CALIFORNIA COASTAL COMMISSION

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STAFF RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No.	CD-058-09
Staff:	LS-SF
File Date:	9/8/2009
60 th Day:	11/7/2009
75 th Day:	11/22/2009
Commission Meeting:	10/7/2009

FEDERAL AGENCY: U.S. Army Corps of Engineers

Mission Bay and Mission Beach, City of San Diego, San Diego County (**Exhibits 1-3**)

PROJECT DESCRIPTION:

PROJECT LOCATION:

> Maintenance dredging of Mission Bay entrance and navigation channels and disposal of 745,000 cubic yards of dredged material on Mission Beach.

<u>SUBSTANTIVE</u> FILE DOCUMENTS:

- 1. Final Supplemental Environmental Assessment for San Diego River Mission Bay Jetty and Revetment Repair and Maintenance Dredging Project, Corps of Engineers, September 2009.
- 2. Consistency Determination CD-032-83 (Corps of Engineers, Mission Bay maintenance dredging).

EXECUTIVE SUMMARY

The Coastal Commission received a consistency determination from the U.S. Army Corps of Engineers for maintenance dredging approximately 745,000 cubic yards (cu.yds.) of clean sediment from the federal entrance and navigation channels in Mission Bay. The purpose of the proposed project is to maintain authorized channel depths in federal channels to allow for safe navigation for recreational and commercial vessels in Mission Bay. The clean, sandy material will be disposed primarily on Mission Beach (489,000 cu.yds.) with a smaller volume of fine-grained sands (256,000 cu.yds.) disposed into the surf zone immediately offshore of Mission Beach. The approach channel will be dredged to its authorized depth of -25 feet mean lower low water (MLLW), the entrance and main channels to -20 feet MLLW, and Mariners Cove to -15 feet MLLW. Dredging and disposal will take place between January 1 and April 1, 2010, and will use a combination of hydraulic, hopper, and clamshell dredging equipment.

The proposed project is consistent with the allowable use, alternatives, and mitigation policies of the California Coastal Management Program (CCMP)(Coastal Act Section 30233). The project will remove shoaling in the federal navigation channels in Mission Bay and improve recreational boating safety at the harbor. While the proposed dredging could interfere with recreational boating during dredge operations, any impacts will be temporary and are insignificant when compared to the benefit from removing the existing shoaling hazards in Mission Bay. The project will generate minor adverse effects on public access and recreation, primarily resulting from temporary beach closures during disposal and sand moving operations on the beach during the winter season. However, the project will improve public access and recreational opportunities due to the placement of clean and grain-size compatible sand along this stretch of Mission Beach. The project is consistent with the public access and recreational boating policies of the CCMP (Coastal Act Sections 30210, 30211, 30213, 30220, 30224, and 30234).

The project involves the dredging of only clean sediments in the Mission Bay navigation channels and these sediments are chemically and physically suitable for beach replenishment. Turbidity effects will be localized and temporary due to the high sand content of the dredged sediments. Fish, plankton, and benthic organisms will recolonize the disturbed dredge and disposal areas soon after project completion. The project dredging footprint was modified to avoid eelgrass beds and a post-construction eelgrass survey will be conducted to determine if any eelgrass beds were inadvertently affected by dredging. The Corps will mitigate any adverse impacts to eelgrass beds in accordance with the Southern California Eelgrass Mitigation Policy. The project is consistent with the marine resource and water quality policies of the CCMP (Coastal Act Sections 30230 and 30231).

Dredging and disposal will occur outside the California least tern nesting season and will not affect foraging or nesting activity. While the project will occur predominantly outside the California grunion spawning season (late March to August), all beach disposal operations between March 1 and April 1 will be monitored for the presence of grunion. Should grunion be present in substantial numbers, disposal will be modified to prohibit any disposal within the intertidal zone. The project is consistent with the environmentally sensitive habitat and

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endangered species protection policies of the CCMP (Coastal Act Section 30240). By using the dredged materials to replenish Mission Beach, these sediments will remain in the San Diego long shore littoral system and the project is consistent with the sand supply policy of the CCMP (Coastal Act Section 30233(b)).

STAFF SUMMARY AND RECOMMENDATION

I. PROJECT DESCRIPTION. The U.S. Army Corps of Engineers (Corps) submitted a consistency determination for maintenance dredging approximately 745,000 cubic yards (cu.yds.) of clean sediment from the federal entrance and navigation channels in Mission Bay (Exhibits 1 and 2). The purpose of the proposed project is to maintain authorized channel depths in federal channels to allow for safe navigation for recreational and commercial vessels in Mission Bay. The clean, sandy material will be disposed primarily on Mission Beach (489,000 cu.yds) with a smaller volume of fine-grained sands (256,000 cu.yds.) disposed into the surf zone immediately offshore of Mission Beach (Exhibit 3). The approach channel will be dredged to its authorized depth of -25 feet mean lower low water (MLLW), the entrance and main channels to -20 feet MLLW, and Mariners Cove to -15 feet MLLW. Dredging and disposal will take place between January 1 and April 1, 2010, and will use a combination of hydraulic, hopper, and clamshell dredging equipment. Dredging is scheduled to occur 24 hours/day, seven days/week, while beach disposal will be limited to the hours of 7 AM to 7 PM seven days/week. The Commission last reviewed maintenance dredging in Mission Bay in August 1983 when it concurred with a consistency determination from the Corps (CD-032-83) for removal of 540,000 cu.yds. of sediment from Mission Bay and disposal at Mission Beach and Ocean Beach.

II. <u>FEDERAL AGENCY'S CONSISTENCY DETERMINATION</u>. The U.S. Army Corps of Engineers has determined the project consistent to the maximum extent practicable with the California Coastal Management Program (CCMP).

III. STAFF RECOMMENDATION.

The staff recommends that the Commission adopt the following motion:

<u>Motion</u>: I move that the Commission <u>concur</u> with consistency determination CD-058-09 that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (CCMP).

Staff Recommendation:

The staff recommends a <u>YES</u> vote on the motion. Passage of this motion will result in an agreement with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

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Resolution to Concur with Consistency Determination:

The Commission hereby <u>concurs</u> with the consistency determination by the U.S. Army Corps of Engineers, on the grounds that the project described therein is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the CCMP.

IV. FINDINGS AND DECLARATIONS:

The Commission finds and declares as follows:

A. <u>Dredging and Filling</u>. Section 30233 of the Coastal Act provides that:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

•••

(2) Maintaining existing, or restoring previously dredged, depths in existing navigation channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

. . .

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The proposed maintenance dredging and disposal project needs to be examined for consistency with Section 30233 of the Coastal Act. Under this section, dredging and filling of open coastal waters, including disposal of dredged materials, is limited to those cases where the proposed project is an allowable use, is the least damaging feasible alternative, and where mitigation measures are provided to minimize environmental impacts. The dredging and disposal of dredged materials from the maintenance of navigation channels is an allowable use under Section 30233(a)(2). The proposed disposal locations are on Mission Beach and in the adjacent surf zone, and are the least damaging feasible alternatives for disposal of the clean, sandy dredged materials. As discussed in the following sections of this report, mitigation measures are incorporated into the project where necessary to protect coastal resources. Therefore, the Commission finds that the proposed maintenance dredging project is consistent with the allowable use, alternatives, and mitigation tests contained in the dredge and fill policy of the California Coastal Management Program (CCMP) (Coastal Act Section 30233).

B. <u>Public Access and Recreation</u>. The Coastal Act provides the following:

<u>30210</u>. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

<u>30211</u>. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

<u>30213</u>. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational; opportunities are preferred. . . .

 $\underline{30220}$. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

<u>30224</u>. Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division. . . .

<u>30234</u>. Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

The consistency determination states that the Mission Bay project area supports a mix of recreational and commercial boating and fishing activities and that Mission Beach provides numerous public recreational opportunities. The purpose of the proposed project is to restore the authorized channel depths in the shoaled federal entrance and navigation channels to allow for continued, safe navigation for recreational and commercial boating in Mission Bay. The proposed maintenance dredging could interfere with recreational boating in Mission Bay but any impacts would be temporary and limited to the immediate area of dredging, and are insignificant when compared to the benefit from removing existing shoaling hazards. In addition, scheduling the work between January and April avoids the peak boating season and further minimizes project impacts on boating. The Corps also states that short-term beach closures during sand disposal operations at Mission Beach are considered insignificant impacts. Disposal will occur during the winter when beach use is at its lowest level, beach areas immediately adjacent to the disposal sites will remain open to the public, and beach nourishment will result in wider beaches and improved recreational opportunities.

