APPENDIX 9F

Modelling Results for HKBCF Sequence B

Appendix 9F – Part 9F1

Supplementary Information for Sequence B

Assumptions on Dredging and Sediment Loss Rates for the Cumulative Construction Impact Assessment on the Marine Environment

9F1-1 INTRODUCTION

9F1-1.1 Background

9F1-1.1.1 Under the construction Sequence B, all of the construction works items and assumptions would be same as that of Sequence A except the construction sequences of the main reclamation of HKBCF and TMCLKL southern reclamation. Therefore, the details provided in **Appendix 9D5** are still relevant and valid for the works considered in this EIA study and this appendix provide supplementary information where changes to the assumptions and calculation are required under Sequence B.

9F1-2 TUEN MUN CHEK LAP KOK LINK (TMCLKL)

9F1-2.1 Background

9F1-2.1.1 The construction of the TMCLKL will begin in November 2010 and the construction programmes for the Northern and Southern Landfalls are presented in Figure 1 together with other works of HKBCF+HKLR. As indicate in the Figure 1, the commencement of Southern Landfalls reclamation has to advance from November 2011 under Sequence A to November 2010 under Sequence B to match with the programme of HKBCF. The Southern Landfall will require fully dredged seawalls and a non-dredged reclamation. The dredged and non-dredged area of TMCLKL are shown in Figure 2 and the construction sequence is presented in Figure 3 for both the southern landfall reclamations.

9F1-2.1.2 Under Sequence B, there will be no change in the construction sequence and works items for Northern Landfalls and southern viaduct, while the construction sequence for the Southern Landfalls will be different from that of Sequence A, which the construction works will be started from the southern area (Portion S-C) to the northern area (Portion S-A).

9F1-2.2 Sediment Loss Rates

9F1-2.2.1 Figure 1 presents the dredging and filling programmes. The Southern Landfall involves three dredging operations identified as DS1b-3b and six filling operations identified as FS1b-6b.

9F1-2.2.2 The fill to be used includes, public fill (PF), sand and rock fill. For the Southern Landfall, the seawall filling will be by 50% of sand and rock fill. It has been assumed that the fines content (<63μm) in sand typically (dry density of 1,680kg/m^3) used should not exceed 5% and the same assumptions will be made. For the main reclamation area, public fill will be used principally when the reclamation level reaches +2.5mPD although some public fill may be used below that level. For the southern reclamation, a mix of sand and PF will be used and the ratio of the two material is about 70% sand and 30% PF. The filling material for Northern Landfalls are the same as Sequence A and **Appendix 9D5** shall be referred.

9F1-2.2.3 When filling above +2.5mPD, zero losses of fine material to the surrounding waters has been assumed. Similarly, when using rock fill for the seawalls, it has been assumed that any fine material present is insignificant and zero loss of fine material has been assumed. Under Sequence B, the peripheral seawall at the Southern Landfall will formed first and offering protection against the sediment losses from the main reclamation. The availability of the seawalls protection for reclamation dredging/filling is shown in the anticipated construction sequence drawing (Figure 3). The overall programme (Figure 1) also indicates when the seawall protection can be assumed based on the anticipated works progress as indicated in the programme.

9F1-2.2.4 It is anticipated that the dredging and filling works will proceed for 16 hours each day and that the grab dredging will be continuous throughout each working day. The sand filling will require each barge to make two deliveries per working day, and the pelican barge and dump barge will take 45 minutes and 5 minutes respectively to offload on each trip.

9F1-2.2.5 The numbers of dredgers and filling barges for each dredging and filling operation at southern landfall are presented in Tables 1. This tables also present the working rates (in-situ and un-bulked volumes) and expected sediment loss rates for each dredging and filling operation.

Table 1 TMCLKL Southern Landfall: Summary of Losses of Sediment to Suspension Sediment (Dredging and Filling)

Work Item	Plant	No. of Plant	Working Rate (Note 1)	Loss Rate (kg/m³)	Reduction Due to Seawalls	Sediment Losses (kg/s) (Note 2)	No. of barge events per day	Total Losses (kg/day) all plant	Material Assumed
DS1b	grab dredger	9	6,000	20	0%	2.08	-	1,080,000	-
FS1b	pelican barge	3	769	5% of 5% fines	0%	1.20	2	19,385	Sand
FS2b	filling barge (behind full seawall)	3	769	-	80%	4.22	2	9,892	-
	dump barge	1	769	5% of 25% fines	80%	12.18	2	7,308	PF
	pelican barge	2	769	5% of 5% fines	80%	0.24	2	2,585	Sand
DS2b	grab dredger	6	6,000	20	0%	2.08	-	720,000	-
FS3b	pelican barge	3	769	5% of 5% fines	0%	1.20	2	19,385	Sand
FS4b	filling barge (behind full seawall)	3	769	-	80%	4.22	2	9,892	-
	dump barge	1	769	5% of 25% fines	80%	12.18	2	7,308	PF
	pelican barge	2	769	5% of 5% fines	80%	0.24	2	2,585	Sand
DS3b	grab dredger	4	6,000	20	0%	2.08	-	480,000	-
FS5b	pelican barge	2	769	5% of 5% fines	0%	1.20	2	12,923	Sand
FS6b	filling barge (behind full seawall)	3	769	-	80%	4.22	2	9,892	-
	dump barge	1	769	5% of 25% fines	80%	12.18	2	7,308	PF
	pelican barge	2	769	5% of 5% fines	80%	0.24	2	2,585	Sand
	Filling above +2.5mPD (public fill)	-	-	0	100%	0	-	0	-
P	Piling for Viaducts	15	24	5% of 20	0%	0.0004	-	360	-

Notes:
1. *The working rate is per grab (m^3/day) or per barge/event (m^3).*
2. *The loss rate is per plant per event.*
3. *All plants assume daily working for 16 hour. Each pelican barge assume unloads in 45 minutes and dump barge assume unload in 5 minutes.*
4. *Partial Seawall = substantially completed seawall with 100-200m leading edge. Full Seawall = completed seawall with 50-100m opening gap for marine access.*
5. *When a mixture of 50/50 sand and rock (sand /Rock) are specified, only the portion of sand is included in the above calculation table. When a mixture of public fill and sand fill (PF/Sand) are specified, it is assumed to consist of 30% PF at the most. For calculation purpose, the filling barges for PF and sand is calculated separately using the ratio of 30/70, but rounded up for the PF barges to give a reasonable worse case estimate. The same principle applies to 50/50 sand/Rock fill calculation.*

9F1-2.2.6 In Tables 1, it has been assumed that no mitigation measures, other than integrated advanced seawalls. The generally accepted sediment loss reduction rate by seawalls ranged between 75% - 100% (References 11, 12, 16 and 17 of **Appendix 9D5**). Based on a conservative assessment, it was proposed the reduction factor by a substantially completed seawall (with at least 100-200m leading edge) should be at least 45%. However, for a nearly completed seawall (with only 50-100m access opening), a 80% reduction should be assumed while that for a fully enclosed seawall without opening access, 100% reduction should be assumed. This is also inline with the generally accepted assumptions in the approved EIAs

9F1-2.2.7 Based on the construction programme, the plant inventory for the construction works and the daily loss rates presented above, Figure 1 presents the total daily loss rates in kg/day for each month during the construction of the TMCLKL.

9F1-3 HONG KONG BORDER CROSSING FACILITY (HKBCF)

9F1-3.1 Background

9F1-3.1.1 The dredging and filling works for HKBCF will begin in September 2010 as Sequence A but will finish in May 2014 rather than November 2013 as would be in Sequence A. The programme for the reclamation is presented in Figure 1 with other projects. A detailed description and figure showing the reclamation sequence is presented in Figure 3.

9F1-3.1.2 There would be no interim seawalls for Sequence B: As a result, the reclamation extent in order to start construction of the PCB and Government buildings becomes larger than that in the case of Sequence A. Besides that, full-dredging is adopted for the seawalls only and the entire reclamation behind the seawalls will adopt the non-dredge option. The extent of dredged and non-dredged areas in HKBCF is shown in Figure 2.

9F1-3.1.3 The reclamation sequence of HKBCF (Sequence B) and the layout of mitigation measures including temporary steel sheet pile walls and silt curtain are shown in Figure 3. In general, the seawall at the peripheral of HKBCF site is anticipated to be carried out first and the main reclamation dredging and filling will be followed.. Temporary steel sheet pile wall near the northern edge of HKBCF site would be installed to protect silt curtain against strong current. Assuming the reclamation of HKBCF commence in September 2010 (preparation works including sheet piling wall will start earlier in August 2010), the envisaged reclamation sequence is as follows:

1) Install the temporary steel sheet pile wall near the northern edge of site and the silt curtain around the site as shown in Stage 1 of Figure 3 (Sheet 1). In order to enable the commencement of reclamation works before the sheet pile wall is installed, the northern side of silt curtain would be installed near to HKBCF Phase 1 where it would not be affected by the current. Moreover, the temporary steel sheet pile wall and silt curtain would also be installed for forming the pits to receive the Mf sediment dredged from the site.

2) Portion 1 seawall is to be constructed first by commencing the dredging at the south-east and south-west corners of the site as shown in Figure 3. The dredging for the seawall and reclamation of FSD Rescues Berth at the western side of HKBCF site would be carried out at the same time.

3) After installation of sheet pile wall, the northern side of silt curtain would be shifted to the area outside the northern edge of HKBCF site. Dredging would be carried out to form the pits to receive Mf sediment as shown in Stage 2 of Figure 3 (Sheet 1). According to the current ground investigation information, the dredging at northern seawall would involve some Mf sediment and it would be deposited to the pits within the sheet pile wall and silt curtain as shown in Stage 3 of Figure 3 (Sheet 2).

4) It is anticipated that the seawall filling for Portion 1 seawall and FSD Rescue Berth would commence in December 2010 and January 2011 respectively. A gap of about 100m at the northern seawall as shown in Stage 4 of Figure 3 (Sheet 2) would be left for the temporary marine access to enable the reclamation works in HKBCF. After completion of the northern seawall, the northern temporary sheet pile wall would then be removed.

5) As shown in Stages 4 and 5 of Figure 3 (Sheet 2 and 3), it is anticipated that the dredging and filling of Portion 2 seawall would commence in June 2011 and August 2011 respectively. After substantial length of Portion 2 seawall is completed, the reclamation filling (i.e. sand blanket) at Portion A and Portion C (Phase 1) is anticipated to start in August 2011 and September 2011 respectively.

6) Following completion of Portion 2 seawall, the filling of Portion 3 seawall would commence in January 2012. A gap of about 100m at Portion 2 seawall as shown in Stage 5 of Drawing 303A in Appendix 9A2 would be left for the temporary marine access to enable the reclamation works in HKBCF.

7) Dredging and filling for the installation of immerse tube tunnel of Automatic People Mover (APM) and underground station are anticipated to be carried out August 2011 to March 2013.

8) As shown in Stages 6 and 7 of Figure 3 (Sheet 3 and 4), the reclamation filling of HKBCF Phase 1 is generally in the direction from the east to west except that reclamation filling at Portion A is to be completed earlier in March 2012 so as to allow more time for the construction of Passenger Clearance Building (PCB). In addition, the direction of dredging and filling in Portion D is from the west to east to suit the temporary access at the seawall. The filling at the Mf pits would be carried out within the temporary sheet pile wall and silt curtain at the same time with the reclamation filling outside the pits. After 2m thick sandfill has been placed to protect and cover the Mf sediment within the pits, the sheet piles would be cut and then removed for the reclamation to proceed.

9) Construction of seawall is anticipated to be completed in Stage 7 as shown on Figure 3 (Sheet 4) except the temporary openings for marine access mentioned in (4) and (6) above. As the reclamation filling is fully enclosed by the seawall, the silt curtain at the peripheral of HKBCF site is no longer required.

10) After completion of HKBCF Phase 1, the reclamation filling would proceed to HKBCF Phase 2 as shown in Stage 8 of Figure 3 (Sheet 4).

11) The reclamation of HKBCF is completed after the filling in Phase 2 and completion of remaining section of seawall allowed for the temporary marine access.

9F1-3.1.4 As same as Sequence A, a 10% bigger reclamation and 10% increase in the plant for reclamation works has been assumed for the HKBCF as the worst case situation for the purposes of the water quality assessment and modeling.

9F1-3.2 Sediment Loss Rates

9F1-3.2.1 Figure 1 presents the dredging and filling programme and it can be seen that there are four separate dredging operations identified as (8) to (11) and twelve filling operations identified as (A) to (M).

9F1-3.2.2 The fill to be used includes public fill (PF), sand and rock fill. The characteristics of the fill material is generally similar to those discussed for TMCLKL although the material for seawall filling is generally assumed to be 100% of sand although coarse rock type public fill or rock fill will also be used.

9F1-3.2.3 When filling above +2.5mPD, zero losses of fine material to the surrounding waters has been assumed. Similarly, when using rock fill for the seawalls, it has been assumed that any fine material present is insignificant and zero loss of fine material has been assumed. Under Sequence B, the peripheral seawall at the main reclamation, except Portion D, will formed first and offering protection against the sediment losses from the main reclamation. In all cases where the construction of the seawall begins before any dredging or filling takes place for the reclamation, it has been assumed that any dredging or filling for the reclamation would begin 100-200m from the ends of the seawalls. The potential for fine sediment to escape into the surrounding water would be reduced significantly and, under these circumstances, it has been assumed that only a fraction of the potential loss of fines is released into the receiving waters at the entrance to the reclamation depending on the stage of the completeness of the seawalls (Reference 11, 12, 16 and 17 of **Appendix 9D5**). The availability of the seawalls protection for reclamation dredging/filling is shown in the anticipated construction sequence drawing (Figure 3). The overall programme (Figure 1) also indicate when the seawall protection can be assumed based on the anticipated works progress as indicated in the programme.

9F1-3.2.4 It is anticipated that the dredging and filling works will proceed for 16 hours each day and that the grab dredging will be continuous throughout each working day. The sand filling will require each barge to make two deliveries per working day, and the pelican barge and dump barge will take 45 minutes and 5 minutes respectively to offload on each trip.

9F1-3.2.5 The numbers of dredgers and filling barges for each dredging and filling operation are presented in Table 2. This table also presents the working rates (in-situ and un-bulked volumes) and expected sediment loss rates for each dredging and filling operation.

Table 2 HKBCF: Summary of Losses of Sediment to Suspension

Work Item	Plant	No. of Plant	Working Rate (Note 1)	Loss Rate (kg/m³)	Reduction Due to Seawalls	Sediment Losses (kg/s) (Note 2)	No. of barge events per day	Total Losses (kg/day) all plant	Material Assumed
Dredging									
(8)	grab dredger (11 m^3)	9	6,000	20	0%	2.08	-	1,080,000	-
(9)	grab dredger (11 m^3)	6	6,000	20	0%	2.08	-	720,000	-
(10)	grab dredger (11 m^3)	2	6,000	20	0%	2.08	-	240,000	-
(11)	grab dredger (11 m^3)	1	6,000	20	0%	2.08	-	120,000	-
Filling									
(A)	filling barge	30	769	5% of 5% fines	0%	1.20	2	193,846	Sand
	dump barge	0	-	-	-	-	-	-	-
	pelican barge	30	769	5% of 5% fines	0%	1.20	2	193,846	Sand
(B)	filling barge	25	769	5% of 5% fines	0%	1.20	2	161,538	Sand
	dump barge	0	-	-	-	-	-	-	-
	pelican barge	25	769	5% of 5% fines	0%	1.20	2	161,538	Sand
(C)	filling barge	20	769	5% of 5% fines	0%	1.20	2	129,231	Sand
	dump barge	0	-	-	-	-	-	-	-
	pelican barge	20	769	5% of 5% fines	0%	1.20	2	129,231	Sand
(D)	filling barge (behind full seawall)	20	769	5% of 5% fines	80%	0.24	2	25,846	Sand
	dump barge	0	-	-	-	-	-	-	-
	pelican barge	20	769	5% of 5% fines	80%	0.24	2	25,846	Sand
(F)	filling barge (behind full seawall)	20	769	5% of 5% fines	80%	3.82	2	61,938	-
	dump barge	6	769	5% of 25% fines	80%	12.18	2	43,846	PF
	pelican barge	14	769	5% of 5% fines	80%	0.24	2	18,092	Sand
(L)	filling barge (behind full seawall)	30	769	5% of 5% fines	80%	3.82	2	92,908	-
	dump barge	9	769	5% of 25% fines	80%	12.18	2	65,769	PF
	pelican barge	21	769	5% of 5% fines	80%	0.24	2	27,138	Sand
(H)	filling barge (behind full seawall)	40	769	5% of 5% fines	80%	3.82	2	123,877	-
	dump barge	12	769	5% of 25% fines	80%	12.18	2	87,692	PF
	pelican barge	28	769	5% of 5% fines	80%	0.24	2	36,185	Sand
(I)	filling barge (behind full seawall)	15	769	5% of 5% fines	80%	4.22	2	49,462	-
	dump barge	5	769	5% of 25% fines	80%	12.18	2	36,538	PF
	pelican barge	10	769	5% of 5% fines	80%	0.24	2	12,923	Sand
(J)	filling barge	10	769	5% of 5% fines	0%	1.20	2	64,615	-
	dump barge	0	769	5% of 25% fines	0%	60.90	2	0	PF
	pelican barge	10	769	5% of 5% fines	0%	1.20	2	64,615	Sand
(K)	filling barge	10	769	5% of 5% fines	0%	19.11	2	154,846	-
	dump barge	3	769	5% of 25% fines	0%	60.90	2	109,615	PF
	pelican barge	7	769	5% of 5% fines	0%	1.20	2	45,231	Sand
(M)	filling barge	5	769	5% of 5% fines	0%	25.08	2	92,462	-
	dump barge	2	769	5% of 25% fines	0%	60.90	2	73,077	PF
	pelican barge	3	769	5% of 5% fines	0%	1.20	2	19,385	Sand

Notes:

1. *The working rate is per grab or TSHD (m^3/day) or per barge/event (m^3).*
2. *The loss rate is per plant per event.*
3. *All plants assume daily working for 16 hour, except TSHD in which 24 hour is assumed. Each pelican barge assume unloads in 45 minutes and dump barge assume unload in 5 minutes.*
4. *Partial Seawall = substantially completed seawall with 100-200m leading edge. Full Seawall = completed seawall with 50-100m opening gap for marine access.*

5. When a mixture of sand fill and rock (Sand/Rock) are specified, only the portion of Sand is included in the above calculation table. When a mixture of public fill and sand fill (PF/Sand) are specified, it is assumed to consist of 30% PF at the most. For calculation purpose, the filling barges for PF and sand is calculated separately using the ratio of 30/70, but rounded up for the PF barges to give a reasonable worse case estimate.

9F1-3.2.6 Based on the calculated loss rates for each dredging and filling operation, Figure 1 also presents the total daily loss rates for each month during the construction programme.

9F1-3.2.7 In Table 2, it has been assumed that no mitigation measures, other than integrated advanced seawalls. The generally accepted sediment loss reduction rate by seawalls ranged between 75% - 100% (References 11, 12, 16 and 17 of **Appendix 9D5**). Based on a conservative assessment, it was proposed the reduction factor by a substantially completed seawall (with at least 100-200m leading edge) should be at least 45%. However, for a nearly completed seawall (with only 50-100m access opening), a 80% reduction should be assumed while that for a fully enclosed seawall without opening access, 100% reduction should be assumed. This is also inline with the generally accepted assumptions in the approved EIAs.

9F1-4 MODELLING SCENARIO

9F1-4.1.1 Under Sequence B, the marine works will be on-going for about 4 years which is slightly longer than Sequence A. Sequence B will involve overall less dredging and filling. The monthly sediment loss rate under Sequence B is also lower than Sequence A and the first worse case scenario is also predicted to happen around February/March 2011 (Figure 4). As the identified worse case scenarios of Sequence A are fully modelled for assessment and the fact that potential sediment loss under Sequence B is much lower than Sequence A, it would not be necessary to model the unmitigated scenario under Sequence B for the purpose of impact assessment since Sequence B is not a worse case overall. The water quality modelling, thus focused on the mitigated scenario for the first identified worse case timeframe (i.e, early 2011) under the Sequence B.

9F1-4.2 Proposed Construction Phases to be Simulated in the Model Studies

9F1-4.2.1 Based on the anticipated works progress for the TMCLKL and HKBCF as illustrated in Figures 1-3, the tentative plant inventory for each construction activities, the anticipated production rate and the potential sediment loss associated with them have as calculated and shown in Tables 1 and 2. The potential sediment loss for TMCLKL Southern Landfalls and HKLR under Sequence B and same as Sequence A and the relevant calculations are presented in **Appendix 9D5** and not repeated here. The potential sediment loss for these activities are put in the programme timeline as shown in Figure 1, which also include consideration of the construction activities in relation to the progress of seawalls construction and where application, potential reduction in sediment loss due to the presences of the seawalls are incorporated. With Figure 1, the total daily loss rate for all three projects can be determined and the monthly total sediment loss rate are presented in Figure 4.

9F1-4.2.2 It should be note that there are several built-in conservative mechanisms to ensure the Figures 1 and 4 will not underestimate the potential sediment loss and these are summarised in **Appendix 9D5**.

9F1-4.2.3 Based on Figure 4, it can be seen that loss rates peak shortly after the start of construction of the HKBCF in February/March 2011 which is also the worse case to be modelled. This construction scenario is to be simulated for wet and dry season conditions.

9F1-4.2.4 For the selected scenario year, not all the construction activities indicated in Tables 1-2 are relevant to the modelling. Those relevant activities and the corresponding daily sediment loss rate can be directly read from Figure 1. As a summary, the relevant activities and modelling parameters for this scenario year are presented in Tables 3 below.

Table 3 Summary of Relevant Project Works Item and Loss Rate for 2011 Scenario (mitigated)

Works Items	Works Description	Plant	No. of Plant	Working Rate (Note 1)	Loss Rate (kg/m^3) (Note 2)	Reduction due to Seawalls and silt curtain	No. of barge events per day	Total Losses (kg/day) - All Plants	Material	Plant ID	Sediment Loss Rate (kg/s)	Frequency	Duration of Each Operation
BCF (8)	Seawall Dredging (West)	grab dredger (11 m^3)	9	6,000	20	80%	-	216,000	-	BCF8	3.75	continuous	-
BCF (A)	Seawall Filling (West)	pelican barge	30	769	5% of 5% fines	0%	2	193,846	Sand	BCFA	3.37	continuous	-
BCF (M)	Filling with public fill	dump barge	2	769	5% of 25% fines	0%	2	73,077	PF	BCFMd	60.90	4 hour	5 minutes
BCF (M)	Filling with sand	pelican barge	3	769	5% of 5% fines	0%	2	19,385	Sand	BCFMp	1.20	138 minute	45 minutes
TM (FS1b)	Seawall Filling (East)	pelican barge	3	769	5% of 5% fines	23%	2	15,023	Sand	TMFS1b	0.93	138 minute	45 minutes
TM (FS3b)	Seawall Filling (East)	pelican barge	3	769	5% of 5% fines	23%	2	15,023	Sand	TMFS3b	0.93	138 minute	45 minutes
TM (FS5b)	Seawall Filling (East)	pelican barge	2	769	5% of 5% fines	23%	2	10,015	Sand	TMFS5b	0.93	4 hour	45 minutes
LR (1)	Dredging	grab dredger	3	6,000	20	95%	-	18,000	-	LR1	0.31	continuous	-

Notes:
1. The working rate is per grab or TSHD (m^3/day) or per barge/event (m^3).
2. The loss rate is per plant per event.
3. All plants assume daily working for 16 hour, except TSHD in which 24 hour is assumed. Each pelican barge assume unloads in 45 minutes and dump barge assume unload in 5 minutes.
4. The last 4 columns (grey) provided specific details about the model input.

9F1-4.2.5 In setting up the scenarios, it will be necessary to select locations at which it will be assumed the dredgers and sand barges are working. Based on the expected construction programmes for the TMCLKL, HKBCF and HKLR, and the dredging and filling plant to be used for each item of work, Figure 5 present the working locations for each piece of plant in the selected target year.

Appendix 9F – Part 9F2

SUPPLEMENTARY INFORMATION FOR SEQUENCE B

WATER QUALITY MITIGATION -
SILT CURTAIN APPLICATION

9F2-1 INTRODUCTION

9F2-1.1 For the Sequence B of the combined HKBCF+HKLR+TMCLKL projects, scenario year 2011 has been selected for hydrodynamic and water quality modelling based on the worst case calculated sediment losses following the anticipated project programme. The anticipated programme is shown in Figure 1 of **Part 9F1** in **Appendix 9F**. All the construction works sequence and works items were same as Sequence A except the works for HKBCF and the southern Landfill works of TM-CLKL. This appendix, therefore, provided supplementary information specific to Sequence B and the reader shall refer to **Appendix 9D6** for general information.

9F2-1.2 The results of the construction phase water quality modelling for Sequence A has shown that, even with the integrated measures described in Section 6 of the main text, exceedances of the water quality objectives would occur and further mitigation would be required. Similar to Sequence A, the implementation of sheet piled wall and silt curtains have been proposed as the primary mitigation option of Sequence B. Indeed, the sheet piled wall has been evolved as an integrated protection measure and included in the flow modelling.

9F2-1.3 As discussed in **Appendix 9D6**, the application and effectiveness of silt curtains does depend on the aquatic conditions in which they are proposed and issues such as water depth and current speed can affect the viability and effectiveness of this measure, with speeds of about 0.5m/s generally being considered as allowing effective anchoring and use of silt curtains.

9F2-1.4 In order to assess the viability of the use of silt curtains as mitigation for the works sites, the flow velocities in the study area have been reviewed for Sequence B. The modelled flow patterns indicating the peak ebb and flood at 3 depth (surface, mid-depth and bottom) are presented in the vector plots in Annex A (see Figures 001-024). The location of the construction plant at those times is, also, indicated. Review of the plots shows that the flows over most of the site area, where the HKBCF, TMCLKL southern landfall and HKLR reclamation will be constructed, are, in general, below 0.5m/s and, therefore, suitable for silt curtain deployment.

9F2-1.5 Based upon the review, which is consistent with the results of Sequence A, it was concluded that silt curtains could be deployed in the majority of the works site for the protection of the marine environment. Further details on the proposed silt curtain arrangement and suitability are provided below. Localised changes, however, are also predicted leading to adjustment on the potential reduction of silt curtains and also the use of special designed cage type silt curtain (with steel enclosure) on grab dredgers working in HKBCF and TM-CLKL southern landfall and these are further discussed below.

9F2-2 SILT CURTAINS ARRANGEMENT

9F2-2.1 Under Sequence B, in order to minimise the water quality impacts during the construction stage, deployment of silt curtains has been proposed and the following systems have been recommended:

- Cage type silt curtain (with steel enclosure) to fully enclose the working area of each grab dredger while carrying out the dredging works in HKBCF and TMCLKL southern landfall; and
- A floating type silt curtain (single layer) around or adjacent to the site while the dredging works and filling works are in progress.

9F2-2.2 Indicative layouts of the proposed silt curtain arrangements for sequence B are provided in Annex B, see Figures No. 25308/041/301A to 304A for HKBCF and TM-CLKL southern landfall. The arrangement of silt curtains system for TM-CLKL northern landfall and HKLR reclamations have not changed due to Sequence A and the details provided in **Appendix 9D6** are still valid and shall be referred.

9F2-2.3 As the first measure, the cage type silt curtain is designed to enclose local pollution caused by the grab dredger. The general description of the frame type silt curtain is presented in **Appendix 9D6**. For works at HKBCF and TMCLKL southern landfall in which the sheet pile walls is predicted to cause localised increase in flow speed, specially designed caged type silt curtain with steel enclosure shall be used and details are shown in Figure No. 25308/041/308a in Annex B.

9F2-2.4 Apart from the cage type silt curtain (with steel enclosure), deployment of silt curtain (single layer) around the site is recommended. The indicative layout of silt curtains for HKBCF and TMCLKL southern landfall at different stages of the construction process under Sequence B are shown in Figures No. 25308/041/301A to 304A in Annex B. The silt curtains would basically consist of a curtain membrane made by synthetic textile (see Annex C of **Appendix 9D6**) or similar product, a float system that hangs the curtain in the water, and a weight at the bottom of curtain to fix it at the seabed. Sufficient length of the curtain membrane will be allowed such that there is an amount of slack for the extension of the silt curtain due to wave and tidal effects.

9F2-2.5 The silt curtain should allow access of vessels that enter into or exit from the reclamation area. This could be achieved by the opening formed by two piece of silt curtain with overlapping length of 150m min and a separation distance of about 60m to allow the passage of vessels. The indicative position and details of the above openings are shown in Annex B. Local adjustment of the position of these openings is expected during construction stage to suit the actual site condition and the Contractor's working method.

9F2-2.6 The silt curtain is suitable for use in the site condition where the current velocity of 0.5m/s or less. However, as noted above, the velocity of currents near the northern edge of reclamation site for HKBCF Phase 2 is higher due to its exposure to the area of main flows. In order to enable the deployment of silt curtain to mitigate the water quality impact due to the reclamation activities in HKBCF Phase 2, a sheet pile wall is proposed to protect the silt curtain along the northern edge of the reclamation (See Figures No. 25308/041/301A to 304A). With the implementation of the sheet piled wall, the silt curtain will not be subject to the influences of the strong currents and can be used. A separate distance of 5m between the silt curtain and sheet pile wall is allowed in this case. Details of the steel sheet pile wall are shown in figure No. 25308/041/307 in Annex B.

9F2-2.7 The sheet pile wall is a recommended mitigation measure under Sequence A and further developed as an integrated protection measure under Sequence B. Under the conservative worse case scenario for Sequence B, it is assume that sheet pile wall near the northern side of the HKBCF reclamation is present while the seawalls at the eastern and western sides of the main HKBCF and TMCLKL southern landfall are not present.

9F2-2.8 Yellow marker buoys fitted with yellow flashing lights will be laid along the top surface of the silt curtains at a spacing of about 50m to mark the extent of the silt curtain. As the silt curtain will not the installed in the navigation channel and the flashing lights of the marker buoys of silt curtain will be small in size, it is not considered that there would be significant impacts to the marine traffic and aviation due to the installation of silt curtain.

9F2-3 LOSS REDUCTION ASSUMPTIONS

9F2-3.1 The assumed effectiveness of the cage type silt curtain for grab dredgers and the single layer of silt curtains proposed for general works areas are presented in Table D6-1 of **Appendix 9D6** and is not repeated here. However, it has predicted that the sheet pile wall could lead to localised increases in peak flows in the area further south of the sheet pile wall. The peak flow has been predicted to reach 0.5m/s at the eastern side of the main reclamation and over 0.5m/s at the western side. Under such a condition, to be conservative, the effectiveness of silt curtain for sediment reduction is assumed to be reduced. The assumed effectiveness of the cage type silt curtain (with steel enclosure) for grab dredgers and the single layer of silt curtains proposed are presented in Table D6-3 below.

Table D6-3 Summary Table of Loss Reductions from Silt Curtain Configurations at HKBCF+TMCLKL (southern landfall) under Sequence B

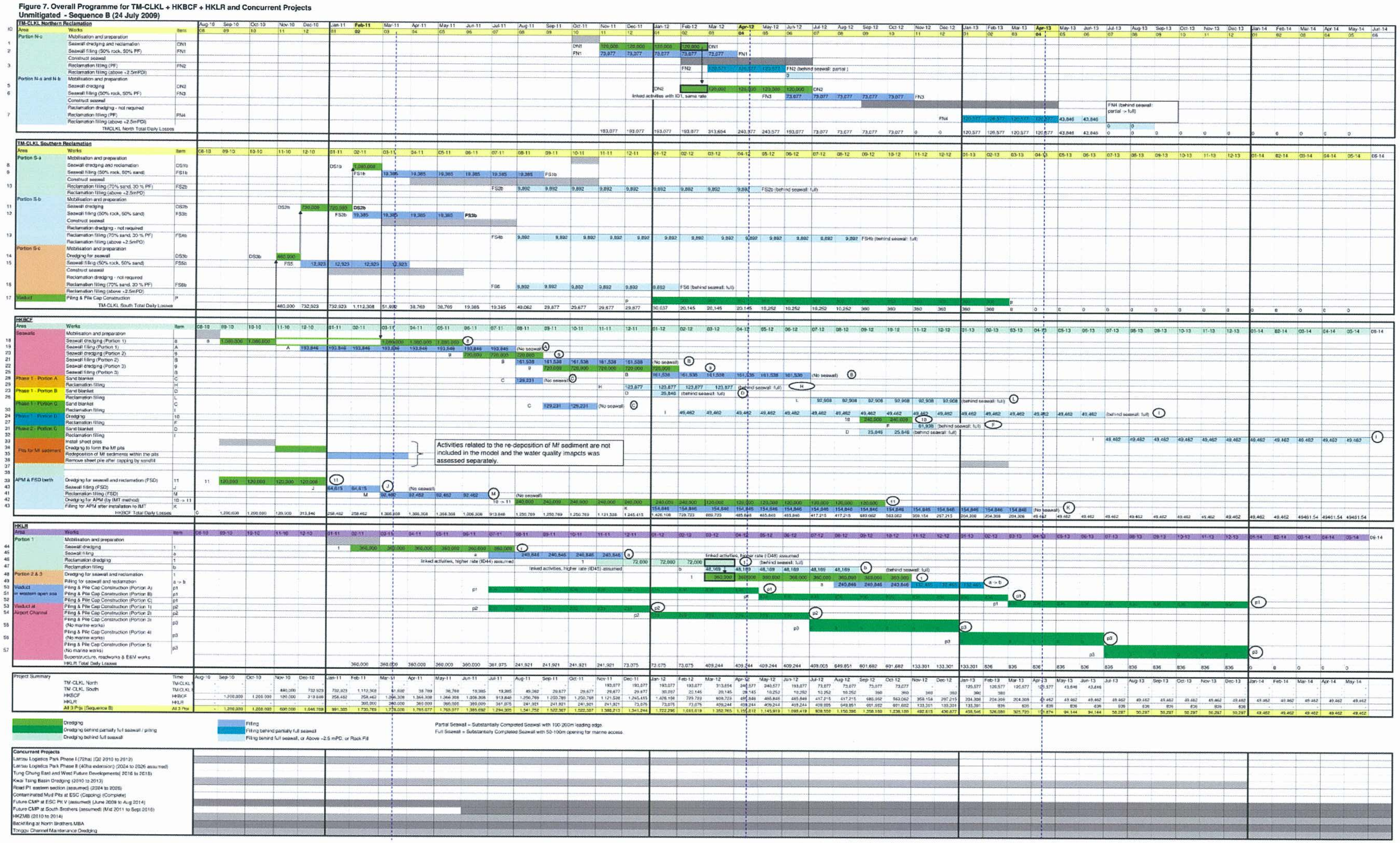
Silt Curtain Type	Loss Reduction Factor	Remark
Seawall Dredging		
Cage type (with steel enclosure) for Grab Dredger (1)	80%	Typical, also reviewed in LNG Terminal EIA
Floating Single Silt Curtain (2)	0%	Assumed no further reduction.
Combined Reduction (1+2)	80%	For grab dredger at HKBCF+TM-CLKL (southern landfall) only. Assumed for **Option 1** discussed in the main text.
Filling at the Eastern Seawall		
Floating Single Silt Curtain (3)	23%	For filling at HKBCF+TM-CLKL (southern landfall) eastern seawall only. Assumed for **Option 1** discussed in the main text.
Filling at the Western Seawall		
Floating Single Silt Curtain (4)	0%	For filling at HKBCF+TM-CLKL (southern landfall) western seawall only. Assumed for **Option 1** discussed in the main text.

Notes: For assumed silt curtain efficiency at other areas of reclamation, please refer to **Table D6-1** of **Appendix 9D6**.

9F2-3.2 The calculated overall reduction in sediment losses for the mitigation option are summarised in **Table D6-4** below.

Table D6-4 Summary of Potential Daily Sediment Loss Rate under Sequence B

Option	Silt Curtain	2011 (kg/day)	Remark
0	0	1,778,000	Base case with integrated protection measures.
1	1+1	560,000 (69% reduction compared to Option 0)	Single layer (1) of silt curtain systems around the peripheral of proposed reclamation site for the southern reclamation of TM-CLKL, HKBCF and HKLR. For grab dredgers, an extra layer of cage type silt curtain (+1) is assumed. However, for the TM-CLKL northern reclamation, this is not assumed as the current could be too high for effective silt curtain application. For HKBCF+TM-CLKL (southern landfall), the cage type silt curtain shall has a steel enclosure and the overall effectiveness of the silt curtains system are assumed to be less than at other areas as presented in **Table D6-3** above.



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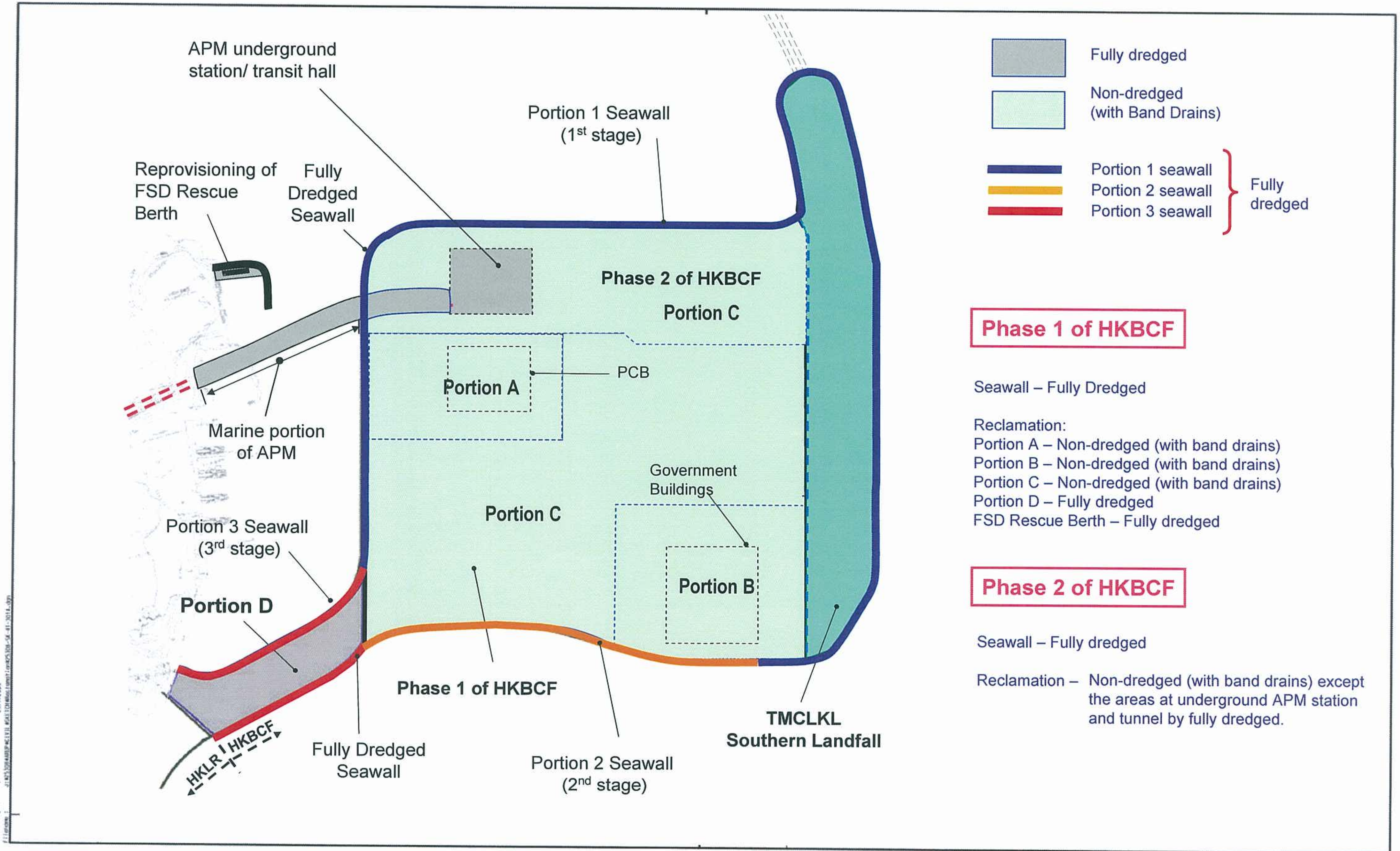
Rev.	Description	Date
A	FIRST ISSUE	02/09

Printed by : "0" 29/7/2009



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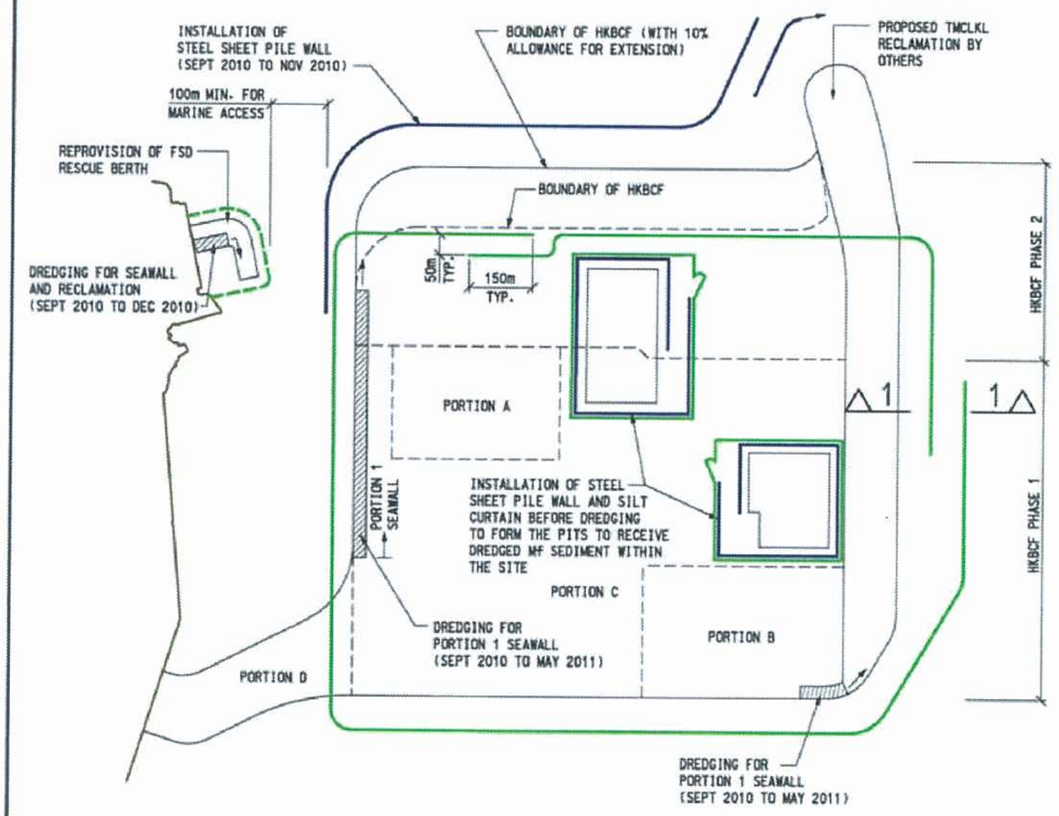
Rev.	Description	Date	Drawn	Date	Checked	Approved	Scale	Status	Rev.
A	FIRST ISSUE	02/09	CN	02/09	SK	AK	1:12500 on A3	PRELIMINARY	A



NOTE:

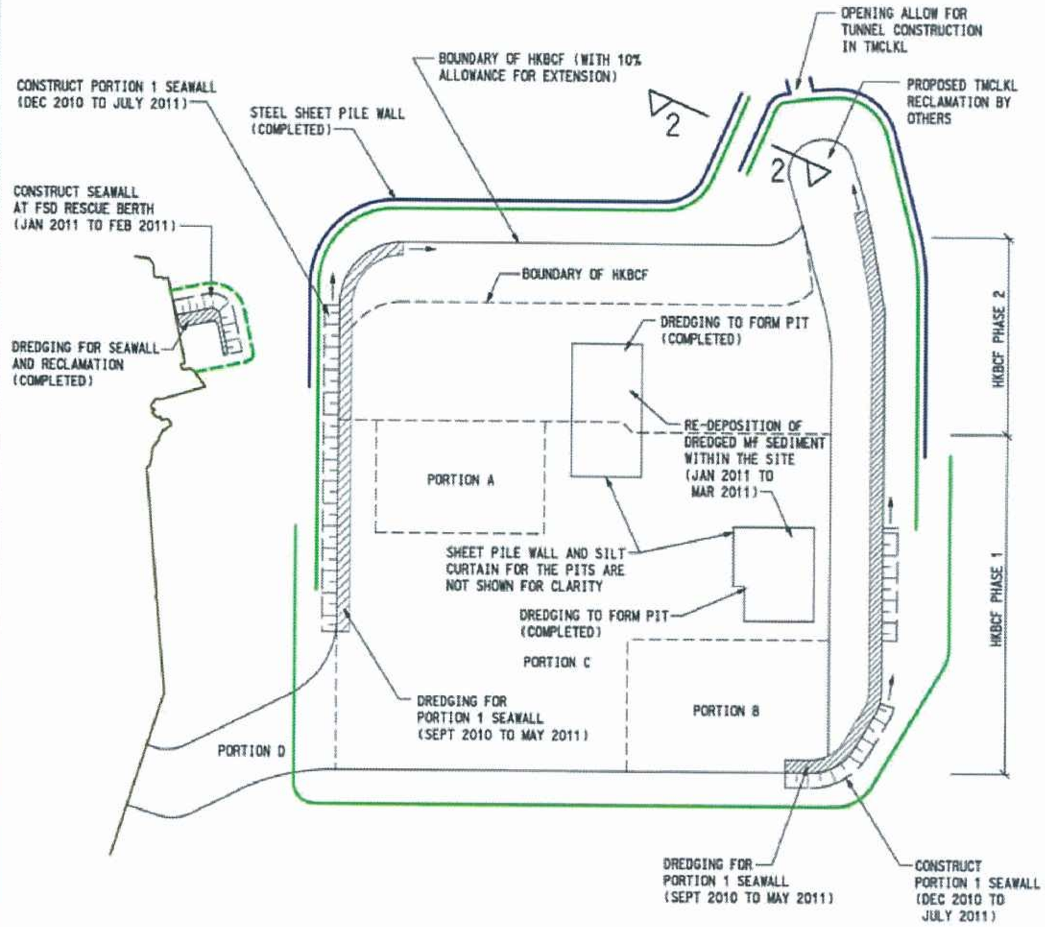
FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA

STAGE 1 (ON OCT 2010)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 2 (ON FEB 2011)

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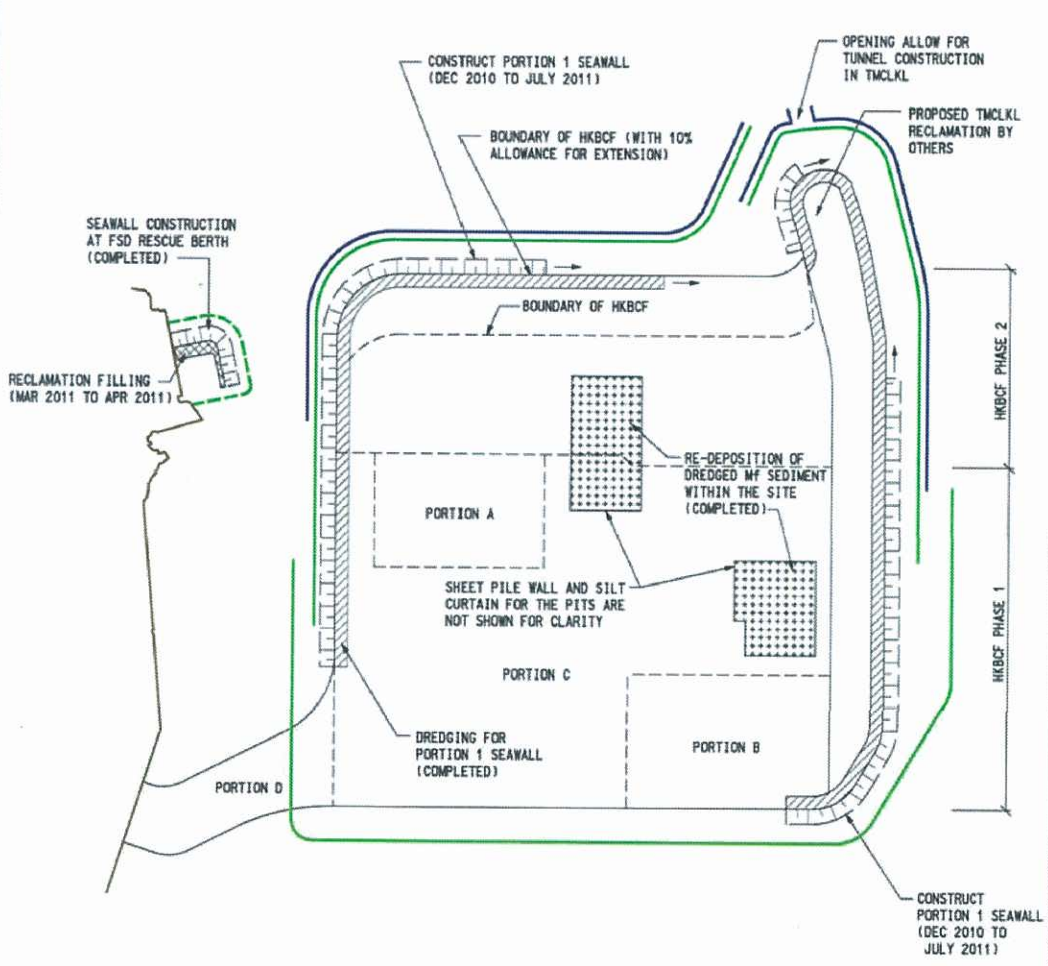
Rev.	Description	Date
A	FIRST ISSUE	02/09

Drawn: CN	Date: 02/09	Checked: SK	Approved: AK
Scale: 1:12500 on A3	Status: PRELIMINARY	Rev. A	



NOTE:

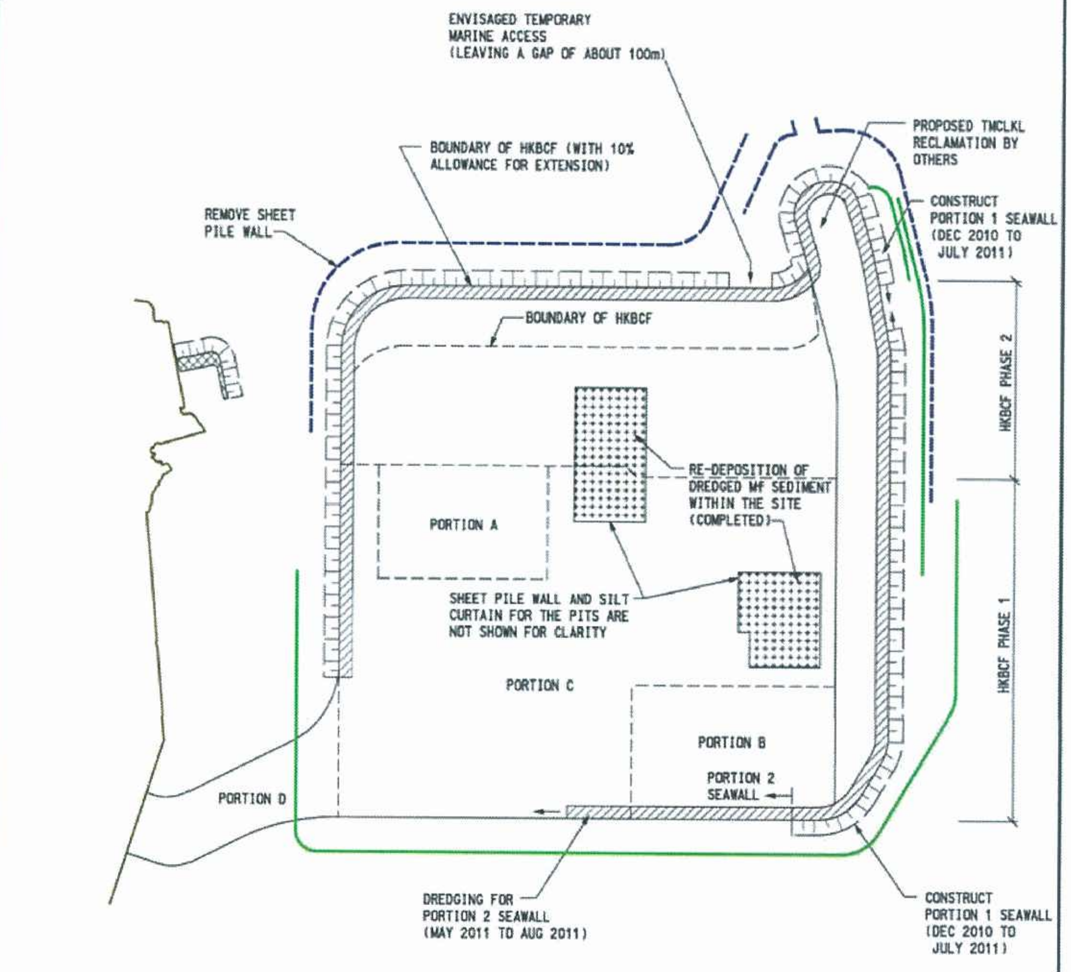
FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RE-DEPOSITION OF DREDGED Mf SEDIMENT
- RECLAMATION WORKS COMPLETED

STAGE 3 (ON APR 2011)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RE-DEPOSITION OF DREDGED Mf SEDIMENT
- RECLAMATION WORKS COMPLETED

STAGE 4 (ON JUNE 2011)

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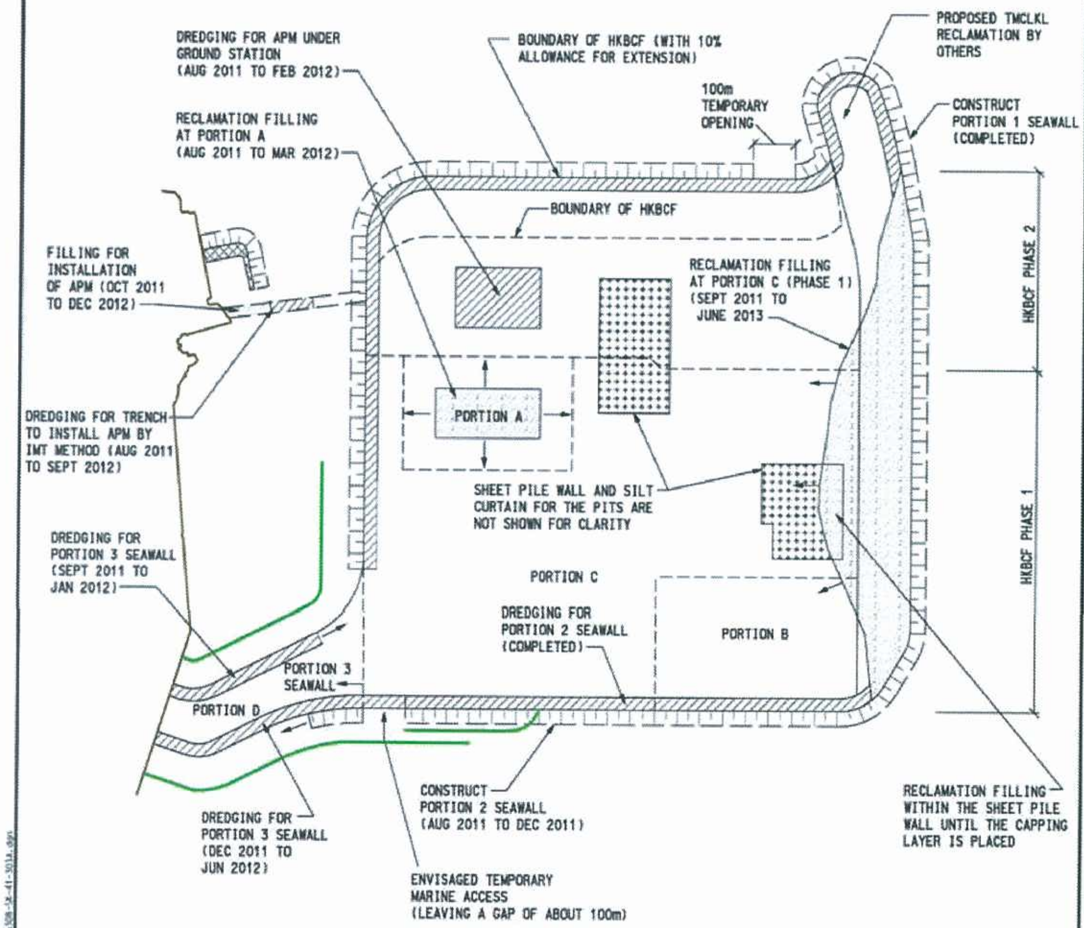
Rev.	Description	Date	Drawn	Checked	Date	Approved	Scale	Status	Rev.
A	FIRST ISSUE	02/09	CN	SK	02/09	AK	1:12500 on A3	PRELIMINARY	A



LEGEND:

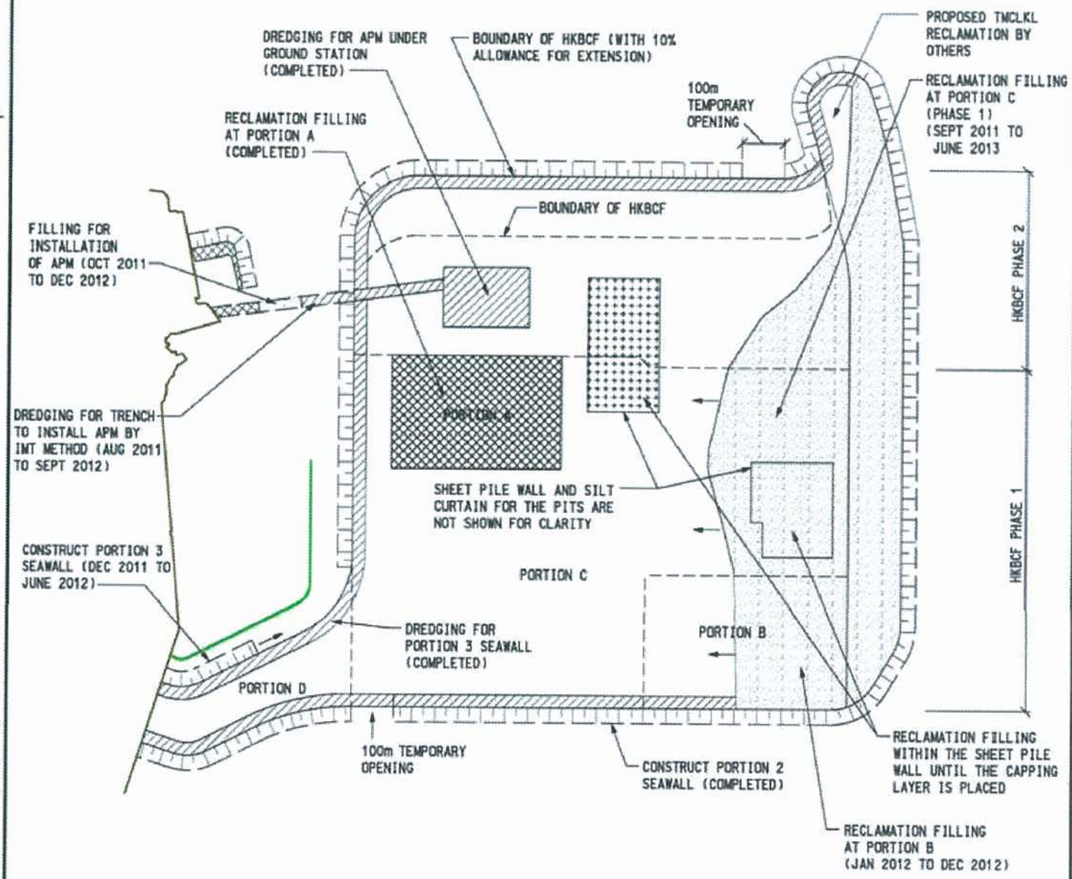
- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

STAGE 5 (ON DEC 2011)



LEGEND:

- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

STAGE 6 (ON APR 2012)

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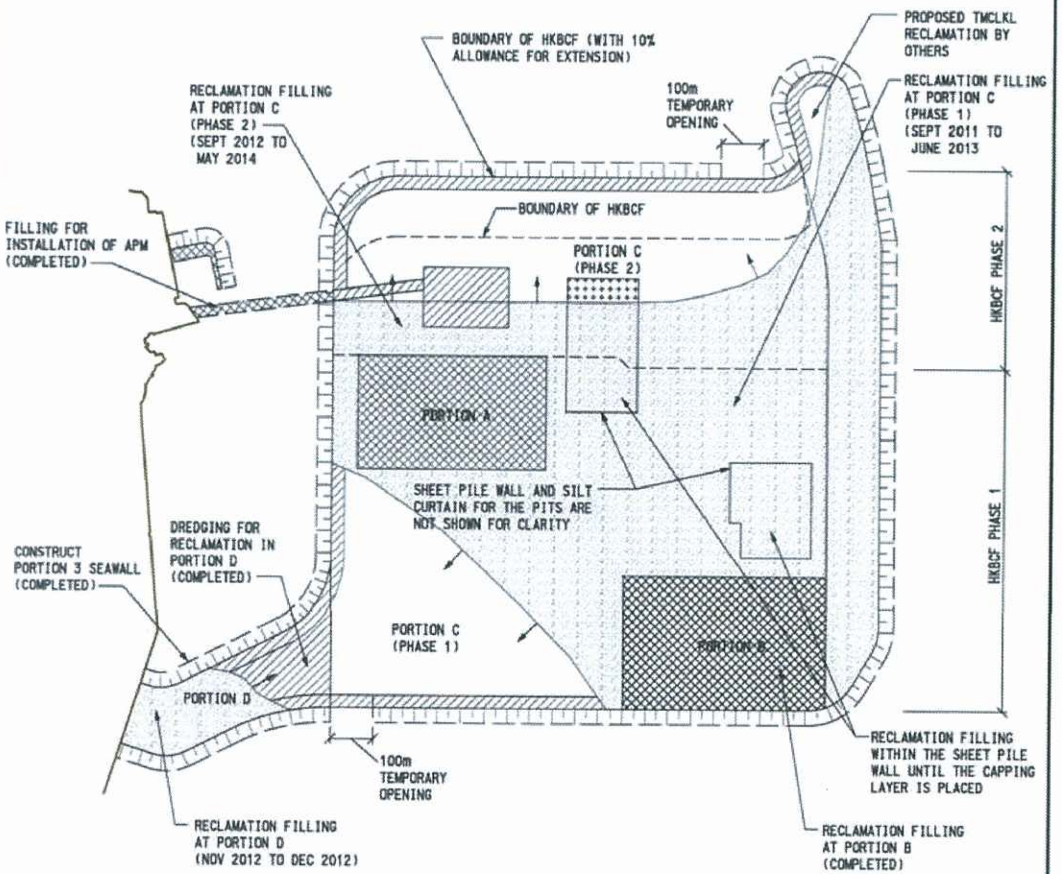
Drawing Title: ANTICIPATED CONSTRUCTION SEQUENCE OF HKBCF (SEQUENCE B)

Sheet 3 of 4

Rev.	Description	Date
A	FIRST ISSUE	02/09

Drawn	Date	Checked	Approved	Scale	Status	Rev.
CN	02/09	SK	AK	1:12500 on A3	PRELIMINARY	A

Drawing No.: Figure 9F1-3c



NOTE:

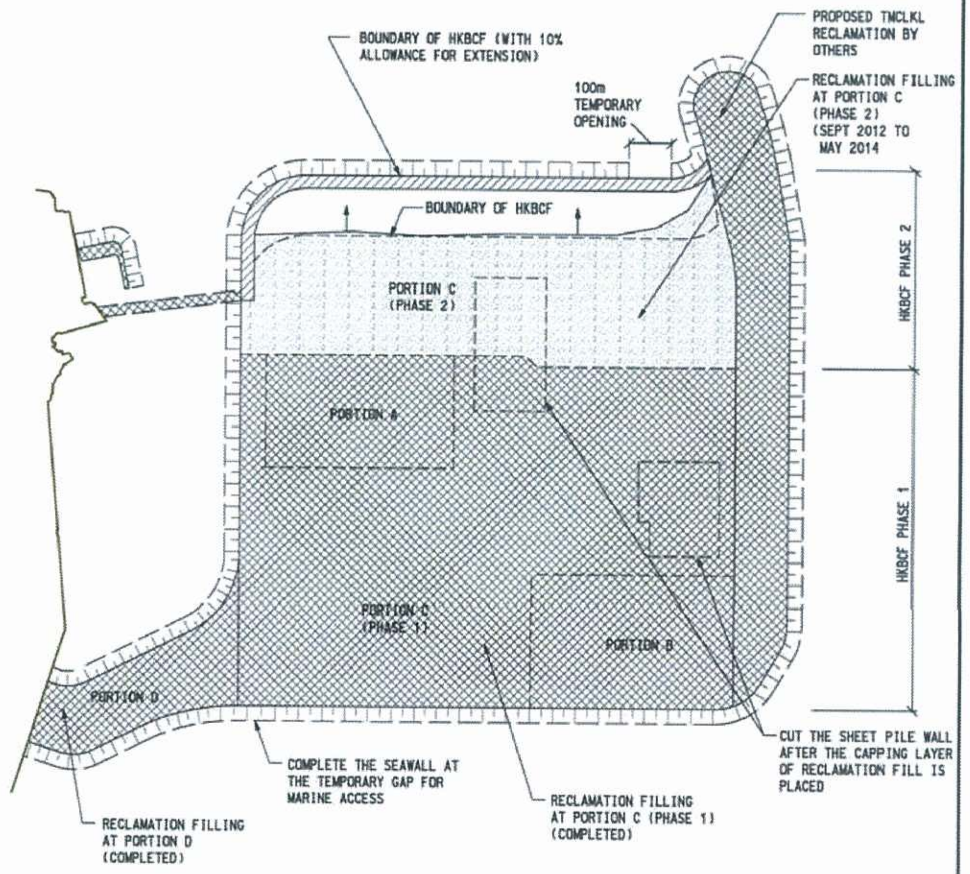
FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 7 (ON DEC 2012)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 8 (ON DEC 2013)

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Hong Kong Project Management Office

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Job Title
Agreement No. CE 14/2008 (CE)
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Drawing Title
ANTICIPATED CONSTRUCTION SEQUENCE OF HKBCF (SEQUENCE B)

Sheet 4 of 4

Rev.	Description	Date
A	FIRST ISSUE	02/09

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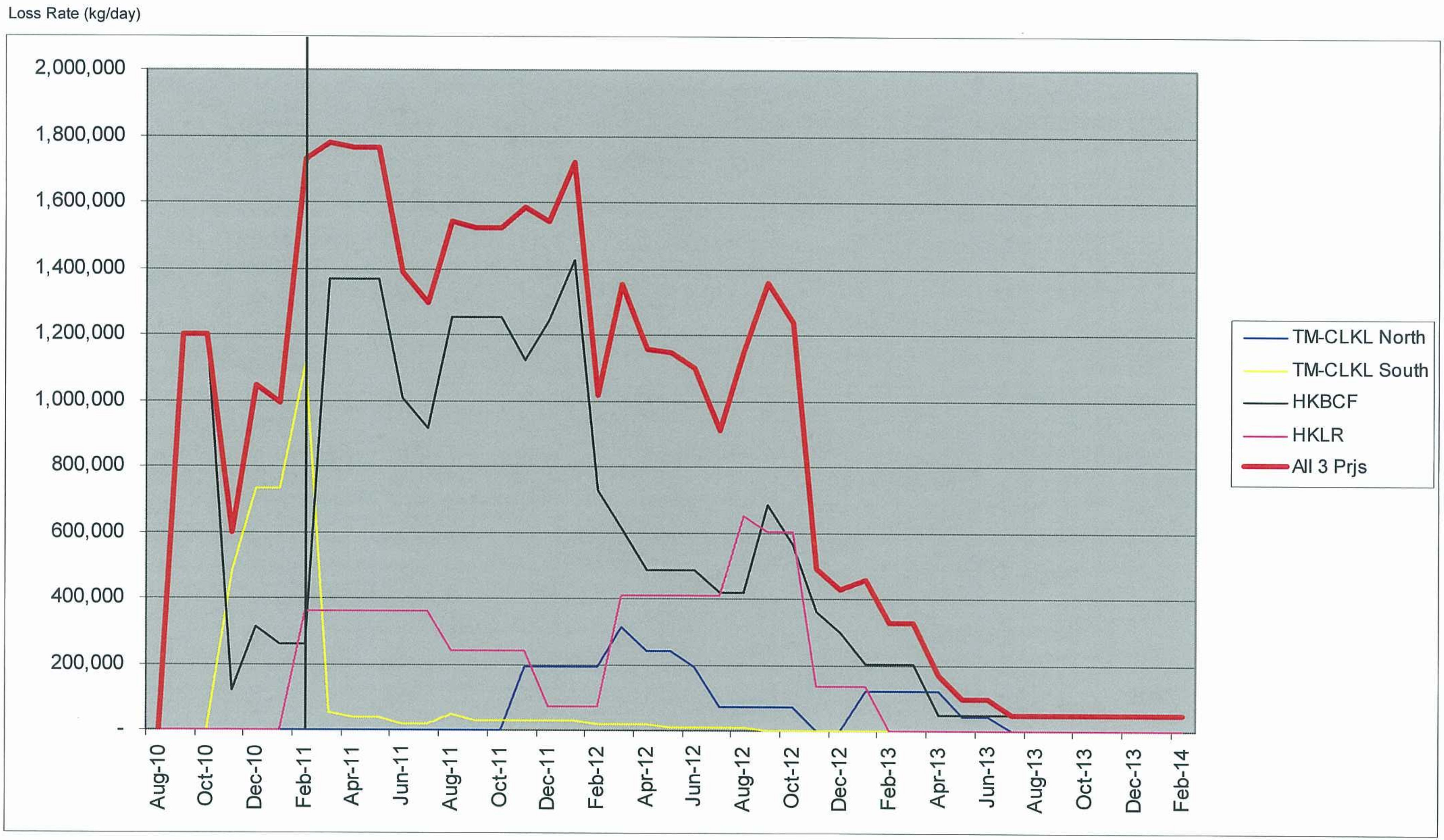
Drawing No. Figure 9F1-3d

Status PRELIMINARY · Rev. A



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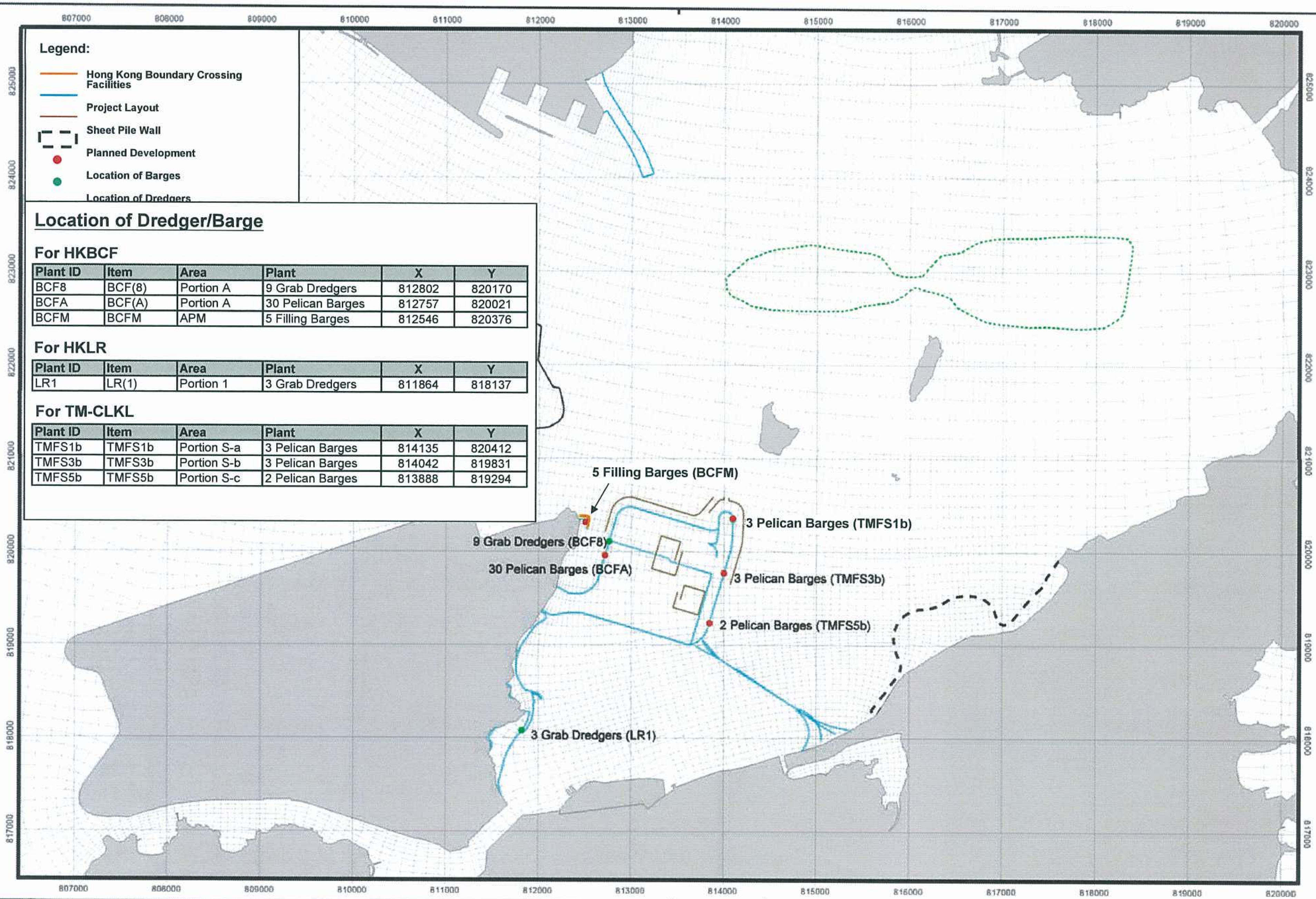

Location of Dredger/Barge

For HKBCF

Plant ID	Item	Area	Plant	X	Y
BCF8	BCF(8)	Portion A	9 Grab Dredgers	812802	820170
BCFA	BCF(A)	Portion A	30 Pelican Barges	812757	820021
BCFM	BCFM	APM	5 Filling Barges	812546	820376

For HKLR

Plant ID	Item	Area	Plant	X	Y
LR1	LR(1)	Portion 1	3 Grab Dredgers	811864	818137

For TM-CLKL

Plant ID	Item	Area	Plant	X	Y
TMFS1b	TMFS1b	Portion S-a	3 Pelican Barges	814135	820412
TMFS3b	TMFS3b	Portion S-b	3 Pelican Barges	814042	819831
TMFS5b	TMFS5b	Portion S-c	2 Pelican Barges	813888	819294

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Job Title: Agreement No. CE 14/2008 (CE) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Investigation

Drawing Title: Assumed Coastline at 2011 with Marine Plants for TM-CLKL+HKBCF+HKLR Only (Sequence B) (Sheet 1 of 1)

Rev.	Description	Date
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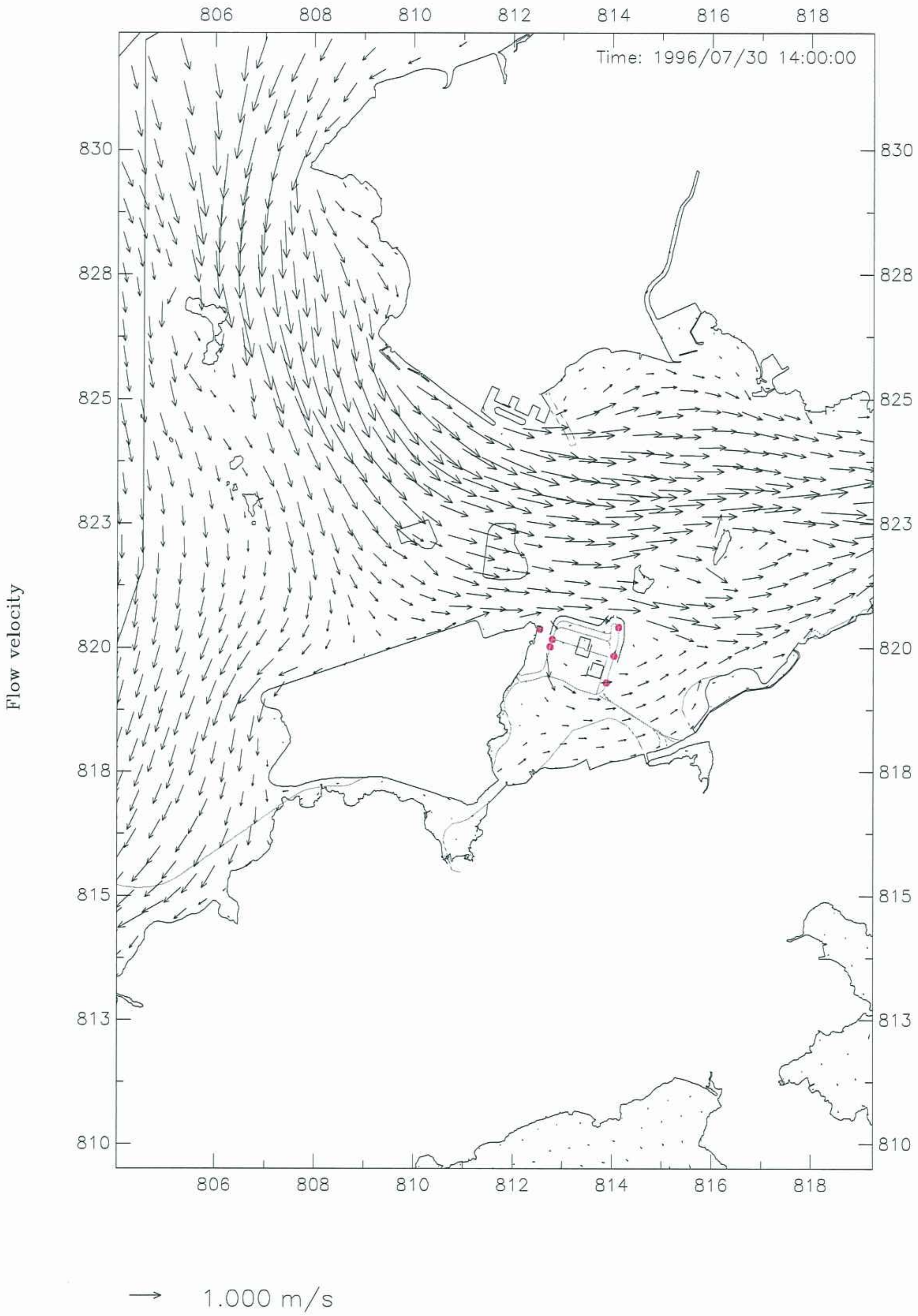
Drawing No. Figure 9F1-5

