RULES and REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 228

[OW-FRL-2791-3]

Ocean Dumping; Final Designation of Site

Thursday, March 7, 1985

***9273** AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA today designates an ocean disposal site located in the San Pedro Basin near Long Beach, California, for the disposal of drilling muds and cuttings. This action is necessary to provide a suitable ocean dumping site for the current and future disposal of these materials resulting from oil drilling activities in Long Beach Harbor. This site designation does not authorize any actual dumping of drilling muds and cuttings. Authorization to ocean dump drilling muds and cuttings at the site is granted only by permit and other administrative proceedings conducted by the EPA.

DATE: This designation shall become effective April 8, 1985.

ADDRESSES: The record supporting this action may be examined at the following locations:

EPA Public Information Reference Unit (PIRU), Room 2904 (rear), 401 M Street, SW., Washington, D.C.

EPA Region IX, 215 Fremont Street, San Francisco, California

FOR FURTHER INFORMATION CONTACT:Mr. Frank G. Csulak, 202-755-9231.

SUPPLEMENTARY INFORMATION: Section 102(c) of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, 33 U.S.C. 1401 et seq. (the “Act”), gives the Administrator of EPA the authority to designate sites where ocean dumping may be permitted. On September 19, 1980, the Administrator delegated the authority to designate ocean dumping sites to the Assistant Administrator for Water and Waste Management, now the Assistant Administrator for Water. This final site designation is being made pursuant to that authority.

The EPA Ocean Dumping Regulations (40 CFR Chapter I, Subchapter H, § 228.4) state that ocean dumping sites will be designated by promulgation is this Part 228.

The permitting process for ocean dumping requires two separate actions by EPA: (1) The selection and designation of a site at which these materials may be ocean dumped; and (2) the issuance of a permit for the disposal of specific types and amounts of material for a specific period of time. Ocean dumping may not commence until both of these actions are taken.

In the permit issuance procedure, the permitting authority, EPA Region IX in this case, considers the need for the proposed dumping and the environmental acceptability of the specific material for ocean disposal in accordance with the requirements of 40 CFR Part 227. After review of the permit application, EPA Region IX will issue a public notice announcing a tentative determination on permit issuance and invite public comment. Final action by Region IX will be taken after consideration of all comments which are received on the public notice.

In the site selection and designation process, the generic nature of the waste (e.g., sewage sludge, dredged material, fish cannery wastes) is considered, and site is selected which would minimize the impacts of the particular type of waste proposed for disposal. Site selection is in accordance with 40 CFR 228.5 and 228.6 which set forth five general criteria and eleven specific factors to be considered in selecting an appropriate site.

The action taken today is solely the final designation of a site appropriate for the disposal of drilling muds and cuttings found acceptable for ocean disposal in accordance with the requirements of 40 CFR Part 227 of the EPA Ocean Dumping Regulations. The purpose of this notice is to notify the public of the final designation, as an EPA approved ocean dumping site, of a site in the San Pedro Basin for the disposal of drilling muds and cuttings for a period of three years. This action does not authorize use of the site; use of the site may be authorized only by permit. The public has an opportunity to comment on and challenge the issuance of any permit during the process, as provided by 40 CFR Part 221.

A final Environmental Impact Statement (EIS) has been prepared on the site designation. The EIS describes the proposed disposal operation, discusses the alternatives to ocean disposal, and describes the anticipated environmental impacts associated with the proposed disposal. This document is available for public inspection at the addresses given above, and is summarized in the following paragraphs.

THUMS Long Beach Company, 840 Van Camp Street, Long Beach, California 90801, has applied for a special permit to transport and dump material into ocean waters pursuant to the Act. THUMS proposes to dump drilling muds and cuttings from drilling activities at four islands in Long Beach Harbor. Since no designated ocean dumping site is available for the disposal of these materials, a new ocean disposal site must be designated if the permit is to be granted.

Nature of Proposed Waste to be Disposed

A. All of the drilling muds and cuttings proposed for ocean dumping will originate from wells drilled within Long Beach Harbor

(1) Drill cuttings are composed of naturally occurring sediments. The results of grain size analysis demonstrated that the cuttings are composed primarily (58%) of sand particles (2.0-0.06 mm diameter) removed from the rock formation by the drilling activity. The cuttings also contain significant silt (0.06-. 004 mm diameter) and clay (.004-.001 mm diameter) fractions, comprising respectively 11% and 29% of the cuttings. The silt and clay fractions of the cuttings are essentially residual drilling muds which are retained by the cuttings during the process of removing the larger drill cutting particles from the recirculating mud system (THUMS, 1982, page 6).

