INNER HARBOR NAVIGATION CANAL
LOCK REPLACEMENT PROJECT
ORLEANS PARISH, LOUISIANA

DESIGN DOCUMENTATION REPORT NO. 1
SITE PREPARATION AND DEMOLITION
VOLUME NO. 8 OF 8

PREPARED FOR:

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

PREPARED BY:

WALDEMAR S. NELSON AND COMPANY, INC.
ENGINEERS AND ARCHITECTS
NEW ORLEANS, LOUISIANA

AND

DAMES AND MOORE, INC.
NEW ORLEANS, LOUISIANA

FEBRUARY 1999

U. S. Army
Corps of Engineers
New Orleans District

FINAL SUBMITTAL

DEMOLITION DESIGN MEMORANDUM INPUT Volume 8

SEDIMENT SAMPLING OF THE GALVEZ STREET WHARF APRIL 1999 AND UNDERWATER STRUCTURAL INSPECTION AND APRON INSPECTION GALVEZ STREET WHARF OCTOBER 1994

Volume 8

I. Sediment Sampling of the Galvez Street Wharf Site. Sampling of sediments under the Galvez Street Wharf was conducted on 3/23/99. Openings were cored in the concrete wharf apron and ten (10) vibra-core borings of the first 5 feet of canal sediments were taken in approximately 2 to 3 feet of water. Samples were analyzed for volatile organic compounds, semi-volatile organic compounds, heavy metals, and pesticides. The sampling and analysis plan, and the test results are provided.

II. Underwater Structural Inspection and Apron Inspection of the Galvez Street Wharf. In October 1994, the Port of New Orleans commissioned Lanier and Associates to inspect the pilings and apron along the north and east sides of the Galvez Street Wharf. The report concluded that the timber support piles had sustained considerable damage due to infestation by marine borers, showing a reduction in original cross sectional area of the piles by 30 to 40%. The report recommended reducing the live load capacity of the apron area from the original 500 pounds per square foot to a maximum of 200 pounds per square foot.

U. S. Army
Corps of Engineers
New Orleans District

FINAL SUBMITTAL

DEMOLITION DESIGN MEMORANDUM INPUT Volume 8

SEDIMENT SAMPLING OF THE GALVEZ STREET WHARF APRIL 1999

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FINAL SUBMITTAL

DEMOLITION DESIGN MEMORANDUM INPUT Volume 8

UNDERWATER STRUCTURAL INSPECTION AND APRON INSPECTION GALVEZ STREET WHARF OCTOBER 1994

Pace Analytical

Pace Analytical Services,
1000 Riverbend Blvd, Su
St. Rose, LA 70
Tel: 504-469-0
Fax: 504-469-0

Louis Britsch
U.S. Army Corps of Engineers,N.O.
Post Office Box 60267
New Orleans, LA 70160-0267

Project: IHNC LOCK
Site:
Episode: RCR

To: Louis Britsch

Enclosed please find the analytical results for sample(s) received by Pace Analytical Services, Inc. - New Orleans.

This report contains a summary of the quality control data associated with the analyses as well as copies of the chain-of-custody documents.

You may direct any inquires concerning this report to your Project Manager, or any one of the Project Managers listed below:

Ms. Karen H. Brown, Manager, Ext. 325
Mr. William R. Shackelford, Ext. 326
Ms. Cindy Olavesen, Ext. 327

Sincerely,

William R Shackelford
Project Manager

4-8-99
Date

Enclosures

IHNC LOCK CONTAMINATION CONCENTRATION SUMMARY

File IHNC LOCK.xls

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Acetone(2-Propanone, Dimethyl ketone)	0.0479	MG/KG	0.0227
RCR-002	Acetone(2-Propanone, Dimethyl ketone)	0.132	MG/KG	0.0159
RCR-003	Acetone(2-Propanone, Dimethyl ketone)	0.064	MG/KG	0.0164
RCR-004	Acetone(2-Propanone, Dimethyl ketone)	0.0417	MG/KG	0.0182
RCR-005	Acetone(2-Propanone, Dimethyl ketone)	0.0302	MG/KG	0.02
RCR-006	Acetone(2-Propanone, Dimethyl ketone)	0.0438	MG/KG	0.0167
RCR-007	Acetone(2-Propanone, Dimethyl ketone)	0.0808	MG/KG	0.0189
RCR-008	Acetone(2-Propanone, Dimethyl ketone)	0.202	MG/KG	0.0192
RCR-009	Acetone(2-Propanone, Dimethyl ketone)	0.318	MG/KG	0.0189
RCR-010	Acetone(2-Propanone, Dimethyl ketone)	0.1	MG/KG	0.0217

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-008	2-Butanone (Methyl ethyl ketone)	0.0276	MG/KG	0.0192
RCR-009	2-Butanone (Methyl ethyl ketone)	0.027	MG/KG	0.0189

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-009	Carbon disulfide	0.0149	MG/KG	0.00945

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-011	Methylene chloride (Dichloromethane)	0.0114		0.005

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	TPH-Diesel Range Organics	58.1	MG/KG	22.7
RCR-004	TPH-Diesel Range Organics	23.3	MG/KG	18.2
RCR-005	TPH-Diesel Range Organics	114	MG/KG	20
RCR-008	TPH-Diesel Range Organics	27.8	MG/KG	19.2
RCR-009	TPH-Diesel Range Organics	24.2	MG/KG	18.9
RCR-010	TPH-Diesel Range Organics	75.9	MG/KG	21.7

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Aluminum	13300	MG/KG	45.4
RCR-002	Aluminum	12300	MG/KG	31.8
RCR-003	Aluminum	11800	MG/KG	32.8
RCR-004	Aluminum	13700	MG/KG	36.4
RCR-005	Aluminum	9860	MG/KG	40
RCR-006	Aluminum	12900	MG/KG	33.4
RCR-007	Aluminum	10900	MG/KG	33.8
RCR-008	Aluminum	12200	MG/KG	38.4
RCR-009	Aluminum	12200	MG/KG	37.8
RCR-010	Aluminum	10400	MG/KG	43.4

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Arsenic	3.04	MG/KG	2.27
RCR-002	Arsenic	2.07	MG/KG	1.59
RCR-003	Arsenic	3.79	MG/KG	1.64
RCR-004	Arsenic	5.86	MG/KG	1.82
RCR-005	Arsenic	2.98	MG/KG	2
RCR-006	Arsenic	1.82	MG/KG	1.67
RCR-007	Arsenic	4.77	MG/KG	1.69
RCR-008	Arsenic	4.74	MG/KG	1.82
RCR-009	Arsenic	4.74	MG/KG	1.89
RCR-010	Arsenic	5.71	MG/KG	2.17

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Barium	92.8	MG/KG	45.4
RCR-002	Barium	110	MG/KG	31.8
RCR-003	Barium	169	MG/KG	32.8
RCR-004	Barium	124	MG/KG	36.4
RCR-005	Barium	112	MG/KG	40
RCR-006	Barium	117	MG/KG	33.4
RCR-007	Barium	120	MG/KG	33.8
RCR-008	Barium	330	MG/KG	36.4
RCR-009	Barium	173	MG/KG	37.8
RCR-010	Barium	109	MG/KG	43.4

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Beryllium	1.18	MG/KG	1.13
RCR-002	Beryllium	0.827	MG/KG	0.0795
RCR-003	Beryllium	0.838	MG/KG	0.82
RCR-006	Beryllium	0.934	MG/KG	0.835
RCR-007	Beryllium	0.864	MG/KG	0.845

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Calcium	1990	MG/KG	1140
RCR-002	Calcium	11800	MG/KG	795
RCR-003	Calcium	8360	MG/KG	820
RCR-004	Calcium	3800	MG/KG	910
RCR-005	Calcium	2260	MG/KG	1000
RCR-006	Calcium	2470	MG/KG	835
RCR-007	Calcium	2180	MG/KG	845
RCR-008	Calcium	2040	MG/KG	960
RCR-009	Calcium	4120	MG/KG	945
RCR-010	Calcium	2890	MG/KG	1090

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Chromium	15.8	MG/KG	2.27
RCR-002	Chromium	13	MG/KG	1.59
RCR-003	Chromium	13.8	MG/KG	1.64
RCR-004	Chromium	13.9	MG/KG	1.82
RCR-005	Chromium	11.8	MG/KG	2
RCR-006	Chromium	14.2	MG/KG	1.67
RCR-007	Chromium	12.4	MG/KG	1.69
RCR-008	Chromium	13.7	MG/KG	1.92
RCR-009	Chromium	12.8	MG/KG	1.89
RCR-010	Chromium	11.8	MG/KG	2.17

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-006	Cobalt	8.72	MG/KG	8.35
RCR-008	Cobalt	10	MG/KG	9.6

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Copper	25	MG/KG	5.67
RCR-002	Copper	15.2	MG/KG	3.98
RCR-003	Copper	18	MG/KG	4.1
RCR-004	Copper	25.1	MG/KG	4.55
RCR-005	Copper	18.3	MG/KG	5
RCR-006	Copper	15.7	MG/KG	4.17
RCR-007	Copper	19.9	MG/KG	4.22
RCR-008	Copper	19.2	MG/KG	4.8
RCR-009	Copper	20.2	MG/KG	4.72
RCR-010	Copper	21.3	MG/KG	5.42

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Iron	12000	MG/KG	22.7
RCR-002	Iron	15700	MG/KG	15.9
RCR-003	Iron	16200	MG/KG	16.4
RCR-004	Iron	13500	MG/KG	18.2
RCR-005	Iron	7900	MG/KG	20
RCR-006	Iron	25900	MG/KG	16.7
RCR-007	Iron	10900	MG/KG	16.9
RCR-008	Iron	14100	MG/KG	19.2
RCR-009	Iron	12600	MG/KG	18.9
RCR-010	Iron	9500	MG/KG	21.7

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Lead	16.7	MG/KG	0.681
RCR-002	Lead	11.9	MG/KG	0.477
RCR-003	Lead	21	MG/KG	0.492
RCR-004	Lead	14.1	MG/KG	0.546
RCR-005	Lead	12.1	MG/KG	0.6
RCR-006	Lead	14.4	MG/KG	0.501
RCR-007	Lead	13.4	MG/KG	0.507
RCR-008	Lead	15.9	MG/KG	0.576
RCR-009	Lead	12	MG/KG	0.567
RCR-010	Lead	12.9	MG/KG	0.651

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Magnesium	6240	MG/KG	1140
RCR-002	Magnesium	5720	MG/KG	795
RCR-003	Magnesium	5770	MG/KG	820
RCR-004	Magnesium	8660	MG/KG	910
RCR-005	Magnesium	4800	MG/KG	1000
RCR-006	Magnesium	5830	MG/KG	835
RCR-007	Magnesium	5530	MG/KG	845
RCR-008	Magnesium	6140	MG/KG	960
RCR-009	Magnesium	4860	MG/KG	945
RCR-010	Magnesium	4560	MG/KG	1090

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Manganese	66.3	MG/KG	3.41
RCR-002	Manganese	342	MG/KG	2.39
RCR-003	Manganese	257	MG/KG	2.46
RCR-004	Manganese	189	MG/KG	2.73
RCR-005	Manganese	74.8	MG/KG	3
RCR-006	Manganese	267	MG/KG	2.5
RCR-007	Manganese	100	MG/KG	2.54
RCR-008	Manganese	94.8	MG/KG	2.88
RCR-009	Manganese	165	MG/KG	2.83
RCR-010	Manganese	78.1	MG/KG	3.25

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Nickel	18	MG/KG	9.06
RCR-002	Nickel	18.9	MG/KG	6.36
RCR-003	Nickel	19.5	MG/KG	6.56
RCR-004	Nickel	19.8	MG/KG	7.28
RCR-005	Nickel	12.3	MG/KG	8
RCR-006	Nickel	22.2	MG/KG	6.66
RCR-007	Nickel	15.9	MG/KG	6.76
RCR-008	Nickel	20.7	MG/KG	7.68
RCR-009	Nickel	17.8	MG/KG	7.56
RCR-010	Nickel	16.7	MG/KG	8.66

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Potassium	3770	MG/KG	1140
RCR-002	Potassium	2850	MG/KG	795
RCR-003	Potassium	2760	MG/KG	820
RCR-004	Potassium	3550	MG/KG	910
RCR-005	Potassium	2740	MG/KG	1000
RCR-006	Potassium	2790	MG/KG	835
RCR-007	Potassium	2990	MG/KG	845
RCR-008	Potassium	3280	MG/KG	960
RCR-009	Potassium	2630	MG/KG	945
RCR-010	Potassium	2780	MG/KG	1090

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Selenium	1.44	MG/KG	1.13
RCR-002	Selenium	1.38	MG/KG	0.795
RCR-003	Selenium	1.19	MG/KG	0.82
RCR-004	Selenium	2.15	MG/KG	0.91
RCR-005	Selenium	1.27	MG/KG	1
RCR-006	Selenium	1.17	MG/KG	0.835
RCR-007	Selenium	1.84	MG/KG	0.845
RCR-008	Selenium	1.14	MG/KG	0.96
RCR-009	Selenium	1.85	MG/KG	0.945
RCR-010	Selenium	2.01	MG/KG	1.08

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Sodium	5520	MG/KG	1140
RCR-002	Sodium	3590	MG/KG	795
RCR-003	Sodium	3260	MG/KG	820
RCR-004	Sodium	5190	MG/KG	910
RCR-005	Sodium	4620	MG/KG	1000
RCR-006	Sodium	3420	MG/KG	835
RCR-007	Sodium	4160	MG/KG	845
RCR-008	Sodium	4190	MG/KG	960
RCR-009	Sodium	5580	MG/KG	945
RCR-010	Sodium	5010	MG/KG	1090

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Vanadium	29.7	MG/KG	11.3
RCR-002	Vanadium	23.5	MG/KG	7.95
RCR-003	Vanadium	24.8	MG/KG	8.2
RCR-004	Vanadium	26	MG/KG	9.1
RCR-005	Vanadium	23.2	MG/KG	10
RCR-006	Vanadium	26.8	MG/KG	8.35
RCR-007	Vanadium	24.5	MG/KG	8.45
RCR-008	Vanadium	24.8	MG/KG	9.6
RCR-009	Vanadium	24	MG/KG	9.45
RCR-010	Vanadium	24.5	MG/KG	10.8

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Zinc	96.9	MG/KG	4.54
RCR-002	Zinc	59	MG/KG	3.18
RCR-003	Zinc	66.4	MG/KG	3.28
RCR-004	Zinc	70.6	MG/KG	3.64
RCR-005	Zinc	54	MG/KG	4
RCR-006	Zinc	65.6	MG/KG	3.34
RCR-007	Zinc	60.8	MG/KG	3.38
RCR-008	Zinc	64.9	MG/KG	3.84
RCR-009	Zinc	52.7	MG/KG	3.78
RCR-010	Zinc	58.9	MG/KG	4.34

Sample Location	Compound	Concentration	Units	Detection Limit
RCR-001	Oil &Grease	1130	MG/KG	114
RCR-002	Oil &Grease	455	MG/KG	79.5
RCR-003	Oil &Grease	244	MG/KG	82
RCR-004	Oil &Grease	657	MG/KG	91
RCR-005	Oil &Grease	472	MG/KG	100
RCR-006	Oil &Grease	215	MG/KG	83.5
RCR-007	Oil &Grease	755	MG/KG	84.5
RCR-008	Oil &Grease	463	MG/KG	96
RCR-009	Oil &Grease	461	MG/KG	94.5
RCR-010	Oil &Grease	451	MG/KG	109

Narrative for Episode RCR

TPH-Gasoline

Soil samples were extracted on 4/5/99 and analyzed on 4/6/99, within the holding time. Samples RCR-001, RCR-002, RCR-003, RCR-004, and RCR-010 yielded small hits for gasoline; because no peaks were apparent in the GCMS 8260 data for these same samples, the TPH-gas extracts were reanalyzed on 4/7/99. Gasoline results upon reanalysis were below the reporting limit and the original data is therefore suspect. Results reported for RCR-001, RCR-002, RCR-003, RCR-004, and RCR-010 were based upon the reanalyses.

Pace Analytical Services, Inc. - New Orleans
Sample Cross Reference Summary

Episode: RCR Client: U.S. Army Corps of Engineers,N.O.

Project: IHNC LOCK

Site:

Lab ID	Client ID	Description	Matrix	Collected	Received
RCR-001	NO-IHNC-SD-C1		Soil	03/23/99	03/23/99
RCR-002	NO-IHNC-SD-C2		Soil	03/23/99	03/23/99
RCR-003	NO-IHNC-SD-C3		Soil	03/23/99	03/23/99
RCR-004	NO-IHNC-SD-C4		Soil	03/23/99	03/23/99
RCR-005	NO-IHNC-SD-C5		Soil	03/23/99	03/23/99
RCR-006	NO-IHNC-SD-C6		Soil	03/23/99	03/23/99
RCR-007	NO-IHNC-SD-C7		Soil	03/23/99	03/23/99
RCR-008	NO-IHNC-SD-C8		Soil	03/23/99	03/23/99
RCR-009	NO-IHNC-SD-C10		Soil	03/23/99	03/23/99
RCR-010	NO-IHNC-SD-C11		Soil	03/23/99	03/23/99
RCR-011	NO-IHNC-FB		Water	03/23/99	03/23/99
RCR-012	NO-IHNC-TB		Water	03/23/99	03/23/99

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C1
Project: IHNC LOCK
Lab ID: RCR-001
Description: None
Method: SW 8260 Volatile Organics

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR **Sample Qu:** M2
Matrix: Soil **% Moisture:** 56
Prep Level: Soil **Batch:** 29848
Units: ug/kg **Target List:** 8260LOW

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 05-Apr-99 14:15 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	47.9	A11	22.7	
71-43-2	Benzene	1	ND		11.3	
75-27-4	Bromodichloromethane	1	ND		11.3	
75-25-2	Bromoform	1	ND		11.3	
74-83-9	Bromomethane (Methyl bromide)	1	ND		11.3	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		22.7	
75-15-0	Carbon disulfide	1	ND		22.7	
56-23-5	Carbon tetrachloride	1	ND		11.3	
108-90-7	Chlorobenzene	1	ND		11.3	
75-00-3	Chloroethane	1	ND		11.3	
67-66-3	Chloroform	1	ND		22.7	
74-87-3	Chloromethane (Methyl chloride)	1	ND		11.3	
124-48-1	Dibromochloromethane	1	ND		22.7	
75-34-3	1,1-Dichloroethane	1	ND		11.3	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		11.3	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		11.3	
540-59-0	1,2-Dichloroethene (total)	1	ND		11.3	
78-87-5	1,2-Dichloropropane	1	ND		11.3	
10061-01-5	cis-1,3-Dichloropropene	1	ND		11.3	
10061-02-6	trans-1,3-Dichloropropene	1	ND		11.3	
100-41-4	Ethylbenzene	1	ND		11.3	
591-78-6	2-Hexanone	1	ND		22.7	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		11.3	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		22.7	
100-42-5	Styrene	1	ND		11.3	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		11.3	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		11.3	
108-88-3	Toluene	1	ND		11.3	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		11.3	
79-00-5	1,1,2-Trichloroethane	1	ND		11.3	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		11.3	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		22.7	
1330-20-7	Xylene (total)	1	ND		11.3	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C1	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-001	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8270 Semivolatile Organics	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 56
Batch: 29720
Target List: 8270LOW
Analyzed: 02-Apr-99 2:01 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		756	
208-96-8	Acenaphthylene	1	ND		756	
120-12-7	Anthracene	1	ND		756	
56-55-3	Benzo(a)anthracene	1	ND		756	
205-99-2	Benzo(b)fluoranthene	1	ND		756	
207-08-09	Benzo(k)fluoranthene	1	ND		756	
65-85-0	Benzoic acid	1	ND		1890	
191-24-2	Benzo(g,h,i)perylene	1	ND		756	
50-32-8	Benzo(a)pyrene	1	ND		756	
100-51-6	Benzyl alcohol	1	ND		756	
101-55-3	4-Bromophenyl phenyl ether	1	ND		756	
85-68-7	Butylbenzylphthalate	1	ND		756	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		756	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		756	
111-44-4	bis(2-Chloroethyl) ether	1	ND		756	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		756	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		756	
91-58-7	2-Chloronaphthalene	1	ND		756	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		756	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		756	
218-01-9	Chrysene	1	ND		756	
53-70-3	Dibenz(a,h)anthracene	1	ND		756	
132-64-9	Dibenzofuran	1	ND		756	
84-74-2	Di-n-butylphthalate	1	ND		756	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		756	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		756	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		756	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1510	
120-83-2	2,4-Dichlorophenol	1	ND		756	
84-66-2	Diethylphthalate	1	ND		756	
105-67-9	2,4-Dimethylphenol	1	ND		756	
131-11-3	Dimethylphthalate	1	ND		756	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1890	
51-28-5	2,4-Dinitrophenol	1	ND		1890	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C1
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-001
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 56
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 2:01 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		756	
606-20-2	2,6-Dinitrotoluene	1	ND		756	
117-84-0	Di-n-octylphthalate	1	ND		756	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		756	
206-44-0	Fluoranthene	1	ND		756	
86-73-7	Fluorene	1	ND		756	
118-74-1	Hexachlorobenzene	1	ND		756	
87-68-3	Hexachlorobutadiene	1	ND		756	
77-47-4	Hexachlorocyclopentadiene	1	ND		756	
67-72-1	Hexachloroethane	1	ND		756	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		756	
78-59-1	Isophorone	1	ND		756	
91-57-6	2-Methylnaphthalene	1	ND		756	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		756	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		756	
91-20-3	Naphthalene	1	ND		756	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1890	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1890	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1890	
98-95-3	Nitrobenzene	1	ND		756	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		756	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1890	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	756	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		756	
87-86-5	Pentachlorophenol	1	ND		1890	
85-01-8	Phenanthrene	1	ND		756	
108-95-2	Phenol	1	ND		756	
129-00-0	Pyrene	1	ND		756	
120-82-1	1,2,4-Trichlorobenzene	1	ND		756	
95-95-4	2,4,5-Trichlorophenol	1	ND		1890	
88-06-2	2,4,6-Trichlorophenol	1	ND		756	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/5/99 09:54:59

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C2 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-002 | **Episode:** RCR | **Sample Qu:** M2

Description: None | **Matrix:** Soil | **% Moisture:** 37

Method: SW 8260 Volatile Organics | **Prep Level:** Soil | **Batch:** 29848

Units: ug/kg | **Target List:** 8260LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** | **Analyzed:** 05-Apr-99 14:44 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	132	A11	15.9	
71-43-2	Benzene	1	ND		7.95	
75-27-4	Bromodichloromethane	1	ND		7.95	
75-25-2	Bromoform	1	ND		7.95	
74-83-9	Bromomethane (Methyl bromide)	1	ND		15.9	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		15.9	
75-15-0	Carbon disulfide	1	ND		7.95	
56-23-5	Carbon tetrachloride	1	ND		7.95	
108-90-7	Chlorobenzene	1	ND		7.95	
75-00-3	Chloroethane	1	ND		15.9	
67-66-3	Chloroform	1	ND		7.95	
74-87-3	Chloromethane (Methyl chloride)	1	ND		15.9	
124-48-1	Dibromochloromethane	1	ND		7.95	
75-34-3	1,1-Dichloroethane	1	ND		7.95	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		7.95	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		7.95	
540-59-0	1,2-Dichloroethene (total)	1	ND		7.95	
78-87-5	1,2-Dichloropropane	1	ND		7.95	
10061-01-5	cis-1,3-Dichloropropene	1	ND		7.95	
10061-02-6	trans-1,3-Dichloropropene	1	ND		7.95	
100-41-4	Ethylbenzene	1	ND		7.95	
591-78-6	2-Hexanone	1	ND		15.9	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		7.95	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		15.9	
100-42-5	Styrene	1	ND		7.95	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		7.95	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		7.95	
108-88-3	Toluene	1	ND		7.95	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		7.95	
79-00-5	1,1,2-Trichloroethane	1	ND		7.95	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		7.95	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		15.9	
1330-20-7	Xylene (total)	1	ND		7.95	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C2
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-002
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 37
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 12:42 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		529	
208-96-8	Acenaphthylene	1	ND		529	
120-12-7	Anthracene	1	ND		529	
56-55-3	Benzo(a)anthracene	1	ND		529	
205-99-2	Benzo(b)fluoranthene	1	ND		529	
207-08-09	Benzo(k)fluoranthene	1	ND		529	
65-85-0	Benzoic acid	1	ND		1320	
191-24-2	Benzo(g,h,i)perylene	1	ND		529	
50-32-8	Benzo(a)pyrene	1	ND		529	
100-51-6	Benzyl alcohol	1	ND		529	
101-55-3	4-Bromophenyl phenyl ether	1	ND		529	
85-68-7	Butylbenzylphthalate	1	ND		529	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		529	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		529	
111-44-4	bis(2-Chloroethyl) ether	1	ND		529	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		529	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		529	
91-58-7	2-Chloronaphthalene	1	ND		529	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		529	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		529	
218-01-9	Chrysene	1	ND		529	
53-70-3	Dibenz(a,h)anthracene	1	ND		529	
132-64-9	Dibenzofuran	1	ND		529	
84-74-2	Di-n-butylphthalate	1	ND		529	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		529	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		529	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		529	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1060	
120-83-2	2,4-Dichlorophenol	1	ND		529	
84-66-2	Diethylphthalate	1	ND		529	
105-67-9	2,4-Dimethylphenol	1	ND		529	
131-11-3	Dimethylphthalate	1	ND		529	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1320	
51-28-5	2,4-Dinitrophenol	1	ND		1320	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C2
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-002
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 37
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 12:42 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		529	
606-20-2	2,6-Dinitrotoluene	1	ND		529	
117-84-0	Di-n-octylphthalate	1	ND		529	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		529	
206-44-0	Fluoranthene	1	ND		529	
86-73-7	Fluorene	1	ND		529	
118-74-1	Hexachlorobenzene	1	ND		529	
87-68-3	Hexachlorobutadiene	1	ND		529	
77-47-4	Hexachlorocyclopentadiene	1	ND		529	
67-72-1	Hexachloroethane	1	ND		529	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		529	
78-59-1	Isophorone	1	ND		529	
91-57-6	2-Methylnaphthalene	1	ND		529	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		529	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		529	
91-20-3	Naphthalene	1	ND		529	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1320	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1320	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1320	
98-95-3	Nitrobenzene	1	ND		529	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		529	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1320	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	529	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		529	
87-86-5	Pentachlorophenol	1	ND		1320	
85-01-8	Phenanthrene	1	ND		529	
108-95-2	Phenol	1	ND		529	
129-00-0	Pyrene	1	ND		529	
120-82-1	1,2,4-Trichlorobenzene	1	ND		529	
95-95-4	2,4,5-Trichlorophenol	1	ND		1320	
88-06-2	2,4,6-Trichlorophenol	1	ND		529	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/2/99 09:55:14

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C3
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-003
Episode: RCR
Sample Qu: M2
Description: None
Matrix: Soil
% Moisture: 39
Method: SW 8260 Volatile Organics
Prep Level: Soil
Batch: 29848
Units: ug/kg
Target List: 8260LOW
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 05-Apr-99 15:12 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	64.0	A11	16.4	
71-43-2	Benzene	1	ND		8.20	
75-27-4	Bromodichloromethane	1	ND		8.20	
75-25-2	Bromoform	1	ND		8.20	
74-83-9	Bromomethane (Methyl bromide)	1	ND		16.4	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		16.4	
75-15-0	Carbon disulfide	1	ND		8.20	
56-23-5	Carbon tetrachloride	1	ND		8.20	
108-90-7	Chlorobenzene	1	ND		8.20	
75-00-3	Chloroethane	1	ND		16.4	
67-66-3	Chloroform	1	ND		8.20	
74-87-3	Chloromethane (Methyl chloride)	1	ND		16.4	
124-48-1	Dibromochloromethane	1	ND		8.20	
75-34-3	1,1-Dichloroethane	1	ND		8.20	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		8.20	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		8.20	
540-59-0	1,2-Dichloroethene (total)	1	ND		8.20	
78-87-5	1,2-Dichloropropane	1	ND		8.20	
10061-01-5	cis-1,3-Dichloropropene	1	ND		8.20	
10061-02-6	trans-1,3-Dichloropropene	1	ND		8.20	
100-41-4	Ethylbenzene	1	ND		8.20	
591-78-6	2-Hexanone	1	ND		16.4	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		8.20	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		16.4	
100-42-5	Styrene	1	ND		8.20	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		8.20	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		8.20	
108-88-3	Toluene	1	ND		8.20	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		8.20	
79-00-5	1,1,2-Trichloroethane	1	ND		8.20	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		8.20	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		16.4	
1330-20-7	Xylene (total)	1	ND		8.20	

33 component(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C3 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-003 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 39

Method: SW 8270 Semivolatile Organics | **Prep Level:** Soil | **Batch:** 29720

Units: ug/kg | **Target List:** 8270LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** 29-Mar-99 | **Analyzed:** 02-Apr-99 13:25 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		546	
208-96-8	Acenaphthylene	1	ND		546	
120-12-7	Anthracene	1	ND		546	
56-55-3	Benzo(a)anthracene	1	ND		546	
205-99-2	Benzo(b)fluoranthene	1	ND		546	
207-08-09	Benzo(k)fluoranthene	1	ND		546	
65-85-0	Benzoic acid	1	ND		1370	
191-24-2	Benzo(g,h,i)perylene	1	ND		546	
50-32-8	Benzo(a)pyrene	1	ND		546	
100-51-6	Benzyl alcohol	1	ND		546	
101-55-3	4-Bromophenyl phenyl ether	1	ND		546	
85-68-7	Butylbenzylphthalate	1	ND		546	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		546	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		546	
111-44-4	bis(2-Chloroethyl) ether	1	ND		546	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		546	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		546	
91-58-7	2-Chloronaphthalene	1	ND		546	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		546	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		546	
218-01-9	Chrysene	1	ND		546	
53-70-3	Dibenz(a,h)anthracene	1	ND		546	
132-64-9	Dibenzofuran	1	ND		546	
84-74-2	Di-n-butylphthalate	1	ND		546	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		546	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		546	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		546	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1090	
120-83-2	2,4-Dichlorophenol	1	ND		546	
84-66-2	Diethylphthalate	1	ND		546	
105-67-9	2,4-Dimethylphenol	1	ND		546	
131-11-3	Dimethylphthalate	1	ND		546	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1370	
51-28-5	2,4-Dinitrophenol	1	ND		1370	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C3
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-003
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 39
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 13:25 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		546	
606-20-2	2,6-Dinitrotoluene	1	ND		546	
117-84-0	Di-n-octylphthalate	1	ND		546	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		546	
206-44-0	Fluoranthene	1	ND		546	
86-73-7	Fluorene	1	ND		546	
118-74-1	Hexachlorobenzene	1	ND		546	
87-68-3	Hexachlorobutadiene	1	ND		546	
77-47-4	Hexachlorocyclopentadiene	1	ND		546	
67-72-1	Hexachloroethane	1	ND		546	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		546	
78-59-1	Isophorone	1	ND		546	
91-57-6	2-Methylnaphthalene	1	ND		546	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		546	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		546	
91-20-3	Naphthalene	1	ND		546	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1370	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1370	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1370	
98-95-3	Nitrobenzene	1	ND		546	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		546	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1370	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	546	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		546	
87-86-5	Pentachlorophenol	1	ND		1370	
85-01-8	Phenanthrene	1	ND		546	
108-95-2	Phenol	1	ND		546	
129-00-0	Pyrene	1	ND		546	
120-82-1	1,2,4-Trichlorobenzene	1	ND		546	
95-95-4	2,4,5-Trichlorophenol	1	ND		1370	
88-06-2	2,4,6-Trichlorophenol	1	ND		546	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C4
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-004
Episode: RCR
Sample Qu: M2
Description: None
Matrix: Soil
% Moisture: 45
Method: SW 8260 Volatile Organics
Prep Level: Soil
Batch: 29848
Units: ug/kg
Target List: 8260LOW
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 05-Apr-99 15:41 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	41.7	A11	18.2	
71-43-2	Benzene	1	ND		9.10	
75-27-4	Bromodichloromethane	1	ND		9.10	
75-25-2	Bromoform	1	ND		9.10	
74-83-9	Bromomethane (Methyl bromide)	1	ND		18.2	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		18.2	
75-15-0	Carbon disulfide	1	ND		9.10	
56-23-5	Carbon tetrachloride	1	ND		9.10	
108-90-7	Chlorobenzene	1	ND		9.10	
75-00-3	Chloroethane	1	ND		18.2	
67-66-3	Chloroform	1	ND		9.10	
74-87-3	Chloromethane (Methyl chloride)	1	ND		18.2	
124-48-1	Dibromochloromethane	1	ND		9.10	
75-34-3	1,1-Dichloroethane	1	ND		9.10	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		9.10	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		9.10	
540-59-0	1,2-Dichloroethene (total)	1	ND		9.10	
78-87-5	1,2-Dichloropropane	1	ND		9.10	
10061-01-5	cis-1,3-Dichloropropene	1	ND		9.10	
10061-02-6	trans-1,3-Dichloropropene	1	ND		9.10	
100-41-4	Ethylbenzene	1	ND		9.10	
591-78-6	2-Hexanone	1	ND		18.2	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		9.10	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		18.2	
100-42-5	Styrene	1	ND		9.10	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		9.10	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		9.10	
108-88-3	Toluene	1	ND		9.10	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		9.10	
79-00-5	1,1,2-Trichloroethane	1	ND		9.10	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		9.10	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		18.2	
1330-20-7	Xylene (total)	1	ND		9.10	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C4
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-004
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 45
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 14:08 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		606	
208-96-8	Acenaphthylene	1	ND		606	
120-12-7	Anthracene	1	ND		606	
56-55-3	Benzo(a)anthracene	1	ND		606	
205-99-2	Benzo(b)fluoranthene	1	ND		606	
207-08-09	Benzo(k)fluoranthene	1	ND		606	
65-85-0	Benzoic acid	1	ND		1520	
191-24-2	Benzo(g,h,i)perylene	1	ND		606	
50-32-8	Benzo(a)pyrene	1	ND		606	
100-51-6	Benzyl alcohol	1	ND		606	
101-55-3	4-Bromophenyl phenyl ether	1	ND		606	
85-68-7	Butylbenzylphthalate	1	ND		606	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		606	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		606	
111-44-4	bis(2-Chloroethyl) ether	1	ND		606	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		606	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		606	
91-58-7	2-Chloronaphthalene	1	ND		606	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		606	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		606	
218-01-9	Chrysene	1	ND		606	
53-70-3	Dibenz(a,h)anthracene	1	ND		606	
132-64-9	Dibenzofuran	1	ND		606	
84-74-2	Di-n-butylphthalate	1	ND		606	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		606	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		606	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		606	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1210	
120-83-2	2,4-Dichlorophenol	1	ND		606	
84-66-2	Diethylphthalate	1	ND		606	
105-67-9	2,4-Dimethylphenol	1	ND		606	
131-11-3	Dimethylphthalate	1	ND		606	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1520	
51-28-5	2,4-Dinitrophenol	1	ND		1520	

ND denotes Not Detected at or above the adjusted reporting limit.
Df denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C4 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-004 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 45

Method: SW 8270 Semivolatile Organics | **Prep Level:** Soil | **Batch:** 29720

Units: ug/kg | **Target List:** 8270LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** 29-Mar-99 | **Analyzed:** 02-Apr-99 14:08 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		606	
606-20-2	2,6-Dinitrotoluene	1	ND		606	
117-84-0	Di-n-octylphthalate	1	ND		606	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		606	
206-44-0	Fluoranthene	1	ND		606	
86-73-7	Fluorene	1	ND		606	
118-74-1	Hexachlorobenzene	1	ND		606	
87-68-3	Hexachlorobutadiene	1	ND		606	
77-47-4	Hexachlorocyclopentadiene	1	ND		606	
67-72-1	Hexachloroethane	1	ND		606	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		606	
78-59-1	Isophorone	1	ND		606	
91-57-6	2-Methylnaphthalene	1	ND		606	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		606	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		606	
91-20-3	Naphthalene	1	ND		606	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1520	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1520	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1520	
98-95-3	Nitrobenzene	1	ND		606	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		606	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1520	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	606	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		606	
87-86-5	Pentachlorophenol	1	ND		1520	
85-01-8	Phenanthrene	1	ND		606	
108-95-2	Phenol	1	ND		606	
129-00-0	Pyrene	1	ND		606	
120-82-1	1,2,4-Trichlorobenzene	1	ND		606	
95-95-4	2,4,5-Trichlorophenol	1	ND		1520	
88-06-2	2,4,6-Trichlorophenol	1	ND		606	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

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Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C5
Project: IHNC LOCK
Lab ID: RCR-005
Description: None
Method: SW 8260 Volatile Organics

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil
Prep Level: Soil
Units: ug/kg
Prepared:

Sample Qu: M2
% Moisture: 50
Batch: 29848
Target List: 8260LOW
Analyzed: 05-Apr-99 16:12 DE

Prep Factor: 1.00 **Leached:** n/a

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	30.2	A11	20.0	
71-43-2	Benzene	1	ND		10.0	
75-27-4	Bromodichloromethane	1	ND		10.0	
75-25-2	Bromoform	1	ND		10.0	
74-83-9	Bromomethane (Methyl bromide)	1	ND		10.0	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		20.0	
75-15-0	Carbon disulfide	1	ND		20.0	
56-23-5	Carbon tetrachloride	1	ND		10.0	
108-90-7	Chlorobenzene	1	ND		10.0	
75-00-3	Chloroethane	1	ND		10.0	
67-66-3	Chloroform	1	ND		20.0	
74-87-3	Chloromethane (Methyl chloride)	1	ND		10.0	
124-48-1	Dibromochloromethane	1	ND		20.0	
75-34-3	1,1-Dichloroethane	1	ND		10.0	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		10.0	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		10.0	
540-59-0	1,2-Dichloroethene (total)	1	ND		10.0	
78-87-5	1,2-Dichloropropane	1	ND		10.0	
10061-01-5	cis-1,3-Dichloropropene	1	ND		10.0	
10061-02-6	trans-1,3-Dichloropropene	1	ND		10.0	
100-41-4	Ethylbenzene	1	ND		10.0	
591-78-6	2-Hexanone	1	ND		20.0	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		10.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		20.0	
100-42-5	Styrene	1	ND		10.0	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		10.0	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		10.0	
108-88-3	Toluene	1	ND		10.0	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		10.0	
79-00-5	1,1,2-Trichloroethane	1	ND		10.0	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		10.0	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		20.0	
1330-20-7	Xylene (total)	1	ND		10.0	

30 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C5 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-005 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 50

Method: SW 8270 Semivolatile Organics | **Prep Level:** Soil | **Batch:** 29720

Units: ug/kg | **Target List:** 8270LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** 29-Mar-99 | **Analyzed:** 02-Apr-99 14:51 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		666	
208-96-8	Acenaphthylene	1	ND		666	
120-12-7	Anthracene	1	ND		666	
56-55-3	Benzo(a)anthracene	1	ND		666	
205-99-2	Benzo(b)fluoranthene	1	ND		666	
207-08-09	Benzo(k)fluoranthene	1	ND		666	
65-85-0	Benzoic acid	1	ND		1670	
191-24-2	Benzo(g,h,i)perylene	1	ND		666	
50-32-8	Benzo(a)pyrene	1	ND		666	
100-51-6	Benzyl alcohol	1	ND		666	
101-55-3	4-Bromophenyl phenyl ether	1	ND		666	
85-68-7	Butylbenzylphthalate	1	ND		666	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		666	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		666	
111-44-4	bis(2-Chloroethyl) ether	1	ND		666	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		666	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		666	
91-58-7	2-Chloronaphthalene	1	ND		666	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		666	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		666	
218-01-9	Chrysene	1	ND		666	
53-70-3	Dibenz(a,h)anthracene	1	ND		666	
132-64-9	Dibenzofuran	1	ND		666	
84-74-2	Di-n-butylphthalate	1	ND		666	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		666	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		666	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		666	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1330	
120-83-2	2,4-Dichlorophenol	1	ND		666	
84-66-2	Diethylphthalate	1	ND		666	
105-67-9	2,4-Dimethylphenol	1	ND		666	
131-11-3	Dimethylphthalate	1	ND		666	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1670	
51-28-5	2,4-Dinitrophenol	1	ND		1670	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C5 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-005 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 50

Method: SW 8270 Semivolatile Organics | **Prep Level:** Soil | **Batch:** 29720

Units: ug/kg | **Target List:** 8270LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** 29-Mar-99 | **Analyzed:** 02-Apr-99 14:51 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		666	
606-20-2	2,6-Dinitrotoluene	1	ND		666	
117-84-0	Di-n-octylphthalate	1	ND		666	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		666	
206-44-0	Fluoranthene	1	ND		666	
86-73-7	Fluorene	1	ND		666	
118-74-1	Hexachlorobenzene	1	ND		666	
87-68-3	Hexachlorobutadiene	1	ND		666	
77-47-4	Hexachlorocyclopentadiene	1	ND		666	
67-72-1	Hexachloroethane	1	ND		666	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		666	
78-59-1	Isophorone	1	ND		666	
91-57-6	2-Methylnaphthalene	1	ND		666	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		666	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		666	
91-20-3	Naphthalene	1	ND		666	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1670	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1670	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1670	
98-95-3	Nitrobenzene	1	ND		666	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		666	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1670	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	666	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		666	
87-86-5	Pentachlorophenol	1	ND		1670	
85-01-8	Phenanthrene	1	ND		666	
108-95-2	Phenol	1	ND		666	
129-00-0	Pyrene	1	ND		666	
120-82-1	1,2,4-Trichlorobenzene	1	ND		666	
95-95-4	2,4,5-Trichlorophenol	1	ND		1670	
88-06-2	2,4,6-Trichlorophenol	1	ND		666	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C6
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-006
Episode: RCR
Sample Qu: M2
Description: None
Matrix: Soil
% Moisture: 40
Method: SW 8260 Volatile Organics
Prep Level: Soil
Batch: 29848
Units: ug/kg
Target List: 8260LOW
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 05-Apr-99 16:40 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	43.8	A11	16.7	
71-43-2	Benzene	1	ND		8.35	
75-27-4	Bromodichloromethane	1	ND		8.35	
75-25-2	Bromoform	1	ND		8.35	
74-83-9	Bromomethane (Methyl bromide)	1	ND		16.7	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		16.7	
75-15-0	Carbon disulfide	1	ND		8.35	
56-23-5	Carbon tetrachloride	1	ND		8.35	
108-90-7	Chlorobenzene	1	ND		8.35	
75-00-3	Chloroethane	1	ND		16.7	
67-66-3	Chloroform	1	ND		8.35	
74-87-3	Chloromethane (Methyl chloride)	1	ND		16.7	
124-48-1	Dibromochloromethane	1	ND		8.35	
75-34-3	1,1-Dichloroethane	1	ND		8.35	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		8.35	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		8.35	
540-59-0	1,2-Dichloroethene (total)	1	ND		8.35	
78-87-5	1,2-Dichloropropane	1	ND		8.35	
10061-01-5	cis-1,3-Dichloropropene	1	ND		8.35	
10061-02-6	trans-1,3-Dichloropropene	1	ND		8.35	
100-41-4	Ethylbenzene	1	ND		8.35	
591-78-6	2-Hexanone	1	ND		16.7	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		8.35	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		16.7	
100-42-5	Styrene	1	ND		8.35	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		8.35	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		8.35	
108-88-3	Toluene	1	ND		8.35	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		8.35	
79-00-5	1,1,2-Trichloroethane	1	ND		8.35	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		8.35	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		16.7	
1330-20-7	Xylene (total)	1	ND		8.35	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C6
Project: IHNC LOCK
Lab ID: RCR-006
Description: None
Method: SW 8270 Semivolatile Organics

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Sample Qu:
Matrix: Soil
% Moisture: 40
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW

Prep Factor: 1.00 **Leached:** n/a
Prepared: 29-Mar-99 **Analyzed:** 02-Apr-99 15:35 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		556	
208-96-8	Acenaphthylene	1	ND		556	
120-12-7	Anthracene	1	ND		556	
56-55-3	Benzo(a)anthracene	1	ND		556	
205-99-2	Benzo(b)fluoranthene	1	ND		556	
207-08-09	Benzo(k)fluoranthene	1	ND		556	
65-85-0	Benzoic acid	1	ND		1390	
191-24-2	Benzo(g,h,i)perylene	1	ND		556	
50-32-8	Benzo(a)pyrene	1	ND		556	
100-51-6	Benzyl alcohol	1	ND		556	
101-55-3	4-Bromophenyl phenyl ether	1	ND		556	
85-68-7	Butylbenzylphthalate	1	ND		556	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		556	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		556	
111-44-4	bis(2-Chloroethyl) ether	1	ND		556	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		556	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		556	
91-58-7	2-Chloronaphthalene	1	ND		556	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		556	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		556	
218-01-9	Chrysene	1	ND		556	
53-70-3	Dibenz(a,h)anthracene	1	ND		556	
132-64-9	Dibenzofuran	1	ND		556	
84-74-2	Di-n-butylphthalate	1	ND		556	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		556	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		556	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		556	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1110	
120-83-2	2,4-Dichlorophenol	1	ND		556	
84-66-2	Diethylphthalate	1	ND		556	
105-67-9	2,4-Dimethylphenol	1	ND		556	
131-11-3	Dimethylphthalate	1	ND		556	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1390	
51-28-5	2,4-Dinitrophenol	1	ND		1390	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C6
Project: IHNC LOCK
Lab ID: RCR-006
Description: None
Method: SW 8270 Semivolatile Organics

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil
Prep Level: Soil
Units: ug/kg
Prepared: 29-Mar-99

Sample Qu:
% Moisture: 40
Batch: 29720
Target List: 8270LOW
Analyzed: 02-Apr-99 15:35 JA

Prep Factor: 1.00
Leached: n/a

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		556	
606-20-2	2,6-Dinitrotoluene	1	ND		556	
117-84-0	Di-n-octylphthalate	1	ND		556	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		556	
206-44-0	Fluoranthene	1	ND		556	
86-73-7	Fluorene	1	ND		556	
118-74-1	Hexachlorobenzene	1	ND		556	
87-68-3	Hexachlorobutadiene	1	ND		556	
77-47-4	Hexachlorocyclopentadiene	1	ND		556	
67-72-1	Hexachloroethane	1	ND		556	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		556	
78-59-1	Isophorone	1	ND		556	
91-57-6	2-Methylnaphthalene	1	ND		556	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		556	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		556	
91-20-3	Naphthalene	1	ND		556	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1390	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1390	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1390	
98-95-3	Nitrobenzene	1	ND		556	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		556	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1390	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	556	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		556	
87-86-5	Pentachlorophenol	1	ND		1390	
85-01-8	Phenanthrene	1	ND		556	
108-95-2	Phenol	1	ND		556	
129-00-0	Pyrene	1	ND		556	
120-82-1	1,2,4-Trichlorobenzene	1	ND		556	
95-95-4	2,4,5-Trichlorophenol	1	ND		1390	
88-06-2	2,4,6-Trichlorophenol	1	ND		556	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C7 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-007 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 41

Method: SW 8260 Volatile Organics | **Prep Level:** Soil | **Batch:** 29848

Units: ug/kg | **Target List:** 8260LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** | **Analyzed:** 06-Apr-99 22:18 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	80.8	A11	16.9	
71-43-2	Benzene	1	ND		8.45	
75-27-4	Bromodichloromethane	1	ND		8.45	
75-25-2	Bromoform	1	ND		8.45	
74-83-9	Bromomethane (Methyl bromide)	1	ND		16.9	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		16.9	
75-15-0	Carbon disulfide	1	ND		8.45	
56-23-5	Carbon tetrachloride	1	ND		8.45	
108-90-7	Chlorobenzene	1	ND		8.45	
75-00-3	Chloroethane	1	ND		16.9	
67-66-3	Chloroform	1	ND		8.45	
74-87-3	Chloromethane (Methyl chloride)	1	ND		16.9	
124-48-1	Dibromochloromethane	1	ND		8.45	
75-34-3	1,1-Dichloroethane	1	ND		8.45	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		8.45	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		8.45	
540-59-0	1,2-Dichloroethene (total)	1	ND		8.45	
78-87-5	1,2-Dichloropropane	1	ND		8.45	
10061-01-5	cis-1,3-Dichloropropene	1	ND		8.45	
10061-02-6	trans-1,3-Dichloropropene	1	ND		8.45	
100-41-4	Ethylbenzene	1	ND		8.45	
591-78-6	2-Hexanone	1	ND		16.9	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		8.45	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		16.9	
100-42-5	Styrene	1	ND		8.45	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		8.45	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		8.45	
108-88-3	Toluene	1	ND		8.45	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		8.45	
79-00-5	1,1,2-Trichloroethane	1	ND		8.45	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		8.45	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		16.9	
1330-20-7	Xylene (total)	1	ND		8.45	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

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Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C7
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-007
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 41
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 18:34 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		563	
208-96-8	Acenaphthylene	1	ND		563	
120-12-7	Anthracene	1	ND		563	
56-55-3	Benzo(a)anthracene	1	ND		563	
205-99-2	Benzo(b)fluoranthene	1	ND		563	
207-08-09	Benzo(k)fluoranthene	1	ND		563	
65-85-0	Benzoic acid	1	ND		1410	
191-24-2	Benzo(g,h,i)perylene	1	ND		563	
50-32-8	Benzo(a)pyrene	1	ND		563	
100-51-6	Benzyl alcohol	1	ND		563	
101-55-3	4-Bromophenyl phenyl ether	1	ND		563	
85-68-7	Butylbenzylphthalate	1	ND		563	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		563	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		563	
111-44-4	bis(2-Chloroethyl) ether	1	ND		563	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		563	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		563	
91-58-7	2-Chloronaphthalene	1	ND		563	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		563	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		563	
218-01-9	Chrysene	1	ND		563	
53-70-3	Dibenz(a,h)anthracene	1	ND		563	
132-64-9	Dibenzofuran	1	ND		563	
84-74-2	Di-n-butylphthalate	1	ND		563	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		563	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		563	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		563	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1130	
120-83-2	2,4-Dichlorophenol	1	ND		563	
84-66-2	Diethylphthalate	1	ND		563	
105-67-9	2,4-Dimethylphenol	1	ND		563	
131-11-3	Dimethylphthalate	1	ND		563	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1410	
51-28-5	2,4-Dinitrophenol	1	ND		1410	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C7
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-007
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 41
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 18:34 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		563	
606-20-2	2,6-Dinitrotoluene	1	ND		563	
117-84-0	Di-n-octylphthalate	1	ND		563	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		563	
206-44-0	Fluoranthene	1	ND		563	
86-73-7	Fluorene	1	ND		563	
118-74-1	Hexachlorobenzene	1	ND		563	
87-68-3	Hexachlorobutadiene	1	ND		563	
77-47-4	Hexachlorocyclopentadiene	1	ND		563	
67-72-1	Hexachloroethane	1	ND		563	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		563	
78-59-1	Isophorone	1	ND		563	
91-57-6	2-Methylnaphthalene	1	ND		563	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		563	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		563	
91-20-3	Naphthalene	1	ND		563	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1410	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1410	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1410	
98-95-3	Nitrobenzene	1	ND		563	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		563	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1410	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	563	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		563	
87-86-5	Pentachlorophenol	1	ND		1410	
85-01-8	Phenanthrene	1	ND		563	
108-95-2	Phenol	1	ND		563	
129-00-0	Pyrene	1	ND		563	
120-82-1	1,2,4-Trichlorobenzene	1	ND		563	
95-95-4	2,4,5-Trichlorophenol	1	ND		1410	
88-06-2	2,4,6-Trichlorophenol	1	ND		563	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

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Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C8
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-008
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 48
Method: SW 8260 Volatile Organics
Prep Level: Soil
Batch: 29848
Units: ug/kg
Target List: 8260LOW
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 06-Apr-99 22:47 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	202	A11	19.2	
71-43-2	Benzene	1	ND		9.60	
75-27-4	Bromodichloromethane	1	ND		9.60	
75-25-2	Bromoform	1	ND		9.60	
74-83-9	Bromomethane (Methyl bromide)	1	ND		19.2	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	27.6		19.2	
75-15-0	Carbon disulfide	1	ND		9.60	
56-23-5	Carbon tetrachloride	1	ND		9.60	
108-90-7	Chlorobenzene	1	ND		9.60	
75-00-3	Chloroethane	1	ND		19.2	
67-66-3	Chloroform	1	ND		9.60	
74-87-3	Chloromethane (Methyl chloride)	1	ND		19.2	
124-48-1	Dibromochloromethane	1	ND		9.60	
75-34-3	1,1-Dichloroethane	1	ND		9.60	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		9.60	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		9.60	
540-59-0	1,2-Dichloroethene (total)	1	ND		9.60	
78-87-5	1,2-Dichloropropane	1	ND		9.60	
10061-01-5	cis-1,3-Dichloropropene	1	ND		9.60	
10061-02-6	trans-1,3-Dichloropropene	1	ND		9.60	
100-41-4	Ethylbenzene	1	ND		9.60	
591-78-6	2-Hexanone	1	ND		19.2	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		9.60	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		19.2	
100-42-5	Styrene	1	ND		9.60	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		9.60	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		9.60	
108-88-3	Toluene	1	ND		9.60	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		9.60	
79-00-5	1,1,2-Trichloroethane	1	ND		9.60	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		9.60	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		19.2	
1330-20-7	Xylene (total)	1	ND		9.60	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C8
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-008
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 48
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 16:24 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		639	
208-96-8	Acenaphthylene	1	ND		639	
120-12-7	Anthracene	1	ND		639	
56-55-3	Benzo(a)anthracene	1	ND		639	
205-99-2	Benzo(b)fluoranthene	1	ND		639	
207-08-09	Benzo(k)fluoranthene	1	ND		639	
65-85-0	Benzoic acid	1	ND		1600	
191-24-2	Benzo(g,h,i)perylene	1	ND		639	
50-32-8	Benzo(a)pyrene	1	ND		639	
100-51-6	Benzyl alcohol	1	ND		639	
101-55-3	4-Bromophenyl phenyl ether	1	ND		639	
85-68-7	Butylbenzylphthalate	1	ND		639	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		639	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		639	
111-44-4	bis(2-Chloroethyl) ether	1	ND		639	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		639	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		639	
91-58-7	2-Chloronaphthalene	1	ND		639	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		639	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		639	
218-01-9	Chrysene	1	ND		639	
53-70-3	Dibenz(a,h)anthracene	1	ND		639	
132-64-9	Dibenzofuran	1	ND		639	
84-74-2	Di-n-butylphthalate	1	ND		639	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		639	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		639	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		639	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1280	
120-83-2	2,4-Dichlorophenol	1	ND		639	
84-66-2	Diethylphthalate	1	ND		639	
105-67-9	2,4-Dimethylphenol	1	ND		639	
131-11-3	Dimethylphthalate	1	ND		639	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1600	
51-28-5	2,4-Dinitrophenol	1	ND		1600	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C8
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-008
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 48
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 16:24 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		639	
606-20-2	2,6-Dinitrotoluene	1	ND		639	
117-84-0	Di-n-octylphthalate	1	ND		639	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		639	
206-44-0	Fluoranthene	1	ND		639	
86-73-7	Fluorene	1	ND		639	
118-74-1	Hexachlorobenzene	1	ND		639	
87-68-3	Hexachlorobutadiene	1	ND		639	
77-47-4	Hexachlorocyclopentadiene	1	ND		639	
67-72-1	Hexachloroethane	1	ND		639	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		639	
78-59-1	Isophorone	1	ND		639	
91-57-6	2-Methylnaphthalene	1	ND		639	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		639	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		639	
91-20-3	Naphthalene	1	ND		639	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1600	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1600	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1600	
98-95-3	Nitrobenzene	1	ND		639	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		639	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1600	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	639	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		639	
87-86-5	Pentachlorophenol	1	ND		1600	
85-01-8	Phenanthrene	1	ND		639	
108-95-2	Phenol	1	ND		639	
129-00-0	Pyrene	1	ND		639	
120-82-1	1,2,4-Trichlorobenzene	1	ND		639	
95-95-4	2,4,5-Trichlorophenol	1	ND		1600	
88-06-2	2,4,6-Trichlorophenol	1	ND		639	

66 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C10
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-009
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 47
Method: SW 8260 Volatile Organics
Prep Level: Soil
Batch: 29848
Units: ug/kg
Target List: 8260LOW
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 06-Apr-99 23:16 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	318	A11	18.9	
71-43-2	Benzene	1	ND		9.45	
75-27-4	Bromodichloromethane	1	ND		9.45	
75-25-2	Bromoform	1	ND		9.45	
74-83-9	Bromomethane (Methyl bromide)	1	ND		18.9	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	27.0		18.9	
75-15-0	Carbon disulfide	1	14.9		9.45	
56-23-5	Carbon tetrachloride	1	ND		9.45	
108-90-7	Chlorobenzene	1	ND		9.45	
75-00-3	Chloroethane	1	ND		18.9	
67-66-3	Chloroform	1	ND		9.45	
74-87-3	Chloromethane (Methyl chloride)	1	ND		18.9	
124-48-1	Dibromochloromethane	1	ND		9.45	
75-34-3	1,1-Dichloroethane	1	ND		9.45	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		9.45	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		9.45	
540-59-0	1,2-Dichloroethene (total)	1	ND		9.45	
78-87-5	1,2-Dichloropropane	1	ND		9.45	
10061-01-5	cis-1,3-Dichloropropene	1	ND		9.45	
10061-02-6	trans-1,3-Dichloropropene	1	ND		9.45	
100-41-4	Ethylbenzene	1	ND		9.45	
591-78-6	2-Hexanone	1	ND		18.9	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		9.45	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		18.9	
100-42-5	Styrene	1	ND		9.45	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		9.45	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		9.45	
108-88-3	Toluene	1	ND		9.45	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		9.45	
79-00-5	1,1,2-Trichloroethane	1	ND		9.45	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		9.45	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		18.9	
1330-20-7	Xylene (total)	1	ND		9.45	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 09:56:46

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C10
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-009
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 47
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 17:07 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		629	
208-96-8	Acenaphthylene	1	ND		629	
120-12-7	Anthracene	1	ND		629	
56-55-3	Benzo(a)anthracene	1	ND		629	
205-99-2	Benzo(b)fluoranthene	1	ND		629	
207-08-09	Benzo(k)fluoranthene	1	ND		629	
65-85-0	Benzoic acid	1	ND		1570	
191-24-2	Benzo(g,h,i)perylene	1	ND		629	
50-32-8	Benzo(a)pyrene	1	ND		629	
100-51-6	Benzyl alcohol	1	ND		629	
101-55-3	4-Bromophenyl phenyl ether	1	ND		629	
85-68-7	Butylbenzylphthalate	1	ND		629	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		629	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		629	
111-44-4	bis(2-Chloroethyl) ether	1	ND		629	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		629	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		629	
91-58-7	2-Chloronaphthalene	1	ND		629	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		629	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		629	
218-01-9	Chrysene	1	ND		629	
53-70-3	Dibenz(a,h)anthracene	1	ND		629	
132-64-9	Dibenzofuran	1	ND		629	
84-74-2	Di-n-butylphthalate	1	ND		629	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		629	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		629	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		629	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1260	
120-83-2	2,4-Dichlorophenol	1	ND		629	
84-66-2	Diethylphthalate	1	ND		629	
105-67-9	2,4-Dimethylphenol	1	ND		629	
131-11-3	Dimethylphthalate	1	ND		629	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1570	
51-28-5	2,4-Dinitrophenol	1	ND		1570	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C10
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-009
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 47
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 17:07 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		629	
606-20-2	2,6-Dinitrotoluene	1	ND		629	
117-84-0	Di-n-octylphthalate	1	ND		629	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		629	
206-44-0	Fluoranthene	1	ND		629	
86-73-7	Fluorene	1	ND		629	
118-74-1	Hexachlorobenzene	1	ND		629	
87-68-3	Hexachlorobutadiene	1	ND		629	
77-47-4	Hexachlorocyclopentadiene	1	ND		629	
67-72-1	Hexachloroethane	1	ND		629	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		629	
78-59-1	Isophorone	1	ND		629	
91-57-6	2-Methylnaphthalene	1	ND		629	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		629	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		629	
91-20-3	Naphthalene	1	ND		629	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1570	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1570	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1570	
98-95-3	Nitrobenzene	1	ND		629	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		629	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1570	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	629	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		629	
87-86-5	Pentachlorophenol	1	ND		1570	
85-01-8	Phenanthrene	1	ND		629	
108-95-2	Phenol	1	ND		629	
129-00-0	Pyrene	1	ND		629	
120-82-1	1,2,4-Trichlorobenzene	1	ND		629	
95-95-4	2,4,5-Trichlorophenol	1	ND		1570	
88-06-2	2,4,6-Trichlorophenol	1	ND		629	

45 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C11
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-910
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 54
Method: SW 8260 Volatile Organics
Prep Level: Soil
Batch: 29848
Units: ug/kg
Target List: 8260LOW
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 06-Apr-99 23:45 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	100	A11	21.7	
71-43-2	Benzene	1	ND		10.8	
75-27-4	Bromodichloromethane	1	ND		10.8	
75-25-2	Bromoform	1	ND		10.8	
74-83-9	Bromomethane (Methyl bromide)	1	ND		21.7	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		21.7	
75-15-0	Carbon disulfide	1	ND		10.8	
56-23-5	Carbon tetrachloride	1	ND		10.8	
108-90-7	Chlorobenzene	1	ND		10.8	
75-00-3	Chloroethane	1	ND		21.7	
67-66-3	Chloroform	1	ND		10.8	
74-87-3	Chloromethane (Methyl chloride)	1	ND		21.7	
124-48-1	Dibromochloromethane	1	ND		10.8	
75-34-3	1,1-Dichloroethane	1	ND		10.8	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		10.8	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		10.8	
540-59-0	1,2-Dichloroethene (total)	1	ND		10.8	
78-87-5	1,2-Dichloropropane	1	ND		10.8	
10061-01-5	cis-1,3-Dichloropropene	1	ND		10.8	
10061-02-6	trans-1,3-Dichloropropene	1	ND		10.8	
100-41-4	Ethylbenzene	1	ND		10.8	
591-78-6	2-Hexanone	1	ND		21.7	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		10.8	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		21.7	
100-42-5	Styrene	1	ND		10.8	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		10.8	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		10.8	
108-88-3	Toluene	1	ND		10.8	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		10.8	
79-00-5	1,1,2-Trichloroethane	1	ND		10.8	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		10.8	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		21.7	
1330-20-7	Xylene (total)	1	ND		10.8	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 09:57:04

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C11	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-010	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8270 Semivolatile Organics	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 54
Batch: 29720
Target List: 8270LOW
Analyzed: 02-Apr-99 17:50 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
83-32-9	Acenaphthene	1	ND		723	
208-96-8	Acenaphthylene	1	ND		723	
120-12-7	Anthracene	1	ND		723	
56-55-3	Benzo(a)anthracene	1	ND		723	
205-99-2	Benzo(b)fluoranthene	1	ND		723	
207-08-09	Benzo(k)fluoranthene	1	ND		723	
65-85-0	Benzoic acid	1	ND		1810	
191-24-2	Benzo(g,h,i)perylene	1	ND		723	
50-32-8	Benzo(a)pyrene	1	ND		723	
100-51-6	Benzyl alcohol	1	ND		723	
101-55-3	4-Bromophenyl phenyl ether	1	ND		723	
85-68-7	Butylbenzylphthalate	1	ND		723	
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		723	
111-91-1	bis(2-Chloroethoxy)methane	1	ND		723	
111-44-4	bis(2-Chloroethyl) ether	1	ND		723	
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		723	
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		723	
91-58-7	2-Chloronaphthalene	1	ND		723	
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		723	
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		723	
218-01-9	Chrysene	1	ND		723	
53-70-3	Dibenz(a,h)anthracene	1	ND		723	
132-64-9	Dibenzofuran	1	ND		723	
84-74-2	Di-n-butylphthalate	1	ND		723	
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		723	
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		723	
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		723	
91-94-1	3,3'-Dichlorobenzidine	1	ND		1450	
120-83-2	2,4-Dichlorophenol	1	ND		723	
84-66-2	Diethylphthalate	1	ND		723	
105-67-9	2,4-Dimethylphenol	1	ND		723	
131-11-3	Dimethylphthalate	1	ND		723	
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		1810	
51-28-5	2,4-Dinitrophenol	1	ND		1810	

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C11
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-010
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 54
Method: SW 8270 Semivolatile Organics
Prep Level: Soil
Batch: 29720
Units: ug/kg
Target List: 8270LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 29-Mar-99
Analyzed: 02-Apr-99 17:50 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
121-14-2	2,4-Dinitrotoluene	1	ND		723	
606-20-2	2,6-Dinitrotoluene	1	ND		723	
117-84-0	Di-n-octylphthalate	1	ND		723	
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		723	
206-44-0	Fluoranthene	1	ND		723	
86-73-7	Fluorene	1	ND		723	
118-74-1	Hexachlorobenzene	1	ND		723	
87-68-3	Hexachlorobutadiene	1	ND		723	
77-47-4	Hexachlorocyclopentadiene	1	ND		723	
67-72-1	Hexachloroethane	1	ND		723	
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		723	
78-59-1	Isophorone	1	ND		723	
91-57-6	2-Methylnaphthalene	1	ND		723	
95-48-7	2-Methylphenol (o-Cresol)	1	ND		723	
106-44-5	4-Methylphenol (p-Cresol)	1	ND		723	
91-20-3	Naphthalene	1	ND		723	
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		1810	
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		1810	
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		1810	
98-95-3	Nitrobenzene	1	ND		723	
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		723	
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		1810	
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	723	
621-64-7	N-Nitroso-di-n-propylamine	1	ND		723	
87-86-5	Pentachlorophenol	1	ND		1810	
85-01-8	Phenanthrene	1	ND		723	
108-95-2	Phenol	1	ND		723	
129-00-0	Pyrene	1	ND		723	
120-82-1	1,2,4-Trichlorobenzene	1	ND		723	
95-95-4	2,4,5-Trichlorophenol	1	ND		1810	
88-06-2	2,4,6-Trichlorophenol	1	ND		723	

