

7.11 HAZARDS AND HAZARDOUS MATERIALS (NEW)

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7.11.1 INTRODUCTION

7.11.1.1 Content

The proposed project analyzed in the Monterey Plus EIR was the Monterey Amendment and the Settlement Agreement. The Monterey Plus EIR considered five “elements” of the Monterey Amendment as follows:

- *Changes in the procedures for allocation of Table A water and surplus water among the SWP contractors;*
- *Approval to permanent transfers of 130,000 acre feet and retirement of 45,000 acre-feet of SWP long-term water supply contracts’ Table A amounts;*
- *Transfer of property known as the “Kern Fan Element property” in Kern County;*
- *Water supply management practices; and*
- *Restructured water rates.*

This REIR has changed the description of the Kern Fan Element property transfer to be:

- *Transfer of property known as the “Kern Fan Element property” in Kern County and its development and continued use and operation as a locally owned and operated groundwater banking and recovery project.*

There are no revisions to the other elements of the Monterey Amendment or of the Settlement Agreement, and no changes have been made relating to them in this REIR. (See discussion in Introduction/Executive Summary.)

This REIR does not supersede the analysis of the Monterey Plus EIR but supplements the Monterey Plus EIR. The Monterey Plus EIR focused on the transfer of the KFE property, which was fully analyzed in the Monterey Plus EIR. This REIR did not identify any new impacts or changes to impacts caused by the transfer of the KFE property. Therefore, this REIR focuses on the development and continued use and operation of the KWB as a locally owned and operated groundwater banking and recovery project (“KWB activities”).

The Monterey Plus DEIR Section 7.11 identified potential impacts to Hazards and Hazardous Materials as a result of the transfer of the Kern Fan Element. Substantial new information is presented herein, however, such that the text entirely replaces and updates text from DEIR Section 7.11 that discusses KWB activities. All other text in DEIR Section 7.11 remains unchanged.

Table 7.11-1A identifies the potentially affected environmental resources from impacts of KWB activities on Hazards and Hazardous Materials.

TABLE 7.11-1A

**IMPACTS OF KWB ACTIVITIES RELATIVE TO
HAZARDS AND HAZARDOUS MATERIALS**

Proposed Project Element	Potentially Affected Environmental Resources	Impact Number
Transfer of Kern Fan Element lands, and KWB activities	Recharge pond construction and exposure of workers to hazardous materials and mosquito-borne diseases and Valley Fever	7.11-1; 7.11-2; 7.11-3; 7.11-4; 7.11-5; 7.11-6

Hazardous substances are substances which, by their nature and reactivity, have the capacity of causing harm or a health hazard during normal exposure or an accidental release or mishap, and are characterized as being toxic, corrosive, flammable, reactive, an irritant or strong sensitizer. The term “hazardous substances” encompasses chemicals regulated by both the US Department of Transportation’s (DOT’s) “hazardous materials” regulations and the U.S. Environmental Protection Agency’s (EPA’s) “hazardous waste” regulations, including emergency response. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. A designation of “acutely” or “extremely” hazardous refers to specific listed chemicals and quantities.

Activities and operations that use or manage hazardous or potentially hazardous substances could create a hazardous situation if release of these substances occurred. Individual circumstances, including the type of substance, quantity used or managed, and the nature of the activities and operations, affect the probable frequency and severity of consequences from a hazardous situation. Federal, state, and local laws regulate the use and management of hazardous or potentially hazardous substances. Creation of human health hazards or exposure of people to existing sources of potential health hazards is considered in this section.

In general, hazards associated with the KWB activities would be related to the presence of residual agricultural chemicals, hazardous materials used as part of routine maintenance activities, fuel or waste oil storage tanks, oil and gas pipelines, wildfires, and vector populations.

During public review of the Notice of Preparation for the Monterey Plus EIR, interested parties submitted no comments related to hazards or hazardous materials.

For hazards related to flooding or water quality impacts associated with known groundwater contaminants, refer to Section 7.2, Surface Water and Groundwater Quality. For geologic hazards, refer to Section 7.8, Geology, Soils, and Minerals. For hazards related to public services, refer to Section 7.14, Public Services.

7.11.1.2 Analytical Method

The assessment of project impacts related to hazards and hazardous substances was conducted in accordance with standard professional practices. Factors considered in the analysis include the potential for exposure of humans to unidentified hazardous substances in soils during KWB-related construction activities, such as for recharge ponds and related facilities.

The following documents were reviewed to describe the environmental setting as it existed in 1995:

- Final EIR for the Artificial Recharge, Storage and Overdraft Correction Program, Kern County, California (Kern Water Bank) (December 1986).
- KWB First Stage Kern Fan Element Draft Supplemental EIR (December 1990).

- *Initial Study and Addendum to Monterey Agreement EIR of the Kern Water Bank Authority Kern Water Bank Habitat Conservation Plan/Natural Community Conservation Plan (1997 Monterey IS and Addendum)*(see Appendix 7-6a).

The following documents were reviewed to describe the environmental setting as it existed in 2014:

- Environmental Data Resources (EDR) *Data Map Area Study Report, Kern Water Bank* (April 2015).¹
- A California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) database query for District 4.²
- A State Water Resources Control Board (SWRCB) Geotracker database query for sites within KWB Lands.
- Hazardous Waste and Substances Site List (the “EnviroStor” database) for sites within KWB Lands.

This analysis included a review of the environmental setting, impacts, and mitigation measures related to hazards and hazardous materials, to the extent that they apply, presented in the 1997 Monterey IS and Addendum (see Appendix 7-6a).

7.11.1.3 Standards of Significance

The following standards of significance are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, as well as review of applicable background information relating to hazards and hazardous materials. For the purposes of this REIR, impacts related to hazards and hazardous materials would be considered significant if the KWB activities would:

- create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment or through the routine transport, use, or disposal of hazardous materials;
- be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, would create a significant hazard to the public or the environment;
- create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, including third-party oil and gas activities;
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands; or
- cause a significant increase in vector populations or the likelihood of airborne/waterborne disease or illness.

The following topics are not discussed further in this REIR because no impact would occur with regard to these potential impacts:

- The nearest school, Tupman Elementary School in the Elk Hills School District, is located 0.5 mile southwest of the southwestern boundary of KWB Lands. No schools are currently being proposed within one-quarter mile of KWB Lands. Therefore, there would be no impact related to schools.

- The two closest airports are Meadows Field Airport, located approximately 11 miles northeast of KWB Lands, and Elk Hills–Buttonwillow Airport, located approximately 13 miles to the northwest. KWB Lands are located within the vicinity of a private airstrip; the Joe Gottlieb Field is located 2.3 miles northeast of KWB Lands. However, the private airfield is currently not in operation. Therefore, there would be no impact related to airports and airstrips.
- KWB activities would not physically interfere with an adopted emergency response plan or emergency evacuation plan.

7.11.2 ENVIRONMENTAL SETTING

The setting with respect to hazards or hazardous materials is the current KWB Lands and adjacent sites. In particular, areas with past or future construction activities or recharge ponds, and their proximity to known hazardous sites, are discussed.

7.11.2.1 Physical Setting in 1995

Prior to the California Department of Water Resources' (Department's) purchase of the KFE property in 1988, approximately 17,068 acres of the property was under extensive cultivation. The remaining property contained 1,515 acres of isolated sensitive native plant communities and 1,317 acres of non-native grassland, which had been leased for oil recovery facilities. The KFE property included a number of agricultural wells and conveyance facilities that had been constructed primarily to deliver irrigation water for the agricultural activity occurring then and historically on the property. A Memorandum of Understanding was signed between the Department and Kern County Water Agency (KCWA) on March 25, 1987, that provided for the phase-out of all agricultural production on the KFE property by the end of 1993. In fact, one of the tenants' leases was terminated in 1989. Then in 1991, at the peak of the drought, all the remaining tenant leases were terminated, and thereafter all agricultural lands owned by the Department were fallowed and introduced annual grasses and forbs colonized the KFE property. In 1995, under the KCWA flood emergency program (see Section III.B in Revised Appendix E) and prior to the formation of the Kern Water Bank Authority (KWBA), KCWA and the other future participants of the KWBA constructed 3,034 acres of recharge ponds.

Before the KFE property was transferred to KCWA, the Department managed the KFE property by:

- performing demonstration studies and exploratory investigations for the potential development of the KFE property as a water banking facility; and
- controlling weeds, dust, trespassers, and vandalism.

Several tenants with active oil and gas extraction wells, brine disposal wells, and oil storage tanks were also on the property. One oil and gas lease tenant, Grayson Services, Inc., had a residence and an equipment repair and storage yard on the property. The Kern County Fire Department operated a firefighting training facility on a portion of the KFE property.

The hazards and hazardous materials setting for the KFE property was described in the 1990 Supplemental EIR for the first stage of the KWB project, which described the results of soil sampling done throughout the KFE property to characterize potential contamination. Pesticides, herbicides, and other contaminants were found in soil samples near some of the pond sites, with isolated pockets of petroleum compounds found near oil pipelines or facilities.³ In addition, the 1990 Supplemental EIR for the first stage of the KWB identified mitigation measures in the form of further testing and monitoring of the soil and groundwater in the area of the recharge ponds to prevent future contamination of groundwater or potential for release of contaminants.⁴

Past Pesticide/Herbicide Use

The KFE property was actively farmed for 20-40 years prior to all agricultural activities ceasing operations in 1991. Several pesticide mixing and storage facilities were previously present on KFE property.⁵ During early investigations by the Department, past pesticide usage was assessed.⁶ Soil and groundwater sampling performed by the Department in 1990 revealed the presence of several pesticides on the KFE property, including ethylene dibromide (EDB), toxaphene, eptam s-ethyl dipropyl (thiocarbamate) or EPTC, and diuron.⁷ Subsequent soil and groundwater site investigations detected residual concentrations of these contaminants in groundwater at or slightly above their respective maximum contaminant levels (MCLs).

EDB is a chemical that is slightly water soluble and will sink to the bottom of lakes and aquifers. It is not prone to bacterial degradation, but may be decomposed by sunlight and under non-complete combustion.

Toxaphene is slightly water soluble and will sink to the bottom of lakes and aquifers. Toxaphene does not readily biodegrade, leading to persistence in the environment for extended periods of time. It is very soluble in hydrocarbons, thus oil pipeline spills on surface soil or aquifers contaminated with hydrocarbons will solvate and carry Toxaphene to new locations.

EPTC is highly water soluble and readily floats on top of the water table. It is highly volatile and once applied, 20 percent of the product evaporates within three days. The chemical readily biodegrades⁸ by bacteria and a sprayed application on soil or weeds may be completely decomposed within three weeks.

Diuron is partially water soluble and will sink to the bottom of lakes and aquifers. Dilution products of less than 7 percent solution of Diuron are used for weed management and control.

Oil and Gas Production

Kern County is the largest oil producer in California. Oil and gas production has occurred in Kern County since the early 20th century and has occurred on KFE property since the 1930s.⁹ Oil and gas wells within the vicinity of the KFE property were typically drilled to depths of 8,000-9,000 feet below the ground surface.¹⁰ Activities on the KFE property included drilling and operating oil and gas wells, use of sumps and injection wells for disposal of brine water from drilling activities, and on-site storage of petroleum hydrocarbons. Brine disposal activities may have impacted groundwater quality. These areas are further discussed in Section 7.2, Surface Water and Groundwater Quality.

Results of investigations in the early 1990s by the Department indicated that an extensive network of pipelines associated with oil and gas activities traversed the property, some of which were reported at the time to have leaked.¹¹ By 1995, numerous petroleum companies operated on and around the KFE property.

Areas of Potential Environmental Concern

At the time of transfer of the KFE property to KCWA, several Areas of Potential Environmental Concern associated with past uses of the property and known contamination remained. These areas included:

- Buena Vista Ranch Headquarters, a previous farm headquarters containing several houses, sheds, tanks, and shop buildings;
- HSST Ranch Headquarters, with containers and an old boxcar containing various hazardous chemicals;

- S&M Farms, a facility used to store and mix pesticides and store and refuel equipment;
- Tumbleweed Farms, a facility used for equipment storage and repair;
- various sites with underground, aboveground, and mobile storage tanks containing various hazardous chemicals;
- areas of contamination associated with oil and gas activities, including sumps; and
- areas of dumping of potentially hazardous waste.

7.11.2.2 Changes in Physical Setting between 1996 and 2014

The KWB facilities currently include approximately 7,200 acres of recharge ponds, 85 recovery wells, an extensive network of monitoring wells, 36 miles of pipeline, and the 6-mile-long KWB Canal. The ponds consist of low earthen berms that pond water to depths of a few feet. The ponded water infiltrates soils of the alluvial fan for recharge into the aquifer. Water flows between the ponds in small channels; KWBA operators control the flow with small weir boxes. The recovery wells average about 750 feet deep and produce as much as 5,000 gallons per minute of water. They are distributed throughout KWB Lands and are spaced approximately one-third mile apart. The 16- to 20-inch-diameter wells are powered with electric motors. Small diameter (15- to 36-inch-diameter) PVC pipelines transport water recovered from wells to existing canals or, in some cases, to larger diameter (>36-inch-diameter) pipelines. Approximately 31 miles of small-diameter and 5 miles of large-diameter pipeline have been constructed.

