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STAFF RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No.	CD-040-06
Staff:	LJS-SF
File Date:	5/26/2006
60th Day:	7/25/2006
75th Day:	8/9/2006
Commission Meeting:	7/14/2006

FEDERAL AGENCY: **U.S. Army Corps of Engineers**

PROJECT LOCATION: Marina del Rey Harbor and Dockweiler State Beach, Los Angeles County (Exhibits 1-3)

PROJECT DESCRIPTION: Maintenance dredging of between 325,000 and 390,000 cu.yds. of clean sediment from the north entrance channel of Marina del Rey Harbor, and disposal in the nearshore zone or on the beach at Dockweiler State Beach, approximately 1.7 to 2.0 miles south of the entrance channel.

SUBSTANTIVE FILE DOCUMENTS: See page 13

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (Corps) submitted a consistency determination for maintenance dredging between 325,000 and 390,000 cu.yds. of clean sediment from the north entrance channel of Marina del Rey Harbor. The clean sandy material will be disposed in the

nearshore zone and/or on the adjacent beach at Dockweiler State Beach, approximately 1.7 to 2.0 miles south of the entrance channel. Dredge Project Areas 4a, 5a, and 6 are located adjacent to the north jetty and will be dredged to the authorized project depth of -21.65 feet MLLW. Dredging and disposal are scheduled to occur between September 15, 2006, and March 15, 2007, and will occur 24 hours per day. Navigation safety is currently impaired in the Marina del Rey entrance channel due to the accumulation of sediments in the area behind the detached breakwater since completion of the last maintenance dredging project in late 1999. The proposed project does not include dredging of entrance channel sections that contain contaminated sediments.

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 at the Marina del Rey Harbor's north entrance channel and increase recreational boating safety at the harbor. While the proposed dredging could interfere with recreational boating in the north entrance channel area during dredge operations, any impacts will be temporary and are insignificant when compared to the benefit from removing the existing shoaling hazard. 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. 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 Dockweiler State Beach. The project is consistent with the public access and recreational boating policies of the CCMP (Coastal Act Sections 30210, 30211, 30213, 30220, and 30224).

The project involves the dredging of only clean sediments in the Marina del Rey north entrance channel; contaminated sediments which are present at other locations in the main entrance channel will be left in place undisturbed. Sediments in Areas 4a, 5a, and 6 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 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. Dredging holds the potential to affect the California brown pelican, which roosts at night on the detached breakwater adjacent to the entrance channel. While monitoring of the 1999 maintenance dredging project at Marina del Rey indicated that brown pelicans are not adversely affected by night-time dredging, the Corps has developed a monitoring and mitigation plan for the project in order to avoid and minimize potential impacts to roosting brown pelicans during night-time dredging. The plan includes a 120-foot-wide buffer zone between dredging and the breakwater, night roost monitoring prior to, during, and after completion of dredging, noise and light controls during dredging, and continued informal coordination with the U.S. Fish and Wildlife Service during dredging. The project is consistent with the environmentally sensitive habitat and endangered species protection policies of the CCMP (Coastal Act Section 30240). By using the dredged materials to replenish Dockweiler State Beach, these sediments will remain in the Santa Monica Bay 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. STAFF SUMMARY.

A. Project Description. The U.S. Army Corps of Engineers (Corps) submitted a consistency determination for maintenance dredging between 325,000 and 390,000 cu.yds. of clean sediment from the north entrance channel of Marina del Rey Harbor (**Exhibits 1 and 2**). The clean sandy material will be disposed in the nearshore zone in water depths up to -30 feet mean lower low water (MLLW) and/or on the adjacent beach at Dockweiler State Beach, approximately 1.7 to 2.0 miles south of the entrance channel (**Exhibit 3**). Dredge Project Areas 4a, 5a, and 6 are located adjacent to the north jetty and will be dredged to the authorized project depth of -21.65 feet MLLW. Dredging and disposal are scheduled to occur between September 15, 2006, and March 15, 2007, and will use a combination of hydraulic, hopper, and clamshell dredging equipment. Dredging and disposal will occur 24 hours per day. The Commission has previously reviewed Corps of Engineers maintenance dredging projects at Marina del Rey under consistency determinations CD-022-99, CD-012-98, CD-002-98, CD-088-94, CD-068-94, CD-053-92, CD-031-91, CD-23-88, and CD-057-86.

The Corps states that the proposed project is necessary in order to: (1) maintain the authorized project channel depth in the Marina del Rey entrance channel, which is subject to continuous filling by sand accretion; (2) assure continued safe navigation for maritime traffic within the harbor; (3) minimize the risk of hazardous shoaling conditions within the entrance channel; (4) avoid intrusion of dredging activities into the critical seasons of vulnerable species; and (5) provide beach nourishment materials for the downcoast beach. Navigation safety is currently impaired in the Marina del Rey entrance channel due to the accumulation of sediments in the area behind the detached breakwater since completion of the last maintenance dredging project in late 1999. The consistency determination states that:

> *The shoaling effect occurs because the harbor and local shoreline are situated such that waves originating from the west cause sediment to move predominately in the downcoast (southerly) direction. This littoral drift phenomenon causes shoaling in the sand trap, around the north jetty, and the entrance channel that were designed to allow boats to navigate safely in and out of Marina del Rey Harbor. Sediment accumulation results in shallow channel depths and breaking waves in the channel and adjacent Marina del Rey harbor areas.*

Sediment is also transported down the Ballona Creek Flood Control Channel and is deposited behind the detached breakwater, contributing to the shoaling problem in the entrance channel. These sediments are typically more fine-grained and include elevated levels of contaminants that preclude their placement in the nearshore zone or on the beach. However, the proposed project

does not include dredging of federal navigation channel areas at Marina del Rey that contain contaminated sediments.

B. Federal Agency's Consistency Determination. The Corps of Engineers has determined the project consistent to the maximum extent practicable with the California Coastal Management Program.

II. Staff Recommendation.

The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission **concur** with consistency determination CD-040-06 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 **YES** 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.

Resolution to Concur with Consistency Determination:

The Commission hereby **concurs** with the consistency determination by the 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.

III. Findings and Declarations:

The Commission finds and declares as follows:

A. Dredging and Filling. Section 30233 of the Coastal Act provides the following in relevant part:

(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 disposal of dredged materials from the maintenance of navigation channels is an allowable use under Section 30233(a)(2). The proposed disposal locations are nearshore and on-beach areas at Dockweiler State Beach, 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. Public Access and Recreation. The Coastal Act provides the following:

> *Section 30210. 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.*
>
> *Section 30211. 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.*
>
> *Section 30213. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. . . .*
>
> *Section 30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

> *Section 30224. Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division . . . .*

The Corps of Engineers reports that Marina del Rey is one of the largest recreational boat harbors on the West Coast and accommodates approximately 5,200 private boats. The marina is protected at its entrance channel by two jetties and a detached breakwater. The consistency determination states that:

> *Safe navigation in and out of the marina is threatened because of the inability to reestablish and maintain the North Entrance Channel design dimensions through routine maintenance dredging. Shoaling at Marina del Rey entrance channel, if uncorrected, will result in unsafe navigation conditions. Therefore, dredging is required since it is critical to maintaining the navigation of the harbor. If dredging does not occur, subsequent storms could carry enough sediment and debris from Santa Monica Bay, closing or severely impeding the entrance channel. Closure of the entrance channel would prevent thousands of commercial and recreational vessels from leaving or entering the harbor, and would hinder rescue operations by Los Angeles County Paramedics and Lifeguard Offices as well as the U.S. Coast Guard (USCG) cutter Halibut operations stationed within the harbor.*

The Corps states that the proposed dredging will be conducted such that potential obstructions to and/or interference with vessels navigating the harbor entrance channels is minimized:

> *The proposed action would be bounded by buoys and other markers to ensure that navigators are aware of the operation and can safely avoid the area. The dredge operator shall move the dredge for law enforcement and rescue vessels whenever necessary, and will coordinate operations with the U.S. Coast Guard (USCG).*

The proposed project will remove shoaling at the Marina del Rey Harbor's north entrance channel and, as a result, will significantly increase the safety of recreational boating at the harbor. While the proposed dredging could interfere with recreational boating in the north entrance channel area during dredge operations, any impacts will be temporary and are insignificant when compared to the benefit from removing the existing shoaling hazard.

The consistency determination next examines potential project impacts arising from disposal operations:

> *Utilization of heavy equipment would detract from recreational use (i.e., walking, jogging, sunbathing, etc.) of Dockweiler State Beach, the location of the placement of dredged material. Beach replenishment, however, would be completed by March 15, prior to peak recreation use. Impacts to beach recreation, therefore, would be temporary, localized, and not significant . . .*
>
> *In some cases where placement of clean dredged material occurs on a beach, sand ramps will be required and be placed over the pipeline to allow continued public access to all areas of the beach, except at the immediate point of placement of dredged material. Sand*

ramps will be constructed over all road crossings, and at intervals along the beach, to maintain public access . . . At a minimum, the distance between vehicle crossings would be every 200 feet, or at each lifeguard tower location, whichever is greater.

. . . The environmental impact and disturbance to recreation-related activities due to project construction are expected to be minimal and insignificant, with an ultimately positive effect of enhancing navigation. This project could have a small impact on commercial or recreational fishing, due to either fish avoiding the work area or being entrained in the dredge. This impact would be temporary and insignificant. Impacts would be negligible with the nearshore placement of dredged material at Dockweiler State Beach considering the frequency of placement and the fact that only a small area would be affected at any one time . . . A benefit of beach or nearshore placement of clean dredged material would be the creation of wider beaches, which would enhance associated recreational beach use.

Beach and harbor use would not be significantly restricted during construction. Coordination with Harbor officials and the USCG would ensure that operations are conducted safely with minimal disruption to recreational resources.

The proposed maintenance dredging project would generate minor adverse effects on public access and recreation, primarily resulting from temporary beach closures during disposal and sand moving operations on the beach, and from the noise associated with bulldozer operations on the beach. However, the proposed project would significantly improve public access and recreational opportunities due to the placement of clean and grain-size compatible sand along this stretch of Dockweiler State Beach. The project would also improve the safety of recreational boating due to the removal of the shoal which currently interferes with navigation in the north entrance channel at Marina del Rey. Therefore, the Commission finds that the proposed maintenance dredging project is consistent with the public access and recreational boating policies of the CCMP (Coastal Act Sections 30210, 30211, 30213, 30220, and 30224).

C. <u>Water Quality and Marine Resources</u>. The Coastal Act provides the following:

<u>Section 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>Section 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 groundwater 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 and marine resource impacts from dredging operations at the project site:

Dredging activities at Marina Del Rey channel are expected to produce temporary adverse impacts to marine organisms. Temporary increases in turbidity and suspended solids at the dredging site would decrease light penetration (or transmissivity), causing a decline in primary productivity due to decreased photosynthesis by phytoplankton. Any appreciable turbidity increase may also cause clogging of gills and feeding apparatuses of fish and filter feeders. Impacts, however, would not be significant due to the short duration of dredging activities, the localized maintenance dredge activity at Marina Del Rey harbor entrance channel, and the relative close proximity from the dredging operation to the placement of dredged material on Dockweiler State Beach. Mobile organisms, however, would most probably evacuate and avoid the dredging area, or temporarily relocate to adjacent undisturbed areas. Maintenance dredging activities, nonetheless, most probably contribute only a small percentage to the total turbidity found in near-shore waters when compared with: (1) turbidity created by natural beach erosion, and (2) re-suspension of material by waves, currents, tidal action, and boat traffic. Moreover, most such impacts would be confined to the immediate vicinity of dredging activities, with turbidity levels dissipating rapidly through resettlement. The high percentage of sand, relative to silts, would cause most sediment to settle, rather than to remain suspended in the water column.

