

3.11.1 Introduction

Mineral resources are naturally occurring chemical and compounds that are formed from inorganic and organic substances. Mineral Resources include oil and natural gas, and commercially viable minerals and aggregate resources, including areas suitable for the drilling for and production of oil and natural gas, and surface mining activities. This section describes existing conditions and applicable laws or regulations pertaining to mineral resources, with an analysis of the potential mineral resource impacts that could result from the *2020 LA River Master Plan*. Where needed, this section identifies mitigation measures that would reduce or avoid any significant impacts, when feasible.

The analysis in this section includes impact determinations under CEQA for the *2020 LA River Master Plan* that are applicable to all 18 jurisdictions in the study area, including the County and non-County jurisdictions (17 cities). Except for significant and unavoidable impacts, all identified significant environmental effects of the proposed *2020 LA River Master Plan* can be avoided or reduced to a less-than-significant level if the mitigation measures identified in this PEIR are implemented. These mitigation measures will be implemented for subsequent projects that are carried out by the County. Because some later activities under the *2020 LA River Master Plan* would not be carried out by the County, the County cannot enforce or guarantee that the mitigation measures would be incorporated. Therefore, where this PEIR concludes a less-than-significant impact for later activities carried out by the County, the impact would be significant and unavoidable when these activities are not carried out by the County.

3.11.2 Setting

3.11.2.1 Geographic

This section discusses the existing conditions related to mineral resources in the project study area.

Regionally Important Mineral Resources

Based on preliminary data for 2017 from the U.S. Geological Survey (USGS) National Minerals Information Center, California ranked fifth – after Nevada, Arizona, Texas, and Alaska – in the value of non-fuel mineral production (USGS 2018). Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate including sand, gravel, and crushed stone. The market value of non-fuel mineral production for California was \$3.6 billion – approximately 4.7 percent of the nation’s total (USGS 2018).

In Los Angeles County, mineral resources serve various public, commercial, scientific, and recreational purposes. Local extraction sites are valuable assets used to help facilitate the continual growth of the region and economic market. Important local mineral resources include construction

materials and minerals of historical significance including precious gemstones and metals. Aggregate resources include rock, sand, and gravel; which are important for the construction and manufacturing of concrete. According to the *Los Angeles County General Plan*, major local mineral resources consist of oil, rock deposits, and sand and gravel (County of Los Angeles 2015).

Non-Fuel Mineral Resources

Sand and Gravel

The mining of sand and gravel began in the region in the early 1900s when the demand increased by the popular use of concrete in construction and building material and was spurred by construction associated with growth in California and the southwestern United States. Construction aggregate refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland cement concrete aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, and fill for the production of other construction materials. According to the California Geological Survey (CGS), the State currently has approximately 4.3 billion tons of permitted resources, and the CGS estimates the State would need approximately 13.5 billion tons of aggregate in the next 50 years.

California is the largest producer of sand and gravel in the nation and the greater Los Angeles area is the nation's leading producer for its geographical size. The County has high quantities of sand and gravel, which are located close to the market. Sand and gravel deposits follow the LA River flood plain, coastal plain, and other water bodies and courses. Significant potential deposit sites have been identified by the State Geologist. They lie along the flood plain from the San Fernando Valley through downtown Los Angeles. Much of the area identified has been developed with structures and is inaccessible for mining extraction. Major sand and gravel extraction sites are located in the alluvial fans of the Big Tujunga Wash in the San Fernando Valley and in the San Gabriel River near Irwindale. Other extraction areas are located in northern Los Angeles County in other washes (County of Los Angeles 2015).

Non-Fuel Mineral Resource Zones

The California Geological Survey Mineral Resources Project (Mineral Resources Project) provides information about California's nonfuel mineral resources. The Mineral Resources Project classifies lands throughout the State that contain regionally significant mineral resources as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975. Development generally results in a demand for minerals, especially construction aggregate. SMARA requires all cities and counties to incorporate in their general plans the mineral designations approved by the State Mining and Geology Board.

The classification process involves the determination of Production-Consumption Region boundaries, based on identification of active aggregate operations (Production) and the market area served (Consumption). The Production-Consumption Regional boundaries are modified to include only the portions of the region that are urbanized or urbanizing and are classified for their aggregate content. An aggregate appraisal further evaluates the presence or absence of significant sand, gravel, or stone deposits that are suitable sources of aggregate. The classification of these mineral resources is a joint effort of the State and the local governments. It is based on geologic factors and requires that the State Geologist classify the mineral resources area as one of the four Mineral Resource Zones (MRZs), Scientific Resource Zones (SZ), or Identified Resource Areas (IRAs), described below:

- **MRZ-1:** No significant mineral deposits are present.

- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. As shown on the California Mineral Land Classification Diagram, MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information.
- **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic.
- **MRZ-3a:** Areas containing known mineral occurrences of undetermined mineral resource significance.
- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represent areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits.
- **MRZ-4:** Insufficient data available to assign any other MRZ designation.
- **SZ Areas:** Scientific Resource Zones containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance shall be classified in this zone.
- **IRA Areas:** County or State Division of Mines and Geology Identified Resource Areas where adequate production and information indicates that significant minerals are present.

Table 3.11-1 and Figure 3.11-1, *Mineral Resource Zones in Project Study Area*, show the MRZs in the various frames within the project study area. In Los Angeles County, many of the MRZ sites were developed with structures prior to the MRZ classification and, therefore, is unavailable for extraction. No SZ or IRA Areas are present within the project study area.

Table 3.11-1. Mineral Resources by Frames

Frame	Mineral Resource Zones Present
1	MRZ-1, MRZ-3, and MRZ-4
2	MRZ-1, MRZ-3, and MRZ-4
3	MRZ-1
4	MRZ-1, MRZ-2, and MRZ-3
5	MRZ-1, MRZ-2, and MRZ-3
6	MRZ-2 and MRZ-3
7	MRZ-1, MRZ-2, and MRZ-3
8	MRZ-1 and MRZ-3
9	MRZ-1

Source: California Department of Conservation 1982

As shown above, Frames 4, 5, 6, and 7 are the only frames where MRZ-2 occurs, where adequate information indicates that significant mineral deposits are present or a likelihood of their presence and development should be controlled. As seen on Figure 3.11-1, Frame 1 contains lands designated as MRZ-1, MRZ-3, and MRZ-4, which signifies there are areas where mineral resources are

potentially located but their value is unknown as well as areas where no mineral resource are located. Frame 2 is show to be predominantly MRZ-1 which signifies no mineral deposits are found in the frame except for small portions of land designated as MRZ-3 and MRZ-4, which signifies there is either not enough data to make a determination or that there are mineral resources but their value is unknown. Frame 3 is entirely MRZ-1, which signifies there are no mineral resources in the frame. Frame 4 is predominately MRZ-1, with a small portion of land designated as MRZ-2 located west of the LA River predominately in the City of Vernon, which identifies land as containing known mineral resources as well as a small portion of land designated as MRZ-3 which signifies there could be mineral resources but their value is unknown. In Frame 5, which is entirely located in the City of Los Angeles, MRZ-2 is located west of the LA River, and runs the entirety of the frame, while land designated as MRZ-3 is located on the east side of the LA River and runs the entirety of the frame. In Frame 6, MRZ-2 is found within the entire frame mostly in the center of the frame while lands designated MRZ-3 are found encompassing almost the rest of the frame with a small portion of land designated as MRZ-1 is located in the east of the frame. Frame 6 contains the Cities of Glendale and Los Angeles. In Frame 7, MRZ-2 is found in the northeastern portion of the frame, which contains the Cities of Los Angeles and Burbank. Much of the area identified has been developed with structures and is currently inaccessible for mining extraction (County of Los Angeles 2015). Frame 7 also contains land designated as MRZ-1 and MRZ-3 which signifies there are portions of the frame that contain no mineral resources and there are portions with mineral resources of unknown value. Frame 8 is predominately MRZ-1 and MRZ-3. Frame 9 is entirely MRZ-1 which signifies there are no mineral resources located in the frame.