2. Drilling muds are a mixture of materials used to facilitate the drilling process through various rock formations. There are two types of drilling muds proposed for ocean dumping. The first is termed “spud mud” which is used in drilling the initial shallow section of the well, i.e., from the surface to 900 feet or 1500 feet. It is primarily composed of bentonite, lignite and freshwater which ***9274** are all naturally occurring substances. The second is “water based mud” and is actually a continuation of the spud mud. Usually these muds contain addit-

ives for fluid loss and viscosity control, lubricity, increase in weight requirements and, if required, for controlling cement contamination. The additives generally contain non-toxic (non-toxic amounts of biologically available material after initial dilution) materials and are used in varying amounts depending on the well depth and problems encountered while drilling. These materials are used in drilling the well to total depth and during preliminary completion phases. Small amounts of soybean oil (approximately 1.5%) are used to provide lubricity to minimize friction against the drill shaft at bending points where the direction of drilling is changed (THUMS, 1982, pages 7-30).

B. Limitations

(1) All waste materials to be dumped at this proposed ocean disposal site must meet EPA's ocean dumping regulations and criteria. No disposal of material of different composition will be permitted unless EPA determines that such disposal would not constitute a significant threat to the marine environment.

(2) Maximum quantities of drilling muds and cuttings to be disposed and rate of discharge are to be determined by the permitting authority, EPA Region IX, according to specific characteristics of the muds and cuttings to be disposed, method of transportation to be used, and frequency of disposal. Site management is now delegated to the permitting authority, EPA Region IX, for the evaluation of baseline and trend assessment data to determine capacity of the site for disposal, and maximum frequency, rate and volume of disposal according to specific characteristics of muds and cuttings prior to redesignation.

Evaluation of Site Selection Criteria

Five general criteria are used in the selection and approval for continuing use of ocean disposal sites. Sites are selected so as to minimize interference with other marine activities, to keep any temporary perturbations from the dumping from causing impacts outside the disposal site, and to permit effective monitoring to detect any adverse impacts at an early stage. Where feasible, locations off the Continental Shelf are chosen. If at any time disposal operations at a site cause unacceptable adverse impacts, further use of the site will be restricted or terminated. These general criteria are given in § 228.5 of the EPA Ocean Dumping Regulations, and § 228.6 lists eleven specific factors used in evaluating a disposal site.

EPA established these eleven factors to identify the key elements in the environmental assessment of the site for disposal. These factors are used to make critical comparisons between the alternative sites and are the basis for final site selection. The characteristics of the disposal site for drilling muds and cuttings are summarized below in terms of the five general criteria and are covered in more detail in the subsequent discussion of the eleven specific factors.

The disposal site's location has been chosen to minimize the interference of disposal activities with other activities in the marine environment. While there is potential for increased oil and gas exploitation in the area, no serious conflict with such activities is expected. Coordination with future lesses should effectively avoid potential conflicts. Effects upon the biological communities of the San Pedro Basin are expected to be negligible. There are no major commercial navigational problems since the nearest traffic separation lane for south bound ships will be 1 1/2 nmi north of the proposed dumpsite (§ 228.5(a)). The location of the proposed disposal site has been established as clearly beyond potential influence to any of the above sensitive areas. The muds will be rapidly dispersed northwesterly at increasing depths within the undercurrent and cuttings will fall to the bottom in a region of extremely low biological productivity (§ 228.5(b)) (THUMS, 1982, page 82).

The disposal site has been limited in size in order to localize, for identification and control any immediate adverse impacts and to facilitate the implementation of an effective monitoring and surveillance program to prevent adverse long-range impacts (§ 228.5(d)). Utilization of the significantly greater nearshore depths located along the Pacific Coast, and specifically, the San Pedro Basin, provide for minimization of environmental impacts through adequate dilution during descent of the disposed wastes. The edge of the Continental Shelf from Long Beach, California, is about 150 miles offshore. EPA believes that such a time-consuming distance would make ocean dumping of the drilling wastes impracticable and would provide no appreciable environmental benefit (§ 227.5(e)). Specific criteria (§ 228.6) considered for site selection are discussed below.

Specific Criteria for Site Selection

1. Geographical position, depth of water, bottom topography, and distance from coast

The proposed dumpsite is within a 1.5 nmi radius of 33°3430 N latitude and 118°2730 W longitude near the center of the San Pedro Basin. The point is 16 nmi from the Long Beach opening in the federal breakwater; 11 nmi from Point Vincente and 11 nmi from Long Point on Santa Catalina Island. Water depth at the proposed disposal site is approximately 485 fathoms (2910 ft.).

