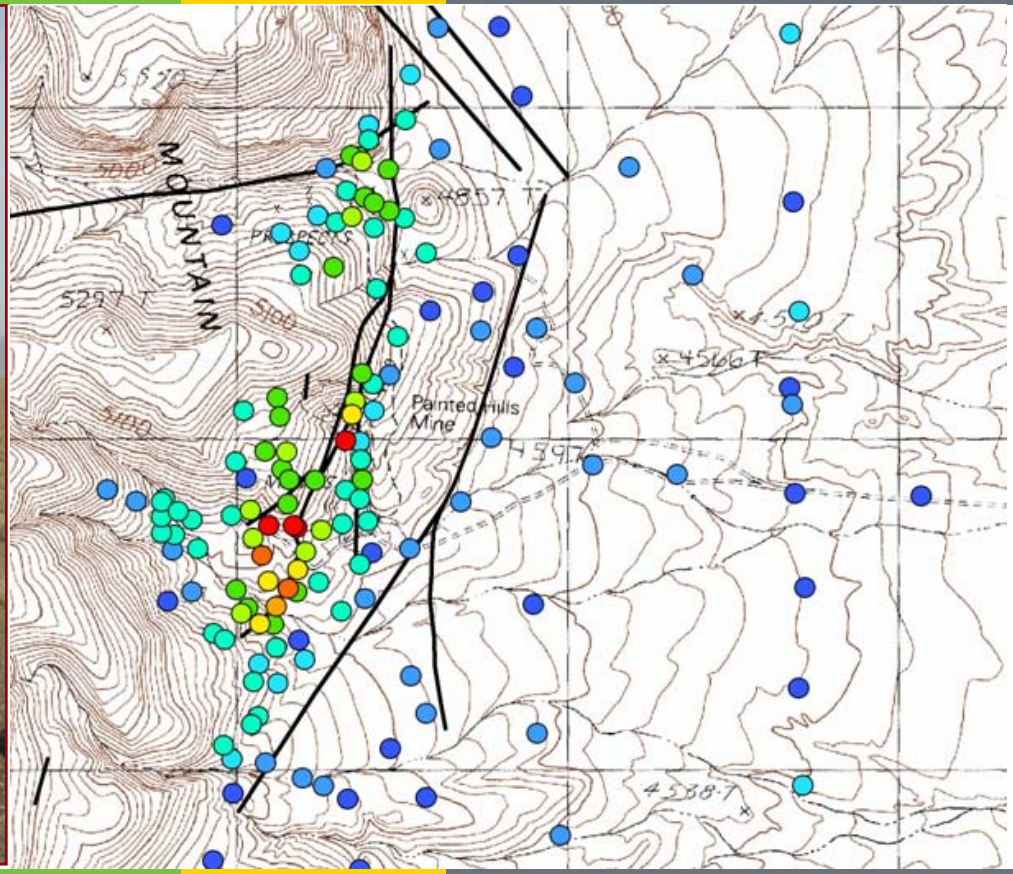


Effectiveness of shallow temperatures surveys to target a geothermal reservoir at previously explored site at McGee Mountain, Nevada

May 18, 2010

Richard "Rick" Zehner

Geothermal Technical Partners, Inc., Reno NV, a subsidiary of Caldera Geothermal, Inc.

Overview

Project Start Date: January 15, 2010

Project End Date: March 31, 2012

Percent Complete: 10%

Total Project Funding: $3,277,851

- DOE Share: $1,609,275
- GP Share: $1,668,576
- Funding for 2009: $0
- Funding for 2010: $510,391

Challenges This Project Addresses

- High geothermal exploration risk and up-front costs
- Confirm additional geothermal energy capacity

Project Objectives

- To evaluate the cost-effectiveness of two innovative technologies in early-stage geothermal exploration:
  a) shallow (2m) survey
  b) hydroprobe
- Identify a geothermal resource at the project site