The proposed project involves the dredging and disposal of only clean sediments; contaminated sediments which are present at locations in the Marina del Rey entrance channel will be left in place undisturbed. The Corps reports that physical and chemical testing was conducted in 2004 on the entrance channel sediments in accordance with USEPA and Corps guidelines (*Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. , February 1988*). The consistency determination states that:

The physical and chemical testing and analyses performed on the Corps May 2004 (Table 1) sediment samples and on the August 2004 (Tables 2 and 3) discrete sediment samples at Marina del Rey entrance channel, and comparisons to the 1999 Marina del Rey sediment sampling have determined that overall, Area 4a and Area 5a (Entrance Channel), and all of Area 6 (Upcoast Sand Trap) is characterized as clean sediment to be dredged, and is beach compatible for placement of dredged material on Dockweiler State Beach. [**Exhibit 4**]

The sediment test results were disseminated and discussed with members of the Los Angeles Contaminated Sediments Task Force (LACSTF) Advisory Board earlier this year:

A dredge prism (Areas 4a, 5a, and 6; Figure 2) has been created from the original Areas 4, 5, and 6 due to discussion with the LACSTF Advisory Board on March 23, 2006, on the Marina del Rey Harbor entrance channel maintenance dredging project and preliminary draft EA (See Figure 5 LACSTF minute meeting notes). From the March 23, 2006,

proposed action project presentation and discussion, an effort has been made to avoid a few, elevated ERL and a few ERM [1] readings in discrete core samples MDRDC04-11 and MDRDC04-12 (Area 4), and discrete core sampling MDRDC04-15 (Area 5), which resulted in a dredge prism of Areas 4a, 5a, and 6 (Area 6 is clean from May 2004 main sediment chemistry test results). The May 2004 main sampling test results are in Table 1, and the August 2004 discrete sampling test results are in Tables 2 and 3.

USEPA and Commission staff reviewed the test results and concurred with the finding that the subject dredged materials are suitable for beach replenishment.

The primary concerns regarding nearshore and on-beach disposal of dredged material are the suitability of dredged material for beach replenishment and potential temporary impacts to marine organisms from increased levels of turbidity. As noted above, the Corps analyzed the physical and chemical characteristics of the sediments to be dredged. These tests confirmed that the sediments in Areas 4a, 5a, and 6 are chemically and physically suitable for beach replenishment at Dockweiler State Beach.

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 the disposal will result in minor, short-term impacts to existing nearshore habitat, fish, plankton, and benthic organisms, the disposal area is regularly subject to wave action and any affected species will recolonize the area soon after completion of disposal operations. The Commission has previously found that these types of impacts are not significant and do not require additional mitigation measures when it concurred with other dredge material disposal operations at southern California nearshore disposal sites.

In conclusion, the proposed disposal of clean, sandy dredge materials from the Marina del Rey entrance channel Areas 4a, 5a, and 6 in the nearshore area at Dockweiler State Beach will not significantly affect coastal water quality or marine resources. Therefore, the Commission finds that the proposed project is consistent with the marine resource 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.

[1] ERL (Effects Range – Low) and ERM (Effects Range – Median) are indicators of elevated levels of contaminants. ERL is the concentration of a contaminant above which harmful effects may be expected to occur. ERM is the concentration of a contaminant above which harmful effects always or almost always occur.

The proposed maintenance dredging project may affect three federally listed species: the California least tern, the western snowy plover, and the California brown pelican. The consistency determination provides the following:

> California Least Tern. *The California LETE* [least tern] *fenced nesting locale is roughly 1,500 to 2,000 feet west* [upcoast] *of the proposed project dredging site. The California LETE, however, will not be present in the Marina del Rey environs when the proposed dredging project occurs. Dredging will not occur during the spring or summer (LETE nesting season) and therefore there will be no effect or concerns from turbidity. The proposed dredging project is scheduled to occur sometime between September 15 and March 15, and therefore, the operations of the proposed dredging and placement of dredged material will not affect LETE nesting, foraging, or roosting behavior or habitat.*
>
> Western Snowy Plover. *Two areas within the Dockweiler Beach complex have been designated as critical habitat for the SNPL* [snowy plover]*: Subunit CA-21B which is located one mile north of the intersection of Imperial Highway and Vista del Mar (north and west of the end of the double Runways 6L-24R:6R-24L at Los Angeles International Airport; and Subunit CA-21C, located about one mile south of the intersection of Imperial Highway and Vista del Mar.*
>
> *The western SNPL is not known to nest at Dockweiler Beach, due to intense recreational use and beach maintenance in these areas. During the plover's spring and fall migration periods and over winter, some individual plovers may occasionally rest on Dockweiler Beach. Nonetheless, this beach has a 13-year annual beach attendance of nearly 4 million people (State of California, 2004). The amount of use by people coupled with the intense mechanical beach cleaning, this sandy beach habitat does not meet the primary constituent elements for SNPL nesting or foraging.*
>
> *The Marina del Rey dredged material will be placed in between these two critical habitat areas. The addition of sand to Dockweiler Beach may improve the habitat over time, when prey food resources from adjacent sandy beach habitat reinvade the replenished areas. The western SNPL, therefore, will not be affected by the proposed dredging and placement of dredged materials.*
>
> *California Brown Pelican. The Marina del Rey maintenance dredging project will be accomplished during the months of September to March. The noise and activity of dredging could temporarily displace pelicans that roost on the nearby breakwater and jetties. BRPE* [brown pelicans] *are generally tolerant of such human activities near their diurnal (day) roosts; however, there is increased sensitivity at nocturnal (night) roosts. Dredging is to occur at a minimum of 120' from the breakwater. Nonetheless, noise and activities associated with dredging may cause some degree of flushing or temporary disappearance of some pelicans of the Marina del Rey night roost. Because of the availability of other roosts in the general area, including the Los Angeles/Long Beach Harbor breakwater, and the lack*

of nesting activity in the area, these temporary effects may affect but are not likely to adversely affect the BRPE.

Turbidity from dredging and placement of dredged material could force pelicans to forage away from the immediate vicinity of the dredge, although this species may find suitable foraging habitat near the fringe of any turbidity plume that may form. Pelicans would find other areas in the harbor and in the nearshore environment to forage and would not be affected by the dredging activities.

The proposed maintenance dredging project has the potential to affect both the California brown pelican and the California least tern both of which forage in the Marina del Rey area and could be affected by increases in turbidity. Because the Corps intends to begin dredging after September 15, and complete operations before the beginning of the tern-nesting season on April 1, the potential for significant adverse effects on least terns will be minimized. Pelicans, on the other hand, roost in Marina del Rey area during the time of year proposed for dredging. Additionally, because the Corps proposes to dredge 24 hours per day, the night dredging could disturb the pelicans, which roost on the nearby detached breakwater and are sensitive to disturbance at night. Nevertheless, the Corps needs to dredge at night in order to complete the project during the time period when the least tern is not present and to avoid dredging and disposal during the peak summer recreational period.

The Corps conducted monitoring of pelican night roosting during the 1999 maintenance dredging project at Marina del Rey (CD-022-99). That monitoring effort (*California Brown Pelican Night Roost Monitoring During Maintenance Dredging of Marina del Rey Harbor, Los Angeles County, 15 December 1999*) concluded that:

- There was no significant change in the number of roosting pelicans between the start and end of the monitoring period.

- Disturbances caused by the dredge were primarily short-term in nature and usually resulted in pelicans shifting position along the breakwater.

- Pelicans roosting on the breakwater at the entranceway to Marina del Rey appear to be subjected to short-term disturbance on a regular basis, yet continue to choose the breakwater as their primary local roost.

- Overall, no pelican or other roosting birds appeared to be in danger from the movements or activities of the dredge work.

While the 1999 project monitoring concluded that brown pelicans were not adversely affected by night-time dredging at Marina del Rey, the U.S. Fish and Wildlife Service determined that in order to ensure the validity of these monitoring results, brown pelican monitoring during the proposed maintenance dredging project would be required. Therefore, the Corps has developed a monitoring and mitigation plan for the proposed project in order to avoid and minimize

potential impacts to roosting brown pelicans during night-time maintenance dredging activities adjacent to the detached breakwater. This plan includes the following measures:

- Dredging is to occur at a minimum of 120 feet from the breakwater;

- Implement night roost monitoring of brown pelicans between sunset and dawn for four days prior to the start of dredging, ten days during the dredging operations (the spacing of these days must be regular, standardized, and consistent), and four days after dredging is completed;

- Implement noise and lighting controls (e.g., prevent or thoroughly minimize lighting the offshore breakwater with lights from dredge activities, use amber lights on vessels, curtail and severely minimize noise, curtail the dropping of the dredge scoop on the vessel deck, minimize start/stop of dredge engine compressor);

- Continue informal coordination with the U.S. Fish and Wildlife Service during the maintenance dredging and disposal project to assure that potential impacts to brown pelicans are avoided.

The Corps conducted informal consultation on the proposed project with staff from the U.S. Fish and Wildlife Service (Service) pursuant to Section 7 of the Endangered Species Act. The Service concurred with the Corps' determination that the proposed project may affect but is not likely to adversely affect the California brown pelican. The Corps will provide the Commission with a copy of the final brown pelican night roosting monitoring report that will be prepared upon completion of the proposed maintenance dredging project.

The Corps reports in its consistency determination that the placement of dredged material on the beach would have only minor and temporary impacts to terrestrial biological resources. Little or no vegetation is found on the Dockweiler State Beach replenishment site due to wave action, erosion, and the previous placement of dredged material. However, the California grunion does spawn at this location and the consistency determination examines potential project impacts on grunion spawning activities on Dockweiler State Beach:

> *The first grunion run of the season is usually predicted to begin soon after March 15. Protected runs do not begin until April, and dredging and placement of dredged material are expected to be completed by that date. If dredging continues beyond this date, beach or surf zone placement could adversely affect the California grunion. Potential impacts of placement of dredged material during the grunion spawning season include premature washing of eggs into the ocean, crushing of eggs by discharging dredged materials, burial of eggs too deep to be returned to the ocean by the subsequent high tide, and avoidance of the beach replenishment area by spawning fish due to the elevated turbidity levels associated with activities of this type. Nearshore Dockweiler State Beach replenishment activities, in contrast, are not expected to affect this species' reproductive behavior. If beach or surf zone placement continues into the grunion season, impacts will be mitigated by utilizing single-point surf zone placement of dredged material, or diked placement of*

dredged material, which will limit the area affected by placement of dredged material and minimize adverse impacts. Beach replenishment may improve conditions for grunion spawning at Dockweiler State Beach.

As currently proposed, the project will not adversely affect the California grunion. However, should the Corps determine that the proposed dredging and disposal activities must be extended beyond March 15, 2007, the Corps has agreed to submit a consistency determination to the Commission for a project time extension into the spawning season of the grunion; this consistency determination will include the aforementioned mitigation measures to protect grunion spawning.

In conclusion, the proposed dredging and disposal of clean, sandy dredge materials from the Marina del Rey entrance channel Areas 4a, 5a, and 6 in the nearshore area and on the beach at Dockweiler State Beach will not significantly affect environmentally sensitive habitat or endangered species found at these locations. 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 between 325,000 and 390,000 cu.yds. of clean sandy dredged material from Marina del Rey Harbor Dredge Project Areas 4a, 5a, and 6 in the nearshore and on Dockweiler State Beach. 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 nearshore waters. By placing the dredged materials at this location, they will remain in the Santa Monica Bay long shore littoral system. Therefore, the Commission finds that the proposed maintenance dredging project is consistent with the sand supply policy of the CCMP (Coastal Act Section 30233(b)).

SUBSTANTIVE FILE DOCUMENTS.