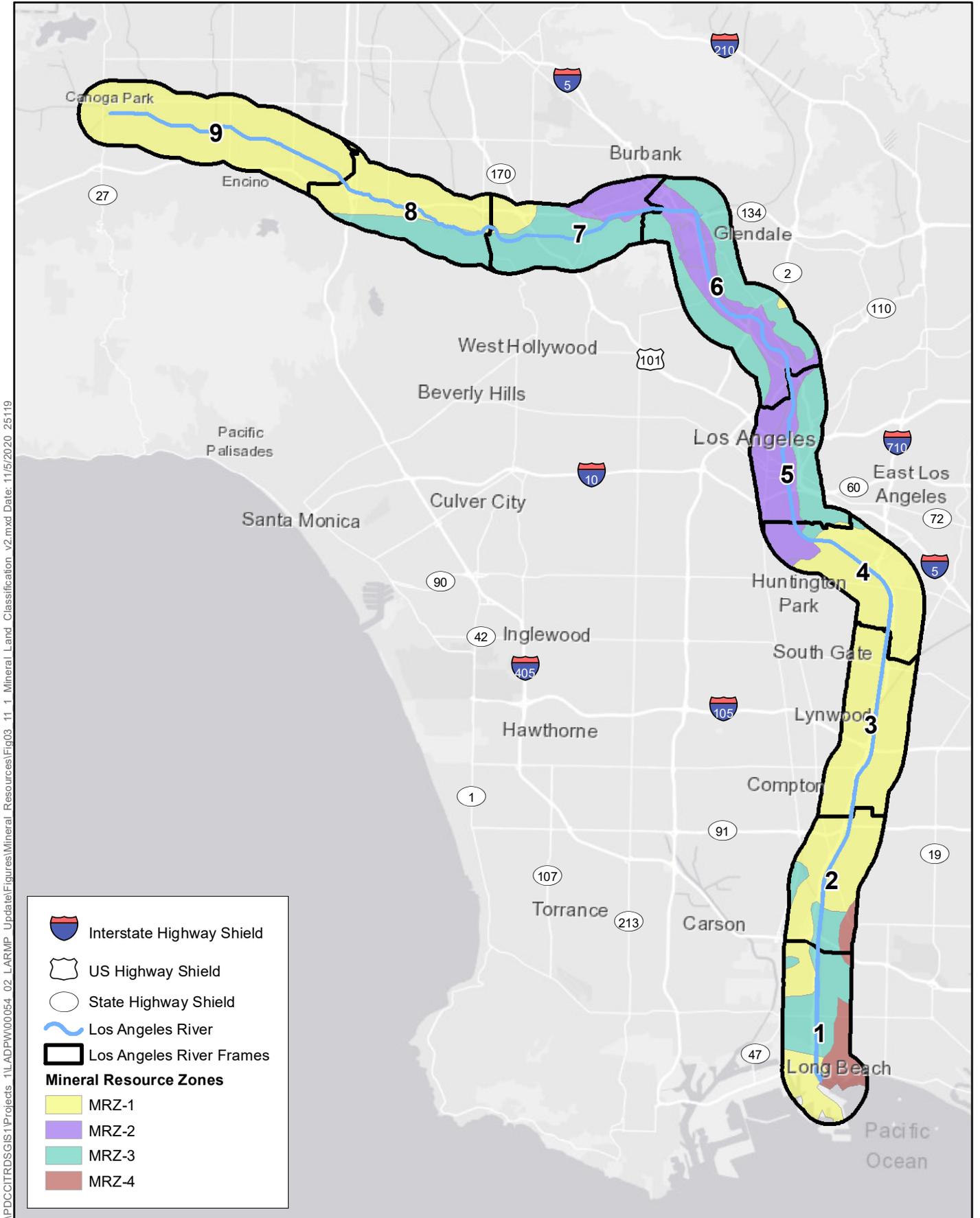
Oil and Gas Extraction

According to California Department of Conservation, Geologic Energy Management Division (CalGem), there are 72 oil fields located in Los Angeles County (17 abandoned, 55 active). Within these oil fields, there are a total of 2,750 active oil wells, not including those offshore. (CalGem 2018).

As depicted on Figure 3.11-2, the project study area runs through 7 oil fields, including Wilmington Oil Field, Long Beach Oil Field, Dominguez Oil Field, Bandini Oil Field, Boyle Height Oil Field, Union Station Oil Field, and Los Angeles City Oil Field.

Table 3.11-2. Oil Fields and Oil and Gas Wells by Frame

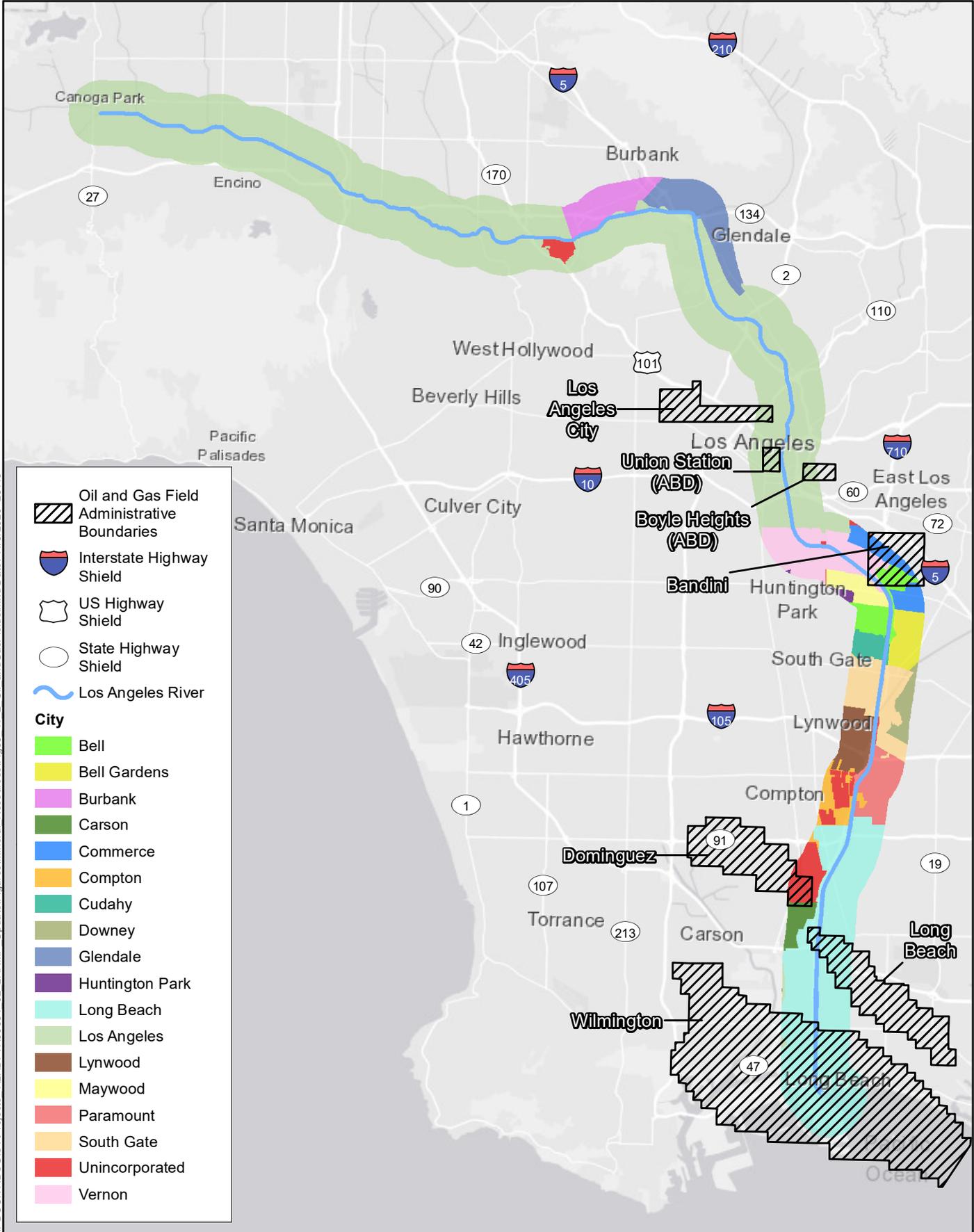
Frame	Oil Fields Present	Active Oil and Gas Wells	Plugged and Abandoned Oil and Gas Wells
1	Wilmington Oil Field Long Beach Field	824	1,270
2	Dominguez Oil Field	5	339
3	None	0	0
4	Bandini Oil Field	1	34
5	Boyle Heights Oil Field Union Station Oil Field Los Angeles City Oil Field	0	104
6	None	0	45



Source: California Department of Conservation; Los Angeles County; ESRI StreetMap
 Map Prepared: 11/5/2020



Figure 3.11-1
Mineral Resource Zones in Project Study Area



Source: California Department of Conservation; Los Angeles County; ESRI StreetMap
 Map Prepared: 11/5/2020



Figure 3.11-2
Oil and Gas Field Administrative Boundaries
in the Project Study Area

Frame	Oil Fields Present	Active Oil and Gas Wells	Plugged and Abandoned Oil and Gas Wells
7	None	0	0
8	None	0	0
9	None	0	0
Total		830	1,792

Source: California Department of Conservation 1982

As shown on Figure 3.11-3, there are 830 active oil and gas wells located in the 2-mile-wide study area. The majority of the active oil wells (824 active oil wells) are located in Frame 1 within the Wilmington and Long Beach Oil Fields, which are shown on Figure 3.11-4. The Wilmington Oil Field is the third largest oil field in the contiguous United States (City of Long Beach 2020). The Long Beach Oil Field is largely depleted but is still operational (City of Signal Hill 2020). There are five active oil wells in Frame 2 and one active oil well in Frame 3, as seen on Figure 3.11-5 and Figure 3.11-6. As seen on Figures 3.11-4 through 3.11-10, there are 1,792 plugged and abandoned oil and gas wells located in the 2-mile-wide study area, with 1,270 located in Frame 1, 339 located in Frame 2, 34 located in Frame 4, 104 located in Frame 5, and 45 located in Frame 6.

3.11.2.2 Regulatory

This section identifies laws, regulations, and ordinances that are relevant to the impact analysis of mineral resources in this PEIR.

Federal

Mining and Mineral Policy Act of 1970

The Mining and Mineral Policy Act of 1970 intended to promote and expand the development of a domestic mineral industry. This statute established a federal policy regarding mineral resources across the United States, covered hard rock mining and oil and gas production, and established modern federal policy in regard to mineral resources nationally. The act applies to all minerals, including aggregate (sand and gravel), coal, geothermal, and oil and gas, that are subject to federal jurisdiction including Bureau of Land Management and United States Forest Service.

State

California Surface Mining and Reclamation Act of 1975

SMARA is the principle legislation addressing mineral resources in California (Public Resources Code [PRC] §§ 2710–2719), which was enacted in response to land use conflicts between urban growth and essential mineral production. The stated purpose of SMARA is to provide a comprehensive surface mining and reclamation policy that will encourage the production and conservation of mineral resources while ensuring that adverse environmental effects of mining are prevented or minimized; that mined lands are reclaimed and residual hazards to public health and safety are eliminated; and that consideration is given to recreation, watershed, wildlife, aesthetic, and other related values. SMARA governs the use and conservation of a wide variety of mineral resources, although some resources and activities are exempt from its provisions, including

excavation and grading conducted for farming, construction, or recovery from flooding or other natural disasters.

SMARA provides for the evaluation of an area's mineral resources using a system of MRZ classifications that reflect the known or inferred presence and significance of a given mineral resource, as discussed above.

