

# SECTION 3.10

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## Mineral Resources

### 3.10.1 Introduction

This section evaluates the potential for the proposed program to result in adverse impacts related to mineral resources. The analysis is based on review of available reports and maps of the program area and vicinity, relevant regulations, and a discussion of the methodology and thresholds used to determine whether the proposed program would result in significant impacts. This section analyzes the potential for both program-level and cumulative environmental impacts. All information sources used are included as citations within the text; sources are listed in Section 3.10.7, *References*.

### 3.10.2 Environmental Setting

Figure 2-1, *Regional Location*, and Figure 2-2, *Project Site and Local Vicinity*, in Chapter 2, *Project Description*, of this PEIR, show the program area, which is comprised of four program areas (North, Central, Isthmus, and South), made up of 17 individual sites. Relative to mineral resources information, the North and Central Areas have been extensively investigated in support of the recently certified in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083).

The program area been used for oil production for nearly 100 years. In 1921, oil was discovered in the Long Beach Oil Field and soon after in the Seal Beach Oil Field. All four program areas currently have oil and/or natural gas producing wells. The current statuses of active, idle, and plugged wells are summarized below in **Table 3.10-1, Oil Wells by Site**, and the locations shown in Figure 3.5-3, provided in Section 3.5, *Geology, Soils, and Paleontological Resources*. The active oil fields contain a network of roads, pipelines, and other oil-field-associated infrastructure, which include production wells, reinjection wells, below ground and aboveground pipelines, wastewater disposal and vapor recovery areas, storage tanks, shed, and transformers.

Regarding non-petroleum mineral resources, the program area is located within Mineral Resource Zone 3 (MRZ-3) (CDMG 1982) (see **Figure 3.10-1, Mineral Resource Zones**), which is defined as an area containing mineral deposits that have an undetermined significance. The program area is not currently nor has ever been used as a source of aggregate. Given the previous wetlands and marsh nature of the program area, the native alluvial materials would not be considered a viable source of aggregate.

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
<b>Synergy Oil Field Site</b>					
Synergy	1	037-06973	Synergy Oil & Gas, LLC	Production	Plugged
Synergy	2	037-06974	Synergy Oil & Gas, LLC	Production	Plugged
Synergy	4	037-06977	Synergy Oil & Gas, LLC	Production	Active
Synergy	5	037-06978	Synergy Oil & Gas, LLC	Wastewater Injection	Plugged
Synergy	6	037-06979	Synergy Oil & Gas, LLC	Production	Idle
Synergy	7	037-06980	Synergy Oil & Gas, LLC	Production	Active
Synergy	12	037-06985	Synergy Oil & Gas, LLC	Production	Active
Synergy	13	037-06986	Synergy Oil & Gas, LLC	Production	Active
Synergy	14	037-06987	Synergy Oil & Gas, LLC	Production	Active
Synergy	22	037-06995	Synergy Oil & Gas, LLC	Production	Active
Synergy	24	037-06997	Synergy Oil & Gas, LLC	Production	Idle
Synergy	26	037-06999	Synergy Oil & Gas, LLC	Wastewater Injection	Plugged
Synergy	28	037-07001	Synergy Oil & Gas, LLC	Production	Active
Synergy	30	037-07003	Synergy Oil & Gas, LLC	Production	Idle
Synergy	32	037-07005	Synergy Oil & Gas, LLC	Production	Idle
Synergy	33	037-07006	Synergy Oil & Gas, LLC	Production	Idle
Synergy	34	037-07007	Synergy Oil & Gas, LLC	Production	Active
Synergy	38	037-07011	Synergy Oil & Gas, LLC	Production	Active
Synergy	40	037-07013	Synergy Oil & Gas, LLC	Production	Idle
Synergy	41	037-07014	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	44	037-07017	Synergy Oil & Gas, LLC	Production	Plugged
Synergy	45	037-07018	Synergy Oil & Gas, LLC	Production	Active
Synergy	46	037-07019	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	47	037-07020	Conoco Inc.	Production	Plugged
Synergy	49	037-07022	Synergy Oil & Gas, LLC	Production	Active
Synergy	50	037-07023	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	51	037-07024	Synergy Oil & Gas, LLC	Production	Active
Synergy	52	037-07025	Synergy Oil & Gas, LLC	Production	Plugged
Synergy	53	037-06351	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	54	037-07126	Synergy Oil & Gas, LLC	Production	Active
Synergy	55	037-07127	Synergy Oil & Gas, LLC	Production	Active
Synergy	56	037-07128	Synergy Oil & Gas, LLC	Production	Active
Synergy	57	037-07129	Synergy Oil & Gas LLC	Production	Active
Synergy	58	037-07130	Synergy Oil & Gas, LLC	Wastewater Injection	Plugged
Synergy	59	037-07131	Synergy Oil & Gas, LLC	Production	Active
Synergy	60	037-07132	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	61	037-07133	Synergy Oil & Gas, LLC	Wastewater Injection	Idle

