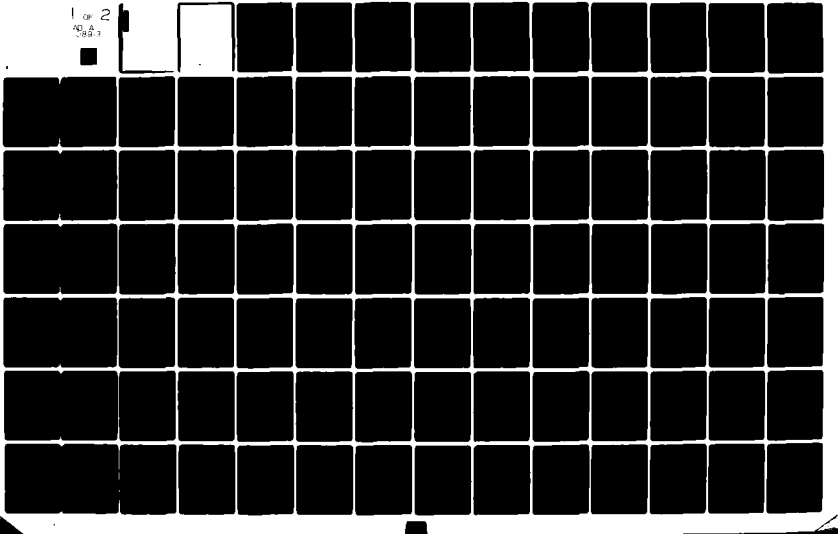
AD-A089 131 DAVID W TAYLOR NAVAL SHIP RESEARCH AND DEVELOPMENT CE--ETC F/G 15/5
AMPHIBIOUS LOGISTICS SUPPORT ASHORE (ALSA) (A COMPUTER SIMULATI--ETC(U)
SEP 80 P E FRIEDENBERG
UNCLASSIFIED DTNSRDC-80/110 NL



AD A089131

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: DTNSRDC-80/110	2. GOVT ACCESSION NO.: AD-A089 131
3. RECIPIENT'S CATALOG NUMBER:	
4. TITLE (and Subtitle): AMPHIBIOUS LOGISTICS SUPPORT ASHORE (ALSA) (A COMPUTER SIMULATION)	5. TYPE OF REPORT & PERIOD COVERED:
	6. PERFORMING ORG. REPORT NUMBER:
7. AUTHOR(s): Paul E. Friedenberg	8. CONTRACT OR GRANT NUMBER(s): F53531, RF53531091
9. PERFORMING ORGANIZATION NAME AND ADDRESS: David W. Taylor Naval Ship Research and Development Center, Bethesda, Maryland 20084	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: Program Element 62760N, Task Area RF 53531091, Work Unit 1800-005
11. CONTROLLING OFFICE NAME AND ADDRESS: Naval Supply Systems Command (01A), Research and Development Division, Washington, D.C. 20390	12. REPORT DATE: September 1980
	13. NUMBER OF PAGES: 144
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): Plans and Studies Division, Development Center, MCDEC, Quantico, VA 22134	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE:

16. DISTRIBUTION STATEMENT (of this Report)

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

DTIC ELECTE SEP 1 6 1980 A

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Simulation	Beach Support Area
Scenario	Amphibious Assault Fuel System
Marine Amphibious Force	Logistics Support Area
Main Supply Routes	Ammunition Supply Points

(Continued on reverse side)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The ALSA (Amphibious Logistics Support Ashore) computer program simulates the construction and cargo delivery functions required to support the logistical component of a Marine Corps amphibious assault at the Marine Amphibious Force (MAF) level. Input consists of either available or baseline quantities of each type of construction equipment

(Continued on reverse side)

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE S/N 0102-LF-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

E17682

(Block 19 continued)

General Purpose Simulation System
Shore Party
Lighterage
Construction Equipment
Breakbulk Cargo
Containerized Cargo
Cargo Handling Equipment
Assault Echelon Supply
Assault Follow-On Echelon Supply
Force Resupply for Mission Duration
Square and Outsized Cargo

(Block 20 continued)

and cargo handling equipment along with the respective operational characteristics, as well as construction requirements, and a schedule of cargo delivered to the beach.

Model output consists of equipment requirements and utilization, the completion times for all construction projects, and a compilation of all cargo delivered as a function of time. The model output is designed to assist in the assessment of logistics requirements for amphibious assault operations.

Accession For
NTIS GRA&I
DDC TAB
Unannounced
Justification
By
Distribution/
Availability Codes
Dist | Avail and/or special
A

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
ABSTRACT	1
ADMINISTRATIVE INFORMATION	1
EXECUTIVE SUMMARY	2
1.0 INTRODUCTION	3
2.0 ALSA DESCRIPTION	4
2.1 SYSTEM DEFINITION	4
2.2 SCENARIO	4
2.3 EQUIPMENT	4
2.3.1 Construction Equipment	5
2.3.2 Cargo Handling Equipment	5
3.0 SUBSYSTEM DESCRIPTIONS	7
3.1 TRANSPORTATION	7
3.2 ENGINEERING	7
3.2.1 Beach Support Area	7
3.2.2 Main Supply Routes	9
3.2.3 Amphibious Assault Fuel System	9
3.2.4 Logistics Support Area	9
3.2.5 Ammunition Supply Points	9
3.3 SUPPLY	9
4.0 ENGINEERING OPERATIONS	11
4.1 INITIAL LANDING	11
4.2 BEACH SUPPORT AREA	11
4.2.1 Construction of BSA Roads	11
4.2.2 Construction of Dump 1	11
4.2.3 Construction of Dumps 2, 3, and 4	12
4.3 MAIN SUPPLY ROUTES	12
4.3.1 Construction of Temporary Main Supply Routes	12
4.3.2 Construction of Permanent Main Supply Routes	12
4.4 AMPHIBIOUS ASSAULT FUEL SYSTEM	12
4.5 LOGISTICS SUPPORT AREA	13
4.5.1 Construction of Container Unstuffing Area and Storage Areas 1, 2, and 3	13

Page

4.5.2 Construction of Truck Loading Area 13
4.5.3 Construction of Pallet Staging Area 13
4.5.4 Construction of Administrative Area 14
4.6 AMMUNITION SUPPLY POINTS 14
4.6.1 Construction of Roads A1, A2, A3, and A4 14
4.6.2 Construction of Revetments A1, A2, A3, and A4. . . . 14
4.6.3 Construction of Perimeter 14
5.0 SUPPLY/TRANSPORTATION OPERATIONS 15
5.1 TYPES OF CARGO 15
5.2 CARGO DELIVERY ASHORE 15
5.2.1 Delivery of Breakbulk Cargo. 15
5.2.2 Delivery of Containerized Cargo. 16
5.2.3 Delivery of Square and Outsized Cargo 16
6.0 THE ALSA SIMULATION MODEL 18
7.0 INPUT TO ALSA MODEL 19
7.1 CONSTRUCTION MATRIX AAA 19
7.2 CARGO GENERATION DATA 36
7.3 INPUT MATRIX CCC 38
7.4 INPUT MATRIX FFF. 45
7.5 CASE NUMBER AND SIMULATION LENGTH 45
7.6 OPERATING EQUIPMENT 46
7.7 SPECIFICATION OF INPUT DATA 48
7.7.1 Specification of Equipment Quantities 48
7.7.2 Specification of Other Input Data. 49
7.8 IMPLEMENTATION OF DATA CHANGES 49
8.0 RUNNING THE MODEL 51
8.1 THE BASIC DECK SETUP. 51
8.2 DATA MODIFICATION 52
9.0 ALSA SIMULATION MODEL OUTPUT 54
9.1 OUTPUT COVER SHEET 54
9.2 BSA CARGO DELIVERY 54
9.3 LSA CARGO DELIVERY 54
9.4 AAFS POL DELIVERY 54

Page

9.5 ASP AMMO DELIVERY 55
9.6 CONSTRUCTION OUTPUT DATA 55
9.7 EQUIPMENT UTILIZATION DATA 57
9.8 QUEUING DATA 57
9.9 PRINTOUT OF INPUT DATA 57

APPENDIX A - LISTING OF PROGRAM 59
APPENDIX B - OUTPUT FROM PROGRAM 111

REFERENCES 137

LIST OF TABLES

1 - Cargo Handling Equipment 6
2 - General Supply 8
3 - Types of Cargo Handling Equipment 39
4 - Construction Equipment Nomenclature 46
5 - Cargo Handling Equipment Nomenclature 47
6 - Area Tasks and Subtasks for ALSA Construction 56

ABSTRACT

The ALSA (Amphibious Logistics Support Ashore) computer program simulates the construction and cargo delivery functions required to support the logistical component of a Marine Corps amphibious assault at the Marine Amphibious Force (MAF) level. Input consists of either available or baseline quantities of each type of construction equipment and cargo handling equipment along with the respective operational characteristics, as well as construction requirements, and a schedule of cargo delivered to the beach.

Model output consists of equipment requirements and utilization, the completion times for all construction projects, and a compilation of all cargo delivered as a function of time. The model output is designed to assist in the assessment of logistics requirements for amphibious assault operations.

ADMINISTRATIVE INFORMATION

This work was funded by the Research and Development Division of the Naval Supply Systems Command (043), Washington, D.C. 20390. The work was accomplished in cooperation with, and monitored by, LT. COL. James Medis of the Plans and Studies Division, Development Center, MCDEC, Quantico, VA 22134. This project was internally (DTNSRDC) controlled under Program Element 62760N, Task Area RF 53531091, and Work Unit 1800-005.

EXECUTIVE SUMMARY

Statement of the Problem

Within the Amphibious Logistics Support Ashore (ALSA) Program, a mechanism is required with which to evaluate the procedures and equipment used to support the logistical component of a Marine Corps amphibious assault. This method should be relatively inexpensive and capable of readily accepting changes.

Technical Approach

A computer simulation program, designated ALSA, was developed which considers the following operations:

- Arrival of the shore party
- Delivery ashore of construction equipment
- Construction of the Beach Support Area (BSA), Main Supply Routes (MSR), Logistics Support Area (LSA), Ammunition Supply Points (ASP), and Amphibious Assault Fuel System (AAFS)
- Unloading cargo from lighterage at the beach
- Loading cargo onto trucks at the beach
- Delivering cargo to its appropriate storage area
- Unloading and unstuffing cargo at the appropriate storage area
- Return to the beach of empty trucks and empty containers

The program was written in GPSS[1]* (General Purpose Simulation System), a simulation programming language used to build computer models for discrete event simulations (for reproducing the dynamic behavior of systems in which changes of state occur at discrete points in time).

The simulation output consists of completion times for all construction projects involved in the amphibious assault, and a compilation of cargo delivered by type, as a function of time.

ALSA was designed for use primarily in the analysis of Marine Amphibious Force (MAF) size operations.

---

*A complete listing of references is given on page 137.

1.0 INTRODUCTION

The REACT^2 computer simulation model at DTNSRDC has been used to examine the transportation of the Assault Follow-On Echelon portion of a Marine Corps landing force from embarkation ports to the Amphibious Operations Area (AOA). The Assault Follow-On Echelon (AFOE) was loaded at a port in CONUS, transported over an ocean route, and unloaded at the AOA. The force was delivered ashore by means of landing craft.

Since the logical extension of this previous work was the examination of the logistical operations ashore, and since at the same time the Civil Engineering Laboratory (CEL) in Port Hueneme, California, was examining hardware to be used in the shoreside operations, it was decided that an investigation of the logistics operations ashore would be beneficial.

A computer simulation model was determined to be the most appropriate tool for studying the logistics associated with an amphibious assault operation. This model may be used to examine the performance of the supporting logistical system and to determine the differing effectiveness of the system upon changing either operational procedures or the numbers and types of equipment available. Such a tool will be an extremely valuable aid in future planning.

The ALSA computer simulation has been written to fulfill this requirement. It is written in the GPSS simulation language and is currently in use at the David W. Taylor Naval Ship Research and Development Center (DTNSRDC). This report describes the ALSA program and the details and procedures required for its use.

2.0 ALSA DESCRIPTION

2.1 SYSTEM DEFINITION

The Amphibious Logistics Support Ashore (ALSA) System provides the capability to store and handle the petroleum, oil and lubricants (POL), ammunition, and general cargo required in support of a Marine Amphibious Force (MAF) during both the amphibious assault phase and the subsequent operations ashore.

The Beach Support Area (BSA) is used for the storage of supplies during the initial phase of the operation. Roads (the Main Supply Routes) are subsequently constructed leading from the beach to the Rear Support Area, which consists of the Amphibious Assault Fuel System (AAFS), the Logistics Support Area (LSA), and the Ammunition Supply Points (ASP). When completed, these three areas take over the storage functions which were previously handled by the BSA.

The AAFS is used for the storage of bulk POL. The LSA provides storage for all palletized and containerized cargo other than ammunition. The ASP is used for the storage of all ammunition.

2.2 SCENARIO

The scenario selected for the ALSA simulation model opens with the amphibious landing of a MAF on an undeveloped beach. The shore party arrives with the necessary construction equipment and maps out the beach. The construction required for the logistical component of the operation begins with the BSA. After the BSA is finished, the construction of the Rear Support Area and of the connecting roadways is started. At this time lighters begin arriving with the cargo required ashore, where it is unloaded from the lighters, transported to the appropriate storage area (BSA, AAFS, LSA, or ASP), and stored.

Detailed descriptions of the construction and cargo delivery scenarios are found in Sections 4.0 and 5.0, respectively.

2.3 EQUIPMENT

Two categories of equipment are required by the ALSA system: the construction equipment, and the cargo handling equipment.

2.3.1 Construction Equipment

The construction equipment is delivered ashore by lighters during the first stages of the landing operation. The construction equipment consists of the following items:

- Scrapers
- Scoop Loaders
- Dump trucks
- Rollers
- Graders
- Surfacers
- Bulldozers
- Backhoes

2.3.2 Cargo Handling Equipment

The cargo handling equipment is required for handling the supplies needed to support the operation. The supplies are delivered ashore by lighterage after enough construction has been completed to make sufficient storage areas available. The cargo handling equipment is listed in Table 1.

TABLE 1 - CARGO HANDLING EQUIPMENT

No.	Description
1	Cranes at AAFS
2	Towing equipment
3	Beach forklift for general cargo
4	Beach forklift for POL
5	Beach forklift for ammo
6	BSA forklift for general cargo
7	BSA forklift for POL
8	BSA forklift for ammo
9	Flatbed trucks
10	LSA forklift for general cargo
11	LSA forklift for POL
12	ASP 1 forklift for ammo
13	Beach container lift
14	BSA container lift
15	BSA unstuffing equipment
16	LSA container lift
17	LSA unstuffing equipment
18	ASP container lift
19	ASP unstuffing equipment
20	Cranes at beach
21	Cranes at BSA
22	Cranes at LSA
23	ASP 2 forklift for ammo
24	ASP 3 forklift for ammo
25	ASP 4 forklift for ammo
26	Flatbed trucks for breakbulk cargo
27	Flatbed trucks for containerized cargo

3.0 SUBSYSTEM DESCRIPTIONS

The ALSA computer simulation model considers the following three functional subsystems:

Transportation

Engineering

Supply

These subsystems comprise the logistical support component of the amphibious operation.

3.1 TRANSPORTATION

The function of the transportation subsystem is the delivery of material required ashore. This material falls into three general classes:

Construction equipment

Cargo handling equipment

Initial supply and resupply

The construction equipment and the cargo handling equipment have been discussed in Section 2.3.

The delivery of supplies begins after sufficient onshore construction has been completed to allow for its receipt and after sufficient cargo handling equipment has been delivered ashore to handle the incoming materiel. The supplies are delivered to the shore by lighters. The supplies consist of twelve distinct types, as listed in Table 2.

3.2 ENGINEERING

The function of the engineering subsystem is the construction of all roads and storage areas required ashore.

3.2.1 Beach Support Area

The Beach Support Area (BSA), consisting of beach dumps for the storage of materiel, is the first construction project undertaken. Supplies required for support of the Assault Echelon (AE), the initial landing force, are delivered to the BSA as soon as feasible.

TABLE 2 - GENERAL SUPPLY

Type No.	Description
1	Breakbulk, general cargo
2	Breakbulk, petroleum, oil, and lubricants (POL)
3	Breakbulk, ammunition (ammo)
4	Containerized general cargo, to be unstuffed
5	Containerized ammunition, to be unstuffed
6	Containerized drum POL, to be unstuffed
7	Containerized general cargo, not to be unstuffed
8	Containerized ammunition, not to be unstuffed
9	Containerized drum POL, not to be unstuffed
10	Square, self powered outsized cargo, on wheels
11	Square, non-powered outsized cargo, on wheels
13	Outsized cargo

3.2.2 Main Supply Routes

The Main Supply Routes (MSR) are the roads leading from the beach to the inland storage areas.

3.2.3 Amphibious Assault Fuel System

The Amphibious Assault Fuel System (AAFS) consists of four inland storage areas designed for large quantities of bulk POL. Within each such area, the POL is stored in large containers, each one surrounded by a berm and separated from the other containers. Bulk POL is not delivered ashore until the AAFS is capable of receiving it. There is no provision for preliminary storage of bulk POL at the BSA. The ALSA simulation model does not presently have the capability to simulate the delivery ashore of bulk POL.

3.2.4 Logistics Support Area

The Logistics Support Area (LSA) is generally inland and acts as the main supply control area. The LSA takes over the supply function from the BSA for general cargo in either palletized or containerized form, and for breakbulk and containerized POL. After the construction of the LSA is completed, supplies can be routed to it, and the BSA is gradually phased out with respect to the storage of general cargo and non-bulk POL.

3.2.5 Ammunition Supply Points

The Ammunition Supply Points (ASP) are inland areas designed to take over the ammunition storage function from the BSA. After the construction of the ASP is completed, supplies may be routed to it, and the BSA is phased out with respect to the storage of ammunition.

3.3 SUPPLY

The supply function consists of the distribution, storage, and inventory of all material required for the operation. The supply is delivered ashore aboard lighterage as soon as the BSA is ready to receive cargo. The twelve types of supply are listed in Table 2.

The delivery ashore of supply is generally broken down into three categories.

- Assault Echelon Supply
- Assault Follow-On Echelon Supply
- Force Resupply For Mission Duration

The delivery of the Assault Echelon Supply is started as soon as the BSA is capable of receiving cargo. In general, delivery of the Assault Echelon Supply will begin one day after the operation starts.

The delivery of the Assault Follow-On Echelon Supply generally commences about five days into the operation. By this time, the inland storage areas should be completed, the BSA will be phased out, and cargo will be moving over the Main Supply Routes to the inland dumps. Specific delivery times and construction completion times will vary with the specfic situations examined.

The Force Resupply For Mission Duration generally starts about fifteen days into the operation. It supplies all materiel required by the MAF until the termination of the operation.

4.0 ENGINEERING OPERATIONS

4.1 INITIAL LANDING

The scenario selected for the ALSA simulation model opens with the amphibious landing of a Marine Amphibious Force (MAF) on an undeveloped beach. The shore party arrives with the necessary construction equipment, maps out the beach, and starts the construction required for the logistics component of the operation.

4.2 BEACH SUPPORT AREA

The Beach Support Area (BSA) is the first major logistical support component to be constructed. The BSA serves until such time as subsequent constructon of the LSA and ASP can be completed farther inland. There are five components within the BSA. These are the BSA Roads, Dump 1 (ammo), Dump 2 (personal effects and construction materiel), Dump 3 (POL), and Dump 4 (general cargo).

Each construction operation has a priority for the use of equipment, with the priorities running from P = 1 (highest) to P = 33 (lowest).

The BSA roads have the highest priority (P = 1) for use of the available construction equipment. In descending order, the remaining priorities are, for Dump 1, P = 2; for Dump 2, P = 3; for Dump 3, P = 4; for Dump 4, P = 5.

4.2.1 Construction of BSA Roads

The first component for the BSA Roads construction is the clearing operation, performed by the bulldozers. This is followed by the stripping operation (scrapers), subsurface filling (dump trucks), subsurface compacting (rollers), grading (graders), surface filling (dump trucks), and surface compacting (rollers).

4.2.2 Construction of Dump 1

Dump 1 is first cleared (bulldozers), then material for berms is deposited (scrapers), and earth is piled (scoop loaders) to shape the berms.

4.2.3 Construction of Dumps 2, 3, and 4

The construction of Dump 2, Dump 3, and Dump 4 consists of one clearing operation each by bulldozers.

4.3 MAIN SUPPLY ROUTES

The Main Supply Routes (MSR) are the roads within the logistics complex which are used for transportation of construction equipment and supplies from the beach to supply areas farther inland. The Main Supply Routes are constructed in two phases. First temporary roads are cleared to allow an initial flow of materiel to begin. Later, when the construction equipment is no longer required for the development of inland dump areas, the permanent roads are completed. Priorities for the construction of the various MSR components are, for Temporary MSR 1, P = 6; Temporary MSR 2, P = 7; Temporary MSR 3, P = 8; Temporary MSR 4, P = 9; Permanent MSR 1, P = 30; Permanent MSR 2, P = 31; Permanent MSR 3, P = 32; Permanent MSR 4, P = 33.

4.3.1 Construction of Temporary Main Supply Routes

The construction of each of the four components of the Temporary Main Supply Routes is similar. For each of the four components, the first operation is clearing (bulldozers), followed by compacting (rollers) and grading (graders).

4.3.2 Construction of Permanent Main Supply Routes

For Permanent Main Supply Routes 1 and 2, the first operation is stripping (scrapers), followed by compacting (rollers), grading (graders), and surfacing (surfacers). For Permanent Main Supply Routes 3 and 4, the sequence of operations is stripping (scrapers), compacting (rollers), and grading (graders).

4.4 AMPHIBIOUS ASSAULT FUEL SYSTEM

The Amphibious Assault Fuel System (AAFS) is used for the inland storage of outsized POL tanks. It is made up of four components. The

components and their corresponding priorities for the use of construction equipment are: AAFS 1, P = 10; AAFS 2, P = 11; AAFS 3, P = 12; AAFS 4, P = 13.

For each component of the AAFS, the sequence of construction operations is clearing (bulldozers), grading (graders), depositing berm material (scrapers), piling earth at berms (scoop loaders), and shaping berms (graders).

4.5 LOGISTICS SUPPORT AREA

The Logistics Support Area (LSA) is used for the inland storage of general cargo in containerized and palletized form. The LSA consists of seven components. The components and their corresponding priorities for the use of construction equipment are: Storage Area 1, P = 14; Storage Area 2, P = 15; Storage area 3, P = 16; Unstuffing Area (UA), P = 17; Truck Loading Area (TLA), P = 18; Pallet Staging Area (PSA), P = 19; Administrative Area (AA), P = 20.

4.5.1 Construction of Container Unstuffing Area and Storage Areas 1, 2, and 3.

For the Container Unstuffing Area and Storage Areas 1, 2, and 3, the first operation is clearing (bulldozers), followed by stripping (scrappers). After stripping, filling (dump trucks) and compacting (rollers) are started at the same time. After the compacting is finished, the area is graded (graders). When both the filling and grading are finished, the surfacing (surfacers) is done.

4.5.2 Construction of Truck Loading Area

The Truck Loading Area is first cleared (bulldozers). Then filling (dump trucks) and compacting (rollers) are started at the same time. After the compacting is finished, the area is graded (graders).

4.5.3 Construction of Pallet Staging Area

The construction of the Pallet Staging Area is done by first clearing (bulldozers) and then grading (graders).

4.5.4 Construction of Administrative Area

The Administrative Area is first cleared (bulldozers). Then it is stripped (scrapers), after which filling (dump trucks) and compacting (rollers) are started at the same time. After the compacting is finished, the area is graded (graders).

4.6 AMMUNITION SUPPLY POINTS

The Ammunition Supply Points (ASP) comprise an area used exclusively for the inland storage of ordnance. It is made up of four components. During ASP construction, the priorities for use of equipment are: Road A1 (for ASP 1), P = 21; Road A2 (for ASP 2), P = 22; Road A3 (for ASP 3), P = 23; Road A4 (for ASP 4), P = 24; Revetment A1 (for ASP 1), P = 25; Revetment A2 (for ASP 2), P = 26; Revetment A3 (for ASP 3), P = 27; Revetment A4 (for ASP 4), P = 28; Perimeter (for all ASP), P = 29.

4.6.1 Construction of Roads A1, A2, A3, and A4

Roads A1, A2, A3, and A4 are first cleared (bulldozers). Then compacting (rollers) and stripping (scrapers) are started at the same time. After the compacting is finished, the grading (graders) is done.

4.6.2 Construction of Revetments A1, A2, A3, and A4

Revetments A1, A2, A3, and A4 are first cleared (bulldozers). Then, in sequence, material is depostited for the berms (scrapers), earth is piled at the berms (scoop loaders), and the berms are shaped (graders).

4.6.3 Construction of Perimeter

The construction of the Perimeter of the ASP is accomplished by the one operation of clearing (bulldozers).

5.0 SUPPLY/TRANSPORTATION OPERATIONS

5.1 TYPES OF CARGO

The program considers twelve distinct types of cargo, as defined in Table 2.

5.2 CARGO DELIVERY ASHORE

The amount of each type of cargo delivered ashore is defined by the user of the ALSA simulation model. Cargo is delivered to the beach by means of lighterage. Each lighter contains only one type of cargo. On arrival at the shoreline each lighter is unloaded, and the cargo is routed to the appropriate storage area.

5.2.1 Delivery of Breakbulk Cargo

Cargo types 1, 2, and 3, as defined in Section 5.1, constitute the three types of breakbulk cargo which may be required during the operation.

As each lighter containing one type of breakbulk cargo arrives at the beach, it is unloaded by a forklift, and the cargo is loaded onto a flatbed truck. The next operation depends on the type of cargo and the completion status of the inland dump areas.

If neither the LSA nor the ASP has been completed, the truckload of cargo proceeds to the BSA. The truck is then unloaded by a forklift which moves the cargo to storage.

If the LSA has been completed, and if the cargo is type 1 or type 2, the truckload of cargo proceeds to the LSA. The truck is then unloaded by a forklift which moves the cargo to storage.

If the ASP has been completed, and if the cargo is type 3, a check is made to determine which of the four ASP's will accept the cargo for storage. First ASP 1 is checked to determine if it is full. If ASP 1 is not full, then it is selected to accept the cargo. If ASP 1 is full, then ASP 2 is similarly checked. If ASP 2 is full, then ASP 3 is checked for fullness. The first of the three preceding ASP's found to be not full is selected to receive the cargo. If the preceding three ASP's

are full, then the cargo will be delivered to ASP 4. After the selection of the appropriate ASP, the truckload of cargo proceeds there, and the cargo is unloaded by a forklift and moved to storage.

5.2.2 Delivery of Containerized Cargo

Cargo types 4, 5, 6, 7, 8, and 9 constitute the six types of containerized cargo which may be required during the operation.

As each lighter containing one type of containerized cargo arrives at the beach, it is unloaded by a container lift, and the cargo is loaded onto a flatbed truck. The next operation depends on the type of cargo and the completion status of the inland storage areas.

If neither the LSA nor the ASP has been completed, the truckload of cargo proceeds to the BSA. The truck is then unloaded by a container lift. If the cargo is type 4, 5, or 6, the container is unstuffed by the unstuffing equipment. A forklift then moves the unstuffed cargo to storage.

If the LSA has been completed and the cargo is type 4, 6, 7, or 9, the truckload of cargo proceeds to the LSA. The truck is then unloaded by a container lift. If the cargo is type 7 or type 9, the container is stored. If the cargo is type 4 or type 6, the container is unstuffed by the unstuffing equipment. A forklift then moves the unstuffed cargo to storage.

If the ASP has been completed and the cargo is type 5 or type 8, the truckload of cargo proceeds to the ASP. There the truck is unloaded by a container lift. If the cargo is type 8, the container is stored. If the cargo is type 5, the container is unstuffed by the unstuffing equipment. A forklift then moves the unstuffed cargo to storage.

5.2.3 Delivery of Square and Outsized Cargo

Cargo types 10 and 11 constitute the two types of square cargo, and cargo type 13 the one type of outsized cargo, which may be required during the operation. What happens after a lighter arrives at the beach with cargo type 10, 11, or 13 depends upon the type of cargo and the completion status of the LSA.

If the cargo is type 10 and the LSA is completed, the cargo moves from the lighter to the LSA under its own power. If the LSA is not yet completed, the cargo moves under its own power from the lighter to the BSA.

If the cargo is type 11, it is first unloaded from the lighter by the towing equipment. If the LSA has been completed, the cargo is towed to the LSA. If the LSA has not yet been completed, the cargo is towed to the BSA.

If the cargo is type 13, the cargo is unloaded from the lighter by a crane and loaded onto a flatbed truck. If the LSA has been completed, the truck moves to the LSA where the cargo is offloaded by a crane. If the LSA has not yet been completed, the truck proceeds to the BSA where it is unloaded by a crane.

6.0 THE ALSA SIMULATION MODEL

The ALSA simulation model is a computer program which implements the construction description in Section 4.0 and the cargo delivery description in Section 5.0. It is written in the GPSS (General Purpose Simulation System) language, which is designed to reproduce the dynamic behavior of systems in which changes of state occur at discrete points in time.

A program listing of the ALSA model is contained in Appendix A of this report. This listing may be regarded as a specific sample run, since the input data to the program, which determine the uniqueness of a given run, are imbedded in the program and therefore appear in the listing.

The ALSA model is currently operational on the CDC 6700 computer at DTNSRDC.

7.0 INPUT TO ALSA MODEL

The ALSA model embodies a number of parameters which may be changed from run to run in order to examine the effects of differing conditions under which the basic scenario may be simulated.

7.1 CONSTRUCTION MATRIX AAA

Data required for the simulation of the construction part of the model are found primarily in matrix AAA, whose elements are defined as follows:

Element	Definition
AAA(2,1)	Area cleared for BSA Roads (sq ft)
AAA(2,2)	Rate at which one bulldozer clears BSA Roads (sq ft/min)
AAA(2,3)	Number of bulldozers used to clear BSA Roads
AAA(3,1)	Area cleared for BSA Dump 1 (sq ft)
AAA(3,2)	Rate at which one bulldozer clears BSA Dump 1 (sq ft/min)
AAA(3,3)	Number of bulldozers used to clear BSA Dump 1
AAA(4,1)	Area cleared for BSA Dump 2 (sq ft)
AAA(4,2)	Rate at which one bulldozer clears BSA Dump 2 (sq ft/min)
AAA(4,3)	Number of bulldozers used to clear BSA Dump 2
AAA(5,1)	Area cleared for BSA Dump 3 (sq ft)
AAA(5,2)	Rate at which one bulldozer clears BSA Dump 3 (sq ft/min)
AAA(5,3)	Number of bulldozers used to clear BSA Dump 3
AAA(6,1)	Area cleared for BSA Dump 4 (sq ft)
AAA(6,2)	Rate at which one bulldozer clears BSA Dump 4 (sq ft/min)
AAA(6,3)	Number of bulldozers used to clear BSA Dump 4
AAA(7,1)	Area involved in depositing material for berms at BSA Dump 1 (sq ft)

Element	Definition
AAA(7,2)	Rate at which one scraper deposits material for berms at BSA Dump 1 (sq ft/min)
AAA(7,3)	Number of scrapers used to deposit material for berms at BSA Dump 1
AAA(8,1)	Area involved in piling earth and shaping berms for BSA Dump 1 (sq ft)
AAA(8,2)	Rate at which one scoop loader piles earth and shapes berms for BSA Dump 1 (sq ft/min)
AAA(8,3)	Number of scoop loaders used to pile earth and shape berms for BSA Dump 1
AAA(9,1)	Area stripped for BSA Roads (sq ft)
AAA(9,2)	Rate at which one scraper strips BSA Roads (sq ft/min)
AAA(9,3)	Number of scrapers used to strip BSA Roads
AAA(10,1)	Area filled for subsurface of BSA Roads (sq ft)
AAA(10,2)	Rate at which one dump truck accomplishes subsurface filling of BSA Roads (sq ft/min)
AAA(10,3)	Number of dump trucks used to accomplish subsurface filling of BSA Roads
AAA(11,1)	Area compacted for subsurface of BSA Roads (sq ft)
AAA(11,2)	Rate at which one roller does subsurface compacting of BSA Roads (sq ft/min)
AAA(11,3)	Number of rollers used for subsurface compacting of BSA Roads
AAA(12,1)	Area graded for BSA Roads (sq ft)
AAA(12,2)	Rate at which one grader grades BSA Roads (sq ft/min)
AAA(12,3)	Number of graders used to grade BSA Roads
AAA(13,1)	Area filled for surface of BSA Roads (sq ft)
AAA(13,2)	Rate at which one dump truck does surface filling of BSA Roads (sq ft/min)

Element	Definition
AAA(13,3)	Number of dump trucks used for surface filling of BSA Roads
AAA(14,1)	Area compacted for surface of BSA Roads (sq ft)
AAA(14,2)	Rate at which one roller does surface compacting of BSA Roads (sq ft/min)
AAA(14,3)	Number of rollers used for surface compacting of BSA Roads
AAA(16,1)	Area cleared for Temporary MSR 1 (sq ft)
AAA(16,2)	Rate at which one bulldozer clears Temporary MSR 1 (sq ft/min)
AAA(16,3)	Number of bulldozers used to clear Temporary MSR 1
AAA(17,1)	Area cleared for Temporary MSR 2 (sq ft)
AAA(17,2)	Rate at which one bulldozer clears Temporary MSR 2 (sq ft/min)
AAA(17,3)	Number of bulldozers used to clear Temporary MSR 2
AAA(18,1)	Area cleared for Temporary MSR 3 (sq ft)
AAA(18,2)	Rate at which one bulldozer clears Temporary MSR 3 (sq ft/min)
AAA(18,3)	Number of bulldozers used to clear Temporary MSR 3
AAA(19,1)	Area cleared for Temporary MSR 4 (sq ft)
AAA(19,2)	Rate at which one bulldozer clears Temporary MSR 4 (sq ft/min)
AAA(19,3)	Number of bulldozers used to clear Temporary MSR 4
AAA(28,1)	Area stripped for Permanent MSR 1 (sq ft)
AAA(28,2)	Rate at which one scraper strips Permanent MSR 1 (sq ft/min)
AAA(28,3)	Number of scrapers used to strip Permanent MSR 1

Element	Definition
AAA(29,1)	Area stripped for Permanent MSR 2 (sq ft)
AAA(29,2	Rate at which one scraper strips Permanent MSR 2 (sq ft/min)
AAA(29,3)	Number of scrapers used to strip Permanent MSR 2
AAA(30,1)	Area stripped for Permanent MSR 3 (sq ft)
AAA(30,2)	Rate at which one scraper strips Permanent MSR 3 (sq ft/min)
AAA(30,3)	Number of scrapers used to strip Permanent MSR 3
AAA(31,1)	Area stripped for Permanent MSR 4 (sq ft)
AAA(31,2)	Rate at which one scraper strips Permanent MSR 4 (sq ft/min)
AAA(31,3)	Number of scrapers used to strip Permanent MSR 4
AAA(32,1)	Area compacted for Permanent MSR 1 (sq ft)
AAA(32,2)	Rate at which one roller compacts Permanent MSR 1 (sq ft/min)
AAA(32,3)	Number of rollers used to compact Permanent MSR 1
AAA(33,1)	Area compacted for Permanent MSR 2 (sq ft)
AAA(33,2)	Rate at which one roller compacts Permanent MSR 2 (sq ft/min)
AAA(33,3)	Number of rollers used to compact Permanent MSR 2
AAA(34,1)	Area compacted for Permanent MSR 3 (sq ft)
AAA(34,2)	Rate at which one roller compacts Permanent MSR 3 (sq ft/min)
AAA(34,3)	Number of rollers used to compact Permanent MSR 3
AAA(35,1)	Area compacted for Permanent MSR 4 (sq ft/min)
AAA(35,2)	Rate at which one roller compacts Permanent MSR 4 (sq ft/min)

Element	Definition
AAA(35,3)	Number of rollers used to compact Permanent MSR 4
AAA(36,1)	Area graded for Permanent MSR 1 (sq ft)
AAA(36,2)	Rate at which one grader grades Permanent MSR 1 (sq ft/min)
AAA(36,3)	Number of graders used to grade Permanent MSR 1
AAA(37,1)	Area graded for Permanent MSR 2 (sq ft)
AAA(37,2)	Rate at which one grader grades Permanent MSR 2 (sq ft/min)
AAA(37,3)	Number of graders used to grade Permanent MSR 2
AAA(38,1)	Area graded for Permanent MSR 3 (sq ft)
AAA(38,2)	Rate at which one grader grades Permanent MSR 3 (sq ft/min)
AAA(38,3)	Number of graders used to grade Permanent MSR 3
AAA(39,1)	Area graded for Permanent MSR 4 (sq ft)
AAA(39,2)	Rate at which one grader grades Permanent MSR 4 (sq ft/min)
AAA(39,3)	Number of graders used to grade Permanent MSR 4
AAA(40,1)	Area surfaced for Permanent MSR 4 (sq ft)
AAA(40,2)	Rate at which one surfacer surfaces Permanent MSR 1 (sq ft/min)
AAA(40,3)	Number of surfacers used to surface Permanent MSR 1
AAA(41,1)	Area surfaced for Permanent MSR 2 (sq ft)
AAA(41,2)	Rate at which one surfacer surfaces Permanent MSR 2 (sq ft/min)
AAA(41,3)	Number of surfacers used to surface Permanent MSR 2
AAA(42,1)	Area cleared for LSA Storage Area 1 (sq ft)

Element	Definition
AAA(42,1)	Area cleared for LSA Storage Area 1 (sq ft)
AAA(42,2)	Rate at which one bulldozer clears LSA Storage Area 1 (sq ft/min)
AAA(42,3)	Number of bulldozers used to clear LSA Storage Area 1
AAA(43,1)	Area cleared for LSA Storage Area 2 (sq ft)
AAA(43,2)	Rate at which one bulldozer clears LSA Storage Area 2 (sq ft/min)
AAA(43,3)	Number of bulldozers used to clear LSA Storage Area 2
AAA(44,1)	Area cleared for LSA Storage Area 3 (sq ft)
AAA(44,2)	Rate at which one bulldozer clears LSA Storage Area 3 (sq ft/min)
AAA(44,3)	Number of bulldozers used to clear LSA Storage Area 3
AAA(45,1)	Area cleared for LSA Unstuffing Area (sq ft)
AAA(45,2)	Rate at which one bulldozer clears LSA Unstuffing Area (sq ft/min)
AAA(45,3)	Number of bulldozers used to clear LSA Unstuffing Area
AAA(46,1)	Area cleared for LSA Truck Loading Area (sq ft)
AAA(46,2)	Rate at which one bulldozer clears LSA Truck Loading Area (sq ft/min)
AAA(46,3)	Number of bulldozers used to clear LSA Truck Loading Area
AAA(47,1)	Area cleared for LSA Pallet Staging Area (sq ft)
AAA(47,2)	Rate at which one bulldozer clears LSA Pallet Staging Area (sq ft/min)
AAA(47,3)	Number of bulldozers used to clear LSA Pallet Staging Area
AAA(48,1)	Area cleared for LSA Administrative Area (sq ft)
AAA(48,2)	Rate at which one bulldozer clears LSA Administrative Area (sq ft/min)

Element	Definition
AAA(48,3)	Number of bulldozers used to clear LSA Administrative Area
AAA(49,1)	Area stripped for LSA Storage Area 1 (sq ft)
AAA(49,2)	Rate at which one scraper strips LSA Storage Area 1 (sq ft/min)
AAA(49,3)	Number of scrapers used to strip LSA Storage Area 1
AAA(50,1)	Area stripped for LSA Storage Area 2 (sq ft)
AAA(50,2)	Rate at which one scraper strips LSA Storage Area 2 (sq ft/min)
AAA(50,3)	Number of scrapers used to strip LSA Storage Area 2
AAA(51,1)	Area stripped for LSA Storage Area 3 (sq ft)
AAA(51,2)	Rate at which one scraper strips LSA Storage area 3 (sq ft/min)
AAA(51,3)	Number of scrapers used to strip LSA Storage Area 3
AAA(52,1)	Area stripped for LSA Unstuffing Area (sq ft)
AAA(52,2)	Rate at which one scraper strips LSA Unstuffing Area (sq ft/min)
AAA(52,3)	Number of scrapers used to strip LSA Unstuffing Area
AAA(53,1)	Area stripped for LSA Administrative Area (sq ft)
AAA(53,2)	Rate at which one scraper strips LSA Administrative Area (sq ft/min)
AAA(53,3)	Number of scrapers used to strip LSA Administrative Area
AAA(54,1)	Area filled for LSA Storage Area 1 (sq ft)
AAA(54,2)	Rate at which one dump truck fills LSA Storage Area 1 (sq ft/min)
AAA(54,3)	Number of dump trucks used to fill LSA Storage Area 1
AAA(55,1)	Area filled for LSA Storage Area 2 (sq ft)

Element	Definition
AAA(55,2)	Rate at which one dump truck fills LSA Storage Area 2 (sq ft/min)
AAA(55,3)	Number of dump trucks used to fill LSA Storage Area 2
AAA(56,1)	Area filled for LSA Storage Area 3 (sq ft)
AAA(56,2)	Rate at which one dump truck fills LSA Storage Area 3 (sq ft/min)
AAA(56,3)	Number of dump trucks used to fill LSA Storage Area 3
AAA(57,1)	Area filled for LSA Unstuffing Area (sq ft)
AAA(57,2)	Rate at which one dump truck fills LSA Unstuffing Area (sq ft/min)
AAA(57,3)	Number of dump trucks used to fill LSA Unstuffing Area
AAA(58,1)	Area filled for LSA Truck Loading Area (sq ft)
AAA(58,2)	Rate at which one dump truck fills LSA Truck Loading Area (sq ft/min)
AAA(58,3)	Number of dump trucks used to fill LSA Truck Loading Area
AAA(59,1)	Area filled for LSA Administrative Area (sq ft)
AAA(59,2)	Rate at which one dump truck fills LSA Administrative Area (sq ft/min)
AAA(59,3)	Number of dump trucks used to fill LSA Administrative Area
AAA(60,1)	Area compacted for LSA Storage Area 1 (sq ft)
AAA(60,2)	Rate at which one roller compacts LSA Storage Area 1 (sq ft/min)
AAA(60,3)	Number of rollers used to compact LSA Storage Area 1
AAA(61,1)	Area compacted for LSA Storage Area 2 (sq ft)
AAA(61,2)	Rate at which one roller compacts LSA Storage Area 2 (sq ft/min)
AAA(61,3)	Number of rollers used to compact LSA Storage Area 2

Element	Definition
AAA(62,1)	Area compacted for LSA Storage Area 3 (sq ft)
AAA(62,2)	Rate at which one roller compacts LSA Storage Area 3 (sq ft/min)
AAA(62,3)	Number of rollers used to compact LSA Storage area 3
AAA(63,1)	Area compacted for LSA Unstuffing Area (sq ft)
AAA(63,2)	Rate at which one roller compacts LSA Unstuffing Area (sq ft/min)
AAA(63,3)	Number of rollers used to compact LSA Unstuffing Area
AAA(64,1)	Area compacted for LSA Truck Loading Area (sq ft)
AAA(64,2)	Rate at which one roller compacts LSA Truck Loading Area (sq ft/min)
AAA(64,3)	Number of rollers used to compact LSA Truck Loading Area
AAA(65,1)	Area compacted for LSA Administrative Area (sq ft)
AAA(65,2)	Rate at which one roller compacts LSA Administrative Area (sq ft/min)
AAA(65,3)	Number of rollers used to compact LSA Administrative Area
AAA(66,1)	Area graded for LSA Storage Area 1 (sq ft)
AAA(66,2)	Rate at which one grader grades LSA Storage Area 1 (sq ft/min)
AAA(66,3)	Number of graders used to grade LSA Storage Area 1
AAA(67,1)	Area graded for LSA Storage Area 2 (sq ft)
AAA(67,2)	Rate at which one grader grades LSA Storage Area 2 (sq ft/min)
AAA(67,3)	Number of graders used to grade LSA Storage Area 2
AAA(68,1)	Area graded for LSA Storage Area 3 (sq ft)
AAA(68,2)	Rate at which one grader grades LSA Storage Area 3 (sq ft/min)

Element	Definition
AAA(68,3)	Number of graders used to grade LSA Storage Area 3
AAA(69,1)	Area graded for LSA Unstuffing Area (sq ft)
AAA(69,2)	Rate at which one grader grades LSA Unstuffing Area (sq ft/min)
AAA(69,3)	Number of graders used to grade LSA Unstuffing Area
AAA(70,1)	Area graded for LSA Truck Loading Area (sq ft)
AAA(70,2)	Rate at which one grader grades LSA Truck Loading Area (sq ft/min)
AAA(70,3)	Number of graders used to grade LSA Pallet Staging Area
AAA(71,1)	Area graded for LSA Pallet Staging Area (sq ft)
AAA(71,2)	Rate at which one grader grades LSA Pallet Staging Area (sq ft/min)
AAA(71,3)	Number of graders used to grade LSA Pallet Staging Area
AAA(72,1)	Area graded for LSA Administrative Pallet Staging Area
AAA(72,2)	Rate at which one grader grades LSA Administrative Area (sq ft/min)
AAA(72,3)	Number of graders used to grade LSA Administrative Area
AAA(73,1)	Area surfaced for LSA Storage Area 1 (sq ft)
AAA(73,2)	Rate at which one surfacer surfaces LSA Storage Area 1 (sq ft/min)
AAA(73,3)	Number of surfacers used to surface LSA Storage Area 1
AAA(74,1)	Area to be surfaced for LSA Storage Area 2 (sq ft)
AAA(74,2)	Rate at which one surfacer surfaces LSA Storage Area 2 (sq ft/min)
AAA(74,3)	Number of surfacers used to surface LSA Storage Area 2
AAA(75,1)	Area surfaced for LSA Storage Area 3 (sq ft)

Element	Definition
AAA(75,2)	Rate at which one surfacer surfaces LSA Storage Area 3 (sq ft/min)
AAA(75,3)	Number of surfacers used to surface LSA Storage Area 3
AAA(76,1)	Area surfaced for LSA Unstuffing Area (sq ft)
AAA(76,2)	Rate at which one surfacer surfaces LSA Unstuffing Area (sq ft/min)
AAA(76,3)	Number of surfacers used to surface LSA Unstuffing Area
AAA(77,1)	Area cleared for ASP Road A1 (sq ft)
AAA(77,2)	Rate at which one bulldozers clears ASP Road A1 (sq ft/min)
AAA(77,3)	Number of bulldozers used to clear ASP Road A1
AAA(78,1)	Area cleared for ASP Road A2 (sq ft)
AAA(78,2)	Rate at which one bulldozer clears ASP Road A2 (sq ft/min)
AAA(78,3)	Number of bulldozers used to clear ASP Road A2
AAA(79,1)	Area cleared for ASP Road A3 (sq ft)
AAA(79,2)	Rate at which one bulldozer clears ASP Road A3 (sq ft/min)
AAA(79,3)	Number of bulldozers used to clear ASP Road A3
AAA(80,1)	Area cleared for ASP Road A4 (sq ft)
AAA(80,2)	Rate at which one bulldozer clears ASP Road A4 (sq ft/min)
AAA(80,3)	Number of bulldozers used to clear ASP Road A4
AAA(81,1)	Area cleared for ASP Revetment A1 (sq ft)
AAA(81,2)	Rate at which one bulldozer clears ASP Revetment A1 (sq ft/min)
AAA(81,3)	Number of bulldozers used to clear ASP Revetment A1
AAA(82,1)	Area cleared for ASP Revetment A2 (sq ft)
AAA(82,2)	Rate at which one bulldozer clears ASP Revetment A2 (sq ft/min)

Element	Definition
AAA(82,3)	Number of bulldozers used to clear ASP Revetment A2
AAA(83,1)	Area cleared for ASP Revetment A3 (sq ft)
AAA(83,2)	Rate at which one bulldozer clears ASP Revetment A3 (sq ft/min)
AAA(83,3)	Number of bulldozers used to clear ASP Revetment A3
AAA(84,1)	Area cleared for ASP Revetment A4 (sq ft)
AAA(84,2)	Rate at which one bulldozer clears ASP Revetment A4 (sq ft/min)
AAA(84,3)	Number of bulldozers used to clear ASP Revetment A4
AAA(85,1)	Area cleared for ASP Perimeter (sq ft)
AAA(85,2)	Rate at which one bulldozer clears ASP Perimeter (sq ft/min)
AAA(85,3)	Number of bulldozers used to clear ASP Perimeter
AAA(86,1)	Area involved in depositing material for berms on ASP Revetment A1 (sq ft)
AAA(86,2)	Rate at which one scraper deposits material for berms on ASP Revetment A1 (sq ft/min)
AAA(86,3)	Number of scrapers used to deposit material for berms on ASP Revetment A1
AAA(87,1)	Area involved in depositing material for berms on ASP Revetment A2 (sq ft)
AAA(87,2)	Rate at which one scraper deposits material for berms on ASP Revetment A2 (sq ft/min)
AAA(87,3)	Number of scrapers used to deposit material for berms on ASP Revetment A2
AAA(88,1)	Area involved in depositing material for berms on ASP Revetment A3 (sq ft)
AAA(88,2)	Rate at which one scraper deposits material for berms on ASP Revetment A3 (sq ft)/min)
AAA(88,3)	Number of scrapers used to deposit material for ASP Revetment A3

