

around the island as species colonized the newly available substrate. This colonization is commonly observed at man-made structures in the marine environment.

The northern Channel Islands region of the Southern California Bight is located at a major transition point between the biogeographical coastal provinces, the temperate Oregonian and the subtropical Californian or San Diegan. The biota of this transition zone include species from the northern subarctic and Southern Equatorial water masses, along with endemic and elements from the Central Pacific water mass. Species diversity in this area is higher than in areas to the north or south. The Santa Barbara Channel serves as a funnel for migrating birds, especially shearwaters and brant, as well as a migratory route for the gray whales (Dames and Moore, 1988).

Sensitive species that may potentially occur near the island include the state and federal listed endangered California brown pelican (Pelecanus occidentalis californicus) and the protected marine mammals-California sea lion (Zapophus californianus) and bottlenose dolphin (Tursiops truncatus). California brown pelicans may occasionally feed in the waters adjacent to the island but are not expected to occur regularly near the island. Small numbers of California sea lions may occasionally occur near the island, but if present, these animals have become acclimated to the oil production activities occurring on the island. Since the 1983 El Nino Southern Oscillation event, between 30 and 50 bottlenose dolphins have been recorded during each month on a yearly basis in the small bay immediately north of Rincon Island. These dolphins apparently feed in nearshore waters and are not expected to occur regularly near the island.

Neither the proposed remedial workover nor the following production operations are expected to have significant impacts on the biological resources of the project area. No new animal species would be introduced. Existing marine habitats currently used by wildlife would not be disturbed since the proposed project would involve activities on the industrialized portions of the island and the property ashore only.

#### F. NOISE

Ambient noise measurements were taken within a 2.5 mile radius of Rincon Island. The results of the measurements are presented in Table 4, and the locations of the measurement sites are shown on Exhibit F. Ambient noise within the 2.5 mile radius is primarily composed of truck and automobile traffic from U.S. Highway 101 and ocean surf. Additional noise is generated

**TABLE 4**  
**AMBIENT NOISE MEASUREMENTS**

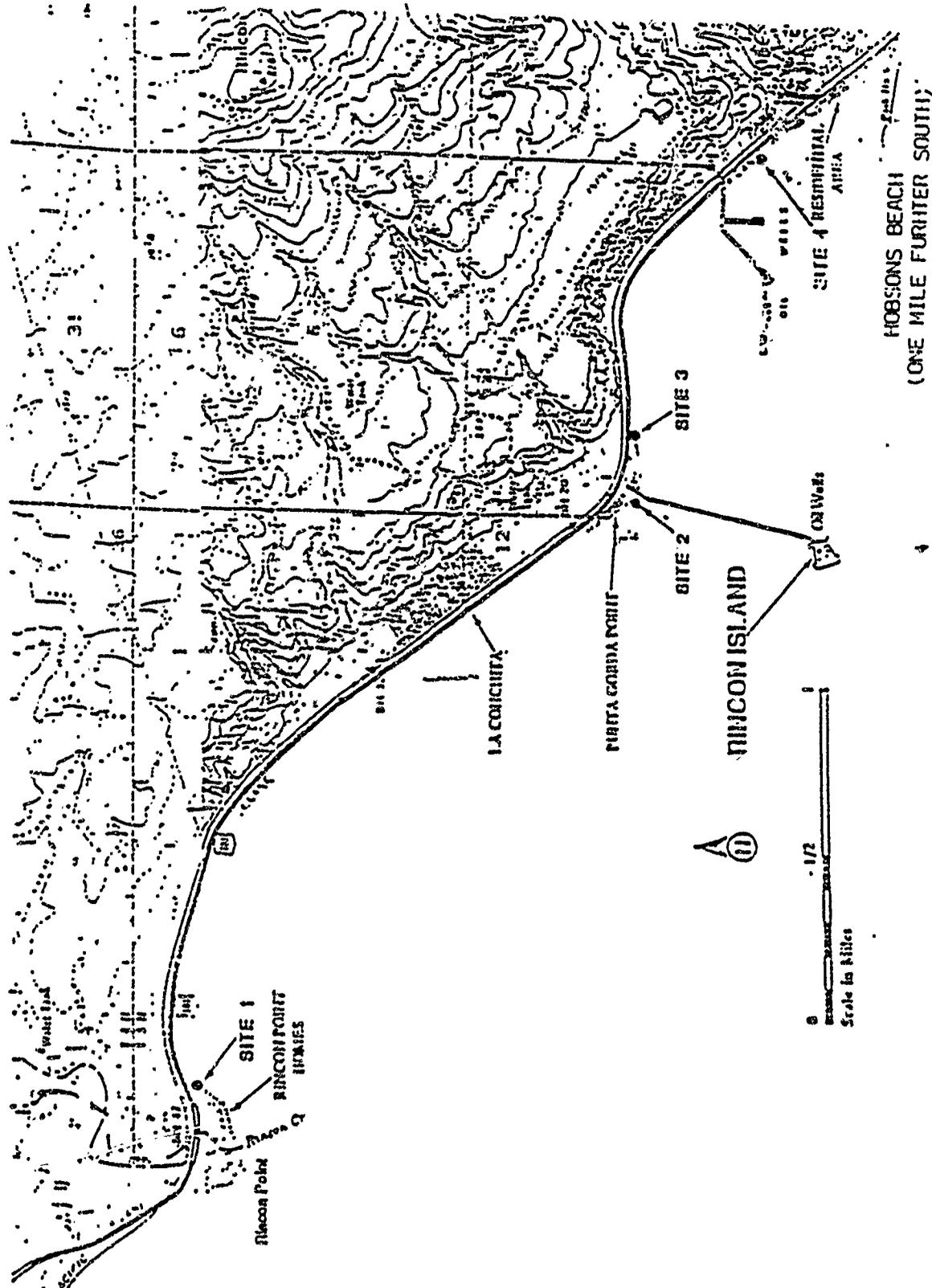
<u>Location</u>	<u>Representative Noise Levels *</u>			
	<u>Morning</u>	<u>Afternoon</u>	<u>Evening</u>	<u>Night</u>
Site 1 - Rincon Point	71	73	66	65
Site 2 - Punta Gorda	64	66	64	64
Site 3 - Punta Gorda	72	71	73	67
Site 4 - Off Piers	73	72	72	67

Typical noise ranged during each site sampling period are as follows:

<u>Location</u>	<u>Observed Noise Level Range *</u>			
	<u>Morning</u>	<u>Afternoon</u>	<u>Evening</u>	<u>Night</u>
Site 1 - Rincon Point	63-77	61-77	62-76	60-70
Site 2 - Punta Gorda	53-69	55-71	61-76	60-76
Site 3 - Punta Gorda	60-76	50-74	62-76	61-71
Site 4 - Off Piers	60-70	59-75	60-76	59-71

\* measurements given in dB A

EXHIBIT F  
 LOCATIONS OF NOISE SURVEY SITES  
 TENNACO - RINCON ISLAND



HOBSONS BEACH  
 (ONE MILE FURTHER SOUTH)

CALENDAR PAGE	20230
MINUTE PAGE	2099

by passing trains and occasional air traffic. The nearest noise sensitive receptors to Rincon Island and the project area are:

- Rincon Point Homes - 2.5 miles N.W. of Rincon Island;
- La Conchita - 1.0 miles N.N.W. of Rincon Island;
- Punta Gorda Point (Mussel Shoals) - 0.5 miles N. of Rincon Island;
- Seacliff Residential - 1.5 miles E.S.E. of Rincon Island, and;
- Campground (Hobson's Beach) - 2.0 miles E.S.E. of Rincon Island.