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
Synergy	62	037-07134	Synergy Oil & Gas, LLC	Production	Active
Synergy	65	037-07137	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	67	037-07139	Synergy Oil & Gas, LLC	Wastewater Injection	Plugged
Synergy	69	037-07141	Synergy Oil & Gas, LLC	Production	Active
Synergy	70	037-07142	Synergy Oil & Gas, LLC	Production	Idle
Synergy	72	037-07143	Conoco Inc.	Production	Plugged
Synergy	73	037-05601	Synergy Oil & Gas, LLC	Production, Wastewater Injection	Plugged
Synergy	74	037-07145	Synergy Oil & Gas, LLC	Production	Plugged
Synergy	75	037-07146	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	76	037-07147	Synergy Oil & Gas, LLC	Production	Active
Synergy	77	037-07148	Synergy Oil & Gas, LLC	Production	Active
Synergy	78	037-07149	Synergy Oil & Gas, LLC	Wastewater Injection	Idle
Synergy	79	037-07150	Synergy Oil & Gas, LLC	Production	Plugged
Synergy	81	037-07151	Synergy Oil & Gas, LLC	Production	Active
Synergy	82	037-20684	Synergy Oil & Gas, LLC	Production	Idle
<b>Total No. of Wells (Synergy Oil Field site)</b>	<b>52</b>				<b>22 Active 17 Idle 13 Plugged</b>
<b>Long Beach City Property Site</b>					
City Property	8	037-06981	Synergy Oil & Gas LLC	Production	Active
City Property	9	037-06982	Synergy Oil & Gas LLC	Production	Plugged
City Property	10	037-06983	Synergy Oil & Gas LLC	Production	Active
City Property	16	037-06989	Synergy Oil & Gas LLC	Production	Active
City Property	17	037-06990	Synergy Oil & Gas LLC	Production	Active
City Property	18	037-06991	Synergy Oil & Gas LLC	Production	Plugged
City Property	19	037-06992	Synergy Oil & Gas LLC	Production	Plugged
City Property	21	037-06994	Synergy Oil & Gas LLC	Production	Idle
City Property	25	037-06998	Synergy Oil & Gas LLC	Production	Active
City Property	27	037-7000	Synergy Oil & Gas LLC	Production, Wastewater Injection	Plugged
City Property	29	037-7002	Synergy Oil & Gas LLC	Production	Plugged
City Property	31	037-7004	Synergy Oil & Gas LLC	Production	Active
City Property	36	037-07009	Synergy Oil & Gas, LLC	Production	Active
City Property	37	037-7010	Synergy Oil & Gas LLC	Production	Plugged
City Property	39	037-7012	Synergy Oil & Gas LLC	Production	Active
City Property	42	037-7015	Synergy Oil & Gas LLC	Production	Active
City Property	43	037-7016	Synergy Oil & Gas LLC	Production	Active
City Property	48	037-7021	Synergy Oil & Gas LLC	Production	Plugged
City Property	64	037-7136	Synergy Oil & Gas LLC	Production	Active
City Property	66	037-7138	Synergy Oil & Gas LLC	Production	Plugged