65 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-FB
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-011
Episode: RCR
Sample Qu:
Description: None
Matrix: Water
% Moisture: n/a
Method: SW 8260 Volatile Organics
Prep Level: Water
Batch: 29761
Units: ug/l
Target List: 8260WAT
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 05-Apr-99 13:18 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	ND		10.0	
71-43-2	Benzene	1	ND		5.00	
75-27-4	Bromodichloromethane	1	ND		5.00	
75-25-2	Bromoform	1	ND		5.00	
74-83-9	Bromomethane (Methyl bromide)	1	ND		10.0	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		10.0	
75-15-0	Carbon disulfide	1	ND		5.00	
56-23-5	Carbon tetrachloride	1	ND		5.00	
108-90-7	Chlorobenzene	1	ND		5.00	
75-00-3	Chloroethane	1	ND		10.0	
67-66-3	Chloroform	1	ND		5.00	
74-87-3	Chloromethane (Methyl chloride)	1	ND		10.0	
124-48-1	Dibromochloromethane	1	ND		5.00	
75-34-3	1,1-Dichloroethane	1	ND		5.00	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		5.00	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		5.00	
540-59-0	1,2-Dichloroethene (total)	1	ND		5.00	
78-87-5	1,2-Dichloropropane	1	ND		5.00	
10061-01-5	cis-1,3-Dichloropropene	1	ND		5.00	
10061-02-6	trans-1,3-Dichloropropene	1	ND		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
591-78-6	2-Hexanone	1	ND		10.0	
75-09-2	Methylene chloride (Dichloromethane)	1	11.4	A11	5.00	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		10.0	
100-42-4	Styrene	1	ND		5.00	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		5.00	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		5.00	
79-00-5	1,1,2-Trichloroethane	1	ND		5.00	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		5.00	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		10.0	
1330-20-7	Xylene (total)	1	ND		5.00	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-TB
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-012
Episode: RCR
Sample Qu:
Description: None
Matrix: Water
% Moisture: n/a
Method: SW 8260 Volatile Organics
Prep Level: Water
Batch: 29761
Units: ug/l
Target List: 8260WAT
Prep Factor: 1.00
Leached: n/a
Prepared:
Analyzed: 05-Apr-99 13:46 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	ND		10.0	
71-43-2	Benzene	1	ND		5.00	
75-27-4	Bromodichloromethane	1	ND		5.00	
75-25-2	Bromoform	1	ND		5.00	
74-83-9	Bromomethane (Methyl bromide)	1	ND		10.0	
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		10.0	
75-15-0	Carbon disulfide	1	ND		5.00	
56-23-5	Carbon tetrachloride	1	ND		5.00	
108-90-7	Chlorobenzene	1	ND		5.00	
75-00-3	Chloroethane	1	ND		10.0	
67-66-3	Chloroform	1	ND		5.00	
74-87-3	Chloromethane (Methyl chloride)	1	ND		10.0	
124-48-1	Dibromochloromethane	1	ND		5.00	
75-34-3	1,1-Dichloroethane	1	ND		5.00	
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		5.00	
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		5.00	
540-59-0	1,2-Dichloroethene (total)	1	ND		5.00	
78-87-5	1,2-Dichloropropane	1	ND		5.00	
10061-01-5	cis-1,3-Dichloropropene	1	ND		5.00	
10061-02-6	trans-1,3-Dichloropropene	1	ND		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
591-78-6	2-Hexanone	1	ND		10.0	
75-09-2	Methylene chloride (Dichloromethane)	1	ND		5.00	
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		10.0	
100-42-4	Styrene	1	ND		5.00	
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		5.00	
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		5.00	
79-00-5	1,1,2-Trichloroethane	1	ND		5.00	
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		5.00	
75-01-4	Vinyl chloride (Chloroethene)	1	ND		10.0	
1330-20-7	Xylene (total)	1	ND		5.00	

33 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C1	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-001	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 56
Batch: 29820
Target List: TPHDLOW
Analyzed: 30-Mar-99 15:17 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	58.1		22.7	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

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Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C1	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-001	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 56
Batch: 29831
Target List: TPHGPTMED
Analyzed: 07-Apr-99 11:42 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND	N	11400	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C1 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-001 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 56

Method: SW 8080 Pesticides/PCBs | **Prep Level:** Soil | **Batch:** 29664

Units: ug/kg | **Target List:** 8080LQW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** 26-Mar-99 | **Analyzed:** 31-Mar-99 18:36 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		3.86	
319-84-6	alpha-BHC	1	ND		3.86	
319-85-7	beta-BHC	1	ND		3.86	
319-86-9	delta-BHC	1	ND		3.86	
58-89-9	gamma-BHC (Lindane)	1	ND		3.86	
57-74-9	Chlordane (technical)	1	ND		37.9	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		7.49	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		7.49	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		7.49	
60-57-1	Dieldrin	1	ND		7.49	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		3.86	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		7.49	
1031-07-8	Endosulfan sulfate	1	ND		7.49	
72-20-8	Endrin	1	ND		7.49	
7421-36-3	Endrin aldehyde	1	ND		7.49	
76-44-8	Heptachlor	1	ND		3.86	
1024-57-3	Heptachlor epoxide	1	ND		3.86	
72-43-5	Methoxychlor	1	ND		37.9	
8001-35-2	Toxaphene	1	ND		182	
12674-11-2	Aroclor-1016	1	ND		75.6	
11104-28-2	Aroclor-1221	1	ND		75.6	
11141-16-5	Aroclor-1232	1	ND		75.6	
53469-21-9	Aroclor-1242	1	ND		75.6	
12672-29-6	Aroclor-1248	1	ND		75.6	
11097-69-1	Aroclor-1254	1	ND		75.6	
1109-82-5	Aroclor-1260	1	ND		75.6	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C2	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-002	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a

Sample Qu:			
% Moisture:	37		
Batch:	29820		
Target List:	TPHDLOW		
Prepared:	29-Mar-99	**Analyzed:**	30-Mar-99 16:10 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	ND		15.9	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C2	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-002	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ng/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 37
Batch: 29831
Target List: TPHGPTMED
Analyzed: 07-Apr-99 12:05 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND	N	7950	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C2
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-002
Episode: RCR
Sample Qu:
Description: None
Matrix: Soil
% Moisture: 37
Method: SW 8080 Pesticides/PCBs
Prep Level: Soil
Batch: 29664
Units: ug/kg
Target List: 8080LOW
Prep Factor: 1.00
Leached: n/a
Prepared: 26-Mar-99
Analyzed: 31-Mar-99 19:09 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		2.70	
319-84-6	alpha-BHC	1	ND		2.70	
319-85-7	beta-BHC	1	ND		2.70	
319-86-9	delta-BHC	1	ND		2.70	
58-89-9	gamma-BHC (Lindane)	1	ND		2.70	
57-74-9	Chlordane (technical)	1	ND		26.6	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		5.25	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		5.25	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		5.25	
60-57-1	Dieldrin	1	ND		5.25	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		2.70	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		5.25	
1031-07-8	Endosulfan sulfate	1	ND		5.25	
72-20-8	Endrin	1	ND		5.25	
7421-36-3	Endrin aldehyde	1	ND		5.25	
76-44-8	Heptachlor	1	ND		2.70	
1024-57-3	Heptachlor epoxide	1	ND		2.70	
72-43-5	Methoxychlor	1	ND		26.6	
8001-35-2	Toxaphene	1	ND		127	
12674-11-2	Aroclor-1016	1	ND		52.9	
11104-28-2	Aroclor-1221	1	ND		52.9	
11141-16-5	Aroclor-1232	1	ND		52.9	
53469-21-9	Aroclor-1242	1	ND		52.9	
12672-29-6	Aroclor-1248	1	ND		52.9	
11097-69-1	Aroclor-1254	1	ND		52.9	
1109-82-5	Aroclor-1260	1	ND		52.9	

16 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C3	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-003	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 39
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 10:31 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	ND		16.4	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C3	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-003	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a

Sample Qu:
% Moisture: 39
Batch: 29831
Target List: TPHGPTMED
Prepared: 05-Apr-99
Analyzed: 07-Apr-99 12:24 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND	N	8200	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C3	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-003	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8080 Pesticides/PCBs	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	26-Mar-99

Sample Qu:
% Moisture: 39
Batch: 29664
Target List: 8080LOW
Analyzed: 31-Mar-99 19:41 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		2.79	
319-84-6	alpha-BHC	1	ND		2.79	
319-85-7	beta-BHC	1	ND		2.79	
319-86-9	delta-BHC	1	ND		2.79	
58-89-9	gamma-BHC (Lindane)	1	ND		2.79	
57-74-9	Chlordane (technical)	1	ND		27.4	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		5.41	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		5.41	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		5.41	
60-57-1	Dieldrin	1	ND		5.41	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		2.79	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		5.41	
1031-07-8	Endosulfan sulfate	1	ND		5.41	
72-20-8	Endrin	1	ND		5.41	
7421-36-3	Endrin aldehyde	1	ND		5.41	
76-44-8	Heptachlor	1	ND		2.79	
1024-57-3	Heptachlor epoxide	1	ND		2.79	
72-43-5	Methoxychlor	1	ND		27.4	
8001-35-2	Toxaphene	1	ND		131	
12674-11-2	Aroclor-1016	1	ND		54.6	
11104-28-2	Aroclor-1221	1	ND		54.6	
11141-16-5	Aroclor-1232	1	ND		54.6	
53469-21-9	Aroclor-1242	1	ND		54.6	
12672-29-6	Aroclor-1248	1	ND		54.6	
11097-69-1	Aroclor-1254	1	ND		54.6	
1109-82-5	Aroclor-1260	1	ND		54.6	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu Data qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C4	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-004	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 45
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 10:58 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	23.3		18.2	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:00:10

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C4	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-004	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 45
Batch: 29831
Target List: TPHGPTMED
Analyzed: 07-Apr-99 12:43 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND	N	9100	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C4
Project: IHNC LOCK
Lab ID: RCR-004
Description: None
Method: SW 8080 Pesticides/PCBs

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil
Prep Level: Soil
Units: ug/kg
Prepared: 26-Mar-99

Sample Qu:
% Moisture: 45
Batch: 29664
Target List: 8080LOW
Analyzed: 31-Mar-99 20:14 ML

Prep Factor: 1.00
Leached: n/a

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		3.09	
319-84-6	alpha-BHC	1	ND		3.09	
319-85-7	beta-BHC	1	ND		3.09	
319-86-9	delta-BHC	1	ND		3.09	
58-89-9	gamma-BHC (Lindane)	1	ND		3.09	
57-74-9	Chlordane (technical)	1	ND		30.4	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		6.01	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		6.01	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		6.01	
60-57-1	Dieldrin	1	ND		6.01	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		3.09	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		6.01	
1031-07-8	Endosulfan sulfate	1	ND		6.01	
72-20-8	Endrin	1	ND		6.01	
7421-36-3	Endrin aldehyde	1	ND		6.01	
76-44-8	Heptachlor	1	ND		3.09	
1024-57-3	Heptachlor epoxide	1	ND		3.09	
72-43-5	Methoxychlor	1	ND		30.4	
8001-35-2	Toxaphene	1	ND		146	
12674-11-2	Aroclor-1016	1	ND		60.6	
11104-28-2	Aroclor-1221	1	ND		60.6	
11141-16-5	Aroclor-1232	1	ND		60.6	
53469-21-9	Aroclor-1242	1	ND		60.6	
12672-29-6	Aroclor-1248	1	ND		60.6	
11097-69-1	Aroclor-1254	1	ND		60.6	
1109-82-5	Aroclor-1260	1	ND		60.6	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C5	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-005	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 50
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 11:24 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	114		20.0	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:00:27

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C5	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-005	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 50
Batch: 29831
Target List: TPHGPTMED
Analyzed: 05-Apr-99 18:11 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND		10000	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C5 | **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK | **Site:** None

Lab ID: RCR-005 | **Episode:** RCR | **Sample Qu:**

Description: None | **Matrix:** Soil | **% Moisture:** 50

Method: SW 8080 Pesticides/PCBs | **Prep Level:** Soil | **Batch:** 29664

Units: ug/kg | **Target List:** 8080LOW

Prep Factor: 1.00 | **Leached:** n/a | **Prepared:** 26-Mar-99 | **Analyzed:** 31-Mar-99 20:46 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		3.40	
319-84-6	alpha-BHC	1	ND		3.40	
319-85-7	beta-BHC	1	ND		3.40	
319-86-9	delta-BHC	1	ND		3.40	
58-89-9	gamma-BHC (Lindane)	1	ND		3.40	
57-74-9	Chlordane (technical)	1	ND		33.4	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		6.60	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		6.60	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		6.60	
60-57-1	Dieldrin	1	ND		6.60	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		3.40	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		6.60	
1031-07-8	Endosulfan sulfate	1	ND		6.60	
72-20-8	Endrin	1	ND		6.60	
7421-36-3	Endrin aldehyde	1	ND		6.60	
76-44-8	Heptachlor	1	ND		3.40	
1024-57-3	Heptachlor epoxide	1	ND		3.40	
72-43-5	Methoxychlor	1	ND		33.4	
8001-35-2	Toxaphene	1	ND		160	
12674-11-2	Aroclor-1016	1	ND		66.6	
11104-28-2	Aroclor-1221	1	ND		66.6	
11141-16-5	Aroclor-1232	1	ND		66.6	
53469-21-9	Aroclor-1242	1	ND		66.6	
12672-29-6	Aroclor-1248	1	ND		66.6	
11097-69-1	Aroclor-1254	1	ND		66.6	
1109-82-5	Aroclor-1260	1	ND		66.6	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C6	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-006	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 40
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 12:17 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	ND		16.7	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C6	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-006	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 40
Batch: 29831
Target List: TPHGPTMED
Analyzed: 05-Apr-99 18:30 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND		8350	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:00:50

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C6
Project: IHNC LOCK
Lab ID: RCR-006
Description: None
Method: SW 8080 Pesticides/PCBs

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Sample Qu:
Matrix: Soil
% Moisture: 40
Prep Level: Soil
Batch: 29664
Units: ug/kg
Target List: 8080LOW

Prep Factor: 1.00
Leached: n/a
Prepared: 26-Mar-99
Analyzed: 31-Mar-99 21:19 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		2.84	
319-84-6	alpha-BHC	1	ND		2.84	
319-85-7	beta-BHC	1	ND		2.84	
319-86-9	delta-BHC	1	ND		2.84	
58-89-9	gamma-BHC (Lindane)	1	ND		2.84	
57-74-9	Chlordane (technical)	1	ND		27.9	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		5.51	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		5.51	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		5.51	
60-57-1	Dieldrin	1	ND		5.51	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		2.84	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		5.51	
1031-07-8	Endosulfan sulfate	1	ND		5.51	
72-20-8	Endrin	1	ND		5.51	
7421-36-3	Endrin aldehyde	1	ND		5.51	
76-44-8	Heptachlor	1	ND		2.84	
1024-57-3	Heptachlor epoxide	1	ND		2.84	
72-43-5	Methoxychlor	1	ND		27.9	
8001-35-2	Toxaphene	1	ND		134	
12674-11-2	Aroclor-1016	1	ND		55.6	
11104-28-2	Aroclor-1221	1	ND		55.6	
11141-16-5	Aroclor-1232	1	ND		55.6	
53469-21-9	Aroclor-1242	1	ND		55.6	
12672-29-6	Aroclor-1248	1	ND		55.6	
11097-69-1	Aroclor-1254	1	ND		55.6	
1109-82-5	Aroclor-1260	1	ND		55.6	

36 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
Df denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C7	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-007	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 41
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 12:43 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	ND		16.9	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C7	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-007	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 41
Batch: 29831
Target List: TPHGPTMED
Analyzed: 05-Apr-99 18:49 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND		8450	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C7
Project: IHNC LOCK
Lab ID: RCR-007
Description: None
Method: SW 8080 Pesticides/PCBs

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil
Prep Level: Soil
Units: ug/kg

Sample Qu:
% Moisture: 41
Batch: 29664
Target List: 8080LOW

Prep Factor: 1.00
Leached: n/a
Prepared: 26-Mar-99
Analyzed: 31-Mar-99 21:51 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		2.87	
319-84-6	alpha-BHC	1	ND		2.87	
319-85-7	beta-BHC	1	ND		2.87	
319-86-9	delta-BHC	1	ND		2.87	
58-89-9	gamma-BHC (Lindane)	1	ND		2.87	
57-74-9	Chlordane (technical)	1	ND		28.2	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		5.58	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		5.58	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		5.58	
60-57-1	Dieldrin	1	ND		5.58	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		2.87	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		5.58	
1031-07-8	Endosulfan sulfate	1	ND		5.58	
72-20-8	Endrin	1	ND		5.58	
7421-36-3	Endrin aldehyde	1	ND		5.58	
76-44-8	Heptachlor	1	ND		2.87	
1024-57-3	Heptachlor epoxide	1	ND		2.87	
72-43-5	Methoxychlor	1	ND		28.2	
8001-35-2	Toxaphene	1	ND		135	
12674-11-2	Aroclor-1016	1	ND		56.3	
11104-28-2	Aroclor-1221	1	ND		56.3	
11141-16-5	Aroclor-1232	1	ND		56.3	
53469-21-9	Aroclor-1242	1	ND		56.3	
12672-29-6	Aroclor-1248	1	ND		56.3	
11097-69-1	Aroclor-1254	1	ND		56.3	
1109-82-5	Aroclor-1260	1	ND		56.3	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C8	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-008	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 48
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 13:10 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	27.8		19.2	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C8	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-008	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 48
Batch: 29831
Target List: TPHGPTMED
Analyzed: 05-Apr-99 19:27 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND		9600	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C8
Project: IHNC LOCK
Lab ID: RCR-008
Description: None
Method: SW 8080 Pesticides/PCBs

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Sample Qu:
Matrix: Soil
% Moisture: 48
Prep Level: Soil
Batch: 29664
Units: ug/kg
Target List: 8080LOW

Prep Factor: 1.00
Leached: n/a
Prepared: 26-Mar-99
Analyzed: 31-Mar-99 22:24 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		3.26	
319-84-6	alpha-BHC	1	ND		3.26	
319-85-7	beta-BHC	1	ND		3.26	
319-86-9	delta-BHC	1	ND		3.26	
58-89-9	gamma-BHC (Lindane)	1	ND		3.26	
57-74-9	Chlordane (technical)	1	ND		32.1	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		6.34	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		6.34	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		6.34	
60-57-1	Dieldrin	1	ND		6.34	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		3.26	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		6.34	
1031-07-8	Endosulfan sulfate	1	ND		6.34	
72-20-8	Endrin	1	ND		6.34	
7421-36-3	Endrin aldehyde	1	ND		6.34	
76-44-8	Heptachlor	1	ND		3.26	
1024-57-3	Heptachlor epoxide	1	ND		3.26	
72-43-5	Methoxychlor	1	ND		32.1	
8001-35-2	Toxaphene	1	ND		154	
12674-11-2	Aroclor-1016	1	ND		63.9	
11104-28-2	Aroclor-1221	1	ND		63.9	
11141-16-5	Aroclor-1232	1	ND		63.9	
53469-21-9	Aroclor-1242	1	ND		63.9	
12672-29-6	Aroclor-1248	1	ND		63.9	
11097-69-1	Aroclor-1254	1	ND		63.9	
1109-82-5	Aroclor-1260	1	ND		63.9	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C10	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-009	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
Prep Factor:	1.00	**Leached:**	n/a
		Units:	mg/kg
		Prepared:	29-Mar-99
		Sample Qu:	
		% Moisture:	47
		Batch:	29820
		Target List:	TPHDLOW
		Analyzed:	01-Apr-99 13:36 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	24.2		18.9	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C10	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-009	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 47
Batch: 29831
Target List: TPHGPTMED
Analyzed: 05-Apr-99 19:46 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND		9450	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: NO-IHNC-SD-C10
Project: IHNC LOCK
Lab ID: RCR-009
Description: None
Method: SW 8080 Pesticides/PCBs

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil
Prep Level: Soil
Units: ug/kg
Prepared: 26-Mar-99

Sample Qu:
% Moisture: 47
Batch: 29664
Target List: 8080LOW
Analyzed: 31-Mar-99 22:56 ML

Prep Factor: 1.00 **Leached:** n/a

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		3.21	
319-84-6	alpha-BHC	1	ND		3.21	
319-85-7	beta-BHC	1	ND		3.21	
319-86-9	delta-BHC	1	ND		3.21	
58-89-9	gamma-BHC (Lindane)	1	ND		3.21	
57-74-9	Chlordane (technical)	1	ND		31.6	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		6.24	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		6.24	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		6.24	
60-57-1	Dieldrin	1	ND		6.24	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		3.21	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		6.24	
1031-07-8	Endosulfan sulfate	1	ND		6.24	
72-20-8	Endrin	1	ND		6.24	
7421-36-3	Endrin aldehyde	1	ND		6.24	
76-44-8	Heptachlor	1	ND		3.21	
1024-57-3	Heptachlor epoxide	1	ND		3.21	
72-43-5	Methoxychlor	1	ND		31.6	
8001-35-2	Toxaphene	1	ND		151	
12674-11-2	Aroclor-1016	1	ND		62.9	
11104-28-2	Aroclor-1221	1	ND		62.9	
11141-16-5	Aroclor-1232	1	ND		62.9	
53469-21-9	Aroclor-1242	1	ND		62.9	
12672-29-6	Aroclor-1248	1	ND		62.9	
11097-69-1	Aroclor-1254	1	ND		62.9	
11096-82-5	Aroclor-1260	1	ND		62.9	

26 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C11	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-010	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Diesel Range Organics (C10-C24)	**Prep Level:**	Soil
		Units:	mg/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	29-Mar-99

Sample Qu:
% Moisture: 54
Batch: 29820
Target List: TPHDLOW
Analyzed: 01-Apr-99 14:29 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Diesel Range Organics	1	75.9		21.7	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C11	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-010	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8015B TPH Gasoline Range Organics (C6-C10)	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	05-Apr-99

Sample Qu:
% Moisture: 54
Batch: 29831
Target List: TPHGPTMED
Analyzed: 07-Apr-99 13:02 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
	TPH - Gasoline Range Organics	1	ND	N	10900	

1 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
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Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	NO-IHNC-SD-C11	**Client:**	U.S. ARMY CORPS OF ENGINEERS,N.O.
Project:	IHNC LOCK	**Site:**	None
Lab ID:	RCR-010	**Episode:**	RCR
Description:	None	**Matrix:**	Soil
Method:	SW 8080 Pesticides/PCBs	**Prep Level:**	Soil
		Units:	ug/kg
Prep Factor:	1.00	**Leached:**	n/a
		Prepared:	26-Mar-99

Sample Qu:
% Moisture: 54
Batch: 29664
Target List: 8080LOW
Analyzed: 31-Mar-99 23:28 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
309-00-2	Aldrin	1	ND		3.69	
319-84-6	alpha-BHC	1	ND		3.69	
319-85-7	beta-BHC	1	ND		3.69	
319-86-9	delta-BHC	1	ND		3.69	
58-89-9	gamma-BHC (Lindane)	1	ND		3.69	
57-74-9	Chlordane (technical)	1	ND		36.2	
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		7.16	
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		7.16	
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		7.16	
60-57-1	Dieldrin	1	ND		7.16	
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		3.69	
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		7.16	
1031-07-8	Endosulfan sulfate	1	ND		7.16	
72-20-8	Endrin	1	ND		7.16	
7421-36-3	Endrin aldehyde	1	ND		7.16	
76-44-8	Heptachlor	1	ND		3.69	
1024-57-3	Heptachlor epoxide	1	ND		3.69	
72-43-5	Methoxychlor	1	ND		36.2	
8001-35-2	Toxaphene	1	ND		174	
12674-11-2	Aroclor-1016	1	ND		72.3	
11104-28-2	Aroclor-1221	1	ND		72.3	
11141-16-5	Aroclor-1232	1	ND		72.3	
53469-21-9	Aroclor-1242	1	ND		72.3	
12672-29-6	Aroclor-1248	1	ND		72.3	
11097-69-1	Aroclor-1254	1	ND		72.3	
1109-82-5	Aroclor-1260	1	ND		72.3	

26 compound(s) reported

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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:01:59

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C1
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-001
Episode: RCR
Description: None
Matrix: Soil
%Moisture: 56

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	13300		mg/kg	45.4	02-Apr-99	06-Apr-99	10:07 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	13.6	02-Apr-99	06-Apr-99	10:07 KJR	
Arsenic	SW 6010	29822	1	1	3.04		mg/kg	2.27	02-Apr-99	06-Apr-99	10:07 KJR	
Barium	SW 6010	29822	1	1	92.8		mg/kg	45.4	02-Apr-99	06-Apr-99	10:07 KJR	
Beryllium	SW 6010	29822	1	1	1.18		mg/kg	1.13	02-Apr-99	06-Apr-99	10:07 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	1.13	02-Apr-99	06-Apr-99	10:07 KJR	
Calcium	SW 6010	29822	1	1	1990		mg/kg	1140	02-Apr-99	06-Apr-99	10:07 KJR	
Chromium	SW 6010	29822	1	1	15.8		mg/kg	2.27	02-Apr-99	06-Apr-99	10:07 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	11.3	02-Apr-99	06-Apr-99	10:07 KJR	
Copper	SW 6010	29822	1	1	25.0		mg/kg	5.67	02-Apr-99	06-Apr-99	10:07 KJR	
Iron	SW 6010	29822	1	1	12000		mg/kg	22.7	02-Apr-99	06-Apr-99	10:07 KJR	
Lead	SW 6010	29822	1	1	16.7		mg/kg	0.681	02-Apr-99	06-Apr-99	10:07 KJR	
Magnesium	SW 6010	29822	1	1	6240		mg/kg	1140	02-Apr-99	06-Apr-99	10:07 KJR	
Manganese	SW 6010	29822	1	1	68.3		mg/kg	3.41	02-Apr-99	06-Apr-99	10:07 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.227	01-Apr-99	01-Apr-99	13:36 DNT	
Nickel	SW 6010	29822	1	1	18.0		mg/kg	9.08	02-Apr-99	06-Apr-99	10:07 KJR	
Potassium	SW 6010	29822	1	1	3770		mg/kg	1140	02-Apr-99	06-Apr-99	10:07 KJR	
Selenium	SW 6010	29822	1	1	1.44		mg/kg	1.13	02-Apr-99	06-Apr-99	10:07 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	2.27	02-Apr-99	06-Apr-99	10:07 KJR	
Sodium	SW 6010	29822	1	1	5520		mg/kg	1140	02-Apr-99	06-Apr-99	10:07 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	2.27	02-Apr-99	06-Apr-99	10:07 KJR	
Vanadium	SW 6010	29822	1	1	29.7		mg/kg	11.3	02-Apr-99	06-Apr-99	10:07 KJR	
Zinc	SW 6010	29822	1	1	96.9		mg/kg	4.54	02-Apr-99	06-Apr-99	10:07 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C2
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-002
Episode: RCR
Description: None
Matrix: Soil
%Moisture: 37

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	12300		mg/kg	31.8	02-Apr-99	06-Apr-99	10:25 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	9.54	02-Apr-99	06-Apr-99	10:25 KJR	
Arsenic	SW 6010	29822	1	1	2.07		mg/kg	1.59	02-Apr-99	06-Apr-99	10:25 KJR	
Barium	SW 6010	29822	1	1	110		mg/kg	31.8	02-Apr-99	06-Apr-99	10:25 KJR	
Beryllium	SW 6010	29822	1	1	0.827		mg/kg	0.795	02-Apr-99	06-Apr-99	10:25 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.795	02-Apr-99	06-Apr-99	10:25 KJR	
Calcium	SW 6010	29822	1	1	11800		mg/kg	795	02-Apr-99	06-Apr-99	10:25 KJR	
Chromium	SW 6010	29822	1	1	13.0		mg/kg	1.59	02-Apr-99	06-Apr-99	10:25 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	7.95	02-Apr-99	06-Apr-99	10:25 KJR	
Copper	SW 6010	29822	1	1	15.2		mg/kg	3.98	02-Apr-99	06-Apr-99	10:25 KJR	
Iron	SW 6010	29822	1	1	15700		mg/kg	15.9	02-Apr-99	06-Apr-99	10:25 KJR	
Lead	SW 6010	29822	1	1	11.9		mg/kg	0.477	02-Apr-99	06-Apr-99	10:25 KJR	
Magnesium	SW 6010	29822	1	1	5720		mg/kg	795	02-Apr-99	06-Apr-99	10:25 KJR	
Manganese	SW 6010	29822	1	1	342		mg/kg	2.39	02-Apr-99	06-Apr-99	10:25 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.159	01-Apr-99	01-Apr-99	13:42 DNT	
Nickel	SW 6010	29822	1	1	18.9		mg/kg	6.36	02-Apr-99	06-Apr-99	10:25 KJR	
Potassium	SW 6010	29822	1	1	2850		mg/kg	795	02-Apr-99	06-Apr-99	10:25 KJR	
Selenium	SW 6010	29822	1	1	1.38		mg/kg	0.795	02-Apr-99	06-Apr-99	10:25 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.59	02-Apr-99	06-Apr-99	10:25 KJR	
Sodium	SW 6010	29822	1	1	3590		mg/kg	795	02-Apr-99	06-Apr-99	10:25 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.59	02-Apr-99	06-Apr-99	10:25 KJR	
Vanadium	SW 6010	29822	1	1	23.5		mg/kg	7.95	02-Apr-99	06-Apr-99	10:25 KJR	
Zinc	SW 6010	29822	1	1	59.0		mg/kg	3.18	02-Apr-99	06-Apr-99	10:25 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
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Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C3
Project: IHNC LOCK
Lab ID: RCR-003
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 39

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	11800		mg/kg	32.8	02-Apr-99	06-Apr-99	10:30 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	9.84	02-Apr-99	06-Apr-99	10:30 KJR	
Arsenic	SW 6010	29822	1	1	3.79		mg/kg	1.64	02-Apr-99	06-Apr-99	10:30 KJR	
Barium	SW 6010	29822	1	1	169		mg/kg	32.8	02-Apr-99	06-Apr-99	10:30 KJR	
Beryllium	SW 6010	29822	1	1	0.838		mg/kg	0.820	02-Apr-99	06-Apr-99	10:30 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.820	02-Apr-99	06-Apr-99	10:30 KJR	
Calcium	SW 6010	29822	1	1	6360		mg/kg	820	02-Apr-99	06-Apr-99	10:30 KJR	
Chromium	SW 6010	29822	1	1	13.6		mg/kg	1.64	02-Apr-99	06-Apr-99	10:30 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	8.20	02-Apr-99	06-Apr-99	10:30 KJR	
Copper	SW 6010	29822	1	1	18.0		mg/kg	4.10	02-Apr-99	06-Apr-99	10:30 KJR	
Iron	SW 6010	29822	1	1	16200		mg/kg	16.4	02-Apr-99	06-Apr-99	10:30 KJR	
Lead	SW 6010	29822	1	1	21.0		mg/kg	0.492	02-Apr-99	06-Apr-99	10:30 KJR	
Magnesium	SW 6010	29822	1	1	5770		mg/kg	820	02-Apr-99	06-Apr-99	10:30 KJR	
Manganese	SW 6010	29822	1	1	257		mg/kg	2.46	02-Apr-99	06-Apr-99	10:30 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.164	01-Apr-99	01-Apr-99	13:44 DNT	
Nickel	SW 6010	29822	1	1	19.5		mg/kg	6.56	02-Apr-99	06-Apr-99	10:30 KJR	
Potassium	SW 6010	29822	1	1	2760		mg/kg	820	02-Apr-99	06-Apr-99	10:30 KJR	
Selenium	SW 6010	29822	1	1	1.19		mg/kg	0.820	02-Apr-99	06-Apr-99	10:30 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.64	02-Apr-99	06-Apr-99	10:30 KJR	
Sodium	SW 6010	29822	1	1	3260		mg/kg	820	02-Apr-99	06-Apr-99	10:30 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.64	02-Apr-99	06-Apr-99	10:30 KJR	
Vanadium	SW 6010	29822	1	1	24.6		mg/kg	8.20	02-Apr-99	06-Apr-99	10:30 KJR	
Zinc	SW 6010	29822	1	1	66.4		mg/kg	3.28	02-Apr-99	06-Apr-99	10:30 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C4
Project: IHNC LOCK
Lab ID: RCR-004
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 45

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	13700		mg/kg	36.4	02-Apr-99	06-Apr-99	10:34 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	10.9	02-Apr-99	06-Apr-99	10:34 KJR	
Arsenic	SW 6010	29822	1	1	5.86		mg/kg	1.82	02-Apr-99	06-Apr-99	10:34 KJR	
Barium	SW 6010	29822	1	1	124		mg/kg	36.4	02-Apr-99	06-Apr-99	10:34 KJR	
Beryllium	SW 6010	29822	1	1	ND		mg/kg	0.910	02-Apr-99	06-Apr-99	10:34 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.910	02-Apr-99	06-Apr-99	10:34 KJR	
Calcium	SW 6010	29822	1	1	3800		mg/kg	910	02-Apr-99	06-Apr-99	10:34 KJR	
Chromium	SW 6010	29822	1	1	13.9		mg/kg	1.82	02-Apr-99	06-Apr-99	10:34 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	9.10	02-Apr-99	06-Apr-99	10:34 KJR	
Copper	SW 6010	29822	1	1	25.1		mg/kg	4.55	02-Apr-99	06-Apr-99	10:34 KJR	
Iron	SW 6010	29822	1	1	13500		mg/kg	18.2	02-Apr-99	06-Apr-99	10:34 KJR	
Lead	SW 6010	29822	1	1	14.1		mg/kg	0.546	02-Apr-99	06-Apr-99	10:34 KJR	
Magnesium	SW 6010	29822	1	1	6660		mg/kg	910	02-Apr-99	06-Apr-99	10:34 KJR	
Manganese	SW 6010	29822	1	1	189		mg/kg	2.73	02-Apr-99	06-Apr-99	10:34 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.182	01-Apr-99	01-Apr-99	13:46 DNT	
Nickel	SW 6010	29822	1	1	19.8		mg/kg	7.28	02-Apr-99	06-Apr-99	10:34 KJR	
Potassium	SW 6010	29822	1	1	3550		mg/kg	910	02-Apr-99	06-Apr-99	10:34 KJR	
Selenium	SW 6010	29822	1	1	2.15		mg/kg	0.910	02-Apr-99	06-Apr-99	10:34 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.82	02-Apr-99	06-Apr-99	10:34 KJR	
Sodium	SW 6010	29822	1	1	5190		mg/kg	910	02-Apr-99	06-Apr-99	10:34 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.82	02-Apr-99	06-Apr-99	10:34 KJR	
Vanadium	SW 6010	29822	1	1	26.0		mg/kg	9.10	02-Apr-99	06-Apr-99	10:34 KJR	
Zinc	SW 6010	29822	1	1	70.6		mg/kg	3.64	02-Apr-99	06-Apr-99	10:34 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C5
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-005
Episode: RCR
Description: None
Matrix: Soil
%Moisture: 50

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	9860		mg/kg	40.0	02-Apr-99	06-Apr-99	10:54 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	12.0	02-Apr-99	06-Apr-99	10:54 KJR	
Arsenic	SW 6010	29822	1	1	2.98		mg/kg	2.00	02-Apr-99	06-Apr-99	10:54 KJR	
Barium	SW 6010	29822	1	1	112		mg/kg	40.0	02-Apr-99	06-Apr-99	10:54 KJR	
Beryllium	SW 6010	29822	1	1	ND		mg/kg	1.00	02-Apr-99	06-Apr-99	10:54 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	1.00	02-Apr-99	06-Apr-99	10:54 KJR	
Calcium	SW 6010	29822	1	1	2260		mg/kg	1000	02-Apr-99	06-Apr-99	10:54 KJR	
Chromium	SW 6010	29822	1	1	11.8		mg/kg	2.00	02-Apr-99	06-Apr-99	10:54 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	10.0	02-Apr-99	06-Apr-99	10:54 KJR	
Copper	SW 6010	29822	1	1	18.3		mg/kg	5.00	02-Apr-99	06-Apr-99	10:54 KJR	
Iron	SW 6010	29822	1	1	7900		mg/kg	20.0	02-Apr-99	06-Apr-99	10:54 KJR	
Lead	SW 6010	29822	1	1	12.1		mg/kg	0.600	02-Apr-99	06-Apr-99	10:54 KJR	
Magnesium	SW 6010	29822	1	1	4800		mg/kg	1000	02-Apr-99	06-Apr-99	10:54 KJR	
Manganese	SW 6010	29822	1	1	74.8		mg/kg	3.00	02-Apr-99	06-Apr-99	10:54 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.200	01-Apr-99	01-Apr-99	13:48 DNT	
Nickel	SW 6010	29822	1	1	12.3		mg/kg	8.00	02-Apr-99	06-Apr-99	10:54 KJR	
Potassium	SW 6010	29822	1	1	2740		mg/kg	1000	02-Apr-99	06-Apr-99	10:54 KJR	
Selenium	SW 6010	29822	1	1	1.27		mg/kg	1.00	02-Apr-99	06-Apr-99	10:54 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	2.00	02-Apr-99	06-Apr-99	10:54 KJR	
Sodium	SW 6010	29822	1	1	4820		mg/kg	1000	02-Apr-99	06-Apr-99	10:54 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	2.00	02-Apr-99	06-Apr-99	10:54 KJR	
Vanadium	SW 6010	29822	1	1	23.2		mg/kg	10.0	02-Apr-99	06-Apr-99	10:54 KJR	
Zinc	SW 6010	29822	1	1	54.0		mg/kg	4.00	02-Apr-99	06-Apr-99	10:54 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C6 **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK **Site:** None

Lab ID: RCR-006 **Episode:** RCR

Description: None **Matrix:** Soil **%Moisture:** 40

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	12900		mg/kg	33.4	02-Apr-99	06-Apr-99	11:09 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	10.0	02-Apr-99	06-Apr-99	11:09 KJR	
Arsenic	SW 6010	29822	1	1	1.82		mg/kg	1.67	02-Apr-99	06-Apr-99	11:09 KJR	
Barium	SW 6010	29822	1	1	117		mg/kg	33.4	02-Apr-99	06-Apr-99	11:09 KJR	
Beryllium	SW 6010	29822	1	1	0.934		mg/kg	0.835	02-Apr-99	06-Apr-99	11:09 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.835	02-Apr-99	06-Apr-99	11:09 KJR	
Calcium	SW 6010	29822	1	1	2470		mg/kg	835	02-Apr-99	06-Apr-99	11:09 KJR	
Chromium	SW 6010	29822	1	1	14.2		mg/kg	1.67	02-Apr-99	06-Apr-99	11:09 KJR	
Cobalt	SW 6010	29822	1	1	8.72		mg/kg	8.35	02-Apr-99	06-Apr-99	11:09 KJR	
Copper	SW 6010	29822	1	1	15.7		mg/kg	4.17	02-Apr-99	06-Apr-99	11:09 KJR	
Iron	SW 6010	29822	1	1	25900		mg/kg	16.7	02-Apr-99	06-Apr-99	11:09 KJR	
Lead	SW 6010	29822	1	1	14.4		mg/kg	0.501	02-Apr-99	06-Apr-99	11:09 KJR	
Magnesium	SW 6010	29822	1	1	5830		mg/kg	835	02-Apr-99	06-Apr-99	11:09 KJR	
Manganese	SW 6010	29822	1	1	267		mg/kg	2.50	02-Apr-99	06-Apr-99	11:09 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.167	01-Apr-99	01-Apr-99	13:50 DNT	
Nickel	SW 6010	29822	1	1	22.2		mg/kg	6.68	02-Apr-99	06-Apr-99	11:09 KJR	
Potassium	SW 6010	29822	1	1	2790		mg/kg	835	02-Apr-99	06-Apr-99	11:09 KJR	
Selenium	SW 6010	29822	1	1	1.17		mg/kg	0.835	02-Apr-99	06-Apr-99	11:09 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.67	02-Apr-99	06-Apr-99	11:09 KJR	
Sodium	SW 6010	29822	1	1	3420		mg/kg	835	02-Apr-99	06-Apr-99	11:09 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.67	02-Apr-99	06-Apr-99	11:09 KJR	
Vanadium	SW 6010	29822	1	1	26.6		mg/kg	8.35	02-Apr-99	06-Apr-99	11:09 KJR	
Zinc	SW 6010	29822	1	1	65.6		mg/kg	3.34	02-Apr-99	06-Apr-99	11:09 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

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Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C7
Project: IHNC LOCK
Lab ID: RCR-007
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 41

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	10900		mg/kg	33.8	02-Apr-99	06-Apr-99	11:13 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	10.1	02-Apr-99	06-Apr-99	11:13 KJR	
Arsenic	SW 6010	29822	1	1	4.77		mg/kg	1.69	02-Apr-99	06-Apr-99	11:13 KJR	
Barium	SW 6010	29822	1	1	120		mg/kg	33.8	02-Apr-99	06-Apr-99	11:13 KJR	
Beryllium	SW 6010	29822	1	1	0.864		mg/kg	0.845	02-Apr-99	06-Apr-99	11:13 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.845	02-Apr-99	06-Apr-99	11:13 KJR	
Calcium	SW 6010	29822	1	1	2160		mg/kg	845	02-Apr-99	06-Apr-99	11:13 KJR	
Chromium	SW 6010	29822	1	1	12.4		mg/kg	1.69	02-Apr-99	06-Apr-99	11:13 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	8.45	02-Apr-99	06-Apr-99	11:13 KJR	
Copper	SW 6010	29822	1	1	19.9		mg/kg	4.22	02-Apr-99	06-Apr-99	11:13 KJR	
Iron	SW 6010	29822	1	1	10900		mg/kg	16.9	02-Apr-99	06-Apr-99	11:13 KJR	
Lead	SW 6010	29822	1	1	13.4		mg/kg	0.507	02-Apr-99	06-Apr-99	11:13 KJR	
Magnesium	SW 6010	29822	1	1	5530		mg/kg	845	02-Apr-99	06-Apr-99	11:13 KJR	
Manganese	SW 6010	29822	1	1	100		mg/kg	2.54	02-Apr-99	06-Apr-99	11:13 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.169	01-Apr-99	01-Apr-99	13:56 DNT	
Nickel	SW 6010	29822	1	1	15.9		mg/kg	6.76	02-Apr-99	06-Apr-99	11:13 KJR	
Potassium	SW 6010	29822	1	1	2990		mg/kg	845	02-Apr-99	06-Apr-99	11:13 KJR	
Selenium	SW 6010	29822	1	1	1.64		mg/kg	0.845	02-Apr-99	06-Apr-99	11:13 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.69	02-Apr-99	06-Apr-99	11:13 KJR	
Sodium	SW 6010	29822	1	1	4160		mg/kg	845	02-Apr-99	06-Apr-99	11:13 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.69	02-Apr-99	06-Apr-99	11:13 KJR	
Vanadium	SW 6010	29822	1	1	24.5		mg/kg	8.45	02-Apr-99	06-Apr-99	11:13 KJR	
Zinc	SW 6010	29822	1	1	60.8		mg/kg	3.38	02-Apr-99	06-Apr-99	11:13 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C8 **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK **Site:** None

Lab ID: RCR-008 **Episode:** RCR

Description: None **Matrix:** Soil **%Moisture:** 48

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	12200		mg/kg	38.4	02-Apr-99	06-Apr-99	11:18 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	11.5	02-Apr-99	06-Apr-99	11:18 KJR	
Arsenic	SW 6010	29822	1	1	4.74		mg/kg	1.92	02-Apr-99	06-Apr-99	11:18 KJR	
Barium	SW 6010	29822	1	1	330		mg/kg	38.4	02-Apr-99	06-Apr-99	11:18 KJR	
Beryllium	SW 6010	29822	1	1	ND		mg/kg	0.960	02-Apr-99	06-Apr-99	11:18 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.960	02-Apr-99	06-Apr-99	11:18 KJR	
Calcium	SW 6010	29822	1	1	2040		mg/kg	960	02-Apr-99	06-Apr-99	11:18 KJR	
Chromium	SW 6010	29822	1	1	13.7		mg/kg	1.92	02-Apr-99	06-Apr-99	11:18 KJR	
Cobalt	SW 6010	29822	1	1	10.0		mg/kg	9.60	02-Apr-99	06-Apr-99	11:18 KJR	
Copper	SW 6010	29822	1	1	19.2		mg/kg	4.80	02-Apr-99	06-Apr-99	11:18 KJR	
Iron	SW 6010	29822	1	1	14100		mg/kg	19.2	02-Apr-99	06-Apr-99	11:18 KJR	
Lead	SW 6010	29822	1	1	15.9		mg/kg	0.576	02-Apr-99	06-Apr-99	11:18 KJR	
Magnesium	SW 6010	29822	1	1	6140		mg/kg	960	02-Apr-99	06-Apr-99	11:18 KJR	
Manganese	SW 6010	29822	1	1	94.8		mg/kg	2.88	02-Apr-99	06-Apr-99	11:18 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.192	01-Apr-99	01-Apr-99	13:58 DNT	
Nickel	SW 6010	29822	1	1	20.7		mg/kg	7.68	02-Apr-99	06-Apr-99	11:18 KJR	
Potassium	SW 6010	29822	1	1	3280		mg/kg	960	02-Apr-99	06-Apr-99	11:18 KJR	
Selenium	SW 6010	29822	1	1	1.14		mg/kg	0.960	02-Apr-99	06-Apr-99	11:18 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.92	02-Apr-99	06-Apr-99	11:18 KJR	
Sodium	SW 6010	29822	1	1	4190		mg/kg	960	02-Apr-99	06-Apr-99	11:18 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.92	02-Apr-99	06-Apr-99	11:18 KJR	
Vanadium	SW 6010	29822	1	1	24.8		mg/kg	9.60	02-Apr-99	06-Apr-99	11:18 KJR	
Zinc	SW 6010	29822	1	1	64.9		mg/kg	3.84	02-Apr-99	06-Apr-99	11:18 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C10
Project: IHNC LOCK
Lab ID: RCR-009
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 47

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	12200		mg/kg	37.8	02-Apr-99	06-Apr-99	11:22 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	11.3	02-Apr-99	06-Apr-99	11:22 KJR	
Arsenic	SW 6010	29822	1	1	4.74		mg/kg	1.89	02-Apr-99	06-Apr-99	11:22 KJR	
Barium	SW 6010	29822	1	1	173		mg/kg	37.8	02-Apr-99	06-Apr-99	11:22 KJR	
Beryllium	SW 6010	29822	1	1	ND		mg/kg	0.945	02-Apr-99	06-Apr-99	11:22 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	0.945	02-Apr-99	06-Apr-99	11:22 KJR	
Calcium	SW 6010	29822	1	1	4120		mg/kg	945	02-Apr-99	06-Apr-99	11:22 KJR	
Chromium	SW 6010	29822	1	1	12.8		mg/kg	1.89	02-Apr-99	06-Apr-99	11:22 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	9.45	02-Apr-99	06-Apr-99	11:22 KJR	
Copper	SW 6010	29822	1	1	20.2		mg/kg	4.72	02-Apr-99	06-Apr-99	11:22 KJR	
Iron	SW 6010	29822	1	1	12600		mg/kg	18.9	02-Apr-99	06-Apr-99	11:22 KJR	
Lead	SW 6010	29822	1	1	12.0		mg/kg	0.567	02-Apr-99	06-Apr-99	11:22 KJR	
Magnesium	SW 6010	29822	1	1	4860		mg/kg	945	02-Apr-99	06-Apr-99	11:22 KJR	
Manganese	SW 6010	29822	1	1	165		mg/kg	2.83	02-Apr-99	06-Apr-99	11:22 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.189	01-Apr-99	01-Apr-99	14:00 DNT	
Nickel	SW 6010	29822	1	1	17.8		mg/kg	7.56	02-Apr-99	06-Apr-99	11:22 KJR	
Potassium	SW 6010	29822	1	1	2630		mg/kg	945	02-Apr-99	06-Apr-99	11:22 KJR	
Selenium	SW 6010	29822	1	1	1.65		mg/kg	0.945	02-Apr-99	06-Apr-99	11:22 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	1.89	02-Apr-99	06-Apr-99	11:22 KJR	
Sodium	SW 6010	29822	1	1	5580		mg/kg	945	02-Apr-99	06-Apr-99	11:22 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	1.89	02-Apr-99	06-Apr-99	11:22 KJR	
Vanadium	SW 6010	29822	1	1	24.0		mg/kg	9.45	02-Apr-99	06-Apr-99	11:22 KJR	
Zinc	SW 6010	29822	1	1	52.7		mg/kg	3.78	02-Apr-99	06-Apr-99	11:22 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C11 **Client:** U.S. ARMY CORPS OF ENGINEERS,N.O.

Project: IHNC LOCK **Site:** None

Lab ID: RCR-010 **Episode:** RCR

Description: None **Matrix:** Soil **%Moisture:** 54

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Aluminum	SW 6010	29822	1	1	10400		mg/kg	43.4	02-Apr-99	06-Apr-99	11:27 KJR	
Antimony	SW 6010	29822	1	1	ND		mg/kg	13.0	02-Apr-99	06-Apr-99	11:27 KJR	
Arsenic	SW 6010	29822	1	1	5.71		mg/kg	2.17	02-Apr-99	06-Apr-99	11:27 KJR	
Barium	SW 6010	29822	1	1	109		mg/kg	43.4	02-Apr-99	06-Apr-99	11:27 KJR	
Beryllium	SW 6010	29822	1	1	ND		mg/kg	1.08	02-Apr-99	06-Apr-99	11:27 KJR	
Cadmium	SW 6010	29822	1	1	ND		mg/kg	1.08	02-Apr-99	06-Apr-99	11:27 KJR	
Calcium	SW 6010	29822	1	1	2890		mg/kg	1090	02-Apr-99	06-Apr-99	11:27 KJR	
Chromium	SW 6010	29822	1	1	11.8		mg/kg	2.17	02-Apr-99	06-Apr-99	11:27 KJR	
Cobalt	SW 6010	29822	1	1	ND		mg/kg	10.8	02-Apr-99	06-Apr-99	11:27 KJR	
Copper	SW 6010	29822	1	1	21.3		mg/kg	5.42	02-Apr-99	06-Apr-99	11:27 KJR	
Iron	SW 6010	29822	1	1	9500		mg/kg	21.7	02-Apr-99	06-Apr-99	11:27 KJR	
Lead	SW 6010	29822	1	1	12.9		mg/kg	0.651	02-Apr-99	06-Apr-99	11:27 KJR	
Magnesium	SW 6010	29822	1	1	4560		mg/kg	1090	02-Apr-99	06-Apr-99	11:27 KJR	
Manganese	SW 6010	29822	1	1	78.1		mg/kg	3.25	02-Apr-99	06-Apr-99	11:27 KJR	
Mercury	SW 7471	29821	1	1	ND		mg/kg	0.217	01-Apr-99	01-Apr-99	14:02 DNT	
Nickel	SW 6010	29822	1	1	16.7		mg/kg	8.68	02-Apr-99	06-Apr-99	11:27 KJR	
Potassium	SW 6010	29822	1	1	2780		mg/kg	1090	02-Apr-99	06-Apr-99	11:27 KJR	
Selenium	SW 6010	29822	1	1	2.01		mg/kg	1.08	02-Apr-99	06-Apr-99	11:27 KJR	
Silver	SW 6010	29822	1	1	ND		mg/kg	2.17	02-Apr-99	06-Apr-99	11:27 KJR	
Sodium	SW 6010	29822	1	1	5010		mg/kg	1090	02-Apr-99	06-Apr-99	11:27 KJR	
Thallium	SW 6010	29822	1	1	ND		mg/kg	2.17	02-Apr-99	06-Apr-99	11:27 KJR	
Vanadium	SW 6010	29822	1	1	24.5		mg/kg	10.8	02-Apr-99	06-Apr-99	11:27 KJR	
Zinc	SW 6010	29822	1	1	56.9		mg/kg	4.34	02-Apr-99	06-Apr-99	11:27 KJR	

23 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:03:16

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C1
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-001
Episode: RCR
Description: None
Matrix: Soil **%Moisture:** 56

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Oil & Grease	SW 9071	29813	1	1	1130		mg/kg	114	29-Mar-99	30-Mar-99 9:10 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, a wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:03:38

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C2
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-002
Episode: RCR
Description: None
Matrix: Soil
%Moisture: 37

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	455		mg/kg	79.5	29-Mar-99	30-Mar-99	9:10 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:03:44

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C3
Project: IHNC LOCK
Lab ID: RCR-003
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil %Moisture: 39

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	244		mg/kg	82.0	29-Mar-99	30-Mar-99	9:10 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, a wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C4
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-004
Episode: RCR
Description: None
Matrix: Soil
%Moisture: 45

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	657		mg/kg	91.0	29-Mar-99	30-Mar-99	9:10 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/3/99 10:03:56

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C5
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-005
Episode: RCR
Description: None
Matrix: Soil **%Moisture:** 50

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	472		mg/kg	100	29-Mar-99	30-Mar-99	9:10 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:04:01

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C6
Project: IHNC LOCK
Lab ID: RCR-006
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 40

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	215		mg/kg	83.5	29-Mar-99	30-Mar-99	9:10 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/8/99 10:04:05

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C7
Project: IHNC LOCK
Lab ID: RCR-007
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 41

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis			Reg. Limit
Oil & Grease	SW 9071	29813	1	1	755		mg/kg	84.5	30-Mar-99	31-Mar-99	15:00	DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/2/99 10:04:10

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C8
Project: IHNC LOCK
Lab ID: RCR-008
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 48

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	463		mg/kg	96.0	30-Mar-99	31-Mar-99	15:00 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C10
Project: IHNC LOCK
Lab ID: RCR-009
Description: None

Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Site: None
Episode: RCR
Matrix: Soil **%Moisture:** 47

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Oil & Grease	SW 9071	29813	1	1	461		mg/kg	94.5	30-Mar-99	30-Mar-99	15:00 DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

4/1/99 10:04:21

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: NO-IHNC-SD-C11
Client: U.S. ARMY CORPS OF ENGINEERS,N.O.
Project: IHNC LOCK
Site: None
Lab ID: RCR-010
Episode: RCR
Description: None
Matrix: Soil
%Moisture: 54

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis			Reg. Limit
Oil & Grease	SW 9071	29813	1	1	451		mg/kg	109	30-Mar-99	31-Mar-99	15:00	DM	

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Pace Analytical Services, Inc. - New Orleans
Laboratory Quality Control Definitions

Our laboratory employs quality control (QC) measures to ensure the quality of our analytical data by defining its accuracy and precision. Presentation of the QC data with the report allows the data user the opportunity to evaluate these results and to gauge the method performance. In order to assist the understanding of these data, routine components of our QC program are defined below.

BATCH - A batch is a group of 20 samples or less of a given matrix and analysis by a specific protocol or analytical method.

BLANK - A method blank is a "clean" laboratory sample carried through the entire analytical process. One or more method blanks are prepared with each batch of samples. The analysis of method blanks demonstrates that method interferences caused by contaminants, reagents and glassware are known and minimized. A method blank should not contain any analytes of interest above the reporting limit. There are method allowances for common laboratory artifacts such as methylene chloride, acetone and bis-2-ethylhexyl phthalate.

LABORATORY CONTROL SPIKE - A laboratory control spike (LCS or blank spike) is a blank which has been spiked with known concentrations of target analytes. The LCS is carried through the entire analytical process. One or more LCS are prepared with each batch of samples. The percent recovery of the spiked analytes provides a measure of the accuracy of the analytical process in the absence of matrix effects.

MATRIX SPIKE - A matrix spike (MS) is a client sample which is spiked with known concentrations of target analytes. The MS is carried through the entire analytical process. One or more matrix spikes are prepared with every batch of samples. For organic methods, a matrix spike duplicate (MSD) is also prepared. The percent recovery of the spiked analytes provides a measure of the method accuracy in the selected sample and matrix.

DUPLICATE - A duplicate is a sample for which replicate aliquouts are carried through the entire analytical process. Comparison of the original results to those of the duplicate results provides a measure of the method precision in the sample and matrix. By convention, precision is measured for inorganic analyses using a sample and a sample duplicate, whereas for organics analyses, an MS/MSD are used.

SURROGATE - A surrogate is a non-target analyte which is added to all samples and QC samples prior to extraction or analysis. The percent recovery of the surrogate provides a measure of the method accuracy in each sample tested. Surrogates are used for organics methods only.

