(limited use). This class protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide generally lower-intensity, carefully controlled, multiple use of resources, while ensuring that sensitive values are not significantly damaged.

Wilderness Areas. In addition to ACECs, BLM has set aside thousands of acres of land in a system of Wilderness Areas. These areas are intended to preserve wilderness as part of the CDCA Plan. The proposed project avoids all Wilderness Areas, and these areas would not pose constraints regarding the construction and operation of the proposed project.

Mineral Resources. The ancient shoreline of Lake Cahuilla, in combination with the younger sediments present, comprises a potential source of mineral material for the sand and gravel industries in the Imperial Valley. The proposed project parallels SDG&E's existing 230 kV transmission line and is largely parallel to the old shoreline, crossing it twice south of State Route 98. Both of the proposed transmission lines, along with the existing SDG&E alignment, traverse two sand and gravel extraction leasehold areas of Imperial County. While these leaseholds are termed "active," at this time no extraction operations are being conducted (pers. comm. Higgins 2001).

The potential for geothermal resources within the study area is evidenced by numerous geothermal lease applications received by the BLM. At this time there are no current leases within the vicinity of the project alignment. There are no mining claims within the proposed project area (pers. comm. Marty 2001).

3.1.2.2 Local Jurisdictions

County of Imperial

The proposed project is located on federally-owned land managed by the BLM within Imperial County and is under the jurisdiction of the BLM. The land use plans and policies of the County of Imperial do not apply to BLM-managed land.

3.2 Air Quality

3.2.1 Regional Climate

The desert region of Imperial County in the area of the Yuha Basin and El Centro is one of the hottest and driest parts of California, with a climate characterized by hot, dry summers and relatively mild winters. In El Centro, the normal maximum temperature in January is a little less than 70 degrees Fahrenheit (F); the normal minimum temperature in January is around 39 degrees F. In July, the normal maximum temperature is over 107

degrees F, while the normal minimum temperature is about 75 degrees F. Normal annual precipitation in El Centro is 2.71 inches.

During the summer, the Pacific High Pressure Zone is well developed to the west of California and a thermal trough overlies California's southeast desert region. The intensity and orientation of the trough varies from day to day. Although the rugged mountainous country surrounding the Imperial Valley inhibits circulation, the influence of the trough does permit some interbasin exchange of air with more westerly coastal locations through the mountain passes.

Relative humidity in summer is very low, averaging 30 to 50 percent in the early morning and 10 to 20 percent in the afternoon. During the hottest part of the day, a relative humidity below 10 percent is common, although the effect of extensive agricultural operations in the Imperial Valley tends to raise the humidity locally. The prevailing weather conditions promote intense heating during the day in summer with marked cooling at night. During all seasons, the prevailing wind direction is from the south and west.

3.2.2 Existing Air Quality

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the California Air Resources Board (CARB) and federal standards set by the Environmental Protection Agency (EPA). Table 3.2.1 presents the state and federal ambient air quality standards.

On July 18, 1997, the EPA introduced new ambient air quality standards for ground-level ozone and for particulate matter (62 FR 38855 and 62 FR 38562). The EPA planned to phase out and replace the 1-hour 0.12 parts per million (ppm) ozone standard with a new 8-hour 0.08 ppm standard more protective of public health. The EPA also adopted two new standards for particulate matter less than or equal to 2.5 microns in aerodynamic diameter ($PM_{2.5}$). These were set at 15 grams per cubic meter (g/m^3) annual arithmetic mean $PM_{2.5}$ concentrations and 65 g/m^3 24-hour average. The standard for particulate matter less than or equal to 10 microns in aerodynamic diameter (PM_{10}) was essentially unchanged.

In response to legal challenges, however, the U.S. Court of Appeals vacated the new particulate standard and directed the EPA to develop a new standard, meanwhile reverting back to maintaining the previous PM_{10} standards. The revised ozone standard was not nullified, but the court ruled that the standard "cannot be enforced." In July 2000, the EPA formally rescinded the 8-hour 0.08 ppm ozone standard and reinstated the 1-hour 0.12 ppm ozone standard in the approximately 3,000 counties where it had been replaced.