The receptor locations are also shown on Exhibit F.

During the remedial and workover project a 350 horsepower Detroit Diesel rig would be used, and some increase in traffic would occur. Any noise levels generated by the rig are expected to be attenuated substantially due to the distance between the project area and the receptors. Any sound generated by the project activities would not be perceived above existing ambient traffic, train, and surf noise levels, and there would therefore not be any significant noise effect. Since no new equipment is required for the production facilities, no incremental noise increases are expected.

#### G. LIGHT AND GLARE

Existing sources of light and glare in the project area are for the most part minor and consist of lights on Highway U.S. 101, street and residence lights in La Conchita, the beach residences and the hotel at Punta Gorda, the residences at the Seacliff beach community, and lighting in the project area on Rincon Island, the Mobil-Ferguson Pier, and the oil company areas along old Highway 1 north of Highway 101.

During the project nighttime operations lighting would be necessary around the well pads. Other sources of light would be from trucks delivering emergency supplies at night and crew vehicles. The nearest light sensitive receptors would be the residences and hotel located at Punta Gorda at least 3,000 feet from the project site. The substantial distance of light sensitive receptors to the project area and the plan to conduct project work in daylight hours except during critical open-hole operations are expected to result in only insignificant impacts from nighttime lighting as described in Section 7. During production, after the remedial work, the amount of lighting would not increase from current levels.

**TABLE 5**  
**VENTURA COUNTY POPULATION AND HOUSING ESTIMATED**  
**JANUARY 1, 1990**

REPORT 6-8  
PAGE 63

CA. DEPARTMENT OF FINANCE  
DEMOGRAPHIC RESEARCH UNIT  
PRINTED 04/26/90

CITY	POPULATION		HOUSING UNITS				OCCU- PIED UNITS	X PER HOUSE- HOLD			
	TOTAL	HOUSE- HOLD	TOTAL	SINGLE FAMILY - DETACHED	2-4 UNITS	MULTI- FAMILY					
CAMERILLO	50943	42154	18649	10742	3092	700	2448	760	18102	2.45	2.701
FILLMORE	11431	11210	3522	2424	146	237	483	232	3456	1.87	3.244
MOORPARK	26038	26055	7727	5612	834	236	406	189	7663	1.72	3.400
OLIVE	7888	7642	3037	2185	123	103	618	1	3047	2.06	2.602
OSIARD	12908	128256	40790	21470	2665	2068	10428	2329	32117	4.10	3.281
PORT LAFAYETTE	21243	12480	7641	2298	2117	1005	3142	78	6879	0.97	2.822
SAN ANTONIO	22264	21167	27486	20287	2334	4137	8475	2232	26208	2.15	2.511
SANTA PAULA	24016	23777	8066	4417	628	1042	1170	739	7748	3.04	3.063
SUNNYVALE	101523	101392	22462	24331	2119	1109	4183	720	20603	6.73	3.313
UNION CITY	104381	104703	37183	24775	4332	1577	6876	832	35047	3.35	3.015
TOTAL INCORPORATED	570845	563043	156642	118688	19291	14101	26426	8132	188257	3.26	2.901
UNINCORPORATED	87708	84032	30542	24201	822	1142	2594	1628	28732	2.66	3.163
COUNTY TOTAL	658553	647075	187184	142889	20113	15243	32020	9808	216989	3.78	3.006

NOTE: Received from Ventura  
County Planning Dept.  
May, 1990

CALENDAR PAGE 20232  
MINUTE PAGE 2101

TABLE 6  
 COUNTY OF VENTURA  
 1980 - 2010 POPULATION FORECAST

Growth Areas/ Nongrowth Areas*	Census 4/1/80	1985	1990	1995	2000	2005**	2010**
Camarillo GA	43,711	52,590	61,550	68,250	74,300	79,340	84,380
Camarillo NGA	3,668	3,620	3,050	3,610	6,160	6,640	7,100
Hillmore GA	9,604	10,300	12,220	13,310	14,250	15,220	16,170
Hillmore NGA	2,182	2,240	2,240	2,220	2,220	2,220	2,240
Las Posas NGA	1,312	2,030	2,120	2,240	2,340	2,440	2,520
Moortpark GA	8,054	14,250	22,020	29,590	35,740	41,590	47,020
Moortpark NGA	670	690	750	700	810	820	860
North Hill NGA	487	340	570	620	630	650	720
Oak Park GA	3,617	4,380	12,120	17,350	16,740	16,220	15,780
Oak Park NGA	223	300	320	340	350	370	390
Ojai GA	8,411	9,070	9,460	9,350	9,530	9,700	9,750
Ojai NGA	2,298	2,540	2,540	2,620	2,700	2,720	2,850
Ormond GA	121,055	127,700	144,000	159,000	180,000	198,000	217,300
Ormond NGA	4,997	5,000	5,120	5,100	5,100	5,090	5,070
Pico GA	1,363	1,400	1,310	1,980	2,250	2,200	2,440
Pico NGA	196	200	240	250	230	300	320
Port Huasteca GA	18,507	20,300	21,570	22,310	24,050	25,220	25,220
Santa Paula GA	20,389	22,320	24,500	25,000	27,500	29,000	30,500
Santa Paula NGA	2,358	3,030	3,050	3,050	3,350	3,050	3,350
Simi Valley GA	80,294	90,640	103,220	112,650	121,170	129,220	136,320
Simi Valley NGA	1,037	1,400	1,600	1,310	2,040	2,250	2,470
Thousand Oaks GA	91,962	101,910	109,500	113,200	124,500	132,500	139,100
Thousand Oaks NGA	1,070	1,220	1,230	1,350	1,450	1,540	1,590
Ventura GA	33,269	30,100	33,000	30,000	31,000	31,000	31,300
Ventura NGA	982	1,220	1,150	1,220	1,250	1,200	1,250
Ven. Riv. GA	12,369	12,500	14,000	14,260	14,580	15,100	15,100
Ven. Riv. NGA	1,509	1,510	1,510	1,510	1,560	1,590	1,710
<b>TOTAL COUNTY</b>	<b>529,174</b>	<b>534,360</b>	<b>659,250</b>	<b>722,920</b>	<b>787,770</b>	<b>841,730</b>	<b>892,770</b>

\*See attached map. Growth Areas are generally larger than incorporated areas for census.  
 \*\*To be used for guideline purposes only.

