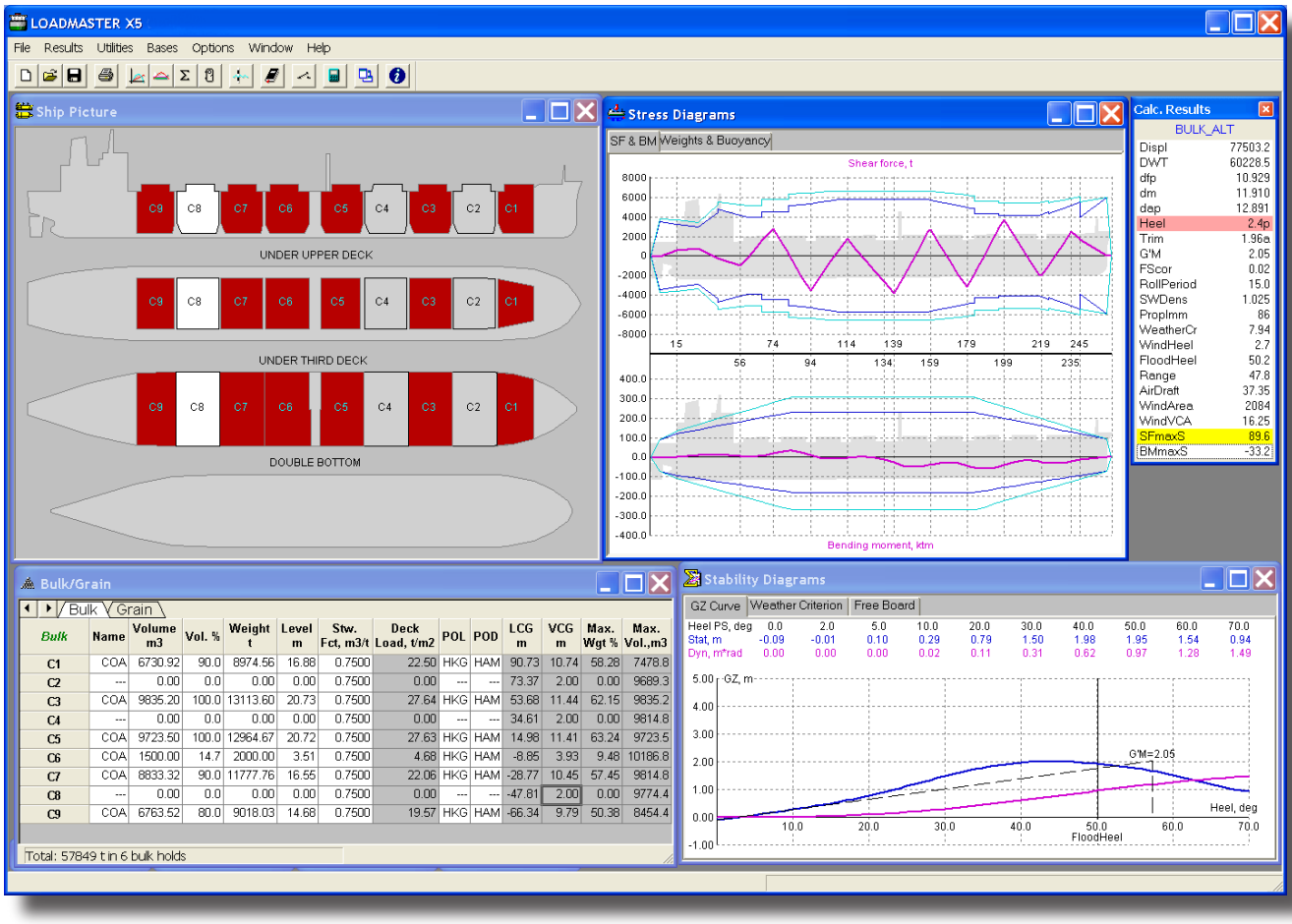
LOADMASTER® x5
Bulk package



Bulk	Name	Volume m3	Vol. %	Weight t	Level m	Stw. Fct, m3/t	Deck Load, t/m2	POL	POD	LCG m	VCG m	Max. Wgt %	Max. Vol.,m3
C1	COA	6730.92	90.0	8974.56	16.88	0.7500	22.50	HKG	HAM	90.73	10.74	58.28	7478.8
C2	---	0.00	0.0	0.00	0.00	0.7500	0.00	---	---	73.37	2.00	0.00	9689.3
C3	COA	9835.20	100.0	13113.60	20.73	0.7500	27.64	HKG	HAM	53.68	11.44	62.15	9835.2
C4	---	0.00	0.0	0.00	0.00	0.7500	0.00	---	---	34.61	2.00	0.00	9814.8
C5	COA	9723.50	100.0	12964.67	20.72	0.7500	27.63	HKG	HAM	14.98	11.41	63.24	9723.5
C6	COA	1500.00	14.7	2000.00	3.51	0.7500	4.68	HKG	HAM	-8.85	3.93	9.48	10186.8
C7	COA	8833.32	90.0	11777.76	16.55	0.7500	22.06	HKG	HAM	-28.77	10.45	57.45	9814.8
C8	---	0.00	0.0	0.00	0.00	0.7500	0.00	---	---	-47.81	2.00	0.00	9774.4
C9	COA	6763.52	80.0	9018.03	14.68	0.7500	19.57	HKG	HAM	-66.34	9.79	50.38	8454.4

