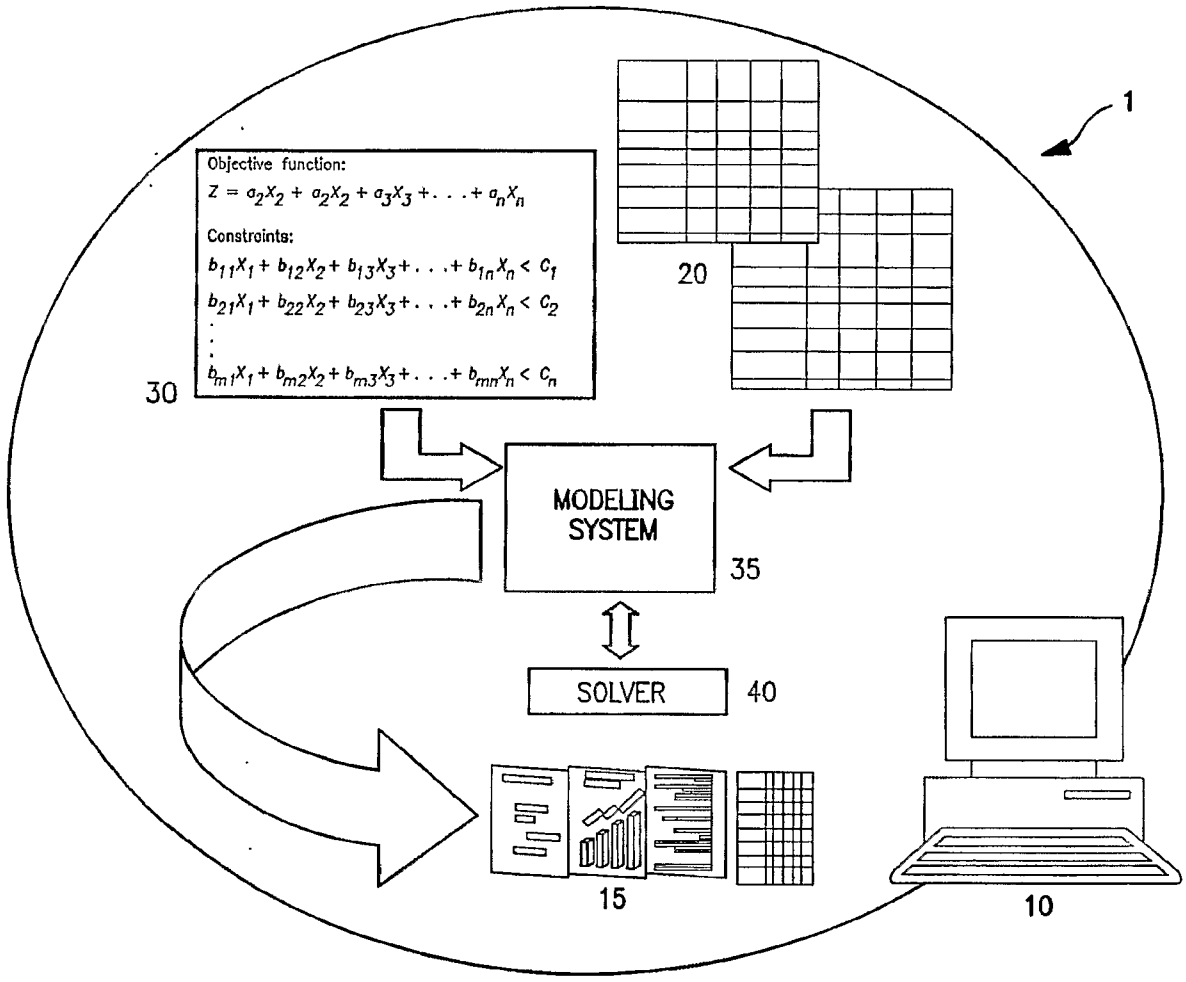

1
Objective function:
$Z = a_2X_2 + a_2X_2 + a_3X_3 + \ldots + a_nX_n$
Constraints:
$b_{11}X_1 + b_{12}X_2 + b_{13}X_3 + \ldots + b_{1n}X_n < C_1$
$b_{21}X_1 + b_{22}X_2 + b_{23}X_3 + \ldots + b_{2n}X_n < C_2$
$b_{m1}X_1 + b_{m2}X_2 + b_{m3}X_3 + \ldots + b_{mn}X_n < C_n$
30
20
MODELING SYSTEM
35
SOLVER
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15
10

FIG. 1

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Production Schedule for Load Ports