Description of Innovative Technology

Shallow temperature surveys

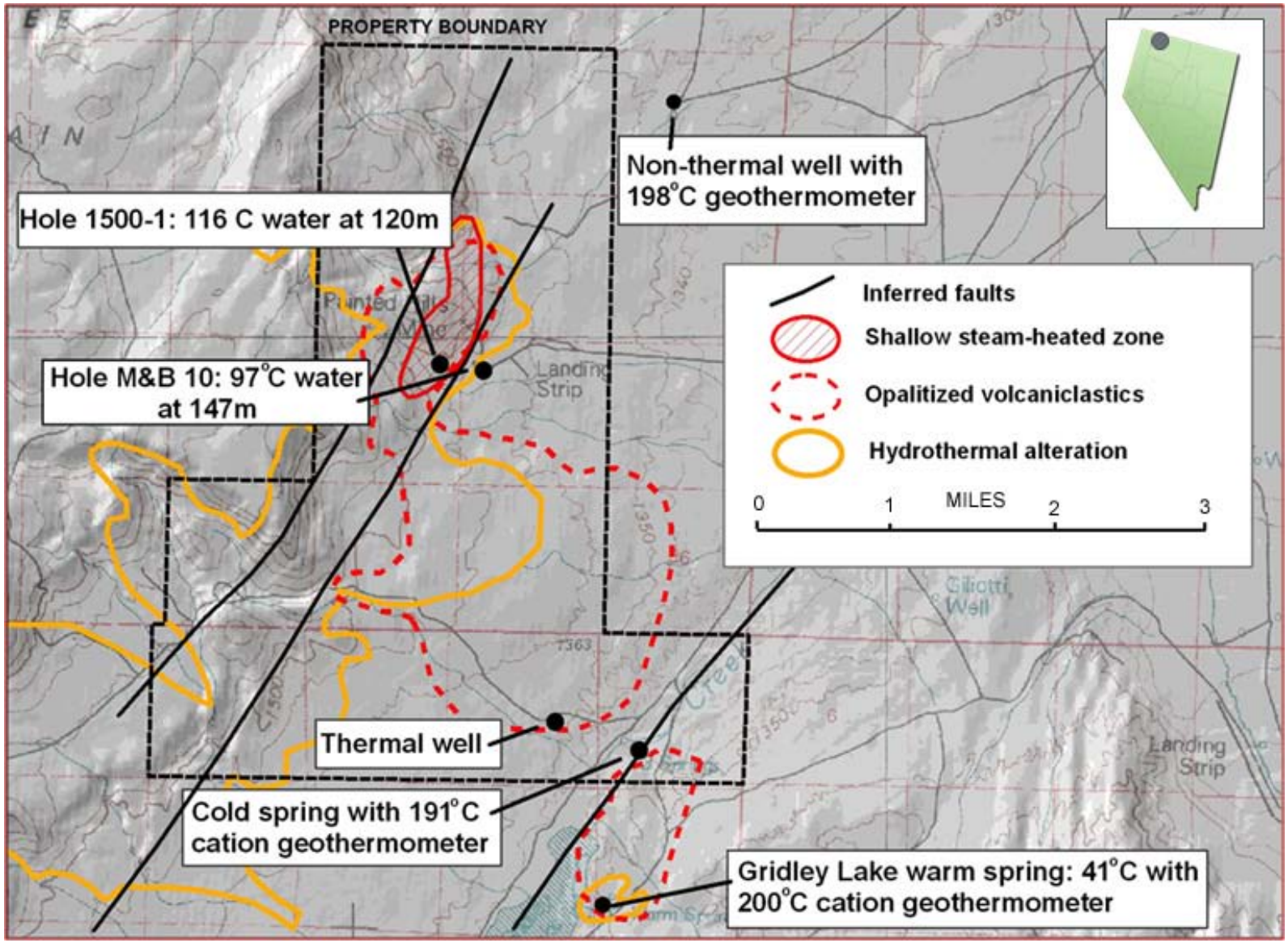
- Measures temperature at 2m depth: below the zone of most solar thermal variation
- Quick, cheap, portable
- Can delineate shallow outflow and steam-heated fault zones
- Thermal anomaly can be masked by shallow groundwater
- Not suitable for bedrock terrains

