



50. Visualisasi Velocity (Tampak Atas Kecepatan 11 Knot)

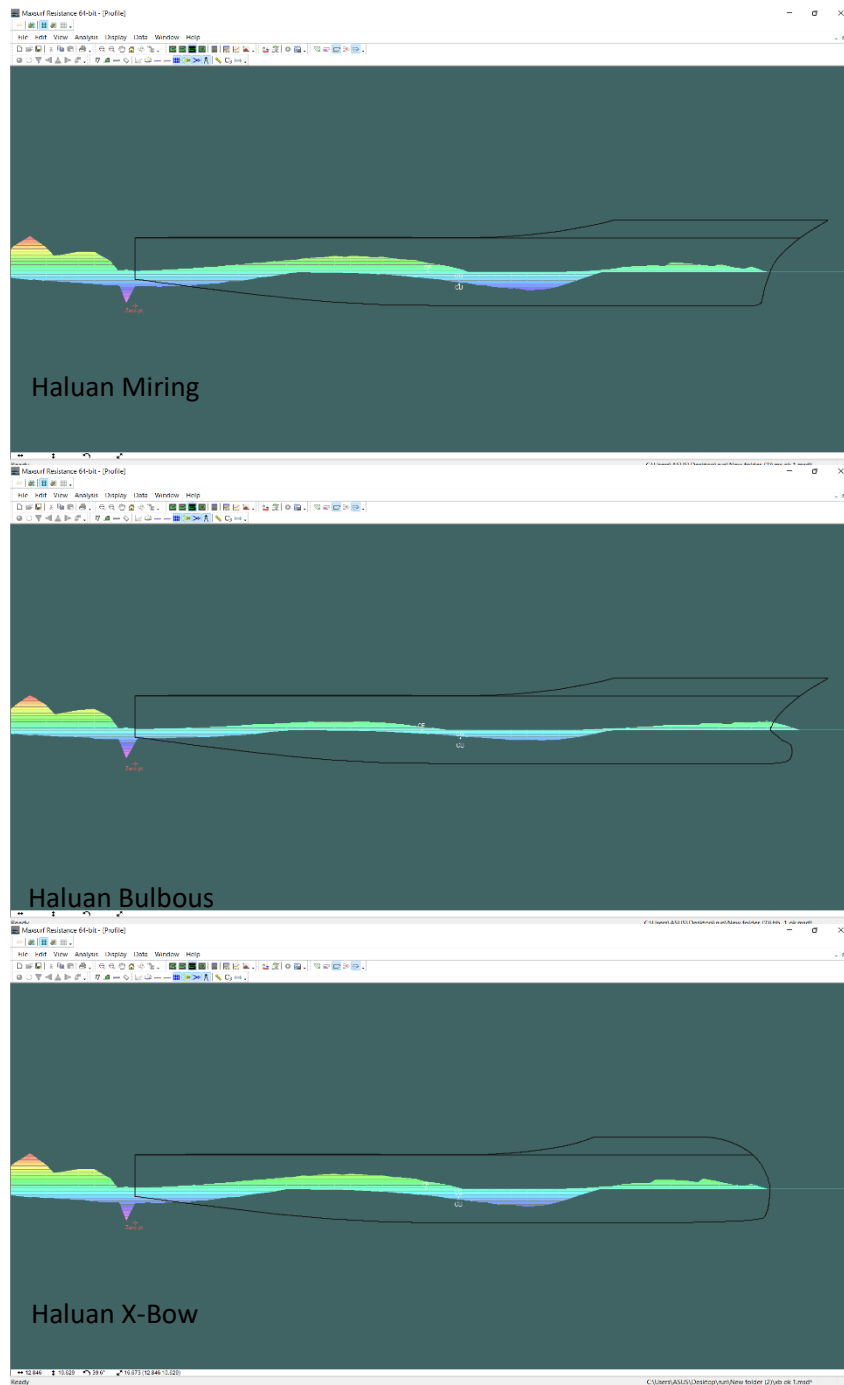


51. Visualisasi Velocity (Tampak Atas Kecepatan 12 Knot)

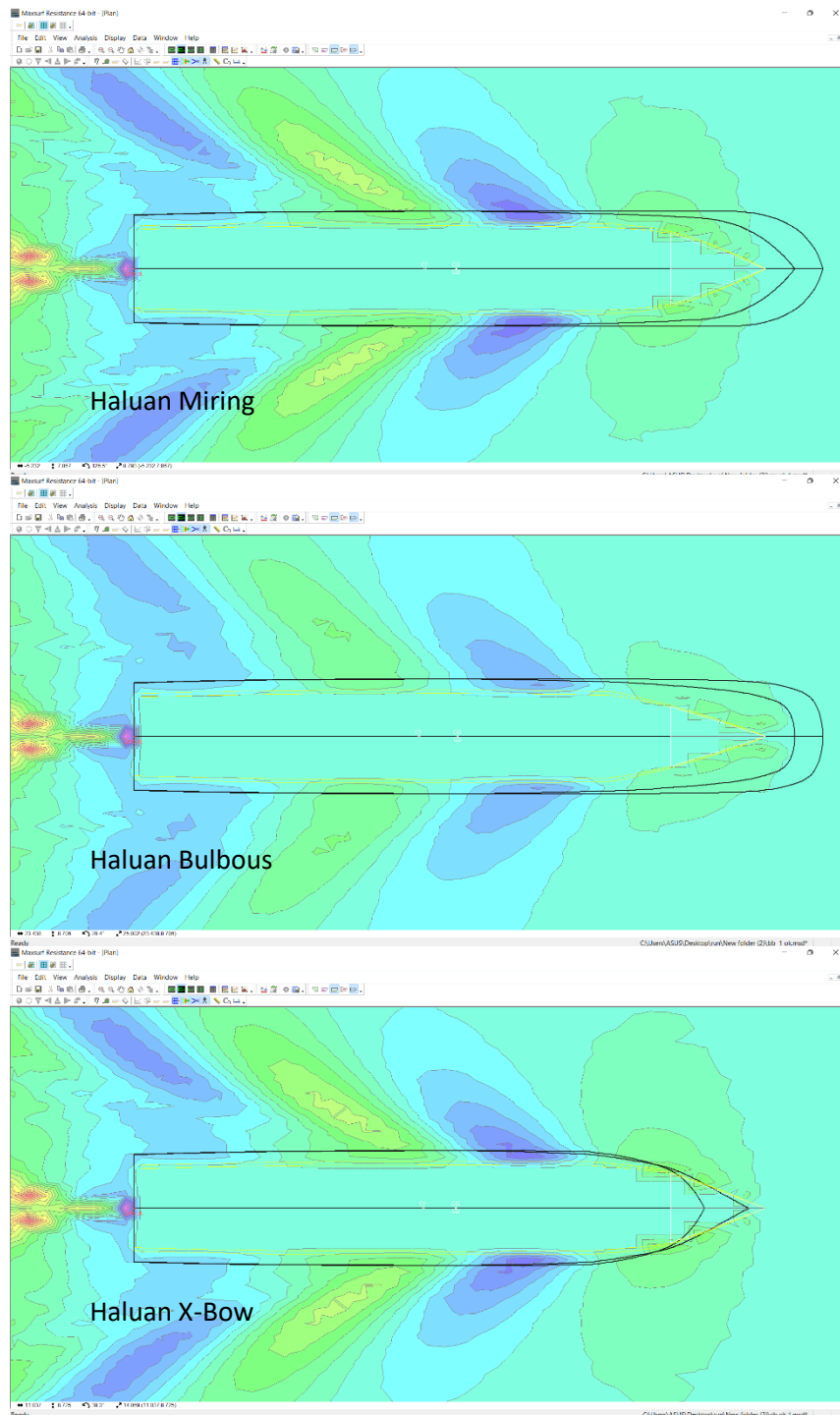


Hasil Simulasi Maxsurf