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Prior to the start of dredging and disposal operations, the Corps will inform boaters and beach users through a variety of outreach efforts of the navigation restrictions and temporary beach closures associated with the proposed project. Project notices will be published in local Notice to Mariners warning boat users about times, durations, and locations of construction activities. Project announcements will also inform the public that while the dredged material placed on Mission Beach may initially be darker in color, once the sand dries out it will lighten to match existing beach sands, and that while there may be some odor from the freshly dredged materials, this would be a temporary condition. In addition, after consultation with Commission staff and other members of the Southern California Dredged Material Management Team, the Corps agreed to modify the project by disposing sediments with elevated levels of fine-grained materials dredged from Mariners Basin and Main Channel West into the adjacent surf zone and not directly onto Mission Beach. This project modification will allow wave action to separate and transport seaward the fine-grained sediments from the coarse-grained sands that will nourish Mission Beach. Therefore, the Commission finds that the proposed maintenance dredging and beach nourishment project is consistent with the public access and recreational boating policies of the CCMP (Coastal Act Sections 30210, 30211, 30213, 30220, 30224, and 30234).

C. Marine Resources and Water Quality. The Coastal Act provides the following:

<u>30230</u>. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

<u>30231</u>. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The consistency determination addresses the potential water quality impacts from dredging and disposal operations:

Dredging/placement activities will impact water quality by causing temporary, localized increases in turbidity, although required measures will considerably reduce this impact. Dredge materials are expected to be primarily sandy sediments; therefore, the sediment plume will be relatively localized to the area in the immediate vicinity of the dredge. The duration of the plume is expected to be short; suspended solid concentrations will likely return to background levels within one hour after dredging stops. Monitoring during dredging would ensure that turbidity levels are insignificant. Should the monitoring report elevated turbidity, dredging practices will be altered to reduce turbidity to an insignificant level.

The placing of dredged materials on Mission Beach will also result in localized turbidity impacts. Measures taken to protect endangered species (limiting beach disposal to identified windows or, if necessary to dredge outside the windows, to require a diked, single point disposal site) will control turbidity impacts to levels not anticipated to be significantly greater than ambient suspended concentrations cause by natural surf zone levels.

The consistency determination next examined grain size and sediment chemistry compatibility of the dredged sediments (**Exhibit 4**):

<u>Grain Size Compatibility</u>. The [Corps'] guidelines for sediment compatibility for beach nourishment are: (1) mean gradation curves of the dredge material must not be strikingly dissimilar to the mean gradation curves of the receiving beach. Furthermore, the composite curves of the dredge material should, for the most part, fall within the beach compatibility envelope as defined by the fine and coarse limits; and (2) the percentage of fine grain material (<0.074 mm) must be no more than 10% greater than the percentage of the finest grain size sample from Mission Beach. Sediment samples met both criteria and were determined to be suitable for beach nourishment; sampling results are included in Appendix F. There was some concern regarding the Mariners Basin and Main Channel West areas regarding suitability for beach disposal. Dredged sediment from those two areas will be disposed of, via extended pipeline, into the surf zone and will not be placed directly onto the beach.

<u>Sediment Chemistry Compatibility</u>. Sediments were assessed in accordance with the Inland Testing Manual (USEPA & USACE, 1998). Sediments were determined to be clean and suitable for use as beach nourishment for Mission Beach.

The sediment grain size and chemistry test results were evaluated by the members of the Southern California Dredged Material Management Team (SCDMMT). After the project was modified to dispose dredged materials from Mariners Basin and Main Channel West into the surf zone rather than directly onto Mission Beach with the other dredged sediments, the SCDMMT, including Commission, Regional Water Quality Control Board, and U.S. EPA staff representatives, concurred with the Corps' determination that the subject dredged materials are suitable for beach replenishment and surf zone placement.

The consistency determination analyzed potential project impacts on marine resources:

A survey was conducted to establish the location of eelgrass relative to the proposed dredging. The dredge template will be adjusted as much as possible to avoid impacts to eelgrass. The dredge footprint has been reduced to avoid eelgrass beds located during a survey in August 2009. Results of the survey are shown in Figure 4. Dredging in Mariners Basin will be restricted primarily to the two strips of non-vegetated shallows along the east and west margins. Main Channel East and West will be narrowed to avoid eelgrass beds

along the margins, and the section in the Main Channel area will be avoided. However, this is a navigation project, so some impacts may be unavoidable. A post-construction eelgrass survey will be conducted to determine if any existing eelgrass were impacted by the dredging portion of the project. If necessary, mitigation will be coordinated with the U.S. National Marine Fisheries Service (NMFS) and carried out in accordance with NMFS's Southern California Eelgrass Mitigation Policy.

In conclusion, the proposed dredged materials are physically and chemically suitable for beach and surf zone disposal. Turbidity effects will be localized and temporary due to the high sand content of the dredged sediments, and no loss of rocky intertidal or subtidal fish habitat will occur. While dredging and disposal may result in minor, short-term impacts to existing marine habitat, fish, plankton, and benthic organisms in Mission Bay and along Mission Beach, any affected species will recolonize the area after completion of project operations. The Commission has previously found when concurring with clean dredged material disposal operations that these types of impacts are not significant and do not require additional mitigation measures. The project dredging footprint was modified to avoid eelgrass beds and a post-construction eelgrass survey will be conducted to determine if any eelgrass beds were inadvertently affected by dredging. The Corps will mitigate any adverse impacts to eelgrass beds in accordance with the Southern California Eelgrass Mitigation Policy. Therefore, the Commission finds that the proposed project is consistent with the marine resources and water quality protection policies of the CCMP (Coastal Act Sections 30230 and 30231).

D. <u>Environmentally Sensitive Habitat/Endangered Species</u>. Section 30240 of the Coastal Act provides that:

- (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
- (b) Development in areas adjacent to environmentally sensitive habitat areas and park and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The proposed project may affect two federally listed species, the California brown pelican and California least tern:

The federally listed California brown pelican is a year-round resident of the southern California coastline. The brown pelican feeds primarily on surface-feeding fish in the nearshore waters. The species is very tolerant of human activity and utilizes various shoreline structures such as piers, breakwaters, groins, and buoys for roosting. The brown pelican is relatively common in nearshore waters. Activities of the brown pelican are restricted to feeding, overflying, and temporary resting. The California least tern is present in small numbers from April to September. The California least tern forage near the disposal site, primarily on surface fishes such as topsmelt and anchovies. A nesting colony is located within Mission Bay.

The Corps determined that the proposed project "would not adversely affect or jeopardize the continued existence of the California brown pelican" due to the small area that would be unavailable for foraging during the short-term dredging and disposal period. Regarding potential project impacts on the California least tern, the Corps states that:

... the proposed project will not adversely affect the California least tern. This determination is based on an April 1, 2010, date for completion of all construction activities. Formal consultation pursuant to Section 7 of the Endangered Species Act is not required for project implementation.

However, if dredging takes place during the California least tern nesting season (April 1 to September 15) formal coordination with the U.S. Fish and Wildlife Service will be completed prior to any dredging during the nesting season. This coordination will include appropriate measures to ensure that dredging and disposal do not adversely impact the California least tern. These measures will include control of turbidity by the dredge and the use of a single, diked disposal point for on shore beach disposal operations.

The placement of dredged material on Mission Beach and in the adjacent surf zone would only have minor and temporary impacts to terrestrial biological resources. Little or no vegetation is found on the Mission Beach replenishment site due to wave action and erosion. However, the California grunion does spawn at this location and the consistency determination examines potential project impacts on grunion at this location:

Dredging and beach replenishment are scheduled to be performed predominantly outside of the California grunion (late March to August) and entirely outside the California least tern (April 1 to September 15) spawning or nesting seasons. Beach disposal operations that occur between March 1 to April 1 will be subject to monitoring. Beach disposal operations will continue without change should monitoring show no grunion spawning on the disposal beach or that spawning is minimal with fewer than two hundred spawning fish on the disposal beach. Should substantial spawning be detected, beach disposal operations will be modified to preclude placement into or any activities within the intertidal zone. All materials will either be placed above the high tide line or into the nearshore. Therefore, impacts at the dredge disposal sites are expected to have no adverse effects on the California grunion . . . Restoration of the eroded beach will have a beneficial effect on the California grunion by enhancing the beach on which they spawn.