Element	Definition
AAA(89,1)	Area involved in depositing material for berms on ASP Revetment A4 (sq ft)
AAA(89,2)	Rate at which one scraper deposits material for berms on ASP Revetment A4 (sq ft/min)
AAA(89,3)	Number of scrapers used to deposit material for berms on ASP Revetment A4
AAA(90,1)	Area involved in piling earth at berms for ASP Revetment A1 (sq ft)
AAA(90,2)	Rate at which one scoop loader piles earth at berms for ASP Revetment A1 (sq ft/min)
AAA(90,3)	Number of scoop loaders used to pile earth at berms for ASP Revetment A1
AAA(91,1)	Area involved in piling earth at berms for ASP Revetment A2 (sq ft)
AAA(91,2)	Rate at which one scoop loader piles earth at berms for ASP Revetment A2 (sq ft/min)
AAA(91,3)	Number of scoop loaders used to pile earth at berms for ASP Revetment A2
AAA(92,1)	Area involved in piling earth at berms for ASP Revetment A3 (sq ft)
AAA(92,2)	Rate at which one scoop loader piles earth at berms for ASP Revetment A3 (sq ft/min)
AAA(92,3)	Number of scoop loaders used to pile earth at berms for ASP Revetment A3
AAA(93,1)	Area involved in piling earth at berms for ASP Revetment A4 (sq ft)
AAA(93,2)	Rate at which one scoop loader piles earth at berms for ASP Revetment A4 (sq ft/min)
AAA(93,3)	Number of scoop loaders used to pile earth at berms for ASP Revetment A4
AAA(94,1)	Area involved in shaping berms for ASP Revetment A1 (sq ft)
AAA(94,2)	Rate at which one grader shapes berms for ASP Revetment A1 (sq ft/min)
AAA(94,3)	Number of graders used to shape berms for ASP Revetment A1

Element	Definition
AAA(95,1)	Area involved in shaping berms for ASP Revetment A2 (sq ft)
AAA(95,2)	Rate at which one grader shapes berms for ASP Revetment A2 (sq ft/min)
AAA(95,3)	Number of graders used to shape berms for ASP Revetment A2
AAA(96,1)	Area involved in shaping berms for ASP Revetment A3 (sq ft)
AAA(96,2)	Rate at which one grader shapes berms for ASP Revetgment A3 (sq ft/min)
AAA(96,3)	Number of graders used to shape berms for ASP Revetment A3
AAA(97,1)	Area involved in shaping berms for ASP Revetment A4 (sq ft)
AAA(97,2)	Rate at which one grader shapes berms for ASP Revetment A4 (sq ft/min)
AAA(97,3)	Number of graders used to shape berms for ASP Revetment A4
AAA(98,1)	Area compacted for ASP Road A1 (sq ft)
AAA(98,2)	Rate at which one roller compacts ASP Road A1 (sq ft/min)
AAA(98,3)	Number of rollers used to compact ASP Road A1
AAA(99,1)	Area compacted for ASP Road A2 (sq ft)
AAA(99,2)	Rate at which one roller compacts ASP Road A2 (sq ft/min)
AAA(99,3)	Number of rollers used to compact ASP Road A2
AAA(100,1)	Area compacted for ASP Road A3 (sq ft)
AAA(100,2)	Rate at which one roller compacts ASP Road A3 (sq ft/min)
AAA(100,3)	Number of rollers used to compact ASP Road A3
AAA(101,1)	Area compacted for ASP Road A4 (sq ft)
AAA(101,2)	Rate at which one roller compacts ASP Road A4 (sq ft/min)
AAA(101,3)	Number of rollers used to compact ASP Road A4
AAA(101,1	Area graded for ASP Road A1 (sq ft)

Element	Definition
AAA(102,2)	Rate at which one grader grades ASP Road A1 (sq ft/min)
AAA(102,3)	Number of graders used to grade ASP Road A1
AAA(103,1)	Area graded for ASP Road A2 (sq ft)
AAA(103,2)	Rate at which one grader grades ASP Road A2 (sq ft/min)
AAA(103,3)	Number of graders used to grade ASP Road A2
AAA(104,1)	Area graded for ASP Road A3 (sq ft)
AAA(104,2)	Rate at which one grader grades ASP Road A3 (sq ft/min)
AAA(104,3)	Number of graders used to grade ASP Road A3
AAA(105,1)	Area graded for ASP Road A4 (sq ft)
AAA(105,2)	Rate at which one grader grades ASP Road A4 (sq ft/min)
AAA(105,3)	Number of graders used to grade ASP Road A4
AAA(106,1)	Area stripped for ASP Road A1 (sq ft)
AAA(106,2)	Rate at which one scraper strips ASP Road A1 (sq ft/min)
AAA(106,3)	Number of scrapers used to strip ASP Road A1
AAA(107,1)	Area stripped for ASP Road A2 (sq ft)
AAA(107,2)	Rate at which one scraper strips ASP Road A2 (sq ft/min)
AAA(107,3)	Number of scrapers used to strip ASP Road A2
AAA(108,1)	Area stripped for ASP Road A3 (sq ft)
AAA(108,2)	Rate at which one scraper strips ASP Road A3 (sq ft/min)
AAA(108,3)	Number of scrapers used to strip ASP Road A3
AAA(109,1)	Area stripped for ASP Road A4 (sq ft)
AAA(109,2)	Rate at which one scraper strips ASP Road A4 (sq ft/min)
AAA(109,3)	Number of scrapers used to strip ASP Road A4

Element	Definition
AAA(110,1)	Area cleared for AAFS1 (sq ft)
AAA(110,2)	Rate at which one bulldozer clears AAFS1 (sq ft/min)
AAA(110,3)	Number of bulldozers used to clear AAFS1
AAA(111,1)	Area cleared for AAFS2 (sq ft)
AAA(111,2)	Rate at which one bulldozer clears AAFS2 (sq ft/min)
AAA(111,3)	Number of bulldozers used to clears AAFS2
AAA(112,1)	Area cleared for AAFS3 (sq ft)
AAA(112,2)	Rate at which one bulldozer clears AAFS3 (sq ft/min)
AAA(112,3)	Number of bulldozers used to clear AAFS3
AAA(113,1)	Area cleared for AAFS4 (sq ft)
AAA(113,2)	Rate at which one bulldozer clears AAFS4 (sq ft/min)
AAA(113,3)	Number of bulldozers used to clear AAFS4
AAA(114,1)	Area graded for AAFS1 (sq ft)
AAA(114,2)	Rate at which one grader grades AAFS1 (sq ft/min)
AAA(114,3)	Number of graders used to grade AAFS1
AAA(115,1)	Area graded for AAFS2 (sq ft)
AAA(115,2)	Rate at which one grader grades AAFS2 (sq ft/min)
AAA(115,3)	Number of graders used to grade AAFS2
AAA (116,1)	Area graded for AAFS3 (sq ft)
AAA (116,2)	Rate at which one grader grades AAFS3 (sq ft/min)
AAA (116,3)	Number of graders used to grade AAFS3
AAA (117,1)	Area graded for AAFS4 (sq ft)
AAA (117, 2)	Rate at which one grader grades AAFS3 (sq ft/min)
AAA (117,3)	Number of graders used to grade AAFS4

Element	Definition
AAA(118,1)	Area involved in depositing material for AAFS Berm 1 (sq ft)
AAA(118,2)	Rate at which one scraper deposits material for AAFS Berm 1 (sq ft/min)
AAA(118,3)	Number of scrapers used to deposit material for AAFS Berm 1
AAA(119,1)	Area involved in depositing material for AAFS Berm 2 (sq ft)
AAA(119,2)	Rate at whch one scraper deposits material for AAFS Berm 2 (sq ft/min)
AAA(119,3)	Number of scrapers used to deposit material for AAFS Berm 2
AAA(120,1)	Area involved in depositing material for AAFS Berm 3 (sq ft)
AAA(120,2)	Rate at which one scraper deposits material for AAFS Berm 3 (sq ft/min)
AAA(120,3)	Number of scrapers used to deposit material for AAFS Berm 3
AAA(121,1)	Area involved in depositing material for AAFS Berm 4 (sq ft)
AAA(121,2)	Rate at which one scraper deposits material for AAFS Berm 4 (sq ft/min)
AAA(121,3)	Number of scrapers used to deposit material for AAFS Berm 4
AAA(122,1)	Area involved in piling earth at AAFS Berm 1 (sq ft)
AAA(122,2)	Rate at which one scoop loader piles earth at AAFS Berm 1 (sq ft/min)
AAA(122,3)	Number of scoop loaders used to pile earth at AAFS Berm 1
AAA(123,1)	Area involved in piling earth at AAFS Berm 2 (sq ft)
AAA(123,2)	Rate at which one scoop loader piles earth at AAFS Berm 2 (sq ft/min)
AAA(123,3)	Number of scoop loaders used to pile earth at AAFS Berm 2
AAA(124,1)	Area involved in piling earth at AAFS Berm 3 (sq ft)
AAA(124,2)	Rate at which one scoop loader piles earth at AAFS Berm 3 (sq ft/min)

Element	Definition
AAA(124,3)	Number of scoop loaders used to pile earth at AAFS Berm 3
AAA(125,1)	Area involved in piling earth at AAFS Berm 4 (sq ft)
AAA(125,2)	Rate at which one scoop loader piles earth at AAFS Berm 4 (sq ft/min)
AAA(125,3)	Number of scoop loaders used to pile earth at AAFS Berm 4
AAA(126,1)	Area involved in shaping AAFS Berm 1 (sq ft)
AAA(126,2)	Rate at which one grader shapes AAFS Berm 1 (sq ft/min)
AAA(126,3)	Number of graders used to shape AAFS Berm 1
AAA(127,1)	Area involved in shaping AAFS Berm 2 (sq ft)
AAA(127,2)	Rate at which one grader shapes AAFS Berm 2 (sq ft/min)
AAA(127,3)	Number of graders used to shape AAFS Berm 2
AAA(128,1)	Area involved in shaping AAFS Berm 3 (sq ft)
AAA(128,2)	Rate at which one grader shapes AAFS Berm 3 (sq ft/min)
AAA(128,3)	Number of graders used to shape AAFS Berm 3
AAA(129,1)	Area involved in shaping AAFS Berm 4 (sq ft)
AAA(129,2)	Rate at which one grader shapes AAFS Berm 4 (sq ft/min)
AAA(129,3)	Number of graders used to shape AAFS Berm 4

7.2 CARGO GENERATION DATA

Data must be supplied to the model to specify, for each type of cargo delivered ashore, the time at which delivery starts, the total number of lighters, the time interval between the arrivals of lighters at the shoreline, and the number of cargo units aboard each lighter. The data defined in this section supply such information.

Variable	Definition
AECI1 (I = 1-9)	Delivery interval (min) for cargo type I for the Assault Echelon Initial Supply
AECI2 (I = 1-9)	Time delivery starts (min) for cargo type I for the Assault Echelon Initial Supply
AECI3 (I = 1-9)	Total number of lighter deliveries for cargo type I for the Assault Echelon Initial Supply
AECI4 (I = 1-9)	Number of units per lighter for cargo type I for the Assault Echelon Initial Supply
AFEI1 (I = 1-9)	Delivery interval (min) for cargo type I for the Assault Follow-On Echelon Initial Supply
AFCI2 (I = 1-9)	Time delivery starts (min) for cargo Type I for the Assault Follow-On Echelon Initial Supply
AFE13 (I = 1-9)	Total number of lighter deliveries for cargo type I for the Assult Follow-on Echelon Initial Supply
AFEI4 (I = 1-9)	Number of units per lighter for cargo type I for the Assault Follow-On Echelon Initial Supply
FRMI1 (I = 1-9)	Delivery interval (min) for cargo type I for the Force Resupply For Mission Duration
FRMA1	Delivery interval (min) for cargo type 10 for the Force Resupply For Mission Duration
FRMB1	Delivery interval (min) for cargo type 11 for the Force Resupply For Mission Duration
FRMD1	Delivery interval (min) for cargo type 13 for the Force Resupply For Mission Duration
FRMI2 (I = 1-9)	Time delivery starts (min) for cargo type I for the Force Resupply For Mission Duration
FRMA2	Time delivery starts (min) for cargo type 10 for Force Resupply For Mission Duration

Element	Description
FRMB2	Time delivery starts (min) for cargo type 11 for Force Resupply For Mission Duration
FRMD2	Time delivery starts (min) for cargo type 13 for Force Resupply For Mission Duration
FRMI3 (I = 1-9)	Total number of lighter deliveries for cargo type I for Force Resupply For Mission Duration
FRMA3	Total number of lighter deliveries for cargo type 10 for Force Resupply For Mission Duration
FRMB3	Total number of lighter deliveries for cargo type 11 for Force Resupply For Mission Duration
FRMD3	Total number of lighter deliveries for Cargo type 11 for Force Resupply For Mission Duration
FRMI4 (I = 1-9)	Number of cargo units per lighter for Force Resupply For Mission Duration
FRMA4	Number of cargo units per lighter for cargo type 10 for Force Resupply For Mission Duration
FRMB4	Number of cargo units per lighter for cargo type 11 for Force Resupply For Mission Duration
FRMD4	Number of cargo units per lighter for cargo type 13 for Force Resupply For Mission Duration

7.3 INPUT MATRIX CCC

Matrix CCC contains input data relating primarily to the cargo handling and transportation operations which occur in the ALSA simulation. There is also a limited amount of data in matrix CCC which relates to the construction phase of the operation. All references in matrix CCC to cargo handling equipment are made by the use of numbers which refer to specific types of equipment (See Table 3). All references in matrix CCC to specific types of cargo are made by numbers (See Table 2). The elements of matrix CCC and their corresponding descriptions are defined as follows:

TABLE 3 - TYPES OF CARGO HANDLING EQUIPMENT

TYPE NO.	DESCRIPTION
8	Cranes at AAFS
10	Towing equipment
11	Beach forklift for general cargo
12	Beach forklift for POL
13	Beach forklift for ammo
14	BSA forklift for general cargo
15	BSA forklift for POL
16	BSA forklift for ammo
17	Flatbed trucks
18	LSA forklift for general cargo
19	LSA forklift for POL
20	ASP 1 forklift for ammo
21	Beach container lift
22	BSA container lift
23	BSA unstuffing equipment
24	LSA container lift
25	LSA unstuffing equipment
26	ASP container lift
27	ASP unstuffing equipment
28	Cranes at beach
29	Cranes at BSA
30	Cranes at LSA
31	ASP 2 forklift for ammo
32	ASP 3 forklift for ammo
33	ASP 4 forklift for ammo
34	Flatbed trucks for break bulk cargo
35	Flatbed trucks for containerized cargo

Element	Description
CCC(7,I) (I = 1-3)	Type number of beach forklift used to unload lighter of cargo type I and load cargo type I onto truck
CCC(7,I) (I = 4-9)	Type number of container lift used to unload lighter of cargo type I and load cargo type I onto truck
CCC(8,I) (I = 1-3)	Number of beach forklifts of type number CCC(7,I) used to unload lighter of cargo type I and load cargo type I onto truck
CCC(8,I) (I = 4-9)	Number of container lifts of type number CCC(7,I) used to unload lighter of cargo type I and load cargo type I onto truck
CCC(9,I) (I = 1-3)	Number of units/hour of cargo type I that forklift type number CCC(7,I) can transfer from lighter to truck
CCC(9,I) (I = 4-9)	Number of containers/hour of cargo type I that container lift type number CCC(7,I) can transfer from lighter to truck
CCC(10,I) (I = 1-3)	Number of units of cargo type I that one truck can carry
CCC(10,I) (I = 4-9)	Number of containers of cargo type I that that one truck can carry
CCC(11,I) (I = 1-9)	Speed (ft/min) of truck carrying cargo type I from beach to BSA
CCC(12,I) (I = 1-3)	Type number of forklift used at BSA to unload cargo type I from truck
CCC(12,I) (I = 4-9)	Type number of BSA container lift used to unload cargo type I from truck
CCC(13,I) (I = 1-3)	Number of BSA forklifts of type number CCC(12,I) used to unload cargo type I from one truck
CCC(13,I) (I = 4-9)	Number of container lifts of type number CCC(12,I) used to unload one truck with cargo type I at BSA
CCC(13,10)	Unloading rate from lighter (units/hour) for cargo type 10
CCC(13,12)	Distance (ft) from LSA to BSA
CCC(13,13)	Distance (ft) from ASP to BSA
CCC(14,I) (I = 1-3)	Number of units/hour of cargo type I that BSA forklift type number CCC(12,1) can unload from truck

Element	Description
CCC(14,I) I = 4-9	Number of containers/hour that BSA container lift type number CCC(12,I) can unload from truck
CCC(14,11)	Distance (ft) from beach to LSA
CCC(14,12)	Distance (ft) from beach to BSA
CCC(14,13)	Distance (ft) from beach to ASP
CCC(15,I) (I = 1-9)	Speed (ft/min) of truck returning to beach from BSA after delivering cargo type I
CCC(15,10)	Speed (ft/min) of cargo type 10
CCC(16,I) (I = 1-3)	Number of units/hour of cargo type I moved to storage by BSA forklift type number CCC(12,I)
CCC(16,I) (I = 4-6)	Type number of BSA unstuffing equipment used to unstuff cargo type I
CCC(16,11)	Type number of towing equipment used to tow type 11 cargo
CCC(17,I) (I = 1,2)	Speed (ft/min) of truck carrying cargo type I from beach to LSA
CCC(17,I) (I = 4-6)	Number of units of BSA unstuffing equipment type number CCC(16,I) used to unstuff one container of cargo type I
CCC(17,11)	Unloading rate (units/hour) for towing equipment type number CCC(16,11) when unloading type 11 cargo from lighter
CCC(18,I) (I = 1,2)	Type number of forklift used at LSA to unload cargo type I from truck
CCC(18,I) I = 4-6	Number of containers/hour of cargo type I that BSA unstuffing equipment type number CCC(16,I) can unstuff
CCC(18,11)	Speed (ft/min) of towing equipment type number CCC(16,11) when towing cargo type 11
CCC(19,I) (I = 1,2)	Number of LSA forklifts of type number CCC(18,I) used to unload cargo type I from one truck
CCC(19,I) (I = 4-6)	Type number of BSA forklift used to move and store unstuffed cargo type I
CCC(19,11)	Speed (ft/min) of towing equipment type number CCC(16,11) when moving without cargo in tow

Element	Description
CCC(20,I) (I = 1,2)	Number of units/hour of cargo type I that LSA forklift type number CCC(18,I) can unload from truck
CCC(20,I) (I = 4-6)	Number of BSA forklifts of type number CCC(19,I) used to move and store unstuffed cargo type I
CCC(20,7)	Delay time (in minutes) before starting permanent MSR construction
CCC(20,8)	Delay time (min) before starting LSA construction
CCC(20,9)	Delay time (min) before starting ASP construction
CCC(20,10)	Delay time (min) before starting AAFS construction
CCC(20,13)	Type number of crane used to unload cargo type 13 from lighter
CCC(21,I) (I = 1,2)	Speed (ft/min) of truck returning to beach from LSA after delivering cargo type I
CCC(21,I) (I = 4-6)	Number of units/hour of unstuffed cargo type I that BSA forklift type number CCC(19,I) can move to storage
CCC(21,13)	Number of cranes of type number CCC(20,13) used to unload type 13 cargo from lighter
CCC(22,I) (I = 1,2)	Number of units/hour of cargo type I moved to storage by LSA forklift type number CCC(18,I)
CCC(22,I) (I = 4-6)	Type number of BSA container lift used to move empty containers of cargo type I from BSA to shore
CCC(22,13)	Number of units/hour of cargo type 13 that crane type number CCC(20,13) can unload from lighter
CCC(23,I) (I = 4-6)	Number of BSA container lifts of type number CCC(22,I) used to move one truckload of empty containers of cargo type I from BSA to shore
CCC(23,13)	Number of units of type 13 cargo that a flatbed truck can carry
CCC(24,I) (I = 4-6)	Number of empty containers/hour of cargo type I that BSA container lift type number CCC(22,I) can move from BSA to shore

Element	Description
CCC(24,13)	Speed (ft/min) of truck when loaded with type 13 cargo
CCC(25,I) (I = 4-9)	Type number of LSA/ASP container lift used to unload cargo type I from truck
CCC(25,13)	Type number of LSA crane used to unload type 13 cargo from truck
CCC(26,I) (I = 4-9)	Number of LSA/ASP container lifts of type number CCC(25,I) used to unload one truckload of cargo type I
CCC(26,13)	Number of LSA cranes of type number CCC(25,13) used to unload type 13 cargo from one truck
CCC(27,I) (I = 4-9)	Number of containers/hour of cargo type I that LSA/ASP container lift type number CCC(25,I) can unload from truck
CCC(27,13)	Number of units/hour of type 13 cargo that LSA crane type number CCC(25,13) can unload from truck
CCC(28,I) (I = 7-9)	Time (min) required for LSA/ASP container lift type number CCC(25,I) to store one container of cargo type I
CCC(28,13)	Speed of unloaded truck (ft/min) returning to beach from BSA or LSA after unloading type 13 cargo
CCC(29,I) (I = 7-9)	Speed (ft/min) of a truck returning to beach from LSA/ASP after delivering cargo type I
CCC(29,13)	Type number of BSA crane used to unload cargo type 13 from truck
CCC(30,I) (I = 4-6)	Type number of LSA/ASP unstuffing equipment used to unstuff cargo type I
CCC(30,13)	Number of BSA cranes of type number CCC(29,13) used to unload type 13 cargo from one truck
CCC(31,I) (I = 4-6)	Number of pieces of LSA/ASP unstuffing equipment of type number CCC(30,I) used to unstuff one truckload of cargo type I
CCC(31,13)	Number of units/hour of type 13 cargo that BSA crane type number CCC(29,13) can unload from truck
CCC(32,I) (I = 4-6)	Number of containers/hour of cargo type I that LSA/ASP unstuffing equipment type number CCC(30,I) can unstuff

Element	Description
CCC(32,11)	Delay time (min) for construction equipment in BSA
CCC(32,12)	Delay time (min) for construciton equipment in areas other than BSA
CCC(33,I) (I = 4-6)	Type number of LSA/ASP forklift used to move unstuffed cargo type I to dump and store
CCC(34,I) (I = 4-6)	Number of LSA/ASP forklifts of type number CCC(33,I) used to move the contents of one truckload of cargo type I to dump and store
CCC(35,I) (I = 4-6)	Number of units/hour of unstufffed cargo type I that LSA/ASP forklift type number CCC(33,I) can move to dump and store
CCC(36,I) (I = 4-6)	Type number of LSA/ASP container lift used to load empty container type I on truck
CCC(37,I) (I = 4-6)	Number of LSA/ASP container lifts of type number CCC(36,I) used to load empty containers type I on one truck
CCC(38,I) (I = 4-6)	Number of empty containers/hour of cargo type I that LSA/ASP container lift type number CCC(36,I) can load onto truck
CCC(39,I) (I = 4-6)	Speed (ft/min) of a truck carrying empty containers type I from LSA/ASP to BSA
CCC(40,I) (I = 4-6)	Type number of BSA container lift used to unload empty container type I from truck
CCC(41,I) (I = 4-6)	Number of BSA container lifts of type number CCC(40,I) used to unload empty contianer type I from one truck
CCC(42,I) (I = 4-6)	Number of empty containers/hour of cargo type I that BSA container lift type number CCC(40,I) can unload from truck
CCC(43,I) (I = 1-4)	Speed of truck (ft/min) carrying cargo type 3 between shore and ASP I
CCC(44,I) (I = 1-4)	Type number of ASP forklift used to unload cargo type 3 at ASP I
CCC(45,I) (I = 1-4)	Number of ASP forklifts of type number CCC(44,I) used to unload cargo type 3 from one truck

Element	Description
CCC(46,I) (I= 1-4)	Number of pallets/hour of cargo type 3 that ASP forklift type number CCC(44,I) can unload from truck
CCC(47,I) (I = 1-4)	Speed of truck (ft/min) of unloaded truck returning to beach from ASP I
CCC (48,I) (I = 1-4)	Number of pallets/hour of cargo type 3 that ASP forklift type number CCC(44,I) can move to storage
CCC(49,I) (I = 4,6,7,9)	Speed (ft/min) of a truck carrying cargo type I from beach to LSA
CCC(49,I) (I = 5,8)	Speed (ft/min) of a truck carrying cargo type I from beach to ASP

7.4 INPUT MATRIX FFF

The elements of matrix FFF are defined as follows.

Element	Description
FFF(3,I) (I = 1-4)	Distance (in feet) from shore to ASP I

7.5 CASE NUMBER AND SIMULATION LENGTH

The case number may be changed from run to run. It serves as a means of identification for a given run and is included in the program for user convenience.

Variable	Description
CSENO	Case number for the run

The length of time to be simulated by any one running of the model is a user determined input.

Variable	Description
TIMER	Length of time (min) to be simulated

7.6 OPERATING EQUIPMENT

Thirty-five different types of equipment may be used in the ALSA simulation model. They fall into two distinct classes, construction equipment and cargo handling equipment, as listed in Tables 4 and 5 respectively. The quantity of each type of equipment is specified as input by the user of the simulation. In order to specify these data, it is necessary for the user to know the variable names (names used in the coding of the ALSA simulation model) of the various pieces of equipment; therefore the appropriate variable names are also listed in Tables 4 and 5.

TABLE 4 - CONSTRUCTION EQUIPMENT NOMENCLATURE

Description	Variable Name
Scrapers	SCPR
Scoop loaders	SLDR
Dump trucks	DTRK
Rollers	RLLR
Graders	GRDR
Surfacers	SFCR
Backhoes	BKHO
Bulldozers	BULL

TABLE 5 - CARGO HANDLING EQUIPMENT NOMENCLATURE

Equipment Description	Variable Name
Cranes at AAFS	CRNE
Towing equipment	TWGE
Beach forklift for general cargo	FKLA
Beach forklift for POL	FKLB
Beach forklift for ammo	FKLC
BSA forklift for general cargo	FKLD
BSA forklift for POL	FKLE
BSA forklift for ammo	FKLF
Flatbed trucks for outsized cargo	FBTRK
LSA forklift for general cargo	FKLG
LSA forklift for POL	FKLH
ASP 1 forklift for ammo	FKLJ
Beach container lift	CNLA
BSA container lift	CNLB
BSA unstuffing equipment	UNSA
LSA container lift	CNLC
LSA unstuffing equipment	UNSB
ASP container lift	CNLD
ASP unstuffing equipment	UNSC
Cranes at beach	CRNA
Cranes at BSA	CRNB
Cranes at LSA	CRNC
ASP 2 forklift for ammo	FKLK
ASP 3 forklift for ammo	FKLL
ASP 4 forklift for ammo	FKLM
Flatbed trucks for break bulk cargo	TRKB
Flatbed trucks for containerized cargo	TRKC

7.7 SPECIFICATION OF INPUT DATA

The input data required by the ALSA model may be varied by the user from run to run to represent different equipment characteristics.

Two methods are used to change the values of the input data. The first method applies to changes in the data specifying the quantity of each type of equipment used in the model (See Section 7.6 and Tables 4 and 5). The second method applies to all other user supplied data (See Sections 7.1 - 7.4).

7.7.1 Specification of Equipment Quantities

As stated in Section 7.6, thirty-five different types of equipment may be used in the ALSA simulation model, but not all thirty-five different types must be used in any one run. The number of types is determined by the user, who must also specify exactly how many of each type to be used are to be available.

The right hand column of each page of the program listing in Appendix A gives the card numbers, one unique number for each card of the program. The data specifying the equipment are found in cards 135-162 of the listing. The presence of each of these cards signifies that the type of equipment represented by the variable name starting in column 2 of the card (See Tables 4 and 5 for listing of variable names) is to be represented in the simulation run. The word STORAGE is punched in columns 8 to 14 inclusive. The number beginning in column 19 of the card specifies the number of units of this piece of equipment that will be available in this run of the simulation.

To modify the data specifying the quantity of each type of equipment for an upcoming run, the user must actually remove from the program deck any cards which represent previous, but no longer desired, data of this type. He must then insert in the deck new cards which specify the equipment types and quantities to be used for the next run.

7.7.2 Specification of Other Input Data

This section describes the means of specifying the input data defined in Sections 7.1 - 7.4. All cards specifying these data have the word INITIAL punched in columns 8-14. Specific data values are punched in columns 19-71; this permits from one to three data specifications per card, each specification separated from the previous specification by a slash (/).

The data specifications defining the elements of matrix AAA (Section 7.1) are found in cards 327-463 (see the program listing in Appendix A). To change the value of a given element of matrix AAA, it is necessary to replace the card defining that element with another card containing the new value. For example, to change the value of AAA (101,2) from 400 to 500, card number 418,

```
INITIAL    MX$AAA(101,1),517500/MX$AAA(101,2),400
```

would be replaced by the card

```
INITIAL    MX$AAA(101,1),517500/MX$AAA(101,2),500
```

in the program.

The data found in the elements of matrix CCC (Section 7.3) and matrix FFF (section 7.4) are changed in a similar manner. Data for matrix CCC are defined in cards 464-518 and cards 521-522 of the program listing. Data for matrix FFF are defined in cards 519-520.

The cards defining the cargo generation data (Section 7.2) are found in lines 254-283 of the program listing. These data are changed in a manner similar to that of changing the data in the matrices; the only difference is that the variables being defined have no subscripts.

The case number is defined in line 252 of the program listing and the length of time to be simulated by the run is defined in line 253. These values are changed similarly to the manner in which the cargo generation data are changed.

7.8 IMPLEMENTATION OF DATA CHANGES

The method for actually changing data within the program depends on the way in which the program is run. If it is run directly from a card deck, the user will physically remove some cards from the deck

and replace them with others. At DTNSRDC, where the model is currently operational, the program is recorded as an UPDATE file on a disc. The method of making changes to the data on an UPDATE file is discussed in Section 8.0.

8.0 RUNNING THE MODEL

The GPSS computer program, which constitutes the ALSA simulation model, is stored on disc as a permannent UPDATE file on the CDC 6700 computer at DTNSRDC.

UPDATE is a system utility for maintaining libraries of source programs and data. It is a maintenance program that creates, corrects, and manipulates program library files. By employing the UPDATE utility, a user can modify and run his program with a small number of control cards, thus eliminating the need to work with a large, cumbersome deck of cards.

8.1 THE BASIC DECK SETUP

At DTNSRDC, the ALSA model is run on the CDC 6700 computer in the batch mode.

In order to run the ALSA model, the following deck setup is submitted.

```
CAEFAUL,CM120000,P3.                    187, P.FRIEDENBERG
CHARGE,CAEF,XXXXXXXXXX.
ATTACH(PAUL,PAUL96,ID=CAEF,MR=1)
UPDATE(P=PAUL,F)
ATTACH,GPSS,ID=CSYS.
GPSS(I=COMPILE,FX)
END-OF-RECORD CARD (7/8/9 PUNCH IN COLUMN 1)
*IDENT PB0828
END-OF-RECORD CARD (7/8/9 PUNCH IN COLUMN 1)
END-OF-FILE CARD (6/7/8/9 PUNCH IN COLUMN 1)
```

The above deck setup will run the model in its basic form, without any changes to the data. This is the program listing as shown in Appendix A. The first card in the deck setup is the Job Card, and the second card is the Charge Card. Some of the information on these cards will vary with the individual user; see the Users' Services Branch for further information.

8.2 DATA MODIFICATION

The ALSA simulation model is designed to allow the user to examine system performance within the context of varying delivery schedules, equipment quantities, and capabilities. In order to do this, modifications must be made to the basic program listed in Appendix A to reflect the desired changes to the data as described in Section 7.0. As previously stated, these data changes may be effected by actually removing the cards defining the old data from the deck and replacing them with the cards containing the new data definitions; this method is applicable only when the simulation is being run directly from the card deck. Running directly from the card deck, however, is not normally done when a large program is involved, due to the correspondingly large number of cards which would have to be handled.

In order to exercise the ALSA model at DTNSRDC, the user submits the small deck of control cards listed in Section 8.1, plus a number of additional cards which will effect the desired changes in the input data. The cards needed to change the data values from those imbedded in the Appendix A program listing are inserted directly after the card

*IDENT PB0828

in the card listing in Section 8.1.

Each line of coding in the program listing (representing one card) is uniquely identified by the alphanumeric data directly to its right, in the second and third columns from the right. (Note that the card number is in the rightmost column.)

To change a line of coding, first delete the line of coding to be changed, and then replace it with the desired line of coding. The use of the UPDATE system utility for this purpose is best illustrated by an example.

EXAMPLE

Statement of Problem:

In the Appendix A listing of the ALSA simulation model, change the number of available bulldozers (card 141) from 50 to 20, the value of matrix element AAA(114,3) from 4 to 5 (card 445), the value of matrix element AAA(115,1) from 226,000 to 200,000 (card 446), the value of

matrix element AAA(115,2) from 300 to 400 (card 446), and the value of matrix element AAA(115,3) from 4 to 5 (card 447).

Solution:

The control cards effecting the desired data changes are inserted into the Section 8.1 control card listing after the

*IDENT PB0828

card. The deck setup to make the desired data changes will then be

```
CAEFAUL,CM120000,P3.                    187, P.FRIEDENBERG
CHARGE,CAEF,XXXXXXXXXX.
ATTACH(PAUL,PAUL96,ID=CAEF,MR=1)
UPDATE(P=PAUL,F)
ATTACH,GPSS,ID=CSYS.
GPSS(I=COMPILE,FX)
END-OF-RECORD CARD (7/8/9 PUNCH IN COLUMN 1)
*IDENT PB0828
*DELETE PE0802.7
BULL  STORAGE     20
*DELETE PE0812.119,PE0812.121
       INITIAL    MX$AAA(114,3),5
       INITIAL    MX$AAA(115,1),200000/MX$AAA(115,2),400
       INITIAL    MX$AAA(115,3),5
END-OF-RECORD CARD (7/8/9 PUNCH IN COLUMN 1)
END-OF-FILE CARD (6/7/8/9 PUNCH IN COLUMN 1)
```

The *DELETE card with the appropriate identifiers defines the card or cards to be deleted. It is immediately followed by the card or cards which are to replace the deletion.

Further detailed information concerning the UPDATE system utility may be obtained from the User Services Branch at DTNSRDC and from the DTDNSRDC Computer Center Reference Manual (obtainable from the User Services Branch).

9.0 ALSA SIMULATION MODEL OUTPUT

The output from running the Appendix A program listing is given in Appendix B.

This section provides an explanation of the output listing.

9.1. OUTPUT COVER SHEET

The cover sheet for the output (page 112) contains the name and address of the installation (DTNSRDC) at which the ALSA model was developed. It also contains several input data values relating to the run.

9.2. BSA CARGO DELIVERY

The tabular data on pages 113-114 give the cargo delivered to the BSA as a function of time. The cargo itself is broken down into four separate categories: pallets of general cargo, drums of POL, pallets of ammunition, and containerized cargo. The cumulative amount of cargo in each category, delivered to the BSA, is recorded every twenty-four hours of simulated time.

9.3 LSA CARGO DELIVERY

The tabular data on pages 115-116 give the cargo delivered to the LSA as a function of time. The cargo is broken down into two general categories, general cargo and square (outsized) cargo. The general cargo category is further broken down into pallets and containers. The square cargo category is broken down into powered, non-powered, and non-wheeled types. The cumulative amounts delivered to the LSA are then recorded every twenty-four hours of simulated time.

9.4 AAFS POL DELIVERY

The tabular data on pages 117-118 give the amount of POL delivered to the AAFS as a function of time. The POL is broken down into two types, POL in drums and containerized POL. The cumulative amount of each type delivered to the AAFS is recorded every twenty-four hours of simulated time.

9.5 ASP AMMO DELIVERY

The tabular data on pages 119-120 give the amount of ammunition delivered to the ASP as a function of time. Ammunition is delivered to the ASP packaged in pallets and containers. The cumulative amounts of ammunition in both palletized and containerized packaging which are delivered to the ASP are recorded every twenty-four hours of simulated time.

9.6 CONSTRUCTION OUTPUT DATA

The output data on page 121 relate to the construction which is simulated within the ALSA Model.

Six basic construction tasks are simulated:

- Construction of the Beach Support Area (BSA)
- Construction of the Temporary Main Supply Routes (Temporary MSR)
- Construction of the Permanent Main Supply Routes (Permanent MSR)
- Construction of the Logistics Support Area (LSA)
- Construction of the Ammunition Supply Points (ASP)
- Construction of the Amphibious Assault Fuel System (AAFS)

Each of these six construction tasks involves the development of a distinct area and may be called an area task. (Note that the construction of the Temporary Main Supply Routes and the Permanent Main Supply Routes involve the same physical area, but they are still listed as distinct area tasks.) Each area task is in turn composed of a number of subtasks, all of which must be completed before the area task may be considered finished. The area tasks and the subtasks of which they are composed are listed in Table 6.

The output on pages 125-126 gives the completion time and the construction time for each subtask listed in Table 6. The completion time is the number of days, measured from the beginning of the overall amphibious operation, at which the subtask is completed. The construction time is defined as the number of days from the start of the subtask to its completion.

TABLE 6 - AREA TASKS AND SUBTASKS FOR ALSA CONSTRUCTION

AREA TASK (Construction of)	AREA SUBTASKS (Construction of)
Beach Support Area (BSA)	BSA Roads BSA Dump 1 BSA Dump 2 BSA Dump 3 BSA Dump 4
Temporary Main Supply Routes (Temporary MSR)	MSR Temporary Route 1 MSR Temporary Route 2 MSR Temporary Route 3 MSR Temporary Route 4
Permanent Main Supply Routes (Permanent MSR)	MSR Permanent Route 1 MSR Permanent Route 2 MSR Permanent Route 3 MSR Permanent Route 4
Logistics Support Area (LSA)	LSA Storage Area 1 LSA Storage Area 2 LSA Storage Area 3 LSA Unstuffing Area LSA Truck Loading Area LSA Pallet Staging Area LSA Administrative Area
Ammunition Supply Points (ASP)	ASP Road A1 ASP Road A2 ASP Road A3 ASP Road A4 ASP Revetment A1 ASP Revetment A2 ASP Revetment A3 ASP Revetment A4 ASP Perimeter
Amphibious Assault Fuel System (AAFS)	AAFS 1 AAFS 2 AAFS 3 AAFS 4

The ALSA TOTAL construction time is computed as the sum of the construction times for all ALSA subtasks except those for the Temporary Main Supply Routes.

9.7 EQUIPMENT UTILIZATION DATA

The output data on page 122 give the user information regarding the utilization of equipment during the simulation.

For each type of equipment used during the simulation, the output gives the total number available, the number of times that one or another piece of this type of equiment is used, the average time (in minutes) that each piece of this type of equipment is in use, and the maximum number of pieces of this type of equipment in use at any one time.

9.8 QUEUING DATA

The output data on pages 123-124 give queuing statistics for the requests for each type of equipment utilized during the simulation.

For the requests for any given equipment used during the simulation the output gives the maximum number of requests in the queue, the total number of requests, the number of requests which have no waiting time in the queue, and the average waiting time (in minutes) in the queue for those requests with a non-zero waiting time.

9.9 PRINTOUT OF INPUT DATA

The information on pages 125-136 is a recapitulation of the input data provided by the user for this specific run of the simulation. It is provided primarily as a user convenience. The data on pages 125-136 have been previously defined in Section 7.0.

APPENDIX A

LISTING OF PROGRAM

PRECEDING PAGE BLANK-NOT FILMED

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
		REALLOCATE	BLO,1200,LSV,160,VAR,60		PE0827	1	2
	*				NATURE	3	1
	*	EQUIVALENCE DECLARATION CARDS			NATURE	4	2
	*				NATURE	5	3
	SCPE	EQU	1,S		PE0612	2	4
	SLDE	EQU	2,S		PE0612	3	5
	QTRK	EQU	3,S		PE0612	4	6
	RLLP	EQU	4,S		PE0612	5	7
	GRDE	EQU	5,S		PE0612	6	8
	SECP	EQU	6,S		PE0612	7	9
	RKHC	EQU	7,S		PE0612	8	10
	CRNE	EQU	8,S		PE0612	9	11
	RULL	EQU	9,S		PE0612	10	12
	TWGE	EQU	10,S		PE0612	11	13
	FKLA	EQU	11,S		PE0612	12	14
	FKLB	EQU	12,S		PE0612	13	15
	FKLC	EQU	13,S		PE0612	14	16
	FKLD	EQU	14,S		PE0612	15	17
	FKLE	EQU	15,S		PE0612	16	18
	FKLF	EQU	16,S		PE0612	17	19
	FPTRK	EQU	17,S		PE0612	18	20
	FKLG	EQU	18,S		PE0612	19	21
	FKLH	EQU	19,S		PE0612	20	22
	FKLJ	EQU	20,S		PE0612	21	23
	CNLA	EQU	21,S		PE0612	22	24
	CNLB	EQU	22,S		PE0612	23	25
	UNSA	EQU	23,S		PE0612	24	26
	CNLC	EQU	24,S		PE0612	25	27
	UNSB	EQU	25,S		PE0612	26	28
	CNLC	EQU	26,S		PE0612	27	29
	UNSC	EQU	27,S		PE0612	28	30
	CRNA	EQU	28,S		PE0612	29	31
	CRNB	EQU	29,S		PE0612	30	32
	CRNC	EQU	30,S		PE0612	31	33
	FKLK	EQU	31,S		PE0612	32	34
	FKLL	EQU	32,S		PE0612	33	35
	FKLM	EQU	33,S		PE0612	34	36
	TRKP	EQU	34,S		PE0612	35	37
	TRKC	EQU	35,S		PE0612	36	38
	CRNE	EQU	8,0		PE0612	37	39
	TWGE	EQU	10,0		PE0612	38	40
	FKLA	EQU	11,0		PE0612	39	41
	FKLB	EQU	12,0		PE0612	40	42
	FKLC	EQU	13,0		PE0612	41	43
	FKLD	EQU	14,0		PE0612	42	44
	FKLE	EQU	15,0		PE0612	43	45
	FKLF	EQU	16,0		PE0612	44	46
	FPTRK	EQU	17,0		PE0612	45	47
	FKLG	EQU	18,0		PE0612	46	48
	FKLH	EQU	19,0		PE0612	47	49
	FKLJ	EQU	20,0		PE0612	48	50
	CNLA	EQU	21,0		PE0612	49	51
	CNLB	EQU	22,0		PE0612	50	52
	UNSA	EQU	23,0		PE0612	51	53
	CNLC	EQU	24,0		PE0612	52	54

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
	UNS*	EQU	25,Q		PE0612	53	55
	CNLD	EQU	26,Q		PE0612	54	56
	UNSC	EQU	27,Q		PE0612	55	57
	CRNA	EQU	28,Q		PE0612	56	58
	CRNB	EQU	29,Q		PE0612	57	59
	CRNC	EQU	30,Q		PE0612	58	60
	FKLK	EQU	31,Q		PE0612	59	61
	FKLL	EQU	32,Q		PE0612	60	62
	FKLM	EQU	33,Q		PE0612	61	63
	TRKF	EQU	34,Q		PE0612	62	64
	TRKC	EQU	35,Q		PE0612	63	65
	CTM1	EQU	1,XL		PE0820	2	66
	CTM2	EQU	2,XL		PE0820	3	67
	CTM3	EQU	3,XL		PE0820	4	68
	CTM4	EQU	4,XL		PE0820	5	69
	CTM5	EQU	5,XL		PE0820	6	70
	CTM6	EQU	6,XL		PE0820	7	71
	CTM7	EQU	7,XL		PE0820	8	72
	CTM8	EQU	8,XL		PE0820	9	73
	CTM9	EQU	9,XL		PE0820	10	74
	CTM10	EQU	10,XL		PE0820	11	75
	CTM11	EQU	11,XL		PE0820	12	76
	CTM12	EQU	12,XL		PE0820	13	77
	CTM13	EQU	13,XL		PE0820	14	78
	CTM14	EQU	14,XL		PE0820	15	79
	CTM15	EQU	15,XL		PE0820	16	80
	CTM16	EQU	16,XL		PE0820	17	81
	CTM17	EQU	17,XL		PE0820	18	82
	CTM18	EQU	18,XL		PE0820	19	83
	CTM19	EQU	19,XL		PE0820	20	84
	CTM20	EQU	20,XL		PE0820	21	85
	CTM21	EQU	21,XL		PE0820	22	86
	CTM22	EQU	22,XL		PE0820	23	87
	CTM23	EQU	23,XL		PE0820	24	88
	CTM24	EQU	24,XL		PE0820	25	89
	CTM25	EQU	25,XL		PE0820	26	90
	CTM26	EQU	26,XL		PE0820	27	91
	CTM27	EQU	27,XL		PE0820	28	92
	CTM28	EQU	28,XL		PE0820	29	93
	CTM29	EQU	29,XL		PE0820	30	94
	CTM30	EQU	30,XL		PE0820	31	95
	CTM31	EQU	31,XL		PE0820	32	96
	CTM32	EQU	32,XL		PE0820	33	97
	CTM33	EQU	33,XL		PE0820	34	98
	MOE1	EQU	34,XL		PE0822	2	99
	MOE2	EQU	35,XL		PE0822	3	100
	MOE3	EQU	36,XL		PE0822	4	101
	MOE4	EQU	37,XL		PE0822	5	102
	MOE5	EQU	38,XL		PE0822	6	103
	MOE6	EQU	39,XL		PE0822	7	104
	MOE7	EQU	40,XL		PE0822	8	105
	MOE8	EQU	41,XL		PE0822	9	106
	MOE9	EQU	42,XL		PE0822	10	107
	MOE10	EQU	43,XL		PE0822	11	108
	MOE11	EQU	44,XL		PE0822	12	109

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
	MOF12	EQU	45,XL		PE0822	13	110
	MOE13	EQU	46,XL		PE0822	14	111
	MOF14	EQU	47,XL		PE0822	15	112
	MOE15	EQU	48,XL		PE0822	16	113
	MOE16	EQU	49,XL		PE0822	17	114
	MOF17	EQU	50,XL		PE0822	18	115
	MOF18	EQU	51,XL		PE0822	19	116
	MOE19	EQU	52,XL		PE0822	20	117
	MOE20	EQU	53,XL		PE0822	21	118
	MOE21	EQU	54,XL		PE0822	22	119
	MOF22	EQU	55,XL		PE0822	23	120
	MOE23	EQU	56,XL		PE0822	24	121
	MOE24	EQU	57,XL		PE0822	25	122
	MOE25	EQU	58,XL		PE0822	26	123
	MOE26	EQU	59,XL		PE0822	27	124
	MOF27	EQU	60,XL		PE0822	28	125
	MOF28	EQU	61,XL		PE0822	29	126
	MOE29	EQU	62,XL		PE0822	30	127
	MOE30	EQU	63,XL		PE0822	31	128
	MOE31	EQU	64,XL		PE0822	32	129
	MOF32	EQU	65,XL		PE0822	33	130
	MOF33	EQU	66,XL		PE0822	34	131
	*				NATURE	6	132
	*	STORAGE CAPACITY DEFINITIONS			NATURE	7	133
	*				NATURE	8	134
1	SCPR	STORAGE	13		PE0802	1	135
2	SLOP	STORAGE	4		PE0802	2	136
3	DTRK	STORAGE	100		PE0802	3	137
4	RILP	STORAGE	4		PE0802	4	138
5	GRDR	STORAGE	11		PE0802	5	139
6	SFCR	STORAGE	5		PE0802	6	140
9	BULL	STORAGE	50		PE0802	7	141
11	FKLA	STORAGE	12		PE0802	8	142
12	FKLB	STORAGE	2		PE0802	9	143
13	FKLC	STORAGE	2		PE0802	10	144
14	FKLD	STORAGE	12		PE0802	11	145
15	FKLE	STORAGE	2		PE0802	12	146
16	FKLF	STORAGE	2		PE0802	13	147
18	FKLG	STORAGE	12		PE0802	14	148
19	FKLH	STORAGE	2		PE0802	15	149
20	FKLJ	STORAGE	2		PE0802	16	150
21	CNLA	STORAGE	2		PE0802	17	151
22	CNLB	STORAGE	2		PE0802	18	152
24	CNLC	STORAGE	2		PE0802	19	153
26	CNLD	STORAGE	2		PE0802	20	154
28	CRNA	STORAGE	2		PE0802	21	155
29	CRNB	STORAGE	2		PE0802	22	156
30	CRNC	STORAGE	2		PE0802	23	157
31	FKLK	STORAGE	2		PE0802	24	158
32	FKLL	STORAGE	1		PE0802	25	159
33	FKLM	STORAGE	1		PE0802	26	160
34	TRKP	STORAGE	20		PE0802	27	161
35	TRKC	STORAGE	20		PE0802	28	162
	*				NATURE	26	163
	*	MATRIX CARDS			NATURE	27	164