Approved by Board of Supervisors on 5/7/85.

NOTE: Except for 1980, all forecasts are January 1 forecasts.

L76/1

NOTE: Received from Ventura  
 County Planning Dept.  
 May, 1990

TABLE 7  
 COUNTY OF VENTURA  
 1980 - 2010 DWELLING UNIT FORECAST

Growth Area/ Nongrowth Area*	Census 4/1/80	Year					
		1985	1990	1995	2000	2005**	2010**
Camarillo GA	16,804	19,389	22,144	25,314	29,484	31,484	33,484
Camarillo NGA	1,043	1,043	1,538	1,741	1,973	2,206	2,438
Fillmore GA	3,053	3,129	4,043	4,344	5,043	5,526	6,032
Fillmore NGA	729	740	773	797	820	843	866
Las Posas NGA	356	551	603	666	723	781	828
Moortark GA	2,476	4,361	7,573	9,820	12,221	14,732	17,134
Moortark NGA	257	259	304	322	343	358	377
North Hill NGA	323	343	360	380	399	413	437
Oak Park GA	1,073	1,447	4,091	5,593	5,593	5,593	5,593
Oak Park NGA	76	95	110	120	120	140	150
Ojai GA	3,316	3,502	3,797	3,912	4,027	4,127	4,227
Ojai NGA	853	929	966	1,023	1,076	1,135	1,187
Ormond GA	39,313	42,029	43,980	45,986	48,217	50,331	52,130
Ormond NGA	1,237	1,293	1,393	1,454	1,509	1,563	1,520
Pinn GA	380	338	323	603	677	751	825
Pinn NGA	66	64	82	91	100	110	113
Port Huemene GA	6,942	7,251	8,201	8,980	9,539	10,333	11,013
Santa Paula GA	7,223	7,645	8,750	9,559	10,377	11,197	12,103
Santa Paula NGA	865	882	934	963	1,002	1,026	1,071
Simi Valley GA	23,534	25,423	31,761	35,373	39,988	44,102	48,215
Simi Valley NGA	447	561	663	774	883	997	1,101
Thousand Oaks GA	31,902	35,019	39,400	43,550	47,900	51,400	55,300
Thousand Oaks NGA	607	653	702	749	796	843	891
Ventura GA	33,311	36,124	38,430	42,257	47,425	50,342	54,249
Ventura NGA	627	674	698	722	744	767	791
Vta. Riv. GA	4,915	5,074	5,467	5,742	6,017	6,292	6,568
Vta. Riv. NGA	575	601	625	649	673	701	725
<b>TOTAL COUNTY</b>	<b>183,384</b>	<b>200,342</b>	<b>223,312</b>	<b>253,905</b>	<b>294,574</b>	<b>322,173</b>	<b>349,143</b>

\*See attached map. Growth Areas are generally larger than incorporated areas for cities.  
 \*\*To be used for guideline purposes only.

Approved by Board of Supervisors on 5/7/85.

NOTE: Except for 1980, all forecasts are January 1 forecasts.

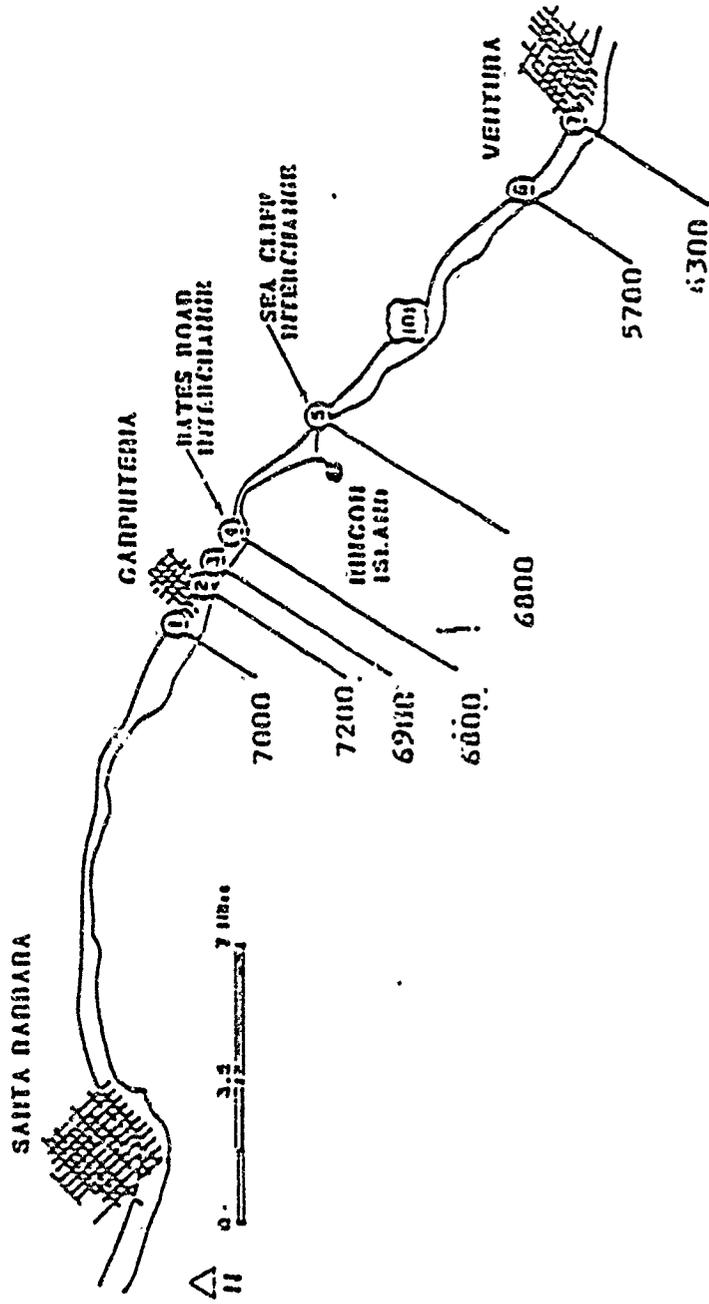
L76/2

NOTE: Received from Ventura  
 County Planning Dept.  
 May, 1980

CALENDAR PAGE 202.34  
 MINUTE PAGE 2100



EXHIBIT II  
 PEAK HOUR TRAFFIC VOLUMES  
 1980



CALENDAR PAGE	303 .36
MINUTE PAGE	2103

TABLE 9  
 SANTA BARBARA COUNTY  
 POPULATION, EMPLOYMENT, AND HOUSING FORECASTS

<u>Population:</u>	1990	-	350,900
	1995	-	378,500
	2000	-	404,200
	2005	-	425,000
<u>Housing Units:</u>	1990	-	134,269
	1995	-	144,548
	2000	-	154,187
	2005	-	161,344
<u>Employment:</u>	1988:	Labor Force	178,700
		Employment	170,800
		Unemployment Rate	4.4%
		Estimated Employment in 2005	211,000