52. Visualisasi Maxsurf Resistance tampak samping

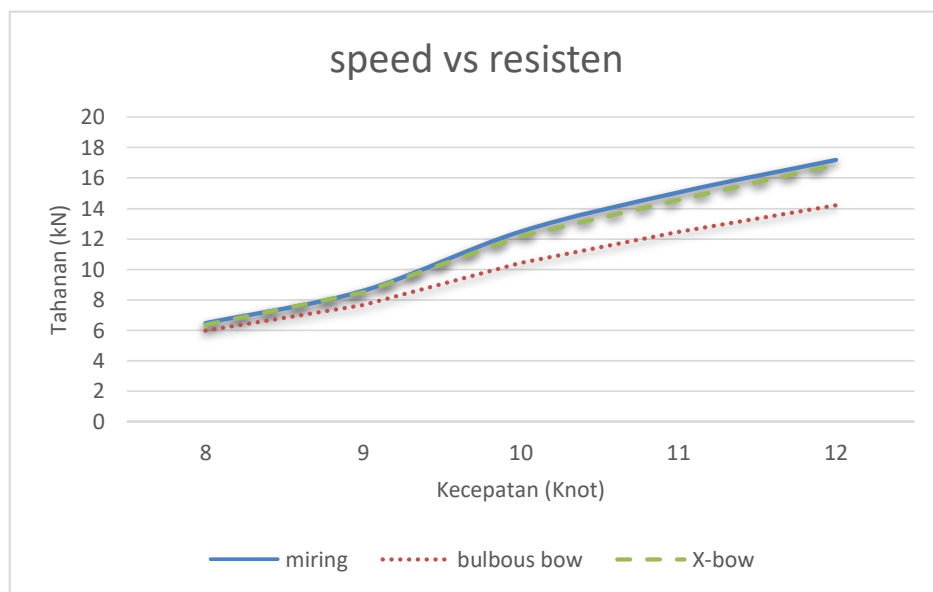


53. Visualisasi Maxsurf Resistance tampak atas



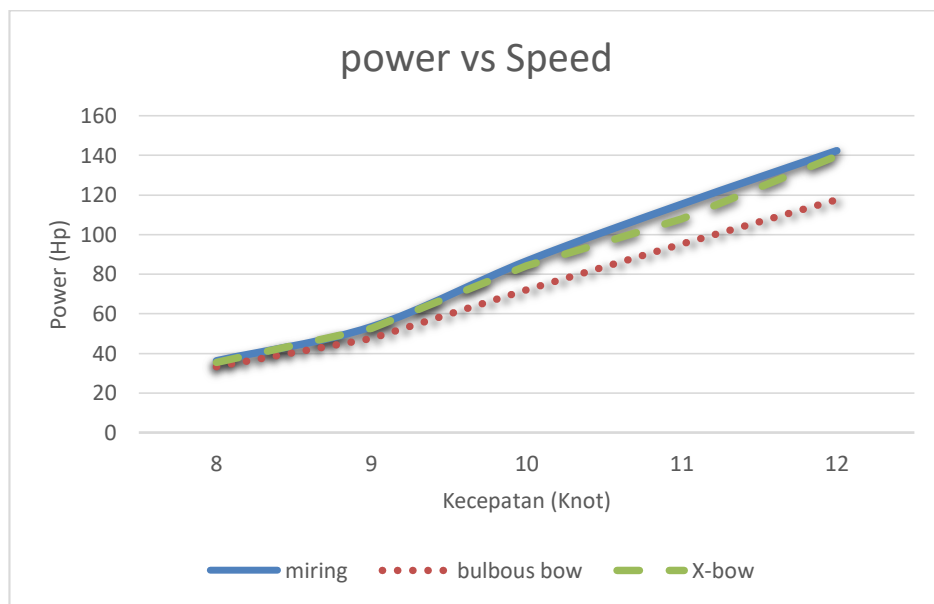
54. Speed VS Resisten (Maxsurf)

speed vs resisten			
speed (kn)	miring resisten (kN)	bulbous bow resisten (kN)	X-bow resisten (kN)
8	6.484644	5.985743	6.36972
9	8.610804	7.645573	8.501536
10	12.502132	10.411059	12.168021
11	15.070851	12.458513	14.572347
12	17.20554	14.194275	16.876979



