

Comment Set B0014, cont.  
Underground Powerlink Association

## Appendices:

1. Appendix A, Underground AC Power Line Segment for Southeastern San Diego County (22 miles), pages 44-45.
2. Low Cost Underground DC Power Line County Highway Route, 114 miles from El Centro's Imperial Valley Substation (IVS) to San Diego's Sycamore Canyon Substation (SCS), pages 46-47.
3. **Lower Cost Direct Underground DC Power Line, 101 miles from El Centro's Imperial Valley Substation (IVS) to San Diego's Sycamore Canyon Substation (SCS), pages 48-49**.
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6. Appendix D, **High power lines and fire ignition through: wind, smoke and grounding problems, pages 82-85**.
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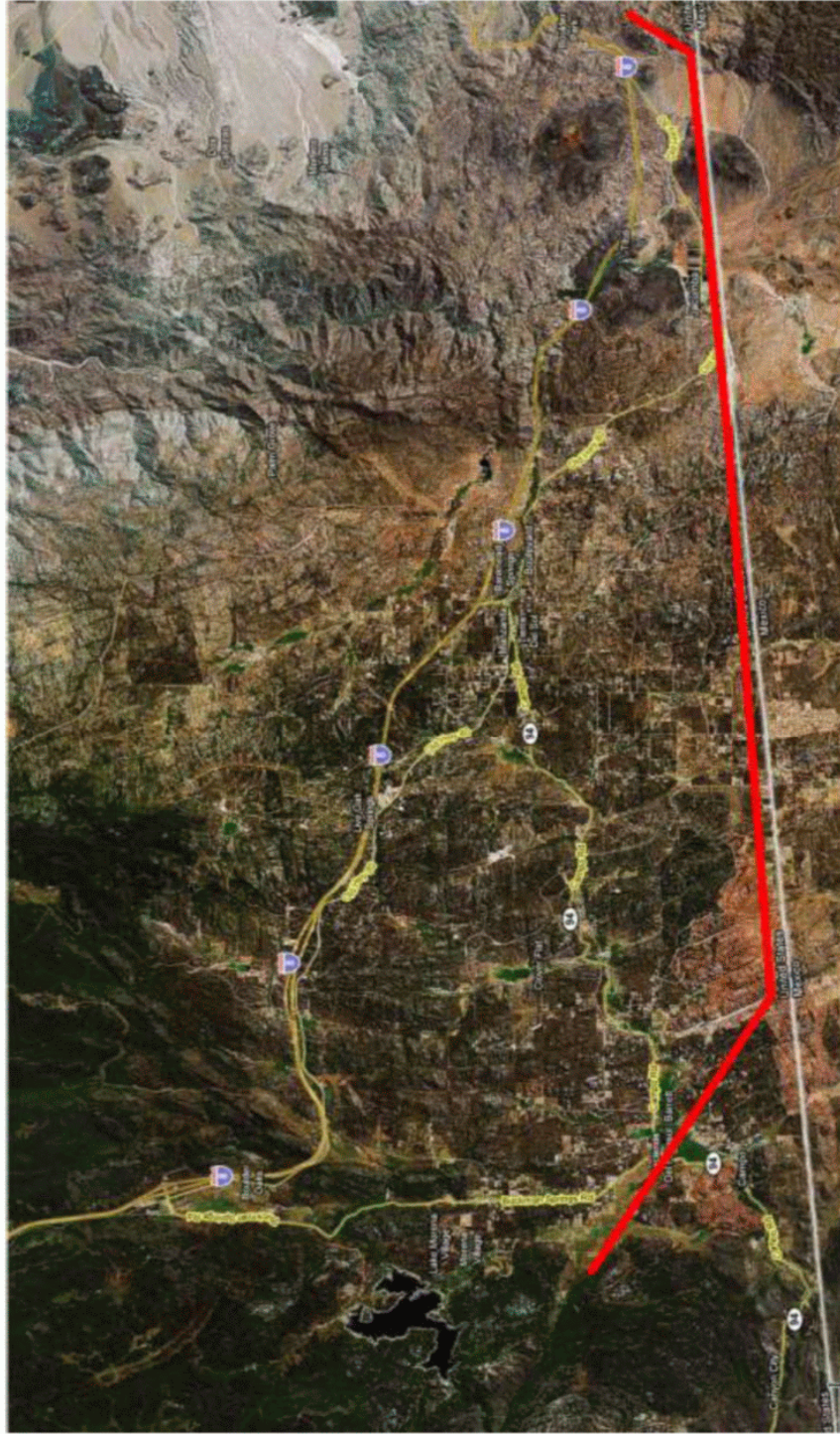
**For additional information: [www.undergroundpower.us](http://www.undergroundpower.us)**

