McClelland Management Services
Asbestos & Environmental Consultants

PLAINTIFF'S EXHIBIT
UC-P-146

Mr. John N. Dermit
Head of Industrial Hygiene
Union Carbide Corporation - Poly Olefins Unit
Seadrift, Texas

04-09-91

Dear Jack,

The following is a summary of the asbestos cleanup at your facility. Included herein will be an analysis of what was accomplished during the asbestos cleanup between the dates of March 17, 1991 and April 09, 1991. This analysis will consist of (1) a description of operations, (2) protocols and procedures for clearance of areas of assumed contamination, (3) air and bulk sample results.

If there are any questions or if I may be of any service whatsoever, please feel free to contact me at ~~1-800-225-3286.~~

from C 713 492 8964
PAGER " 833 3898

Best regards,

Thomas G. Collins
Field Technician
McClelland Management Services

005902

6100 Hillcroft, Suite 220
Houston, Texas 77081
Tel 713 995-9000
Fax 713 995-5801

INTRODUCTION

Operations for the cleanup of scattered and/or damaged asbestos containing materials (ACM) commenced on approximately the 13th of March, 1991. McClelland Management Services arrived on the 15th of March for the purposes of doing on-site analysis of bulk and air samples and to act in an advisory capacity to Union Carbide Corporation whenever a question arose as to standard industry practices involving the cleanup or abatement of asbestos. Union Carbide made all final decisions; as such, Union Carbide accepted all liability, either express or implied, that may result from the subsequent asbestos related cleanup.

Upon arrival at the facility Sunday, March 17, 1991, MMS attended a meeting of Union Carbide department heads. At this meeting, it became apparent that the extent of asbestos contamination had not been assessed. To that end, it was determined that a systematic approach would be required for both the delineation of contaminated areas as well as their subsequent cleanup.

Mr. Jack N. Dermit, Head of Industrial Hygeine, and MMS then toured the facility for the purpose of evaluating the immediate extent of asbestos damage and dispersal. It was determined at this point that any suspect areas would be barricaded with asbestos barricade tape. The primary criterion for determining where the tape would be run was whether or not the area contained damaged thermal system insulation. The barriers were then established and asbestos cleanup became the main priority (See Plate One). It should be noted here that time was a critical factor - many areas demanded immediate attention so that potentially dangerous non-asbestos hazards could be dealt with. As such, this precluded a survey of each individual facility. However, as the operation progressed, other areas were added when contamination was discovered. The primary entity in these cases was generally damaged transite siding. When these areas were encountered, they were barricaded and cleaned up on a priority basis.

OPERATIONS

Four abatement contractors were employed by Union Carbide for the operation: Brown & Root, Thermotech, Service Abatement, and Kimmins. Since all areas were prioritized, contractors were deployed accordingly. The first priority was to open the roads to allow the access of machinery. Low pressure water (30-40psi) was used to both wet and move the material. Debris was collected in asbestos disposal bags, loaded onto trucks, and disposed of in Carbide's on-site sanitary landfill for asbestos. Clearance procedures (see next section) ensued and all roads were essentially open by March 20, 1991. This procedure was followed for all subsequent outdoor areas.

The four blocks that were most affected by the asbestos cleanup were Oxide 1 (block 8), Utilities (block 9), GEU (block 11), and LP1 (block 12). All of these areas had critical operations that required immediated attention. As such, asbestos cleanup, on any given day, was occurring at several locations. To illustrate this point, refer to the

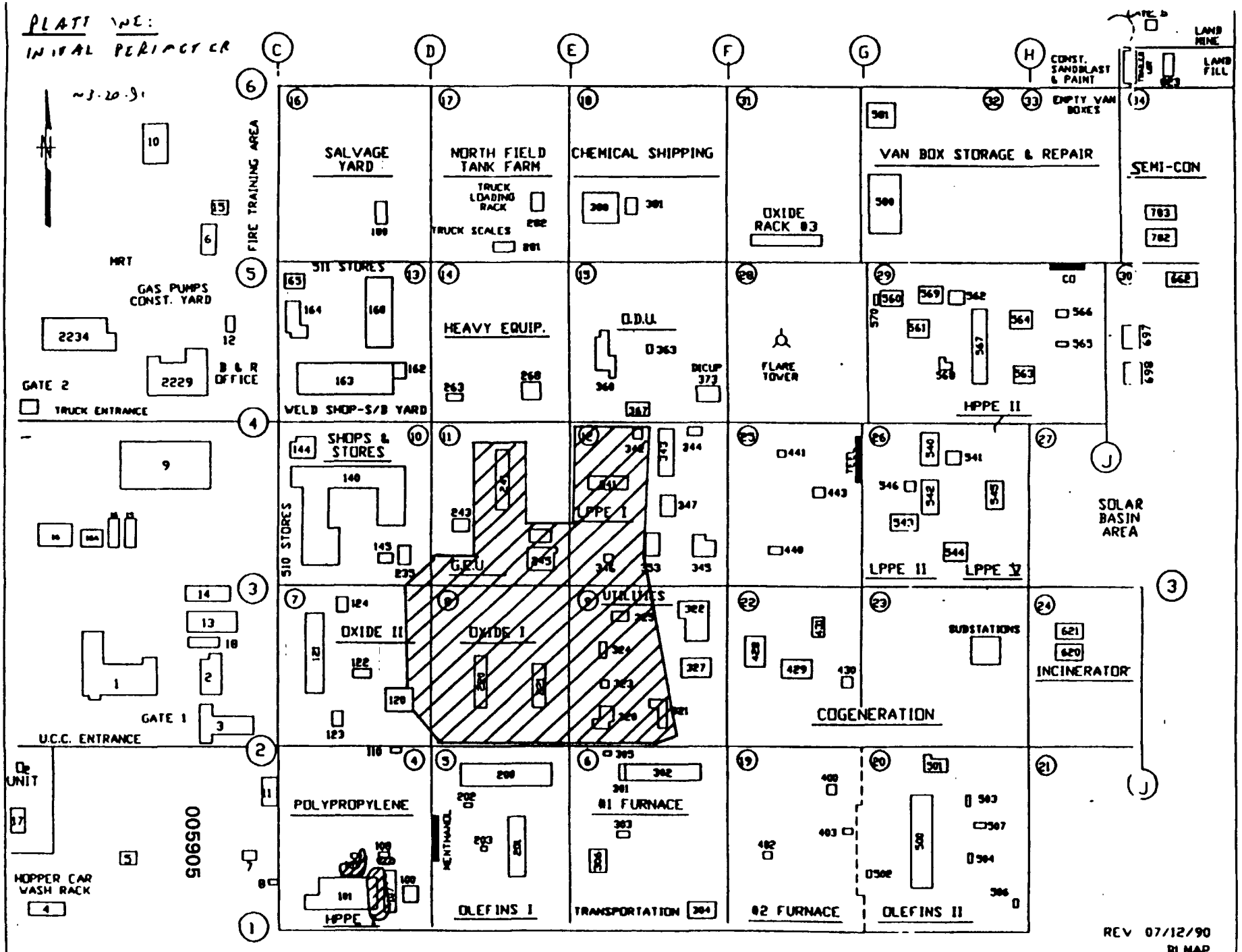
plates which follow the report. It is easily seen that a steady withdrawal of the asbestos barricade boundary is occuring daily. For a day by day analysis, refer to the MMS Field Reports.

CLEARANCE PROCEDURES

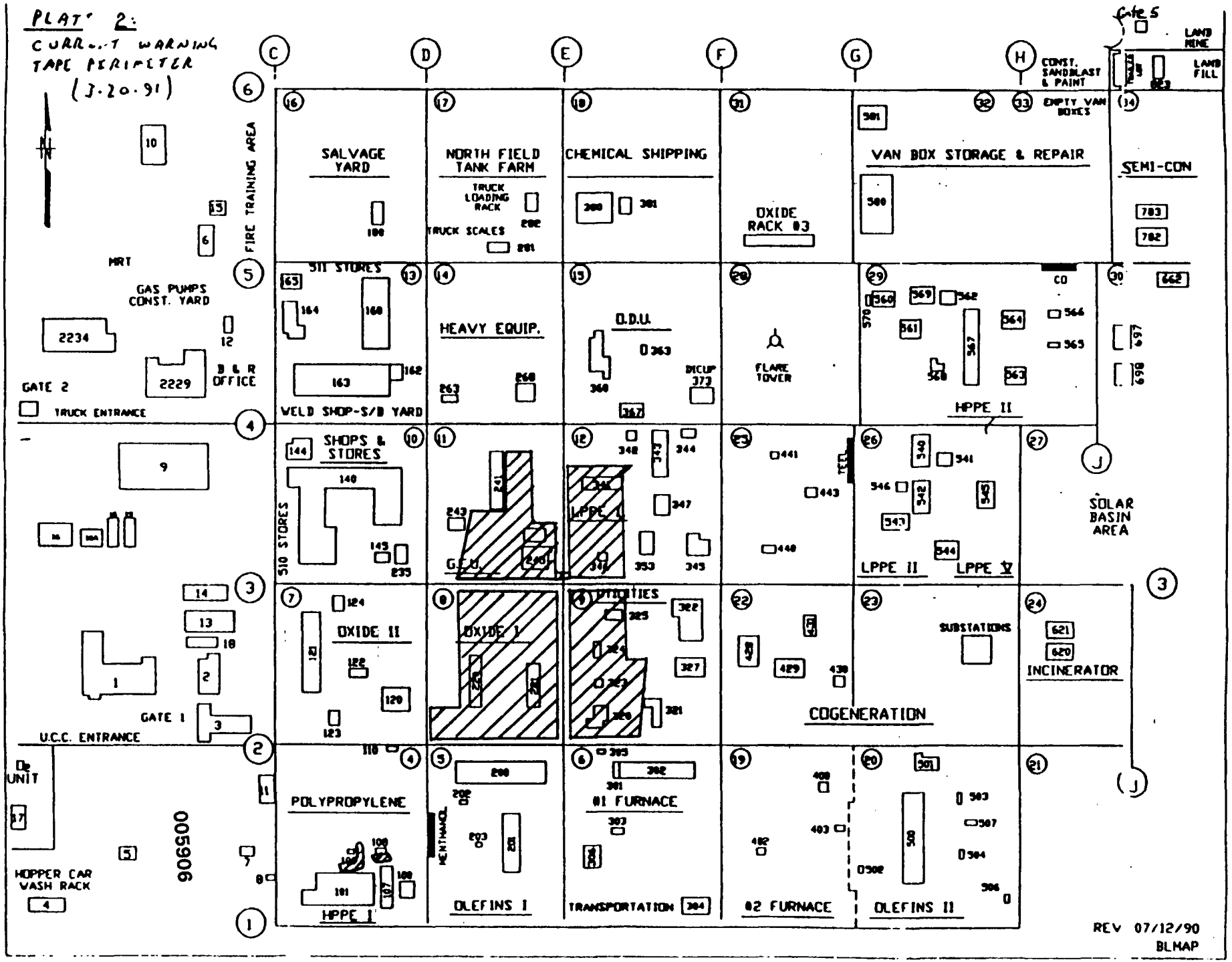
Bulk samples were taken at random of suspect material in areas that were assumed to be contaminated behind the asbestos barricade tape. If any of the samples were returned as positive, the area was cleaned and/or washed down. When a visual was requested, the area would be resurveyed for any remaining suspect material. If the clearance bulk samples were negative, the area was released and the barricades would be withdrawn to exclude the newly cleaned area. If any samples were positive, the area was recleaned and the clearance procedures would be conducted again. These procedures repeated until the area's samples were all negative or until no suspect material could be found. This procedure was utilized for all outdoor areas. Where feasible, clearances were conducted using Phase Contrast Microscopy (PCM).