QC LIMITS - QC limits specify the expected percent recovery range for a spiked compound. QC limits may be set by method criteria or calculated from laboratory generated data. For many methods, these limits are advisory and do not require corrective action if exceeded.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Water GC/MS Volatile Organics **Batch:** 29761 **Units:** ug/l

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Benzene	50.0	85		50.0	85	85	0	76-127	76-127	11	
Acetone (2-Propanone, Dimethyl ketone)	50.0	58		50.0	57	60	5	1-200	1-200	50	
2-Butanone (Methyl ethyl ketone)	50.0	77		50.0	66	64	3	1-200	1-200	50	
Carbon disulfide	50.0	69		50.0	69	66	4	1-200	1-200	50	
Bromodichloromethane	50.0	81		50.0	81	83	2	1-200	1-200	50	
Chlorobenzene	50.0	89		50.0	86	82	5	75-130	75-130	13	
Bromoform	50.0	73		50.0	66	73	9	1-200	1-200	50	
Chloroform	50.0	85		50.0	80	78	2	1-200	1-200	50	
Bromomethane (Methyl bromide)	50.0	42		50.0	42	39	7	1-200	1-200	50	
1,2-Dichloroethane (Ethylene dichloride)	50.0	78		50.0	76	76	1	1-200	1-200	50	
Carbon tetrachloride	50.0	85		50.0	83	82	1	1-200	1-200	50	
Ethylbenzene	50.0	94		50.0	94	98	4	1-200	1-200	50	
Styrene	50.0	86		50.0	79	81	3	1-200	1-200	50	
Chloroethane	50.0	51		50.0	52	54	4	1-200	1-200	50	
Toluene	50.0	86		50.0	84	83	0	76-125	76-125	13	
Xylene (total)	150	85		150	81	83	2	1-200	1-200	50	
Chloromethane (Methyl chloride)	50.0	37		50.0	36	30	19	1-200	1-200	50	
Dibromochloromethane	50.0	82		50.0	79	81	2	1-200	1-200	50	
1,1-Dichloroethane	50.0	84		50.0	80	84	5	1-200	1-200	50	
1,1-Dichloroethene (Dichloroethylene)	50.0	61		50.0	63	61	4	61-145	61-145	14	
1,2-Dichloroethene (total)	100	82		100	78	79	1	1-200	1-200	50	
1,2-Dichloropropane	50.0	91		50.0	91	89	2	1-200	1-200	50	
cis-1,3-Dichloropropene	50.0	82		50.0	78	85	8	1-200	1-200	50	
trans-1,3-Dichloropropene	50.0	84		50.0	71	79	11	1-200	1-200	50	
2-Hexanone	50.0	76		50.0	69	78	13	1-200	1-200	50	
Methylene chloride (Dichloromethane)	50.0	78		50.0	75	71	6	1-200	1-200	50	
4-Methyl-2-pentanone (MIBK)	50.0	57		50.0	13	15	13	1-200	1-200	50	
1,1,2,2-Tetrachloroethane	50.0	76		50.0	68	72	5	1-200	1-200	50	
Tetrachloroethene (Perchloroethylene)	50.0	87		50.0	88	85	3	1-200	1-200	50	
1,1,1-Trichloroethane (Methyl chloroform)	50.0	78		50.0	76	77	1	1-200	1-200	50	
1,1,2-Trichloroethane	50.0	83		50.0	82	81	2	1-200	1-200	50	
Trichloroethene (Trichloroethylene)	50.0	88		50.0	90	88	2	71-120	71-120	14	
Vinyl chloride (Chloroethene)	50.0	43		50.0	44	32	30	1-200	1-200	50	

33 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Low Soil GC/MS Volatile Organics Batch: 29848 Units: ug/kg

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Acetone (2-Propanone, Dimethyl ketone)	50.0	149		50.0	28	93	42	1-200	1-200	50	
Benzene	50.0	115		50.0	55 *	60 *	8	66-142	66-142	21	Q1
Bromodichloromethane	50.0	79		50.0	15	19	24	1-200	1-200	50	
Bromoform	50.0	56		50.0	4	6	37	1-200	1-200	50	Q1
Bromomethane (Methyl bromide)	50.0	85		50.0	48	53	11	1-200	1-200	50	
2-Butanone (Methyl ethyl ketone)	50.0	145		50.0	62	83	25	1-200	1-200	50	
Carbon disulfide	50.0	84		50.0	76	92	19	1-200	1-200	50	
Carbon tetrachloride	50.0	70		50.0	46	50	8	1-200	1-200	50	
Chlorobenzene	50.0	88		50.0	28 *	31 *	12	60-133	60-133	21	Q1
Chloroethane	50.0	71		50.0	65	76	15	1-200	1-200	50	
Chloroform	50.0	90		50.0	44	46	4	1-200	1-200	50	
Chloromethane (Methyl chloride)	50.0	79		50.0	66	67	2	1-200	1-200	50	
Dibromochloromethane	50.0	63		50.0	7	11	42	1-200	1-200	50	
1,1-Dichloroethane	50.0	100		50.0	53	55	3	1-200	1-200	50	
1,2-Dichloroethane (Ethylene dichloride)	50.0	122		50.0	39	47	19	1-200	1-200	50	
1,1-Dichloroethene (Dichloroethylene)	50.0	85		50.0	72	74	2	59-172	59-172	22	
1,2-Dichloroethene (total)	100	101		100	56	58	3	1-200	1-200	50	
1,2-Dichloropropane	50.0	100		50.0	41	46	12	1-200	1-200	50	
cis-1,3-Dichloropropene	50.0	120		50.0	19	23	17	1-200	1-200	50	
trans-1,3-Dichloropropene	50.0	106		50.0	13	16	25	1-200	1-200	50	
Ethylbenzene	50.0	80		50.0	31	32	4	1-200	1-200	50	
2-Hexanone	50.0	148		50.0	45	58	27	1-200	1-200	50	
Methylene chloride (Dichloromethane)	50.0	76		50.0	49	48	2	1-200	1-200	50	
4-Methyl-2-pentanone (MIBK)	50.0	135		50.0	46	56	20	1-200	1-200	50	
Styrene	50.0	90		50.0	14	15	9	1-200	1-200	50	
1,1,2,2-Tetrachloroethane	50.0	103		50.0	24	26	6	1-200	1-200	50	
Tetrachloroethene (Perchloroethylene)	50.0	77		50.0	55	62	12	1-200	1-200	50	
Toluene	50.0	86		50.0	38 *	42 *	11	59-139	59-139	21	Q1
1,1,1-Trichloroethane (Methyl chloroform)	50.0	101		50.0	64	66	2	1-200	1-200	50	
1,1,2-Trichloroethane	50.0	90		50.0	24	28	16	1-200	1-200	50	
Trichloroethene (Trichloroethylene)	50.0	105		50.0	57 *	57 *	0	62-137	62-137	24	Q1
Vinyl chloride (Chloroethene)	50.0	75		50.0	63	63	1	1-200	1-200	50	
Xylene (total)	150	85		150	30	32	7	1-200	1-200	50	

33 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Low Soil GC/MS Semivolatile Organics **Batch:** 29720 **Units:** ug/kg

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Acenaphthene	1660	57		1660	52	53	3	28-137	31-137	19	
Acenaphthylene	1660	58		1660	53	54	3	1-200	1-200	50	
Anthracene	1660	61		1660	55	56	2	1-200	1-200	50	
Benzo(a)anthracene	1660	63		1660	58	59	1	1-200	1-200	50	
Benzo(b)fluoranthene	1660	61		1660	58	56	4	1-200	1-200	50	
Benzo(k)fluoranthene	1660	61		1660	50	58	13	1-200	1-200	50	
Benzoic acid	1660	89		1660	55	53	4	1-200	1-200	50	
Benzo(g,h,i)perylene	1660	67		1660	62	59	5	1-200	1-200	50	
Benzo(a)pyrene	1660	62		1660	58	59	2	1-200	1-200	50	
Benzyl alcohol	1660	59		1660	54	55	1	1-200	1-200	50	
4-Bromophenyl phenyl ether	1660	55		1660	50	52	3	1-200	1-200	50	
Butylbenzylphthalate	1660	78		1660	73	73	1	1-200	1-200	50	
4-Chloroaniline (p-Chloroaniline)	1660	14		1660	18	19	1	1-200	1-200	50	
bis(2-Chloroethoxy)methane	1660	58		1660	53	53	0	1-200	1-200	50	
bis(2-Chloroethyl) ether	1660	59		1660	50	51	2	1-200	1-200	50	
bis(2-Chloroisopropyl) ether	1660	47		1660	41	42	2	1-200	1-200	50	
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1660	66		1660	58	59	2	28-103	26-103	33	
2-Chloronaphthalene	1660	57		1660	54	56	3	1-200	1-200	50	
2-Chlorophenol (o-Chlorophenol)	1660	58		1660	51	52	2	28-102	25-102	50	
4-Chlorophenyl phenyl ether	1660	54		1660	50	50	1	1-200	1-200	50	
Chrysene	1660	63		1660	58	59	1	1-200	1-200	50	
Dibenz(a,h)anthracene	1660	70		1660	62	60	3	1-200	1-200	50	
Dibenzofuran	1660	56		1660	51	52	3	1-200	1-200	50	
Di-n-butylphthalate	1660	58		1660	52	54	3	1-200	1-200	50	
1,2-Dichlorobenzene (o-Dichlorobenzene)	1660	47		1660	39	39	1	1-200	1-200	50	
1,3-Dichlorobenzene (m-Dichlorobenzene)	1660	48		1660	39	40	2	1-200	1-200	50	
1,4-Dichlorobenzene (p-Dichlorobenzene)	1660	48		1660	38	39	2	28-104	28-104	27	
3,3'-Dichlorobenzidine	1660	25		1660	25	25	3	1-200	1-200	50	
2,4-Dichlorophenol	1660	60		1660	54	55	2	1-200	1-200	50	
Diethylphthalate	1660	57		1660	52	53	2	1-200	1-200	50	
2,4-Dimethylphenol	1660	58		1660	57	57	1	1-200	1-200	50	
Dimethylphthalate	1660	59		1660	53	56	5	1-200	1-200	50	
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cres	1660	81		1660	67	68	1	1-200	1-200	50	
2,4-Dinitrophenol	1660	91		1660	62	64	3	1-200	1-200	50	
2,4-Dinitrotoluene	1660	66		1660	60	62	4	28-89	28-89	47	
2,6-Dinitrotoluene	1660	69		1660	64	65	2	1-200	1-200	50	
Di-n-octylphthalate	1660	72		1660	66	66	0	1-200	1-200	50	
bis(2-Ethylhexyl)phthalate	1660	72		1660	68	69	1	1-200	1-200	50	
Fluoranthene	1660	54		1660	48	50	4	1-200	1-200	50	
Fluorene	1660	55		1660	50	52	3	1-200	1-200	50	
Hexachlorobenzene	1660	51		1660	46	50	7	1-200	1-200	50	
Hexachlorobutadiene	1660	48		1660	41	42	3	1-200	1-200	50	

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Low Soil GC/MS Semivolatile Organics **Batch:** 29720 **Units:** ug/kg

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Hexachlorocyclopentadiene	1660	51		1660	21	20	1	1-200	1-200	50	
Hexachloroethane	1660	50		1660	39	40	2	1-200	1-200	50	
Indeno(1,2,3-cd)pyrene	1660	68		1660	61	59	4	1-200	1-200	50	
Isophorone	1660	63		1660	56	57	1	1-200	1-200	50	
2-Methylnaphthalene	1660	56		1660	50	52	4	1-200	1-200	50	
2-Methylphenol (o-Cresol)	1660	57		1660	52	54	3	1-200	1-200	50	
4-Methylphenol (p-Cresol)	1660	57		1660	51	53	3	1-200	1-200	50	
Naphthalene	1660	55		1660	48	48	0	1-200	1-200	50	
2-Nitroaniline (o-Nitroaniline)	1660	75		1660	70	72	3	1-200	1-200	50	
3-Nitroaniline (m-Nitroaniline)	1660	37		1660	40	41	3	1-200	1-200	50	
4-Nitroaniline (p-Nitroaniline)	1660	63		1660	38	39	1	1-200	1-200	50	
Nitrobenzene	1660	63		1660	55	56	1	1-200	1-200	50	
2-Nitrophenol (o-Nitrophenol)	1660	65		1660	58	59	0	1-200	1-200	50	
4-Nitrophenol (p-Nitrophenol)	1660	77		1660	56	64	14	28-114	11-114	50	
N-Nitrosodiphenylamine (Diphenylamine)	1660	67		1660	59	60	2	1-200	1-200	50	
N-Nitroso-di-n-propylamine	1660	54		1660	48	49	2	28-126	41-126	38	
Pentachlorophenol	1660	50		1660	40	44	9	17-109	17-109	47	
Phenanthrene	1660	62		1660	56	59	4	1-200	1-200	50	
Phenol	1660	68		1660	61	62	2	26-90	26-90	35	
Pyrene	1660	73		1660	67	66	1	35-142	35-142	36	
1,2,4-Trichlorobenzene	1660	53		1660	46	47	2	38-107	38-107	23	
2,4,5-Trichlorophenol	1660	60		1660	55	58	6	1-200	1-200	50	
2,4,6-Trichlorophenol	1660	61		1660	57	59	4	1-200	1-200	50	

65 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Method: Water GC/MS Volatile Organics **Episode:** RCR

Batch: 29761

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
29761B1A30	96	102	89					
29761BA06	105	100	88					
29761BL01	93	99	105					
29761BL02	89	101	98					
29761BL05	91	90	113					
29761BL31	91	94	91					
29761BM30	96	89	114					
29761SM30	97	87	112					
RAP-008	91	100	91					
RAP-012	81 *	101	85 *					
RAQ-001	105	100	103					
RAQ-005	108	101	100					
RAT-001	110	103	100					
RAT-002MS	98	88	115					
RAT-003MSD	96	85 *	112					
RAT-004	97	88	116					
RAT-005	88	102	90					
RAT-006	104	99	86					
RAT-007	91	92	97					
RBH-003	90	104	89					
RBH-004	89	98	103					
RCL-001	94	92	106					
RCL-002	89	96	102					
RCL-003	90	99	102					
RCR-011	96	94	113					
RCR-012	94	92	107					
RDF-007	94	100	108					
RDF-008	94	94	109					
RDF-014	89	97	105					
RDM-001	104	97	91					
QC limits:	**88 - 110**	**86 - 115**	**86 - 118**					

Sur 1: Toluene-d8 (S)
Sur 2: 4-Bromofluorobenzene (S)
Sur 3: Dibromofluoromethane (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

4/8/99 10:05:36

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Method: Low Soil GC/MS Volatile Organics **Episode:** RCR

Batch: 29848

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
29848B1A02	106	112	89					
29848BA06	105	100	88					
29848BL05	91	90	113					
29848MS	106	106	107					
29848MSD	109	108	103					
29848SA06	92	97	115					
RCR-001	86	108	107					
RCR-001RE	155 *	113	63 *					
RCR-002	88	104	113					
RCR-002RE	152 *	110	65 *					
RCR-003	89	107	112					
RCR-003RE	154 *	108	63 *					
RCR-004	86	112	108					
RCR-004RE	149 *	117	63 *					
RCR-005	155 *	117	61 *					
RCR-006	86	114	116					
RCR-006RE	154 *	111	66 *					
RCR-007	103	100	91					
RCR-008	105	99	93					
RCR-009	106	102	90					
RCR-010	103	102	90					
QC limits:	**81 - 117**	**74 - 121**	**80 - 120**					

Sur 1: Toluene-d8 (S)
Sur 2: 4-Bromofluorobenzene (S)
Sur 3: Dibromofluoromethane (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an exception.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

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Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Method: Low Soil GC/MS Semivolatile Organics **Episode:** RCR

Batch: 29720

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
29720B1	65	56	64	65	65	48		
29720B2	65	58	64	65	67	55		
29720B2U	66	65	77	61	56	68		
29720B3	60	65	77	53	48	68		
29720B4	71	74	83	66	61	74		
29720B5	66	67	79	61	55	72		
29720MS	62	57	59	64	62	50		
29720MSD	63	59	60	65	62	54		
29720S1	71	60	63	71	69	53		
QYT-002	46	41	51	47	43	37		
QYT-003	26	20 *	27	29	26	18 *		
QYT-004	53	49	60	53	51	50		
QYT-005	50	53	63	59	58	50		
QYT-006	36	33	37	41	40	29		
RAR-002	69	70	82	63	54	41		
RBA-002	42	40	42	36	34	27		
RBB-002	69	51	60	13 *	31	18 *		
RBB-002DL	89	85	76	78	44	7 D		
RCR-001	59	59	72	59	52	78		
RCR-002	61	56	70	45	53	71		
RCR-003	69	70	81	64	56	36		
RCR-004	66	62	60	59	53	86		
RCR-005	67	40	56	76	67	71		
RCR-006	70	76	69	60	47	45		
RCR-007	46	83	73	80	79	59		
RCR-008	67	65	68	59	49	79		
RCR-009	62	52	71	59	54	80		
RCR-010	75	68	123	75	68	81		
RDL-001	46	40	36	35	18 *	8 *		
QC limits:	23 - 120	30 - 115	18 - 137	24 - 113	25 - 121	19 - 122		

Sur 1: Nitrobenzene-d5 (S)
Sur 2: 2-Fluorobiphenyl (S)
Sur 3: Terphenyl-d14 (S)
Sur 4: Phenol-d5 (S)
Sur 5: 2-Fluorophenol (S)
Sur 6: 2,4,6-Tribromophenol (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an exception.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

4/9/99 10:05:29

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29761BM30

Description: Water Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Water GC/MS Volatile Organics **Batch:** 29761 **Units:** ug/l

Prep Factor: 1 **Leached:** n/a **Prepared:** **Analyzed:** 30-Mar-99 15:54 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	ND		10.0
75-27-4	Bromodichloromethane	1	ND		5.00
75-25-2	Bromoform	1	ND		5.00
74-83-9	Bromomethane (Methyl bromide)	1	ND		10.0
56-23-5	Carbon tetrachloride	1	ND		5.00
75-00-3	Chloroethane	1	ND		10.0
74-87-3	Chloromethane (Methyl chloride)	1	ND		10.0
124-48-1	Dibromochloromethane	1	ND		5.00
75-34-3	1,1-Dichloroethane	1	ND		5.00
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		5.00
540-59-0	1,2-Dichloroethene (total)	1	ND		5.00
78-87-5	1,2-Dichloropropane	1	ND		5.00
10061-01-5	cis-1,3-Dichloropropene	1	ND		5.00
10061-02-6	trans-1,3-Dichloropropene	1	ND		5.00
591-78-6	2-Hexanone	1	ND		10.0
75-09-2	Methylene chloride (Dichloromethane)	1	ND		5.00
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		10.0
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		5.00
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		5.00
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		5.00
79-00-5	1,1,2-Trichloroethane	1	ND		5.00
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		5.00
75-01-4	Vinyl chloride (Chloroethene)	1	ND		10.0

23 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

4/8/99 11:17:51

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29848B1A02

Description: Low Soil Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Low Soil GC/MS Volatile Organics **Batch:** 29848 **Units:** ug/kg

Prep Factor: 1 **Leached:** n/a **Prepared:** **Analyzed:** 02-Apr-99 16:23 DE

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
67-64-1	Acetone (2-Propanone, Dimethyl ketone)	1	ND		10.0
71-43-2	Benzene	1	ND		5.00
75-27-4	Bromodichloromethane	1	ND		5.00
75-25-2	Bromoform	1	ND		5.00
74-83-9	Bromomethane (Methyl bromide)	1	ND		10.0
78-93-3	2-Butanone (Methyl ethyl ketone)	1	ND		10.0
75-15-0	Carbon disulfide	1	ND		5.00
56-23-5	Carbon tetrachloride	1	ND		5.00
108-90-7	Chlorobenzene	1	ND		5.00
75-00-3	Chloroethane	1	ND		10.0
67-66-3	Chloroform	1	ND		5.00
74-87-3	Chloromethane (Methyl chloride)	1	ND		10.0
124-48-1	Dibromochloromethane	1	ND		5.00
75-34-3	1,1-Dichloroethane	1	ND		5.00
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	1	ND		5.00
75-35-4	1,1-Dichloroethene (Dichloroethylene)	1	ND		5.00
540-59-0	1,2-Dichloroethene (total)	1	ND		5.00
78-87-5	1,2-Dichloropropane	1	ND		5.00
10061-01-5	cis-1,3-Dichloropropene	1	ND		5.00
10061-02-6	trans-1,3-Dichloropropene	1	ND		5.00
100-41-4	Ethylbenzene	1	ND		5.00
591-78-6	2-Hexanone	1	ND		10.0
75-09-2	Methylene chloride (Dichloromethane)	1	ND		5.00
108-10-1	4-Methyl-2-pentanone (MIBK)	1	ND		10.0
100-42-5	Styrene	1	ND		5.00
79-34-5	1,1,2,2-Tetrachloroethane	1	ND		5.00
127-18-4	Tetrachloroethene (Perchloroethylene)	1	ND		5.00
108-88-3	Toluene	1	ND		5.00
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1	ND		5.00
79-00-5	1,1,2-Trichloroethane	1	ND		5.00
79-01-6	Trichloroethene (Trichloroethylene)	1	ND		5.00
75-01-4	Vinyl chloride (Chloroethene)	1	ND		10.0
1330-20-7	Xylene (total)	1	ND		5.00

33 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

4/8/99 10:06:01

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29720B1

Description: Low Soil Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Low Soil GC/MS Semivolatile Organics **Batch:** 29720 **Units:** ug/kg

Prep Factor: 1 **Leached:** n/a **Prepared:** 18-Mar-99 **Analyzed:** 30-Mar-99 17:29 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
83-32-9	Acenaphthene	1	ND		333
208-96-8	Acenaphthylene	1	ND		333
120-12-7	Anthracene	1	ND		333
56-55-3	Benzo(a)anthracene	1	ND		333
205-99-2	Benzo(b)fluoranthene	1	ND		333
207-08-09	Benzo(k)fluoranthene	1	ND		333
65-85-0	Benzoic acid	1	ND		833
191-24-2	Benzo(g,h,i)perylene	1	ND		333
50-32-8	Benzo(a)pyrene	1	ND		333
100-51-6	Benzyl alcohol	1	ND		333
101-55-3	4-Bromophenyl phenyl ether	1	ND		333
85-68-7	Butylbenzylphthalate	1	ND		333
106-47-8	4-Chloroaniline (p-Chloroaniline)	1	ND		333
111-91-1	bis(2-Chloroethoxy)methane	1	ND		333
111-44-4	bis(2-Chloroethyl) ether	1	ND		333
108-60-1	bis(2-Chloroisopropyl) ether	1	ND		333
59-50-7	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	1	ND		333
91-58-7	2-Chloronaphthalene	1	ND		333
95-57-8	2-Chlorophenol (o-Chlorophenol)	1	ND		333
7005-72-3	4-Chlorophenyl phenyl ether	1	ND		333
218-01-9	Chrysene	1	ND		333
53-70-3	Dibenz(a,h)anthracene	1	ND		333
132-64-9	Dibenzofuran	1	ND		333
84-74-2	Di-n-butylphthalate	1	ND		333
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)	1	ND		333
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)	1	ND		333
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)	1	ND		333
91-94-1	3,3'-Dichlorobenzidine	1	ND		667
120-83-2	2,4-Dichlorophenol	1	ND		333
84-66-2	Diethylphthalate	1	ND		333
105-67-9	2,4-Dimethylphenol	1	ND		333
131-11-3	Dimethylphthalate	1	ND		333
534-52-1	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	1	ND		833
51-28-5	2,4-Dinitrophenol	1	ND		833
121-14-2	2,4-Dinitrotoluene	1	ND		333
606-20-2	2,6-Dinitrotoluene	1	ND		333
117-84-0	Di-n-octylphthalate	1	ND		333
117-81-7	bis(2-Ethylhexyl)phthalate	1	ND		333
206-44-0	Fluoranthene	1	ND		333

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29720B1

Description: Low Soil Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Low Soil GC/MS Semivolatile Organics **Batch:** 29720 **Units:** ug/kg

Prep Factor: 1 **Leached:** n/a **Prepared:** 18-Mar-99 **Analyzed:** 30-Mar-99 17:29 JA

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
86-73-7	Fluorene	1	ND		333
118-74-1	Hexachlorobenzene	1	ND		333
87-68-3	Hexachlorobutadiene	1	ND		333
77-47-4	Hexachlorocyclopentadiene	1	ND		333
67-72-1	Hexachloroethane	1	ND		333
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND		333
78-59-1	Isophorone	1	ND		333
91-57-6	2-Methylnaphthalene	1	ND		333
95-48-7	2-Methylphenol (o-Cresol)	1	ND		333
106-44-5	4-Methylphenol (p-Cresol)	1	ND		333
91-20-3	Naphthalene	1	ND		333
88-74-4	2-Nitroaniline (o-Nitroaniline)	1	ND		833
99-09-2	3-Nitroaniline (m-Nitroaniline)	1	ND		833
100-01-6	4-Nitroaniline (p-Nitroaniline)	1	ND		833
98-95-3	Nitrobenzene	1	ND		333
88-75-5	2-Nitrophenol (o-Nitrophenol)	1	ND		333
100-02-7	4-Nitrophenol (p-Nitrophenol)	1	ND		833
86-30-6	N-Nitrosodiphenylamine (Diphenylamine)	1	ND	A10	333
621-64-7	N-Nitroso-di-n-propylamine	1	ND		333
87-86-5	Pentachlorophenol	1	ND		833
85-01-8	Phenanthrene	1	ND		333
108-95-2	Phenol	1	ND		333
129-00-0	Pyrene	1	ND		333
120-82-1	1,2,4-Trichlorobenzene	1	ND		333
95-95-4	2,4,5-Trichlorophenol	1	ND		833
88-06-2	2,4,6-Trichlorophenol	1	ND		333

65 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Low Soil GC Pesticides/PCBs and Chlorinated Hy **Batch:** 29664 **Units:** ug/kg

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Aldrin	16.7	86		16.7	72	67	6	42-122	42-122	50	
alpha-BHC	16.7	72		16.7	64	59	8	37-134	37-134	50	
beta-BHC	16.7	80		16.7	69	66	4	17-147	17-147	50	
delta-BHC	16.7	90		16.7	73	71	2	19-140	19-140	50	
gamma-BHC (Lindane)	16.7	80		16.7	68	65	5	32-137	32-137	50	
4,4'-DDD (p,p'-DDD)	16.7	86		16.7	55	54	1	31-141	31-141	50	
4,4'-DDE (p,p'-DDE)	16.7	79		16.7	66	63	4	30-145	30-145	50	
4,4'-DDT (p,p'-DDT)	16.7	81		16.7	60	62	2	25-160	25-160	50	
Dieldrin	16.7	80		16.7	67	65	3	36-146	36-146	50	
Endosulfan I (alpha-Endosulfan)	16.7	74		16.7	58	62	6	45-153	45-153	50	
Endosulfan II (beta-Endosulfan)	16.7	78		16.7	60	60	1	1-202	1-202	50	
Endosulfan sulfate	16.7	83		16.7	64	63	1	26-144	26-144	50	
Endrin	16.7	86		16.7	65	65	1	30-147	30-147	50	
Endrin aldehyde	16.7	81		16.7	45	62	32	40-150	40-150	50	
Heptachlor	16.7	83		16.7	72	68	7	34-111	34-111	50	
Heptachlor epoxide	16.7	77		16.7	67	65	3	37-142	37-142	50	
Methoxychlor	16.7	103		16.7	55	53	4	40-150	40-150	50	

17 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Method: Low Soil GC Pesticides/PCBs and Chlorinated Hydrocarbons **Episode:** RCR

Batch: 29664

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
29664B1	74	78	71	81				
29664B2	109	96						
29664MS	63	71	67	140				
29664MSD	64	70	69	115				
29664S1	77	85	85	187 *				
QXF-001	80	88	82	145				
QXF-002	82	67	71	91				
QXF-005	80	80	71	104				
QXF-007	83	91	75	90				
QXF-008	56	68	55	95				
RCR-001	82	91						
RCR-002	101	83						
RCR-003	82	90						
RCR-004	92	89						
RCR-005	67	75						
RCR-006	69	75						
RCR-007	68	73						
RCR-008	90	73						
RCR-009	77	78						
RCR-010	62	63						
QC limits:	30 - 150	30 - 150	30 - 150	30 - 150				

Sur 1: Tetrachloro-m-xylene (S)
Sur 2: Decachlorobiphenyl (S)
Sur 3: Tetrachloro-m-xylene (confirmation) (S)
Sur 4: Decachlorobiphenyl (confirmation) (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29664B1

Description: Low Soil Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Low Soil GC Pesticides/PCBs and Chlorinated Hy **Batch:** 29664 **Units:** ug/kg

Prep Factor: 1 **Leached:** n/a **Prepared:** 15-Mar-99 **Analyzed:** 22-Mar-99 16:19 ML

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
309-00-2	Aldrin	1	ND		1.70
319-84-6	alpha-BHC	1	ND		1.70
319-85-7	beta-BHC	1	ND		1.70
319-86-9	delta-BHC	1	ND		1.70
58-89-9	gamma-BHC (Lindane)	1	ND		1.70
57-74-9	Chlordane (technical)	1	ND		16.7
72-54-9	4,4'-DDD (p,p'-DDD)	1	ND		3.30
72-55-9	4,4'-DDE (p,p'-DDE)	1	ND		3.30
50-29-3	4,4'-DDT (p,p'-DDT)	1	ND		3.30
60-57-1	Dieldrin	1	ND		3.30
959-98-8	Endosulfan I (alpha-Endosulfan)	1	ND		1.70
33213-65-9	Endosulfan II (beta-Endosulfan)	1	ND		3.30
1031-07-8	Endosulfan sulfate	1	ND		3.30
72-20-8	Endrin	1	ND		3.30
7421-36-3	Endrin aldehyde	1	ND		3.30
76-44-8	Heptachlor	1	ND		1.70
1024-57-3	Heptachlor epoxide	1	ND		1.70
72-43-5	Methoxychlor	1	ND		16.7
8001-35-2	Toxaphene	1	ND		80.0
12674-11-2	Aroclor-1016	1	ND		33.3
11104-28-2	Aroclor-1221	1	ND		33.3
11141-16-5	Aroclor-1232	1	ND		33.3
53469-21-9	Aroclor-1242	1	ND		33.3
12672-29-6	Aroclor-1248	1	ND		33.3
11097-69-1	Aroclor-1254	1	ND		33.3
11096-82-5	Aroclor-1260	1	ND		33.3

26 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Low Soil GC Extractable TPH Batch: 29820 Units: mg/kg

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
TPH - Diesel Range Organics	50.0	94		50.0	44 *	45 *	1	50-150	50-150	50	QI

1 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

4/8/99 10:06:31

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: RCR

Method: Med Soil GC Purgeable TPH Batch: 29831 Units: ug/kg

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
TPH - Gasoline Range Organics	50000	117		50000	101	122	18	50-150	50-150	50	

1 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Method: Low Soil GC Extractable TPH **Episode:** RCR

Batch: 29820

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
29820BI	71							
29820MS	62							
29820MSD	55							
29820SI	74							
RCR-001	125							
RCR-002	52							
RCR-003	61							
RCR-004	119							
RCR-005	71							
RCR-006	63							
RCR-007	66							
RCR-008	71							
RCR-009	75							
RCR-010	65							
QC limits:	40 - 150							

Sur 1: n-Pentacosane (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an exception.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Method: Med Soil GC Purgeable TPH **Episode:** RCR

Batch: 29831

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
29831B2	98							
29831MS	90							
29831MSD	117							
29831S1	111							
RCR-001	98							
RCR-002	106							
RCR-003	110							
RCR-004	104							
RCR-005	96							
RCR-006	106							
RCR-007	108							
RCR-008	91							
RCR-009	97							
RCR-010	94							
QC limits:	40 - 150							

Sur 1: 1,2,4-Trichlorobenzene (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an exception.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

4/1/99 10:07:13

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29820B1

Description: Low Soil Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Low Soil GC Extractable TPH **Batch:** 29820 **Units:** mg/kg

Prep Factor: 1 **Leached:** n/a **Prepared:** 29-Mar-99 **Analyzed:** 30-Mar-99 13:31 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
	TPH - Diesel Range Organics	1	ND		10.0

1 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 29831B2

Description: Med Soil Method Blank **Episode:** RCR **% Moisture:** n/a

Method: Med Soil GC Purgeable TPH **Batch:** 29831 **Units:** ug/kg

Prep Factor: 1 **Leached:** n/a **Prepared:** 05-Apr-99 **Analyzed:** 05-Apr-99 20:24 NC

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
	TPH - Gasoline Range Organics	1	ND		5000

1 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

4/8/99 11:19:53

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Multiple Parameters - Multiple Batches

Episode: RCR

Parameter Name	Batch	Blank	Units	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	Dup RPD	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Oil & Grease	29813	ND	mg/kg	3230	93		4090	77		118 *	80-120	75-125	20	

=(Count(ParaCode())) " parameter(s) reported"
* denotes recovery outside of QC limits.
Spike amounts are not corrected for moisture content of the spiked sample.

4/8/99 10:07:59

Report Qualifiers

Pace Analytical Services, Inc. - New Orleans

Single Episode

Episode: RCR

Qualifier	Qualifier Description
A10	N-Nitrosodiphenylamine is reported as diphenylamine.
A11	This analyte is a common solvent. Its presence in field samples may be an artifact of sample collection, transport, laboratory storage or analysis.
M1	The sample required reextraction and/or reanalysis due to surrogate recoveries outside the QC limits. Reanalysis yielded similar results, indicating a sample matrix effect. The results reported are from the original analysis.
M2	The sample required reanalysis due to internal standard response outside the QC limits. Reanalysis yielded similar results, indicating a sample matrix effect. The results reported are from the original analysis.
N	See narrative for a detailed explanation.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.

The Right Chemistry, The Right Solution®

CHAIN OF CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

462987

Page: of

Required Client Information: Section A	Required Client Information: Section B	To Be Completed by Pace Analytical and Client Section C
Company: U.S. Army Corps of Engineers	Report To: Del Britsch	Quote Reference:
Address: P.O. Box 60267	Invoice To:	Project Manager:
New Orleans, LA 70160-0267	P.O.	Project #:
Phone: Fax:	Project Name: IHNC Lock Replacement	Profile #:
	Project Number:	

Client Information (Check quote/contract): Requested Due Date: TAT:

* Under 14 day turnaround subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

Section D Required Client Information:

SAMPLE ID

One character per box. (A–Z, 0–9 / , -)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — WATER / WT; SOIL / SL; OIL / OL; WIPE / WP; AIR / AR; TISSUE / TS; OTHER / OT

Requested Analyses: TPH-gas chrom. 8015; TPH-Diesel/Lube 8015; Heavy Metals (6010A, 7470A); VOC's 8260B; SVOC's 8270B; Pesticides & PCB's 8081; Oil and Grease 413.1

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (mm:hh a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Remarks / Lab ID
1	NOIHNCSDC1		3/23/99									
2	NOIHNCSDC2		"									
3	NOIHNCSDC3		"									
4	NOIHNCSDC4		"									
5	NO-IHNC-SD-C5		"									
6	NO-IHNC-SD-C6		"									
7	NO-IHNC-SD-C7		"									
8	NO-IHNC-SD-C8		"									
9	~~NO-IHNC-SD-C9~~		~~"~~									
10	NO-IHNC-SD-C10		"									
11	NO-IHNC-SD-C11		"									
12	NO-IHNC-FB and TB		"									

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	1°C			Douglas Drilling	3/23/99	1620	Carol Dominick / Pace	3/23/99	1620
Received on ICE:	(Y) / N								
Sealed Cooler:	Y / (N)								
Samples Intact:	(Y) / N								

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Douglas Drilling

SIGNATURE of SAMPLER: Douglas Drilling

DATE Signed: (MM / DD / YY) 3/23/99

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

APPROVAL PAGE

Sampling and Analysis Plan

For

IHNC Lock Replacement
Galvez Street Wharf Demolition

New Orleans COE

Approved by:

Ronald R Elmer — 3/1/99
Functional Team Leader, Ronald Elmer — **Date**

3/2/99
Technical Manager, Gary Brouse — **Date**

3-2-99
QC Manager, Reuben Mabry — **Date**

3/2/99
Site Geologist, Douglas Dillon — **Date**

March 2, 1999

TABLE OF CONTENTS

LIST OF ACRONYMS

CGI	Combustible Gas Indicator
FB	Field Blank
FID	Flame Ionization Detector
IHNC	Inner-Harbor Navigational Chanal
LFL	Lower Flammability Limit
LQ	Liquid
NOCOE	New Orleans Corps of Engineers
PEL	Personnel Exposure Limit
PID	Photo Ionization Detector
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
SAP	Sampling & Analysis Plan
SL	Sludge
SOW	Scope of Work
TB	Trip Blank
VOC	Volatile Organic Compound
SVOC	Semi Volatile Organic Compound

SAMPLING AND ANALYSIS PLAN

GALVEZ STREET WHARF SEDIMENTS

1 Site Background

The IHNC project site is located on both the east and west banks of the Inner Harbor Navigation Canal (IHNC) between Florida Avenue and the St. Claude Avenue bridge. The Galvez Street Wharf is located on the west side of the IHNC, north of the Coast Guard Area and extending to near Florida Avenue.

The Galvez Street Wharf is a concrete and timber dock with a large concrete and steel framed warehouse upon the dock. There is a wide loading apron with two sets of railroad tracks on the canal side of the building and a loading apron/road and an adjacent set of railroad tracks on the land side. The wharf is over 2,500 feet long and is parallel to the IHNC.

2 Sampling Objectives

The objective of this SAP specifically addresses characterization of sediment materials under the wharf. The appropriate use of the sediments will be determined based upon the results of sampling. Field activities will include chemical laboratory testing to determine the disposition or disposal of regulated sediments.

3 Sample Location and Frequency

The number and location of samples collected during characterization activities will be as described in the following paragraphs. The first attempt to collect samples will be made by coring through the concrete decking to obtain sediment samples directly beneath the wharf. If permissions to do this are not granted or if cutting through the deck is too difficult, then canal sediments will be sampled adjacent to the wharf.

3.1 Sediment Sampling Under Wharf

The concrete deck of the wharf will be cored or broken to provide an adequate opening to obtain vibra core borings of the first five (5) feet of canal sediments. The concrete deck will be cored or broken at locations between the existing rail tracks at the locations shown on Figure 3.1. The borings will be taken in approximately 2 to 3 feet of water. Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), heavy metals, and pesticides, will be analyzed for each sediment sample collected. Pace Laboratories will use methods shown in *Table 1* to provide analytical data.

3.2 Sediment Sampling Adjacent to Wharf

If the concrete deck of the wharf can not be cored or broken, then samples will be taken adjacent to the wharf at the locations shown on Figure 3.2. These samples will be taken in approximately 25 feet of water. Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), heavy metals, and pesticides, will be analyzed for each sediment sample collected. Pace Laboratories will use methods shown in *Table 1* to provide analytical data.

4 *Sample Designation*

A unique sample numbering system will be used to identify each sample for chemical analysis. In addition, this sample numbering system will be used to identify all trip blanks, field blanks and field duplicates. Each unique sample number will consist of the components described below.

The following 6-digit designation will be used to identify the samples:

NO-IHNC = New Orleans Corps of Engineers IHNC

Each sample location will be identified by an alpha-code corresponding to the sample type, followed by a four-digit sample location number, as appropriate. The alpha codes are as follows:

LQ = Liquids
S = Soils
W = Waters
SD = Sediment

The term waters will denote that the majority of the liquid fraction was water derived from decontamination efforts where water was the principal liquid used.

The following codes will be used for QC samples, and will be added as prefixes to the sample location:

TB = Trip Blank
FB = Field Blank

NOTE: Field duplicates will be utilized but not identified to the laboratory.

The following are examples of the sample numbering to be used during the project:

NO-IHNC-SD-C1: New Orleans Corps of Engineers IHNC, Sediment sample from coring 1.
NO-IHNC-TB: New Orleans Corps of Engineers FDA, Trip Blank.

Note: The sample number identification numbers will be placed on the outside of the corresponding vibra core tube with a permanent marker.

5 Sampling Equipment and Procedures

The sampling requirements for this work are expected to involve sediment matrix sampling. The following subsections present the procedures that will be employed during sampling.

5.1 Equipment

The equipment necessary to complete the sediment sampling under the wharf will be a portable small diameter vibra core boring rig, aluminum vibra core tubes, necessary equipment to cut the wharf's concrete deck, PPE and other expendable supplies.

The equipment necessary to complete the sediment sampling adjacent to the wharf will be a smallponar type grab sampler, sample line, stainless steel or PTFE tray, sampling bottles, stainless steel mixing bowl, PPE and other expendable supplies.

5.2 Sampling Procedures (For Ponar Sampling Only)

- Attach a decontaminated Ponar to the necessary length of sample line. Solid braided 5-mm (3/16-in.) nylon line is usually of sufficient strength; however, 20-mm (3/4 -in.) or greater nylon line allows for easier hand hoisting.
- Measure the depth to the top of the sediment with a weighted object.
- Mark the distance to the top of the sediment on the sample line with a proximity mark 1 m above the sediment. Record depth to top of sediment and depth of sediment penetration.
- Open sampler jaws until latched. From this point, support the sampler by its lift line, or the sampler will be tripped and the jaws will close.
- Tie free end of sample line to fixed support to prevent accidental loss of sampler.
- Begin lowering the sampler until the proximity mark is reached.
- Lower the sampler at a slow rate of descent through last meter until contact is felt.
- Allow sample line to slack several centimeters. In strong currents, more slack may be necessary to release mechanism.
- Slowly raise dredge to clear surface.
- Drain free liquids through the screen of the sampler, being careful not to lose fine sediments.
- Place Ponar into a tray and open. Lift Ponar clear of the tray, and decontaminate.
- Repeat Steps until sufficient sample volume has been collected.
- Begin sampling with the acquisition of any grab VOC samples, conducting the sampling with as little disturbance as is possible to the media.
- Homogenize the sample in a stainless steel mixing bowl for the remaining analytical parameters.
- Collect a suitable aliquot with a stainless steel laboratory spoon or equivalent, and place sample into appropriate sample bottle. Secure the cap tightly.
- Label the sample bottle with the appropriate sample label. Be sure to complete the label carefully and clearly, addressing all the categories or parameters.
- Place filled sample containers on ice immediately.
- Complete all chain-of-custody documents and field sheets and record information in the field logbook.
- Decontaminate sampling equipment after use and between sample locations.
- Field Duplicate samples will be taken for 10% of the samples. No QA Sampling is required for this project due to limited scope and objectives of sampling and analysis.

6 Decontamination

6.1 Personnel

Persons working on the site will undergo decontamination before leaving the site. Facilities for storage of reusable protective clothing and for the disposal of clothing contaminated beyond reuse will be placed on site. Also, facilities for decontaminating hands, boots, and gloves, consisting of a detergent wash and water rinse, will be provided.

6.2 Equipment

Precautions will be taken to prevent the potential transfer of contamination from one sample location to another during the field activities. Equipment used to sample will be decontaminated prior to use at each boring location. This equipment includes but is not limited to small tools,vibra core, and PPE (gloves). The following paragraph describes the decontamination equipment that will be used at the site.

7 Decontamination Supplies

The decontamination wash solutions will consist of Alconox® detergent and potable water, and distilled water. Other supplies will include buckets, tubs, and brushes. The decontamination supplies will be transported in sealed unbreakable containers. The containers will be inspected visually for leaks or contamination prior to each use.

8 Sample Handling

Samples will only be handled by workers specifically designated as samplers. The worker who signs the Chain of Custody will guarantee sample integrity until final arrival at the laboratory.

8.1 Sample Containers

8.1.1 Sediment Sampling Under Wharf

The sample containers for the under wharf sediment samples will be the vibra core aluminum tubes. After the tube is removed from the vibra core rig, the tubes will be cut down to four (4) feet to fit in a large ice chest. Each end of the tube will capped and sealed with tape prior to placement in ice chest.

8.1.2 Sediment Sampling Adjacent to Wharf

The sample containers for the adjacent wharf sampling will be the appropriate bottle for each analytical method as supplied by the laboratory.

8.2 Sample Handling and Decontamination

After sample collection in the field, the exterior of the sample containers will be decontaminated if gross contamination is present. The sample containers will be handled with gloves until decontaminated with a detergent wash and water rinse. Care will be taken to avoid damaging the temporary labeling during decontamination. After decontamination, permanent labels will be placed on clean sample container exteriors. The sample containers will be well cushioned with packing materials and placed in insulated cooling chests for transportation to the laboratory. Care will be taken to seal tube ends or bottle caps tightly. The samples will be shipped via overnight carrier to the laboratory to arrive no later than 48 hours after the time sampled.

8.3 Procedures For Packing and Shipping Samples

Samples will be packaged as follows:

1. Use water-proof metal (or equivalent strength plastic) ice chests or coolers only.
2. After determination of specific samples to be submitted and filling out the pertinent information on the sample label and tag, put the label on the vibra core tube or sampling bottles.

3. Place bubble wrap and/or packing material around and among the vibra core tubes or sampling bottles.
4. Add sufficient ice (double bagged) between and on top of the samples to cool them and keep them at approximately 4 C until received by the analytical laboratory.
5. Fill cooler with cushioning material.
6. A trip blank for VOC will be included in the ice chest.
7. Put paperwork (Chain-of-Custody Record) in a waterproof plastic bag and tape it with duct tape to the inside.
8. Tape the drain of the cooler shut with duct tape.
9. Secure lid by wrapping the cooler completely with strapping, duct or clear shipping tape at a minimum of two locations. Do not cover any labels.
10. Attach completed shipping label to top of the cooler.
11. Label "This Side Up" on the top of the cooler, "Up" with arrow denoting direction on all four sides, and "Fragile" on at least two sides.
12. Affix numbered and signed custody seals on front right, and back left of cooler. Cover seals with wide, clear tape.

8.4 Chain-of-Custody Records

Chain-of-Custody protocols will be established to provide documentation that samples were handled by authorized individuals as a means to maintain sample integrity. The Chain-of-Custody form will contain the following information:

- Sample identification number;
- Date, time, and depth of sample collection;
- Sample type (e.g. sludge);
- Type and number of container;
- Requested analyses;
- Field notes and laboratory notes;
- Project name and location;
- Name of collector;
- Laboratory name and contact person; and
- Signature of persons relinquishing or receiving samples.

Chain-of-Custody records will be maintained for each laboratory sample. At the end of each day on which samples are obtained, and prior to the transfer of the samples off-site, Chain-of-Custody documentation will be completed for each sample. Information on the Chain-of-Custody form will be verified to ensure that the information is consistent with the information on the container labels and in the Field Logbook. A sample Chain-of-Custody form to be used during this investigation is attached.

Upon receipt of the sample cooler at the laboratory, the laboratory custodian will break the shipping container seal, inspect the condition of the samples, and sign the Chain-of-Custody form to document receipt of the sample containers. Information on the Chain-of-Custody form will be verified to ensure that the information is consistent with the information on the container labels. If the sample containers appear to have been opened or tampered with, this should be noted by the person receiving the samples under the section entitled "Remarks." The completed Chain-of-Custody records will be included with the analytical report prepared by the laboratory.

9 Laboratory Sample Analysis

Samples will be delivered to Pace Analytical Laboratory for analysis. The objectives of analysis and methodologies to be employed are detailed in the following sections.

9.1 Objectives

The goal of material characterization is to determine if the sediments that are to be excavated will be regulated and to what degree they will be regulated.

9.2 Laboratory Sub-Sampling (Vibra Core Tubes Only)

Once the vibra core tubes have been received at the laboratory, the laboratory will split the tubes open length-wise and immediately take a sub-sample for VOC's in the middle of the column of sediments. The remaining sediments shall be homogenized and sub-sampled for the remaining analytical parameters. Duplicate sub-samples will be taken for 10% of the sub-samples. No QA Sampling is required for this project due to limited scope and objectives of sampling and analysis.

9.3 Methodology.

The following tables summarize the analytical methodologies to be used:

Table 1: Sampling and Analytical Techniques

Parameters	Media	Method	Required Detection Limit
TPH-Gas Range	Sediments	SW 846 Method 8015 (mod-extract/GC-FID)	5.0 mg/kg
TPH-Diesel Range	Sediments	SW 846 Method 8015 (mod-extract/GC-FID)	5.0 mg/kg
Heavy Metals	Sediments	TAL Metals SW 846 Method 6010a SW 846 Method 7471a (Mercury)	0.5 mg/kg
VOCs	Sediments	SW 846 Method 8260a	5.0 µg/l
SVOCs	Sediments	SW 846 Method 8270b	660 µg/l
Pesticides and PCBs	Sediments	SW 846 Method 8081	5.0 µg/l
Oil and Grease	Sediments	EPA Method 413.1	5.0 mg/kg

10 Site Documentation

10.1 Field Logbooks

A Field Team member will maintain a Field Logbook while on the site. Information recorded in the logbook will be written in an objective, factual manner so that persons reading the entries will be able to determine the sequence of events as they occurred in the field. If someone makes notes in the logbook other than the owner of the book, this will be indicated by the writer's signature and date. Information that may be recorded in the Field Logbook includes:

- Date and time of entry;
- Sample number;
- Sample description;
- Method of sampling;
- Location of sampling;
- Sketch of sample location;
- Names and phone numbers of field contacts, and persons on-site;
- Estimate of total volume of sampled material;
- Weather and field conditions during and sampling.

10.2 Corrections To Documentation

Errors or mistakes in the original field data will be crossed out with a single line, and the person making the correction will initial it. No data will be erased. In some circumstances, original documents may be transcribed, making appropriate changes and eliminating errors. In these cases, the successive documents will be dated, numbered as sequential drafts and the originals maintained in the project file. Field logs will be stored onsite during the field activities, and moved to the project files upon completion of the work effort.

11 Back-up Procedures

Back-up procedures, if required, will be documented as such in the Field Logbook. The Corps of Engineers site geologist will sign and date all back-up procedures, document and provide decision logic for each after his/her signature block.

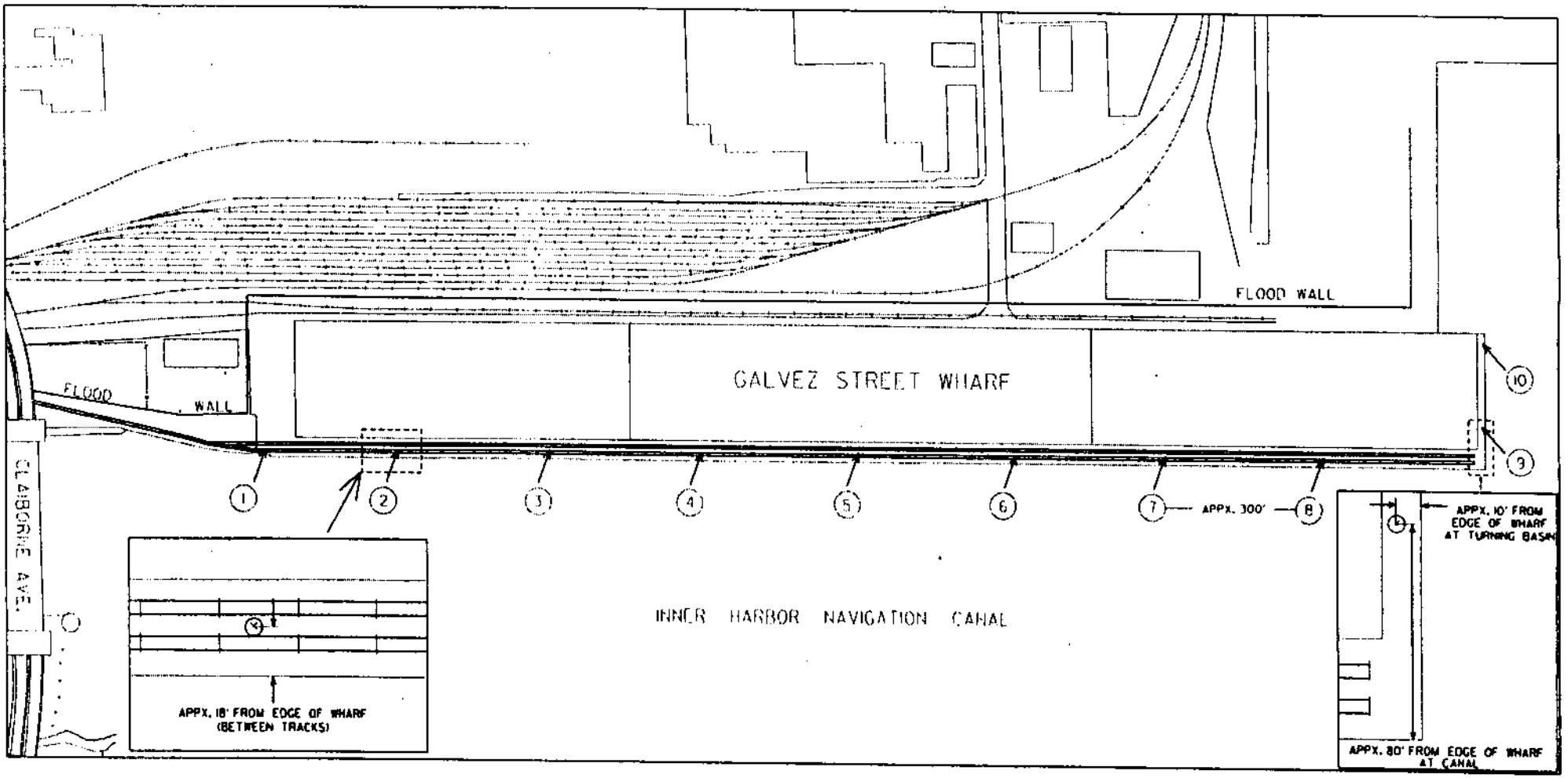
FLOOD WALL
GALVEZ STREET WHARF
FLOOD WALL
CLAIBORNE AVE.
1
2
3
4
5
6
7
APPX. 300'
8
9
10
APPX. 10' FROM EDGE OF WHARF AT TURNING BASIN
APPX. 80' FROM EDGE OF WHARF AT CANAL
INNER HARBOR NAVIGATION CANAL
APPX. 18' FROM EDGE OF WHARF (BETWEEN TRACKS)

FIGURE 3.1

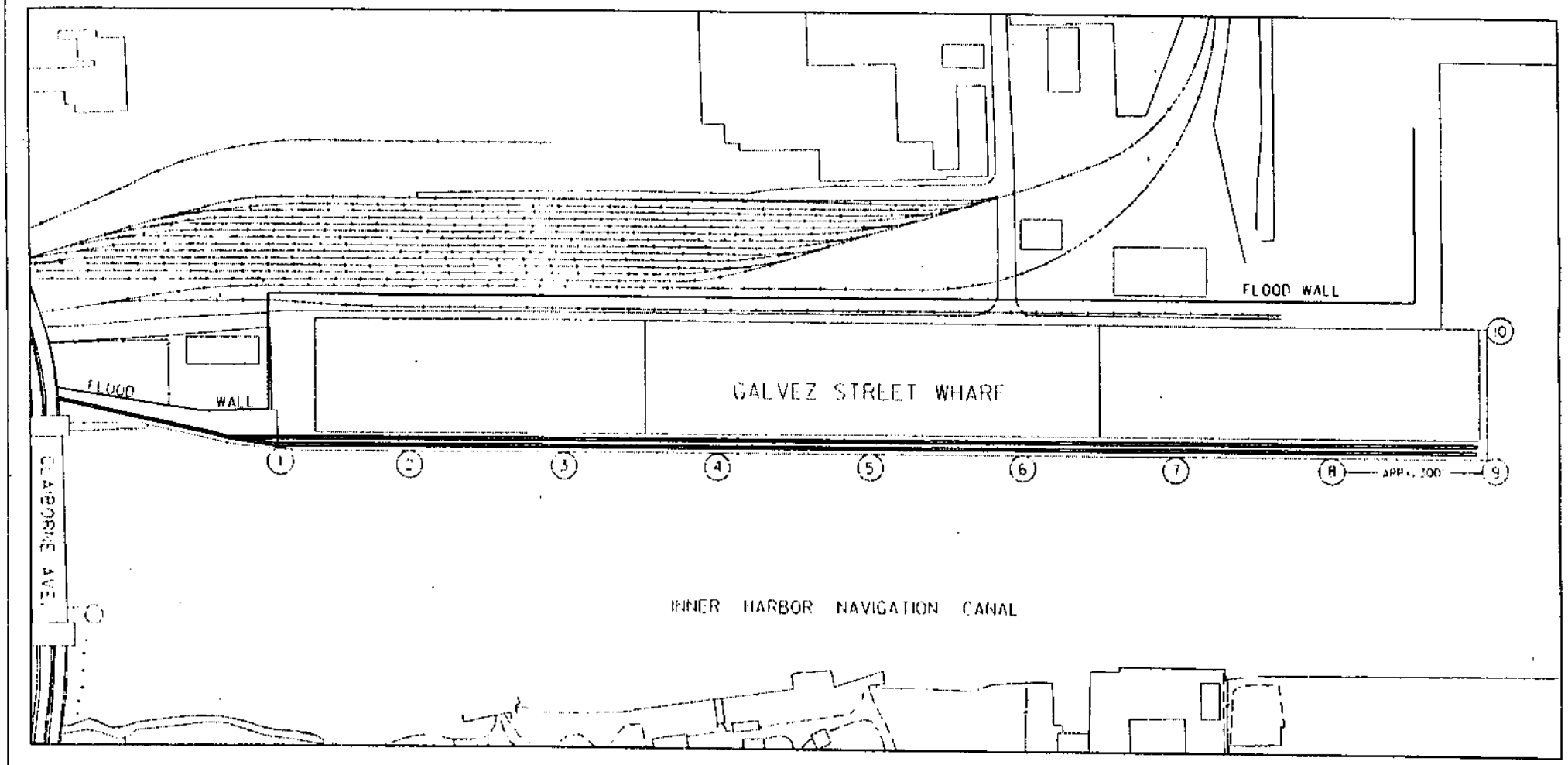
FLOOD WALL
GALVEZ STREET WHARF
FLOOD WALL
1
2
3
4
5
6
7
8
APPX. 300'
9
10
INNER HARBOR NAVIGATION CANAL

FIGURE 3.2

Sample Chain of Custody Form - Copy

To be provided by Pace Laboratories and attached here-in.

U. S. Army
Corps of Engineers
New Orleans District

FINAL SUBMITTAL

DEMOLITION DESIGN MEMORANDUM INPUT Volume 8

UNDERWATER STRUCTURAL INSPECTION AND APRON INSPECTION GALVEZ STREET WHARF OCTOBER 1994

REPORT ON
UNDERWATER STRUCTURAL INSPECTION
AND APRON INSPECTION
GALVEZ STREET WHARF
PORT OF NEW ORLEANS

October 1994

PRELIMINARY

Prepaired by:

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4101 Magazine Street
New Orleans, Louisiana 70115
Phone (504) 895-0368

Our Job No. 3885

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I EXECUTIVE SUMMARY

Lanier and Associates was contracted to perform a substructure survey of the timber piles and general condition survey of the concrete front apron of the Galvez St. wharf. Also a determination of the allowable live load capacity in the wharf's current state, and a rough order of magnitude of repair costs to allow a given (Board specified) crane to operate on the wharf.

In accordance with our agreement a substructure inspection was performed by divers who rated the timber piles remaining diameter and took samples for further inspection. Also performed was a condition survey of the concrete front apron. This information allowed us to determine the allowable capacity of the front apron of the wharf in its current condition. This report was prepared to summarize the findings of the inspection and to address the questions raised above.

The front 35 foot concrete apron is in fair condition. There are a few locations in which the concrete has suffered damage and should be repaired, however these areas could also be blocked off and repaired at some future date.

The missing mooring bollards should be replaced and would require the repair of some of the concrete deck. The timber fender and deck curbing systems will require repairs and regular maintenance as is typical with these structures. The concrete substructure has sustained some minor damage from past collisions.

The timber support piles have sustained considerable damage due to Teredo Navalis, an internal marine borer belonging to the Teredinieae family. The under water inspection determined that the timber piles on average possess only 30% and 40% of their original cross sectional area. The cross sectional area of the timber piles should either be restored or an appropriate reduction in the wharf capacity should be determined.

In conclusion, the expected life of the existing timber piles is about 5 years given the rate of marine borer damage. The cost to repair the timber piles is extreme and a new facility could be constructed for less. The deck is currently usable at a reduced allowable live load. The use of a crane would be limited and would require support on special pedestals. The fender system and damaged areas of the deck should be repaired to prevent further damage and to extend the usefulness of the wharf for the next few years.

II EXISTING WHARF DESCRIPTION

The Galvez Street Wharf is located at the end of Galvez St. on the west bank of the Inner Harbor Navigational Canal Approximately 500 feet north of the Claiborne Avenue bridge. The wharf is approximately 2,500 feet long and 75 feet wide. The deck is constructed of reinforced concrete with reinforced concrete substructure on timber piles.

The piles are arranged into pile bents on 10 foot centers, oriented perpendicular to the canal. Each bent has a group of 8 piles near the face of the wharf with a single row of piles behind it. A 7 foot wide by 2 foot deep concrete cap and an 8 inch thick by 8 foot tall concrete shear wall support the 8 inch thick concrete deck. The concrete deck has two sets of rail car tracks on the front 35 feet and a wharf shed on the back 40 feet.

The facility was constructed in the early 1930's prior to the canal being filled with water. The piles were therefore installed in a dry bottom and the concrete was cast directly on the pile tops. The piles have been fully submerged since the canal was completed in the late 1930's.

III HISTORY OF FIELD INSPECTIONS

A previous inspection was performed by others for the Port of New Orleans during May 1984. We have obtained a copy of the resulting report which found the primary source of damage to the piles was from marine borers with occasional damage caused by mechanical means. Over-dredging, collisions, etc. had damaged the outer piles and fender system. The concrete substructure displayed isolated areas of damage caused by barge contact.

Information contained in the May 1984 inspection was collected by divers using a non-destructive testing device. A sonic testing apparatus was used to determine the available pile cross section by producing sound waves within the pile and recording the resulting echoes. From the recorded echoes, the sonic testing device suggests the volume of wood remaining in each tested pile.

Our investigation pursued more conventional methods of pile condition investigation such as direct inspection of the pile surface, probing the pile with a punch and retrieving core samples through the use of an increment borer.

IV WORK STATEMENT

The goal of this inspection was to determine the structural capacity of the wharf apron of the Galvez St. Wharf. It is the Port's desire to determine the adequacy of the existing apron for RO/RO vessel use. In addition to breasting and mooring a RO/RO ship against the fender system, the capacity of the existing apron to support a large crane and extensive truck traffic must also be investigated.

To answer these question, an underwater inspection of the timber piles was accomplished which determined the extent of any additional damage caused by marine borers, vessel allisions, or through other means since the previous survey. An above deck inspection was also performed in order to evaluate the strength of the reinforced concrete deck and to determine mooring bollard locations.

Some of the pile bents that had been examined in May of 1984 were reinspected and current pile conditions were compared with the previously recorded conditions. With this information an approximate rate of deterioration was established for use in the evaluation of the entire structure. Additional inspections were performed on pile bents for which there had been no previous record of inspection. This additional inspection provided further insight as to the extent of damage the timber piles have sustained.

The 1984 report determined that the marine borer activity at this site are principally the result of Teredine infestation. Teredine borers include such borers as Teredo Navalis which belong to the family of internal marine borers Teredinideae and sub family Mollusca. From the evidence found at the wharf the Teredo Navalis is the most probable marine borer causing the damage. Teredo has two shells attached at its head which it uses for boring and a gray, worm like body. At the end of its body the Teredo has two unequal siphons which project from the burrow which is used to siphon water and possibly marine microorganisms. It also has a pair of plumose near the siphons which it uses as plugs to close the burrow against undesirable elements in the water. T. ese shipworms vary in size from 3/8 inch in diameter and 6 inches in length to 1 inch in diameter and 4 to 6 feet in

length. The burrows are lined with a thin wall of nacre that scales off readily.

Our 1994 inspection allowed the divers to use their hands to feel the piles and determine the extent of damage to the outer layers of timber. The divers removed specimens from the outer layers to inspect the extent of damage done by the marine borers and to determine the remaining pile diameter. The exterior of many piles exhibited a 2" to 3" spongy layer of wood riddled with borer holes. The divers were able to recover large sections of this spongy layer for our inspection by simply pulling it from the piles.

We also obtained additional information from piles which appeared to be in good condition, i.e. minimal noticeable deterioration. To secure this information we took core samples from selected timber piles at the mud line and at the top of the pile. As expected the heaviest damage from marine borers has occurred at the mud line, due to the higher salinity of the water in the bottom of the channel. Core samples were taken using a half inch diameter increment borer which is used in the forestry industry. The samples were extracted from the core of the pile to facilitate a visual inspection. From these core samples, we were able to determine the extent of marine borer infestation in piles which were noted as being in an acceptable condition during the previous inspection.

V GENERAL CONDITION OF THE WHARF

On September 14 & 15 of 1994 divers from Professional Divers of New Orleans Inc., under the direction of Lanier and Associates, performed an underwater inspection of the Galvez Street dock facility to determine the condition of the timber piles. On September 20 of 1994, Lanier and Associates performed a surface inspection of the wharf apron to determine its general overall condition.

TIMBER PILES

Only the first six to eight piles of each bent near the finder line (piles AN, AS, B, CN, CS, D, EN, ES,) were accessible to the divers performing the inspection due to the steep bank, which rises around piles C and D, and drift wood which is hung up under the dock.

The divers reinspected 22 pile bents that had been inspected in May 1984. All 22 pile bents were found to have lost additional cross sectional area since the 1984 inspection. The allowable axial load capacity of these piles must be adjusted accordingly to a value of approximately 40% of the original design capacity.

The 58 pile bents that were newly inspected for this report were found to possess a cross-sectional area that is about 50% of the original. The axial capacity of these pile must also be reduced accordingly.

The pile core samples retrieved from the piles during our field investigation showed active Teredo infestation in all samples. Samples taken from the pile near the mudline exhibited twice the level of activity of that discovered near the top.

The 1984 survey determined that the piles retained 55% to 60% of their original cross sectional area. Our recent inspection of the timber piles found that they have lost an

additional one fifth of their cross section in the last ten years. On an average, we found that the piles possess between 30% and 40% of their original cross section area.

SUMMARY OF PILE INSPECTION RESULTS

PERCENT REMAINING DIAMETER	PERCENT REMAINING AREA	NUMBER OF PILES	PERCENT OF TOTAL
100%	100%	93	21%
75%	56.3%	218	48%
50%	25%	90	20%
25%	6.25%	27	6%
0%	0%	24	5%
		452	100%

CONCRETE SUBSTRUCTURE

A visual inspection of the concrete shear walls and foundation showed isolated areas of minor damage which appear to be the result of barges contacting the structure. The substructure damage is minimal and does not significantly reduce the allowable load on the wharf.

CONCRETE DECK

The live load should be reduced in and around the areas where there are concentrations of damaged piles.

In general, the condition of the Galvez Street Wharf is fair as is the concrete portions of the deck.

The findings of our concrete deck system inspection are as follows:

CD-1.) The concrete deck has suffered some previous damage between bents 1 and 4. A section from the fender line back to the first cross beam is missing. However the fender piles, horizontal fender timbers and curb timbers have been reinstalled.

CD-2.) There is an 8' long by 2' wide area of broken and spalled concrete on the apron between the railroad tracks at bent 39.

CD-3.) The concrete deck is cracked and spalling along the expansion joints at bent 40, bent 79, and bent 133.

CD-4.) There is an 8 inch wide crack in the concrete between the rails of the channel side tracks.

CD-5.) The outer 3 feet of the concrete apron is sunken and deflected downward approximately 3" at the channel side edge from bents 79 to 81.

CD-6.) The outer 3 feet of the concrete apron is sunken and deflected downward at the channel side edge from bents 105 to 109. The concrete apron is broken up and spalling in this area from bent 108 to 109.

FENDER SYSTEM

The findings of our fender system inspection of the wharf are as follows:

FS-1.) The fender piles are damaged at bents 8, 39, 50, 51, 60, 77, 86, 87, 97, 129, 130, 139, 140, and 158. The majority of these piles are either broken or rotten (termite damaged) at the upper end. All of the fender piles at the north end of the wharf along the turning basin are missing from bent 240 through 259.

FS-2.) The horizontal fendering timbers are damaged or missing at bents 41, 42, 69, 93, 128, 131, 140, 147, 152, 163, 164, 165, 190, 191, 225, 229, 238, 250, 251, 252, 253, 254, 255, 257, and 258.

FS-3.) The wharf apron curb timbers are damaged or missing at bents 3, 42, 45, 46, 54, 163, 164, 165, 190, 191, 238, 247, 254, 255, 257, and 258.

MISCELLANEOUS ITEMS

MS-1.) The mooring bollards are missing at bents 90, 96, and 108 and the corner is broken off of the bollard base at bent 194.

MS-2.) The steel track switch box cover is missing at bent 174.

VI DESIGN PARAMETERS

The original plans note the following allowable live loads:

Front Apron – 500 pounds per square foot uniform live load
16 Ton single axle load
8 Ton tandem 4' apart
P.B.R.R. locomotives #31, #32 & #33

The piles, substructure and deck were designed to safely carry the dead load of the structural elements in addition to the live load.

Our condition inspection determined that the concrete deck and substructure are in good condition and appear fully capable of handling the original design loading. The allowable load on the timber piles must be reduced to due to the decrease in cross sectional area discovered in our investigation.

VII STRUCTURAL CAPACITY

The existing structure consists of 8" concrete shear walls that are spaced at ten feet along the face of the apron. Concrete beams parallel to the fender line and under the train rails spaced approximately 5' apart also support the deck.

The ability of the existing concrete structure to span across damaged piles and to distribute the live load to adjacent pile bents was studied. The structural stiffness of the slab and beam system is the only mechanism available to share an over load with adjacent bents. This sharing of live loads would work fine if the adjacent pile bent was in good condition, however all the pile bents inspected have shown signs of deterioration due to marine borer infestation. Most adjacent pile bents do not have the capacity to carry the

additional loads.

Based on our findings we estimate that the live load capacity on the apron area of this wharf should be reduced from the original live load capacity of 500 pounds per square foot to a maximum of 200 pounds per square foot over the entire area. Some areas were found to have lower capacities as shown on the drawings 1 through 3 of 3.

VIII CRANE LOADS

The crane specifications supplied to us by Coastal Cargo Co. Inc. (enclosed in the appendix) was for a Manitowoc 4600 S–4. This crane has a unit bearing pressure of 13.5 psi or 1,944 psf which is above the design capacity for the wharf apron. The crane must be supported by a separate structure independent of the current wharf. We proposed to construct a pedestal from precast concrete piles, caps, and deck panels. The existing deck would be removed and the proposed pedestal would be erected over the existing shear walls and footings. The new deck surface would be finished flush with the existing deck surface. The size of the specified crane will require the partial demolition of and modifications to the existing wharf shed to allow for crane swing.

IX APRON REPAIR COSTS

We estimate the cost to repair the damaged timber piles and protect the remaining piles from future marine borer damage for the entire structure would cost approximately $5.4 Millon. This estimate included only the first eight piles of each pile bent on the canal front of the wharf for an average repair length of 20 feet. An estimated repair cost of $140.00 per linear foot of pile was received from Aquatic Marine Systems Inc. Literature covering this proposed pile repair is enclosed in the appendix for your review.

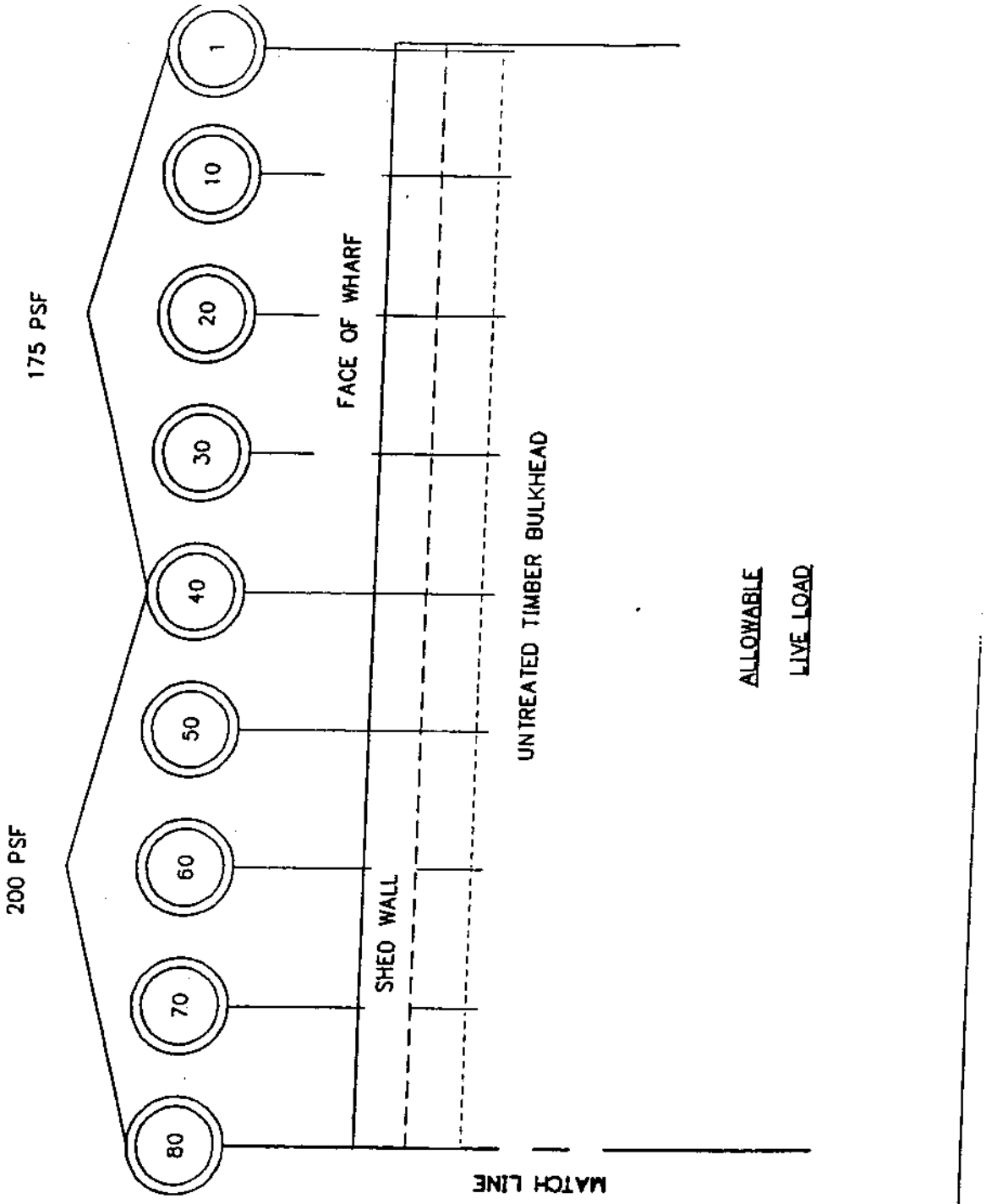
The replacement and repair costs for the timber fender files, horizontal fendering and

deck curbing including hardware is estimated at approximately $67,000.00. This is assuming that the fender piles are 60 feet in length and are untreated. To install four new 50 Ton mooring bollards would cost approximately $8,000.00 including hardware. To repair the cracked, spalling and deflected apron deck would cost approximately $100.00 per square foot depending on the severity of the damage. Repair of the deflected deck sections along the fender line would cost the most and would also would depend on the condition of the supporting shear wall.