TABLE 3.2.1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Maximum Concentration Averaged over Specified Time Period	
	State Standard	Federal Standard
Ozone (O_3)	0.09 ppm (180 $\mu g/m^3$) 1 hr.	0.12 ppm (235 $\mu g/m^3$) 1 hr.
Ozone (O_3)	- -	0.08 ppm (157 $\mu g/m^3$) 8 hr.
Carbon monoxide (CO)	9.0 ppm (10 mg/m^3) 8 hr.	9 ppm (10 mg/m^3) 8 hr.
Carbon monoxide (CO)	20.0 ppm (23 mg/m^3) 1 hr.	35.0 ppm (40 mg/m^3) 1 hr.
Nitrogen dioxide (NO_2)	0.25 ppm (470 $\mu g/m^3$) 1 hr.	0.053 ppm (100 $\mu g/m^3$) Annual Arithmetic Mean
Sulfur dioxide (SO_2)	- -	0.03 ppm (80 $\mu g/m^3$) Annual Arithmetic Mean
Sulfur dioxide (SO_2)	0.04 ppm (105 $\mu g/m^3$) 24 hr.	0.14 ppm (365 $\mu g/m^3$) 24 hr.
Sulfur dioxide (SO_2)	0.25 ppm (655 $\mu g/m^3$) 1 hr.	0.5 ppm (1,300 $\mu g/m^3$) 3 hr.
Respirable particulate matter (PM_{10})	50 $\mu g/m^3$ 24 hr.	150 $\mu g/m^3$ 24 hr.
Respirable particulate matter (PM_{10})	30 $\mu g/m^3$ Annual Geometric Mean	50 $\mu g/m^3$ Annual Arithmetic Mean
Fine particulate matter ($PM_{2.5}$)	No Separate State Standard	65 $\mu g/m^3$ 24 hr.

TABLE 3.2.1
AMBIENT AIR QUALITY STANDARDS
(continued)

Pollutant	Maximum Concentration Averaged over Specified Time Period	
	State Standard	Federal Standard
Fine particulate matter ($PM_{2.5}$)	No Separate State Standard	15 $\mu g/m^3$ Annual Arithmetic Mean
Lead (Pb)	1.5 $\mu g/m^3$ 30-day Average	1.5 $\mu g/m^3$ Calendar Quarter

SOURCE: State of California 1999.

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter.

In February 2001, the U.S. Supreme Court affirmed the EPA's authority to establish health-related air quality standards and affirmed that the Clean Air Act prohibits consideration of implementation costs when setting those standards. The Supreme Court, however, overturned the EPA's procedures for implementing the standards and remanded the case back to the Appeals Court level for resolution of those and certain other issues. Until the EPA proposes implementation programs that the Court finds acceptable, implementation of the 8-hour ozone standard and the $PM_{2.5}$ standard are on hold. These standards may be implemented when a required three years of data are available to determine compliance. Therefore, it is uncertain at this time when new ozone and particulate matter standards will be in place, and as of now the 1-hour 0.12 ppm ozone standard and the 150 g/m^3 24-hour PM_{10} standards are the only ones enforceable.

Ambient air quality data in the project area are collected at air quality monitoring stations in El Centro and Calexico operated by the Imperial County Air Pollution Control District. The El Centro monitoring station is at 150 Ninth Street, about 10 miles northeast of the IV Substation; the station in Calexico nearest the project area is at 900 Grant Street, about 12 miles east of the proposed transmission line border crossing. The Ninth Street station measures ozone, carbon monoxide, and particulates. The Grant Street station measures ozone and particulates.

Two other air quality monitoring stations are located in Calexico. The Ethel Street station is located at 1029 Ethel Street and the Calexico East station is opposite the border checkpoint on Highway 111. Each of these stations monitors ozone, PM_{10}, carbon monoxide, nitrogen dioxide, and sulfur dioxide. The most recently reported monitoring data from the El Centro and Calexico monitoring stations are presented in Table 3.2.2.

The air basin in which the project site is located is the Salton Sea Air Basin (SSAB). The SSAB encompasses all of Imperial County plus a portion of Riverside County. At present, the SSAB is a nonattainment area for state and federal ozone standards, but its nonattainment status is qualified as "transitional." The transitional status means that the nonattainment status is due partly to transboundary migration of pollutants from Mexico, the extent of which is not accurately defined.