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**Appendix A, Underground AC powerline segment for Southeast San Diego County**



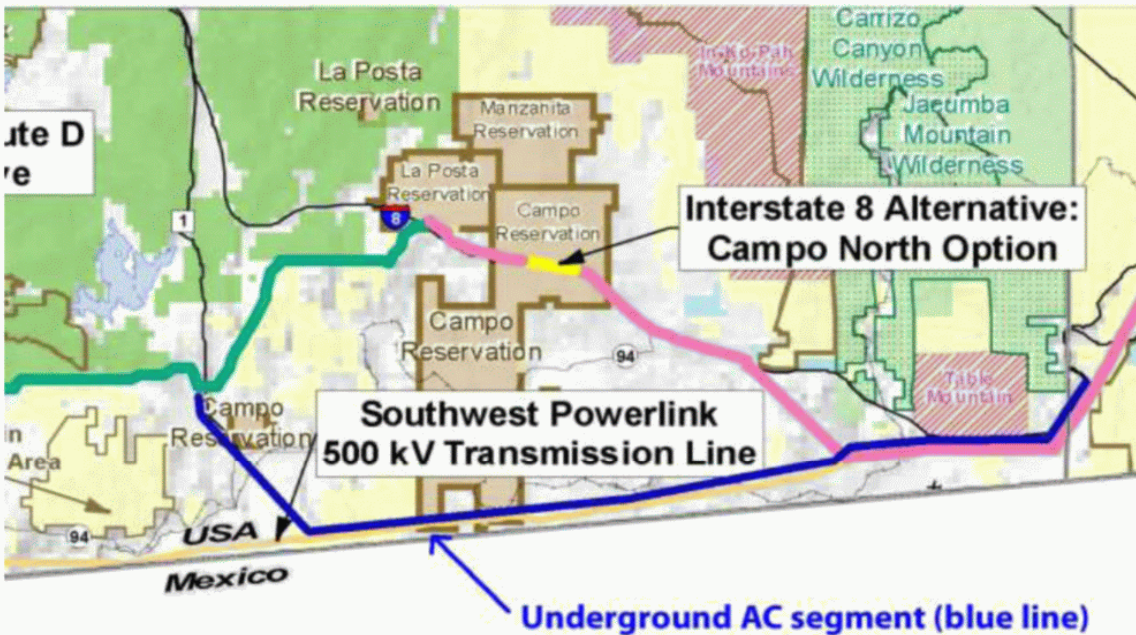
**From east of the San Diego County line connecting to Route D west of Campo (22 miles).**

B0014-16

### Comment Set B0014, cont. Underground Powerlink Association

The image on the previous page is an aerial photo (rotated 90 degrees, north is left). The proposed underground AC power line route is shown in red, which extends from a point east of the San Diego County line, westerly past Campo California to connect to the Modified Route D overhead AC power lines, naturally allowing for route variants to avoid private property and keep excavation primarily under existing unpaved roadways and within existing utility right of ways.

B0014-16 cont.