Description of Innovative Technology

Hydroprobe

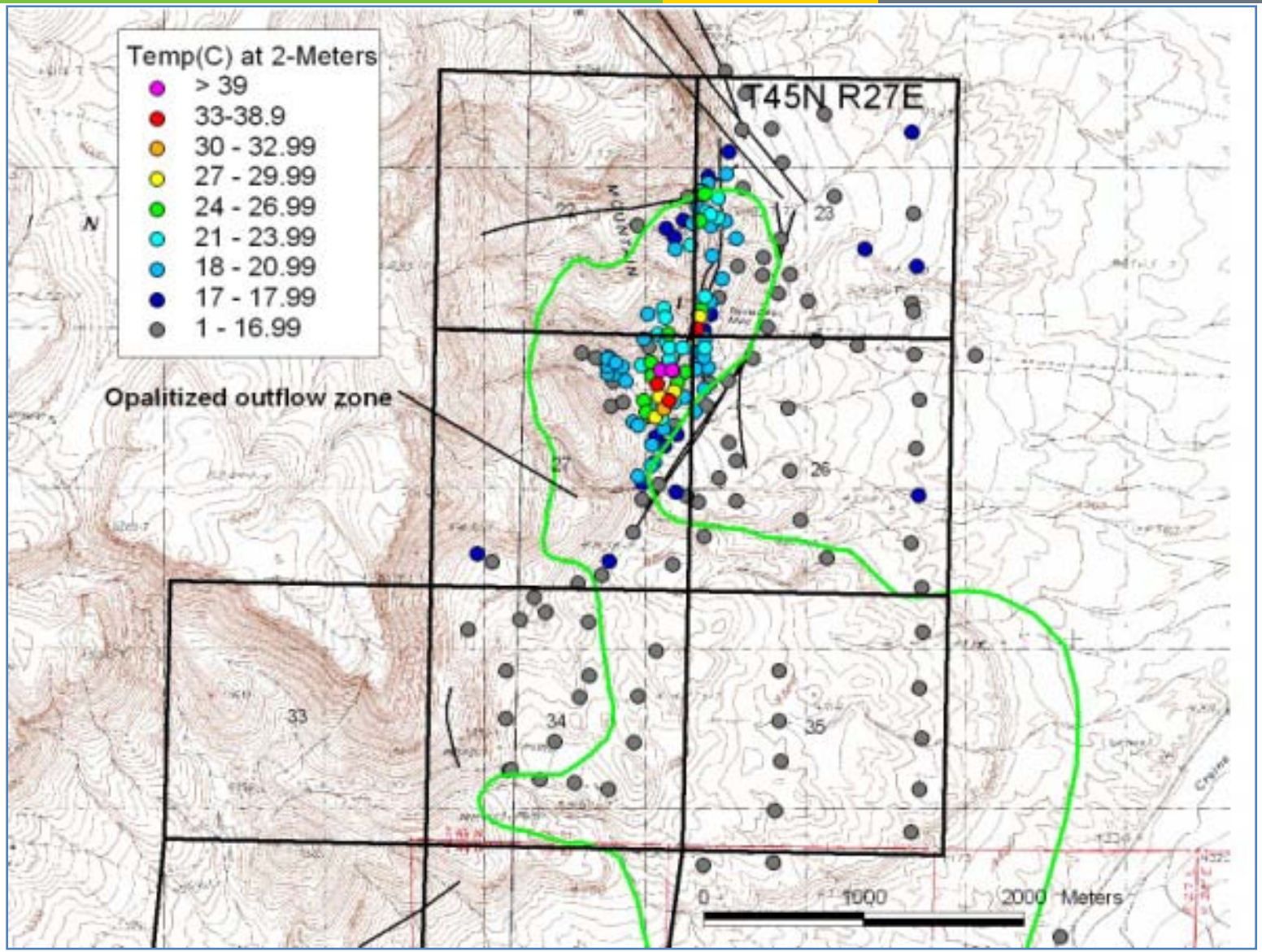
- Direct push technology on 1 1/2" hollow tube up to 50m depth
- Easy to permit, leaves little impact
- Groundwater sampling for geochemistry/geothermometry
- RTD placement for cheap temperature gradient measurements
- Confined to roads
- Not suitable for bedrock terrains

