January 3, 2011

To: Ms. Jonne Slemons
Petroleum Land Manager, Division of Oil & Gas
State of Alaska, Department of Natural Resources
550 West 7th Avenue, Suite 1100
Anchorage, Alaska 99501-3510
jonne.slemons@alaska.gov

Via email

Re: Mount Spurr Geothermal Leases ADL 391353-391368 – 2010 Resource Report

Dear Ms. Slemons,

Pursuant to provision 11 of the above geothermal leases, I am pleased to provide you with a comprehensive resource report, prepared by Dr. Brigette Martini, detailing the exploration work done by Ormat on the above leases in 2010, and the geological findings and analysis of this work.

2010 has been an exciting year for Ormat in Alaska, with intensive exploration and drilling work performed and with encouraging results achieved.

Please be advised that we are still analyzing significant portions of the data collected and expect to get more insight and additional interpretation of the data during 2011. We will send DNR an updated report once this additional information is available.

Please also be aware that the data contained in pages 3-22 of the attached report have been submitted in confidence pursuant to AS 38.05.035(a)(8) and 11 AAC 84.780, which collectively protect geological, geophysical, and engineering data from public disclosure. Ormat is requesting that DNR maintains the confidentiality of this data.

We welcome any comments DNR may have on this report and will be happy to try and provide additional information or clarification should DNR be interested.

Sincerely,

Rahm Orenstein
Director of Business Development

Attachment

ORMAT NEVADA, INC.
6225 Neil Road, Reno, NV 89511, 775-356-9029, Fax 775-356-9039

Mt. Spurr Geothermal Exploration – Resource Report for Year End 2010

Prepared by:

Ormat Nevada, Inc.
6225 Neil Road
Reno, Nevada
89511

Author: Dr. Brigette Martini, Senior Staff Geologist

For the Alaska Department of Natural Resources

January 3, 2011

The data contained in pages 3-22 of this document have been submitted in confidence pursuant to AS 38.05.035(a)(8) and 11 AAC 84.780, which collectively protect geological, geophysical, and engineering data from public disclosure. Ormat is requesting that DNR maintains the confidentiality of this data.

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Section 1: Executive Summary

Ormat Nevada, Inc. (Ormat), a wholly owned subsidiary of Ormat Technologies, Inc., won several geothermal leases on Mt. Spurr from the State of Alaska in 2008 (details in Table 1 below) and planned a multi-phased exploration approach in attempt to confirm or exclude the existence of a commercial scale geothermal resource at depth. If such a resource is confirmed, Ormat would then aim at developing a utility-scale geothermal power plant at the mountain, to be connected to the Railbelt power grid around 2016.

As required in the geothermal leases, Ormat provided a Plan of Exploration for 2010-2011 to the Alaska Department of Natural Resources (ADNR) on November 20, 2009. This plan was approved by DNR on January 20, 2010. Pursuant to provision 11 of the geothermal leases, this report details the actual exploration work done in 2010 and the information acquired from it. This report covers all the major information available at this point. We are still interpreting the results of most of the geophysical surveys as well as of the drilling results and will provide DNR with the additional data when ready.

During the summer of 2010, Ormat completed extensive exploration work, built on field reconnaissance work done in 2009 and desktop and other studies done beforehand. Work performed in 2010 included geologic mapping; rock/soil sampling; geochemical sampling; a ground-based gravity survey; a ground based Magneto-Telluric (MT) survey; an airborne magnetic survey; airborne LiDAR and satellite-based digital imaging. Analysis and synthesis of the data collected, along with previous geologic information and models, resulted in the generation of seven core-hole targets, two of which were later on drilled.

Core-drilling of well 62-2 (a.k.a Lower Chaka – R) was completed to a depth of 822 feet. Rigging-up occurred from September 2 through September 4, 2010; the hole was spudded on September 5 and was completed on September 18, 2010. Core-drilling of well 67-34 (a.k.a Upper Chaka – R) was completed to a depth of 1000 feet. Rigging up occurred from September 19 through 21, 2010; the hole spudded on September 21 and was completed on September 28, 2010.

Although weather hampered some efforts, the overall findings are encouraging. Structural models were confirmed within the two core-holes via intersection of several fault zones with extensive, fracture-hosted hydrothermal alteration documented at very shallow levels. Anomalous (albeit low) temperatures were found as was encouraging chemistry, although deeper wells will be needed to determine subsurface temperature gradients, permeability and thus a viable geothermal reservoir. Nevertheless, confirmation of faulting coupled with extensive alteration, geothermal-indicative chemistry and anomalous temperature continues to indicate geothermal potential at-depth.

Ormat recommends moving forward with the exploration work as planned, with additional, deeper core holes (a.k.a slim holes) in 2011 and, if results are encouraging, drilling the first full-size geothermal production well in 2012.

Section 2: Basic Project Information

Project Location

The Mount Spurr geothermal project is located on 15 geothermal lease tracts acquired from the State of Alaska in the Mt. Spurr Geothermal Lease Sale No. 3 on June 16, 2008 (see Table 1).

The leases are located approximately 80 miles west of Anchorage on approximately 35,806 acres at Mt. Spurr (see Figure 1 and Figure 2). There are three main areas of exploration interest at the project, termed the Western, Central, and Eastern regions. All three regions were surveyed for geologic, geophysical, and geochemical properties.

Site Access

The project lies in a roadless region, approximately 40 miles west of the nearest infrastructure at the village of Tyonek or Beluga. As such, a portion of the exploration planned for 2010 was air-based in order to reduce the time spent on an expensive, remote ground-presence. Ground-based surveys, mapping, and sampling activities were serviced from both Beluga and Tyonek, while the actual work was performed from a temporary, remote base camp set up within the lease area, and serviced by helicopter.