1. Consistency Determinations for Corps of Engineers maintenance dredging at Marina del Rey: CD-022-99, CD-012-98, CD-002-98, CD-088-94, CD-068-94, CD-053-92, CD-031-91, CD-23-88, and CD-057-86.
2. Negative Determinations for Corps of Engineers maintenance dredging at Marina del Rey: ND-022-96 and ND-112-94.
3. California Brown Pelican Night Roost Monitoring During Maintenance Dredging of Marina del Rey Harbor, Los Angeles, California, October 14-28 and November 10-14, 1999 (Varanus Biological Services, 15 December 1999)

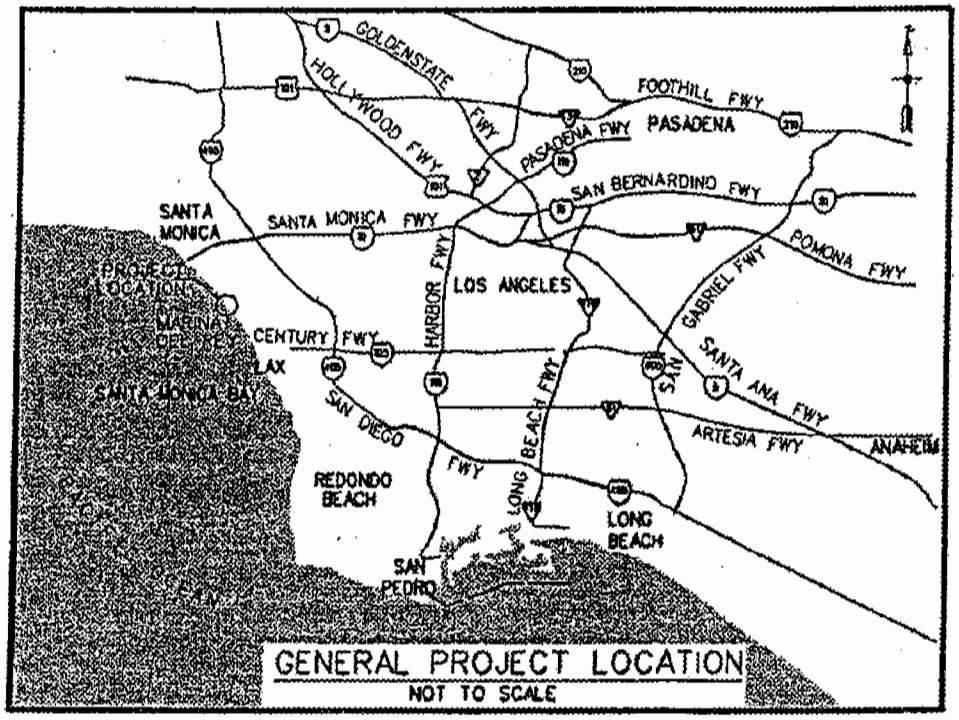


Figure 1-General Project Location Map

EXHIBIT NO. 1
APPLICATION NO.
CD-040-06

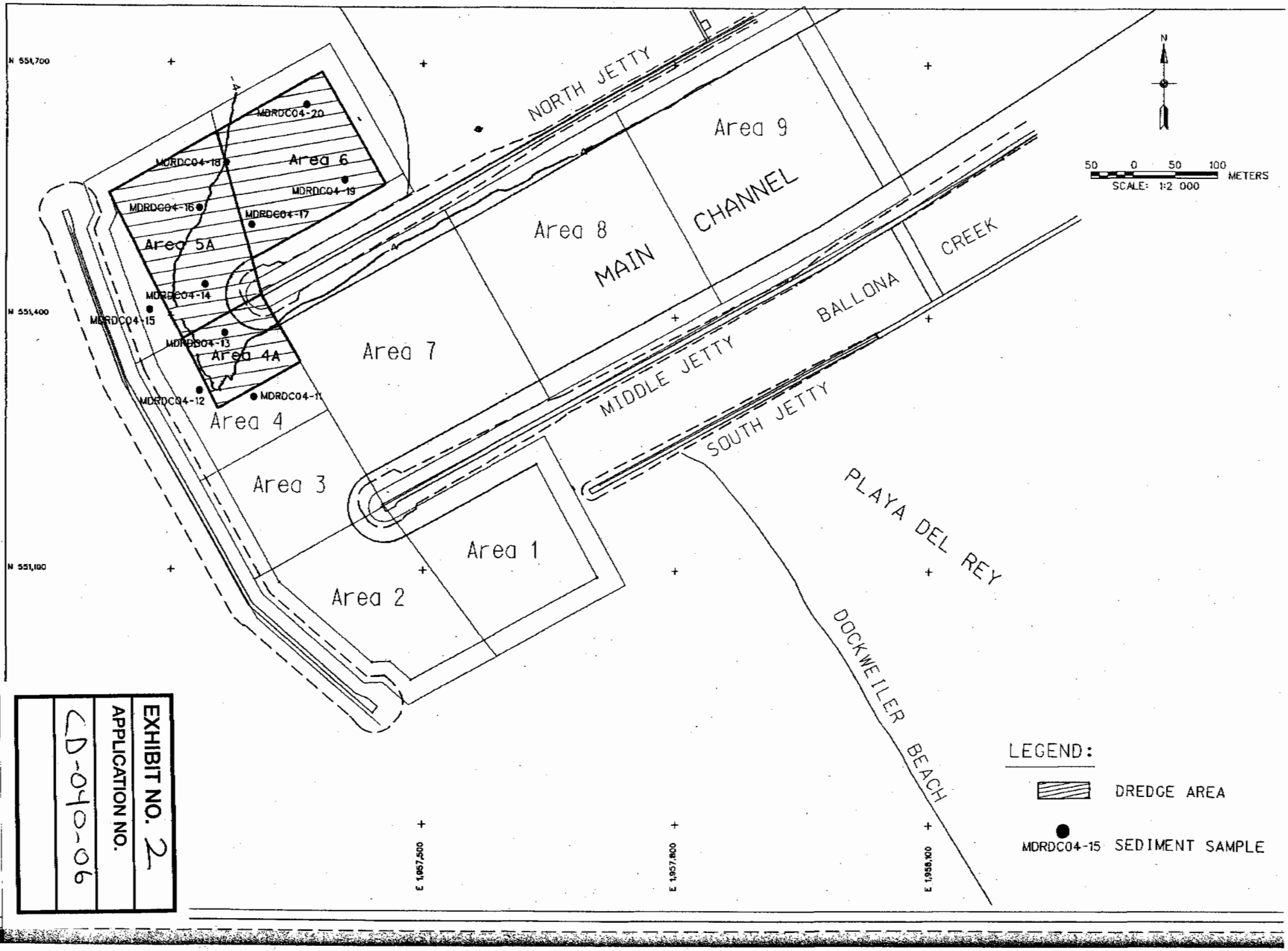


EXHIBIT NO. 2
APPLICATION NO.
CD-040-06

Figure 2: Marina Del Rey Harbor Entrance Channel Dredge Project Areas 4a, 5a, and 6

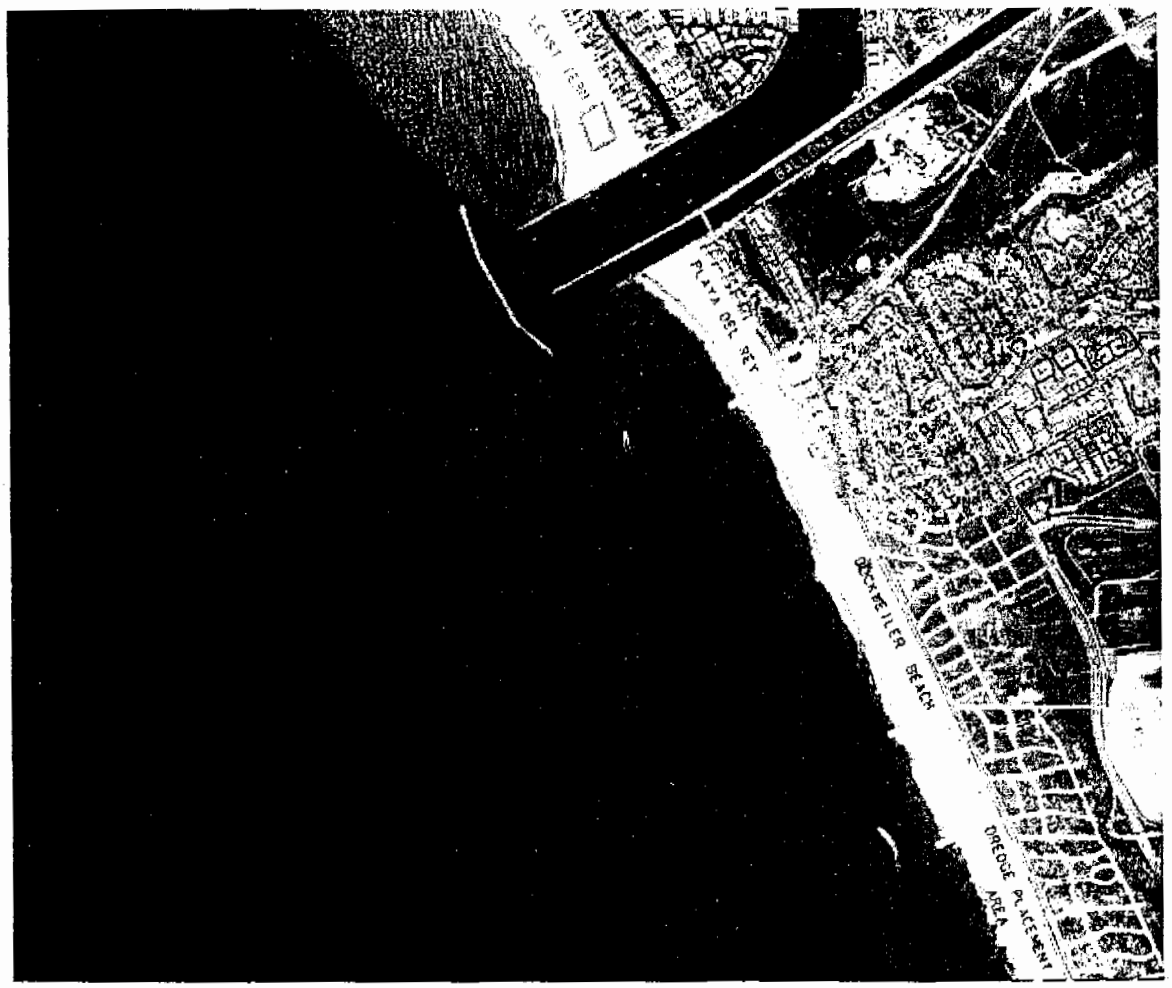


Figure 4 :
Placement of Dredge Material Area-Dockweiler State Beach (lower right corner of Figure in red lettering)
California Least Tern (LETE) Area – (northern portion of Figure in red lettering)
California Brown Pelican (BRPE) Roost Site – Detached Breakwater structure west of entrance channel (north center portion of Figure)

EXHIBIT NO. 3
APPLICATION NO.
CD-040-06

TABLE 1, 2 and 3

SEDIMENT AND CHEMISTRY TEST RESULTS (IN TABLES 1, 2 , 3)

MAY 2004 (MAIN) in TABLE 1, AUGUST 2004 (DISCRETE) in TABLES 2 and 3

Note 1: For the May 2004 Main Sampling results shown in Table 1:
Composite 1 is representative of Area 1; Composite 2 is representative of Area 2;
Composite 3 is representative of Area 3; Composite 4 is representative of Area 4;
Composite 5 is representative of Area 5; Composite 6 is representative of Area 6;
Composite 7 is representative of Area 7; Composite 8 is representative of Area 8;
Composite 9 is representative of Area 9.

Note 2: For the August 2004 Discrete Sampling results shown in Tables 2 and 3:
Area 3 is represented by sampling locations MDRDH04C-08c, -9, and -10 (Table 9); Area 4 is represented by sampling location MDRDH04C-11, -12, -13 (Table 9); Area 5 is represented by sampling location MDRDH04C-14, -15, -16 (Table 10); and the northern half of Area 7 is represented by MDRDH04C-21,-22,-23 (Table 10).

EXHIBIT NO. 4
APPLICATION NO.
CD-040-06

Table 3. 2004 Marina Del Rey Bulk Chemistry Testing Results.

