

Glass Buttes

June 7, 2011

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Ormat Nevada Inc

Validation of innovative exploration technologies

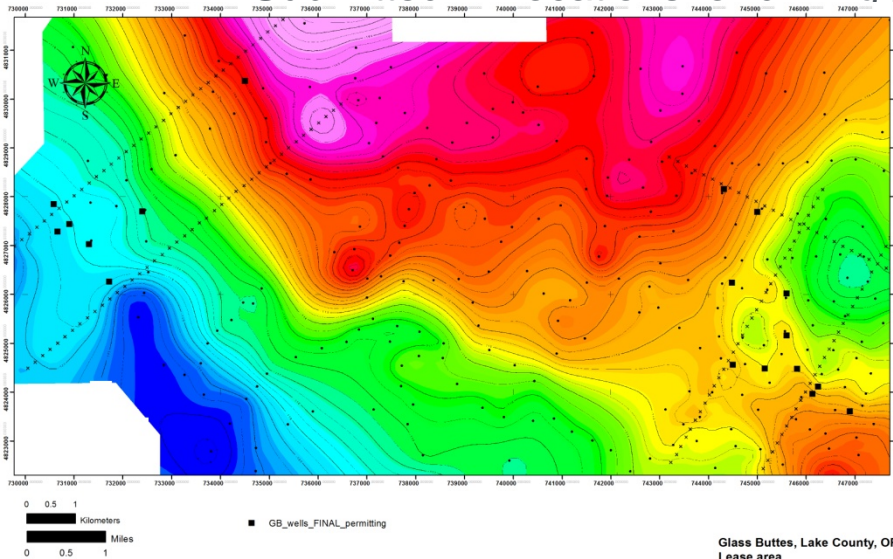
- Timeline
 - Start Date: March, 2010
 - Projected End Date: May, 2012
 - Completed: ~50%
- Budget
 - Total project budget: \$8,704,260
 - DOE share: \$4,377,000
 - Awardee share: \$4,327,260
- Spent through Dec 31, 2010: \$493,216
- Planned spending 2011: \$7,816,415
- Barriers
 - Biological issues have slowed permitting. All wells within 0.8 miles of sage grouse leks removed and are not anticipated to significantly impact project viability
 - Very slow BLM permitting process has delayed drilling
- Partners
 - Ormat Nevada Inc
 - Oregon State University
 - Oregon Department of Geology and Mineral Industries
 - US Department of Energy

Objectives

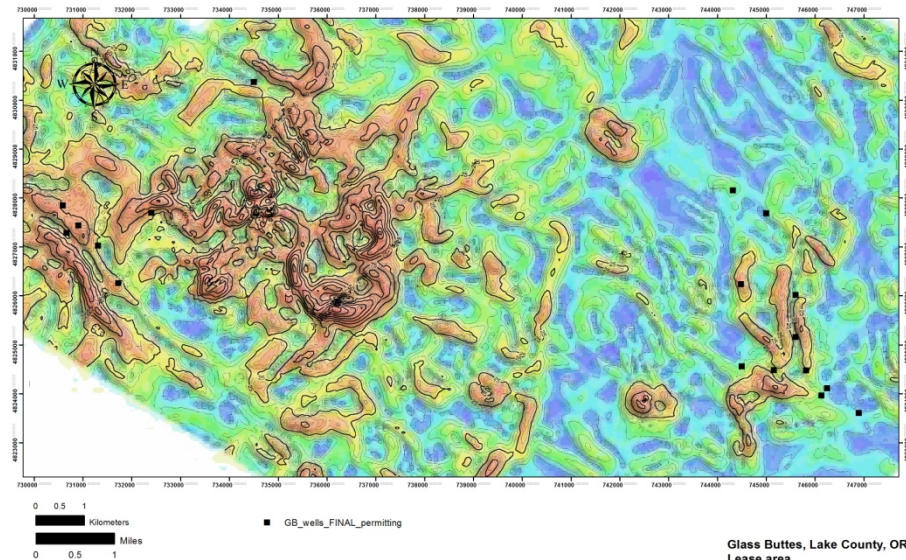
- Combine high resolution geophysical and geochemical techniques to reduce exploration risk , including surveys that have not been used specifically for geothermal exploration previously
- Study 2 separate prospective areas with a single set of exploration data
 - Midnight Point – faults and fault intersections internal to silicic volcanism
 - Mahogany – faults and relay ramps outside volcanic center
- Combine all exploration data in a comprehensive 3D model
- Drill 2 slim wells and one full size production well
- Create long term jobs in central Oregon by identifying and developing a commercial resource

- Multiple high resolution geological, geophysical and remote sensing methods to define fault with likely permeability
 - Surface faults, lithologies, and alteration
 - LiDAR – faults and orientations
 - Geologic mapping – lithologies and geologic relationships
 - Hyperspectral - petrology and alteration assemblages
 - Subsurface structures
 - Gravity
 - Aeromagnetic
 - Magnetotelluric
 - Subsurface targets, permeability, and temperature
 - 3D geologic model
 - Slim holes
 - Production well
 - Testing

- Major milestones(May 2010 to May 2011).
 - All geophysical data sets collected and interpreted
 - Significant progress in geologic mapping and rock and alteration minerals submitted for age dating
 - G&G data combined in a 3D model using Leapfrog software – ongoing revisions
 - Selected sites for core and production drilling with enough flexibility to use drilling results to plan subsequent wells
 - Submitted 17 locations for drilling permits to BLM and DOGAMI