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
City Property	68	037-7140	Synergy Oil & Gas LLC	Wastewater Injection	Plugged
City Property	80	037-7144	Synergy Oil & Gas LLC	Production	Idle
<b>Total No. of Wells (City Property site)</b>	<b>22</b>				<b>11 Active 2 Idle 9 Plugged</b>
<b>Termo/Alamitos Bay Partners Site</b>					
Termo	SGI-28	403708504	Alamitos Bay Partners	Production	Active
Termo	SGI-44	403708519	Alamitos Bay Partners	Production	Active
Termo	SGI-52	403708541	Alamitos Bay Partners	Production	Active
Termo	SGI-15	403708530	Alamitos Bay Partners	Production, Wastewater Injection	Plugged
Termo	SGI-41	403708517	Alamitos Bay Partners	Production, Wastewater Injection	Idle
Termo	SGI-1	403708490	Alamitos Bay Partners	Production	Plugged
<b>Total No. of Wells (Termo Site)</b>	<b>6</b>				<b>3 Active, 1 Idle, 2 Plugged</b>
<b>Pumpkin Patch Site</b>					
Pumpkin Patch	11	037-06984	Synergy Oil & Gas, LLC	Production	Active
Pumpkin Patch	20	037-06993	Synergy Oil & Gas, LLC	Production	Plugged
<b>Total No. of Wells (Pumpkin Patch Site)</b>	<b>2</b>				<b>1 Active, 1 Plugged</b>
<b>Central Bryant Site</b>					
Central Bryant	8	403707997	Shell Western E&P Inc.	Production	Plugged
Central Bryant	10	403707999	Shell Western E&P Inc.	Production	Plugged
<b>Total No. of Wells (Central Bryant Site)</b>	<b>2</b>				<b>2 Plugged</b>
<b>Central LCWA Site</b>					
Central LCWA	1	403708566	Signal Hill Petroleu	Production	Active
Central LCWA	1	403708485	Chevron U.S.A. Inc.	Production	Plugged
Central LCWA	1	403706954	Asphalt Petro. Co.	Production	Plugged
Central LCWA	2	403708567	Signal Hill Petroleum	Production	Plugged
Central LCWA	2	403708486	Chevron U.S.A. Inc.	Production	Plugged
Central LCWA	3	403708568	Signal Hill Petroleum	Production	Active
Central LCWA	4	403708569	Signal Hill Petroleum	Production	Active
Central LCWA	4	403707993	Shell Western E&P Inc.	Production	Plugged
Central LCWA	7	403708572	Signal Hill Petroleum	Production	Plugged
Central LCWA	11	403708000	Shell Western E&P Inc.	Production	Plugged
Central LCWA	12	403708575	Signal Hill Petroleum	Production	Active
Central LCWA	14	403718803	Signal Hill Petroleum	Production	Plugged
Central LCWA	15	403718818	Signal Hill Petroleum	Production	Plugged

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
Central LCWA	25	403718810	Signal Hill Petroleum	Production	Plugged
Central LCWA	26	403718811	Signal Hill Petroleum	Production	Active
Central LCWA	27	403718812	Signal Hill Petroleum	Production	Plugged
Central LCWA	28	403718813	Signal Hill Petroleum	Production	Active
Central LCWA	29	403718814	Signal Hill Petroleum	Production	Plugged
Central LCWA	30	403718815	Signal Hill Petroleum	Production	Active
Central LCWA	31	403718819	Signal Hill Petroleum	Injection	Plugged
Central LCWA	5N	403707994	Signal Hill Petroleum	Production	Plugged
<b>Total No. of Wells (Central LCWA Site)</b>	<b>21</b>				<b>7 Active, 14 Plugged</b>
<b>Isthmus LCWA Site</b>					
Isthmus LCWA Site	6	403708571	Signal Hill Petroleum	Production	Plugged
Isthmus LCWA Site	10	403708573	Signal Hill Petroleum	Production	Plugged
Isthmus LCWA Site	13	403718802	Signal Hill Petroleum	Production	Plugged
Isthmus LCWA Site	16	403718804	Signal Hill Petroleum	Production	Plugged
Isthmus LCWA Site	18	403718805	Signal Hill Petroleum	Injection	Active
Isthmus LCWA Site	24	403718809	Signal Hill Petroleum	Injection	Active
Isthmus LCWA Site	32	403700340	Signal Hill Petroleum	Production, Wastewater Injection	Plugged
Isthmus LCWA Site	33	403718816	Signal Hill Petroleum	Production	Active
Isthmus LCWA Site	34	403718817	Signal Hill Petroleum	Production	Active
<b>Total No. of Wells (Isthmus LCWA Site)</b>	<b>9</b>				<b>4 Active, 5 Plugged</b>
<b>Isthmus Bryant Site</b>					
Isthmus Bryant Site	7	403707996	Shell Western E&P Inc.	Production	Plugged
<b>Total No. of Wells (Isthmus Bryant Site)</b>	<b>1</b>				<b>1 Plugged</b>
<b>Zedler Marsh Site</b>					
Zedler Marsh Site	1	403707990	Shell Western E&P Inc.	Production	Plugged
Zedler Marsh Site	5	403708570	Signal Hill Petroleum,	Production	Plugged
Zedler Marsh Site	11	403708574	Signal Hill Petroleum	Production	Plugged
Zedler Marsh Site	21	403718806	Chevron U.S.A. Inc.	Production	Plugged
Zedler Marsh Site	22	403718807	Signal Hill Petroleum	Production	Plugged