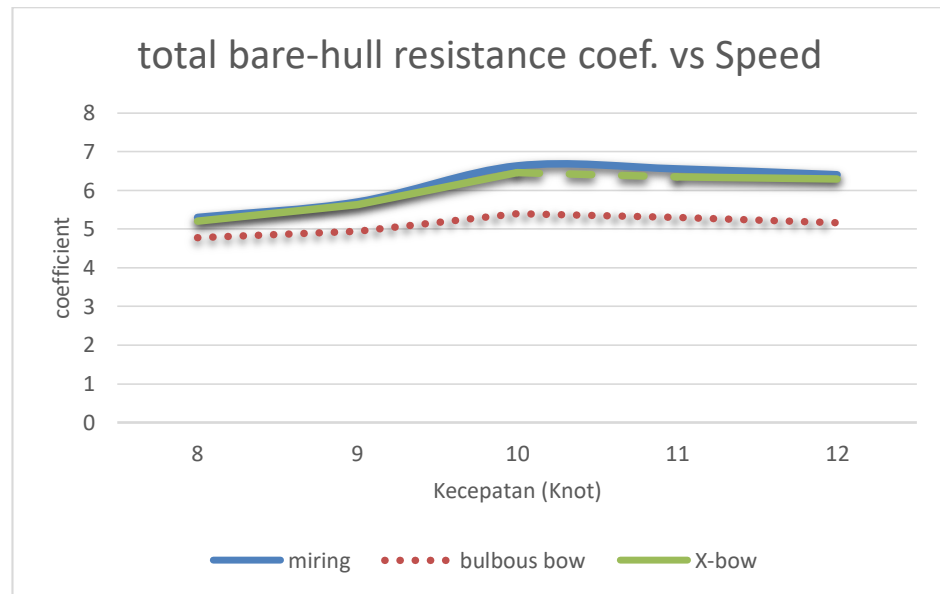
55. Power VS Speed (Maxsurf)

power vs Speed			
speed (kn)	miring (Hp)	bulbous bow (Hp)	X-bow (Hp)
8	36.23644	33.448557	35.594239
9	53.463888	47.470836	52.785453
10	86.681116	72.183064	84.364623
11	115.407779	95.40333	107.908629
12	142.437352	117.508367	139.717331



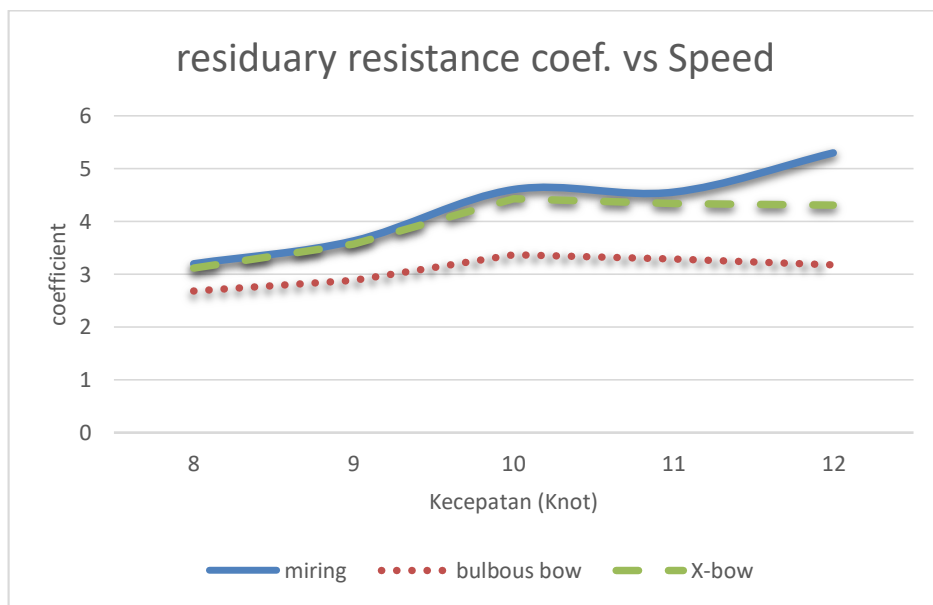
56. Total Bare-Hull Resistance Coefficient VS Speed