From 1998 through 2002, KWBA constructed an additional 4,290 acres of recharge ponds, some of which overlapped earlier constructed ponds, for a total net pond area of 7,114 acres. An additional 70 acres of ponds were constructed in 2009 for a total pond area of 7,184 acres. Of this total, 4,998 acres of the recharge ponds constructed are located within the Recharge Sector and 2,186 acres are located within the Farming Sector.

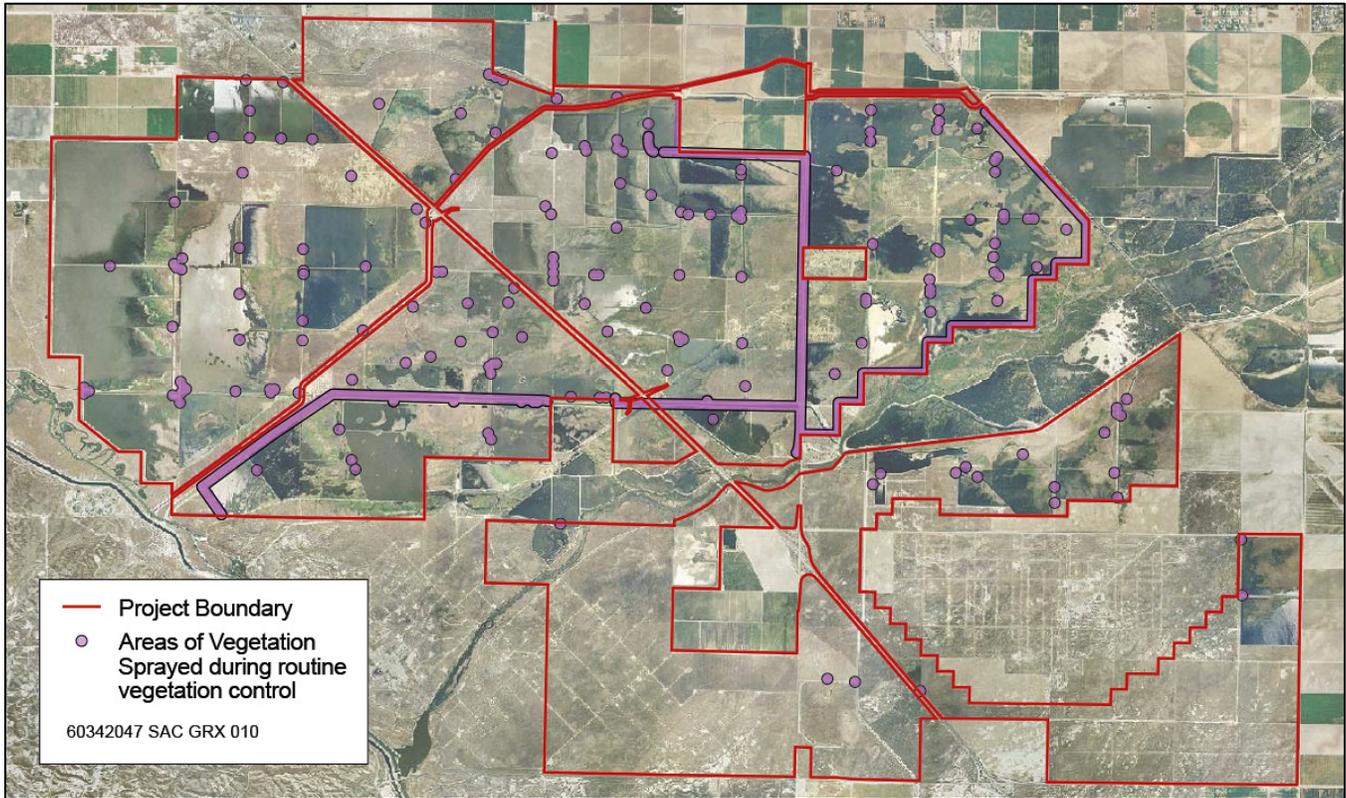
Between 1996 and 2014, maintenance and operational activities included replacing recovery wells and servicing and maintaining wells involved in groundwater recovery. Periodic berm repair and mowing of the KWB Canal banks to control excessive vegetation growth were ongoing maintenance activities. Other management activities included trash cleanup and removal of illegally dumped materials, environmental cleanup, and monitoring of third-party operations and cleanup activities.^{12,13,14,15,16,17,18}

Pesticide/Herbicide Use

Following the transfer of the KFE property, various herbicides were used on KWB Lands only in permitted areas in accordance with the KWB Habitat Conservation Plan/Natural Community Conservation Plan (KWB HCP/NCCP) and HCP Vegetation Management Plan (see Appendix 7-7c) to control weeds and other nuisances and with concurrence of the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). Hand spraying of herbicides, including Diuron and Roundup, was performed along roadways, and around wells, gates, and water control structures on an annual basis.

Aerial spraying of Malathion west of KWB Lands by the California Department of Food and Agriculture to reduce beet leafhopper populations within the region was approved by KWBA in 2002.¹⁹ Spraying of Malathion was then unauthorized in 2007 by CDFG and USFWS.²⁰ The aerial spraying of Malathion near recharge ponds by truck and helicopter was performed periodically in collaboration with the Westside Mosquito and Vector Control District to reduce mosquito populations and breeding habitat.

In addition, as part of a pilot control program for cattails, aerial spraying of herbicides to stands of cattails located within recharge ponds on the western portion of KWB Lands occurred in 2006 and 2011.^{21,22} Herbicides also have been used by KWBA to control exotic and invasive plant growth at well sites, roads, and water control structures on a routine basis. Figure 7.11-1 presents areas of vegetation sprayed during routine vegetation control on KWB Lands.



Source: KWBA Annual Report 2013

Figure 7.11-1. Areas of Vegetation Sprayed During Routine Vegetation Control

Oil and Gas Production

Extensive oil and gas production has occurred in south-central California. Oil and gas production activities are found in the vicinity of KWB Lands. There are four oil and gas fields on and around KWB including: Coles Levee, North; Strand Oil Field; Ten Section Oil Field; and Canal Oil Field. The Elk Hills Oil Field is located west of KWB Lands. The Elk Hills Oil Field is the largest natural gas field and one of the largest oil fields in California.

As of 2014, there were 43,568 active oil wells in Kern County. As of March 2015, there were approximately 31 active, 152 plugged/abandoned, and 11 idle oil and gas wells located within or adjacent to the KWB Lands (see Table 7.11-2). These 31 active wells include 29 traditional oil extraction wells and 2 active water disposal wells. The oil and gas wells in the vicinity of the KWB Lands are typically drilled to depths of 8,000-9,000 feet below the ground surface (bgs).²³ The oilfields are anticipated to remain active during future water bank operations.

TABLE 7.11-2

OIL AND GAS WELLS ON KERN WATER BANK LANDS

Location	Active Wells	Abandoned Wells	Idle Wells
Canal Field	13	55	1
Coles Levee, North	10	42	10
Strand	1	23	0
Ten Section ¹⁵	7	20	0
Any Field ¹ , KWB Lands	0	12	0
TOTALS	31	152	11

Notes:
 KWB = Kern Water Bank
 1. Any Field refers to areas with wells on KWB Lands not located in a specific oil field
 Source: California Department of Conservation, Division of Oil, Gas and Geothermal Resources, March 2015²⁴

There are no active oil and gas wells located in the footprint of existing recharge basins. A total of 20 plugged/abandoned oil and gas wells are located within the footprint of existing recharge basins (see Table 7.11-3 and Figure 7.11-2). DOGGR regulates the compliance of abandoned wells on KWB Lands.

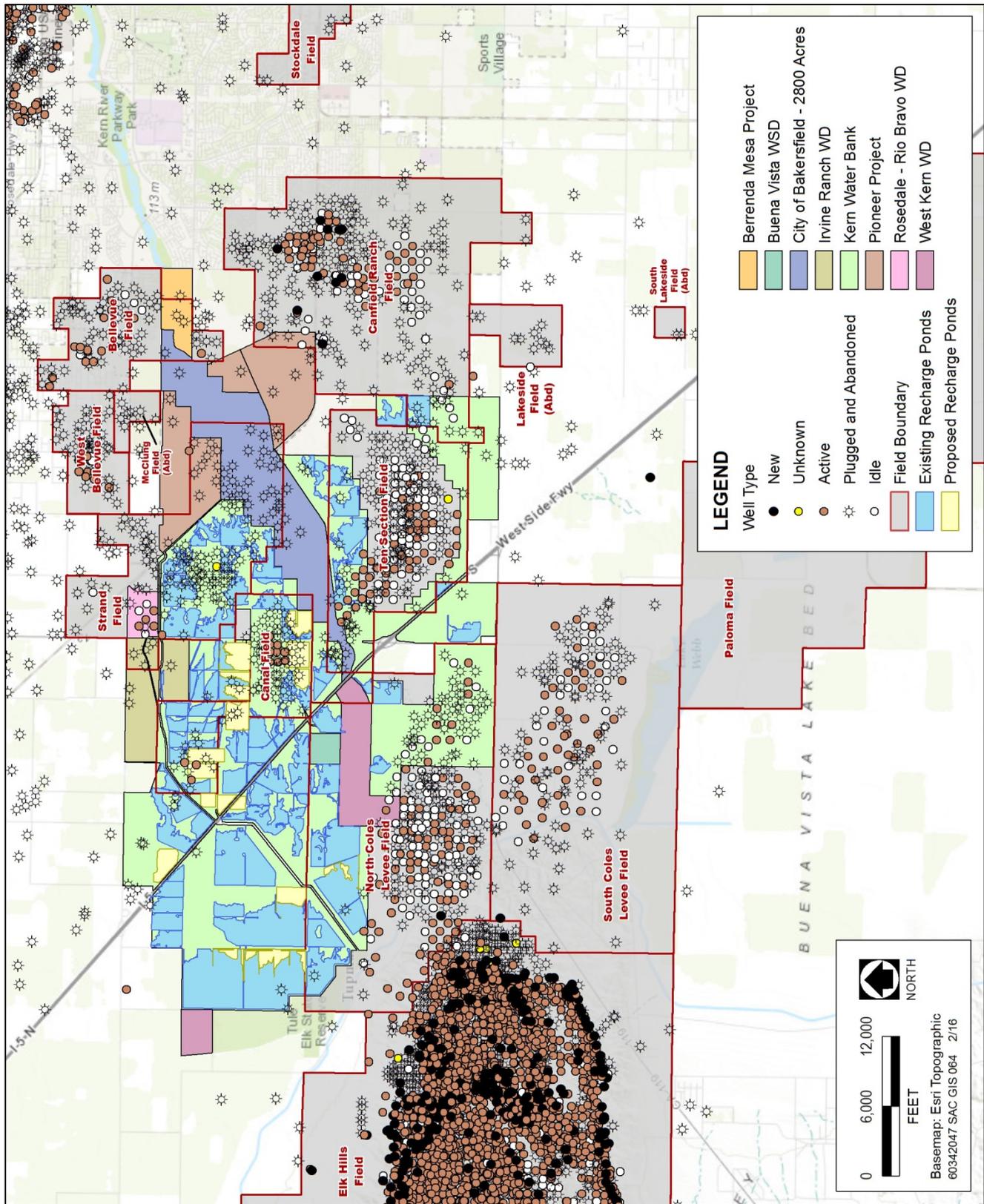
TABLE 7.11-3

ABANDONED OIL AND GAS WELLS WITHIN FOOTPRINT OF EXISTING KERN WATER BANK RECHARGE PONDS

KWB Recharge Pond #	Well #	Field Name	Status
C3	25-14	Canal	Plugged and abandoned—oil
E1	18X-1	Strand	Plugged and abandoned—oil
E6	1	Canal	Plugged and abandoned—oil
J3	88X-19	Ten Section	Plugged and abandoned—oil
J3	E-1	Ten Section	Plugged and abandoned—dry hole
J5	374-24	Ten Section	Plugged and abandoned—oil
K2	56X	East of Ten Section	Plugged and abandoned—dry hole
K2	76-28	East of Ten Section	Plugged and abandoned—dry hole
K2	66X-28	East of Ten Section	Plugged and abandoned—oil
M10	19-1	North Coles Levee	Plugged and abandoned—oil
R4	19	Canal	Plugged and Abandoned-- oil
R6	17	Canal	Plugged and abandoned—oil
R6	20	Canal	Plugged and Abandoned-- oil
R7	25	Strand	Plugged and abandoned—oil
R7	35	Strand	Plugged and abandoned—oil
R9	66X	Strand	Plugged and abandoned—dry hole
S7	32-10	Canal	Plugged and abandoned—dry hole
S10	51	Canal	Plugged and abandoned—dry hole
W2	52X-24	North Coles Levee	Plugged and abandoned—oil
W5	1-13	North of North Coles Levee	Plugged and abandoned—oil

Source: California Department of Conservation, Division of Oil, Gas and Geothermal Resources, March 2015²⁵, KWB Board Map, Sanberg 2015

Operators associated with the active oil and gas production wells presented in Table 7.11-2 include Target Drilling; Grayson Services, Inc.; San Joaquin Facilities Management, Inc.; Central Resources Inc.; Crimson Resource Management Corp.; and Glendale Oil Company.²⁶ Both Target Drilling (Well 356-24) and Grayson Services, Inc. (Well 12) operate active water disposal wells associated with its production operations.²⁷ Records for both wells indicate waste disposal at approved depths below 2,400 feet.²⁸



Source: DOC 2014 (Wells and Fields)

Figure 7.11-2. Oil Fields and Associated Wells Located within Kern Water Bank Lands and Vicinity

Enhanced Oil Recovery Wells/Disposal Wells

Senate Bill (SB) 4, effective January 1, 2015, requires oil and gas well operators to submit notification of well stimulation treatments and various types of data associated with well stimulation operations, including chemical disclosure of well stimulation fluids, to DOGGR. Written approval from DOGGR is required before any subsurface injection associated with oil or gas production can begin.