	Analytical Method [1]	Units [2]	Sediment Quality Guidelines [6] ER-L	ER-M	Composite 1 Result	Q [3]	MRL	Composite 2 Result	Q [3]	MRL	Composite 3 Result	Q [3]	MRL	Composite 4 Result	Q [3]	MRL	Composite 5 Result	Q [3]	MRL	Composite 6 Result	Q [3]	MRL	Composite 7 Result	Q [3]	MRL	Composite 8 Result	Q [3]	MRL	Composite 9 Result	Q [3]	MRL
PHYSICAL/CONVENTIONALS																															
Total Solids (wet weight)	SM 2540G	%			80.4		0.01	74.6		0.01	72.0		0.01	73.6		0.01	75.1		0.01	80.0		0.01	67.2		0.01	81.1		0.01	71.1		0.01
Total Volatile Solids (wet weight)	SM 2540G	%			1.57		0.01	3.07		0.01	4.13		0.01	2.84		0.01	2.19		0.01	0.88		0.01	4.00		0.01	1.29		0.01	1.88		0.01
pH	EPA 9045B	pH units			8.3	H	0.1	8.3	H	0.1	8.3	H	0.1	8.4	H	0.1	8.3	H	0.1	8.5	H	0.1	8.4	H	0.1	8.5	H	0.1	8.6	H	0.1
Ammonia	EPA 350.1M	mg/kg			15.9		0.4	41.9		0.8	26.2		0.4	9.5		0.4	4.9		0.4	4.4		0.4	23.2		0.4	0.4		0.4	5.1		0.4
Total Organic Carbon	EPA 9060M	%			0.61		0.05	1.13		0.05	2.08		0.05	1.03		0.05	0.52		0.05	0.29		0.05	1.51		0.05	0.48		0.05	0.71		0.05
Soluble Sulfides	Plumb	mg/kg			3.0		3.0	18		12	24		12	5.7		3.0	1.9	J	3.0	ND	U	3.0	4.4		3.0	ND	U	3.0	1.6	J	3.0
Total Sulfides	PSEP	mg/kg			23.6	H	4.0	677	H	80	1130	H	80	288	H	20	84.1	H	8.0	3.7	H	0.8	453	H	40	4.9	H	0.8	72.5	H	8.0
Oil & Grease (Total, HEM)	EPA 1664	mg/kg			1100		100	1800		100	4400		100	730		100	480		100	110		100	1700		100	250		100	340		100
Oil & Grease (Nonpolar,SGT-HEM)	EPA 1664	mg/kg			400		100	1400		100	3700		100	500		100	160		100	ND	U	100	740		100	88	J	100	150		100
METALS																															
Antimony (Sb)	EPA 6010	mg/kg	2.0	25	0.2	J	0.6	0.4	J	0.7	0.4	J	0.7	0.4	J	0.7	0.2	J	0.7	0.3	J	0.6	0.5	J	0.7	0.2	J	0.6	0.4	J	0.7
Arsenic (As)	EPA 6010	mg/kg	8.2	70	3.1		0.6	3.3		0.7	3.6		0.7	3.4		0.7	3.2		0.7	2.8		0.6	6.4		0.7	3.4		0.6	5.4		0.7
Cadmium (Cd)	EPA 6010	mg/kg	1.2	9.6	ND		0.6	ND		0.7	ND		0.7	ND		0.7	ND		0.7	ND		0.6	ND		0.7	ND		0.6	ND		0.7
Chromium (Cr)	EPA 6010	mg/kg	81	370	11.6		0.6	14.1		0.7	16.9		0.7	15.5		0.7	12.9		0.7	9.36		0.6	27.7		0.7	14.2		0.6	24.2		0.7
Copper (Cu)	EPA 6010	mg/kg	34	270	10.4		1	15.8		1	20.4		1	13.7		1	8.36		1	3.60		1	27.5		1	8.97		1	15.8		1
Lead (Pb)	EPA 6010	mg/kg	46.7	218	24.3		0.6	39.6		0.7	42.3		0.7	34.2		0.7	17.9		0.7	8.2		0.6	133		0.7	35.6		0.6	43.7		0.7
Mercury (Hg)	EPA 7471A	mg/kg	0.15	0.71	0.02	J	0.1	0.09	J	0.1	0.04	J	0.1	0.03	J	0.1	ND		0.1	ND		0.1	0.13	J	0.1	0.03	J	0.1	0.09	J	0.1
Nickel (Ni)	EPA 6010	mg/kg	20.9	51.6	7.31		0.6	9.34		0.7	12.1		0.7	11.1		0.7	9.98		0.7	7.35		0.6	14.7		0.7	7.88		0.6	12.4		0.7
Selenium (Se)	EPA 6010	mg/kg			ND		1	ND		1	ND		1	ND		1	ND		1	ND		1	0.4	J	1	0.3	J	1	ND		1
Silver (Ag)	EPA 6010	mg/kg	1.0	3.7	0.17	J	0.6	0.28	J	0.7	0.38	J	0.7	0.21	J	0.7	0.07	J	0.7	ND		0.6	1.71		0.7	0.38	J	0.6	0.78		0.7
Zinc (Zn)	EPA 6010	mg/kg	150	410	60.7		1	79.7		1	105		1	67.6		1	46.6		1	23.8		1	124		1	40.4		1	54.8		1
ORGANICS																															
PESTICIDES																															
Total Chlorinated Pesticides [5]		ug/kg			28.3			51.8			74.1			39.4			24.3			7.19			200			27.3			45.13		
alpha-BHC	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	U	1.0	ND	Ui	1.0
beta-BHC	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	Ui	1.0	ND	U	1.0
Gamma-BHC (Lindane)	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	U	1.0	ND	U	1.0
delta-BHC	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	Ui	1.0	ND	U	10	ND	U	1.0	0.43	J	1.0
Heptachlor	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	U	1.0	0.15	JP	1.0
Aldrin	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	U	1.0	ND	U	1.0
Heptachlor Epoxide	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	Ui	1.0	ND	Ui	1.0
Gamma-Chlordane	EPA 8081A	ug/kg			8.1	JD	10	12	D	10	19	D	10	9.4	JD	10	7.2	JD	10	1.4		1.0	56	D	10	7.1		1.0	9.1		1.0
Endosulfan I	EPA 8081A	ug/kg			ND	Ui	10	ND	Ui	10	ND	U	10	ND	U	10	2.7	JD	10	0.99	JP	1.0	ND	Ui	10	ND	Ui	1.0	ND	Ui	1.0
alpha-Chlordane	EPA 8081A	ug/kg			4.5	JD	10	7.2	JD	10	9.9	JD	10	6.2	JD	10	3.9	JD	10	0.93	J	1.0	34	D	10	3.5		1.0	3.5		1.0
Dieldrin	EPA 8081A	ug/kg	0.02	8	2.1	JD	10	3.6	JD	10	5.6	JD	10	2.9	JPD	10	ND	[redacted]	[redacted]	ND	Ui	1.0	[redacted]	D	10	1.0	P	1.0	0.95	J	1.0
4,4'-DDE	EPA 8081A	ug/kg	2.2	27	7.5	JD	10	11	D	10	15	D	10	8.9	JD	10	7.1	JD	10	2.3		1.0	[redacted]	D	10	12		1.0	25		1.0
Endrin	EPA 8081A	ug/kg	0.02	45	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	U	1.0	ND	U	1.0
Endosulfan II	EPA 8081A	ug/kg			ND	U	10	ND	U	10	6.6	JPD	10	ND	U	10	ND	U	10	ND	U	1.0	ND	Ui	10	ND	Ui	1.0	ND	Ui	1.0
4,4'-DDD	EPA 8081A	ug/kg	2	20	5.9	JD	10	18	D	10	18	D	10	12	PD	10	3.4	JPD	10	1.3	P	1.0	[redacted]	PD	10	3.7	P	1.0	6.9	P	1.0
Endrin Aldehyde	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	Ui	1.0	ND	Ui	1.0
Endosulfan Sulfate	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	U	10	ND	U	1.0	ND	U	1.0
4,4'-DDT	EPA 8081A	ug/kg	1	7	ND	[redacted]	[redacted]	ND	[redacted]	[redacted]	ND	[redacted]	[redacted]	ND	[redacted]	[redacted]	ND	[redacted]	[redacted]	ND	Ui	1.0	ND	U	10	ND	U	1.0	ND	U	1.0
Endrin Ketone	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	1.0	ND	[redacted]	[redacted]	ND	U	4.9	ND	Ui	6.5
Methoxychlor	EPA 8081A	ug/kg			ND	U	10	ND	U	10	ND	Ui	10	ND	Ui	10	ND	U	10	0.27	JP	1.0	ND	Ui	10	ND	Ui	1.0	ND	Ui	1.0
Toxaphene	EPA 8081A	ug/kg			ND	U	500	ND	Ui	500	ND	Ui	500	ND	Ui	500	ND	U	500	ND	U	50	ND	Ui	500	ND	Ui	50	ND	Ui	50
Total DDT [10]		ug/kg	1.58	46.1	13.4			29			33			20.9			10.5			3.6			[redacted]			15.7			31.0		
ORGANOTINS																															
Total Organotins [7]		ug/kg			6.2			7.7			15.9			7.0			5.28			1.35			41.1			9.44			7.52		
Tetra-n-butyltin	Krone	ug/kg			ND	U	1.3	ND	U	1.4	ND	U	1.4	ND	U	1.4	ND	U	1.4	ND	U	1.3	ND	U	1.5	ND	U	1.3	ND	U	1.3
Tri-n-butyltin	Krone	ug/kg			2.2		1.3	2.6		1.4	3.3		1.4	1.7		1.4	1.4	J	1.4	0.42	J	1.3	19		1.5	2.6		1.3	1.5		1.3
Di-n-butyltin	Krone	ug/kg			3.2		1.3	3.8		1.4	11		1.4	3.8		1.4	2.9		1.4	0.63	J	1.3	20		1.5	6.1		1.3	5.2		1.3
n-Butyltin	Krone	ug/kg			0.80	J	1.3	1.3	J	1.4	1.6		1.4	1.5		1.4	0.98	J	1.4	0.30	J	1.3	2.1		1.5	0.74	J	1.3	0.82	J	1.3
PHTHALATES																															
Total phthalates [9]		ug/kg			557			1373			1616			767.3			450			100.7			1100			247.3			358		
Dimethyl Phthalate	EPA 8270C	ug/kg			11		10	24		10	ND	U	50	4.3	J	10	12		10	ND	U	10	ND	U	50	ND	U	10	ND	U	9.9
Diethyl Phthalate	EPA 8270C	ug/kg			ND	U	10	ND	U	10	230	D	50	ND	U	10	ND	U	10	ND	U	10	ND	U	50	ND	U	10	ND	U	9.9
Di-n-butyl Phthalate	EPA 8270C	ug/kg			11		10	26		10	29	JD	50	110		10	10		10	8.0	J	10	ND	U	50	9.7	J	10	12		9.9
Butyl Benzyl Phthalate	EPA 8270C	ug/kg			23		10	23		10	220	D	50	55		10	21		10	3.7	J	10	100	D	50	24		10	26		9.9
Bis(2-ethylhexyl) Phthalate	EPA 8270C	ug/kg			490		200	1300	E	200	1100	D	1000	560	E	200	390		200	89	J	200	1000	D	990	210		200	320		200
Di-n-octyl Phthalate	EPA 8270C	ug/kg			22		20	ND	U	20	37	JD	100	38		20	17	J	20	ND	U	20	ND	U	99	3.6	J	20	ND	U	20

Table 1. 2004 Marina Del Rey Bulk Chemistry Testing Results.