Source: "Forecast 89"  
 Santa Barbara County-Cities  
 Area Planning Council, August 1989

TABLE 10  
1988 TRAFFIC COUNTS

LOCATION	AVERAGE DAILY TRAFFIC PEAK HOUR	PEAK MONTH
1. Jct Rte. 244 Interchange	7,000	68,000
2. El Rincon Interchange	7,200	70,000
3. Jct. Rte. 150 Interchange	6,900	66,000
4. Bates Road Interchange	6,800	65,000
5. Sea Cliff Interchange	6,800	55,000
6. Solimar Interchange	5,700	55,000
7. Jct. Rte. 33 Interchange	6,300	64,000

\*\* SOURCE: Caltrans Office, Los Angeles  
Caltrans Office, San Luis Obispo

TABLE 8  
VENTURA COUNTY  
ESTIMATED TOTAL EMPLOYMENT  
UNIT - JOBS

AREA	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	2000	2005	2010
Camarillo CA	15,456	16,651	16,861	17,429	17,994	18,564	19,131	19,699	20,121	20,513	20,964	21,384	21,808	21,519	25,442	20,016
Camarillo MGA	1,005	1,017	1,030	1,097	1,164	1,230	1,297	1,364	1,383	1,402	1,421	1,440	1,659	1,474	1,527	1,544
Fillmore CA	2,311	2,310	2,369	2,658	2,547	2,635	2,724	2,813	2,863	2,912	2,962	3,011	3,061	3,137	3,348	3,402
Fillmore MGA	437	442	448	466	484	502	520	538	537	537	536	536	535	550	402	450
Les Posas MGA	811	822	832	865	857	876	882	895	904	913	923	932	941	1,006	1,074	1,139
Moorspark CA	3,050	3,098	3,137	3,430	3,724	4,017	4,311	4,604	4,718	4,892	5,037	5,182	5,326	5,861	4,015	5,039
Moorspark MGA	0	0	0	35	70	104	139	171	212	251	289	328	367	567	772	1,030
Oak Park CA	48	48	49	92	235	177	220	243	315	366	418	459	521	670	812	1,020
Oak Park MGA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ojai CA	3,195	3,225	3,245	3,293	3,324	3,350	3,378	3,404	3,412	3,419	3,425	3,432	3,438	3,467	3,492	3,513
Ojai MGA	148	150	152	155	158	160	163	166	169	172	174	177	180	193	207	221
Onward CA	47,332	47,929	48,526	50,311	52,156	53,970	55,785	57,600	59,436	61,272	63,108	64,911	65,780	77,100	89,100	101,447
Onward MGA	7,901	8,000	8,100	8,292	8,485	8,677	8,870	9,052	9,235	9,418	9,601	9,784	9,967	10,150	10,333	10,516
Piru CA	191	194	195	207	210	213	216	219	222	225	228	231	234	237	240	243
Piru MGA	130	162	164	170	176	182	188	194	197	201	204	208	211	234	240	245
Port Hueneese CA	12,280	12,415	12,400	12,724	12,828	12,971	13,095	13,219	13,312	13,405	13,499	13,593	13,686	13,919	14,391	14,554
Santa Paula CA	6,531	6,614	6,696	6,827	6,958	7,086	7,219	7,350	7,460	7,530	7,620	7,710	7,800	8,250	8,700	9,015
Santa Paula MGA	411	419	455	462	468	475	481	488	500	512	525	537	549	580	641	681
Simi Valley CA	15,913	16,114	16,315	17,181	18,047	18,912	19,778	20,411	21,172	22,300	23,127	23,955	24,783	30,293	34,809	40,069
Simi Valley MGA	2,609	2,641	2,674	2,731	2,798	2,816	2,903	2,930	3,023	3,084	3,150	3,213	3,274	3,528	3,774	3,944
Thousand Oaks CA	29,821	30,197	30,573	31,712	32,851	33,989	35,128	36,267	37,351	38,795	40,060	41,324	42,508	48,070	54,355	60,267
Thousand Oaks MGA	95	95	97	108	120	131	143	154	165	136	127	118	109	116	123	132
Ventura (OJ) CA	5,466	5,535	5,604	5,619	5,634	5,650	5,665	5,680	5,790	5,900	6,011	6,121	6,231	6,658	7,014	7,252
Ventura (PO) CA	29,287	29,657	30,026	30,374	30,723	31,071	31,420	31,768	32,553	33,338	34,122	34,907	35,692	40,227	43,354	46,785
Ventura (SP) CA	12,038	12,190	12,342	12,661	13,000	13,398	14,417	14,936	15,803	16,670	17,538	18,405	19,272	23,594	28,171	32,291
Ventura (OJ) MGA	51	51	52	52	53	53	54	54	54	55	55	56	56	70	73	80
Ventura (PO) MGA	419	425	430	436	442	449	455	461	467	473	480	486	492	522	551	584
Ventura (SP) MGA	0	0	0	0	1	1	2	2	2	3	3	4	4	5	7	10
Ventura River CA	1,185	1,200	1,215	1,252	1,289	1,326	1,363	1,400	1,436	1,472	1,508	1,544	1,500	1,762	1,963	2,090
Ventura River MGA	62	63	64	64	64	64	64	64	64	66	65	65	65	83	85	92
North Half	110	112	113	115	118	120	123	125	127	129	132	134	136	156	173	200

Ojai Vly Airshed	10,097	10,224	10,352	10,435	10,519	10,603	10,687	10,770	10,925	11,082	11,238	11,395	11,550	12,233	12,834	13,256
Onward Pln Airshed	189,168	191,534	193,920	200,278	206,639	212,989	219,350	225,707	233,177	239,918	246,651	253,405	259,329	295,439	329,791	366,365
ADMP Plng Area	199,245	201,758	204,272	210,713	217,158	223,592	230,037	236,477	244,102	251,000	257,899	264,800	270,879	307,672	342,625	379,621
COUNTY TOTAL	199,355	201,870	204,385	210,828	217,276	223,712	230,160	236,602	244,229	251,129	258,031	264,934	271,015	307,828	342,799	379,821

NOTE: Received from Ventura County Planning Dept. May 31, 1990

#### H. LAND USE

Rincon Island was built specifically for the purpose of petroleum production. The proposed project would therefore be consistent with this existing approved land use. The proposed project would also be compatible with the land uses near the Bush Oil Company yard which include other petroleum production operations. The production lifetime of 10 years following project work is not expected to significantly affect future land use options at the project location.