Although the State of California is responsible for identifying areas containing mineral resources, the county or city is responsible for SMARA implementation and enforcement by providing annual mining inspection reports and coordinating with the California Geological Survey.

Mining activities that disturb more than 1 acre or 1,000 cubic yards of material require a SMARA permit from the lead agency, which is the county, city, or board that is responsible for ensuring that adverse environmental effects of mining are prevented or minimized. The lead agency establishes its own local regulations and requires a mining applicant to obtain a surface mining permit, submit a reclamation plan, and provide financial assurances, pursuant to SMARA.

Certain mining activities do not require a permit, such as excavation related to farming, grading related to restoring the site of a natural disaster, and grading related to construction.

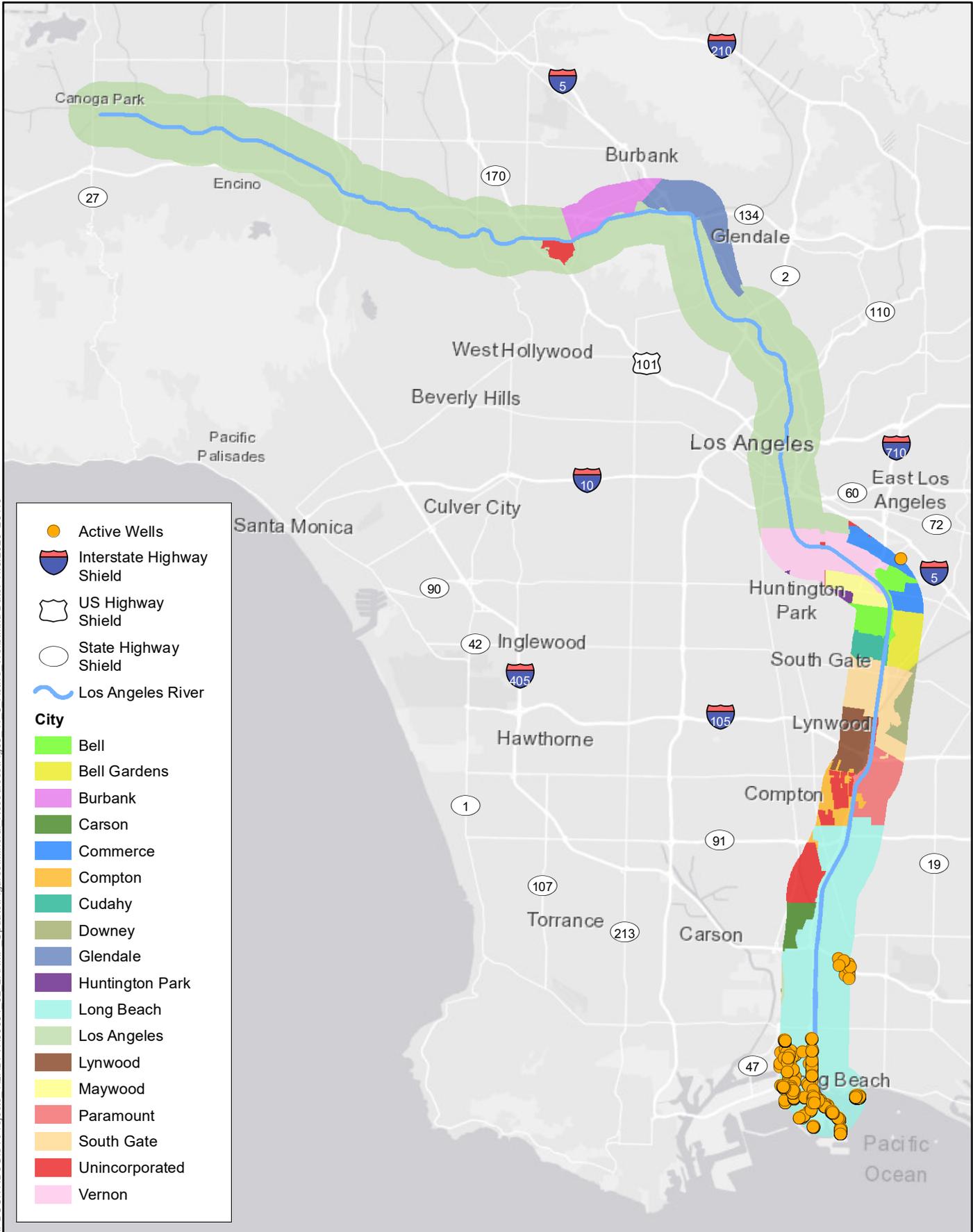
Mineral Resources and Mineral Hazards Mapping Program

The CGS provides geologic expertise and information about California's diverse non-fuel mineral resources. As required by the SMARA of 1975, the State Geologist classifies these resources in an effort to locate economically significant mineral deposits and potential areas of deposits based upon scientific data. Information relating to California's non-fuel resources, naturally occurring mineral hazards, and active and historic mining activities are collected to classify land under the Mineral Resources and Mineral Hazards Mapping Program. As described above, the CGS defines several geographic areas that collectively cover a single mineral classification study as P-C Regions. The CGS identifies MRZs for each P-C Region, mine/quarry, or other geographic area included in a mineral classification study. MRZs are areas classified by the presence or absence of significant sand, gravel, or stone deposits which are suitable as sources of aggregate. Construction aggregate is California's primary mineral resource.

California Department of Conservation

The California Department of Conservation is the primary agency with regard to mineral resource protection. The Department is charged with conserving earth resources (PRC §§ 600–690) and has five program divisions that address mineral resource issues:

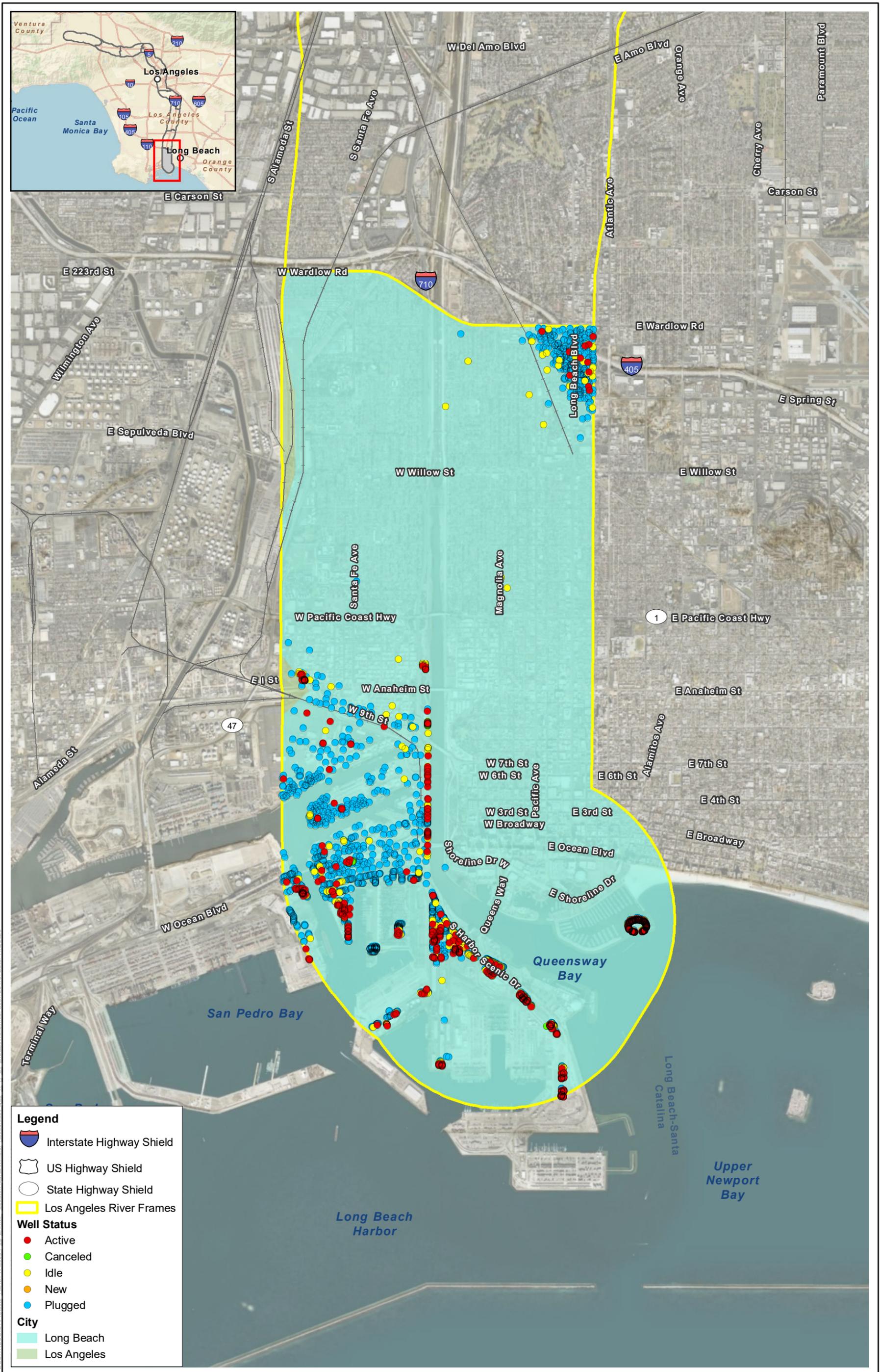
1. Division of Land Resource Protection (DLRP) – supports a number of programs designed to promote orderly growth in coordination with agricultural endeavors.
2. California Geological Survey (CGS) – provides scientific products and services about the State's geology, seismology and mineral resources. They also provide the SMARA Land Classification maps.
3. Geologic Energy Management Division (CalGem) – provides regulatory programs that emphasize the wise development of oil, natural gas, and geothermal resources. They also provide well location and production data.