X CRANE PEDESTAL COST ESTIMATE

The estimated costs associated with constructing a crane pedestal to support the specified crane at the Galvez St. wharf are as follows:

$ 40,000.00	The removal of approximately 1,380 square feet of existing deck and approximately 950 square feet of shed. Modifications to the wharf shed or reconstruction costs are not included in this estimate. These costs will depend on the structural condition of the shed and the extent to which reconstruction would be required.
$ 90,000.00	The estimated material costs for the precast concrete components.
$ 25,000.00	The labor costs to construct the pedestal.
$155,000.00	The approximate installed cost.
$ 25,000.00	Include a contingency cost of approximately 15%.
$180,000.00	For a grand total.



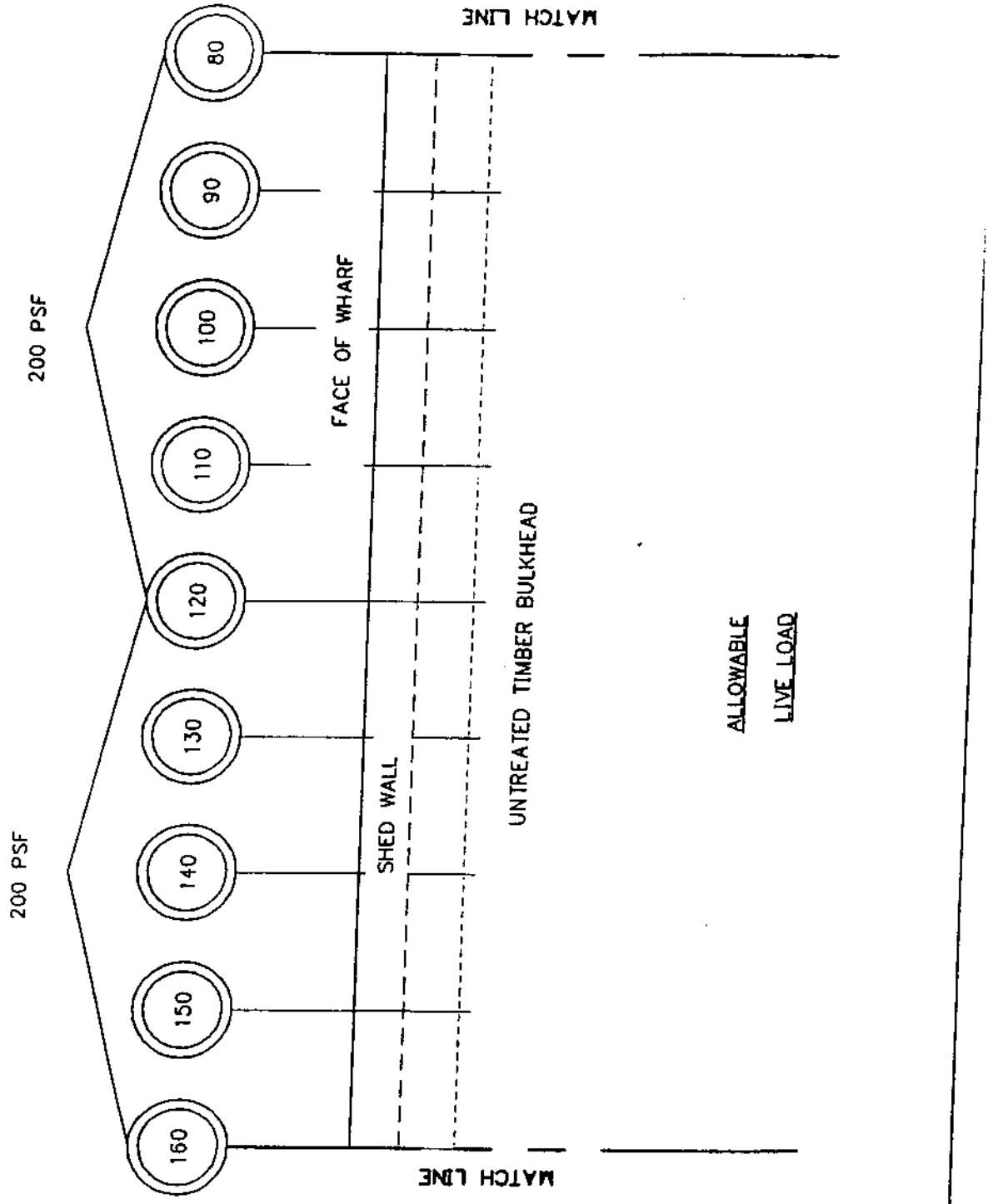
3885-P02

LANIER & ASSOCIATES
CONSULTING ENGINEERS
INCORPORATED
NEW ORLEANS, LA · HOUSTON, TX

PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
DECK CAPACITY PLAN

DATE OCT '94
DESIGN EJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
1 OF 3



3885-P02

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INCORPORATED
NEW ORLEANS, LA · HOUSTON, TX

PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
DECK CAPACITY PLAN

DATE OCT. '94
DESIGN JEJ
DRAWN JEJ
CHECK GJC
CONTRACT 3885
SHEET No.
2 OF 3

3885-P02

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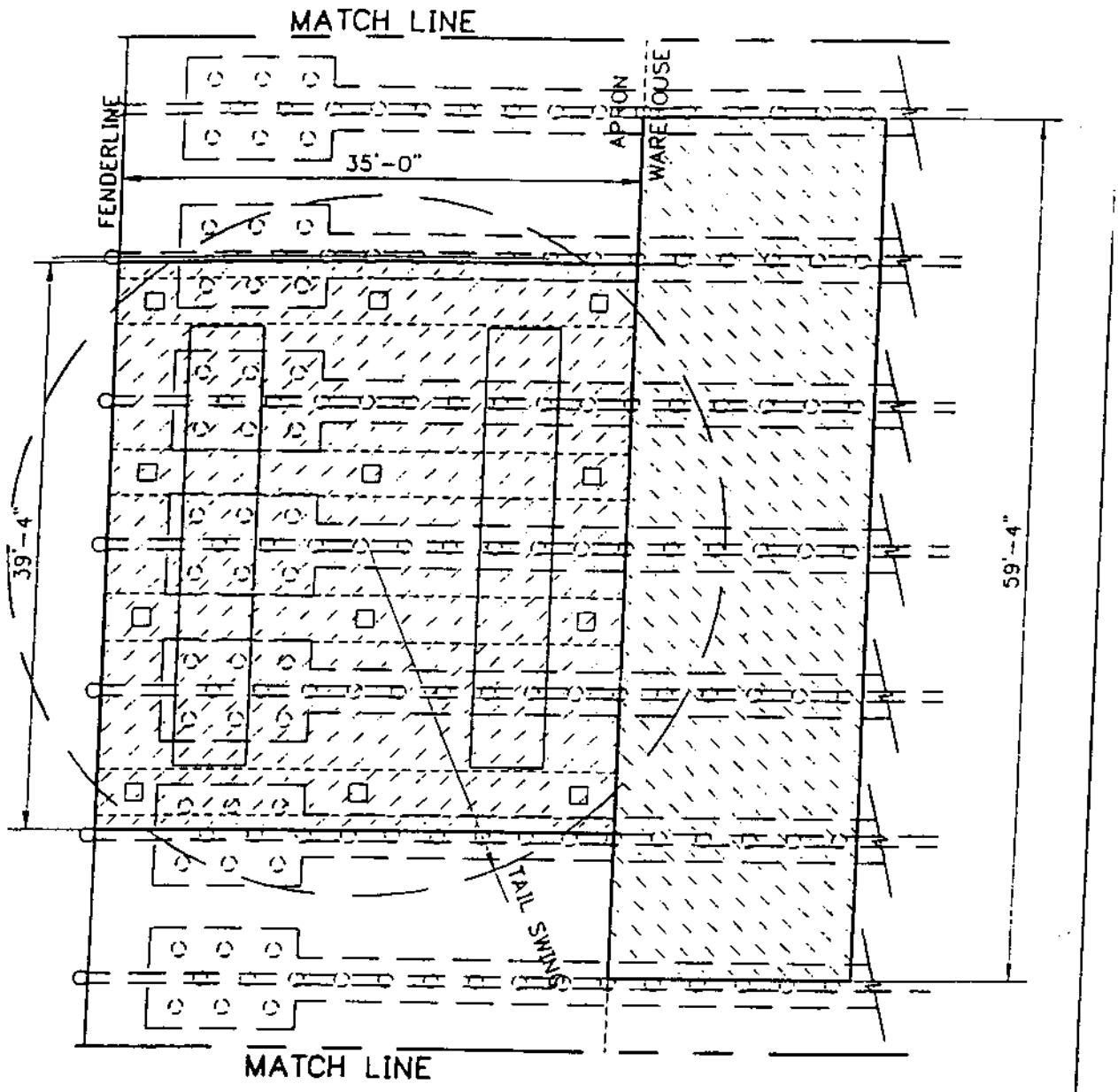
INCORPORATED
NEW ORLEANS, LA · HOUSTON, TX

PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
DECK CAPACITY PLAN

DATE OCT '94
DESIGN JEJ
DRAWN JEJ
CHECK GJC
CONTRACT 3885
SHEET No.
3 of 3



DEMOLISH EXIST. DECK AND INSTALL NEW CRANE PLATFORM (1,380 SF)

REMOVE EXIST. WAREHOUSE FRAMING (59'-4")

3885-P01

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GALVEZ STR. WHARF
CONDITION SURVEY
CRANE SUPPORT PLAN

DATE SEP '94
DESIGN EJ
DRAWN EJ
CHECK EJC
CONTRACT 3885
SHEET No.
1 OF 1

APPENDIX

GALVEZ ST.
TIMBER PILE INSPECTION

LANIER & ASSOCIATES JOB 3885

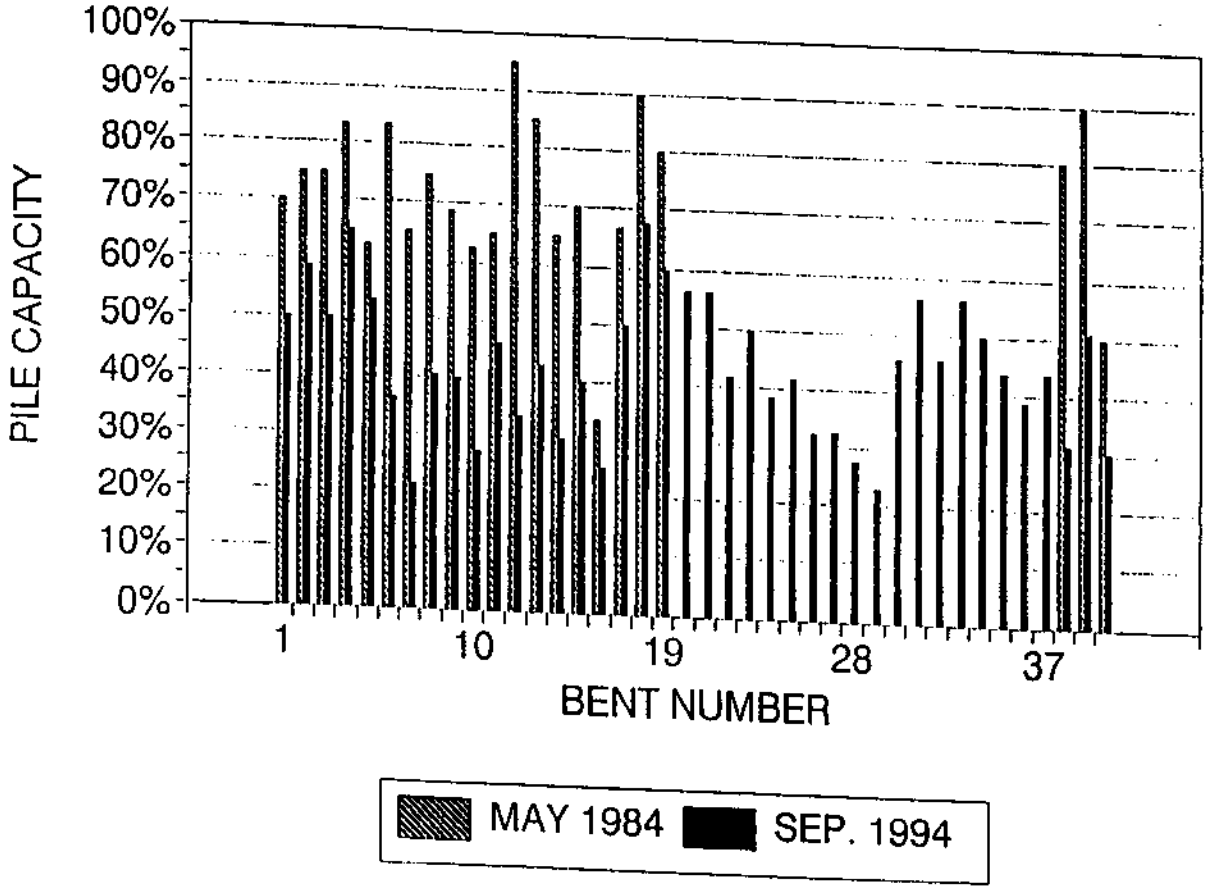
14-Oct-94

BENT	SEPTEMBER 1994 SURVEY RESULTS PERCENT AREA REMAINING								CALCULATED PILE AREA REMAINING
	A-N	A-S	B	C-N	C-S	D	E-N	E-S	
1	56%	6%	100%	56%	25%	56%			50%
2	25%	56%	56%	56%	100%				59%
3	25%	56%	56%	56%	56%				50%
4	56%	56%	56%	100%	56%				65%
5	56%	25%	56%	56%	25%	100%			53%
6	56%	25%	0%	56%	56%	25%			36%
7	25%	25%	6%	25%	25%				21%
8	25%	25%	25%	56%	56%	56%			41%
9	56%	6%	25%	56%	56%				40%
10	56%	25%	0%	25%	0%	56%			27%
11	56%	56%	56%	56%	6%				46%
12	6%	25%	25%	56%	56%				34%
13	56%	6%	25%	56%	56%	56%			43%
14	25%	6%	6%	56%	56%				30%
15	25%	6%	56%	56%	56%				40%
16	19%	19%	38%						25%
17	0%	75%	56%	56%	56%	56%			50%
18	56%	56%	75%	75%	75%				68%
19	38%	75%	56%	75%	56%				60%
20	56%	56%	56%	56%	56%	56%	56%	56%	56%
21	56%	56%	56%	56%	56%				56%
22	56%	25%	0%	56%	56%	56%			42%
23	6%	25%	56%	56%	56%	100%			50%
24	6%	0%	56%	56%	56%	56%			39%
25	25%	56%	0%	56%	56%	56%			42%
26	0%	0%	25%	56%	56%	56%			32%
27	25%	0%	25%	56%	56%				33%
28	0%	25%	0%	56%	56%				28%
29	0%	6%	25%	25%	25%	56%			23%
30	25%	25%	56%	56%	56%	56%			46%
31	56%	56%	56%	56%	56%	56%			56%
32	56%	25%	56%	25%	56%	56%			45%
33	56%	56%	56%	56%	56%	56%			56%
34	56%	25%	56%	56%	56%				50%
35	25%	25%	56%	56%	56%				44%
36	56%	56%	56%	0%	25%				39%
37	56%	25%	25%	56%	56%				44%
38	25%	56%	25%	25%	25%				31%
39	56%	56%	56%	25%	56%	56%			51%
40	0%	6%	6%	56%	56%	56%			30%

INCREMENT BORER SAMPLES RETRIEVED

LANIER & ASSOCIATES CONSULTING ENGINEERS, INC.

GALVEZ STREET WHARF
CONDITION SURVEY



GALVEZ ST.
TIMBER PILE INSPECTION

LANIER & ASSOCIATES JOB 3885

14-Oct-94

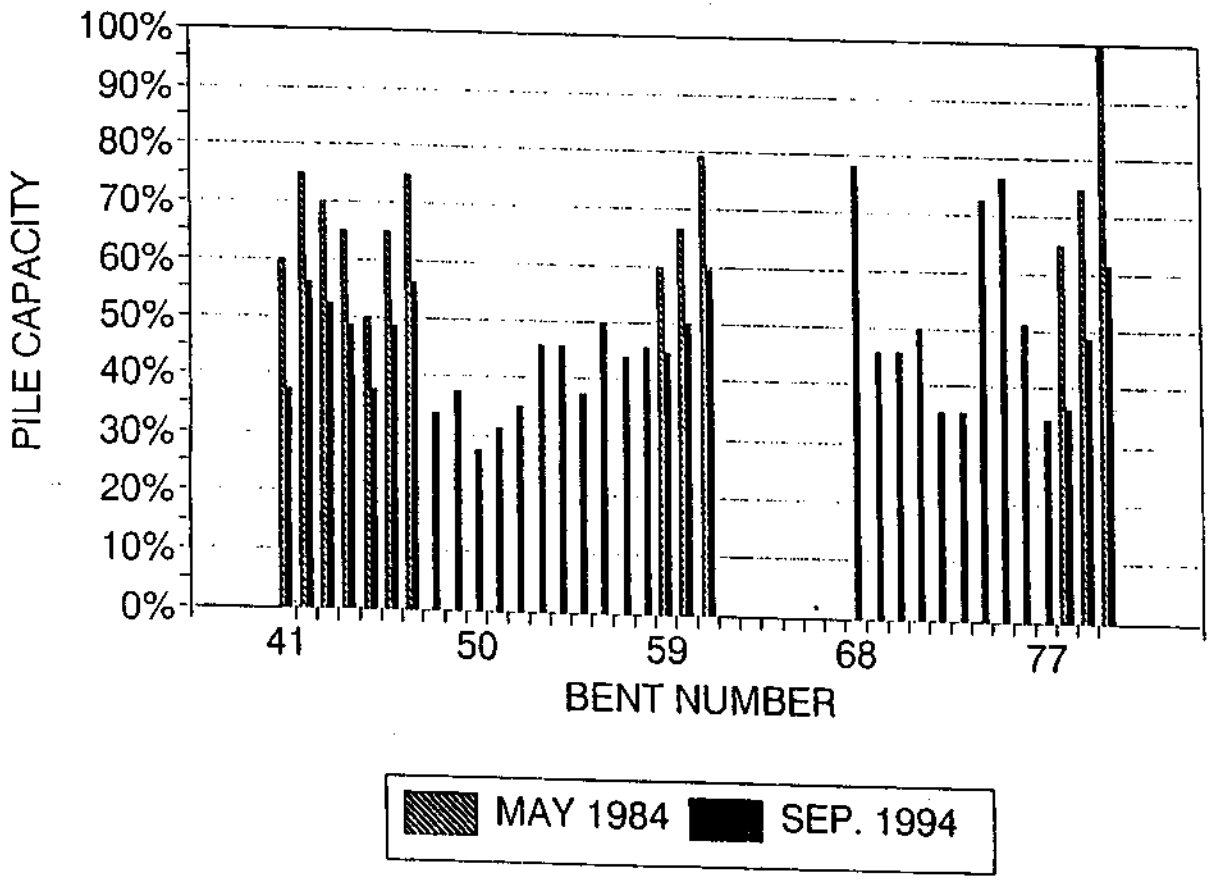
BENT	SEPTEMBER 1994 SURVEY RESULTS PERCENT AREA REMAINING								CALCULATED PILE AREA REMAINING
	A-N	A-S	B	C-N	C-S	D	E-N	E-S	
41	6%	25%	25%	56%	56%	56%			38%
42	56%	19%	75%	75%	56%				56%
43	38%	38%	56%	75%	56%				53%
44	0%	38%	75%	56%	75%				49%
45	56%	19%	38%	38%	38%				38%
46	75%	19%	19%	56%	75%				49%
47	56%	38%	56%	56%	75%				56%
48	25%	6%	25%	56%	56%				34%
49	25%	25%	25%	56%	56%				38%
50	25%	6%	25%	25%	56%				28%
51	25%	25%	25%	25%	56%				31%
52	56%	6%	0%	56%	56%				35%
53	56%	25%	56%	56%	25%	56%			46%
54	25%	25%	56%	56%	56%	56%			46%
55	25%	6%	25%	56%	56%	56%			38%
56	56%	25%	56%	56%	56%				50%
57	25%	25%	56%	56%	56%				44%
58	56%	25%	25%	56%	56%	56%			46%
59	0%	56%	75%	75%	19%				45%
60	38%	38%	38%	56%	75%	56%			50%
61	75%	56%	38%	56%	75%	56%			59%
62									N/A
63									N/A
64									N/A
65									N/A
66									N/A
67									N/A
68	100%	56%	100%	56%	100%	56%			78%
69	56%	56%	25%	25%	56%	56%			46%
70	25%	25%	56%	56%	56%	56%			46%
71	6%	25%	56%	56%	56%	100%			50%
72	56%	56%	0%	0%	0%	100%			35%
73	0%	56%	56%	0%	0%	100%			35%
74	25%	56%	100%	56%	100%	100%			73%
75	56%	56%	100%	0%	100%	100%	100%	100%	77%
76	56%	56%	25%	56%	56%	56%			51%
77	6%	56%	25%	56%	56%	6%			34%
78	6%	25%	56%	6%	25%	100%			36%
79	25%	6%	56%	56%	100%				49%
80	100%	25%	56%	56%	56%	75%			61%

INCREMENT BORER SAMPLES RETRIEVED

LANIER & ASSOCIATES CONSULTING ENGINEERS, INC.

GALVEZ STREET WHARF

CONDITION SURVEY



GALVEZ ST.
TIMBER PILE INSPECTION

LANIER & ASSOCIATES JOB 3885

14-Oct-94

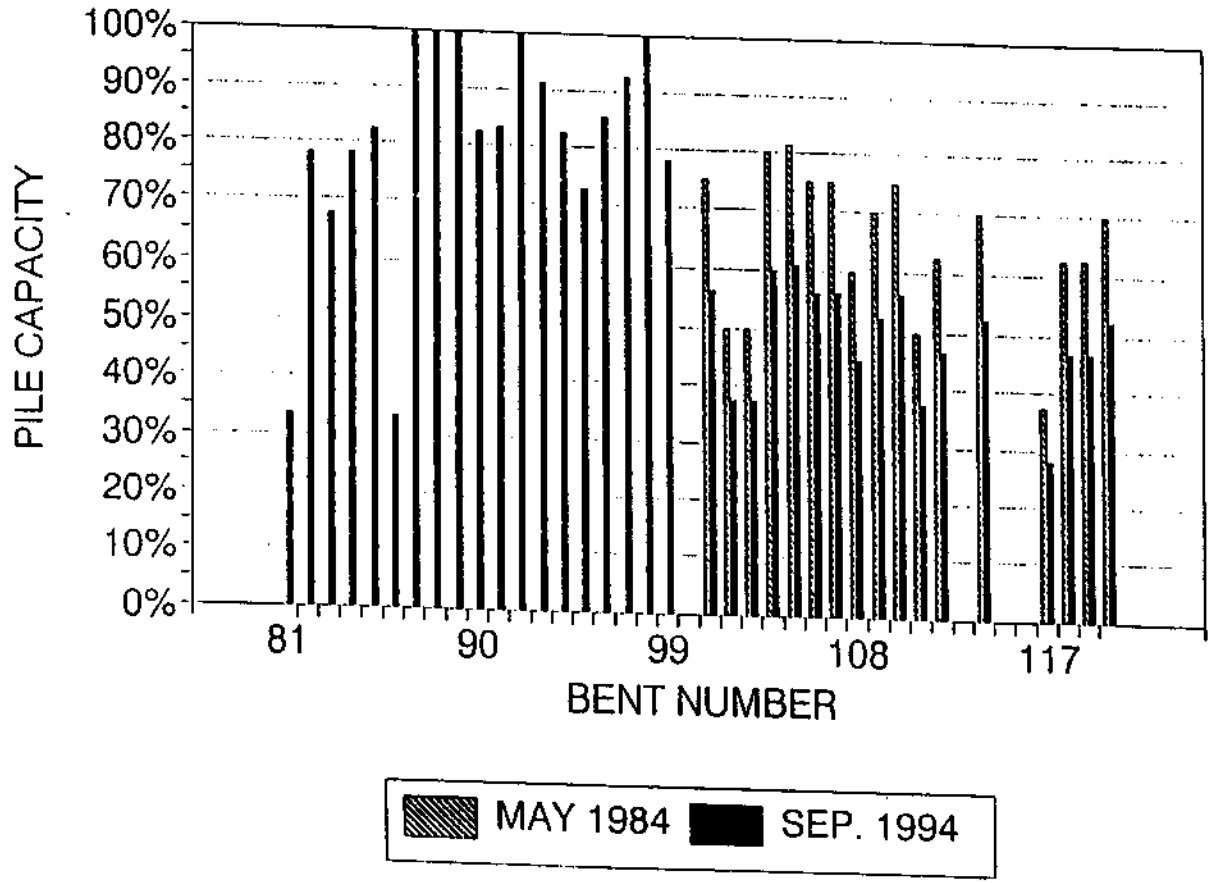
BENT	SEPTEMBER 1994 SURVEY RESULTS PERCENT AREA REMAINING								CALCULATED PILE AREA REMAINING
	A-N	A-S	B	C-N	C-S	D	E-N	E-S	
B1	56%	25%	25%	6%	56%				34%
B2	56%	56%	56%	100%	100%	100%			78%
B3	25%	25%	56%	100%	100%	100%			68%
B4	56%	56%	56%	100%	100%	100%			78%
B5	56%	56%	100%	100%	100%				83%
B6	6%	0%	25%	56%	56%	56%			33%
B7	100%	100%	100%	100%	100%	100%			100%
B8	100%	100%	100%	100%	100%	100%			100%
B9	100%	100%	100%	100%	100%	100%			100%
B10	56%	56%	100%	100%	100%				83%
B11	0%	100%	100%	100%	100%	100%			83%
B12	100%	100%	100%	100%	100%				100%
B13	100%	56%	100%	100%	100%				91%
B14	56%	56%	100%	100%	100%				83%
B15	56%	25%	56%	100%	100%	100%			73%
B16	56%	56%	100%	100%	100%	100%			85%
B17	56%	100%	100%	100%	100%	100%			93%
B18	100%	100%	100%	100%	100%	100%			100%
B19	56%	56%	100%	56%	100%	100%			78%
B20									N/A
B21	56%	56%	56%	38%	75%				56%
B22	38%	38%	38%						38%
B23	56%	0%	38%	38%	56%				38%
B24	75%	56%	56%	56%	56%				60%
B25	56%		56%	75%	56%				61%
B26	19%	56%	75%	75%	56%				56%
B27	56%	56%	56%						56%
B28	19%	38%	56%	75%	38%				45%
B29	38%	19%	56%	75%	75%				53%
B30	56%	75%	19%	75%					56%
B31	75%	19%	19%						38%
B32	38%	56%	56%		38%				47%
B33									N/A
B34	56%	56%	38%	56%	56%				53%
B35									N/A
B36									N/A
B37	0%	38%	38%		38%				28%
B38	38%	38%	56%	56%					47%
B39	38%	56%	56%		38%				47%
B40	56%	56%	56%	38%	56%				53%

INCREMENT BORER SAMPLES RETRIEVED

LANIER & ASSOCIATES CONSULTING ENGINEERS, INC.

GALVEZ STREET WHARF

CONDITION SURVEY



GALVEZ ST.
TIMBER PILE INSPECTION

LANIER & ASSOCIATES JOB 3885

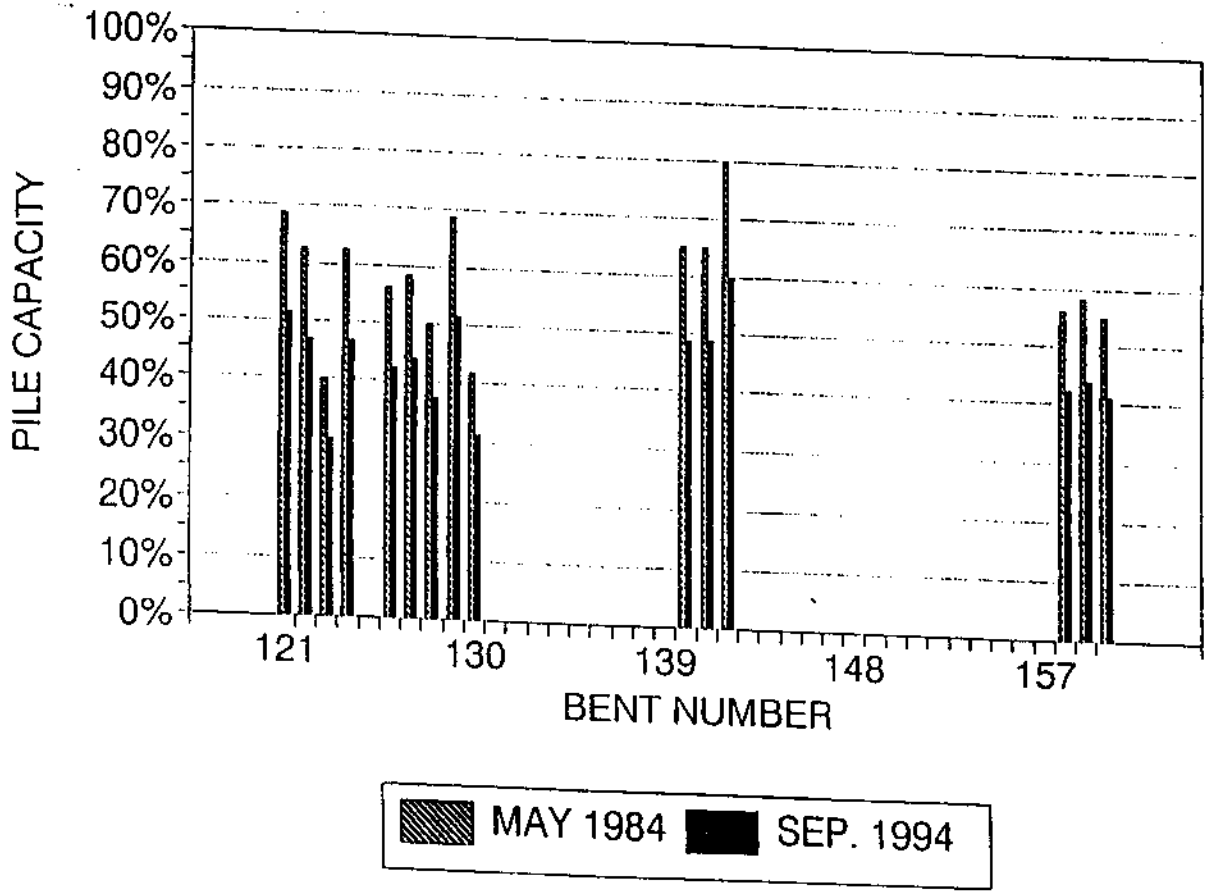
14-Oct-94

BENT	SEPTEMBER 1994 SURVEY RESULTS PERCENT AREA REMAINING								CALCULATED PILE AREA REMAINING
	A-N	A-S	B	C-N	C-S	D	E-N	E-S	
121	56%	56%	56%		38%				52%
122	56%	56%	38%	38%					47%
123	19%	0%	19%	56%	56%				30%
124	19%	56%	56%		56%				47%
125									N/A
126	38%	38%	38%	56%					42%
127	19%	56%	56%						44%
128	19%	38%	38%		56%				38%
129	38%	56%	56%		56%				52%
130	19%	56%	19%						31%
131									N/A
132									N/A
133									N/A
134									N/A
135									N/A
136									N/A
137									N/A
138									N/A
139									N/A
140	56%	56%	38%	56%	38%				49%
141	75%	19%	38%	56%	56%				49%
142	38%	56%	56%	75%	75%				60%
143									N/A
144									N/A
145									N/A
146									N/A
147									N/A
148									N/A
149									N/A
150									N/A
151									N/A
152									N/A
153									N/A
154									N/A
155									N/A
156									N/A
157									N/A
158	56%	0%	56%		56%				42%
159	19%	56%	56%						44%
160	19%	38%	38%	56%	56%				41%

INCREMENT BORER SAMPLES RETRIEVED

LANIER & ASSOCIATES CONSULTING ENGINEERS, INC.

GALVEZ STREET WHARF
CONDITION SURVEY



GALVEZ ST.
TIMBER PILE INSPECTION

LANIER & ASSOCIATES JOB 3885

14-Oct-94

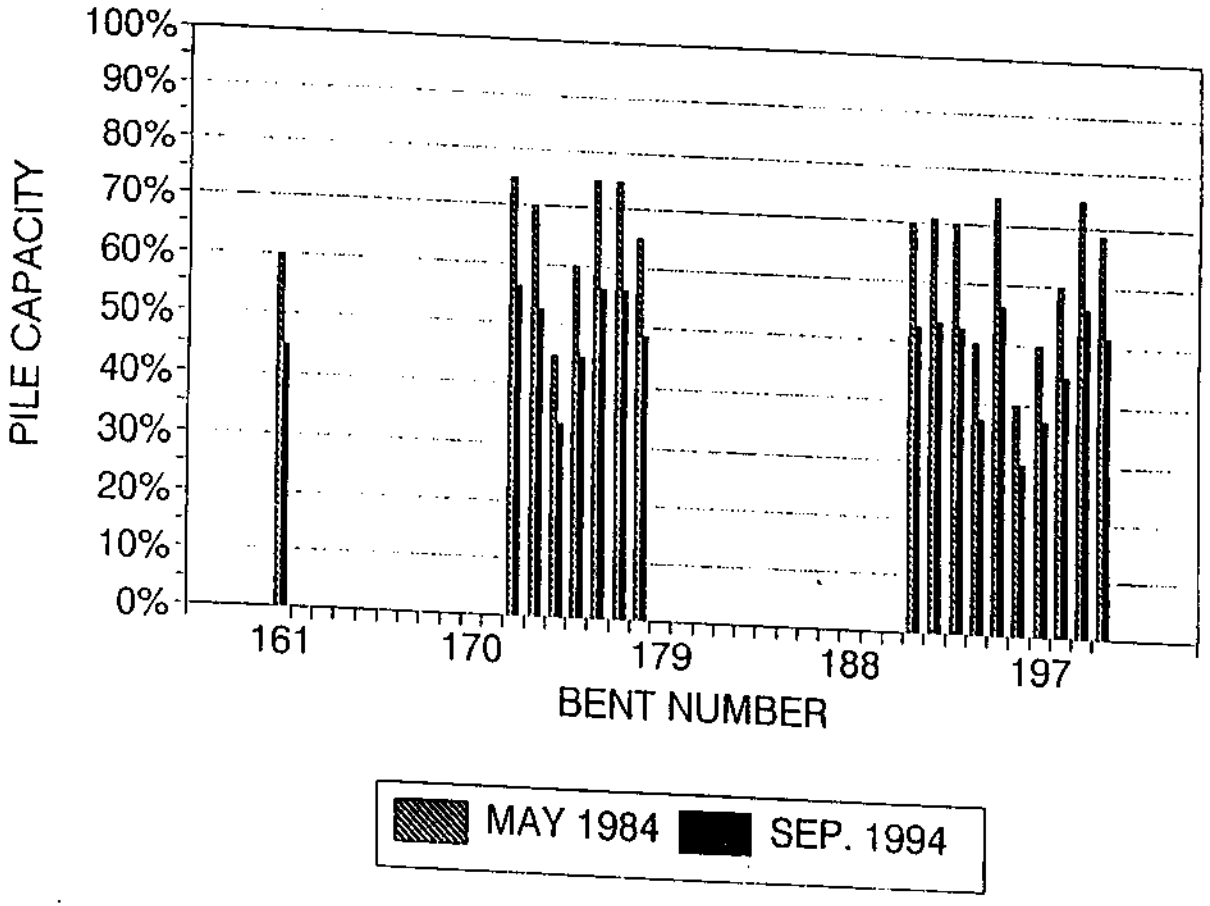
BENT	SEPTEMBER 1994 SURVEY RESULTS PERCENT AREA REMAINING								CALCULATED PILE AREA REMAINING
	A-N	A-S	B	C-N	C-S	D	E-N	E-S	
161	19%	56%	19%	56%	75%				45%
162									N/A
163									N/A
164									N/A
165									N/A
166									N/A
167									N/A
168									N/A
169									N/A
170									N/A
171									N/A
172	56%	56%	56%	56%					56%
173	56%	38%	56%	56%	56%				53%
174	0%	19%	38%	56%	56%				34%
175	56%	19%	56%	56%	38%				45%
176	38%	38%	56%	56%	75%	75%			56%
177	56%	56%	56%	56%	56%				56%
178	56%	19%	56%	38%	75%				49%
179									N/A
180									N/A
181									N/A
182									N/A
183									N/A
184									N/A
185									N/A
186									N/A
187									N/A
188									N/A
189									N/A
190									N/A
191	38%	75%	56%	56%	38%				53%
192	56%	38%	56%	56%	38%	75%			53%
193	38%	56%	56%	56%	56%				53%
194	38%	38%	38%	38%	38%				38%
195	56%	56%	56%	56%	56%	55%			56%
196	0%	19%	56%	19%	56%				30%
197	0%	0%	56%	75%	56%				38%
198	56%	38%	56%	56%	19%				45%
199	75%	19%	56%		75%				56%
200	56%	19%	75%	56%					52%

INCREMENT BORER SAMPLES RETRIEVED

LANIER & ASSOCIATES CONSULTING ENGINEERS, INC.

GALVEZ STREET WHARF

CONDITION SURVEY



GALVEZ ST.
TIMBER PILE INSPECTION

LANIER & ASSOCIATES JOB 3885

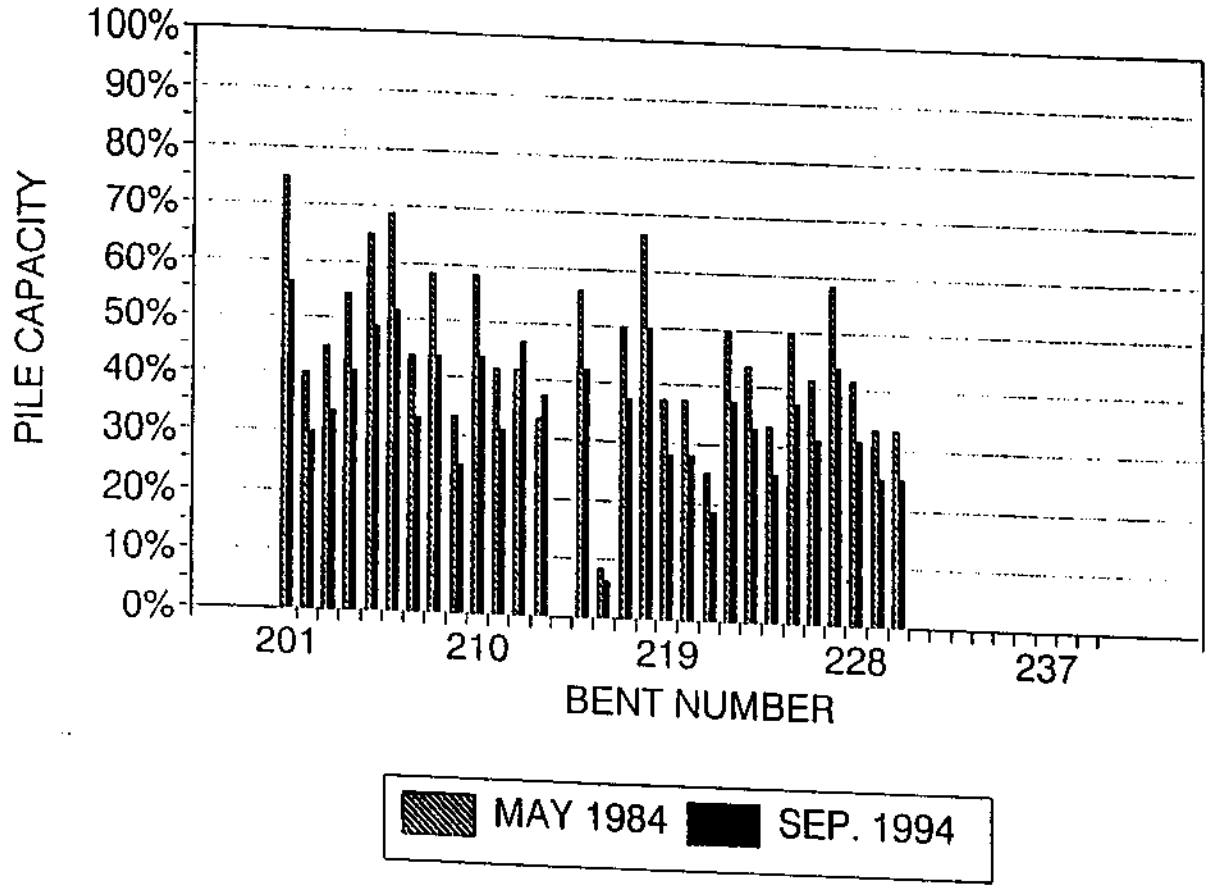
14-Oct-94

BENT	SEPTEMBER 1994 SURVEY RESULTS PERCENT AREA REMAINING								CALCULATED PILE AREA REMAINING
	A-N	A-S	B	C-N	C-S	D	E-N	E-S	
201	75%	19%	56%		75%				56%
202	0%	19%	56%	38%	38%				30%
203	0%	38%	38%	38%	56%				34%
204	19%	19%	38%	56%	56%	56%			41%
205	38%	38%	38%	56%	75%				49%
206	56%	38%	38%	75%					52%
207	0%	38%	38%	56%					33%
208	38%	38%	56%						44%
209	19%	38%	19%						25%
210	56%	19%	56%						44%
211	19%	19%	56%						31%
212	56%		38%						47%
213	38%		38%						38%
214									N/A
215	38%	19%	56%	56%					42%
216	0%	0%	19%						6%
217	0%	38%	75%	38%	38%				38%
218	38%	56%	56%						50%
219	0%	19%	38%		56%				28%
220	19%	0%	56%	38%					28%
221	19%	0%	0%		56%				19%
222	19%	38%	56%		38%				38%
223	38%	19%	56%		19%				33%
224	0%	56%	19%						25%
225	38%	19%	38%	56%					38%
226	19%	56%	19%						31%
227	38%	38%	56%						44%
228	19%	19%	56%						31%
229	19%	38%	19%						25%
230	19%	19%	38%						25%
231									N/A
232									N/A
233									N/A
234									N/A
235									N/A
236									N/A
237									N/A
238									N/A
239									N/A
240									N/A

INCREMENT BORER SAMPLES RETRIEVED

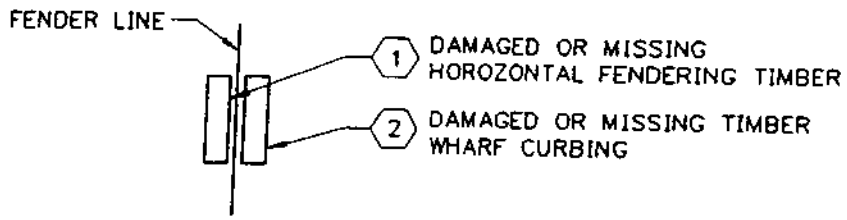
LANIER & ASSOCIATES CONSULTING ENGINEERS, INC.

GALVEZ STREET WHARF
CONDITION SURVEY



LEGEND

- ● – 0–24% AREA REMAINING
- ◕ – 25% AREA REMAINING
- ◑ – 50% AREA REMAINING
- ◔ – 75% AREA REMAINING
- ⊖ – 100% AREA REMAINING
- ⊗ – DAMAGED FENDER PILES



3885-S01

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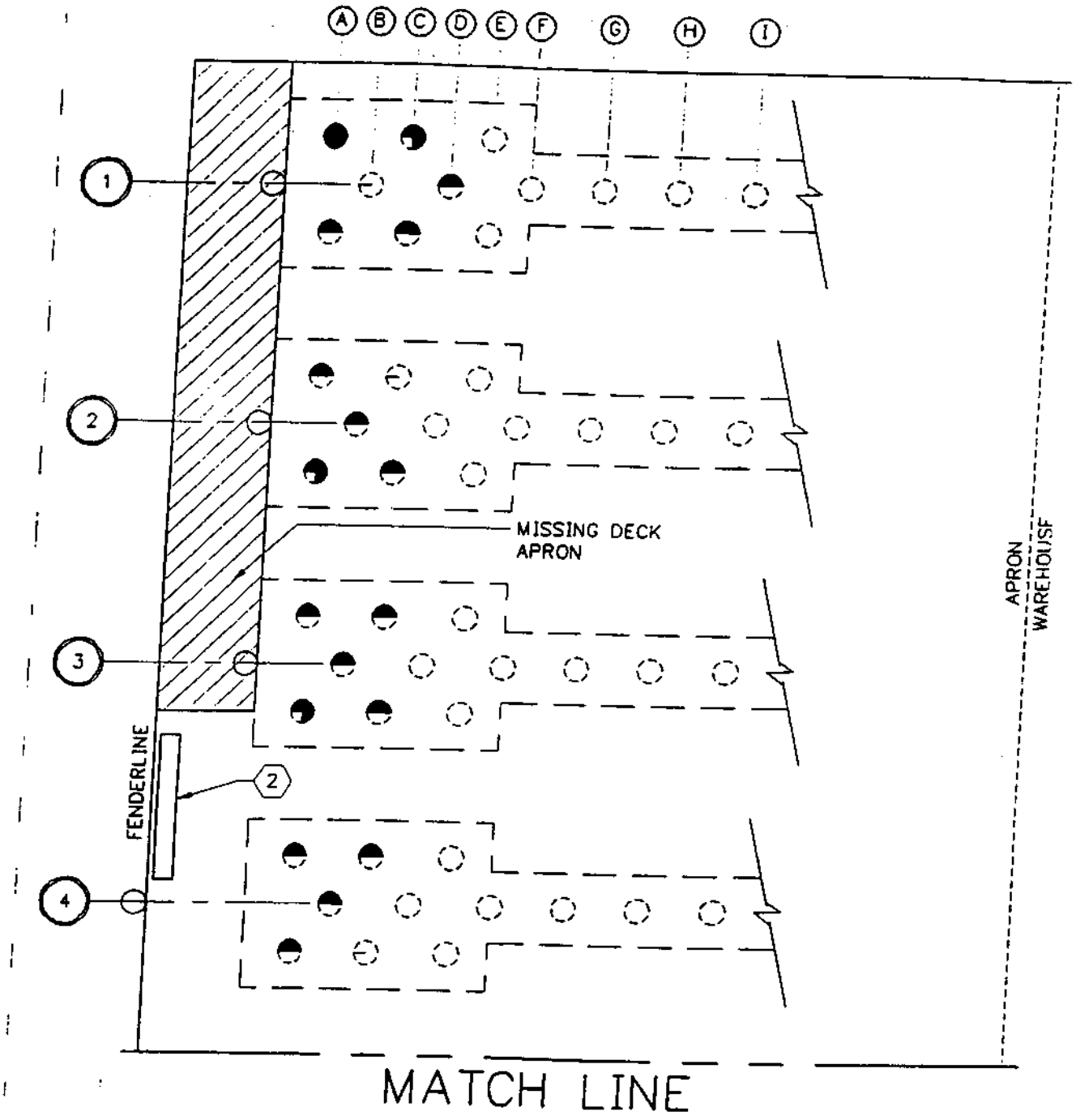
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN JEJ
DRAWN JEJ
CHECK GJC
CONTRACT 3885
SHEET No.
1 OF 61



3885-S01

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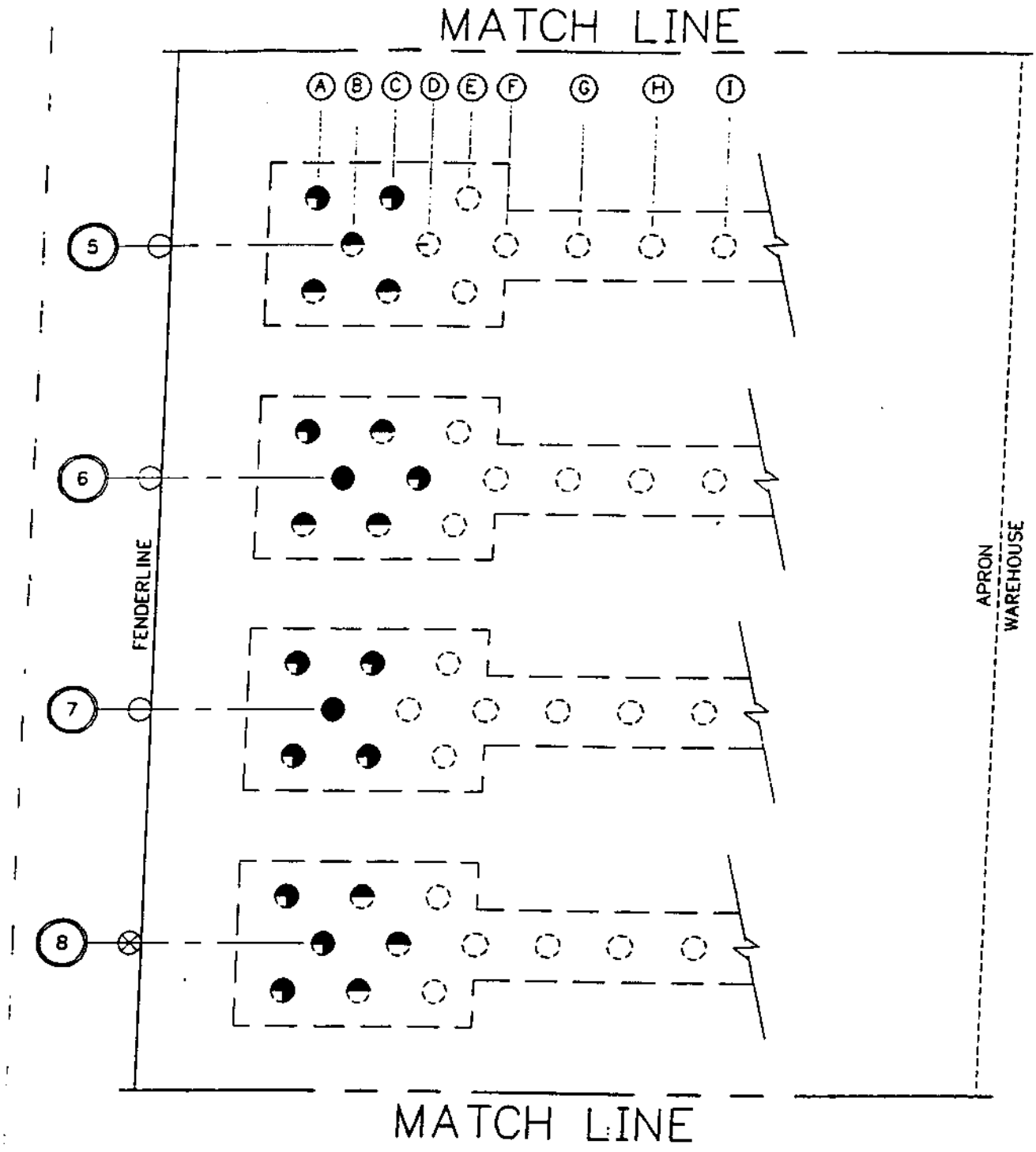
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '84
DESIGN JEJ
DRAWN EJ
CHECK CJC
CONTRACT 3885
SHEET No.
2 OF 61



3885-S01

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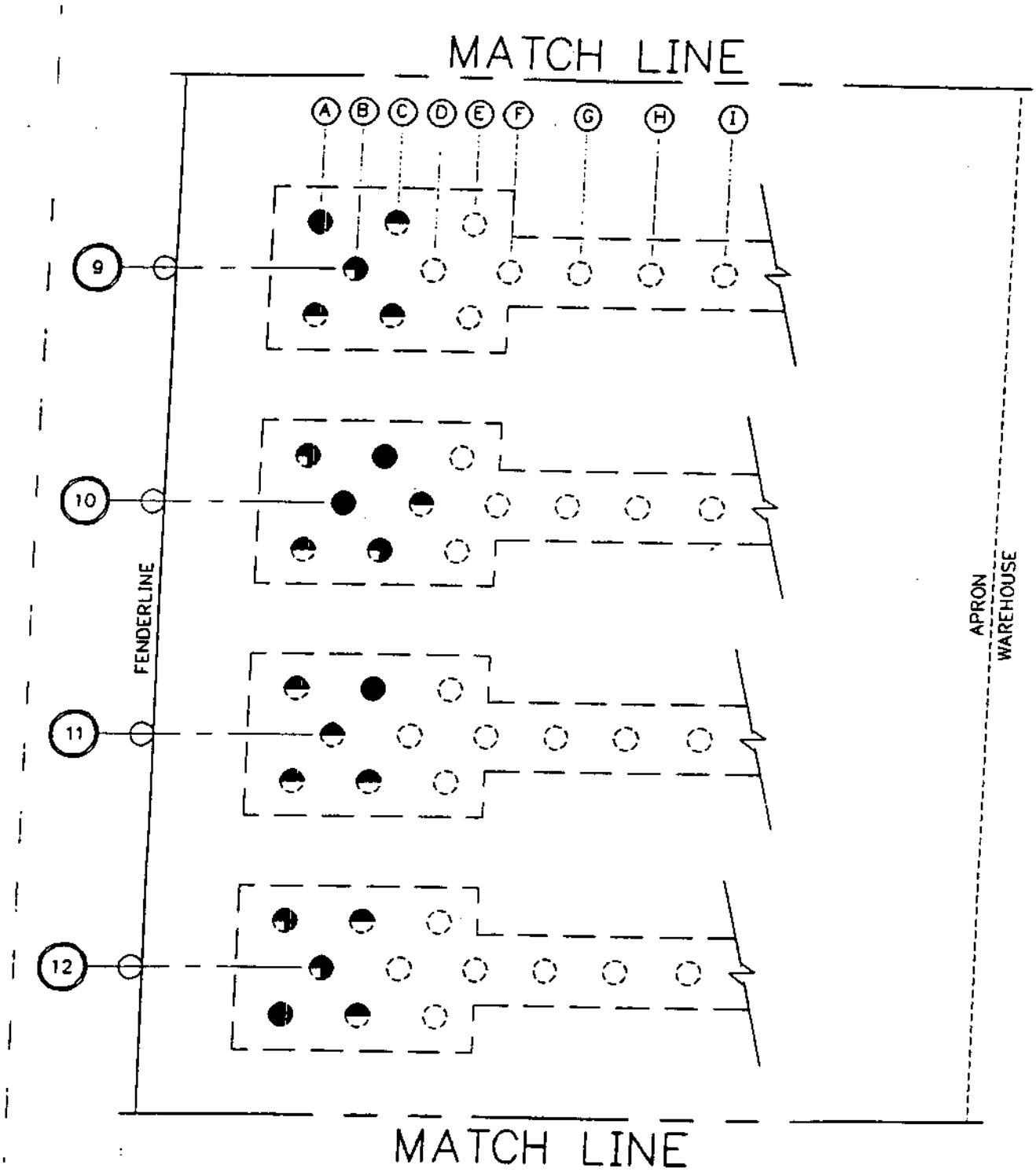
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN JEJ
DRAWN JEJ
CHECK GJC
CONTRACT 3885
SHEET No.
3 OF 61



3885-S01

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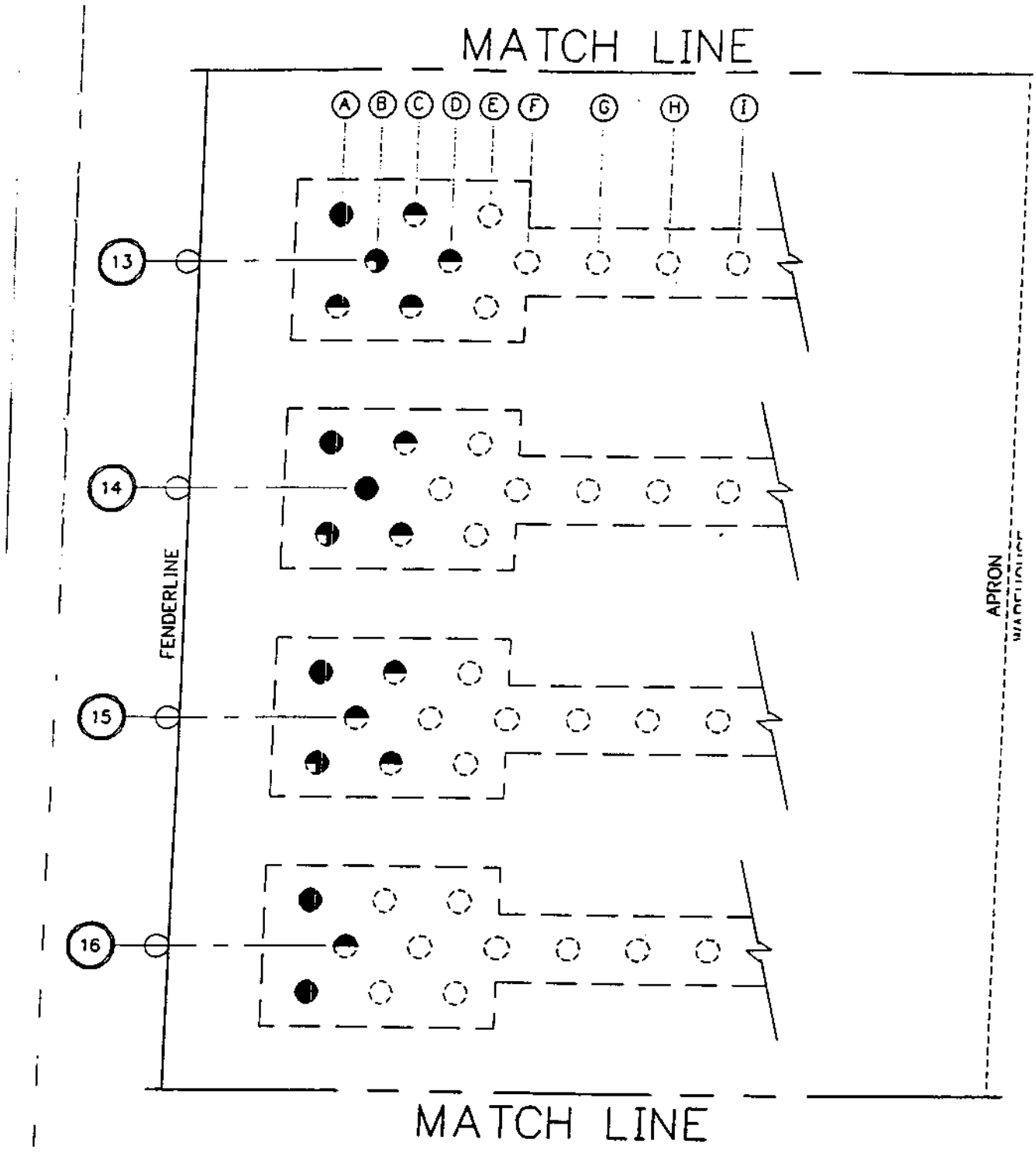
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN JFJ
DRAWN FJ
CHECK GJC
CONTRACT 3885
SHEET No.
4 OF 61



3885-S01

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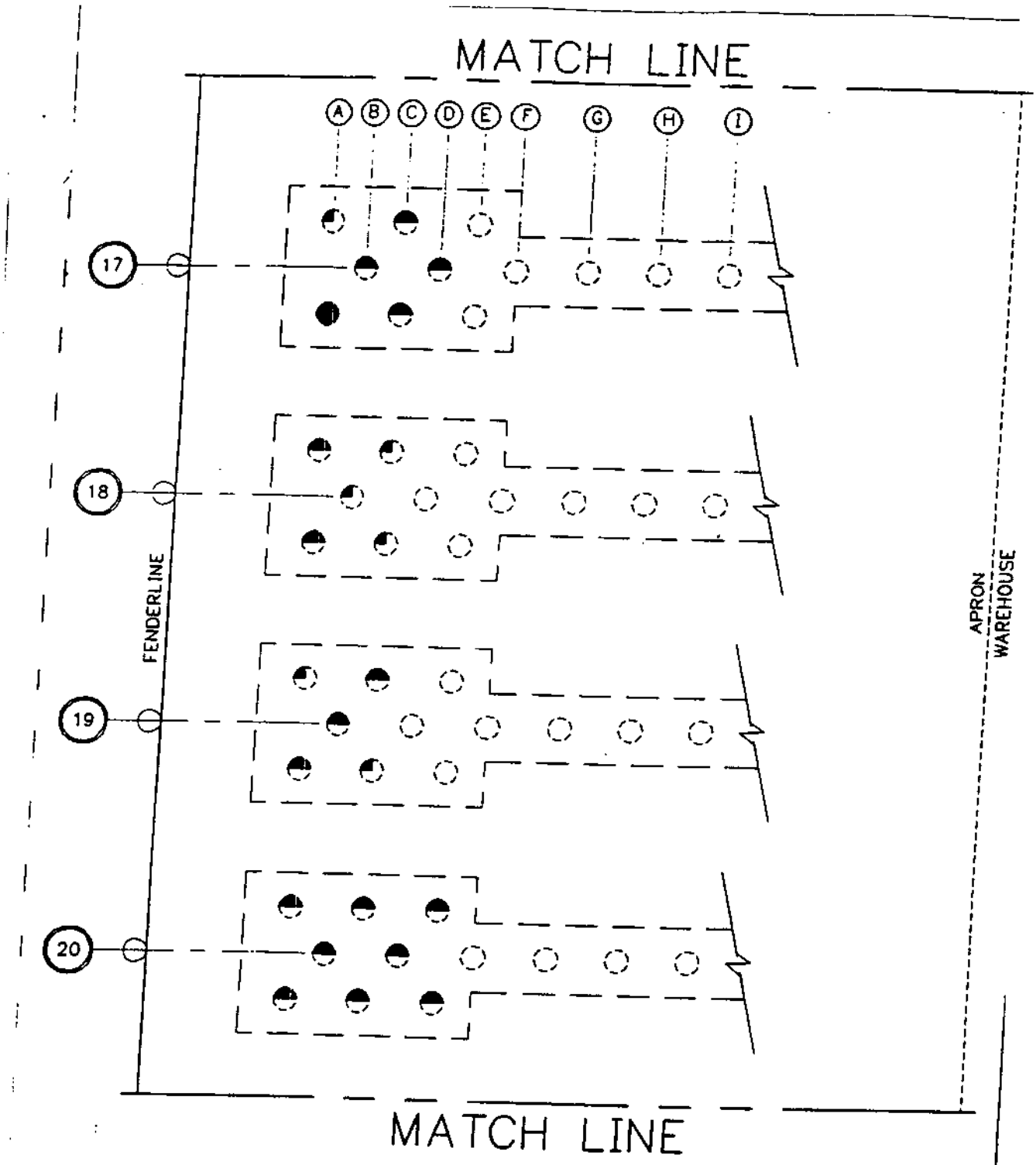
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN JFJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
5 OF 6



3885-S01

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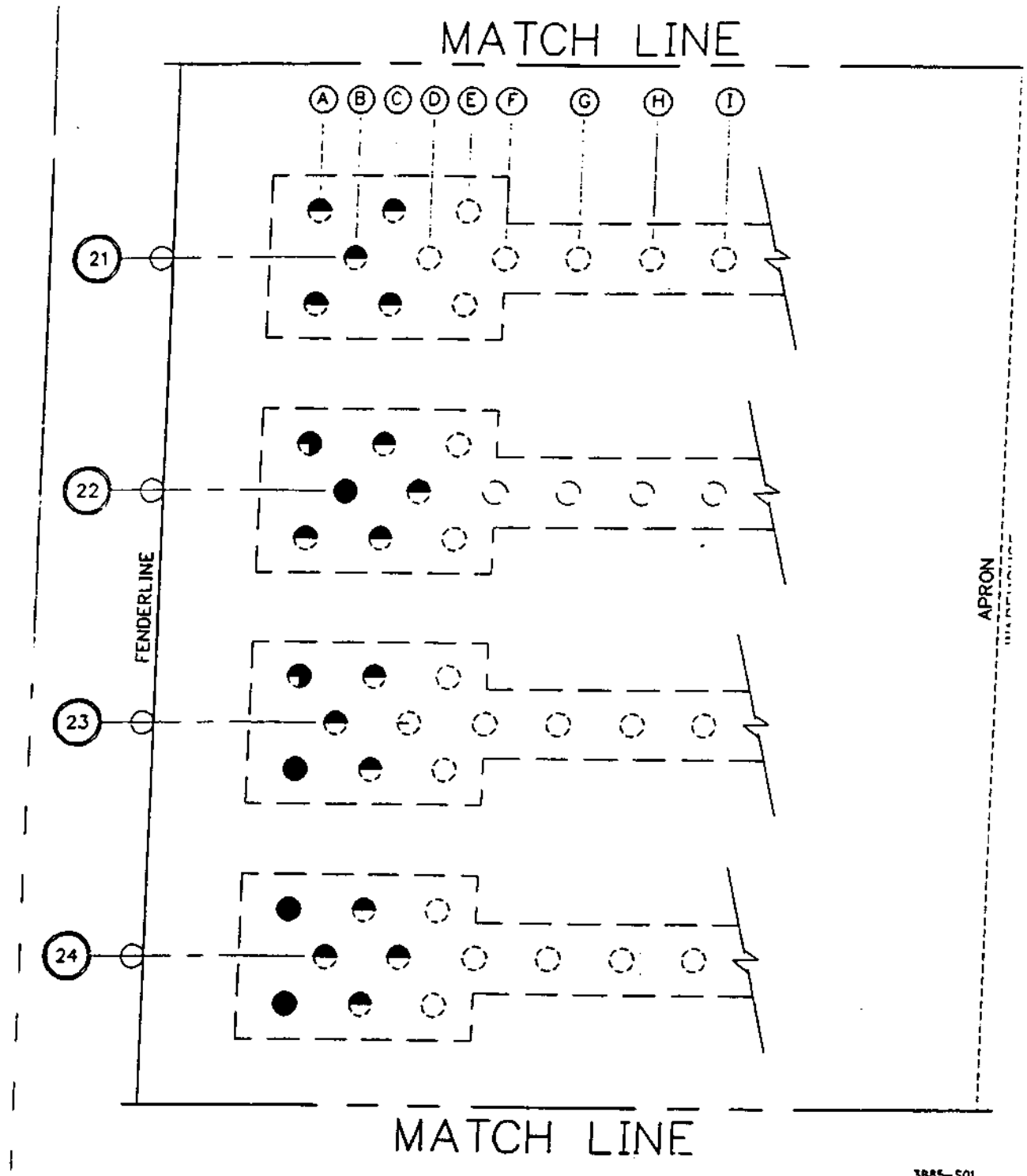
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
DRAWN EJ
CHECK CJC
CONTRACT 3885
SHEET No.
6 OF 61