#### I. NATURAL RESOURCES

The project is expected to yield approximately 4.1 million barrels of oil and 818 million cubic feet of natural gas as shown in Table 1 and discussed in paragraph 2. The diesel powered workover rig will use fuel during the project.

#### J. RISK OF UPSET

Although very unlikely, the possibility of an accidental release of drilling mud or crude oil exists. The quantity of mud that could be released would be the amount contained within the well bore of approximately 100-150 barrels. The amount of crude oil that could be released would depend on the nature of the accident; however, all the project workover wells are non-free-flowing wells. The probability of an oil spill is therefore very low. The measures used to mitigate an accidental release of mud or oil are described in Section 7.

#### K. POPULATION AND HOUSING

Population centers in Ventura County include the cities of Oxnard, Ventura, and Port Hueneme. Ventura and Port Hueneme serve as major offshore and onshore petroleum industry centers. Port Hueneme functions as the principal supply port for offshore Santa Barbara and Ventura counties. Petroleum-related services in Ventura include oil field maintenance, oil well completion and pumping equipment, and oil well servicing. Exploration and production offices of several major oil companies are also located in Ventura. Oxnard, because of its substantial population base, provides a labor pool for petroleum-related industries in Ventura County.

Principal population centers in Santa Barbara County include the cities of Carpinteria, Guadalupe, Lompoc, Santa Barbara, and Santa Maria and the unincorporated Goleta Valley. Within the southern portion of Santa Barbara County, several oil companies, including Chevron, have had increased activities due to the construction of offshore platforms and onshore processing and terminal facilities. In northern Santa Barbara County, particularly near

Santa Maria, several companies operate oil field servicing and maintenance services for onshore petroleum production operations; little or none of their activity is related to offshore development.

Population, housing, and employment estimates for Ventura County vary considerably among various sources. Table 5 provides Ventura County Population and Housing Estimates dated January 1, 1990, from the California Department of Finance Demographic Research Unit. This source estimates total Ventura County housing units as 184, 227. Tables 6 and 7 provide population and dwelling unit forecasts as approved by the County Board of Supervisors in 1985 and provided by the County Planning Department in May 1990. Exhibit G, provided by the County Planning Department, illustrates growth and nongrowth areas within Ventura County. The Bush project is in a nongrowth area.

Table 8 provides estimates and forecasts of total employment in Ventura County. The total number of jobs is estimated as 236,602 for 1990. Unemployment among the labor force has been estimated roughly as 5 to 7 percent.

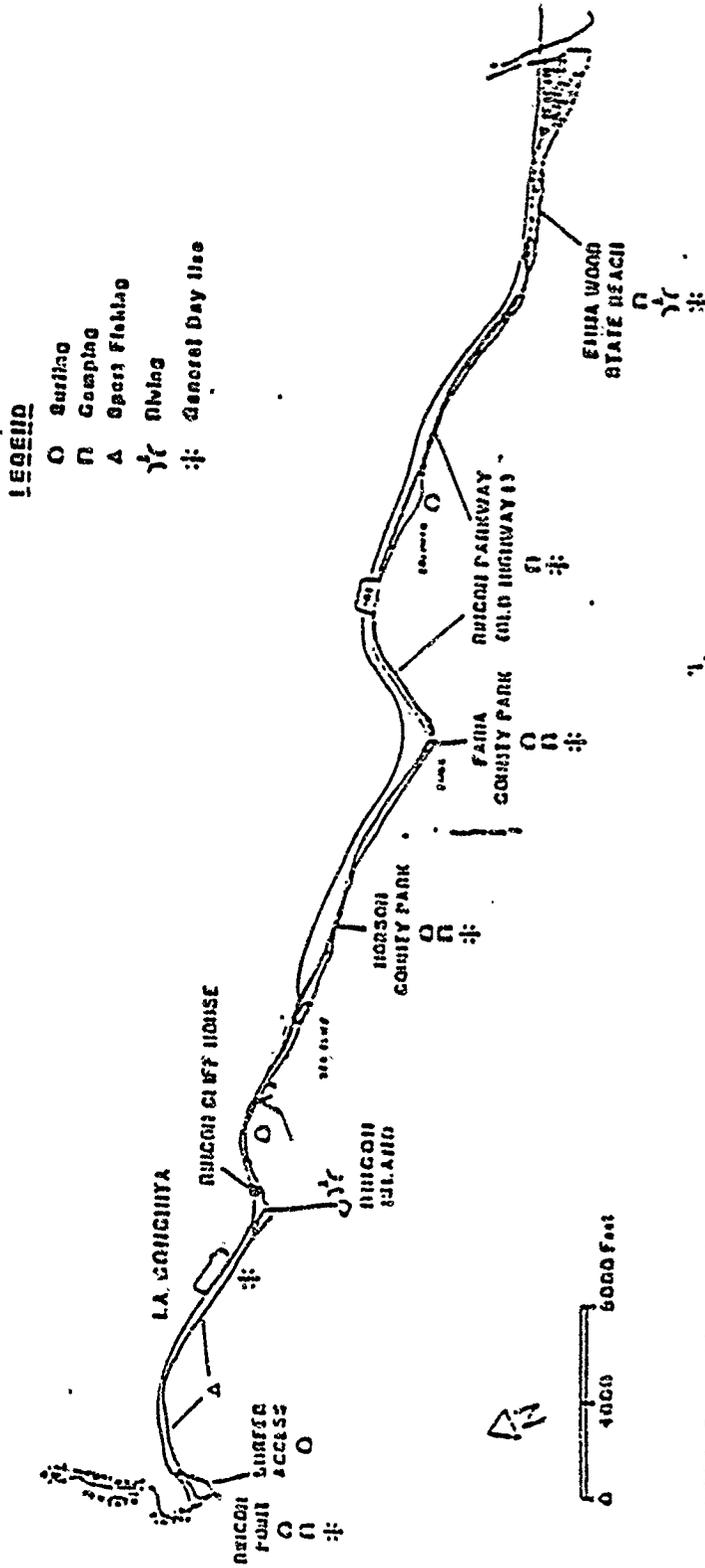
Table 9 provides forecasts of population, housing, and employment in Santa Barbara County (Santa Barbara County-Cities Area Planning Council, August, 1989). This document, Forecast 89, shows a 1990 Santa Barbara County population of 350,900.