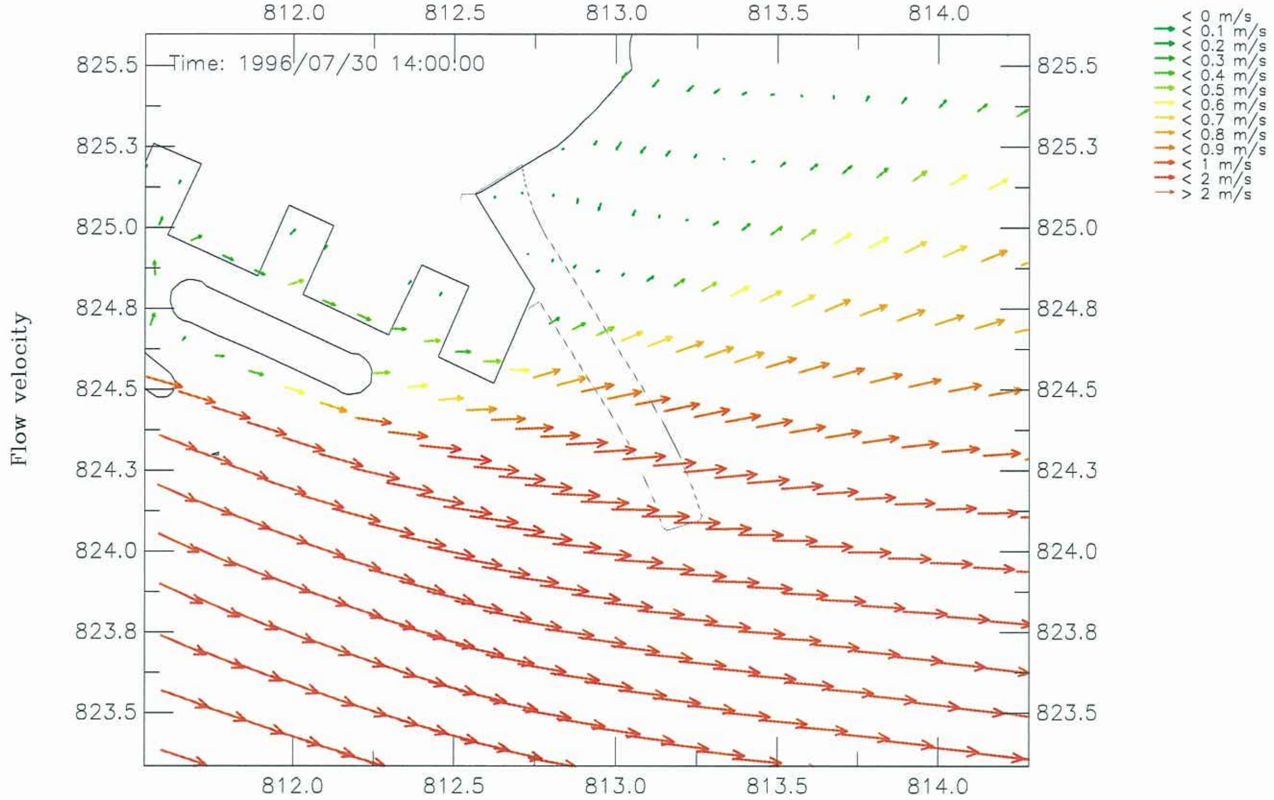
Status: PRELIMINARY | Rev. A

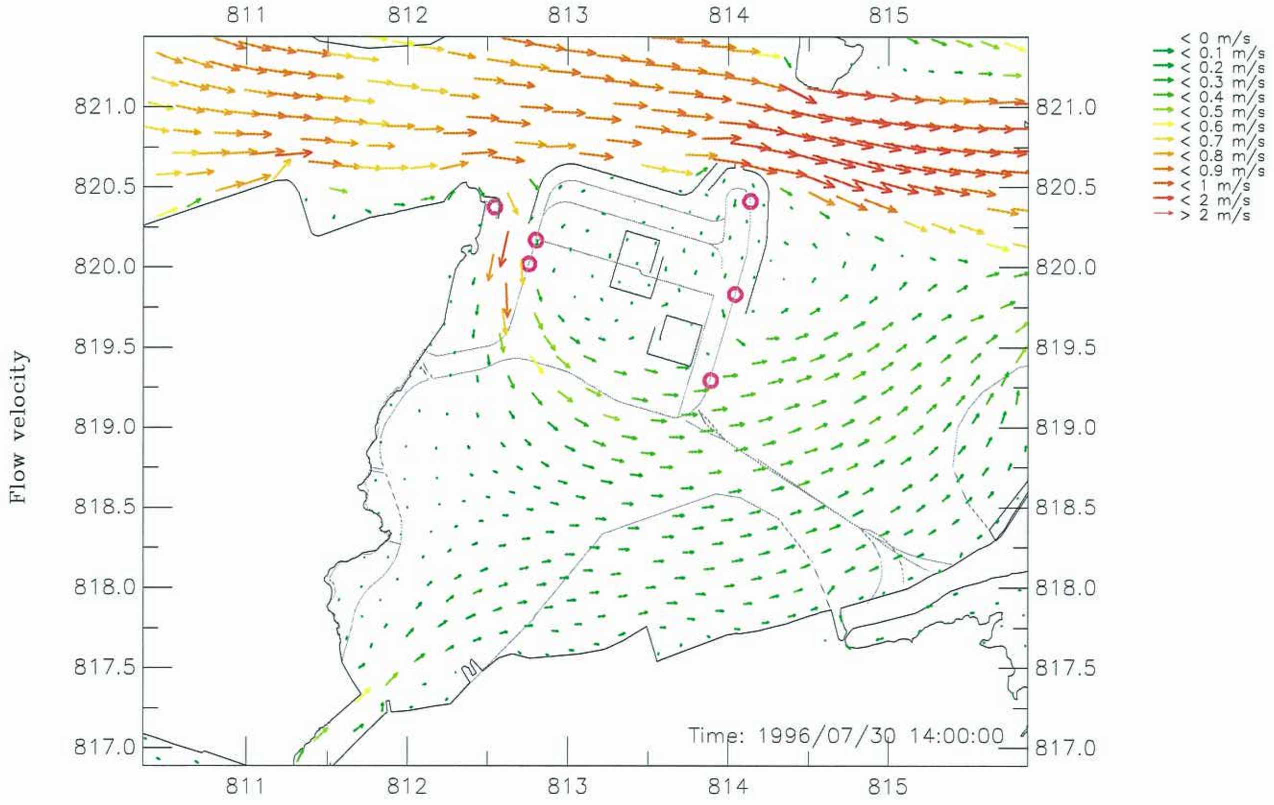
Appendix 9F – Part 9F2

Annex A

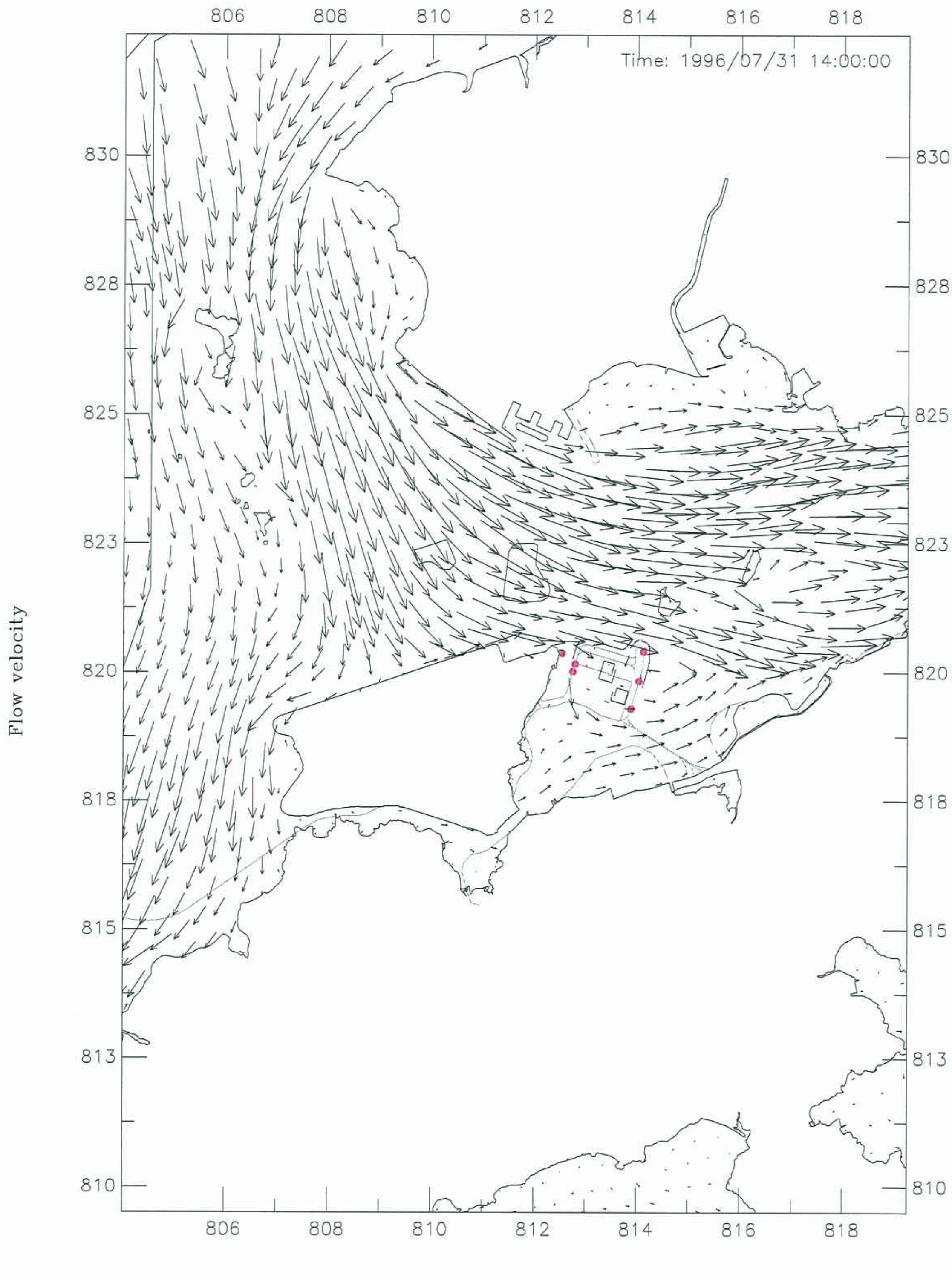


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Ebb Tide – Surface Layer	Jul 2009	Figure 001
AECOM		





Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Ebb Tide – Surface Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 002
AECOM		

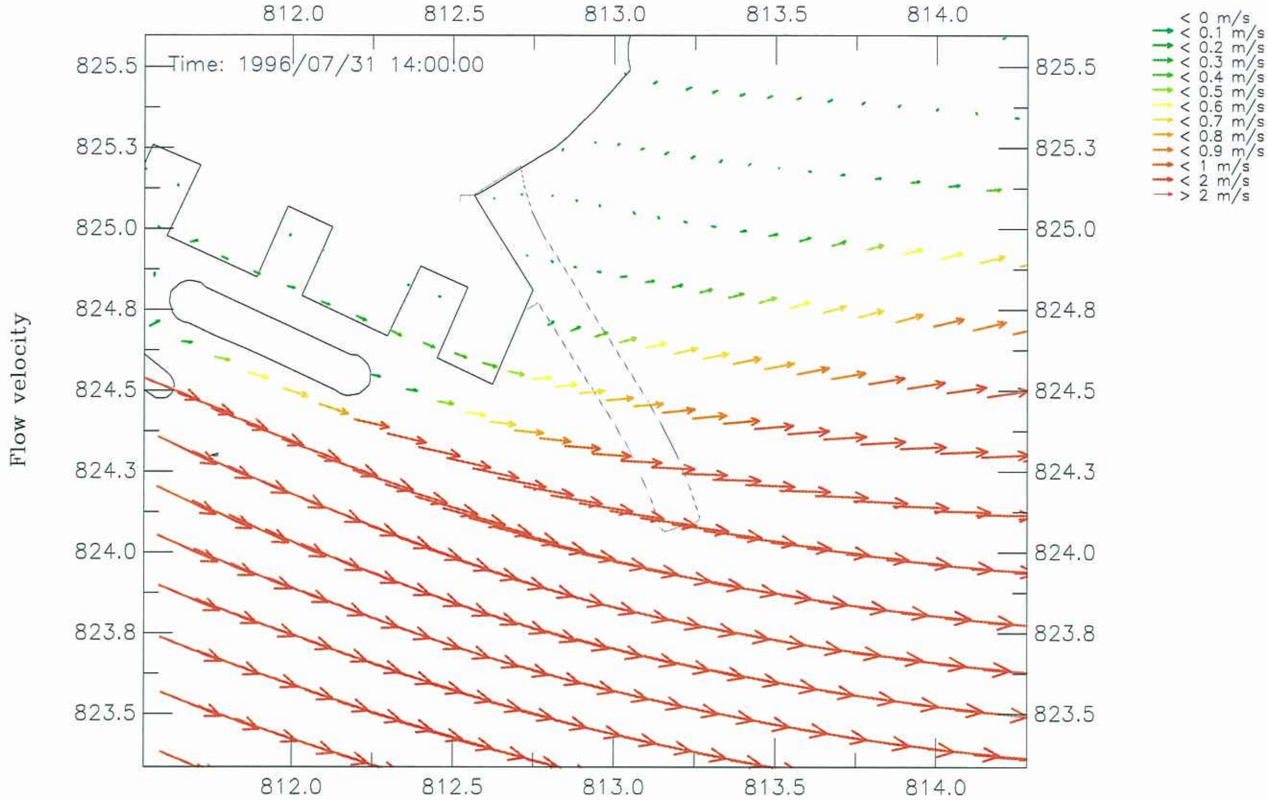


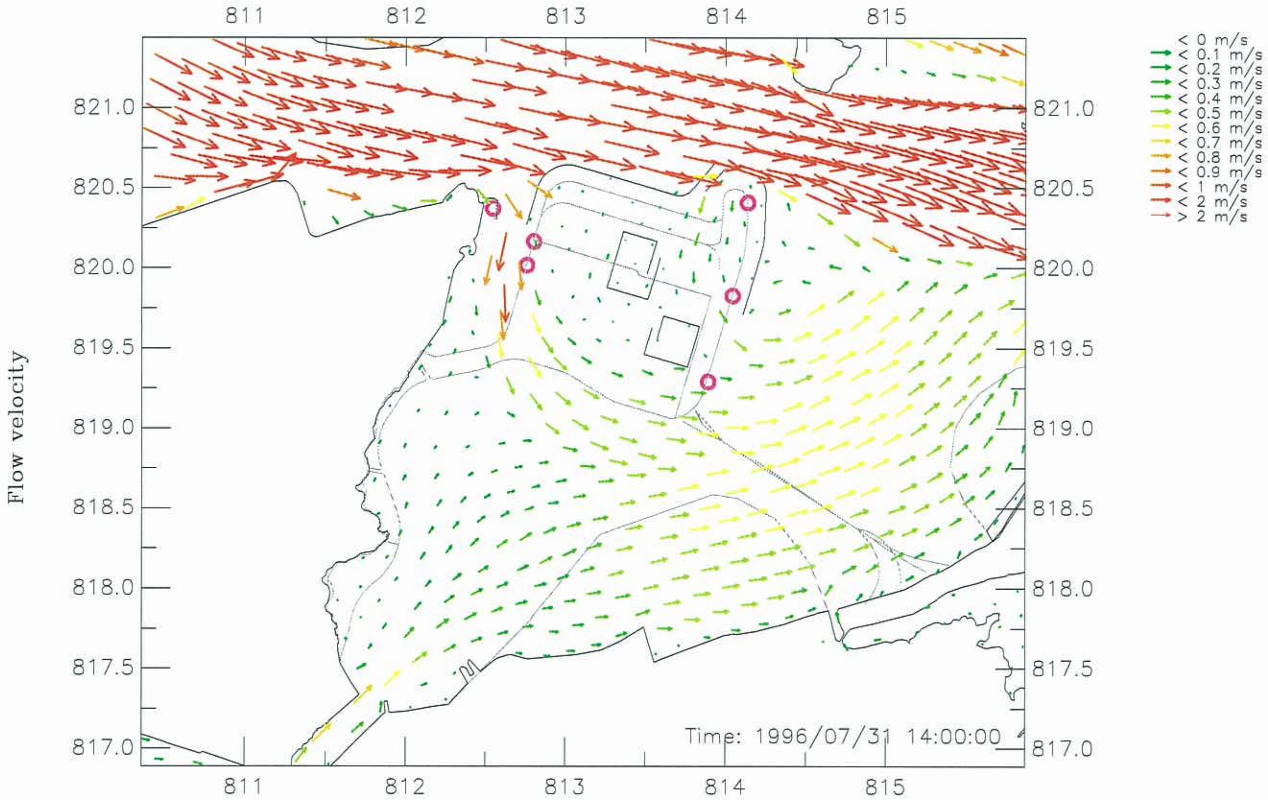
Year 2011 (Sequence B)
Wet Season Velocity Vector Plot at Ebb Tide – Surface Layer

Jul 2009

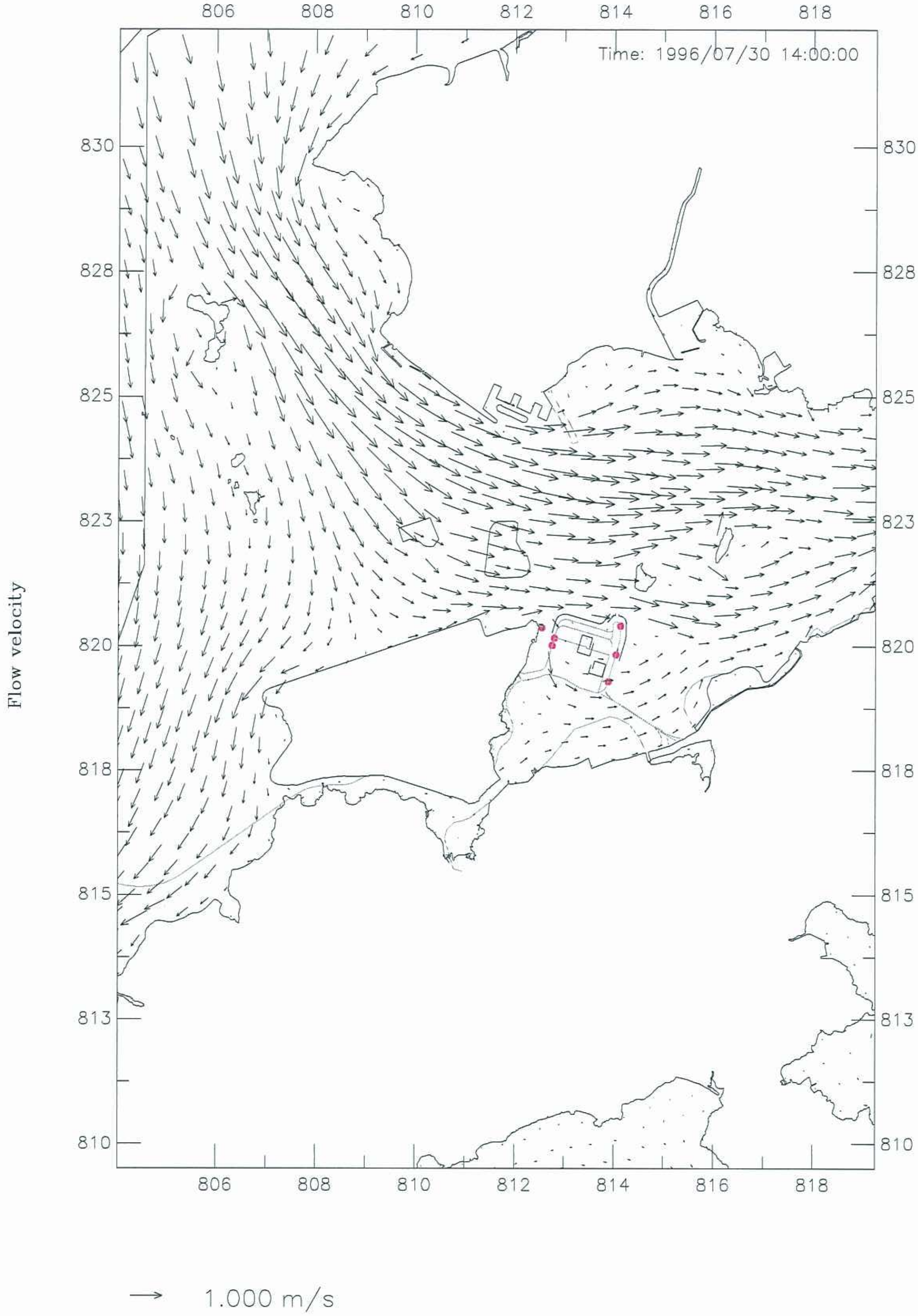
Figure 003

AECOM

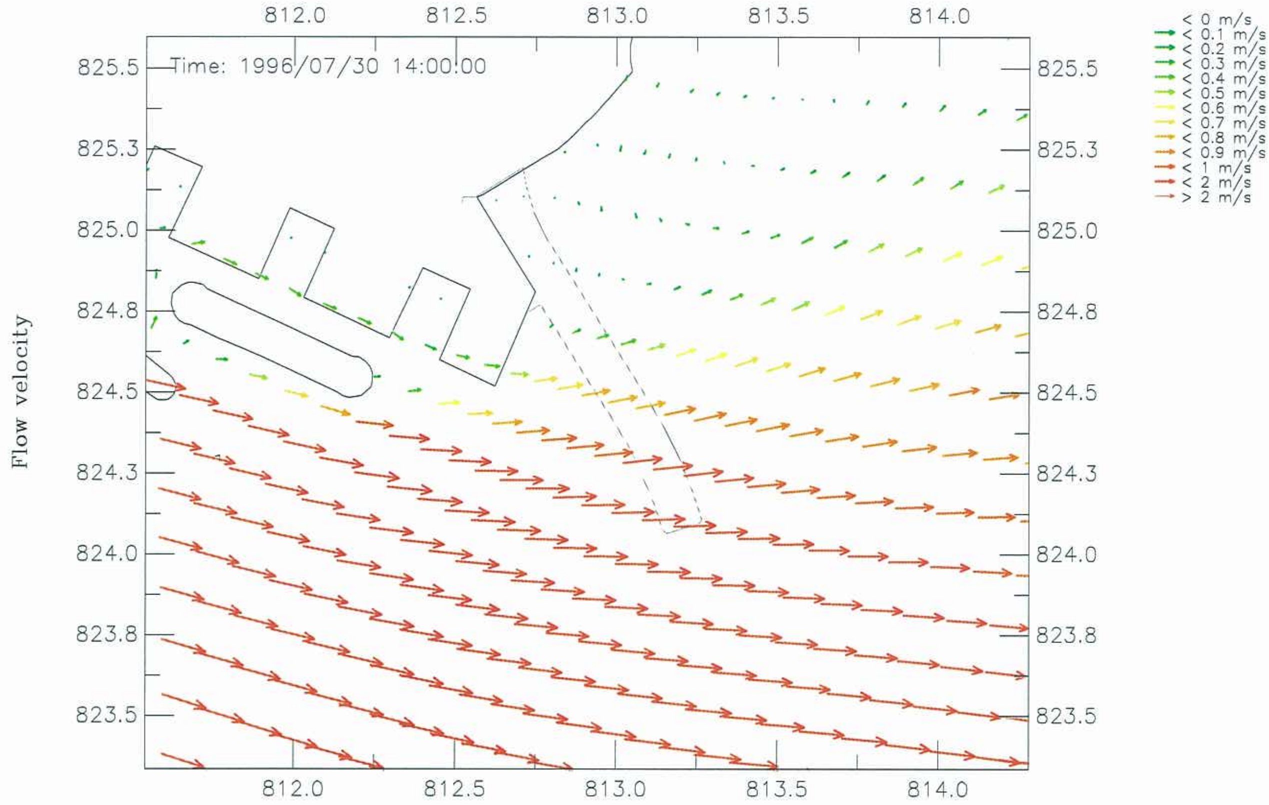


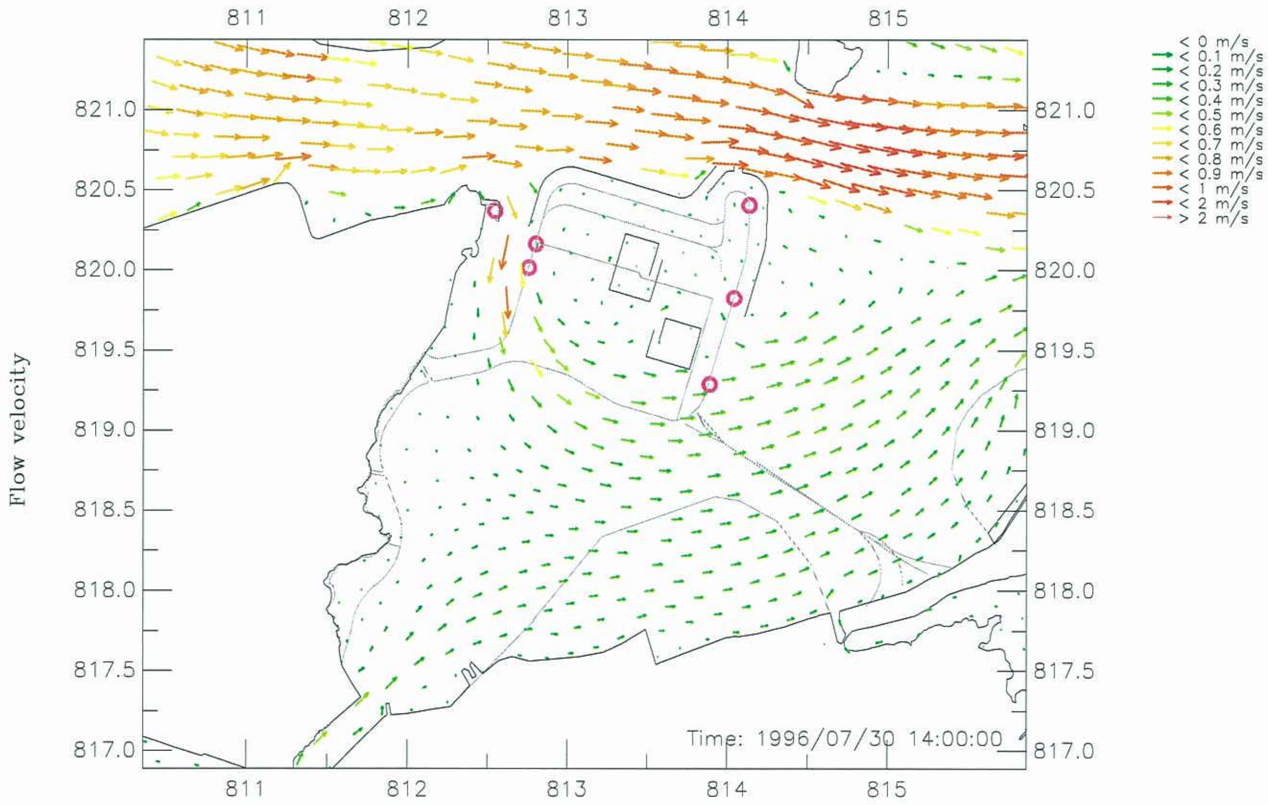


Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Ebb Tide – Surface Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 004
AECOM		

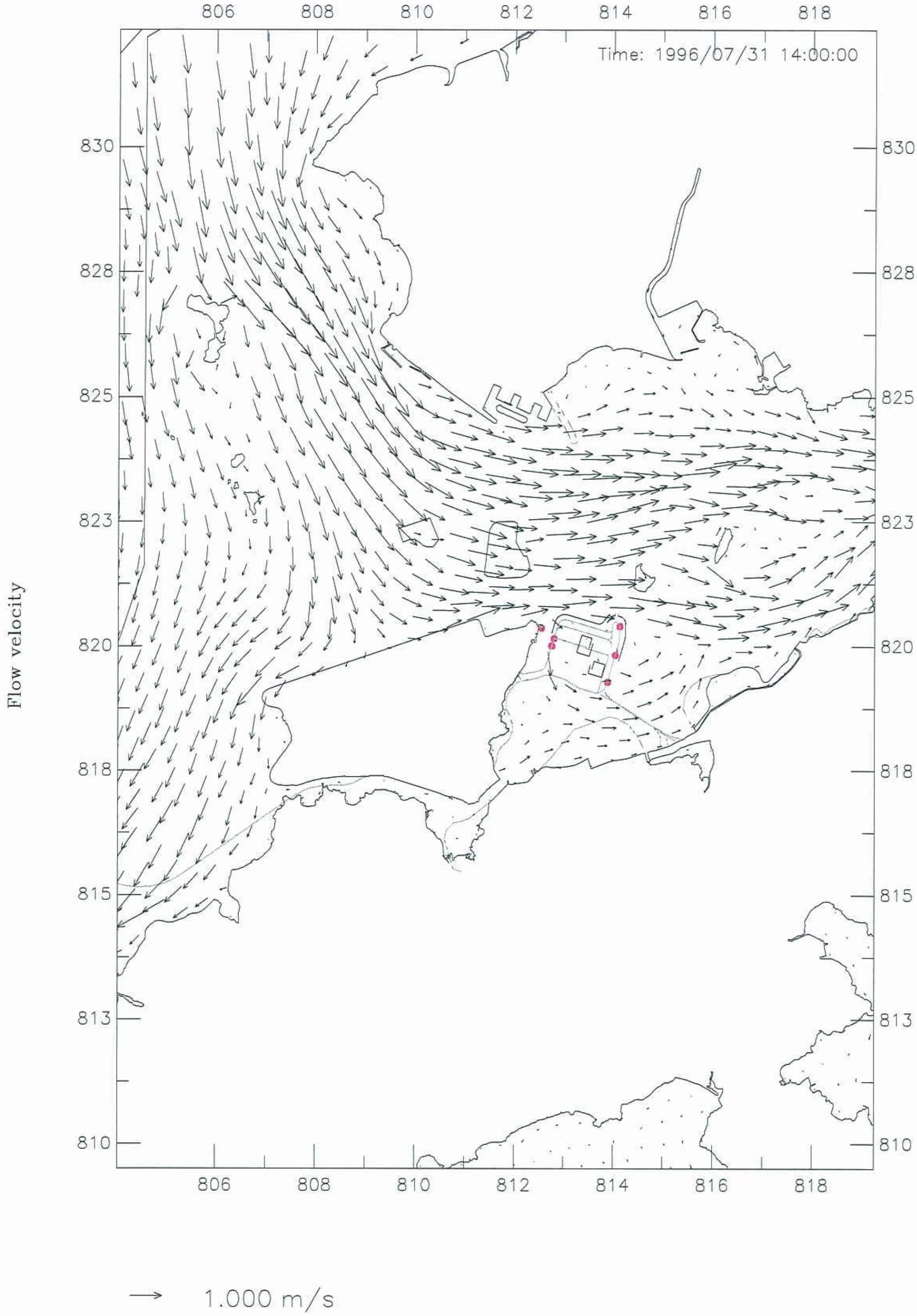


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Ebb Tide – Mid-Depth	Jul 2009	Figure 005
AECOM		

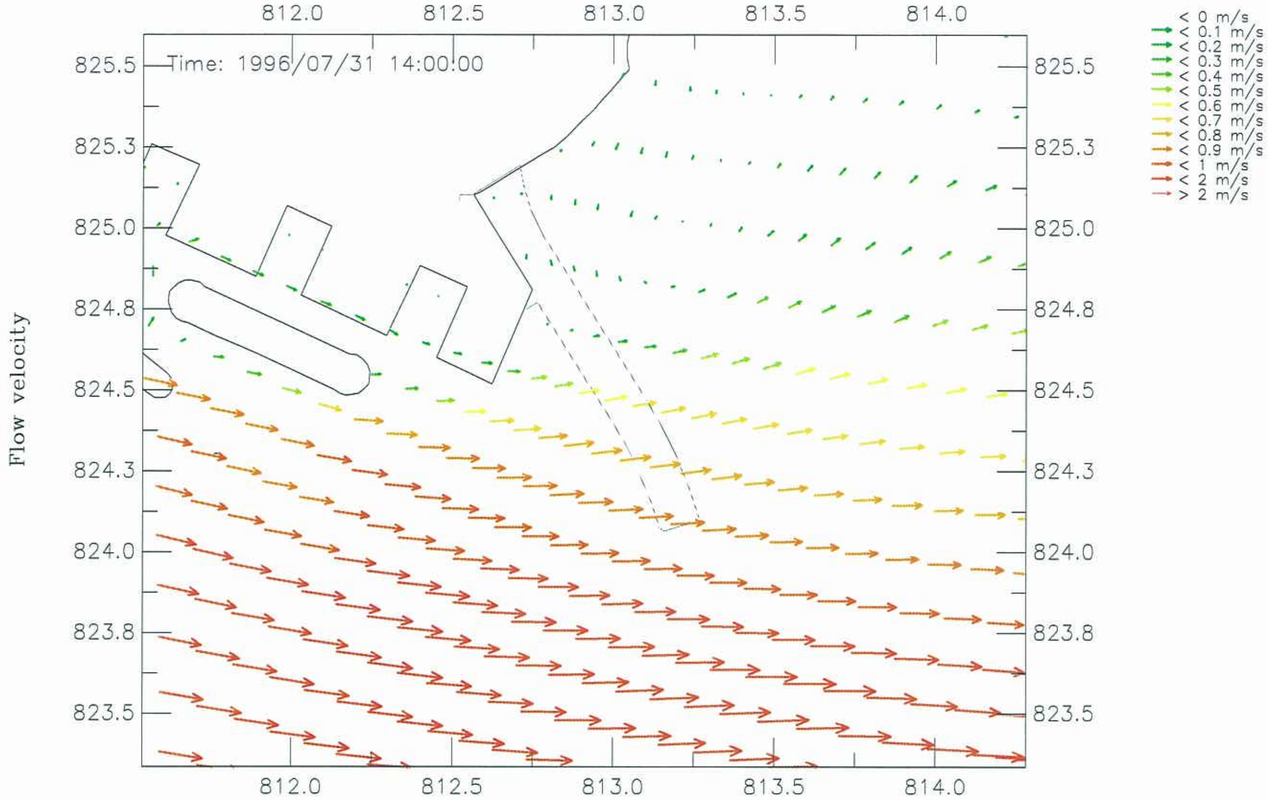


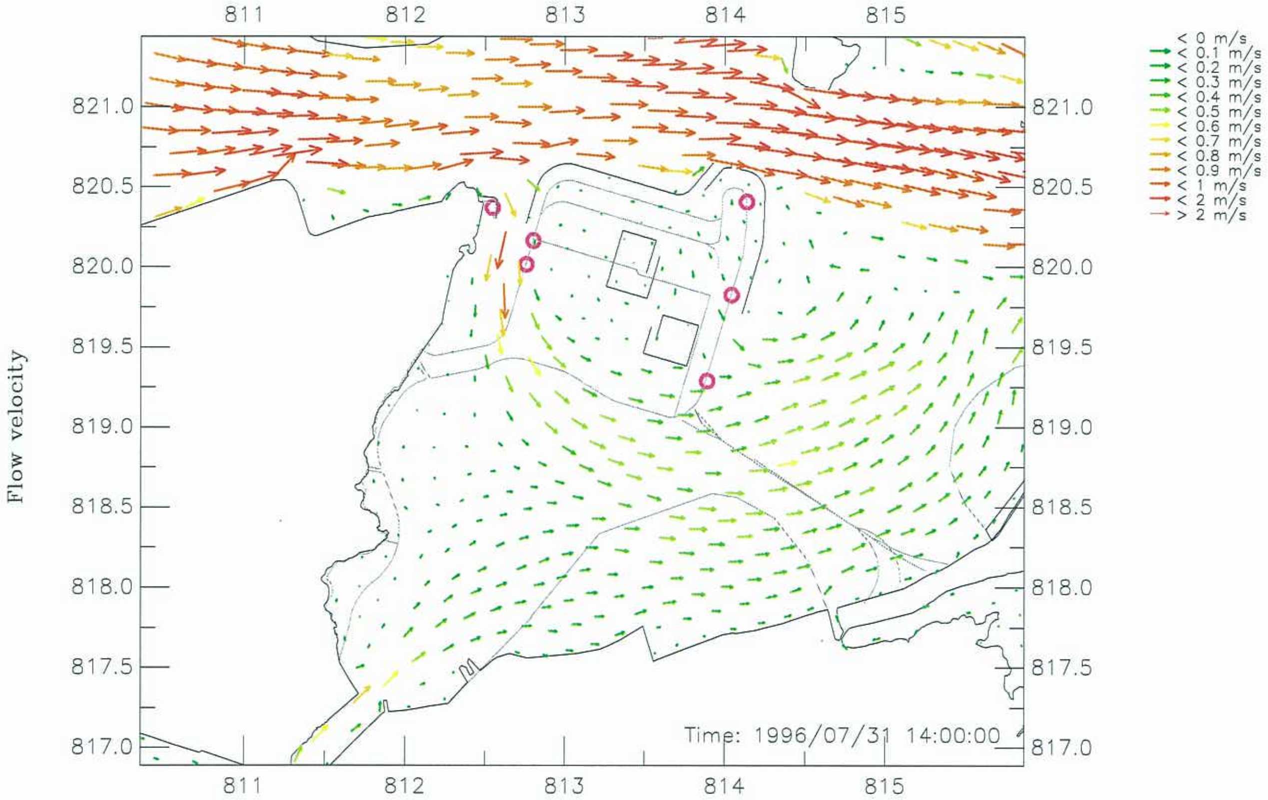


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Ebb Tide – Mid-Depth (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 006
AECOM		

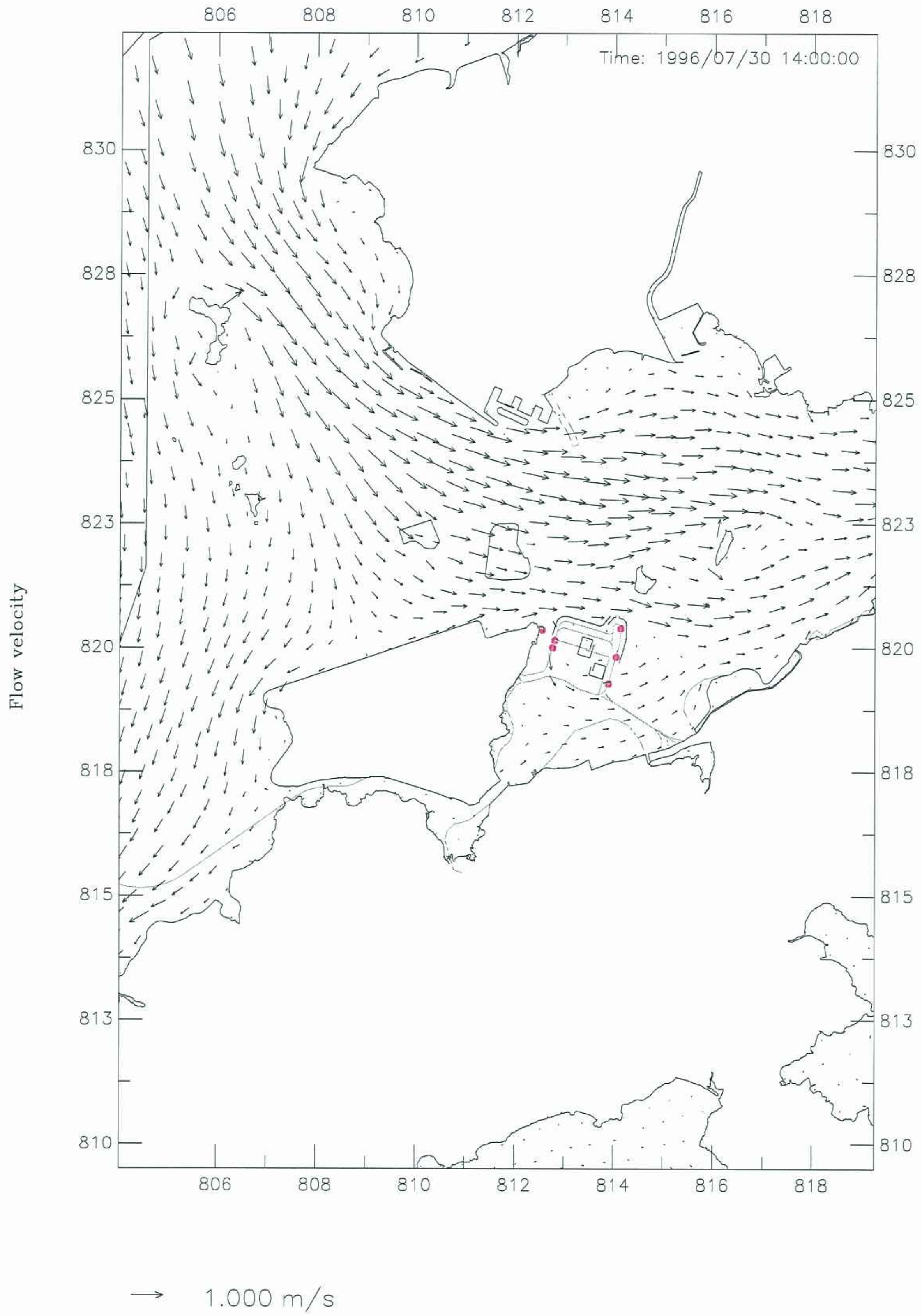


Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Ebb Tide – Mid-Depth	Jul 2009	Figure 007
AECOM		





Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Ebb Tide – Mid-Depth (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 008
AECOM		

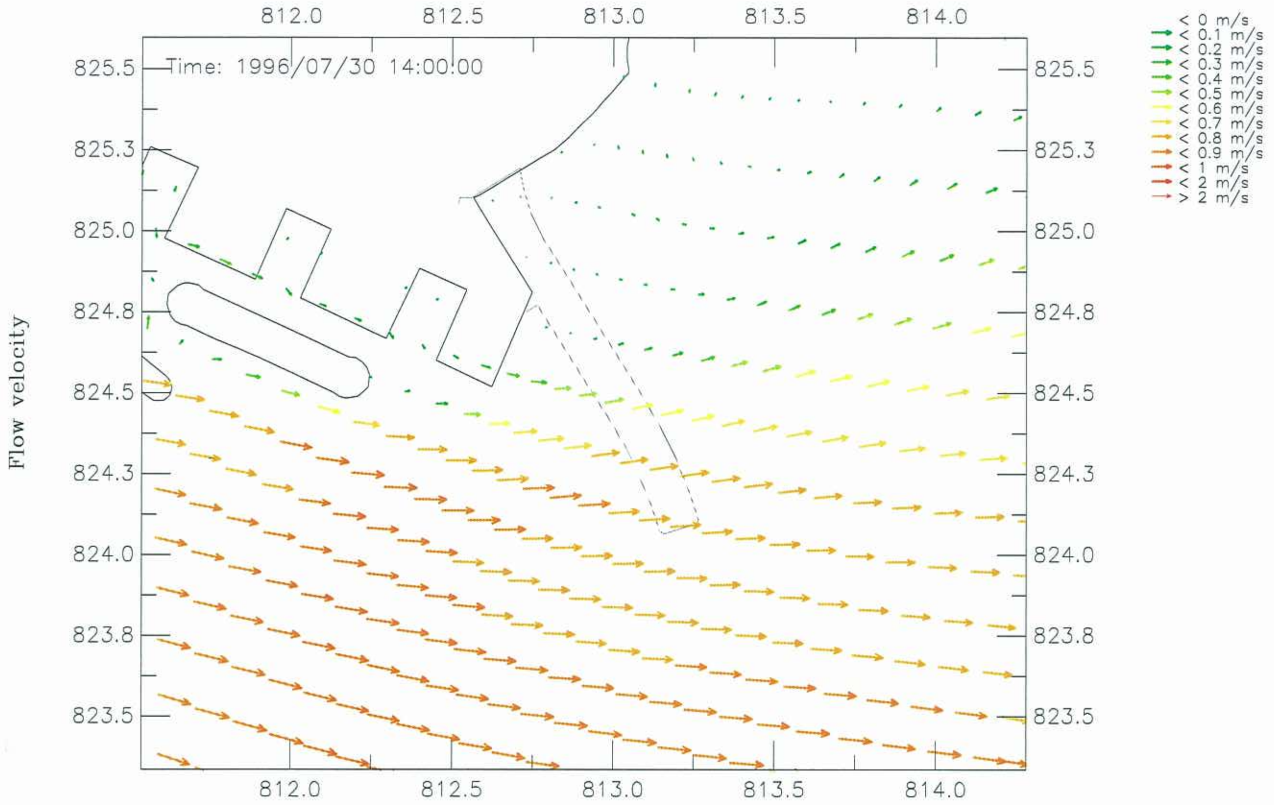


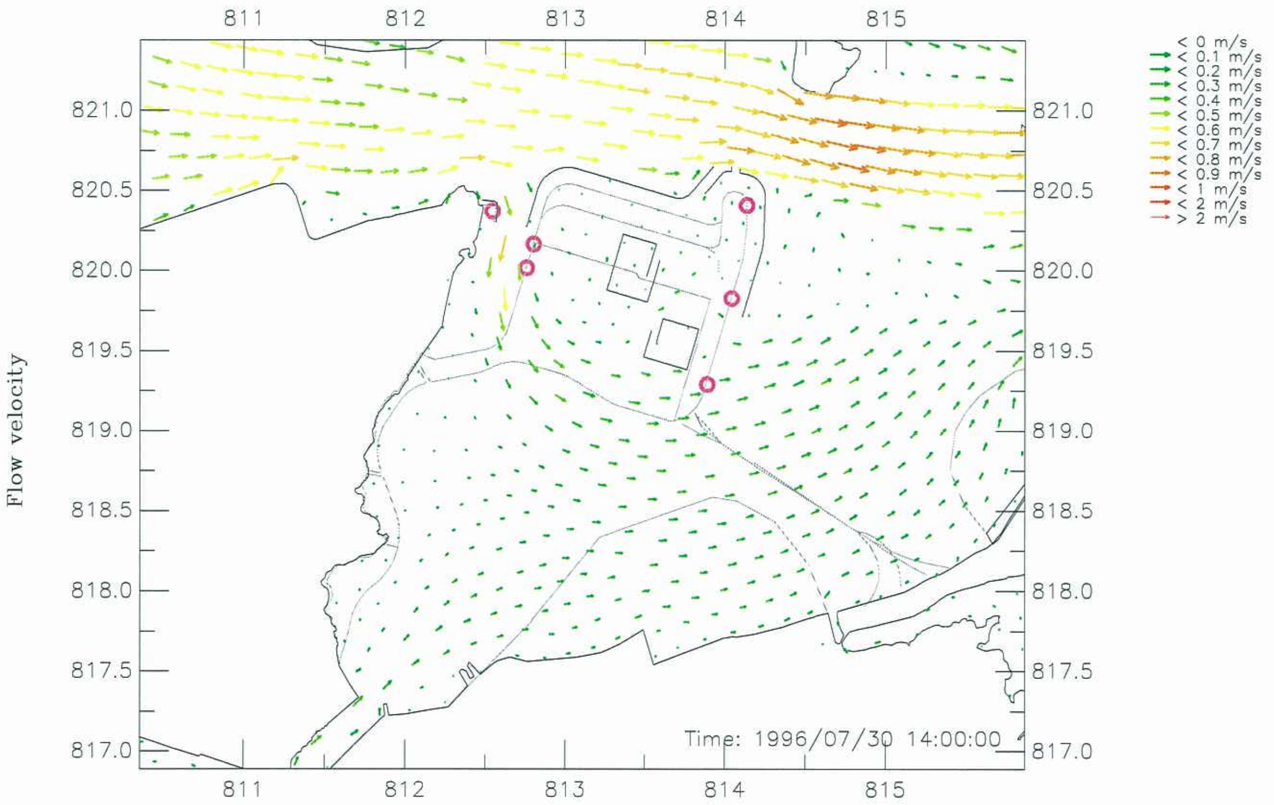
Year 2011 (Sequence B)
Dry Season Velocity Vector Plot at Ebb Tide – Bottom Layer

Jul 2009

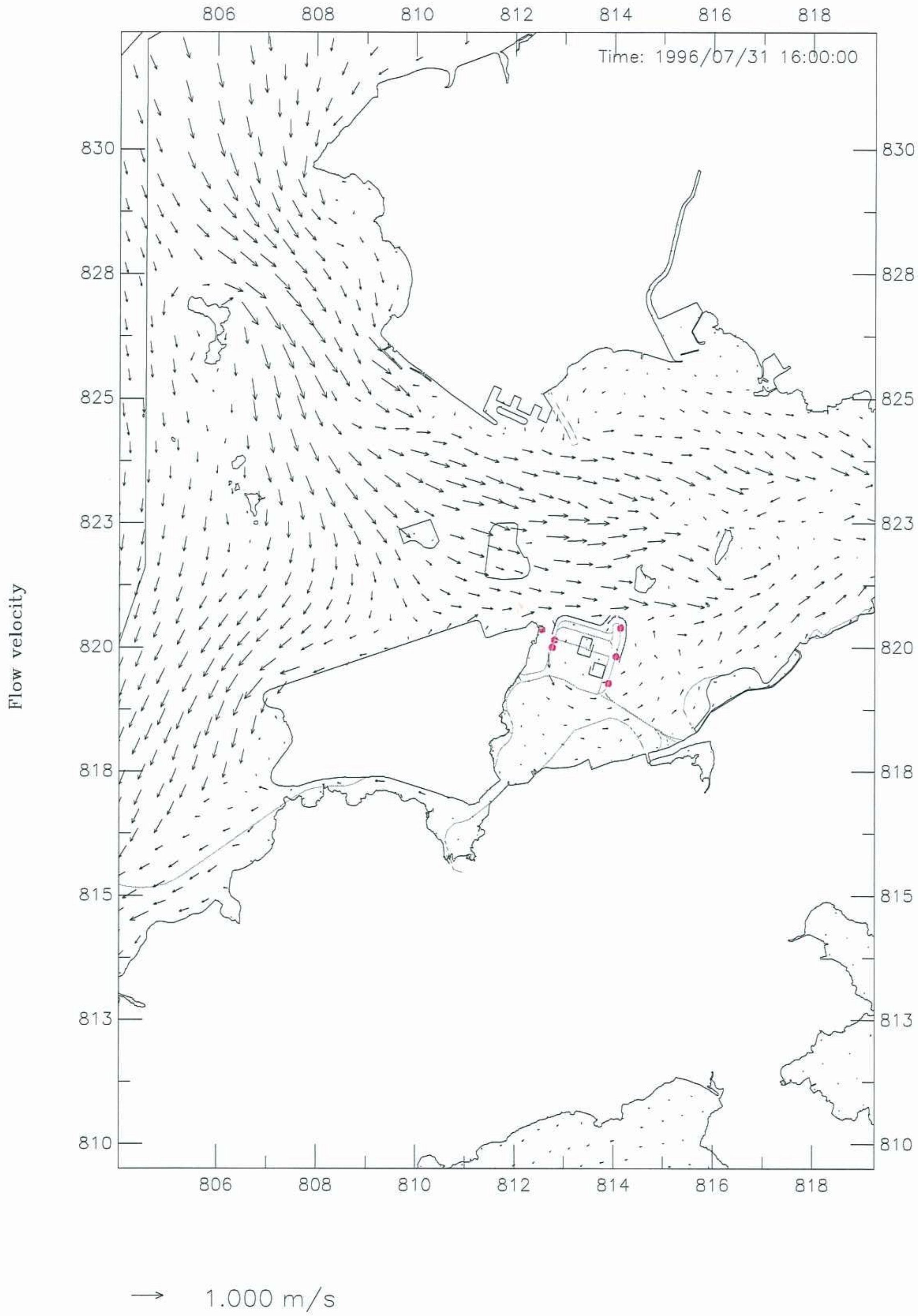
Figure 009

AECOM

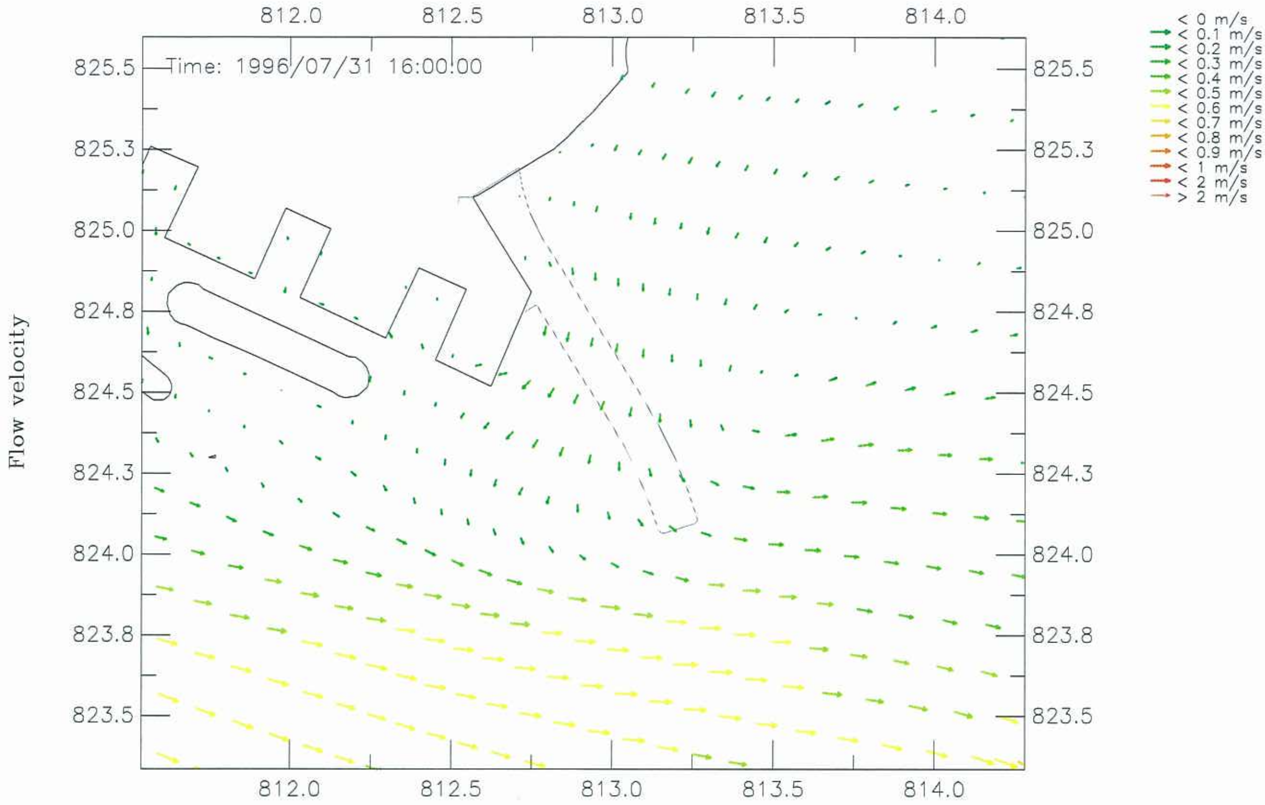


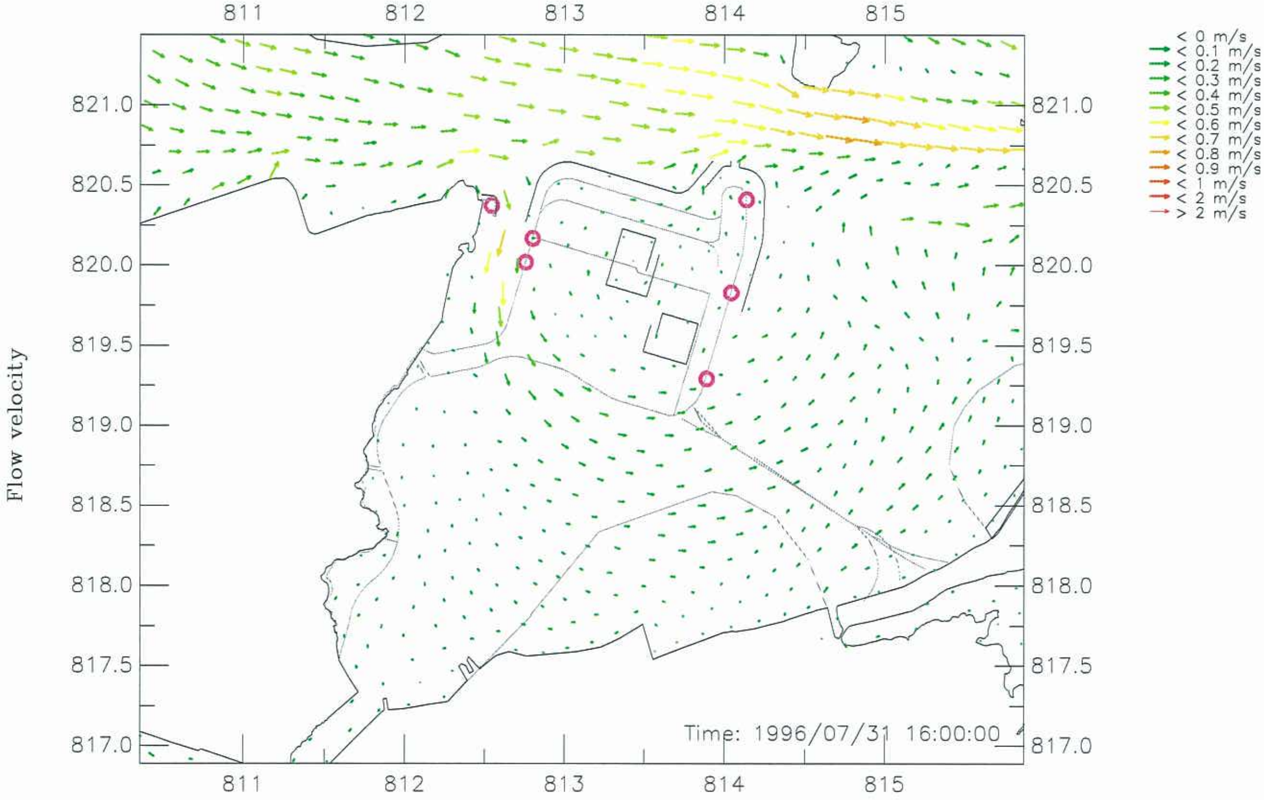


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Ebb Tide – Bottom Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 010
AECOM		

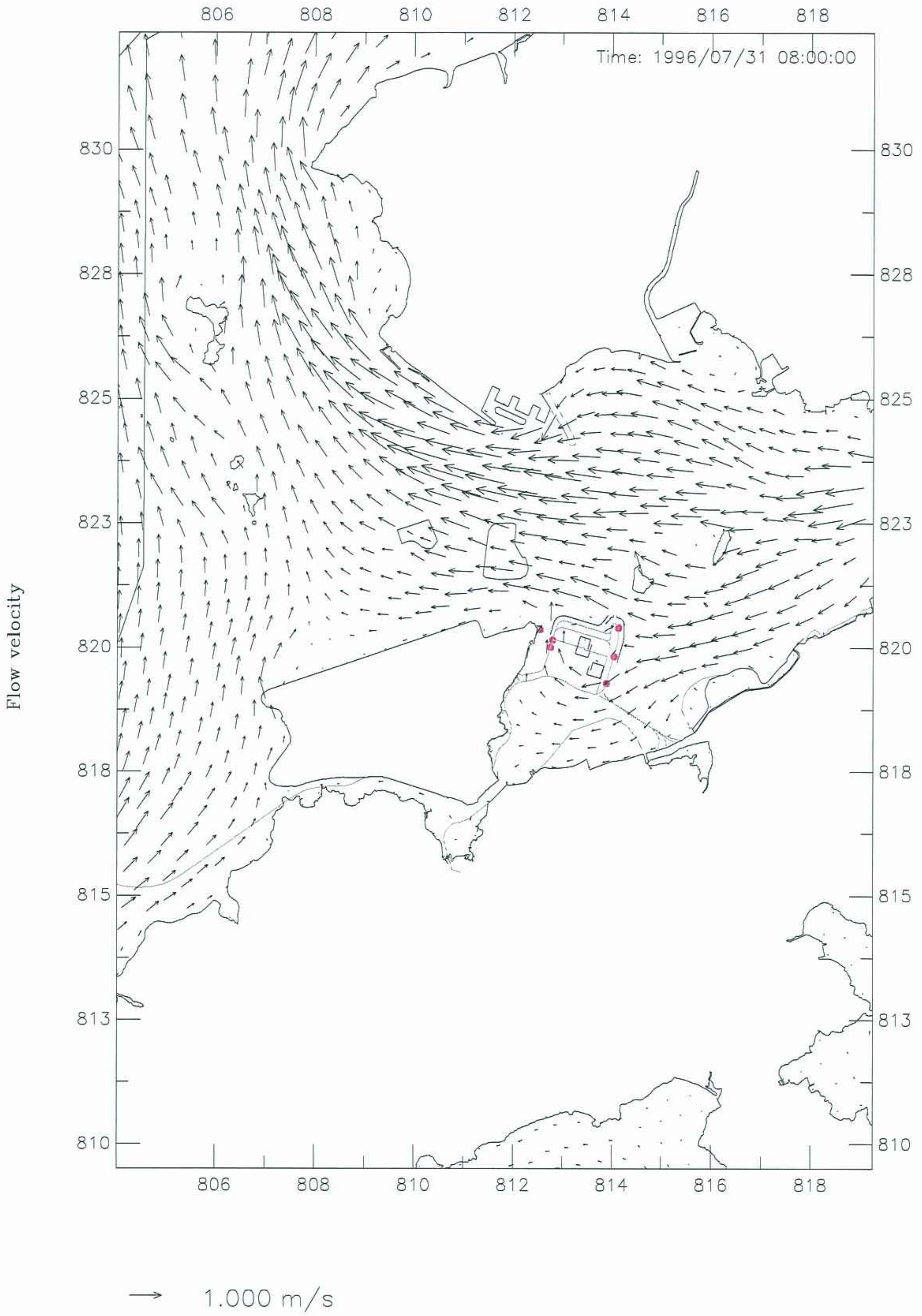


Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Ebb Tide – Bottom Layer	Jul 2009	Figure 011
AECOM		





Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Ebb Tide – Bottom Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 012
AECOM		

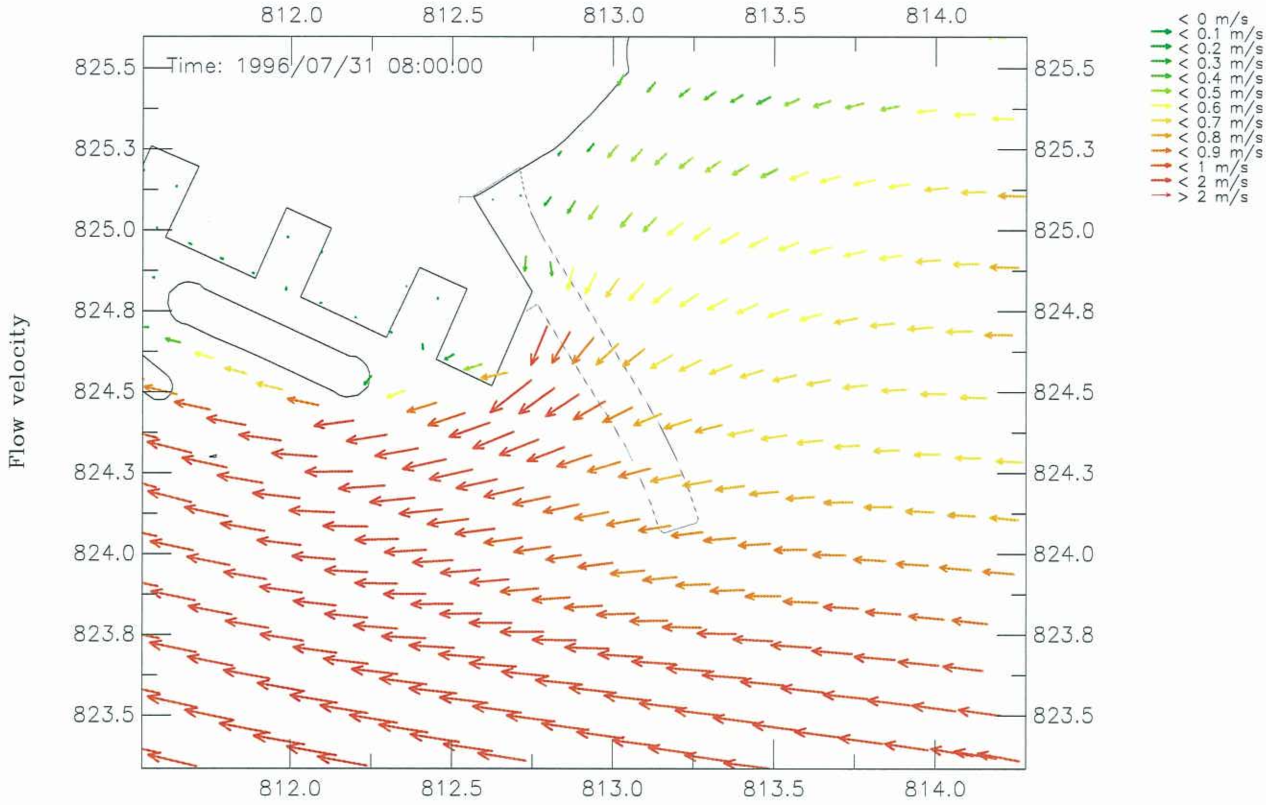


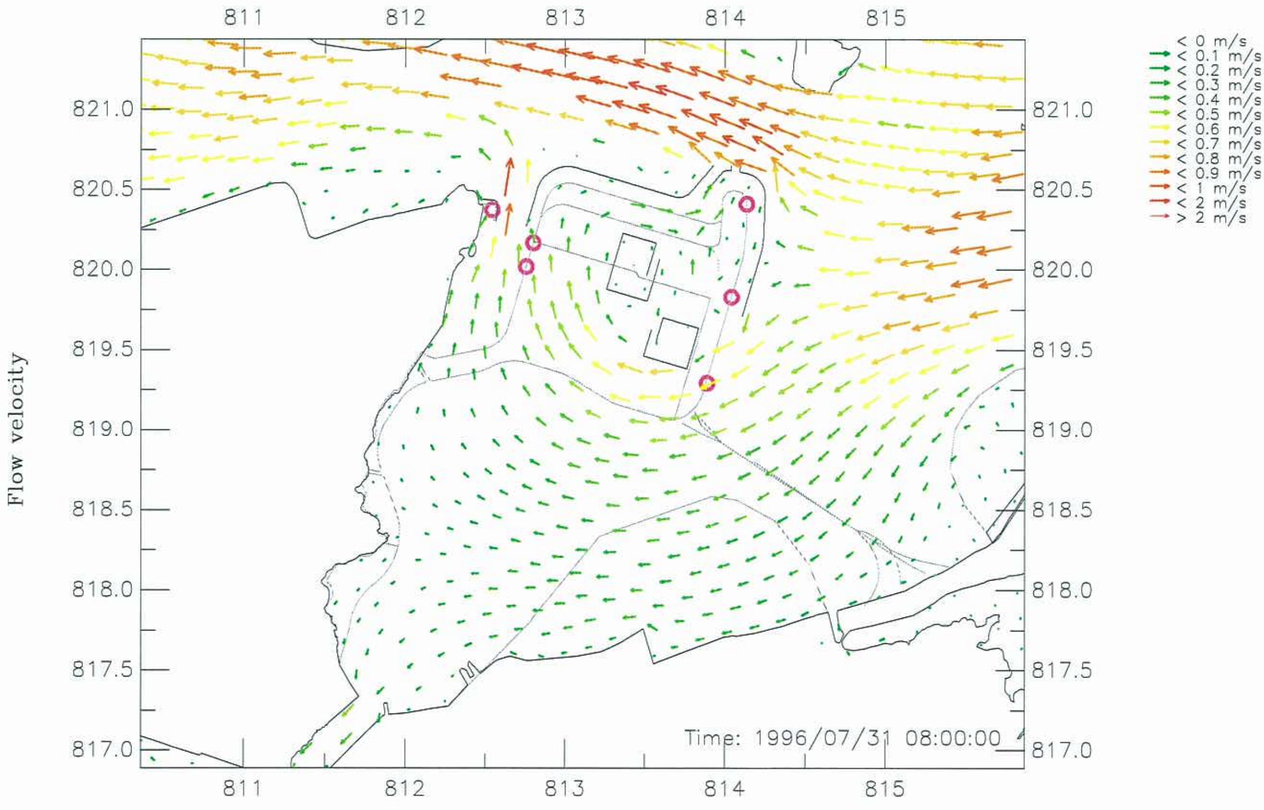
Year 2011 (Sequence B)
Dry Season Velocity Vector Plot at Flood Tide – Surface Layer

Jul 2009

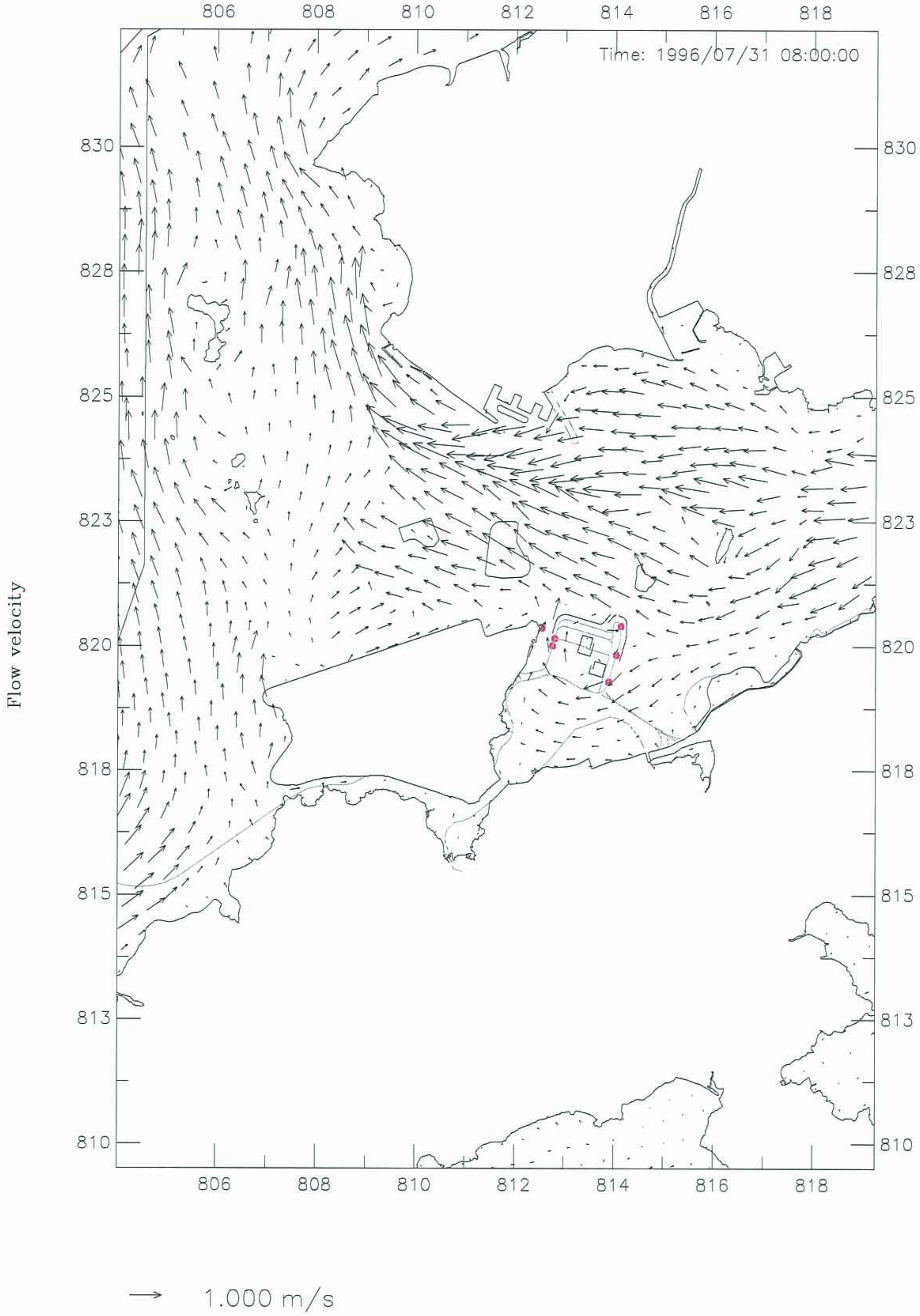
Figure 013

| AECOM

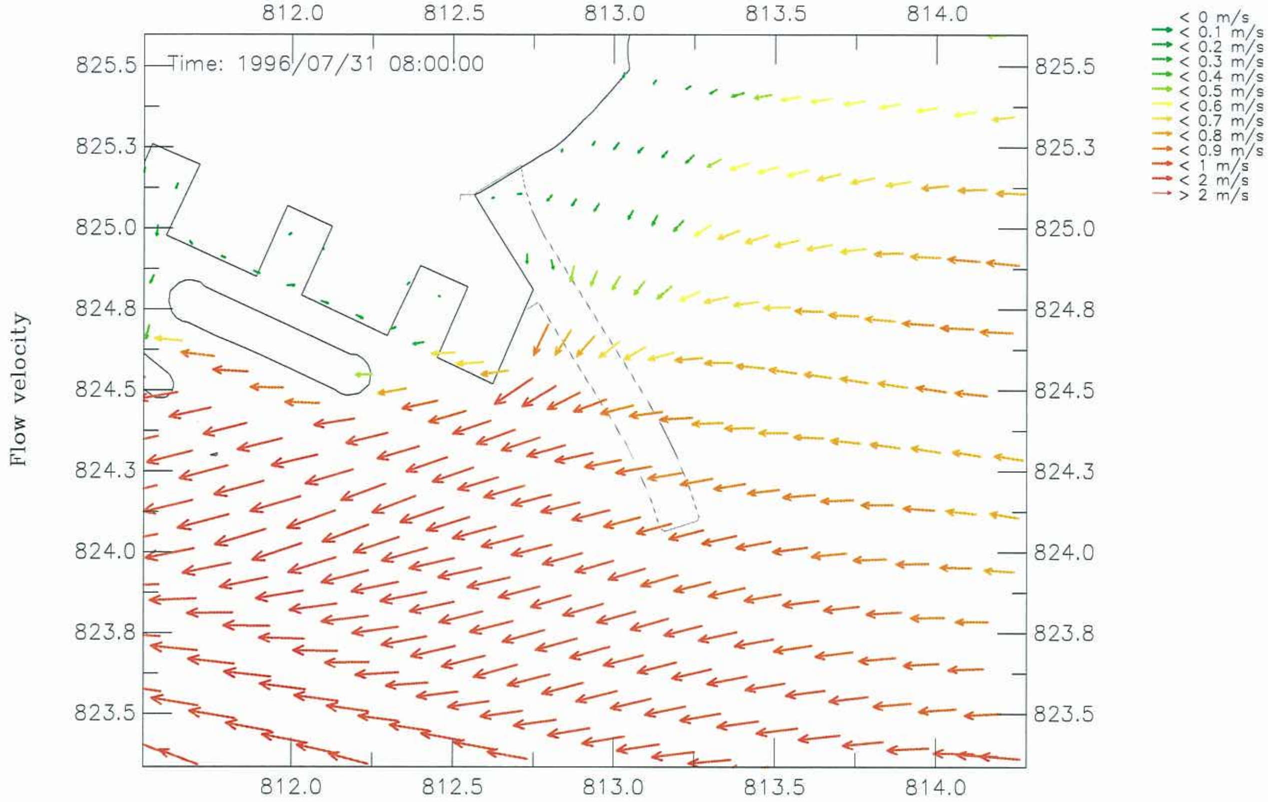


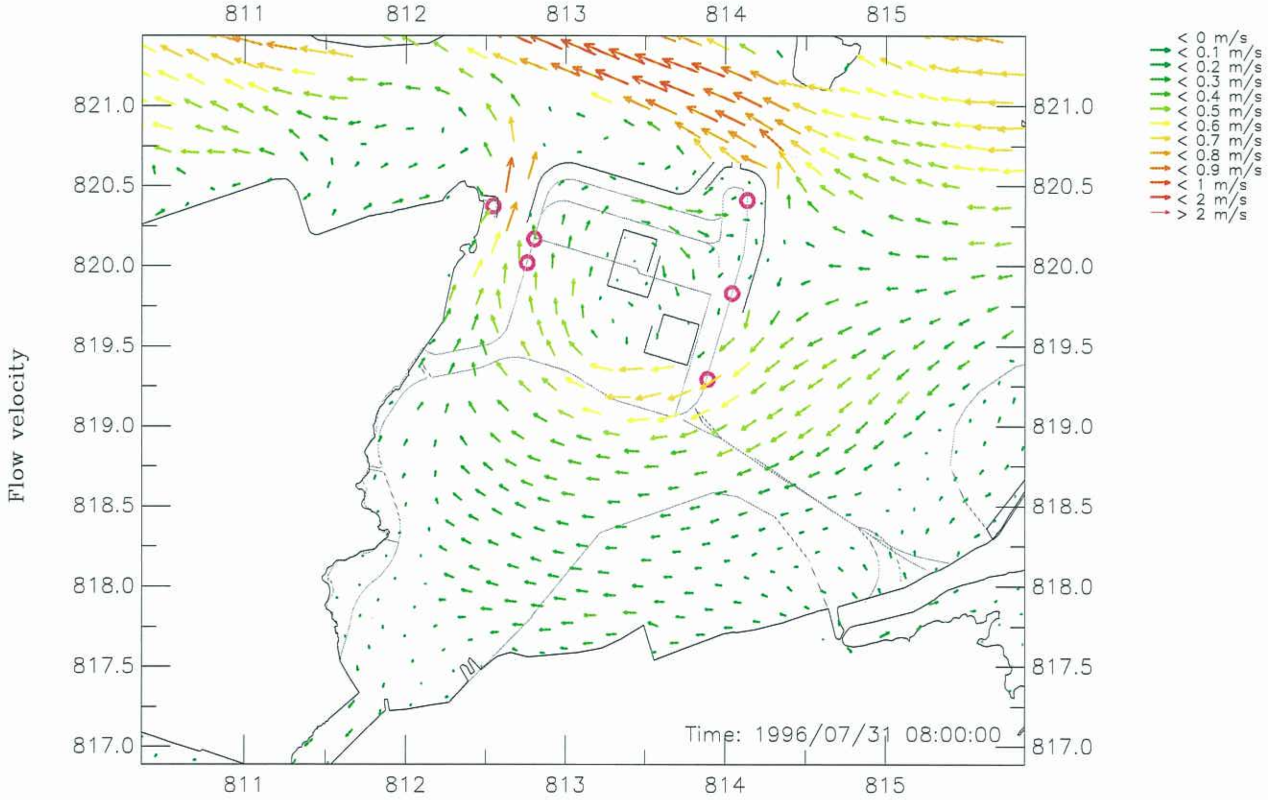


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Flood Tide – Surface Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 014
AECOM		

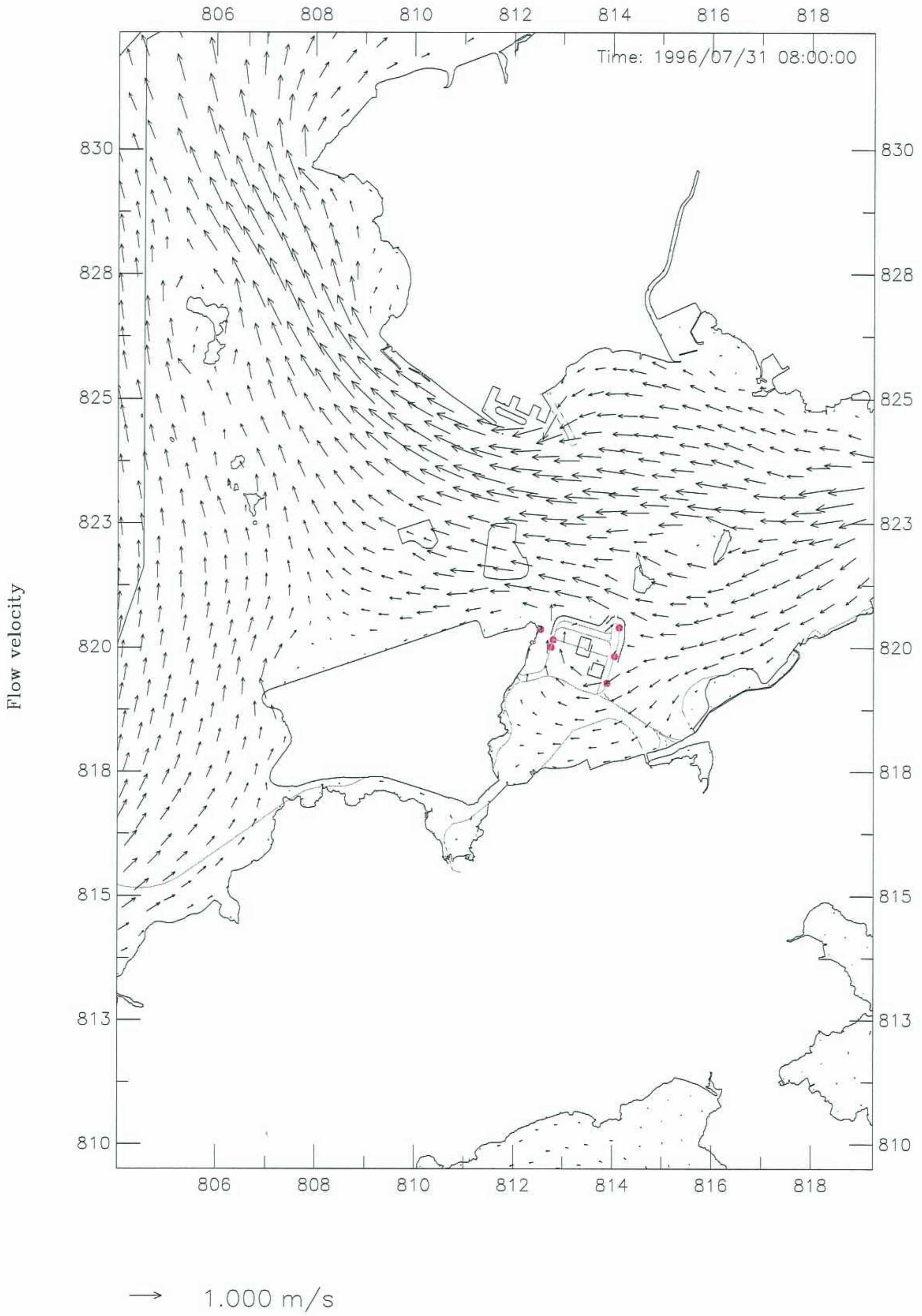


Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Flood Tide – Surface Layer	Jul 2009	Figure 015
AECOM		





Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Flood Tide – Surface Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 016
AECOM		

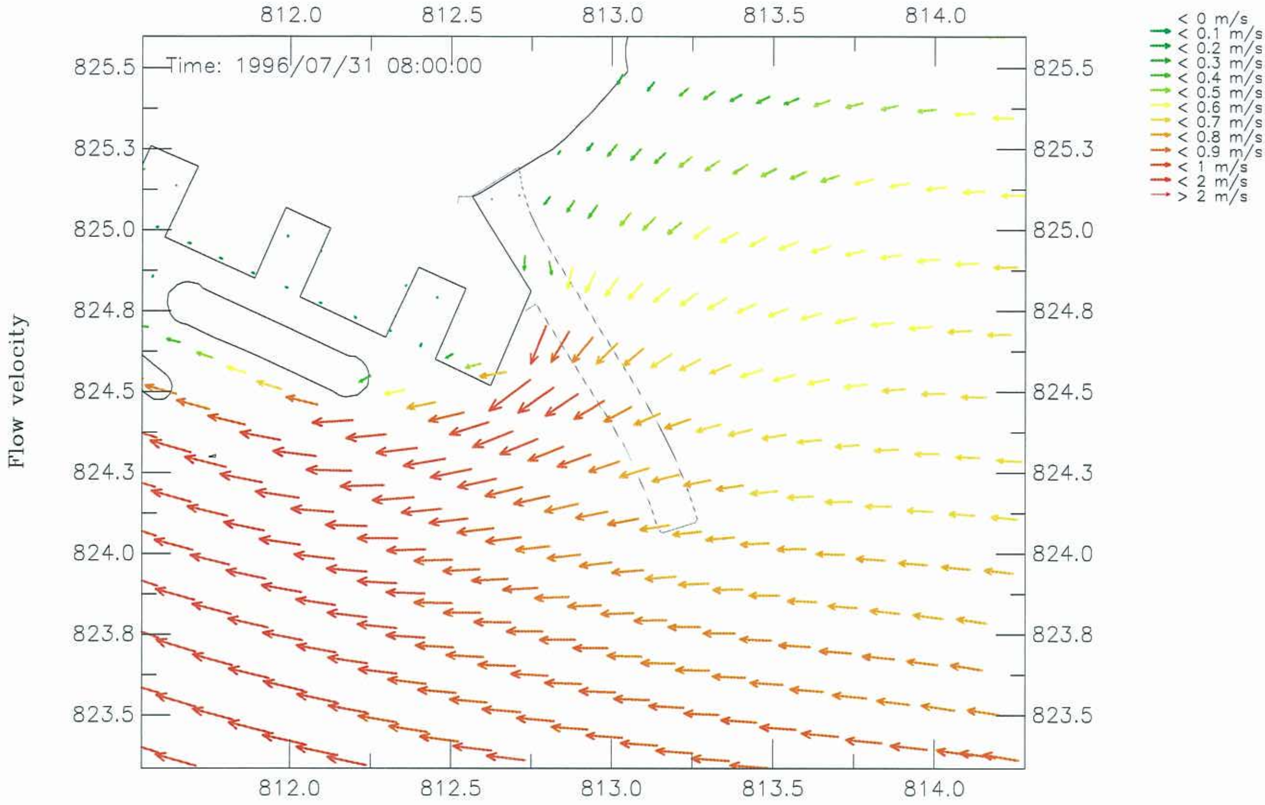


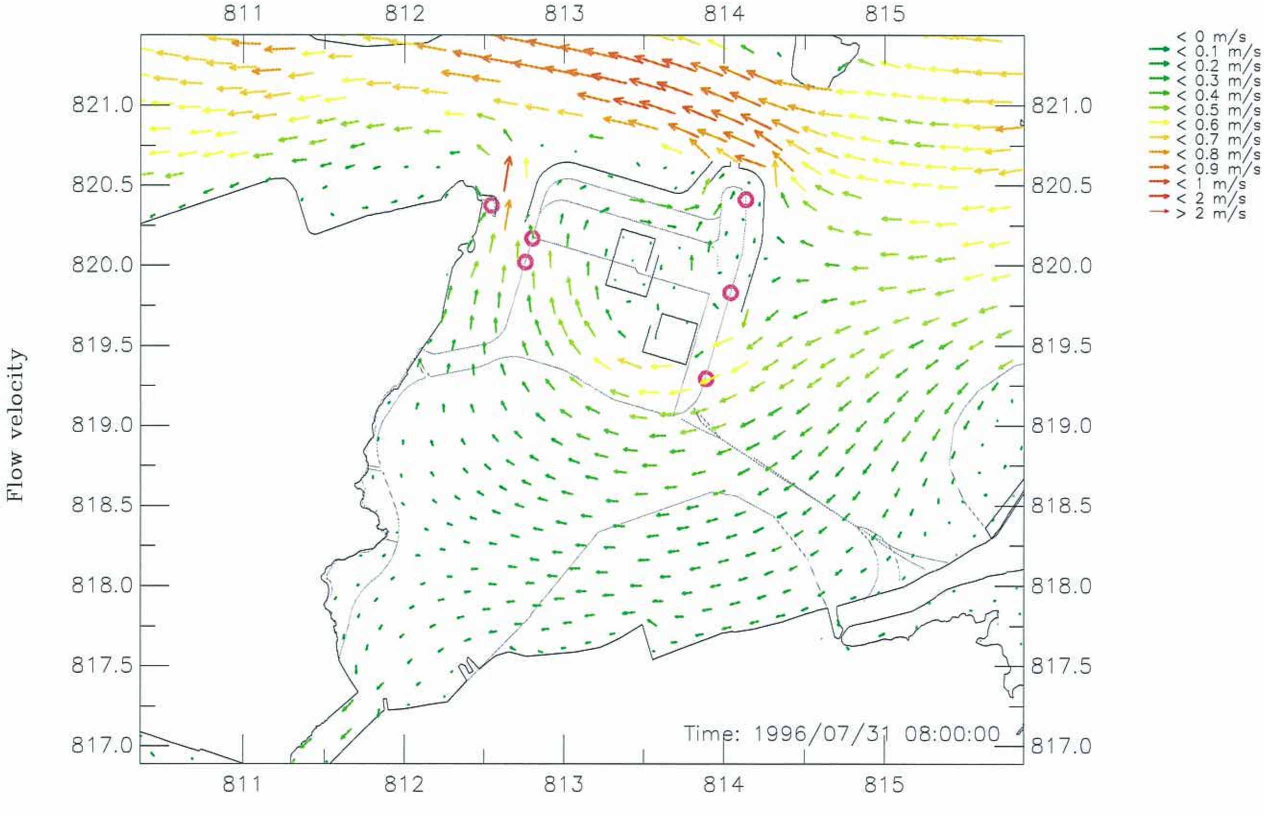
Year 2011 (Sequence B)
Dry Season Velocity Vector Plot at Flood Tide – Mid-Depth