The Corps has additionally clarified that the monitoring of beach disposal operations after March 1, 2010, intended to determine the extent of grunion spawning activity on Mission Beach disposal sites, will be undertaken by a qualified biological monitor approved by the National Marine Fisheries Service. As currently proposed, the project will not adversely affect the California least tern or California grunion. However, should the Corps determine that dredging

and disposal operations need to extend beyond April 1, 2010, the Corps has agreed to notify the Commission staff of this extension no later than March 15, 2010. At that time, the Commission staff, after consultation with Corps staff and state and federal resource agency representatives, will determine (and notify the Corps in a timely manner) the need for and scope of additional federal consistency review for any proposed project operations extending past April 1, 2010.

In conclusion, the proposed dredging and disposal of clean, sandy dredge materials from the Mission Bay entrance and navigation channels and on Mission Beach and the adjacent surf zone will not significantly affect environmentally sensitive habitat or the California brown pelican, California least tern, or California grunion that are found in this area. Therefore, the Commission finds that the proposed project is consistent with the environmentally sensitive habitat and endangered species protection policies of the CCMP (Coastal Act Section 30240).

E. Sand Supply. Section 30233(b) of the Coastal Act provides that:

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

The Corps proposes to dispose approximately 770,000 cu.yds. of clean sandy dredged material from Mission Bay on Mission Beach and in the adjacent surf zone. The proposed dredged materials are physically compatible for beach nourishment at this location, and as discussed previously do not contain levels of contaminants that preclude their placement on the beach or in the surf zone. By placing the materials at these locations, they will remain in the San Diego long shore littoral system. Therefore, the Commission finds that the proposed maintenance dredging project is consistent with the sand supply policies of the CCMP (Coastal Act Section 30233(b)).

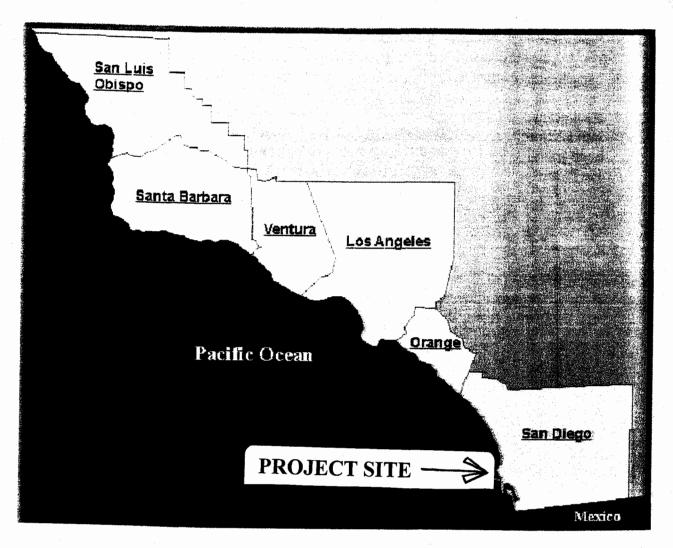


Figure 1 Project Location

EXHIBIT NO. 1	
APPLICATION NO.	
CD-058-09	

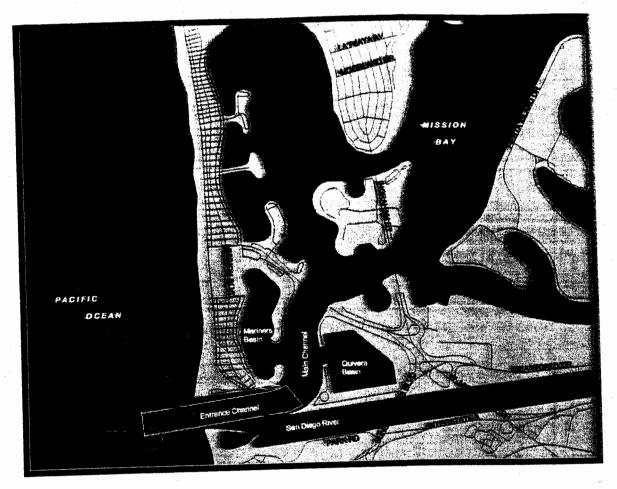
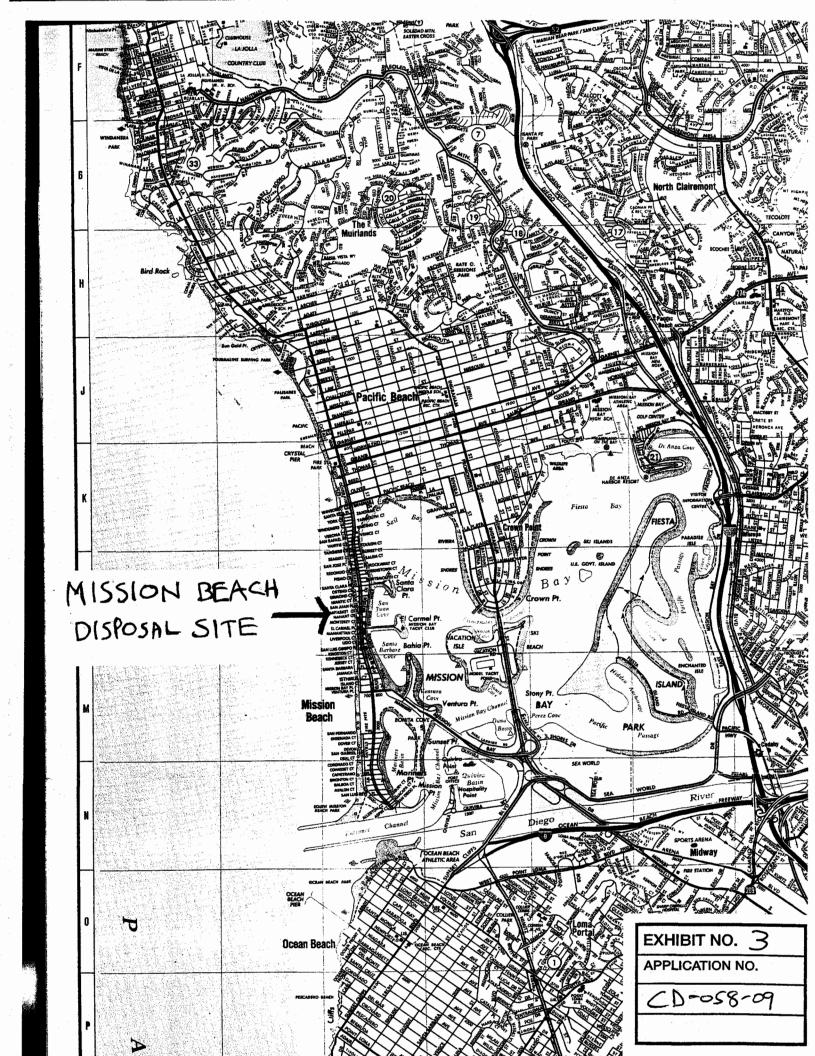