SAMPLE RESULTS

All sample analysis sheets are in the following pages.

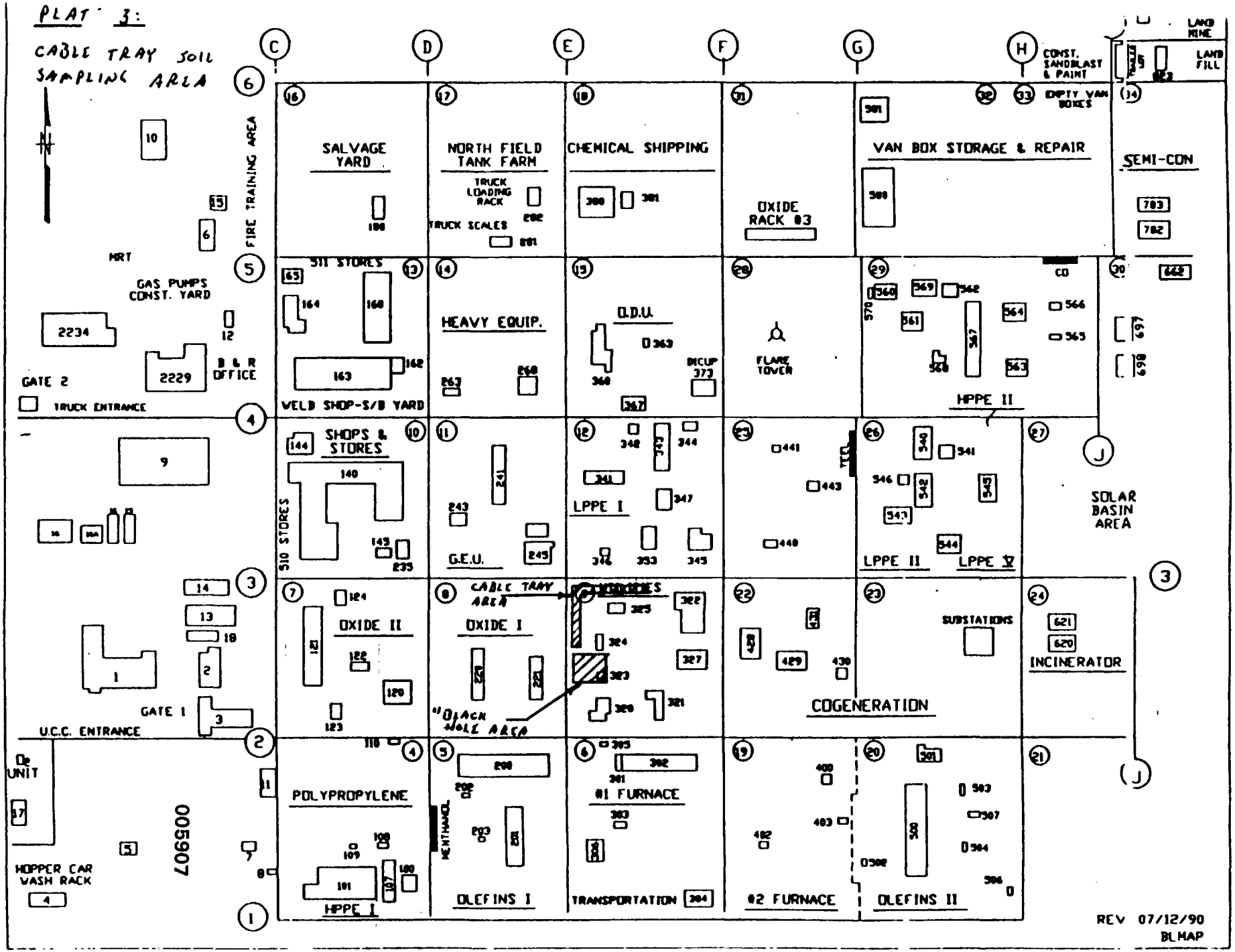

PLATT INC:
INITAL PERIMETER
~3.20.91
N
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
U.C.C. ENTRANCE
HOPPER CAR WASH RACK
UNIT
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
VAN BOX STORAGE & REPAIR
SEMI-CON
LAND MINE
LAND FILL
511 STORES
HEAVY EQUIP.
O.D.U.
DICUP
FLARE TOWER
CO
HPPE II
WELD SHOP-S/B YARD
SHOPS & STORES
510 STORES
G.P.U.
LPPE I
UTILITIES
LPPE II
LPPE IV
SOLAR BASIN AREA
OXIDE II
OXIDE I
SUBSTATIONS
INCINERATOR
COGENERATION
POLYPROPYLENE
HPPE
METHANOL
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP

PLAT 2:
CURRENT WARNING
TAPE PERIMETER
(3.20.91)



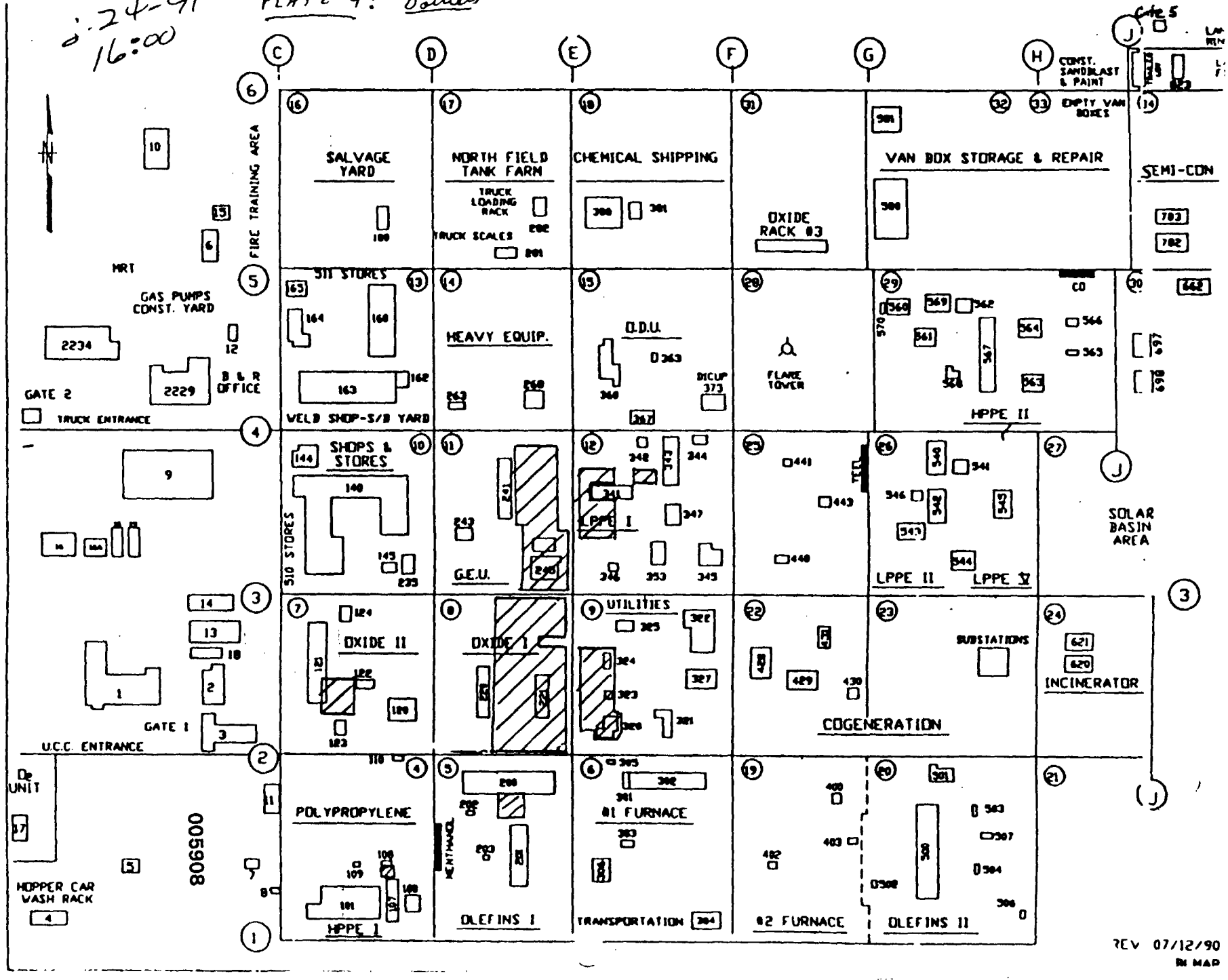
PLAT 3:

CABLE TRAY SOIL SAMPLING AREA



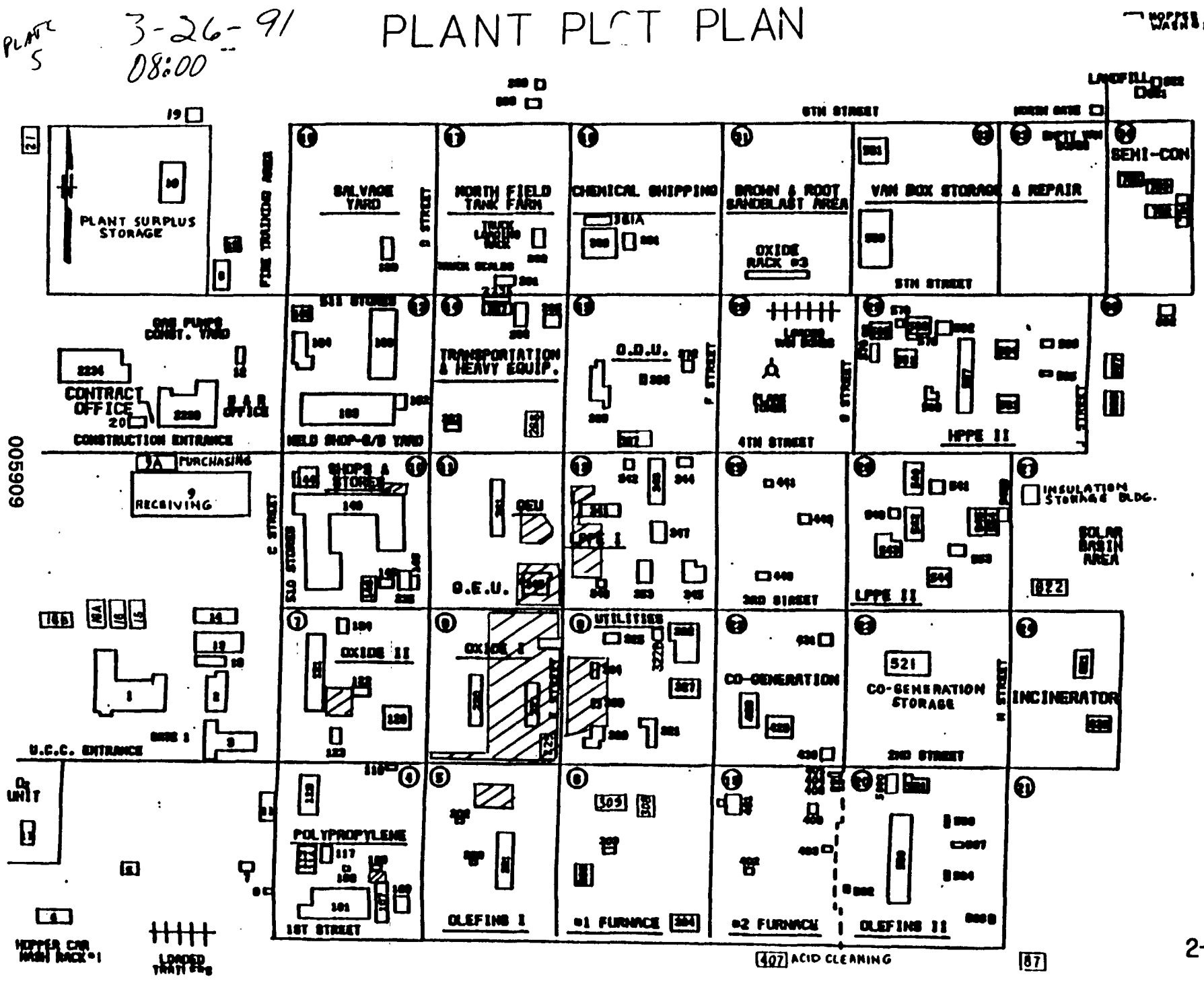
3-24-91
16:00

PLATE 4: Barriers

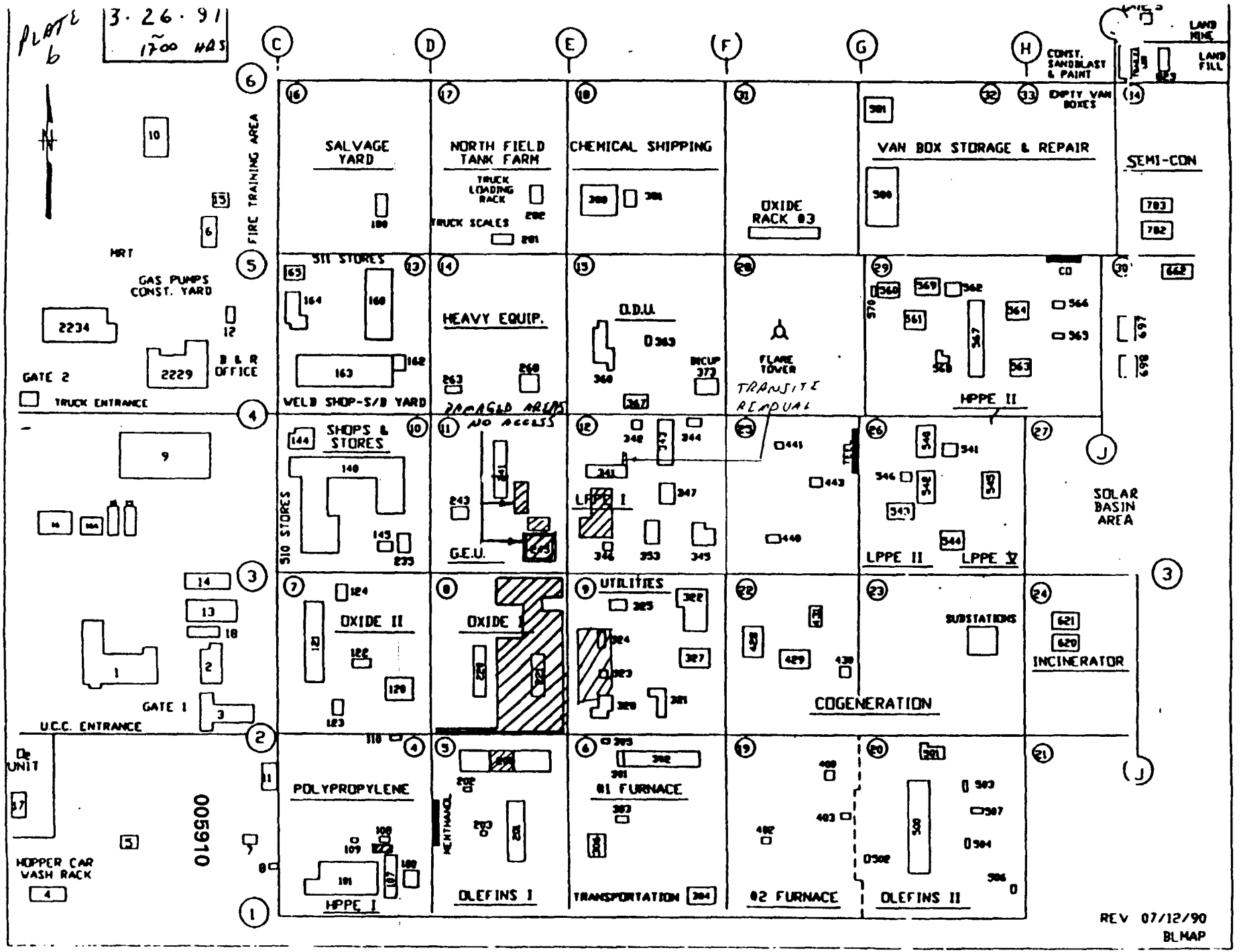


PLANT 5 3-26-91 08:00

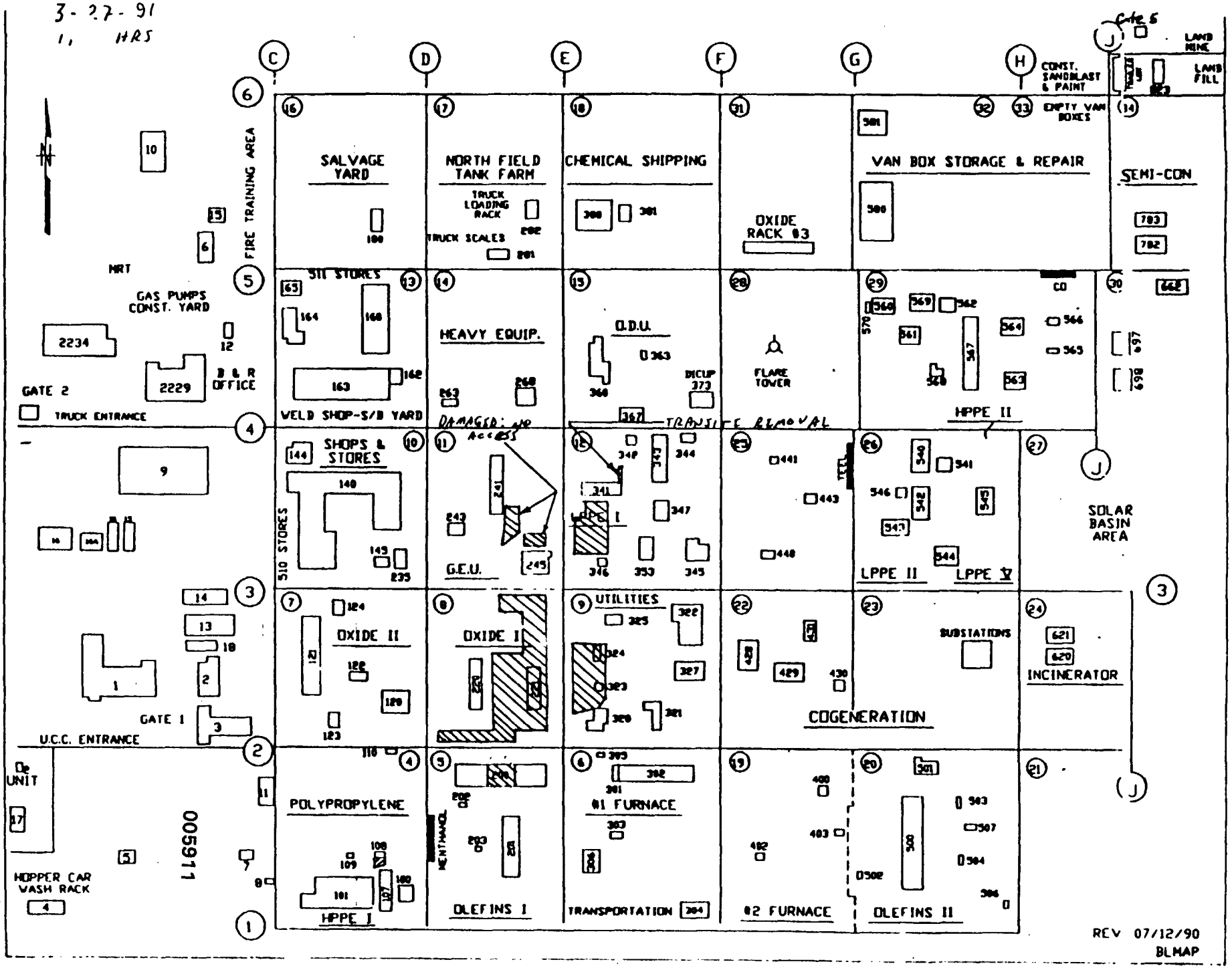
PLANT PLOT PLAN

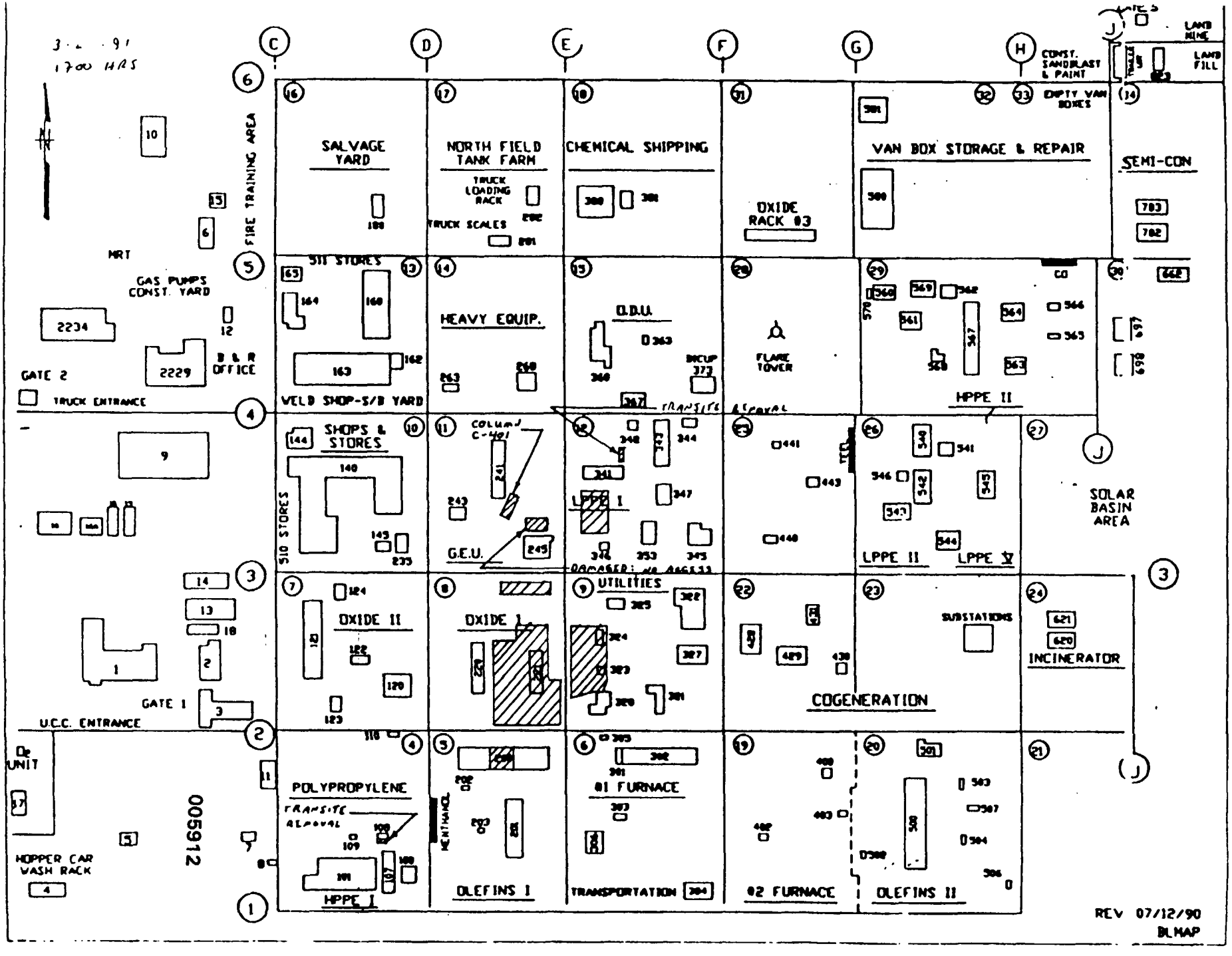


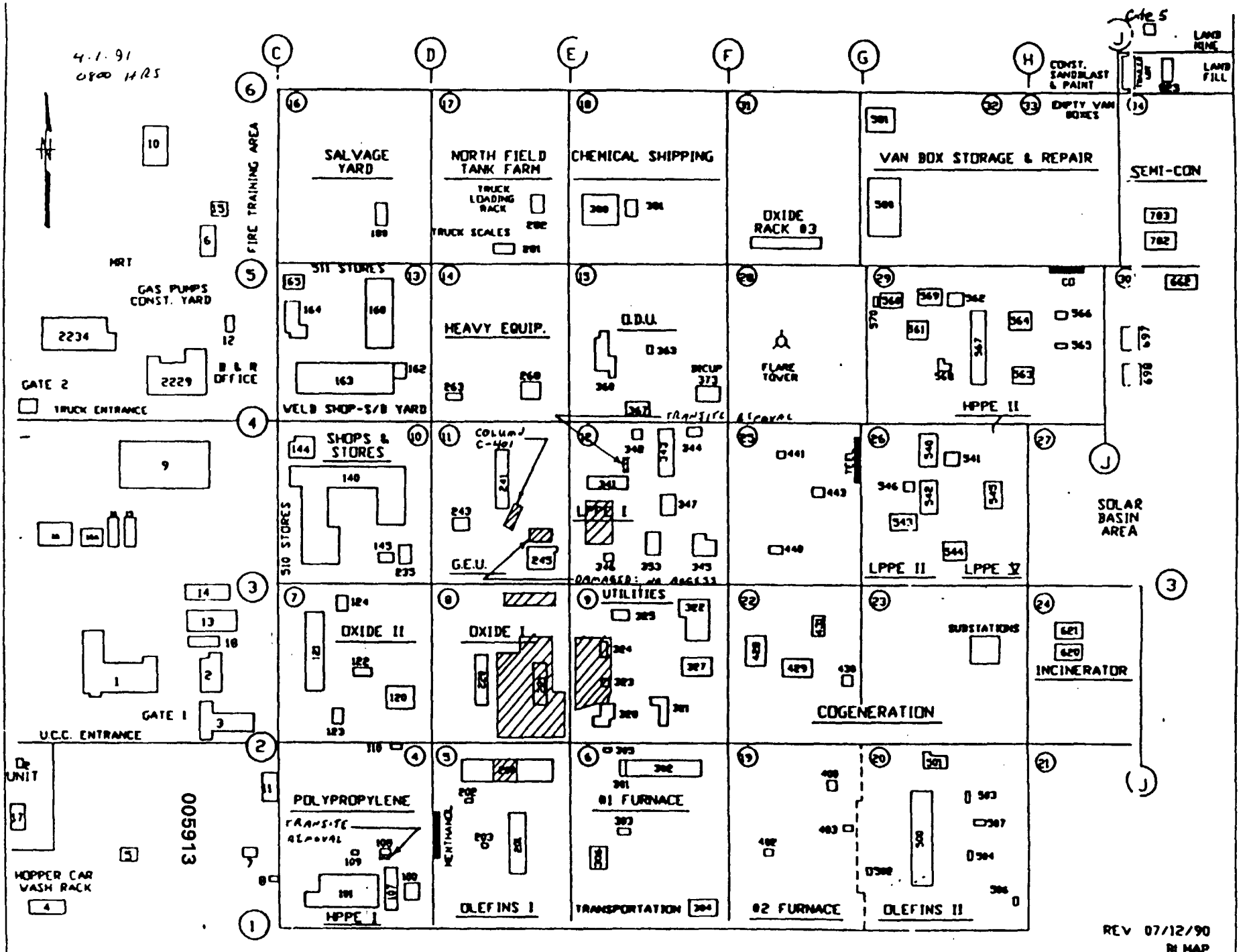
2-12-91

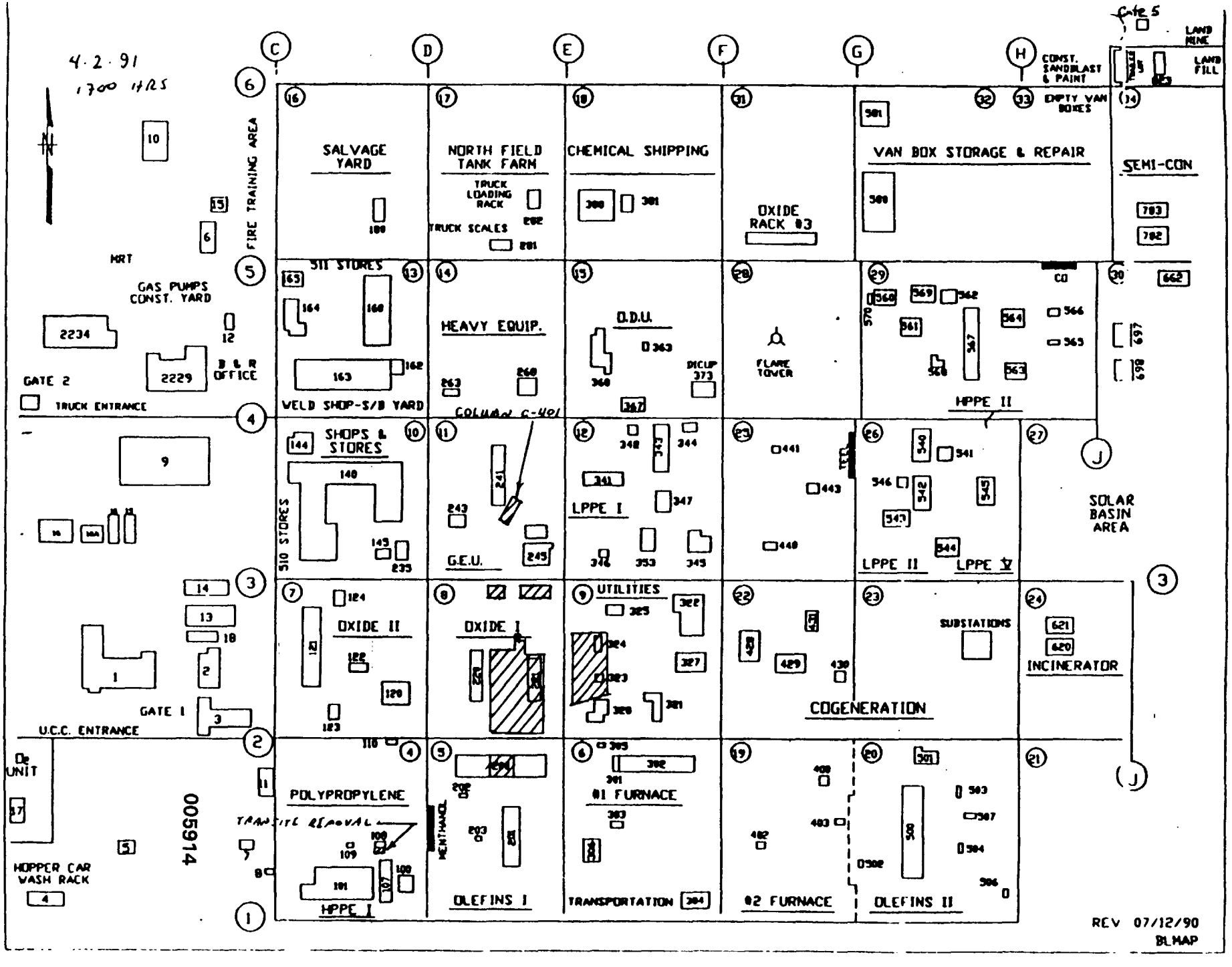

PLANT b
3·26·91
1700 HRS
C
D
E
F
G
H
CONST. SANDBLAST & PAINT
LAND MINE
LAND FILL
EMPTY VAN BOXES
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
SEMI-CON
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
GATE 2
TRUCK ENTRANCE
B & R OFFICE
SII STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
O.D.U.
BKUP
FLARE TOWER
TRANSITE REMOVAL
CO
HPPE II
DAMAGED AREA NO ACCESS
SHOPS & STORES
510 STORES
G.E.U.
LPPE I
LPPE II
LPPE IV
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
COGENERATION
GATE 1
U.C.C. ENTRANCE
POLYPROPYLENE
#1 FURNACE
#2 FURNACE
HOPPER CAR WASH RACK
HPPE I
OLEFINS I
TRANSPORTATION
OLEFINS II
005910
REV 07/12/90
BLMAP