3885-S01

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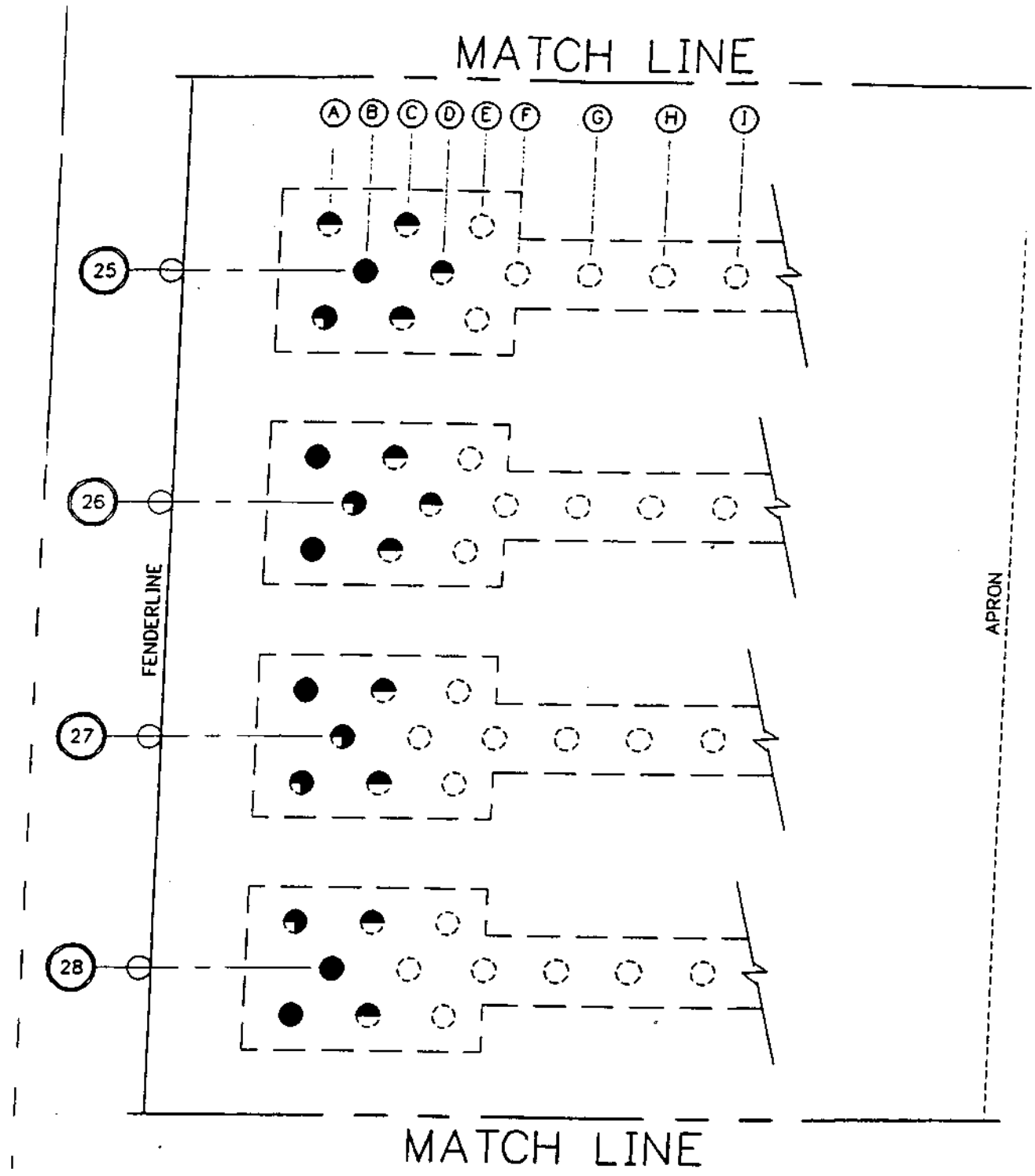
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP 94
DESIGN EJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
7 OF 61



3885-S01

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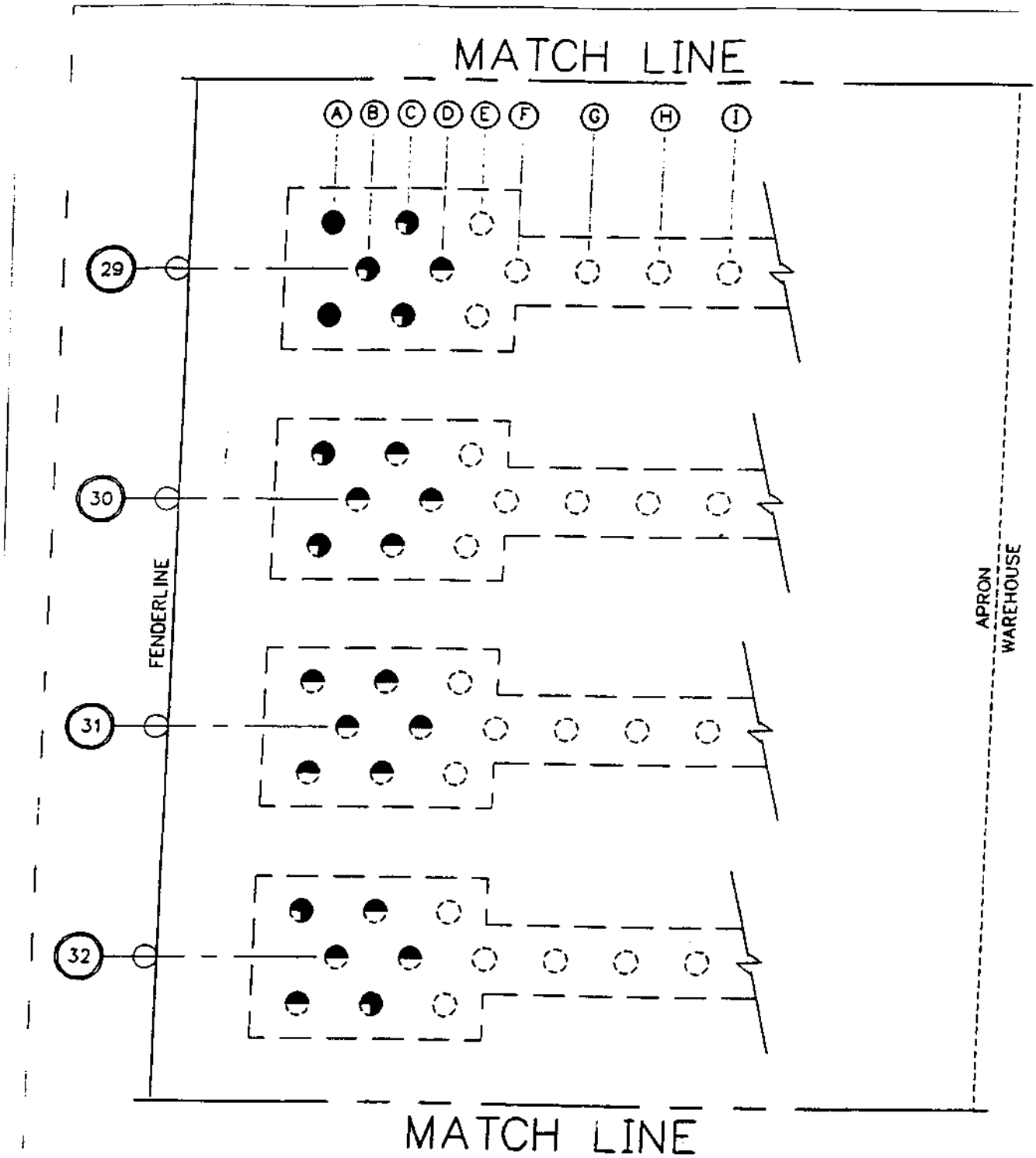
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN JEJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
8 OF



3885-S01

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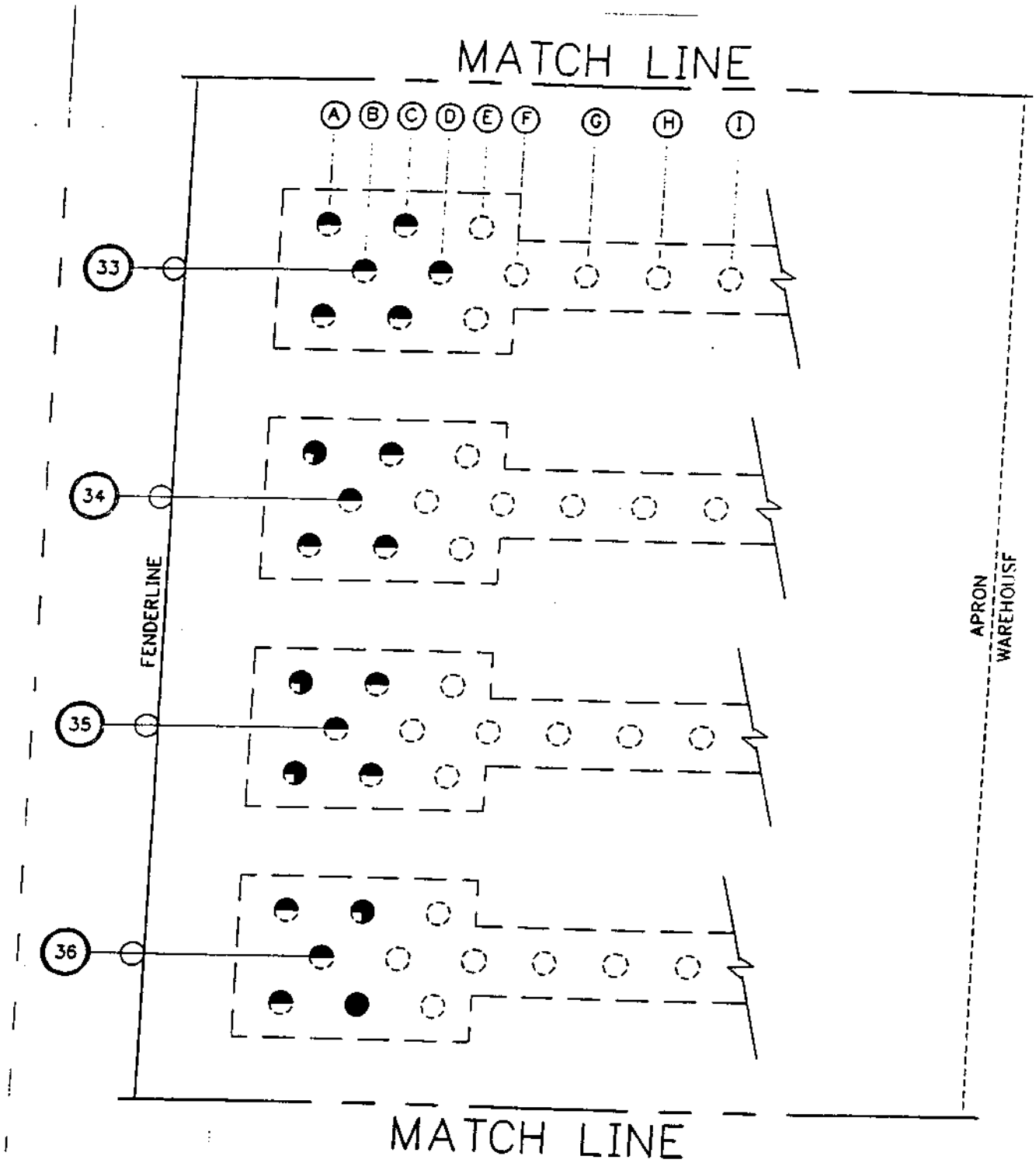
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN JFJ
DRAWN JFJ
CHECK GJC
CONTRACT 3885
SHEET No.
9 OF 61



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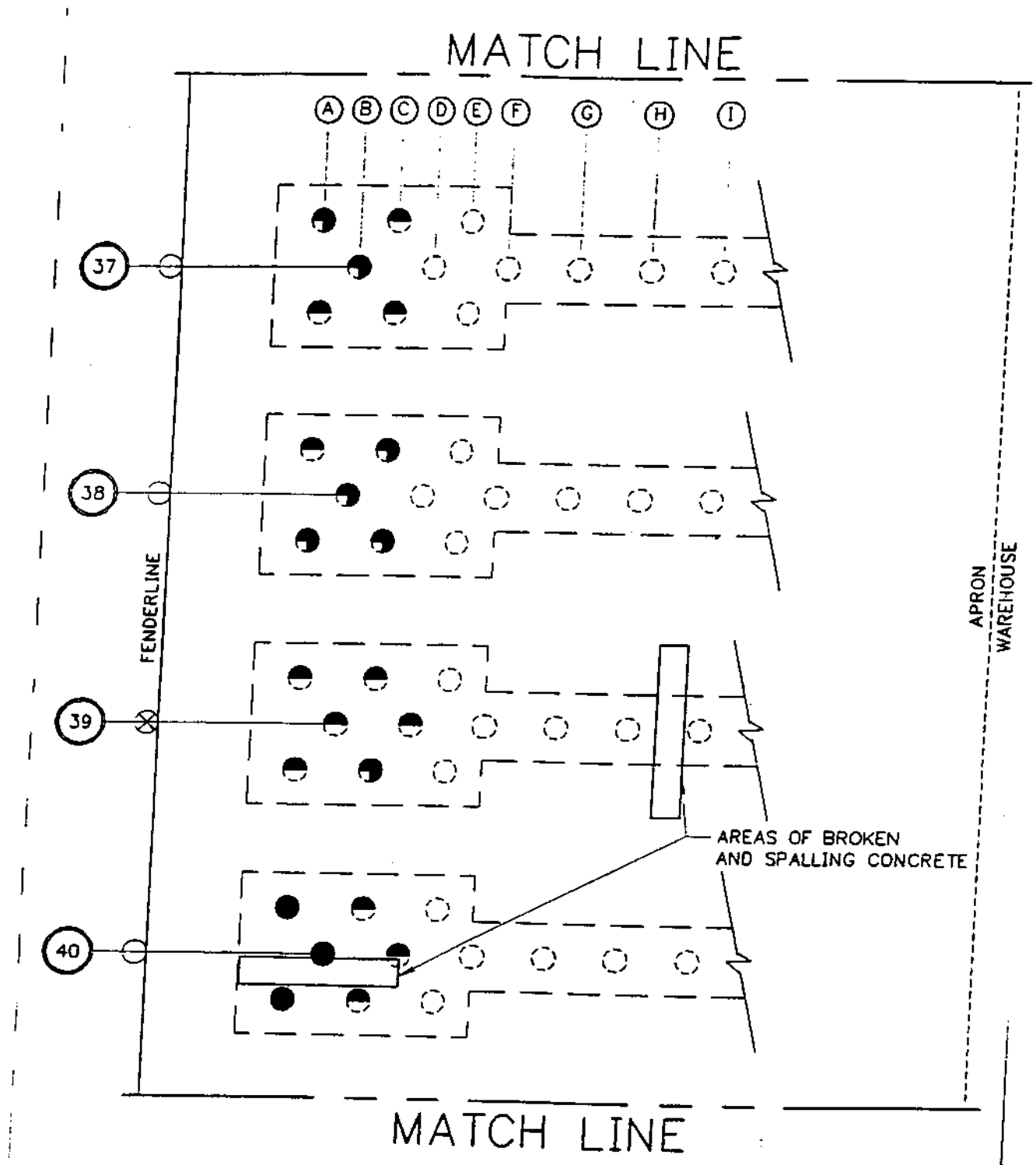
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

3885-S02

DATE SEP '04
DESIGN E.J.
DRAWN J.C.
CHECK G.L.
CONTRACT 3885
SHEET No.
10 OF 61



3885-S02

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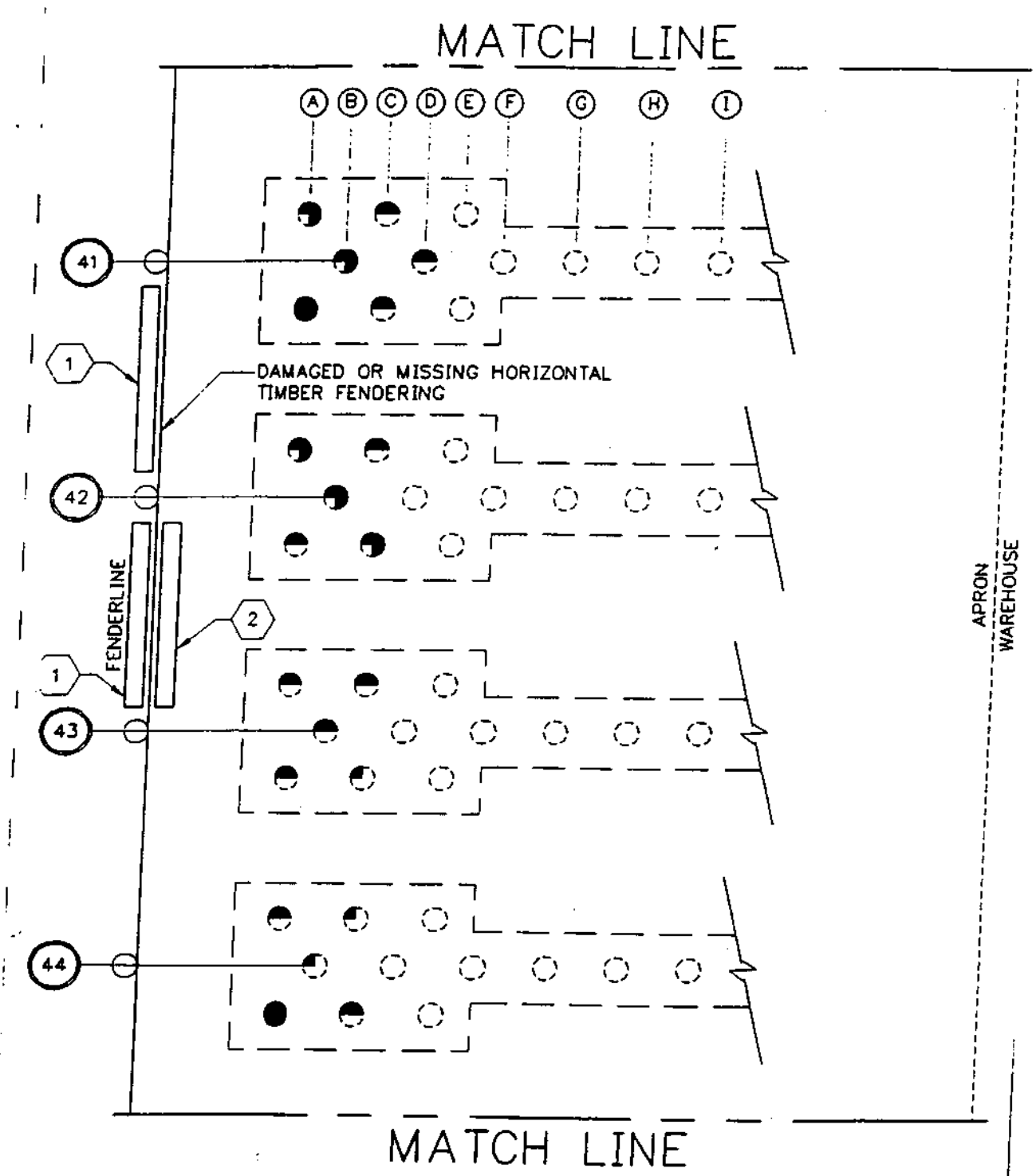
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
11 OF 61



3885-S02

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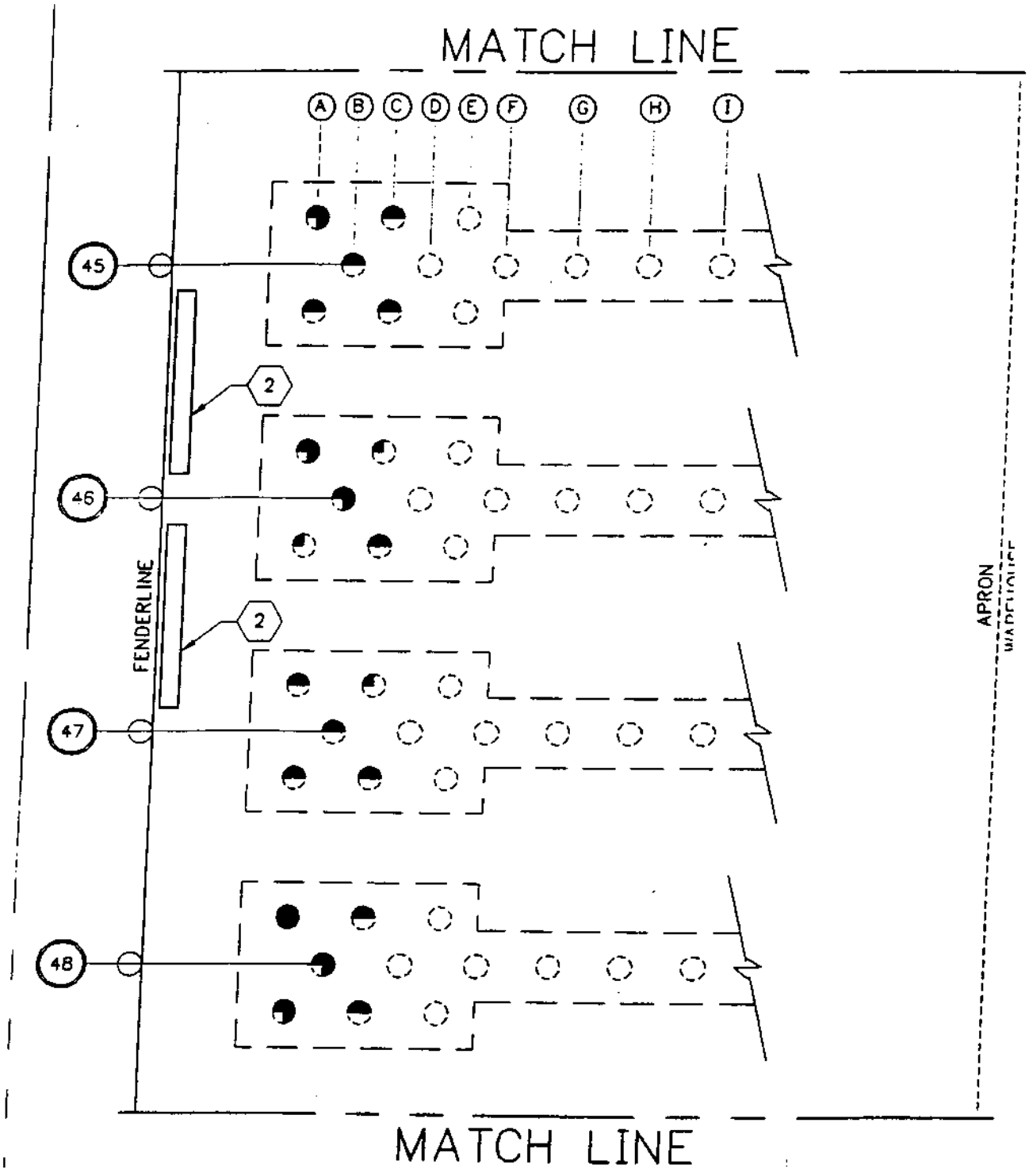
PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
12 OF 61



3885-S02

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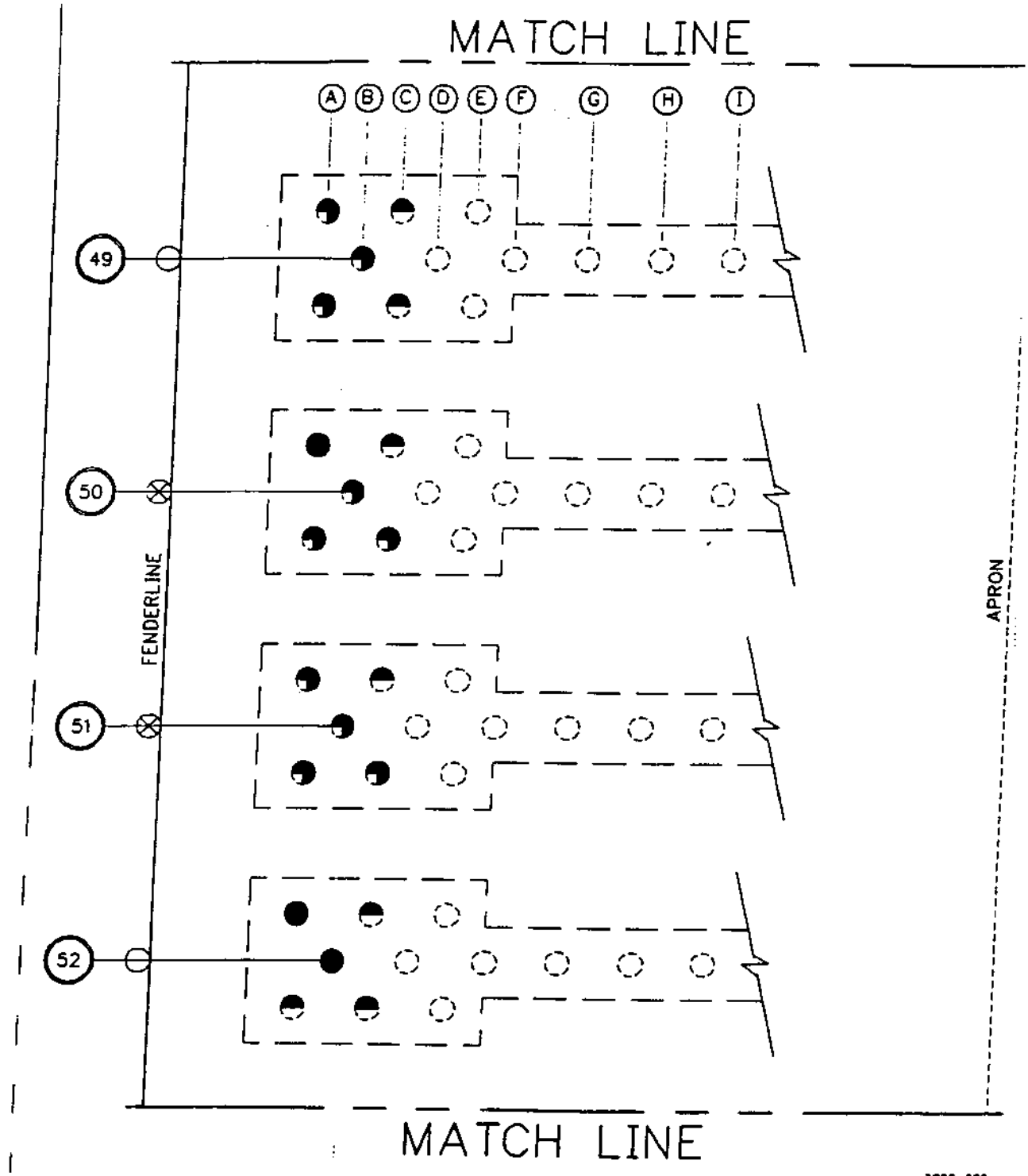
NEW ORLEANS, LA · HOUSTON, TX

PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
DRAWN EJ
CHECK GJC
CONTRACT 3885
SHEET No.
13 OF 6



3885-502

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PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN E.L.
DRAWN E.L.
CHECK G.C.
CONTRACT 3885
SHEET No.
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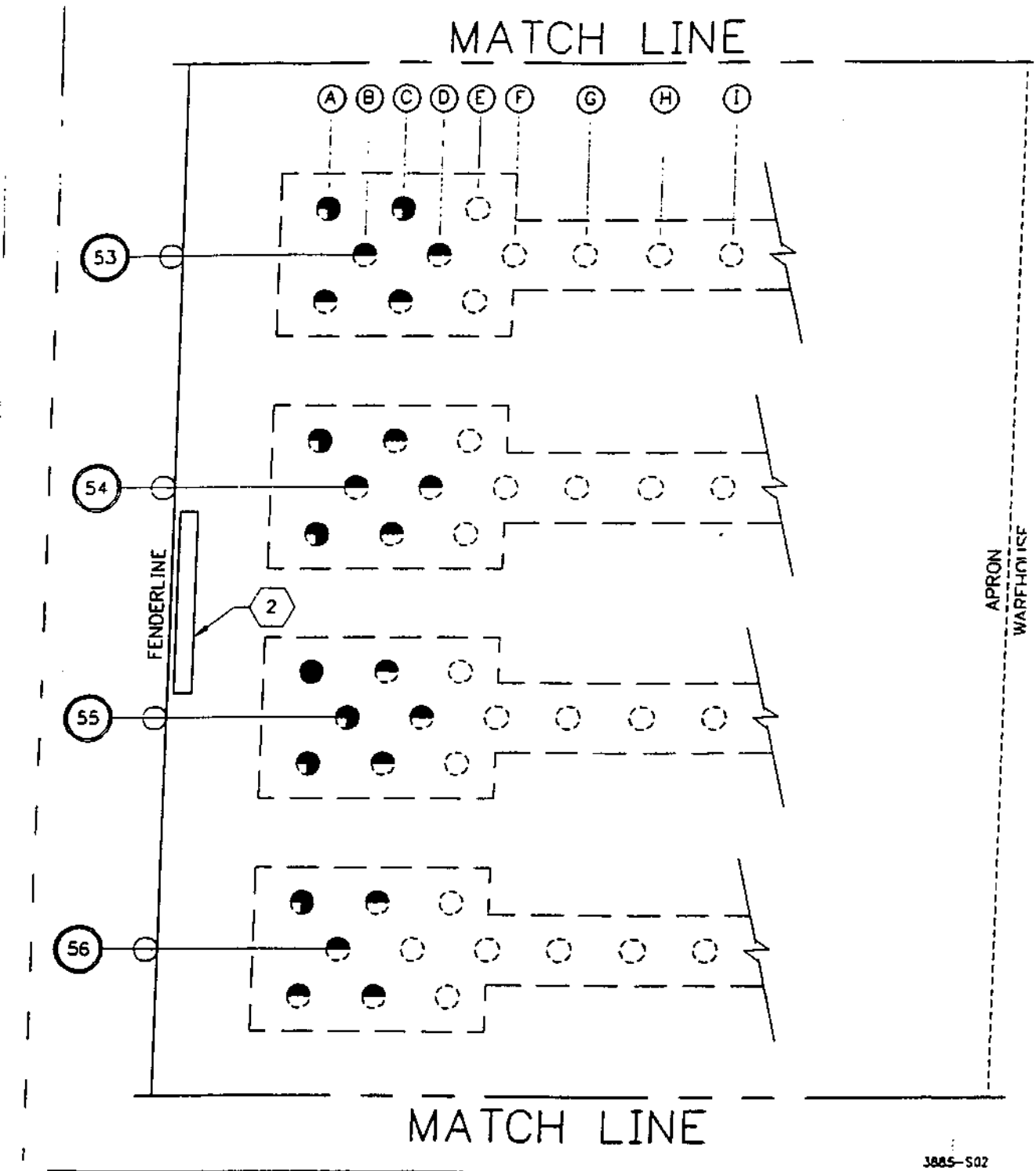

3885-S02

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NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
DRAWN EJ
CHECK CJC
CONTRACT 3885
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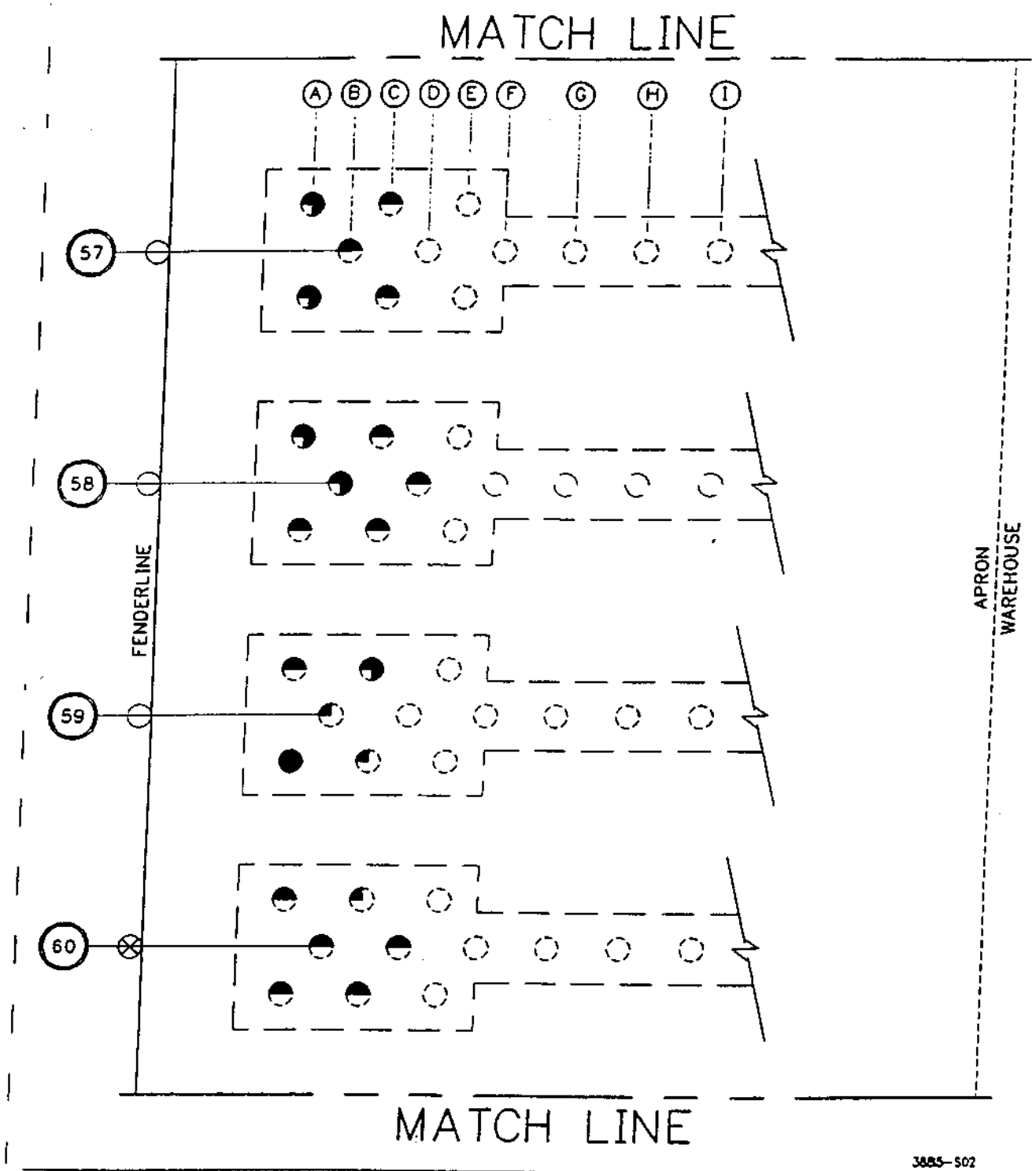

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NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
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CHECK GF
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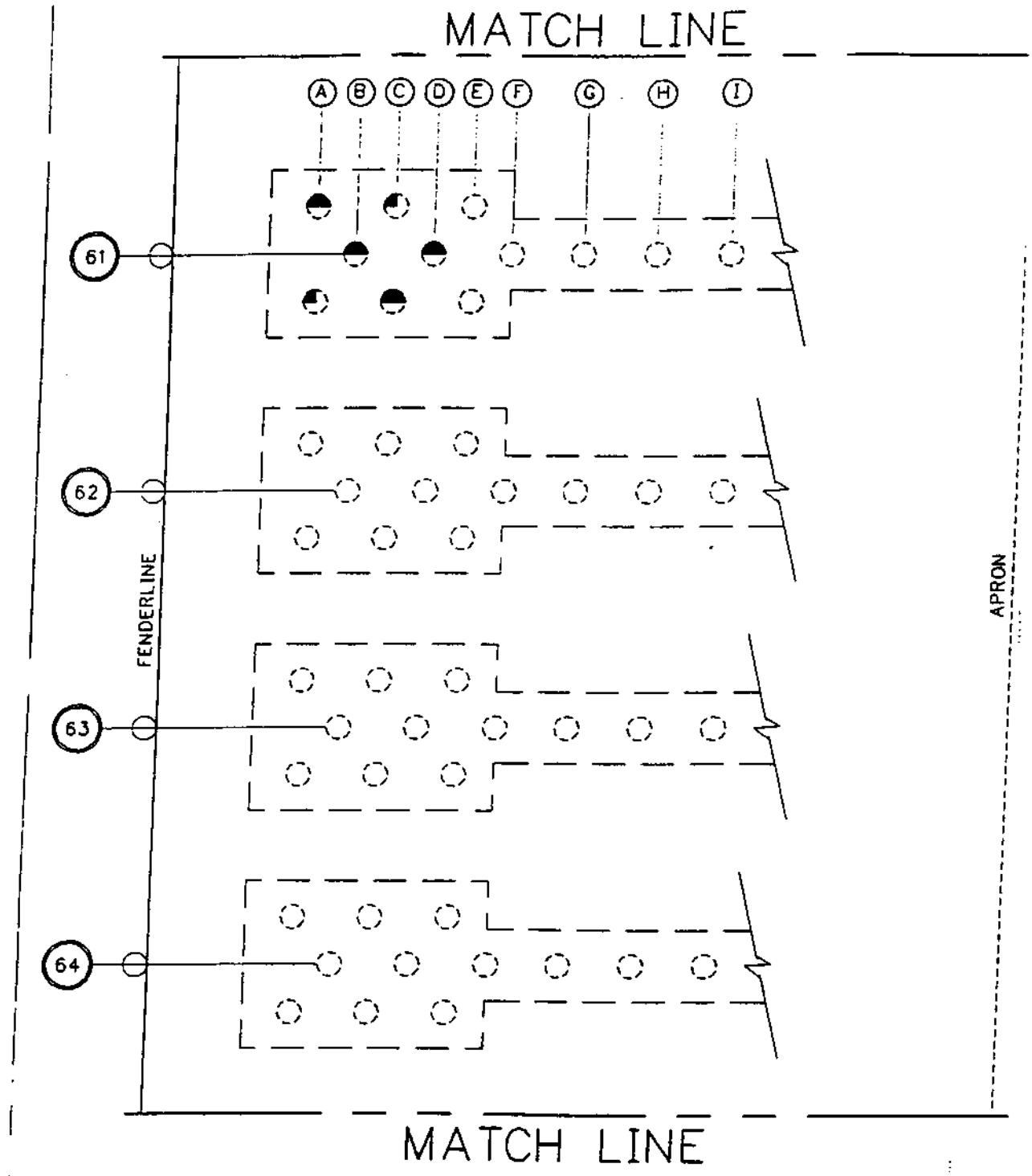

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PORT OF NEW ORLEANS
NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
DESIGN EJ
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CHECK GJF
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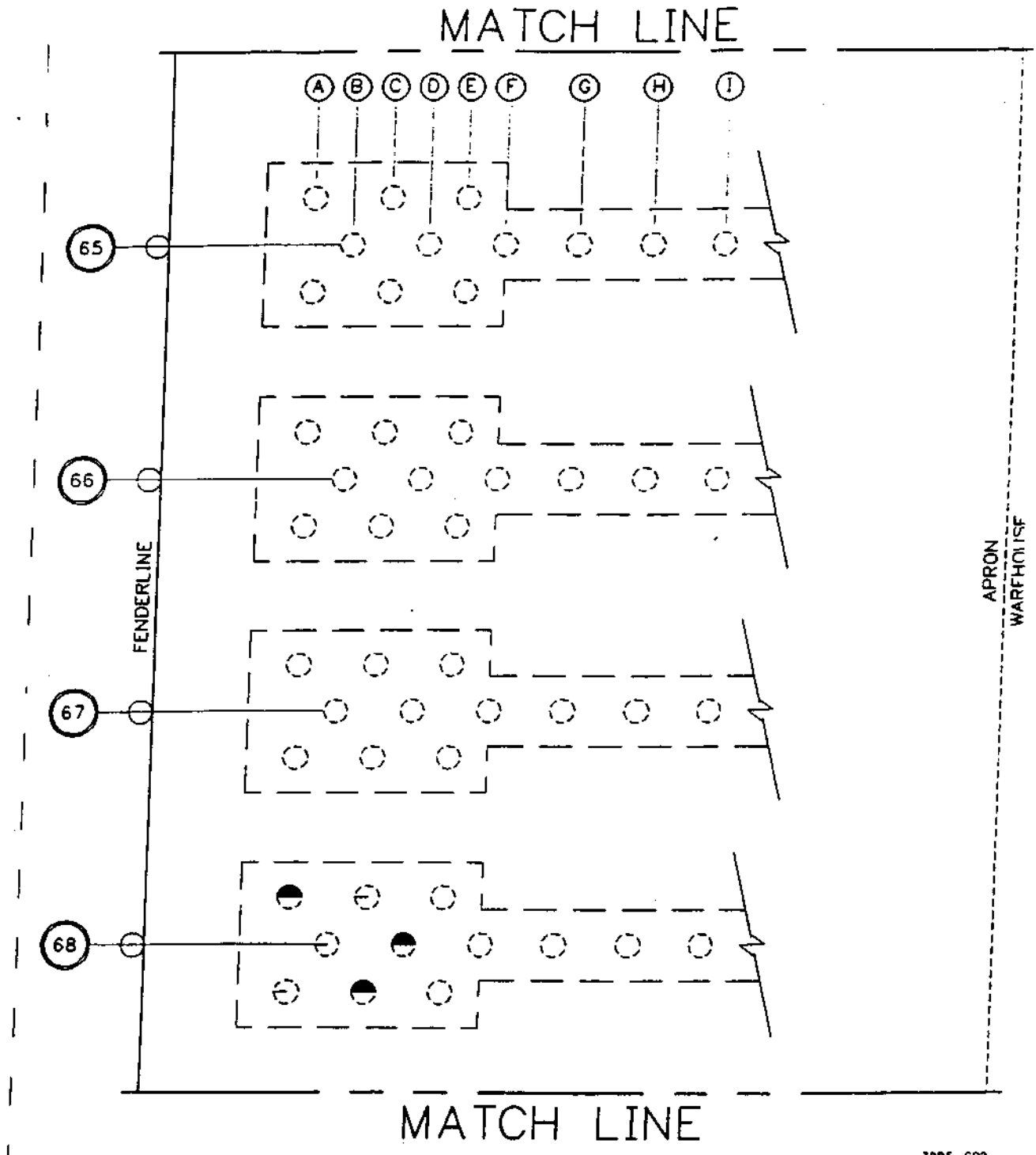

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NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
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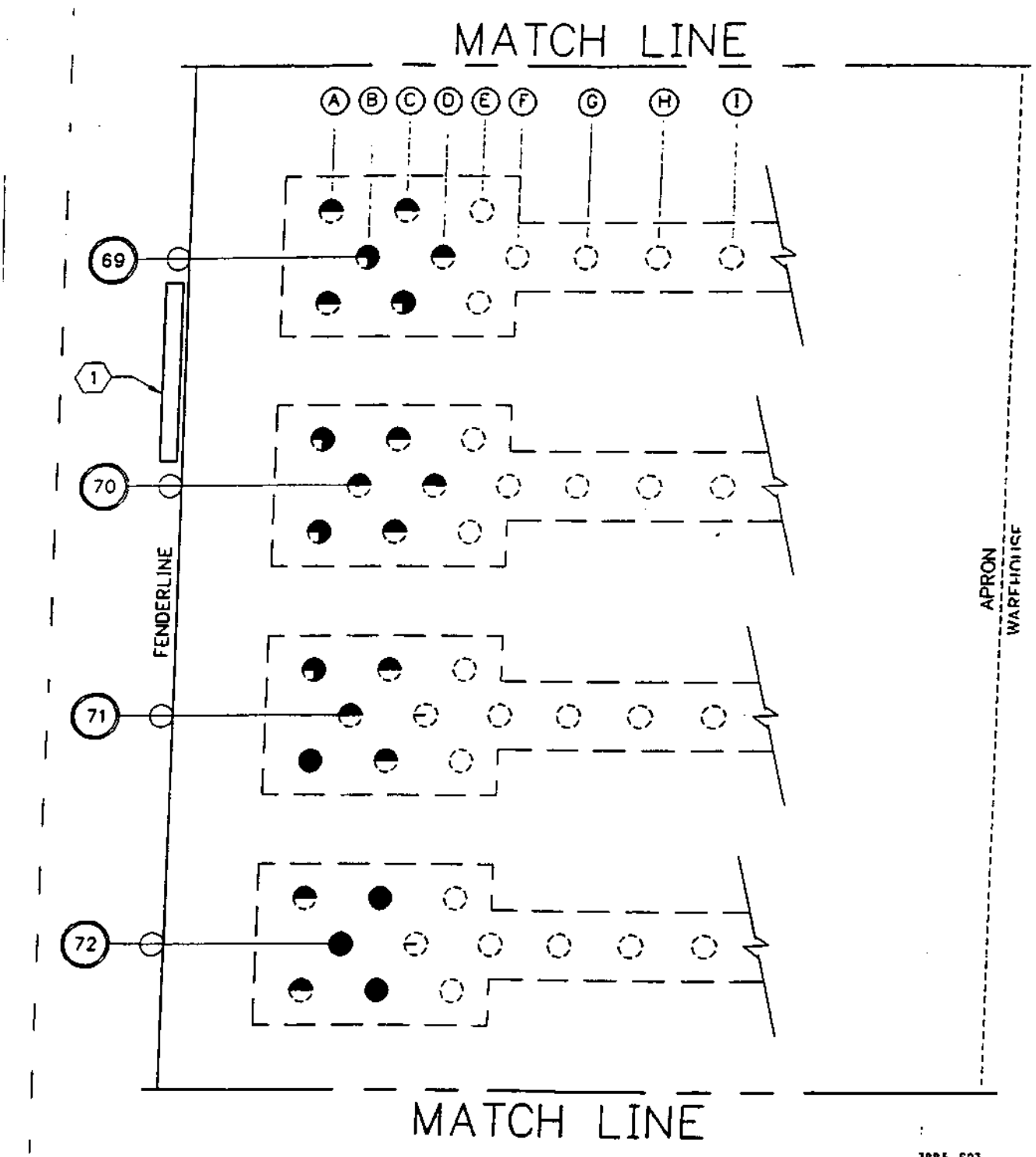

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NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '96
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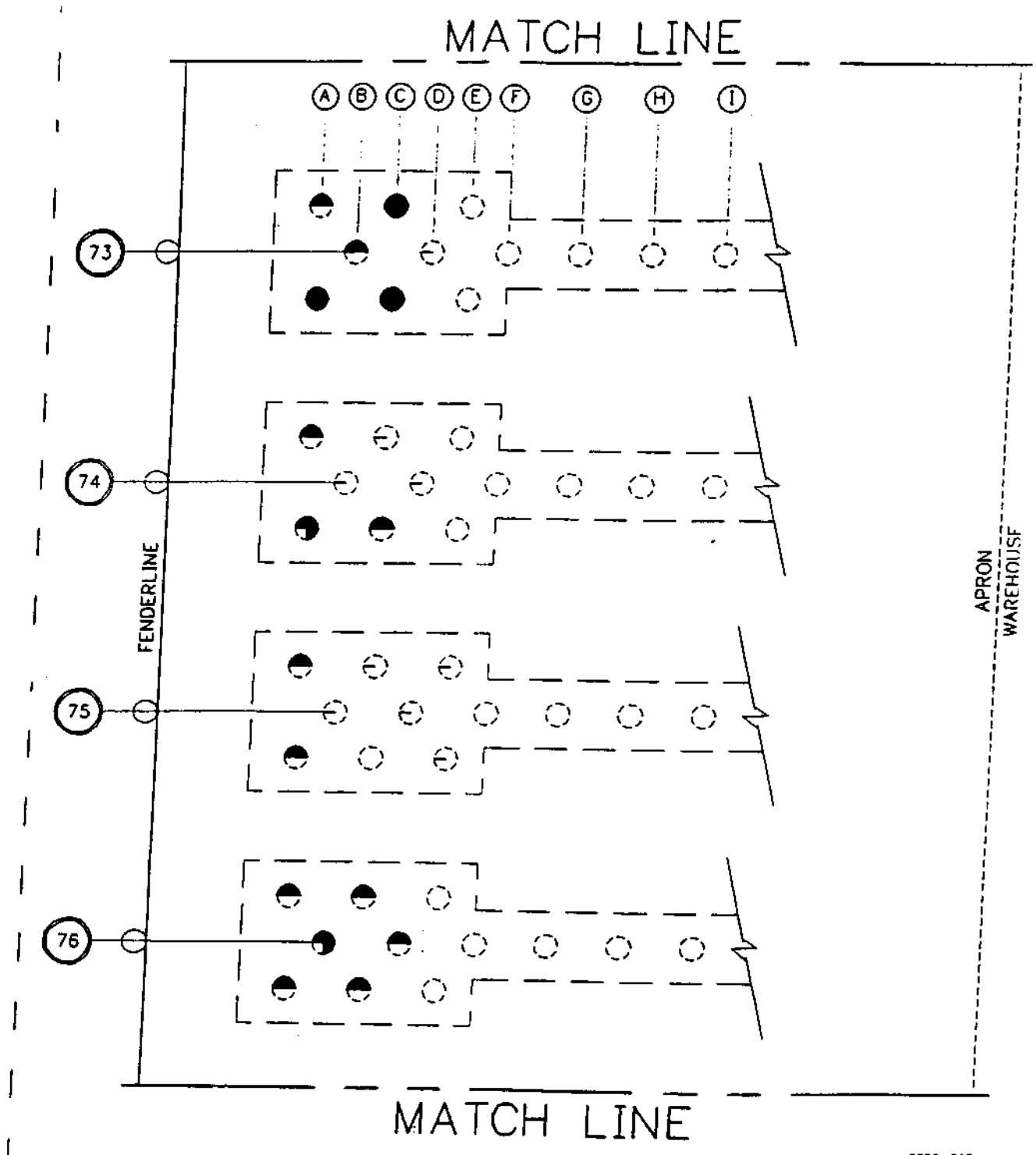

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CONDITION SURVEY
TIMBER PILE SURVEY

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DESIGN JEJ
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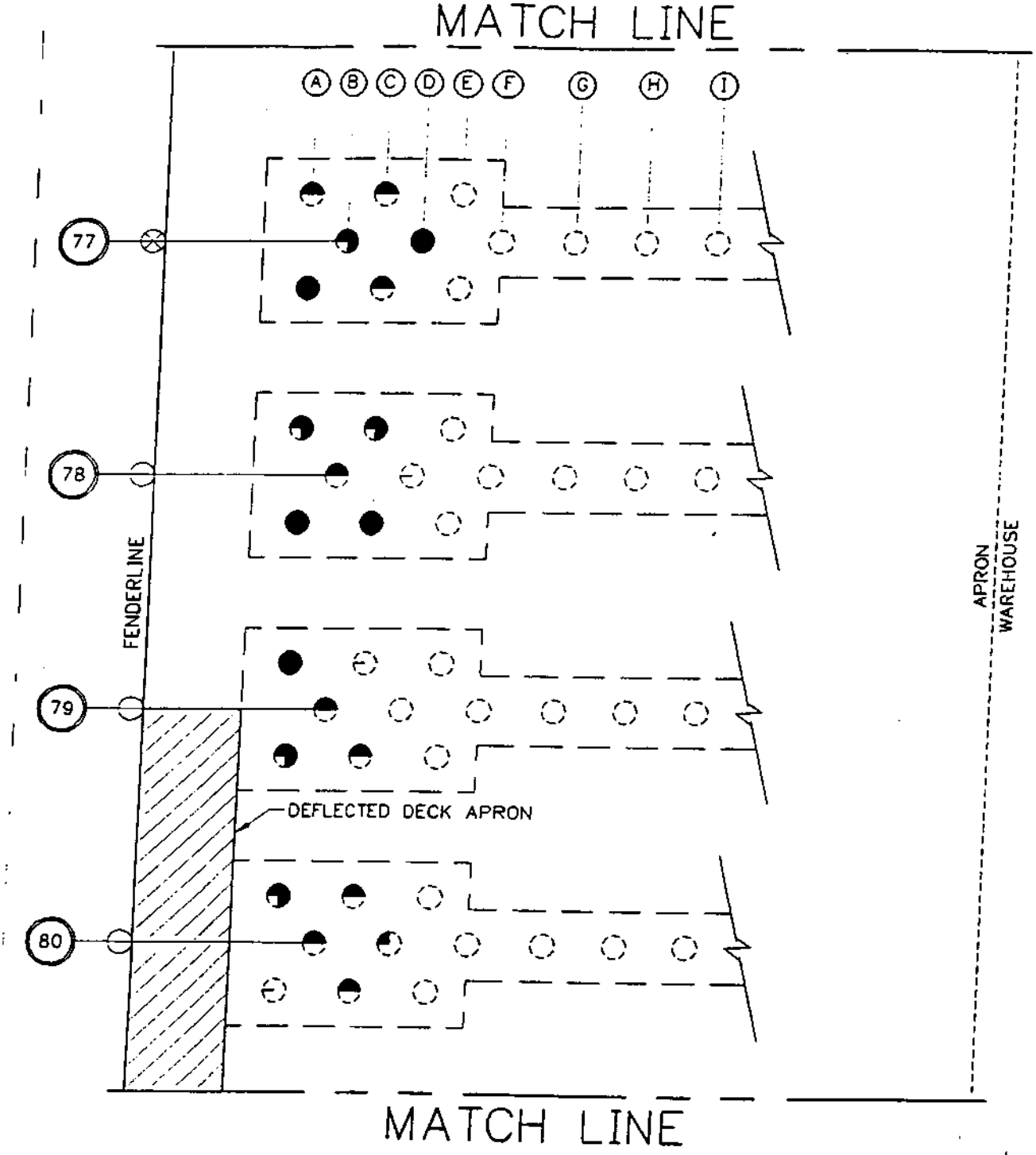

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TIMBER PILE SURVEY

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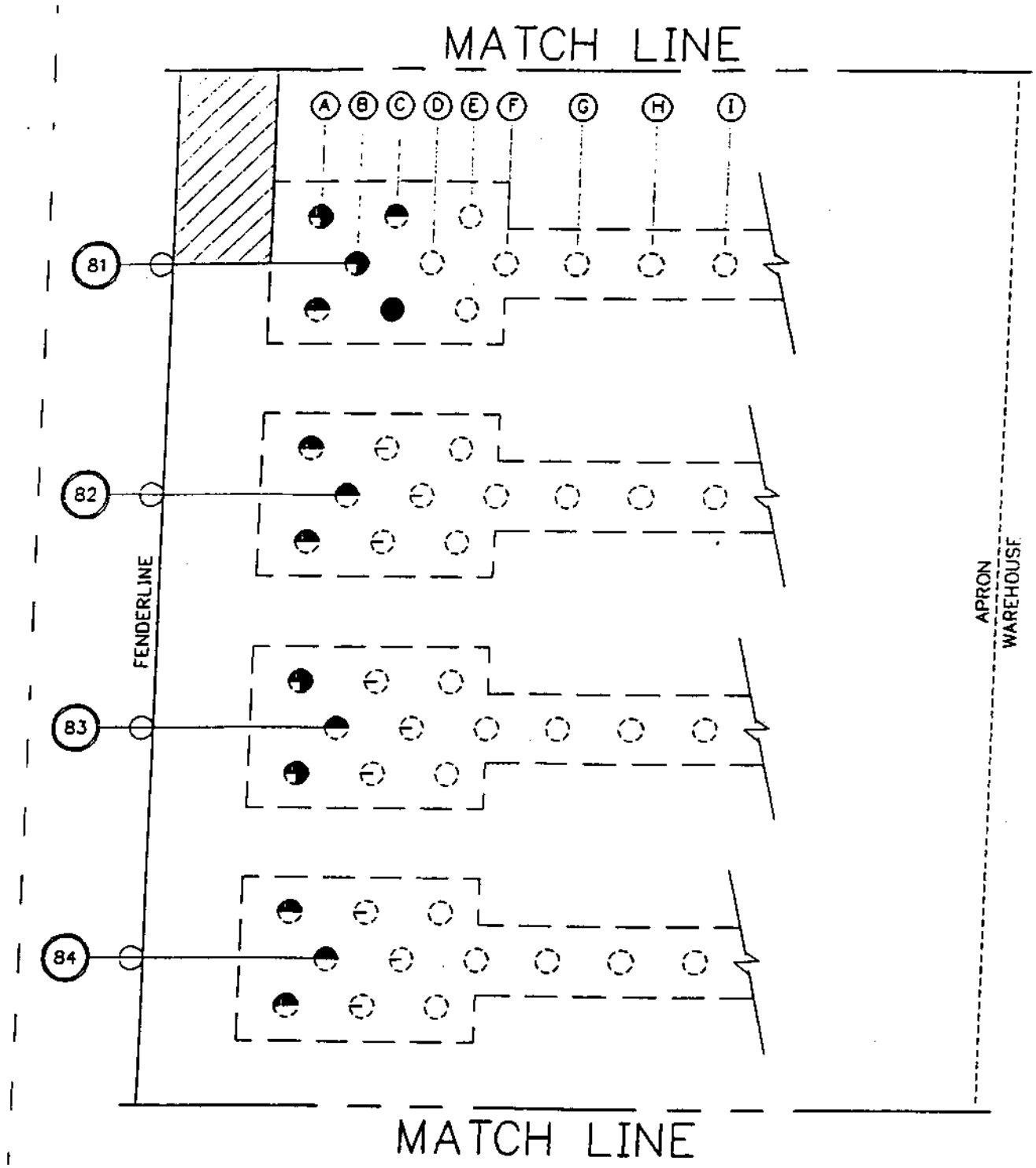

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TIMBER PILE SURVEY

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CHECK GJC
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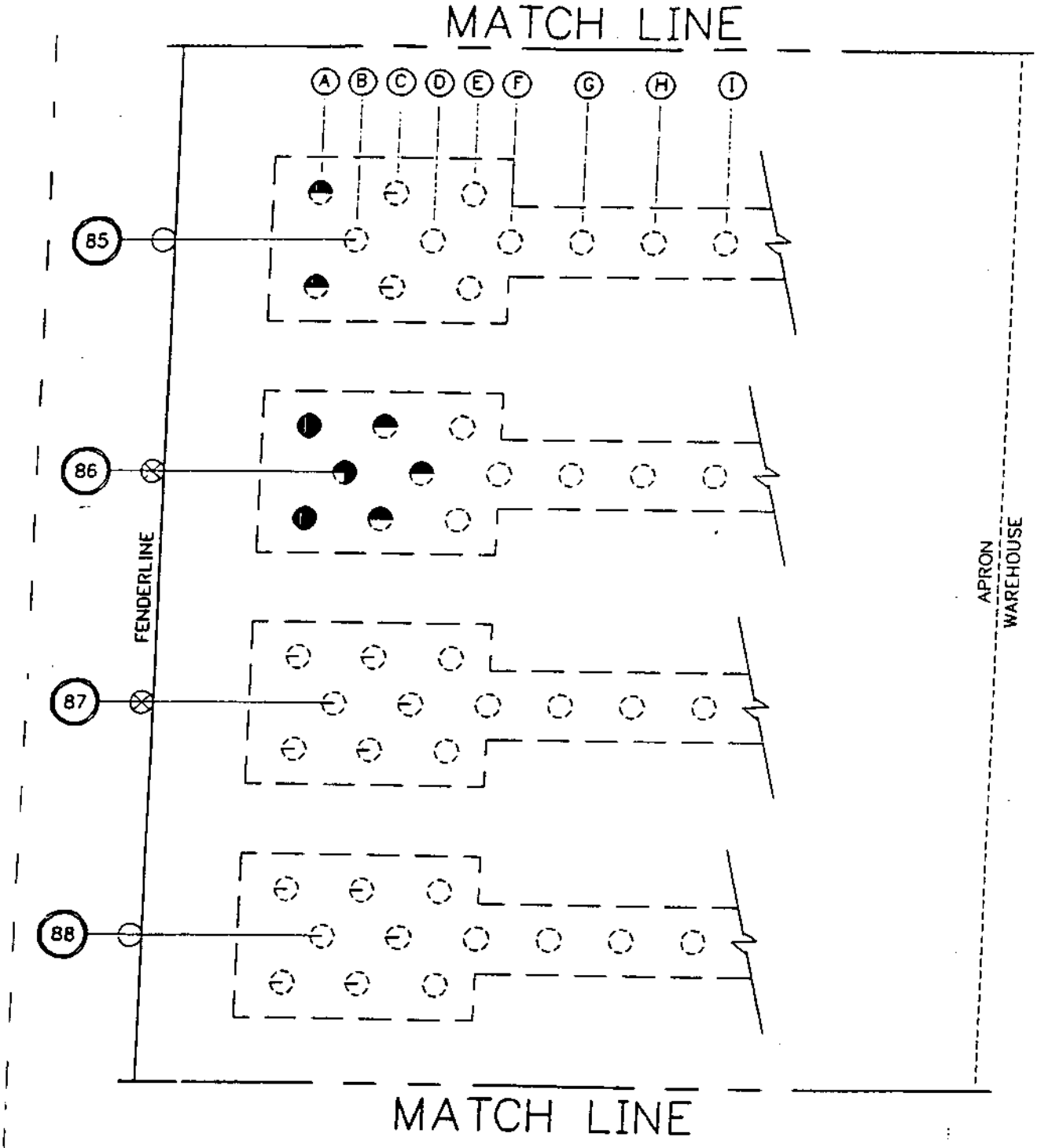

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DESIGN JEJ
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CHECK GJC
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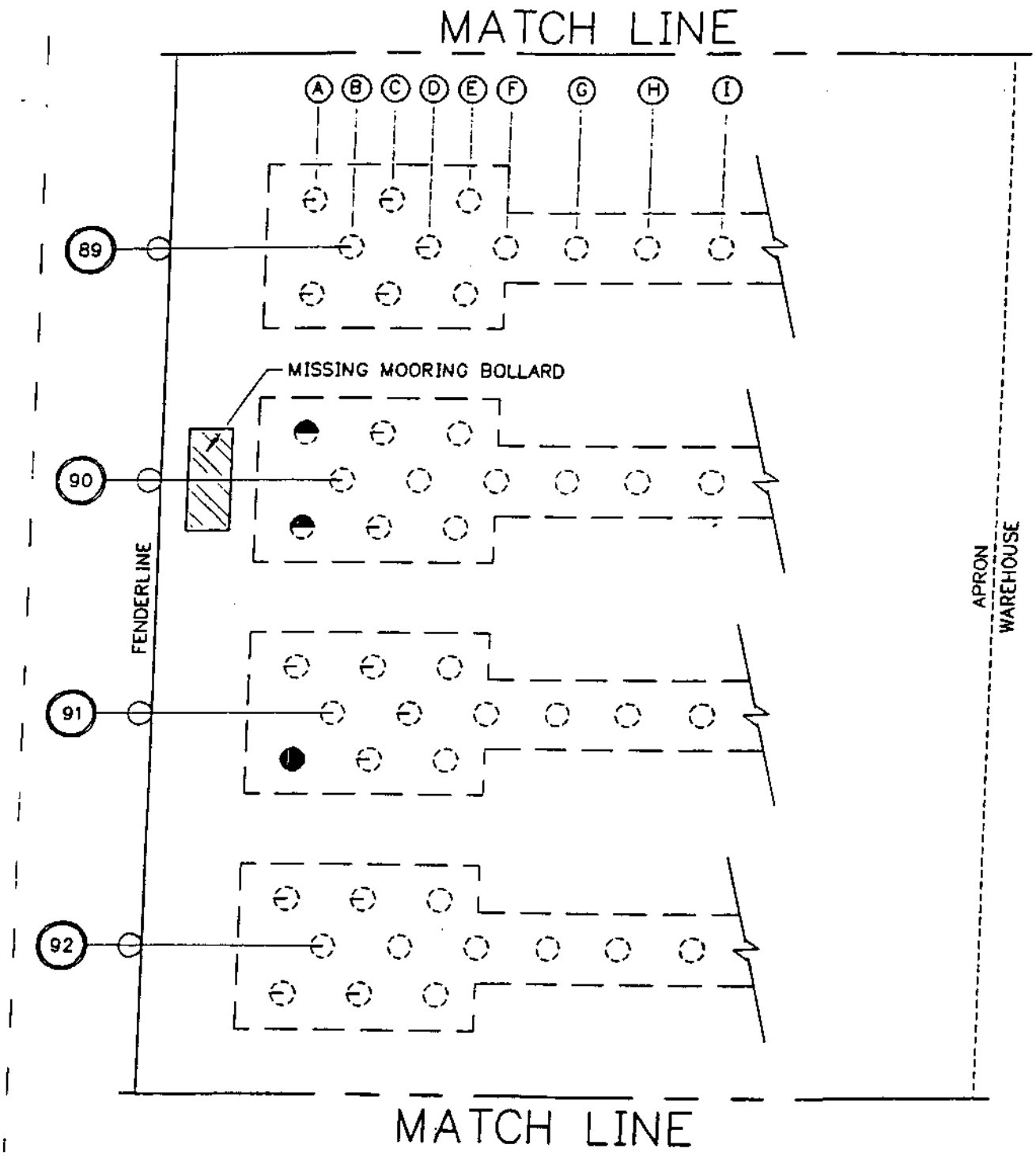