Source: California Department of Conservation; Los Angeles County; ESRI StreetMap
 Map Prepared: 11/5/2020



Figure 3.11-3
Active Wells in the Project Study Area



Legend

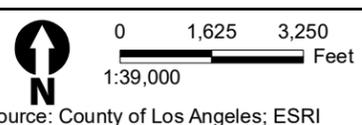
- Interstate Highway Shield
- US Highway Shield
- State Highway Shield
- Los Angeles River Frames

Well Status

- Active
- Canceled
- Idle
- New
- Plugged

City

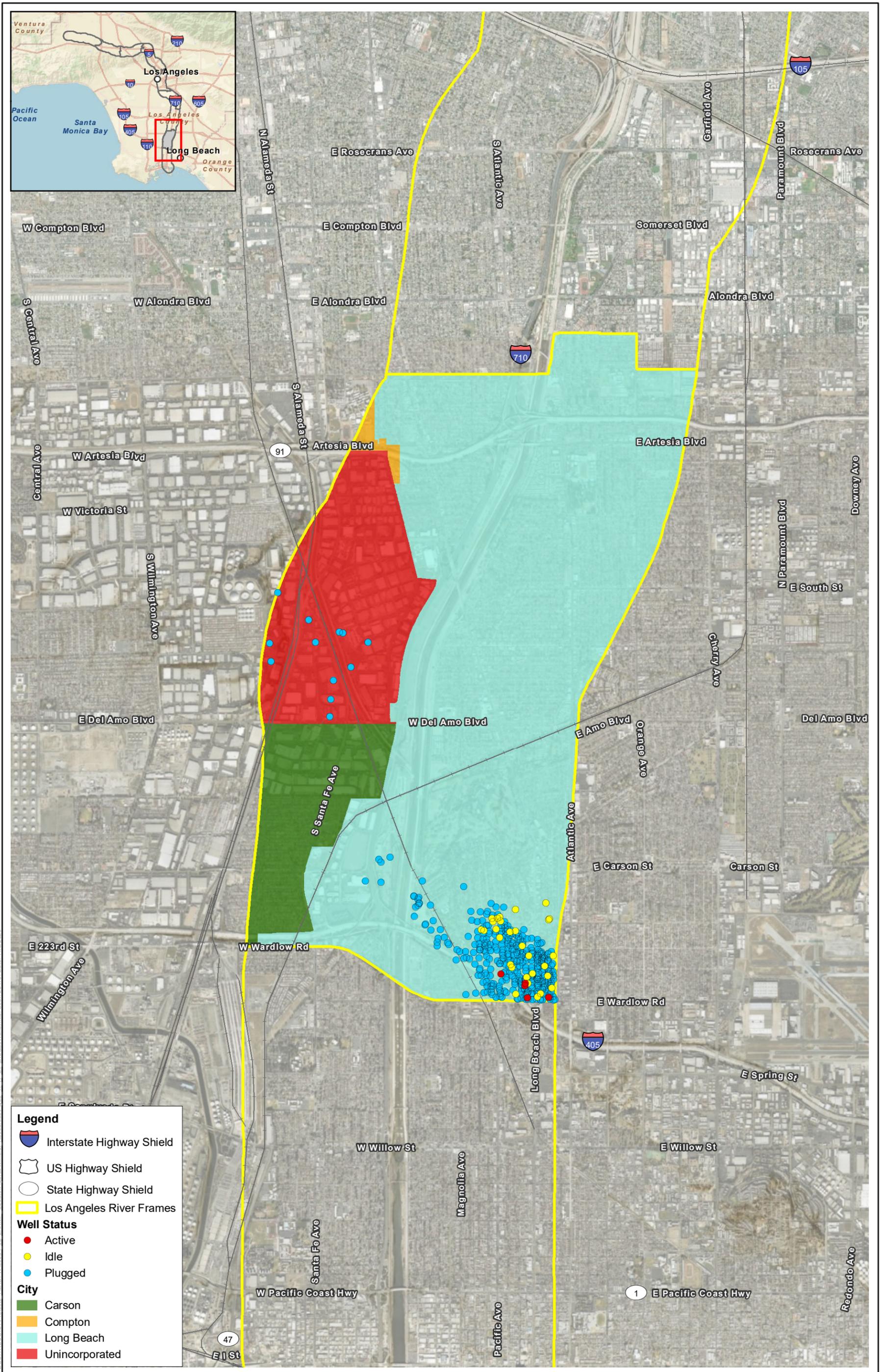
- Long Beach
- Los Angeles



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Figure 3.11-4
Oil and Gas Wells within Frame 1

Source: County of Los Angeles; ESRI



Legend

- Interstate Highway Shield
- US Highway Shield
- State Highway Shield
- Los Angeles River Frames

Well Status

- Active
- Idle
- Plugged

City

- Carson
- Compton
- Long Beach
- Unincorporated

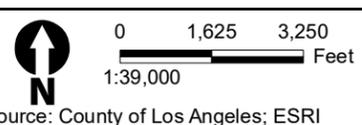
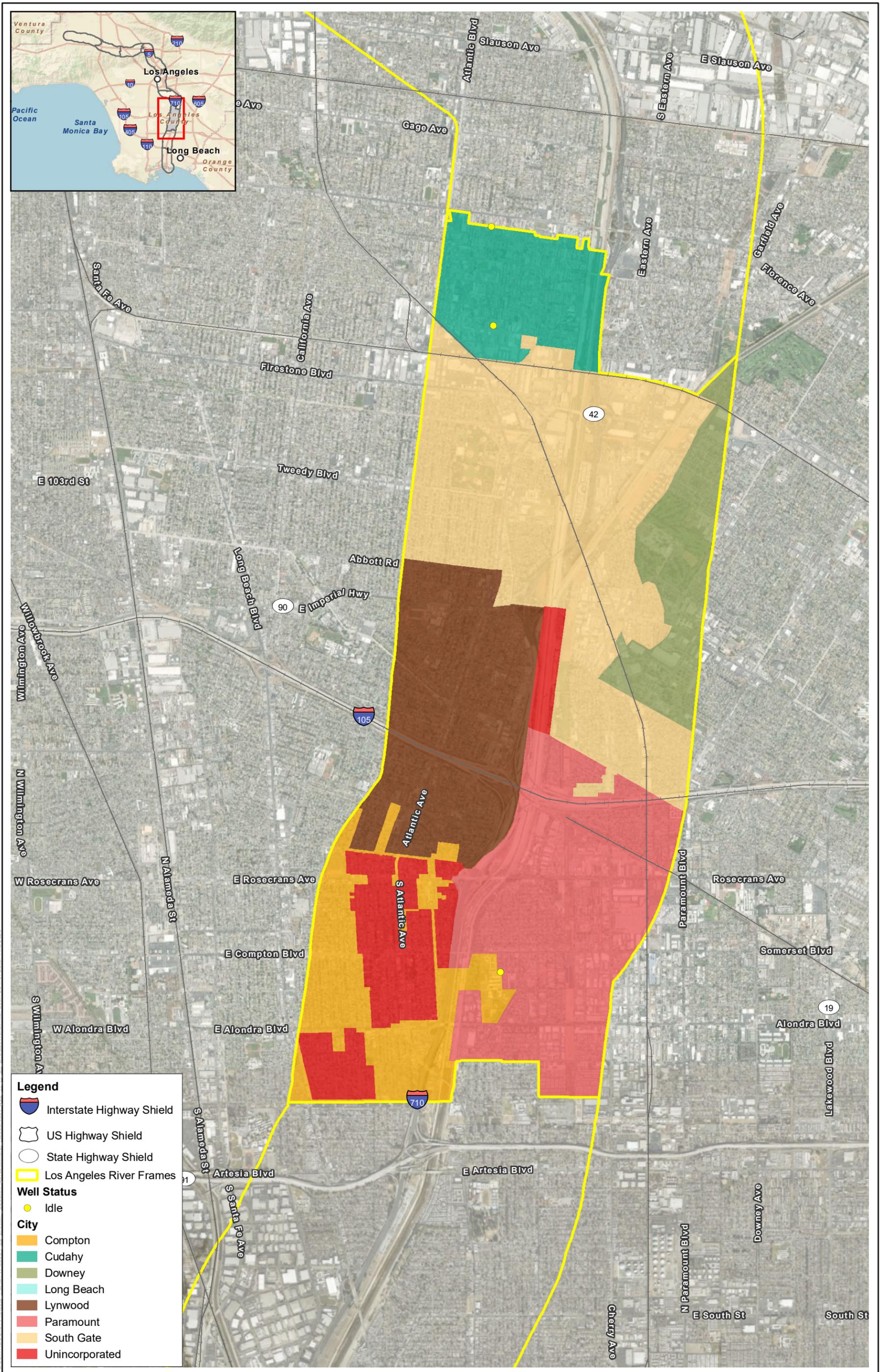


Figure 3.11-5
Oil and Gas Wells within Frame 2

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Source: County of Los Angeles; ESRI



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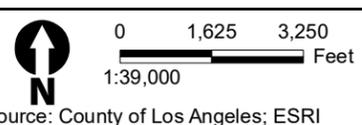
- Interstate Highway Shield
- US Highway Shield
- State Highway Shield
- Los Angeles River Frames

