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BEFORE THE
SURFACE TRANSPORTATION BOARD

DOCKET NO. FD 36065
SAN PEDRO PENINSULA HOMEOWNER'S UNITED INC.
JOHN TOMMY ROSAS, TRIBAL ADMINISTRATOR,
TONGVA ANCESTRAL TERRITORIAL TRIBAL NATION

REQUEST FOR GUIDANCE BY THE CITY OF LOS ANGELES ACTING BY AND THROUGH THE HARBOR DEPARTMENT'S BOARD OF HARBOR COMMISSIONERS

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Dated: October 31, 2016

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INTRODUCTION

The CITY OF LOS ANGELES, a California municipal corporation (CITY), acting by and through the BOARD OF HARBOR COMMISSIONERS (BOARD or HARBOR DEPARTMENT) and interested party pursuant to 5 U.S.C. § 554(c)(1), submits this reply to the Petition for Declaratory Order (SPPHU PETITION), filed by San Pedro Peninsula Homeowner's United Inc., John Tommy Rosas, Tribal Administrator, Tongva Ancestral Territorial Tribal Nation (SPPHU), on September 12, 2016 in connection with certain existing rail track operated by a common carrier located within the boundaries of the BOARD's jurisdiction.

The BOARD oversees the nation's largest port by container volume pursuant to and in compliance with the requirements of a Tideland's Trust in the State of California which mandates these lands be managed by the CITY for the benefit of the People of the State of California. The Los Angeles City Charter empowers the BOARD with the powers necessary to comply with the legal mandates of trust administration over the

Harbor District, which includes the original Tidelands grant from the state of California (sovereign land the BOARD manages but cannot sell without permission from the state) and after-acquired property (not original Trust land) which must be managed in accordance with Trust principals but can be sold at the BOARD's direction. The sale of any after-acquired property extinguishes all of the Trust's interest in the land.

The Rancho LPG facility, which is discussed in the SPPHU Petition, is located at 2110 North Gaffey Street in City of Los Angeles (RANCHO). RANCHO includes two 12.5 million gallon refrigerated butane storage tanks. RANCHO receives butane, a liquefied petroleum gas which is a byproduct of a petroleum refining process, by pipeline, truck and rail, in the spring and summer months. Some of the product is stored to return to the refineries in the winter months for blending with gasoline and some of which is exported by truck and rail. The storage facility also house five (5) bullet tanks filled with propane, each with a capacity of 60,000 gallons. RANCHO is not located within the Harbor District and consequently the BOARD has no jurisdiction over the operations occurring therein. However, rail track used by RANCHO to transit product through the Harbor District to the national rail network is within the Harbor District. Pacific Harbor Line (PHL) is the short haul railroad company recognized by the Surface Transportation Board (STB) as a common carrier for the rail line at issue.

The BOARD's interest in this matter is simply to uphold and adhere to its obligations under the law. In pursuit of that interest, the BOARD seeks the STB's guidance pursuant to 5 U.S.C. § 554(e) and 49 U.S.C. § 1321 as to the propriety of its understanding that it is preempted from 1) prohibiting product from making ingress and egress by rail to and from RANCHO and 2) creating regulations of its own for the rail

tank cars that transit the Harbor District by rail, in particular to and from RANCHO. In order to be fully transparent and provide context to the STB, the information below outlines previous actions of the CITY and attempts to explain the rationale for those past actions.

SUMMARY

The CITY's request for STB guidance centers on questions focused on the extent of CITY's authority over the rail tracks that are the subject of SPPHU's Petition. In an attempt to help the STB understand the history of this rail line the CITY has submitted to the STB a number of exhibits – many of which are the legal agreements and documents that have been executed over the forty (40) plus year history of the RANCHO site. Below is a summary of the attached exhibits:

I. Exhibit 1: Final Environmental Impact Report (EIR), Liquefied Petroleum Gas (Propane) Storage and Distribution Facility with Low Temperature Pipeline (1973).

This 1973 EIR supported the development of the facility that is current day RANCHO. The EIR was legally required pursuant to the California Environmental Quality Act (CEQA). This document analyzed the environmental impact of the facility including the rail tracks serving RANCHO which are at issue in the SPPHU Petition. There was no legal challenge to the EIR.

II. Exhibit 2: Petrolane Project Notice of Completion

The Notice of Completion of the EIR was filed with the State of California on January 3, 1974. This document demonstrates the EIR was completed and that the state was properly notified.

III. Exhibit 3: Safety Report on Liquefied Propane Storage with Low Temperature Pipeline of Petrolane Incorporated San Pedro, California (1977).

Due to concerns expressed by residents as to the safety of the then Petrolane facility (current day RANCHO) the Honorable Governor Edmund G. Brown Jr. requested the California Public Utilities Commission to inspect the "...the marine terminal of Petrolane, Inc., in San Pedro to determine its potential hazard to the surrounding area." (Exhibit 3, p. 1-1) This report is extensive and includes a list of the permits and approvals Petrolane obtained in developing the site.

IV. Exhibit 4: Harbor Department Revocable Permit No. 1212 (1974).

This Revocable Permit (RP) was issued to Petrolane Inc. in 1974 for the "...construction, operation, and maintenance of an industrial railroad spur track and for purposes incidental thereto." (Exhibit 2, P. 1.) This RP was effective from 1974 through 2011 when it was replaced by RP 10-05 which is in effect today and is Exhibit 5.

V. Exhibit 5: Harbor Department Revocable Permit 10-05 (2011).

RP 10-05 is the successor RP to RP 1212; it covers the same location and serves the same purpose as RP 1212: the "...operation and maintenance of existing industrial rail spur tracks and not for any other purpose." (Exhibit 2, P. 1.)

VI. Exhibit 6: Ownership and Harbor District Boundary Map.

The current ownership of the area of RP 10-05 and the area surrounding it has been prepared by the HARBOR DEPARTMENT. This Los Angeles Country Assessors' Map has been altered to show the location's existing ownership interests, as well as, the boundary of the Harbor District in the area.

VII. Exhibit 7: Interstate Commerce Commission Notice of Exemption [Financial Docket No. 32427] City of Los Angeles and City of Long Beach – Acquisition Exemption – Rail Lines of the Atchison, Topeka and Santa Fe Railway Company, Southern Pacific Transportation Company and Union Pacific Railroad Company (January 12, 1994).

During the early 1990s the HARBOR DEPARTMENT and the City of Long Beach acting by and though their Board of Harbor Commissioners (POLB) were jointly purchasing rail properties from the Class 1 railroads that operated at the ports. Exhibit 7 is the Notice of Exemption the ports received permitting the purchase of property that included the rail tracks at issue herein.

VIII. Exhibit 8: Pacific Harbor Line, Inc. – Operation Exemption – Port of Los Angeles Verified Notice of Exemption Pursuant to 49 C.F.R. § 1150.31 STB Docket No. 33411 (November 7, 1997).

This STB Exemption grants operating rights to PHL over the track at issue herein. PHL became a common carrier for that track and from that period to today has served as the common carrier servicing RANCHO.

IX. Exhibit 9: Letter from City Attorney Carmen Trutanich to Mr. Anthony G. Patchett, Esq. (September 22, 2011).

The Los Angeles City Attorney responded to SPPHU's attorney Mr. Anthony G. Patchett's concerns, including the CEQA issues included in SPPHU's Petition. This letter responded to those concerns, as well as, a number of others that were brought to the City Attorney's attention.

X. Exhibit 10: Letter from California Attorney General Kamala Harris' Office to Mr. Anthony G. Patchett.

The Attorney General letter supported and concurred with the conclusions reached in the 2011 Los Angeles City Attorney letter.

XI. Exhibit 11: HARBOR DEPARTMENT Permit 1989 with Pacific Harbor Line, Inc. (December 1, 1997).

This Agreement between the BOARD and PHL governs the operation of all the port rail facility throughout the Harbor District, including the rail track at issue herein. This agreement was referenced in Exhibit 8 wherein PHL requested operational rights over them from the STB.

BACKGROUND

I. The Petrolane Project (RANCHO's predessor)

The property upon which RANCHO is sited was originally acquired in fee simple by RANCHO's predecessor, Petrolane, who developed the location into a liquid bulk tank facility pursuant to an EIR certified in 1973 under the CEQA by the CITY as lead agency (See Exhibit 1). The Petrolane EIR summarized the Project as follows:

> "This project is composed of three elements: first, a marine unloading arm supported on four (4) new piles at the outboard side of existing Berth 120; second, an underground pipe supply line which commences at Berth 120 in Los Angeles Harbor and ends at the terminal facility approximately one mile in; and third; a storage and distribution terminal facility.
>
> The storage and distribution facility is located on the east side of Gaffey Street approximately one and one-third (1 1/3) miles north of the intersection of Gaffey Street and the Harbor Freeway in San Pedro. It occupies a site of approximately 20 acres and is directly opposite a two-tank petroleum storage facility occupied by Bray Oil Company." (See Exhibit 1, Petrolane EIR, p.1.)

There were no legal challenges to the EIR at the time and the project was approved. (See Exhibit 2 - Notice of Completion.) SPPHU's Petition states that RANCHO was developed "...without permit until 1978." (SPPHU Petition, 1.) It is unclear to the CITY which permit SPPHU's Petition is referring to, according to a 1977 report completed by the California Public Utilities Commission entitled "Safety Report on

Liquefied Propane Storage with Low Temperature Pipeline or Petrolane Incorporated" there were in and about forty-two permits or approvals issued to Petrolane (or its contractor) between 1972 and 1975. (See Exhibit 3, Appendix 1.)

On May 27, 1974, the Los Angeles HARBOR DEPARTMENT entered into Permit No. 263 with Petrolane, for operation of subsurface pipelines that terminated within the Harbor District at Berth 120 (where propane could be imported and exported). On July 1, 1974, the HARBOR DEPARTMENT, acting through its BOARD, entered into Revocable Permit (RP) No. 1212 (Exhibit 4) for the construction and operation of a railroad spur track that would connect RANCHO to the existing Gaffey Lead track. Class I railroad Southern Pacific Transportation provided service to the Petrolane facility.

In October of 2010, the BOARD terminated Permit No. 263 – which ended use of Berth 120, closing down the ocean shipping operation. Consequently, the only remaining contractual relationship the BOARD has with RANCHO is RP No. 10-05, which supports the railroad right-of-way for a railroad spur (See Exhibit 5).

II. CITY's Railroad Track Property Acquisition

The following facts and circumstances guided the CITY's conclusion that the railroad tracks at issue are: 1) regulated by the STB, 2) serviced by a common carrier recognized by the STB, 3) preempted from allowing the Port ending or suspending rail service to RANCHO, or 4) instituting additional regulation of the rail tank cars beyond those imposed by federal law for PHL to adhere to in the servicing of RANCHO.

Common carrier rail has served the Port of Los Angeles for decades. The "Gaffey Lead" track" is the section of rail within the Harbor District that services RANCHO. The Gaffey Lead track runs parallel to Gaffey Street as it approaches RANCHO. The portion of track that is the subject of RP 10-05 was constructed in 1974 pursuant to the terms of the original RP No. 1212. A map prepared by the HARBOR DEPARTMENT depicting the boundary of the Harbor District in the area, the area of RP 10-05, as well as, the current ownership interests in the surrounding area is attached (Exhibit 6).

In 1994, the Interstate Commerce Commission (ICC) approved (in multiple actions) the sale of the San Pedro Branch rail line properties jointly to the BOARD and POLB. The sale included the "Gaffey Lead" – the track that services current day RANCHO. In approving the transaction, the ICC noted, "Santa Fe, [Southern Pacific Transportation], and UP are to retain trackage rights and/or permanent easements over those portions of property on which they currently conduct rail operations *so as to continue rail freight service.*" (Exhibit 7, p. 3, emphasis added.) These joint purchases with POLB were instrumental in the ultimate development of a joint venture between the CITY and POLB - the Alameda Corridor Project, which created a rail corridor from the Ports to the rail yards east of downtown Los Angeles.

After the purchase of the rail track throughout both port complexes from the aforementioned Class 1 railroads, the HARBOR DEPARTMENT and PHL, a short line railroad, prepared to enter into an Agreement to allow PHL to operate upon the acquired tracks within the Harbor District. Before PHL could enter into what would be designated Permit No. 1989, the parties understood that the STB needed to confer common carrier

status to PHL to operate upon these tracks. To satisfy this requirement, PHL submitted a "Verified Notice of Exemption Pursuant to 49 C.F.R. § 1150.31 Financial Docket No. 33411" (Exhibit 8) to the STB.

The PHL Exemption states that upon these tracks "PHL will provide switching service, as defined in the Agreement ('Operating Rights') on track owned by the Harbor Department ('Subject Lines')." (Exhibit 8, p.1.) Further, the PHL Exemption incorporates the trackage subject to Permit No. 1989:

> "The transaction is expected to be consummated in phases on or after November 15, 1997. The Agreement conveys the Operating Rights for a term of three years, subject to extension, modification, and earlier termination in accordance with the Terms of the Agreement." (Exhibit 8, p. 1.)

The STB approved PHL's Exemption Application of December 2, 1997 for PHL "...to acquire operating rights from the City of Los Angeles, a municipal corporation, acting though its Board of Harbor Commissioners (L.A.). PHL will acquire the right to operate within L.A.'s Port of Los Angeles (POLA) to provide switching services on track owned by POLA." (Exhibit 8, p. 1.)

The parties entered into Permit 1989, which remains in effect today. The track described in RP 10-05 is within the area subject to Permit No. 1989. (See Exhibit 6.) Consequently, Permit No. 1989 is the controlling agreement for all port rail facility.

As the above actions demonstrate, the CITY concurs with SPPHU Petition's contention that these tracks are within the jurisdiction of the STB. (See SPPHU Petition at 1, 4.) Further, it is the CITY's current view that the STB has jurisdiction over the tracks in question, that the STB has recognized PHL as common carrier for these same

tracks, and consequently the CITY is preempted from taking actions that would improperly impact rail service. Specific preempted actions include:

1) The termination or suspension of rail service to RANCHO;

2) Regulation of the rail tank cars that move RANCHO's product through the Harbor District and/or;

3) Any other action that would improperly burden interstate commerce.

The CITY is seeking clarification of its current legal understanding with respect to STB jurisdiction.

ENVIRONMENTAL CONSIDERATIONS

I. CITY complied with California Environmental Laws

The CITY has complied with its obligations under all applicable environmental laws. As noted above, the CITY completed an EIR (Exhibit 1) in support of the Petrolane Project. The SPPHU Petition contains assertions that the CITY did not comply with environmental regulations. This is not supported by the facts. The following information is provided to complete the record for the STB:

SPPHU's Petition contends that the CITY "...never presented to the Surface Transportation Board the existence of the Temporary Rail Permit for Plans All America/RANCHO (sic) LPG to transport hazardous material on this rail spur line because it would trigger the requirement for an EIR for the Port of Los Angeles to include the existence of the rail spur line." As discussed above, the CITY and POLB purchased the land after seeking authority and approval from the STB. Further, the CITY and PHL submitted an Exemption requesting the permission of the STB to allow PHL to conduct common carrier service upon these tracks.

CITY believes the rail track in question was fully analyzed for its current purpose in the Petrolane EIR. In fact, the Los Angeles City Attorney Carmen Trutanich responded to SPPHU's attorney, in September of 2011 with a letter outlining this issue:

> "[T]he rail line leading to the Rancho Facility was analyzed and depicted in the site plan in the Petrolane EIR (Petrolane EIR, Figure 2). As such, there is no question that the Rancho Facility and associated rail line were assessed in the EIR. Moreover, the public comment period and legal challenge period for the 1973 Petrolane EIR expired 38 years ago. There is no provision within CEQA that would apply the CEQA standards in 2011 to invalidate an EIR that was certified as compliant with CEQA 38 years earlier. In addition, there is no provision in CEQA mandating a new environmental impact report of the Rancho Facility at this time in the absence of a new discretionary project proposing a physical change to the facility and the environment. This Office is not aware of any new such discretionary project at or concerning the Facility." (Exhibit 9, p. 7-8.)

In October of 2011 the State of California's Attorney General's Office sent a letter to SPPHU's attorney outlining the same conclusion:

> "We agree with the conclusions in the September 22 letter from the Los Angeles City Attorney's office that there appear to be a number of safety measures at the facility to protect against a cataclysmic event of the type described in your letters and your consultant's reports, that the existence of an ultra-hazardous activity is only relevant to the burden of proof where a harm has occurred, and that no specific harm has been identified relating to the butane storage tanks. The facility appears to have passed all inspections and is complying with air, *hazardous materials*, fire and health and safety requirements promulgated by local, state, and federal governments." (Exhibit 10, p. 1-2, emphasis added.)

II. Pacific Harbor Line's Surface Transportation Board's Environmental Compliance

Additionally, based on the 1977 PHL Exemption, the CITY concluded full compliance with environmental requirements:

> "Pursuant to the Interstate Commerce Commission's decision in Ex Parte No. 55 (Sub-No. 22A). Implementation of Environmental

> Laws 71.C.C.2d 807 ('Environmental Law'), environmental documentation normally need not be prepared for an acquisition that does not involve either the diversion from rail to motor carriage of more than (A) 1,000 rail carloads a year, or (B) an average of 50 rail carloads per mile per year for any part of the affected line (49 C.F.R. § 1105.7(e)(4) on the one hand, or (A) an increase in rail traffic of at least 100 percent or an increase of at least eight trains a day on any segment of the affected line, (B) an increase in rail yard activity of at least 100 percent or (C) an increase in truck traffic of more than 10 percent of the average daily traffic or 50 vehicles a day on any affected road segment (49 C.F.R. § 11055.7(c)(5)), on the other hand. See 49 C.F.R. § 1105.6(e)(2).
>
> PHL's freight operations on the Subject Lines will not result in changes in carrier operations that exceed the above-listed thresholds, nor will acquisition have the 'potential for significant environmental impacts.' See 49 C.F.R. § 1105.6(d). Therefore, no environmental documentation is required for this Verified Notice of Exemption." (Exhibit 8, p. 2.)

Consequently, it is the CITY's understanding it is in full compliance with all requirements and no additional work is necessary.

ALLEGED PERMIT VIOLATIONS

SPPHU's Petition states that there are "...violations in [CITY's] rail contract agreements." (SPPHU Petition, 2). CITY respectfully disagrees. There are two agreements related to the transit of railcars to and from RANCHO: 1) RP 10-05 between the CITY and RANCHO (Exhibit 5) and Permit No. 1989 between the CITY and PHL (Exhibit 11). There exists no disagreement or dispute between the parties to these agreements.

The "violations" SPPHU's Petition alleges involve the transportation of hazardous product by railcar. The SPPHU's Petition states that "[t]hese contracts .... Prohibit the transportation of any hazardous commodities." (SPPHU Petition, 2.) In fact both permits by their terms allow for the transportation of hazardous cargo as required by

both the federal law regulating common carrier track serviced by a common carrier and the STB approved terms of the CITY's acquisition of the line as detailed above. (See 49 U.S.C. § 11101).

The PHL Permit 1989 (PHL Permit) explicitly allows transit of "Dangerous Materials Cars" to operate within the Harbor District and to carry and store "Hazardous Materials" within the Harbor District. (See Exhibit 11, § 14.2, § 29.15, § 29.22, and § 15.3.)

Further, although the HARBOR DEPARTMENT does have power to prohibit cargo, it is not unlimited. If the prohibition of activity on regulated track conflicts with approved activities the CITY would need to seek court approval. A common carrier's duties to serve the public are codified in 49 U.S.C. § 11101 and reflect a long history in the common law. As the STB well knows, a common carrier cannot discriminate among shippers when providing rail service for which it has been granted operational authority, and instead it "...shall provide the transportation or service on reasonable request." (49 U.S.C. § 11101(a)) It is the CITY's understanding that PHL's common carrier obligations include the duty to transport hazardous materials (such as those handled by RANCHO) and that PHL cannot refuse to provide this permitted service. The CITY's understanding of PHL's common carrier obligations are reflected in Permit No. 1989's § 15.3:

> "15.3 **Prohibited Cargo**. Notwithstanding any other provision of this Agreement, without the prior written permission of the Executive Director of Owner, Operator shall not knowingly accept or transport over property owned or controlled by Owner any cargo, materials or substances that Owner has notified Operator in writing are prohibited to be transported over property owned or controlled by Owner under Owner's tariff. However, if Operator believers that compliance with the preceding sentence will violate Operator's

> *common carrier obligations* under federal law, Operator's knowing transportation of prohibited cargo, materials or substances over property owned or controlled by Owner shall not be deemed a breach of this Agreement, so long as Operator gives Owner 48 hours' prior written notice of any such transportation and Owner does not obtain a court determination or order that it may prohibit the material in question from being so transported." (Exhibit 11, § 15.3, emphasis added.)

The CITY never prohibited the type of product making ingress and egress at RANCHO in part because the CITY believed PHL to be obliged as a common carrier to carry it.

Similarly RP 10-05 also permits the transit of hazardous materials to transverse its area. The relevant section of RP 10-05 states:

> "13 **Hazardous Materials**. Tenant may not handle, use, store, transport, transfer, receive or dispose of, or allow to remain on the premises (hereinafter collectively referred to as "handle") any substance classified as a hazardous material under any federal, state, local law or ordinance (hereinafter sometimes collectively referred to in this Permit as "law") **in such quantities as would require the reporting of such activity to any person or agency having jurisdiction thereof** without first receiving written permission of CITY." (Exhibit 5, § 13, emphasis added.)

CITY is not aware of any instance that PHL carried hazardous product to or from the RANCHO facility "...in such quantities as would require the reporting of such activity to any person or agency having jurisdiction..." in violation of this section. Regardless, nothing is this section can be read to contrary to PHL's common carrier obligations.

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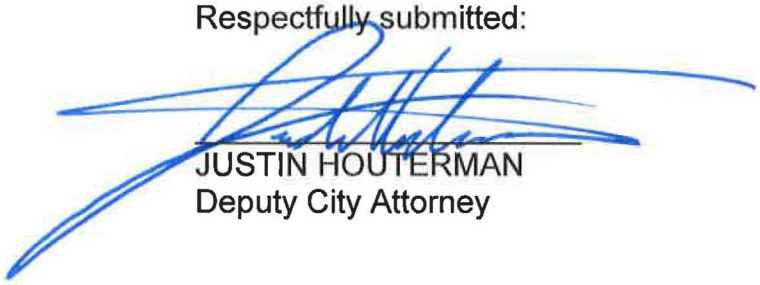
REQUEST FOR RELIEF

CITY respectfully requests STB to provide clarification and guidance regarding CITY's jurisdiction regarding the rail track at issue in the SPPHU Petition, specifically what limitations exist on the City's authority.

Respectfully submitted:



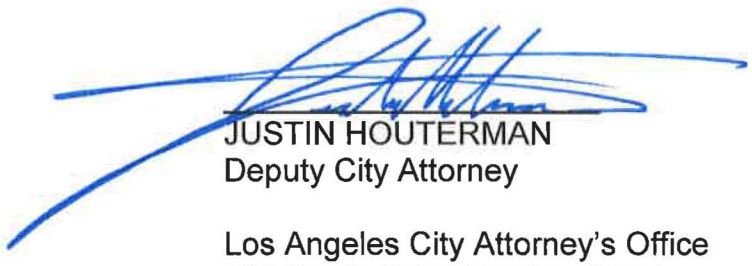
JUSTIN HOUTERMAN
Deputy City Attorney

VERIFICATION

I, Justin Houterman, verify under penalty of perjury that the factual statements made in the foregoing Petition for Declaratory Order are true and correct, to the best of my knowledge, information and belief.

Further, I certify that I am qualified and authorized to file this verification.

Executed on October 31, 2016, at San Pedro, California.



JUSTIN HOUTERMAN
Deputy City Attorney

Los Angeles City Attorney's Office
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PROOF OF SERVICE

1013A (3) C.C.P. Revised 5/1/88

STATE OF CALIFORNIA, COUNTY OF LOS ANGELES

I am employed in the county of Los Angeles, State of California. I am over the age of 18, and not a party to this action; my business address is 425 South Palos Verdes Street, San Pedro, California, 90731.

On October 31, 2016, I served the foregoing documents described as: **REQUEST FOR GUIDANCE BY THE CITY OF LOS ANGELES ACTING BY AND THROUGH THE HARBOR DEPARTMENT'S BOARD OF HARBOR COMMISSIONERS** by placing true copies thereof enclosed in a sealed package addressed as follows:

SERVICE LIST ATTACHED

✘ **(BY MAIL)** As follows: I am "readily familiar" with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with U.S. Postal Service on the same day with postage thereon fully prepaid at Long Beach, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

_ **(BY PERSONAL SERVICE)** I delivered such package by hand to the addressee (in accordance with C.C.P. §1011(a)).

_ **(BY OVERNIGHT MAIL)** I caused such envelope/package(s) to be delivered to an overnight delivery carrier with delivery fees provided for, addressed to the person(s) on whom it is to be served.

✘ **STATE** I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on October 31, 2016, at San Pedro, California.

JOY P. RENDON

SERVICE LIST

PETITION FOR DECLARATORY ORDER

Greg Armstrong, Chairman of the Board
Harry Pefanis, President
Jason Balasch, President Plains Midstream
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RANCHO LPG
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Eugene D. Seroka, Executive Director
Edward Renwick, Commissioner
David Arian, Vice President
Ambassador Vilma Martinez,President
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Eric Garcetti
MAYOR, CITY OF LOS ANGELES
CITY Hall
200 N. Spring Street
Los Angeles, CA 90012

FINAL

ENVIRONMENTAL IMPACT REPORT

LIQUIFIED PETROLEUM GAS (PROPANE) STORAGE AND DISTRIBUTION FACILITY WITH LOW TEMPERATURE PIPELINE

SAN PEDRO
CALIFORNIA

EXHIBIT 1

F I N A L

ENVIRONMENTAL IMPACT REPORT

LIQUIFIED PETROLEUM GAS (PROPANE) STORAGE AND DISTRIBUTION FACILITY WITH LOW TEMPERATURE PIPELINE

SAN PEDRO
CALIFORNIA

Prepared For

PETROLANE INCORPORATED

Prepared By

ENVIRONMENTAL CONSULTANTS
A Division Of
H. M. SCOTT & ASSOCIATES, INC.
9143 East Valley Boulevard
Rosemead, California 91770

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LIQUIFIED PETROLEUM GAS (PROPANE) STORAGE AND DISTRIBUTION FACILITY WITH LOW TEMPERATURE PIPELINE

SAN PEDRO, CALIFORNIA

SECTION I. PROJECT DESCRIPTION

A. Project Location and Boundaries on a Topographic Map and a Regional Map

The project can be located on U.S.G.S. Topographical Map, Torrance Quadrangle (7.5 min. Series) and is shown on the project location map (Fig. 1).

This project is composed of three elements: first, a marine unloading arm supported on four (4) new piles at the outboard side of existing Berth 120; second, an underground pipe supply line which commences at Berth 120 in Los Angeles Harbor and ends at the terminal facility approximately one mile inland; and third, a storage and distribution terminal facility.

The storage and distribution facility is located on the east side of Gaffey Street approximately one and one-third (1 1/3) miles north of the intersection of Gaffey Street and the Harbor Freeway in San Pedro. It occupies a site of approximately 20 acres and is directly opposite a two-tank petroleum storage facility occupied by the Bray Oil Company.

The project is in gently rolling countryside and represents

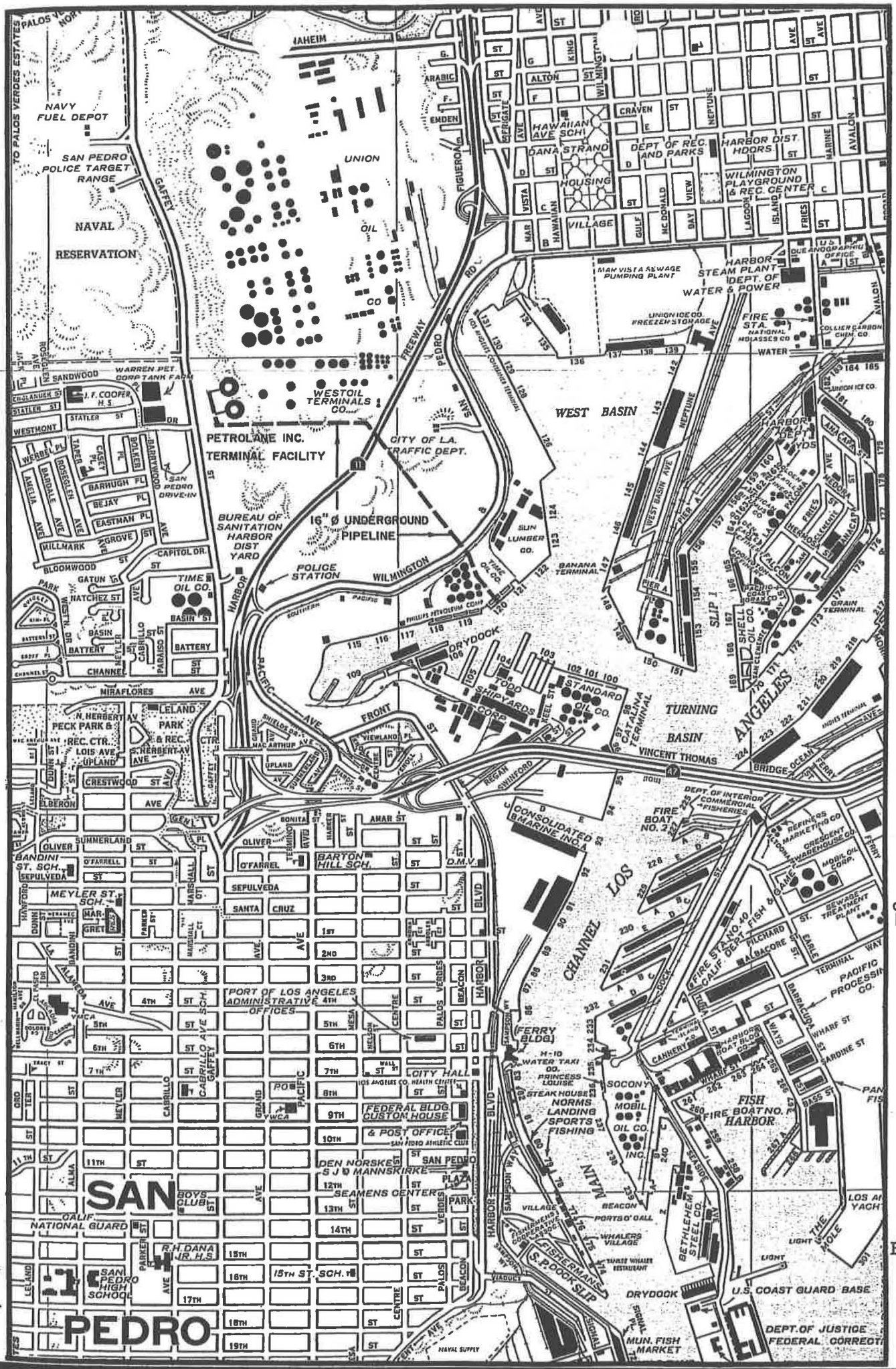

NAVY FUEL DEPOT
SAN PEDRO POLICE TARGET RANGE
NAVAL RESERVATION
UNION OIL CO
WESTOIL TERMINALS CO.
PETROLANE INC. TERMINAL FACILITY
CITY OF L.A. TRAFFIC DEPT.
BUREAU OF SANITATION HARBOR DIST YARD
16" Ø UNDERGROUND PIPELINE
POLICE STATION
WILMINGTON
WEST BASIN
HARBOR STEAM PLANT DEPT. OF WATER & POWER
MAN VISTA SEWAGE PUMPING PLANT
UNION ICE CO. FREEZER STORAGE
HARBOR DIST HDQRS
DEPT OF REC. AND PARKS
WILMINGTON PLAYGROUND & REC. CENTER
HAWAIIAN AVE SCH
DANA STRAND HOUSING VILLAGE
SUN LUMBER CO.
BANANA TERMINAL
TIME OIL CO.
PHILLIPS PETROLEUM COMP
DRYDOCK
TODD SHIPYARDS CORP.
STANDARD OIL CO.
CATALINA TERMINAL
SHELL OIL CO.
GRAIN TERMINAL
SLIP 1
TURNING BASIN
VINCENT THOMAS BRIDGE
CONSOLIDATED BMARINE INC.
FIRE BOAT NO. 2
DEPT OF INTERIOR COMMERCIAL FISHERIES
REFINERS MARKETING CO
CRESCENT WAREHOUSE CO
MOBIL OIL CORP.
SEWAGE TREATMENT PLANT
FIRE STA. NO. 40
CALIF. DEPT. FISH & GAME
PACIFIC PROCESSING CO.
PORT OF LOS ANGELES ADMINISTRATIVE OFFICES
CITY HALL
FEDERAL BLDG CUSTOM HOUSE & POST OFFICE
SAN PEDRO ATHLETIC CLUB
DEN NORSKE SJØMANNSKIRKE SEAMENS CENTER
SAN PEDRO
PEDRO
(FERRY BLDG)
M-10 WATER TAXI CO.
PRINCESS LOUISE
STEAK HOUSE NORMS LANDING SPORTS FISHING
SOCONY MOBIL OIL CO. INC.
FISH HARBOR
FIRE BOAT NO. 1
MAIN CHANNEL
BETHLEHEM STEEL CO.
PORTS O' CALL
WHALERS VILLAGE
FISHERMANS COOPERATIVE ASSOC.
S.P. DOCK SLIP
DRYDOCK
U.S. COAST GUARD BASE
MUN. FISH MARKET
DEPT. OF JUSTICE FEDERAL CORRECT
THE MOLE
LOS ANGELES
0 .1 .2 MILES

Fig. 1

a slightly southwestward extension of the same nature of facilities existing within the properties of the adjacent Union Oil Company and Westoil Terminal storage facilities. The Bureau of Sanitation, Harbor District Yard, landfill operation lies directly to the south on the east side of Gaffey Street. The terminal facility site address is 2120 North Gaffey Street, San Pedro, California, 91731.

B. Objectives of the Project

This project is designed to store and dispense liquid propane for commercial use. The anticipated yearly volume of propane passing through the facility is estimated at 100,000,000 gallons. Approximately two-thirds, or 67,000,000 gallons, are for winter use, the balance of 33,000,000 gallons cover anticipated summer demands.

Most of the propane stored in this facility is imported from other countries and arrives aboard ship. It is transferred to the site via an umbilical underground pipeline to the storage tanks.

Currently, in this area, there has been an excess of supply in the summer and a shortage in winter. Other parts of the state have storage facilities to save the summer excess and partially, at least, service the winter demand.

This facility will centralize the storage and distribution for propane in the Los Angeles Basin. Currently propane

is obtained from local refineries, picked up in tanker trucks, and distributed directly to customers.

This facility will minimize partial load pickup and delivery, will concentrate the operation, and will provide large capacity storage for an increasing number of local firms using natural gas on an interruptible basis. In short, it will provide increased capacity and better distribution.

C. Description of Project's Characteristics

1. Technical - Physical Description

The major source of supply to the terminal area on North Gaffey Street is a buried 16-inch diameter insulated steel pipeline commencing at Berth 120 in Los Angeles Harbor and extending northwesterly approximately 6,000 feet to the storage tanks.

The pipeline consists of a 16-inch diameter insulated supply line and an adjacent 4-inch diameter insulated line which is used to cool the supply line prior to use. Those lines are 2 feet - 6 inches apart, both buried in a single, approximately four (4) foot wide, trench with an average cover below existing ground of four (4) feet. The lines are operated solely for unloading propane tanker ships at Berth 120 and will be used approximately twelve (12) times per

year when the terminal is in full operation.

At the Harbor end, the pipeline terminates into a Chiksan marine unloading arm (see Fig. 4 and photograph in Appendix Section V) which attaches to a mounting on a docked ship during unloading operations. It is stacked in the position shown in the photograph when not in use. The Chiksan unloading arm is supported on four (4) new timber piles. Two (2) additional timber piles are required to support the 16-inch diameter insulated pipeline between dock and shore (see Fig. 4).

The largest structures at the terminal site are two (2) 12,600,000 gallon storage tanks each 175 feet in diameter and 110 feet in height. These tanks are double-walled, insulated and refrigerated to retain liquid propane at 1 psig pressure and -47° Fahrenheit. They occupy the southeasterly portion of the site. Immediately to the west of the two storage tanks is a depressed earth reservoir of approximately 13,000,000 gallon capacity. The two tanks and the reservoir occupy approximately one-half of the southerly section of the site.

The north portion of the project contains a condensor and compressor area of 4,250 square feet, a 1,050

square foot heater area, a 1,080 square foot process area, a two-story office facility of 3,200 square feet, three (3) 60,000 gallon pressure storage tanks, one (1) to receive incoming liquid propane from either rail or truck tank cars, and two (2) to dispense warmed (+40° Fahrenheit) liquid propane to rail and truck tankers, a two-track railroad loading spur with an associated railroad loading rack, four (4) truck loading pads, three (3) 500 GPM loading pumps and a large paved truck parking area.

All working areas are lighted for 24-hour operation. The lights are strategically placed at the terminal site so that adequate illumination is available in all loading and process areas. The light standards are steel poles, forty two (42) feet high, use mercury vapor as a lighting medium, and are aimed either directly downward or slightly to the east. No direct glare will penetrate the residential areas to the west.

The easterly edge of the site has a large terraced cut bank, on a 1½:1 slope, heavily landscaped to minimize erosion and watered with a complete irrigation system. A system of concrete-lined gutters, catch basins and storm drains has been installed as part of the erosion-control system. Both access to and egress from the project occur on the east side of Gaffey Street. The

entire site is protected with a 6-foot high chain link fence (see Site Plan, Fig 2).

2. Economic - Cost of Overall Project, Summary of Economic Benefits

The estimated cost of the overall project, when completed, will be seven million dollars. The Harbor Unloading Facility will cost $200,000, pipelines $900,000 and the storage tanks 3.5 million dollars. In addition, there will be 2.4 million dollars of other costs.

The first economic benefits from the project come from the construction activity which will vary from twenty to eighty people over a period of a year and a half. The average annual salary of construction workers is $20,000, which means that the payroll has varied from $400,000 to $1,600,000 on an annual basis, or an average of $800,000 per year during the construction period.

Once the facility is fully completed and operational, employment will be reduced to 10 to 12 people, at an average annual salary of $13,500 per worker, in 1973. Cost of living adjustments to these salaries are expected on an annual or semi-annual basis. During peak winter demand periods approximately 100 truck drivers per day are expected to load propane at the facility, and deliver it throughout Southern California. These truck drivers are already providing this kind of a service from other sources and will

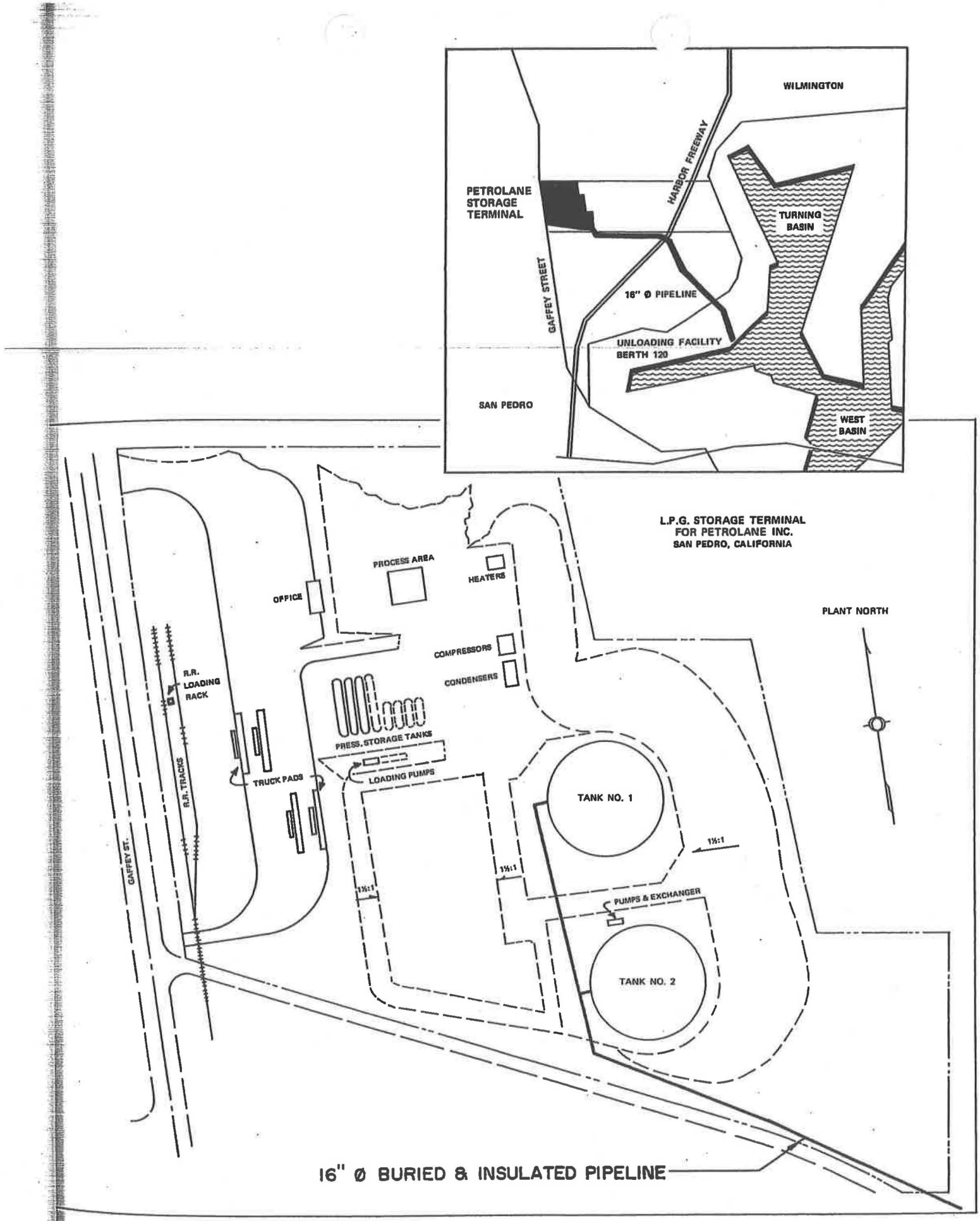

WILMINGTON
HARBOR FREEWAY
PETROLANE STORAGE TERMINAL
TURNING BASIN
GAFFEY STREET
16" Ø PIPELINE
UNLOADING FACILITY BERTH 120
SAN PEDRO
WEST BASIN
L.P.G. STORAGE TERMINAL FOR PETROLANE INC.
SAN PEDRO, CALIFORNIA
PROCESS AREA
HEATERS
OFFICE
PLANT NORTH
COMPRESSORS
CONDENSERS
R.R. LOADING RACK
PRESS. STORAGE TANKS
R.R. TRACKS
TRUCK PADS
LOADING PUMPS
TANK NO. 1
1½:1
1½:1
1½:1
PUMPS & EXCHANGER
TANK NO. 2
GAFFEY ST.
16" Ø BURIED & INSULATED PIPELINE

Fig. 2

not originally be a net addition to the employment in Southern California until the facility is in full operation. At that time (approximately two years after opening) the trucking fleet (and the number of drivers) will increase approximately fifty percent. The truck drivers are expected to load at the facility around the clock during the working week, so that traffic congestion from the project will not be significant along adjacent streets.

The primary market for propane is commercial and industrial customers who have interruptible natural gas service. Interruptible natural gas service has been defined in some detail by Southern California Gas Company Rule No. 23 titled "Shortage of Gas Supply, Interruption of Delivery and Priority of Service" (refer to Appendix Section X for details). Rule No. 23 defines what steps would be taken and in what sequence for specific catagories of natural gas users "in case of a shortage or an insufficient supply of gas." They use propane primarily as a standby fuel in the event of a natural gas shortage. The secondary market for propane is as a substitute for gasoline motor fuel, where propane's more efficient combustion greatly reduces pollution emissions. The absence of trace amounts of polluting hydrocarbons, sulphur, and sludges from the imported propane also decreases

motor engine wear, which is a substantial economic benefit to the users and to Southern California in general. A tertiary market is home use including campers and other recreational vehicles. The current local demand for propane will be met by this plant. Presently, local demand is partially resolved by winter rail shipments from Texas, Oklahoma, and New Mexico. This facility will reduce dependence on long distance rail shipments.

The primary sources for propane through this facility are very reliable, barring war or natural catastrophe. The principle source at present is Venezuela, but it is expected that major producing areas in Alaska, Canada, Algeria, Australia, and Indonesia will be developed to supplement the supply of propane for this facility. The current domestic supply of propane is from refineries and natural gasoline plants in and around Southern California. This source is not entirely satisfactory because the ability to supply propane is lowest precisely when demand is highest. The refineries cease selling propane during winter months because they use it at that period as fuel for their boilers. In months when natural gas demands are low (Summer), it is used for fuel and they sell their propane. The foreign sources are not affected by refinery or marketing conditions in the United States.

3. Environmental Summary

At no point does the area transversed by the underground pipeline lie in undisturbed terrain. Whatever existing plant life will be disturbed by the construction will probably soon return to its present state because it consists of pioneering or near pioneering species. No disturbance to present animal populations, except at the dock area, will result from pipeline construction.

The terminal area has been extensively graded and landscaped. Considerable erosion control has been installed with the result that both plant growth and animal habitats have been improved. Some of the native flora and fauna will remain in their natural state on portions of the terminal site.

A detailed description of the ecology of the pipeline route and terminal area appear in greated detail later in this report.

SECTION II. DESCRIPTION OF ENVIRONMENTAL SETTING

A. Ecological Systems

1. Environmental Resources

a. Terrestrial

Since the pipeline and storage facilities impinge upon several ecological communities, they will be discussed separately (See accompanying photographs and Fig. 3 for numbered locations):

1. Pipeline route between the dock and the northwest side of the Sun Lumber Company storage yard.

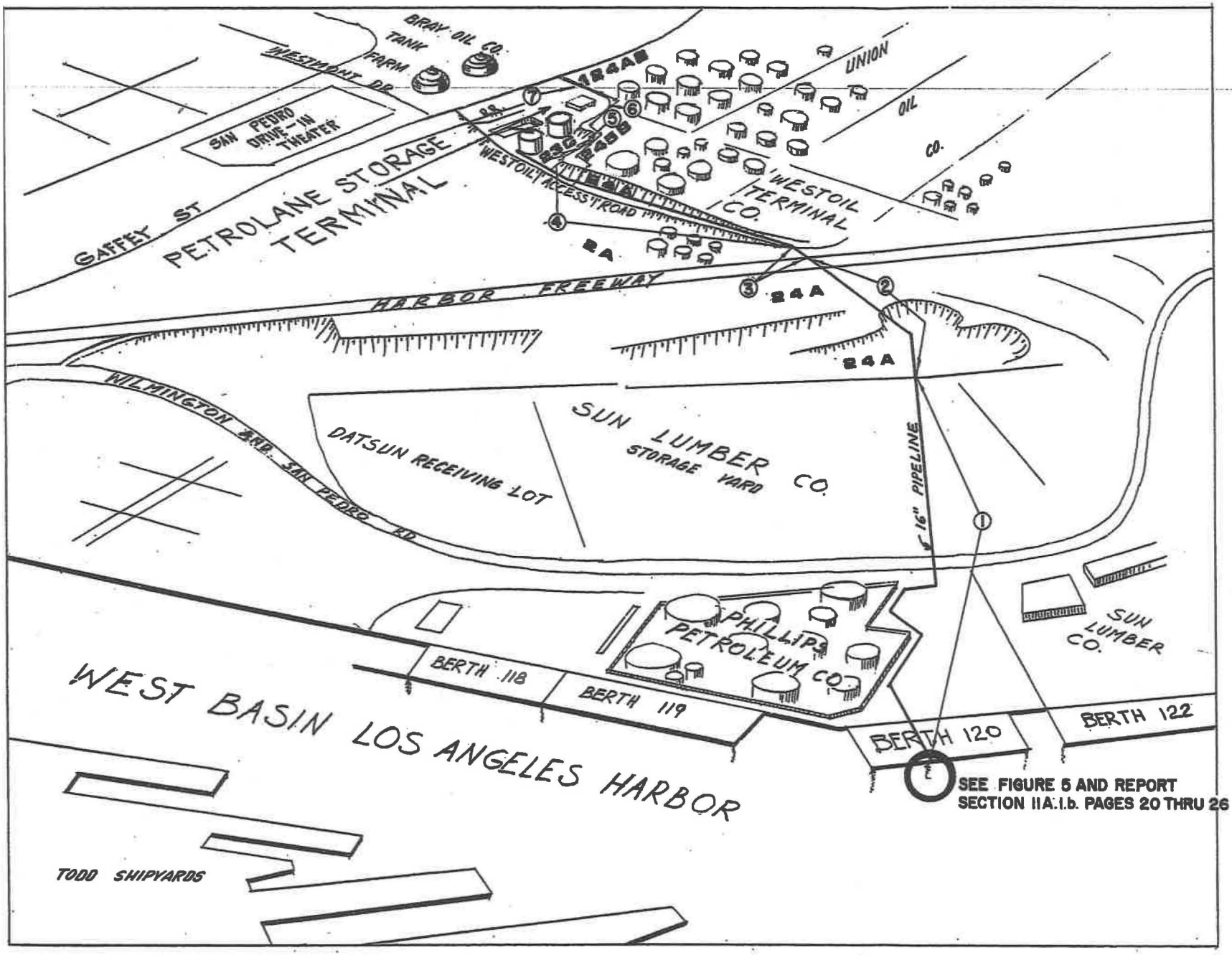
   Northwest of the dock the pipeline route crosses a Westoil Terminals parking and loading yard. This yard is partially paved and graveled, and contains no observable biota except occasional annual weeds such as Gnaphalium beneolens (Everlasting).

   Existing commercial uses prevent establishment of anything other than a very temporary and tenuous biotic community here. The pipeline route continues in a northwesterly direction, underneath Wilmington and San Pedro Road, and under the paved storage yard of the Sun Lumber Company.

2. Pipeline route from the storage yard fence to the eastern side of the Harbor Freeway.

   This portion of the pipeline route continues underground northwesterly, crossing a graded and leveled

ECOLOGICAL RESOURCES OF THE PETROLANE TIDEWATER TERMINAL



LEGEND

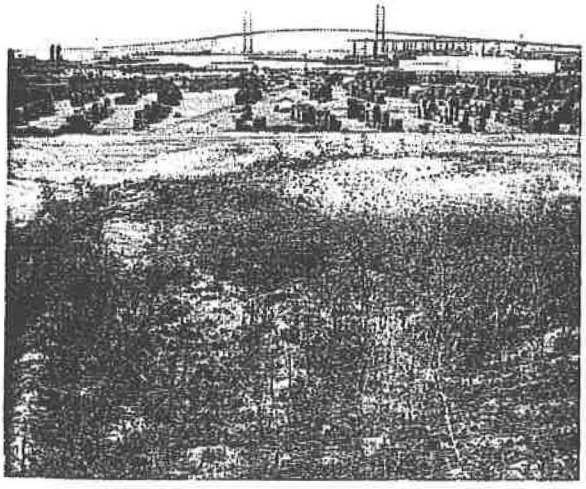
A PIONEER PLANT
B CLIMAX PLANT
C ORNAMENTAL GI
1 BIRD NESTING A
2 BIRD FEEDING AI
3 BIRD DRINKING A
4 RABBITS AND H
5 RODENTS
①-⑦ REFER TO RE

SEE FIGURE 5 AND REPORT SECTION IIA.I.b. PAGES 20 THRU 26

MAY 22 1973

PIPELINE ROUTE

(1) Between the dock and the west side of the Sun Lumber Co. storage yard (Looking NW)



(2) From the storage yard fence to the eastern side of the Harbor Freeway (Looking SE)

area, and then underneath the Freeway. The entire area shows evidence of having been recently graded. The sparse vegetation provides little protection for the sandy soil, and the embankment is undergoing erosion. The plant community is early successional, and quite characteristic of recently disturbed areas in Southern California. All occuring plant species are quite common, and all are non-natives accidentally introduced from other parts of the world. With the exception of the tobacco tree, all are spring annuals which will soon be dead. The few species of birds, mammals, and insects now using the area will leave when the plants die.

C= Common
O= Occasional
R= Rare

Plant List

Abundance	Species
C	Nicotiana glauca (Tobacco Tree)
C	Brassica nigra (Black Mustard)
O	Melilotus indicus (Yellow Sweet Clover)
R	Gnaphalium beneolens (Everlasting)
R	Sonchus asper (Prickly Sow Thistle)
R	Centaurena melitensis (Star Thistle)

Animal List

Abundance	Species
C	Lepus californicus (Black-Tailed Hare)
C	Sylvilagus bachmani (Brush Rabbit)
O	Carpodacus mexicanus (House Finch)

3. Pipeline route under an open field south of the Westoil access road.

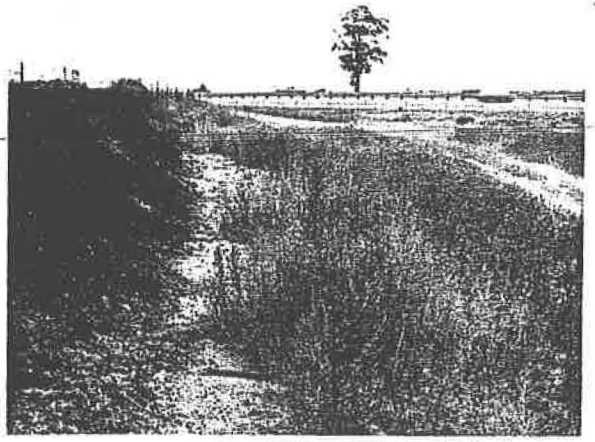
After passing beneath the Harbor Freeway, but before crossing the Westoil access road, the pipeline route crosses a corner of a large, flat field. The field has sandy soil, and the pioneering plant community indicates the area had all vegetation removed in recent years. All plants are introduced Mediterranean forbs, indicative of recent soil disturbance. All are very common spring annuals, and will soon be dead. The field is a temporary feeding area for insects and insectivorous birds. Most animals will leave the area when the plants die.

Plant List

Abundance	Species
C	Melilotus indicus (Yellow Sweet Clover)
O	Centaurena melitensis (Star Thistle)
O	Erodium texanum (Heron's Bill)
O	Gnaphalium beneolens (Everlasting)
C	Brassica nigra (Black Mustard)
R	Sonchus asper (Prickly Sow Thistle)

C= Common
O= Occasional
R= Rare

PIPELINE ROUTE



(3) Across the open field south of the Westoil Access Road (Looking E)

(4) Adjacent to the Westoil Access Road (Looking W)

Animal List

Abundance	Species
O	Aeronautes sacatalis (White-throated Swift)
O	Columba livia (Domestic Pigeon)
O	Peiris rapae (Cabbage Butterfly)
R	Apis mellifera (Common Honeybee)
C	Numerous species of Diptera (Flies)
C	Insects of the family Coccinellidae (Ladybird Beetles)

4. Pipeline route adjacent to the Westoil access road.

After crossing under the Westoil access road, the pipeline route closely parallels the north side of the road. It runs at the bottom of the existing roadcut slope, immediately adjacent to a drainage ditch. The slope above is loosely consolidated, sandy soil which carries a sparse cover of vegetation. This slope has been the site of extensive erosion, with two gullies 6 and 15 feet deep. Seashells in the soil indicate the site was once an open sandy beach. All 13 species collected and identified are common along Southern California beaches today (see shell list on page 16). The roadcut has a successional plant community with a higher species diversity than any other site discussed in this report. This

diversity is not indicative of a healthy or stable community, but rather of the complex and irregular pattern of disturbance caused by erosion. Sea fig, Mesembryanthemum chilense, is growing in several places, one patch is 6 feet across. All plant species except the scattered sea fig are successional, and all but two are non-natives accidentally introduced from other parts of the world. Succession is proceeding quite slowly. California sage, Artemesia californica, which would be anticipated in the climax community, is still rare. Tobacco tree, Nicotiana glauca, which would be absent from the climax community, is not only present in numbers, but has successfully produced a second generation. Black-tailed hares and brush rabbits are abundant, probably because of the numerous hiding and nesting places provided by the gullies. Predators appear to be rare or absent from the entire study area. Neither direct nor indirect evidence of snakes, raptorial birds, or carnivorous mammals was observed. This is probably due to the industrial nature of the surroundings, lack of cover and breeding habitat, the presence of man, and the scattered and small prey populations. Lack of predators could be the cause of the unusually high population densities of rabbits and hares. Three

hare carcasses were found on the roadbank, and none seemed to have been scavanged. Larger scavangers, such as turkey vultures, may be absent for the same reasons as predators.

Plant List

C= Common
O= Occasional
R= Rare

Abundance	Species
O	Baccharis pilularis consanguinea (Coyote Brush)
O	Nicotiana glauca (Tobacco Tree)
O	Brassica nigra (Black Mustard)
R	Centaurena melitensis (Star Thistle)
R	Franseria acanthicarpa (Annual Burweed)
R	Bromus rubens (Red Brome Grass)
R	Mesembryanthemum chilense (Sea Fig)
R	Artemesia californica (California Sage)
R	Lotus sp. (Deerweed)

Animal List

Species	
C	Lepus californicus (Black-Tailed Hare)
C	Sylvilagus bachmani (Brush Rabbit)
O	Peiris rapae (Cabbage Butterfly)
C	Insects of the family Coccinellidae (Ladybird Beetles)
C	Insects of the subfamily Myrmicinae (Common Field Ant)

The following shells were found in the sandy soil on the bank above the Westoil Access Road. Note: This area will not be disturbed by the pipeline construction. It is 15 to 20 vertical feet above the proposed pipeline trench.

1. Donax californica (Wedge Clam)
2. Trachycardium quadragenarium (Spiny Cockle)
3. Tivela stultorum (Pismo Clam)
4. Neverita reclusiana (Recluz's Moonsnail)
5. Nassarius perpinguis (Fat Basket Shell)
6. Nassarium mendicus (Lean Basket Shell)
7. Ostrea lurida (Native Oyster)
8. Aequipecten circularis aequisulcatus (Speckled Scallop)
9. Aequipecten latiauratus (Kelpweed Scallop)
10. Olivia biplicata (Purple Olive Shell)
11. Kelletia kelleti (Welk)
12. Dendraster excentricus (Sand Dollar)
13. Crepidiula onyx (Slipper Limpet)

From the material collected and from observation:

These sediments were once part of an open sandy beach. All species remain common on similar Southern California beaches today.

The shells are essentially in their original calcareous condition. They have lain undisturbed in these sediments since it was a beach.

5. Landscaped cut bank around the east and north edges of the storage tank site.

Prior to development the slope east and north of the storage tanks was littered with trash, laced with motorcycle trails, and undergoing severe erosion. The only notable vegetation in photographs taken in September, 1972, is the dead stalks of the spring annual, black mustard (Brassica nigra). (See Appendix Section IV) The terraced, watered, carefully drained slope which has replaced that disorderly landscape is illustrated by photograph (5) on page 18a. The sandy soil has been fertilized and planted with sweet alyssum (Lobulsaria maritima), African daisy (Dimorphotheca sinuatus) and Australian saltbrush (Atriplex semi-baccata) which are watered on a regular basis. In addition to preventing erosion, these species have a very long flowering season which will add color to the cut bank. The alyssum is an abundant and continuous seed producer, and will afford a substantial and dependable source of food for granivorous birds such as small finches and sparrows. Insects feeding on the ornamental plants may also provide food for insectivorous birds. During and after the regular watering, water collects in level places in the concrete drainage ditches. Brown towhees, meadowlarks, and flocks of Brewer's blackbirds were observed

drinking and bathing at these pools. This may be the only source of clear, fresh water in the vicinity.

Plant List

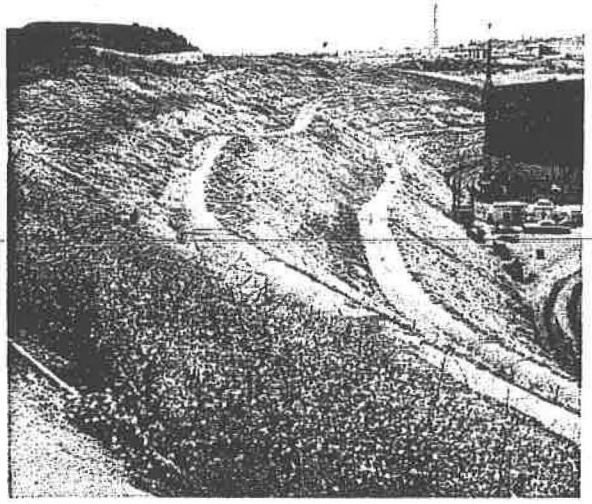
Abundance	Species	C= Common O= Occasional R= Rare
C	Dimorphotheca sinuatus (African Daisy)	
C	Lobularia maritima (Sweet Alyssum)	
O	Eschsolzia californica (California Poppy)	
C	Raphanus sativa (Wild Radish)	
R	Brassica nigra (Black Mustard)	

Animal List

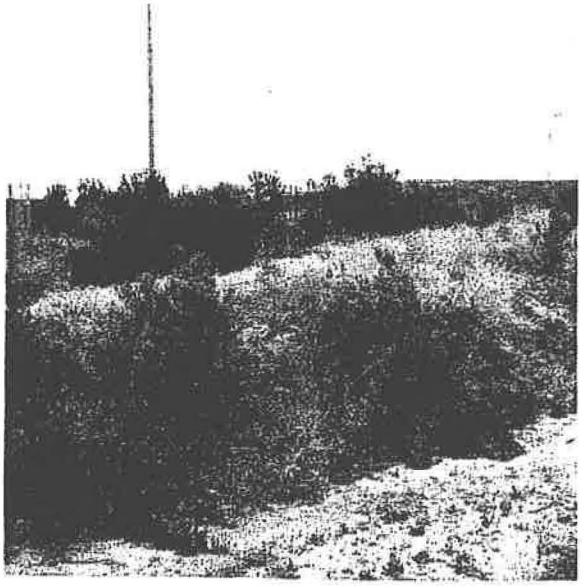
	Species
C	Piplio fuscus (Brown Towhee)
C	Sturnella neglecta (Western Meadowlark)
O	Euphagus cyanocephalus (Brewer's Blackbird)

6. Climax Community in the Northeast Corner of the Terminal Facilities Site.

Above the cut bank, along the east and northeast boundary of the fuel storage site, there exists a small ecological community apparently undisturbed by past activities or erosion, and apparently uneffected by recent construction. The soil contains more humus, and has a



(5) Landscaped cut bank around the east and north edges of the storage tank site (Looking SE)



(6) Undisturbed plant community near the northeastern corner of the site (Looking NE)

(7) Hedgerow along the northern boundary of the site (Looking W)

more mature structure, than the other study areas. The vegetation of this climax community consists entirely of a mature stand of coyote brush (Baccharis pilularis consanguinea). This dense thicket provides cover for brush rabbits, and a nesting area for birds. Its value as wildlife habitat is enhanced by nearby water in the drainage ditches of the landscaped cut bank. Pocket gophers and other rodents are present, as evidenced by burrows, seed excavations, and dust baths. Birds and rabbits were frightened away when the observer drew near, but the sound of construction noises showed no sign of disturbing normal patterns of bird behavior. The surprising diversity and abundance of bird species may be due in part to the lack of predators previously noted and the absence of human activity in the immediate area.

Plant List

C= Common
O= Occasional
R= Rare

Abundance	Species
C	Baccharis pilularis consanguinea (Coyote Brush)

Animal List

Species	
C	Sylvilagus bachmani (Brush Rabbit)
C	Piplio fuscus (Brown Towhee)
C	Sturnella neglecta (Western Meadowlark)

C	Euphagus cyanocephalus (Brewer's Blackbird)
O	Lophortyx californicus (California Quail)
O	Zenaidura macroura (Mourning Dove)
O	Tyrannus verticalis (Western Kingbird)

7. Hedgerow along the North Fence of the Terminal Facilities Site.

Along the northern edge of the terminal facilities there is a strip of vegetation approximately 10 feet wide, which runs nearly the length of the north boundary. It was untouched by construction activities, and appears to approximate a climax community. It contains a mixture of small annuals such as black mustard, medium height shrubs such as California sage, and small trees such as the tobacco tree. Such hedgerows are ideal habitat for wildlife. There is a high density of hares and rabbits, a nesting pair of brown towhees, California quail, and an occasional meadowlark.

Plant List

C= Common
O= Occasional
R= Rare

Abundance	Species
C	Nicotiana glauca (Tobacco Tree)
C	Baccharis pilularis consanguinea (Coyote Brush)

C Brassica nigra (Black Mustard)

O Artemesia californica (California Sage)

Animal List

Species

C Lepus californicus (Black-Tailed Hare)

C Sylvilagus bachmani (Brush Rabbit)

C Piplio fuscus (Brown Towhee)

C Sturnella neglecta (Western Meadowlark)

O Lophortyx californicus (California Quail)

b. Marine

On May 9, 1973, a survey was conducted at Berth 120, Los Angeles Harbor, in order to determine the effects of the proposed construction on marine life in that immediate area. Data were taken on the physical environment and organisns were taken and preserved for later identification.

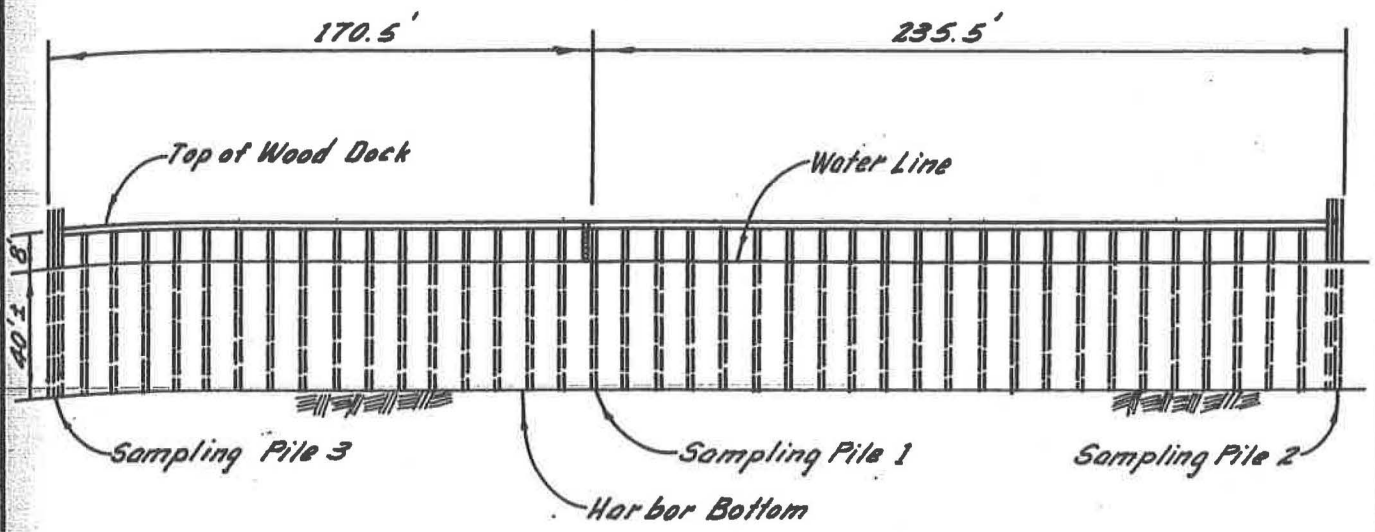
Wave action is relatively unimportant and consists only of vessel and wind generated waves in this portion of the harbor. Tidal action greatly influences a number of physical factors which may vary greatly in relation to tidal magnitude. Temperature and dissolved oxygen (D.O.) measurements were taken at five foot intervals from

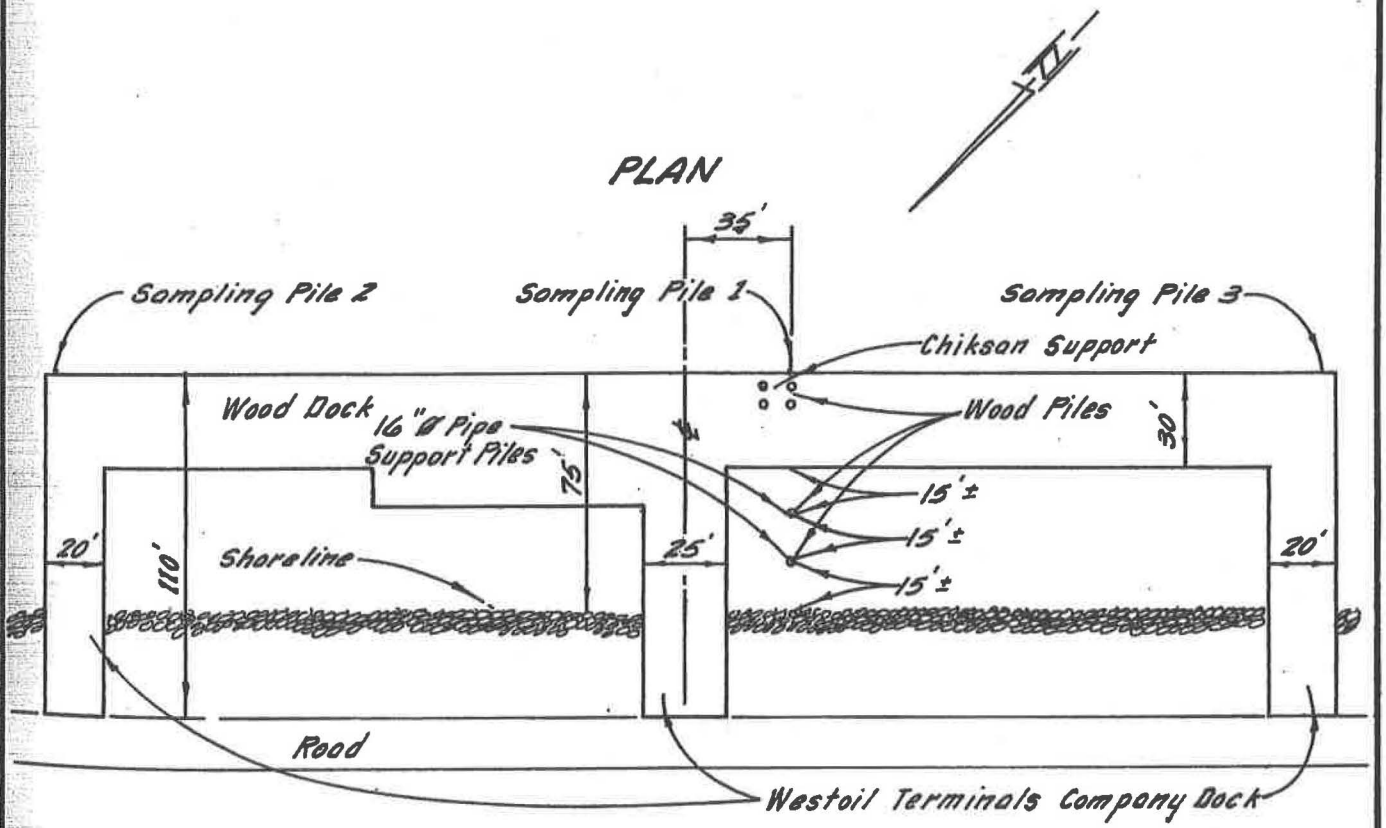
surface to bottom at high tide. Measurements of pH were taken from the surface water and from a mud sample. The data are shown as follows:

Depth (ft)	Temperature (°C)	D.O. (ppm)	pH
1.0	19.0	4.4	7.3
5.0	18.0	3.8	-
10.0	17.5	3.7	-
15.0	17.0	3.7	-
20.0	16.5	3.4	-
25.0	16.0	3.2	-
30.0	16.0	3.2	-
35.0	15.0	2.8	-
40.0 (bottom)	15.0	2.4	-
in mud	15.0	1.8	7.5

Turbidity is another factor which varies greatly with currents, tides and ship movements. Observations by a SCUBA diver taking samples indicated a drop in visibility from about six feet in the morning to less than a foot by mid-afternoon.

An underwater survey was conducted using SCUBA gear to collect organisms from piling and the bottom sediment for identification. Scrapings were made from the inter-tidal portion and three subtidal depths (10, 20, and 30 feet) on each of three different piles along the length of Berth 120 (Fig 4); samples were preserved for indentification. Two bottom samples of 0.1 m^3 were





PLAN & ELEVATION OF EXISTING DOCK, BERTH 120
SCALE: 1" = 60'

Figure 4

made adjacent to each of the three piles. Each bottom sample was screened at dockside through a 20 mesh sieve; all organisms were preserved for identification. The following data list the animals occurring on the pilings and in or on the bottom mud and shows their relative abundance.

ANIMALS COLLECTED FROM PILINGS AND SUBSTRATUM
(see Fig. 5)

	Intertidal			Subtidal	
	hi	mid	low	pile	bottom
Porifera					
Calcarea					
Leucosolenia sp.			O	O	
Coelenterata					
Hydrozoa					
Obelia sp. (Hydroid)				A	
Tubularia sp (Hydroid)				A	
Anthozoa					
Diadumene leucolena (Anemone)			A	A	
Annelida					
Polychaeta					
Halosydna johnsoni (Scale Worm)				O	
Neanthes succinea					A
Lumbrineris erecta					F
Cirriformia luxurosa (Hairy-grilled Worm)				F	D
Sabella media (Feather Duster Worm)				O	
Hydroides norvegica (Calcareous Tube Worm)	F				

D= Dominant
A= Abundant
F= Frequent
O= Occasional

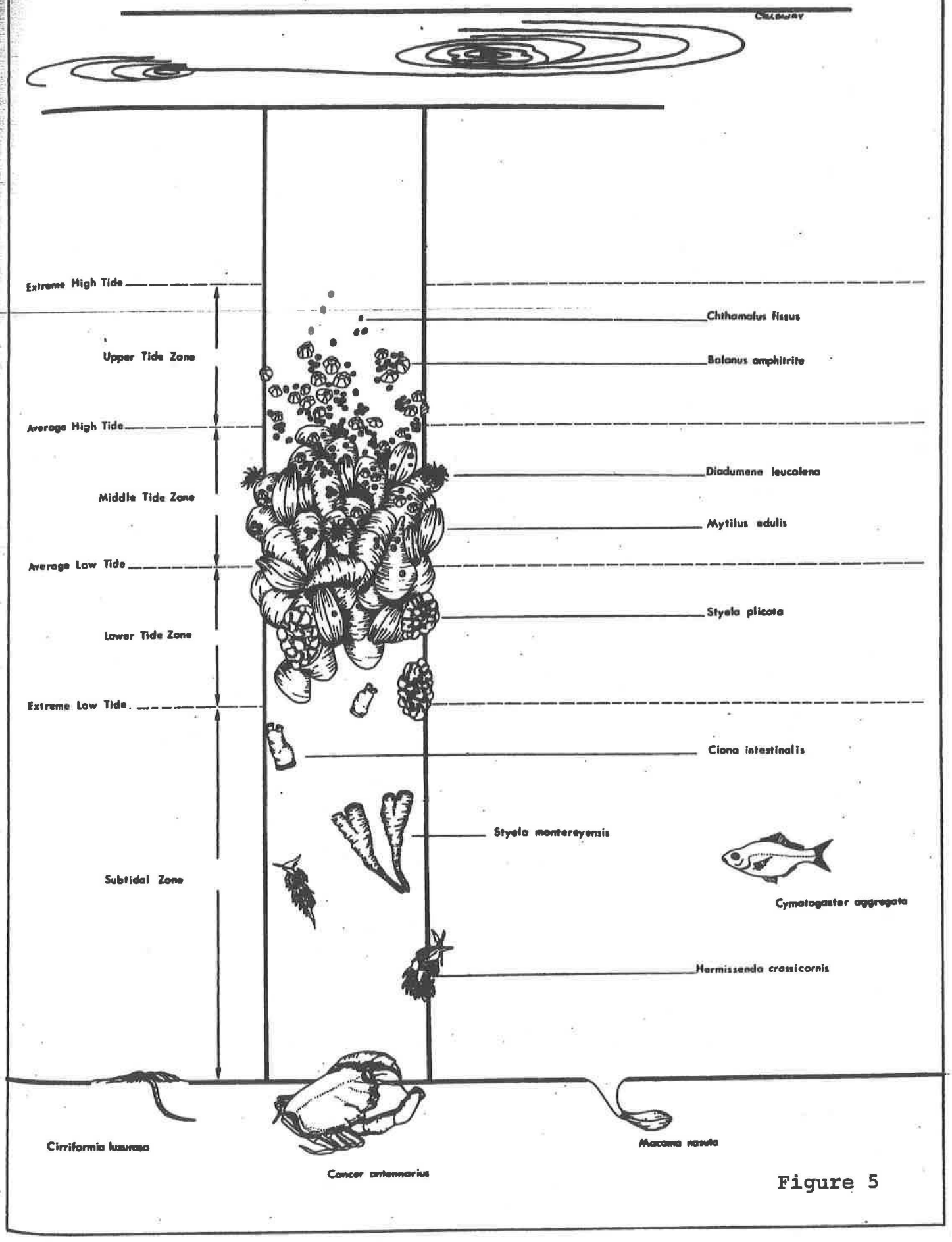

Extreme High Tide
Upper Tide Zone
Average High Tide
Middle Tide Zone
Average Low Tide
Lower Tide Zone
Extreme Low Tide.
Subtidal Zone
Chthamalus fissus
Balanus amphitrite
Diadumene leucolena
Mytilus edulis
Styela plicata
Ciona intestinalis
Styela montereyensis
Cymatogaster aggregata
Hermissenda crassicornis
Cirriformia luxuriosa
Cancer antennarius
Macoma nasuta

Figure 5

ANIMALS COLLECTED FROM PILINGS AND SUBSTRATUM (Cont.)
(see Fig. 5)

	Intertidal			Subtidal	
	hi	mid	low	pile	bottom
Mollusca					
Gastropoda					
Mitrella carinata (Keeled Dove Shell)				O	
Crepidula onyx (Onyx Slipper Shell)			F	A	
Hermissenda crassicornis (Nudibranch)				A	A
Pelecypoda					
Mytilus edulis (Bay Mussel)		D	D	A	
Hinnites or *Chlamys* ? (Juvenile Scallop)			O		
Chama pellucida (Rock Oyster)				O	
Protothaca laciniata (Little-Neck Clam)					A
Macoma nasuta (Bent-Nosed Clam)					A
Sanguinolaria nuttalli (Purple Clam)					O
Hiatella arctica (Burrowing Clam)				O	
Arthropoda					
Crustacea					
Balanus amphitrite (Acorn Barnacle)	D	A	A	F	
Balanus tintinnabulum (Red Acorn Barnacle)	A	A	F	F	
Chthamalus fissus (Little Acorn Barnacle)	A	A	F		
Corophium acherusicum (Amphipod)			F	A	
Callianassa californiensis (Ghost Shrimp)					O
Cancer antennarius (Rock Crab)				F	A
Pycnogonida					
Ammothea bi-ungulata (Sea Spider)				O	

ANIMALS COLLECTED FROM PILINGS AND SUBSTRATUM (CONT.)
(see Fig. 5)

	Intertidal		Subtidal	
	hi mid	low	pile	bottom
Ectoprocta				
Bugula californica (Moss Animal)		F	A	
Hyppothoa hyalina (Encrusting Moss Animal)		F	A	
Chordata				
Ascidiaceae				
Ciona intestinalis (Tunicate)		A	D	O
Styela plicata (Tunicate)		A	D	
Styela montereyensis (Tunicate)		F	F	
Botryllus tuberatus (Colonial Tunicate)		F	O	

Five species of fish were observed around the pilings, these were:

Genyonemus lineatus (White Croaker)

Anisotremus davidsoni (Sargo)

Cymatogaster aggregata (Shiner Perch)

Embiotoca jacksoni (Black Perch)

Rhacochilus vacca (Pile Perch)

Four species of microscopic plants were taken from the floating portion (bumpers) of Berth 120 and the low intertidal zone of the piling. These are:

Chlorophyta

Enteromorpha sp.

Ulva lobata (Sea Lettuce)

Cladophora sp.

Rhodophyta

Polysiphonia pacifica

Only the red alga, *Polysiphonia pacifica*, was found subtidally, which may indicate poor light penetration of certain wave lengths, and therefore, high turbidity much of the time.

A plankton tow was taken directly in front of Berth 120 with a 12 inch diameter standard mesh plankton net. Phytoplankton identified in the sample include:

Chrysophyta

Bacillariophyceae

Chaetoceros sp.

Coscinosira sp.

Ditylium sp.

Pyrrophyta

Dinophyceae

Goniaulax polyedra

Ceratium sp.

Zooplankton identified from tow are:

Annelida

Polychaeta

Pre-settling segmented larva

Mollusca

Gastropoda

Veliger larva, possible Hermissenda crassicornis since eggs were observed on piles

Arthropoda

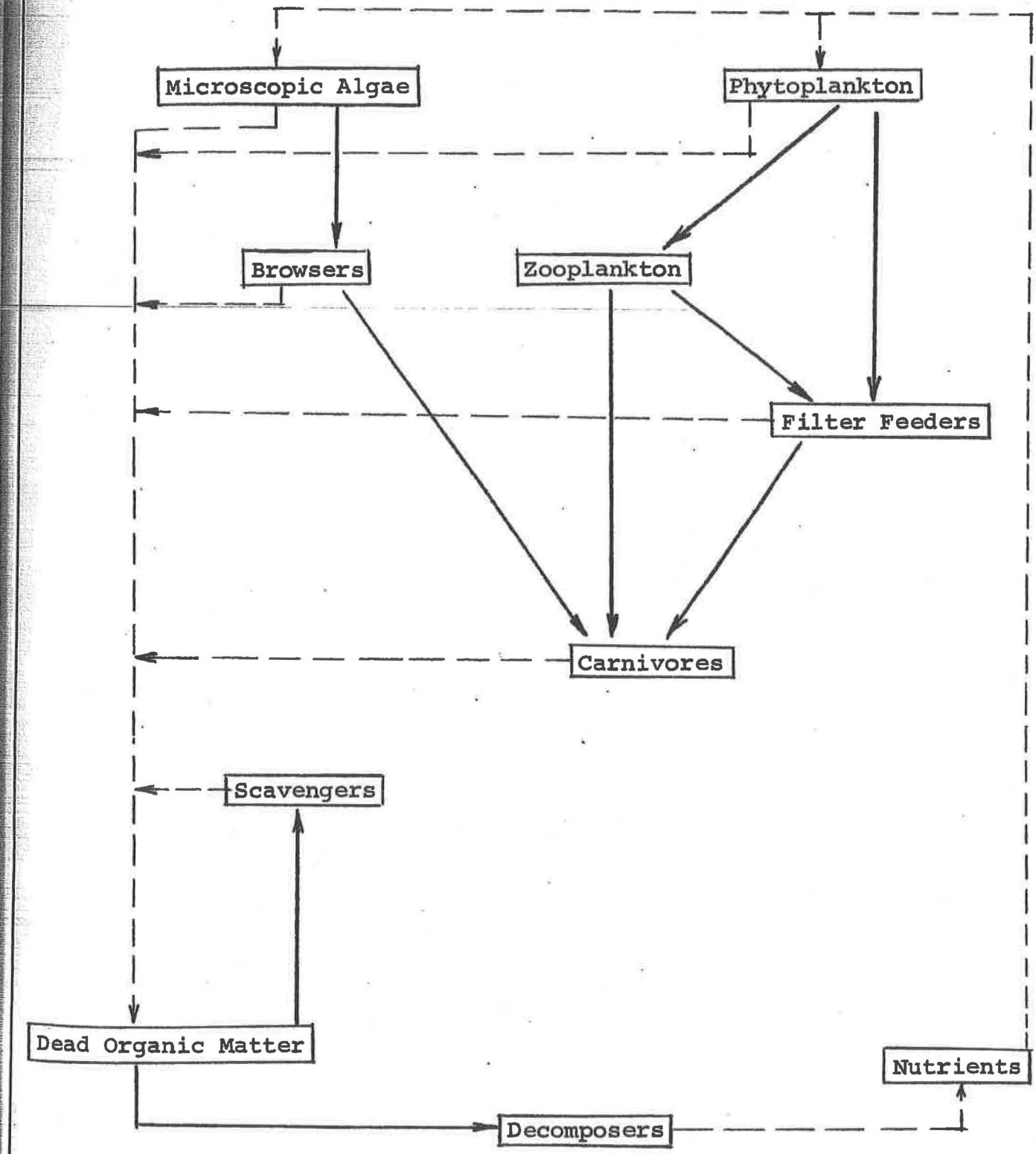
Crustacea

Nauplius and Cypris larvae, possible Balanus sp.

Calanus sp.

The marine ecosystem which involves Berth 120 includes those organisms living on the piling, in the mud as well as the planktonic and nektonic life in the surrounding water. The following diagram (Fig 6) shows the basic inter-relationships between organisms found in the vicinity of Berth 120. Because of high turbidity, the phytoplankton probably represents the greatest contribution to the primary productivity. The phytoplankton are fed upon by the zooplankton and these two sources provide food for the bulk of the animal life in the mud and on the piling. These filter feeders include barnacles, mussels, clams, bryozoans (moss animals) and tunicates. There are few browsers and carnivores in this association. Most of the remaining animals are scavengers, feeding on the accumulated dead organic matter.

The bottom mud is a thick black ooze with a strong odor of hydrogen sulfide. This accumulation of a highly organic reducing sediment is apparently the result of an imbalance in



LEGEND:

→ Energy Flow

Fig. 6

food web components, in short, an excess of unconsumed organic material is available. Ecological succession seems to be taking place on the piling since the bay mussels observed on the piles were smaller than many of the shells which were buried in the mud. This may indicate that at one time mussels (and probably other organisms) did quite well in this area. Something caused their demise and the present environment is favoring what is there now, but does not represent a climax bay piling community. The sessile organisms now living in this area are able to withstand broad fluctuations in turbidity, dissolved oxygen concentration, and temperature. Should these conditions change to more closely resemble the conditions found near the bay mouth, the diversity of organisms will increase.

B. Visual Esthetics

A March 1973 aerial view of this site (Fig. 7) and its environs indicates a rather startling compatability for the new facility. A large Union Oil Company tank farm extends to the north and east of this project. The Westoil Terminals Company tanks fill in the area to the east from the project's east boundary to the Harbor Freeway. Directly across Gaffey Street are two large storage tanks at the Bray Oil Company site, just north of Westmont Drive on the west side of Gaffey Street.

Since Petrolane's tanks are located with their bottom (ground) elevation some eighty (80) feet lower than ground level for both the Union Oil Company and Westoil Terminals Company tanks

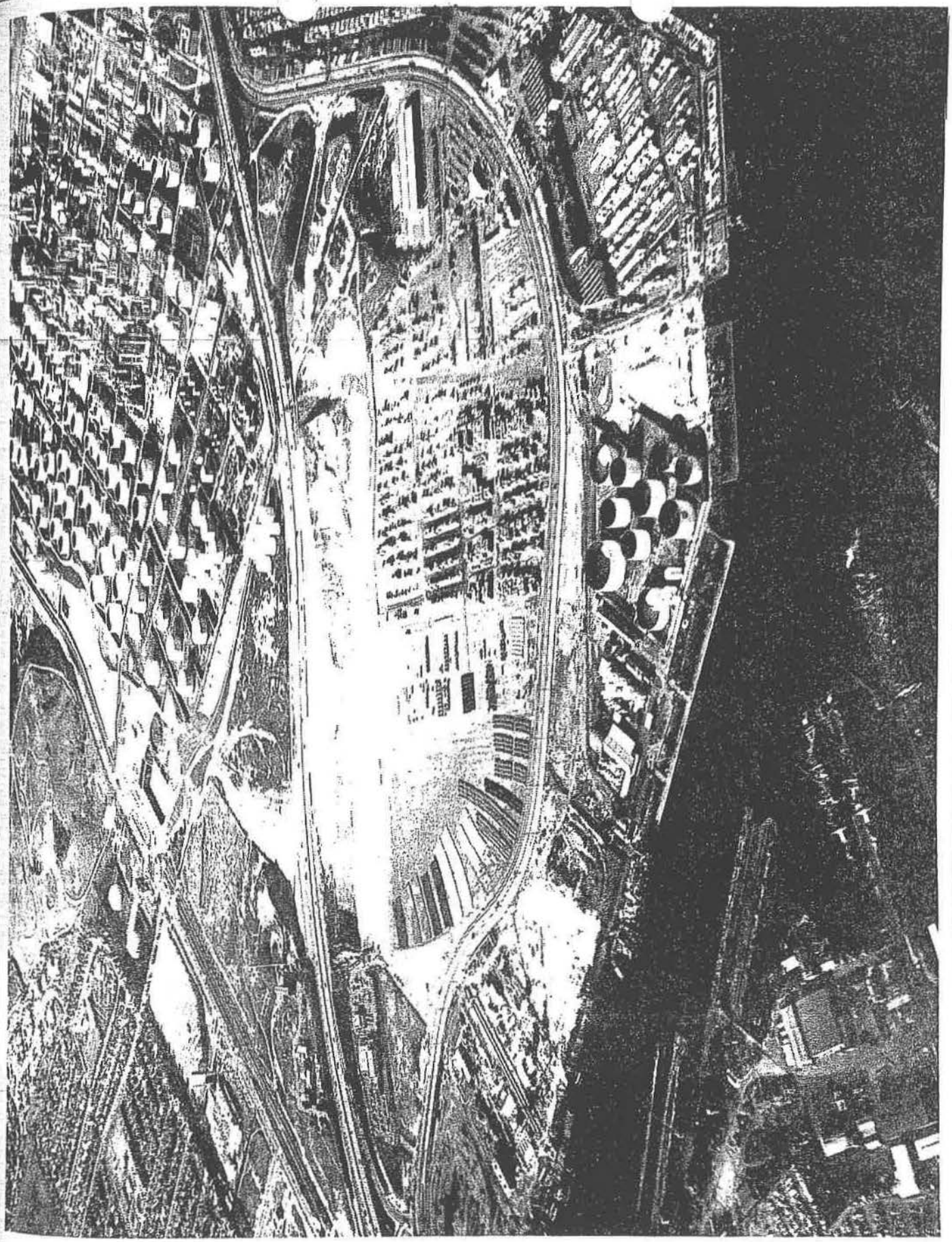


Fig. 7

their visual impact on the area is minor except from Gaffey Street where it is significant. The residential area to the west is heavily buffered with trees and other landscaping while the view from the Harbor Freeway looking northwest is totally compatible with the existing tank farm surroundings.

The pipeline is totally underground except at its termini, where its exposure is minimal. The dock is privately operated and completely fenced. The only brief passing view of the harbor at the loading area is looking southwest from Wilmington and San Pedro Road between the Phillips Petroleum tanks on the west and the Sun Lumber Company structures on the east. This view will not materially be affected by one (1) retractable loading arm on the dock. (See photograph in Appendix Section V). At no point in its location does the pipeline traverse virgin ground. All areas along its route have been altered by previous construction. It parallels and is immediately adjacent to the Westoil Terminals Company lines which are also underground up to the Harbor Freeway. From that crossing point to the Petrolane tanks it parallels the Westoil Terminals access road at the approximate north side ditch line.