In approving a well-stimulation treatment permit, DOGGR requires as a condition of approval that the applicant install a barrier to prevent any leaks or spills from reaching the soil at well site pads.²⁹

Based on a review of available DOGGR data, no active well stimulation is occurring in the Strand, Ten Section, or Canal Oil Fields. Two wells operated by Central Resources Inc. in the Coles Levee, North Oil Field (Well 83-29 and Well 32-30) were identified at locations outside of KWB lands to the southwest. Well 32-30 is located approximately 1,500 feet south of KWB Lands and Well 83-29 is located approximately 2,000 feet south of the southern boundary of KWB Lands. Sampling of the nearest groundwater recovery wells is required as part of compliance for well stimulation activities. Central Resources, Inc. will sample existing KWB recovery well 19R-1 and West Kern Water District wells 28E-04 and 2-02 as part of the monitoring program.

During oil and gas production, brines are brought to the surface with the petroleum. The brines are re-injected into the petroleum bearing zones for disposal purposes. Annual mechanical integrity tests are performed to confirm that oil field brines have not contaminated overlying freshwater aquifers.

Hazardous Materials Sites

Hazardous sites within a 1-mile radius of KWB Lands were identified for analysis and then separated by their respective environmental databases. These databases are described briefly below.

- **Cortese List:** Sites on the Cortese List are designated by the SWRCB Leaking Underground Storage Tank program, the California Department of Resources Recycling and Recovery, and the California Department of Toxic Substances Control (DTSC) (CALSITES).
- **RCRA-SQG:** The database includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA), and include small-quantity generators (SQGs) that generate between 100 and 1,000 kilograms of hazardous waste per month.
- **SLIC:** The Spills, Leaks, Investigations and Cleanup (SLIC) program is designed to protect and restore water quality from spills, leaks, and similar discharges.
- **LUST:** The Leaking Underground Storage Tank (LUST) incident reports contain an inventory of reported leaking underground storage tank incidents. Data are from the SWRCB's LUST Information System.
- **VCP/EnviroStor:** The EnviroStor database lists potential or confirmed hazardous-substance-release properties that were included in the old CALSITES database. In 1996, the California Environmental Protection Agency (Cal-EPA) reevaluated and significantly reduced the number of sites in the database. This database is no longer updated by the state agency but by local agencies. VCP contains low-threat-level properties with either confirmed or unconfirmed releases.
- **AST:** A listing of the locations of aboveground storage tanks (ASTs) used to store petroleum.
- **WMUDS/SWAT:** The Waste Management Unit Database (WMUDS) is used by SWRCB staff and the regional water quality control boards (RWQCBs) for program tracking and inventory of

waste management units. Solid Waste Assessment Test (SWAT) programs and reporting occur within the WMUDS database.

- **UST:** The Underground Storage Tank (UST) database contains registered USTs. USTs are regulated under RCRA Subtitle I. Data are from the SWRCB's Hazardous Substance Storage Container Database.
- **SWF/LF:** The Solid Waste Facilities/Landfill Sites (SWF/LS) records typically contain an inventory of solid-waste disposal facilities or landfills in a particular state. Data are from the California Department of Resources Recycling and Recovery's Solid Waste Information System database.

Figure 7.11-3 presents locations of hazardous sites identified by EDR in the KWB area. Table 7.11-4 summarizes these hazardous sites.

There are three active permitted ASTs within 0.45 mile of KWB Lands. There has been no reported soil or groundwater contamination related to these ASTs. Along with the USTs listed in Table 7.11-4, there are three active permitted USTs within 0.25 mile of KWB Lands. There has been no reported soil or groundwater contamination related to these USTs.

Cleanup Activities on KWB Lands

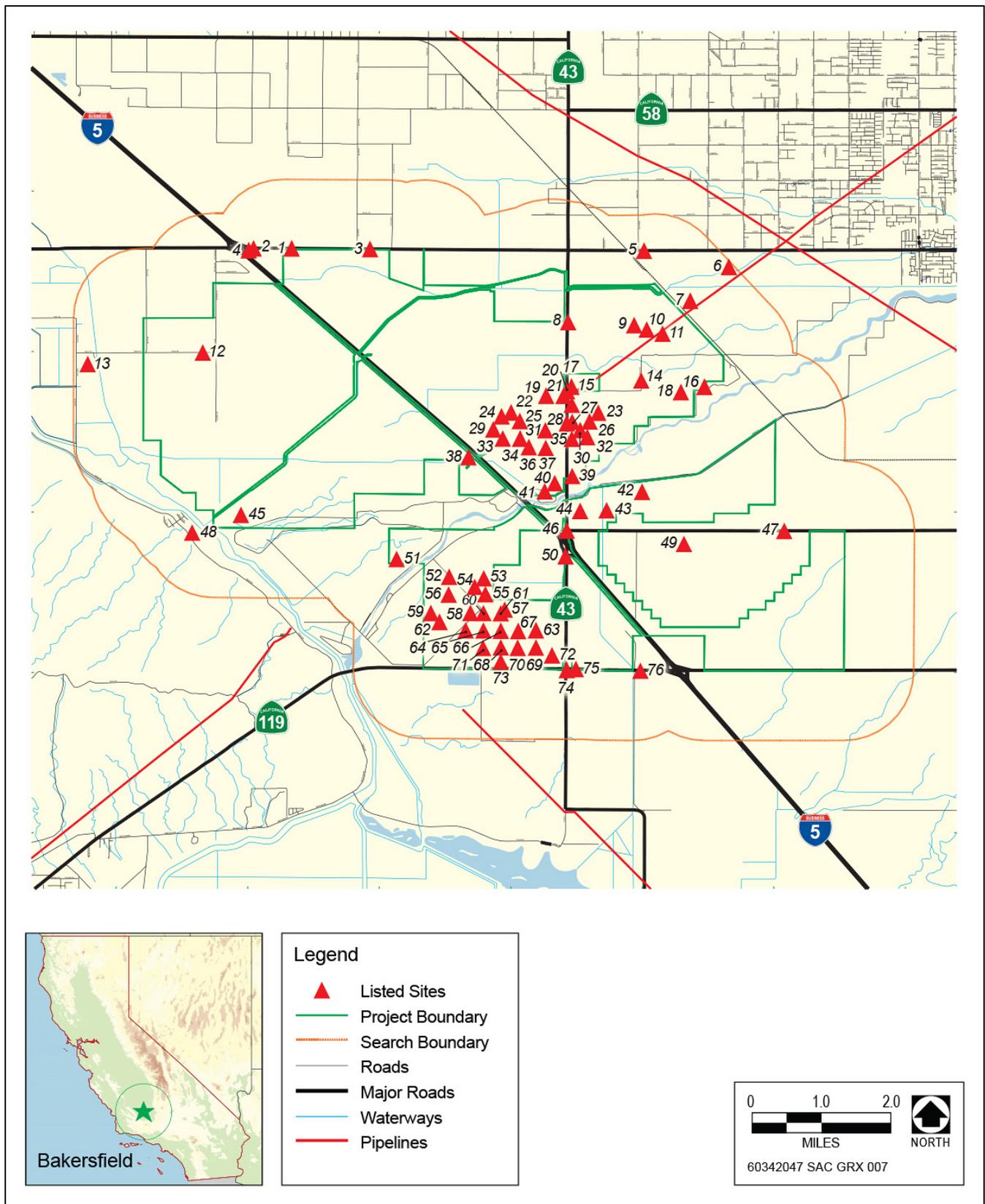
Since 1996, KWBA has tracked third-party activities, primarily oil and gas production and pipelines. In addition, KWBA entered into a Voluntary Cleanup Agreement with DTSC to cleanup contamination associated with the Buena Vista Ranch Headquarters and HSST Ranch Headquarters on KWB Lands. In 1999, cleanup activities including soil and structure removal were completed. The case was closed by DTSC with no further action on January 27, 2000.³⁰

The KWB HCP/NCCP requires that abandonment/removal projects of third-party operations comply with requirements and incorporate best management practices (BMPs), in accordance with USFWS and CDFG (now the California Department of Fish and Wildlife [CDFW]) regulations, and other State and federal agencies.

Activities that are being performed by third parties on or near KWB Lands are described below. Locations of these third-party activities can be found on Figure 7.11-4.

Rio Bravo Pump Station

The former Rio Bravo Pump Station operated as a bulk crude oil storage facility and pump station for the surrounding oil recovery operations by Chevron. The pump station connected to both the Rio Bravo-Estero pipeline and the Chevron Wait-Midway pipeline. Infrastructure associated with the pump station including pipelines, above ground oil storage tanks, burn pits, and brine ponds, has been demolished and removed. An extensive site assessment was performed by Chevron in March 1995, as requested by the Central Valley RWQCB; trenching, soil borings, groundwater monitoring well installations, and off-site sampling was conducted. Elevated levels of total dissolved solids (TDS), metals, chloride, and hydrocarbons (diesel-range) were encountered at approximate depths of surface level to 50 feet bgs. Results from an additional site investigation in 2005 suggested that contaminants appeared to be localized with little lateral or vertical movement.



Source: EDR 2015

Figure 7.11-3. Listed Hazardous Material Sites in the Vicinity of Kern Water Bank

TABLE 7.11-4

**ENVIRONMENTAL DATA RESOURCES 2015 DATABASE SEARCH RESULTS
FOR THE KERN WATER BANK AREA¹**

Location	Map ID	Site Name, Address, Description, Number	Contaminants	Media Affected	Status/Clean up Actions
Cortese List					
0.65 mile northwest of KWB Lands	4	Conoco Phillips Company 29727 Stockdale Highway Bakersfield, CA 93312 Leaking Underground storage tank LUST Cleanup Site REG. ID: 5T15000085	Total Petroleum Hydrocarbons (TPH) as gasoline	Soil	Case closed (2/3/1993)
Less than 0.25 mile to southeastern boundary of KWB Lands	46	Ten Section Pump Station Hwy 43 & Panama Lane Bakersfield, CA 93311 Leaking underground storage tank LUST Cleanup Site RB ID: 5T15000071	Total Petroleum Hydrocarbons (TPH) as crude oil	Soil	Case closed (7/16/1991)
0.65 mile southeast of KWB Lands	47	Ten Section 19263 Panama Lane Bakersfield, CA 93311 Leaking underground storage tank LUST Cleanup Site RB ID: 5T15000567	Total Petroleum Hydrocarbons (TPH) as crude oil	Soil	Case closed (12/13/1993)
RCRA-SQG					
Less than 0.25 mile to northern boundary of KWB Lands	3	WITCO Chemical CORP- CONCARB Division 27000 Stockdale Highway Bakersfield, CA 93309 DTSC Site SLIC Site EPA ID: S106486023	Small Quantity Haz Waste Generator Particulates	N/A (Permits Only)	Open since 1996 – No violations found
Less than one mile to KWB Lands	13	Chevron USA Inc. 25S Station Tupman Road Tupman, CA 93276 EPA ID: CAD000629006	Small Quantity Haz Waste Generator Particulates	N/A (Permits Only)	Open since 1996 – No violations found
Within boundary of KWB Lands	18	Chevron USA Inc. Rio Bravo Station Munzer Road Bakersfield, CA 93309 EPA ID: CAD000629352	Small Quantity Haz Waste Generator Particulates	N/A (Permits Only)	Case Closed (2002)
SLIC					
Less than 0.25 mile to northern boundary of KWB Lands	3,6	Continental Carbon Company 27000 Stockdale Highway Bakersfield, CA 93309 RB Case number: SLT5FQ049	Carbon black was produced at the site from approximately 1960 to 1980. Wastewater was disposed in ponds. EPA site screening in 1988 confirmed that contamination of groundwater was not a major concern.	Groundwater	Open- Inactive as of 1987
Within boundary of KWB Lands	7	Chevron Pipeline/Wait-Midway T30S, R26E, Section 6 Bakersfield, CA 93309 Cleanup program site RB Case number: SL205234273	Total Petroleum Hydrocarbons (TPH) as benzene, crude oil, toluene, diesel, gasoline, and xylene	Aquifer used for drinking water supply	Case closed (2/6/2013)