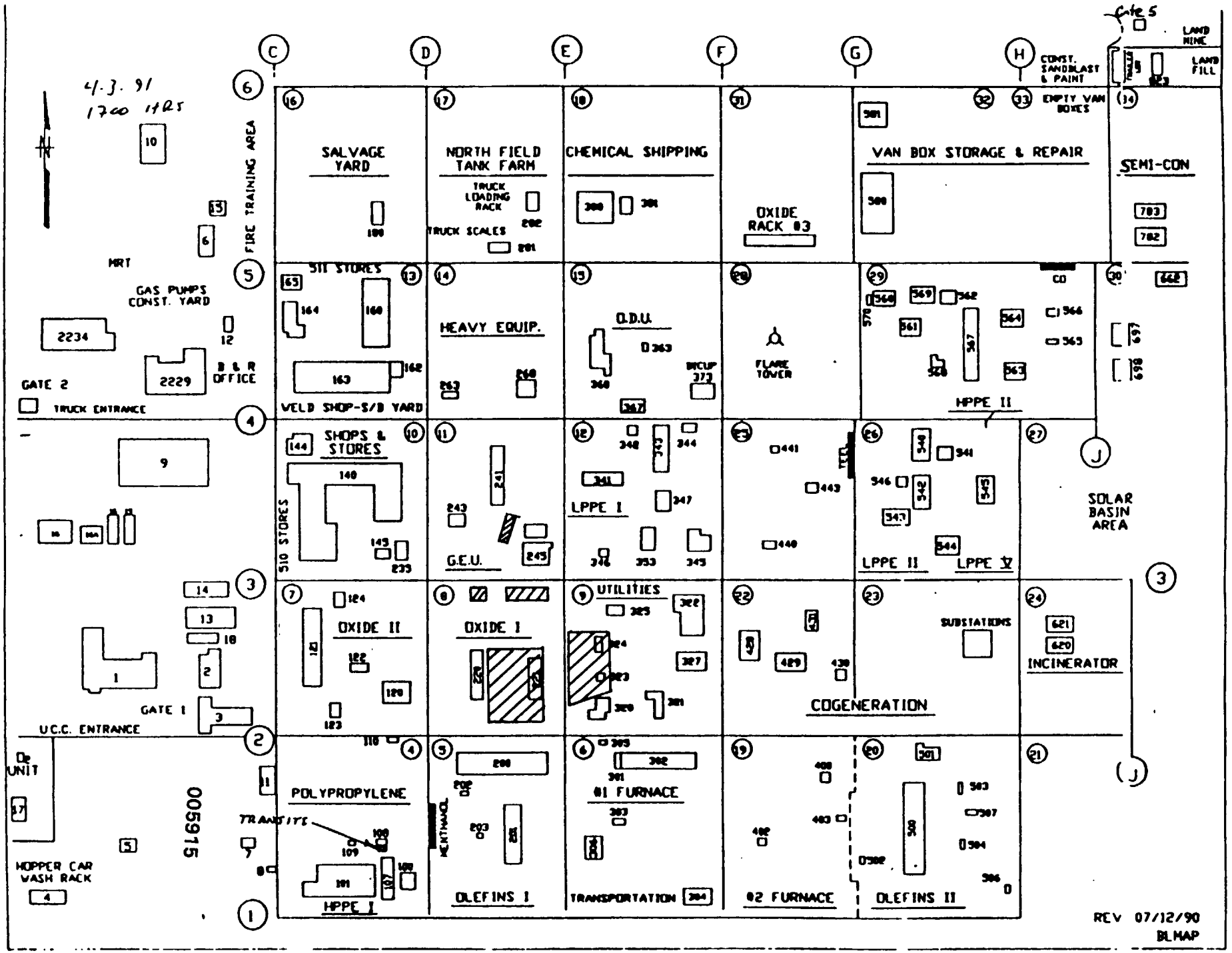
3-27-91
1, HRS

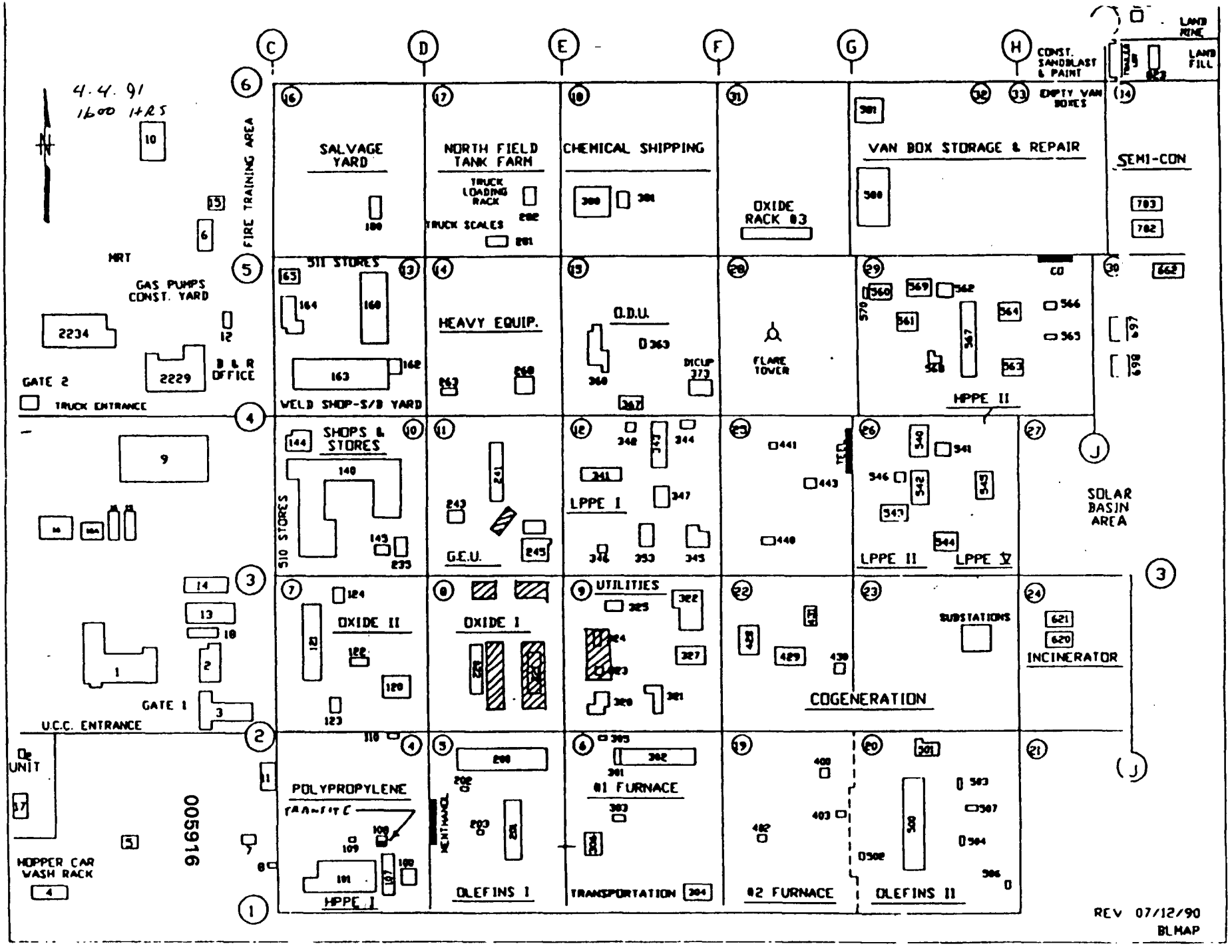

SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
LAND MINE
LAND FILL
SEMI-CON
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
511 STORES
HEAVY EQUIP.
O.D.U.
DICUP
FLARE TOWER
CO
HPPE II
WELD SHOP-S/B YARD
DAMAGED: NO ACCESS
TRANSITE REMOVAL
SHOPS & STORES
510 STORES
G.E.U.
LPPE II
LPPE V
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
GATE 1
U.C.C. ENTRANCE
COGENERATION
POLYPROPYLENE
#1 FURNACE
#2 FURNACE
HOPPER CAR WASH RACK
HPPE I
OLEFINS I
TRANSPORTATION
OLEFINS II
005911
REV 07/12/90
BLMAP

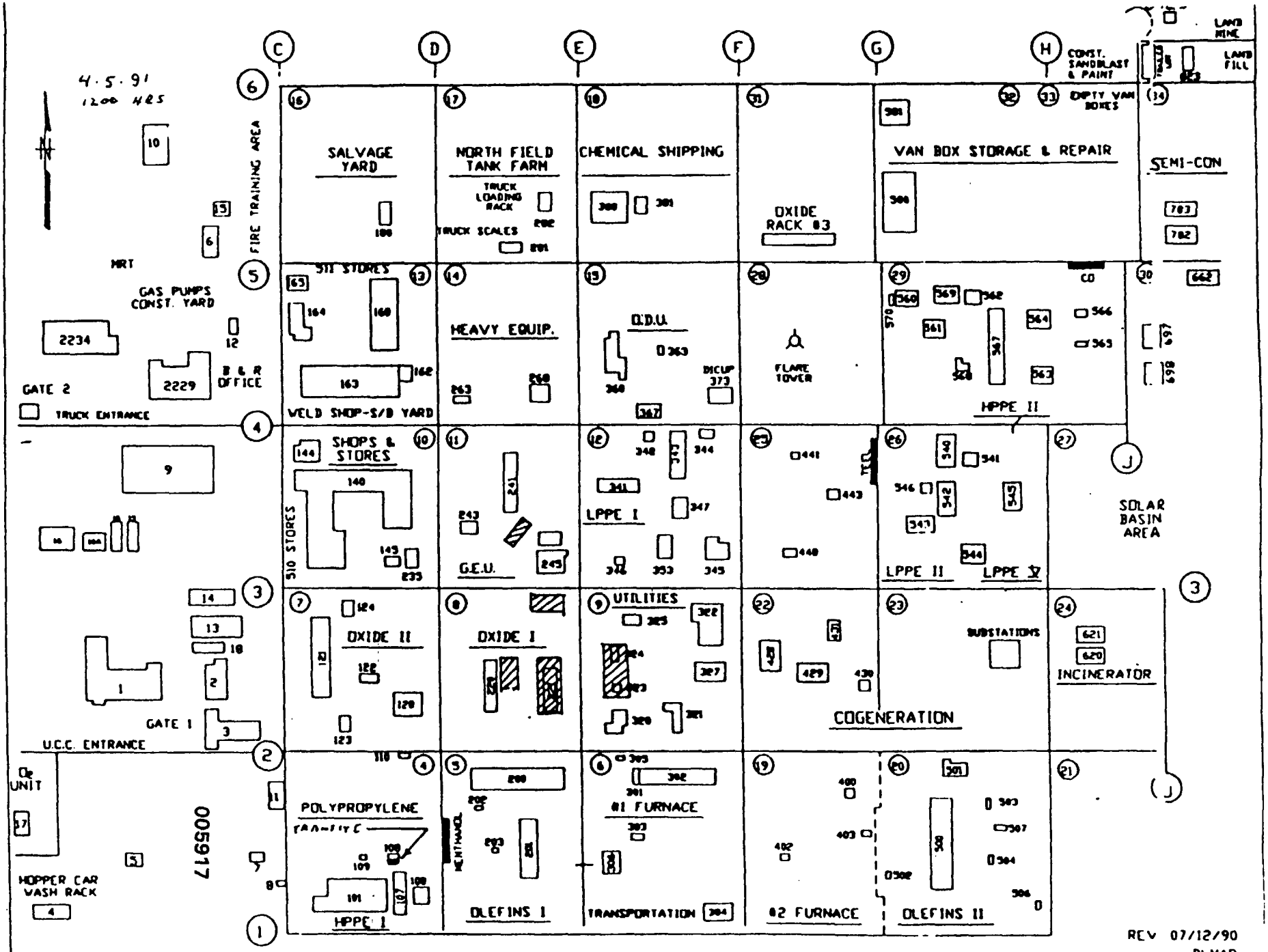

3 - 2 - 91
1700 HRS
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
SEMI-CON
LAND MINE
LAND FILL
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
SIT STORES
HEAVY EQUIP.
O.B.U.
FLARE TOWER
HPPE II
SHOPS & STORES
SIO STORES
COLUMN C-401
G.E.U.
LPPE I
LPPE II
LPPE IV
SOLAR BASIN AREA
GATE 1
U.C.C. ENTRANCE
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
COGENERATION
HOPPER CAR WASH RACK
005912
POLYPROPYLENE
TRANSITE REMOVAL
#1 FURNACE
#2 FURNACE
OLEFINS I
OLEFINS II
TRANSPORTATION
HPPE I
REV 07/12/90
BLMAP