Jul 2009

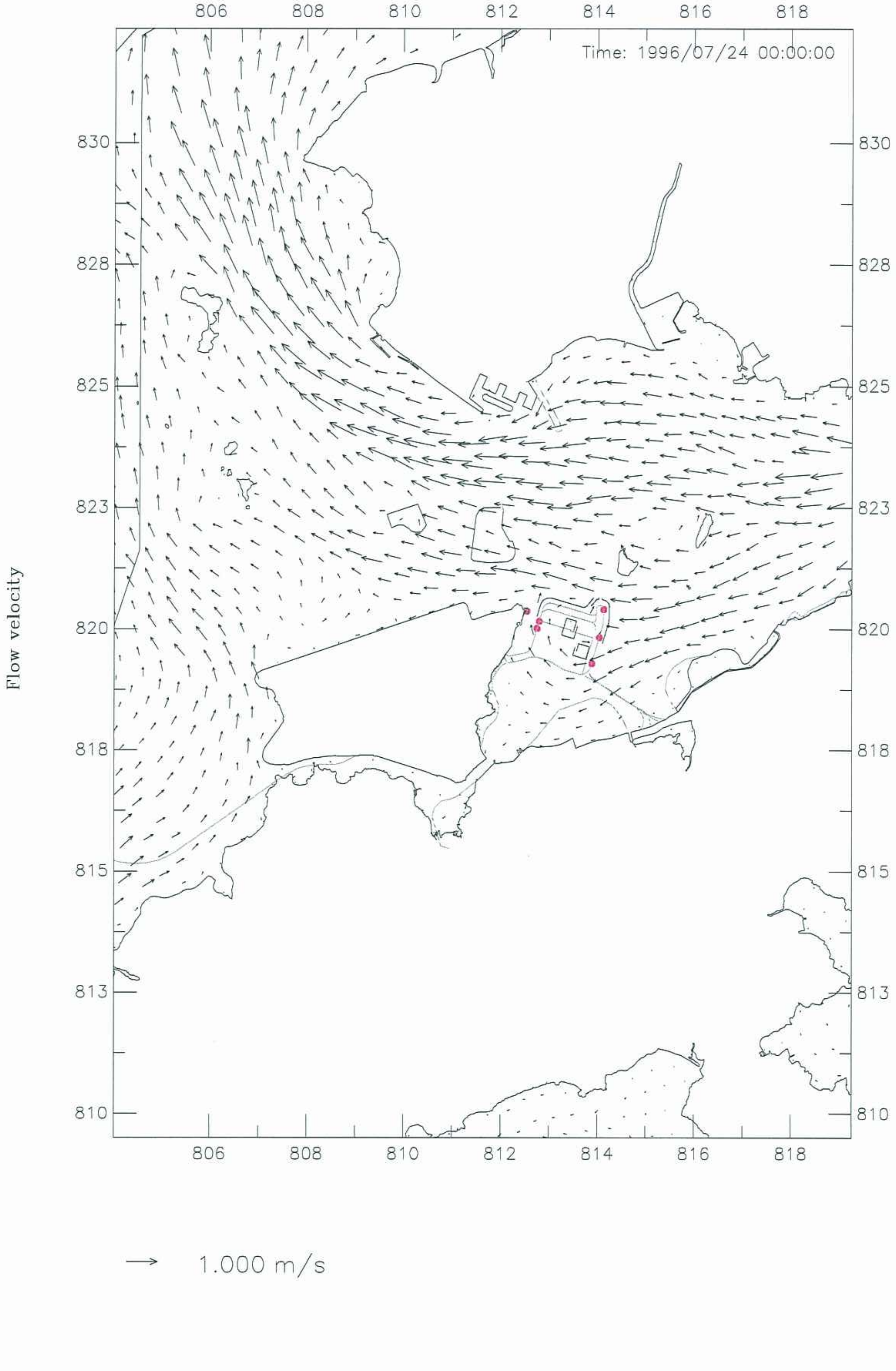
Figure 017

AECOM

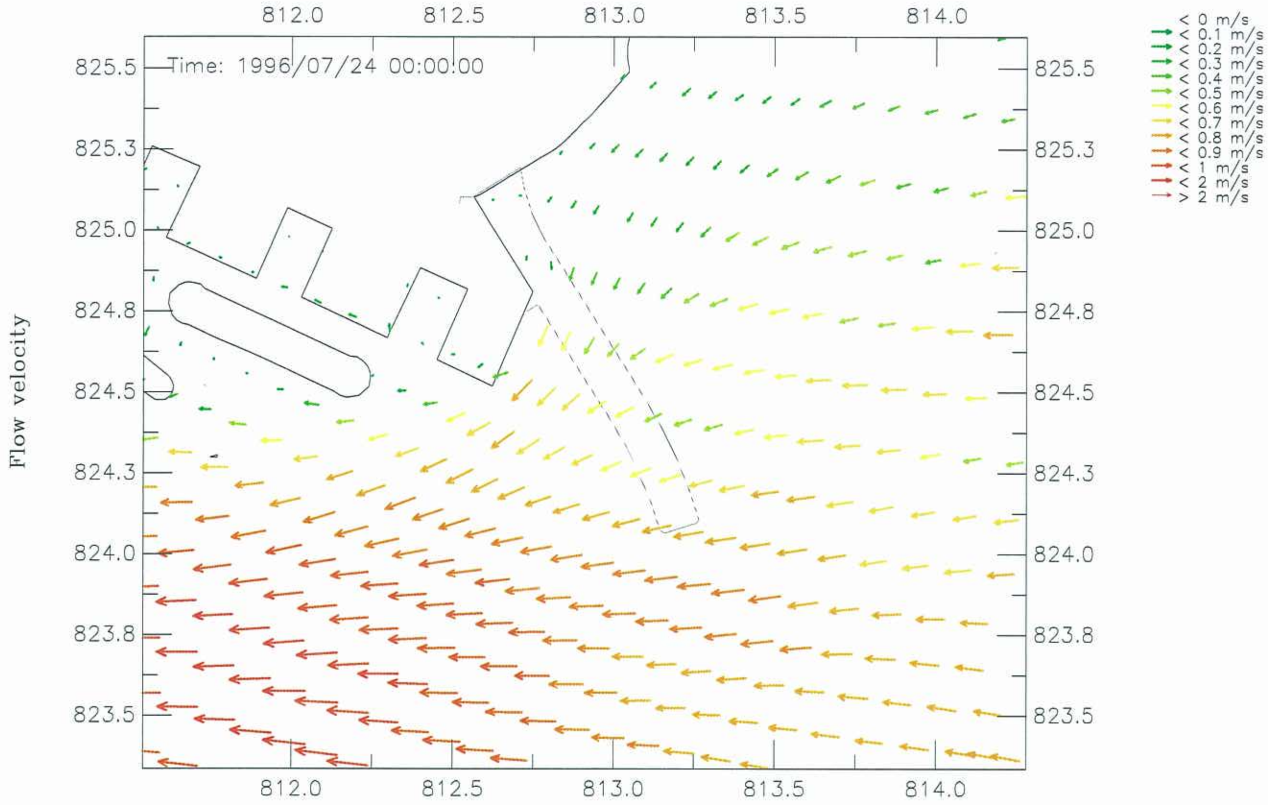


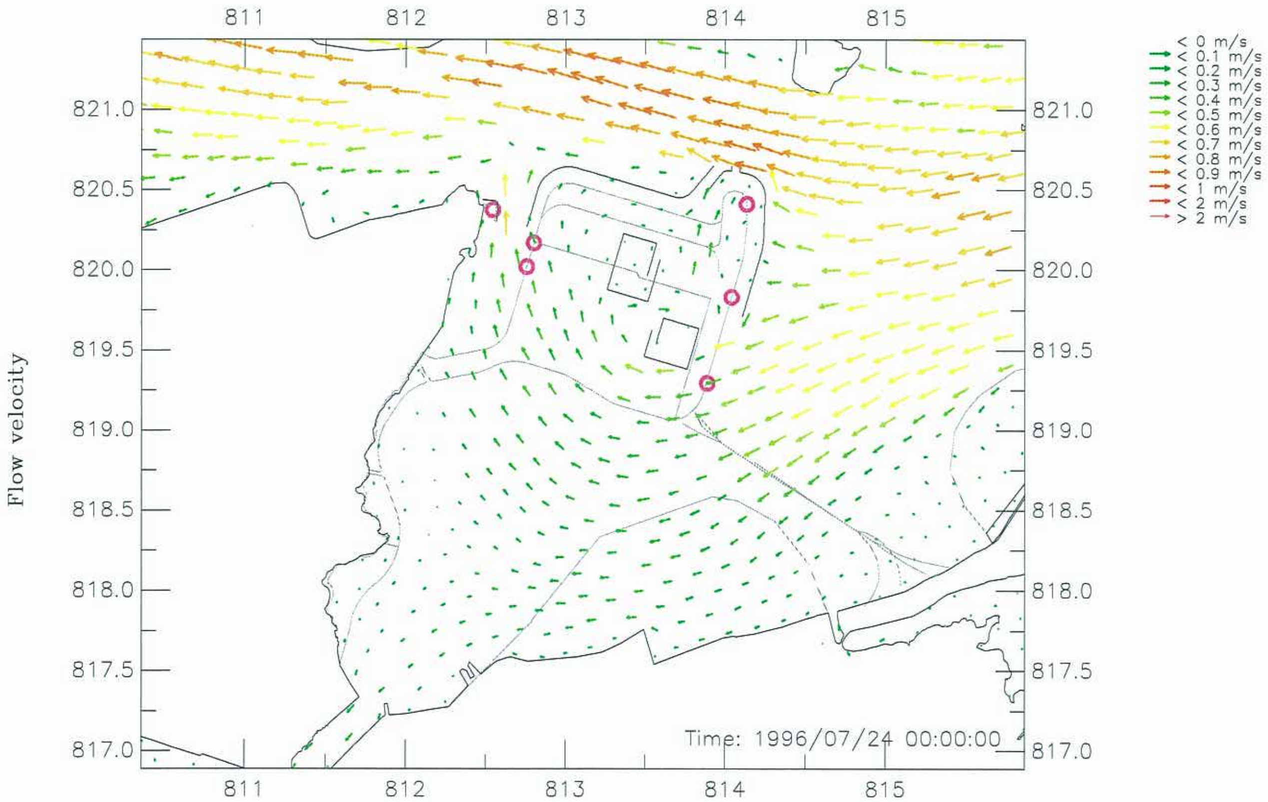


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Flood Tide – Mid-Depth (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 018
AECOM		

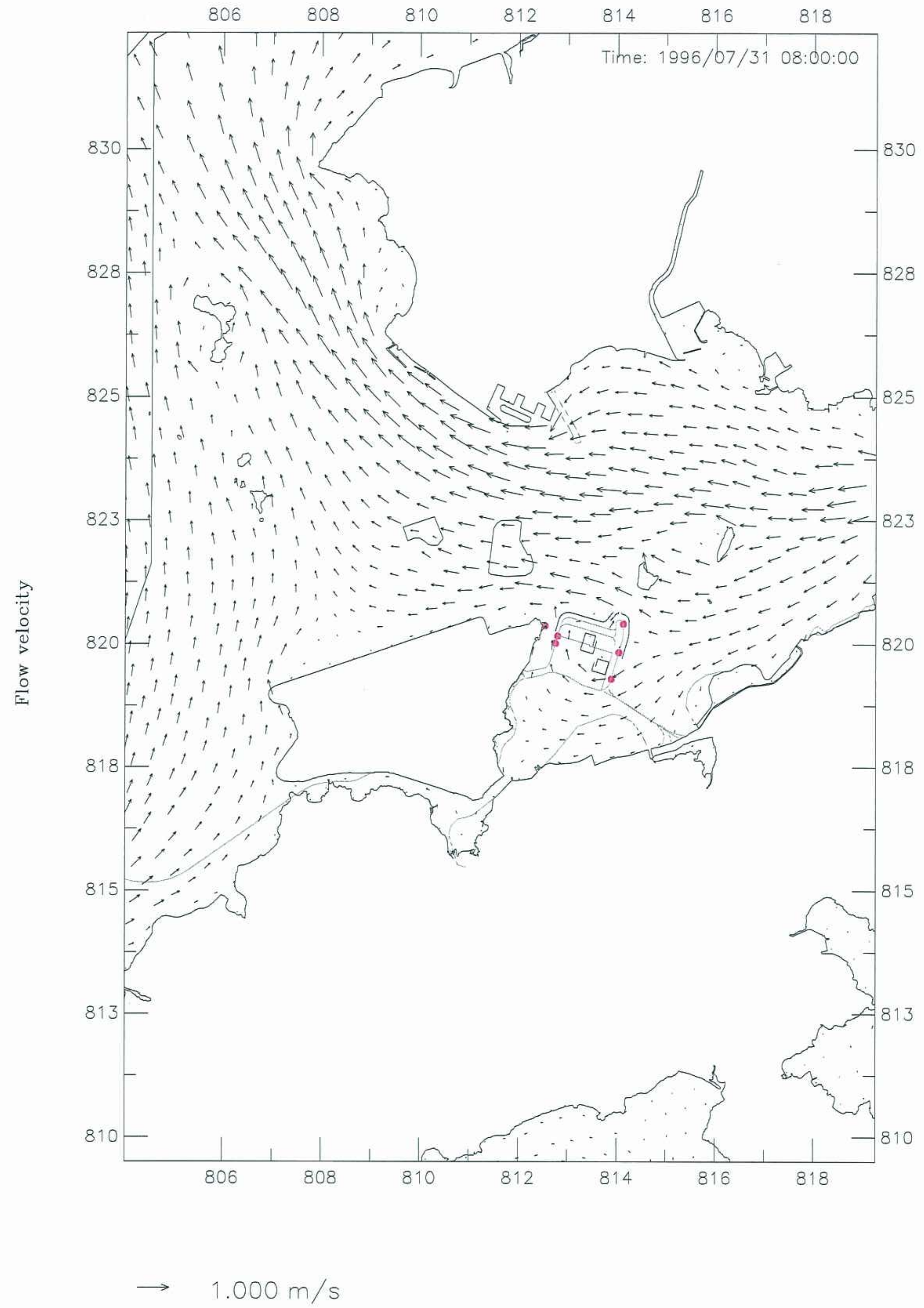


Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Flood Tide – Mid-Depth	Jul 2009	Figure 019
AECOM		





Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Flood Tide – Mid-Depth (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 020
AECOM		

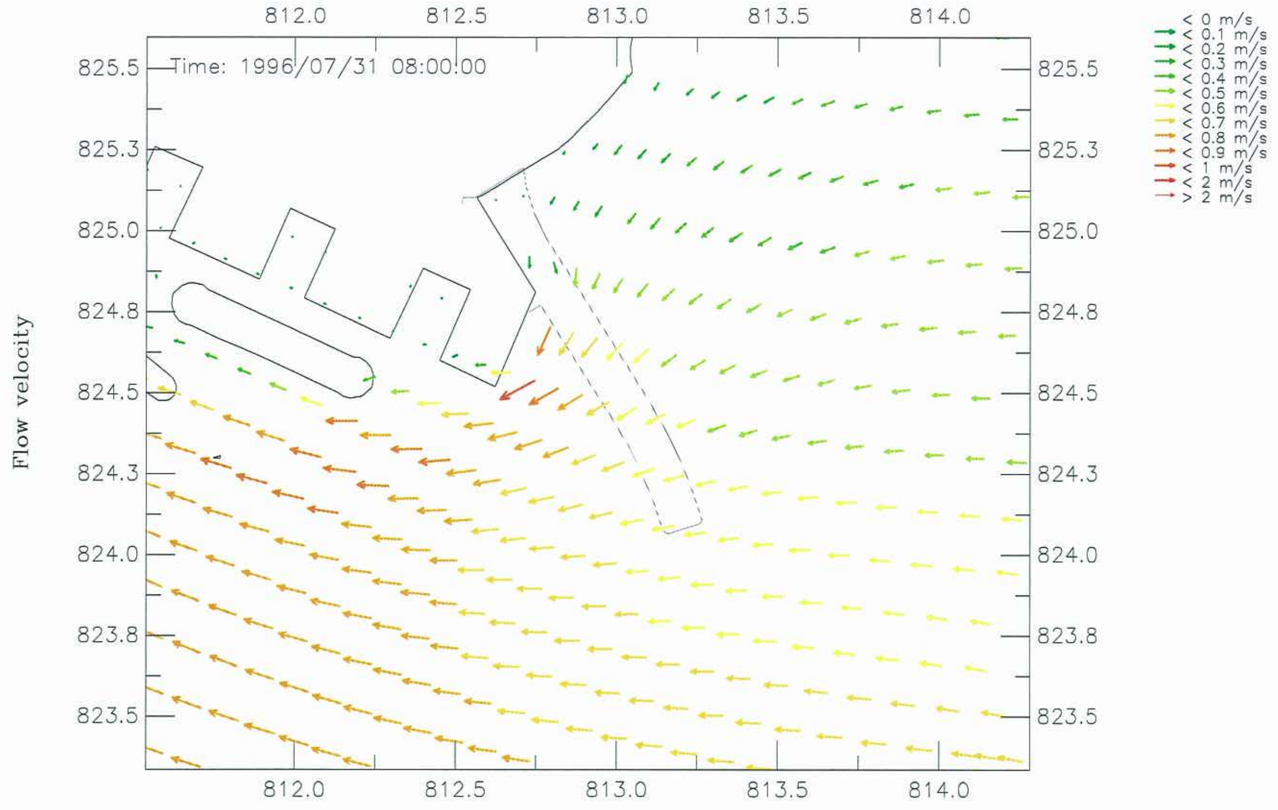


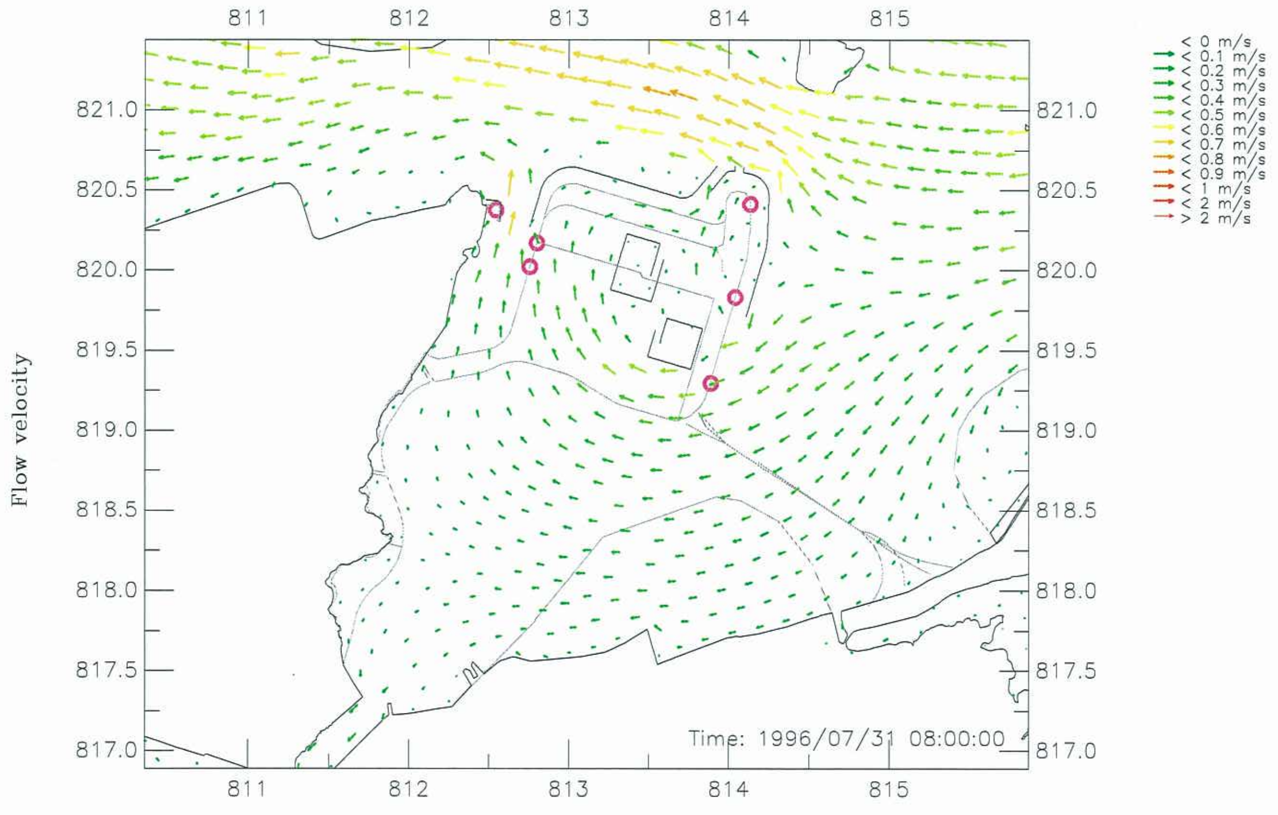
Year 2011 (Sequence B)
Dry Season Velocity Vector Plot at Flood Tide – Bottom Layer

Jul 2009

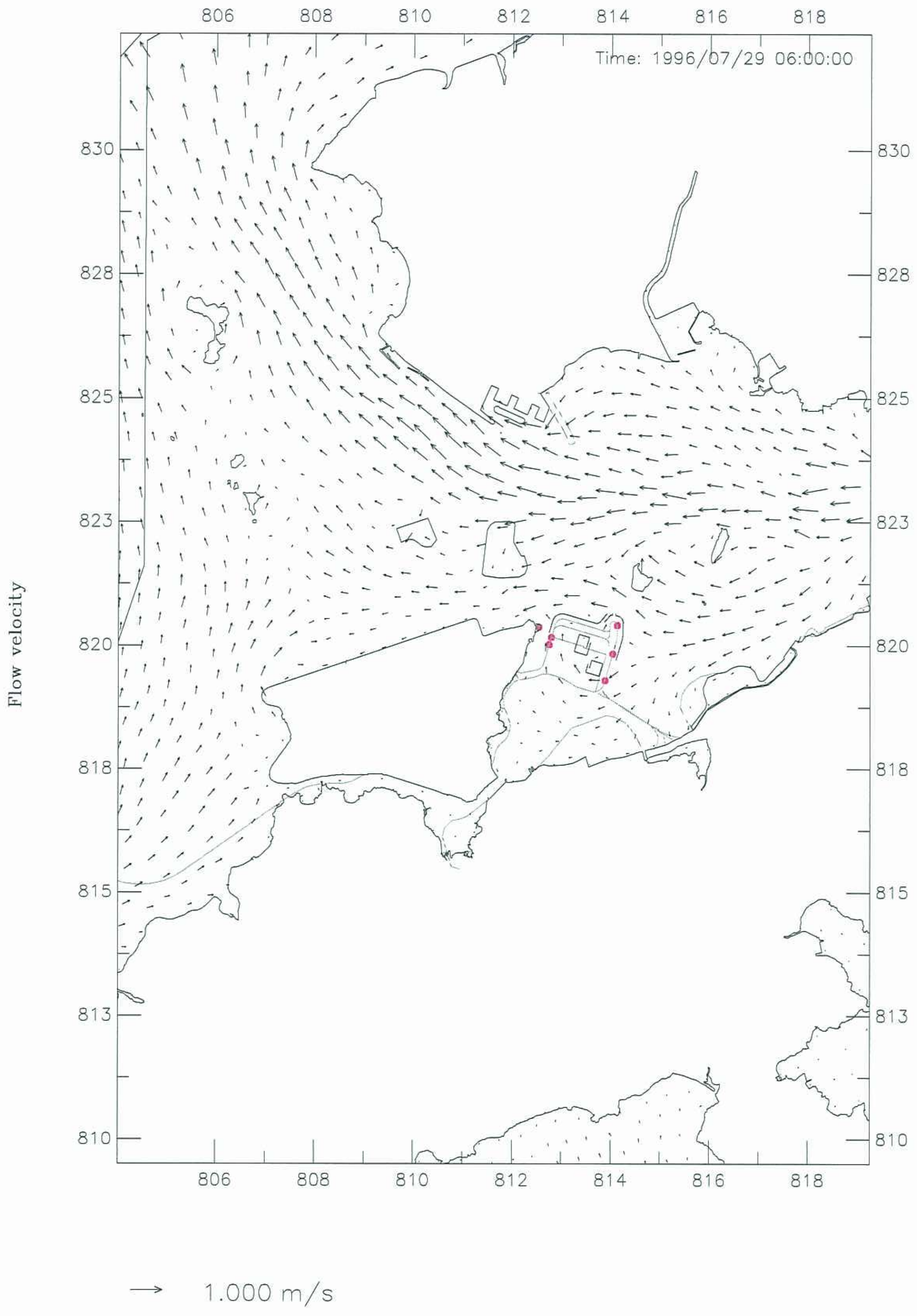
Figure 021

AECOM

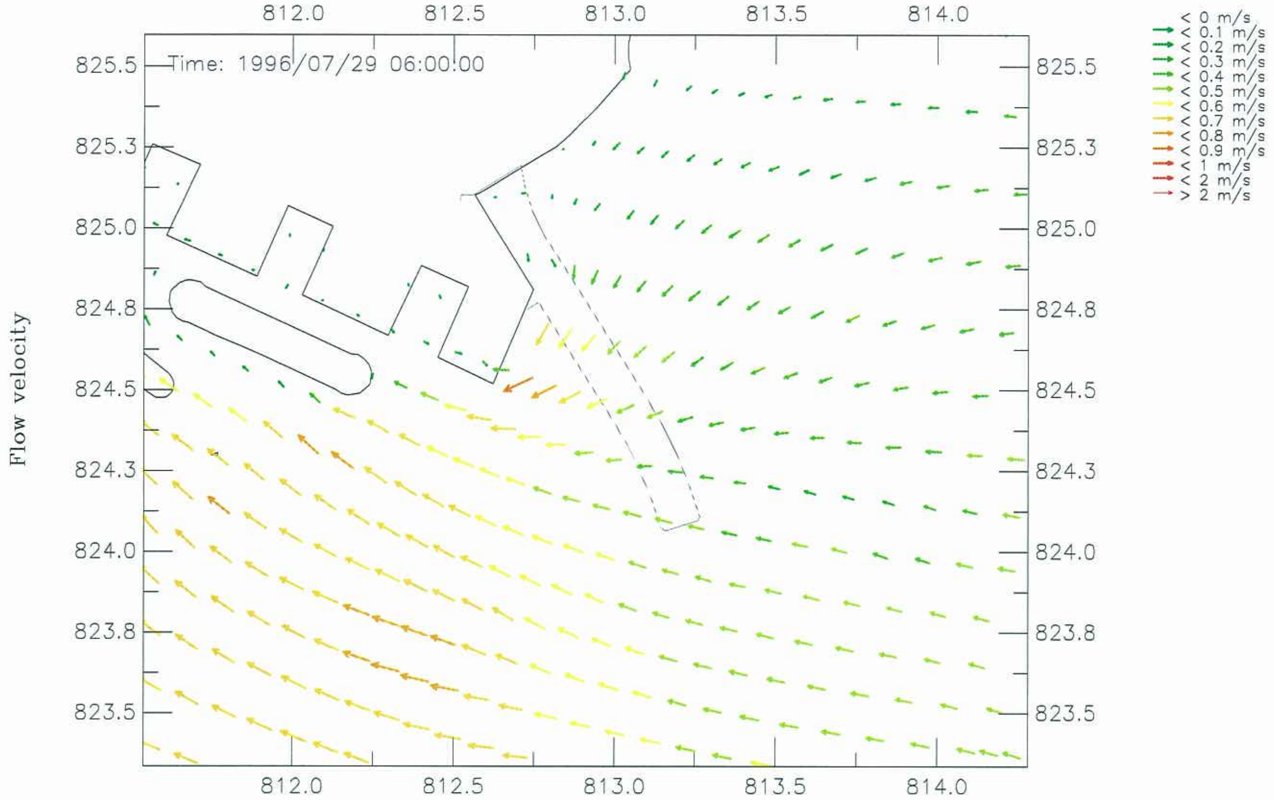


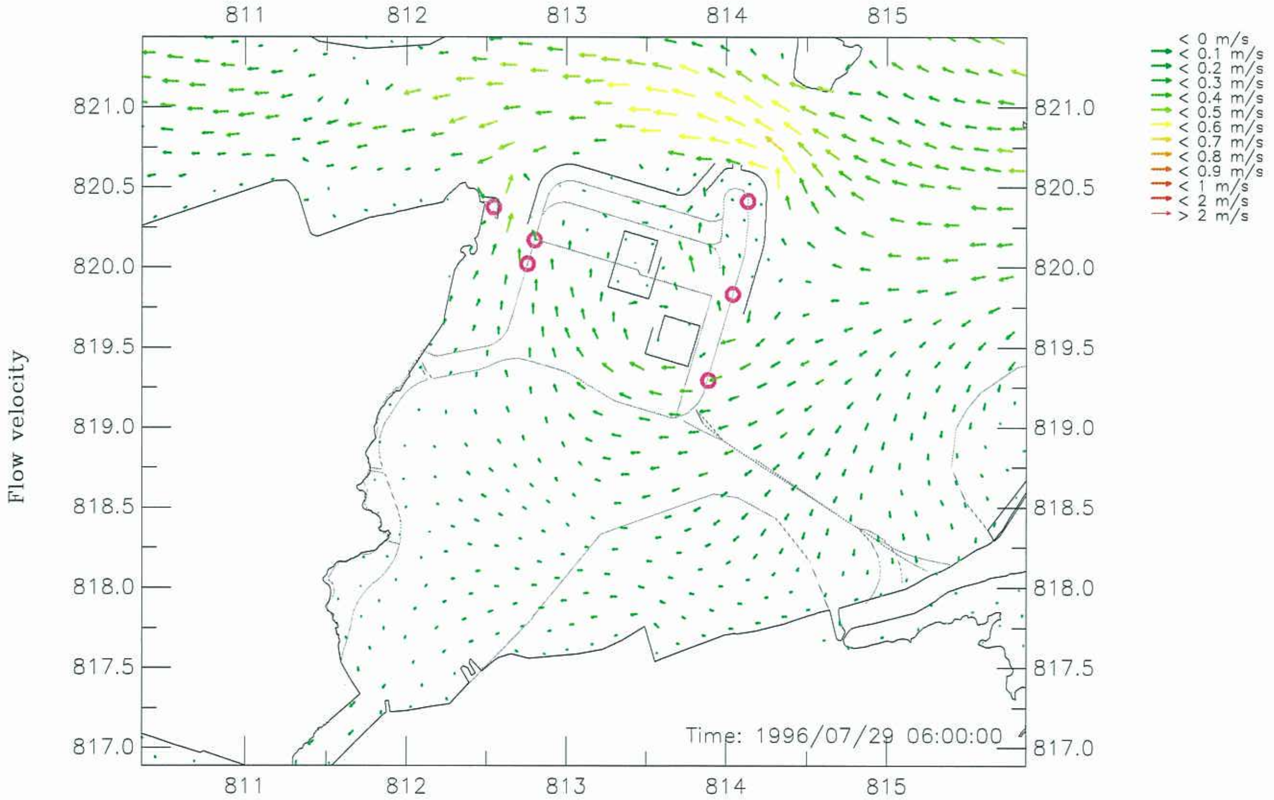


Year 2011 (Sequence B) Dry Season Velocity Vector Plot at Flood Tide – Bottom Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 022
AECOM		



Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Flood Tide – Bottom Layer	Jul 2009	Figure 023
AECOM		

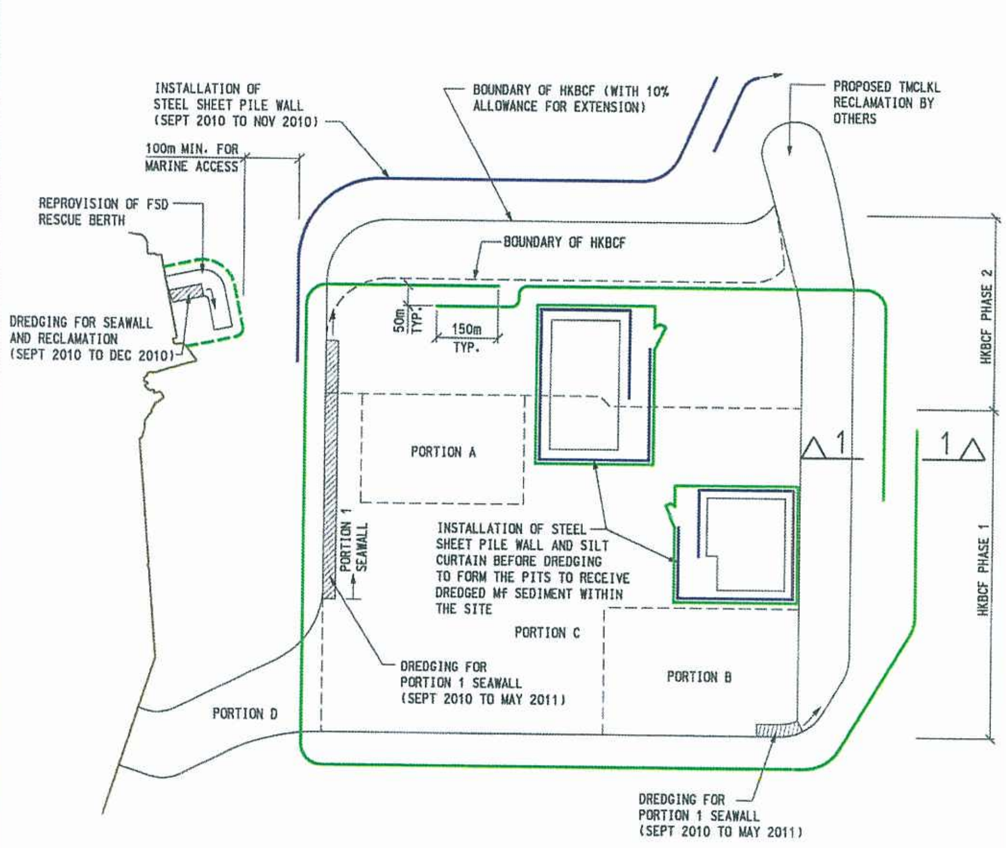




Year 2011 (Sequence B) Wet Season Velocity Vector Plot at Flood Tide – Bottom Layer (Top: Northern Reclamation; Bottom: Southern Reclamation)	Jul 2009	Figure 024
AECOM		

Appendix 9F – Part 9F2

Annex B



NOTE:

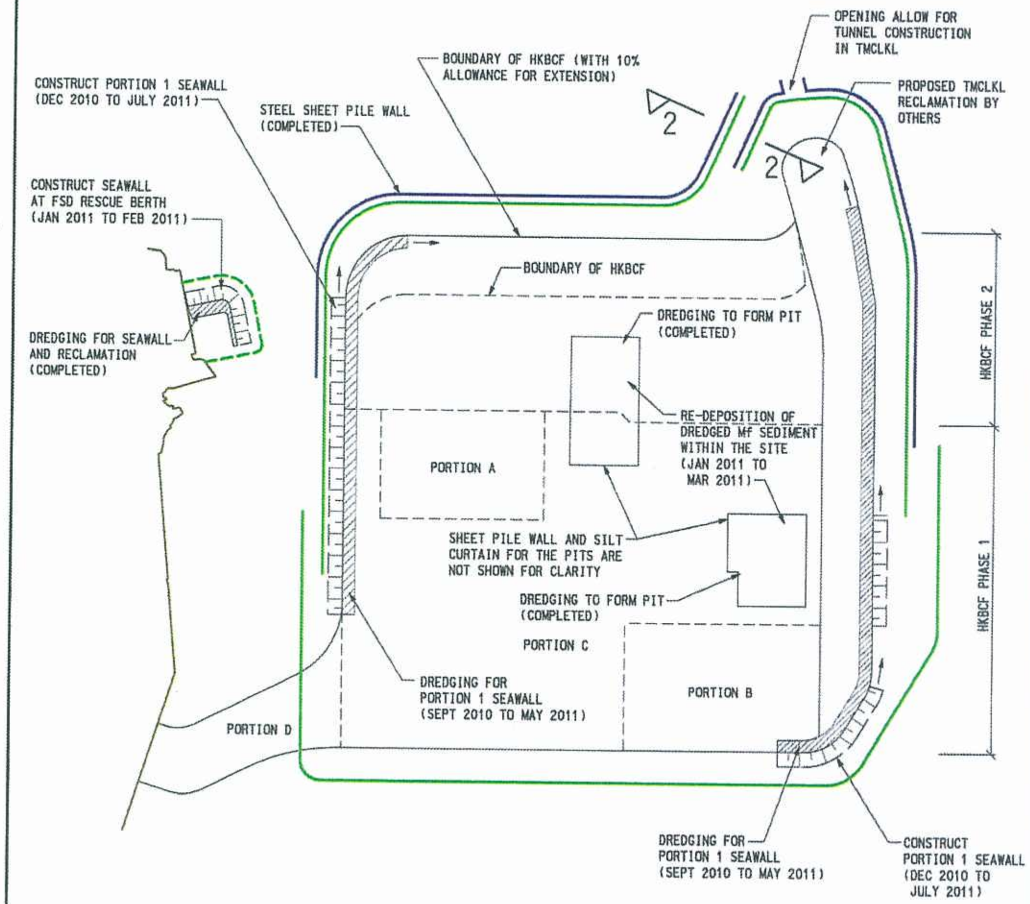
FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA

STAGE 1 (ON OCT 2010)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 2 (ON FEB 2011)

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

ARUP Ove Arup & Partners Hong Kong Limited

Job Title
Agreement No. CE 14/2008 (CE)
Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Investigation

Drawing Title
ANTICIPATED CONSTRUCTION SEQUENCE OF HKBCF (SEQUENCE B)

Rev.	Description	Date
A	FIRST ISSUE	02/09

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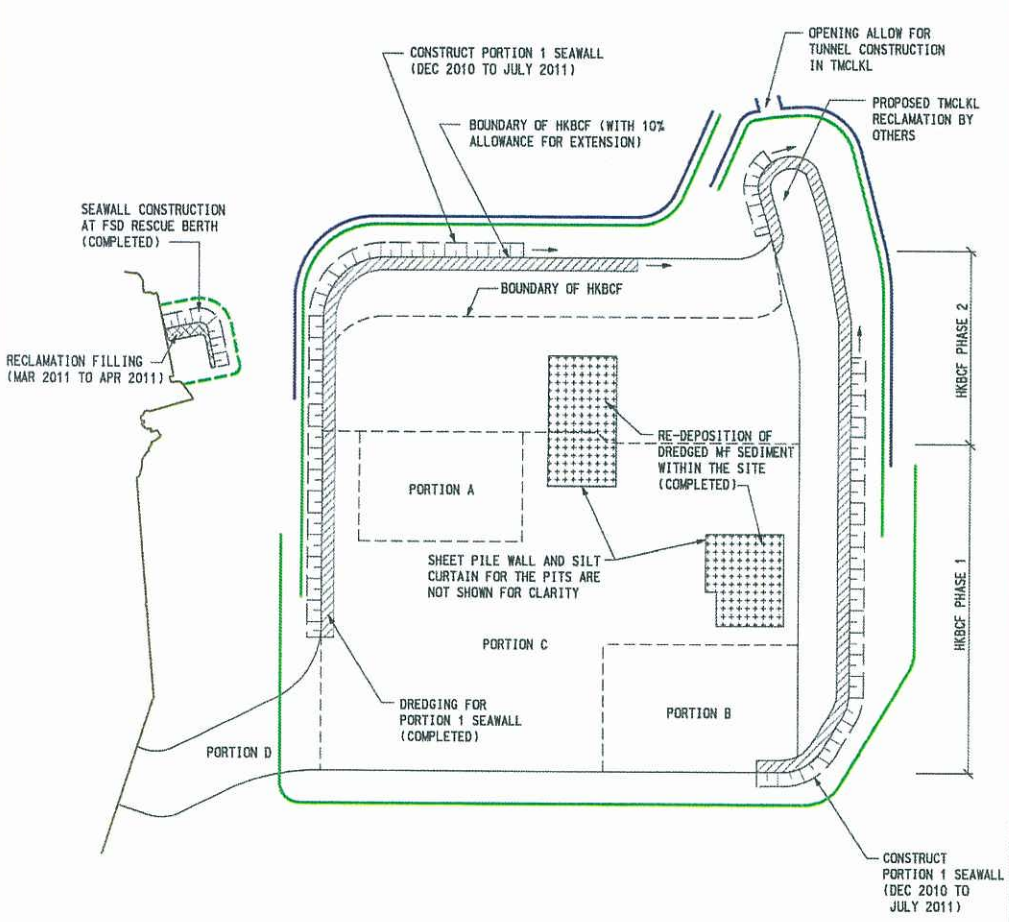
Checked	SK	Approved	AK
Scale	1:12500 on A3		

Drawing No. 25308/041/301A

Status: PRELIMINARY

Rev. A



NOTE:

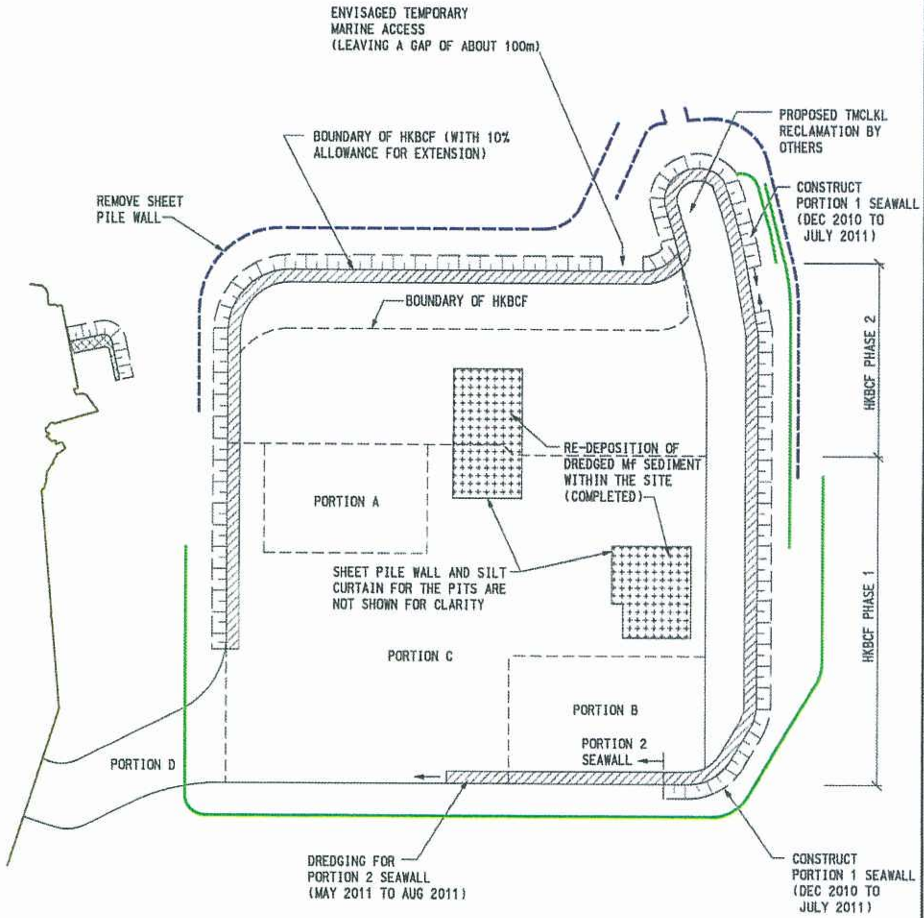
FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RE-DEPOSITION OF DREDGED Mf SEDIMENT
- RECLAMATION WORKS COMPLETED

STAGE 3 (ON APR 2011)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RE-DEPOSITION OF DREDGED Mf SEDIMENT
- RECLAMATION WORKS COMPLETED

STAGE 4 (ON JUNE 2011)

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge
Hong Kong Project Management Office

ARUP Ove Arup & Partners Hong Kong Limited

Job Title: Agreement No. CE 14/2008 (CE) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Investigation

Drawing Title: ANTICIPATED CONSTRUCTION SEQUENCE OF HKBCF (SEQUENCE B)

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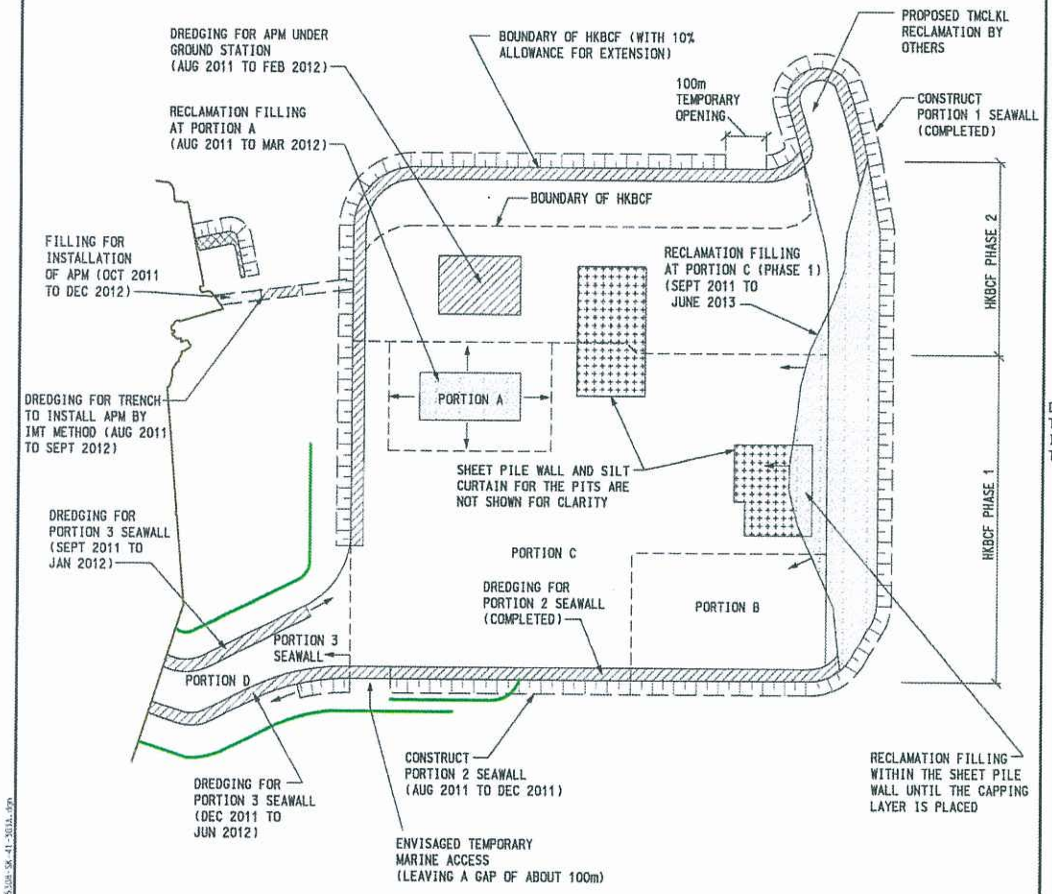
A	FIRST ISSUE	02/09

Drawn: CN | Date: 02/09 | Checked: SK | Approved: AK | Scale: 1:12500 on A3

Drawing No.: 25308/041/302A | Status: PRELIMINARY | Rev.: A



LEGEND:

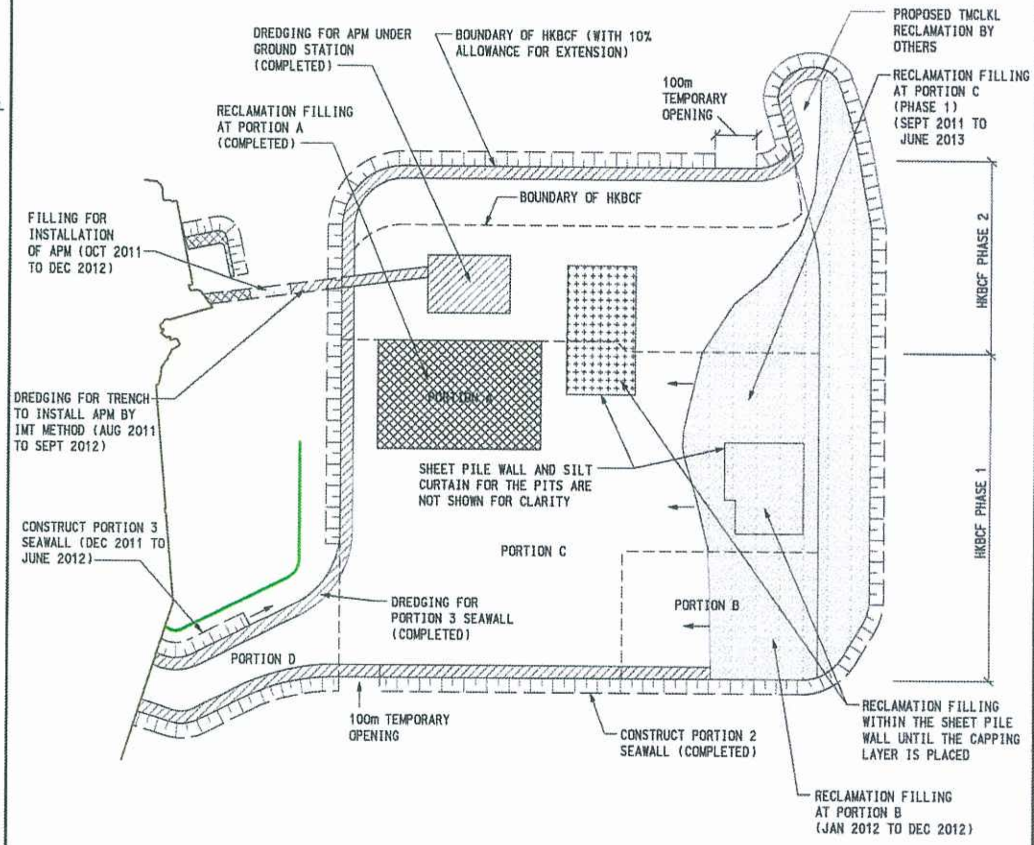
- STEEL SHEET PILE WALL
- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

STAGE 5 (ON DEC 2011)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- SINGLE SILT CURTAIN
- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 6 (ON APR 2012)

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

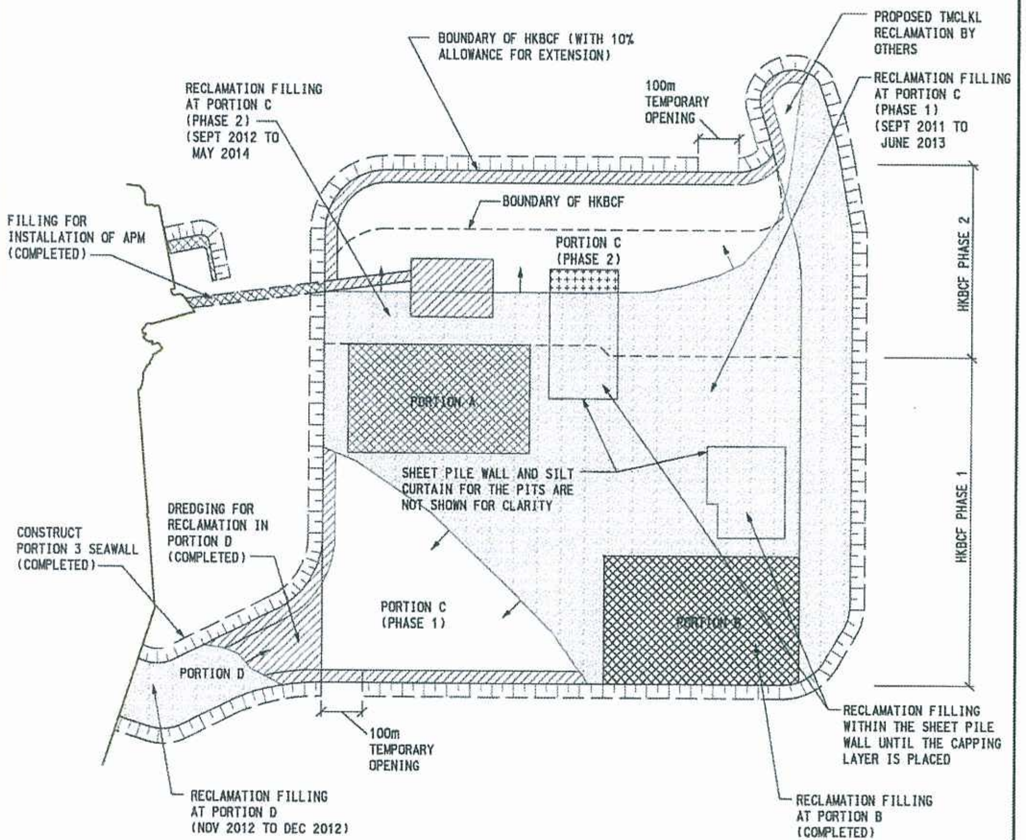
ARUP Ove Arup & Partners Hong Kong Limited

Job Title
Agreement No. CE 14/2008 (CE)
Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Investigation

Drawing Title
ANTICIPATED CONSTRUCTION SEQUENCE OF HKBCF (SEQUENCE B)

Rev.	Description	Date
A	FIRST ISSUE	02/09

Drawn: CN	Date: 02/09
Checked: SK	Approved: AK
Scale: 1:12500 on A3	
Drawing No.: 25308/041/303A	
Status: PRELIMINARY	Rev. A



NOTE:

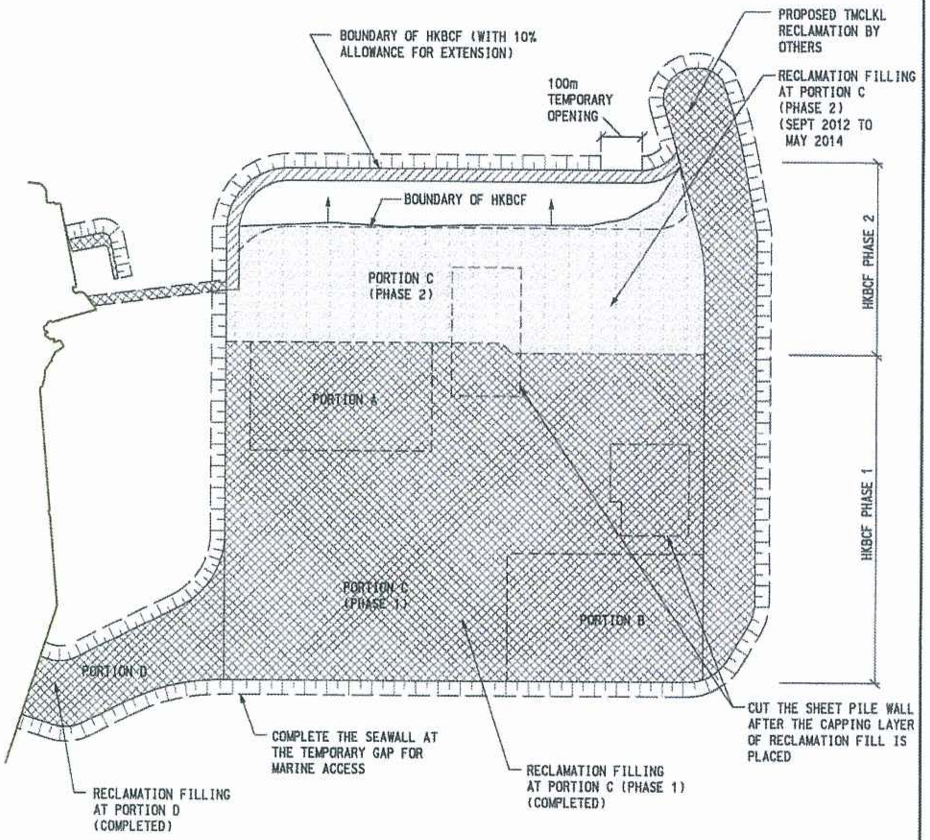
FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 7 (ON DEC 2012)



NOTE:

FIRST MEASURE: CAGE TYPE SILT CURTAIN FOR ALL GRAB DREDGERS (SEE TYPICAL SECTION ATTACHED)

SECOND MEASURE: SINGLE SILT CURTAIN AROUND THE SITE (SEE TYPICAL SECTION ATTACHED)

LEGEND:

- DREDGED AREA
- COMPLETED SLOPING SEAWALL
- RECLAMATION FILLING AREA
- RECLAMATION WORKS COMPLETED
- RE-DEPOSITION OF DREDGED Mf SEDIMENT

STAGE 8 (ON DEC 2013)

路政署 HIGHWAYS DEPARTMENT 港珠澳大橋香港工程管理處 Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office	ARUP Ove Arup & Partners Hong Kong Limited	Job Title: Agreement No. CE 14/2008 (CE) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Investigation	Drawing Title: ANTICIPATED CONSTRUCTION SEQUENCE OF HKBCF (SEQUENCE B)

Rev.	Description	Date
A	FIRST ISSUE	02/09

Drawn: CN	Date: 02/09	Drawing No.	25308/041/304A
Checked: SK	Approved: AK		
Scale: 1:12500 on A3		Status: PRELIMINARY	Rev. A

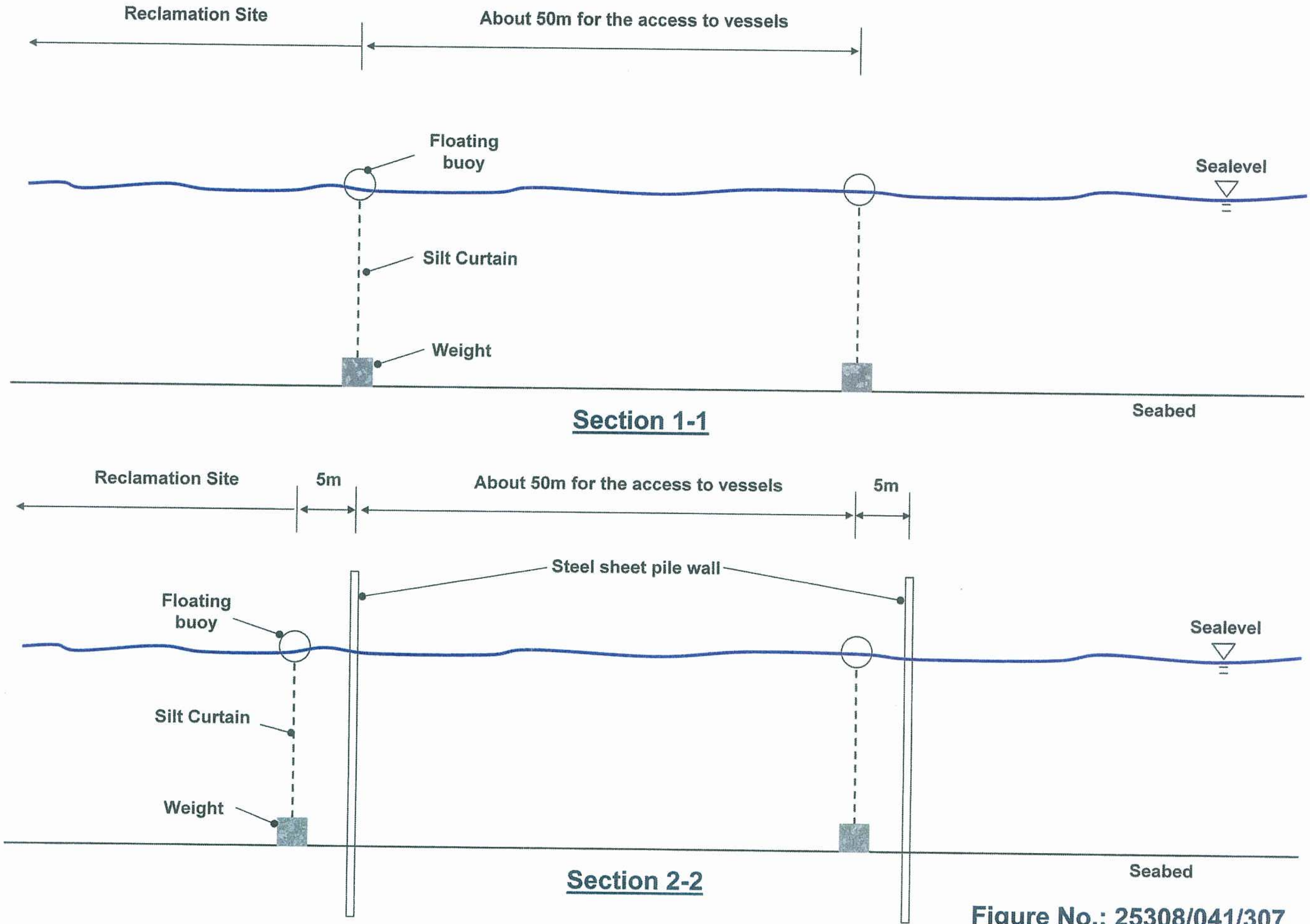
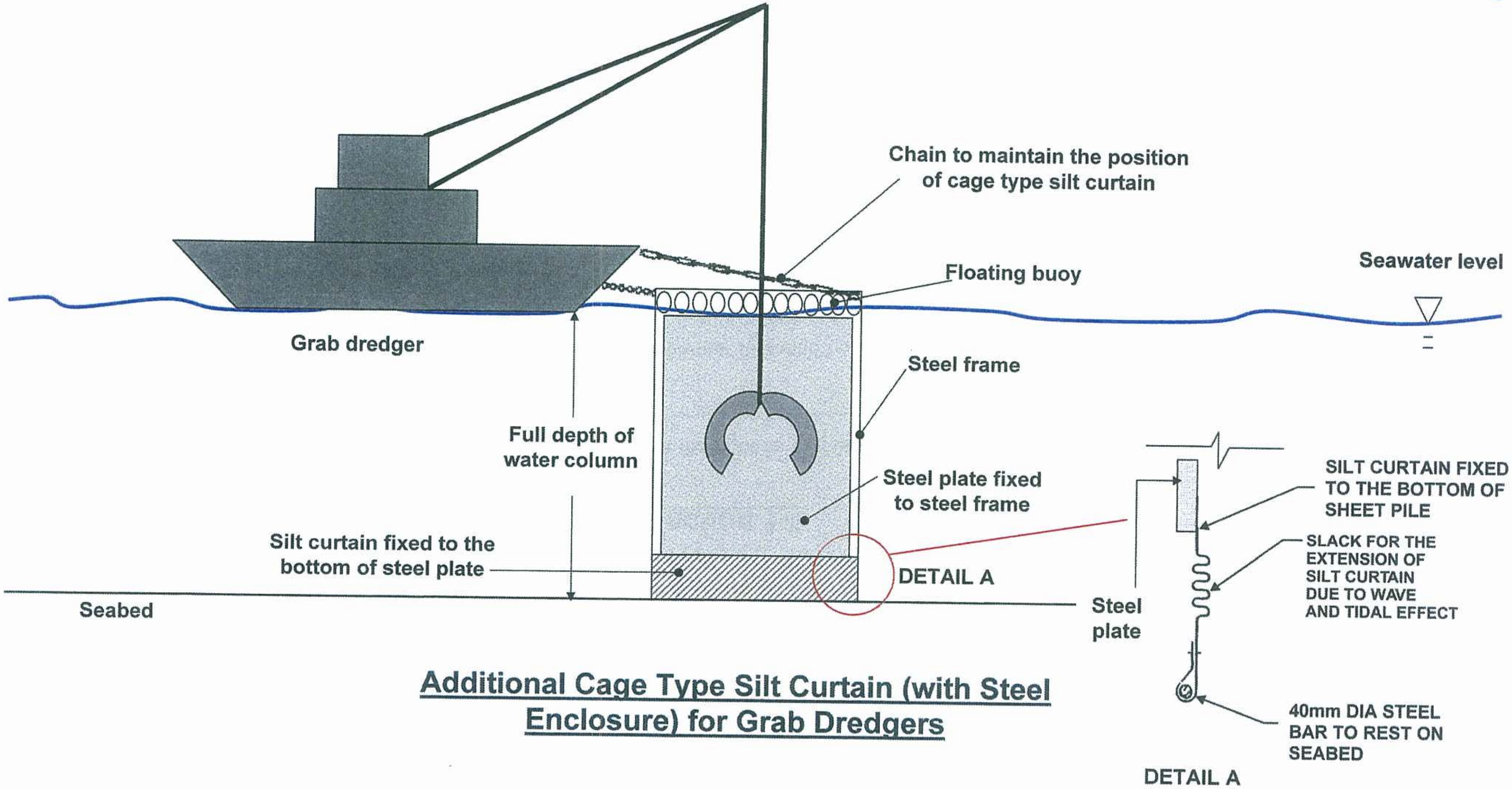


Figure No.: 25308/041/307



Additional Cage Type Silt Curtain (with Steel Enclosure) for Grab Dredgers

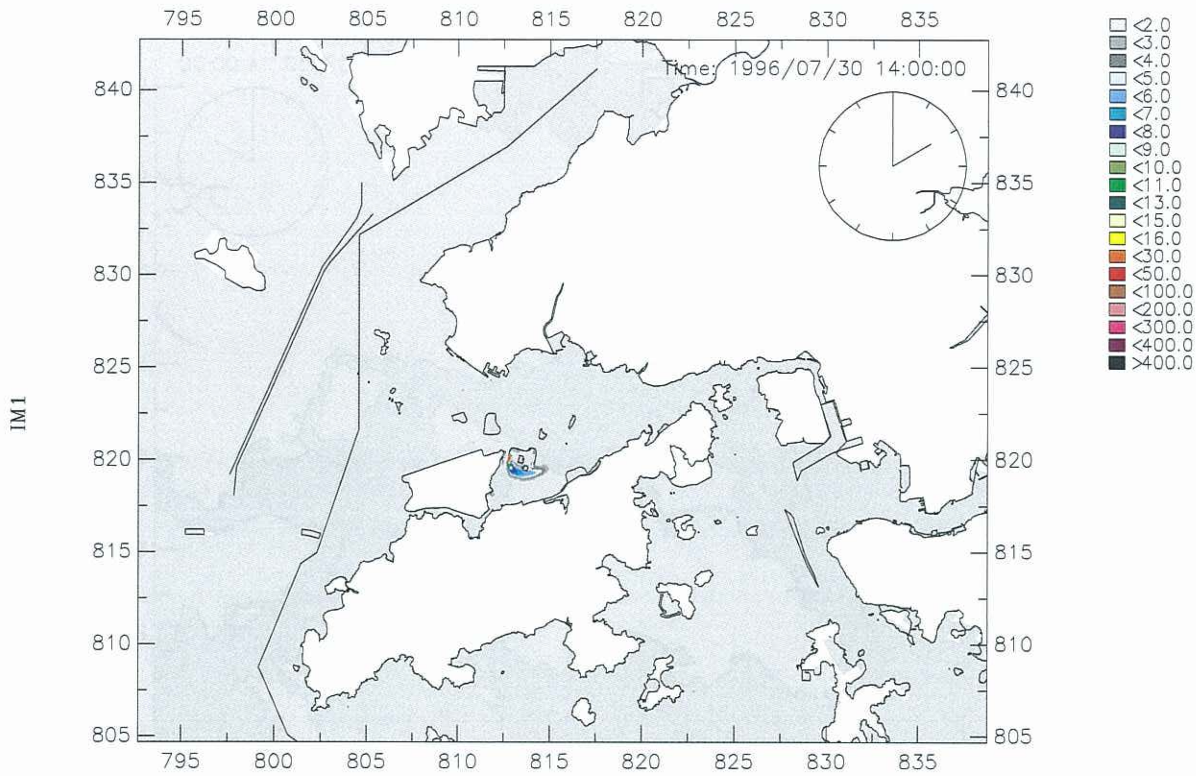
Figure No.: 25308/041/308a

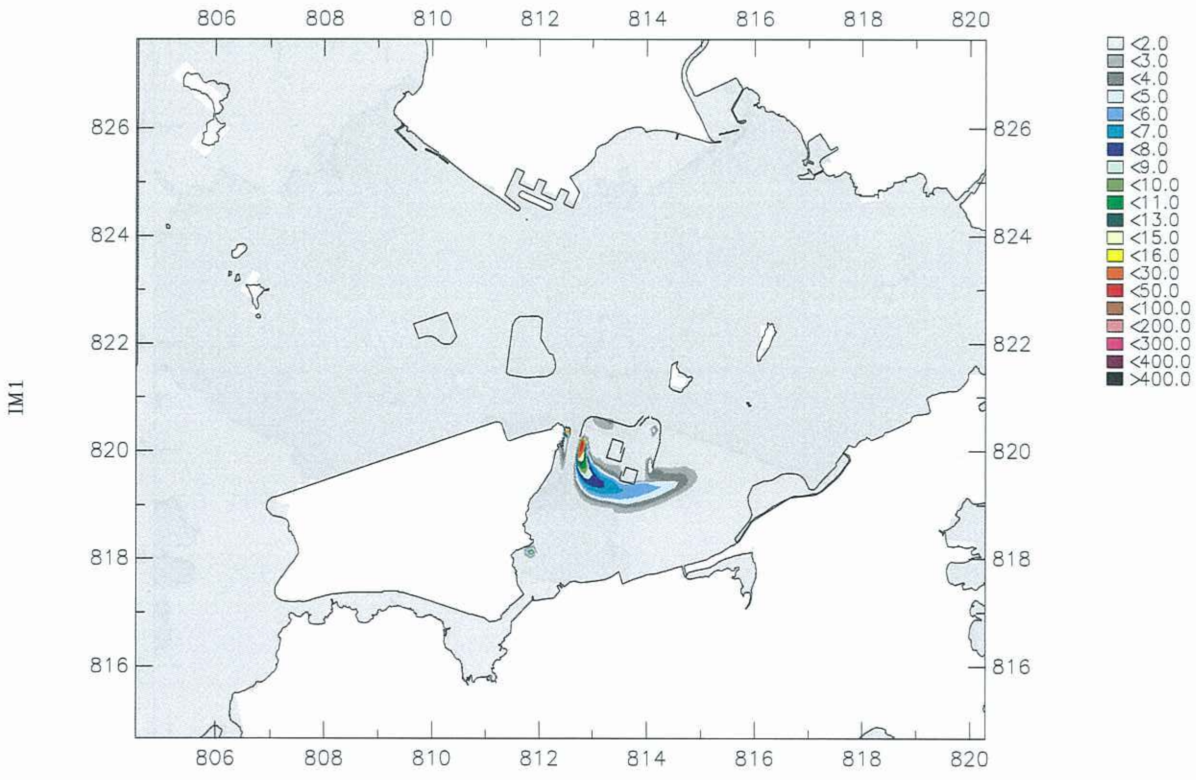
Part 9F3 - Figure List

Figure No.	Description
001	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Peak Ebb (Speed) Tide
002	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Peak Ebb (Speed) Tide
003	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Peak Ebb (Speed) Tide
004	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Peak Flood (Speed) Tide
005	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Peak Flood (Speed) Tide
006	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Peak Flood (Speed) Tide
007	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Peak Ebb (Speed) Tide
008	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Peak Ebb (Speed) Tide
009	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Peak Ebb (Speed) Tide
010	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Peak Flood (Speed) Tide
011	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Peak Flood (Speed) Tide
012	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Peak Flood (Speed) Tide
013	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Spring Tide, Lowest Low Water Level
014	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Spring Tide, Lowest Low Water Level
015	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Spring Tide, Lowest Low Water Level
016	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Spring Tide, Highest High Water Level
017	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Spring Tide, Highest High Water Level
018	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Spring Tide, Highest High Water Level
019	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Spring Tide, Lowest Low Water Level
020	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Spring Tide, Lowest Low Water Level
021	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Spring Tide, Lowest Low Water Level
022	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Spring Tide, Highest High Water Level

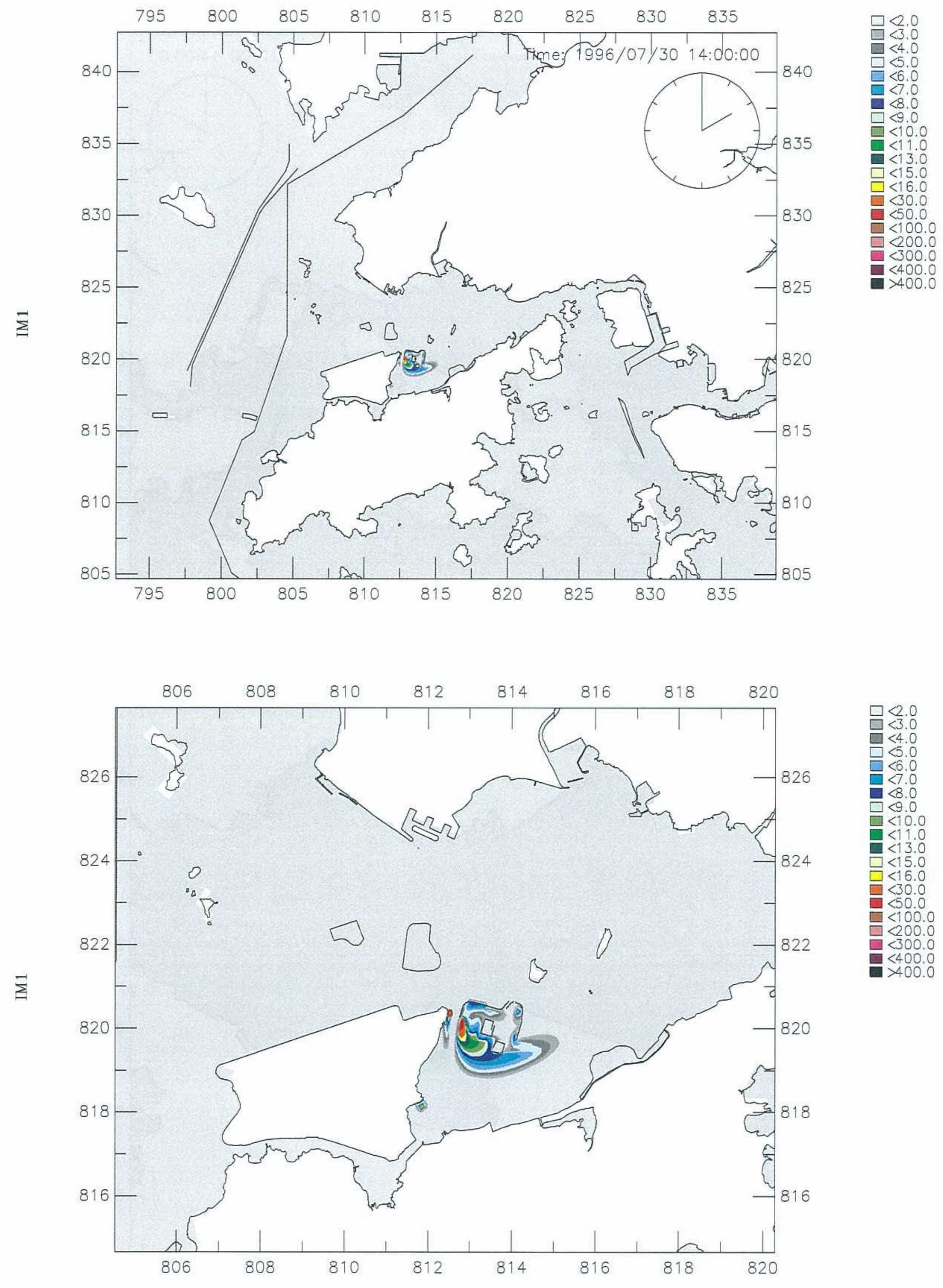
Figure No.	Description
023	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Spring Tide, Highest High Water Level
024	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Spring Tide, Highest High Water Level
025	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Neap Tide, Lowest Low Water Level
026	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Neap Tide, Lowest Low Water Level
027	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Neap Tide, Lowest Low Water Level
028	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Neap Tide, Highest High Water Level
029	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Neap Tide, Highest High Water Level
030	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Neap Tide, Highest High Water Level
031	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Neap Tide, Lowest Low Water Level
032	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Neap Tide, Lowest Low Water Level
033	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Neap Tide, Lowest Low Water Level
034	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Neap Tide, Highest High Water Level
035	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Neap Tide, Highest High Water Level
036	Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Neap Tide, Highest High Water Level
037	Year 2011 (Sequence B), Mitigated SS (g/m2) Contour, Dry Season Total Deposition
038	Year 2011 (Sequence B), Mitigated SS (g/m2/day) Contour, Dry Season Daily Average Deposition
039	Year 2011 (Sequence B), Mitigated SS (g/m2) Contour, Wet Season Total Deposition
040	Year 2011 (Sequence B), Mitigated SS (g/m2/day) Contour, Wet Season Daily Average Deposition
041	Year 2011 Time History Plot of SS (mg/L) at WSR9a, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
042	Year 2011 Time History Plot of SS (mg/L) at WSR20, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
043	Year 2011 Time History Plot of SS (mg/L) at WSR22c, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
044	Year 2011 Time History Plot of SS (mg/L) at WSR24, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)

Figure No.	Description
045	Year 2011 Time History Plot of SS (mg/L) at WSR25, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
046	Year 2011 Time History Plot of SS (mg/L) at WSR27, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
047	Year 2011 Time History Plot of SS (mg/L) at WSR41, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
048	Year 2011 Time History Plot of SS (mg/L) at WSR45c, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
049	Year 2011 Time History Plot of SS (mg/L) at WSR46, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
050	Year 2011 Time History Plot of SS (mg/L) at WSR49, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
051	Year 2011 Time History Plot of SS (mg/L) at WSR9a, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
052	Year 2011 Time History Plot of SS (mg/L) at WSR20, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
053	Year 2011 Time History Plot of SS (mg/L) at WSR22c, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
054	Year 2011 Time History Plot of SS (mg/L) at WSR24, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
055	Year 2011 Time History Plot of SS (mg/L) at WSR25, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
056	Year 2011 Time History Plot of SS (mg/L) at WSR27, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
057	Year 2011 Time History Plot of SS (mg/L) at WSR41, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
058	Year 2011 Time History Plot of SS (mg/L) at WSR45c, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
059	Year 2011 Time History Plot of SS (mg/L) at WSR46, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)
060	Year 2011 Time History Plot of SS (mg/L) at WSR49, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)

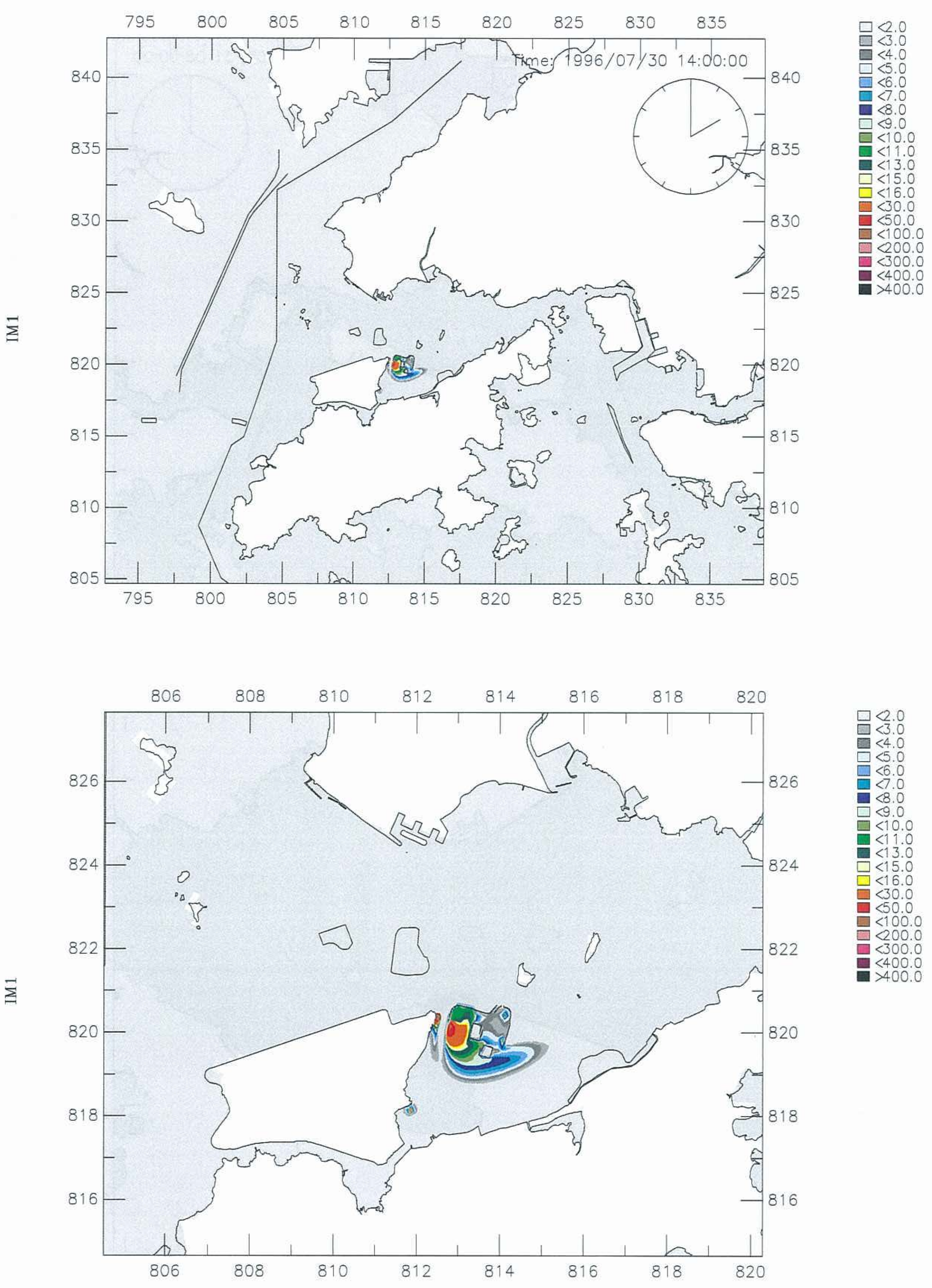




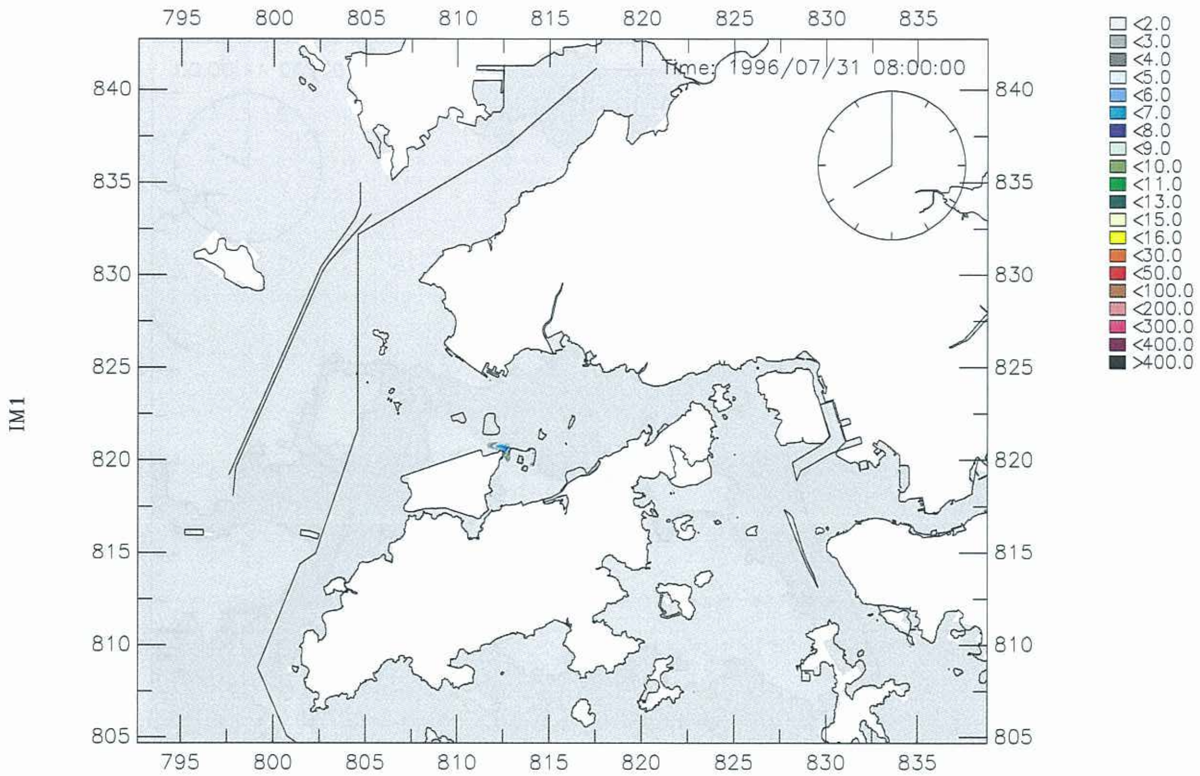
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Peak Ebb	Jul 2009	Figure 001
	2011b-Dry (P0M1-R11f)	
AECOM		