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
	*				NATURE	28	165
1	AAA	MATRIX	X,130,3		PE0525	1	166
1	BBB	MATRIX	H,32,9		PE0525	2	167
2	CCC	MATRIX	H,50,13		PE0804	1	168
1	DDD	MATRIX	ML,10,9		PE1206	3	169
3	EEE	MATRIX	H,100,20		PE0117	1	170
2	FFF	MATRIX	X,3,13		PE0134	7	171
4	GGG	MATRIX	H,50,5		PE0510	1	172
5	HHH	MATRIX	H,50,6		PE0506	2	173
6	KKK	MATRIX	H,50,3		PE0506	3	174
7	LLL	MATRIX	H,50,3		PE0506	4	175
2	MMM	MATRIX	ML,35,2		PE0820	35	176
8	NNN	MATRIX	H,35,1		PE0822	35	177
	*				NATURE	34	178
	*	VARIABLE DEFINITIONS			NATURE	35	179
	*				NATURE	36	180
1	PRRTY	VARIABLE	34-P1		NATURE	37	181
2	AAA	VARIABLE	MX$AAA(P3,1)/(MX$AAA(P3,2)*MX$AAA(P3,3))		NATURE	38	182
3	AAB	FVARIABLE	P2/1440		NATURE	39	183
4	AAC	VARIABLE	MH$EEE(1,P1)+P4		PE1208	5	184
5	AAD	FVARIABLE	(P4*60/P6)/P5		PE0105	1	185
6	AAE	VARIABLE	MH$EEE(1,P8)+P4		PE0309	1	186
7	AAF	FVARIABLE	(P4*60/P6*15)/P5		PE0105	2	187
8	AAG	VARIABLE	P5/P6		PE0104	8	188
9	AAH	VARIABLE	60/P5		PE0104	9	189
10	AAJ	VARIABLE	XH$EMCON+P4		PE0105	3	190
11	AAK	VARIABLE	P3/60		PE0117	2	191
12	AAL	VARIABLE	XH$PRNTA+1		PE0117	3	192
13	AAM	VARIABLE	MH$EEE(2,P8)+P4		PE0309	2	193
14	AAN	VARIABLE	MX$FFF(1,P1)+P2		PE0413	1	194
15	AAO	VARIABLE	MX$FFF(1,P1)-P4		PE0413	2	195
16	AAP	VARIABLE	MH$EEE(3,P1)+P4		PE0418	1	196
17	AAQ	VARIABLE	MH$EEE(4,P1)+P4		PE0418	2	197
18	AAR	VARIABLE	MH$EEE(4,4)+MH$EEE(4,7)		PE0506	5	198
19	AAS	VARIABLE	MH$EEE(4,6)+MH$EEE(4,9)		PE0506	6	199
20	AAT	VARIABLE	MH$EEE(4,5)+MH$EEE(4,8)		PE0506	7	200
21	AAU	VARIABLE	XH$XROW+1		PE0506	8	201
22	AAV	VARIABLE	MH$EEE(3,4)+MH$EEE(3,5)+MH$EEE(3,6)+V$AAW		PE0510	2	202
23	AAW	VARIABLE	MH$EEE(3,7)+MH$EEE(3,8)+MH$EEE(3,9)		PE0510	3	203
24	AAX	FVARIABLE	P2/60		PE0721	2	204
25	AAY	FVARIABLE	P2/5280		PE0721	3	205
26	BAA	FVARIABLE	ML$MMM(P1,2)-ML$MMM(P1,1)		PE0820	36	206
27	BAB	FVARIABLE	MH$NNN(P1,1)/XL*1		PE0822	36	207
28	BAC	FVARIABLE	1397/V$BAC1		PE0824	2	208
29	BAC1	FVARIABLE	XL$CTM1+XL$CTM2+XL$CTM3+XL$CTM4+XL$CTM5		PE0824	3	209
30	BAD	FVARIABLE	24200/V$BAC1		PE0824	4	210
31	BAD1	FVARIABLE	XL$CTM30+XL$CTM31+XL$CTM32+XL$CTM33		PE0824	5	211
32	BAE	FVARIABLE	4577/(V$BAE1+V$BAE2)		PE0824	6	212
33	BAE1	FVARIABLE	XL$CTM14+XL$CTM15+XL$CTM16+XL$CTM17		PE0824	7	213
34	BAE2	FVARIABLE	XL$CTM18+XL$CTM19+XL$CTM20		PE0824	8	214
35	BAF	FVARIABLE	14600/(V$BAF1+V$BAF2)		PE0824	9	215
36	BAF1	FVARIABLE	XL$CTM21+XL$CTM22+XL$CTM23+XL$CTM24		PE0824	10	216
37	BAF2	FVARIABLE	XL$CTM25+XL$CTM26+XL$CTM27+XL$CTM28+XL$CTM29		PE0824	11	217
38	BAG	FVARIABLE	4886/V$BAG1		PE0824	12	218
39	BAG1	FVARIABLE	XL$CTM10+XL$CTM11+XL$CTM12+XL$CTM13		PE0824	13	219

```
      BLOCK
      NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J        COMMENTS                                                    CARD NUMBER
        40            BAH    FVARIABLE  XL$MOE1+XL$MOE2+XL$MOE3+XL$MOE4+XL$MOE5                                  PE0824   14   220
        41            BAJ    FVARIABLE  XL$MOE30+XL$MOE31+XL$MOE32+XL$MOE33                                      PE0824   15   221
        42            BAK    FVARIABLE  V$BAK1+V$BAK2                                                            PE0824   16   222
        43            BAK1   FVARIABLE  XL$MOE14+XL$MOE15+XL$MOE16+XL$MOE17                                     PE0824   17   223
        44            BAK2   FVARIABLE  XL$MOE18+XL$MOE19+XL$MOE20                                              PE0824   18   224
        45            BAL    FVARIABLE  V$BAL1+V$BAL2                                                          PE0824   19   225
        46            BAL1   FVARIABLE  XL$MOE21+XL$MOE22+XL$MOE23+XL$MOE24                                    PE0824   20   226
        47            BAL2   FVARIABLE  XL$MOE25+XL$MOE26+XL$MOE27+XL$MOE28+XL$MOE29                            PE0824   21   227
        48            BAM    FVARIABLE  XL$MOE10+XL$MOE11+XL$MOE12+XL$MOE13                                     PE0824   22   228
        49            BAN    FVARIABLE  49660/V$BAN1                                                           PE0824   23   229
        50            BAN1   FVARIABLE  V$BAC1+V$BAD1+V$BAE1+V$BAE2+V$BAF1+V$BAF2+V$BAG1                        PE0824   24   230
        51            BAO    FVARIABLE  V$BAH+V$BAJ+V$BAK1+V$BAK2+V$BAL1+V$BAL2+V$BAM                           PE0824   25   231
        52            BAP    FVARIABLE  XL$CTM6+XL$CTM30                                                       PE0826    1   232
        53            BAQ    FVARIABLE  XL$CTM7+XL$CTM31                                                       PE0826    2   233
        54            BAR    FVARIABLE  XL$CTM8+XL$CTM32                                                       PE0826    3   234
        55            BAS    FVARIABLE  XL$CTM9+XL$CTM33                                                       PE0826    4   235
        56            BAT    FVARIABLE  V$BAF1+V$BAF2                                                          PE0827    2   236
        57            BAU    FVARIABLE  V$BAF1+V$BAF2                                                          PE0827    3   237
        58            BAV    FVARIABLE  XL$CTM34+XL$CTM35+XL$CTM36+XL$CTM37+XL$CTM38                           PE0827    4   238
                      *                                                                                       PE1208    8   239
                      *      BOOLEAN VARIABLE DEFINITIONS                                                     PE1208    9   240
                      *                                                                                       PE1208   10   241
         1            LSAEQ  BVARIABLE  N$LSAN"E"7*(P1"E"1+P1"E"2)                                            PE1208   11   242
         2            ASPEQ  BVARIABLE  N$ASPJ"E"9*P1"E"3                                                     PE1208   12   243
         3            LSAEQ  BVARIABLE  N$LSAN"E"7*(P1"E"4+P1"F"6+P1"F"7+P1"E"9)                              PE1212   10   244
         4            ASPEQ  BVARIABLE  N$ASPJ"E"9*(P1"E"5+P1"F"8)                                            PE1212   11   245
         5            ONUNS  BVARIABLE  P1"E"7+P1"E"8+P1"E"9                                                  PE1212   12   246
                      *                                                                                       PE0117    4   247
                      *      SAVEVALUE INITIAL CARDS                                                          PE0117    5   248
                      *                                                                                       PE0117    6   249
                             INITIAL    XH$PRNTA,8                                                           PE0418    3   250
                             INITIAL    XH$XROW,1                                                            PE0506    9   251
                             INITIAL    XH$CSENO,10                                                          PE0710    1   252
                             INITIAL    X$TIMER,28800                                                        PE0712    2   253
                             INITIAL    XH$AEC11,10/X$AEC12,1440/XH$AEC13,29/XH$AEC14,60                     PE0804    2   254
                             INITIAL    XH$AEC21,10/X$AEC22,1440/XH$AEC23,154/XH$AEC24,50                    PE0804    3   255
                             INITIAL    XH$AEC31,15/X$AEC32,1440/XH$AEC33,137/XH$AEC34,50                    PE0804    4   256
                             INITIAL    XH$AEC41,0/X$AEC42,0/XH$AEC43,0/XH$AEC44,0                           PE0805    1   257
                             INITIAL    XH$AEC51,0/X$AEC52,0/XH$AEC53,0/XH$AEC54,0                           PE0805    2   258
                             INITIAL    XH$AEC61,0/X$AEC62,0/XH$AEC63,0/XH$AEC64,0                           PE0805    3   259
                             INITIAL    XH$AEC71,0/X$AEC72,0/XH$AEC73,0/XH$AEC74,0                           PE0805    4   260
                             INITIAL    XH$AEC81,0/X$AEC82,0/XH$AEC83,0/XH$AEC84,0                           PE0805    5   261
                             INITIAL    XH$AEC91,0/X$AEC92,0/XH$AEC93,0/XH$AEC94,0                           PE0805    6   262
                             INITIAL    XH$AFE11,0/X$AFE12,0/XH$AFE13,0/XH$AFE14,0                           PE0806    1   263
                             INITIAL    XH$AFE21,0/X$AFE22,0/XH$AFE23,0/XH$AFE24,0                           PE0806    2   264
                             INITIAL    XH$AFE31,0/X$AFE32,0/XH$AFE33,0/XH$AFE34,0                           PE0806    3   265
                             INITIAL    XH$AFE41,0/X$AFE42,0/XH$AFE43,0/XH$AFE44,0                           PE0806    4   266
                             INITIAL    XH$AFE51,0/X$AFE52,0/XH$AFE53,0/XH$AFE54,0                           PE0806    5   267
                             INITIAL    XH$AFE61,0/X$AFE62,0/XH$AFE63,0/XH$AFE64,0                           PE0806    6   268
                             INITIAL    XH$FRM11,0/X$FRM12,0/XH$FRM13,0/XH$FRM14,0                           PE0806    7   269
                             INITIAL    XH$FRM21,0/X$FRM22,0/XH$FRM23,0/XH$FRM24,0                           PE0806    8   270
                             INITIAL    XH$FRM31,0/X$FRM32,0/XH$FRM33,0/XH$FRM34,0                           PE0806    9   271
                             INITIAL    XH$FRM41,0/X$FRM42,0/XH$FRM43,0/XH$FRM44,0                           PE0806   10   272
                             INITIAL    XH$FRM51,0/X$FRM52,0/XH$FRM53,0/XH$FRM54,0                           PE0806   11   273
                             INITIAL    XH$FRM61,0/X$FRM62,0/XH$FRM63,0/XH$FRM64,0                           PE0806   12   274
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
		INITIAL	XH$FRM81,0/X$FRM92,0/XH$FRM83,0/XH$FRM84,0	PE0806	13	275
		INITIAL	XH$FRM01,0/X$FRM02,0/XH$FRM03,0/XH$FRM04,0	PE0806	14	276
		INITIAL	XH$AFE71,30/X$AFE72,7200/XH$AFE73,256/XH$AFE74,12	PE0804	5	277
		INITIAL	XH$AFE81,30/X$AFE82,7200/XH$AFE83,176/XH$AFE84,10	PE0804	6	278
		INITIAL	XH$AFE91,30/X$AFE92,7200/XH$AFE93,236/XH$AFE94,10	PE0804	7	279
		INITIAL	XH$FRM71,120/X$FRM72,21600/XH$FRM73,250/XH$FRM74,12	PE0804	8	280
		INITIAL	XH$FRM81,160/X$FRM82,21600/XH$FRM83,203/XH$FRM84,10	PE0804	9	281
		INITIAL	XH$FRM91,100/X$FRM92,21600/XH$FRM93,327/XH$FRM94,10	PE0804	10	282
		INITIAL	XH$FRMA1,1440/X$FRMA2,21600/XH$FRMA3,45/XH$FRMA4,8	PE0804	11	283
		INITIAL	XL1-XL66,0.0/XL$ZERO,0.0	PE0822	37	284
	*			NATURE	41	285
	*	MATRIX INITIAL CARDS		NATURE	42	286
	*			NATURE	43	287
		INITIAL	MH$BBB(1,1),2/MH$BBB(1,2),3/MH$BBB(1,3),4	NATURE	44	288
		INITIAL	MH$BBB(1,4),5/MH$BBB(1,5),6	PE0320	1	289
		INITIAL	MH$BBB(7,1),16/MH$BBB(7,2),17/MH$BBB(7,3),18	PE1130	3	290
		INITIAL	MH$BBB(7,4),19	PE0801	1	291
		INITIAL	MH$BBB(10,1),28/MH$BBB(10,2),29/MH$BBB(10,3),30	PE1130	7	292
		INITIAL	MH$BBB(10,4),31/MH$BBB(11,1),32/MH$BBB(11,2),33	PE1130	8	293
		INITIAL	MH$BBB(11,3),34/MH$BBB(11,4),35/MH$BBB(12,1),36	PE1130	9	294
		INITIAL	MH$BBB(12,2),37/MH$BBB(12,3),38/MH$BBB(12,4),39	PE1130	10	295
		INITIAL	MH$BBB(13,1),40/MH$BBB(13,2),41	PE1130	11	296
		INITIAL	MH$BBB(14,1),42/MH$BBB(14,2),43/MH$BBB(14,3),44	PE1201	4	297
		INITIAL	MH$BBB(14,4),45/MH$BBB(14,5),46/MH$BBB(14,6),47	PE1201	5	298
		INITIAL	MH$BBB(14,7),48/MH$BBB(15,1),49/MH$BBB(15,2),50	PE1201	6	299
		INITIAL	MH$BBB(15,3),51/MH$BBB(15,4),52/MH$BBB(15,7),53	PE1201	7	300
		INITIAL	MH$BBB(16,1),54/MH$BBB(16,2),55/MH$BBB(16,3),56	PE1201	8	301
		INITIAL	MH$BBB(16,4),57/MH$BBB(16,5),58/MH$BBB(16,7),59	PE1201	9	302
		INITIAL	MH$BBB(17,1),60/MH$BBB(17,2),61/MH$BBB(17,3),62	PE1201	10	303
		INITIAL	MH$BBB(17,4),63/MH$BBB(17,5),64/MH$BBB(17,7),65	PE1201	11	304
		INITIAL	MH$BBB(18,1),66/MH$BBB(18,2),67/MH$BBB(18,3),68	PE1201	12	305
		INITIAL	MH$BBB(18,4),69/MH$BBB(18,5),70/MH$BBB(18,6),71	PE1201	13	306
		INITIAL	MH$BBB(18,7),72/MH$BBB(19,1),73/MH$BBB(19,2),74	PE1201	14	307
		INITIAL	MH$BBB(19,3),75/MH$BBB(19,4),76	PE1201	15	308
		INITIAL	MH$BBB(20,1),77/MH$BBB(20,2),78/MH$BBB(20,3),79	PE1206	4	309
		INITIAL	MH$BBB(20,4),80/MH$BBB(20,5),81/MH$BBB(20,6),82	PE1206	5	310
		INITIAL	MH$BBB(20,7),83/MH$BBB(20,8),84/MH$BBB(20,9),85	PE1206	6	311
		INITIAL	MH$BBB(21,5),86/MH$BBB(21,6),87/MH$BBB(21,7),88	PE1206	7	312
		INITIAL	MH$BBB(21,8),89/MH$BBB(22,5),90/MH$BBB(22,6),91	PE1206	8	313
		INITIAL	MH$BBB(22,7),92/MH$BBB(22,8),93/MH$BBB(23,5),94	PE1206	9	314
		INITIAL	MH$BBB(23,6),95/MH$BBB(23,7),96/MH$BBB(23,8),97	PE1206	10	315
		INITIAL	MH$BBB(24,1),98/MH$BBB(24,2),99/MH$BBB(24,3),100	PE1206	11	316
		INITIAL	MH$BBB(24,4),101/MH$BBB(25,1),102/MH$BBB(25,2),103	PE1206	12	317
		INITIAL	MH$BBB(25,3),104/MH$BBB(25,4),105/MH$BBB(26,1),106	PE1206	13	318
		INITIAL	MH$BBB(26,2),107/MH$BBB(26,3),108/MH$BBB(26,4),109	PE1206	14	319
		INITIAL	MH$BBB(27,1),110/MH$BBB(27,2),111/MH$BBB(27,3),112	PE0525	3	320
		INITIAL	MH$BBB(27,4),113/MH$BBB(28,1),114/MH$BBB(28,2),115	PE0525	4	321
		INITIAL	MH$BBB(28,3),116/MH$BBB(28,4),117/MH$BBB(29,1),118	PE0525	5	322
		INITIAL	MH$BBB(29,2),119/MH$BBB(29,3),120/MH$BBB(29,4),121	PE0525	6	323
		INITIAL	MH$BBB(30,1),122/MH$BBB(30,2),123/MH$BBB(30,3),124	PE0525	7	324
		INITIAL	MH$BBB(30,4),125/MH$BBB(31,1),126/MH$BBB(31,2),127	PE0525	8	325
		INITIAL	MH$BBB(31,3),128/MH$BBB(31,4),129	PE0525	9	326
		INITIAL	MX$AAA(2,1),100000/MX$AAA(2,2),300/MX$AAA(2,3),3	PE0812	1	327
		INITIAL	MX$AAA(3,1),137000/MX$AAA(3,2),300/MX$AAA(3,3),3	PE0812	2	328
		INITIAL	MX$AAA(4,1),98000/MX$AAA(4,2),300/MX$AAA(4,3),2	PE0812	3	329

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
		INITIAL	MX$AAA(5,1),154000/MX$AAA(5,2),300/MX$AAA(5,3),3	PE0812	4	330
		INITIAL	MX$AAA(6,1),34000/MX$AAA(6,2),300/MX$AAA(6,3),1	PE0815	1	331
		INITIAL	MX$AAA(7,1),137000/MX$AAA(7,2),260/MX$AAA(7,3),2	PE0815	2	332
		INITIAL	MX$AAA(8,1),137000/MX$AAA(8,2),300/MX$AAA(8,3),2	PE0812	7	333
		INITIAL	MX$AAA(9,1),100000/MX$AAA(9,2),350/MX$AAA(9,3),2	PE0812	8	334
		INITIAL	MX$AAA(10,1),100000/MX$AAA(10,2),200/MX$AAA(10,3),2	PE0812	9	335
		INITIAL	MX$AAA(11,1),130000/MX$AAA(11,2),400/MX$AAA(11,3),2	PE0812	10	336
		INITIAL	MX$AAA(12,1),100000/MX$AAA(12,2),300/MX$AAA(12,3),2	PE0812	11	337
		INITIAL	MX$AAA(13,1),100000/MX$AAA(13,2),200/MX$AAA(13,3),2	PE0812	12	338
		INITIAL	MX$AAA(14,1),100000/MX$AAA(14,2),400/MX$AAA(14,3),2	PE0812	13	339
		INITIAL	MX$AAA(16,1),198000/MX$AAA(16,2),300/MX$AAA(16,3),8	PE0812	14	340
		INITIAL	MX$AAA(17,1),650000/MX$AAA(17,2),300/MX$AAA(17,3),4	PE0812	15	341
		INITIAL	MX$AAA(18,1),1210000/MX$AAA(18,2),300/MX$AAA(18,3),6	PE0812	16	342
		INITIAL	MX$AAA(19,1),1000000/MX$AAA(19,2),300/MX$AAA(19,3),4	PE0812	17	343
		INITIAL	MX$AAA(28,1),1980000/MX$AAA(28,2),350/MX$AAA(28,3),8	PE0812	18	344
		INITIAL	MX$AAA(29,1),650000/MX$AAA(29,2),350/MX$AAA(29,3),6	PE0812	19	345
		INITIAL	MX$AAA(30,1),1210000/MX$AAA(30,2),350/MX$AAA(30,3),4	PE0812	20	346
		INITIAL	MX$AAA(31,1),1000000/MX$AAA(31,2),350/MX$AAA(31,3),6	PE0812	21	347
		INITIAL	MX$AAA(32,1),1980000/MX$AAA(32,2),400/MX$AAA(32,3),8	PE0812	22	348
		INITIAL	MX$AAA(33,1),650000/MX$AAA(33,2),400/MX$AAA(33,3),6	PE0812	23	349
		INITIAL	MX$AAA(34,1),1210000/MX$AAA(34,2),400/MX$AAA(34,3),4	PE0812	24	350
		INITIAL	MX$AAA(35,1),1000000/MX$AAA(35,2),400/MX$AAA(35,3),6	PE0812	25	351
		INITIAL	MX$AAA(36,1),1980000/MX$AAA(36,2),300/MX$AAA(36,3),8	PE0812	26	352
		INITIAL	MX$AAA(37,1),650000/MX$AAA(37,2),300/MX$AAA(37,3),6	PE0812	27	353
		INITIAL	MX$AAA(38,1),1210000/MX$AAA(38,2),300/MX$AAA(38,3),4	PE0812	28	354
		INITIAL	MX$AAA(39,1),1000000/MX$AAA(39,2),300/MX$AAA(39,3),6	PE0812	29	355
		INITIAL	MX$AAA(40,1),1980000/MX$AAA(40,2),100/MX$AAA(40,3),8	PE0812	30	356
		INITIAL	MX$AAA(41,1),650000/MX$AAA(41,2),100/MX$AAA(41,3),6	PE0812	31	357
		INITIAL	MX$AAA(42,1),193700/MX$AAA(42,2),200/MX$AAA(42,3),4	PE0812	32	358
		INITIAL	MX$AAA(43,1),193700/MX$AAA(43,2),200/MX$AAA(43,3),4	PE0812	33	359
		INITIAL	MX$AAA(44,1),236600/MX$AAA(44,2),200/MX$AAA(44,3),5	PE0812	34	360
		INITIAL	MX$AAA(45,1),21904/MX$AAA(45,2),200/MX$AAA(45,3),1	PE0812	35	361
		INITIAL	MX$AAA(46,1),60800/MX$AAA(46,2),200/MX$AAA(46,3),1	PE0812	36	362
		INITIAL	MX$AAA(47,1),37300/MX$AAA(47,2),200/MX$AAA(47,3),1	PE0812	37	363
		INITIAL	MX$AAA(48,1),76800/MX$AAA(48,2),200/MX$AAA(48,3),1	PE0912	38	364
		INITIAL	MX$AAA(49,1),193700/MX$AAA(49,2),150/MX$AAA(49,3),4	PE0812	39	365
		INITIAL	MX$AAA(50,1),193700/MX$AAA(50,2),150/MX$AAA(50,3),4	PE0812	40	366
		INITIAL	MX$AAA(51,1),236600/MX$AAA(51,2),150/MX$AAA(51,3),5	PE0812	41	367
		INITIAL	MX$AAA(52,1),21904/MX$AAA(52,2),150/MX$AAA(52,3),1	PE0812	42	368
		INITIAL	MX$AAA(53,1),76800/MX$AAA(53,2),150/MX$AAA(53,3),1	PE0812	43	369
		INITIAL	MX$AAA(54,1),193700/MX$AAA(54,2),200/MX$AAA(54,3),4	PE0812	44	370
		INITIAL	MX$AAA(55,1),193700/MX$AAA(55,2),200/MX$AAA(55,3),4	PE0812	45	371
		INITIAL	MX$AAA(56,1),236600/MX$AAA(56,2),200/MX$AAA(56,3),5	PE0812	46	372
		INITIAL	MX$AAA(57,1),21904/MX$AAA(57,2),200/MX$AAA(57,3),1	PE0812	47	373
		INITIAL	MX$AAA(58,1),60800/MX$AAA(58,2),200/MX$AAA(58,3),1	PE0812	48	374
		INITIAL	MX$AAA(59,1),76800/MX$AAA(59,2),200/MX$AAA(59,3),1	PE0812	49	375
		INITIAL	MX$AAA(60,1),193700/MX$AAA(60,2),400/MX$AAA(60,3),4	PE0812	50	376
		INITIAL	MX$AAA(61,1),193700/MX$AAA(61,2),400/MX$AAA(61,3),4	PE0812	51	377
		INITIAL	MX$AAA(62,1),236600/MX$AAA(62,2),400/MX$AAA(62,3),5	PE0812	52	378
		INITIAL	MX$AAA(63,1),21904/MX$AAA(63,2),400/MX$AAA(63,3),1	PE0812	53	379
		INITIAL	MX$AAA(64,1),60800/MX$AAA(64,2),400/MX$AAA(64,3),1	PE0812	54	380
		INITIAL	MX$AAA(65,1),76800/MX$AAA(65,2),400/MX$AAA(65,3),1	PE0812	55	381
		INITIAL	MX$AAA(66,1),193700/MX$AAA(66,2),200/MX$AAA(66,3),4	PE0912	56	382
		INITIAL	MX$AAA(67,1),193700/MX$AAA(67,2),200/MX$AAA(67,3),4	PE0812	57	383
		INITIAL	MX$AAA(68,1),236600/MX$AAA(68,2),200/MX$AAA(68,3),5	PE0812	58	384

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
		INITIAL	MX$AAA(69,1),21904/MX$AAA(69,2),200/MX$AAA(69,3),1	PE0812	59	385
		INITIAL	MX$AAA(70,1),60800/MX$AAA(70,2),200/MX$AAA(70,3),1	PE0812	60	386
		INITIAL	MX$AAA(71,1),37300/MX$AAA(71,2),200/MX$AAA(71,3),1	PE0812	61	387
		INITIAL	MX$AAA(72,1),76800/MX$AAA(72,2),200/MX$AAA(72,3),1	PE0812	62	388
		INITIAL	MX$AAA(73,1),193700/MX$AAA(73,2),60/MX$AAA(73,3),4	PE0812	63	389
		INITIAL	MX$AAA(74,1),193700/MX$AAA(74,2),60/MX$AAA(74,3),4	PE0812	64	390
		INITIAL	MX$AAA(75,1),236600/MX$AAA(75,2),60/MX$AAA(75,3),5	PE0812	65	391
		INITIAL	MX$AAA(76,1),21904/MX$AAA(76,2),60/MX$AAA(76,3),1	PE0812	66	392
		INITIAL	MX$AAA(77,1),517500/MX$AAA(77,2),300/MX$AAA(77,3),6	PE0812	67	393
		INITIAL	MX$AAA(78,1),517500/MX$AAA(78,2),300/MX$AAA(78,3),6	PE0812	68	394
		INITIAL	MX$AAA(79,1),517500/MX$AAA(79,2),300/MX$AAA(79,3),6	PE0812	69	395
		INITIAL	MX$AAA(80,1),517500/MX$AAA(80,2),300/MX$AAA(80,3),6	PE0812	70	396
		INITIAL	MX$AAA(81,1),370000/MX$AAA(81,2),300/MX$AAA(81,3),4	PE0812	71	397
		INITIAL	MX$AAA(82,1),370000/MX$AAA(82,2),300/MX$AAA(82,3),4	PE0812	72	398
		INITIAL	MX$AAA(83,1),370000/MX$AAA(83,2),300/MX$AAA(83,3),4	PE0812	73	399
		INITIAL	MX$AAA(84,1),370000/MX$AAA(84,2),300/MX$AAA(84,3),4	PE0812	74	400
		INITIAL	MX$AAA(85,1),400000/MX$AAA(85,2),300/MX$AAA(85,3),4	PE0812	75	401
		INITIAL	MX$AAA(86,1),103000/MX$AAA(86,2),350/MX$AAA(86,3),2	PE0812	76	402
		INITIAL	MX$AAA(87,1),103000/MX$AAA(87,2),350/MX$AAA(87,3),2	PE0812	77	403
		INITIAL	MX$AAA(88,1),103000/MX$AAA(88,2),350/MX$AAA(88,3),2	PE0812	78	404
		INITIAL	MX$AAA(89,1),103000/MX$AAA(89,2),350/MX$AAA(89,3),2	PE0812	79	405
		INITIAL	MX$AAA(90,1),103000/MX$AAA(90,2),300/MX$AAA(90,3),2	PE0812	80	406
		INITIAL	MX$AAA(91,1),103000/MX$AAA(91,2),300/MX$AAA(91,3),2	PE0812	81	407
		INITIAL	MX$AAA(92,1),103000/MX$AAA(92,2),300/MX$AAA(92,3),2	PE0812	82	408
		INITIAL	MX$AAA(93,1),103000/MX$AAA(93,2),300/MX$AAA(93,3),2	PE0812	83	409
		INITIAL	MX$AAA(94,1),103000/MX$AAA(94,2),300/MX$AAA(94,3),2	PE0812	84	410
		INITIAL	MX$AAA(95,1),103000/MX$AAA(95,2),300/MX$AAA(95,3),2	PE0812	85	411
		INITIAL	MX$AAA(96,1),103000/MX$AAA(96,2),300/MX$AAA(96,3),2	PE0812	86	412
		INITIAL	MX$AAA(97,1),103000/MX$AAA(97,2),300/MX$AAA(97,3),2	PE0812	87	413
		INITIAL	MX$AAA(98,1),517500/MX$AAA(98,2),400/MX$AAA(98,3),6	PE0812	88	414
		INITIAL	MX$AAA(99,1),517500/MX$AAA(99,2),400/MX$AAA(99,3),6	PE0812	89	415
		INITIAL	MX$AAA(100,1),517500/MX$AAA(100,2),400	PE0812	90	416
		INITIAL	MX$AAA(100,3),6	PE0812	91	417
		INITIAL	MX$AAA(101,1),517500/MX$AAA(101,2),400	PE0812	92	418
		INITIAL	MX$AAA(101,3),6	PE0812	93	419
		INITIAL	MX$AAA(102,1),517500/MX$AAA(102,2),300	PE0812	94	420
		INITIAL	MX$AAA(102,3),6	PE0812	95	421
		INITIAL	MX$AAA(103,1),517500/MX$AAA(103,2),300	PE0812	96	422
		INITIAL	MX$AAA(103,3),6	PE0812	97	423
		INITIAL	MX$AAA(104,1),517500/MX$AAA(104,2),300	PE0812	98	424
		INITIAL	MX$AAA(104,3),6	PE0812	99	425
		INITIAL	MX$AAA(105,1),517500/MX$AAA(105,2),300	PE0812	100	426
		INITIAL	MX$AAA(105,3),6	PE0812	101	427
		INITIAL	MX$AAA(106,1),517500/MX$AAA(106,2),350	PE0812	102	428
		INITIAL	MX$AAA(106,3),6	PE0812	103	429
		INITIAL	MX$AAA(107,1),517500/MX$AAA(107,2),350	PE0812	104	430
		INITIAL	MX$AAA(107,3),6	PE0812	105	431
		INITIAL	MX$AAA(108,1),517500/MX$AAA(108,2),350	PE0812	106	432
		INITIAL	MX$AAA(108,3),6	PE0812	107	433
		INITIAL	MX$AAA(109,1),517500/MX$AAA(109,2),350	PE0812	108	434
		INITIAL	MX$AAA(109,3),6	PE0812	109	435
		INITIAL	MX$AAA(110,1),226000/MX$AAA(110,2),300	PE0812	110	436
		INITIAL	MX$AAA(110,3),4	PE0812	111	437
		INITIAL	MX$AAA(111,1),226000/MX$AAA(111,2),300	PE0812	112	438
		INITIAL	MX$AAA(111,3),4	PE0812	113	439

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
		INITIAL	MX$AAA(112,1),226000/MX$AAA(112,2),300	PE0812	114	440
		INITIAL	MX$AAA(112,3),4	PE0812	115	441
		INITIAL	MX$AAA(113,1),226000/MX$AAA(113,2),300	PE0812	116	442
		INITIAL	MX$AAA(113,3),4	PE0812	117	443
		INITIAL	MX$AAA(114,1),226000/MX$AAA(114,2),300	PE0812	118	444
		INITIAL	MX$AAA(114,3),4	PE0812	119	445
		INITIAL	MX$AAA(115,1),226000/MX$AAA(115,2),300	PE0812	120	446
		INITIAL	MX$AAA(115,3),4	PE0812	121	447
		INITIAL	MX$AAA(116,1),226000/MX$AAA(116,2),300	PE0812	122	448
		INITIAL	MX$AAA(116,3),4	PE0812	123	449
		INITIAL	MX$AAA(117,1),226000/MX$AAA(117,2),300	PE0812	124	450
		INITIAL	MX$AAA(117,3),4	PE0812	125	451
		INITIAL	MX$AAA(118,1),18300/MX$AAA(118,2),350/MX$AAA(118,3),1	PE0812	126	452
		INITIAL	MX$AAA(119,1),18300/MX$AAA(119,2),350/MX$AAA(119,3),1	PE0812	127	453
		INITIAL	MX$AAA(120,1),18300/MX$AAA(120,2),350/MX$AAA(120,3),1	PE0812	128	454
		INITIAL	MX$AAA(121,1),18300/MX$AAA(121,2),350/MX$AAA(121,3),1	PE0812	129	455
		INITIAL	MX$AAA(122,1),18300/MX$AAA(122,2),300/MX$AAA(122,3),1	PE0812	130	456
		INITIAL	MX$AAA(123,1),18300/MX$AAA(123,2),300/MX$AAA(123,3),1	PE0812	131	457
		INITIAL	MX$AAA(124,1),18300/MX$AAA(124,2),300/MX$AAA(124,3),1	PE0812	132	458
		INITIAL	MX$AAA(125,1),18300/MX$AAA(125,2),300/MX$AAA(125,3),1	PE0812	133	459
		INITIAL	MX$AAA(126,1),18300/MX$AAA(126,2),300/MX$AAA(126,3),1	PE0812	134	460
		INITIAL	MX$AAA(127,1),18300/MX$AAA(127,2),300/MX$AAA(127,3),1	PE0812	135	461
		INITIAL	MX$AAA(128,1),18300/MX$AAA(128,2),300/MX$AAA(128,3),1	PE0812	136	462
		INITIAL	MX$AAA(129,1),18300/MX$AAA(129,2),300/MX$AAA(129,3),1	PE0812	137	463
		INITIAL	MH$CCC(6,1-3),60	PE0103	3	464
		INITIAL	MH$CCC(7,1),11/MH$CCC(7,2),12/MH$CCC(7,3),13	PE1208	15	465
		INITIAL	MH$CCC(8,1-3),2/MH$CCC(9,1-3),30/MH$CCC(10,1-3),5	PE1208	16	466
		INITIAL	MH$CCC(11,1-9),1320/MH$CCC(12,1),14/MH$CCC(12,2),15	PE0215	1	467
		INITIAL	MH$CCC(12,3),16/MH$CCC(13,1-3),2/MH$CCC(14,1-3),30	PE1208	18	468
		INITIAL	MH$CCC(15,1-9),1320/MH$CCC(16,1-3),36	PE0215	2	469
		INITIAL	MH$CCC(17,1-2),1320	PE0215	3	470
		INITIAL	MH$CCC(18,1),19/MH$CCC(18,2),19	PE0111	5	471
		INITIAL	MH$CCC(19,1-2),2/MH$CCC(20,1-2),30	PE0215	4	472
		INITIAL	MH$CCC(21,1-2),1320	PE0215	5	473
		INITIAL	MH$CCC(22,1-2),33/MH$CCC(23,1-2),8	PE0111	7	474
		INITIAL	MH$CCC(6,4-9),2/MH$CCC(7,4-9),21/MH$CCC(8,4-9),1	PE0103	4	475
		INITIAL	MH$CCC(9,4-9),10/MH$CCC(10,4-9),1	PE0215	6	476
		INITIAL	MH$CCC(12,4-9),22/MH$CCC(13,4-9),1/MH$CCC(14,4-9),10	PE1212	16	477
		INITIAL	MH$CCC(16,4-9),23/MH$CCC(17,4-9),1	PE0215	7	478
		INITIAL	MH$CCC(18,4-9),2/MH$CCC(19,4),14/MH$CCC(19,5),16	PE1212	18	479
		INITIAL	MH$CCC(19,6),15/MH$CCC(20,4-6),1/MH$CCC(21,4-6),12	PE1212	19	480
		INITIAL	MH$CCC(22,4-6),22/MH$CCC(23,4-6),1/MH$CCC(24,4-6),10	PE1212	20	481
		INITIAL	MH$CCC(25,1-2),240	PE0320	10	482
		INITIAL	MH$CCC(25,4),24/MH$CCC(25,5),26/MH$CCC(25,6-7),24	PE1212	21	483
		INITIAL	MH$CCC(25,8),26/MH$CCC(25,9),24/MH$CCC(26,4-9),1	PE1212	22	484
		INITIAL	MH$CCC(27,4-9),13/MH$CCC(28,4-9),12	PE0215	8	485
		INITIAL	MH$CCC(29,7-9),1320	PE0215	9	486
		INITIAL	MH$CCC(30,4),25/MH$CCC(30,5),27/MH$CCC(30,6),25	PE1212	24	487
		INITIAL	MH$CCC(31,4-6),1/MH$CCC(32,4-6),2/MH$CCC(33,4),18	PE1212	25	488
		INITIAL	MH$CCC(33,5),20/MH$CCC(33,6),19/MH$CCC(34,4-6),1	PE1212	26	489
		INITIAL	MH$CCC(35,4-6),12/MH$CCC(36,4),24/MH$CCC(36,5),26	PE0103	5	490
		INITIAL	MH$CCC(36,6),24/MH$CCC(37,4-6),1/MH$CCC(38,4-6),10	PE1212	28	491
		INITIAL	MH$CCC(39,4-6),1320/MH$CCC(40,4-6),22	PE0215	10	492
		INITIAL	MH$CCC(41,4-6),1	PE0215	11	493
		INITIAL	MH$CCC(42,4-6),18	PE1212	30	494

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
		INITIAL	MH$CCC(43,1-4),1320/MH$CCC(44,1),20/MH$CCC(44,2),31	PE0111	8	495
		INITIAL	MH$CCC(44,3),32/MH$CCC(44,4),33/MH$CCC(45,1-4),1	PE0111	9	496
		INITIAL	MH$CCC(46,1-4),30/MH$CCC(47,1-4),1320	PE0111	10	497
		INITIAL	MH$CCC(48,1-4),12	PE0111	11	498
		INITIAL	MH$CCC(49,4-9),1320	PE0216	1	499
		INITIAL	MH$CCC(6,10-13),4	PE0134	10	500
		INITIAL	MH$CCC(13,10),6/MH$CCC(14,11),10500/MH$CCC(14,12),500	PE0110	2	501
		INITIAL	MH$CCC(13,12),10000/MH$CCC(13,13),27254	PE0216	2	502
		INITIAL	MH$CCC(14,13),27754	PE0216	3	503
		INITIAL	MH$CCC(15,10),900/MH$CCC(16,11),10/MH$CCC(17,11),2	PE0110	3	504
		INITIAL	MH$CCC(18,11),480/MH$CCC(19,11),600	PE0110	4	505
		INITIAL	MH$CCC(20,12-13),28/MH$CCC(21,12-13),1	PE0110	5	506
		INITIAL	MH$CCC(22,12-13),2/MH$CCC(23,12-13),1	PE0110	6	507
		INITIAL	MH$CCC(24,12-13),480/MH$CCC(25,12-13),30	PE0110	7	508
		INITIAL	MH$CCC(26,12-13),1/MH$CCC(27,12-13),2	PE0110	8	509
		INITIAL	MH$CCC(28,12-13),2100/MH$CCC(29,12-13),29	PE0110	9	510
		INITIAL	MH$CCC(30,12-13),1/MH$CCC(31,12-13),2	PE0110	10	511
		INITIAL	MH$CCC(32,11),120/MH$CCC(32,12),360	PE0504	1	512
		INITIAL	MH$CCC(20,7),720	PE0819	1	513
		INITIAL	MH$CCC(1,1),30/MH$CCC(1,2-3),60/MH$CCC(1,4),30	PE0412	2	514
		INITIAL	MH$CCC(1,5-6),60/MH$CCC(1,7-9),60	PE0412	3	515
		INITIAL	MH$CCC(2,1),20/MH$CCC(2,2-3),10/MH$CCC(2,4),20	PE0412	4	516
		INITIAL	MH$CCC(2,5-6),10/MH$CCC(2,7-9),10	PE0412	5	517
		INITIAL	MH$CCC(1,10-13),60/MH$CCC(2,10-13),10	PE0412	6	518
		INITIAL	MX$FFF(3,1),20200/MX$FFF(3,2),26400	PE0111	12	519
		INITIAL	MX$FFF(3,3),35376/MX$FFF(3,4),29040	PE0111	13	520
		INITIAL	MH$CCC(10,1),60/MH$CCC(10,2-3),50	PE0712	9	521
		INITIAL	MH$CCC(10,4-9),10	PE0712	10	522
		INITIAL	MH$NNN(1,1),700/MH$NNN(2,1),411/MH$NNN(3,1),98	PE0822	38	523
		INITIAL	MH$NNN(4,1),154/MH$NNN(5,1),34/MH$NNN(6,1),9900	PE0822	39	524
		INITIAL	MH$NNN(7,1),3250/MH$NNN(8,1),6050/MH$NNN(9,1),5000	PE0822	40	525
		INITIAL	MH$NNN(10,1),1222/MH$NNN(11,1),1222/MH$NNN(12,1),1222	PE0822	41	526
		INITIAL	MH$NNN(13,1),1222/MH$NNN(14,1),1162/MH$NNN(15,1),1162	PE0822	42	527
		INITIAL	MH$NNN(16,1),1420/MH$NNN(17,1),131/MH$NNN(18,1),243	PE0822	43	528
		INITIAL	MH$NNN(19,1),75/MH$NNN(20,1),384/MH$NNN(21,1),2070	PE0822	44	529
		INITIAL	MH$NNN(22,1),2070/MH$NNN(23,1),2070/MH$NNN(24,1),2070	PE0822	45	530
		INITIAL	MH$NNN(25,1),1480/MH$NNN(26,1),1480/MH$NNN(27,1),1480	PE0822	46	531
		INITIAL	MH$NNN(28,1),1480/MH$NNN(29,1),400/MH$NNN(30,1),9900	PE0822	47	532
		INITIAL	MH$NNN(31,1),3250/MH$NNN(32,1),6050/MH$NNN(33,1),5000	PE0822	48	533
	*			NATURE	68	534
	*	MODEL SEGMENT 1	LANDING OPERATION	NATURE	69	535
	*			NATURE	70	536
1		GENERATE	,,,1 LANDING OPERATION	PE0320	11	537
2		ADVANCE	MH$CCC(25,1) SHORE PARTY ARRIVES WITH CONSTRUCTION	PE0320	13	538
	*		EQUIPMENT	PE0320	14	539
3		ADVANCE	MH$CCC(25,2) SHORE PARTY LAYS OUT BEACH	PE0320	15	540
4		LOGIC S	1 SET LOGIC SWITCH 1	PE0320	17	541
5		TERMINATE		PE0320	18	542
	*			NATURE	87	543
	*	MODEL SEGMENT 2	BSA DEVELOPMENT	NATURE	88	544
	*			NATURE	89	545
	*	1 = BSA ROADS		NATURE	90	546
	*	2 = DUMP 1		NATURE	91	547
	*	3 = DUMP 2		NATURE	92	548
	*	4 = DUMP 3		NATURE	93	549

```
BLOCK                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                           NUMBER
        *      5 = DUMP 4                                                  NATURE  94    550
        *                                                                  NATURE  95    551
      6        GENERATE   ,,,1,6      BSA DEVELOPMENT                     PE0525  14    552
      7        GATE LS    1           TEST FOR ARRIVAL OF EQUIPMENT       NATURE  97    553
      8        SPLIT      4,BSAA,1    FIVE TRANSACTIONS REQUIRED          NATURE  98    554
      9   BSAA PRIORITY   V$PRRTY     ASSIGN PRIORITIES                   NATURE  99    555
     10        ASSIGN     3,MH$B98(1,P1)                                  NATURE 100    556
     11        ADVANCE    MH$CCC(32,11)   DELAY TIME                      PE0504   2    557
     12        QUEUE      BSBUL                                           PE0321   1    558
     13        ENTER      BULL,MX$AAA(P3,3)   CAPTURE BULLDOZER   MAX 5   NATURE 101    559
     14        MARK       2           COPY CLOCK INTO PARAMETER 2         PE0820  37    560
     15        MSAVEVALUE MMM,P1,1,V$AAA,ML   SAVE START TIME FOR EACH     PE0820  38    561
        *                                       BSA COMPONENT              PE0820  39    562
     16        DEPART     BSBUL                                           PE0321   2    563
     17        ADVANCE    V$AAA       CLEAR                               NATURE 102    564
     18        LEAVE      BULL,MX$AAA(P3,3)   FREE BULLDOZER              NATURE 103    565
     19        TEST E     P1,2,BSAB   TEST FOR DUMP 1                     PE0320  19    566
     20        ASSIGN     3,7                                             PE0320  20    567
     21        ADVANCE    MH$CCC(32,11)   DELAY TIME                      PE0504   3    568
     22        QUEUE      BSSCP                                           PE0321   3    569
     23        ENTER      SCPR,MX$AAA(P3,3)   CAPTURE SCRAPER   MAX 1     PE0320  21    570
     24        DEPART     BSSCP                                           PE0321   4    571
     25        ADVANCE    V$AAA       DEPOSIT MATERIAL FOR BERMS          PE0320  22    572
     26        LEAVE      SCPR,MX$AAA(P3,3)   FREE SCRAPER                PE0320  23    573
     27        ASSIGN     3,8                                             PE0320  24    574
     28        ADVANCE    MH$CCC(32,11)   DELAY TIME                      PE0504   4    575
     29        QUEUE      BSSLD                                           PE0321   5    576
     30        ENTER      SLDR,MX$AAA(P3,3)   CAPTURE SCOOP LOADER   MAX 1 PE0320  25    577
     31        DEPART     BSSLD                                           PE0321   6    578
     32        ADVANCE    V$AAA       PILE EARTH, SHAPE BERMS             PE0320  26    579
     33        LEAVE      SLDR,MX$AAA(P3,3)   FREE SCOOP LOADER           PE0320  27    580
     34        TRANSFER   ,BSAF                                           PE0320  28    581
     35   BSAB TEST E     P1,1,BSAF   TEST FOR BSA ROADS                  PE0320  29    582
     36        ASSIGN     3,9                                             PE0320  30    583
     37        ADVANCE    MH$CCC(32,11)   DELAY TIME                      PE0504   5    584
     38        QUEUE      BSSCP                                           PE0321   7    585
     39        ENTER      SCPR,MX$AAA(P3,3)   CAPTURE SCRAPER   MAX 1     PE0320  31    586
     40        DEPART     BSSCP                                           PE0321   8    587
     41        ADVANCE    V$AAA       STRIP ROADS                         PE0320  32    588
     42        LEAVE      SCPR,MX$AAA(P3,3)   FREE SCRAPER                PE0320  33    589
     43        ASSIGN     3,13                                            PE0320  34    590
     44        ADVANCE    MH$CCC(32,11)   DELAY TIME                      PE0504   6    591
     45        QUEUE      BSDTR                                           PE0321   9    592
     46        ENTER      DTRK,MX$AAA(P3,3)   CAPTURE DUMP TRUCK   MAX 1   PE0320  35    593
     47        DEPART     BSDTR                                           PE0321  10    594
     48        ADVANCE    V$AAA       FILL (SUBSURFACE)                   PE0320  36    595
     49        LEAVE      DTRK,MX$AAA(P3,3)   FREE DUMP TRUCK             PE0320  37    596
     50        ASSIGN     3,11                                            PE0320  38    597
     51        ADVANCE    MH$CCC(32,11)   DELAY TIME                      PE0504   7    598
     52        QUEUE      BSRLL                                           PE0321  11    599
     53        ENTER      RLLR,MX$AAA(P3,3)   CAPTURE ROLLER   MAX 1      PE0320  39    600
     54        DEPART     BSRLL                                           PE0321  12    601
     55        ADVANCE    V$AAA       COMPACT (SUBSURFACE)                PE0320  40    602
     56        LEAVE      RLLR,MX$AAA(P3,3)   FREE ROLLER                 PE0320  41    603
     57        ASSIGN     3,12                                            PE0320  42    604
```