Figure 2 Project Area

Dredging will take place in the Entrance Channel,

Main Channel, and Mariners Basin

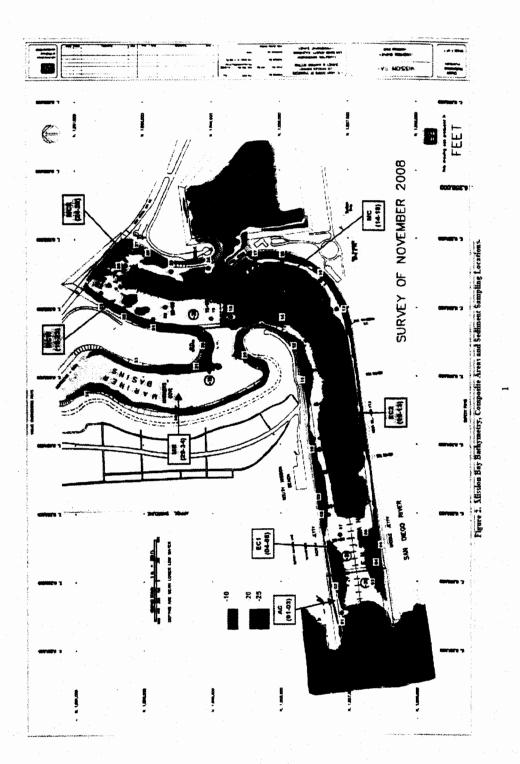
EXHIBIT NO. 2 APPLICATION NO. CD-058-09



APPENDIX F

SEDIMENT SAMPLING RESULTS

EXHIBIT NO. 4	
APPLICATION NO.	
CD-058-09	



F-1

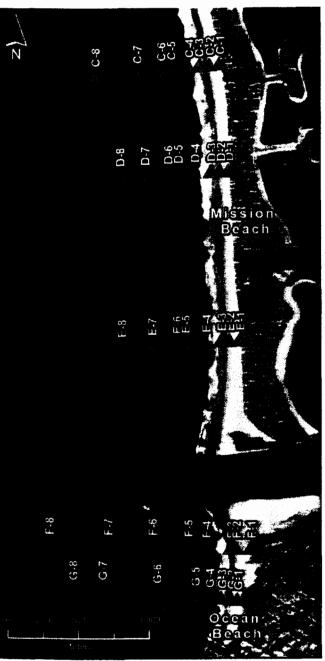
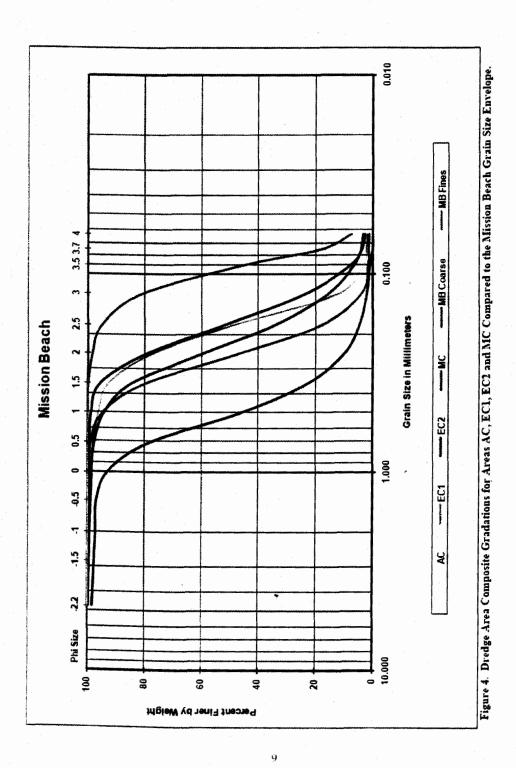
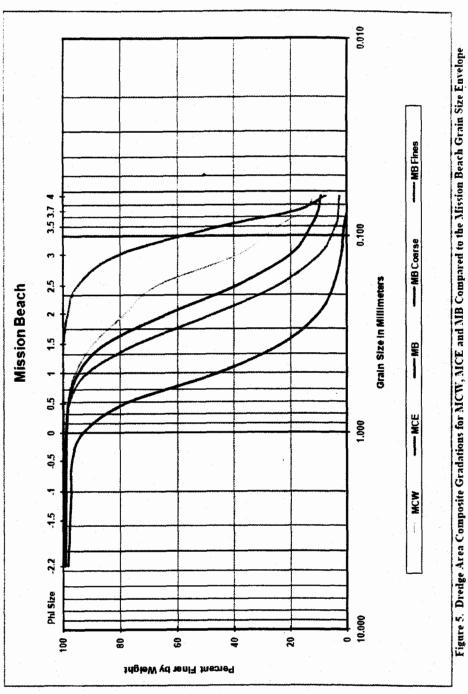


Figure 3. Location of Mission Beach and Ocean Beach Sampling Locations and Transects

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Mission Beach - Fine Limit	100	100	100	100	100	100	100	100	86	56	S 0	\$	18	r
Mission Beach - Average	8.66	99.7	9.66	99.4	99.1	98.1	95.5	90.7	9.97	58.7	30.6	13.4	6.25	3.64
Mission Beach - Coarse Limit	86	86	- 97	97	93	84	46	73	9	~	7	-	٥	0
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Ocean Beach - Fine Limit	100	100	100	100	100	100	100	100	100	26	11	31	11	Ŷ
Ocean Beach - Average	100	6.99	8.66	8.66	50 .7	99.4	1.86	93.3	79.8	62.5	36.4	12.6	4.48	2.78
Ocean Beach - Coarse Limit	100	100	8	66	66	98	94	81	37	11	7	0	0	0





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SEDIMENT CONVENTIONALS	TS							-			
Percent Solids	9°,	82.8	86.5	71.8	75.9	11	0.47				
Total Organic Carbon	9i dary	0.09	0.53	0.88	0.2	0.39	0.17				
Oil and Grease	\$ie dary	0.02U	0.017	0.01J	0.01J	0.01J	0.011				
TRPH	9, dary	0.02U	0.01J	0.017	0.01J	0.01J	0.017				
Water Soluble Sulfides	mg kg dry	0.4U	0.4U	0.27	0.4U	0.37	0.27				
Total Sulfides	mg'kg dry	1.2	0.31	59.8	23.4	103.4	62.7		-		
METALS		-	-								
Arsenic	mg kg dry	1.137	1.242	1.415	1.337	14.2	1.9	8.2	20	500	2
Cadmium	ng kg dry	0.05U	0.037J	0.055	0.029J	0.111	0.051	1.2	9.6	100	-
Chromium	mg/kg dry	5.429	4.416	7.102	5.691	14.84	9.6	81	370	2500	560
Copper	फ्राइ कि प	1.177	0.862	2.641	2.363	5.989	4.419	7	270	2500	ม
Lead	nug kg day	1.483	1.366	1.941	1.628	4.418	3.458	46.7	218	1000	5
Mercury	mg kg dry	0.02U	0.02U	0.01J	0.01J	0.02	0.01J	0.15	0.71	20	0.2
Nickel	mg kg dry	1.448	1.539	<u>1.95</u>	1.434	4.215	2.664	20.9	51.6	2000	30
Selenium	mg kg dry	0.0351	0.05	0.077	0.067	0.132	0.089			100	1
Silver	mg kg dry	0.097	0.078	0.062	0.064	0.082	0.074	1	3.7	500	s
Zinc	mg kg dry	11.15	11.21	15.04	10.57	31.34	19.08	150	410	5000	250
ORGANICS - BUTYLINS											
Dibutyltin	ugʻitg day	3U	3U). E	3U DE	30	3U				
MonoburyItin	ug kg dry	30	3U	3U	3U	30	3U				
Terrabutyluu	ug kg dry	30	UE	DE	3U	30	Ŋ				
TributyItta	ug kg dry	3U	3U	30	3U	3U	3U				
ORGANICS - PAH							-				
1-Methylnaphthalene	ug/kg day	3 U	50	50	50	Ŋ	Ŋ				
1-Methytyhenauthene	ug kg dry	50	ß	30	Ŋ	ß	ß				
2.3.5-Trimethyhaphthalene	ug kg dry	50:	SU	50	50	ĴŪ	SU				
2.6-Dimethy traphthalene	ug kg dry	5U	1.3J	5.4	1.21	4.21	1.87				
2-Methylnaphthalene	ug kg duy	5U	5U	50	50	Ŋ	Ŋ	20	670		
Aceuaphthene	ug kg dry	50	DC	50.	ĴŪ	5U	20	16	<u>300</u>		
Acenaphthylene	ug kg dry	50	ß	ß	50	3U	50	Ŧ	610		