McGee Mountain Site Description

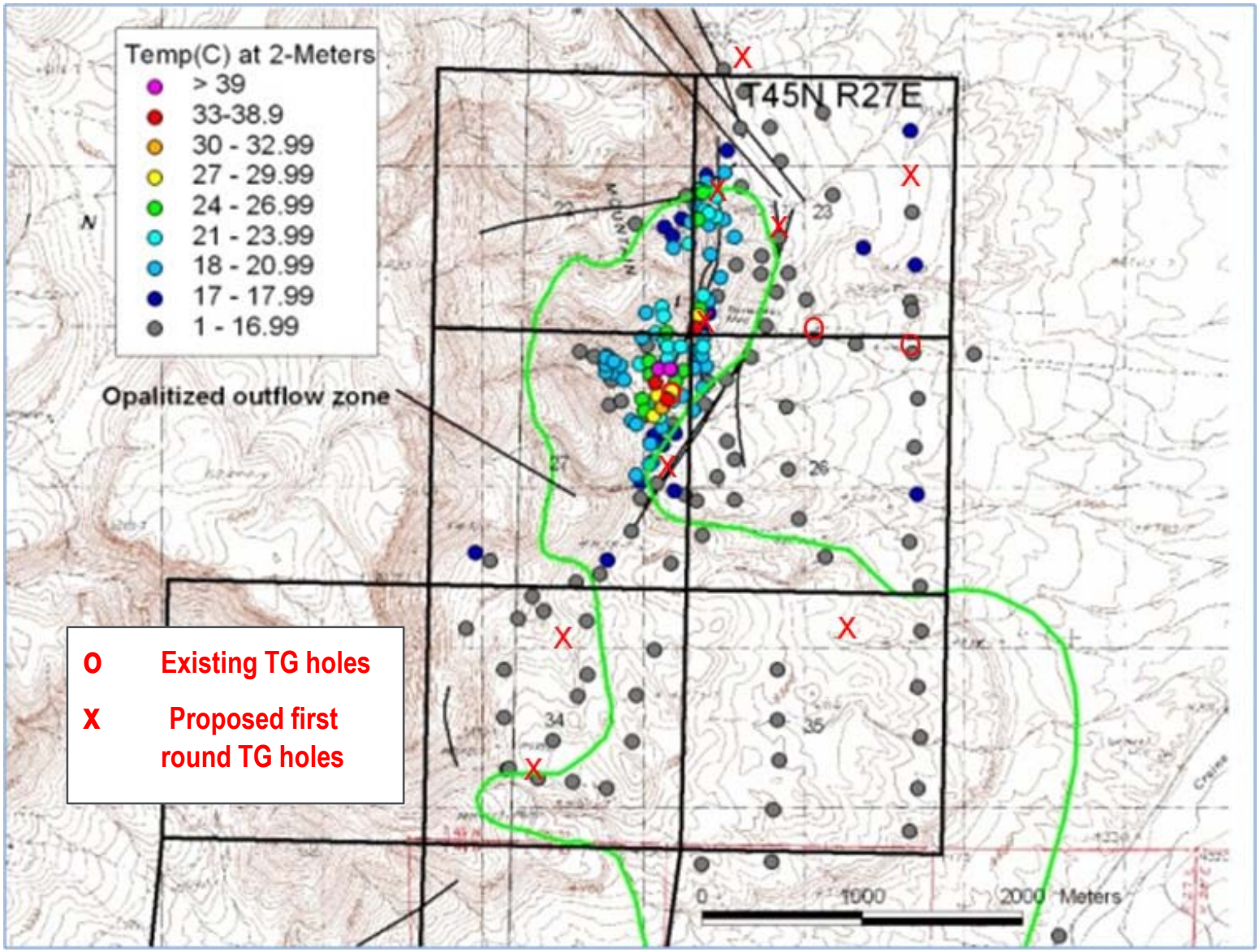


McGee shallow (2m) thermal anomaly

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy



Scientific/Technical Approach



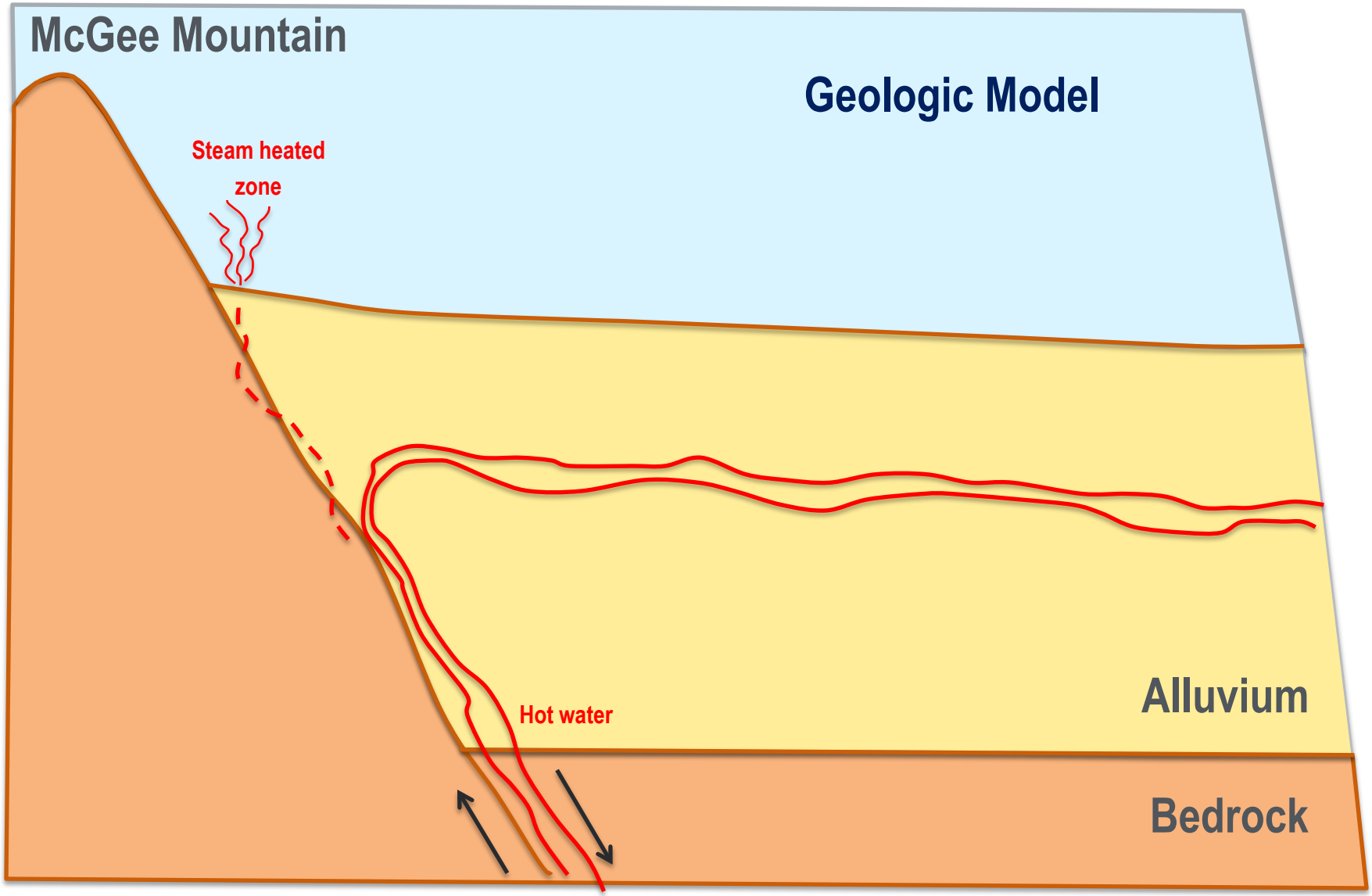
Project Steps and Timeline

1. Compile legacy and current data into a GIS (completed)
2. Run shallow (2m) temperature survey (completed)
3. Perform closely-spaced gravity survey (completed)
4. Complete hydroprobe survey (May-June 2010)
5. Temperature gradient drilling: 14 200m holes in two separate programs (August and November 2010)

