

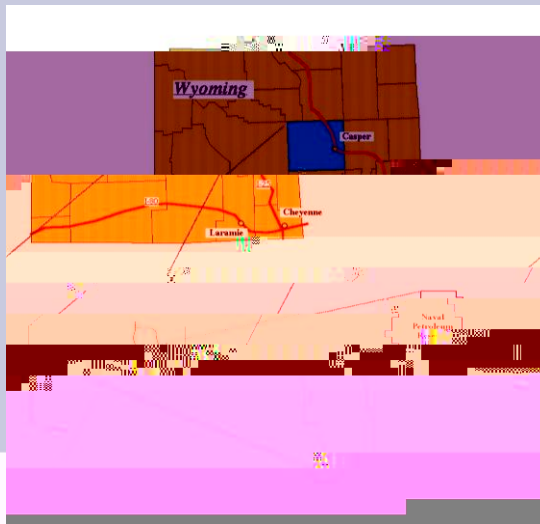
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U.S.DOE's GTP¹, RMOTC² and NREL³

Location of RMOTC



NPR-3 is 35 miles north of Casper, WY

- 9481 acres
- 650+ wells
- 9 Oil producing formations
- 2 formations > 200 °F
- Geothermal Gradient is ~ twice normal gradient
- Produced brine of high quality (2500 – 3000 TDS)
- Extensive recharge region
- Government owned and operated



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Project Goals



- Show the relative seamless integration of the technology into the oil field infrastructure.
- Demonstration of the long term operations of binary power generation units in an oil field environment
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Initial Binary Unit



- Ormat nominal 250 kW ORC unit
- Isopentane working fluid
- Air cooled condenser
- Unit installed under testing program with Ormat Technologies





Second Binary Test Unit



Pratt & Whitney Pure Cycle 280
Genetron 245fa operating fluid
Water cooled Condenser



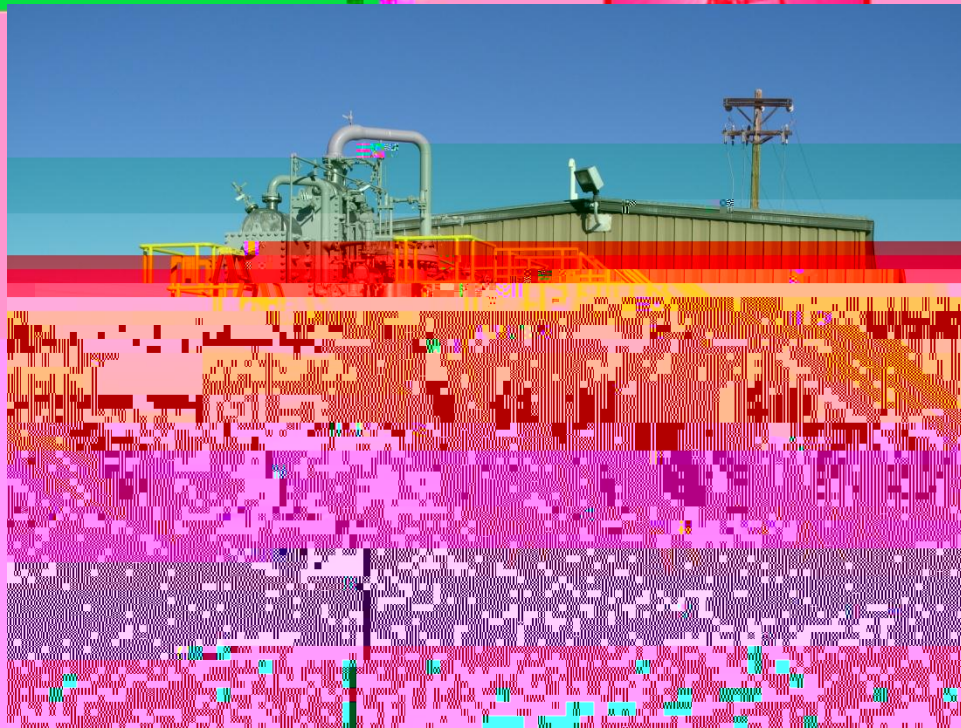
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Project Plans



Project Plans

- Continuously monitor/record data on the Ormat and UTC unit
- Collect/analyze data:
 - Power output
 - Parasitic losses
 - Ambient weather effects
 - System temperatures, pressures and flow rates
- Modeling system parameters to evaluate system improvements: system efficiency, LCOE, base load power offset.
- Integration of non proprietary data into the National Geothermal Data System (NGDS)
- Data display screens of non proprietary data will be made available to the public
- Evaluation of hybrid cooling technologies and other power output improvement technologies



Thank You

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