TABLE 7.11-4

**ENVIRONMENTAL DATA RESOURCES 2015 DATABASE SEARCH RESULTS
FOR THE KERN WATER BANK AREA¹**

Location	Map ID	Site Name, Address, Description, Number	Contaminants	Media Affected	Status/Clean up Actions
Less than 0.25 mile within boundary of KWB Lands	14	Uhler Fire Fighting Facility, Munzer Road Bakersfield, CA 93311 Cleanup program site EPA ID number: S109118057 RB case number: 2050336	Tetrachloroethylene (PCE), trichloroethylene (TCE), Arsenic, Chromium, Lead, Crude Oil, Benzene, Toluene, Ethylbenzene, and Xylenes	Under Investigation	Open-Verification Monitoring as of 2013
Within boundary of KWB Lands	38	KWB T30S, R25E, Section 15 Tupman, CA 93276 UST release EPA IS: S106486178	Crude Oil	Soil	Case Closed (8/29/2015)
LUST					
0.45 mile to northwestern boundary of KWB Lands	2	Former Shell Station 29645 Stockdale Highway Bakersfield, CA 93312 RB Case number: 5T15000891	Total Petroleum Hydrocarbons (TPH) as gasoline	Soil	Case Closed (6/18/2008)
Less than 0.25 mile to southern boundary of KWB Lands	74	South Coles Levee #10 T31S, R25E, Section 10 Bakersfield, CA 93311 LUST Cleanup Site RB Case number: 5T15000283	Gasoline	Aquifer used for drinking water supply	Case Closed (10/17/1992)
VCP/EnviroStor					
Less than 0.25 mile to southeastern boundary of KWB Lands	49	Kern Water Bank Authority Voluntary Cleanup Order	Potential COC Pesticides; Other Organic Solids.	Soil	Case Closed (1/27/2000)
WMUDS					
Less than 0.5 mile to northeastern boundary of KWB Lands	5	Stockdale Site/Hondo Chemical, Inc. 20807 Stockdale Highway Bakersfield, CA 93303 SWF/LF ID: S106832686	Processed waste; high concentrations of, e.g., BOD, Hardness, and Chloride. Manageable hazardous wastes (e.g., inorganic salts and heavy metals) are included.	Water Quality	Case Closed (4/20/1998)
Less than 0.5 mile to southwestern boundary of KWB Lands	45	Elk Hills School District 1006 Kern Street Tupman, CA 93276 WMUDS/SWAT HIST UST Site UST number: U001583281	Category C solids waste; influent or solid wastes such as BOD, Hardness, TRF, and Chloride. Manageable hazardous wastes (e.g., inorganic salts and heavy metals) are included. UST fuels are diesel and gasoline.	Water Quality, minor threat	Case Closed (12/3/1990)
UST					
Less than 0.25 mile to western boundary of KWB Lands	12	Tule Elk Reserve 28577 Station Road Buttonwillow, CA 93206 UST Number: U001580905	UST Leak/Closure, minor threat	Soil	Case Closed (4/25/1990)
SWF/LF					
Less than 0.5 mile to southwestern boundary of KWB Lands	48	Tupman Burn Dump NW/D, NE/4, T30S, R24E, Section 25 Solid Waste Disposal Site ID: S106079117	Unhealthy air emissions; organic hydrocarbons and gases. Particulates	Vapor	Case Closed (1971)

TABLE 7.11-4

**ENVIRONMENTAL DATA RESOURCES 2015 DATABASE SEARCH RESULTS
FOR THE KERN WATER BANK AREA¹**

Location	Map ID	Site Name, Address, Description, Number	Contaminants	Media Affected	Status/Clean up Actions
Within boundary of KWB Lands	72	Arco Coles Levee Disposal Site north of Hwy 119 between Highway 43 and Elk Hills Tupman, CA	Unhealthy air emissions; organic hydrocarbons and gases.	Soil/Ground water/Vapor	Case Closed (12/31/1979)
Various – Plugged Wells		The following are the Map IDs of EDR wells that are listed as plugged: 9-11,15, 16, 19-23, 25-27, 29, 30, 32-37, 39-42, 44, 53-55, 57-69, 71, 73			
Various – Active or Idle Wells		The following are the Map IDs of EDR wells that are active or idle: 24, 31, 43, 51, 52, 56, 70			
Various		The EDR Report also listed four other sites which were not near KWB Lands and/or produced no contaminants: a farm (8), a light pole accident (17), an engineering building (28), and an abandoned mine (50).			
<p>Notes:</p> <p>AST = aboveground storage tank; BOD = biochemical oxygen demand; COC = chemical of concern; EMI = emissions inventory data; DTSC = California Department of Toxic Substances Control; EPA = United States Environmental Protection Agency; KWB = Kern Water Bank; LUST = Leaking Underground Storage Tank; RCRA-SCG = Resource Conservation and Recovery Act small-quantity generator; RWQCB: Regional Water Quality Control Board; SLIC = Spills, Leaks, Investigations, and Cleanup; SWF/LF: Solid Waste Facilities/Landfill Sites; SWRCB = State Water Resources Control Board; VCP = voluntary cleanup priority; WMUDS = Waste Management Unit Database</p> <p>1. 181 orphan listings were found in the Environmental Data Resources report. Of these, 174 were found beyond the 1 mile radius study area, two were duplicates of sites listed in this table, and four were closed before 2008. Closed orphan sites are not in or immediately adjacent to KWB recharge ponds (current and proposed).</p> <p>Source: Environmental Data Resources, 2015³¹</p>					

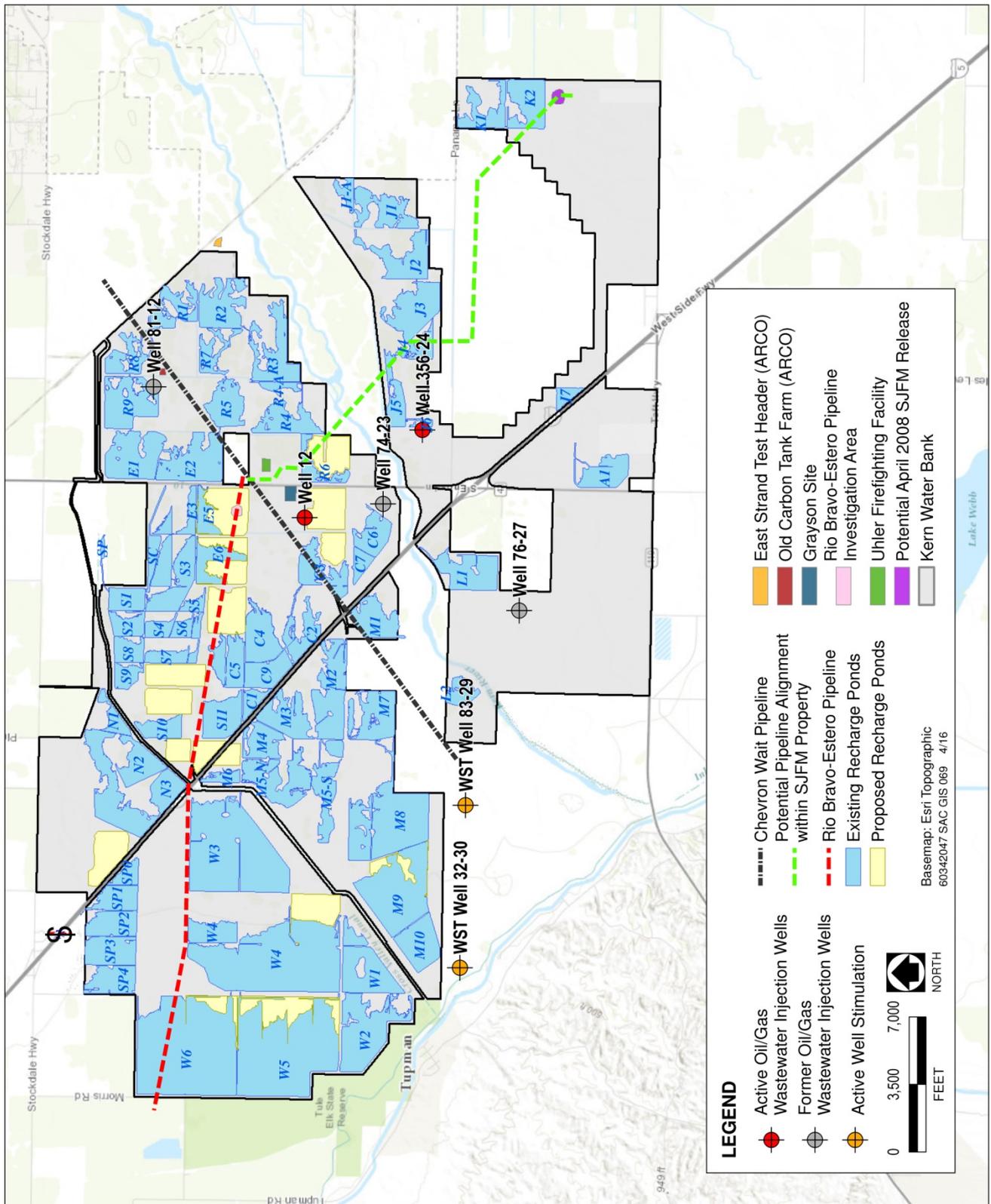
Chevron performed groundwater monitoring semi-annually from 1999-2007. Monitoring results in 2007 indicated that the contaminant concentrations had reached below action levels. Eleven monitoring wells were subsequently decommissioned in 2008.³²

On November 15, 2008, a No Further Action letter was issued to Chevron for the Rio Bravo pump station by the RWQCB.³³

Rio Bravo–Estero Pipeline (Chevron USA)

The Rio Bravo–Estero pipeline is owned by Chevron Pipe Line Company and is abandoned in place. Historically, the pipeline was used to carry heavy and light crude oils. The pipeline previously connected the Estero Marine Terminal in Morro Bay to the Chevron Rio Bravo pump station in Kern County.

A soil assessment performed in January 1996 by Geomatrix Consultants included 68 borings. A single sample from one boring at a depth of 25 feet showed concentrations of crude oil at 30,000 milligrams per kilogram (mg/kg). Samples above and below showed nondetect. The nearest soil boring, approximately 20 feet away, was also nondetect. This single detect sample at 25 feet bgs was considered anomalous and additional remediation was not considered necessary.³⁴ No further investigation was performed. The sample boring is located on KWB Lands but not at an existing recharge pond.



Source: Multiple Sources, Compiled by Sanberg, 2015

Figure 7.11-4. Potential Contamination Sites and Selected Oil/Gas Facilities Existing and Proposed KWB Recharge Ponds

KWBA contacted Chevron in 2001 requesting removal of the unused pipeline and was informed that it would be removed that year. In July 2009, Chevron and KWBA staff members met to discuss implementation of a pipeline assessment. In December 2010, an agreement was reached between Chevron and KWBA detailing potential removal of the pipeline should the KWBA need to use the right-of-way.³⁵ No further action appears to have occurred.

Wait-Midway Pipeline (Chevron USA)

The 32-mile-long Wait-Midway pipeline was used to carry crude oil from Chevron wells in the Strand Oil Field to the Rio Bravo pump station. In 1989, a subsurface investigation of the right-of-way that crosses the now KWB Lands was conducted. In 1996, an extensive groundwater monitoring well network was installed. Sections of the pipeline were removed in the late 1990s and any remaining portions of the pipeline are abandoned in place.³⁶ For site cleanup, Chevron used remediation by natural attenuation for soil cleanup. RWQCB concluded that petroleum constituents left in groundwater were minimal, not posing a threat to groundwater, human health, or the environment.³⁷ The Wait-Midway Pipeline site was issued a letter for no further action by the Central Valley RWQCB on February 16, 2013, and all monitoring wells were decommissioned in late 2013.³⁸

Thomas Oil Company

The Thomas Oil Company site in the Strand Oil Field on KWB Lands consisted of seven oil wells, two tank facilities, sumps, and surface lines. The facilities had compliance problems, including sumps, leaking tanks, and petroleum-stained soil. RWQCB performed an inspection in December 1999 and found two unlined sumps on the property (Sump 1 and Sump 2), one of which contained thick oil wastes (Sump 2). RWQCB subsequently issued a Notice of Violation and request for site closure in December 2000.³⁹ Soil samples from the sump sites indicated the presence of hydrocarbons at elevated levels, and RWQCB requested a remediation plan. The facility was inactive at the time. In January 2001, an investigation of the lateral extent of impacted soils was recommended at Sump 1.⁴⁰

In 2003, Thomas Oil Company went out of business and site closure responsibilities were transferred to DOGGR's orphan well/abandoned lease program. DOGGR identified the former Thomas facilities as "orphaned" and eligible for clean up by the State and set up three phases for site closure.⁴¹ KWBA assisted with biological surveys, access, and monitoring. An initial phase (Phase I) of cleanup began in 2006 and was completed in June 2007. In 2008, DOGGR secured funding for the Phase II activities and returned to abandon the remaining wells, tank farms, and flow-lines.⁴² As part of Phase II, sump closure was completed in 2012. In 2013, RWQCB determined that the degraded residual crude oil does not pose a significant threat to the underlying groundwater. The Central Valley RWQCB issued a letter for no further action on November 15, 2013.⁴³

Uhler Fire Fighting Facility

The Frank Uhler Petroleum Fire Training Facility, a training school to instruct firefighters in the suppression of petroleum fires, was in operation from 1979 to 1990. Tanks, plumbing, and towers were located onsite to give firefighting crews practice in fighting oil industry fires. The land is now owned by KWBA and all former structures have been removed.