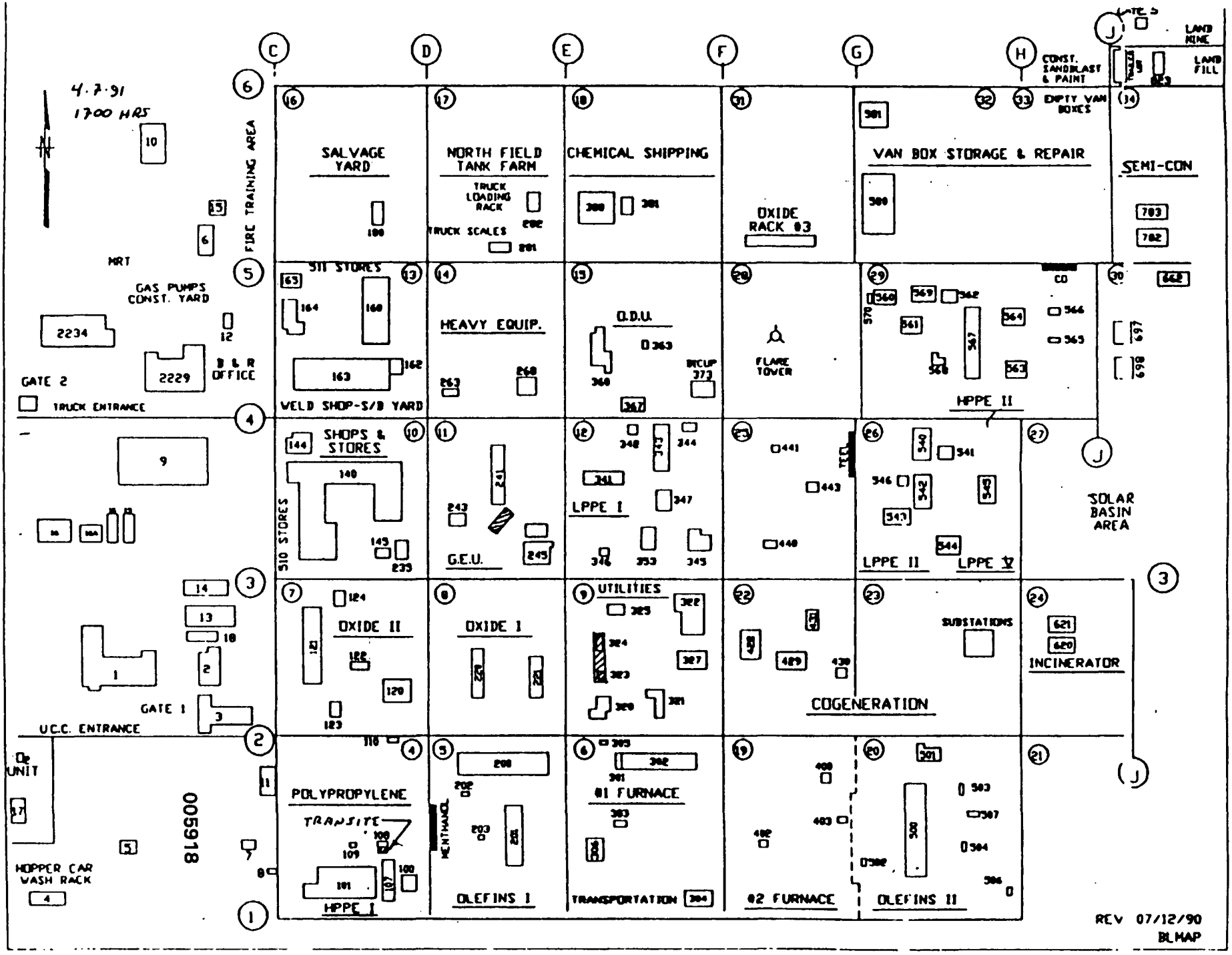

4-1-91
0800 HRS
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
SEMI-CON
LAND FILL
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
GATE 2
TRUCK ENTRANCE
B & R OFFICE
SII STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
O.D.U.
FLARE TOWER
HPPE II
SHOPS & STORES
S10 STORES
COLUMN C-401
G.E.U.
LPPE I
LPPE II
LPPE V
SOLAR BASIN AREA
GATE 1
U.C.C. ENTRANCE
OXIDE II
OXIDE I
UTILITIES
COGENERATION
SUBSTATIONS
INCINERATOR
HOPPER CAR WASH RACK
POLYPROPYLENE
TRANSITE REMOVAL
HPPE I
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP

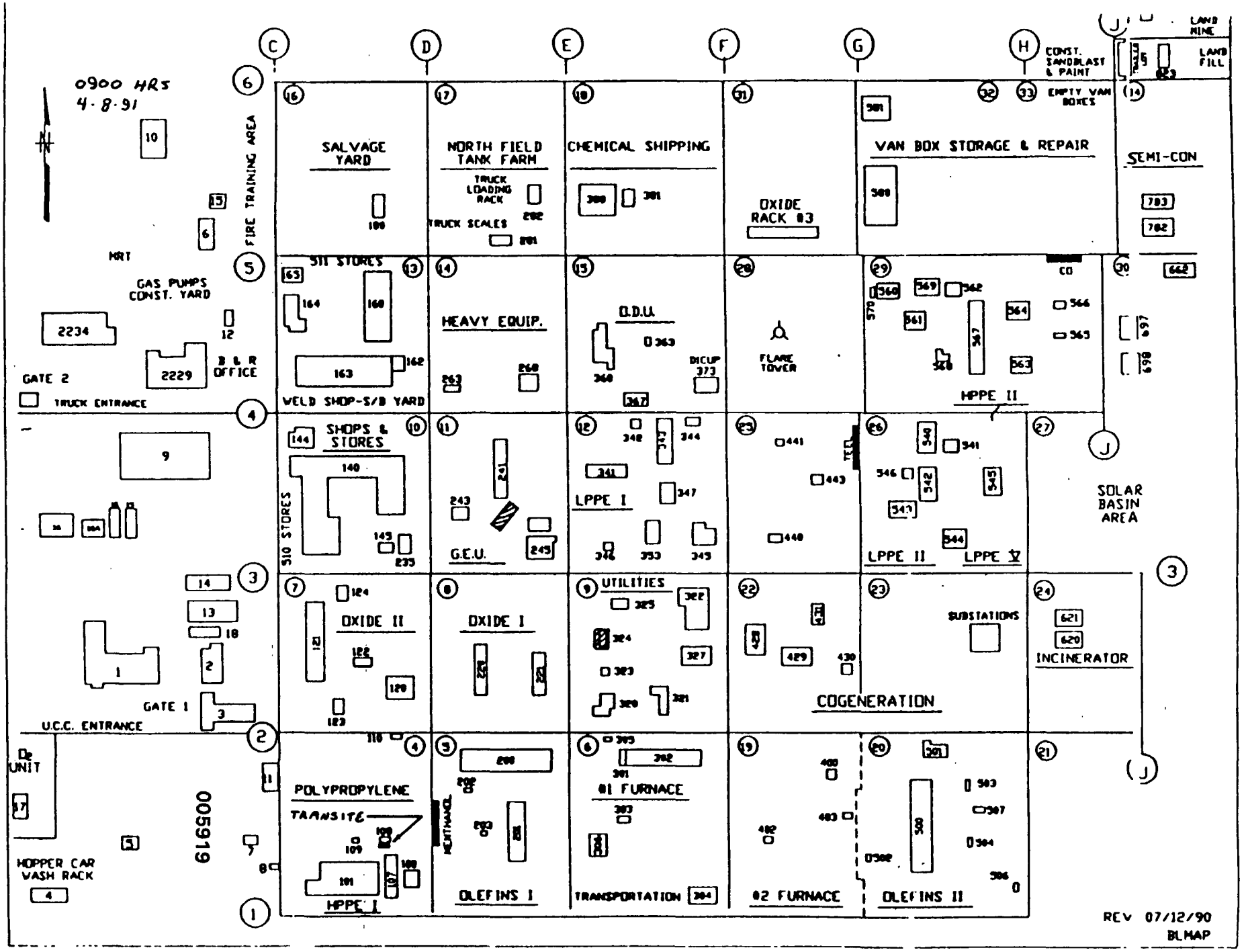

4-2-91
1700 HRS
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
LAND MINE
LAND FILL
SEMI-CON
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
GATE 2
TRUCK ENTRANCE
B & R OFFICE
SII STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
COLUMN C-401
O.D.U.
PICUP
FLARE TOWER
CO
HPPE II
SHOPS & STORES
510 STORES
G.E.U.
LPPE I
LPPE II
LPPE IV
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
GATE 1
U.C.C. ENTRANCE
COGENERATION
POLYPROPYLENE
TRANSITE REMOVAL
#1 FURNACE
#2 FURNACE
OLEFINS I
OLEFINS II
TRANSPORTATION
HPPE I
HOPPER CAR WASH RACK
De UNIT
005914
REV 07/12/90
BLMAP

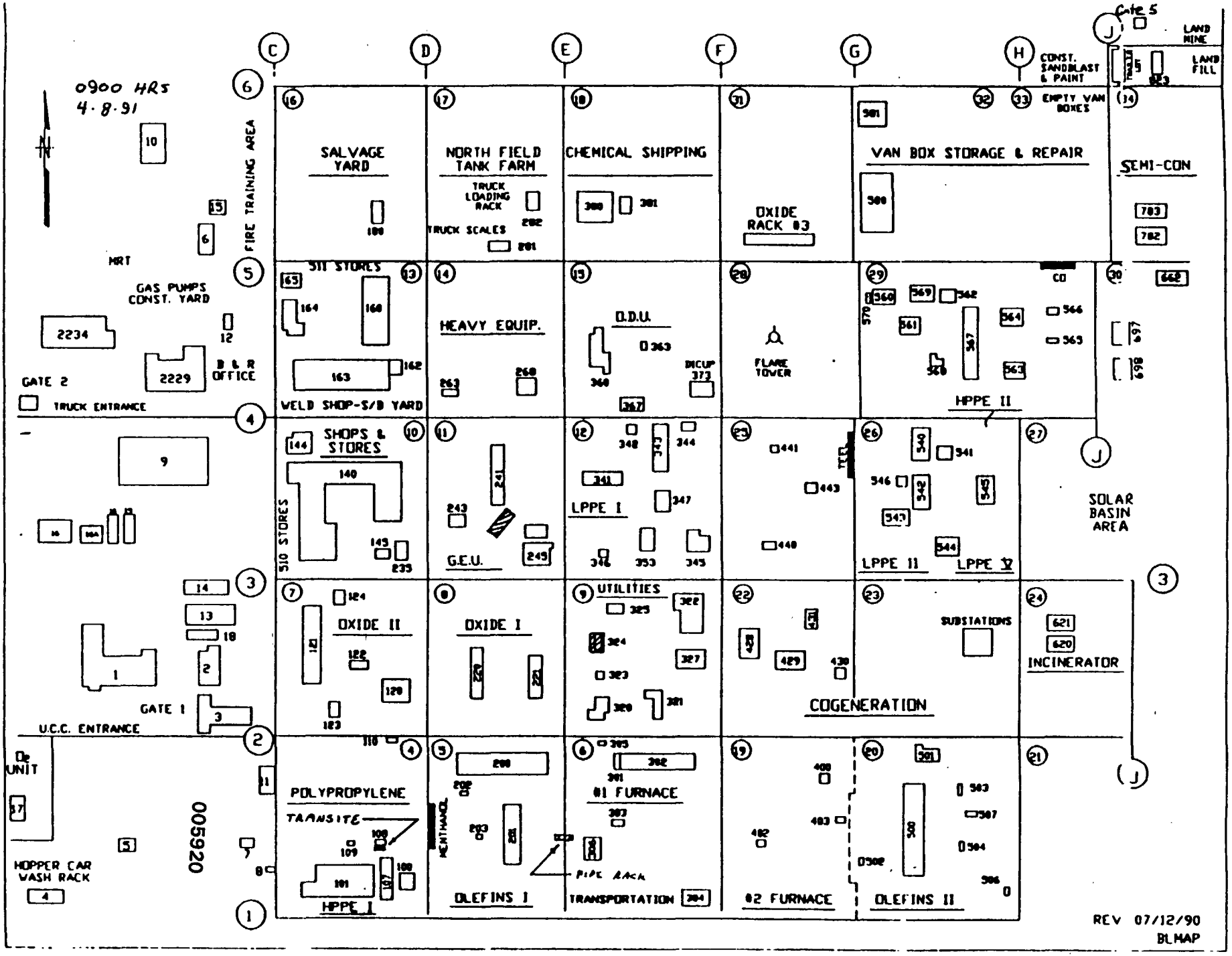

4-3-91
1700 HRS
N
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
U.C.C. ENTRANCE
HOPPER CAR WASH RACK
005915
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK 03
VAN BOX STORAGE & REPAIR
EMPTY VAN BOXES
CONST. SANDBLAST & PAINT
SEMI-CON
LAND MINE
LAND FILL
SIT STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
O.D.U.
FLARE TOWER
HPPE II
SHOPS & STORES
S10 STORES
G.E.U.
LPPE I
LPPE II
LPPE IV
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
COGENERATION
POLYPROPYLENE
HPPE I
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP


