PUBLIC NOTICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: 92-08990-OD
Issue Date: 02 April 1997
Expiration Date: 30 April 1997

To Whom It May Concern:

The New York District, U.S. Army Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), Section 404 of the Clean Water Act (33 U.S.C. 1344), and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended (33 U.S.C. 1413).

APPLICANT: **Mobil Oil Corporation**
P. O. Box 149
North Delaware Street
Paulsboro, New Jersey 06066

WATERWAY: **Arthur Kill**

ACTIVITY: **Maintenance dredge with barge overflow and subsequent disposal of the dredged material at the Mud Dump Site off of Sandy Hook, New Jersey**

LOCATION: **Port Mobil Terminal, Borough of Staten Island, Richmond County, New York**

A description and plans of the applicant's proposed activity are enclosed to assist in your review.

The decision whether to issue a Department of the Army permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general the needs and welfare of the people.

The U.S. Army Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing to collect additional information and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO REACH THIS OFFICE BEFORE THE EXPIRATION DATE OF THIS NOTICE, SHOWN ON THE COVER PAGE, otherwise, it will be presumed that there are no objections to the activity.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect additional information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held and why the comments can not be submitted by mail. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing. These requests can be mailed to return address on the cover page or FAXED to Mr. Mark Roth at (212) 264-4260.

Our preliminary determination is that the activity for which authorization is sought herein, is not likely to affect any Federally endangered or threatened species or their critical habitat. However pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence or absence of and potential impacts to listed species in the project area or their critical habitat.

Based upon a review of the latest published version of the National Register of Historic Places, there are no known sites eligible for, or included in, the Register within the permit area. Presently unknown archaeological, scientific, prehistorical or historical data may be lost by work accomplished under the required permit.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act and the applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to a final permit decision.

Pursuant to section 307(c) of the Coastal Zone Management Act of 1972 as amended (16 U.S.C. 1456(c)), for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the proposed activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No final permit decision will be made until one of these actions occur.

For activities within the coastal zone of New York State, the applicant's certification and accompanying information is available from the Consistency Coordinator, New York State Department of State, Division of Coastal Resources and Waterfront Revitalization, Coastal Zone Management Program, 162 Washington Avenue, Albany, New York 12231, Telephone (518) 474-3642. Comments regarding the applicant's certification and copies of any letters addressed to this office commenting on this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

A Protection of Waters Permit from the
New York State Department of Environmental Conservation

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice.

If you have any questions concerning this application, you may contact this office at (212) 264-0184 and ask for Mr. Mark Roth. Comments or questions may be FAXED to Mr. Mark Roth at (212) 264-4260.

for James W. Haggerty
Joseph J. Seebode
Chief, Regulatory Branch

Attachments

DESCRIPTION OF WORK

The applicant, the Mobil Oil Corporation, proposes to maintenance dredge their berthing facility at the Port Mobil Terminal along the Arthur Kill in the Borough of Staten Island, Richmond County, New York. Approximately 80,000 cubic yards of material would be removed from an irregularly shaped area. Dredging would be done by clamshell bucket dredge, to variable depths with a maximum depth of 38 feet below the plane of Mean Low Water (plus two feet of allowable overdepth). Barge overflow is contemplated to maximize the efficiency of dredging and disposal operations.

The purpose of the project is to reestablish a depth of water in their berthing facility safe enough for its continued use.

Any permit issued for the proposed work, would authorize, on an initial basis only, the dredging and disposal as specified in this notice to be completed prior to closure of the ocean Mud Dump Disposal Site (MDDS), subject to available capacity.

The dredged material would be transported by dump scows to the MDDS and deposited using the bottom dumping process.

The MDDS was formally designated by the U.S. Environmental Protection Agency (EPA). The MDDS has an area of 2 square miles and an average depth of 64 feet, having its corner points located at:

LATITUDE	LONGITUDE
40° 23′ 48" North	73° 51′ 28" West
40° 21" 48" North	73° 50′ 00" West
40° 21′ 48" North	73° 51′ 28" West
40° 23′ 48" North	73° 50′ 00" West

It is estimated that since 1976 approximately 6.0 million cubic yards of material have been disposed of annually at the MDDS.

As stated in the Ocean Dumping Regulations [40 CFR 227.16(b)] "...alternative methods of disposal are practicable when they are available at reasonable incremental cost and energy expenditures which need not be competitive with the costs of ocean dumping, taking into account the environmental impacts associated with the use of alternatives to ocean dumping...." The New York District of the U.S. Army Corps of Engineers has evaluated the practicability of potential disposal alternatives in a 1989 report entitled "Managing Dredged Material: An Evaluation of Disposal Alternatives in the New York - New Jersey Metropolitan Region." The alternatives considered include land disposal, use as sanitary

landfill cover, disposal in subaqueous borrow pits (and possible capping with clean material), creation of islands and/or wetlands, disposal on beaches or wetlands, transport and placement in deep mines, and incineration. Of these, only land disposal is considered a potentially viable alternative at the present time for the particular material proposed for disposal.

The applicant has evaluated methods of upland disposal of the dredged material as an alternative to ocean disposal. They state that there is no vacant land on their property or in the vicinity of the project area upon which the dredged material could be temporarily stored while chemically/physically treating for beneficial reuse, dewatered, or permanently disposed. Therefore, it would become necessary to transport this material by truck in a semi-fluid state to any upland destination. Even if it were physically and economically feasible to dispose of the dredged material, only one upland containment facility (construction of a parking field) is presently in operation requiring physical/chemical modification prior to placement as the parking field's foundation. It has a limited capacity, most of which is dedicated to other dredging projects which failed to satisfy Ocean Dumping Regulations.