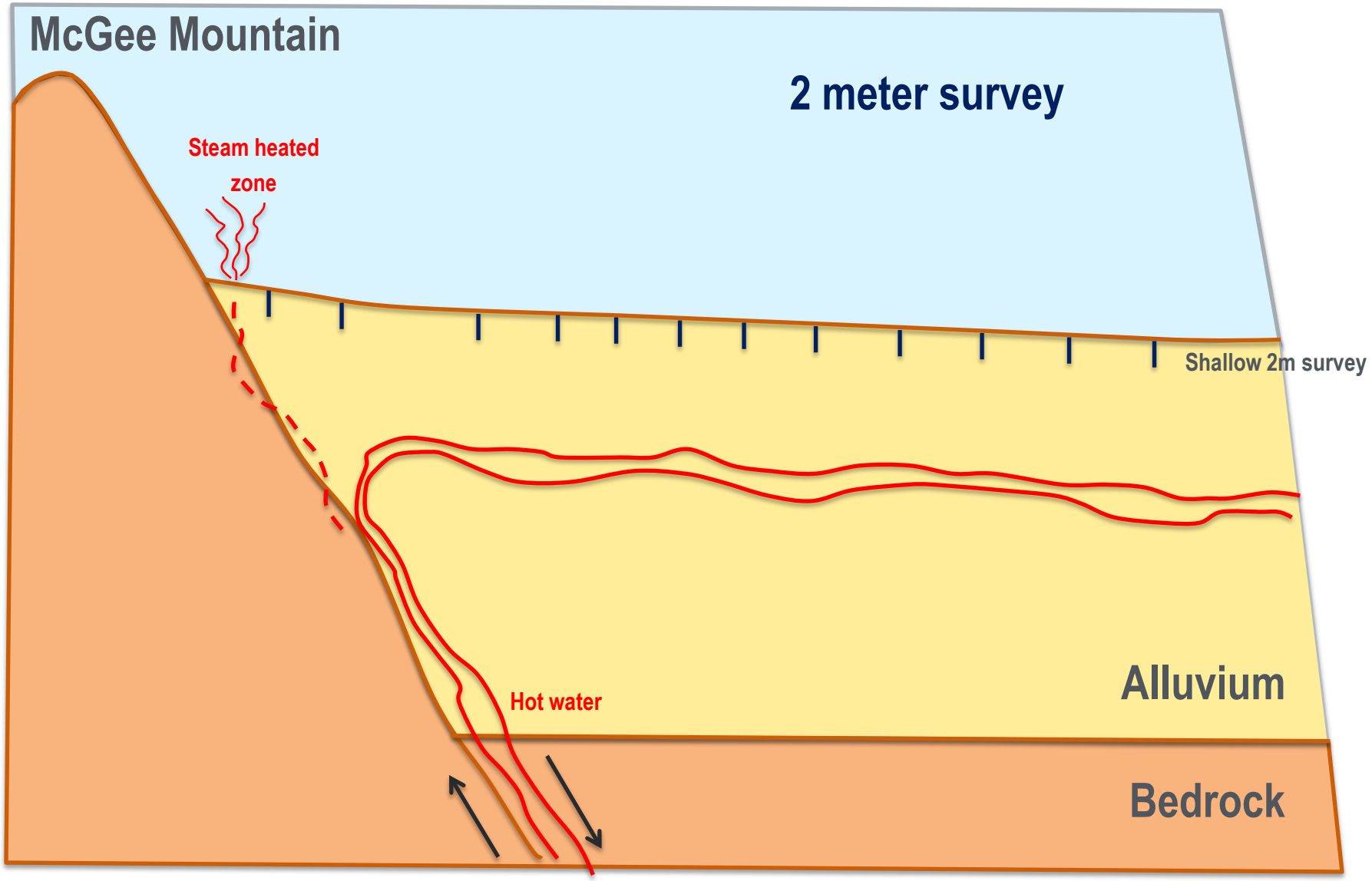
Go – No Go Decision Point

1. Two resource conformation wells “slim holes” to penetrate inferred reservoir (Summer 2011)
2. Site reclamation (late summer 2011)
3. Data compilation and write-up (March 2012)