The San Pedro Basin is the shallowest of about a dozen depressions along the southern California coast. It lies between the mainland of southern California and Santa Catalina Island, and it continues northwestward through a narrow channel with the Santa Monica Basin. It is bounded by a submarine valley, the Redondo Canyon, to the north, by the City of South Laguna Beach to the south. Its geographic boundaries extend from 33°16 to 33°50 N latitude, and 117°46 to 118°36 W longitude. Depths range from 400 to 495 fathoms (2400 to 2970 feet), with the deepest measured about halfway between Isthmus, Catalina Island, and Point Vincente on the mainland. The oceanward basins, beyond San Pedro Basin, gradually attain far greater depths, to more than 1,000 fathoms (6000 feet).

Offshore southern California is cut by numerous faults, many of which have been identified as active. Several active faults, fault traces, have been identified near the proposed dump site area and the San Pedro Basin in general. Slump and slide areas have also been identified for the San Pedro Basin.

2. Location to breeding, spawning, nursery, feeding or passage areas of living resources in adult or juvenile phases

Benthic Biology

The macrofauna of subtidal benthic communities in general within the Southern California Bight are influenced by a variety of factors including bathymetry, substrate type, oceanic and localized currents, biogeographic location, and oxygen concentrations (THUMS, 1982, page 61). The nearshore deep sea basins located between the mainland and first line of islands and ridges are quite broad and relatively shallow 490 fathoms (2940 feet) as a consequence of rapid sedimentation. Offshore basins are deeper with less plains, have greater slope habitat, and are relatively more highly oxygenated ***9275** than nearshore basins. The San Pedro Basin benthic macrofauna community is randomly distributed and numerically dominated by minor phyletic groups (THUMS, 1982, page 62). Similar to other nearshore habitats, San Pedro Basin supports few species and low population densities. The benthic fauna are typically deposit feeders, since the basin acts as a food trap. In comparison to other basins, San Pedro Basin exhibits the lowest standing crop and lower species richness and diversity than Santa Cruz and San Nicholas basins. This habitat is a result of extremely low oxygen levels. The oxygen levels generally correspond

to the sill depth at 273 to 382 fathoms (1640 to 2296 feet) the oceanic minimum layer and little decomposition of organic material before reaching the basin floors (THUMS, 1982, page 62).

The greatest occurrence of animals is along a rim bordering Santa Catalina Island and off of Point Fermin. Siliceous sponge/ampharetid polychaete associations dominate the community makeup and occur in high density at the base of submarine mountains on either side of the sills and along the walls of the canyon. The dominant benthic invertebrates of the San Pedro Basin are polychaete worms and mollusks.

Foraminifera fauna of the inshore basin (including San Pedro Basin) are characterized by assemblages present in water depths below the basin sill where oxygen levels are normally less than 0.3 mg/l (THUMS, 1982, page 64). The principal species of this assemblage are Bolivina argentea, Suggrunda eckisi, Buliminella tenuata, Cassidulinoides cornuta, and Loxostomum pseudobeyrichi. The dominant form in the San Pedro Basin is Buliminella tenuata.

WATER COLUMN BIOLOGY

Plankton

The distribution, abundance, and type of planktonic organisms in the coastal waters between the mainland and Catalina are directly influenced by both mixing and transport by currents, i.e., the southerly flowing California Current and the counter-current in the Southern California Bight, and upwelling. The waters of the Continental California Shelf are highly productive due to upwelling and diffusion mixing of nutrients from colder deep waters to shallower surface waters.

Phytoplankton. Approximately 280 species of phytoplankton from California waters have been identified: 160 diatoms; 112 dinoflagellate, and 6 silicoflagellate species. Sixty species have been reported in Santa Monica Bay (THUMS, 1982, page 67). The distribution of the species and their abundances are controlled by several factors including amount of light, currents, intensity of grazing, temperature, and upwelling events. Phytoplankton variability is evident on a seasonal basis as well as over long-term periods in which it has been related to oceanographic and meteorological events.

Zooplankton. Zooplankton are instrumental in the transfer of energy from the phytoplankton to the higher trophic levels including fishes, birds, and marine mammals. In the California Current system, at least 546 invertebrate and 2,000 vertebrate species of fish larvae are estimated to occur, representing 23 major taxa among 9 animal phyla (THUMS, 1982, page 68). The zooplankton include both temporary meroplanktonic and permanent (holoplanktonic) forms which range in depth distribution from the surface to at least 3,280 fathoms (19,680 feet). Siphonophores dominate the fauna of the bottom of San Pedro Basin, feeding on bathypelagic animals living above the surface of the anoxic sediments.