total bare-hull resistance coef. vs Speed			
speed (kn)	miring	bulbous bow	X-bow
8	5.298276	4.77875	5.208594
9	5.698718	4.944146	5.630961
10	6.635451	5.399196	6.463355
11	6.557077	5.296471	6.345323
12	6.405076	5.163177	6.287853



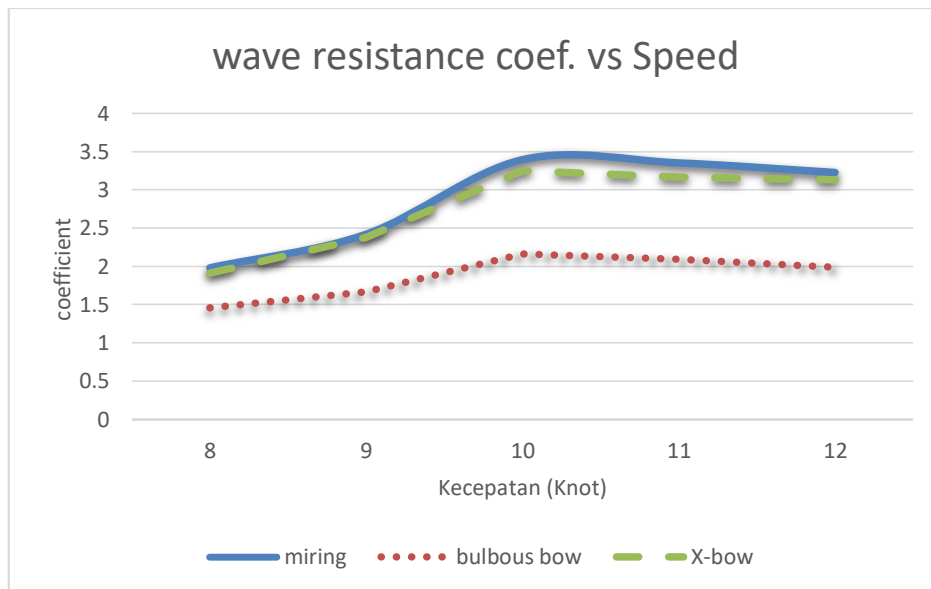
57. Residuary Resistance Resistance Coefficient VS Speed

residuary resistance coef. vs Speed			
speed (kn)	miring	bulbous bow	X-bow
8	3.205049	2.685522	3.115366
9	3.637129	2.882558	3.569373
10	4.606237	3.369982	4.434141
11	4.556369	3.295763	4.344615
12	5.298276	3.184415	4.30909