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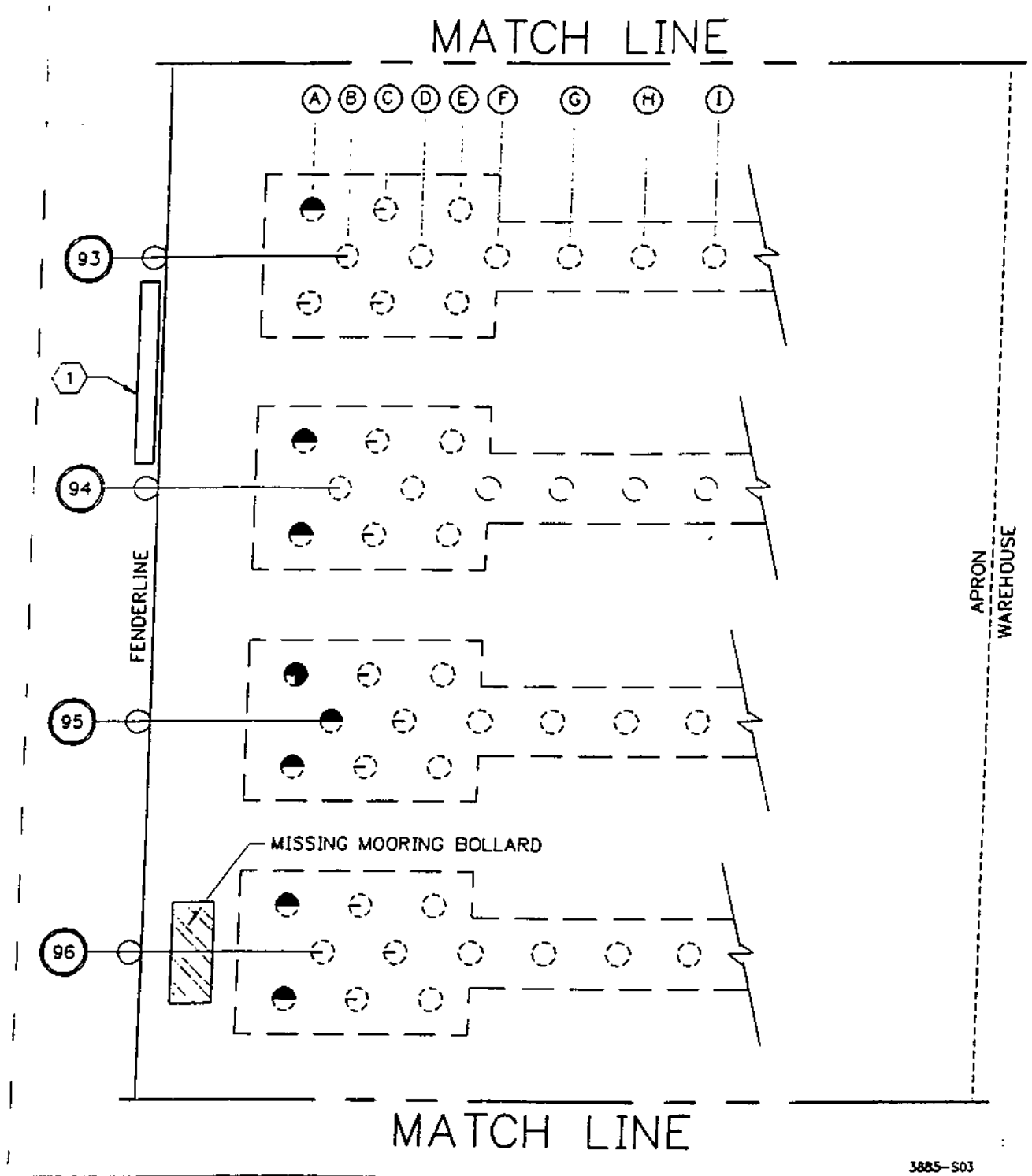

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DATE SEP. '94
DESIGN JCJ
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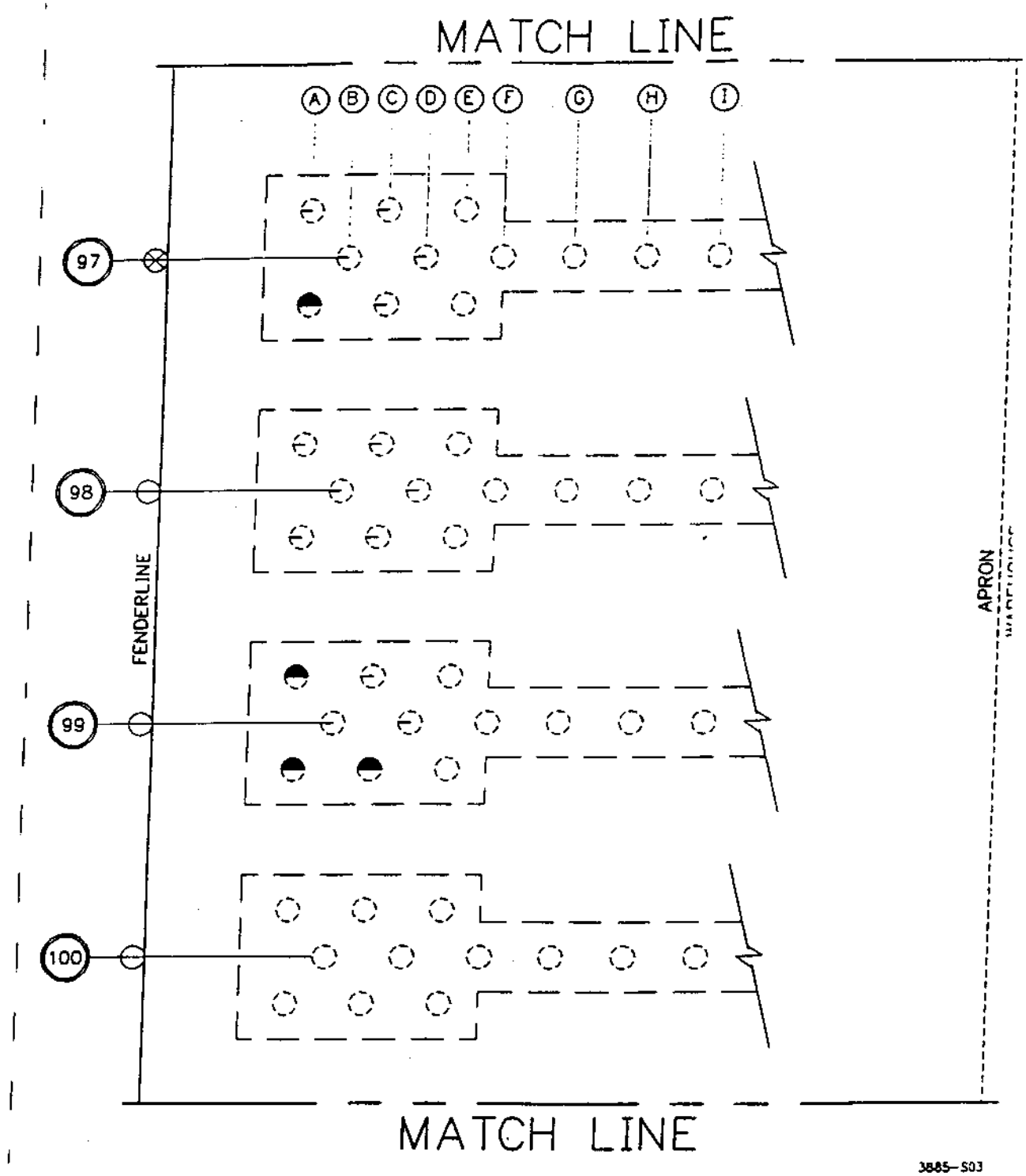

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TIMBER PILE SURVEY

DATE SEP '94
DESIGN JFJ
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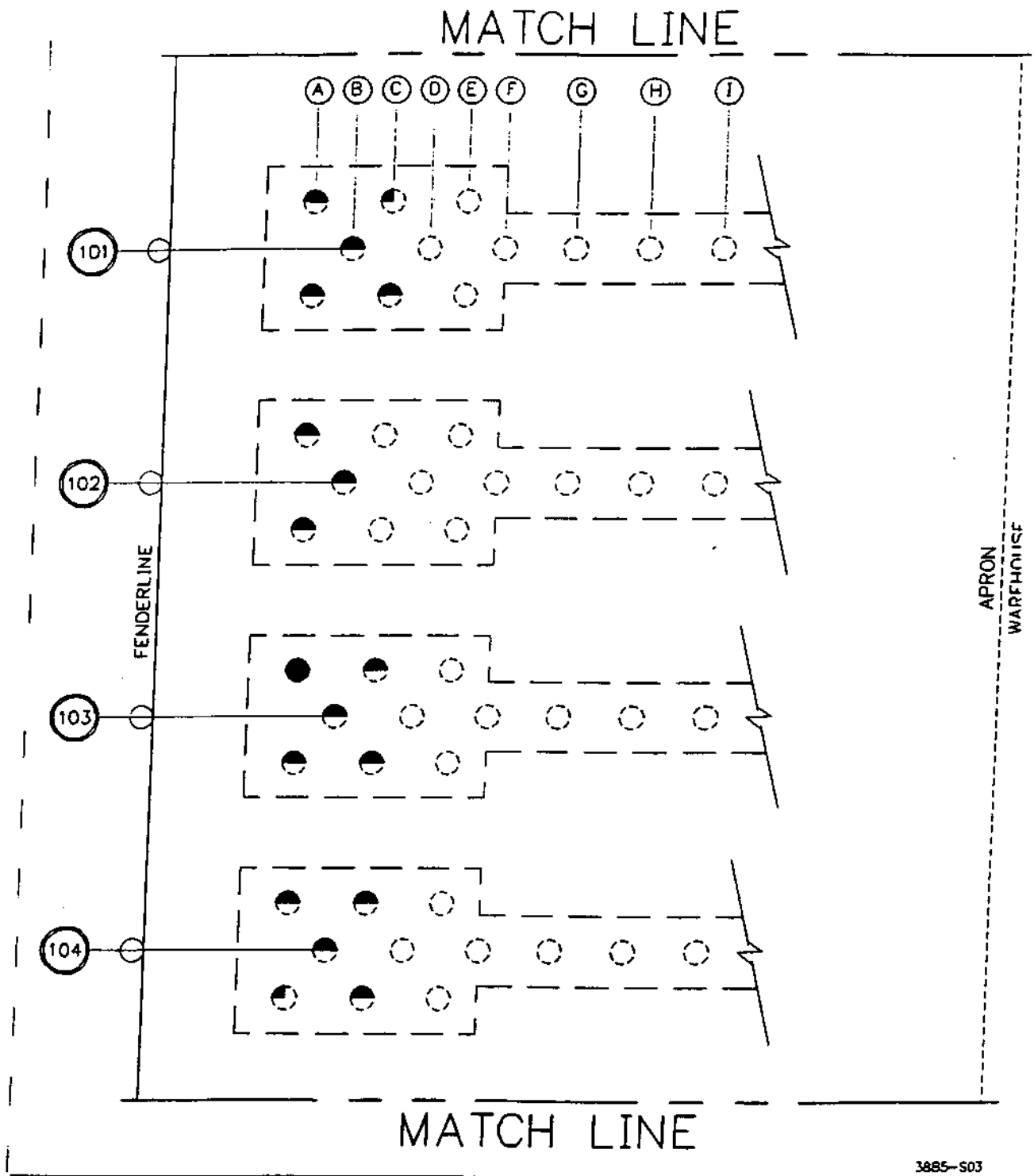

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CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP. '04
DESIGN E.J.
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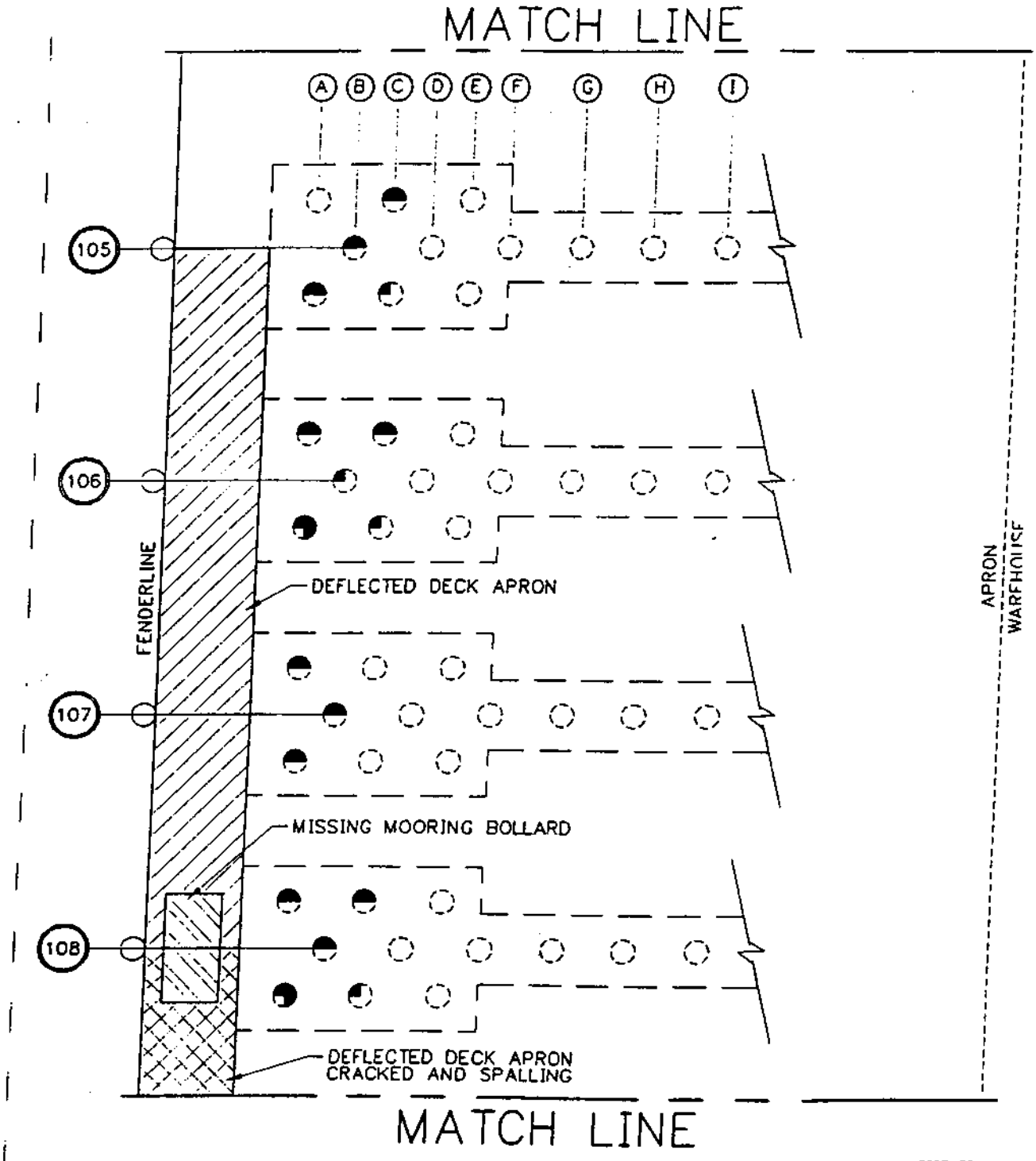

3885-504

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CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
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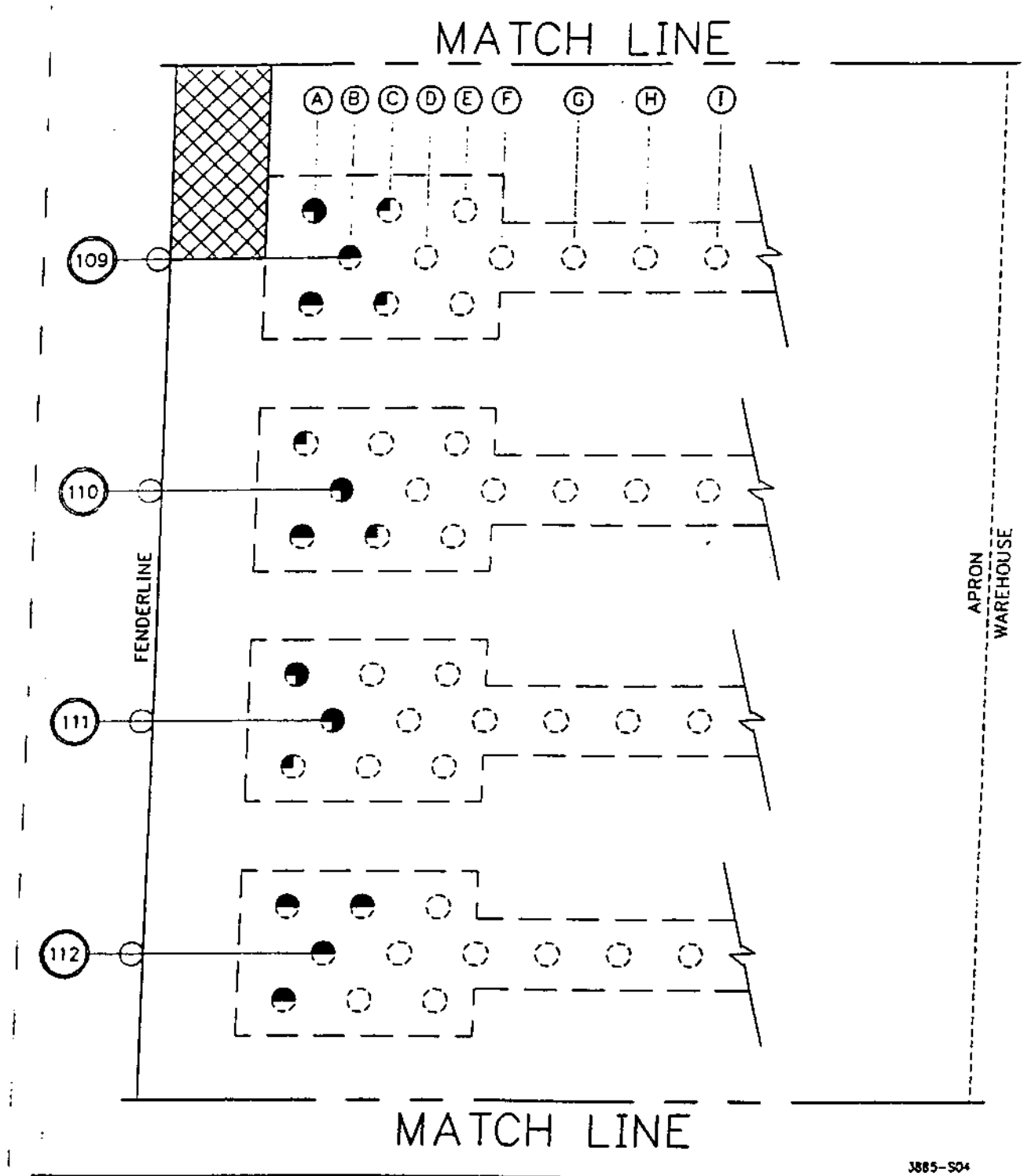

3885-S04

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TIMBER PILE SURVEY

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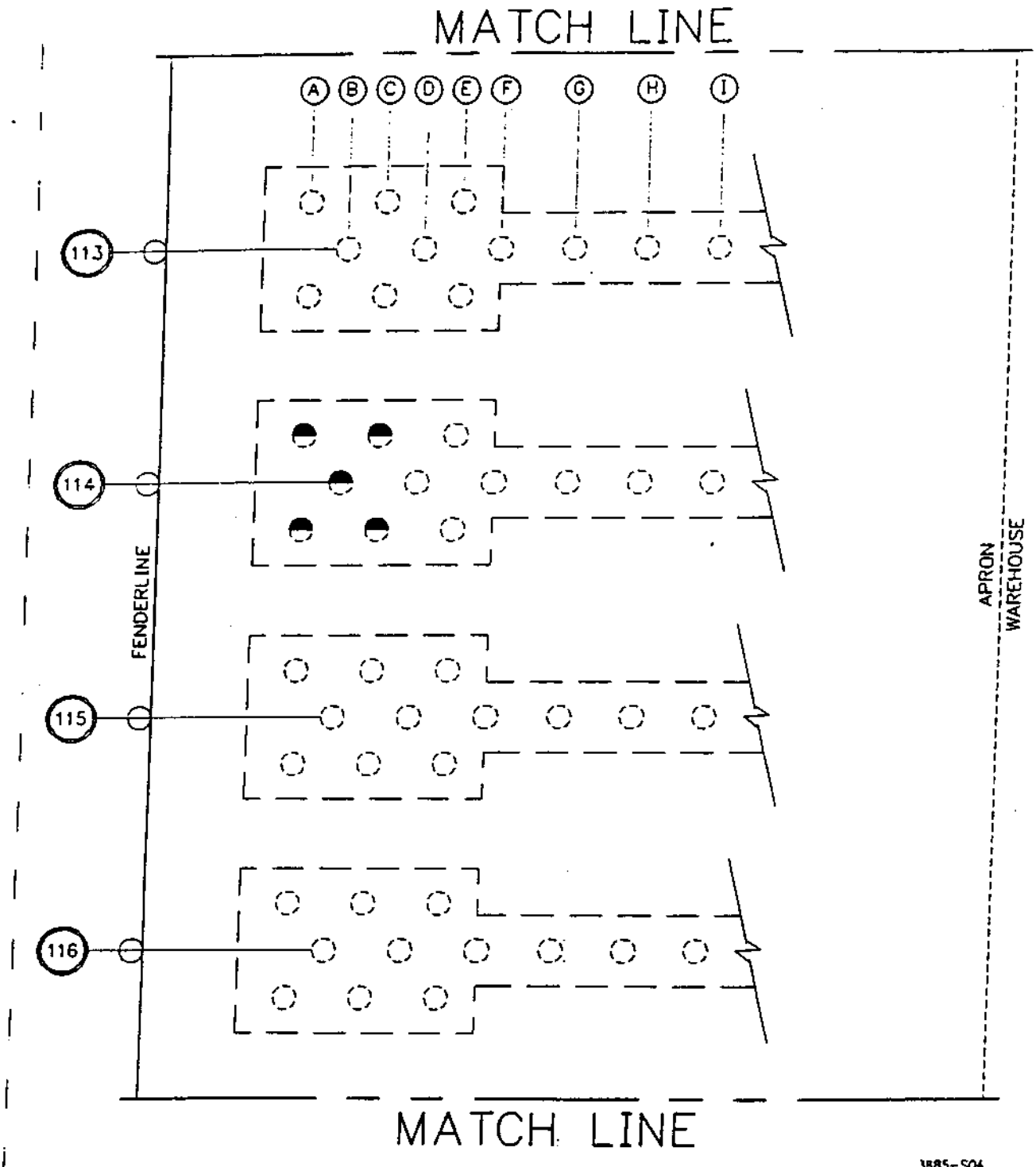

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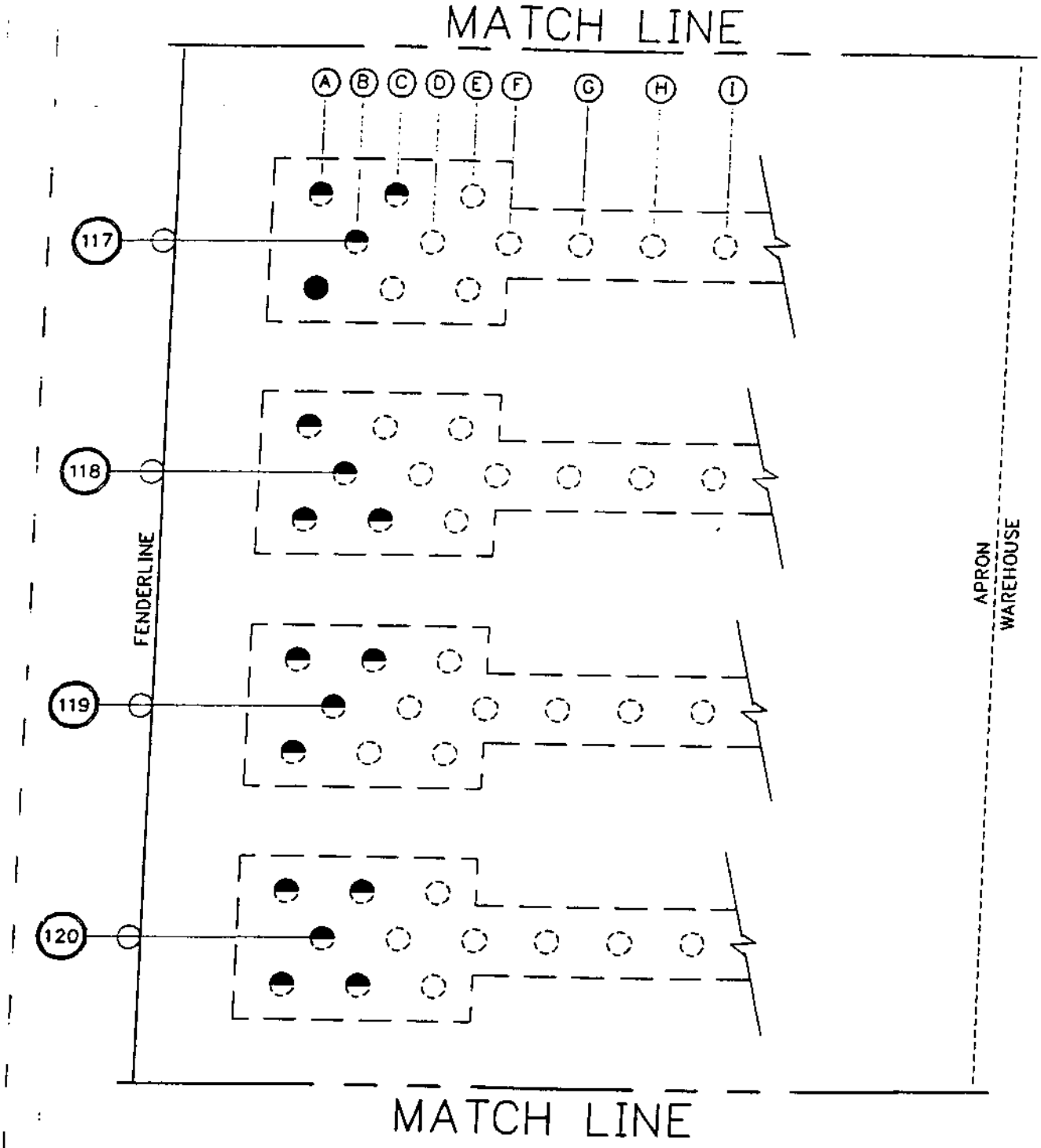

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GALVEZ ST. WHARF
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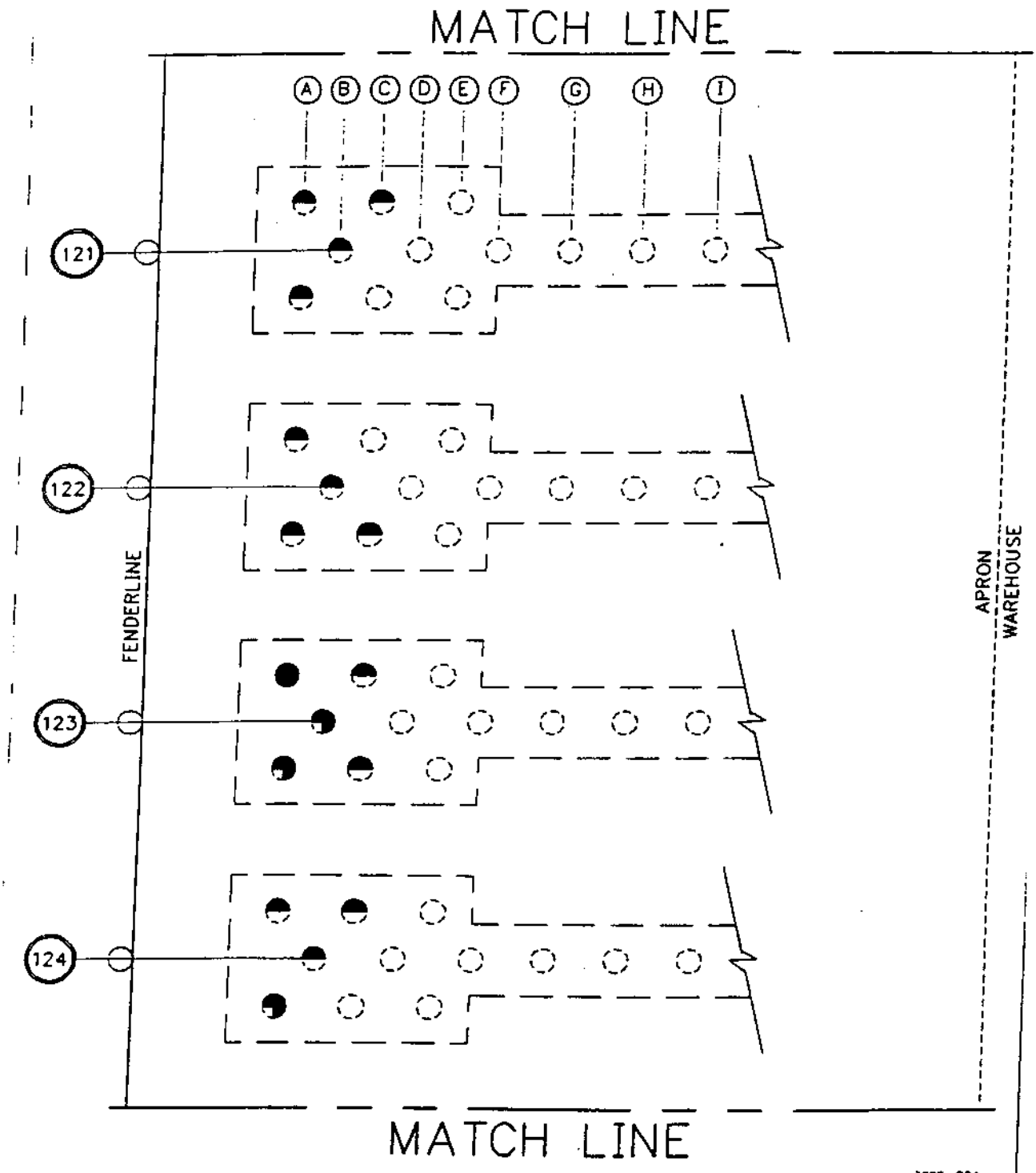

3885-S04

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GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
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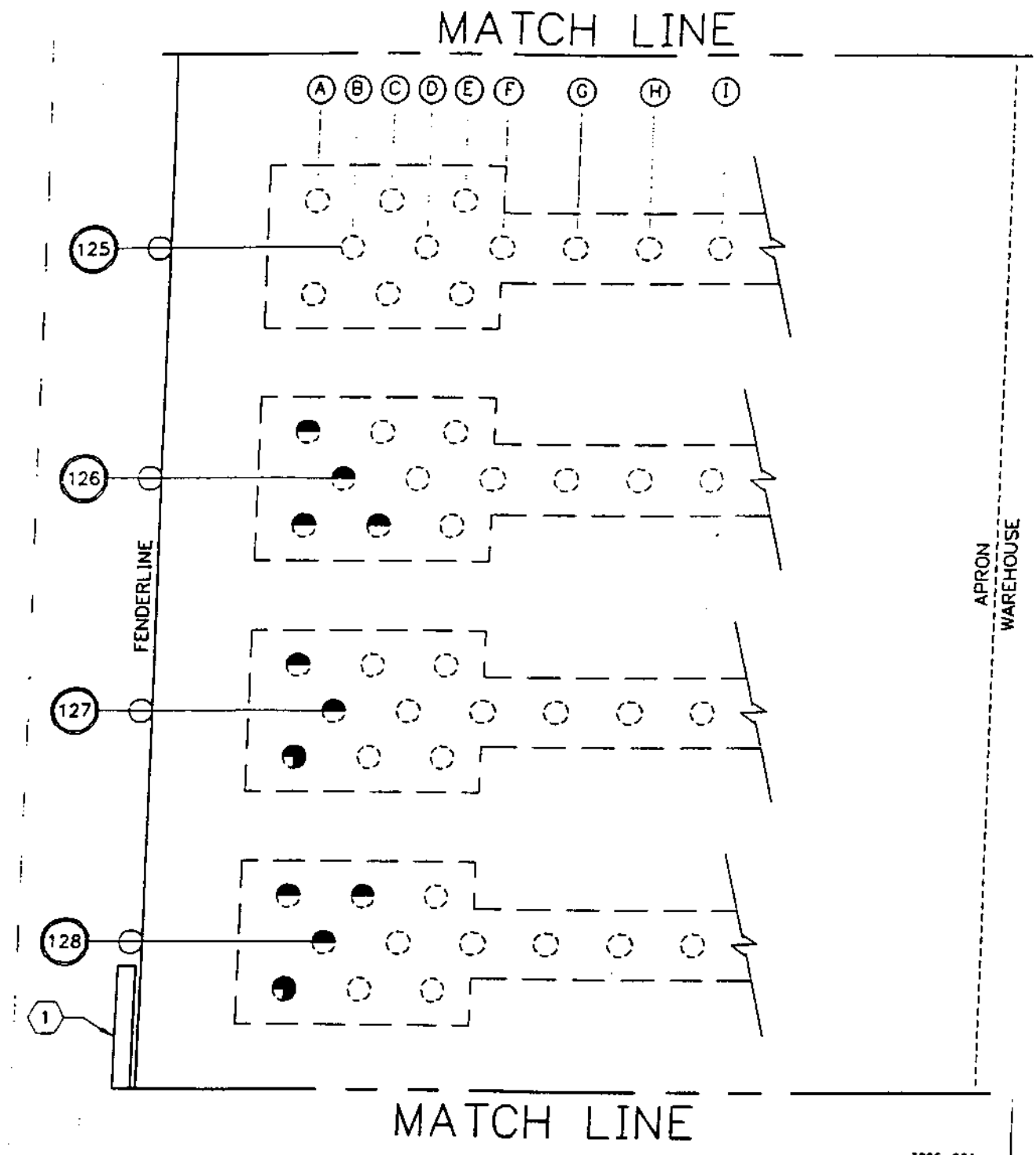

3885-S04

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NEW ORLEANS LOUISIANA

GALVEZ ST. WHARF
CONDITION SURVEY
TIMBER PILE SURVEY

DATE SEP '94
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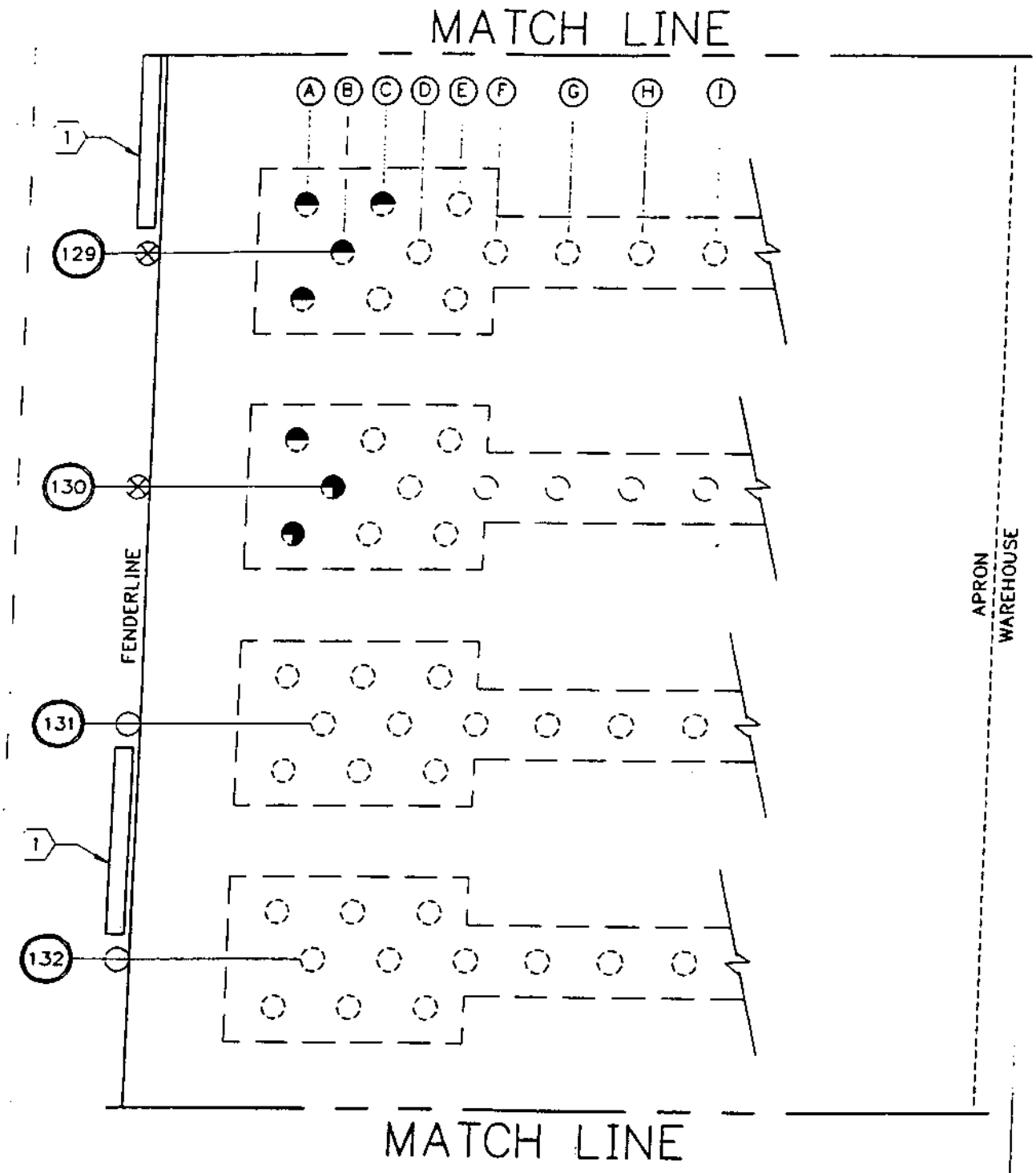

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TIMBER PILE SURVEY

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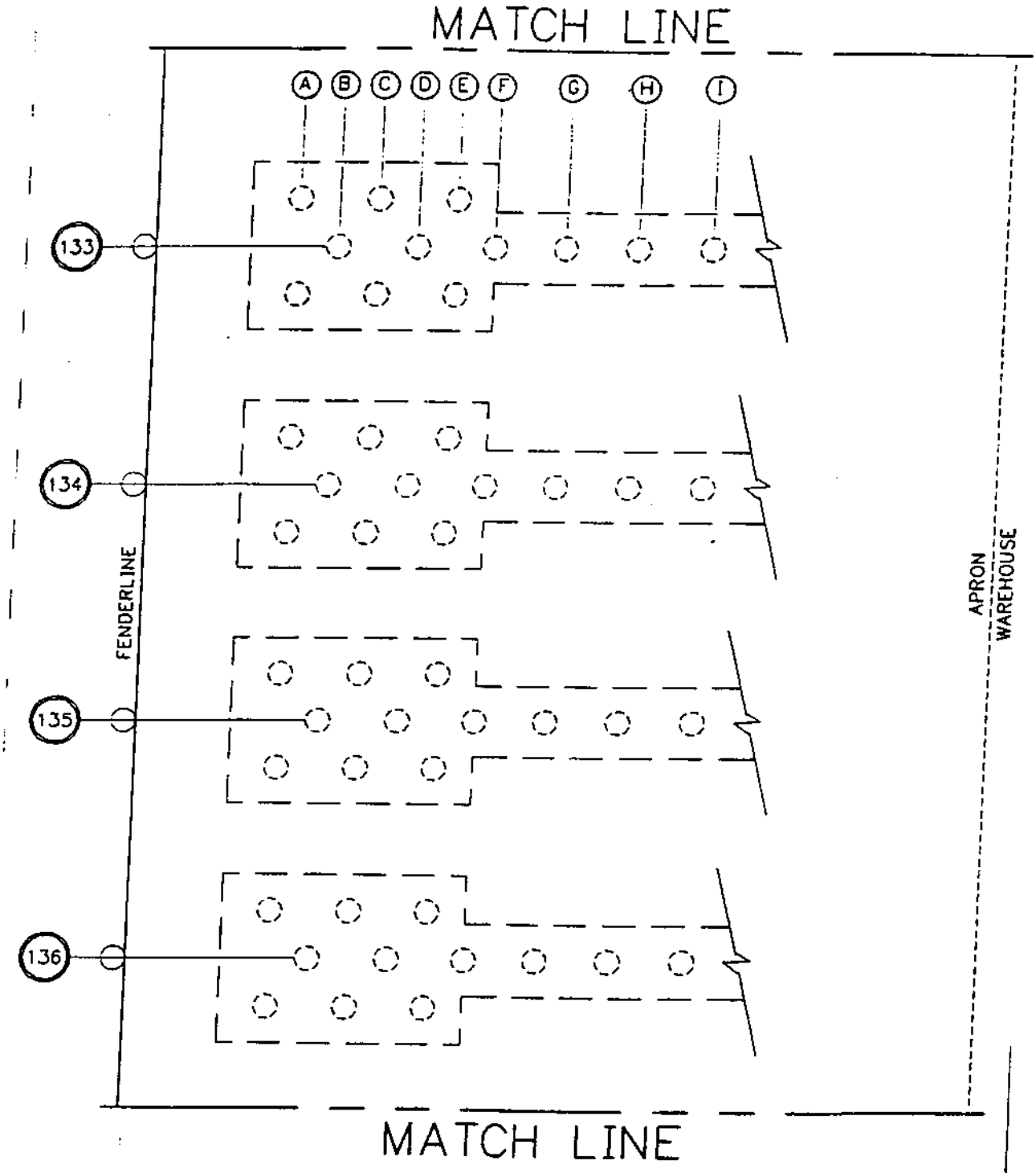

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TIMBER PILE SURVEY

DATE SEP '94
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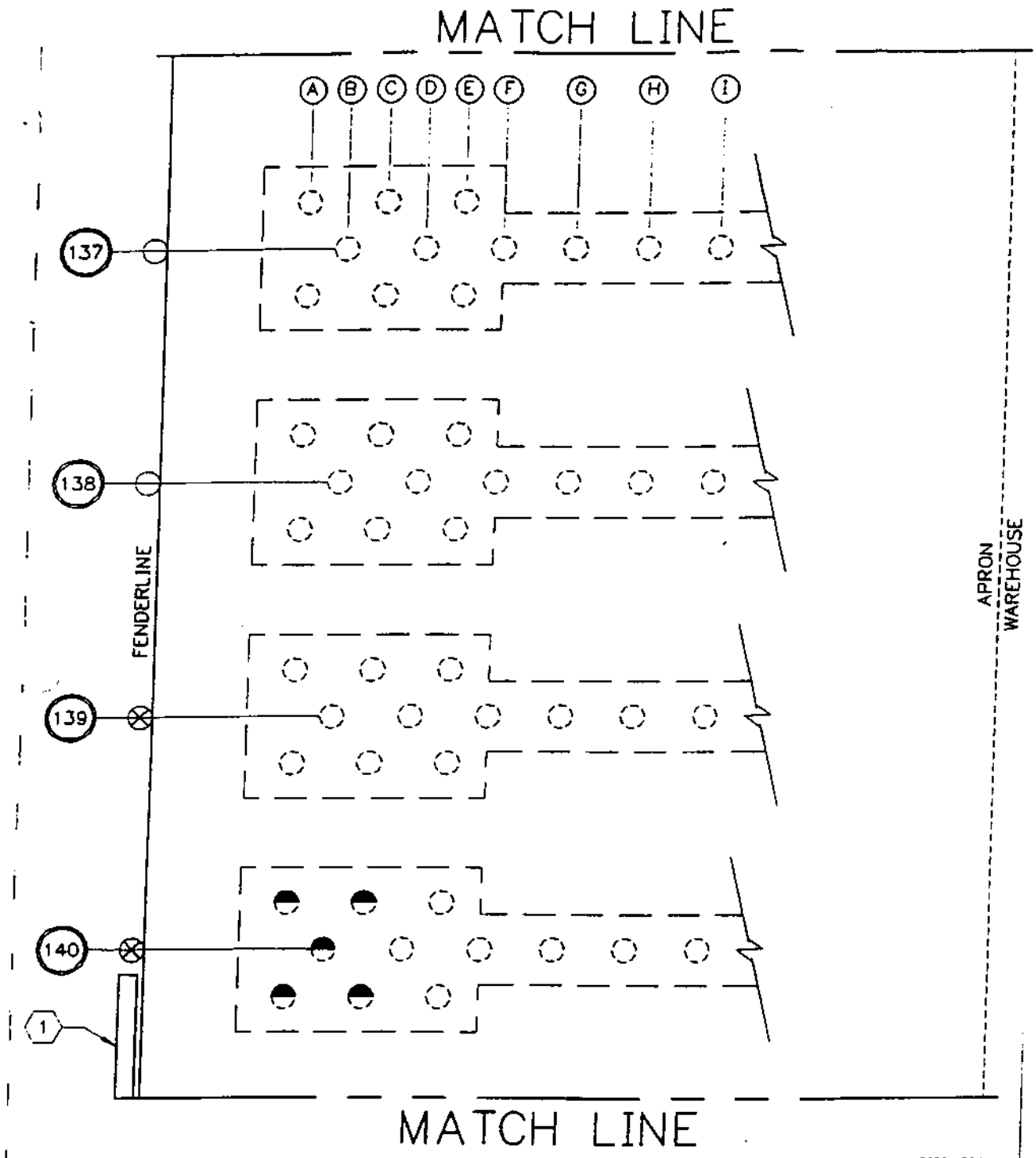

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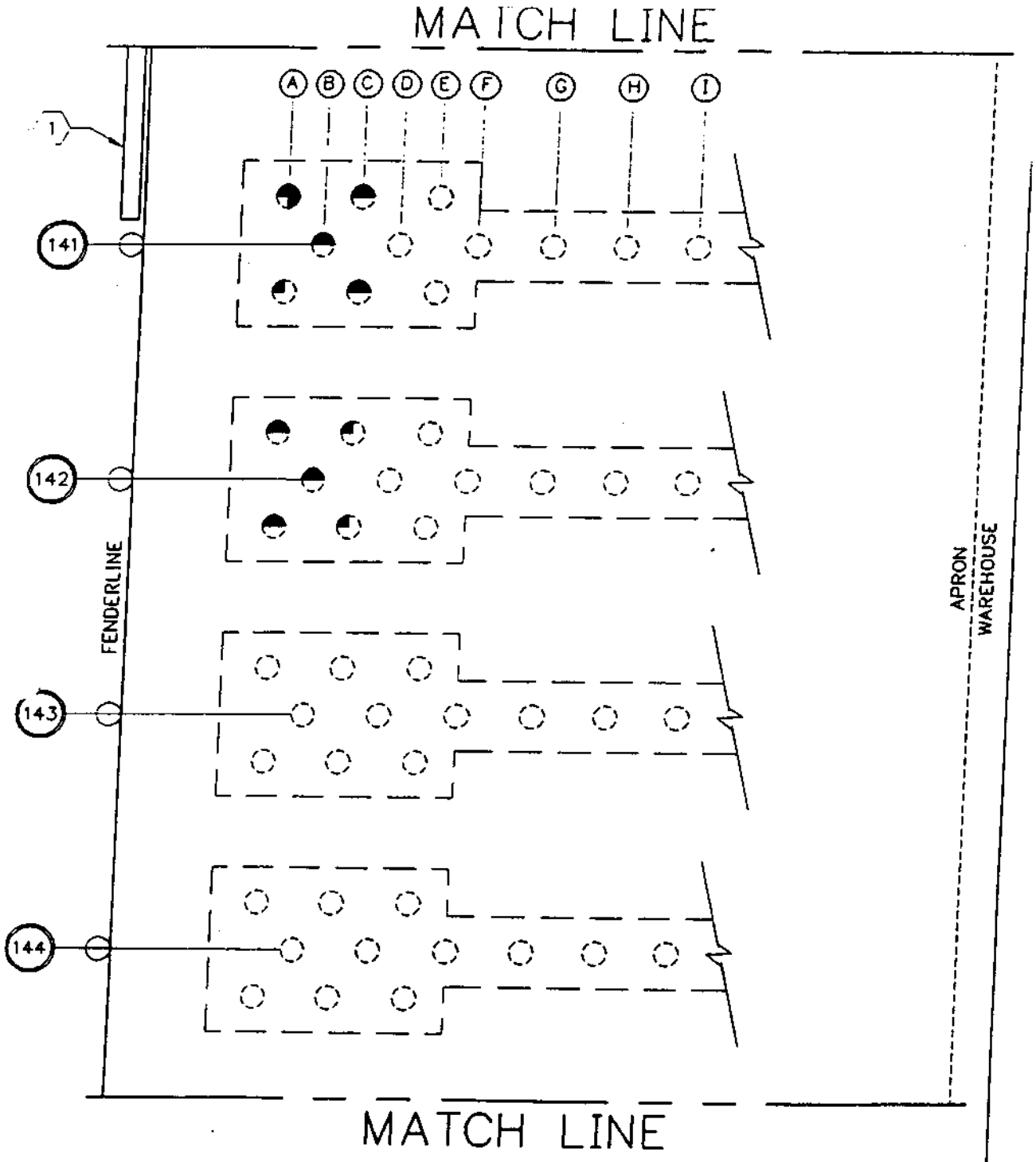

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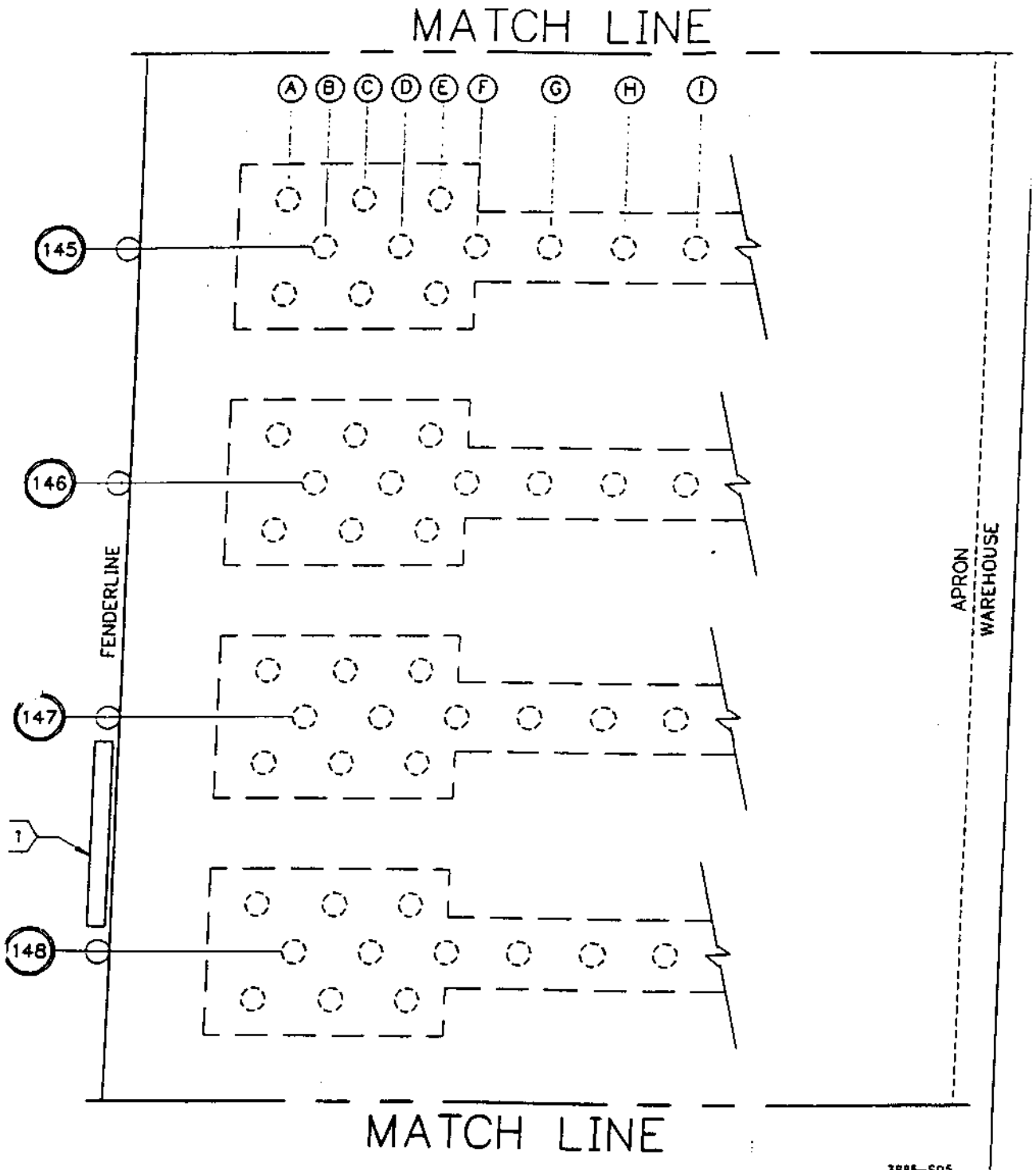

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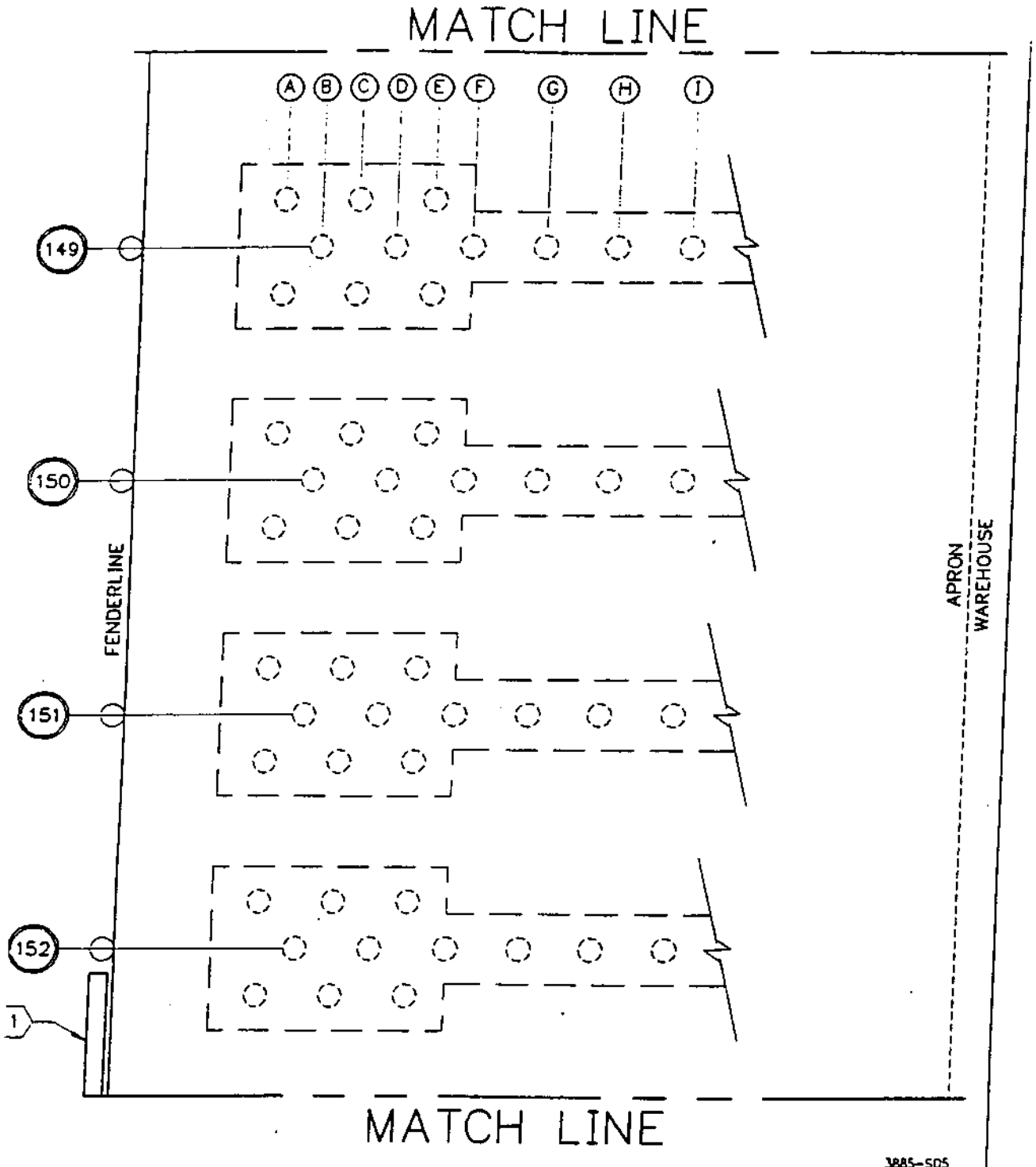

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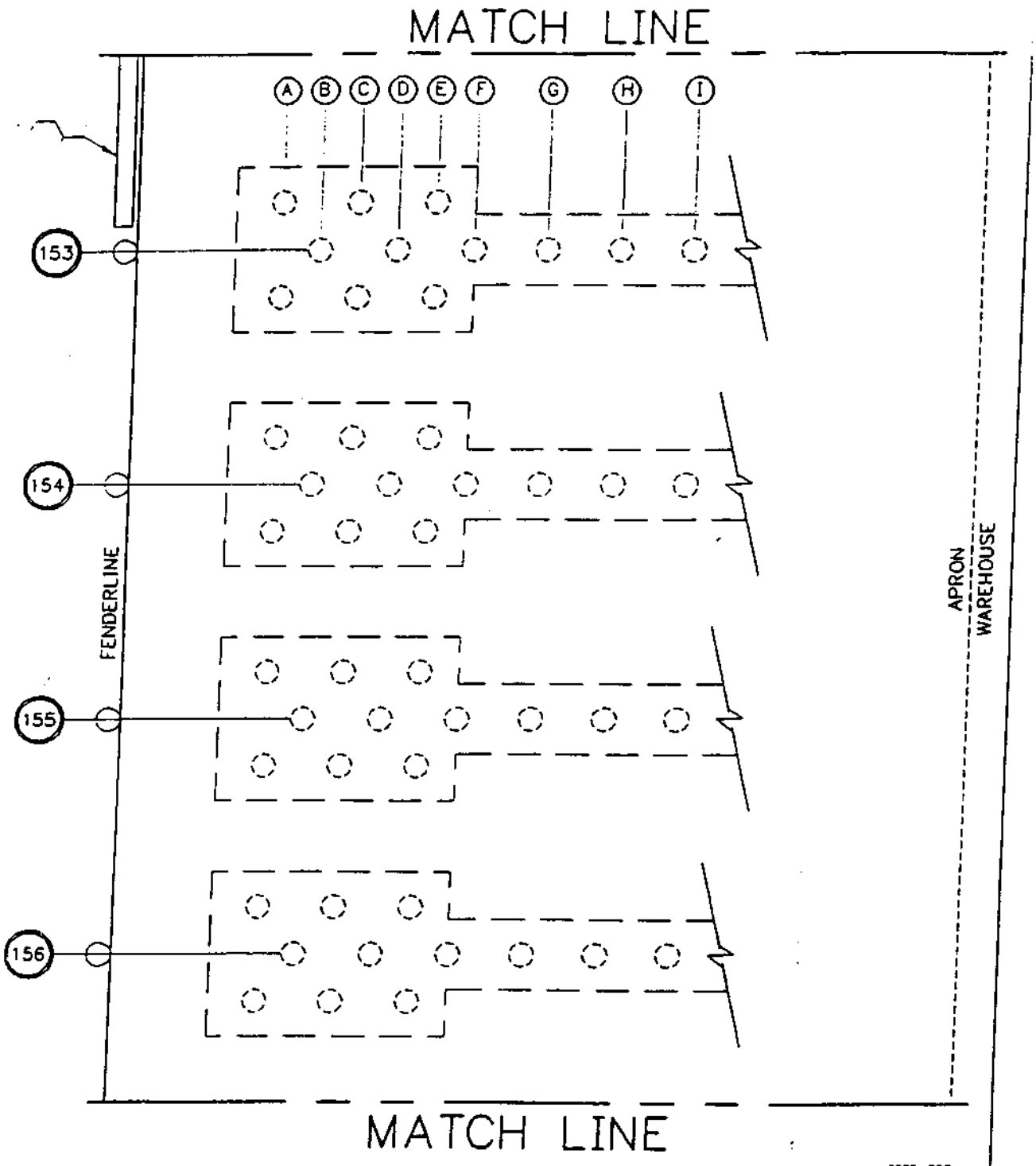

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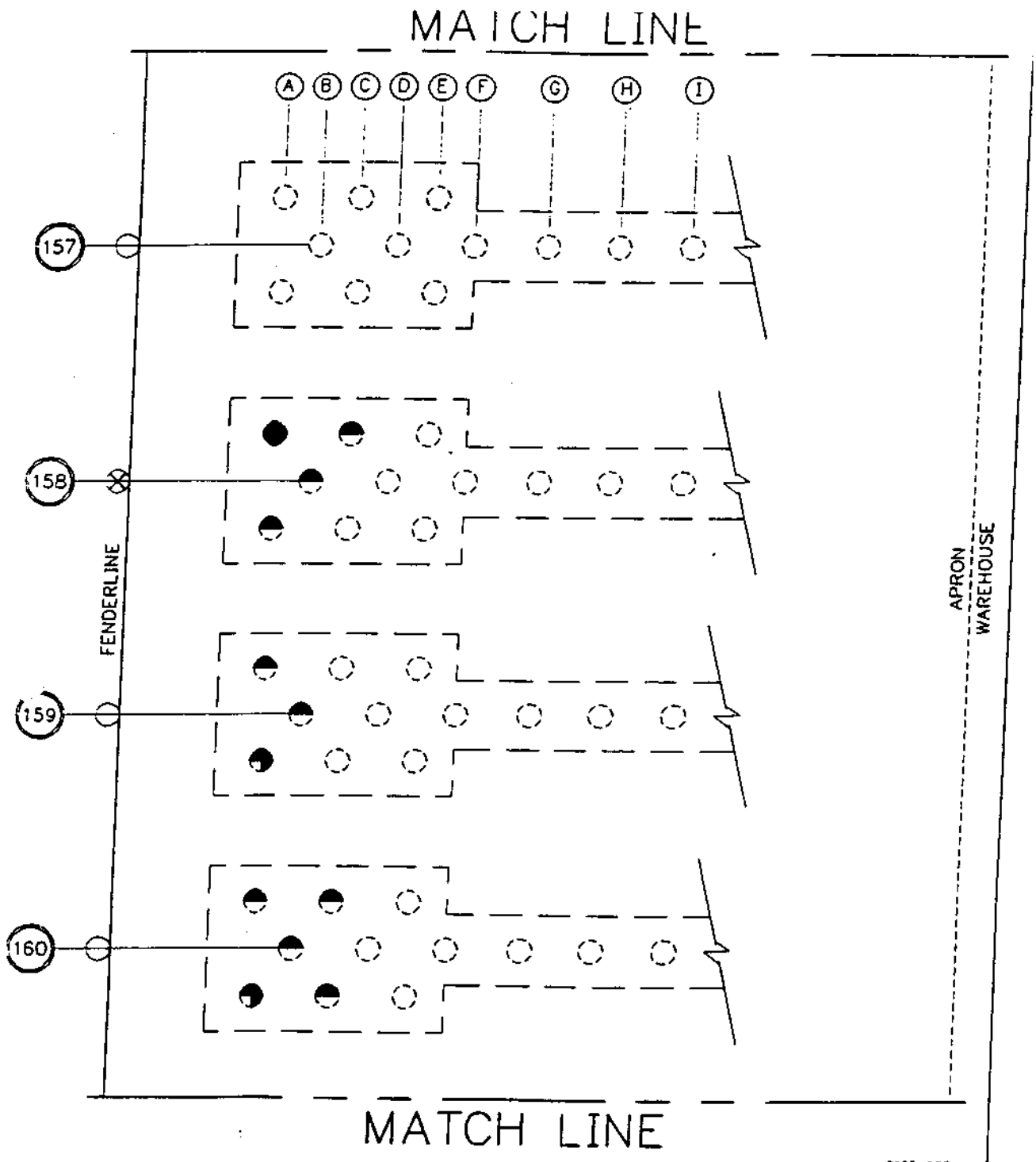