	Analytical Method [1]	Units [2]	Sediment Quality Guidelines [6] ER-L	Sediment Quality Guidelines [6] ER-M	Composite 1 Result	Composite 1 Q [5]	Composite 1 MRL	Composite 2 Result	Composite 2 Q [5]	Composite 2 MRL	Composite 3 Result	Composite 3 Q [5]	Composite 3 MRL
POLYCHLORINATED BIPHENYLS (PCB)													
Total PCBs [3]		ug/kg	22.7	180	117			[redacted]			[redacted]		
Aroclor 1016	EPA 8082	ug/kg			ND	Ui	100	ND	Ui	100	ND	Ui	100
Aroclor 1221	EPA 8082	ug/kg			ND	U	200	ND	U	200	ND	U	200
Aroclor 1232	EPA 8082	ug/kg			ND	U	100	ND	Ui	100	ND	Ui	100
Aroclor 1242	EPA 8082	ug/kg			ND	Ui	100	ND	Ui	100	ND	Ui	100
Aroclor 1248	EPA 8082	ug/kg			ND	Ui	100	ND	Ui	100	ND	Ui	100
Aroclor 1254	EPA 8082	ug/kg			90	JD	100	140	PD	100	ND	Ui	190
Aroclor 1260	EPA 8082	ug/kg			27	JPD	100	73	JD	100	400	D	100
POLYNUCLEAR AROMATICS HYDROCARBONS (PAH)													
Total PAHs [3]		ug/kg	4,022	44,792	1,401			477			3,386		
Naphthalene	EPA 8270C	ug/kg	160	2,100	2.4	J	10	3.2	J	10	17	JD	50
2-Methylnaphthalene	EPA 8270C	ug/kg	70	670	2.4	J	10	3.1	J	10	11	JD	50
Acenaphthylene	EPA 8270C	ug/kg	44	640	2.2	J	10	2.4	J	10	ND	U	50
Acenaphthene	EPA 8270C	ug/kg	16	500	7.6	J	10	5.8	J	10	50	D	50
Fluorene	EPA 8270C	ug/kg	19	540	9.1	J	10	7.8	J	10	43	JD	50
Phenanthrene	EPA 8270C	ug/kg	240	1,500	120		10	56		10	440	D	50
Anthracene	EPA 8270C	ug/kg	85	1,100	28		10	13		10	86	D	50
Fluoranthene	EPA 8270C	ug/kg	600	5,100	240		10	140		10	620	D	50
Pyrene	EPA 8270C	ug/kg	665	2,600	240		10	140		10	590	D	50
Benz(a)anthracene	EPA 8270C	ug/kg	261	1,600	110		10	21		10	240	D	50
Chrysene	EPA 8270C	ug/kg	384	2,800	160		10	85		10	350	D	50
Benzo(b)fluoranthene	EPA 8270C	ug/kg			100		10	ND	U	10	170	D	50
Benzo(k)fluoranthene	EPA 8270C	ug/kg			87		10	ND	U	10	210	D	50
Benzo(a)pyrene	EPA 8270C	ug/kg	430	1,600	110		10	ND	U	10	220	D	50
Indeno(1,2,3-cd)pyrene	EPA 8270C	ug/kg			81		10	ND	U	10	150	D	50
Dibenz(a,h)anthracene	EPA 8270C	ug/kg	63	260	20		10	ND	U	10	39	JD	50
Benzo(g,h,i)perylene	EPA 8270C	ug/kg			81		10	ND	U	10	150	D	50
PHENOLS													
Total Phenols [3]		ug/kg			41			26			0		
Phenol	EPA 8270C	ug/kg			17	J	30	10	J	30	ND	U	150
2-Chlorophenol	EPA 8270C	ug/kg			ND	U	10	ND	U	10	ND	U	50
2-Methylphenol	EPA 8270C	ug/kg			ND	U	10	ND	U	10	ND	U	50
4-Methylphenol	EPA 8270C	ug/kg			24		10	16		10	ND	U	50
2-Nitrophenol	EPA 8270C	ug/kg			ND	U	10	ND	U	10	ND	U	50
2,4-Dimethylphenol	EPA 8270C	ug/kg			ND	U	50	ND	U	50	ND	U	250
2,4-Dichlorophenol	EPA 8270C	ug/kg			ND	U	10	ND	U	10	ND	U	50
4-Chloro-3-methylphenol	EPA 8270C	ug/kg			ND	U	10	ND	U	10	ND	U	50
2,4,6-Trichlorophenol	EPA 8270C	ug/kg			ND	U	10	ND	U	10	ND	U	50
2,4-Dinitrophenol	EPA 8270C	ug/kg			ND	U	200	ND	U	200	ND	U	1000
4-Nitrophenol	EPA 8270C	ug/kg			ND	U	100	ND	U	100	ND	U	500
2-Methyl-4,6-dinitrophenol	EPA 8270C	ug/kg			ND	U	100	ND	U	100	ND	U	500
Pentachlorophenol	EPA 8270C	ug/kg			ND	U	50	ND	U	50	ND	U	250

	Composite 4 Result	Composite 4 Q [5]	Composite 4 MRL	Composite 5 Result	Composite 5 Q [5]	Composite 5 MRL	Composite 6 Result	Composite 6 Q [5]	Composite 6 MRL
POLYCHLORINATED BIPHENYLS (PCB)									
Total PCBs [3]	100			97			10.6		
Aroclor 1016	ND	U	100	ND	Ui	100	ND	Ui	10
Aroclor 1221	ND	U	200	ND	U	200	ND	Ui	20
Aroclor 1232	ND	U	100	ND	U	100	ND	U	10
Aroclor 1242	ND	Ui	100	ND	Ui	100	ND	Ui	10
Aroclor 1248	ND	U	100	ND	Ui	100	ND	Ui	10
Aroclor 1254	ND	Ui	100	97	JD	100	6.5	J	10
Aroclor 1260	100	D	100	ND	U	100	4.1	J	10
POLYNUCLEAR AROMATICS HYDROCARBONS (PAH)									
Total PAHs [3]	1,104			1,019			144		
Naphthalene	7.6	J	10	160		10	ND	U	10
2-Methylnaphthalene	3.9	J	10	4.3	J	10	ND	U	10
Acenaphthylene	5.4	J	10	14		10	ND	U	10
Acenaphthene	19		10	2.9	J	10	ND	U	10
Fluorene	20		10	14		10	2.4	J	10
Phenanthrene	140		10	130		10	17		10
Anthracene	46		10	34		10	4.8	J	10
Fluoranthene	190		10	160		10	24		10
Pyrene	180		10	130		10	21		10
Benz(a)anthracene	70		10	60		10	11		10
Chrysene	100		10	75		10	13		10
Benzo(b)fluoranthene	60		10	50		10	11		10
Benzo(k)fluoranthene	66		10	45		10	8.7	J	10
Benzo(a)pyrene	73		10	52		10	12		10
Indeno(1,2,3-cd)pyrene	50		10	38		10	9.3	J	10
Dibenz(a,h)anthracene	18		10	8.7	J	10	ND	U	10
Benzo(g,h,i)perylene	55		10	41		10	9.5	J	10
PHENOLS									
Total Phenols [3]	16.6			21.1			3.4		
Phenol	9.9	J	30	7.1	J	30	3.4	J	30
2-Chlorophenol	ND	U	10	ND	U	10	ND	U	10
2-Methylphenol	ND	U	10	ND	U	10	ND	U	10
4-Methylphenol	6.7	J	10	14		10	ND	U	10
2-Nitrophenol	ND	U	10	ND	U	10	ND	U	10
2,4-Dimethylphenol	ND	U	50	ND	U	50	ND	U	50
2,4-Dichlorophenol	ND	U	10	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ND	U	10	ND	U	10	ND	U	10
2,4,6-Trichlorophenol	ND	U	10	ND	U	10	ND	U	10
2,4-Dinitrophenol	ND	U	200	ND	U	200	ND	U	200
4-Nitrophenol	ND	U	100	ND	U	100	ND	U	100
2-Methyl-4,6-dinitrophenol	ND	U	100	ND	U	100	ND	U	100
Pentachlorophenol	ND	U	50	ND	U	50	ND	U	50

	Composite 7 Result	Composite 7 Q [5]	Composite 7 MRL	Composite 8 Result	Composite 8 Q [5]	Composite 8 MRL	Composite 9 Result	Composite 9 Q [5]	Composite 9 MRL
POLYCHLORINATED BIPHENYLS (PCB)									
Total PCBs [3]	[redacted]			77			77		
Aroclor 1016	ND	Ui	240	ND	Ui	18	ND	Ui	25
Aroclor 1221	ND	Ui	200	ND	U	20	ND	U	20
Aroclor 1232	ND	Ui	110	ND	Ui	20	ND	Ui	23
Aroclor 1242	ND	Ui	320	ND	Ui	24	ND	Ui	31
Aroclor 1248	ND	Ui	170	ND	Ui	14	ND	Ui	31
Aroclor 1254	430	D	100	45		10	45	P	10
Aroclor 1260	150	PD	100	32	P	10	32		10
POLYNUCLEAR AROMATICS HYDROCARBONS (PAH)									
Total PAHs [3]	700			151			208		
Naphthalene	ND	U	50	ND	U	10	1.9	J	9.9
2-Methylnaphthalene	ND	U	50	ND	U	10	1.7	J	9.9
Acenaphthylene	ND	U	50	ND	U	10	ND	U	9.9
Acenaphthene	ND	U	50	ND	U	10	ND	U	9.9
Fluorene	ND	U	50	ND	U	10	ND	U	9.9
Phenanthrene	47	JD	50	9.3	J	10	12		9.9
Anthracene	12	JD	50	2.4	J	10	4.0	J	9.9
Fluoranthene	95	D	50	22		10	24		9.9
Pyrene	120	D	50	20		10	27		9.9
Benz(a)anthracene	44	JD	50	8.0	J	10	13		9.9
Chrysene	80	D	50	17		10	22		9.9
Benzo(b)fluoranthene	61	D	50	16		10	19		9.9
Benzo(k)fluoranthene	60	D	50	12		10	19		9.9
Benzo(a)pyrene	62	D	50	12		10	19		9.9
Indeno(1,2,3-cd)pyrene	42	JD	50	11		10	16		9.9
Dibenz(a,h)anthracene	ND	U	50	3.2	J	10	4.6	J	9.9
Benzo(g,h,i)perylene	77	D	50	18		10	25		9.9
PHENOLS									
Total Phenols [3]	15			2.7			4.4		
Phenol	15	JD	150	2.7	J	30	4.4	J	30
2-Chlorophenol	ND	U	50	ND	U	10	ND	U	9.9
2-Methylphenol	ND	U	50	ND	U	10	ND	U	9.9
4-Methylphenol	ND	U	50	ND	U	10	ND	U	9.9
2-Nitrophenol	ND	U	50	ND	U	10	ND	U	9.9
2,4-Dimethylphenol	ND	U	250	ND	U	50	ND	U	50
2,4-Dichlorophenol	ND	U	50	ND	U	10	ND	U	9.9
4-Chloro-3-methylphenol	ND	U	50	ND	U	10	ND	U	9.9
2,4,6-Trichlorophenol	ND	U	50	ND	U	10	ND	U	9.9
2,4-Dinitrophenol	ND	U	990	ND	U	200	ND	U	200
4-Nitrophenol	ND	U	500	ND	U	100	ND	U	99
2-Methyl-4,6-dinitrophenol	ND	U	500	ND	U	100	ND	U	99
Pentachlorophenol	ND	U	250	ND	U	50	ND	U	50

Notes:

1) Analytical Methods:
EPA = United States Environmental Protection Agency. EPA Methods are EPA SW-846. 1994 3rd Edition or EPA 600/4-79-020, March 1983
Krone = C.A. Krone, et. al., Method for Analysis of Butyltin Species and Measurement of Butyltins in Sediment and English Sole Livers from Puget Sound. Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, NOAA, November, 1988.
Plumb = Procedure for Handling and Chemical Analysis of Sediment and Water Samples. Tech Rep. USEPA/CE-81, Russell H. Plumb, Jr., 1981.
PSEP = Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound for USEPA and USACE (March 1986), with revisions through April 1997.
SM 2540G = Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, American Public Health Association.

2) Units: ug/kg = micrograms per kilogram, parts per billion (dry weight unless otherwise noted) mg/kg = milligrams per kilogram, parts per million (dry weight unless otherwise noted)

3) Total Chlorinated Pesticides, Total Organotins, Total Phthalates, Total PCBs, Total PAHs, and Total Phenols = sum of named compounds and their derivatives

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

5) Data Qualifiers:
D - the reported result is from a dilution
E - the result is an estimate amount because the value exceeded the instrument calibration range
H - sample analyzed past holding time
i - the MRL/MDL has been elevated due to a matrix interference
J - the result is an estimated concentration that is less than the MRL (method reporting limit) but greater than or equal to the MDL (method detection limit)
P - The GC or HPLC confirmation criteria was exceeded
U - the compound was analyzed for, but was not detected (Non-Detect or ND) at or above the MRL/MDL

6) Sediment Quality Guidelines are based on Long, et al, 1995

7) Boxed values exceed ER-L. [redacted] values exceed ER-M

EX-4

Table 2 2004 Marina Del Rey Bulk Chemistry Testing Results, Discrete Samples MDRDH04C –08C through –13.