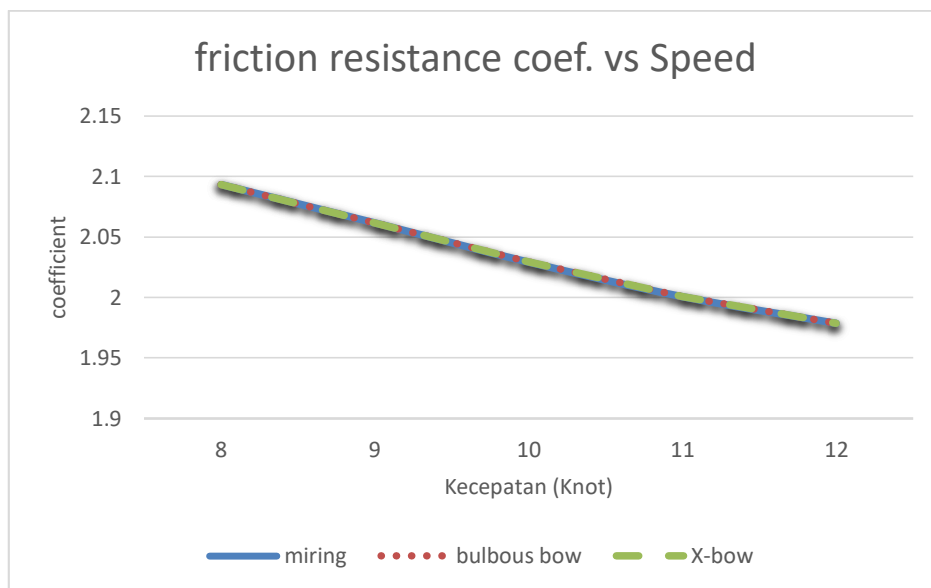
58. Wave Resistance Coefficient VS Speed

wave resistance coef. vs Speed			
speed (kn)	miring	bulbous bow	X-bow
8	1.978403	1.460468	1.914285
9	2.418263	1.665259	2.375685
10	3.395331	2.160619	3.248018
11	3.352472	2.093387	3.165153
12	3.227813	1.987419	3.134757



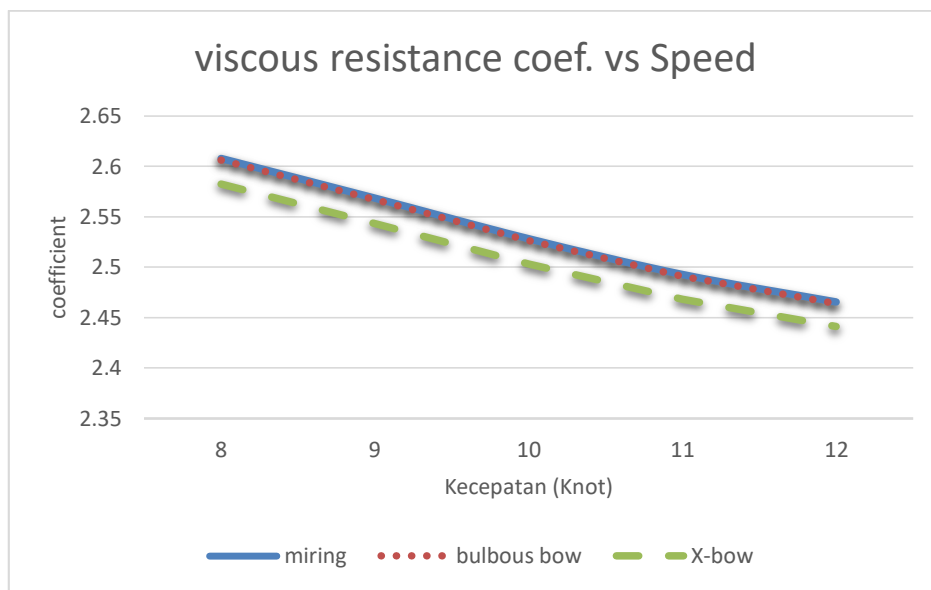
59. Friction Resistance Coefficient VS Speed

friction resistance coef. vs Speed			
speed (kn)	miring	bulbous bow	X-bow
8	2.093228	2.093228	2.093228
9	2.061588	2.061588	2.061588
10	2.029214	2.029214	2.029214
11	2.000708	2.000708	2.000708
12	1.978762	1.978762	1.978762