Out of the entire SSAB, only the area near the Calexico border crossing is classified as a federal nonattainment area for carbon monoxide (CO). This localized nonattainment area does not extend west of the Westside Main Canal and is likely due to the high level of vehicle traffic crossing the border near this location.

The SSAB is a nonattainment area for particulates in the inhalable range (10 microns or less—PM_{10}). Particulate matter levels in Imperial County come from local sources and a significant fraction is also transported from nearby Mexico. These sources include a combination of windblown dust from natural and disturbed land areas, with the primary

TABLE 3.2.2
AIR QUALITY MONITORING
(Number of Days Air Quality Standards Were Exceeded)

Pollutant	Year				
	1996	1997	1998	1999	2000
9th Street Station (El Centro)					
Ozone					
Federal 1-hour standard (0.12 ppm, 235 μg/m^3)	6	2	1	2	NA
State 1-hour standard (0.09 ppm, 180 μg/m^3)	41	29	12	9	NA
Federal 8-hour standard (0.08 ppm, 157 μg/m^3)	28	11	1	0	NA
Suspended 10-Micron Particulate Matter (PM_{10})					
Federal 24-hour average (150 μg/m^3)*	6	0	0	0	6
State 24-hour average (50 μg/m^3)*	108	54	51	108	114
Carbon Monoxide					
Federal 8-hour average (9 ppm, 10 mg/m^3)	0	0	0	NA	NA
State 8-hour average (9.0 ppm, 10 mg/m^3)	0	0	0	NA	NA
Grant Street Station (Calexico)					
Ozone					
Federal 1-hour standard (0.12 ppm, 235 μg/m^3)	2	8	0	4	NA
State 1-hour standard (0.09 ppm, 180 μg/m^3)	19	55	1	23	NA
Federal 8-hour standard (0.08 ppm, 157 μg/m^3)	10	46	0	8	NA
Suspended 10-Micron Particulate Matter (PM_{10})					
Federal 24-hour average (150 μg/m^3)*	18	24	12	30	33
State 24-hour average (50 μg/m^3)*	204	201	168	252	261
Federal annual arithmetic mean (50 μg/m^3)§	70.6	75.9	63.6	77.8	95.2
State annual geometric mean (30 μg/m^3)§	63.8	62.7	52.0	66.2	85.2
Ethel Street Station (Calexico)					
Ozone					
Federal 1-hour standard (0.12 ppm, 235 μg/m^3)	5	4	4	6	4
State 1-hour standard (0.09 ppm, 180 μg/m^3)	44	24	25	38	13
Federal 8-hour standard (0.08 ppm, 157 μg/m^3)	13	8	7	9	4
Suspended 10-Micron Particulate Matter (PM_{10})					
Federal 24-hour average (150 μg/m^3)*	30.0	12.0	6.0	12.0	30.0
State 24-hour average (50 μg/m^3)*	246.0	294.0	234.0	264.0	312.0
Federal annual arithmetic mean (50 μg/m^3)§	73.6	77.7	66.1	72.0	84.7
State annual geometric mean (30 μg/m^3)§	62.4	70.2	58.6	66.3	73.0
Carbon Monoxide					
Federal 8-hour average (9 ppm, 10 mg/m^3)	9	12	8	13	2
State 8-hour average (9.0 ppm, 10 mg/m^3)	11	13	10	13	2

TABLE 3.2.2
AIR QUALITY MONITORING
(Number of Days Air Quality Standards Were Exceeded)
(continued)