XOM Load Ports

Discharge Port Information

		Source1			Source2			Source3					
		Inv	Min	Max	Inv	Min	Max	Inv	Min	Max	Inv	Min	Max
7	1-May-06	22.6	0	55	25.6	0	55	0.0	0	55	93.0	0	93
8	2-May-06	25.4	0	55	28.1	0	55	0.0	0	55	93.0	0	93
9	3-May-06	31.6	0	55	30.7	0	55	0.0	0	55	93.0	0	93
10	4-May-06	37.9	0	55	33.3	0	55	0.0	0	55	93.0	0	93
11	5-May-06	43.1	0	55	35.9	0	55	0.0	0	55	93.0	0	93
12	6-May-06	43.1	0	55	38.4	0	55	0.0	0	55	93.0	0	93
13	7-May-06	43.1	0	55	41.0	0	55	0.0	0	55	93.0	0	93
14	8-May-06	43.1	0	45	43.6	0	55	0.0	0	55	93.0	0	93
15	9-May-06	43.1	0	55	46.1	0	55	0.0	0	55	93.0	0	93
16	10-May-06	43.1	0	55	48.7	0	55	25.0	0	55	93.0	0	93
17	11-May-06	43.1	0	55	51.3	0	55	25.0	0	55	93.0	0	93
18	12-May-06	49.3	0	55	53.9	0	55	25.0	0	0	93.0	0	93
19	13-May-06	52.0	0	55	56.4	0	55	25.0	0	0	93.0	0	93
20	14-May-06	58.3	0	55	59.0	0	55	25.0	0	0	93.0	0	93
21	15-May-06	64.5	0	55	61.6	0	55	25.0	0	0	93.0	0	93
22	16-May-06	70.8	0	55	64.1	0	55	25.0	0	0	93.0	0	0
23	17-May-06	77.0	0	55	66.7	0	55	25.0	0	0	93.0	0	0
24	18-May-06	83.2	0	55	69.3	0	55	25.0	0	0	93.0	0	0
25	19-May-06	86.0	0	55	71.9	0	55	25.0	0	0	93.0	0	0
26	20-May-06	92.2	0	55	74.4	0	55	25.0	0	0	93.0	0	0
27	21-May-06	98.5	0	55	77.0	0	55	25.0	0	0	93.0	0	0
28	22-May-06	104.7	0	55	79.6	0	55	25.0	0	0	93.0	0	0
29	23-May-06	110.9	0	55	82.1	0	55	25.0	0	0	93.0	0	0
30	24-May-06	117.2	0	55	84.7	0	55	25.0	0	0	93.0	0	0
31	25-May-06	119.9	0	55	87.3	0	55	25.0	0	0	93.0	0	0
32	26-May-06	126.2	0	55	89.9	0	55	25.0	0	0	93.0	0	0
33	27-May-06	132.4	0	55	92.4	0	55	25.0	0	0	93.0	0	0
34	28-May-06	138.6	0	55	95.0	0	55	25.0	0	0	93.0	0	0
35	29-May-06	144.9	0	55	97.6	0	55	25.0	0	0	93.0	0	0
36	30-May-06	151.1	0	55	100.1	0	55	25.0	0	0	93.0	0	0
37	31-May-06	153.9	0	55	102.7	0	55	25.0	0	0	93.0	0	0