Factors influencing zooplankton density and distribution within the study area include advection currents and the winds that cause currents, long-term meteorological and oceanographic changes, and nutrient/temperature relationships.

Several endemic species occur within the California Current system. Most species, however, vary geographically, seasonally, and yearly due primarily to changes in current patterns. These include the chaetognath Sagitta bierri, the copepod Eucalanus bungi californicus, the hyperiid amphipod Hyperietta stebbingi, and the squid Abcaliopsis jelis (THUMS, 1982, pages 68-70).

Nearshore waters have been found to support higher populations of benthic invertebrates and fishes than offshore waters, including the larval stages of the Dungeness crabs Cancer magister, pink shrimp Pandalus jordanni, Crangon shrimp, and several species of bottom-dwelling flatefishes (THUMS, 1982, page 71).

Depth Distribution of Zooplankton. Patterns of vertical distribution of zooplankton relate to such variables as light, phytoplankton density, food, and life history patterns. Individual species show differing depth maxima. Most species within the waters of the Continental Slope are neritic forms, with occasional oceanic and migratory abyssal forms (THUMS, 1982, page 71).

Fish Eggs and Larvae

The distribution of fish larvae is highly dependent upon the spawning areas of the parents and the hydrographic conditions prevailing in the area. Because most of the coastal waters are transported in either a northern or southern direction, larvae spawned in coastal areas tend to be retained there (THUMS, 1982, page 72). The distribution and abundance of fish larvae and eggs vary by season over the Southern California Bight depending on the species. For some species, for example the northern anchovy and the several species of rockfish, larvae occur throughout the Bight area during most of the year (THUMS, 1982, page 72).

Fishes

The southern California fish fauna consists of at least 485 species and an unknown number of deep sea fishes (THUMS, 1982, pages 72-74). The factors which govern the types and distribution of the fishes are largely those which govern the zooplankton and phytoplankton.

The San Pedro Basin fish fauna consists of vertically distributed fish communities including forms common to mainland and island shelf areas, mesopelagic deep sea or midwater forms, and bathypelagic demersal fishes. Various transient and resident species occur within the Basin.

Epipelagic forms are generally migratory through the area between various parts of the Pacific Ocean or at least through the Bight. Common species in southern California waters include Pacific bonito (Sardo chiliensis), yellowtail (Seriola dorsalis), jack mackerel (Trachurus symmetricus), northern anchovy (Engraulis mordex), Pacific mackerel (Scomber japonicus), Pacific barracuda (Sphyraena argenta), and Pacific sardine (Sardinops sagax).

Although Pt. Conception is recognized as a faunal boundary, many of the nearshore fishes, especially bottom fishes, are found throughout the coast as far north as British Columbia. Many of the deep water species are essentially cool water temperature fishes with centers of distribution lying to the north of the Southern California Bight. Therefore, a distinct southern California fauna does not occur below the thermocline or in the deeper waters of the coastal shelf.

Principal sportfish species taken within the general dumpsite region include rockfish (Sebastes sp.), kelpbass (Paralabrax clathratus), and Pacific mackerel. Sport fishing catch data demonstrate that the proposed ocean ***9276** disposal site is not an area of significant sportfishing activity, although the coastlines adjacent the San Pedro Basin and the Catalina Channel to the south do provide important sport fisheries. Commercially important species taken from the general dumpsite area include northern anchovy, jack mackerel, Pacific bonito (Sarda chiliensis), and squid.

Marine Mammals

Within the Southern California Bight, 32 species of marine mammals have been recorded. The Bight is the richest of all temperate water areas in terms of abundances and types.

The most common of these are the California grey whale (Eschrictius robustus), common dolphin (Delphinus dephis), pilot whale (Globicephala macrorhyncha), Pacific white-sided dolphin (Lagenorhynchus obliquidens), Pacific bottle-nosed dolphin (Tursiops gilli), California sea lion (Zalophus californianus), and harbor seal (Phoca vitulina). In addition to these species, 10 others are considered uncommon (or rare) in the region; these are the Minke whale (Balaenoptera acutorostrata), Sei whale (Balaenoptera boreolis), blue whale (Balaenoptera musculus), humpback whale (Megaptera novaeangliae), killer whale (Orcinus orca), sperm whale (Physeter macrocephalus), northern fur seal (Calorhinus ursinur), Stellar sea lion (Eumentopias jubatus), the northern elephant seal (Mirounga angustirostris), and the very rare California sea otter (Enhydra lutris nereis).

Five cetaceans which occur in California waters (California grey whale, blue whale, Sei whale, humpback whale, and sperm whale) are designated as endangered species by the federal government. The Guadelupe fur seal (Arctocephalus townsendii) is designated rare by the State of California. All marine mammals, however, are afforded complete protection under the Marine Mammals Protection Act of 1972.