UnitsUnitsApproachEntranceMainMainMainUnitsChannelChannelChannelChannelChannelChannelNotetugleg drySUSUSUSUSUSUSUSUugleg drySUSUSUSUSUSUSUugleg d	Mission Bay Harbor Composite Samples			Mission	Bay Harboi	Mission Bay Harbor Composite Samples	Samples		NOAA	NOAA Screening ¹	Tid	Title 22 ²
uging day 5T 5U	Chemical Analyte	Units	Approach Channel	Entrance Channel	Main Channel	Main Channel- East	Main Channel- West	Mariners Basin	Salt ERL	Salt ERM	TTLC Weight Weight	зпс
ught dery ught dery ugh	Anthracene	ug ikg dry	35	DS -	л	50	, <u>5</u> U	δŪ	85.3	1100		
ugfugdery 51 50	Biphenyl	ug/kg dry	50	SU	1.37	5U	50	DS -				
ug/kg dry SU	Dibenzothiophene	ug teg dry	51	50	50	50	5U	5U				
upber by SU	Fluorene	ug/trg dry	SU	Ŋ	50	50	SU	51	19	240		
upber of the state of sta	Naphthalene	ug/kg dry	SU	50	20	50	50	DS.	160	2100		
werkedry 5U 5U 5U 3.9 5U 2.61 werkedry 5U 4.00 3.51 1.80 5.5 5U 4.00 2.61 werkedry 5U 4.00 3.51 1.80 5.5 5U 4.00 2.01 werkedry 5U 4.01 3.17 5U 4.11 2.21 4.00 werkedry 5U 2.12 1.81 5U 4.11 2.21 4.00 werkedry 5U 2.11 5U 5U 4.11 2.11 2.01 werkedry 5U 5U 1.81 5U 4.11 2.11 2.00 werkedry 5U 5U 1.18 5U 1.12 3.00 50.1 werkedry 5U 5U 1.91 5U 1.13 5U 4.02 react werkedry 5U 3.11 5U 2.00 50.1 5U 50.1 react werkedry <t< th=""><th>Phenanthrene</th><th>ug/kg dry</th><th>su</th><th>50</th><th>50</th><th>20</th><th>SU</th><th>5U</th><th>240</th><th>1500</th><th></th><th></th></t<>	Phenanthrene	ug/kg dry	su	50	50	20	SU	5U	240	1500		
ugrig dey 5U 4.61 3.51 1.87 5.5 5U 4.10 ugrig dey 5U 2.41 3.71 5U 4.11 2.21 4.0 ugrig dey 5U 2.41 3.71 5U 4.11 2.21 4.0 ugrig dey 5U 2.21 1.81 5U 4.11 2.21 3.4 uergedery 5U 2.12 1.81 5U 4.11 2.21 3.4 uergedery 5U 3.11 5U 3.1 5U 3.4 3.4 cease ugrig dey 5U 3.11 5U 3.4 5U 3.4 cease ugrig dey 5U 3.11 5U 3.4 5U 3.4 cease ugrig dey 5U 3.11 5U 3.4 5U 3.4 cease ugrig dey 5U 3.11 5U 3.4 5U 3.4 cease ugrig dey 5U 3.11	Benzo(a)anthracene	ug'hg dry	517	50	25	50	3.91	50	261	1600		
werk by the billing of the b	Benzo(a)pyrene	ug/teg dry	50	4.63	3.51	1.87	5.5	5U	430	1600		
ug/kg dry 5U 4.81 2.51 5U 4.21 1.51 * ne ug/kg dry 5U 2.21 1.81 5U 4.21 1.51 * ne ug/kg dry 5U 2.21 1.81 5U 4.21 2.11 * ug/kg dry 5U 2.21 1.81 5U 4.21 2.11 * ug/kg dry 5U 5U 5U 1.21 5U 51 1.21 cene ug/kg dry 5U 5U 1.01 5U 1.21 5U 5.1 5.1 5.1 5.1 5.1 5.1 5.1 5.0 5.1 5.0 5.1 5.0 5.1 6.0 5.1 6.0 5.1 6.0 5.1 5.0 6.1 5.1 5.0 5.1 6.0 5.1 6.0 5.1 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Benzo(b)fluoranthene	ug/kg dry	51	2.4J	3.77	50	4.17	2.2J				
werkg dry 5U 2.21 1.81 5U 4.21 2.11 * ne werkg dry 5U 5U 1.51 5U 31 1.21 34 ne werkg dry 5U 5U 5U 5U 31 1.21 34 cene werkg dry 5U 5U 1.61 5U 1.12 5U 63.4 cene werkg dry 5U 3.11 5U 1.91 5U 63.4 werkg dry 5U 3.11 5U 3.11 5U 3.11 5U 6.6 6.6 werkg dry 5U 3.11 5U 3.11 5U 3.11 5U 6.0 react werkg dry 5U 3.11 3.1 5U 3.1 6.0 6.6 PAHs werkg dry 5U 3.3 3.3 3.3 5U 6.0 6.0 PAHs werkg dry 7U 3.3 3.3 5U <t< th=""><th>Benzo(e)pyrene</th><th>ug kg dry</th><th>51</th><th>4.8J</th><th>2.53</th><th>50</th><th>4.23</th><th>1.51</th><th></th><th></th><th></th><th></th></t<>	Benzo(e)pyrene	ug kg dry	51	4.8J	2.53	50	4.23	1.51				
ne ug/kg dry 5'C 5'U 1.5J 5'U 3'J 1.2J 3'H cene ug/kg dry 5'U 5'U 5'U 5'U 5'J 5'L 3'H cene ug/kg dry 5'U 5'U 1'J 5'L	Benzo(g.h.i)perylene	ug/kg dry	5U	2.25	1.87	5U	11	2.17	•			
ughg dry 5U 2.31 2.11 5U 59 5U 384 cente ughg dry 5U 5U 5U 5U 51 1.73 600 rene ughg dry 5U 5U 1.61 5U 1.21 5U 63.4 ughg dry 5U 3.11 5U 1.61 5U 3.41 5U 63.4 ughg dry 5U 3.11 5U 2.81 51 1.71 600 rene ughg dry 5U 3.11 5U 2.81 5U 63.4 PAHs ughg dry 5U 3.11 5U 2.81 5U 600 PAHs ughg dry 5U 3.11 3.1 5U 2.81 600 PAHs ughg dry 5U 3.11 3.1 5U 2.81 600 PAHs ughg dry 0 1.2 1.2 1.2 4.2 1.8 PAHs ughg dry	Benzo(k)fluoranthene	ugite dry	50	50	1.5J	50	31	1.31				
cente ughg dry 5'U 5'U 1'U 5'U 6'L uerkg dry 5'U 5'U 1'U 5'U 1'U 6'U 6'L uerkg dry 5'U 5'U 1'U 5'U 1'U 5'U 6'L uerkg dry 5'U 3'L 3'L 5'U 1'S'U 5'L 6'L PAHs uerkg dry 5'U 3'LI 5'U 1'S'U 3'LI 6'U Uerkg dry 5'U 3'LI 5'U 1'L2 4'L2 1'B 6'C PAHs uerkg dry 0 1'L3 3'LI 5'U 3'LI 5'U 5'U <th>Chrysene</th> <th>ugikg dry</th> <th>50</th> <th>2.3J</th> <th>2.17</th> <th>5U</th> <th>5.9</th> <th>5U</th> <th>384</th> <th>2800</th> <th></th> <th></th>	Chrysene	ugikg dry	50	2.3J	2.17	5U	5.9	5U	384	2800		
legkg dry 5'U 5'U 1,9'I 5,1 1,7'I 600 reace ugkg dry 5'U 3,4I 5'U 3,4I 5'U 6'O Ugkg dry 5'U 3,1I 5'U 3,4I 5'U 5'U <th>Dibenzo(a.h)authracene</th> <th>ug/kg dry</th> <th>20.</th> <th>3U</th> <th>50</th> <th>5U</th> <th>2</th> <th>5U</th> <th>F 89</th> <th>260</th> <th></th> <th></th>	Dibenzo(a.h)authracene	ug/kg dry	20.	3U	50	5U	2	5U	F 89	260		
reace ugkg dry ugkg dry ugkg dry ugkg dry ugkg dry ugkg dry ugkg dry ugkg dry 5U 1.61 5U 3.41 5U PAHs ugkg dry ugkg dry ugkg dry 5U 3.11 5U 3.41 5U 665 PAHs ugkg dry ugkg dry 0 1.3 6.7 1.2 4.2 1.8 665 FAHs ugkg dry ugkg dry 0 2.3.1 2.3.1 7.5 48.6 10.8 602 IFAAATES 0 2.3.1 2.3.1 7.5 48.6 10.8 4022 IFAAATES 0 2.3.4 2.9.8 8.7 5.2.8 12.6 4022 IFAAATES 0 2.4.4 2.9.8 8.7 5.2.8 12.6 4022 IFAAATES 0 2.4.4 2.9.8 8.7 5.2.9 12.6 4022 IFAAATES 1.8.4 1.2.5 1.2.5 1.2.5 1.2.5 1.2.5 1.2.5 IFAAATES 1.8.4 1.2.5 1.2.5 1.2.5 1.2.5	Fluoranthene	ug'leg dry	20	50	5U	1.9J	5.1	1.7J	600	2100	_	
ugkg dry 3U 3.61 3.11 5U 2.81 5U 65 PAHs ugkg dry 5U 3.21 3.11 5U 2.81 5U 66 PAHs ugkg dry 5U 3.21 3.31 3.81 5.3 2.11 665 PAHs ugkg dry 0 1.3 6.7 1.2 4.2 1.8 665 PAHs ugkg dry 0 2.31 2.3.1 7.5 48.6 10.8 4022 IRMLATES ugkg dry 1 2.91 2.91 7.5 48.6 10.8 4022 inte ugkg dry 125U 125U <td< th=""><th>Indeno(1.2.3-cd)pyrene</th><th>ug/kg dry</th><th>50</th><th>5U</th><th>1.6J</th><th>5U</th><th>3.4J</th><th>SU</th><th></th><th></th><th></th><th></th></td<>	Indeno(1.2.3-cd)pyrene	ug/kg dry	50	5U	1.6J	5U	3.4J	SU				
PAHs ugkg dry 5U 3.21 3.31 5.3 2.11 665 PAHs ugkg dry 0 1.3 6.7 1.2 4.2 1.8 665 r PAHs ugkg dry 0 1.3 6.7 1.2 4.2 1.8 665 r PAHs ugkg dry 0 2.3.1 2.3.1 7.5 48.6 10.8 4022 ugkg dry 0 2.4.4 2.9.8 8.7 5.2.8 12.6 4022 inte ugkg dry 12.5U	Perylene	ug/kg dry	30	3.6J	3.17	SU	2.83	su				
PAHs ugkg dry 0 1.3 6.7 1.2 4.2 1.8 rPAHs ugkg dry 0 23.1 23.1 7.5 48.6 10.8 ugkg dry 0 23.1 23.1 7.5 48.6 10.8 IRALATES ugkg dry 0 24.4 29.8 8.7 52.8 12.6 4022 inte ugkg dry 10 24.4 29.8 8.7 52.8 12.6 4022 inte ugkg dry 1257U 1257U 1257U 1257U 1257U 1257U 1257U 1257U 1251U 125U 1251U 125U 125U 125U 125U 125U 125U 125U 125U 125U 125U <t< th=""><th>Pyrene</th><th>ug ing dry</th><th>50</th><th>3.2J</th><th>3.3J</th><th>3.8J</th><th>5.3</th><th>2.1J</th><th>665</th><th>2600</th><th></th><th></th></t<>	Pyrene	ug ing dry	50	3.2J	3.3J	3.8J	5.3	2.1J	665	2600		
r PAHs ug/kg day 0 23.1 23.1 7.5 48.6 10.8 ug/kg day 0 24.4 29.8 8.7 52.8 12.6 402 inte ug/kg day 50U 50U 50U 50U 50U 50U 50U inte ug/kg day 125U 125U 125U 125U 125U 125U inte ug/kg day 125U 125U 125U 125U 125U 125U 125U inte ug/kg day 125U 125U <t< th=""><th>Total Low Weight PAHs</th><th>ug'kg dry</th><th>0</th><th>1.3</th><th>6.7</th><th>1.2</th><th>4.2</th><th>1.8</th><th></th><th></th><th></th><th></th></t<>	Total Low Weight PAHs	ug'kg dry	0	1.3	6.7	1.2	4.2	1.8				
ugile day 0 24.4 29.8 8.7 52.8 12.6 402 RHALATES ugile day 50U	Total High Weight PAHs	ug'kg dry	0	33.1	23.1	7.5	48.6	10.8				
TEALATES IEALATES ate ug/kg dry 50U 125U 120U 20U 20U 20U 20U 20U 20U 20U 20U	Total PAHs	ug/kg dry	0	24.4	29.8	8.7	52.8	12.6	4022	44792		
ate ug/kg dry 50U 75U 125U 120U 100U	ORGANICS - PHIBALATES											
Inthalate ug/kg dry 125U 126U 100U	Benzyf butyl phthalate	ug/kg dry	20U	50U	50U	50U	50U	201				
ug/kg dry 125U 120U 100U	bis-(2-Ethylbexyl)phthalate	ug/kg dry	125U	125U	125U	125U	125U	125U				
ug/kg dry 75U 70U 100U 10U <th>Diethyl phthalate</th> <th>ug/kg dry</th> <th>125U</th> <th>125U</th> <th>125U</th> <th>125U</th> <th>125U</th> <th>125U</th> <th></th> <th></th> <th></th> <th></th>	Diethyl phthalate	ug/kg dry	125U	125U	125U	125U	125U	125U				
ug/kg dry 160U 100U 10U 10U 10U 10U 10U 10U 10U 10U 10	Dimethyl phthalate	ug:kg dry	75U	75U	75U	75U	750	750				
ug/kg day 20U 2	Di-n-butyl phthalate	ug/kg dry	1001	1001	1001	1001	1001	100U				
CNOLS الولية طبع المال	Di-n-octyl phthalate	ug/kg dry	20U	20U	20U	20U	20U	20U				
od ug kg dry 100U 10U 10U <th< th=""><th>ORGANICS - PHENOLS</th><th>-</th><th></th><th></th><th></th><th>-</th><th></th><th></th><th></th><th></th><th></th><th></th></th<>	ORGANICS - PHENOLS	-				-						
us/irs drv 1001 1001 1001 1001 1001	2.4.6-Trichlorophenol	ug kg dry	1000	100U	1001	1001	1001	1000				
	2,4-Dichlorophenol	ug/kg dry	100U	100U	1001	1001	1000	100U			_	