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
Zedler Marsh Site	23	403718808	Signal Hill Petroleum	Production	Plugged
Zedler Marsh Site	35	403706396	Signal Hill Petroleum	Production	Plugged
<b>Total No. of Wells (Zedler Marsh Site)</b>	<b>7</b>				<b>7 Plugged</b>
<b>Haynes Cooling Channel</b>					
Haynes Cooling Channel	1	403708565	Shell Western E&P Inc.	Production	Plugged
Haynes Cooling Channel	2	403707991	Shell Western E&P Inc.	Production	Plugged
<b>Total No. of Wells (Haynes Cooling Channel)</b>	<b>2</b>				<b>2 Plugged</b>
<b>Los Alamitos Pump Station Site</b>					
Los Alamitos Pump Station Site	6	403707995	Shell Western E&P Inc.	Production	Plugged
<b>Total No. of Wells (Los Alamitos Pump Station Site)</b>	<b>1</b>				<b>1 Plugged</b>
<b>South LCWA Site</b>					
South LCWA Site	1	405920817	Hellman Properties LLC	Injection	Plugged
South LCWA Site	2	405907912	Hellman Properties LLC	Injection	Plugged
South LCWA Site	16	405904268	Hellman Properties LLC	Production	Plugged
South LCWA Site	17-A	405904271	Hellman Properties LLC	Production	Plugged
<b>Total No. of Wells (South LCWA Site)</b>	<b>4</b>				<b>4 Plugged</b>
<b>Hellman Retained</b>					
Hellman Retained	1	405907017	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	1	405920291	Conoco Inc.	Production	Plugged
Hellman Retained	1	405904651	Hellman Properties LLC	Production	Active
Hellman Retained	2	405904252	Hellman Properties LLC	Production	Active
Hellman Retained	3	405904253	Hellman Properties LLC	Production	Plugged
Hellman Retained	3	405904652	Conoco Inc.	Production	Plugged
Hellman Retained	4	405904255	Hellman Properties LLC	Production	Active
Hellman Retained	5	405904256	Hellman Properties LLC	Production	Active
Hellman Retained	6	405904257	Hellman Properties LLC	Production	Active
Hellman Retained	7	405904258	Hellman Properties LLC	Production	Active
Hellman Retained	8	405904259	Hellman Properties LLC	Production	Idle
Hellman Retained	9	405904260	Hellman Properties LLC	Production	Active
Hellman Retained	10	405904261	Hellman Properties LLC	Production	Active
Hellman Retained	11	405904263	Hellman Properties LLC	Production	Active