In addition to the endangered whales, six other listed species under National Marine Fisheries Service jurisdiction occur in the project area. These are the fin whale (Balaenoptera physalus), the right whale (Eubalaena glacialis), the green sea turtle (Chelonia mydas), the leatherback sea turtle (Dermochelys coriacea), the olive ridley sea turtle (Lepidochelys olivacea), and the loggerhead sea turtle (Caretta caretta). As with the five species of whales, these six species are broadly distributed, seasonal migrants that are not dependent on the habitat that will be affected by the project. Therefore, the designation of the San Pedro Basin disposal site is not likely to affect any of the listed species.

3. Location in relation to beaches and other amenity areas

Coastal beaches are 21 nmi north and east of the dumpsite. Palos Verdes Peninsula with its rocky shoreline is over 11 nmi north and Santa Catalina Island's closest rocky shoreline is 7.5 nmi south of the dumpsite. Since subsurface currents at the proposed disposal site move northwest, it is not anticipated that disposal activities will impact these nearby shorelines.

4. Type and quantities of waste proposed to be disposed of and proposed methods of release, including methods of packing the waste, if any

The proposed action is to dispose drilling muds and cuttings that will meet EPA criteria and applicable local requirements. The types of waste materials to be disposed consists of the following constituents:

a. Cuttings: Natural sediments consisting of sand and rock fragments.

b. Spud mud: Spud mud is predominantly used in the shallow section of the well, i.e., from the surface to 900 feet. It is primarily composed of bentonite, lignite, freshwater and non-toxic additives (THUMS, 1982, pages 7-21).

c. Water-based mud: Continuation of spud mud at greater depths (i.e., over 1,000 ft.).

The oil drilling program in Long Beach is expected to peak in some five to seven years and then taper off. The site is being designated for only three years, the maximum time for which a permit may be issued. This will per-

mit a re-evaluation of the site designation after some use but before the period of peak drilling. Maximum quantities of drilling muds and cuttings to be disposed and rate of discharge will be established by the permitting authority, EPA Region IX, according to specific characteristics of the muds and cuttings to be disposed, method of transportation to be used, and frequency of disposal.

5. Feasibility of surveillance and monitoring

The proposed dumpsite is readily accessible for surveillance and monitoring. It will be required that monthly and quarterly monitoring of physical, chemical, and biological water quality parameters be carried out by the permittee(s) to evaluate the impact to the marine environment from disposal operations. Specific requirements regarding the monitoring program will be addressed through the permitting process.

6. Dispersal, horizontal transport, and vertical mixing characteristics of the area including prevailing current direction, if any

The water in the Southern California Bight Region is a mixture of relatively low temperature-low salinity water transported south in the California Current with higher temperature-higher salinity water brought north in the California Undercurrent. The California Current water dominates in the upper few hundred meters of the ocean seaward (west) of the borderland. The California Undercurrent is predominantly below 500 m (1640 feet). The 200 to 500 m (656 to 1640 feet) depth range is a zone of mixed water (THUMS, 1982, page 50).

The water entering the California Current system comes from four great water masses. The offshore waters of the northern part of the California Current are derived from the Subarctic water mass. As the Current moves southward, it mixes with waters from the Central water mass which enters from the northwest and west. Equatorial water enters the system as a subsurface current from the south, inshore of the California Current. The fourth major water source is from upwelling of mid-depth waters all along the coast. Inshore of the California Current, gyres or eddy circulations are often noted.

Currents in the nearshore region are influenced by the alignment of the coast, the width of the continental shelf, oceanic currents, general topography, and bathymetry. Local currents are highly dependent upon the predominant forcing mechanism driving the currents. The primary mechanism driving the currents in the nearshore region are the winds, tides, oceanic currents, density structure, waves, and river discharge especially during periods of runoffs. At any one location, one or more of the driving forces and resulting currents are, in general, extremely dependent upon time and location. Tidal currents will predominate in constricted areas such as at entrances to bays and inlets. Tidal currents are important because they are always present, acting on a diurnal or semidiurnal time scale. The influence of the oceanic current on the nearshore currents is variable throughout the year.

Basin-to-basin differences indicate that the bottom waters of most basins move in a general northwesterly direction, opposite of the surface current. Coldest waters occupy each basin from its bottom to near its sill depth. Current measurements show that the flow at the bottom of San Pedro Basin is normally very weak, less than ***9277** 0.05 cm/sec, but strong surges can occur (THUMS, 1982, page 50).