Lease#	Tract #	Section	Township	Range	Meridian
ADL 391354	001	35 and 36	14N	16W	Seward
		1 and 2	13N	16W	Seward
ADL 391355	002	33 and 34	14N	16W	Seward
		3 and 4	13N	16W	Seward
ADL 391356	003	31 and 32	14N	16W	Seward
		5 and 6	13N	16W	Seward
ADL 391357	004	35 and 36	14N	17W	Seward
		1 and 2	13N	17W	Seward
ADL 391358	005	33 and 34	14N	17W	Seward
		3 and 4	13N	17W	Seward
ADL 391359	006	31 and 32	14N	17W	Seward
		5 and 6	13N	17W	Seward
ADL 391360	007	11, 12, 13, and 14	13N	16W	Seward
ADL 391361	008	9, 10, 15, and 16	13N	16W	Seward
ADL 391362	009	7, 8, 16, and 17	13N	16W	Seward
ADL 391363	010	11, 12, 13, and 14	13N	17W	Seward
ADL 391364	011	9, 10, 15, and 16	13N	17W	Seward
ADL 391365	012	7, 8, 17, and 18	13N	17W	Seward
ADL 391366	013	21 and 22 (partial)	13N	16W	Seward
ADL 391367	014	19 and 20 (partial)	13N	16W	Seward
		23 and 24	13N	17W	Seward
ADL 391368	015	19, 20, 21, and 22	13N	17W	Seward