Well Status

- Idle
- Active

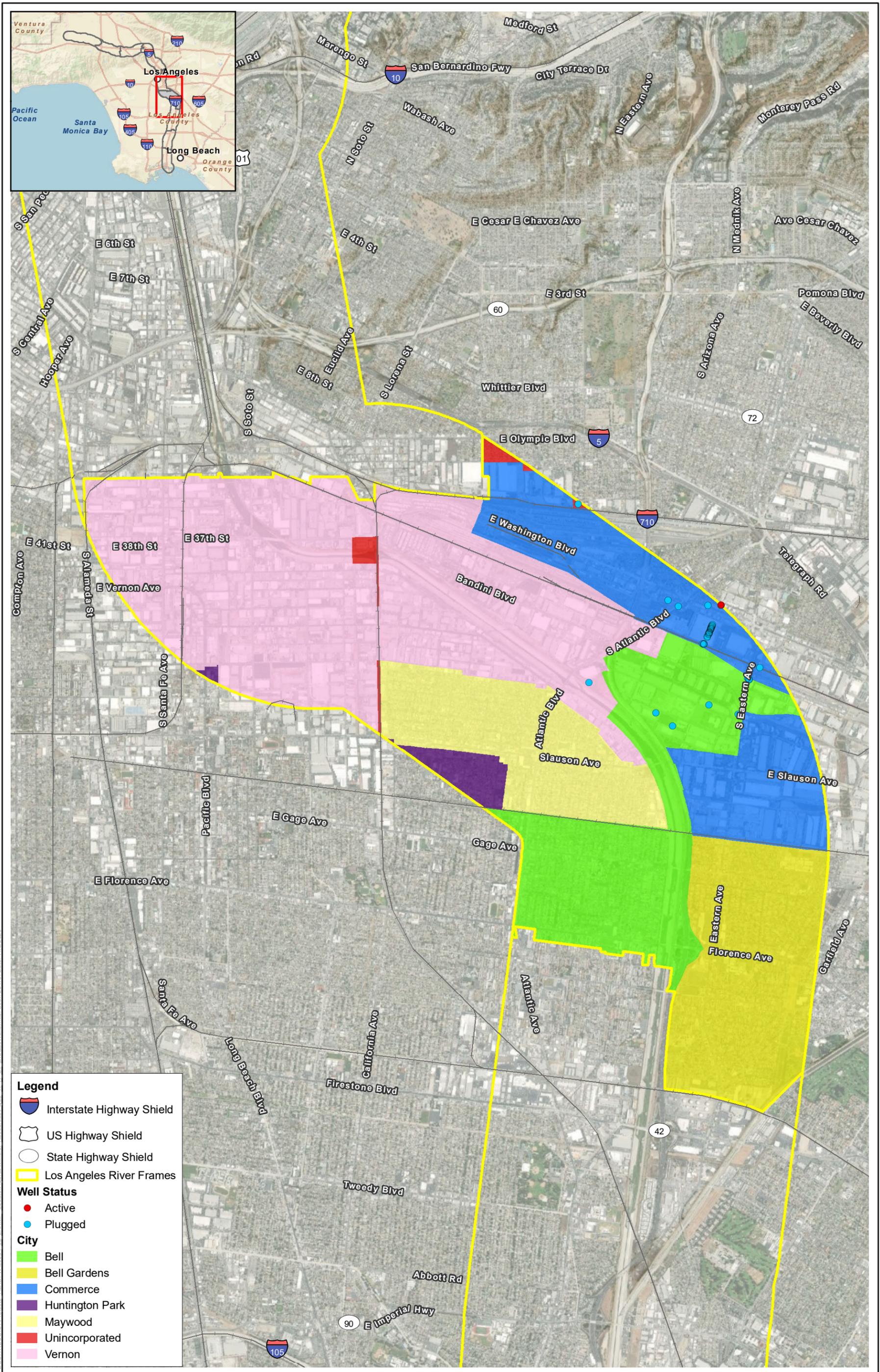
City

- Compton
- Cudahy
- Downey
- Long Beach
- Lynwood
- Paramount
- South Gate
- Unincorporated



Source: County of Los Angeles; ESRI

Figure 3.11-6
Oil and Gas Wells within Frame 3



Legend

- Interstate Highway Shield
- US Highway Shield
- State Highway Shield
- Los Angeles River Frames

Well Status

- Active
- Plugged

City

- Bell
- Bell Gardens
- Commerce
- Huntington Park
- Maywood
- Unincorporated
- Vernon

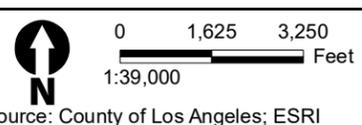
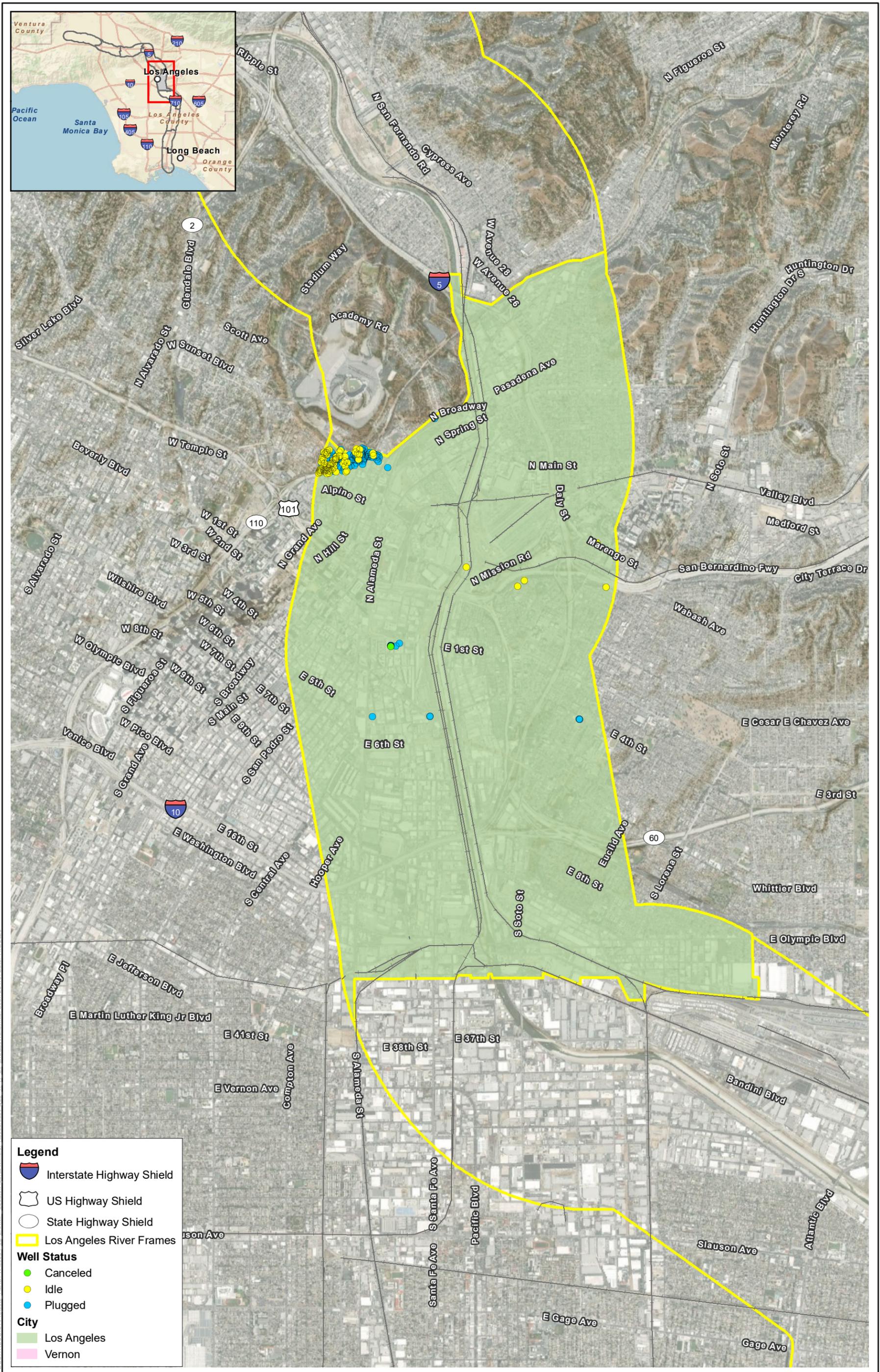


Figure 3.11-7
Oil and Gas Wells within Frame 4

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Source: County of Los Angeles; ESRI



Legend

- Interstate Highway Shield
- US Highway Shield
- State Highway Shield
- Los Angeles River Frames