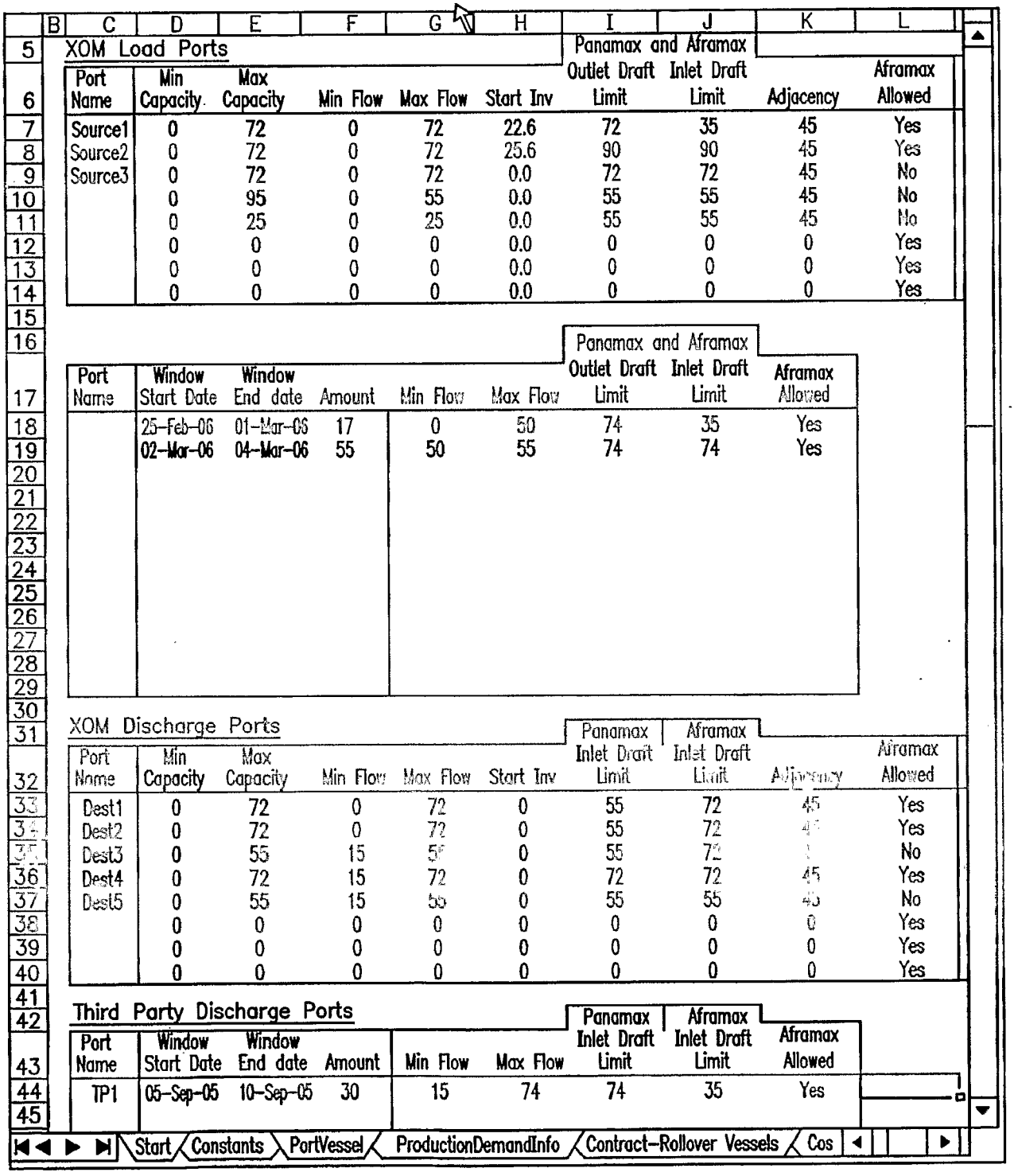
ProductionDemandInfo Contract-RolloverVessels Co

FIG. 2A

	A	B	C	D	E	F	G	H	I	J	K	L	M
129	Demand Schedule for Discharge Ports								Load Port Information				
130													
131	XOM Discharge Ports												
132													
133		Dest1			Dest2			Dest3			Dest4		
134		Inv	Min	Max	Inv	Min	Max	Inv	Min	Max	Inv	Min	Max
155	21-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
156	22-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
157	23-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
158	24-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
159	25-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
160	26-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
161	27-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
162	28-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
163	29-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
164	30-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
165	31-May-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
166	1-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
167	2-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
168	3-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
169	4-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
170	5-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
171	6-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
172	7-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
173	8-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
174	9-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
175	10-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
176	11-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
177	12-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
178	13-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
179	14-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
180	15-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
181	16-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
182	17-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
183	18-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
184	19-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
185	20-Jun-06	0	0	72	0	0	72	0.0	0	55	0.0	0	72
255													

Production Demand Info | Contract-Rollover Vessels | Co

FIG. 2B



XOM Load Ports

Port Name	Min Capacity	Max Capacity	Min Flow	Max Flow	Start Inv	Panamax and Aframax Outlet Draft Limit	Panamax and Aframax Inlet Draft Limit	Aframax Adjacency	Aframax Allowed
Source1	0	72	0	72	22.6	72	35	45	Yes
Source2	0	72	0	72	25.6	90	90	45	Yes
Source3	0	72	0	72	0.0	72	72	45	No
	0	95	0	55	0.0	55	55	45	No
	0	25	0	25	0.0	55	55	45	No
	0	0	0	0	0.0	0	0	0	Yes
	0	0	0	0	0.0	0	0	0	Yes
	0	0	0	0	0.0	0	0	0	Yes