The State of New York, either through the Office of the Governor or the Department of Environmental Conservation, will be contacted by the applicant with a view toward identifying suitable sites that could be used for disposal of dredged material in lieu of ocean disposal.

TESTING-GENERAL

Based upon analyses of 7 sediment samples submitted by the applicant, the character of the dredged material is as follows: 3.3% gravel, 10.9% sand and gravel, 7.6% sand, 55% silt and 34.3% clay.

Based on the grain size distributions of proposed maintenance dredging material and in accordance with 40 CFR 227 further chemical and biological testing is required to determine the suitability of the sediment for ocean disposal.

Liquid Phase Chemistry: Under the authority of 40 CFR 227, liquid phase chemical analysis was performed for the constituents listed in Table 1 of this public notice. Please note in reading Table 1 that detection limits have been listed for only those constituents which the laboratory reported as non-detected (ND) in the concentration column, which occurred at concentrations below the

method detection limit. (This reporting convention was similarly applied in reporting the results of Bioaccumulation Potential testing discussed below).

Expected concentrations of chemical constituents in the water column following disposal, after allowing for initial mixing, were calculated using the Automated Dredging and Disposal Alternatives Management System (ADDAMS), a mixing model developed by the U.S. Army Corps of Engineers Waterways Experimental Station (WES) and described in the implementation manual entitled "Ecological Evaluation of Proposed Discharge of Dredged Material Into Ocean Water" (commonly referred to as the National "Green Book"), published in February 1991 by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. The model predicted that chemical constituents in the water column following disposal of the dredged material will dilute to concentrations below Federal marine acute water quality criteria within the initial four hour period and will not exceed the boundaries of the disposal site [40 CFR 227.29 (a)].

Bioassay Results (Toxicity): In accordance with 40 CFR 227 of the Ocean Dumping Regulations, bioassays were performed to assess the toxicities of the solid, liquid and suspended particulate phases of the proposed dredged material disposal. Bioassays were performed using appropriate sensitive marine organisms as discussed below. The bioassay testing conformed to procedures outlined in the 1991 National Green Book and the 1992 Regional Testing Manual. The results of bioassay tests conducted on proposed dredged sediments are presented in Table 2 of this public notice.

Solid Phase Bioassay: The **solid phase** is the whole test sediment before it has undergone processing that might alter its chemical or toxicological properties.

For the solid phase bioassay, 10-day toxicity was determined by exposing a filter feeding mysid shrimp *(Mysidopsis bahia)* and a deposit feeding, burrowing amphipod *(Eohaustorius estuarius)* to composites of sediment from the sampling points and comparing mortalities in those treatments to mortalities experienced after exposure to a reference sediment. The reference sediment represents existing background conditions in the vicinity of the dumpsite, removed from the influence of any disposal operation. Results are evaluated for biologically and statistically significant differences in mortality between treatments. The 1991 National Green Book indicates that dredged material does not meet the whole sediment toxicity criterion when mortality in the test treatments is a) statistically significant and greater than in the reference sediment and (b) exceeds mortality in the reference

treatment by at least 10% for mysid shrimp and 20% for amphipod species. The whole sediment toxicity criterion was not exceeded for either organism for the proposed project.

Liquid and Solid Phase Bioassay: The suspended particulate phase also contains the **liquid phase** of the dredged material. The **suspended particulate phase** (SPP) is considered to be the supernatant liquid remaining after one hour of undisturbed settling of the mixture resulting from a vigorous 30 minute agitation of one part bottom sediment from the dredging site with four parts water collected from the dredging site. Disposal site water or clean sea water is substituted where dredging site water is incompatible with test organism survival.

For the liquid and suspended phase bioassay tests, those concentrations of SPP resulting in 50% mortality (LC50s), were determined for the three animal species tested- a crustacean (*M. bahia*), a finfish (*Menidia beryllina*), and the planktonic larvae of a bivalve (*Mytilus edulis*). The median effective concentration (EC50), based on normal larval development to the D-cell stage, was also calculated for *Mytilus edulis*. The limiting permissible concentration (LPC) of SPP is calculated by multiplying the LC50 or EC50 of the most sensitive organism by a safety factor of 100. In other words, 0.01 of the toxic concentration (LC50 or EC50) of the most sensitive organism tested. The LPC was calculated at 0.187 and was obtained from the EC50 of *Mytilus edulis*.

In accordance with the provisions of 40 CFR 227.27 (a)(2), the material can be considered suitable for ocean disposal if the concentration of the SPP of the dredged material, after allowance for initial mixing, will not exceed the LPC beyond the boundaries of the disposal site within the first four hours following dumping or at any point in the marine environment after the first four hours.

Initial mixing evaluations were conducted using the ADDAMS mixing model. Results of the analysis indicate that the LPC will be met for the proposed dredged material.

Bioaccumulation Potential: An estimate of bioaccumulation potential was made by analyzing the concentrations of contaminants in tissue of organisms surviving 28-day exposure to composited sediments and comparing them to tissue levels of organisms exposed to reference sediment (a reference sediment represents existing background conditions in the vicinity of the dumpsite, removed from the influence of any disposal operation). Results are evaluated for biologically and statistically significant differences in mortality

between treatments. Bioaccumulation potential was analyzed in two organisms, a burrowing, deposit-feeding polychaete [a worm (*Nereis virens*)] and a filter-feeding bivalve [a clam (*Macoma nasuta*)].