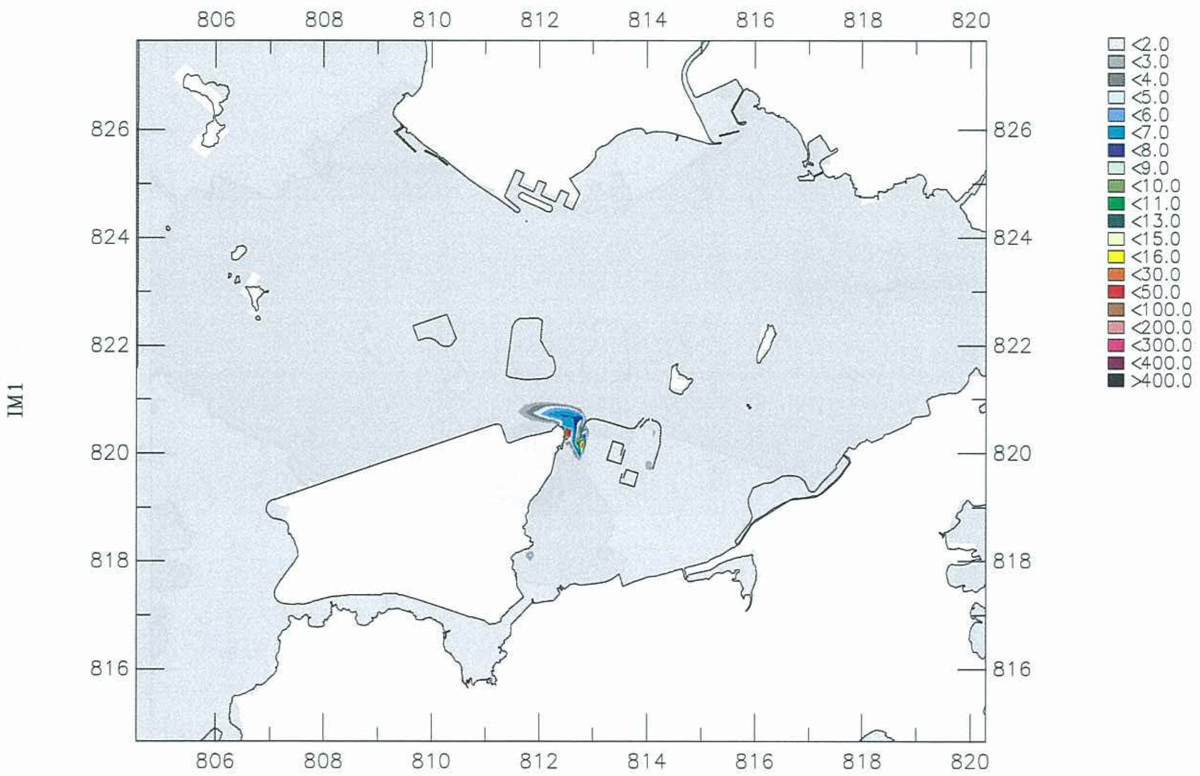


Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Peak Ebb	Jul 2009	Figure 002
	2011b-Dry (POM1-R11f)	
AECOM		

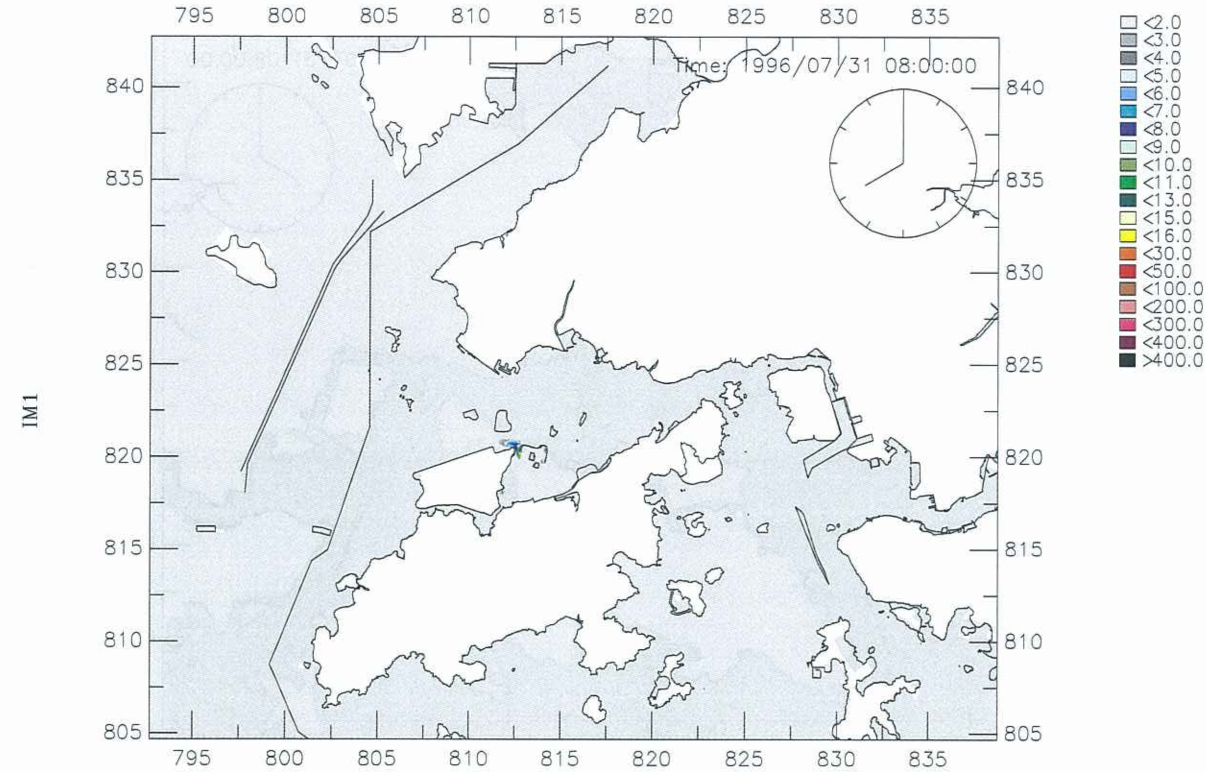


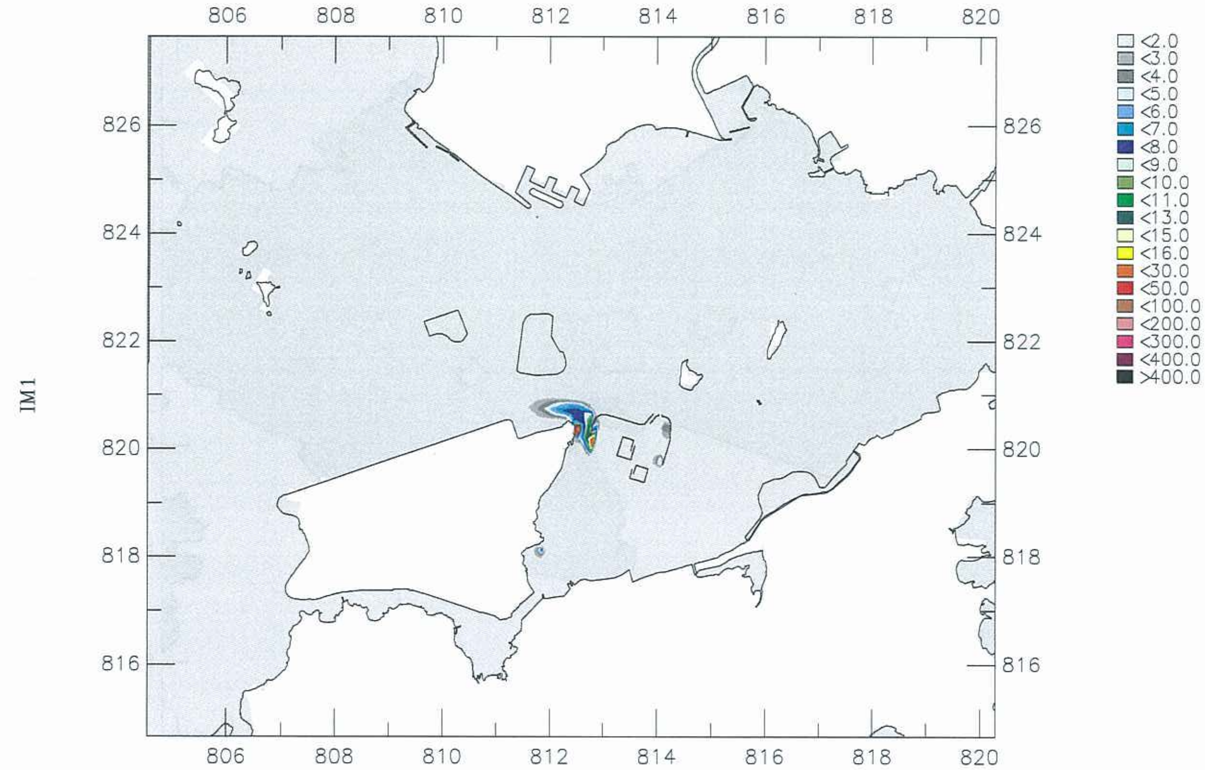
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Peak Ebb	Jul 2009	Figure 003
	2011b-Dry (P0M1-R11f)	
AECOM		



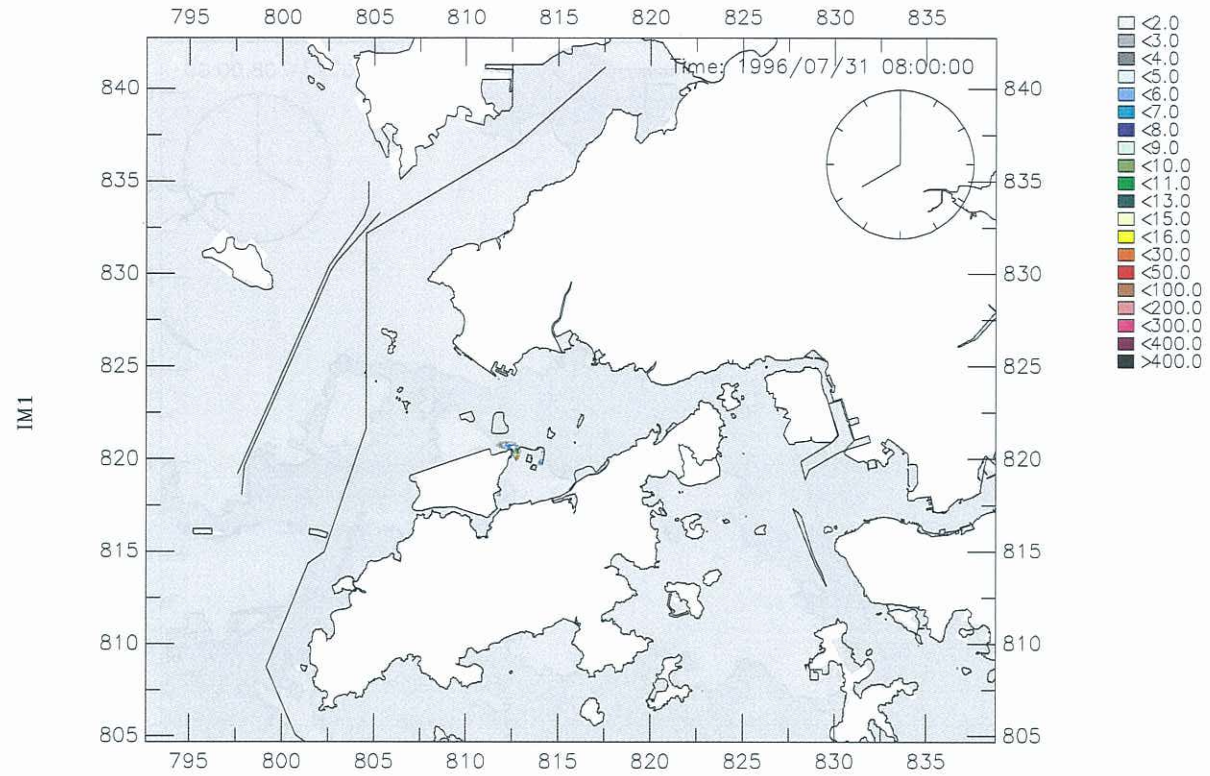


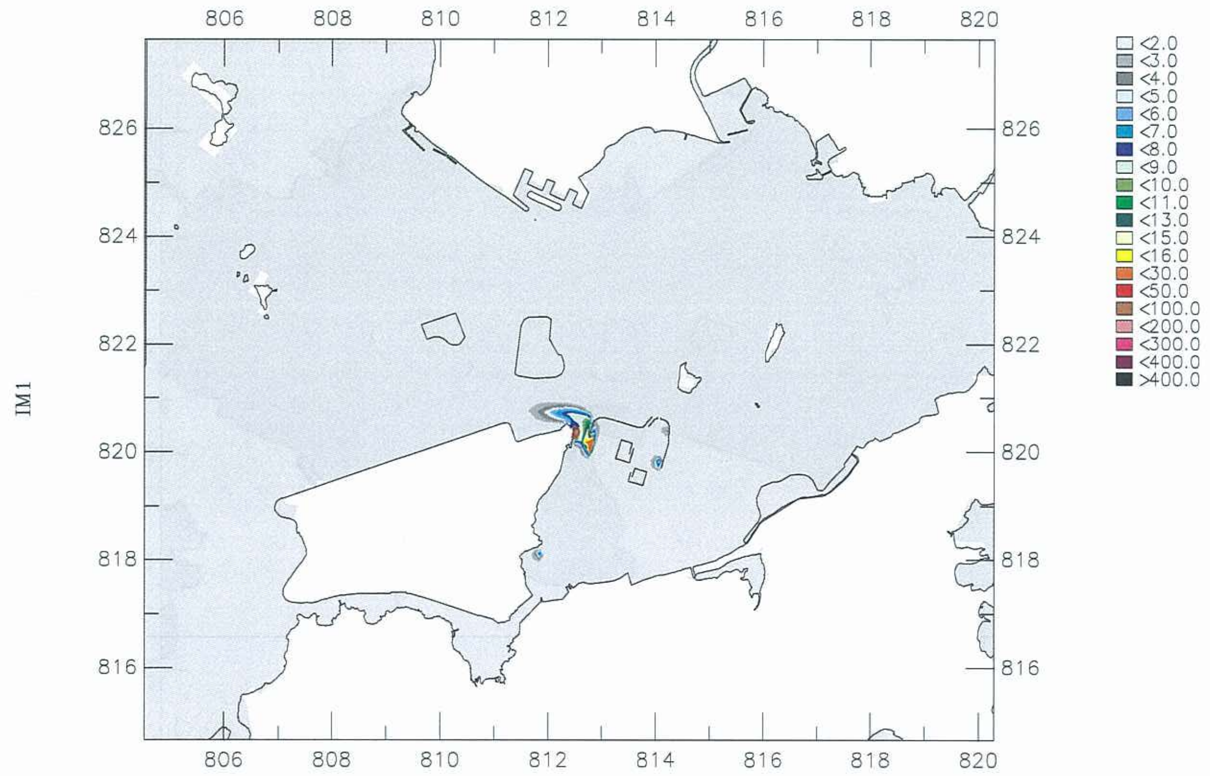
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Peak Flood	Jul 2009	Figure 004
	2011b-Dry (P0M1-R11f)	
AECOM		



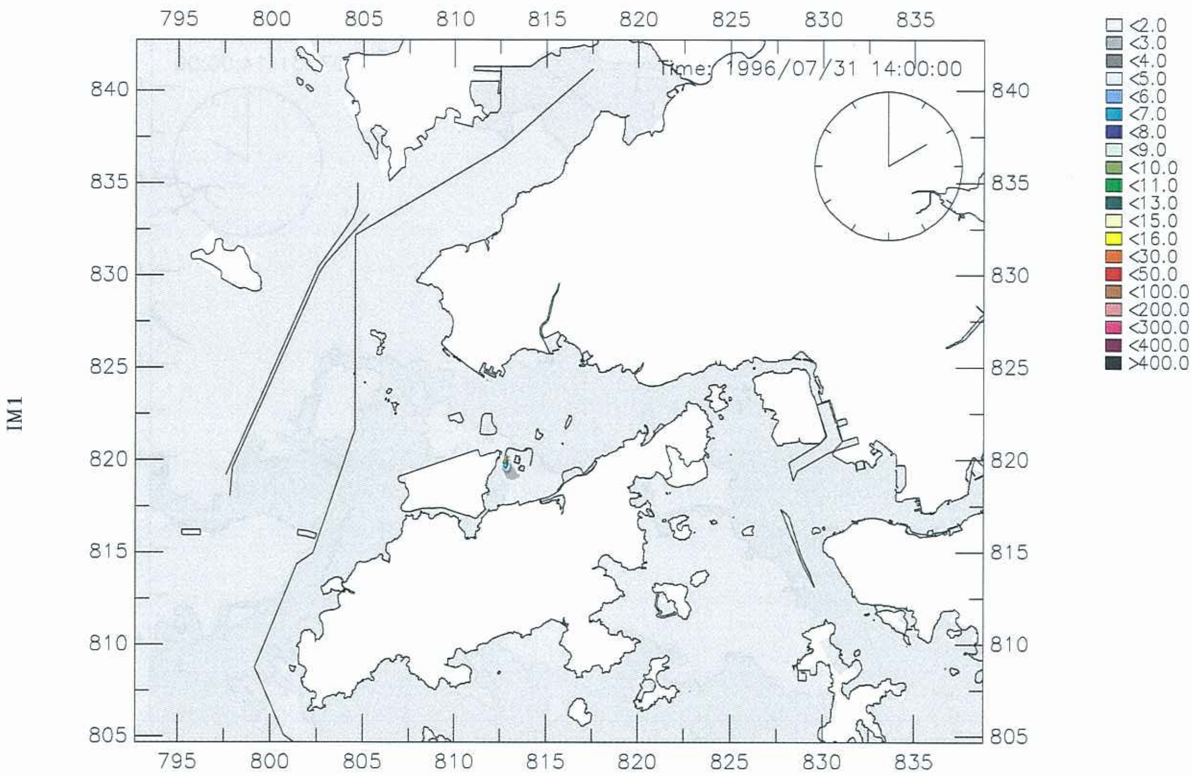


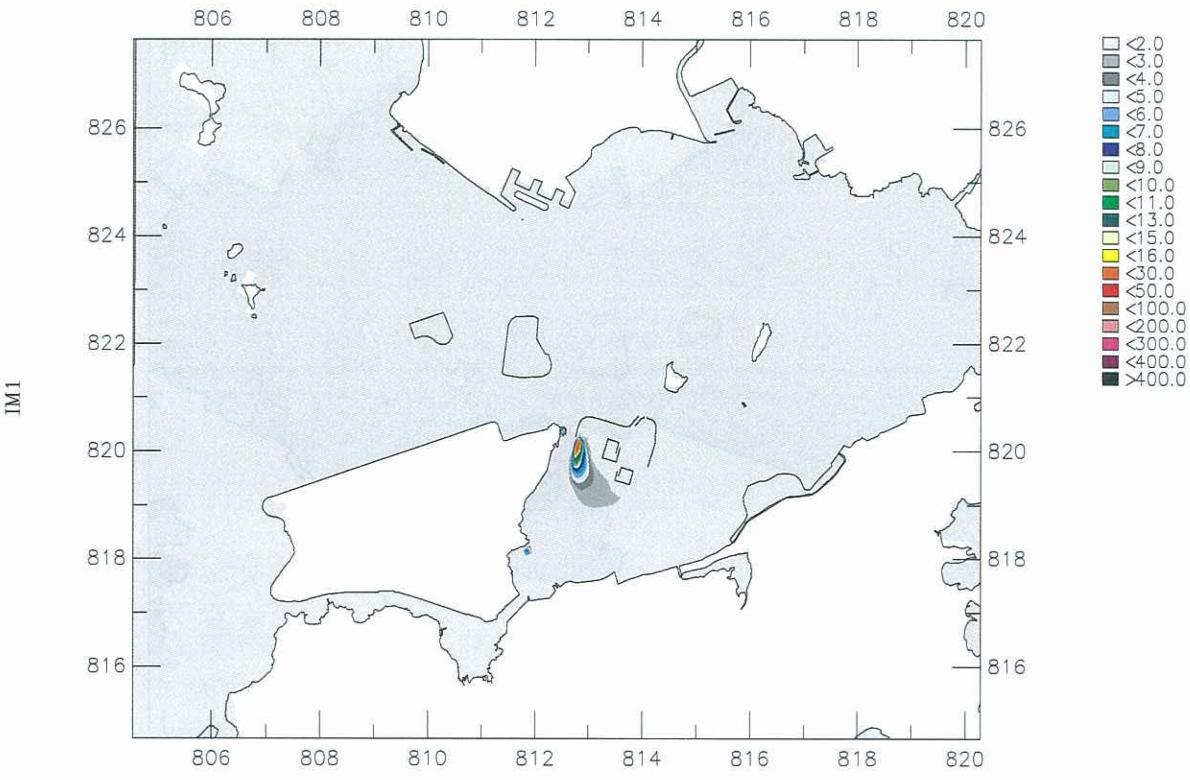
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Peak Flood	Jul 2009	Figure 005
	2011b-Dry (P0M1-R11f)	
AECOM		



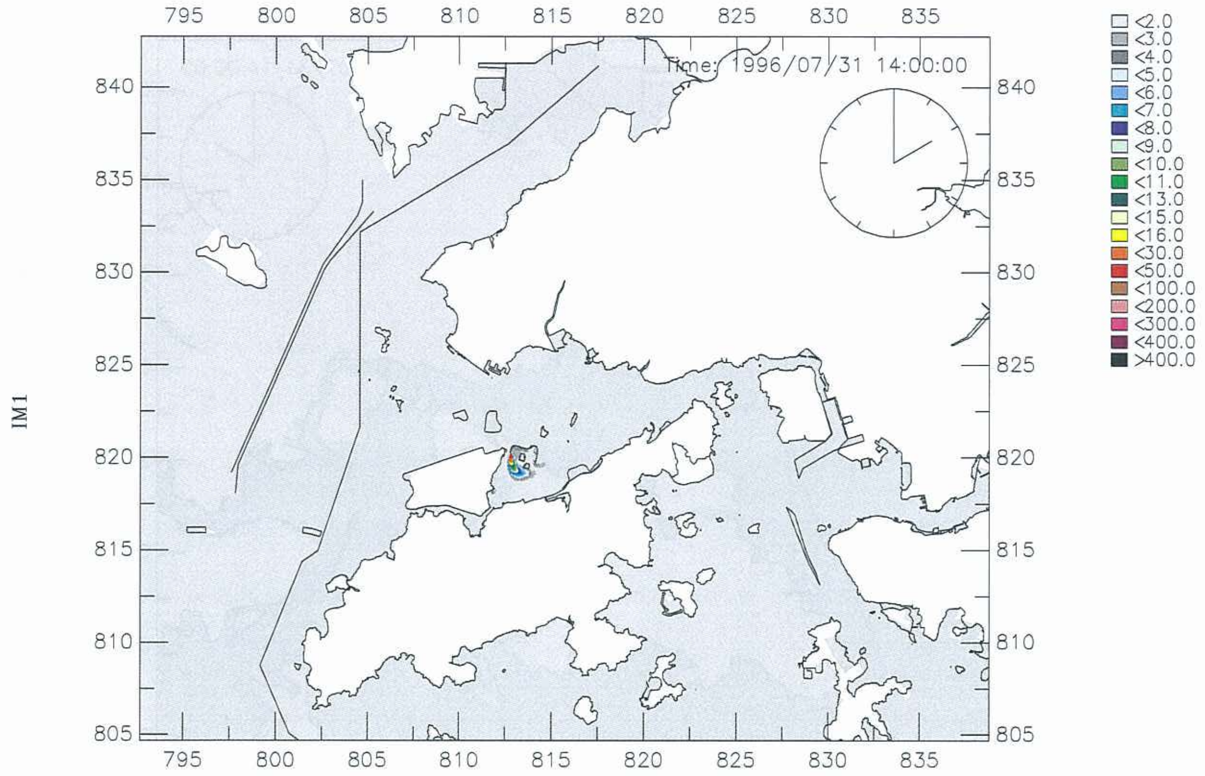


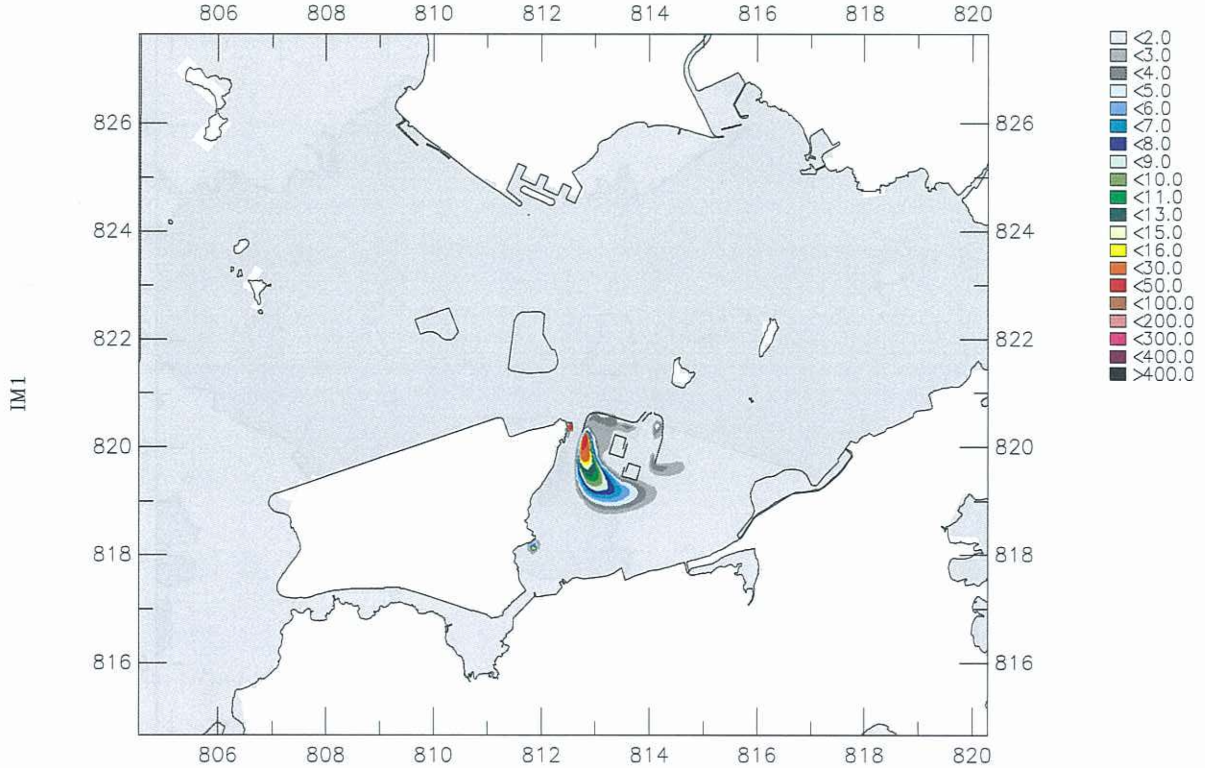
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Peak Flood	Jul 2009	Figure 006
	2011b-Dry (P0M1-R11f)	
AECOM		



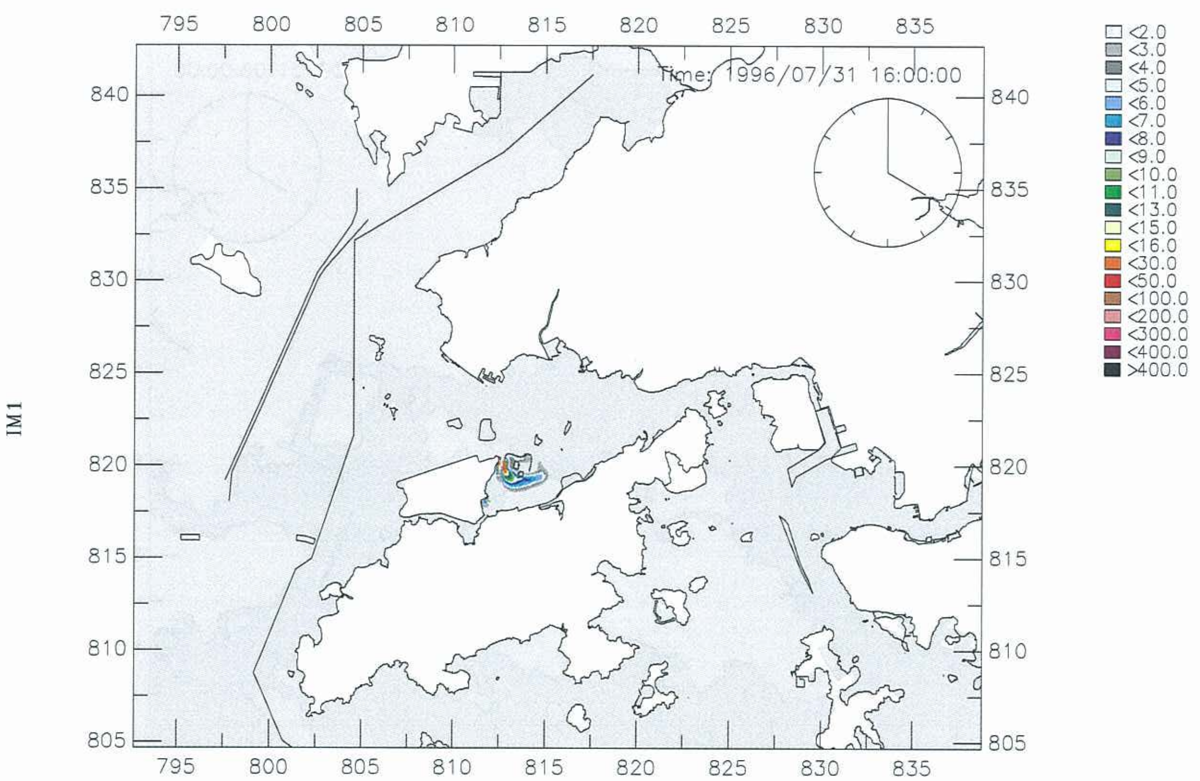


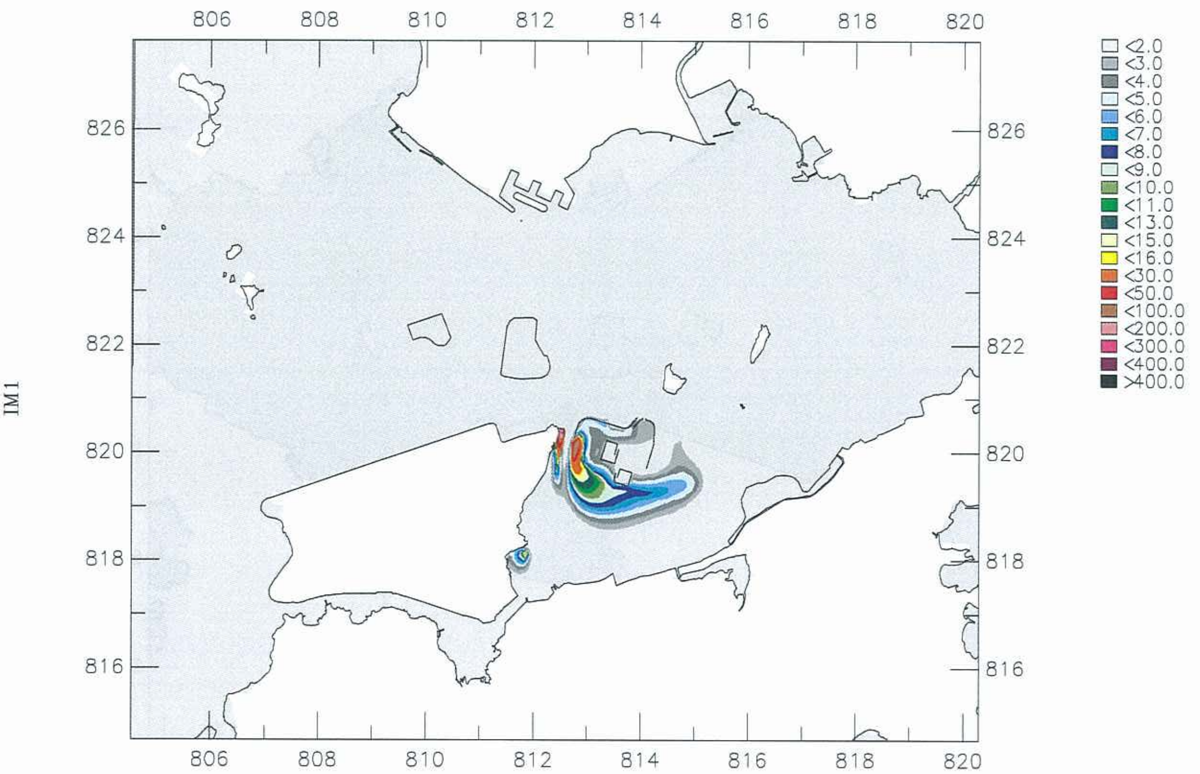
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Peak Ebb	Jul 2009	Figure 007
	2011b-Wet (P0M1-R11f)	
AECOM		





Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Peak Ebb	Jul 2009	Figure 008
	2011b-Wet (P0M1-R11f)	
AECOM		





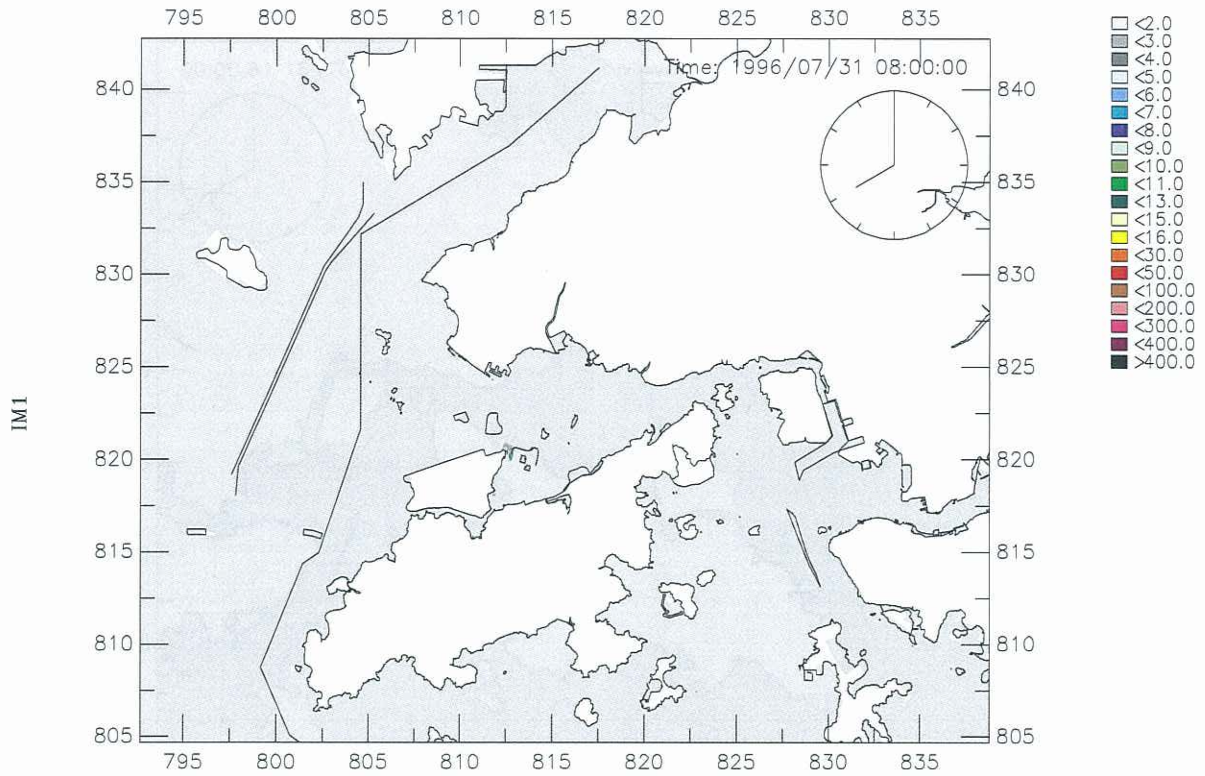
Year 2011 (Sequence B), Mitigated
SS (mg/L) Contour, Wet Season, Bottom Layer
Peak Ebb

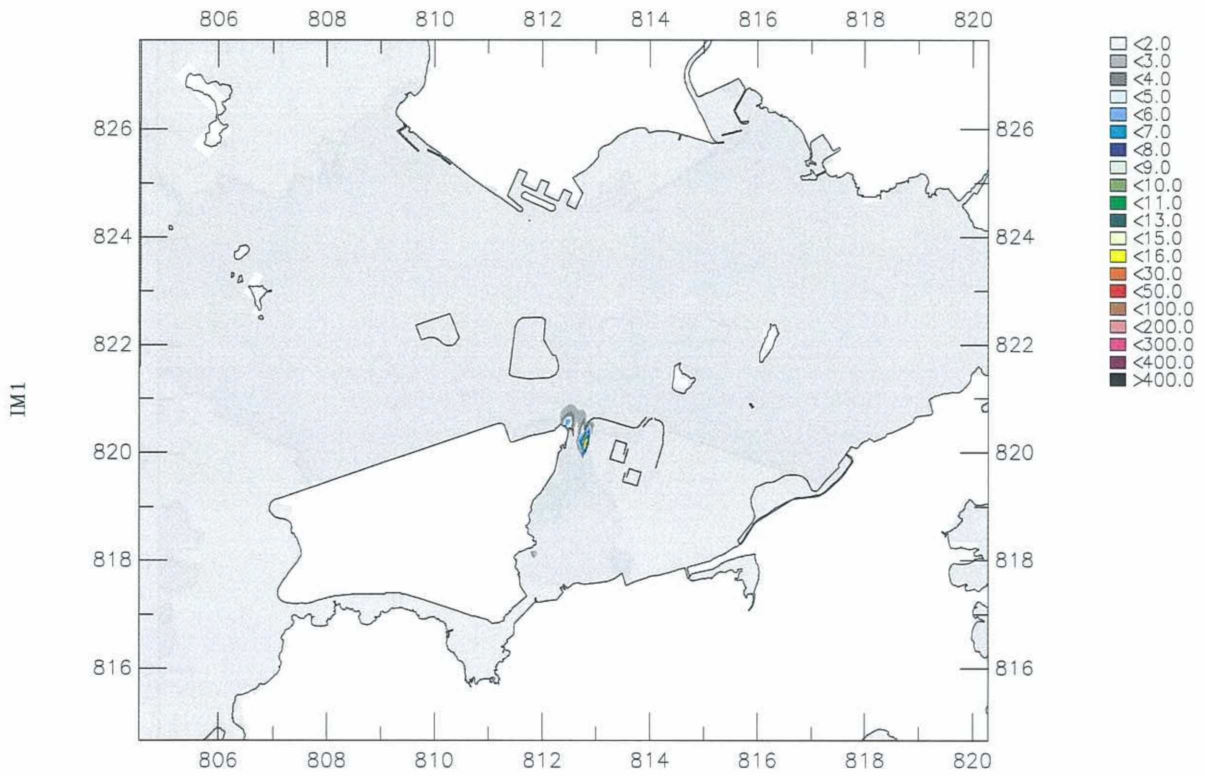
Jul 2009

Figure 009

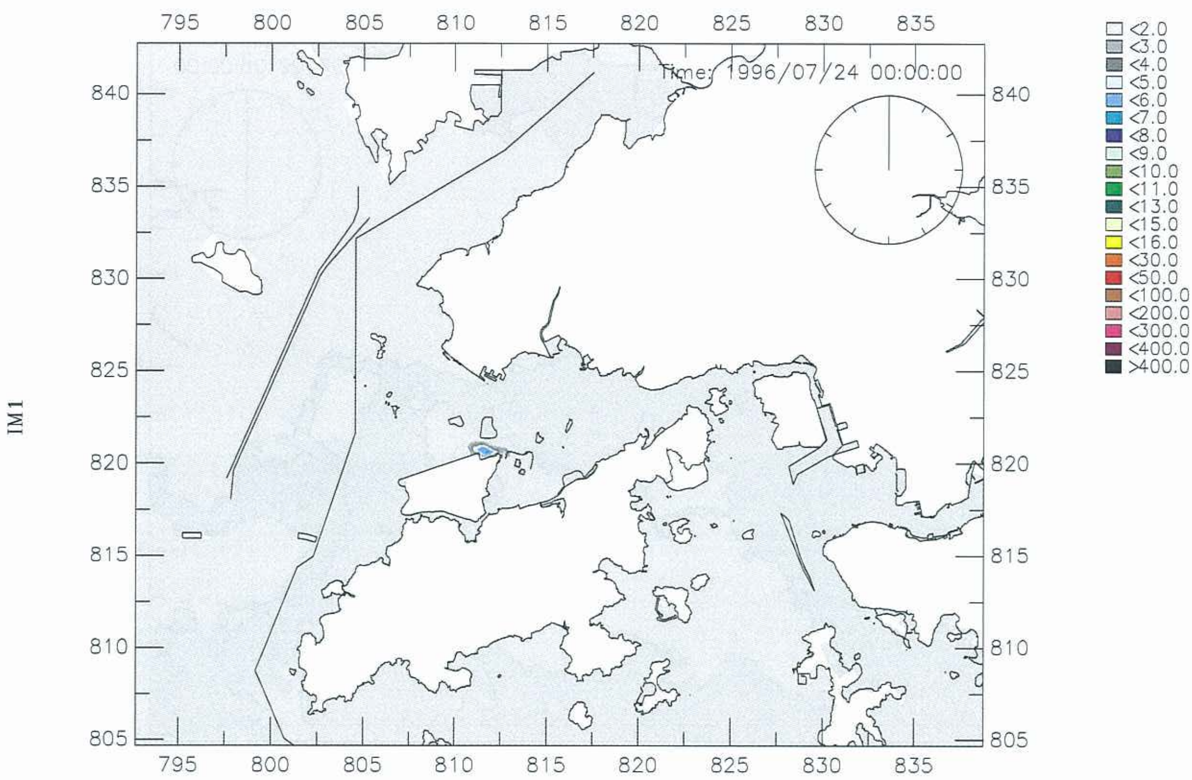
2011b-Wet (P0M1-R11f)

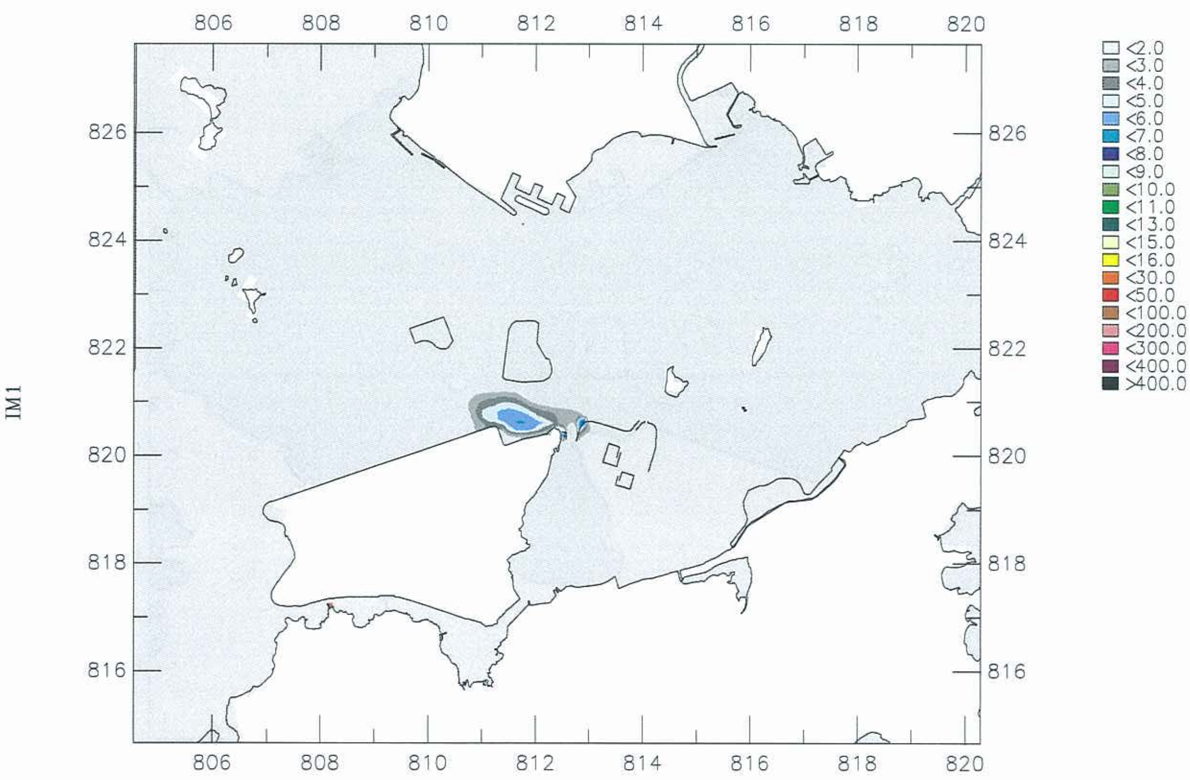
AECOM



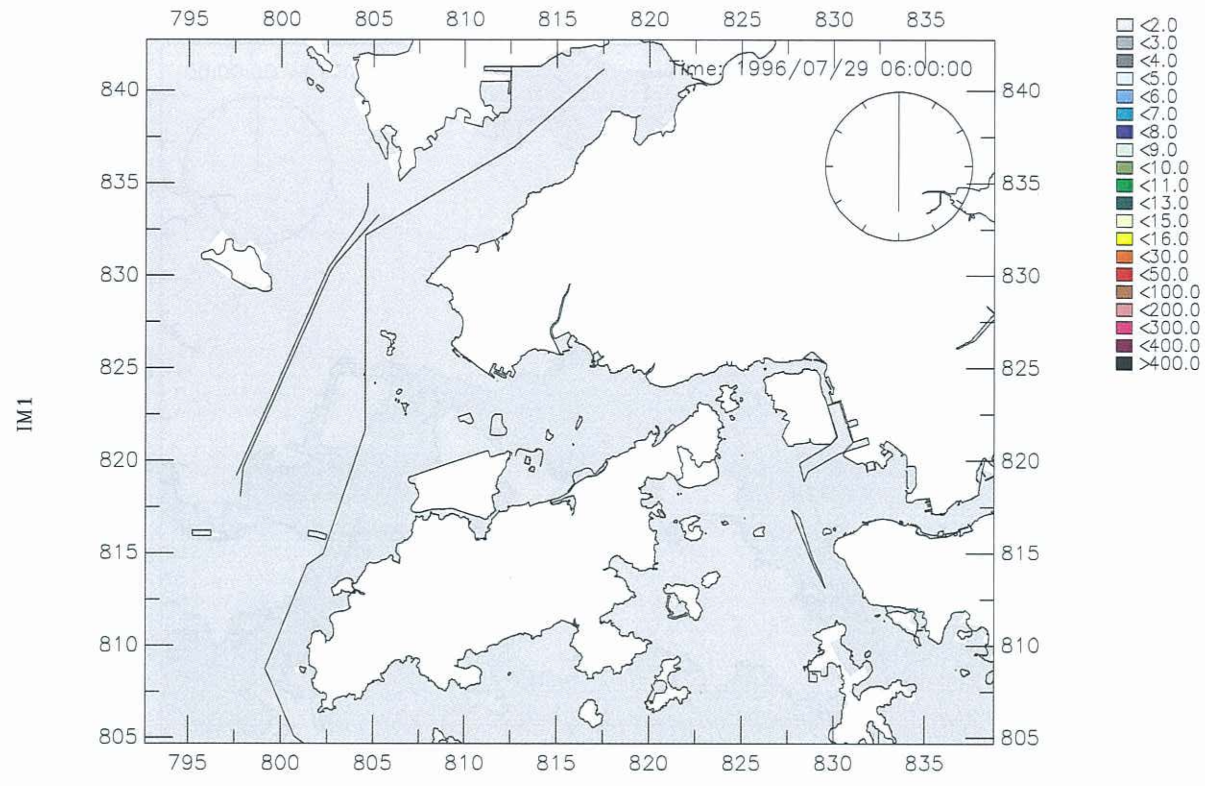


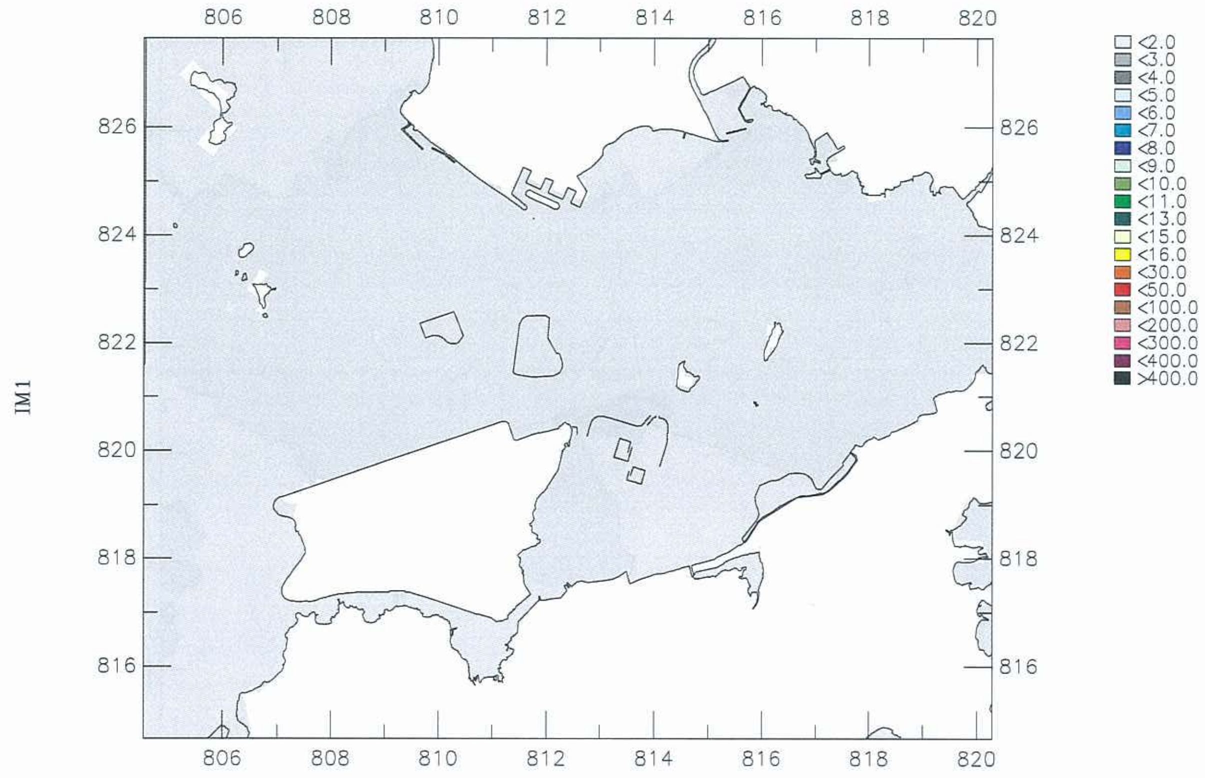
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Peak Flood	Jul 2009	Figure 010
	2011b-Wet (P0M1-R11f)	
AECOM		



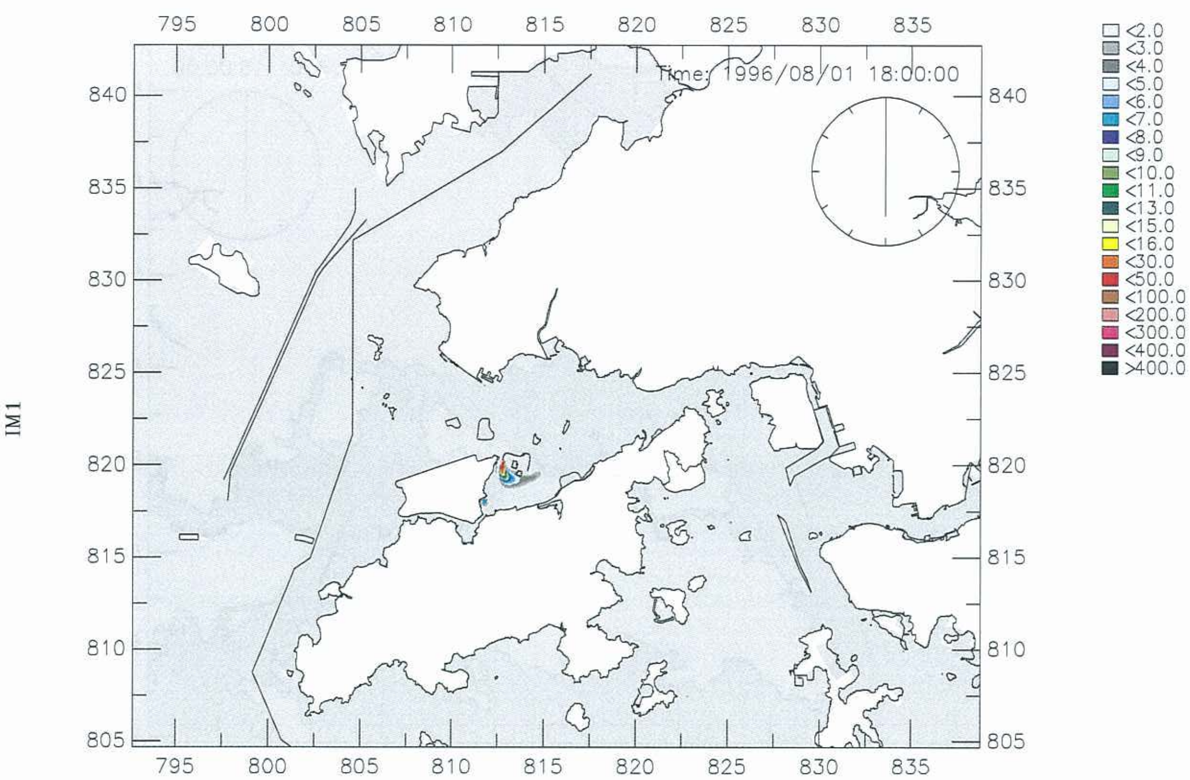


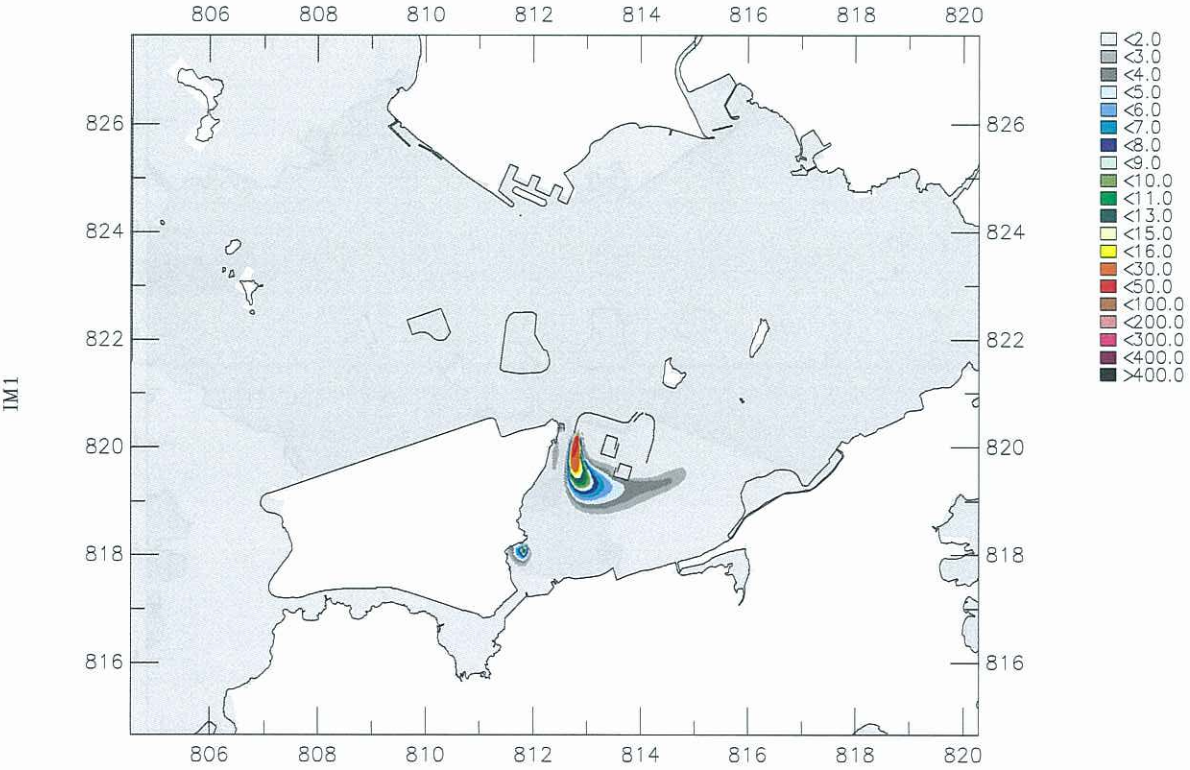
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid–Depth Peak Flood	Jul 2009	Figure 011
	2011b·Wet (P0M1·R11f)	
AECOM		



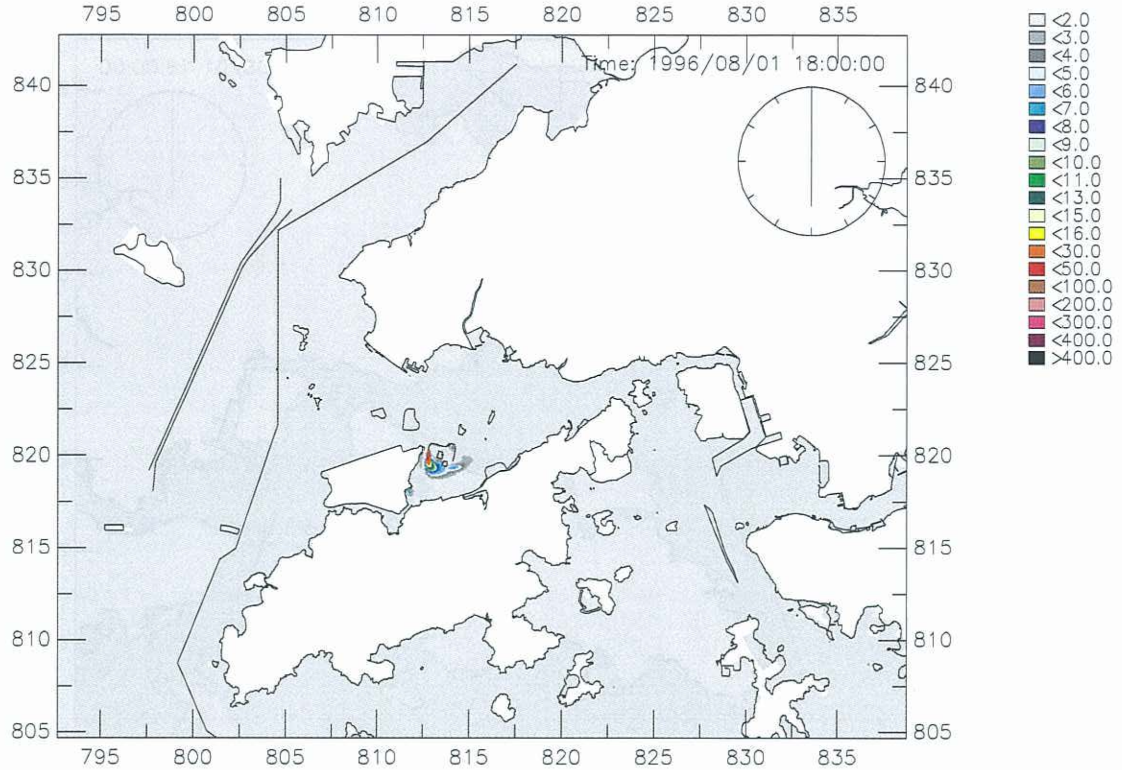


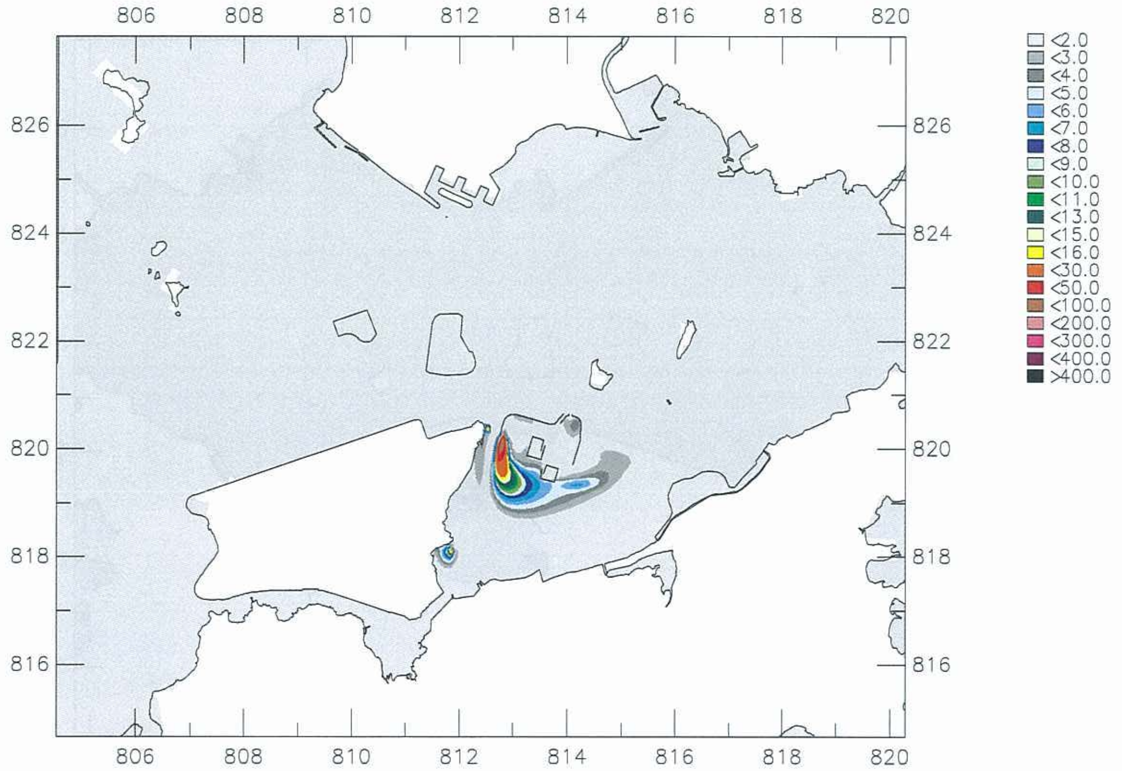
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Peak Flood	Jul 2009	Figure 012
	2011b-Wet (P0M1-R11f)	
AECOM		





Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Spring Tide, Lowest Low	Jul 2009	Figure 013
	2011b-Dry (P0M1-R11f)	
AECOM		



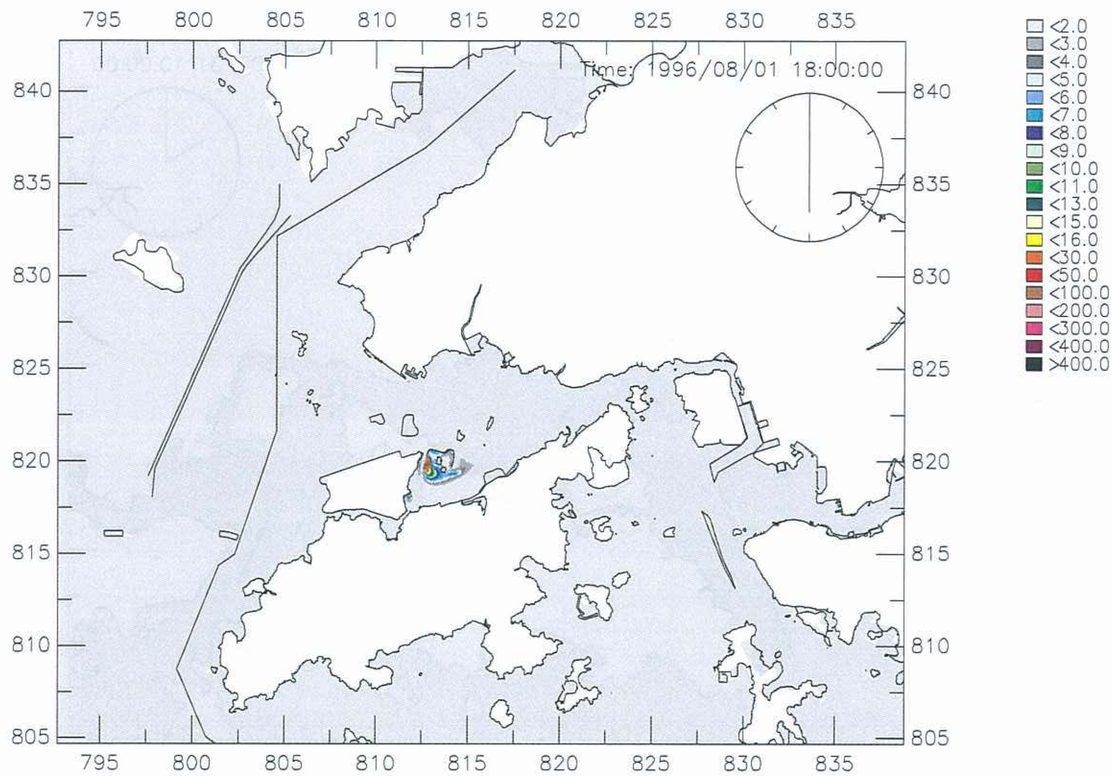


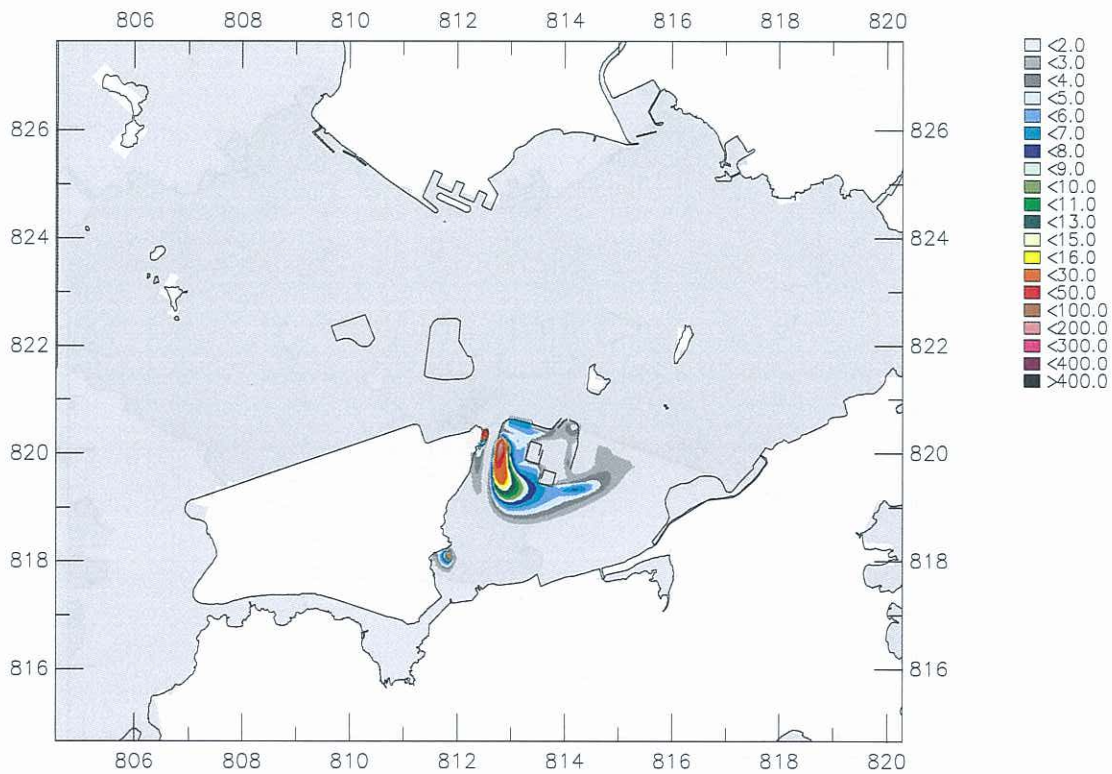
Year 2011 (Sequence B), Mitigated
SS (mg/L) Contour, Dry Season, Mid-Depth
Spring Tide, Lowest Low

Jul 2009 | Figure 014

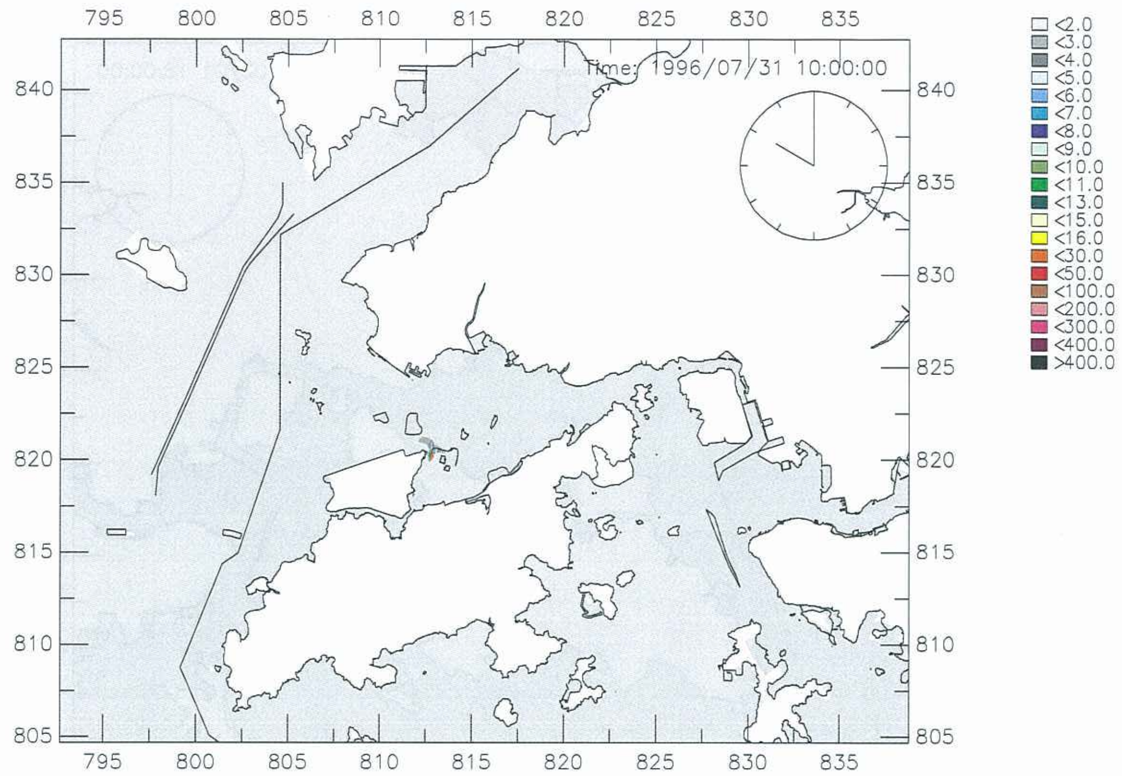
2011b·Dry (POM1·R11f)

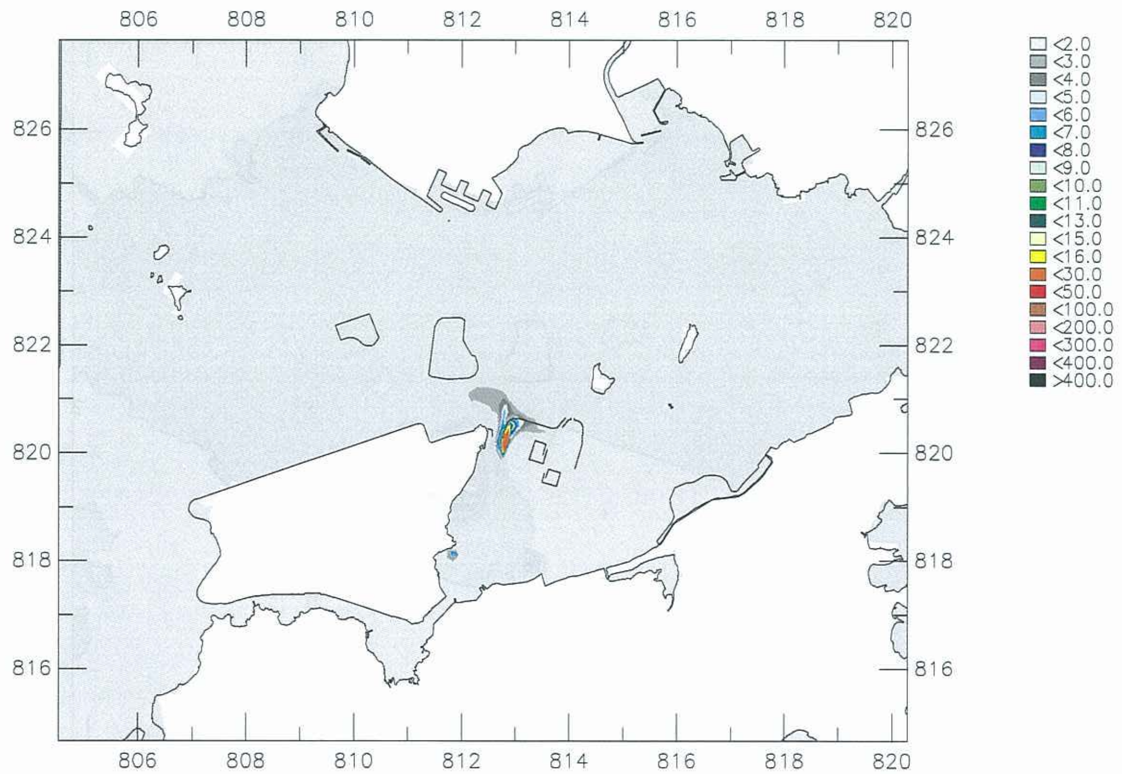
AECOM



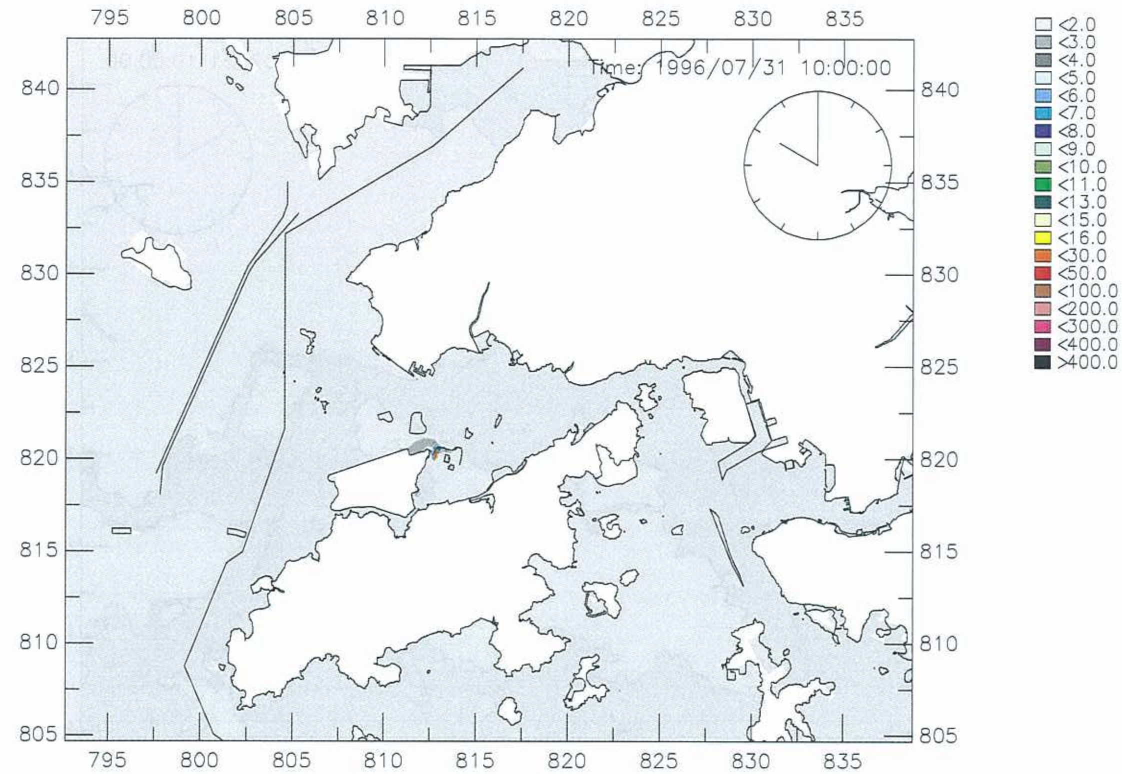


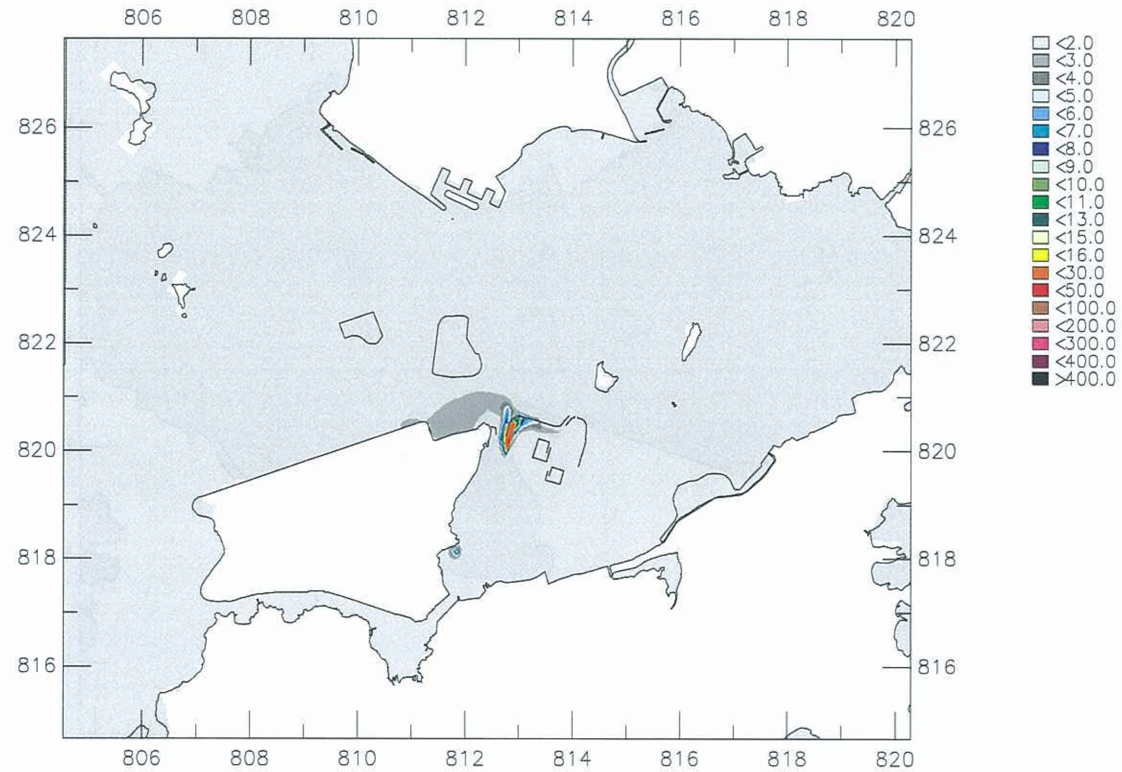
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Spring Tide, Lowest Low	Jul 2009	Figure 015
	2011b-Dry (POM1-R11f)	
AECOM		



