

# Geothermal Technologies Program 2010 Peer Review

## **Validation of Innovative Exploration Technologies at the Colado, Nevada, Geothermal Prospect (Award Number DE-EE0002849)**

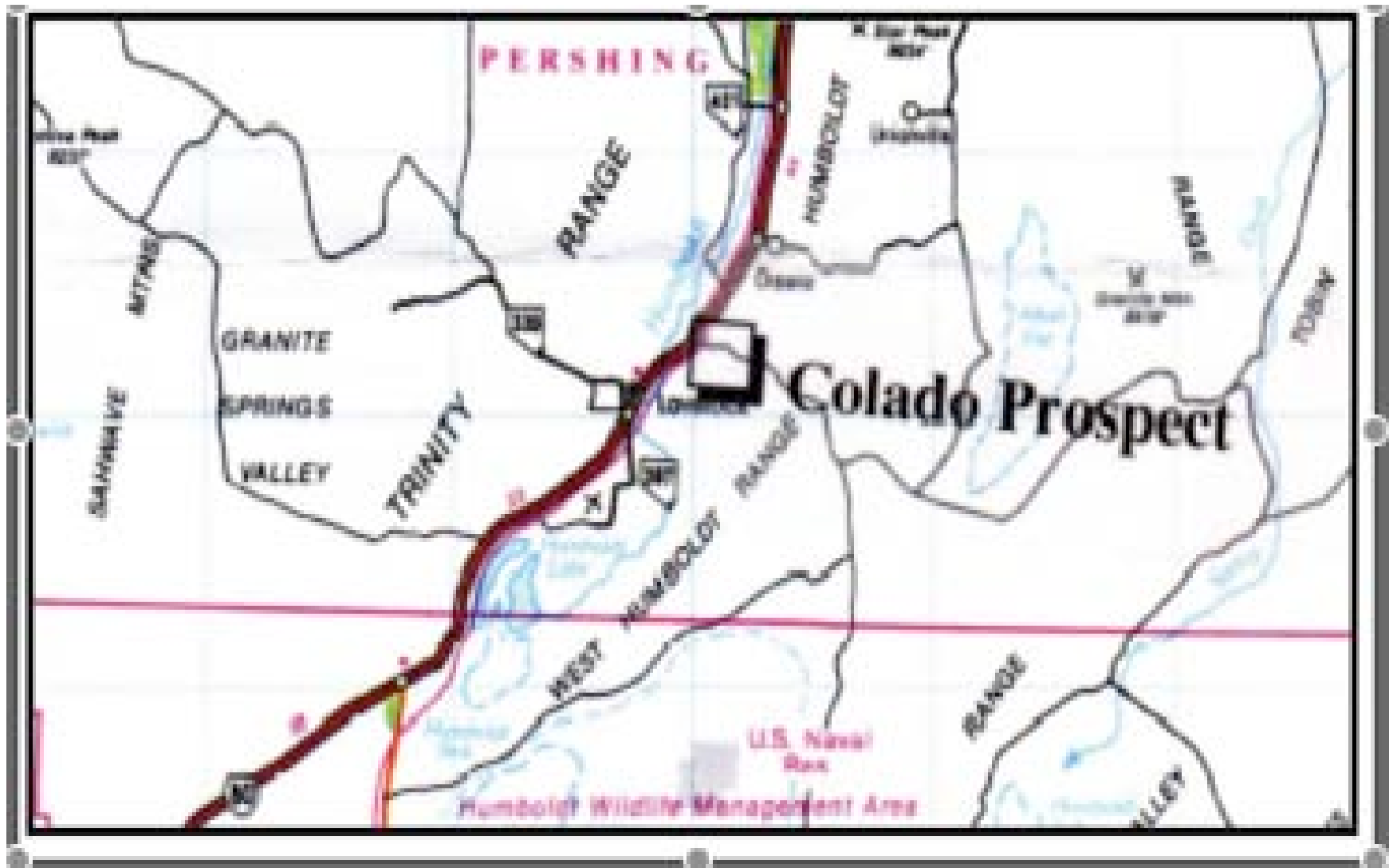
**by**

**Jim Combs**

**Vulcan Power Company**

**May 19, 2010**

# Innovative Exploration at Colado, NV, Geothermal Prospect



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- Task 2.1: Remote Sensing Radiation Detection Survey
- Task 2.2: Surface Mapping Using Aerial Photographs
- Task 2.3: 2-meter Thermal Surveys
- Task 2.4: State-of-the-Art Geophysical Surveys
  - Task 2.4a Gravity Survey
  - Task 2.4b Magnetotelluric Survey
  - Task 2.5c Self-Potential Survey
- Task 2.5: 2-D Seismic Reflection Survey
- Task 3.1: Analyze Innovative Exploration Technologies
- Task 3.2: Validation of Innovative Exploration Technologies
- Task 4.0 – Geothermal Core Hole Drilling
- Task 5.0 – Testing of Geothermal Core Holes
- Task 6.0 – Project Management and Reporting