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
Hellman Retained	12	405904264	Hellman Properties LLC	Production	Active
Hellman Retained	13	405904265	Hellman Properties LLC	Production	Idle
Hellman Retained	14	405904266	Hellman Properties LLC	Production	Idle
Hellman Retained	15	405904267	Hellman Properties LLC	Production	Active
Hellman Retained	18	405904272	Hellman Properties LLC	Production	Active
Hellman Retained	19	405904273	Hellman Properties LLC	Production	Active
Hellman Retained	20	405904274	Hellman Properties LLC	Production	Idle
Hellman Retained	21	405904275	Hellman Properties LLC	Production	Active
Hellman Retained	22	405904251	Hellman Properties LLC	Production	Idle
Hellman Retained	23	405904653	Hellman Properties LLC	Production	Idle
Hellman Retained	24	405904654	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	25	405904655	Hellman Properties LLC	Production	Active
Hellman Retained	26	405904656	Hellman Properties LLC	Production	Active
Hellman Retained	27	405904657	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	28	405904658	Hellman Properties LLC	Production	Idle
Hellman Retained	29	405904659	Hellman Properties LLC	Production	Active
Hellman Retained	30	405904660	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	31	405904661	Hellman Properties LLC	Production	Active
Hellman Retained	32	405904662	Hellman Properties LLC	Production	Active
Hellman Retained	33	405904663	Hellman Properties LLC	Production	Active
Hellman Retained	34	405904664	Hellman Properties LLC	Production	Active
Hellman Retained	35	405904665	Hellman Properties LLC	Production	Active
Hellman Retained	36	405904666	Hellman Properties LLC	Production	Active
Hellman Retained	37	405904667	Hellman Properties LLC	Production	Active
Hellman Retained	38	405904668	Hellman Properties LLC	Production	Active
Hellman Retained	39	405904669	Hellman Properties LLC	Production	Active
Hellman Retained	40	405904670	Hellman Properties LLC	Production, Wastewater Injection	Idle
Hellman Retained	41	405904671	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	42	405904672	Hellman Properties LLC	Production	Active
Hellman Retained	43	405904673	Hellman Properties LLC	Production	Active
Hellman Retained	44	405904674	Hellman Properties LLC	Production	Active
Hellman Retained	45	405904675	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	46	405907001	Hellman Properties LLC	Injection	Plugged
Hellman Retained	47	405907002	Hellman Properties LLC	Production, Wastewater Injection	Idle
Hellman Retained	48	405907003	Hellman Properties LLC	Production	Idle
Hellman Retained	49	405907004	Hellman Properties LLC	Production	Active
Hellman Retained	50	405907005	Hellman Properties LLC	Production	Active
Hellman Retained	59	405907014	Hellman Properties LLC	Production	Active
Hellman Retained	60	405907015	Hellman Properties LLC	Production	Active

**TABLE 3.10-1**  
**OIL WELLS BY SITE**

Site	Well No.	API Number	Operator	Well Type	Well Status
Hellman Retained	61	405907016	Hellman Properties LLC	Production	Plugged
Hellman Retained	62	405921233	Hellman Properties LLC	Production	Active
Hellman Retained	63	405921289	Hellman Properties LLC	Production	Idle
Hellman Retained	64	405921290	Hellman Properties LLC	OG	Active
Hellman Retained	10A	405904262	Hellman Properties LLC	OG	Active
Hellman Retained	17-X1	405904269	Hellman Properties LLC	Production, Wastewater Injection	Active
Hellman Retained	3A	405904254	Hellman Properties LLC	OG	Active
<b>Total No. of Wells (Hellman Retained Site)</b>	<b>62</b>				<b>46 Active 11 Idle 5 Plugged</b>

NOTES:

Idle wells have regulatory approval for operation and are physically capable of active production, although they were not active at the time this table was prepared. Currently, water produced during oil extraction operations is conveyed into the sewer system.

CalGEM well statuses are occasionally not up to date.