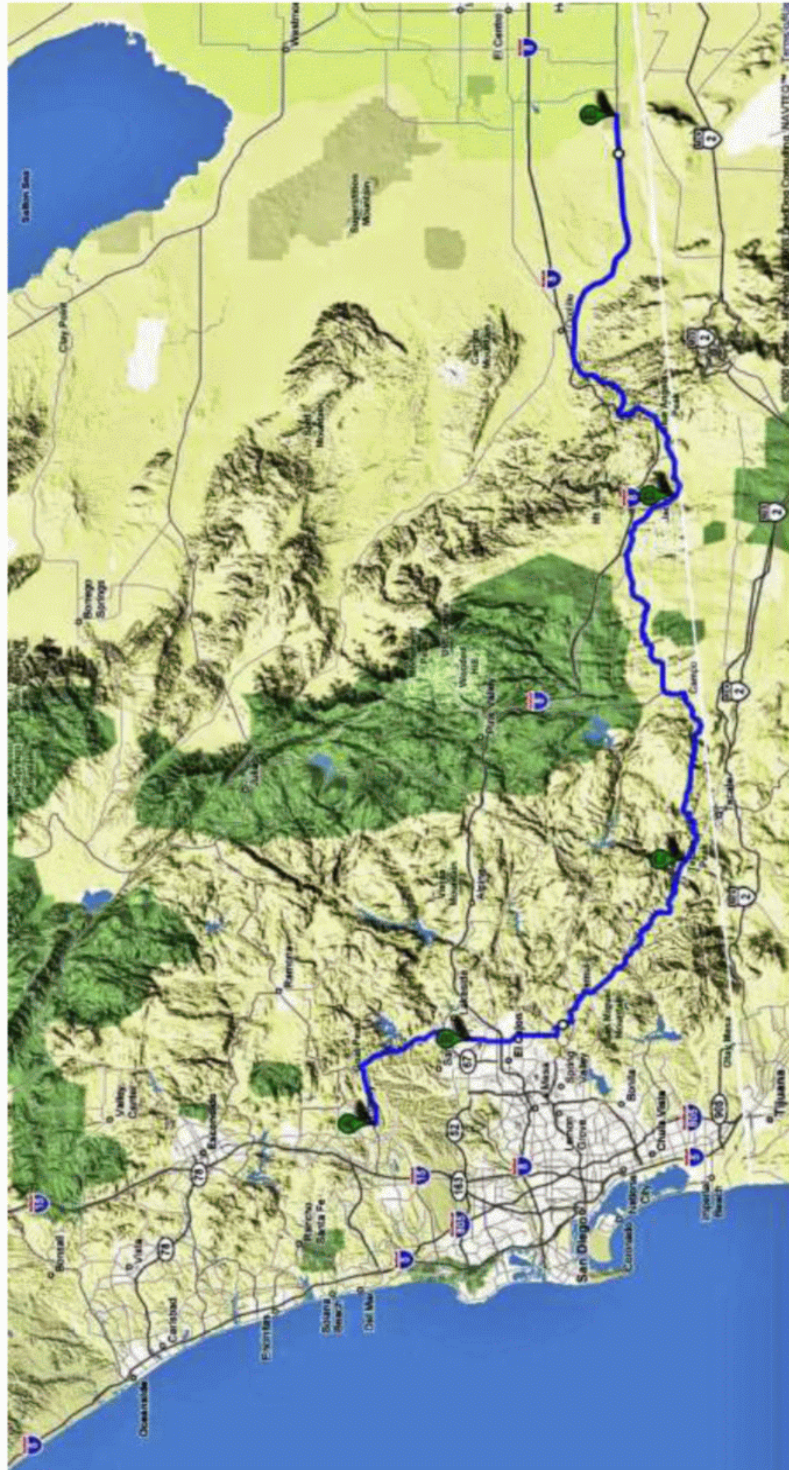


## **Southeast San Diego County 22 mile Underground AC power line Route**

This route could minimize alternating current EMF exposures to regular highway traffic by avoiding excavation under or along any highways, as well as provide a completely fireproof underground route that eliminates wildfire risks, along with minimizing other categories of threat, and almost all security requirements over a significant portion of eastern San Diego County. Although such an underground route would be greatly preferable to overhead AC power lines, there are considerably greater economic and environmental advantages to underground DC for the full 150 mile or a 101 mile route.

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**Underground DC power line, all county highways route  
Extending 114 miles from Imperial to San Diego County:**



**From Imperial Valley Substation to Sycamore Canyon Substation along county highways avoiding Freeways  
and Interstate 8, from El Centro to San Diego with DC to AC converter stations and AC extensions at each end.**

B0014-16 cont.

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## **Underground DC power line, 114 miles from El Centro's Imperial Valley Substation to San Diego's Sycamore Canyon Substation**

B0014-16 cont.