Well Status

- Canceled
- Idle
- Plugged

City

- Los Angeles
- Vernon

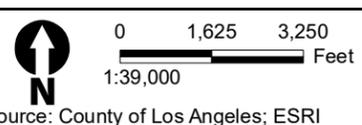
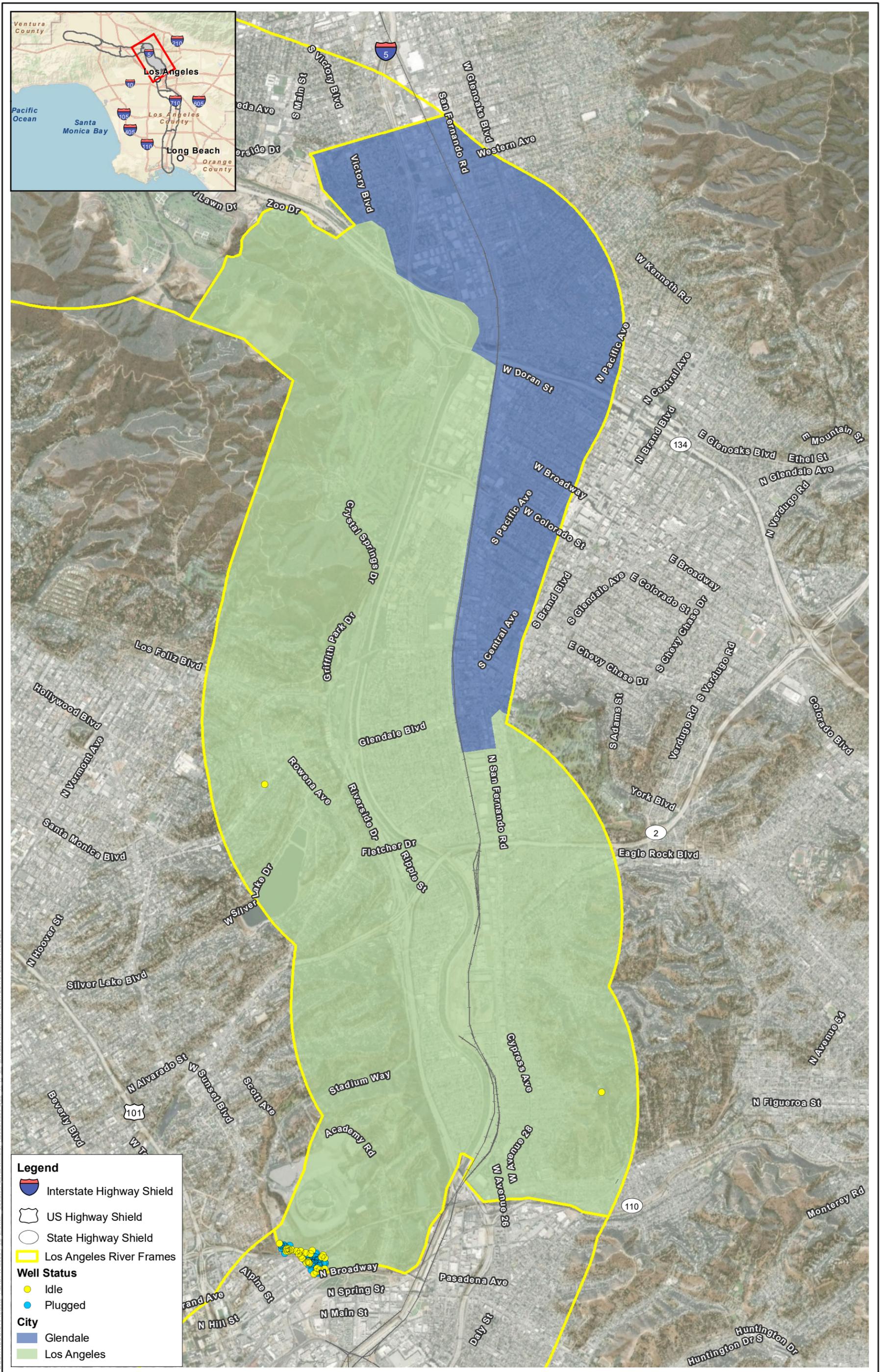


Figure 3.11-8
Oil and Gas Wells within Frame 5

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Source: County of Los Angeles; ESRI



Legend

- Interstate Highway Shield
- US Highway Shield
- State Highway Shield
- Los Angeles River Frames

Well Status

- Idle
- Plugged

City

- Glendale
- Los Angeles

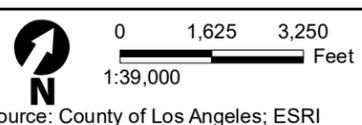


Figure 3.11-9
Oil and Gas Wells within Frame 6

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Source: County of Los Angeles; ESRI

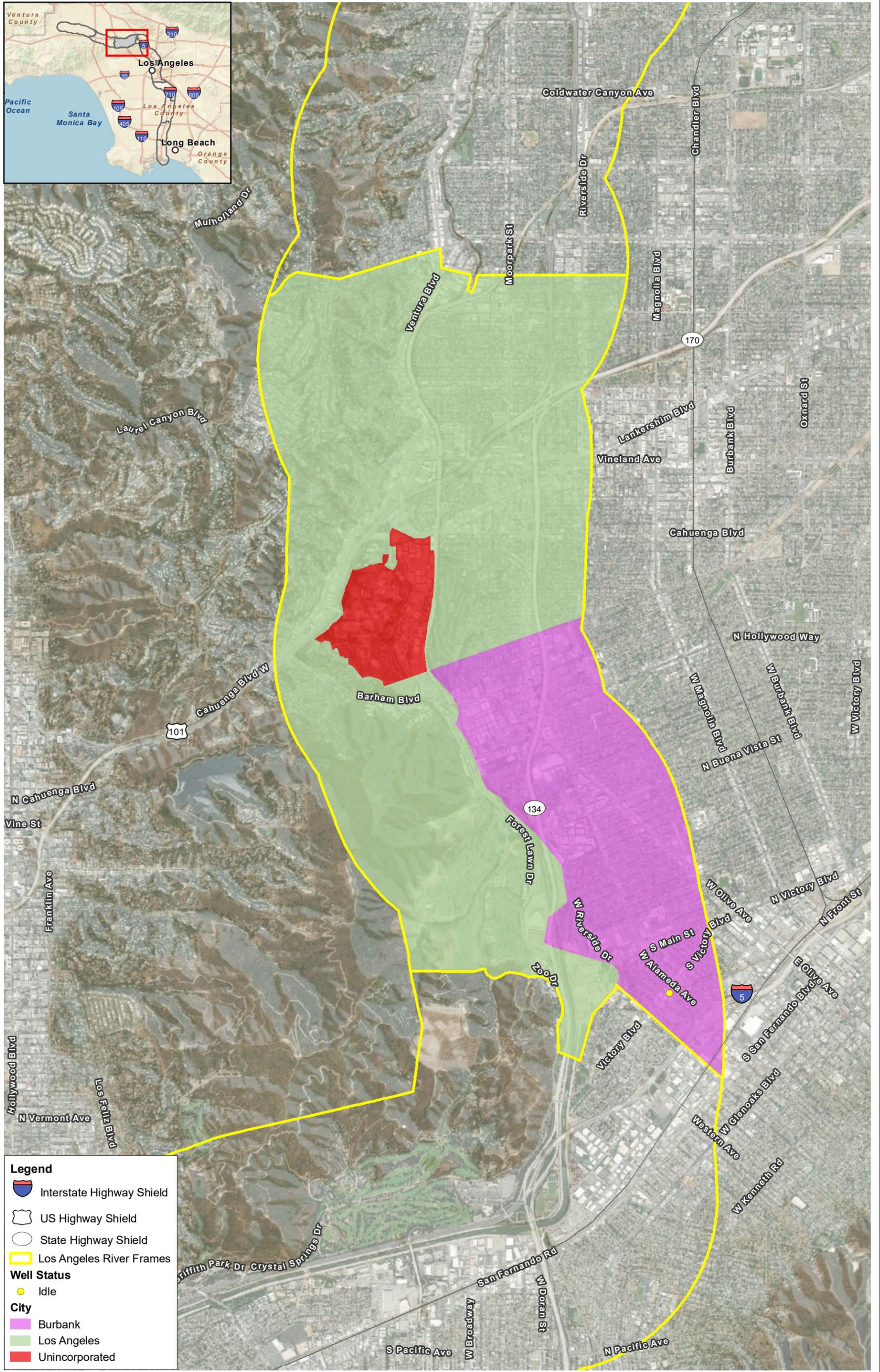


Figure 3.11-10
Oil and Gas Wells within Frame 7

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0 1,625 3,250
 Feet
 1:39,000

Source: County of Los Angeles; ESRI

4. Division of Mine Reclamation (DMR) – provides oversight of local governments as they administer SMARA within their respective jurisdictions. The primary focus is on existing mining operations and the return of those mined lands to a usable and safe condition.
5. State Mining and Geology Board (SMGB) – develops policy direct regarding the development and conservation of mineral resources and reclamation of mined lands.

CalGem Regulations

The California Geologic Energy Management Division (CalGEM) prioritizes protecting public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal industries, while working to help California achieve its climate change and clean energy goals. Formerly known as Department of Conservation's Division of Oil, Gas, and Geothermal Resources (DOGGR), CalGem was formed in 1915 to implement regulations in the California PRC and California Code of Regulations that pertain to the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells (California PRC §§ 2710–2719 and CCR § 3704.1).

Local

Local jurisdictions and unincorporated County area regulations containing policies regarding mineral resources are discussed below.

City of Long Beach

City of Long Beach Municipal Code

The Long Beach Municipal Code (LBMC) was codified through Ordinance No. ORD-19-0001, enacted January 8, 2019, first adopted December 14, 2010 (ORD-10-0037). Title 12, Long Beach Oil Code (ORD-16-0027), regulates, “the drilling and re-drilling for and the production of petroleum so that these activities may be conducted in conformance with the California Fire Code adopted in Chapter 18.48, State statutes, regulations of DOGGR, in harmony with other City land uses, and to minimize the economic effect of lessening land values in areas wherein drilling and re-drilling for the production of petroleum constitutes an activity which is at variance with the predominate land use” (City of Long Beach 2019). Chapter 12.26 specifically discusses natural gas-related activities. The management of oil activities in the Port is the responsibility of the Long Beach Energy Resources Department (LBER); Port policies governing oil production within the Harbor District are set forth in the Long Beach City Charter, Sections 1203c and 1203d. The Port has an Memorandum of Understanding (MOU) with LBER, approved in 1992 and amended in 2004, that provides guidelines for ongoing oil operations within the Harbor District.

Long Beach General Plan Program

The *Long Beach General Plan Program, Conservation Element* identifies goals to preserve natural resources and areas of special interest in Long Beach (City of Long Beach 1973). According to the General Plan, oil and gas extraction are recognized as being of economic value to the City of Long Beach. Goals and policies relevant to this PEIR are listed below:

Conservation Element

Mineral Resources

Goal 1: To manage the petroleum resources of the City in a manner that will not only maximize their economic value but will enhance the quality of open space.

Goal 2: To continue good management practices in the production of petroleum including aesthetics, ecological compatibility and other environmental aspects.

Goal 3: To continue to take restorative measures to remedy and prevent subsidence associated with oil extraction.