Table 1: Geothermal leases - legal description

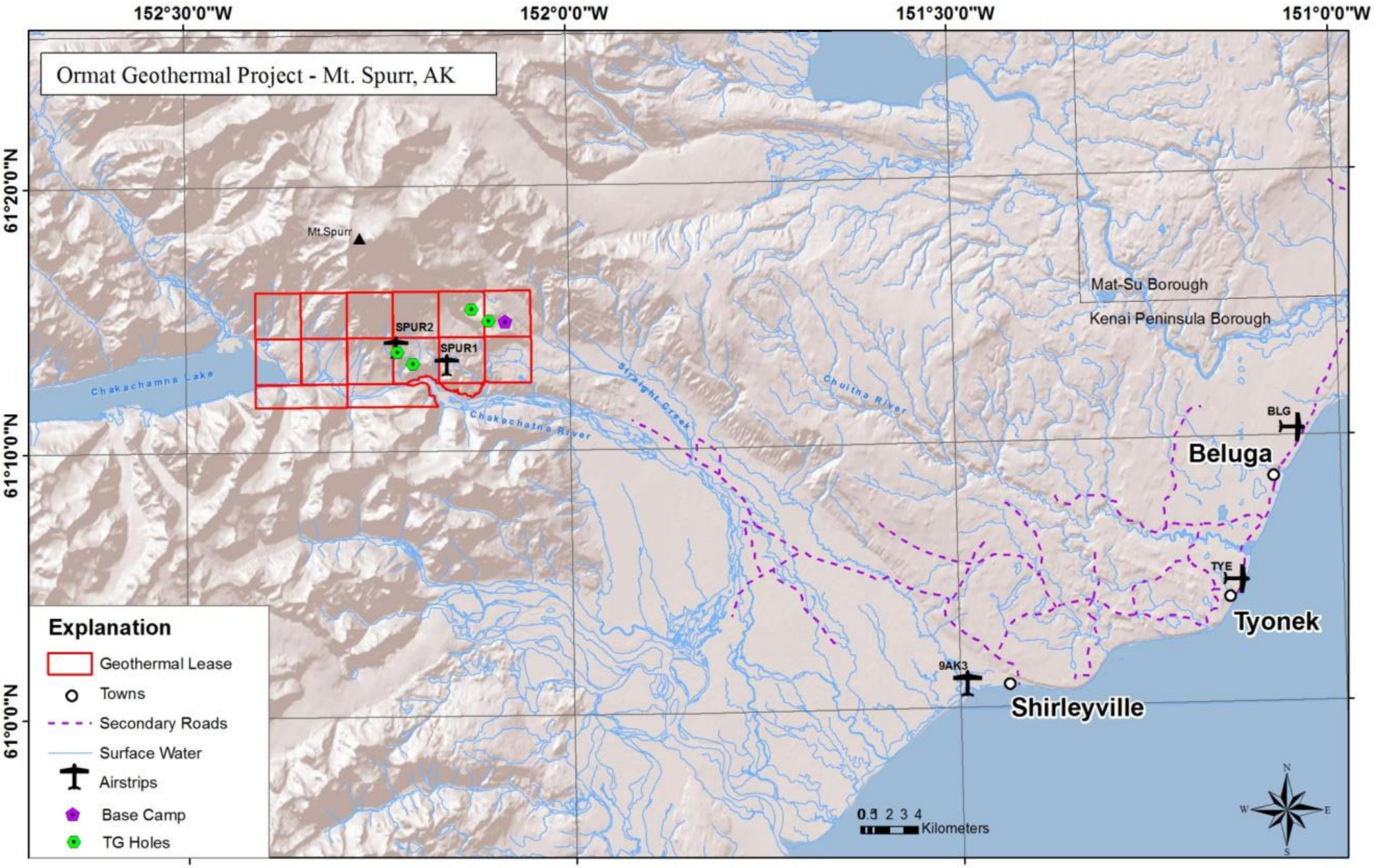

Figure 1: Regional area map

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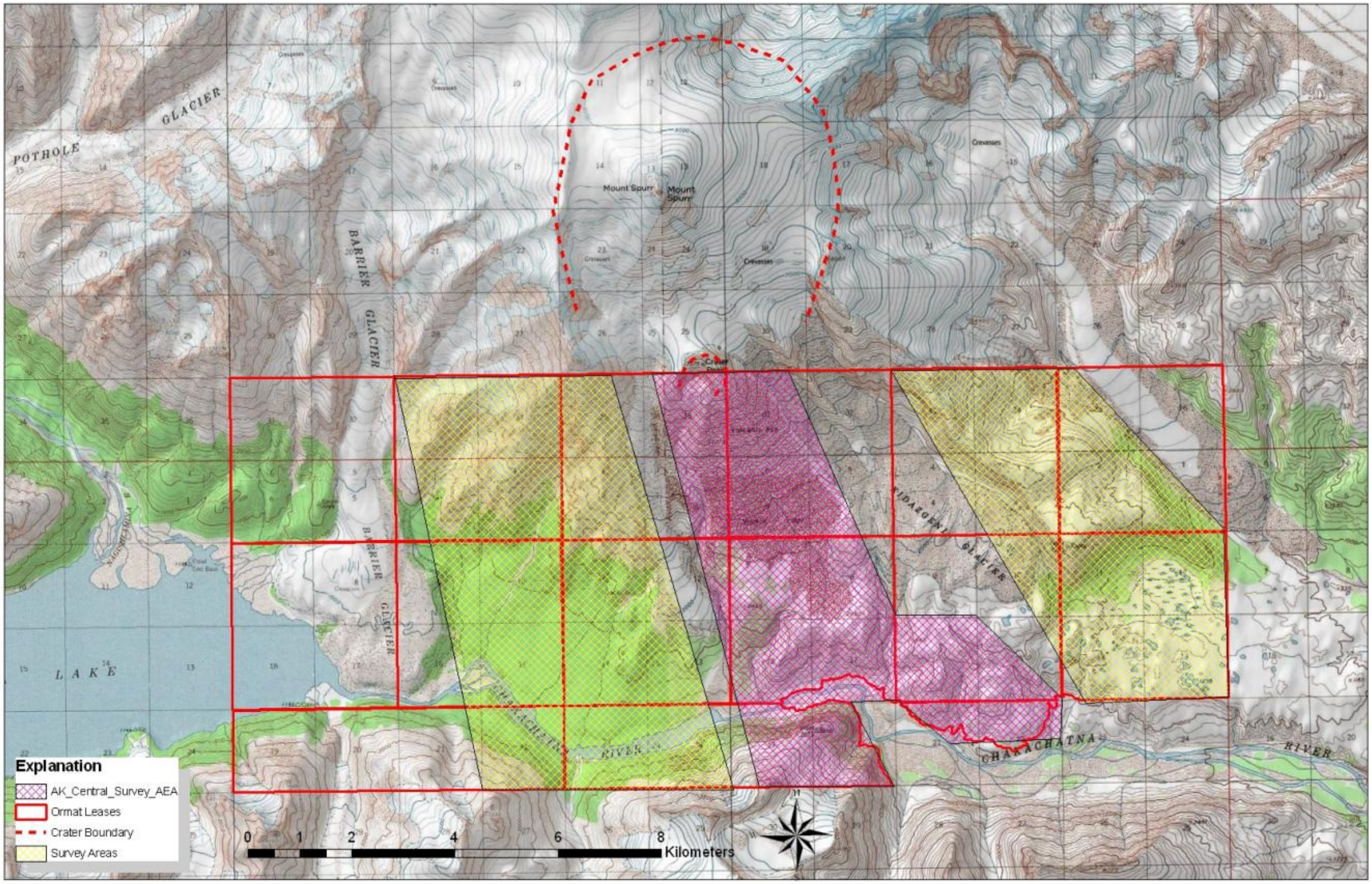

Figure 2: Project location map

Section 3: Land Use

The purpose of the exploration was to locate areas within the leasehold where a geothermal resource can be recovered. In addition, when selecting where to focus the exploration efforts, priority was given to areas that appear more feasible for future permanent site access (e.g. a future permanent road), should a power plant and a geothermal well-field eventually be constructed, and that are outside of the zone of greatest known volcanic hazard.

For permitting purposes the 2010 exploration work was broken down to two phases, “phase 1” covering non-intrusive exploration, primarily ground-based MT and gravity surveys, and “phase 2a” covering temperature gradient core drilling. Phase 2a eventually included drilling two shallow core holes (62-2 and 67-34), out of 7 potential target that were selected. See Figure 3 for a map of well targets.

A completion report, detailing all work performed and permits obtained and notifying on the completion of all work while meeting required mitigation measures was sent to DNR as well as to all other relevant agencies on November 2nd, 2010.

Exploration Summary

Exploration at Mt. Spurr progressed on-time and on-track in 2010 with the proposed program submitted and approved through all the relevant state agencies. Air-based geophysics (heli-mag), ground-based geophysics (gravity and MT), remote sensing (satellite spectral and airborne LiDAR), ground-based geochemical sampling and ground-based geological mapping and groundtruthing were all completed during this past field season. In addition, two mineral core holes (sited based on preliminary geophysical and geological results) were completed in the eastern exploration region; 62-2 to 822’ and 67-34 to 1000’.

The geophysics, while only partially delivered at this point (final gravity and MT maps are expected in mid to late January 2011) were coupled with sub-meter, high resolution elevation maps (from LiDAR) to create our current working model of the Mt. Spurr system. Structure (faults and fractures) has been mapped on the basis of these maps and has added to our current structural maps created from satellite interpretation and field-based mapping. In addition, several potential, previously unknown volcanic features have been delineated in these combined datasets. Delivery of the additional geophysics in early 2011 will serve to further define these features. It is likely that one or more of these potential new volcanic features will be targeted in 2011 drilling.

Ground Mapping/Sampling Surveys

Exploration began with ground-based geologic mapping and aquatic geochemical sampling surveys late in the summer of 2009 and continued into the late spring and early summer of 2010. The geologic mapping was initially guided by original geologic maps (Nye and Waythomas, 2005) and by satellite-based high-resolution images. Previous mapping emphasis at Spurr has been on the petrology of the volcanic products rather than regional and local structure at and adjacent to the Spurr edifice.

Two separate field campaigns were carried out with the goal of further defining structure in the field (faults, fractures, highly altered rock) and continuing aqueous geochemical sampling to characterize both new discharge sources and seasonal variability within previously known discharge sources. Field work completed from August 1st-7th succeeded in identifying two new fault segments within the 'Kid Canyon' area on the southern flank of Mt. Spurr. These faults were characterized by advanced argillic alteration (kaolinite, smectites and sulfates) plus cinnabar and amorphous silica. Fault zones were in excess of 5 ft thick in some locations. In addition, fluid sampled from this area discharging from beneath the glacier was warm (64.5°F) with a basic pH of 8.9 and silica values of 97 ppm – extremely anomalous values for glacial melt water. We have inferred that the two fault zones identified in Kid Canyon are likely sources of upflow for the current Mt. Spurr hydrothermal system. Furthermore, field mapping carried out in Kid Canyon between September 1st and 8th confirmed two more locations of 60 degree water seeping from the walls of Kid Canyon.

Field mapping in the eastern portion of the lease also better defined previously inferred faults with physical measurements of fault planes. The 'South Bench Fault' and 'North Bench Fault' were mapped during both the August and September field campaigns; springs issuing along these faults were sampled and analysis shows similar results to previous geochemical results: geothermal indicators (anomalous sulfate, silica, chloride, lithium) and evidence for substantial mixing (high magnesium). Both of these faults have evidence for fault movement (slickenlines) and spare alteration including kaolins and amorphous silica.