A site investigation in 1996 discovered soil impacted by petroleum hydrocarbons. Additional investigations were completed in September 2004, February 2005, and May 2007.⁴⁴ Tetrachloroethylene (PCE), arsenic, chromium, and lead were detected above MCLs in groundwater, and trichloroethylene (TCE) was detected above regulatory limits in the soil. A remedial action plan submitted in 2008 called for excavation and remediation of impacted soils. In August 2011, approximately 10,000 tons of impacted soil were removed (from 18 to 35 feet bgs). In February 2012, Central Valley RWQCB concluded that removal and remediation of impacted soil was complete, but

groundwater monitoring needed to continue. No PCE or TCE was detected above MCLs after groundwater sampling in July 2012.⁴⁵ In addition, metals were detected but below their respective MCLs. Total petroleum hydrocarbon (TPH) as diesel was discovered above its MCL. However, as a result of low groundwater depths, monitoring has not been conducted since July 2012, but is expected to continue as groundwater levels permit.

Vintage Sump Closures - Strand Oil Field (ARCO)

In 1996, ARCO Corporate Environmental Remediation (ARCO), as part of its Vintage Subsurface Facility Removal Project, removed 17 sumps located at two former tank farms in the Strand Oil Field: Old Carbon Tank Farm (M13L2 through M13L7) and East Strand Test Header (M13L1, M13L8 through M13L17) (Figure 7.11-4). The Old Carbon Tank Farm is located on KWB Lands and the East Strand Test Header is located offsite of KWB Lands. Thirteen of those sumps were concrete and/or steel lined, and contained crude oil, wastewater, sludge, and miscellaneous debris. The four remaining sumps (M13L7, M13L8, M13L10, and M13L14) were unlined and contained dirt, wood debris, and sludge residual. Upon sump removal operations, surface soil samples collected from locations adjacent to the removed sump locations indicated that total recoverable petroleum hydrocarbons (TRPH) concentrations ranged from non-detect to 6,300 mg/kg; stained soil was not observed during sump removal.⁴⁶

In June 1997, LUFT Engineers & Environmental Consultants Inc. (LUFT) reviewed the closure procedures performed by ARCO in 1996 for the 17 sumps described above. An unlined sump (M13L8) measuring 20 feet by 40 feet had an estimated 324 cubic yards of stained soil removed. A soil sample from a depth of approximately 21 feet bgs had a concentration of 4,400 mg/kg of TRPH. The sump was closed. At the time of closure, depth to groundwater was believed to be over 100 feet bgs.⁴⁷ Two other sumps were closed with concentrations of TRPH of approximately 1,000 mg/kg. An above ground tank (M13L6) was closed with 1,000 mg/kg TRPH remaining at a depth of 10 feet bgs. An unlined dirt sump, M13L17, was closed with 1,100 mg/kg TRPH remaining at a depth of 8 feet bgs after removing approximately 10 cubic yards of stained soil.

On September 28, 2005, during replacement of equipment on Vintage well 14-7, an oil release occurred which involved impacts to areas outside the well pad that included surrounding non-native grasses and standing water in two adjacent irrigation canals. The impacted areas were scraped by a dozer and the impacted water was removed via vacuum truck and disposed of properly off-site. No subsequent additional disturbance occurred to the site.⁴⁸

In 2005–2006, Vintage abandoned four oil wells in the northeast portion of KWB Lands before transferring ownership to a subsidiary of Occidental of Elk Hills. In response to DOGGR's review of the status of the Vintage well abandonments, the new owner removed the inactive flow lines.

Target Drilling Spill Incident

Target Oil Company operates a few wells and pipelines in, generally, the south-central portion of KWB Lands. Target's activities included oil and gas production, pipeline maintenance, and well maintenance. KWBA observed an oil spill on March 2008 at Target Drilling Company's well number 320-24. The spill was due to a hose which had become loose from a scrubber tank. As the spill does not appear on EPA's Office of Environmental Stewardship Spill Records or EDR Report, it is likely the spill was less than the San Joaquin Valley reportable amount of 1 barrel (42 gallons). An investigation was performed and the spill was contained.⁴⁹ Target was involved in another incident, a well blowout, in August 2011.⁵⁰

Grayson Services, Inc.

Grayson Services, Inc. operates oil field facilities in a portion of Section 14 (Figure 7.11-4). The facility contains three concrete-lined wastewater sumps used for oil and wastewater storage. No volume of wastewater discharge or wastewater samples have been collected for these sumps and, therefore, these action items have been requested through a directive to Grayson from the Central Valley RWQCB. A Cleanup and Abatement Order (CAO) was issued to Grayson in August 2015 regarding the disposal ponds associated with their petroleum production wastewater discharge facility that is located on the site.⁵¹ The CAO is still active and ongoing.

Remediation Activities—211 Pipeline by Inergy Services

In November 2011, Inergy Services performed an internal inspection of its 6-inch 211 pipeline which was constructed in 2001 and used to transport petroleum vapor products from the Rogas Facility located off Stockdale Highway, as well as produced gas from operators along the pipeline alignment. The depth of the pipeline is unknown. The inspection was conducted to verify the integrity of the pipeline for its present usage and the possibility of converting the line to liquid service. The inspection showed the line had significant corrosion which required pipeline maintenance; Inergy Services planned to dig up the line and replace segments. The areas in question were on West Kern Water District property in Section 21-T30S-R25E. Maintenance activities were planned to begin in May 2012.⁵² Inergy Services was contacted for information regarding these activities, but it is unknown whether the planned removal and replacement was completed. A records search indicated no past release of hazardous materials to the environment from operations of this pipeline or its repair.

Inergy Services retains ownership of a 6-inch natural gas pipeline, first operated in 2001, that is located in Section 21-T30S-R25E of KWB Lands. The pipeline is used primarily to transport petroleum vapor products to the Rogas Facility. The 211 natural gas pipeline is located less than a mile from existing recharge ponds. However, a records search indicates no release of hazardous materials to the environment from this pipeline. The future role for the Inergy Services 211 pipeline indicates plans to use it to convey liquefied natural gas. No future recharge ponds would be located within the pipeline right-of-way. Therefore, construction, recharge, and recovery at these ponds would be unaffected by the operation of this pipeline.

Continental Carbon Company

This site is located on the northernmost border of KWB Lands on Stockdale Highway. Carbon black, a material created from the incomplete combustion of petroleum products, was produced at this site from approximately 1960 to 1980.⁵³ Wastewater was disposed to ponds when operating. EPA performed a site screening in 1988 and concluded that contamination of groundwater was not a major concern due to the immobility and insolubility of the particulates left in soil.⁵⁴ DTSC completed a site screening in 1995. As of 2013, all structures and tanks have been removed and all ponds leveled, as evidenced by the RWQCB Geotracker database listing.⁵⁵ However, the site is still listed as “Open-Inactive” on Envirostor and Geotracker databases.

Hondo Chemical (Stockdale Site)

Hondo Chemical (Stockdale Site) is located about 1,000 feet north of the northeast corner of KWB Lands. The site produces various chemicals and was listed as closed on the RWQCB Geotracker database in 1998.⁵⁶ However, in 2007, the company owner was issued a Notice of Violation by Kern County Environmental Health Services Department for incorrect handling and storage of hazardous materials.⁵⁷ In addition, county officials were concerned about Hondo Chemical’s use of water to suppress dust from fly ash stockpiles. A monitoring plan was produced and the owner was ordered to haul all fly ash stockpiles off site. As of 2011, the owner removed 35,000 tons of fly ash.⁵⁸ An October

2013 monitoring report stated that volatile organic compounds, including petroleum hydrocarbons and heavy metals, were not detected in the groundwater samples in excess of either federal or state primary or secondary MCLs. Based upon these analytical results, the report stated the groundwater aquifer beneath the site was not impacted by the operations at the site.⁵⁹ Removal of fly ash stockpiles is ongoing.

Illegal Dumping

Illegal dumping has been reported on KWB Lands in KWB Annual Reports since 2005. The materials dumped include construction waste, tires, appliances, general rubbish, and small amounts of hazardous waste. When possible, KWBA staff identifies the culprit through “leads” in the trash and contacts the responsible party to remove the material to avoid prosecution. More often, KWBA loads, hauls, and cleans up the material.⁶⁰

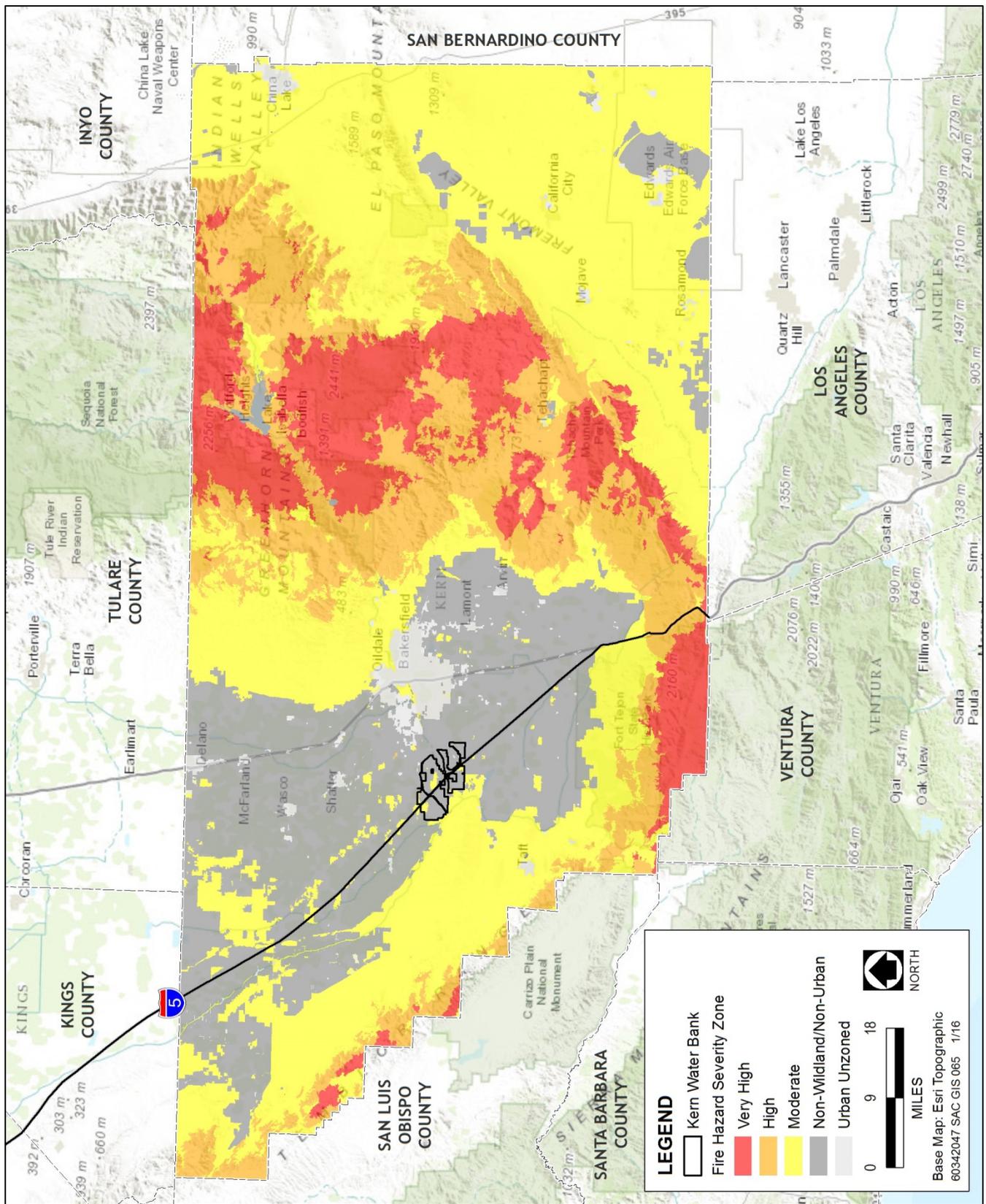
Wildfires and Fire Hazard Safety Zones

Wildland fires represent a substantial threat in the state, particularly during the hot, dry summer months. Wildland fires may be started by natural processes, primarily lightning, or by human activities. California law requires the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas (zones) based on the severity of fire hazard that is expected to prevail there (Figure 7.11-5). Consequently, CAL FIRE has established a fire hazard severity classification system to assess wildland fire potential.⁶¹ The fire hazard severity classification system identifies zones, depicted on CAL FIRE maps, which take into account potential fire intensity and speed, production and spread of embers, fuel loading, topography, and climate (e.g., temperature and the potential for strong winds).

