E. Extractable Minerals

The DFG and TNC apply different laws than the BLM to the permitting and leasing of extractable minerals. Decisions regarding mineral development below DFG and TNC lands will be made by those surface authorities.

1. Oil and Gas

Minor commercial quantities of oil and gas have been located in two areas of the CPNA: in the northeast part of the Temblors and the south side of the Calientes. On the south side of the Calientes are two minor fields and a portion of a major oil field. The Russell Ranch Field, the only major oil field, currently has forty-one producing oil wells. There have been no commercially successful wells outside of these above areas, although indications of oil and gas are common in the 267 wells drilled elsewhere in the CPNA. Wells almost 18,000 feet deep have been drilled without finding commercial quantities.

By contrast, the CPNA is surrounded by 6 giant oil fields (fields with over 100 million barrels of initial reserves) and numerous smaller productive fields. The Midway-Sunset field, second largest in California, lies just to the east.

The unsuccessful exploration of the CPNA can be attributed to the lack of a mature organic source for the hydrocarbon, and the absence of subsurface trapping structures at the time the hydrocarbons began to be expelled. Under the CPNA, the organic-rich Monterey Formation has not been buried deep enough to reach oil-generation threshold temperatures and pressures. An older potential source of oil (Soda Lake member of the Monterey Formation) apparently released its hydrocarbons before the faulted structures below the CPNA were in place. Older structures existed on the south side of the Caliente Range during the older phase of oil migration, as evidenced by proven hydrocarbon reservoirs.

Because exploratory activity has slowed and resulted in minor commercial success in the CPNA, management issues related to oil and gas are projected to be minimal. Development of BLM lands is subject to major constraints as designated by the Caliente RMP. Private lands are not directly affected by this plan but may be impacted by right-of-way restrictions across federal lands. Outstanding third party rights where privately held mineral rights underlie surface managed by the TNC and DFG will be subject to major constraints through adherence to county regulations and CEQA requirements for surface disturbing activities.

2. Solid Minerals

Laws governing the extraction of solid minerals from Public Land include the General Mining Law, the Mineral Leasing Act and the Mineral Sale Act. Mining claims can be filed for gypsum under the General Mining Law of 1872. The filing of mining claims on minerals under Public management does not require approval since a mining claim is a property right, not a permit to operate. Since the CPNA is an Area of Critical Environmental Concern (ACEC), an operation/reclamation plan and reclamation bond must be submitted, and an environmental assessment prepared prior to mining. Approval of a mining plan is essentially a non-discretionary action for the BLM. A mining plan may be rejected only if the mining claims are found to be invalid or if the proposed operation would cause unnecessary or undue degradation of public lands. An example would be severe impacts to endangered species that are unmitigable and uncompensable or surface-disturbing activities which are not routinely considered necessary for mining operations. The Mineral Leasing Act of 1920 governs the discretionary permitting and leasing of phosphate and saline minerals, both which occur within the CPNA. Sand and gravel are permitted under the authority of the Material Sales Act of 1947.

Mineral sales and leases are discretionary actions. The BLM may, and has in the past, disallowed extraction of these minerals when it is found that there would be unacceptable environmental impacts.

3. Locatable Minerals

Gypsum in the form of gypsite has been prospected for and mined within the CPNA and areas immediately adjacent from the early 1900s to the present. It's used as an agricultural soil amendment that displaces salt in alkaline soils. Known deposits are low grade and spread over large acres; potential for gypsite mining throughout the CPNA is low.

4. Solid Leasable Minerals

Low-grade phosphate from marine shales are common within the Coast Ranges of California. Two areas within the CPNA have been classified as prospectively valuable for phosphate, based on the existence of phosphate occurrences and similar geology. The Morales Canyon area of the Caliente Range encompasses eleven sections or about 7,000 acres. The second area, almost 6,000 acres within nine sections, is on the northern-most part of the Temblor range. This area is part of a larger area which extends north to State Route 46, thirty miles to the north. Phosphate pellets also occur immediately southwest of the intersection of Soda Lake Road and Seven Mile Road. Phosphate is an essential agricultural fertilizer, but due to the low grade of California deposits, none is produced from California.

In 1912 a geologist from the U. S. Geological Survey estimated that Soda Lake contained reserves of over a million tons of sodium sulphate. The BLM has classified Soda Lake as prospectively valuable for sodium. Commercial extraction of sodium sulphate from Soda Lake occurred intermittently from around 1900 to 1940. Sodium sulphate minerals identified in the surface crust of Soda Lake are bloedite, thenardite, and mirabilite. Bloedite is a relatively rare evaporite mineral. At the time of its identification here in 1913, it was only known in one other location in the United States. A large specimen from Soda Lake is displayed in the Los Angeles Museum of Natural History. Hobby collection of evaporite minerals at Soda Lake occurs occasionally by individuals using hand tools who dig through the saline crust into the underlying black mud which contains crystals.

5. Salable Minerals

Sand and gravel is intermittently mined for local road repair from private and DFG lands within and adjacent to the boundaries of the CPNA. Several dry washes within 50 feet of county roads are designated sources of material for road repair. Three borrow-sites for road material have been designated and will be evaluated and developed as appropriate. The actively used gravel pit located on state lands is planned to supply much of the road base needed for maintenance of public roads and management of CPNA roads.

The CPNA is favorable for discovery of thermal water at shallow depth. However, there is no known Geothermal Resource Area designation, identified hydrothermal convection systems or any warm springs within the boundary of the CPNA.