In contrast a recent Environmental Report for OCS lease P-0525, about 10 miles south of the project area, shows population projections for Ventura and Santa Barbara Counties as follows (Dames and Moore February 1988):

<u>YEAR</u>	<u>SANTA BARBARA CO.</u>	<u>VENTURA CO.</u>
1990	339,700	682,400
1995	358,300	762,500
2000	373,800	838,500

During the proposed project approximately 5 workers would be involved in daily activities. This work force would come from the Ventura-Ojai area or the Santa Barbara area. Because of the small size and local nature of the work force, implementation of the proposed project would not result in any population changes, nor would it affect housing demand in the region. The production following the project work would involve existing work forces; no new permanent jobs would be produced, and housing demand would not be affected.

**EXHIBIT I**  
**RECREATIONAL AREAS**



CALENDAR PAGE 203 42  
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L. TRANSPORTATION CIRCULATION

U.S. Highway 101 1988 traffic volumes are presented in Table 10 for the project area. The annual average daily traffic is the total traffic volume for the year divided by 365 days. The peak month average daily traffic volume is the average daily traffic for the month of heaviest flow. Locations of the interchanges where the traffic volumes were measured are shown on Exhibit H.

The remedial and workover program would involve about two truck trips per week and 3 commuter vehicle trips per day. Access to the Bush Oil Company yard would be via the Seacliff offramp and the old Rincon Highway (Highway 1). All vehicles would use the trestle causeway from U.S. Highway 101 and Punta Gorda for access to or exit from Rincon Island. The maximum traffic generated would represent less than 0.05 percent of the existing 1988 daily traffic for a period of one year. The additional traffic generated during the proposed project would not have a significant impact on the existing transportation system. Since only the existing work force would be involved in production following workover, traffic levels in the area would not be increased, and the existing transportation system would not be affected. Measures to further reduce impact on the existing transportation system are described in Section 7.

M. PUBLIC SERVICES AND UTILITIES

Fresh water would be needed for personnel use only; this water would be supplied via the existing municipal water system. The existing fire water systems would be used to provide sea water for cementing operations, and produced water would be used for mud make up.

The existing sanitation systems would be used during all phases of the proposed project. There would be a negligible increase in the level of electrical power requirements.

Approximately 700 cubic yards of cuttings and waste mud would be generated during the entire workover project. These wastes would be disposed of at an approved Class II-I or Class I dumpsite as a non-hazardous waste.

The work force during the project would be small and local in nature, and the enhanced production following workover would involve only the existing work forces. Existing facilities would provide sanitation, fresh water, mud make up water, and other requirements. Therefore, it is anticipated that no significant new demand for public services (e.g., fire and police protection, schools) or utilities would occur as a result of the proposed project.

N. ENERGY

During the workover project, fuel would be required for the 350-horsepower diesel workover rig and for the mudpump as well as some small increase in electricity for night lighting.

Since no new facilities would be constructed, no significant increase in energy use would occur. Because of the limited scope of the proposed project, substantial use of fuel or energy would not be required. The proposed project would not substantially increase demand on existing energy sources, nor would it require the development of new energy sources.

O. HUMAN HEALTH

In dealing with crude oil and gas, the potential always exists for releases, spill, and fires. The potential for such accidents from this proposed workover project is very low because all the wells are no-free-flowing wells. Thus, the possibilities of a blowout is almost non-existent. During the 17-year period from 1971 to 1987, there were only 20 blowouts during workover operations on federal offshore wells and only two of these resulted in the release of oil, one for 200 bbls and one for 64 bbls (MMS, 1989). A spill from a well, pipeline, or tank would be contained on the island. A spill in the well area should be contained by the well bay which can contain up to 2400 bbls. All except one of the tanks on the island are located in a 4800 bbl containment area that can contain the contents of the largest tank, which is 1500 bbl. There is a 2000 bbl produced water tank outside the tank area. A spill from this tank would drain to the well bay. In addition, the sides of the Island are generally elevated at least 10 feet above the level of the production facilities area. Where the Island opens toward the trestle, the ground surface slopes down to the production facilities area. Consequently, if an oil spill occurred that exceeded the capacity of individual containment structures, the Island itself would serve as a further containment structure. The Island (not counting the well bay area and tank area) can contain at least another 10,000 bbls. A spill contained on the island would not pose a hazard to human health.

Although it would be difficult to ignite any spilled oil on the island, it is possible. As a worst case fire, it was assumed that a spill occurs that covers the entire floor of the Island and then ignites. The Port of Los Angeles Hazard Footprint Calculation Program (Reese-Chambers Systems Consultants, 1990) was used to calculate the radiant heat hazard footprint from such a fire. The distance to 1600 Btu/sq ft/hr was determined to be 550 feet from the edge of the Island. People located outside this distance should be safe from such a fire. Thus, such a fire would not pose a hazard to members of the

public on shore.

The gas produced on the island contains extremely low levels of H<sub>2</sub>S and is thus classified as sweet gas. Such gas does not pose a toxic inhalation threat.

Thus, an accident on the Island should not pose a hazard to members of the public.

P. AESTHETICS

The project workover rig and other facilities would be situated within the depressed interior of Rincon Island and therefore partially hidden from view. Further visual screening would be provided by palm trees. The work on the Bush Oil Company Yard would appear to be similar to existing operations. Operation of the 98 foot high mobile workover rig, the mud tanks, and other facilities would cause a slight, temporary change in the visual environment of Rincon Island. Activities visible from shore during the workovers would appear similar to periodic maintenance operations which presently occur on the island. Given the temporary nature of the project and the visual similarity to present operations, no significant visual impact on offsite viewers is anticipated.

Q. RECREATION

Recreational areas in the vicinity of Rincon Island are shown on Exhibit I. Recreational activities include surfing, camping, sport fishing, diving, and general beach day use. The project is not expected to: (1) significantly increase the existing traffic conditions, (2) significantly decrease the offsite visual character of the Island, (3) significantly contribute to an increase in ambient noise levels, nor 4) import a significant number of new workers that would be using the available recreational facilities. Therefore, the proposed project is not expected to have a significant impact on existing recreation use in the area. The production operations following the project would require no new personnel, and no new equipment would be constructed. Therefore, no changes from existing conditions would be anticipated, and no impact is expected on existing recreational use in the area. Due to the separation of the project facilities from existing recreation facilities, it is not expected that recreation activities would have a significant impact on the project activities.

R. ARCHAEOLOGICAL AND HISTORICAL EFFECTS

No archaeological or historical resources are expected to be present in the project area. Therefore, no effects on such resources are anticipated during the project or during enhanced production following the project.

6. ANY ADVERSE EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Potential environmental impacts of the proposed project are discussed in Section 5. These impacts would be localized, temporary, and of minor significance. Therefore, it is expected that no unavoidable significant adverse environmental impacts would result from implementation of the proposed project.