The fire hazard classification system provides three classes of fire hazards: Moderate, High, and Very High. Wildland fire protection in California is the responsibility of either the State, local government, or the federal government. State Responsibility Areas (SRAs) includes those areas where the financial responsibility of preventing and suppressing fires falls primarily on the State; incorporated cities and federal ownership are not included. Local Responsibility Areas (LRAs) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local governments. Federal Responsibility Areas are those located on federal lands not otherwise included in SRAs and LRAs.

CAL FIRE uses an extension of the SRA fire hazard severity zone model (based on amount and type of vegetative cover, beneficial water uses, probable erosion damage, fire risks, and hazards) as the basis for evaluating fire hazard in LRAs. The LRA hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area. Most KWB Lands are classified as unzoned (unclassified fire hazard), with scattered small areas classified as moderate fire hazard severity zones. The hilly terrain to the west is classified as moderate.⁶²

As part of vegetation management on KWB Lands, prescribed burning and the grazing program are common methods used to reduce annual grasses and weeds. Prescribed burns are performed in accordance with the San Joaquin Valley Air Pollution Control District permit for agricultural burning (see Section 7.0.4.1.3. Permit conditions include fire safety procedures including properly cleaned firebreaks and adequate tools and equipment to attend to burn areas. Herbicide spraying for weed control around existing pump stations, utilities, and control structures is performed for fire protection purposes.



Source: California Dept. of Forestry and Fire Protection

Figure 7.11-5. Kern County Fire Hazard Severity Zones

Vectors and Mosquitoes

West Nile virus (WNV) is a mosquito-borne disease that is found in various parts of the world. In 1999, it was detected in the eastern United States; since then, the virus has spread throughout the United States and is well established in most states, including California.

Most people infected with WNV may have no symptoms and will not become sick. However, about 20% will become ill 3 to 15 days after being bitten by an infected mosquito. Symptoms can include: fever, headache, body aches, and mild skin rashes. Less than 1% of WNV cases lead to the more critical form of the disease.⁶³ There were 11 human cases of WNV in Kern County in 2014.⁶⁴

KWB Lands are located in California's Central Valley where Valley Fever is known to exist. Valley Fever is an infection which results from inhalation of a fungus (*Coccidioides immitis*). These fungal spores live in soil and generally are limited to areas of the southwestern United States, Mexico, and parts of Central and South America. It can be contracted only from inhalation of spores; it cannot be passed from an infected person to an uninfected person. Spores can enter the air when ground-moving activities, including natural disasters such as earthquakes or excavation activities, disturb spore-bearing soil. Approximately sixty percent of exposed people may not experience symptoms. Infection can cause flu-like symptoms, and if it is disseminated to organs other than the lungs, it can lead to severe pneumonia, meningitis, and in some cases, death.⁶⁵ There were 895 cases of Valley Fever reported in Kern County in 2014.⁶⁶

7.11.2.3 Regulatory Setting in 1995

The following describes the federal and state regulatory setting in 1995.

Federal

Many agencies regulate hazardous materials. These include federal agencies such as the EPA, the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), DOT, and the National Institutes of Health (NIH). The following represent federal laws and guidelines governing hazardous materials prior to 1995:

- Federal Water Pollution Control Act,
- Clean Air Act,
- Occupational Safety and Health Act,
- Federal Insecticide, Fungicide, and Rodenticide Act,
- Comprehensive Environmental Response Compensation and Liability Act,
- Guidelines for Carcinogens and Biohazards,
- Superfund Amendments and Reauthorization Act Title III,
- Resource Conservation and Recovery Act,
- Safe Drinking Water Act, and
- Toxic Substances Control Act.

At the federal level, the principal agency regulating the generation, transport and disposal of hazardous materials is the EPA, under the authority of RCRA. EPA regulates hazardous waste sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Applicable federal regulations are contained primarily in Titles 29, 40, and 49 of the Code of Federal Regulations (CFR).

State

Cal-EPA and the State's Office of Emergency Services (OES) establish rules governing the use of hazardous materials. Chemical suppliers are responsible for complying with all applicable packaging, labeling, and shipping regulations.

Applicable State laws include the following:

- Public Safety/Fire Regulations/Building Codes,
- Hazardous Waste Control Law,
- Hazardous Substances Information and Training Act,
- Hazardous Materials Release Response Plans and Inventory Act ,
- Air Toxics Hot Spots and Emissions Inventory Law, and
- Underground Storage of Hazardous Substances Act.

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. In 1993, SB 10821 assigned to Cal-EPA the authority and responsibility to establish a unified hazardous waste and hazardous materials management regulatory program (known as the Unified Program) under Health and Safety Code Chapter 6.11. The purpose of the Unified Program is to consolidate, coordinate, and make consistent, both locally and statewide, six different hazardous materials and hazardous waste regulatory programs. State regulations applicable to hazardous materials are indexed in Title 26 of the California Code of Regulations (CCR).

Local

Prior to 1995, local agencies regulated hazards and hazardous materials exercising their police powers under existing State regulations for the monitoring and enforcement of those regulations. In Kern County, the Environmental Health Services Department (EHSD) monitors new land development for environmental quality, including hazards to human health and handling of hazardous materials through its Hazardous and Solid Waste Division.

7.11.2.4 Changes in Regulatory Setting between 1996 and 2014

Federal

The regulatory setting for federal regulations is not substantially different from those that existed in the 1995 regulatory setting described previously, with the following updates:

Hazardous Materials Transportation Act

The transportation of hazardous materials and hazardous wastes, including shipping documentation, placarding and marking of vehicles, loading and unloading, incident reporting, and worker training is regulated through the California Department of Transportation from the Hazardous Materials Transportation Act, as amended and codified in 49 United States Code (USC) section 5101 et seq.

Oil Pollution Prevention

The goal of the oil pollution prevention regulation in 40 CFR Part 112 is to prevent oil discharges from reaching navigable waters of the United States or adjoining shorelines. The rule was also written to

ensure effective responses to oil discharges. The rule further specifies that proactive measures are to be used to respond to oil discharges. The oil pollution regulation contains two major types of requirements: prevention requirements (Spill Prevention, Control, and Countermeasure rules) and Facility Response Plan requirements.

Pollution Prevention Act

The Pollution Prevention Act (42 USC section 13101 et seq.) focused industry government and public attention on reducing the amount of pollution through cost-effective changes in production, operation, and use of raw materials. The Office of Pollution Prevention and Toxics manages programs under the Toxic Substances Control Act and the Pollution Prevention Act. Under these laws, EPA evaluates new and existing chemicals and their risks, and finds ways to prevent or reduce pollution before it reaches the environment. Changes applicable to KWB activities involved adjustments to the list of hazardous materials and MCLs for some of the hazardous materials regulated by the various federal agencies.

State

The regulatory setting for state hazardous materials regulations is not substantially different than those in 1995, as described previously, with the following updates:

California Code of Regulations Title 8

This CCR title contains vital safety laws and regulations regarding California's workers, trades, and workplace safety:

- Department of Industrial Relations
- Cal/OSHA
- Construction Safety Orders
- Division of Labor Standards Enforcement
- Division of Workers' Compensation
- Division of Industrial Accidents
- General Industry Safety Orders

California Code of Regulations Title 19⁶⁷

This CCR title sets standards for the prevention of fire and the protection of life and property from the Office of the Fire Marshal, the Office of Emergency Services, and the Seismic Safety Commission:

- General Fire & Panic Safety Standards
- Construction Guidelines
- Emergency Management System
- Earthquake & Fire Resistant Construction Standards

California Code of Regulations Title 22⁶⁸

This CCR title contains compliance information from the California Employment Development Department, Department of Aging, Department of Social Services, Department of Rehabilitation, and Department of Health Care Services:

- Environmental Health
- Standards for Management of Hazardous Waste

California Senate Bill 4 (Oil and Gas Well Stimulation Treatments in California)

SB-4, effective January 1, 2014 and continuing until permanent regulations are adopted, requires oil and gas well operators to submit notification of well stimulation treatments and various types of data associated with well stimulation operations, including chemical disclosure of well stimulation fluids, to DOGGR. Well stimulation treatments include but are not limited to hydraulic fracturing treatments and acid well stimulation treatments. It also mandates seismic testing and mapping, and reporting of water used and the disposition of fracking wastewater. The legislation also requires an in-depth study of well stimulation treatments in California to evaluate the hazards and risks and potential hazards and risks that well stimulation treatments pose to natural resources and public, occupational, and environmental health and safety.

California Department of Pesticide Regulation

Pesticide use is regulated by EPA and the California Department of Pesticide Regulation (CDPR). EPA sets broad restrictions on pesticide use; in general, California's laws are even more stringent than federal standards. Both federal and state laws require that pesticides be used according to their labels. Agricultural operations also require the applicator to file a detailed report on monthly pesticide use with the local county agricultural commissioner's office. County agricultural commissioners serve as the primary local enforcement agents for pesticide laws and regulations. CDPR maintains pesticide usage data reported to the county agricultural commissioner in its Pesticides Use Reporting Database.

Cortese List

The provisions of California Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the legislator who authored the legislation that enacted it). The Cortese List is a planning document used by state and local agencies to comply with CEQA requirements in providing information about the locations of hazardous-materials release sites. California Government Code Section 65962.5 requires Cal-EPA to develop an updated Cortese List annually, at a minimum. DTSC and SWRCB are responsible for a portion of the information contained in the Cortese List. Other California state and local government agencies are required to provide additional information about releases of hazardous materials for the Cortese List. CEQA requires an evaluation of whether or not a project would be located on a hazardous-materials site that is included on the Cortese List. The results of Cortese List database searches are discussed above under "Hazardous Materials Sites" in Section 7.11.2.2, Changes in Physical Setting Between 1996 and 2014.

Central Valley RWQCB

The Central Valley RWQCB is responsible for protecting the beneficial uses of surface waters and groundwater resources in the Tulare Lake Hydrological Basin. RWQCB adopted a water quality control plan (WQCP, sometimes known as the basin plan), amended in January 2004, that sets the implementation policies, goals, and water management practices in accordance with the Porter-Cologne Water Quality Control Act. The basin plan establishes numerical and narrative standards and

objectives for water quality aimed at protecting beneficial uses of surface water in the basin. The Central Valley RWQCB also enforces provisions of the state statutes that protect groundwater.

California Department of Forestry and Fire Protection

CAL FIRE is responsible for fire protection and stewardship of more than 31 million acres of California's privately owned wildlands. CAL FIRE's mission includes managing and protecting California's natural resources. CAL FIRE's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year and oversee enforcement of California's forest practice regulations, which guide timber harvesting on private lands. CAL FIRE also provides Fire Hazard Severity Zone Maps for SRA lands and separate draft Very High Fire Hazard Severity Zone Maps for LRA lands. CAL FIRE also requires California counties to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, state, and local responsibility areas for the entire county to facilitate coordination efforts for fire protection services.

Local

The regulatory setting for state hazardous materials regulations is not substantially different than those in 1995, as described previously, except for formation of local California Unified Program Agencies (CUPAs) to assist in the monitoring and emergency planning for hazardous materials release. The local CUPAs formed after 1995 are the Kern County EHSD and the City of Bakersfield Fire Department (Metropolitan Bakersfield Area). General Plans developed by the CUPAs formulate the strategy used to administrate projects within their jurisdiction.

Kern County General Plan

The following goal from the Circulation Element of the *Kern County General Plan* would be applicable to KWB activities:

Transportation of Hazardous Materials

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Metropolitan Bakersfield General Plan

The following goals and policies from the Conservation Element of the *Metropolitan Bakersfield General Plan* would be applicable to KWB activities:

Conservation/Minerals

Goal 3: Avoid conflicts between the productive use of mineral and energy resource lands and urban growth.

Goal 4: Protect land, water, air quality and visual resources from environmental damage resulting from mineral and energy resource development.

- **Policy 11:** Prohibit incompatible development in areas which have a significant potential for harm to public health, safety and welfare due to mineral and petroleum extraction and processing.
- **Policy 12:** Design resource extraction operations subject to discretionary permits to maintain the integrity of areas of "high environmental quality" and unique scenic value.

Kern County Hazardous Materials Area Plan

The Kern County Hazardous Materials Area Plan is a document created by the Kern County Environmental Health Services Department (KCEHSD) that regulates businesses which deal in creation, transport, or disposal of hazardous wastes. The disclosure program requires handlers of hazardous materials and waste to develop Hazardous Materials Business Plans (business plans) and submit electronically through the California Environmental Reporting System (CERS) to KCEHSD. Handlers must also submit reports of spills or incidents depending on specific standards set by Kern County.⁶⁹

7.11.3 IMPACTS AND MITIGATION MEASURES

7.11-1 KWB construction activities could potentially expose workers or the public to previously unidentified hazards or hazardous materials.