Chemical Analyte Units Approvels Extranse Model Advance Extranse Model Model Extranse Model Extranse Extranse Model Extranse Extrase Extranse Extran			101 / 101			andprovide	Samples.				i	(***
Ote Tuis Approveds Entrance Main				ALISSION	BAY HATDO	r composite	Samples		NOA5	creening"	Ifthe	-
uglig dry binophenol uglig dry uglig dry uglig dry binophenol JOUT	Chemical Analyte	Units	Approach Channel	Entrance Channel	Main Channel	Main Chanuel- East	Main Channel- West	Mariners Basia	Salt	Salt ERM	TTLC Wet- Weight	STLC
al. ugligation ugligation 200U 20U 20U 20U <th>2.4-Dimethylphenol</th> <th>ug/kg dry</th> <th>200U</th> <th>200U</th> <th>200U</th> <th>200U</th> <th>200U</th> <th>2000</th> <th></th> <th></th> <th></th> <th></th>	2.4-Dimethylphenol	ug/kg dry	200U	200U	200U	200U	200U	2000				
ug kg dry 100U	2.4-Dinitophenol	ug kg dry	200U	200U	200U	2000	200U	2000				
Insidence Up kg day 200U 20U 20U 20U 20U 20U 20U	2-Chlorophenol	ug kg dry	1000	100U	100U	100U	100U	100U				
Upbersit	2-Methyl-4.6-dimmophenol	ug/kg dry	200U	200U	200U	200U	200U	200U				
Upbend ugkg dy ukkg dy ukkg dy ukkg dy ukkg dy z00U 200U 20U	2-Nitrophenol	ug/kg dry	200U	200U	200U	200U	2000	200U			-	
ugisg day ugisg day ugisg day 200U 20U <	4-Chloro-3-methylphenol	ugikg dry	200U	2000	200U	200U	200U	200U				
old uging day uging day 100U 10U 10U 10U 10U 10U	4-Nitrophenol	ug kg day	200U	200U	200U	2000	200U	200U				
ugligday 200U 20U 20U <td>Pentachiot opinenol</td> <th>ug kg dry</th> <td>1000</td> <td>100U</td> <td>100U</td> <td>1001</td> <td>100U</td> <td>1001</td> <td></td> <td></td> <td>50000</td> <td>5000</td>	Pentachiot opinenol	ug kg dry	1000	100U	100U	1001	100U	1001			50000	5000
Intervention 20	Phenol	ug/kg dry	200U	200U	200U	2000	200U	2000				
ugligday 20 <	ORGANICS - CHLORINATEI	D PESTICID	ES									
ugtgday 2U 2U <t< th=""><td>2.4-000</td><th>ug kg dry</th><td>20</td><td>2U</td><td>2U 5</td><td>20</td><td>2U</td><td>Ŋ</td><td></td><td></td><td></td><td></td></t<>	2.4-000	ug kg dry	20	2U	2U 5	20	2U	Ŋ				
ugligaty 2V <	2.4'-DDE	ug kg dry	2U	D7	2U	20	20	20				
ugkgdy 2U 2U <th< th=""><td>2.4'-DDT</td><th>ug kg duy</th><td>2U</td><td>2U</td><td>20</td><td>20</td><td>2U</td><td>D2</td><td></td><td></td><td></td><td></td></th<>	2.4'-DDT	ug kg duy	2U	2U	20	20	2U	D2				
uerkedsy 2U <	411-DDD	ug kg dry	2U	72	DZ	Ωĩ	20	50	2	20	1000	100
ugkgdy 2U 1 7 ugkgdy 2U 2U <t< th=""><td>4.1.DDE</td><th>ug kg dry</th><td>20</td><td>20</td><td>2U</td><td>2U</td><td>D2</td><td>D2</td><td>2.2</td><td>5</td><td>1000</td><td>100</td></t<>	4.1.DDE	ug kg dry	20	20	2U	2U	D2	D2	2.2	5	1000	100
ugkgdy 2V 2U 2U <th< th=""><th>4.4-DDT</th><th>ug/kg day</th><th>2U</th><th>20</th><th>20</th><th>20</th><th>20</th><th>2U</th><th></th><th>7</th><th>1000</th><th>100</th></th<>	4.4-DDT	ug/kg day	2U	20	20	20	20	2 U		7	1000	100
ugligday 2U <	Total DDT	ug/kg day	2U	20	2N	20	20	D2	1.58	1.01	1000	100
ugkgdy 2U 2U <th< th=""><th>Aldrin</th><th>ug/kg dry</th><th>2Ŭ</th><th>20</th><th>2U</th><th>2U</th><th>30</th><th>Dr</th><th></th><th></th><th>1400</th><th>140</th></th<>	Aldrin	ug/kg dry	2Ŭ	20	2U	2U	30	Dr			1400	140
ugkgdy 2U 2U <th< th=""><th>alpha-BHC</th><th>ug kg dry</th><th>2U</th><th>20</th><th>20</th><th>3U</th><th>20</th><th>D7</th><th></th><th></th><th>_</th><th></th></th<>	alpha-BHC	ug kg dry	2U	20	20	3U	20	D7			_	
ugkgdy 2U 2U <th< th=""><th>alpha-Chlordaue</th><th>ug kg dry</th><th>2U</th><th>2U</th><th>20</th><th>20</th><th>D7</th><th>30</th><th></th><th>_</th><th></th><th></th></th<>	alpha-Chlordaue	ug kg dry	2U	2U	20	20	D7	30		_		
ugkgdy 2U 2U <th< th=""><th>beta-BHC</th><th>ug:kg dry</th><th>2U</th><th>Dĩ</th><th>70</th><th>Ωĩ</th><th>2U</th><th>30</th><th></th><th></th><th></th><th></th></th<>	beta-BHC	ug:kg dry	2U	Dĩ	70	Ωĩ	2U	30				
ugkgdy 10U 10U<	cus-Nonachlor	ug kg dry	2U	<u>2</u> U	70	<u>2</u> U	2 U	Ŋ				
ugkgdy 2U 2U <th< th=""><th>DCPA (Dacthal)</th><th>ug kg dry</th><th>10U</th><th>10U</th><th>10U</th><th>101</th><th>100</th><th>101</th><th></th><th></th><th></th><th></th></th<>	DCPA (Dacthal)	ug kg dry	10U	10U	10U	101	100	101				
ug kg day 2U	delta-BHC	ug kg duy	20	30	20	Ωĩ	2U	Ŋ				
ug kg day 5U 5U 5U 5U 5U 5U 5U 5U 8 ug kg day 2U 2U 2U 2U 2U 2U 2U 2U 3U	Dicofol	ug kg dry	2U	D2	70	Ŋ	70	2				
ug kg day 2U	Dieldrin	ug kg dry	50	50	5U	Ŋ	ΣŪ	50	0.02	00	8000	800
ug kg day 2U	Endosulfan I	ug kg dry	2U	Dī	ŊZ	2U	DZ	2U				
Ite Ug kg day 2U	Endosulfan II	ug kg dry	2U -	D2	20	Ŋ₹	2U	D2				
ug kg day 2U 2U 2U 2U 2U 2U 2U 2U U 2U 2U 2U 2U 2	Endosulfan sulfate	ug kg dry	2U	Πī	20	20	2 U	2U				
ugikg day 2U 2U 2U 2U 2U	Endin	ug kg diy	ΣΩ	Ωĩ	20	20	20	20			200	20
	Endrin aldehyde	ug kg dry	2U	20	20	2U	20	2				