```
BLOCK
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                          CARD NUMBER
   58          ADVANCE    MH$CCC(32,11)   DELAY TIME                                    PE0504   8     605
   59          QUEUE      BSGRD                                                         PE0321   13    606
   60          ENTER      GRDR,MX$AAA(P3,3)   CPTURE GRADER   MAX 1                    PE0320   43    607
   61          DEPART     BSGRD                                                         PE0321   14    608
   62          ADVANCE    V$AAA       GRADE                                             PE0320   44    609
   63          LEAVE      GRDR,MX$AAA(P3,3)   FREE GRADER                               PE0320   45    610
   64          ASSIGN     3,13                                                          PE0320   46    611
   65          ADVANCE    MH$CCC(32,11)   DELAY TIME                                   PE0504   9     612
   66          QUEUE      BSDTR                                                         PE0321   15    613
   67          ENTER      DTRK,MX$AAA(P3,3)   CAPTURE DUMP TRUCK   MAX 1               PE0320   47    614
   68          DEPART     BSDTR                                                         PE0321   16    615
   69          ADVANCE    V$AAA       FILL (SURFACE)                                    PE0320   48    616
   70          LEAVE      DTRK,MX$AAA(P3,3)   FREE DUMP TRUCK                          PE0320   49    617
   71          ASSIGN     3,14                                                          PE0320   50    618
   72          ADVANCE    MH$CCC(32,11)   DELAY TIME                                   PE0504   10    619
   73          QUEUE      BSRLL                                                         PE0321   17    620
   74          ENTER      RLLR,MX$AAA(P3,3)   CAPTURE ROLLER   MAX 1                   PE0320   51    621
   75          DEPART     BSRLL                                                         PE0321   18    622
   76          ADVANCE    V$AAA       COMPACT (SURFACE)                                 PE0320   52    623
   77          LEAVE      RLLR,MX$AAA(P3,3)   FREE ROLLER                              PE0320   53    624
   78   BSAF   MARK       2           COPY CLOCK INTO PARAMETER 2                       PE1201   55    625
   79          MSAVEVALUE DDD,1,P1,V$AAB,ML   PUT CLOCK VALUE IN MATRIX                 PE1201   56    626
   80          MSAVEVALUE MMM,P1,2,V$AAB,ML   SAVE COMPLETION TIME FOR EACH             PE0820   40    627
               *                                BSA COMPONENT                           PE0820   41    628
   81   BSAG   TERMINATE                                                                PE1201   57    629
               *                                                                        PE1130   38    630
               *  MODEL SEGMENT 3       MAIN SUPPLY ROUTES                            PE1130   39    631
               *                                                                        PE1130   40    632
               *  P1 = 6 = MSR1         TEMPORARY ROUTE          P4 = 1               PE1130   41    633
               *  P1 = 7 = MSR2         TEMPORARY ROUTE          P4 = 2               PE1130   42    634
               *  P1 = 8 = MSR3         TEMPORARY ROUTE          P4 = 3               PE1130   43    635
               *  P1 = 9 = MSR4         TEMPORARY ROUTE          P4 = 4               PE1130   44    636
               *  P1 = 30 = MSR1        PERMANENT ROUTE          P4 = 1               PE1130   45    637
               *  P1 = 31 = MSR2        PERMANENT ROUTE          P4 = 2               PE1130   46    638
               *  P1 = 32 = MSR3        PERMANENT ROUTE          P4 = 3               PE1130   47    639
               *  P1 = 33 = MSR4        PERMANENT ROUTE          P4 = 4               PE1130   48    640
               *                                                                        PE1130   49    641
               *                                                                        PE1130   50    642
               *  TEMPORARY ROUTES                                                      PE1130   51    643
               *                                                                        PE1130   52    644
   82          GENERATE   ,,,1,5      TEMPORARY ROUTES                                 PE0525   15    645
   83          GATE LS    1           TEST FOR ARRIVAL OF EQUIPMENT                    PE1130   54    646
   84          ASSIGN     1,5                                                          PE1130   55    647
   85          SPLIT      3,MSRA,1    FOUR TRANSACTIONS REQUIRED                       PE1130   56    648
   86   MSRA   PRIORITY   V$PRPTY     ASSIGN PRIORITIES                                PE1130   57    649
   87          ASSIGN     4,P1                                                         PE1130   58    650
   88          ASSIGN     4-,5                                                         PE1130   59    651
   89          ASSIGN     3,MH$BBB(7,P4)                                               PE1130   60    652
   90          ADVANCE    MH$CCC(32,12)   DELAY TIME                                   PE0504   11    653
   91          QUEUE      MSBUL                                                        PE0321   19    654
   92          ENTER      BULL,MX$AAA(P3,3)   CAPTURE BULLDOZER   MAX 4               PE1130   61    655
   93          MARK       2           COPY CLOCK INTO PARAMETER 2                      PE0820   42    656
   94          MSAVEVALUE MMM,P1,1,V$AAB,ML   SAVE START TIME FOR EACH                 PE0820   43    657
               *                                TEMPORARY MSR COMPONENT                 PE0820   44    658
   95          DEPART     MSBUL                                                        PE0321   20    659
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
96		ADVANCE	V$AAA CLEAR	PE1130	62	660
97		LEAVE	BULL,MX$AAA(P3,3) FREE BULLDOZER	PE1130	63	661
98		MARK	2 COPY CLOCK INTO PARAMETER 2	PE1130	72	662
99		MSAVEVALUE	DDD,2,P4,V$AAB,ML PUT CLOCK VALUE IN MATRIX	PE1201	58	663
100		MSAVEVALUE	MMM,P1,2,V$AAB,ML SAVE COMPLETION TIME FOR EACH	PE0820	45	664
	*		TEMPORARY MSR COMPONENT	PE0820	46	665
101		ASSEMBLE	4	PE0301	7	666
102		LOGIC S	2 SET LOGIC SWITCH 2	PE0301	8	667
103		TERMINATE		PE1130	74	668
	*			PE1130	75	669
	*	PERMANENT ROUTES		PE1130	76	670
	*			PE1130	77	671
104		GENERATE	,,,1,1 PERMANENT ROUTES	PE0222	15	672
105		GATE LS	2 TEST FOR COMPLETION OF TEMPORARY ROUTES	PE0301	9	673
106		ADVANCE	MH$CCC(20,7) DELAY TIME BEFORE STARTING	PE0819	2	674
	*		PERMANENT MSR CONSTRUCTION	PE0819	3	675
107		ASSIGN	1,29	PE1130	80	676
108		SPLIT	3,MSRB,1 FOUR TRANSACTIONS REQUIRED	PE1130	81	677
109	MSRA	PRIORITY	V$PRTY ASSIGN PRIORITIES	PE1130	82	678
110		ASSIGN	4,P1	PE1130	83	679
111		ASSIGN	4-,29	PE1130	84	680
112		ASSIGN	3,MH$BBB(10,P4)	PE1130	85	681
113		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0504	14	682
114		QUEUE	MSSCP	PE0321	25	683
115		ENTER	SCPR,MX$AAA(P3,3) CAPTURE SCRAPER MAX 4	PE1130	86	684
116		MARK	2 COPY CLOCK INTO PARAMETER 2	PE0820	47	685
117		MSAVEVALUE	MMM,P1,1,V$AAB,ML SAVE START TIME FOR EACH	PE0820	48	686
	*		PERMANENT MSR COMPONENT	PE0820	49	687
118		DEPART	MSSCP	PE0321	26	688
119		ADVANCE	V$AAA STRIP	PE1130	87	689
120		LEAVE	SCPR,MX$AAA(P3,3) FREE SCRAPER	PE1130	88	690
121		ASSIGN	3,MH$BBB(11,P4)	PE1130	89	691
122		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0504	15	692
123		QUEUE	MSRLL	PE0321	27	693
124		ENTER	RLLR,MX$AAA(P3,3) CAPTURE ROLLER MAX 4	PE1130	90	694
125		DEPART	MSRLL	PE0321	28	695
126		ADVANCE	V$AAA COMPACT	PE1130	91	696
127		LEAVE	RLLR,MX$AAA(P3,3) FREE ROLLER	PE1130	92	697
128		ASSIGN	3,MH$BBB(12,P4)	PE1130	93	698
129		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0504	16	699
130		QUEUE	MSGRD	PE0321	29	700
131		ENTER	GRDR,MX$AAA(P3,3) CAPTURE GRADER MAX 4	PE1130	94	701
132		DEPART	MSGRD	PE0321	30	702
133		ADVANCE	V$AAA	PE1130	95	703
134		LEAVE	GRDR,MX$AAA(P3,3) FREE GRADER	PE1130	96	704
135		TEST G	P1,31,MSRC	PE1130	97	705
136		TRANSFER	,MSRD	PE1130	98	706
137	MSRC	ASSIGN	3,MH$BBB(13,P4)	PE0815	3	707
138		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0504	17	708
139		QUEUE	MSSFC	PE0321	31	709
140		ENTER	SFCR,MX$AAA(P3,3) CAPTURE SURFACER MAX 2	PE1130	100	710
141		DEPART	MSSFC	PE0321	32	711
142		ADVANCE	V$AAA SURFACE	PE1130	101	712
143		LEAVE	SFCR,MX$AAA(P3,3) FREE SURFACER	PE1130	102	713
144	MSRC	MARK	2 COPY CLOCK INTO PARAMETER 2	PE1130	103	714

```
BLOCK
NUMBER   *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                          CARD NUMBER
  145           MSAVEVALUE DDD,3,P4,V$AAB,ML   PUT CLOCK VALUE IN MATRIX          PE1201    59      715
  146           MSAVEVALUE MMM,P1,2,V$AAB,ML   SAVE COMPLETION TIME FOR EACH      PE0820    50      716
                *                                 PERMANENT MSR COMPONENT         PE0820    51      717
  147           TERMINATE                                                         PE1130   105      718
                *                                                                 PE1201    60      719
                *      MODEL SEGMENT 4       LSA DEVELOPMENT                      PE1201    61      720
                *                                                                 PE1201    62      721
                *      P1=14=STORAGE AREA 1      P4=1                            PE1201    63      722
                *      P1=15=STORAGE AREA 2      P4=2                            PE1201    64      723
                *      P1=16=STORAGE AREA 3      P4=3                            PE1201    65      724
                *      P1=17=UNSTUFFING AREA (U.A.)      P4=4                    PE1201    66      725
                *      P1=18=TRUCK LOADING AREA (T.L.A.)      P4=5               PE1201    67      726
                *      P1=19=PALLET STAGING AREA (P.S.A.)      P4=6              PE1201    68      727
                *      P1=20=ADMINISTRATIVE AREA (A.A.)      P4=7                PE1201    69      728
                *                                                                 PE1201    70      729
  148           GENERATE   ,,,1,3     LSA DEVELOPMENT                            PE0222    16      730
  149           GATE LS    2          TEST FOR COMPLETION OF TEMPORARY ROUTES    PE0301    10      731
  150           ADVANCE    MH$CCC(20,8)   DELAY TIME BEFORE STARTING             PE0819     4      732
                *                           LSA CONSTRUCTION                    PE0819     5      733
  151           ASSIGN     1,13                                                  PE1201    73      734
  152           SPLIT      6,LSAA,1   SEVEN TRANSACTIONS REQUIRED                PE1201    74      735
  153   LSAA    PRIORITY   V$PRRTY    ASSIGN PRIORITIES                          PE1201    75      736
  154           ASSIGN     4,P1                                                  PE1201    76      737
  155           ASSIGN     4-,13                                                 PE1201    77      738
  156           ASSIGN     3,MH$BBB(14,P4)                                       PE1201    78      739
  157           ADVANCE    MH$CCC(32,12)   DELAY TIME                           PE0504    18      740
  158           QUEUE      LSBUL                                                 PE0321    33      741
  159           ENTER      BULL,MX$AAA(P3,3)   CAPTURE BULLDOZER   MAX 7        PE1201    79      742
  160           MARK       2          COPY CLOCK INTO PARAMETER 2                PE0820    52      743
  161           MSAVEVALUE MMM,P1,1,V$AAB,ML   SAVE START TIME FOR EACH          PE0820    53      744
                *                                 LSA COMPONENT                   PE0820    54      745
  162           DEPART     LSBUL                                                 PE0321    34      746
  163           ADVANCE    V$AAA      CLEAR                                      PE1201    80      747
  164           LEAVE      BULL,MX$AAA(P3,3)   FREE BULLDOZER                    PE1201    81      748
  165           TEST NE    P1,19,LSAD                                            PE1201    82      749
  166           TEST NE    P1,18,LSAB                                            PE1201    83      750
  167           ASSIGN     3,MH$BBB(15,P4)                                       PE1201    84      751
  168           ADVANCE    MH$CCC(32,12)   DELAY TIME                           PE0504    19      752
  169           QUEUE      LSSCP                                                 PE0321    35      753
  170           ENTER      SCPR,MX$AAA(P3,3)   CAPTURE SCRAPER   MAX 5          PE1201    85      754
  171           DEPART     LSSCP                                                 PE0321    36      755
  172           ADVANCE    V$AAA      STRIP                                      PE1201    86      756
  173           LEAVE      SCPR,MX$AAA(P3,3)   FREE SCRAPER                      PE1201    87      757
  174   LSAB    SPLIT      1,LSAC                                                PE1201    88      758
  175           ASSIGN     3,MH$BBB(16,P4)                                       PE1201    89      759
  176           ADVANCE    MH$CCC(32,12)   DELAY TIME                           PE0504    20      760
  177           QUEUE      LSDTR                                                 PE0321    37      761
  178           ENTER      DTRK,MX$AAA(P3,3)   CAPTURE TRUCK   MAX 6           PE1201    90      762
  179           DEPART     LSDTR                                                 PE0321    38      763
  180           ADVANCE    V$AAA      FILL                                       PE1201    91      764
  181           LEAVE      DTRK,MX$AAA(P3,3)   FREE TRUCK                        PE1201    92      765
  182           TRANSFER   ,LSAE                                                 PE1201    93      766
  183   LSAC    ASSIGN     3,MH$BBB(17,P4)                                       PE1201    94      767
  184           ADVANCE    MH$CCC(32,12)   DELAY TIME                           PE0504    21      768
  185           QUEUE      LSRLL                                                 PE0321    39      769
```

```
BLOCK                                                                                                    CARD
NUMBER    *LOC    OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                          NUMBER

  186             ENTER      RLLR,MX$AAA(P3,3)   CAPTURE ROLLER   MAX 6            PE1201    95       770
  187             DEPART     LSRLL                                                    PE0321    40       771
  188             ADVANCE    V$AAA       COMPACT                                      PE1201    96       772
  189             LEAVE      RLLR,MX$AAA(P3,3)   FREE ROLLER                       PE1201    97       773
  190     LSAD    ASSIGN     3,MH$BBB(18,P4)                                          PE1201    98       774
  191             ADVANCE    MH$CCC(32,12)   DELAY TIME                             PE0504    22       775
  192             QUEUE      LSGRD                                                    PE0321    41       776
  193             ENTER      GRDR,MX$AAA(P3,3)   CAPTURE GRADER   MAX 7            PE1201    99       777
  194             DEPART     LSGRD                                                    PE0321    42       778
  195             ADVANCE    V$AAA       GRADE                                        PE1201   100       779
  196             LEAVE      GRDR,MX$AAA(P3,3)   FREE GRADER                      PE1201   101       780
  197     LSAF    TEST NE    P1,19,LSAL                                               PE1201   102       781
  198             TEST E     P1,14,LSAF                                               PE1201   103       782
  199             ASSEMBLE   2                                                        PE1201   104       783
  200             TRANSFER   ,LSAL                                                    PE1201   105       784
  201     LSAF    TEST E     P1,15,LSAG                                               PE1201   106       785
  202             ASSEMBLE   2                                                        PE1201   107       786
  203             TRANSFER   ,LSAL                                                    PE1201   108       787
  204     LSAG    TEST E     P1,16,LSAH                                               PE1201   109       788
  205             ASSEMBLE   2                                                        PE1201   110       789
  206             TRANSFER   ,LSAL                                                    PE1201   111       790
  207     LSAH    TEST E     P1,17,LSAJ                                               PE1201   112       791
  208             ASSEMBLE   2                                                        PE1201   113       792
  209             TRANSFER   ,LSAL                                                    PE1201   114       793
  210     LSAJ    TEST E     P1,18,LSAK                                               PE1201   115       794
  211             ASSEMBLE   2                                                        PE1201   116       795
  212             TRANSFER   ,LSAL                                                    PE1201   117       796
  213     LSAK    ASSEMBLE   2                                                        PE1201   118       797
  214     LSAL    TEST L     P1,18,LSAM                                               PE1201   119       798
  215             ASSIGN     3,MH$BBB(19,P4)                                          PE1201   120       799
  216             ADVANCE    MH$CCC(32,12)   DELAY TIME                             PE0504    23       800
  217             QUEUE      LSSFC                                                    PE0321    43       801
  218             ENTER      SFCR,MX$AAA(P3,3)   CAPTURE SURFACER   MAX 4          PE1201   121       802
  219             DEPART     LSSFC                                                    PE0321    44       803
  220             ADVANCE    V$AAA       SURFACE                                      PE1201   122       804
  221             LEAVE      SFCR,MX$AAA(P3,3)   FREE SURFACER                    PE1201   123       805
  222     LSAM    MARK       2           COPY CLOCK INTO PARAMETER 2                  PE1201   124       806
  223             MSAVEVALUE DDC,4,P4,V$AAR,ML   PUT CLOCK VALUE IN MATRIX         PE1201   125       807
  224             MSAVEVALUE MMV,P1,2,V$AAR,ML   SAVE COMPLETION TIME FOR EACH     PE0820    55       808
                  *                                LSA COMPONENT                   PE0820    56       809
  225     LSAN    TERMINATE                                                        PE1208    23       810
                  *                                                                PE1206    22       811
                  *     MODEL SEGMENT 5        AMMUNITION SUPPLY POINTS (ASP)      PE1206    23       812
                  *                                                                PE1206    24       813
                  *     P1=21=ROAD A1          P4=1                                PE1206    25       814
                  *     P1=22=ROAD A2          P4=2                                PE1206    26       815
                  *     P1=23=ROAD A3          P4=3                                PE1206    27       816
                  *     P1=24=ROAD A4          P4=4                                PE1206    28       817
                  *     P1=25=REVETMENT A1     P4=5                                PE1206    29       818
                  *     P1=26=REVETMENT A2     P4=6                                PE1206    30       819
                  *     P1=27=REVETMENT A3     P4=7                                PE1206    31       820
                  *     P1=28=REVETMENT A4     P4=8                                PE1206    32       821
                  *     P1=29=PERIMETER        P4=9                                PE1206    33       822
                  *                                                                PE1206    34       823
  226             GENERATE   ,,,1,2      AMMUNITION SUPPLY POINTS (ASP)           PE0222    29       824
```

```
BLOCK                                                                                    CARD
NUMBER   *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                           NUMBER
  227           GATE LS    2            TEST FOR COMPLETION OF TEMPORARY ROUTES  PE0321   11    825
  228           ADVANCE    MH$CCC(20,9)    DELAY TIME BEFORE STARTING            PE0819    6    826
                *                                ASP CONSTRUCTION                 PE0819    7    827
  229           ASSIGN     1,20                                                  PE1206   37    828
  230           SPLIT      8,ASPA,1     NINE TRANSACTIONS REQUIRED               PE1206   38    829
  231   ASPA    PRIORITY   V$PRRTY     ASSIGN PRIORITIES                         PE1206   39    830
  232           ASSIGN     4,P1                                                  PE1206   40    831
  233           ASSIGN     4-,20                                                 PE1206   41    832
  234           ASSIGN     3,MH$RRR(20,P4)                                       PE1206   42    833
  235           ADVANCE    MH$CCC(32,12)    DELAY TIME                           PE0504   24    834
  236           QUEUE      ASBUL                                                 PE0321   45    835
  237           ENTER      BULL,MX$AAA(P3,3)   CAPTURE BULLDOZER   MAX 9         PE1206   43    836
  238           MARK       2            COPY CLOCK INTO PARAMETER 2              PE0820   57    837
  239           MSAVEVALUE MMM,P1,1,V$AAB,ML   SAVE START TIME FOR EACH           PE0820   58    838
                *                                ASP COMPONENT                    PE0820   59    839
  240           DEPART     ASBUL                                                 PE0321   46    840
  241           ADVANCE    V$AAA       CLEAR                                     PE1206   44    841
  242           LEAVE      BULL,MX$AAA(P3,3)   FREE BULLDOZER                   PE1206   45    842
  243           TEST NE    P1,29,ASPH                                            PE1206   46    843
  244           TEST G     P1,24,ASPR                                            PE1206   47    844
  245           ASSIGN     3,MH$BBB(21,P4)                                       PE1206   48    845
  246           ADVANCE    MH$CCC(32,12)    DELAY TIME                           PE0504   25    846
  247           QUEUE      ASSCP                                                 PE0321   47    847
  248           ENTER      SCPR,MX$AAA(P3,3)   CAPTURE SCRAPER   MAX 4          PE1206   49    848
  249           DEPART     ASSCP                                                 PE0321   48    849
  250           ADVANCE    V$AAA       DEPOSIT MATERIAL FOR BERMS                PE1206   50    850
  251           LEAVE      SCPR,MX$AAA(P3,3)   FREE SCRAPER                     PE1206   51    851
  252           ASSIGN     3,MH$BBB(22,P4)                                       PE1206   52    852
  253           ADVANCE    MH$CCC(32,12)    DELAY TIME                           PE0504   26    853
  254           QUEUE      ASSLD                                                 PE0321   49    854
  255           ENTER      SLDR,MX$AAA(P3,3)   CAPTURE SCOOP LOADER   MAX 4      PE1206   53    855
  256           DEPART     ASSLD                                                 PE0321   50    856
  257           ADVANCE    V$AAA       PILE EARTH AT BERMS                       PE1206   54    857
  258           LEAVE      SLDR,MX$AAA(P3,3)   FREE SCOOP LOADER                PE1206   55    858
  259           ASSIGN     3,MH$BBB(23,P4)                                       PE1206   56    859
  260           ADVANCE    MH$CCC(32,12)    DELAY TIME                           PE0504   27    860
  261           QUEUE      ASGRD                                                 PE0321   51    861
  262           ENTER      GRDR,MX$AAA(P3,3)   CAPTURE GRADER   MAX 4           PE1206   57    862
  263           DEPART     ASGRD                                                 PE0321   52    863
  264           ADVANCE    V$AAA       SHAPE BERMS                               PE1206   58    864
  265           LEAVE      GRDR,MX$AAA(P3,3)   FREE GRADER                      PE1206   59    865
  266           TRANSFER   ,ASPH                                                 PE1206   60    866
  267   ASPR    SPLIT      1,ASPC                                                PE1206   61    867
  268           ASSIGN     3,MH$BBB(24,P4)                                       PE1206   62    868
  269           ADVANCE    MH$CCC(32,12)    DELAY TIME                           PE0504   28    869
  270           QUEUE      ASRLL                                                 PE0321   53    870
  271           ENTER      RLLR,MX$AAA(P3,3)   CAPTURE ROLLER   MAX 4           PE1206   63    871
  272           DEPART     ASRLL                                                 PE0321   54    872
  273           ADVANCE    V$AAA       COMPACT ROADS                             PE1206   64    873
  274           LEAVE      RLLR,MX$AAA(P3,3)   FREE ROLLER                     PE1206   65    874
  275           ASSIGN     3,MH$BBB(25,P4)                                       PE1206   66    875
  276           ADVANCE    MH$CCC(32,12)    DELAY TIME                           PE0504   29    876
  277           QUEUE      ASGRD                                                 PE0321   55    877
  278           ENTER      GRDR,MX$AAA(P3,3)   CAPTURE GRADER   MAX 4           PE1206   67    878
  279           DEPART     ASGRD                                                 PE0321   56    879
```

```
BLOCK                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                              NUMBER

  280           ADVANCE    V$AAA       GRADE ROADS                          PE1206  68   880
  281           LEAVE      GRDR,MX$AAA(P3,3)   FREE GRADER                 PE1206  69   881
  282           TRANSFER   ,ASPD                                            PE1206  70   882
  283   ASPC    ASSIGN     3,MH$B98(26,P4)                                   PE1206  71   883
  284           ADVANCE    MH$CCC(32,12)   DELAY TIME                        PE0504  30   884
  285           QUEUE      ASSCP                                             PE0321  57   885
  286           ENTER      SCPR,MX$AAA(P3,3)   CAPTURE SCRAPER   MAX 4       PE1206  72   886
  287           DEPART     ASSCP                                             PE0321  58   887
  288           ADVANCE    V$AAA       STRIP ROADS                           PE1206  73   888
  289           LEAVE      SCPR,MX$AAA(P3,3)   FREE SCRAPER                  PE1206  74   889
  290   ASPE    TEST E     P1,21,ASPE                                        PE1206  75   890
  291           ASSEMBLE   2                                                 PE1206  76   891
  292           TRANSFER   ,ASPH                                             PE1206  77   892
  293   ASPF    TEST E     P1,22,ASPF                                        PE1206  78   893
  294           ASSEMBLE   2                                                 PE1206  79   894
  295           TRANSFER   ,ASPH                                             PE1206  80   895
  296   ASPF    TEST E     P1,23,ASPG                                        PE1206  81   896
  297           ASSEMBLE   2                                                 PE1206  82   897
  298           TRANSFER   ,ASPH                                             PE1206  83   898
  299   ASPG    ASSEMBLE   2                                                 PE1206  84   899
  300   ASPH    MARK       2           COPY CLOCK INTO PARAMETER 2           PE1206  85   900
  301           MSAVEVALUE DDD,5,P4,V$AAB,ML   PUT CLOCK VALUE IN MATRIX     PE1206  86   901
  302           MSAVEVALUE MMM,P1,2,V$AAB,ML   SAVE COMPLETION TIME FOR EACH PE0820  60   902
          *                                     ASP COMPONENT                PE0820  61   903
  303   ASPJ    TERMINATE                                                    PE1208  24   904
          *                                                                  PE0525  16   905
          *     MODEL SEGMENT 5.5     AMPHIBIOUS ASSAULT FUEL SYSTEM (AAFS)  PE0525  17   906
          *                                                                  PE0525  18   907
          *     P1=10=AAFS1=BERM1     P4=1                                   PE0525  19   908
          *     P1=11=AAFS2=BERM2     P4=2                                   PE0525  20   909
          *     P1=12=AAFS3=BERM3     P4=3                                   PE0525  21   910
          *     P1=13=AAFS4=BERM4     P4=4                                   PE0525  22   911
          *                                                                  PE0525  23   912
  304           GENERATE   ,,,1,4      AMPHIBIOUS ASSAULT FUEL SYSTEM (AAFS) PE0525  24   913
  305           GATE LS    2           TEST FOR COMPLETION OF TEMPORARY ROUTES PE0525  25   914
  306           ADVANCE    MH$CCC(20,10)   DELAY TIME BEFORE STARTING        PE0819   8   915
          *                                    AAFS CONSTRUCTION             PE0819   9   916
  307           ASSIGN     1,9                                               PE0525  26   917
  308           SPLIT      3,AAFS4,1   FOUR TRANSACTIONS REQUIRED            PE0525  27   918
  309   AAFS4   PRIORITY   V$PRRTY     ASSIGN PRIORITIES                     PE0525  28   919
  310           ASSIGN     4,P1                                              PE0525  29   920
  311           ASSIGN     4-,9                                              PE0525  30   921
  312           ASSIGN     3,MH$B98(27,P4)                                   PE0525  31   922
  313           ADVANCE    MH$CCC(32,12)   DELAY TIME                        PE0525  32   923
  314           QUEUE      AABUL                                             PE0525  33   924
  315           ENTER      BULL,MX$AAA(P3,3)   CAPTURE BULLDOZER     MAX 4   PE0525  34   925
  316           MARK       2           COPY CLOCK INTO PARAMETER 2           PE0820  62   926
  317           MSAVEVALUE MMM,P1,1,V$AAB,ML   SAVE START TIME FOR EACH      PE0820  63   927
          *                                     AAFS COMPONENT               PE0820  64   928
  318           DEPART     AABUL                                             PE0525  35   929
  319           ADVANCE    V$AAA       CLEAR                                 PE0525  36   930
  320           LEAVE      BULL,MX$AAA(P3,3)   FREE BULLDOZER                PE0525  37   931
  321           ASSIGN     3,MH$B98(26,P4)                                   PE0525  38   932
  322           ADVANCE    MH$CCC(32,12)   DELAY TIME                        PE0525  39   933
  323           QUEUE      AAGRD                                             PE0525  40   934
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
324		ENTER	GRDR,MX$AAA(P3,3) CAPTURE GRADER MAX 4	PE0525	41	935
325		DEPART	AAGRD	PE0525	42	936
326		ADVANCE	V$AAA GRADE	PE0525	43	937
327		LEAVE	GRDR,MX$AAA(P3,3) FREE GRADER	PE0525	44	938
328		ASSIGN	3,MH$BBB(29,P4)	PE0525	45	939
329		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0525	46	940
330		QUEUE	AASCP	PE0525	47	941
331		ENTER	SCPR,MX$AAA(P3,3) CAPTURE SCRAPER MAX 4	PE0525	48	942
332		DEPART	AASCP	PE0525	49	943
333		ADVANCE	V$AAA DEPOSIT BERM MATERIAL	PE0525	50	944
334		LEAVE	SCPR,MX$AAA(P3,3) FREE SCRAPER	PE0525	51	945
335		ASSIGN	3,MH$BBB(30,P4)	PE0525	52	946
336		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0525	53	947
337		QUEUE	AASLD	PE0525	54	948
338		ENTER	SLDR,MX$AAA(P3,3) CAPTURE SCOOP LOADER MAX 4	PE0525	55	949
339		DEPART	AASLD	PE0525	56	950
340		ADVANCE	V$AAA PILE EARTH AT BERM	PE0525	57	951
341		LEAVE	SLDR,MX$AAA(P3,3) FREE SCOOP LOADER	PE0525	58	952
342		ASSIGN	3,MH$BBB(31,P4)	PE0525	59	953
343		ADVANCE	MH$CCC(32,12) DELAY TIME	PE0525	60	954
344		QUEUE	AAGRD	PE0525	61	955
345		ENTER	GRDR,MX$AAA(P3,3) CAPTURE GRADER MAX 4	PE0525	62	956
346		DEPART	AAGRD	PE0525	63	957
347		ADVANCE	V$AAA SHAPE BERM	PE0525	64	958
348		LEAVE	GRDR,MX$AAA(P3,3) FREE GRADER	PE0525	65	959
349		MARK	2 COPY CLOCK INTO PARAMETER 2	PE0525	66	960
350		MSAVEVALUE	DDD,6,P4,V$AAB,ML PUT CLOCK CALUE IN MATRIX	PE0525	67	961
351		MSAVEVALUE	MMM,P1,2,V$AAB,ML SAVE COMPLETION TIME FOR EACH	PE0820	65	962
	*		AAFS COMPONENT	PE0820	66	963
352		TERMINATE		PE0525	68	964
	*			NATURE	137	965
	*	MODEL SEGMENT 6	CARGO DELIVERY	PE1212	31	966
	*			NATURE	139	967
	*	TYPES OF CARGO AS INDICATED IN P1		NATURE	140	968
	*	1 = BREAK BULK GENERAL CARGO		NATURE	141	969
	*	2 = BREAK BULK POL		NATURE	142	970
	*	3 = BREAK BULK AMMO		NATURE	143	971
	*	4 = CONTAINER GENERAL CARGO TO BE UNSTUFFED		PE1212	32	972
	*	5 = CONTAINER AMMO TO BE UNSTUFFED		PE1212	33	973
	*	6 = CONTAINER DRUM POL TO BE UNSTUFFED		PE1212	34	974
	*	7 = CONTAINER GENERAL CARGO NOT TO BE UNSTUFFED		PE1212	35	975
	*	8 = CONTAINER AMMO NOT TO BE UNSTUFFED		PE1212	36	976
	*	9 = CONTAINER DRUM POL NOT TO BE UNSTUFFED		PE1212	37	977
	*	10 = SQUARE, SELF POWERED VEHICLES, ON WHEELS		PA0828	1	978
	*	11 = SQUARE, NON-POWERED VEHICLES, ON WHEELS		PA0828	2	979
	*	13 = OUTSIZED CARGO		PA0828	3	980
	*	TYPE 1 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY		PE0712	11	981
353		GENERATE	XH$AEC11,,X$AEC12,XH$AEC13	PE0833	1	982
354		ASSIGN	1,1 ASSIGN CARGO TYPE	PE0712	13	983
355		ASSIGN	2,XH$AEC14 NUMBER OF PALLETS PER LIGHTER	PE0833	2	984
356		MSAVEVALUE	FFF,1,P1,V$AAN UPDATE AMOUNT OF TYPE 1 CARGO	PE0712	15	985
	*		WAITING AT BEACH	PE0712	16	986
357		UNLINK	PH1,*RETRY,ALL	PE0731	1	987
358		TERMINATE		PE0712	17	988
	*	TYPE 2 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY		PE0712	18	989

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
359		GENERATE	XH$AEC21,,X$AEC22,XH$AEC23		PE0803	3	990
360		ASSIGN	1,2	ASSIGN CARGO TYPE	PE0712	20	991
361		ASSIGN	2,XH$AEC24	NUMBER OF PALLETS PER LIGHTER	PE0803	4	992
362		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 2 CARGO	PE0712	22	993
	*			WAITING AT BEACH	PE0712	23	994
363		UNLINK	PH1,RETRY,ALL		PE0731	2	995
364		TERMINATE			PE0712	24	996
	*	TYPE 3 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY			PE0712	25	997
365		GENERATE	XH$AEC31,,X$AEC32,XH$AEC33		PE0803	5	998
366		ASSIGN	1,3	ASSIGN CARGO TYPE	PE0712	27	999
367		ASSIGN	2,XH$AEC34	NUMBER OF PALLETS PER LIGHTER	PE0803	6	1000
368		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 3 CARGO	PE0712	29	1001
	*			WAITING AT BEACH	PE0712	30	1002
369		UNLINK	PH1,RETRY,ALL		PE0731	3	1003
370		TERMINATE			PE0712	31	1004
	*	TYPE 4 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY			PE0712	32	1005
371		GENERATE	XH$AEC41,,X$AEC42,XH$AEC43		PE0803	7	1006
372		ASSIGN	1,4		PE0712	34	1007
373		ASSIGN	2,XH$AEC44	NUMBER OF CONTAINERS PER LIGHTER	PE0803	8	1008
374		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 4 CARGO	PE0712	36	1009
	*			WAITING AT BEACH	PE0712	37	1010
375		UNLINK	PH1,RETRY,ALL		PE0731	4	1011
376		TERMINATE			PE0712	38	1012
	*	TYPE 5 CARGO FOR ASSAULT ECHELON INITAIL SUPPLY			PE0712	39	1013
377		GENERATE	XH$AEC51,,X$AEC52,XH$AEC53		PE0803	9	1014
378		ASSIGN	1,5	ASSIGN CARGO TYPE	PE0712	41	1015
379		ASSIGN	2,XH$AEC54	NUMBER OF CONTAINERS PER LIGHTER	PE0803	10	1016
380		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 5 CARGO	PE0712	43	1017
	*			WAITING AT BEACH	PE0712	44	1018
381		UNLINK	PH1,RETRY,ALL		PE0731	5	1019
382		TERMINATE			PE0712	45	1020
	*	TYPE 6 CARGO FOR ASSAULT ECHELON INITAIL SUPPLY			PE0712	46	1021
383		GENERATE	XH$AEC61,,X$AEC62,XH$AEC63		PE0803	11	1022
384		ASSIGN	1,6	ASSIGN CARGO TYPE	PE0712	48	1023
385		ASSIGN	2,XH$AEC64	NUMBER OF CONTAINERS PER LIGHTER	PE0803	12	1024
386		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 6 CARGO	PE0712	50	1025
	*			WAITING AT BEACH	PE0712	51	1026
387		UNLINK	PH1,RETRY,ALL		PE0731	6	1027
388		TERMINATE			PE0712	52	1028
	*	TYPE 7 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY			PE0712	53	1029
389		GENERATE	XH$AEC71,,X$AEC72,XH$AEC73		PE0803	13	1030
390		ASSIGN	1,7	ASSIGN CARGO TYPE	PE0712	55	1031
391		ASSIGN	2,XH$AEC74	NUMBER OF CONTAINERS PER LIGHTER	PE0803	14	1032
392		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 7 CARGO	PE0712	57	1033
	*			WAITING AT BEACH	PE0712	58	1034
393		UNLINK	PH1,RETRY,ALL		PE0731	7	1035
394		TERMINATE			PE0712	59	1036
	*	TYPE 8 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY			PE0712	60	1037
395		GENERATE	XH$AEC81,,X$AEC82,XH$AEC83		PE0803	15	1038
396		ASSIGN	1,8	ASSIGN CARGO TYPE	PE0712	62	1039
397		ASSIGN	2,XH$AEC84	NUMBER OF CONTAINERS PER LIGHTER	PE0803	16	1040
398		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 8 CARGO	PE0712	64	1041
	*			WAITING AT BEACH	PE0712	65	1042
399		UNLINK	PH1,RETRY,ALL		PE0731	8	1043
400		TERMINATE			PE0712	66	1044

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
	*	TYPE 9 CARGO FOR ASSAULT ECHELON INITIAL SUPPLY			PE0712	67	1045
401		GENERATE	XH$AEC91,,X$AEC92,XH$AEC93		PE0803	17	1046
402		ASSIGN	1,9	ASSIGN CARGO TYPE	PE0712	69	1047
403		ASSIGN	2,XH$AEC94	NUMBER OF CONTAINERS PER LIGHTER	PE0803	18	1048
404		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 9 CARGO	PE0712	71	1049
	*			WAITING AT BEACH	PE0712	72	1050
405		UNLINK	PH1,RETRY,ALL		PE0731	9	1051
406		TERMINATE			PE0712	73	1052
	*	TYPE 1 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	7	1053
407		GENERATE	XH$AFE11,,X$AFE12,XH$AFE13		PE0803	19	1054
408		ASSIGN	1,1	ASSIGN CARGO TYPE	PE0714	9	1055
409		ASSIGN	2,XH$AFE14	NUMBER OF PALLETS PER LIGHTER	PE0803	20	1056
410		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 1 CARGO	PE0714	11	1057
	*			WAITING AT BEACH	PE0714	12	1058
411		UNLINK	PH1,RETRY,ALL		PE0731	10	1059
412		TERMINATE			PE0714	13	1060
	*	TYPE 2 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	14	1061
413		GENERATE	XH$AFE21,,X$AFE22,XH$AFE23		PE0803	21	1062
414		ASSIGN	1,2	ASSIGN CARGO TYPE	PE0714	16	1063
415		ASSIGN	2,XH$AFE24	NUMBER OF PALLETS PER LIGHTER	PE0803	22	1064
416		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 2 CARGO	PE0714	18	1065
	*			WAITING AT BEACH	PE0714	19	1066
417		UNLINK	PH1,RETRY,ALL		PE0731	11	1067
418		TERMINATE			PE0714	20	1068
	*	TYPE 3 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	21	1069
419		GENERATE	XH$AFE31,,X$AFE32,XH$AFE33		PE0803	23	1070
420		ASSIGN	1,3	ASSIGN CARGO TYPE	PE0714	23	1071
421		ASSIGN	2,XH$AFE34	NUMBER OF PALLETS PER LIGHTER	PE0803	24	1072
422		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 3 CARGO	PE0714	25	1073
	*			WAITING AT BEACH	PE0714	26	1074
423		UNLINK	PH1,RETRY,ALL		PE0731	12	1075
424		TERMINATE			PE0714	27	1076
	*	TYPE 4 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	28	1077
425		GENERATE	XH$AFE41,,X$AFE42,XH$AFE43		PE0803	25	1078
426		ASSIGN	1,4	ASSIGN CARGO TYPE	PE0714	30	1079
427		ASSIGN	2,XH$AFE44	NUMBER OF CONTAINERS PER LIGHTER	PE0803	26	1080
428		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 4 CARGO	PE0714	32	1081
	*			WAITING AT BEACH	PE0714	33	1082
429		UNLINK	PH1,RETRY,ALL		PE0731	13	1083
430		TERMINATE			PE0714	34	1084
	*	TYPE 5 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	35	1085
431		GENERATE	XH$AFE51,,X$AFE52,XH$AFE53		PE0803	27	1086
432		ASSIGN	1,5	ASSIGN CARGO TYPE	PE0714	37	1087
433		ASSIGN	2,XH$AFE54	NUMBER OF CONTAINERS PER LIGHTER	PE0803	28	1088
434		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 5 CARGO	PE0714	39	1089
	*			WAITING AT BEACH	PE0714	40	1090
435		UNLINK	PH1,RETRY,ALL		PE0731	14	1091
436		TERMINATE			PE0714	41	1092
	*	TYPE 6 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	42	1093
437		GENERATE	XH$AFE61,,X$AFE62,XH$AFE63		PE0803	29	1094
438		ASSIGN	1,6	ASSIGN CARGO TYPE	PE0714	44	1095
439		ASSIGN	2,XH$AFE64	NUMBER OF CONTAINERS PER LIGHTER	PE0803	30	1096
440		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 6 CARGO	PE0714	46	1097
	*			WAITING AT BEACH	PE0714	47	1098
441		UNLINK	PH1,RETRY,ALL		PE0731	15	1099

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
442		TERMINATE			PE0714	48	1100
	*	TYPE 7 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	49	1101
443		GENERATE	XH$AFE71,,X$AFE72,XH$AFE73		PE0803	31	1102
444		ASSIGN	1,7	ASSIGN CARGO TYPE	PE0714	51	1103
445		ASSIGN	2,XH$AFE74	NUMBER OF CONTAINERS PER LIGHTER	PE0803	32	1104
446		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 7 CARGO	PE0714	53	1105
	*			WAITING AT BEACH	PE0714	54	1106
447		UNLINK	PH1,RETRY,ALL		PE0731	16	1107
448		TERMINATE			PE0714	55	1108
	*	TYPE 8 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	56	1109
449		GENERATE	XH$AFE81,,X$AFE82,XH$AFE83		PE0803	33	1110
450		ASSIGN	1,8	ASSIGN CARGO TYPE	PE0714	58	1111
451		ASSIGN	2,XH$AFE84	NUMBER OF CONTAINERS PER LIGHTER	PE0803	34	1112
452		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 8 CARGO	PE0714	60	1113
	*			WAITING AT BEACH	PE0714	61	1114
453		UNLINK	PH1,RETRY,ALL		PE0731	17	1115
454		TERMINATE			PE0714	62	1116
	*	TYPE 9 CARGO FOR ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY			PE0714	63	1117
455		GENERATE	XH$AFE91,,X$AFE92,XH$AFE93		PE0803	35	1118
456		ASSIGN	1,9	ASSIGN CARGO TYPE	PE0714	65	1119
457		ASSIGN	2,XH$AFE94	NUMBER OF CONTAINERS PER LIGHTER	PE0803	36	1120
458		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 9 CARGO	PE0714	67	1121
	*			WAITING AT BEACH	PE0714	68	1122
459		UNLINK	PH1,RETRY,ALL		PE0731	18	1123
460		TERMINATE			PE0714	69	1124
	*	TYPE 1 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION			PE0717	9	1125
461		GENERATE	XH$FRM11,,X$FRM12,XH$FRM13		PE0803	37	1126
462		ASSIGN	1,1	ASSIGN CARGO TYPE	PE0717	11	1127
463		ASSIGN	2,XH$FRM14	NUMBER OF PALLETS PER LIGHTER	PE0803	38	1128
464		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 1 CARGO	PE0717	13	1129
	*			WAITING AT BEACH	PE0717	14	1130
465		UNLINK	PH1,RETRY,ALL		PE0731	19	1131
466		TERMINATE			PE0717	15	1132
	*	TYPE 2 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION			PE0717	16	1133
467		GENERATE	XH$FRM21,,X$FRM22,XH$FRM23		PE0803	39	1134
468		ASSIGN	1,2	ASSIGN CARGO TYPE	PE0717	18	1135
469		ASSIGN	2,XH$FRM24	NUMBER OF PALLETS PER LIGHTER	PE0803	40	1136
470		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 2 CARGO	PE0717	20	1137
	*			WAITING AT BEACH	PE0717	21	1138
471		UNLINK	PH1,RETRY,ALL		PE0731	20	1139
472		TERMINATE			PE0717	22	1140
	*	TYPE 3 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION			PE0717	23	1141
473		GENERATE	XH$FRM31,,X$FRM32,XH$FRM33		PE0803	41	1142
474		ASSIGN	1,3	ASSIGN CARGO TYPE	PE0717	25	1143
475		ASSIGN	2,XH$FRM34	NUMBER OF PALLETS PER LIGHTER	PE0803	42	1144
476		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 3 CARGO	PE0717	27	1145
	*			WAITING AT BEACH	PE0717	28	1146
477		UNLINK	PH1,RETRY,ALL		PE0731	21	1147
478		TERMINATE			PE0717	29	1148
	*	TYPE 4 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION			PE0717	30	1149
479		GENERATE	XH$FRM41,,X$FRM42,XH$FRM43		PE0803	43	1150
480		ASSIGN	1,4	ASSIGN CARGO TYPE	PE0717	32	1151
481		ASSIGN	2,XH$FRM44	NUMBER OF CONTAINERS PER LIGHTER	PE0803	44	1152
482		MSAVEVALUE	FFF,1,P1,V$AAN	UPDATE AMOUNT OF TYPE 4 CARGO	PE0717	34	1153
	*			WAITING AT BEACH	PE0717	35	1154