**Directions from West to East, avoiding Freeways and Interstate 8, using only county roads, based on low EMF highway travel (less than 2 milligauss, mG):**

- 1. Starting at the San Diego Sycamore Canyon Substation, head northeast to**
- 2. Scripps Poway Parkway, then east to**
- 3. Highway 67 south, then to**
- 4. Highway 54 south, then to**
- 5. Highway 94 southeast, through Campo then into Imperial County east of Interstate 8, to**
- 6. Highway 98 (Yuha Cutoff) east, through Coyote Wells, toward El Centro, then**
- 7. Diagonal at a 45 degree angle across desert on existing unpaved road, north of river bed, (which is not illustrated) directly to the Imperial Valley Substation, which is east of El Centro.**

### **Security Note:**

**Since the rural areas east of San Diego do not have high-speed internet service, clearly the trench could carry fiber optic cables to monitor the performance, moisture and temperature of the DC power line, as well as provide an internet backbone for the region (installed in PVC conduit), which would also serve as an early monitoring system with video surveillance for the security of the power line which would be available for public viewing, monitoring of fires, crime and the environment.**

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**Minimal Impact Underground DC Alternative, lower in cost than overhead AC power lines. Underground DC route for the full 101 miles from Imperial to San Diego County:**



**From Imperial Valley Substation IVS to Sycamore Canyon Substation SCS along county roads avoiding Freeways and Interstate 8, from El Centro to San Diego with DC to AC converter stations and AC extensions at each end.**

B0014-16 cont.

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## **Underground DC power line, 101 miles from El Centro's Imperial Valley Substation (IVS) to San Diego's Sycamore Canyon Substation (SCS)**

B0014-16 cont.

### **The lowest impact and lowest cost southern route reviewed:**

**Directions from West to East, avoiding Freeways and Interstate 8, using only county roads, based on low EMF highway travel (less than 2 milligauss, mG):**

- 1. Starting at the San Diego Sycamore Canyon Substation, head northeast to**
- 2. Scripps Poway Parkway, then east to**
- 3. Highway 67 south, then to**
- 4. Highway 54 south, then to**
- 5. Highway 94 southeast, to**
- 6. Highway 188 south to the border north of Tecate, (46 miles to this point)**
- 7. Then east along unpaved power line roads and right-of-ways, continuing past Jacumba into Imperial County**
- 8. Diagonal at a 45 degree angle across the desert on existing unpaved road (north of river bed) directly to the Imperial Valley Substation, which is west of El Centro, for an additional 55 miles, totaling 101 miles underground.**

### **Security Note:**

**Since the rural areas east of San Diego do not have high-speed internet service, clearly the trench could carry fiber optic cables to monitor the performance, moisture and temperature of the DC power line, as well as provide an internet backbone for the region (installed in PVC conduit), which would also serve as an early monitoring system with video surveillance for the security of the power line which would be available for public viewing, monitoring of fires, crime and the environment.**

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## Appendix B, C.B.H. Site Survey Photographs