Based on the requirements of 40 CFR 227.6 and 227.27, bioaccumulation analyses was performed for the chemical constituents listed in Table 3 of this public notice. All constituents identified in worm and clam tissue were compared to existing Food and Drug Administration (FDA) action levels for poisonous or deleterious substances in fish and shellfish for human food, regional disposal criteria, background concentrations and risk-based criteria.

Total DDT steady state concentrations were above regional disposal criteria for unrestricted ocean disposal. Dredged material that results in such tissue concentrations is subsequently capped.

Based on the results of the testing performed, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency have determined that the proposed maintenance material is considered Category II dredged material and is suitable for ocean disposal with subsequent capping. The material contains none of the constituents prohibited in 40 CFR 227.6 as other than trace contaminants, and meets the LPC requirements of 40 CFR 227.27.

Port Mobil - Staten Island Terminal

TABLE 1. RESULTS OF CHEMICAL ANALYSIS OF SITE WATER AND ELUTRIATE

	SITE WATER		ELUTRIATE	
CONSTITUENTS	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag		0.068		2.750
Cd		0.154		0.107
Cr		1.270		34.100
Cu		3.860		41.733
Hg		0.024		1.004
Ni		1.947		4.627
Pb		2.830		41.067
Zn		20.867		45.533
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	4.433	ND	6.333	ND
a-Chlordane		0.176		2.416
trans Nonachlor		0.061		0.551
Dieldrin		0.970		2.094
4,4'-DDT		0.707		1.000
2,4'-DDT	4.810	ND	6.872	ND
4,4'-DDD		0.792		24.270
2,4'-DDD		0.834		11.701
4,4'-DDE		0.819		18.105
2,4'-DDE	5.502	ND		4.293
Total DDT		**8.309**		**62.806**
Endosulfan I	9.243	ND	13.205	ND
Endosulfan II		0.593		1.201
Endosulfan sulfate		0.550		0.640
Heptachlor		19.442		2.363
Heptachlor epoxide		0.774		0.652
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	3.444	ND		6.371
PCB 18	5.942	ND	8.489	ND
PCB 28	4.141	ND		4.950
PCB 44	3.932	ND		5.825
PCB 49	5.013	ND		5.566
PCB 52	3.948	ND		9.258
PCB 66	4.207	ND		4.924
PCB 87	4.635	ND		2.830
PCB 101		0.179		6.976
PCB 105	4.579	ND		2.029
PCB 118		0.114		6.116
PCB 128	4.186	ND		0.856
PCB 138		0.293		5.220
PCB 153		0.252		8.686
PCB 170		0.253		2.810
PCB 180		0.353		3.687
PCB 183		0.169		2.221
PCB 184		0.284	7.751	ND
PCB 187		0.086		2.456
PCB 195		0.141		1.468
PCB 206	4.490	ND		1.908
PCB 209	4.522	ND		2.150
Total PCB		**110.327**		**205.098**

ND = Not detected
Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT
Total PCB = sum of congeners reported x 2
Concentrations shown are the mean of three replicate analyses.
Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

Table 2

Port Mobil - Staten Island

TOXICITY TEST RESULTS

Suspended Particulate Phase

Test Species	Test Duration	LC50/EC50	LPC (a)
Menidia beryllina	96 hours	(b) 20.20%	0.202
Mysidposis bahia	96 hours	(b) 56.83%	0.5683
Mytilus edulis (larval survival)	48 hours	(b) 19.90%	0.199
Mytilus edulis (larval normal develop.)	48 hours	(c) 18.70%	0.187

(a) Limiting Permissible Concentration (LPC) is the LC 50 or EC 50 times 0.01.
(b) Median Lethal Concentration (LC50) resulting in 50% mortality at test termination.
(c) Median Effective Concentration (EC50) based on normal development to the D-cell, prodissoconch 1 stage.

Whole Sediment (10 days)

Test Species	% Survival in Reference	% Survival in Test	% Difference Reference -Test	Is difference statistically significant? (a=0.05)
Eohaustorius estuarius	94.00%	89.00%	5.00%	NO
Mysidposis bahia	89.00%	93.00%	<0	NO