	Analytical Method [1]	Units [1]	Sediment Quality Guidelines [6] ER-L	ER-M	MDRDH04C-08C Result	Q [2]	MRL	MDRDH04C-09 Result	Q [2]	MRL	MDRDH04C-10 Result	Q [2]	MRL	MDRDH04C-11 Result	Q [2]	MRL	MDRDH04C-12 Result	Q [2]	MRL	MDRDH04C-13 Result	Q [2]	MRL
PHYSICAL/CONVENTIONALS																						
Total Solids (wet weight)	SM 2540G	%			60.9		0.01	70.1		0.01	69.5		0.01	66.6		0.01	71.2		0.01	69.1		0.01
Total Volatile Solids (wet weight)	SM 2540G	%			5.62		0.01	4.45		0.01	2.38		0.01	2.72		0.01	3.76		0.01	1.85		0.01
PH	EPA 9045B	pH units			7.9	H	0.1	8.5	H	0.1	8.1	H	0.1	8.2	H	0.1	8.3	H	0.1	8.2	H	0.1
Ammonia	Plumb	mg/kg			75.2		2.5	23.5		0.5	29.7		1.0	41.7		1.0	46.2		2.5	30.3		1.0
Total Organic Carbon	EPA 9060M	%			2.48		0.05	1.55		0.05	0.83		0.05	0.89		0.05	1.27		0.05	0.56		0.05
Soluble Sulfides	EPA 376.2M	mg/kg			25.5		3.4	18.9		3.4	13.8		3.4	24.0		3.4	17.5		3.4	21.3		3.4
Total Sulfides	Plumb	mg/kg			1480		90	1660		180	792		90	1330		90	1130		90	892		90
Oil & Grease (Total, HEM)	EPA 1664	mg/kg			2700		100	1500		100	1300		100	880		100	1200		100	430		100
Oil & Grease (Nonpolar SGT-HEM)	EPA 1664	mg/kg			1300		100	550		100	530		100	360		100	390		100	230		100
METALS																						
Arsenic (As)	EPA 6010	mg/kg	8.2	70	5	J	8	6	J	7	8		7	4	J	8	6	J	7	3	J	7
Chromium (Cr)	EPA 6010	mg/kg	81	370	22.0		8	21.7		7	14.0		7	15.6		8	17.0		7	12.9		7
Copper (Cu)	EPA 6010	mg/kg	34	270	37.7		20	20.0		10	11.4		10	12.4	J	20	15.5		10	7.1	J	10
Lead (Pb)	EPA 6010	mg/kg	46.7	218	92		8	41		7	76		7	24		8	29		7	15		7
Mercury (Hg)	EPA 7471A	mg/kg	0.15	0.71	0.05	J	0.2	0.04	J	0.1	0.16	J	0.1	0.04	J	0.2	0.02	J	0.1	ND	U	0.1
Nickel (Ni)	EPA 6010	mg/kg	20.9	51.6	15.9		8	15.4		7	9.81		7	12.4		8	11.9		7	10.3		7
Silver (Ag)	EPA 6010	mg/kg	1.0	3.7	ND		20	0.2	J	7	ND		10	ND		20	ND		10	ND		10
Zinc (Zn)	EPA 6010	mg/kg	150	410	164		20	108		10	82.9		10	65.2		20	95.2		10	161		10
ORGANICS																						
PESTICIDES																						
Total Chlorinated Pesticides [5]		ug/kg			65.37			41.65			34.83			16.92			24.76			13.23		
alpha BHC	EPA 8081A	ug/kg			0.58	JP	1.0	1.3	P	1.0	ND	U	1.0	ND	U	1.0	0.73	J	1.0	ND	Ui	1.0
beta-BHC	EPA 8081A	ug/kg			ND	U	1.0	ND	Ui	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0
gamma-BHC (Lindane)	EPA 8081A	ug/kg			ND	Ui	1.0	ND	Ui	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	4.2	ND	U	1.0
delta-BHC	EPA 8081A	ug/kg			1.0	P	1.0	0.66	JP	1.0	0.62	JP	1.0	ND	Ui	1.0	0.27	J	1.0	0.41	JP	1.0
Heptachlor	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	U	1.0
Aldrin	EPA 8081A	ug/kg			ND	Ui	1.0	ND	Ui	1.4	0.95	J	1.0	0.70	J	1.0	0.63	JP	1.0	ND	U	1.0
Heptachlor Epoxide	EPA 8081A	ug/kg			ND	Ui	1.0	ND	Ui	1.1	ND	Ui	1.0	ND	Ui	1.0	0.36	JP	1.0	ND	Ui	1.0
gamma-Chlordane	EPA 8081A	ug/kg			19		1.0	8.3		1.0	8.6		1.0	3.5		1.0	4.1		1.0	2.8		1.0
Endosulfan I	EPA 8081A	ug/kg			ND	Ui	1.5	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0	1.3	P	1.0	ND	Ui	1.0
alpha-Chlordane	EPA 8081A	ug/kg			12		1.0	5.0		1.0	5.3		1.0	2.3		1.0	3.3		1.0	1.7		1.0
Dieldrin	EPA 8081A	ug/kg	0.02	8	5.3		1.0	ND	Ui	2.5	2.1		1.0	1.0	JP	1.0	ND	Ui	2.0	0.52	J	1.0
4,4'-DDE	EPA 8081A	ug/kg	2.2	27	16		1.0	10		1.0	6.3		1.0	6.3		1.0	5.5		1.0	2.8		1.0
Endrin	EPA 8081A	ug/kg	0.02	45	6.89	JP	1.0	ND	Ui	1.0	0.46	J	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0
Endosulfan II	EPA 8081A	ug/kg			ND	Ui	1.7	ND	Ui	1.0	ND	U	1.0	ND	Ui	1.0	0.17	J	1.0	ND	U	1.0
4,4'-DDD	EPA 8081A	ug/kg	2	20	8.3	P	1.0	4.8	P	1.0	3.9	P	1.0	2.7		1.0	2.1	P	1.0	1.4		1.0
Endrin Aldehyde	EPA 8081A	ug/kg			1.0	P	1.0	ND	U	1.0	ND	Ui	1.0	ND	U	1.0	ND	Ui	1.0	ND	U	1.0
Endosulfan Sulfate	EPA 8081A	ug/kg			ND	Ui	1.1	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0
4,4'-DDT	EPA 8081A	ug/kg	1	7	ND	Ui	5.6			1.0	6.6		1.0	ND	Ui	1.0	4.9	P	1.0	2.4		1.0
Endrin Ketone	EPA 8081A	ug/kg			ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0	0.42	JP	1.0	ND	Ui	1.0	ND	Ui	1.0
Methoxychlor	EPA 8081A	ug/kg			1.3	P	1.0	0.39	J	1.0	ND	Ui	1.0	ND	U	1.0	1.4	P	1.0	1.2		1.0
Toxaphene	EPA 8081A	ug/kg			ND	Ui	71	ND	Ui	50	ND	Ui	50	ND	Ui	50	ND	Ui	93	ND	Ui	50
Total DDT [4]		ug/kg	1.58	46.1	24.3			26.0			16.8			9.0			12.5			6.6		
ORGANOTINS																						
Total Organotins [5]		ug/kg			57.3			20.2			14.7			9.3			11.5			3.65		
Tetra-n-butyltin	Krone	ug/kg			ND	U	1.6	ND	U	1.4	ND	U	1.4	ND	U	1.5	ND	U	1.4	ND	U	1.4
Tri-n-butyltin	Krone	ug/kg			29		1.6	4.9		1.4	4.7		1.4	2.2		1.5	1.9		1.4	0.95	J	1.4
Di-n-butyltin	Krone	ug/kg			21		1.6	9.1		1.4	6.8		1.4	4.7		1.5	5.9		1.4	1.6		1.4
n-Butyltin	Krone	ug/kg			7.3		1.6	6.2		1.4	3.2		1.4	2.4		1.5	3.7		1.4	1.1	J	1.4
PHTHALATES																						
Total phthalates [5]		ug/kg			1718			1585			1025			755			1101			443		
Dimethyl Phthalate	EPA 8270C	ug/kg			ND	U	34	6.0	JD	14	ND	U	14	ND	U	14	25	D	14	ND	U	14
Diethyl Phthalate	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	10	JD	14	ND	U	14
Di-n-butyl Phthalate	EPA 8270C	ug/kg			29	JD	34	49	D	14	19	D	14	16	D	14	20	D	14	12	JD	14
Butyl Benzyl Phthalate	EPA 8270C	ug/kg			89	D	34	96	D	14	68	D	14	36	D	14	86	D	14	21	D	14
Bis(2-ethylhexyl) Phthalate	EPA 8270C	ug/kg			1600	D	670	1400	ED	270	900	ED	270	680	ED	270	920	ED	270	410	D	270
Di-n-octyl Phthalate	EPA 8270C	ug/kg			ND	U	34	34	D	14	38	D	14	23	D	14	40	D	14	ND	U	14

Table 2. 2004 Marina Del Rey Bulk Chemistry Testing Results, Discrete Samples MDRDH04C –08C through –13.