SECTION III. THE ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

A. Alterations to Ecological Systems

1. Atmosphere

In peak periods of operation, primarily in the winter months, a total of approximately 100 trucks per 24-hour period (4 per hour) may use the terminal facilities. While the exhaust pollutants discharged by these diesel burning carriers will have a local atmospheric effect (See Appendix Section VIII C), it will be minimal.

Summer time use of the facilities will be approximately half of winter usage or 50 trucks per 24-hour period, (2 per hour).

These trucks are not an additional factor in the basin since they are currently operating for Petrolane Inc. in various parts of the greater Los Angeles Area. However, after about two years of operation the present 20 truck fleet is expected to increase to 30.

The operation of the terminal with its pumps, compressors, refrigeration equipment, heaters, etc. will result in some pollutant discharges. Although minor, they are summarized in Appendix Section VIIIB.

When docked ships are unloading their propane cargoes through the pipeline, some nitrogen will be discharged to the atmosphere when the unloading arm at Berth 120 is depressurized. Refer to page 41 for a more detailed

description of the unloading procedure.

b. Lithosphere

1. Pipeline route between the dock and the northwest side of the Sun Lumber Company storage yard.

   Construction of the pipeline will have negligible ecological impact, temporary or permanent, along this portion of the route.

2. Pipeline route from the storage yard fence to the eastern side of the Harbor Freeway.

   This area has undergone weed removal in the past, as evidenced by traces of disking. The disturbance of trenching will be quite localized, and less than that of annual weed removal. The pipeline path will be covered, and possibly entirely obscured by, the regrowth of annual weeds in the spring of 1974.

3. Pipeline route under an open field south of the Westoil access road.

   Pipeline installation is planned for a time of year when there will be no living plants in the field. All traces of the trenching activity will probably be covered by a dense growth of annual weeds in the spring of 1974.

4. Pipeline route adjacent to the Westoil access road. Since all construction activity and trenching for the pipeline is planned for the bottom of the slope, installation will have no long term effects on the existing community. There is no vegetation in the drainage ditch, and all erosion is occuring farther up on the slope. The area to be trenched and refilled has been previously graded, filled, and otherwise disturbed during construction of the Westoil access road. The affected material is, therefore, unlikely to be of any biological or geological interest. Both the rabbit and the hare tend to be crepuscular or nocturnal, and are unlikely to have their behavior disrupted by daytime construction activity.

   This section of the pipeline trenching operation will be monitored by the Museum of Natural History, County of Los Angeles, for any possible discoveries of paleontological interest. (See Appendix Section III for comments by Lawrence Barnes, Museum of Natural History, Los Angeles County)

5. Underground pipeline and terminal facilities operation. The refrigerated liquid propane is pumped from the hold of the ship through a counter-weighted Chiksan marine arm located adjacent to the outboard face of an existing dock at Berth 120. This unloading device is

supported on four (4) wood piles driven adjacent to existing wood dock support piles. The driving of these piles plus two (2) piles midway between the dock and the shoreline to support the 16-inch diameter pipeline will represent the only disturbance to existing marine life in the entire project. Such disturbance is indeed minimal. (Refer to Appendix Section IX)

The pipeline commences at Berth 120 in Los Angeles Harbor and traverses a primarily northwesterly leg to the Harbor Freeway, (paralleling and immediately adjacent to the 13 underground pipes carrying Westoil Terminals Company petroleum products from dock to storage), proceeds under the Freeway and across the Westoil Terminals Company access road northwesterly, then assumes a generally westerly direction to the site terminating at the storage tanks. This pipeline is a 16-inch diameter, insulated steel pipe with an adjacent 4-inch insulated line. The 4-inch line is used to cool the 16-inch line approximately 24 hours prior to the arrival of a ship at the dock. The propane received by ship is of extremely high quality and very "clean". It is stored directly into the tanks without further processing. Domestic propane, which will constitute approximately 10-20% of the total supply, is conversely less clean. This propane is received

from tankers and pumped into one of the pressure storage tanks of the terminal, reprocessed to remove free sulfur, petroleum sludges and water (if any) then cooled and stored. Any such residues are removed from the site by vendors and further processed for commercial use.

Propane has many industrial uses. It is well known as a heating gas and is used for that purpose extensively in mountain homes, mobile homes, and trailers. Propane is becoming increasingly valuable as a motor fuel. Part of the function of this plant will be to provide fuel for a growing number of governmental agencies, public utilities and commercial vehicle fleets which have converted to use this clean burning, less polluting fuel. Most of the propane leaving this facility will be handled by 10,000 gallon tanker trucks. In peak demand periods, up to 100 trucks per day may pass through the facility. Additional shipments will also leave the facility by rail.

Trucks leaving the terminal will proceed north on Gaffey Street and pick up the Harbor Freeway at Anaheim Street. At peak demand periods, truck traffic will produce a minor effect on both Gaffey and Anaheim Streets. Its effect on the Harbor Freeway will be negligible. (See Appendix Section VI for Traffic Count on North Gaffey Street.)

c. Hydrosphere

The installation of four (4) timber piles within the confines of the present dock structure at Berth 120 and two (2) between dock and shore will stir up the bottom sediment and temporarily increase turbidity. The effect will be highly localized and will shortly return to current norms. (Refer to Appendix Section IX B)

2. Alterations to scenic quality

Since the pipeline will be buried in an area where the natural ground has previously been disturbed, and since the completed covering will essentially match present appearance, no scenic quality will be altered. At the dock at Berth 120, the Chiksan unloading arm in its retracted position stands 56 feet above present dock elevation. The arm section is a 12-inch diameter steel pipe, hence its view blocking tendencies, in the brief view a traveler would have from Wilmington-San Pedro Road, is minor.

The terminal, with its 110 foot high tanks based 80 feet below the adjacent hillside to the east, will present a striking elevation looking east from Gaffey Street. Little visual impact in relation to existing tanks at Westoil and Union Oil will be apparent from the Harbor Freeway.

3. Alterations to public services

Utility services in the area will be affected by this project. Electrical energy will be required for yard

lighting and power requirements. Some of the equipment will burn natural gas on an interruptible basis. (See Appendix Section X)

Current water service is available for irrigation, personal use, and fire protection.

Storm drains will receive added runoff from the covered and paved portions of the terminal site, however, over one-half of the site will drain to the retention basin where it can be valved off and released at other than peak periods of storm drain flow.

A septic tank has been constructed at the terminal, therefore, local sewer loads will not be incurred. There will be no process water used or discharged.

Trash will be mainly from office use and will be handled in the normal commercial manner.

B. Any adverse Environmental effects which cannot be avoided if the proposal is implemented.

1. Polluted Bottom Sediments

The dock construction for this project will require four (4) driven timber piles which will function as a support for the Chiksan marine loading arm located near the outboard face of the dock, and two (2) for pipeline support.

Installation of the six piles will stir up the bottom sediment and temporarily increase turbidity. This

increase may adversely affect the phytoplankton by reducing light availability, but tidal fluctuation will quickly (probably within a few days) cause enough mixing to recruit plankton from other areas within the bay. (Refer to Appendix Section IX B)

2. Destruction of Piling Organisms

The increased turbidity may also have an indirect effect upon some of the sessile piling organisms. The mud is fairly anoxic and carries a high chemical oxygen demand (C.O.D.) which will reduce the available oxygen (already low) in the water. Some animals may be killed from lack of oxygen, but replacement should occur quickly since the larval forms of many of these organisms were observed in the plankton.

Disturbance of mud dwelling organisms may also cause some reduction in numbers, but observations seem to indicate otherwise. A mud sample which was thoroughly mixed, sealed, and kept in a refrigerator at 40°F, contained some Polychaete worms that had re-established burrows on the sides of the jar and showed no adverse affects from their disturbance. Those organisms directly under the new piles would most probably be crushed and that habitat elimiated, but this change would provide more habitat for pile dwelling species.

The proposed construction will probably have no long term effects on the present piling community. (See Appendix

Section I for further comments by John J. Stephens, Jr., Ph.D.)

3. Noise

The functioning of the pile driver both internally and when it strikes the pile will create some noise. The maximum exposure will be to the construction workers at the site. If driving goes as anticipated, all six piles should be driven within one working day. Generally speaking, businesses in the Harbor area are accustomed to pile driving operations and the associated noise levels. Pile driving will be accomplished during normal weekly work day hours. Some underwater noise will also be generated by the pile driving. (Refer to Appendix Section IX A) The nearest residential area is approximately one mile from the pile driving operation, where noise penetration will be innocuous. Pile driving is a routine maintenance function for the Los Angeles Harbor Department throughout the year.

The terminal facility will be operable on a 24-hour basis, some noise from operating equipment and tanker trucks will result. Since it is over one-quarter mile to the nearest residential area, operational noise there will be attenuated.

4. Possible Spills and Leaks

Unlike liquid natural gas which is transported, handled and stored at -260°F, propane at -45°F has less potential for a hazardous spill reaction. Control measures are so stringent during ship unloading operations that a large quantity spill

is extremely unlikely. If by chance liquid propane contacted harbor area water, intense boiling action would occur converting the propane into gaseous form which would then quickly disperse.

Should a leak occur in terminal facility piping or one of the storage tanks, such occurences would be detected by routine visual inspection and through continuous use of mounted vapor detectors at strategic points throughout the operational area. Portable hydrocarbon vapor detectors are also available for use. Should a leak or spill occur, control and removal measures which conform to agreed upon procedures of the Los Angeles City Fire Department will be followed.

The storage tank foundation design and structural analysis is based upon a detailed Earthquake Engineering Investigation which forms Part II of a Report prepared for Petrolane, Inc. by Converse, Davis and Associates dated May 30, 1972. This portion of the Report discusses the types and magnitudes of earthquakes which might affect the site and their probability of occurence. The effect of the site's subsurface conditions in terms of modifying ground shaking is analyzed and response spectra for ground motions are presented. The investigation was performed by Mr. Jack W. Burke, Project Engineer, and Dr. N. Dean Marachi, Senior Engineer, under the overall direction of Schaefer J. Dixon, Chief Engineer.

C. Mitigation Measures Proposed to Minimize the Impact

1. Polluted Bottom Sediments

Every effort will be expended to minimize the effect of pile driving on stirring up the bottom sediments. This material is a finely divided, almost colloidal solution, thus the effect on adjacent areas, other than directly

under the pile tip, should be minimal. The piles are the only "in water" portion of the construction.

2. Destruction of Pile Organisms

The closest any of the six new piles come to existing dock piling is 1 foot - 3 inches face to face. Care will be exercised in locating the new piles prior to driving in order to minimize contact with the existing marine life.

3. Noise

The major source of construction noise will result from pile driving. This is a rhythmical sound, common in all harbor construction and maintenance and in this particular part of the project will be of just one day duration. Drilling holes for bolting the construction elements together will also generate the usual building construction noises. The noise level will be within limits prescribed by Los Angeles City Ordinance. (Refer to Appendix Section IX A)

4. Possible Spills and Leaks

All welded joints in the 16-inch and 4-inch diameter pipes, storage tanks and terminal facilities piping will be carefully checked both visually and by X-Ray. Pipeline wall thickness exceed design pressure requirements. The Chiksan unloading device selected is one of long and dependable use in field unloading operations.

All connections from the unloading device to the pipeline will be accurately joined and carefully inspected.

The typical ship will carry 150,000 to 200,000 barrels of propane, so the normal elapsed time for cargo discharge will run 18 to 24 hours.

Once the ship is empty and pumping has ceased, Petrolane will use nitrogen from a permanently mounted storage tank or truck to purge the line of propane from ship to the block valve on shore. The nitrogen storage and vaporization equipment will also be available during the entire discharge operation in case of an emergency where a line purge is necessary.

The only release of material to the atmosphere occurs during depressuring of the unloading arm following the nitrogen purge. While there will be slight traces of propane released, over 95% will be non-polluting nitrogen. The total purged volume released to the atmosphere is roughly 10 cubic feet, containing less than 5% propane vapor. The propane vapor becomes insignificant when exposed to the atmosphere. It possibly could be ignited by a lighted match but control measures required by the Coast Guard, the Los Angeles City Fire Department and the Port Warden should prevent such an occurance.

Once the arm is depressured and disconnected, it is moved

back to its upright storage position on Berth 120 and the ship is free to depart.

Walkie Talkies and telephones in the control rooms of the terminal, dock and ship will be open to allow constant communication between the three key cargo transfer personnel. All three men have the means to stop line flow instantaneously.

The dock and ship operators will also have visual contact with each other and the transfer area at all times.

Security at the dock is maintained by a uniformed guard. Port Security Cards issued by the U.S. Coast Guard and/or a Petrolane pass will be required for admittance to Berth 120. The area is completely fenced and easily policed.

The transfer area at the dock will be lighted in accordance with U.S. Coast Guard "Pollution Prevention" Regulations (TITLE 33 CFR, Subchapter 0, Part 154.570). These regulations require all oil transfer facilities to have fixed lighting that illuminates (a) each transfer connection point with an average minimum lighting intensity of five (5) foot candles and (b) each work area with an intensity of one (1) foot candle.

Mercury vapor lamps on 40 foot poles will be used at

the dock area. They will be located on the shore edge and aimed straight downward. Transfer point lighting will be localized explosion proof incandescent lamps.

No objectional penetrations of this lighting will affect the residential areas approximately one (1) mile to the northwest.

D. Alternatives to the Proposed Action

1. Petrolane Inc. Facility

Site requirements to be met if this facility were to be located on an alternate site are as follows:

a. Close to a deep harbor dock to minimize length of pipeline between ships carrying propane and storage tanks.

b. High soil bearing value to minimize tank foundations and accept heavy truck loadings at reasonable cost.

c. Adequate paved areas for temporary truck storage on site.

d. Easy access to a major freeway.

e. Provision for railroad loading spurs.

f. Ample area to permit equipment spacing as required by local and national codes.

2. Construction at an Alternate Site

Several other sites were considered, two seriously:

Both were at Long Beach Harbor; Both sites were small -- one five (5) acres, the other ten (10) acres; both were on hydraulic fill and would have required piles for all major foundations; both were owned by the City of Long Beach. One was ideally suited by being near the edge of a wharf, making pipeline costs minimal. Acquisition proceedings appeared to be slow and construction costs high.

Petrolane leased the present site from a private owner because of its good soil bearing value, reasonably rapid acquisition potential, transportation flow characteristics and ample space.

3. No Project

The alternative to the site selected is no project.

The pipeline portion of the project could be replaced by a fleet of tanker trucks carrying propane from the ships to the site. Since maximum truck capacity is 10,000 gallons and the average ship carries 6,300,000 gallons, it would require 630 trips to unload one ship.

Such a solution would add large traffic volume to the area, with a corresponding increase in air borne pollutants, increase ship dockside time, and greatly increase the cost of the product.

The underground pipeline is unobtrusive, practical, and the most economical solution. Further, propane, a clean burning fuel, is sorely needed in the Los Angeles basin both as a vehicle fuel and as a replacement for natural gas when demand requirements cannot be met during periods of high demand.

E. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity.

1. Resources Consumed In Pipeline Construction Operations

Pipeline construction will require a trenching machine, backhoe, compacting equipment, portable welding equipment, and a small crane to set the pipe. All construction equipment will contribute pollutants to the atmosphere. Their contribution per gallon of fuel burned is considerably less than that of the passenger automobile since they are diesel burning (See Appendix Section VIII A for emission data).

2. Short Term Use of Site for Petrolane Inc. Facilities

Construction of the Petrolane Inc. pipeline and terminal will have a continuing beneficial short-term effect on the area since it provides a more centralized facility for storage and distribution of propane from Los Angeles eastward to the Nevada and Arizona borders and southward to San Diego. The site is leased for 30 years and the facility is such that it cannot be expanded without

acquiring additional land.

Open space in this area of tank farms is limited. Although the Los Angeles landfill area to the south would provide a spacious and admirably located future park, the Petrolane Terminal site had no such attributes. There are, however, commodious park facilities one and a quarter (1¼) miles north of the terminal on Anaheim Street at Harbor Regional Park. The added harbor use required by this facility is small (12 ships per year) and because of its size and capacity, this use should remain almost constant for the short term.

3. Maintenance and Enhancement of Long Term Productivity

Since gasoline is currently becoming scarce, this facility may well encounter increased demands for propane beyond those currently anticipated. How this will affect long term use is difficult to predict. Changes in local driving habits, limitations on personal vehicle use, public transportation and possible changes to combustion engines will all have a long term effect on the function of this project.

Marine life distrubance is extremely minimal with no long term effects. Other native fauna are present and should not be negatively affected by this project.

4. Resources Consumed in Construction Materials

a. Recyclable

The majority of construction materials consumed in this project are recyclable in some form such as: steel from tanks and pipelines (scrap); asphalt and concrete paving (reground as base material); wood (reused or as fuel); and valves and pumps (reused).

b. Non-recyclable

Materials such as timber piling, tank insulation, heavily reinforced concrete, welding rod scrap, boxes and crates, and the small amount of plaster, drywall, acoustic tile and vinyl tile used in construction would normally become trash upon removal from the project. Naturally, all fuels consumed in both construction and operation are non-recyclable.

F. Any Irreversible Environmental Changes Which Would Be Involved In The Proposed Action Should It Be Implemented

In order to provide an operable facility, it was necessary to create a deep cut bank on the east portion of the site. Prior to cutting, this area had experienced considerable erosion, some apparently caused by private motorcycle use. The area was criss-crossed with many dirt roads, was sparsely dotted with flora, had been used as a dump, and contained a medium population of jackrabbits and cottontails.

The cutbank was carefully terraced; its slope is 1½:1. A sprinkler system was installed and the slopes seeded in wildflowers, alyssum and Australian Saltgrass. A network of storm drains and concrete paved ditches were strategically placed to minimize erosion.

Additional grading was required to create a reservoir adjacent to the two tanks to serve as a temporary containment for liquid propane in the event that damage to a storage tank occurred. This is required practice in the petroleum industry. This reservoir will also accumulate run-off water from the southeast portion of the site. Such accumulation will be discharged to the storm drains in the area through a manually operated valve.

All operating areas are paved. This will increase run-off from the site to Gaffey Street. The storm drains in the area are more than adequate to handle this run-off.

It was unlikely that this site would have proved attractive to many other users because of its steep slope to the east. By grading to create a relatively low level base for the tanks, they blend both in size and elevation with adjacent tank farms to the north and east.

Since propane is a fuel very much in demand, it is unlikely that this facility will be torn down in the foreseeable future.

(For example, solely as a standby fuel for interruptible natural gas service, the Southern California Gas Company suggests such customers (and this includes all major users) have standby propane supply adequate for 15 days of normal operation. Without such additional energy source, those customers would have to shut down operations during a natural gas shortage). The present lease is for 30 years.

The site and its environs are such that its commercial use is most appropriate for the area. The project is in a M-3 Zone (heavy industrial). The pipeline proceeds through country that has long ago been altered from its original state. Since the pipeline will be four to five feet deep and covered with native earth, its visual and ecological impact is negligible.

G. The Growth Inducing Impact of the Proposed Action, Direct and Indirect

1. Economic: Economic impact of the proposed facility can be discussed in terms of increased employment, more reliable and higher quality supplies of propane available during winter and periods of short supply, reduced pollution, and related factors. The indirect impact of the project is with the employment and income generated by customers of the facility and its employees, commonly called the "multiplier effect".

Background. The sales volume through the Terminal Facility is expected to be 40 million gallons the first year, increased to 100 million gallons in approximately 3 years and sustain an annual increase of 7 to 10 percent per year thereafter. This sales growth is the basic force on which the economic growth is predicted.

Direct Economic Growth Effects

Employment (direct)

The long term employment at the proposed facility is expected to be about 12 men who will be paid an average of $13,500 per year generating a total direct payroll of $162,000 the first year. This wage bill is expected to grow at a rate of 10 percent a year, or by upwards of $16,200 per year. An additional man will be added every other year, it is anticipated, when full capacity operation is achieved and market forces have reached equilibrium.

Thus the direct employment impact on the economic growth of the harbor area is small, and when compared to the whole Southern California region which the facilities serve, it is insignificant.

More Reliable and Higher Quality Supplies of Propane Available During Winter and Other Periods of Short Supply

The reliability of propane supply will be greatly increased when this facility is operational, because vast foreign

deposits of the propane can be made available to Southern California markets. Heretofore, the prime source of supply has been refinery operations, but the refineries cease selling propane during periods of acute shortage because they use the propane themselves as fuel for their boilers. The international sources of propane are not affected by weather in Southern California or the changes in refinery needs.

Since the most important use of propane is for stand-by fuel in industries which buy natural gas only on an interruptible basis, and who regularly suffer interruptions in natural gas supplies, the energy resources of the Southern California region will be enhanced to the extent that this proposed project is operational.

Reduced Pollution

Propane is cleaner burning than almost any other fuel, especially in internal combustion engines. Some local delivery truck fleets are gradually converting to propane from gasoline as the major fuel source which greatly reduces the emissions of noxious gases. If all local cars and trucks were equipped with propane combustion equipment, air pollution from motor vehicles would be reduced by fifty to seventy-five percent in the air basin. (Reference, Alternatives to the Internal Combustion Engine,

Robert Ayres, Richard P. McKenna - Johns Hopkins University Press, Baltimore, 1972).

Reduced Costs of Fuel for Motor Vehicles

For some uses, propane is a cheaper fuel than that currently in use in Southern California. This is especially true for internal combustion engines, where the cost per gallon of propane is significantly less than the cost per gallon of gasoline. This potential saving for motor vehicle drivers is further enhanced by tax incentives provided by state law to vehicles which produce reduced pollution volumes. The current tax incentive is 7 cents per gallon.

For other uses, however, propane is not cheaper but instead may be more expensive than currently used fuels. Propane is more expensive, at present, than natural gas.

Tax Revenues to Local Governments

Property taxes are expected to be $250,000 per year for the approximately twenty acres including improvements. This revenue goes to school districts, the City of Los Angeles, the Flood Control District of Los Angeles, and other property tax assessing governmental units. In addition, there will be wharfage, dockage and operational fees which are expected to yield $50,000 per year under

full operating conditions.

INDIRECT ECONOMIC GROWTH EFFECTS

Indirect Employment (multiplier effects)

Employment in the basic industry like propane delivery has secondary or "multiplier" effects on the rest of the economy. These multiplier effects are brought about by the spending of earnings of employees for groceries, clothing, housing, and other consumer goods. The size of the multiplier depends on the spending propensities of the workers directly employed by the facility, plus the spending tendencies of the grocery stores, clothing stores and other stores where the direct employees shop. It is impossible to tell in advance precisely what the size of the multiplier will be for the proposed project. However, a recent input-output analysis of the Southern California economy published at Occidental College has determined that the employment multiplier is fourteen workers for every hundred thousand dollars spent in the transportation and utilities industry (of which this proposed project is a part). That would mean that the wage bill of $162,000 the first year would generate additional employment in other industries serving the project workers of 22.68 workers, or approximately 11 additional workers. As the wage bill goes up, additional multiplier effect may also be anticipated over time.

Indirect Income (Multiplier Effects).

The indirect income multiplier from the Occidental input-output study of Southern California economy is 1.62. As seen in the table below the direct expenditures for wages, property taxes, wharfage and dockage fees, business license taxes, and other local expenditures are expected to amount to $482,000 per year. This will generate total expenditures of $780,840 by way of the multiplier effect.

	Direct	Indirect Factors	Direct and Indirect
Wages	$162,000		
Property Taxes	250,000		
Wharfage and Dockage	50,000		
Business License Taxes	5,000		
Local Expenditures	15,000		
	$482,000	X 1.62 =	$780,84

* *

2. Demographic Effects

The facility, because it is relatively small and limited in scope, is expected to have no significant demographic effects on the local population or the geographic areas surrounding the facility. It is true that local govern-

ment will receive somewhat more revenue, and the regional economy will be somewhat more pollution-free, but this is not expected to significantly affect the level of population or general land use in the region.

3. Cumulative Impact of Economic and Demographic Growth on the Following

The general impact of the proposed project is favorable. Income will grow as indicated above. Employment will increase, and pollution will be reduced.

a. The Environment will be improved since propane used in place of more polluting fuels makes it possible to greatly reduce pollutants in the air from motor vehicles and other sources. No unfavorable effects on the environment are anticipated.

b. This new facility will provide for the first time adequate supply, storage and distribution of propane to the residents of the Los Angeles Basin, enabling them to conduct their affairs in a cleaner, more economical way. This is particularly true as it impacts on the use of motor vehicles.

4. The Cumulative Growth-Inducing Impact of All Similar Projects in the Harbor

There are no exactly similar projects in the harbor, though the petroleum wharfage and dockage operations may have some similarities. The proposed project should raise the level of economic activity, income and employment at a rate faster than would be true if the facilities were merely similar to those older petroleum installations currently existing in the harbor area, since it is more efficient and newer.

ORGANIZATIONS AND PERSONS CONSULTED

1. Joseph E. Haring, Ph.D.
   Chairman of Dept. of Economics
   Occidental College, Los Angeles
   Economic Analysis

2. Ronald D. Quinn, Ph.D.
   Assistant Professor of Biological Sciences
   California State Polytechnic University, Pomona
   Terrestrial Biological Analysis

3. John S. Stephens Jr., Ph.D.
   Chairman and Professor of Biology
   Occidental College, L.A.
   Review and Comments on Report by Norman D. Hogg, M.S.

4. Norman D. Hogg, M.S.
   Lecturer, Dept. of Biological Sciences
   California State Polytechnic University, Pomona
   Marine Biological Analysis and Berth 120 Dive

5. Lawrence G. Barnes
   Associate Curator - Vertebrate Paleontology
   Natural History Museum of Los Angeles County
   Comments on Paleontological Probe conducted May 23, 1973, on north side of Westoil Terminals Co. access road.

6. University of Southern California

Allan Hancock Foundation, Los Angeles

Dorothy F. Soule, Ph.D., Director Harbor Environmental Projects Securing and Performing Sediment Analysis on Bottom Sample at Berth 120.

7. City of Los Angeles

Department of Traffic and Street Engineering

Traffic Count on Gaffey Street, San Pedro

8. Port of Los Angeles

W. Calvin Hurst

Harbor Environmental Scientist

Organizational Structuring and Review of EIR Draft

9. H. M. Scott & Associates

9143 E. Valley Blvd.

Rosemead, California

Preparation of Environmental Impact Report Draft.

REFERENCES

1. State of California, The Resources Agency of California, February 5, 1973 "Guidelines for Implementation of the California Environmental Quality Act of 1970"

2. U. S. Army Engineer District, Los Angeles, November, 1972 Preliminary Draft Environmental Statement stamped "Working Paper Subject to Revision" Los Angeles-Long Beach Harbors, Los Angeles County, California

3. County of Los Angeles, Revised Environmental Procedures And Guidelines, Approved April 5, 1973

4. Los Angeles City Guidelines for Implementation of the California Environmental Quality Act of 1970

APPENDIX

SECTION I

COMMENTS ON MARINE BIOLOGY ANALYSIS BERTH 120, LOS ANGELES HARBOR

ENVIRONMENTAL IMPACT REPORT FOR PETROLANE INCORPORATED

I have read the report prepared by N. D. Hogg concerning the ecological survey of the wharf site contemplated as the construction area for Petrolane Corporation.

These data describe a typical protected wharf piling community in Southern California, a community made up of organisms that are abundant locally and in no sense threatened. Most of the benthic organisms represent a semi-permanent fauna which may undergo gradual replacement of species. In such a harbor area, sporadic anoxic conditions tend to occasionally destroy any "balanced" communities that might temporarily develop. Rapid replacement through larval settling quickly repopulates any destroyed epifaunal community. Witness the anti-fouling industry which has developed in response to this phenomenon. The evidence of large mussel shells adjacent to the pilings suggests that the epifaunal has recently been destroyed though the apparently well-developed piling fauna indicates that it may not have happened in the last year.

The water profile indicates relatively normal back bay conditions for Los Angeles Harbor in April, though the temperatures are high this year. No stable thermocline has been developed as yet. DO conditions are presently adequate but will vary seasonally or even daily with nutrient and plankton blooms (i.e. primarily dinoflagellate abundance) as well as thermocline stability. Six feet of visibility is probably average for spring conditions.

The addition of six pilings to this wharf habitat will have essentially no affect on the fauna. It will add new substrata for additional epifaunal growth. I see no reason why such construction should not be allowed.

The question of spillage of liquid gases (-45°F) at the wharf presents problems quite separate from those of construction. It would seem that only two factors are involved--freezing and fire. Small spillage of liquid gas would have little or no effect on the marine environment though it would produce local kills of plankton or benthic organisms directly contacted and through rapid cooling of surface waters. I would, however, expect the gas to sublimate almost immediately, producing potentially dangerous concentrations

of flammable gas rising from the surface waters.

Extensive spills would decimate the area through rapid cooling of the water, killing all communities in the immediate and probably adjacent areas. They would, also, present an extreme fire hazard. It is essential that precautions be taken against this sort of accident. Even extensive kills, however, would have a very short-lived effect on the animal communities of the area.

John S. Stephens, Jr.
Chairman and Professor of Biology
Occidental College
Los Angeles, California 90041

June 5, 1973

SECTION II

SEDIMENT ANALYSIS AT BERTH 120

UNIVERSITY OF SOUTHERN CALIFORNIA
ALLAN HANCOCK FOUNDATION
UNIVERSITY PARK
LOS ANGELES, CALIFORNIA 90007

H. M. Scott and Associates
Box 128
Rosemead, California 91770

Attn: Mr. Arthur H. Cooke

Dear Mr. Cooke:

Enclosed is a copy of the sediment analysis taken at the Time Oil Company pier, berth 120, on May 22, 1973.

We are in receipt of your check in the amount of $310.00 for analysis. There was no charge in this instance for sampling, since our people were operating in a nearby area on that day.

Sincerely,

Dorothy F. Soule

Dorothy F. Soule, Ph.D.
Director, Harbor
Environmental Projects

DFS:rjk

USC : SAMPLE NUMBER Time oil

Laboratory Sample Number 5
Date of Collection 5-22-73
Date(s) of Analysis 5/22/73 - 5/25/73
Date of Report 5-25-73
Total Wt. Sample - as Rec. _____

Constituent	ppm	Det. Limit	Constituent	ppm	Det. Limit
Moisture (%)	48.7		Arochlor 1242	—	
Dry Matter(%)	51.3		Arochlor 1254	1.605	
COD.	6.62×10^4		Arochlor 1260	170.0×10^{-3}	
TOC (%)	1.036		Lindane	—	
TVS (%)	6.45		BHC	—	
IOD	60.3		Heptachlor	—	
Oil & Grease	4110		Aldrin	—	
Kjeldahl N	15.1×10^2		Heptachlor Epoxide	3.5×10^{-3}	
Norg	15.1×10^2		Kelthane	—	
P	1229.5		Methoxychlor	—	
Sulfide	1081.0		Chlordane	—	
Hg	1.2828		Toxaphene	—	
Pb	191.5		Dieldrin	—	
Zn	289.0		DDE	208.0×10^{-3}	
As	8.62		DDD	116.0×10^{-3}	
Cd	1.95		o,p',DDT	—	
Ni	53.2		p,p',DDT	—	
Cu	146.0		Total DDT	324.0×10^{-3}	
Fe	4.35×10^4		Endrin	—	
Cr	87.7		Others (name)	—	

* If none detected - indicate detection limit

Analytic Data Approved by:

Kenneth S. Chen

SECTION III

PALEONTOLOGICAL RESOURCES REPORT ON PIPELINE ROUTE

Report on Paleontological Resources in area of Proposed Pipeline to Westoil Terminals, San Pedro, California.

prepared by Lawrence G. Barnes

for

H. M. Scott & Associates, Inc.

On 23 May 1973, two paleontological test trenches were made and field reconnaissance was conducted along the proposed route of the pipeline. These trenches were five to six feet deep; the stated probable depth of the proposed trench in the test area. The route of the proposed pipeline passes through undisturbed Pleistocene marine sediments and disturbed fill. At any point along the route, fossils may be encountered in the undisturbed Pleistocene sediment, with the greatest probability being along the south margin of the Westoil Terminals' tank farm between the access road and the base of a cut slope. It is in this area that undisturbed, coarse, yellow Palos Verdes Sand can be seen with a basal fossil shell bed overlying a lower, finer, gray sand which is probably the San Pedro Sand. Both marine sedimentary formations are of Pleistocene age and have yielded extensive collections of fossil invertebrates (principally mollusks) and vertebrates (principally mammals and birds) at many sites in the San Pedro area. At any of these sites, the fossil vertebrates are much rarer than the invertebrates, and therefore are much more in need of being saved.

The impact upon paleontological resources east of the Harbor Freeway will be minimal or nonexistent because the well known fossil beds have been removed and the land surface greatly altered. If, however, an unexpected shell bed or fossil

vertebrate specimen is encountered, provisions should be made for inspection and/or salvage.

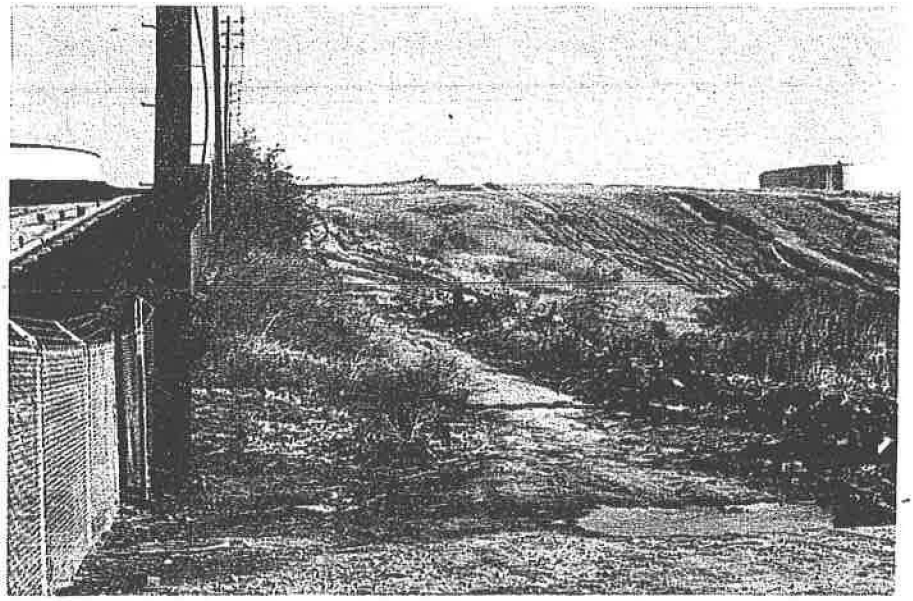
The fossil shell bed exposed in the slope south of the tank farm and west of the Harbor Freeway apparently will not be cut. If the two- to three-foot thick bed is cut (which may occur at the southwest corner of the tank farm), provisions should be made for experienced professional collectors to screen-sift the shell-bearing matrix. Such sifting can reveal occasional rare vertebrate and invertebrate specimens that are useful in scientific collections. Most of the shell bed is now slumped or otherwise covered surficially so that serious small-scale collecting is nearly impossible. Most of the trench south of the tank farm will cut the gray sand below the shell bed. This sand can generally be considered non-fossiliferous at the site, however the front part of a fossil gray whale skeleton was collected from this sand at this site and indicates the possibility that other such fossils may be encountered. Their occurrence is unpredictable as they do not occur in any particular bed or stratum.

I recommend that a trained fossil collector be present at the site when the trench is dug at the base of the slope west of the Harbor Freeway. I further recommend that if at any time during the project a fossil vertebrate or shell bed is encountered, that trained collectors be contacted. Work schedules and committments made by the company doing the excavating should allow them to leave any localized fossil-producing site while specimens are salvaged. This would not halt construction if the machinery could move on to the remainder of the route and continue work.

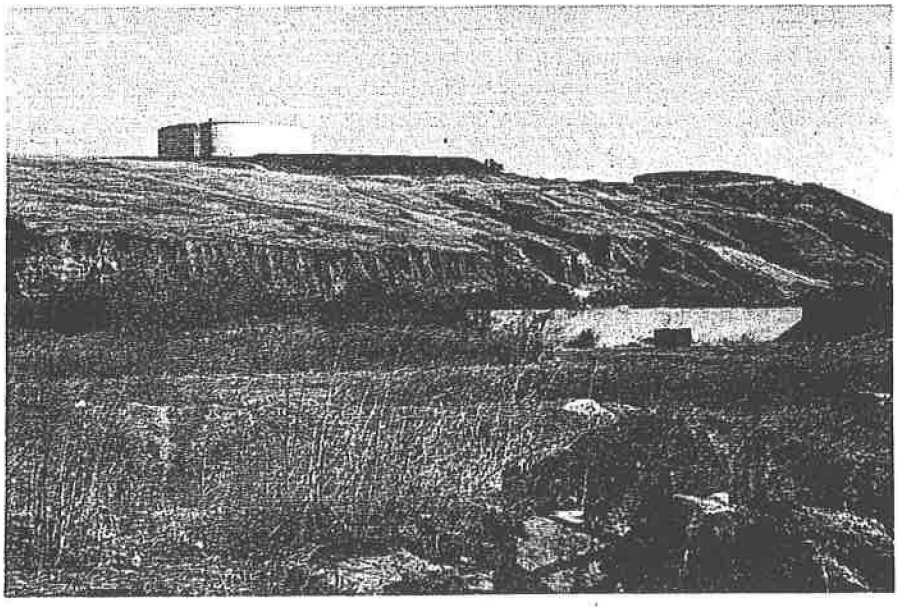
SECTION IV

ORIGINAL TERMINAL FACILITIES SITE PHOTOGRAPHS

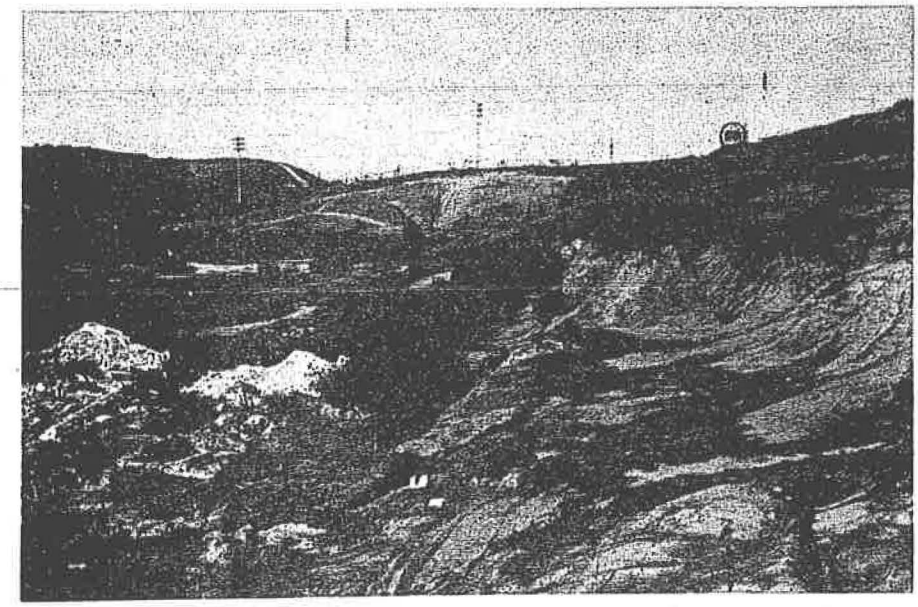
Aerial View Of Site Taken September, 1972



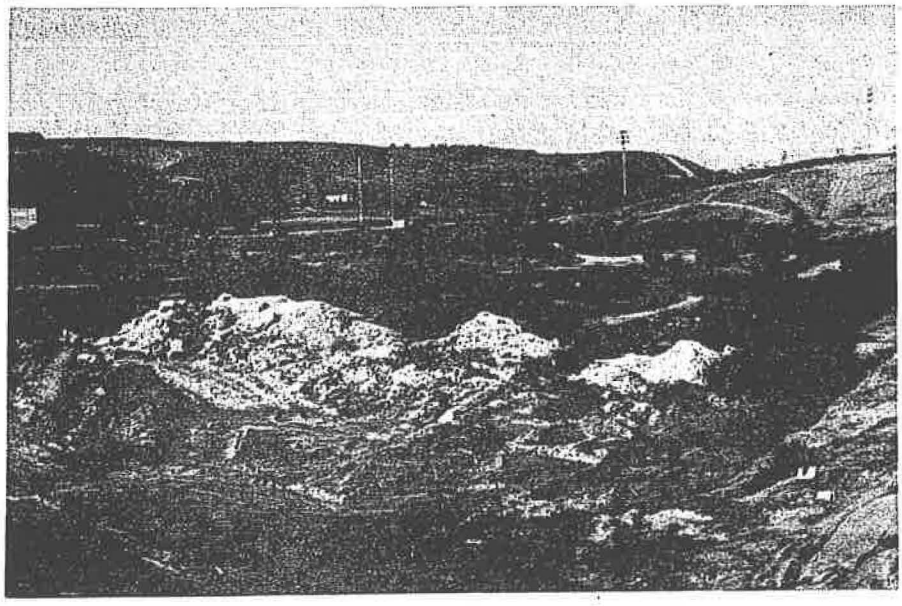
(1) Looking east along north property line



(2) Looking southeast from west property line



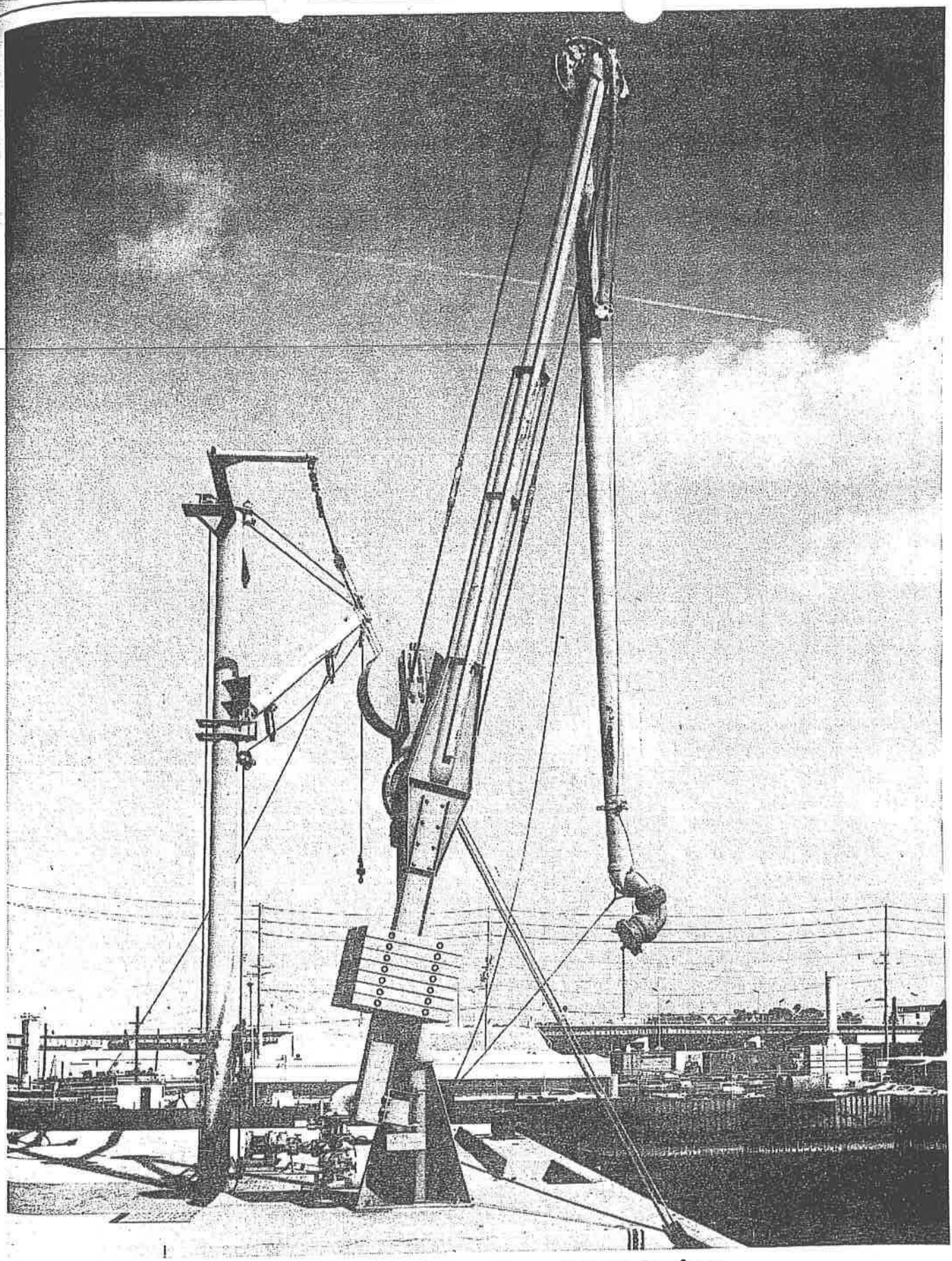
(3) Looking north from southeast corner of site



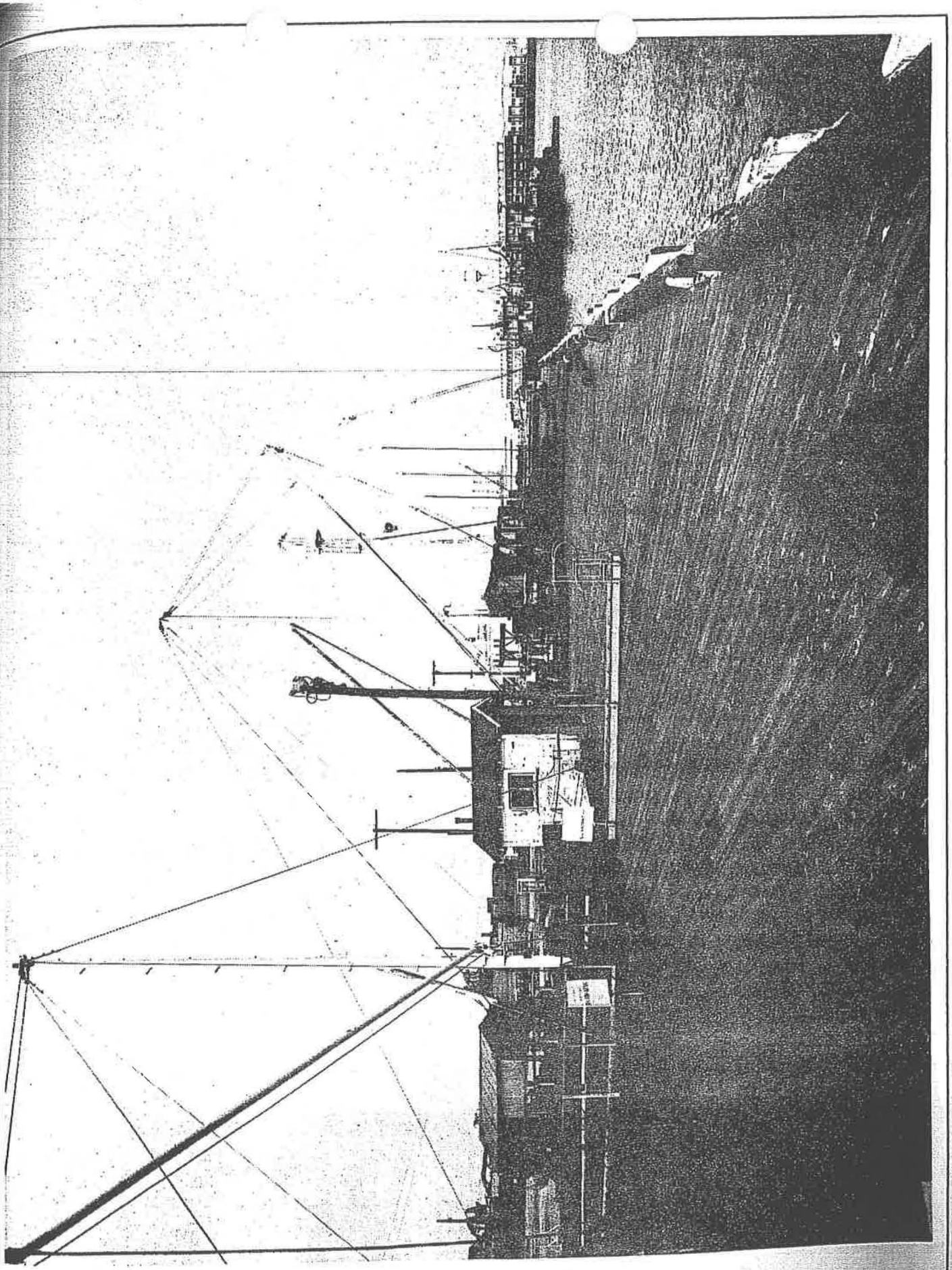
(4) Looking northwest from southeast corner of site

SECTION V

CHIKSAN UNLOADING ARM, BERTH 120, AND WESTOIL ACCESS ROAD PHOTOGRAPHS

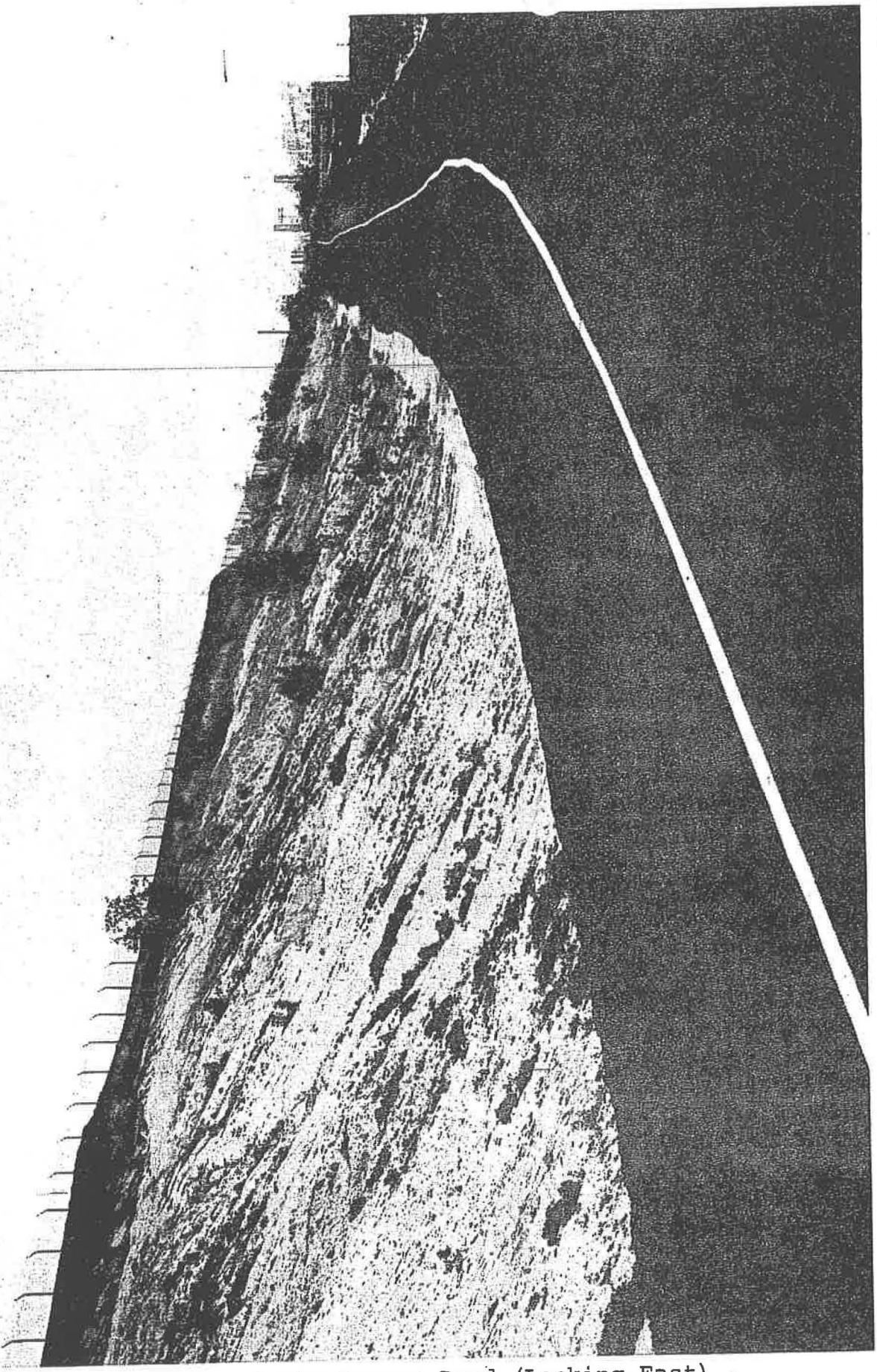


Chiksan Marine Unloading Arm - Long Beach Harbor



Outboard Side Berth 120 (Looking East)

Berth 120 (Looking South) Todd Shipyards In Background



North Side Of Westoil Terminals Access Road (Looking East)

SECTION VI

NORTH GAFFEY STREET TRAFFIC COUNT
EFFECT OF TERMINAL TRAFFIC ON GAFFEY STREET

NORTH GAFFEY STREET TRAFFIC COUNT

By

City of Los Angeles
Department of Traffic and Street Engineering
November, 1971

1. 24-Hour Period

North Bound	5,500	
South Bound	5,600	
Total Vehicles		11,000

2. Peak 6 Hours (7 to 10 A.M. and 3 to 6 P.M.)

North Bound	2,500
South Bound	2,400

Peak Frequency In Any One (1) Hour Period

One Direction	600
Both Directions	1,000

3. Turning On To Gaffey Street From Westmont Drive During Peak 6 Hours

Left Turn (Northerly) Right Turn (Southerly)	1,100

NOTE: Westmont Drive terminates on the west side of Gaffey Street just south of the project site which is on the east side of Gaffey Street.

TRAFFIC VOLUME

Maximum Terminal Use By 1975

100 trucks/Day

Average 4.16 trucks/Hour

Say Maximum of 6 trucks/Hour

Since this is an in and out operation, we may assume that the 6 trucks/hour came in and left during peak traffic periods. All truck traffic will enter from and exit to the North.

*Peak Traffic Load/Hour - One Direction	600
Trucks From Terminal	6
	606

Percent Increase $\frac{6}{606} = 1\%$

Therefore, terminal truck traffic will have an insignificant effect upon Gaffey Street traffic.

*See North Gaffey Street Traffic Count - Appendix Section VI

SECTION VII

ACOUSTICAL SURVEY - SOUND PRESSURE LEVELS

A. Pipeline Construction
B. Ambient Levels - Site and Berth 120
C. Operating Levels

   1. At Berth 120
   2. At Terminal Facility

PIPELINE CONSTRUCTION EQUIPMENT

Source:

Pipeline Construction Project

Contractor:

Swinerton & Walberg Company

Customer:

Mobil Oil Corporation

Location:

East Alameda Street and
Santa Fe Avenue
Los Angeles County and Compton

dbA READINGS

TYPE OF EQUIPMENT	DISTANCE TO SOURCE IN FEET	AT IDLE	AT OPERATING LEVEL	REMARKS
2 Jackhammers	5	-	100-104	Some compressor noise included
(Breaking out concrete paving)	25	-	92-94	
D7 Cat Tractor	5	74	80	
With side boom pipelayer	25	65	-	
Backhoe - Skip	5	78	90-92	
Loader Case CK336	25	72	85-86	Digging
Turbo			80-90	Ripping up A.C. Pavement
Trencher	5	-	95	
Cleveland JS-36	25	-	89	
Lincoln Arc Welder	5	-	83	
Truck Mounted	25	-	73	
Portable Hand Grinder	5	-	82	

AMBIENT SOUND PRESSURE LEVELS

SITE AND WHARF

LOCATION	dbA READINGS	REMARKS
At Site	53-63	½ Minute Range Facing Gaffey Street
Berth 120 Mid-Wharf	64-75	

SOUND PRESSURE LEVELS

SHIP AT DOCK

Ship - Tanker

Length - 700 to 725 feet

Capacity - 45,000 Tons Displacement

Loading at Long Beach Harbor Area On June 25, 1973

LOCATION	dbA READING	REMARKS
At Dock Edge	72	70 Feet Forward From Stern
25 Feet From Dock Edge	66	
50 Feet From Dock Edge	64	
At Dock Edge	59	Mid-Ship
25 Feet From Dock Edge	62	
25 Feet From Dock Edge	58.5	From Bow
70 Feet From Dock Edge	58.5	
150 Feet From Dock Edge	56	(Essentially An Ambient Reading For This Location)

NOTE: Although this ship is approximately five (5) times the size of a Petrolane Inc. propane carrying vessel, its loading and unloading pumps are similar in construction and sound levels.

SOUND PRESSURE LEVELS

PETROLANE INC. TERMINAL FACILITY OPERATIONS

TERMINAL OPERATING EQUIPMENT

TYPE OF EQUIPMENT	DISTANCE TO SOURCE IN FEET	AT OPERATING LEVEL	REMARKS
Propane Transfer Pump	5	87	Transfers propane from large storage tanks to 60,000 gal. pressure tanks
	25	73	
Loading Pumps	5	76	Transfers propane from pressure tanks to trucks and rail cars
	25	62	
Pipeline Cool-Down Pumps	5	70	Used solely to cool 16" supply line from dock prior to ship arrival
	25	56	
Fans on Compressor Coolers	5	94	
	25	81	
Air Compressor	5	90	
	25	76	
Furnace Forced Draft Fan	5	79	
	25	65	
Boiler Air Purge Cycle	5	80	
	25	68	
Normal Operation	5	86	
	25	82	
Gycol Pumps	5	77	40 H.P. Motors
	25	63	

SOUND PRESSURE LEVELS

TERMINAL TRUCK TRAFFIC

Equipment - Diesel Tanker Truck and Trailer

Readings taken June 25, 1973 at Petrolane Inc. Terminal
1601 Victoria Street, Compton, California

TYPE OF EQUIPMENT	DISTANCE TO SOURCE IN FEET	dbA READINGS	REMARKS
Cummings 350 H.P. Truck	At Side of Truck	81	Idle (550 RPM)
	5	79	Idle
	5	76	Exiting Terminal
	5	80	Start Onto Victoria Street
	25	70	Idle
Kenworth 318 H.P. Truck	10	72	Entry to Termina

SECTION VIII

ANTICIPATED EMISSIONS

A. Pipeline Construction
B. Terminal Equipment
C. Terminal Truck Operation
D. Gaffey Street Traffic
E. Summary
F. L.P. Gas Fleet Data

POLLUTANTS FROM PIPELINE CONSTRUCTION EQUIPMENT

EQUIPMENT	DIESEL FUEL CONSUMPTION PER HOUR - FULL CAPACITY OPERATION
D7 Cat Tractor With Side Boom Pipelayer	3 Gallons
Backhoe - Skiploader Case CK 336 - Turbo	2½ Gallons
Trencher - Cleveland JS-36	2½ Gallons
Miscellaneous Other Equipment	4 Gallons
TOTAL	12 Gallons/Hour

Assume 75% Operating Capacity

Daily Consumption = 0.75 x 12 x 8 = 72 Gallons

Total Carbon Monoxide (CO) 0.225 lb/gal x 72 = 16.20 lbs.

Total Oxides of Nitrogen (NO_x) 0.370 lb/gal x 72 = 26.64 lbs.

Total Hydrocarbons (HC) 0.037 lb/gal x 72 = 2.66 lbs.

POLLUTANTS FROM

PETROLANE INC. TERMINAL EQUIPMENT

EQUIPMENT	TOTAL EMISSIONS LBS./DAY			FUEL SOURCE
	CO	NO_x	HC	
Heater (1)				
G. C. Broach Company	0	43.44	0	Natural Gas (Interruptible) Standby Propane
Compressors (3)				
White 600 H.P.	286.77	68.78	138.62	Natural Gas

POLLUTANTS FROM TRUCK TRAFFIC AT PETROLANE TERMINAL

Maximum Winter Usage 1975

All traffic is diesel truck — 200 trucks per day (2 way)
100 in - 100 out

Average distance travelled in terminal is 1400 feet, call 0.3 miles (includes entering, loading or unloading, then leaving)

Urban Usage

Functional Class: Internal Terminal and Standing

Speed: Less than 10 m.p.h.

Total VMT 100 x 0.3 = 30 miles/day

Assume 4 m.p.g. on diesel powered trucks

$\frac{30}{4}$ = 6.5 gallons

Total Carbon Monoxide (CO) 0.225 lb/gal x 6.5 = 1.46 lb.

Total Oxides of Nitrogen (NO_x) 0.370 lb/gal x 6.5 = 2.40 lb.

Total Hydrocarbons (HC) 0.037 lb/gal x 6.5 = 0.24 lb.

Winter Usage	1973	2/3 x 1975	CO = 0.98 lb. NO_x = 1.60 lb. HG = 0.16 lb.
Winter Usage	1974	5/6 x 1975	CO = 1.20 lb. NO_x = 2.00 lb. HG = 0.20 lb.

POLLUTANTS FROM EXISTING TRAFFIC ON NORTH GAFFEY STREET ADJACENT TO PROJECT

Method of Calculation from D.O.T. National Transportation Study

Based upon 1972 Model Inventory — 24-Hour Traffic = 11,000 Vehicles

Urban Usage — Average Speed = 40 m.p.h.

Functional Class: Medium duty street

Total VMT (based upon 800 feet of adjacent roadway)

$$11{,}000 \text{ vehicles/day} \times \frac{800}{5280} = 1670 \text{ miles/day}$$

Estimate 15% of total is truck traffic

Estimate 6% of total is gasoline powered truck traffic =

.06 x 1670 = 100 miles/day

Estimate 9% of total is diesel powered truck traffic =

.09 x 1670 = 150 miles/day

Auto VMT = 1670 -100 -150 = 1420 miles/day

Assume 4 m.p.g. on diesel powered trucks

Diesel fuel consumed = $\frac{150}{4}$ = 37.5 gallons

CO = 0.225 lb/gal x 37.5 gallons = 8.4 lb.

NO_x = 0.370 lb/gal x 37.5 gallons = 13.9 lb.

HC = 0.037 lb/gal x 37.5 gallons = 1.4 lb.

POLLUTANTS FROM EXISTING TRAFFIC (CONT.)

AGE FACTOR			AUTOS								TRUCKS							
MODEL YEAR	CO & NO_x	HC	PROP. OF TOTAL	CO		NO_x		HC			PROP. OF TOTAL	CO		NO_x		HC		
				LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)			LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)	
1972	1.000	1.000	.04	.05	.00200	.010	.00040	.005	.00020		.02	.14	.00280	.021	.00042	.028	.00056	
1971	1.063	1.055	.15	.06	.00957	.012	.00191	.006	.00095		.10	.14	.01488	.021	.00232	.028	.00295	
1970	1.165	1.145	.15	.06	.01049	.012	.00210	.010	.00172		.14	.14	.02283	.021	.00343	.028	.00449	
1969	1.210	1.175	.15	.08	.01452	.016	.00290	.013	.00229		.14	.20	.03388	.021	.00356	.033	.00543	
1968	1.235	1.190	.11	.08	.01087	.016	.00217	.013	.00170		.15	.20	.03705	.021	.00389	.033	.00589	
OLDER	1.000	1.000	.40	.17	.06800	.014	.00560	.026	.01040		.45	.20	.09000	.021	.00945	.041	.01845	
					.11545		.01508		.01726				.20144		.02307		.03777	

TOTAL CARBON MONOXIDE (CO) = $.11545 \times 1420 + .20144 \times 100 + 8.4 =$ 192.4 LB/DAY (163.9 + 20.1)

TOTAL OXIDES OF NITROGEN (NO_x) = $.01508 \times 1420 + .02307 \times 100 + 13.9 =$ 37.6 LB/DAY (21.4 + 2.3)

TOTAL HYDROCARBONS (HC) = $.01726 \times 1420 + .03777 \times 100 + 1.4 =$ 29.7 LB/DAY (24.5 + 3.8)

POLLUTANTS FROM FUTURE TRAFFIC ON NORTH GAFFEY STREET ADJACENT TO PROJECT

Method of Calculation from D.O.T. National Transportation Study

Based upon 1975 Model Inventory

Urban Usage

Estimated 24-Hour Traffic = 11,000 x 1.10 = 12,100 Vehicles

Average Speed = 40 m.p.h.

Functional Class : Medium duty street

Total VMT (based upon 800 feet of adjacent roadway)

$$12{,}100 \text{ vehicles/day} \times \frac{800}{5280} = 1830 \text{ miles/day}$$

Estimate 15% of total is truck traffic

Estimate 6% of total is gasoline powered truck traffic =

.06 x 1830 = 110 miles/day

Estimate 9% of total is diesel powered truck traffic =

.09 x 1830 = 165 miles/day

Auto VMT = 1830 -110 -165 = 1555 miles/day

Assume 4 m.p.g. on diesel powered trucks

Diesel fuel consumed = $\frac{165}{4}$ = 41.3 gallons

CO = 0.225 lb/gal x 41.3 gallons = 9.3 lb.

NO_x = 0.370 lb/gal x 41.3 gallons = 15.3 lb.

HC = 0.037 lb/gal x 41.3 gallons = 1.5 lb.

POLLUTANTS FROM FUTURE TRAFFIC (CONT.)

AGE FACTOR			AUTOS							TRUCKS						
MODEL YEAR	CO & NOx	HC	PROP. OF TOTAL	CO		NOx		HC		PROP. OF TOTAL	CO		NOx		HC	
				LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)		LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)	LB/VMT (UNADJ.)	LB/VMT (ADJ.)
1975	1.000	1.000	.04	.006	.00024	.004	.00016	.0009	.00004	.02	.05	.00100	.014	.00028	.009	.00018
1974	1.063	1.055	.15	.05	.00797	.006	.00096	.005	.00079	.10	.07	.00744	.021	.00223	.013	.00137
1973	1.165	1.145	.15	.05	.00874	.006	.00105	.005	.00086	.14	.07	.01142	.021	.00343	.013	.00208
1972	1.210	1.175	.15	.05	.00908	.010	.00182	.005	.00088	.14	.14	.02372	.021	.00356	.028	.00461
1971	1.235	1.190	.11	.06	.00815	.012	.00163	.006	.00078	.15	.14	.02594	.021	.00389	.028	.00500
OLDER	1.252	1.195	.40	.08	.00401	.012	.00601	.010	.00478	.45	.14	.07888	.021	.01183	.028	.01506
					.03819		.01163		.00813			.14840		.02522		.02830

TOTAL CARBON MONOXIDE (CO) = $.03819 \times 1555 + .14840 \times 110 + 59.4 \times 18.1 + 16.3 \times 2.8 + 9.3 =$ 85.0 LB./DAY

TOTAL OXIDES OF NITROGEN (NO_x) = $.01163 \times 1555 + .02522 \times 110 + 12.6 \times 3.1 + 5.3 =$ 36.2 LB./DAY

TOTAL HYDROCARBONS (HC) = $.00813 \times 1555 + .02830 \times 110 + 1.5 =$ 17.2 LB./DAY

SUMMARY OF ANTICIPATED POLLUTANT EMISSIONS

TIME	SOURCE	LBS./DAY CO	LBS./DAY NO_x	LBS./DAY HC
Currently, Without Project	Traffic On Gaffey Street	192.4	37.6	29.7
1975 Estimate At Terminal	Traffic On Gaffey Street	85.0	36.2	17.2
	Trucks At Terminal	1.5	2.4	0.2
	Operating Equipment At Terminal	286.8	112.2	138.6
	TOTAL	373.3	150.8	156.0

Light Duty Fleet Experience with LP-Gas

REFERENCE: Kramer, Maury, Bintz, L. J., and Tappenden, T. A., "**Light Duty Fleet Experience with LP-Gas,**" *LP-Gas Engine Fuels, ASTM STP 525,* American Society for Testing and Materials, 1973, pp. 92–111.

ABSTRACT: The Automobile Club is conducting an extensive testing program to determine the suitability of LP-Gas as a substitute motor fuel to help reduce emission levels. In addition to the emissions characteristics of converted vehicles the Club is concerned with maintenance, driveability, safety, and costs. The following conclusions were reached: (1) Operations of motor vehicles using LP-Gas is practical in a fleet operation. (2) Emissions levels are significantly lower for vehicles operating on LP-Gas than they are for similar vehicles in similar service operating on gasoline. (3) Maintenance requirements for LP-Gas powered vehicles are lower than those of similar vehicles in similar service. (4) Available horsepower of LP-Gas powered vehicles is reduced slightly, but this does not affect the driveability significantly. (5) The conversion to LP-Gas is cost effective and will pay out well within the life expectancy of the vehicle. It is practical to move conversion kits from vehicles which are being retired to replacement units. (6) The fuel is safe and easy to handle.

KEY WORDS: liquefied petroleum gases, motor vehicles, propane, gasoline, fuel oils, exhaust emissions, fuel systems, ignition, motor vehicle engines

Development of the Test Program

The test program was developed in the following manner. Each vehicle under test was equipped with a new set of standard spark plugs, ignition breaker points, and condenser. It was tuned to manufacturers specifications and then trim tuned using the carburetor adjustments on the LP-Gas carburetor.

Fine tuning, or trim tuning, adjustment was for 1 percent carbon monoxide (CO) at 2500 rpm with wide open throttle (WOT). This became the standard adjustment and was not deviated from unless the driver indicated that the vehicle driveability was totally unsatisfactory. Idle adjustment was also at 1 percent CO.

In the interest of retaining driveability the vacuum advance system of all vehicles was left operational. It was felt that this would result in higher oxides of nitrogen levels; however, it would be a more in line with what procedures would be in the field.

Each vehicle under test also had its lubricating oil and oil filter replaced. A number of different oils were used in selected vehicles.

With the foregoing completed each vehicle was then given a hot start emission test to establish the zero test mile baseline for that vehicle. The Automotive Research Center at the Club used the California Seven Mode (7×7) test cycle, and all references to test procedures and results in this paper refer to this procedure. Once the zero test mile baseline was established, the vehicles were returned to the drivers and were operated in the normal course of assigned duties.

Emergency Patrol Service-Service Patrol vehicles are scheduled for lubrication each 4000 miles of operation. It was felt that this would be a convenient time to conduct hot start emissions tests, to draw an oil sample for analysis, and to make a performance and ignition system check. Practice showed, that because of the press of the vehicle duties, this was not practical. Consequently, the greatest number of our early test samples were taken at about 9000 miles and later data were generated at 12 000 mile intervals. Oil samples, however, were taken regularily at 4000 mile intervals since this could be done by the driver.

Maintenance was performed at the Club's own Fleet-Garage and was based upon vehicle diagnosis and driver comment. Diagnostic checks were performed at the Club's Automotive Research Center and after January of 1972 at the new Headquarters Diagnostic Facility. Other than for regular chassis lubrication and ignition point change, no maintenance in this program was based on either time or mileage.

Maury Kramer,[1] L. J. Bintz,[1] and T. A. Tappenden [1]

Light Duty Fleet Experience with LP-Gas

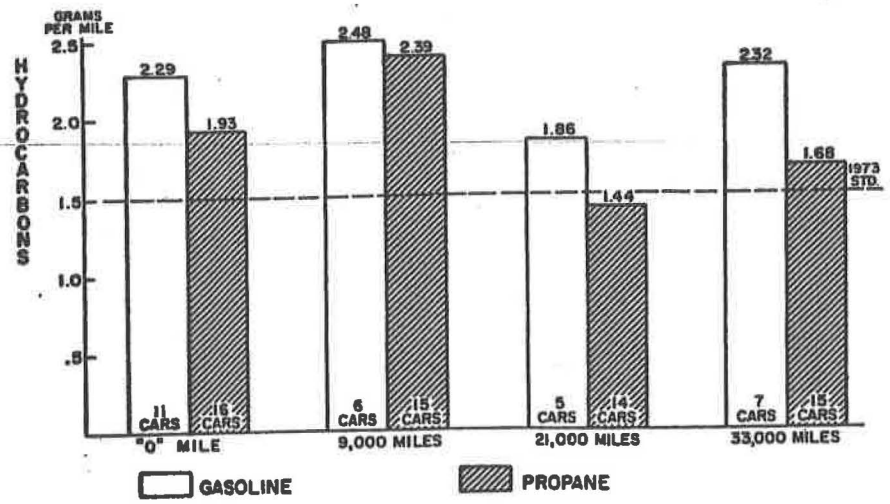


FIG. 9—*Gasoline versus propane fuel hydrocarbon emissions.*

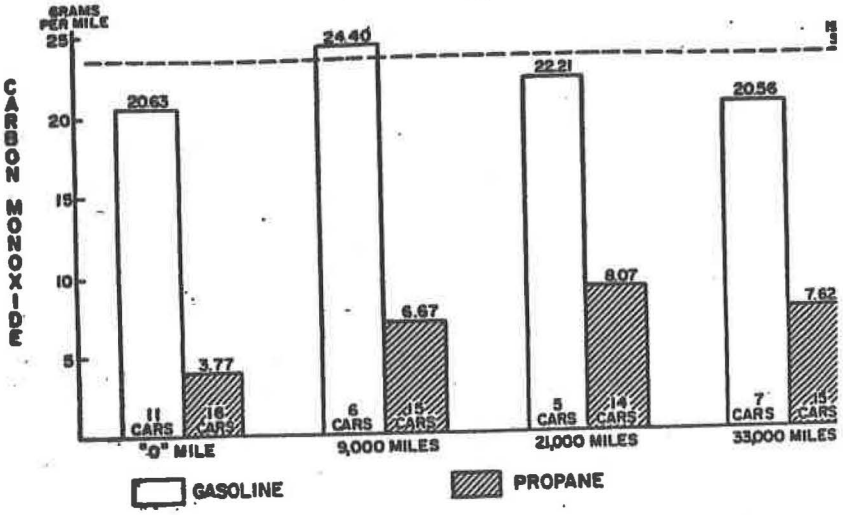


FIG. 10—*Gasoline versus propane fuel carbon monoxide emissions.*

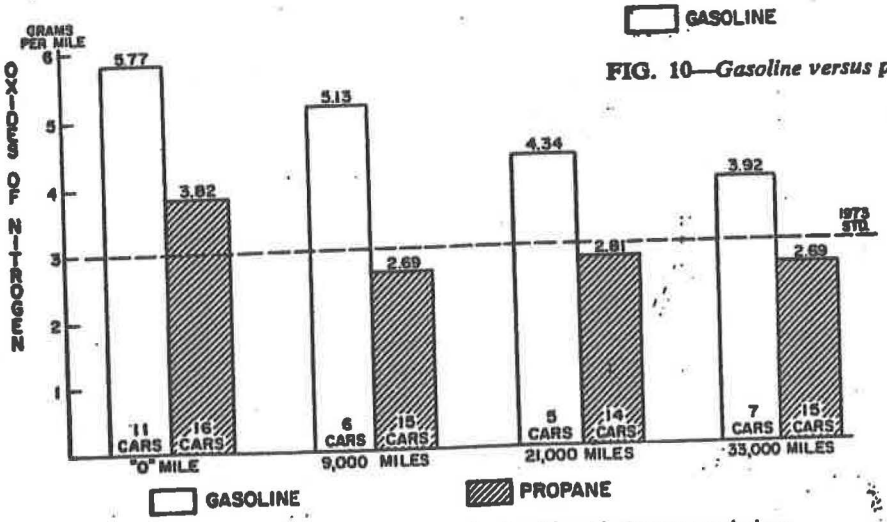


FIG. 11—*Gasoline versus propane fuel oxides of nitrogen emissions.*

SECTION IX

PILE DRIVING DATA

A. Underwater Sound Pressure Levels
B. Turbidity Percent Transmission Data

UNDERWATER SOUND PRESSURE LEVELS
ON PILE DRIVING MAY 31, 1973

	dB Linear	dBA
Ambient-pre-project	96-101	
Truck drives over wharf -	108	78-86
Pulling pile outward -	111-119	
	103-120	100-110
Chugging-pulling up	116	91-95
Manipulates extracted pile in water	95-101	80-95
	109-112	
Setting pile into place		110-115
Driving pile	115-119	

ABOARD: GOLDEN WEST
M. Oguri
Allan Hancock Found.
W. C. Hurst

TURBIDITY DATA
ON PILE DRIVING
MAY 31, 1973

ABOARD: GOLDEN WEST
M. Oguri
Allan Hancock Found.
W. C. Hurst

Test Station:
Berth 263
(Depth in meters)

Turbidity % Transmission

Test of sound and turbidity associated with driving a 46' pile 15' in after pulling the old pile.

Before start at 0825:

0	78
1	80
2	85
3	65
4	54

After pulling the pile at 0900:

0	78
1	75
2	75
3	72
4	50

New pile one-half way in at 0910:

0	68
1	72
2	72
3	70
4	38

New pile all in at 0920:

0	50
1	58
2	58
3	58
4	30

SECTION X

SOUTHERN CALIFORNIA GAS COMPANY - INTERRUPTIBLE SERVICE

Rule No. 23

SHORTAGE OF GAS SUPPLY, INTERRUPTION OF DELIVERY AND PRIORITY OF SERVICE

(a) The Company will exercise reasonable diligence and care to furnish and deliver a continuous and sufficient supply of gas to the customer, and to avoid any shortage or interruption of delivery of same. The Company shall not be liable in damages or otherwise for any failure to deliver gas to the customer, which failure in any way or manner results from breakage of its facilities, however caused, war, riots, acts of God, strikes, failure of or interruption in gas supply or other conditions beyond its reasonable control.

(b) The Company, whenever it shall find it necessary for the purpose of making repairs or improvements to its system, will have the right to suspend temporarily the delivery of gas, but, in all such cases, as reasonable notice thereof as circumstances will permit will be given to the customers, and the making of such repairs or improvements will be prosecuted as rapidly as may be practicable, and, if practicable, at such times as will cause the least inconvenience to the customers.

(c) In case of shortage of or an insufficient supply of gas, the Company will have the right to give preference for gas service supplied to customers according to the following order:

1. Schedules for firm or general type service and wholesale service for resale under general service type schedules. Standby service under these schedules will not be supplied for customers receiving firm industrial, gas engine or interruptible natural gas service, except at the option of the Company.

2. Schedules for firm industrial service and wholesale service for resale under firm industrial service schedules.

3. Schedules for gas engine service and wholesale service for resale under gas engine schedules.

4. Schedules for interruptible service and wholesale service for resale under interruptible schedules.

However, at a time when there is a threatened or actual shortage, creating an emergency for a short duration, in the supply of gas to meet the demands of all customers supplied under firm schedules, the Company may, during such emergency period, apportion its available supply of gas among demands of all such customers or a portion of such customers supplied service under firm schedules in the most reasonable and practicable manner possible, and further, in such event the Company will have the right to shut off,

(continued)

Rule No. 23

SHORTAGE OF GAS SUPPLY,
INTERRUPTION OF DELIVERY AND PRIORITY OF SERVICE
(Continued)

(c) (Continued)

discontinue, re-establish, or continue service for all such customers or some of such customers, irrespective of the priority or preference provisions of schedules, contracts or rules and regulations applicable to firm service. The Company may, during any national crisis, give preference, as between all customers, to plants directly engaged in the production of food supplies and the production of national government requirements, when the discontinuance of service to such customers would stop, or materially diminish, the output of said plants.

(d) Curtailment of Interruptible Service

1. Customers served under interruptible service schedules shall be classified in groups based on the average price paid by each customer, and curtailment shall first be made in the lowest price group. These groups shall be subdivided for curtailment purposes and, to the extent practical, curtailment shall be equalized among customers in each group by rotating curtailment among the subdivisions of the group. Curtailments which exceed the total volume of gas used by all customers in the lowest price group shall, in the same manner, be effected successively in the higher price groups. Restoration of interruptible service shall be made in the same manner, but inversely as to price groups.

1.1 Regular Interruptible Service

Curtailment classification of retail regular interruptible service shall be based on reasonably uniform ranges of average price paid within each classification "A" through "E", to the extent possible while providing an administratively practicable distribution of curtailment potential between classifications. For this class of service, "A" Block has the lowest priority. Blocks "B", "C", "D" and "E" have successively higher priorities. For purposes of operating practicability and convenience, the major priority blocks may be further divided into sub-blocks. Curtailment classifications (blocks) for regular interruptible service shall be stated in upper and lower limits of average price paid at the time of establishment of classifications. These average price limits define corresponding monthly consumption limits for each curtailment classification. During the third quarter of each year, customers shall be assigned to classifications on the basis of monthly consumptions as estimated for the winter season. In the event of a significant change in a customer's requirements for gas occurring during the year, resulting

(continued)

Rule No. 23

SHORTAGE OF GAS SUPPLY,
INTERRUPTION OF DELIVERY AND PRIORITY OF SERVICE
(Continued)

(d) Curtailment of Interruptible Service (Continued)

1. (Continued)

1.1 Regular Interruptible Service (Continued)

in the need for a reclassification to another priority block, such change shall be made in the month following such identification of the on-going change in requirements.

Regular interruptible customers served by wholesale customers of Southern California Gas Company shall be classified and curtailed in parallel with similar retail customers of Southern California Gas Company on the basis of estimated monthly winter-season consumption upon comparable schedules.

The Commission will be informed of changes in curtailment classification price limits and related volumetric limits hereunder which may be necessitated from time to time. Such changes may be required because of significant changes in the average-price relationship between regular interruptible rate schedules and/or because of substantial changes in curtailment potential between classifications and/or for reasons of practicability in administration of curtailment. Current block limits are summarized on attached Supplement A.

1.2 Utility Electric Generation Service

Curtailment classification for utility electric generation service for customers served under schedules providing only for such service, either at retail or indirectly through wholesale service, shall be based on (a) the daily contract quantity or equivalent daily contract quantity applicable during the period April 15 through November 15, and (b) the remaining contract term. For this class of service, "A" Block has the highest priority, which is equal to "A" Block for regular interruptible service. The remainder of the daily contract quantity or equivalent daily contract quantity is classified as "S-1" Block and has the next lower priority. Remaining requirements are classified as "S-2" Block, which has the lowest priority.

(continued)

Rule No. 23

SHORTAGE OF GAS SUPPLY,
INTERRUPTION OF DELIVERY AND PRIORITY OF SERVICE
(Continued)

(d) Curtailment of Interruptible Service (Continued)

1. (Continued)

1.2 Utility Electric Generation Service (Continued)

The Commission will be informed of changes in curtailment classification hereunder which may be necessitated from time to time by significant changes in relationship between customer requirements and/or for reasons of practicability in administration of curtailment. Current block limits are summarized on attached Supplement B.

1.3 Exchange Service

As a condition for obtaining gas supplies, portions of certain supplies are received subject to delivery on an exchange basis. Interruptible exchange service is basically classified in the "A" priority block.

1.4 Effectuation of Curtailment

When in the judgment of the Company, based upon expected gas requirements compared with available supplies from such sources as out-of-state suppliers, California sources, peaking sources and underground storage, operating conditions require the curtailment of interruptible service, curtailment shall be made in the following order as necessary:

(1) First curtail the "S-2" priority block or portions thereof;

(2) After full curtailment of the "S-2" priority block, then curtail the "S-1" priority block or portions thereof;

(3) After full curtailment of the "S-1" priority block, then curtail the "A" priority block or portions thereof, including both regular interruptible service, and utility electric generation service;

(4) After full curtailment of the "A" priority block, then curtail the "B" priority block or portions thereof;

(5) After full curtailment of the "B" priority block, then curtail the "C" priority block or portions thereof;

(continued)

Rule No. 23

SHORTAGE OF GAS SUPPLY,
INTERRUPTION OF DELIVERY AND PRIORITY OF SERVICE
(Continued)

(d) Curtailment of Interruptible Service (Continued)

1. (Continued)

1.4 Effectuation of Curtailment (Continued)

(6) After full curtailment of the "C" priority block, then curtail the "D" priority block or portions thereof;

(7) After full curtailment of the "D" priority block, then curtail the "E" priority block or portions thereof.

When curtailment is to be decreased, the restoration of service will be made starting with the "E" priority block and proceeding on through each next lower level priority through the "S-2" priority block as appropriate to the level of service which in the judgment of the Company can be delivered.

Where curtailment takes place on a partial basis for a given priority block, the Company will attempt, at the earliest time practical from its operating standpoint, to balance the amount of curtailment for customers in any given curtailment block as closely as feasible.

In the event of an operating emergency as declared by a customer, service may be made available out of the normal curtailment pattern, if in the judgment of the Company it is possible to do so. In the event of such a condition, subsequent out of pattern curtailment will be imposed on such customer in order to balance the amount of curtailment with other customers served at the same priority block.

Curtailments may be effected, in certain areas, due to pipeline capacity restrictions or emergencies. In such cases curtailments will generally be made based on the size of customers served in such areas.

2. Customers served under interruptible schedules may change from one applicable interruptible schedule to another to obtain a lower rate without regard to "peak" or "off peak" seasons, by guaranteeing the correspondingly larger minimum charge payment.

Rule No. 23

SHORTAGE OF GAS SUPPLY,
INTERRUPTION OF DELIVERY AND PRIORITY OF SERVICE
(Continued)

SUPPLEMENT A

CURTAILMENT CLASSIFICATION
REGULAR INTERRUPTIBLE SERVICE

Curtailment Block	Rate Schedule & Curtailment Block Limits Decatherms Per Month As Indicated G-50	G-50T*	G-53T*	Average Rate Cents Per Decatherm**
A	-	-	Over 110,000	42.5200 - 39.9900
B	-	Over 60,000	0 - 110,000	47.9080 - 42.5200
C	Over - 20,000	0 - 60,000	-	51.0767 - 47.9080
D	3,000 - 20,000	-	-	55.4213 - 51.0767
E	0 - 2,999	-	-	Above 55.4213

SUPPLEMENT B

CURTAILMENT CLASSIFICATION
UTILITY ELECTRIC GENERATION SERVICE

Customer	Rate Schedule	DCQ MMcfd	MMcfd In Curtailment Block A Block	S-1 Block
Southern California Edison Company	G-58	652.2	296.2	356.0
Los Angeles Department of Water and Power	G-58	293.5	134.3	159.2
City of Burbank Public Service Department	G-58	13.5	7.9	5.6
City of Glendale Public Service Department	G-58	10.0	6.3	3.7
City of Pasadena Water & Power Department	G-58	12.5	7.5	5.0
San Diego Gas & Electric Company ϕ	G-61	157.1	72.8	84.3

* Customers served under this schedule shall not obtain service under another interruptible schedule with a higher curtailment priority when such change in schedule is primarily to obtain a higher level of service.

** Rates shown are those effective on September 22, 1972.

ϕ The San Diego DCQ is controlling only until the total annual deliveries to SDG&E is expected to decline to the product of 365 or 366 days in the 12-month period commencing November 1 of each year times the G-61 contract demand of 221,000 Mcf per day. The total annual deliveries is to be maintained at that level thereafter to the extent consistent with the G-61 contract and irrespective of San Diego's DCQ.

LETTERS OF COMMENT AND REVIEW FOR INCLUSION

IN THE FINAL EIR

CITY OF LOS ANGELES
CALIFORNIA

Tom Bradley
MAYOR

DEPARTMENT OF
CITY PLANNING
561 CITY HALL
LOS ANGELES, CALIF. 90012
485-2121

CALVIN S. HAMILTON
DIRECTOR

FRANK P. LOMBARDI
EXECUTIVE OFFICER

July 11, 1973

L. L. Whiteneck, Chief Harbor
Engineer
P.O. Box 151
San Pedro, California 90733

Dear Sir:

COMMENTS ON DRAFT EIR FOR LIQUIFIED PETROLEUM GAS FACILITY

With reference to your letter of June 29, 1973, we have reviewed the subject draft EIR and it is acceptable to this Department. It is, in fact, one of the best EIR's we have reviewed to date, in terms of its documentation, objectivity, and completeness.

The proposed facility is consistent with the adopted Port of Los Angeles Plan and the San Pedro Community Plan, as the project is located entirely within an area now zoned and planned for heavy industrial uses.

Very truly yours,

CALVIN S. HAMILTON
Director of Planning

CSH:CMM:djs

cc: Department of Environmental Quality

ENG. DIV. ROUTING

For Info

7/11

Ad...

Contin... up...

C. H. ...

COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES
COMMUNITY HEALTH SERVICES 974-7711
313 NORTH FIGUEROA STREET, LOS ANGELES, CALIFORNIA 90012 • PHONE [redacted]

RALPH R. SACHS, M.D., M.P.H.
Deputy Director

July 18, 1973

L. L. Whiteneck,
Chief Harbor Engineer
P. O. Box 151
San Pedro, Calif. 90733

Subject: Draft Environmental Impact Report- Liquified Petroleum Gas (Propane) Storage and Distribution Facility with Low Temperature Pipeline, dated June, 1973.

Dear Sir:

The EIR for the proposed liquified petroleum gas (propane) facilities in the West Basin of Los Angeles Harbor has been reviewed by our staff and is considered to be adequate in addressing those factors pertaining to Environmental Health.

Yours sincerely,

Ralph R. Sachs, M.D., M.P.H.
Deputy Director
Community Health Services

RRS:WFW:FG:mcw

CITY OF LOS ANGELES
CALIFORNIA

SAM YORTY
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
402, CITY HALL
LOS ANGELES, CALIF. 90012

R. J. WILLIAMS
GENERAL MANAGER

July 31, 1973 S73.2613

Port of Los Angeles
Pacific Trade Center
255 West Fifth Street
San Pedro, California 90733

Mr. L. L. Whiteneck
Chief Harbor Engineer

DRAFT ENVIRONMENTAL IMPACT REPORT --
LIQUIFIED PETROLEUM GAS (PROPANE)
STORAGE AND DISTRIBUTION FACILITY

The Department of Building and Safety has reviewed the Draft Environmental Impact Report submitted for the subject project and has no comments to submit.

Building or Grading permits required for this project will be issued in accordance with normal procedures. The current Municipal Code and the City of Los Angeles Guidelines for the Implementation of the California Environmental Quality Act of 1970 do not, as of this date, require an Environmental Impact Report as a requisite for the issuance of building permits such as will be required for this project.

The copy of the Environmental Impact Report which you submitted is returned herewith.

R. J. WILLIAMS
General Manager

ENG. DIV. ROUTING

For Inform...		✓
For action ...		
		Initial
Asst. ...	✓	8/2
Drai...	✓	8/3
Su...		
Cu...		
Tes...		
Adm.		
Contract ...		
C. A...	✓	

JACK M. FRATT
Chief of Building Bureau

CR:js

Enclosure

Department of Water and Power the City of Los Angeles

July 31, 1973

Mr. L. L. Whiteneck
Chief Harbor Engineer
Port of Los Angeles
P. O. Box 151
San Pedro, California 90733

Dear Mr. Whiteneck:

Draft Environmental Impact Report, Liquified Petroleum Gas (Propane) Storage and Distribution Facility With Low Temperature Pipeline, Dated June 1973

This is in reply to your letter of June 29, 1973, requesting comments on the above Environmental Impact Report for your Liquified Petroleum Gas Storage and Distribution Facility.

The existing Water System facilities can provide a water supply to meet normal industrial uses, and both public and private fire protection demands for this project.

The electric service connection to the facility would be from an overhead distribution line to an underground padmount station. The estimated power requirement for this project is a very small part of the total load growth forecast for the City and has been taken into account in the planned growth of the Power System.

Should you require additional information, do not hesitate to contact our Mr. Melvin Frankel on 481-5651.