City of Los Angeles

City of Los Angeles General Plan

The *Conservation Element of the City of Los Angeles General Plan* sets policy direction for open space resources, including mineral production, in the City of Los Angeles (City of Los Angeles 2001). According to this element, major local mineral resources consist of oil, rock deposits, and sand and gravel. The element's policies are based on the need to conserve natural amenities, protect against natural hazards, and meet the public's desire for open space experiences. Goals and policies relevant to this PEIR are listed below:

Conservation Element

Objective: conserve sand and gravel resources and enable appropriate, environmentally sensitive extraction of sand and gravel deposits.

- **Policy 1:** continue to implement the provisions of the California Surface Mining and Reclamation Act (PRC § 2710 et seq.) so as to establish extraction operations at appropriate sites; to minimize operation impacts on adjacent uses, ecologically important areas (e.g., the Tujunga Wash) and ground water; to protect the public health and safety; and to require appropriate restoration, reclamation and reuse of closed sites.
 - **Program 1:** administration and periodic updating of the 'G' Surface Mining District overlay zone provisions (LAMC 13.03).
- **Policy 2:** continue to encourage the reuse of sand and gravel products, such as concrete, and of alternative materials use in order to reduce the demand for extraction of natural sand and gravel.
 - **Program:** recycling of construction materials.

City of Commerce

City of Commerce General Plan

The Resource Management Element of the *City of Commerce 2020 General Plan* focuses on four key issue areas: cultural resources (historic and archaeological), ecological resources (plant and animal life), natural resources (water and minerals), and open space resources used for recreation. The following goals and policies are applicable to this PEIR

Resource Element

Policy 2.3. The city of Commerce will contact appropriate State agencies to determine whether or not the depletion of oil resources in the Bandini oilfield will create local ground subsidence problems.

City of Maywood

City of Maywood General Plan

The Conservation Element of the *City of Maywood General Plan* focuses on the protection and maintenance of the State's natural resources and prevents their wasteful exploitation and destruction (City of Maywood 2008). The following goals and polices are applicable to this PEIR.

Conservation Element

Goal 3: Provide for the proper management of natural resources both in the city and region are so that they may be protected for the benefit of present and future residents.

City of Glendale

City of Glendale General Plan

The following policies, goals and objectives located in the Open Space and Conservation Element of the *City of Glendale General Plan* are applicable to mineral resources (City of Glendale 1993).

Open Space and Conservation Element

Goal 6: Preserve and protect valuable water and mineral resources.

- **Objective 6:** Maintain current prohibition of rock, sand, gravel, and mineral extraction in designated open space areas.

Unincorporated County

Los Angeles County Code

Los Angeles County Code, Chapter 22.190 of Title 22 states:

- A. The Surface Mining Permit is established to regulate surface mining and reclamation of mined lands in compliance with the Surface Mining and Reclamation Act of 1975, Division 2, Chapter 9 of the California Public Resources Code, beginning with Section 2710.
- B. It is the intent in regulating surface mining activities to ensure that:
 1. The production and conservation of minerals is encouraged while addressing concerns relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment during and after mining operations;
 2. Adverse effects on the environment, including air pollution, impedance of groundwater movement and water quality degradation, damage to wildlife habitat, flooding, erosion, and excessive noise are prevented or mitigated;
 3. Mined lands are returned to a usable condition readily adaptable for alternative land uses, with no residual hazards to public health or safety; and
 4. Consistency is achieved with the mineral resources management policies of the General Plan.

Los Angeles County Building Code Section 110.4 also states that permits shall not be issued for buildings or structures regulated by this code, adjacent to or within 300 feet (91.44 m) of active, abandoned, or idle oil or gas well(s) unless provided with a methane gas protection system project sites containing or lying within 300 feet of active, abandoned or idle oil or gas wells should provide mitigation measures.

In addition, permits shall not be issued for a building or structure regulated by this code located between 25 feet and 200 feet from active, abandoned, or idle oil or gas well(s) unless designed according to the recommendations contained in a report prepared by a licensed civil engineer and approved by the building official. Permits could also be issued if all active, abandoned, or idle oil or gas well(s) between 25 feet and 200 feet from said building or structure are examined by a licensed petroleum engineer to evaluate whether, in accordance with the current rules and regulations of CalGEM, such wells are being properly operated or maintained, or are abandoned. No permits shall be issued until certification of proper operation, maintenance, or abandonment or re-abandonment, as determined by CalGEM, is submitted to the building official.

Los Angeles County General Plan

The Conservation and Open Space Element of the *Los Angeles County General Plan* sets policy direction for open space resources, including mineral production, in unincorporated County areas (County of Los Angeles 2015). According to the *Los Angeles County General Plan*, major local mineral resources consist of oil, rock deposits, and sand and gravel. The element's policies are based on the need to conserve natural amenities, protect against natural hazards, and meet the public's desire for open space experiences. Goals and policies relevant to the *2020 LA River Master Plan* are listed below:

Conservation and Open Space Element

Goal C/NR 10: Locally available mineral resources to meet the needs of construction, transportation, and industry.

Policy C/NR 10.1: Protect MRZ-2s and access to MRZ-2s from development and discourage incompatible adjacent land uses.

Policy C/NR 10.2: Prior to permitting a use that threatens the potential to extract minerals in an identified Mineral Resource Zone, the County shall prepare a statement specifying its reasons for permitting the proposed use, and shall forward a copy to the State Geologist and the State Mining and Geology Board for review, in accordance with the PRC, as applicable.

Policy C/NR 10.3: Recognize newly identified MRZ-2s within 12 months of transmittal of information by the State Mining and Geology Board.

Policy C/NR 10.4: Work collaboratively with agencies to identify Mineral Resource Zones and to prioritize mineral land use classifications in regional efforts.

Policy C/NR 10.5: Manage mineral resources in a manner that effectively plans for access to, development, and conservation of, mineral resources for existing and future generations.

Policy C/NR 10.6: Require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance shall be based on an evaluation of noise, aesthetics, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality.

Policy C/NR 11.1: Require mineral resource extraction and production activities and drilling for and production of oil and natural gas to comply with County regulations and State requirements, such as SMARA, and DOGGR¹ regulations.

¹ Housed within the Department of Conservation, CalGEM replaces the Division of Oil, Gas, and Geothermal Resources (DOGGR). The changes came as a result of AB 1057 which was signed by Governor Newsom in October 2019.

Other Local Jurisdictions

Other local jurisdictions located within the frames where MRZ-2 occurs (Cities of Compton, Carson, Paramount, Lynwood, Downey, South Gate, Cudahy, Bell, Bell Gardens, Commerce, Huntington Park, Vernon, Glendale, and Burbank) do not have any regulations or general plan goals and policies related to mineral resources.

3.11.3 Impact Analysis

3.11.3.1 Methods

This section describes the methods used to analyze impacts on mineral resources from implementation of the *2020 LA River Master Plan*. The 51-mile-long and 2-mile-wide study area is used to analyze impacts extending belowground to the maximum depth of disturbance that could be encountered during construction or operation. Impacts were based on the potential for the proposed project components to limit access to important mineral resources, as identified in MRZs or oil fields, thereby resulting in the loss of or inability to recover such resources for economic purposes. Impacts associated with Typical Projects (i.e., the Common Elements and Multi-Use Trails and Access Gateways), the six kit of parts (KOP) categories, and related design components—as well as the *2020 LA River Master Plan* in its entirety—are analyzed qualitatively at a program level. Where the two Typical Projects or the six KOP categories have similar impacts related to a specific criteria, the discussion is combined. Where differences between the Typical Projects or the KOP categories are identified, the impact analysis is presented separately. Furthermore, construction and operations impacts are presented together where they largely overlap and it would not be meaningful to discuss them separately to address a specific criterion.

3.11.3.2 Criteria for Determining Significance

Thresholds of Significance

For the purposes of the analysis in this PEIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed Project would have a significant environmental impact if it would:

3.11(a) and (b) Result in the loss of availability of a known mineral resource or mineral resource recovery delineated on a local general plan, specific plan, or other land use plan site that would be of value to the region and the residents of the State.

3.11.3.3 Impacts and Mitigation Measures

Impact 3.11(a) and (b): Would the proposed Project result in the loss of availability of a known mineral resource or mineral resource recovery delineated on a local general plan, specific plan, or other land use plan site that would be of value to the region and the residents of the State?

Typical Projects

Common Elements and Multi-Use Trails and Access Gateways Typical Projects

Construction and Operation

Non-fuel Mineral Resources—Frames 1, 2, 3, 8, and 9

No regionally or statewide significant non-fuel mineral resources are located within Frames 1, 2, 3, 8, or 9. Construction and operation of Common Elements and Multi-Use Trails and Access Gateways Typical Projects in these frames would not result in the loss of availability of a significant non-fuel mineral resource, and no impact to non-fuel mineral resources would occur in these frames.

Non-fuel Mineral Resources—Frames 4, 5, 6, and 7

As discussed in Section 3.11.2, *Setting*, the project study area contains areas identified as MRZ-2, which are zones that include known mineral deposits or where there is a high likelihood for their presence. As shown on Figure 3.11-1, identified mineral resources located in the project study area are only found in Frames 4, 5, 6, and 7.

The primary cause for loss of availability of mineral resources in the County is by placement of incompatible land uses that either directly or indirectly make the resource inaccessible for future extraction. Mining operations require an adequate setback from these land uses due to a variety of environmental issues associated with mining activities, which include, but are not limited to, noise, traffic, air quality, and visual resources impacts. At the State level, SMARA establishes policies for conservation and development of mineral-containing lands. SMARA requires all cities and counties to incorporate their policies and mapped MRZ into their general plans.

At the local level, the County screens development projects for the potential loss of availability of mineral resources using MRZ classification data within the County GIS mapping applications. Mineral resource potential is evaluated for project sites, and land use compatibility is reviewed for sites on or near an important MRZ.