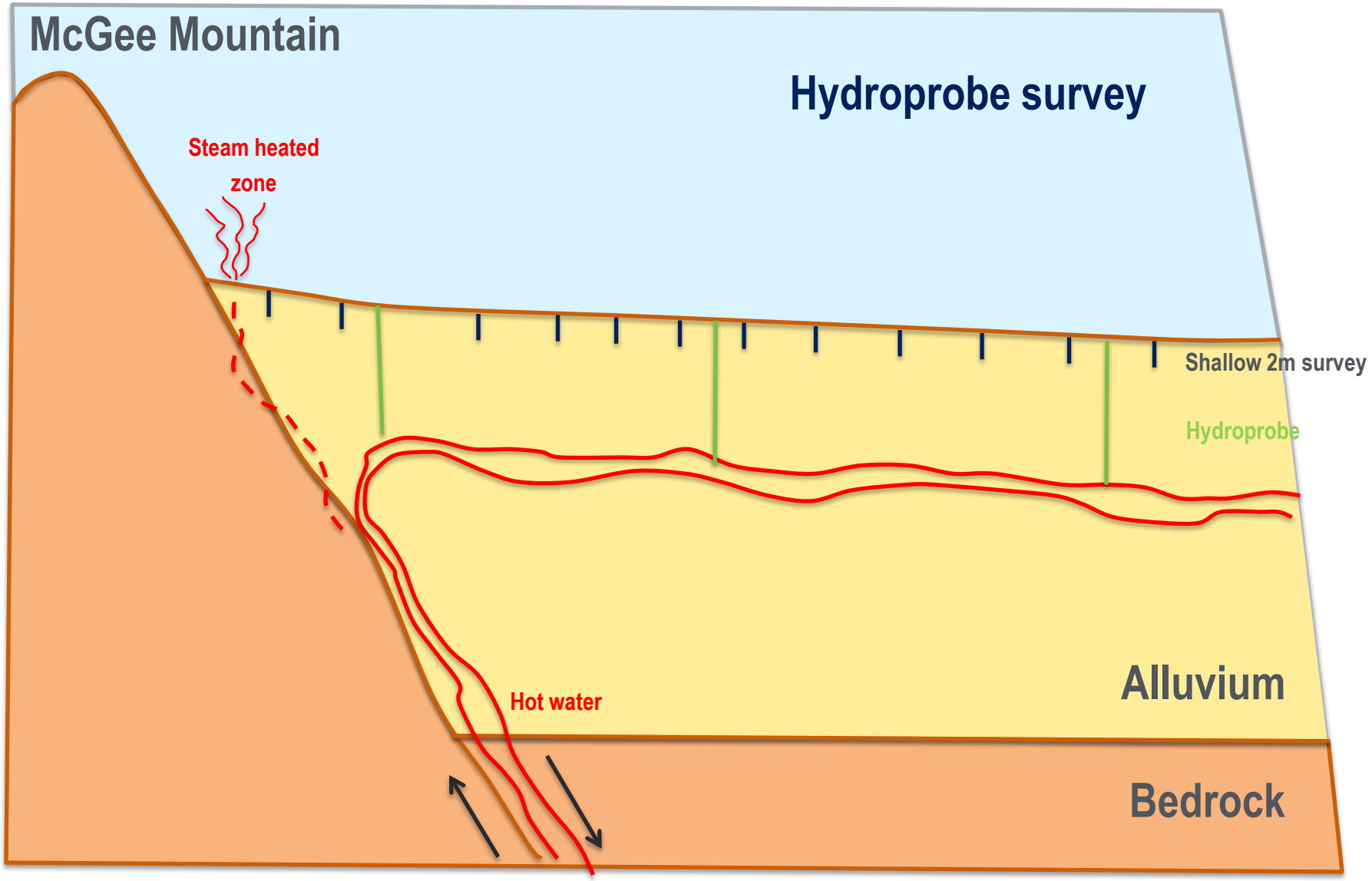
Expected Outcomes



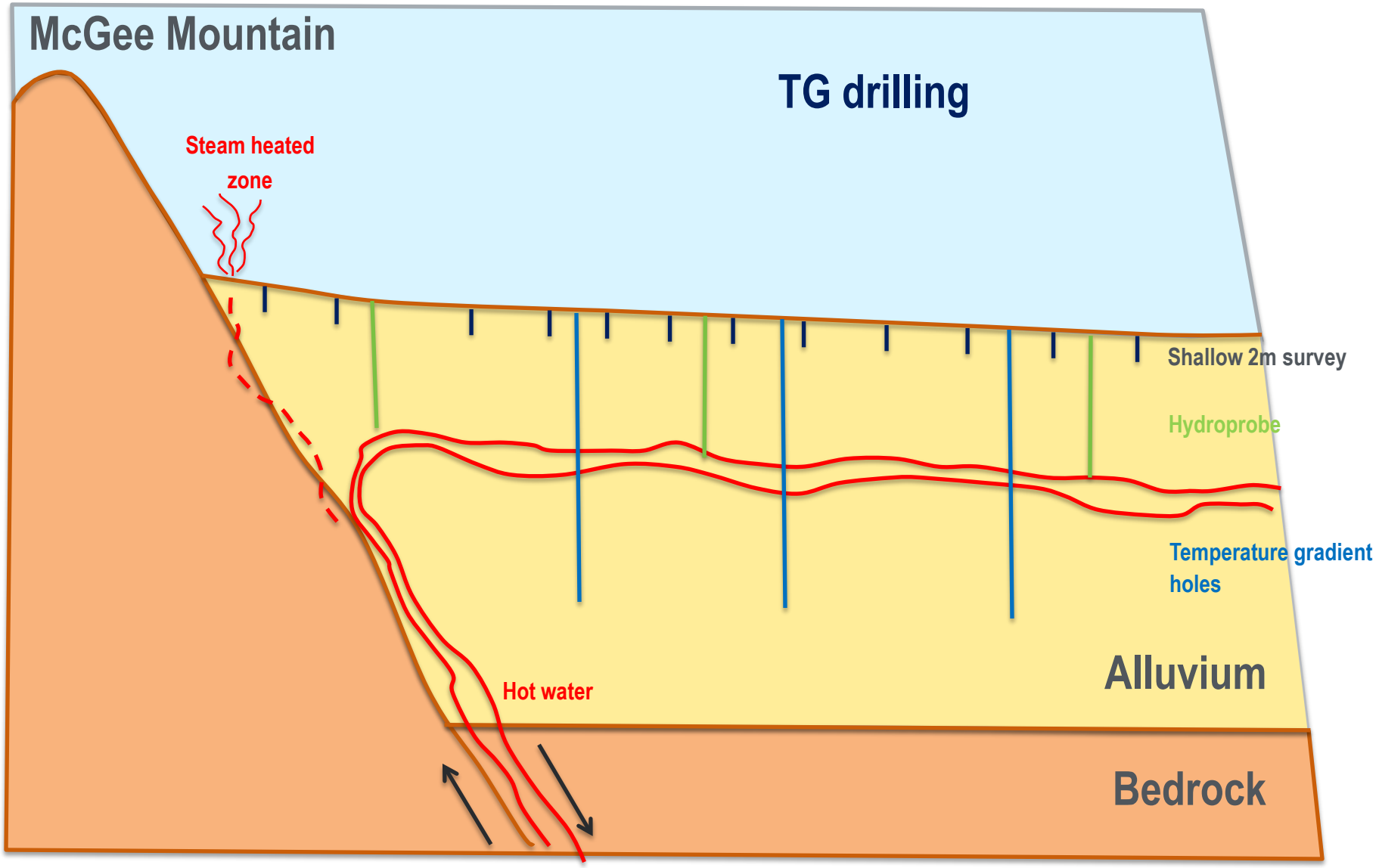
Expected Outcomes



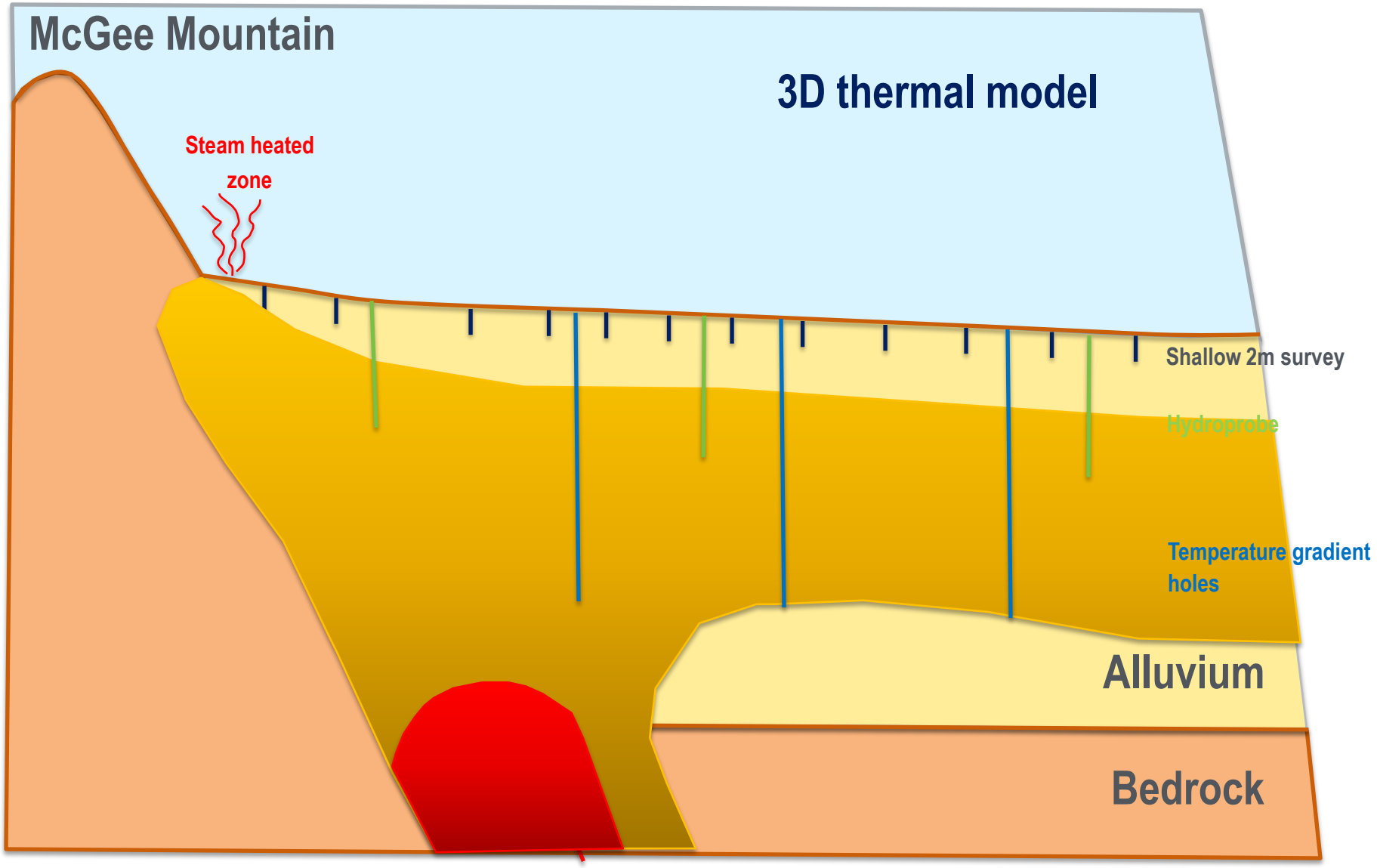
Expected Outcomes



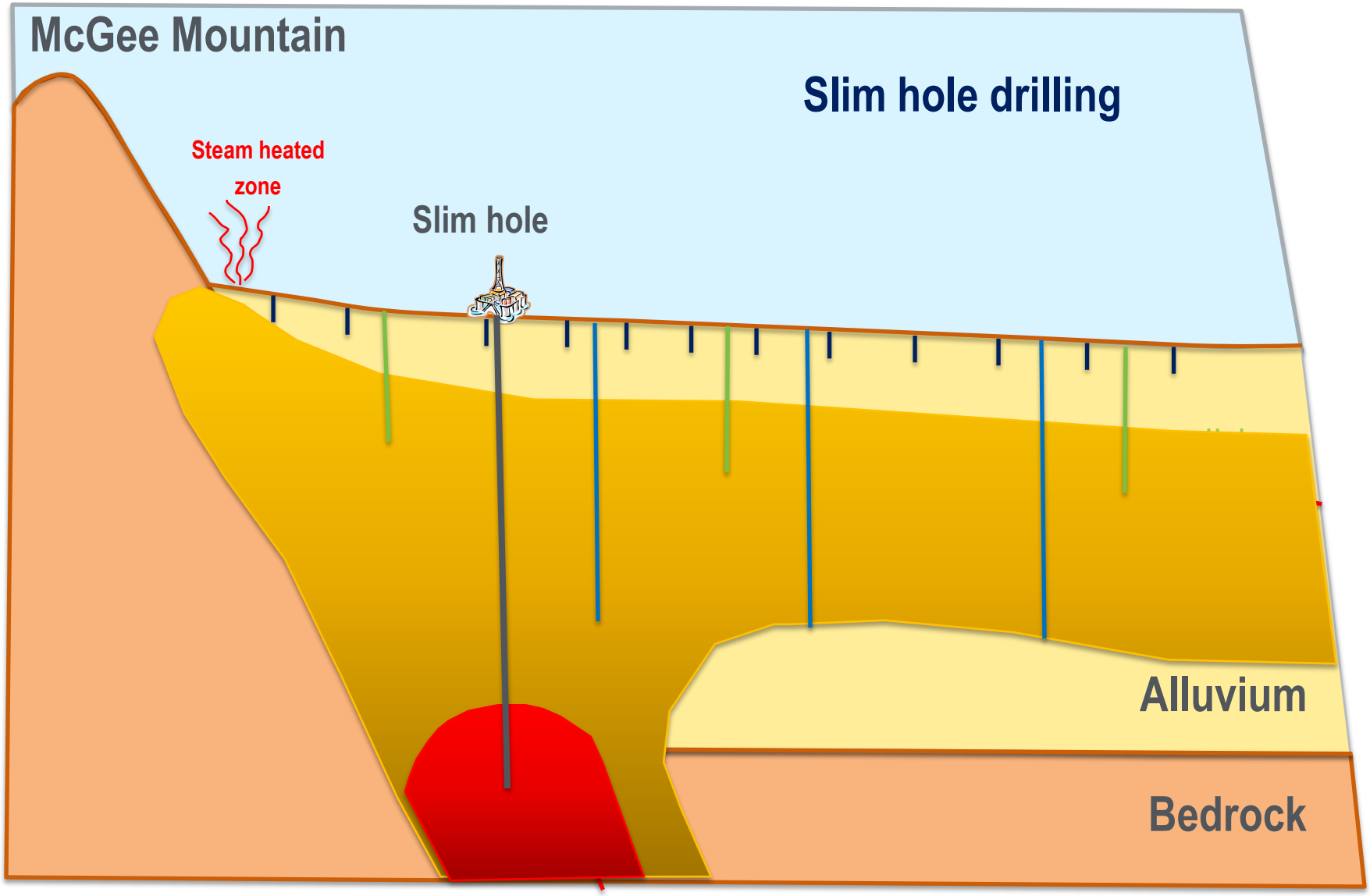
Expected Outcomes



Expected Outcomes



Expected Outcomes



Project Management/Coordination

ITEM	DATE	Cost DOA/TTL	COMMENTS
Shallow (2m) survey	8/2008	NA	Completed
Existing data into GIS	6/2009	NA	Completed
Closely spaced gravity survey	1/2010	$0K/$16K	Delayed 2 mo. but completed 3/2010
Hydroprobe survey	1/2010	$20K/$40K	Delayed 4 mo. until 5/2010 due to funding, technical issues
First round TG drilling	6/2010	$110K/$220K	Delayed 2 mo. until 8/2010 due to funding, permitting issues
Second round TG drilling	9/2010	$62K/$122K	Delayed 2 mo. until 11/2010 due to permitting issues
Decision point to continue program	11/2010		
Resource confirmation holes and flow test	8/2011	$1,284K/$1,619K	
Site reclamation	11/2011		
Report writing	3/2012		

Summary

- Shallow temperature surveys have the potential to reduce costs and thus risk in early stage geothermal exploration
- DOE funds for the McGee Mountain project will be used to:
  1. Determine the relationship between the shallow thermal anomaly and the underlying conditions that caused it
  2. Document advantages and limitations of these technologies
  3. Quantify $ savings these surveys provide as compared to conventional exploration technology
  4. Hopefully, discover a geothermal resource at McGee Mountain
- 1-2 publications describing the work, plus conclusions
- Data generated from this project will be sent to the National Geothermal Database