1996 — 2014

The construction of KWB facilities resulted in ground-disturbing activities that could have exposed construction workers to residual chemicals by inhaling fugitive dust emissions associated with past agricultural practices involving the use of pesticides, fungicides, and similar agricultural products on crops and soils.

Residues of agricultural chemical products in farmed soils as a result of routine agricultural operations are not typically managed as hazardous waste when used in accordance with adopted laws and regulations. Nonetheless, individuals performing excavation and grading activities would be at a greater risk of exposure to agricultural chemical residues in soil through inhalation of fugitive dust emissions from soil movement. Construction of the ponds would also involve the use of heavy equipment that would contain fuels and lubricants. These products contain hazardous compounds, and an accidental release of these materials could injure construction workers, contaminate soil or water, or present a fire/explosion hazard.

Construction contracts included specific language requiring contractors to comply with applicable hazardous materials management laws and regulations adopted at the State level in Titles 19 and 22 of the CCR, which address proper storage and disposal of substances such as fuels. Title 8 of the CCR also addressed the use of hazardous products in the work environment, which would apply to construction contractors. The potential for inadvertent spills of materials, which could affect nearby surface water bodies or groundwater, was managed through National Pollutant Discharge Elimination System (NPDES) construction site BMPs and measures included in the KWB HCP/NCCP Vegetation Management Plan (Appendix 7-7c). The 1997 Monterey IS and Addendum (Appendix 7-6a) also included a requirement that pesticides be used in accordance with the KWB HCP/NCCP Vegetation Management Plan. No known exposure of hazards or hazardous materials to workers or the public were documented during KWB construction or operation activities from 1996 through 2014.

Therefore, the impact of KWB activities from 1996 to 2014 with regard to exposing workers or the public to previously unidentified hazards or hazardous materials was ***less than significant***.

Mitigation Measures

None required.

2015 — 2030

Near-term future KWB activities include construction of approximately 190 acres of recharge ponds and three wells under the ongoing Integrated Regional Water Management (IRWM) program (Kern Water Bank Recharge and Recovery Project). Longer-term future construction of approximately 862 acres of additional recharge ponds and associated facilities is anticipated as part of full build-out. The IRWM program ponds have been sited. The locations of additional ponds are approximate but will be consistent with the KWB HCP/NCCP requirements; final locations and areas will be determined as these facilities are designed. Maintenance of existing and new basins, wells, and ancillary facilities would also take place.

The construction of recharge ponds would result in ground-disturbing activities that could expose construction workers to residual chemicals associated with past agricultural practices involving the use of rodenticides, pesticides, fungicides, and similar agricultural products on crops and soils. Residues of agricultural chemical products in farmed soils as a result of routine agricultural operations are not typically managed as hazardous waste when used in accordance with adopted laws and regulations. Nonetheless, individuals performing excavation and grading activities would be at a greater risk of exposure to agricultural chemical residues in soil through inhalation of dust from soil movement. Construction of the ponds would also involve the use of heavy equipment that would contain fuels and lubricants. These products contain hazardous compounds, and an accidental release of these materials could injure construction workers, contaminate soil or water, or present a fire/explosion hazard. Current land management practices involve the use of herbicides.

KWB construction and operation activities would represent a potentially significant impact to construction workers or the public by exposing them to hazards of the accidental release of hazardous materials.

Construction contracts would include specific language requiring contractors to comply with applicable hazardous materials management laws and regulations adopted at the State level in Titles 19 and 22 of the CCR, which address proper storage and disposal of substances such as fuels. Title 8 of the CCR also addresses the use of hazardous products in the work environment, which would apply to construction contractors. The potential for inadvertent spills of materials, which could affect nearby surface water bodies or groundwater, would be managed through NPDES construction site BMPs (see Section 7.0.4.1.1) and measures included in the KWB HCP/NCCP Vegetation Management Plan (Appendix 7-7c) and the 1995 Monterey IS and Addendum (Appendix 7-6a).

Although these measures are available and required, the impact of KWB activities from 2015 to 2030 with regard to exposing workers or the public to previously unidentified hazards or hazardous materials could be ***potentially significant***.

Mitigation Measures

Mitigation Measure 7.11-1 would reduce impacts of KWB activities with regard to exposing workers or the public to previously unidentified hazards or hazardous materials to less than significant. KWBA is subject to legal requirements regarding hazardous materials and herbicide use (see Sections 7.0.4.1.2 and 7.0.4.1.5 in subsections a) and b) below) and is obligated to carry out the measures (Section 7.0.4.3.1, 1997 Monterey IS and Addendum; and Section 7.0.4.3.2, 2016 KWBA Resolution) in subsections b) and c) below. Therefore, the impact of KWB activities from 2015 to 2030 with regard to exposing workers or the public to previously unidentified hazards or hazardous materials would be ***less than significant, with mitigation***.

7.11-1 KWBA will implement the following measures:

- a) *Require construction contracts to include specific language requiring contractors to comply with applicable hazardous materials management laws and regulations adopted at the State level in Titles 19 and 22 of the CCR, which address proper storage and disposal of substances such as fuels and Title 8 of the CCR which addresses the use of hazardous products in the work environment, which would apply to construction contractors. (See Section 7.0.4.1.2.)*
- b) *Ensure that the use of herbicides on the site shall be permitted in accordance with the KWB HCP/NCCP Vegetation Management Plan, which will incorporate by reference any other applicable laws, rules, and regulations regarding the use of pesticides as they take effect. (Measure B-3(e), Ongoing Pesticide Use, in 1997 Monterey IS and Addendum)(see Appendix 7-6a and Section 7.0.4.1.5).*
- c) *Provide a comprehensive Worker Environmental Awareness Program (WEAP) that will include all training requirements identified in Best Management Practices, Worker Site Specific Health and Safety Plan, and mitigation measures, including training for all field personnel (e.g., KWBA employees, agents, and contractors). The WEAP shall include protocols and training for responding to and handling of hazardous materials and hazardous waste management, and emergency preparedness, release reporting, and response requirements. KWBA will ensure that all construction workers at risk of inhaling dust shall be provided masks with filters designed to trap spores of the size of Valley Fever fungus. (See Appendix 7.6b, 2016 KWBA Resolution).*
- d) *Comply with Mitigation Measure 7.8-1 and 7.8-2.*

7.11-2 **KWB activities could create a hazard to the public or environment through accidental release of hazardous materials or through routine transport, use, or disposal of hazardous materials.**

1996 — 2014

Construction of KWB facilities during this time period included the use of heavy equipment as well as the use, transport, and disposal of hazardous materials. Construction contracts included specific language requiring contractors to comply with applicable hazardous materials management laws and regulations adopted at the State level in Titles 19 and 22 of the CCR, which address proper storage and disposal of substances such as fuels. Title 8 of the CCR also addresses the use of hazardous products in the work environment, which would apply to construction contractors. The potential for inadvertent spills of materials, which could affect nearby surface water bodies or groundwater, was managed through NPDES construction site BMPs and measures included in the KWB HCP/NCCP Vegetation Management Plan (Appendix 7-7c). The 1997 Monterey IS and Addendum (Appendix 7-6a) also included a requirement that pesticides be used in accordance with the KWB HCP/NCCP Vegetation Management Plan. No known exposure of hazards or hazardous materials to workers or the public were documented as a result of accidental releases during KWB construction or operations activities from 1996 through 2014.

Therefore, the impact of KWB activities from 1996 to 2014 with regard to accidental release of hazardous materials or through routine transport, use, or disposal of hazardous materials was ***less than significant***.

Mitigation Measures

None required.

2015 — 2030

Future routine activities of the KWB may require maintenance of ponds, canals, and infrastructure, including periodic earthwork operations for berm maintenance, soil permeability enhancement, and removal of vegetative growth. Routine operations also include such activities as water quality monitoring and security inspections at specified intervals.

These activities would involve field equipment and vehicles which require the use, transport, and disposal of hazardous materials, including petroleum-based fuels and lubricants. The use, handling, storage, and disposal of any hazardous classified materials would be practiced under local, state, and federal regulations. Hazardous material transport would also comply with any Caltrans requirements and regulations.

The KWB HCP/NCCP requires KWBA's application of pesticides to comply with CDPR regulations with regards to recharge basins and proximity to wellheads. The transport and disposal of pesticides would be done in accordance with applicable regulatory requirements.

Any future construction activities would require contractors to comply with federal, state, and local regulations regarding the use, handling, storage, and disposal of any materials classified as hazardous. The project would include the construction of recharge ponds which would involve the use of heavy equipment containing fuels and lubricants.

Although regulations exist to prevent accidental release of hazardous materials,, KWB construction activities would represent a potentially significant impact to construction workers or the public by potentially exposing them to the accidental release of hazards or hazardous materials.

Therefore, the impact of future KWB activities from 2015 to 2030 with regard to accidental release of hazardous materials or through routine transport, use, or disposal of hazardous materials could be ***potentially significant***.

Mitigation Measures

Mitigation Measure 7.11-1 would reduce impacts of KWB activities with regard to accidental release of hazardous materials or through routine transport, use, or disposal of hazardous materials to less than significant. Therefore, the impact of KWB activities from 2015 to 2030 with regard to accidental release of hazardous materials or through routine transport, use, or disposal of hazardous materials would be ***less than significant, with mitigation***.

7.11-2 *KWBA will implement Mitigation Measure 7.11-1.*

7.11-3 KWB activities could potentially be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a potential hazard for the environment and people residing or working in the immediate area.

1996 — 2014

The 2007 DEIR Appendix E listed several Areas of Potential Environmental Concern associated with past uses of KWB Lands. All of these areas which became KWBA's responsibility upon land acquisition

have been cleaned up, remediated, and/or closed, including Buena Vista Ranch Headquarters, HSST Ranch Headquarters, and S&M Farms. Since these Areas of Potential Environmental Concern have been addressed, the impacts to human health and the environment and people residing or working in these areas were less than significant.

A list of previous and ongoing investigations of hazardous sites on and near KWB Lands (within 1-mile radius) has been compiled in Table 7.11-4 from an EDR, Inc. report. Two sites from Table 7.11-4 were listed as open and/or being monitored for further contamination(s) on specific State databases.

Continental Carbon, approximately one-quarter mile north of KWB Lands, is listed as an open yet inactive facility on the Geotracker database. Carbon black, a material created from the incomplete combustion of petroleum products, was produced at this site from approximately 1960 to 1980. Wastewater was disposed to ponds when operating. EPA performed a site screening in 1988 and concluded that contamination of groundwater was not a major concern due to the immobility and insolubility of the particulates left in soil.⁷⁰ The immobility of the carbon black suggests that the impacts to the environment and to construction workers and operations and maintenance workers were less than significant.

A site investigation in 1996 at the Frank Uhler Petroleum Fire Training Facility discovered crude/waste oil in the groundwater. Additional investigations were completed in September 2004, February 2005, and May 2007.⁷¹ Following soil removal, no PCE or TCE was detected above MCLs after groundwater sampling in July 2012.⁷² In addition, metals were detected but below their respective MCLs. TPH as diesel was discovered above its MCL. Monitoring has not been conducted since July 2012, as a result of low groundwater depths, but is expected to continue as groundwater levels permit.

As presented above, several hazardous material sites were located on or near KWB Lands. However, implementation of remediation activities at all of these hazardous sites reduced potential impacts to the environment and to construction and operations and maintenance workers. No known exposure of hazards or hazardous materials to workers were documented.

Therefore, the impact of KWB activities from 1996 to 2014 with regard to location on a site which is included on a list of hazardous materials sites was ***less than significant***.

Mitigation Measures

None required.

2015 — 2030

The KWBA's proposed layout of future recharge basin and conveyance structures has been designed to avoid these hazardous sites. Should any future KWB construction activities require access to a listed site, measures would be taken to avoid these sites or a site investigation would be performed to evaluate the potential for impacts to the environment, including to the public and construction workers. Of the identified list of hazardous sites that are classified as "open" (see Table 7.11-4), one is not on KWB Lands (Continental Carbon) and the other (Uhler) has had contaminated soil excavated.

Therefore, the impact of KWB activities from 2015 to 2030 with regard to a location which is included on a list of hazardous materials sites would be ***less than significant***.

Mitigation Measures

None required.

7.11-4 KWBA activities with regard to accidents and upsets from onsite and adjacent third-party activities on or near KWB Lands could potentially create a significant hazard to the public or environment.

1996 — 2014

This section evaluates potential impacts of specific third-party activities, with the exception of potential impacts to groundwater, which are discussed in Section 7.2, Surface Water and Groundwater Quality.

The oilfields in and adjacent to KWB Lands include wastewater injection wells that are subject to regulation by DOGGR Class II Underground Injection Control (UIC) program, which enforces the requirement of the federal Safe Drinking Water Act. Written approval from DOGGR is required before any subsurface injection associated with oil or gas production can begin. Injection wells have been constructed to enable the disposal of wastewater produced during oil production. Two injection wells near KWB Lands, although presently active, have records indicating water disposal at approved depths that present no connectivity to groundwater zones.