Pollutant	Year				
	1996	1997	1998	1999	2000
Nitrogen Dioxide					
Federal annual arithmetic mean (0.053 ppm, 100 µg/m^3)†	0.014	0.015	NA	0.018	NA
State 1-hour standard (0.25 ppm, 470 µg/m^3)	0	0	1	1	0
Sulfur Dioxide					
Federal 24-hour average (0.14 ppm, 365 µg/m^3)	0	0	0	0	0
State 24-hour average (0.04 ppm, 105 µg/m^3)	0	0	0	0	0
Federal annual arithmetic mean (0.030 ppm, 80 µg/m^3)†	0.004	0.003	0.003	0.002	0.002
Calexico East					
Ozone					
Federal 1-hour standard (0.12 ppm, 235 µg/m^3)	3	0	1	3	0
State 1-hour standard (0.09 ppm, 180 µg/m^3)	22	6	27	13	1
Federal 8-hour standard (0.08 ppm, 157 µg/m^3)	12	2	13	5	0
Suspended 10-Micron Particulate Matter (PM_{10})					
Federal 24-hour average (150 µg/m^3)*	48	36	60	120	192
State 24-hour average (50 µg/m^3)*	210	294	264	306	342
Federal annual arithmetic mean (50 µg/m^3)§	109.8	86.8	107.8	168.7	238.8
State annual geometric mean (30 µg/m^3)§	90.3	76.9	79.1	130.1	182.9
Carbon Monoxide					
Federal 8-hour average (9 ppm, 10 mg/m^3)	0	2	3	0	1
State 8-hour average (9.0 ppm, 10 mg/m^3)	0	4	3	1	1
Nitrogen Dioxide					
Federal annual arithmetic mean (0.053 ppm, 100 µg/m^3)†	NA	0.011	0.012	0.013	NA
State 1-hour standard (0.25 ppm, 470 µg/m^3)	0	0	0	0	0
Sulfur Dioxide					
Federal 24-hour average (0.14 ppm, 365 µg/m^3)	0	0	0	NA	NA
State 24-hour average (0.04 ppm, 105 µg/m^3)	0	0	0	NA	NA
Federal annual arithmetic mean (0.030 ppm, 80 µg/m^3)†	0.002	0.002	0.003	NA	NA

SOURCE: www.arb.ca.gov/adam

ppm - parts per million
mg/m^3 - milligrams per cubic meter
µg /m^3 - micrograms per cubic meter
NA - not available
*Calculated days exceeding the standard; an estimate of days expected to exceed the standard if there was sampling every day.
§Data shown are in µg/m^3.
†Data shown are in ppm.

source being vehicles, including off-road vehicles, that use paved and unpaved roads. Construction and agriculture also contribute to particulate levels.

3.3 Geology, Soils, and Seismicity

3.3.1 Geology

The proposed transmission line routes are in the Imperial Valley, a part of the Salton Trough, which is a geological structural depression straddling the transform plate boundary between the Pacific and North American plates and extending from Palm Springs in the north to the Gulf of California in the south. The Salton Trough is the terrestrial extension of the East Pacific Rise transform system as it emerges from the Gulf of California and is the southern terminus of the San Andreas Fault Zone. The transition from the divergent, spreading tectonic regime of the East Pacific Rise to the dominantly strike-slip faulting of the San Andreas Fault Zone has downwarped, downfaulted, extended, and laterally translated the sediments within the Salton Trough. The underlying geologic complexity of the Salton Trough is masked by the relatively featureless surface of the basin, which is filled by thousands of meters of marine and nonmarine sediments.

The sub-sea level basin of the Salton Trough has received a continuous influx of sand, silt, and clay derived from the Colorado River which created ephemeral lakes in the basin until about 300 years ago. Underlying these deposits, sedimentary rocks are believed to extend to a depth of about 16,000 feet. Lying below the sedimentary rocks are approximately 23,000 feet of metamorphosed (greenschist facies) rocks which in turn overlie approximately 6,000 feet of gabbro. Metamorphism of the sedimentary rocks is occurring at relatively shallow depths due to high heat flow over inferred active spreading basin areas. Several areas of the Imperial Valley are classified as "Known Geothermal Resource Areas" because of the presence of high temperature hydrothermal fluids. Tectonic activity that formed the trough continues at a high rate, evidenced by deformed young sedimentary deposits, high sediment deposition rates, and high levels of seismicity.

The proposed transmission line routes are located at the transition from the West Mesa to the wide plain of the Imperial Valley. The West Mesa is composed of interbedded sands, silts, and clays of Pliocene to Pleistocene age and alluvial fan deposits. Desert pavement is common in the sandy areas with usually dry washes dissecting the topography. The agricultural areas of the Imperial Valley, generally a little over a mile east of the proposed routes, are composed dominantly of clays with interbeds of lacustrine sand and silt.