General Information

The LOADMASTER bulk package is a very competent program with a number of features that have the sole aim to make cargo handling on-board easier, faster and with improved safety.

The package has all the features needed for ship's operation. We offer software for bulk cargo, grain cargo and timber cargo. In addition you will find features such as advanced simulation tools for cargo and ballast optimization, functions for crane calculations and on-line input from tank level gauging if applicable.

If the program includes functions for bulk as well as grain the user can only enter one commodity in each hold. The holds will automatically disappear from the bulk window if grain is loaded and vice versa.

LOADMASTER®

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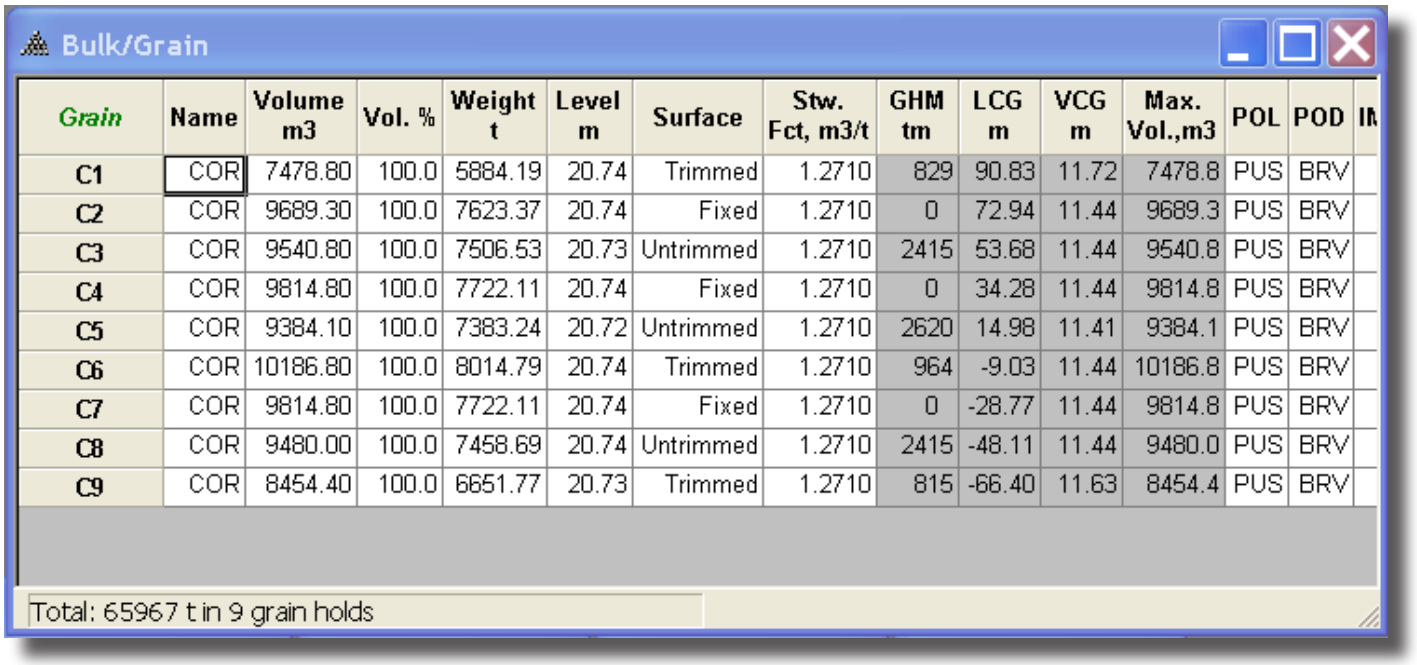
Bulk cargo plan