Finally, a Tertiary sedimentary unit (a coal-bearing conglomerate) identified by previous state geologists was identified in the field and extensively expanded in spatial extent via our mapping efforts. Figure 3 and Figure 4 show small-scale compilations of structural elements gleaned from both field investigations and derived from geophysical and LiDAR data products.

Aquatic sampling continued in 2010 from our initial surveys completed in 2009. An additional fifteen water samples were collected from hot springs, glacial outwash and one core-well. All were analyzed for standard, major-element geothermal constituents. These samples (most of which were repeats from 2009) continue to indicate input of hydrothermal waters at depth (high silica and sulfate values) though remain aggravatingly inconclusive (with respect to expected reservoir temperature) due to their high degree of mixing (exemplified by the high Mg values). Analysis of the one sample taken from core-well 67-34 (a well which flowed cold water before capping) shows a high degree of magmatic carbon dioxide input as well as much higher than expected Silica values (130 ppm) for water at near freezing temperature.

Surface surveys for carbon dioxide flux were not completed as planned in 2010 due to the unavailability of our expert consultant. We will attempt to complete these flux surveys early in the 2011 field season. Surveys will be centered on the confirmed fault structures intercepted during drilling of 62-2 and the potential volcanic features imaged by the geophysics and LiDAR to the south of 62-2. ‘Baseline’ measurements at zones of known hydrothermal up-flow (Crater Hot Spring Canyon and ‘Kid’ Canyon) will also be completed for comparison purposes.

Geophysical Surveys

Heli-bourne magnetic data was acquired over a period of approximately 1.5 months in July-August 2010. Ground-based gravity and MT data was collected in the same time period and is currently still in post-processing. All three surveys were heavily impacted (i.e. severely delayed) by weather.

These surveys were intended to 1) better elucidate structure in the Mt. Spurr region and 2) attempt to identify ‘deep’ anomalies potentially coincident with magma and/or geothermal reservoirs. In summary, the heli-mag (1675 line kms) appears to be capturing shallow structure (between 0-1km) along with volcanic unit variability (see Figure 4 for heli-mag example). Preliminary results from both the gridded surveys of gravity and MT appear to be capturing deeper structure and potentially magmatic intrusions along deep-seated structure (see Figure 5 and Figure 6). While the magnetic data matches surface mapping well and captures two major trends of structure (E-NE, and NW), the gravity and MT appear to be capturing a much deeper structural weakness orientated roughly N-NE. This theory is partially corroborated by co-location of deep (>14km) seismicity in this general structural grain at the locations identified in our geophysics. Furthermore, seismicity observed before, during and after the 1992 eruption was also roughly aligned in a similar N-NE direction – though offset approximately 6 km to the west beneath Crater Peak and to the south.

One theory (to explain the preliminary geophysical results observed in the eastern lease position) is the presence of a deep-seated structural weakness located beneath the eastern lease position similar to that which must exist beneath Crater Peak and the Spurr summit (to channel magma from depth). While there is evidence for N-NE trending structure at the surface in the eastern leases, it is weak in the field. LiDAR analysis is what indicates the surface presence of such features in the vicinity of the anomaly indicated in the MT/gravity.

Our model is still evolving; drilling data from September and final geophysical results from the gravity and MT (expected in January 2011) will be synthesized into current models and undergo further analysis. This next-generation geothermal model will be used to site core-holes for 2011 drilling.

Remote Sensing

Satellite-based multi-spectral data (historical data from 2005) was acquired in this 2010 timeframe and analyzed for surface lineaments, heat flux and surface material distribution; the results of these analyses were inconclusive and of limited value. Plane-based airborne LiDAR was collected in late August of 2010 and delivered in early October of 2010 (see Figure 7). Approximately 160 km^2 of 0.2 cm spot-spaced LiDAR was collected over two days. The unprecedented resolution of the digital elevation model will aid in further precise processing of geophysical data. It has already revealed intricate surface morphology never before captured for Mt. Spurr including revelation of previously unknown faults, fractures and volcanic features. Due to its active electromagnetic nature, LiDAR can 'see through' tree cover and capture the terra firma below. The combination of this data with the heli-mag has guided our initial siting of 2011 core-holes. It is currently being used for correction of the gravity and MT datasets. The completion of this work will provide the final pieces for our geothermal modeling and for our well-siting.

While the hyperspectral and high resolution digital imaging survey had to be cancelled/postponed due to weather, we did use the archival Quickbird 0.6 m color/near-infrared satellite imagery (mentioned previously) for geologic base maps and logistical/drilling base maps. Spectral logging of the retrieved core also served to replace part of the lost information regarding geochemical character of hydrothermal alteration suites found on Mt. Spurr; these logs were collected in early December of 2010 and will be fused with standard logs by early 2011. If warranted, an airborne hyperspectral survey will be attempted again for the summer of 2011. It is clear from ground-mapping and the preliminary spectral logs from the core that the Mt. Spurr edifice is heavily altered – both from syn-formational, primary alteration processes and from post-depositional processes (i.e. secondary hydrothermal alteration).

Temperature Gradient Drilling Program

Our core-hole drilling in 2010 targeted large crustal fault systems delineated in both airborne data (heli-magnetics and LiDAR) and field mapping. Our first location, 62-2 intersected and confirmed both modeled fault zones at very shallow depths. These fault zones were heavily brecciated and hydrothermally altered indicating hydrothermal fluid flow in the past. While 67-34 did not intersect the preliminary modeled fault system, subsequent models based on post-drilling synthesis confirms an alternate model (see Figure 8 for summary core logs). Furthermore, fluid was obtained from this well and geochemical analysis (including geothermometry) indicates a hydrothermal input at depth from 1) silica values and 2) clear input of magmatic carbon dioxide. Temperature measurements in both wells were confounded (62-2 could not be logged due to a bridge in the wellbore and 67-34 remained unlogged due to the need to demobilize quickly off the mountain in the face of the on-coming winter) – but certainly 'cold' relative to typical shallow geothermal systems in the Basin and Range of Nevada and California. However the gradients measured in 62-2 (~2-3°F/100ft) are actually anomalous for large, ice-laden stratovolcanoes. Furthermore, temperatures of sub 80°F were encountered in 67-34 – again anomalous for a large edifice channeling large amounts of cold water through its flanks.