These water masses directly influence the physical and chemical makeup of the surface and bottom waters and sediments of the San Pedro Basin as well as the biotic components of the area.

This situation indicates that materials dumped at the site will not be carried toward the coast but either will be dispersed in an area parallel to the shore or will sink to the bottom of the basin. The presence of two currents

moving in opposite directions in the area indicates mixing and dispersion are likely to be rapid.

7. Existence and effects of current and previous discharges and dumping in the area (including cumulative effects)

The Southern California Bight receives pollution from both discrete and diffuse sources. Discrete sources include municipal wastewater discharge and surface runoff. Diffuse discharges include ocean dumping, runoff and atmospheric addition, vessel waste, and advective transport.

The last THUMS dumping operation at the site took place in January 1969. Since that time there have been no permitted dumping operations in the site or adjacent to it. At the outset of historic dumping operations, the California Department of Fish and Game had a command patrol boat on-scene with other government and THUMS observers aboard to visually monitor the dumping operations. Within minutes after the first static dump, the observers on both crafts could not visually locate the dumpsite except for a marker buoy indicating the spot of discharge. Nothing of a residual nature was observed in the aerial photographs.

From 1966 to January of 1969, THUMS disposed of drilling muds and cuttings in the San Pedro Basin with the suport of the U.S. Bureau of Commercial Fisheries, U.S. Geological Survey, U.S. Bureau of Land Management, California Department of Fish and Game, California Regional Water Quality Control Board, California State Lands Commission, and the California State Attorney General's office. The U.S. Army Corps of Engineers sent a letter on March 4, 1966, to THUMS which the Corps, considered as evidence of approval for the disposal operation.

The disposal was pumped from a specially built motorless barge that carried between 5,000 and 6,000 barrels depending on the weight of the fluid being hauled. The material was discharged while the barge was static in the water and the material was pumped through a 10 inch hose that extended 20 feet below the ocean surface. During these discharge operations, no effluent plume was observable from either aircraft or surface craft. The fine particulates apparently continued a rapid descent. During the three years of discharging, no complaint was received from any of the governmental monitoring agencies. (THUMS, 1982, page 87).

There is an LA-2 dredged material ocean disposal site located at center coordinates 33°3706. N latitude, and 118°1724. W longitude, which is approximately ten nautical miles towards the northeast from the proposed drilling muds and cuttings site. The LA-2 dredged material disposal site is an existing interim site, designated by EPA in 1977. The site receives dredged material originating principally from the Ports of Los Angeles and Long Beach.

When dumped, most dredged material forms clods and descends through the water column and quickly reaches the bottom, with little horizontal deflection due to currents. Dredged material disposed of at the LA-2 site, therefore, is expected to be retained within the boundaries of the disposal site. It is anticipated that the drilling muds at the proposed site will be rapidly dispersed northwesterly in the undercurrent at increasing depths while the cuttings will fall to the bottom of the basin.

Site surveys have previously been conducted at both sites and additional trend assessment monitoring will provide EPA with field data to assess any potential for cumulative impacts.

8. Interference with shipping, fishing, recreation, mineral extraction, desalination, fish and shellfish culture, areas of special scientific importance, and other legitimate uses of the ocean

The dumpsite is 1.5 nmi south of the nearest shipping lane. There are no mineral extraction or desalination activities proposed for the site. There is no fish or shellfish culturing in the area. There are no special scientific or other uses of the ocean with which dumping will interfere. Fishing, both commercial and sport, as well as small craft piloting will be slightly disrupted while the tankship is on station.

It is possible that the general area of the disposal site may be opened up for oil and gas exploration and production at some time in the future. However, no specific plans have been announced at this time, so it is not possible to analyze the potential for conflicts between these uses and the use of the site for ocean disposal activities.

Should this area be opened to oil and gas exploration and should it be proposed to locate a drilling rig in the vicinity of the dumpsite, it would then be necessary to analyze the potential for cumulative impacts as a result of discharges of drilling muds and cuttings from such drilling rigs in association with the discharges occurring at this site. Such analyses would be made in the process of issuing NPDES permits for discharges from drilling rigs, and, if necessary, the permit and/or dumpsite could be restricted or site relocated.

9. The existing water quality and ecology of the site as determined by available data or trend assessment or baseline surveys

The characteristics of the marine environment in the San Pedro Basin where the proposed site is located has been discussed previously in detail. The Basin is of general open ocean physical, chemical, and biological characteristics with fauna typical of the Pacific marine environment off the southern coast of California.