Sincerely,

ROBERT V. PHILLIPS
General Manager and Chief Engineer

cc: Mr. Melvin Frankel

111 North Hope Street, Los Angeles, California ☐ *Mailing address:* Box 111, Los Angeles 90051
Telephone: (213) 481-4211 *Cable address:* DEWAPOLA

LOS ANGELES
CALIFORNIA

DEPARTMENT OF TRAFFIC
ROOM 1200, CITY HALL
LOS ANGELES, CALIF. 90012
485-2265

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XXXXXXXXXX
MAYOR

TOM BRADLEY

CITY TRAFFIC ENGINEER
S. S. (SAM) TAYLOR

IN REPLY PLEASE GIVE OUR REFERENCE

August 1, 1973

ENG. DIV. ROUTING

For information [illegible]		✓
For action [illegible]		
		Initial
Asst. [illegible]	8/7	
Drafti[illegible]		
Sur[illegible]		
Con[illegible]		
Test[illegible]		
Adm. [illegible]		
Contract Supv.		
E[illegible]	8-24	

Mr. L. L. Whiteneck
Chief Harbor Engineer
Harbor Department
P.O. Box 151, Room 814
San Pedro, California 90733

Dear Mr. Whiteneck:

Draft-Environmental Impact Report-Liquified Petroleum Gas (Propane) Storage and Distribution Facility with Low Temperature Pipeline, Dated June 1973

The Department of Traffic has reviewed the above draft of the environmental impact report (EIR) to determine the impact of the proposed L.P.G. storage and distribution facility on traffic for the surrounding area. Following are the findings.

This Department believes that the proposed underground pipeline and unloading arm will not have a significant effect on traffic of the surrounding area. If the storage and distribution facility is built, the pipe and unloading arm will substitute for approximately 630 round trips by trucks on City streets required to unload one ship and transfer the L.P.G. to the storage and distribution facility.

The storage and distribution facility, in the east side of Gaffey Street near Westmont Drive would, as proposed, have an effect upon the traffic on the existing Gaffey Street, Anaheim Street and the Harbor Freeway. Present average daily traffic (ADT) on Gaffey Street near Westmont Drive is 11,000 vehicles per day. Truck traffic is approximately 3 percent of the total traffic on Gaffey Street. The evening peak hour volumes on Gaffey Street are 520 vehicles per hour southbound and 430 vehicles per hour northbound. Anaheim Street currently serves some 14,000 vehicles per day, 4 percent trucks. Traffic on Anaheim Street is approximately 1,300 vehicles per hour in the westbound direction during the evening peak hour. The storage-distribution facility is expected to add some 200 truck trips (both directions)

and 25 automobile trips per day to these roads. During the peak hours it is estimated that not more than six trucks and ten automobiles per hour will leave or enter the facility.

The traffic from the facility is not expected to add significantly to the present traffic load on these streets. However, traffic in the proposed location is rapidly changing and the Gaffey Street-Anaheim Street intersection will soon be utilized to its full capacity during peak demands for access to the Harbor Freeway. In this context, the State of California Division of Highways and the City of Los Angeles have previously proposed that a new interchange on the Harbor Freeway be built between the present Anaheim Street interchange and the Gaffey Street interchange and that Westmont Drive be extended easterly from Gaffey Street as a secondary highway to the proposed realignment of Wilmington-San Pedro Road, serving the new Harbor Freeway interchange. This improvement is listed in the Highway Element of the City of Los Angeles General Plan, dated June, 1972, and is scheduled in the City of Los Angeles Five Years Capital Improvements Program. At this time, the alignment of the new roadway has not been set by the Bureau of Engineering.

Because of expected increases in traffic flow on Gaffey Street, which is designated a major highway, access to the storage and distribution facility from the future Westmont Drive would be superior for safety reasons and have less of an impact on surrounding traffic than would the proposed access from Gaffey Street. For these reasons, if it can be determined that the proposed storage and distribution facility will be adjacent to the alignment of the new Westmont Drive, the developer should be required to dedicate sufficient right-of-way and build that portion of the roadway adjacent to his property along with appropriate driveways serving the facility. Under these conditions, the proposed storage and distribution facility should not have a significant effect on the environment for traffic purposes.

Very truly yours,

S. S. (Sam) TAYLOR
City Traffic Engineer

By _____
H. M. Gilman
Traffic Engineer

ADR:pll

cc: Southern District Office
Mr. L. L. Clearwater
Mr. Mel Huber

1. City of Los Angeles, Department of City Planning
   No response necessary.

2. County of Los Angeles, Department of Health Services
   No response necessary.

3. City of Los Angeles, Department of Building and Safety
   No response necessary.

4. City of Los Angeles, Department of Water and Power
   No response necessary.

5. City of Los Angeles, Department of Traffic
   At one time an ordinance for the extension of Westmont Drive was considered, but it no longer appears to be a viable project with a probability of implementation in the future. However, when the property under consideration was transferred to Westoil, Petrolane's lease holder, provision was made for an easement to accommodate access to Westmont Drive should it be built.

6. City of Los Angeles, Department of Environmental Quality.
   In consultation with part of the staff of the Department of Environmental Quality the following statement was offered by the Noise Pollution Specialist:

LPG STORAGE AND DISTRIBUTION FACILITY AT
PORT OF LOS ANGELES - AS RELATED TO NOISE

There are no quantitative noise limits for construction noise in the Los Angeles Noise Regulation Ordinance. The basic constraints for construction noise are 1) the time allowed (between 7 a.m. and 9 p.m.), and 2) the construction noise shall not substantially exceed the noise customarily attendent to the performance of the work. Typical pile driver noise levels at 50 feet are about 100 dBA. Since the nearest residence to this noise source is about 5,000 feet away, the resulting residential noise impact should not exceed 62 dBA which will not be a daytime annoyance factor.

The EIR presents considerable measured data in the form of noise levels for 1) pipeline construction equipment, 2) terminal truck traffic, 3) Petrolane Inc. terminal facility operations, 4) ambient levels at the site and Berth 120 dock, and 5) tanker ship loading operations at the dock. While no analysis was made using this data it is readily apparent that the distance to the nearest residential area is so great in every case that noise from pumps, compressors, fans, boilers, ship loading, etc., will be attenuated sufficiently by air absorption so as not to be an annoyance factor in operations of the LPG storage and distribution facility.

ALBERT W. OPTICAN
NOISE POLLUTION SPECIALIST

EXHIBIT 2

CITY OF LOS ANGELES
CALIFORNIA ENVIRONMENTAL QUALITY ACT 1970

NOTICE OF COMPLETION
(Article 7, No. 6(c) of City EIR Guidelines)

To Be Filed With:

State of California
The Resources Agency
SECRETARY FOR RESOURCES
1416 Ninth Street, Room 1311
Sacramento, California 95814

Date January 3, 1974

Responsible Agency: Los Angeles Harbor Department

Division: Engineering & Environmental Management

Project Title: DRAFT ENVIRONMENTAL IMPACT REPORT - LIQUIFIED PETROLEUM GAS (PROPANE) STORAGE AND DISTRIBUTION FACILITY WITH LOW TEMPERATURE PIPELINE, BERTH 120

Address	City	County	Zip
255 W. Fifth Street P. O. Box 151	San Pedro	Los Angeles	90733

Contact Person	Area Code	Phone	Extension
W. Calvin Hurst Harbor Environmental Scientist	213	832-7241	250

PROJECT DESCRIPTION OF NATURE, PURPOSE AND BENEFICIARIES

Liquified Petroleum Gas (Propane) storage and distribution facility with low temperature pipeline.

Project Location — City: Berth 120, San Pedro

Project Location — County: Los Angeles

Time Period Provided for Review: 30 days

Address Where Copy of Draft EIR is Available: 255 W. Fifth Street, Room 312, San Pedro, CA 90731 # 73-6347

CALIFORNIA PUBLIC UTILITIES COMMISSION
Utilities Division

SAFETY REPORT
ON
LIQUEFIED PROPANE STORAGE
WITH LOW TEMPERATURE PIPELINE
OF
PETROLANE INCORPORATED
SAN PEDRO, CALIFORNIA

San Francisco, California
September, 1977

EXHIBIT 3

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION, SUMMARY OF VARIOUS AGENCY STAFF CONCLUSIONS AND RECOMMENDATIONS

A - INTRODUCTION

1. This report is submitted in response to the request from the office of the Honorable Governor Edmund G. Brown, Jr. to the Public Utilities Commission to inspect the marine terminal of Petrolane, Inc., in San Pedro to determine its potential hazard to the surrounding area. The Commission is appreciative of the excellent cooperation and information contributed by other governmental agencies to this joint report.

2. The City of Los Angeles Department of Building and Safety issues permits for new construction. Contributions to this report include information on the pressure vessels, control building and dock wiring.

3. The City of Los Angeles Fire Department consults with owners of new construction as part of the building permit process to see that adequate fire fighting equipment is provided. The department also makes periodic inspections to ensure that proper fire prevention practices are followed. This department contributed material on the fire protection system, low temperature pipeline and dock facilities.

4. The City of Los Angeles Harbor Department has jurisdiction over all activities within the port limits. Contributions of the Harbor Department include information on loading procedures, dock facilities, fire fighting systems, future development plans, and earthquake operational plan.

5. The U.S. Coast Guard has jurisdiction over all shipping including the loading and unloading of hazardous materials. The Coast Guard Captain of the Port has the day-to-day responsibility for the safe operation of facilities when ships are involved. Contributions to this report include information on the dock facilities, ship movement and low temperature pipeline.

6. The California Division of Industrial Safety issues permits for the construction of pressure vessels and piping. Inspections are made annually to ensure that the vessels are being operated safely. In this case, inspections were made by personnel of the Los Angeles Department of Building and Safety and reported to the Division of Industrial Safety. The division contributed records of the low temperature storage tanks and pressure vessels to this report.

7. The Coastal Commission was formed to, among other things, monitor the construction of refineries and coastal dependent developments including ports and to see that adverse effects on coastal resources or coastal access 1,000 yards inland is minimized. The California Coastal Commission's staff provided comments on the risk analysis and a risk management plan.

8. Petrolane representatives arranged an inspection of the terminal and rendered technical information on request.

9. The Public Utilities Commission prepared the remaining chapters of this report. Senior Utilities Engineer Han L. Ong, who supervised report preparation, was assisted by John M. Peeples, Associate Utilities Engineer, for Chapters 15 and 16; Louis E. Krug, Associate Utilities Engineer, for Chapter 12; and Maurice D. Monson, Associate Utilities Engineer, for the remaining chapters.

B - SUMMARY OF VARIOUS AGENCY STAFF CONCLUSIONS

By the Department of Building and Safety, City of Los Angeles

10. The pressure vessels, loading docks and electrical wiring at the berth, were inspected by the Los Angeles Department of Building and Safety. The pressure vessels are inspected annually by a staff engineer from the Boiler and Pressure Vessel Division of the Department.

11. The City of Los Angeles Department of Building and Safety has determined that Petrolane's low temperature liquefied petroleum gas (LPG) tanks are not exempt from Section 91.0102 (b-16) of the Los Angeles Municipal Code as originally indicated. Accordingly, on April 20, 1977, the department issued an order to comply to Petrolane, Inc., which directs the company to file plans and obtain building permits for the two low temperature LPG storage tanks. The review will include a check to ensure their ability to resist seismic loading.

By the Department of Fire, City of Los Angeles

12. The capacity of the impoundment basin meets all Los Angeles Municipal Code requirements.

By the Harbor Department, City of Los Angeles

13. Personnel involved with the unloading of propane are specially trained for the purpose.

14. The Fire Department and Coast Guard ensure that safety requirements are met.

15. Propane will be unloaded in the Los Angeles Harbor according to safety procedures.

16. New dolphin and mooring bits are being installed and pilings are being replaced at Berth 120.

17. The master plan for Los Angeles Harbor includes a longer, larger, and realigned energy wharf and relocation of Sun Lumber Company.

18. The Harbor Department has an earthquake operational plan in effect.

By California Coastal Commission Staff

19. A risk analysis and risk management plan should be prepared before another propane laden ship is permitted to berth at the terminal.

20. One agency should be responsible for conducting a risk analysis. Presently, no one agency is responsible for ensuring that a risk management plan exists.

21. The City should develop as part of this risk management plan a set of contingency plans to deal with possible LPG disasters.

22. The existing facility appears to be poorly sited.

23. Surrounding land use should be considered in risk analysis and port planning.

24. Advanced ship traffic control systems and sabotage precautions would enhance the safety of propane ship transport.

25. The legal framework for public liability insurance is unspecified.

By the California Coastal Commission

26. The California Coastal Commission issued a permit on October 16, 1973, for the installation of the Marine Arm and connecting pipeline at Berth 120, Port of Los Angeles.

By the U.S. Coast Guard

27. A vessel laden with propane entering U.S. navigable waters becomes subject to Coast Guard jurisdiction. Chapter 15 discusses the many restrictions on ships entering the harbor.

28. A major fire at the dock or in the vicinity of the onshore valves could prevent access to the existing valves. The LPG in the pipe could cause additional hazards. (See Chapter 15)

By the Energy Resources Conservation and Development Commission Staff

29. The Energy Resources Conservation and Development Commission (ERCDC) staff reviewed the Draft of this report and submitted their comments. Responses to their comments have been incorporated within the text and their recommendations are presented in Section C of this chapter.

By the California Public Utilities Commission's Staff

30. Design work on the $9 million petrolane facility started in April, 1972, construction commenced in the Fall of 1972 and the terminal went on stream in May, 1974.

31. Safety guidelines for the facility were developed by the staff of Petrolane and by the underwriters utilizing the experience gained from the operation of the marine terminal in Providence, Rhode Island.

32. The plant designer, the underwriter, and the City of Los Angeles Fire Prevention Bureau participated in the conceptual design of the fire protection system including the code requirements, product leakage and detection, fire detection and fighting, potential earthquake damage and automatic shutdown systems.

33. Operational features of the dock facility and operating features for ship unloading were determined by the same group augmented by the City of Los Angeles Harbor Department and the U.S. Coast Guard. Appendix 1 lists construction permits, approvals, and applicable codes for reference.

34. All welding on the two 300 Mbbl tanks was inspected and controlled by a qualified welding supervisor. The California Division of Industrial Safety and the Los Angeles Fire Department inspected tank construction and issued permits.

35. The low temperature storage tanks are equipped with a boiloff compression system to liquefy vapors from the tank. Therefore, venting of propane is rarely necessary.

36. The two 300,000 Bbl low temperature storage tanks are planned and equipped to store propane at -45°F. with design pressure of 1.5 psig and design temperature of -55°F.

37. It appears unlikely that the low temperature storage tanks would rupture unless due to an act of war, sabotage, aircraft collision, or other extreme conditions. Due to the proximity, the greatest potential for earthquake damage appears to be from the Palos Verdes fault. The tanks are designed for an acceleration of 0.4g. Chapter 12 discusses the potential earthquake hazards. A related recommendation is made under Section C.

38. Strategically placed switches and sensors shutdown the plant and isolate vessels containing propane if a fire occurs nearby.

39. A regular inspection and maintenance schedule is maintained for all plant equipment by Petrolane personnel.

40. An annual pressure test of the low temperature pipeline is required by the Coast Guard. The annual pressure test obviates the need for leakage surveys. The pipelines will soon be cathodically protected. Harco Corporation has recently determined that the pipelines can be included in the tank bottom protection systems.

41. The impoundment basin is capable of containing the liquid contents of only one 300,000 Bbl tank. Should both tanks rupture, the impoundment basin is obviously unable to contain the total possible spillage. A modification is proposed under Section C.

42. The use of tank trucks for loading and unloading at this terminal pose no new hazard to the immediate or greater Los Angeles area. This kind of traffic would be experienced whether originating at this terminal or not.

43. The use of tank cars for loading and unloading at this terminal do not appear to increase the hazard to the immediate or to the greater Los Angeles area.

44. A proposed 8-inch pipeline will deliver propane to Southern California Gas Company. This pipeline will be constructed and tested in accordance with

CPUC's General Orders Nos. 112-C, 94-B and U.S. Department of Transportation's 49 CFR, Part 195, and other staff's recommendations.

45. A security system is warranted at the Petrolane facility. The system should be similar to those being developed for proposed liquefied natural gas (LNG) facilities.

C - RECOMMENDATIONS

46. The capacity of the impoundment basin should be enlarged to contain a minimum volume of 100% of the combined volume of the two 300,000 Bbl. tanks. If this is accomplished by lowering the bottom elevation of the impounding basin spillage of liquid onto Gaffey Street would be minimized in the event the dike cracked. (By CPUC and ERCDC)

47. The seismic safety design of the low temperature 300,000 Bbl. LPG tanks should be reviewed in light of the recent studies indicating the potential activity of the Palos Verdes Fault. (By L.A. Dept. of Building and Safety, CPUC and ERCDC)

48. A security system adequate to protect the facility should be implemented by Petrolane. The system should be similar to those being developed for proposed liquefied natural gas (LNG) facilities. (By CPUC)

49. The upgrading of Berth 120 should be continued and completed within a reasonable time. (By L.A. Harbor Department)

50. Removal of the lumber stacked in the dock area should be completed as soon as possible. (By L.A. Harbor Department)

51. Additional intermediate shutoff valves in both the transfer and cooldown lines should be installed in an accessible location preferably in the midlength half toward the dock facility. (By U.S. Coast Guard and ERCDC)

52. One agency should be required to develop a comprehensive system of review and permit approvals that would apply to all facilities in the Port of Los Angeles which handle hazardous materials. (By Coastal Commission)

CHAPTER 2

LOCATION AND SITE DESCRIPTION - CPUC

A - INTRODUCTION

1. The projected shortfall of liquefied petroleum (LP)-gas supply in the United States has spurred the development of terminals designed to receive propane and butane from foreign sources.

2. Large ships transport LP-gases in a refrigerated condition at pressures ranging from 1 psig to 3 psig. A compression-refrigeration system on board ship accumulates, compresses and condenses the vapor to a liquid and returns it to the primary storage vessel. This storage vessel is externally insulated to minimize heat leakage and to maintain refrigeration.

3. The refrigerated terminal is designed to receive and store the LP-gas cargo at low pressure. A refrigeration system similar to that on the gas carrier is provided to handle vapor displacement during high volume liquid unloading as well as normal boil-off.

4. Due to transportation cost benefits, propane companies prefer marine terminal sites located in the midst of an industrial market area. Marine receipt and storage of large quantities of flammable liquids concerns some citizens, public safety authorities and neighboring businesses. Therefore, safety is a primary consideration for designers and operators of marine terminals and storage facilities.

5. The San Pedro facilities are intended primarily to receive propane imported from Venezuela, Algeria and possibly the Middle East, but will also accommodate butane shipments. Propane can also be shipped out or received by tank cars.

B - LOCATION

6. The terminal is located at 2110 North Gaffey Street, San Pedro, California (see maps). The site is surrounded by land which is devoted to petroleum storage facilities, and lies about a mile northwest of the west basin of the Los Angeles channel. A pipeline extending from Berth 120 on this channel conveys liquid propane from ship to terminal storage.

2 - LOCATION AND SITE DESCRIPTION - CPUC

C - SITE DESCRIPTION

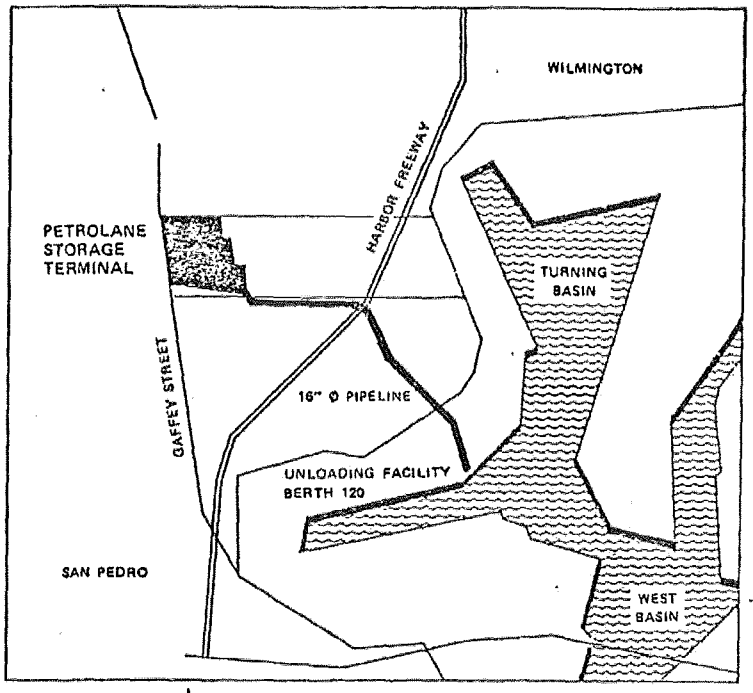
7. The nearly level portion of this site was used in the past as a dump and fill area. The subsurface conditions for this portion of the site were known to be relatively uniform for at least a depth of 35 feet. Site fill materials varied between 5 and 10 feet in thickness and had consistencies of loose and medium soft. The underlying natural materials to a depth of 60 feet probably consist of medium firm clays and medium firm to firm silts. Below this depth, the materials become dense deposits of sand and silts (San Pedro sand).

8. The easterly sloped portion of the subject site contains marine and non-marine terrace deposits, overlying the Quaternary San Pedro Sand. These materials were well-exposed in the near-vertical cuts at the toe of the slope gullies. These materials consist of sand and silts containing abundant shell fragments, and are generally firm to dense but extremely friable and erodable.

9. The Gaffey Street site was selected over two others because a conventional ring-type footing for the large refrigerated tanks could be developed on the San Pedro sand deposits by cutting back into the existing slope to allow the tanks to be founded entirely on natural material.

10. The grading or site development plan for this site was prepared by H. M. Scott and Associates of Rosemead, California. The dump area was excavated from the bluff at the back of the site. A multi-terraced plan was developed which allowed for disposal of soil on-site and operational functionality.

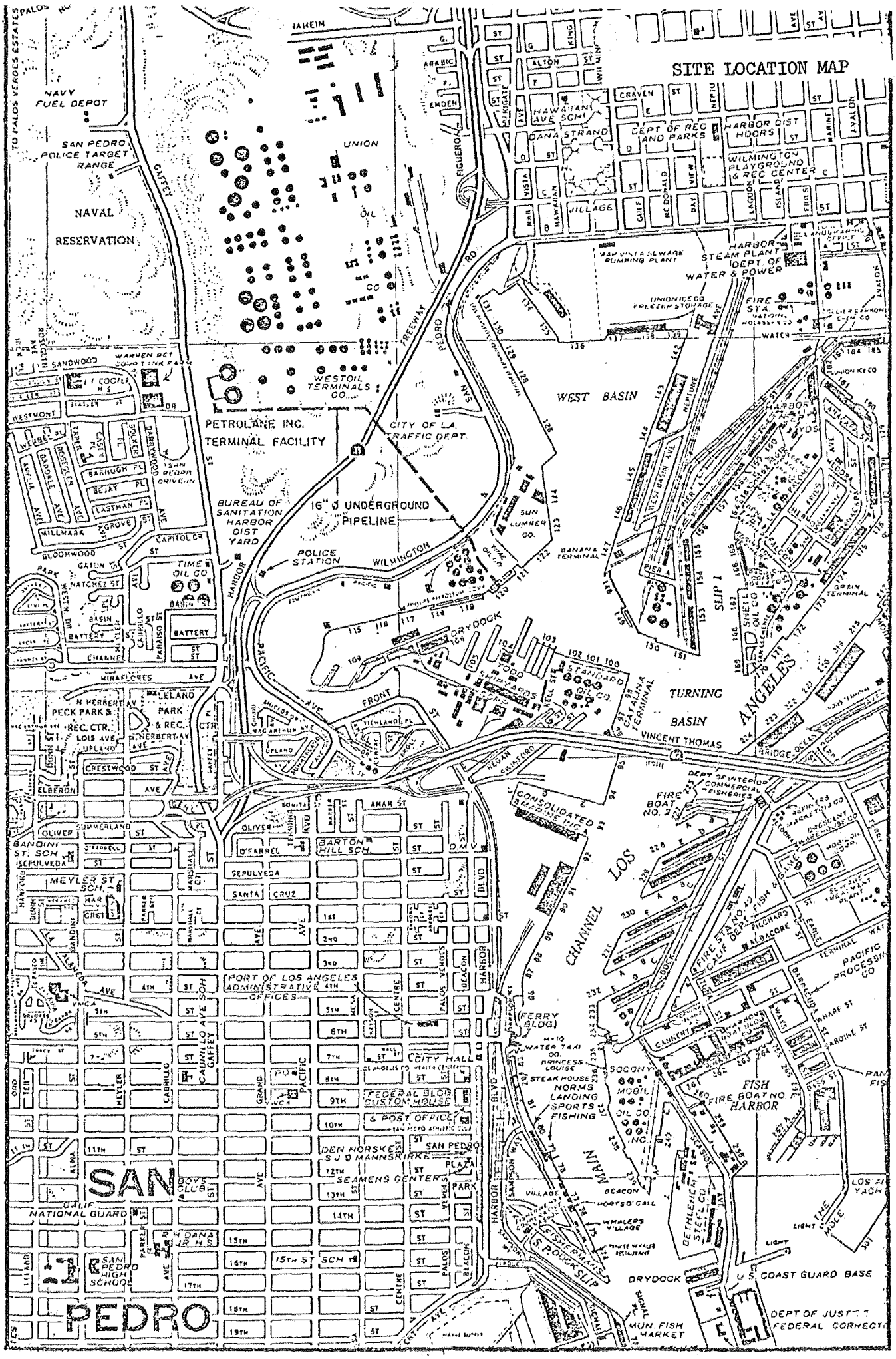
11. The site was developed to minimize the spacing between equipment groupings and maintain reasonable distances to adjacent property lines and facilities. (Photo) The fire department and insurers were involved with layout and spacing matters. Equipment separations were based on "Minimum Spacing Standards" of the Oil Insurance Association. The truck loading and unloading racks are about 140 feet distant from the curb line of Gaffey Street.



L.P.G. STORAGE TERMINAL
FOR PETROLANE INC.
SAN PEDRO, CALIFORNIA

PLANT NORTH

PROCESS AREA
HEATERS
OFFICE
COMPRESSORS
CONDENSERS
R.R.
LOADING
RACK
R.R. TRACKS
PRESS. STORAGE TANKS
TRUCK PADS
LOADING PUMPS
GAFFEY ST.
TANK NO. 1
1½:1
1½:1
1½:1
PUMPS & EXCHANGER
TANK NO. 2


SITE LOCATION MAP
NAVY FUEL DEPOT
SAN PEDRO POLICE TARGET RANGE
NAVAL RESERVATION
TO PALOS VERDES ESTATES
GAFFEY
ANAHEIM
UNION OIL CO
FIGUEROA
SAN PEDRO
FREEWAY
WESTOIL TERMINALS CO.
PETROLANE INC. TERMINAL FACILITY
CITY OF LA TRAFFIC DEPT.
BUREAU OF SANITATION HARBOR DIST YARD
16" Ø UNDERGROUND PIPELINE
POLICE STATION
WILMINGTON
HARBOR
PACIFIC AVE
FRONT ST
WEST BASIN
SUN LUMBER CO.
BANANA TERMINAL
SLIP 1
DRYDOCK
TODD SHIPYARDS
STANDARD OIL CO.
CATALINA TERMINAL
TURNING BASIN
VINCENT THOMAS BRIDGE
LOS ANGELES
CHANNEL
HARBOR DEPT OF WATER & POWER
HARBOR STEAM PLANT
DEPT OF REC AND PARKS
HARBOR DIST HDQRS
WILMINGTON PLAYGROUND & REC CENTER
HAWAIIAN AVE SCH
DANA STRAND
FIRE STA. NO. 1
FIRE BOAT NO. 2
FIRE STA NO. 42
CALIF DEPT FISH & GAME
CONSOLIDATED INDUSTRIES
DEPT OF INTERIOR COMMERCIAL FISHERIES
PACIFIC PROCESSING CO
FISH HARBOR
FIRE BOAT NO. 4
MOBIL OIL CO. INC.
NORMS LANDING SPORTS FISHING
STEAK HOUSE
WATER TAXI CO. PRINCESS LOUISE
(FERRY BLDG)
WHALER'S VILLAGE
WHITE WHALE RESTAURANT
BETHLEHEM STEEL CO
S.P. DRYDOCK SLIP
DRYDOCK
MUN. FISH MARKET
U.S. COAST GUARD BASE
DEPT OF JUSTICE FEDERAL CORRECTI
PORT OF LOS ANGELES ADMINISTRATIVE OFFICES
CITY HALL
FEDERAL BLDG CUSTOM HOUSE
POST OFFICE
DEN NORSKE SJØMANNSKIRKE SEAMENS CENTER
SAN PEDRO
PEDRO
CALIF NATIONAL GUARD
SAN PEDRO HIGH SCHOOL
DANA JR H.S.
15TH ST SCH
BARTON HILL SCH
MEYLER ST SCH
BANDINI ST. SCH
PECK PARK & REC. CTR.
LELAND PARK & REC CTR
WARREN PET COMFORT TANK FARM
J.J. COCHRAN H.S.
SAN PEDRO DRIVE-IN
TIME OIL CO
MARINE
AVALON
HARBOR
BEACON
PALOS VERDES
CENTRE
GRAND
PACIFIC
CABRILLO
GAFFEY
ALAMEDA
MESA
SEPULVEDA
SANTA CRUZ
OLIVER
SUMMERLAND
CRESTWOOD
PLEBEIAN
MINAFLORES
BLOOMWOOD
CAPITOL DR
MILLMARK
LASTMAN PL
BEJAY PL
BARNHUGH PL
ROSECRANS AVE
SANDWOOD
WESTMONT
WEBBE PL
GARDENDALE
AMELIA
CASEY PL
DARLENE
GOODMAN
DEARBORN
NATCHEZ ST
GATUN
CABRILLO ST
PARAISO ST
BATTERY
CHANNEL
BASIN
UPLAND
LOIS AVE
HERBERT AV
FARRAGUT
EUBANK
MAC ARTHUR
MOLE
AMAR ST
O'FARRELL
SEPULVEDA
SANTA CRUZ
1ST
2ND
3RD
4TH
5TH
6TH
7TH
8TH
9TH
10TH
11TH
12TH
13TH
14TH
15TH
16TH
17TH
18TH
19TH
SAN PEDRO PLAZA PARK
BOYS CLUB
SAN PEDRO
MILES
0
1

CHAPTER 3

COMMENTS BY LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY

Pressure Vessels

1. Permits were obtained from this Department for all pressure vessels installed at this location. These vessels and their interconnecting piping were inspected at the time of installation and were found to comply with the California Division of Industrial Safety Order for LPG systems and the Los Angeles Municipal Code. The three 60,000-gallon vessels are inspected annually by a safety engineer from the Boiler and Pressure Vessel Division and operating permits have been issued.

Low Temperature LPG Tanks

2. Petrolane applied for a construction permit in 1972, but was exempted under Section 91.0102 (b-16) of the Los Angeles Municipal Code that exempts tanks for the storage of flammable liquids from building permit requirements if they are surrounded by an impounding basin. However, since LPG is a gas in its natural state, rather than a liquid, it is not exempt under this code section so on April 20, 1977, the Department issued an order to comply to Petrolane, Inc., directing Petrolane, Inc. to file plans and obtain building permits for the two low temperature LPG storage tanks.

LPG Loading Station

3. The loading stations were checked at the time of installation for compliance with applicable codes and safety orders.

Inspection and Maintenance

4. The three 60,000-gallon vessels are inspected annually and found to have been maintained in excellent condition.

Earthquakes, Effect on LPG Tanks

5. When the requested plans for the LPG refrigerated storage tanks are received by the Department, they will be checked to insure their ability to resist seismic loadings.

Ship Unloading Facilities

6. The electrical wiring at the ship unloading dock was installed to comply with the requirements for Class I Hazardous Locations. A recent inspection by this Department verified that this electrical wiring has been properly maintained.

CHAPTER 4

LOW TEMPERATURE STORAGE TANKS - CPUC

A - TANK DESIGN

1. Propane is stored at -45° in two flat bottom, domed roof, insulated tanks having nominal capacity of 300,000 barrels each. The tanks are designed for an internal pressure of 1.5 psig and design temperature of -55°F, and protected from overpressure by pressure and vacuum relief valves. The double wall design is used. The "inner tank" contains the propane and the "outer shell" contains and protects the insulation. The tank heat leak is based on the maximum ambient temperature of 90°F. Tank design is in accordance with American Petroleum Institute Standard 620, Appendix R, "Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks".

2. An overfill indicator pipe is provided as a warning in the event electronic alarm and tank fill shutdowns fail to operate. The top of the indicator is set at a maximum design liquid level in the tank. The total height to the deck includes an additional 4'3" above the indicator to avoid the possibility of product contacting the suspended insulation deck in the event of an earthquake causing waves in a full tank.

3. The shell plates have been designed for the internal pressure plus the static head due to the weight of the product. The product head has been computed using the height of the overflow. The stress has been computed at the bottom of each ring.

4. The roofs are self-supporting and designed under the rules of Paragraph 3.01.1 of API 620. The inner tank shells are stiffened to resist the external pressure exerted by the flexible blanket and perlite insulation.

5. One-quarter-inch ($\frac{1}{4}$") thick bottom segmental plates, butt welded from both sides, are used immediately beneath the shell. The remainder of the bottom is 3/16" thick, single-lap welded, with two passes.

6. Anchor bars (embedded in a concrete foundation) designed for a 100 mph wind are provided to transmit the tank up-lift loads to the foundation. The bars are welded to the outer bottom, but attached to the inner shell by means of a bracket which allows for take-up of any slack or settlement which might occur during the water test. Anchor bar materials are the same as the shell materials or better.

7. All steel plate used in the primary components, as described in API Standard 620, Appendix R is in accordance with Table R2.2 or Table R2.3 of that standard. Base steel is firebox quality, quenched steel.

8. All materials used in the secondary components, as described in API Standard 620, Appendix R, are in accordance with Table R2.4 of that standard.

B - WELDING AND INSPECTION

9. All welders assigned to manual welding or welding operators assigned to automatic welding successfully passed the tests conducted by the contractor, Chicago Bridge and Iron Co., as prescribed for Welder Qualifications in Section IX of the ASME Boiler and Pressure Vessel Code. This is as specified in API 620. All welding was done with special CB&I-formulated procedures designed to insure durable welds for low temperature applications. The restrictions on welding procedures applied to all attachments of stiffeners, lugs and reinforcements, as well as to the main joints in the shell and bottom of the tank. Each temporary attachment (fit-up device) removed after construction was welded using a qualified procedure.

10. Welding test specimen were sent immediately to a metallurgical laboratory for inspection and testing. One set of test plates was welded in the laboratory for qualification of the automatic girth weld procedure. Charpy V-notch impacts were taken on the weld metal and the heat-affected zone at a temperature of $-60^{\circ}F$.

11. A qualified welding supervisor was furnished full-time. This person supervised the welding to ensure that the tanks were constructed in accordance with the approved procedures, Codes and CB&I standards. In addition, he was responsible for quality control including vacuum box testing, magnetic particle testing and X-rays. He inspected the completed tank to ensure that all welds were sound and satisfactory.

12. On all tank shell rings designed for 100% joint efficiency, the vertical joint, including 3" on each side of the intersection with the longitudinal seams, was completely X-rayed as prescribed in API Standard 620, Paragraph 3.26.

13. Butt welds in the bottom sketch plates extending under the shell were inspected their full length by the magnetic particle method, and at least two spot X-rays were taken from the butt weld joints of the compression bar.

14. All bottom fillet welds were checked by applying soap film to the joint and pulling a partial vacuum by means of a special vacuum box. The welds of the fittings to the shell were inspected both inside and outside by the magnetic particle method. The shell to bottom weld was checked with liquid penetrant.

C - TESTING

15. The completed tanks were filled with water to the proper level to stress the bottom shell ring to a minimum of 1.25 times its maximum liquid stress during service. Hydrostatic overload testing offered the added advantage of relieving some of the residual welding stresses in the bottom shell rings and fittings.

16. A pneumatic pressure of 1.875 psi was imposed on the vessels. The pressure was then lowered to the design pressure at which time the roof and all shell seams above the water level, not previously checked with liquid penetrant, were soap film tested. The water was then withdrawn from the vessel and the design gas pressure was applied to check the anchorage and the relief valve pressure setting.

D - FOUNDATION

17. The tank foundations were designed on the basis of soils investigations and recommendations provided by Petrolane as prepared by Converse, Davis and Associates of Pasadena, California.

18. An electric foundation heating system is automatically controlled to maintain an average temperature of approximately +35°F. under the tank to prevent Frost heave.

E - INSULATION

19. The double wall tanks have an outer steel shell or vapor barrier. This includes a double bottom arrangment wherein the load bearing insulation is installed between the two bottoms. The bottom insulation is 5" of Foamglas. The area around the periphery of the inner tank which supports the shell and roof of the tank is designed such that the insulation will not be crushed. A thermal barrier is provided to limit heat flow through this special load bearing detail.

20. The shell of the tanks is insulated with 20" of loose fill perlite insulation and 4" of fiberglass. The fiberglass blanket is attached to the outside of the inner tank shell and controls perlite compaction. Without this fiberglass (resilient) blanket, tank shell movement due to the thermal or pressure cycling over the years would tend to compact the perlite thus increasing the external pressure on the shell. This build-up in external pressure could cause buckling in the shell.

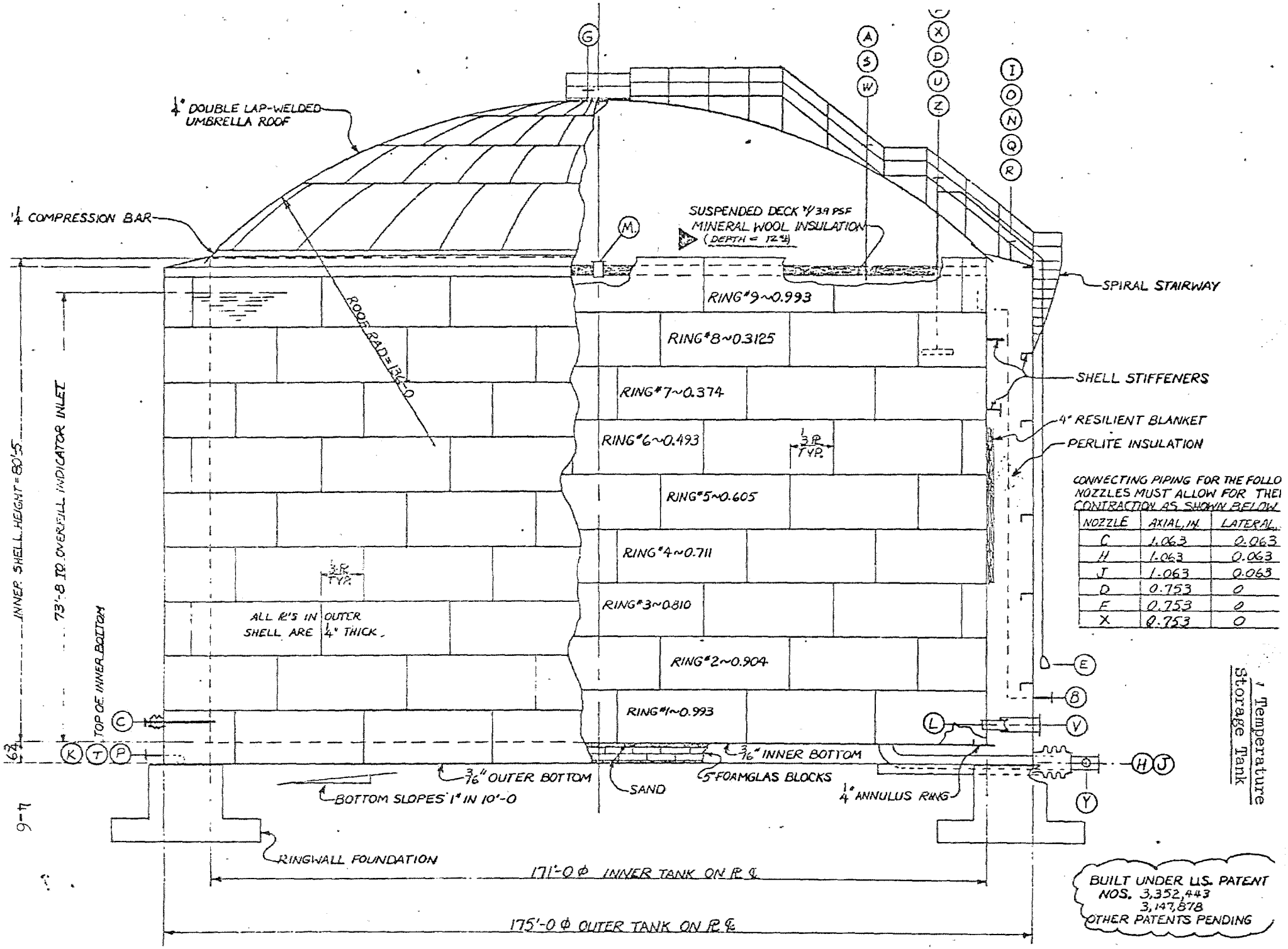
21. Loose fill perlite is an inorganic material which is expanded from perlite ore and placed in the tank hot and dry. This type insulation can be installed any time of the year. Because of the outer vapor barrier, it is not affected by adverse weather conditions such as rain or high winds.

22. The shell and bottom insulation space is kept under a very slight positive pressure by admitting a small quantity of dry natural gas to the annular space. This slight positive pressure ensures that the tank does not draw in moist air from the surrounding atmosphere, which would damage the insulation by freezing and lessen its efficiency.

23. The roof of the tanks is internally insulated with blown mineral wool or perlite. A false deck is suspended from the tank to support this insulating material. Nozzles through the deck provide free passage of gas so pressure across the insulation is equalized.

F - CATHODIC PROTECTION

24. A cathodic protection system protecting the tank bottoms from corrosion was completed shortly before the inspection and is now in operation.



CONNECTING PIPING FOR THE FOLLO NOZZLES MUST ALLOW FOR THEI CONTRACTION AS SHOWN BELOW

NOZZLE	AXIAL, IN.	LATERAL
C	1.063	0.063
H	1.063	0.063
J	1.063	0.063
Q	0.753	0
F	0.753	0
X	0.753	0

Temperature Storage Tank

BUILT UNDER U.S. PATENT NOS. 3,352,443 3,147,878 OTHER PATENTS PENDING

9-7

CHAPTER 5

PROCESS PIPING AND LIQUEFACTION - CPUC

1. This terminal receives propane from a ship, conveys it through a buried pipeline to two 300,000-barrel storage tanks where it is kept refrigerated. The propane is heated and transferred to three 60,000-gallon pressure vessels for shipments by trucks or tank cars. Propane can also be received by trucks and rail.

2. Although the large, refrigerated storage tanks are heavily insulated, heat of approximately 400,000 Btu/hour/tank is gained from the atmosphere. This "heat gain" tends to warm the large mass of liquid propane and gradually increase the vapor pressure. If this pressure was allowed to build, the tanks would reach their design pressure in a day or so.

3. As pressure builds in the tanks, vapor is allowed to flow from 14" lines at the top of each tank to the suction or inlet of three (3) gas engine driven compressors. The flow removes vapor and relieves pressure in the tanks.

4. The three gas compressors total 1,800 horsepower and are designed to handle all vapor which evolves during operations. The ship unloading operation places the maximum demand on the compressors because, in addition to normal heat leak, large amounts of vapor are displaced as the liquid level rises in the tanks. The normal "holding" operation when no ships are unloading requires only one 600 HP compressor to control pressure rise in the tanks.

5. The engine compressors are identical machines manufactured by the White Superior Division of White Motor Corporation. The six-cylinder, 4,948 cubic inch displacement engines are designed to operate on natural gas. The power rating is 580 brake horsepower at 900 RPM. The compressors are 6-inch stroke, four cylinder, double acting, horizontal, balance-opposed.

6. Each compressor receives propane vapor from the tanks at near atmospheric pressure and in three stages of compression, increases the gas pressure to 350 psig at 200°F. The capacity of each compressor is 2.5 million cubic feet at standard conditions (14.7 psia and 60°F.).

7. The high pressure, high temperature propane gas from the compressor discharge is cooled _ condensed in an air-cooled heat exchanger. At 350 psig, propane is liquefied by cooling to 150°F. or below by using ambient air at 90 to 100°F. A cross exchanger cools the liquid to 40°F. and an expansion valve to minus 40°F.

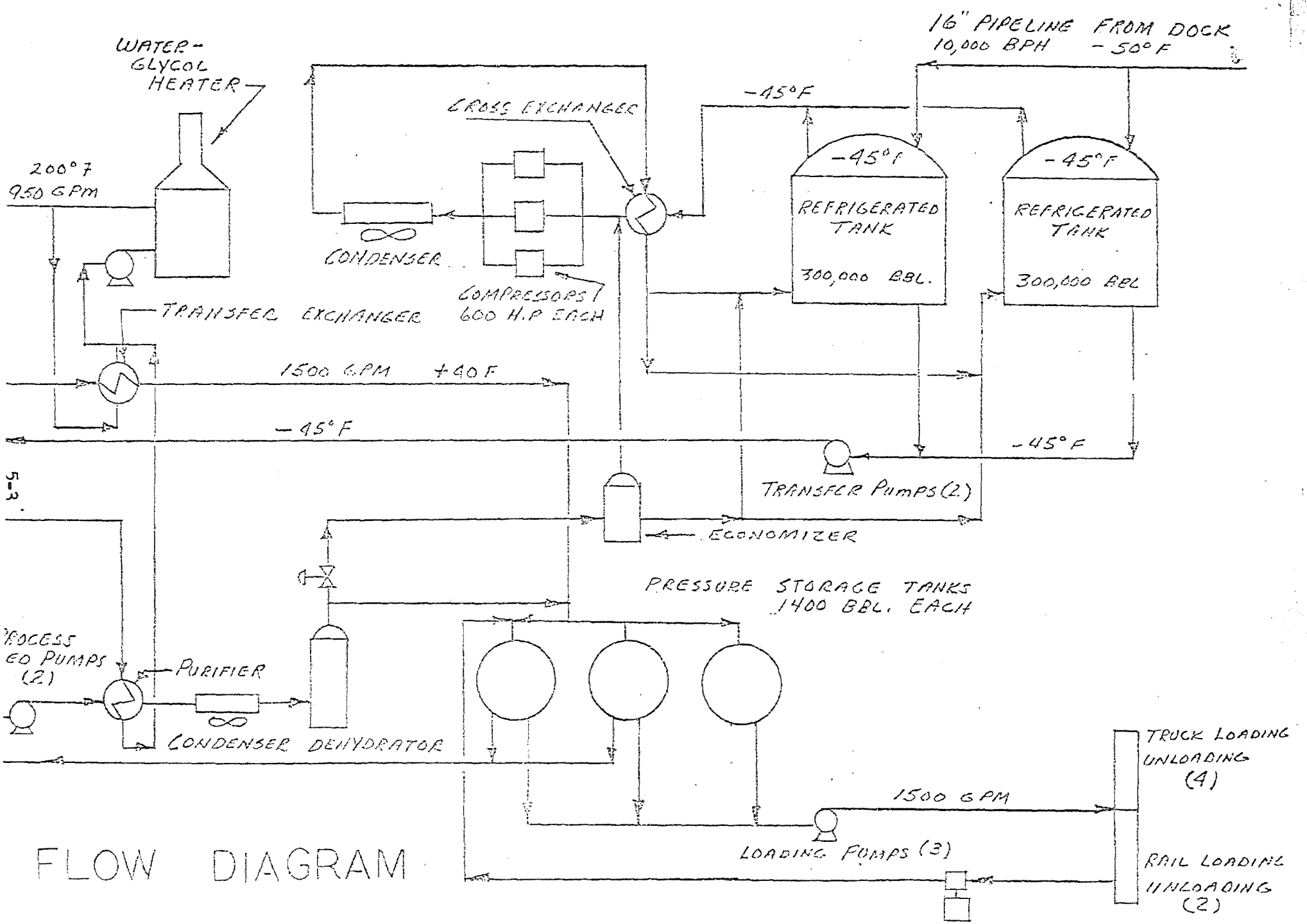
8. Propane will leave the air-cooled condenser as a liquid and will collect in a receiver vessel. The propane liquid is then returned automatically to the refrigerated storage tanks. A liquid level controller is provided for this operation.

9. While the terminal is designed for manned operation, the refrigeration system described above can run unattended for long periods of time. It is only necessary to select a desired refrigerated tank pressure on a pressure controller and place the compressors on automatic operation.

10. Vented gases from the refrigerated propane system are conveyed to the flare stack where a constant burning pilot insures safe ignition. Gases could be vented as a result of routine maintenance or relief opening. The flare stack is located atop the bluff in the southeast corner of the property.

11. A cathodic protection system protecting all yard piping was completed shortly before this inspection.

12. Piping was designed with provision for expansion and contraction including expansion loops and metallic bellows on the low temperature tank discharge lines. Angle iron stops at the ends of pipe supports will prevent piping from falling off if an earthquake occurs.



FLOW DIAGRAM

CHAPTER 6

OTHER FACILITIES - CPUC

Pressure Vessels

1. Three 60,000-gallon pressure vessels store warm propane to be pumped out to truck transports or rail cars. They will also be used to receive propane at ambient temperature from trucks or rail cars during the warm summer months. The vessels are rated at 250 psig and designed in accordance with American Society of Mechanical Engineers, "Boiler and Pressure Vessel Code, Section VIII". Propane from the 300,000 Bbl tanks is warmed before transfer to these vessels to prevent contact of the vessel shells with low temperatures.

2. These vessels and the interconnecting piping were inspected at the time of installation to ensure compliance with the California Division of Industrial Safety and the Los Angeles Municipal Code requirements for liquid petroleum gas systems. Permits were issued by the City of Los Angeles Department of Building and Safety. The vessels are inspected annually by a safety engineer from the Boiler and Pressure Vessel Division of this Department which reports to California State Division of Industrial Safety every three years.

3. The pressure vessels would be isolated automatically in the event of a nearby fire by emergency shutdown valves actuated electrically from ultra-violet detectors or by a fusible link. A check valve in each fill line prevents liquid outflow in the event of a line rupture.

4. Pressure vessels are equipped with safety relief valves. These valves would open only in the extreme situation where an uncontrolled fire under the vessel would threaten the shell through the vapor pressure of the propane. Since in all probability these valves would not open, these are vented to atmosphere.

5. Cold transfer pump operation is automatic and controlled by liquid level in the vessels. A liquid level float actuates an electrical circuit to turn the pump or pumps on and off. When the vessels are filling, the furnace for warming the propane shuts down at a level of 6'4". The pumps shut off when the level reaches 8'0". A separate high level shut down switch will stop the pumps and prevent overfilling in case of a malfunction of the primary level control device.

LPG Loading Station

6. Three 500 gpm centrifugal pumps are installed to load propane into truck transports or rail cars at four truck loading stations and two rail spots, respectively. Butane could be pumped directly from refrigerated storage at approximately 600 gpm.

7. The loading stations were inspected at the time of installation to ensure compliance with the requirements of the California Division of Industrial Safety and the Los Angeles Municipal Code.

Earthquake Design

8. The Los Angeles Department of Building and Safety approved the design including the seismic loading and issued permits for the control building and for the foundations of the 60,000 gals. pressure vessels.

Refrigeration Compressors

9. The first of three silencers was installed on a compressor engine exhaust on June 20, 1977. The remaining two are expected to be installed in September of 1977.

CHAPTER 7

INSPECTION AND MAINTENANCE PROGRAM - CPUC

1. Preventive maintenance is performed through inspection, lubrication, cleaning, adjusting, servicing, testing, replacing and reporting. This program was established in four steps: a) an inventory of all plant equipment was recorded on machine data cards, b) the type and frequency of maintenance was recorded on preventive maintenance work order cards, c) machine repair record and preventive maintenance summary cards to record cost, preventive maintenance and repairs performed were prepared, and d) a Modulex Preventive Maintenance Planning Board was prepared listing each piece of equipment with its required frequency of preventive maintenance indicated for a year in advance.

2. The Modulex Board consists of an equipment list followed by 52 columns representing weeks of the year. Pegs of various colors placed in the latter columns indicate the weekly, monthly, quarterly, semiannual or annual maintenance required. A string is moved across the board each week.

3. When the string crosses a peg, the preventive maintenance work order card is pulled, a copy made, the maintenance functions to be performed are marked and the card is issued to maintenance personnel. When the functions are completed the card is signed, dated and the copy is returned and the information thereon is posted to the file card.

4. The maintenance superintendent follows up with maintenance personnel to confirm that work orders are completed in detail and to determine if modification in the maintenance procedure or scheduling is necessary. The superintendent also spot checks the equipment.

CHAPTER 8

COMMENTS BY LOS ANGELES FIRE DEPARTMENT

A - PROJECT DESCRIPTION

LPG Loading Stations

1. There are four truck loading stations and two rail stations for delivering or receiving of propane. Sprinklers are provided at each loading rack. These sprinklers are sized and located to direct 0.3 gal./sq. ft./minute, primarily to the vapor space of the tank. The sprinklers, when activated, are directed at the loading side of each tank and are concentrated on about two-thirds of the length of the tank. In the event of fire in the loading area, these sprinklers would be automatically turned on by an ultraviolet sensor. In addition to backing up the sprinklers, water monitors located in the area are capable of covering the ends and outside of the tanks. Hydrants in the area provide additional backup.

Safety Alarms and Firefighting Systems

2. The basic intent of the firefighting system is to keep equipment cool to prevent failure while the source of the fire is eliminated and brought under control. In addition to the fire protection systems discussed under Loading Stations, the most severe demand on the water system would be for a fire near the two 300,000 barrel tanks. Initially, 5,000 GPM will be provided to the top of either tank. This water would be evenly dispersed around the perimeter of the tank through a circular weir at the top of the tank. After five minutes, the entire surface of the tank should be wet and the flow rate will be reduced to 1,200 GPM to keep the surface wet.

3. In addition, sprinkler systems and water monitors are provided over transfer pumps and pressure vessels within the facility. The process, heater, and compression areas each have one 95 GPM standpipe which is backed up by strategically located 20 lb. dry chemical hand portable extinguishers.

4. Nineteen hydrocarbon vapor detectors are placed at 12 critical points in the plant where leakage is most probable. In general, experience has shown that pump areas are more likely to have hydrocarbon leaks. The

vapor d. ..ctors are electrically operated and extremely sensitive. If a detector should sense escaping propane, it would send an alarm signal to the main control panel in the Control Building. The alarm will allow the operator to pinpoint the leak and take corrective action. If the propane concentration should reach 65% of the lower explosive limit, the vapor detection system will trigger the plant Emergency Shutdown (ESD). Basic to any ESD system is cessation of product flow and pumping by closing of automatic control valves to isolate the various plant areas.

B - LOW TEMPERATURE PIPELINE

Pipeline Specifications and Construction

5. A fully insulated 16-inch seamless steel pipeline connects the wharf unloading area to the terminal storage facility (approximately 6,000 feet). Running parallel to the 16-inch pipeline is a four-inch line which is used to circulate cold propane to cool the larger line in preparation for transfer from ship. Both of these lines are buried at a depth of approximately four feet below the existing ground elevation. The pipelines carry a design pressure of 275 psig and were tested to not less than 1.5 times the design pressure. Design temperature is -50°F., and all materials are impact tested to ensure ductility and safe operation at the low temperature. The piping system was built in conformance with the American National Standard Code for Pressure Piping Petroleum Refinery Piping, ANSI B 31.3, Division 39 L.A.F.D. Municipal Code.

Fail Safe Control and Firefighting Systems

6. The safety control valves for the pipeline are a system of automatically actuated flow control, check, and manual block valves. The flow control valve will automatically close if the cargo transfer operator pushes the shutdown switch or if predetermined temperature and refrigerated storage tank level conditions are exceeded.

7. All of these devices are easily controlled by qualified operators who are continuously in attendance on shore during transfer operations. Firefighting systems for the pipeline are centered around the marine arm and will be covered in the following chapter.

8 - COMMENTS BY LOS ANGELES FIRE DEPARTMENT

C - DOCK FACILITY

Ship Unloading Facility

8. A rigid pipe, swivel joint type unloading arm is mounted on top of a 600-foot long wooden wharf at Berth 120 to transfer refrigerated propane from the ship into a buried pipeline. The unloading arm, which stands 56 feet above dock elevation in its stored position, is manufactured of 12-inch diameter low-temperature seamless steel pipe. Many similar arms are installed throughout the Los Angeles Harbor area and the world.

Unloading Procedures

9. Several hours before the scheduled arrival of a ship at Berth 120, refrigerated propane from the storage tanks is slowly pumped down the four-inch line to a tee in the 16-inch line at Berth 120. The liquid flows back up the 16-inch line, and this circulation process will gradually reduce the main pipeline temperature from existing ground temperature to $-40^{\circ}F$. This is necessary to minimize thermal shock to the line material and prevent a huge uncontrolled heat release to the storage tanks from a warm line. An uncontrolled heat release would overtax the plant refrigeration system.

10. The ship will start pumping slowly until Petrolane dock and terminal operators check out all operations. Most critical is operation of the refrigeration system to control the rate of pressure rise in the refrigerated tanks.

11. The flow rate will be slowly increased to the maximum possible by adding pumps to the system. Most ships have 6 to 8 pumps, each capable of 75,000 gallons per hour discharge. A large ship will carry 300,000 barrels of propane, so the normal time for cargo discharge can run 36 hours or more.

12. Once the ship is empty and pumping has ceased, nitrogen from a permanently mounted storage tank is used to purge the line of propane from ship to the block valve on shore. The nitrogen equipment is also available during the entire discharge operation in case of an emergency where a line purge is necessary.

8 - COMMENTS BY LOS ANGELES FIRE DEPARTMENT

13. The only release of material to atmosphere occurs during depressuring of the unloading arm following the nitrogen purge. While there will be slight traces of propane released, over 95 percent will be nonpolluting nitrogen. Once the arm is depressured and disconnected, it is moved back to its upright storage position on Berth 120 and the ship is free to depart.

14. During transfer of cargo, portable radios or telephones in the control rooms of the terminal, dock, and ship are open to allow constant communication between the three key cargo transfer personnel. All three men have the means to stop line flow instantaneously. The dock and ship operators also have visual contact with each other and the transfer area at all times.

Firefighting Equipment During Transfer Operations

15. Two $2\frac{1}{2}$-inch hose lines 100 feet long are connected to two domestic water outlets on the wharf. In addition, two heavy stream portable water monitors are positioned approximately 150 feet apart on each side of the marine arm and approximately 80 feet from the vessel.

Fire Department Comments on Draft Review of July 7, 1977

16. With reference to Recommendation No. 1, it is not clear whether the purpose of enlarging the capacity of the impoundment basin is to:

A. Allow the basin to hold 100% of the total contents of both tanks in the event both tanks fail simultaneously; or

B. To minimize spillage onto Gaffey Street if the dike is cracked.

The diked area meets all Los Angeles Municipal Code requirements.

17. The following is the section of the Los Angeles Fire Code that addresses the issue:

"Sec. 57.31.36. Diked Areas:

"Where control of accidental discharge is by means of a diked area, such diked area shall comply with the provisions of this Section.

8 - COMMENTS BY LOS ANGELES FIRE DEPARTMENT

"A. The net impounding capacity available to a tank or group of tanks within a common diked area shall be not less than the capacity of the largest tank enclosed by the dike.

"(1) The volume of the largest tank up to the required height of the dike wall may be considered as part of the available capacity of the diked area.

"(2) No part of the volume of tanks other than the largest tank shall be considered as part of the available capacity of the diked area.

"(3) Where a separate catchment basin is used to reduce the required capacity of a diked area, drainage sufficient to prevent overflow of the dike and effective control of flow shall be provided.

"(4) The impounding capacity of a single catchment basin may be applied to reduce the required capacity of each of the diked areas draining to it.

"B. Walls of the diked area shall be of earth, steel, concrete or solid masonry designed to be liquid tight and to withstand a full hydrostatic head. Earthen walls 3 feet or more in height shall have a flat section at the top not less than 2 feet wide. An earth dike wall shall have a minimum slope of $1\frac{1}{2}$ feet horizontal to 1 foot vertical and shall be well compacted and coated with concrete, plaster (gunite), asphalt or other water impervious material to prevent erosion.

"C. The walls of the diked area shall be restricted to an average height of 6 feet above interior grade. The distance between the inside toe of any dike wall and the shell of any tank shall be not less than 5 feet. Concrete footing for steel, concrete, or slid masonry wall may project into this area, provided the top of the footing does not project above grade. (Amended by Ord. No. 148,916, Eff. 11/23/76.)

"D. For vertical cone roof tanks constructed with a weak roof-to-shell seam, approved floating roof tanks, tanks equipped with approved extinguishing systems, or tanks equipped with approved inerting systems; each diked area containing two or more tanks shall be subdivided by intermediate curbs or drainage channels as follows: One subdivision for each tank in excess of 10,000 barrels; and one subdivision for each group of tanks (no tank exceeding 10,000 barrels capacity) having an aggregate capacity not exceeding 15,000 barrels.

"E. For tanks not covered in Subsection D of this Section, each diked area containing two or more tanks shall be subdivided by intermediate curbs or drainage channels as follows: One subdivision for each tank in excess of 100,000 gallons; and one subdivision for each group of tanks (no tanks exceeding 100,000 gallons capacity) having an aggregate capacity not exceeding 150,000 gallons.

"F. The intermediate curbs or drainage channels required by Subsections D and E of this Section shall comply with the provisions of this Subsection.

"(1) Where intermediate curbs are used, they shall be not less than 18 inches in height and construction requirements shall be the same as for dike walls.

"(2) Where drainage channels are used, they shall comply with the provisions of Section 57.31.35.

"(3) The intermediate curbs or drainage channels shall be located between tanks so as to take full advantage of the available space with due regard for the individual tank capacities.

"G. Within each diked area drainage shall be provided at a consistent slope of not less than 1 percent away from tanks toward a sump, drainbox or other safe means of disposal located at the greatest practical distance from the tank. Such drains shall normally be controlled in a manner so as to prevent flammable liquids from entering natural water courses, public sewers, or public drains, if their presence would constitute a hazard. Control of drainage shall be accessible under fire conditions.

"H. No dry vegetation or combustible material not a part of the permanent installation nor any empty or full drum or barrel shall be permitted within a diked area."

CHAPTER 9

FIRE FIGHTING EQUIPMENT - CPUC

A - GENERAL DESCRIPTION

1. Four manually operated fire monitors, a hose station and two hydrants ring the truck and rail car loading and unloading racks. Another fire monitor protects three LP-gas pressure storage tanks. Two 1½" hose stations provide coverage in the refrigeration and process areas of the terminal.

2. Overhead water spray systems automatically actuated by the ultra violet sensors or remotely controlled from push button stations will cool and protect equipment in the four truck racks, two rail car racks and the cold transfer pump area between the refrigerated tanks.

3. A 16" water service is located at a point 800 ft. north of Westmont Drive on Gaffey Street where 13,000 gpm at 100 psig are available. The main system in the plant consists of a 20" feeder line and two loops. One loop, a 14" line, circumvents the retention basin. A 4" line loops north of the office building and connects to the 14" line at the northeast corner of the retention basin. The following laterals are fed by this system for fire control.

A. Three laterals off the 4" loop connect hose reels in the process, heater and compressor areas, and one lateral off the 20" feeder connects to a hose reel in the truck loading area.

B. Five laterals off the 20" feeder line connect sprinklers over the truck and railcar loading racks. One lateral off the 14" loop connects sprinklers over the transfer pump location.

C. One lateral off the 20" feeder line connects a hydrant near the office building. Two laterals off the 14" loop connect one hydrant on the west side of the basin and one south of the basin.

D. Three laterals off the 20" feeder line connect monitors in the truck loading area, and four off the 14" loop connect one northeast of the pressure storage, one west of the impoundment basin and two remote control units located between the two low temperature tanks.

E. Two laterals off the 14" loop run to circular weirs at the top of each refrigerated storage tank.

F. Two Ansul [illegible] wheeled dry chemical extinquish[illegible], each containing 125 lbs of Purple-K are located near the process skid. Twenty-six Ansul Model K-20-E dispensers, containing 20 lbs. of Purple-K dry chemical are located throughout the plant.

4. Primary control for water system is three 10" gate valves located where the 20" line connects to the 16" water service at Gaffey Street. These valves are part of the three 10" Clayton R.P. back flow preventers, and all three must be open when the water system is in normal operation, four 14" gate valves can isolate the 14" loop into two sections and two 4" valves isolate the 4" loop.

B - OPERATION

Hose Reels

5. A two and one-half inch manually operated Globe valve at the axis of the hose reel controls the flow of water to two hundred feet of hose. The hose stream of 95 gpm can be adjusted to various fog patterns, straight stream and shut off as required.

Sprinklers

6. The six sprinkler systems all operate in the same manner. A manually operated valve will permit turning the sprinklers off in the event that the fire sensor is triggered by a fire in another location or an electric arc at the power wires. When this valve is closed, a status panel light goes on in the control room and stays on until the valve is open. This valve must be open to permit automatic operation of the system. The panel is checked regularly to make sure no valve is inadvertently left closed. A three-way solenoid valve controls air to the operator of the fire water control valve for each sprinkler system. This operator is spring loaded open and held closed by air pressure. Air is directed to the operator when the solenoid is energized. Air or electric failure would open the valve. Should power fail the controls are automatically switched to a battery bank which can supply power for 7 hours. Therefore, the solenoid in the emergency electric circuit would only fail after prolonged loss of power. In the event of a fire the ultraviolet sensors will deenergize the solenoid and turn on the sprinkler.

7. The truck and tank car loading area sprinklers can be turned on and off from four push button stations. One is located on the panel in the control room, one at the loading rack and one each at the north and south side of the loading areas. The sprinklers over the transfer pumps can be turned on and off from three push button stations. One is located on the panel in the control room, one at the transfer pumps and one is located beside the road at the northeast corner of the catch basin.

Hydrants

8. The three hydrants are wet barrel type with individual valve control for the $2\frac{1}{2}$" and the 4" outlets each with a National standard hose thread.

9. The five monitors located in the truck and tank car loading area and pressure storage area are manually operated. A four-inch valve at the base of the assembly turns the water on. The flow from the 500 gpm fog nozzle can be adjusted to various fog patterns, straight stream and shut off as required. The azimuth and elevation of the flow can be directed as required and locked in position to leave the monitor unattended if the safety of the location becomes questionable.

Monitors

10. The two monitors located between the two refrigerated tanks are remote controlled units using plant water pressure for hydraulic power. The valves controlling flow to these monitors are located at the top of the hill in back of the tanks along with the hydraulic controls. Water flow to these monitors is manually controlled by the same 14" valves that isolate the sections of loop feeding water to the top of the tanks. The north section of the loop controls the flow to the monitor on the west side of the tank area and the south section of the loop controls the flow to the monitor on the east side of the tank area. A three-way solenoid valve controls air to the operator of each valve that is spring loaded open. Air is directed to the operator when the solenoid is energized, holding the valve closed. Air or electric failure could open the valve. The solenoid in the emergency circuit can only fail when the battery bank expires. Push buttons located at the valves on the panel in the control room and at a station next to the road at the northeast corner of the catch basin will open or close these valves to the

monitors. Each monitor has a hydraulic dr . that can adjust the 750 gpm nozzle from shut off through various fog patterns to a straight stream. Separate hydraulic drive will provide seventy-five degrees of vertical control and one hundred eighty degrees of azimuth control. The hydraulic control valves are located at the top of the hill and can aim, alter or adjust the flow remotely. These monitors are stowed facing each other with the nozzles adjusted to form a curtain of water between the tanks. This position would be of value to protect a tank if the control area is inaccessible.

Tank Cooling

11. The flow to the top of the tank can be started and stopped by push buttons located on the panel in the control room, at a station near the northeast corner of the impoundment and at a station near the valves at the top of the hill. Flow of water to either tank can be manually controlled by two of the 14-inch gate valves in the 14" loop.

12. The valves controlling the flow of water to the tanks are located at the top of the hill. They are spring loaded closed and open when air pressure is directed to the operator through an energized solenoid valve. Air or electric failure will close the valve, but a hand jack located on top of the operator will permit opening these valves by hand. When the push button actuates the solenoid, it applies air pressure to the operator that overpowers the spring and opens the valve, permitting 6,200 gpm to flow to the top of the tank. At the same time a time delay relay is energized and after 5 minutes a reduced air pressure is directed to the operator that will partially close the valve permitting only 1,250 gpm to flow to the top of the tank. The water will be evenly disbursed around the perimeter of the tank through a circular weir at the top of the tank, and at 6,200 gpm it will wet the perimeter of the tank at approximately 0.14 gal./sq/ ft./min. After 5 minutes the entire surface of the tank would be wet, and the reduced flow rate of 1,250 gpm would keep the surface wet. In addition to the wetting of the tank shell, a curtain of falling water extending about 3 feet from the shell is formed and offers further insulation from an exterior source of heat. Because of the size of the area and the quantity of water involved, it is not practical to operate these valves automatically. A fire sensor could not determine which tank required the water.

9 - FIRE FIGHTING EQUIPMENT - CPUC

C - WATER SUPPLY

13. The 16" water service has dual supply from either a 20" cast iron or a 36" steel line in Gaffey Street. The 36" line is the main supply to San Pedro. In the event of fault displacement across Gaffey Street, the cast iron line would be more susceptible to rupture. The steel line would be likely to maintain continuity with displacement up to 2 feet (Chapter 12).

CHAPTER 10

ALARMS AND SHUTDOWN PROVISIONS - CPUC

1. There are four total plant shutdown switch locations, one in the control room on the main panel, one in the loaders building on the south wall, and one switch about one hundred yards from each of the two main gates at the west side of the road.

2. In the event the fire would be located in the loading area, a total plant shutdown may be necessary. There are six loading arm shutdown locations that will shut down all motors involved in loading operations and close all valves handling product to and from the area. One is located in the control room on the main panel, one in the loaders building on the south wall, one on the north side and one on the south side of the tank truck loading racks, one at the base of the stairway on the south side of the tank car loading platform and one near the base of the ladder on the north side of the tank car loading platform.

3. Ultra-violet (UV) detectors were installed to detect a flash, actuate alarms, shut down the plant and automatically trigger the plant fire water system. UV monitors are mounted in every equipment grouping of the terminal, but are particularly numerous in the truck and railroad car loading and unloading areas.

4. All fire sensors can be manually activated from the main control panel.

A. Two sensors are located on the process skid, one at the north end and one at the south end. In the event of a fire they will sound an alarm and shut down the condenser fans F1A & F1B, the propane loading pumps P2A, P2B, and P2C, the process feed pumps P3A and P3B and the regeneration pumps P4A and P4B.

B. Four sensors are located in the compressor building, one at the north end, one in the center and one at the south end. They sound an alarm and shut down the compressors.

C. One sensor is located at the transfer pump pad. It will sound an alarm, turn on the sprinkler system over the pumps and shut down the cool down pumps P6A and P6B, and the propane transfer pumps P1A and P1B. The sprinklers can also be manually initiated by pushing buttons on the main control panel, at the transfer pump or near the compressor building.

D. Two sensors are located at the loading pump area. They will sound an alarm and shut down the propane unloading compressors K1A and K1B, the propane transfer pumps P1A and P1B, the loading pumps P2A, P2B and P2C, the process feed pumps P3A and P3B, and the regeneration pumps P4A and P4B. Also, the emergency valves on the pressure vessels and in the incoming pipeline will close.

E. One sensor is located at each of the four truck loading racks. They will sound an alarm and turn on the sprinklers over the tank truck they are monitoring. They will also shut down the propane unloading compressors K1A and K1B and the loading pumps P2A, P2B and P2C. The sprinklers can also be manually initiated at the loading rack, the main control panel, the emergency control station north of the loading racks or the emergency control station south of the loading office.

F. Two sensors are located at the tank car loading rack. They will sound an alarm and turn on the sprinklers over the tank cars. They will also shut down the propane unloading compressors K1A and K1B, and the loading pumps P2A, P2B and P2C. The sprinklers can also be manually initiated at the main control panel, the emergency control station north of the loading racks or the emergency control station south of the loader's office and at the tank car loading rack.

5. Since the LP-gas is stored unodorized, continuous combustible gas monitoring instruments in areas of most probable leakage, such as near pumps and compressors, were installed. Although no leakage from the large refrigerated tanks was anticipated, four gas detectors were installed between the tanks and the containment sump. The fired heater area is protected by a sensor which would shut off fuel gas if gas leakage was detected. These combustible gas monitors are set to alarm at 35% of lower explosive limit (LEL) and shut down the plant at 65% of LEL. The function is to warn the operators, stop operations and isolate various sections of the facility in case of a gas leak.

6. An earthquake switch is located in the control room. A steel ball resting on a pedestal maintains continuity in an electrical circuit. If a tremor rocks the ball off of the pedestal, an electric circuit is opened and the plant is shut down.

CHAPTER 11

LOW TEMPERATURE PIPELINE - CPUC

1. The 16" pipeline extends in a northwest direction from Berth 120. Just before crossing the abandoned Wilmington San Pedro Road it turns westward and continues to the Petrolane terminal.

2. The lines are fully insulated with 2 inches of polyurethane next to the pipe shell, a 1/8-inch layer of woven fiberglass, then PVC 40 mils thick over the exterior to keep out ground water. The PVC was pressure tested with air. Design temperature is -50°F. and all materials are impact tested to insure ductility and safe low temperature operation. This piping system was built in conformance with the American National Standard Code for Pressure Piping, ANSI B 31.3 and Division 39 L.A.F.D. Municipal Code. Material specifications are: for the pipe: ASTM A333 Gr.1; welding fittings: ASTM A420 WPL1; forgings: ASTM A350 Gr. LF1; bolts: ASTM A 320 L7 and A194 2H; and for the gaskets: Flexitallic Style CG. Operating pressure is 90 psig. Nine expansion loops are provided for the temperature variation from -50°F. to ambient.

3. The pipeline will be placed under cathodic protection soon.

4. An annual pressure test to 275 psig is required by the U.S. Coast Guard.

5. A temperature sensor at the midpoint of the 16" line operates to keep pneumatic valves closed until pipeline temperature is sufficiently low. Ships cannot be unloaded if line temperature at the midpoint is too high. A relief installed at the valve pit near the dock is set at 250 psig.

6. Minimum cover on the pipeline is 36". Depths are as follows at the various crossings:

Westoils Road	6'
Wilmington San Pedro Road	8'
Railroad Siding	5.5'

At the Wilmington San Pedro Road the pipeline crosses 10 other buried lines owned by Southern California Gas, Los Angeles Department of Water and Power, Arco, Time Oil, Mobil, Union and unknown parties. Road and rail crossings are encased.

7. A check valve near the dock would allow isolation of the pipeline in the event of heavy damage at the dock. However, if this check valve were damaged, the contents of the pipeline could spill onto the dock area and fuel a conflagration.

CHAPTER 12

EARTHQUAKES - CPUC

A - INTRODUCTION

1. The Petrolane LPG facility is in one of the many seismically active areas in the state. Some of the faults have been active within historic times (approximately 150 years). Others have not been active within historic times, but earlier activity of faults can be inferred from other geologic data.

2. The state of the art for predicting earthquakes has not developed to the point where anything can be predicted with certainty. Generally, estimates are made as to maximum credible earthquake, defined as the maximum earthquake (on the Richter scale) that appears to be reasonably capable of occurring under conditions of the presently known "geologic framework" and bedrock acceleration, measured as a fraction of the acceleration of gravity (g). It is these values together with their probabilities and costs (both replacement cost of facilities and potential impacts on the environment, especially when dealing with hazardous substances) that determine the design parameters for facilities.

3. This report is not intended to be an independent or original study of the potential seismicity at the Petrolane facility. It is rather an attempt to collect information from previously published material in an effort to determine if there is a consensus as to what the seismic hazards of the LPG facility actually are, based on the most up-to-date information available. In areas where there is no consensus, the differing views are presented.

4. Undoubtedly, a more extensive review of published material, or even an entirely new study, would yield additional differing views on some issues, especially probabilities and recurrence intervals; however, this would only serve to show that there is indeed controversy on some points rather than provide enough information to draw any definite conclusions.

B - LOCATION OF FAULTS

5. The Petrolane LPG facility lies in an area of recurring seismic activity. (See Exhibit 12-1.) The faults which pose the most serious hazard are the Newport-Inglewood Fault and the Palos Verdes Fault. The Newport-Inglewood Fault has shown significant activity within historic times and lies approximately seven miles from the facility.

6. Until the last couple of years, the Palos Verdes Fault was considered to be inactive but recent studies, most notably by the United States Geological Survey Open File Report 75-596[1/], November 1975, have indicated that this fault should be considered active. Roger W. Greensfelder of the California Division of Mines and Geology also shows the fault as being "potentially active" in the publication "Maximum Credible Rock Acceleration From Earthquakes in California", revised August, 1974[2/]. The exact location of this fault is not known since it does not exhibit obvious surface displacement. Most estimates, however, place it about one mile from the LPG site. (See Exhibit 12-2.)

C - DESIGN PARAMETERS FOR EXISTING FACILITY

7. The existing LPG facility was designed to withstand an acceleration of 0.4 g. The paper "Safety Considerations in the Design and Operation of a Refrigerated LP-Gas Marine Terminal"[3/], states the design criteria was "a zero period acceleration value of 0.31 g based on a 'design earthquake' along the Newport-Inglewood Fault". The Earthquake Analysis[4/] prepared by Chicago Bridge & Iron Company (CB&I) shows the facility was designed for a "maximum ground acceleration" of 0.4 g based upon a 5.5 to 6.0 magnitude earthquake on the Palos Verdes Fault. (See Exhibit 12-3.) Even though the Palos Verdes Fault was considered to be inactive at the time of design in August, 1972 (see Exhibit 12-4), the designers (Chicago Bridge & Iron Company) evidently decided that in the interest of safety, they would design the facility for such a seismic event.

1/ United States Department of the Interior Geological Survey, "Preliminary Report on the Environmental Geology of Selected Areas of the Southern California Continental Borderland", Open-File Report 75-596, Menlo Park, California, November, 1975.

2/ Roger W. Greensfelder, "Maximum Credible Rock Acceleration From Earthquakes in California", California Division of Mines and Geology, Map Sheet 23, August, 1974.

3/ R. A. Reed, "Safety Considerations in the Design and Operation of a Refrigerated LP-Gas Marine Terminal", Petrolane, Inc., Long, Beach, California, May 14, 1975, P.5.

4/ "Earthquake Analysis" for Petrolane, San Pedro, California, Chicago Bridge & Iron Company, August 2, 1972.

8. In a letter from CB&I to Petrolane, dated August 15, 1977 (see Exhibit 12-7, supplemental information after July 7, 1977), these design parameters were explained.

> "The term $\ddot{\delta}$ is defined as 'maximum ground acceleration', and we interpreted this to be the acceleration associated with the impulsive liquid mass acting at the 'tank' period. Technically speaking, the acceleration at 0 period (or ground acceleration) could have been used for this term. However, CBI policy has been to use the amplified acceleration (at the period of 0.132 seconds in our calculations on sheet 4 of 20). Recent findings (see reference 1) have confirmed that the amplified acceleration, rather than the ground acceleration, should be used in the analysis. This is where the slight discrepancy in the definition of terms arises.
>
> "The term S_a is defined as 'absolute spectral acceleration', and we interpret this as the acceleration associated with the sloshing liquid.
>
> "Using the original response spectrum curve for the Petrolane tanks, the horizontal accelerations can be determined."

9. The response spectrum curve was developed by Converse Davis Dixon Associates.[5/] The zero period (or ground) acceleration for this curve is 0.29 g, and the acceleration at the period of the tanks (0.132 seconds) is 0.4 g.

5/ "Soil and Earthquake Engineering Investigations, Proposed Propane Distribution Facility, Gaffey Street Site, Los Angeles, California", Converse Davis Dixon Associates, May 30, 1972.

10. In May, 1977, CB&I analyzed the existing 300,000 bbl. tanks to determine the maximum horizontal acceleration which the tanks could withstand under different conditions. The vertical acceleration was assumed as one-half of the corresponding horizontal acceleration value, but not acting concurrently. The results are as follows:

ITEM	Maximum Horizontal Seismic Acceleration, 1.0 PSIG Operating Pressure	
	Tank Anchorage or Shell at Original Stress Allowables	Tank Anchorage or Shell Stresses Allowed to Increase to Yield
Full Liquid Level h= 73.67 ft.	0.43g (Shell Thickness Governs)	0.80g (Anchorage Governs)
90% Full h = 66.3 ft.	0.60g (Shell Thickness Governs)	1.05g (Anchorage Governs)
80% Full h = 58.94 ft.	0.81g (Shell Thickness Governs)	1.5g (Anchorage Governs)

11. As can be seen, the greatest risk to the tanks occur when they are full. When they are less than completely full they are able to withstand substantially greater seismic forces.

D - EVALUATION

12. In light of today's knowledge, the estimate of a "design earthquake" of magnitude 6.5 at the Newport-Inglewood Fault was too low. Recent information indicates that the maximum credible earthquake for this fault is 7. This is the magnitude postulated by Greensfelder, California Division of Mines and Geology, 1974, who is also used as a reference in the Environmental Impact Report for the Sohio Project[6/] prepared jointly by the CPUC and the Port of Long Beach, and is very similar to the 7.1 postulated by the Long Beach Harbor Consultants* in their report, "Environmental and Geotechnical Sampling Program"[7/], February, 1976, prepared for the Port of Long Beach.

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* Converse Davis Dixon Associates was a member of the Long Beach Harbor Consultants. (See footnote 5)

6/ "Sohio West Coast to Mid-Continent Pipeline Project", Environmental Impact Report by California Public Utilities Commission and the Port of Long Beach, June, 1977, Vol. 1, Part 1, p. III-2.

7/ "Environmental and Geotechnical Sampling Program", by Long Beach Harbor Consultants for the Port of Long Beach, February, 1976, p. III-185.

13. Assuming a magnitude of 7 and a distance of seven miles from the LPG facility, the maximum bedrock acceleration that could be expected at the site is estimated to be 0.45 g based upon the attenuation curves prepared by Schnabel and Seed, 1973.[8] (See Exhibit 12-5.)

14. Similarly, the Palos Verdes Fault has more recently been estimated to be capable of generating an earthquake magnitude of 7.0 to 7.2 on the Richter scale.[6,7] Converse Davis Dixon Associates says a magnitude of 7.2 earthquake is possible but improbable. (See table following paragraph 25.) In a separate study recently performed, Lindvall, Richter Associates states the maximum credible earthquake is 6.5.[9] The attenuation curves of Schnabel and Seed do not include values where the distance between the fault and the site in question is less than two miles. If taken literally, they indicate that the maximum bedrock acceleration to be anticipated from an earthquake of magnitude 7 would be in excess of 0.7 g. This is consistent with Roger Greensfelder whose map of "Maximum Credible Rock Acceleration" indicates a potential bedrock acceleration in excess of 0.5 g (see Exhibit 12-6) at the LPG site. Unfortunately, the U.S.G.S. Open-File Report 75-596 did not draw any conclusions as to maximum credible earthquake, maximum bedrock acceleration, or recurrence interval.

6/ "Sohio West Coast to Mid-Continent Pipeline Project", Environmental Impact Report by California Public Utilities Commission and the Port of Long Beach, June, 1977, Vol. 1, Part 1, p. III-2.

7/ "Environmental and Geotechnical Sampling Program", by Long Beach Harbor Consultants for the Port of Long Beach, February, 1976, p. III-185.

8/ Per B. Schnabel and H. Boldton Seed, "Accelerations in Rock for Earthquakes in the Western United States", Bulletin of the Seismological Society of America, Vol. 63, No. 2, p. 501-516.

9/ Lindvall, Richter & Associates; Letter to Petrolane, Inc., August 18, 1977.

15. The accelerations discussed in this section are for bedrock acceleration as opposed to site or surface acceleration which is the actual motion that would affect the LPG storage tanks. While it can usually be expected that the surface acceleration would be somewhat less than the bedrock acceleration, this is not always the case. Under certain conditions, it can be amplified to exceed the bedrock acceleration. The amount of attenuation or amplification depends on subsurface conditions as well as the depth to epicenters, distance to the fault and size of the earthquake, but as pointed out by Greensfelder, "the seismic response of unconsolidated overburden materials is so highly variable and difficult to predict, even with good subsurface data, that it would be very impractical or misleading to attempt a generalized map of ground surface acceleration." Detailed site specific data is required in order to determine the actual motion any particular site might experience.

16. For the site in question, Converse Davis Dixon Associates developed the "Absolute Acceleration Response Spectra" in order to determine the spectral acceleration which the facility would experience based on a magnitude of 5.5 to 6.0 earthquake on the PalosVerdes Fault. This Response Spectra was used by CB&I in the design of the LPG tanks. (See Exhibit 12-3.)

17. Subsequent to the draft review of July 7, 1977, Converse Davis Dixon Associates reanalyzed the petroleum site and submitted a report dated August 9, 1977. The report stated the maximum ground acceleration (zero period acceleration) would not exceed 0.38 g in the event of a magnitude 7.2 earthquake on the Palos Verdes Fault at the closest approach to the site. (See Exhibit 12-8, supplemental information after July 7, 1977.)

E - RECURRENCE INTERVALS

18. While the fact that the Palos Verdes Fault should be considered active or potentially active is fairly well agreed upon, the estimates of recurrence interval for the maximum credible earthquake vary considerably. The Long Beach Harbor Consultants estimated it at 2,500 years. This estimate is concurred with by Soils Internationals, consultant to the CPUC and the Port of Long Beach in preparation of the EIR for the Sohio Project. On the other hand, Greensfelder states, "Faults which have been historically quiescent, but which are clearly active based on geologic data, such as offset of Holocene materials, pose a significant seismic hazard over the next 100 years." Whether the Palos Verdes

Fault offsets Holocene materials is questionable. Published material from various studies is contradictory but, if it is assumed that Holocene materials are offset, then the Palos Verdes Fault could fall in this category. Greensfelder also states, "as it cannot be stated which faults will produce major earthquakes during the next 50 years, it must be assumed that any known active fault or tectonic province is a potential source of a damaging earthquake." The location of numerous faults in southern California is shown in the same map.

19. Dr. Paul J. Fritts, Chairman of the Department of Geological Sciences at California State University at Long Beach, has calculated the recurrence interval at 489 years for a magnitude 7 earthquake and 91 years for a magnitude 6 earthquake on the Palos Verdes Fault.[10/]

20. Obviously, the calculation of recurrence intervals is far from an exact science. There are a number of methods of calculating recurrence intervals, each requires certain assumptions to be made, and no one stands out as being considered the best method. Even if it was generally agreed that the recurrence interval was 2,500 years, it is possible that a magnitude 7 earthquake might happen in the next few years. It is also possible that such an earthquake might never occur.

21. In assessing the seismic risks from this fault, the Federal Power Commission staff, while studying alternative sites to the Oxnard LNG terminal, declined to make probability or recurrence interval estimates. Instead it chose to paraphrase Lamar, et al., 1973 Earthquake Recurrence Intervals on Major Faults in Southern California, pages 265-276 in Geology Seismicity, and Environmental Impact, D-E. Moran ed. University Publisher, Los Angeles, and state:

> "Due to a lack of historical data and the absence of work to delineate slip rates on the Palos Verdes Hills Fault, it is not meaningful to attempt a determination of the probability of any events associated with that fault. It cannot be said that due to its lack of historical activity there is little probability for events in the near future since, with minor exceptions, it appears that every event since 1912 greater than magnitude 6 in southern California occurred on a fault without known prior historic activity.[11/]"

10/ Paul J. Fritts, Ph.D., Chairman of the Department of Geological Science at California State University at Long Beach, letter to Dr. Donald B. Bright, Port of Long Beach, concerning the EIR for the Sohio West Coast to Mid-Continent Pipeline Project, April 4, 1977.

11/ "Final Environmental Impact Statement for the Construction and Operation of an LNG Terminal at Oxnard, California", Federal Power Commission staff, December, 1976.

22. The Palos Verdes Fault is also referred to as the Palos Verdes Hills Fault. Due to the fact that it was located in the Palos Verdes Fault zone, the Los Angeles Harbor LNG alternative site was rejected from further study by the FPC staff.

23. Whether a facility should be designed for the maximum credible earthquake, regardless of its probability, or some lesser magnitude which has a greater probability often becomes the key question in the design of a facility. When hazardous substances are involved and potentially severe consequences to the public could result from damage to the structure, the problem becomes more acute. It is no longer a simple economic question of balancing the probability of damage and the replacement or repair costs versus the added cost of designing the structure to withstand greater seismic events.

24. A review of the original design method provides a good example. In "Soil and Earthquake Engineering Investigation", Converse Davis Dixon Associates made the statement: "the activity of the Palos Verdes Fault, although highly improbable, may generate a magnitude 5.5 earthquake at approximately one mile to the site". In the Appendix to the same report the statement was made: "Neither of these faults [referring to the Palos Verdes and Cabrillo Faults] have seismic events (greater than Richter magnitude 4.0) definitely associated with them and neither exhibits any evidence of surface rupture."[12/] Nevertheless, CB&I chose to design the tanks based on the event despite its extremely low probability. Petrolane obviously agreed, since it was their project and they had the final approval. CB&I also chose to design for the tank period rather than the zero period (or ground) acceleration and has stated that this value should be used in design analysis. (See Exhibit 12-7.) A similar approach appears to be appropriate in the analysis of the tanks' ability to withstand greater seismic events than thought possible at the time of the original design.

12/ "Earthquake Analysis" for Petrolane, San Pedro, California, Chicago Bridge & Iron Company, August 2, 1972.

25. In their reanalysis, Converse Davis Dixon Associates estimated a probability of 64% that a magnitude 6.0 earthquake would be exceeded in 100 years. They also estimated a 45% probability of exceeding a magnitude 6.5 and a less than 4% probability of exceeding a magnitude 7.2 in 100 years. (See following table.)

DESIGN EARTHQUAKES AND
HORIZONTAL GROUND MOTION PARAMETERS

Earthquake Parameter	Level I	Level II	Level III
Fault Name	Palos Verdes	Palos Verdes	Palos Verdes
Richter Magnitude	7.2	6.5	6.0
Site Distance to Fault (miles)	1	1	1
Maximum Peak Ground Acceleration(g)	0.38	0.31	0.27
Probability of Exceedance in 100 years (%)	≤ 4	45	64
Duration of Strong Ground Shaking (sec.)	15-25	10-20	5-15

CONVERSE DAVIS DIXON ASSOCIATES

F - EFFECTS ON THE LPG TANKS AND PIPELINE

26. The LPG storage tanks were designed to withstand a maximum acceleration of 0.4 g. (See CB&I explanation in paragraph 8.) Recent studies have indicated that the site might experience a bedrock acceleration in excess of 0.7 g within its lifetime. In their reanalysis, Converse Davis Dixon Associates developed Response Spectra Curves for earthquakes on the Palos Verdes Fault of magnitude 6.0, 6.5 and 7.2. From these curves, values for the peak ground acceleration (zero period) and the acceleration at the period of the tanks (0.132 seconds)can be determined. As can be seen for earthquake magnitudes of 6.5 and 7.2, the

acceleration at the period of the tanks is greater than the design acceleration of 0.4 g. (See Exhibit 12-9)

27. Based on information available to date, it is not possible to get a precise estimate of the probability of such an occurrence. However, simply because the tanks were designed for a 0.4 g acceleration does not mean that anything in excess of that will damage them, but it is possible. The conclusion that could be drawn is: Within their lifetime, the LPG tanks may experience an earthquake of such magnitude which could damage both tanks, spilling their contents. Even relatively small leaks that could not be stopped could allow a significant amount of LPG to escape over a period of time.