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE
Wet weight concentrations

CONSTITUENTS	*Macoma nasuta*				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCEN TRATIO	DETECTION LIMITS	CONCEN TRATIO	DETECTION LIMITS	CONCEN TRATIO	DETECTION LIMITS	CONCEN TRATIO
Metals	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)
Ag		0.055		• 0.088		0.029		0.024
As		3.204		3.799		3.266		2.062
Cd		0.035		• 0.044		0.121		0.100
Cr		0.355		• 0.648		0.426		0.475
Cu		14.236		17.067		3.500		3.557
Hg		0.037		• 0.054		0.015		0.015
Ni		0.981		• 1.219		0.245		0.342
Pb		0.563		• 1.277		0.731		0.930
Zn		19.460		19.927		13.480		11.149
Pesticides	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
Aldrin	0.512	ND	0.480	• ND	0.136	ND	0.134	ND
a-Chlordane		0.099		• 0.416		0.373		• 1.290
trans Nonachlor		0.118		• 0.213		0.663		• 1.231
Dieldrin		1.173		0.955		1.240		• 1.758
4,4'-DDT		0.199		0.318		0.161		0.190
2,4'-DDT		0.058		• 0.203		0.158		• 0.859
4,4'-DDD		0.618		• 5.002		12.589		• 16.301
2,4'-DDD		0.032		• 1.647		7.883		9.198
4,4'-DDE		7.250		6.309		0.232		• 4.261
2,4'-DDE	0.232	ND		• 0.309	0.116	ND	0.115	ND
Total DDT		8.273		• 13.788		21.081		• 30.867
Endosulfan I	0.395	ND		0.244	0.361	ND		0.120
Endosulfan II	0.409	ND	0.384	ND	0.289	ND		0.549
Endosulfan sulfate		0.068		• 0.386		0.272		• 0.799
Heptachlor	0.509	ND	0.475	• ND	0.138	ND	0.138	ND
Heptachlor epoxide		0.062	0.435	• ND		0.075		0.053
Industrial Chemicals	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
PCB 8		0.140		• 0.409		0.168		• 0.265
PCB 18		0.142		0.176		0.119		• 0.911
PCB 28		0.050		• 1.100		0.296		• 2.124
PCB 44	0.376	ND		• 0.657		0.183		• 1.371
PCB 49		0.009		• 0.859		0.659		• 2.194
PCB 52		0.100		• 1.348		3.364		• 5.787
PCB 66		0.043		• 1.436		0.799		• 2.078
PCB 87		0.035		• 0.424		0.666		• 1.122
PCB 101		0.179		• 1.251		6.001		8.611
PCB 105		0.008		• 0.406		3.354		4.196
PCB 118		0.069		• 1.070		5.838		7.403
PCB 128		0.030		• 0.157		1.710		1.643
PCB 138		0.162		• 0.917		8.210		10.644
PCB 153		0.121		• 1.360		7.608		8.083
PCB 170		0.202		• 0.447		1.319		• 1.834
PCB 180		0.008		• 0.372		2.771		• 3.648
PCB 183		0.114		0.069		0.948		1.167
PCB 184	0.420	ND	0.394	• ND		0.622		0.170
PCB 187		0.024		• 0.254		1.623		• 2.058
PCB 195		0.004		• 0.106		0.289		• 0.494
PCB 206		0.001		• 0.103		0.446		• 0.714
PCB 209		0.014		• 0.173		0.347		• 0.491
Total PCB		3.201		• 26.583		94.677		• 134.019
1,4-Dichlorobenzene		3.233		1.920		2.524		1.415

TABLE 3. (Continued)

CONSTITUENTS	*Macoma nasuta*				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCEN TRATION	DETECTION LIMITS	CONCEN TRATION	DETECTION LIMITS	CONCEN TRATION	DETECTION LIMITS	CONCEN TRATION
PAH's	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
Naphthalene		0.705		• 2.042		2.801		• 3.841
Acenaphthalene	4.259	ND		• 0.787		0.193		• 0.605
Acenaphthene	5.857	ND		• 1.540		0.535		• 7.890
Flourene	5.239	ND		• 1.244		0.536		• 1.516
Phenanthrene		0.335		• 6.595		0.339		• 2.708
Anthracene	3.805	ND		• 2.905		0.583		1.101
Fluoranthene		0.413		• 24.256		0.684		• 25.054
Pyrene		0.307		• 29.356		0.642		• 29.143
Benzo(a)anthracene		0.191		• 10.048		0.427		• 2.086
Chrysene		0.325		• 15.440		0.772		• 10.623
Benzo(b)fluoranthene		0.212		• 11.983	1.377	ND		• 2.996
Benzo(k)fluoranthene		0.081		• 3.579	1.215	ND		• 1.197
Benzo(a)pyrene		0.459		• 8.538	1.407	ND		• 2.258
Indeno(1,2,3-cd)pyrene	3.604	ND		• 2.812	1.273	ND		0.782
Dibenzo(a,h)antracene	3.423	ND		0.905	0.932	ND		0.293
Benzo(g,h,i)perylene		1.125		• 4.320	1.425	ND		• 1.688
Total PAH's		8.715		• 126.350		11.326		• 93.780
Dioxins	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)
2378 TCDD	0.068	ND		• 0.553	0.340	ND		• 1.018