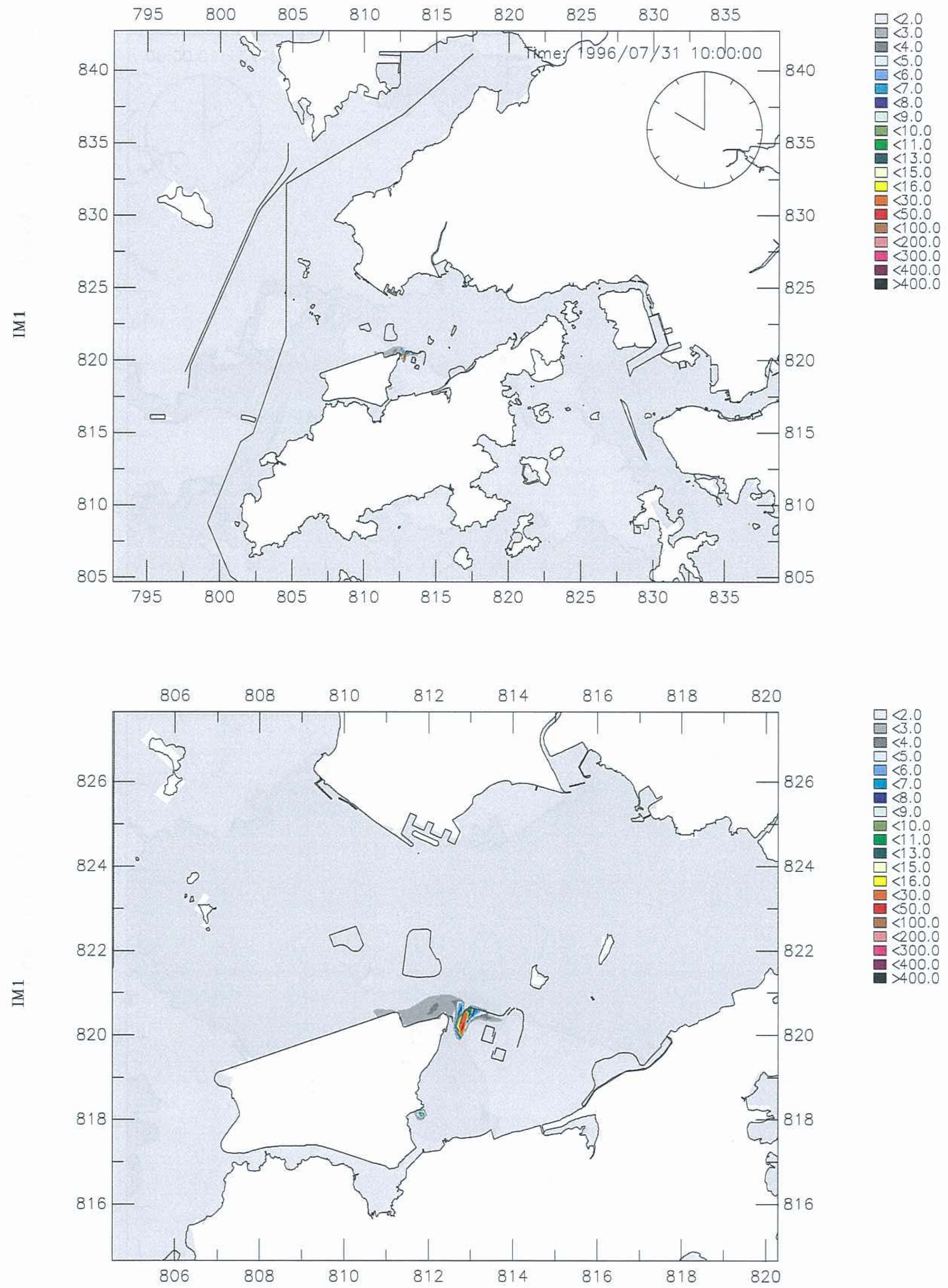


Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Spring Tide, Highest High	Jul 2009	Figure 016
	2011b-Dry (P0M1-R11f)	
AECOM		

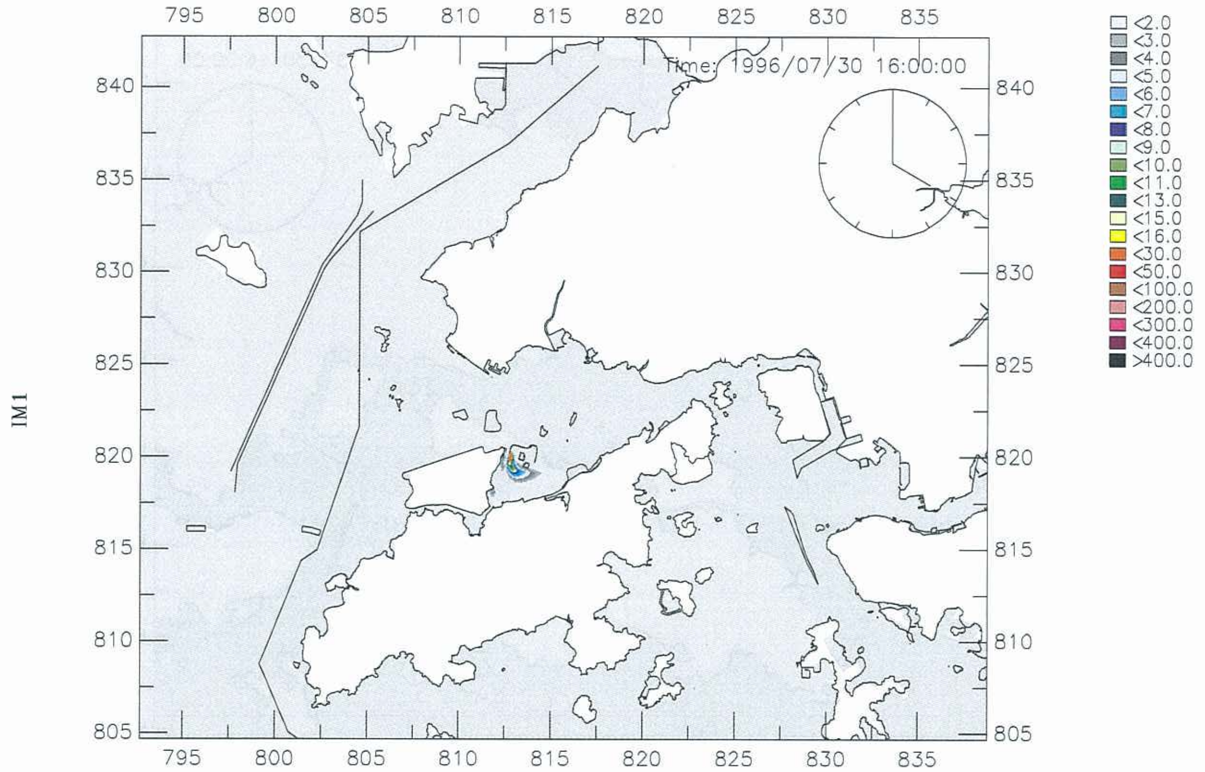


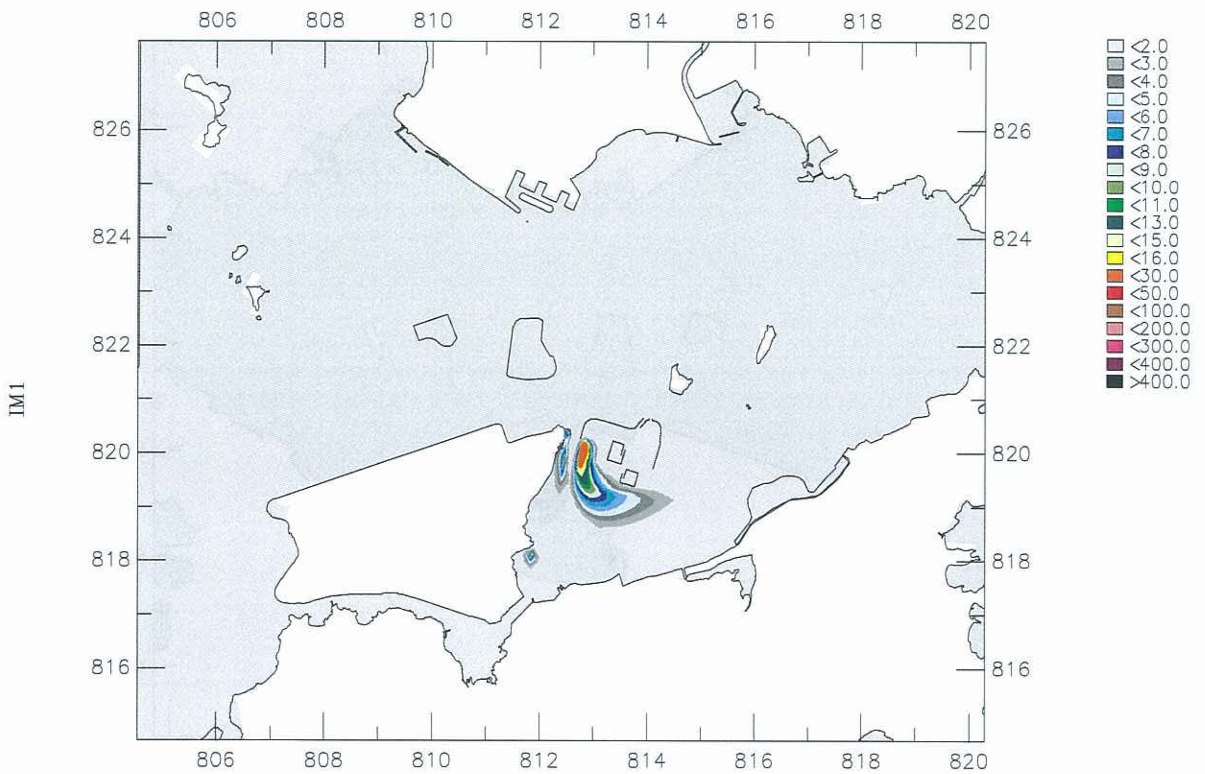


Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Spring Tide, Highest High	Jul 2009	Figure 017
	2011b-Dry (P0M1-R11f)	
AECOM		

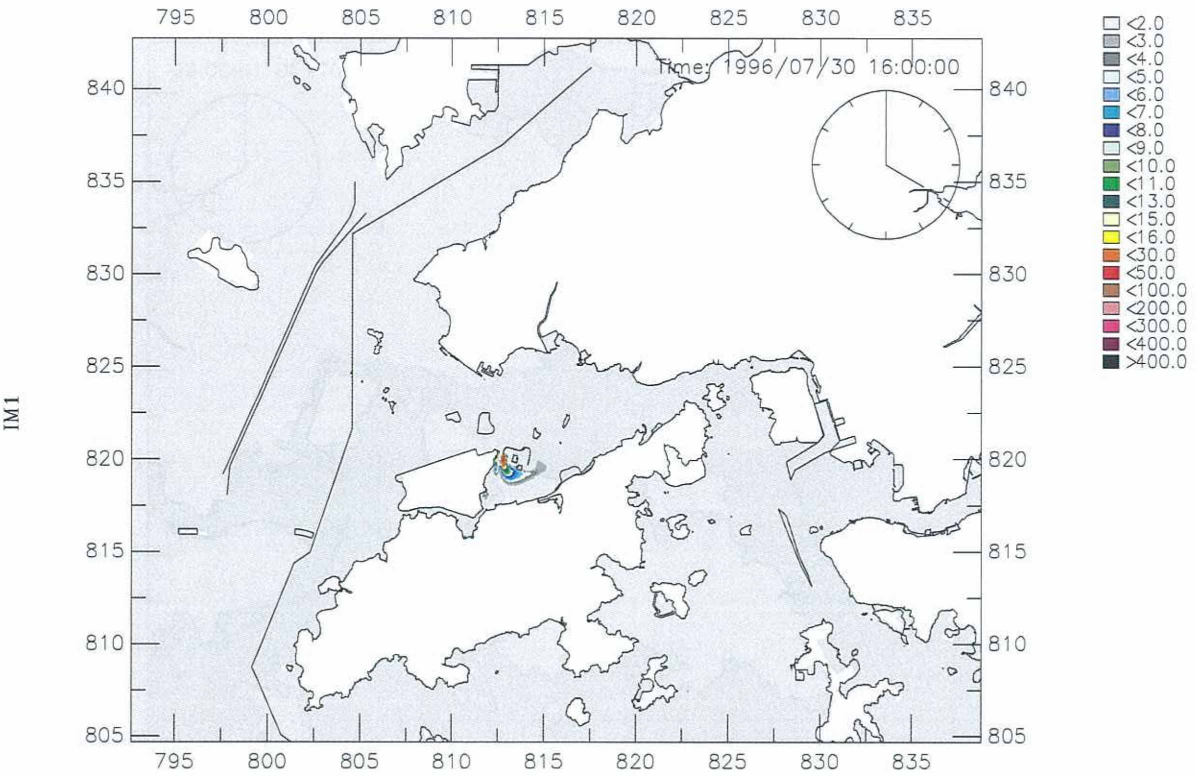


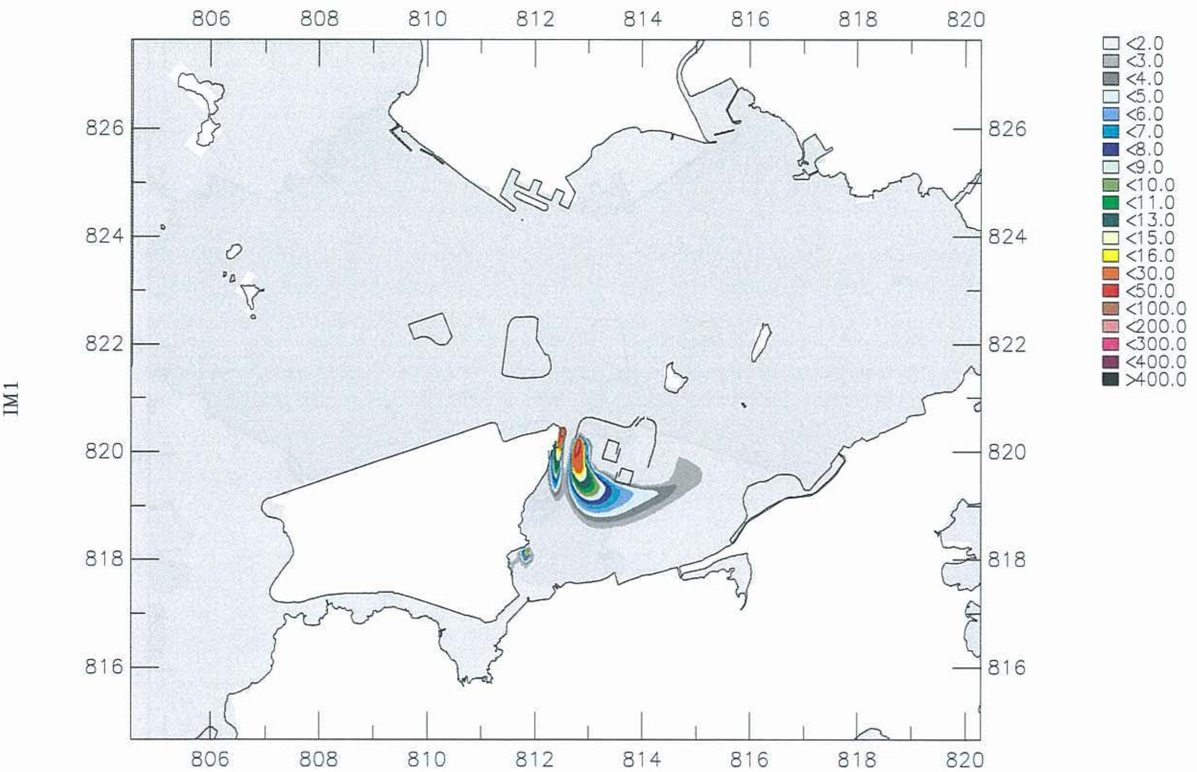
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Spring Tide, Highest High	Jul 2009	Figure 018
	2011b-Dry (P0M1-R11f)	
AECOM		



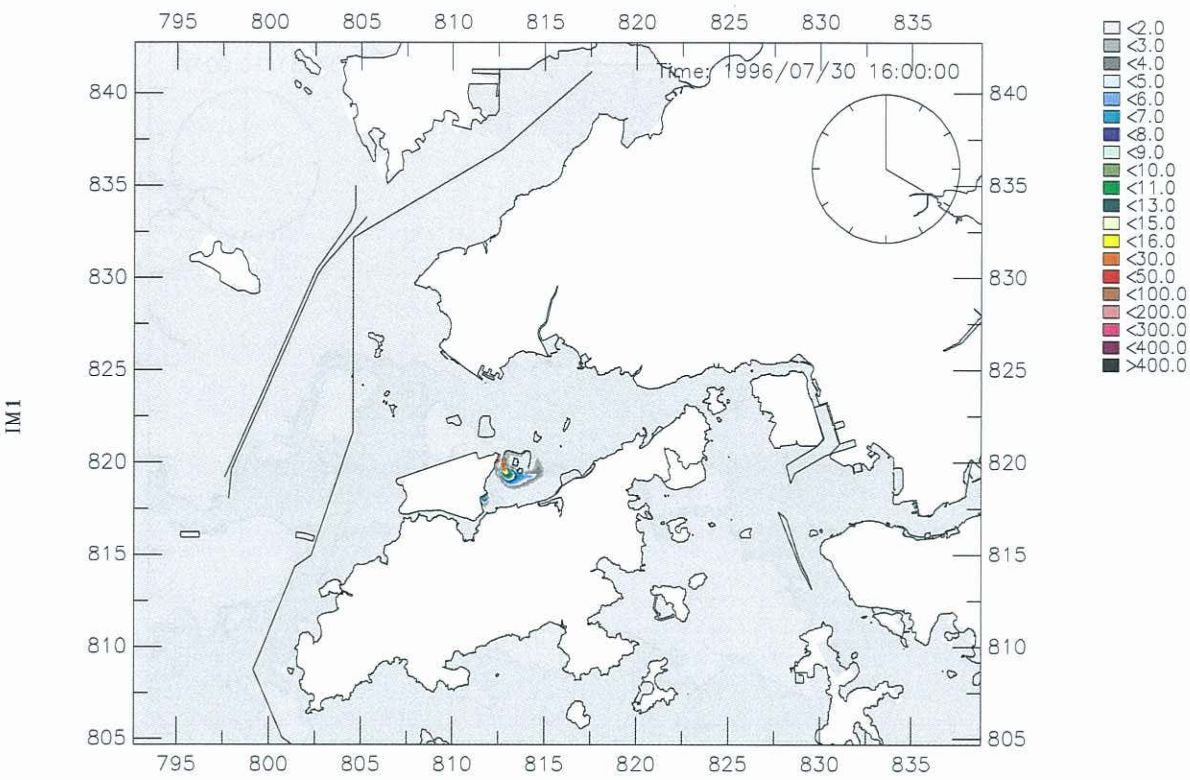


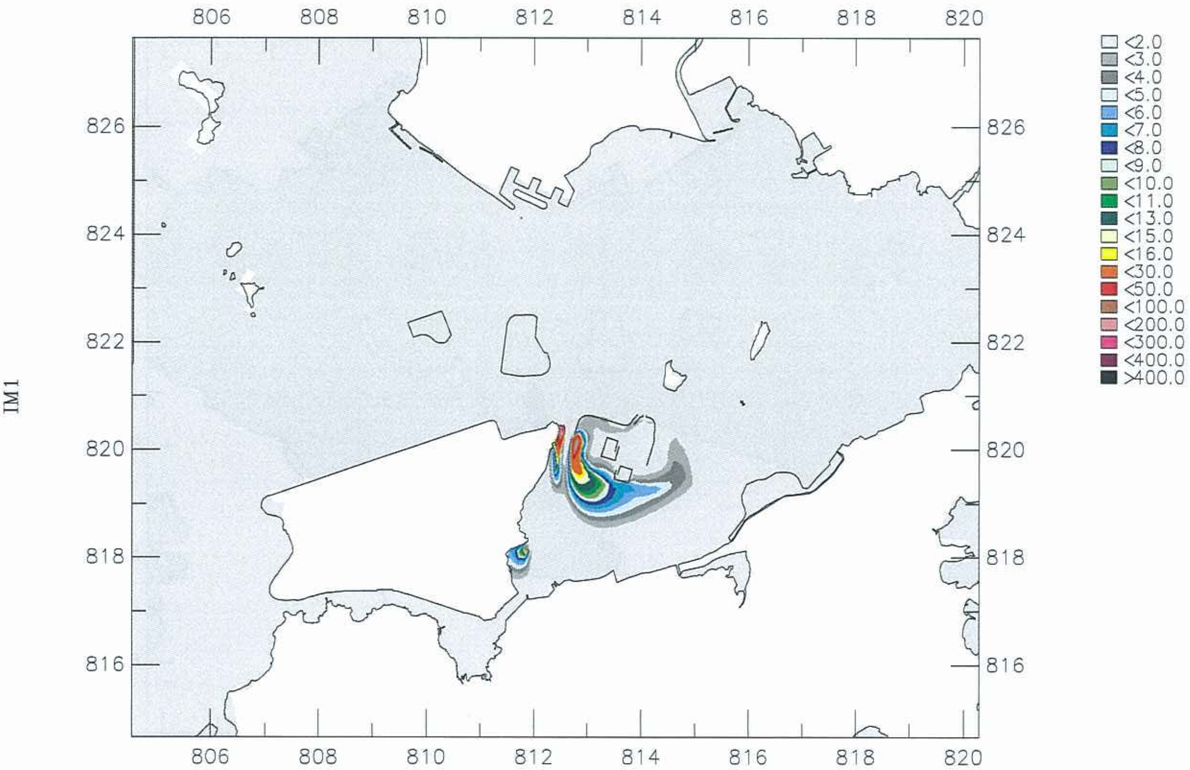
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Spring Tide, Lowest Low	Jul 2009	Figure 019
	2011b-Wet (P0M1-R11f)	
AECOM		



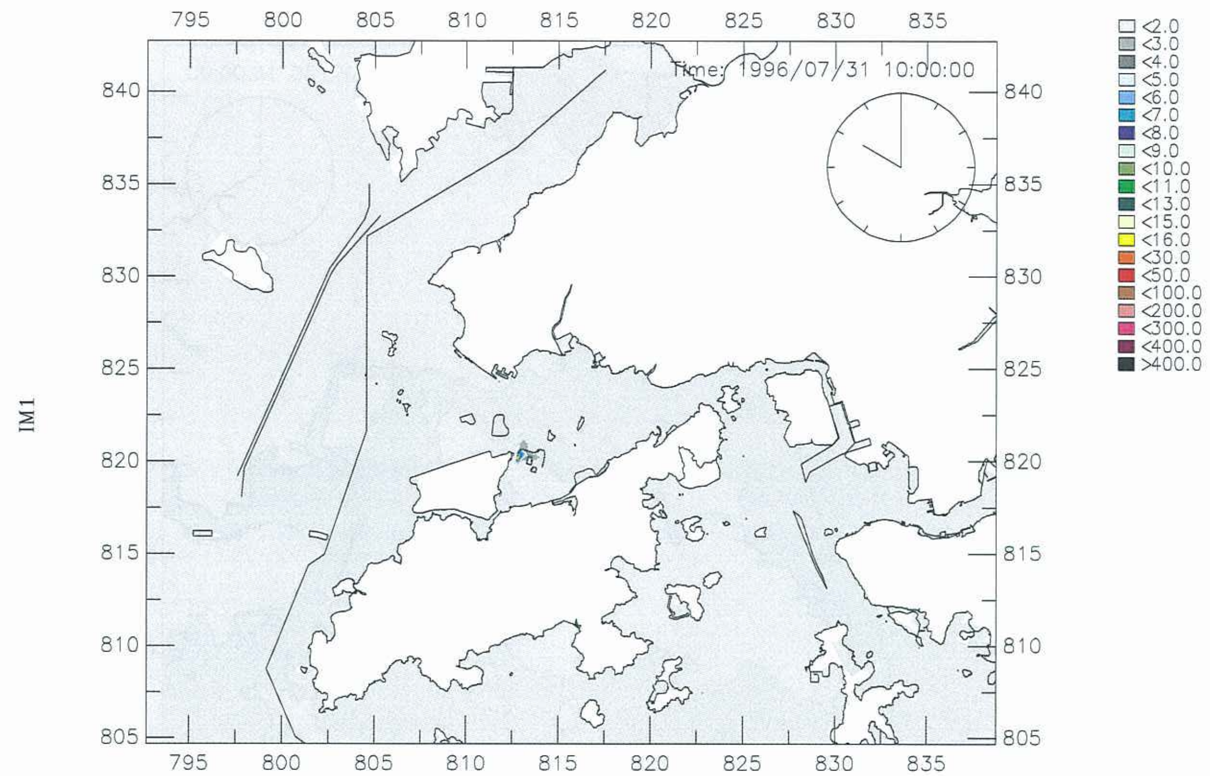


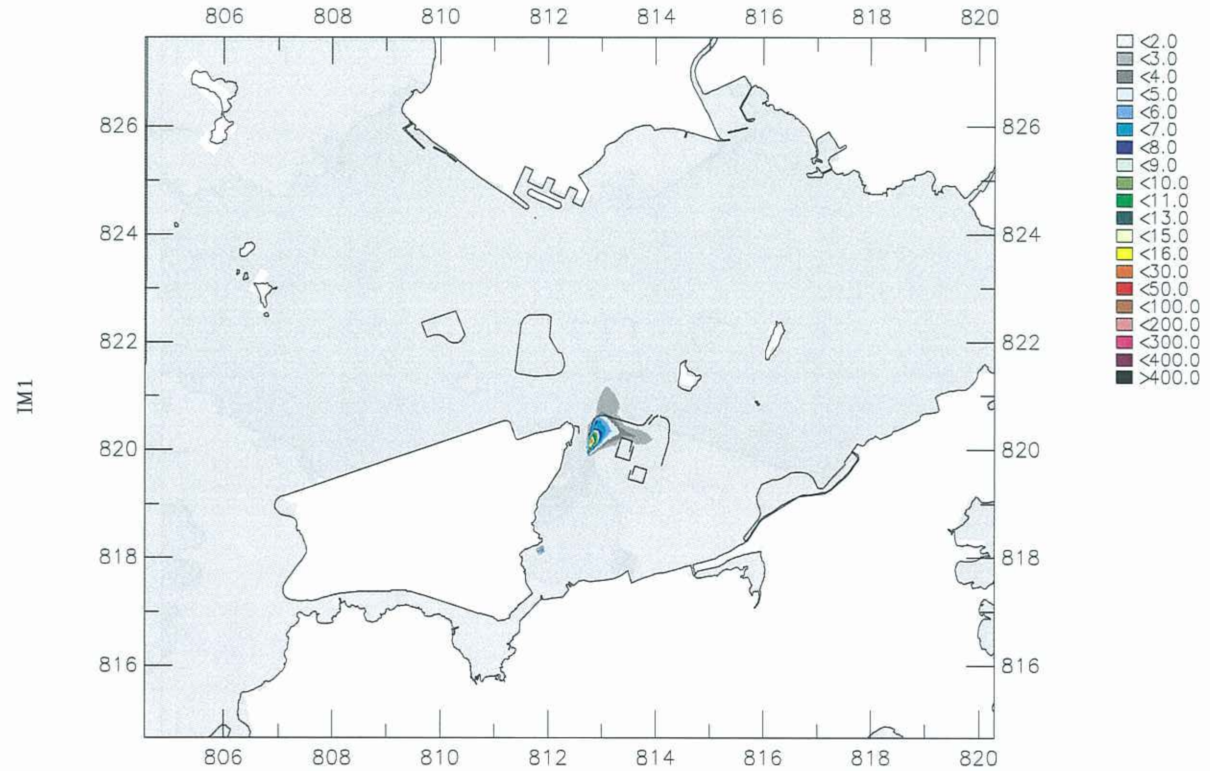
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Spring Tide, Lowest Low	Jul 2009	Figure 020
	2011b-Wet (P0M1-R11f)	
AECOM		



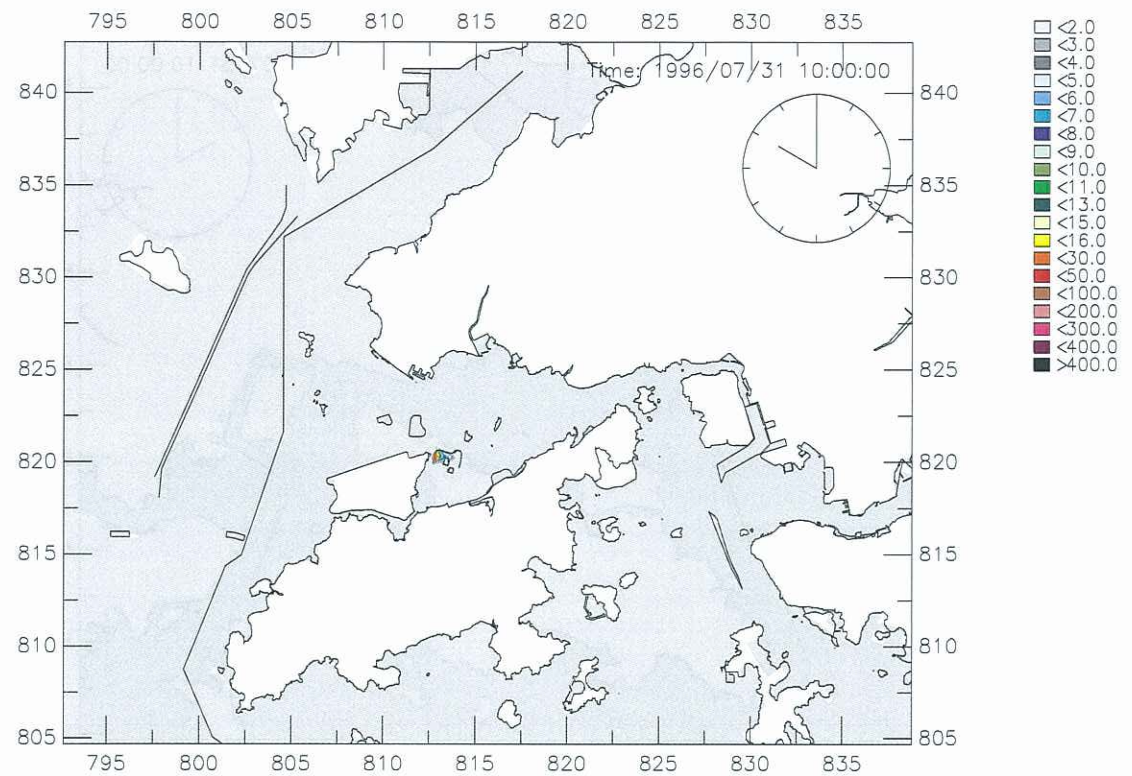


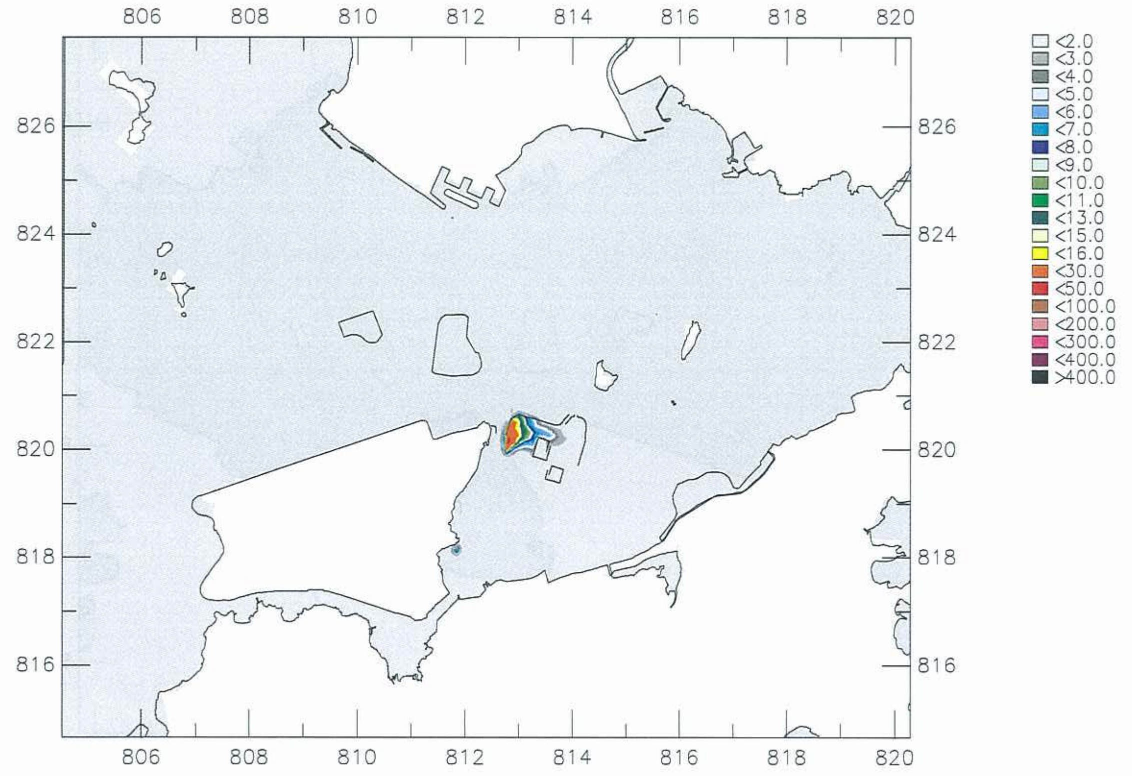
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Spring Tide, Lowest Low	Jul 2009	Figure 021
	2011b-Wet (POM1-R11f)	
AECOM		



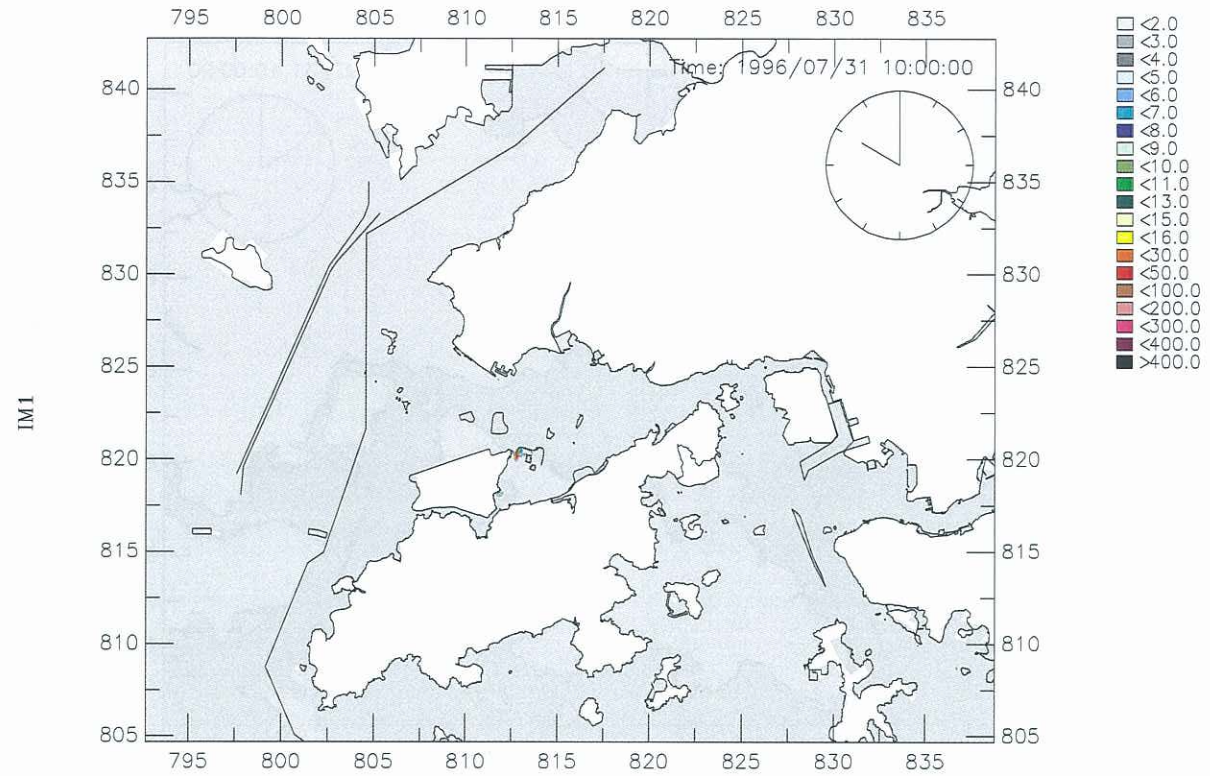


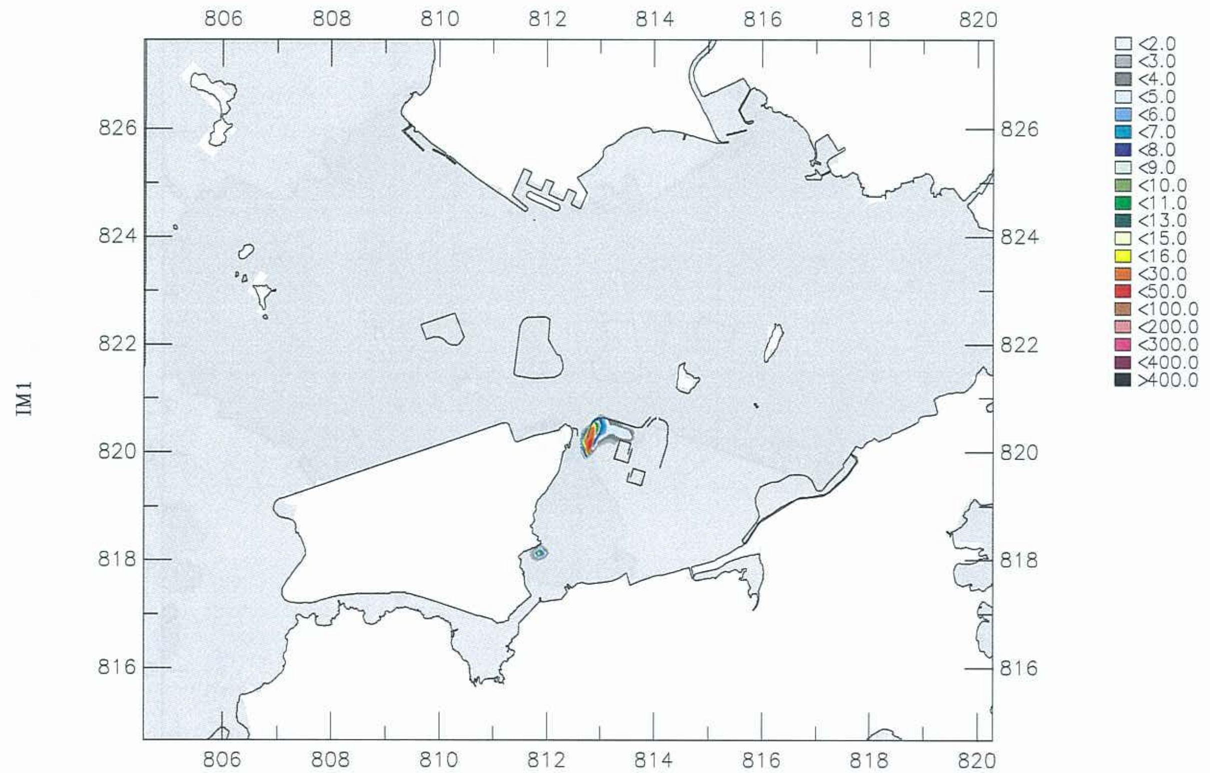
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Spring Tide, Highest High	Jul 2009	Figure 022
	2011b-Wet (P0M1-R11f)	
AECOM		



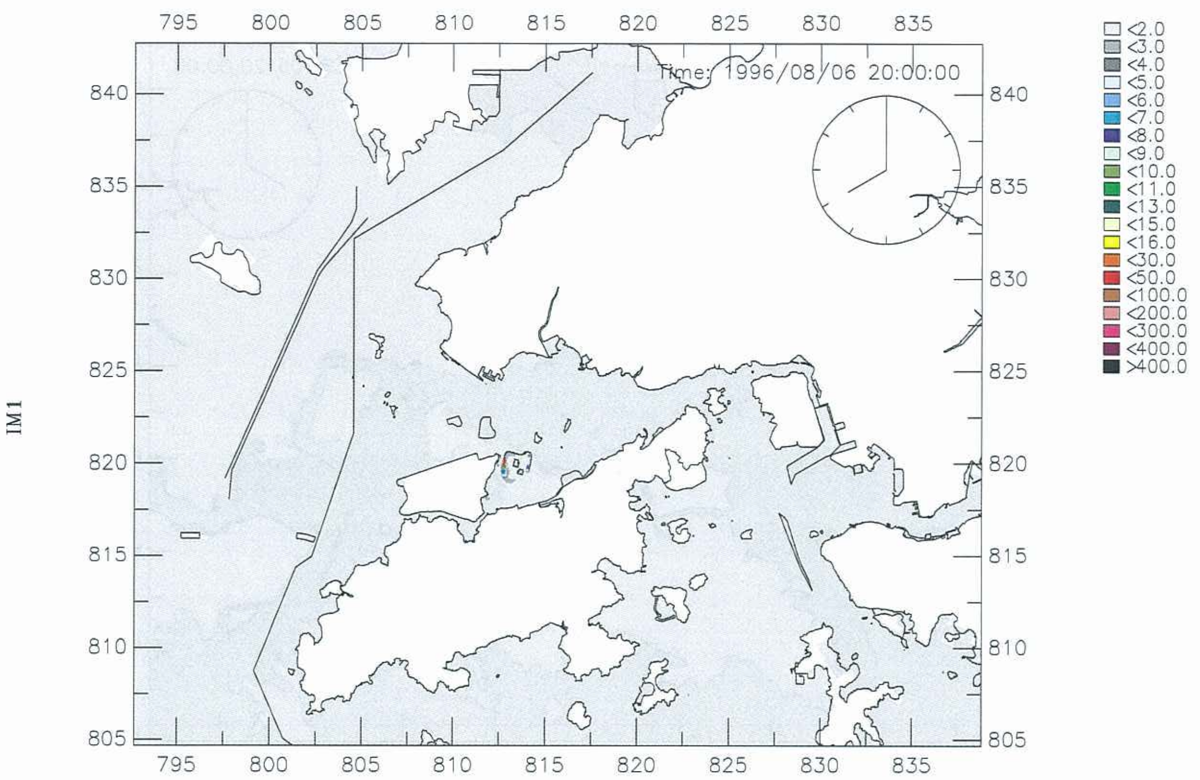


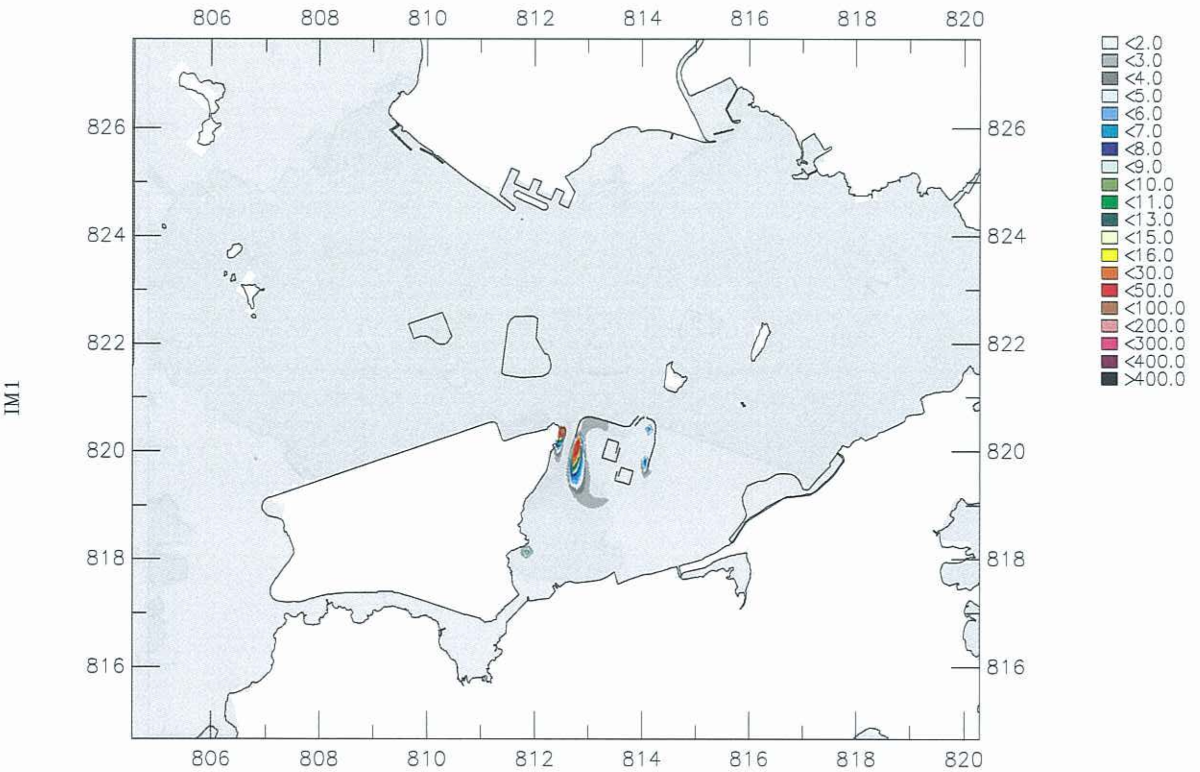
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid–Depth Spring Tide, Highest High	Jul 2009	Figure 023
	2011b-Wet (POM1-R11f)	
AECOM		



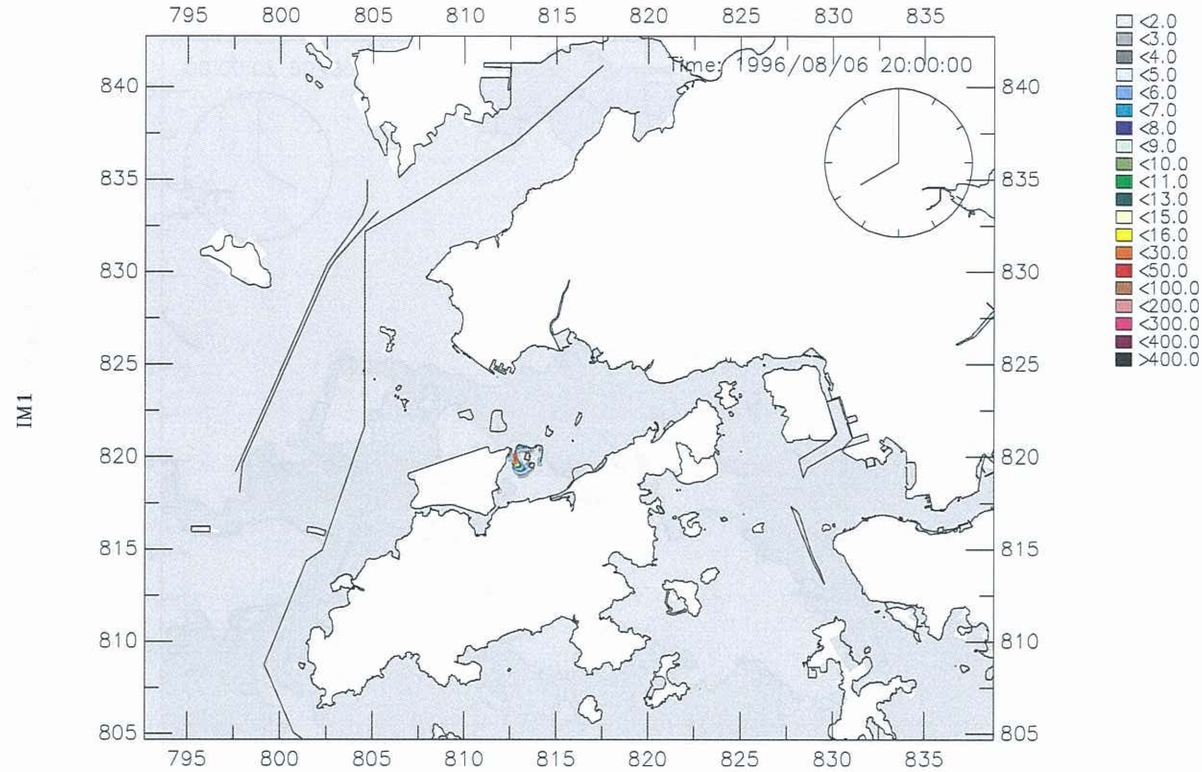


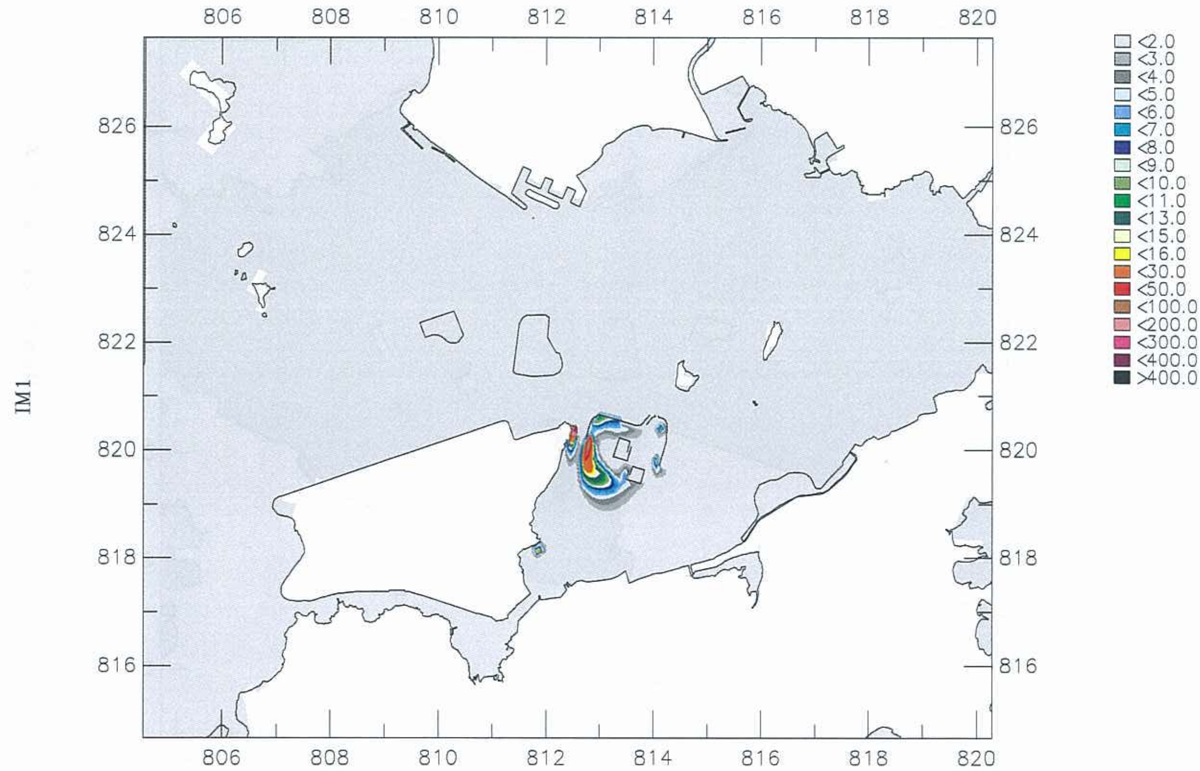
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Spring Tide, Highest High	Jul 2009	Figure 024
	2011b-Wet (P0M1-R11f)	
AECOM		



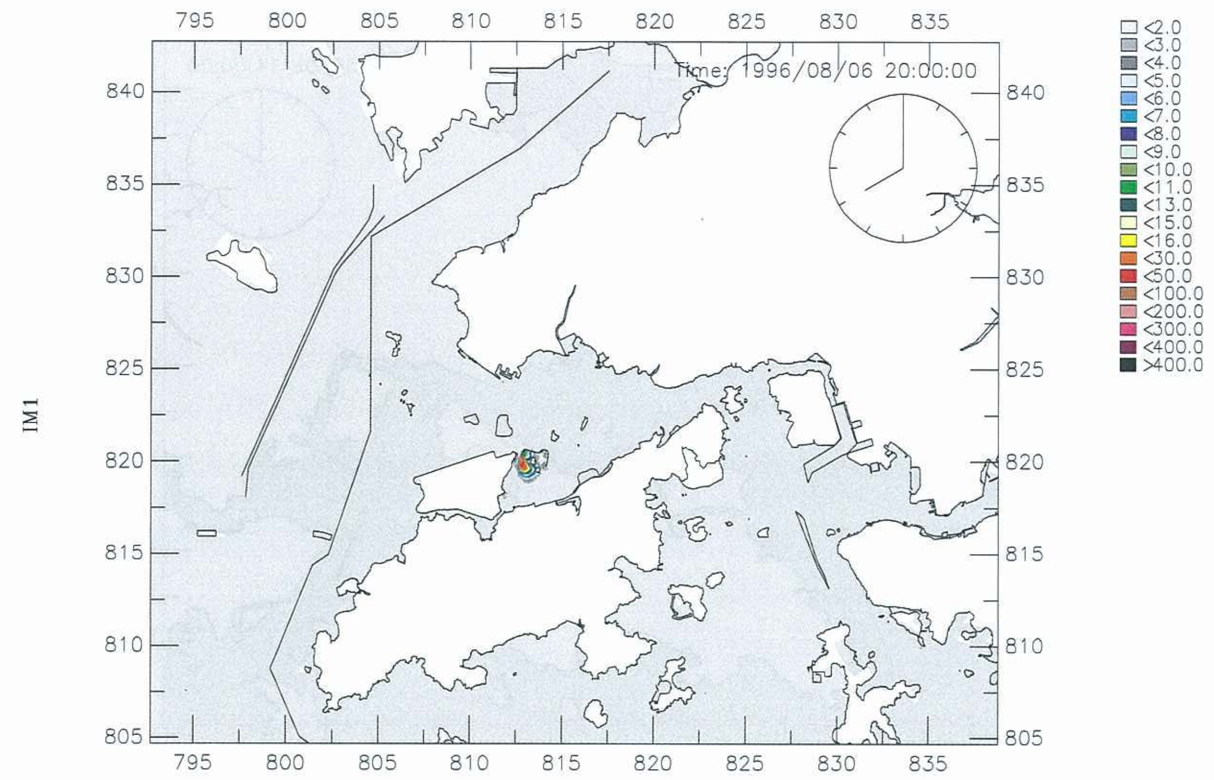


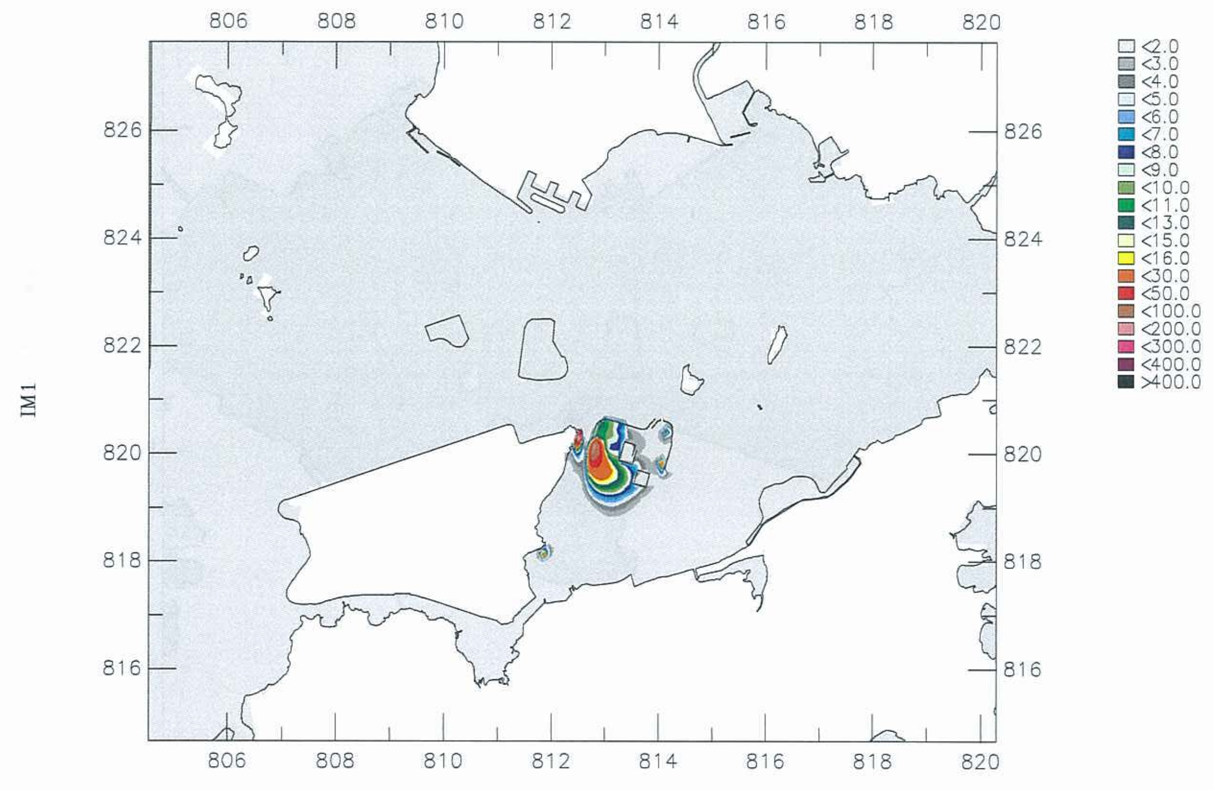
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Neap Tide, Lowest Low	Jul 2009	Figure 025
	2011b-Dry (P0M1-R11f)	
AECOM		



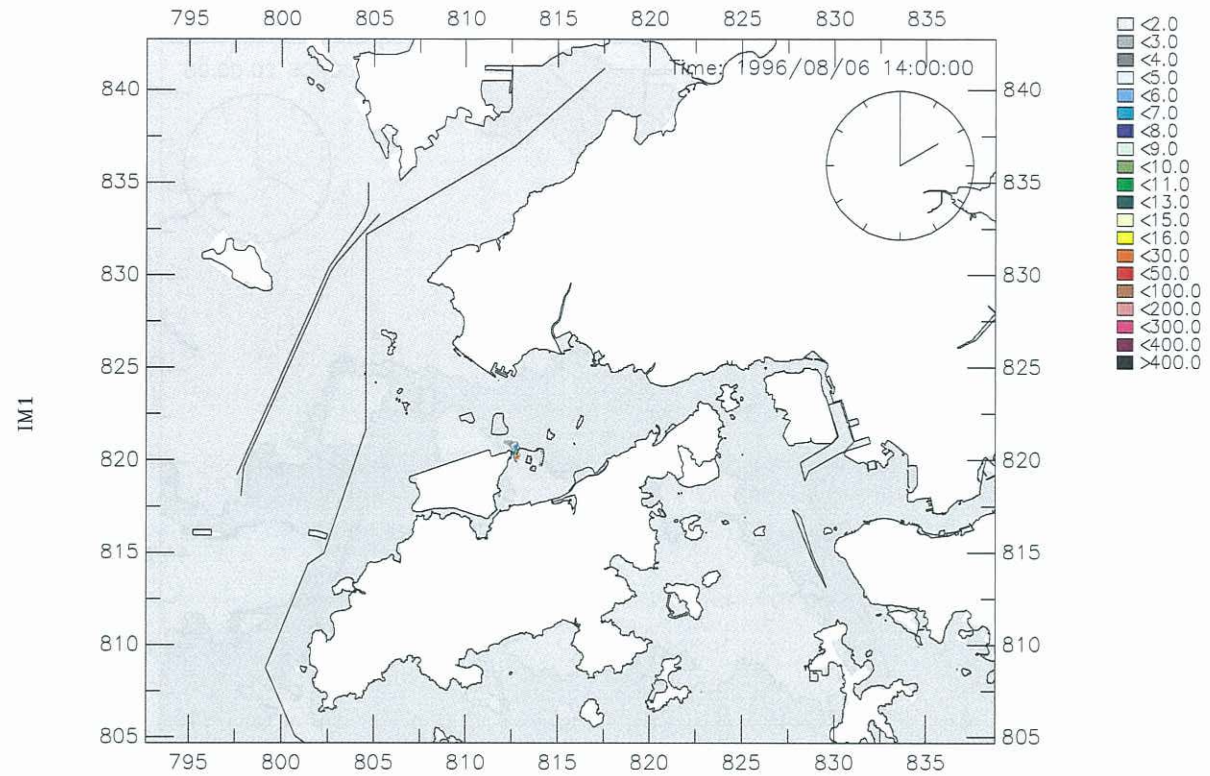


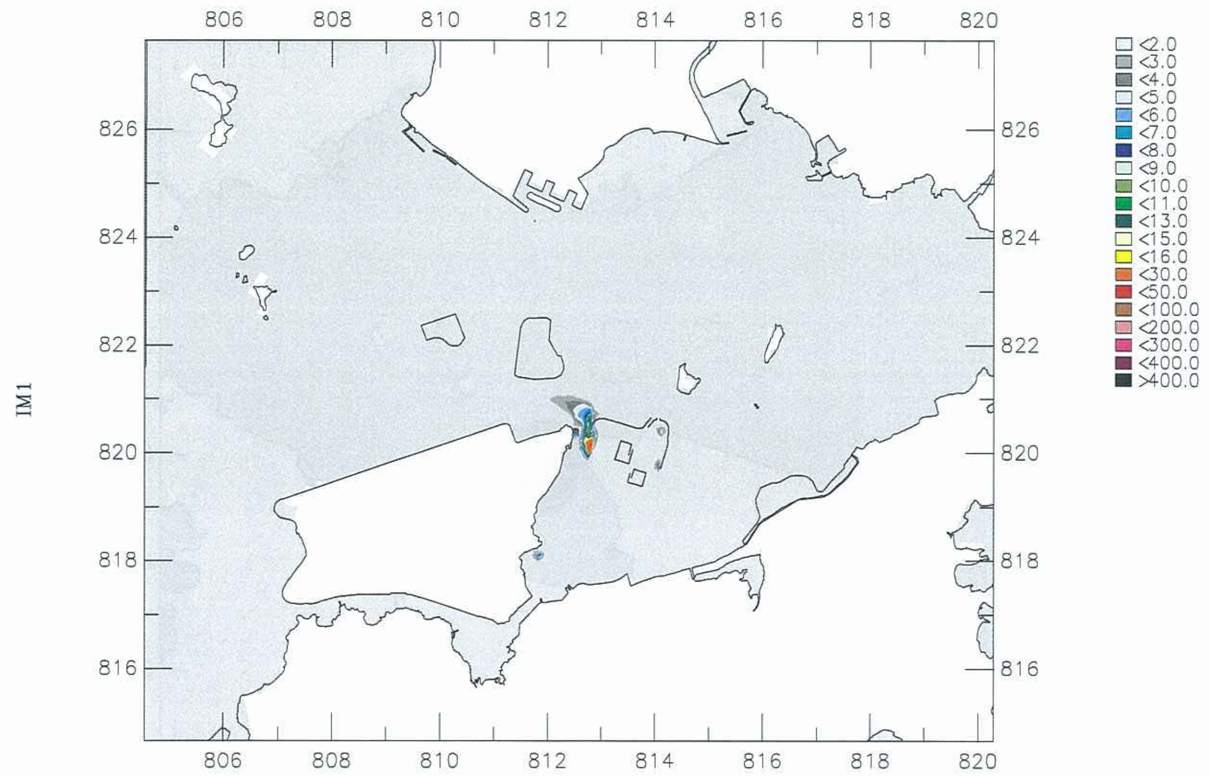
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid–Depth Neap Tide, Lowest Low	Jul 2009	Figure 026
	2011b·Dry (P0M1·R11f)	
AECOM		



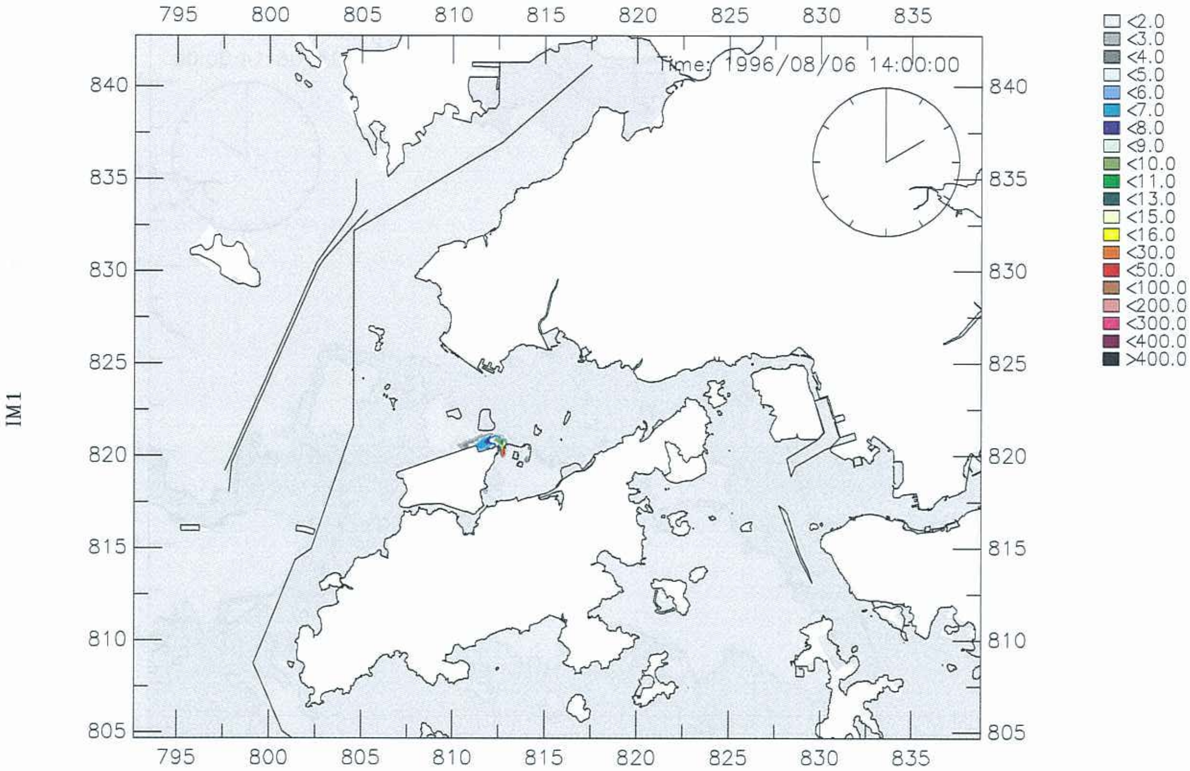


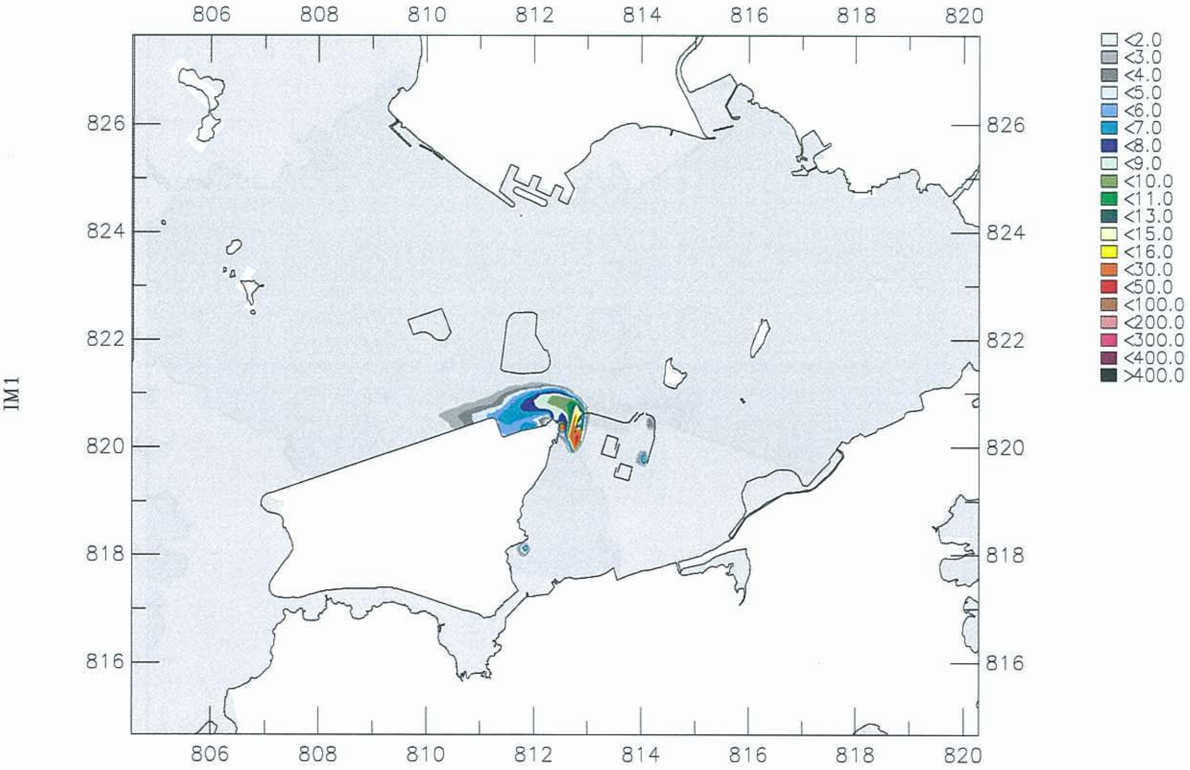
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Neap Tide, Lowest Low	Jul 2009	Figure 027
	2011b·Dry (POM1·R11f)	
AECOM		



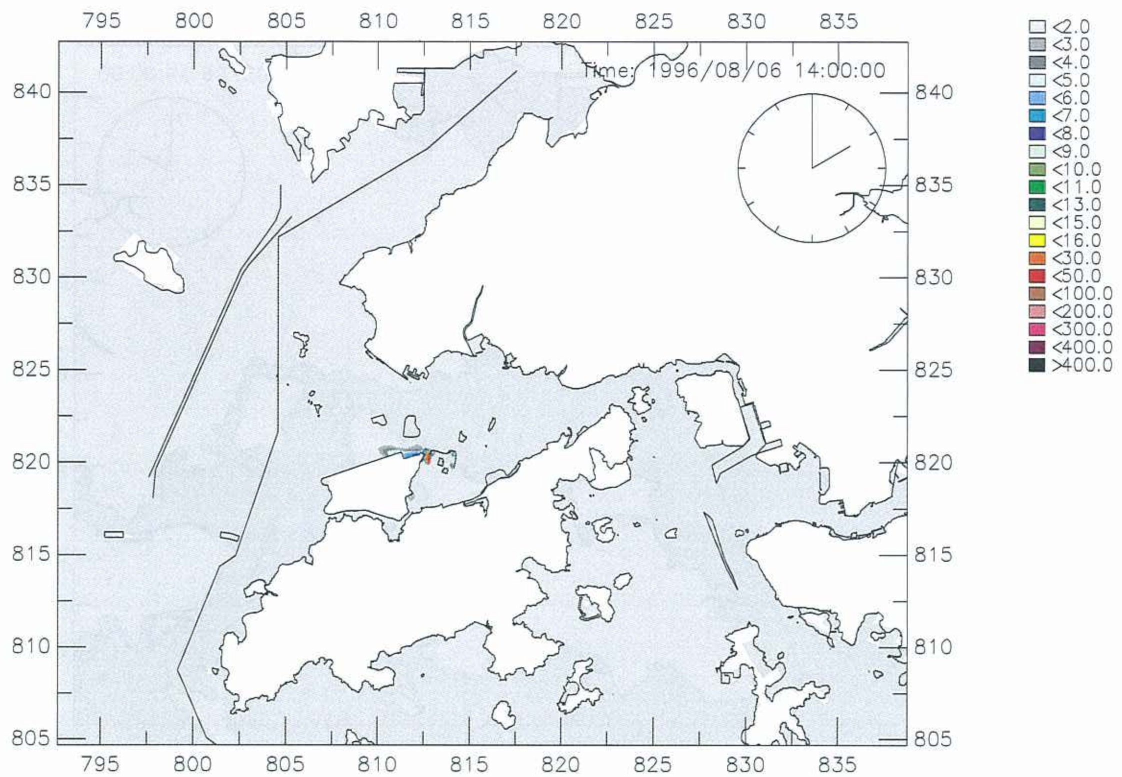


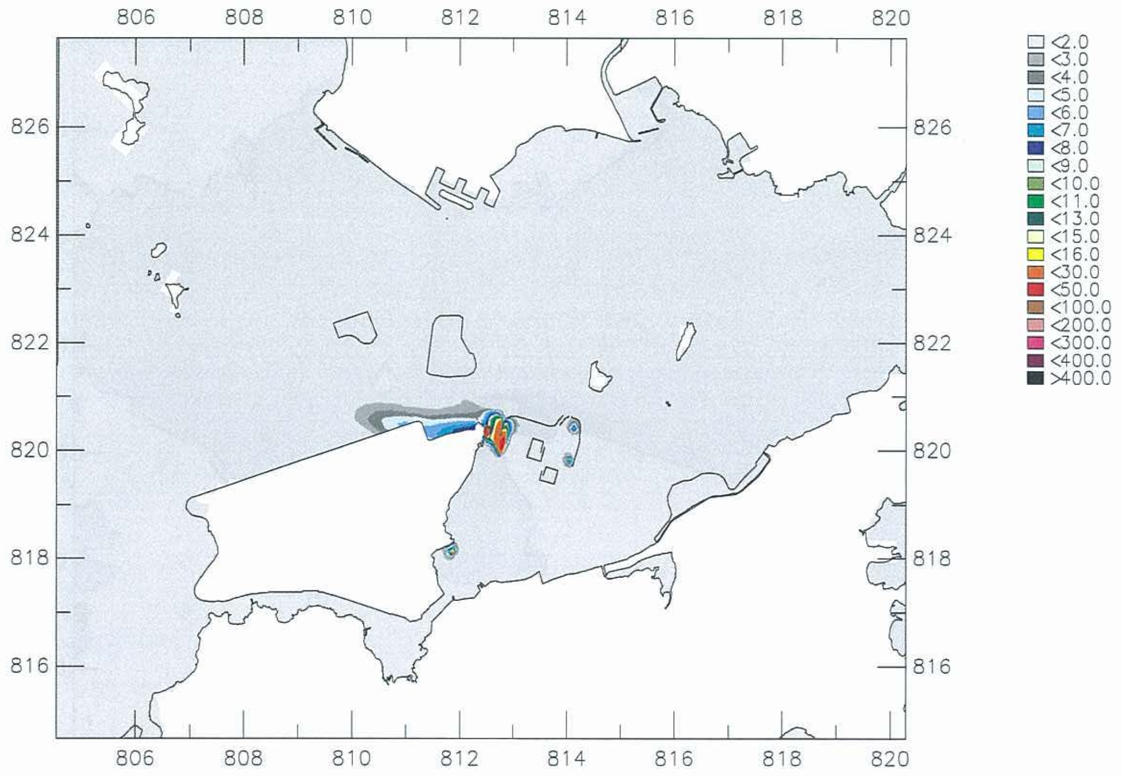
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Surface Layer Neap Tide, Highest High	Jul 2009	Figure 028
	2011b-Dry (P0M1-R11f)	
AECOM		



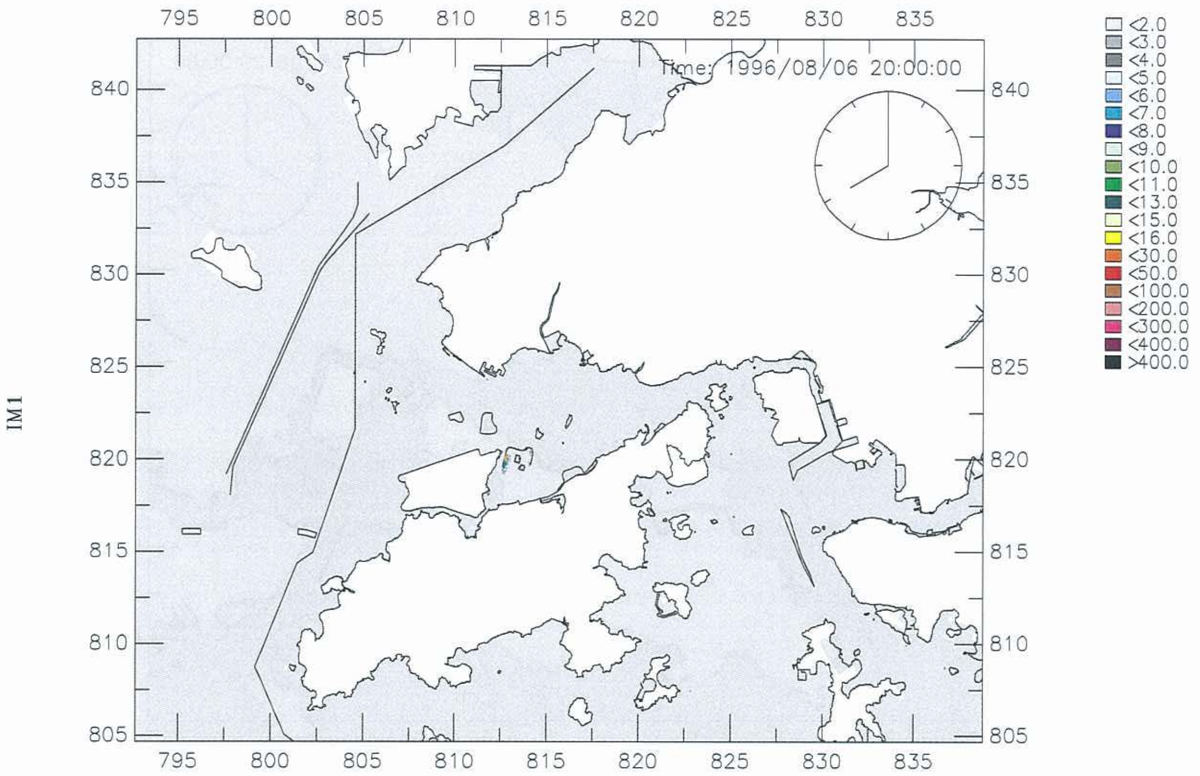


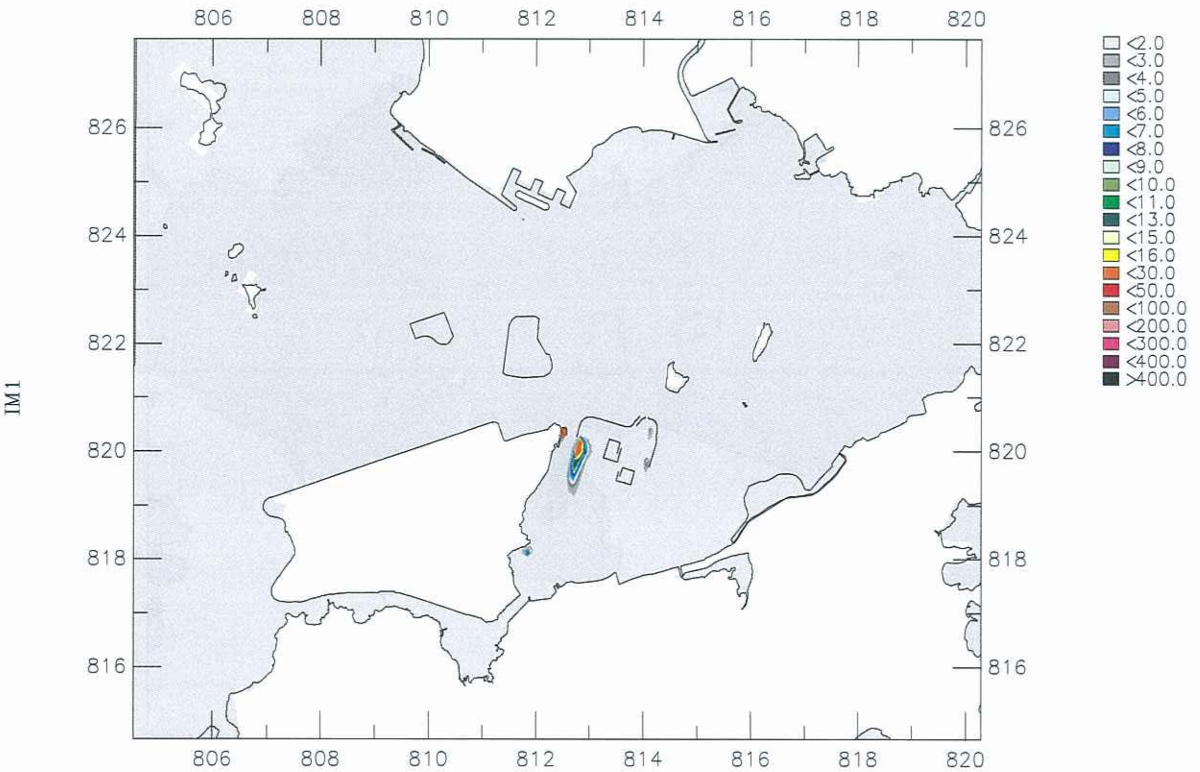
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Mid-Depth Neap Tide, Highest High	Jul 2009	Figure 029
	2011b·Dry (P0M1·R11f)	
AECOM		