28. The actual effects of an occurrence where serious damage results depends on a number of factors, but mostly upon the amount of LPG actually in the tanks at the time of rupture and whether the escaping liquid is ignited. If the tanks should be damaged when empty, there would be little impact, but if both were full or nearly full and both ruptured, the impact could be disastrous especially since the impoundment basin can only hold the contents of one tank.

29. The pipeline itself roughly parallels the Palos Verdes Fault for its entire length of about 6,000 ft. Historically, pipelines have been able to withstand earthquake forces without damage except in those cases where a surface rupture (differential displacement) across the pipeline itself will cause a break. Buried steel pipelines are able to deform to some degree without damage so unless an earthquake caused more than a minimal displacement directly across the pipeline, no leakage would be expected. Holmes & Narver, Inc., have estimated that "When laid in a narrow steep-sided trench, in very stiff soil or rock, fault movement on the order of two feet or less are the most that can probably be accommodated without rupture by a ductile pipe having a diameter in the range of interest (30 in.)."[13/] The Petrolane pipeline has a diameter of 16 inches. In the event of significant surface differential displacement, little could be done to prevent a rupture. The Palos Verdes Fault, however, has shown no evidence of surface rupture (differential displacement) but such a break could theoretically occur at any point along the pipeline route. The amount of spill would depend on the flow rate in the pipe at the time of rupture and the length of time before flow was shut off.

13/ Holmes & Narver, Inc., "Geologic-Seismic Consideration and Earthquake Design Basis for the West Coast Mid-Continent Pipeline California Segment," June, 1976, pp. 7-1 and 8-3.

G - NATURAL DRAINAGE

30. In the event of an LPG spill as a result of rupture of both tanks, the liquid would flow directly into the impoundment basin below the tanks. Should the volume of the spill exceed the capacity of the basin, the liquid will follow natural drainage contours until it reaches a state of equilibrium. As the escaping liquid warms, it will vaporize. The resultant gas cloud will also roughly follow the same route as the liquid but it is much more susceptible to being influenced by wind. Since propane is heavier than air, in the absence of wind, propane will flow downhill and collect in low points. Wind would be capable of blowing the gas in virtually any direction, however, this same wind would cause the cloud to disperse. The rate at which the liquid would vaporize, the direction which the gas would travel, and the time it would take to disperse all depend on the specific conditions at the time of a spill. The factors involved are so variable that it would be virtually impossible to make predictions as to the migration and dispersion of the gas.

31. Before vaporization, the liquid will follow established drainage patterns similar to any other liquid. Should the liquid exceed the capacity of the impoundment basin, the excess would flow across the site itself toward Gaffey Street and enter a rectangular concrete drainage channel, 25 feet wide by 12 feet deep. This channel flows southward toward the harbor, paralleling Gaffey Street on the east, to a point near the Basin Street intersection, approximately 3,000 feet from the LPG facility. At that point, the channel enters a double concrete box, each 13 feet wide by 11 feet high, which outlets into the harbor, approximately 700 feet from the entrance. The channel has a maximum capacity of 5,000 cubic feet per second.

32. Should both tanks rupture while full or nearly full or if the impoundment basin cracks open, the volume of LPG could easily exceed the capacity of the drainage channel. In that case, the liquid would cross the channel and flow down Gaffey Street. This street is the low point of the surrounding area. The liquid would flow southward along Gaffey Street and would accumulate in a large pool around the intersection of Gaffey and Battery Streets. From there it would enter the storm sewers which flow into the harbor about 800 feet away.

33. The impoundment basin at Petrolane was designed to conform to the Los Angeles Municipal Code, Chapter 5, Article 7, which requires that the minimum capacity of an impounding area equals the volume of the largest container for inflammable atmosphere storage tanks. In the absence of a specific code section dealing with substances stored under pressure, such as propane, the requirements specified in that section were used for design purposes. Other agencies require greater impounding capacity.

34. The building code for the City of Long Beach requires a 110% capacity dike surrounding all inflammable atmospheric storage tanks. The Port of Long Beach code requires a 125% capacity dike. The Office of Pipeline Safety Operations (OPSO) of the U.S. Department of Transportation (DOT), in its Notice No. 77-4, Docket No. OPSO-46, proposed rule making for 49 CFR Part 193, Liquefied Natural Gas Facilities - Federal Safety Standards, Section 193.439, requires that the impoundment basin for more than one storage tank must have a minimum volumetric capacity of 100% of all tanks or 150% of the largest tank, whichever is greater.

H - REVIEW OF DESIGN

35. The Los Angeles Department of Building and Safety has reviewed the design of the tanks and determined that they were adequately designed based upon a magnitude 5.5 to 6.0 earthquake on the Palos Verdes Fault.

36. Since new information on this fault has become available, they have indicated that they will review the design again to determine the ability of the tanks to withstand the greater accelerations associated with the higher magnitude earthquakes now considered credible.

37. Converse Davis Dixon Associates has prepared absolute acceleration response spectra for magnitude 6.0, 6.5 and 7.2 earthquakes on the Palos Verdes Fault. Included are spectra for critical damping of 2% which is generally used for the design of steel tanks (see Exhibit 12-9). In addition, they have provided their estimates of the probabilities of these earthquake magnitudes.

38. Chicago Bridge & Iron Company will provide additional data on the tank design and calculations of the period and stresses of the tanks.

39. As indicated in Chapter 6, the Los Angeles Department of Building and Safety approved the design including seismic loading and issued permits for the control building and foundations of the 60,000-gallon pressure vessels. Also, the Los Angeles Department of Building and Safety has stated that they will thoroughly review the update materials when available before issuing a permit for the low temperature 300,000 bbl. tanks.

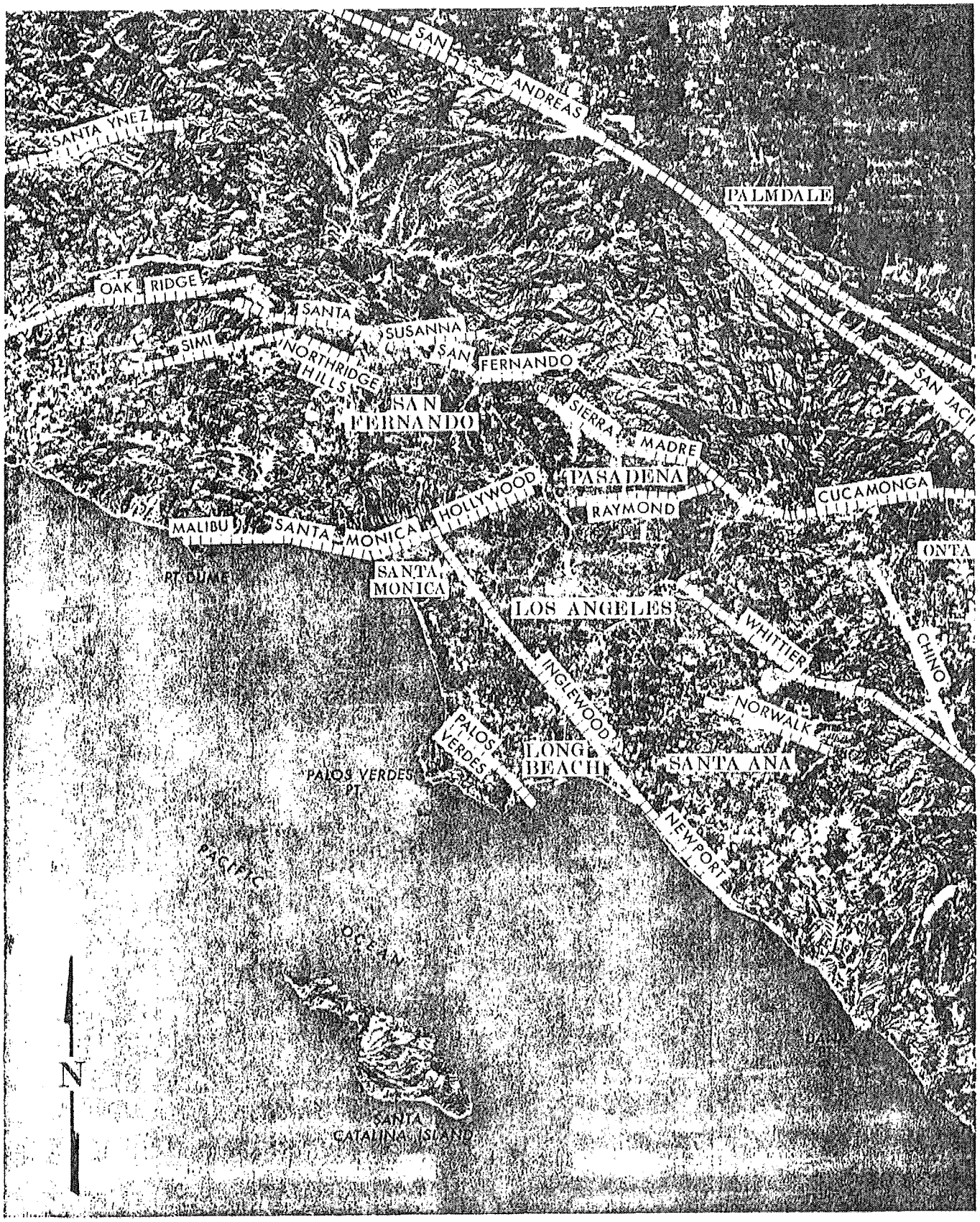


Figure 4.4-3 Principal faults of the Southern California area

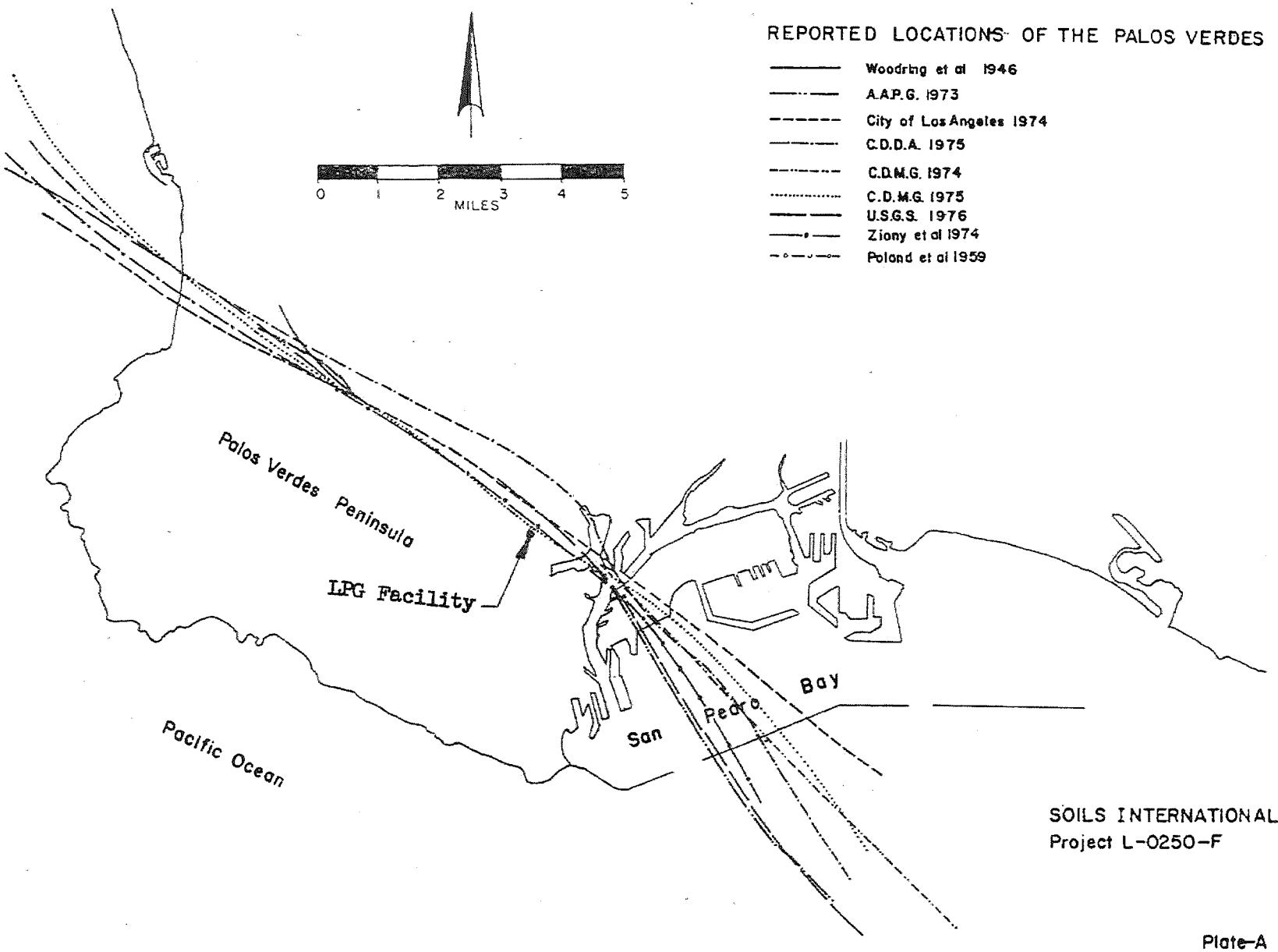

REPORTED LOCATIONS OF THE PALOS VERDES FAULT
Woodring et al 1946
A.A.P.G. 1973
City of Los Angeles 1974
C.D.D.A. 1975
C.D.M.G. 1974
C.D.M.G. 1975
U.S.G.S. 1976
Ziony et al 1974
Poland et al 1959
0 1 2 3 4 5
MILES
Palos Verdes Peninsula
LPG Facility
Pacific Ocean
San Pedro Bay
SOILS INTERNATIONAL
Project L-0250-F
Plate-A

EXHIBIT 12-2

CHICAGO BRIDGE & IRON COMPANY

EARTHQUAKE ANALYSIS

Location_____

(2)-300MBBL Propane Tanks
Ameron Incorporated
For Petrolane
San Pedro, California

CBI Contract 72-4145

A. CRITERIA

1. Design to be per Ameron inquiry No. 1006-1, Rev. 2 of 6/7/72, containing response spectra for three separate earthquakes.

   The spectra with 5% of critical damping, which produces the largest lateral load, is to be used. Resistance to lateral loads is provided by friction between soil and tank bottom and base of ringwall.

   Allow. coeff. of friction = 0.40.

   The components of force which determine lateral seismic loads to be combined as follows:

$$F = M_o \ddot{g}_{max} + \sqrt{2}\, M_1 S_a$$

   Where: F = Lateral seismic load
   M_o = Equivalent mass moving w/tank
   M_1 = Equivalent mass moving w/fluid
   $\ddot{g}$ = Maximum ground acceleration
   S_a = Absolute spectral acceleration

   Vertical accelerations to be assumed as one-half of horizontal accelerations, but not acting concurrently.

   All allowable stresses may be increased by one-third when seismic loads included in load combinations.

   Tank and fluid to be modeled as an equivalent dynamic system per "Dynamic Pressures on Accelerated Fluid Containers", by G. W. Housner, using fundamental mode only.

2. CBI Computer Program (717) calculates seismic forces and resulting stresses in flat bottom storage tanks. The program is based on the effective mass method as presented in TID 7024 "Nuclear Reactors and Earthquakes", Chap. 6, and "Earthquake Pressures on Fluid Containers", by G. W. Housner.

   TID 7024 document is in part, based on Housner's "Dynamic Pressures on Accelerated Fluid Containers".

CHICAGO BRIDGE & IRON COMPANY

Location _____

B. DESIGN

1. Find Max. Lateral Seismic Load (F)

Product Load (W) $= \frac{(\pi)(171)^2}{4} (73.67)(36.8) = \underline{62,300.}$ kips

From TID 7024,

$$M_o = \frac{(W)\tanh(\sqrt{3}\,\frac{R}{h})}{\sqrt{3}\,\frac{R}{h}}$$

$R = 85.5'$
$h = 73.67'$
$\sqrt{3}\,\frac{R}{h} = 2.01$

$$M_o = (62,300)\frac{(.9647)}{(2.01)} = \underline{29,900.} \text{ kips}$$

AND

$$M_L = (W)(0.318)\frac{R}{h}\tanh(1.84\frac{h}{R}) \qquad \frac{h}{R} = \frac{73.67}{85.5} = .862$$

$$= (62,300)(0.318)(1.159)(.9195) \qquad \frac{R}{h} = 1.159$$

$$= \underline{21,100} \text{ kips}$$

In order to find $\ddot{g}_{max}$, it is necessary to determine the natural period of vibration for the tank and confined liquid.

Assume the tank shell is anchored to an adequate foundation and acts as a vertical cantilever fixed at the base. The period of the rigid tank and the confined liquid is determined by the "Lumped Mass" Raleigh-Ritz procedure assuming the total mass divided into equal parts and spaced to correspond to the number of shell rings in the tank.

Natural period = .132 seconds (mathematics performed by comp. prog.)

Figure 1 (see Page 3)-Response spectra for 5.5 to 6.0 magnitude earthquake on Palos Verdes Fault, using 5% of critical damping, controls for maximum acceleration

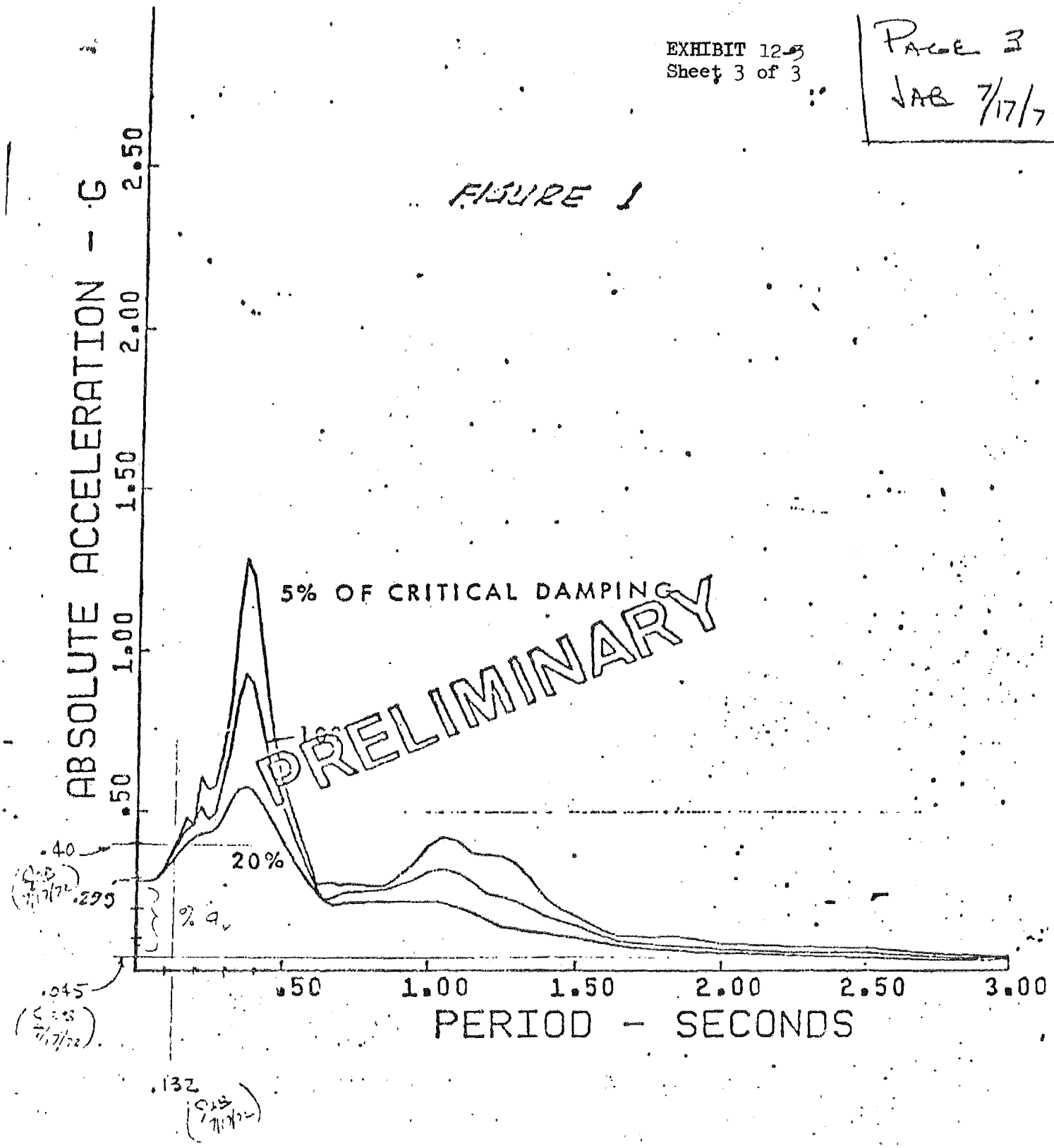
Max. Acceleration = $\underline{\ddot{g}_{max}} = \underline{.40}$

MADE BY JAB	CHKD BY DRL		BY	IAL	CHARGE NO. 72-415
DATE 7-17-72	DATE		CHKD		SHT 2 OF 20

EXHIBIT 12-3
Sheet 3 of 3

PAGE 3
JAB 7/17/72

FIGURE 1



ABSOLUTE ACCELERATION RESPONSE SPECTRA FOR A MAGNITUDE 5.5 TO 6.0 EARTHQUAKE ON THE PALOS VERDES FAULT

PROPOSED PROPANE DISTRIBUTION FACILITY
Gaffey Street Site, Los Angeles, California
for Petrolane, Inc.

CONVERSE, DAVIS AND ASSOCIATES — PASADENA • ANAHEIM, CALIF.

SEISMICITY AT THE SITE OF THE PROPOSED DEVELOPMENT

Proposed Propane Distribution Facility
Gaffey Street Site
Los Angeles, California

celeration Level (g)	Return Period* (Years)	Approximate Probability of Occurrence (%) 25 Years**	100 Years	Probable Magnitude to Cause	Duration of Strong Shaking (Seconds)	Probable Faults and Their Distances to the Site to Cause the Event
0.4	20,000	1	2	5.0 - 6.0	4 to 8	Palos Verdes Fault* (1.0 Mile)
0.3	3,000	3	10	5.0 - 6.5	4 to 12	Small Local Fault (1.0 to 3.0 Miles) Newport-Inglewood Fault (7.0 Miles)
0.2	400	12	40	5.0 - 8.0	4 to 40	San Andreas Fault (54.0 Miles) San Jacinto Fault (51.0 Miles) Newport-Inglewood, Norwalk, Whittier-Elsinore, and Raymond Faults (7.0 to 25.0 Miles)
0.1	60	45	90	5.0 - 8.0	4 to 40	Small local shock to large distant shock (1.0 to 70.0 Miles)

*No evidence of quaternary movement or seismic activity.

* On the average, one event of this magnitude or greater

** 1 chance out of 100 that we will have this size of quake in 25 years.

PETROLANE, INCORPORATED
(Project No. 72-025-A)

EXHIBIT 12-4

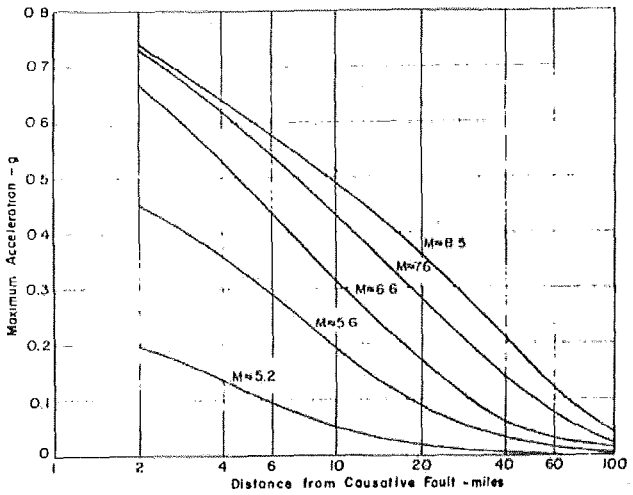


FIG. 5. Average values of maximum accelerations in rock.

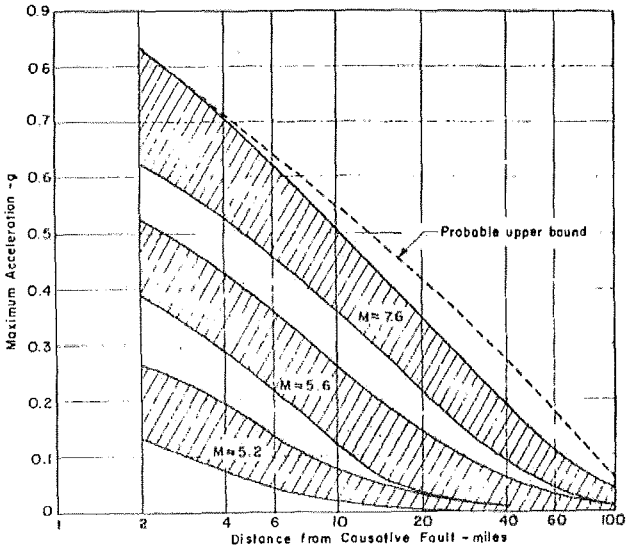


FIG. 6. Ranges of maximum accelerations in rock.

EXHIBIT 12-6

MAXIMUM CREDIBLE ROCK ACCELERATION FROM EARTHQUAKES IN CALIFORNIA

ROGER GREENSFELDER - CALIFORNIA DIVISION OF MINES AND GEOLOGY

1972

REVISED AUGUST, 1974

LEGEND

POTENTIALLY ACTIVE FAULTS

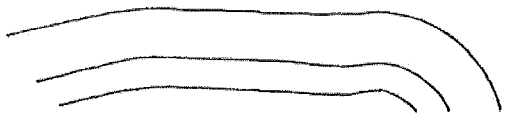
Approximately located

Number in parentheses is the maximum expected earthquake magnitude for the fault.

Lines and arrows divide the San Andreas fault into four tectonic sections.

Queries at the ends of a fault indicate lack of strong evidence for its activity.

BEDROCK ACCELERATION CONTOURS

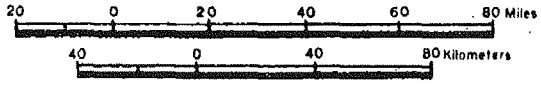


Units are decimal fractions of the acceleration of gravity, from .2g to .5g

PREDOMINANT PERIOD OF BEDROCK ACCELERATIONS

Acceleration range	Predominant period
≥0.2g	0.35 seconds
0.1-0.2g	0.40 "
0.05-0.1g	0.50 "

Mean duration of motion = 20-30 seconds



SCALE = 1:2,500,000

THIS MAP IS TENTATIVE AND RELIES HEAVILY ON THE AUTHOR'S SUBJECTIVE EVALUATION OF FAULT ACTIVITY. IT IS INTENDED AS A TOOL FOR OFFICIAL USE ONLY. IT IS NOT INTENDED FOR DIRECT ENGINEERING USE WITHOUT CONSIDERATION OF FOUNDATION CONDITIONS AND TYPE OF STRUCTURE.

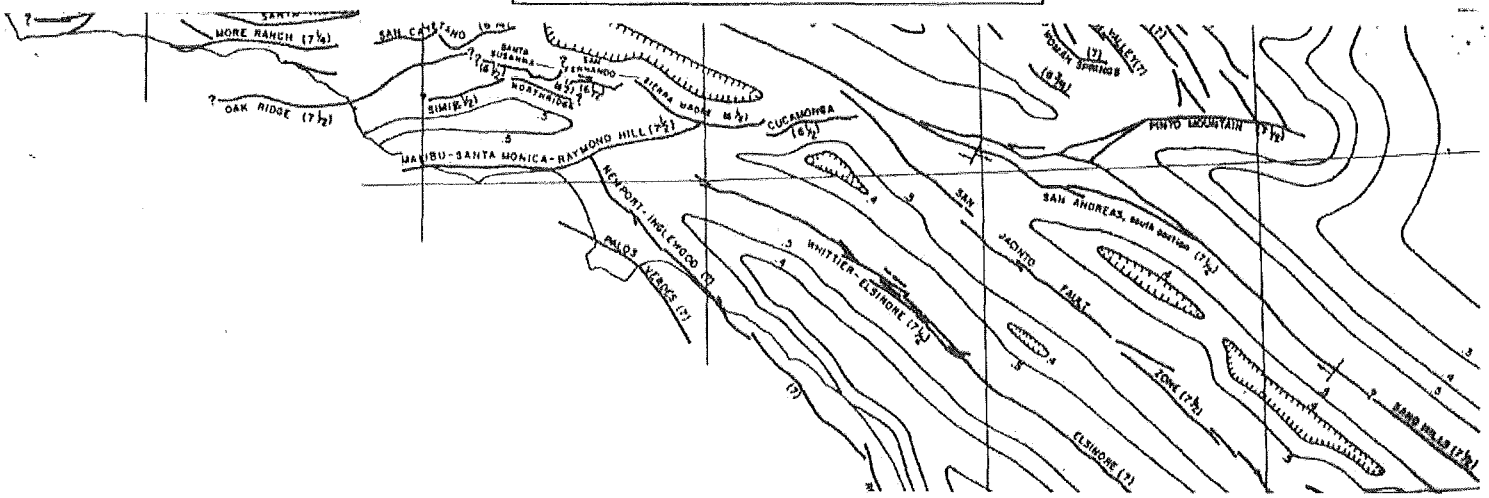


Exhibit 12-7
Sheet 1 of 3
Supplemental Information
after July 7, 1977
Draft Review

Chicago Bridge & Iron Company
301 East Colorado boulevard
Pasadena California 91101

Telephone: 213 684 0840

August 15, 1977

Petrolane, Inc.
P.O. Drawer 1410
1610 E. Hill Street
Long Beach, California 90801

Attention: Mr. Robert A. Reid
Manager of Engineering Services

Reference: Engineering Study
Petrolane LPG Tanks
San Pedro, California
CBI Contract 71711

Gentlemen:

The following definitions and technical comments are made in response to your letter of August 2, 1977 regarding CBI's "Design Calculations", dated July, 1972:

1. Definition of Terms

The wording used to define the terms given on sheet 1 of 20 in CBI's design calculations agrees exactly with the wording given in the original job specifications submitted to CBI by Ameron Process Systems, Inc.

It should be recognized that the formula for "Lateral Seismic Load", (F), incorporates terms which consider the acceleration effects of the impulsive liquid mass and the convective (sloshing) liquid mass. In order to determine the correct accelerations, which should be used to design a liquid storage tank, two periods are required. The "tank" period, associated with the impulsive mass, is normally be-between 0.07 and 0.20 seconds (.132 seconds for the Petrolane tanks). The "sloshing" period, associated with the mass of sloshing liquid normally exceeds 6 seconds (7.87 seconds for the Petrolane tanks). Very often, sloshing periods are greater than the limits of the spectral curve provided to the

Chicago Bridge & Iron Company

designer, as was the case for the Petrolane design. In this case, it is conservative to use the values at the curve limits to determine the acceleration on the sloshing liquid.

The term $\ddot{g}$ is defined as "maximum ground acceleration", and we interpreted this to be the acceleration associated with the impulsive liquid mass acting at the "tank" period. Technically speaking, the acceleration at 0 period (or ground acceleration) could have been used for this term. However, CBI policy has been to use the amplified acceleration (at the period of 0.132 seconds in our calculations on sheet 4 of 20). Recent findings (see reference 1) have confirmed that the amplified acceleration, rather than the ground acceleration, should be used in the analysis. This is where the slight discrepancy in the definition of terms arises.

The term S_a is defined as "absolute spectral acceleration", and we interpret this as the acceleration associated with the sloshing liquid.

Using the original response spectrum curve for the Petrolane tanks, the horizontal accelerations can be determined.

In discussing this with Jim Bell of Converse Davis Dixon, we tentatively agreed that the calculations could be revised to define $\ddot{g}$ as "maximum spectral acceleration", rather than "maximum ground acceleration". However, after further consideration, we believe the calculations should not be changed and that the explanation given in this letter should be attached to the calculations for permanent record to identify the assumptions made.

2. Natural Period of the Tank

The natural period of the storage tank will vary with changes in liquid level. Again, two periods should be considered.

The "tank" period will decrease as liquid level decreases. Therefore, accelerations associated with the impulsive liquid mass will be greatest when the tank is full, since the "tank" period is at its greatest value and is located on the rising slope of the spectrum curve.

Chicago Bridge & Iron Company

The "sloshing" period also decreases with decreasing liquid level. Since the sloshing period occurs on the downward slope of a response spectrum curve, it is possible that the lateral loads associated with the sloshing liquid could increase with decreasing liquid levels and decreasing periods. However, as acceleration increases slightly with reduced "sloshing" period, the acceleration acts on a much reduced mass, so that the lateral loads at reduced liquid levels are less than those that occur with a full tank. This is true for the Petrolane tanks.

(1) DYNAMICS OF FIXED-BASE LIQUID-STORAGE TANKS, by A.S. Veletos and J. Y. Young, presented at U.S. - Japan Seminar for Earthquake Engineering Research with Emphasis on Lifeline Systems, Tokyo, Japan, November 8-12, 1976.

We trust this provides you with the information needed. Should there be additional questions, let us know.

Very truly yours,

Harlan L. Bankester

Harlan L. Bankester
Contracting Engineer

jv

SUMMARY AND CONCLUSION

Table No. 1 summarizes maximum ground acceleration results obtained using five different engineering estimation procedures assuming the of a maximum credible magnitude 7.2 earthquake on the Palos Verdes fault at the closest approach to the site. (1/2 - 1-1/2 miles).

TABLE I

MAXIMUM HORIZONTAL GROUND ACCELERATIONS AND CORRESPONDING SOIL ATTENUATIONS AT THE PETROLANE LPG SITE DUE TO A MAXIMUM CREDIBLE MAGNITUDE 7.2 EARTHQUAKE ON THE PALOS VERDES FAULT

Method Of Estimation	Maximum Horizontal Ground Surface Acceleration (g)	Soil Attenuation Factor* (%)
Site-Specific Wave Propogation (SHAKE).	0.33 - 0.39	46 - 54
Caltrans Seismic Design Criteria (SHAKE on average dense granular soils)	0.43	60
Housner's Firm Ground Attenuation Curves	0.38	53
Analysis of PUB Ground Motion Record-1933 Long Beach Earthquake	0.21 - 0.26	29 - 36
Structural Damage Implications-1933 Long Beach Earthquake	0.26 - 0.33	36 - 45

*Soil attenuation factor defined as the ratio of the maximum peak ground and bedrock accelerations. Maximum bedrock acceleration taken as 0.72g based on Schnabel and Seed (1).

Based on the above summary of results, it is our opinion that the Petrolane storage tanks may be re-analyzed using maximum peak horizontal ground acceleration not exceeding 0.38g in the event that a magnitude 7.2 earthquake should occur on the Palso Verdes fault at the closest approach to the site during the operational life of the subject facility.

Smaller ground motions are currently being developed for re-analysis of the subject tanks given the occurrence of more probable design earthquakes.

8. DESIGN EARTHQUAKES

8.1 General

Three earthquakes were selected to represent a reasonable range of earthquake levels for re-analyses of the LPG storage facility. The three design earthquake were designated as Design Level I, II, and III earthquakes respectively. Definition of these different design levels and the final selected principal faults and specific earthquake magnitudes are discussed in the following sections.

8.2 Design Level I Earthquake

The Design Level I earthquake is intended to represent the governing maximum credible event. The selection of the Design Level I earthquake was based on experience, judgment and consideration of important ground motion characteristics presented in Table 6-1 including maximum peak acceleration, predominate frequencies and duration of shaking. The Palos Verdes Magnitude 7.2 earthquake was finally selected as the Design Level I earthquake.

The important characteristics of the Level I earthquake are summarized in Section 8.4.

8.3 Design Level II and III Earthquakes

Design Level II and III earthquakes are intended to represent two different levels of probable earthquakes which could significantly affect the site in terms of ground shaking. The Level II and III earthquake events should be considered to represent earthquake events which can reasonably be expected to occur during a 100-year design life. They are presented to provide a reasonable range of earthquake characteristics for re-analysis of the LPG storage facility.

Magnitude 6.5 and 6.0 earthquakes occuring on either the Newport-Inglewood or Palos Verdes faults were selected as the Level II and Level III earthquakes respectively. The selections of the Level II and III earthquakes were based primarily on our intent to provide a reasonable range of probable design earthquake characteristics for re-analysis combined with consideration of current geologic/seismic data, the results of seismic risk and probability analyses and our own experience and judgment.

The important characteristics of Level II and Level III earthquakes are summarized in Section 8.4

8.4 Summary of Design Level Earthquakes

The choice of specific design level earthquakes was made to reflect a reasonable range of the significant characteristics of possible site ground motions. The following Table 8-1 briefly summarizes the three design level earthquakes and important characteristics of the horizontal site ground motions.

TABLE 8-1

DESIGN EARTHQUAKES AND
HORIZONTAL GROUND MOTION PARAMETERS

Earthquake Parameter	Level I	Level II	Level III
Fault Name	Palos Verdes	Palos Verdes	Palos Verdes
Richter Magnitude	7.2	6.5	6.0
Site Distance to Fault (miles)	1	1	1
Maximum Peak Ground Acceleration(g)	0.38	0.31	0.27
Probability of Exceedance in 100 years (%)	≤ 4	45	64
Duration of Strong Ground Shaking (sec.)	15-25	10-20	5-15

9.GROUND MOTION RESPONSE SPECTRA

9.1 General

The nature and severity of the dynamic lateral motions which can take place at the base or foundation of a structure as result of an earthquake are very important in structural design. The response spectra is a useful indicator of the characteristics of the ground motion and its effect upon structures, fluid containers, and attached equipment. This section presents horizontal ground motion response spectra for each of the design level earthquakes discussed in Section 8. In addition, vertical ground motion is discussed and procedures are outlined for determining vertical response spectra.

9.2 Horizontal Ground Motion Response Spectra

Horizontal ground motion response spectra intended for re-analysis of the LPG Storage facility are presented in smoothed tripartite form in Figures 9, 10 and 11. Figures 12, 13 and 14 present corresponding unsmoothed elastic acceleration response spectra plotted arithmetically. These horizontal ground motion spectra represent the maximum response amplitude of a linear elastic single-degree-of-freedom system with equivalent viscous damping of 2, 5 and 10 percent of critical damping. Such spectra account for the amplitude, frequency and duration of the design earthquake ground motions.

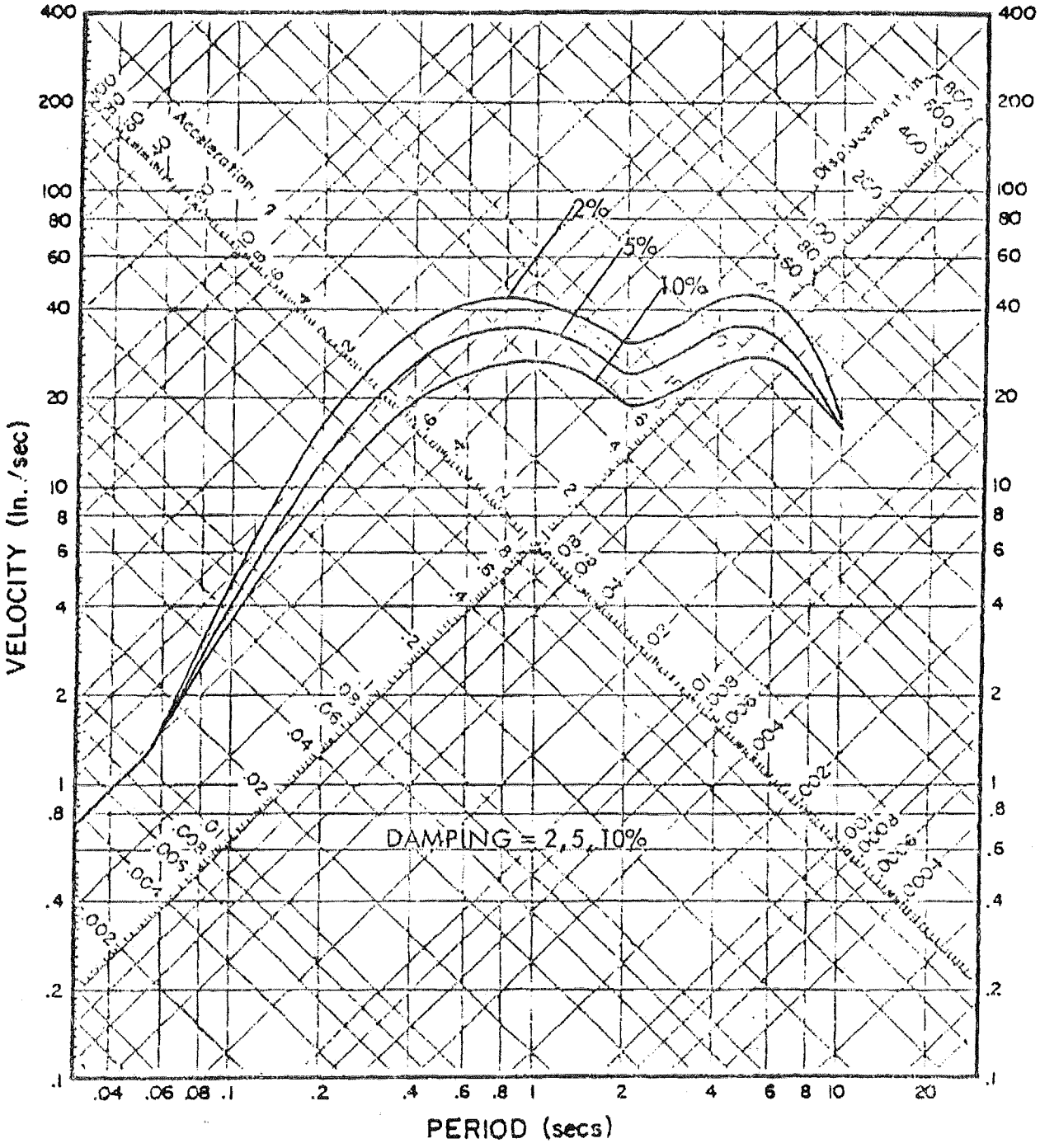
It is our opinion that proper application of these elastic ground motion spectra will provide a realistic assessment of the effects of the selected range of design level earthquakes on the LPG Storage facility. It is recommended that the structural engineer apply a currently appropriate reduction factor in determining lateral forces for design. Such a structural response modification factor varies widely with the type of structure and the specific design procedures used but generally includes the effects of ductility, reserve energy, energy absorption, multi-mode effects, system redundancy and experience and judgment. Little or no reduction in lateral force is made with elastic design which anticipates very little or no structural damage. A considerable reduction in lateral force may be appropriate with ultimate design which anticipates relatively large deflections and some structural damage. An ultimate design response modification factor varies considerably with the structural system and materials of construction.

9.3 Vertical Ground Motion Response Spectra

The preceding sections have only considered the characteristics and effects of the horizontal ground motions. Strong motion records to date indicate that on the average:

1. Maximum vertical accelerations are generally on the order of one-half to three-forths of the maximum horizontal accelerations.
2. Vertical ground motions have about 40 to 60 percent higher frequencies (shorter periods) than horizontal motions.
3. Maximum vertical and horizontal accelerations seldom occur simultaneously.

The elastic response to vertical ground motion, if required by the structural engineer in re-analysis, may be calculated by decreasing both the plotted acceleration (or velocity) and period by 33 percent (response spectra values presented in Figures 9 through 14). If required at a later date, we can supply time histories of acceleration (accelerograms) on computer cards to facilitate a more detailed dynamic analysis.

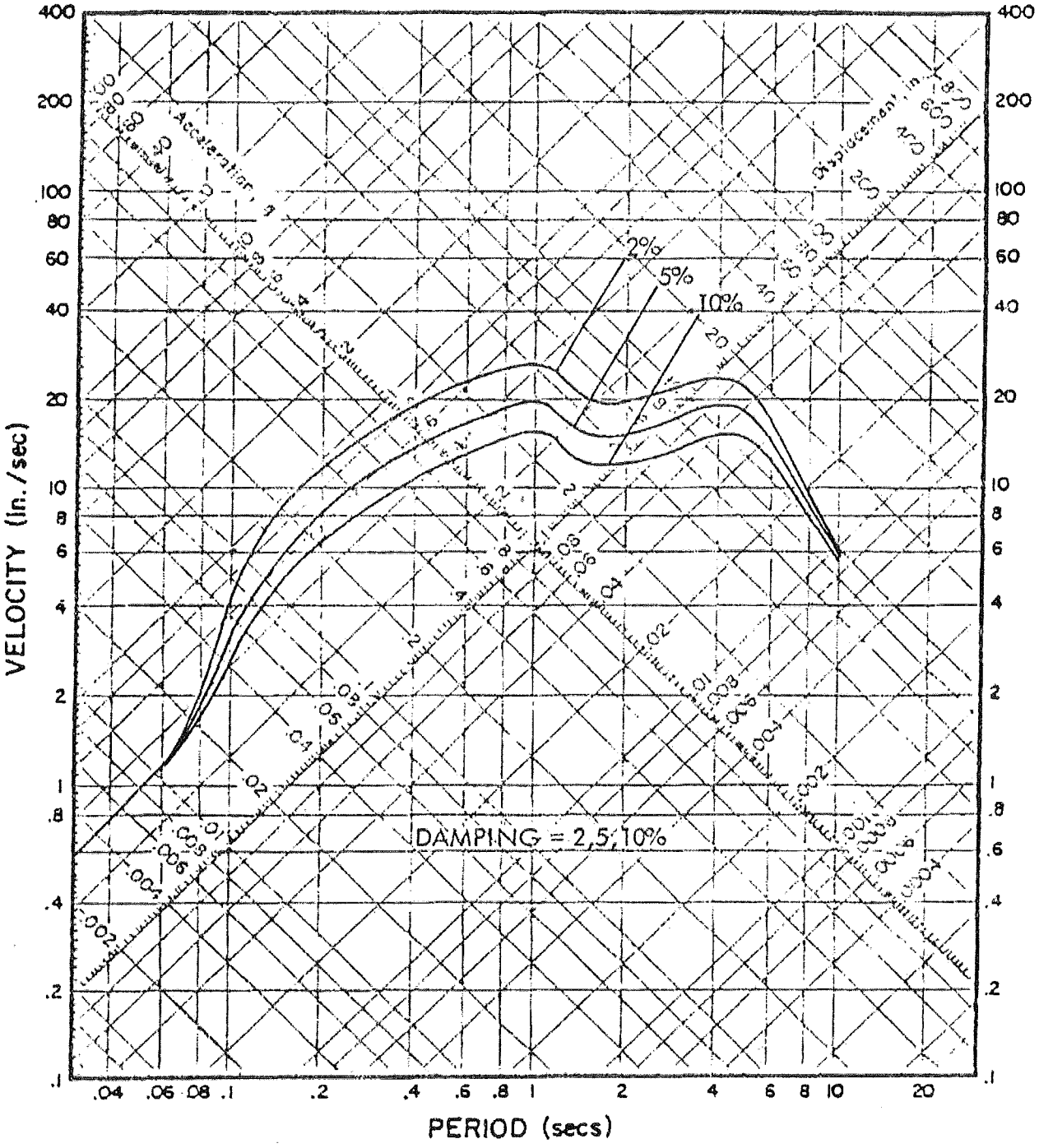


LEVEL I GROUND RESPONSE SPECTRA
MAGNITUDE 7.2 EARTHQUAKE ON
THE PALOS VERDES FAULT

PETROLANE LPG STORAGE FACILITY RE-ANALYSIS
Gaffey Street, Los Angles, Califomia
for Petrolane, Inc.

FIGURE 9

CONVERSE DAVIS DIXON ASSOCIATES *Geotechnical Consultants* PROJ. NO. 72-025-21



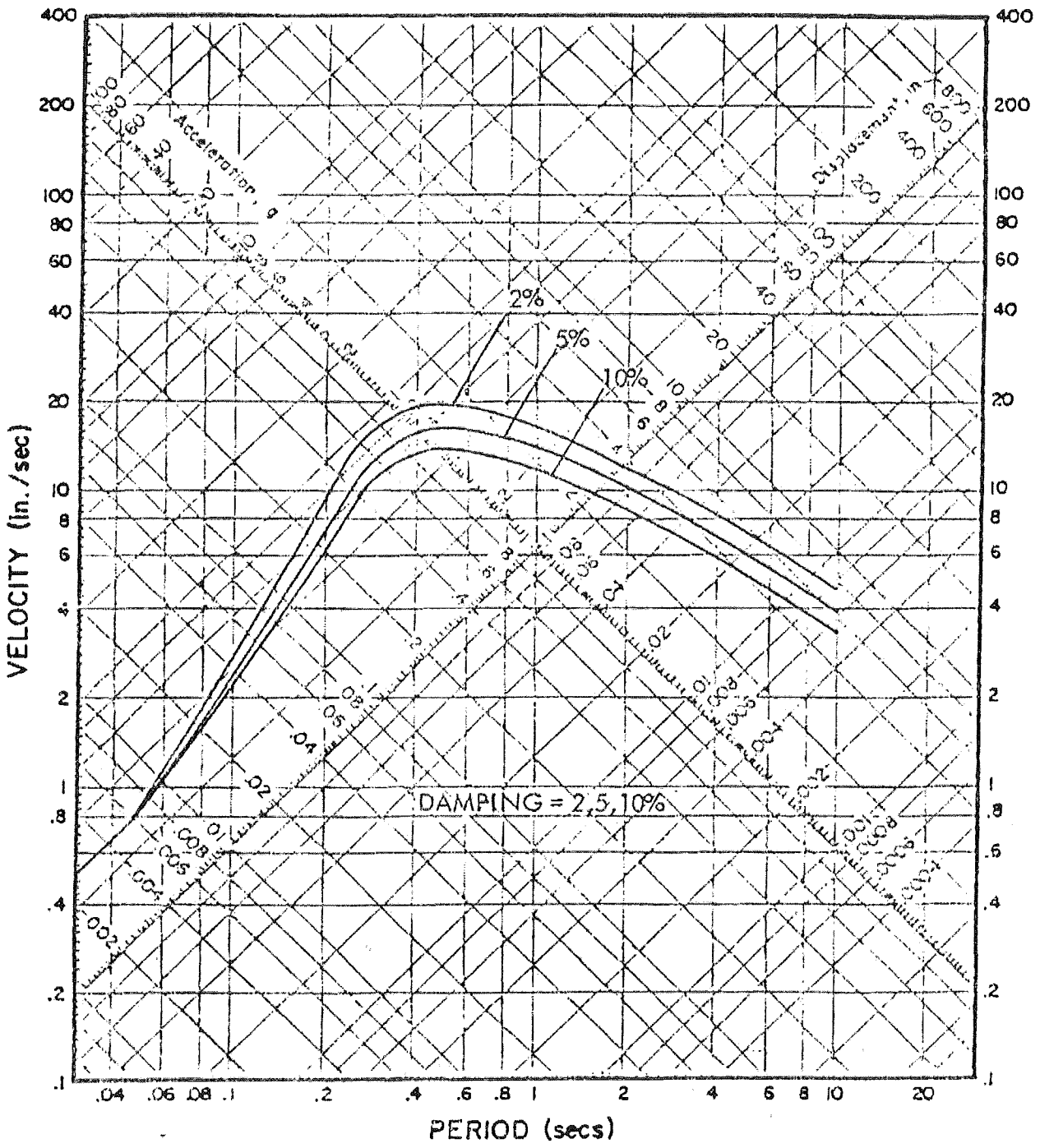
LEVEL II GROUND RESPONSE SPECTRA

MAGNITUDE 6.5 EARTHQUAKE ON

THE PALOS VERDES FAULT

PETROLANE LPG STORAGE FACILITY RE-ANALYSIS
Gaffey Street, Los Angeles, California
for Petrolane, Inc.

FIGURE 10



LEVEL III GROUND RESPONSE SPECTRA

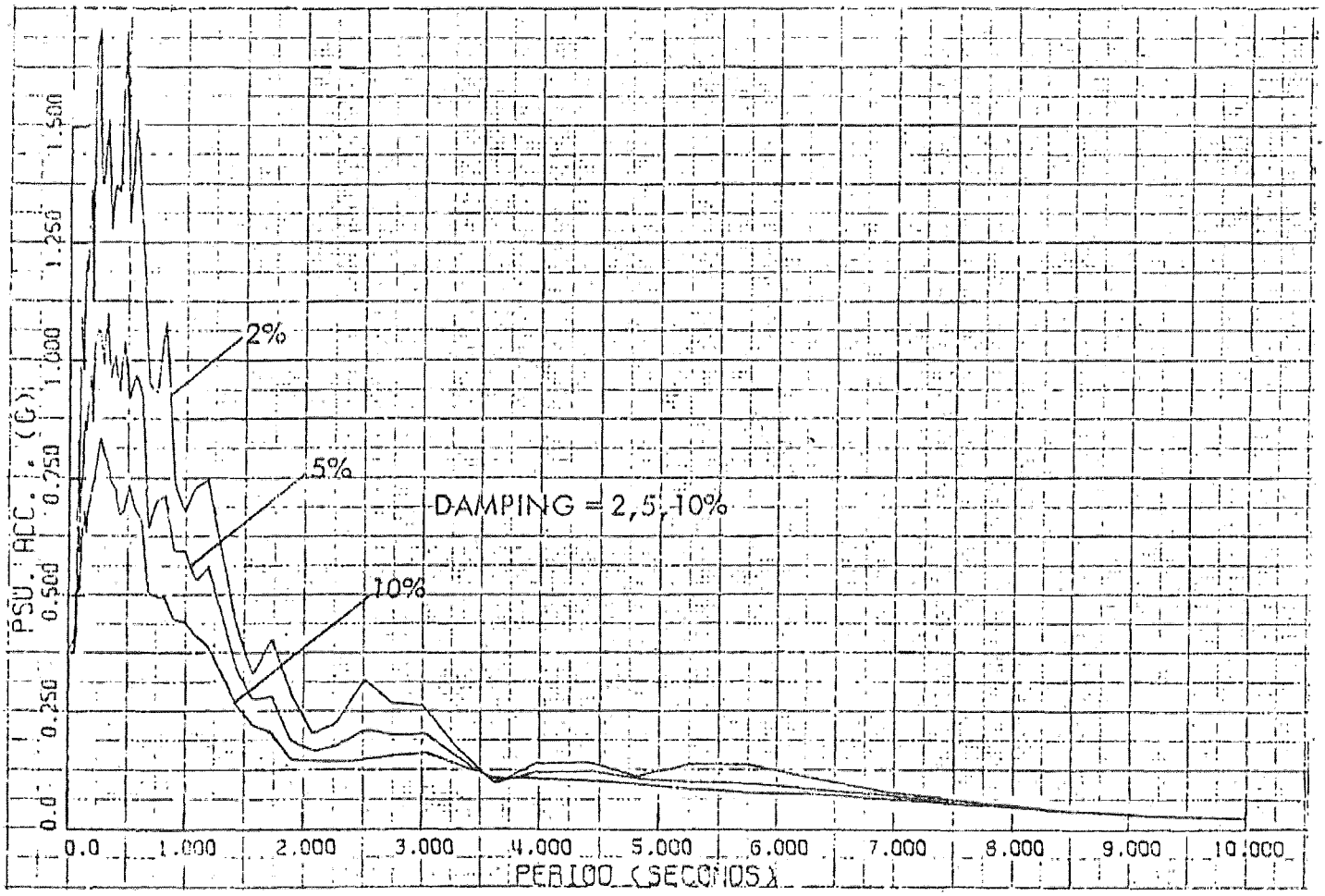
MAGNITUDE 6.0 EARTHQUAKE ON

THE PALOS VERDES FAULT

PETROLANE LPG STORAGE FACILITY RE-ANALYSIS
Gaffey Street, Los Angeles, California
for Petrolane, Inc.

FIGURE 11

CONVERSE DAVIS DIXON ASSOCIATES *Geotechnical Consultants* PROJ. NO. 72-025-21



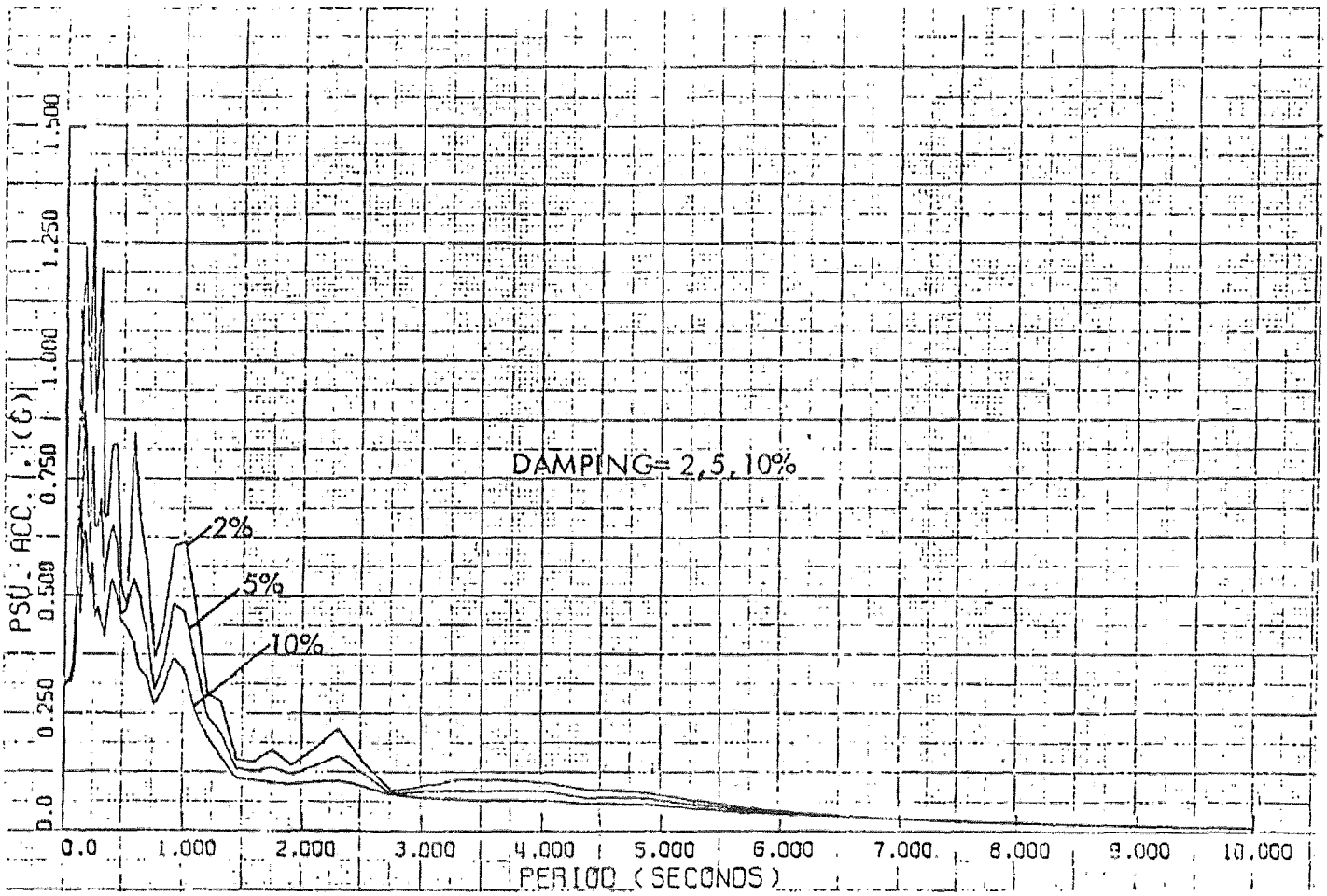
LEVEL I GROUND RESPONSE SPECTRA
MAGNITUDE 7.2 EARTHQUAKE ON
THE PALOS VERDES FAULT

PETROLANE LPG STORAGE FACILITY RE-ANALYSIS
Gaffey Street, Los Angeles, California
for Petrolane, Inc.

FIGURE 12

CONVERSE DAVIS DIXON ASSOCIATES *Geotechnical Consultants*

PROJ. NO. 72-025-21



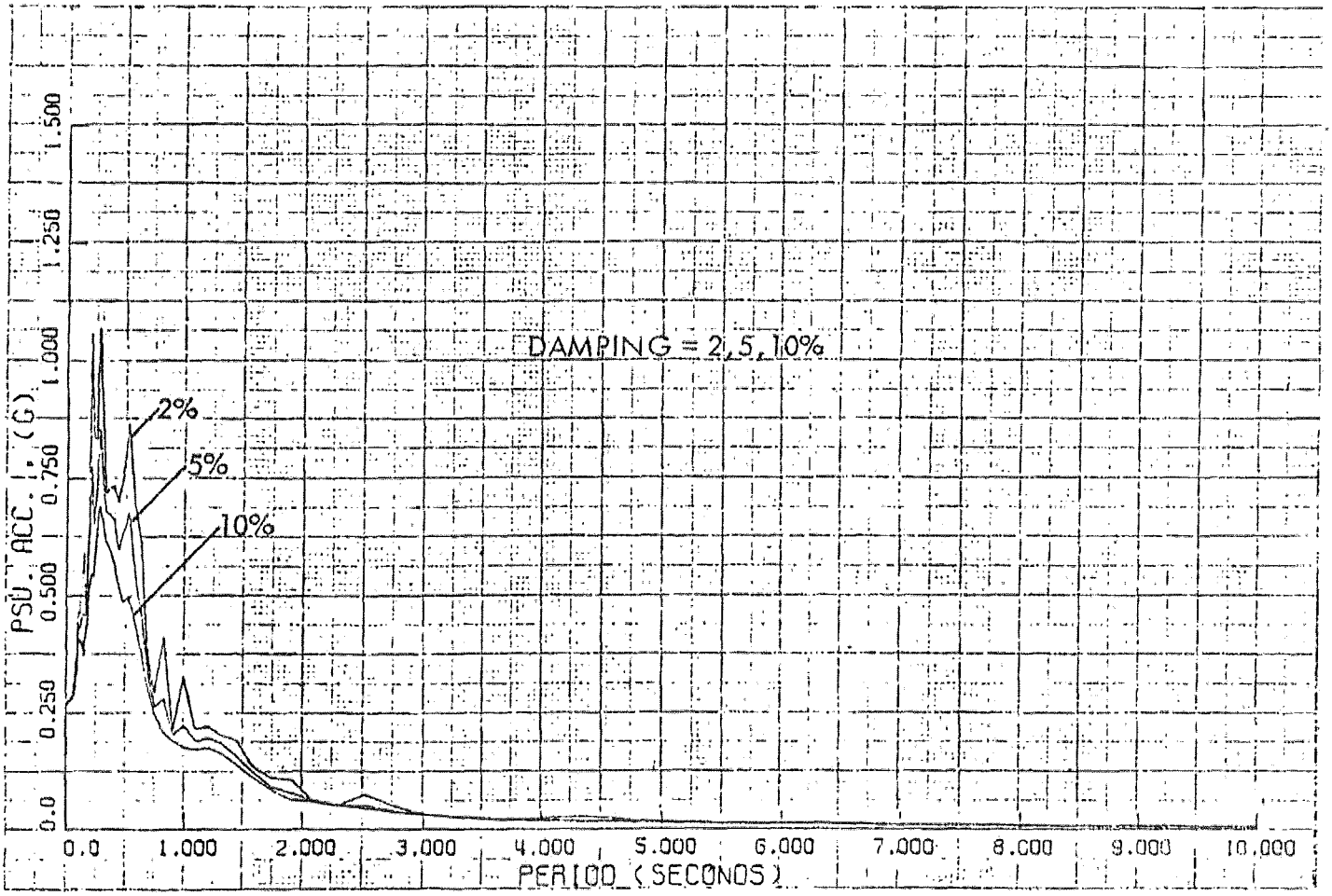
LEVEL II GROUND RESPONSE SPECTRA
MAGNITUDE 6.5 EARTHQUAKE ON
THE PALOS VERDES FAULT

PETROLANE LPG STORAGE FACILITY RE-ANALYSIS
Gaffey Street, Los Angles, California
for Petrolane, Inc.

FIGURE 13

CONVERSE DAVIS DIXON ASSOCIATES *Geotechnical Consultants*

PROJ. NO. 72-025-21



LEVEL III GROUND RESPONSE SPECTRA
MAGNITUDE 6.0 EARTHQUAKE ON
THE PALOS VERDES FAULT

PETROLANE LPG STORAGE FACILITY RE-ANALYSIS
Gaffey Street, Los Angles, California
for Petrolane Inc.

FIGURE 14

CONVERSE DAVIS DIXON ASSOCIATES *Geotechnical Consultants*

PROJ. NO. 79-025-21

CHAPTER 13

CITY OF LOS ANGELES HARBOR DEPARTMENT EARTHQUAKE OPERATIONAL PLAN

A - INTRODUCTION

1. This operational plan has a threefold purpose:

   A. To apprise the other departments involved in the total Los Angeles City Earthquake Operational Plan, of the Harbor Department's purposed plans, duties and responses in the event of a major earthquake affecting the Harbor area.

   B. To list the available emergency phone numbers and radio frequencies to utilize in order to obtain personnel, equipment, information or aid from the Harbor Department.

   C. A brief summary of the structural organization of the operational plan, the personnel and equipment that is available within the Los Angeles Harbor Department for emergency use.

2. It is visualized that the major operations will center around the Security Patrol Headquarters at Berth 84 located at the east end of Sixth Street, just east of Harbor Boulevard, San Pedro (Telephone 832-7241, Ext. 292) and at the Construction and Maintenance Yard, Berth 161, on Pier A Street just west of Fries Avenue, Wilmington (Telephone 832-7241, Ext. 231).

3. Both sites are geographically located in the Harbor Division of the Los Angeles Police Department.

4. Berth 84 is geographically located within Division II, Battalion 6, and Berth 161 is located in Division II, Battalion 16, of the Los Angeles Fire Department Operational Chart.

B - AUTHORITY AND RESPONSIBILITIES

5. City Ordinance 97,600, Section 9, Subsection J, empowers the Harbor Department and the Port Warden to move or evacuate from Harbor Department property or waterfront any vessel or mobile equipment that is in jeopardy from surrounding conditions or that may accelerate the disaster or impede salvage operations.

6. The responsibilities of the Port Warden are to:

A. Be active in port security.

B. Prepare an operational plan for ship anchorage and ship movement to avert collision and disaster.

C. Coordinate operations with jurisdictional Federal agencies, police, fire and public works departments.

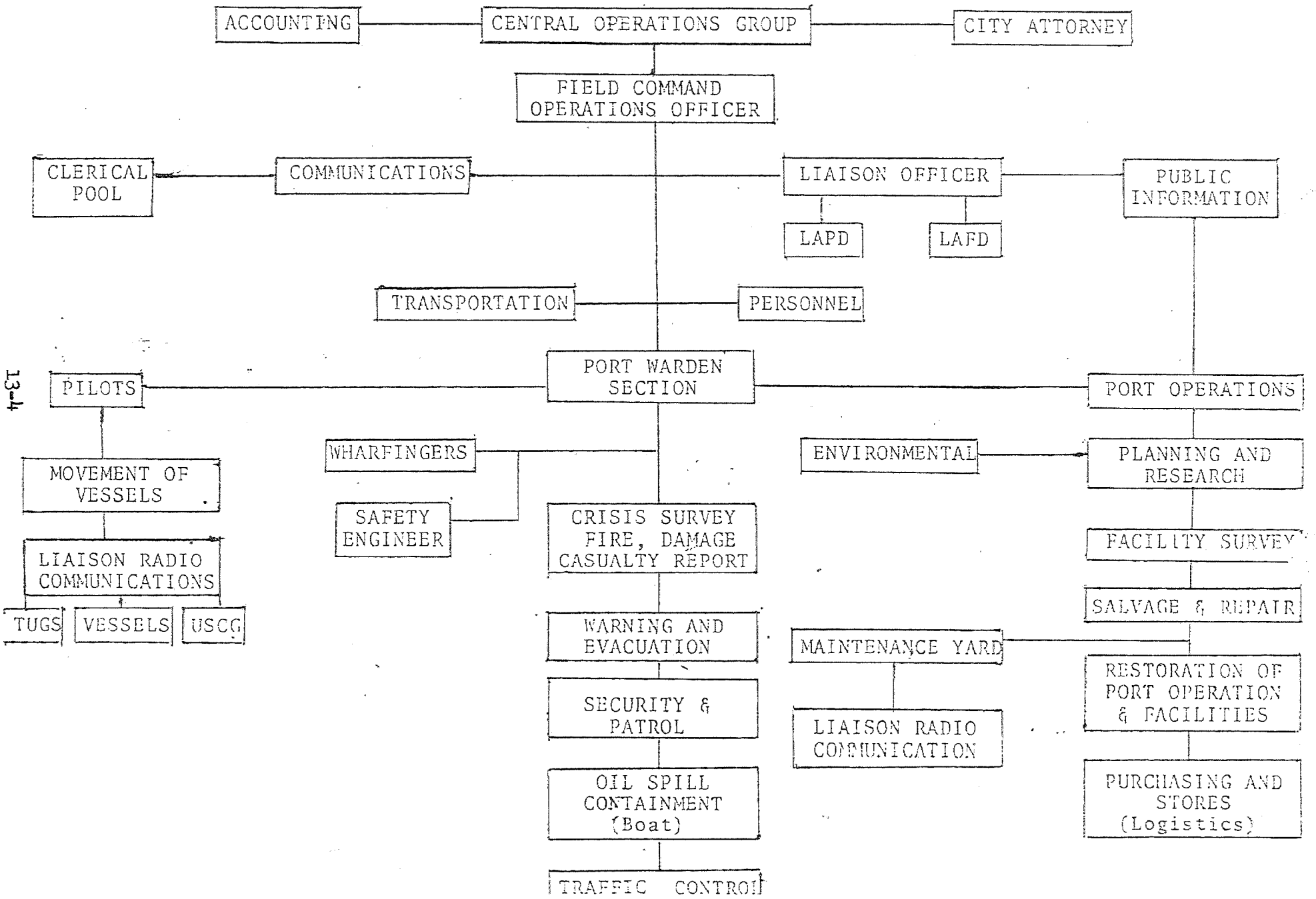
D. Direct Harbor Department personnel as listed below and volunteers from private industry.

DEPARTMENT ADMINISTRATIVE STAFF

General Manager Fred B. Crawford	255 W. 5th St. - Rm. 707 San Pedro	832-7241 Ext. 201
Asst. General Manager E. W. Clocksin	"	Ext. 407
Director, Port Administration John Grazer	"	Ext. 404
City Attorney J. Wells	Rm. 702	Ext. 213
Director, Port Operations R. W. Kennedy	Rm. 707	Ext. 482
Port Warden Edward C. Henry	Berth 84, San Pedro	Ext. 292
Chief Dep. Fred Warner	"	Ext. 291
Patrol Section	"	Ext. 288, 291, 419
Communications	"	Ext. 292
Personnel Bill Stein	Room 701	Ext. 282
Public Relations (Pub. Info.) Lee Zitko	Room 708	Ext. 285
Port Engineer L. L. Whiteneck	Room 814	Ext. 241
Construction & Maintenance Roy Cootes (Supt.)	Berth 161, Wilm.	Ext. 254, 231

SUPERVISORS ON 24-HOUR CALL WITH VEHICLE

RADIO CALL NUMBER			
Echo 5-C	Electrician	Norton	Ext. 231, 292
Echo 6-A	Merchanical Repair	Pietrzak	Ext. 231, 292
Echo 7-A	Plumbing	Robertson	Ext. 231, 292
Echo 8-A	Const. & Maint.	DuVall	Ext. 231, 292


ACCOUNTING
CENTRAL OPERATIONS GROUP
CITY ATTORNEY
FIELD COMMAND OPERATIONS OFFICER
CLERICAL POOL
COMMUNICATIONS
LIAISON OFFICER
PUBLIC INFORMATION
LAPD
LAFD
TRANSPORTATION
PERSONNEL
PORT WARDEN SECTION
PILOTS
PORT OPERATIONS
WHARFINGERS
ENVIRONMENTAL
PLANNING AND RESEARCH
MOVEMENT OF VESSELS
SAFETY ENGINEER
CRISIS SURVEY FIRE, DAMAGE CASUALTY REPORT
FACILITY SURVEY
LIAISON RADIO COMMUNICATIONS
SALVAGE & REPAIR
TUGS
VESSELS
USCG
WARNING AND EVACUATION
MAINTENANCE YARD
RESTORATION OF PORT OPERATION & FACILITIES
SECURITY & PATROL
LIAISON RADIO COMMUNICATION
OIL SPILL CONTAINMENT (Boat)
PURCHASING AND STORES (Logistics)
TRAFFIC CONTROL

C - FIELD RESPONSIBILITIES

7. The Central Operations Group includes an administrative staff with overall command and administrative responsibility.

8. The Accounting Department provides personnel to set up and maintain an ongoing record of time and cost for the overall operation of an incident or disaster.

9. The City Attorney provides legal advice and assistance to the involved response and recovery operations.

10. Under the Field Command Operations Officer, the Port Warden Field Sergeant performs the following:

A. Establishes field command post.

B. Appoints personnel staff.

C. Staffs and activates the necessary units.

D. Correlates operations with associated agencies.

E. Establishes communications and dispatches units.

F. Establishes perimeters and remains cognizant of activities within those perimeters.

G. Makes situation reports to Department Commander.

11. Under the Liaison Officer, the Port Warden Deputy:

A. Maintains contact with associated agencies at Command Post.

B. Maintains contact with the Pilot Station and Maintenance Yard.

C. Records communications between the Command Post and associated agencies and departments.

12. The Public Relations Division:

A. Issues public notices and bulletins.

B. Maintains liaison with press.

C. Documents and photographs as required.

13. The Port Warden Deputy and Radio Telephone Operator receives, transmits and records all radio messages emanating from or directed to the Command Post and provides the necessary telephone service.

14. Under the Personnel Division, the clerical pool as provided by Director of Administration assists Communications Operator in recording and preparing reports, and assists at the Command Post, recording and preparing reports.

15. To provide transportation the Port Warden Deputy maintains the vehicle pool.

16. The Personnel Department maintains a roster and provides a pool of personnel who can supplement the work force of the response and recovery operation.

17. Under the Port Warden Section, the Port Warden Sergeant (Watch Commander):

A. Patrols the assigned area and reports to the Command Post any immediate crisis and need for emergency equipment. He also maintains liaison with the Police and Fire Departments, ambulance, rescue and coroner.

B. Assesses damage and need for emergency repair of oil terminals, buildings, roadways and bridges, plumbing and electrical equipment, wharves, fences and gates and evaluates the safety of the above.

C. Evaluates and reports to the Command Post the need for evacuation of unsafe areas. On Command Post order he transmits warnings and effects evacuations.

D. The Security Patrol of Harbor Department property excludes unauthorized persons, apprehends looters, assists and advises private security patrols and requests additional police, fire or emergency equipment if necessary.

E. The patrol boat assists with over water transportation, controls traffic on the water, inspects wharves and marinas for damage and assists in placing oil spill booms.

F. Traffic control is facilitated where necessary pending the arrival of LAPD.

18. The Wharfinger Division provides information regarding location and types of vessels that are in the port, pertinent information about each cargo terminal and a general description of the current cargo on the terminal.

19. The Safety Engineer assembles and directs Los Angeles Harbor Department personnel evacuated from Pacific Trade Center to a safe location away from the building.

20. Pilots move merchant vessels from hazardous locations to positions of safety and relay radio communications between Command Post and tugs, merchant vessels, USCG and certain LAHD vessels on special radio frequencies.

21. The Harbor Department Engineer coordinates restoration and maintenance of port operations, including the appointment of survey teams, the facilities survey and the direction of repairs. The Chief Maintenance and Construction Engineer directs salvage and construction of facilities as requested by facility survey teams. The work force, equipment and radio communications are furnished by the maintenance yard.

22. The L. A. Harbor Department Environmentalist surveys and advises of the environmental impact of an incident or disaster in the harbor, suggests possible means of lessening damage and assists in preparing plans for recovery and restoration of the harbor and its environment to a normal condition.

23. Planning and Research personnel provide statistics, and record vital information to the Engineering Department to facilitate recovery and restoration of the port to normal operation.

24. Purchasing and Stores provide logistical support to supply needs of field units.

D - INITIAL RESPONSE

25. A control base is established to facilitate communication from the field units to the Maintenance Yard Base, to the control base and between field units. Such communications are tested to ensure operability.

26. A command post is established in a safe and accessible location.

27. Units are assigned to keep each area under surveillance. Agencies and departments involved are notified of the command post location. Immediate emergency needs which can be met by the police or fire department, rescue security, traffic control (etc.) are reported.

28. Liaison with the pilot station, maintenance yard and Pacific Trade Center is maintained as personnel, equipment and vessels are moved to safe locations.

E - EMERGENCY CALL DIRECTORY

29. <u>If telephones are operative</u>, the following Command Posts can be contacted:

A. Command Post #1
Port Warden Headquarters, 6th St. & Harbor Blvd., San Pedro
Communications 832-7241 Ext. 292, 293, 294
From Central LA 775-3231 or Tie Line 7183 Ext. 292-3-4
Chief Deputy of Security
& Watch Commander 832-7241 Ext. 291, 288, 419
From Cent. LA 775-3231 or Tie Line 7183
Ext. 291, 288, 419

B. Command Post #2
Const. & mtce. Yard, Pier "A" St. & Fries Ave., Wilm.
Secondary Communications & Heavy Construction Equipment
Pool 832-7241 Ext. 231, 245
From Central LA 775-3231 or Tie Line 7183 Ext. 231, 245

C. Command Post #3 - Tuna and Albacore Street, Terminal Island
Dockmaster, Terminal Isl. Liaison Officer
832-7241 Ext. 236, 237
From Central LA 775-3231 or Tie Line 7183 Ext. 236, 237

D. Waterside Command Post - Berthed at 6th & Harbor, San Pedro
"ANGELENA" Harbor Dept. Public Relations Boat
Marine Operator WX 6427 ANGELENA

30. If telephones are inoperative, the following locations can be contacted by radio:

A. Communication & Patrol Frequency 45.74 MHz KTL 633

B. Construction & Maint. & Secondary Communications
Frequency 45.62 MHz KMG 511

C. Communications, Yard boats, tugs (in future Patrol Boats)
VHF Channel 14 156.7 MHz KNB 466
VHF Channel 16 156.8 MHz KMZ 506

D. Communications & Port Warden Vehicle
Civil Defense Frequency 39.90 MHz KJP 429

E. For Pre-Earthquake Planning & Information contact:

Chief Ed Henry, Berth 84, San Pedro 832-7241 Ext. 292
Chief Dep. Fred Warner " " " " 291
Deputy Ray Rush " " " " 291

F - LOS ANGELES HARBOR DEPARTMENT COMMUNICATIONS

31. The available frequencies are listed below by location:

I. Security Control Center

A. Normal Communications

1. Frequency #1 KMG 511 45.62 MHz

2. Frequency #2 KTL 633 45.74 MHz

a. Patrol Base Unit at Watch Commander Desk
b. Two (2) hand sets.
c. Security Patrol Units and boats.
d. Staff & Commission vehicles.
e. Limited number of pool vehicles.
f. Limited number of construction and maintenance vehicles, boats and equipment (except tugs).
g. Pilot and Wharfinger vehicles.

B. VHF

1. Channel 14 KNB 466 Frequency 156.7 MHz

a. Communications Channel

(1) LAHD Pilot Station
(2) Angels Pilot, Amos Fries, Angeles Gate Angelena, Tug #8, Arapahoe, Derrick Barge Pile Driver, and Badger Avenue Bridge
(3) U.S. Coast Guard
(4) All Commercial Vessels
(5) Certain Private Vessels

2. Channel 16 KNZ 506 Frequency 156.8 MHz is an emergency call channel at the same locations as listed above.

C. Civil Defense KJP 429 Frequency 39.90 MHz is in the Port Warden's Mobile Vehicle. Call No. 1082.

D. Monitors only are on the Los Angeles Fire Department and the Los Angeles Police Department Call Frequencies, Tac. Frequencies 1 & 2.

II. Pilot Station (24 Hours)

A. Security Frequency #1 in vehicle.

B. VHF

1. Channels 14 and 16 described above.

2. Channel 65A Restricted Frequency 156.275 MHz provides communications between pilot and tugs and emergency communication pilot to station not normally monitored.

C. 16 Hand Sets

1. 10 Sets, Channels 14, 16, 65A

2. 6 Sets, Channels 14, 16, 65A + 6. Channel 6 is an auxiliary tug frequency and emergency ship to ship communication channel.

D. Pilot Boats

1. Angels Pilot has VHF Channels 14, 16, 65A which include Channel 10, a Tug Frequency, and Channel 13, a Vessel Bridge to Bridge Communication Frequency.

2. Amos Fries has the same frequencies as the Angeles Pilot.

III. Angelena LAHD Public Relations Boat

A. Security Patrol Frequencies

B. VHF

1. Channels 6, 12, 14, 16, 26, 65A, 68

a. Channel 12. Ship to Shore, U.S. Coast Guard and Liaison with Recreational Boats.
b. Channel 68. Ship to Shore Telephone. Out of Ship to Ship Range.
c. Channel 26. K.O.U. Radio Telephone Marine Operator, San Pedro.

IV. Construction and Maintenance Yard (5 Days Per Week)

A. Frequency #1 KMG 511 Frequency 45.62 MHz provides communications with radio equipped construction and maintenance vehicles, boats and equipment.

B. VHF Equipped Maintenance Equipment includes:

1. Derrick Barge #39

2. Pile Driver

3. Badger Avenue Bridge

4. Tug #8 (Light Tug)

5. Arapahoe (Light Tug)

6. Angeles Gate (Large Tug)

G - HARBOR DEPARTMENT VEHICLES AND CONSTRUCTION EQUIPMENT

32. **These are listed below:**

Radio equipped vehicles & boats

21 light trucks - 1/2 to 3/4 T pickup
1 van
1 station wagon
14 passenger vehicles
7 private vehicles (supervisors)
3 patrol boats
1 service boat
2 light duty tugboats
1 heavy duty tugboat
1 derrick barge
1 pile driver
3 refuse collection boats

13 passenger vehicles (no radio)

Construction equipment

2 45 cu.yd. semi dump trucks
2 12-ton semi dump trucks
4 dump trucks 10, 8 ¢ 6 cu.yd.
1 56-ft. boom truck
2 30-ton truck cranes & boom dollies
1 600-lb. telescoping boom truck
1 1-ton ladder truck
1 2-ton high ranger
1 6-ton flatbed truck w/dump body
1 1 1/2 ton flatbed truck w/boom
1 1500-gal. water truck w/pump & 800-gal water t/r
1 track crawler skiploader/bulldozer w/trailer
2 skip loader/back hoes
1 sml skip loader
3 welding trucks
1 400-gal. gasoline & diesel fuel truck
1 1-ton wrecker truck
5 air compressor trailers 315 psi to 125 psi
8 portable electric generators

H - SPILL BOOM

33. **The spill boom available is listed below:**

LOCATION		PHONE	TOTAL AMOUNT	BOAT
B-37-40	Navy Fuel	832-4570/832-3545	1600 Ft.	15' 50HP O/B
B-70	GATX	547-0881	1000 Ft.	Rowboat
B-97-101	Standard Oil	832-6474	4200 Ft. 2-12'	15 PH O/B
B-118-9	GATX	831-6566	1600 Ft.	None
B-149-50	Union Oil	834-4691	2000 Ft.	None
B-163	Golden Eagle	834-4495	1000 Ft.	None
B-168-9	Shell Oil	834-2638	1000 Ft.	None
B-170	Clean Coastal Water	433-8346	1000 Ft.	None
B-172	Continental Oil	834-2004	500 Ft.	14' 20HP O/B
B-181	Dept. W. & P.	834-7608	1500 Ft.	16' 25HP O/B
B-215	Gulf Oil	832-7248	1000 Ft.	16' 40HP O/B
B-216	Refiners Mrktg.	832-8353	1000 Ft.	None
B-238-40	Mobil Oil	832-8311/775-6613 (1000 ft. on trailer)	2600 Ft.	2-17' Rowboa 117 HP O/B
	Hutchison & Sons	830-1720	8000 Ft.) 5000 Ft.)	On Trailers
	(4) Work Boats (10) Punts (4) Skimmers (1) Flat Barge			
	Crosby & Overton (9) Work Boats (1) Skimmer (8) Portable Skimmers)	432-5447	8000 Ft. 6"	
B-188	Crowley Environmental Service or	549-9222/23	50' boom laying boat + 2000 ft. 8" boom	16' 70HP O/
	United Towing 140 GPM Fire Pump with 200 Ft. of 2" hose -	547-4441	1500 ft. 8" boom 25' Boat and 25' Boom Ba	2-50 ft. fire ho
	500 ft. 8" boom Small Trl 1500 ft. 8" boom Large Trl 500 ft. 8" lengths of boom at B-188 backup. Several small 12 & 16 ft. workboats with O/B			

13 - CITY OF LOS ANGELES HARBOR DEPARTMENT
EARTHQUAKE OPERATING PLAN

I - CIVILIAN RESOURCES

34. In addition to the Harbor Department heavy duty and construction equipment, the stevedoring, warehousing, and oil clean-up companies maintain fleets of related equipment that could be utilized to move equipment, cargo and assist in search and rescue operations. A brief summary of the major companies and associated equipment is as follows:

A. Metropolitan Stevedoring Co. 830-6220
Jack Clark, General Manager Res. 547-2657

This company has cargo handling equipment at various locations within Los Angeles and Long Beach Harbors. The equipment could be useful in rescue and restoration operations. The general inventory is as follows:

3 115-ton mobile cranes	200 2½ to 5-ton forklifts
3 30-ton mobile cranes	3 truck tractors and flat bed trailers
3 20-ton forklifts	15 bobtail flat bed trucks
10 12½-ton forklifts	2 portable 440 V. elec. generators

B. Hutchison & Sons 830-1720

In addition to waterborne spillboom equipment, there are numerous pieces of heavy duty support equipment (i.e., vacuum trucks, tank trucks, pumps, steam cleaning and tank cleaning equipment, breathing apparatus and chemical suits, and a fleet of radio equipped vehicles and trucks.

C. Crosby & Overton 432-5447

Has equipment similar to that described for Hutchison & Sons.

D. Crescent Wharf & Warehouse Co. 835-7111
Manager of all Terminals:
Bob Christofferson Res. 530-7693

This company has cargo handling equipment at various locations in the Los Angeles and Long Beach Harbor areas.

9 Mobile Cranes	Standard Forklifts 2-3 Tons	Heavy Duty Forklifts
1 150-Ton	365	51 11 to 20 Tons
1 140-Ton		25 7½ to 10 Tons
1 130-Ton	Jitneys	
3 115-Ton		Cletracs
1 8-Ton	114	3
2 5-Ton		

Standard Tractors	Dual Wheel Tractors	Car Loaders
33	20	3

Car Pullers	Personnel Carriers	Container Handling Equipment
5	4	25

Truck Tractors	Blowers	Container Strad. Carriers
10	13	12

Trailers	Air Compressors
10	3

Fuel Trucks

6 150 to 1,000 Gals.

J - AVAILABLE TUGS

35. These are listed below:

Wilmington Transportation Co. San Pedro	24 Hours	832-4293
9 Tugs - varying from 750 to 3,500 HP		
United Towing Company Wilmington	24 Hours	547-4441
6 Small Tugs 350 to 450 HP		
San Pedro Tug Company Terminal Island	24 Hours	832-1158 832-1159 832-1150
9 Tugs - varying from 1,500 to 3,000 HP		

Wilmington Transportation Co. tugs and San Pedro Tug Co. tugs are equipped with two $1\frac{1}{2}$" fire hose stations and sea water pumps to load the hoses.

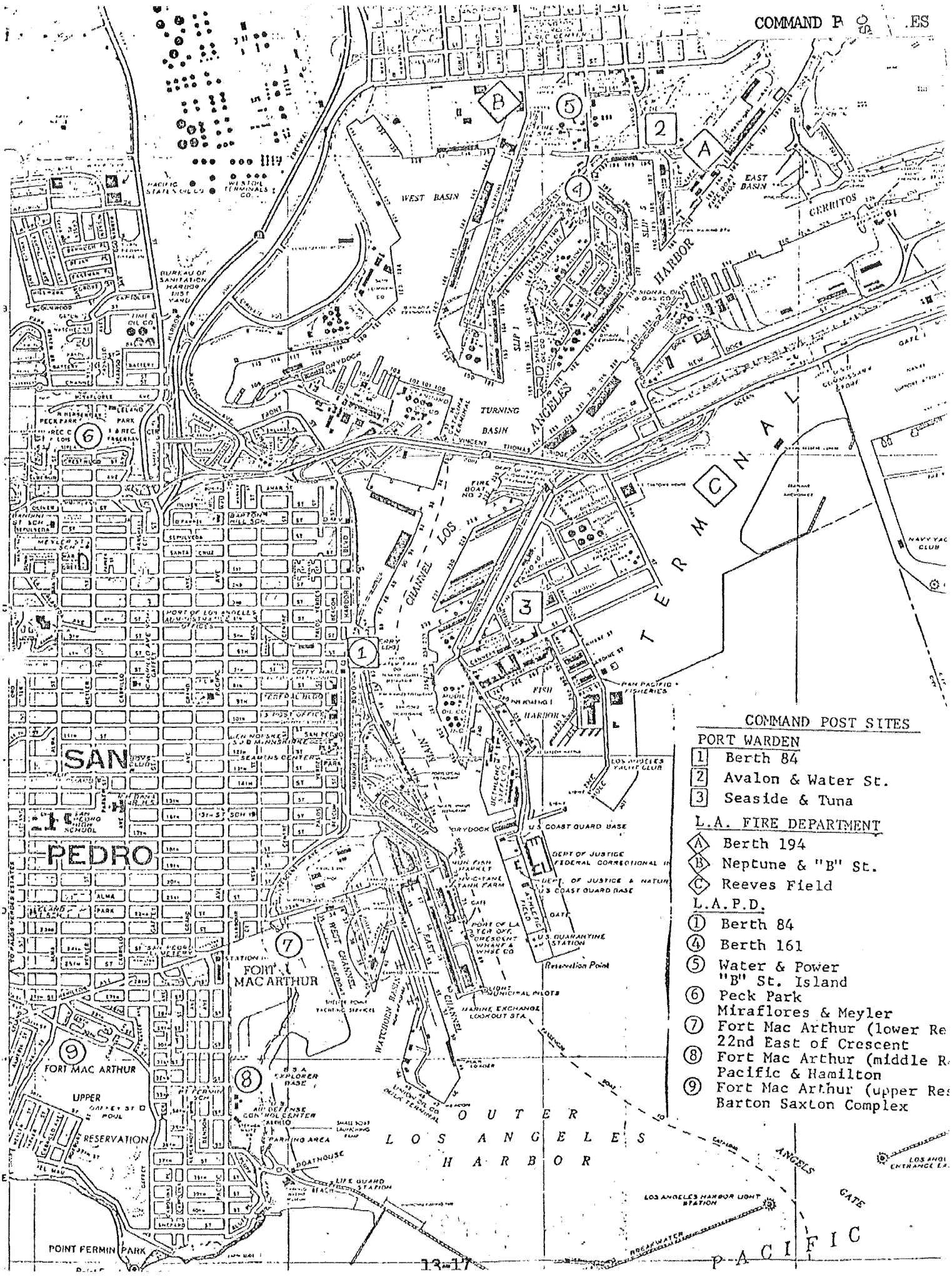
K - WATER TAXIS

36. This company is available:

H-10 Water Taxi Company Berth 84, San Pedro		832-7575
Frank Seehorn, Jr.	Res.	547-4928
Jeanne Seehorn	Res.	831-5026

9 Full-time employees
Normal operating hours - 18 Hours, 7 Days per Week

6 Water Taxis - Capacity 49 persons each


COMMAND P ES
WEST BASIN
EAST BASIN
HARBOR
SLIP 1
TURNING BASIN
ANGELES
TERMINAL
CHANNEL
LOS
SAN
PEDRO
FORT MAC ARTHUR
MAC ARTHUR
UPPER
RESERVATION
POINT FERMIN PARK
OUTER
LOS ANGELES
HARBOR
PACIFIC
ANGELES GATE
Reservation Point
COMMAND POST SITES
PORT WARDEN
1 Berth 84
2 Avalon & Water St.
3 Seaside & Tuna
L.A. FIRE DEPARTMENT
A Berth 194
B Neptune & "B" St.
C Reeves Field
L.A.P.D.
1 Berth 84
4 Berth 161
5 Water & Power "B" St. Island
6 Peck Park Miraflores & Meyler
7 Fort Mac Arthur (lower Re 22nd East of Crescent
8 Fort Mac Arthur (middle R. Pacific & Hamilton
9 Fort Mac Arthur (upper Re Barton Saxton Complex

CHAPTER 14

COMMENTS BY CITY OF LOS ANGELES HARBOR DEPARTMENT

A - DOCK FACILITY

1. The Los Angeles Harbor Department has granted Petrolane, Inc., a non-exclusive secondary berth assignment in conjunction with Western Fuel Oil Company at Berth 120 in the West Basin of the Los Angeles Harbor. The assigned boundaries include a land parcel (illustrated on attached map) and 494 feet of water frontage, with a 401-foot wooden wharf (illustrated by the area map).