ND = Not detected

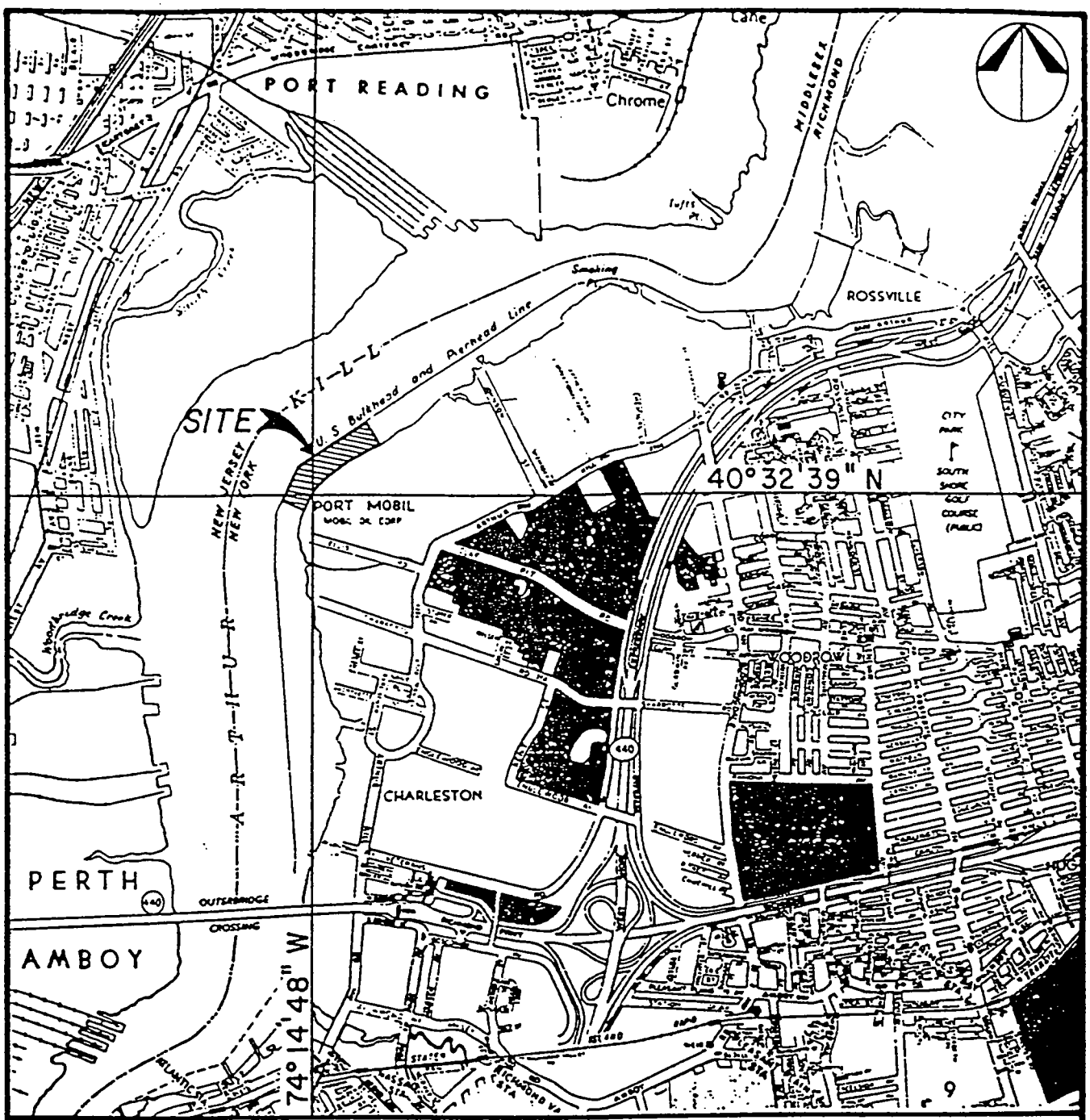
Total PAH = Sum of all PAH's.

Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT

Total PCB = 2(x), where x = sum of PCB congeners

Concentrations shown are the mean of 5 replicate analyses in wet weight.

For values reported as ND (not detected), one-half of the detection limit is used in the calculation of the mean concentration.



FROM HAGSTROM MAP
NEW YORK CITY
5 BOROUGH ATLAS

VICINITY MAP

0 1000 6000
SCALE IN FEET

PURPOSE: MAINTAIN NAVIGATION AT EXISTING PETROLEUM PRODUCTS TERMINAL
DATUM: M.L.W.
ADJACENT PROPERTY OWNERS:
1. FRANK AND JOSEPH VIGLIAROLO
2. PETER L. KEANE

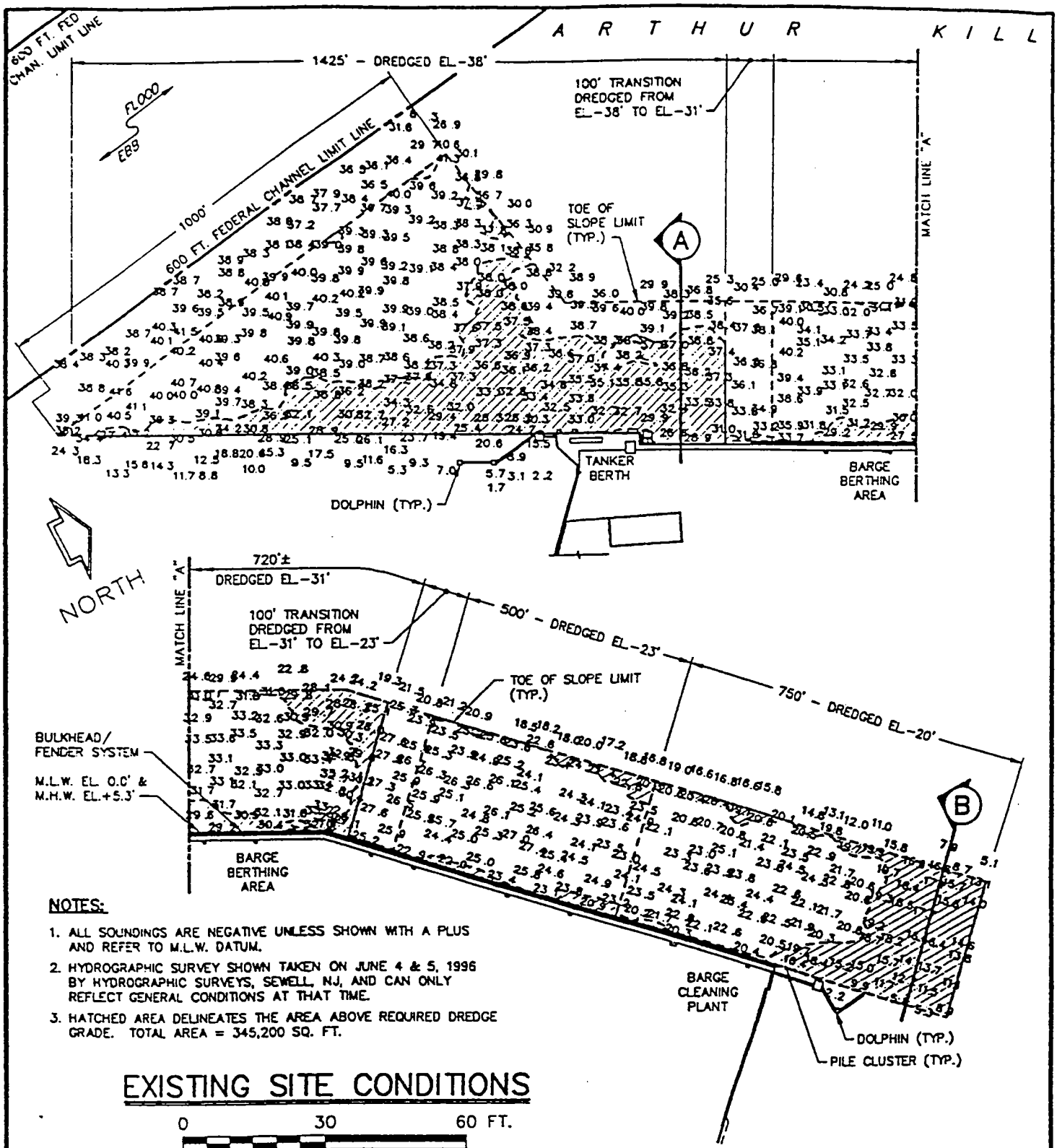
AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