```
BLOCK                                                                                    CARD
NUMBER  *LOC  OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                NUMBER
 482          UNLINK     PH1,RETRY,ALL                                                    1155
 484          TERMINATE                                                                   1156
         *    TYPE 5 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                        1157
 485          GENERATE   XH$FRM51,,X$FRM52,XH$FRM53                                       1158
 486          ASSIGN     1,5          ASSIGN CARGO TYPE                                   1159
 487          ASSIGN     2,XH$FRM54   NUMBER OF CONTAINERS PER LIGHTER                    1160
 488          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 5 CARGO                   1161
         *                                WAITING AT BEACH                                1162
 489          UNLINK     PH1,RETRY,ALL                                                    1163
 490          TERMINATE                                                                   1164
         *    TYPE 6 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                        1165
 491          GENERATE   XH$FRM61,,X$FRM62,XH$FRM63                                       1166
 492          ASSIGN     1,6          ASSIGN CARGO TYPE                                   1167
 493          ASSIGN     2,XH$FRM64   NUMBER OF CONTAINERS PER LIGHTER                    1168
 494          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 6 CARGO                   1169
         *                                WAITING AT BEACH                                1170
 495          UNLINK     PH1,RETRY,ALL                                                    1171
 496          TERMINATE                                                                   1172
         *    TYPE 7 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                        1173
 497          GENERATE   XH$FRM71,,X$FRM72,XH$FRM73                                       1174
 498          ASSIGN     1,7          ASSIGN CARGO TYPE                                   1175
 499          ASSIGN     2,XH$FRM74   NUMBER OF CONTAINERS PER LIGHTER                    1176
 500          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 7 CARGO                   1177
         *                                WAITING AT BEACH                                1178
 501          UNLINK     PH1,RETRY,ALL                                                    1179
 502          TERMINATE                                                                   1180
         *    TYPE 8 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                        1181
 503          GENERATE   XH$FRM81,,X$FRM82,XH$FRM83                                       1182
 504          ASSIGN     1,8          ASSIGN CARGO TYPE                                   1183
 505          ASSIGN     2,XH$FRM84   NUMBER OF CONTAINERS PER LIGHTER                    1184
 506          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 8 CARGO                   1185
         *                                WAITING AT BEACH                                1186
 507          UNLINK     PH1,RETRY,ALL                                                    1187
 508          TERMINATE                                                                   1188
         *    TYPE 9 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                        1189
 509          GENERATE   XH$FRM91,,X$FRM92,XH$FRM93                                       1190
 510          ASSIGN     1,9          ASSIGN CARGO TYPE                                   1191
 511          ASSIGN     2,XH$FRM94   NUMBER OF CONTAINERS PER LIGHTER                    1192
 512          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 9 CARGO                   1193
         *                                WAITING AT BEACH                                1194
 513          UNLINK     PH1,RETRY,ALL                                                    1195
 514          TERMINATE                                                                   1196
         *    TYPE 10 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                       1197
 515          GENERATE   XH$FRMA1,,X$FRMA2,XH$FRMA3                                       1198
 516          ASSIGN     1,10         ASSIGN CARGO TYPE                                   1199
 517          ASSIGN     2,XH$FRM44   NUMBER OF UNITS PER LIGHTER                         1200
 518          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 10 CARGO                  1201
         *                                WAITING AT BEACH                                1202
 519          UNLINK     PH1,RETRY,ALL                                                    1203
 520          TERMINATE                                                                   1204
         *    TYPE 11 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION                       1205
 521          GENERATE   XH$FRMB1,,X$FRMB2,XH$FRMB3                                       1206
 522          ASSIGN     1,11         ASSIGN CARGO TYPE                                   1207
 523          ASSIGN     2,XH$FRM34   NUMBER OF UNITS PER LIGHTER                         1208
 524          MSAVEVALUE FFF,1,P1,V$AAN   UPDATE AMOUNT OF TYPE 11 CARGO                  1209
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
	*		WAITING AT BEACH	PE0717	84	1210
525		UNLINK	PH1,RETRY,ALL	PE0731	29	1211
526		TERMINATE		PE0717	85	1212
	*	TYPE 13 CARGO FOR FORCE RESUPPLY FOR MISSION DURATION		PE0717	86	1213
527		GENERATE	XH$FRM01,,X$FRM02,XH$FRM03	PE0803	59	1214
528		ASSIGN	1,13 ASSIGN CARGO TYPE	PE0717	88	1215
529		ASSIGN	2,XH$FRM04 NUMBER OF UNITS PER LIGHTER	PE0803	60	1216
530		MSAVEVALUE	FFF,1,P1,V$AAN UPDATE AMOUNT OF TYPE 13 CARGO	PE0717	90	1217
	*		WAITING AT BEACH	PE0717	91	1218
531		UNLINK	PH1,RETRY,ALL	PE0731	30	1219
532		TERMINATE		PE0717	92	1220
533		GENERATE	,,,1,,13	PE0731	31	1221
534		SPLIT	12,AAA,1 THIRTEEN TRANSACTIONS REQUIRED	PE0412	104	1222
535	AAA	TEST L	P1,10,CAA TEST FOR CARGO TYPES 1-9	PE0412	105	1223
536		TEST L	P1,4,BAA TEST FOR BREAK BULK CARGO	PE0412	106	1224
	*			PE0412	107	1225
	*	BREAK BULK CARGO DELIVERY		PE0412	108	1226
	*			PE0412	109	1227
537		ASSIGN	4,MH$CCC(10,P1) ASSIGN NUMBER OF PALLETS ON TRUCK	PE0412	110	1228
538	AAD	TEST GE	MX$FFF(1,P1),P4,AADFL TEST FOR TRUCKLOAD OF CARGO	PE0731	32	1229
	*		TYPE P1	PE0731	33	1230
	*		AT BEACH	PE0412	112	1231
539		ASSIGN	3,MH$CCC(7,P1) ASSIGN BEACH FORKLIFT	PE0412	113	1232
540		QUEUE	P3	PE0612	64	1233
541		ENTER	P3,MH$CCC(8,P1) CAPTURE BEACH FORKLIFT	PE0412	114	1234
542		DEPART	P3	PE0612	65	1235
543		QUEUE	TRK8	PE0612	66	1236
544		ENTER	TRK8 CAPTURE TRUCK	PE0523	4	1237
545		DEPART	TRK8	PE0612	67	1238
546		MSAVEVALUE	FFF,1,P1,V$AAO SUBTRACT CARGO TYPE I LOADED ON	PE0413	3	1239
	*		TRUCK FROM CARGO TYPE I AT BEACH	PE0413	4	1240
547		SPLIT	1,AAO	PE0412	116	1241
548		ASSIGN	5,MH$CCC(8,P1) NUMBER OF FORKLIFTS	PE0412	117	1242
549		ASSIGN	6,MH$CCC(9,P1) NUMBER OF PALLETS / HOUR	PE0412	118	1243
550		ADVANCE	V$AAO UNLOAD LIGHTER, LOAD PALLETS ON TRUCK	PE0412	119	1244
551		LEAVE	P3,MH$CCC(8,P1) FREE BEACH FORKLIFT	PE0412	120	1245
552		TEST E	BV$LSACP,1,AAG TEST IF LSA COMPLETE AND IF CARGO	PE0412	123	1246
	*		IS TYPE 1 OR TYPE 2	PE0412	124	1247
553		TRANSFER	,AAK	PE1208	62	1248
554	AADFL	TRANSFER	SBP,XWAIT,13PH	PE0731	34	1249
555		TRANSFER	,AAD	PE0731	35	1250
556	AAG	TEST E	BV$ASPCP,1,AAH TEST IF ASP COMPLETE AND IF CARGO IS	PE1208	63	1251
	*		TYPE 3	PE1208	64	1252
557		TRANSFER	,AAM	PE1208	65	1253
	*			PE1208	66	1254
	*	DELIVER BREAK BULK CARGO TO BSA		PE1208	67	1255
	*			PE1208	68	1256
558	AAH	ASSIGN	5,MH$CCC(14,12) DISTANCE FROM BEACH TO BSA	PE0215	13	1257
559		ASSIGN	6,MH$CCC(11,P1) SPEED OF TRUCK	PE0215	14	1258
560		ADVANCE	V$AAG MOVE TO BSA	PE0215	15	1259
561		ASSIGN	3,MH$CCC(12,P1) ASSIGN BSA FORKLIFT	PE1208	70	1260
562		QUEUE	P3	PE0612	68	1261
563		ENTER	P3,MH$CCC(13,P1) CAPTURE BSA FORKLIFT	PE1208	71	1262
564		DEPART	P3	PE0612	69	1263
565		ASSIGN	5,MH$CCC(13,P1) NUMBER OF FORKLIFTS	PE1208	72	1264

```
BLOCK                                                                                                    CARD
NUMBER   *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                          NUMBER

  566           ASSIGN     6,MH$CCC(14,P1)  NUMBER OF PALLETS / HOUR                PE1208    73      1265
  567           ADVANCE    V$AAD       UNLOAD TRUCK                                  PE1208    74      1266
  568           SPLIT      1,AAJ                                                     PE1208    75      1267
  569           ASSIGN     5,MH$CCC(14,12)  DISTANCE FROM BEACH TO BSA               PE0215    16      1268
  570           ASSIGN     6,MH$CCC(15,P1)  SPEED OF TRUCK                           PE0215    17      1269
  571           ADVANCE    V$AAG       TRUCK RETURNS TO BEACH                        PE0215    18      1270
  572           LEAVE      TRKB        FREE TRUCK                                    PE0523     5      1271
  573           TERMINATE                                                            PE1208    78      1272
  574    AAJ    ASSIGN     6,MH$CCC(16,P1)  NUMBER OF PALLETS / HOUR                 PE1208    79      1273
  575           ADVANCE    V$AAD       MOVE MATERIAL TO STORAGE                      PE1208    80      1274
  576           LEAVE      P3,MH$CCC(13,P1)  FREE BSA FORKLIFT                       PE1208    81      1275
  577           MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF PALLETS OF THIS       PE1208    82      1276
         *                                     TYPE DELIVERED                        PE1208    83      1277
  578           MSAVEVALUE EEF,3,P1,V$AAP,H   COMPUTE NUMBER OF PALLETS OF THIS      PE0418     4      1278
         *                                     TYPE DELIVERED TO BSA                 PE0418     5      1279
  579           TERMINATE                                                            PE1208    84      1280
         *                                                                           PE1208    85      1281
         *      DELIVER BREAK BULK CARGO TO LSA                                      PE1208    86      1282
         *                                                                           PE1208    87      1283
  580    AAK    ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA               PE0215    19      1284
  581           ASSIGN     6,MH$CCC(17,P1)  SPEED OF TRUCK                           PE0215    20      1285
  582           ADVANCE    V$AAG       MOVE TO LSA                                   PE0215    21      1286
  583           ASSIGN     3,MH$CCC(18,P1)  ASSIGN LSA FORKLIFT                      PE1208    89      1287
  584           QUEUE      P3                                                        PE0612    70      1288
  585           ENTER      P3,MH$CCC(19,P1)  CAPTURE LSA FORKLIFT                    PE1208    90      1289
  586           DEPART     P3                                                        PE0612    71      1290
  587           ASSIGN     5,MH$CCC(19,P1)  NUMBER OF FORKLIFTS                      PE1208    91      1291
  588           ASSIGN     6,MH$CCC(20,P1)  NUMBER OF PALLETS / HOUR                 PE1208    92      1292
  589           ADVANCE    V$AAC       UNLOAD TRUCK                                  PE1208    93      1293
  590           SPLIT      1,AAL                                                     PE1208    94      1294
  591           ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA               PE0215    22      1295
  592           ASSIGN     6,MH$CCC(21,P1)  SPEED OF TRUCK                           PE0215    23      1296
  593           ADVANCE    V$AAG       TRUCK RETURNS TO BEACH                        PE0215    24      1297
  594           LEAVE      TRKB        FREE TRUCK                                    PE0523     6      1298
  595           TERMINATE                                                            PE1208    97      1299
  596    AAL    ASSIGN     6,MH$CCC(22,P1)  NUMBER OF PALLETS / HOUR                 PE1208    98      1300
  597           ADVANCE    V$AAD       MOVE MATERIAL TO STORAGE                      PE1208    99      1301
  598           LEAVE      P3,MH$CCC(19,P1)  FREE LSA FORKLIFT                       PE1208   100      1302
  599           MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF PALLETS OF THIS       PE1208   101      1303
         *                                     TYPE DELIVERED                        PE1208   102      1304
  600           MSAVEVALUE EEE,4,P1,V$AAO,H   COMPUTE NUMBER OF PALLETS OF THIS      PE0418     6      1305
         *                                     TYPE DELIVERED TO LSA                 PE0418     7      1306
  601           TERMINATE                                                            PE1208   103      1307
         *                                                                           PE1208   104      1308
         *      DELIVER BREAK BULK CARGO TO ASP                                      PE1208   105      1309
         *                                                                           PE1208   106      1310
  602    AAM    TEST L     MH$EEE(2,14),100,AAN   TEST AMOUNT OF CARGO ROUTED       PE0309     3      1311
         *                                         TO ASP 1                         PE0309     4      1312
  603           ASSIGN     7,1         USE ASP 1                                     PE0309     5      1313
  604           ASSIGN     8,14                                                      PE0309     6      1314
  605           TRANSFER   ,AAR                                                      PE1208   110      1315
  606    AAN    TEST L     MH$FEE(2,15),100,AAP   TEST AMOUNT OF CARGO ROUTED       PE0309     7      1316
         *                                         TO ASP 2                         PE0309     8      1317
  607           ASSIGN     7,2         USE ASP 2                                     PE0309     9      1318
  608           ASSIGN     8,15                                                      PE0309    10      1319
```

```
*LOCK                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                              NUMBER
  609          TRANSFER   ,AAR                                                          1320
  610   AAP    TEST L     MH$EEE(2,16),100,AAQ   TEST AMOUNT OF CARGO ROUTED           1321
        *                                          TO ASP 3                            1322
  611          ASSIGN     7,3          USE ASP 3                                       1323
  612          ASSIGN     8,16                                                         1324
  613          TRANSFER   ,AAR                                                         1325
  614   AAQ    ASSIGN     7,4          USE ASP 4                                       1326
  615          ASSIGN     8,17                                                         1327
  616   AAR    MSAVEVALUE EEE,2,P8,V$AAM,H  COMPUTE NUMBER OF AMMO PALLETS            1328
        *                                     ROUTED TO ASP DUMP NUMBER P7             1329
  617          ASSIGN     5,MX$FFF(3,P7)   DISTANCE FROM SHORE TO ASP P7               1330
  618          ASSIGN     6,MH$CCC(43,P7)  SPEED OF TRUCK                              1331
  619          ADVANCE    V$AAG        MOVE TO ASP                                     1332
  620          ASSIGN     3,MH$CCC(44,P7)  ASSIGN ASP FORKLIFT                         1333
  621          QUEUE      P3                                                           1334
  622          ENTER      P3,MH$CCC(45,P7)  CAPTURE ASP FORKLIFT                       1335
  623          DEPART     P3                                                           1336
  624          ASSIGN     5,MH$CCC(45,P7)  NUMBER OF FORKLIFTS                         1337
  625          ASSIGN     6,MH$CCC(46,P7)  NUMBER OF PALLETS / HOUR                    1338
  626          ADVANCE    V$AAD        UNLOAD TRUCK                                    1339
  627          SPLIT      1,AAS                                                        1340
  628          ASSIGN     5,MX$FFF(3,P7)  DISTANCE FROM SHORE TO ASP                   1341
  629          ASSIGN     6,MH$CCC(47,P7)  SPEED OF TRUCK                              1342
  630          ADVANCE    V$AAG        TRUCK RETURNS TO BEACH                          1343
  631          LEAVE      TRK8         FREE TRUCK                                      1344
  632          TERMINATE                                                               1345
  633   AAS    ASSIGN     5,MH$CCC(45,P7)  NUMBER OF FORKLIFTS                         1346
  634          ASSIGN     6,MH$CCC(48,P7)  NUMBER OF PALLETS / HOUR                    1347
  635          ADVANCE    V$AAD        MOVE MATERIAL TO STORAGE                        1348
  636          LEAVE      P3,MH$CCC(45,P7)  FREE ASP FORKLIFT                          1349
  637          MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF PALLETS OF THIS       1350
        *                                     TYPE DELIVERED                           1351
  638          MSAVEVALUE EEE,4,P1,V$AAQ,H   COMPUTE NUMBER OF PALLETS OF THIS      1352
        *                                     TYPE DELIVERED TO ASP                    1353
  639          MSAVEVALUE EEE,1,P8,V$AAE,H  COMPUTE NUMBER OF AMMO PALLETS          1354
        *                                     DELIVERED TO ASP DUMP NUMBER P7          1355
  640          TERMINATE                                                            1356
        *                                                                            1357
        *    CONTAINERIZED CARGO DELIVERY                                            1358
        *                                                                            1359
  641   BAA    ASSIGN     4,MH$CCC(10,P1)   ASSIGN NUMBER OF CONTAINERS             1360
        *                                     ON TRUCK                               1361
  642   BAB    TEST GE    MX$FFF(1,P1),P4,BABFL   TEST FOR TRUCKLOAD OF CARGO       1362
        *                                          TYPE P1                           1363
        *                                     AT BEACH                               1364
  643          ASSIGN     3,MH$CCC(7,P1)   ASSIGN BEACH CONTAINER LIFT              1365
  644          QUEUE      P3                                                        1366
  645          ENTER      P3,MH$CCC(8,P1)   CAPTURE BEACH CONTAINER LIFT            1367
  646          DEPART     P3                                                        1368
  647          QUEUE      TRKC                                                      1369
  648          ENTER      TRKC         CAPTURE TRUCK                                1370
  649          DEPART     TRKC                                                      1371
  650          MSAVEVALUE FFF,1,P1,V$AAO   SUBTRACT CARGO TYPE I LOADED ON         1372
        *                                     TRUCK FROM CARGO TYPE I AT BEACH       1373
  651          SPLIT      1,BAB                                                     1374
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
652		ASSIGN	5,MH$CCC(8,P1)	NUMBER OF CONTAINER LIFTS	PE0412	133	1375
653		ASSIGN	6,MH$CCC(9,P1)	NUMBER OF CONTAINERS / HOUR	PE0412	134	1376
654		ADVANCE	V$AAD	UNLOAD LIGHTER, LOAD CONTAINERS ON TRUCK	PE0412	135	1377
655		LEAVE	P3,MH$CCC(8,P1)	FREE BEACH CONTAINER LIFT	PE0412	136	1378
656		TEST E	BV$LSACO,1,BAG	TEST IF LSA IS COMPLETE AND IF CARGO	PE0412	139	1379
	*			IS TYPE 4, 6, 7, OR 9	PE0412	140	1380
657		TRANSFER	,BAM		PE1212	101	1381
658	BAG	TEST E	BV$ASPCO,1,BAH	TEST IF ASP IS COMPLETE AND IF CARGO	PE1212	102	1382
	*			IS TYPE 5 OR 8	PE1212	103	1383
659		TRANSFER	,BAP		PE1212	104	1384
660	BAPFL	TRANSFER	S8R,XWAIT,13PH		PE0731	38	1385
661		TRANSFER	,BAB		PE0731	39	1386
	*				PE1212	105	1387
	*	DELIVER CONTAINERIZED CARGO TO BSA			PE1212	106	1388
	*				PE1212	107	1389
662	BAH	ASSIGN	5,MH$CCC(14,12)	DISTANCE FROM BEACH TO BSA	PE0215	25	1390
663		ASSIGN	6,MH$CCC(11,P1)	SPEED OF TRUCK	PE0215	26	1391
664		ADVANCE	V$AAG	MOVE TO BSA	PE0215	27	1392
665		ASSIGN	3,MH$CCC(12,P1)	ASSIGN BSA CONTAINER LIFT	PE1212	109	1393
666		QUEUE	P3		PE0612	78	1394
667		ENTER	P3,MH$CCC(13,P1)	CAPTURE BSA CONTAINER LIFT	PE1212	110	1395
668		DEPART	P3		PE0612	79	1396
669		ASSIGN	5,MH$CCC(13,P1)	NUMBER OF CONTAINER LIFTS	PE1212	111	1397
670		ASSIGN	6,MH$CCC(14,P1)	NUMBER OF CONTAINERS / HOUR	PE1212	112	1398
671		ADVANCE	V$AAD	UNLOAD TRUCK	PE1212	113	1399
672		LEAVE	P3,MH$CCC(13,P1)	FREE BSA CONTAINER LIFT	PE1212	114	1400
673		SPLIT	1,BAJ		PE1212	115	1401
674		ASSIGN	5,MH$CCC(14,12)	DISTANCE FROM BEACH TO BSA	PE0215	28	1402
675		ASSIGN	6,MH$CCC(15,P1)	SPEED OF TRUCK	PE0215	29	1403
676		ADVANCE	V$AAG	TRUCK RETURNS TO BEACH	PE0215	30	1404
677		LEAVE	TRKC	FREE TRUCK	PE0523	9	1405
678		TERMINATE			PE1212	118	1406
679	BAJ	TEST E	BV$CNUNS,1,BAK	TEST IF CONTAINER IS NOT TO BE	PE1212	119	1407
	*			UNSTUFFED	PE1212	120	1408
680		MSAVEVALUE	EEE,1,P1,V$AAC,H	COMPUTE NUMBER OF CONTAINERS OF	PE1212	121	1409
	*			THIS TYPE DELIVERED	PE1212	122	1410
681		MSAVEVALUE	EEE,3,P1,V$AAP,H	COMPUTE NUMBER OF CONTAINERS OF	PE0510	4	1411
	*			THIS TYPE DELIVERED TO BSA	PE0510	5	1412
682		TERMINATE			PE1212	123	1413
683	BAK	ASSIGN	3,MH$CCC(16,P1)	ASSIGN BSA UNSTUFFING EQUIPMENT	PE1212	124	1414
684		QUEUE	P3		PE0612	80	1415
685		ENTER	P3,MH$CCC(17,P1)	CAPTURE BSA UNSTUFFING EQUIPMENT	PE1212	125	1416
686		DEPART	P3		PE0612	81	1417
687		ASSIGN	5,MH$CCC(17,P1)	NUMBER OF UNSTUFFING EQUIPMENT	PE1212	126	1418
688		ASSIGN	6,MH$CCC(18,P1)	NUMBER OF CONTAINERS / HOUR	PE1212	127	1419
689		ADVANCE	V$AAD	UNSTUFF CONTAINER	PE1212	128	1420
690		LEAVE	P3,MH$CCC(17,P1)	FREE BSA UNSTUFFING EQUIPMENT	PE1212	129	1421
691		SPLIT	1,BAL		PE1212	130	1422
692		ASSIGN	3,MH$CCC(19,P1)	ASSIGN BSA FORKLIFT	PE1212	131	1423
693		QUEUE	P3		PE0612	82	1424
694		ENTER	P3,MH$CCC(20,P1)	CAPTURE BSA FORKLIFT	PE1212	132	1425
695		DEPART	P3		PE0612	83	1426
696		ASSIGN	5,MH$CCC(20,P1)	NUMBER OF BSA FORKLIFTS	PE1212	133	1427
697		ASSIGN	6,MH$CCC(21,P1)	NUMBER OF PALLETS / HOUR	PE0103	19	1428
698		ADVANCE	V$AAF	MOVE BREAK BULK AND STORE	PE0103	20	1429

```
BLOCK                                                                                                    CARD
NUMBER   *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                          NUMBER
  699           LEAVE      P3,MH$CCC(20,P1)  FREE BSA FORKLIFT                          PE1212  136     1430
  700           MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF CONTAINERS OF           PE1212  137     1431
        *                                     THIS TYPE DELIVERED                       PE1212  138     1432
  701           MSAVEVALUE FEE,3,P1,V$AAP,H   COMPUTE NUMBER OF CONTAINERS OF          PE0510    6     1433
        *                                     THIS TYPE DELIVERED TO BSA                PE0510    7     1434
  702           TERMINATE                                                              PE1212  139     1435
  703   BAL     ASSIGN     3,MH$CCC(22,P1)  ASSIGN BSA CONTAINER LIFT                  PE1212  140     1436
  704           QUEUE      P3                                                          PE0612   84     1437
  705           ENTER      P3,MH$CCC(23,P1)  CAPTURE BSA CONTAINER LIFT                PE1212  141     1438
  706           DEPART     P3                                                          PE0612   85     1439
  707           ASSIGN     5,MH$CCC(23,P1)  NUMBER OF BSA CONTAINER LIFTS              PE1212  142     1440
  708           ASSIGN     6,MH$CCC(24,P1)  NUMBER OF CONTAINERS / HOUR                PE1212  143     1441
  709           ADVANCE    V$AAD       MOVE EMPTY CONTAINERS TO SHORE                  PE1212  144     1442
  710           LEAVE      P3,MH$CCC(23,P1)  FREE CONTAINER LIFT                       PE1212  145     1443
  711           SAVEVALUE  EMCON,V$AAJ,H  COMPUTE NUMBER OF EMPTY CONTAINERS           PE1105    5     1444
        *                                     RETURNED                                  PE0105    6     1445
  712           TERMINATE                                                              PE1212  148     1446
        *                                                                              PE1212  149     1447
        *       DELIVER CONTAINERIZED CARGO TO LSA                                     PE1212  150     1448
        *                                                                              PE1212  151     1449
  713   BAM     ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA                 PE0216    4     1450
  714           ASSIGN     6,MH$CCC(49,P1)   SPEED OF TRUCK                            PE0216    5     1451
  715           ADVANCE    V$AAG       MOVE TO LSA                                     PE0216    6     1452
  716           ASSIGN     3,MH$CCC(25,P1)  ASSIGN LSA CONTAINER LIFT                  PE0216    7     1453
  717           QUEUE      P3                                                          PE0612   86     1454
  718           ENTER      P3,MH$CCC(26,P1)  CAPTURE LSA CONTAINER LIFT                PE1212  153     1455
  719           DEPART     P3                                                          PE0612   87     1456
  720           ASSIGN     5,MH$CCC(26,P1)  NUMBER OF LSA CONTAINER LIFTS              PE1212  154     1457
  721           ASSIGN     6,MH$CCC(27,P1)  NUMBER OF CONTAINERS / HOUR                PE1212  155     1458
  722           ADVANCE    V$AAD       UNLOAD CONTAINER FROM TRUCK                     PE1212  156     1459
  723           TEST E     BV$CNUNS,1,BAM  TEST IF CONTAINER IS NOT TO BE              PE1212  157     1460
        *                                     UNSTUFFED                                 PE1212  158     1461
  724           ADVANCE    MH$CCC(28,P1)  STORE CONTAINER                              PE1212  159     1462
  725           MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF CONTAINERS OF           PE1212  160     1463
        *                                     THIS TYPE DELIVERED                       PE1212  161     1464
  726           MSAVEVALUE EEE,4,P1,V$AAO,H   COMPUTE NUMBER OF CONTAINERS OF          PE0418   10     1465
        *                                     THIS TYPE DELIVERED TO LSA                PE0418   11     1466
  727           LEAVE      P3,MH$CCC(26,P1)  FREE LSA CONTAINER LIFT                   PE1212  162     1467
  728           ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA                 PE0216    8     1468
  729           ASSIGN     6,MH$CCC(29,P1)  SPEED OF TRUCK                             PE0215   32     1469
  730           ADVANCE    V$AAG       TRUCK RETURNS TO BEACH                          PE0215   33     1470
  731           LEAVE      TRKC        FREE TRUCK                                      PE0523   10     1471
  732           TERMINATE                                                              PE1212  165     1472
  733   BAN     LEAVE      P3,MH$CCC(26,P1)  FREE LSA CONTAINER LIFT                   PE1212  166     1473
  734           ASSIGN     3,MH$CCC(30,P1)  ASSIGN LSA UNSTUFFING EQUIPMENT            PE1212  167     1474
  735           QUEUE      P3                                                          PE0612   88     1475
  736           ENTER      P3,MH$CCC(31,P1)  CAPTURE LSA UNSTUFFING EQUIPMENT          PE1212  168     1476
  737           DEPART     P3                                                          PE0612   89     1477
  738           ASSIGN     5,MH$CCC(31,P1)  NUMBER OF LSA UNSTUFFING EQUIPMENT         PE1212  169     1478
  739           ASSIGN     6,MH$CCC(32,P1)  NUMBER OF CONTAINERS / HOUR                PE1212  170     1479
  740           ADVANCE    V$AAD       UNSTUFF CONTAINER                               PE1212  171     1480
  741           LEAVE      P3,MH$CCC(31,P1)  FREE LSA UNSTUFFING EQUIPMENT             PE1212  172     1481
  742           SPLIT      1,BAD                                                       PE1212  173     1482
  743           ASSIGN     3,MH$CCC(33,P1)  ASSIGN LSA FORKLIFT                        PE1212  174     1483
  744           QUEUE      P3                                                          PE0612   90     1484
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
745		ENTER	P3,MH$CCC(34,P1) CAPTURE LSA FORKLIFT	PE1212	175	1485
746		DEPART	P3	PE0612	91	1486
747		ASSIGN	5,MH$CCC(34,P1) NUMBER OF LSA FORKLIFTS	PE1212	176	1487
748		ASSIGN	6,MH$CCC(35,P1) NUMBER OF PALLETS / HOUR	PE0103	21	1488
749		ADVANCE	V$AAF MOVE TO DUMP AND STORE	PE0103	22	1489
750		LEAVE	P3,MH$CCC(34,P1) FREE LSA FORKLIFT	PE1212	179	1490
751		MSAVEVALUE	EFE,1,P1,V$AAC,H COMPUTE NUMBER OF CONTAINERS OF	PE1212	180	1491
	*		THIS TYPE DELIVERED	PE1212	181	1492
752		MSAVEVALUE	EEE,4,P1,V$AAQ,H COMPUTE NUMBER OF CONTAINERS OF	PE0418	12	1493
	*		THIS TYPE DELIVERED TO LSA	PE0418	13	1494
753		TERMINATE		PE1212	182	1495
754	BAO	ASSIGN	3,MH$CCC(36,P1) ASSIGN LSA CONTAINER LIFT	PE1212	183	1496
755		QUEUE	P3	PE0612	92	1497
756		ENTER	P3,MH$CCC(37,P1) CAPTURE LSA CONTAINER LIFT	PE1212	184	1498
757		DEPART	P3	PE0612	93	1499
758		ASSIGN	5,MH$CCC(37,P1) NUMBER OF LSA CONTAINER LIFTS	PE1212	185	1500
759		ASSIGN	6,MH$CCC(38,P1) NUMBER OF CONTAINERS / HOUR	PE1212	186	1501
760		ADVANCE	V$AAD LOAD CONTAINER ON TRUCK	PE1212	187	1502
761		LEAVE	P3,MH$CCC(37,P1) FREE LSA CONTAINER LIFT	PE1212	188	1503
762		ASSIGN	5,MH$CCC(31,12) DISTANCE FROM LSA TO BSA	PE0216	9	1504
763		ASSIGN	6,MH$CCC(39,P1) SPEED OF TRUCK	PE0215	35	1505
764		ADVANCE	V$AAG MOVE TO BSA	PE0215	36	1506
765		ASSIGN	3,MH$CCC(40,P1) ASSIGN BSA CONTAINER LIFT	PE1212	190	1507
766		QUEUE	P3	PE0612	94	1508
767		ENTER	P3,MH$CCC(41,P1) CAPTURE BSA CONTAINER LIFT	PE1212	191	1509
768		DEPART	P3	PE0612	95	1510
769		ASSIGN	5,MH$CCC(41,P1) NUMBER OF BSA CONTAINER LIFTS	PE1212	192	1511
770		ASSIGN	6,MH$CCC(42,P1) NUMBER OF CONTAINERS / HOUR	PE1212	193	1512
771		ADVANCE	V$AAD UNLOAD CONTAINER	PE1212	194	1513
772		LEAVE	P3,MH$CCC(41,P1) FREE BSA CONTAINER LIFT	PE1212	195	1514
773		LEAVE	TRKC FREE TRUCK	PE0523	11	1515
774		SAVEVALUE	EMCON,V$AAJ,H COMPUTE NUMBER OF EMPTY CONTAINERS	PE0105	7	1516
	*		RETURNED	PE0105	8	1517
775		TERMINATE		PE1212	197	1518
	*			PE1212	198	1519
	*	DELIVER CONTAINERIZED CARGO TO ASP		PE1212	199	1520
	*			PE1212	200	1521
776	BAP	ASSIGN	5,MH$CCC(14,13) DISTANCE FROM BEACH TO ASP	PE0216	10	1522
777		ASSIGN	6,MH$CCC(49,P1) SPEED OF TRUCK	PE0216	11	1523
778		ADVANCE	V$AAG MOVE TO ASP	PE0216	12	1524
779		ASSIGN	3,MH$CCC(25,P1) ASSIGN ASP CONTAINER LIFT	PE0216	13	1525
780		QUEUE	P3	PE0612	96	1526
781		ENTER	P3,MH$CCC(26,P1) CAPTURE ASP CONTAINER LIFT	PE1212	202	1527
782		DEPART	P3	PE0612	97	1528
783		ASSIGN	5,MH$CCC(26,P1) NUMBER OF ASP CONTAINER LIFTS	PE1212	203	1529
784		ASSIGN	6,MH$CCC(27,P1) NUMBER OF CONTAINERS / HOUR	PE1212	204	1530
785		ADVANCE	V$AAD UNLOAD CONTAINER FROM TRUCK	PE1212	205	1531
786		TEST E	BV$CNUNS,1,BAQ TEST IF CONTAINER IS NOT TO BE	PE1212	206	1532
	*		UNSTUFFED	PE1212	207	1533
787		ADVANCE	MH$CCC(28,P1) STORE CONTAINER	PE1212	208	1534
788		MSAVEVALUE	EEE,1,P1,V$AAC,H COMPUTE NUMBER OF CONTAINERS OF	PE1212	209	1535
	*		THIS TYPE DELIVERED	PE1212	210	1536
789		MSAVEVALUE	EEE,4,P1,V$AAQ,H COMPUTE NUMBER OF CONTAINERS OF	PE0418	14	1537
	*		THIS TYPE DELIVERED TO ASP	PE0418	15	1538
790		LEAVE	P3,MH$CCC(26,P1) FREE ASP CONTAINER LIFT	PE1212	211	1539

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
791		ASSIGN	5,MH$CCC(14,13) DISTANCE FROM BEACH TO ASP	PE0216	14	1540
792		ASSIGN	6,MH$CCC(29,P1) SPEED OF TRUCK	PE0216	15	1541
793		ADVANCE	V$AAG TRUCK RETURNS TO BEACH	PE0216	16	1542
794		LEAVE	TRKC FREE TRUCK	PE0523	12	1543
795		TERMINATE		PE1212	214	1544
796	BAQ	LEAVE	P3,MH$CCC(26,P1) FREE ASP CONTAINER LIFT	PE1212	215	1545
797		ASSIGN	3,MH$CCC(30,P1) ASSIGN ASP UNSTUFFING EQUIPMENT	PE1212	216	1546
798		QUEUE	P3	PE0612	98	1547
799		ENTER	P3,MH$CCC(31,P1) CAPTURE ASP UNSTUFFING EQUIPMENT	PE1212	217	1548
800		DEPART	P3	PE0612	99	1549
801		ASSIGN	5,MH$CCC(31,P1) NUMBER OF ASP UNSTUFFING EQUIPMENT	PE1212	218	1550
802		ASSIGN	6,MH$CCC(32,P1) NUMBER OF CONTAINERS / HOUR	PE1212	219	1551
803		ADVANCE	V$AAD UNSTUFF CONTAINER	PE1212	220	1552
804		LEAVE	P3,MH$CCC(31,P1) FREE ASP UNSTUFFING EQUIPMENT	PE1212	221	1553
805		SPLIT	1,BAR	PE1212	222	1554
806		ASSIGN	3,MH$CCC(33,P1) ASSIGN ASP FORKLIFT	PE1212	223	1555
807		QUEUE	P3	PE0612	100	1556
808		ENTER	P3,MH$CCC(34,P1) CAPTURE ASP FORKLIFT	PE1212	224	1557
809		DEPART	P3	PE0612	101	1558
810		ASSIGN	5,MH$CCC(34,P1) NUMBER OF ASP FORKLIFTS	PE1212	225	1559
811		ASSIGN	6,MH$CCC(35,P1) NUMBER OF PALLETS / HOUR	PE0103	23	1560
812		ADVANCE	V$AAF MOVE TO DUMP AND STORE	PE0103	24	1561
813		LEAVE	P3,MH$CCC(34,P1) FREE ASP FORKLIFT	PE1212	228	1562
814		MSAVEVALUE	EEE,1,P1,V$AAC,H COMPUTE NUMBER OF CONTAINERS OF	PE1212	229	1563
	*		THIS TYPE DELIVERED	PE1212	230	1564
815		MSAVEVALUE	EEE,4,P1,V$AAQ,H COMPUTE NUMBER OF CONTAINERS OF	PE0418	16	1565
	*		THIS TYPE DELIVERED TO ASP	PE0418	17	1566
816		TERMINATE		PE1212	231	1567
817	BAR	ASSIGN	3,MH$CCC(36,P1) ASSIGN ASP CONTAINER LIFT	PE1212	232	1568
818		QUEUE	P3	PE0612	102	1569
819		ENTER	P3,MH$CCC(37,P1) CAPTURE ASP CONTAINER LIFT	PE1212	233	1570
820		DEPART	P3	PE0612	103	1571
821		ASSIGN	5,MH$CCC(37,P1) NUMBER OF ASP CONTAINER LIFTS	PE1212	234	1572
822		ASSIGN	6,MH$CCC(38,P1) NUMBER OF CONTAINERS / HOUR	PE1212	235	1573
823		ADVANCE	V$AAD LOAD CONTAINER ON TRUCK	PE1212	236	1574
824		LEAVE	P3,MH$CCC(37,P1) FREE ASP CONTAINER LIFT	PE1212	237	1575
825		ASSIGN	5,MH$CCC(13,13) DISTANCE FROM ASP TO BSA	PE0216	17	1576
826		ASSIGN	6,MH$CCC(39,P1) SPEED OF TRUCK	PE0216	18	1577
827		ADVANCE	V$AAG MOVE TO BSA	PE0216	19	1578
828		ASSIGN	3,MH$CCC(40,P1) ASSIGN BSA CONTAINER LIFT	PE1212	239	1579
829		QUEUE	P3	PE0612	104	1580
830		ENTER	P3,MH$CCC(41,P1) CAPTURE BSA CONTAINER LIFT	PE1212	240	1581
831		DEPART	P3	PE0612	105	1582
832		ASSIGN	5,MH$CCC(41,P1) NUMBER OF BSA CONTAINER LIFTS	PE1212	241	1583
833		ASSIGN	6,MH$CCC(42,P1) NUMBER OF CONTAINERS / HOUR	PE1212	242	1584
834		ADVANCE	V$AAD UNLOAD CONTAINER	PE1212	243	1585
835		LEAVE	P3,MH$CCC(41,P1) FREE BSA CONTAINER LIFT	PE1212	244	1586
836		LEAVE	TRKC FREE TRUCK	PE0523	13	1587
837		SAVEVALUE	EMCON,V$AAJ,H COMPUTE NUMBER OF EMPTY CONTAINERS	PE0105	9	1588
	*		RETURNED	PE0105	10	1589
838		TERMINATE		PE1212	246	1590
	*			PE0104	38	1591
	*	OUTSIZED CARGO DELIVERY		PE0104	39	1592
	*			PE0104	40	1593
839	CAA	TEST E	P1,10,CAD TEST FOR CARGO TYPE 10	PE0412	141	1594

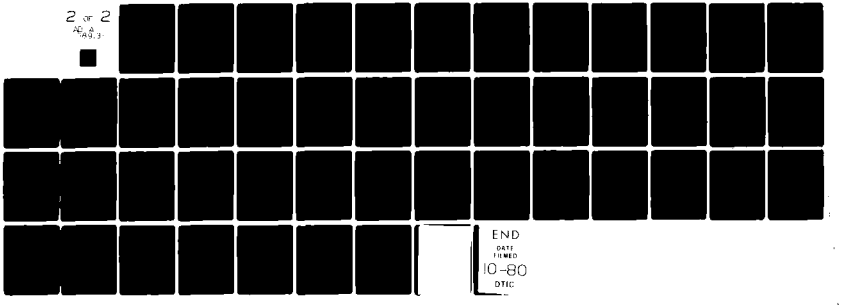
```
BLOCK                                                                                                    CARD
NUMBER   *LOC    OPERATION  A,B,C,D,E,F,G,H,I,J        COMMENTS                                          NUMBER
  840            ASSIGN     4,1          NUMBER OF TYPE 10 CARGO UNITS UNLOADED      PE0412   142      1595
                 *                        FROM LIGHTER AT ONE TIME                  PE0412   143      1596
  841    CAO     TEST GE    MX$FFF(1,10),1,CAOFL    TEST FOR CARGO TYPE 10           PE0731    40      1597
                 *                                    AT BEACH                      PE0731    41      1598
  842            MSAVEVALUE FFF,1,P1,V$AAO    SUBTRACT CARGO TYPE I THAT LEAVES     PE0412   146      1599
                 *                             BEACH FROM CARGO TYPE I AT BEACH     PE0412   147      1600
  843            SPLIT      1,CAO                                                   PE0413     7      1601
  844            TEST E     N$LSAN,7,CAC  TEST FOR LSA COMPLETION                   PE0104    48      1602
  845            ASSIGN     5,MH$CCC(13,P1)  UNLOADING RATE                         PE0110    11      1603
  846            ADVANCE    V$AAH       UNLOAD FROM LIGHTER                         PE0104    50      1604
  847            ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA             PE0110    12      1605
  848            ASSIGN     6,MH$CCC(15,P1)  SPEED OF TYPE 10 CARGO                 PE0110    13      1606
  849            ADVANCE    V$AAG       MOVE TO LSA                                 PE0104    53      1607
  850            ASSIGN     4,1                                                     PE0104    54      1608
  851            MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF CARGO UNITS OF      PE0104    55      1609
                 *                             THIS TYPE DELIVERED                  PE0104    56      1610
  852            MSAVEVALUE EEE,4,P1,V$AAO,H   COMPUTE NUMBER OF CARGO UNITS OF     PE0418    18      1611
                 *                             THIS TYPE DELIVERED TO LSA           PE0418    19      1612
  853            TERMINATE                                                          PE0104    57      1613
  854    CAOFL   TRANSFER   SBR,XWAIT,13PH                                          PE0731    42      1614
  855            TRANSFER   ,CAO                                                    PE0731    43      1615
  856    CAC     ASSIGN     5,MH$CCC(14,12)  DISTANCE FROM BEACH TO BSA             PE0110    14      1616
  857            ASSIGN     6,MH$CCC(15,P1)  SPEED OF TYPE 10 CARGO                 PE0110    15      1617
  858            ADVANCE    V$AAG       MOVE TO BSA                                 PE0104    60      1618
  859            ASSIGN     4,1                                                     PE0105    11      1619
  860            MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF CARGO UNITS OF      PE0104    61      1620
                 *                             THIS TYPE DELIVERED                  PE0104    62      1621
  861            TERMINATE                                                          PE0104    63      1622
  862    CAO     TEST E     P1,11,CAH    TEST FOR TYPE 11 CARGO                     PE0412   148      1623
  863            ASSIGN     4,1          NUMBER OF TYPE 11 CARGO UNITS UNLOADED     PE0412   149      1624
                 *                        FROM LIGHTER AT ONE TIME                  PE0412   150      1625
  864    CAP     TEST GE    MX$FFF(1,11),1,CAPFL    TEST FOR CARGO TYPE 11           PE0731    44      1626
                 *                                    AT BEACH                      PE0731    45      1627
  865            MSAVEVALUE FFF,1,P1,V$AAO    SUBTRACT CARGO TYPE I THAT LEAVES     PE0412   153      1628
                 *                             BEACH FROM CARGO TYPE I AT BEACH     PE0412   154      1629
  866            SPLIT      1,CAP                                                   PE0413     8      1630
  867            ASSIGN     3,MH$CCC(16,P1)  ASSIGN TOWING EQUIPMENT                PE0110    16      1631
  868            QUEUE      P3                                                      PE0612   106      1632
  869            ENTER      P3           CAPTURE TOWING EQUIPMENT                   PE0104    66      1633
  870            DEPART     P3                                                      PE0612   107      1634
  871            ASSIGN     5,MH$CCC(17,P1)  UNLOADING RATE FOR TOWING EQUIPMENT    PE0110    17      1635
  872            ADVANCE    V$AAH       UNLOAD LIGHTER                              PE0104    68      1636
  873            TEST E     N$LSAN,7,CAF  TEST FOR LSA COMPLETION                   PE0104    69      1637
  874            ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA             PE0110    18      1638
  875            ASSIGN     6,MH$CCC(18,P1)  SPEED OF LOADED TOWING EQUIPMENT       PE0110    19      1639
  876            ADVANCE    V$AAG       MOVE TO LSA                                 PE0104    72      1640
  877            SPLIT      1,CAE                                                   PE0104    73      1641
  878            MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF CARGO UNITS OF      PE0104    75      1642
                 *                             THIS TYPE DELIVERED                  PE0104    76      1643
  879            MSAVEVALUE EEE,4,P1,V$AAO,H   COMPUTE NUMBER OF CARGO UNITS OF     PE0418    20      1644
                 *                             THIS TYPE DELIVERED TO LSA           PE0418    21      1645
  880            TERMINATE                                                          PE0104    77      1646
  881    CAPFL   TRANSFER   SBR,XWAIT,13PH                                          PE0731    46      1647
  882            TRANSFER   ,CAP                                                    PE0731    47      1648
  883    CAF     ASSIGN     5,MH$CCC(14,11)  DISTANCE FROM BEACH TO LSA             PE0110    20      1649
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
884		ASSIGN	6,MH$CCC(19,P1)	SPEED OF UNLOADED TOWING EQUIPMENT	PE0110	21	1650
885		ADVANCE	V$AAG	RETURN TOWING EQUIPMENT TO BEACH	PE0104	80	1651
886		LEAVE	P3	FREE TOWING EQUIPMENT	PE0104	81	1652
887		TERMINATE			PE0104	82	1653
888	CAF	ASSIGN	5,MH$CCC(14,12)	DISTANCE FROM BEACH TO BSA	PE0110	22	1654
889		ASSIGN	6,MH$CCC(18,P1)	SPEED OF LOADED TOWING EQUIPMENT	PE0110	23	1655
890		ADVANCE	V$AAG	MOVE TO BSA	PE0104	85	1656
891		SPLIT	1,CAG		PE0104	86	1657
892		MSAVEVALUE	EEE,1,P1,V$AAC,H	COMPUTE NUMBER OF CARGO UNITS OF	PE0104	88	1658
	*			THIS TYPE DELIVERED	PE0104	89	1659
893		TERMINATE			PE0104	90	1660
894	CAG	ASSIGN	5,MH$CCC(14,12)	DISTANCE FROM BEACH TO BSA	PE0110	24	1661
895		ASSIGN	6,MH$CCC(19,P1)	SPEED OF UNLOADED TOWING EQUIPMENT	PE0110	25	1662
896		ADVANCE	V$AAG	RETURN TOWING EQUIPMENT TO BEACH	PE0104	93	1663
897		LEAVE	P3	FREE TOWING EQUIPMENT	PE0104	94	1664
898		TERMINATE			PE0104	95	1665
899	CAH	ASSIGN	4,MH$CCC(23,P1)	NUMBER OF TYPE I CARGO UNITS	PE0412	155	1666
	*			ON TRUCK	PE0412	156	1667
900	CAQ	TEST GE	MX$FFF(1,P1),1,CAQFL	TEST FOR CARGO TYPE P1	PE0731	48	1668
	*			AT BEACH	PE0731	49	1669
901		ASSIGN	3,MH$CCC(20,P1)	ASSIGN CRANE	PE0412	158	1670
902		QUEUE	P3		PE0612	108	1671
903		ENTER	P3,MH$CCC(21,P1)	CAPTURE CRANE	PE0412	159	1672
904		DEPART	P3		PE0612	109	1673
905		QUEUE	FBTRK		PE0612	110	1674
906		ENTER	FBTRK	CAPTURE TRUCK	PE0412	160	1675
907		DEPART	FBTRK		PE0612	111	1676
908		MSAVEVALUE	FFF,1,P1,V$AAO	SUBTRACT CARGO TYPE I LOADED ON	PE0413	9	1677
	*			TRUCK FROM CARGO TYPE I AT BEACH	PE0413	10	1678
909		SPLIT	1,CAQ		PE0412	161	1679
910		ASSIGN	5,MH$CCC(21,P1)	NUMBER OF CRANES	PE0412	162	1680
911		ASSIGN	6,MH$CCC(22,P1)	NUMBER OF CARGO UNITS / HOUR	PE0412	163	1681
912		ADVANCE	V$AAC	UNLOAD LIGHTER AND LOAD TRUCK	PE0412	164	1682
913		LEAVE	P3,MH$CCC(21,P1)	FREE CRANE	PE0412	165	1683
914		TEST E	P1,13,CAN	TEST FOR TYPE 13 CARGO	PE0412	168	1684
915		TEST F	N$LSAN,7,CAM	TEST FOR LSA COMPLETION	PE0104	117	1685
916		ASSIGN	5,MH$CCC(14,11)	DISTANCE FROM BEACH TO LSA	PE0110	34	1686
917		ASSIGN	6,MH$CCC(24,P1)	SPEED OF LOADED TRUCK	PE0110	35	1687
918		ADVANCE	V$AAG	MOVE TO LSA	PE0104	120	1688
919		ASSIGN	3,MH$CCC(25,P1)	ASSIGN CRANE	PE0110	36	1689
920		QUEUE	P3		PE0612	112	1690
921		ENTER	P3,MH$CCC(26,P1)	CAPTURE CRANE	PE0110	37	1691
922		DEPART	P3		PE0612	113	1692
923		ASSIGN	5,MH$CCC(26,P1)	NUMBER OF CRANES	PE0110	38	1693
924		ASSIGN	6,MH$CCC(27,P1)	NUMBER OF CARGO UNITS / HOUR	PE0110	39	1694
925		ADVANCE	V$AAD	UNLOAD TRUCK	PE0104	125	1695
926		LEAVE	P3,MH$CCC(26,P1)	FREE CRANE	PE0110	40	1696
927		MSAVEVALUE	EEE,1,P1,V$AAC,H	COMPUTE NUMBER OF CARGO UNITS OF	PE0104	127	1697
	*			THIS TYPE DELIVERED	PE0104	128	1698
928		MSAVEVALUE	EFE,4,P1,V$AAQ,H	COMPUTE NUMBER OF CARGO UNITS OF	PE0418	22	1699
	*			THIS TYPE DELIVERED TO LSA	PE0418	23	1700
929		ASSIGN	5,MH$CCC(14,11)	DISTANCE FROM BEACH TO LSA	PE0110	41	1701
930		ASSIGN	6,MH$CCC(28,P1)	SPEED OF UNLOADED TRUCK	PE0110	42	1702
931		ADVANCE	V$AAG	TRUCK RETURNS TO BEACH	PE0104	131	1703
932		LEAVE	FBTRK	FREE TRUCK	PE0104	132	1704

AD-A089 131 DAVID W TAYLOR NAVAL SHIP RESEARCH AND DEVELOPMENT CE--ETC F/G 15/5
AMPHIBIOUS LOGISTICS SUPPORT ASHORE (ALSA) (A COMPUTER SIMULATI--ETC(U)
SEP 80 P E FRIEDENBERG

UNCLASSIFIED DTNSRDC-80/110 NL

2 OF 2
AD A089 131



END
DATE FILMED
10-80
DTIC

```
BLOCK                                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                           NUMBER

  933          TERMINATE                                                                  PE0104  133    1705
  934   CAOFL  TRANSFER   SBR,XWAIT,13PH                                                 PE0731  50     1706
  935          TRANSFER   ,CAO                                                           PE0731  51     1707
  936   CAM    ASSIGN     5,MH$CCC(14,12)  DISTANCE FROM BEACH TO BSA                    PE0110  43     1708
  937          ASSIGN     6,MH$CCC(24,P1)  SPEED OF LOADED TRUCK                         PE0110  44     1709
  938          ADVANCE    V$AAG       MOVE TO BSA                                        PE0104  136    1710
  939          ASSIGN     3,MH$CCC(29,P1)  ASSIGN CRANE                                  PE0110  45     1711
  940          QUEUE      P3                                                             PE0612  114    1712
  941          ENTER      P3,MH$CCC(30,P1)  CAPTURE CRANE                                PE0110  46     1713
  942          DEPART     P3                                                             PE0612  115    1714
  943          ASSIGN     5,MH$CCC(30,P1)  NUMBER OF CRANES                              PE0110  47     1715
  944          ASSIGN     6,MH$CCC(31,P1)  NUMBER OF CARGO UNITS / HOUR                  PE0110  48     1716
  945          ADVANCE    V$AAD       UNLOAD TRUCK                                       PE0104  141    1717
  946          LEAVE      P3,MH$CCC(30,P1)  FREE CRANE                                   PE0110  49     1718
  947          MSAVEVALUE EEE,1,P1,V$AAC,H  COMPUTE NUMBER OF CARGO UNITS OF             PE0104  143    1719
       *                                      THIS TYPE DELIVERED                        PE0104  144    1720
  948          ASSIGN     5,MH$CCC(14,12)  DISTANCE FROM BEACH TO BSA                    PE0110  50     1721
  949          ASSIGN     6,MH$CCC(28,P1)  SPEED OF UNLOADED TRUCK                       PE0110  51     1722
  950          ADVANCE    V$AAG       TRUCK RETURNS TO BEACH                             PE0104  147    1723
  951          LEAVE      FBTRK       FREE TRUCK                                         PE0104  148    1724
  952   CAN    TERMINATE                                                                  PE0104  149    1725
       *                                                                                 PE0117  10     1726
       *      MODEL SEGMENT 7         STORE CARGO DELIVERY TOTALS                        PE0117  11     1727
       *                                                                                 PE0117  12     1728
  953          GENERATE   720,,,1                                                        PE0117  13     1729
  954   DAA    ASSIGN     1,XH$PRNTA   ASSIGN ROW OF MATRIX                              PE0117  14     1730
  955          ASSIGN     2,17        NUMBER OF COLUMNS IN MATRIX                        PE0117  15     1731
  956          MARK       3           COPY CLOCK INTO PARAMETER 3                        PE0117  16     1732
  957   DAB    MSAVEVALUE EEE,P1,P2,MH$EEE(1,P2),H  STORE NUMBER OF CARGO UNITS          PE0117  17     1733
       *                                             OF THIS TYPE DELIVERED              PE0117  18     1734
  958          LOOP       2,DAB                                                          PE0117  19     1735
  959          MSAVEVALUE EEE,P1,20,V$AAK,H   STORE TIME                                 PE0117  20     1736
  960          SAVEVALUE  PRNTA,V$AAL,H   INCREASE ROW NUMBER OF MATRIX BY 1             PE0117  21     1737
  961          TEST LE    XH$PRNTA,100,DAC  TEST IF SIZE OF MATRIX IS EXCEEDED           PE0117  22     1738
  962          ADVANCE    720         DELAY TIME                                         PE0117  23     1739
  963          TRANSFER   ,DAA                                                           PE0117  24     1740
  964   DAC    TERMINATE                                                                  PE0117  25     1741
       *                                                                                 PE0506  10     1742
       *      MODEL SEGMENT 8         PUT VALUES IN CARGO DELIVERY MATRICES              PE0506  11     1743
       *                                                                                 PE0506  12     1744
  965          GENERATE   ,,,1                                                           PE0506  13     1745
  966          ADVANCE    1440        DELAY TIME                                         PE0506  14     1746
  967   DAD    MARK       3           COPY CLOCK INTO PARAMETER 3                        PE0509  1      1747
  968          MSAVEVALUE GGG,XH$XROW,1,V$AAK,H   TIME IN HOURS                          PE0506  16     1748
  969          MSAVEVALUE GGG,XH$XROW,2,MH$EEE(3,1),H   TYPE 1 CARGO DELIVERED           PE0506  17     1749
       *                                                    TO BSA                       PE0506  18     1750
  970          MSAVEVALUE GGG,XH$XROW,3,MH$EEE(3,2),H   TYPE 2 CARGO DELIVERED           PE0506  19     1751
       *                                                    TO BSA                       PE0506  20     1752
  971          MSAVEVALUE GGG,XH$XROW,4,MH$EEE(3,3),H   TYPE 3 CARGO DELIVERED           PE0506  21     1753
       *                                                    TO BSA                       PE0506  22     1754
  972          MSAVEVALUE GGG,XH$XROW,5,V$AAV,H   CARGO TYPES 4+5+6+7+8+9                PE0510  8      1755
       *                                            DELIVERED TO BSA                     PE0510  9      1756
  973          MSAVEVALUE HHH,XH$XROW,1,V$AAK,H   TIME IN HOURS                          PE0506  23     1757
  974          MSAVEVALUE HHH,XH$XROW,2,MH$EEE(4,1),H   TYPE 1 CARGO DELIVERED          PE0506  24     1758
       *                                                    TO LSA                       PE0506  25     1759
```