60. Viscous Resistance Coefficient VS Speed

viscous resistance coef. vs Speed			
speed (kn)	miring	bulbous bow	X-bow
8	2.607928	2.606336	2.582363
9	2.568509	2.566941	2.54333
10	2.528174	2.526631	2.503391
11	2.492659	2.491138	2.468224
12	2.465317	2.463813	2.44115





No. : 16397/UN4.7.7/TD.06/2022
Lamp : -
Hal : Penerbitan Surat Penugasan Panitia
Ujian Sarjana Strata Satu (S1)

Kepada Yth : **Wakil Dekan I**
Bidang Akademik, Riset dan Inovasi
Fakultas Teknik UNHAS
di-
Gowa

Dengan hormat,

Berdasarkan Persetujuan Pembimbing Mahasiswa, Bersama ini diusulkan susunan Panitia Ujian Sarjana Strata Satu (S1) bagi mahasiswa Departemen Teknik Sistem Perkapalan Fakultas Teknik Universitas Hasanuddin atas nama :

Nama : Muhammad Ihwal Andini
Stambuk : D33116510

Maka dengan ini kami sampaikan Susunan Panitia Ujian Sarjana Strata Satu (S1) sebagai berikut :

Ketua : Andi Haris Muhammad, S.T., M.T., Ph.D
Sekretaris : Surya Hariyanto, S.T., M.T.
Anggota : 1. Prof. Daeng Paroka, ST.,MT., Ph.D
2. Dr. Ir. Ganding Sitepu, Dipl.-Ing.

Judul Tugas Akhir mahasiswa yang bersangkutan adalah :

Pengaruh Bentuk Haluan Terhadap Performa Tahanan dan Kecepatan Pada Kapal Setnet

Untuk dapat diterbitkan surat penugasannya.

Demikian penyampaian kami, atas perhatian dan kerjasamanya diucapkan terima kasih.

G o w a, 9 Agustus 2022

Ketua Departemen Teknik Sistem Perkapalan



Faisal
Dr. Eng. Faisal Mahmuddin, S.T, M.Inf.Tech., M.Eng

Nip. 19810211 200501 1 003



SURAT PENUGASAN

No.16398/UN4.7.1/TD.06/2022

Dari : Dekan Fakultas Teknik Universitas Hasanuddin

Kepada : Mereka yang tercantum namanya dibawah ini.

Isi : 1. Bahwa berdasarkan peraturan Akademik Universitas Hasanuddin Tahun 2018 pasal 19 (SK. Rektor Unhas nomor : 2781/UN4.1/KEP/2018), dengan ini menugaskan Saudara sebagai PANITIA UJIAN SARJANA Program Strata Satu (S1) Teknik Sistem Perkapalan Fakultas Teknik Universitas Hasanuddin dengan susunan sebagai berikut :

Ketua : Andi Haris Muhammad, S.T., M.T., Ph.D

Sekretaris : Surya Hariyanto, S.T., M.T.

Anggota : 1. Prof. Daeng Paroka, ST.,MT., Ph.D
2. Dr. Ir. Ganding Sitepu, Dipl.-Ing.

Untuk menguji bagi mahasiswa tersebut dibawah ini :

Nama/Nim : Muhammad Ihwal Andini / D33116510

Departemen : Teknik Sistem Perkapalan

Judul Thesis/Skripsi :

Pengaruh Bentuk Haluan Terhadap Performa Tahanan dan Kecepatan Pada Kapal Setnet

2. Waktu ujian ditetapkan oleh Panitia Ujian Akhir Program Strata Satu (S1).
3. Agar surat penugasan ini dilaksanakan sebaik-baiknya dengan penuh rasa tanggung jawab.
4. Surat penugasan ini berlaku sejak tanggal ditetapkan sampai dengan berakhirnya Ujian Sarjana tersebut, dengan ketentuan bahwa segala sesuatunya akan ditinjau dan diperbaiki sebagaimana mestinya apabila dikemudian hari ternyata terdapat kekeliruan dalam keputusan ini.