Water column levels of trace metals in the California Current is as low as that in the open ocean. Because of its large volume, the total amount of trace metals transported by the Current is very large in comparison with all other sources (THUMS, 1982, page 57). The California Mussel Watch Program has monitored water quality along the mainland coast and also stations on the offshore islands. These studies have indicated trace metals in tissues as well as the water and sediments (higher near urban areas than areas farther away from population centers). Accordingly, the higher levels of trace metals are associated heavily with the municipal dischargers found in the Southern California Bight (THUMS, 1982, page 56).

Suspended particulate trace metal concentrations for inner basin, outer basin, and outer banks indicate that the concentration of surface water column particulates do not contrast markedly, although lead was higher by a factor of 2 or 3 in particulates at the outer (offshore) basins relative to the inner (nearshore) basin (THUMS, 1982, page 57). Bottom water samples of the outer banks exhibited a substantial increase of lead, zinc, cadmium, and possibly copper, compared to the inner and outer basins. Elements including Cd, Cu, Pb, V and Zn exhibited higher levels (although of the same magnitude) in the inner basin sediments than in the outer basin (THUMS, 1982 page 59).

HYDROCARBONS

Hydrocarbons encountered in the marine environment may originate from not only human activities (e.g., offshore drilling and production operations, oil ***9278** tanker operations, coastal refineries, atmospheric transport of combustion products, coastal municipal and nonrefinery industrial wastes, and urban and river runoff), but also natural sources (e.g., biological production by organisms as well as submarine oil seeps). Distinction of environmental hydrocarbons among these various sources has only recently been attempted.

SYNTHETIC CHLORINATED HYDROCARBONS

The major source of chlorinated hydrocarbons in the area of the dumpsite is primarily for municipal wastewater dischargers; however, ocean dumping, surface runoff, and aerial fallout all contribute to the total chlorinated hydrocarbon levels in the Bight. Southern California Bight levels of dissolved, chlorinated hydrocarbons range from 0.03 ppb to 20 ppb (THUMS, 1982, page 60).

10. Potentiality for the development or recruitment of nuisance species in the disposal site.

The development or recruitment of nuisance species in the disposal site or adjacent areas is not expected to occur.

11. Existence at or in close proximity to the site of any significant natural or cultural features of historical importance

No historically important natural or cultural features exist at or in close proximity to the proposed dumpsite.

Impact Assessment

The impacts on recreational, economic, esthetic, and biological resources of such disposal are summarized below.

(1) No detrimental impacts on the area's recreational uses are expected. Recreational values within the area include boating and fishing. Inshore waters and shorelines are well out of the intial dilution zone and will not be impacted.

(2) It is anticipated that the drilling muds and cuttings disposal activity will not adversely impact the recreational and commerical value of living marine resources, such as sport and commercial fisheries.

(3) No long-term effects on the proposed water quality of the dumpsite are expected. However, short-term turbidity increases are expected within the initial dilution zone. The esthetic values of the area, therefore, will be minimally impacted.

The disposal material does not contain pathogenic organisms, biologically available toxic materials, or other material which might significantly impact either fisheries, shell fisheries, or public health directly or indirectly through food chain interaction.

Ocean disposal of drilling muds and cuttings have several advantages over transporting them from offshore drill sites to land disposal sites. The advantages are:

a. Decreased truck traffic from docksite and disposal site.

b. Decrease in energy use associated with trucking to land dump sites.

c. Decrease of potential for nearshore air and water pollution associated with barge transport of trucks to shore facilities.

d. Decrease of potential for air and noise pollution due to offloading operations and trucking.

e. Unnecessary use of the presently limited Class II-1 disposal site within the Region.

f. Decreased marine traffic within Long Beach Outer Harbor with a decrease in probability of accident in transit to and from shore facilities.

g. Decrease in probability of accidents on California highways.

(4) Effects on water column and benthic organisms.

Phytoplankton. Initial discharge of the drilling muds will increase turbidity in the initial dilution zone. Thus, a small decrease in primary productivity could be expected. However, the rapid descent of the drilling muds to a depth of 60 m and subsequent diluted dispersion in the California Undercurrent at the lower edge of the euphotic zone substantially diminishes the chances of any significant reduction in primary productivity (THUMS, 1982, page 92).

Zooplankton. Temporary loss of zooplankton biomass may occur within the initial dilution zone related to the physical effects of particulates interrupting respiratory and feeding metabolism. Further transport of the drilling muds to increasing depths at minimal concentrations minimizes any further adverse impacts occurring within the zooplankton community.

Fishes. No adverse impacts on the pelagic, littoral, mesopelagic, or bathypelagic fish fauna are expected to occur. These fishes will respond to the increase of particulate concentrations by moving out of the immediate area of discharge, which will eliminate the potential for interruption of any metabolic processes (THUMS, 1982, page 93).