Chronical Matter Units Mitterion Bay, Richer Compate Samples SOAA Screening This 1::::::::::::::::::::::::::::::::::::	Table 14. Sediment Chemistry Summary for Mission Bay Harbor Composite Samples.	nistry Sum	mary for A	IISSION DAY	HALOOL	olupustic	sainpies.			the second on the second line of		A DESCRIPTION OF A DESC
Lini Approvals Extransi Matin				Mission	Bay Harbol	Composite :	iamples		NOAA S	òcreening ¹	Tide	22
werkedory 2U	Chemical Analyte	Units	Approach Channel	Entrance Channel	Main Channel	Main Channel- East	Main Channel- West	Mariners Basin	Salt ERL	Salt ERM	IILC Weight	STLC
ug/sg/sg/ ug/sg/ u	Endrin ketone	ug kg dry	22	20	2U	Ωζ	Ωī	D.				
ugrigation ugrigation	gamma-BHC (Lindane)	ug/kg dry	2U	Ωĩ	20	Ωĩ	Ωī	2U			1000	400
Ide up/kg dry 2U	gamma-Chlordane	ng/kg dry	DZ	2U	20	2U -	Ωĩ	Ωī				
Interprotide ugrig der ugrig der	Heptachlor	ng/kg dry	2U	20	2U	20	20	2U			4700	470
gyble upbe 21 <t< th=""><th>Heptachlor epoxide</th><th>ug/kg dry</th><th>2U</th><th>20</th><th>20</th><th>20</th><th>2U</th><th>2U</th><th></th><th></th><th></th><th></th></t<>	Heptachlor epoxide	ug/kg dry	2U	20	20	20	2U	2U				
undatase ug/kg dy us/kg dy set 2U 2U <t< th=""><th>Methoxychlor</th><th>ug/bg dry</th><th>20</th><th>2U</th><th>20</th><th>20</th><th>2U</th><th>2U</th><th></th><th></th><th>000001</th><th>10000</th></t<>	Methoxychlor	ug/bg dry	20	2U	20	20	2U	2U			000001	10000
upber state 2U	Mirex	ugʻitg dry	2U	P.	20	2U	Ωī	D2			21000	2100
wine betweet wine betweet 10U	Oxychlordane	ug/kg dry	30	2U	2U	D2	D2	<u>1</u>				
methon ugkg dery 50U 50U <t< th=""><th>Perthane</th><th>ug/kg dry</th><th>10U</th><th>10U</th><th>10U</th><th>100</th><th>101</th><th>100</th><th></th><th></th><th></th><th></th></t<>	Perthane	ug/kg dry	10U	10U	10U	100	101	100				
anchlor ue/kg day 2U	Toxaphene	ug:kg dry	50U	50U	50U	50U	2002	200	`		2000	200
NICS - AROCLORS Ug/kg dry 20U	trans-Nonachior	ug/kg dry	2U	2U	20	20	20	Ŋ				
1016 ug/kg dry 20U 20U <th2< th=""><th>ORGANICS - AROCLORS</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th2<>	ORGANICS - AROCLORS											
121 ug/kg day 20U 2	Arocior 1016	ug/kg dry	20U	2017	20U	20U	20U	2012				
1232 ughç dıy 20U 20U 20U 20U 20U 1242 ughç dıy 20U 20U 20U 20U 20U 1243 ughç dıy 20U 20U 20U 20U 20U 1244 ughç dıy 20U 20U 20U 20U 20U 1254 ughç dıy 20U 20U 20U 20U 20U 1260 Ughç dıy 2U 2U 2U 2U 2U 1150 Ughç dıy 2U 2U 2U 2U 2U 1150 Ughç dıy 2U 2U 2U 2U 2U 1151 Ughç dıy 2U 2U 2U 2U 2U 1162 Ughç dıy 2U 2U 2U 2	Aroclor 1221	ug kg diy	20U	20U	20U	20U	20U	200				
1242 ughg day 20U 2	Arcelor 1232	ug/lcg dry	20U	200	20U	20U	20U	200				
1248 ughg day 20U 2	Aroclor 1242	ug/kg dry	20U	20U	20U	20U	20U	200				
1234 ugbg dry 20U 20U 20U 20U 191 1260 ugbg dry 20U 20U 20U 20U 20U 20U 20U redlor PCBs ugbg dry 20U 2U	Aroclor 1248	ug/kg dry	200	20U	20U	20U	20U	200				
1260 ughtadry 20U 2U 2U 2U 2U </th <th>Aroclor 1254</th> <th>ug'ite dry</th> <th>20U</th> <th>20U</th> <th>20U</th> <th>20U</th> <th>191</th> <th>200</th> <th></th> <th></th> <th></th> <th></th>	Aroclor 1254	ug'ite dry	20U	20U	20U	20U	191	200				
redior PCBs ught day 20U 2U 2U	Aroclor 1260	ug/kg dry	20U	201	200	20U	20U	20U				
NICS - PCB CONGENERS ughtg dry 2U U U U	Total Aroclor PCBs	UB/KE dry	2013	20U	20U	20U	20U	200				
ughg dry 2U <	ORGANICS - PCB CONGEN	ERS										
ughg day 2U <	PCB003	ug/kg dry	2U	2U	20	20	2U	20				
ughg day 2U <	PCB008	ug kg dry	20	2U	2U	20	2U	2U				
ugkg day 2U <	PCB018	ug/kg dry	20	20	2U	2U	2U	<u>7</u>	-			
ught dry bucktedry 2U 2U <th>PCB028</th> <th>ug/kg dry</th> <th>2U</th> <th>2U</th> <th>2U</th> <th>2U</th> <th>2U</th> <th>2U</th> <th></th> <th></th> <th></th> <th></th>	PCB028	ug/kg dry	2U	2U	2U	2U	2U	2U				
ug/kg day 2U	PCB031	ug kg dry	2U	2U	2U	2U	υĩ	D				
ugkg dy 2U 2U <t< th=""><th>PCB033</th><th>ug/kg dry</th><th>20</th><th>2U</th><th>2U</th><th>2U</th><th>2U</th><th>2U</th><th></th><th></th><th>• .</th><th></th></t<>	PCB033	ug/kg dry	20	2U	2U	2U	2U	2U			• .	
ug/kg day 2U	PCB037	ug kg diy	20	2U	2U	<u>7</u> 0	Dĩ	D2				
verke dry 2U 2U 2U 2U 2U 2U 2U verke dry 2U	PCB044	ug/kg dry	2U	2U	20	20	Dĩ	D.				
ug/kg dry 2U 2U 2U 2U 2U	PCB049	ug kg dry	2U	20	2U.	20	20	20				
	PCB052	ug/kg dry	20	2U	20	2U	2U	2U				