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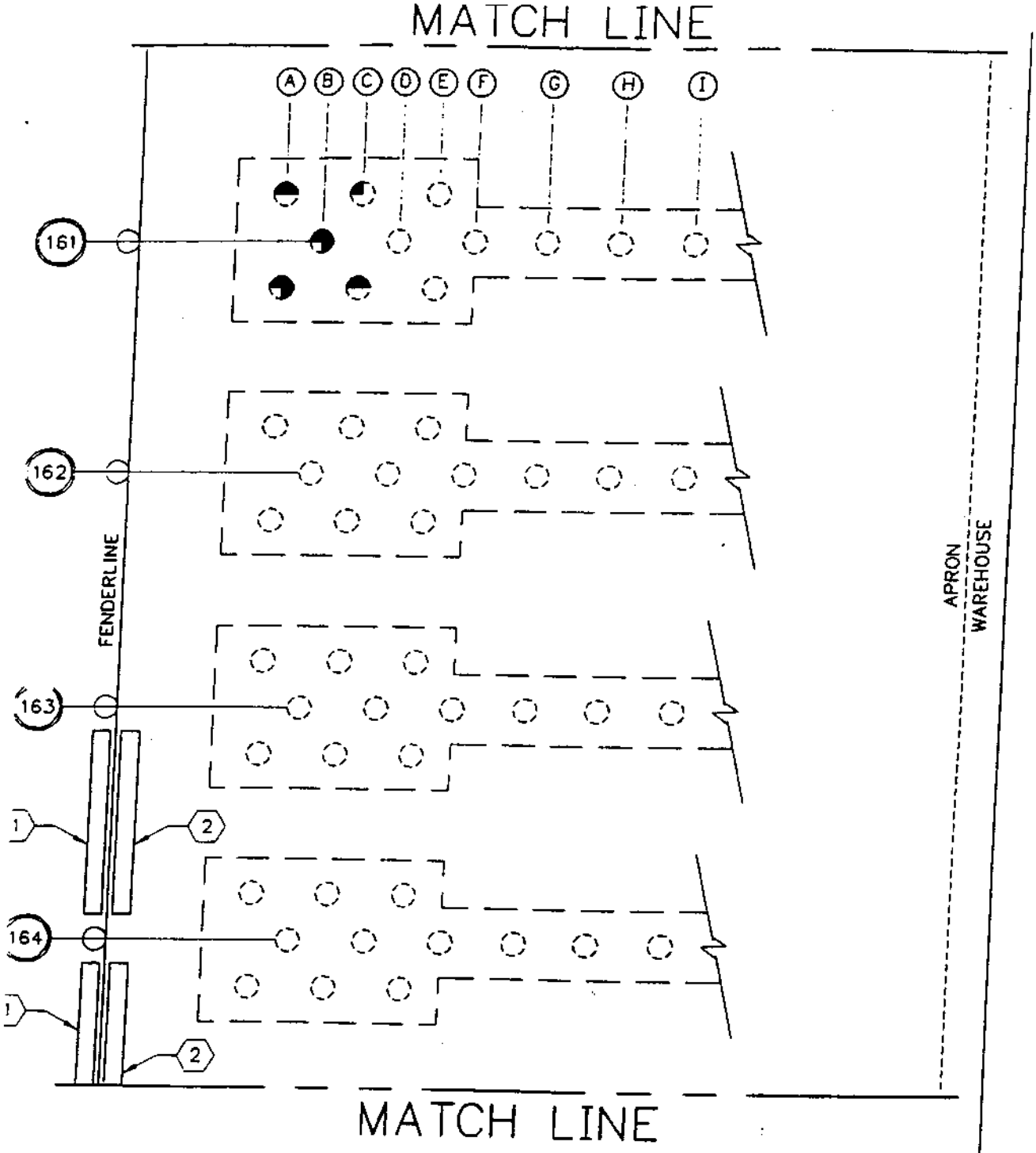

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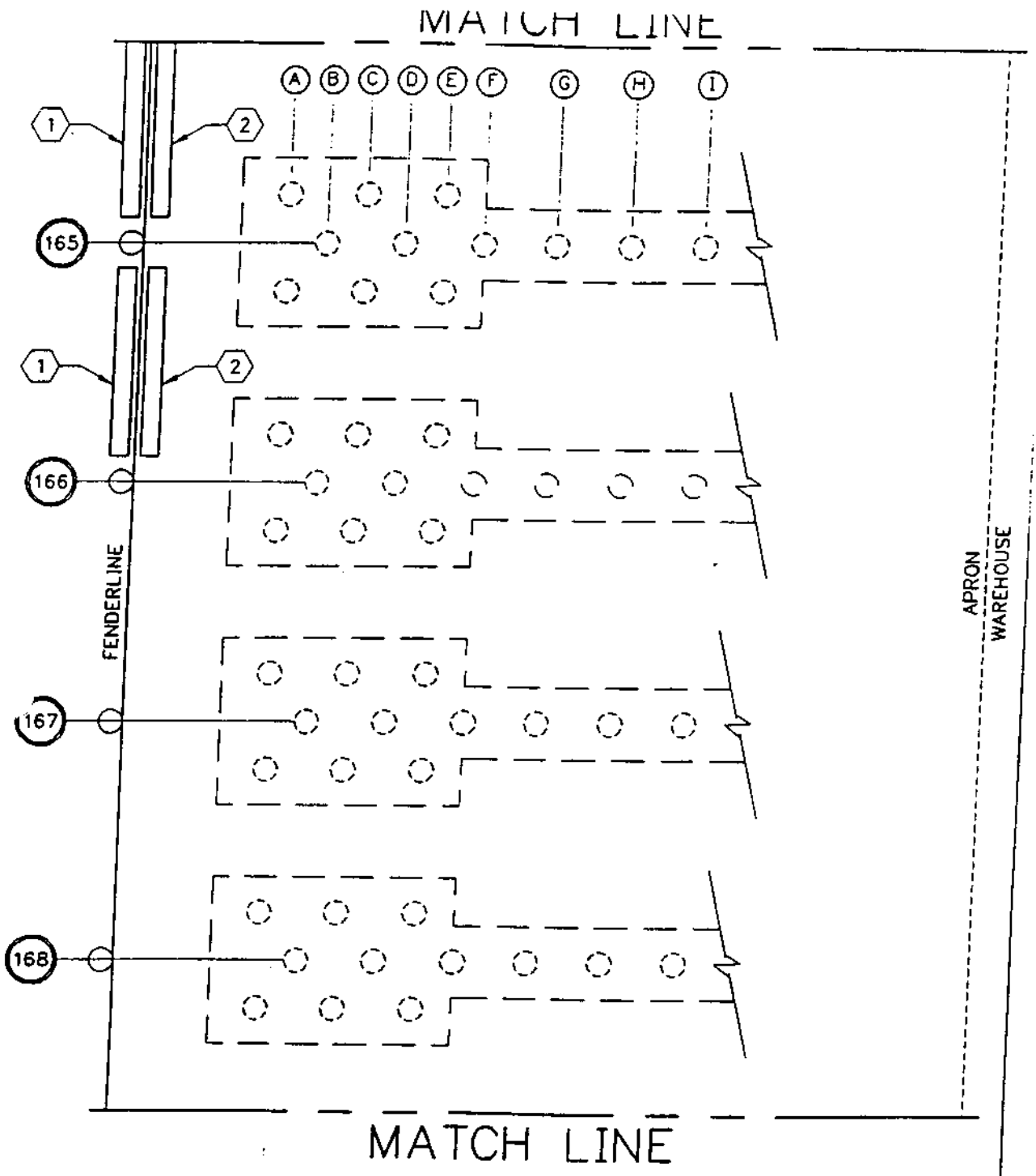

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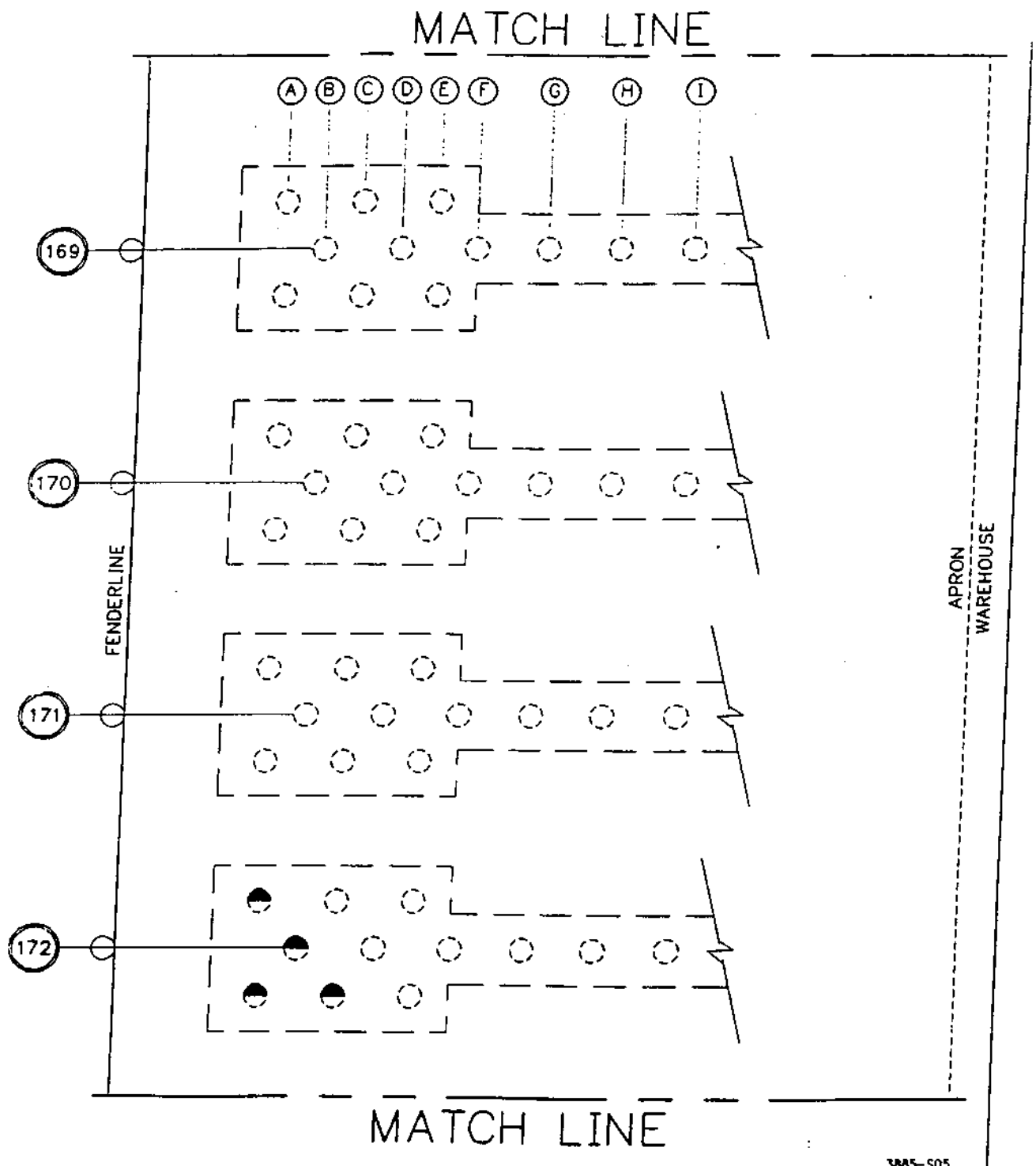

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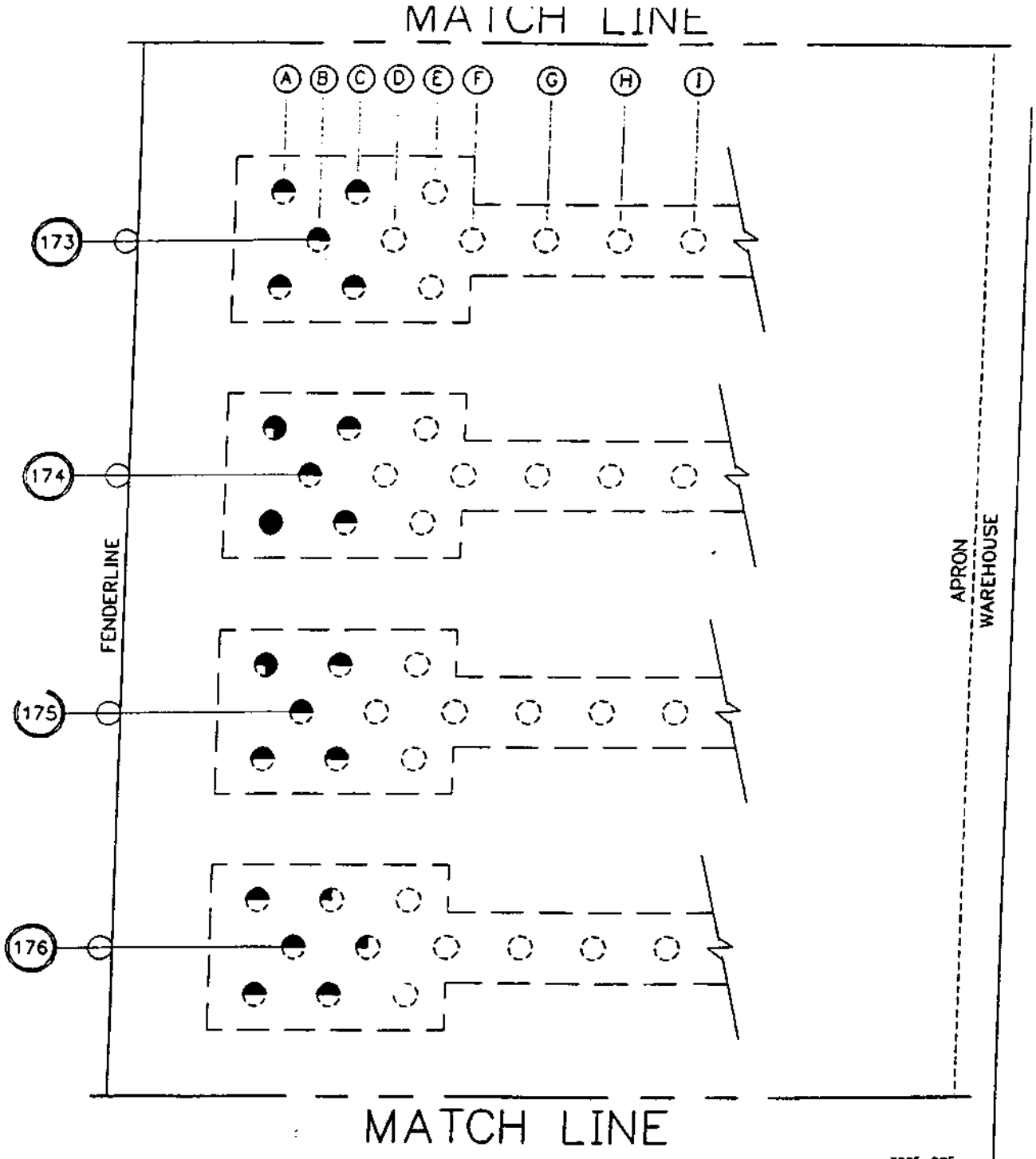

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CONDITION SURVEY
TIMBER PILE SURVEY

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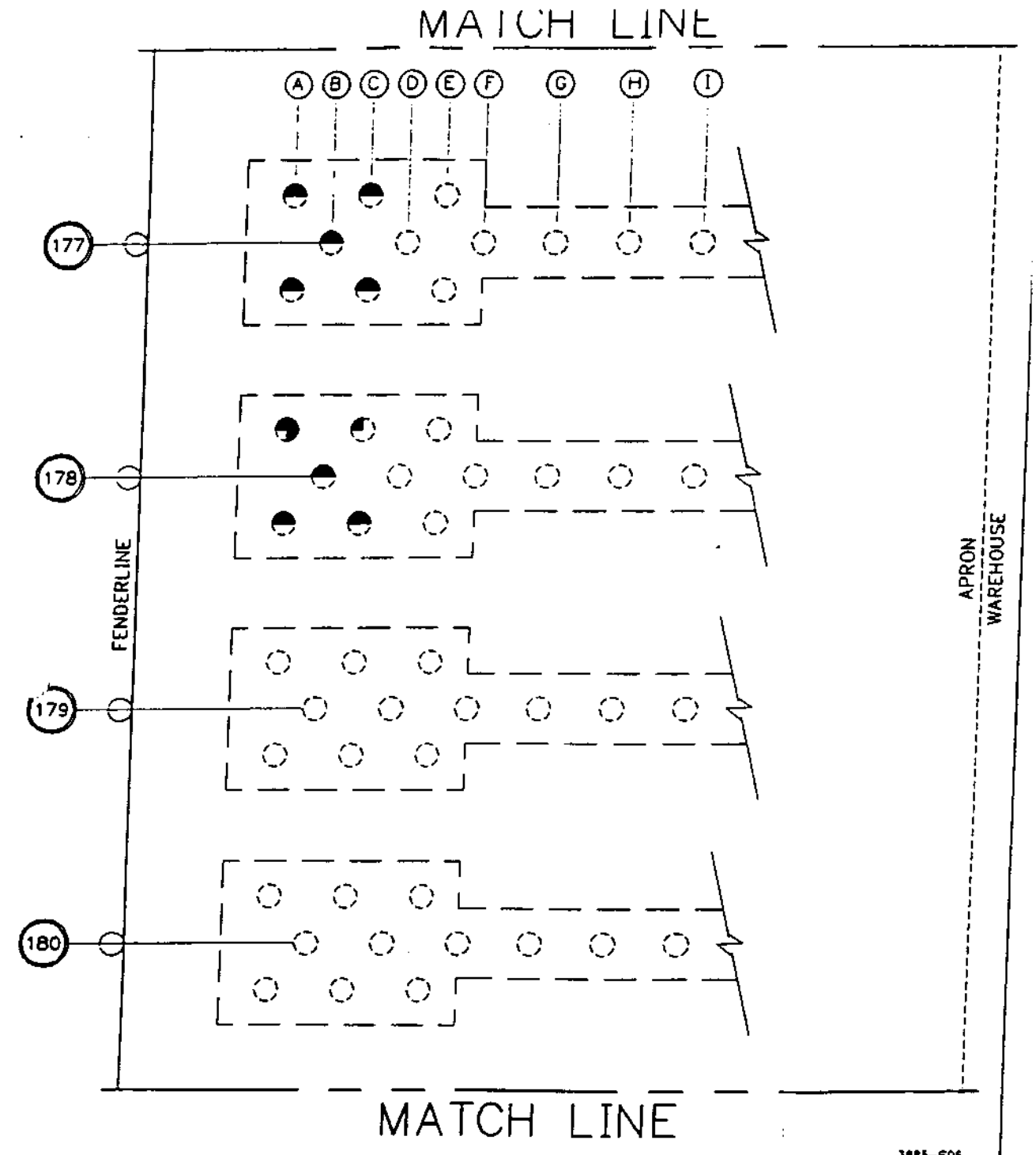

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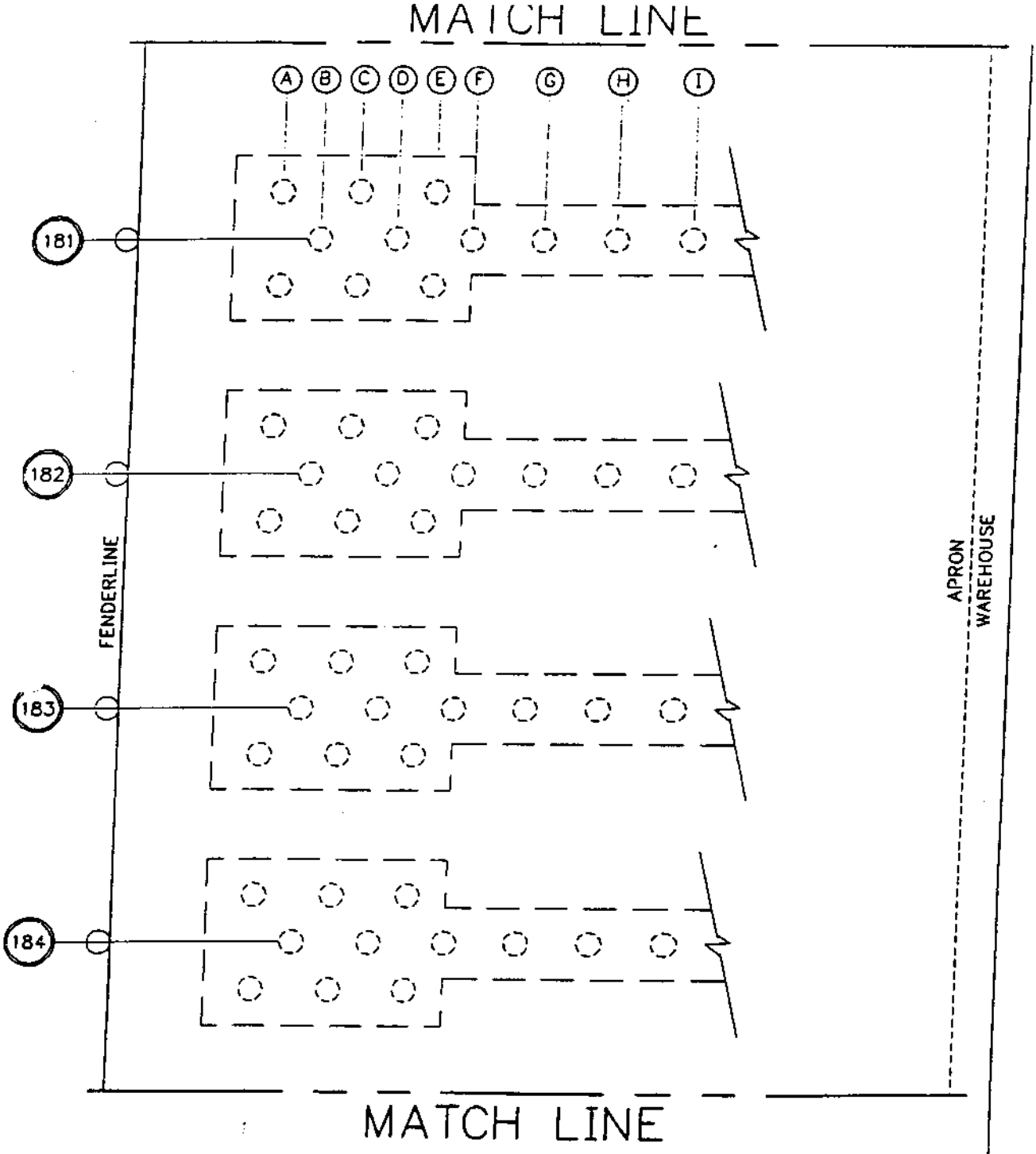

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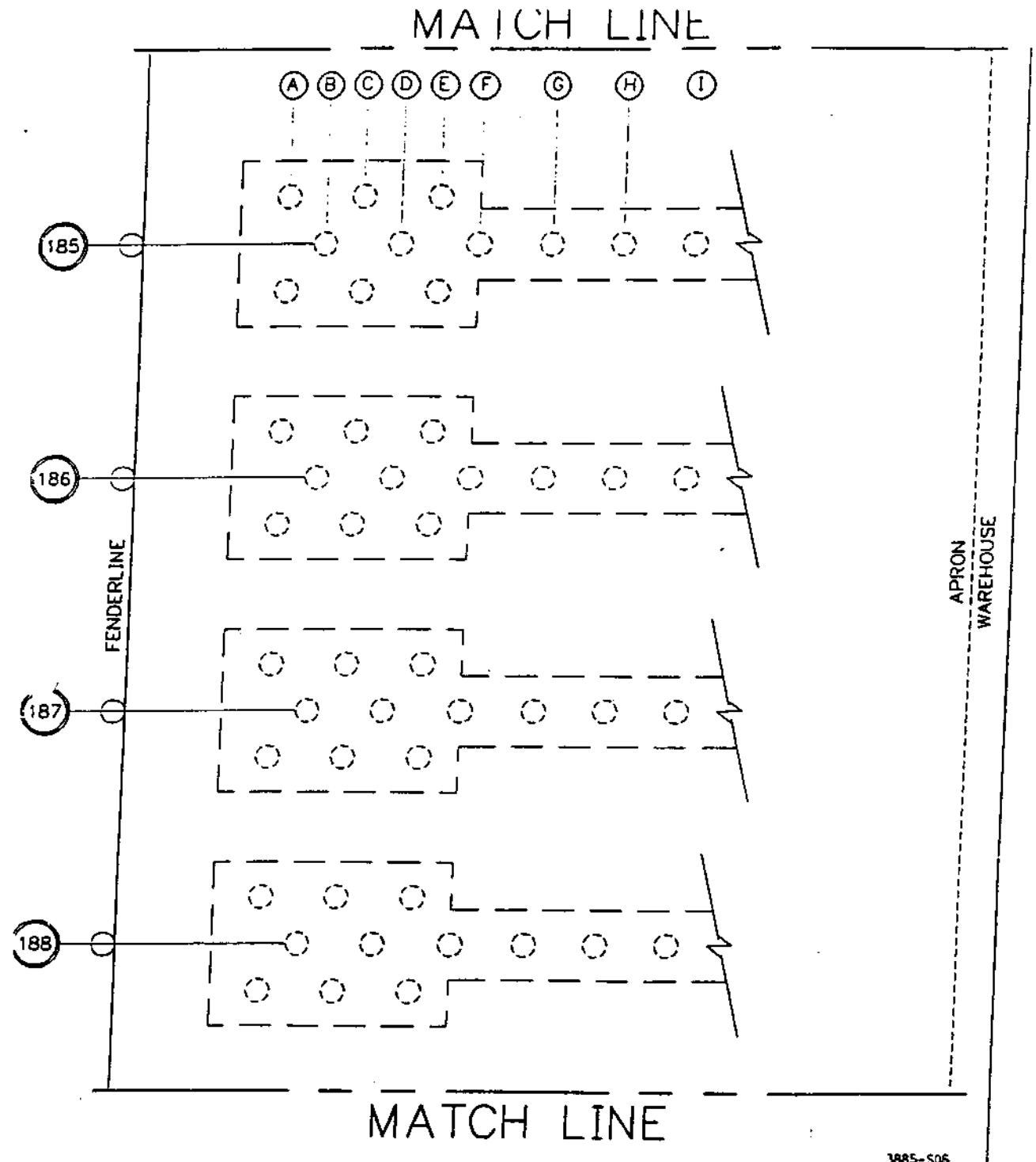

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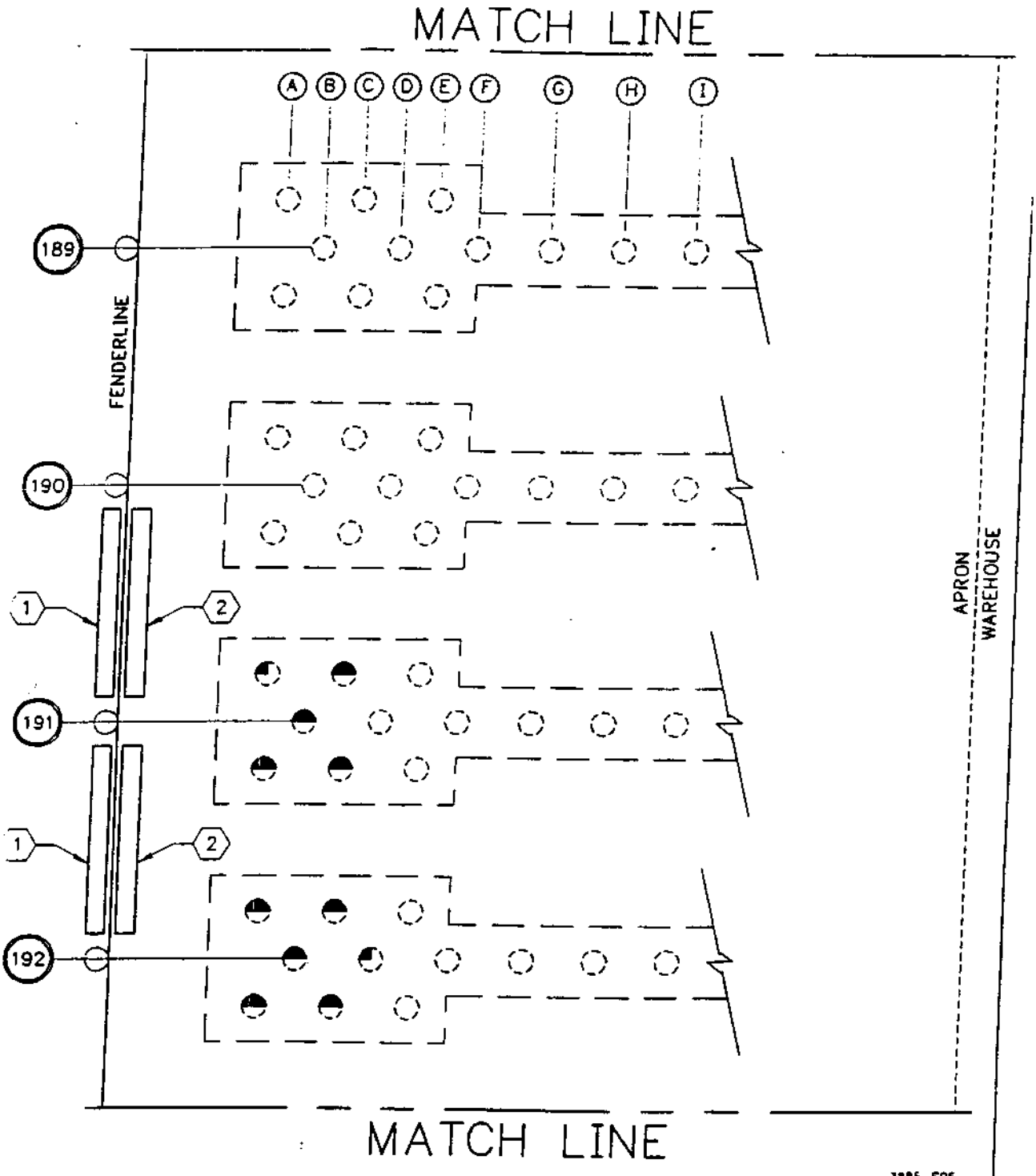

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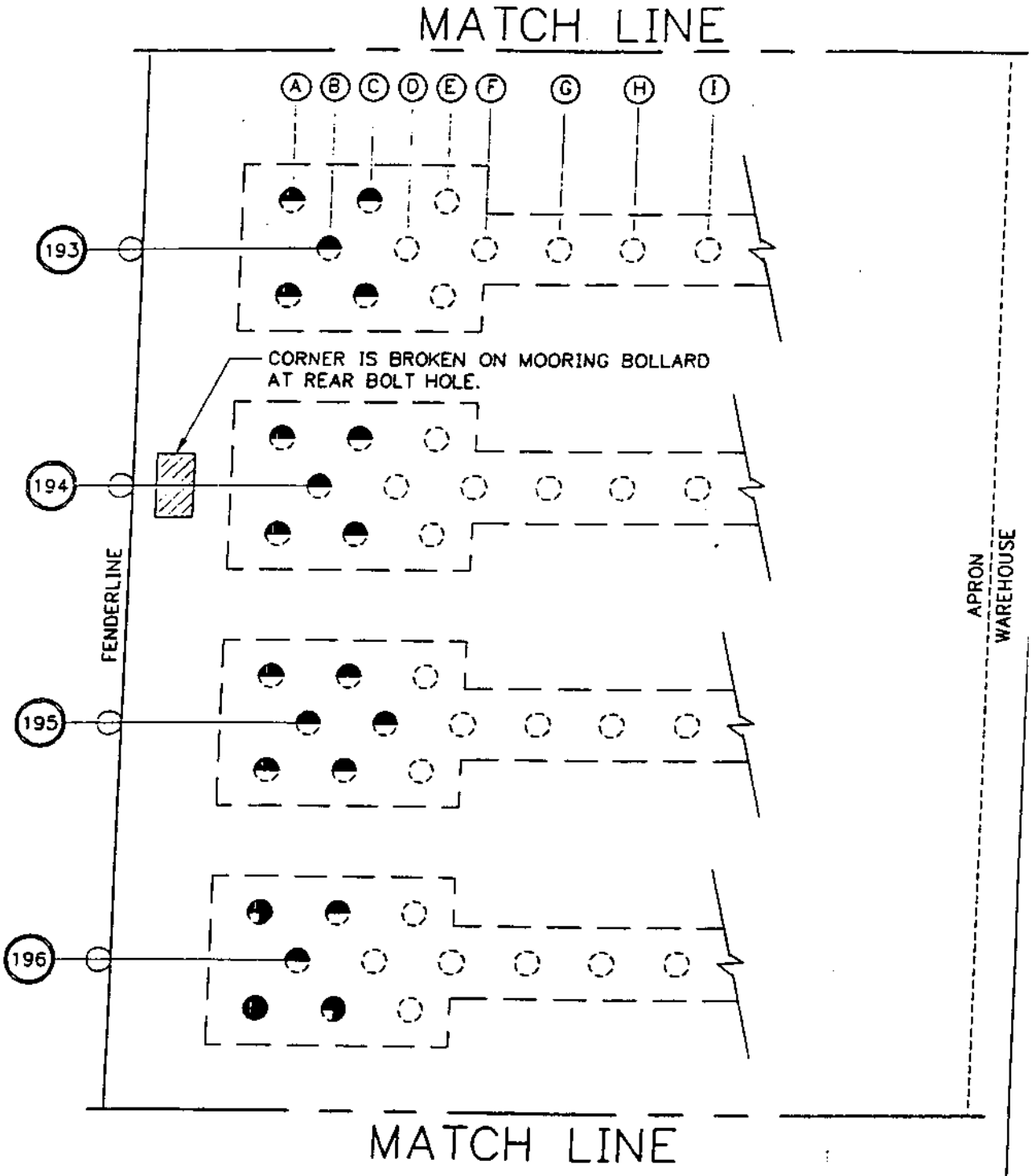

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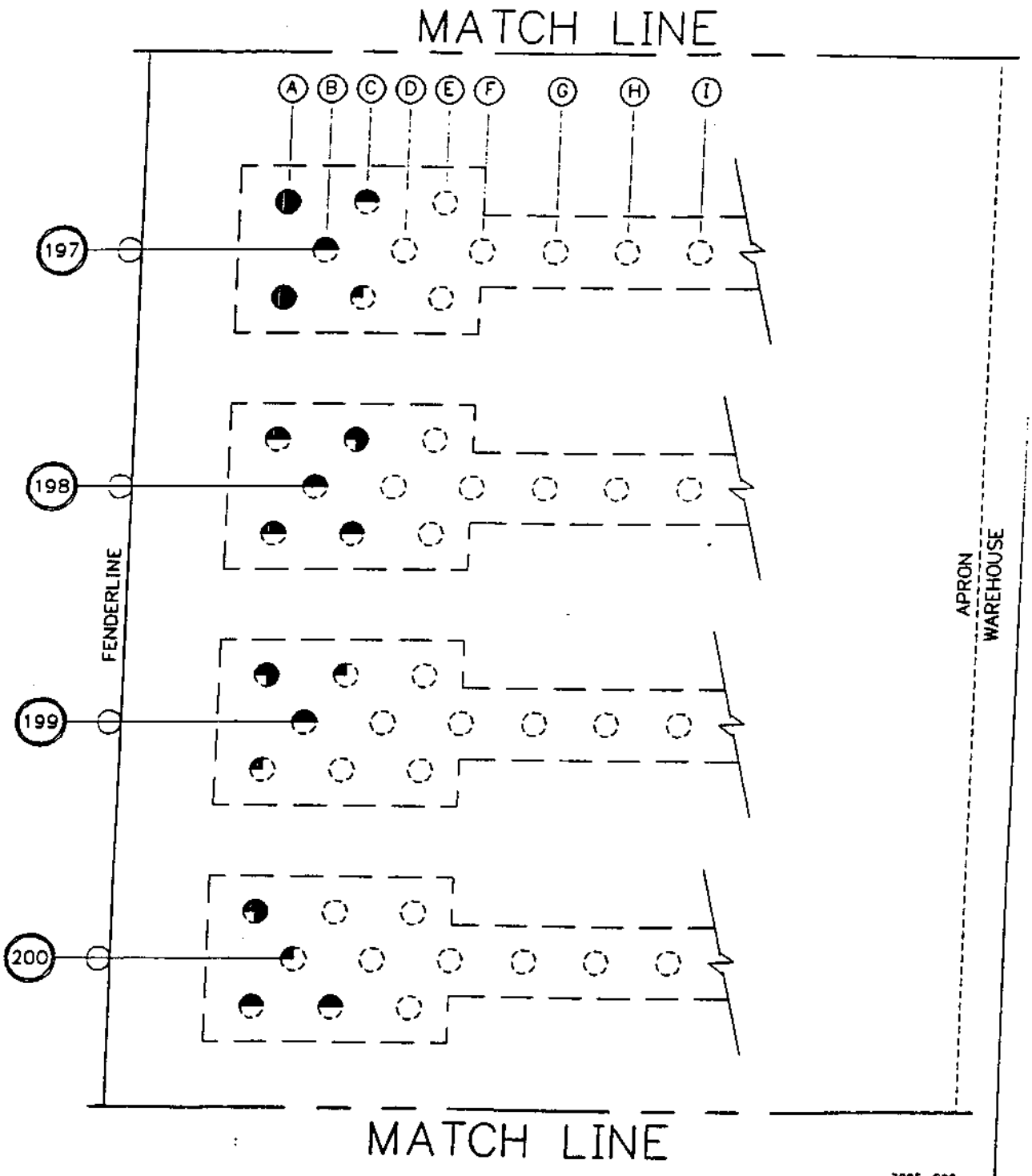

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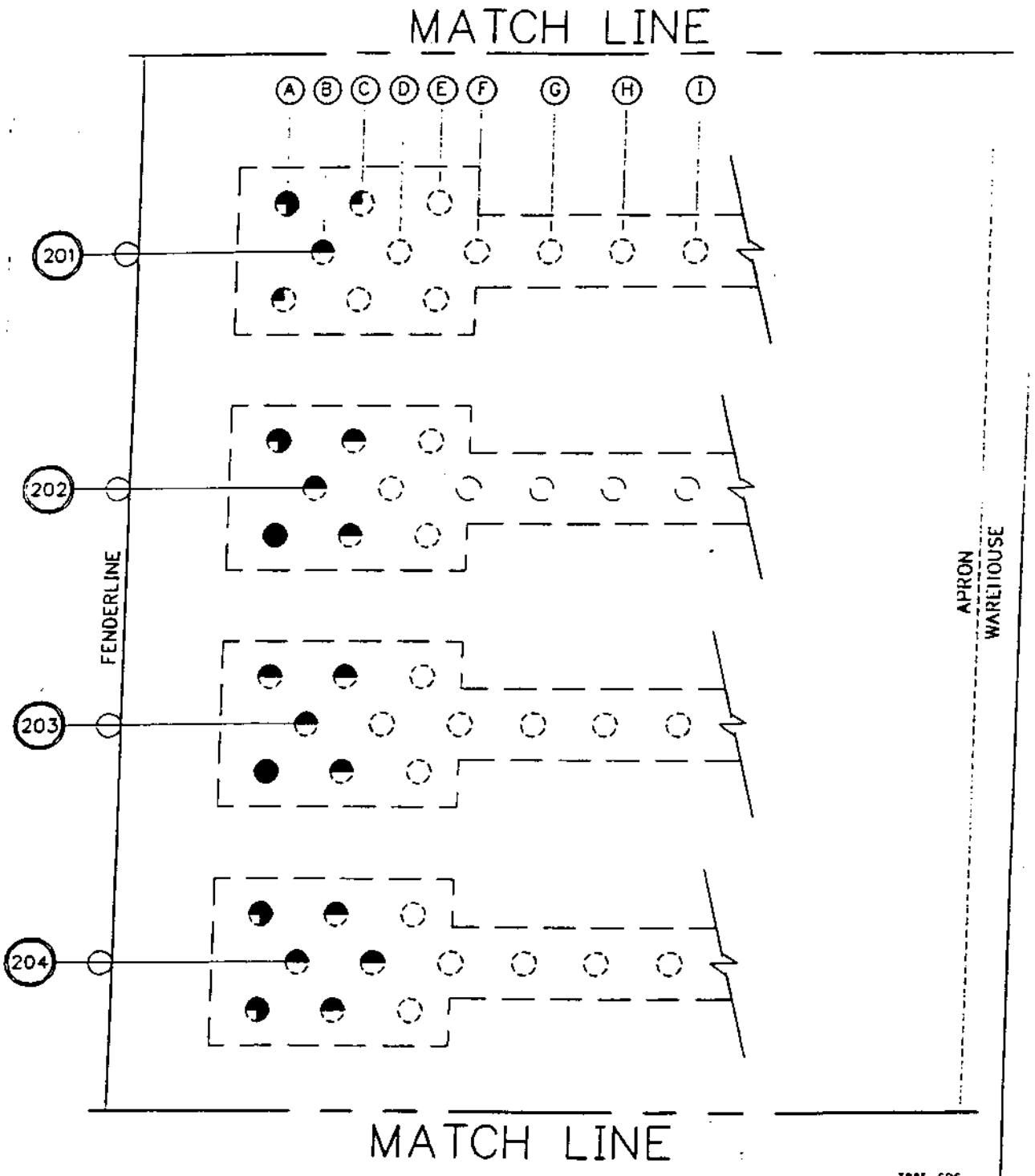

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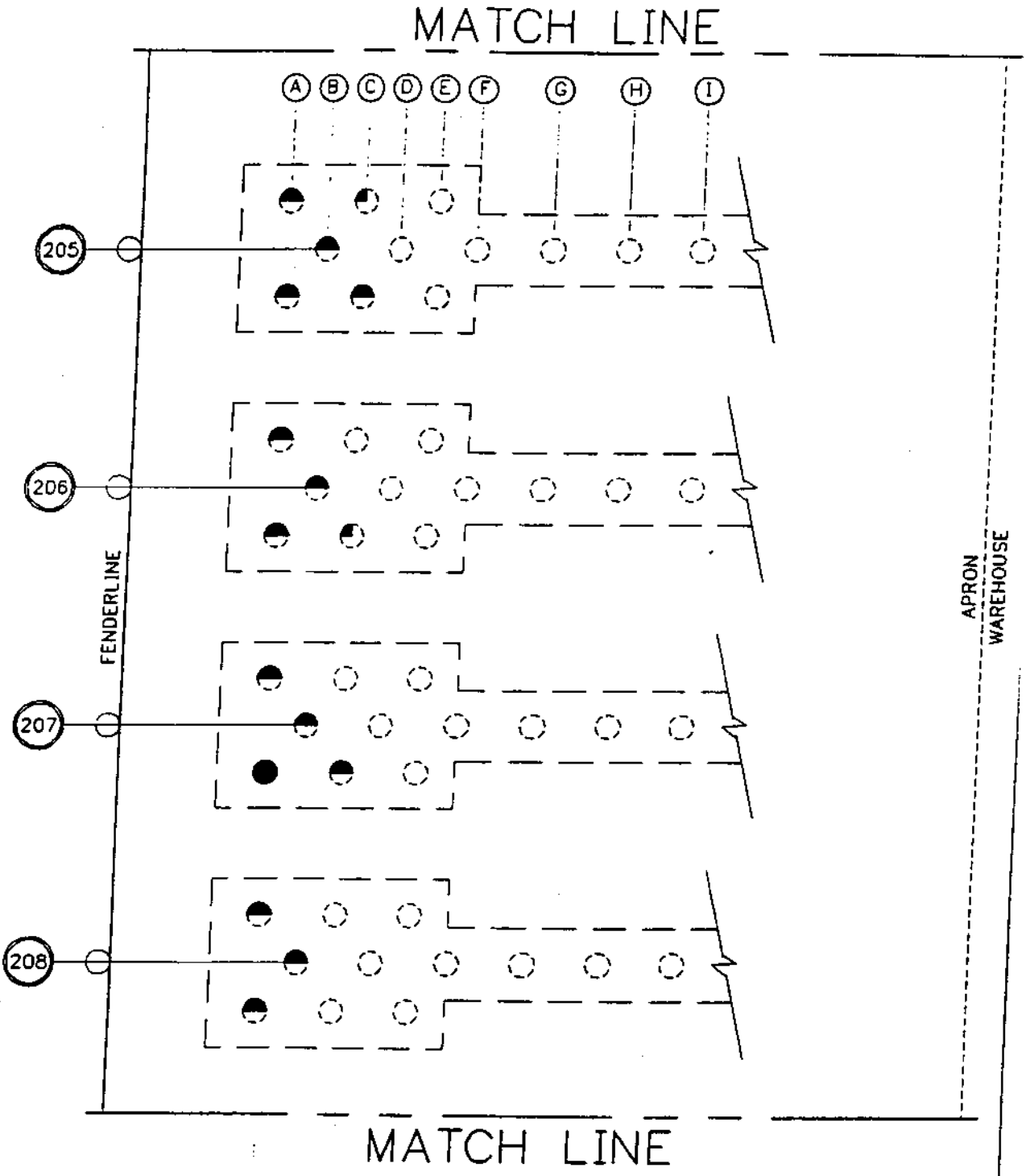

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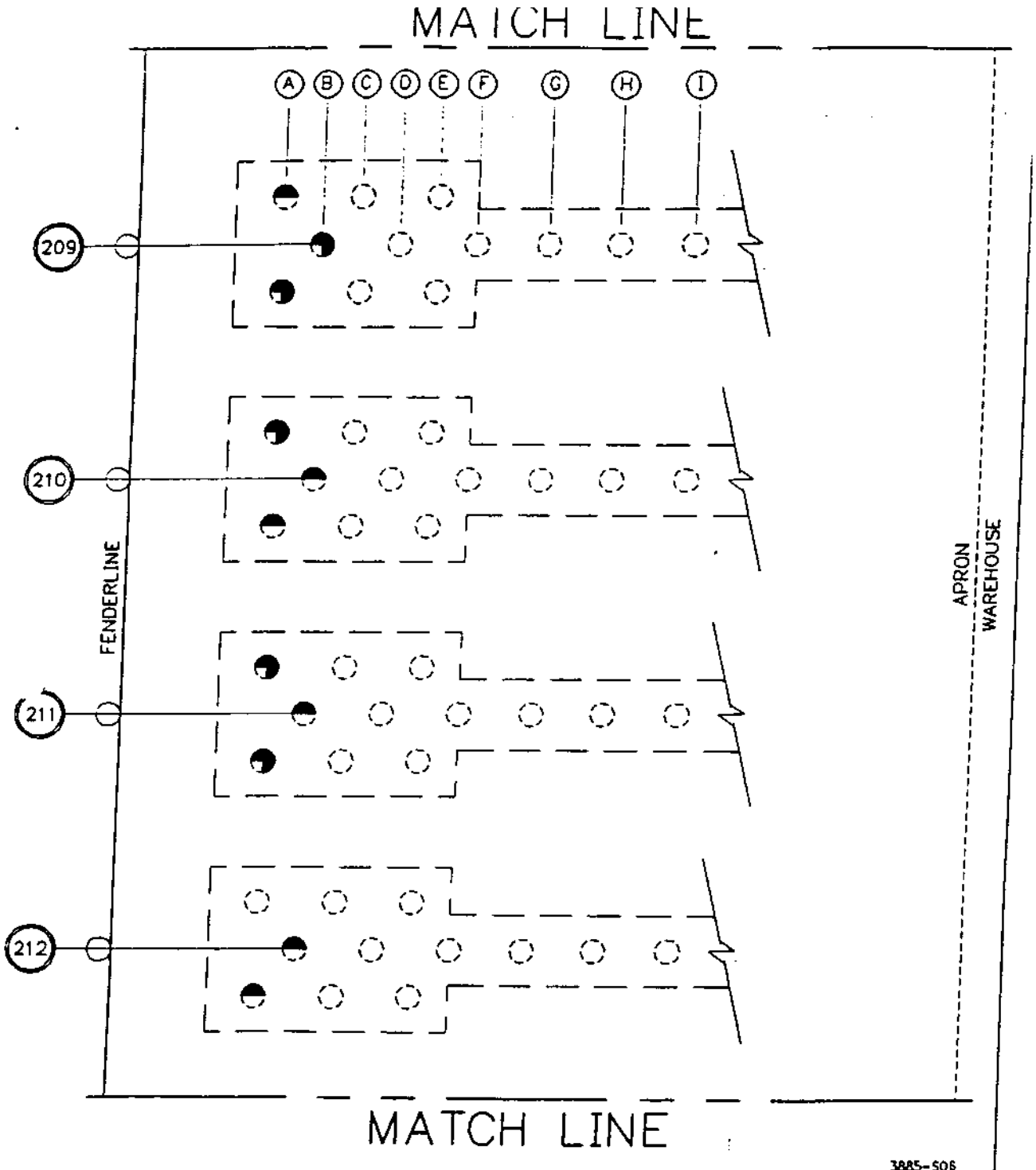

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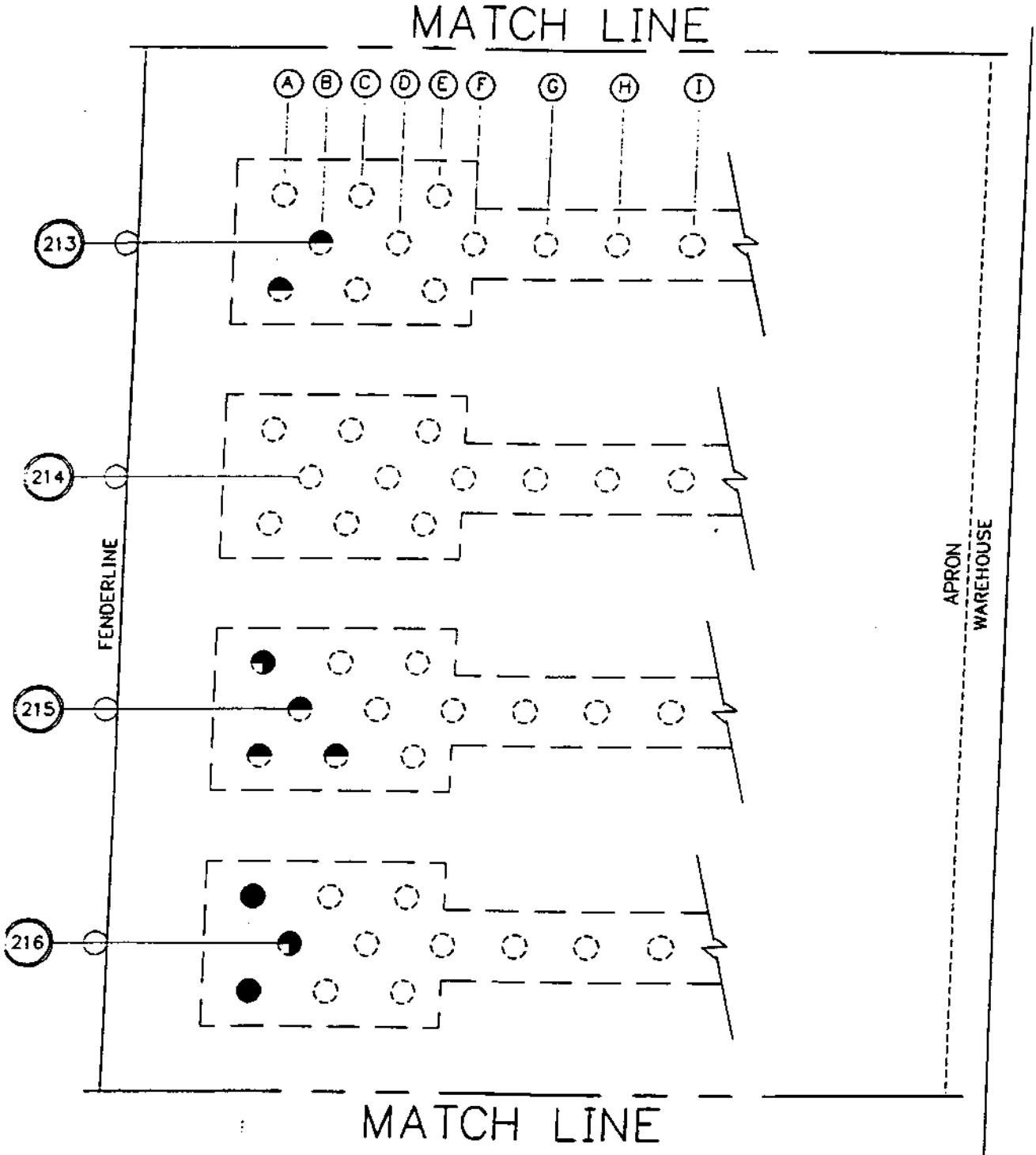

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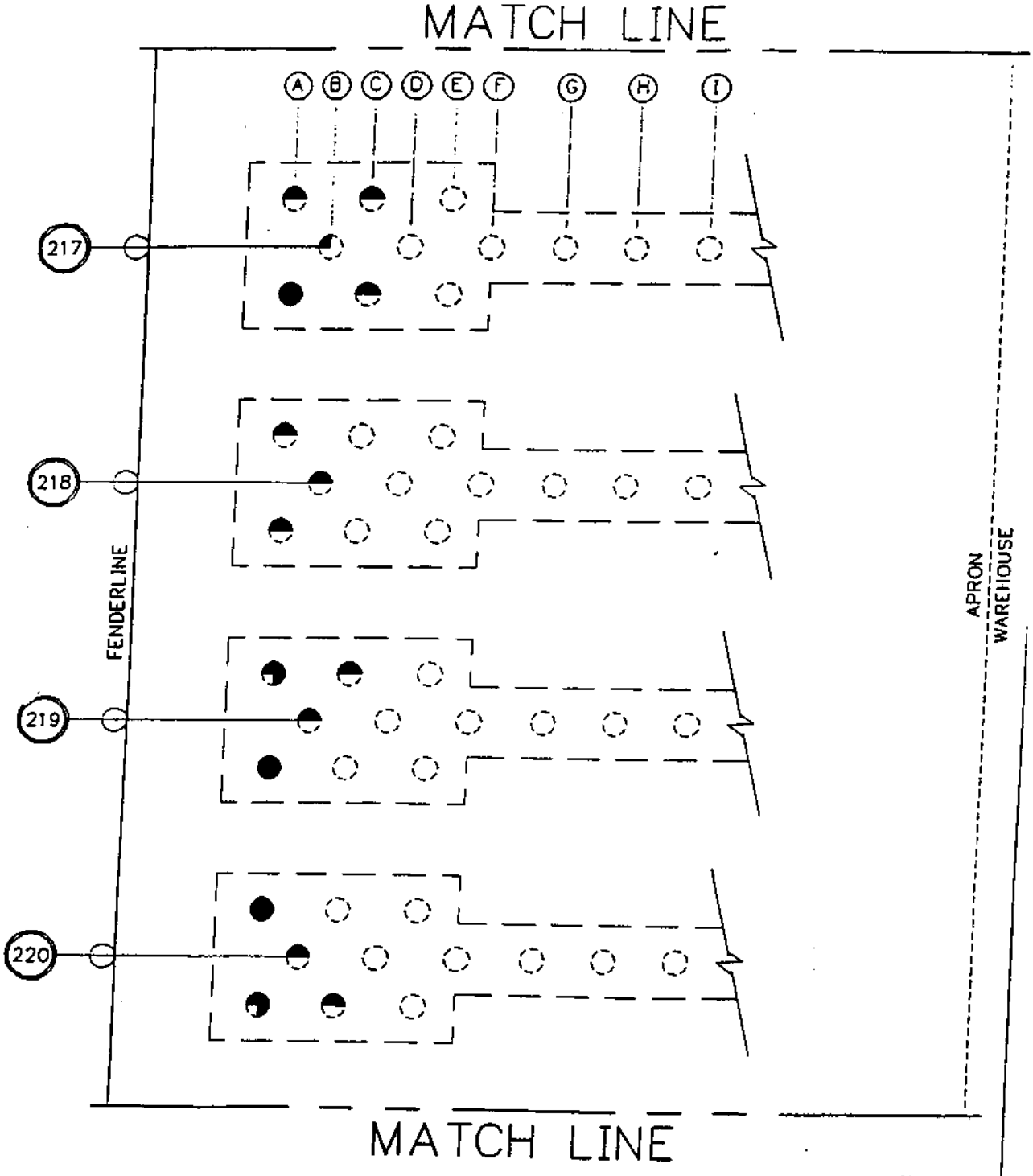

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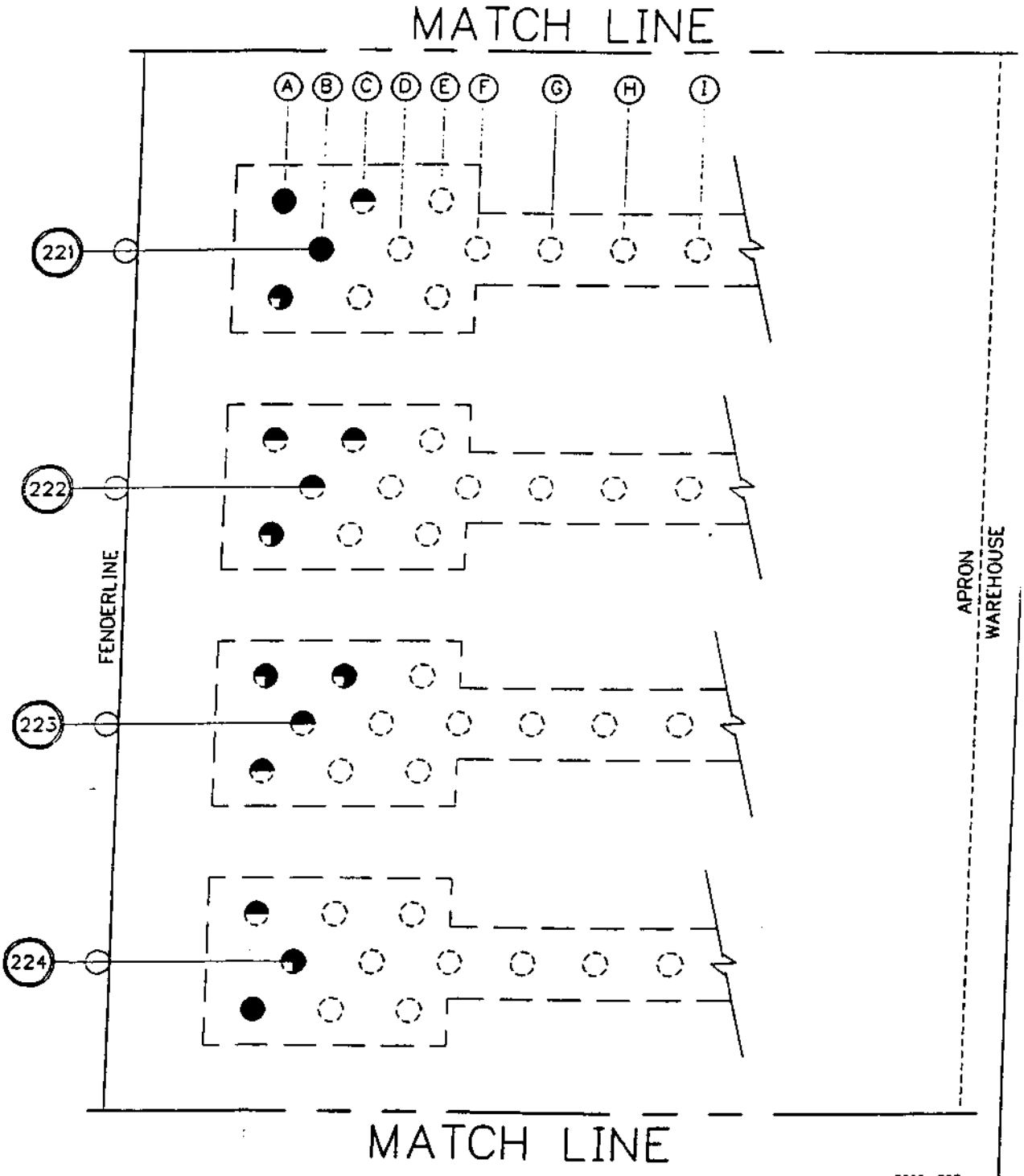

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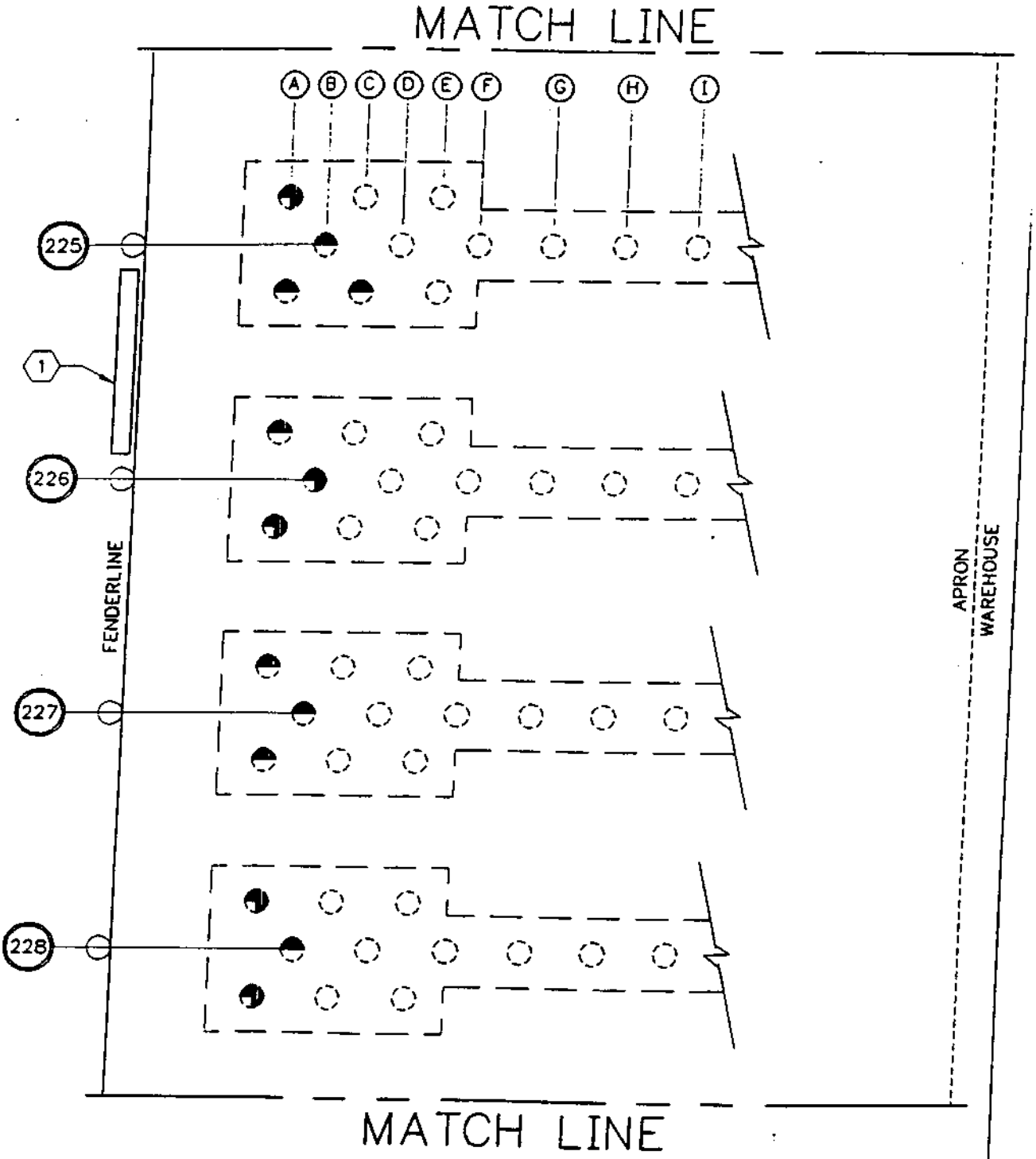

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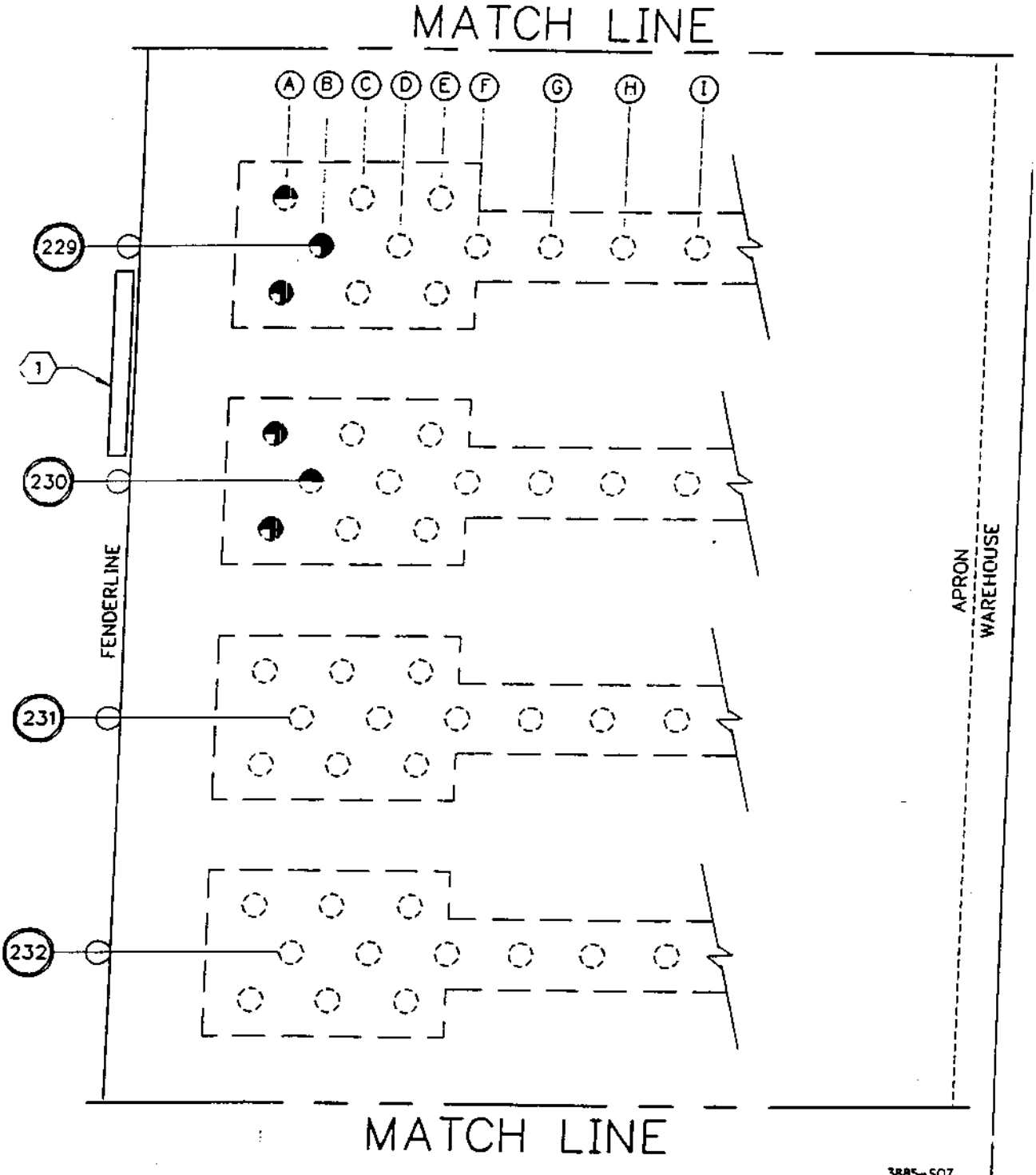