	Analytical Method (1)	Units (2)	Sediment Quality Guidelines (6) ER-L	ER-M	MDRDH04C-08C Result	Q (5)	MRL	MDRDH04C-09 Result	Q (5)	MRL	MDRDH04C-10 Result	Q (5)	MRL	MDRDH04C-11 Result	Q (5)	MRL	MDRDH04C-12 Result	Q (5)	MRL	MDRDH04C-13 Result	Q (5)	MRL
POLYCHLORINATED BIPHENYLS (PCB)																						
Total PCBs (3)		ug/kg	22.7	180	[redacted]			154			120			56			109			79		
Aroclor 1016	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Aroclor 1221	EPA 8082	ug/kg			ND	U	20	ND	U	20	ND	U	20	ND	U	20	ND	U	20	ND	U	20
Aroclor 1232	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Aroclor 1242	EPA 8082	ug/kg			55		10	47		10	46		10	16		10	16	P	10	32		10
Aroclor 1248	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Aroclor 1254	EPA 8082	ug/kg			130		10	59		10	33	P	10	17	P	10	23	P	10	25		10
Aroclor 1260	EPA 8082	ug/kg			55	P	10	48		10	41		10	23		10	70		10	22		10
POLYNUCLEAR AROMATICS HYDROCARBONS (PAH)																						
Total PAHs (3)		ug/kg	4,022	44,792	1,398.7			1,051.6			1,125.8			797.3			1,289.7			473.3		
Naphthalene	EPA 8270C	ug/kg	160	2,100	ND	U	34	4.0	JD	14	4.5	JD	14	ND	U	14	6.7	JD	14	ND	U	14
Acenaphthylene	EPA 8270C	ug/kg	44	640	ND	U	34	4.6	JD	14	4.8	JD	14	4.7	JD	14	8.3	JD	14	ND	U	14
Acenaphthene	EPA 8270C	ug/kg	16	500	8.7	JD	34	5.0	JD	14	7.5	JD	14	5.0	JD	14	8.4	JD	14	ND	U	14
Fluorene	EPA 8270C	ug/kg	19	540	15	JD	34	5.0	JD	14	11	JD	14	8.6	JD	14	17	D	14	ND	U	14
Phenanthrene	EPA 8270C	ug/kg	240	1,500	78	D	34	72	D	14	96	D	14	78	D	14	310	D	14	42	D	14
Anthracene	EPA 8270C	ug/kg	85	1,100	26	JD	34	17	D	14	21	D	14	19	D	14	47	D	14	8.3	JD	14
Fluoranthene	EPA 8270C	ug/kg	600	5,100	220	D	34	170	D	14	190	D	14	140	D	14	290	D	14	110	D	14
Pyrene	EPA 8270C	ug/kg	665	2,600	230	D	34	200	D	14	220	D	14	130	D	14	230	D	14	95	D	14
Benz(a)anthracene	EPA 8270C	ug/kg	261	1,600	100	D	34	71	D	14	80	D	14	60	D	14	47	D	14	28	D	14
Chrysene	EPA 8270C	ug/kg	384	2,800	170	D	34	110	D	14	110	D	14	79	D	14	90	D	14	49	D	14
Benzo(b)fluoranthene	EPA 8270C	ug/kg			170	D	34	120	D	14	110	D	14	88	D	14	71	D	14	45	D	14
Benzo(k)fluoranthene	EPA 8270C	ug/kg			66	D	34	37	D	14	41	D	14	28	D	14	28	D	14	15	D	14
Benzo(a)pyrene	EPA 8270C	ug/kg	430	1,600	110	D	34	79	D	14	81	D	14	59	D	14	46	D	14	31	D	14
Indeno(1,2,3-cd)pyrene	EPA 8270C	ug/kg			82	D	34	61	D	14	57	D	14	40	D	14	32	D	14	24	D	14
Dibenz(a,h)anthracene	EPA 8270C	ug/kg	63	260	23	JD	34	14	D	14	17	D	14	11	JD	14	9.3	JD	14	ND	U	14
Benzo(g,h,i)perylene	EPA 8270C	ug/kg			100	D	34	82	D	14	75	D	14	47	D	14	49	D	14	26	D	14
PHENOLS																						
Total Phenols (3)		ug/kg			0			255			70			15.2			21.9			6.0		
Phenol	EPA 8270C	ug/kg			ND	U	100	160	D	40	52	D	40	6.2	JD	40	5.9	JD	40	6.0	JD	40
2-Chlorophenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
2-Methylphenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
4-Methylphenol	EPA 8270C	ug/kg			ND	U	34	95	D	14	18	D	14	9.0	JD	14	16	D	14	ND	U	14
2-Nitrophenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
2,4-Dimethylphenol	EPA 8270C	ug/kg			ND	U	170	ND	U	67	ND	U	67	ND	U	67	ND	U	67	ND	U	67
2,4-Dichlorophenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
4-Chloro-3-methylphenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
2,4,6-Trichlorophenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
2,4,5-Trichlorophenol	EPA 8270C	ug/kg			ND	U	34	ND	U	14	ND	U	14	ND	U	14	ND	U	14	ND	U	14
2,4-Dinitrophenol	EPA 8270C	ug/kg			ND	U	670	ND	U	270	ND	U	270	ND	U	270	ND	U	270	ND	U	270
4-Nitrophenol	EPA 8270C	ug/kg			ND	U	340	ND	U	140	ND	U	140	ND	U	140	ND	U	140	ND	U	140
2-Methyl-4,6-dinitrophenol	EPA 8270C	ug/kg			ND	U	340	ND	U	140	ND	U	140	ND	U	140	ND	U	140	ND	U	140
Pentachlorophenol	EPA 8270C	ug/kg			ND	U	340	ND	U	140	ND	U	140	ND	U	140	ND	U	140	ND	U	140

Notes:

1) Analytical Methods:
EPA = United States Environmental Protection Agency, EPA Methods are EPA SW-846, 1994 3rd Edition or EPA 600/4-79-020, March 1983
Krone = C.A. Krone, et. al., Method for Analysis of Butyltin Species and Measurement of Butyltins in Sediment and English Sole Livers from Puget Sound, Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, NOAA, November, 1988.
Plumb = Procedure for Handling and Chemical Analysis of Sediment and Water Samples. Tech Rep. USEPA/CE-81, Russell H. Plumb, Jr., 1981.
SM 2540G = Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, American Public Health Association.

2) Units: ug/kg = micrograms per kilogram, parts per billion (dry weight unless otherwise noted)
mg/kg = milligrams per kilogram, parts per million (dry weight unless otherwise noted)

3) Total Chlorinated Pesticides, Total Organotins, Total Phthalates, Total PCBs, Total PAHs, and Total Phenols = sum of named compounds and their derivatives

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

5) Data Qualifiers:
D - the reported result is from a dilution
E - the result is an estimate amount because the value exceeded the instrument calibration range
H - sample analyzed past holding time
i - the MRL/MDL has been elevated due to a matrix interference
J - the result is an estimated concentration that is less than the MRL (method reporting limit) but greater than or equal to the MDL (method detection limit)
P - The GC or HPLC confirmation criteria was exceeded
U - the compound was analyzed for, but was not detected (Non-Detect or ND) at or above the MRL/MDL

6) Sediment Quality Guidelines are based on Long, et al, 1995

7) Boxed values exceed ER-L, [redacted] values exceed ER-M

Table 3 . 2004 Marina Del Rey Bulk Chemistry Testing Results, Discrete Samples MDRDH04C –14 through –16 and –21 through -23.

	Analytical Method [1]	Units [2]	Sediment Quality Guidelines [4] ER-L	ER-M	MDRDH04C-14 Result	Q [5]	MRL	MDRDH04C-15 Result	Q [5]	MRL	MDRDH04C-16 Result	Q [5]	MRL	MDRDH04C-21 Result	Q [5]	MRL	MDRDH04C-22 Result	Q [5]	MRL	MDRDH04C-23 Result	Q [5]	MRL
PHYSICAL/CONVENTIONALS																						
Total Solids (wet weight)	SM 2540G	%			75.6		0.01	69.4		0.01	70.1		0.01	56.6		0.01	65.2		0.01	57.6		0.01
Total Volatile Solids (wet weight)	SM 2540G	%			2.04		0.01	2.23		0.01	1.97		0.01	9.11		0.01	4.68		0.01	5.61		0.01
PH	EPA 9045B	pH units			8.3	H	0.1	8.5	H	0.1	8.4	H	0.1	7.9	H	0.1	8.4	H	0.1	8.2	H	0.1
Ammonia	Plumb	mg/kg			48.3		2.5	24.4		0.5	4.65		0.5	77.4		2.5	25.8		0.5	13.7		0.5
Total Organic Carbon	EPA 9060M	%			0.92		0.05	0.75		0.05	0.67		0.05	3.76		0.05	2.27		0.05	2.70		0.05
Soluble Sulfides	EPA 376.2M	mg/kg			2.5		3.4	16.5		3.4	16.1		3.4	15.7		3.4	12.1		3.4	12.1		3.4
Total Sulfides	Plumb	mg/kg			20.9		4.5	870		90	221		23	776		90	909		90	758		90
Oil & Grease (Total, HEM)	EPA 1664	mg/kg			88	J	100	660		100	450		100	3800		100	1600		100	2700		100
Oil & Grease (Nonpolar SGT-HEM)	EPA 1664	mg/kg			ND	U	100	210		100	180		100	1400		100	610		100	1200		100
METALS																						
Arsenic (As)	EPA 6010	mg/kg	8.2	70	5	J	7	3	J	7	4	J	7	11		9	6	J	8	8	J	9
Chromium (Cr)	EPA 6010	mg/kg	81	370	11.3		7	16.3		7	12.3		7	37.3		9	29.5		8	35.2		9
Copper (Cu)	EPA 6010	mg/kg	34	270	4.3	J	10	11.2	J	10	7.7	J	10	49.1		20	29.5		20	39.7		20
Lead (Pb)	EPA 6010	mg/kg	46.7	218	8		7	23		7	14		7	249		9	151		8	171		9
Mercury (Hg)	EPA 7471A	mg/kg	0.15	0.71	ND	U	0.1	ND	U	0.1	ND	U	0.1	0.16	J	0.2	0.09	J	0.2	0.24		0.2
Nickel (Ni)	EPA 6010	mg/kg	20.9	51.6	10.6		7	12.9		7	10.5		7	20.5		9	17.7		8	20.1		9
Silver (Ag)	EPA 6010	mg/kg	1.0	3.7	ND			ND			ND			1.0	J	9	2.1	J	8	ND		
Zinc (Zn)	EPA 6010	mg/kg	150	410	34.6		10	64.9		10	47.5		10	265		20	154		20	280		20
ORGANICS																						
PESTICIDES																						
Total Chlorinated Pesticides [3]		ug/kg			28.92			24.7			21.43			255			63			120.7		
alpha BHC	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0
beta-BHC	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	U	1.0	ND	U	1.0
gamma -BHC (Lindane)	EPA 8081A	ug/kg			ND	U	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0
delta-BHC	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0
Heptachlor	EPA 8081A	ug/kg			ND	Ui	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	Ui	1.0
Aldrin	EPA 8081A	ug/kg			ND	Ui	1.6	ND	U	1.0	ND	U	1.0	ND	Ui	1.2	ND	Ui	1.0	ND	Ui	1.0
Heptachlor Epoxide	EPA 8081A	ug/kg			ND	U	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	U	1.0
gamma -Chlordane	EPA 8081A	ug/kg			0.57	JP	1.0	4.0		1.0	3.1		1.0	66	D	1.0	19		1.0	33		1.0
Endosulfan I	EPA 8081A	ug/kg			ND	Ui	2.4	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.9	ND	Ui	1.5	ND	Ui	1.1
alpha-Chlordane	EPA 8081A	ug/kg			ND	Ui	1.0	2.5		1.0	2.1		1.0	31		1.0	11		1.0	20		1.0
Dieldrin	EPA 8081A	ug/kg	0.01	8	ND	U	1.0	1.5		1.0	1.2		1.0	22		1.0	ND	Ui	3.9	6.1		1.0
4,4'-DDE	EPA 8081A	ug/kg	2.3	27	2.2		1.0	7.6		1.0	5.3		1.0	58	D	1.0	18		1.0	22		1.0
Endrin	EPA 8081A	ug/kg	0.02	45	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.8
Endosulfan II	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	Ui	3.0
4,4'-DDD	EPA 8081A	ug/kg	2	20	1.2		1.0	3.9		1.0	3.3		1.0	33	PD	1.0	15	P	1.0	23	P	1.0
Endrin Aldehyde	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.2	ND	Ui	1.0	1.8	P	1.0
Endosulfan Sulfate	EPA 8081A	ug/kg			ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	Ui	1.0	ND	U	1.0	ND	U	1.0
4,4'-DDT	EPA 8081A	ug/kg	1	7	ND	Ui	1.0	3.9	P	1.0	2.0	P	1.0	30	D	1.0	ND	Ui	6.3	ND	Ui	6.3
Endrin Ketone	EPA 8081A	ug/kg			0.85	JP	1.0	ND	Ui	1.0	ND	Ui	1.0	ND	Ui	1.2	ND	Ui	1.4	ND	Ui	1.0
Methoxychlor	EPA 8081A	ug/kg			1.1	P	1.0	1.3		1.0	0.73	J	1.0	2.0		1.0	ND	Ui	1.0	1.8	P	1.0
Toxaphene	EPA 8081A	ug/kg			23	JP	50	ND	Ui	50	ND	Ui	50	ND	Ui	83	ND	Ui	50	ND	Ui	50
Total DDT [6]		ug/kg	1.58	46.1	3.4			15.4			16.3			145			33			45.9		
ORGANOTINS																						
Total Organotins [3]		ug/kg			1.35			10.0			11.8			126			102			84.46		
Tetra-n-butyltin	Krone	ug/kg			ND	U	1.4	ND	U	1.4	ND	U	1.4	ND	U	1.7	ND	U	1.5	0.26	J	1.7
Tri-n-butyltin	Krone	ug/kg			0.61	J	1.4	1.7		1.4	1.3	J	1.4	59		1.7	19		1.5	37		1.7
Di-n-butyltin	Krone	ug/kg			0.63	J	1.4	5.2		1.4	7.7		1.4	52		1.7	73		1.5	39		1.7
n-Butyltin	Krone	ug/kg			0.11	J	1.4	3.1		1.4	2.8		1.4	15		1.7	10		1.5	8.2		1.7
PHTHALATES																						
Total phthalates [3]		ug/kg			179.7			745			560			2723			2070			2740		
Dimethyl Phthalate	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	32	JD	67	ND	U	67	ND	U	67
Diethyl Phthalate	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
Di-n-butyl Phthalate	EPA 8270C	ug/kg			5.1	J	6.7	13	JD	14	15	D	14	ND	U	67	ND	U	67	ND	U	67
Butyl Benzyl Phthalate	EPA 8270C	ug/kg			4.6	J	6.7	30	D	14	15	D	14	190	D	67	170	D	67	240	D	67
Bis(2-ethylhexyl) Phthalate	EPA 8270C	ug/kg			170		140	680	ED	270	530	D	270	2500	D	1400	1900	D	1400	2500	D	1400
Di-n-octyl Phthalate	EPA 8270C	ug/kg			ND	U	6.7	22	D	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67