4.4.91
1600 HRS
C
D
E
F
G
H
6
5
4
3
2
1
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
U.C.C. ENTRANCE
HOPPER CAR WASH RACK
UNIT
005916
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
LAND FILL
SEMI-CON
511 STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
O.D.U.
DICLIP
FLARE TOWER
CO
HPPE II
510 STORES
SHOPS & STORES
G.E.U.
LPPE I
LPPE II
LPPE V
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
COGENERATION
POLYPROPYLENE
HPPE I
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP


4-5-91
1200 HRS
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
U.C.C. ENTRANCE
HOPPER CAR WASH RACK
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
VAN BOX STORAGE & REPAIR
SEMI-CON
LAND FILL
SII STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
O.D.U.
FLARE TOWER
CO
HPPE II
SHOPS & STORES
S10 STORES
G.E.U.
LPPE I
LPPE II
LPPE
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
COGENERATION
SUBSTATIONS
INCINERATOR
POLYPROPYLENE
HPPE I
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP


4-7-91
1700 HRS
N
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
UCC ENTRANCE
HOPPER CAR WASH RACK
UNIT
005918
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
EMPTY VAN BOXES
CONST. SANDBLAST & PAINT
LAND MINE
LAND FILL
SEMI-CON
SII STORES
HEAVY EQUIP.
O.D.U.
FLARE TOWER
CO
HPPE II
WELD SHOP-S/B YARD
SHOPS & STORES
S10 STORES
G.E.U.
LPPE I
LPPE II
LPPE IV
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
COGENERATION
SUBSTATIONS
INCINERATOR
POLYPROPYLENE
TRANSITE
HPPE I
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP


0900 HRS
4-8-91
N
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
U.C.C. ENTRANCE
HOPPER CAR WASH RACK
DE UNIT
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
LAND MINE
LAND FILL
SEMI-CON
SII STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
O.D.U.
DICUP
FLARE TOWER
CO
HPPE II
SHOPS & STORES
S10 STORES
G.E.U.
LPPE I
LPPE II
LPPE V
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
COGENERATION
INCINERATOR
POLYPROPYLENE
TRANSITE
HPPE I
OLEFINS I
#1 FURNACE
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP


0900 HRS
4-8-91
N
FIRE TRAINING AREA
MRT
GAS PUMPS
CONST. YARD
2234
2229
B & R OFFICE
GATE 2
TRUCK ENTRANCE
GATE 1
U.C.C. ENTRANCE
DE UNIT
HOPPER CAR WASH RACK
005920
SALVAGE YARD
NORTH FIELD TANK FARM
TRUCK LOADING RACK
TRUCK SCALES
CHEMICAL SHIPPING
OXIDE RACK #3
VAN BOX STORAGE & REPAIR
CONST. SANDBLAST & PAINT
EMPTY VAN BOXES
SEMI-CON
LAND MINE
LAND FILL
Gate 5
511 STORES
WELD SHOP-S/B YARD
HEAVY EQUIP.
D.D.U.
DICUP
FLARE TOWER
CO
HPPE II
SHOPS & STORES
510 STORES
G.E.U.
LPPE I
LPPE II
LPPE IV
SOLAR BASIN AREA
OXIDE II
OXIDE I
UTILITIES
SUBSTATIONS
INCINERATOR
COGENERATION
POLYPROPYLENE
TAMSITE
HPPE I
METHANOL
OLEFINS I
#1 FURNACE
PIPE RACK
TRANSPORTATION
#2 FURNACE
OLEFINS II
REV 07/12/90
BLMAP

SAMPLE #	DATE	COMMENTS
mms 4/1-10	4/1/91	CHRIS TRACE
-11		CHRIS TR, AMOS TR.
-12		ND
-13		CHRIS TRACE
-14		CHRIS 1-2% AMOS TR
-15		CHRIS TR AMOS TR
-16		CHRIS TR AMOS TR
-17		CHRIS 4-6% AMOS 1-2%.
-18		CHRIS 1-2% AMOS TR
-19		CHRIS TR AMOS TR
-20		ND
21		ND
22		ND
23		ND
24		ND
25		ND
26		ND
27		ND
28		ND
29		ND
30		ND
31		AMOS, TRACE
32		ND
33		ND
34		CHRIS TR, AMOS TR

SAMPLE #	DATE	COMMENTS
mms 4/4-35	4-4-91	ND
-36		ND
-37		ND
-38		ND
-39		ND
-40		CHRIS TRACE
-41		ND
-42		ND
-43		CHRIS TRACE
-44		ND
-45		ND
-46		ND
-47		ND
FB-4/4-01		ND
-02		ND
-03		ND
mms 4/5-01	4-5-91	CHRIS 65-70%

005921

SH 3/27 - 1	3/27/91	ND	FB 4/2 - 01	4-2-91	CHRYS 70-75%
" - 2	"	ND	" 02		CH 15-20%, AMOS 8-10%
FB 3/28 - 1	3/28/91	40-50% CH	" 03		CHRYS TRACE
2		40-50% CH	" 01		ND
3		20-30% CH 15-20 AMO	" 05		ND
4		40-50% CH	" 06		CHRYS TRACE
5		20-25 CH 20-25 AMO	" 07		CHRYS 8-10% AMOS 25-30%
6		ND	" 08		ND.
7		10-15% CH	" 09		CHRYS 8-10% AMOS 25-30%
SI-4/1 - 1	4-1-91	2-4% CH, 10-15 AM	" 10		CHRYS TR
2	"	2-4% CH, 1-3 AM	" 11		N.D.
3	"	4-6% CH 3-4% AM	1 AN - QC	4-1-91	CHRYS 15-20% AMOS 10-15%
4	"	TR CHRYS	B-1 QC	4-1-91	ND.
5	"	1-2% CH, 4-6% AM	ES9-3 QC	4-1-91	AMOS. 25-30%
6	"	15-20 CH, 1-2% AM	GEU-MIKE	4-3-91	ND
7	"	TR CHRYS, TR AM	FB-4/3-01	4-3-91	CHRYS 1-3%
8	"	15-20% CH, 10-15% AM	MMS-4/4-1	4-4-91	ND
9	"	1-2% CHRYS	-2	4-4-91	ND
10	"	45-50% CHRYS	-3		ND
GEU - 1	4-2-91	N.D	-4		ND
-2	4-2-91	N.D	-5		ND
3	4-2-91	N.D	-6		ND
4	"	N.D	-1		CHRYS TRACE
5	"	N.D.	-8		ND
SI-4/2-01	4-2-91	20-25% AMORPHOUS	-9		CHRYS TRACE

Sample	Date	Results
SH-3/23-1	3-23-91	ND
2	↓	5-10 Chry
3		ND
4		Trace Amos
5		ND
6		55-60% Chry
7		ND
8		ND
10		30-35% Chry/Amos
11		ND
12		ND
13		ND
14	↓	30-35% Chry
JD-3/23-1	3-23-91	10-45% Amosite
F/B1-24	3/24	ND
FB2-24	3/24	ND
SH321-24QC	3/24	ND
SH 322-2QC	"	Tr Amo
SH 3-22-3QC		Tr Chr
SH 3-22-4QC		1-2% Ch
FB 3-22-3QC		ND
FB 3-23-1QC		ND
FB 3-22-7QC		4-6% Ch
FB1-25	3-25	ND
FB-2-25	3-25	ND

Sample	Date	Results
MMS 1	3/26/91	ND
2	"	ND
3	"	ND
4	"	ND
5	"	ND
6	"	ND
MM-27 1	3/27-91	35-40% Chr
2	↓	ND
3		35-40% Ch
4		ND
5		35-40% Ch
6		30-40% Ch
7		ND
8		ND
9		ND
10		15-20 Ch
11		25-30 Ch
12		10-20 Ch
13		ND
14		ND
15		ND
16		ND
17		ND
18		ND
19	↓	ND

Sample #	Date	Results
SH 3/19·13	3·19·91	ND
FB 3/19·1	↓	10-15% Chry 10-15% AMOS
FB 3/19·2		30-35% Chry 25-35% AMOS
FB 3/20·1	3·20·91	[illegible] 15-20% AMOS
SH 3/20·01	3·20·91	ND
02	↓	ND
03		ND
04		ND
05	↓	ND
SH·3/21·01	3·21·91	ND
02	↓	↓
03		
04		
05		
06		
07		
08		
09		
10	↓	↓

Sample #	Date	Results
SH 3/21·17	3·21·91	ND
18	↓	↓
19		
20		
21		
22		
23		
24	↓	↓
SH 3·22·25	3/22/91	Tr Chry
SH 3·22·2	↓	[illegible] Chry
3		[illegible]
4	↓	30-35% Chry
SH·3/22·5	3·22·91	1-2% Chry
6	↓	12% [illegible]
7		3-5% Chry
8		40-45% Chry
9		30-35% Chry 25-30% AMOS
10	↓	ND
SH 3/22·11	3/22/91	80-85% Chry
FB 3/22·1	3·23·91	ND
2	↓	ND
3		trace
4	↓	10-15%
FB 1·23	3/23/91	ND

005924

Sample #	Date	Comments
B-12	3/15/91	ND
B-13	3/16/91	ND
B-14		ND
B-15		ND
B-16		20-30% Chr
BF-1		20-30% WWO
BF-2		ND
1 AM		40-50 Chr
2 AM		ND
3 AM		1-2% Chr
1-600		ND
2-600		ND
[illegible]		20-25% Chr 10-15 Amo
A-1		ND
A-2		ND
A-3		ND
A-4		ND
A-5		ND
A-6		50-55% Cmm
A-7		30-35% Cmm
RHB-1		ND
RHB-2		ND
RHB-3		ND
B-1		ND
B-2		ND

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553		Union Carbide
CONTRACTOR	PROJECT MANAGER / COORDINATOR	TECHNICIAN
	Schwalik	Storey

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X615	3/15/91				701			<.0062	
XB15	3/15/91						Blank	.014/.18	
X415	3/16/91				625			<.0071	
X1315					256			<.017	
X315					502			<.0088	<.0088
X915					575			.014	
X715					532			.0083	
X1815					390			<.011	
X2215					392			<.011	

005926

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553		Union Carbide
CONTRACTOR	PROJECT MANAGER / COORDINATOR	TECHNICIAN
	Schmaltz	Storey

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X10-15	3/16/91				897			.0063	
X5-15	3/16				625			<.0071	
X14-15	3/16				832			<.0053	
X64-16	3/16				541			<.0082	
X63-16	3/16				521			<.0084	<.0084
XD8-16	3/16				380			<.012	
XD6-16	3/16				564			<.0078	
XD6-17	3/17				382			<.012	
MMS01	3/17	005927			1319	Doug Storey 455-96-3855	9th TWA	<.0035	

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553	Union Carbide	U.C.
CONTRACTOR	PROJECT MANAGER / COORDINATOR	TECHNICIAN
	Schmahl'k	Storey