```
BLOCK                                                                                    CARD
NUMBER   *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                           NUMBER
  975           MSAVEVALUE HHH,XH$XROW,3,V$AAR,H    CARGO TYPES 4+7 DELIVERED          PE0506  26  1760
                *                                    TO LSA                             PE0506  27  1761
  976           MSAVEVALUE HHH,XH$XROW,4,MH$EEE(4,10),H   TYPE 10 CARGO               PE0506  28  1762
                *                                          DELIVERED TO LSA           PE0506  29  1763
  977           MSAVEVALUE HHH,XH$XROW,5,MH$EEE(4,11),H   TYPE 11 CARGO               PE0506  30  1764
                *                                          DELIVERED TO LSA           PE0506  31  1765
  978           MSAVEVALUE HHH,XH$XROW,6,MH$EEE(4,13),H   TYPE 13 CARGO               PE0506  32  1766
                *                                          DELIVERED TO LSA           PE0506  33  1767
  979           MSAVEVALUE KKK,XH$XROW,1,V$AAK,H    TIME IN HOURS                      PE0506  34  1768
  980           MSAVEVALUE KKK,XH$XROW,2,MH$EEE(4,2),H    TYPE 2 CARGO DELIVERED     PE0506  35  1769
                *                                          TO LSA                     PE0506  36  1770
  981           MSAVEVALUE KKK,XH$XROW,3,V$AAS,H    CARGO TYPES 6+9 DELIVERED          PE0506  37  1771
                *                                    TO LSA                             PE0506  38  1772
  982           MSAVEVALUE LLL,XH$XROW,1,V$AAK,H    TIME IN HOURS                      PE0506  39  1773
  983           MSAVEVALUE LLL,XH$XROW,2,MH$EEE(4,3),H    TYPE 3 CARGO DELIVERED     PE0506  40  1774
                *                                          TO ASP                     PE0506  41  1775
  984           MSAVEVALUE LLL,XH$XROW,3,V$AAT,H    CARGO TYPES 5+8 DELIVERED          PE0506  42  1776
                *                                    TO ASP                             PE0506  43  1777
  985           SAVEVALUE  XROW,V$AAU,H   INCREASE ROW NUMBER OF MATRICES BY 1         PE0506  44  1778
  986           TEST LE    XH$XPOW,50,DAE   TEST IF SIZE OF MATRICES IS EXCEEDED       PE0506  45  1779
  987           ADVANCE    1440       DELAY TIME                                      PE0506  46  1780
  988           TRANSFER   ,DAD                                                       PE0506  47  1781
  989    DAE    TERMINATE                                                             PE0506  48  1782
                *                                                                     NATURE 182  1783
                *  LAST MODEL SEGMENT    (TIMER SEGMENT)                              NATURE 183  1784
                *                                                                     NATURE 184  1785
  990           GENERATE   X$TIMER    TIMER ARRIVES AT TIME TIMER                     PE0710  3   1786
                *                                                                     PE0516  1   1787
                *  STORE COMPLETION TIMES (IN DAYS) IN FLOATING POINT SAVEVALUES      PE0516  2   1788
                *                                                                     PE0516  3   1789
  991           SAVEVALUE  BSRDS,ML$DDD(1,1),XL   BSA ROADS                           PE0516  4   1790
  992           SAVEVALUE  BSDP1,ML$DDD(1,2),XL   BSA DUMP 1                          PE0516  5   1791
  993           SAVEVALUE  BSDP2,ML$DDD(1,3),XL   BSA DUMP 2                          PE0516  6   1792
  994           SAVEVALUE  BSDP3,ML$DDD(1,4),XL   BSA DUMP 3                          PE0516  7   1793
  995           SAVEVALUE  BSDP4,ML$DDD(1,5),XL   BSA DUMP 4                          PE0516  8   1794
  996           SAVEVALUE  MSTR1,ML$DDD(2,1),XL   MSR TEMPORARY ROUTE 1               PE0516  9   1795
  997           SAVEVALUE  MSTR2,ML$DDD(2,2),XL   MSR TEMPORARY ROUTE 2               PE0516  10  1796
  998           SAVEVALUE  MSTR3,ML$DDD(2,3),XL   MSR TEMPORARY ROUTE 3               PE0516  11  1797
  999           SAVEVALUE  MSTR4,ML$DDD(2,4),XL   MSR TEMPORARY ROUTE 4               PE0516  12  1798
 1000           SAVEVALUE  MSPR1,ML$DDD(3,1),XL   MSR PERMANENT ROUTE 1               PE0516  13  1799
 1001           SAVEVALUE  MSPR2,ML$DDD(3,2),XL   MSR PERMANENT ROUTE 2               PE0516  14  1800
 1002           SAVEVALUE  MSPR3,ML$DDD(3,3),XL   MSR PERMANENT ROUTE 3               PE0516  15  1801
 1003           SAVEVALUE  MSPR4,ML$DDD(3,4),XL   MSR PERMANENT ROUTE 4               PE0516  16  1802
 1004           SAVEVALUE  LSSA1,ML$DDD(4,1),XL   LSA STORAGE AREA 1                  PE0516  17  1803
 1005           SAVEVALUE  LSSA2,ML$DDD(4,2),XL   LSA STORAGE AREA 2                  PE0516  18  1804
 1006           SAVEVALUE  LSSA3,ML$DDD(4,3),XL   LSA STORAGE AREA 3                  PE0516  19  1805
 1007           SAVEVALUE  LSUSA,ML$DDD(4,4),XL   LSA UNSTUFFING AREA                 PE0516  20  1806
 1008           SAVEVALUE  LSTLA,ML$DDD(4,5),XL   LSA TRUCK LOADING AREA              PE0516  21  1807
 1009           SAVEVALUE  LSPSA,ML$DDD(4,6),XL   LSA PALLET STAGING AREA             PE0516  22  1808
 1010           SAVEVALUE  LSADA,ML$DDD(4,7),XL   LSA ADMINISTRATIVE AREA             PE0516  23  1809
 1011           SAVEVALUE  ASRA1,ML$DDD(5,1),XL   ASP ROAD A1                         PE0516  24  1810
 1012           SAVEVALUE  ASRA2,ML$DDD(5,2),XL   ASP ROAD A2                         PE0516  25  1811
 1013           SAVEVALUE  ASRA3,ML$DDD(5,3),XL   ASP ROAD A3                         PE0516  26  1812
 1014           SAVEVALUE  ASRA4,ML$DDD(5,4),XL   ASP ROAD A4                         PE0516  27  1813
 1015           SAVEVALUE  ASVA1,ML$DDD(5,5),XL   ASP REVETMENT A1                    PE0516  28  1814
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
1016		SAVEVALUE	ASVA2,ML$DDD(5,6),XL	ASP REVETMENT A2	PE0516	29	1015
1017		SAVEVALUE	ASVA3,ML$DDD(5,7),XL	ASP REVETMENT A3	PE0516	30	1016
1018		SAVEVALUE	ASVA4,ML$DDD(5,8),XL	ASP REVETMENT A4	PE0516	31	1017
1019		SAVEVALUE	ASPER,ML$DDD(5,9),XL	ASP PERIMETER	PE0516	32	1018
1020		SAVEVALUE	AAFS1,ML$DDD(6,1),XL	AAFS1	PE0609	1	1019
1021		SAVEVALUE	AAFS2,ML$DDD(6,2),XL	AAFS2	PE0609	2	1020
1022		SAVEVALUE	AAFS3,ML$DDD(6,3),XL	AAFS3	PE0609	3	1021
1023		SAVEVALUE	AAFS4,ML$DDD(6,4),XL	AAFS4	PE0609	4	1022
1024		SAVEVALUE	DTBSA,MH$CCC(32,11),H	DELAY TIME (MINUTES) FOR	PE0710	4	1023
	*			CONSTRUCTION EQUIPMENT	PE0710	5	1024
	*			IN BSA	PE0710	6	1025
1025		SAVEVALUE	DTOBS,MH$CCC(32,12),H	DELAY TIME (MINUTES) FOR	PE0710	7	1026
	*			CONSTRUCTION EQUIPMENT IN	PE0710	8	1027
	*			AREAS OTHER THAN BSA	PE0710	9	1028
1026		ASSIGN	2,X$TIMER	RUN TIME (MINUTES)	PE0721	5	1029
1027		SAVEVALUE	TIMEX,V$AAB,XL	COMPUTE RUN TIME IN DAYS	PE0721	6	1030
1028		ASSIGN	2,MH$CCC(32,11)	DELAY TIME (MINUTES) FOR	PE0721	7	1031
	*			CONSTRUCTION EQUIPMENT IN BSA	PE0721	8	1032
1029		SAVEVALUE	DTBSX,V$AAX,XL	DELAY TIME (HOURS) FOR	PE0721	9	1033
	*			CONSTRUCTION EQUIPMENT IN BSA	PE0721	10	1034
1030		ASSIGN	2,MH$CCC(32,12)	DELAY TIME (MINUTES) FOR	PE0721	11	1035
	*			CONSTRUCTION EQUIPMENT IN AREAS	PE0721	12	1036
	*			OTHER THAN BSA	PE0721	13	1037
1031		SAVEVALUE	DTOBX,V$AAX,XL	DELAY TIME (HOURS) FOR CONSTRUCTION	PE0721	14	1038
	*			EQUIPMENT IN AREAS OTHER THAN BSA	PE0721	15	1039
1032		ASSIGN	2,MH$CCC(13,12)	DISTANCE (FEET) FROM LSA TO BSA	PE0721	16	1040
1033		SAVEVALUE	DLSBS,V$AAY,XL	DISTANCE (MILES) FROM LSA TO BSA	PE0721	17	1041
1034		ASSIGN	2,MX$FFF(3,1)	DISTANCE (FEET) FROM SHORE TO ASP 1	PE0721	18	1042
1035		SAVEVALUE	DASP1,V$AAY,XL	DISTANCE (MILES) FROM SHORE TO ASP 1	PE0721	19	1043
1036		ASSIGN	2,MX$FFF(3,2)	DISTANCE (FEET) FROM SHORE TO ASP 2	PE0721	20	1044
1037		SAVEVALUE	DASP2,V$AAY,XL	DISTANCE (MILES) FROM SHORE TO ASP 2	PE0721	21	1045
1038		ASSIGN	2,MX$FFF(3,3)	DISTANCE (FEET) FROM SHORE TO ASP 3	PE0721	22	1046
1039		SAVEVALUE	DASP3,V$AAY,XL	DISTANCE (MILES) FROM SHORE TO ASP 3	PE0721	23	1047
1040		ASSIGN	2,MX$FFF(3,4)	DISTANCE (FEET) FROM SHORE TO ASP 4	PE0721	24	1048
1041		SAVEVALUE	DASP4,V$AAY,XL	DISTANCE (MILES) FROM SHORE TO ASP 4	PE0721	25	1049
1042		ASSIGN	2,X$AEC12	TIME DELIVERY STARTS (MINUTES) FOR	PE0805	7	1050
	*			ASSAULT ECHELON INITIAL SUPPLY	PE0805	8	1051
1043		SAVEVALUE	AEC1,V$AAB,XL	TIME DELIVERY STARTS (DAYS) FOR	PE0805	9	1052
	*			ASSAULT ECHELON INITIAL SUPPLY	PE0805	10	1053
1044		ASSIGN	2,X$AEC22		PE0805	11	1054
1045		SAVEVALUE	AEC2,V$AAB,XL		PE0805	12	1055
1046		ASSIGN	2,X$AEC32		PE0805	13	1056
1047		SAVEVALUE	AEC3,V$AAB,XL		PE0805	14	1057
1048		ASSIGN	2,X$AEC42		PE0805	15	1058
1049		SAVEVALUE	AEC4,V$AAB,XL		PE0805	16	1059
1050		ASSIGN	2,X$AEC52		PE0805	17	1060
1051		SAVEVALUE	AEC5,V$AAB,XL		PE0805	18	1061
1052		ASSIGN	2,X$AEC62		PE0805	19	1062
1053		SAVEVALUE	AEC6,V$AAB,XL		PE0805	20	1063
1054		ASSIGN	2,X$AEC72		PE0805	21	1064
1055		SAVEVALUE	AEC7,V$AAB,XL		PE0805	22	1065
1056		ASSIGN	2,X$AEC82		PE0805	23	1066
1057		SAVEVALUE	AEC8,V$AAB,XL		PE0805	24	1067
1058		ASSIGN	2,X$AEC92		PE0805	25	1068
1059		SAVEVALUE	AEC9,V$AAB,XL		PE0805	26	1069

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J COMMENTS			CARD NUMBER
1060		ASSIGN	2,X$AFE12 TIME DELIVERY STARTS (MINUTES) FOR	PE0806	15	1870
	*		ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY	PE0806	16	1871
1061		SAVEVALUE	AFE1,V$AAB,XL TIME DELIVERY STARTS (DAYS) FOR	PE0806	17	1872
	*		ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY	PE0806	18	1873
1062		ASSIGN	2,X$AFE22	PE0806	19	1874
1063		SAVEVALUE	AFE2,V$AAB,XL	PE0806	20	1875
1064		ASSIGN	2,X$AFE32	PE0806	21	1876
1065		SAVEVALUE	AFE3,V$AAB,XL	PE0806	22	1877
1066		ASSIGN	2,X$AFE42	PE0806	23	1878
1067		SAVEVALUE	AFE4,V$AAB,XL	PE0806	24	1879
1068		ASSIGN	2,X$AFE52	PE0806	25	1880
1069		SAVEVALUE	AFE5,V$AAB,XL	PE0806	26	1881
1070		ASSIGN	2,X$AFE62	PE0806	27	1882
1071		SAVEVALUE	AFE6,V$AAB,XL	PE0806	28	1883
1072		ASSIGN	2,X$AFE72	PE0806	29	1884
1073		SAVEVALUE	AFE7,V$AAB,XL	PE0806	30	1885
1074		ASSIGN	2,X$AFE82	PE0806	31	1886
1075		SAVEVALUE	AFE8,V$AAB,XL	PE0806	32	1887
1076		ASSIGN	2,X$AFE92	PE0806	33	1888
1077		SAVEVALUE	AFE9,V$AAB,XL	PE0806	34	1889
1078		ASSIGN	2,X$FRM12 TIME DELIVERY STARTS (MINUTES) FOR	PE0806	35	1890
	*		FORCE RESUPPLY FOR MISSION DURATION	PE0806	36	1891
1079		SAVEVALUE	FRM1,V$AAB,XL TIME DELIVERY STARTS (DAYS) FOR	PE0806	37	1892
	*		FORCE RESUPPLY FOR MISSION DURATION	PE0806	38	1893
1080		ASSIGN	2,X$FRM22	PE0806	39	1894
1081		SAVEVALUE	FRM2,V$AAB,XL	PE0806	40	1895
1082		ASSIGN	2,X$FRM32	PE0806	41	1896
1083		SAVEVALUE	FRM3,V$AAB,XL	PE0806	42	1897
1084		ASSIGN	2,X$FRM42	PE0806	43	1898
1085		SAVEVALUE	FRM4,V$AAB,XL	PE0806	44	1899
1086		ASSIGN	2,X$FRM52	PE0806	45	1900
1087		SAVEVALUE	FRM5,V$AAB,XL	PE0806	46	1901
1088		ASSIGN	2,X$FRM62	PE0806	47	1902
1089		SAVEVALUE	FRM6,V$AAB,XL	PE0806	48	1903
1090		ASSIGN	2,X$FRM72	PE0806	49	1904
1091		SAVEVALUE	FRM7,V$AAB,XL	PE0806	50	1905
1092		ASSIGN	2,X$FRM82	PE0806	51	1906
1093		SAVEVALUE	FRM8,V$AAB,XL	PE0806	52	1907
1094		ASSIGN	2,X$FRM92	PE0806	53	1908
1095		SAVEVALUE	FRM9,V$AAB,XL	PE0806	54	1909
1096		ASSIGN	2,X$FRMA2	PE0806	55	1910
1097		SAVEVALUE	FRMA,V$AAB,XL	PE0806	56	1911
1098		ASSIGN	2,X$FRMB2	PE0806	57	1912
1099		SAVEVALUE	FRMB,V$AAB,XL	PE0806	58	1913
1100		ASSIGN	2,X$FRMD2	PE0806	59	1914
1101		SAVEVALUE	FRMD,V$AAB,XL	PE0806	60	1915
1102		ASSIGN	1,33	PE0820	67	1916
1103	DAF	TEST G	ML$MMM(P1,2),XL$ZERO,DAG TEST IF CONSTRUCTION IS	PE0822	49	1917
	*		FINISHED ON AREA P1	PE0822	50	1918
1104		SAVEVALUE	P1,V$BAA,XL COMPUTE CONSTRUCTION TIME	PE0822	51	1919
1105		ASSIGN	2,P1	PE0822	52	1920
1106		ASSIGN	24,33	PE0822	53	1921
1107		SAVEVALUE	P2,V$BAB,XL COMPUTE MOE FOR AREA P1	PE0822	54	1922
1108	DAG	LOOP	1,DAF	PE0822	55	1923
1109		SAVEVALUE	CTM30,V$BAP,XL SUM OF TEMPORARY AND PERMANENT	PE0826	5	1924

```
BLOCK                                                                                                CARD
NUMBER  *LOC    OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                        NUMBER
        *                                            CONSTRUCTION TIMES FOR MSR 1          PE0826     6    1925
1110            SAVEVALUE  CTM31,V$BAQ,XL            SUM OF TEMPORARY AND PERMANENT        PE0826     7    1926
        *                                            CONSTRUCTION TIMES FOR MSR 2          PE0826     8    1927
1111            SAVEVALUE  CTM32,V$BAP,XL            SUM OF TEMPORARY AND PERMANENT        PE0826     9    1928
        *                                            CONSTRUCTION TIMES FOR MSR 3          PE0826    10    1929
1112            SAVEVALUE  CTM33,V$BAS,XL            SUM OF TEMPORARY AND PERMANENT        PE0826    11    1930
        *                                            CONSTRUCTION TIMES FOR MSR 4          PE0826    12    1931
1113            SAVEVALUE  CTM34,V$BAC1,XL           SUM OF BSA CONSTRUCTION TIMES         PE0827     5    1932
1114            SAVEVALUE  CTM35,V$BAD1,XL           SUM OF PERMANENT MSR CONSTRUCTION     PE0827     6    1933
        *                                            TIMES                                 PE0827     7    1934
1115            SAVEVALUE  CTM36,V$BAT,XL            SUM OF LSA CONSTRUCTION TIMES         PE0827     8    1935
1116            SAVEVALUE  CTM37,V$BAU,XL            SUM OF ASP CONSTRUCTION TIMES         PE0827     9    1936
1117            SAVEVALUE  CTM38,V$BAG1,XL           SUM OF AAFS CONSTRUCTION TIMES        PE0827    10    1937
1118            SAVEVALUE  CTM39,V$BAV,XL            SUM OF ALL CONSTRUCTION TIMES         PE0827    11    1938
1119            SAVEVALUE  BSAT,V$BAC,XL             MOE FOR BSA                           PE0824    26    1939
1120            SAVEVALUE  MSRPT,V$BAD,XL            MOE FOR PERMANENT MSR                 PE0824    27    1940
1121            SAVEVALUE  LSAT,V$BAE,XL             MOE FOR LSA                           PE0824    28    1941
1122            SAVEVALUE  ASPT,V$BAF,XL             MOE FOR ASP                           PE0824    29    1942
1123            SAVEVALUE  AAFST,V$BAG,XL            MOE FOR AAFS                          PE0824    30    1943
1124            SAVEVALUE  BSAS,V$BAH,XL             MOE FOR BSA                           PE0824    31    1944
1125            SAVEVALUE  MSRPS,V$BAJ,XL            MOE FOR PERMANENT MSR                 PE0824    32    1945
1126            SAVEVALUE  LSAS,V$BAK,XL             MOE FOR LSA                           PE0824    33    1946
1127            SAVEVALUE  ASPS,V$BAL,XL             MOE FOR ASP                           PE0824    34    1947
1128            SAVEVALUE  AAFSS,V$BAM,XL            MOE FOR AAFS                          PE0824    35    1948
1129            SAVEVALUE  ALSAT,V$BAN,XL            MOE FOR ALSA                          PE0824    36    1949
1130            SAVEVALUE  ALSAS,V$BAO,XL            MOE FOR ALSA                          PE0824    37    1950
1131            TERMINATE  1              SHUT OFF THE RUN                                     NATURE   186    1951
1132    XWAIT   LINK       PH1,FIFO                                                            PE0731    52    1952
1133    RETRY   TRANSFER   PH,13,1                                                             PE0731    53    1953
        *                                                                                      PE0131     1    1954
        *       USE OUTPUT EDITOR                                                              PE0131     2    1955
        *                                                                                      PE0131     3    1956
                REPORT     ALSA                                                                PE0131     4    1957
                EJECT                                                                          PE0131     5    1958
        *                                                                                      PE0710    10    1959
                SPACE      10                                                                  PE0710    11    1960
        *                                DAVID TAYLOR NAVAL SHIP RESEARCH AND DEVX             PE0721    26    1961
        FLOPMENT CENTER                                                                        PE0721    27    1962
                SPACE      1                                                                   PE0710    13    1963
        *                                   COMPUTATION, MATHEMATICS AND LOGISTICX             PE0721    28    1964
        S DEPARTMENT                                                                           PE0721    29    1965
                SPACE      1                                                                   PE0710    15    1966
        *                                                LOGISTICS DIVISION                    PE0710    16    1967
                SPACE      1                                                                   PE0710    17    1968
        *                                             BETHESDA, MARYLAND  20084                PE0710    18    1969
                SPACE      5                                                                   PE0710    19    1970
        *                                   AMPHIBIOUS LOGISTICS SUPPORT ASHORE (X             PE0710    20    1971
        ALSA) ANALYSIS                                                                         PE0710    21    1972
                SPACE      1                                                                   PE0710    22    1973
         40     TEXT       CASE NUMBER #XH$CSENO,2/XXX#                                        PE0710    23    1974
         40     TEXT       MISSION DURATION = #XL$TIMEX,2/XXX.X# DAYS                          PE0721    30    1975
         40     TEXT       DELAY TIME (BSA) = #XL$DTBSX,2/XX.X# HOURS                          PE0721    31    1976
         40     TEXT       DELAY TIME (NON-BSA) = #XL$DTOBX,2/XX.X# HOURS                      PE0721    32    1977
         40     TEXT       DISTANCE BETWEEN BSA AND LSA = #XL$DLSBS,2/XX.X# MILEX              PE0721    33    1978
        S                                                                                      PE0721    34    1979
```

```
BLOCK
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                                CARD NUMBER
                 40    TEXT       DISTANCE BETWEEN BEACH AND ASP 1 = #XL$DASP1,2/XX.X# X PE0721     35     1980
MILES                                                                                                PE0721     36     1981
                 40    TEXT       DISTANCE BETWEEN BEACH AND ASP 2 = #XL$DASP2,2/XX.X# X PE0721     37     1982
MILES                                                                                                PE0721     38     1983
                 41    TEXT       DISTANCE BETWEEN BEACH AND ASP 3 = #XL$DASP3,2/XX.X# X PE0721     39     1984
MILES                                                                                                PE0721     40     1985
                 40    TEXT       DISTANCE BETWEEN BEACH AND ASP 4 = #XL$DASP4,2/XX.X# X PE0721     41     1986
MILES                                                                                                PE0721     42     1987
                       EJECT                                                                         PE0710     27     1988
                 *                                                                                   PE0710     28     1989
                 *                                                                                   PE0710     29     1990
                 *                                          **********************                   PE0710     30     1991
                 *                                          *                    *                   PE0710     31     1992
                 *                                          *   OUTPUT SECTION   *                   PE0710     32     1993
                 *                                          *                    *                   PE0710     33     1994
                 *                                          **********************                   PE0710     34     1995
                       SPACE      3                                                                   PE0710     35     1996
                 *                                    BSA CARGO DELIVERY                            PE0510     10     1997
                       SPACE      1                                                                   PE0509     4      1998
                 *        TIME       GENERAL        POL         AMMO       CONTX PE0510     11     1999
AINESS                                                                                               PE0510     12     2000
                 *      (HOURS)     CARGO        (DRUMS)     (PALLETS)          PE0630     1      2001
                 *                 (PALLETS)                                    PE0629     2      2002
                  HMS  TITLE      GGG                                           PE0516     33     2003
                       EJECT                                                                         PE0629     3      2004
                 *                                    LSA CARGO DELIVERY                            PE0509     9      2005
                       SPACE      1                                                                   PE0509     10     2006
                 *                         GENERAL CARGO                    SQUARX PE0509     11     2007
F CARGO                                                                                              PE0509     12     2008
                       SPACE      1                                                                   PE0509     13     2009
                 *        TIME       PALLETS    CONTAINERS   POWERED   NON-PX PE0509     14     2010
OWERED   NON-WHEELED                                                                                 PE0509     15     2011
                 *      (HOURS)                                                                       PE0509     16     2012
                  HMS  TITLE      HHH                                           PE0516     34     2013
                       EJECT                                                                         PE0629     4      2014
                 *                          AAFS POL DELIVERY                                       PE0509     19     2015
                       SPACE      1                                                                   PE0509     20     2016
                 *        TIME         DRUMS    CONTAINERS                                          PE0509     21     2017
                 *      (HOURS)                                                                       PE0509     22     2018
                  HMS  TITLE      KKK                                           PE0516     35     2019
                       EJECT                                                                         PE0629     5      2020
                 *                          ASP AMMO DELIVERY                                       PE0509     25     2021
                       SPACE      1                                                                   PE0509     26     2022
                 *        TIME       PALLETS   CONTAINERS                                          PE0509     27     2023
                 *      (HOURS)                                                                       PE0509     28     2024
                  HMS  TITLE      LLL                                           PE0516     36     2025
                       EJECT                                                                         PE0629     6      2026
                 *                                                                                   PE0825     1      2027
                 *                                                                                   PE0825     2      2028
                 *                                 COMPLETION   CONSTRUCTION                        PE0411     1      2029
                 *                                    TIME         TIME                              PE0411     2      2030
                 *                                   (DAYS)       (DAYS)                             PE0411     3      2031
                       SPACE      2                                                                   PE0821     2      2032
                  10   TEXT       BSA ROADS                #XL$BSROS,2/XX.XX#          #X PE0821     3      2033
YL$CT#1,2/XX.XX#                                                                                     PE0411     4      2034
```

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
	10	TEXT	BSA DUMP 1	#XL$BSDP1,2/XX.XX#	#X	PE0821 5	2035
	XL$CTM2,2/XX.XX#					PE0411 5	2036
	10	TEXT	BSA DUMP 2	#XL$BSDP2,2/XX.XX#	#X	PE0821 7	2037
	XL$CTM3,2/XX.XX#					PE0411 6	2038
	10	TEXT	BSA DUMP 3	#XL$BSDP3,2/XX.XX#	#X	PE0821 9	2039
	XL$CTM4,2/XX.XX#					PE0411 7	2040
	10	TEXT	BSA DUMP 4	#XL$BSDP4,2/XX.XX#	#X	PE0821 11	2041
	XL$CTM5,2/XX.XX#					PE0411 8	2042
	10	TEXT	BSA TOTAL	#XL$CTM34,2/XXX		PE0827 12	2043
	.XX#					PE0827 13	2044
		SPACE	2			PE0821 13	2045
	10	TEXT	MSR TEMPORARY ROUTE 1	#XL$MSTR1,2/XX.XX#	#X	PE0821 14	2046
	XL$CTM6,2/XX.XX#					PE0411 9	2047
	10	TEXT	MSR TEMPORARY ROUTE 2	#XL$MSTR2,2/XX.XX#	#X	PE0821 16	2048
	XL$CTM7,2/XX.XX#					PE0411 10	2049
	10	TEXT	MSR TEMPORARY ROUTE 3	#XL$MSTR3,2/XX.XX#	#X	PE0821 18	2050
	XL$CTM8,2/XX.XX#					PE0411 11	2051
	10	TEXT	MSR TEMPORARY ROUTE 4	#XL$MSTR4,2/XX.XX#	#X	PE0821 20	2052
	XL$CTM9,2/XX.XX#					PE0411 12	2053
		SPACE	2			PE0821 22	2054
	10	TEXT	MSR PERMANENT ROUTE 1	#XL$MSPR1,2/XX.XX#	#X	PE0821 23	2055
	XL$CTM30,2/XX.XX#					PE0411 13	2056
	10	TEXT	MSR PERMANENT ROUTE 2	#XL$MSPR2,2/XX.XX#	#X	PE0821 25	2057
	XL$CTM31,2/XX.XX#					PE0411 14	2058
	10	TEXT	MSR PERMANENT ROUTE 3	#XL$MSPR3,2/XX.XX#	#X	PE0821 27	2059
	XL$CTM32,2/XX.XX#					PE0411 15	2060
	10	TEXT	MSR PERMANENT ROUTE 4	#XL$MSPR4,2/XX.XX#	#X	PE0821 29	2061
	XL$CTM33,2/XX.XX#					PE0411 16	2062
	10	TEXT	PERMANENT MSR TOTAL	#XL$CTM35,2/XXX		PE0827 14	2063
	.XX#					PE0827 15	2064
		SPACE	2			PE0821 31	2065
	10	TEXT	LSA STORAGE AREA 1	#XL$LSSA1,2/XX.XX#	#X	PE0821 32	2066
	XL$CTM14,2/XX.XX#					PE0411 17	2067
	10	TEXT	LSA STORAGE AREA 2	#XL$LSSA2,2/XX.XX#	#X	PE0821 34	2068
	XL$CTM15,2/XX.XX#					PE0411 18	2069
	10	TEXT	LSA STORAGE AREA 3	#XL$LSSA3,2/XX.XX#	#X	PE0821 36	2070
	XL$CTM16,2/XX.XX#					PE0411 19	2071
	10	TEXT	LSA UNSTUFFING AREA	#XL$LSUSA,2/XX.XX#	#X	PE0821 38	2072
	XL$CTM17,2/XX.XX#					PE0411 20	2073
	10	TEXT	LSA TRUCK LOADING APEA	#XL$LSTLA,2/XX.XX#	#X	PE0821 40	2074
	XL$CTM18,2/XX.XX#					PE0411 21	2075
	10	TEXT	LSA PALLET STAGING AREA	#XL$LSPSA,2/XX.XX#	#X	PE0821 42	2076
	XL$CTM19,2/XX.XX#					PE0411 22	2077
	10	TEXT	LSA ADMINISTRATIVE AREA	#XL$LSADA,2/XX.XX#	#X	PE0821 44	2078
	XL$CTM20,2/XX.XX#					PE0411 23	2079
	10	TEXT	LSA TOTAL	#XL$CTM36,2/XXX		PE0827 16	2080
	.XX#					PE0827 17	2081
		SPACE	2			PE0821 46	2082
	10	TEXT	ASP ROAD A1	#XL$ASRA1,2/XX.XX#	#X	PE0821 47	2083
	XL$CTM21,2/XX.XX#					PE0411 24	2084
	10	TEXT	ASP ROAD A2	#XL$ASRA2,2/XX.XX#	#X	PE0821 49	2085
	XL$CTM22,2/XX.XX#					PE0411 25	2086
	10	TEXT	ASP ROAD A3	#XL$ASRA3,2/XX.XX#	#X	PE0821 51	2087
	XL$CTM23,2/XX.XX#					PE0411 26	2088
	10	TEXT	ASP ROAD A4	#XL$ASRA4,2/XX.XX#	#X	PE0821 53	2089

```
BLOCK
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                                                  CARD
                                                                                                            NUMBER
        XL$CTM24,2/XX.XX#                                                                    PE0411    27    2090
         10    TEXT       ASP REVETMENT A1        #XL$ASVA1,2/XX.XX#          #X PE0821    55    2091
        XL$CTM25,2/XX.XX#                                                                    PE0411    28    2092
         10    TEXT       ASP REVETMENT A2        #XL$ASVA2,2/XX.XX#          #X PE0821    57    2093
        XL$CTM26,2/XX.XX#                                                                    PE0411    29    2094
         10    TEXT       ASP REVETMENT A3        #XL$ASVA3,2/XX.XX#          #X PE0821    59    2095
        XL$CTM27,2/XX.XX#                                                                    PE0411    30    2096
         10    TEXT       ASP REVETMENT A4        #XL$ASVA4,2/XX.XX#          #X PE0821    61    2097
        XL$CTM28,2/XX.XX#                                                                    PE0411    31    2098
         10    TEXT       ASP PERIMETER           #XL$ASPER,2/XX.XX#          #X PE0821    63    2099
        XL$CTM29,2/XX.XX#                                                                    PE0411    32    2100
         10    TEXT       ASP TOTAL                              #XL$CTM37,2/XXX PE0827    18    2101
        .XX#                                                                                 PE0827    19    2102
               SPACE      2                                                                  PE0821    65    2103
         10    TEXT       AAFS1                   #XL$AAFS1,2/XX.XX#          #X PE0821    66    2104
        XL$CTM10,2/XX.XX#                                                                    PE0411    33    2105
         10    TEXT       AAFS2                   #XL$AAFS2,2/XX.XX#          #X PE0821    68    2106
        XL$CTM11,2/XX.XX#                                                                    PE0411    34    2107
         10    TEXT       AAFS3                   #XL$AAFS3,2/XX.XX#          #X PE0821    70    2108
        XL$CTM12,2/XX.XX#                                                                    PE0411    35    2109
         10    TEXT       AAFS4                   #XL$AAFS4,2/XX.XX#          #X PE0821    72    2110
        XL$CTM13,2/XX.XX#                                                                    PE0411    36    2111
         10    TEXT       AAFS TOTAL                             #XL$CTM38,2/XXX PE0827    20    2112
        .XX#                                                                                 PE0827    21    2113
               SPACE      2                                                                  PE0825    27    2114
         10    TEXT       ALSA TOTAL                             #XL$CTM39,2/XXX PE0827    22    2115
        .XX#                                                                                 PE0827    23    2116
               EJECT                                                                         PE0629     7    2117
        *                                                                                    PE0706     1    2118
        *                                                                                    PE0706     2    2119
        *                        EQUIPMENT DEFINITIONS (STORAGES) ARE AS FOLLOWX             PE0630     2    2120
        S                                                                                    PE0630     3    2121
               SPACE      1                                                                  PE0629    10    2122
        *        SCPR = SCRAPERS                                FKLH = LSA FX PE0629    11    2123
        ORKLIFT FOR POL                                                                      PE0629    12    2124
        *        SLDR = SCOOP LOADERS                           FKLJ = ASP 1X PE0629    13    2125
         FORKLIFT FOR AMMO                                                                   PE0629    14    2126
        *        DTRK = DUMP TRUCKS                             CNLA = BEACHX PE0629    15    2127
         CONTAINER LIFT                                                                      PE0629    16    2128
        *        RLLR = ROLLERS                                 CNLB = BSA CX PE0629    17    2129
        ONTAINER LIFT                                                                        PE0629    18    2130
        *        GPDR = GRADERS                                 UNSA = BSA UX PE0629    19    2131
        NSTUFFING EQUIPMENT                                                                  PE0629    20    2132
        *        SFCR = SURFACERS                               CNLC = LSA CX PE0629    21    2133
        ONTAINER LIFT                                                                        PE0629    22    2134
        *        BKHO = BACKHOES                                UNSB = LSA UX PE0629    23    2135
        NSTUFFING EQUIPMENT                                                                  PE0629    24    2136
        *        CRNF = CRANES AT AAFS                          CNLD = ASP CX PE0629    25    2137
        ONTAINER LIFT                                                                        PE0629    26    2138
        *        BULL = BULLDOZERS                              UNSC = ASP UX PE0629    27    2139
        NSTUFFING EQUIPMENT                                                                  PE0629    28    2140
        *        TWGE = TOWING EQUIPMENT                        CRNA = CRANEX PE0629    29    2141
        S AT BEACH                                                                           PE0629    30    2142
        *        FKLA = BEACH FORKLIFT FOR GENERAL CARGO        CRNB = CRANEX PE0629    31    2143
        S AT BSA                                                                             PE0629    32    2144
```

```
BLOCK                                                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                                           NUMBER

*         FKLB = BEACH FORKLIFT FOR POL                                  CRNC = CRANEX PE0629      33      2145
S AT LSA                                                                                           PE0629      34      2146
*         FKLC = BEACH FORKLIFT FOR AMMO                                 FKLK = ASP 2X PE0629      35      2147
 FORKLIFT FOR AMMO                                                                                 PE0629      36      2148
*         FKLD = BSA FORKLIFT FOR GENERAL CARGO                          FKLL = ASP 3X PE0629      37      2149
 FORKLIFT FOR AMMO                                                                                 PE0629      38      2150
*         FKLE = BSA FORKLIFT FOR POL                                    FKLM = ASP 4X PE0629      39      2151
 FORKLIFT FOR AMMO                                                                                 PE0629      40      2152
*         FKLF = BSA FORKLIFT FOR AMMO                                   TRKB = FLAT X PE0629      41      2153
BED TRUCKS FOR BREAK BULK CARGO                                                                    PE0629      42      2154
*         FBTRK = FLAT BED TRUCKS                                        TRKC = FLAT X PE0629      43      2155
BED TRUCKS FOR CONTAINERIZED CARGO                                                                 PE0629      44      2156
*         FKLG = LSA FORKLIFT FOR GENERAL CARGO                                                    PE0629      45      2157
        SPACE     2                                                                                PE0629      46      2158
*                                 EQUIPMENT UTILIZATION                                            PE0630      4       2159
        SPACE     1                                                                                PE0629      48      2160
*    EQUIPMENT     NUMBER          TOTAL          AVERAGE        MAXIMUM                          PE0705      2       2161
*                  AVAILABLE       NUMBER OF      TIME           NUMBER                           PE0706      3       2162
*                                  TIMES USED     USED           USED                             PE0706      4       2163
        SPACE     1                                                                                PE0629      50      2164
 STD    INCLUDE   S$SCPR-S$TRKC/1,2,5,6,8                                                          PE0629      51      2165
        EJECT                                                                                      PE0630      8       2166
*                                                                                                  PE0706      5       2167
*                                                                                                  PE0706      6       2168
*                                       QUEUES OF EQUIPMENT REQUESTS                               PE0705      6       2169
        SPACE     1                                                                                PE0705      7       2170
* QUEUE NAME      EQUIPMENT REQUESTED              QUEUE NAME       EQX                           PE0705      8       2171
UIPMENT REQUESTED                                                                                  PE0705      9       2172
        SPACE     1                                                                                PE0705      10      2173
*    BSBUL        BULLDOZER AT BSA                   TWGE          TOX PE0630      13      2174
WING EQUIPMENT                                                                                     PE0630      14      2175
*    BSSCP        SCRAPER AT BSA                     FKLA          BEX PE0630      15      2176
ACH FORKLIFT FOR GENERAL CARGO                                                                     PE0630      16      2177
*    BSSLD        SCOOP LOADER AT BSA                FKLB          BEX PE0630      17      2178
ACH FORKLIFT FOR POL                                                                               PE0630      18      2179
*    BSDTR        DUMP TRUCK AT BSA                  FKLC          BEX PE0630      19      2180
ACH FORKLIFT FOR AMMO                                                                              PE0630      20      2181
*    BSRLL        ROLLER AT BSA                      FKLD          BSX PE0630      21      2182
A FORKLIFT FOR GENERAL CARGO                                                                       PE0630      22      2183
*    BSGRD        GRADER AT BSA                      FKLE          BSX PE0630      23      2184
A FORKLIFT FOR POL                                                                                 PE0630      24      2185
*    MSBUL        BULLDOZER AT MSR                   FKLF          BSX PE0630      25      2186
A FORKLIFT FOR AMMO                                                                                PE0630      26      2187
*    MSRLL        ROLLER AT MSR                      FBTRK         FLX PE0630      27      2188
AT BED TRUCK FOR OUTSIZED CARGO                                                                    PE0630      28      2189
*    MSGRD        GRADER AT MSR                      FKLG          LSX PE0630      29      2190
A FORKLIFT FOR GENERAL CARGO                                                                       PE0630      30      2191
*    MSSCP        SCRAPER AT MSR                     FKLH          LSX PE0630      31      2192
A FORKLIFT FOR POL                                                                                 PE0630      32      2193
*    MSSFC        SURFACER AT MSR                    FKLJ          ASX PE0630      33      2194
P 1 FORKLIFT FOR AMMO                                                                              PE0630      34      2195
*    LSBUL        BULLDOZER AT LSA                   CNLA          BEX PE0630      35      2196
ACH CONTAINER LIFT                                                                                 PE0630      36      2197
*    LSSCP        SCRAPER AT LSA                     CNLB          BSX PE0630      37      2198
A CONTAINER LIFT                                                                                   PE0630      38      2199
```

```
BLOCK                                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                                              NUMBER
        *     LSDTR       DUMP TRUCK AT LSA                  UNSA          BSX PE0630    39     2200
        A UNSTUFFING EQUIPMENT                                               PE0630    40     2201
        *     LSRLL       ROLLER AT LSA                      CNLC          LSX PE0630    41     2202
        A CONTAINER LIFT                                                     PE0630    42     2203
        *     LSGRD       GRADER AT LSA                      UNSB          LSX PE0630    43     2204
        A UNSTUFFING EQUIPMENT                                               PE0630    44     2205
        *     LSSFC       SURFACER AT LSA                    CNLD          ASX PE0630    45     2206
        R CONTAINER LIFT                                                     PE0630    46     2207
        *     ASBUL       BULLDOZER AT ASP                   UNSC          ASX PE0630    47     2208
        R UNSTUFFING EQUIPMENT                                               PE0630    48     2209
        *     ASSCR       SCRAPER AT ASP                     CRNA          CRX PE0630    49     2210
        ANE AT BEACH                                                         PE0630    50     2211
        *     ASSLR       SCOOP LOADER AT ASP                CRNB          CRX PE0630    51     2212
        ANE AT PSA                                                           PE0630    52     2213
        *     ASGRD       GRADER AT ASP                      CRNC          CRX PE0630    53     2214
        ANE AT LSA                                                           PE0630    54     2215
        *     ASRLL       ROLLER AT ASP                      FKLK          ASX PE0630    55     2216
        R 2 FORKLIFT FOR AMMO                                                PE0630    56     2217
        *     AABUL       BULLDOZER AT AAFS                  FKLL          ASX PE0630    57     2218
        R 3 FORKLIFT FOR AMMO                                                PE0630    58     2219
        *     AAGRD       GRADER AT AAFS                     FKLM          ASX PE0630    59     2220
        R 4 FORKLIFT FOR AMMO                                                PE0630    60     2221
        *     AASCR       SCRAPER AT AAFS                    TRKB          FLX PE0630    61     2222
        AT BED TRUCK FOR BREAK BULK CARGO                                    PE0630    62     2223
        *     AASLR       SCOOP LOADER AT AAFS               TRKC          FLX PE0630    63     2224
        AT BED TRUCK FOR CONTAINERIZED CARGO                                 PE0630    64     2225
        *     CRNE        CRANE AT AAFS                                    PE0630    65     2226
                SPACE   2                                                    PE0630    66     2227
        *   EQUIPMENT   MAXIMUM     TOTAL       NO. OF      AVERAGE        PE0705    11     2228
        *   REQUESTED   NO. OF      NO. OF      REQUESTS    WAIT IN        PE0705    12     2229
        *               REQUESTS    REQUESTS    WITH NO     QUEUE          PE0705    13     2230
        *               IN QUEUE                WAITING     (MINUTES)      PE0818     1     2231
                SPACE   1                                                    PE0630    70     2232
         QUE    INCLUDE  0$BSBUL-Q$AASLD/1,2,4,5,8                          PE0706     7     2233
                EJECT                                                        PE0630    72     2234
        *                                                                    PE0706     8     2235
        *                                                                    PE0706     9     2236
        *                                          **********************    PE0805    27     2237
        *                                          *                    *    PE0805    28     2238
        *                                          *   INPUT SECTION    *    PE0805    29     2239
        *                                          *                    *    PE0805    30     2240
        *                                          **********************    PE0805    31     2241
                SPACE   2                                                    PE0805    32     2242
        *                                             SUPPLY MATRIX           PE0805    33     2243
                SPACE   2                                                    PE0805    34     2244
        *                                         MAF CARGO REQUIREMENTS      PE0805    35     2245
                SPACE   2                                                    PE0805    36     2246
        *               THERE ARE TWELVE DIFFERENT TYPES OF CARGO             PA0828     4     2247
                SPACE   1                                                    PE0805    38     2248
        *               1 = BREAK BULK, GENERAL CARGO                        PE0805    39     2249
        *               2 = BREAK BULK, POL                                  PE0805    40     2250
        *               3 = BREAK BULK, AMMO                                 PE0805    41     2251
        *               4 = CONTAINERIZED GENERAL CARGO, TO BE UNSTUFFED     PE0805    42     2252
        *               5 = CONTAINERIZED AMMO, TO BE UNSTUFFED              PE0805    43     2253
        *               6 = CONTAINERIZED DRUM POL, TO BE UNSTUFFED          PE0805    44     2254
```

```
BLOCK                                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                                NUMBER

        *                  7 = CONTAINERIZED GENERAL CARGO, NOT TO BE UNSTUFFED  PE0805      45      2255
        *                  8 = CONTAINERIZED AMMO, NOT TO BE UNSTUFFED           PE0805      46      2256
        *                  9 = CONTAINERIZED DRUM POL, NOT TO BE UNSTUFFED       PE0805      47      2257
        *                  10 = SQUARE, SELF POWERED VEHICLES, ON WHEELS         PA0828       5      2258
        *                  11 = SQUARE, NON-POWERED VEHICLES, ON WHEELS          PA0828       6      2259
        *                  12 = OUTSIZED CARGO                                   PA0828       7      2260
              SPACE      2                                                       PE0805      52      2261
        *                          ASSAULT ECHELON INITIAL SUPPLY                PE0805      53      2262
              SPACE      1                                                       PE0805      54      2263
        *       CARGO              TIME            NUMBER          DELIVERY      NUX PE0805      55      2264
        MBER                                                                    PE0805      56      2265
        *       TYPE               DELIVERY        OF              INTERVAL      OFX PE0805      57      2266
         UNITS                                                                  PE0805      58      2267
        *                          STARTS          LIGHTER         (MINUTES)     PEX PE0805      59      2268
        R                                                                       PE0805      60      2269
        *                          (DAYS)          DELIVERIES                    LIX PE0805      61      2270
        GHTER                                                                   PE0805      62      2271
              SPACE      1                                                       PE0805      63      2272
         11   TEXT       1          #XL$AEC1,2/XX.X#          #XH$AEC13,2/X PE0805      64      2273
        XXX#            #XH$AEC11,2/XXX#          #XH$AEC14,2/XXX#            PE0805      65      2274
         11   TEXT       2          #XL$AEC2,2/XX.X#          #XH$AEC23,2/X PE0805      66      2275
        XXX#            #XH$AEC21,2/XXX#          #XH$AEC24,2/XXX#            PE0805      67      2276
         11   TEXT       3          #XL$AEC3,2/XX.X#          #XH$AEC33,2/X PE0805      68      2277
        XXX#            #XH$AEC31,2/XXX#          #XH$AEC34,2/XXX#            PE0805      69      2278
         11   TEXT       4          #XL$AEC4,2/XX.X#          #XH$AEC43,2/X PE0805      70      2279
        XXX#            #XH$AEC41,2/XXX#          #XH$AEC44,2/XXX#            PE0805      71      2280
         11   TEXT       5          #XL$AEC5,2/XX.X#          #XH$AEC53,2/X PE0805      72      2281
        XXX#            #XH$AEC51,2/XXX#          #XH$AEC54,2/XXX#            PE0805      73      2282
         11   TEXT       6          #XL$AEC6,2/XX.X#          #XH$AEC63,2/X PE0805      74      2283
        XXX#            #XH$AEC61,2/XXX#          #XH$AEC64,2/XXX#            PE0805      75      2284
         11   TEXT       7          #XL$AEC7,2/XX.X#          #XH$AEC73,2/X PE0805      76      2285
        XXX#            #XH$AEC71,2/XXX#          #XH$AEC74,2/XXX#            PE0805      77      2286
         11   TEXT       8          #XL$AEC8,2/XX.X#          #XH$AEC83,2/X PE0805      78      2287
        XXX#            #XH$AEC81,2/XXX#          #XH$AEC84,2/XXX#            PE0805      79      2288
         11   TEXT       9          #XL$AEC9,2/XX.X#          #XH$AEC93,2/X PE0805      80      2289
        XXX#            #XH$AEC91,2/XXX#          #XH$AEC94,2/XXX#            PE0805      81      2290
              SPACE      2                                                       PE0806      61      2291
              EJECT                                                             PE0818       2      2292
        *                                                                       PE0818       3      2293
        *                                                                       PE0818       4      2294
        *                    ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY           PE0806      62      2295
              SPACE      1                                                       PE0806      63      2296
        *       CARGO              TIME            NUMBER          DELIVERY      NUX PE0806      64      2297
        MBER                                                                    PE0806      65      2298
        *       TYPE               DELIVERY        OF              INTERVAL      OFX PE0806      66      2299
         UNITS                                                                  PE0806      67      2300
        *                          STARTS          LIGHTER         (MINUTES)     PEX PE0806      68      2301
        R                                                                       PE0806      69      2302
        *                          (DAYS)          DELIVERIES                    LIX PE0806      70      2303
        GHTER                                                                   PE0806      71      2304
              SPACE      1                                                       PE0806      72      2305
         11   TEXT       1          #XL$AFE1,2/XX.X#          #XH$AFE13,2/X PE0806      73      2306
        XXX#            #XH$AFE11,2/XXX#          #XH$AFE14,2/XXX#            PE0806      74      2307
         11   TEXT       2          #XL$AFE2,2/XX.X#          #XH$AFE23,2/X PE0806      75      2308
        XXY#            #XH$AFE21,2/XXX#          #XH$AFE24,2/XXX#            PE0806      76      2309
```

```
BLOCK
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                                CARD
                                                                                                           NUMBER

         11    TEXT       3              #XL$AFE3,2/XX.X#            #XH$AFE33,2/X PE0806     77      2310
        XXX#               #XH$AFE31,2/XXX#            #XH$AFE34,2/XXX#          PE0806     78      2311
         11    TEXT       4              #XL$AFE4,2/XX.X#            #XH$AFE43,2/X PE0806     79      2312
        XXX#               #XH$AFE41,2/XXX#            #XH$AFE44,2/XXX#          PE0806     80      2313
         11    TEXT       5              #XL$AFE5,2/XX.X#            #XH$AFE53,2/X PE0806     81      2314
        XXX#               #XH$AFE51,2/XXX#            #XH$AFE54,2/XXX#          PE0806     82      2315
         11    TEXT       6              #XL$AFE6,2/XX.X#            #XH$AFE63,2/X PE0806     83      2316
        XXX#               #XH$AFE61,2/XXX#            #XH$AFE64,2/XXX#          PE0806     84      2317
         11    TEXT       7              #XL$AFE7,2/XX.X#            #XH$AFE73,2/X PE0806     85      2318
        XXX#               #XH$AFE71,2/XXX#            #XH$AFE74,2/XXX#          PE0806     86      2319
         11    TEXT       8              #XL$AFE8,2/XX.X#            #XH$AFE83,2/X PE0806     87      2320
        XXX#               #XH$AFE81,2/XXX#            #XH$AFE84,2/XXX#          PE0806     88      2321
         11    TEXT       9              #XL$AFE9,2/XX.X#            #XH$AFE93,2/X PE0806     89      2322
        XXX#               #XH$AFE91,2/XXX#            #XH$AFE94,2/XXX#          PE0806     90      2323
               SPACE      2                                                                   PE0806     91      2324
        *                                    FORCE RESUPPLY FOR MISSION DURATION             PE0806     92      2325
               SPACE      1                                                                   PE0806     93      2326
        *        CARGO            TIME            NUMBER          DELIVERY        NUX PE0806     94      2327
        MBER                                                                                   PE0806     95      2328
        *        TYPE             DELIVERY        OF              INTERVAL        OFX PE0806     96      2329
         UNITS                                                                                 PE0806     97      2330
        *                         STARTS          LIGHTER         (MINUTES)       PEX PE0806     98      2331
        R                                                                                      PE0806     99      2332
        *                         (DAY_)          DELIVERIES                      LIX PE0806    100      2333
        GHTER                                                                                  PE0806    101      2334
               SPACE      1                                                                   PE0806    102      2335
         11    TEXT       1              #XL$FRM1,2/XX.X#            #XH$FRM13,2/X PE0806    103      2336
        XXX#               #XH$FRM11,2/XXX#            #XH$FRM14,2/XXX#          PE0806    104      2337
         11    TEXT       2              #XL$FRM2,2/XX.X#            #XH$FRM23,2/X PE0806    105      2338
        XXX#               #XH$FRM21,2/XXX#            #XH$FRM24,2/XXX#          PE0806    106      2339
         11    TEXT       3              #XL$FRM3,2/XX.X#            #XH$FRM33,2/X PE0806    107      2340
        XXX#               #XH$FRM31,2/XXX#            #XH$FRM34,2/XXX#          PE0806    108      2341
         11    TEXT       4              #XL$FRM4,2/XX.X#            #XH$FRM43,2/X PE0806    109      2342
        XXX#               #XH$FRM41,2/XXX#            #XH$FRM44,2/XXX#          PE0806    110      2343
         11    TEXT       5              #XL$FRM5,2/XX.X#            #XH$FRM53,2/X PE0806    111      2344
        XXX#               #XH$FRM51,2/XXX#            #XH$FRM54,2/XXX#          PE0806    112      2345
         11    TEXT       6              #XL$FRM6,2/XX.X#            #XH$FRM63,2/X PE0806    113      2346
        XXX#               #XH$FRM61,2/XXX#            #XH$FRM64,2/XXX#          PE0806    114      2347
         11    TEXT       7              #XL$FRM7,2/XX.X#            #XH$FRM73,2/X PE0806    115      2348
        XXX#               #XH$FRM71,2/XXX#            #XH$FRM74,2/XXX#          PE0806    116      2349
         11    TEXT       8              #XL$FRM8,2/XX.X#            #XH$FRM83,2/X PE0806    117      2350
        XXX#               #XH$FRM81,2/XXX#            #XH$FRM84,2/XXX#          PE0806    118      2351
         11    TEXT       9              #XL$FRM9,2/XX.X#            #XH$FRM93,2/X PE0806    119      2352
        XXX#               #XH$FRM91,2/XXX#            #XH$FRM94,2/XXX#          PE0806    120      2353
         10    TEXT       10              #XL$FRMA,2/XX.X#            #XH$FRMA3,2X PE0806    121      2354
        /XXX#              #XH$FRMA1,2/XXX#            #XH$FRMA4,2/XXX#          PE0806    122      2355
         10    TEXT       11              #XL$FRMB,2/XX.X#            #XH$FRMB3,2X PE0806    123      2356
        /XXX#              #XH$FRMB1,2/XXX#            #XH$FRMB4,2/XXX#          PE0806    124      2357
         10    TEXT       13              #XL$FRMD,2/XX.X#            #XH$FRMD3,2X PE0806    125      2358
        /XXX#              #XH$FRMD1,2/XXX#            #XH$FRMD4,2/XXX#          PE0806    126      2359
               EJECT                                                                          PE0805     82      2360
        *                                                                                      PE0805     83      2361
        *                                                                                      PE0805     84      2362
        *                                    DESCRIPTION OF CONSTRUCTION OPERX PE0706     10      2363
        ATIONS                                                                                 PE0706     11      2364
```

```
BLOCK
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                                  CARD
                                                                                                             NUMBER
                SPACE      2                                                                    PE0706      12      2365
*                          THE TABLE BELOW LISTS THE CONSTRUCTION OPERATIOX                      PE0706      13      2366
NS THAT ARE SIMULATED.     THE                                                                  PE0706      14      2367
*                          DATA DESCRIBING THESE OPERATIONS IS LISTED IN MX                      PE0706      15      2368
ATRIX AAA WHICH FOLLOWS    THIS                                                                 PE0706      16      2369
*                          TABLE.                                                               PE0706      17      2370
                SPACE      2                                                                    PE0706      18      2371
*                                       P DENOTES THE PRIORITY OF THE OPERX                     PE0801       2      2372
ATION                                                                                           PE0706      22      2373
*                                       R DENOTES THE ROW NUMBER OF MATRIXX                     PE0706      23      2374
 AAA                                                                                            PE0706      24      2375
                SPACE      2                                                                    PE0131      26      2376
*                P=1, P=2   CLEAR BSA ROADS      BULLDOZER                                       PE0817       1      2377
*                P=2, R=3   CLEAR DUMP 1 (BSA)      BULLDOZER                                    PE0817       2      2378
*                P=3, R=4   CLEAR DUMP 2 (BSA)      BULLDOZER                                    PE0817       3      2379
*                P=4, R=5   CLEAR DUMP 3 (BSA)      BULLDOZER                                    PE0817       4      2380
*                P=5, R=6   CLEAR DUMP 4 (BSA)      BULLDOZER                                    PE0817       5      2381
*                P=2, R=7   DEPOSIT MATERIAL FOR BERMS AT DUMP 1 (BSA)      SCX                 PE0817       6      2382
RAPER                                                                                           PE0817       7      2383
*                P=2, R=8   PILE EARTH AND SHAPE BERMS FOR DUMP 1 (BSA)      SX                 PE0817       8      2384
COOP LOADER                                                                                     PE0817       9      2385
*                P=1, R=9   STRIP BSA ROADS      SCRAPER                                         PE0817      10      2386
*                P=1, R=10   FILL (SUBSURFACE) BSA ROADS      DUMP TRUCK                         PE0817      11      2387
*                P=1, R=11   COMPACT (SUBSURFACE) BSA ROADS      ROLLER                          PE0817      12      2388
*                P=1, R=12   GRADE BSA ROADS      GRADER                                         PE0817      13      2389
*                P=1, R=13   FILL (SURFACE) BSA ROADS      DUMP TRUCK                            PE0817      14      2390
*                P=1, R=14   COMPACT (SURFACE) BSA ROADS      ROLLER                             PE0817      15      2391
*                P=6, R=16   CLEAR TEMPORARY MSR 1      BULLDOZER                               PE0817      16      2392
*                P=7, P=17   CLEAR TEMPORARY MSR 2      BULLDOZER                               PE0817      17      2393
*                P=8, R=18   CLEAR TEMPORARY MSR 3      BULLDOZER                               PE0817      18      2394
*                P=9, R=19   CLEAR TEMPORARY MSR 4      BULLDOZER                               PE0817      19      2395
*                P=30, R=28   STRIP PERMANENT MSR 1      SCRAPER                                PE0817      20      2396
*                P=31, R=29   STRIP PERMANENT MSR 2      SCRAPER                                PE0817      21      2397
*                P=32, R=30   STRIP PERMANENT MSR 3      SCRAPER                                PE0817      22      2398
*                P=33, R=31   STRIP PERMANENT MSR 4      SCRAPER                                PE0817      23      2399
*                P=30, R=32   COMPACT PERMANENT MSR 1      ROLLER                               PE0817      24      2400
*                P=31, R=33   COMPACT PERMANENT MSR 2      ROLLER                               PE0817      25      2401
*                P=32, R=34   COMPACT PERMANENT MSR 3      ROLLER                               PE0817      26      2402
*                P=33, R=35   COMPACT PERMANENT MSR 4      ROLLER                               PE0817      27      2403
*                P=30, R=36   GRADE PERMANENT MSR 1      GRADER                                 PE0817      28      2404
*                P=31, R=37   GRADE PERMANENT MSR 2      GRADER                                 PE0817      29      2405
*                P=32, R=38   GRADE PERMANENT MSR 3      GRADER                                 PE0817      30      2406
*                P=33, R=39   GRADE PERMANENT MSR 4      GRADER                                 PE0817      31      2407
*                P=30, R=40   SURFACE PERMANENT MSR 1      SURFACER                             PE0817      32      2408
*                P=31, R=41   SURFACE PERMANENT MSR 2      SURFACER                             PE0817      33      2409
*                P=14, R=42   CLEAR STORAGE AREA 1 (LSA)      BULLDOZER                         PE0817      34      2410
*                P=15, R=43   CLEAR STORAGE AREA 2 (LSA)      BULLDOZER                         PE0817      35      2411
*                P=16, R=44   CLEAR STORAGE AREA 3 (LSA)      BULLDOZER                         PE0817      36      2412
*                P=17, R=45   CLEAR UNSTUFFING AREA (LSA)      BULLDOZER                        PE0817      37      2413
*                P=18, R=46   CLEAR TRUCK LOADING AREA (LSA)      BULLDOZER                     PE0817      38      2414
*                P=19, R=47   CLEAR PALLET STAGING AREA (LSA)      BULLDOZER                    PE0817      39      2415
*                P=20, R=48   CLEAR ADMINISTRATIVE AREA (LSA)      BULLDOZER                    PE0817      40      2416
*                P=14, R=49   STRIP STORAGE AREA 1 (LSA)      SCRAPER                           PE0817      41      2417
*                P=15, R=50   STRIP STORAGE AREA 2 (LSA)      SCRAPER                           PE0817      42      2418
*                P=16, R=51   STRIP STORAGE AREA 3 (LSA)      SCRAPER                           PE0817      43      2419
```

```
BLOCK                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                                NUMBER
        *          P=17, R=52   STRIP UNSTUFFING AREA (LSA)     SCRAPER          PE0817    44    2420
        *          P=20, R=53   STRIP ADMINISTRATIVE AREA (LSA)     SCRAPER      PE0817    45    2421
        *          P=14, R=54   FILL STORAGE AREA 1 (LSA)      DUMP TRUCK        PE0817    46    2422
        *          P=15, R=55   FILL STORAGE AREA 2 (LSA)      DUMP TRUCK        PE0817    47    2423
        *          P=16, R=56   FILL STORAGE AREA 3 (LSA)      DUMP TRUCK        PE0817    48    2424
        *          P=17, R=57   FILL UNSTUFFING AREA (LSA)     DUMP TRUCK        PE0817    49    2425
        *          P=18, R=58   FILL TRUCK LOADING AREA (LSA)     DUMP TRUCK     PE0817    50    2426
        *          P=20, R=59   FILL ADMINISTRATIVE AREA (LSA)     DUMP TRUCK    PE0817    51    2427
        *          P=14, R=60   COMPACT STORAGE AREA 1 (LSA)     ROLLER          PE0817    52    2428
        *          P=15, R=61   COMPACT STORAGE AREA 2 (LSA)     ROLLER          PE0817    53    2429
        *          P=16, R=62   COMPACT STORAGE AREA 3 (LSA)     ROLLER          PE0817    54    2430
        *          P=17, R=63   COMPACT UNSTUFFING AREA (LSA)     ROLLER         PE0817    55    2431
        *          P=18, R=64   COMPACT TRUCK LOADING AREA (LSA)     ROLLER      PE0817    56    2432
        *          P=20, R=65   COMPACT ADMINISTRATIVE AREA (LSA)     ROLLER     PE0817    57    2433
        *          P=14, R=66   GRADE STORAGE AREA 1 (LSA)     GRADER            PE0817    58    2434
        *          P=15, R=67   GRADE STORAGE AREA 2 (LSA)     GRADER            PE0817    59    2435
        *          P=16, P=68   GRADE STORAGE AREA 3 (LSA)     GRADER            PE0817    60    2436
        *          P=17, R=69   GRADE UNSTUFFING AREA (LSA)     GRADER           PE0817    61    2437
        *          P=18, R=70   GRADE TRUCK LOADING AREA (LSA)     GRADER        PE0817    62    2438
        *          P=19, R=71   GRADE PALLET STAGING AREA (LSA)     GRADER       PE0817    63    2439
        *          P=20, R=72   GRADE ADMINISTRATIVE AREA (LSA)     GRADER       PE0817    64    2440
        *          P=14, R=73   SURFACE STORAGE AREA 1 (LSA)     SURFACER         PE0817    65    2441
        *          P=15, R=74   SURFACE STORAGE AREA 2 (LSA)     SURFACER         PE0817    66    2442
        *          P=16, P=75   SURFACE STORAGE AREA 3 (LSA)     SURFACER         PE0817    67    2443
        *          P=17, P=76   SURFACE UNSTUFFING AREA (LSA)     SURFACER        PE0817    68    2444
        *          P=21, R=77   CLEAR ROAD A1 (ASP)     BULLDOZER                PE0817    69    2445
        *          P=22, R=78   CLEAR ROAD A2 (ASP)     BULLDOZER                PE0817    70    2446
        *          P=23, R=79   CLEAR ROAD A3 (ASP)     BULLDOZER                PE0817    71    2447
        *          P=24, R=80   CLEAR ROAD A4 (ASP)     BULLDOZER                PE0817    72    2448
        *          P=25, R=81   CLEAR REVETMENT A1 (ASP)     BULLDOZER           PE0817    73    2449
        *          P=26, R=82   CLEAR REVETMENT A2 (ASP)     BULLDOZER           PE0817    74    2450
        *          P=27, R=83   CLEAR REVETMENT A3 (ASP)     BULLDOZER           PE0817    75    2451
        *          P=28, R=84   CLEAR REVETMENT A4 (ASP)     BULLDOZER           PE0817    76    2452
        *          P=29, R=85   CLEAR PERIMETER (ASP)     BULLDOZER              PE0817    77    2453
        *          P=25, P=86   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A1 (ASPX  PE0817    78    2454
        )     SCRAPER                                                             PE0817    79    2455
        *          P=26, R=87   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A2 (ASPX  PE0817    80    2456
        )     SCRAPER                                                             PE0817    81    2457
        *          P=27, R=88   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A3 (ASPX  PE0817    82    2458
        )     SCRAPER                                                             PE0817    83    2459
        *          P=29, R=89   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A4 (ASPX  PE0817    84    2460
        )     SCRAPER                                                             PE0817    85    2461
        *          P=25, R=90   PILE EARTH AT BERMS FOR REVETMENT A1 (ASP)      X  PE0817    86    2462
      SCOOP LOADER                                                              PE0817    87    2463
        *          P=26, R=91   PILE EARTH AT BERMS FOR REVETMENT A2 (ASP)      X  PE0817    88    2464
      SCOOP LOADER                                                              PE0817    89    2465
        *          P=27, R=92   PILE EARTH AT BERMS FOR REVETMENT A3 (ASP)      X  PE0817    90    2466
      SCOOP LOADER                                                              PE0817    91    2467
        *          P=28, R=93   PILE EARTH AT BERMS FOR REVETMENT A4 (ASP)      X  PE0817    92    2468
      SCOOP LOADER                                                              PE0817    93    2469
        *          P=25, R=94   SHAPE BERMS FOR REVETMENT A1 (ASP)     GRADER     PE0817    94    2470
        *          P=26, R=95   SHAPE BERMS FOR REVETMENT A2 (ASP)     GRADER     PE0817    95    2471
        *          P=27, R=96   SHAPE BERMS FOR REVETMENT A3 (ASP)     GRADER     PE0817    96    2472
        *          P=28, P=97   SHAPE BERMS FOR REVETMENT A4 (ASP)     GRADER     PE0817    97    2473
        *          P=21, R=98   COMPACT ROAD A1 (ASP)     ROLLER                 PE0817    98    2474
```

```
BLOCK                                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J       COMMENTS                                           NUMBER
*           P=22, F=99   COMPACT ROAD A2 (ASP)      ROLLER                 PE0817     99      2475
*           P=23, P=100   COMPACT ROAD A3 (ASP)      ROLLER                PE0817     100     2476
*           P=24, P=101   COMPACT ROAD A4 (ASP)      ROLLER                PE0817     101     2477
*           P=21, R=102   GRADE ROAD A1 (ASP)      GRADER                 PE0817     102     2478
*           P=22, R=103   GRADE ROAD A2 (ASP)      GRADER                 PE0817     103     2479
*           P=23, R=104   GRADE ROAD A3 (ASP)      GRADER                 PE0817     104     2480
*           P=24, R=105   GRADE ROAD A4 (ASP)      GRADER                 PE0817     105     2481
*           P=21, R=106   STRIP ROAD A1 (ASP)      SCRAPER                PE0817     106     2482
*           P=22, R=107   STRIP ROAD A2 (ASP)      SCRAPER                PE0817     107     2483
*           P=23, P=108   STRIP ROAD A3 (ASP)      SCRAPER                PE0817     108     2484
*           P=24, R=109   STRIP ROAD A4 (ASP)      SCRAPER                PE0817     109     2485
*           P=10, R=110   CLEAR AAFS1      BULLDOZER                      PE0818     5       2486
*           P=11, R=111   CLEAR AAFS2      BULLDOZER                      PE0818     6       2487
*           P=12, R=112   CLEAR AAFS3      BULLDOZER                      PE0818     7       2488
*           P=13, P=113   CLEAR AAFS4      BULLDOZER                      PE0818     8       2489
*           P=10, R=114   GRADE AAFS1      GRADER                         PE0818     9       2490
*           P=11, R=115   GRADE AAFS2      GRADER                         PE0818     10      2491
*           P=12, R=116   GRADE AAFS3      GRADER                         PE0818     11      2492
*           P=13, P=117   GRADE AAFS4      GRADER                         PE0818     12      2493
*           P=10, R=118   DEPOSIT BERM MATERIAL FOR BERM 1      SCRAPER   PE0818     13      2494
*           P=11, R=119   DEPOSIT BERM MATERIAL FOR BERM 2      SCRAPER   PE0818     14      2495
*           P=12, P=120   DEPOSIT BERM MATERIAL FOR BERM 3      SCRAPER   PE0818     15      2496
*           P=13, R=121   DEPOSIT BERM MATERIAL FOR BERM 4      SCRAPER   PE0818     16      2497
*           P=10, P=122   PILE EARTH AT BERM 1      SCOOP LOADER          PE0818     17      2498
*           P=11, R=123   PILE EARTH AT BERM 2      SCOOP LOADER          PE0818     18      2499
*           P=12, R=124   PILE EARTH AT BERM 3      SCOOP LOADER          PE0818     19      2500
*           P=13, R=125   PILE EARTH AT BERM 4      SCOOP LOADER          PE0818     20      2501
*           P=10, R=126   SHAPE BERM 1      GRADER                        PE0818     21      2502
*           P=11, R=127   SHAPE BERM 2      GRADER                        PE0818     22      2503
*           P=12, R=128   SHAPE BERM 3      GRADER                        PE0818     23      2504
*           P=13, R=129   SHAPE BERM 4      GRADER                        PE0818     24      2505
        SPACE     3                                                       PE0210     5       2506
*                                        CONSTRUCTION INPUT MATRIX AAA    PE0706     25      2507
        SPACE     2                                                       PE0706     26      2508
*                        SQUARE FEET        RATE(SQ FT/MIN)     NUMBER X PE0706     27      2509
OF EQUIPMENT                                                            PE0706     28      2510
*                                                                 PERFORMX PE0706     29      2511
ING OPERATION                                                           PE0706     30      2512
        SPACE     1                                                     PE0706     31      2513
 FMS    TITLE     AAA                                                   PE0706     32      2514
        EJECT                                                           PE0706     33      2515
*                                                                       PE0706     37      2516
*                                                                       PE0706     38      2517
*                                        CARGO HANDLING AND TRANSPORTATIOX PE0706     39      2518
N DESCRIPTION                                                           PE0706     40      2519
        SPACE     1                                                     PE0706     41      2520
*                       THE TABLE BELOW LISTS THE CARGO HANDLING AND TRX PE0706     42      2521
ANSPORTATION OPERATIONS THAT                                            PE0706     43      2522
*                       ARE SIMULATED AND THE CORRESPONDING ELEMENTS INX PE0706     44      2523
 MATRIX CCC WHERE THE DATA                                              PE0706     45      2524
*                       DESCRIBING THESES OPERATIONS IS LOCATED         PE0706     46      2525
        SPACE     2                                                     PE0207     20      2526
*  CCC(7,I), I=1-3   TYPE OF BEACH FORKLIFT USED TO LOAD CARGO TYPE I OX PE0207     22      2527
NTO TRUCK (PAGE 2, NODES 46, 47)                                        PE0207     23      2528
*  CCC(8,I), I=1-3   NUMBER OF BEACH FORKLIFTS OF TYPE CCC(7,I) USED TOX PE0207     24      2529
```