B0014-17

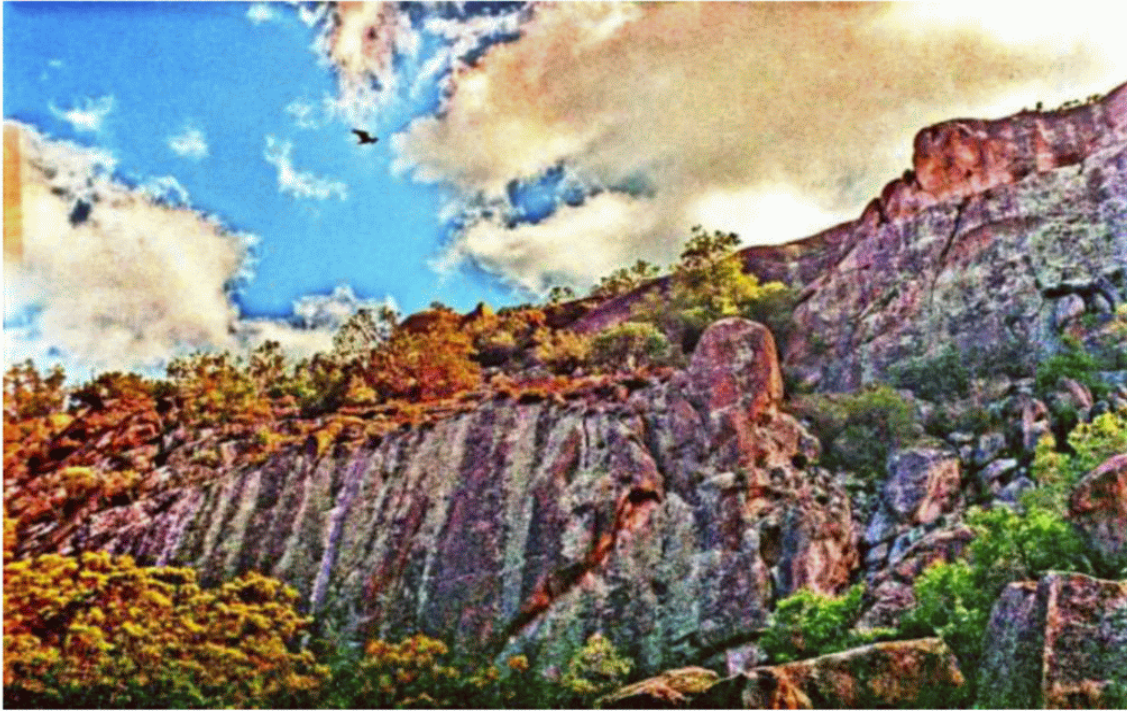


*Bankhead Springs Monument above Interstate I8 and BLM's McCain Valley*





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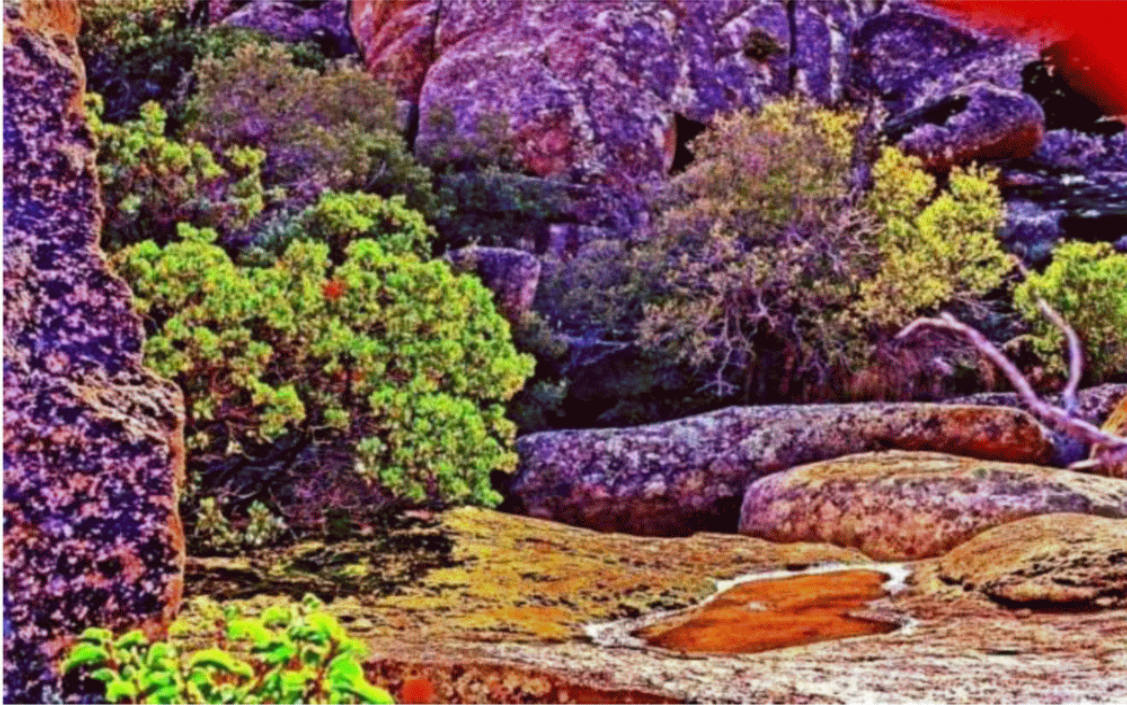


B0014-17 cont.

*Bird above cliff garden, Bankhead Springs California*

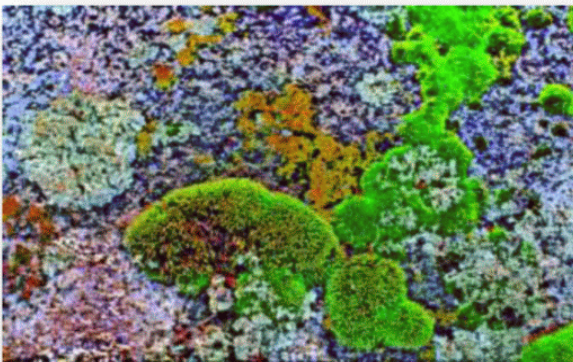


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B0014-17 cont.