Ship Unloading Facility

2. Petrolane, Inc. has erected a 12" diameter rigid pipe, swivel joint type unloading arm, approved for propane transfer, on the wooden wharf at this location. A 16" diameter seamless, insulated steel pipeline connects the marine arm to the tank storage area at 2110 North Gaffey Street, San Pedro. The 16" pipeline is used to transport liquid petroleum gas 6,000 feet from the wharf to the tank storage area. A 4" diameter cooldown pipeline parallels the large transfer line between the wharf and tank storage area. The 16" line is capable of delivering 10,000 barrels of refrigerated liquid petroleum gas per hour at 90 psig at an optimum temperature of -40°F. The line is designed to carry a pressure of 275 psig and pressure tested to 425 psig at -50°F. The marine arm is designed to withstand wind velocities of 100 mph.

3. The entire system is nitrogen pressure tested annually at 285 psig for one-half hour. Then the pressure is reduced and held at 275 psig for four hours.

4. Vessels are berthed at the facility with towing wires rigged and bow to seaward.

B - UNLOADING PROCEDURES

Pre-Shipment

5. Notifications are made at the earliest possible time after the necessary approval and confirmation regarding a shipment are completed.

6. The following agencies are notified; the necessary conferences are conducted, and permits are obtained from:

U. S. Coast Guard	Captain of the Port
Los Angeles Fire Department	Fire Prevention Bureau
Los Angeles Harbor Department	Port Warden
Western Fuel Oil Company	General Manager

7. The agencies are informed of the:

a. Ship involved;

b. Cargo quantity;

c. Port of export;

d. Estimated time of arrival.

8. Preparations:

a. An independent petroleum inspector is employed.

b. A ship's agent is engaged.

c. A. U. S. Customs broker is engaged.

d. A security guard service is engaged during vessel unloading.

e. Tug boats and standby tugs are engaged as needed.

f. Arrangements are made to have adequate nitrogen available at Berth 120.

g. An inspection of the facility is made and adequate warning signs are placed at the berth per regulations.

h. One 150 lb. dry chemical fire extinguisher is placed at the berth.

i. First aid equipment is supplied at the berth.

j. Breathing apparatus and heat resistant protective clothing is supplied.

k. An inspection for adequacy of bonding system is made.

l. A notification to the pilot of the mooring requirements at berth is made.

Cargo Transfer (Preliminary)

9. Approximately 24 hours prior to the arrival of a refrigerated LPG carrying tank vessel, a pipeline cooldown procedure is initiated. The

cooldown is accomplished by pumping and circulating refrigerated LPG through the 4" diameter cooldown pipeline into the 16" diameter product transfer pipeline. The filling and circulating of the LPG in the pipelines is at a slow rate of flow at the outset to prevent thermal shock to the product transfer systems and over-burdening of the plant refrigerating system. When an optimum temperature of -40°F. and a line pressure of approximately 80 psig is reached, the system is held in readiness, pending the arrival of the tank vessel and the beginning of the product transfer.

10. Upon the arrival of a tank vessel at the facility at Berth 120, the person in charge of the transfer operation performs the following tasks:

a. Directs the positioning of the vessel at the marine loading arm.

b. Boards the vessel after it has been cleared by the U. S. Coast Guard, Customs, Agriculture, Public Health inspectors and the ship's agent, examines and signs a notice of readiness that has been prepared by the ship's master.

c. Accompanies an independent petroleum inspector and ship's First Mate to verify the following items:

   1) Ship trim;
   2) Cargo temperatures at all points in each tank;
   3) Cargo vapor pressure for each tank;
   4) Cargo liquid level as read by tape gauges;
   5) Calculation of cargo quantity.

d. Participates in the pre-cargo transfer conference, required by the U. S. Coast Guard regulations, with the ship's First Mate, Cargo Officer and Gas Engineer.

Cargo Transfer

11. These operations are completed before off-loading commences:

a. An electrical bonding cable is securely fastened on board the vessel.

b. The marine unloading arm is connected to the vessel's cargo manifold.

c. The communication system is connected to the marine arm.

d. The off-loading transfer is started.

1) Initially at a slow rate of flow

2) An inspection for leakage is made

3) The transfer pressure is gradually increased to 90 psig, the normal operating pressure

4) A detailed log is maintained on each phase of the operation and continuous periodic inspections are made during the transfer and recorded.

Conclusion of Cargo Transfer

12. The ship's agent is notified approximately three hours in advance of the completion of the cargo transfer. He in turn notifies the U. S. Coast Guard and Federal inspection agencies and schedules tugs and pilot for the vessel's departure.

13. The marine arm is drained and purged, disconnected, blank flanged and lowered into the storage position.

C - EMERGENCY EQUIPMENT

Fire Fighting Equipment

Water System.

14. Berth 120 is equipped with an electric motor-driven fire pump which by suction takes sea water from the harbor and distributes it under high pressure to hose stations located along the back of the dock. The 1½-inch hoses near the Petrolane marine arm will be connected and deployed during the ship unloading operation. Additionally, an engine-driven pump with fire monitors may be leased for standby during operations. The pump will flow approximately 900 gpm at 150 psig and would mount on shore near the valve pit.

Fire Extinguishers.

15. One large 150 lb. wheeled fire extinguisher will be located outside the control building on Berth 120. The unit has 50 feet of 3/4-inch hose and the nozzle has a range of 25 feet. The unit can easily be moved by one man.

16. The facility fire extinguishers contain "Purple K" dry chemical which provides effective protection against flammable liquid and gas fires. Reflashes are less of a problem due to holding power of "Purple K" agent on liquid and gas fires.

Facility Alarms and Shutdowns

Fire Alarm

17. Activated by the emergency flow shutdown, flammable gas detectors, or a 140 degree temperature sensitive probe located at the base of the marine arm. The alarm and shutdown system may also be activated by any one of four push buttons at strategic locations on the wharf.

Marine Arm Travel Limit Alarm

18. The maximum travel of the arm right or left is 45 degrees. An air horn mounted on the riser will alarm when this travel exceeds 30 degrees. Normal travel within design limits is 25 degrees. The maximum included angle between inboard and outboard arm when extended is 150 degrees. The air horn will alarm when this angle reaches 135 degrees. Normal extended angle when operating design limits is 100 degrees. The alarm will sound when the angle above horizontal reaches 5 degrees or when the arm is retracted 10 degrees back of vertical.

Emergency Pipeline Flow Shutdown

19. Pipeline shutdown is accomplished by closing a vee ball valve at the base of the marine arm. There is a check valve on shore designed to prevent a backflow in the event of a leakage or a cessation of pumping.

20. The vee ball flow valve may be closed by any of the emergency shutdown buttons on the wharf or will automatically close when activated by the flammable gas detectors sensor, or the fire alarm sensor system.

D - EMERGENCY PROCEDURES

21. Procedure in Event of Facility Fire:

a. Shutdown LPG flow from ship.

b. Notify storage terminal to call emergency numbers.

c. Pre-instruct gate guard to evacuate all visitors from the area and clear fire lanes.

d. Begin nitrogen purge of outboard section of marine arm from control location on shore (see purge procedure) with the help of ship personnel.

e. Activate fire water system and get steady stream of water on fire.

f. Extinguish an LP-gas fire only after shutting off the source of LP-gas.

g. After initial purge of outboard section of marine arm, order ship personnel to close valve TV-1 on ship and of marine arm and remove mating flange bolts and studs so vessel can get underway.

h. If control valve is accessible, continue nitrogen purge of inboard section of marine arm and pipeline section up to valve pit on shore.

22. Procedure in Event of Ship Fire:

a. Shutdown LPG flow from ship by closing flow control valve, PCF-150.

b. Notify storage terminal operator to call emergency numbers.

c. Pre-instruct gate guards to evacuate all visitors from the area and clear fire lanes.

d. Stand by to activate fire water system on shore.

e. Begin nitrogen purge of outboard section of marine arm (see purge procedure) if ship manifold valves are still open.

f. After outboard arm purge, close valve TV-1 on ship end of marine arm and remove mating flange bolts and studs.

g. Move marine arm away from ship manifold into storage position on shore so vessel can get underway.

23. Procedure in Event of Leak:

a. Shutdown flow from ship.

b. Notify storage terminal operator to stand by.

c. Evacuate the area of visitors.

d. Actuate fire pump.

e. Immediately apply water spray to leaking component to diffuse LP-gas vapors.

f. Approach the leak from upwind, if possible.

g. Repair leak if possible and if cause can be immediately determined.

h. Start nitrogen purge of marine arm to clear LP-gas liquid from the piping around the leaking component if unable to make immediate repair.

24. Procedure in Event of Spill:

a. Shutdown flow from ship.

b. Notify storage terminal operator to call emergency numbers.

c. Evacuate area of visitors.

d. Actuate fire pump.

e. Apply water spray to spill area to diffuse vapors which will evolve.

f. Close block valves on either side of component releasing the spill, or use nitrogen purge to remove LP-gas from piping if possible.

E - SHIP MOVEMENT

25. Prior to the time a vessel containing hazardous cargo enters the Inner Harbor, a conference is held between the ship's master, the Coast Guard, the Los Angeles Harbor Department pilots and the Port Warden to establish procedures insuring that the movement of the vessel will be done in the safest manner. Primary consideration is given to the protection and safety of the Los Angeles Harbor and its surrounding area. The Coast Guard, the Harbor Department pilots and the Port Warden have the authority to prevent a vessel from entering the Inner Harbor if the conditions established are not complied with.

26. On November 4, 1976, at 2205 hours the "FERNWOOD", a liquid petroleum gas carrier tank vessel of Norwegian registry arrived at the entrance to the Los Angeles Harbor with a cargo of 130,000 barrels of LPG to be offloaded at the Petrolane facility at Berth 120. The tank vessel "FERNWOOD" was built in 1969. The vessel is 561 feet long and 80 feet wide. At 100 percent capacity 157,000 barrels of LPG, it draws 27 feet of water. By today's standards the "FERNWOOD" is considered a small size LPG carrying tank vessel by the industry. The vessel was escorted by a Los Angeles Port Warden patrol boat to an anchorage in the Outer Harber where it was anchored, boarded and inspected by representatives from the U. S. Coast Guard, the Los Angeles Fire Department, U. S. Customs and the Los Angeles Harbor Port Warden. The vessel was held at anchorage until the tank vessel "COASTAL CALIFORNIA" left Berth 120 and had cleared the Main Channel.

Ship Traffic

27. All boat and ship traffic in the Main Channel and in the West Basin was stopped by U. S. Coast Guard and Los Angeles Port Warden patrol boats. The "FERNWOOD" was escorted from anchorage to Berth 120 and was secured to the wharf at 2320 hours without incident.

28. A perimeter was established on land and maintained by guards posted by Petrolane. The Los Angeles Fire Department stationed fire fighting equipment on land and the U. S. Coast Guard stationed a boat

in the water near Berth 120 to prevent unauthorized boats from entering the restricted area. The Los Angeles Port Warden's patrol boats made frequent inspections of the area.

29. The "FERNWOOD" offloaded 127,221 barrels of LPG without incident and departed from Berth 120 at 1455 hours on November 6, 1976, escorted by the U. S. Coast Guard and L. A. Port Warden patrol boats. All boat traffic in the Main Channel was stopped as the vessel left the berth and along the entire route to Los Angeles Harbor Entrance at the Angels Gate. At 1535 hours, the "FERNWOOD" passed through Angels Gate and left Los Angeles Harbor.

30. To this date the "FERNWOOD" is the only LPG tank vessel that has offloaded a cargo of LPG at the Petrolane facility at Berth 120.

Harbor

31. The route from the entrance to the Main Channel of the Los Angeles Harbor to Berth 120 has a mean depth of 35 feet.

32. The Main Channel to the Turning Basin has an average width of 1,000 feet. The entrance to the West Basin, the approach route to Berth 120, has an average width of 500 feet.

33. Presently the facility will accommodate a 710-foot tank vessel. The Petrolane Company has requested that the facility be modified to accommodate a 720-foot tank vessel, the longest vessel that will be calling at Berth 120 in the foreseeable future.

34. Aside from the control and regulations described in the previous paragraphs placed on LPG carrying tank vessels, two large cargo carrying vessels have free passage at any point in the Main Channel and the entrance to the West Basin.

F - CONCLUSIONS AND RECOMMENDATIONS

35. Based on the incidents of the "FERNWOOD" call at Berth 120 in November, 1976, the following conclusions were drawn.

36. The total operation proved to be an extremely efficient and safe procedure. This efficiency and safety were contributed to by the fact

that all the persons involved with the handling of the cargo were especially trained in handling this type of cargo. The Fire Department and the Coast Guard insured that all safety precautions were taken and that all parties involved cooperated in the requirements that had been set forth.

37. It is the observation of the Port Warden that the handling of LPG in Los Angeles Harbor is a safe procedure and that the precautions taken lessened the possibilities of anything untoward happening.

38. It is recommended that the present regulations, policies and safety procedures be continued during arrival, cargo transfer operations and departure of LPG tank vessels calling at the Petrolane facility at Berth 120 in the Los Angeles Harbor.

Comments

39. The facilities at Berth 120 are currently being upgraded. New dolphins and mooring bits are being installed to insure more stability for the vessels' mooring at the wharf. The pilings beneath the wharf are being replaced.

40. The master plan for the Los Angeles Harbor's future development includes a longer and larger energy wharf, relocation of Sun Lumber Company and realignment of the wharves for easier access. (See attached Future Development Map.)

G - TEXT OF LETTER TO TANKSHIP FERNWOOD

41. Pursuant to the request of Petrolane, agents for the Norwegian LPGC Tankship "FERNWOOD", the vessel will be permitted to enter the Port of Los Angeles on or about November 4, 1976 at 0300 hours for the purpose of discharging approximately 130,000 barrels of refrigerated liquefied petroleum gas (propane) at Berth 120, providing the following terms and conditions are met and accepted:

1. All fire fighting equipment, navigational equipment, including steering gear engine controls, communications and detecting systems shall be tested prior to vessel's entry into Los Angeles Harbor.

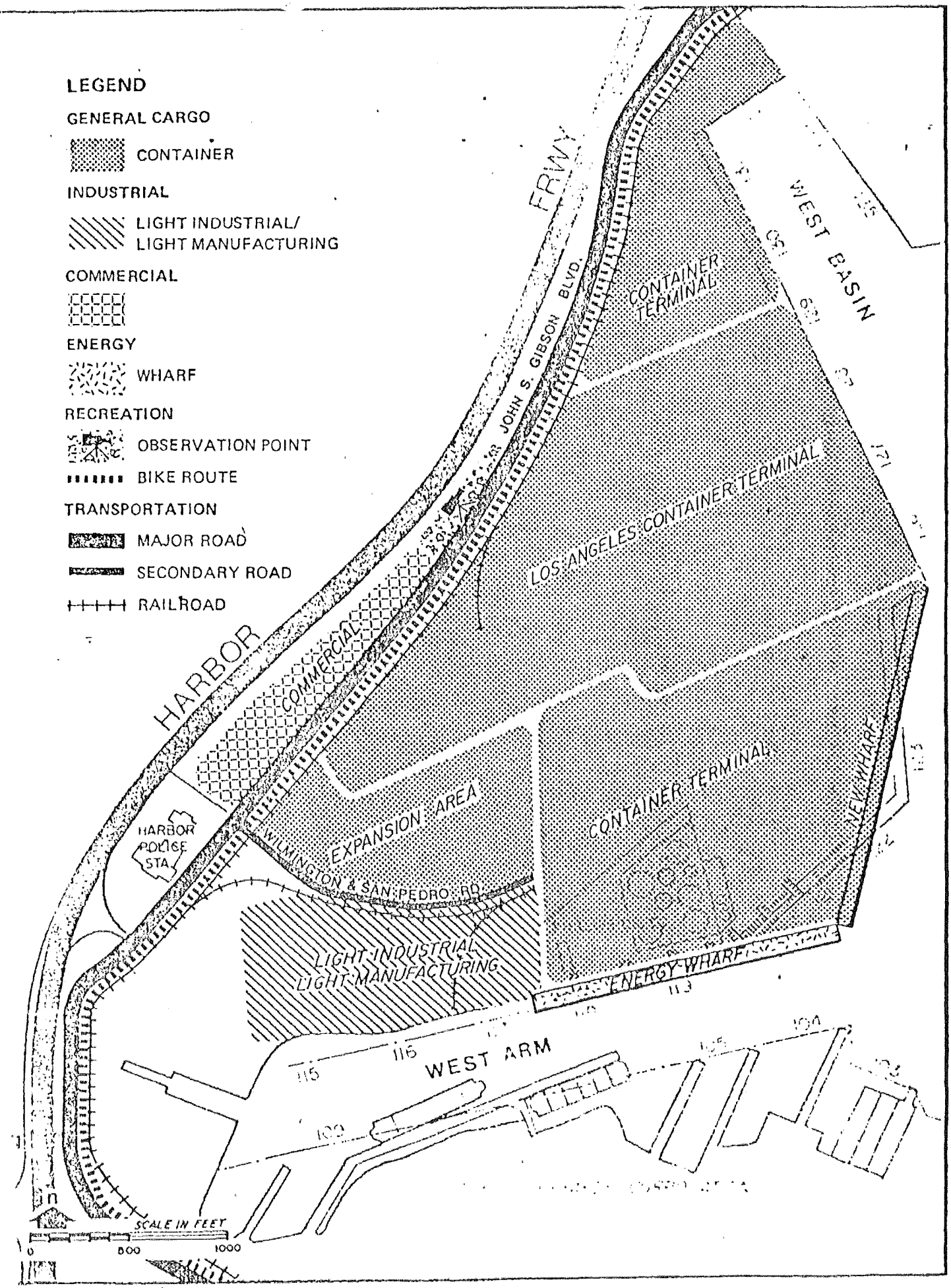
2. While the vessel is underway on approach to or within the harbor limits the Master shall be present on the bridge.
3. The vessel shall be fully manned for maneuvering on bridge and in engine room.
4. When underway while maneuvering within the harbor or its approaches, vessel's anchors shall be kept ready for instant use, clear of the hawse pipe, and an officer shall be forward with competent assistance.
5. The vessel shall at all times during daylight hours exhibit the International Code Flag "BRAVO", and at night a red light where it can best be seen.
6. The vessel shall moor bow to seaward at the discretion of the Port Pilot and be prepared to get underway on short notice.
7. The vessel shall have towing wires rigged fore and aft.
8. The vessel shall display on the outboard sides fore and aft signs which read: "DANGER - KEEP CLEAR."
9. When alongside the wharf a watch shall be maintained on the weather deck and in the engine room at all times.
10. There shall be a deck officer, an engineering officer and sufficient personnel on board the vessel at all times to maneuver the vessel in case of emergency.
11. One man shall be stationed at the gangway at all times.
12. No unauthorized persons shall be permitted on board.
13. The decks shall be illuminated from sunset to sunrise.
14. No hot work shall be permitted on the vessel.
15. A warning sign shall be displayed at the accommodation ladder (gangway) with the following notice: WARNING - No Open Lights - No Smoking - No Visitors.
16. Arrangements shall be made for tugs to respond immediately should any emergency arise while the vessel is docked at Berth 120. One tug shall be committed to the vessel and

fully manned during off loading and shall monitor Channel 16. The name of the tug company shall be recorded with the Los Angeles Pilots and Port Warden.

17. Any additional requirements which might be imposed or required by the Coast Guard Captain of the Port or the Los Angeles Fire Department.

18. Failure to comply with any of the aforesaid provisions shall revoke this permit.

FUTU DEVELOPMENT WEST BASIN



CHAPTER 15

COMMENTS BY U.S. COAST GUARD

A - SHIP TRAFFIC

1. The primary focus of attention for carrying and handling propane and other hazardous cargoes in the Port of Los Angeles is the safe transit of the vessel to and from the berth and the safe handling of the cargo at the dock.

2. Prior to a vessel arriving at Petrolane's terminal at Berth 120 Los Angeles Harbor, the vessel is checked out by this office. Presently, the only known LPG ships in operation are of foreign nationality and are subject to the Coast Guard's Letter of Compliance inspection procedures if the vessel intends to carry propane into U.S. ports. Propane is one of a number of cargoes which are subject to the Letter of Compliance program. The Letter of Compliance program has been in effect since about 1963. Its current form in federal regulations is Part 154 of 46 CFR under the title of Special Interim Regulations for Issuance of Letters of Compliance. This adds special requirements upon the design and equipment based upon the cargo that a ship may carry, in addition to all of the other rules that apply to a ship, and also reflects the more recent IMCO Codes for chemical and liquefied gas carriers. This program begins with plan review done at Coast Guard Headquarters of the several aspects related to the ship's carriage of the cargo, inspection during construction by recognized agencies and the initial and biennial examinations by marine inspectors of the Coast Guard. A vessel not having a current Letter of Compliance is not permitted into a U.S. port.

3. Vessels laden with propane arriving in the near future would be restricted similarly to the FERNWOOD which delivered propane at Berth 120 in November of 1976. Special restrictions are placed upon the vessel to ensure a safe transit in the port. Most of these restrictions are listed in Part II of the Captain of the Port Los Angeles/Long Beach Public Notice No. 21-76 which is a draft of proposed requirements for the carriage of cargoes of particular hazard (which includes propane) in the harbors of Los Angeles and Long Beach.

4. Although these are only proposed requirements, they were applied to the FERNWOOD in November 1976, except for some few details that will be modified in a future draft.

B - HARBOR PROCEDURES

5. A vessel laden with propane would be required to give an 72-hour advance notice of arrival and further state in a message the vessels seaworthiness and the condition of its cargo handling and detection equipment. The vessel shall also give 24-hour and a one (01) hour advance notice of arrival.

6. When the vessel enters U.S. navigable waters (approximately 3 miles from the coastline) it becomes subject to the Navigation Safety and Vessel Inspection Regulations (33 CFR 164) which became effective on June 1, 1977. These regulations require the ship to have certain navigational equipment aboard which must be in good working order, competent persons to use the equipment and navigate the ship, have current charts and publications of the area they are transiting, have its propulsion machinery properly manned and working, test communications, emergency equipment, steering equipment, and main propulsion machinery just prior to entering U.S. waters, lists various navigation practices to be followed, and so forth.

7. As the vessel approaches the harbor entrance several other restrictions would apply. When it approaches the entrance and another vessel is in imminent transit of the harbor entrance, it must wait until that vessel has passed through before entering or leaving. The Los Angeles Pilots normally have excellent control on vessels arriving and leaving such that this passing situation would not likely occur. Also, the vessel must have sufficient personnel for emergency maneuvering, have its anchor clear of the hawse pipe and ready to drop in an emergency, must continuously guard Channel 13 (ship to ship communication), and have no less than two tugs in assistance. If the visibility is less than one mile, the approaching vessel would be denied entry into the port and would be instructed to proceed to the O-3 anchorage or another designated anchorage outside of the harbor. Also the vessel would not be permitted to get underway in the port if the visibility were less than one mile.

8. Once inside the harbor the vessel should have no interference with other vessels in proceeding to or from berth as the other vessel traffic would be restricted. The Los Angeles Pilot Station also assists in the coordination of ship movements. The station uses a radar system to assist the pilot aboard a vessel and he is in voice contact with the radar operator by portable radio. When the FERNWOOD came in, this office closed the Los Angeles Main Channel to other ships when it proceeded to and from berth. Further, the Los Angeles Harbor Department closed this channel to all vessels including small craft and prohibited the takeoff and landing of the Air Catalina Seaplanes and Ports-O-Call helicopters during the vessel's transit of this channel. The channel was secured by using harbor patrol boats. The vessel would be escorted by a Coast Guard boat with flashing light and probably by Los Angeles Harbor Department boats as when the FERNWOOD came in. The same procedures would apply for any movement the vessel makes in port and when heading back to sea even though the vessel had discharged its cargo.

9. Petrolane anticipates an LPG ship arrival approximately every 19 to 23 days. This would be a negligible increase in total ship traffic in the Port of Los Angeles. Although there would be an increase in the number of LPG ships transiting the Port of Los Angeles, the same procedures and restrictions listed above would be applied to each LPG vessel transiting the port.

10. When the vessel is at berth it will have a dedicated tugboat on standby call ready to reach the vessel within 30 minutes, in an emergency. If it is the vessel's first port arrival with LPG, a joint conference with representatives of the Coast Guard Captain of the Port, Coast Guard Marine Inspection Office, Los Angeles Fire Department, Los Angeles Harbor Department, the facility, and vessel personnel is held.

C - DOCK FACILITY

11. In regards to the facility, the entire facility (at the wharf and the storage area) was thoroughly inspected prior to the FERNWOOD arrival by representatives of the Los Angeles Fire Department, Los Angeles Harbor Department, Coast Guard Captain of the Port, and Coast Guard Marine Inspection

Office although the Coast Guard's primary concern was at the wharf where the cargo is transferred. The dock facility is regulated by 33 CFR 126 as a facility of particular hazard, as propane is listed under 33 CFR 124.14(b)(1) as a cargo of particular hazard. The facility complied with all of these requirements. In addition, it satisfied those proposed in the Captain of the Port Public Notice No. 21-76 Parts V through VIII applicable to facilities. Note that these proposed local regulations are to be revised.

12. The electrical installations in the gas hazardous area on the dock are satisfactory. All components are either explosion-proof or intrinsically safe. This topic comes under the cognizance of the Los Angeles Building and Safety Department. The fire fighting capabilities were reviewed by this office and the Los Angeles Fire Department and were deemed to be adequate. This office also required that the facility fire system be connected to the ship's firemain, and that emergency breathing apparatus and fire resistant clothing be readily available on the wharf.

13. The cargo transfer system is essentially new as it has been used only once. Most of its piping's length is underground inside of an insulated jacket. 33 CFR 126 (o)(7)(iv) requires that the cargo piping and transfer arm be hydrostatically tested annually to 1.5 times its maximum allowable working pressure, and similarly its relief valve is to be tested annually. The use of water in a large diameter low temperature piping system is neither practical nor good engineering practice as traces of water cannot be tolerated. Therefore this was pneumatically pressure tested using nitrogen in accordance with Coast Guard Regulations for pressure vessels (as in 46 CFR 54.10-15, and similar to ASME Code UG-100) at 275 psi. After equilibrium was reached, the pressure was locked-in (i.e. its source removed) and held for over four hours. No leaks or pressure loss were found. Note: The proposed rule VII-2 will be modified to allow annual pneumatic pressure tests using nitrogen.

14. The wharf is considered adequate for its primary purpose which is to moor ships. Modifications are considered necessary to accommodate the longer ships that are excepted in the future. The FERNWOOD was approximately 500', future ships may be over 700'. The Port of Los Angeles intends to install mooring points for this. Whether the dock should be of concrete or of wood is not addressed in the rules. Due to the relatively short length of Petrolane's Berth 120, other vessels will not be permitted at Berth 121 (both berths are on the same wharf) when an LPG ship is at this dock. A similar restriction is being considered for Berth 119 nearby. This restriction may be to limit the size of the vessel permitted at 119.

15. Coast Guard personnel will be at the berth the entire time that the vessel is transferring LPG cargo to monitor the operation. This office has stipulated that the transfer will be immediately shut down during emergency situations including fire, electrical storm, or if any cargo is released except for small leaks at fittings which can readily be secured through tightening. Venting of cargo in port is prohibited.

D - ADDITIONAL SHUT-OFF VALVES FOR THE PIPELINES

16. The pipelines between the dock and the storage tank area consists of a 6,000-foot long 16" diameter insulated liquid transfer pipe and a 4" cooldown line. All of it is underground except for its end sections with valves on Petrolane property. It may be accessible where it passes through a culvert under the highway. A vapor return line is not provided.

17. The cargo transfer line has the following valves at the dockend; a manual valve at the end of the Chicksan arm, a remotely controlled fail-safe valve at the base of the Chicksan arm on the dock and nearby on shore in a subsurface concrete pit, an automatic check valve next to another manual stop valve. The cooldown line from the tank farm area connects at this point in this pit with a manual stop valve. The next valving in these lines is at the tank farm area one mile away.

18. The concern is for the large quantity of liquid propane that is in this pipe during and following transfer operations. Should a break occur between valves, it would spill liquid by gravity as well as vapor due to boiloff.

A. It is difficult to envision how such a break might occur in this below ground length due to an external cause other than an earthquake.

B. A major fire at the dock or in the vicinity of the onshore valves could prevent access to the existing valves, though the check valve would automatically protect a break on the dock.

C. In the tankship SANSINENA explosion incident a similar subsurface cargo line was ruptured ashore upstream of its inshore stop valve and fed oil to the fire for several days until it was plugged.

19. The above is food for thought toward recommending or requiring additional intermediate shutoff valves in both the transfer and cooldown lines in an accessible location preferrably in the midlength half toward the dock facility.

20. Fire protection at the dock area might merit upgrading, though it meets present standards. It does have two installed water fire hydrant systems; one off of the city's firemain and a separate emergency system fed off of an electric motor driven pump that takes water suction from the harbor under the dock. Portable dry chemical fire extinguishers and two wheeled semiportable units are also provided when an LPG ship (only one to date) is at the dock. Two water spray monitors were set up on the dock temporarily for this one ship arrival, but this is not a firm requirement. In the event of a major LPG spill and fire this equipment would not be effective and a wider scope plan and capability would be needed.

21. Again, the overall operation by Petrolane can barely be considered as a port related operation. It is primarily served by railway tank cars and tank trucks. The storage tanks are located beyond a land ridge that separates them from the port area. The only connection to the port is the pipeline to the dock which permits occasional ship delivery. The dock is used primarily for the transfer of petroleum products and its construction is like that of many others in the port.

26. The details of this proposed permit procedure regarding the information and action the Coast Guard would require are presently being drawn up at Coast Guard Headquarters in the form of regulations under the authority of the Ports and Waterways Safety Act of 1972, to be issued soon as part of a waterfront facilities advance notice of proposed rule making. This will consist of a total rewrite of 33 CFR 126 and a combining of all safety and environmental facility regulatory requirements in one section of the code of Federal regulations. In addition to this, the Chief of Staff of the Coast Guard has recently established an interoffice Waterfront Facilities Task Force to review, revise and reissue all Coast Guard Waterfront Facility Regulations.

27. As announced in the Federal Register of July 7, 1977, a meeting of CTIAC's Subcommittee on Bulk Liquid Facilities will be held on August 10, 1977. They will discuss the drafting of proposed Waterfront Facility Regulations.

28. The office of Pipeline Safety Operations, Department of Transportation published their newly proposed standards for LNG facilities in the Federal Register of April 21, 1977.

29. Many restrictions placed upon a vessel to ensure a safe transit in the Port of Los Angeles are listed in Part II of the COTP LA/LB Public Notice No. 21-76, which is a draft of proposed requirements for the carriage of cargoes of particular hazard (which includes propane and butane) in the harbors of Los Angeles and Long Beach. Although these are only proposed requirements, many of them have been applied in the past. Note that these proposed local regulations are to be revised.

30. The Coast Guard is considering amending the Navigation Safety Regulations (33 CFR 164) by adding a requirement for vessels of 10,000 gross tons or more, both U.S. and foreign, that call at American ports, to have a second radar system and collision avoidance equipment. This proposal was published in the Federal Register of May 16, 1977.

31. As published in the Federal Register of March 17, 1977, the Coast Guard proposes to amend the Ports and Waterways Safety Regulations (33 CFR 160, 165) by adding a new part authorizing the establishment of Safety Zones. The Coast Guard would protect vessels, structures, waters and shore areas by establishing water or waterfront safety zones, by limiting access to the zones, and by controlling movements in the zones.

15 - COMMENTS BY U.S. COAST GUARD

E - FUTURE REGULATIONS, STANDARDS AND GUIDELINES

22. LPG is a hazardous substance and its hazards have been recognized. The Coast Guard is still continuing research that may provide findings that prompt new safety measures.

23. The Coast Guard has a study contract under way to establish manning criteria, licensing criteria, and qualification procedures to assure that personnel manning LNG vessels under U.S. flag will possess the highest degree of competence. Many LNG regulations also apply to LPG vessels and facilities. Simultaneously, we have participated in the development of international standards for officers and crews on all seagoing ships.

24. In 1978, a major international conference is scheduled under the auspices of the Inter-governmental Maritime Consultative Organization (IMCO) to develop agreements on qualification of ship's crew. In my opinion, this activity will be a most significant event associated with ship safety, as it is quite well understood that most breaches of ship safety arise from human failure, not failure of equipment. The fruit achieved already in IMCO internationally now appear in the proposed U.S. rules published in the Federal Register of April 25, 1977.

25. Coast Guard permit procedures for marine terminals intending to handle hazardous material have been drafted by a task force of the Chemical Transportation Industry Advisory Committee (CTIAC) under the Coast Guard Marine Safety Council. According to the CTIAC document, a marine terminal proposal would be reviewed by the Coast Guard considering the following broad categories:

A. The waterway conditions between the terminal and the open sea.

B. The berthing area and nearby channels.

C. The land on which terminal equipment is to be located.

D. The specific design, construction and operation of all terminal storage tanks and all appurtenant equipment and all safety, fire protection and security facilities.

E. The procedures to be used in operation.

F. The competence of on-site management and crew assigned to the terminal.

15 - COMMENTS BY U.S. COAST GUARD

F - SUPPLEMENT

32. The comments on Chapter 15, included at the end of this supplement, were received from the United States Coast Guard too late to be incorporated in the text of Final Report. Their comments on Chapter 1 have been incorporated in the text, however.

33. In addition, Section E - FUTURE REGULATIONS, STANDARDS AND GUIDELINES was submitted subsequent to July 7, 1977 Draft Review but has been included at the end of Chapter 15.

34. The following conclusions were also submitted by the Coast Guard for inclusion in the report:

A. The arrival of an LPG ship approximately every 19 to 23 days to the marine terminal of Petrolane, Inc. does not present a problem in ship traffic (see Chapter 15).

B. The electrical installations in the gas hazardous area on the dock are satisfactory. All components are either explosion-proof or intrinsically safe (see Chapter 15).

C. The cargo transfer system was tested and no leaks or pressure loss were found (see Chapter 15).

D. The wharf is considered adequate for its primary purpose which is to moor ships (see Chapter 15).

E. As this facility will also accommodate butane shipments, it might be well to note that butane receives the same treatment in Federal Regulations as does propane.

15 - COMMENTS BY U.S. COAST GUARD

35. Comments on Chapter 15.

It looks like most of this chapter is taken verbatum from the information previously supplied by us; therefore, many of the following comments are merely editorial recommendations. Because these comments are actually representing the Coast Guard as a whole rather than just this office, it is recommended that "COTP LA/LB be substituted for "this office" throughout this chapter. Also, Coast Guard Captain of the Port, Los Angeles/Long Beach is recommended to be written out on page 1-1, item A-5 and "(COTP LA/LB)" inserted immediately afterwards. If this recommendation is adopted and inserted into the final draft of this report it is recommended that the abbreviation "COTP LA/LB" be used for the remainder of the report. Comments are listed by page and item number.
15-1,A-2 (2nd line) Delete "... This office" and insert "... COTP LA/LB."
(8th line) Capitalize "F" in Federal.
15-1,A-3 (5th line) Delete "... Captain of the Port Los Angeles Long Beach..." and insert "...COTP LA/LB..." (6th line After "...No. 21-76...insert a period and delete the remainder of the item, (Included in item E-5).
15-2,A-4 Delete entire item. This was also considered better addressed in item E-5.

15-3,B-9 We would like to expand on our reasons for the conclusion that increased LPG ship traffic, as a result of this facility, is no problem. Therefore, the following is recommended to be inserted at the beginning of this item:

> "The total number of movements in and out of the Port of Los Angeles and Long Beach per day is on the order of 28. For comparison Rotterdam has nearly eight to ten times that number. Hamburg seven times that number, London and Antwerp four to five times that number. It is also a fact that the number of ports calls into Los Angeles and Long Beach in 1976 was less than in 1966."

15-3,B-10 (4th line) Delete "...Coast Guard captain of the Port... and insert "...COTP LA/LB..." (5th line) Insert "(MIO)" After "...Marine Inspection Office..."

15-3,C-11 (4th line) Delete "...Coast Guard Captain of the Port, and Coast Guard Marine Inspection..." and insert COTP LA/LB and MIO..."

15-4,C-11 (1st line) Delete "...office..." (5th & 6th lines) Delete "...Captain of the Port..." and insert ...COTP LA/LB..." Delete last sentence. It is felt that it appropriately belongs in item E-5.

15-4,C-12 (5th line) Delete "... This office..." and insert "...COTP LA/LB..." (6th line) Delete "...This office also..." and insert "...COTP LA/LB..."

15-5,C-15 (2nd line) Delete "... This office..." and insert "The COTP LA/LB..."

15-6,D-20 We suggest separating items 20 and 21 from section "D - ADDITIONAL SHUT-OFF VALVES FOR THE PIPELINES." Item 20 addresses fire protection and item 21 is merely a closing statement. However, as published they appear to be a part of section "D".

CHAPTER 16

COMMENTS BY COASTAL COMMISSION STAFF

Introduction

1. Questions about the Petrolane LPG facility in San Pedro, as reflected in the Los Angeles Times, April 4, 1977, together with the explosion of the oil tanker Sansinena last December in the Port of Los Angeles and the uncertainties surrounding the safety of proposed liquefied natural gas terminals in California have focused public attention on risk analysis and risk management in the Port of Los Angeles. The Coastal Commission is involved with transportation of hazardous materials in the Port in two ways. Pursuant to Section 30700 et. seq. of the California Public Resources Code, the Port (and the Ports of Long Beach, Port Hueneme, and San Diego) must prepare a master plan for submission to the Coastal Commission. Until the Commission certifies such a plan as being consistent under the Coastal Act of 1976, Coastal Commission permits must be obtained for new developments in each port. The Commission thus must deal with the issue of hazardous materials in both permit and planning work.

Risk Analysis and Risk Management

2. When planning the transportation and storage of LPG, LNG, explosives, and other hazardous commodities that have the possibility of resulting in widespread fatalities, injuries, and damage, we believe that public agencies should prepare a risk analysis and a risk management plan. The risk analysis should systematically identify how risks to the general public could occur. The risk management plan should identify and provide for methods to prevent such risks and to cope with accidents if they do occur. This latter part of the risk management plan is the disaster contingency plan, which outlines procedures for limiting the potential extent of damage.

3. The basic steps were not implemented when the Petrolane LPG facilities were being approved, partly because no public agency had overall responsibility for the project. The Petrolane facilities should not be singled out for criticism, however, because it appears that these steps were not taken for the approximately 40 materials classified as hazardous by the

U.S. Coast Guard and handled in West Coast ports. A number of studies underway address many of the critical safety questions related to handling hazardous materials in the harbor complex and we look to them for assistance in permit and planning work. These include the "General Regulations for the Transport and Discharge of LNG/LPG in Los Angeles Harbor" by the Navigational Safety Committee of the Los Angeles/Long Beach Safety Council, the "Contingency Plan for Hazardous Cargoes" by the United States Coast Guard, and the "Hazardous Materials Task Force Study" commissioned by the Los Angeles City Council.

The Petrolane LPG Facilities

4. Because the studies listed above are being conducted by different agencies, with limited resources, it seems unlikely they will provide a complete risk analysis and risk management plan for Petrolane LPG operations. But such an analysis and plan should be completed before another LPG tanker is permitted to berth at the LPG terminal. We understand no LPG tanker arrivals are expected until next year. The analysis and plans should deal with berthing facility design, LPG carrier safety, harbor traffic control, controls of surrounding land uses, sabotage precautions, and public liability insurance.

Risk Analysis

5. The report being prepared by the Public Utilities Commission staff, with the assistance of other state and local agencies, could be the basis for a complete risk analysis of the LPG operations. One agency should conduct such an analysis and insure that the risk management plan addresses all elements of the risk analysis. The City and Port of Los Angeles have major responsibilities to protect public safety in LPG operations and we anticipate the City's Hazardous Materials Task Force will present a start at a comprehensive risk analysis.

Risk Management Plan

6. No one agency appears to have authority to insure there is a complete risk management plan for the LPG operations. The Los Angeles Department of Buildings and Safety, Fire Department, and Port of Los Angeles, the

United States Coast Guard, and the California Division of Industrial Safety appear to have slices of responsibility and authority. One agency should be made responsible for pulling together all elements of a comprehensive risk management plan.

Contingency Plan

7. The City should develop as part of the Risk Management Plan a specific set of contingency plans to deal with possible LPG disasters anywhere along the LPG transportation system. The Coast Guard contingency plan should be integrated into this plan.

Berthing Facility Design

8. The existing unloading and transfer facility appears to be poorly sited and equipped for receiving LPG tankers. We would strongly support further studies into the possible relocation of the berthing facility and, pending results of such a study, would urge that maximum effort be directed to modifying the wooden berth to ensure that future unloading operations at this facility will pose the least possible hazard to the surrounding area.

Controls on Surrounding Land Uses

9. The LPG terminal is adjacent to petrochemical transport and storage facilities and to a large lumber yard. An LPG accident with major consequences could result not only from direct LPG operations, but also from accidents occurring at these nearby facilities. Thus, surrounding land use should be carefully considered in risk analysis and in port planning.

LPG Carrier Safety

10. Accidents involving LPG ships could be minimized by regulation of the characteristics of ships that will call on the facility. The Coast Guard can set and enforce advanced safety levels for these ships. The Coast Guard could ensure use of the best available navigation and collision avoidance systems, automated off-loading controls, and proper crew selection and training.

Harbor Traffic Control

11. Ship collisions near the LPG terminal or in the entrance channel of the harbor could cause high-consequence accidents, and advanced, computer-aided harbor ship traffic control systems can help minimize this potential safety hazard.

Sabotage Precautions

12. The existing facility has minimal protective devices. LPG vessels entering the harbor and proceeding down the main channel to the berthing facility must pass congested and readily accessible areas.

Public Liability Insurance

13. The City of Los Angeles and the facility operator must operate within the existing legal framework for public liability insurance. In the case of a high-consequence LPG accident, such a legal framework is unspecified.

CHAPTER 17

DELIVERY SYSTEMS - CPUC

1. Propane can be received at the terminal by tank car, truck or ship movements covered in Chapter 15. Locations of inland propane sources include the Bakersfield area of California, New Mexico, Wyoming, Washington and Oregon.

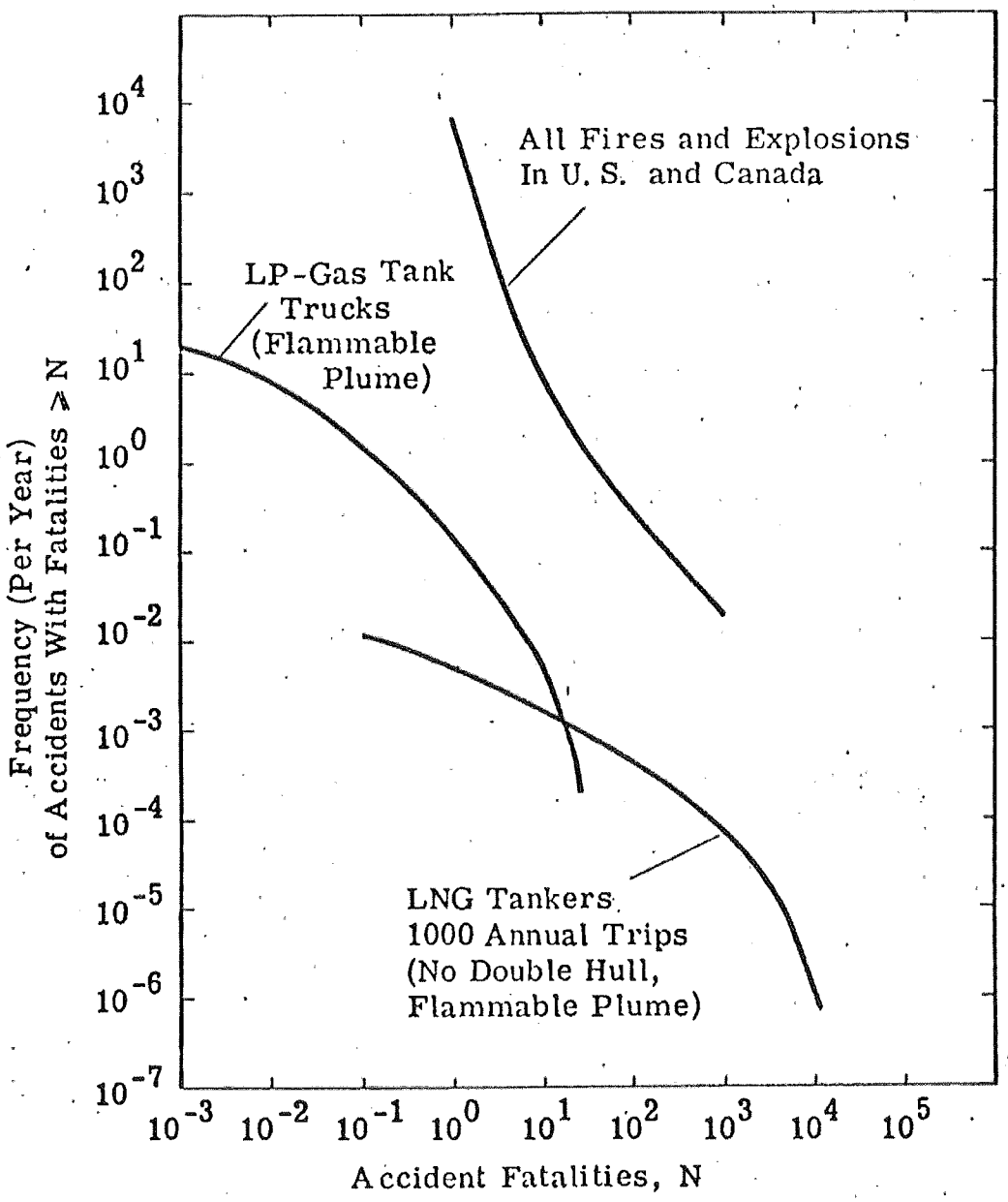
2. Tank trucks are vulnerable to puncture from the many forms of vehicular accidents on highways. Spills during transfer of propane to and from trucks can also occur. Access streets to and from the terminal site will bear more such truck traffic. Approximately 55 truck-trailer rigs per day could be loaded at peak operation. On a nationwide basis, an average of 1.23 fatalities per year were experienced from liquid petroleum gas tank truck accidents from 1931 to 1961.[1/] The estimated LP-gas and LNG risk spectrums are less than 1% of all fires and explosions. The relative risk with other similar hazards are shown in Exhibit 17-1.[1/]

3. Each freeway and some of the streets in the greater Los Angeles area are presently driven by large tank trucks and trailers delivering propane to large customers. Hazards to nearby structures or residents of the greater Los Angeles area are the same as has existed historically.

4. Tank cars loaded and unloaded at the loading docks travel the Southern Pacific and Santa Fe over tracks through the greater Los Angeles area. S.P.R.R. tracks extend northward from San Pedro. A.T. and S.F. tracks run approximately east-west through the city. The volume of propane shipped by Petrolane is very small compared to the volume shipped by others. Petrolane would ship 8 tank cars per day at most. Union and Texaco ship large volumes of butane by rail. Some chemical companies ship 50 cars of hazardous materials per day. GATX ships large volumes of exotic chemicals placarded hazardous. About two-thirds of Petrolane's volume shipped is by truck and one-third is by rail car. Summer volume shipped is approximately 50% rail and 50% truck. Each tank car carries about 30,000 gallons. Plant capacity is one million gpd.

1/ "Risk Assessment of Storage and Transport of Liquefied Natural Gas and LP-Gas", Science Applications Inc., November 25, 1974.

5. An 8-inch pipeline, 3.3 miles in length has been proposed to supply liquid propane to Southern California Gas Company. This line would extend from the terminal north on Gaffey to Anaheim, east on Anaheim generally through the city streets to a mixing plant located in the redevelopment area. The safety of this pipeline and facility has been discussed in Commission proceedings for a certificate of public convenience and necessity, Application No. 56206. Operation of this pipeline installed in residential neighborhoods would pose little additional risk as long as the necessary maintenance was regularly performed.



COMPARISON OF SOME FIRE RISKS

Source: "Risk Assessment of Storage and Transport of Liquefied Natural Gas and LP-Gas", Science Application, Inc., November 25, 1974

CHAPTER 18

ADJACENT LAND USE - CPUC

A - GENERAL DESCRIPTION

1. From Berth 120 the 16-inch line extends in a northwest direction between properties owned by Time Oil and Sun Lumber Companies and alongside petroleum storage facilities. After the line turns westward, it crosses property owned by Sun Lumber, the Los Angeles Container Storage Terminal, the J.S. Gibson Boulevard, the Harbor Department and West Oil Terminals Company property, then continues to the storage tanks.

2. Lumber presently stacked on the Sun property will be moved in the near future. A warehouse exists on the Los Angeles container property. Petroleum storage facilities are standing on the Time Oil and West Oil Terminals property.

3. The dock lies about a mile east and on the opposite side of a ridge which separates it topographically from the storage and transfer facilities.

4. The storage and transfer facilities front on Gaffey Street. Across Gaffey and at a distance of approximately 300 yards is a tank farm for jet fuel storage owned by Bray Oil Company, west of the tank farm is a housing tract. The nearest home is approximately 1,000 feet to the west of Petrolane site. An elementary and a junior high school are approximately 2,000 feet from the facility. South of the Bray Oil tanks are a drive-in theatre and a bakery. North of this tank farm is a naval reservation which is largely open space. East of the two 300,000 Bbl storage tanks, a ridge, as mentioned above, topographically separates the facilities from oil tank farms owned by West Oil Terminals Company. The Los Angeles Refinery of Union Oil Company is located adjacent to and north of the Petrolane facility.

5. The West Oil Terminals Company's facility is engaged in storing and transporting fuel oils. Their fire equipment consists of monitor nozzles and hose carts, located throughout the area. The water supply is from a 10-inch main that is separate from the one on which Petrolane depends. There are, on the average, eight people working on each shift at this facility. The facility has been located at this spot since 1925.

6. The large oil tank storage facility owned by Union Oil Company has an extensive fire fighting system not completely dependent on city water mains. It has a 2,500,000-gallon reservoir and its own water well. In addition, it has a salt water fire system, separate from the fresh water mains. The facility has a 1,000-gallon foam truck and a 900-gallon foam trailer available. There are two cryogenic tanks in Union's facility, similar in purpose to the ones at Petrolane. Union's fire fighting system was studied and used as a guide in establishing the systems for the Petrolane facility.

B - POTENTIAL EFFECT FOLLOWING A LEAK OR RUPTURE

7. The significance of adjacent land use is the consequence of escape of a hazardous amount of propane. In the case of the pipeline, the worst possible situation would be in line rupture. Precedents which could demonstrate the effect of such a rupture would be the pipeline rupture near Port Hudson, Missouri, which allowed the formation of a propane-air cloud covering several acres. Twenty-four minutes after the break, the cloud detonated damaging structures 1,000 feet away. A rupture of the 8-inch propane line owned by Sun Oil at Rumulus, Michigan was caused by a combination of construction defect and operational error. Propane escaped from the rupture, sprayed into the air, vaporized, then ignited. Flames 500 feet high engulfed a 600-foot diameter area. Similarly impacts could result from tank failure. The flames from the failure of two LNG tanks in Cleveland in 1944 radiated heat which ignited combustibles more than 1,000 feet distant. While an accident at Petrolane could theoretically have the same results, the actual effects would depend upon the specific situation at the time of the accident.

8. If a hazardous amount of propane were to escape, the scenarios which could take place are shown in Exhibit 18-1. The resulting propane air mixture could ignite relatively soon after release or ignition could be delayed while propane vapor accumulated in the atmosphere. Liquid propane will expand to about 270 times its volume in the gaseous state. Consequently, even relatively small volumes of liquid spill would result in propane gas overflowing the impoundment basin. Propane is heavier than air so it will tend to flow downhill and collect in low points until dispersed by the wind. Propane gas is considered to be

non-toxic, although the inhalation of high concentration may cause asphyxiation. The principle hazard is from a fire or explosion.

9. If there is an early ignition, damage may be limited to nearby structures. In the case of the pipeline, a rupture and subsequent ignition on the Time Oil property could involve the petroleum storage facilities, or the warehouse on the Los Angeles Container property. Propane burning in the impoundment basin could conceivably involve the Bray Oil tanks and the drive-in theatre across Gaffey Street. Such a conflagration may not affect the three 60,000-gallon pressure vessels or the tank cars at the rail siding since these are protected with sprinkler systems. However, if the wall of a tank is overheated, weakened and subsequently ruptured by an impinging flame, the high velocity of flashing vapors could propel the liquid fragments in all directions.

10. A large propane spill into the sump would result in an initial high boil-off. When the walls and floor of the sump cool to equilibrium with the liquid, its surface would probably calm and vaporization would continue at a lower rate. An attempt would be made to dissipate or to herd the vapors with fog. Winds to assist with dissipation cannot be relied upon, especially in the still of the evening. For about two-thirds of the year, San Pedro is subject to a slight breeze. Propane vapor or gas would probably be displaced from the impoundment as it filled with liquid. The gas would spill over the dike surrounding the sump and gravitate generally downhill to Gaffey Street as discussed in Chapter 12.

11. The scenario of combustible vapor where ignition is delayed for an appreciable interval is a controversial one. Considerable experimentation on the ignition possibilities of a large body of liquified natural gas has been performed by various federal agencies but to date results are not available as pertains to propane. In this scenario propane vapor could accumulate and linger over the site of the escape if there is no wind. If ignition later occurs, damage would be inflicted over a wider area than in the first scenario. A detonation of the cloud could occur. Under certain conditions, ignition at an early stage of the spill is preferable. However, fire fighters probably

would not deliberately ignite escaping propane vapors. It is doubtful that the escape of a hazardous amount of propane would go unnoticed for very long since the ultraviolet and gas detectors, alarms and the operating personnel on duty around the clock would allow early detection and quick reaction. In addition, the Los Angeles Fire Department could be on site in short duration to assist.

12. In order for ignition to occur, the fuel mixture must be greater than 2.4% but less than 9.6% propane in air. When propane gas vaporizes from a body of liquid, there is insufficient air to allow combustion. Sufficient diffusion must occur to bring the concentration of propane down to 9.6%. If diffusion brings the concentration below 2.4%, no ignition will occur. The distance which could be traversed while the gas-air mixture is passing through this range of concentration is unknown at the present time.

13. Most releases of combustible material due to failure of a metallic container are accompanied by ignition. If ignition does not occur at the time of hazardous release, an outside source might be found. Possibilities of ignition source are the pilot in the flare, a cigarette lighter or a vehicle passing through the area, etc. Escaping propane is generally easier to control when burning. If it is not burning, it must be dispersed. Damage from an early ignition would probably be concentrated in the immediate area of the site. The probability of ignition is shown in Exhibit 18-2.

C - OTHER HAZARDS

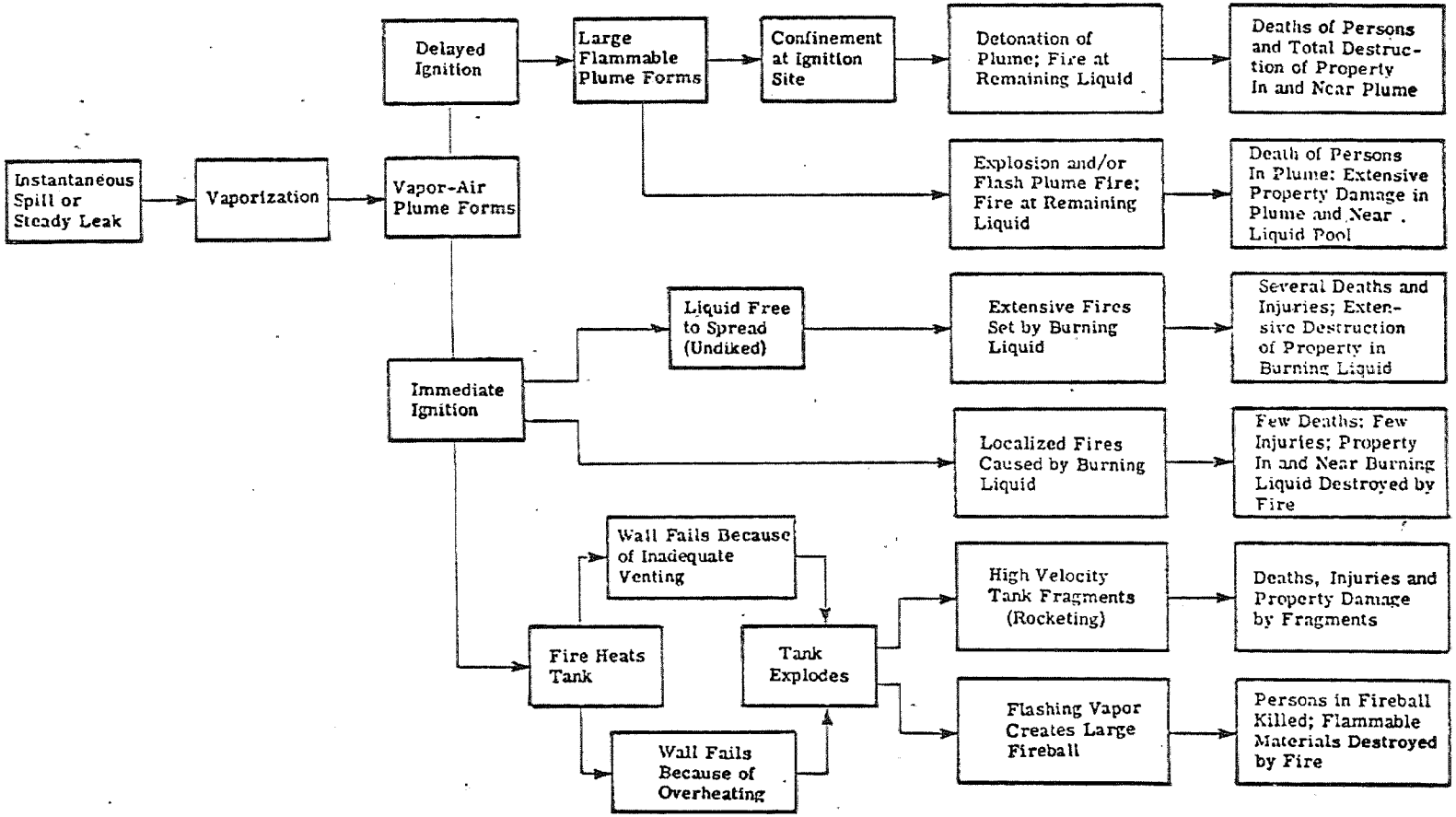
14. Other hazards to which the facility is exposed include an airplane crashing into the facility and sabotage. The Los Angeles metropolitan area has many airports; the closest being the Torrance Airport. It is possible that an out-of-control aircraft could hit the facility. The possibility of such an event is considered remote. Using the data contained in Science Application, Inc., LNG Risk Assessment Study for Los Angeles, California, the probability of an aircraft crashing into one of the LPG tanks is approximately 4 in 10,000 per year. Of all crashes, about 95% are aircraft of less than 12,500 lbs. The impact of relatively light planes would not necessarily pierce the tanks.

The consequences would be the same as for any of the other accidents except that if a rupture did occur, immediate ignition would be almost certain.

15. Sabotage is a potential hazard for virtually any facility. While it could be speculated that the LPG facility has a high possibility of being the target of sabotage, since severe public consequences could result, the probability of an attack cannot be calculated.

16. The consequences of an act of sabotage could not be any more severe than for other scenarios, namely, the spillage of the contents of the tanks.

17. A security system is warranted at Petrolane. A system similar to those being developed for proposed liquefied natural gas (LNG) facilities should be implemented. Due to the nature of a security system, it is not appropriate to discuss the specifics in a published document.



EVENT CHAINS FOR LNG AND LP-GAS LEAKS AND SPILLS

Exhibit 18-1

Plume Area Ignition Probability

Area Range (m^2)	Probability
<30	0.5223
30-100	0.1173
100-300	0.0969
300-1,000	0.0884
1,000-3,000	0.0615
3,000-10,000	0.0479
10,000-30,000	0.0287
$30,000-1x10^5$	0.0183
$1x10^5-3x10^5$	0.0094
$3x10^5-1x10^6$	0.0052
$1x10^6-3x10^6$	0.0022
$3x10^6-1x10^7$	0.0011

Source: "Risk Assessment of Storage and Transport of Liquefied Natural Gas and LP-Gas", Science Applications, Inc., November 25, 1974.

REFRIGERATED LPG MARINE IMPORT TERMINAL

Petrolane Incorporated
San Pedro, California

CONSTRUCTION PERMITS AND APPROVALS OBTAINED BY PETROLANE OR PRIME CONTRACTOR

Issue Date	Description	Issuing Department
July 21, 1972	Permit for private fire hydrant system (Permit No. 21630).	L.A. Fire Department
August 14, 1972	Approve slope stability analysis.	Grading Division, L.A. Dept. of Building and Safety
September 1, 1972	Grant request to oil spray cut slopes.	Grading Division L.A. Dept. of Building and Safety
September 7, 1972	Grant request to encroach on pipeline easement.	Department of the Navy
September 15, 1972	Permit for site grading. (Permit No. 57884)	Grading Division, L.A. Dept. of Building and Safety
September 15, 1972	Permit to construct retaining wall (Permit No. 57785)	L.A. Dept. of Building and Safety
September 20, 1972	Permit for two low pressure tanks (not required)	L.A. Dept. of Building and Safety
September 27, 1972	Permit for two low pressure tanks (Reg. No. 21927)	L.A. Fire Department
October 2, 1972	Request granted to place earth fill.	Grading Division, L.A. Dept. of Building and Safety
November 20, 1972	Permit for three pressure tanks (Permit No. 22145)	L.A. Fire Department
December 4, 1972	Permit for 30-year right-of-way at rear of Berth 120 (Permit No. 263)	L.A. Board of Harbor Commissions
December 11, 1972	Permit for compacted fill at 2100 North Gaffey (Permit No. 57884)	L.A. Dept. of Building and Safety
January 2, 1973	Permit for three pressure tank foundations.	L.A. Dept. of Building and Safety

Issue Date	Description	Issuing Department
January 15, 1973	Grant request to install and obtain inspection of conduit under refrigerated tanks.	Electrical Division, L.A. Dept. of Building and Safety
January 29, 1973	Permit for RR crossing over storm drain (Permit No. 73015-B)	L.A. County Flood Control District
February 6, 1973	Grant request for compacted fill.	Grading Division, L.A. Dept. of Building and Safety
February 9, 1973	Approve final geological and soil engineering reports.	Grading Division, L.A. Dept. of Building and Safety
April 16, 1973	Permit for one (1) industrial processing equipment N.O.S. (Reg. No. 22586)	L.A. Fire Department
April 23, 1973	Permit for seven special extinguishing systems and five (5) industrial processing equipment N.O.S. (Reg. No. 22788)	L.A. Fire Department
May 24, 1973	Permit to jack and bore steel casing under Harbor Freeway. (Permit No. 772-E-776485)	Division of Highways Dept. of Public Works State of California
June 1, 1973	Permit to install three (3) propane storage vessels (Permit Nos. A 42936-8)	Boiler and Pressure Vessels Division, L.A. Dept. of Building and Safety
June 21, 1973	Grant request to use special power heating cable.	Electrical Division, L.A. Dept. of Building and Safety
August 20, 1973	Grant request to install and obtain inspection of conduits.	Electrical Division, L.A. Dept. of Building and Safety
October 16, 1973	Permit to install permanently mounted marine arm and connecting buried steel pipelines, Berth 120, Port of Los Angeles (Permit No. P-2-12-73-253)	Coastal Zone Conservation Commission, State of California
November 15, 1973	Grant request to use an unlisted fire protection signaling system.	Electrical Division, L.A. Dept. of Building and Safety

Issue Date	Description	Issuing Department
November 5, 1973	Grant request to install two wire feeder system.	Electrical Division, L.A. Dept. of Building and Safety
December 26, 1973	Permit for installation of roof cover (Permit No. 50823/D)	L.A. Dept. of Building and Safety
January 14, 1974	Grant request to install high-pressure gas piping.	Plumbing Department L.A. Dept. of Building and Safety
January 18, 1974	Fire permit.	L.A. Fire Department
January 29, 1974	Grant request to install unlisted gas analyzer and sensing assemblies.	Engineering R & D Bureau, L.A. Dept. of Building and Safety
February 20, 1974	Grant request to establish electrical classification, Berth 120.	L.A. Fire Department
June 6, 1974	Grant request to use certain electrical heat conductors.	Electrical Division, L.A. Dept. of Building and Safety
June 20, 1974	NPDES permit deemed not necessary.	California Regional Water Quality Control Board
September 17, 1974	Grant request to install unlisted flow switch and level indicator.	Engineering R & D Bureau, L.A. Dept. of Building and Safety
October 2, 1974	Grant request to use unlisted alarm relay, meter and power supply at Berth 120.	Engineering R & D Bureau, L.A. Dept. of Building and Safety
December 26, 1974	Permit for LPG storage and handling system (Permit No. P-59295)	Air Pollution Control District, County of Los Angeles
"	Permit for LPG storage and handling system (Permit No. P-59296)	"
"	Permit for LPG odorizing system (Permit No. P-59298)	"
"	Permit for LPG tank truck loading and unloading facility (Permit No. P-59192)	"
"	Permit for LPG rail car loading and unloading facility (Permit No. P-59193)	"

Issue Date	Description	Issuing Department
December 26, 1974	Permit for LPG process and dehydration systems (Permit No. P-59213)	Air Pollution Control District, County of Los Angeles
December 10, 1975	Permit for plant emergency relief system (Permit No. P-65221)	Air Pollution Control District, County of Los Angeles

LOS ANGELES TERMINAL PROJECT

APPLICABLE CODES

1. Los Angeles City Fire Code
2. Los Angeles City Plumbing Code
3. Los Angeles City Heating, Ventilating and Air Conditioning Code
4. Los Angeles City Building Code
5. Los Angeles City Electrical Code
6. Occupational Safety and Health Standards (OSHA), Part 1910
7. LP-Gas Storage, NFPA No. 58
8. LP-Gases at Utility Plants, NFPA No. 59
9. LNG Storage, NFPA No. 59A (reference only)
10. National Electrical Code, NFPA No. 70
11. Design and Construction of LP-Gas Installations, API Standard 2510
12. Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks, API Standard 620
13. Recommended Practice for Liquid Petroleum Pipelines Crossing Railroads and Highways, API RP 1102
14. Venting Atmospheric and Low-Pressure Storage Tanks, API Standard 2000
15. ASME Boiler and Pressure Vessel Code, Section VIII: Unfired Pressure Vessels
16. California Division of Industrial Safety, Unfired Pressure Vessel Safety Orders
17. Uniform Building Code
18. Petroleum Refinery Piping, ANSI B 31.3
19. Minimum Spacing Standards, Oil Insurance Association (reference only)
20. Regulations Governing Clearances on Railroads, PUC State of California, General Order 26-D
21. Transportation of Natural and Other Gas by Pipeline, Department of Transportation Office of Pipeline Safety

HARBOR DEPARTMENT

CITY OF LOS ANGELES

REVOCABLE PERMIT

NO. 1212

THE GENERAL MANAGER of the Harbor Department of the City of Los Angeles HEREBY GRANTS PERMISSION TO **PETROLANE, INC., a California corporation, P. O. Drawer 1410, Long Beach, California 90801**----------

(hereinafter called the grantee), subject to the terms and conditions hereinafter set forth, to occupy and use certain premises and/or facilities (hereinafter termed the "premises"), owned by the City of Los Angeles and under the management, supervision and control of the Board of Harbor Commissioners, in the Los Angeles Harbor District, and more particularly designated and described ~~in Exhibit A~~ **and shown as Parcel No. 1 on Drawing No. 5-4327** ~~attached hereto and by this reference made a part hereof~~ on file in the office of the Harbor Engineer, a copy of which is marked EXHIBIT A, and attached hereto and made a part hereof.

That said premises are granted to, and shall at all times be used by, the grantee subject to the following terms and conditions:

1. That said premises shall be used for the purpose of **construction, operation, and maintenance of an industrial railroad spur track and for purposes incidental thereto,** ----------

and said premises shall not be used for any other purpose without the consent in writing of the General Manager of the Harbor Department of said City of Los Angeles first had and obtained.

2. That the grantee shall, **quarterly** in advance, pay to the Harbor Department of said City, in lawful money of the United States, the sum of $ ~~384.33~~ as rental for the use of the premises covered by this permit; provided, however, that the right shall be reserved to said General Manager to change the amount of rental to be paid by the grantee, upon giving to the grantee at least thirty (30) days' notice in writing of such change in rental.

3. That, prior to the issuance of this permit, the grantee shall deposit with the Harbor Department a sum equal to two months' rent, which shall be held as a guarantee to cover delinquent rent. In the event all or any part of said sum so deposited shall be used to apply against any rent due and unpaid, the grantee shall immediately thereupon reimburse said deposit, so that at all times during the life of this permit said deposit shall be maintained. Failure to maintain the full amount of said deposit shall subject this permit to forfeiture. Upon forfeiture or revocation of this permit, any portion of said deposit due the grantee will be returned.

4. That the grantee shall furnish the Harbor Department with a cash deposit or a surety bond in the amount of $ DELETED, acceptable to the the City Attorney, to guarantee, upon any revocation or forfeiture of this permit, the restoration of said premises and the removal of works, structures and other improvements by the grantee, as provided in paragraph 5 and paragraph 12 hereof.

5. That this permit is and shall be revocable at any time by the grantee or by the General Manager, upon the giving of at least **thirty (30) days'** written notice by the party so revoking to the other party, which notice shall specify the date upon which this permit shall terminate. Within the time so specified, the grantee shall cease to use and occupy said premises and shall quit and surrender possession of the premises to said City, and shall, without cost to the City, remove any and all works, structures or other improvements located thereon, except works, structures or other improvements owned by the City of Los Angeles, and restore the premises to the same or as good condition, to the satisfaction of the General Manager, as the same were in at the time of the first occupancy thereof by the grantee or its predecessors under this or any prior permit or lease. The aforesaid right by the General Manager to revoke this permit shall be and shall remain unconditional and unrestricted, and neither the City of Los Angeles nor any Board, officer or employee thereof shall be liable in damages to the grantee or in any other manner because of any such revocation.

6. That no alterations or improvements shall be made to, and no building or other structure shall be erected, constructed, relocated or demolished upon or removed from said premises without the written approval of said General Manager first had and obtained.

7. That before any alterations or improvements are made to, and before any building or other structure is erected, constructed, relocated or demolished upon or removed from said premises, the grantee shall secure from the Harbor Engineer such permits as may be necessary or required.

EXHIBIT 4

8. That the grantee shall be liable for and shall pay to said City, upon demand, the actual cost of all damages or repairs to property owned by or in the care and custody of the City of Los Angeles, caused negligently or otherwise, by the grantee, its officers, agents, employees, licensees, invitees, permittees, or sublessees.

That said grantee shall at all times keep and maintain said premises in a safe, clean, wholesome, sanitary and sightly condition under all applicable Federal, State, Municipal and other laws, ordinances, rules and regulations and to the satisfaction of the General Manager, to the extent that from time to time the necessity for any such keeping or maintenance, directly or indirectly, is caused by or arises out of any act, omission or neglect of, or any use or occupation of said premises by the grantee, its officers, agents, employees, licensees, permittees, invitees, or sublessees, ordinary wear and tear and action of the elements excepted, and all structures and improvements on said premises shall be kept neatly painted.

That no offensive or refuse matter, or any substance constituting an unnecessary, unreasonable or unlawful fire hazard, or material detrimental to the public health, shall ever be permitted by the grantee to be or remain, and the grantee shall prevent any such material or matter from being or accumulating, upon said premises.

9. That no assignment, transfer, sublease, gift, hypothecation or grant of control of this permit, or of any of the rights or privileges granted hereunder, in whole or in part, shall be valid for any purpose without the consent in writing thereto of the General Manager first had and obtained; and any such assignment, transfer, sublease, gift, hypothecation or grant of control or other disposition of this permit shall be evidenced by a duly executed instrument in writing, a copy of which shall be filed in the office of the General Manager.

10. That this permit, and the premises covered thereby, shall at all times be subject to such rights of way for such sewers, pipelines, conduits, or such telephone, telegraph, light, heat or power lines as may from time to time be ~~determined~~ by the Board of Harbor Commissioners of the City of Los Angeles; and this permit and the premises covered thereby shall also be subject to such rights of way for such public streets and other highways and such railroads or other public means of transportation as shall have been duly established, or as may from time to time be ~~determined~~ by said Board.

11. That the grantee shall commence using said premises for the purpose intended under this permit within thirty (30) days from the date hereof.

12. That upon the neglect, failure or refusal by the grantee to comply with any of the terms or conditions of this permit, said General Manager may declare this permit forfeited forthwith, and upon any such forfeiture the grantee shall restore the premises to the same or as good condition, to the satisfaction of the General Manager, as the same were in at the time of the first occupancy thereof by the grantee under this or any prior permit or lease, and shall, except as hereinafter provided, remove, without cost to the City and within such time as may be prescribed in the declaration of such forfeiture, any and all works, structures or other improvements erected or maintained upon said premises by the grantee under this permit, except works, structures or other improvements owned by the City of Los Angeles; provided, however, that, in the event of forfeiture of this permit for the non-payment of rent, the General Manager shall have the right to enter upon said premises and take possession of all or any of the works, structures, improvements and equipment located on said premises, as may be specified in the declaration of such forfeiture, erected, installed or maintained upon said premises by the grantee; provided, further, that nothing herein contained shall prevent the General Manager from surrendering to the grantee any such works, structures, improvements or equipment so held upon the payment by the grantee to said Harbor Department of any such rent then due and unpaid. Written notice of such forfeiture shall be served upon the grantee, and upon such service being made such forfeiture shall thereupon be forthwith effective.

13 That if the grantee shall abandon or fail to use said premises for a period of sixty (60) consecutive days, this permit shall cease and terminate and be forfeited, unless said grantee shall, prior to the expiration of any such period of sixty (60) consecutive days, notify the General Manager in writing that such nonuse of said premises is only temporary and shall have obtained the consent in writing of said General Manager to such temporary nonuse.

14. That the grantee shall at all times relieve, indemnify, protect and save harmless the City of Los Angeles and any and all of its Boards, officers, agents and employees, from any and all claims and liability, including expenses incurred in defending against claims and liability, for death of or injury to persons or damage to property that may, in whole or in part, arise from or be caused, directly or indirectly, by:

(a) Any dangerous, hazardous, unsafe or defective condition of, in or on said premises, of any nature whatsoever, which may exist by reason of any act, omission, or neglect of, or by any use or occupation of said premises by the grantee, its officers, agents, employees, sublessees, licensees, permittees, or invitees;

(b) Any operation conducted upon or any use or occupation of said premises by the grantee, its officers, agents, employees, sublessees, licensees, permittees, or invitees, under or pursuant to the provisions of this permit or otherwise;

(c) Any act, omission or negligence of the grantee, its agents, officers, employees, sublessees, licensees, permittees, or invitees, regardless of whether any act, omission or negligence of the City of Los Angeles, its officers, agents or employees, contributed thereto;

(d) Any failure of the grantee, its officers, agents or employees, to comply with any of the terms or conditions of this permit or any applicable Federal, State or Municipal law, ordinance, rule or regulation; or

(e) The conditions, operations, use, occupation, acts, omissions or negligence referred to in (a), (b) and (c) above, existing or conducted upon or arising from the use or occupation by the grantee, its agents, officers, employees, sublessees, licensees, permittees or invitees, of any other premises within the Harbor District, as defined in the Charter of said City, and which premises are used or occupied by the grantee, its agents, officers, employees, sublessees, licensees, permittees or invitees, without the express written authorization of the Board of Harbor Commissioners or the General Manager.

The term "persons," as used in this paragraph, shall include, but not be limited to, officers and employees of the grantee.

15. That the grantee shall procure and shall maintain at all times during the life of this permit, a policy or policies of public liability and property damage insurance with minimum limits of One Hundred Thousand Dollars ($100,000) for bodily injury to one person and Three Hundred Thousand Dollars ($300,000) for each bodily accident or occurrence, and Fifty Thousand Dollars ($50,000) for each accident or occurrence involving property damage, on said premises, and naming the City of Los Angeles and the Board of Harbor Commissioners thereof, their officers, agents and employees as named insureds, protecting said named insureds against losses resulting from injury to persons or damage to property arising from the permittee's use and occupancy of said leased premises; said policy or policies shall contain a provision that such will not be cancelled or reduced in amount until the Board of Harbor Commissioners and the City Attorney of the City of Los Angeles have been given thirty (30) days' notice, and an executed copy of such policy or policies, subject to the approval of the City Attorney, shall be filed with the Harbor Department.

16. The permittee shall secure, and shall maintain at all times during the life of this permit, fire insurance on the structures and improvements on said premises owned by the permittee in an amount sufficient to replace said structures and improvements at replacement cost without depreciation, with such provision in the policies issued to cover the same, or in riders attached thereto, as will provide for payments for losses thereunder sustained by the Board of Harbor Commissioners; the proceeds of said policies, excepting loss payments of Five Thousand Dollars ($5,000) or less, to be held in trust by any reputable bank or trust company. In the event the permittee shall undertake replacement or reconditioning, any balance thereof remaining shall be paid to said permittee forthwith.

In the event the permittee shall fail to undertake the replacement or reconditioning of such structures within ninety (90) days following any such loss (or within such longer period as the parties may specify by mutual agreement), there shall be paid and released to the Board of Harbor Commissioners from such fund:

(a) A sum equal to the cost of clearing said premises in the event permittee does not at its own expense clear said premises within said period;

(b) A sum or sums equal to such compensation for the use of the premises covered by this permit as may be due and unpaid, as and when such amount may become due and unpaid under this permit; and

(c) A sum equal to any additional damages, including lost rentals, sustained by the Board of Harbor Commissioners, such damages to be determined as of the date of the termination of this permit or the date upon which the premises may be re-let, whichever shall first occur;

any balance then remaining shall be paid to the permittee.

DELETED

17. That the grantee shall acquire all permits covering installations and shall secure and maintain all necessary current business licenses and shall comply in all respects with any and all local, State and Federal laws, orders, rules and regulations governing the conduct of such business operated on said premises.

18. That the grantee shall be liable for, and shall pay throughout the term of this permit, all license and excise fees and occupation taxes covering the business conducted on the premises, all taxes on property of grantee on the premises granted, and all taxes on the grantee's interest created by this permit.

19. That the grantee shall provide, at its own cost and expense, such paving, fencing, electric light and other public utilities, and janitorial services, as shall be required on said premises.

20. That in all cases where written notice is herein required to be given to the grantee, service shall be deemed sufficient if said notice is deposited in the United States mail, postage prepaid, addressed to the grantee at the premises above described, or to such other address as the grantee may in writing register with the General Manager for that purpose; provided, however, that nothing herein contained shall preclude or render inoperative service of such notice upon the grantee in the manner prescribed by law.

21. That the grantee shall file with the General Manager a written acceptance of this permit, agreeing therein to abide and be bound by and observe each and every of the terms and conditions hereof, and this permit shall not be or become effective for any purpose until such written acceptance is so filed.

22. That this permit is granted pursuant to an application filed by the grantee with the Board of Harbor Commissioners, and said permit is granted subject to and based upon the facts contained in said application. If said application, or any of the attachments thereto, shall be found to contain any misstatement or misstatements of fact which, in the sole judgment of the Board of Harbor Commissioners, would have affected its decision in granting said permit, said Board may at its option declare a forfeiture of said permit. Upon any such forfeiture of the permit granted hereunder, the grantee shall quit and surrender the premises as provided in paragraph 12 hereof.

23. That the following numbered paragraph or paragraphs, to wit: 4, 9, 15 & 16, is or are deleted and is or are not to be considered as constituting a part of this permit, and it or they are so marked.

24. That there is attached to this permit an Addendum, consisting of numbered paragraph 25, or paragraph 25 to 31, inclusive, the provisions of which paragraph or paragraphs are made a part of this permit as though set forth herein in full. (If no Addendum is attached, this paragraph No. 24 shall be deleted, and so marked.)

Effective July 1, 1974. CITY OF LOS ANGELES HARBOR DEPARTMENT

Fred B. Crawford
GENERAL MANAGER

Approved as to Form

December 3, 1974
BURT PINES, City Attorney

By Pat Nave
Deputy

APPROVED:
Board of Harbor Commissioners

Robert D. Hudson
SECRETARY

The undersigned grantee hereby accepts the foregoing permit and agrees to abide and be bound by and to observe each and every of the terms and conditions thereof, including those set forth in the Addendum, if any, and excluding those marked as being deleted.

Dated: November 26, 1974.

PETROLANE, INC.
GRANTEE

(SEAL)

By John Storch
John Storch Vice President (TITLE)

Attest: W. E. Linsenbard
W. E. Linsenbard SECRETARY

JPN:jom
11-13-74.

ADDENDUM TO
REVOCABLE PERMIT NO. 1212

25. Grantee shall not assign, sublease, transfer, give, hypothecate, grant control or otherwise encumber the premises or this permit without first obtaining the prior approval of the Board of Harbor Commissioners, by order, which approval shall not be unreasonably withheld. In the event grantee obtains such approval to an assignment, this permit and the terms and conditions hereof and each and every of them shall inure to the benefit of and be binding upon the assignee of grantee. No assignment, transfer, gift, hypothecation, grant of control or other encumbrance of this permit by grantee or any of the rights or privileges granted by this permit or any interest therein or any right or privilege thereunder, in whole or in part, shall be valid for any purpose unless first approved by the Board of Harbor Commissioners, by order. Approval of an assignment, transfer, gift, hypothecation, grant of control or other encumbrance to another person, firm or corporation shall not be deemed to be an approval of any subsequent assignment, transfer, gift, hypothecation or grant of control.

The interest of grantee pursuant to this permit shall not be assigned by operation of law unless first approved by the Board of Harbor Commissioners, by order. In case of bankruptcy of grantee or the appointment of a receiver for grantee, or if a receiver be appointed to take possession of the premises as a result of any act or omission of grantee, or if grantee makes an assignment of this permit for the benefit of creditors, or if possession of the premises shall be taken by virtue of any attachment, execution or the levy of any judicial process, any person taking such possession pursuant to such proceeding or process shall not acquire any right, title or interest in or to this permit or the premises or rights granted herein without first securing the approval of the Board of Harbor Commissioners, by order.

26. Grantee shall, within ten (10) days of transfer date, notify General Manager in writing if during any calendar year from and after the filing of the application for this permit more than ten percent (10%) of the outstanding shares of capital stock of grantee is traded; provided, however, that this provision shall have no application in the event grantee is a corporate entity whose stock is listed on either the American Stock Exchange, the New York Stock Exchange or the Pacific Coast Stock Exchange.

27. Grantee shall secure and shall maintain at all times during the term of this permit a policy or policies of public liability and property damage insurance with minimum limits of Three Hundred Thousand Dollars ($300,000) for bodily injury or death to one person, Five Hundred Thousand Dollars ($500,000) for each accident or occurrence involving bodily injury or death, and Fifty Thousand Dollars ($50,000) for each accident or occurrence involving property damage; provided, however, that General Manager shall have the right to increase or decrease the minimum limits of such policy or policies of insurance by giving ninety (90) days' written notice to grantee. Said policies shall provide:

(a) That City and Board, their officers, members, agents and employees are named insureds;

(b) That said named insureds are protected against losses resulting from death of or injury to persons or damage to property arising from grantee's use or occupancy of the premises;

(c) That the policy will not be canceled or reduced in coverage until Board and the City Attorney of the City of Los Angeles have each been given thirty (30) days' prior written notice by registered mail, addressed to: P. O. Box 151, San Pedro, California 90733;

(d) That the coverage provided by the policy is primary coverage and that any other insurance carried by City is excess coverage;

(e) That such coverage shall include contractual liability assumed hereunder; and

(f) The name and address of the person to whom reports of occurrences or claims pursuant to said policy or policies shall be made.

Two certified copies of such policy or policies shall be furnished to Board and such policy or policies shall be subject to the approval of the City Attorney of the City of Los Angeles.

At least fifteen (15) days prior to the expiration of said policy or policies, grantee shall furnish to Board a certificate or certificates showing that said coverage has been renewed or extended, or, if new insurance has been obtained, two certified copies of said policy or policies of new insurance shall be filed with Board for approval by the City Attorney of City.

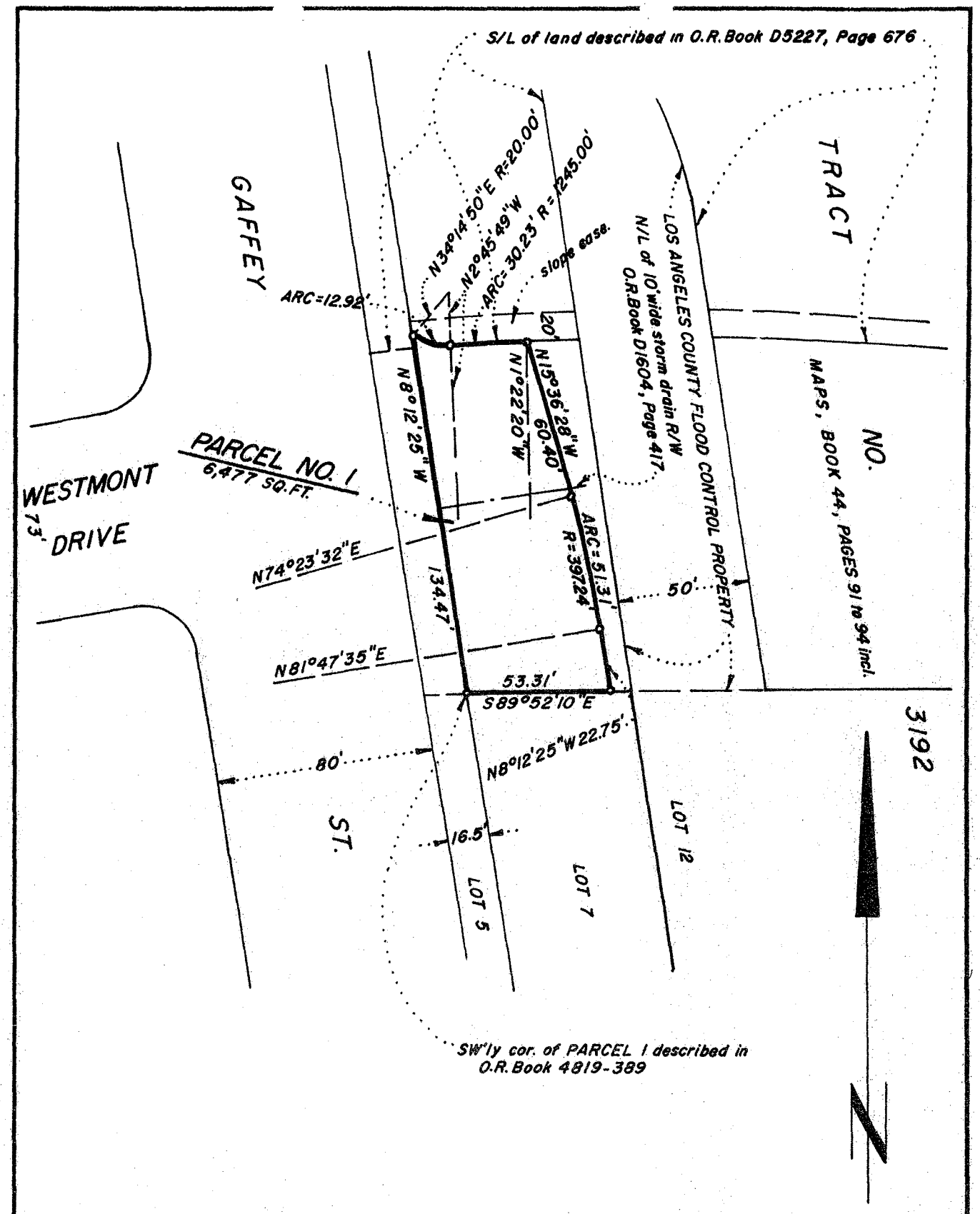
In the event Board finds and determines grantee is financially able to indemnify City for its legal liabilities in the minimum amounts as if the aforesaid insurance requirement had been complied with, Board may waive by order the requirement of the foregoing section, subject, however, to the right of Board to review from time to time the financial ability of grantee to indemnify City and, if Board so deems, on written notice to grantee, it may require grantee to furnish a policy or policies of public liability insurance as provided in this section.

28. No officer or employee of City shall be financially interested in this permit. The words "financially interested," as used herein, have the same meaning as used in Section 1090, as amended, of the Government Code of the State of California, and are subject to the same exclusions and exemptions as set forth in Sections 1090.1, 1091, 1091.1 and 1091.5 of such Code. Notwithstanding any other provision in this permit, it is further understood and agreed that the City of Los Angeles may terminate such permit by giving thirty (30) days' notice of its election to terminate in the event a violation of this condition occurs.

29. Grantee is in accord with being an equal opportunity employer and subject to Title VII of the Civil Rights Act of 1964 (P.L. 88-352, 78 Stat. 241, 42 U.S.C. 2000e, et seq.), as amended, and the California Fair Employment Practices Act (Sec. 1410, et seq., Labor Code), as amended, which provide for fair, equal and nondiscriminatory treatment of all persons without regard to race, color, ancestry, sex, religion, creed or national origin.

30. Grantee shall not erect or display, or permit to be erected or displayed, on the premises any sign or advertising matter of any kind without first obtaining the written consent of General Manager and also shall post and maintain on the premises such signs as General Manager may direct.