7. MITIGATING MEASURES WHICH HAVE BEEN INCORPORATED IN THE PROJECT

Where appropriate, mitigation measures are proposed to further reduce environmental impacts. The measures suggested for each environmental category are presented below:

A. EARTH

Bush would comply with applicable State Lands Commission, the California Division of Oil and Gas, and other appropriate regulations and requirements pertaining to well workovers, casing blowout prevention, and completion in order to minimize the potential for significant environmental impacts due to ground motion, fault rupture, subsidence and tsunamis.

B. AIR

No mitigation measures are proposed.

C. WATER

- i. Bush will comply with all rules and regulations pertaining to the prevention of degradation of water quality. By implementing casing and cementing operations, it is expected that no fluids would be lost to either ground or surface waters. Should an accidental leak or spill occur, the mitigation measures included in the project design and Bush's Oil Spill Contingency Plan would prevent and minimize contamination of ocean or ground water.
- ii. Cuttings and mud wastes would be disposed of at an approved Class II-1 or Class I dumpsite as a non-hazardous waste in accordance with appropriate regulatory requirements. No ocean discharge of muds or cuttings would be conducted.

D. PLANT LIFE

No mitigation measures are proposed.

B. ANIMAL LIFE

No mitigation measures are proposed.

F. NOISE

No mitigation measures are proposed.

G. LIGHTING AND GLARE

The illumination of the workover activities at night will be limited by appropriate shielding and directing techniques to reduce reflection and glare.

H. LAND USE

No mitigation measures are proposed.

I. NATURAL RESOURCES

No mitigation measures are proposed.

J. RISK OF UPSET

- i. The project operation would employ state-of-the-art blowout prevention technology and mud monitoring equipment.
- ii. All supervisory personnel will be blowout and well control certified.
- iii. The well bay on Rincon Island can contain 2400 barrels of fluid, mud, or oil.
- iv. Design of the Island is such that spilled mud drains into the well bay trough. There are cellars on either end of this trough from which the mud can be pumped to a steel separation tank to separate out any oily wastes. This mud can then be transferred to a vacuum truck for disposal at an approved dumpsite. Berms around the active areas of the Island would help contain any runoff.

- v. The well bay can contain 2400 bbl of fluid. The tank area is surrounded by a 10 foot high wall which can contain 4800 bbl of liquid. The floor of the island is generally 10 feet or more below the sides of the Island except along the wharf area. The road does slope down from the wharf toward the floor of the island. The island itself can contain at least another 10,000 bbl of oil over and above that of the well bay area.

Because the wells are non-free flowing, spills from blowouts are not expected (see discussion under "O - Human Health"). A spill from the largest tank within the tank area (1500 bbl) would easily be contained in the surrounding containment area. A spill from the 2000 bbl tank outside the tank containment area would flow to the well bay area.

The only other type of spill possible would be from a pipeline leak or rupture. The largest line is a four inch diameter line that collects the oil from the individual lines from the wells. This line is equipped with automatic shutdowns. The entire line all the way to shore only contains less than 50 bbl of oil. The production rate would be less than 2000 bbl/day and hence a spill that would go undetected for an hour would only result in an 83 bbl spill, plus possibly the contents within the pipeline.

- vi. Bush has an Oil Spill Contingency Plan on file with the State Lands Commission which addresses specific spill control measures for Rincon Island. This plan would be implemented in the event of a spill. Bush is a member of Clean Seas, Inc.

**K. POPULATION AND HOUSING**

No mitigation measures are proposed.

**L. TRANSPORTATION/CIRCULATION**

- i. In order to reduce the impact to the existing transportation system, left hand turns across Highway 101 traffic would not be performed during the project. All vehicles requiring to go north after exiting Rincon Island would make a right turn onto U. S. Highway 101 and drive south, exiting at the Seacliff Interchange, located about 1-1/2 miles south of Rincon Island. The vehicles would then cross U. S. 101 and enter it via the northbound Seacliff onramp. All vehicles approaching Rincon Island from the south would exit U. S. 101 at the Bates Road interchange, located about 2.5 miles north of Rincon Island. The vehicles would then cross U. S. 101 and enter it via the southbound

Bates onramp. Rincon Island may then be entered by a right turn off of U. S. 101. The interchanges discussed above are shown on Exhibit H.

- ii. Bush Oil Company workers usually carpool. Bush will require continuation of this practice and will shuttle workers from Bush's Rincon Field office to Rincon Island to minimize traffic on the Rincon Island causeway.

M. PUBLIC SERVICE UTILITIES

No mitigation measures are proposed.

N. ENERGY

No mitigation measures are proposed.

O. HUMAN HEALTH

No mitigation measures are proposed.

P. AESTHETICS

No mitigation measures are proposed.

Q. RECREATION

No mitigation measures are proposed.

R. ARCHAEOLOGICAL/HISTORICAL

No mitigation measures are proposed.

8. ORGANIZATIONS CONTACTED

Bush Oil Company, California District  
State Lands Commission  
Ventura County Air Pollution Control District  
State of California, Department of Transportation  
Ventura County Planning Department

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EXHIBIT "C"

BUSH OIL WORKOVER PROJECT

MITIGATION MONITORING AND REPORTING PLAN  
(Section 21081.6, PRC)

Section 1

INTRODUCTION

This plan has been developed in conformance with the requirements of Section 21081.6 of the Public Resources Code and shall be known as the Mitigation Monitoring Plan (Plan) for the Bush Oil Workover Project which entails the workover of 21 existing oil and gas wells on Rincon Island and one at 5750 Pacific Coast Highway.

Section 2 provides a brief summary of the project. Section 3 describes each impact to be mitigated, each mitigation measure, and the monitoring requirements and scheduling of each implementation measure.

IMPLEMENTATION

Responsibilities

Bush Oil Company (the Applicant), its representative(s), or successors-in-interest, remain responsible for full implementation of all mitigation measures adopted within Applicant's project and described in the Negative Declaration.

The California State Lands Commission (SLC), as CEQA Lead Agency, through its Field Inspection units, shall be responsible for the administration of all provisions of this Plan. The Field Inspection units will ensure that complete monitoring reports are generated and that deficiencies or violations are promptly corrected.

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## Reporting

Verification of Compliance and Non-Compliance Reports shall be prepared by Field Inspectors using standard SLC reporting procedures. Copies of the reports will be transmitted to Bush Oil. Progress toward completion of the required mitigation program, or deficiencies thereof, shall be reported to Bush at SLC prescribed intervals or upon detection of the lack of compliance.

## COMPLIANCE

SLC Field Inspectors, as well as Staff engineers and Supervisors, will make monitoring inspections on a regular basis and at critical operation phases to ensure compliance with the Plan. The SLC will acknowledge the successful completion of a mitigation measure after receipt of the Lessee's report and confirmation by SLC Staff.