Port Name	Window Start Date	Window End date	Amount	Min Flow	Max Flow	Panamax and Aframax Outlet Draft Limit	Panamax and Aframax Inlet Draft Limit	Aframax Allowed
	25-Feb-06	01-Mar-06	17	0	50	74	35	Yes
	02-Mar-06	04-Mar-06	55	50	55	74	74	Yes

XOM Discharge Ports

Port Name	Min Capacity	Max Capacity	Min Flow	Max Flow	Start Inv	Panamax Inlet Draft Limit	Aframax Inlet Draft Limit	Aframax Adjacency	Aframax Allowed
Dest1	0	72	0	72	0	55	72	45	Yes
Dest2	0	72	0	72	0	55	72	45	Yes
Dest3	0	55	15	55	0	55	72	45	No
Dest4	0	72	15	72	0	72	72	45	Yes
Dest5	0	55	15	55	0	55	55	45	No
	0	0	0	0	0	0	0	0	Yes
	0	0	0	0	0	0	0	0	Yes
	0	0	0	0	0	0	0	0	Yes

Third Party Discharge Ports

Port Name	Window Start Date	Window End date	Amount	Min Flow	Max Flow	Panamax Inlet Draft Limit	Aframax Inlet Draft Limit	Aframax Allowed
TP1	05-Sep-05	10-Sep-05	30	15	74	74	35	Yes

Start | Constants | PortVessel | ProductionDemandInfo | Contract-Rollover Vessels | Cos