Construction of the Common Elements and Multi-Use Trails and Access Gateways Typical Projects would include site preparation and grading. Depending on where Common Elements and Multi-Use Trails and Access Gateways Typical Projects are sited, ground-disturbing activities could uncover or affect mineral resources. Much of the MRZ-2 mapped area for sand and gravel in the County was developed prior to the MRZ-2 classification and mapping, so it is already unavailable for future extraction. Common Elements and Multi-Use Trails and Access Gateways Typical Projects would be predominately constructed within areas that are already urbanized and disturbed and would therefore not be available for mineral resource activities. Operations of the Common Elements and Multi-Use Trails and Access Gateways Typical Projects would involve general recreational uses, as well as operational uses of pavilions, cafes, hygiene facilities, restrooms, benches, emergency call

boxes, water fountains, trash and recycling, bike racks, and trails. Consequently, the likelihood of the Common Elements and Multi-Use Trails and Access Gateways Typical Projects resulting in the loss of non-fuel mineral resources classified MRZ-2 is minimal, and less than significant impacts on non-fuel mineral resources are expected.

Oil Resources—Frames 4 through 9

No regionally or statewide significant fuel mineral resources are located within Frames 4 through 9. Construction and operation of Common Elements and Multi-Use Trails and Access Gateways Typical Projects would not result in the loss of availability of a significant fuel mineral resource in these frames, and no significant impact to fuel mineral resources would occur.

Oil Resources—Frame 1, 2, and 3

As shown on Figure 3.11-3 and Figure 3.11-4, active wells are located in Frames 1, 2, and 3 of the project study area, within the Cities of Los Angeles, Long Beach, and Commerce. Construction and operations of the Common Elements and Multi-Use Trails and Access Gateways Typical Projects would be required to comply with the County of Los Angeles Building Code, if located on County owned land, which does not allow development to be constructed adjacent to or within 300 feet of active, abandoned, or idle oil or gas well(s). In any case, the Common Elements and Multi-Use Trails and Access Gateways Typical Projects would need to comply with local and County general plan zoning restrictions. Compliance with local general plans and the *Los Angeles County General Plan* would ensure that impacts on mineral resources would be less than significant. Jurisdictions that do not contain policies regarding mineral resources in their general plan have determined these areas are fully built-up (i.e. land is fully developed with no potential for extraction), and the applicable general plans do not provide for extraction. There are limited available natural resources within built-out urban communities. Compliance with local general plans and the *Los Angeles County General Plan* would ensure that impacts on mineral resources would be less than significant.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance after Required Mitigation

Impacts would be less than significant. No mitigation is required.

2020 LA River Master Plan Kit of Parts

KOP Categories 1 through 6

Construction and Operation

Under the *2020 LA River Master Plan*, the multi-benefit design components of the KOP can be implemented individually or in combination with other design components as subsequent projects under the *2020 LA River Master Plan*. The specific location (e.g., in-channel/off-channel, frame, etc.), configuration, and design details of these subsequent projects would depend on numerous factors, including the proponent of subsequent projects, the implementing agency, community needs, policy

decisions, and availability of funding. Once site-specific and project-specific details are available for the subsequent projects informed by the multi-benefit design components of the six KOP categories, additional CEQA analysis would be required before subsequent projects can be implemented.

Potential impacts from construction of the design components under KOP Category 1 through KOP Category 6 would vary depending on the specific design component and its intended function. Projects under the KOPs would likely be larger than Typical Projects.

Non-fuel Mineral Resources—Frames 1, 2, 3, 8, and 9

No regionally or statewide significant non-fuel mineral resources are located within Frames 1, 2, 3, 8, or 9. Construction and operation of KOP categories would not result in the loss of availability of a significant non-fuel mineral resource in these frames, and no significant impact to non-fuel mineral resources would occur.

Non-fuel Mineral Resources—Frames 4, 5, 6, and 7

KOP design components that could affect significant mineral resources, depending on where they are sited, include construction of channel modification facilities and associated facilities from the Channel Modification KOP; new structures associated with water diversion from the Diversion KOP; new wells and associated infrastructure and, new solar projects from the Off-Channel Land Assets KOP; and grading and excavation associated with habitat enhancement, management and monitoring. These activities could result in a loss of availability by limiting access to or preventing future development of mineral resources.

As stated above, much of the MRZ-2 mapped area for sand and gravel in Los Angeles County was developed prior to the MRZ-2 classification and mapping, so it is already unavailable for future extraction. Subsequent projects under the KOP categories would be predominately constructed within areas that are already urbanized and disturbed and would therefore not be available for mineral resource activities. For construction and operation of subsequent projects located in-channel (bank to bank), in light of the existing predominately concrete lined river channel, the loss of aggregate in the MRZ-2 area is remote. Although the abundance of similar materials in the County of Los Angeles and the surrounding vicinity, there is a potential for the KOP categories to be implemented within MRZ-2 and potentially result in the loss of availability of a known and/or locally important mineral resource.

Construction and operation of KOP categories are required to comply with the SMARA policies for conservation and development of mineral-containing land, *Los Angeles County General Plan* in unincorporated County areas, and local jurisdiction's general plans in incorporated cities, which requires maintained access to mineral deposits for extraction. However, because the exact locations of project sites are unknown at this time, mitigation is required to ensure impacts are less than significant.

Oil Resources—Frames 4 through 9

No regionally or statewide significant fuel mineral resources are located within Frames 4 through 9. Construction and operation of KOP categories would not result in the loss of availability of a significant fuel mineral resource in these frames, and no significant impact to fuel mineral resources would occur.

Oil Resources—Frame 1, 2, and 3

As shown on Figure 3.11-3 and Figure 3.11-4, 830 active oil and gas wells are located within Frames 1, 2, and 3 of the project study area. As seen in the detailed figures, active oil and gas wells in the 2-mile-wide study area are found in Long Beach and Commerce. Construction and operations of the KOP categories would be required to comply with the County of Los Angeles Building Code when constructed on County-owned land, which does not allow development to be constructed adjacent to or within 300 feet of active, abandoned, or idle oil or gas well(s). Construction and operation of KOP categories would be required to comply with the *Los Angeles County General Plan* in unincorporated County areas and local general plans when located in incorporated cities, which require maintained access to mineral deposits for extraction and preservation of mineral resources. Compliance with local general plans and the *Los Angeles County General Plan* would ensure that impacts on mineral resources would be less than significant.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance after Required Mitigation

Impacts would be less than significant. No mitigation is required.

Overall 2020 LA River Master Plan Implementation

Construction and Operation

The *2020 LA River Master Plan* would involve construction of 107 projects, including recreational facilities, that could occur anywhere in the study area over a 25-year period. The specific location (in-channel or off-channel), configuration, and design for these components have not been determined yet and would depend on numerous factors, including the project proponent(s) and availability of funding. Construction and operation of projects under the *2020 LA River Master Plan* could result in impacts similar to those described above for the Typical Projects and KOP categories.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Significance after Required Mitigation

Impacts would be less than significant. No mitigation is required.

Cumulative Impacts

The geographic context for an analysis of cumulative impacts on mineral resources is the County, which contains the 51-mile long and 2-mile wide Project study area. As noted, major local mineral

resources in the County consist of oil, rock deposits, and sand and gravel. A description of the regulatory setting and approach to cumulative impacts analysis is provided in Section 3.0.2.

Criteria for Determining Significance of Cumulative Impacts

The proposed Project would have the potential to result in a cumulatively considerable impact on mineral resources, if, in combination with other projects within the defined geographic context, it would result in the loss of availability of a known mineral resource or mineral resource recovery delineated on a local general plan, specific plan, or other land use plan site that would be of value to the region and the residents of the State.

Cumulative Condition

Important local mineral resources include construction materials and minerals of historical significance, including precious gemstones and metals. Aggregate resources include rock, sand, and gravel, which are important for the construction and manufacturing of concrete. Further urbanization in the County could result in development on lands containing aggregate resources. Significant potential deposit sites have been identified by the State Geologist along the floodplain from the San Fernando Valley through downtown Los Angeles. Development generally results in a demand for minerals, especially construction aggregate. As noted, the general plans of the Cities of Long Beach, Los Angeles, Maywood, Commerce, and Glendale contain policies that relate to mineral and gas resources. These goals and policies provide for conservation and maintenance of mineral resource lands. Development in these jurisdictions would be expected to be consistent with these goals and policies. The remaining jurisdictions have no goals and policies pertaining to mineral resources, as they do not contain significant sources of aggregate minerals or oil and gas.

California is the largest producer of sand and gravel in the nation, and the greater Los Angeles area is the nation's leading producer for its geographical size. The County has high quantities of sand and gravel, which are located close to the market. Sand and gravel deposits follow the LA River flood plain, coastal plain, and other water bodies and courses. As noted, above, the primary cause for loss of availability of mineral resources in the County is by placement of incompatible land uses that either directly or indirectly make the resource inaccessible for future extraction. Mining operations require an adequate setback from these land uses due to a variety of environmental issues associated with mining activities, which include, but are not limited to, noise, traffic, air quality, and visual resources impacts. Future development in areas containing mineral and oil and gas resources would be consistent with applicable general plan policies concerning conservation of these natural resources. At the local level, the County screens development projects for the potential loss of availability of mineral resources using MRZ classification data within the County GIS mapping applications. Existing policies would prevent incompatible development adjacent to mineral resource sites that could impair extraction or redevelopment of productive mineral resource sites. Because of these policies and screening procedures, there is no cumulative condition relative to mineral resources in the County.

Contribution of the Project to Cumulative Impacts

The proposed Project would result in less-than-significant impacts with regard to mineral resources. As there is no cumulative condition relative to mineral resources, the proposed Project would not make a cumulatively considerable contribution to mineral resource impacts.