All accidents and upsets involving hazardous materials on KWB Lands would be required to comply with regulations of the Kern County Operational Hazardous Materials Area Plan. Prior to activities, all parties would need to prepare a Spill Prevention Countermeasure and Control Plan, submitted for approval to Kern County. The plan would include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup. Due to the depth of the injection well relative to the usable groundwater aquifer, the introduction of hazardous materials into the groundwater due to co-location of the proposed KWB recharge ponds with the existing oilfield injection wells is not expected and would be less than significant.

For background information on the related party and details of the event, please refer to Section 7.11.2.2, Changes in Physical Setting between 1996 and 2014.

Rio Bravo–Estero Pipeline (Chevron USA) Investigation Area

The Rio Bravo–Estero pipeline is currently abandoned in place and was last in operation in 1995. Historically, the pipeline was used to carry heavy and light crude oils.

Vintage Sump Closures – Strand Oil Field (ARCO)

The remaining TRPH impacted soil at this location would be about 29 feet or less above the first aquifer at the time of remedial activities. Based on the sampling performed, it is uncertain how much deeper and at what concentration the TRPH extends downward. The tank farms where sump removal activities occurred are not located on existing recharge ponds. Therefore, construction and past operations and maintenance workers would not have been exposed to impacted soil from these sumps.

Grayson Services, Inc.

The 1991 Phase I Environmental Site Assessment determined the facility's location did not pose an immediate threat to KWB groundwater recharge or extraction operations.⁷³ The Grayson site was not accessible to the general public and, therefore, any inappropriately stored hazardous waste would not have been expected to represent a significant hazard to the public. However, since neither the concentration of constituents nor the extent of any potential releases addressed in the 1991 Phase I

Environmental Assessment has been characterized, the degree of any potential adverse impacts to KWB Lands or the environment from past activities is unknown at this time.

Conclusion

Significant hazard to the public or environment through accidents and upsets from onsite and adjacent third-party activities during 1996 through 2014 appears limited to the Grayson site. Impacts to operations and maintenance workers near this site are limited and there is no evidence that workers or the public were exposed to hazardous materials.

Therefore, the impact of KWB activities from 1996 to 2014 with regard to accidents and upsets from onsite and adjacent third-party activities was ***less than significant***.

Mitigation Measures

None required.

2015 — 2030

The oilfields in and adjacent to KWB Lands include wastewater injection wells that are subject to regulation by DOGGR Class II Underground Injection Control (UIC) program, which enforces the requirement of the federal Safe Drinking Water Act. Written approval from DOGGR is required before any subsurface injection associated with oil or gas production can begin. Injection wells have been constructed to enable the disposal of wastewater produced during oil production. Two injection wells near KWB Lands, although presently active, have records indicating water disposal at approved depths that present no connectivity to groundwater zones.

All accidents and upsets involving hazardous materials on KWB Lands would be required to comply with regulations of the Kern County Operational Hazardous Materials Area Plan. Prior to activities, all third parties would need to prepare a Spill Prevention Countermeasure and Control Plan, submitted for approval to Kern County. The plan would include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup. Due to the depth of the injection well relative to the usable groundwater aquifer, the introduction of hazardous materials into the groundwater due to co-location of the proposed KWB recharge ponds with the existing oilfield injection wells is not expected and would be less than significant.

Rio Bravo–Estero Pipeline (Chevron USA)

Chevron USA, in accordance with the “Settlement Agreement” made with KWBA on December 1, 2010, is required to abandon the pipeline in place and return the property to its prior condition.⁷⁴ Although the 1996 impacted sample boring exceeded 10,000 mg/kg, the sample was anomalous as sample depths above and below were non-detect. The nearest soil boring, approximately 20 feet away, was also non-detect. Therefore, impacts related to public workers and the environment would be less than significant.

Vintage Sump Closures – Strand Oil Field (ARCO)

There are no new recharge ponds planned to be constructed at or near the two sump closures, where workers could be exposed to impacted soil. The remaining TRPH impacted soil of 4,400 mg/kg at M13L8 is located on the East Strand Tank Farm which is more than 2,000 feet from the nearest existing recharge pond and more than 1,400 feet from the nearest KWB groundwater recovery well (8M1). Due to the lateral distance from the area of concern to the nearest KWB recharge ponds and recovery wells, the impacts to public workers and the environment would be less than significant.

Grayson Services, Inc.

The Grayson site is not accessible to the general public and, therefore, any inappropriately stored hazardous waste is not expected to represent a significant hazard to the public. However, since neither the concentration of constituents nor the extent of any potential releases have been characterized, the degree of any potential adverse impacts to KWB Lands from activities is unknown at this time.

KWBA workers could potentially be exposed to hazardous wastes in the three basins. Since neither the concentration of constituents in the three basins onsite nor the extent of any potential releases has been characterized, the degree of potential adverse impacts to the KWB Lands from these basins is unknown at this time. The identified Grayson site which is classified as open continues to represent a potential source of impact although current conditions do not allow public access to the site. Nonetheless, potential impacts to human health to public workers and the environment could be potentially significant.

Conclusion

The sites discussed above do not pose risks to human health of construction and site workers; however, the Grayson site poses potential for interactions between hazardous sites and KWB activities.

Therefore, impact of KWB activities from 2015 to 2030 with regard to accidents and upsets from onsite and adjacent third-party activities could be ***potentially significant***.

Mitigation Measures

Mitigation Measure 7.11-4 would reduce impacts of KWB activities with regard to accidents and upsets from onsite and adjacent third party activities to less than significant. KWBA is obligated to carry out the measures (see Section 7.0.4.3.1, 1997 Monterey IS and Addendum, and Section 7.0.4.3.2, 2016 KWBA Resolution) in subsections b), and c) below. Therefore, the impact of KWB activities from 2015 to 2030 with regard to accidents and upsets from onsite and adjacent third party activities would be ***less-than-significant, with mitigation***.

7.11-4 *KWBA will implement the following measures:*

- a) *Implement Mitigation Measure 7.11-1.*
- b) *Continue to monitor the remediation of the current and any future hydrocarbon contamination from third-party oil and gas activities. (Measure C-2, Hydrocarbon Contamination Monitoring, in 1997 Monterey IS and Addendum)(See Appendix 7-6a.)*
- c) *KWBA shall implement the following measures before and during ground-disturbing activities to reduce health hazards associated with potential exposure to hazardous substances (2016 KWBA Resolution)(see Appendix 7-6b.)*
 - i. *If stained or odorous soil is discovered during project-related construction activities, KWBA shall retain a qualified environmental professional to conduct a Phase II Environmental Site Assessment and/or other appropriate testing. Recommendations in the Phase II Environmental Site Assessment to address any contamination that is found shall be implemented before continuing with ground-disturbing activities in these areas.*
 - ii. *As required by law, notify the appropriate federal, state, and local agencies if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous*

groundwater) or if unknown or previously undiscovered underground storage tanks are encountered during construction activities.

7.11-5 KWB activities could potentially expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

1996 — 2014

The KWB is located in a Local Responsibility Area (LRA). The majority of KWB Lands is classified as unzoned (unclassified fire hazard) with scattered small areas classified as a moderate fire hazard severity zone. The hilly terrain to the west is classified as a moderate fire hazard severity zone. KWB Lands are generally undeveloped land with recharge ponds (basins), water canals, water wells, and well pipelines to convey water; other non-water development third-party uses include oil well and pipeline maintenance, and transmission line maintenance. Uses of surrounding lands include oil production and agriculture. The vegetation on KWB Lands is predominantly comprised of a variety of grasses and weeds, with local groupings of shrubs (e.g., Russian thistle, tumbleweed) and small trees. Herbaceous vegetation is common in the dry recharge pond basins. Vegetation in the surrounding areas includes the above and various agricultural crops.

Past vegetation management on KWB Lands has included controlled burns, herbicide application, and grazing. During controlled burning, which would be under permit from the San Joaquin Valley Unified Air Pollution Control District and Kern County Fire Department (see Sections 7.0.4.1.3 and 7.0.4.1.4), no people or structures were subjected to any significant loss, injury, or death from this activity. In addition, existing fire protection services within and surrounding KWB Lands (associated with the oil production facilities) include the Kern County Fire Department and the City of Bakersfield Fire Department, both with stations located nearby to the east (see Section 7.14, Public Services, and Section 7.0.4.1.4 for more detail regarding fire protection services). Uncontrolled wildland fire did not occur from 1996 through 2014.

Therefore, the impact of KWB activities from 1996 to 2014 with regard to wildland fires was ***less than significant***.

Mitigation Measures

None required.

2015 — 2030

KWBA would continue to manage KWB Lands as described for 1996 through 2014, and there would be no increased risk of wildland fires compared to 1996 through 2014. The area is characterized by sparse vegetation controlled by burns (see Sections 7.0.4.1.3, Air Quality Standards; and 7.0.4.1.4, Burn Permits), herbicide application, and grazing; lack of adjacent urbanized areas or residences; periodic flooding of the recharge basins; and availability of nearby fire protection services.

Therefore, the impact of KWB activities from 2015 to 2030 related to wildland fires would be ***less than significant***.

Mitigation Measures

None required.

7.11-6 KWB activities could increase airborne vector populations or the likelihood of waterborne disease or illness.

1996 — 2014

Mosquitoes are common within KWB Lands due to the abundance of standing water in ponds. Five species in particular occur in abundance and can cause health and nuisance problems. They are *Culex tarsalis* (the encephalitis mosquito), *Aedes melanimon*, *Anopheles freeborni* (the western malaria mosquito), *Anopheles franciscanus*, and *Culiseta inornata*. KWB Lands fall within the jurisdiction of two local mosquito abatement districts (Kern and Westside Mosquito Abatement Districts), that monitor and, when necessary, eradicate mosquito larvae and adults). KWB Lands are rural with few humans present, and no reported cases of mosquito-borne diseases or illnesses have been attributed specifically to KWB recharge ponds or conveyance facilities.

KWB Lands are located in California's San Joaquin Valley where Valley Fever is known to exist. Valley Fever is an infection which results from inhalation of the fungus (*Coccidioides immitis*). Spores live in soil, and Valley Fever can be contracted only from inhalation of spores; it cannot be passed from an infected person to an uninfected person. Spores can enter the air when ground-moving activities, including natural disasters such as earthquakes or excavation activities, disturb spore-bearing soil. Earth-moving activities during construction or maintenance of KWB facilities may have disturbed soils and caused the fungus to become airborne. Appropriate personal protective equipment for construction contractors and dust control BMPs minimize risk to exposure to airborne particulates.

KWB facilities have been constructed and in operation over nearly the past 20 years. KWB Lands are rural with few humans, and no reported cases of mosquito-borne diseases or illnesses, or Valley Fever, have been attributed specifically to KWB-related activities.

Therefore, the impact of KWB activities from 1995 to 2014 with regard to airborne vector populations or the likelihood of waterborne disease or illness was **less than significant**.

Mitigation Measures

None required.

2015 — 2030

Future KWB activities include construction of new recharge ponds and ancillary facilities, as well as continued recharge, recovery, and operations and maintenance activities. The construction activities would disturb the soil and potentially cause the Valley Fever fungus to become airborne during earth-moving activities. The additional recharge basins would lead to increased surface areas of standing water that may increase areas for vectors to gather and provide a breeding ground for mosquito larvae.

Therefore, the impact of KWB activities from 2015 to 2030 with regard to airborne vector populations or the likelihood of waterborne disease or illness could be **potentially significant**.

Mitigation Measures

Mitigation Measure 7.11-6 would reduce impacts of KWB activities with regard to airborne vector populations or the likelihood of waterborne disease or illness to less than significant. KWBA is obligated to carry out the measures below in subsection b) (see Section 7.0.4.3.1, 1997 Monterey IS and Addendum). Therefore, the impact of KWB activities from 2015 to 2030 with regard to airborne vector populations or the likelihood of waterborne disease or illness would be **less than significant, with mitigation**.

7.11-6: *KWBA will implement the following:*

- a) *Implement Mitigation Measure 7.11-1(c).*
- b) *Implement Measure P-1, Implementation of Mosquito Abatement Plan, in the 1997 Monterey IS and Addendum (see Appendix 7-6a) with modifications for measures that proved infeasible or unsuccessful. In accordance with the Mosquito Abatement Plan, KWBA will engage in the following procedures which are expected to reduce any impact due to the breeding of mosquitoes in the recharge basins to insignificance:*
 - i. *KWBA will notify staff of the Kern and Westside Mosquito Abatement Districts (District) of planned use of recharge basins.*
 - ii. *Roads on the KWB will be kept in a reasonable condition to allow the District access to the KWB.*
 - iii. *KWBA will assist District staff in adaptive management planning to review the success of mosquito control techniques and to develop improved mosquito control techniques.*

ENDNOTES

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