FIG. 2C

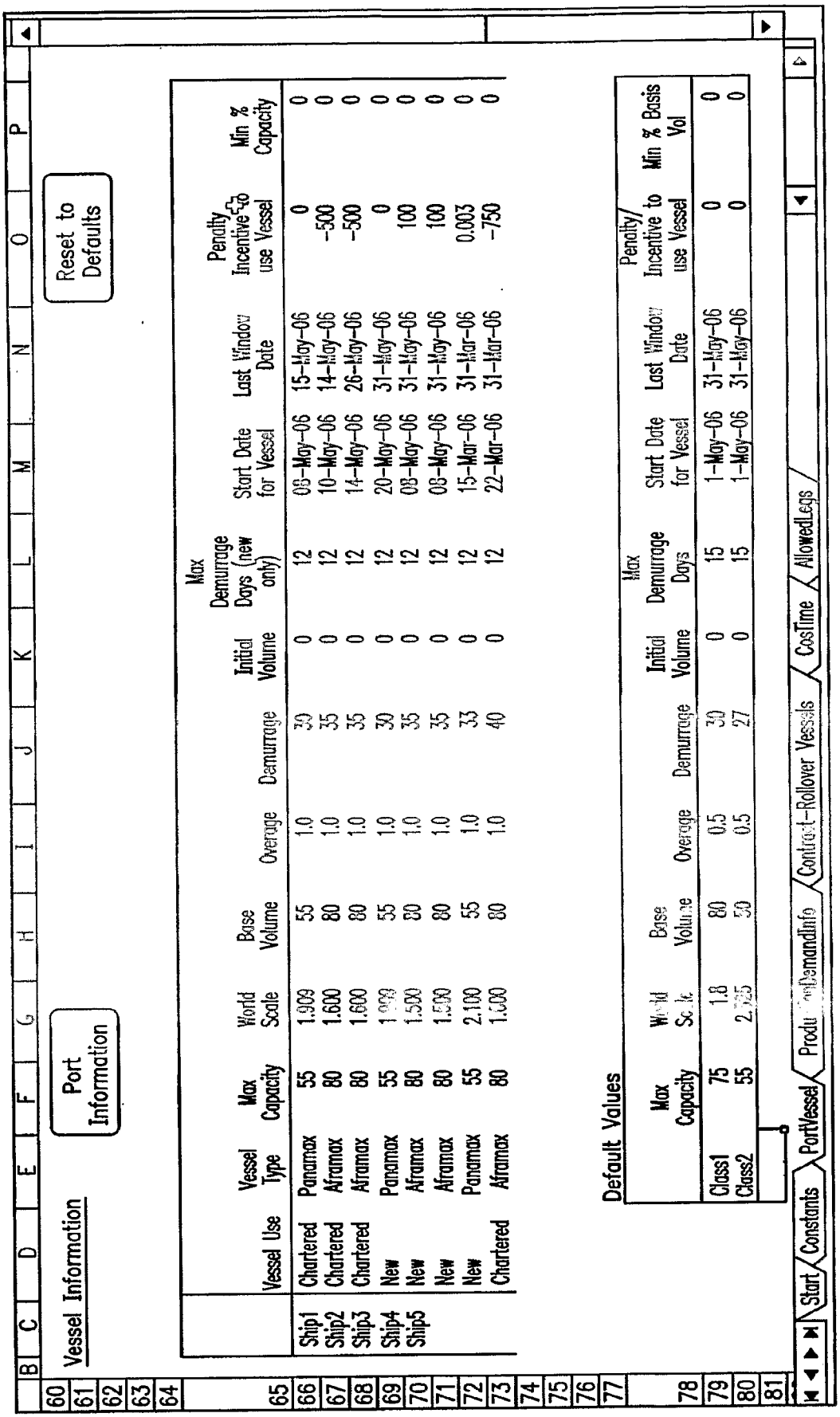

Vessel Information
Port Information
Reset to Defaults
Vessel Use
Vessel Type
Max Capacity
World Scale
Base Volume
Overage
Demurrage
Initial Volume
Max Demurrage Days (new only)
Start Date for Vessel
Last Window Date
Penalty Incentive to use Vessel
Min % Capacity
Ship1 Chartered Panamax 55 1.909 55 1.0 30 0 12 06-May-06 15-May-06 0 0
Ship2 Chartered Aframax 80 1.600 80 1.0 35 0 12 10-May-06 14-May-06 -500 0
Ship3 Chartered Aframax 80 1.600 80 1.0 35 0 12 14-May-06 26-May-06 -500 0
Ship4 New Panamax 55 1.909 55 1.0 30 0 12 20-May-06 31-May-06 0 0
Ship5 New Aframax 80 1.500 80 1.0 35 0 12 08-May-06 31-May-06 100 0
New Aframax 80 1.500 80 1.0 35 0 12 08-May-06 31-May-06 100 0
New Panamax 55 2.100 55 1.0 33 0 12 15-Mar-06 31-Mar-06 0.003 0
Chartered Aframax 80 1.500 80 1.0 40 0 12 22-Mar-06 31-Mar-06 -750 0
Default Values
Max Capacity
World Scale
Base Volume
Overage
Demurrage
Initial Volume
Max Demurrage Days
Start Date for Vessel
Last Window Date
Penalty/ Incentive to use Vessel
Min % Basis Vol
Class1 75 1.8 80 0.5 30 0 15 1-May-06 31-May-06 0 0
Class2 55 2.025 50 0.5 27 0 15 1-May-06 31-May-06 0 0
Start
Constants
PortVessel
Produ...DemandInfo
Contract-Rollover Vessels
CostTime
AllowedLegs