SOURCE: CalGEM 2019; ESA 2017; Arcadis 2018

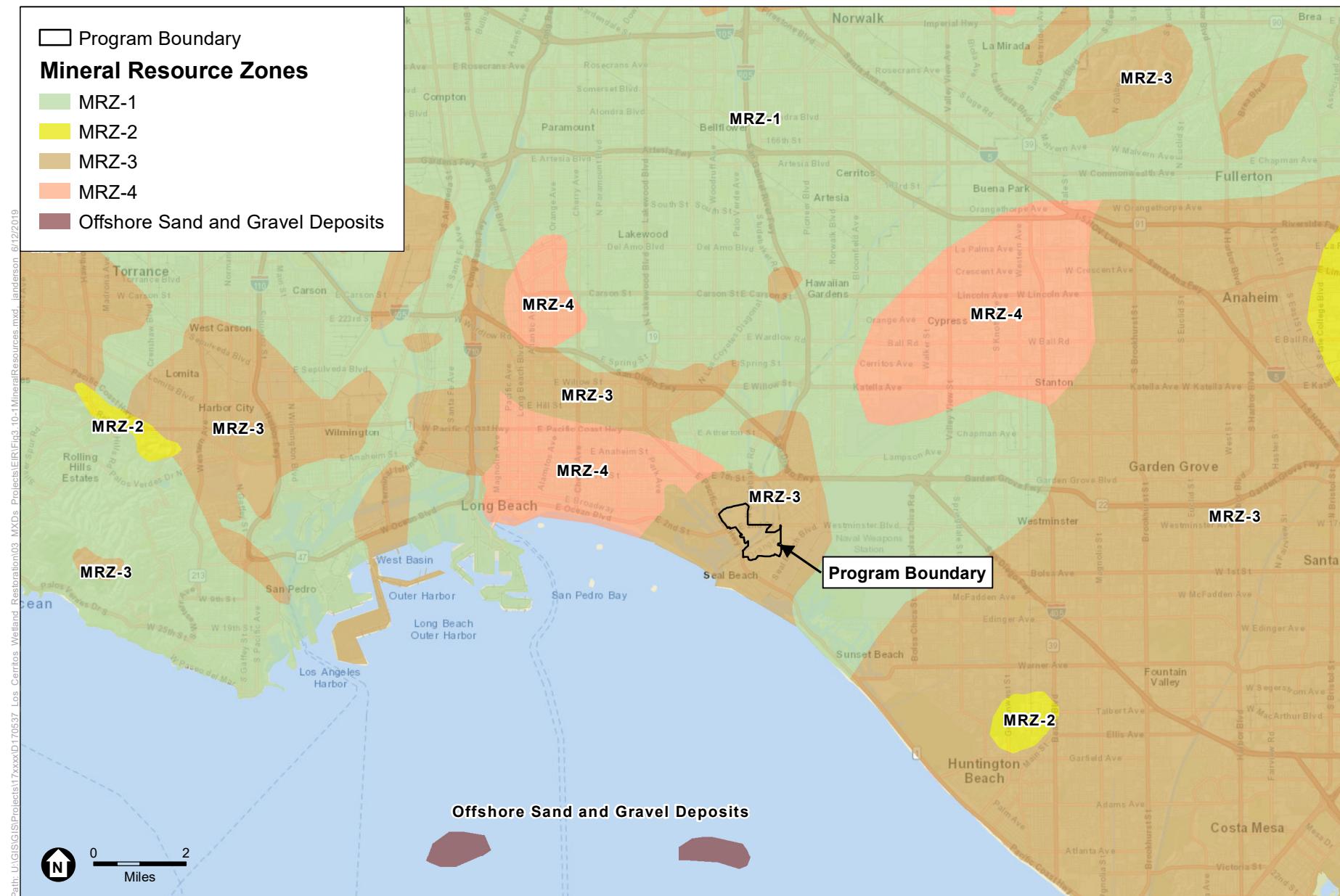
### 3.10.3 Regulatory Framework

#### 3.10.3.1 State

##### Division of Oil, Gas, and Geothermal Resources

All California oil and gas wells on state and private lands are permitted, drilled, operated, maintained, plugged, and abandoned under requirements and procedures administered by California Geologic Energy Management Division (CalGEM) [formerly known as Division of Oil, Gas, and Geothermal Resources (DOGGR)]. Regulated facilities include development and prospect wells, enhanced-recovery wells, water-disposal wells, service wells (i.e., structure, observation, temperature observation wells), core-holes, and gas-storage wells. The requirements are applicable to both onshore and offshore wells, with offshore wells being defined as well facilities located within 3 nautical miles of the coastline.

Regulations pertaining to oil and natural gas production are summarized in CalGEM Publication No. PRC10, *California Statutes and Regulations for Conservation of Oil, Gas, & Geothermal Resources*, dated January 2017 (CalGEM 2017). Regulations for the installation and abandonment of oil and natural gas wells are codified in 14 CCR Sections 1712 through 1724.10. Environmental protection regulations for oil and natural gas well installations, operations, and abandonments are codified in 14 CCR Sections 1750 through 1789.