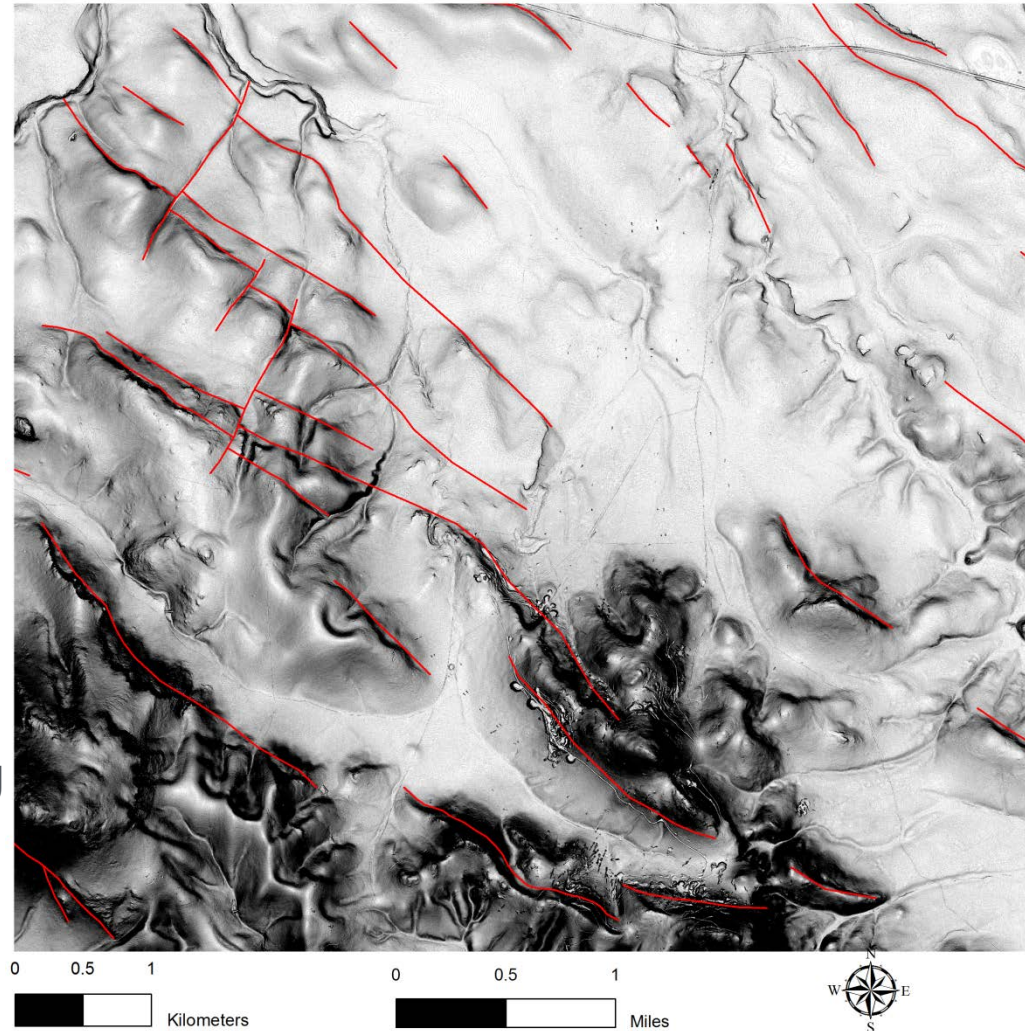


Glass Buttes, Lake County, OR
Lease area
September, 2010



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Lease area
September, 2010

- Major milestones(May 2010 to May 2011).
 - Geologic mapping
 - New faults identified
 - New vents identified
 - Geophysics
 - Individual surveys interpretations completed
 - Significant progress on multi-data set compilation
 - 3D geologic modeling including all data sets ongoing



LiDAR interpretation by Darrick Boschmann, OSU

- All surveys and interpretations are on schedule
- Permitting is delayed with permits now anticipated in Q3, 2011
- Ormat resources are shared between Glass Buttes and Crump Geyser when possible to reduce costs and time
- 3D modeling package purchased as part of Glass Buttes shared with Crump Geyser and Maui DOE projects

- LiDAR data released to Oregon Department of Geology and Mineral Industries
- PI had schedule conflicts with GDR web meetings but plans to share appropriate data when available.

- Collaborators
 - Ormat Nevada Inc
 - Oregon State University
 - Oregon Department of Geology and Mineral Industries
 - US Department of Energy
- Jobs
 - 3.28 jobs created to date

- 2011 plans
 - Complete Phase I, and receive approval to proceed with Phase II drilling
 - Drill 2 slim wells with core rigs
 - Move to production drilling if slim wells encouraging
- Each well provides a go-no go decision point. The collaborators will discuss results with DOE and plan as they occur.

- Phase I completed
- Team proposing to moving forward
- Will wait for DOE approval
- G&G surveys and data compilations are encouraging
- Phase II just beginning with planned completion by 2011 year end or early 2012

	FY2010	FY2011
Phase I	Surveys completed	Phase I report near submission
Phase II drilling	Permitting and technical preparations were ongoing	Plan to drill slim well(s) with DOE approval