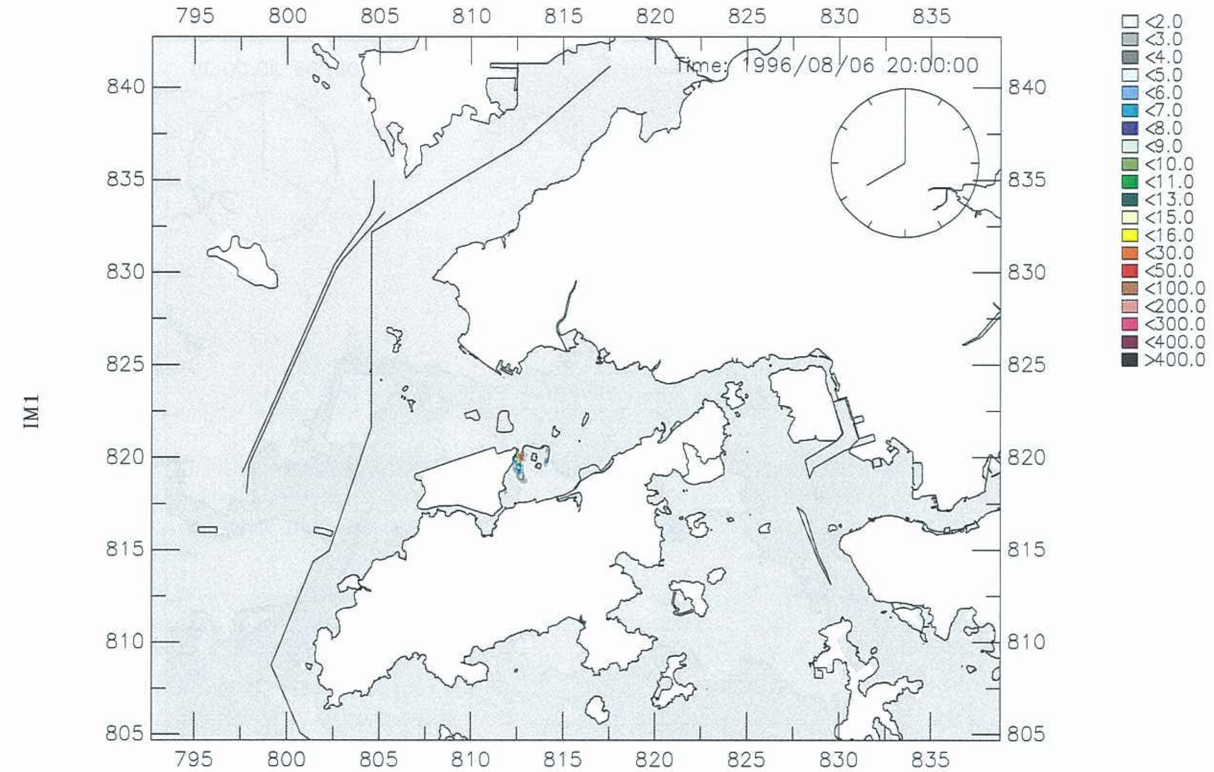


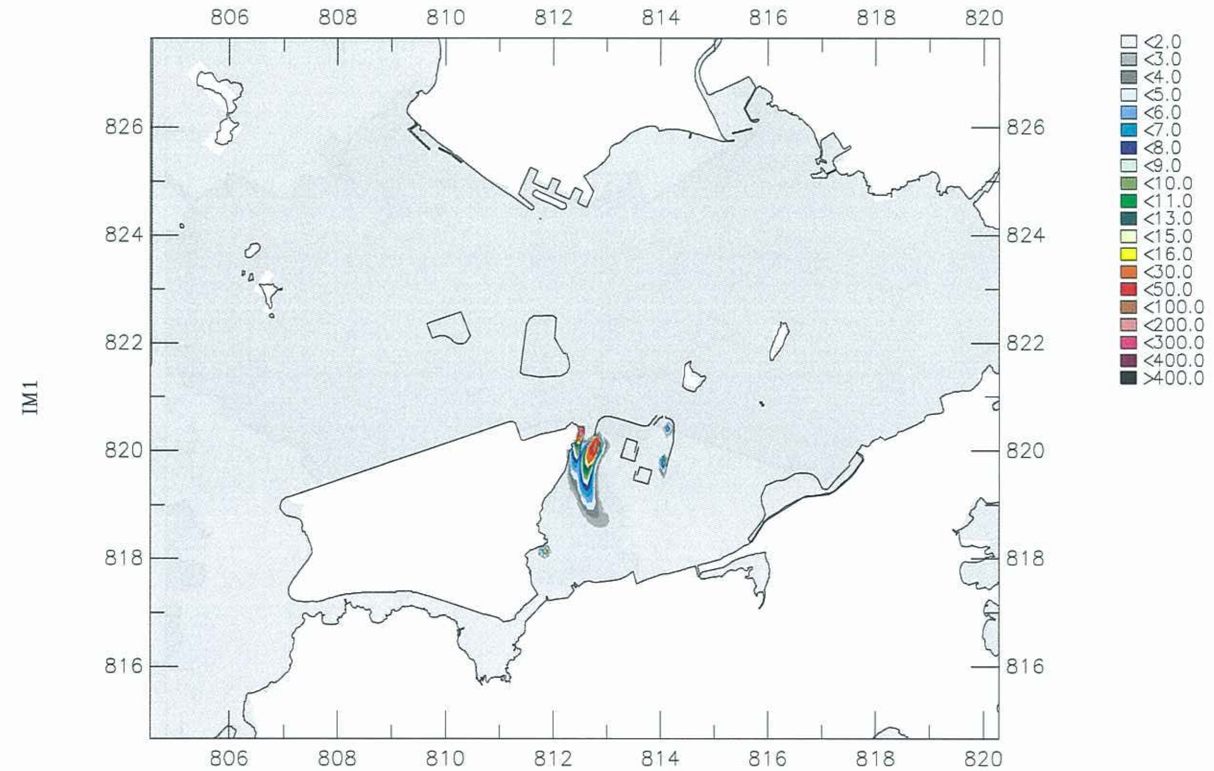
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Dry Season, Bottom Layer Neap Tide, Highest High	Jul 2009	Figure 030
	2011b-Dry (POM1-R11f)	
AECOM		



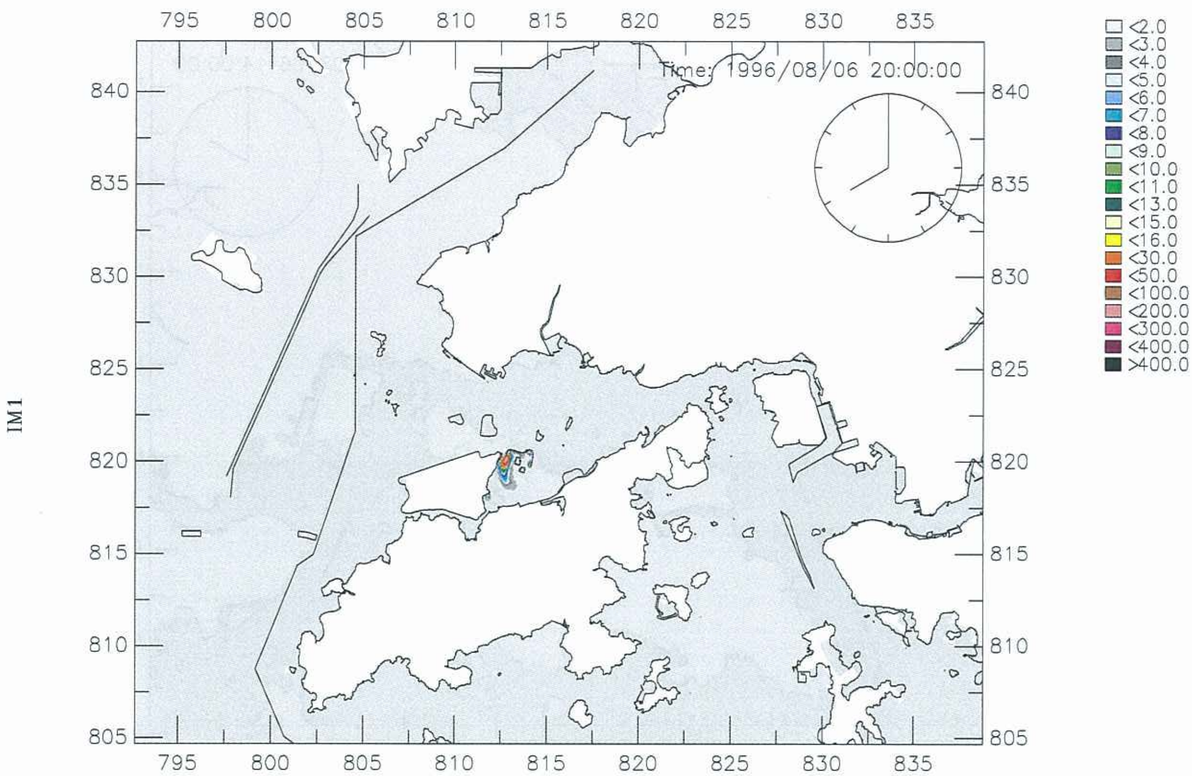


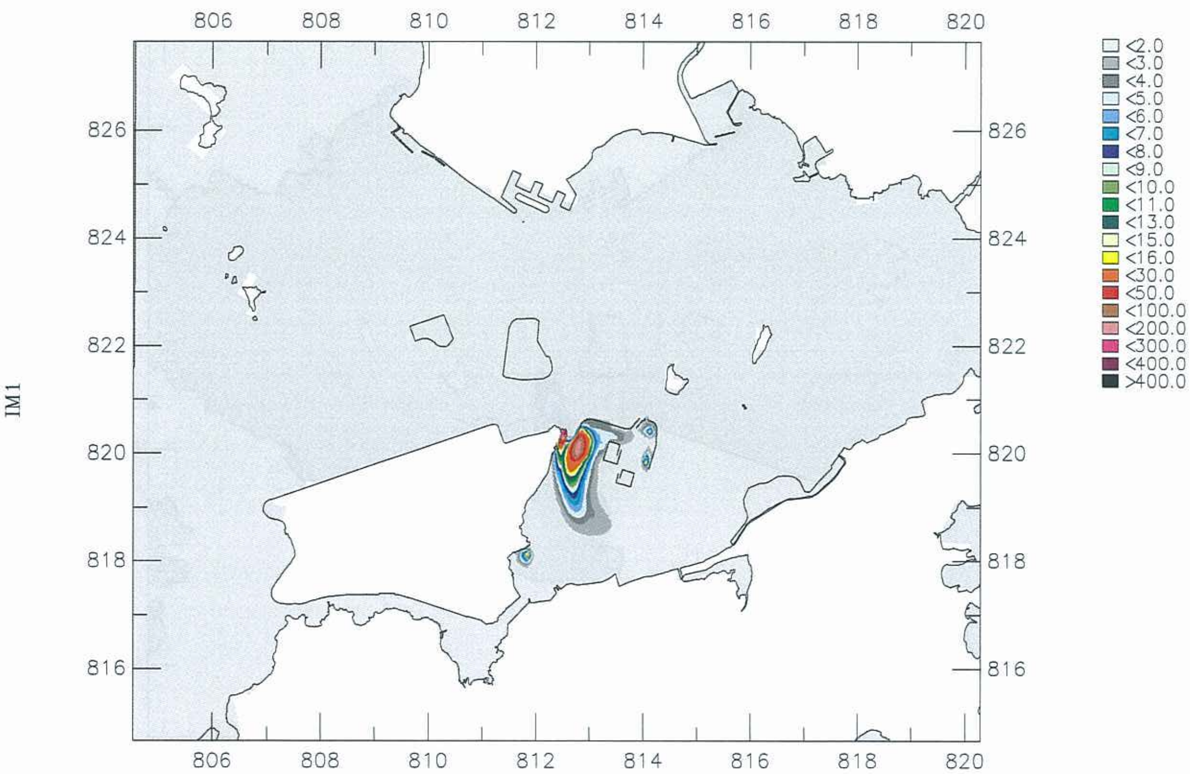
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Neap Tide, Lowest Low	Jul 2009	Figure 031
	2011b-Wet (P0M1-R11f)	
AECOM		



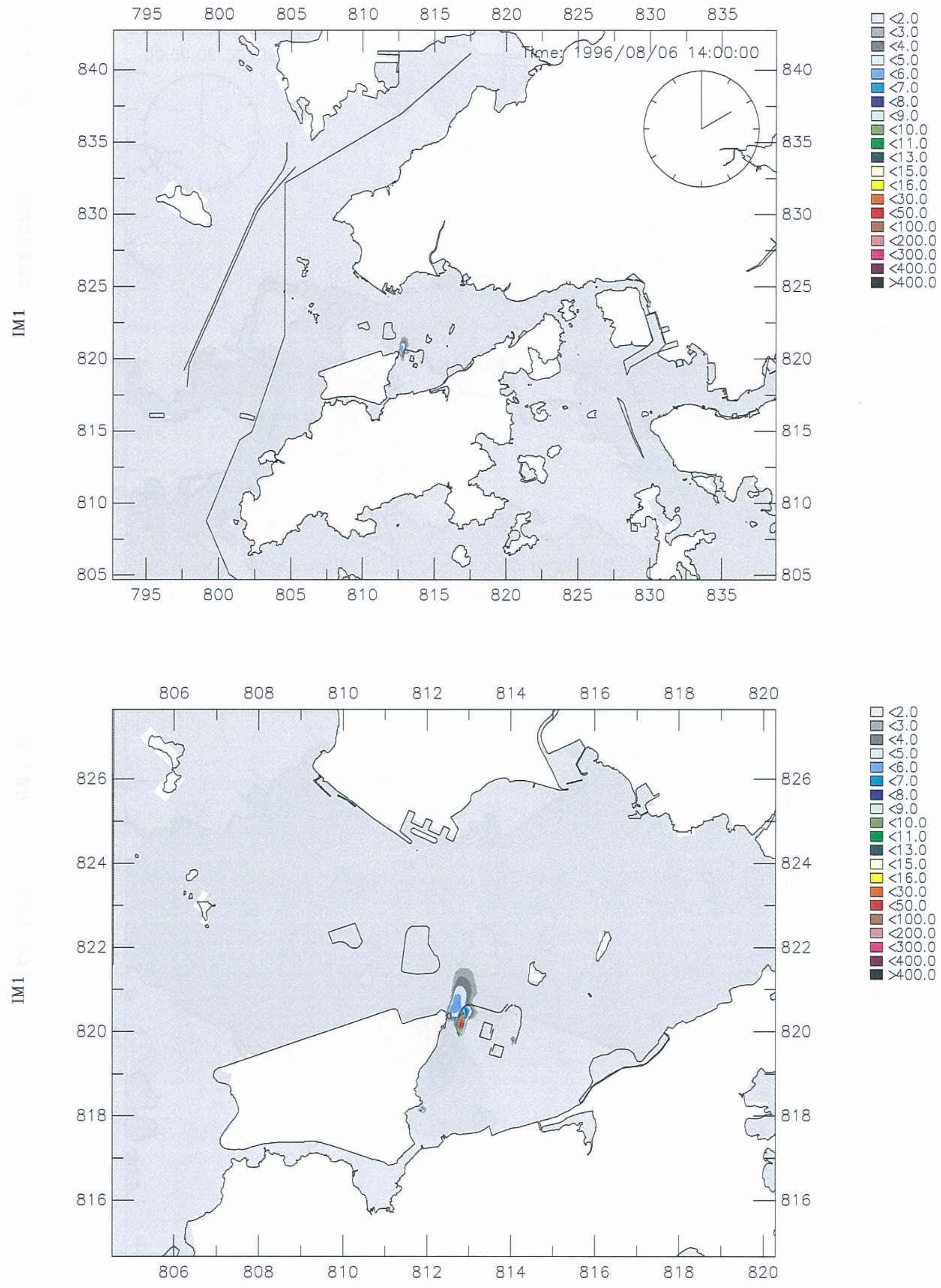


Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Neap Tide, Lowest Low	Jul 2009	Figure 032
	2011b-Wet (POM1-R11f)	
AECOM		

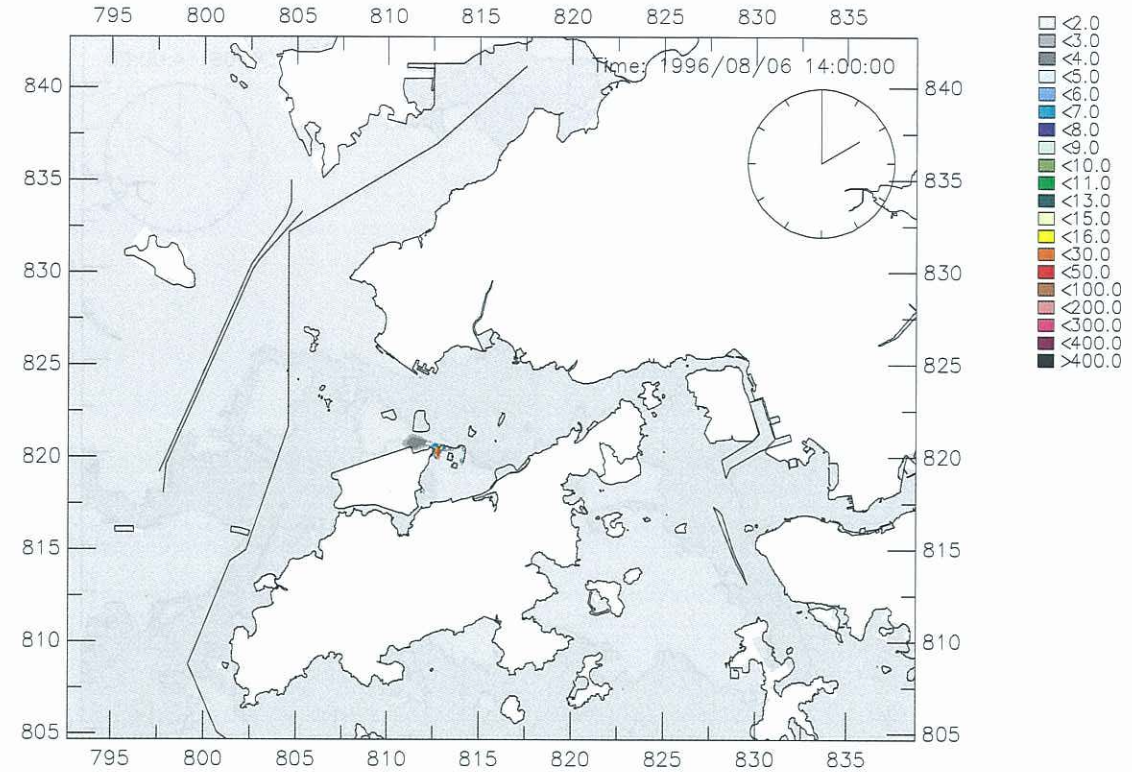


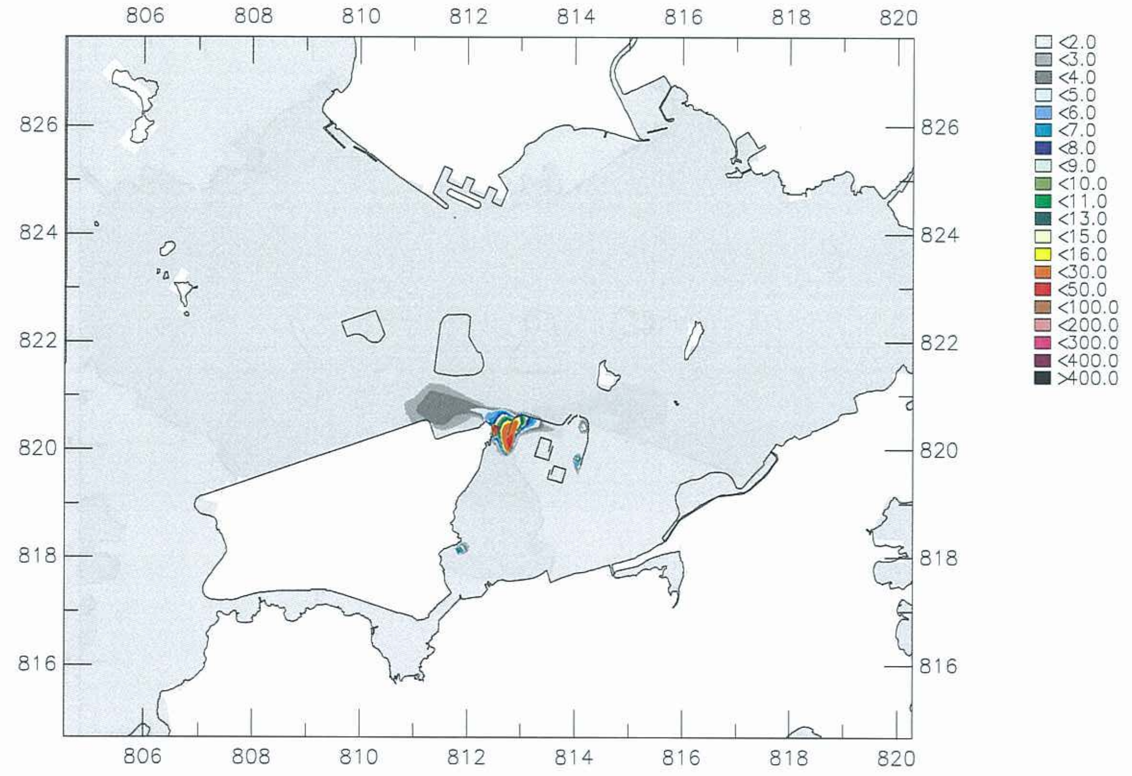


Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Neap Tide, Lowest Low	Jul 2009	Figure 033
	2011b-Wet (P0M1-R11f)	
AECOM		

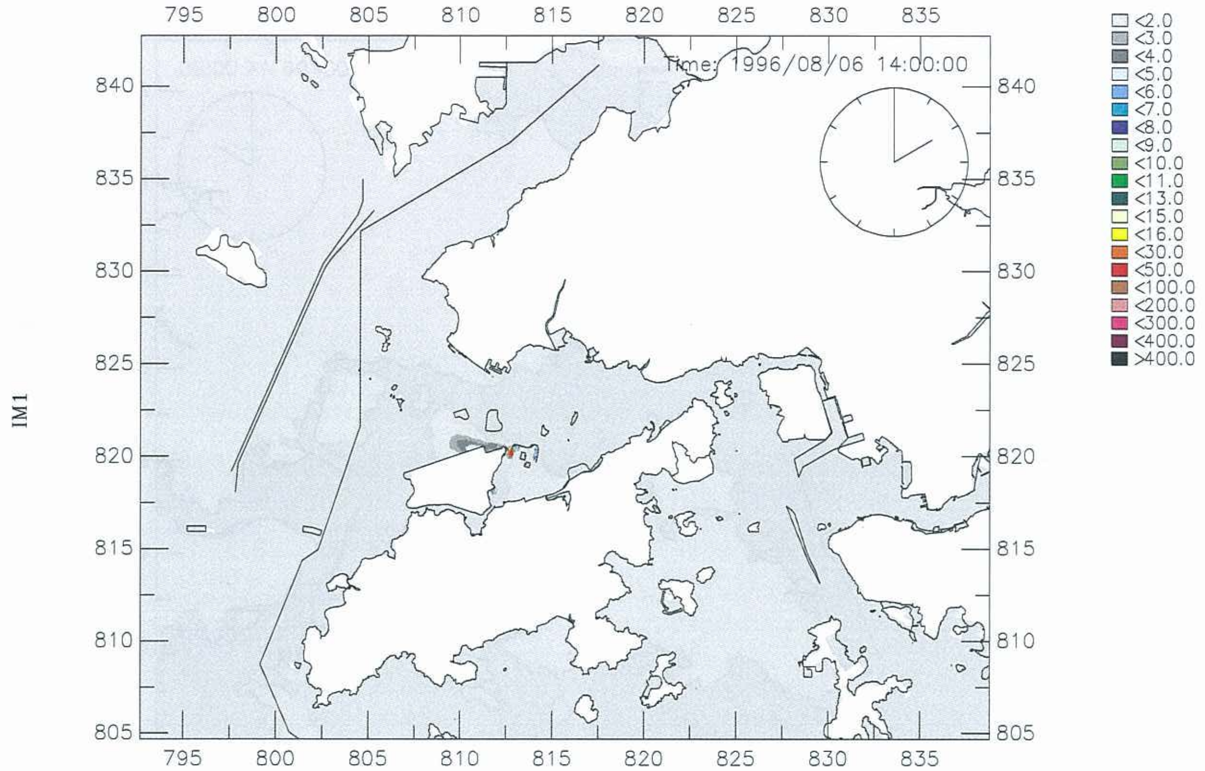


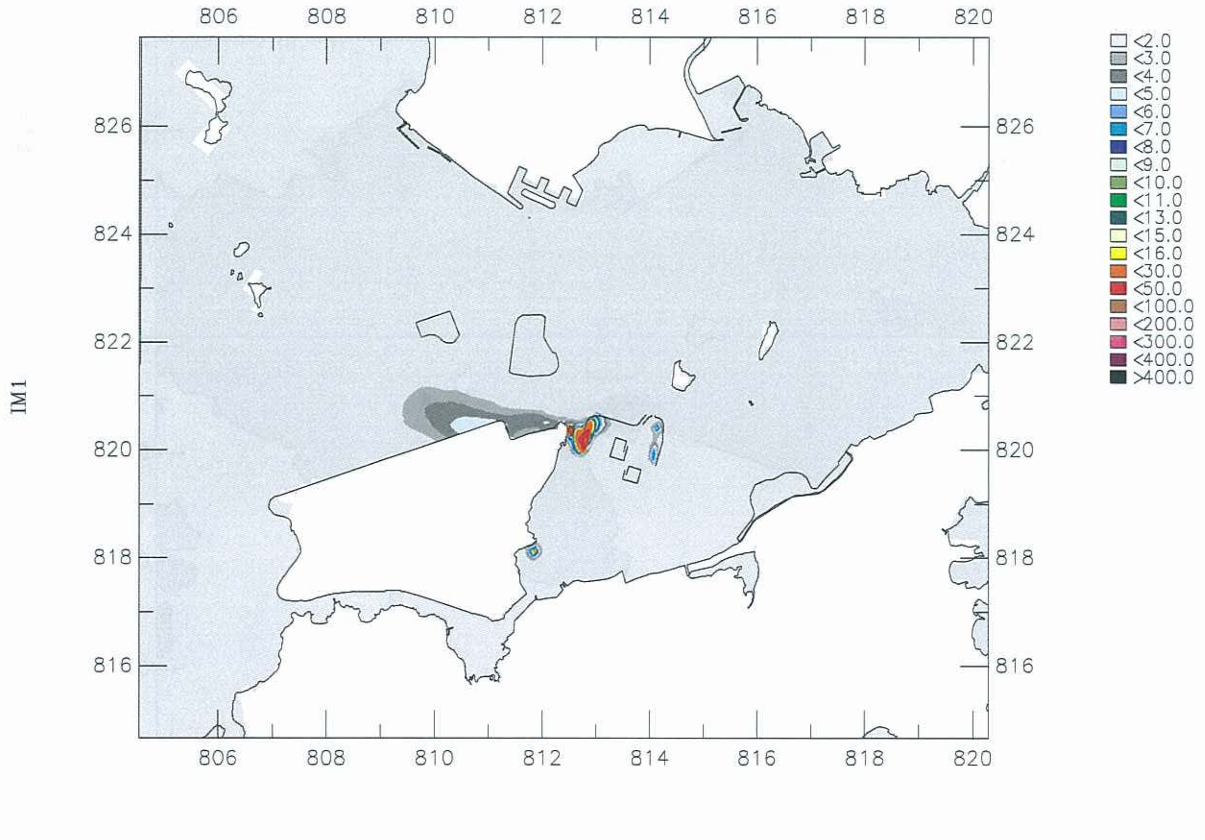
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Surface Layer Neap Tide, Highest High		Jul 2009	Figure 034
		2011b-Wet (P0M1-R11f)	
AECOM			



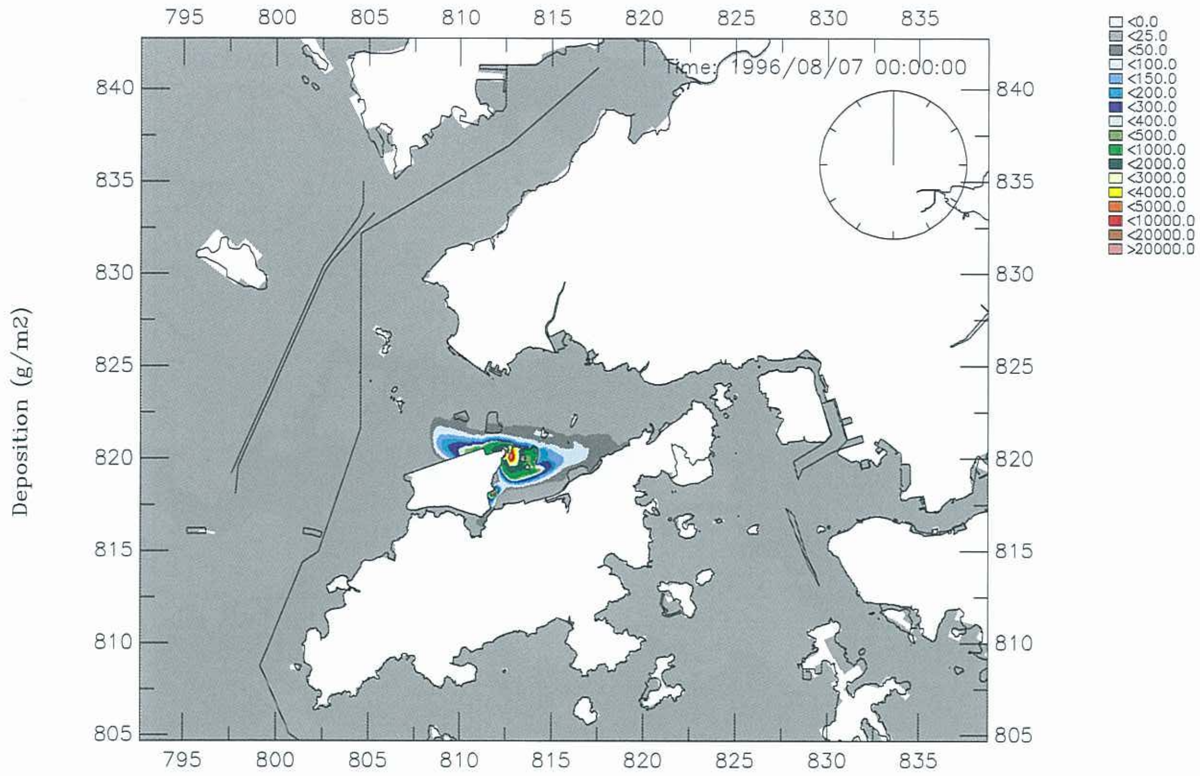


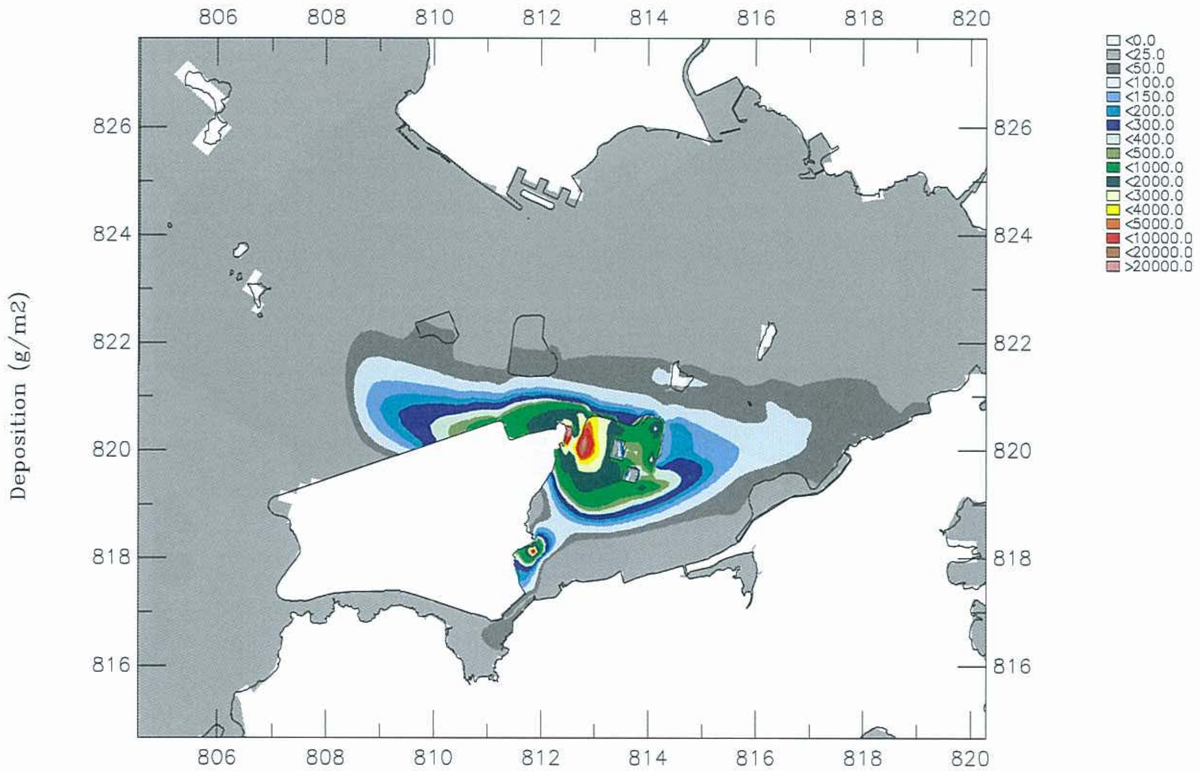
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Mid-Depth Neap Tide, Highest High	Jul 2009	Figure 035
	2011b-Wet (P0M1-R11f)	
AECOM		



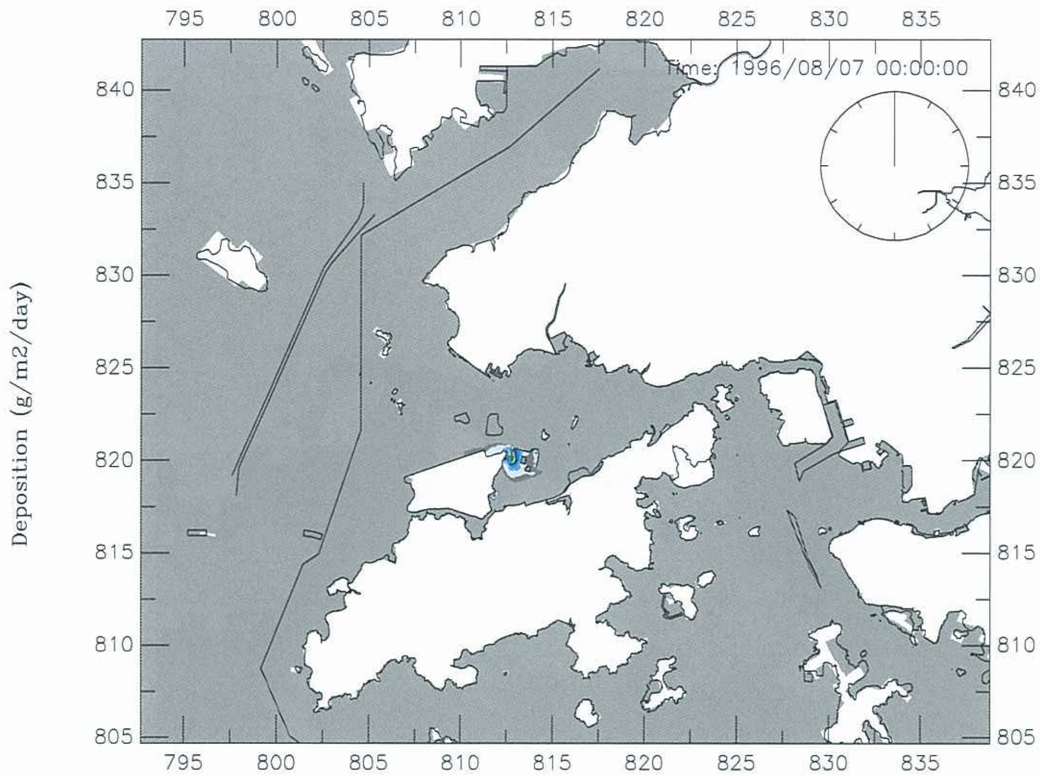


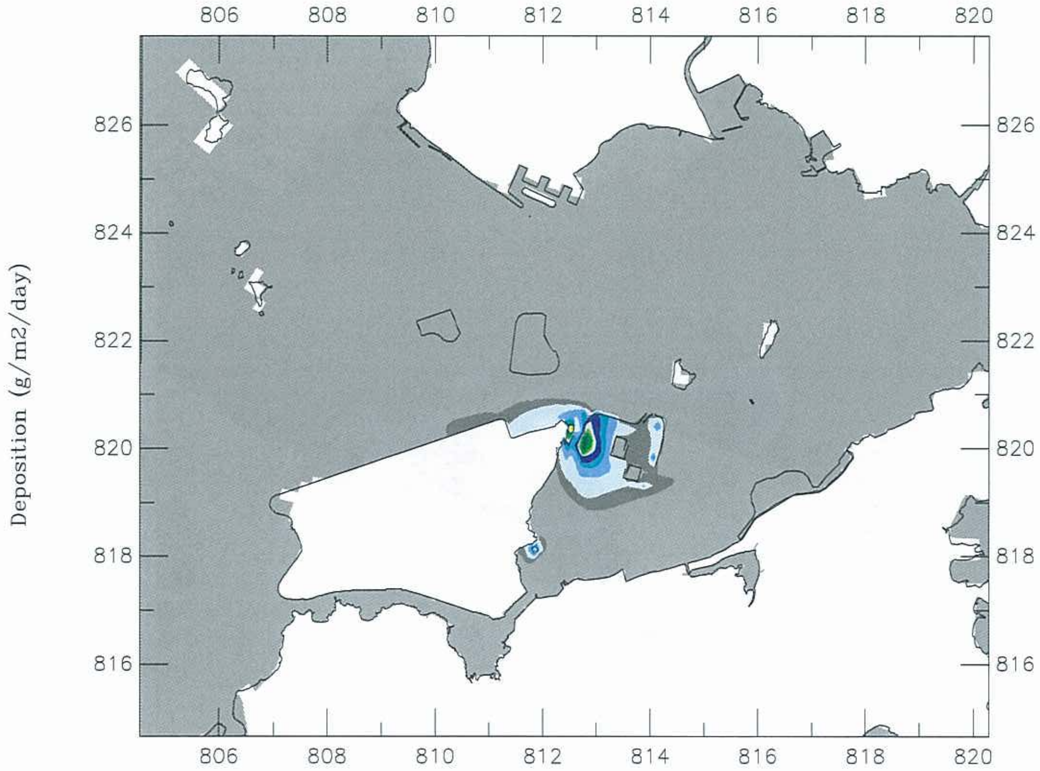
Year 2011 (Sequence B), Mitigated SS (mg/L) Contour, Wet Season, Bottom Layer Neap Tide, Highest High	Jul 2009	Figure 036
	2011b-Wet (P0M1-R11f)	
AECOM		



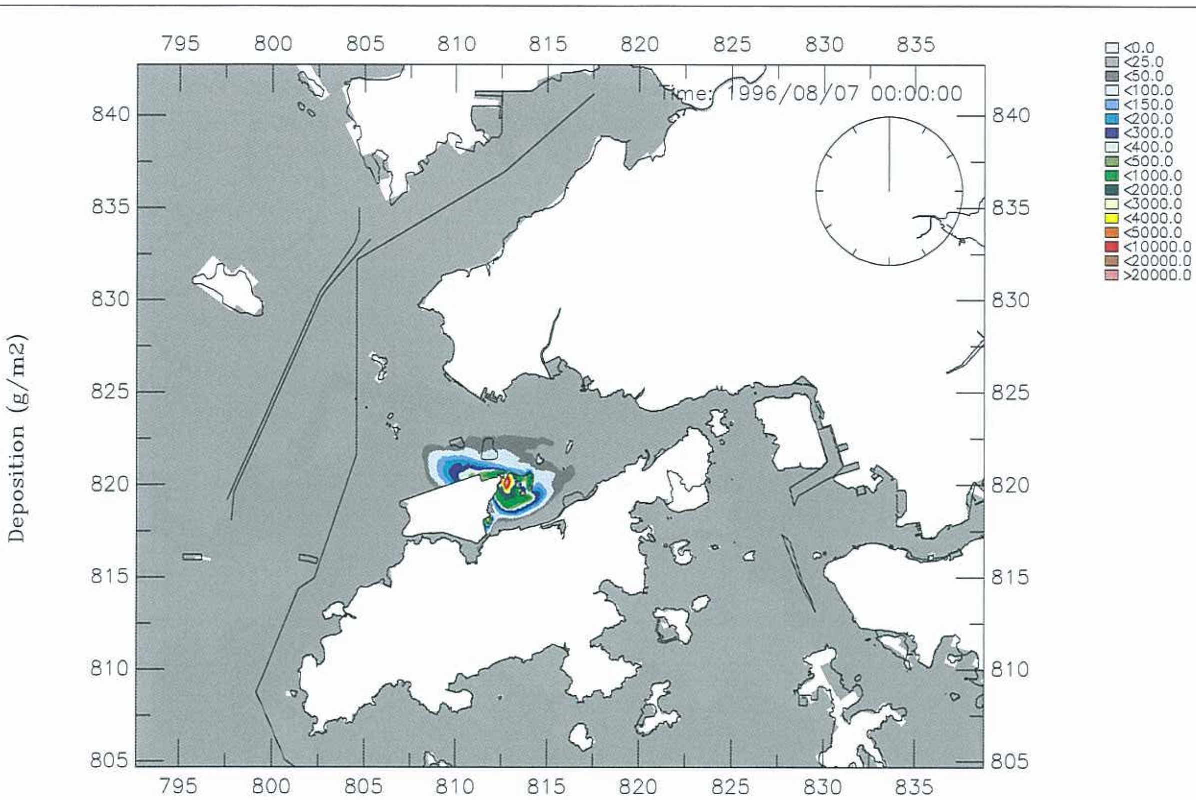


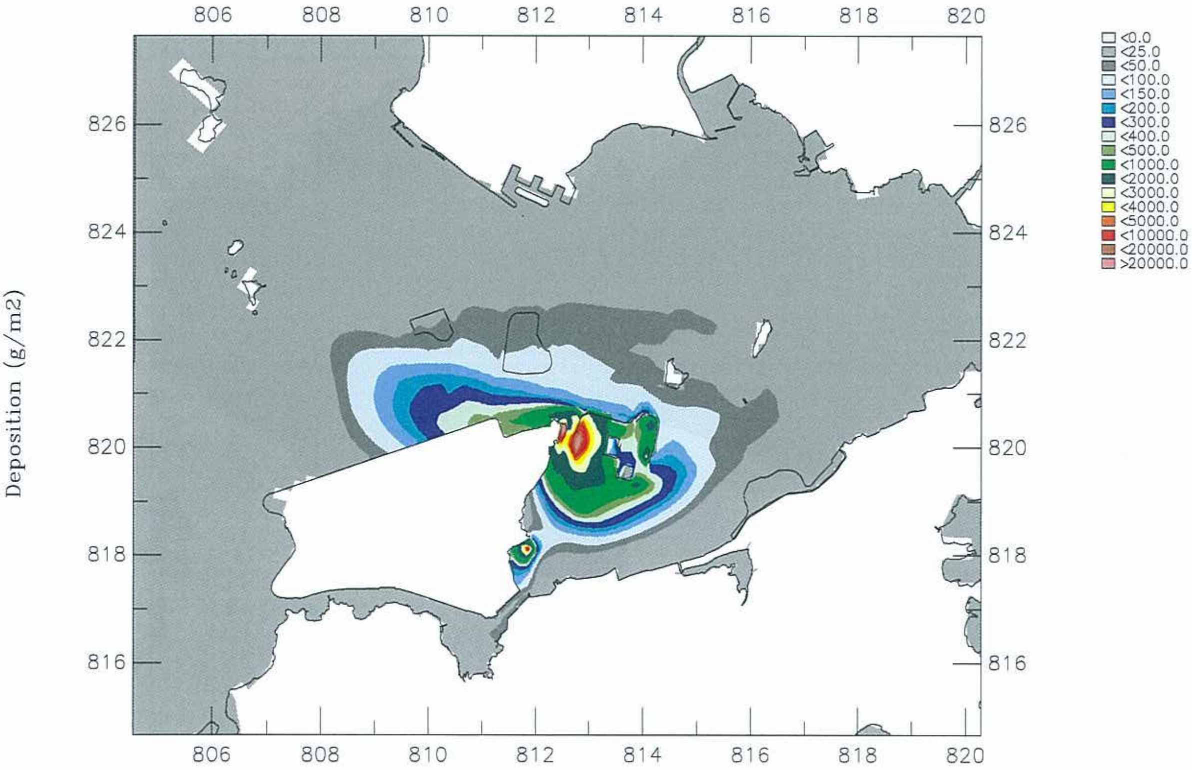
Year 2011 (Sequence B), Mitigated Total Deposition (g/m2) Contour, Dry Season,	Jul 2009	Figure 037
	2011b-Dry (P0M1-R11f)	
AECOM		



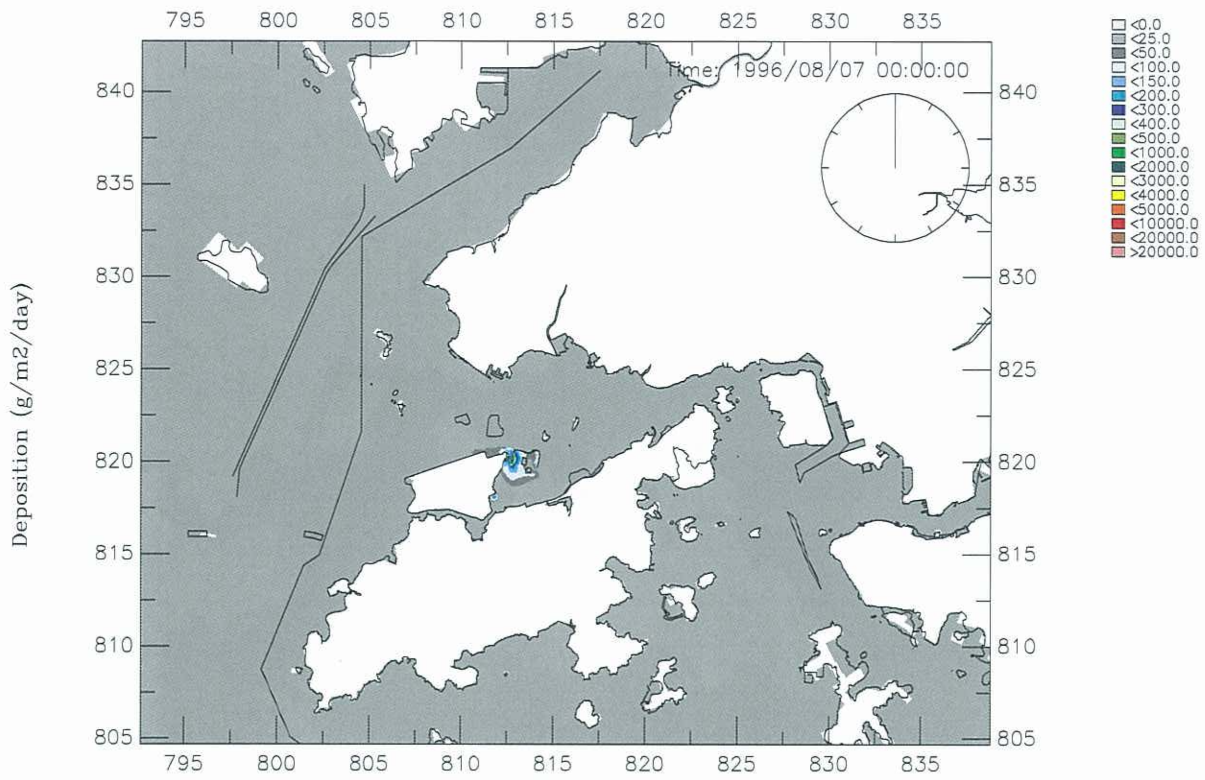


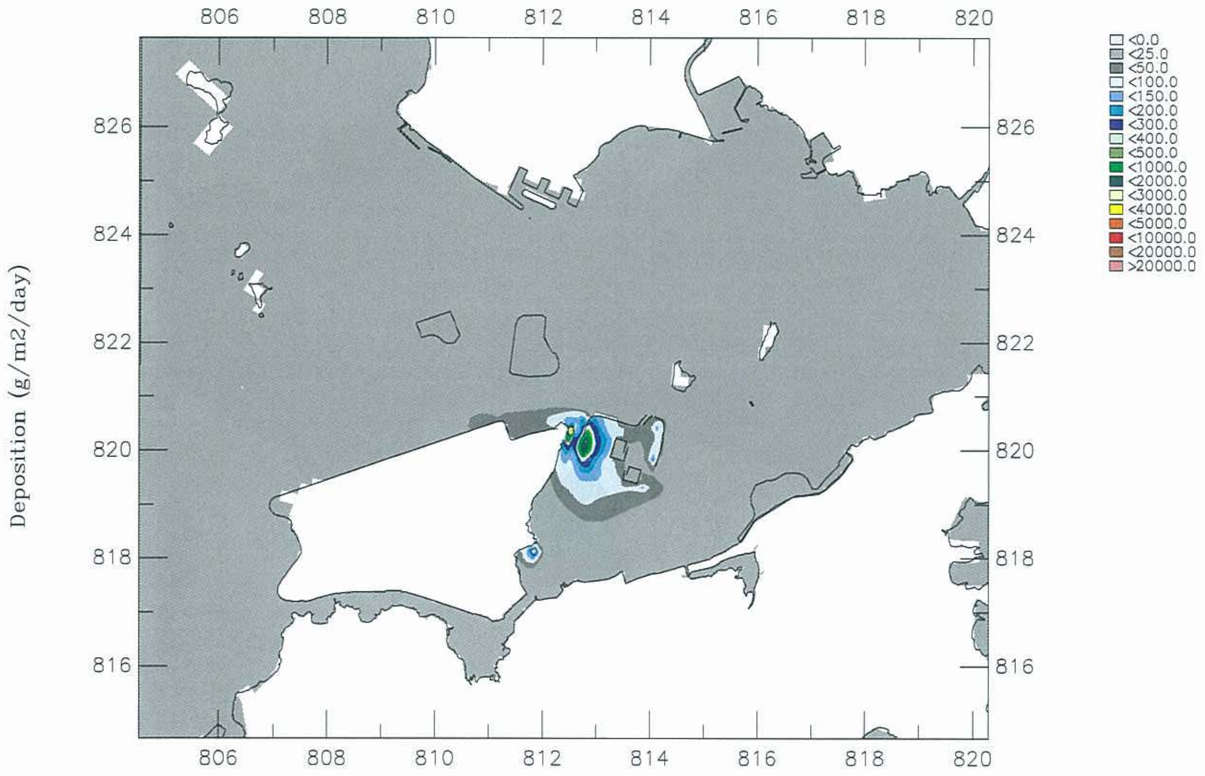
Year 2011 (Sequence B), Mitigated Daily Average Deposition (g/m2/day) Contour, Dry Season,	Jul 2009	Figure 038
	2011b-Dry (P0M1-R11f)	
AECOM		



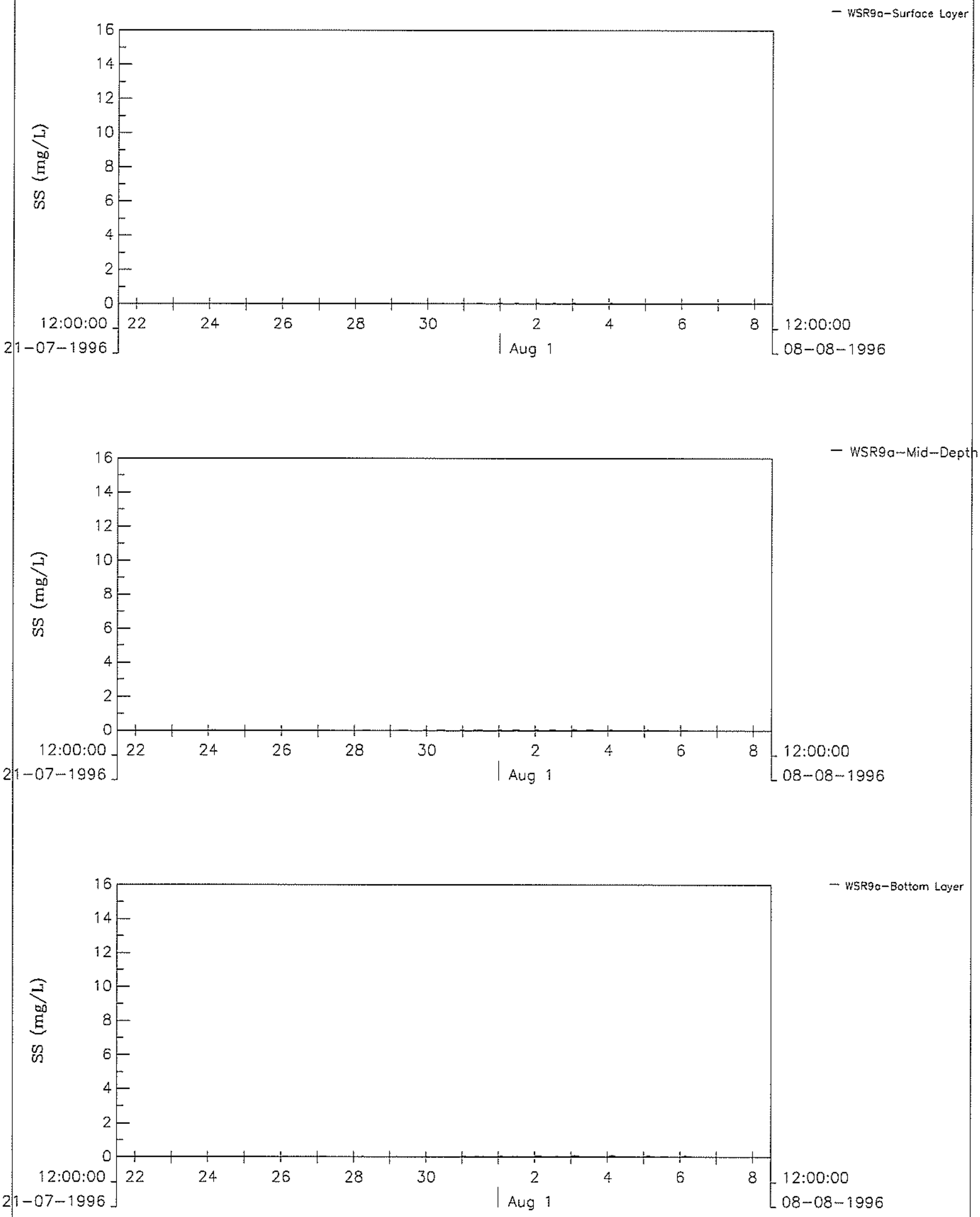


Year 2011 (Sequence B), Mitigated Total Deposition (g/m2) Contour, Wet Season,	Jul 2009	Figure 039
	2011b-Wet (P0M1-R11f)	
AECOM		

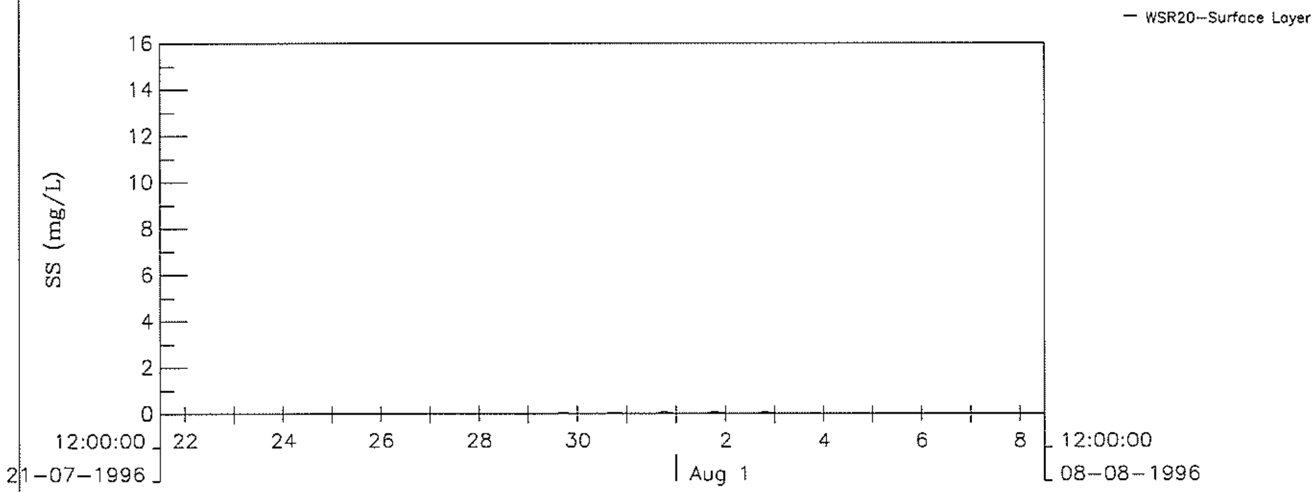


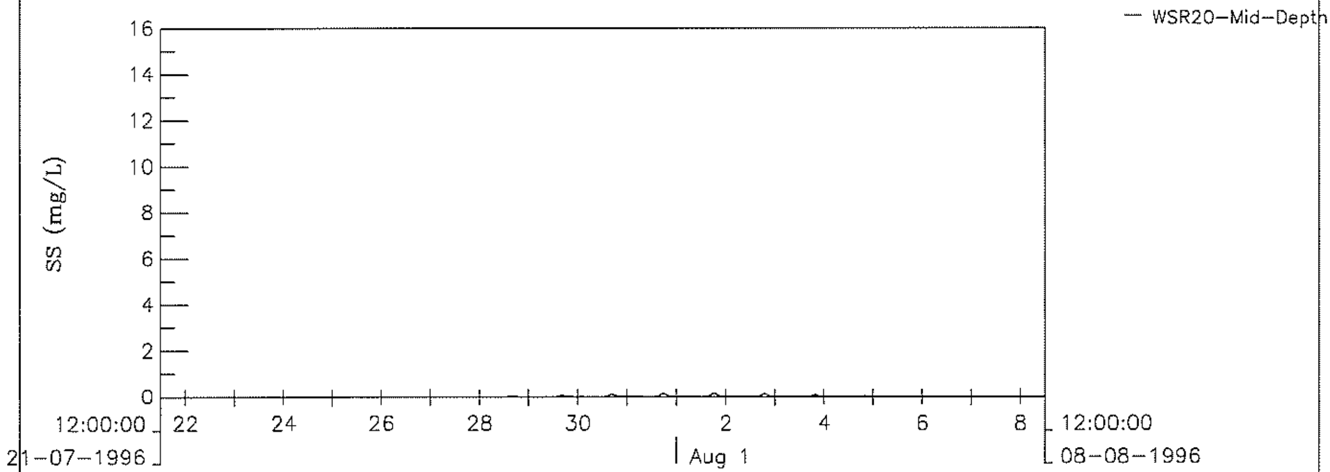


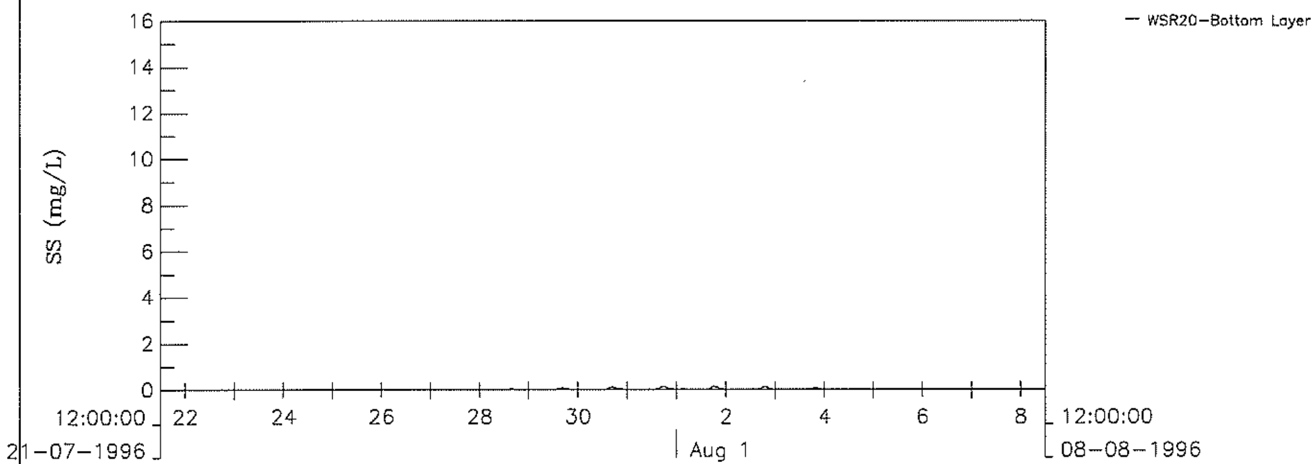
Year 2011 (Sequence B), Mitigated Daily Average Deposition (g/m2/day) Contour, Wet Season,	Jul 2009	Figure 040
	2011b-Wet (P0M1-R11f)	
AECOM		



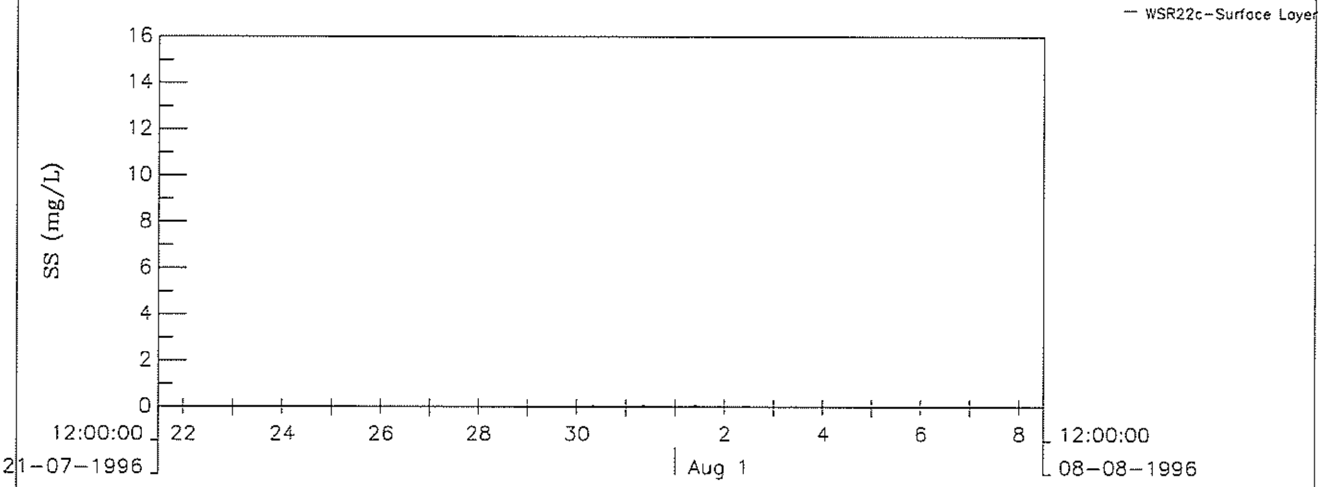
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR9a, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 041
	2011b-Dry (P0M1-R11f)	
MAUNSELL | AECOM		

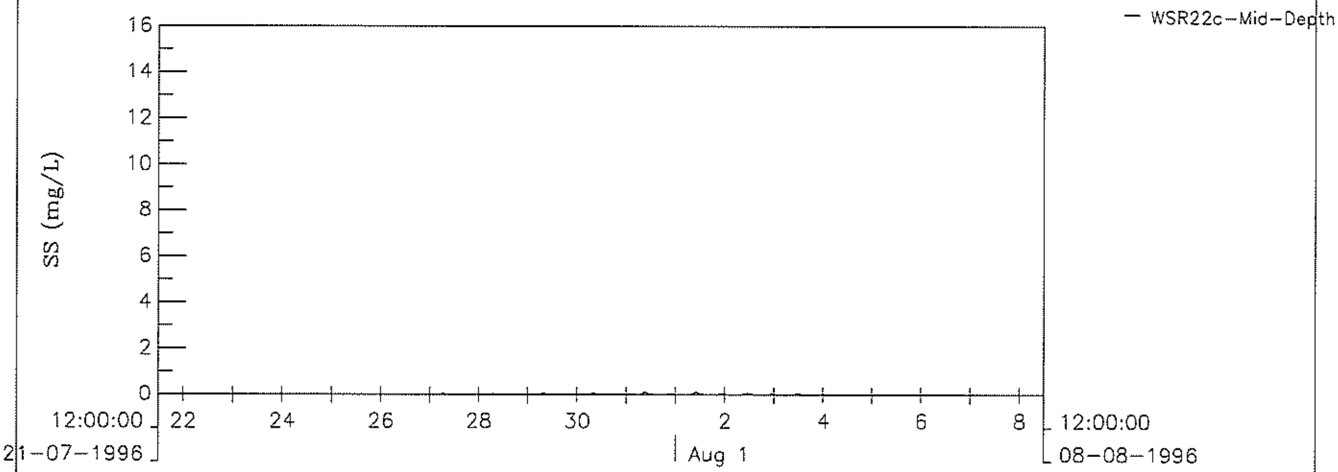


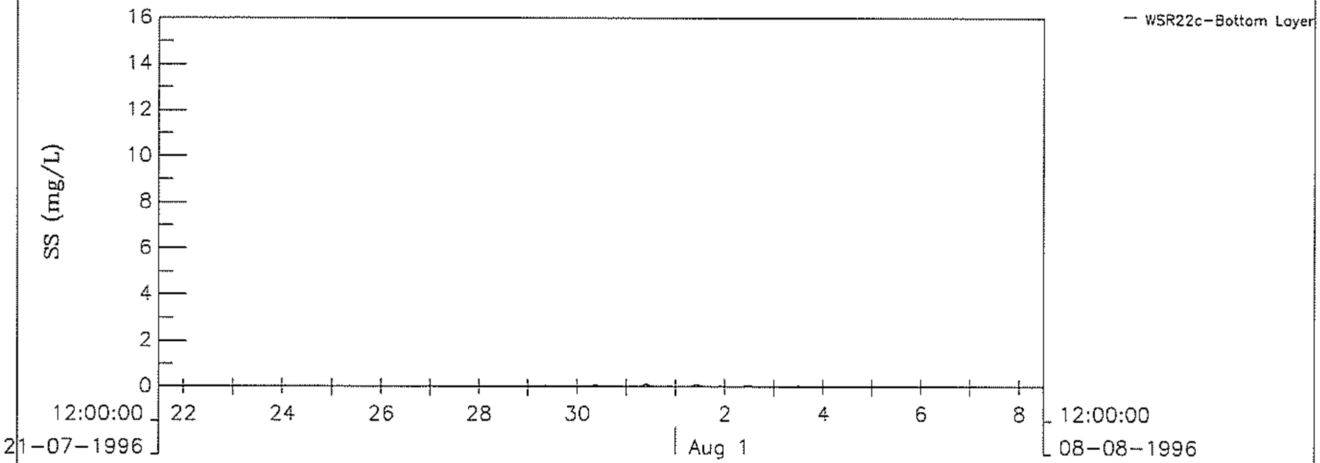




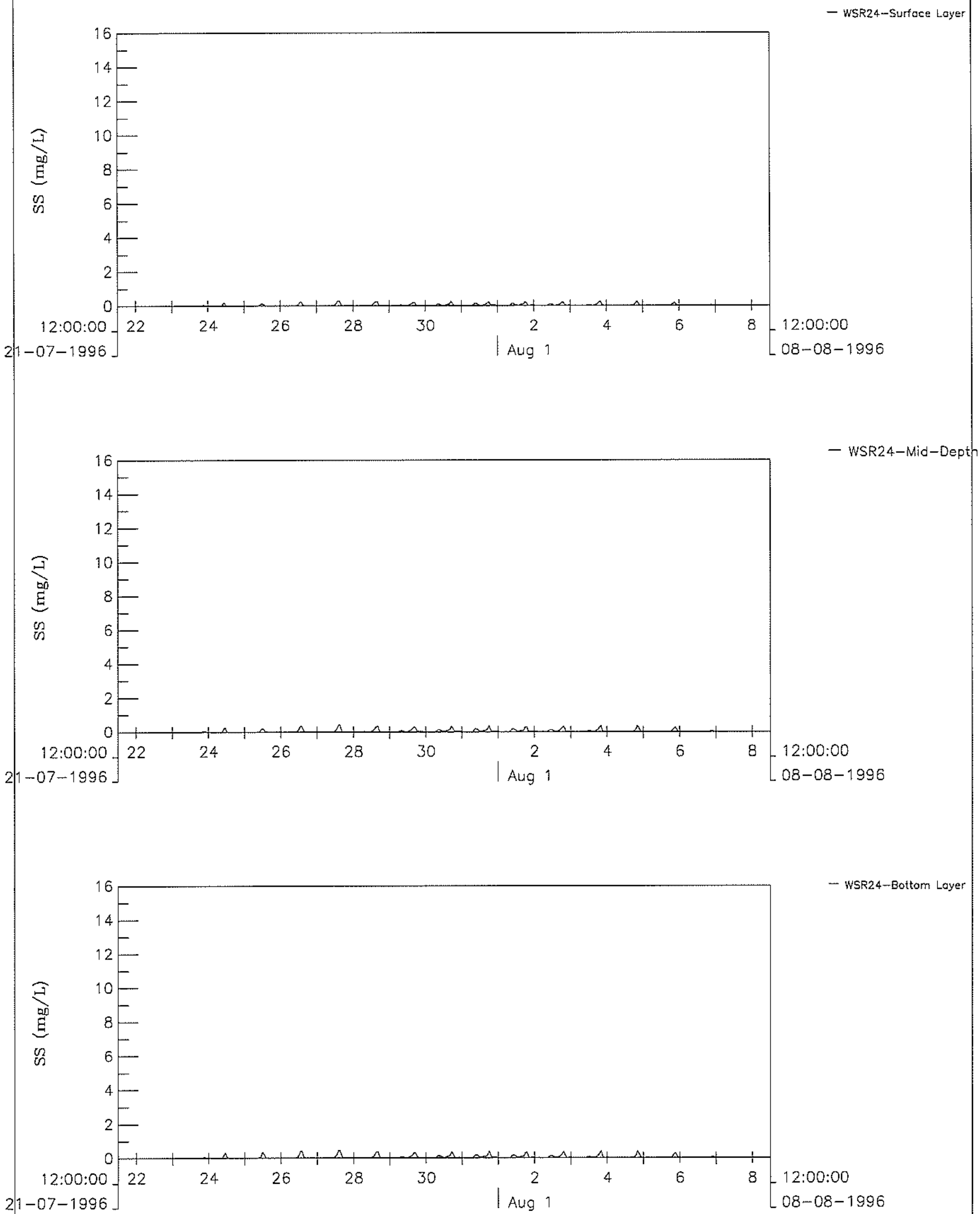
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR20, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 042
	2011b-Dry (POM1-R11f)	
MAUNSELL | AECOM		



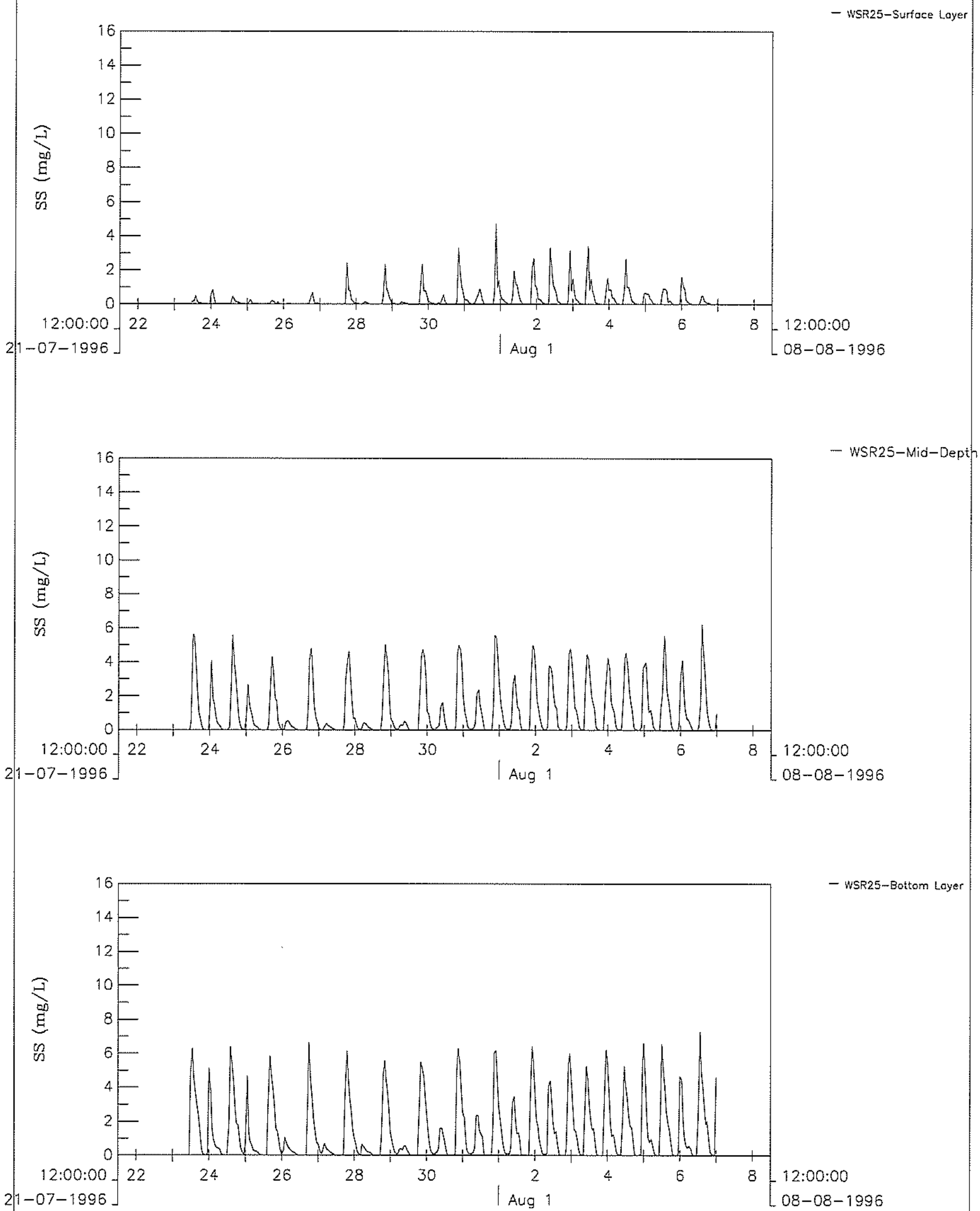




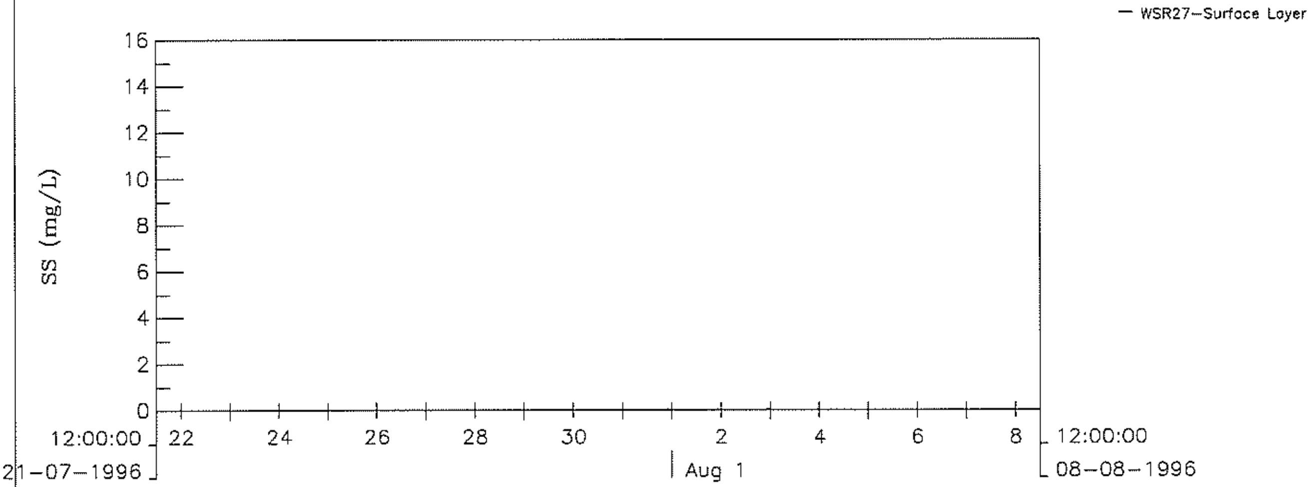
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR22c, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 043
	2011b-Dry (P0M1-R11f)	
MAUNSELL | AECOM		

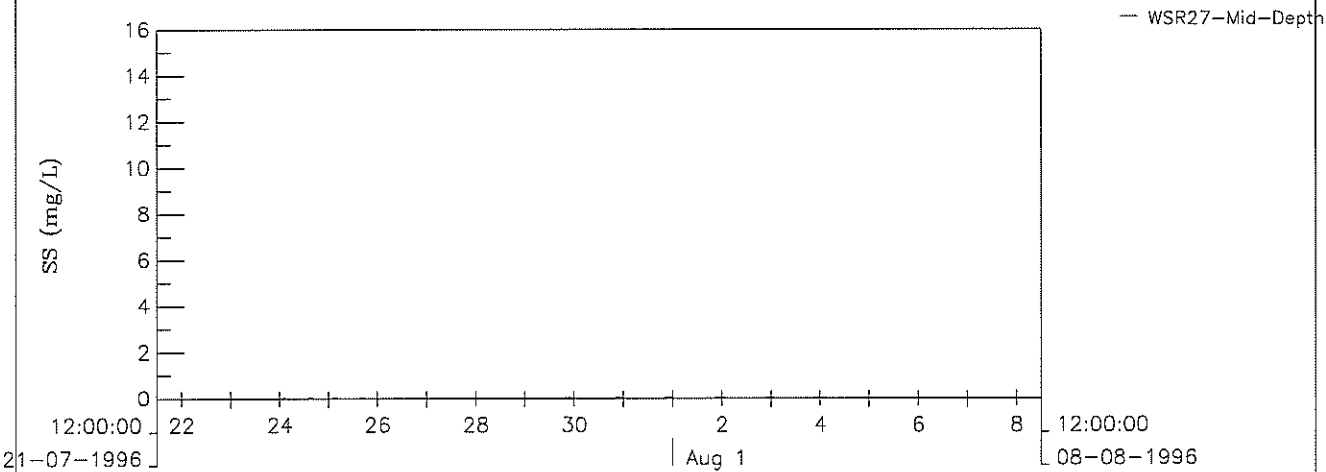


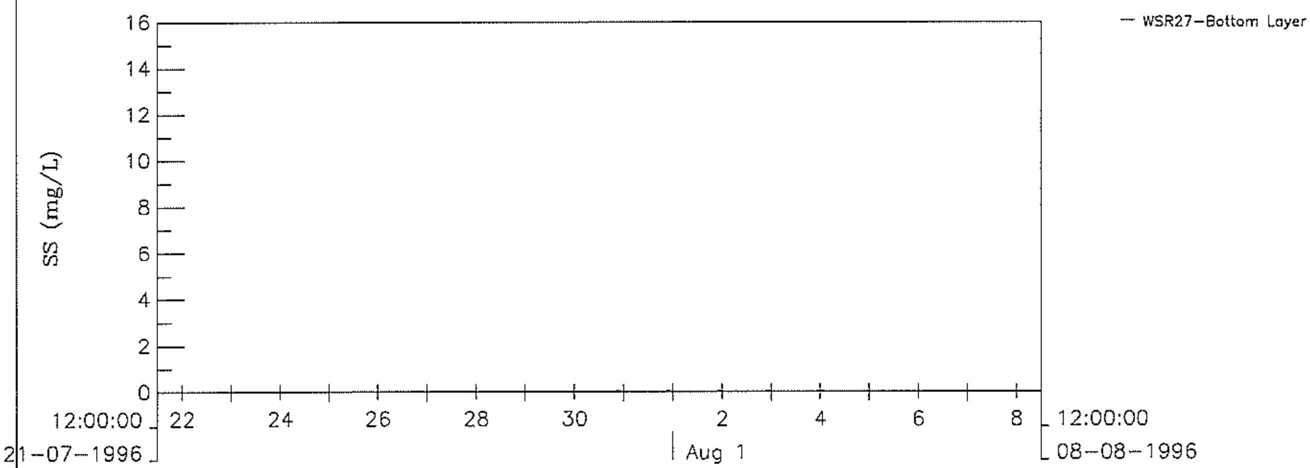
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR24, Dry Season (Top: Surface Layer; Middle: Mid—Depth; Bottom: Bottom Layer)	Jul 2009 2011b-Dry (P0M1-R11f)	Figure 044
MAUNSELL | AECOM		



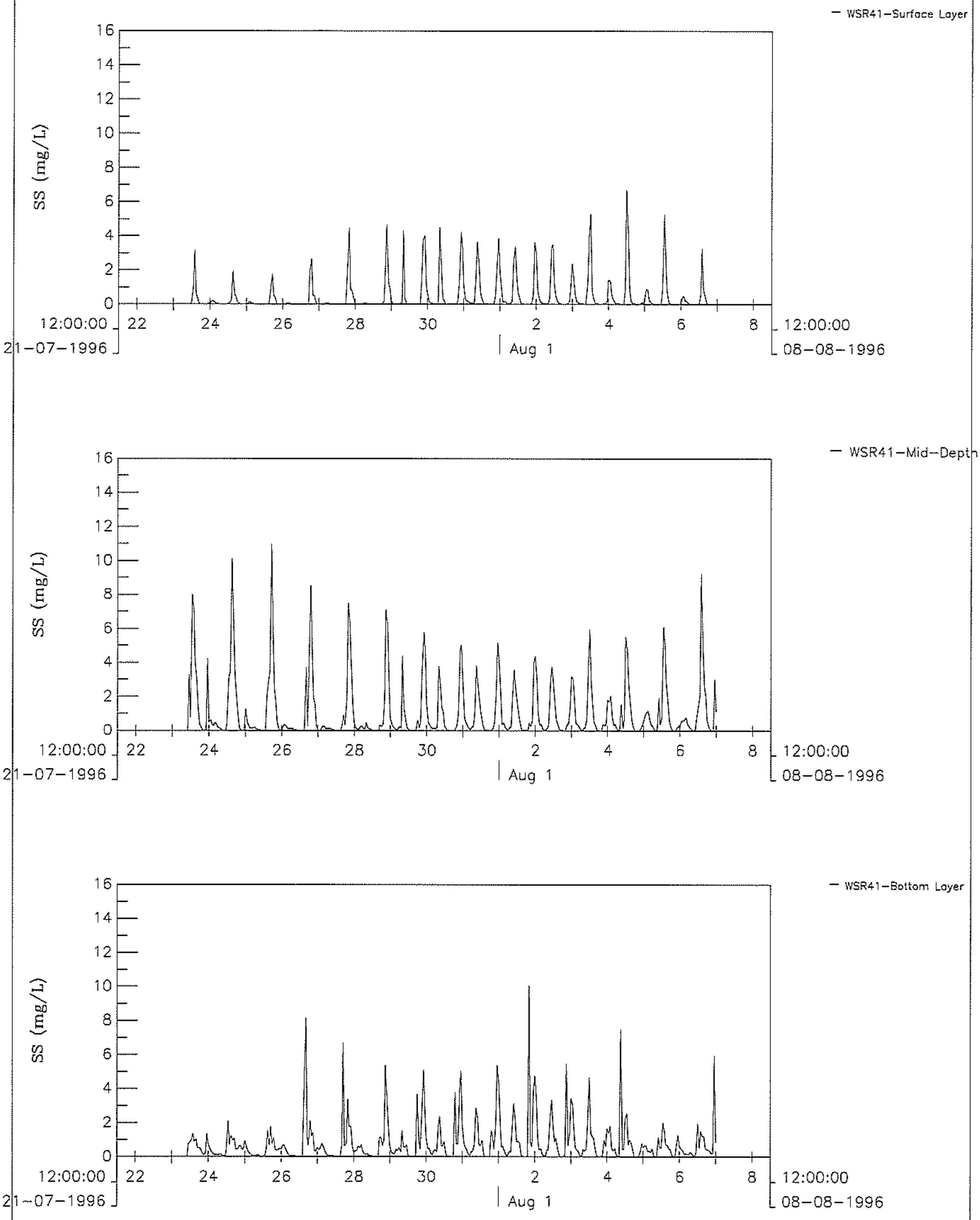
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR25, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 045
	2011b-Dry (P0M1-R11f)	
MAUNSELL | AECOM		