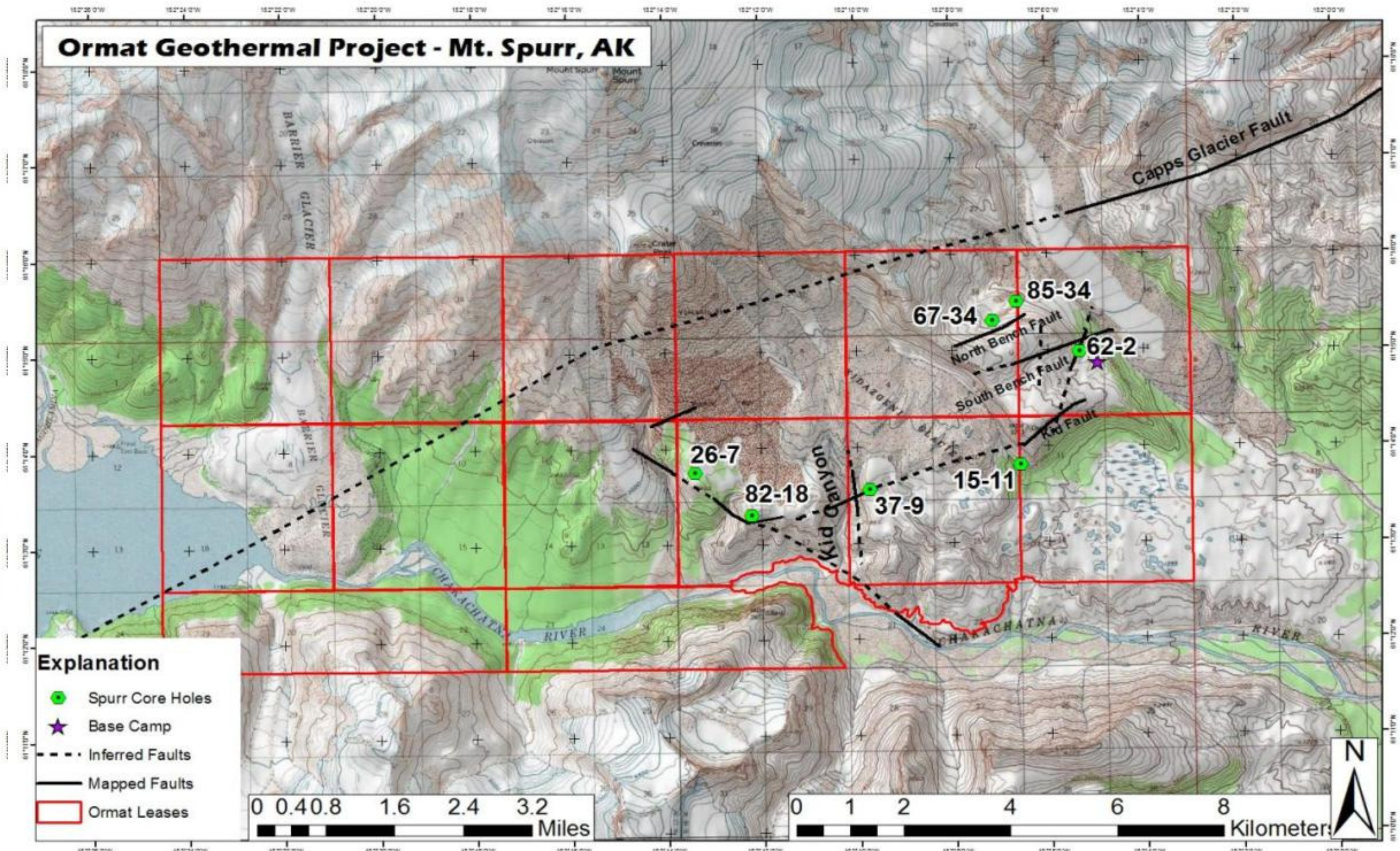

Figure 3: Map of 7 core-hole target locations. Working structural map shown with both mapped and inferred fault segments. Well targets 62-2 and 67-34 were drilled

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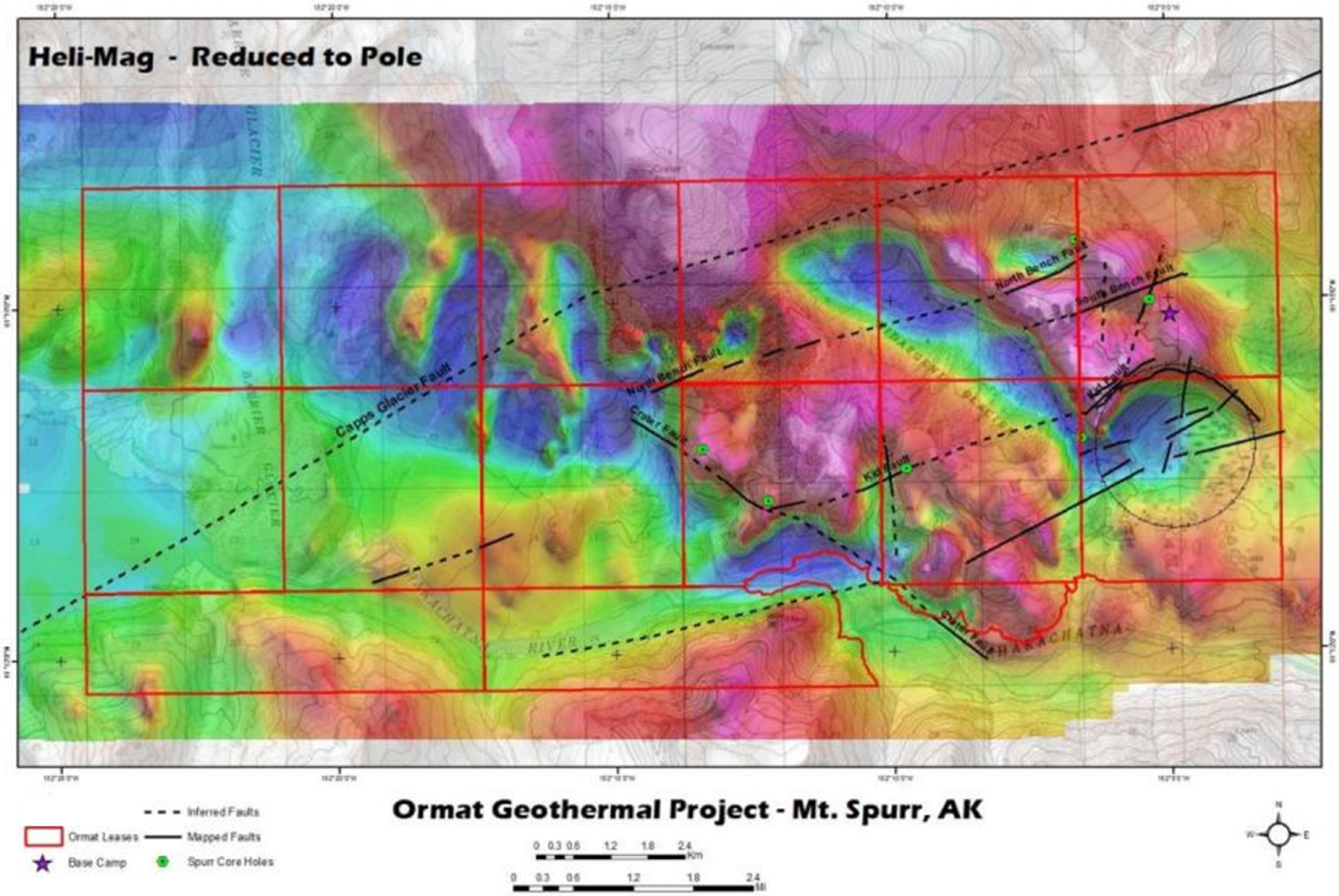