31. If either party brings any action or proceeding to enforce, protect, or establish any right or remedy arising out of or based upon this permit, including but not limited to the recovery of damages for its breach, the prevailing party in said action or proceeding shall be entitled to recovery of its costs and reasonable attorneys' fees.



SCALE 1"=50'	DATE	RECOMMENDED FOR APPROVAL	PERMIT MAP FOR
DRAWN Rita	9.26.74	CHIEF OF DESIGNS	PETROLANE
CHECKED VEH	9.27.74		
DESIGNED			
ENGR/ARCH		ASSISTANT CHIEF HARBOR ENGINEER	APPROVED CHIEF HARBOR ENGINEER
			PORT OF LOS ANGELES ENGINEERING DIVISION P.O. BOX 151 SAN PEDRO, CALIF.
			DRAWING NUMBER 5-4327

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EXHIBIT A

CITY OF LOS ANGELES HARBOR DEPARTMENT
Port of Los Angeles

REVOCABLE PERMIT

No. 10-05

The General Manager of the Harbor Department (hereinafter called "Executive Director") of the City of Los Angeles (hereinafter called "City") HEREBY GRANTS PERMISSION TO RANCHO LPG HOLDINGS, LLC, a Delaware limited partnership, 607 8th Avenue S.W., Suite 1400, Calgary, Alberta, Canada T2P 0A7 (hereinafter called "Tenant") to occupy and use certain lands, waters and/or facilities within the Harbor District owned or under the control of City acting through its Board of Harbor Commissioners (hereinafter called "Board"), subject to the following terms and conditions:

1. Premises. The premises subject to this Agreement (hereinafter called "premises") is designated as Parcel No. 1 and is delineated and more accurately described on the preliminary Harbor Engineering Drawing No. 5-4327. A final drawing shall be substituted for Harbor Engineering Drawing No. 5-4327 when prepared by the Chief Harbor Engineer, Engineering Division, of the Harbor Department, and shall be marked Exhibit "A-1." A copy of said drawing is attached hereto as Exhibit "A." By mutual agreement of Executive Director and Tenant, land and water not exceeding ten percent (10%) of the area granted or 20,000 square feet, whichever is greater, may be permanently added to or deleted from the premises granted herein without further approval of the Board subject to the following conditions: (1) so long as such change in area is not temporary within the meaning of Tariff Item 1035 (or its successor), the compensation set forth in Section 4 shall be increased or decreased pro rata to reflect any such addition or deletion; (2) if the change involves the addition or deletion of any improvement, the adjustment to the compensation shall also take into account this change in the same manner in which the compensation was originally calculated; (3) if permanent changes in area are made on more than one occasion, the cumulative net change in area may not exceed ten percent (10%) or 20,000 square feet, whichever is greater, of the originally designated area, and (4) the change in area shall not result in the annual compensation changing by more than One Hundred Thousand Dollars ($100,000). The Executive Director is authorized to execute amendment(s) to this Permit to effect the foregoing adjustments to area and compensation without further action of the Board.

2. Purpose. The premises shall be used for the purpose of operation and maintenance of existing industrial rail spur tracks and not for any other purpose without the prior written consent of Executive Director.

3. Effective and Termination Dates. This Revocable Permit shall be month-to-month, commencing upon the date of execution by Executive Director and shall thereafter be revocable at any time by Tenant or by Executive Director, upon the giving of at least thirty (30) days' written notice to the other party stating the date upon which this Permit shall terminate. The right of Executive Director to revoke this Permit is and shall remain unconditional. Neither City, nor any board, officer or employee thereof, shall be liable in any manner to Tenant because of such revocation.

4. Compensation.

(a) Amount. Each month, in advance, Tenant shall pay to Board the sum of One Thousand One Hundred Eighty-seven Dollars ($1,187.00) as rental for the use of the premises. Use of the premises for purposes not expressly permitted herein, whether approved in writing by Executive Director or not, may result in additional charges, including charges required by Port of Los Angeles Tariff No. 4, as amended or superseded. Tenant agrees to pay such additional charges. Executive Director may change the amount of rental required herein upon giving at least thirty (30) days' written notice to Tenant.

(b) Delinquency Charge. Rental payments which have not been paid within ten (10) days of the due date ("grace period") shall be subject to a service charge of one-thirtieth (1/30) of two percent (2%) of the invoice amount remaining unpaid each day. The service charge shall accrue from the first day after the original due date and shall be imposed even if all or a portion of any sum on deposit as a guarantee against delinquent rent is applied to the amount due. For the administrative convenience of both City and Tenant, City will not apply Tenant's deposit, which is described below, to unpaid rent until Tenant's occupancy is terminated or a notice to terminate the occupancy has been provided. The City has the unqualified right, upon thirty (30) days' prior notice to Tenant, to change the level of the delinquency service charge provided the rate shall not exceed the maximum permitted by law.

(c) Deposits. Prior to the issuance of this Permit, Tenant shall deposit with the Harbor Department the sum of Two Thousand and Five Hundred Dollars ($2,500.00) as a guarantee to cover delinquent rent and its other obligations under this Permit. If the rent is thereafter changed, Tenant shall modify its deposit as necessary to assure that Tenant at all times has on deposit a sum equal to two months of the current rental payments. If all or any part of said deposit is used to pay any rent due and unpaid or to meet other Tenant obligations, including, but not limited to, maintenance expenses, Tenant shall then immediately reimburse said deposit so that at all times during the life of this Permit said deposit shall be maintained. Failure to maintain the full amount of said deposit shall subject this Permit to forfeiture. In the sole discretion of the Executive Director, Tenant may post other forms of security but only if in a form acceptable to the City Attorney. If for any reason City has not initially required a deposit from Tenant, City may at any time and for any reason require a deposit in an amount the Executive

EXHIBIT 5

Director determines necessary to secure performance of the Permit. Tenant agrees to post such deposit with City within ten (10) days of written request from City and agrees that its failure to do so constitutes a material breach of this Permit. No interest is payable by City on deposits if the deposits are subsequently refunded.

(d) No Right of Set-Off. Notwithstanding any other provision of this Permit, Tenant's obligation to pay all rent payable hereunder shall be absolute and unconditional and shall not be affected by any circumstance, including, without limitation, any set-off, counterclaim, recoupment, defense or other right which Tenant may have against City.

(e) Deposits for Disputed Payments. Tenant recognizes that disputes may arise over monies due the City in accordance with this Permit. Tenant and City shall make a good faith effort to resolve any disputes as expeditiously as possible. Tenant agrees, upon receiving a billing from City which it disputes, to deposit with the City the disputed amount in the form of cash, certificate of deposit in the City's name or other security acceptable to City within thirty (30) days of the date of billing. City shall hold the deposit pending the resolution of the dispute. If the dispute is resolved in the City's favor, City shall retain the money and all interest earned on it. If the dispute is resolved in favor of Tenant, said deposit shall be returned to Tenant with all accumulated interest. Tenant understands that its failure to provide a deposit acceptable to City within thirty (30) days shall be considered a material default of this Permit and City shall be entitled to cancel this Permit upon seven (7) days' written notice. If Tenant is required under this Revocable Permit to pay City any sums in accordance with City's tariff, Tenant's failure to provide a deposit shall require Tenant to make all payments in accordance with Item 265 of the Tariff and Tenant shall be removed from the Credit List authorized by Item 260 of the Tariff or as amended or superseded. If the billing for any one disputed amount exceeds One Hundred Thousand Dollars ($100,000), Tenant shall be required to deposit One Hundred Thousand Dollars ($100,000) with City; if City prevails in the dispute and the amount due City exceeds One Hundred Thousand Dollars ($100,000), Tenant shall pay the difference due within fifteen (15) days with interest at the rate set forth in Section 4(b) from the date of City's initial billing to Tenant.

(f) Records and Accounts. All books, accounts and other records showing the affairs of Tenant with respect to its business transacted at, upon or over the premises shall be maintained locally, and shall be subject to examination, audit and transcription by Executive Director or any person designated by her; and in the event it becomes necessary to make such examination, audit or transcription at any place other than within fifty (50) miles of the premises, then all costs and expenses necessary, or incident to such examination, audit or transcription shall be paid by Tenant. These records shall be retained during the term of this Permit so that the records for the four (4) most recent years are available. After this Permit terminates, Tenant shall maintain the records for the four (4) most recent years for at least two (2) years. Upon request in writing by Executive Director or his or her designated representative, Tenant shall furnish a statement of the exact location of all records and the name and telephone number of the custodian of these records. The statement shall be submitted within fifteen (15) days of the request and shall contain such detail and cover such period of time as may be specified in any such request. From time to time Executive Director or designee shall audit Tenants' records and accounts. Information to be provided by Tenant will include, but not be limited to, general ledgers, charts of accounts, subledgers including cash receipts journals, cash disbursement journals, and all original receipts and documents which support the information provided to City.

(g) Promotion of Los Angeles Harbor Facilities. Tenant shall in good faith and with all reasonable diligence use its best efforts by suitable advertising and other means to promote the use of the premises granted by this Permit.

(h) Supervision of Business Practices. The nature and manner of conducting any and all business activities on the premises shall be subject to reasonable regulation by Board. In the event such business is not conducted in a reasonable manner as determined by Board, it may direct that corrective action be taken by Tenant or its sublessees to remedy such practices and upon failure to comply therewith within thirty (30) days of Tenant receiving such written notice, Board may declare this Permit terminated.

Pursuant to the provisions of the Los Angeles City Charter and of the tide and submerged land grant, Tenant and its sublessees shall use the premises in such a manner so that there shall be no discrimination made, authorized or permitted in the rates, tolls, or charges or in the facilities provided for any use or service in connection therewith.

Tenant shall also conduct its business and cause the businesses of its sublessees upon the premises (if any have been expressly authorized by City in writing) to be conducted in a first-class manner. Tenant shall furnish and maintain a standard of service at least equal to that of the better class of similar businesses providing similar services and facilities in the City of Los Angeles and adjacent communities during the entire term of this Permit.

Board reserves the right to have access to and inspect the schedule of rates and prices for services and facilities performed or provided upon the premises. In the event that after Tenant has been advised and given a

reasonable opportunity to confer with Board and to justify any rate or price challenged by it as unreasonable or noncompensatory, and Board has determined such rate or price to be unreasonable or inappropriate for the services rendered or the facilities provided, such rates or prices shall be modified by Tenant as directed by Board.

5. Restoration Bond. Tenant shall provide a cash deposit, certificate of deposit in the name of the City, surety bond, irrevocable letter of credit or other form of security in the name of the City and acceptable to the Executive Director and City Attorney in the amount of _____ ($_____) payable to the City of Los Angeles, to guarantee, upon any termination, revocation or forfeiture of this Permit, the restoration of premises and the removal of works, structures and other improvements by Tenant as required by this Permit. Said deposit, or other form of security bond, shall be in a form acceptable to and subject to the approval of the City Attorney. No interest is payable by City on deposits if the deposits are subsequently refunded. If Executive Director becomes aware of facts which lead him or her to believe that the financial condition of Tenant has substantially changed such that Tenant may not be able to meet its restoration obligation, Executive Director may increase the restoration bond or deposit requirement, and where no restoration bond or deposit is initially required, Executive Director may require such a bond or deposit. If any property of any kind is on the premises at the request or with the permission of Tenant, its officers, agents, employees, sublessees, licensees or invitees, including vessels, machinery or equipment, and such property sinks in any channel or water area (hereafter "sunken property") and Tenant fails to remove such property within ten (10) days of a request by City to do so, Executive Director may require a restoration deposit or bond in the amount of the reasonable cost of removal as determined by Harbor Engineer. If Executive Director in his or her sole discretion determines sunken property is a safety hazard and so notifies Tenant, failure to remove the property may result in termination of this Permit upon three (3) days' notice.

6. Rights-of-Way. This Permit shall at all times be subject to such rights-of-way over the land embraced therein for such sewers, pipelines, conduits, and for such telephone, telegraph, light, heat or power lines as may from time to time be determined by Board; and shall also be subject to rights-of-way for streets and other highways and for railroads and other means of transportation as shall have been duly established, or as shall be reserved herein; and shall also be subject to rights-of-way as Board requires to drill and explore new or maintain existing oil, gas or mineral wells. This Permit shall at all times be subject to all prior exceptions, reservations, grants, easements, leases or licenses of any kind whatsoever as the same appear of record in the Office of the Recorder of Los Angeles County, California, or in the official records of City or any of its various departments.

7. Premises Satisfactory to Tenant/Required Modifications. Tenant has inspected the premises and agrees that they are suitable for the uses permitted herein. No officer or employee of City has made any representation or warranty with respect to the premises, except as described in writing and attached hereto as an addendum, and in entering into this Revocable Permit, Tenant agrees it relies only on the provisions of the Permit. Any modification, improvement, or addition to the premises and any equipment installation or removal required by the Fire Department, Department of Building and Safety, South Coast Air Quality Management District, Regional Water Quality Control Board, U.S. Coast Guard, Environmental Protection Agency, or any other agency in connection with Tenant's operations, shall be constructed, installed, or removed at Tenant's sole expense. Tenant shall obtain a Harbor Engineer's General Permit before making any modifications to the premises.

8. Use of Premises. Tenant agrees not to use the premises in any manner, even if the use is for the purposes enumerated herein, that will cause cancellation of any insurance policy covering any such premises or adjacent premises provided Tenant may in City's discretion remain if it pays the increase in City's insurance costs caused by its operations. No offensive or refuse matter, or any substance constituting any unnecessary, unreasonable or unlawful fire hazard, or material detrimental to the public health, shall ever be permitted by Tenant to be or remain, and Tenant shall prevent any such material or matter from being or accumulating upon said premises. Tenant further agrees not to keep on the premises or permit to be kept, used, or sold thereon, anything prohibited by any policy of fire insurance covering the premises or any structure erected thereon.

9. Repair and Maintenance. The repair and maintenance obligations of the parties are as follows (if Tenant's premises do not include wharves, maintenance provisions related to wharves shall not apply):

(a) Maintenance Performed by City at City's Expense (Except as Noted). Except as provided in subsections 9(c), 9(d), 9(g) and 9(h), City will maintain at its expense the roofs and exteriors of all buildings owned by City and the structural integrity of wharf structures (if any) and buildings owned by City. The "wharf structure" (if any) for purposes of this subsection means the beams, girders, subsurface support slabs, bulkheads and prestressed concrete or wood piling, joists, pile caps and timber decking (except as noted below), and any and all mooring dolphins. The wharf structure does not include the paving, the surface condition of timber decking or the fendering system. City will maintain and repair at its expense all fire protection sprinkler systems, fire hydrant systems, standpipe systems, fire alarm systems, and other fire protective or extinguishing systems or appliances (portable fire extinguishers and hoses excluded) which have been or may be installed in buildings or structures City owns on the premises. City shall also perform at its expense all electrical substation and switchgear preventive maintenance.

(b) Maintenance Performed by City at Tenant's Expense. Subject to the provisions of subsections 9(c), 9(d), 9(g) and 9(h), City shall maintain and repair at Tenant's expense the wharf fender system for wharves owned by City, (in accordance with City's wharf damage procedures, a copy of which will be provided to Tenant upon its request), refrigerated receptacle outlets, backflow devices and potable water systems and heating and air conditioning systems, so long as City forces are available. If, however, Tenant fails to pay City in accordance with City's wharf damage procedure (which contains depreciation criteria favorable to Tenant), then City reserves the right to collect the actual cost of repair based on actual depreciation factors as established by City in court.

(c) Maintenance Performed by Tenant at Its Expense. Tenant shall be responsible for performing and paying for all maintenance and repairs not expressly covered above. Tenant shall be responsible at its expense for inspecting and assuring that all necessary portable fire extinguishers are present on the premises and maintained in an operable condition. Notwithstanding subsections (a) and (b) above, all modifications or repairs to the electrical, plumbing or mechanical systems resulting from "call outs" (Tenant-requested repairs requested on weekends, holidays or other than 7:45-4:15 Monday-Friday or such other times as City adopts as its maintenance force work hours) are at Tenant's expense. Tenant shall also be responsible at its expense for inspecting the premises and keeping the premises, [including, but not limited to, the surface of timber decking, all paving, landscaping, irrigation systems, fencing, signage, and striping (if any) and relamping] and all works, structures and improvements thereof, whether a part of the premises or placed by Tenant, in a safe, clean, sanitary and sightly condition. All maintenance performed by Tenant shall assure the premises are maintained in a first-class operating condition and in conformance with all applicable federal, state, regional, municipal and other laws and regulations. The appearance, safety and operational capability of the premises shall be maintained to the satisfaction of the Executive Director. Tenant shall make all efforts necessary to immediately discover and guard against any defects in all surfaces of timber decking, paving, buildings, structures and improvements on the premises without request from City. Tenant shall also completely maintain at its expense all buildings, structures, improvements, timber decking surfaces and paving it erects, owns, or installs. All modifications and repairs which Tenant makes to City-owned or Tenant-owned buildings, structures, improvements, timber decking and paving require a Harbor Department Engineering permit. Sample permits are available upon request from the Harbor Engineer. Tenant agrees to strictly comply with all the terms and conditions of the Harbor Engineer's permit. Tenant shall maintain in its offices at the premises at all times the Harbor Engineer's permit allowing the work performed and proof that the work has been performed in accordance with all terms and conditions of the permit. Modifications and repairs shall be made in a first-class manner using materials of a kind and quality comparable to the items being replaced (in-kind replacement shall be utilized if material still manufactured). Tenant is obligated at its expense to take both such preventive and remedial maintenance actions as are necessary to assure that premises are at all times safe and suitable for use regardless of whether Tenant is itself actively using all of the premises. Tenant shall provide notice to the Director of Port Construction and Maintenance and Harbor Engineer five (5) work days before any paving work is performed; provided, however, Tenant shall immediately repair any condition creating a risk of harm to any user of the premises. All materials used and quality of workmanship shall be satisfactory to the Harbor Engineer.

(d) Tenant's Responsibility for Damage. Notwithstanding the foregoing, if damage to the wharf structure or any other building, structure, improvement or surface area is caused by the acts or failure to act of Tenant, its officers, agents, employees or its invitees, (including, but not limited to, customers of Tenant and contractors retained by Tenant to perform work on the premises -- hereafter collectively "invitees"), Tenant shall be responsible for all costs, direct or indirect, associated with repairing the damage and the City shall have the option of requiring Tenant to make the repairs or itself making the repairs. If City makes the repairs, Tenant agrees to reimburse City for the City's cost of repair. All damage shall be presumed to be the responsibility of Tenant and Tenant agrees to be responsible for such damage unless Tenant can demonstrate to the satisfaction of City that someone other than its officers, agents, employees, or invitees caused the damage. Tenant agrees to reimburse City for the cost of repair to City's wharf for any damage to the wharf resulting from a collision between a vessel and the wharf while docking or undocking unless Tenant demonstrates that such damage was caused by the sole active negligence of City or demonstrates that such damage was caused by an invitee of some other Tenant to which the premises are also assigned. The sufficiency of proof presented by Tenant to City shall be determined by City in its sole judgment. Tenant's obligations as a vessel owner or operator pursuant to City's Tariff Item 305 (or its successor) or pursuant to any pilotage contract Tenant may have with City are not altered by the provisions of this subsection.

(e) City's Option to Perform Work at Tenant's Expense. If Tenant fails to repair, maintain and keep the premises and improvements as above required, Executive Director may give thirty (30) days' written notice to Tenant to correct such default, except that no notice shall be required where, in the opinion of Executive Director, the failure creates a hazard to persons or property. If Tenant fails to cure such default within the time specified in such notice, or if Executive Director determines that a hazard to persons or property exists due to such failure, Executive Director may, but is not required to, enter upon the premises and cause such repair or maintenance to be made, and the costs thereof, including labor, materials, equipment and overhead cost, to be charged against Tenant. Such charges shall be due and payable with the next rent payment. During all such times, the duty shall be on Tenant to assure the premises are safe and Tenant shall erect barricades and warning signs to assure

workers and the public are protected from any unsafe condition. None of City's remedies described above shall preclude City from terminating this Permit if City is not satisfied with Tenant's compliance with the maintenance provisions of this Permit.

(f) Inspection of Premises and Tenant Repairs. Tenant shall be responsible for inspecting the premises (including all surfaces of timber decking, paving, structures, buildings and improvements) and at all times maintaining the premises in a safe condition. Executive Director and/or his or her representatives shall have the right to enter upon the premises and improvements constructed by Tenant at all reasonable times for the purpose of determining compliance with the terms and conditions of this Permit or for any other purpose incidental to the rights of City. This right of inspection imposes no obligation upon City to make inspections nor liability for failure to make such inspections. By reserving the right of inspection, City assumes no responsibility or liability for loss or damages to the property of Tenant or property under the control of Tenant, whether caused by fire, water or other causes. City assumes no responsibility for any shortages of cargo handled by Tenant. If City requests drawings and/or specifications showing the location and nature of repairs to be made or previously made by Tenant (including by its invitees), Tenant agrees to provide to City the material requested in writing within ten (10) days of request by City.

(g) City's Access to Maintain and Repair Premises. If City deems it necessary to maintain or repair the premises, Tenant shall cooperate fully with City to assure that the work can be performed timely and during City's normal working hours. If City is required to perform any work outside its normal working hours, even work which would otherwise be at City's expense, the entire cost of such work shall be at Tenant's expense.

(h) Maintenance/Repair Obligations Dependent on Indemnity/Insurance Provisions. City's agreement to perform certain repairs and to pay for certain repairs is expressly conditioned on the indemnity and insurance provisions of this Permit remaining in force and effect. If Tenant fails to comply with the indemnity and insurance provisions or if these provisions are ever deemed not applicable, then Tenant shall be obligated to perform and pay for all maintenance and repairs to the premises without exception at its own expense. Tenant shall perform such maintenance and repairs only after it has secured the Harbor Engineer's General Permit. Such work shall be deemed completed only when all terms of the permit have been satisfied. If City inspects any work performed by Tenant and finds it unsatisfactory, Tenant shall be obligated to correct the work to City's satisfaction at Tenant's expense.

(i) Definition of City's Actual Costs. Whenever this Section requires Tenant to reimburse City for the City's cost of maintenance, the City's cost of maintenance is agreed to include all direct and indirect costs which City incurs whether with its own forces or with any independent contractor. These costs include salary and all other costs City incurs from its employees ("salary burden"), all material and equipment costs and general overhead costs.

(j) Exhibit Listing More Common Maintenance Items. Attached as Exhibit "B" is a detailed description of items which is intended to describe the more common maintenance work which may be necessary at the premises. Not all items listed will be present at all premises within the Port. Costs and responsibilities shall be apportioned as set forth in this Exhibit except as may otherwise be required by the provisions above.

10. Defaults. Upon the neglect, failure or refusal of Tenant to comply with any of the terms or conditions of this Permit within the time stated in the written demand of Executive Director, the Executive Director may declare this Permit forfeited, and may forthwith enter upon said premises, using all reasonable force so to do, and exclude Tenant from further use of said premises and all improvements thereon. Upon such forfeiture, Tenant shall immediately surrender all rights in and to the premises and all improvements. Upon any such forfeiture, any and all buildings, structures and improvements of any character whatsoever, erected, installed or made by Tenant under, through, or because of, or pursuant to the terms of this Permit, or any prior permit, shall immediately ipso facto either become the property of City free and clear of any claim of any kind or nature of Tenant or its successors in interest without compensation to Tenant or become removable by Executive Director at the sole expense of Tenant, at the option of Executive Director. In the event this Permit is forfeited as set forth above, Executive Director may enforce all of City's rights and remedies under this Permit. In addition to any other remedy available to City, City shall be entitled to recover from Tenant rent as it becomes due pursuant to the terms of this Permit and, in addition thereto, the damage that City may recover includes the worth at the time of the award of the amount by which the unpaid rent for the balance of the term of this Permit exceeds the amount of such rental loss for the same period that Tenant proves could have been reasonably avoided. Any default in Tenant's obligations to make payments to City under the terms of any berth assignment, lease, permit or other agreement, when such default involves the sum of Five Hundred Dollars ($500.00) or more, shall constitute a material default on the part of Tenant with respect to this Permit. At any time Tenant has defaulted on payments due under other agreements with City, City may give Tenant a default notice and this Permit may be forfeited if the default in rental payments of such other agreements, including, but not limited to, berth assignments, leases and permits, is not cured within the time stated in said notice.

11. Effect of Nonuse. Tenant shall commence using the premises for the purposes permitted herein within thirty (30) days from the effective date hereof. If Tenant shall fail thereafter to use the premises or any substantial portion

thereof for a period of thirty (30) consecutive days, this Permit shall cease and terminate and be forfeited unless Tenant, prior to the expiration of any such period of thirty (30) consecutive days, notifies Executive Director in writing that such nonuse is temporary and obtains the written consent of Executive Director to such nonuse.

12. Restoration and Hazardous Materials Management. Upon the termination of this Permit other than by forfeiture, Tenant shall quit and surrender possession of the premises to City and shall, without cost to City, remove any and all works, structures and other improvements located thereon, except works, structures or other improvements owned by City, and restore the premises to the same or as good condition, ordinary wear and tear excepted, as the same were in at the time of the first occupancy thereof by Tenant or its assignors, if any, under this or any prior permit or lease. "Ordinary wear and tear" does not permit Tenant to damage paving or to contaminate the premises with any material handled at the premises. Executive Director may, at his or her option, accept all or a portion of the works, structures, or other improvements on behalf of City in lieu of all or a portion of the removal or restoration required herein. Tenant shall leave the premises free from contamination of hazardous substance or hazardous waste including hazardous liquid bulk products and petroleum products (hereinafter sometimes collectively referred to as "hazardous materials") as defined below. Tenant shall leave the surface of the ground in a level, graded condition with no excavations, holes, hollows, hills or humps.

13. Hazardous Materials. Tenant may not handle, use, store, transport, transfer, receive or dispose of, or allow to remain on the premises (hereinafter collectively referred to as "handle") any substance classified as a hazardous material under any federal, state, local law or ordinance (hereinafter sometimes collectively referred to in this Permit as "law") in such quantities as would require the reporting of such activity to any person or agency having jurisdiction thereof without first receiving written permission of City. If Tenant has handled material on the premises classified by law as hazardous [Tenant's attention is particularly called to the Resource Conservation and Recovery Act of 1967 ("RCRA"), 42 U.S.C. Sec. 6901 et seq.; the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), as amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), 42 U.S.C. Sec. 9601, et seq.; the Clean Water Act, 33 U.S.C. Sec. 1251 et seq.; the Clean Air Act. 42 U.S.C. Sec. 7901 et seq.; California Health & Safety Code Sec. 25300 et seq. and Sec. 25100 et seq.; California Water Code Sec. 13000 et seq.; California Administrative Code, Title 22, Division 4, Chapter 30, Article 4; Title 49 CFR 172.101; Title 40 CFR Part 302 and any amendments to these provisions or successor provisions] and such material has contaminated or threatens to contaminate the premises or adjacent premises (including structures, harbor waters, soil or groundwater), Tenant, to the extent obligated by law and to the extent necessary to satisfy City, shall at its own expense perform soil and groundwater tests to determine the extent of such contamination, and shall immediately remediate from the premises any such material. If in the determination of the Executive Director such hazardous material cannot be remediated on site to the satisfaction of City, Tenant shall remove and properly dispose of all contaminated soil, material or groundwater and replace such soil or material with clean soil or material suitable to City.

If during Tenant's occupancy hazardous materials are discovered on the premises or such materials have migrated to or threaten to contaminate adjacent premises (including structures, harbor waters, soil or groundwater), Tenant shall immediately notify the City, and Tenant, at its sole expense, shall perform such soil and groundwater testing as required by law and as City deems necessary and take immediate steps to remediate the premises to the satisfaction of City.

If Tenant disposes of any soil, material or groundwater contaminated with hazardous material, Tenant shall provide City copies of all records, including a copy of each uniform hazardous waste manifest indicating the quantity and type of material being disposed of, the method of transportation of the material to the disposal site and the location of the disposal site. The name of the City of Los Angeles shall not appear on any manifest document as a generator of such material.

Any tests required of Tenant by this Section shall be performed by a State of California Department of Health Services certified testing laboratory satisfactory to City. By signing this Permit, Tenant hereby irrevocably directs any such laboratory to provide City, upon written request from City, copies of all of its reports, test results, and data gathered. As used in this Permit, the term "Tenant" includes agents, employees, contractors, subcontractors, and/or invitees of the Tenant.

14. Rent During Restoration. Tenant understands and agrees it is responsible for complete restoration of the premises, including the clean up of any hazardous material contamination on or arising from the premises before the expiration or earlier termination of this Permit. If, for any reason, such restoration is not completed before such expiration, then Tenant is obligated to pay City compensation during such restoration as determined by the then fair market value of the land and the Harbor Department's then established rate of return; however, the new rent shall not be less than provided in Section 4. Tenant also agrees to provide City a surety bond to assure removal of hazardous material from the premises if at any time City demands such bond. Tenant's breach of any of the provisions of this Section shall entitle City to forfeit this Permit.

15. Site Restoration Plan. Upon request of Executive Director, Tenant shall provide City a site characterization study and site restoration plan in a form acceptable to City and at Tenant's expense as directed by City.

The study and plan shall demonstrate to City's satisfaction that the premises have not been contaminated or that, if contamination exists, Tenant will remove it to the satisfaction of City.

16. Tanks. Within thirty (30) days from the commencement of the term of this Permit, Tenant, at its expense, shall submit to City an inventory of all storage tanks located on the premises indicating the number of tanks, type (atmospheric, etc.), contents, capacity, past historical use, location and the date each tank was last tested for structural integrity and leaks. Tenant shall also, at its sole expense, when required by law or when deemed necessary by the Executive Director or his or her designee, test all storage tanks located on the premises for structural integrity and leaks. Upon written request, Tenant shall make available to City the results of all such tests. Testing required herein shall be to the satisfaction of City and in conformance with applicable federal, state or local laws, rules, regulations or ordinances as these provisions presently exist, or as they may be amended or enacted. If during Tenant's occupancy of the premises a tank or the pipelines servicing a tank containing hazardous material are discovered to be leaking, Tenant shall immediately notify the City and take all steps necessary to repair the tank and/or pipelines and clean up the contaminated area to the satisfaction of City and in accordance with all applicable law.

17. Use for Tideland Purposes. This Permit is subject to the limitations, conditions, restrictions and reservations of the Tidelands Act, Stats. 1929, Ch. 651, as amended and/or reenacted, and the Charter of City relating to such lands, including particularly Article VI. Tenant agrees to use the premises only in such manner as will be consistent therewith.

18. Federal Maritime Commission. Tenant shall not use the premises or furnish any facilities or services thereon for or in connection with a common carrier by water as that term is defined in the Shipping Act of 1916 and 1984, as amended, unless and until this Permit has been submitted to the Federal Maritime Commission and has become effective or determined not to be subject to said Acts.

19. Improvements. Tenant shall not construct on or alter the premises, including a change in the grade, without first submitting to Harbor Engineer a complete set of drawings, plans and specifications of the proposed construction or alteration and obtaining his approval in a written Harbor Engineer's General Permit. Harbor Engineer shall have the right to reject or order changes in said drawings, plans and specifications. Tenant, at its own expense, shall obtain all permits necessary for such construction. All construction by Tenant pursuant to this Permit shall be at Tenant's sole expense. Tenant shall keep the premises free and clear of liens for labor and materials and shall hold City harmless from any responsibility in respect thereto.

20. Construction. Tenant shall give written notice to Harbor Engineer, in advance, of the date it will commence any construction. Immediately upon the completion of the construction, Tenant shall notify Harbor Engineer of the date of such completion and shall, within thirty (30) days after such completion, file with Harbor Engineer, in a form acceptable to Harbor Engineer, a set of "as built" plans for such construction.

21. Indemnity. As partial consideration for City's grant of the premises to Tenant, Tenant agrees to at all times relieve, indemnify, protect and save harmless City and any and all of its boards, officers, agents and employees from any and all claims and demands, actions, proceedings, losses, liens, costs and judgments of any kind and nature whatsoever, including expenses incurred in defending against legal actions, for death of or injury to persons or damage to property including property owned by or under the care and custody of City, and for civil fines and penalties, that may arise from or be caused directly or indirectly by:

(a) Any dangerous, hazardous, unsafe or defective condition of, in or on the premises, of any nature whatsoever, which may exist by reason of any act, omission, neglect, or any use or occupation of the premises by Tenant, its officers, agents, employees, sublessees, licensees or invitees;

(b) Any operation conducted upon or any use or occupation of the premises by Tenant, its officers, agents, employees, sublessees, licensees or invitees under or pursuant to the provisions of this Permit or otherwise;

(c) Any act, omission or negligence of Tenant, its officers, agents, employees, sublessees, licensees or invitees, regardless of whether any act, omission or negligence of City, its officers, agents or employees contributed thereto;

(d) Any failure of Tenant, its officers, agents or employees to comply with any of the terms or conditions of this Permit or any applicable federal, state, regional, or municipal law, ordinance, rule or regulation; or

(e) The conditions, operations, uses, occupations, acts, omissions or negligence referred to in subdivisions (a), (b), (c) and (d) above, existing or conducted upon or arising from the use or occupation by Tenant or its invitees of any other premises within the Harbor District, as defined in the Charter of City.

Tenant also agrees to indemnify City and pay for all damage or loss suffered by City and the Harbor Department, including, but not limited to, damage to or loss of property, to the extent not insured by City, and loss of City revenue from any source, caused by or arising out of the conditions, operations, uses, occupations, acts, omissions or negligence referred to in subdivisions (a), (b), (c), (d) and (e) above. The term "persons" as used herein shall include, but not be limited to, officers and employees of Tenant. Tenant acknowledges that the City has set the compensation payable under this Permit in consideration of the indemnity and insurance obligations which Tenant assumes by this Permit.

Tenant shall also indemnify, defend and hold City harmless from any and all claims, judgments, damages, penalties, fines, costs, liabilities or losses (including, without limitation, diminution of value of the premises, damages for loss or restriction on use of rentable or useable space or of any amenity of the premises, damages arising from any adverse impact on marketing of space, and sums paid in settlement of claims, attorneys' fees, consultant fees and expert fees) which arise during or after the Permit term as a result of contamination of the premises by hazardous materials for which Tenant is otherwise responsible for under the terms of this Permit. This indemnification of City by Tenant includes, without limitation, costs incurred in connection with any investigation of site conditions or any clean-up, remedial, removal or restoration work required by any federal, state or local governmental agency because of hazardous material present in the soil or groundwater on or under the premises. The foregoing indemnity shall survive the expiration or earlier termination of this Permit.

22. Insurance. Tenant shall procure and maintain at its expense and keep in force at all times during the term of this Permit broad form comprehensive general liability and property damage insurance including automobile and contractual liability assumed coverages written by an insurance company authorized to do business in the State of California rated VII, A- or better in Best's Insurance Guide (or an alternate guide acceptable to City if a Best's Rating is not available) with Tenant's normal limits of liability but not less than One Million Dollars ($1,000,000) combined single limit for injury, death or property damage arising out of each accident or occurrence unless Executive Director allows or requires a different limit of liability. If the submitted policy contains an aggregate limit, this limit must be satisfactory to Executive Director or his or her designee. Said limits shall be without deduction, provided that Executive Director or his or her designee may permit a deductible amount in those cases where, in his or her judgment, such a deductible is justified. The insurance provided shall contain a severability of interest clause assuring that damage to City property or injury to City personnel are covered by the insurance. In all cases, regardless of any deductible, said insurance shall contain a defense of suits provision which assures the carrier will defend the City if any suit arises related to Tenant's occupation of the premises or such suit is within the scope of Tenant's indemnity allegation as set forth in Section 21. If Tenant operates watercraft or incurs other marine liability exposures or operates vehicles as part of its business in the Port, liability coverage for such watercraft or vehicles must be provided as above. The submitted policy shall contain endorsements substantially as follows:

(a) "Notwithstanding any inconsistent statement in the policy to which this endorsement is attached, or any endorsement or certificate now or hereafter attached hereto, it is agreed that the City of Los Angeles, its Board of Harbor Commissioners, their officers, agents and employees, are additional insureds hereunder, and that coverage is provided for all operations, uses, occupations, acts and activities of the insured under its revocable permit issued by the City, and under any amendments, modifications, extensions or renewals thereof regardless of whether such operations, uses, occupations, acts and activities occur on the premises or elsewhere within the Harbor District, and regardless of whether liability is attributable to the named insured or a combination of the named insured and the additional insured. It is understood that the additional insured will not be responsible for the payment of premium under the policy;

(b) "The policy to which this endorsement is attached shall not be cancelled or reduced in coverage until after the Executive Director and the City Attorney of City have each been given thirty (30) days' prior written notice by certified mail addressed to P.O. Box 151, San Pedro, California 90733-0151;

(c) "The coverage provided by the policy to which this endorsement is attached is primary coverage and any other insurance carried by City is excess of this insurance and shall not contribute with it;

(d) "If one of the named insureds incurs liability to any other of the named insureds, this policy shall provide protection for each named insured against whom claim is or may be made, including claims by other named insureds, in the same manner as if separate policies had been issued to each named insured. Nothing contained herein shall operate to increase the company's limit of liability; and

(e) "Notice of occurrences or claims under the policy shall be made to [This information is to be supplied by the Tenant's insurance carrier when submitting the Endorsement to the Harbor Department. The information to be supplied is the name, address and phone number of the person representing the carrier to be notified at the time of any accident.]"

The Executive Director and City Attorney shall have the discretion to modify the insurance requirements as they deem appropriate if the circumstances warrant a modification.

23. Fire Legal Liability Insurance. Tenant shall also secure and maintain, either by an endorsement thereto or by a separate policy, fire legal liability insurance covering legal liability of Tenant for damage or destruction to the works, structures and improvements owned by City. This policy shall be in an amount sufficient to cover the replacement value of the City structure occupied by Tenant but need not exceed the value of the deductible in the City's fire insurance policy provided, that upon thirty (30) days' prior written notice to Tenant, said minimum limits of liability shall be subject to adjustment by Executive Director to conform with the deductible amount of the fire insurance policy maintained by Board. Currently this deductible is Two Hundred Fifty Thousand Dollars ($250,000). So long as City's insurance policy permits City to waive any cause of action it and the City's insurance carrier would otherwise have for a fire caused by Tenant, City agrees to such waiver provided Tenant provides the insurance required by this Section. City should not be named as an additional insured in Tenant's fire legal policy.

24. Duplicate Insurance Policies. Tenant shall furnish two (2) signed copies of each policy or certificate required herein for approval by the Risk Manager of City.

25. Modifications to Insurance. Executive Director, based upon advice of independent insurance consultants of City, may increase or decrease the amounts and types of insurance coverage required herein by this Permit by giving sixty (60) days' written notice to Tenant.

26. Assignments/Subleases. No assignment, sublease, transfer, gift, hypothecation or grant of control, or other encumbrance of this Permit, or any interest therein or any right or privilege thereunder, whether voluntary or by operation of law, shall be valid for any purpose. For purposes of this subsection, the term "by operation of law" includes:

(a) The placement of all or substantially all of Tenant's assets in the hands of a receiver or trustee;

(b) An assignment by Tenant for the benefit of creditors.

27. Transfer of Stock. If Tenant is a corporation and more than ten percent (10%) of the outstanding shares of capital stock of Tenant is traded during any calendar year after filing its application for this Permit, Tenant shall notify Executive Director in writing within ten (10) days after the transfer date; provided, however, that this provision shall have no application in the event the stock of Tenant is listed on either the American Stock Exchange, the New York Stock Exchange, or the NYSE Arca Options. If more than twenty-five percent (25%) of the Tenant's stock is transferred, regardless of whether Tenant is a publicly or privately held entity, such transfer shall be deemed an assignment within the meaning of the preceding paragraph. Any such transfer shall void this Permit. Such a transfer is agreed to be a breach of this Permit which shall entitle City to evict Tenant on at least seven (7) days' notice.

28. Signs. Tenant shall not erect or display, or permit to be erected or displayed, on the premises any signs or advertising matter of any kind without first obtaining the written consent of Executive Director. Tenant shall post, erect and maintain on the premises such signs as Executive Director may direct.

29. Termination for Misrepresentations. This Permit is granted pursuant to an application filed by Tenant with Board. If the application or any of the attachments thereto contain any misstatement of fact which, in the judgment of Executive Director, affected his or her decision to grant said Permit, Executive Director may terminate this Permit. Termination pursuant to this Section shall not be termination by forfeiture.

30. Laws and Directives. Tenant shall comply with all applicable laws, ordinances and regulations. In addition, Tenant shall comply immediately with any and all directives issued by Executive Director or his or her authorized representative under authority of any such law, ordinance or regulation. This Permit shall be construed in accordance with California law.

31. Possessory Interest. THIS PERMIT MAY CREATE A POSSESSORY INTEREST BY TENANT WHICH MAY BE SUBJECT TO PROPERTY TAXATION. TENANT SHALL PAY ALL SUCH TAXES SO ASSESSED, AND ALL OTHER ASSESSMENTS OF WHATEVER CHARACTER LEVIED UPON ANY INTEREST CREATED BY THIS PERMIT. TENANT SHALL ALSO PAY ALL LICENSE AND PERMIT FEES REQUIRED FOR THE CONDUCT OF ITS OPERATIONS.

32. Utility Charges. Unless otherwise provided for herein, Tenant shall pay all charges for services furnished to the premises or used in connection with its occupancy, including, but not limited to, heat, gas, power, telephone, water, light and janitorial services, and pay all deposits, connection fees, charges and meter rentals required by the supplier of any such service, including City.

33. Termination by Court. If any court having jurisdiction in the matter renders a final decision which prevents the performance by City of any of its obligations under this Permit, then either party hereto may terminate this Permit by written notice, and all rights and obligations hereunder (with the exception of any undischarged rights and obligations) shall thereupon terminate.

34. Conflict of Interest. It is understood and agreed that the parties to this Permit have read and are aware of the provisions of Section 1090 et seq. and Section 87100 et seq. of the Government Code relating to conflict of interest of public officers and employees, as well as the Conflict of Interest Code of the Harbor Department. All parties hereto agree that they are unaware of any financial or economic interest of any public officer or employee of City relating to this Permit. Notwithstanding any other provision of this Permit, it is further understood and agreed that if such a financial interest does exist at the inception of this Permit, City may immediately terminate this Permit by giving written notice thereof. Termination pursuant to this Section shall not be termination by forfeiture.

35. Service of Notice. In all cases where written notice including the service of legal pleadings is to be given under this Permit, service shall be deemed sufficient if said notice is deposited in the United States mail, postage prepaid or delivered to the Permit premises. When so given, such notice shall be effective from the date of mailing. Unless changed by notice in writing from the respective parties, notice to City shall be addressed to Executive Director, Los Angeles Harbor Department, P.O. Box 151, San Pedro, California 90733-0151, and notice to Tenant shall be addressed to it at the address stated in the preamble or at such address designated by Tenant in writing. Nothing herein contained shall preclude or render inoperative service of such notice in the manner provided by law. All notice periods under this Permit refer to calendar days unless otherwise specifically stated.

36. No Waivers. No waiver by either party at any time of any terms or conditions of this Permit shall be a waiver at any subsequent time of the same or any other term or condition. The acceptance of late rent by Board shall not be deemed a waiver of any other breach by Tenant of any term or condition of this Permit other than the failure of Tenant to timely make the particular rent payment so accepted.

37. Immediate Access to Repair/Maintain Premises. Tenant is aware that the City Department of Water & Power or Harbor Department maintenance personnel may need to service or repair facilities on the premises. If such repair is necessary, Tenant agrees to relocate, at its expense, all of its cargo equipment or personal property to provide Department of Water & Power or Harbor Department personnel adequate access. Tenant agrees to complete such relocation within six (6) hours of receiving notice from City. Tenant agrees neither Department of Water & Power nor City shall be responsible for any loss Tenant may suffer as a result of such maintenance or repair.

38. Time of the Essence. Time is of the essence in this Permit.

39. Nondiscrimination and Affirmative Action Provisions. Tenant agrees not to discriminate in its employment practices against any employee or applicant for employment because of employee's or applicant's race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status or medical condition. All subcontracts awarded under or pursuant to this Permit shall contain this provision.

The applicable provisions of Section 10.8 et seq. of the Los Angeles Administrative Code are set forth in the attached Exhibit "C" and are incorporated herein by this reference.

40. Minority, Women and Other Business Enterprise (MBE/WBE/OBE) Outreach Program. It is the policy of the City to provide minority business enterprises (MBEs), women's business enterprises (WBEs), and all other business enterprises (OBEs) an equal opportunity to participate in the performance of all City contracts in all areas where such contracts afford such participation opportunities. The Tenant or Consultant shall assist the City in implementing this policy and shall use its best efforts to afford the opportunity for MBEs, WBEs, and OBEs to achieve participation in subcontracts where such participation opportunities present themselves and attempt to ensure that all available business enterprises, including MBEs, WBEs, and OBEs, have an equal opportunity to compete for and participate in any such participation opportunity which might be presented under this Permit.

41. Wilmington Truck Route. It is recognized by both parties that Tenant does not directly control the trucks serving the terminal. However, Tenant will make its best effort to notify truck drivers, truck brokers and trucking companies, that trucks serving the terminal must confine their route to the designated Wilmington Truck Route of Alameda Street and Harry Bridges Boulevard; Figueroa Street from Harry Bridges Boulevard to "C" Street; and Anaheim Street east of Alameda Street. A copy of the Wilmington Truck Route is attached hereto and marked Exhibit "D," which may be modified from time to time at the sole discretion of the Executive Director with written notice to Tenant.

42. Paragraph Headings. Paragraph headings used in the Permit are merely descriptive and not intended to alter the terms and conditions of the paragraphs.

43. Prior Permits. This Revocable Permit shall supersede Revocable Permit No. 1212. From and after the effective date of this Revocable Permit, said permit shall have no further force or effect except to the extent either party has accrued any rights or obligations under said permit.

44. Business Tax Registration Certificate. The City of Los Angeles Office of Finance requires the implementation and enforcement of Los Angeles Municipal Code Section 21.09 et seq. This section provides that every person, other than a municipal employee, who engages in business within the City of Los Angeles, is required to obtain the

necessary Business Tax Registration Certificate and pay business taxes. The City Controller has determined that this Code Section applies to consulting firms that are doing work for the Los Angeles Harbor Department.

45. Additions. There is attached to this Permit an addendum, consisting of numbered Sections 47-52, inclusive, the provisions of which are made a part of this Permit as though set forth herein in full.

46. Deletions. Section five (5) is deleted and is not to be considered as constituting a part of this Permit, and it is so marked.

DATED: 2/23/2011

CITY OF LOS ANGELES,
HARBOR DEPARTMENT.

Executive Director

(SEAL)

APPROVED:

BOARD OF HARBOR COMMISSIONERS

Secretary

The undersigned Tenant hereby accepts the foregoing Permit and agrees to abide and be bound by and to observe each and every of the terms and conditions thereof, including those set forth in the addendum, if any, and excluding those marked as being deleted.

DATED: 2/2/11

RANCHO LPG HOLDINGS, LLC

(SEAL)

By: Lawrence J. Dreyfuss
Vice President

Type/Print Name and Title

Attest: Ann Gullion
Assistant Secretary

Type/Print Name and Title

APPROVED AS TO FORM
2/15, 2011
CARMEN A. TRUTANICH, City Attorney

By:
HEATHER M. McCLOSKEY, Deputy

HMM:aw
6/17/10

ADDENDUM TO REVOCABLE PERMIT NO. 10-05

47. Service Contractor Worker Retention Policy and Living Wage Policy Requirements. The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 5771 on January 3, 1999, agreeing to adopt the provisions of Los Angeles City Ordinance No. 171004 relating to Service Contractor Worker Retention (SCWR), Section 10.36 et seq. of the Los Angeles Administrative Code, as the policy of the Harbor Department. Further, Charter Section 378 requires compliance with the City's Living Wage requirements as set forth by ordinance, Section 10.37 et seq. of the Los Angeles Administrative Code. Tenant shall comply with the policy wherever applicable. Violation of this provision, where applicable, shall entitle the City to terminate this Permit and otherwise pursue legal remedies that may be available.

48. Wage and Earnings Assignment Orders/Notices of Assignments. The Tenant is obligated to fully comply with all applicable state and federal employment reporting requirements for the Tenant and/or its employees.

The Tenant shall certify that the principal owner(s) are in compliance with any Wage and Earnings Assignment Orders and Notices of Assignments applicable to them personally. The Tenant will fully comply with all lawfully served Wage and Earnings Assignment Orders and Notices of Assignments in accordance with California Family Code §§ 5230 et seq. The Tenant will maintain such compliance throughout the term of this Permit.

49. Equal Benefits Policy. The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 6328 on January 12, 2005, agreeing to adopt the provisions of Los Angeles City Ordinance No. 172,908, as amended, relating to Equal Benefits, Section 10.8.2.1 et seq. of the Los Angeles Administrative Code, as a policy of the Harbor Department. Tenant shall comply with the policy wherever applicable. Violation of the policy shall entitle the City to terminate any agreement with Tenant and pursue any and all other legal remedies that may be available. See Exhibit "E."

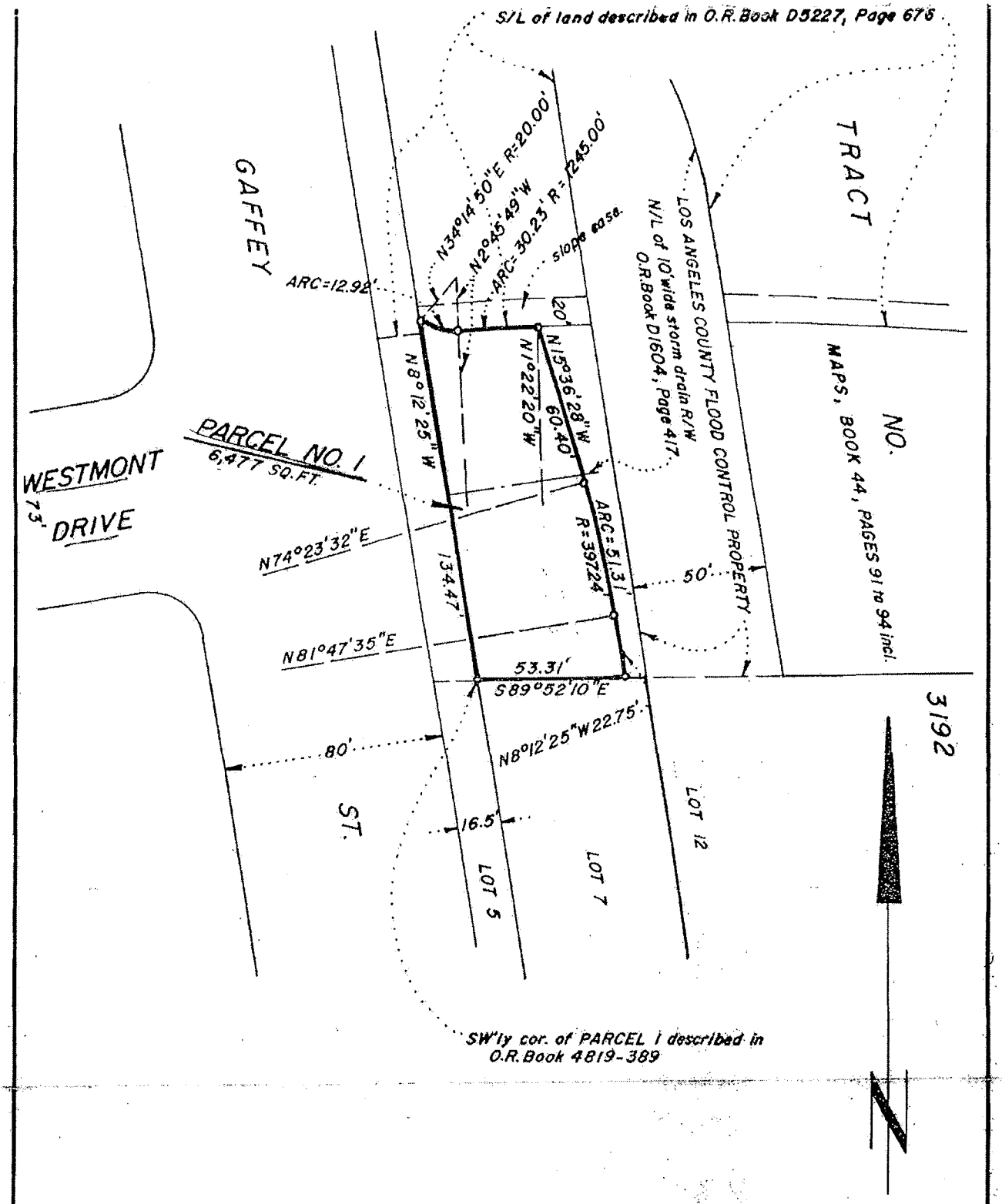
50. State Tidelands Grants. This Permit is entered into in furtherance of and as a benefit to the State Tidelands Grant and the trust created thereby. Therefore, this Permit is at all times subject to the limitations, conditions, restrictions and reservations contained in and prescribed by the Act of the Legislature of the State of California entitled "An Act Granting to the City of Los Angeles the Tidelands and Submerged Lands of the State Within the Boundaries of Said City," approved June 3, 1929, (Stats. 1929, Ch. 651), as amended, and provisions of Article VI of the Charter of the City of Los Angeles relating to such lands. Tenant agrees that any interpretation of this Permit and the terms contained herein must be consistent with such limitations, conditions, restrictions and reservations.

51. Workers' Compensation. Tenant shall secure the payment of compensation to employees injured while performing work or labor necessary for and incidental to performance under this Permit in accordance with Section 3700 of the Labor Code of the State of California. Tenant shall file with the City one of the following: 1) a certificate of consent to self-insure issued by the Director of Industrial Relations, State of California; 2) a certificate of Workers' Compensation insurance issued by an admitted carrier; or 3) an exact copy or duplicate thereof of the policy certified by the Director or the insurer. Such documents shall be filed prior to delivery of premises. Where Tenant has employees who are covered by the United States Longshore and Harbor Workers' Compensation Act, Tenant shall furnish proof of such coverage to the City. It is suggested that Tenant consult its insurance agent to determine whether its proposed construction methods will render its employees subject to coverage under the Act. All Workers' Compensation insurance submitted to City shall include an endorsement providing that any carrier paying benefits agrees to waive any right of subrogation it may have against the City.

52. Railroad Protective Liability Insurance

The Contractor shall also provide a policy of Railroad Protective Liability Insurance in which Pacific Harbor Line (PHL) acting for itself and its railroad users are named insureds and the City of Los Angles, its boards, officers, agents and employees are included as additional insureds with Contractor. The minimum limits of Railroad Protective Liability Insurance shall be the limits normally carried by the Contractor but not less than Two Million Dollars ($2,000,000) combined single limit for property damage and bodily injury including death. If the submitted policies contain aggregate limits the Contractor shall provide evidence of insurance protection for such limits so that the required coverage is not diminished in the event that the aggregate limits become exhausted. Said limit shall be without deduction, provided that the Executive Director or designee may permit a deductible amount when it is justified by the financial capacity of Contractor. Any deductible amount permitted by the Executive Director shall be paid solely by Contractor.

Contractor's comprehensive general liability coverage shall also have the railroad exclusion deleted.



SCALE 1"=50'	DATE	RECOMMENDED FOR APPROVAL	PERMIT MAP FOR PETROLANE
DRAWN RAA 9-26-74		CHIEF OF DESIGNS E.C. Bernard	
CHECKED VEH 9-27-74			
DESIGNED			
ENGR/ARCH		ASSISTANT CHIEF HARBOR ENGINEER L.C. Schmidt	APPROVED CHIEF HARBOR ENGINEER
			PORT OF LOS ANGELES ENGINEERING DIVISION P.O. BOX 151 SAN PEDRO, CALIF.
			DRAWING NUMBER 5-4327

PRINTED ON DIETERICH-POST CLEARPRINT 1000H-8

EXHIBIT A

MARINE TERMINAL MAINTENANCE PROVISIONS
FOR ALL LEASE AGREEMENTS

I. Structural Maintenance & Repair Performed by City at City's Expense* Within Lease Area

1. Roofs
2. Exteriors of structures, including exterior painting
3. Wharf structure (as defined)
4. Wharf bulkheads
5. Rock slopes
6. Maintenance dredging
7. Replacement of deteriorated electrical conduit and pipeline system
8. High and low voltage systems, including switchgear and crane power trench
9. Fire protection sprinkler systems, fire hydrant systems, standpipe systems, fire alarm systems

II. Maintenance & Repair Performed by City at Tenant's Expense Within Lease Area

1. Fender system repair (wharf damage procedure)
2. Refrigerated receptacle outlet (reefer) maintenance
3. Backflow devices and potable water systems
4. HVAC servicing and repair

III. Operational Maintenance & Repair to be Performed by the Tenant. Port Will Perform if Forces Available by Accommodation Work Order Within Leased Area at Tenant's Expense. Tenant, However, Remains Responsible for Sufficiency of All Work.

This portion of the Exhibit describes the maintenance and repair of items commonly found on terminal premises granted to Tenants. Not all items listed below may be present on all terminal premises. This list is only illustrative of the items which Tenant must maintain.

1. All landscaping, including irrigation systems
2. Daily janitorial service***
3. Relamping of terminal wharf and backland light standards**
4. Interior painting
5. Elevator and escalator maintenance**
6. Clarifier maintenance & servicing***
7. All toxic waste removal***
8. Storm drain inlet maintenance and cleaning
9. Cleaning clogged drains, including toilet/urinal stoppages
10. Pneumatic tube system maintenance**
11. Emergency generator unit maintenance**
12. Mooring capstans
13. Mechanical ramps and loading dock boards
14. Passenger gantries**, baggage systems**, conveyor systems**
15. Replacement of all light bulbs
16. Traffic and backland area striping (requires permit & approval by Harbor Engineer)
17. Weigh scales**
18. Wheel stop maintenance
19. Fence and gate maintenance
20. Rolling and sliding door maintenance
21. Window, door glass replacement
22. Carpet, tile, and vinyl floor replacements
23. All mechanical, electrical, hydraulic and air equipment and devices used by Tenant to maintain Tenant-owned machinery and equipment
24. Gate house equipment, including gate arms and mechanical/electrical equipment therein
25. Recharging and servicing of fire extinguishers
26. Surface paving, wharf and backland (as defined in Permit)
27. All underground and above ground tanks, pipelines and appurtenances unless the Permit specifically otherwise provides

* To be maintained at Tenant's expense, if damaged by Tenant

** To be maintained to Port's standards and subject to periodic audits and inspection by the Port of Los Angeles

*** At no time does Port provide or perform

IV. City May, But is Not Obligated to, Maintain or Repair Items Tenant Fails to Maintain or Repair at Tenant's Expense

EXHIBIT B

AFFIRMATIVE ACTION PROGRAM PROVISIONS

Sec. 10.8.4 Affirmative Action Program Provisions.

Every non-construction contract with or on behalf of the City of Los Angeles for which the consideration is $100,000 or more and every construction contract with or on behalf of the City of Los Angeles for which the consideration is $5,000 or more shall contain the following provisions which shall be designated as the AFFIRMATIVE ACTION PROGRAM provisions of such contract:

A. During the performance of City contract, the contractor certifies and represents that the contractor and each subcontractor hereunder will adhere to an affirmative action program to ensure that in its employment practices, persons are employed and employees are treated equally and without regard to or because of race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.

1. This provision applies to work or services performed or materials manufactured or assembled in the United States.

2. Nothing in this section shall require or prohibit the establishment of new classifications of employees in any given craft, work or service category.

3. The contractor shall post a copy of Paragraph A hereof in conspicuous places at its place of business available to employees and applicants for employment.

B. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to their race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.

C. As part of the City's supplier registration process, and/or at the request of the awarding authority or the Office of Contract Compliance, the contractor shall certify on an electronic or hard copy form to be supplied, that the contractor has not discriminated in the performance of City contracts against any employee or applicant for employment on the basis or because of race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.

D. The contractor shall permit access to and may be required to provide certified copies of all of its records pertaining to employment and to its employment practices by the awarding authority or the Office of Contract Compliance, for the purpose of investigation to ascertain compliance with the Affirmative Action Program provisions of City contracts, and on their or either of their request to provide evidence that it has or will comply therewith.

AFFIRMATIVE ACTION PROGRAM PROVISIONS

E. The failure of any contractor to comply with the Affirmative Action Program provisions of City contracts may be deemed to be a material breach of contract. Such failure shall only be established upon a finding to that effect by the awarding authority, on the basis of its own investigation or that of the Board of Public Works, Office of Contract Compliance. No such finding shall be made except upon a full and fair hearing after notice and an opportunity to be heard has been given to the contractor.

F. Upon a finding duly made that the contractor has breached the Affirmative Action Program provisions of a City contract, the contract may be forthwith cancelled, terminated or suspended, in whole or in part, by the awarding authority, and all monies due or to become due hereunder may be forwarded to and retained by the City of Los Angeles. In addition thereto, such breach may be the basis for a determination by the awarding authority or the Board of Public Works that the said contractor is an irresponsible bidder or proposer pursuant to the provisions of Section 371 of the Los Angeles City Charter. In the event of such determination, such contractor shall be disqualified from being awarded a contract with the City of Los Angeles for a period of two years, or until he or she shall establish and carry out a program in conformance with the provisions hereof.

G. In the event of a finding by the Fair Employment and Housing Commission of the State of California, or the Board of Public Works of the City of Los Angeles, or any court of competent jurisdiction, that the contractor has been guilty of a willful violation of the California Fair Employment and Housing Act, or the Affirmative Action Program provisions of a City contract, there may be deducted from the amount payable to the contractor by the City of Los Angeles under the contract, a penalty of TEN DOLLARS ($10.00) for each person for each calendar day on which such person was discriminated against in violation of the provisions of a City contract.

H. Notwithstanding any other provisions of a City contract, the City of Los Angeles shall have any and all other remedies at law or in equity for any breach hereof.

I. The Public Works Board of Commissioners shall promulgate rules and regulations through the Office of Contract Compliance and provide to the awarding authorities electronic and hard copy forms for the implementation of the Affirmative Action Program provisions of City contracts, and rules and regulations and forms shall, so far as practicable, be similar to those adopted in applicable Federal Executive Orders. No other rules, regulations or forms may be used by an awarding authority of the City to accomplish this contract compliance program.

J. Nothing contained in City contracts shall be construed in any manner so as to require or permit any act which is prohibited by law.

K. The Contractor shall submit an Affirmative Action Plan which shall meet the requirements of this chapter at the time it submits its bid or proposal or at the time it

registers to do business with the City. The plan shall be subject to approval by the Office of Contract Compliance prior to award of the contract. The awarding authority may also require contractors and suppliers to take part in a pre-registration, pre-bid, pre-proposal, or pre-award conference in order to develop, improve or implement a qualifying Affirmative Action Plan. Affirmative Action Programs developed pursuant to this section shall be effective for a period of twelve

months from the date of approval by the Office of Contract Compliance. In case of prior submission of a plan, the contractor may submit documentation that it has an Affirmative Action Plan approved by the Office of Contract Compliance within the previous twelve months. If the approval is 30 days or less from expiration, the contractor must submit a new Plan to the Office of Contract Compliance and that Plan must be approved before the contract is awarded.

1. Every contract of $5,000 or more which may provide construction, demolition, renovation, conservation or major maintenance of any kind shall in addition comply with the requirements of Section 10.13 of the Los Angeles Administrative Code.

2. A contractor may establish and adopt as its own Affirmative Action Plan, by affixing his or her signature thereto, an Affirmative Action Plan prepared and furnished by the Office of Contract Compliance, or it may prepare and submit its own Plan for approval.

L. The Office of Contract Compliance shall annually supply the awarding authorities of the City with a list of contractors and suppliers who have developed Affirmative Action Programs. For each contractor and supplier the Office of Contract Compliance shall state the date the approval expires. The Office of Contract Compliance shall not withdraw its approval for any Affirmative Action Plan or change the Affirmative Action Plan after the date of contract award for the entire contract term without the mutual agreement of the awarding authority and the contractor.

M. The Affirmative Action Plan required to be submitted hereunder and the pre-registration, pre-bid, pre-proposal or pre-award conference which may be required by the Board of Public Works, Office of Contract Compliance or the awarding authority shall, without limitation as to the subject or nature of employment activity, be concerned with such employment practices as:

1. Apprenticeship where approved programs are functioning, and other on-the-job training for non-apprenticeable occupations;

2. Classroom preparation for the job when not apprenticeable;

3. Pre-apprenticeship education and preparation;

4. Upgrading training and opportunities;

5. Encouraging the use of contractors, subcontractors and suppliers of all racial and ethnic groups, provided, however, that any contract subject to this ordinance shall require the contractor, subcontractor or supplier to provide not less than the prevailing wage, working conditions and practices generally observed in private industries in the contractor's, subcontractor's or supplier's geographical area for such work;

6. The entry of qualified women, minority and all other journeymen into the industry; and

7. The provision of needed supplies or job conditions to permit persons with disabilities to be employed, and minimize the impact of any disability.

N. Any adjustments which may be made in the contractor's or supplier's workforce to achieve the requirements of the City's Affirmative Action Contract Compliance Program in purchasing and construction shall be accomplished by either an increase in the size of the workforce or replacement of those employees who leave the workforce by reason of resignation, retirement or death and not by termination, layoff, demotion or change in grade.

O. Affirmative Action Agreements resulting from the proposed Affirmative Action Plan or the pre-registration, pre-bid, pre-proposal or pre-award conferences shall not be confidential and may be publicized by the contractor at his or her discretion. Approved Affirmative Action Agreements become the property of the City and may be used at the discretion of the City in its Contract Compliance Affirmative Action Program.

P. This ordinance shall not confer upon the City of Los Angeles or any Agency, Board or Commission thereof any power not otherwise provided by law to determine the legality of any existing collective bargaining agreement and shall have application only to discriminatory employment practices by contractors or suppliers engaged in the performance of City contracts.

Q. All contractors subject to the provisions of this section shall include a like provision in all subcontracts awarded for work to be performed under the contract with the City and shall impose the same obligations, including but not limited to filing and reporting obligations, on the subcontractors as are applicable to the contractor. Failure of the contractor to comply with this requirement or to obtain the compliance of its subcontractors with all such obligations shall subject the contractor to the imposition of any and all sanctions allowed by law, including but not limited to termination of the contractor's contract with the City.

(d) Other Options for Compliance. Provided that the Contractor does not discriminate in the provision of Benefits, a Contractor may also comply with the Equal Benefits Ordinance in the following ways:

(1) A Contractor may provide an employee with the Cash Equivalent only if the DAA determines that either:

a. The Contractor has made a reasonable, yet unsuccessful effort to provide Equal Benefits; or

b. Under the circumstances, it would be unreasonable to require the Contractor to provide Benefits to the Domestic Partner (or spouse, if applicable).

(2) Allow each employee to designate a legally domiciled member of the employee's household as being eligible for spousal equivalent Benefits.

(3) Provide Benefits neither to employees' spouses nor to employees' Domestic Partners.

(e) Applicability.

(1) Unless otherwise exempt, a Contractor is subject to and shall comply with all applicable provisions of the Equal Benefits Ordinance.

(2) The requirements of the Equal Benefits Ordinance shall apply to a Contractor's operations as follows:

a. A Contractor's operations located within the City limits, regardless of whether there are employees at those locations performing work on the Contract.

b. A Contractor's operations on real property located outside of the City limits if the property is owned by the City or the City has a right to occupy the property, and if the Contractor's presence at or on that property is connected to a Contract with the City.

c. The Contractor's employees located elsewhere in the United States but outside of the City limits if those employees are performing work on the City Contract.

(3) The requirements of the Equal Benefits Ordinance do not apply to collective bargaining agreements ("CBA") in effect prior to January 1, 2000. The Contractor must agree to propose to its union that the requirements of the Equal Benefits Ordinance be incorporated into its CBA upon amendment, extension, or other modification of a CBA occurring after January 1, 2000.

(f) Mandatory Contract Provisions Pertaining to Equal Benefits. Unless otherwise exempted, every Contract shall contain language that obligates the Contractor to comply with the applicable provisions of the Equal Benefits Ordinance. The language shall include provisions for the following:

(1) During the performance of the Contract, the Contractor certifies and represents that the Contractor will comply with the Equal Benefits Ordinance.

(2) The failure of the Contractor to comply with the Equal Benefits Ordinance will be deemed to be a material breach of the Contract by the Awarding Authority.

(3) If the Contractor fails to comply with the Equal Benefits Ordinance the Awarding Authority may cancel, terminate or suspend the Contract, in whole or in part, and all monies due or to become due under the Contract may be retained by the City. The City may also pursue any and all other remedies at law or in equity for any breach.

(4) Failure to comply with the Equal Benefits Ordinance may be used as evidence against the Contractor in actions taken pursuant to the provisions of Los Angeles Administrative Code Section 10.40, et seq., Contractor Responsibility Ordinance.

(5) If the DAA determines that a Contractor has set up or used its Contracting entity for the purpose of evading the intent of the Equal Benefits Ordinance, the Awarding Authority may terminate the Contract on behalf of the City. Violation of this provision may be used as evidence against the Contractor in actions taken pursuant to the provisions of Los Angeles Administrative Code Section 10.40, et seq., Contractor Responsibility Ordinance.

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RANCHO LPG HOLDINGS

PERMIT RP10-05

BOUNDARY OF HARBOR DISTRICT

PORTION OF PERMIT MAP

PARCEL NO. 1
6,478 S.F.

CODE
14
13245

FOR PREV. ASSM'T SEE:
1728 - 26
7412 - 13,23 & 24

DETAIL "A"
NO SCALE

DETAIL
NO SCALE

TRACT NO. 52831 M.B. 1260-81-87
TRACT NO. 3192 M.B. 44-91-94
PARCEL MAP P.M. 52-29

SBE 2748-19-215-PAR. 1

LEGEND

- RANCHO LPG HOLDINGS
- PORT LA DISTRIBUTION CENTER
- CITY OF LOS ANGELES
- COUNTY OF LOS ANGELES FLOOD CONTROL DISTRICT
- PORT OF LOS ANGELES PERMIT RP 10-05
- PORT OF LA / PORT OF LB 50/50 UNDIVIDED OWNERSHIP

* MAP COLOR CODED FOR REFERENCE BY PORT OF LOS ANGELES REAL ESTATE DIVISION

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

DO

FR-7035-01-P

INTERSTATE COMMERCE COMMISSION

NOTICE OF EXEMPTION

[Finance Docket No. 32427]

CITY OF LOS ANGELES AND CITY OF LONG BEACH--ACQUISITION EXEMPTION--RAIL LINES OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY, SOUTHERN PACIFIC TRANSPORTATION COMPANY, AND UNION PACIFIC RAILROAD COMPANY

SERVICE DATE
JAN 12 1994

The City of Los Angeles, acting by and through the Board of Harbor Commissioners of the Port of Los Angeles, and the City of Long Beach, acting by and through its Board of Harbor Commissioners (collectively referred to as the Cities), have jointly filed a notice of exemption to acquire from The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), Southern Pacific Transportation Company (SPT), and Union Pacific Railroad Company (UP) certain interest in property described below to construct a railroad corridor that will permit consolidation of Santa Fe's, SPT's, and UP's overhead rail service to and from the ports to a point in central Los Angeles. The exemption became effective on December 24, 1993.

The lines being acquired, by subdivision, include the following: (a) Santa Fe's line on the Los Angeles Harbor Subdivision between milepost 27.6 and milepost 28.3 in the County of Los Angeles; and the connection track between SPT's San Pedro Branch and Santa Fe's Watson Yard; (b) SPT's

EXHIBIT 7

line from the connection with UP switch at the east side of Santa Fe Avenue easterly of "J" Yard, milepost BO 486.17 (San Pedro Branch) southeasterly through "J" Yard and a portion of the SPT's Santa Monica Branch to a point of connection with the San Pedro Branch milepost BBN 484.99 (Wilmington Branch) then southerly paralleling Alameda Street to a crossing of the Wilmington Branch at Dominguez Junction milepost BO 496.50 (San Pedro Branch) crossing over to the Wilmington Branch southerly to a point southerly of Sepulveda Boulevard and merging into the San Pedro Branch with the Wilmington Branch terminating at the Santa Fe's Harbor Subdivision Thornard Crossing milepost BBN 501.20 (Wilmington Branch) and milepost BO 501.4 (San Pedro Branch) and the San Pedro Branch continuing southerly and southeasterly through the Port of Los Angeles to approximately 22nd Street in San Pedro and also including to the legs of the West Wye and the Long Beach Branch from the San Pedro Branch into the Port of Long Beach and terminating south of the 8th Street Yard milepost BH 505.73 (Long Beach Branch); and (c) UP's line from a connection with SPT's "J" Yard at the east side of Santa Fe Avenue in Los Angeles milepost 1.8 via Redondo Jct. and Bridge Jct. to a connection with the East Bank main line at Ninth St. Jct. milepost 0.97; from Bridge Jct. on the aforesaid line milepost 1.30 to Soto St. Jct. milepost 2.08 (a distance of

approximately 500 feet); from Soto St. Jct. milepost 2.08 to Downey Road milepost 2.88; and from milepost 2.84 near Downey Road to Hobart Junction milepost 3.08 on the San Pedro Branch north of Santa Fe's at-grade crossing; and the San Pedro Branch from milepost 21.71 to milepost 23.73 in the County of Los Angeles.

Santa Fe, SPT, and UP are to retain trackage rights and/or permanent easements over those portions of property on which they currently conduct rail operations so as to continue rail freight service.

According to the Cities, their acquisition of the described property interests from Santa Fe, SPT, and UP will not confer common carrier status on the Cities, and the Cities reserve their right to file a motion to dismiss this notice or subsequently to seek revocation of the exemption. If we subsequently find that we lack jurisdiction over these transactions, we will enter a supplemental order vacating this exemption.

Any comments must be filed with the Commission and served on: Samuel M. Sipe, Jr., Steptoe & Johnson, 1330 Connecticut Ave., N. W., Washington, DC 20036.

This notice is filed under 49 CFR 1150.31. If the notice contains false or misleading information, the exemption is void ab initio. Petitions to revoke the

exemption under 49 U.S.C. 10505(d) may be filed at any time. The filing of a petition to revoke will not automatically stay the transaction.

Decided: January 5, 1994

By the Commission, David M. Konschnik, Director, Office of Proceedings.

Sidney L. Strickland, Jr.

Secretary

(SEAL)

PACIFIC HARBOR LINE, INC.
--OPERATION EXEMPTION--
PORT OF LOS ANGELES

VERIFIED NOTICE OF EXEMPTION
PURSUANT TO 49 C.F.R. § 1150.31

STB FINANCE DOCKET NO. 33411

Applicant's name and current mailing address:

Pacific Harbor Line, Inc.
340 Water Street
Wilmington, CA 90744
(310) 549-5274

Applicant's representative to receive correspondence:

Mark H. Sidman, Esq.
Weiner, Brodsky, Sidman & Kider, P.C.
1350 New York Avenue, NW, Suite 800
Washington, D.C. 20005-4797
(202) 628-2000

Pacific Harbor Line, Inc. ("PHL"), a non-carrier, and the City of Los Angeles, a municipal corporation, acting through its Board of Harbor Commissioners ("LA"), 425 South Palos Verde Street, San Pedro, CA 90733, will enter into an operating agreement ("Agreement") whereby PHL will acquire operating rights within LA's Port of Los Angeles ("POLA"). PHL will provide switching service, as defined in the Agreement ("Operating Rights"), on track owned by POLA ("Subject Lines"). A Map of the Subject Lines is attached hereto as Exhibit A.

The transaction is expected to be consummated in phases on or after November 15, 1997. The Agreement conveys the Operating Rights for a term of three years, subject to extension, modification and earlier termination in accordance with the terms of the Agreement.

EXHIBIT 8

In connection with this proceeding, Peter A. Gilbe
Lieberman, R. Lawrence McCaffrey, Jr., and Harold F. Pa
("Gilbertson, et al."), and Anacostia Rail Holdings Comp
company, has filed in STB Finance Docket No. 33412, a v
to 49 C.F.R. § 1180.2(d)(2), to continue in control of PHL
Company, and New York & Atlantic Railway Company, v
upon consummation of its proposed transaction with POL
Finance Docket No. 33412, Gilbertson, et al. seek to c
& South Bend Railroad Company ("CSS").

Pursuant to the Interstate Commerce Commission's
22A), *Implementation of Environmental Laws*, 7 I.C.C. 2d
environmental documentation normally need not be prepar
involve either the diversion from rail to motor carriage of r
year, or (B) an average of 50 rail carloads per mile per yea
C.F.R. § 1105.7(e)(4)) on the one hand, or (A) an increase
an increase of at least eight trains a day on any segment of
rail yard activity of at least 100 percent, or (C) an increase
percent of the average daily traffic or 50 vehicles a day
§1105.7(e)(5)), on the other hand. *See* 49 C.F.R. § 1105.6(

PHL's freight operations on the Subject Lines will n
operations that exceed the above-listed thresholds, nor will
significant environmental impacts." *See* 49 C.F.R. § 1105.
documentation is required for this Verified Notice of Exem

Pursuant to the *Environmental Laws* decision, transactions involving a sale, lease or transfer of rail line for the purposes of continued operation are exempt from the historic report requirements of 49 C.F.R. § 1105.8(a) if termination of such operation requires further approval by the Surface Transportation Board and there are no plans to dispose of or alter properties adjacent to the rail line that are 50 or more years old. *See* 49 C.F.R. § 1105.8(b)(1).

Common carrier service on the Subject Lines will be continued. PHL has no plans to dispose of or alter the Subject Lines or any adjacent properties that are 50 or more years old. Therefore, a historic report is not required for this filing. *See* 49 C.F.R. § 1105.8(a), (b).

In accordance with 49 C.F.R. § 1150.33(g), a certificate concerning PHL's projected revenue is attached as Exhibit B.

Respectfully submitted,

Mark H. Sidman
Weiner, Brodsky, Sidman & Kider, P.C.
Suite 800
1350 New York Avenue, N.W.
Washington, D.C. 20005-4797

Attorneys for:

Pacific Harbor Line, Inc.

Dated: November 7, 1997

I, Mark H. Sidman, cer
to the best of my knowledge, i
authorized to file this Verified

Dated: November 7, 1997

In connection with this proceeding, Peter A. Gilbertson, H. Terry Hearst, Bruce A. Lieberman, R. Lawrence McCaffrey, Jr., and Harold F. Parmly, noncarrier individuals ("Gilbertson, et al."), and Anacostia Rail Holdings Company ("ARC"), a noncarrier holding company, has filed in STB Finance Docket No. 33412, a verified notice of exemption, pursuant to 49 C.F.R. § 1180.2(d)(2), to continue in control of PHL, Louisville & Indiana Railroad Company, and New York & Atlantic Railway Company, when PHL becomes a common carrier upon consummation of its proposed transaction with POLA. In addition, in that same STB Finance Docket No. 33412, Gilbertson, et al. seek to continue in control of Chicago SouthShore & South Bend Railroad Company ("CSS").

Pursuant to the Interstate Commerce Commission's decision in *Ex Parte* No. 55 (Sub-No. 22A), *Implementation of Environmental Laws*, 7 I.C.C. 2d 807 (1991) ("*Environmental Laws*"), environmental documentation normally need not be prepared for an acquisition that does not involve either the diversion from rail to motor carriage of more than (A) 1,000 rail carloads a year, or (B) an average of 50 rail carloads per mile per year for any part of the affected line (49 C.F.R. § 1105.7(e)(4)) on the one hand, or (A) an increase in rail traffic of at least 100 percent or an increase of at least eight trains a day on any segment of the affected line, (B) an increase in rail yard activity of at least 100 percent, or (C) an increase in truck traffic of more than 10 percent of the average daily traffic or 50 vehicles a day on any affected road segment (49 C.F.R. §1105.7(e)(5)), on the other hand. *See* 49 C.F.R. § 1105.6(c)(2).

PHL's freight operations on the Subject Lines will not result in changes in carrier operations that exceed the above-listed thresholds, nor will the acquisition have the "potential for significant environmental impacts." *See* 49 C.F.R. § 1105.6(d). Therefore, no environmental documentation is required for this Verified Notice of Exemption.

Pursuant to the *Environmental La*
transfer of rail line for the purposes of co
requirements of 49 C.F.R. § 1105.8(a) if
by the Surface Transportation Board and
adjacent to the rail line that are 50 or mor

Common carrier service on the Su
dispose of or alter the Subject Lines o
Therefore, a historic report is not required

In accordance with 49 C.F.R. § 11
revenue is attached as Exhibit B.