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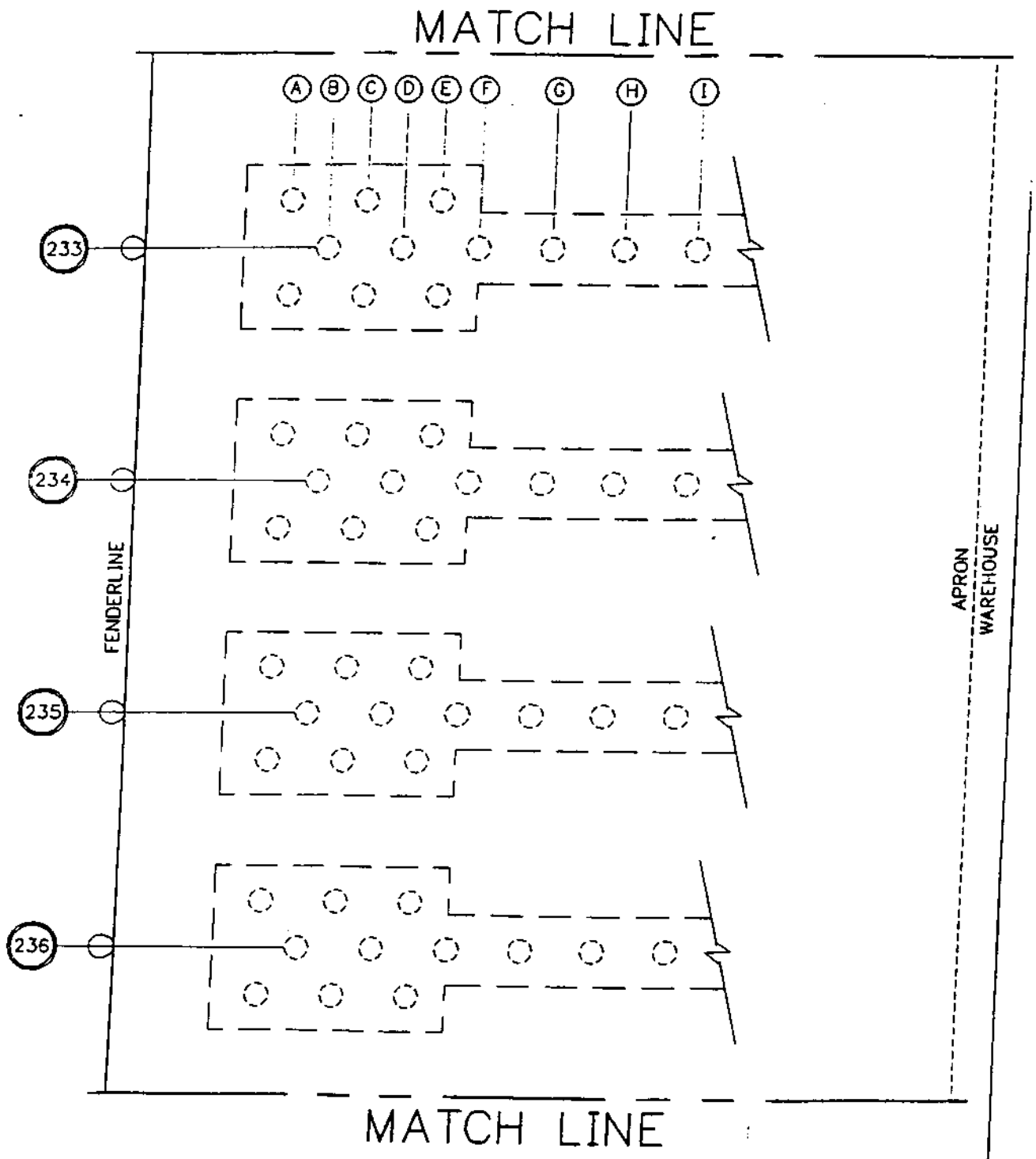

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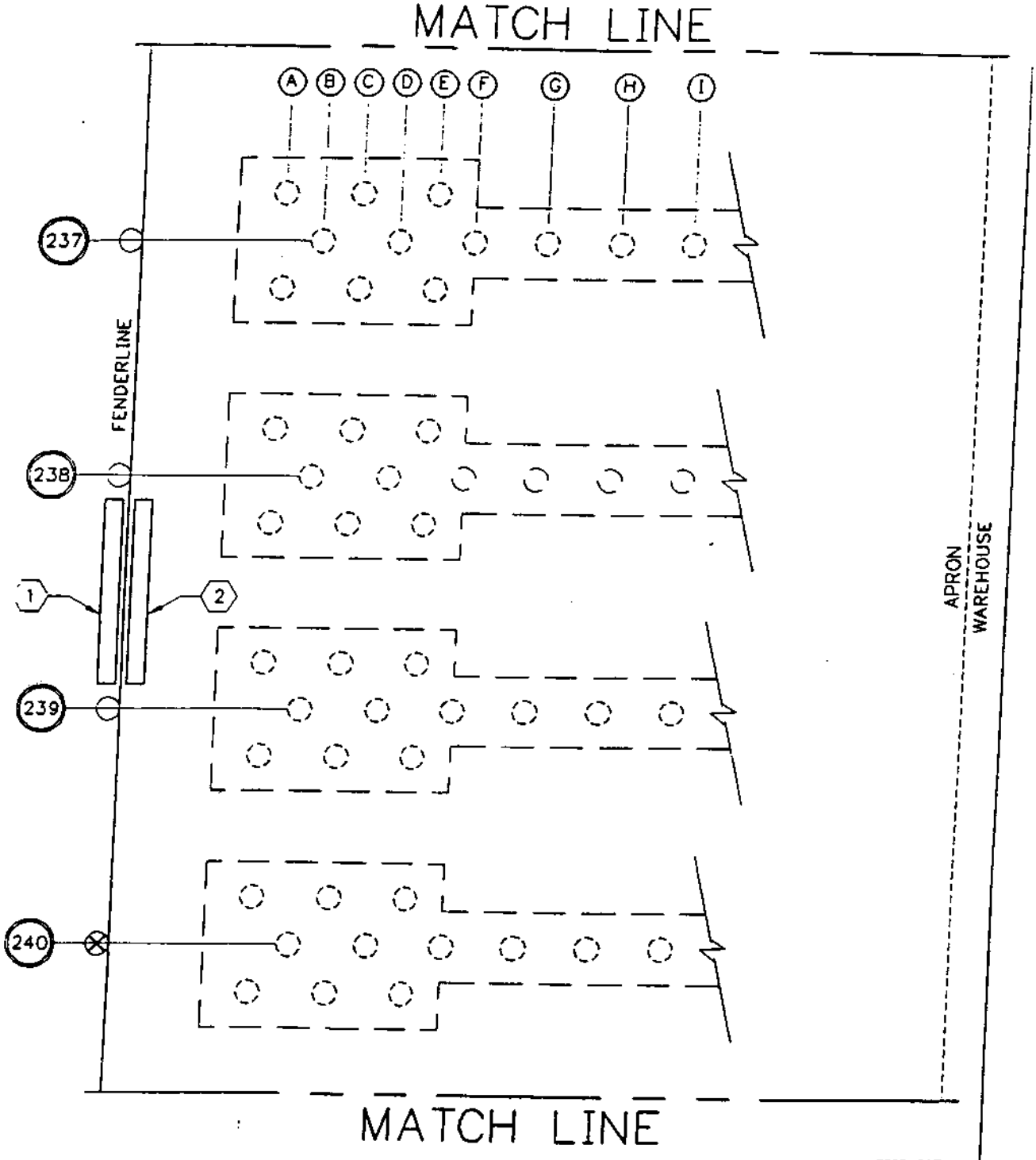

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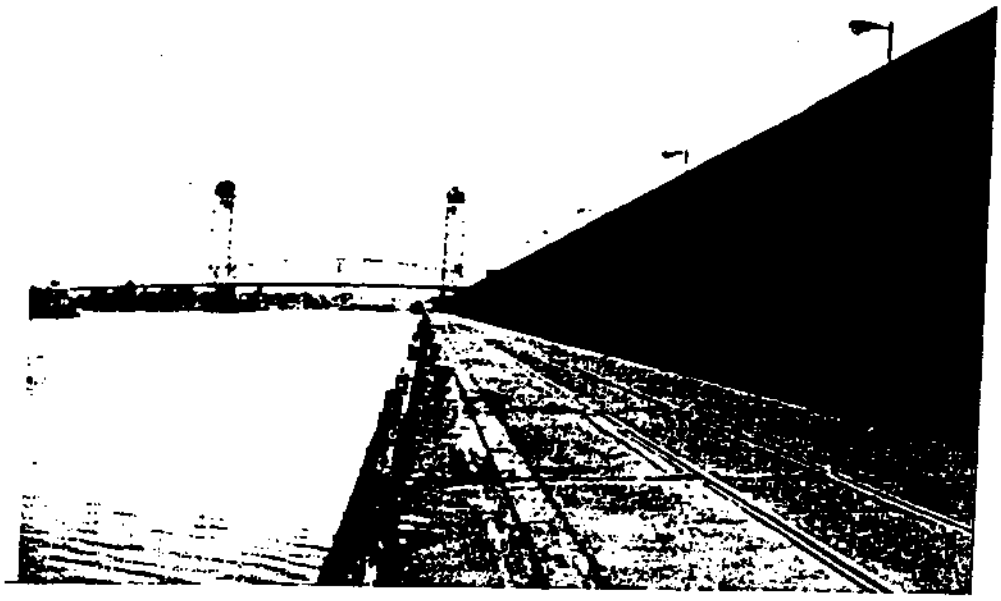
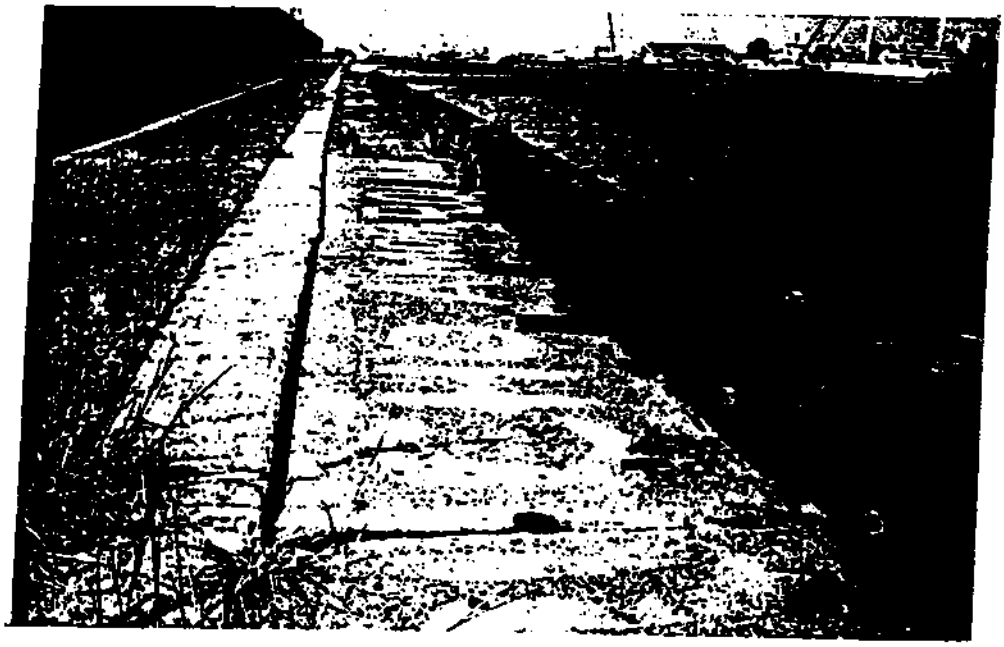
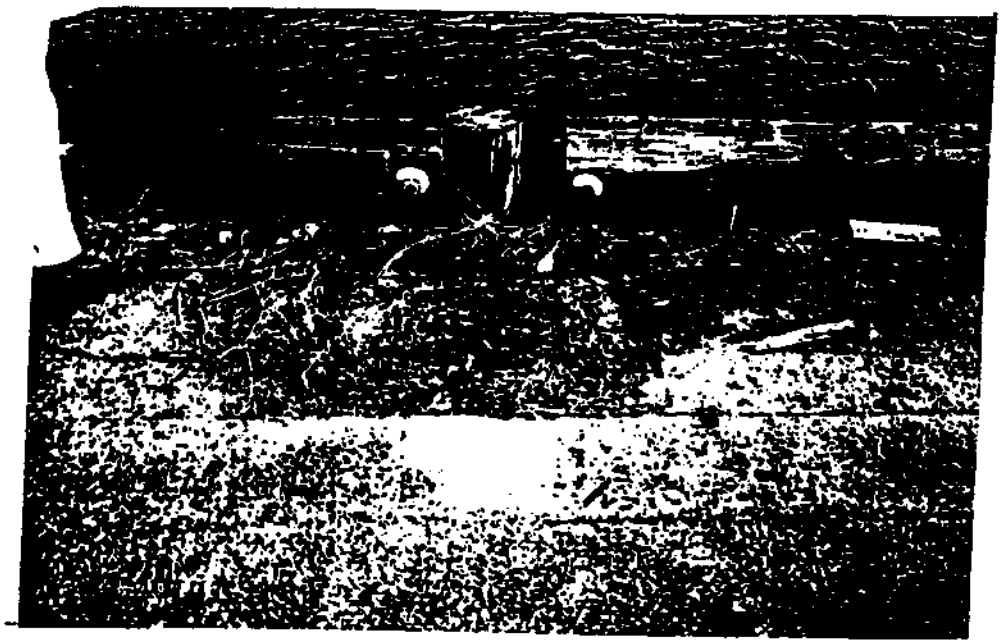


Photograph 1 – Galvez Street Wharf looking south, general appearance.



Photograph 2 – Sunken and deflected concrete apron between pile bents 79 and 81.

Photograph 3 – Typical wharf damage to concrete shear walls. Also note damage to face of apron and missing horizontal fendering timber.

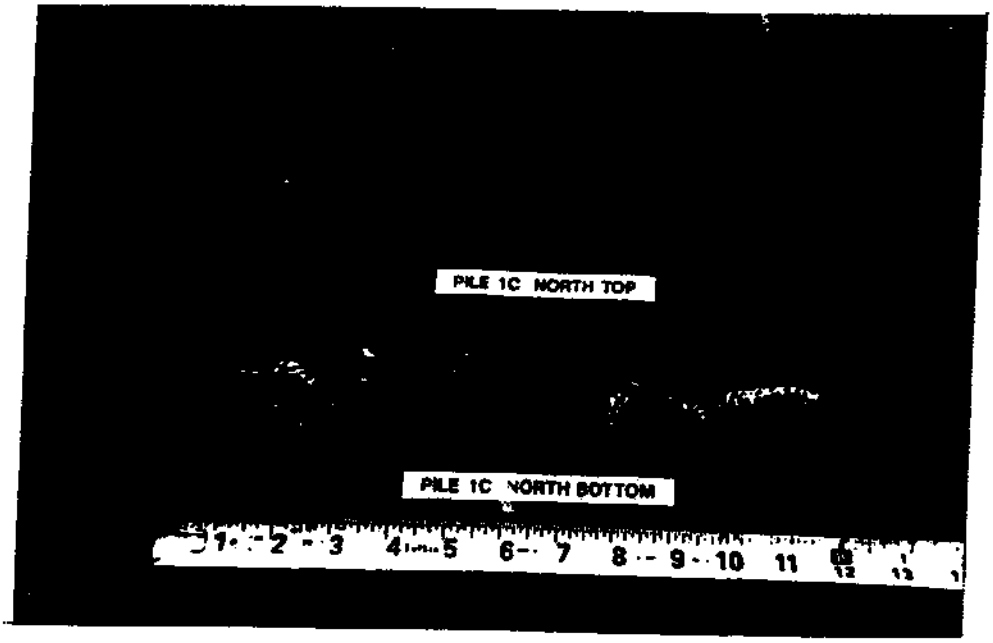


Photograph 4 – Missing mooring bollards at pile bent 96.

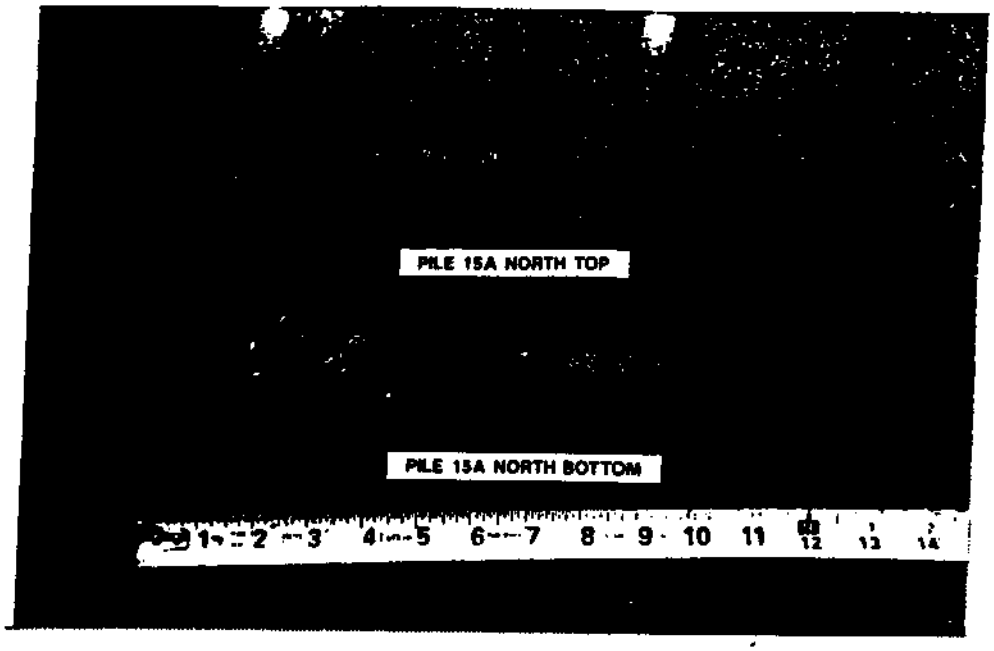
Photograph 5 - Typical damage of fender piles.

Photograph 6 - Spalled concrete along expansion joint at pile bent 40.

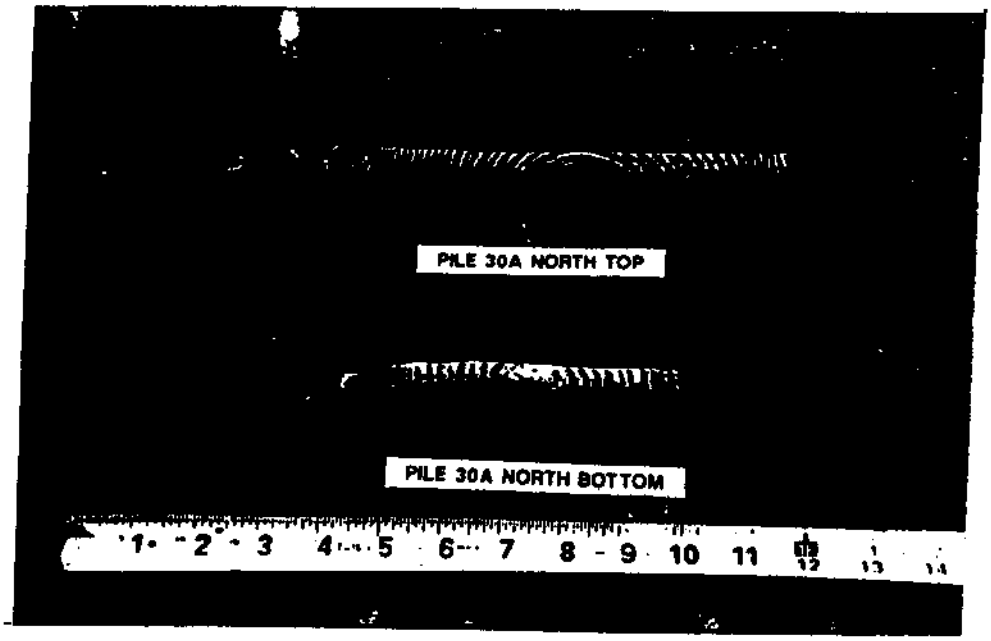
Photograph 7 – Specimen taken from pile 40A North Bottom showing extent of damage caused by Teredo.



Photograph 8 – Core samples taken from pile 1C North.



Photograph 9 – Core samples taken from pile 15A North.



Photograph 10 – Core samples taken from pile 30A North.

MANITOWOC SPECIFICATIONS

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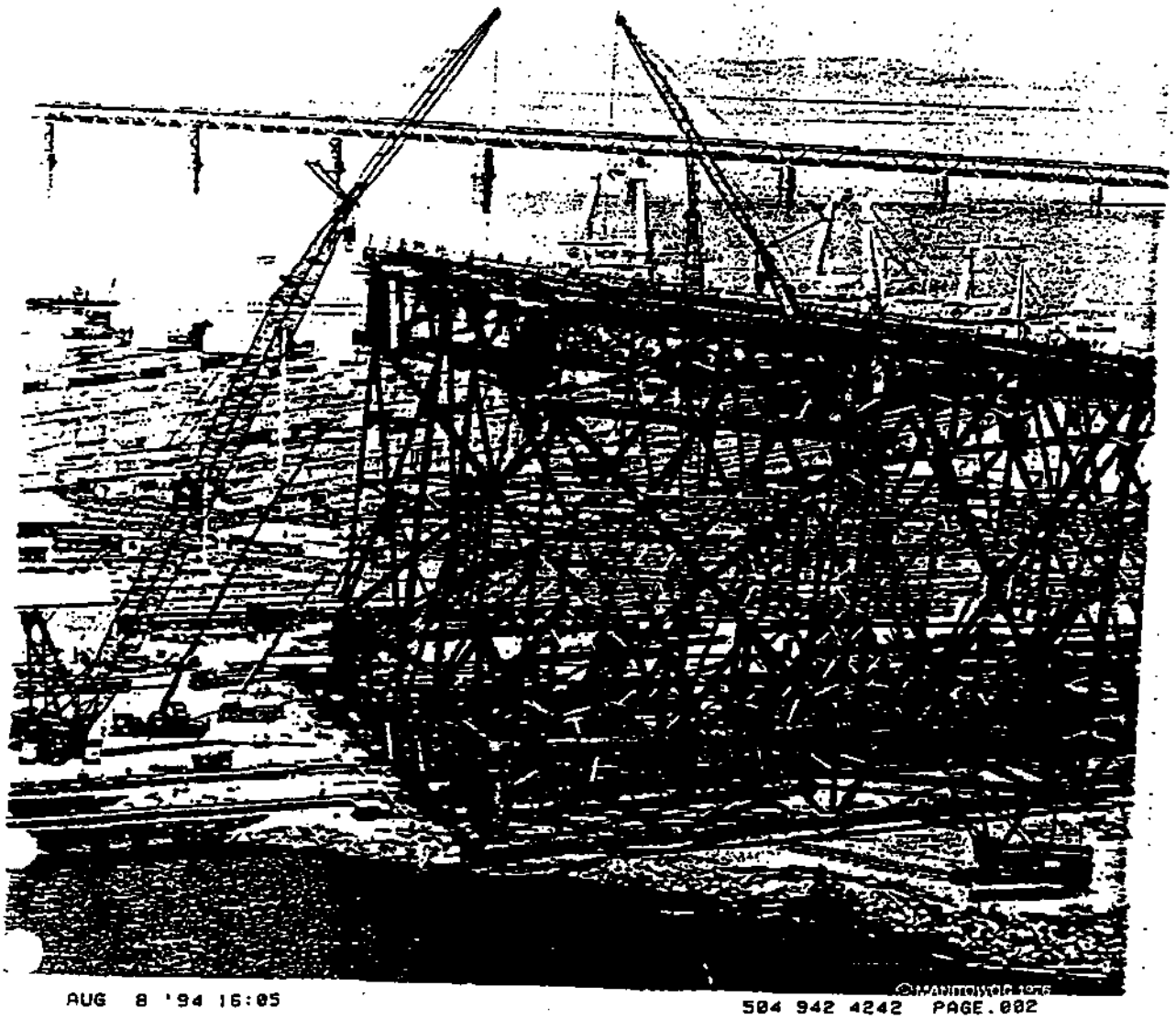
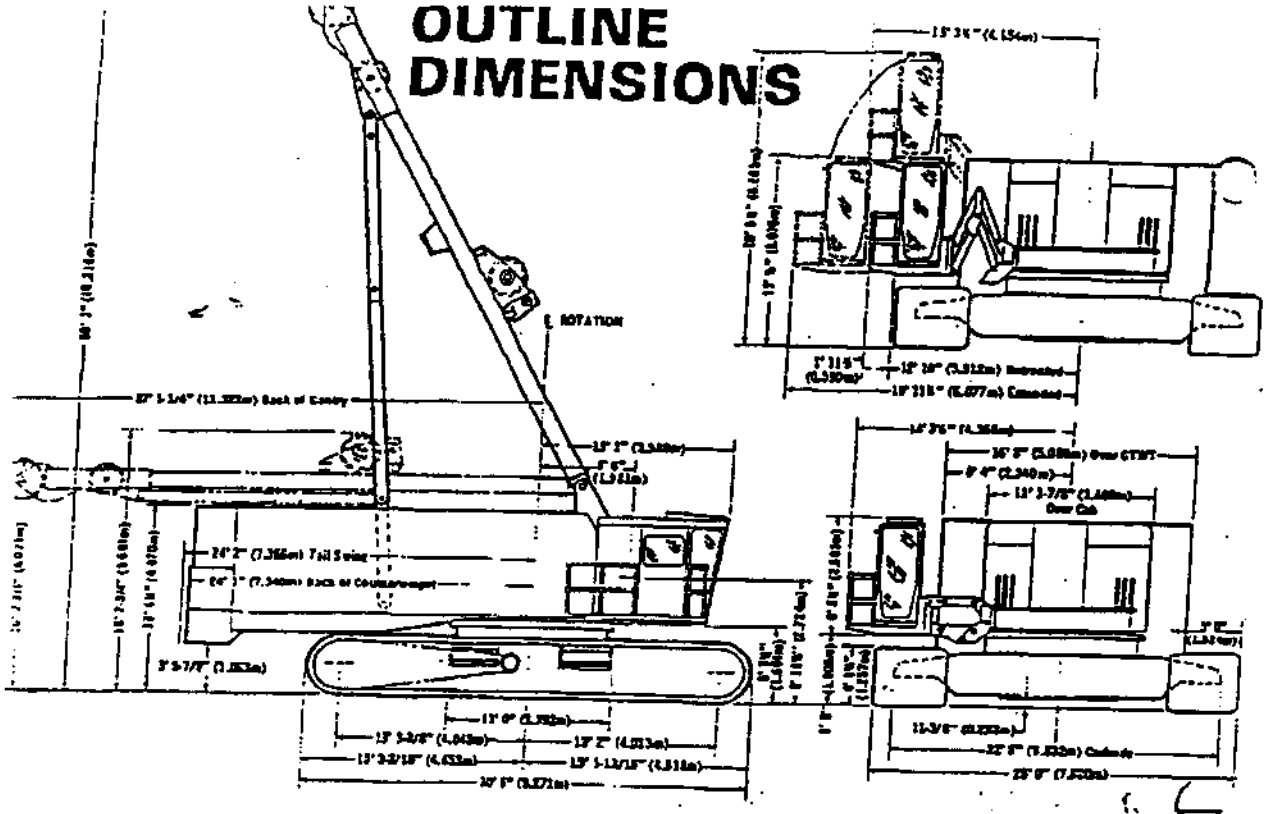


OUTLINE DIMENSIONS



WEIGHTS

	POUNDS*
LIFTCRANE, complete with 80' No. 27B Boom, gantry and backhitch, boom hoist rigging, pendants, basic upperworks package, operator's module, counterweights, 30' 5" long crawlers with 60" treads and outside crawler drive	561,500
CRAWLERS, with crawler side frames, 60" crawler treads and outside crawler chains (each 66,700)	133,400
CARBODY, with king pin, roller path and travel mechanism, without crawlers	85,800
UPPERWORKS, complete with basic machinery, including main drums but not including boom hoist, gantry and backhitch, operator's module, front end attachments or counterweights	138,200
GANTRY AND BACKHITCH	29,500
BOOM HOIST	15,100

	POUNDS*
EQUALIZER AND PENDANT LINKS	1,660
NOTE: Gantry and backhitch, boom hoist and fully reeved equalizer can be removed as a unit. Total weight: 48,300 pounds.	
REMOVABLE COUNTERWEIGHT (5-PC)	
Lower	44,000
Middle Left and Middle Right (each 20,500)	41,000
Upper Left and Upper Right (each 17,500)	35,000
Total	120,000
BOOM NO. 27B	
BOOM BUTT: (less wire rope and pendants)	11,670
BOOM TOP: (equipped with lower boom point and sheaves)	11,060
Add for upper boom point and sheave	1,140
Total	12,200
BOOM INSERTS:	
Insert—10' (with pendants)	2,500
Insert—20' (with pendants & wire rope guide)	4,225
Insert—40' (with pendants & wire rope guides)	7,050

**Weights are approximate and may vary between machines as a result of design changes and component variations.*

POWER PLANTS		Cylinder	Bore	Stroke	Cubic Inch Displacement	Net HP @ RPM (at flywheel)
BASIC	Cummins VTA-1710-C700 Diesel	12	5.50"	6.0"	1,710	685 @ 2,000*
OPTIONAL	Caterpillar D-379-B Diesel	8	6.25"	8.0"	1,964	635 @ 1,270*

*Ratings Without Fan

Fuel Tank Capacity: 840 Gallons.

LOWER MACHINERY

CARBODY: One-piece, ribbed steel fabrication with integral side wings. Side wings transmit loads directly to crawler side frames, eliminating axles and providing lower center of gravity.

RING GEAR AND ROLLER PATH: Cast alloy steel. Integral ring gear and roller path bolted to carbody. Internal gear teeth, machine cut. Roller path has 134" outside diameter with 5" thick hook roller flange.

RING PIN: Cast steel. Bolted to carbody with high strength bolts. Provides pivot for rotating upperworks. Takes horizontal load only; no uplift. Pressure-lubricated bronze bearing in rotating bed.

TRAVEL SHAFTS: Power transmitted through vertical travel shaft to three-piece horizontal travel shaft by bevel gears enclosed in oil bath. Final reduction gears at end of each travel shaft increases torque to crawler drive sprockets. Reduction gears, steering and travel mechanism enclosed in carbody by protective steel covers.

TRAVEL AND STEERING: Air controlled jaw clutches normally engaged for straight travel. For gradual or sharp turns, clutch may be positioned in neutral or locked position respectively. Interlock keeps one jaw clutch engaged at all times.

TRAVEL LOCKS: Air operated travel locks have dual ratchet and pawl permitting travel in one direction while preventing movement in opposite direction. Can be set to prevent travel in either direction. Travel lock pawls engage external teeth on travel jaw clutch. Each pawl can be released separately by independent air control.

CRAWLER SIDE FRAMES: Steel fabrication with integral supports for attachment to carbody. Twelve, 20" diameter double-flanged cast steel intermediate idler rollers are mounted between side plates on 6" diameter stationary shafts. Each roller supported by dual bronze bearings with center grease pocket. Abrasion resistant slide bars on top of frames support crawler pads.

CRAWLER FRONT IDLER: Double-flanged cast steel roller; large bronze bearing on each end and grease pocket in center. Mounted on 7" diameter stationary shaft supported at both ends in side frame. Tread belt adjusted by hydraulic jack and U-shaped shims which hold shaft in position.

CRAWLER SPROCKET AND TUMBLER: Cast steel. Teeth and tumbler rim flame-hardened. Driving torque transmitted through single-unit integral sprocket and tumbler with bronze bearings on each end and center grease pocket. Mounted on 7" diameter stationary shaft supported at both ends in side frame. Self-cleaning tumbler has alternate sides open. Drive chain adjustment accomplished by moving tumbler with hydraulic jack. U-shaped shims hold tumbler shaft in position.

CRAWLER DRIVE: Drive chains located outside of crawler frame. Drive sprockets self-contained within crawler side frames are joined to horizontal travel shaft by jaw clutch coupling. Allows crawler removal without separating drive chains or tread belts.

CRAWLER PADS: Cast alloy steel. Box section design with central driving lug, internally ribbed for extra strength. Bottom edges tapered upward. Each pad connected by two high carbon, wear resistant steel pins.

UPPER MACHINERY

ROTATING BED: One-piece, ribbed steel fabrication with integral machinery side frames forms a rigid deck for power plant, house rollers, rotating machinery, gantry support and boom hinge.

HOUSE ROLLERS: 6 antifriction bearing mounted; 4 Front, 2 Rear.

HOOK ROLLERS: 6 antifriction bearing mounted on eccentric shafts for adjustment; 2 Front, 4 Rear.

UPPER STRUCTURE: Fabricated steel rear column, roof support and center support structure. Fabricated steel front leg supports with integral box section cross brace. Structure supports gantry, counterweight and boom hoist assembly.

POWER PLANTS: See bottom of page 2.

POWER TRANSMISSION, VICON®: The VICON (Variable Independent CONtrol—Patented) system provides stepless variable control power transmission for various machine functions. Engine power divided at transmission case to hoist converter, two swing converters, and hydraulic pumps which power boom hoist and travel functions.

HOIST DRIVE: Controlled torque converter chain drives a sprocket floating independently on antifriction bearing mounted main drive shaft. Pinion bolted to this sprocket engages a reduction gear splined to antifriction bearing mounted countershaft. Another pinion splined to countershaft, engages a gear on rear drum shaft which drives a similar gear on the front drum shaft. Chain and gear drives are enclosed and oil lubricated.

SWING DRIVE: Two controlled torque converters driven at constant input speed from transmission case. Converter outputs connected through gear drive so that one converter powers swing in left direction and other converter powers swing in right direction. Converters provide stepless, variable power to swing in either direction and eliminates need for reversing clutches. Swing output transmitted to main drive shaft by chain drive. Chain and gear drives are enclosed and oil lubricated.

TRAVEL DRIVE: Powered through variable displacement hydraulic pump mounted directly to transmission case.

BOOM HOIST DRIVE: Powered through variable displacement hydraulic pump mounted directly to transmission case.

MAIN DRIVE SHAFT: Alloy steel, mounted on antifriction bearings. Power from swing drive transmitted by chain drive to outboard sprocket on main drive shaft. This sprocket is mounted to an adapter which is splined to main drive shaft and powers swing bevel gear. The chain and gear drives are enclosed and oil lubricated.

SWING MACHINERY: Vertical swing shaft is alloy steel, mounted on antifriction bearings with bevel gear splined to upper end. Receives power from bevel gear on main drive shaft. Pinion on lower end of vertical swing shaft drives double gear reduction to main swing pinion which meshes with ring gear.

UPPER MACHINERY (continued)

TRAVEL MACHINERY: Dual, reversible hydraulic motors drive through gear case, horizontal shaft, bevel gear set and gear reduction to vertical travel shaft. Pressure compensating hydraulic system varies torque and speed output of motors to suit travel requirements.

COUNTERSHAFT: Countershaft gear and drum drive pinion are splined to left end of countershaft and straddle large antifriction bearing. Gears enclosed and run in oil-tight case.

FRONT AND REAR DRUM ASSEMBLIES: Both drums have heat-treated alloy steel drum shafts with antifriction bearing mountings. Integral drum gear hubs and clutch spiders are keyed to drum shafts. Steel drums mounted on antifriction bearings have bolted cast iron combination brake and clutch flanges on left side, brake flange only on right side. Air controlled, internal expanding band-type drum clutches are mounted on left side and have heavy duty molded linings. Dual, air actuated, external contracting band-type brakes are spring set for parking and automatically set in the event of air pressure loss. Rear drum is used for main load line on lifticrane and front drum is used for whipline.

INDEPENDENT BOOM HOIST: Dual drums, alloy steel drum shaft. Driven by alloy steel worm shaft and bronze worm gear through gear and pinion reduction. Gears fully enclosed and run in oil. All rotating shafts antifriction bearing mounted. Boom hoist powered independently by variable displacement hydraulic motor providing full range speed control. Boom hoist brake is external contracting band-type, spring applied, air released, located on worm shaft; automatically releases or sets as boom hoist is engaged or disengaged. Auxiliary brake, external contracting band-type, set from operator's station. Ratchet on boom hoist drum flange with pawl mounted on gear housing. Boom hoist mounted at back of machine on rear column.

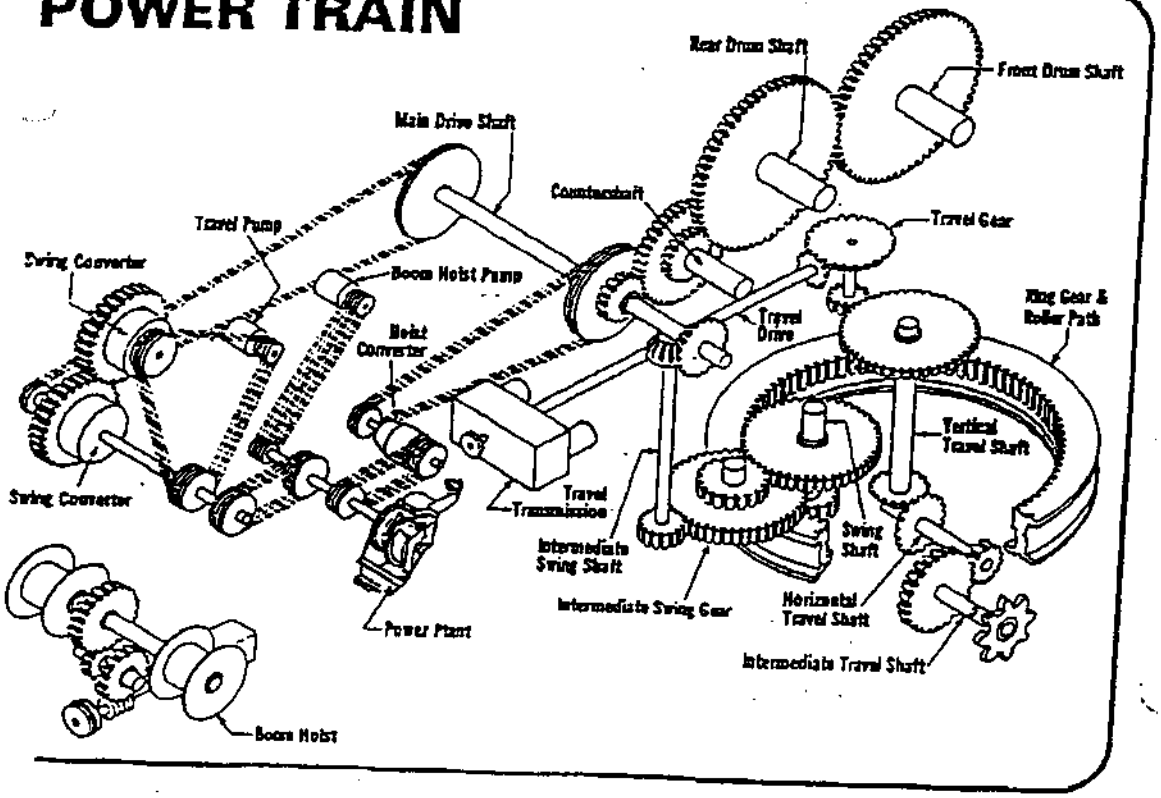
GANTRY AND BACKHITCH: Gantry is fabricated plate with parallel box section legs. Mounted to fabricated support, pin-connected to rotating bed and center support structure. Backhitch is two-piece telescoping, link-type construction, with power actuated link pins. Gantry and backhitch are pin-connected. Vertical lower gantry sheaves antifriction bearing mounted; horizontal equalizing sheaves and floating vertical upper gantry sheaves bronze bearing mounted.

GANTRY LIFTING DEVICE: Electrically controlled hydraulic unit used for partially raising gantry prior to erection into working position. Also controls lowering of gantry onto cab roof.

AUTOMATIC BOOM STOP: Push rod contacts electric switch which actuates valve in air line automatically stopping air supply to independent boom hoist hydraulic pump positioner. Set to stop hoisting when boom reaches maximum angle.

TELESCOPIC BOOM STOP: Telescoping tubes, air cushioned. Pinned to boom and A-frame. Starts cushioning at 76½° with positive physical stop at 85° from horizontal.

POWER TRAIN



DRUMS & RIGGING

TANDEM DRUM SHAFT

Application	Drum	Diameter	Drum Width	Type of Lagging	Wire Rope Size	Spooling Capacity	
						Layers	Maximum Capacity Without Notcher
LIFTCRANE							
Hoist	Rear	28"	43¼"	None	1¼"	9	2,900'
Whip	Front	28"	43¼"	None	1¼"	9	2,900'
Optional	Front	41½"	43¼"	Plain	1"	3	1,116'
CLAMSHELL							
Closing	Rear	41"	43¼"	Grooved	1⅛"	First Layer Only	289'
Holding	Front	41"	43¼"	Grooved	1⅛"	First Layer Only	289'

FRONT END EQUIPMENT

NO. 27B BOOM: 80' boom (40' heavy duty butt section and 40' open throat top section); optional 10', 20' and 40' inserts. All welded construction. Inverted angle chords 100,000 PSI yield steel. Butt, top and inserts 114" wide x 90" deep at pin-connected joints. Each insert matched with two pair of 1⅜" diameter single-length pendants. Lower boom point equipped with eight 32" diameter sheaves, antifriction bearing mounted. Maximum boom length 310'.

BOOM RIGGING: Twelve-part line, reeved between gantry and equalizer. Controls boom angle by dual lines from independent boom hoist drums. Two pair of 1⅜" diameter pendants connect equalizer to boom point. For longer booms, pendants matched to insert lengths.

EQUALIZER: Steel fabrication. Six vertical sheaves, antifriction bearing mounted.

WIRE ROPE GUIDE: Mounted on top side of boom. Two sets of interlocking fleeting sheaves. One set for main hoist line and one set for whipline. Bronze bearing mounted.

WIRE ROPE ROLLER GUIDE: Mounted on top side of boom. Induction hardened. Antifriction bearing mounted.

UPPER BOOM POINT: Optional detachable assemblies. Pin-connected to open throat top. Single 38" OD sheave with rope guard for liftcrane. Double 47" OD sheaves with cheek plates for clamshell. All sheaves antifriction bearing mounted.

4½° OFFSET BOOM TOP: Optional. Permits greater clearance between load and boom. Standard No.27B boom converted by adapter links at upper boom joint. Basic length 80'; maximum length 310'.

FOR CAPACITY CHARTS AND INFORMATION, CONSULT FACTORY.

NO. 125 JIB: Optional. 44-ton maximum capacity, 40' length, extendible to 80' with 10' and 20' inserts and matching pendants. Jib offset angle adjustable to 3, 10, and 20 degrees. All welded construction. Tubular chord and lacing members; 48¾" wide x 38¾" deep at pin-connected joints. Top section has 32" OD antifriction bearing sheave, cheek plates and anchor joint for two-part line.

CONSULT JIB LIFTING CAPACITY CHARTS FOR SPECIFIC CAPACITY WHEN USED ON VARIOUS BOOM LENGTHS.

GENERAL

FIXED OPERATOR'S MODULE: Standard. Fully enclosed and insulated steel module with large safety glass windows. Independently mounted to right front of machinery house on fixed brackets. Isolated from machinery noise. Cab swings forward of rotating bed for 11' 1⅜" shipping clearance. Air signal horn, air windshield wipers, air circulating fan and 24 volt dome light are standard. Heater and air conditioner optional.

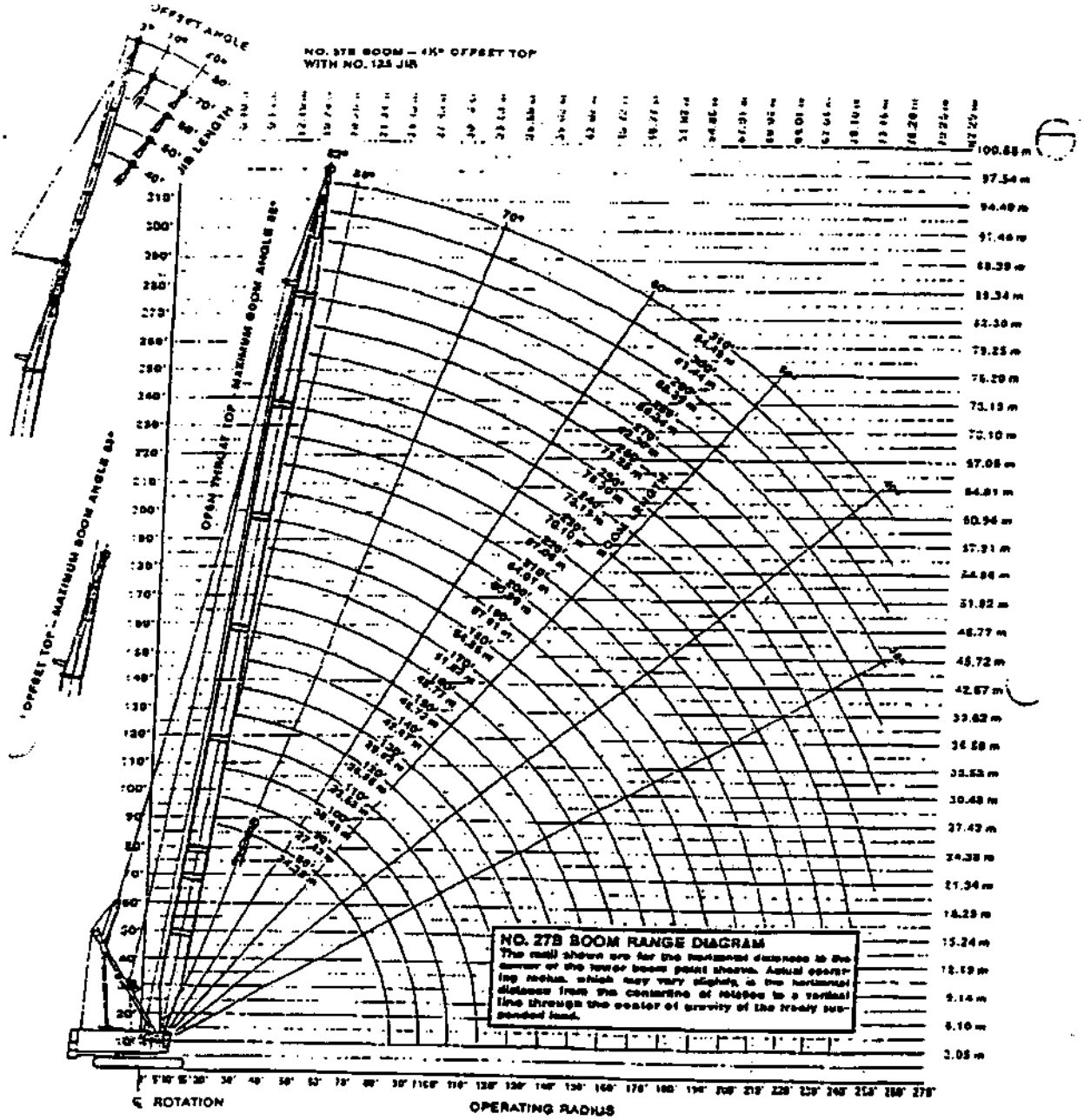
MOVABLE OPERATOR'S MODULE: Optional. Same operator's module as above, but with power actuated bracket arrangement which permits raising, lowering or extending the module as shown on outline dimensions.

CONTROLS: Graduated air controls for main functions. VICON® system on front and rear drums. Drum control levers are combination clutch and converter control: first movement engages drum clutch; further movement increases converter output torque permitting variable speed. Air operated treadle type drum brakes for feel and ease of operation with spring set, air released parking brake. With VICON® system on swing, movement of control lever increases converter output in direction of desired swing permitting variable speed. Air actuated, hydraulic valves operate boom hoist and travel functions. Drum rotation indicators are standard for boom hoist and front and rear drums. Control side consoles provide for good downward visibility.

SWING SPEED: Variable, 2.4 RPM maximum.

TRAVEL SPEED: Variable, 1.0 MPH maximum.

GRADEABILITY: 30%.



Larger-scale blueprint-type RANGE DIAGRAMS for planning your lifts are available from factory.

Because of a program of continuing improvement, Manitowoc Engineering Co. reserves the right to change the description at any time, without notice.

MANITOWOC ENGINEERING CO.
(A division of The Manitowoc Company, Inc.)
Manitowoc, Wisconsin 54220

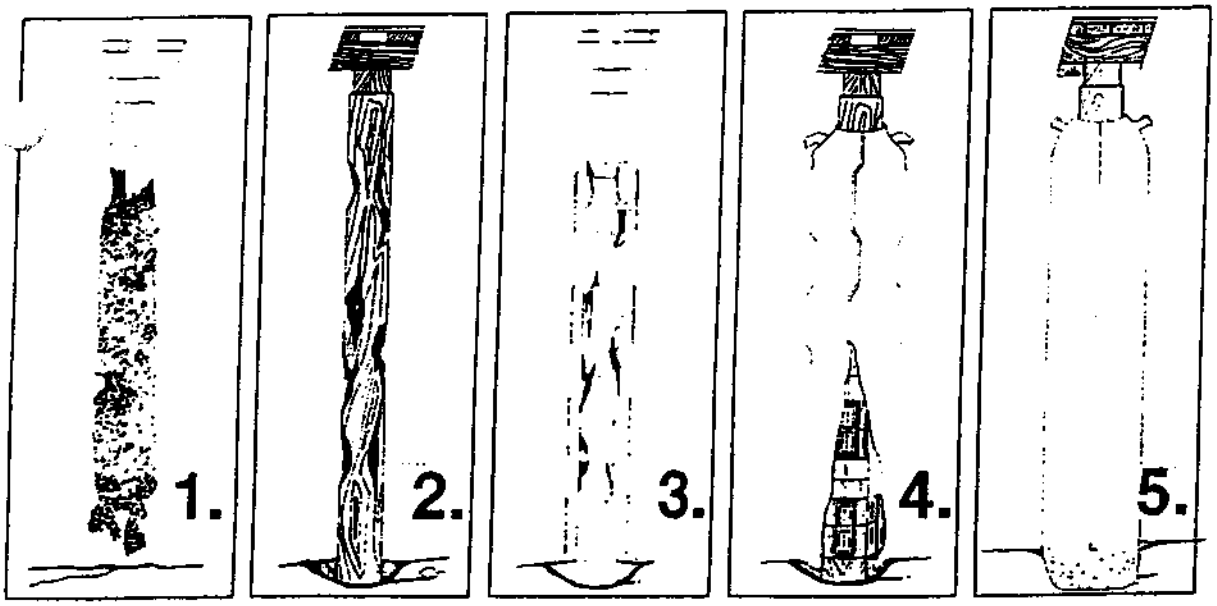
Manitowoc


Repair.
Restore.
Protect.
Aquatic Marine Systems, Inc.
Products and Services for Marine Facilities

The Complete Restoration System for Wood, Steel and Concrete Piling

We begin with a thorough inspection. Each piling is examined above and below the water level and a piling-by-piling record is kept. Piping, caps, stringers, and decking are all examined. We sound wood pilings for unseen deterioration. Ultrasonic equipment determines the thickness of steel pilings, and if the need arises we use underwater cameras to confirm our findings. Our divers maintain constant telephone communications with their crews who keep a detailed inspection log. Within days we provide our customers with a complete report of our findings, along with repair recommendations and cost estimates.

How the SeaForms System Works



1. *A typical piling heavily encrusted with marine life.*

2. *We clean encrusted and deteriorated pilings of all sea life. Wooden pilings are scraped. Steel H-beam, and sometimes, concrete pilings are cleaned with a high pressure hydro blaster*

3. *The clean pilings are surrounded with reinforcing. Standoffs maintain the spacing between the piling, the reinforcing, and the outer section of the form.*

4. *A ballistic nylon form is zippered closed over the structure, and attached to the piling at the top and bottom. Each reinforcing structure and form is prefabricated, pre-numbered and measured for each piling.*

5. *A special concrete mix is tremmie pumped into the form through the seacocks located at the top.*

A Solution for Your Piling Problem

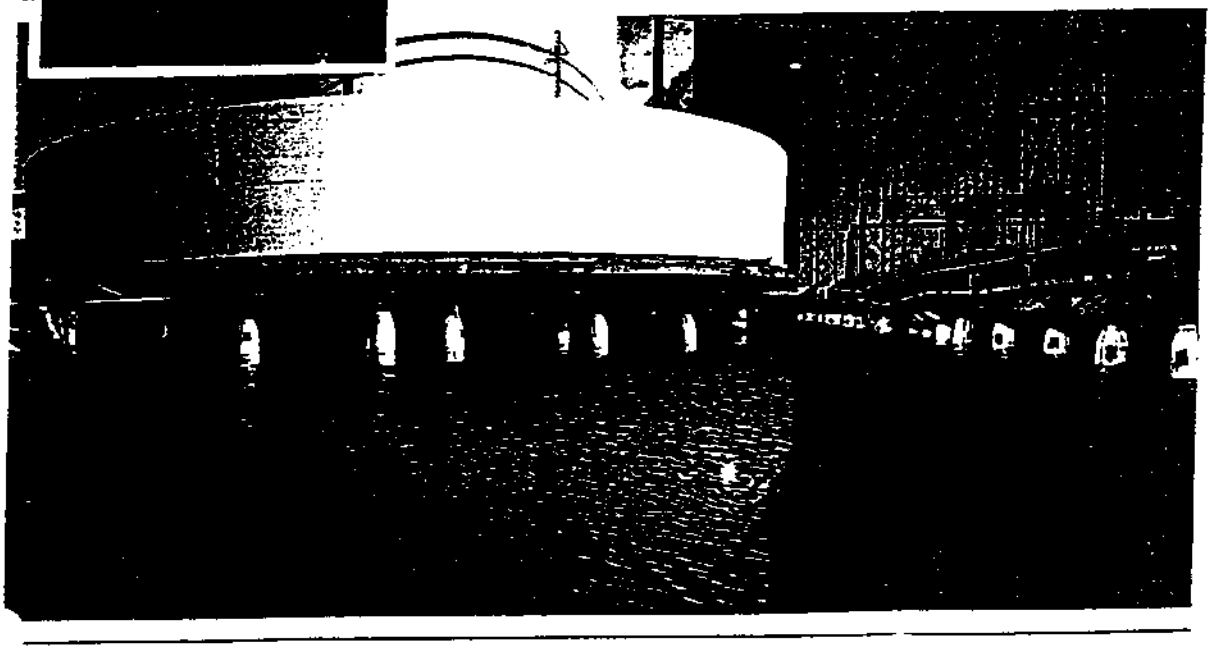
SeaForms is a proven system of piling repair and restoration that offers convenience, speed, savings, and new life for pilings.

From the day a wood piling is driven, it is subject to attack by marine borers. These marine organisms eat their way in, grow inside, and severely weaken the pilings. Steel pilings deteriorate from salt water corrosion, erosion, and electrolytic attack. Concrete pilings are vulnerable because of their steel reinforcing. When driven, concrete pilings develop hairline cracks that eventually let the sea in to corrode the steel reinforcing.

The SeaForms repair system offers a solution for each type of problem, and offers the long-range benefit of added life. Pilings restored with SeaForms are not only strengthened, but are given many added years of service.

The immediate benefits of our system become apparent when our crews come on the job. SeaForms repairs pilings fast, costs a fraction of other repair methods, and can be installed while the facility remains open for business. Yes, there are other alternatives. You might consider rebuilding the facility. But this is not only a costly project, it's one that can mean an expensive shutdown of operations while the work is done. Cosmetic repairs or patching can improve a facility's appearance for a while, but they do little for structural rehabilitation.

SeaForms have proven their durability since 1974 in uses ranging from oil companies to the U.S. Navy; on docks, piers, bridges, and terminals.



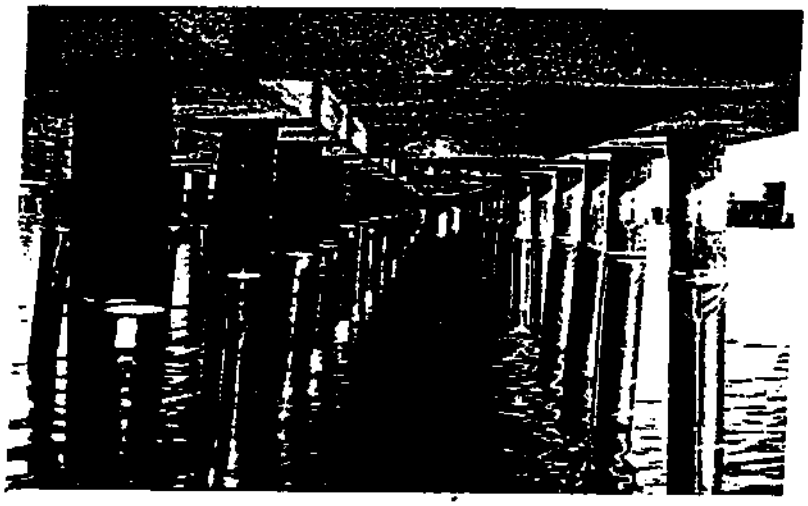
Aquatic Marine Systems, Inc.

PileGard

Stop Deterioration Before it Takes its Toll

PileGard is a system designed to protect wood and steel pilings before structural damage occurs. Marine borers and corrosion are two factors that can greatly shorten the life span of pilings. Ongoing efforts toward cleaning up the environment have helped restore the breeding grounds for marine borers. In New York Harbor, for example, there have been reports of marine borer infestation in wood pilings. And corrosion is still a problem faced by all pilings.

PileGard is a 60 mil. UV Light Stabilized PVC wrap that excludes oxygen from the piling, eliminating marine borers and corrosion. In water heavily infested with marine borers, a timber piling has a life expectancy of six to eight years. The same piling, protected with PileGard, is preserved in its existing condition almost indefinitely.



Aquatic Marine Systems, Inc.

MarinePatch™

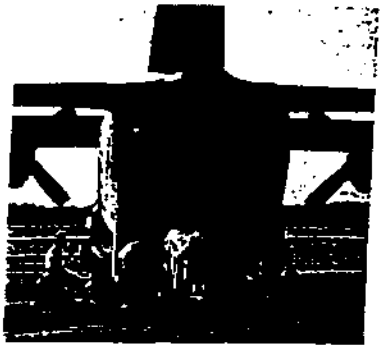
Patch and Protect Any Surface... For Appearance and Durability

MarinePatch is a fast-setting, concrete grout material that's resistant to water, acid, salt, and oil. It's high bonding, and will not shrink on hardening. MarinePatch can be applied underwater with the same excellent results. Putting appearance aside, cracked and chipped surfaces can contribute to a structure's demise by allowing moisture to penetrate the surface and attack the reinforcing. On piers, bridges, and walkways, spalled surfaces can pose a threat to safety.

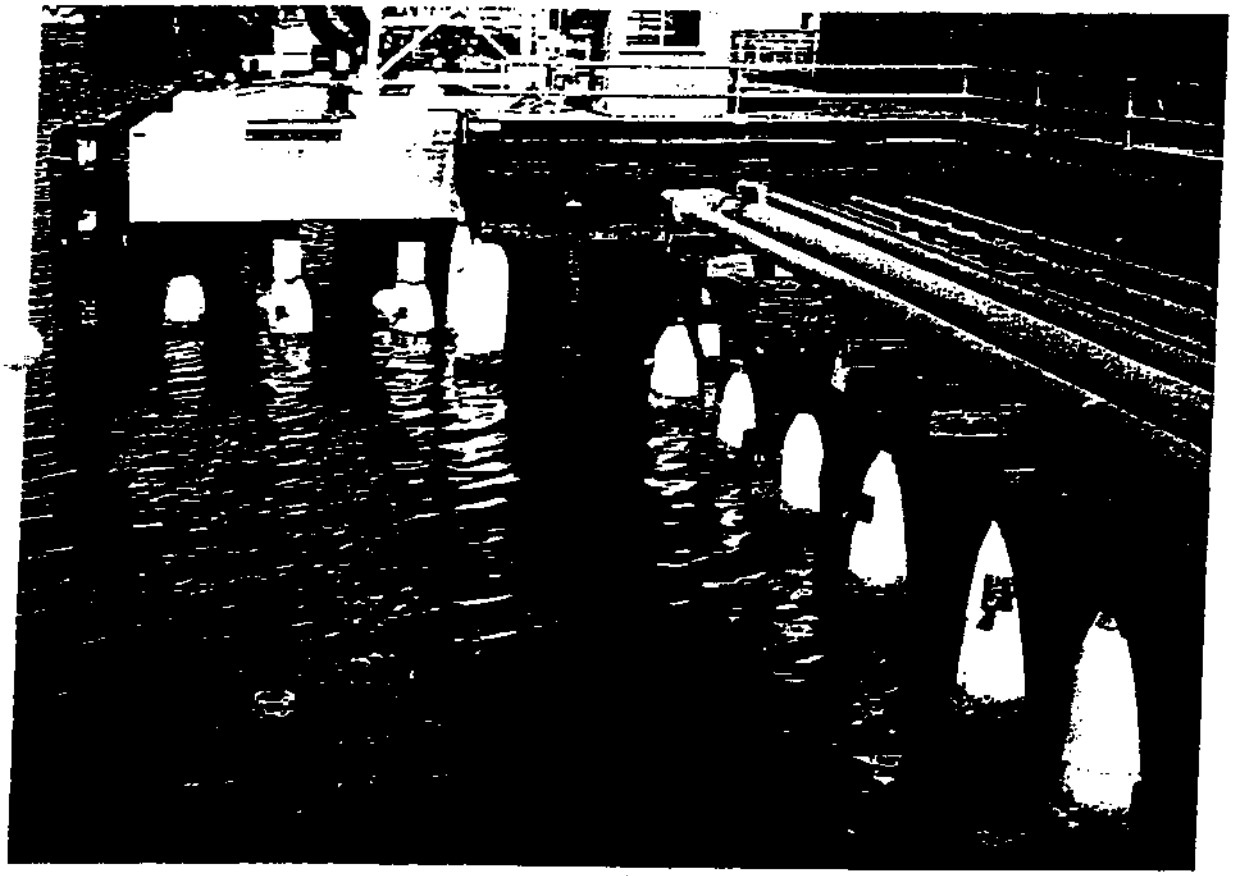
Since its initial setting time is only five minutes, foot traffic is hardly disturbed and vehicular traffic is preempted for one-twentieth of the time standard concrete needs to cure.

Aquatic Marine Systems, Inc.

Giving New Life to Marine Facilities



Rejuvenation and restoration are getting to be common practice in our cities, where the old is restored to be as good as, if not better than new. Aquatic Marine Systems, Inc. applies this concept to marine facilities. Experienced crews take a project from initial consultations right to the complete restoration—cost effectively and without having to shut down the facility. Our equipment is compact and mobile, making it easy for us to handle projects just about anywhere in the world. Aquatic Marine Systems makes rehabilitation an economical, practical, and attractive alternative to demolition and rebuilding. And we have a proven track record to support our claims.



Comments from our Satisfied Customers

"...the quality of material and workmanship exceeded specifications. The job was done expediently and the entire work crew was courteous and co-operative. I highly recommend Aquatic Marine Systems..."

W.S. Cross, Area Construcuon Engineer
Texaco
Orlando, Florida

"Aquatic Marine Systems successfully completed in-place piling repair...which resulted in substantial savings over replacement plus no loss of revenue due to use interruption. We recommend this method and Aquatic Marine's capability to perform this repair in a timely and professional manner."

J.E. Jones, Senior Vice President
Ergon Oil Company
Mobile, Alabama

"In the three years the job has now been in service, we are pleased to report satisfactory performance, with no deterioration whatsoever. ...we enthusiastically recommend your piling program and shall expect to contact you for any work of this type in the future."

T.J. Glenn, General Manager
Port of Bellingham
Bellingham, Washington

We've Built Our Reputation on These Pilings

Atlantic Cement, Baltimore, Maryland.
Mobil Oil Company, Beaumont, Texas.
Port of Seattle, Washington.
Shell Oil Company, Anacortes, Washington.
Reico-Aluminum Corp., Ferndale, Washington.
ITT, Fernandina Beach, Florida.
Port of Bellingham, Washington.
C&H Sugar, San Francisco, California.
Texaco Oil Company, Tampa, Florida.
Pierce County, Washington.
Point Defiance, Washington.
Alaska Lumber & Pulp Company, Sitka, Alaska.
Brunswick Pulp & Paper Company, Brunswick, Georgia.
Old Santa Barbara Pier, Santa Barbara, California.
Shell Oil Company, Gig Harbor, Washington.
Ergon Oil Company, Mobile, Alabama.
Texaco Oil Company, Westville, New Jersey.
United States Navy, Bangor, Washington.
United States Navy, Subic, Philippines.
United States Navy, Charleston, South Carolina.

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