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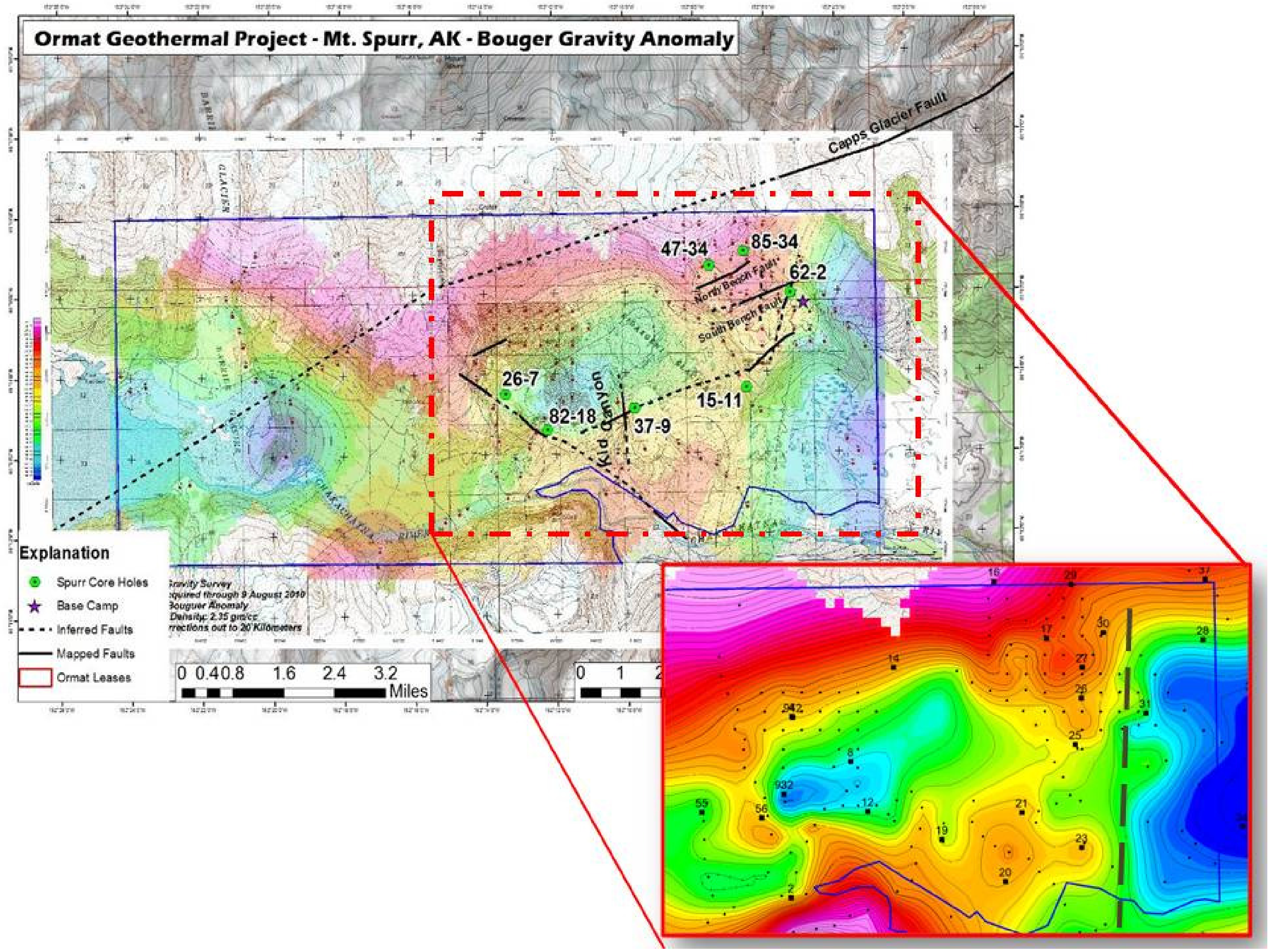

Figure 5: Preliminary gravity map over the Mt. Spurr leases *Map with initial structural map and potential core-hole locations. Inset shows Bouger gravity without topo. For reference, gravity station 31 is at the base camp indicated by the purple star in the main map. Dashed line in the inset indicates potential deep-seated structure/conduit