The bulk cargo plan includes grid functions where cargo quantities can be manually entered via volume (m3, %), weight, and level. The cargo is defined through stowage factor. When entering one value all the other corresponding numbers are updated instantly.

Grain cargo plan

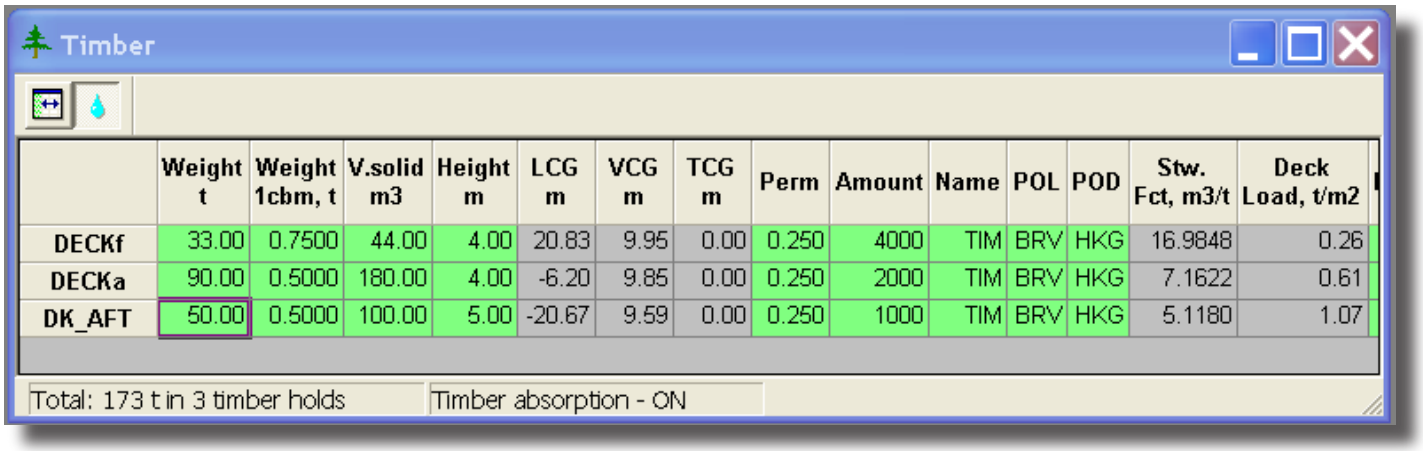
Grain cargo plan includes the same dedicated functions as bulk cargo plan. In addition the user has the possibilty to select trimmed, untrimmed and fixed ends for grain surface. Grain Heeling Moment (GHM) is updated automatically when selecting the different ends.



Grain	Name	Volume m3	Vol. %	Weight t	Level m	Surface	Stw. Fct, m3/t	GHM tm	LCG m	VCG m	Max. Vol.,m3	POL	POD	IN
C1	COR	7478.80	100.0	5884.19	20.74	Trimmed	1.2710	829	90.83	11.72	7478.8	PUS	BRV	
C2	COR	9689.30	100.0	7623.37	20.74	Fixed	1.2710	0	72.94	11.44	9689.3	PUS	BRV	
C3	COR	9540.80	100.0	7506.53	20.73	Untrimmed	1.2710	2415	53.68	11.44	9540.8	PUS	BRV	
C4	COR	9814.80	100.0	7722.11	20.74	Fixed	1.2710	0	34.28	11.44	9814.8	PUS	BRV	
C5	COR	9384.10	100.0	7383.24	20.72	Untrimmed	1.2710	2620	14.98	11.41	9384.1	PUS	BRV	
C6	COR	10186.80	100.0	8014.79	20.74	Trimmed	1.2710	964	-9.03	11.44	10186.8	PUS	BRV	
C7	COR	9814.80	100.0	7722.11	20.74	Fixed	1.2710	0	-28.77	11.44	9814.8	PUS	BRV	
C8	COR	9480.00	100.0	7458.69	20.74	Untrimmed	1.2710	2415	-48.11	11.44	9480.0	PUS	BRV	
C9	COR	8454.40	100.0	6651.77	20.73	Trimmed	1.2710	815	-66.40	11.63	8454.4	PUS	BRV	

