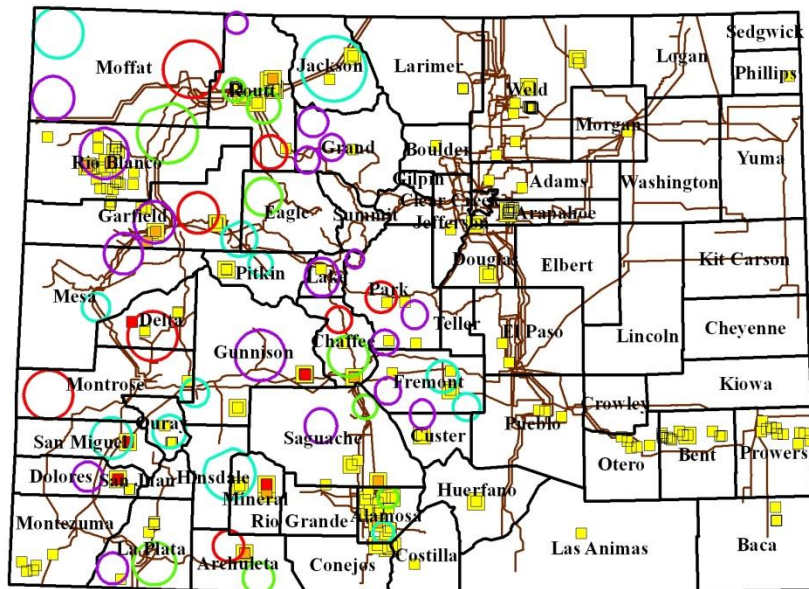


MEMO

To: Lee Robinson
From: Khalid Hussein, Sandra Perry
Date: Aug 17, 2011
Re: Comments on Rick's Preliminary report

Lee:

The map below shows 29 target areas (red, green and cyan ovals) along with 18 targets (purple ovals) that filtered out from our first pass before any prioritization. Yellow, orange and red boxes are the "favorable" geochemical anomalies. As you can see, many of our lower level targets coincide with geochemistry hits. As well, many of our highest priority locations (red ovals) do not. We certainly acknowledge the need to re-evaluate our low-priority targets that coincide with geochem locations. However, due to all the criteria amassed and reviewed during Phase I, we are concerned that many of our high priority targets (that don't coincident with geochemical anomalies) are being ignored in fieldwork. Please review our comments below on the field "targets" that Rick Zehner visited last month.



Valley, Garfield County

We selected a high-level target here (red oval above) but it was dropped due to issues with the city of Rifle and the lack of exposed hot springs. We did get some great ASTER/Landsat warm surface locations in this county and are delighted to see that this site is being investigated. The oil and gas activity here is

a plus. It may be an excellent area to team with an energy company in helping to utilize hot/warm fluids from drilling and production.

Rio Blanco, Rio Blanco County

This location was part of our first pass, but we came to the same conclusion as Rick using the bore hole data base. We're not sure why there was time and money spent re-doing geothermal gradient calculations or in visiting this location.

Pitkin County

We have one target within Pitkin that ranked pretty high (8 pts). However, ASTER/Landsat warm features were limited here, and the geology was not compatible for good recharge with no major shear zones near-by. This one still ranks low on our list.

San Miguel County

The Lemon Hot Springs area ranked the lowest on our target list with limited ASTER/Landsat warm surface models and more complex volcanic geology. We're not sure why this location continues to get field attention.

Dolores County (Paradise, Rico)

This geochem location did not coincide with our targets and while the basin/valley setting and local faulting looks to be a positive, this location is not near a transmission line. The close proximity to the San Juan volcanics may account for some of the anomalous geochemistry from water samples. So, this location ranks very low from our standpoint, and it's difficult to substantiate more fieldwork there from the geochem alone.

La Plata County

We had two targets here initially but they were dropped due to complex land situations. Again, we are not sure why there was any fieldwork accomplished here.

Archuleta

We like this area with one high priority target there and one low-priority. This location probably best defines the "Colorado" geothermal model, as documented in the Colorado School of Mines thesis that Sandy found and offered to Rick. This model is very different than a "Nevada" geothermal model, characterized by an arid setting with low soil/organic cover. We are delighted to see this area rise to the top for fieldwork. It also would be an excellent area for doing more surface temperature work, energy balance study, and alteration mineral identification.

Mineral County

We had a low-level target in Mineral and Hinsdale counties but it was eliminated due to rugged topography, complex volcanic geology, and public lands. We are not sure why time/money was spent for fieldwork here.

Alamosa

Our Phase I approach identified two targets in San Luis Valley, which coincide nicely with anomalous geochemistry. However, the politics in this valley with farmers would be difficult. This area is the "breadbasket" of Colorado where the water table is cherished. O&G activities have been met with

major hurdles. We feel this area has potential but may be difficult to permit for drilling, let alone geothermal production. Even if water samples come back with positive results, the location politics makes this low-level target.

Eagle County (Gypsum)

This area offered one intermediate target and was added since the drilling permit was in place. So the area could be tested quickly. There is no direct evidence of hot springs near the drilling site, but several other factors bode well for this area, including ASTER/Landsat warm surface features plus good basin development geology near a major NE-trending shear zone, the same shear zone that trends SW to Glenwood Springs. We were told by one of the environmental geologists during the DOE meeting in Boulder that the near-by Dotsero location had geothermal activity. So this area was added for field follow-up. It's not surprising that the rod technique did not work here. There are anhydrites in the section that may insulate local surface temps plus again there is thick soil cover. We think that water well sampling is in order for this location.

Conclusion

We see that Mr. Zehner is not well informed about the Phase I approach. When we sat with Rick after Khalid's return from Africa, unfortunately there was no opportunity to discuss our low-priority targets. As we understood it, the USGS geochemical anomalies (that Rick is using as field location points) are supposed to be added as another level of criteria to re-prioritize effort & time in the field.

We realize that the idea of using thermal anomalies alone is not reasonable, because we know that geology, politics, land ownership, and physiography are important to the economic effort. Also from Rick's preliminary report, we cannot depend on geochemistry alone. So we are at a loss as to why Rick would be visiting locations based on geochemical anomalies alone. In addition, maybe he should be testing water at our high-priority areas since these locations may not have been adequately sampled in the past and therefore are void from his water database? There is also some skepticism on our part for the "rod testing" he employs. While this technique may be useful in dry pediment settings in Nevada, there is some level of doubt on the validity of this field technique in the mountains and valleys of western Colorado, with thick soil development and moist/organic soil sections. Therefore, Rick's initial findings using rod temp measurements over ASTER/Landsat warm, surface features are in doubt. This is another reason why we wanted to conduct other field temperature measurements and look more closely at the energy balance associated with satellite temp models. From DOE's standpoint, this is what they invested in, not someone re-visiting an old USGS water database.

Respectfully submitted,

Khalid Hussein

Sandra Perry