BLOCK NUMBER	*LOC	OPERATION A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
			LOAD ONE TRUCK WITH CARGO TYPE I	PE0207	25	2530
		*	CCC(9,I), I=1-3 NUMBER OF UNITS/HOUR OF CARGO TYPE I THAT FORKLIFTX	PE0207	26	2531
			TYPE CCC(7,I) CAN TRANSFER FROM LIGHTER TO TRUCK	PE0207	27	2532
		*	CCC(10,I), I=1-3 NUMBER OF UNITS OF CARGO TYPE I THAT ONE TRUCK CAX	PE0207	28	2533
		N CARRY (PAGE 2, NODE 45)		PE0207	29	2534
		*	CCC(11,I), I=1-3 SPEED (IN FEET/MINUTE) OF TRUCK CARRYING CARGO TYX	PE0215	37	2535
		PE I FROM BEACH TO BSA		PE0215	38	2536
		*	(PAGE 2, NODES 50-51)	PE0215	39	2537
		*	CCC(12,I), I=1-3 TYPE OF FORKLIFT USED AT BSA TO UNLOAD CARGO TYPEX	PE0207	33	2538
		I FROM TRUCK (PAGE 2, NODES 52,53)		PE0207	34	2539
		*	CCC(13,I), I=1-3 NUMBER OF BSA FORKLIFTS OF TYPE CCC(12,I) USED TOX	PE0207	35	2540
		UNLOAD CARGO TYPE I FROM ONE TRUCK		PE0207	36	2541
		*	CCC(14,I), I=1-3 NUMBER OF UNITS/HOUR OF CARGO TYPE I THAT FORKLIFX	PE0207	37	2542
		T TYPE CCC(12,I) CAN UNLOAD FROM TRUCK		PE0207	38	2543
		*	CCC(15,I), I=1-3 SPEED (IN FEET/MINUTE) OF TRUCK RETURNING TO BEACX	PE0215	40	2544
		H FROM BSA AFTER DELIVERING CARGO TYPE I		PE0215	41	2545
		*	(PAGE 2, NODES 55-45)	PE0215	42	2546
		*	CCC(16,I), I=1-3 NUMBER OF UNITS/HOUR OF CARGO TYPE I MOVED TO STOX	PE0207	42	2547
		RAGE BY FORKLIFT TYPE CCC(12,I)		PE0207	43	2548
		*	(PAGE 2, NODES 55-56)	PE0207	44	2549
		*	CCC(17,I), I=1,2 SPEED (IN FEET/MINUTE) OF TRUCK CARRYING CARGO TYX	PE0215	43	2550
		PE I FROM BEACH TO LSA (PAGE 2, NODES 60-57)		PE0215	44	2551
		*	CCC(18,I), I=1,2 TYPE OF FORKLIFT USED AT LSA TO UNLOAD CARGO TYPEX	PE0207	48	2552
		I FROM TRUCK (PAGE 2, NODES 58,59)		PE0207	49	2553
		*	CCC(19,I), I=1,2 NUMBER OF LSA FORKLIFTS OF TYPE CCC(18,I) USED TOX	PE0207	51	2554
		UNLOAD CARGO TYPE I FROM ONE TRUCK		PE0207	52	2555
		*	CCC(20,I), I=1,2 NUMBER OF UNITS/HOUR OF CARGO TYPE I THAT FORKLIFX	PE0207	53	2556
		T TYPE CCC(18,I) CAN UNLOAD FROM TRUCK		PE0207	54	2557
		*	CCC(21,I), I=1,2 SPEED (IN FEET/MINUTE) OF TRUCK RETURNING TO BEACX	PE0215	45	2558
		H FROM LSA AFTER DELIVERING CARGO TYPE I		PE0215	46	2559
		*	(PAGE 2, NODES 61-45)	PE0215	47	2560
		*	CCC(22,I), I=1,2 NUMBER OF UNITS/HOUR OF CARGO TYPE I MOVED TO STOX	PE0207	57	2561
		RAGE BY FORKLIFT TYPE CCC(18,I)		PE0207	58	2562
		*	(PAGE 2, NODES 61-62)	PE0215	48	2563
		*	CCC(43,I), I=1-4 SPEED OF TRUCK (IN FEET/MINUTE) CARRYING CARGO TYX	PE0207	60	2564
		PE 3 BETWEEN SHORE AND ASP(I)		PE0207	61	2565
		*	(PAGE 2, NODES 50-50.1)	PE0207	62	2566
		*	CCC(44,I), I=1-4 TYPE OF ASP FORKLIFT USED TO UNLOAD CARGO TYPE 3 X	PE0207	63	2567
		AT ASP(I) (PAGE 2.1, NODES 62.2, 50.5, 51.3, 52.2)		PE0207	64	2568
		*	CCC(45,I), I=1-4 NUMBER OF ASP FORKLIFTS OF TYPE CCC(44,I) USED TOX	PE0207	65	2569
		UNLOAD CARGO TYPE 3 FROM ONE TRUCK		PE0207	66	2570
		*	CCC(46,I), I=1-4 NUMBER OF PALLETS/HOUR OF CARGO TYPE 3 THAT FORKLX	PE0207	67	2571
		IFT TYPE CCC(44,I) CAN UNLOAD FROM TRUCK		PE0207	68	2572
		*	CCC(47,I), I=1-4 SPEED OF TRUCK (IN FEET/MINUTE) OF UNLOADED TRUCKX	PE0207	69	2573
		RETURNING TO BEACH FROM ASP(I)		PE0207	70	2574
		*	(PAGE 2.1, NODES 62.4-45, 50.7-45, 51.5-45, 52.4X	PE0207	71	2575
		-45)		PE0207	72	2576
		*	CCC(48,I), I=1-4 NUMBER OF PALLETS/HOUR OF CARGO TYPE 3 THAT FORKLX	PE0207	73	2577
		IFT TYPE CCC(44,I) CAN MOVE TO STORAGE		PE0207	74	2578
		*	(PAGE 2.1, NODES 62.4-62.5, 50.7-50.8, 51.5-51.6X	PE0207	75	2579
		,52.4-52.5)		PE0207	76	2580
		*	CCC(6,I), I=4-9 NUMBER OF CONTAINERS PER LIGHTER OF CARGO TYPE I	PE0207	77	2581
		*	CCC(7,I), I=4-9 TYPE OF CONTAINER LIFT USED TO UNLOAD LIGHTER AND X	PE0207	78	2582
		LOAD TRUCK WITH CARGO TYPE I		PE0207	79	2583
		*	(PAGE 3, NODE 63)	PE0207	80	2584

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
	*	CCC(8,I), I=4-9		NUMBER OF CONTAINER LIFTS OF TYPE CCC(7,I) USED TOX	PE0207	81	2585
	LOAD ONE TRUCK WITH CARGO TYPE I				PE0207	82	2586
	*	CCC(9,I), I=4-9		NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT CONX	PE0207	83	2587
	TAINER LIFT TYPE CCC(7,I) CAN TRANSFER				PE0207	84	2588
	*			FROM LIGHTER TO TRUCK	PE0207	85	2589
	*	CCC(10,I), I=4-9		NUMBER OF CONTAINERS OF CARGO TYPE I THAT A TRUCKX	PE0207	86	2590
	CAN CARRY (PAGE 3, NODES 42,45)				PE0207	87	2591
	*	CCC(11,I), I=4-9		SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING CARGO X	PE0215	49	2592
	TYPE I FROM BEACH TO BSA				PE0215	50	2593
	*			(PAGE 3, NODES 66-67)	PE0215	51	2594
	*	CCC(12,I), I=4-9		TYPE OF BSA CONTAINER LIFT USED TO UNLOAD CARGO TX	PE0207	91	2595
	YPE I FROM TRUCK (PAGE 3, NODE 68)				PE0207	92	2596
	*	CCC(13,I), I=4-9		NUMBER OF CONTAINER LIFTS OF TYPE CCC(12,I) USED X	PE0207	93	2597
	TO UNLOAD ONE TRUCK WITH CARGO TYPE I				PE0207	94	2598
	*	CCC(14,I), I=4-9		NUMBER OF CONTAINERS/HOUR THAT CONTAINER LIFT TYPX	PE0207	95	2599
	E CCC(12,I) CAN UNLOAD FROM TRUCK				PE0207	96	2600
	*	CCC(15,I), I=4-9		SPEED (IN FEET/MINUTE) OF A TRUCK RETURNING TO BEX	PE0215	52	2601
	ACH FROM BSA AFTER DELIVERING CARGO TYPE I				PE0215	53	2602
	*			(PAGE 3, NODES 70-45)	PE0215	54	2603
	*	CCC(16,I), I=4-6		TYPE OF UNSTUFFING EQUIPMENT USED TO UNSTUFF CARGX	PE0207	100	2604
	C TYPE I (PAGE 3, NODE 73)				PE0207	101	2605
	*	CCC(17,I), I=4-6		NUMBER OF UNITS OF UNSTUFFING EQUIPMENT TYPE CCC(X	PE0207	102	2606
	16,I) USED TO UNSTUFF ONE CONTAINER OF CARGO TYPE I				PE0207	103	2607
	*	CCC(18,I), I=4-6		NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT UNX	PE0207	104	2608
	STUFFING EQUIPMENT TYPE CCC(16,I) CAN UNSTUFF				PE0207	105	2609
	*	CCC(19,I), I=4-6		TYPE OF BSA FORKLIFT USED TO MOVE AND STORE UNSTUX	PE0207	106	2610
	FFED CARGO TYPE I				PE0207	107	2611
	*			(PAGE 3, NODES 52,53)	PE0207	108	2612
	*	CCC(20,I), I=4-6		NUMBER OF FORKLIFTS OF TYPE CCC(19,I) USED TO MOVX	PE0207	109	2613
	E AND STORE UNSTUFFED CARGO TYPE I				PE0207	110	2614
	*	CCC(21,I), I=4-6		NUMBER OF UNITS/HOUR OF UNSTUFFED CARGO TYPE I THX	PE0207	111	2615
	AT FORKLIFT TYPE CCC(19,I) CAN MOVE AND STORE				PE0207	112	2616
	*	CCC(22,I), I=4-6		TYPE OF BSA CONTAINER LIFT USED TO MOVE EMPTY CONX	PE0207	114	2617
	TAINERS OF CARGO TYPE I TO SHORE				PE0207	115	2618
	*			(PAGE 3, NODE 68)	PE0207	116	2619
	*	CCC(23,I), I=4-6		NUMBER OF CONTAINER LIFTS OF TYPE CCC(22,I) USED X	PE0207	117	2620
	TO MOVE ONE TRUCKLOAD OF EMPTY CONTAINERS				PE0207	118	2621
	*			OF CARGO TYPE I TO SHORE	PE0207	119	2622
	*	CCC(24,I), I=4-6		NUMBER OF EMPTY CONTAINERS/HOUR OF CARGO TYPE I TX	PE0207	120	2623
	HAT CONTAINER LIFT TYPE CCC(22,I) CAN MOVE				PE0207	121	2624
	*			TO SHORE	PE0207	122	2625
	*	CCC(25,I), I=4-9		TYPE OF LSA/ASP CONTAINER LIFT USED TO UNLOAD CARX	PE0207	123	2626
	GO TYPE I (PAGE 4, NODES 82.3, 96)				PE0207	124	2627
	*	CCC(26,I), I=4-9		NUMBER OF CONTAINER LIFTS OF TYPE CCC(25,I) USED X	PE0207	125	2628
	TO UNLOAD ONE TRUCKLOAD OF CARGO TYPE I				PE0207	126	2629
	*	CCC(27,I), I=4-9		NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT COX	PE0207	127	2630
	NTAINER LIFT TYPE CCC(25,I) CAN UNLOAD FROM TRUCK				PE0207	128	2631
	*	CCC(28,I), I=7-9		TIME (IN MINUTES) REQUIRED FOR CONTAINER LIFT TYPX	PE0207	129	2632
	E CCC(25,I) TO STORE ONE CONTAINER OF CARGO TYPE I				PE0207	130	2633
	*			(PAGE 4, NODES 83-83.5, 99-104)	PE0207	131	2634
	*	CCC(29,I), I=7-9		SPEED (IN FEET/MINUTE) OF A TRUCK RETURNING TO BEX	PE0215	55	2635
	ACH FROM LSA/ASP AFTER DELIVERING CARGO TYPE I				PE0215	56	2636
	*			(PAGE 4, NODES 89-45, 113-45)	PE0215	57	2637
	*	CCC(30,I), I=4-6		TYPE OF LSA/ASP UNSTUFFING EQUIPMENT USED TO UNSTX	PE0207	135	2638
	UFF CARGO TYPE I				PE0207	136	2639

```
BLOCK                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                              NUMBER
                *                          (PAGE 4, NODES 83.2, 101)                    PE0207    137     2640
                *  CCC(31,I), I=4-6   NUMBER OF LSA/ASP UNSTUFFING EQUIPMENT OF TYPE CCX PE0207    138     2641
C(30,I) USED TO UNSTUFF ONE TRUCKLOAD OF CARGO TYPE I                                    PE0207    139     2642
                *  CCC(32,I), I=4-6   NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT UNX PE0207    140     2643
STUFFING EQUIPMENT TYPE CCC(30,I) CAN UNSTUFF                                            PE0207    141     2644
                *  CCC(33,I), I=4-6   TYPE OF LSA/ASP FORKLIFT USED TO MOVE UNSTUFFED CX PE0207    142     2645
ARGO TYPE I TO DUMP AND STORE                                                            PE0207    143     2646
                *                          (PAGE 4, NODES 58, 59, 62.2)                 PE0207    144     2647
                *  CCC(34,I), I=4-6   NUMBER OF FORKLIFTS OF TYPE CCC(33,I) USED TO MOVX PE0207    145     2648
E THE CONTENTS OF ONE TRUCKLOAD OF CARGO TYPE I                                          PE0207    146     2649
                *                          TO DUMP AND STORE                            PE0207    147     2650
                *  CCC(35,I), I=4-6   NUMBER OF UNITS/HOUR OF UNSTUFFED CARGO TYPE I THX PE0207    148     2651
AT FORKLIFT TYPE CCC(33,I) CAN MOVE TO DUMP AND STORE                                    PE0207    149     2652
                *  CCC(36,I), I=4-6   TYPE OF LSA/ASP CONTAINER LIFT USED TO LOAD EMPTYX PE0207    150     2653
 CONTAINER TYPE I ON TRUCK (PAGE 4, NODES 68, 96)                                        PE0207    151     2654
                *  CCC(37,I), I=4-6   NUMBER OF CONTAINER LIFTS OF TYPE CCC(36,I) USED X PE0207    152     2655
TO LOAD EMPTY CONTAINERS TYPE I ON ONE TRUCK                                             PE0207    153     2656
                *  CCC(38,I), I=4-6   NUMBER OF EMPTY CONTAINERS/HOUR OF CARGO TYPE I CX PE0207    154     2657
ONTAINER LIFT TYPE CCC(36,I) CAN LOAD ON TRUCK                                           PE0207    155     2658
                *  CCC(39,I), I=4-6   SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING EMPTY X PE0215    58      2659
CONTAINERS TYPE I FROM LSA/ASP TO BSA                                                    PE0215    59      2660
                *                          (PAGE 4, NODES 90-90, 114-90)                PE0215    60      2661
                *  CCC(40,I), I=4-6   TYPE OF BSA CONTAINER LIFT USED TO UNLOAD EMPTY CX PE0207    159     2662
ONTAINER TYPE I FROM TRUCK (PAGE 4, NODE 68)                                             PE0207    160     2663
                *  CCC(41,I), I=4-6   NUMBER OF CONTAINER LIFTS OF TYPE CCC(40,I) USED X PE0207    161     2664
TO UNLOAD EMPTY CONTAINER TYPE I FROM ONE TRUCK                                          PE0207    162     2665
                *  CCC(42,I), I=4-6   NUMBER OF EMPTY CONTAINERS/HOUR OF CARGO TYPE I TX PE0207    163     2666
HAT CONTAINER LIFT TYPE CCC(40,I) CAN UNLOAD FROM TRUCK                                  PE0207    164     2667
                *  CCC(6,I), I=10,11,13   NUMBER OF UNITS/LIGHTER OF OUTSIZED CARGO TYPX PE0207    165     2668
E I                                                                                      PE0207    166     2669
                *  CCC(13,10)   UNLOADING RATE FROM LIGHTER (UNITS/HOUR) FOR CARGO TYPEX PE0207    167     2670
 10 (PAGE 6, NODES 132-133)                                                              PE0207    168     2671
                *  CCC(13,12)   DISTANCE (IN FEET) FROM LSA TO BSA                       PE0216    20      2672
                *  CCC(13,13)   DISTANCE (IN FEET) FROM ASP TO BSA                       PE0216    21      2673
                *  CCC(14,11)   DISTANCE (IN FEET) FROM BEACH TO LSA                     PE0207    169     2674
                *  CCC(14,12)   DISTANCE (IN FEET) FROM BEACH TO BSA                     PE0207    170     2675
                *  CCC(14,13)   DISTANCE (IN FEET) FROM BEACH TO ASP                     PE0216    22      2676
                *  CCC(15,10)   SPEED (FEET/MINUTE) OF TYPE 10 CARGO                     PE0207    171     2677
                *  CCC(16,11)   TYPE OF TOWING EQUIPMENT USED TO TOW TYPE 11 CARGO (PAGX PE0207    172     2678
E 6, NODE 14)                                                                            PE0207    173     2679
                *  CCC(17,11)   UNLOADING RATE (UNITS/HOUR) FOR TOWING EQUIPMENT TYPE CX PE0207    174     2680
CC(16,11) WHEN UNLOADING TYPE 11 CARGO                                                   PE0207    175     2681
                *  CCC(18,11)   SPEED (FEET/MINUTE) OF TOWING EQUIPMENT TYPE CCC(16,11)X PE0207    176     2682
 WHEN TOWING CARGO TYPE 11                                                               PE0207    177     2683
                *  CCC(19,11)   SPEED (FEET/MINUTE) OF TOWING EQUIPMENT TYPE CCC(16,11)X PE0207    178     2684
 WHEN MOVING WITHOUT CARGO IN TOW                                                        PE0207    179     2685
                *  CCC(20,13)   TYPE OF CRANE USED TO UNLOAD CARGO TYPE 13 FROM LIGHTERX PE0207    180     2686
 (PAGE 6, NODE 145)                                                                      PE0207    181     2687
                *  CCC(21,13)   NUMBER OF CRANES TYPE CCC(20,13) USED TO UNLOAD TYPE 13X PE0207    182     2688
 CARGO FROM LIGHTER                                                                      PE0207    183     2689
                *  CCC(22,13)   NUMBER OF UNITS/HOUR OF TYPE 13 CARGO THAT CRANE TYPE CX PE0207    184     2690
CC(20,13) CAN UNLOAD FROM LIGHTER                                                        PE0207    185     2691
                *  CCC(23,13)   NUMBER OF UNITS OF TYPE 13 CARGO THAT A FLAT BED TRUCK X PE0207    186     2692
CAN CARRY                                                                                PE0207    187     2693
                *  CCC(24,13)   SPEED (FEET/MINUTE) OF TRUCK WHEN LOADED WITH TYPE 13 CX PE0207    188     2694
```

```
BLOCK                                                                                    CARD
NUMBER  *LOC   OPERATION  A,B,C,D,E,F,G,H,I,J      COMMENTS                              NUMBER

        ARGO                                                                PE0207   189    2695
        *  CCC(25,13)   TYPE OF LSA CRANE USED TO UNLOAD TYPE 13 CARGO FROM TRUX PE0207   190    2696
        CK                                                                  PE0207   191    2697
        *  CCC(26,13)   NUMBER OF CRANES OF TYPE CCC(25,13) USED TO UNLOAD TYPEX PE0207   192    2698
         13 CARGO FROM ONE TRUCK                                            PE0207   193    2699
        *  CCC(27,13)   NUMBER OF UNITS/HOUR OF TYPE 13 CARGO THAT CRANE TYPE CX PE0207   194    2700
        CC(25,13) CAN UNLOAD FROM TRUCK                                     PE0207   195    2701
        *  CCC(28,13)   SPEED OF UNLOADED TRUCK AFTER UNLOADING TYPE 13 CARGO PE0207   196    2702
        *  CCC(29,13)   TYPE OF BSA CRANE USED TO UNLOAD CARGO TYPE 13 FROM TRUX PE0207   197    2703
        CK (PAGE 6, NODE 150)                                               PE0207   198    2704
        *  CCC(30,13)   NUMBER OF CRANES OF TYPE CCC(29,13) USED TO UNLOAD TYPEX PE0207   199    2705
         13 CARGO FROM ONE TRUCK                                            PE0207   200    2706
        *  CCC(31,13)   NUMBER OF UNITS/HOUR OF TYPE 13 CARGO THAT CRANE TYPE CX PE0207   201    2707
        CC(29,13) CAN UNLOAD FROM TRUCK                                     PE0207   202    2708
        *  CCC(32,11)   DELAY TIME (IN MINUTES) FOR CONSTRUCTION EQUIPMENT IN BX PE0504    31    2709
        SA                                                                  PE0504    32    2710
        *  CCC(32,12)   DELAY TIME (IN MINUTES) FOR CONSTRUCTION EQUIPMENT IN AX PE0504    33    2711
        REAS OTHER THAN BSA                                                 PE0504    34    2712
        *  CCC(20,7)    DELAY TIME (IN MINUTES) BEFORE STARTING PERMANENT MSR COX PE0819    10    2713
        NSTRUCTION                                                          PE0819    11    2714
        *  CCC(20,8)    DELAY TIME (IN MINUTES) BEFORE STARTING LSA CONSTRUCTION PE0819    12    2715
        *  CCC(20,9)    DELAY TIME (IN MINUTES) BEFORE STARTING ASP CONSTRUCTION PE0819    13    2716
        *  CCC(20,10)   DELAY TIME (IN MINUTES) BEFORE STARTING AAFS CONSTRUCTIX PE0819    14    2717
        ON                                                                  PE0819    15    2718
        *  CCC(49,I), I=4,6,7,9   SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING CAX PE0216    23    2719
        RGO TYPE I FROM BEACH TO LSA                                        PE0216    24    2720
        *                         (PAGE 3, NODES 66-82)                     PE0216    25    2721
        *  CCC(49,I), I=5,8   SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING CARGO X PE0216    26    2722
        TYPE I FROM BEACH TO ASP                                            PE0216    27    2723
        *                        (PAGE 3, NODES 66-82)                      PE0216    28    2724
        *  FFF(3,I), I=1-4   DISTANCE (IN FEET) FROM SHORE TO ASP I         PE0210     8    2725
             SPACE      3                                                   PE0210     9    2726
        *                                CARGO HANDLING AND TRANSPOPTATION INPX PE0706    47    2727
        UT MATRIX CCC                                                       PE0706    48    2728
             SPACE      1                                                   PE0706    49    2729
         MMS TITLE      CCC                                                PE0706    50    2730
             EJECT                                                          PE0706    51    2731
             ENDPEPORT                                                      PE0131   140    2732
        *                                                                   NATURE   187    2733
        *    CONTROL CARDS                                                  NATURE   188    2734
        *                                                                   NATURE   189    2735
             START      1,,,,ALSA  START THE RUN                            PE0131   141    2736
```

APPENDIX B

OUTPUT FROM PROGRAM

PRECEDING PAGE BLANK-NOT FILMED

DAVID TAYLOR NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER

COMPUTATION, MATHEMATICS AND LOGISTICS DEPARTMENT

LOGISTICS DIVISION

BETHESDA, MARYLAND 20084

AMPHIBIOUS LOGISTICS SUPPORT ASHORE (ALSA) ANALYSIS

CASE NUMBER 10
MISSION DURATION = 20.0 DAYS
DELAY TIME (BSA) = 2.0 HOURS
DELAY TIME (NON-BSA) = 6.0 HOURS
DISTANCE BETWEEN BSA AND LSA = 1.9 MILES
DISTANCE BETWEEN BEACH AND ASP 1 = 3.8 MILES
DISTANCE BETWEEN BEACH AND ASP 2 = 5.0 MILES
DISTANCE BETWFEN BEACH AND ASP 3 = 6.7 MILES
DISTANCE BETWEEN BEACH AND ASP 4 = 5.5 MILES

****
* *
* OUTPUT SECTION *
* *
****

BSA CARGO DELIVERY

	TIME (HOURS)	GENERAL CARGO (PALLETS)	POL (DRUMS)	AMMO (PALLETS)	CONTAINERS
					INERS
HALFWORD MATRIX GGG					
ROW/COLUMN	1	2	3	4	5
1	24	0	0	0	0
2	48	1740	650	650	0
3	72	1740	1400	1400	0
4	96	1740	2100	2100	0
5	120	1740	2850	2850	0
6	144	1740	3550	3550	460
7	168	1740	4250	4250	940
8	192	1740	5000	5000	1420
9	216	1740	5700	5700	1900
10	240	1740	6450	6450	2380
11	264	1740	7150	6850	2860
12	288	1740	7700	6850	3340
13	312	1740	7700	6850	3820
14	336	1740	7700	6850	4300
15	360	1740	7700	6850	4780
16	384	1740	7700	6850	5260
17	408	1740	7700	6850	5740
18	432	1740	7700	6850	6220
19	456	1740	7700	6850	6700
20	0	0	0	0	0
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	0	0	0	0	0
31	0	0	0	0	0
32	0	0	0	0	0
33	0	0	0	0	0
34	0	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0

HALFWORD MATRIX GGG

ROW/COLUMN	1	2	3	4	5
39	0	0	0	0	0
40	0	0	0	0	0
41	0	0	0	0	0
42	0	0	0	0	0
43	0	0	0	0	0
44	0	0	0	0	0
45	0	0	0	0	0
46	0	0	0	0	0
47	0	0	0	0	0
48	0	0	0	0	0
49	0	0	0	0	0
50	0	0	0	0	0

LSA CARGO DELIVERY

		GENERAL CARGO			SQUARE CARGO	
	TIME (HOURS)	PALLETS	CONTAINERS	POWERED	NON-POWERED	NON-WHEELED
				WERED	NON-WHEELED	

HALFWORD MATRIX HHH

ROW/COLUMN	1	2	3	4	5	6
1	24	0	0	0	0	0
2	48	0	0	0	0	0
3	72	0	0	0	0	0
4	96	0	0	0	0	0
5	120	0	0	0	0	0
6	144	0	0	0	0	0
7	168	0	0	0	0	0
8	192	0	0	0	0	0
9	216	0	0	0	0	0
10	240	0	0	0	0	0
11	264	0	0	0	0	0
12	288	0	0	0	0	0
13	312	0	0	0	0	0
14	336	0	0	0	0	0
15	360	0	0	0	0	0
16	384	0	0	0	0	0
17	408	0	0	0	0	0
18	432	0	0	0	0	0
19	456	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0	0
26	0	0	0	0	0	0
27	0	0	0	0	0	0
28	0	0	0	0	0	0
29	0	0	0	0	0	0
30	0	0	0	0	0	0
31	0	0	0	0	0	0
32	0	0	0	0	0	0
33	0	0	0	0	0	0
34	0	0	0	0	0	0
35	0	0	0	0	0	0
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	0	0
46	0	0	0	0	0	0
47	0	0	0	0	0	0

N S R D C GPSS V/6000
HALFWORD MATRIX HHH

CRM GPSS V/6000 VER. 1.2 PSR 412 04/25/79 14.42.01.