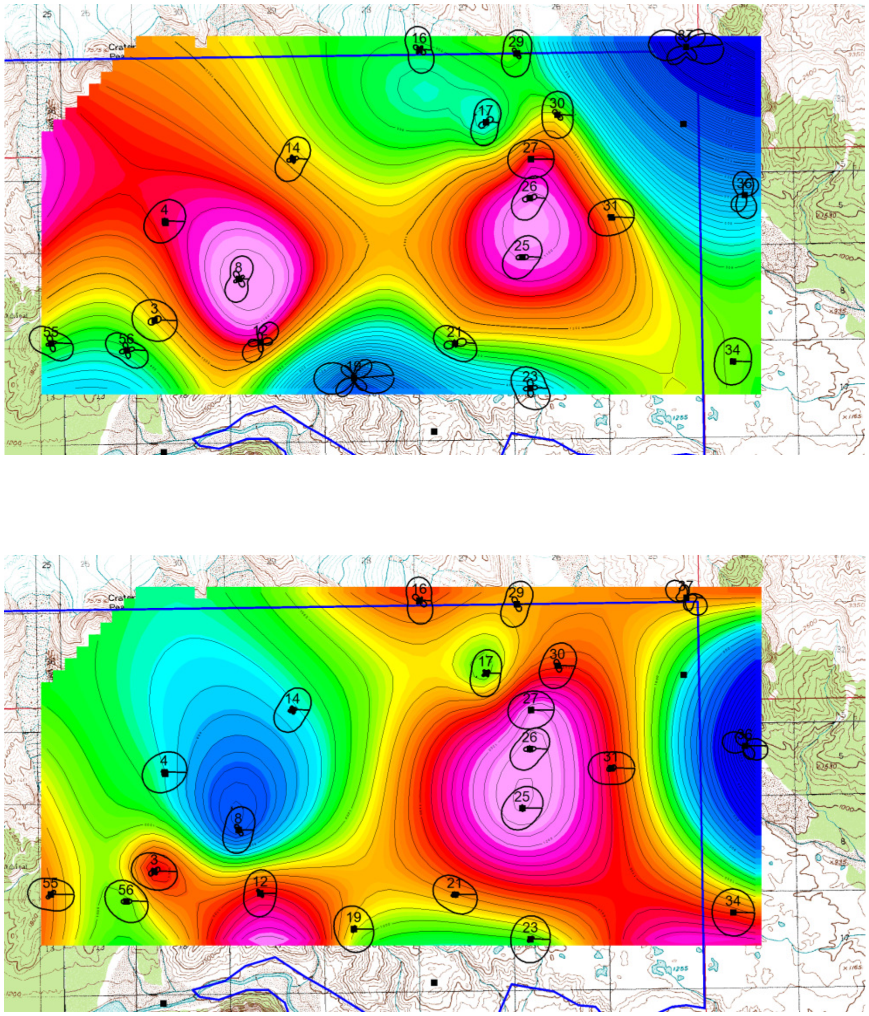

Figure 6: (Top) Preliminary MT Phase data for 6 Hz frequency. The NW-striking anomaly captured along station 31 and 30 corresponds with the shallow NW-striking faults identified to the east of the Bench faults in the magnetic and field mapping. (Bottom) Preliminary MT Phase data for 192 Hz frequency. The deeper, N-NE trending anomaly becomes more apparent. Again, MT station 31 is at the base camp shown in Figure 5.

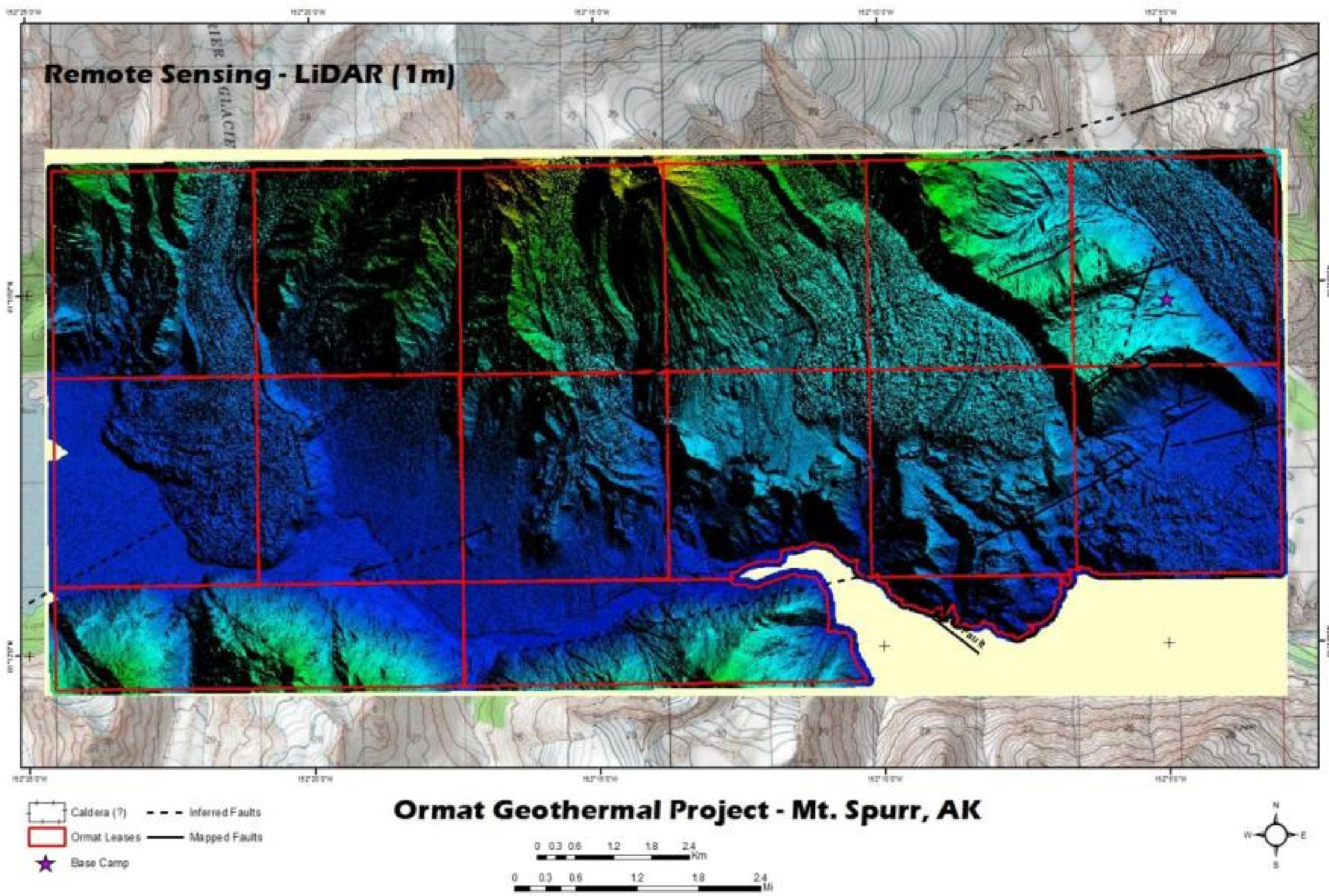

Figure 7: LiDAR data acquired over the Mt. Spurr geothermal leases at a binned 1m resolution. Cooler colors are lower elevation while warmer colors are higher elevations.