*Water in rock garden, Bankhead Springs California*

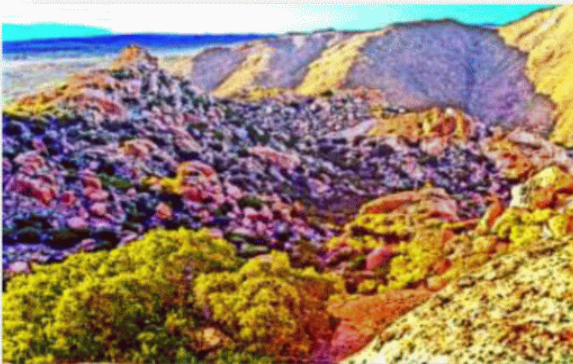


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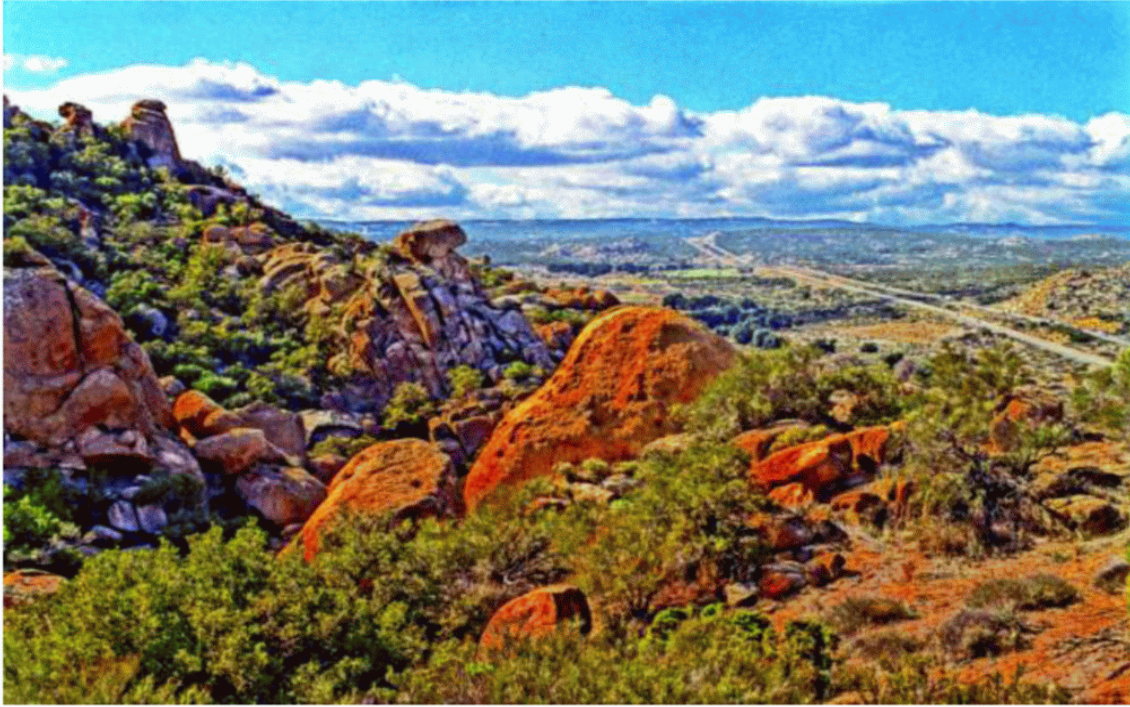


B0014-17 cont.

*Acorn grinding rock*



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B0014-17 cont.

*Western view of Anthropological Reserve, Interstate 8 and McCain Valley*



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B0014-17 cont.

*Manzanita tree and flat granite*

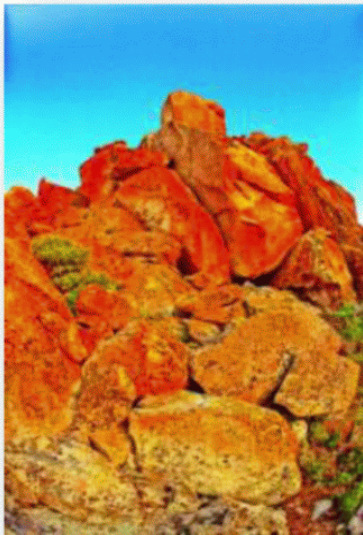


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B0014-17 cont.