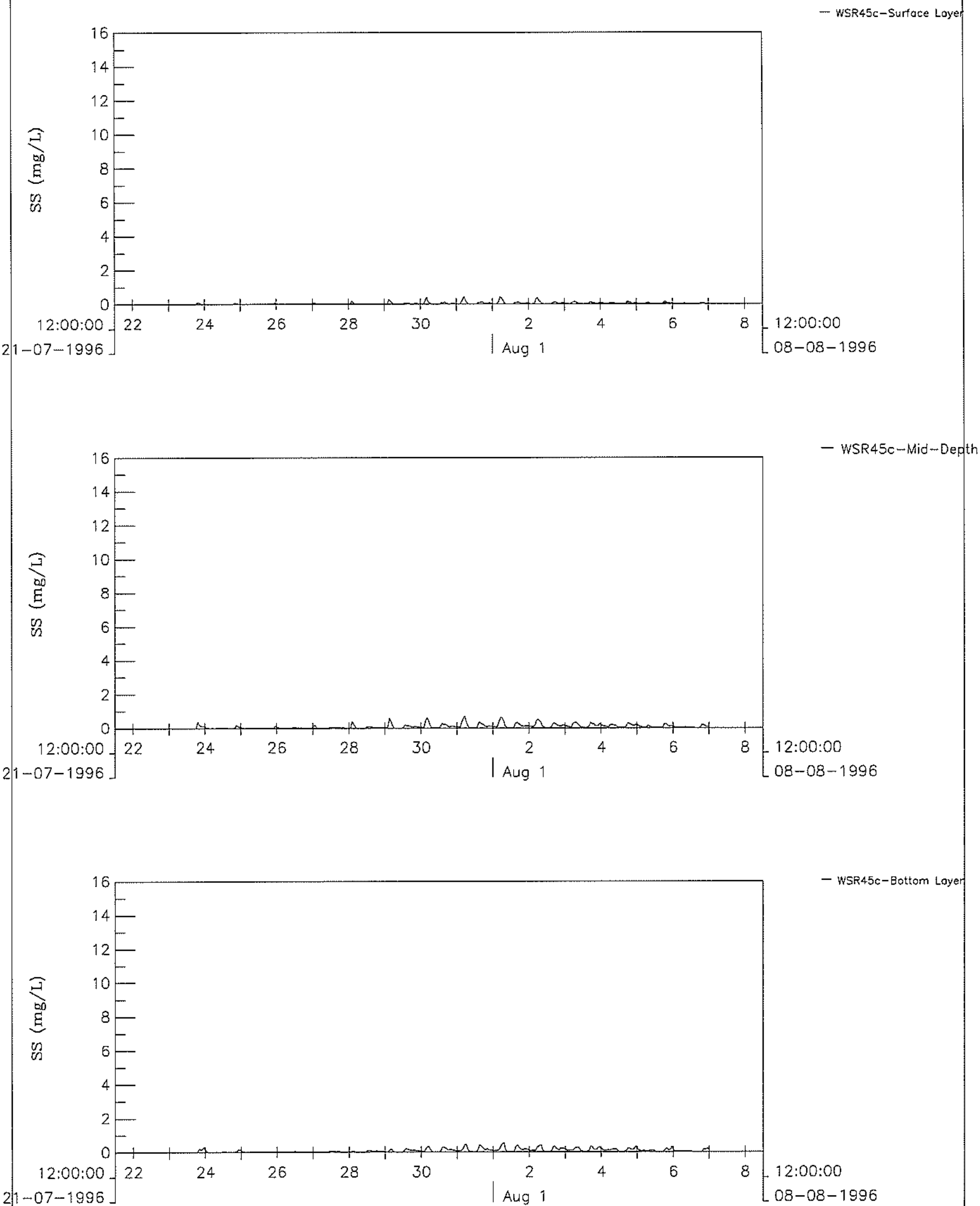
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR27, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 046
	2011b-Dry (POM1-R11f)	
MAUNSELL | AECOM		



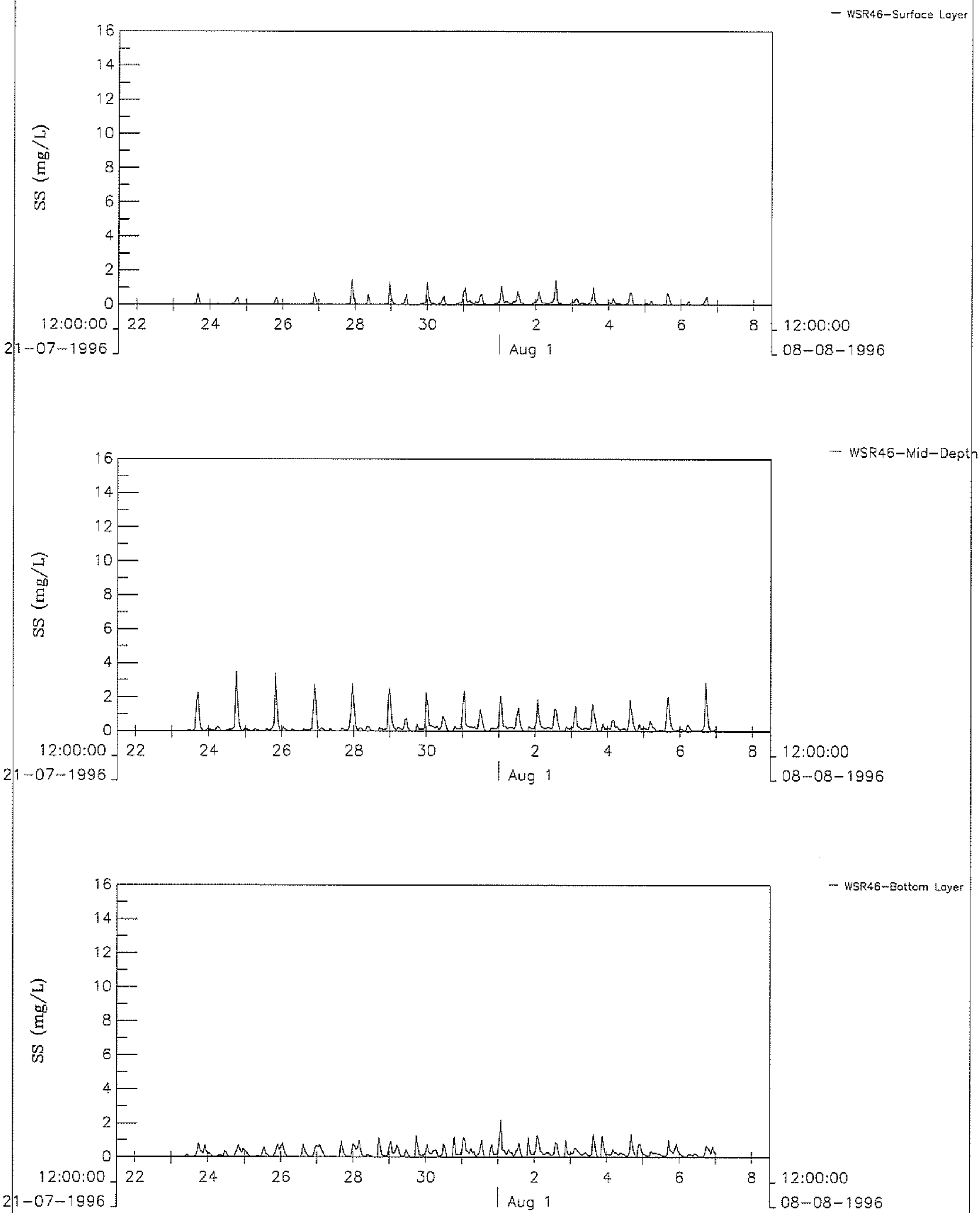
Year 2011 (Sequence B), Mitigated
Time History Plots of the SS (mg/L) at WSR41, Dry Season
(Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)

Jul 2009	Figure 047
2011b-Dry (P0M1-R11f)	

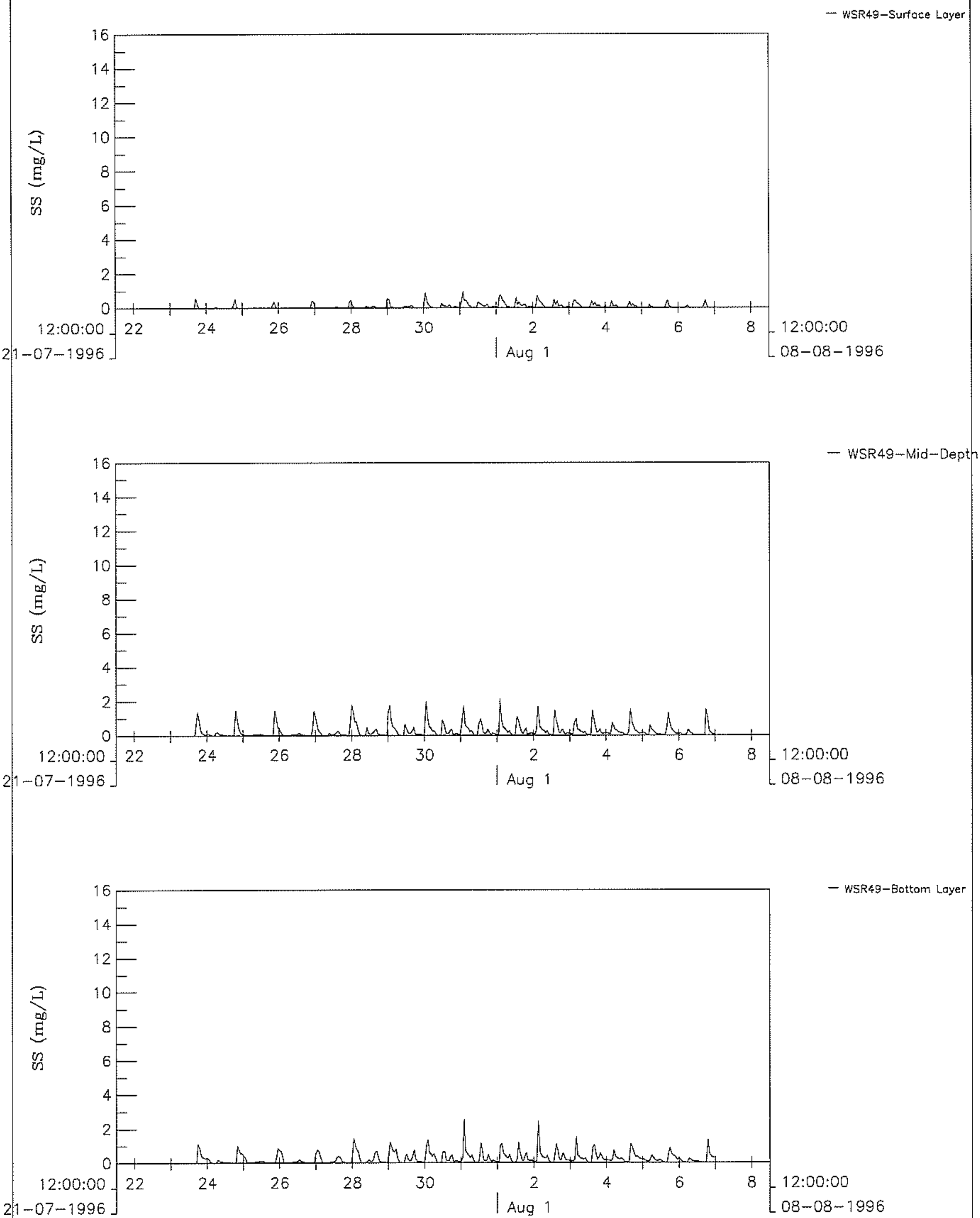
MAUNSELL | AECOM



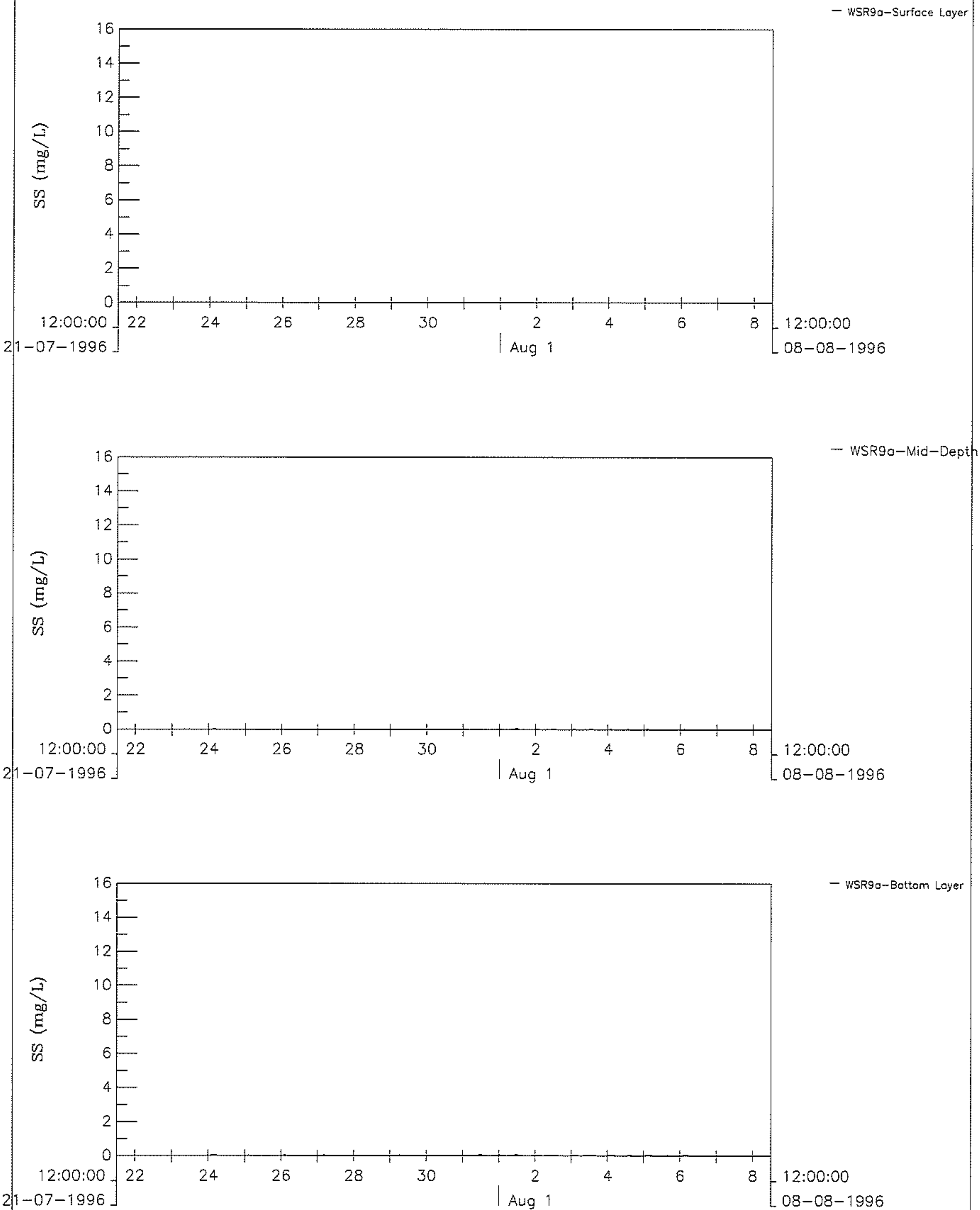
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR45c, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 048
	2011b-Dry (POM1-R11f)	
MAUNSELL | AECOM		



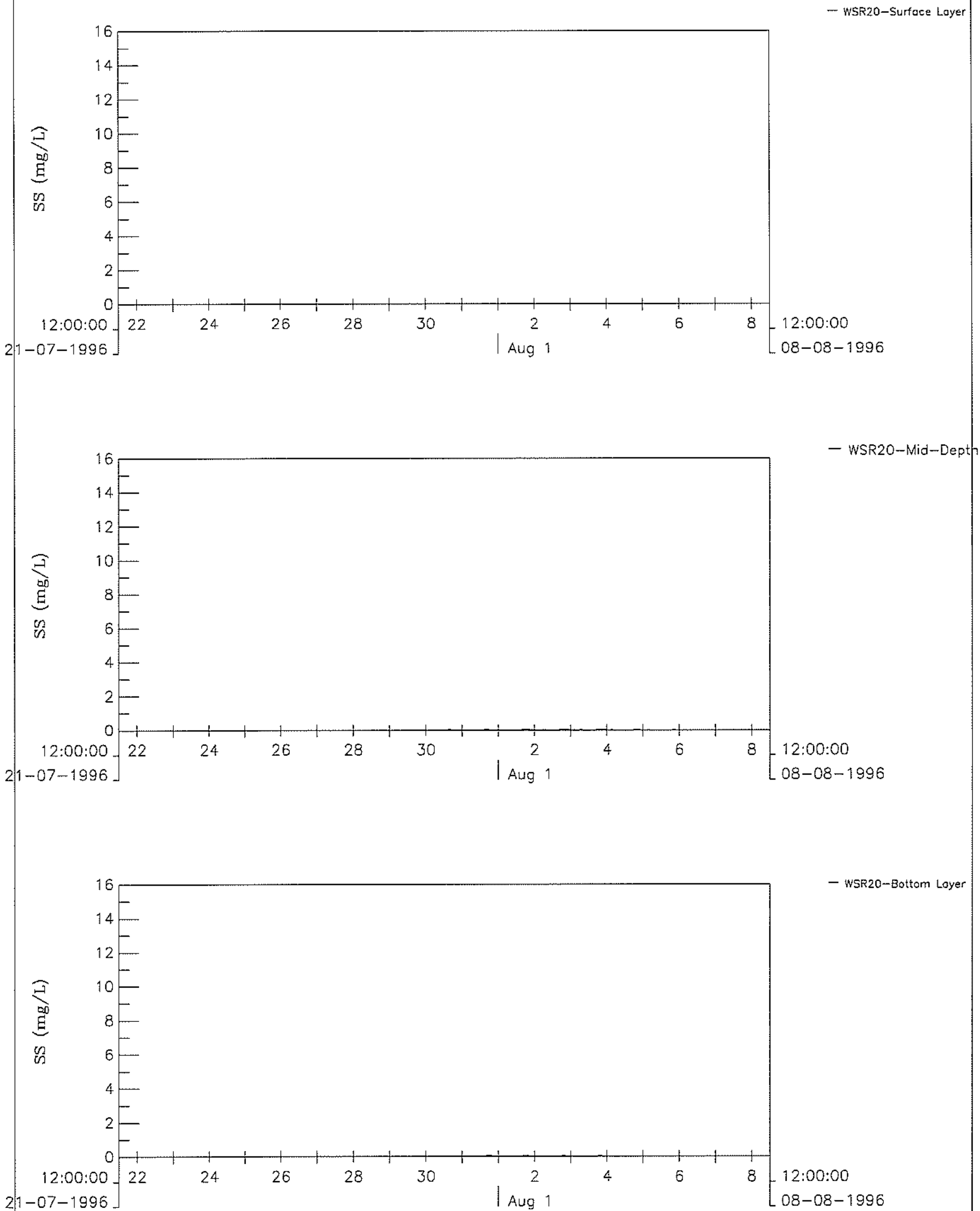
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR46, Dry Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)	Jul 2009	Figure 049
	2011b-Dry (P0M1-R11f)	
MAUNSELL | AECOM		



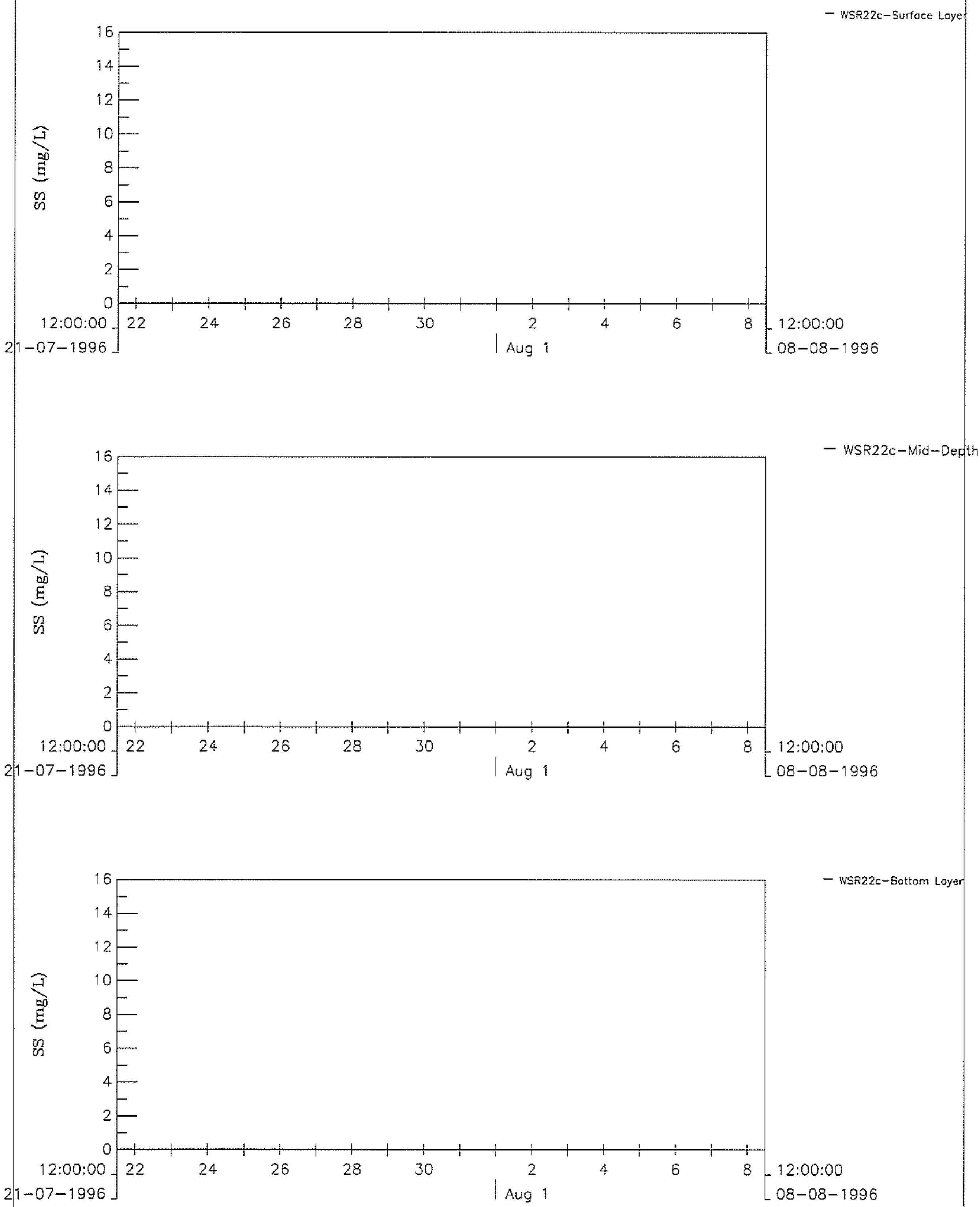
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR49, Dry Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 050
	2011b-Dry (POM1-R11f)	
MAUNSELL | AECOM		



Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR9a, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 051
	2011b-Wet (P0M1-R11f)	
MAUNSELL | AECOM		



Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR20, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 052
	2011b-Wet (POM1-R11f)	
MAUNSELL | AECOM		



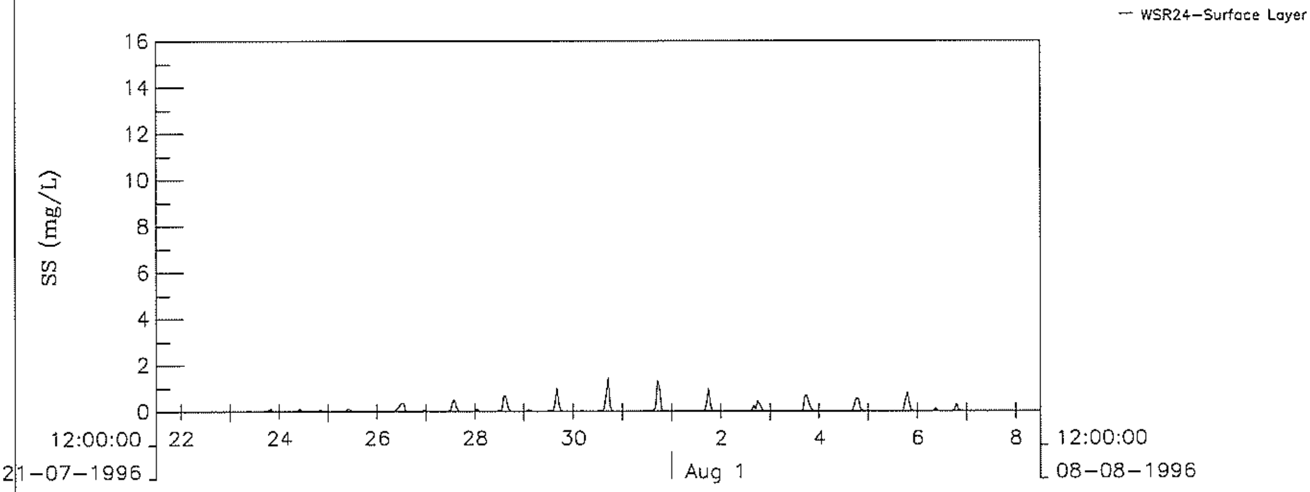
Year 2011 (Sequence B), Mitigated
Time History Plots of the SS (mg/L) at WSR22c, Wet Season
(Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)

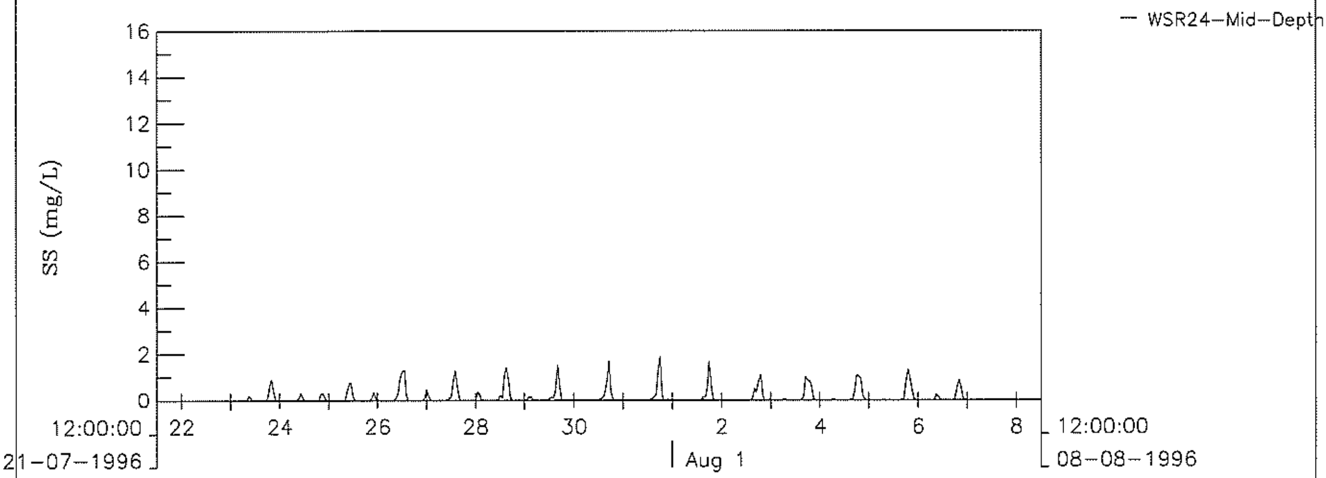
Jul 2009

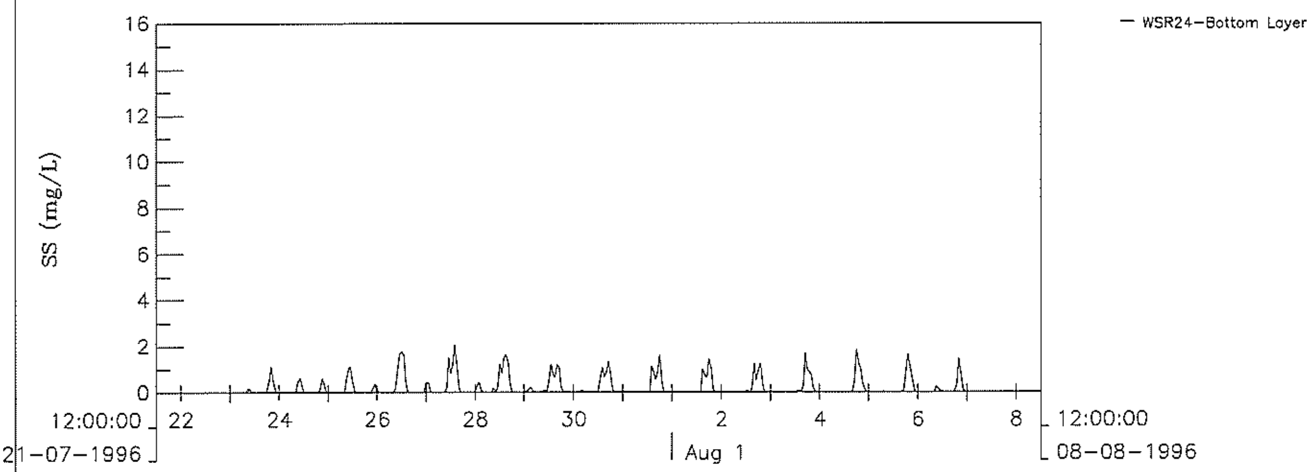
Figure 053

2011b-Wet (P0M1-R11f)

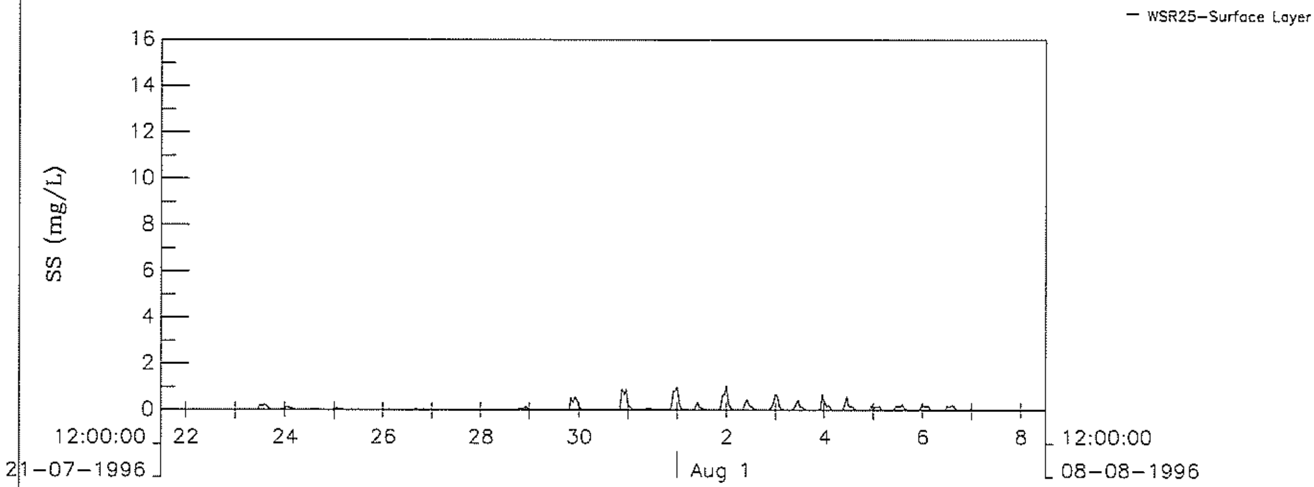
MAUNSELL | AECOM

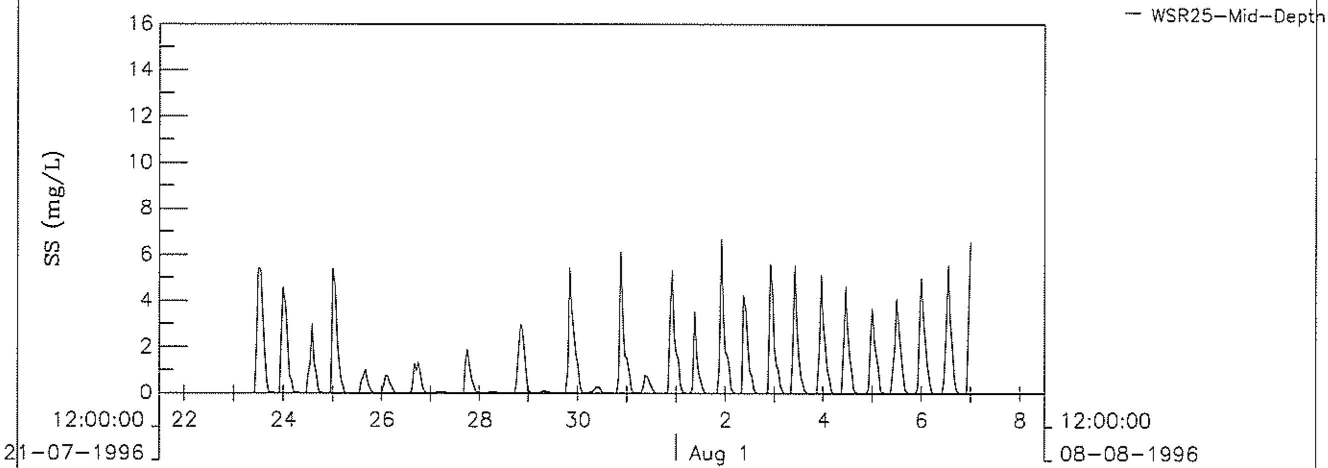


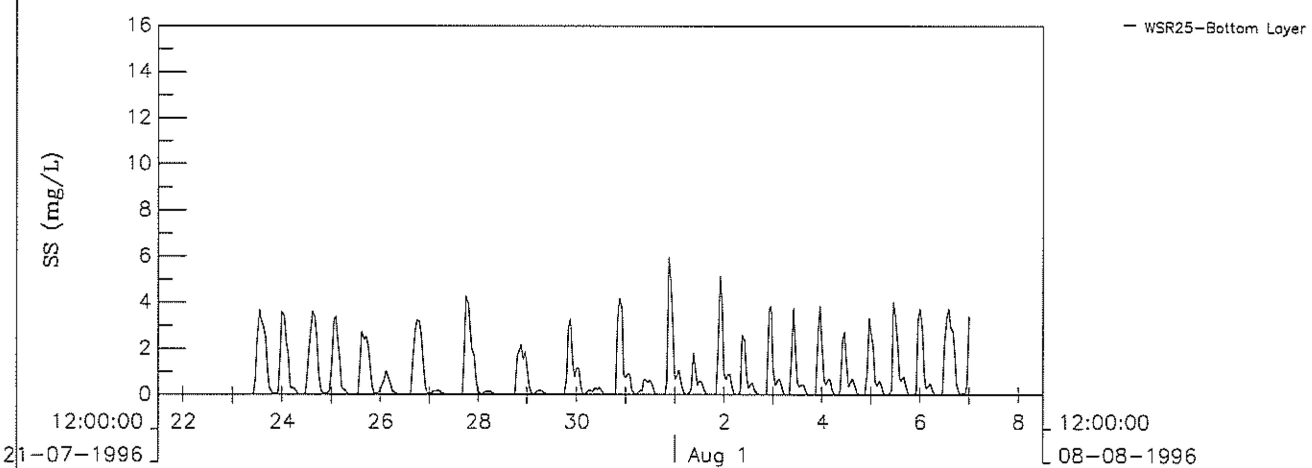




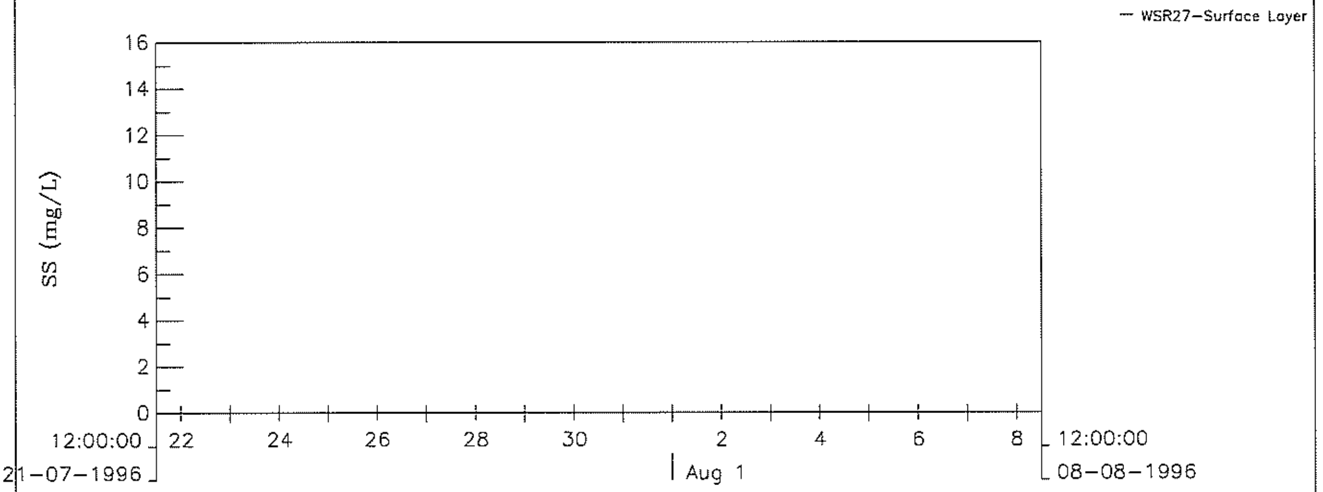
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR24, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 054
	2011b-Wet (POM1-R11f)	
MAUNSELL | AECOM		

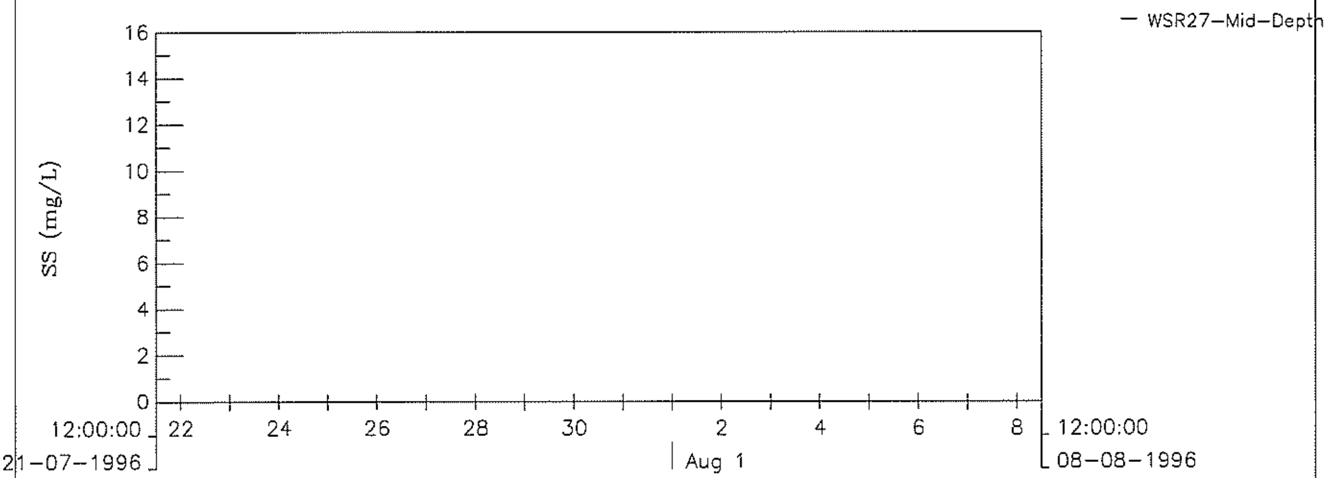


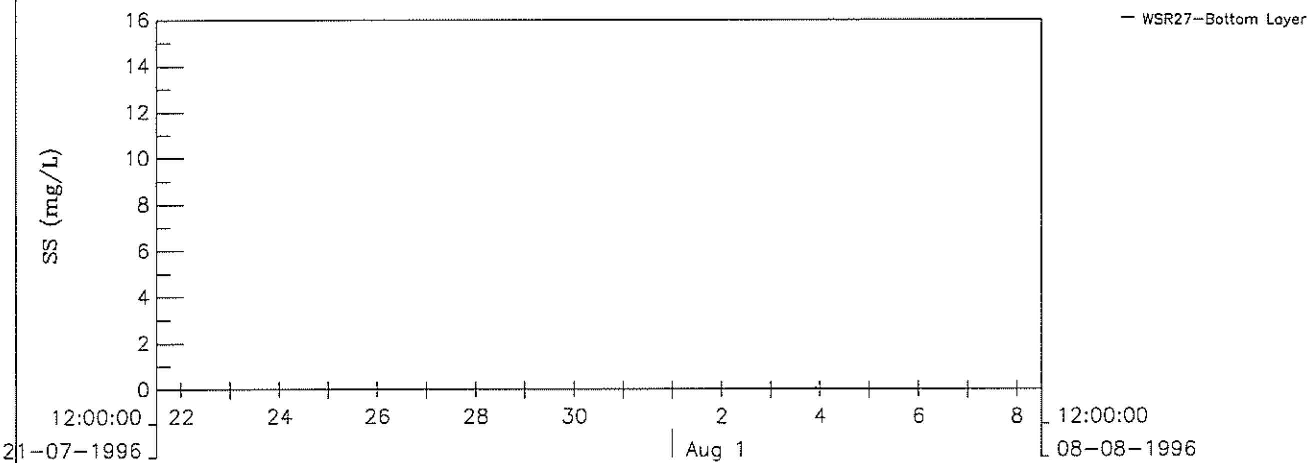




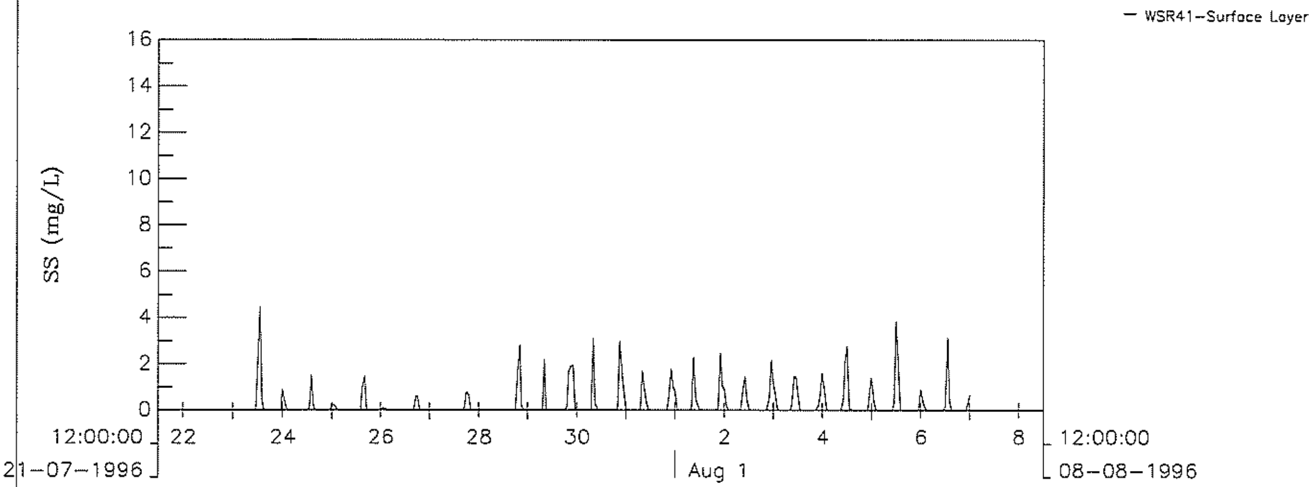
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR25, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)	Jul 2009	Figure 055
	2011b-Wet (P0M1-R11f)	
MAUNSELL | AECOM		

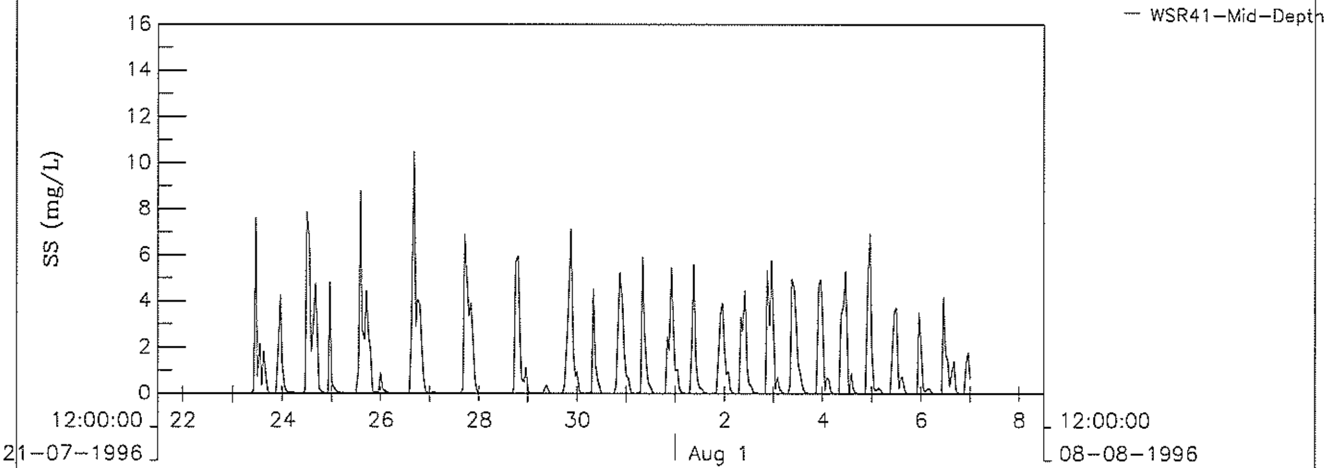


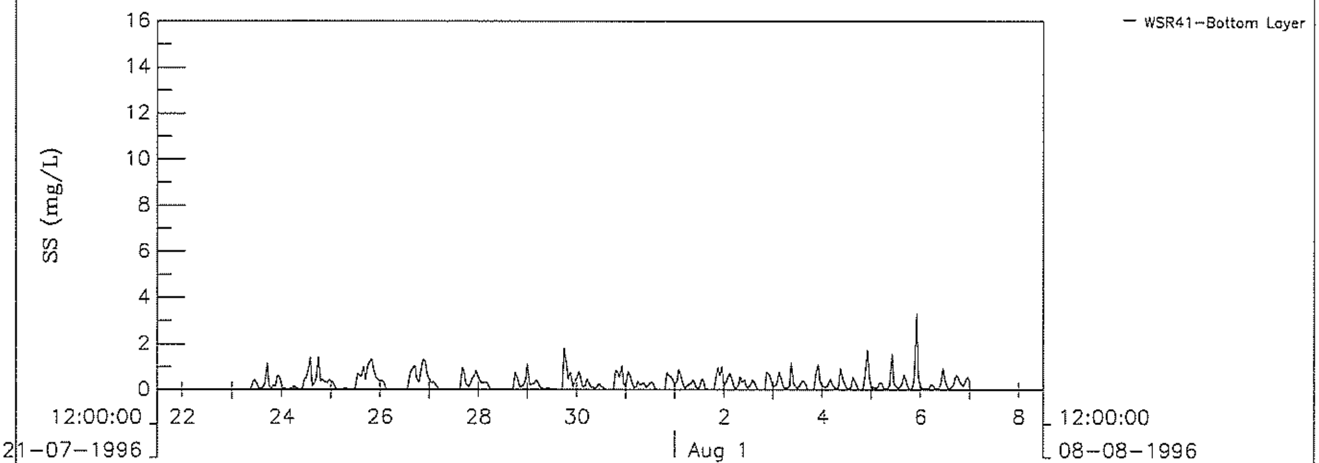




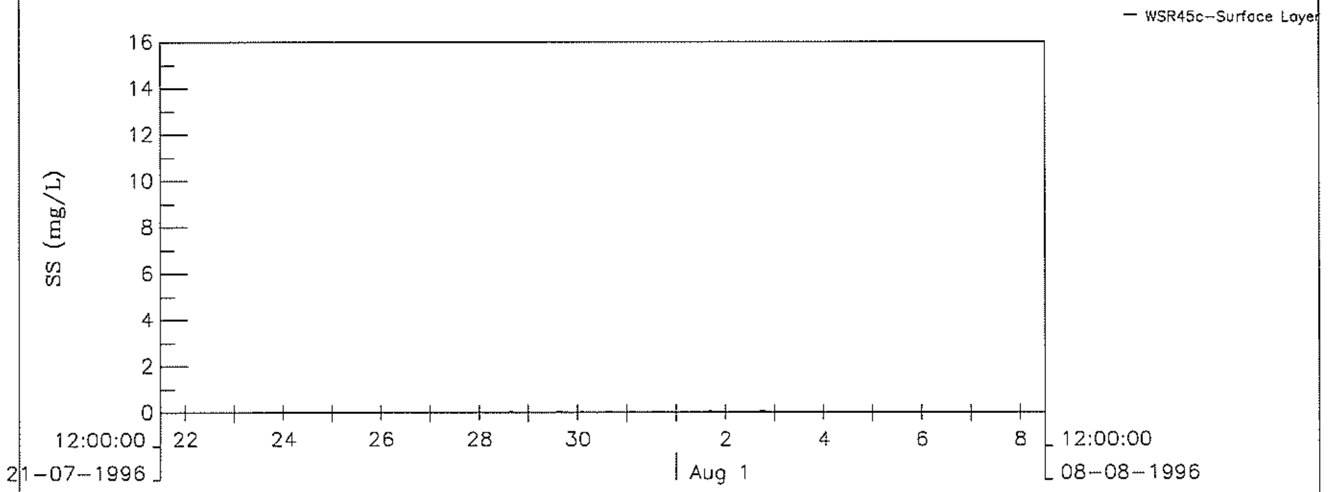
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR27, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 056
	2011b-Wet (P0M1-R11f)	
MAUNSELL | AECOM		

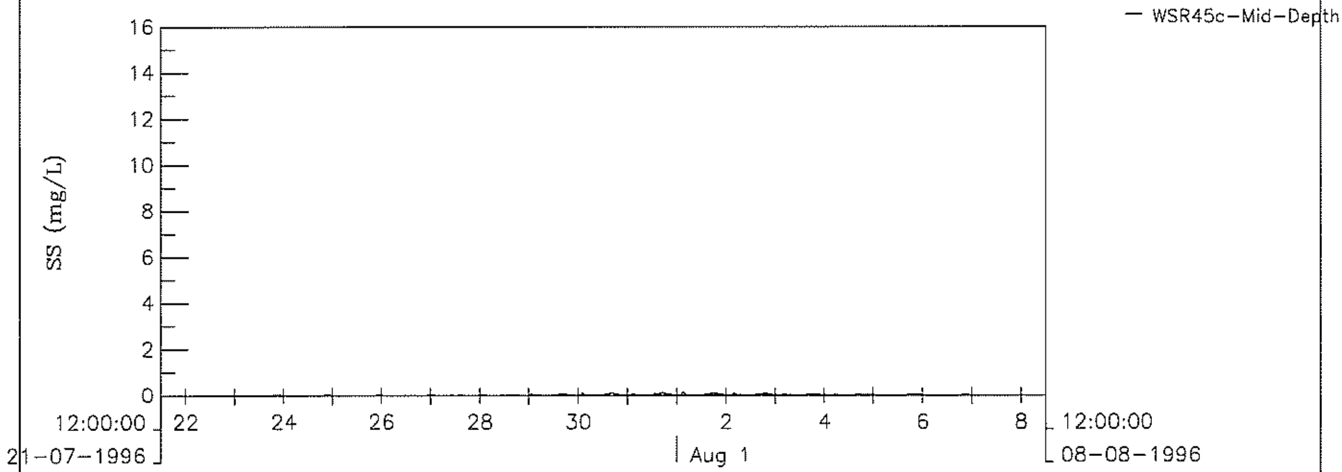


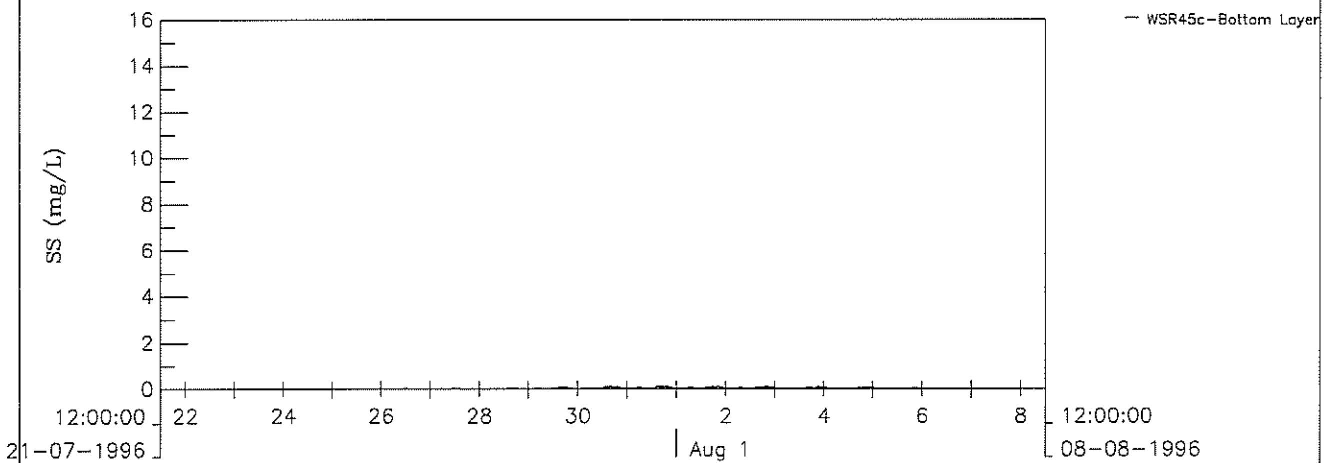




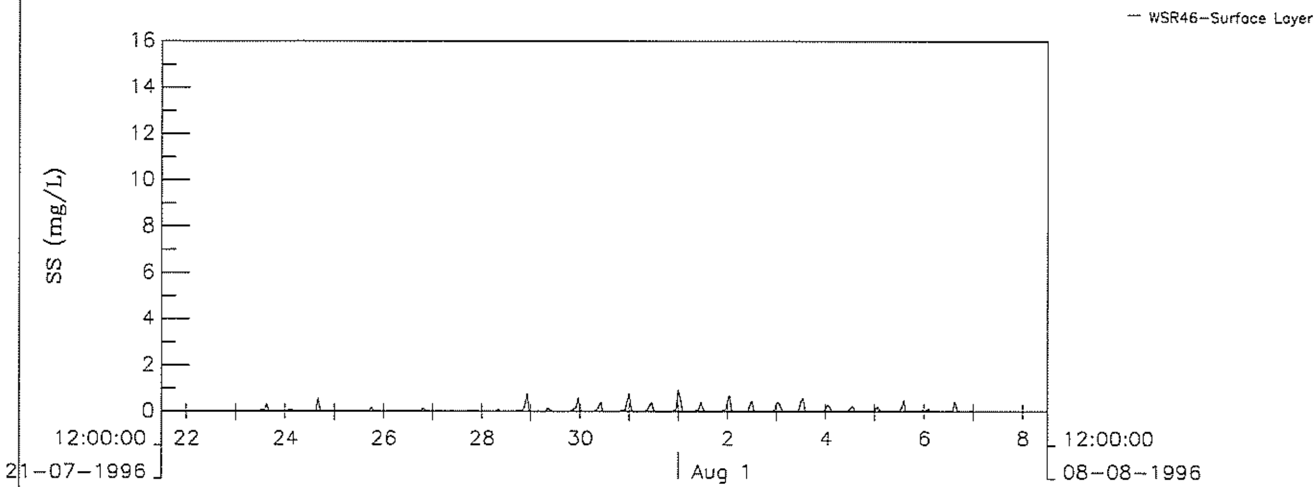
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR41, Wet Season (Top: Surface Layer; Middle: Mid-Depth; Bottom: Bottom Layer)	Jul 2009 2011b-Wet (POM1-R11f)	Figure 057
MAUNSELL | AECOM		

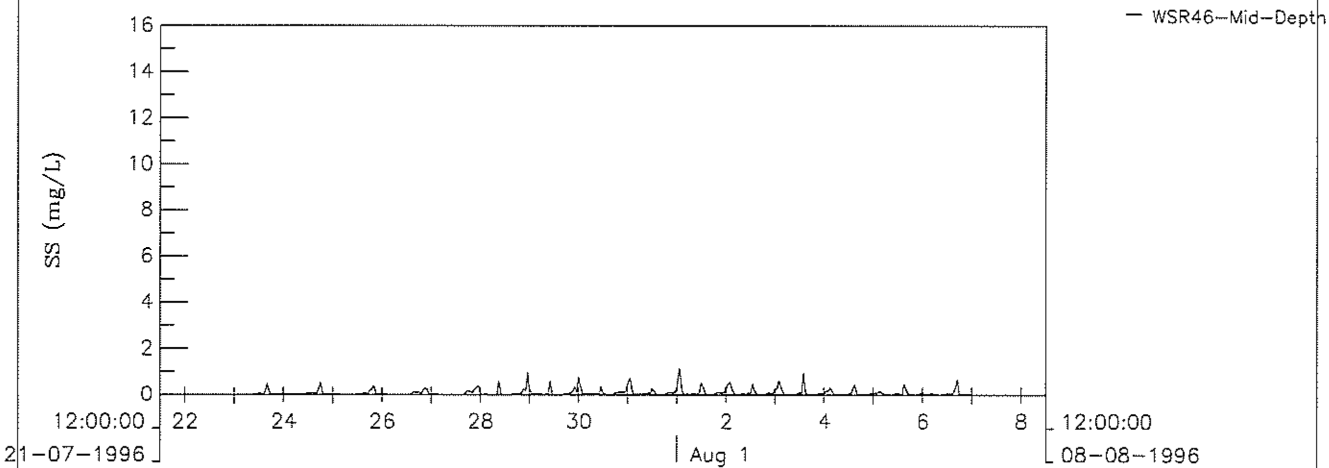


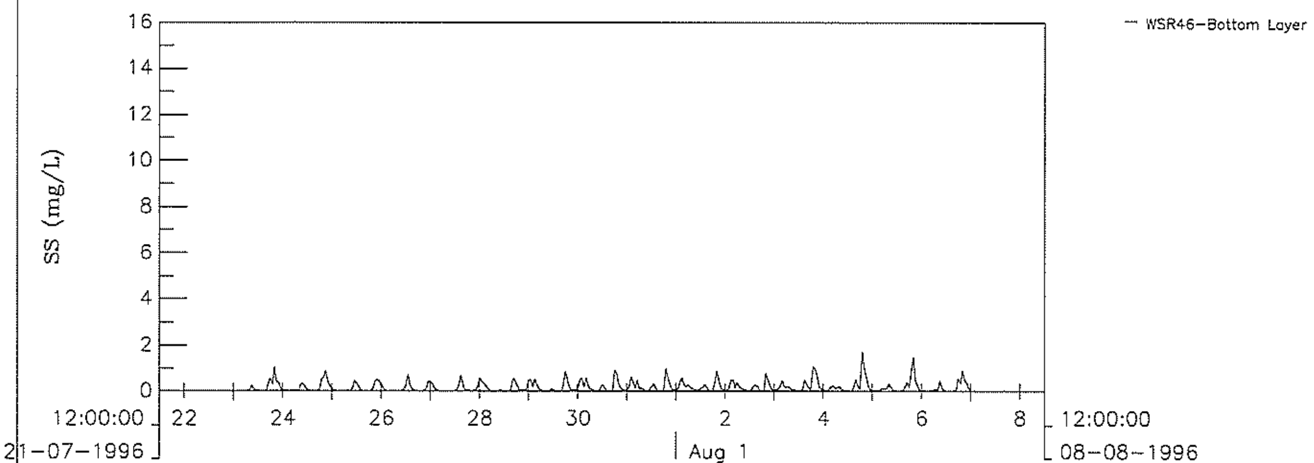




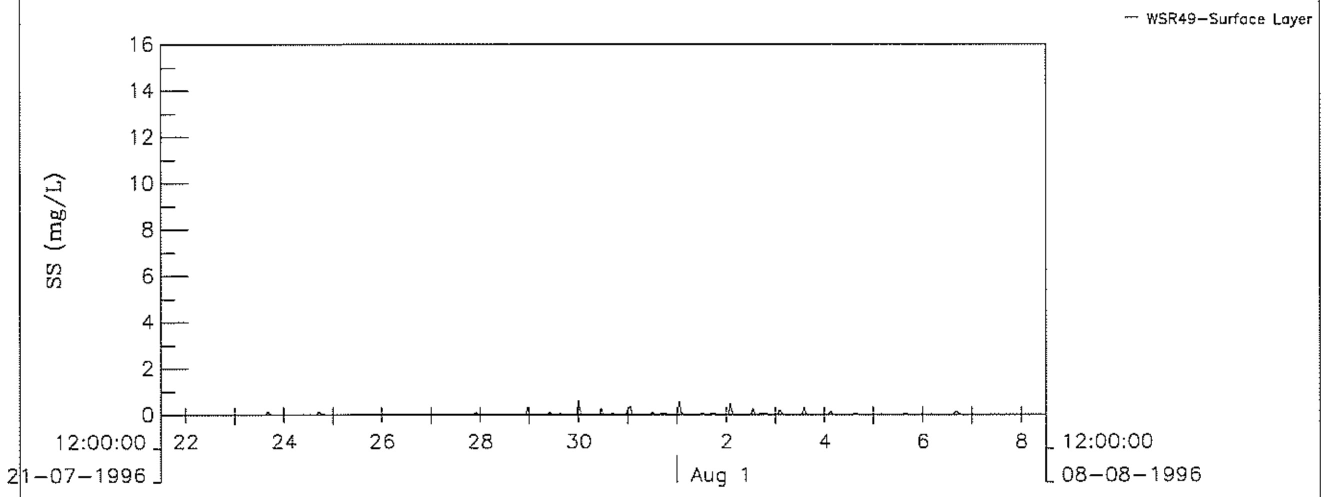
Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR45c, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 058
	2011b-Wet (POM1-R11f)	
MAUNSELL | AECOM		

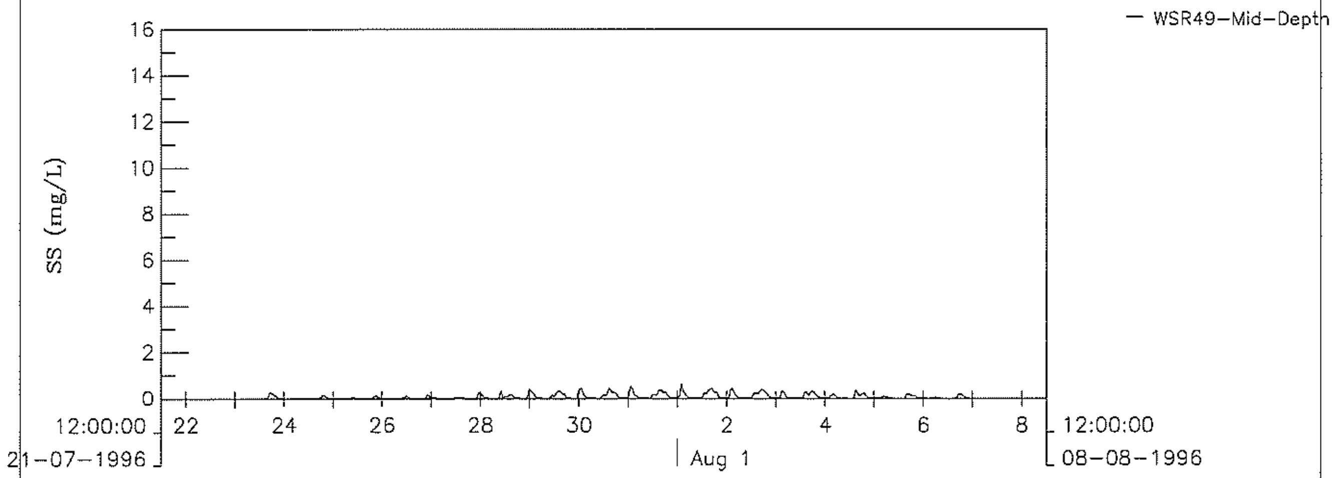


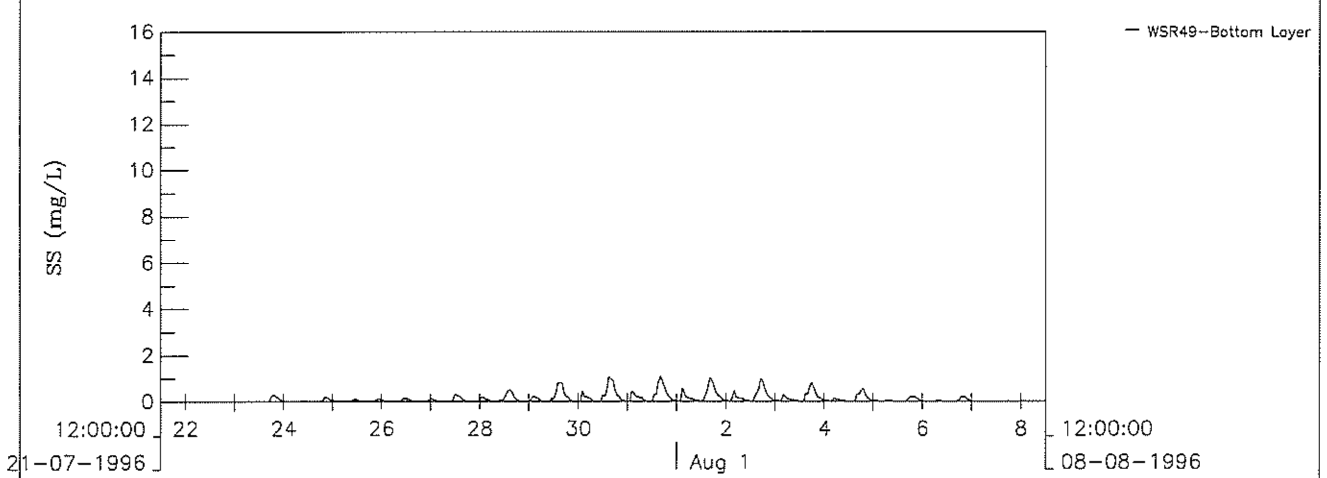




Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR46, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 059
	2011b-Wet (P0M1-R11f)	
MAUNSELL | AECOM		







Year 2011 (Sequence B), Mitigated Time History Plots of the SS (mg/L) at WSR49, Wet Season (Top: Surface Layer; Middle: Mid–Depth; Bottom: Bottom Layer)	Jul 2009	Figure 060
	2011b-Wet (POM1-R11f)	
MAUNSELL | AECOM		

Appendix 9F – Part 9F4

Supplementary Information for Sequence B

Results of Additional Modelling

Table 1 Predicted Maximum SS (mg/l) Elevations at Selected Observation Points for the Scenario Year 2011-Sequence B (Mitigated)

Observation Points	Point SR	Name	Associated EPD Station	Maximum SS (mg/L)								Percentage of Time Exceedances Predicted								WQO / WQC							
				Dry Season				Wet Season				Dry Season				Wet Season				Dry Season				Wet Season			
				S	M	B	DA	S	M	B	DA	S	M	B	DA	S	M	B	DA	S	M	B	DA	S	M	B	DA
WSR 09a	No	Urmston Road (Main Channel)	NM5,6,8	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0%	0%	0%	0%	0%	0%	0%	0%	5.7	7.7	11.8	8.3	3.0	3.6	10.3	5.6
WSR 20	Yes	Ma Wan Fish Culture Zone (Note 2)	-	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0%	0%	0%	0%	0%	0%	0%	0%	39.1	39.1	39.1	39.1	43.0	43.0	43.0	43.0
WSR 22c	Yes	Tai Ho Wan Outlet (outside) / Near coral site	NM1,2,3	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0%	0%	0%	0%	0%	0%	0%	0%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7
WSR 24	No	Tung Chung Fairway	NM1,2,3	0.3	0.4	0.5	0.4	1.5	1.9	2.1	1.5	0%	0%	0%	0%	0%	0%	0%	0%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7
WSR 25	Yes	Airport Cooling Water Intake (NE)	NM1,2,3	4.8	6.3	7.3	5.5	1.1	6.7	6.0	4.2	0%	2%	0%	0%	0%	7%	0%	1%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7
WSR 27	Yes	San Tau Beach SSSI	NM5,6,8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0%	0%	0%	0%	0%	0%	0%	0%	5.7	7.7	11.8	8.3	3.0	3.6	10.3	5.6
WSR 41	Yes	Artificial Reef at NE Airport	NM1,2,3	6.7	11.0	10.1	5.7	4.5	10.5	3.3	3.8	4%	5%	1%	0%	2%	12%	0%	0%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7
WSR 45c	No	Sham Shui Kok (CWD habitat range)	NM1,2,3	0.5	0.7	0.6	0.5	0.1	0.2	0.1	0.1	0%	0%	0%	0%	0%	0%	0%	0%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7
WSR 46	No	Tai Mo To (near coral / CWD habitat range)	NM1,2,3	1.5	3.5	2.2	1.5	0.9	1.2	1.7	0.6	0%	0%	0%	0%	0%	0%	0%	0%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7
WSR 49	No	Tai Mo To (Deep Channel / CWD habitat range)	NM1,2,3	1.0	2.2	2.5	1.7	0.6	0.6	1.1	0.5	0%	0%	0%	0%	0%	0%	0%	0%	3.6	5.1	8.1	5.5	2.3	3.3	6.0	3.7

Note:

WQO = Water Quality Objective; WQC = Water Quality Criteria; S = Surface level; M = Mid-depth; B = Bottom level; DA=Depth-averaged.
Grey cell = Values with WQO/WQC Exceedances

1 WQC based on the specific requirement for the Black Point / Castle Peak Power Station intake and the SS should be mantained at below 764 mg/L (ERM, 2006)

2 WQC based on general water quality protection guideline for FCZ (CityU, 2001)

3 The "Point SR" column indicate if the site is considered as specific stationary sensitive receiver by the nature of its use (e.g., beaches, existing intakes, SSSI or habitats for less mobile species).

Table 2 Predicted Maximum Metals Elevations and DO depletion Based on Maximum Depth-Averaged SS Elevation at Selected Observation Points for the Scenario Year 2011-Sequence B Dry Season (Mitigated)

Observation Points	Point SR	Name	Max. SS (mg/L) Dry	Max. SS (mg/L) Wet		Dry Season Maximum Elevation (ug/L) Cd	Cr	Cu	Hg	Ni	Pb	Ag	Zn	As
			DA	DA	UCEL	4	160	110	1	40	110	2	270	42
WSR 09a	No	Urmston Road (Main Channel)	0.1	0.1		0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.02	0.00
WSR 20	Yes	Ma Wan Fish Culture Zone	0.1	0.0		0.00	0.02	0.01	0.00	0.01	0.01	0.00	0.03	0.01
WSR 22c	Yes	Tai Ho Wan Outlet (outside) / Near coral site	0.1	0.0		0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.03	0.00
WSR 24	No	Tung Chung Fairway	0.4	1.5		0.00	0.06	0.04	0.00	0.02	0.04	0.00	0.11	0.02
WSR 25	Yes	Airport Cooling Water Intake (NE)	5.5	4.2		0.02	0.88	0.60	0.01	0.22	0.60	0.01	1.48	0.23
WSR 27	Yes	San Tau Beach SSSI	0.0	0.0		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00
WSR 41	Yes	Artificial Reef at NE Airport	5.7	3.8		0.02	0.92	0.63	0.01	0.23	0.63	0.01	1.55	0.24
WSR 45c	No	Sham Shui Kok (CWD habitat range)	0.5	0.1		0.00	0.08	0.06	0.00	0.02	0.06	0.00	0.14	0.02
WSR 46	No	Tai Mo To (near coral / CWD habitat range)	1.5	0.6		0.01	0.24	0.16	0.00	0.06	0.16	0.00	0.40	0.06
WSR 49	No	Tai Mo To (Deep Channel / CWD habitat range)	1.7	0.5		0.01	0.28	0.19	0.00	0.07	0.19	0.00	0.47	0.07

Observation Points		% of EQS Cd	Cr	Cu	Hg	Ni	Pb	Ag	Zn	As	Maximum DO depletion
	EQS (ug/L)	2.5	15	5	0.3	30	25	N/A	40	25	mg/L
WSR 09a		0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0
WSR 20		0.0%	0.1%	0.3%	0.0%	0.0%	0.1%	-	0.1%	0.0%	0.0
WSR 22c		0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	-	0.1%	0.0%	0.0
WSR 24		0.1%	0.4%	0.9%	0.1%	0.1%	0.2%	-	0.3%	0.1%	0.0
WSR 25		0.9%	5.8%	12%	1.8%	0.7%	2.4%	-	3.7%	0.9%	0.1
WSR 27		0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0
WSR 41		0.9%	6.1%	12.6%	1.9%	0.8%	2.5%	-	3.9%	1.0%	0.1
WSR 45c		0.1%	0.6%	1.1%	0.2%	0.1%	0.2%	-	0.4%	0.1%	0.0
WSR 46		0.2%	1.6%	3.3%	0.5%	0.2%	0.7%	-	1.0%	0.3%	0.0
WSR 49		0.3%	1.9%	3.8%	0.6%	0.2%	0.8%	-	1.2%	0.3%	0.0

Table 3 Predicted Maximum Metals Elevations and DO depletion Based on Maximum Depth-Averaged SS Elevation at Selected Observation Points for the Scenario Year 2011-Sequence B Wet Season (Mitigated)

Observation Points	Point SR	Name	Max. SS (mg/L) Dry	Max. SS (mg/L) Wet		Wet Season Maximum Elevation (ug/L) Cd	Cr	Cu	Hg	Ni	Pb	Ag	Zn	As
			DA	DA	UCEL	4	160	110	1	40	110	2	270	42
WSR 09a	No	Urmston Road (Main Channel)	0.1	0.1		0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00
WSR 20	Yes	Ma Wan Fish Culture Zone	0.1	0.0		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00
WSR 22c	Yes	Tai Ho Wan Outlet (outside) / Near coral site	0.1	0.0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 24	No	Tung Chung Fairway	0.4	1.5		0.01	0.24	0.17	0.00	0.06	0.17	0.00	0.41	0.06
WSR 25	Yes	Airport Cooling Water Intake (NE)	5.5	4.2		0.02	0.67	0.46	0.00	0.17	0.46	0.01	1.13	0.18
WSR 27	Yes	San Tau Beach SSSI	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
WSR 41	Yes	Artificial Reef at NE Airport	5.7	3.8		0.02	0.61	0.42	0.00	0.15	0.42	0.01	1.04	0.16
WSR 45c	No	Sham Shui Kok (CWD habitat range)	0.5	0.1		0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.03	0.00
WSR 46	No	Tai Mo To (near coral / CWD habitat range)	1.5	0.6		0.00	0.10	0.07	0.00	0.02	0.07	0.00	0.16	0.03
WSR 49	No	Tai Mo To (Deep Channel / CWD habitat range)	1.7	0.5		0.00	0.08	0.06	0.00	0.02	0.06	0.00	0.14	0.02

Observation Points		% of EQS Cd	Cr	Cu	Hg	Ni	Pb	Ag	Zn	As	Maximum DO depletion
	EQS (ug/L)	2.5	15	5	0.3	30	25	N/A	40	25	mg/L
WSR 09a		0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0
WSR 20		0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0
WSR 22c		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0
WSR 24		0.2%	1.6%	3.4%	0.5%	0.2%	0.7%	-	1.0%	0.3%	0.0
WSR 25		0.7%	4.4%	9%	1.4%	0.6%	1.8%	-	2.8%	0.7%	0.1
WSR 27		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0
WSR 41		0.6%	4.1%	8.4%	1.3%	0.5%	1.7%	-	2.6%	0.6%	0.1
WSR 45c		0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	-	0.1%	0.0%	0.0
WSR 46		0.1%	0.7%	1.3%	0.2%	0.1%	0.3%	-	0.4%	0.1%	0.0
WSR 49		0.1%	0.6%	1.1%	0.2%	0.1%	0.2%	-	0.4%	0.1%	0.0

Notes:

1 The maximum elevation assumed high concentrations of sediment bound metals just at UCEL (mg/kg dry wt.) level.

Table 4 Predicted Maximum Nutrient Elevations Based on Maximum Depth-Averaged SS Elevation at Selected Observation Points for the Scenario Year 2011-Sequence B Dry Season (Mitigated)

Observation Points	Point SR	Name	Max. SS (mg/L) Dry	Max. SS (mg/L) Wet	Dry Season Maximum Elevation (mg/L) TKN	NH4	NH3	NO3	NO2	TIN	TP
			DA	DA							
Max. in Sediment					1100	58	55	2.4	4.7	1107.1	680
WSR 09a	No	Urmston Road (Main Channel)	0.1	0.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 20	Yes	Ma Wan Fish Culture Zone	0.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 22c	Yes	Tai Ho Wan Outlet (outside) / Near coral site	0.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 24	No	Tung Chung Fairway	0.4	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 25	Yes	Airport Cooling Water Intake (NE)	5.5	4.2	0.01	0.00	0.00	0.00	0.00	0.01	0.00
WSR 27	Yes	San Tau Beach SSSI	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 41	Yes	Artificial Reef at NE Airport	5.7	3.8	0.01	0.00	0.00	0.00	0.00	0.01	0.00
WSR 45c	No	Sham Shui Kok (CWD habitat range)	0.5	0.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 46	No	Tai Mo To (near coral / CWD habitat range)	1.5	0.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 49	No	Tai Mo To (Deep Channel / CWD habitat range)	1.7	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Observation Points	% of WQO/WQC Cd	Cr	Cu	Hg	Ni	Pb	As
WQO/WQC mg/L	0.12	0.021	0.29	0.06	0.5	25	0.05
WSR 09a	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
WSR 20	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
WSR 22c	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
WSR 24	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%
WSR 25	5.0%	1.5%	0%	0.0%	0.0%	0.0%	7.5%
WSR 27	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
WSR 41	5.2%	1.6%	0.1%	0.0%	0.0%	0.0%	7.8%
WSR 45c	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.7%
WSR 46	1.4%	0.4%	0.0%	0.0%	0.0%	0.0%	2.0%
WSR 49	1.6%	0.5%	0.0%	0.0%	0.0%	0.0%	2.4%

Table 5 Predicted Maximum Nutrient Elevations Based on Maximum Depth-Averaged SS Elevation at Selected Observation Points for the Scenario Year 2011-Sequence B Wet Season (Mitigated)

Observation Points	Point SR	Name	Max. SS (mg/L) Dry	Max. SS (mg/L) Wet	Wet Season Maximum Elevation (mg/L) TKN	NH4	NH3	NO3	NO2	TIN	TP
			DA	DA							
Max. in Sediment					1100	58	55	2.4	4.7	1107.1	680
WSR 09a	No	Urmston Road (Main Channel)	0.1	0.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 20	Yes	Ma Wan Fish Culture Zone	0.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 22c	Yes	Tai Ho Wan Outlet (outside) / Near coral site	0.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 24	No	Tung Chung Fairway	0.4	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 25	Yes	Airport Cooling Water Intake (NE)	5.5	4.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 27	Yes	San Tau Beach SSSI	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 41	Yes	Artificial Reef at NE Airport	5.7	3.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 45c	No	Sham Shui Kok (CWD habitat range)	0.5	0.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 46	No	Tai Mo To (near coral / CWD habitat range)	1.5	0.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WSR 49	No	Tai Mo To (Deep Channel / CWD habitat range)	1.7	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Observation Points	% of WQO/WQC Cd	Cr	Cu	Hg	Ni	Pb	As
WQO/WQC mg/L	0.12	0.021	0.29	0.06	0.5	25	0.05
WSR 09a	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
WSR 20	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
WSR 22c	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WSR 24	1.4%	0.4%	0.0%	0.0%	0.0%	0.0%	2.1%
WSR 25	3.8%	1.2%	0%	0.0%	0.0%	0.0%	5.7%
WSR 27	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WSR 41	3.5%	1.1%	0.1%	0.0%	0.0%	0.0%	5.2%
WSR 45c	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
WSR 46	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.8%
WSR 49	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.7%

Notes:

1. The maximum elevuation assumed high concentrations of sediment bound nutrient based on sediment sample maximum (mg/kg dry wt.)
2. NH3 is assumed to be 5% of TKN.
3. TIN is estimated as the sum of TKN+NO3+NO2
4. WQO is only set for TIN and NH3. For parameters without WQO, the 10 years EPD annual average is referenced.