Timber cargo plan

A specified grid is available in the LOADMASTER for timber cargo. The areas dedicated for timber cargo can be used. User defines Weight/m3 and mass (tonnes) or volume (m3). Height and permeability (default set to 0.250) is also entered. The LOADMASTER checks the input against maximum deck load and gives warning if limit is exceeded. The entered timber cargo is taken into stability calculations according to IMO regulations. The volume of the cargo loaded on upper deck is considered as buoyant cargo with the default or entered water permeability. A timber water absorption button is available. The button increases timber cargo mass with 10%.



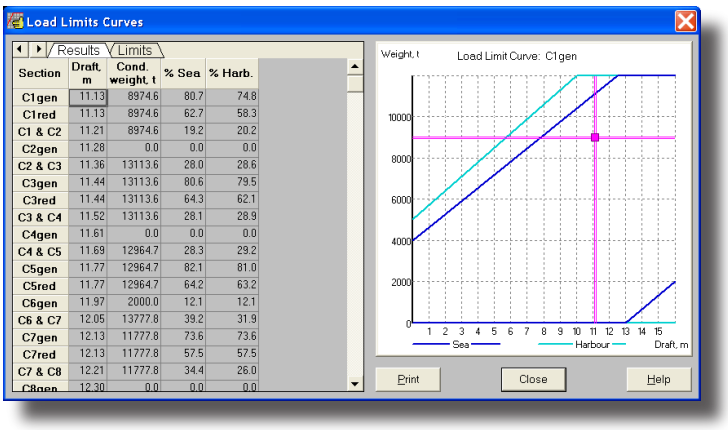
	Weight t	Weight 1cbm, t	V.solid m3	Height m	LCG m	VCG m	TCG m	Perm	Amount	Name	POL	POD	Stw. Fct, m3/t	Deck Load, t/m2
DECKf	33.00	0.7500	44.00	4.00	20.83	9.95	0.00	0.250	4000	TIM	BRV	HKG	16.9848	0.26
DECKa	90.00	0.5000	180.00	4.00	-6.20	9.85	0.00	0.250	2000	TIM	BRV	HKG	7.1622	0.61
DK_AFT	50.00	0.5000	100.00	5.00	-20.67	9.59	0.00	0.250	1000	TIM	BRV	HKG	5.1180	1.07

Load limit curves and flooded holds according to IACS UR S1A.2

The LOADMASTER program is able to check mass of cargo in one hold and in two adjacent holds against mean draft according to above IACS regulation. The calculations are made using load limit curves depending on draft. Two different checks are performed:

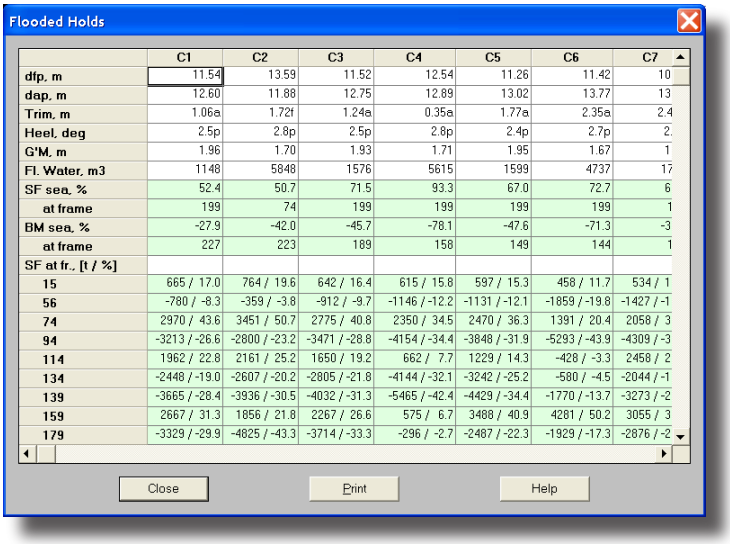
1. Maximum/minimum allowable load in one hold corresponding to the hold's mean draft.