SOURCE: ESRI; California Division of Mines and Geology 1982

Los Cerritos Wetlands Restoration Plan Draft Program EIR

**Figure 3.10-1**  
Mineral Resource Zones

## California Geological Survey Mineral Land Classification

For non-fuel mineral resources, the California Geological Survey (CGS) produces mineral land classification maps and reports based on economic and geologic expertise. CGS-identified MRZs are defined as follows:

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood exists for their presence.
- **MRZ-3:** Areas containing mineral deposits; the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas where available information is inadequate for assignment to any other MRZ.

### 3.10.3.2 Local

#### City of Seal Beach Municipal Code

Oil and gas extraction activities in the City of Seal Beach are regulated by the Seal Beach Public Works Department. Relevant municipal codes are provided below.

##### ***Chapter 5.55 Oil and Gas Production***

**5.55.075 Permit Requirement.** It shall be unlawful and a nuisance for any person hereafter to conduct any drilling operations for a well hole or hereafter to drill and produce any oil and gas well or well hole in the surface or subsurface of the city from any drill site without first having applied for and obtained from the city council an oil/gas production permit. (Ord. 1515)

**5.55.090 Operation Standards.** Drilling shall be conducted in accordance with the following operation standards:

- I. The operation of any oil and gas well and production therefrom drilled pursuant to an oil/gas production permit shall be in accordance with the rules and regulations of the Division of Oil and Gas of the state, or any successor agency or body thereto.

#### Long Beach Gas & Oil Department

Oil and gas extraction activities in the City of Long Beach are regulated by the Long Beach Gas & Oil Department. This department manages the City's oil interests and subsidence control measures. Relevant municipal codes are provided below.

##### ***Title 12. Oil Production Regulations***

**Chapter 12.12.050: Drilling Permit—Application Contents.** This chapter describes the requirements for oil well drilling permits, which include setbacks from specific facilities, drilling procedures, operations procedures, and a certification that the means or method by which liquid spills will be removed from diked areas or catchment basins will conform to the regulations of the DOGGR.

**Chapter 12.16.050: Consolidated Drill Site Plans.** This chapter describes locations exemption to encourage the consolidation of oil drilling surface facilities to make additional land available for non-oil production land uses.

**Chapter 12.36.010: Abandonment Procedure.** This chapter describes the permit requirements for well abandonment, including compliance with DOGGR regulations, the removal of all unused equipment, the cleaning out of all sumps, cellars, and ditches of all oil, oil residue, drilling fluid, and rubbish removed therefrom and the sumps, cellars, and ditches leveled or filled, all in accordance with the DOGGR regulations. Where such sumps, cellars, and ditches are lined with concrete, permittee shall cause the walls and bottoms to be broken up and removed and shall cause the premises to be cleaned and graded and left entirely free of oil, rotary mud, oil-soaked earth, asphalt, tar, concrete, litter, debris, and other substances, and left in a clean and neat condition, all to the satisfaction of the DOGGR.

### Title 12. Oil Production Regulations

12.08.020. Permit required: Except as provided in this Chapter, no petroleum operations shall be carried on in any of the areas set out in this Chapter until a permit, as provided for in this Code, has been applied for and issued therefor.

## 3.10.4 Significance Thresholds and Methodology

This section describes the impact analysis relating to mineral resources for the proposed program. It describes the methods and applicable thresholds used to determine the impacts of the proposed program.

### 3.10.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on mineral resources if it would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

### 3.10.4.2 Methodology

This impact section assesses potential impacts related to mineral resources based on the potential for the proposed program to impact the accessibility or availability of mineral resources, using existing site conditions as a baseline for comparison. The potential for impacts to mineral resources is analyzed using available data from CalGEM, the CGS, and the proposed program that would include the plugging and abandonment of existing wells and the installation and consolidation of oil wells on the Pumpkin Patch site and all of the LCWA sites, as described in Chapter 2, *Project Description*, of this PEIR. In addition, the severity and significance of mineral resources impacts are analyzed in the context of existing mineral resource regulations and policies.