*Southern stone monument and cave*

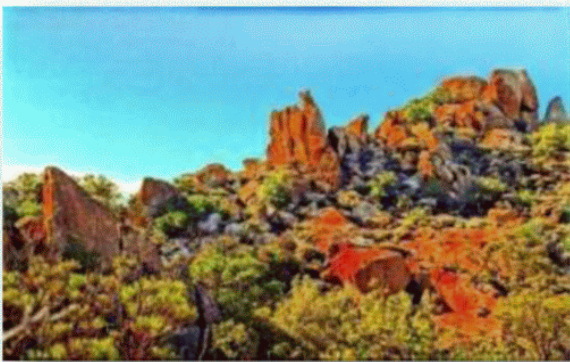


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B0014-17 cont.

*Northeast ridgeline view of adjacent Anza Borrego Desert State Park in the background*

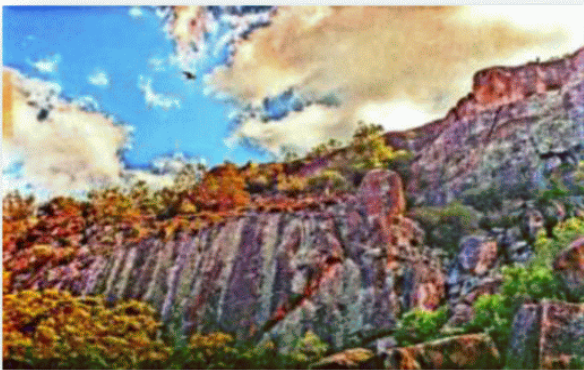


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B0014-17 cont.

*Northern rock head at sunset*





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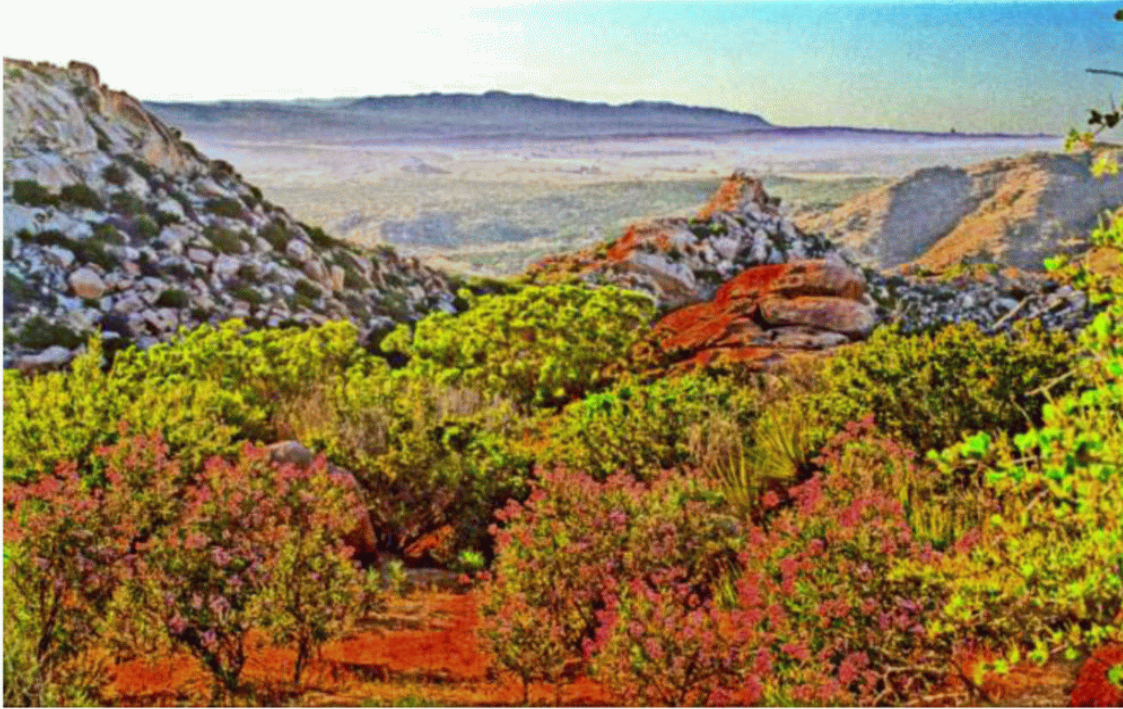


B0014-17 cont.

*Looking north into Anza Borrego Desert State Park in the background*



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B0014-17 cont.

*Evening beyond the northwest valley, above BLM's McCain Valley in the background*



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B0014-17 cont.