PROPOSED MAINTENANCE DREDGING
PORT MOBIL TERMINAL
ARTHUR KILL WATERWAY
COUNTY OF RICHMOND
STATE OF NEW YORK
APPLICATION BY: MOBIL OIL CORPORATION

SHEET 1 OF 5 DATE: 7-30-91

512038

9126-2



NOTES:

1. ALL SOUNDINGS ARE NEGATIVE UNLESS SHOWN WITH A PLUS AND REFER TO M.L.W. DATUM.
2. HYDROGRAPHIC SURVEY SHOWN TAKEN ON JUNE 4 & 5, 1996 BY HYDROGRAPHIC SURVEYS, SEWELL, NJ, AND CAN ONLY REFLECT GENERAL CONDITIONS AT THAT TIME.
3. HATCHED AREA DELINEATES THE AREA ABOVE REQUIRED DREDGE GRADE. TOTAL AREA = 345,200 SQ. FT.

EXISTING SITE CONDITIONS

0 30 60 FT.

SCALE

REV. 1 6-17-96

PURPOSE: MAINTAIN NAVIGATION AT EXISTING PETROLEUM PRODUCTS TERMINAL

DATUM: M.L.W.

ADJACENT PROPERTY OWNERS:
1. FRANK AND JOSEPH VIGLIAROLO
2. PETER L. KEANE

AGENT: OCEAN AND COASTAL CONSULTANTS, INC.