Table 6 Predicted Daily Sedimentation Rate (g/m2) at Selected Observation Points for the Scenario Year 2011-Sequence B Dry Season (Mitigated)

Time / WSR	9a	20	22c*	24	25	27	41	45c	46*	49
1996/07/24 00:00:00	0.0	0.0	0.0	0.3	50.4	0.1	11.6	1.3	3.9	3.7
1996/07/24 01:00:00	0.0	0.0	0.0	0.3	58.5	0.1	11.8	1.4	3.9	4.0
1996/07/24 02:00:00	0.0	0.0	0.0	0.3	62.4	0.2	11.9	1.4	3.9	4.1
1996/07/24 03:00:00	0.0	0.0	0.0	0.3	64.5	0.2	12.1	1.4	3.9	4.2
1996/07/24 04:00:00	0.1	0.0	0.0	0.3	65.8	0.2	12.3	1.4	3.9	4.2
1996/07/24 05:00:00	0.1	0.0	0.0	0.4	66.8	0.2	12.5	1.5	4.0	4.2
1996/07/24 06:00:00	0.2	0.0	0.0	0.4	67.6	0.2	12.7	1.5	4.0	4.2
1996/07/24 07:00:00	0.2	0.0	0.1	0.4	68.3	0.2	12.8	1.5	4.1	4.4
1996/07/24 08:00:00	0.2	0.0	0.1	0.4	68.8	0.2	13.1	1.5	4.2	4.4
1996/07/24 09:00:00	0.2	0.0	0.1	0.4	68.9	0.2	13.4	1.5	4.4	4.5
1996/07/24 10:00:00	0.3	0.0	0.1	0.5	69.0	0.2	13.5	1.5	4.3	4.7
1996/07/24 11:00:00	0.3	0.0	0.1	1.1	69.0	0.2	13.3	1.5	4.6	4.8
1996/07/24 12:00:00	0.3	0.0	0.1	1.4	65.9	0.2	12.4	1.6	4.9	4.8
1996/07/24 13:00:00	0.3	0.0	0.1	1.4	56.8	0.2	13.0	1.6	5.0	4.9
1996/07/24 14:00:00	0.3	0.0	0.1	1.4	54.3	0.2	13.5	1.7	5.0	5.0
1996/07/24 15:00:00	0.3	0.0	0.1	1.4	57.5	0.2	13.0	1.7	5.0	5.0
1996/07/24 16:00:00	0.3	0.0	0.1	1.4	60.1	0.2	12.5	1.7	4.9	5.0
1996/07/24 17:00:00	0.3	0.0	0.1	1.4	61.6	0.2	13.7	1.7	4.7	5.0
1996/07/24 18:00:00	0.3	0.0	0.1	1.4	61.6	0.3	13.7	1.7	4.1	4.4
1996/07/24 19:00:00	0.3	0.0	0.1	1.4	63.4	0.3	13.6	1.7	4.0	4.1
1996/07/24 20:00:00	0.3	0.0	0.1	1.4	65.7	0.3	13.9	1.5	4.3	4.0
1996/07/24 21:00:00	0.3	0.0	0.1	1.3	66.8	0.3	14.8	1.3	4.9	4.6
1996/07/24 22:00:00	0.3	0.0	0.1	1.2	67.2	0.3	15.5	1.1	4.7	5.1
1996/07/24 23:00:00	0.4	0.0	0.1	1.2	67.4	0.3	15.3	1.0	5.0	5.7
1996/07/25 00:00:00	0.4	0.0	0.1	1.2	64.0	0.3	14.9	1.0	5.0	6.1
1996/07/25 01:00:00	0.4	0.0	0.1	1.1	61.3	0.2	14.9	1.0	5.0	6.2
1996/07/25 02:00:00	0.4	0.0	0.0	1.1	61.8	0.2	14.8	1.0	5.0	6.3
1996/07/25 03:00:00	0.3	0.0	0.0	1.1	61.6	0.2	14.6	1.0	5.0	6.3
1996/07/25 04:00:00	0.3	0.0	0.0	1.1	61.6	0.2	14.5	1.0	4.9	6.3
1996/07/25 05:00:00	0.2	0.0	0.1	1.1	61.5	0.2	14.5	1.0	4.9	6.3
1996/07/25 06:00:00	0.2	0.0	0.1	1.1	61.2	0.2	14.4	0.9	4.9	6.2
1996/07/25 07:00:00	0.2	0.0	0.1	1.1	60.9	0.2	14.4	0.9	4.8	6.1
1996/07/25 08:00:00	0.2	0.0	0.1	1.1	60.8	0.2	14.2	0.9	4.7	6.1
1996/07/25 09:00:00	0.2	0.0	0.1	1.1	60.9	0.2	14.1	0.9	4.6	6.0
1996/07/25 10:00:00	0.2	0.0	0.1	1.0	61.0	0.2	14.0	0.9	4.6	5.9
1996/07/25 11:00:00	0.2	0.0	0.1	0.6	61.0	0.2	13.9	0.9	4.3	6.0
1996/07/25 12:00:00	0.2	0.0	0.1	0.8	61.0	0.2	13.8	0.9	4.3	6.1
1996/07/25 13:00:00	0.2	0.0	0.1	1.2	60.3	0.2	12.6	0.9	4.9	6.3
1996/07/25 14:00:00	0.2	0.0	0.1	1.4	53.4	0.2	11.3	0.9	5.2	6.4
1996/07/25 15:00:00	0.2	0.0	0.1	1.4	44.4	0.2	11.6	0.9	5.3	6.5
1996/07/25 16:00:00	0.2	0.0	0.1	1.4	43.2	0.2	11.5	0.9	5.3	6.5
1996/07/25 17:00:00	0.2	0.0	0.1	1.4	46.1	0.2	10.9	0.9	5.3	6.5
1996/07/25 18:00:00	0.2	0.0	0.1	1.4	49.8	0.2	11.8	0.9	5.2	6.5
1996/07/25 19:00:00	0.2	0.0	0.1	1.4	52.6	0.2	12.9	0.9	4.8	6.5
1996/07/25 20:00:00	0.2	0.0	0.1	1.4	53.6	0.2	12.9	0.9	4.1	5.8
1996/07/25 21:00:00	0.2	0.0	0.1	1.4	55.2	0.2	12.4	0.9	3.6	4.5
1996/07/25 22:00:00	0.2	0.0	0.1	1.4	56.9	0.2	12.3	0.7	4.1	3.6
1996/07/25 23:00:00	0.2	0.0	0.1	1.4	57.6	0.2	12.7	0.5	4.8	3.9
1996/07/26 00:00:00	0.2	0.0	0.1	1.4	57.5	0.2	12.7	0.3	5.5	4.6
1996/07/26 01:00:00	0.2	0.0	0.1	1.4	52.3	0.2	13.0	0.3	5.8	5.3
1996/07/26 02:00:00	0.2	0.0	0.1	1.4	49.1	0.2	13.4	0.2	5.8	5.7
1996/07/26 03:00:00	0.2	0.0	0.1	1.4	48.7	0.2	13.4	0.2	5.8	5.8
1996/07/26 04:00:00	0.2	0.0	0.1	1.4	48.4	0.2	13.3	0.2	5.8	5.8
1996/07/26 05:00:00	0.1	0.0	0.0	1.4	48.4	0.2	13.2	0.2	5.8	5.8
1996/07/26 06:00:00	0.1	0.0	0.1	1.4	48.5	0.2	13.2	0.2	5.8	5.8
1996/07/26 07:00:00	0.1	0.0	0.1	1.4	48.4	0.2	13.2	0.2	5.8	5.8
1996/07/26 08:00:00	0.1	0.0	0.1	1.4	48.3	0.2	13.2	0.2	5.8	5.8
1996/07/26 09:00:00	0.1	0.0	0.1	1.4	48.4	0.2	13.1	0.2	5.8	5.8
1996/07/26 10:00:00	0.1	0.0	0.1	1.4	48.4	0.2	13.1	0.2	5.7	5.7
1996/07/26 11:00:00	0.1	0.0	0.1	1.2	48.4	0.2	13.1	0.2	5.6	5.6
1996/07/26 12:00:00	0.1	0.0	0.1	1.0	48.4	0.2	13.1	0.3	5.3	5.4
1996/07/26 13:00:00	0.1	0.0	0.1	1.0	48.4	0.2	13.1	0.3	4.6	5.5
1996/07/26 14:00:00	0.1	0.0	0.1	1.6	48.4	0.2	12.8	0.3	4.5	5.6
1996/07/26 15:00:00	0.1	0.0	0.1	2.0	46.9	0.1	12.7	0.3	5.3	5.8
1996/07/26 16:00:00	0.1	0.0	0.1	2.1	39.6	0.1	18.8	0.4	5.8	5.9
1996/07/26 17:00:00	0.1	0.0	0.1	2.1	32.1	0.1	22.4	0.4	5.9	5.9
1996/07/26 18:00:00	0.1	0.0	0.1	2.1	34.3	0.1	21.5	0.4	5.9	5.9
1996/07/26 19:00:00	0.1	0.0	0.1	2.1	37.1	0.1	21.2	0.4	5.9	5.9
1996/07/26 20:00:00	0.1	0.0	0.1	2.1	40.2	0.1	22.5	0.4	5.8	6.0
1996/07/26 21:00:00	0.1	0.0	0.1	2.1	42.3	0.1	24.3	0.4	5.2	6.0
1996/07/26 22:00:00	0.1	0.0	0.1	2.1	43.2	0.2	24.5	0.4	4.3	5.7
1996/07/26 23:00:00	0.1	0.0	0.1	2.1	44.2	0.2	24.3	0.4	3.8	4.5
1996/07/27 00:00:00	0.1	0.0	0.1	2.1	45.4	0.2	24.4	0.4	4.2	3.5
1996/07/27 01:00:00	0.1	0.0	0.1	2.1	46.0	0.2	24.7	0.4	5.1	3.6
1996/07/27 02:00:00	0.1	0.0	0.1	2.1	45.1	0.2	25.0	0.4	5.8	4.1
1996/07/27 03:00:00	0.1	0.0	0.1	2.1	43.9	0.2	25.3	0.4	5.8	4.6
1996/07/27 04:00:00	0.1	0.0	0.1	2.1	43.6	0.1	25.4	0.4	5.8	4.7
1996/07/27 05:00:00	0.1	0.0	0.1	2.1	43.7	0.1	25.3	0.4	5.8	4.7
1996/07/27 06:00:00	0.1	0.0	0.1	2.1	43.9	0.1	25.2	0.4	5.8	4.7
1996/07/27 07:00:00	0.1	0.0	0.1	2.1	44.0	0.1	25.3	0.4	5.8	4.7
1996/07/27 08:00:00	0.1	0.0	0.1	2.2	44.1	0.1	25.3	0.4	5.8	4.7
1996/07/27 09:00:00	0.1	0.0	0.1	2.2	44.1	0.1	25.3	0.4	5.8	4.7
1996/07/27 10:00:00	0.1	0.0	0.1	2.2	44.1	0.1	25.3	0.5	5.8	4.7
1996/07/27 11:00:00	0.1	0.0	0.1	2.1	44.3	0.1	25.3	0.4	5.8	4.7
1996/07/27 12:00:00	0.1	0.0	0.1	2.1	44.3	0.1	25.3	0.4	5.8	4.6
1996/07/27 13:00:00	0.1	0.0	0.1	1.8	44.3	0.1	25.3	0.4	5.8	4.4
1996/07/27 14:00:00	0.1	0.0	0.1	1.5	44.3	0.1	25.3	0.4	5.6	4.5
1996/07/27 15:00:00	0.1	0.0	0.1	2.0	44.3	0.1	24.2	0.5	4.7	4.9
1996/07/27 16:00:00	0.1	0.0	0.1	2.4	44.3	0.1	17.0	0.5	5.1	5.4
1996/07/27 17:00:00	0.1	0.0	0.1	2.5	42.5	0.1	18.7	0.5	5.8	5.7
1996/07/27 18:00:00	0.1	0.0	0.1	2.5	35.6	0.1	19.5	0.5	5.7	5.8
1996/07/27 19:00:00	0.1	0.0	0.1	2.5	35.8	0.1	18.4	0.6	5.7	5.8
1996/07/27 20:00:00	0.1	0.0	0.2	2.5	38.0	0.1	18.4	0.6	5.7	5.8
1996/07/27 21:00:00	0.1	0.0	0.2	2.5	40.1	0.1	18.8	0.6	5.7	5.8
1996/07/27 22:00:00	0.1	0.0	0.2	2.5	42.1	0.1	21.3	0.6	5.6	5.9
1996/07/27 23:00:00	0.1	0.0	0.2	2.5	43.4	0.2	22.8	0.6	5.1	5.9
1996/07/28 00:00:00	0.1	0.0	0.2	2.5	44.3	0.2	22.6	0.6	4.7	5.7
1996/07/28 01:00:00	0.1	0.0	0.2	2.5	45.0	0.2	22.3	0.6	4.8	6.0
1996/07/28 02:00:00	0.1	0.0	0.2	2.5	45.5	0.2	22.4	0.6	5.2	7.2
1996/07/28 03:00:00	0.1	0.0	0.2	2.5	45.5	0.2	22.6	0.7	6.0	8.1
1996/07/28 04:00:00	0.1	0.0	0.2	2.5	44.8	0.2	23.0	0.8	6.0	8.7
1996/07/28 05:00:00	0.1	0.1	0.2	2.5	44.5	0.2	23.0	0.8	6.0	9.0
1996/07/28 06:00:00	0.1	0.1	0.2	2.5	44.7	0.2	23.0	0.8	6.0	9.1
1996/07/28 07:00:00	0.1	0.1	0.2	2.5	44.9	0.2	23.0	0.8	6.0	9.1
1996/07/28 08:00:00	0.1	0.1	0.2	2.6	45.1	0.2	23.0	0.8	5.9	9.1
1996/07/28 09:00:00	0.1	0.1	0.2	2.6	45.2	0.2	23.2	0.8	6.0	9.1
1996/07/28 10:00:00	0.1	0.1	0.2	2.6	45.3	0.2	23.3	0.8	6.1	9.1
1996/07/28 11:00:00	0.1	0.1	0.2	2.6	45.5	0.2	23.3	0.8	6.1	9.1
1996/07/28 12:00:00	0.1	0.1	0.2	2.6	45.7	0.2	23.3	0.8	6.1	9.1
1996/07/28 13:00:00	0.1	0.1	0.2	2.5	45.7	0.2	23.3	0.7	6.1	9.0
1996/07/28 14:00:00	0.1	0.0	0.2	2.2	45.7	0.2	23.3	0.8	6.1	8.6
1996/07/28 15:00:00	0.1	0.1	0.2	1.8	45.7	0.2	23.3	0.8	6.1	8.6
1996/07/28 16:00:00	0.1	0.1	0.2	2.0	45.7	0.2	23.1	0.8	5.2	9.0
1996/07/28 17:00:00	0.1	0.1	0.2	2.3	45.7	0.1	16.9	0.9	5.2	9.7
1996/07/28 18:00:00	0.1	0.2	0.2	2.4	43.0	0.1	16.3	0.9	5.7	10.0
1996/07/28 19:00:00	0.1	0.2	0.2	2.4	39.1	0.1	16.1	1.0	5.7	10.1
1996/07/28 20:00:00	0.1	0.2	0.2	2.4	39.0	0.1	14.4	1.0	5.7	10.1
1996/07/28 21:00:00	0.1	0.2	0.2	2.4	40.8	0.2	15.1	1.1	5.7	10.1

Time / WSR	9a	20	22c*	24	25	27	41	45c	46*	49
1996/07/28 22:00:00	0.1	0.2	0.3	2.5	42.9	0.2	16.9	1.1	5.7	10.2
1996/07/28 23:00:00	0.1	0.2	0.3	2.5	44.4	0.2	18.9	1.1	5.6	10.2
1996/07/29 00:00:00	0.1	0.2	0.3	2.5	45.1	0.2	20.1	1.2	5.3	10.0
1996/07/29 01:00:00	0.1	0.2	0.3	2.5	45.5	0.2	20.0	1.2	5.2	9.5
1996/07/29 02:00:00	0.1	0.2	0.3	2.5	46.0	0.2	19.8	1.2	4.9	8.7
1996/07/29 03:00:00	0.1	0.2	0.3	2.5	46.3	0.2	19.4	1.2	4.5	8.6
1996/07/29 04:00:00	0.1	0.2	0.3	2.5	46.4	0.2	19.4	1.4	5.0	8.9
1996/07/29 05:00:00	0.1	0.2	0.3	2.5	45.9	0.2	19.6	1.6	5.0	9.3
1996/07/29 06:00:00	0.1	0.2	0.2	2.5	45.4	0.2	19.6	1.6	5.0	9.6
1996/07/29 07:00:00	0.1	0.2	0.3	2.5	45.2	0.2	19.6	1.6	5.0	9.6
1996/07/29 08:00:00	0.1	0.2	0.3	2.5	45.3	0.2	19.5	1.6	5.0	9.6
1996/07/29 09:00:00	0.1	0.2	0.3	2.6	45.5	0.2	20.0	1.6	4.9	9.6
1996/07/29 10:00:00	0.1	0.2	0.4	2.6	46.2	0.2	20.8	1.6	4.9	9.6
1996/07/29 11:00:00	0.1	0.2	0.4	2.7	46.7	0.2	21.7	1.6	5.1	9.7
1996/07/29 12:00:00	0.1	0.2	0.4	2.6	47.0	0.2	21.8	1.6	5.1	9.7
1996/07/29 13:00:00	0.1	0.2	0.4	2.6	47.1	0.2	21.8	1.5	5.1	9.7
1996/07/29 14:00:00	0.1	0.2	0.4	2.5	47.1	0.2	21.8	1.5	5.1	9.7
1996/07/29 15:00:00	0.1	0.2	0.4	2.2	47.1	0.2	21.8	1.6	5.1	9.2
1996/07/29 16:00:00	0.1	0.2	0.4	2.0	47.1	0.2	21.8	1.6	5.1	8.3
1996/07/29 17:00:00	0.1	0.3	0.4	2.1	47.1	0.2	21.4	1.7	4.3	8.2
1996/07/29 18:00:00	0.1	0.3	0.4	2.4	46.8	0.2	21.7	1.8	4.4	8.6
1996/07/29 19:00:00	0.1	0.4	0.4	2.4	42.8	0.2	22.1	1.8	4.4	8.7
1996/07/29 20:00:00	0.1	0.4	0.4	2.4	41.7	0.2	21.6	1.8	4.4	8.7
1996/07/29 21:00:00	0.1	0.4	0.4	2.4	41.8	0.2	18.9	1.9	4.4	8.7
1996/07/29 22:00:00	0.1	0.4	0.4	2.4	43.3	0.2	17.7	2.0	4.3	8.7
1996/07/29 23:00:00	0.1	0.4	0.4	2.5	45.3	0.2	19.1	2.0	4.4	8.8
1996/07/30 00:00:00	0.1	0.5	0.4	2.5	46.7	0.2	20.5	2.1	4.2	8.8
1996/07/30 01:00:00	0.2	0.5	0.4	2.5	47.7	0.3	21.1	2.2	3.7	8.3
1996/07/30 02:00:00	0.2	0.5	0.4	2.5	48.1	0.3	21.2	2.2	3.4	7.5
1996/07/30 03:00:00	0.2	0.5	0.4	2.5	48.3	0.3	21.2	2.2	3.3	6.7
1996/07/30 04:00:00	0.2	0.5	0.4	2.5	48.4	0.3	21.1	2.3	3.2	6.6
1996/07/30 05:00:00	0.2	0.5	0.4	2.5	48.5	0.3	21.1	2.8	3.5	6.7
1996/07/30 06:00:00	0.2	0.5	0.4	2.5	48.2	0.3	21.2	2.9	3.5	6.7
1996/07/30 07:00:00	0.2	0.5	0.4	2.5	47.9	0.3	21.2	2.9	3.5	6.8
1996/07/30 08:00:00	0.2	0.5	0.4	2.5	47.7	0.3	21.1	3.0	3.5	6.8
1996/07/30 09:00:00	0.2	0.5	0.5	2.6	48.8	0.3	21.0	3.0	3.5	6.8
1996/07/30 10:00:00	0.2	0.5	0.5	2.7	50.5	0.3	21.7	3.0	3.4	6.8
1996/07/30 11:00:00	0.2	0.5	0.6	2.8	51.9	0.3	21.9	3.0	3.4	6.7
1996/07/30 12:00:00	0.2	0.5	0.6	2.8	53.3	0.3	22.4	3.0	3.5	7.0
1996/07/30 13:00:00	0.2	0.5	0.6	2.8	54.0	0.3	22.4	3.0	3.5	7.0
1996/07/30 14:00:00	0.2	0.5	0.6	2.7	54.0	0.3	22.4	2.9	3.5	7.0
1996/07/30 15:00:00	0.2	0.5	0.6	2.6	54.0	0.3	22.4	2.9	3.5	7.0
1996/07/30 16:00:00	0.2	0.5	0.6	2.4	54.0	0.3	22.4	2.8	3.5	6.8
1996/07/30 17:00:00	0.2	0.5	0.6	2.2	54.0	0.3	22.4	3.0	3.5	6.0
1996/07/30 18:00:00	0.2	0.5	0.6	2.5	54.0	0.3	21.1	3.0	2.9	5.8
1996/07/30 19:00:00	0.2	0.6	0.6	2.6	52.8	0.2	22.4	3.1	3.4	6.1
1996/07/30 20:00:00	0.2	0.6	0.6	2.6	48.3	0.2	22.4	3.2	3.4	6.0
1996/07/30 21:00:00	0.2	0.6	0.6	2.6	49.2	0.2	21.4	3.1	3.4	6.0
1996/07/30 22:00:00	0.2	0.7	0.6	2.6	50.9	0.3	19.3	3.1	3.4	6.0
1996/07/30 23:00:00	0.2	0.7	0.7	2.7	52.1	0.3	19.9	3.2	3.4	6.0
1996/07/31 00:00:00	0.2	0.7	0.7	2.7	52.9	0.3	22.2	3.2	3.4	6.0
1996/07/31 01:00:00	0.2	0.7	0.7	2.7	53.4	0.3	23.0	3.2	4.0	5.6
1996/07/31 02:00:00	0.3	0.7	0.7	2.7	54.1	0.3	23.0	3.3	4.3	6.4
1996/07/31 03:00:00	0.3	0.7	0.7	2.7	54.3	0.3	22.9	3.2	4.0	5.8
1996/07/31 04:00:00	0.3	0.7	0.7	2.7	54.3	0.3	22.9	3.0	3.9	5.1
1996/07/31 05:00:00	0.3	0.7	0.7	2.7	54.3	0.3	22.8	3.0	4.0	5.2
1996/07/31 06:00:00	0.3	0.7	0.7	2.7	54.4	0.3	23.0	3.6	4.4	5.4
1996/07/31 07:00:00	0.3	0.7	0.7	2.7	54.2	0.3	23.0	3.6	4.4	5.4
1996/07/31 08:00:00	0.3	0.7	0.6	2.6	54.2	0.3	23.0	3.7	4.4	5.4
1996/07/31 09:00:00	0.3	0.7	0.6	2.6	54.9	0.3	22.3	3.7	4.4	5.4
1996/07/31 10:00:00	0.3	0.7	0.7	2.7	56.5	0.3	22.4	3.7	4.4	5.4
1996/07/31 11:00:00	0.3	0.7	0.8	2.9	57.1	0.3	23.2	3.7	4.3	5.4
1996/07/31 12:00:00	0.3	0.7	0.9	2.9	57.2	0.3	23.7	3.7	4.6	5.1
1996/07/31 13:00:00	0.4	0.7	0.9	3.0	58.7	0.3	24.0	3.7	4.6	5.1
1996/07/31 14:00:00	0.4	0.7	0.9	2.9	59.1	0.3	24.0	3.7	4.6	5.1
1996/07/31 15:00:00	0.4	0.7	0.9	2.9	59.1	0.3	24.0	3.7	4.6	5.1
1996/07/31 16:00:00	0.4	0.7	0.9	2.8	59.1	0.3	24.0	3.6	4.6	5.1
1996/07/31 17:00:00	0.4	0.6	0.9	2.6	59.1	0.3	24.0	3.5	4.6	4.9
1996/07/31 18:00:00	0.4	0.7	0.9	2.6	59.1	0.3	24.0	3.6	4.6	4.6
1996/07/31 19:00:00	0.4	0.7	0.9	2.9	59.1	0.3	22.5	3.6	4.3	4.9
1996/07/31 20:00:00	0.4	0.8	0.9	2.9	56.1	0.3	23.6	3.7	4.3	4.9
1996/07/31 21:00:00	0.4	0.8	0.9	2.9	52.5	0.3	23.6	3.7	4.3	4.9
1996/07/31 22:00:00	0.4	0.8	0.9	2.9	52.9	0.3	22.0	3.7	4.3	4.9
1996/07/31 23:00:00	0.4	0.8	0.9	2.9	54.2	0.3	19.4	3.7	4.3	4.9
1996/08/01 00:00:00	0.3	0.8	0.9	2.9	55.3	0.3	21.8	3.7	4.2	4.9
1996/08/01 01:00:00	0.4	0.8	0.9	3.0	55.1	0.3	24.9	3.7	4.2	4.9
1996/08/01 02:00:00	0.4	0.9	0.9	3.0	55.5	0.3	25.6	3.8	4.9	4.1
1996/08/01 03:00:00	0.4	0.9	0.9	3.0	56.3	0.3	25.7	3.8	4.9	4.1
1996/08/01 04:00:00	0.4	0.8	0.9	3.0	56.5	0.3	25.6	3.7	4.6	3.7
1996/08/01 05:00:00	0.4	0.8	0.9	3.0	56.5	0.3	25.5	3.5	4.4	3.2
1996/08/01 06:00:00	0.4	0.9	0.9	3.0	56.5	0.3	25.5	3.5	4.4	3.4
1996/08/01 07:00:00	0.5	0.9	0.9	3.0	56.5	0.3	25.6	4.0	4.6	3.7
1996/08/01 08:00:00	0.5	0.9	0.8	2.9	56.3	0.3	25.6	4.1	4.6	3.8
1996/08/01 09:00:00	0.5	0.9	0.8	2.8	56.9	0.3	25.6	4.1	4.6	3.8
1996/08/01 10:00:00	0.5	0.9	0.7	2.7	58.7	0.3	23.9	4.1	4.6	3.8
1996/08/01 11:00:00	0.4	0.9	0.7	2.8	60.5	0.3	24.5	4.1	4.4	3.8
1996/08/01 12:00:00	0.4	0.9	0.8	2.8	60.8	0.3	25.8	4.2	4.2	3.7
1996/08/01 13:00:00	0.5	0.9	0.8	2.9	60.7	0.3	26.5	4.2	4.8	3.9
1996/08/01 14:00:00	0.5	0.9	0.8	2.9	62.5	0.3	26.5	4.2	4.8	3.9
1996/08/01 15:00:00	0.5	0.9	0.8	2.9	62.7	0.3	26.5	4.2	4.8	3.9
1996/08/01 16:00:00	0.5	0.9	0.8	2.8	62.7	0.3	26.5	4.2	4.8	3.9
1996/08/01 17:00:00	0.5	0.9	0.8	2.8	62.7	0.3	26.5	4.1	4.8	3.9
1996/08/01 18:00:00	0.5	0.8	0.8	2.6	62.7	0.3	26.4	4.0	4.8	3.5
1996/08/01 19:00:00	0.5	0.8	0.8	2.7	62.7	0.3	26.0	4.0	4.5	3.7
1996/08/01 20:00:00	0.5	0.8	0.8	2.9	62.4	0.3	28.4	4.0	5.0	4.2
1996/08/01 21:00:00	0.5	0.9	0.8	2.9	57.5	0.3	28.8	4.1	5.0	4.2
1996/08/01 22:00:00	0.5	0.9	0.8	2.9	56.1	0.3	28.4	4.1	5.0	4.2
1996/08/01 23:00:00	0.5	0.9	0.8	2.9	57.0	0.3	26.4	4.1	5.0	4.2
1996/08/02 00:00:00	0.5	0.9	0.8	2.9	58.6	0.3	23.9	4.1	4.8	4.1
1996/08/02 01:00:00	0.5	0.9	0.8	2.9	59.9	0.3	26.3	4.2	3.9	4.2
1996/08/02 02:00:00	0.5	0.9	0.8	2.9	59.8	0.3	27.9	4.2	3.9	3.8
1996/08/02 03:00:00	0.5	0.9	0.8	2.9	60.4	0.3	28.1	4.2	3.9	5.0
1996/08/02 04:00:00	0.6	0.9	0.8	2.9	61.1	0.3	28.2	4.2	3.9	5.0
1996/08/02 05:00:00	0.6	0.9	0.8	2.9	61.2	0.3	28.1	4.0	3.6	4.6
1996/08/02 06:00:00	0.6	0.9	0.8	2.9	61.2	0.3	28.1	3.7	3.5	4.4
1996/08/02 07:00:00	0.6	0.9	0.8	2.9	61.2	0.3	28.0	3.7	3.7	4.5
1996/08/02 08:00:00	0.6	0.9	0.8	2.9	61.1	0.3	28.1	4.0	3.7	4.7
1996/08/02 09:00:00	0.6	0.9	0.8	2.9	60.9	0.3	28.1	4.0	3.7	4.8
1996/08/02 10:00:00	0.6	0.9	0.6	2.7	62.4	0.3	28.1	4.0	3.7	4.8
1996/08/02 11:00:00	0.6	0.9	0.6	2.6	64.5	0.3	25.6	4.0	3.7	4.8
1996/08/02 12:00:00	0.6	0.9	0.6	2.6	66.2	0.3	26.2	4.0	3.5	4.8
1996/08/02 13:00:00	0.6	0.9	0.6	2.6	66.4	0.3	27.6	4.0	3.1	4.7
1996/08/02 14:00:00	0.6	0.9	0.6	2.7	66.5	0.3	28.6	4.1	3.6	5.0
1996/08/02 15:00:00	0.6	0.9	0.6	2.6	68.3	0.3	28.6	4.1	3.6	5.0
1996/08/02 16:00:00	0.6	0.9	0.6	2.6	68.5	0.3	28.6	4.0	3.6	5.0
1996/08/02 17:00:00	0.6	0.9	0.6	2.5	68.5	0.3	28.6	4.1	3.6	5.0
1996/08/02 18:00:00	0.6	0.9	0.6	2.4	68.5	0.3	28.6	4.0	3.6	5.0
1996/08/02 19:00:00	0.6	0.8	0.6	2.3	68.5	0.3	28.6	4.0	3.5	4.8
1996/08/02 20:00:00	0.6	0.8	0.6	2.6	68.5	0.3	25.1	3.9	3.1	5.0
1996/08/02 21:00:00	0.6	0.8	0.6	2.7	67.2	0.3	27.9	4.0	3.5	5.5
1996/08/02 22:00:00	0.6	0.8	0.6	2.6	62.3	0.3	27.9	4.0	3.5	5.5
1996/08/02 23:00:00	0.6	0.8	0.6	2.6	61.9	0.3	26.5	4.0	3.5	5.5
1996/08/03 00:00:00	0.6	0.8	0.6	2.6	63.0	0.3	23.6	4.1	3.5	5.5

Time / WSR	9a	20	22c*	24	25	27	41	45c	46*	49
1996/08/03 01:00:00	0.5	0.8	0.6	2.6	64.6	0.3	20.9	4.1	3.2	5.5
1996/08/03 02:00:00	0.5	0.8	0.6	2.6	65.2	0.3	21.8	4.1	2.2	5.6
1996/08/03 03:00:00	0.5	0.8	0.6	2.6	65.1	0.3	22.3	4.2	2.8	4.6
1996/08/03 04:00:00	0.6	0.8	0.6	2.6	66.0	0.3	22.4	4.2	2.8	5.1
1996/08/03 05:00:00	0.6	0.8	0.6	2.6	66.7	0.3	22.4	4.1	2.8	5.1
1996/08/03 06:00:00	0.6	0.8	0.6	2.6	66.8	0.3	22.4	3.9	2.6	4.9
1996/08/03 07:00:00	0.6	0.8	0.6	2.6	66.8	0.3	22.3	3.6	2.6	4.8
1996/08/03 08:00:00	0.6	0.8	0.6	2.6	66.8	0.3	22.4	3.7	2.8	4.9
1996/08/03 09:00:00	0.6	0.8	0.6	2.6	64.6	0.3	22.5	3.8	2.8	5.1
1996/08/03 10:00:00	0.6	0.8	0.5	2.6	64.2	0.3	22.5	3.9	2.8	5.1
1996/08/03 11:00:00	0.6	0.8	0.4	2.4	65.8	0.3	22.6	3.9	2.8	5.1
1996/08/03 12:00:00	0.6	0.8	0.3	2.3	68.1	0.3	21.4	3.9	2.8	5.1
1996/08/03 13:00:00	0.6	0.8	0.3	2.2	69.7	0.3	22.8	3.9	2.7	5.2
1996/08/03 14:00:00	0.6	0.8	0.3	2.2	70.1	0.3	23.8	3.9	2.4	4.9
1996/08/03 15:00:00	0.7	0.8	0.3	2.2	70.9	0.3	25.0	3.9	2.8	5.4
1996/08/03 16:00:00	0.7	0.8	0.3	2.2	72.7	0.3	25.0	3.9	2.8	5.4
1996/08/03 17:00:00	0.7	0.8	0.3	2.1	72.9	0.3	25.0	3.9	2.8	5.4
1996/08/03 18:00:00	0.7	0.8	0.3	2.0	72.9	0.3	25.0	4.0	2.8	5.4
1996/08/03 19:00:00	0.7	0.7	0.3	1.9	72.9	0.3	25.0	3.9	2.8	5.0
1996/08/03 20:00:00	0.7	0.7	0.3	2.0	72.9	0.3	25.0	3.9	2.8	4.9
1996/08/03 21:00:00	0.7	0.7	0.3	2.3	72.8	0.3	21.9	3.9	3.2	5.3
1996/08/03 22:00:00	0.7	0.7	0.3	2.3	70.2	0.3	22.1	4.0	3.2	5.5
1996/08/03 23:00:00	0.7	0.6	0.3	2.3	70.1	0.3	22.1	4.1	3.2	5.5
1996/08/04 00:00:00	0.7	0.6	0.3	2.3	71.6	0.3	20.4	4.2	3.2	5.5
1996/08/04 01:00:00	0.7	0.6	0.3	2.3	73.5	0.3	17.1	4.2	3.1	5.5
1996/08/04 02:00:00	0.6	0.6	0.3	2.3	74.8	0.3	16.1	4.2	3.0	5.6
1996/08/04 03:00:00	0.6	0.6	0.3	2.3	74.6	0.3	16.5	4.2	2.6	5.6
1996/08/04 04:00:00	0.6	0.6	0.3	2.3	74.6	0.3	16.8	4.2	2.9	5.3
1996/08/04 05:00:00	0.7	0.6	0.3	2.3	75.4	0.3	17.0	4.3	3.0	5.3
1996/08/04 06:00:00	0.7	0.6	0.3	2.3	75.9	0.3	17.0	4.1	3.0	5.1
1996/08/04 07:00:00	0.7	0.6	0.3	2.2	76.0	0.3	17.0	3.9	3.0	4.9
1996/08/04 08:00:00	0.7	0.6	0.3	2.3	76.0	0.3	16.9	3.8	3.1	5.0
1996/08/04 09:00:00	0.7	0.6	0.3	2.3	75.3	0.3	19.5	3.9	3.3	5.1
1996/08/04 10:00:00	0.7	0.6	0.3	2.3	68.8	0.3	20.3	3.9	3.3	5.3
1996/08/04 11:00:00	0.7	0.6	0.3	2.2	68.1	0.3	20.3	4.0	3.3	5.3
1996/08/04 12:00:00	0.7	0.6	0.2	2.2	69.7	0.3	18.9	4.0	3.3	5.4
1996/08/04 13:00:00	0.7	0.6	0.2	2.1	72.4	0.3	17.5	4.0	3.3	5.4
1996/08/04 14:00:00	0.6	0.6	0.2	2.0	74.3	0.3	17.4	4.0	3.1	5.4
1996/08/04 15:00:00	0.7	0.6	0.2	2.0	74.8	0.3	17.6	4.0	3.1	5.0
1996/08/04 16:00:00	0.7	0.6	0.2	2.0	76.0	0.3	18.6	4.0	3.5	5.6
1996/08/04 17:00:00	0.7	0.6	0.2	2.0	78.2	0.3	19.0	3.9	3.5	5.6
1996/08/04 18:00:00	0.7	0.6	0.2	1.9	78.4	0.3	19.0	3.8	3.5	5.6
1996/08/04 19:00:00	0.7	0.5	0.2	1.7	78.5	0.3	19.0	3.9	3.5	6.0
1996/08/04 20:00:00	0.7	0.4	0.2	1.5	78.5	0.3	18.9	3.9	3.5	5.8
1996/08/04 21:00:00	0.7	0.4	0.2	1.8	78.5	0.3	18.9	3.9	3.3	5.6
1996/08/04 22:00:00	0.7	0.4	0.2	1.9	76.7	0.3	18.8	3.9	4.1	5.8
1996/08/04 23:00:00	0.7	0.3	0.1	1.9	70.5	0.3	19.1	4.0	4.1	5.9
1996/08/05 00:00:00	0.7	0.3	0.1	1.9	70.7	0.2	18.6	4.0	4.1	6.0
1996/08/05 01:00:00	0.7	0.3	0.1	1.9	72.2	0.2	17.7	4.0	4.1	5.9
1996/08/05 02:00:00	0.7	0.3	0.1	1.9	73.3	0.2	15.6	3.9	3.9	5.9
1996/08/05 03:00:00	0.6	0.3	0.1	1.9	73.8	0.2	14.8	3.9	3.9	5.9
1996/08/05 04:00:00	0.6	0.3	0.1	1.9	73.1	0.2	14.8	3.9	3.6	5.8
1996/08/05 05:00:00	0.6	0.3	0.1	1.9	72.7	0.2	14.8	3.9	3.8	6.0
1996/08/05 06:00:00	0.6	0.3	0.1	1.9	73.5	0.2	15.3	3.8	3.8	6.0
1996/08/05 07:00:00	0.6	0.3	0.1	1.9	74.0	0.2	15.4	3.7	3.8	5.8
1996/08/05 08:00:00	0.6	0.3	0.1	1.8	74.1	0.2	15.4	3.5	3.9	5.7
1996/08/05 09:00:00	0.6	0.3	0.1	1.8	74.1	0.2	12.8	3.4	4.0	5.7
1996/08/05 10:00:00	0.6	0.3	0.1	1.8	73.4	0.2	12.4	3.3	4.2	5.7
1996/08/05 11:00:00	0.6	0.3	0.1	1.8	66.6	0.2	12.9	3.4	4.3	5.7
1996/08/05 12:00:00	0.6	0.3	0.1	1.8	67.1	0.2	12.9	3.4	4.3	5.8
1996/08/05 13:00:00	0.6	0.2	0.1	1.8	69.8	0.2	11.6	3.4	4.3	5.9
1996/08/05 14:00:00	0.6	0.2	0.1	1.8	72.5	0.2	11.4	3.4	4.2	5.9
1996/08/05 15:00:00	0.6	0.2	0.1	1.8	74.7	0.3	11.6	3.4	4.0	5.9
1996/08/05 16:00:00	0.6	0.2	0.1	1.7	75.2	0.3	11.8	3.4	3.7	5.3
1996/08/05 17:00:00	0.6	0.2	0.1	1.7	75.9	0.3	12.2	3.4	4.3	5.6
1996/08/05 18:00:00	0.6	0.2	0.1	1.7	77.8	0.3	13.0	3.3	4.6	5.6
1996/08/05 19:00:00	0.6	0.2	0.1	1.5	78.4	0.3	13.2	3.1	5.0	5.4
1996/08/05 20:00:00	0.6	0.2	0.1	1.3	78.5	0.3	13.2	3.1	5.4	5.6
1996/08/05 21:00:00	0.6	0.2	0.1	1.2	78.5	0.3	13.2	3.1	5.3	5.7
1996/08/05 22:00:00	0.6	0.2	0.1	1.3	78.5	0.3	13.3	3.1	5.6	5.8
1996/08/05 23:00:00	0.6	0.1	0.1	1.4	75.0	0.3	13.8	3.1	5.9	6.0
1996/08/06 00:00:00	0.6	0.1	0.1	1.4	68.3	0.2	14.3	3.1	5.9	6.1
1996/08/06 01:00:00	0.6	0.1	0.1	1.4	67.5	0.2	14.1	2.9	5.9	6.2
1996/08/06 02:00:00	0.6	0.1	0.1	1.3	67.3	0.2	13.9	2.8	5.8	6.1
1996/08/06 03:00:00	0.6	0.1	0.0	1.3	67.6	0.2	13.5	2.8	5.7	6.0
1996/08/06 04:00:00	0.5	0.1	0.0	1.3	67.6	0.2	13.3	2.7	5.6	5.9
1996/08/06 05:00:00	0.5	0.1	0.0	1.3	66.9	0.2	13.2	2.6	5.5	5.8
1996/08/06 06:00:00	0.6	0.1	0.0	1.3	66.2	0.2	12.8	2.6	5.4	5.9
1996/08/06 07:00:00	0.6	0.1	0.0	1.3	66.5	0.2	12.9	2.6	5.3	5.7
1996/08/06 08:00:00	0.6	0.1	0.0	1.3	66.8	0.2	13.3	2.5	5.2	5.6
1996/08/06 09:00:00	0.6	0.1	0.0	1.3	66.8	0.2	13.6	2.4	5.1	5.5
1996/08/06 10:00:00	0.6	0.1	0.0	1.3	66.8	0.2	13.3	2.3	5.1	5.5
1996/08/06 11:00:00	0.6	0.1	0.0	1.4	66.1	0.2	12.8	2.3	5.3	5.4
1996/08/06 12:00:00	0.6	0.1	0.0	1.4	58.7	0.2	13.8	2.3	5.4	5.3
1996/08/06 13:00:00	0.6	0.1	0.0	1.4	57.7	0.2	14.0	2.3	5.4	5.3
1996/08/06 14:00:00	0.6	0.1	0.0	1.4	60.9	0.2	13.2	2.3	5.3	5.3
1996/08/06 15:00:00	0.6	0.1	0.0	1.4	63.5	0.2	13.1	2.2	5.3	5.3
1996/08/06 16:00:00	0.5	0.1	0.0	1.4	66.0	0.2	14.2	2.2	5.2	5.3
1996/08/06 17:00:00	0.5	0.1	0.0	1.4	66.7	0.2	14.5	2.2	4.8	4.9
1996/08/06 18:00:00	0.5	0.1	0.0	1.4	68.0	0.2	14.5	2.2	5.0	5.0
1996/08/06 19:00:00	0.5	0.1	0.0	1.3	70.3	0.2	15.0	2.1	5.5	5.8
1996/08/06 20:00:00	0.5	0.1	0.0	1.1	71.0	0.2	15.7	2.0	5.7	5.7
1996/08/06 21:00:00	0.5	0.1	0.0	0.7	71.2	0.2	16.2	1.9	5.6	5.7
1996/08/06 22:00:00	0.5	0.1	0.0	0.4	71.3	0.2	16.3	2.0	5.3	5.8
1996/08/06 23:00:00	0.5	0.1	0.0	0.4	71.3	0.2	18.0	2.0	5.3	6.0
1996/08/07 00:00:00	0.5	0.0	0.0	0.4	70.2	0.2	19.7	2.0	5.3	6.1
Maximum Sediment Rate	0.7	0.9	0.9	3.0	78.5	0.3	28.8	4.3	6.1	10.2

Grey cell = value exceed 200 g/m2 criteron for coral protection.

* Known coral site

** Known coral site but proposed to be transplanted

Table 7

Predicted Daily Sedimentation Rate (g/m2) at Selected Observation Points for the Scenario Year 2011-Sequence B Wet Season (Mitigated)

Time / WSR	9a	20	22c*	24	25	27	41	45c	46*	49
1996/07/24 00:00:00	0.0	0.0	0.0	4.7	35.9	0.0	7.6	0.2	4.7	2.0
1996/07/24 01:00:00	0.0	0.0	0.0	4.7	42.7	0.0	7.7	0.2	4.7	2.0
1996/07/24 02:00:00	0.0	0.0	0.0	4.7	47.8	0.0	7.8	0.2	4.7	2.0
1996/07/24 03:00:00	0.0	0.0	0.0	4.7	51.5	0.0	7.8	0.3	4.7	2.0
1996/07/24 04:00:00	0.1	0.0	0.0	4.7	52.8	0.0	7.9	0.3	4.7	2.0
1996/07/24 05:00:00	0.1	0.0	0.0	4.7	53.4	0.0	8.0	0.3	4.7	2.0
1996/07/24 06:00:00	0.2	0.0	0.0	4.7	54.0	0.0	8.2	0.3	4.8	2.0
1996/07/24 07:00:00	0.2	0.0	0.0	4.7	54.3	0.0	8.4	0.3	4.8	2.0
1996/07/24 08:00:00	0.2	0.0	0.0	4.7	54.4	0.0	8.5	0.3	4.9	2.1
1996/07/24 09:00:00	0.2	0.0	0.0	4.9	54.4	0.0	8.6	0.3	4.8	2.1
1996/07/24 10:00:00	0.2	0.0	0.0	5.6	54.4	0.0	8.4	0.3	5.3	2.2
1996/07/24 11:00:00	0.2	0.0	0.0	6.4	54.0	0.0	8.0	0.3	5.5	2.2
1996/07/24 12:00:00	0.2	0.0	0.0	6.6	51.9	0.0	8.1	0.3	5.6	2.2
1996/07/24 13:00:00	0.2	0.0	0.0	6.6	48.1	0.0	9.3	0.3	5.6	2.2
1996/07/24 14:00:00	0.2	0.0	0.0	6.6	46.1	0.0	11.7	0.3	5.6	2.2
1996/07/24 15:00:00	0.2	0.0	0.0	6.6	46.6	0.0	12.3	0.3	5.6	2.2
1996/07/24 16:00:00	0.3	0.0	0.0	6.6	48.0	0.0	12.3	0.3	5.6	2.2
1996/07/24 17:00:00	0.3	0.0	0.0	6.5	49.9	0.0	11.7	0.3	5.3	2.2
1996/07/24 18:00:00	0.3	0.0	0.0	6.5	51.7	0.0	12.7	0.3	4.6	2.1
1996/07/24 19:00:00	0.3	0.0	0.0	6.1	52.2	0.0	14.1	0.3	4.3	1.6
1996/07/24 20:00:00	0.3	0.0	0.0	4.5	52.3	0.0	14.5	0.3	4.3	1.3
1996/07/24 21:00:00	0.3	0.0	0.0	3.7	52.3	0.0	14.9	0.3	4.5	1.3
1996/07/24 22:00:00	0.3	0.0	0.0	4.0	52.4	0.0	15.0	0.2	5.0	1.3
1996/07/24 23:00:00	0.3	0.0	0.0	4.2	51.4	0.0	14.5	0.2	5.4	1.4
1996/07/25 00:00:00	0.3	0.0	0.0	4.2	47.3	0.0	14.7	0.2	5.5	1.5
1996/07/25 01:00:00	0.3	0.0	0.0	4.2	44.8	0.0	15.1	0.2	5.5	1.5
1996/07/25 02:00:00	0.3	0.0	0.0	4.2	46.0	0.0	15.2	0.2	5.5	1.5
1996/07/25 03:00:00	0.3	0.0	0.0	4.2	47.7	0.0	15.2	0.2	5.5	1.5
1996/07/25 04:00:00	0.3	0.0	0.0	4.2	50.1	0.0	15.2	0.2	5.5	1.5
1996/07/25 05:00:00	0.2	0.0	0.0	4.2	50.8	0.0	15.1	0.2	5.5	1.5
1996/07/25 06:00:00	0.2	0.0	0.0	4.2	50.6	0.0	15.0	0.2	5.5	1.5
1996/07/25 07:00:00	0.2	0.0	0.0	4.2	50.8	0.0	14.8	0.2	5.4	1.5
1996/07/25 08:00:00	0.2	0.0	0.0	4.2	50.9	0.0	14.8	0.2	5.4	1.4
1996/07/25 09:00:00	0.2	0.0	0.0	4.2	50.9	0.0	14.8	0.2	5.1	1.4
1996/07/25 10:00:00	0.2	0.0	0.0	4.7	50.9	0.0	14.8	0.2	4.8	1.5
1996/07/25 11:00:00	0.2	0.0	0.0	5.7	50.9	0.0	14.6	0.2	5.0	1.6
1996/07/25 12:00:00	0.2	0.0	0.0	7.1	50.5	0.0	13.8	0.2	5.4	1.8
1996/07/25 13:00:00	0.2	0.0	0.0	7.4	48.7	0.0	13.0	0.2	5.7	1.9
1996/07/25 14:00:00	0.2	0.0	0.0	7.5	45.4	0.0	11.6	0.2	5.7	1.9
1996/07/25 15:00:00	0.2	0.0	0.0	7.5	42.8	0.0	12.1	0.2	5.6	1.9
1996/07/25 16:00:00	0.2	0.0	0.0	7.5	41.2	0.0	13.5	0.2	5.6	1.9
1996/07/25 17:00:00	0.1	0.0	0.0	7.5	40.5	0.0	13.9	0.2	5.6	2.0
1996/07/25 18:00:00	0.1	0.0	0.0	7.5	41.9	0.0	13.3	0.2	5.6	1.9
1996/07/25 19:00:00	0.1	0.0	0.0	7.5	44.2	0.0	13.5	0.2	5.2	1.9
1996/07/25 20:00:00	0.1	0.0	0.0	7.4	45.2	0.0	15.1	0.2	4.2	1.7
1996/07/25 21:00:00	0.1	0.0	0.0	6.6	45.5	0.0	16.3	0.2	3.5	1.4
1996/07/25 22:00:00	0.1	0.0	0.0	5.9	45.5	0.0	16.9	0.1	3.3	1.2
1996/07/25 23:00:00	0.1	0.0	0.0	6.3	45.3	0.0	17.2	0.1	3.7	1.2
1996/07/26 00:00:00	0.2	0.0	0.0	6.6	44.9	0.0	17.1	0.1	4.1	1.3
1996/07/26 01:00:00	0.1	0.0	0.0	6.7	41.1	0.0	17.3	0.1	4.3	1.4
1996/07/26 02:00:00	0.2	0.0	0.0	6.7	35.7	0.0	17.6	0.1	4.3	1.4
1996/07/26 03:00:00	0.2	0.0	0.0	6.7	31.9	0.0	17.8	0.1	4.3	1.4
1996/07/26 04:00:00	0.2	0.0	0.0	6.7	29.9	0.0	17.8	0.1	4.3	1.4
1996/07/26 05:00:00	0.2	0.0	0.0	6.7	29.7	0.0	17.8	0.1	4.3	1.4
1996/07/26 06:00:00	0.2	0.0	0.0	6.7	29.7	0.0	17.8	0.1	4.3	1.4
1996/07/26 07:00:00	0.2	0.0	0.0	6.7	29.5	0.0	17.7	0.1	4.3	1.4
1996/07/26 08:00:00	0.2	0.0	0.0	6.7	29.5	0.0	17.6	0.1	4.3	1.4
1996/07/26 09:00:00	0.2	0.0	0.0	6.5	29.5	0.0	17.6	0.1	4.2	1.4
1996/07/26 10:00:00	0.2	0.0	0.0	6.0	29.5	0.0	17.5	0.1	4.0	1.3
1996/07/26 11:00:00	0.2	0.0	0.0	6.0	29.5	0.0	17.5	0.1	3.7	1.4
1996/07/26 12:00:00	0.2	0.0	0.0	6.7	29.5	0.0	17.5	0.2	3.4	1.5
1996/07/26 13:00:00	0.2	0.0	0.0	9.2	29.5	0.0	16.9	0.2	3.9	1.6
1996/07/26 14:00:00	0.2	0.0	0.0	11.1	28.6	0.0	15.8	0.2	4.2	1.7
1996/07/26 15:00:00	0.2	0.0	0.0	11.6	25.2	0.0	15.5	0.2	4.2	1.8
1996/07/26 16:00:00	0.2	0.0	0.0	11.6	21.8	0.0	15.6	0.2	4.2	1.8
1996/07/26 17:00:00	0.2	0.0	0.0	11.6	21.3	0.0	16.5	0.2	4.2	1.8
1996/07/26 18:00:00	0.2	0.0	0.0	11.6	22.6	0.0	16.4	0.2	4.2	1.8
1996/07/26 19:00:00	0.2	0.0	0.0	11.6	25.2	0.0	15.3	0.2	4.2	1.8
1996/07/26 20:00:00	0.2	0.0	0.0	11.6	29.2	0.0	14.0	0.2	4.1	1.8
1996/07/26 21:00:00	0.1	0.0	0.0	11.6	32.5	0.0	13.7	0.2	3.7	1.8
1996/07/26 22:00:00	0.1	0.0	0.0	11.5	33.8	0.0	15.0	0.2	3.0	1.7
1996/07/26 23:00:00	0.1	0.0	0.0	10.9	34.0	0.0	15.9	0.2	2.8	1.5
1996/07/27 00:00:00	0.1	0.0	0.0	10.9	33.9	0.0	16.2	0.2	2.9	1.5
1996/07/27 01:00:00	0.1	0.0	0.0	11.7	33.6	0.0	16.1	0.2	3.2	1.6
1996/07/27 02:00:00	0.1	0.0	0.0	12.0	32.9	0.0	16.0	0.2	3.4	1.7
1996/07/27 03:00:00	0.1	0.0	0.0	12.1	31.5	0.0	16.4	0.2	3.4	1.8
1996/07/27 04:00:00	0.1	0.0	0.0	12.1	30.2	0.0	16.6	0.2	3.4	1.8
1996/07/27 05:00:00	0.1	0.0	0.0	12.1	29.4	0.0	16.6	0.2	3.4	1.8
1996/07/27 06:00:00	0.1	0.0	0.0	12.1	29.1	0.0	16.6	0.2	3.4	1.8
1996/07/27 07:00:00	0.1	0.0	0.0	12.1	29.0	0.0	16.6	0.2	3.4	1.8
1996/07/27 08:00:00	0.1	0.0	0.0	12.1	29.0	0.0	16.5	0.2	3.4	1.8
1996/07/27 09:00:00	0.1	0.0	0.0	12.0	28.9	0.0	16.5	0.2	3.4	1.8
1996/07/27 10:00:00	0.1	0.0	0.0	11.2	29.0	0.0	16.5	0.2	3.4	1.7
1996/07/27 11:00:00	0.1	0.0	0.0	10.7	29.0	0.0	16.5	0.2	3.3	1.5
1996/07/27 12:00:00	0.1	0.0	0.0	10.3	29.0	0.0	16.5	0.2	3.1	1.5
1996/07/27 13:00:00	0.1	0.0	0.0	8.7	29.0	0.0	16.5	0.2	2.5	1.7
1996/07/27 14:00:00	0.1	0.0	0.0	9.5	29.0	0.0	16.4	0.2	2.5	2.0
1996/07/27 15:00:00	0.1	0.0	0.0	12.2	28.9	0.0	15.5	0.3	3.2	2.3
1996/07/27 16:00:00	0.1	0.0	0.0	13.2	27.7	0.0	14.1	0.3	3.6	2.4
1996/07/27 17:00:00	0.1	0.0	0.0	13.3	24.7	0.0	13.0	0.3	3.6	2.5
1996/07/27 18:00:00	0.1	0.0	0.0	13.3	23.9	0.0	12.5	0.3	3.6	2.5
1996/07/27 19:00:00	0.1	0.0	0.0	13.3	25.8	0.0	12.2	0.3	3.6	2.5
1996/07/27 20:00:00	0.1	0.0	0.0	13.3	26.6	0.0	11.5	0.3	3.6	2.5
1996/07/27 21:00:00	0.1	0.0	0.0	13.3	27.2	0.0	10.6	0.3	3.6	2.5
1996/07/27 22:00:00	0.1	0.0	0.0	13.3	29.2	0.0	8.9	0.3	3.5	2.5
1996/07/27 23:00:00	0.1	0.0	0.0	13.3	31.0	0.0	8.6	0.3	3.2	2.5
1996/07/28 00:00:00	0.1	0.0	0.0	13.1	31.5	0.0	8.9	0.3	3.4	2.4
1996/07/28 01:00:00	0.1	0.0	0.0	12.3	31.6	0.0	9.1	0.3	3.8	2.5
1996/07/28 02:00:00	0.1	0.0	0.0	12.8	31.4	0.0	9.1	0.3	4.1	2.7
1996/07/28 03:00:00	0.1	0.0	0.0	13.2	31.2	0.0	8.9	0.3	4.4	2.8
1996/07/28 04:00:00	0.1	0.0	0.0	13.2	31.2	0.0	9.2	0.3	4.4	2.9
1996/07/28 05:00:00	0.1	0.0	0.0	13.2	31.1	0.0	9.4	0.3	4.4	3.0
1996/07/28 06:00:00	0.1	0.0	0.0	13.2	31.1	0.0	9.4	0.3	4.4	3.0
1996/07/28 07:00:00	0.1	0.0	0.0	13.2	31.2	0.0	9.4	0.3	4.4	3.0
1996/07/28 08:00:00	0.1	0.0	0.0	13.2	31.3	0.0	9.4	0.3	4.4	3.0
1996/07/28 09:00:00	0.1	0.0	0.0	13.4	31.3	0.0	9.4	0.3	4.4	3.0
1996/07/28 10:00:00	0.1	0.0	0.0	13.5	31.3	0.0	9.5	0.3	4.4	3.0
1996/07/28 11:00:00	0.1	0.0	0.0	12.2	31.3	0.0	9.5	0.3	4.5	3.0
1996/07/28 12:00:00	0.1	0.0	0.0	11.6	31.4	0.0	9.5	0.3	4.5	2.8
1996/07/28 13:00:00	0.1	0.0	0.0	11.7	31.4	0.0	9.5	0.3	4.4	2.7
1996/07/28 14:00:00	0.1	0.0	0.0	10.4	31.4	0.0	9.5	0.3	4.0	2.9
1996/07/28 15:00:00	0.1	0.0	0.0	10.0	31.4	0.0	9.5	0.3	3.3	3.5
1996/07/28 16:00:00	0.1	0.1	0.0	11.7	31.3	0.0	9.1	0.3	3.5	4.1
1996/07/28 17:00:00	0.1	0.1	0.0	13.2	30.3	0.0	8.1	0.4	4.3	4.5
1996/07/28 18:00:00	0.1	0.1	0.0	13.5	25.5	0.0	7.9	0.4	4.7	4.6
1996/07/28 19:00:00	0.1	0.1	0.0	13.5	19.4	0.0	8.1	0.4	4.7	4.7
1996/07/28 20:00:00	0.1	0.1	0.0	13.6	16.5	0.0	8.1	0.4	4.7	4.7
1996/07/28 21:00:00	0.1	0.1	0.0	13.6	16.2	0.1	7.7	0.5	4.6	4.7

Time / WSR	9a	20	22c*	24	25	27	41	45c	46*	49
1996/07/28 22:00:00	0.1	0.1	0.0	13.6	15.9	0.1	7.2	0.5	4.6	4.7
1996/07/28 23:00:00	0.1	0.1	0.0	13.6	17.0	0.1	6.3	0.5	4.5	4.7
1996/07/29 00:00:00	0.1	0.1	0.0	13.5	19.4	0.1	6.4	0.5	4.3	4.7
1996/07/29 01:00:00	0.1	0.1	0.0	13.4	20.5	0.1	6.5	0.5	4.2	4.4
1996/07/29 02:00:00	0.1	0.1	0.0	12.7	20.7	0.1	6.5	0.5	4.1	4.4
1996/07/29 03:00:00	0.1	0.1	0.0	12.7	20.7	0.1	6.6	0.5	4.5	4.6
1996/07/29 04:00:00	0.1	0.1	0.0	12.9	20.5	0.1	6.4	0.5	4.6	4.8
1996/07/29 05:00:00	0.1	0.1	0.0	12.9	20.5	0.1	6.5	0.5	4.6	4.9
1996/07/29 06:00:00	0.1	0.1	0.0	12.9	20.5	0.1	6.4	0.5	4.6	5.0
1996/07/29 07:00:00	0.1	0.1	0.0	12.9	20.6	0.1	6.4	0.6	4.6	5.0
1996/07/29 08:00:00	0.1	0.1	0.0	12.9	20.7	0.1	6.4	0.6	4.6	5.0
1996/07/29 09:00:00	0.1	0.1	0.0	12.8	20.8	0.1	6.5	0.6	4.6	5.0
1996/07/29 10:00:00	0.1	0.1	0.1	12.7	20.8	0.1	6.6	0.6	4.5	5.0
1996/07/29 11:00:00	0.1	0.1	0.1	12.7	20.8	0.1	6.7	0.6	4.6	5.0
1996/07/29 12:00:00	0.1	0.1	0.1	11.8	20.9	0.1	6.7	0.6	4.7	5.0
1996/07/29 13:00:00	0.1	0.1	0.1	11.6	20.9	0.1	6.7	0.5	4.7	4.8
1996/07/29 14:00:00	0.1	0.1	0.1	11.5	20.9	0.1	6.7	0.5	4.7	5.1
1996/07/29 15:00:00	0.1	0.1	0.1	9.8	20.9	0.1	6.7	0.5	4.7	5.5
1996/07/29 16:00:00	0.1	0.1	0.1	8.5	20.9	0.1	6.7	0.6	4.2	6.1
1996/07/29 17:00:00	0.1	0.2	0.1	9.0	20.9	0.1	6.7	0.6	3.7	6.7
1996/07/29 18:00:00	0.1	0.2	0.1	9.7	20.9	0.1	6.8	0.7	4.3	7.1
1996/07/29 19:00:00	0.1	0.2	0.1	9.8	19.6	0.0	7.2	0.8	4.6	7.4
1996/07/29 20:00:00	0.1	0.2	0.1	9.8	20.1	0.1	7.4	0.8	4.6	7.4
1996/07/29 21:00:00	0.1	0.2	0.1	9.8	21.6	0.1	7.4	0.8	4.6	7.4
1996/07/29 22:00:00	0.1	0.2	0.1	9.8	22.3	0.1	7.7	0.8	4.6	7.5
1996/07/29 23:00:00	0.1	0.2	0.1	9.8	20.9	0.1	7.8	0.8	4.5	7.5
1996/07/30 00:00:00	0.2	0.2	0.1	9.8	19.5	0.1	6.8	0.9	4.1	7.5
1996/07/30 01:00:00	0.2	0.2	0.1	9.8	20.3	0.1	7.4	0.9	3.7	7.4
1996/07/30 02:00:00	0.2	0.3	0.1	9.7	21.4	0.1	8.1	0.9	4.1	7.5
1996/07/30 03:00:00	0.2	0.3	0.1	9.4	21.6	0.1	8.2	0.9	4.2	7.7
1996/07/30 04:00:00	0.2	0.3	0.1	9.2	21.6	0.1	8.1	0.9	4.7	7.8
1996/07/30 05:00:00	0.2	0.3	0.1	9.3	21.4	0.1	8.0	0.9	4.7	8.0
1996/07/30 06:00:00	0.2	0.3	0.1	9.3	21.3	0.1	8.1	1.0	4.7	8.1
1996/07/30 07:00:00	0.2	0.3	0.1	9.3	21.4	0.1	8.1	1.0	4.7	8.1
1996/07/30 08:00:00	0.2	0.3	0.1	9.3	21.5	0.1	8.1	1.0	4.7	8.1
1996/07/30 09:00:00	0.2	0.3	0.1	9.2	21.7	0.1	8.1	1.0	4.7	8.1
1996/07/30 10:00:00	0.2	0.3	0.1	9.1	22.1	0.1	8.2	1.0	4.7	8.1
1996/07/30 11:00:00	0.3	0.3	0.1	9.1	22.5	0.1	8.4	1.0	4.6	8.1
1996/07/30 12:00:00	0.3	0.3	0.1	8.9	22.9	0.1	8.7	1.0	4.6	8.1
1996/07/30 13:00:00	0.3	0.3	0.1	7.9	23.1	0.1	8.9	1.0	4.9	8.0
1996/07/30 14:00:00	0.3	0.3	0.1	7.8	23.1	0.1	8.9	1.0	4.9	7.4
1996/07/30 15:00:00	0.3	0.3	0.1	8.0	23.1	0.1	8.9	0.9	4.9	7.4
1996/07/30 16:00:00	0.3	0.3	0.1	7.5	23.1	0.1	8.9	0.9	4.9	7.7
1996/07/30 17:00:00	0.3	0.3	0.1	5.2	23.1	0.1	8.9	0.9	4.5	8.2
1996/07/30 18:00:00	0.3	0.4	0.1	6.4	23.2	0.1	8.4	0.9	4.3	8.9
1996/07/30 19:00:00	0.3	0.4	0.1	6.9	22.9	0.1	7.7	0.9	5.2	9.1
1996/07/30 20:00:00	0.3	0.4	0.1	7.0	21.3	0.1	7.9	1.0	5.2	9.4
1996/07/30 21:00:00	0.3	0.4	0.1	7.0	22.8	0.1	8.1	1.0	5.2	9.4
1996/07/30 22:00:00	0.3	0.4	0.1	7.0	26.3	0.1	7.9	1.0	5.2	9.5
1996/07/30 23:00:00	0.3	0.4	0.1	7.0	27.7	0.1	8.5	1.1	5.2	9.5
1996/07/31 00:00:00	0.3	0.4	0.1	7.0	27.3	0.1	8.3	1.1	5.2	9.5
1996/07/31 01:00:00	0.4	0.5	0.2	7.0	26.7	0.1	7.6	1.1	5.0	9.5
1996/07/31 02:00:00	0.4	0.5	0.2	7.0	27.1	0.1	7.7	1.1	4.6	9.4
1996/07/31 03:00:00	0.4	0.5	0.2	7.0	27.6	0.1	8.1	1.1	4.8	9.3
1996/07/31 04:00:00	0.4	0.5	0.2	6.9	27.7	0.1	8.2	1.1	4.6	9.4
1996/07/31 05:00:00	0.5	0.5	0.2	6.8	27.7	0.1	8.1	1.1	5.1	9.5
1996/07/31 06:00:00	0.5	0.5	0.2	6.9	27.5	0.1	8.2	1.2	5.1	9.6
1996/07/31 07:00:00	0.5	0.5	0.2	6.9	27.4	0.1	8.2	1.2	5.1	9.8
1996/07/31 08:00:00	0.5	0.5	0.1	6.9	27.4	0.1	8.2	1.2	5.1	9.8
1996/07/31 09:00:00	0.5	0.5	0.1	6.9	27.8	0.1	8.1	1.3	5.1	9.8
1996/07/31 10:00:00	0.4	0.5	0.2	6.9	28.4	0.1	8.0	1.3	5.1	9.8
1996/07/31 11:00:00	0.4	0.5	0.2	6.8	28.8	0.1	7.9	1.3	5.1	9.8
1996/07/31 12:00:00	0.5	0.5	0.2	6.8	29.4	0.1	7.8	1.3	5.0	9.8
1996/07/31 13:00:00	0.6	0.5	0.2	6.5	30.0	0.1	8.1	1.3	5.0	9.8
1996/07/31 14:00:00	0.6	0.5	0.2	5.8	30.3	0.1	8.4	1.3	5.3	9.4
1996/07/31 15:00:00	0.6	0.5	0.2	6.0	30.4	0.1	8.4	1.3	5.3	8.7
1996/07/31 16:00:00	0.6	0.5	0.2	5.9	30.4	0.1	8.4	1.3	5.3	8.6
1996/07/31 17:00:00	0.6	0.5	0.2	6.6	30.4	0.1	8.4	1.3	5.3	8.8
1996/07/31 18:00:00	0.6	0.5	0.2	5.9	30.4	0.1	8.4	1.2	4.6	8.8
1996/07/31 19:00:00	0.6	0.5	0.2	7.1	30.4	0.1	8.2	1.3	4.2	9.1
1996/07/31 20:00:00	0.6	0.6	0.2	7.3	28.4	0.1	7.6	1.3	5.1	9.3
1996/07/31 21:00:00	0.6	0.6	0.2	7.3	27.4	0.1	7.8	1.3	5.1	9.3
1996/07/31 22:00:00	0.6	0.6	0.2	7.3	29.7	0.1	7.6	1.3	5.1	9.3
1996/07/31 23:00:00	0.5	0.6	0.2	7.3	33.5	0.1	7.0	1.3	5.1	9.3
1996/08/01 00:00:00	0.5	0.6	0.2	7.3	34.2	0.1	7.4	1.4	5.1	9.3
1996/08/01 01:00:00	0.5	0.6	0.2	7.3	34.1	0.1	7.1	1.4	5.1	9.3
1996/08/01 02:00:00	0.6	0.6	0.2	7.3	34.0	0.1	6.7	1.4	4.8	9.1
1996/08/01 03:00:00	0.6	0.6	0.2	7.3	34.7	0.1	7.3	1.4	4.7	9.0
1996/08/01 04:00:00	0.6	0.6	0.2	7.3	35.1	0.1	7.7	1.4	4.9	9.0
1996/08/01 05:00:00	0.6	0.6	0.2	7.3	35.2	0.1	7.8	1.4	4.8	9.0
1996/08/01 06:00:00	0.6	0.6	0.2	7.3	35.1	0.1	7.8	1.3	5.2	9.0
1996/08/01 07:00:00	0.6	0.6	0.2	7.3	35.0	0.1	7.8	1.4	5.2	9.1
1996/08/01 08:00:00	0.6	0.6	0.2	7.3	34.9	0.1	7.9	1.4	5.2	9.2
1996/08/01 09:00:00	0.6	0.6	0.2	7.3	36.0	0.1	7.9	1.4	5.2	9.1
1996/08/01 10:00:00	0.6	0.6	0.2	7.3	37.4	0.1	7.7	1.4	5.2	9.1
1996/08/01 11:00:00	0.6	0.6	0.2	7.3	37.4	0.1	7.7	1.4	5.2	9.2
1996/08/01 12:00:00	0.5	0.6	0.2	7.3	37.2	0.1	7.6	1.4	5.1	9.2
1996/08/01 13:00:00	0.6	0.6	0.2	7.3	37.3	0.1	7.4	1.5	5.0	9.2
1996/08/01 14:00:00	0.6	0.6	0.2	6.8	37.8	0.1	7.8	1.5	5.0	9.2
1996/08/01 15:00:00	0.6	0.6	0.2	6.0	38.1	0.1	7.8	1.5	5.3	8.8
1996/08/01 16:00:00	0.6	0.6	0.2	6.2	38.1	0.1	7.8	1.4	5.3	8.3
1996/08/01 17:00:00	0.6	0.6	0.2	6.3	38.1	0.1	7.8	1.4	5.3	8.4
1996/08/01 18:00:00	0.6	0.6	0.2	6.7	38.1	0.1	7.8	1.4	5.3	8.6
1996/08/01 19:00:00	0.6	0.6	0.2	7.2	38.1	0.1	7.8	1.4	4.9	8.7
1996/08/01 20:00:00	0.6	0.6	0.2	7.8	38.0	0.1	7.8	1.4	4.8	8.8
1996/08/01 21:00:00	0.6	0.6	0.2	7.8	33.0	0.1	7.7	1.4	5.1	9.0
1996/08/01 22:00:00	0.6	0.6	0.2	7.8	30.4	0.1	7.9	1.4	5.1	9.0
1996/08/01 23:00:00	0.6	0.6	0.2	7.8	32.0	0.1	7.7	1.4	5.1	9.1
1996/08/02 00:00:00	0.6	0.6	0.2	7.8	33.2	0.1	7.7	1.4	5.0	9.1
1996/08/02 01:00:00	0.6	0.6	0.2	7.9	33.2	0.2	7.7	1.4	4.9	9.1
1996/08/02 02:00:00	0.6	0.6	0.2	7.9	32.8	0.2	7.2	1.5	4.8	9.1
1996/08/02 03:00:00	0.6	0.6	0.2	7.9	32.9	0.2	7.1	1.5	4.4	8.8
1996/08/02 04:00:00	0.6	0.6	0.2	7.9	33.3	0.2	7.4	1.4	4.6	8.5
1996/08/02 05:00:00	0.6	0.6	0.2	7.8	33.4	0.2	7.6	1.4	4.6	8.7
1996/08/02 06:00:00	0.6	0.6	0.2	7.8	33.4	0.2	7.6	1.4	4.7	8.7
1996/08/02 07:00:00	0.6	0.6	0.2	7.8	33.4	0.2	7.6	1.4	4.9	8.8
1996/08/02 08:00:00	0.6	0.6	0.2	7.8	33.3	0.2	7.6	1.4	4.9	8.9
1996/08/02 09:00:00	0.6	0.6	0.2	7.8	33.5	0.2	7.6	1.4	4.9	8.9
1996/08/02 10:00:00	0.6	0.6	0.2	7.8	35.5	0.2	7.6	1.4	4.9	8.9
1996/08/02 11:00:00	0.6	0.6	0.2	7.8	36.9	0.2	7.5	1.4	4.9	8.9
1996/08/02 12:00:00	0.6	0.6	0.2	7.8	37.0	0.2	7.6	1.4	4.8	8.9
1996/08/02 13:00:00	0.5	0.6	0.2	7.9	36.6	0.2	7.5	1.4	4.8	8.9
1996/08/02 14:00:00	0.6	0.6	0.2	7.9	36.6	0.2	7.5	1.4	4.7	9.0
1996/08/02 15:00:00	0.6	0.6	0.2	7.4	36.9	0.2	7.9	1.4	4.7	8.8
1996/08/02 16:00:00	0.6	0.6	0.2	7.2	37.1	0.2	7.9	1.4	5.0	8.0
1996/08/02 17:00:00	0.6	0.6	0.2	7.5	37.1	0.2	7.9	1.4	5.0	7.6
1996/08/02 18:00:00	0.6	0.6	0.2	6.8	37.1	0.2	7.9	1.4	5.0	7.8
1996/08/02 19:00:00	0.6	0.6	0.2	6.2	37.1	0.2	7.9	1.3	4.5	8.0
1996/08/02 20:00:00	0.6	0.6	0.2	6.9	37.1	0.2	7.8	1.3	4.3	8.2
1996/08/02 21:00:00	0.6	0.6	0.2	7.0	36.3	0.1	7.4	1.3	4.5	8.3
1996/08/02 22:00:00	0.6	0.6	0.2	7.0	31.8	0.2	7.4	1.3	4.5	8.3
1996/08/02 23:00:00	0.6	0.6	0.1	7.0	30.4	0.2	7.2	1.3	4.5	8.3
1996/08/03 00:00:00	0.6	0.6	0.1	7.0	31.0	0.2	6.8	1.3	4.5	8.3

Time / WSR	9a	20	22c*	24	25	27	41	45c	46*	49
1996/08/03 01:00:00	0.6	0.6	0.2	7.0	30.9	0.2	6.9	1.3	4.4	8.3
1996/08/03 02:00:00	0.6	0.6	0.2	7.0	30.4	0.2	6.7	1.3	4.4	8.3
1996/08/03 03:00:00	0.6	0.6	0.2	7.0	29.8	0.2	6.4	1.3	4.3	8.3
1996/08/03 04:00:00	0.6	0.6	0.2	7.0	29.9	0.2	6.5	1.3	3.9	8.1
1996/08/03 05:00:00	0.7	0.6	0.2	7.0	30.0	0.2	6.6	1.3	4.0	7.8
1996/08/03 06:00:00	0.7	0.6	0.2	7.0	30.1	0.2	6.6	1.3	3.9	7.8
1996/08/03 07:00:00	0.7	0.6	0.2	7.0	30.1	0.2	6.6	1.2	4.1	7.8
1996/08/03 08:00:00	0.7	0.6	0.2	7.0	30.0	0.2	6.6	1.2	4.1	7.7
1996/08/03 09:00:00	0.7	0.6	0.2	7.0	28.5	0.2	6.8	1.2	4.1	7.8
1996/08/03 10:00:00	0.7	0.6	0.2	7.0	29.2	0.2	6.8	1.2	4.1	7.8
1996/08/03 11:00:00	0.7	0.6	0.2	7.0	31.6	0.2	6.6	1.2	4.1	7.8
1996/08/03 12:00:00	0.6	0.6	0.1	7.0	32.2	0.2	6.6	1.2	4.1	7.8
1996/08/03 13:00:00	0.6	0.6	0.1	6.9	32.3	0.2	6.5	1.2	4.0	7.7
1996/08/03 14:00:00	0.6	0.6	0.1	7.0	32.0	0.2	6.3	1.2	4.0	7.7
1996/08/03 15:00:00	0.6	0.6	0.1	7.0	32.2	0.2	6.4	1.2	3.9	7.8
1996/08/03 16:00:00	0.7	0.6	0.1	6.3	32.5	0.2	6.8	1.2	4.2	7.5
1996/08/03 17:00:00	0.7	0.6	0.1	6.3	32.6	0.2	6.8	1.2	4.4	6.7
1996/08/03 18:00:00	0.7	0.5	0.1	7.3	32.6	0.2	6.8	1.2	4.5	6.3
1996/08/03 19:00:00	0.7	0.5	0.1	6.9	32.6	0.2	6.8	1.1	5.7	6.3
1996/08/03 20:00:00	0.7	0.5	0.1	6.9	32.6	0.2	6.8	1.1	6.7	6.4
1996/08/03 21:00:00	0.7	0.5	0.1	7.4	32.6	0.2	6.8	1.1	7.2	6.4
1996/08/03 22:00:00	0.7	0.5	0.1	7.5	31.2	0.2	7.0	1.1	7.2	6.5
1996/08/03 23:00:00	0.7	0.5	0.1	7.5	30.3	0.2	7.2	1.1	7.2	6.5
1996/08/04 00:00:00	0.7	0.5	0.1	7.5	32.1	0.2	7.1	1.1	7.2	6.5
1996/08/04 01:00:00	0.7	0.5	0.1	7.5	33.2	0.2	6.8	1.1	7.2	6.5
1996/08/04 02:00:00	0.6	0.5	0.1	7.5	33.3	0.2	6.6	1.1	7.1	6.5
1996/08/04 03:00:00	0.6	0.5	0.1	7.5	33.1	0.2	6.0	1.1	6.9	6.5
1996/08/04 04:00:00	0.6	0.5	0.1	7.5	33.3	0.2	5.5	1.2	6.7	6.3
1996/08/04 05:00:00	0.6	0.5	0.1	7.5	33.7	0.2	5.6	1.2	6.5	6.2
1996/08/04 06:00:00	0.7	0.5	0.1	7.5	33.8	0.2	5.7	1.2	6.4	6.2
1996/08/04 07:00:00	0.7	0.5	0.1	7.5	33.8	0.2	5.7	1.1	6.3	6.1
1996/08/04 08:00:00	0.7	0.5	0.1	7.5	33.8	0.2	5.8	1.1	6.5	6.1
1996/08/04 09:00:00	0.7	0.5	0.1	7.5	33.3	0.2	5.9	1.1	6.5	6.1
1996/08/04 10:00:00	0.7	0.5	0.1	7.5	30.4	0.2	6.3	1.1	6.5	6.1
1996/08/04 11:00:00	0.7	0.5	0.1	7.5	30.3	0.3	6.3	1.1	6.5	6.1
1996/08/04 12:00:00	0.7	0.5	0.1	7.5	32.7	0.3	6.2	1.1	6.5	6.1
1996/08/04 13:00:00	0.6	0.5	0.1	7.5	33.3	0.3	6.2	1.0	6.5	6.1
1996/08/04 14:00:00	0.6	0.5	0.1	7.3	33.4	0.3	6.0	1.0	6.4	6.1
1996/08/04 15:00:00	0.6	0.5	0.1	7.3	33.7	0.3	5.8	1.0	6.3	5.9
1996/08/04 16:00:00	0.7	0.5	0.1	7.2	34.3	0.3	6.2	1.0	6.3	6.1
1996/08/04 17:00:00	0.7	0.5	0.1	6.3	34.5	0.3	6.6	1.0	6.5	5.6
1996/08/04 18:00:00	0.7	0.4	0.1	6.3	34.6	0.3	6.7	1.1	6.6	4.9
1996/08/04 19:00:00	0.7	0.4	0.1	7.0	34.6	0.3	6.7	1.1	7.2	4.5
1996/08/04 20:00:00	0.7	0.3	0.1	7.5	34.6	0.3	6.7	1.1	7.6	4.5
1996/08/04 21:00:00	0.7	0.3	0.1	8.1	34.6	0.2	6.8	1.1	7.6	4.5
1996/08/04 22:00:00	0.7	0.3	0.1	8.4	33.8	0.2	7.1	1.1	7.6	4.5
1996/08/04 23:00:00	0.7	0.3	0.1	8.4	31.9	0.2	7.4	1.1	7.6	4.5
1996/08/05 00:00:00	0.7	0.3	0.0	8.4	31.6	0.2	7.5	1.1	7.6	4.5
1996/08/05 01:00:00	0.7	0.3	0.0	8.4	33.7	0.2	7.4	1.1	7.6	4.5
1996/08/05 02:00:00	0.7	0.3	0.0	8.4	35.0	0.2	7.4	1.1	7.6	4.4
1996/08/05 03:00:00	0.7	0.3	0.0	8.4	34.8	0.2	7.3	1.1	7.5	4.4
1996/08/05 04:00:00	0.8	0.3	0.0	8.4	34.4	0.2	6.9	1.1	7.4	4.4
1996/08/05 05:00:00	0.8	0.3	0.0	8.4	34.8	0.2	6.9	1.1	7.3	4.3
1996/08/05 06:00:00	0.8	0.3	0.0	8.4	35.1	0.2	6.9	1.1	7.1	4.1
1996/08/05 07:00:00	0.8	0.3	0.0	8.4	35.2	0.2	6.9	1.1	7.1	4.1
1996/08/05 08:00:00	0.8	0.3	0.0	8.4	35.2	0.2	6.9	1.1	7.2	4.0
1996/08/05 09:00:00	0.8	0.3	0.0	8.4	35.2	0.2	6.7	1.1	7.4	4.0
1996/08/05 10:00:00	0.8	0.3	0.0	8.4	33.1	0.2	7.4	1.1	7.5	4.0
1996/08/05 11:00:00	0.8	0.3	0.0	8.4	31.8	0.2	8.2	1.1	7.5	4.0
1996/08/05 12:00:00	0.8	0.3	0.0	8.4	34.6	0.2	8.2	1.0	7.5	4.0
1996/08/05 13:00:00	0.8	0.3	0.0	8.4	38.4	0.2	8.1	1.0	7.5	4.0
1996/08/05 14:00:00	0.8	0.2	0.0	8.4	39.8	0.2	8.2	1.0	7.4	4.0
1996/08/05 15:00:00	0.7	0.2	0.0	8.4	39.7	0.2	8.1	1.0	7.3	4.0
1996/08/05 16:00:00	0.7	0.2	0.0	8.3	40.0	0.2	8.2	1.0	7.1	3.8
1996/08/05 17:00:00	0.7	0.2	0.0	8.1	40.8	0.2	8.6	1.0	7.1	3.8
1996/08/05 18:00:00	0.7	0.2	0.0	6.6	41.1	0.2	8.9	1.0	7.2	3.6
1996/08/05 19:00:00	0.7	0.2	0.0	6.4	41.2	0.2	9.0	1.0	6.1	3.0
1996/08/05 20:00:00	0.7	0.2	0.0	6.7	41.2	0.2	9.1	1.0	6.2	2.5
1996/08/05 21:00:00	0.7	0.1	0.0	7.1	41.2	0.2	9.1	0.9	5.8	2.5
1996/08/05 22:00:00	0.7	0.1	0.0	7.5	41.0	0.2	9.8	0.9	6.0	2.5
1996/08/05 23:00:00	0.7	0.1	0.0	7.5	39.2	0.1	11.1	0.9	6.0	2.4
1996/08/06 00:00:00	0.7	0.1	0.0	7.5	40.0	0.1	11.1	0.9	6.0	2.4
1996/08/06 01:00:00	0.7	0.1	0.0	7.5	41.7	0.1	11.1	0.8	6.0	2.4
1996/08/06 02:00:00	0.7	0.1	0.0	7.5	42.6	0.1	11.0	0.7	6.0	2.4
1996/08/06 03:00:00	0.6	0.1	0.0	7.5	42.8	0.1	10.9	0.7	5.9	2.3
1996/08/06 04:00:00	0.6	0.1	0.0	7.5	42.4	0.1	10.7	0.7	5.9	2.3
1996/08/06 05:00:00	0.6	0.1	0.0	7.5	42.2	0.1	10.3	0.7	5.7	2.3
1996/08/06 06:00:00	0.6	0.1	0.0	7.5	42.4	0.1	10.5	0.7	5.6	2.3
1996/08/06 07:00:00	0.6	0.1	0.0	7.5	42.5	0.1	10.6	0.7	5.5	2.2
1996/08/06 08:00:00	0.6	0.1	0.0	7.4	42.5	0.1	10.6	0.7	5.4	2.2
1996/08/06 09:00:00	0.6	0.1	0.0	7.6	42.5	0.1	10.6	0.6	5.6	2.2
1996/08/06 10:00:00	0.6	0.1	0.0	8.0	42.4	0.1	9.7	0.6	5.8	2.2
1996/08/06 11:00:00	0.6	0.1	0.0	8.1	39.0	0.1	9.9	0.6	5.9	2.2
1996/08/06 12:00:00	0.6	0.1	0.0	8.1	33.9	0.1	11.1	0.6	5.9	2.2
1996/08/06 13:00:00	0.6	0.1	0.0	8.1	33.7	0.0	11.3	0.6	5.9	2.2
1996/08/06 14:00:00	0.6	0.1	0.0	8.1	38.2	0.0	11.2	0.6	5.9	2.2
1996/08/06 15:00:00	0.5	0.1	0.0	8.1	43.2	0.0	11.0	0.6	5.8	2.2
1996/08/06 16:00:00	0.5	0.1	0.0	8.1	47.0	0.0	10.5	0.6	5.7	2.1
1996/08/06 17:00:00	0.5	0.1	0.0	8.1	49.9	0.0	10.2	0.6	5.3	2.1
1996/08/06 18:00:00	0.5	0.1	0.0	7.7	51.1	0.0	11.0	0.6	5.5	1.8
1996/08/06 19:00:00	0.5	0.1	0.0	5.9	51.4	0.0	11.8	0.5	5.5	1.7
1996/08/06 20:00:00	0.5	0.1	0.0	5.3	51.5	0.0	12.2	0.5	4.5	1.8
1996/08/06 21:00:00	0.5	0.0	0.0	5.6	51.6	0.0	12.3	0.4	4.9	1.8
1996/08/06 22:00:00	0.5	0.0	0.0	5.7	51.6	0.0	10.8	0.4	5.3	1.8
1996/08/06 23:00:00	0.5	0.0	0.0	5.8	49.4	0.0	9.8	0.4	5.5	1.9
1996/08/07 00:00:00	0.5	0.0	0.0	5.7	46.7	0.0	10.5	0.4	5.5	1.9
Maximum Sediment Rate	0.8	0.6	0.2	13.6	54.4	0.3	17.8	1.5	7.6	9.8

Grey cell = value exceed 200 g/m2 criteron for coral protection.

* Known coral site

** Known coral site but proposed to be transplanted