Ditetapkan di Gowa,

Pada tanggal , 9 Agustus 2022

a.n Dekan,

Wakil Dekan Bidang Akademik, Riset dan Inovasi Fakultas Teknik UH

Dr. Amil Ahmad Ilham, S.T., M.IT.

Nip.19731010 199802 1 001

Tembusan :

1. Dekan FT-UH.
2. Ketua Departemen Teknik Sistem Perkapalan FT-UH.
3. Kasubag Umum dan Perlengkapan FT-UH



CERTIFICATE NO. JKT 36788



**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
KAMPUS TAMALANREA**

JALAN PERINTIS KEMERDEKAAN KM.10 MAKASSAR 90245
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SURAT PERSETUJUAN

Nomor : 18717/UN4.1.1.2.1.1/PK.02.03/2022

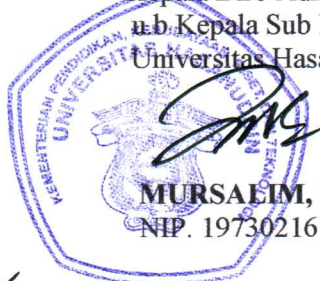
Berdasarkan Peraturan Rektor Universitas Hasanuddin tentang Penyelenggaraan Program Sarjana Nomor : 2781/UN4.1/KEP/2018 tanggal 16 Juli 2018, dengan ini menerangkan bahwa :

NIK : 7310070904980001 ✓
N a m a : MUHAMMAD IHWAL ANDINI ✓
Tempat/Tanggal Lahir : PANGKAJENE, 9 APRIL 1998 ✓
NIM : D33116510 ✓
Fakultas : TEKNIK ✓
Program Studi : TEK. SISTEM PERKAPALAN ✓

Telah memenuhi syarat untuk Ujian Skripsi Strata I (S1) **PERIODE JULI 2022**. Demikian Surat Persetujuan ini dibuat untuk digunakan dalam proses pelaksanaan ujian skripsi, dengan ketentuan dapat mengikuti wisuda **PERIODE JULI 2022**, jika **persyaratan kelulusan/wisuda telah dipenuhi**. Terima Kasih.

Makassar, 8 JULI 2022

Kepala Biro Administrasi Akademik
u.b. Kepala Sub Bagian Pendidikan dan Evaluasi
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Keterangan :

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- Catatan** :
1. Bagi Mahasiswa yang telah melaksanakan ujian Sarjana dan dinyatakan lulus, segera menyerahkan lembar pengesahan Skripsi dan Berita Acara Ujian Sarjana ke Sub Bagian Akademik Fakultas, untuk memperoleh nomor Alumni dan didaftar sebagai Wisudawan pada periode berjalan.
 2. Jika terjadi perubahan Judul Skripsi agar melaporkan ke Kasubag. Pendidikan Fakultas sebelum didaftar sebagai Wisudawan pada Periode berjalan
 3. Pada saat ON-LINE Mahasiswa diharapkan mengisi identitas diri sesuai surat izin ujian ini
 4. Surat izin ini hanya berlaku untuk Wisuda periode berjalan (WISUDA PERIODE JULI 2022)





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Terhadap Mahasiswa

Nama : Muhammad Ihwal Andini
Stambuk : D33116510
Judul : ***Pengaruh Bentuk Haluan Terhadap Performa Tahanan dan Kecepatan Pada Kapal Setnet***
Hari/Tanggal : Selasa, 16 Agustus 2022
Waktu : 11.00-12.00 wita
Tempat : Ruang Sidang Teknik Sistem Perkapalan (Daring/Luring)
Keputusan Sidang / Catatan : 86 (A)

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3	Anggota	Prof. Daeng Paroka, ST.,MT., Ph.D	3.
4	Anggota	Dr. Ir. Ganding Sitepu, Dipl.-Ing.	4.

Ketua Sidang,

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Gowa , 2022
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