2. Maximum/minimum allowable load in two adjacent holds corresponding to holds combined mean draft.



The results are performed automatically via a right click in the bulk/grain grid. Results are presented in graphical and tabular form. Limits are clearly marked in order to easily rectify the problem and safely load the vessel.

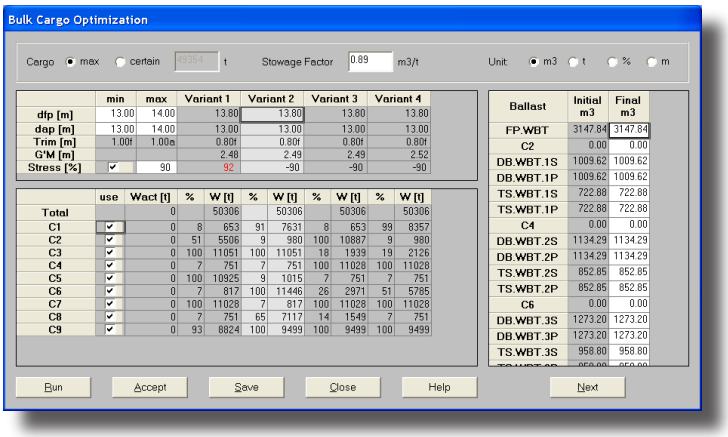
A second function for flooded holds is also available using right click in bulk/grain grid. The calculations are made according to S17 regulations. Using the feature LOADMASTER checks still water bending moment and shear forces for any loading condition with the hold flooded.



Water ingress is calculated using damage water line level. For levels occupied by cargo a permeability of 0.3 is used, remaining volume uses permeability of 0.95. Results are presented in tabular format and indicated with red figures if not acceptable. The load limit curves and flooded hold report can be viewed on-screen as well as printed as hard copy for presentation to authorities.

Bulk cargo optimization

The purpose of the feature is to give a loading proposal using a given draft or a certain amount of cargo to be loaded. The user can also select the holds to be used. Four alternatives are given taking the longitudinal strength calculations in consideration if desired. LOADMASTER calculates the best alternatives trying to minimize G'M while meeting the requirements for given drafts, trim and stress. The function is best used in conjunction with Bulk Load/discharge sequence simulation described in this data sheet.



Load/discharge sequence simulation

The function supports the user in calculating intermediate conditions in a loading/discharging sequence. The user defines initial and final conditions. LOADMASTER calculates and suggests a sequence for loading/discharging that fulfills authority requirements and user's defined limitations.

The final condition can be generated through the LOADMASTER function Bulk Cargo Optimization or using a previous stored condition. Initial condition is equal to the one presently entered in the basic LOADMASTER program.

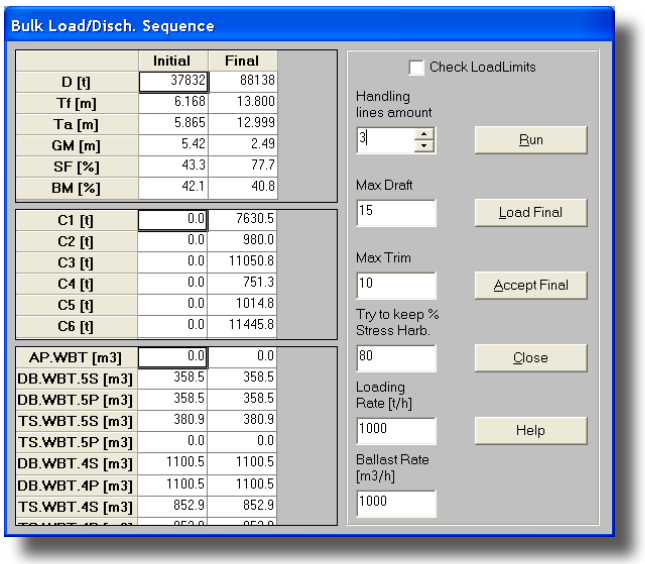
The user can specify the handling lines, maximum draft, maximum SF/BM. By pressing the Run button the LOADMASTER calculates the fastest way to reach desired condition. The sequence is simultaneously checked against specified limits.