Benthos. The San Pedro Basin benthic environment will be impacted by the settling of the cuttings particles and the larger drilling mud particulate fractions. Approximately 1/3 of the disposed material will be added to the sediments of the basin between 0.3 to 7.5 km northwest of the dumpsite (THUMS, 1982, page 93).

The addition of the cuttings will likely cause a shift in the grain size distribution toward larger particle sizes, primarily evident nearest the point of impact and decreasing in impact with increasing distance northwest.

Biologically, the shift in grain size characteristics may alter benthic community structure and/or smother sessile benthic organisms unable to migrate up through the deposited material. Biological loss is expected to be minimal and localized since basin productivity is low and the community exhibits low density, diversity, and random spatial dispersion.

The non-availability of chemical constituents of the drilling muds and cuttings to animals precludes any adverse toxicity impacts. Primary impacts would relate to a change of the physical environment which in turn may alter the biotic components in the area.

Endangered Species

According to the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, no adverse short-term or long-term impacts on any federally endangered or rare species are expected from the discharge of drilling muds and cuttings in the San Pedro Basin.

Conclusion

EPA has reviewed the information submitted by the applicant in regard to the characteristics of the site and be-

lieves it adequately addresses the environmental features of the site and supports the conclusion that the site is acceptable for the ocean disposal of drilling muds and cuttings. Therefore, EPA designates this site for a period of three years from the effective date of site designation.

EPA regulations provide for ambient site monitoring programs as deemed necessary by the Regional Administrator and for evaluation of disposal site impacts based on the results of such programs. See 40 CFR 228.3 and 228.9—228.10. The regulations further provide for modifications in site use or designation based on the results of impact or on changed circumstances concerning use of the site. See 40 CFR 288.11. Management authority of this site will be delegated to the Regional Administrator of EPA Region IX. Any permittee using the site will be required to conduct an appropriate monitoring program and report the results to EPA.

The proposal to designate this site was published in the Federal Register ***9279** (48 FR 55000, December 8, 1983), and the public comment period closed on January 23, 1983. Eleven sets of comments were received on the proposed site designation and draft EIS. Comments received on the draft EIS have been addressed in the final EIS. The California Coastal Commission has stated that a consistency certification with the California Coastal Zone Management Plan is required for this site designation, and has provided such certification. This document is available for public inspection at the addresses given above.

Under the Regulatory Flexibility Act, EPA is required to perform a Regulatory Flexibility Analysis for all rules which may have a significant impact on a substantial number of small entities. EPA has determined that this action will not have a significant impact on small entities since the site designation will only have the effect of providing a disposal site for drilling mud and cuttings resulting from oil drilling operations within Long Beach Harbor.

Under Executive Order 12291, EPA must judge whether a regulation is “major” and therefore subject to the requirement of a Regulatory Impact Analysis. This action will not result in an annual effect on the economy of $100 million or more or cause any of the other effects which would result in its being classified by the Executive Order as a “major” rule. Consequently, this final rule does not necessitate preparation of a Regulatory Impact Analysis.

This final rule does not contain any information collection requirements subject to Office of Management and Budget Review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq.

List of Subjects in 40 CFR Part 228

Water pollution control.

Authority: 33 U.S.C. 1412 and 1418.

Dated: February 1, 1985.

Henry L. Longest II,

Acting Assistant Administrator for Water.

PART 228—[AMENDED]40 CFR § 228.12

In consideration of the foregoing, Subchapter H of Chapter I of Title 40 is amended by adding to § 228.12(b) an

ocean dumping site for Region IX as follows:

40 CFR § 228.12

§ 228.12 Delegation of management authority for ocean dumping sites.

* * * * *

(b) * * *

(21) Drilling muds and cuttings site—Region IX.

Center point location: 33°34'30" N latitude, 118°27'30" W longitude.

Size: A circle with a diameter of 3.0 nautical miles.

Depth: Approximately 485 fathoms (2910 feet).

Primary Use: Drilling muds and cuttings.

Period of Use: 3 years from effective date of site designation.

Volumes: To be determined by EPA Regional Administrator, Region IX.

Restriction: Disposal shall be limited to water-based drilling muds and cuttings which meet the requirements of the Ocean Dumping Evaluation Criteria of 40 CFR Part 227. Permittee(s) must implement monitoring program acceptable to EPA Regional Administrator responsible for management of the site.

[FR Doc. 85-5448 Filed 3-6-85; 8:45 am]

BILLING CODE 6560-50-M

50 FR 9273-01, 1985 WL 93271 (F.R.)
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