ROW/COLUMN	1	2	3	4	5	6
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0

AAFS POL DELIVERY

HALFWORD MATRIX KKK

ROW/COLUMN	1 TIME (HOURS)	2 CRUMS	3 CONTAINERS WERED	NON-WHEELED
1	24	0	0	
2	48	0	0	
3	72	0	0	
4	96	0	0	
5	120	0	0	
6	144	0	0	
7	168	0	0	
8	192	0	0	
9	216	0	0	
10	240	0	0	
11	264	0	0	
12	288	0	0	
13	312	0	0	
14	336	0	0	
15	360	0	0	
16	384	0	0	
17	408	0	0	
18	432	0	0	
19	456	0	0	
20	0	0	0	
21	0	0	0	
22	0	0	0	
23	0	0	0	
24	0	0	0	
25	0	0	0	
26	0	0	0	
27	0	0	0	
28	0	0	0	
29	0	0	0	
30	0	0	0	
31	0	0	0	
32	0	0	0	
33	0	0	0	
34	0	0	0	
35	0	0	0	
36	0	0	0	
37	0	0	0	
38	0	0	0	
39	0	0	0	
40	0	0	0	
41	0	0	0	
42	0	0	0	
43	0	0	0	
44	0	0	0	
45	0	0	0	
46	0	0	0	
47	0	0	0	
48	0	0	0	
49	0	0	0	

ASP AMMC DELIVERY

	TIME (HOURS)	PALLETS	CONTAINERS	
			WERED	NON-WHEELED

HALFWORD MATRIX LLL

ROW/COLUMN	1	2	3
1	24	0	0
2	48	0	0
3	72	0	0
4	96	0	0
5	120	0	0
6	144	0	0
7	168	0	0
8	192	0	0
9	216	0	0
10	240	0	0
11	264	0	0
12	288	0	0
13	312	0	0
14	336	0	0
15	360	0	0
16	384	0	0
17	408	0	0
18	432	0	0
19	456	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
32	0	0	0
33	0	0	0
34	0	0	0
35	0	0	0
36	0	0	0
37	0	0	0
38	0	0	0
39	0	0	0
40	0	0	0
41	0	0	0
42	0	0	0
43	0	0	0
44	0	0	0
45	0	0	0
46	0	0	0
47	0	0	0
48	0	0	0
49	0	0	0

HALFWORD MATRIX LLL

ROW/COLUMN	1	2	3
59	0	0	0

	COMPLETION TIME (DAYS)	CONSTRUCTION TIME (DAYS)
BSA ROADS	1.73	1.31
BSA DUMP 1	1.03	0.61
BSA DUMP 2	0.53	0.11
BSA DUMP 3	0.54	0.12
BSA DUMP 4	0.50	0.08
BSA TOTAL		2.24
MSR TEMPORARY ROUTE 1	1.16	0.57
MSR TEMPORARY ROUTE 2	0.96	0.38
MSR TEMPORARY ROUTE 3	1.05	0.47
MSR TEMPORARY ROUTE 4	1.16	0.58
MSR PERMANENT ROUTE 1	0.00	0.57
MSR PERMANENT ROUTE 2	0.00	0.38
MSR PERMANENT ROUTE 3	4.39	2.79
MSR PERMANENT ROUTE 4	0.00	0.58
PERMANENT MSR TOTAL		4.32
LSA STORAGE AREA 1	3.62	2.20
LSA STORAGE AREA 2	4.18	2.76
LSA STORAGE AREA 3	0.00	0.00
LSA UNSTUFFING AREA	2.96	1.54
LSA TRUCK LOADING AREA	2.44	1.03
LSA PALLET STAGING AREA	1.92	0.51
LSA ADMINISTRATIVE AREA	3.30	1.89
LSA TOTAL		9.94
ASP ROAD A1	0.00	0.00
ASP ROAD A2	0.00	0.00
ASP ROAD A3	0.00	0.00
ASP ROAD A4	0.00	0.00
ASP REVETMENT A1	2.88	1.47
ASP REVETMENT A2	2.92	1.38
ASP REVETMENT A3	3.00	1.43
ASP REVETMENT A4	3.05	1.47
ASP PERIMETER	1.81	0.23
ASP TOTAL		5.98
AAFS1	2.85	1.44
AAFS2	2.85	1.44
AAFS3	2.97	1.56
AAFS4	2.97	1.56
AAFS TOTAL		5.99
ALSA TOTAL		28.46

EQUIPMENT DEFINITIONS (STORAGES) ARE AS FOLLOWS

SCPR = SCRAPERS
SLDR = SCOOP LOADERS
DTRK = DUMP TRUCKS
RLLR = ROLLERS
GRDR = GRADERS
SFCR = SURFACERS
BKHO = BACKHOES
CRNE = CRANES AT AAFS
BULL = BULLDOZERS
TWGE = TOWING EQUIPMENT
FKLA = BEACH FORKLIFT FOR GENERAL CARGO
FKLB = BEACH FORKLIFT FOR POL
FKLC = BEACH FORKLIFT FOR AMMO
FKLD = BSA FORKLIFT FOR GENERAL CARGO
FKLE = BSA FORKLIFT FOR POL
FKLF = BSA FORKLIFT FOR AMMO
FRTRK = FLAT BED TRUCKS
FKLG = LSA FORKLIFT FOR GENERAL CARGO
FKLH = LSA FORKLIFT FOR POL
FKLJ = ASP 1 FORKLIFT FOR AMMO
CNLA = BEACH CONTAINER LIFT
CNLB = BSA CONTAINER LIFT
UNSA = BSA UNSTUFFING EQUIPMENT
CNLC = LSA CONTAINER LIFT
UNSB = LSA UNSTUFFING EQUIPMENT
CNLD = ASP CONTAINER LIFT
UNSC = ASP UNSTUFFING EQUIPMENT
CRNA = CRANES AT BEACH
CRNB = CRANES AT BSA
CRNC = CRANES AT LSA
FKLK = ASP 2 FORKLIFT FOR AMMO
FKLL = ASP 3 FORKLIFT FOR AMMO
FKLM = ASP 4 FORKLIFT FOR AMMO
TRKB = FLAT BED TRUCKS FOR BREAK BULK CARGO
TRKC = FLAT BED TRUCKS FOR CONTAINERIZED CARGO

EQUIPMENT UTILIZATION

EQUIPMENT / STORAGE	NUMBER AVAILABLE / CAPACITY	TOTAL NUMBER OF TIMES USED / ENTRIES	AVERAGE TIME USED / AVERAGE TIME/TRAN	MAXIMUM NUMBER USED / MAXIMUM CONTENTS
SCPR	13	79	330.342	13
SLDR	4	14	147.714	4
DTRK	100	20	245.650	13
RLLR	4	19	257.368	4
GRDR	11	46	258.761	10
SFCR	5	9	757.889	4
BULL	50	111	343.459	50
FKLA	12	58	66.897	12
FKLB	2	308	88.636	2
FKLC	2	274	93.066	2
FKLD	12	58	120.000	12
FKLE	2	308	100.000	2
FKLF	2	274	100.000	2
CNLA	2	720	60.000	2
CNLB	2	718	60.000	2
TRKB	20	320	890.625	20
TRKC	20	720	119.833	4

QUEUES OF EQUIPMENT REQUESTS

QUEUE NAME	EQUIPMENT REQUESTED	QUEUE NAME	EQUIPMENT REQUESTED
BSBUL	BULLDOZER AT BSA	TWGE	TOWING EQUIPMENT
BSSCP	SCRAPER AT BSA	FKLA	BEACH FORKLIFT FOR GENERAL CARGO
BSSLD	SCOOP LOADER AT BSA	FKLB	BEACH FORKLIFT FOR POL
BSDTR	DUMP TRUCK AT BSA	FKLC	BEACH FORKLIFT FOR AMMO
BSRLL	ROLLER AT BSA	FKLD	BSA FORKLIFT FOR GENERAL CARGO
BSGRD	GRADER AT BSA	FKLE	BSA FORKLIFT FOR POL
MSBUL	BULLDOZER AT MSR	FKLF	BSA FORKLIFT FOR AMMO
MSRLL	ROLLER AT MSR	FBTRK	FLAT BED TRUCK FOR OUTSIZED CARGO
MSGRD	GRADER AT MSR	FKLG	LSA FORKLIFT FOR GENERAL CARGO
MSSCP	SCRAPER AT MSR	FKLH	LSA FORKLIFT FOR POL
MSSFC	SURFACER AT MSR	FKLJ	ASP 1 FORKLIFT FOR AMMO
LSBUL	BULLDOZER AT LSA	CNLA	BEACH CONTAINER LIFT
LSSCP	SCRAPER AT LSA	CNLB	BSA CONTAINER LIFT
LSDTR	DUMP TRUCK AT LSA	UNSA	BSA UNSTUFFING EQUIPMENT
LSRLL	ROLLER AT LSA	CNLC	LSA CONTAINER LIFT
LSGRD	GRADER AT LSA	UNSB	LSA UNSTUFFING EQUIPMENT
LSSFC	SURFACER AT LSA	CNLD	ASP CONTAINER LIFT
ASBUL	BULLDOZER AT ASP	UNSC	ASP UNSTUFFING EQUIPMENT
ASSCP	SCRAPER AT ASP	CRNA	CRANE AT BEACH
ASSLD	SCOOP LOADER AT ASP	CRNB	CRANE AT BSA
ASGRD	GRADER AT ASP	CRNC	CRANE AT LSA
ASRLL	ROLLER AT ASP	FKLK	ASP 2 FORKLIFT FOR AMMO
AABUL	BULLDOZER AT AAFS	FKLL	ASP 3 FORKLIFT FOR AMMO
AAGRD	GRADER AT AAFS	FKLM	ASP 4 FORKLIFT FOR AMMO
AASCP	SCRAPER AT AAFS	TRKB	FLAT BED TRUCK FOR BREAK BULK CARGO
AASLD	SCOOP LOADER AT AAFS	TRKC	FLAT BED TRUCK FOR CONTAINERIZED CARGO
CRNF	CRANE AT AAFS		

EQUIPMENT REQUESTED	MAXIMUM NO. OF REQUESTS IN QUEUE	TOTAL NO. OF REQUESTS	NO. OF REQUESTS WITH NO WAITING	AVERAGE WAIT IN QUEUE (MINUTES)
QUEUE	MAXIMUM CONTENTS	TOTAL ENTRIES	ZERO ENTRIES	$AVERAGE TIME/TRAN
BSBUL	1	5	5	0.000
BSSCP	1	2	2	0.000
BSSLD	1	1	1	0.000
BSDTR	1	2	2	0.000
BSRLL	1	2	2	0.000
BSGRD	1	1	1	0.000
MSBUL	1	4	4	0.000
MSSCP	4	4	0	1109.000
FKLA	1	29	29	0.000
FKLB	1	154	1	49.935
FKLC	1	137	1	49.890
FKLD	9	29	6	116.957
FKLE	18	154	1	887.451
FKLF	10	137	1	837.868
CNLA	3	722	2	87.260
CNLB	1	718	718	0.000

QUEUE	MAXIMUM CONTENTS	TOTAL ENTRIES	ZERO ENTRIES	$AVERAGE TIME/TRAN
TRK9	3	320	72	45.589
TRKC	1	720	720	0.000
MSRLL	3	4	1	35673.500
MSGP0	1	1	1	0.000
LSAUL	1	7	7	0.000
LSSCP	1	5	3	90.000
LSDTR	1	6	6	0.000
LSRLL	2	6	4	25603.000
LSGP0	1	6	6	0.000
LSSEC	1	3	2	686.000
ASAUL	6	9	3	213.000
ASSCP	8	8	0	390.750
ASSL0	2	4	2	198.500
ASGP0	1	4	3	58.000
ASRLL	4	4	0	34700.000
AARUL	1	4	4	0.000
AAGP0	2	8	6	188.000
AASCP	1	4	4	0.000
AASL0	2	4	0	72.500

****
* *
* INPUT SECTION *
* *
****

SUPPLY MATRIX

MAF CARGO REQUIREMENTS

THERE ARE TWELVE DIFFERENT TYPES OF CARGO

1 = BREAK BULK, GENERAL CARGO
2 = BREAK BULK, POL
3 = BREAK BULK, AMMO
4 = CONTAINERIZED GENERAL CARGO, TO BE UNSTUFFED
5 = CONTAINERIZED AMMO, TO BE UNSTUFFED
6 = CONTAINERIZED DRUM POL, TO BE UNSTUFFED
7 = CONTAINERIZED GENERAL CARGO, NOT TO BE UNSTUFFED
8 = CONTAINERIZED AMMO, NOT TO BE UNSTUFFED
9 = CONTAINERIZED DRUM POL, NOT TO BE UNSTUFFED
10 = SQUARE, SELF POWERED VEHICLES, ON WHEELS
11 = SQUARE, NON-POWERED VEHICLES, ON WHEELS
13 = OUTSIZED CARGO

ASSAULT ECHELON INITIAL SUPPLY

CARGO TYPE	TIME DELIVERY STARTS (DAYS)	NUMBER OF LIGHTER DELIVERIES	DELIVERY INTERVAL (MINUTES)	NUMBER OF UNITS PER LIGHTER
1	1.0	29	10	60
2	1.0	154	10	50
3	1.0	137	15	50
4	0.0	0	0	0
5	0.0	0	0	0
6	0.0	0	0	0
7	0.0	0	0	0
8	0.0	0	0	0
9	0.0	0	0	0

ASSAULT FOLLOW-ON ECHELON INITIAL SUPPLY

CARGO TYPE	TIME DELIVERY STARTS (DAYS)	NUMBER OF LIGHTER DELIVERIES	DELIVERY INTERVAL (MINUTES)	NUMBER OF UNITS PER LIGHTER
1	0.0	0	0	0
2	0.0	0	0	0
3	0.0	0	0	0
4	0.0	0	0	0
5	0.0	0	0	0
6	0.0	0	0	0
7	5.0	256	30	12
8	5.0	176	30	10
9	5.0	236	30	10

FORCE RESUPPLY FOR MISSION DURATION

CARGO TYPE	TIME DELIVERY STARTS (DAYS)	NUMBER OF LIGHTER DELIVERIES	DELIVERY INTERVAL (MINUTES)	NUMBER OF UNITS PER LIGHTER
1	0.0	0	0	0
2	0.0	0	0	0
3	0.0	0	0	0
4	0.0	0	0	0
5	0.0	0	0	0
6	0.0	0	0	0
7	15.0	250	120	12
8	15.0	203	160	10
9	15.0	327	100	10
10	15.0	45	440	8
11	0.0	0	0	0
13	0.0	0	0	0

DESCRIPTION OF CONSTRUCTION OPERATIONS

THE TABLE BELOW LISTS THE CONSTRUCTION OPERATIONS THAT ARE SIMULATED. THE DATA DESCRIBING THESE OPERATIONS IS LISTED IN MATRIX AAA WHICH FOLLOWS THIS TABLE.

P DENOTES THE PRIORITY OF THE OPERATION
R DENOTES THE ROW NUMBER OF MATRIX AAA

P=1, R=2 CLEAR BSA ROADS BULLDOZER
P=2, R=3 CLEAR DUMP 1 (BSA) BULLDOZER
P=3, R=4 CLEAR DUMP 2 (BSA) BULLDOZER
P=4, R=5 CLEAR DUMP 3 (BSA) BULLDOZER
P=5, R=6 CLEAR DUMP 4 (BSA) BULLDOZER
P=2, R=7 DEPOSIT MATERIAL FOR BERMS AT DUMP 1 (BSA) SCRAPER
P=2, R=8 PILE EARTH AND SHAPE BERMS FOR DUMP 1 (BSA) SCOOP LOADER
P=1, R=9 STRIP BSA ROADS SCRAPER
P=1, R=10 FILL (SUBSURFACE) BSA ROADS DUMP TRUCK
P=1, R=11 COMPACT (SUBSURFACE) BSA ROADS ROLLER
P=1, R=12 GRADE BSA ROADS GRADER
P=1, R=13 FILL (SURFACE) BSA ROADS DUMP TRUCK
P=1, R=14 COMPACT (SURFACE) BSA ROADS ROLLER
P=6, R=15 CLEAR TEMPORARY MSR 1 BULLDOZER
P=7, R=17 CLEAR TEMPORARY MSR 2 BULLDOZER
P=8, R=18 CLEAR TEMPORARY MSR 3 BULLDOZER
P=9, R=19 CLEAR TEMPORARY MSR 4 BULLDOZER
P=30, R=20 STRIP PERMANENT MSR 1 SCRAPER
P=31, R=29 STRIP PERMANENT MSR 2 SCRAPER
P=32, R=30 STRIP PERMANENT MSR 3 SCRAPER
P=33, R=31 STRIP PERMANENT MSR 4 SCRAPER
P=30, R=32 COMPACT PERMANENT MSR 1 ROLLER
P=31, R=33 COMPACT PERMANENT MSR 2 ROLLER
P=32, R=34 COMPACT PERMANENT MSR 3 ROLLER
P=33, R=35 COMPACT PERMANENT MSR 4 ROLLER
P=30, R=36 GRADE PERMANENT MSR 1 GRADER
P=31, R=37 GRADE PERMANENT MSR 2 GRADER
P=32, R=38 GRADE PERMANENT MSR 3 GRADER
P=33, R=39 GRADE PERMANENT MSR 4 GRADER
P=30, R=40 SURFACE PERMANENT MSR 1 SURFACER
P=31, R=41 SURFACE PERMANENT MSR 2 SURFACER
P=14, R=42 CLEAR STORAGE AREA 1 (LSA) BULLDOZER
P=15, R=43 CLEAR STORAGE AREA 2 (LSA) BULLDOZER
P=16, R=44 CLEAR STORAGE AREA 3 (LSA) BULLDOZER
P=17, R=45 CLEAR UNSTUFFING AREA (LSA) BULLDOZER
P=18, R=46 CLEAR TRUCK LOADING AREA (LSA) BULLDOZER
P=19, R=47 CLEAR PALLET STAGING AREA (LSA) BULLDOZER
P=21, R=48 CLEAR ADMINISTRATIVE AREA (LSA) BULLDOZER
P=14, R=49 STRIP STORAGE AREA 1 (LSA) SCRAPER
P=15, R=50 STRIP STORAGE AREA 2 (LSA) SCRAPER
P=16, R=51 STRIP STORAGE AREA 3 (LSA) SCRAPER
P=17, R=52 STRIP UNSTUFFING AREA (LSA) SCRAPER
P=20, R=53 STRIP ADMINISTPATIVE AREA (LSA) SCRAPER
P=14, R=54 FILL STORAGE AREA 1 (LSA) DUMP TRUCK
P=15, R=55 FILL STORAGE AREA 2 (LSA) DUMP TRUCK

```
P=16, R=56   FILL STORAGE AREA 3 (LSA)      DUMP TRUCK
P=17, R=57   FILL UNSTUFFING AREA (LSA)      DUMP TRUCK
P=18, R=58   FILL TRUCK LOADING AREA (LSA)      DUMP TRUCK
P=20, R=59   FILL ADMINISTRATIVE AREA (LSA)      DUMP TRUCK
P=14, R=60   COMPACT STORAGE AREA 1 (LSA)      ROLLER
P=15, R=61   COMPACT STORAGE AREA 2 (LSA)      ROLLER
P=16, R=62   COMPACT STORAGE AREA 3 (LSA)      ROLLER
P=17, R=63   COMPACT UNSTUFFING AREA (LSA)      ROLLER
P=18, R=64   COMPACT TRUCK LOADING AREA (LSA)      ROLLER
P=20, R=65   COMPACT ADMINISTRATIVE AREA (LSA)      ROLLER
P=14, R=66   GRADE STORAGE AREA 1 (LSA)      GRADER
P=15, R=67   GRADE STORAGE AREA 2 (LSA)      GRADER
P=16, R=68   GRADE STORAGE AREA 3 (LSA)      GRADER
P=17, R=69   GRADE UNSTUFFING AREA (LSA)      GRADER
P=18, R=70   GRADE TRUCK LOADING AREA (LSA)      GRADER
P=19, R=71   GRADE PALLET STAGING AREA (LSA)      GRADER
P=20, R=72   GRADE ADMINISTRATIVE AREA (LSA)      GRADER
P=14, R=73   SURFACE STORAGE AREA 1 (LSA)      SURFACER
P=15, R=74   SURFACE STORAGE AREA 2 (LSA)      SURFACER
P=16, R=75   SURFACE STORAGE AREA 3 (LSA)      SURFACER
P=17, R=76   SURFACE UNSTUFFING AREA (LSA)      SURFACER
P=21, R=77   CLEAR ROAD A1 (ASP)      BULLDOZER
P=22, R=78   CLEAR ROAD A2 (ASP)      BULLDOZER
P=23, R=79   CLEAR ROAD A3 (ASP)      BULLDOZER
P=24, R=80   CLEAR ROAD A4 (ASP)      BULLDOZER
P=25, R=81   CLEAR REVETMENT A1 (ASP)      BULLDOZER
P=26, R=82   CLEAR REVETMENT A2 (ASP)      BULLDOZER
P=27, R=83   CLEAR REVETMENT A3 (ASP)      BULLDOZER
P=28, R=84   CLEAR REVETMENT A4 (ASP)      BULLDOZER
P=29, R=85   CLEAR PERIMETER (ASP)      BULLDOZER
P=25, R=86   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A1 (ASP)      SCRAPER
P=26, R=87   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A2 (ASP)      SCRAPER
P=27, R=88   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A3 (ASP)      SCRAPER
P=29, R=89   DEPOSIT MATERIAL FOR BERMS ON REVETMENT A4 (ASP)      SCRAPER
P=25, R=90   PILE EARTH AT BERMS FOR REVETMENT A1 (ASP)      SCOOP LOADER
P=26, R=91   PILE EARTH AT BERMS FOR REVETMENT A2 (ASP)      SCOOP LOADER
P=27, R=92   PILE EARTH AT BERMS FOR REVETMENT A3 (ASP)      SCOOP LOADER
P=28, R=93   PILE EARTH AT BERMS FOR REVETMENT A4 (ASP)      SCOOP LOADER
P=25, R=94   SHAPE BERMS FOR REVETMENT A1 (ASP)      GRADER
P=26, R=95   SHAPE BERMS FOR REVETMENT A2 (ASP)      GRADER
P=27, R=96   SHAPE BERMS FOR REVETMENT A3 (ASP)      GRADER
P=28, R=97   SHAPE BERMS FOR REVETMENT A4 (ASP)      GRADER
P=21, R=98   COMPACT ROAD A1 (ASP)      ROLLER
P=22, R=99   COMPACT ROAD A2 (ASP)      ROLLER
P=23, R=100   COMPACT ROAD A3 (ASP)      ROLLER
P=24, R=101   COMPACT ROAD A4 (ASP)      ROLLER
P=21, R=102   GRADE ROAD A1 (ASP)      GRADER
P=22, R=103   GRADE ROAD A2 (ASP)      GRADER
P=23, R=104   GRADE ROAD A3 (ASP)      GRADER
P=24, R=105   GRADE ROAD A4 (ASP)      GRADER
P=21, R=106   STRIP ROAD A1 (ASP)      SCRAPER
P=22, R=107   STRIP ROAD A2 (ASP)      SCRAPER
P=23, R=108   STRIP ROAD A3 (ASP)      SCRAPER
P=24, R=109   STRIP ROAD A4 (ASP)      SCRAPER
P=10, R=110   CLEAR AAFS1      BULLDOZER
P=11, R=111   CLEAR AAFS2      BULLDOZER
P=12, R=112   CLEAR AAFS3      BULLDOZER
P=13, R=113   CLEAR AAFS4      BULLDOZER
P=10, R=114   GRADE AAFS1      GRADER
```

```
P=11, R=115   GRADE AAFS2      GRADER
P=12, R=116   GRADE AAFS3      GRADER
P=13, R=117   GRADE AAFS4      GRADER
P=10, R=118   DEPOSIT BERM MATERIAL FOR BERM 1      SCRAPER
P=11, R=119   DEPOSIT BERM MATERIAL FOR BERM 2      SCRAPER
P=12, R=120   DEPOSIT BERM MATERIAL FOR BERM 3      SCRAPER
P=13, R=121   DEPOSIT BERM MATERIAL FOR BERM 4      SCRAPER
P=10, R=122   PILE EARTH AT BERM 1      SCOOP LOADER
P=11, R=123   PILE EARTH AT BERM 2      SCOOP LOADER
P=12, R=124   PILE EARTH AT BERM 3      SCOOP LOADER
P=13, R=125   PILE EARTH AT BERM 4      SCOOP LOADER
P=10, R=126   SHAPE BERM 1      GRADER
P=11, R=127   SHAPE BERM 2      GRADER
P=12, R=128   SHAPE BERM 3      GRADER
P=13, R=129   SHAPE BERM 4      GRADER
```

CONSTRUCTION INPUT MATRIX AAA

	SQUARE FEET	RATE(SQ FT/MIN)	NUMBER OF EQUIPMENT PERFORMING OPERATION
NG OPERATION			

FULLWORD MATRIX AAA

ROW/COLUMN	1	2	3
1	0	0	0
2	100000	300	3
3	137000	300	3
4	98000	300	2
5	154000	300	3
6	34000	300	1
7	137000	260	2
8	137000	380	2
9	100000	350	2
10	100000	200	2
11	100000	400	2
12	100000	300	2
13	100000	200	2
14	100000	400	2
15	0	0	0
16	1980000	300	8
17	650000	300	4
18	1210000	300	6
19	1000000	300	4
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	1963000	350	8
29	650000	350	6

FULLWORD MATRIX AAA

ROW/COLUMN	1	2	3
30	1210000	350	4
31	1900000	350	6
32	1980000	400	8
33	650000	400	6
34	1210000	400	4
35	1000000	400	6
36	1980000	300	8
37	650000	300	6
38	1210000	300	4
39	1000000	300	6
40	1980000	100	8
41	650000	100	6
42	193700	200	4
43	193700	200	4
44	236600	200	5
45	21904	200	1
46	60800	200	1
47	37300	200	1
48	76800	200	1
49	193700	150	4
50	193700	150	4
51	236600	150	5
52	21904	150	1
53	76800	150	1
54	193700	200	4
55	193700	200	4
56	236600	200	5
57	21904	200	1
58	60800	200	1
59	76800	200	1
60	193700	400	4
61	193700	400	4
62	236600	400	5
63	21904	400	1
64	60800	400	1
65	76800	400	1
66	193700	200	4
67	193700	200	4
68	236600	200	5
69	21904	200	1
70	60800	200	1
71	37300	200	1
72	76800	200	1
73	193700	60	4
74	193700	60	4
75	236600	60	5
76	21904	60	1
77	517500	300	6
78	517500	300	6
79	517500	300	6
80	517500	300	6
81	370000	300	4
82	370000	300	4
83	370000	300	4
84	370000	300	4

FULLWORD MATRIX AAA

ROW/COLUMN	1	2	3
85	480000	300	4
86	133300	350	2
87	103000	350	2
88	103000	350	2
89	103000	350	2
90	103000	300	2
91	103000	300	2
92	103000	300	2
93	103000	300	2
94	103000	300	2
95	103000	300	2
96	103000	300	2
97	103000	300	2
98	517500	400	6
99	517500	400	6
100	517500	400	6
101	517500	400	6
102	517500	300	6
103	517500	300	6
104	517500	300	6
105	517500	300	6
106	517500	350	6
107	517500	350	6
108	517500	350	6
109	517500	350	6
110	226000	300	4
111	226000	300	4
112	226000	300	4
113	226000	300	4
114	226000	300	4
115	226000	300	4
116	226000	300	4
117	226000	300	4
118	18300	350	1
119	18300	350	1
120	18300	350	1
121	18300	350	1
122	18300	300	1
123	18300	300	1
124	18300	300	1
125	18300	300	1
126	18300	300	1
127	18300	300	1
128	18300	300	1
129	18300	300	1
130	0	0	0

CARGO HANDLING AND TRANSPORTATION DESCRIPTION

THE TABLE BELOW LISTS THE CARGO HANDLING AND TRANSPORTATION OPERATIONS THAT ARE SIMULATED AND THE CORRESPONDING ELEMENTS IN MATRIX CCC WHERE THE DATA DESCRIBING THESES OPERATIONS IS LOCATED

CCC(7,I), I=1-3 TYPE OF BEACH FORKLIFT USED TO LOAD CARGO TYPE I ONTO TRUCK (PAGE 2, NODES 46, 47)
CCC(8,I), I=1-3 NUMBER OF BEACH FORKLIFTS OF TYPE CCC(7,I) USED TO LOAD ONE TRUCK WITH CARGO TYPE I
CCC(9,I), I=1-3 NUMBER OF UNITS/HOUR OF CARGO TYPE I THAT FORKLIFT TYPE CCC(7,I) CAN TRANSFER FROM LIGHTER TO TRUCK
CCC(10,I), I=1-3 NUMBER OF UNITS OF CARGO TYPE I THAT ONE TRUCK CAN CARRY (PAGE 2, NODE 45)
CCC(11,I), I=1-3 SPEED (IN FEET/MINUTE) OF TRUCK CARRYING CARGO TYPE I FROM BEACH TO BSA (PAGE 2, NODES 50-51)
CCC(12,I), I=1-3 TYPE OF FORKLIFT USED AT BSA TO UNLOAD CARGO TYPE I FROM TRUCK (PAGE 2, NODES 52,53)
CCC(13,I), I=1-3 NUMBER OF BSA FORKLIFTS OF TYPE CCC(12,I) USED TO UNLOAD CARGO TYPE I FROM ONE TRUCK
CCC(14,I), I=1-3 NUMBER OF UNITS/HOUR OF CARGO TYPE I THAT FORKLIFT TYPE CCC(12,I) CAN UNLOAD FROM TRUCK
CCC(15,I), I=1-3 SPEED (IN FEET/MINUTE) OF TRUCK RETURNING TO BEACH FROM BSA AFTER DELIVERING CARGO TYPE I (PAGE 2, NODES 55-45)
CCC(16,I), I=1-3 NUMBER OF UNITS/HOUR OF CARGO TYPE I MOVED TO STORAGE BY FORKLIFT TYPE CCC(12,I) (PAGE 2, NODES 55-56)
CCC(17,I), I=1,2 SPEED (IN FEET/MINUTE) OF TRUCK CARRYING CARGO TYPE I FROM BEACH TO LSA (PAGE 2, NODES 50-57)
CCC(18,I), I=1,2 TYPE OF FORKLIFT USED AT LSA TO UNLOAD CARGO TYPE I FROM TRUCK (PAGE 2, NODES 58,59)
CCC(19,I), I=1,2 NUMBER OF LSA FORKLIFTS OF TYPE CCC(18,I) USED TO UNLOAD CARGO TYPE I FROM ONE TRUCK
CCC(20,I), I=1,2 NUMBER OF UNITS/HOUR OF CARGO TYPE I THAT FORKLIFT TYPE CCC(18,I) CAN UNLOAD FROM TRUCK
CCC(21,I), I=1,2 SPEED (IN FEET/MINUTE) OF TRUCK RETURNING TO BEACH FROM LSA AFTER DELIVERING CARGO TYPE I (PAGE 2, NODES 61-45)
CCC(22,I), I=1,2 NUMBER OF UNITS/HOUR OF CARGO TYPE I MOVED TO STORAGE BY FORKLIFT TYPE CCC(18,I) (PAGE 2, NODES 61-62)
CCC(43,I), I=1-4 SPEED OF TRUCK (IN FEET/MINUTE) CARRYING CARGO TYPE 3 BETWEEN SHORE AND ASP(I) (PAGE 2, NODES 50-50.1)
CCC(44,I), I=1-4 TYPE OF ASP FORKLIFT USED TO UNLOAD CARGO TYPE 3 AT ASP(I) (PAGE 2.1, NODES 62.2, 50.5, 51.3, 52.2)
CCC(45,I), I=1-4 NUMBER OF ASP FORKLIFTS OF TYPE CCC(44,I) USED TO UNLOAD CARGO TYPE 3 FROM ONE TRUCK
CCC(46,I), I=1-4 NUMBER OF PALLETS/HOUR OF CARGO TYPE 3 THAT FORKLIFT TYPE CCC(44,I) CAN UNLOAD FROM TRUCK
CCC(47,I), I=1-4 SPEED OF TRUCK (IN FEET/MINUTE) OF UNLOADED TRUCK RETURNING TO BEACH FROM ASP(I) (PAGE 2.1, NODES 62.4-45, 50.7-45, 51.5-45, 52.4-45)
CCC(48,I), I=1-4 NUMBER OF PALLETS/HOUR OF CARGO TYPE 3 THAT FORKLIFT TYPE CCC(44,I) CAN MOVE TO STORAGE (PAGE 2.1, NODES 62.4-62.5, 50.7-50.8, 51.5-51.6,52.4-52.5)
CCC(6,I), I=4-9 NUMBER OF CONTAINERS PER LIGHTER OF CARGO TYPE I
CCC(7,I), I=4-9 TYPE OF CONTAINER LIFT USED TO UNLOAD LIGHTER AND LOAD TRUCK WITH CARGO TYPE I (PAGE 3, NODE 63)
CCC(8,I), I=4-9 NUMBER OF CONTAINER LIFTS OF TYPE CCC(7,I) USED TO LOAD ONE TRUCK WITH CARGO TYPE I
CCC(9,I), I=4-9 NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT CONTAINER LIFT TYPE CCC(7,I) CAN TRANSFER FROM LIGHTER TO TRUCK
CCC(10,I), I=4-9 NUMBER OF CONTAINERS OF CARGO TYPE I THAT A TRUCK CAN CARRY (PAGE 3, NODES 42,45)
CCC(11,I), I=4-9 SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING CARGO TYPE I FROM BEACH TO BSA (PAGE 3, NODES 66-67)
CCC(12,I), I=4-9 TYPE OF BSA CONTAINER LIFT USED TO UNLOAD CARGO TYPE I FROM TRUCK (PAGE 3, NODE 68)
CCC(13,I), I=4-9 NUMBER OF CONTAINER LIFTS OF TYPE CCC(12,I) USED TO UNLOAD ONE TRUCK WITH CARGO TYPE I
CCC(14,I), I=4-9 NUMBER OF CONTAINERS/HOUR THAT CONTAINER LIFT TYPE CCC(12,I) CAN UNLOAD FROM TRUCK
CCC(15,I), I=4-9 SPEED (IN FEET/MINUTE) OF A TRUCK RETURNING TO BEACH FROM BSA AFTER DELIVERING CARGO TYPE I (PAGE 3, NODES 70-45)
CCC(16,I), I=4-6 TYPE OF UNSTUFFING EQUIPMENT USED TO UNSTUFF CARGO TYPE I (PAGE 3, NODE 73)
CCC(17,I), I=4-6 NUMBER OF UNITS OF UNSTUFFING EQUIPMENT TYPE CCC(16,I) USED TO UNSTUFF ONE CONTAINER OF CARGO TYPE I
CCC(18,I), I=4-6 NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT UNSTUFFING EQUIPMENT TYPE CCC(16,I) CAN UNSTUFF
CCC(19,I), I=4-6 TYPE OF BSA FORKLIFT USED TO MOVE AND STORE UNSTUFFED CARGO TYPE I (PAGE 3, NODES 52,53)
CCC(20,I), I=4-6 NUMBER OF FORKLIFTS OF TYPE CCC(19,I) USED TO MOVE AND STORE UNSTUFFED CARGO TYPE I

```
CCC(21,I), I=4-6   NUMBER OF UNITS/HOUR OF UNSTUFFED CARGO TYPE I THAT FORKLIFT TYPE CCC(19,I) CAN MOVE AND STORE
CCC(22,I), I=4-6   TYPE OF BSA CONTAINER LIFT USED TO MOVE EMPTY CONTAINERS OF CARGO TYPE I TO SHORE
                    (PAGE 3, NODE 68)
CCC(23,I), I=4-6   NUMBER OF CONTAINER LIFTS OF TYPE CCC(22,I) USED TO MOVE ONE TRUCKLOAD OF EMPTY CONTAINERS
                    OF CARGO TYPE I TO SHORE
CCC(24,I), I=4-6   NUMBER OF EMPTY CONTAINERS/HOUR OF CARGO TYPE I THAT CONTAINER LIFT TYPE CCC(22,I) CAN MOVE
                    TO SHORE
CCC(25,I), I=4-9   TYPE OF LSA/ASP CONTAINER LIFT USED TO UNLOAD CARGO TYPE I (PAGE 4, NODES 82.3, 96)
CCC(26,I), I=4-9   NUMBER OF CONTAINER LIFTS OF TYPE CCC(25,I) USED TO UNLOAD ONE TRUCKLOAD OF CARGO TYPE I
CCC(27,I), I=4-9   NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT CONTAINER LIFT TYPE CCC(25,I) CAN UNLOAD FROM TRUCK
CCC(28,I), I=7-9   TIME (IN MINUTES) REQUIRED FOR CONTAINER LIFT TYPE CCC(25,I) TO STORE ONE CONTAINER OF CARGO TYPE I
                    (PAGE 4, NODES 83-83.5, 99-104)
CCC(29,I), I=7-9   SPEED (IN FEET/MINUTE) OF A TRUCK RETURNING TO BEACH FROM LSA/ASP AFTER DELIVERING CARGO TYPE I
                    (PAGE 4, NODES 89-45, 113-45)
CCC(30,I), I=4-6   TYPE OF LSA/ASP UNSTUFFING EQUIPMENT USED TO UNSTUFF CARGO TYPE I
                    (PAGE 4, NODES 83.2, 101)
CCC(31,I), I=4-6   NUMBER OF LSA/ASP UNSTUFFING EQUIPMENT OF TYPE CCC(30,I) USED TO UNSTUFF ONE TRUCKLOAD OF CARGO TYPE I
CCC(32,I), I=4-6   NUMBER OF CONTAINERS/HOUR OF CARGO TYPE I THAT UNSTUFFING EQUIPMENT TYPE CCC(30,I) CAN UNSTUFF
CCC(33,I), I=4-6   TYPE OF LSA/ASP FORKLIFT USED TO MOVE UNSTUFFED CARGO TYPE I TO DUMP AND STORE
                    (PAGE 4, NODES 58, 59, 62.2)
CCC(34,I), I=4-6   NUMBER OF FORKLIFTS OF TYPE CCC(33,I) USED TO MOVE THE CONTENTS OF ONE TRUCKLOAD OF CARGO TYPE I
                    TO DUMP AND STORE
CCC(35,I), I=4-6   NUMBER OF UNITS/HOUR OF UNSTUFFED CARGO TYPE I THAT FORKLIFT TYPE CCC(33,I) CAN MOVE TO DUMP AND STORE
CCC(36,I), I=4-6   TYPE OF LSA/ASP CONTAINER LIFT USED TO LOAD EMPTY CONTAINER TYPE I ON TRUCK (PAGE 4, NODES 68, 96)
CCC(37,I), I=4-6   NUMBER OF CONTAINER LIFTS OF TYPE CCC(36,I) USED TO LOAD EMPTY CONTAINERS TYPE I ON ONE TRUCK
CCC(38,I), I=4-6   NUMBER OF EMPTY CONTAINERS/HOUR OF CARGO TYPE I CONTAINER LIFT TYPE CCC(36,I) CAN LOAD ON TRUCK
CCC(39,I), I=4-6   SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING EMPTY CONTAINERS TYPE I FROM LSA/ASP TO BSA
                    (PAGE 4, NODES 90-90, 114-90)
CCC(40,I), I=4-6   TYPE OF BSA CONTAINER LIFT USED TO UNLOAD EMPTY CONTAINER TYPE I FROM TRUCK (PAGE 4, NODE 68)
CCC(41,I), I=4-6   NUMBER OF CONTAINER LIFTS OF TYPE CCC(40,I) USED TO UNLOAD EMPTY CONTAINER TYPE I FROM ONE TRUCK
CCC(42,I), I=4-6   NUMBER OF EMPTY CONTAINERS/HOUR OF CARGO TYPE I THAT CONTAINER LIFT TYPE CCC(40,I) CAN UNLOAD FROM TRUCK
CCC(6,I), I=10,11,13   NUMBER OF UNITS/LIGHTER OF OUTSIZED CARGO TYPE I
CCC(13,10)   UNLOADING RATE FROM LIGHTER (UNITS/HOUR) FOR CARGO TYPE 10 (PAGE 6, NODES 132-133)
CCC(13,12)   DISTANCE (IN FEET) FROM LSA TO BSA
CCC(13,13)   DISTANCE (IN FEET) FROM ASP TO BSA
CCC(14,11)   DISTANCE (IN FEET) FROM BEACH TO LSA
CCC(14,12)   DISTANCE (IN FEET) FROM BEACH TO BSA
CCC(14,13)   DISTANCE (IN FEET) FROM BEACH TO ASP
CCC(15,10)   SPEED (FEET/MINUTE) OF TYPE 10 CARGO
CCC(16,11)   TYPE OF TOWING EQUIPMENT USED TO TOW TYPE 11 CARGO (PAGE 6, NODE 14)
CCC(17,11)   UNLOADING RATE (UNITS/HOUR) FOR TOWING EQUIPMENT TYPE CCC(16,11) WHEN UNLOADING TYPE 11 CARGO
CCC(18,11)   SPEED (FEET/MINUTE) OF TOWING EQUIPMENT TYPE CCC(16,11) WHEN TOWING CARGO TYPE 11
CCC(19,11)   SPEED (FEET/MINUTE) OF TOWING EQUIPMENT TYPE CCC(16,11) WHEN MOVING WITHOUT CARGO IN TOW
CCC(20,13)   TYPE OF CRANE USED TO UNLOAD CARGO TYPE 13 FROM LIGHTER (PAGE 6, NODE 145)
CCC(21,13)   NUMBER OF CRANES TYPE CCC(20,13) USED TO UNLOAD TYPE 13 CARGO FROM LIGHTER
CCC(22,13)   NUMBER OF UNITS/HOUR OF TYPE 13 CARGO THAT CRANE TYPE CCC(20,13) CAN UNLOAD FROM LIGHTER
CCC(23,13)   NUMBER OF UNITS OF TYPE 13 CARGO THAT A FLAT BED TRUCK CAN CARRY
CCC(24,13)   SPEED (FEET/MINUTE) OF TRUCK WHEN LOADED WITH TYPE 13 CARGO
CCC(25,13)   TYPE OF LSA CRANE USED TO UNLOAD TYPE 13 CARGO FROM TRUCK
CCC(26,13)   NUMBER OF CRANES OF TYPE CCC(25,13) USED TO UNLOAD TYPE 13 CARGO FROM ONE TRUCK
CCC(27,13)   NUMBER OF UNITS/HOUR OF TYPE 13 CARGO THAT CRANE TYPE CCC(25,13) CAN UNLOAD FROM TRUCK
CCC(28,13)   SPEED OF UNLOADED TRUCK AFTER UNLOADING TYPE 13 CARGO
CCC(29,13)   TYPE OF BSA CRANE USED TO UNLOAD CARGO TYPE 13 FROM TRUCK (PAGE 6, NODE 150)
CCC(30,13)   NUMBER OF CRANES OF TYPE CCC(29,13) USED TO UNLOAD TYPE 13 CARGO FROM ONE TRUCK
CCC(31,13)   NUMBER OF UNITS/HOUR OF TYPE 13 CARGO THAT CRANE TYPE CCC(29,13) CAN UNLOAD FROM TRUCK
CCC(32,11)   DELAY TIME (IN MINUTES) FOR CONSTRUCTION EQUIPMENT IN BSA
CCC(32,12)   DELAY TIME (IN MINUTES) FOR CONSTRUCTION EQUIPMENT IN AREAS OTHER THAN BSA
CCC(20,7)   DELAY TIME (IN MINUTES) BEFORE STARTING PERMANENT MSR CONSTRUCTION
CCC(20,8)   DELAY TIME (IN MINUTES) BEFORE STARTING LSA CONSTRUCTION
```

CCC(20,9) DELAY TIME (IN MINUTES) BEFORE STARTING ASP CONSTRUCTION
CCC(20,13) DELAY TIME (IN MINUTES) BEFORE STARTING AAFS CONSTRUCTION
CCC(49,I), I=4,6,7,9 SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING CARGO TYPE I FROM BEACH TO LSA
(PAGE 3, NODES 66-82)
CCC(49,I), I=5,8 SPEED (IN FEET/MINUTE) OF A TRUCK CARRYING CARGO TYPE I FROM BEACH TO ASP
(PAGE 3, NODES 66-82)
FFF(3,I), I=1-4 DISTANCE (IN FEET) FROM SHORE TO ASP I

CARGO HANDLING AND TRANSPORTATION INPUT MATRIX CCC

T MATRIX CCC

HALFWORD MATRIX 2

ROW/COLUMN	1	2	3	4	5	6	7	8	9	10
1	30	60	60	30	60	60	60	60	60	60
2	20	10	10	20	10	10	10	10	10	10
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	60	60	60	2	2	2	2	2	2	4
7	11	12	13	21	21	21	21	21	21	0
8	2	2	2	1	1	1	1	1	1	0
9	30	30	30	10	10	10	10	10	10	0
10	60	50	50	10	10	10	10	10	10	0
11	1320	1320	1320	1320	1320	1320	1320	1320	1320	0
12	14	15	16	22	22	22	22	22	22	0
13	2	2	2	1	1	1	1	1	1	0
14	30	30	30	10	10	10	10	10	10	0
15	1320	1320	1320	1320	1320	1320	1320	1320	1320	900
16	30	30	30	23	23	23	23	23	23	0
17	1320	1320	0	1	1	1	1	1	1	0
18	18	19	0	2	2	2	2	2	2	0
19	2	2	0	14	16	15	0	0	0	0
20	30	30	0	1	1	1	720	0	0	0
21	1320	1320	0	12	12	12	0	0	0	0
22	30	30	0	22	22	22	0	0	0	0
23	8	8	0	1	1	1	0	0	0	0
24	0	0	0	10	10	10	0	0	0	0
25	240	240	0	24	26	24	24	26	24	0
26	0	0	0	1	1	1	1	1	1	0
27	0	0	0	10	10	10	10	10	10	0
28	0	0	0	12	12	12	12	12	12	0
29	0	0	0	0	0	0	1320	1320	1320	0
30	0	0	0	25	27	25	0	0	0	0
31	0	0	0	1	1	1	0	0	0	0
32	0	0	0	2	2	2	0	0	0	0
33	0	0	0	18	20	19	0	0	0	0
34	0	0	0	1	1	1	0	0	0	0
35	0	0	0	12	12	12	0	0	0	0
36	0	0	0	24	26	24	0	0	0	0
37	0	0	0	1	1	1	0	0	0	0
38	0	0	0	10	10	10	0	0	0	0
39	0	0	0	1320	1320	1320	0	0	0	0
40	0	0	0	22	22	22	0	0	0	0
41	0	0	0	1	1	1	0	0	0	0

HALFWORD MATRIX 2

ROW/COLUMN	1	2	3	4	5	6	7	8	9	10
42	0	0	0	10	10	10	0	0	0	0
43	1320	1320	1320	1320	0	0	0	0	0	0
44	20	31	32	33	0	0	0	0	0	0
45	1	1	1	1	0	0	0	0	0	0
46	30	30	30	30	0	0	0	0	0	0
47	1320	1320	1320	1320	0	0	0	0	0	0
48	12	12	12	12	0	0	0	0	0	0
49	0	0	0	1320	1320	1320	1320	1320	1320	0
50	0	0	0	0	0	0	0	0	0	0

HALFWORD MATRIX 2

ROW/COLUMN	11	12	13
1	60	60	60
2	10	10	10
3	0	0	0
4	0	0	0
5	0	0	0
6	4	4	4
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	10000	27254
14	10500	500	27754
15	0	0	0
16	10	0	0
17	2	0	0
18	480	0	0
19	600	0	0
20	0	28	28
21	0	1	1
22	0	2	2
23	0	1	1
24	0	480	480
25	0	30	30
26	0	1	1
27	0	2	2
28	0	2100	2100
29	0	29	29
30	0	1	1
31	0	2	2
32	120	360	0
33	0	0	0
34	0	0	0
35	0	0	0
36	0	0	0
37	0	0	0
38	0	0	0

HALFWORD MATRIX 2

ROW/COLUMN	11	12	13
39	0	0	0
40	0	0	0
41	0	0	0
42	0	0	0
43	0	0	0
44	0	0	0
45	0	0	0
46	0	0	0
47	0	0	0
48	0	0	0
49	0	0	0
50	0	0	0

BLOCK NUMBER	*LOC	OPERATION	A,B,C,D,E,F,G,H,I,J	COMMENTS			CARD NUMBER
		END	RETURN CONTROL TO OPERATING SYSTEM		NATURE	191	2737

REFERENCES

1. Schriber, T.J., "Simulation Using GPSS," John Wiley and Sons, New York (1974).

2. Clark, D.E. and M. Gray, "REACT II Computer Program User's Manual," Computation, Mathematics and Logistics Department Research and Development Report DTNSRDC-78/095 (Nov 1978).

INITIAL DISTRIBUTION

Copies	
1	DDR&E (Mr. H. Kreiner)
2	DLSIE
2	CNO 1 OP 405 1 OP 372
2	CMC 1 CMC LPP-2 1 CMC RDS-1
2	MCDEC Development Center 1 P&S Division 1 M&L Division
2	NAVMAT 1 08TM 1 08D1
1	USNA LIB
1	NAVPGSCOL Library (Mr. R.E. Jamison)
1	NAVWARCOL, CEN WAR GAMING
1	NCSC (Mr. C.B. Koesy)
1	NSWC, White Oak (Mr. J.H. Armstrong)
1	NOSC (Mr. Robert Beitscher)
2	NAVSUP 1 SUP 043 1 SUP 05
3	NAVFAC 031A (Mr. M.E. Essoglou)
3	NCEL L03M, Port Hueneme
12	DTIC (Mr. D.J. Lambiotte)

CENTER DISTRIBUTION

Copies	Code	Name
1	1120	Maj. K. Thompson
1	1175	T.E. Mansfield
1	1800	G.H. Gleissner
1	1809	D. Harris
1	1850	Thomas Corin
1	1870	Maurice J. Zubkoff
30	1870	Paul E. Friedenberg
10	5211.1	Reports Distribution
1	522.1	Unclassified Lib (C)
1	522.2	Unclassified Lib (A)

PRECEDING PAGE BLANK-NOT FILMED