*Mountain top cavity*

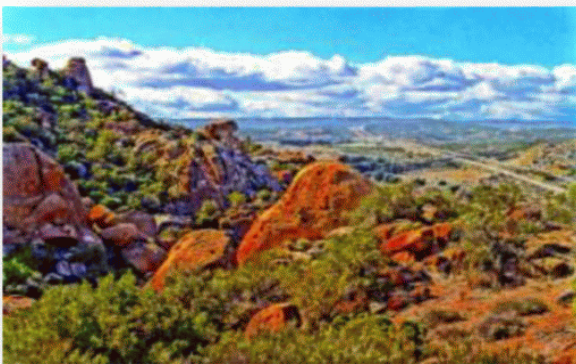


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B0014-17 cont.

*Leaning rock at sunset*



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B0014-17 cont.

*Light entering rock at sunset*

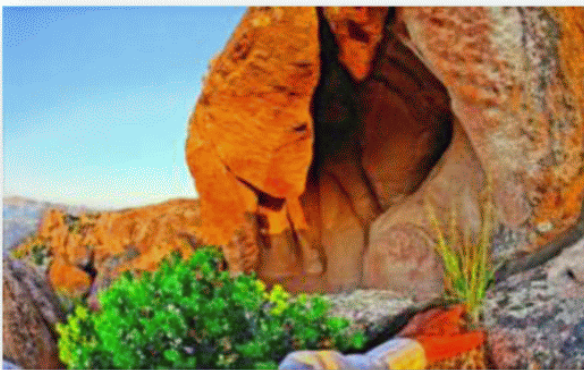


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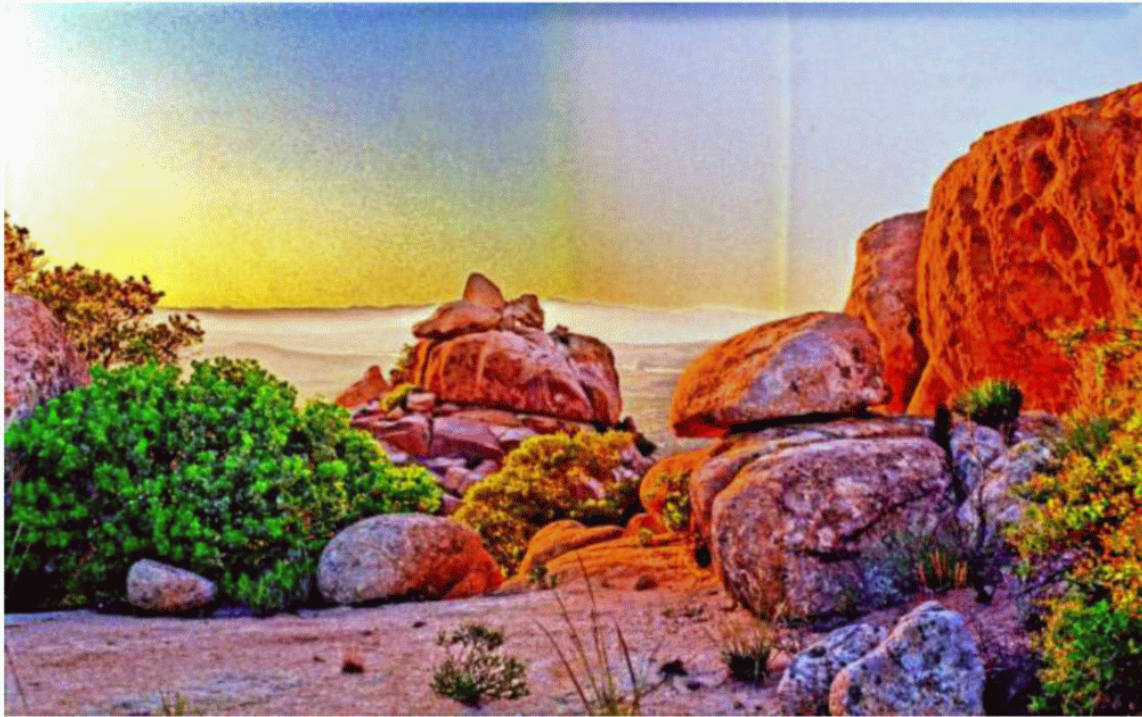


B0014-17 cont.

*Mountain top garden after sunset, looking west toward Boulevard California*



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B0014-17 cont.

*Western point illuminated at sunset, above adjacent BLM's McCain Valley in the background*