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X-D8-17	3/17/91				763			<.0059	
X-D6 17	"				421			<.011	
X-10-17	"				705			<.0065	
X-5-17	"				597			<.0076	<.0076
MM502	"				67	Doug Storey 455-96-3855	STEL Bldg 2 Vent Hood	<.068	
X-3-17	3/17/91				48.4		STEL	<.094	
X-18-17	"				68.6		STEL	<.066	
X-14-17	"				57.0		STEL	<.080	
X-64-17	"				51.0		STEL	<.089	

005928

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553	Union Carbide	U.C.
CONTRACTOR	**PROJECT MANAGER / COORDINATOR**	**TECHNICIAN**
	Schmaltz	

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X-G3-17	11				51.2		STEL	<.089	
X-9-17	3/17	NO FILTER			1162				
X-22-17	3/17				1193			.0043	.0045
X-7-17	3/17				967			.0063	
X-4-17	3/17				1194			.0088	
X-P2-18	3/18				96			<.047	
X-P44-18	3/18				70			<.065	
X-D6-19	3/19				483L			<.0091	
X-D8-19	3/19				493L			<.0089	

005929

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
[illegible]	[illegible]	
CONTRACTOR	**PROJECT MANAGER / COORDINATOR**	**TECHNICIAN**
	[illegible]	[illegible]

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X·1B·18	3/19				122AL			.0042 DN	
X·3·18	3/19				786L			<.0056 DN	
X·10·18	3·19				1191L			<.0036 DN	
X·13 18	3·19				1048L			<.0042 DN	<.0042
X·D8·20	3·20				959			<.0046 DN	
B06	3/21				BOX BLANK			.01 DN	
B07	3/21				BOX BLANK			.02 DN	
B08	3/21				BOX BLANK			.01 DN	
B09	3/21				BOX BLANK			0 DN	

005930

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
[illegible]	[illegible]	
CONTRACTOR	**PROJECT MANAGER / COORDINATOR**	**TECHNICIAN**
		[illegible]

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC / READER	QA/QC / READER
B~~0~~	3/21				BUSY BROOK			0 DN	
X-Dupl	3/21				559			<.0078 DN	
A1	3/21				1184			<.0037 DN	
A2	3/21				1193			<.0037 DN	
P1	3/21				59	Tom Collins 453 [illegible] 8567	OBSERVATION	<.074 DN	<.074
P2	3/21				772			<.0057 DN	
P3	3/21				1200			<.0037 DN	
A3	3/22				1520			<.0029 DN	
A4	3/22				1193			<.0037 DN	

005931

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553	[illegible]	
CONTRACTOR	PROJECT MANAGER / COORDINATOR	TECHNICIAN
		NELSON

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X-9-21	3/22				740			<.0060 DN	
X-22-21	3/22				1206			<.0036 DN	
X-64-21	3/22				1182			<.0037 DN	
X-7-21	3/22				483			<.0091 DN	
X-13-22	3/23	#13 1.711	0810 1626	416	712	David Schulte 454-27-2003	Poly F	<.0062 DN	
X-18-22	3/23	#18 2.188	0820 1619	419	917	Eddy Hollander 450-84-8368	Poly F	<.0048 DN	.0078
X-10-22	3/23	#10 1.991	0809 0940	61.7	617	Samuel Escobar 458-31-5967	Poly F	<.0072 DN	
X-5-22	3/23	#5 1.730	0905 1608	403	697	Donald Escalante 467-96-9105	GAS II	<.0063 DN	
STEL 1	3/23				60			<.074 DN	

005932

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553	union consider	
CONTRACTOR	**PROJECT MANAGER / COORDINATOR**	**TECHNICIAN**
		Nolan

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X-6 22	~~3/22~~	#6	0802	338	547	Stephen Athey		<.0081	<.0081
		1.619	1340			466-37-3905	HP1	DN	
X-3-22	~~3/22~~	#3	0903	427	777	Simon Hernandez		<.0057	
		1.820	1610			458-66-2336	GAS II	DN	
X-7-23	3/23	#7	0830	485	1064	Robert Nolina	Remote Transite	<.0041	
		2.214	1635			467-37-8175	101	DN	
X-14-23	"	#14	0830	485	946	Gilbert Vasquez	" "	<.0047	
		1.966	1635			449-21-3969	"	DN	
X-4-23	"	#4	0830	485	1142	—	Area Removal	<.0040	
		2.375	1635			—	Transite 101	DN	
X-22-23	"	#22	0830	300	638	Odis Lamarche	" "	<.00169	
		2.128	1330			467-88-1161	"	DN	
B-11	3/24							.018/.011	
B-12	"							.018	
B-13	"							0	

005933

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553		Union Carbide
CONTRACTOR	PROJECT MANAGER / COORDINATOR	TECHNICIAN
		Story

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
B-14	3/24							0	
B-15	"							.02	
X-3-24	"	#3	0926	372	706	John Litzau		<.0063	
		1.898	1538			570-59-1760	PP-1-101		
X-5-24	"	#5	0915	380	672	Abel Marcones	PP-1-101	.011	.014
		1.769	1.585			464-58-3438			
X-6-24	"	#6	0920	384	642	Thomas C. Martinez		<.0068	
		1.671	1544			455-23-0726	PP-1-101		
X-10-24	"	#10	0918	372	757	Stephen Otley		<.0058	
		2.034	1530			466-37-3965	PP-1-101		
X-18-24	"	#18	0915	370	823	Ernest Arrem		<.0054	
		2.225	1525			454-86-5948	PP GAS II		
X-9-25	3/25	#9	1254	273	571	Mike Cabrera		<.0077	
		2.092	1527			458-91-4894	PP-1-101		
X-13-25	3/25	#13	1220	308	534	Robert Molina		<.0084	
		1.734	1528			467-39-8175	PP-1-101		

005934

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553	Union Carbide	
CONTRACTOR	**PROJECT MANAGER / COORDINATOR**	**TECHNICIAN**
		Storey

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X-14-25	3/25	#14	1255	270	538	Glenn Summers		.012	.014
		1.992	1525			454-67-1776	PP-1-101		
X-15-25	"	#15	1200	313	690	Jorge Rodriguez		<.0063	
		2.204	1513			460-13-4415	PP-1-101		
X-2225	"	#22	1250	278	581	Samuel Escobar	Elect Shop	<.0076	
		2.090	1528			458-31-5947	Scaffold Yard		
MMS03	"	2.333	0650	670	1563	Doug Storey	~~D Storey~~ LAB	<.0028	
			1830			455-96-3855	455-96-3855		
MMS04	"		1330	30	85	Doug Storey	" " "	<.052	
		2.883	1400			455-96-3855	" " " STEL		
X-3-26	3-26	#3	1103	297	555	Gil Vasquez		.0097	
		1.868	1600			449-21-3969	PP-1-101		
X-5-26	"	#5	1107	293	507	Kevin Young		<.0087	
		1.731	1600			449-29-1012	PP-1-101		
X-6-26	"	#6	1108	292	484	Ramiro Morales		<.0091	
		1.659	1600			463-53-1102	PP-1-101		
X-10-26	"	#10	1130	270	572	Gary D. Klassen		<.0065	<.0065
		1.984	1600			450-80-6085	Flare Tower		

005935

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
14553	Union Carbide	
CONTRACTOR	PROJECT MANAGER / COORDINATOR	TECHNICIAN
		Story

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
~~X-8-26~~	3/26/91	#18	1130	270	572	Joe Talbott		<.0077	
		2.119	1600			427-25-8536	Elect Shop Scaffold		
X-9-27	3/27/91	#9	1005	340	712	Eddy Hollander	PP-1-101	.0079	.0065
		2.094	1545			450-84-8368			
X-13-27	"	#13	1007	339	592	Ronald Seevers		<.0074	
		1.747	1546			202-44-2155	PP-1-101		
X-14-27	"	#14	1004	333	671	Glenn Summers		<.0065	
		2.017	1537			454-69-1776	PP-1-101		
X-15-27	"	#15	1008	312	672	Robert Molina		<.0091	
		2.210	1520			467-39-8175	PP-1-101		
X-22-27	"	#22	1002	322	682	Stephen Athey		<.0065	
			1524			466-37-3905	PP-1-101		
P-3	3/27/91	2.833	8:00	30	85	Tom Collins	Observation	<.052	
			8:30			453-15-8567	STEL		
A-5	"	65	0850	120	1226	N/A	Downwind	<.0037	
		10.22	1050			N/A	Oxy 1		
A-6	"	65	1100	120	1226	N/A	Downwind	<.0037	
		10.22	1300			N/A	Black hole		

006936

McCLELLAND MANAGEMENT SERVICES, INC.

AIR SAMPLE DOCUMENTATION

JOB NUMBER	PROJECT NAME	CLIENT
CONTRACTOR	**PROJECT MANAGER / COORDINATOR**	**TECHNICIAN**

SAMPLE NO.	DATE	PUMP # / CALIBRATION	TIME ON / TIME OFF	DURATION	VOLUME	NAME / S.S. NUMBER	OPERATION / LOCATION	AFC READER	QA/QC READER
X-3-28	3/28/91	#3	0748	405	744	Gary D Clawson		<.011	<.011
		1.838	1433			450-20-6085	Bldg 14		
X-5-28	"	#5	0738	454	780	Jorge Rodriguez		<.0097	
		1.718	1512			460-13-4415	PP-1-10		
X-6-28	"	#6	0752	368	590	Joe Talbott Jr		<.017	
		1.605	1400			427-25-8536	Bldg 140		
X-10-28	"	#10	0750	337	648	Simon Devereaux		<.013	
		1.924	1327			458-66-2336	Gate II		
P-4	3/28		830	450	1237	Tom Collins	Lab	.0036	
		2.75	1600			453-15-8567	Allowable Plant		

005937

McClelland Management Services
Asbestos & Environmental Consultants
6100 Hillcroft, Suite 220, Houston, Texas 77081

MMS
FIELD REPORT

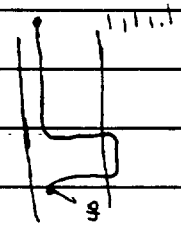
Job No.: 14553.91 Project Name: Union Carbide

Shift Start Date: 04- -91 Location: Seadrift, Texas

Contractor: Brown & Root, Kimmins, Thermotech, & Service Abatement

DESCRIPTION

SAMPLE #	PIPE #
FB-4/2-1	32
-2	31
-3	30
-6	7 & 8
-7	(40)
-9	UNABLE TO LOCATE } run U-S in underground
-10	" } vault of block 6



005938

Thomas G. Collins
Field Technician (Print Name)

Contractor Supervisor (Print Name)

04- -91
Signature/Date

Signature/Date

McClelland Management Services
Asbestos & Environmental Consultants
6100 Hillcroft, Suite 220, Houston, Texas 77081

MMS
FIELD REPORT

Job No.: 14553.91 Project Name: Union Carbide

Shift Start Date: 04- 8 -91 Location: Seadrift, Texas

Contractor: Brown & Root, Kimmins, Thermotech, & Service Abatement

DESCRIPTION

TIME LOG

DATE	TIME IN	TIME OUT	ΔT	TOTAL
4.1.91	0630	1800	.5	12
2	0630	1830	.5	12.5
3	0630	1730	.5	11.5
4	0000	1600	.5	16.5
5	[illegible] 0630	1230	3.5	9.5
6	0700	1200		4.0
7	1200	1800	3.5	9.5
				Total = 75.5 Hrs
8	0700	1600	3.5	11.5

005939

Thomas G. Collins
Field Technician (Print Name)

Fred A. Berger
Contractor Supervisor (Print Name)

04- -91
Signature/Date

Signature/Date