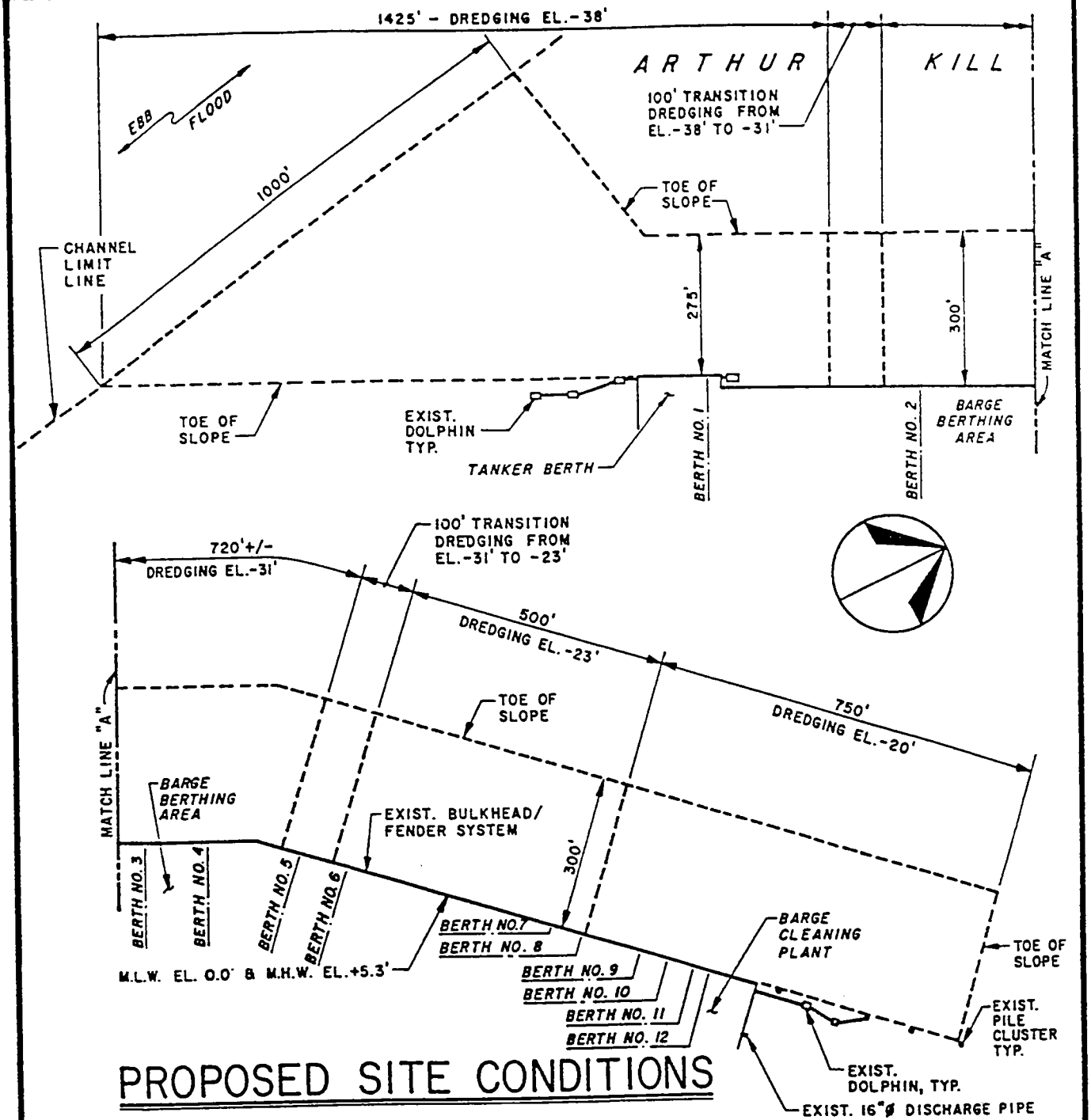
PROPOSED MAINTENANCE DREDGING
PORT MOBIL TERMINAL

ARTHUR KILL WATERWAY
COUNTY OF RICHMOND
STATE OF NEW YORK

APPLICATION BY: MOBIL OIL CORPORATION

SHEET 2 OF 5 DATE: 7-30-91

96022\PERMIT\2 (300) "9126-2"



PROPOSED SITE CONDITIONS

0 100 500
SCALE IN FEET

NOTE
1. ALL SIDE SLOPES ARE TO BE 1 VERT. ON 3 HORIZ.

PURPOSE: MAINTAIN NAVIGATION AT EXISTING PETROLEUM PRODUCTS TERMINAL
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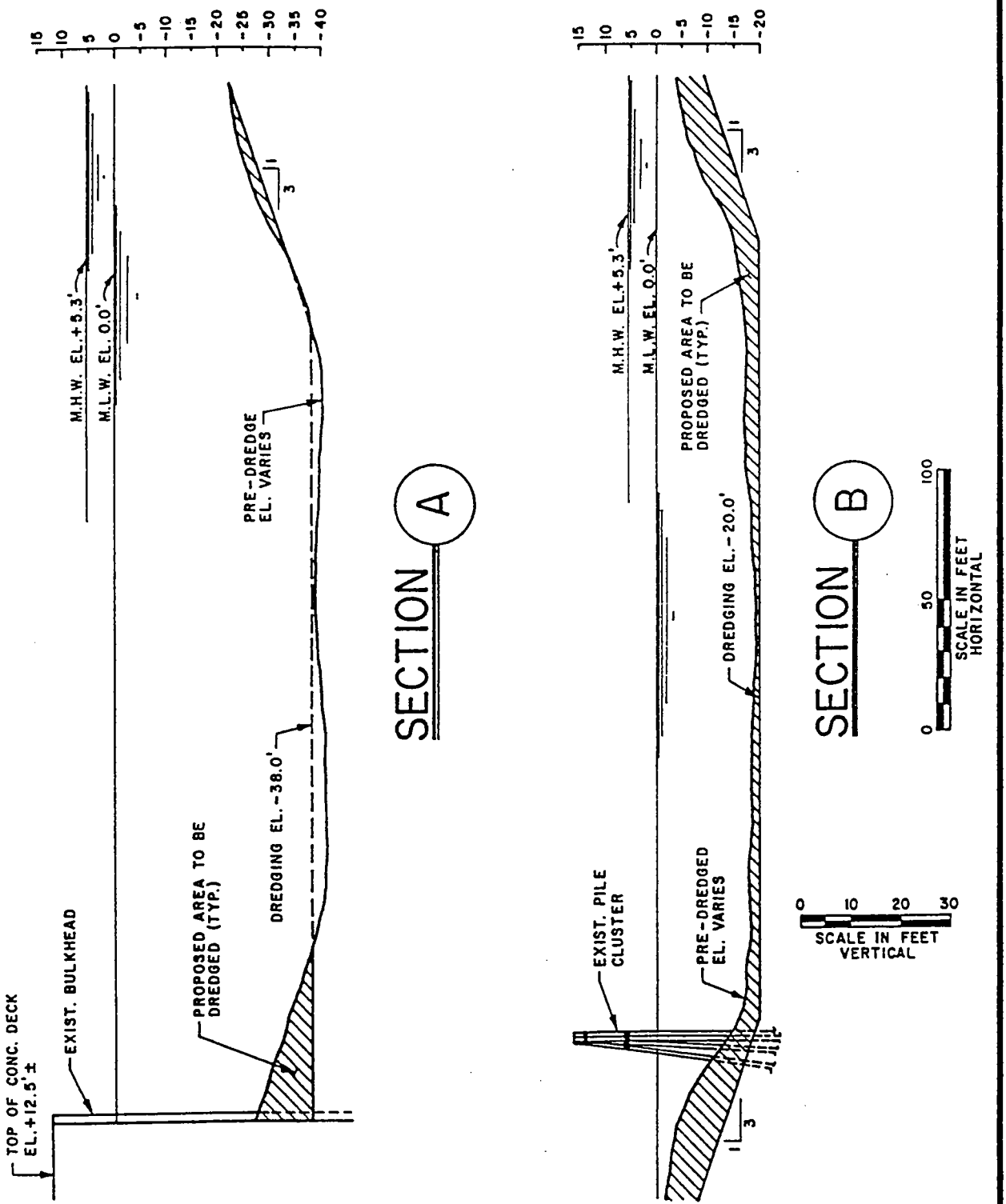
SHEET 3 OF 5