FIG. 2D

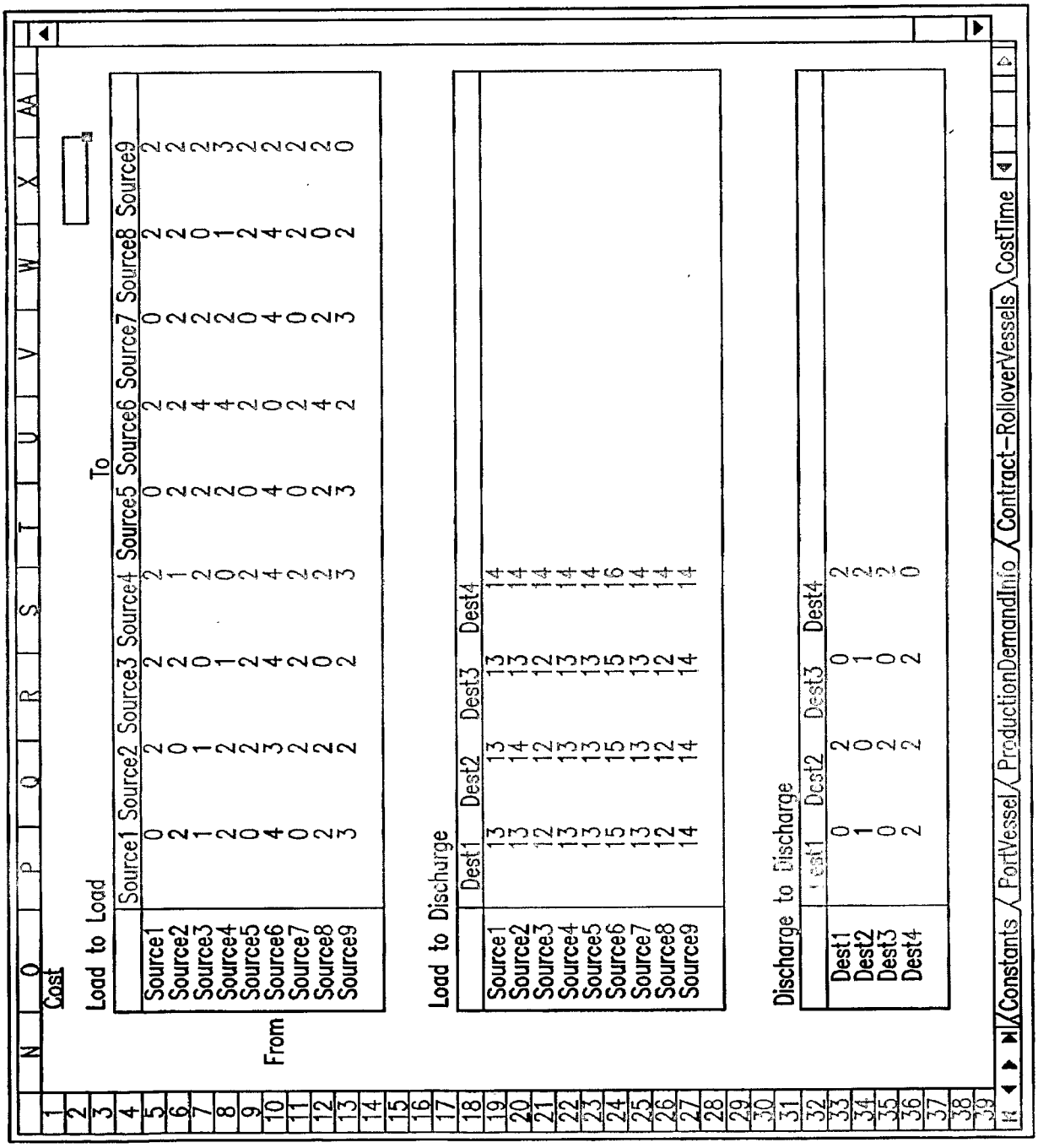

Cost
Load to Load
To
From
Source1 Source2 Source3 Source4 Source5 Source6 Source7 Source8 Source9
Source1 0 2 2 2 0 2 0 2 2
Source2 2 0 2 1 2 2 2 2 2
Source3 1 1 0 2 2 4 2 0 2
Source4 2 2 1 0 2 4 2 1 3
Source5 0 2 2 2 0 2 0 4 2
Source6 4 3 4 4 4 0 4 4 2
Source7 0 2 2 2 0 2 0 2 2
Source8 2 2 0 2 2 4 2 0 2
Source9 3 2 2 3 3 2 3 2 0
Load to Discharge
Dest1 Dest2 Dest3 Dest4
Source1 13 13 13 14
Source2 13 14 13 14
Source3 12 12 12 14
Source4 13 13 13 14
Source5 13 13 13 14
Source6 15 15 15 16
Source7 13 13 13 14
Source8 12 12 12 14
Source9 14 14 14 14
Discharge to Discharge
Dest1 Dest2 Dest3 Dest4
Dest1 0 2 0 2
Dest2 1 0 1 2
Dest3 0 2 0 2
Dest4 2 2 2 0
Constants
PortVessel
ProductionDemandInfo
Contract-RolloverVessels
CostTime