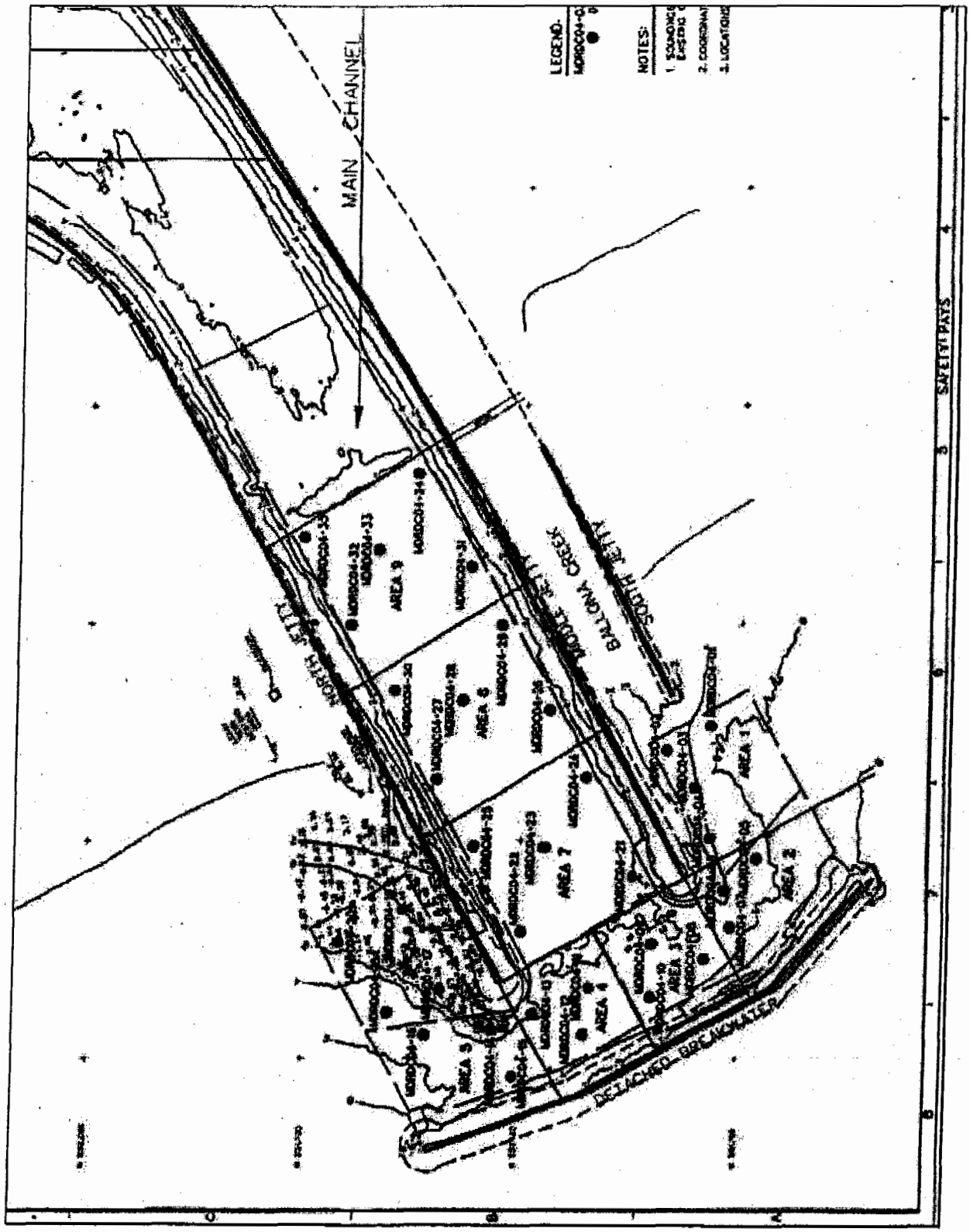
Table3 . 2004 Marina Del Rey Bulk Chemistry Testing Results, Discrete Samples MDRDH04C –14 through –16 and –21 through -23.

	Analytical Method [1]	Units [2]	Sediment Quality Guidelines [6]		MDRDH04C-14			MDRDH04C-15			MDRDH04C-16			MDRDH04C-21			MDRDH04C-22			MDRDH04C-23		
			ER-L	ER-M	Result	Q [5]	MRL	Result	Q [5]	MRL	Result	Q [5]	MRL	Result	Q [5]	MRL	Result	Q [5]	MRL	Result	Q [5]	MRL
POLYCHLORINATED BIPHENYLS (PCB)																						
Total PCBs [3]		ug/kg	22.7	180	13.6			55			40			[illegible]			[illegible]			[illegible]		
Aroclor 1016	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Aroclor 1221	EPA 8082	ug/kg			ND	U	20	ND	U	30	ND	U	20	ND	U	20	ND	U	20	ND	U	30
Aroclor 1232	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Aroclor 1242	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	120		10	36	P	10	48	P	10
Aroclor 1248	EPA 8082	ug/kg			ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Aroclor 1254	EPA 8082	ug/kg			6.2	J	10	30		10	21		10	170	P	10	110		10	200		10
Aroclor 1260	EPA 8082	ug/kg			7.4	J	10	25		10	19		10	160		10	130		10	150		10
POLYNUCLEAR AROMATICS HYDROCARBONS (PAH)																						
Total PAHs [3]		ug/kg	4,022	44,792	384.0			565.4			248.3			2,091			1,539			1,349		
Naphthalene	EPA 8270C	ug/kg	160	2,100	ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
Acenaphthylene	EPA 8270C	ug/kg	44	640	ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
Acenaphthene	EPA 8270C	ug/kg	16	500	2.9	J	6.7	ND	U	14	ND	U	14	ND	U	67	15	JD	67	ND	U	67
Fluorene	EPA 8270C	ug/kg	19	540	6.6	J	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
Phenanthrene	EPA 8270C	ug/kg	240	1,500	47		6.7	45	D	14	17	D	14	160	D	67	140	D	67	79	D	67
Anthracene	EPA 8270C	ug/kg	85	1,100	13		6.7	11	JD	14	4.2	JD	14	40	JD	67	35	JD	67	24	JD	67
Fluoranthene	EPA 8270C	ug/kg	600	5,100	88		6.7	100	D	14	44	D	14	330	D	67	250	D	67	200	D	67
Pyrene	EPA 8270C	ug/kg	665	2,600	72		6.7	110	D	14	44	D	14	400	D	67	280	D	67	210	D	67
Benz(a)anthracene	EPA 8270C	ug/kg	261	1,600	24		6.7	42	D	14	19	D	14	150	D	67	100	D	67	84	D	67
Chrysene	EPA 8270C	ug/kg	384	2,800	32		6.7	55	D	14	25	D	14	230	D	67	140	D	67	130	D	67
Benzo(b)fluoranthene	EPA 8270C	ug/kg			33		6.7	59	D	14	30	D	14	230	D	67	170	D	67	170	D	67
Benzo(k)fluoranthene	EPA 8270C	ug/kg			8.8		6.7	20	D	14	9.1	JD	14	81	D	67	61	JD	67	62	JD	67
Benzo(a)pyrene	EPA 8270C	ug/kg	430	1,600	22		6.7	42	D	14	20	D	14	170	D	67	120	D	67	110	D	67
Indeno(1,2,3-cd)pyrene	EPA 8270C	ug/kg			15		6.7	34	D	14	16	D	14	130	D	67	98	D	67	110	D	67
Dibenz(a,h)anthracene	EPA 8270C	ug/kg	63	260	3.7	J	6.7	8.4	JD	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
Benzo(g,h,i)perylene	EPA 8270C	ug/kg			16		6.7	39	D	14	20	D	14	170	D	67	130	D	67	150	D	67
PHENOLS																						
Total Phenols [3]		ug/kg			38.6			220			8.8			0			291			0		
Phenol	EPA 8270C	ug/kg			5.6	J	20	220	D	40	8.8	JD	40	ND	U	200	240	D	200	ND	U	200
2-Chlorophenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
2-Methylphenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
4-Methylphenol	EPA 8270C	ug/kg			33		6.7	ND	U	14	ND	U	14	ND	U	67	51	JD	67	ND	U	67
2-Nitrophenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
2,4-Dimethylphenol	EPA 8270C	ug/kg			ND	U	34	ND	U	67	ND	U	67	ND	U	340	ND	U	340	ND	U	340
2,4-Dichlorophenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
4-Chloro-3-methylphenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
2,4,6-Trichlorophenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
2,4,5-Trichlorophenol	EPA 8270C	ug/kg			ND	U	6.7	ND	U	14	ND	U	14	ND	U	67	ND	U	67	ND	U	67
2,4-Dinitrophenol	EPA 8270C	ug/kg			ND	U	140	ND	U	270	ND	U	270	ND	U	1400	ND	U	1400	ND	U	1400
4-Nitrophenol	EPA 8270C	ug/kg			ND	U	67	ND	U	140	ND	U	140	ND	U	670	ND	U	670	ND	U	670
2-Methyl-4,6-dinitrophenol	EPA 8270C	ug/kg			ND	U	67	ND	U	140	ND	U	140	ND	U	670	ND	U	670	ND	U	670
Pentachlorophenol	EPA 8270C	ug/kg			ND	U	67.	ND	U	140	ND	U	140	ND	U	670	ND	U	670	ND	U	670

Notes:

1) Analytical Methods:
   - EPA = United States Environmental Protection Agency, EPA Methods are EPA SW-846, 1994 3rd Edition or EPA 600/4-79-020, March 1983
   - Krone = C.A. Krone, et. al., Method for Analysis of Butyltin Species and Measurement of Butyltins in Sediment and English Sole Livers from Puget Sound, Environmental Conservation Division, Northwest and Alaska Fisheries Center, National Marine Fisheries Service, NOAA, November, 1988.
   - Plumb = Procedure for Handling and Chemical Analysis of Sediment and Water Samples. Tech Rep. USEPA/CE-81, Russell H. Plumb, Jr., 1981.
   - SM 2540G = Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, American Public Health Association.
2) Units. ug/kg = micrograms per kilogram, parts per billion (dry weight unless otherwise noted)
   mg/kg = milligrams per kilogram, parts per million (dry weight unless otherwise noted)
3) Total Chlorinated Pesticides, Total Organotins, Total Phthalates, Total PCBs, Total PAHs, and Total Phenols = sum of named compounds and their derivatives
4) Total DDT = sum of 4,4'-DDE; 4,4'-DDD; and 4,4'-DDT
5) Data Qualifiers:
   - i. D - the reported result is from a dilution
   - ii. E - the result is an estimate amount because the value exceeded the instrument calibration range
   - iii. H - sample analyzed past holding time
   - iv. i - the MRL/MDL has been elevated due to a matrix interference
   - J - the result is an estimated concentration that is less than the MRL (method reporting limit) but greater than or equal to the MDL (method detection limit)
   - P - The GC or HPLC confirmation criteria was exceeded
   - U - the compound was analyzed for, but was not detected (Non-Detect or ND) at or above the MRL/MDL.
6) Sediment Quality Guidelines are based on Long, et al, 1995
7) Boxed values exceed ER-L. [illegible] values exceed ER-M

EX-4


MAIN CHANNEL
LEGEND:
NOTES:
SAFETY PATS
BALLONA CREEK
MIDDLE SETTLING BASIN
SOUTH SETTLING BASIN
AREA 9
AREA 6
AREA 7
AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
DETACHED BREAKWATER