DATE: 7-30-91

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PURPOSE: MAINTAIN NAVIGATION AT EXISTING PETROLEUM PRODUCTS TERMINAL
DATUM: M.L.W.
ADJACENT PROPERTY OWNERS:
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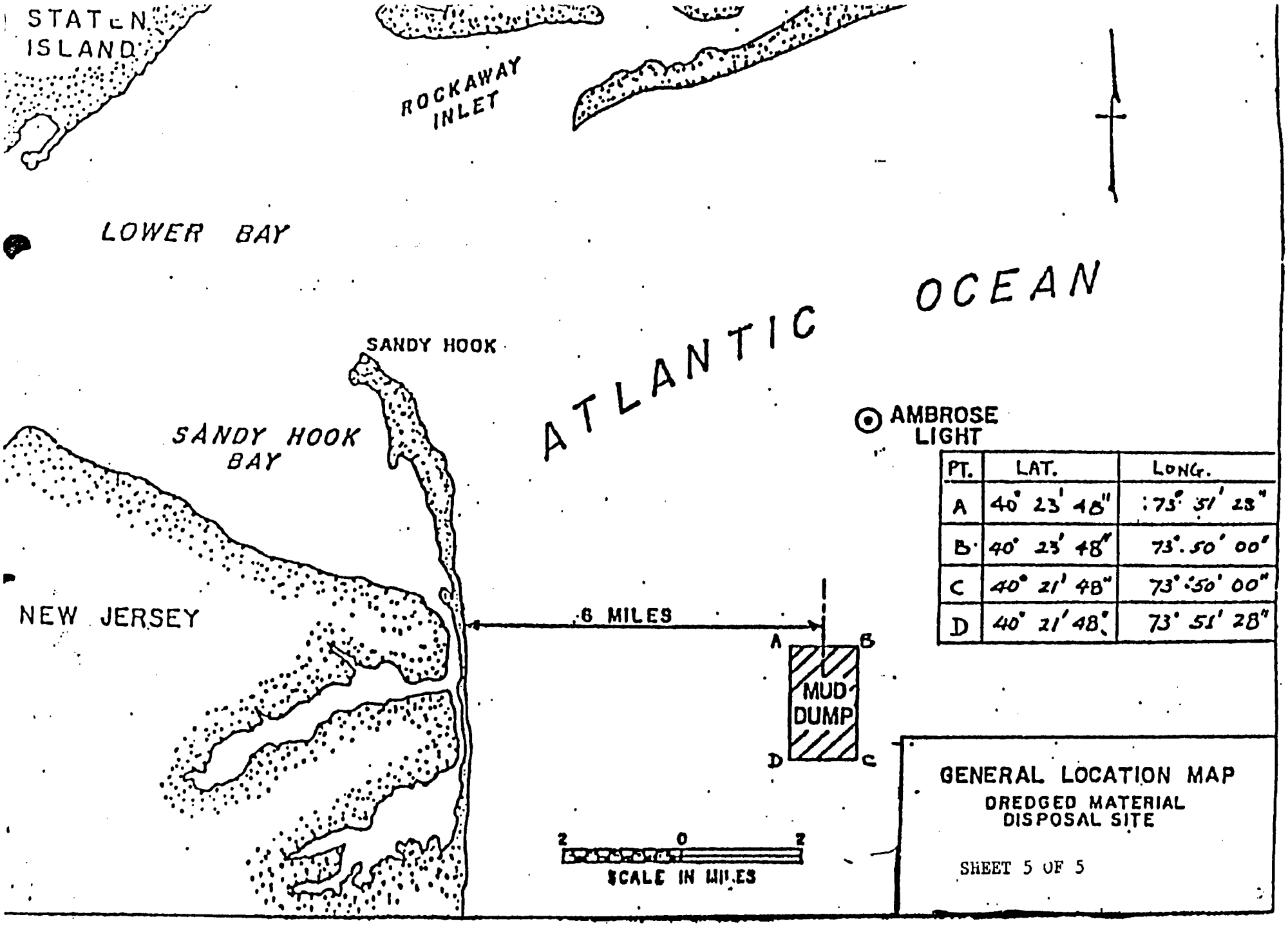
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PROPOSED MAINTENANCE DREDGING
PORT MOBIL TERMINAL
ARTHUR KILL WATERWAY
COUNTY OF RICHMOND
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SHEET 4 OF 5

DATE:7-30-91

9126-2



PT.	LAT.	LONG.
A	40° 23' 48"	73° 51' 28"
B	40° 23' 48"	73° 50' 00"
C	40° 21' 48"	73° 50' 00"
D	40° 21' 48"	73° 51' 28"

GENERAL LOCATION MAP

DREDGED MATERIAL DISPOSAL SITE

SHEET 5 OF 5