Mission Bay Harbor Composite Samples			Mission	Bay Harbo	Mission Bay Harbor Composite Samples	Samples		NOAA Screening	creening ¹	41L	Tick 22 ¹
Chemical Analyte	Units	Approach Channel	Entrance Channel	Main Channel	Main Channel- East	Main Channel- West	Mariners Basin	Salt ERL	Salt ERM	TTLC Wet- Weight	STLC
PCB056+060	ug'kg dry	50 20	20	DZ	D.	5 7 7	DZ				
PCB066	ug kg dry	20	2U	2U	Ωĩ	Ωĩ	D2				
PCB070	ug'kg dry	2U	22	2U	Ωĩ	20	2U		-		
PCB074	ug kg dry	20	2U	20	2U	Ωī	20				
PCB077	ug kg dry	20	<u>2</u> U	20	2U	20	D				
PCB081	ugikg day	20	20	20	20	2U	2U				
PCB087	ugikg dry	2U	2U	5N	20	Ωī	<u>2</u> 0				
PCB095	ug kg dry	Ωĩ	20	2U	<u>10</u>	1.57	20				
PCB097	ug:kg dry	2U	2U	2U	20	20	2U				
PCB099	ug kg dry	20	2U	2U	2U	2U	DT			,	
PCB101	ug kg duy	20	2U	2U	20	1.91	D2		-		
PCB105	ug'kg day	70	2U	2U	20	2U	D2				
PCB110	ug kg dry	20	5U	20	2U	2.3	20		-	-	
PCB114	ug lag dry	20	20	20	20	2 U	20		:		
PCB118	ugkgday	20	20	D2	2U	1.6J	Ŋ				
PCB119	ug kg dry	20	20	D2	Ωĩ	2U	2U				
PCB123	ug kg day	20	<u>2</u> U	20	2U	2U	2U				
PCB126	ug kg dıy	2U:	2U	DZ	20	2U	D 2				
PCB128	ug'kg dry	Ŋ	7 0	20	20	2 U	D₹				
PCB138	ug'kg dry	2U	5N	20	20	2.1	D2				
PCB141	ug/kg dry	2U	20	2U	20	2U	D2				
PCB149	ug kg dry	20	20	20	Ωĩ	2U	D				
PCB151	ugikg day	2U	2U	20	2 U	3U	D2				
PCB153	ugikg dry	20	, DZ	2U	2U	17	Ŋ				
PCB156	ug kg dry	20	20	20	20	2U	2U				
PCB157	ug kg dry	20	20	20	20	2U	20				
PCB158	ug'kg dry	ΣŪ	20	20	Ωī	2U	2U				
PCB167	ug kg dry	20	2U	2U	D2	20	2U				
PCB168+132	ug kg diy	2U	20	20	2U	2U	D2				
PCB169	ug kg dry	20	20	3U	20	2 U	2U				
PCB170	ug kg dry	20	2U	20	2U	2U	20			-	

			Mission	Bay Harbo	Mission Bay Harbor Composite Samples	Samples		NOAA Screening	cı'eening ¹	Title 22 ⁷	Ĩ
Chemical Analyte	Units	Approach Channel	Entrance Channel	Main Channel	Main Channel- East	Main Channel- West	Mariners Basin	Salt ERL	Salt ERM	THLC Wet-	STLC
PCB174	ug kg dry	30.	2U	Ω	Dī	ΩĘ	D1				
PCB177	ug leg dry	2U	20	2U	20	Dĩ	Ωī				
PCB180	ug/kg dry	<u>7</u>	Ŋ	20	20	2	DZ				
PCB183	ug/hg dry	2U .	2U	20	2U	20	2U				
PCB187	ug kg dry	20	70	20	2U	70	2U				
PCB189	ug/ोद्ध dry	2U	D 2	20	2U.	22	20				
PCB194	ug/kg dry	20	20	2U	D2	20	2U			-	
PCB195	ug:leg dry	70	20	20	20	2U	DZ				
PCB200	ug/kg dry	20	2U	2U	20	Ŋ	DZ				
PCB201	ug/kg dry	2U	2U	2U	2U	<u>2</u> U	2U				
PCB203	ug/kg dry	2U	2U	ŊZ	20	Dĩ	D2	•			
PCB206	ug/kg dry	20	D2	2U	2U	20	2U				
PCB209	ug ling dry	20	2U	20	20	2U	2U				
Total PCB Congeners	ug/kg dry	20	20	2U	2U	10.4	2U	11.7	180		
ERM Quotient	ug/kg dry	0.004	0.004	0.006	0.005	0.013	0.007				

ite C. Table 14. Sediment Chemistry Summary for Mission Bay Harh

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1 Effect Range Low (Ext. Fange Aretan (Ext.) segment quarry objectives from Long or at. (1992).
2 California Code of Righlatous: Irile 22 Total and Soluble Threshold Limit Concentrations
Bolded values exceed [RM value.]
1 Bolded and advertised values.
1 More threas exceed [RM value.]
1 Not messared bowe reported sample reporting limit.
1 E. The result is an estimated quantity between the method reporting limit and the method detection limit. or it is an estimated value for QC issues.
1 I. The result is an estimated quantity between the method reporting limit and the method detection limit. or it is an estimated value for QC issues.
1. The result is an estimated value.
1. The result is an estimated quantity between the method reporting limit and the method detection limit. or it is an estimated value.
1. The result is an estimated value.
1. The result is an estimated value.
1. The result is an estimated value.
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1. The samble event of the reporting limit which may or may not be an eccurate value.