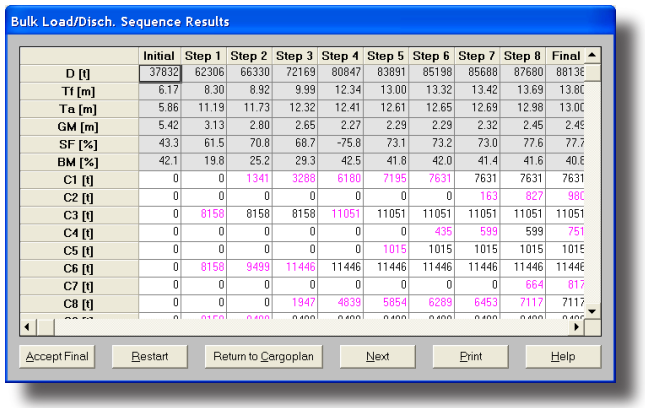
The result is given in tabular format. Step by step LOADMASTER displays the sequence of loading/discharging cargo as well as filling/empting ballast tanks. For each step the essential parameters such as GM, draft, trim, heel, stress and bending moment are displayed.

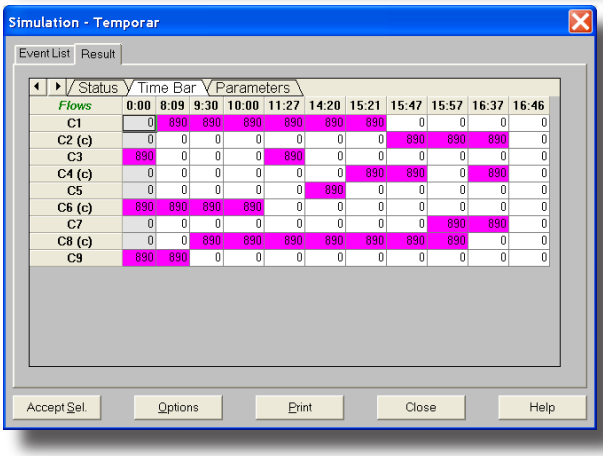
If the user is not satisfied there is an option to return back and change some parameters and recalculate again.

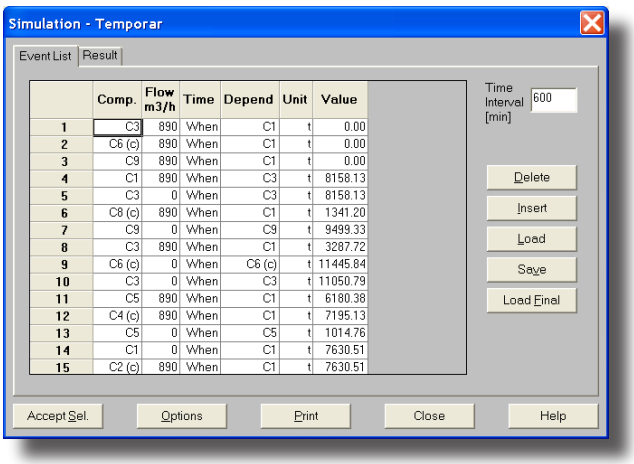
Pushing the "Next" button leads the user to the simulation window. The LOADMASTER gives simulated sequence in tabular format. The table is editable and can be adjusted according to the user's special requirements. When simulation sequence is satisfying the user switches to result tab.

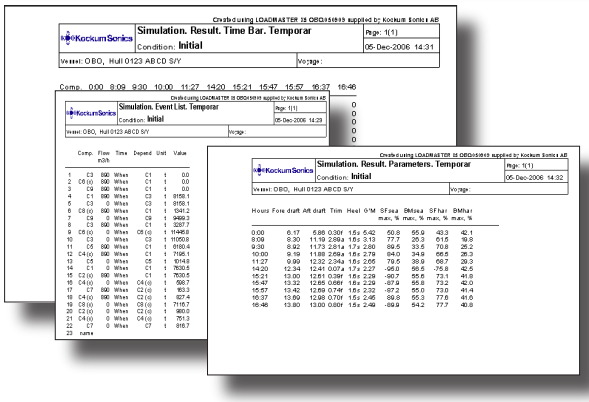
The result tab is an event list where work order is displayed including stability, strength and draft results. Intermediate results are given at initial and final stage. Also results are calculated at every stage where flow is changed. Reports that can be used for presentation to authorities are included in the program.











Subject to alteration without notice.

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