# Innovative Exploration at Colado, NV, Geothermal Prospect



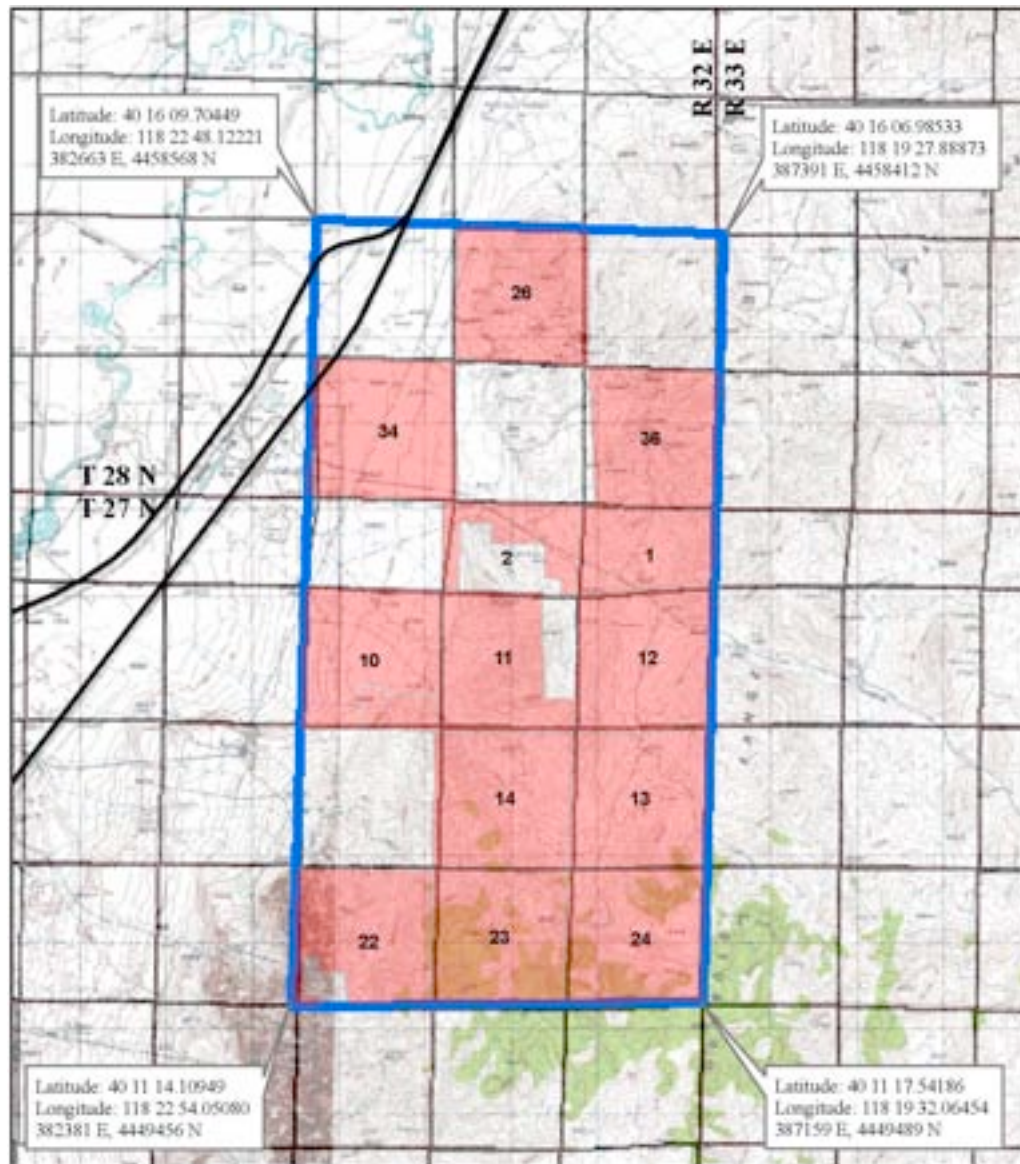
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Colado Prospect Hole Name or Assumed Gradient	Depth (ft)	Measured Temperature (°F)	Thermal Gradient* (°F/100ft)	Calculated Temperature (°F)	Depth (ft)
Getty TG 33-10	500	81	6.2		
Getty Slim Hole 34-10	1,165	131	6.9		
Assumed Gradient=6.2				122	1,165
Getty Well 44-10	7,966	282	2.9		
Assumed Gradient=2.9				328	7,966
Assumed Gradient=4.0				403	7,966
Assumed Gradient=5.0				471	7,966
Assumed Gradient=6.9				600	7,966
Note: * = Assumed average surface temperature is 50°F.					

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- Because of delays in receiving DOE approval for ARRA grant expenditures, most of the geophysical surveys at Colado will be delayed until after July 15, 2010 because the BLM permits have restrictions on such surveys from April 15<sup>th</sup> to July 15<sup>th</sup> due to songbird nesting season in the Colado area.
- Since the contract with Geo Vision is to conduct a helicopter flyover to collect radiation data at an elevation of approximately 100 meters over the Colado Geothermal Prospect, the Geo Vision survey will not affect the songbirds during their nesting season, and therefore, will be conducted in the 2<sup>nd</sup> quarter of 2010.
- Additionally, during the 2<sup>nd</sup> quarter, the Vulcan team will be collecting and evaluating the geothermal exploration data available in the public domain.

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- Since the contract with Geo Vision is to conduct a helicopter flyover to collect radiation data at an elevation of approximately 100 meters over the Colado Geothermal Prospect, the Geo Vision survey will not affect the songbirds during their nesting season, and therefore, it was initiated during the first week of May and will be completed by the end of the 2<sup>nd</sup> quarter of 2010.
- The other geological and geophysical surveys will be started on July 16, 2010 and completed by September 15, 2010.
- Two of the ~6,000 core holes will be located, permitted, and drilling will be initiated by October 1, 2010.



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