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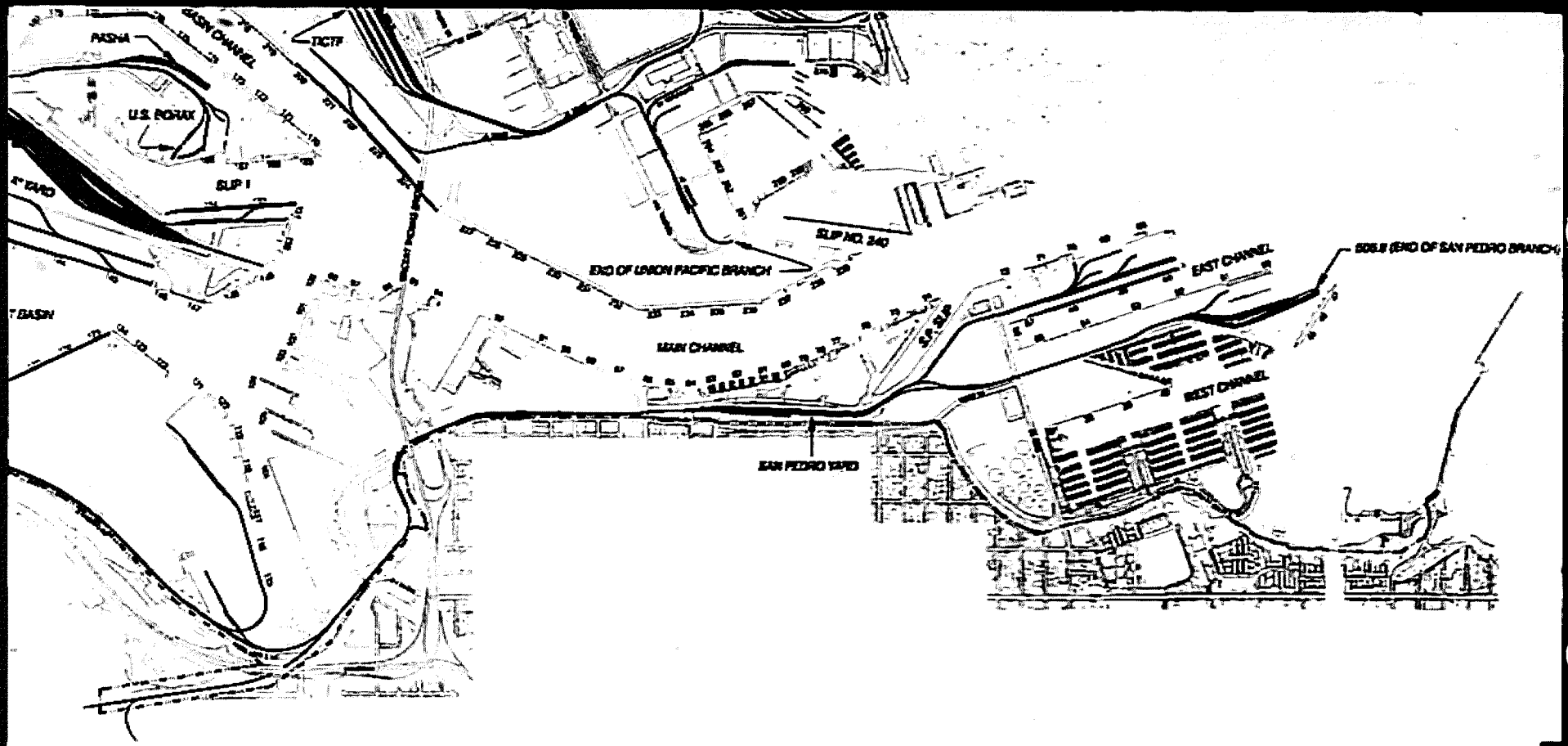
Dated: November 7, 1997



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				DIVISION			

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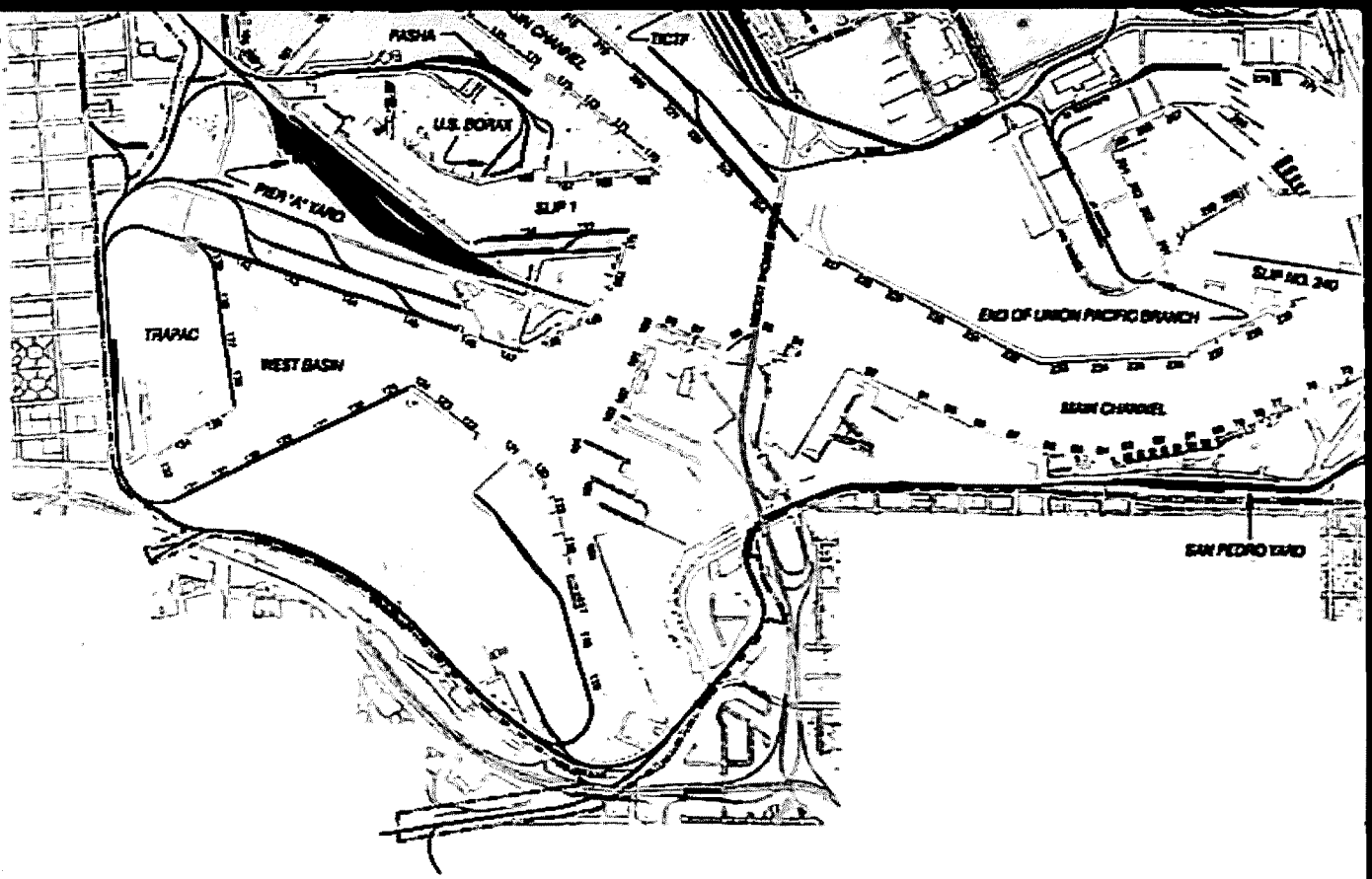

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CHIEF HARBOR ENGINEER

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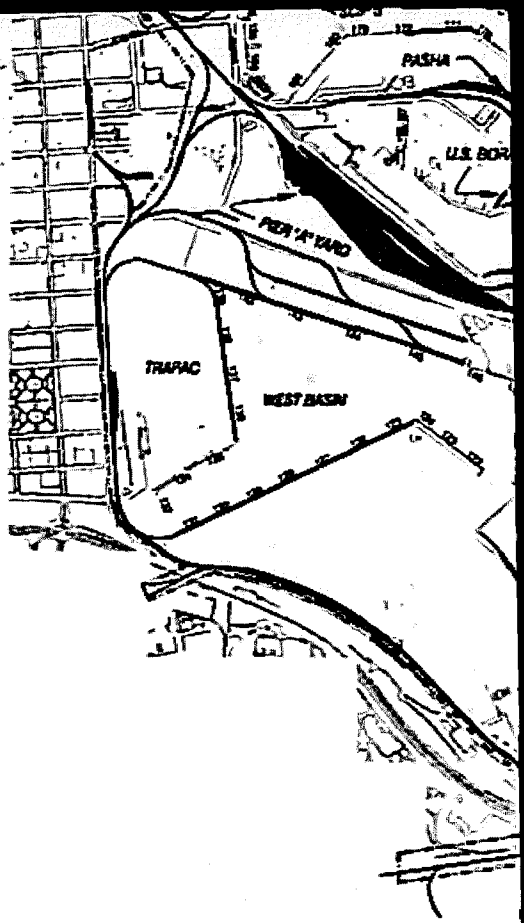

LEGEND

- PORT OF LA POLA TRACKS
- TRACKS OUT OF SERVICE
- PRIVATE TRACKS
- UNION PACIFIC TRACKS
- BNSF TRACKS

NO.	DATE	DRAWN	REVISIONS -	CHKD	APP'D

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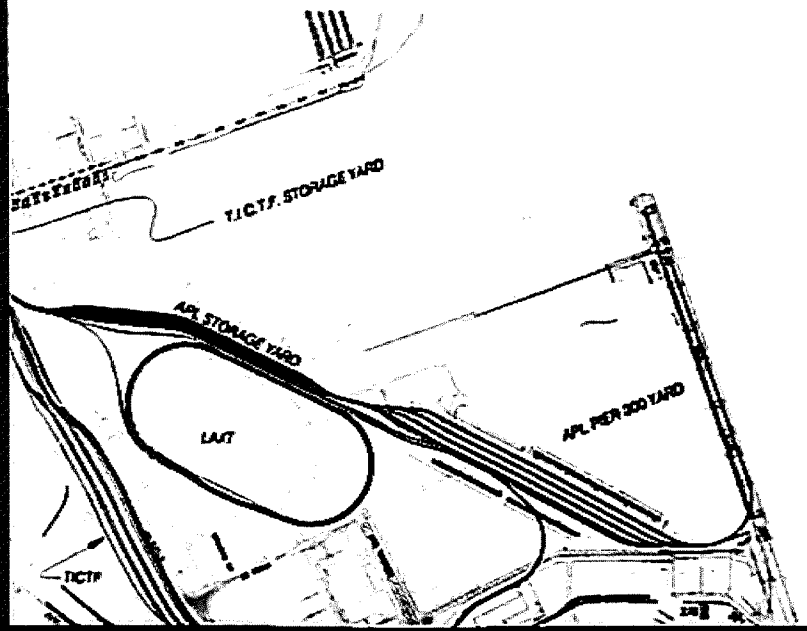
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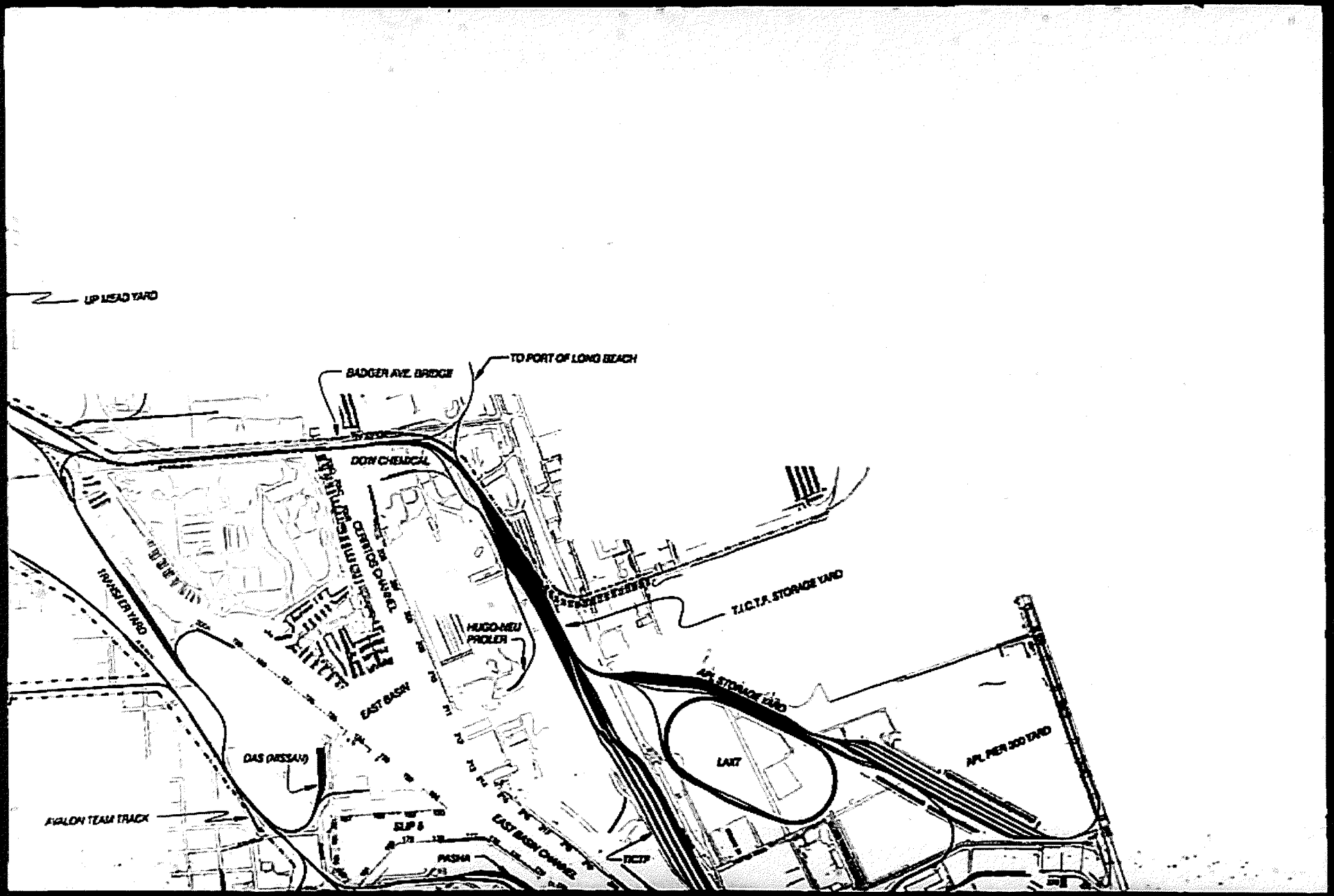
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TO PORT OF LONG BEACH
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EAST BASIN CHANNEL
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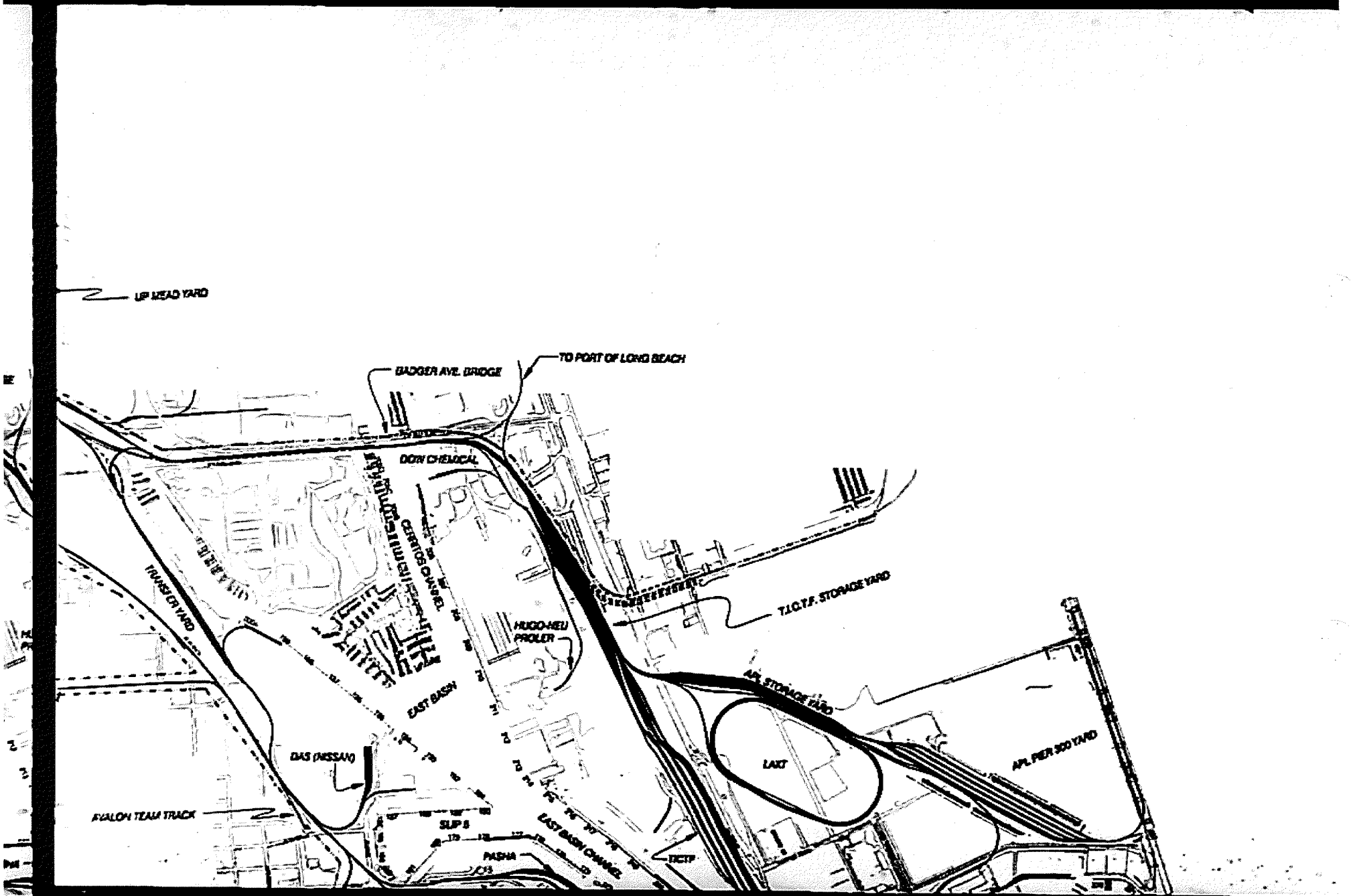
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TO PORT OF LONG BEACH
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EAST BASIN
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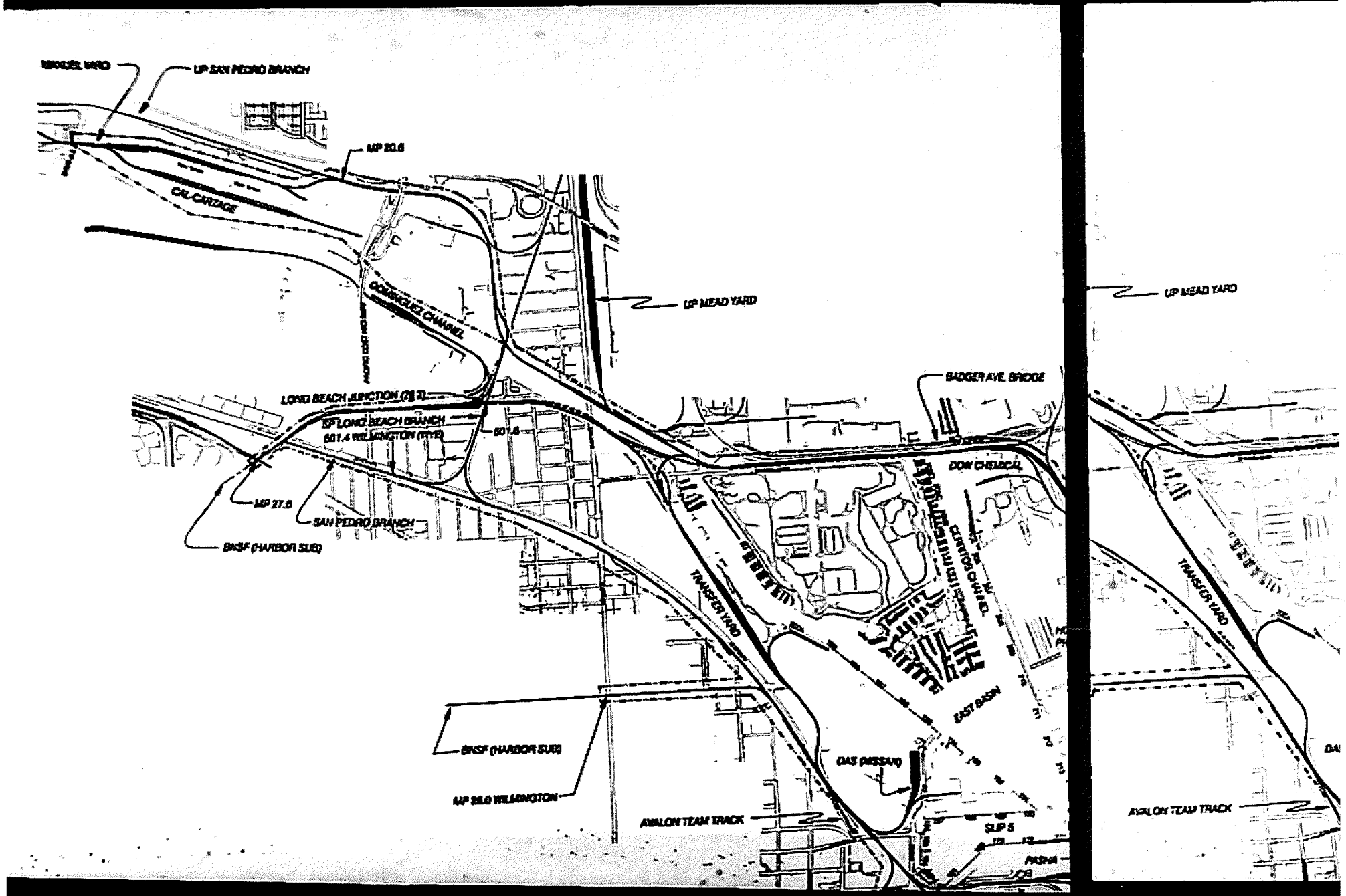
UP SAN PEDRO BRANCH
MP 20.6
CAL-CARTAGE
DOMINGUEZ CHANNEL
UP MEAD YARD
BADGER AVE. BRIDGE
LONG BEACH JUNCTION (T&SF)
SF LONG BEACH BRANCH
MP 27.6
SAN PEDRO BRANCH
BNSF (HARBOR SUB)
DOW CHEMICAL
CERRITOS CHANNEL
TRANSFER YARD
EAST BASIN
BNSF (HARBOR SUB)
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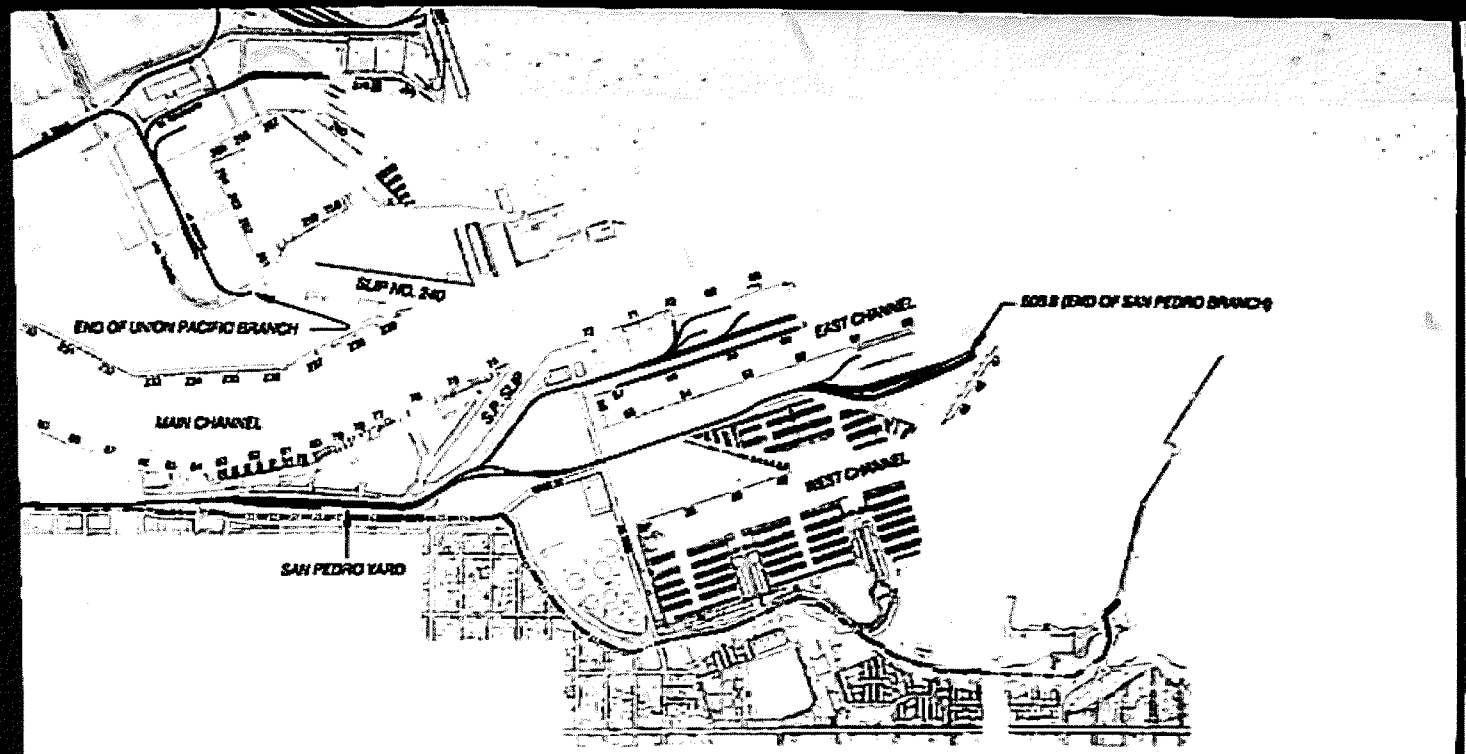

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CHECKED A. GOODWIN	ASSISTANT CHIEF HARBOR ENGINEER	WORLDPORT LA	DRAWING NUMBER EXHIBIT "A"	
DESIGNED C.R. QUINTANA	CHIEF HARBOR ENGINEER			
ENGINEER				

E D C B A

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City Hall East
200 N. Main Street
Room 800
Los Angeles, CA 90012

(213) 978-8100 Tel
(213) 978-8312 Fax
CTrutanich@lacity.org
www.lacity.org/atty

City of Los Angeles

CARMEN A. TRUTANICH
City Attorney

September 22, 2011

Mr. Anthony G. Patchett, Esq.
Law Offices of Anthony G. Patchett
P.O. Box 5232
Glendale, California 91221-1099

Subject: Rancho LPG Facility, 2011 North Gaffey Street, San Pedro, California

Dear Mr. Patchett:

Thank you for your letters expressing various concerns regarding the Rancho LPG facility located in San Pedro (hereinafter "Rancho Facility"). To summarize your primary issues, you have requested that this Office seek an injunction in Superior Court against this privately-owned Facility, as well as raised questions relating to the City's previous environmental review of the Facility and related pipelines. Separately, you sent a letter to the President of the Los Angeles Board of Harbor Commissioners, who has forwarded it to this Office for response. Lastly, you recently alleged that there is a conflict of interest in the Office of the Los Angeles City Attorney that purportedly would preclude this Office from further reviewing these matters. I respond to all of these issues below, after a brief discussion of the relevant background facts, as I currently understand them.

Obviously, City Attorney Carmen Trutanich takes any allegations of potential threats to public safety very seriously. As a former environmental crimes prosecutor, and current City Attorney, who has successfully prosecuted, and continues to prosecute, environmental violations and polluters, City Attorney Trutanich is fully committed to undertake every effort within the power and authority of his Office and the law to investigate, prosecute, abate and remediate any actual or potential threats to the residents of this City.[1] With that commitment in mind, on Friday, August 26, 2011, the City Attorney personally visited and toured the Rancho Facility over the course of three hours to inspect and review its operations. Drawing upon his decades of environmental and regulatory experience, the City Attorney directly questioned the Facility's operators regarding any potential threats to public safety, including those raised in both your letters and from others in the community.

[1] As you are aware, I have also served as a local, state and federal environmental crimes and workplace safety prosecutor for nearly 25 years, and once served as Assistant Secretary for Law Enforcement and General Counsel for the California Environmental Protection Agency ("Cal/EPA").

EXHIBIT 9

I. Overview

As you are aware, there is a lengthy regulatory and permitting history at the Rancho Facility, including its interactions with the community. I will attempt to summarize my current understanding of the Facility's relevant history.

A. City's Past and Current Involvement with the Rancho Facility.

The Rancho Facility property was originally acquired in fee simple by Rancho's predecessor, Petrolane, and developed into a liquid bulk tank facility pursuant to an environmental impact report (EIR) certified in 1973 under the California Environmental Quality Act by the City of Los Angeles as lead agency. There were no legal challenges to the EIR at that time and the project was therefore approved.

On July 1, 1974, the Los Angeles Harbor Department entered into Revocable Permit No. 1212 for the construction and operation of a railroad spur track. On May 27, 1974, the Los Angeles Harbor Department entered into Permit No. 263 with Rancho's predecessor, Petrolane, for subsurface pipelines on Harbor Department property, which was subsequently terminated in October 2010. The Harbor Department had previously terminated the use of Berth 120, closing down the ocean shipping operation.

Rancho currently possesses Harbor Department Revocable Permit No. 10-05 dated February 23, 2011, which authorizes a right of way for a railroad spur -- the same one permitted under the 1974 Permit No. 1212. The railroad spur is one section of railroad used by the Pacific Harbor Line. The City does not own or lease the property comprising the Rancho Facility.

B. Other Federal, State and Local Agencies.

The most serious concerns that you and the community members have raised obviously relate to the potential risk of explosion resulting from operations occurring on the premises of the Rancho Facility. For that precise reason, the Rancho Facility is heavily regulated by many local, state and federal regulatory and enforcement agencies, including, but not limited to, the following: U.S. Department of Homeland Security, U.S. Department of Transportation, U.S. Environmental Protection Agency (EPA), U.S. Department of Occupational Safety and Health Administration, Cal/EPA, California Emergency Management Agency, California Department of Toxic Substances Control, the South Coast Air Quality Management District, the Los Angeles County Fire Department, the City of Los Angeles Fire Department, the Los Angeles Police Department, and the City of Los Angeles Bureau of Sanitation Industrial Waste Management Division among others. These agencies have the regulatory authority to issue applicable permits, review, assess and require safety procedures and protocols, as well as the enforcement authority over the operation of such facilities should they fail to comply with any applicable environmental, public safety and other requirements.

C. Technical Analysis of Facility Risk.

The concerns expressed in Dr. Miller's note (included in your letter) and in the Cornerstone Quantitative Risk Analysis (Attachment A), have been provided to the EPA's Risk Management Plan Enforcement Unit, which is an agency responsible for determining the acceptable level of risk for the Rancho Facility. In direct response to these concerns, the EPA engaged Michigan

Technological University's Department of Chemical Engineering to conduct essentially a peer review of the Cornerstone Risk Analysis and Rancho's assertions (Attachment B) regarding the potential risk that the location poses to the community. The independent expert opinion from Michigan Tech is noteworthy (Attachment C). In sum, the Michigan Tech Report states that the Rancho Facility has design features that significantly reduce the risk the Facility poses to the community. The Report further notes that any analysis that does not recognize and analyze these features "...will not have a meaningful result and will very likely *dramatically overestimate the consequence and risk."* (Michigan Tech Report, 2 emphasis added). Specifically, according to the Michigan Tech Report, these design features at the Rancho Facility include:

1. The butane is stored in refrigerated storage vessels at a temperature of 28°F, below the normal (1 atm) boiling point of 31.1°F.
2. A remote impoundment area exists a short distance from the storage vessels to collect and contain any liquid that is discharged during an emergency situation.
3. The storage vessels are insulated, low pressure, vertical storage vessels. (Michigan Tech Report, 2).

Accordingly, Professor Crowl, the author of the Michigan Tech Report, concludes:

> "...the design features I ... discussed [those listed above] dramatically reduce the accident consequences and risk. If these features are not included in the QRA, the consequences of an accident and subsequent risk will be substantially overestimated.
>
> It is clear to me that the Cornerstone Technologies report did not include these design features in their analysis and as a result they overestimated the consequences of an accident scenario and over-predicted the risk." (Michigan Tech Report, 4).

It appears that the note from Dr. Miller does not reflect the hereinabove-described low pressure/temperature method in which butane is stored in the subject tanks at the Rancho Facility. Consequently, Dr. Miller states that:

> "[b]utane must be stored at elevated pressure. The pressure within the tank varies according to temperature. Pressure is needed to maintain the butane in a liquid state. At 68 degrees F, the tank pressure is approximately 16 pounds per square inch (PSF) greater than atmospheric pressure." (Patchett letter dated August 24, 2011, page, 2).

It is therefore my understanding that, contrary to Dr. Miller's assertions, the Rancho Facility uses refrigerated, low pressure insulated tanks that maintain the butane in a liquid state at 28°F. (Michigan Tech Report, 3). Nor does Dr. Miller's note mention the existence of the remote impoundment area or other existing design features that the Michigan Tech Report emphasized are critical to a complete and accurate risk analysis.

Michigan Tech's Professor Crowl also discusses Rancho's existing design features, including its use of refrigerated tanks, to conclude that the potential for a disastrous boiling liquid expanding vapor explosion (BLEVE) "is not possible" at that Facility's storage tanks. Specifically, in opining that such an explosion is not physically possible, Professor Crowl states in pertinent part:

"The remote impoundment area also decreases the consequences of an accident and decreases the risk. Any liquid butane that leaks out of the storage vessels or associated piping is drained away from the storage vessels to the impoundment area. This decreases the accident consequences in the following two ways. First, the impoundment area is remote from the storage vessels. Thus, if the impoundment area fills with butane and catches on fire, the storage vessels will not be directly exposed to this fire. This is important since a storage vessel exposed to fire might eventually fail. Second, the impoundment area reduces the surface area of the potential pool decreasing the evaporation rate of the butane.

The North Gaffey Street facility storage vessels are also insulated. This is used to reduce the heat transfer to the butane from the outside of the tanks to reduce the refrigeration load required to keep the butane at 28°F. It also decreases the consequences of an accident by providing addition (sic) fire protection in the event of an external fire. The insulation decreases the heat transfer to the butane liquid from the external flames.

The storage vessels are also low pressure storage vessels. This means that a BLEVE – boiling liquid expanding vapor explosion – is not possible. A BLEVE requires a high pressure storage vessel." (Michigan Tech Report 3-4).

As you know, the City Attorney's Office does not have the authority nor the resources to directly employ in-house technical personnel having the capability to respond to the direct technical questions raised in your letters. However, during my inspection of the Rancho Facility, I challenged its operators to address each and every question and concern found in your letters based purely upon scientific evidence. (Attachment D). I welcome and would greatly appreciate your thoughts and those of others to their responses.

This Office has also reviewed the results of all recent inspections conducted by the above-mentioned government regulatory agencies charged with the oversight of the Rancho Facility. More specifically, I have been advised that on May 12, 2011, an environmental strike force conducted an unannounced inspection of the Facility. The task force members included Cal/EPA's Department of Toxic Substances Control, the South Coast Air Quality Management District, the Los Angeles County Fire Department, the City of Los Angeles Fire Department, and the Los Angeles Industrial Waste Management Division. The surprise inspection included:

1. Review of air permits;
2. Compliance with Department of Toxic Substance Control regulations regarding toxic substances;
3. A physical audit of hazardous waste storage and handling procedures and associated permits;
4. Review of emergency plans; and
5. A physical inspection of the entire facility.

It is my understanding that this inspection found no violations at the Rancho Facility. Similarly, I understand that on August 9, 2011, the Federal Department of Transportation Federal Railroad Administration (FRA), conducted a hazardous materials inspection at the Facility. The

FRA inspected security plans, security training, hazmat training, and other elements of the Facility's operations and also apparently found no violations.

The foregoing information is the general, relevant evidentiary backdrop in which you have requested this Office to file an injunction against the Rancho Facility, as well as contend that further environmental review is required by the City of Los Angeles.

II. The Ultrahazardous Standard for Tort Liability Does Not Apply Where, as Here, No Harm has Occurred

As you recognize in your letter, the Rancho Facility has been in business, in various forms, at its current location on Gaffey Street in San Pedro since the 1970s. Your letter also asserts that its business activities are "ultrahazardous," as defined in Section 520 of the Restatement Second of Torts, and contends that such activities can be enjoined on that theory. However, your letter does not provide facts that would support a valid cause of action upon which to seek injunctive relief in the Los Angeles Superior Court. The "ultrahazardous" legal concept is one of tort law. The *SKF Farms v. Superior Court* case that you have cited defines an "ultrahazardous" activity, but does not obviate proof of the legally-required elements of the underlying tort necessary to obtain legal relief and is therefore, not a legal basis upon which to seek an injunction.

As you know, "ultrahazardous" activities can be, and often are, legally permitted and regulated throughout the state. Accordingly, the activity, as shown in the case you cite, is argued to be "ultrahazardous" in a tort action brought after the damage has occurred to determine the appropriate standard of proof (*strict liability vs. negligence*), not as a basis for halting or enjoining the activity from taking place:

> "The doctrine of ultrahazardous activity provides that one who undertakes an ultrahazardous activity is liable to every person *who is injured* as a proximate result of that activity, regardless of the amount of care he uses." (*Pierce v. Pacific Gas & Electric Co.* (1985) 166 Cal. App.3d 68, 85 emphasis added).

Further, you cite CACI Jury Instruction 460 in support of your position that the Rancho Facility is engaged in ultrahazardous activity and should be enjoined as such, yet that instruction's second element also requires that the plaintiff establish that he/she "...was harmed." (CACI 460).

As discussed hereinabove, to date, there has been no demonstration of facts leading to a claim of harm or damage caused as a result of Rancho's activities. Similarly, while there is considerable concern expressed for the possibility of a threat to safety, we have not received any factual information documenting the allegations of unsafe situations necessary to counter the inspection and audit results from any governmental agencies, including those listed hereinabove. Unfortunately, although we recognize the potential threats posed by such operations, and clearly understand and sympathize with the community's sincere and longstanding concerns, without more information and a factual basis, this Office cannot at this time proceed with any legal or enforcement action. Obviously, you may (and are certainly within your rights to) disagree with the current assessment of this Office. As such, if you believe there is any credible evidence of violations at the Facility, you have the right to independently assess and initiate any appropriate civil suit on behalf of your clients.

III. Injunctive Relief is Not Available Based on Known Facts

It appears from your correspondence that the community's goal is the cessation of all activities and operations at the Rancho Facility. However, as a general matter, injunctions prohibit specific activities that are found unlawful, but would not necessarily shut down a facility unless the entirety of the operation was found unlawful. Therefore, in addition to analyzing potential liability under the "ultrahazardous activity" standard that you proposed, we have reviewed two other legal theories that could serve as the basis for such an injunction, namely: California Business and Professions Code Section 17200 et. seq., commonly referred to as California's Unfair Competition Law, and a public nuisance theory under California Civil Code Sections 3479 and 3480. This Office has been very successful in obtaining injunctive relief under both theories in situations involving environmental, workplace safety, health care fraud, slumlords, billboards, gang headquarters, red light abatements, narcotics locations and many other public health and safety violations and nuisances.

An injunction sought through Business and Professions Code Section 17200 et seq. requires an unlawful or unfair business practice – essentially something "...that can properly be called a business practice and that at the same time is forbidden by law." (*People v. McKale* (1975) 25 Cal.3d 626 at 634.) While our Office welcomes new and credible information, we are not aware, at this time, of any conduct on the part of the Rancho Facility that can be considered an unlawful or unfair business practice. As detailed hereinabove, the Facility has been recently inspected by local, state, and federal regulators, who to our knowledge, apparently did not find any violations. I know that you, also as a former and well-respected and experienced environmental prosecutor, understand that this Office has a professional responsibility to uphold the law, and that courts have warned prosecutors that "...the unfair competition law is not a roving warrant for a prosecutor to use injunctions and civil penalties to enforce criminal laws. Its application to conduct which violates the penal law is limited to circumstances where such conduct is also a business practice." (*People v. E.W.A.P. Inc.* (1980) 106 Cal.App.3d 315, 320).

As such, without an underlying violation of the law that constitutes a business practice, a Section 17200 action seeking a permanent injunction does not appear to be legally cognizable at this time. Your letters do not indicate that you are aware of any such violation upon which such an action can be pursued. Furthermore, assuming that there were such an underlying violation of law and that the violation could be considered a business practice sufficient to warrant the filing of a Section 17200 action, any injunction would likely be fashioned to address the specific violation and award civil penalties – not necessarily authorize the complete closure of the Facility.

We have also considered a nuisance theory, but found that the Rancho Facility's predecessor, Petrolane, was unsuccessfully sued on both private and public nuisance theories in a case decided in 1980. (See *Don Brown v. Petrolane* (1980) 102 Cal.App.3d 720). More importantly, as mentioned hereinabove, recent surprise inspections conducted by the agencies charged with regulating this permitted Facility apparently found no violations.

My Office relies upon the diligent and competent performance of regulatory and law enforcement agencies in developing the technical information and evidence of violations of law upon which we can act. To date, no enforcement agency has provided any information alleging or suggesting any unlawful or dangerous conduct, nor requested in any manner whatsoever that this Office file any form of law suit or enforcement action, including any such action whose object is the

cessation of all operations at the Facility. Moreover, as discussed above, the Michigan Tech Report conflicts with the results of the studies upon which you apparently rely.

In considering a public nuisance theory, we recognize that there are numerous public nuisance cases brought under California Civil Code 3479 and 3480 against activity which "...interfere[s] with the comfortable enjoyment of life or property...." (California Civil Code section 3479). California courts have found a wide variety of different activities that constitute a nuisance: offensive odors, the sale of narcotics, loud noises, display of offensive materials, and others. At this time, this Office, however, either through your letters or otherwise, possesses no evidence that any previously recognized nuisance activities are occurring at the Facility. Rather, what is clearly at issue here is the potential for a disaster, combined with our residents' sincere concern relating to that possibility. Unfortunately, I am aware of no California court that has held that fear or concern for future harm alone, no matter how sincere and understandable, is sufficient to constitute a public nuisance and thereby support a request for an injunction of that activity.

As I have stated hereinabove, the door to my Office is always open to additional evidence that would change the analysis of the situation. At this time, however, we are not aware of any legal basis upon which to bring an action seeking to enjoin any permitted business activities or operations at the Facility.

IV. CEQA Comments are Untimely and/or Misinformed

Your letters also contend that the City improperly exempted the Rancho Facility from CEQA. Contrary to your claims, the environmental impacts of the Rancho Facility, pipelines, rail line and marine terminal were in fact fully assessed in an Environmental Impact Report certified as compliant with the California Environmental Quality Act by the City prior to approval of the Rancho Facility project (for Rancho's predecessor Petrolane) in 1973. In the very same letter you also referenced and stated that you have reviewed the Petrolane EIR, which clearly covered the Facility:

> "This project is composed of three elements: first, a marine unloading arm supported on four (4) new piles at the outboard side of existing Berth 120; second, an underground pipe supply line which commences at Berth 120 in Los Angeles Harbor and ends at the terminal facility approximately one mile inland; and third; a storage and distribution terminal facility.
>
> The storage and distribution facility is located on the east side of Gaffey Street approximately one and one-third (1 1/3) miles north of the intersection of Gaffey Street and the Harbor Freeway in San Pedro. It occupies a site of approximately 20 acres and is directly opposite a two-tank petroleum storage facility occupied by the Bray Oil Company." (Petrolane EIR, p. 1).

Furthermore, the rail line leading to the Rancho Facility was analyzed and depicted in the site plan in the Petrolane EIR (Petrolane EIR, Figure 2). As such, there is no question that the Rancho Facility and associated rail line were assessed in the EIR. Moreover, the public comment period and legal challenge period for the 1973 Petrolane EIR expired 38 years ago. There is no provision within CEQA that would apply the CEQA standards in 2011 to invalidate an EIR that was certified as compliant with CEQA 38 years earlier. In addition, there is no provision in CEQA mandating a new environmental impact report of the Rancho Facility at this time in the absence of a new

discretionary project proposing a physical change to the Facility and the environment. This Office is not aware of any new such discretionary project at or concerning the Facility.

In addition, following the City's 1973 EIR assessment of the Rancho Facility's environmental impacts, the Harbor Department entered into various permits covering Berth 120 and associated pipelines that were previously assessed in the EIR, as described in the EIR excerpt above. The Harbor Commission Board Order 4579 from a 1976 board action referenced in your letter was an amendment to Permit No. 263, which governed the pipelines from Petrolane to Berth 120 and was previously assessed in the EIR. This action was found exempt and, as explained above in regard to the EIR itself, the comment and legal challenge period has long since expired. In any event, a challenge at this time is moot in that Permit No. 263 was terminated by the Harbor Department in October 2010.

Lastly, you have stated in letters to this Office and to Harbor Commission President Miscikowski that the closure of Berth 120 and the pipelines leading to the Rancho Facility caused an increase in truck and rail traffic that should have caused the City to conduct an environmental review. The Harbor Department informs me that the pipelines have not been used since 2004. Consequently, the termination of inactive pipelines in 2010 would have no effect on the environment as it could not have increased rail or truck traffic. More importantly, the termination of both the Berth 120 Permit and the pipelines Permit were within each Permit's terms, did not alter the Permit premises and therefore, did not constitute a new discretionary project subject to CEQA. Furthermore, you request that the Port suspend Rancho's existing use of a rail spur under its existing permit based upon your opinion that CEQA was not followed in the closing of Berth 120 (which caused the pipelines to the Rancho Facility to become inactive). This Office does not agree with your assertion, as the Port's permit for the rail spur is an existing use of a previously assessed rail line and exempt pursuant to Article III, Class 1 (3) of the Los Angeles City CEQA guidelines. We also note that the time period to contest the action under CEQA has expired.

Moreover, California Code of Regulations Section 15321 that you cite in support of your contention that CEQA was not adhered to in relation to the closure of Berth 120, is actually a Categorical Exemption from CEQA that would exempt both the Port of Los Angeles and the City from having to take the action that you have requested. However, Section 15321 does not apply here, as it relates to regulatory agencies and not an entity such as the Port.

V. <u>There is No Conflict of Interest</u>

Finally, you allege that this Office has a conflict of interest and therefore, request that the matter be reviewed by the Los Angles County District Attorney's Office. Nowhere, however, do you identify the specific nature of the alleged conflict - making an informed response to your allegation impossible at this time. This Office is aware of no actual or perceived conflict. To the extent that you wish for the District Attorney's Office to investigate the Rancho Facility, we certainly have no objection and openly welcome review by any and all local, state and federal agencies. We do understand, however, that you have already contacted the District Attorney's Office and that it responded to you on or about October 28, 2010, informing you that it was reviewing the matter. I have not been advised of the current status of any such investigation being conducted by the District Attorney's Office.

I again state and affirm that this Office has been, and always will be, willing to review any and all evidence relating to this Facility or any other potential threat to public safety or the environment.

However, this Office, as a public law office governed by prosecutorial rules of ethics, as well as the guardian of the public trust and treasury, does not, at this time, possess any facts or evidence upon which it can justify the expenditure of the significant amount of public resources necessary to commence and maintain a credible lawsuit or any other enforcement action against the Rancho Facility. The receipt of any relevant and credible evidence could obviously change that current posture.

I look forward to receiving and reviewing any additional information and materials on this matter, including additional complaint or inspection reports, as well as meeting with residents and other members of the community to fully discuss their concerns and any proposed solutions. Thank you again for your continued attention, commitment and service to the community, and for providing this Office with this very important information.

Sincerely,

CARMEN A. TRUTANICH
City Attorney

WILLIAM W. CARTER
Chief Deputy City Attorney

Attachments

cc: Honorable Harbor Commissioners
Geraldine Knatz, Ph.D, Executive Director
Brian L. Cummings, Fire Chief, Los Angeles Fire Department
Thomas Russell, General Counsel, Harbor Department
Janet Jackson, Fire General Counsel
Reed Sato, Chief Counsel, California Dept. of Toxic Substances Control
Brian Hembacher, Deputy Attorney General, California Dept. of Justice

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October 4, 2011

Anthony G. Patchett
Law Offices of Anthony G. Patchett
P.O. Box 5232
Glendale, CA 91221-1099

RE: Letters Concerning Butane Storage Tanks in San Pedro

Dear Mr. Patchett:

Thank you for your letters of October 14, 2010 and April 3, 2011, wherein you asked our office to investigate whether the storage by Rancho Holdings L.L.P of liquid butane in very large storage tanks located at 2011 North Gaffey Street in San Pedro, California, should be enjoined as a public nuisance or as an ultra hazardous activity. We have looked into your request.

Our investigation included a review of the consultant reports that you supplied to us, "In My Backyard" (March 7, 2011), and "Quantitative Risk Analysis of Amerigas Butane Storage Facility" (September 2010) (Risk Report) by Cornerstone Technologies, Inc. We have reviewed responses to the September 2010 Risk Report by Quest Consultants, hired by the facility operator, and the letter from Professor Daniel Crowl of Michigan Tech to Mary Wesling of the United States Environmental Protection Agency (EPA), dated April 11, 2011. Additionally, we have interviewed local and state fire, hazardous substances and health and safety regulators who have recently inspected the premises at 2011 North Gaffey Street. Our understanding is that no violations were found during a May 12, 2011 multi-agency inspection of the facility, and that the facility has also been determined to be in compliance with air emission requirements. We have also been informed that the facility was inspected by the United States Department of Transportation on August 9, 2011, and again, no violation of law or regulations governing the handling of hazardous materials was found. Finally, we received a copy of the response from the City Attorney of Los Angeles addressed to you and dated September 22, 2011, which responded to your concerns about public nuisance, ultra hazardous activity, and CEQA violations, determining that there was insufficient evidence to take action at this time.

Based on this review, we have determined that the evidence to date would not support a public nuisance claim by the Attorney General's Office, nor have we found evidence that any other law is currently being violated. We agree with the conclusions in the September 22 letter from the Los Angeles City Attorney's office that there appear to be a number of safety measures

EXHIBIT 10

at the facility to protect against a cataclysmic event of the type described in your letters and your consultant's reports, that the existence of an ultra hazardous activity is only relevant to the burden of proof where a harm has occurred, and that no specific harm has been identified relating to the butane storage tanks. The facility appears to have passed all inspections and is complying with air, hazardous materials, fire and health and safety requirements promulgated by local, state and federal governments.

While we are sympathetic to your concerns and those of the community given the close proximity of these large butane storage tanks, there is no evidence to support an enforcement action at this time. We remain willing to take another look at this matter if evidence of non-compliance or harm is later discovered.

Sincerely,

BRIAN W. HEMBACHER
Supervising Deputy Attorney General

For KAMALA D. HARRIS
Attorney General

cc William W. Carter, Chief Deputy City Attorney. Los Angeles
Vincent Sato, Deputy City Attorney, Los Angeles
Reed Sato, Chief Counsel, California Department of Toxic Substances Control

SAN PEDRO BAY HARBOR RAIL

OPERATING PERMIT

by and among

THE CITY OF LOS ANGELES,
acting through its Board of Harbor Commissioners

and

PACIFIC HARBOR LINE, INC.,
a Delaware corporation

dated as of

December 1, 1997

EXHIBIT 11

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SAN PEDRO BAY HARBOR RAIL OPERATING PERMIT

THIS SAN PEDRO BAY HARBOR RAIL OPERATING PERMIT (this **"Agreement"**) is made and entered into as of December 1, 1997, by and among **THE CITY OF LOS ANGELES**, a municipal corporation, acting through its Board of Harbor Commissioners (**"Owner"**) and **PACIFIC HARBOR LINE, INC.**, a Delaware corporation (**"Operator"**).

A. The Port of Los Angeles (the **"Port"**) is a major, economically important seaport which provides public dock and wharf facilities to handle the shipment and transportation of international cargo, freight and other goods.

B. The Port is presently serviced by The Burlington Northern and Santa Fe Railway Company (**"BNSF"**), Southern Pacific Transportation Company (**"SPT"**) and Union Pacific Railroad Company (**"UP"**), (collectively, the **"Railroads"** and each, individually, a **"Railroad"**).

C. Operation and maintenance of the rail facilities, and switching of Railcars, at the Port are generally performed by the Harbor Belt Line Railroad (**"HBL"**). HBL is a railroad operating entity governed by a board of control representing Owner and the Railroads.

D. In anticipation of substantially increased volume of traffic to and from the Port and to ensure the efficient and competitive operation of the Port, Owner determined that the existing maintenance and operating system should be replaced by a system utilizing a single independent third-party operator.

E. Owner and Operator desire to set forth herein the terms and conditions of Operator's rights and obligations with respect to the Port Rail Facilities, the Rail Property, the Additional Port Rail Facilities and other portions of the Port Complex Area.

F. Initially capitalized terms used and not otherwise defined herein have the meanings given such terms in Article 29.

NOW, THEREFORE, in consideration of the foregoing Recitals, the mutual agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

ARTICLE 1
APPOINTMENT OF OPERATOR AND USE OF PORT RAIL FACILITIES AND ADDITIONAL PORT RAIL FACILITIES AND PIER A YARD

1.1 Appointment of Operator. On and subject to the terms and conditions of this Agreement, Owner hereby appoints

Operator to perform the duties specified in this Agreement to be performed by Operator with respect to the Port Rail Facilities and the Rail Property and, subject to the provisions of Article 9, the Additional Port Rail Facilities and the Additional Rail Property.

1.2 Use of Port Rail Facilities and the Additional Port Rail Facilities and Pier A Yard.

1.2.1 Operator is hereby authorized to use the Port Rail Facilities for the term of this Agreement (a) to the extent necessary to perform its duties and obligations hereunder, (b) to provide Unit Train and other rail services to the Railroads over the Port Rail Facilities (to the extent requested by a Railroad) and (c) for the purposes set forth in Articles 9 and 25 hereof, and for no other purpose. Without limiting the foregoing, in no event shall Operator operate, or shall Operator permit others to operate, over the Interim Trackage to serve the Port of Long Beach or tenants or customers of the Port of Long Beach without the prior express written permission of Owner, which permission may be given or withheld in Owner's sole and absolute discretion.

1.2.2 Subject to the provisions of Article 9, Operator is hereby authorized to use the Additional Port Rail Facilities to the extent necessary to perform its duties and obligations under (a) Article 9 hereof and (b) any additional agreements with tenants at the Terminal Facilities in which the Additional Port Rail Facilities are located under Article 25 hereof, and for no other purpose.

1.2.3 To the extent not covered by Section 1.2.1, Owner hereby authorizes Operator to occupy and use Pier A Yard to fulfill Operator's obligations hereunder on the terms and conditions contained in Article 2.

1.3 Limitations on Operator's Rights.

1.3.1 The appointment and authorization contained herein give Operator a license to operate on the Port Rail Facilities and the Additional Port Rail Facilities and to use Pier A Yard on the terms and conditions contained herein; such appointment and authorization however do not, and shall not be construed to, give or grant Operator any right, title or interest of any kind or character in or to the Port Rail Facilities, the Additional Port Rail Facilities, Pier A Yard or any other portions of the Port Complex Area or any other property of Owner, and Operator specifically acknowledges that it has no leasehold, easement or other interest in any of such real or personal property.

1.3.2 Operator shall have no right to grant, convey, enter into, modify, extend or renew leases, licenses, easements or conveyances of all or any portion of the Port Complex Area, or any right or interest therein. Owner retains all rights

to modify, extend, renew and manage, and shall retain all income from, all leases, licenses, easements, conveyances and the like of the Port Complex Area, other than fees payable to Operator (a) by the Railroads under that certain Permit to Use Tracks among Owner and the Railroads (the "**Railroad Agreement**"), those certain Interchange Agreements between Operator and the Railroads ("**Interchange Agreements**") and any other agreement between Operator and one or more Railroads pursuant to which Operator performs Unit Train or other rail services for such Railroad over the Port Rail Facilities, (b) under any tariff, exempt quotation, transportation contract or rate schedule published by Operator (c) pursuant to separate agreements between Operator and third parties relating to rail operations or service (including, without limitation, intra-plant switching, rail facility construction, maintenance, locomotive and car repair and rail logistics consulting services performed for tenants of Owner) within any Terminal Facilities and (d) lease payments and payments for other services pursuant to the leases and agreements described in Exhibit J (the "**Assumed Agreements**"). Owner hereby authorizes Operator to assume, and Operator shall assume all rights and obligations of HBL under the Assumed Agreements pursuant to a separate assignment and assumption agreement between Operator and HBL which will become effective on the Commencement Date and Owner further authorizes Operator to amend the Assumed Agreements upon written notice to Owner.

1.4 Use by Owner and Others.

1.4.1 Owner may use or grant additional rights to third parties in and to all or any portion of the Port Complex Area in such manner as Owner deems appropriate, so long as such rights and the actual use of the Port Complex Area by Owner or by others authorized by Owner do not directly conflict with the authority given Operator hereunder or materially interfere with Operator's ability to perform its duties and obligations hereunder.

1.4.2 Owner may sell, transfer or encumber all or any portion of the Port Complex Area provided that any such sale, transfer or other encumbrance shall be subject to Operator's rights or obligations hereunder.

1.4.3 If Owner grants any Railroad other than the Railroads the right to operate Unit Trains over the Port Rail Facilities, such rights will be subject to substantially the same terms and conditions as those contained in the Railroad Agreement, including, without limitation, fees payable pursuant to Article V hereof.

1.5 Additions to, Modifications of and Deletions Rail Facilities in the Port Complex Area by Owner.

1.5.1 Subject to Section 12.4, Owner may at any time in its sole discretion construct new rail facilities in the Port Complex Area and may, in its sole discretion, designate such

new rail facilities as Port Rail Facilities, Additional Port Rail Facilities or Terminal Rail Facilities, or make any other designation of such facilities. Where reasonably practicable, Owner shall consult with Operator prior to commencing construction of such new rail facilities if Owner intends to include such facilities in the Port Rail Facilities hereunder. When new rail facilities that support the Railroads' and Operator's operations in the Port Complex Area and that Owner intends to include in the Port Rail Facilities are completed, connected to the existing Port Rail Facilities and accepted by Operator and any necessary regulatory approvals or exemptions have been obtained, such new rail facilities will, upon being made available to Operator, become part of the Port Rail Facilities and subject to the terms of this Agreement. Operator shall promptly inspect such new Port Rail Facilities and may reject the same only if Operator determines that the facilities are in an unsafe condition. Unless the Railroad Oversight Committee designates a higher maintenance standard, the maintenance standard for new facilities added to the Port Rail Facilities under this Agreement shall be FRA Class 3 for main line tracks and FRA Class 2 for other tracks or, if Owner has constructed the new facilities to a lower maintenance standard, such lower maintenance standard shall apply.

1.5.2 Subject to Owner obtaining any necessary regulatory approvals or exemptions, with 30 days' prior written notice to the Operator, Owner may remove from service a Port Rail Facility, either temporarily or permanently.

(a) With regard to any permanent removal of a Port Rail Facility from service, such removal shall not substantially increase Operator's costs in serving or, without the affected customer's consent, prevent Operator from serving any then-existing rail service customers located in Terminal Facilities (including, for these purposes, Borax, even though Borax is not located at a Terminal Facility) at levels equal to the lesser of levels existing on the Commencement Date and levels existing on the date such Port Rail Facility is removed from service. The provisions of this Section 1.5.2(a) shall not apply with respect to any of the following customers: (i) customers not regularly using rail service on the Commencement Date; (ii) customers not regularly using rail service on the date of removal of the applicable Port Rail Facility at or above 50% of the levels existing on the Commencement Date and (iii) customers not located at Terminal Facilities other than U.S. Borax. In addition, this Section 1.5.2(a) shall not apply to removal of Pier A Yard or the Replacement Railyard from rail service. Removal of Pier A Yard and the Replacement Railyard from rail service shall be governed by Article 2 hereof.

(b) With regard to any temporary removal of a Port Rail Facility from service which will have the effect of cutting off rail access to a then-existing customer of Operator

located at a Terminal Facility regularly using rail service or, if U.S. Borax then regularly uses rail service, U.S. Borax, Owner shall be solely responsible for providing whatever alternative arrangements (i) the Railroads, Operator or Owner are legally required to provide to such shipper during the interruption of rail service and (ii) are reasonably necessary to meet the needs of such shipper during interruption of rail service that otherwise would have been met by rail service. Operator shall cooperate with Owner in Owner's efforts to provide any alternative arrangements that Owner is required to provide under the preceding sentence. Notwithstanding the foregoing, Owner shall not be obligated to take any of the actions described in this clause (b) for removals that are of less than 72 hours' duration. When practicable, Owner shall give Operator 7 days' prior written notice of any temporary removal of a Port Rail Facility from service.

The provisions of this Section shall not apply to any removal of Pier A Yard or the Replacement Railyard from rail service. Removal of Pier A Yard and the Replacement Railyard from rail service shall be governed by Article 2. Owner may remove from service any Additional Port Rail Facilities or Terminal Rail Facilities, either temporarily or permanently without notice to Operator and without obligation to take any of the actions described in clauses (a) and (b) of this Section.

1.6 No Changes to Port Rail Facilities by Operator. Operator shall not take out of service, embargo or remove any of the Port Rail Facilities or Additional Port Rail Facilities (other than temporarily in the course of its maintenance and repair activities, in an emergency or as a result of a hazardous condition), without the prior written approval of Owner, which approval may be given or withheld in the reasonable discretion of Owner.

1.7 No Assurances Regarding Continued Rail Use. Notwithstanding anything to the contrary in this Agreement, this Agreement shall not be deemed or construed (i) to require any tenant or occupant of the Port Complex Area to use rail services, or to continue to use rail services, or (ii) to require that Owner lease space in the Port Complex Area only to tenants who will use rail service.

ARTICLE 2
RAILYARDS

2.1 Maintenance of Pier A Yard.

2.1.1 This Section 2.1 relates to Operator's maintenance obligations for all portions of Pier A Yard other than the Port Rail Facilities located within Pier A Yard (which Operator

shall maintain in accordance with the provisions hereof for maintenance of all other Port Rail Facilities).

2.1.2 Operator shall, at Operator's sole cost and expense, maintain all components of Pier A Yard other than Port Rail Facilities, but including all buildings and other structures and improvements located within Pier A Yard, and all systems, including, electrical, plumbing, mechanical, fire protection and other systems, located in or on such buildings, structures or other improvements (collectively, **"Pier A Yard Structures"**), in their current operating condition, at a minimum, and in accordance with all applicable laws and the provisions of this Section 2.1.2. Operator shall take such preventive and remedial actions as are necessary to ensure that the Pier A Yard Structures are at all times safe and suitable for the uses to which such Pier A Yard Structures are put to the extent the costs of such actions are included in an Approved Train Control and Maintenance Plan. Operator shall include such actions and costs in the initial proposed train control and maintenance plans and budgets submitted to the Railroad Oversight Committee hereunder for each Traffic Year after 1998.

(a) Operator shall obtain a Harbor Department Engineering permit prior to making any material modifications or repairs to any Pier A Yard Structures and shall strictly comply with all terms and conditions of such permits. Operator shall maintain in its offices at Pier A Yard at all times any Harbor Engineer's permits allowing work to be performed and proof that the work has been performed in accordance with all terms and conditions of the permit.

(b) All modifications and repairs to Pier A Yard Structures will be made in a first class manner using materials of a kind and quality comparable to the items being replaced which materials must be in compliance with all applicable building codes.

(c) Owner shall have the right, without obligation, to inspect Pier A Yard to ensure compliance with this Section 2.1 and for any other purpose incidental to the rights to Owner.

2.2 Removal of Pier A Yard from Rail Service. Operator acknowledges that, notwithstanding any provision to the contrary contained herein, Owner has the right, subject to Section 30.21, to remove Pier A Yard from rail service and require Operator to vacate Pier A Yard on sixty days' prior written notice delivered to Operator provided that as of the date specified by Owner for removal of Pier A Yard from rail service, Owner has (a) caused construction of the replacement railyard (the **"Replacement Railyard"**) described on Exhibit H substantially in accordance with the plans and specifications described in Exhibit H (the **"Plans and Specifications"**) and made the Replacement Railyard available to

Operator for use by Operator in fulfilling its obligations hereunder, on the general terms described in Section 2.1 hereof, Exhibit H attached hereto and any additional terms regarding maintenance and insurance as are reasonably required by Owner to protect its investment in the Replacement Railyard and (b) has made available to the Railroads, in the terms contained in the Railroad Agreement the necessary real property within or adjacent to the Transfer Yard to construct an additional 5500 lineal feet to track. Upon demolition of Pier A Yard, the Railroads may, at their option, select and collect salvage materials for use in constructing the additional 5500 lineal feet of track. Immediately thereafter, Operator shall be entitled to select remaining salvage material from Pier A Yard for use in maintaining and repairing the Port Rail Facilities in accordance with the terms of the Operating Agreement. All materials salvaged from the removal of Pier A Yard and not selected by Railroad or Operator under the preceding two sentences shall remain the property of Owner and Owner shall be entitled, at Owner's sole election, to retain, store, sell, or dispose of such materials. From and after the date the Replacement Railyard, the supplemental facilities and the additional 5500 lineal feet of track are constructed, they shall be deemed part of the "Port Rail Facilities" hereunder. Owner shall use reasonable efforts to complete the supplemental facilities listed on Exhibit H prior to removal of Pier A Yard from rail service and upon removal of the Pier A Yard, Owner shall promptly complete such supplemental facilities to the extent not already completed. Owner shall obtain such governmental approvals as are necessary (if any) in connection with removal of Pier A Yard from rail service and Operator shall support any applications filed by Owner with any governmental entities in connection with such removal.

2.3 Owner's Obligation to Keep Replacement Railyard Available. So long as the Railroads are not in default in their obligations to pay the "Base Fee" under Exhibit D of the Railroad Agreement, Owner shall not remove the Replacement Rail Yard from rail service during the term hereof, without first causing a railyard of substantially similar utility as the Replacement Railyard to be constructed and made available to Operator for Carload Switching Operations on the terms contained herein for Operator's use as the Replacement Railyard. In the event that a Railroad defaults in its obligation to pay the Base Fee, then upon written notice by Owner to Operator and the defaulting Railroad, the defaulting Railroad shall be prohibited access to and service from the Replacement Railyard until all such defaults have been cured. Operator shall not have the right or authority to provide service from the Replacement Railyard or access to the Replacement Railyard to a defaulting Railroad. From and after a Railroad has been declared in default in the payment of the Base Fee, the nondefaulting Railroad(s) shall be responsible for the entire Base Fee under Exhibit D of the Railroad Agreement (but not for any amounts owing from the defaulting Railroad for periods prior to such notice of default). Upon the occurrence of any default in payment of the entire Base Fee by all of the Railroads, Owner, at

its election, shall be entitled to remove the Replacement Railyard from service. Operator has the right, without obligation, to cure any Railroad's default in payment of the Base Fee. In connection with removal of the Replacement Railyard from service in accordance herewith, Owner shall obtain such governmental approvals as are necessary (if any) and Operator shall support any applications filed by Owner with any governmental entities in connection with such removal.

2.4 Limitation on Use of Railyards. Unless Owner consents to another use in writing, Pier A Yard, the Transfer Yard and any Replacement Railyard may only be used (a) to serve Terminal Facilities and the following entities not located at Terminal Facilities: DiCarlo Bakery, America Gas, Tosco (Unocal), G&S Roofing and Southern California Truck and Tank Company, Potential Industries and, with respect to Pier A Yard and the Transfer Yard, Borax, and successor entities to the identified entities so long as the successor entity is located at the same location as the identified entity on the Commencement Date and the nature of the business and level of rail service of the successor entity is consistent with the nature of the business and level of rail service of the identified entity on the Commencement Date; (b) to serve entities served from the Avalon Team Track (other than entities located in the Port of Long Beach); and (c) to process Carload Traffic destined to terminals in the Port of Long Beach. Use of Pier A Yard, the Transfer Yard and any Replacement Railyard to serve customers other than tenants at Terminal Facilities pursuant to the preceding sentence shall be limited to space available after service to Terminal Facilities. Operator acknowledges that the Avalon Team Track is not a Terminal Facility. All other railyards included in the Port Rail Facilities may only be used to serve Terminal Facilities except that if excess storage capacity is available in such yards, Operator may serve the entities described in clause (a) from such yards. Operator shall in no event use or permit the Railroads to use any railyards included in the Port Rail Facilities, including, without limitation, Pier A Yard, the Transfer Yard and the Replacement Railyard, for (a) storage or assembly of Unit Trains or railcars that were part of a Unit Train (or would be a Unit Train if handled by a Railroad rather than Operator), or (b) through traffic of Unit Trains or storage of railcars (empty or loaded) that are traveling to or from the ICTF or locations in the Port of Long Beach without the prior written permission of the Executive Director of Owner.

2.5 Second Hand Materials/Modifications to the Plans and Specifications. Owner shall be entitled to use second hand rail in construction of the Replacement Railyard provided that Operator shall have the right to review and approve the type of second hand materials, which approval will not be unreasonably withheld or delayed. In addition, Owner shall be entitled to complete any portion of the Plans and Specifications that is incomplete as of the date hereof without Operator's consent so long as such modifications will not materially interfere with the utility or

efficiency of operations at the Replacement Railyard as shown on the Plans and Specifications. If the Railroads or Operator request a modification to the Plans and Specifications for the Replacement Railyard, the entity requesting such modifications shall bear the entire cost thereof. Any modifications to the Plans and Specifications required under the preceding sentence shall be subject to the prior written approval of Owner which will be given or withheld in Owner's sole discretion.

2.6 Replacement Railyard Fees. Operator shall pay directly to Owner when due all fees or other amounts payable in connection with the Replacement Railyard in accordance with Exhibit I.

2.7 Limitation on Use of Railyards included in Additional Port Rail Facilities. Railyards included in the Additional Port Rail Facilities may only be used to provide service to tenants at Terminal Facilities whose leases with Owner permit use of such railyards.

ARTICLE 3
AS-IS; WARRANTY DISCLAIMER

3.1 Acknowledgement Regarding Investigations. Operator acknowledges that prior to its execution hereof, Operator had the opportunity to investigate and determine (a) the physical aspects and condition of all portions of the Port Complex Area, (b) past and present rail operations in the Port Complex Area, (c) traffic projections (including carload and Unit Train projections), and (d) such other matters as Operator deemed relevant to analyze the proposed transaction, to discover any risks and to determine whether the transaction is economically viable for Operator. Operator's investigations have included, among other things, meetings with Owner, the Railroads, shippers and tenants and other operators of Terminal Facilities in the Port Complex Area. Operator further acknowledges that Operator's entry into this Agreement is based solely on the results of its own investigations and examinations, or its election not to investigate some or all of such matters as may be relevant, and not on any representation, warranty, promise or statement by Owner, any Railroad or any representative or agent thereof (other than those expressly provided in this Agreement). Operator agrees that, except as otherwise expressly set forth in this Agreement, Owner has not made any representation, warranty, promise or statement, express or implied, to Operator, or to anyone acting for or on behalf of Operator, concerning or regarding such matters.

3.2 Acceptance of Port Complex Area As-Is. Subject to Section 22.3, Operator hereby accepts the Pier A Yard, the Port Rail Facilities, the Terminal Rail Facilities, the Additional Rail Facilities and all other Trackage in the Port Complex Area, and each component thereof, in **THEIR AS IS CONDITION AND IN THEIR AS IS**

STATE OF REPAIR ON THE DATE OF THIS AGREEMENT. Operator hereby waives, and Owner hereby disclaims, all warranties of any type or kind whatsoever with respect to the Port Complex Area, or any component thereof, including, without limitation, those of fitness for a particular purpose or use.

3.3 No Representations or Warranties Regarding Materials or Documents. Operator acknowledges that the delivery of materials and documents (including, without limitation, the **"Request for Proposal for Rail Operator"** and the related Data Package) to Operator by or on behalf of Owner has been made solely to facilitate Operator's investigations relating to this transaction, and Owner makes no representations or warranties of any kind regarding the accuracy or thoroughness of the information contained in such materials and documents, which matters have been independently reviewed and accepted or rejected, as the case may be, by Operator.

ARTICLE 4
COMMENCEMENT DATE TERM

4.1 Commencement Date and Conditions to Commencement. The term of this Agreement, and Operator's duties hereunder, shall commence on the later of (i) February 15, 1998 and (ii) the date of satisfaction or waiver by Operator and Owner of the conditions set forth in Section 4.2 (in either event, the **"Commencement Date"**). Owner and Operator shall execute a Memorandum of Commencement Date within five business days after the Commencement Date. Unless it is terminated earlier in accordance with any provision entitling a party to terminate, this Agreement will automatically terminate on the tenth anniversary of the Commencement Date.

4.2 Conditions to Commencement Date. The obligations of Operator and Owner to commence operations under this Agreement on the Commencement Date are subject to the satisfaction on or prior to the Commencement Date of each of the following conditions:

(a) The STB shall have approved Operator's applications made under 49 C.F.R. § 1150.31 and 49 C.F.R. § 1180.2(d)(2) to exempt the transactions contemplated herein, and such exemption (i) shall have become final or effective and (ii) shall not include any condition (including without limitation labor protective condition) that is unacceptable to Operator or Owner in their respective reasonable discretion.

(b) Owner, Operator and the Railroads shall have executed the Related Agreements and such documents shall be in full force in effect.

(c) Prior to the Commencement Date, (i) no statute, rule, regulation, order, decree, directive, injunction, writ or judgement enacted, adopted, issued, promulgated or rendered at

any time after the date of this Agreement by any governmental authority or court, and (ii) no litigation shall have been commenced or threatened after the date of this Agreement, which, in either case, would (w) prevent the commencement of operations under this Agreement (x) invalidate the transactions contemplated by this Agreement; (y) materially interfere with or prohibit the continued effectiveness of this Agreement, or (z) have a material adverse effect on Operator's ability to operate the Port Rail Facilities and the Rail Property pursuant to this Agreement.

(d) There shall have been no material adverse changes since the date of this Agreement in the condition of the Port Rail Facilities and the Rail Property.

If one or more of the above conditions have not been satisfied by February 15, 1998, then Owner and Operator each shall use reasonable efforts to attempt to satisfy such failed conditions as soon as reasonably possible, and the Commencement Date shall be extended until the failed conditions are satisfied, or waived by Owner and by Operator, provided, however, that if such failed conditions have not been satisfied (or waived) by the date which is 120 days after the date of this Agreement, then either Owner or Operator may terminate this Agreement by written notice to the other party (with a copy to the Railroads). Upon such termination, this Agreement shall immediately and automatically be deemed cancelled effective retroactively to the date of execution hereof and neither Owner nor Operator shall have any liability of any kind to each other or to any other party as a result of such termination. The conditions listed in this Section 4.2 are for the benefit of both Operator and Owner and to be effective, a waiver of any such condition must be in writing and signed by an authorized officer of the party waiving the condition.

4.3 Term of Agreement. Unless earlier terminated in accordance herewith, this Agreement shall terminate on the date which is three years after the Commencement Date provided that if the City Council of the City of Los Angeles (the "City Council") approves this Agreement and the Operating Agreement without modification, the termination date shall automatically be extended to the 10th anniversary of the Commencement Date, unless this Agreement is earlier terminated in accordance with its terms.

4.3.1 If the City Council approves this Agreement or the Railroad Agreement subject to conditions or modifications, Owner shall promptly deliver written notice of such conditions or modifications to the Railroads and Operator. The Railroads and Operator shall be entitled to approve or disapprove any such conditions or modifications by delivering written notice of such approval or disapproval to Owner within 30 calendar days after receipt of notice of the conditions or modifications from Owner. A party's failure to approve the conditions or modifications within

such 30-calendar day period shall be deemed such party's disapproval of the conditions or modifications.

4.3.2 If the City Council fails to approve this Agreement or the Railroad Agreement, or approves this Agreement and the Railroad Agreement subject to conditions or modifications which are disapproved by any party in accordance with Section 4.2.1, this Agreement shall remain in effect (unmodified) for its three year term as provided in Section 4.2 unless earlier terminated in accordance with a provision allowing earlier termination.

ARTICLE 5
FEES AND APPROVED PLAN

Operator shall be entitled to charge the Railroads the fees described in this Article in connection with Operator's performance of its duties hereunder.

5.1 Switching Fees for the Port Rail Facilities. All loaded freight cars interchanged between a Railroad and Operator, other than Unit Trains, shall be referred to herein as **"Carload Traffic"**. Prior to the Commencement Date, Operator shall establish a switching tariff, rate quote and/or circular that incorporates the following per carload charge for Carload Traffic over the Port Rail Facilities: $102. The amount of the charge for Carload Traffic over the Port Rail Facilities shall be adjusted annually in accordance with Section 5.2 below (the per carload charge, as adjusted, shall be referred to herein as the **"Switching Charge"**). Each empty car that is interchanged by Operator back to a Railroad empty, shall be treated as one loaded car. Each Railroad shall absorb the full amount of the Switching Charge for Carload Traffic that it interchanges to or from Operator on the Port Rail Facilities. Notwithstanding the foregoing, Operator's charges for Special Requirements Traffic (as defined in Section 5.1.1 below) may be established in tariffs, rate quotes and/or circulars or in transportation contracts entered into from time to time between Operator and each of the Railroads.

5.1.1 The Switching Charge shall not apply to any Carload Traffic over the Port Rail Facilities that imposes any performance burden, cost burden, operating requirement, service obligation or liability exposure on Operator over and above the obligations, requirements and liabilities normally incurred by common carriers (**"Special Requirements Traffic"**). Special Requirements Traffic includes, without limitation, loads of non-standard dimensions, traffic requiring in-transit services and hazardous materials that cannot be handled in regular train service. Operator and each Railroad interchanging Special Requirements Traffic shall from time to time negotiate reasonable and equitable per car fees for Special Requirements Traffic.

5.1.2 In the event that a Railroad determines to handle any of the Carload Traffic on the Port Rail Facilities identified on Exhibit B-1 hereto as Unit Train traffic, and not to interchange such Carload Traffic to Operator, such Railroad shall pay to Operator a per carload fee with respect to the subject traffic equal to 80% of the Switching Charge (the **"Conversion Fees"**). Each Railroad shall keep records, in a format agreed upon by the parties, that identifies all carloads of traffic subject to the Conversion Fee, and such reports shall be submitted to Operator on a monthly basis.

5.1.3 Operator shall bill each Railroad monthly for all (a) Switching Charges, (b) fees, if any, in connection with Special Requirements Traffic, and (c) Conversion Fees, if any, accruing during the immediately preceding month.

5.1.4 Each Railroad and Owner shall have the right from time to time, at its expense, to audit the books and records of Operator that pertain to the matters addressed in this Article 5. All such audits shall be conducted during regular office hours and with reasonable prior notice.

5.2 Cost Adjustment. On January 1, 1998, and each January 1 thereafter during the term hereof (the **"Adjustment Date"**), the Switching Charge (and all other charges that make reference to this Section 5.2) for all Carload Traffic over the Port Rail Facilities shall be increased or decreased in an amount equal to the increase or decrease in the most recently published Rail Cost Adjustment Factor (Unadjusted) (**"RCAF"**) published by the Surface Transportation Board (**"STB"**) as of the Adjustment Date, compared to the then most recently published RCAF as of the immediately preceding Adjustment Date (or, in the case of the first Adjustment Date, as of January 1, 1997).

The adjustment formula shall be:

(1) $\frac{B - A}{A} = D$

(2) (D x C) + C = Adjusted Switching Charge to become effective as of the Adjustment Date in question.

Where:

A = the index number for the most recent RCAF published as of the Adjustment Date for the year immediately preceding the Adjustment Date in question (or, in the case of the first Adjustment Date, January 1, 1997)

B = the index number for the most recently published RCAF as of the Adjustment Date in question

C = Switching Charges (as adjusted, if previously adjusted)

D = percent increase or decrease

In the event the RCAF ceases to be published, the parties agree to select a comparable, mutually acceptable index as a replacement.

5.3 Maintenance Fees.

5.3.1 The Maintenance Fee for the Port Rail Facilities each Traffic Year (as hereinafter defined) during the term of the Agreement shall be the aggregate maintenance budget contained in the Approved Train Control and Maintenance Plan for such Traffic Year (the **"Maintenance Fee"**).

5.3.2 The Maintenance Fee for each Traffic Year other than the first and last Traffic Years shall be divided into 12 equal installments, and the Maintenance Fee for the first and last Traffic Years shall be divided by the respective number of full or partial calendar months in each such Traffic Year (which amount, for each month during the Term, shall be referred to herein as a **"Monthly Maintenance Amount"**). Each Railroad shall pay its pro rata share of the Monthly Maintenance Amount, determined as follows:

5.3.2.1 For the first month of the first Traffic Year, each Railroad shall pay an equal share of the Monthly Maintenance Amount payable each month during such Traffic Year. In the event that UP and SPT are merged, the merged carrier shall pay 2/3 of the Monthly Maintenance Amounts and BNSF shall pay 1/3. For the second month of the first Traffic Year, and each month of the first Traffic Year thereafter, each Railroad's respective share of the Maintenance Fee for such month shall be the amount equal to (x) the applicable Monthly Maintenance Amount, multiplied by (y) the fraction the numerator of which is the car miles of its Unit Trains and Carload Traffic over the Port Rail Facilities during the already completed months of the first Traffic Year, and the denominator of which is the total car miles of the Unit Trains and Carload Traffic of all of the Railroads over the Port Rail Facilities during the already completed months of the first Traffic Year. To the extent that a Railroad's total payments toward the Maintenance Fee for all of the months of the first Traffic Year exceeds its allocation for the year based upon the formula in the immediately preceding sentence (assuming such formula applied to the first month in the same manner as the subsequent months), Operator shall bill or credit the amount of the difference to such Railroad, as appropriate. For purposes of this Section 5.3, a Railroad's Carload Traffic and Unit Trains over the Port Rail Facilities shall include (a) all loaded rail cars interchanged by such Railroad with Operator (including, without limitation, Special Requirements Traffic) over the Port Rail Facilities, and (b) all loaded Unit Train cars handled by such Railroad over the Port Rail

Facilities or interchanged by such Railroad to Operator. The payment of the first Monthly Maintenance Amounts shall be made within 3 days after Operator commences operations, and all subsequent payments shall be made within 30 days after receipt by each Railroad of an invoice.

5.3.2.2 For the first month of each Traffic Year other than the first Traffic Year, each Railroad shall pay an amount equal to (x) the applicable Monthly Maintenance Amount, multiplied by (y) the fraction the numerator of which is the car miles of its Unit Trains and Carload Traffic handled over the Port Rail Facilities during the immediately preceding Traffic Year, and the denominator of which is the aggregate car miles of the Unit Trains and Carload Traffic of all of the Railroads over the Port Rail Facilities during the immediately preceding Traffic Year. For all subsequent months of the Traffic Year in question, each Railroad's respective share of the Maintenance Fee for such month shall be determined based upon cumulative annual car miles using the formula set forth in Section 5.3.2.1 hereof for the second through the twelfth months of such Traffic Year. To the extent that a Railroad's total payment toward the Maintenance Fee for all the months of a Traffic Year exceeds its allocation for that year based upon the formula set forth in Section 5.3.2.1 hereof (assuming such formula applied to the first month of the Traffic Year in question in the same manner as the subsequent months of such Traffic Year), Operator shall bill or issue a credit to each such Railroad.

5.3.2.3 For purposes of this Section 5.3, the term **"car miles"** shall be based on mutually agreed-upon per car averages developed by multiplying the number of loaded cars by the average miles such locomotives, cars and containers are moved over the Port Rail Facilities, as reflected in the books and records of Operator. Articulated cars for doublestacks or trailers shall receive one car count for each platform; articulated cars that are not capable of double-stack operation, other than trailers, shall receive one-half car count for each platform.

5.3.3 The Maintenance Fee shall be adjusted in the event unit prices for materials identified in the Approved Maintenance and Train Control Plan are lower than the unit prices actually paid by Operator for such materials.

5.3.4 In the event Operator does not complete any project or repair contemplated in the Approved Train Control and Maintenance Plan (as the same may have been modified with the approval of the Railroad Oversight Committee), the Maintenance Fee over the Port Rail Facilities in question, during the next Traffic Year, shall be reduced by the dollar amount of labor and materials attributable to such project or repair (less the amounts expended by Operator, if any, over and above the amounts required to be expended in the Approved Train Control and Maintenance Plan).

5.3.5 Each Railroad shall have a one-time right to convert the basis for allocation of the Maintenance Fee from car miles to gross ton miles, commencing the first day of the immediately succeeding Traffic Year, by providing written notice of such conversion to the other Railroads, Operator and Owner, no less than 60 days prior to the commencement of each such Traffic Year. In the event a Railroad elects to effect a conversion as set forth in this Section 5.3.5, (a) this Agreement shall be amended to reflect the conversion, and (b) the Maintenance Fee shall be allocated based on gross ton miles for all of the Railroads for the remainder of the term of this Agreement.

In the event the Railroad Oversight Committee modifies the switching, dispatching and maintenance standards on the Port Rail Facilities to be observed by Operator pursuant to Article 13 of the Railroad Agreement, appropriate corresponding modifications shall be made to the maintenance and/or dispatching budget, as appropriate, in the Approved Train Control and Maintenance Plan.

5.4 Dispatching Fees for the Port Rail Facilities.

5.4.1 The Dispatching Fee for each Traffic Year during the term of this Agreement shall be the aggregate train control budget contained in the Approved Train Control and Maintenance Plan for such Traffic Year.

5.4.2 The Dispatching Fee for such Traffic Year other than the first and last Traffic years shall be divided into 12 equal installments, and the Dispatching Fee for each of the first and last Traffic years shall be divided by the respective number of full or partial calendar months in such Traffic year (which amount, for each month during the Term, shall be referred to herein as a **"Monthly Dispatching Amount"**). Each Railroad shall pay its pro rata share of each Monthly Dispatching Amount determined as follows:

5.4.3 For the first month of the first Traffic Year, each Railroad shall pay an equal share of the Monthly Dispatching Amount payable each month during such Traffic Year. In the event UP and SPT are merged, the merged carrier shall pay 2/3 of the Monthly Dispatching Amounts and BNSF shall pay 1/3. For the second month of the first Traffic Year, and each month of the first Traffic Year thereafter, each Railroad's respective share of the Dispatching Fee for such month shall be the amount equal to (x) the Dispatching Fee for such Traffic Year, multiplied by (y) the fraction the numerator of which is the number of train miles within the Port Rail Facilities, during the already completed months of the first Traffic Year, attributable to the Carload Traffic interchanged by such Railroad to/from Operator within the Port Rail Facilities and the Unit Trains of Railroad handled by such Railroad or by Operator within the Port Rail Facilities, and the denominator of which is the aggregate number of train miles within the Port

Rail Facilities, during the already completed months of the first Traffic Year, attributable to the Carload Traffic interchanged by all the Railroads to/from Operator within the Port Rail Facilities and the Unit Trains of all the Railroads handled by the Railroads or by Operator within the Port Rail Facilities. To the extent that a Railroad's total payments toward the Dispatching Fee for all the months of the first Traffic Year exceeds its allocation for the year based upon the formula in the immediately preceding sentence (assuming such formula applied to the first month in the same manner as subsequent months), Operator shall bill or credit the amount of the difference, as appropriate, to each such Railroad. The payment of the first Monthly Dispatching Amounts shall be made within 3 days after Operator commences operations, and all subsequent payments shall be made within 30 days after receipt by each Railroad of an invoice.

5.4.4 For the first month of each Traffic Year other than the first Traffic Year, each Railroad shall pay an amount equal to (a) the Monthly Dispatching Amount, multiplied by (b) the fraction the numerator of which is the number of train miles within the Port Rail Facilities, during the immediately preceding Traffic Year, attributable to the Carload Traffic interchanged by such Railroad to/from Operator and the Unit Trains of such Railroad handled by Railroad or by Operator within the Port Rail Facilities, and the denominator of which is the aggregate number of train miles within the Port Rail Facilities, during the immediately preceding Traffic Year, attributable to the Carload Traffic interchanged by all the Railroads to/from Operator and the Unit Trains of all the Railroad handled by the Railroads or by Operator within the Port Rail Facilities. For all subsequent months of the Traffic Years other than the first Traffic Year, each Railroad's respective share of the Dispatching Fee for such month shall be determined based upon cumulative annual train miles using the formula set forth in Section 5.4.3 hereof for the second through twelfth months of such Traffic Year. To the extent that a Railroad's total payments toward the Dispatching Fee for all the months of a Traffic Year exceeds its allocation for that year based upon the formula set forth in Section 5.4.3 hereof (assuming such formula applied to the first month of the Traffic Year in question in the same manner as the subsequent months of such Traffic Year), Operator shall bill or issue a credit to each such Railroad, as appropriate, based upon the actual percentage train miles of such Railroad during the preceding Traffic Year.

5.4.5 For purposes of Sections 5.3.4.2 and 5.3.4.3 above, train miles shall be based on averages developed from the dispatching records of Operator.

5.5 Tax Reimbursement by Railroads. Railroads will reimburse Operator for all amounts paid by Operator, if any, for California Possessory Interest Tax ("Tax"), pursuant to California Revenue & Taxation Code Section 107 et seq. or any similar or substitute tax assessed against Operator for its possession or use

of the Port Rail Facilities. Operator will bill each Railroad annually for its proportional share of the Tax, in an amount equal to (x) the total Tax assessment made against the Operator, multiplied by (y) the fraction, the numerator of which is the car miles within the Port Rail Facilities, during the tax year in question, attributable to Carload Switching Operations interchanged by such Railroad to/from Operator and the Unit Trains of such Railroad handled by the Railroad or by Operator, and the denominator of which is the aggregate car miles within the Port Rail Facilities, during the Traffic Year in question, attributable to the Carload Traffic interchanged by all of the Railroads to/from Operator and the Unit Trains of all of the Railroads handled by a Railroad or by Operator during the same period.

5.6 Modifications to the Switching, Dispatching and Maintenance Standards. In the event the Railroad Oversight Committee modifies the switching, dispatching, or maintenance standards, or scope thereof, to be observed by Operator pursuant to Article 13 of the Railroad Agreement, appropriate corresponding modifications shall be made to the maintenance budget in the Approved Train Control and Maintenance Plan.

5.7 Other Charges. Operator may contract with any Railroad (or with any customer, with the prior written consent of a Railroad) to handle some or all of such Railroad's Unit Train traffic over the Port Rail Facilities, the Additional Port Rail Facilities, or in the Terminal Rail Facilities and to perform other rail services over the Port Rail Facilities, the Additional Port Rail Facilities or the Terminal Rail Facilities. Operator shall not discriminate among the Railroads in establishing fees or service levels for comparable functions. Except for rail services for Dow Chemical, Operator shall have the exclusive right to establish tariffs and rate quotes, enter into transportation contracts and publish exempt circulars, and to retain all charges, in connection with rail traffic other than Unit Train traffic moving between stations located solely within the Port Complex Area and for rail services performed solely within the Port Complex Area that are not part of a movement for interchange with a Railroad (including, without limitation, charges for like) ("Local Service"). Effective on the Commencement Date, Operator will adopt all HBL tariffs relating to Local Service, which may be modified by Operator from time to time.

5.8 Maintenance and Train Control Plans. During the period beginning on the date of execution hereof and ending on January 15, 1998, Operator, Owner and the Railroads shall meet and agree on the Approved Train Control and Maintenance Plan for the Traffic Year 1998. At least 90 days prior to the beginning of each Traffic Year after 1998, Operator shall provide to Owner and the Railroads proposed maintenance and train control plans and budgets for the Port Rail Facilities for the coming Traffic Year, as applicable, which plans shall be in such detail as Owner, UP or BNSF may reasonably request. The proposed maintenance and train

control budgets for the Port Rail Facilities shall be developed based on the following principles.

5.8.1 The proposed budgets shall be direct budgets based on specified levels of labor costs and fringe benefits, material costs, purchased services and other out-of-pocket costs.

5.8.2 The proposed maintenance, operation and dispatching budgets shall include all items necessary for Operator to comply with the maintenance, dispatching and operational requirements and standards established under this Agreement for the Port Rail Facilities and Rail Property.

5.8.3 Notwithstanding modifications, if any, to (a) the maintenance plans in terms of the facilities to be maintained by Operator, the standard of maintenance, the amount of the Maintenance Fee or otherwise, or (b) the train control budget in terms of the rail facilities dispatched by Operator, the standard of dispatching, the amount of the Dispatching Fee or otherwise, the total combined overhead amount included in the annual maintenance budgets and the annual train control budgets for the Port Rail Facilities, and if Operator performs services for the Port of Long Beach under a separate agreement, the rail facilities located within the Port of Long Beach shall be $890,000 per year (prorated on a daily basis, based upon a 365-day year, for partial calendar years), adjusted annually in the manner set forth in Section 5.2 hereof, except that the [Rail Cost Recovery Index (Annual Indexes of Chargeout Prices and Wage Rates - 1977 = 100) (Western Railroads)], published by the Association of American Railroads, shall be substituted for the RCAF(U).

5.8.4 The proposed maintenance budget shall not include any costs in connection with maintenance of any facilities other than the Port Rail Facilities and the Rail Property. All maintenance costs for the Additional Port Rail Facilities and the Additional Rail Property shall be included in fees assessed under Exhibit K.

5.9 Approval of Annual Train Control and Maintenance Plans. Within 45 days after receipt of Operator's proposed annual train control and maintenance plan and budget for the Port Rail Facilities under Section 5.8, the Railroad Oversight Committee shall approve or disapprove of such plan and budget. The Railroad Oversight Committee's failure to disapprove of the proposed train control and maintenance plan and budget within such 45-day period shall be deemed the Railroad Oversight Committee's approval of the proposed plan and budget. If the Railroad Oversight Committee approves or is deemed to have approved the proposed annual train control and maintenance plan and budget for the Port Rail Facilities, such plan will become the **"Approved Train Control and Maintenance Plan"** for the applicable Traffic Year. If the Railroad Oversight Committee disapproves the proposed annual plan and budget

for the Port Rail Facilities and Rail Property, the Railroad Agreement provides that the Railroad Oversight Committee shall, within the 45-day period provided for above, deliver to Operator a written detailed explanation of the reasons for its disapproval, whereupon, Operator shall, within 15 days after its receipt of such disapproval, deliver to the Railroad Oversight Committee a revised annual plan and budget for the Port Rail Facilities and Rail Property which shall reflect all comments made by the Railroad Oversight Committee to the original proposed plan. If the Railroad Oversight Committee does not disapprove of the revised annual train control and maintenance plan and budget for the Port Rail Facilities and Rail Property within ten business days after receipt of the same, such revised plan and budget shall become the **"Approved Train Control and Maintenance Plan"** for the Traffic Year. If the Railroad Oversight Committee disapproves of the revised annual train control and maintenance plan and budget for the Port Rail Facilities and Rail Property, Operator shall be required, within 10 business days after its receipt of such disapproval, to deliver to the Railroad Oversight Committee a revised plan and budget which shall include all comments made by the Railroad Oversight Committee and such revised plan and budget for the Port Rail Facilities shall again be subject to approval by the Railroad Oversight Committee in accordance with the preceding sentence. The process described in the preceding two sentences shall continue until the Railroad Oversight Committee approves or is deemed to have approved a revised annual train control and maintenance plan and budget for the Port Rail Facilities and Rail Property proposed by Operator. Such revised plan shall then be the **"Approved Train Control and Maintenance Plan"** for the Traffic Year. The 45-day period provided for above shall be automatically tolled during the pendency of any arbitration commenced by Owner or the Railroads with respect to disputes over approval of any train control or maintenance plan proposed by Operator. If a proposed train control and maintenance plan for the Port Rail Facilities and Rail Property for a Traffic Year has not been approved by the Railroad Oversight Committee by January 1 of such year, then to reduce any disruption to maintenance and operations within the Port Rail Facilities and Rail Property the prior Traffic Year's Approved Train Control and Maintenance Plan shall apply to the maximum extent practicable or necessary and Operator shall conduct its operations in accordance therewith and the Railroads shall pay fees in accordance therewith until a final train control and maintenance plan and budget for the Port Rail Facilities and Rail Property for such year is approved by the Railroad Oversight Committee. The Railroad Oversight Committee shall have no obligation to approve, review or comment on any maintenance plans or budgets for the Additional Port Rail Facilities, the Additional Rail Property or the Terminal Rail Facilities.

5.10 Plan Dispute. If the Railroad Oversight Committee changes Operator's proposed budget for the Port Rail Facilities for the upcoming Traffic Year in the Approved Train Control and Maintenance Plan without a commensurate change in Operator's

applicable responsibilities, then Operator may, within 15 days after the adoption of such Approved Train Control and Maintenance Plan, notify Owner and the Railroads in writing (a "Deficiency Notice") that in Operator's judgment the approved plan will not enable Operator to meet the standards required of Operator under this Agreement with respect to the Port Rail Facilities and the Rail Property, specifying in detail the areas in which Operator believes deficiencies exist. Operator and the Railroad Oversight Committee shall promptly meet after delivery of the Deficiency Notice to attempt to resolve any differences. If the parties are unable to resolve their differences within 20 days after deliver of the Deficiency Notice, then any of Operator, Owner or the Railroads may invoke the arbitration procedures specified in Article 27. Should such dispute not be resolved prior to the beginning of the applicable Traffic Year, then to reduce any disruption to maintenance and operations within the Port Rail Facilities the Approved Train Control and Maintenance Plan shall apply and Operator shall conduct its operations on the Port Rail Facilities in accordance therewith and the Railroads shall pay fees in accordance therewith until the dispute is resolved; provided that if the arbitrator determines that the Approved Train Control or Maintenance Plan was not sufficient to meet the standards required of Operator hereunder with respect to the Port Rail Facilities, Operator shall not be deemed in default under this Agreement for failing to meet such standards if such failure resulted from deficiencies in the Approved Train Control and Maintenance Plan. Failure by Operator to deliver a Deficiency Notice within the 15-day period shall be deemed to be Operator's agreement that the Approved Train Control and Maintenance Plan enables Operator to perform its duties hereunder with respect to the Port Rail Facilities and the Rail Property.

5.11 Adjustment Resulting from Alterations. Upon the effective date of any material addition, modification or deletion of Trackage to the Port Rail Facilities pursuant to Sections 1.5, 21.1 or 30.20, the current Approved Train Control and Maintenance Plan shall be equitably adjusted by the Railroad Oversight Committee (after consultation with Operator) to take into account any increase or decrease in maintenance obligations and expenses as a result of the addition, modification or deletion in question, and the Maintenance Fees and Dispatching Fees payable pursuant to this Article 5 shall be similarly adjusted. For the purpose of this Section 5.11, Owner's removal from service of a Port Rail Facility for less than 90 days shall not be considered a "deletion" of Trackage requiring an adjustment to the Approved Train Control and Maintenance Plan.

ARTICLE 6
SWITCHING

6.1 Operator to Perform Carload Switching Operations. Operator shall have the exclusive right to perform, and shall

perform, all spotting and pulling of all Carload Traffic (including the corresponding empty movement of the equipment, if any) receiving or delivering those cars in interchange with the Railroads, all rail freight operations and all other switching operations on the Port Rail Facilities (collectively, **"Carload Switching Operations"**) (except to the extent the foregoing relate to Unit Trains or relate to Dow Chemical). Owner acknowledges that such Carload Switching Operations may be deemed to be provision of common carrier services by Operator. This Section 6.1, however, shall not apply to Carload Switching Operations within Additional Port Rail Facilities, which is governed by Article 9, below.

6.2 Switching Standards. Operator shall perform all Carload Switching Operations on the Port Rail Facilities in an impartial, nondiscriminatory and efficient manner and in accordance with the switching standards attached hereto as Exhibit B.

6.3 Rail Car Demurrage. Each Railroad may, at its own expense, account for, bill and collect, all rail car demurrage charges payable by tenants on cars provided by such Railroad for loading or unloading by such tenants in the Port Complex Area that accrue on or after the Commencement Date.

ARTICLE 7
DISPATCHING AND TRAIN COORDINATION

7.1 Operator as Dispatcher. Operator shall dispatch all rail operations over the Port Rail Facilities, including Unit Train movements.

7.2 Dispatching Standards. Operator shall perform its dispatching obligations on the Port Rail Facilities in an impartial, nondiscriminatory and efficient manner and in accordance with the dispatching protocols attached hereto as Exhibit C.

7.3 Operating Rules and Timetables. In connection with performance of Operator's dispatching obligations on the Port Rail Facilities hereunder, Operator shall comply with the General Code of Operating Rules and shall promulgate timetables, special instructions and general orders not inconsistent with the dispatching protocols attached hereto as Exhibit C.

7.4 Diversions. In the event that there will be a delay to a Unit Train of any Railroad in gaining access to or departing from a Terminal Facility, Operator shall notify such Railroad of the delay and shall make diligent efforts to resolve the matter causing the delay or divert such Unit Train to an alternate route (if available) in order that the Unit Train shall have access to (or be able to depart from) such Terminal Facility as soon as practicable.

7.5 Permit Conditions. Operator shall, to the extent legally obligated to do so, be bound by and shall observe any and all permit or other legal restrictions or conditions in effect from time to time that govern the hours of operation or number of trains that may serve any tenant in the Port Complex Area, whether such matter is contained in a permit or other agreement issued to a tenant or is applicable to a Railroad. In addition, Operator shall observe and enforce such conditions and restrictions in its train control and dispatching functions. Where reasonably practicable, Owner will give Operator prior notice of any proposal to adopt, amend or add any permit restriction which will materially affect Operator's performance of its obligations under this Agreement. Owner shall provide written notice to Operator of any such new restrictions or conditions, or modifications to existing restrictions or conditions, that have been adopted by Owner. As of the date hereof, there are no permit restrictions affecting hours of rail operations on property owned or controlled by Owner.