## VIOLATIONS

If a report identifies a violation of the mitigation program, the SLC, immediately upon receipt of the report, shall:

1. notify Bush Oil or its designated representative by telephone and order immediate compliance;
2. prepare written notification to Bush Oil of the violation ordering compliance, and;
3. identify the need for a follow-up field inspection

If compliance is not achieved, SLC Field Inspectors may order that work be stopped until compliance is achieved and notification is given by the SLC that work may resume. The period of time of the stop-work-order will be that time required to assure compliance has been achieved. Work on the project may not be resumed until compliance is achieved.

Violations of an approved mitigation measure which are not discovered until after Project Completion will result in one or more of the following actions affecting Bush Oil:

1. written notification and demand by the SLC for correction,
2. issuance of an infraction citation;
3. filing for legal action,
4. cancellation of lease and action for indemnification for damages from breach or non-compliance with lease terms

and provisions.

If a dispute arises concerning the implementation or success of a mitigation, the dispute may be referred to the Executive Officer and, if unresolved, to the Commission for legal action. In such a case, work on the project will be stopped until the dispute is resolved.

Failure to comply with all adopted mitigation measures will constitute a breach of the lease.

#### FEES

Direct costs for mitigation measure implementation shall be paid by Bush Oil.

#### Section 2

##### PROJECT DESCRIPTION

Bush Oil Company, lessee of State Oil and Gas Leases PRC 1466 and PRC 410, is planning a project to enhance production of oil and gas from the "A" sand reservoirs in the offshore Rincon area. The enhancement is planned by sidetracking and deepening 22 existing wells into the AH to AZ sands. The location of the project in the area offshore Punta Gorda in Ventura County is shown in Exhibit A.

The plan provides for sidetracking and deepening twenty-two specific wells. Twenty-one of the specific wells planned for deepening are located in Lease PRC 1466 on Rincon Island, which was constructed in 1958 and is located at the end of a 3000 foot long trestle extending southward from shore at Punta Gorda. Sidetracking and deepening of these wells into the AS sand are planned.

One of the specific wells is planned for sidetracking and deepening into Lease PRC 410 about one mile east of Rincon Island. Access to lease PRC 410 is made through an existing well on the Bush Oil Company property at 5750 West Pacific Coast Highway located north of Highway 101 and South of the old Rincon Highway between the Fire Station at the Seacliff off ramp and the underpass to the Mobil Piers. The well in Lease PRC 410 is planned for deepening into the AZ sands.

The general extent of redrilling will vary from about 1600 feet to 3200 feet reaching a maximum depth of about 4800 feet.

#### Section 3

PROJECT IMPACTS AND INCORPORATED MITIGATION

1. Impact: Discharge of muds or cuttings

Project Modification: No ocean discharge of muds or cuttings will occur.

Cuttings and mud wastes will be disposed at an approved Class II-I or Class I dumpsite as a non-hazardous waste in accordance with appropriate regulatory requirements.

Monitoring: All State oil and gas leases contain conditions establishing lease activity control, reporting and inspection mechanisms. The State Lands Commission has field inspection and monitoring staff to monitor and enforce the lease provisions and other SLC rules and regulations. The SLC inspectors will review and verify receipt slips for wastes disposed of at appropriate disposal sites.

2. Impact: During the night operations, lighting will be necessary around the well pads. The nearest light sensitive receptors would be the residences and hotel located at Punta Gorda at least 3,000 feet from the project site.

Project Modification: The illumination of the workover activities at night will be limited by appropriate shielding and directing techniques to reduce reflection and glare.

Monitoring: SLC inspectors will verify the placement of appropriate light shielding and placement.

3. Impact: Potential impact to existing transportation system on Highway 101.

Project Modification: In order to reduce the impact to the existing transportation system, left hand turns across Highway 101 traffic will not occur during the project. Contractor vehicles requiring to go north after exiting Rincon Island will make a right turn onto U. S. Highway 101 and drive south, exiting at the Seacliff Interchange, located about 1-1/2 miles south of Rincon Island. The vehicles will then cross U. S. Highway 101 and enter it via the northbound Seacliff onramp. All vehicles approaching Rincon Island from the south will exit U. S. 101 at the Bates Road interchange, located about 2.5 miles north of Rincon Island. The vehicles will then cross U. S. 101 and enter it via the southbound Bates onramp. Rincon Island may then be entered by a right turn off of U. S. 101.

As an additional measure to control traffic on Highway 101, Bush Oil Company workers usually carpool, and Bush will require continuation of this practice and will shuttle workers

from Bush's Rincon Field to Rincon Island to minimize traffic on the Rincon Island causeway.

Monitoring: A SLC inspector will monitor traffic flow and shuttling of workers to the work site.

4. Impact: Upset conditions could result in an accidental release or drilling mud or crude oil.

Project Modification: The following measures have been incorporated into the Bush project to minimize effects of upset conditions.

- a. The project operation would employ state-of-the-art blowout prevention technology and mud monitoring equipment.
- b. All supervisory personnel will be blowout and well control certified.
- c. The well bay on Rincon Island can contain 2400 barrels of fluid, mud, or oil.
- d. Design of the Island is such that spilled mud drains into the well bay trough. There are cellars on either end of this trough from which the mud can be pumped to a steel separation tank to separate out any oily wastes. This mud can then be transferred to a vacuum truck for disposal at an approved dumpsite. Berms around the active areas of the Island would help contain any runoff.
- e. The well bay can contain 2400 bbl. of fluid. The tank area is surrounded by a 10 foot high wall which can contain 4800 bbl. of liquid, the floor of the island is generally 10 feet or more below the sides of the Island except along the wharf area. The road does slope down from the wharf toward the floor of the island. The island itself can contain at least another 10,000 bbl of oil over and above that of the well bay area.

Because the wells are non-free flowing, spills from blowouts are not expected. A spill from the largest tank within the tank area (1500 bbl) would easily be contained in the surrounding containment area. A spill from the 2000 bbl tank outside the tank containment area would flow to the well bay area.

The only other type of spill possible would be from

a pipeline leak or rupture. The largest line is a four inch diameter line that collects the oil from the individual lines from the wells. This line is equipped with automatic shutdowns. The entire line all the way to shore only contains less than 50 bbl of oil. The production rate would be less than 2000 bbl/day and hence a spill that would go undetected for an hour would only result in an 83 bbl spill, plus possibly the contents within the pipeline.

Monitoring: Bush Oil has filed with the State Lands Commission, an Oil Spill Contingency Plan which addresses specific spill control measures for Rincon Island. This plan will be implemented in the event of a spill. Bush is also a member of Clean Seas, Inc.

SLC inspectors will ensure that such Plan is implemented as provided in the event of an upset condition at Rincon Island.