FIG. 2E

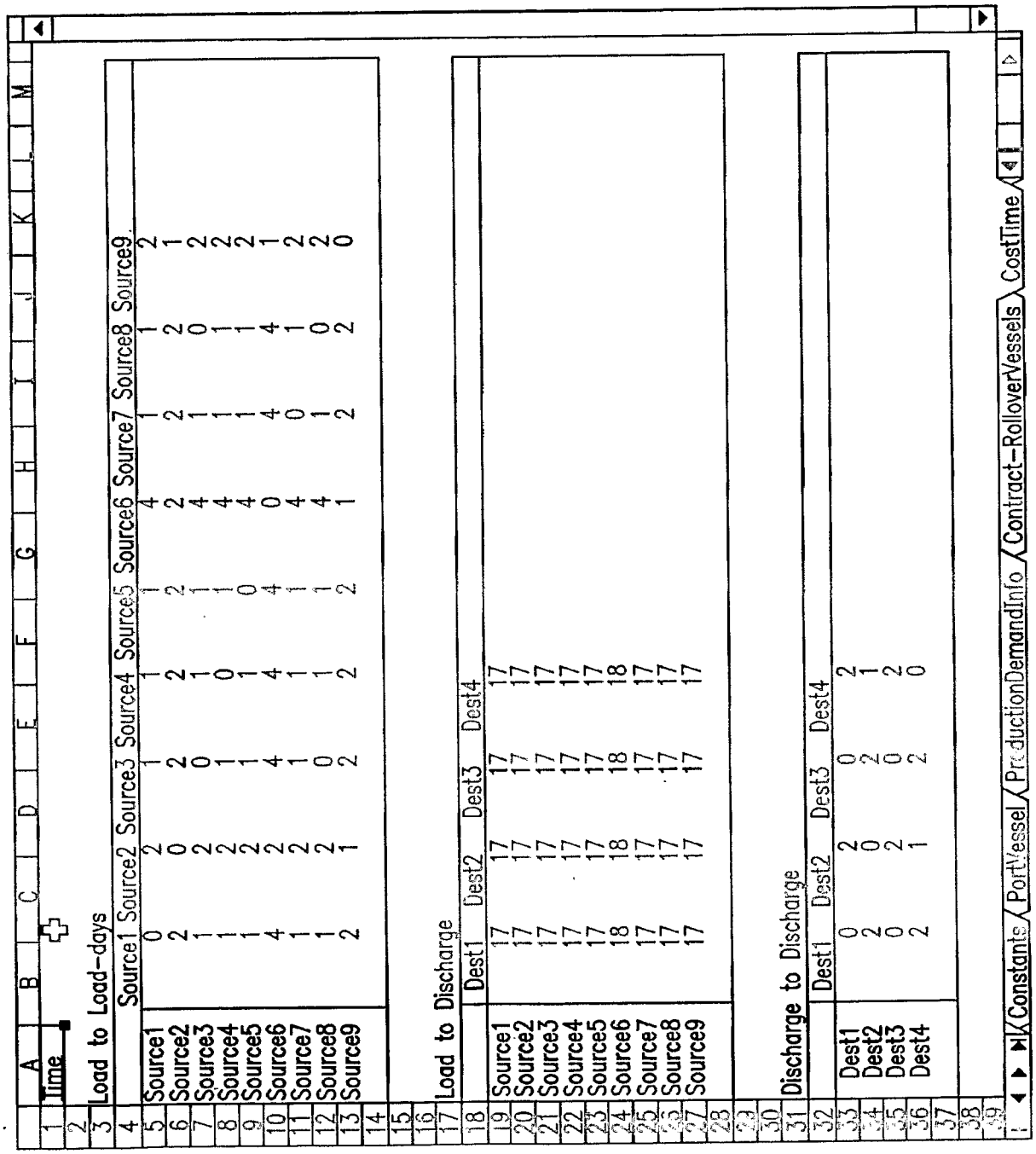
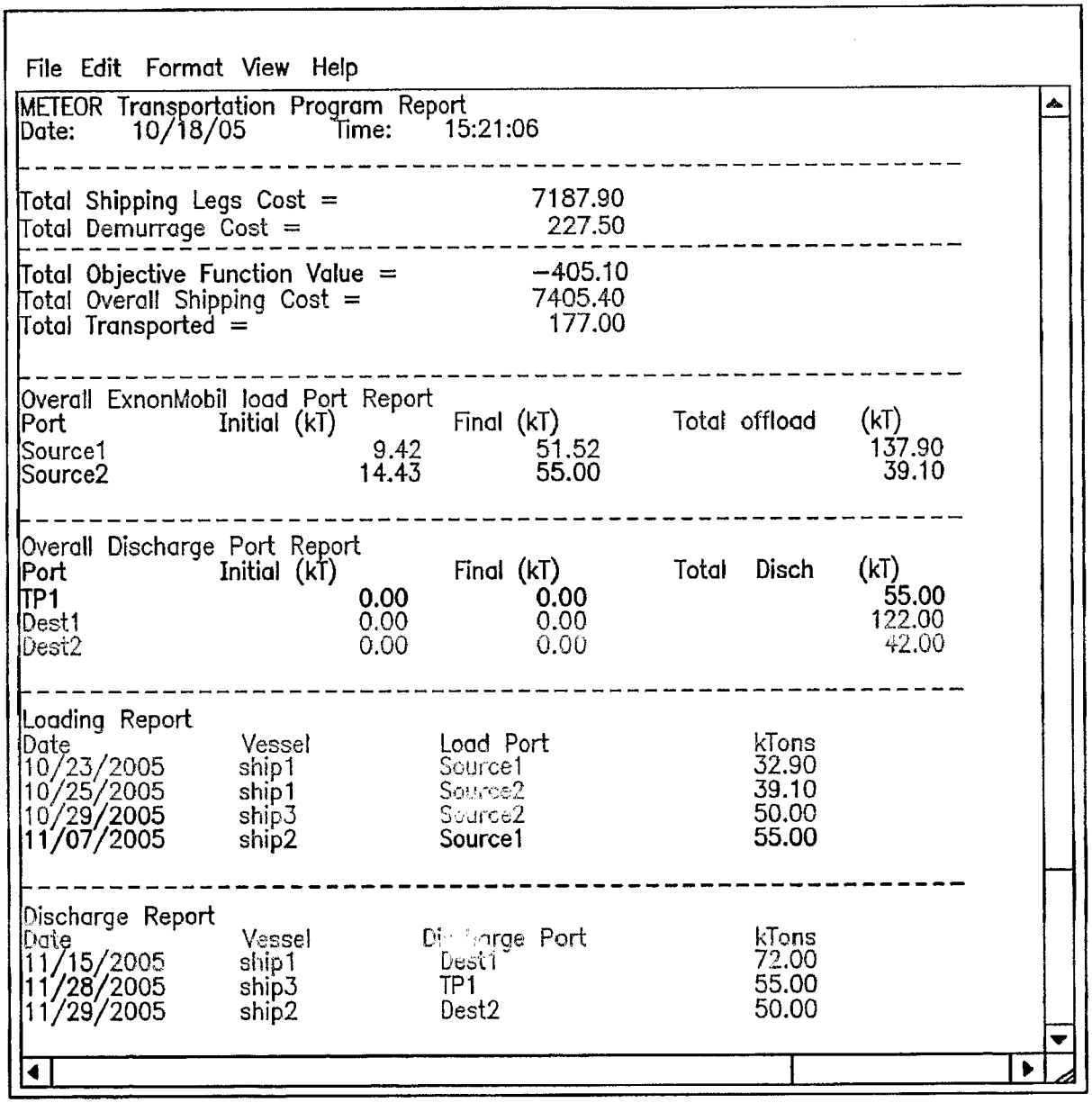