For purposes of this analysis, construction and operational activities are analyzed together. As described in Chapter 2, *Project Description*, of this PEIR, the proposed future for oil production operations is summarized as follows:

- **South, Central, and Isthmus Area:** In the short-term, oil production would continue in each well until oil production decreases to below economic levels. Thus, over the long-term, the oil

wells and associated oil production infrastructure would be phased out. Oil wells would be plugged and the associated infrastructure including pipelines would be removed. The work involved in phasing out oil production is discussed under the heading Oil Well Abandonment in Section 2.7.5, *Implementation and Restoration Process, Implementation Methods*, in Chapter 2, *Project Description*, and in Impact HAZ-1 in Section 3.7, *Hazards and Hazardous Materials*.

- **North Area, Synergy Site:** In the short-term, oil production on the Synergy and Long Beach City Property sites would continue until the oil supply is extracted to below economic levels. As production from oil wells drops to below economic levels, unproductive oil wells would be plugged and associated oil production infrastructure would be removed. New oil wells and associated infrastructure would be consolidated on the Pumpkin Patch site. The plugging, relocation, and consolidation of oil production on the Synergy, Long Beach City Property, and Pumpkin Patch sites were previously evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) will not be further evaluated in this PEIR.
- **North Area, Termo Site:** For the existing oil production operations on the Termo site operated by Alamitos Bay Partners site, oil production would be phased out in the long-term, with wells plugged and associated infrastructure removed to allow for restoration of the Termo site. A removal and restoration timeline has not yet been set. The work involved in abandoning oil wells is discussed under the heading Oil Well Abandonment in Section 2.7.5, *Implementation and Restoration Process, Implementation Methods*, in Chapter 2, *Project Description*, and in Impact HAZ-1 in Section 3.7, *Hazards and Hazardous Materials*.

As noted earlier in Section 3.10.2, *Environmental Setting*, pursuant to CGS maps, the program area is located within MRZ-3, which is defined as an area containing mineral deposits that have an undetermined significance. As no other mineral resource extraction activities other than oil and natural gas production have been conducted on any of the four individual program areas that comprise the program area, and no mineral resources other than petroleum hydrocarbon resources have been identified or encountered over the long history of oil production activities on the program area, non-petroleum mineral resources are not analyzed further.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to mineral resources were identified.

### 3.10.5 Program Impacts and Mitigation Measures

**Impact MIN-1: The proposed program would result in a significant impact if the proposed program would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.**

Oil production would continue on the Central, Isthmus, and South Areas until the production decreases to below economic levels. Once the oil production ceases, the oil wells would be plugged and the associated infrastructure would be removed. By that time, the economic mineral resources (petroleum) will have been removed and no economic resources would remain accessible at these locations. Therefore, there would be no impact.

## **Mitigation Measure**

No mitigation is required.

## **Significance after Mitigation**

No Impact

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## **3.10.6 Cumulative Impacts**

As previously discussed, the proposed program would have no impact with respect to the availability of mineral resources. Accordingly, the proposed program could not contribute to cumulative impacts related to mineral resources and is not discussed further.

## **Mitigation Measure**

No mitigation is required.

## **Significance after Mitigation**

No Impact

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## **3.10.7 References**

Arcadis. 2018. *Site Investigation Report, Terro, APN 7237022012, 6301 Pacific Coast Highway, Long Beach, California*, January 24.

California Geologic Energy Management Division (CalGEM), 2017. *Publication No. PRC10, California Statutes and Regulations for Conservation of Oil, Gas, & Geothermal Resources*, January.

California Division of Mines and Geology (CDMG). 1982. *Mineral Land Classification of the Greater Los Angeles Area, Part IV: Classification of Sand and Gravel Resource Areas, San Gabriel Valley and Production-Consumption Region*. Special Report 143, Part IV.

Los Angeles County. 2014. *Los Angeles County General Plan*. Mineral Resources: Figure 9.6, May. Available at [http://planning.lacounty.gov/assets/upl/project/gp\\_2035\\_2014-FIG\\_9-6\\_mineral\\_resources.pdf](http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-6_mineral_resources.pdf), accessed on February 7, 2017.

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