7.6 Operations by Certain Tenants. To the extent certain tenants of Owner currently operate engines or other rail equipment on portions of the Port Rail Facilities and such operations continue after the Commencement Date, Owner shall reasonably cooperate with Operator's efforts to have such tenants' operations comply with Operator's regulations and applicable laws.

ARTICLE 8
MAINTENANCE OF THE PORT RAIL FACILITIES

8.1 Maintenance Obligations on the Port Rail Facilities. Except as may be provided otherwise in Article 11, Operator shall maintain and repair all of the Port Rail Facilities and the Rail Property. Maintenance activities on the Port Rail Facilities shall include inspection, maintenance, repair, replacement and servicing of the Port Rail Facilities and the Rail Property, including, without limitation, (a) replacement of all or any portion of the Trackage as part of its maintenance activities with materials of equal or greater quality as the quality of the existing materials except to the extent provided otherwise in the Approved Train Control and Maintenance Plan, (b) weed and rubbish removal and abatement on the Port Rail Facilities and on the Rail Property to the extent necessary to prevent interference with rail operations; (c) payment of utility charges, fees and/or assessments in connection with or for the benefit of rail services on the Port Rail Facilities other than utility charges related solely to the operation of the Badger Avenue Bridge, and (d) work legally required to be performed with respect to Trackage originally included in the Port Rail Facilities but later taken out of service by Owner. Should invoices for the charges, fees and assessments described in clause (c) above be paid by Owner, Operator shall promptly reimburse Owner for such amount to the extent that such amount was contained in an Approved Train Control and Maintenance Plan plus any reasonable costs and expenses incurred by Owner or on

Owner's behalf in processing and paying such charges, fees and assessments.

8.2 Replacement of Materials not Capital Improvements. Except as provided otherwise in Section 12.5(c), the replacement of materials on the Port Rail Facilities contemplated under Section 8.1 will not be classified as a Capital Improvement, the cost of which would be borne by Owner, unless Owner specifically agrees, in writing, to such classification and to bear such cost.

8.3 Maintenance Standards. Operator shall maintain the Port Rail Facilities and Rail Property (a) in a manner that does not impair the ability of the Railroads or Operator to have access over the Port Rail Facilities to customers, (b) at a level of utility, maintenance and repair consistent with all applicable FRA, federal, state and local laws, rules and regulations, (c) in the FRA Class condition specified on Exhibit D attached hereto and (d) in accordance with an Approved Train Control and Maintenance Plan. Notwithstanding the foregoing, up to 15% of the track on the Port Rail Facilities may be subject to temporary slow orders from time to time.

8.4 Exceptions to Maintenance Standards. Notwithstanding anything to the contrary in Section 5.11 or 8.3, if after the Commencement Date Owner designates certain Port Rail Facilities as "not in service" tracks for a period of less than 90 days, no adjustment shall be made in the applicable budget line items or Maintenance Fees as a result thereof, but Operator's maintenance responsibilities for such facilities shall be limited to the level of maintenance necessary to comply with laws applicable to such "not in service" facilities.

8.5 Scrap or Salvage Material. Operator shall have the right to reuse at other locations on the Port Rail Facilities any scrap or excess material removed by Operator in connection with replacement or repairs on the Port Rail Facilities and Rail Property. In addition, Operator may sell any scrap material removed by Operator. The net proceeds from any such sale (i.e., the amount remaining after deducting Operator's unreimbursed costs of removing the materials and costs of the sale) shall be the property of Owner and such net proceeds shall be paid to Owner or as Owner directs.

8.6 No Inspection Required by Owner. Owner shall have no responsibility for inspecting, maintaining, servicing or repairing the Port Rail Facilities, the Rail Property, the Additional Port Rail Facilities, the Additional Rail Property, the Terminal Facilities, the Terminal Rail Facilities or any portion thereof or any Trains, Trackage or other equipment or property in the Port Complex Area. Notwithstanding the preceding sentence, Owner and the Railroads shall have the right to inspect any such property or equipment provided that, except in the event of an emergency, (i) such inspection shall be made upon at least 48

hours' prior telephonic notice informing Operator generally of the proposed date and time of such inspection and (ii) such inspection shall not unreasonably interfere with Operator's operations in such areas.

ARTICLE 9
ADDITIONAL PORT RAIL FACILITIES

9.1 Operator's Services. So long as the tenant in whose premises the Additional Port Rail Facilities are located does not elect to perform such services itself or hire another provider to Operator performing the following services, Operator shall (a) perform all Carload Switching Operations on the Additional Port Rail Facilities in accordance with standards acceptable to the Tenant and Operator and (b) inspect, maintain, service and repair the Additional Port Rail Facilities and the Additional Rail Property in accordance with all applicable FRA, federal, state and local laws, rules and regulations and in the FRA class condition specified on Exhibit D attached hereto. If the tenant in whose premises the Additional Port Rail Facilities are located elects to perform or hires another provider to perform some but not all of the foregoing services, Operator shall perform the remaining services not performed by the tenant or by a third party on behalf of the tenant. Operator shall be entitled to charge the Railroads or the tenant in whose premises the Additional Port Rail Facilities are located fees for services rendered under this Section in accordance with Exhibit K.

9.2 Termination of Operator's Services on the Additional Port Rail Facilities. Operator's right and obligation to provide the services described in Section 9.1 hereof, and access to the Additional Port Rail Facilities and the Additional Rail Property, shall terminate upon the earliest to occur of (a) the date this Agreement terminates, (b) the date the lease between Owner and the tenant covering the applicable portion of the Additional Port Rail Facilities terminates and (c) the date that Owner notifies Operator in writing that the tenant in whose premises the applicable portion of the Additional Port Rail Facilities is located has requested that Operator no longer perform the services then being performed by Operator in such tenant's Terminal Facility under Section 9.1.

9.3 Certain Acknowledgements. Operator acknowledges and agrees as follows:

9.3.1 the Additional Port Rail Facilities and the Additional Rail Property are not part of the Port Rail Facilities for purposes of this Agreement or the Railroad Agreement and that Owner has no responsibility to pay for or provide any maintenance thereof or any Capital Improvements thereto, of any kind or character;

9.3.2 Owner has made no representations or warranties to Operator that the tenants or occupants of the Terminal Facilities in which the Additional Port Rail Facilities are located will use Operator as, or consent to Operator as, the provider of the services described in Section 9.1 or that Owner will make any effort to encourage such tenants to use Operator to provide such services;

9.3.3 Owner is not responsible for the payment of any costs or expenses that Operator may incur in connection with the Additional Port Rail Facilities and Owner has no obligation to enforce any Railroad's or other person's obligations with respect to the Additional Port Rail Facilities; and

9.3.4 Operator shall not permit its activities on the Additional Port Rail Facilities to interfere with Operator's ability to perform its obligations hereunder with respect to the Port Rail Facilities.

9.3.5 Nothing in this Article 9 shall be deemed to limit Operator's rights under Article 25 hereof to provide additional intra-facility rail services to tenants at the Terminal Facilities in which the Additional Port Rail Facilities are located upon entry into separate written agreements with such tenants.

ARTICLE 10
DERAILMENTS

10.1 Clearing of Derailments. The Railroad whose Train derails shall be responsible for promptly clearing the derailment, provided that if Operator's Train derails, Operator shall be responsible for promptly clearing the derailment. If a Railroad's Train derails and the Railroad does not promptly clear the derailment, Operator shall clear the derailment, provided that, as between Operator and the Railroads, the costs of clearance shall be borne by the entity or entities whose Train(s) derailed. Operator shall assist in clearing any derailment, regardless of the cause thereof, but shall be entitled to reimbursement of Operator's actual costs incurred in connection with such assistance by the Railroad(s) whose Train(s) derailed. The Railroads and Operator shall be entitled to allocate liability for derailments among themselves but such allocations shall not affect liability to Owner hereunder.

10.2 Repair of Damage Caused by Derailments. Operator shall repair any damage to the Port Rail Facilities resulting from a derailment, regardless of the cause thereof, provided that, as between Operator and the Railroads, the costs of such repairs shall be borne by the entity or entities whose Train(s) derailed. The Railroads and Operator shall be entitled to allocate liability for damage caused by derailments among themselves but such allocations shall not affect liability to Owner hereunder.

10.3 Alternate Access. In the event of a derailment, Operator shall, to the extent possible, re-route trains or put into service alternative means of rail access if the affected portion of the Port Rail Facilities cannot timely be returned to service.

10.4 Repair of Track Damage Caused by Operator or Railroads. Operator shall be responsible for repairing any damage to the Port Rail Facilities resulting from improper train handling (i.e. running through switches, excessive rail burn, etc.) but the cost of such repair shall be borne by the entity or entities whose Train(s) caused the damage. The Railroads shall reimburse Operator for any expenses incurred as a result of improper train handling within 30 days after receipt of billing for such charges. Any damage caused by Operator shall be repaired at Operator's sole cost and expense.

ARTICLE 11
BADGER AVENUE BRIDGE

11.1 Maintenance. Operator shall maintain the rail and ties on the Badger Avenue Bridge and the rail approaches thereto (including the interlocker), and all other rail components of the Badger Avenue Bridge in accordance with Article 8. Operator shall have no maintenance or other obligations (including payment of utility costs for operating the Badger Avenue Bridge) with respect to the structural, mechanical or electrical systems and components for the Badger Avenue Bridge including, without limitation, bridge locking micro switches and Conley joints.

11.2 Operations. Operator shall be solely responsible for operating the Badger Avenue Bridge as a moveable railbridge to allow vessels to pass through the channel and shall provide and train, at no cost to Owner, the personnel necessary to operate the Badger Avenue Bridge during the time periods required by Owner. Operator acknowledges that Owner may require Operator to operate the Badger Avenue Bridge on a twenty-four hour per day, 365 day per year, basis.

ARTICLE 12
CAPITAL AND OTHER IMPROVEMENTS

12.1 Capital Improvements. Operator shall be obligated to make the following Capital Improvements to the Port Rail Facilities: (a) Capital Improvements necessary to ensure that the Port Rail Facilities are operated and maintained in compliance with all federal, state and local laws applicable to or arising from rail operations, the costs of which Capital Improvements will be allocated to and paid by the Railroads on a train mile basis as part of an Approval Train Control and Maintenance Plan; (b) Capital

Improvements necessary to ensure that the Port Rail Facilities are operated and maintained in compliance with federal, state and local laws of general applicability to the public and not covered by clause (a) hereof, the costs of which Capital Improvements shall be borne by Owner as part of an Approved Train Control and Maintenance Plan; (c) Capital Improvements required by the Railroads and approved by Owner, the costs of which will be borne solely by the Railroad(s) requesting the same;(d) Capital Improvements required by Owner that Owner requests be made by Operator, the costs of which will be borne by Owner; (e) Capital Improvements described as **"Extraordinary Replacements"** in Section 12.5 and required under an Approved Train Control and Maintenance Plan, the costs of which will be borne by Owner and the Railroads in accordance with Section 12.5. Operator's obligation to make the Capital Improvements specified in clause (c) above is conditioned upon Operator first receiving satisfactory assurance that the Railroads will pay for the full costs thereof. The Railroads or Owner, as the case may be, shall pay Operator for the full costs of any Capital Improvements made in accordance with this Section within 30 days after delivery to such party of an invoice for such costs. Except as provided otherwise in this Section 12.1, Operator shall have no obligation to make Capital Improvements to the Port Rail Facilities.

12.2 Ownership of Improvements and Alterations. All materials, replacements, substitute items and Capital Improvements installed or made by or on behalf of Operator or any other person on property owned or controlled by Owner shall at Owner's election be the property of Owner unless Owner agrees otherwise in writing.

12.3 Capital Improvements by Owner. Except as provided otherwise in this Article or in Article 2, Owner shall have no obligation whatsoever to make any Capital Improvements or other modifications or additions on or to the Port Rail Facilities or on or to any other portions of the Port Complex Area, including, without limitation, the Additional Port Rail Facilities and the Terminal Rail Facilities. Owner shall be entitled, but shall not be obligated, to make such Capital Improvements and modifications to the Port Rail Facilities, the Additional Port Rail Facilities and the other portions of the Port Complex Area as Owner, in its sole discretion, deems necessary or desirable, and shall be entitled to employ contractors other than Operator or the Railroads to perform such Capital Improvements or other modifications to the Port Rail Facilities, the Additional Port Rail Facilities, the Terminal Rail Facilities and the other portions of the Port Complex Area.

12.4 Construction Work by Owner. Upon at least 45 days' prior written notice to Operator and the Railroads, and subject to the terms and conditions hereof, Owner may elect to construct any modifications, additions or other improvements (including Capital Improvements) to the Port Rail Facilities, or to make any modifications to the Rail Property or other facilities in the Port

Complex Area that require a Port Rail Facility be taken out of service temporarily. If an active rail shipper located in a Terminal Facility or, if U.S. Borax is then an active rail shipper, U.S. Borax will be cut off from rail access and will need alternative shipping arrangements as a result of such construction, as between Owner and Operator, Owner shall be solely responsible for providing any alternative arrangements that (a) Operator or Owner are legally required to provide to such shipper during the interruption of rail service and (b) are reasonably necessary to meet the needs of such shipper during interruption of rail service that otherwise would have been met by rail service. Operator shall cooperate with Owner in Owner's efforts to provide any alternative arrangements that Owner is required to provide under the preceding sentence. In connection with any construction activity, Owner may schedule at least one construction period of at least eight continuous hours during each day to perform its construction activities on or adjacent to the Port Rail Facilities or the Rail Property. The specific construction periods shall be determined by Owner in consultation with Operator and the Railroads, with the goal of not unreasonably interfering with rail operations on the Port Rail Facilities. Owner also may conduct construction and related activities at times outside of the designated construction periods, provided that such activities outside the designated period do not unreasonably interfere with Operator's on-going rail operations on the Port Rail Facilities. Owner shall require its contractors to provide, or shall reimburse Operator's reasonable charges from, any flagging protection that may be necessary in connection with any such construction activities. Any active or inactive tracks may be crossed by Owner or its construction contractors at designated timber or paved crossings. In no event shall Operator or any Railroad be entitled to any sums, damages, fees or other compensation relating to any loss of business or revenues resulting from such construction activities by Owner or as a result of any related closure of any Port Rail Facilities.

12.5 Replacement of Materials as Capital Improvements.

(a) Pursuant to the Existing Rail Operation Agreement, the Railroads have been, and until the Commencement Date will remain, responsible for maintaining and repairing the Port Rail Facilities.

(b) Operator and Owner acknowledge that the annual Approved Train Control and Maintenance Plans are intended to provide for a normalized maintenance and replacement schedule over a period of time that will maintain the Port Rail Facilities and all components thereof in the condition required by this Agreement. The maintenance program set forth in the Approved Train Control and Maintenance Plans shall include the periodic replacement of ties, rail, switches and other components of the Port Rail Facilities with materials of like quality. Operator acknowledges that, except as provided in Section 12.5(c), such replacements of materials are

part of normalized maintenance and, as such, the costs thereof are a part of Maintenance Fees.

(c) Operator and Owner further acknowledge that notwithstanding consistent performance of the normalized maintenance and replacement program described in clause (b), above, at some point in the future major portions or components of the Port Rail Facilities will need to be replaced. During the fourth through ninth years of this Agreement, Operator shall provide to Owner and the Railroad Oversight Committee information regarding annual replacement of ties, rail, switches and other components of the Port Rail Facilities as part of the Approved Train Control and Maintenance Plan. The Railroad Agreement provides that on or before the commencement of the tenth year of this Agreement the Railroad Oversight Committee shall, based on the information described in the preceding sentence, determine the average replacements on an annual basis per each mile of Port Rail Facilities (for example, for each one-mile increment of Port Rail Facilities, an average of *x* ties, *y* feet of rail and *y* switches were replaced). In determining averages, the Railroad Oversight Committee is required under the Railroad Agreement to consider only replacements made as part of maintenance and shall not consider replacements made as part of additions to the Port Rail Facilities. The Railroad Agreement further provides that on or before the commencement of each year after the ninth year of this Agreement, the Railroad Oversight Committee shall establish a baseline replacement schedule for such year by multiplying the average annual replacements during the fourth through the ninth years of this Agreement by the number of miles of rail then included in the Port Rail Facilities. All replacements in excess of the baseline shall be deemed **"Extraordinary Replacements"**. For example, if during years four through nine of this Agreement an average of 10 ties were replaced for each mile of rail included in the Port Rail Facilities each year, and on the tenth year of this Agreement the Port Rail Facilities encompass 50 miles of rail, the baseline for tie replacements would be 500. Therefore, if 510 ties were replaced during the tenth year of this Agreement, 500 ties would be deemed a part of normal maintenance and 10 ties would be deemed "Extraordinary Replacements".

(d) Beginning in the tenth year of this Agreement, if the Railroad Oversight Committee determines that Extraordinary Replacements are necessary, Owner shall, so long as it has first received assurances (acceptable to Owner in its sole and absolute discretion), of the Railroads' payment of their share of the costs of such Extraordinary Replacements, cause such Extraordinary Replacements to be completed and the costs thereof shall be allocated 40% to Owner and 60% to the Railroads jointly. Notwithstanding the foregoing, replacements of materials at Pier A Yard shall, in all events, be deemed normalized maintenance not Extraordinary Replacements and the costs thereof shall be included as part of Maintenance Fees.

(e) Notwithstanding the foregoing provisions of this Section, repair of any damage caused in the future by a Force Majeure Event shall be the sole responsibility of Owner, subject to the provisions of Article 24.

ARTICLE 13
SAFETY AND SECURITY

13.1 Safety Program. Operator shall establish and observe a safety program for all of its activities in the Port Complex Area, in accordance with prevailing industry standards and shall use reasonable care in all of its activities in, on or about the Port Complex Area.

13.2 Encroachers, Trespassers and Other Third Parties; Hazards. Operator shall notify Owner in writing of any trespassers and other operations and activities on the Port Rail Facilities and the Rail Property which interfere with Operator's performance of its obligations under this Agreement, including, without limitation, trespasses by and operations and activities of employees or agents of any tenant operating equipment on the Port Rail Facilities (unless specifically authorized by Owner). Operator shall not allow or authorize any person or entity other than a Railroad, Operator (its contractors and subcontractors) or Owner to operate equipment (including locomotives, hi-rail vehicles and track mobiles) on the Port Rail Facilities and is hereby authorized to take reasonable steps to prevent such operation by unauthorized persons. Operator shall give Owner prompt written notice of any encroachment onto the Port Rail Facilities or the Rail Property by adjoining property owners or tenants which interferes with operations on the Port Rail Facilities.

13.3 Security. Operator shall be solely responsible for providing any security services or measures it deems necessary or desirable for its property and equipment, and all cargo and rail cars and equipment in its possession or control, but shall have no responsibility for providing any other security services or measures in the Port Complex Area including any security services for any Railroad's property and equipment not in Operator's possession or control. Operator acknowledges that Owner shall have no responsibility to provide any security services or measures to protect from theft, vandalism or damage to the Trackage or any other property, equipment or improvements owned or used by Operator or the Railroads.

ARTICLE 14
LOADING, UNLOADING AND STORAGE OF FREIGHT CARS AND EQUIPMENT

14.1 In General. Operator shall place for loading, unloading and storage, and shall require the Railroads to place for

loading, unloading and storage, all Railcars and railroad equipment handled by Operator on the Port Rail Facilities (a) in compliance with all applicable federal, state, and local laws and regulations and all customary and appropriate safety and maintenance procedures, (b) in a manner that does not unreasonably interfere with the activities of Owner, Operator, any Railroad or any tenant in the Port Complex Area and (c) only to the extent of space available with priority given to loading, unloading and storage to serve Terminal Facilities. Operator shall allocate storage and approve requests for storage on the Port Rail Facilities on a reasonable and non-discriminatory basis and in accordance with guidelines approved by the Railroad Oversight Committee. Notwithstanding the preceding two sentences, Unit Trains (including any train that would be a Unit Train if handled by a Railroad rather than Operator) and Railcars that originally were part of a Unit Train may not be placed for loading, unloading or storage anywhere on the Port Rail Facilities for periods in excess of five days without the prior written consent of Owner. Any consent given by Owner for such placement is hereby conditioned upon compliance with the provisions of clauses (a), (b) and (c), above, in addition to any conditions contained in such consent. If Owner does not respond to a request for placement under the preceding sentence within five business days after receipt thereof, Operator shall have the right to provide the necessary consent. Owner may from time to time by written notice to Operator designate certain tracks then part of the Port Rail Facilities (excluding tracks in Pier A Yard (for so long as it remains in rail service), the Replacement Railyard (from and after commencement of operations in the Replacement Railyard hereunder unless the Replacement Railyard has been taken out of service in accordance herewith) or in the Transfer Yard) as storage or staging tracks to be used exclusively for a specific tenant or tenants if such designation will not unreasonably interfere with rail operations serving tenants at Terminal Facilities.

14.2 Dangerous Materials Cars. Dangerous Materials Cars may be loaded, unloaded or stored (or placed for loading, unloading or storage) on property owned or controlled by Owner only at locations specified by Owner, which locations, as of the Commencement Date, are set forth on Exhibit E. Loading, unloading and storage under the preceding sentence must be accomplished in full compliance with all applicable laws. Owner shall be entitled at any time and from time to time to change the locations for loading, unloading and storing Dangerous Materials Cars on property owned or controlled by Owner upon prior written notice to Operator and the Railroads. Operator shall promptly inform Owner of any violation by any Railroad of the foregoing laws, rules, regulation and procedures.

ARTICLE 15
COMPLIANCE WITH LAWS, LICENSING, TAXES AND ASSESSMENTS

15.1 Compliance with Laws. Operator shall comply, at its sole cost and expense, with all applicable federal, state and local laws, rules, regulations, permits and orders that relate to or govern Operator's activities in the Port Complex Area including permits or licenses issued to a tenant. If any failure on Operator's part to so comply results in a fine, penalty, cost or charge being imposed or assessed on or against Owner, Operator shall promptly reimburse, defend, indemnify and hold Owner harmless with respect to such fine, penalty, cost or charge and all expenses and attorneys' fees incurred in connection therewith.

15.2 Licenses and Permits. Operator shall, at its sole cost, obtain and maintain in full force and effect all governmental licenses, permits, approvals, franchises and other entitlements that are necessary for its operations in the Port Complex Area. Without limiting the generality of the preceding sentence, Operator shall file a 7-day Exemption Notice under 49 C.F.R. § 1150.31 and § 1180.2, on or after November 1, 1997. Operator acknowledges that any approval by or consent of Owner which may be given pursuant to this Agreement with respect to the subject matter hereof shall not be deemed or construed as eliminating or reducing Operator's obligation to obtain any licenses, permits, approvals, franchises or entitlements which may be necessary or required from the City of Los Angeles or from departments or agencies thereof.

15.3 Prohibited Cargo. Notwithstanding any other provision of this Agreement, without the prior written permission of the Executive Director of Owner, Operator shall not knowingly accept or transport over property owned or controlled by Owner any cargo, materials or substances that Owner has notified Operator in writing are prohibited to be transported over property owned or controlled by Owner under Owner's tariff. However, if Operator believes that compliance with the preceding sentence will violate Operator's common carrier obligations under federal law, Operator's knowing transportation of prohibited cargo, materials or substances over property owned or controlled by Owner shall not be deemed a breach of this Agreement, so long as Operator gives Owner 48 hours' prior written notice of any such transportation and Owner does not obtain a court determination or order that it may prohibit the material in question from being so transported.

15.4 Southern California Edison License Conditions. Operator shall comply with all restrictions and conditions related to access across Trackage in Southern California Edison's right of way and vertical clearances for power lines.

ARTICLE 16
PERSONNEL AND EQUIPMENT

16.1 Personnel. Operator shall hire, train and supervise, at its sole cost and expense, all persons necessary to perform its duties and obligations hereunder except to the extent Operator engages subcontractors to perform such duties and obligations. Operator shall ensure that, all persons performing any duties and obligations of Operator hereunder or under any of the Related Agreements, including, without limitation, all contractors and subcontractors hired by Operator and all persons operating the Badger Avenue Bridge, are competent, trained, qualified and, to the extent required by law or by sound business practices in the industry, licensed or certified for the task that they are performing.

16.2 Labor Protective Conditions. As between Owner and Operator, Operator shall be responsible, at no cost to Owner, for all labor protective conditions applicable to its employees and contractors providing services hereunder or in connection herewith.

16.3 Operator's Equipment. Operator shall, at no cost to Owner, provide its own equipment to perform all of its duties and obligations hereunder (except for equipment necessary to operate the Badger Avenue Bridge from the bridge control booth). All of Operator's trains operating on the Port Rail Facilities shall be adequately powered to run at maximum authorized track speeds and otherwise in such condition that the efficient use and operation of the Port Rail Facilities will not be disrupted. Without limiting the generality of the foregoing, Operator shall at all times after the Commencement Date maintain the following equipment at its facilities in the Port Complex Area for use in connection with performance of its obligations hereunder:

1) 5 switcher or road-switcher locomotives;

2) Radio and cellular communication equipment linking Operator's train director's office and all of Operator's train and maintenance crews operating in the Port Complex Area. Such equipment shall be capable of direct communication with the radio communication systems used by each of the Railroads and terminal operators.

3) a RMI IRCS or RS-400 computer system.

4) such other equipment (including, without limitation, tools, vehicles, computers, and supplies) as are reasonably necessary for Operator to perform all of its obligations under this Agreement.

5) Operator shall install such computer hardware and software as necessary to permit Operator to receive and send data described in the following sentence electronically to and from

Owner and Railroads. The data to be exchanged shall include, among other things, information regarding locomotives, railcar numbers (loaded or empty), destinations of trains and crews, weight and length of train, marine terminal operator, container serial number and such other information as Owner may reasonably request to the extent such information is available to Operator on railroad computer databases. Operator will provide to Owner on a periodic basis the foregoing information provided that Operator will not be deemed to have made any representations or warranties with respect to the accuracy of such information. Owner shall reimburse Operator for all incremental expenses incurred by Operator to obtain the information required in this Section. Incremental expenses are only those expenses incurred by Operator over and above what would be incurred by Operator to perform Operator's obligations under this Agreement other than Operator's obligations under this Section 16.3(5).

Operator acknowledges that the foregoing list of equipment is a minimum requirement based on Operator's initial estimates. If additional or different equipment is necessary from time to time for Operator to perform its obligations hereunder, Operator promptly shall obtain and place in service such equipment at its sole cost and expense. Operator shall have no obligation to supply its own freight or other rail cars, or intermodal equipment in connection with performance of its duties and obligations hereunder.

16.4 Operator not Required to Provide Equipment to Railroads. Operator shall not be required to provide freight or other rail cars or intermodal equipment to the Railroads hereunder.

16.5 Radio Frequency. Owner agrees to the use by Operator during the term of this Agreement of the radio frequency currently used by HBL. Upon the expiration or earlier termination of this Agreement, the rights to such radio frequency, as between Owner and Operator, shall belong to Owner.

ARTICLE 17
PROHIBITION AGAINST LIENS; PAYMENT OF TAXES AND ASSESSMENTS

17.1 Liens. Operator shall not cause the filing of any Charge against any or all or any portion of any property owned or controlled by Owner or any improvements therein. However, in the event such filing does occur, Operator shall cause the same to be discharged of record within 30 days after the date of filing of the same provided that Operator shall be entitled to contest the same as provided by law so long as Operator exercises such rights in a manner which prevents foreclosure of any such Charge.

17.2 Taxes. Operator shall promptly pay all taxes of any kind or nature, and any governmental or special district assessments, all bonded indebtedness incurred by Operator, all license fees and other charges, if any, properly levied or assessed against or as a result of this Agreement or Operator's operations on the Port Rail Facilities and the Rail Property, subject to Operator's right to contest same as provided by law, which right shall be exercised by Operator in a manner which prevents the foreclosure of any lien for such taxes. Should Operator elect to contest the taxes and assessments payable by Operator under this Section, Operator shall indemnify, defend and hold harmless Owner, its officers, directors, employees, commissioners, agents, successors and assigns from any and all matters arising therefrom, including, without limitation, any penalties or late charges relating to such taxes and assessments and all costs and expenses (including, without limitation, reasonable attorneys' fees) arising out of such contest.

17.3 Possessory Interest Taxes. WITHOUT DEROGATING FROM THE LIMITATIONS ON OPERATOR'S RIGHTS WITH RESPECT TO THE PORT RAIL FACILITIES, THE ADDITIONAL PORT RAIL FACILITIES AND PIER A YARD PROVIDED FOR HEREIN, OPERATOR ACKNOWLEDGES THAT IT IS AWARE THAT THIS AGREEMENT MAY CREATE A POSSESSORY PROPERTY INTEREST IN OPERATOR FOR TAX PURPOSES AND THAT OPERATOR MAY BE SUBJECT TO PAYMENT OF A POSSESSORY PROPERTY TAX IF SUCH AN INTEREST IS CREATED. Nothing in this Section 17.3 shall be construed as limiting the obligations of the Railroads to reimburse Operator for all amounts, if any, paid by Operator for California Possessory Interest Tax pursuant to California Revenue & Taxation Code Section 107 et seq. pursuant to Section 5.5 hereof.

ARTICLE 18
REPORTS AND NOTICES

18.1 Delivery of Notices. Operator shall promptly deliver to Owner copies of all notices, correspondence and information it receives from any governmental agency, tenant, licensee, shipper, customer, easement holder, or railroad (a) regarding the condition or maintenance of all or any portion of the Port Rail Facilities, Terminal Facilities and any other property owned or controlled by Owner or (b) alleging violation of any law by Operator, any Railroad or Owner, or (c) alleging violation of or default under any agreement to which Owner is a party. In addition, if Operator becomes aware of any unsafe condition in the Port Rail Facilities, Operator shall promptly notify Owner of such unsafe condition.

18.2 Statements. Within 45 days after the end of each calendar quarter Operator shall deliver to Owner quarterly unaudited statements for the immediately preceding calendar quarter in a form acceptable to Owner showing (a) total railcar movements by Operator, (b) total fees due Operator under this Agreement, (c)

total maintenance expenditures on Port Rail Facilities, and if requested by Owner, any other portions of the Port Complex Area, showing the location of all such expenditures, and (d) such other information as Owner may reasonably request.

18.3 Annual Track Usage and Expenditures Reports. Within 90 days after the end of each Traffic Year, Operator shall deliver to Owner and the Railroads an annual report of track use and expenditures for operations and maintenance on the Port Rail Facilities, and, if requested by Owner, any other portions of the Port Complex Area, each in a form acceptable to Owner.

18.4 Inspection Reports. Operator shall perform and document all inspections of the Port Rail Facilities (and, if Operator is maintaining certain Additional Port Rail Facilities under Article 9, such Additional Port Rail Facilities) required under applicable federal, state and local laws and shall submit to the appropriate governmental entities all reports required to be submitted under applicable federal, state and local laws.

18.5 Other Reports and Information. Operator shall make available to Owner any reports prepared by or on behalf of Operator regarding the condition or status of the Port Rail Facilities or any portion thereof or any other Trackage in the Port Complex Area. In addition, from time to time upon Owner's request, Operator shall provide to Owner information, in a form reasonably acceptable to Owner, regarding the number of rail freight cars delivered to or received from each shipper, receiver and/or customer receiving or shipping freight on or from the Port Complex Area or any portion thereof. Operator shall retain all such information for a period of not less than three calendar years or if applicable laws require retention for periods greater than three years, for the period of time provided for by law.

18.6 Records Retention; Review. Operator shall maintain at its office in Los Angeles County full and complete records of all of its activities pursuant to this Agreement, including, without limitation, all permits, licenses, inspection reports, governmental or regulatory notices or approvals, operating, maintenance and dispatching logs and records and reports of any accidents or injuries on the Port Rail Facilities or Rail Property. Owner and the Railroads may at any time during normal business hours and upon reasonable notice review and/or copy (at the expense of the person reviewing and copying the records) any or all of such records and information, which review may be performed by the employees of Owner or the Railroads or by any agent of Owner or the Railroads.

ARTICLE 19
RAILROAD OVERSIGHT COMMITTEE

19.1 Railroad Oversight Committee. The Railroad Oversight Committee established pursuant to Article 13 of the Railroad Agreement shall be entitled to monitor the performance by Operator of its duties and obligations hereunder. Operator may attend meetings of the Railroad Oversight Committee and make presentations to the Railroad Oversight Committee, but the Railroad Oversight Committee may hold executive sessions outside the presence of the Operator.

19.2 Performance Standards. The Railroad Oversight Committee from time to time may, after consultation with Operator, propose modifications to the switching, dispatching, maintenance and other standards to be observed by Operator on the Port Rail Facilities and the Rail Property and, after consultation with Operator, may implement such modifications. Operator also may propose modifications to such switching, dispatching, maintenance and storage standards for consideration by the Railroad Oversight Committee. Operator shall comply with any modifications to such standards implemented by the Railroad Oversight Committee (after any reasonable period that may be necessary to conform its operations thereto) so long as such modifications do not fundamentally change the nature of the transaction contemplated by this Agreement with respect to the Port Rail Facilities. Any good faith disputes over whether a modification fundamentally changes the nature of the transaction contemplated hereby with respect to the Port Rail Facilities may, at the election of Operator or the Railroad Oversight Committee, be submitted to arbitration under Article 27 hereof.

ARTICLE 20
DEFAULT AND REMEDIES

20.1 Defaults.

20.1.1 Operator Defaults Any of the following events shall be deemed a default by Operator hereunder:

(a) Failure to pay any amount provided for herein (including, without limitation, Operator Railyard Fees) within 10 days after receipt of written notice of nonpayment of any amounts payable hereunder;

(b) Failure to maintain insurance as required hereunder;

(c) Failure to perform any other obligation of Operator hereunder within 30 days of receipt of written notice by Owner; provided that if Operator commences to cure such failure but such failure cannot be cured within such 30 day period despite

diligent pursuit of such cure, Operator shall be entitled an extension of the period of time necessary to cure such default if Operator continues to diligently pursue such cure;

(d) Commencement of an insolvency, bankruptcy or other similar proceeding by or against Operator which proceeding is not dismissed within 30 days after commencement thereof;

(e) The making of a general assignment for the benefit of creditors of Operator; and

(f) Violation by Operator of any collective bargaining or other labor agreement to which Operator is a party which violation gives rise to a legal work stoppage, strike or other form of labor slowdown disrupting operations in the Port Complex Area.

20.1.2 Owner Defaults. Owner's failure to perform any obligation of Owner hereunder within 30 days after receipt of written notice by Operator; provided that if Owner commences to cure such failure but such failure cannot be cured within such 30-day period despite diligent pursuit of such cure, Owner shall be entitled to an extension of the period of time necessary to cure such failure if Owner continues to diligently pursue such cure.

20.2 Remedies. The remedies provided for herein shall be cumulative.

20.2.1 Damages. In the event of a default under or breach of any of the terms of this Agreement which default or breach is not cured within the applicable cure period provided for herein, if any, the non-defaulting party shall have all remedies available at law or in equity against the defaulting party. Operator acknowledges and agrees that in no event will Owner have any liability to Operator for any Railroad's or any other person's failure to pay Operator the fees required under this Agreement, the Railroad Agreement or any Related Agreement or for any other breach of the Railroad Agreement or any Related Agreement.

20.2.2 Specific Performance. Operator acknowledges that in the event of a default under or breach of any of the terms of this Agreement by Operator that is not cured within the applicable cure period, if any, provided for herein, damages may not be an adequate remedy, and Owner may, in addition to exercising its legal remedies, seek equitable relief, including, without limitation, the entry of a decree for specific performance against Operator and in favor of Owner. Operator acknowledges that Operator shall have no right to seek equitable relief as a result of a breach by Owner hereunder.

20.2.3 Right to Cure. In the event of a default under or breach of any of the terms of this Agreement which default

or breach is not cured within the applicable cure period provided for herein, if any, Owner shall have the right, but not the obligation, to cure the default hereunder. All sums expended by Owner in exercising its rights under the preceding sentence, including reasonable attorneys' fees, shall be repaid by Operator upon demand therefor. Operator acknowledges that Operator shall have no right to cure defaults by Owner hereunder.

20.2.4 Termination.

20.2.4.1 Termination by Owner for Default. In the event of a default under or breach of any of the terms of this Agreement by Operator which default or breach is not cured within the applicable cure period provided for herein, if any, Owner will have the right to terminate this Agreement by delivery of notice to Operator and the Railroads.

20.2.4.2 No Termination by Operator for Default. Except as provided in Section 21.2, Operator shall not have the right to terminate this Agreement as a result of a default under or breach of any of the terms of this Agreement, the Railroad Agreement or any Related Agreement.

ARTICLE 21
SPECIAL CANCELLATION RIGHTS

21.1 Termination of Dispatching and Maintenance by Owner for Convenience. In addition to its rights under Sections 4.2, 20.2.4.1 and 24.2, on six months' prior written notice to Operator and the Railroads, Owner shall have the right in its sole discretion to terminate this Agreement as to maintenance, dispatching and train control in the Port Complex Area, without joinder by any Railroad, if Operator is not selected as the dispatcher and maintenance provider for the Alameda Corridor.

21.2 Operator Termination for Failure of Railroad to Pay Fees.

21.2.1 Except as expressly provided below in this Section, Operator's obligations and duties under this Agreement shall not be excused by a Railroad's failure to pay any fees or charges due Operator hereunder. If all the Railroads fail to pay Operator an amount with respect to Maintenance Fees and/or Dispatching Fees with respect to the Port Rail Facilities and the Rail Property that, in the aggregate, is in excess of 1/6th of the total of the then current annual budgets for maintenance and dispatching costs in connection with maintenance and dispatching on the Port Rail Facilities and the Rail Property (the **"Delinquency Amount"**), and such amount has been outstanding after written demand therefor submitted to the Railroads for more than 30 days, Operator shall give written notice to Owner, with a copy to the Railroads, of such fact and, if Operator elects, also specify in such notice

that if Operator does not receive funds sufficient to cover the Delinquency Amount within 90 days after the date of the notice, Operator intends to exercise its right under this Section to terminate this Agreement. If Operator does not receive payment of the Delinquency Amount within such 90-day period, Operator may, in addition to any other rights Operator may have against the Railroads, terminate this Agreement by giving a new written termination notice to Owner and the Railroads, provided that if Operator receives payment of the Delinquency Amount from Owner (at Owner's election) or a Railroad prior to the date Operator delivers such termination notice, then Operator may not terminate this Agreement. This Agreement shall be deemed terminated on the date 60 days after the date on which Operator's termination notice is delivered to Owner, provided that Operator shall have 90 days after such date to wind up its affairs and to remove its property from the Port Rail Facilities. If Operator elects to so terminate this Agreement, Owner shall have no liability to Operator in connection therewith.

21.2.2 Any party (or parties) which pays the Delinquency Amount attributable to another party to Operator shall have all rights that Operator may have had to proceed against the delinquent liable for the Delinquency Amount and Operator shall cooperate with such party's efforts to obtain payment from the delinquent Railroad. Should Operator later receive any payment of the Delinquency Amount from the delinquent Railroad, Operator promptly shall forward such sums to the party who paid the Delinquency Amount to Operator.

21.2.3 In no event may Operator terminate this Agreement for a failure by any Railroad to pay any sums due Operator with respect to Carload Traffic, the Additional Port Rail Facilities, the Additional Rail Property or for other services provided to any Railroad or any other person pursuant to a separate agreement between Operator and the Railroad or other person in question.

21.3 Transfer of Rights After Termination. Upon any termination or expiration of this Agreement, Owner, in its sole discretion, shall have the right to require the transfer of all of Operator's rights hereunder and under the Related Agreements (other than the right to receive payments on account of periods prior to the assignment), on terms and conditions acceptable to Owner, to a replacement operator or operators designated by Owner. Upon such transfer Operator shall (a) assign all of its right, title and interest in and to this Agreement and the Related Agreements to such replacement operator(s); (b) immediately cease all activities on the Port Rail Facilities; and (c) remove, within 30 days (or 90 days under Section 24.2) after the termination of this Agreement, all trains and equipment owned by Operator from the Port Complex Area (except for such trains or equipment on which Owner has exercised its purchase option).

21.4 Purchase Option. Upon the expiration or any earlier termination of this Agreement, Owner shall have the option to acquire from Operator any or all of the equipment and material owned or leased by Operator and used in connection with its duties and obligations under this Agreement. The purchase price for any item owned by Operator shall be equal to the fair market value of the item on the date of termination of this Agreement, taking into account its then current condition, but deducting therefrom any liens or encumbrances thereon. If an item is leased by Operator, the fair market value shall be deemed to be equal to an assumption of the Operator's obligations under the lease remaining from and after the date the item is transferred to Owner (Operator shall be responsible for any lease obligations that accrue prior to such date), less the amount of any liens or encumbrances on such item. Owner's right to acquire any leased equipment shall be subject to obtaining any necessary consent from the lessor (Operator agrees to cooperate with Owner in seeking any such consent from equipment lessors).

Within 10 days after Owner's request, Operator shall give Owner a list of all equipment and materials that it owns or leases in connection with its operations under this Agreement, specifying whether each item is owned or leased, identifying the amount of all liens or encumbrances thereon and, in the case of leased equipment or materials, Operator shall deliver to Owner a copy of the lease agreement covering such item or items. Owner shall exercise this option, if at all, by delivering to Operator, within 30 days after the date Owner receives the equipment and materials list specified in the preceding sentence, written notice of Owner's intent to exercise the option, which notice shall identify the specific items to be acquired and Owner's estimation of the fair market value of the items. Within five days after receipt of said notice from Owner, Operator shall (i) accept in writing Owner's estimate of fair market value, whereupon Owner shall within twenty days of Operator's acceptance, pay to Operator the purchase price for the property and Operator shall concurrently deliver to Owner the property along with unencumbered title thereto; or (ii) reject in writing Owner's estimate of such fair market value and submit to Owner Operator's estimate of such fair market value, whereupon Owner shall, within five days after receipt of such notice from Operator elect to (a) accept Operator's estimate, (b) terminate their option to buy such property, or (c) submit the matter to binding arbitration in accordance with the following paragraph. Operator's failure to deliver a written rejection of Owner's estimate of fair market value within the five day period shall be deemed Operator's acceptance of Owner's estimate and an election to proceed under clause (i) above.

Within ten days after delivery by Owner of its election to proceed with binding arbitration, Owner and Operator shall jointly select an appraiser to determine the fair market value of the property to be acquired and the determination of such appraiser shall be binding upon Owner and Operator. If Owner and Operator

are unable to agree upon an appraiser, Owner shall select one appraiser and Operator shall select one appraiser to determine the fair market value of the property. The two appraisers shall make their respective determination in a writing delivered to Operator and Owner as soon as possible but in no event later than fifteen days after their respective appointments. If there is a difference in the fair market values determined by the two appraisers, but such difference is equal to or less than ten percent of the higher value, the average of the values shall be deemed to be the fair market value of the property. If the difference in the appraised values is greater than ten percent of the higher value, the appraisers shall, within ten days of delivery of the second appraisal, appoint in writing a third appraiser. If the two appraisers selected by Owner and Operator cannot agree upon a third appraiser within the ten day period, either may apply to the presiding judge of the Superior Court in Los Angeles County for the appointment of the third appraiser. The third appraiser shall, within ten days of appointment, select one of the original appraisals as more accurate, in the third appraiser's best professional judgment. The appraised value so designated shall be the fair market value for purposes of this Section and the party whose appraisal was not designated by the third arbitrator as the most accurate shall pay all costs of the appraisals obtained hereunder.

ARTICLE 22
INDEMNIFICATION AND LIABILITY

22.1 General Indemnity. To the maximum extent permitted by applicable law, Operator shall indemnify, defend (with counsel reasonably acceptable to the Owner Entities (as hereinafter defined)) and save harmless the City of Los Angeles, the Port of Los Angeles and its Board of Harbor Commissioners, and each of them, and their respective officers, directors, employees, commissioners, agents, successors and assigns (individually and collectively, the **"Owner Entities"**, but excluding from such persons Operator and each of the Railroads and the respective agents and contractors of Operator and each Railroad), from and against any liabilities, losses, actions, penalties, demands, detriments, claims, damages, costs and judgments and all reasonable expenses incurred in connection therewith (collectively, **"Losses"**) (including, without limitation, claims made under the Federal Employer's Liability Act, costs of investigation, attorneys' fees and costs, expenses of arbitration, trial or appeal, and judgments) which may result directly or indirectly from any act or omission of Operator or its affiliates or subsidiaries, or their respective employees, agents, representatives, contractors, invitees or licensees during the term hereof, including but not limited to Losses for (a) damage to property or injury to or death of any person which may result from Operator's activities or equipment or cargo transported by Operator while under the control of or while being transported by Operator, whether within or outside the Port

Complex Area, (b) a breach of the terms of this Agreement or any other agreement affecting or governing the Port Rail Facilities or the Rail Property (including, without limitation, the Related Agreements), or of any law, ordinance or regulation, or a failure by Operator to obtain or maintain in effect any license, permit, approval, franchise or other governmental approval required by law, or (c) the activities during the term hereof of Operator or its affiliates or subsidiaries, or their respective employees, agents, representatives, contractors, invitees or equipment, on or around the Port Complex Area or elsewhere, except to the extent any such Losses result directly from the negligence or willful misconduct of the Owner Entities. This provision shall survive termination of this Agreement.

22.2 Environmental Provisions and Indemnity.

22.2.1 Operator agrees that it shall not release, nor shall its affiliates, subsidiaries, nor its or their respective agents, employees, representatives, invitees or licensees release, any Hazardous Substances in, on or under the Port Complex Area or on any other property and shall comply, at no cost to Owner, with all Environmental Laws in connection with performance of its duties and obligations hereunder and its operations in the Port Complex Area, and shall cause its affiliates and subsidiaries, and its and their respective agents, employees and representatives, to comply with all Environmental Laws. Operator shall not, however, be in breach of this provision if the release is of a de minimis quantity of the Hazardous Substance in question, provided that Operator removes within a reasonable time the Hazardous Substances and repairs any damage caused by the release or its removal that was released. To the maximum extent permitted by law, Operator shall indemnify, defend (with counsel reasonably acceptable to the Owner Entities) and hold harmless the Owner Entities from and against any Environmental Losses arising out of a breach of any obligation under this Section 22.2.1 except to the extent such Environmental Losses result directly from the negligence or willful misconduct of Owner. This provision shall survive termination of this Agreement.

22.2.2 Operator shall promptly send copies to Owner of any material notice, information or request for information it receives from any governmental authority or third party with respect to Hazardous Substances on, in or under the Port Complex Area. For purposes of this Section, a notice shall be deemed material if it concerns an actual or alleged violation of any Environmental Law.

22.3 Owner's Indemnity for Certain Environmental Contamination. Owner shall indemnify, defend and hold harmless Operator and its officers, directors, shareholders, employees, agents, successors and assigns, from and against any and all Losses resulting from either (a) the presence of Hazardous Substances in, on, or under the Port Rail Facilities prior to the Commencement Date or (b) the migration of Hazardous Substances, onto or under the Port Rail Facilities after the Commencement Date and before termination hereof (excluding matters covered by Operator's indemnification in Section 22.2.1) except to the extent any such Losses result directly from the negligence or willful misconduct of Operator. This provision shall survive termination of this Agreement.

22.4 Owner's Indemnity for Certain Shipper Claims. If Owner disconnects or removes from service any Port Rail Facility during the term hereof that results in severing a rail shipper from access to rail transportation and as a result thereof such shipper names Operator as a defendant in a legal action or regulatory proceeding for damages, Owner shall indemnify, defend and hold harmless Operator and its officers, directors, shareholders, employees, agents, successors and assigns from and against all Losses resulting from such actions by Owner. This provision shall survive termination of this Agreement.

22.5 Notifications.

22.5.1 Demand. In the event that any claim, action, proceeding, investigation or demand shall be brought or threatened against any person entitled to indemnification hereunder (an **"Indemnitee"**), by reason of any matter requiring indemnification (an **"Indemnified Matter"**), Indemnitee shall give written notice thereof to the person required to make such indemnification (an **"Indemnitor"**) which notice shall contain a reasonably detailed description of the event, occurrence or condition giving rise to the claim for indemnity and shall enclose a true copy of any and all documents served upon or received by Indemnitee.

22.5.2 Payment. In the event Indemnitee shall suffer or incur any Losses arising from or in connection with any Indemnified Matter, Indemnitor shall pay Indemnitee the total of such Losses suffered and incurred by Indemnitee within 90 days following demand therefor and delivery of an account of Losses suffered by Indemnitee and thereafter as such Losses are incurred and reported to Indemnitor by Indemnitee.

22.5.3 Overdue Rate. Any Losses required to be paid by Indemnitor to Indemnitee under this Agreement which are not paid within 90 days after demand therefor, shall be delinquent. In addition to all other rights and remedies of Indemnitee against Indemnitor provided herein, or under applicable law, Indemnitor shall pay to Indemnitee interest accrued on any delinquent payments

at the Overdue Rate (defined below) from the date such payment is due until paid. As used herein the "Overdue Rate" shall be equal to 10% per annum, but in no event shall the Overdue Rate be greater than the maximum rate of interest permitted to be contracted for by California law as of the date of demand.

22.5.4 Defense. Indemnitor shall at its own cost, expense, and risk: (a) defend Indemnitee in all suits, actions, or other legal or administrative proceedings that may be brought or instituted against an Indemnitee on account of any Indemnified Matter with counsel selected by Indemnitor and reasonably acceptable to Indemnitee; (b) pay and/or satisfy any judgment or decree that may be recorded against Indemnitee in any such suit, action, or other legal or administrative proceedings; and (c) reimburse Indemnitee for all Losses incurred by Indemnitee relating to or in connection with any such suit, action, or other legal or administrative proceedings.

22.5.5 Settlement. Notwithstanding anything in this Agreement to the contrary, Indemnitor shall not, without the prior written consent of Indemnitee (which consent shall not be unreasonably withheld, conditioned or delayed), settle or compromise any action, suit, proceeding, or claim relating, directly or indirectly, to any Indemnified Matter or consent to the entry of any judgment therein in excess of $100,000.

22.5.6 Joinder. Without limiting the rights of Indemnitee pursuant to Section 22.5.4 hereof, Indemnitee shall have the right to join and participate in, as a party if it so elects, any suits, actions, or other legal or administrative proceedings that may be brought or instituted against an Indemnitee on account of any Indemnified Matter. In any such case, Indemnitee may, at its own cost and expense, employ its own legal counsel and consultants to prosecute, negotiate, or defend any claim, action, or cause of action, provided that Indemnitee shall not, without the prior written consent of Indemnitor (which consent shall not be unreasonably withheld, conditioned or delayed), settle or compromise any action, suit, proceeding, or claim relating, directly or indirectly, to any Indemnified Matter or consent to the entry of any judgment therein in excess of $100,000.

22.6 Releases.

22.6.1 Except as provided in Section 22.3, to the maximum extent permitted by applicable law, Operator hereby expressly releases, remises and discharges forever Owner and the other Owner Entities from any and all liabilities, losses, actions, penalties, demands, detriments, claims, damages, costs or judgments which may have been or in the future may be incurred or suffered by Operator, or its property, caused or otherwise resulting from the condition or state of repair of, or any defects in, the Port Rail Facilities, the Rail Property, the Additional Port Rail Facilities,

the Additional Rail Property, the Terminal Facilities, the Terminal Rail Facilities and Pier A Yard.

22.6.2 Operator, after having read and been advised by legal counsel regarding the provisions of California Civil Code Section 1542 and in any and all similar statutes, rules and regulations and any other statute of the United States, hereby agrees, represents and warrants that the matters released in this Section 22.6 are not limited to the matters which are known or disclosed. California Civil Code Section 1542 reads as follows:

> **A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING A RELEASE WHICH, IF KNOWN BY HIM, MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.**

Operator hereby agrees, represents and warrants that it realizes and acknowledges that factual matters now unknown to it may have given or may hereafter give rise to causes of action, claims, demands, controversies, damages, costs, losses and expenses which are presently unknown, unanticipated and unsuspected, and further agrees, represents and warrants that the releases contained in this Section 22.6 have been negotiated and agreed upon in light of that realization and that it nevertheless hereby intends to release and discharge Owner and the other Owner Entities from any such causes of action, claims, demands, controversies, damages, costs, losses and expenses.

Operator: PAG

22.7 Survival. The provisions of this Article shall survive the expiration or earlier termination of this Agreement.

22.8 Interpretation.

22.8.1 Each of the parties hereto hereby agrees that this Agreement is not intended to be, and none shall construe it as, a contract or agreement covered by the provisions of California Civil Code Section 2784.5 (which Section concerns certain hauling, trucking or cartage contracts or agreements).

22.8.2 Operator hereby agrees that none of Operator, the Railroads or HBL is, and none is intended to be, the agent, servant or independent contractor of Owner, as such terms are used in California Civil Code Section 2782. In addition, Operator agrees that neither it nor any of its agents or representatives shall claim or assert that the negligence or wilful misconduct of Operator, any Railroad or HBL is or should be imputed to Owner under any agency or other legal theory.

22.8.3 Each of the parties hereby waives, to the extent permitted by applicable law, the provisions of California

Civil Code Section 2782 (which Section places limitations on indemnifications in certain construction contracts).

Owner: _____ Operator: PAG

ARTICLE 23
INSURANCE

23.1 Required Insurance. Operator shall maintain the following types of insurance with insurance carriers having a current A.M. Best rating of not less than A:VII, in the amounts provided for below and otherwise in form and substance acceptable to Owner:

23.1.1 General liability insurance in the amount of at least $25,000,000, on a claims basis, which shall provide coverage for personal injury, bodily injury, death, property damage, Federal Employers Liability Act liability and [bill of lading and foreign rolling stock liability], with respect to all operations of Operator, and which shall include blanket contractual coverage and specific coverage for the indemnity provisions set forth in Article 22;

23.1.2 Pollution liability insurance in the amount of at least $5,000,000, on a claims basis, which shall include specific coverage for the indemnity provisions set forth in Section 22.2;

23.1.3 Railroad protective liability insurance in the amount of at $5,000,000, on a claims basis, which shall provide coverage for liability arising from operations on and maintenance of the Port Rail Facilities;

23.1.4 Automobile liability insurance in the amount of at least $5,000,000, on a claims basis;

23.1.5 Federal employers liability insurance in amounts required by law but in no event less than $1,000,000 on a claims basis; and

23.1.6 Property insurance in an amount and in form acceptable to Owner which shall provide coverage for the indemnity provisions set forth in Article 22.

Owner acknowledges that the policies presented to Owner on the date hereof provide the coverage required under 23.1.3.

23.2 Owner as Additional Insured. Each policy of insurance obtained by Operator shall name Owner as an additional insured.

23.3 Insurance to be Primary. The insurance obtained pursuant to this Article shall be primary with respect to the obligations under this Agreement of Operator and with respect to the interests of all parties added as additional insureds and shall contain a waiver of subrogation clause. Any other insurance maintained by an additional insured shall be excess of this coverage herein defined as primary and shall not contribute with it. Any failure by Operator to comply with reporting or other provisions of the policies of insurance required hereunder, including breaches of warranties, shall not affect coverage to Owner.

23.4 Cancellation or Termination of Insurance. Unless otherwise agreed by Operator and Owner, the insurance required by this Article shall be maintained by Operator for the full term of this Agreement and shall not be permitted to expire or be cancelled or materially changed except upon 60 days' prior written notice to Owner. Each insurance policy required by this Article shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or limits except after 60 days' prior written notice has been given to Owner.

23.5 Verification of Insurance. Upon execution hereof, Operator shall deliver to Owner original endorsements to the insurance policies required hereunder on forms provided by Owner. Upon renewal of each required insurance policy, Operator shall promptly deliver to Owner original endorsements to such renewal policies on forms provided by Owner.

23.6 Failure to Maintain Insurance. A failure by Operator to maintain the insurance required by this Article shall be a default under this Agreement, but shall not relieve Operator of any of its liabilities or obligations under this Agreement. Furthermore, should Operator fail to maintain the insurance required by this Article, in addition to any of Owner's other remedies under this Agreement, at law or in equity, Owner may, at their sole option, purchase any or all of the insurance required by this Article and Operator shall, immediately upon demand therefor, reimburse Owner for the full cost of such insurance.

23.7 Adjustment of Limits. The policy limits set forth in this Article may be adjusted over time by Owner in Owner's reasonable discretion.

ARTICLE 24
CASUALTY

24.1 Owner Not Required to Repair. Owner shall have no obligation to any party hereto to repair or replace damage to the Port Rail Facilities caused by a Force Majeure Event unless insurance proceeds are available to make such repairs or replacement. In furtherance of the foregoing, Owner will be

entitled to immediately and unilaterally remove from service a Port Rail Facility, without liability to any party hereto, if it is damaged or destroyed as a result of a Force Majeure Event. In such event, Owner shall be responsible for (and shall pay all costs associated with) obtaining any governmental approvals or exemptions that may be necessary in connection with any such removal from service. Nothing in this Section 24.1 shall limit Owner's right to remove from service any Port Rail Facility damaged by a Force Majeure Event under Article 1, Article 2 or Section 24.2, regardless of the availability of insurance proceeds to make necessary repairs or replacements. In no event shall Owner have any liability to Operator for injury to persons or damage to any property other than the Port Rail Facilities resulting from a Force Majeure Event.

24.2 Termination. In the event Owner determines, in its sole and absolute discretion, that damage caused by a Force Majeure Event to all or any material portion of the Port Complex Area renders continuation of operations under this Agreement impracticable, and if such Owner determines not to repair or restore the affected portion of the Port Complex Area, such Owner shall be entitled, unilaterally, without liability therefor, to terminate this Agreement with respect to the entire Port Complex Area by written notice to Operator, with a copy to the Railroads, provided that such notice must be given within 120 days after the occurrence of the Force Majeure Event. In such event, Owner shall be responsible for obtaining any governmental approvals or exemptions that may be necessary in connection with any such removal from service. This Agreement shall be deemed terminated on the later of (a) the date on which such notice is delivered or (b) the date on which the regulatory approvals or exemptions necessary to terminate this Agreement have been obtained, provided that Operator shall have 90 days after the effective date of termination to wind up its affairs and to remove its property from the Port Rail Facilities.

ARTICLE 25
OUTSIDE ACTIVITIES

25.1 Activities at the Terminal Facilities. Operator may separately negotiate with tenants at the Terminal Facilities to perform rail maintenance and other services for such tenants so long as (a) any such agreements expressly provide that upon termination or expiration of this Agreement, Operator's rights and obligations under such agreements shall automatically terminate within 30 days after such termination (unless such agreements have been assigned to and accepted by a new operator designated by Owner), (b) such activities do not interfere with Operator's ability to perform its obligations hereunder, and (c) Operator engages in such activities in an impartial manner to avoid favoring one person (or its tenants or customers) over any other person or persons (or their respective tenants or customers).

25.2 Certain Acknowledgements. Operator acknowledges and agrees as follows:

25.2.1 the Terminal Rail Facilities are not part of the Port Rail Facilities for purposes of this Agreement or the Railroad Agreement and Owner has no responsibility to pay for or provide any maintenance thereof or any Capital Improvements thereto;

25.2.2 Owner has made no representations or warranties to Operator that the tenants or occupants of the Terminal Facilities will use Operator as, or consent to Operator as, the provider of any services or that Owner will make any effort to encourage such tenants to use Operator to provide such services; and

25.2.3 Owner is not responsible for the payment of any costs or expenses that Operator may incur in connection with the Terminal Facilities, including the Terminal Rail Facilities and Owner has no obligation to enforce any Railroads, or any other person, obligations, with respect to the Terminal Facilities or the Terminal Rail Facilities.

25.3 No Right to Use Port Rail Facilities for Customers Outside Port Complex Area. Operator shall not, without the prior written consent of Owner, use the Port Rail Facilities or any other portion of the Port Complex Area to provide services of any kind or character to areas or customers located outside of the Port Complex Area, whether such service or services are performed within or outside the Port Complex Area. Except as expressly prohibited herein, Owner hereby consents to the use of the Port Rail Facilities to process (but not store) Carload Traffic destined for terminals in the Port of Long Beach through Pier A Yard or the Replacement Railyard but only to the extent necessary to process such Carload Traffic through such yards. Owner hereby authorizes Operator to use the Avalon Team Track to serve rail customers of Operator. Operator acknowledges that the Avalon Team Track is leased to Owner pursuant to the Railroad Agreement and that Operator's rights to use the Avalon Team Track are subject to the terms of such lease. Notwithstanding any other provisions contained herein, Owner shall have no liability to Operator for removal of the Avalon Team Track from rail service.

ARTICLE 26
REPRESENTATIONS AND WARRANTIES

26.1 Representation and Warranties of Owner. Owner represents and warrants to Operator that it is fully authorized to enter into this Agreement and that this Agreement is binding and enforceable against it and its respective successors and assigns, in accordance with the terms of this Agreement.

26.2 Representations, Warranties and Covenants of Operator.

26.2.1 Operator represents and warrants to Owner that it is fully authorized to enter into this Agreement and that this Agreement is binding and enforceable against it and its respective successors and assigns, in accordance with the terms of this Agreement.

26.2.2 Quality Service. In performing its obligations hereunder, Operator shall use reasonable efforts throughout the term of this Agreement to provide quality rail service to existing and future tenants of Terminal Facilities and to other rail customers in the Port Complex Area.

ARTICLE 27
ARBITRATION

IN THE EVENT OF A CLAIM OR DISPUTE ARISING OUT OF THIS AGREEMENT, THE DISPUTING PARTIES SHALL MAKE GOOD FAITH EFFORTS TO RESOLVE THE DISPUTE THROUGH NEGOTIATION. FAILING A RESOLUTION OF THE DISPUTE OR CLAIM THROUGH THESE GOOD FAITH EFFORTS WITHIN 30 DAYS AFTER THE COMMENCEMENT OF THE DISPUTE OR CLAIM, ANY DISPUTING PARTY MAY SERVE UPON THE OTHER DISPUTING PARTIES WITHIN SIX MONTHS AFTER EXPIRATION OF THE 30-DAY PERIOD PROVIDED FOR IN THE PRECEDING SENTENCE, A WRITTEN DEMAND FOR ARBITRATION. THE DISPUTING PARTIES SHALL, WITHIN 15 DAYS THEREAFTER, OR WITHIN SUCH EXTENDED PERIOD AS THEY SHALL AGREE TO IN WRITING, ATTEMPT TO AGREE UPON A MUTUALLY SATISFACTORY ARBITRATOR EXPERIENCED IN RAILWAY BUSINESS AND MANAGEMENT. IF THEY ARE UNABLE TO AGREE, A NEUTRAL ARBITRATOR SHALL BE DESIGNATED PURSUANT TO SECTION 1281.6 OF THE CALIFORNIA CODE OF CIVIL PROCEDURE. SECTION 1283.05 OF THE CALIFORNIA CODE OF CIVIL PROCEDURE IS SPECIFICALLY MADE APPLICABLE TO THIS AGREEMENT. THE ARBITRATOR SHALL GIVE EACH OF THE PARTIES HERETO TEN DAYS' PRIOR WRITTEN NOTICE OF THE TIME AND PLACE OF THE INITIAL HEARING AND SHALL PROCEED WITHOUT DELAY TO HEAR AND DETERMINE THE MATTERS IN SUCH DISPUTE. THE AWARD OF THE ARBITRATOR SHALL BE SUPPORTED BY LAW AND SUBSTANTIAL EVIDENCE AND MUST COMPLY WITH THE TERMS OF THIS AGREEMENT, AND FURTHER, THE ARBITRATOR SHALL ISSUE WRITTEN FINDINGS OF FACT AND CONCLUSIONS OF LAW. THE MAKING OF AN AWARD WHICH FAILS TO COMPLY WITH THE REQUIREMENTS OF THE IMMEDIATELY PRECEDING SENTENCE SHALL BE DEEMED TO BE IN EXCESS OF THE ARBITRATOR'S POWERS AND THE COURT SHALL VACATE THE AWARD IF, AFTER REVIEW, IT DETERMINES THAT THE AWARD CANNOT BE CORRECTED WITHOUT AFFECTING THE MERITS OF THE DECISION UPON THE CONTROVERSY SUBMITTED. IF THE AWARD COMPLIES WITH THIS SECTION, IT SHALL BE BINDING ON THE DISPUTING PARTIES SO LONG AS SUCH AWARD IS NOT IN EXCESS OF $50,000. AWARDS IN EXCESS OF $50,000 SHALL BE APPEALABLE TO THE SUPERIOR COURT IN AND FOR LOS ANGELES COUNTY FOR A TRIAL DE NOVO. ANY ARBITRATION PURSUANT TO THIS PROVISION SHALL BE CONDUCTED IN LOS ANGELES COUNTY, CALIFORNIA.

NO PERSON SHALL ACT AS A NEUTRAL ARBITRATOR WHO IN ANY WAY HAS ANY FINANCIAL OR PERSONAL INTEREST IN THE RESULTS OF THE ARBITRATION OR HAS ANY PAST OR PRESENT RELATIONSHIP WITH ANY OF THE PARTIES OR THEIR COUNSEL. FAILURE TO DISCLOSE ANY SUCH INTEREST OR RELATION SHALL BE GROUNDS FOR VACATING THE AWARD.

THE EXPENSES AND FEES OF THE ARBITRATOR SHALL BE PAID IN ACCORDANCE WITH THE PROVISIONS OF SECTION 1284.2 OF THE CALIFORNIA CODE OF CIVIL PROCEDURE. ANY AWARD BY THE ARBITRATOR SHALL INCLUDE REASONABLE ATTORNEYS' FEES TO THE PREVAILING PARTY.

OWNER: _____ OPERATOR: PAG

ARTICLE 28
NOTICES

All notices and other communications under this Agreement shall be in writing and shall be deemed to have been duly given (a) on the date of delivery, if delivered personally on the party to whom notice is given, or if made by telecopy directed to the party to whom notice is to be given at the telecopy number listed below and receipt has been confirmed either telephonically or by facsimile, or (b) on receipt, if mailed to the party to whom notice is to be given by overnight courier or first class mail, registered or certified, return receipt requested, postage prepaid and properly addressed as follows:

Operator:
Pacific Harbor Line, Inc.
c/o Anacostia & Pacific
The Monadnock Building
53 West Jackson Boulevard
Chicago, Illinois 60604
Attention: Mr. Peter Gilbertson
Telecopy No.: (312) 362-1402
Confirmation No.: (312) 362-1888

With a copy to:
Pacific Harbor Line, Inc.
340 Water Street
Wilmington, California 90744
Attention: Mr. Andrew Fox
Telecopy No.: (310) 549-5320
Confirmation No.: (310) 549-5274

Owner:
Port of Los Angeles
425 South Palos Verdes Street
P.O. Box 151
San Pedro, California 90733
Attention: Executive Director
Telecopy No. 310-732-0291
Confirmation No. 310-732-3456

With a
copy to: Port of Los Angeles
425 South Palos Verdes Street
P.O. Box 151
San Pedro, California 90733
Attention: Chief Assistant City Attorney
Telecopy No. 310-831-9778
Confirmation No. 310-732-3750

Any party hereto may change its address or addressee to which notices are to be given by providing written notice of the change to the other parties.

ARTICLE 29
DEFINITIONS

The following capitalized terms are used in this Agreement with the following meanings:

29.1 **Additional Port Rail Facilities** shall mean the Trackage and railyards generally depicted on Exhibit A as **"Additional Port Rail Facilities"**, as such facilities may be expanded or contracted in accordance with this Agreement. The term "Additional Port Rail Facilities" includes all rail-related systems and equipment and Trackage serving the Additional Port Rail Facilities, even if not located on the Additional Rail Property, excluding, however, the Port Rail Facilities.

29.2 **Additional Rail Property** shall mean the area (a) underlying the Additional Port Rail Facilities, (b) within a railyard included within the Additional Port Rail Facilities, or (c) within the operating clearance area of any Additional Port Rail Facility, provided, however, that if such Additional Port Rail Facility is located at a road crossing the Additional Rail Property shall be deemed to extend only to the area within 2 feet of the outermost rails (or, if greater, to the area required to be maintained under applicable law).

29.3 **Adjustment Date** shall have the meaning given such term in Section 5.2.

29.4 **Approved Train Control and Maintenance Plan** shall have the meaning given such term in Section 5.9.

29.5 **Assumed Agreements** shall have the meaning given such term in Section 1.3.

29.6 **Badger Avenue Bridge** shall mean the bridge identified as the Badger Avenue Bridge on Exhibit A.

29.7 **Base Fee** shall have the meaning given such term in Exhibit D to the Railroad Agreement.

29.8 **Capital Improvements** shall mean any additions, betterments and upgrades.

29.9 **Carload Switching Operations** shall have the meaning given such term in Section 6.1.

29.10 **Carload Traffic** shall mean all loaded freight cars and the corresponding empty movement (other than Unit Trains) and any other rail traffic interchanged or transferred between a Railroad and Operator.

29.11 **Charge** shall mean any mortgage, deed of trust, judgment lien or any mechanic's, materialman's or similar lien.

29.12 **City Council** shall have the meaning given such term in Article 4.

29.13 **Commencement Date** shall have the meaning given such term in Article 4.

29.14 **Conversion Fees** shall have the meaning given such term in Section 5.1.2.

29.15 **Dangerous Materials Cars** shall mean all freight cars (a) carrying Hazardous Substances or (b) which must show a placard pursuant to federal or state laws or regulations.

29.16 **Environmental Laws** shall mean any and all federal, state and local laws, statutes, ordinances, orders, regulations, plans, policies and decrees and the like now or hereafter in effect and applicable to the Port Complex Area which relate to (a) Hazardous Substances; (b) the generation, use, storage, transportation or disposal of Hazardous Substances or solid waste; or (c) occupational safety and health, industrial hygiene, land use or the protection of human, plant or animal health, safety or welfare, and the rules, regulations and ordinances of applicable federal, state and local agencies and bureaus, as amended from time to time.

29.17 **Environmental Losses** shall mean all charges, losses, liabilities, damages, fees, demands, claims, proceedings, investigations, actions, judgments, causes of action, disbursements, monetary settlements, assessments, fines, penalties, costs and expenses incurred by Owner in connection with any investigation, characterization, defense of claims, clean-up, remediation, disposal or repairs arising out of or relating to the release of Hazardous Substances that results from, whether directly or indirectly, (a) the activities of Operator, its affiliates, subsidiaries, or their respective agents, representatives,

employees, contractors or invitees on, in, under or around the Port Complex Area or other areas from and after the date hereof.

29.18 **Existing Rail Operation Agreement** shall mean that certain Contract for Unified Operation of Railroad Facilities at Los Angeles Harbor between the Board of Harbor Commissioners of the City of Los Angeles, Southern Pacific Railroad Company, Southern Pacific Company, Pacific Electric Railway Company, Los Angeles & Salt Lake Railroad Company and The Atchison, Topeka and Santa Fe Railway Company, dated as of February 1, 1928, as amended or supplemented to date.

29.19 **Extraordinary Replacements** shall have the meaning given such term in Section 12.5.

29.20 **Force Majeure Event** shall mean fire, earthquake, flood, mud slide, washout, storm, blockage, explosion, casualty, strike, riot, insurrection, civil disturbance, act of civil or military authority, act of public enemy, war or act of God. Force Majeure Events shall not include derailments unless the derailment resulted directly from one of the Force Majeure Events described in the preceding sentence.

29.21 **FRA** shall mean the Federal Railroad Administration.

29.22 **Hazardous Substances** shall mean (a) any chemical, compound, material, mixture or substance that is now or hereafter defined or listed in, or otherwise classified pursuant to, any applicable Environmental Laws as a "hazardous substance", "hazardous material", "hazardous waste", "extremely hazardous waste", "acutely hazardous waste", "radioactive waste", "infectious waste", "biohazardous waste", "toxic substance", "pollutant" "toxic pollutant", "contaminant" and any other term or terms not mentioned herein intended to define, list, or classify substances by reason of properties such as ignitability, corrosivity, reactivity, carcinogenicity, toxicity, reproductive toxicity, "EP toxicity" or "TCLP toxicity"; (b) petroleum, natural gas, natural gas liquids, liquified natural gas, synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas) and ash produced by a resource recovery facility utilizing a municipal solid waste stream, and drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas, or geothermal resources; (c) "hazardous materials" as defined in Section 2782.6(d) of the California Civil Code; (d) "waste" as defined in section 13050(d) of the California Water Code; (e) asbestos in any form; (f) urea formaldehyde foam insulation; (g) transformers or other equipment which contain dielectric fluid containing levels of polychlorinated biphenyls (PCBs) above levels permitted by applicable law; and (h) any other chemical, material, or substance that, because of its quantity, concentration, or physical or chemical characteristics, exposure to

which is limited or regulated for health and safety reasons by any governmental authority.

29.23 **ICTF** shall mean the Intermodal Container Transfer Facility.

29.24 **Indemnitee** shall have the meaning given such term in Section 22.5.1.

29.25 **Indemnified Matter** shall have the meaning given such term in Section 22.5.1.

29.26 **Indemnitor** shall have the meaning given such term in Section 22.5.1.

29.27 **Interim Trackage** shall mean the Trackage designated as "Interim Trackage" on the map attached hereto as Exhibit A.

29.28 **Interchange Agreement** shall have the meaning given such term in Section 1.3.

29.29 **Local Service** shall have the meaning given such term in Section 5.7.

29.30 **Losses** shall mean liabilities, losses, causes of action, penalties, demands, detriments, claims, damages, costs and judgments and all expenses in incurred in connection therewith.

29.31 **Maintenance Fee** shall have the meaning given such term in Section 5.3.1.

29.32 **Monthly Dispatching Amount** shall have the meaning given such term in Section 5.4.2.

29.33 **Monthly Maintenance Amount** shall have the meaning given such term in Section 5.3.2.

29.34 **Operator Railyard Fee** shall have the meaning given such term in Exhibit I to this Agreement.

29.35 **Overdue Rate** shall have the meaning given such term in Section 22.5.3.

29.36 **Owner Entities** shall have the meaning given such term in Section 22.1.

29.37 **Pier A Yard** means the area generally depicted on Exhibit A as, and commonly known as, "Pier A Yard" including the Port Rail Facilities and the Pier A Yard Structures located within such area.

29.38 **Pier A Yard Structures** shall have the meaning given such term in Section 2.1.

29.39 **Plans and Specifications** shall have the meaning given such term in Section 2.2.

29.40 **Port** shall have the meaning given such term in the Recitals.

29.41 **Port Complex Area** shall mean the area generally depicted on Exhibit A, but shall exclude the Port of Long Beach. If Owner constructs piers, docks and wharves in areas or acquires other Property adjacent to the then current Port Complex Area, such areas will, at Owner's election, become part of the Port Complex Area hereunder. As used herein, unless expressly excluded, the term **"Port Complex Area"** includes the Port Rail Facilities, the Rail Property, the Additional Port Rail Facilities, the Additional Rail Property, the Terminal Facilities, the Terminal Rail Facilities and all other portions of Pier A Yard.

29.42 **Port Rail Facilities** shall mean the Trackage generally depicted on Exhibit A as "Port Rail Facilities", as such facilities may be expanded or contracted in accordance with this Agreement. The term "Port Rail Facilities" includes all rail-related systems and equipment and Trackage serving the Port Rail Facilities, even if not located on the Rail Property, excluding, however, the Additional Port Rail Facilities and the Terminal Rail Facilities. The Port Rail Facilities includes the Trackage known as the "Avalon Team Track," which is owned by a Railroad.

29.43 **RCAF** shall have the meaning given such term in Section 5.2.

29.44 **Rail Property** shall mean the area (a) underlying the Port Rail Facilities, (b) within a railyard included within the Port Rail Facilities, or (c) within the operating clearance area of any Port Rail Facility, provided, however, that if such Port Rail Facility is located at a road crossing the Rail Property shall be deemed to extend only to the area within 2 feet of the outermost rails (or, if greater, to the area required to be maintained under applicable law).

29.45 **Railcar** shall mean each separate railcar, provided that each platform of an articulated cars for doublestacks or trailers shall receive one car count for each platform; articulated cars that are not capable of double-stack operation, other than trailers, shall receive one-half car count for each platform.

29.46 **Railroad Agreement** shall have the meaning given such term in Section 1.3.

29.47 **Railroad Oversight Committee** shall have the meaning given such term in Section 19.1.

29.48 **Related Agreements** shall mean the Railroad Agreement and all other agreements entered into between Operator and the Railroads, Owner, or any tenant at the Port Complex Area, relating to this Agreement or operations in the Port Complex Area.

29.49 **Replacement Railyard** shall have the meaning given such term in Section 2.2.

29.50 **STB** shall have the meaning given such term in Section 5.2.

29.51 **Special Requirements Traffic** shall have the meaning given such term in Section 5.1.1.

29.52 **Switching Charge** shall have the meaning given such term in Section 5.1.

29.53 **Tax** shall have the meaning given such term in Section 5.5.

29.54 **Terminal Facilities** shall mean any areas owned by Owner in the Port Complex Area and leased or licensed by Owner, now or in the future, to a tenant or other non-railroad occupant other than Operator.

29.55 **Terminal Rail Facilities** shall mean all Trackage located in Terminal Facilities other than the Additional Port Rail Facilities. As of the date hereof, the Terminal Rail Facilities are those depicted as such on the map attached hereto as Exhibit A.

29.56 **Trackage** shall mean all present and future railroad related improvements, systems or equipment, including, but not limited to all tracks (including main line tracks, spur tracks, lead tracks, passing tracks, yard tracks and industry tracks) and related facilities (including rails and fastenings, switches, frogs, bumpers, ties, ballast, signaling devices and systems, interlocking devices and plants, crossing warning devices, crossing surfaces, pole lines and communication facilities and equipment), and all track support structures and related facilities (including roadbed, embankments, bridges, dikes, pavement, culverts, tunnels, drainage systems and, maintenance, access and service roads). The term "Trackage" shall include any tracks located on wharfs, piers and docks, but shall exclude the underlying wharfs, piers and docks.

29.57 **Traffic Year** shall mean each twelve month period commencing on January 1 and ending on December 31 during the term hereof; provided that the First Traffic Year of the term hereof shall commence on the Commencement Date and end on December 31, 1998 and the last Traffic Year of the term hereof shall commence on January 1 of the last year of the term hereof and end on the last day of the term hereof.

29.58 **Train** shall mean one or more freight trains, locomotives, cabooses, railroad cars, track and maintenance equipment , track inspection equipment, and all other rail-related machines and equipment.

29.59 **Transfer Yard** shall mean the yard described as the "Transfer Yard" on Exhibit A.

29.60 **Unit Train** shall mean (a) any Train handling containers, trailers, bulk commodities or steel slabs or empty equipment for such traffic, operated by a crew of a Railroad to or from any facility for handling containers or trailers, bulk commodities or steel slabs; or to or from Berth 142, 143 (Pasha), LAXT, Berth 49, or any successor, replacement, or new bulk or intermodal facilities or storage tracks constructed on property owned by Owner in the Port Complex Area; (b) any movement of empty equipment to/from such intermodal or bulk facilities, or any movements between such facilities, interchange points or storage or staging yards owned by Owner within the Port Complex Area; (c) any Train handled from a rail line outside the Port Complex Area to another rail line outside the Port Complex Area, without the setting out or picking up of any cars within the Port Complex Area (except cars falling within clauses (a), (b) or (d) of this Section 29.60); (d) any loaded freight car(s) that a Railroad determines in its reasonable discretion is time-sensitive and must be handled by Railroad, and not interchanged to Operator, in order to meet the requirements of the shipper/receiver.

ARTICLE 30
MISCELLANEOUS

30.1 Severability. Each provision of this Agreement shall be interpreted so as to be effective and valid under applicable law to the fullest extent possible. In the event, however, that any provision contained herein shall for any reason be held invalid, illegal or unenforceable in any respect, then, in order to effect the purposes of this Agreement it shall be construed as if such provision had never been contained herein.

30.2 Assignment; Agreement Binding on Successors and Assigns.

30.2.1 Assignment.

30.2.1.1 Owner may assign all or a portion of this Agreement, and its rights and obligations hereunder, to an entity in which Owner is a member (including, without limitation, a joint powers authority) and which acquires all of the Port Rail Facilities.

30.2.1.2 Operator may not assign its duties and obligations under this Agreement without the prior written consent of Owner which consent may be given or withheld in the sole discretion of Owner. Notwithstanding the preceding sentence, Operator may employ subcontractors to perform specific duties of Operator hereunder under a subcontract entered into in the normal course solely for performance of some, but not all, of Operator's duties hereunder.

30.2.2 Binding Agreement. Subject to the restrictions on assignment set forth in this Agreement, this Agreement shall be binding upon and shall inure to the benefit of Operator, Owner, the Railroads and their respective successors and assigns.

30.3 Amendments. No modifications, amendments or changes herein or hereof shall be binding upon any party unless set forth in a document, duly executed and delivered by all parties. No provision of this Agreement shall be altered, amended, revoked or waived except by and instrument in writing signed by the party to be charged with such alteration, amendment, revocation or waiver.

30.4 Recordation and Termination. Without the prior written consent of all parties hereto, no party may record this Agreement. Upon termination of the rights granted to Operator hereunder, Operator shall execute, acknowledge and deliver to Owner a copy of any appropriate instrument or instruments evidencing the termination.

30.5 Attorneys' Fees. In any action brought to declare the rights granted herein or to enforce the provisions of any of the terms of this Agreement, the prevailing party shall be entitled to an award of reasonable attorneys' fees, costs and expenses (including fees for services rendered by a party's internal or staff counsel) both at trial and in connection with any appeal, in any amount determined by the court or arbitrator. The provisions of this Section shall survive the entry of any judgment.

30.6 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except have additional signature pages executed by other parties to this Agreement attached thereto.

30.7 Relationship of Owner, Operator and the Railroads. Notwithstanding anything to the contrary contained herein, neither this Agreement nor any of the Related Agreements shall be deemed or construed to make Owner, Operator and the Railroads partners or

joint venturers, or to render one liable for any of the debts or obligations of the any other unless expressly so provided in this Agreement.

30.8 No Third Party Beneficiaries. It is the intent of each party to this Agreement that each provision of this Agreement inure only to the benefit of the parties hereto, and their permitted successors and assignees and the Railroads, and shall not inure to the benefit of any other person or entity (including, without limitation, any governmental or quasi-governmental agency or authority). Operator acknowledges that the Railroads are express third party beneficiaries of this Agreement and that the Railroads, together or individually, may sue Operator directly for any breach of this Agreement.

30.9 Effect of Agreement. All negotiations relative to the matters contemplated by this Agreement (including, without limitation, negotiations of matters described in that certain Request for Proposal issued by Owner and the City of Long Beach acting by and through its Board of Harbor Commissioners) are merged herein and there are no other understandings or agreements relating to the matters and things herein set forth other than those incorporated in this Agreement or agreements expressly referenced in this Agreement or the documents executed in connection herewith.

30.10 Waiver. The failure of any party at any time or times to require performance of any provision hereof shall in no manner affect the right at a later time to enforce the same. No waiver by any party of any condition, or of any breach of any term, covenant, representation, or warranty contained herein, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such condition or breach or waiver of any other condition or of any breach of any other term, covenant, representation or warranty.

30.11 Time of Essence. Time is of the essence of this Agreement and of all parts hereof.

30.12 Governing Law; Forum.

30.12.1 THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF CALIFORNIA, WITHOUT REFERENCE TO THE CONFLICTS-OF-LAW RULES AND PRINCIPLES OF SUCH STATE.

30.12.2 EXCEPT FOR MATTERS SUBMITTED TO ARBITRATION IN ACCORDANCE WITH ARTICLE 27, THE PARTIES HERETO AGREE THAT ALL ACTIONS, SUITS, PROCEEDINGS, CLAIMS RELATED TO THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY MUST BE BROUGHT, FILED, PROSECUTED AND DEFENDED IN EITHER THE SUPERIOR COURT FOR THE STATE OF CALIFORNIA, COUNTY OF LOS ANGELES OR THE U.S. DISTRICT COURT FOR THE CENTRAL DISTRICT OF CALIFORNIA.

30.13 Incorporation of Exhibits. The exhibits attached hereto are incorporated herein by reference.

30.14 Construction. The language in all parts of this Agreement shall be in all cases construed simply according to its fair meaning and not strictly for or against any of the parties hereto. Section headings of this Agreement are solely for convenience of reference and shall not govern the interpretation of any of the provisions of this Agreement. References to "Sections" or "Articles" are to Sections or Articles of this Agreement and references to "Exhibits" are to Exhibits attached hereto, unless otherwise specifically provided.

30.15 No Relocation Assistance. Operator understands and agrees that nothing contained in this Agreement shall create any right in Operator for relocation assistance or payment upon expiration or termination of this Agreement. Operator acknowledges and agrees that it shall not be entitled to relocation assistance or payment pursuant to the provisions of Title 1, Division 7, Chapter 16, of the Government Code of the State of California (Sections 7260 et seq.) or any similar statute with respect to any relocation of its business or activities upon the expiration or termination of this Agreement. In consideration of the rights given Operator under this Agreement, Operator expressly waives any relocation assistance which such statutes or any future statutes may allow.

30.16 Non-discrimination. Operator agrees not to discriminate in its employment practices against any employee or applicant for employment because of the employee's or applicant's race, color, religion, national origin, ancestry, sex, age, disability, sexual orientation, AIDS, HIV status, physical handicap or Vietnam era veteran status. All assignments and transfers of interest permitted hereunder in this Agreement under or pursuant to this Agreement shall contain this provision.

The provisions of Section 10.8.4 of the Los Angeles Administrative Code as set forth in the Exhibit F attached hereto are incorporated herein by reference.

30.17 Minority Business Enterprise/Women Business Enterprise. Operator is aware of the Los Angeles Harbor Department's Minority Business Enterprise/Women Business Enterprise (MBE/WBE) Policy (hereinafter "Policy"). Operator shall comply with Owner's Policy for any construction it undertakes on the Port Rail Facilities. Any construction contracts and permitted assignments by Operator involving the Port Rail Facilities shall include the Owner's MBE/WBE policy, set forth in Exhibit G attached hereto.

Operator acknowledges that Owner reserves the right to amend or modify the Policy from time to time. Any such amendment or modification to the Policy shall be binding on Operator from the

date Owner approves such changes at a public meeting after notice and an opportunity to be heard thereon. Any contracts entered into by Operator relating to this Agreement prior to Owner approval of changes to the Policy shall not be affected by such changes.

30.18 Conflict of Interest. It is hereby understood and agreed that the parties to this Agreement have read and are aware of the provisions of Section 1090 et seq. and Section 87100 et seq. of the Government Code relating to conflict of interest of public officers and employees. All parties hereto agree that they are unaware of any financial or economic interest of any public officer of employee of the City of Los Angeles or the City of Long Beach relating to this Agreement. Notwithstanding any other provision of this Agreement, it is further understood and agreed that if such a financial or economic interest does exist at the inception of this Agreement, Owner may immediately terminate this Agreement without payment of any termination fee or any other liability therefor by giving written notice thereof. Any termination fee which would otherwise be payable hereunder shall be paid by the party who failed to disclose the financial or economic interest.

30.19 Further Assurances. Each party shall execute all such instruments and documents and shall take in good faith all such actions as are reasonably necessary to carry out the provisions of this Agreement.

30.20 Alameda Corridor.

30.20.1 Operator acknowledges that Owner has not committed to commence or complete all or any portion of the rail infrastructure project commonly known as the **"Alameda Corridor"** and Operator further acknowledges that neither Owner nor any Railroad has in any manner committed to engage Operator as the operator for the Alameda Corridor in the event the project or any portion thereof is completed; provided, however, that nothing contained herein shall prevent Operator from submitting a proposal to act as operator for the Alameda Corridor.

30.20.2 Operator acknowledges that in order to facilitate the financing, construction and/or operation of the Alameda Corridor, it may be necessary or desirable for Owner to modify the boundaries of the Port Rail Facilities hereunder to reduce or eliminate any overlap or gap between the facilities covered by this Agreement and the facilities covered by the Alameda Corridor agreements. Such modification also may consist of modifying some, but not all, of Operator's specific functions under this Agreement with respect to areas of an overlap or gap between the Alameda Corridor and this Agreement (e.g., a reduction in the area covered by Operator's dispatching obligations, but not its other obligations). In addition, Operator's maintenance and/or dispatching functions may be terminated by Owner and instead provided by the entity(s) providing such services for the Alameda Corridor. If any such modifications are to be made by Owner, Owner

shall give Operator at least 90 days prior written notice thereof, listing the specific functions and Port Rail Facilities affected by the modification. Nothing in this Section shall, however, affect (a) Operator's right to perform Carload Switching Operations or other services for Ports and Port tenants for the Railroads or for occupants of the Port Complex Area, or (b) Operator's rights under its separate agreements with the Railroads regarding interchange of Railcars at the yards specified in such interchange agreements.

30.20.3 Operator acknowledges that upon commencement of operation on the Alameda Corridor, Operator's activities on the Alameda Corridor shall be subject to the Alameda Corridor's operating orders, rules and procedures, including without limitation, dispatching priorities and procedures.

30.21 Persons Authorized to Act as Owner. The Executive Director and all persons designated by the Executive Director of Owner, in writing, to act as Owner shall be entitled, acting alone, to exercise all rights and remedies of Owner hereunder except the following rights which shall be exercised only by the Board of Harbor Commissioners of the City of Los Angeles: the rights to amend this Agreement (other than the amendments described in the following sentence), to remove Pier A Yard from rail service and to approve Capital Improvements or modifications to the Port Rail Facilities involving more than 20,000 square feet of land area and 6000 lineal feet of Trackage or more. The Executive Director of Owner and all persons designated in writing by the Executive Director to act as Owner, acting alone, shall be entitled to amend Exhibits A, B, C, D, E and K of this Agreement and to execute any amendments to this Agreement affecting 20,000 square feet of land area or 6000 lineal feet of Trackage or less.

30.22 Use for Tideland Purposes. This Agreement and Operator's rights hereunder are subject to the limitations, conditions, restrictions and reservations of the Tidelands Act, Stats. 1929, Ch. 651, as amended and/or reenacted, and the Charter of Owner relating to such lands, including, without limitation, Article XI of the Charter.

30.23 Transfer to Operator of Certain Regulatory Obligations. To the maximum extent legally possible, Owner intends to transfer to Operator any maintenance, inspection and repair obligations that Owner may have under applicable federal or state regulations with respect to any Trackage or rail operations with the Port Complex Area, including, without limitation, the requirements contained in 49 C.F.R. § 213.5. Operator agrees to accept such transfer and to fully cooperate with Owner in the preparation and filing of any necessary applications with respect thereto. Upon any termination of this Agreement, Operator will execute such documents and instruments as may be necessary to transfer such responsibilities to another party designated by Owner.

IN WITNESS WHEREOF, the parties to this Agreement have duly executed it as of this day and year first above written.

"Operator"

PACIFIC HARBOR LINE, INC.,
a California corporation

By: _____
Name: PETER A. GILBERTSON
Title: CHAIRMAN / CEO

"Owner"

CITY OF LOS ANGELES, acting by and through the Board of Harbor Commissioners of the Port of Los Angeles

By: _____
Executive Director
Los Angeles Harbor Department

Date: Feb. 6, 1997

Audrey H. Yamaki
Attest:
acting Commission Secretary
Los Angeles Harbor Dept.

Approved as to form this ____ day of _____, 1997.

JAMES K. HAHN, City Attorney

By: _____
Assistant/Deputy