Time
Load to Load-days
Source1 Source2 Source3 Source4 Source5 Source6 Source7 Source8 Source9
Source1 0 2 1 1 4 1 1 2
Source2 2 0 2 2 2 2 2 1
Source3 1 2 0 1 4 1 0 2
Source4 1 2 1 0 4 1 1 2
Source5 1 2 1 0 4 1 1 2
Source6 4 2 4 4 0 4 4 1
Source7 1 2 1 1 4 0 1 2
Source8 1 2 0 1 4 1 0 2
Source9 2 1 2 2 1 2 2 0
Load to Discharge
Dest1 Dest2 Dest3 Dest4
Source1 17 17 17 17
Source2 17 17 17 17
Source3 17 17 17 17
Source4 17 17 17 17
Source5 17 17 17 17
Source6 18 18 18 18
Source7 17 17 17 17
Source8 17 17 17 17
Source9 17 17 17 17
Discharge to Discharge
Dest1 Dest2 Dest3 Dest4
Dest1 0 2 0 2
Dest2 2 0 2 1
Dest3 0 2 0 2
Dest4 2 1 2 0
Constants
PortVessel
ProductionDemandInfo
Contract-RolloverVessels
CostTime

FIG. 2F



File Edit Format View Help

METEOR Transportation Program Report
Date: 10/18/05 Time: 15:21:06

Total Shipping Legs Cost =	7187.90
Total Demurrage Cost =	227.50

Total Objective Function Value =	-405.10
Total Overall Shipping Cost =	7405.40
Total Transported =	177.00

Overall ExxonMobil load Port Report

Port	Initial (kT)	Final (kT)	Total offload (kT)
Source1	9.42	51.52	137.90
Source2	14.43	55.00	39.10

Overall Discharge Port Report

Port	Initial (kT)	Final (kT)	Total Disch (kT)
TP1	0.00	0.00	55.00
Dest1	0.00	0.00	122.00
Dest2	0.00	0.00	42.00

Loading Report

Date	Vessel	Load Port	kTons
10/23/2005	ship1	Source1	32.90
10/25/2005	ship1	Source2	39.10
10/29/2005	ship3	Source2	50.00
11/07/2005	ship2	Source1	55.00

Discharge Report

Date	Vessel	Discharge Port	kTons
11/15/2005	ship1	Dest1	72.00
11/28/2005	ship3	TP1	55.00
11/29/2005	ship2	Dest2	50.00

FIG. 2G