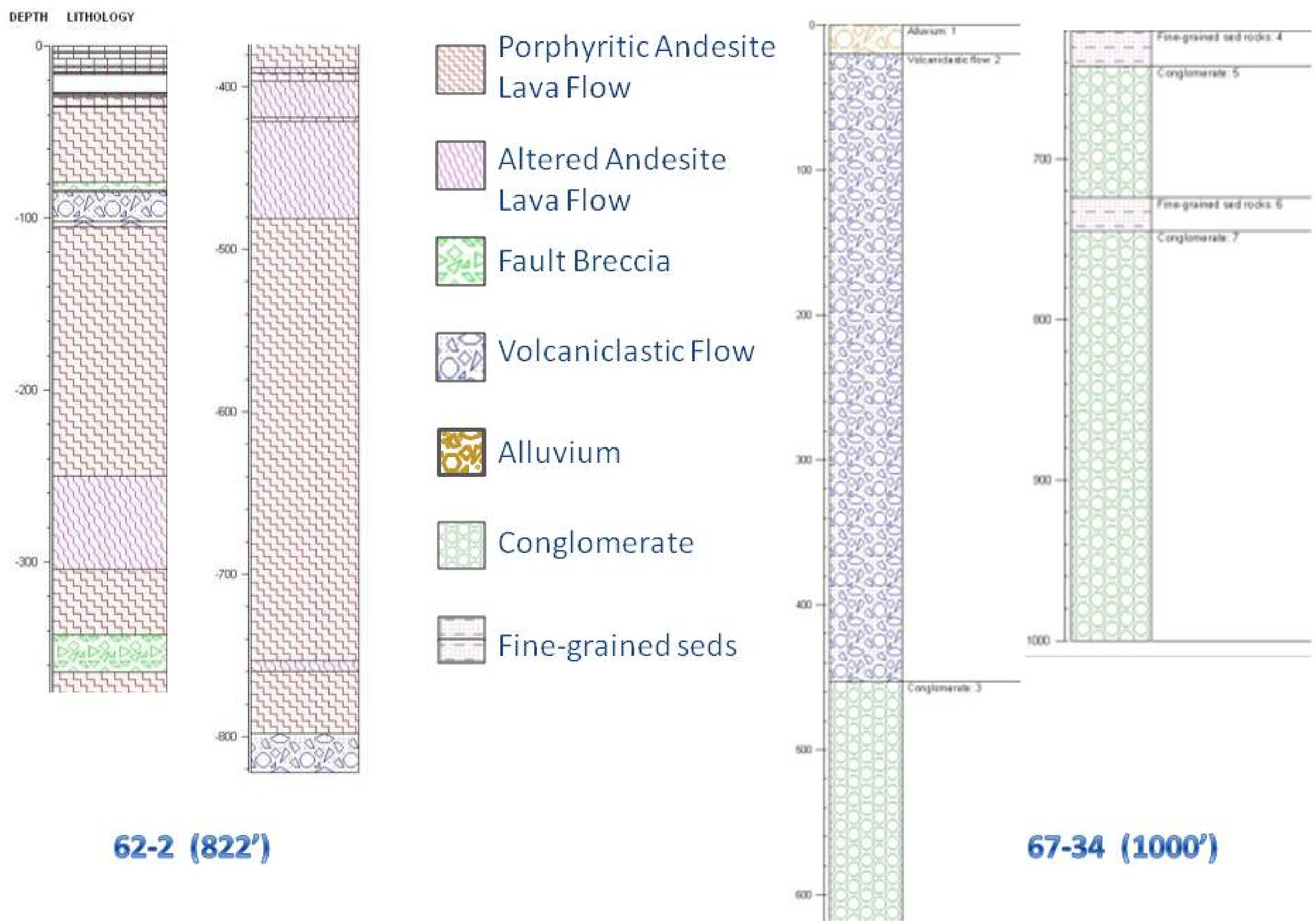

Figure 8: Lithology logs for both core wells 62-2 and 67-34

Section 4: Summary and Recommendations

Goals of exploration program

During the summer of 2010, Ormat had several goals in mind for the exploration program at Mount Spurr. At the time, we noted that existing reports, mapping and surveys on Mt Spurr (generated in the early to mid-1980's) utilized techniques not as sophisticated as could be applied today.

We noted that geophysical surveys using modern equipment would provide a far more detailed picture of the subsurface geology. The historic Cook Inlet aeromagnetic maps (~1 km) were nowhere near the required resolution and historical gravity coverage in the Spurr region was little to non-existent. Electrical surveys (CSAMT) run in the early 1980's were an excellent start, but the technology in those days, and more importantly the modeling and processing power, were insufficient to properly characterize the sub-surface as is possible with today's tools.

Modern geochemical surveys were also needed to better sample surface thermal features and derive information on potential geothermal reservoir fluids. Previously known geochemistry included gas samples from the summit and Crater Peak, hot springs within Crater Peak Canyon and an isolated sample from the cold glacial outwash at the base of Kid Glacier. The springs in Crater Canyon [with a temperature of 104°F (40°C)] are located 2 miles south of Crater Peak at an elevation of 2,200 feet. The dissolved silica content in the water indicates a reservoir temperature of 302°F (150°C) while the ratio of Na/K/Ca in the water indicates a reservoir temperature of 458°F (237°C). The validity of these geothermometers are actually questionable (as mentioned previously) due to the high Mg content of the fluid. Nonetheless, similar thermal waters of mixed origin occur on the flanks of many high-temperature geothermal fields in Indonesia.

Ormat's goal was create a new geothermal model based on advanced exploration techniques. This model was used to site initial core-holes for confirmation of resource. This same model continues to evolve and will be used for siting the remaining core-holes in 2011 and final confirmation or exclusion of a geothermal resource at Mt. Spurr.

Execution of the exploration program

In order to model the potential for a geothermal resource at Mount Spurr, Ormat pursued a rigorous exploration program throughout the summer of 2010. This exploration program, along with work at the Akutan project, represents the most detailed, most extensive geothermal exploration activity in Alaska's recent history, besides possibly the exploration activity at Makushin on Unalaska Island during the late 1970s and early 1980s.

The activities are described in detail in Section 2. To summarize, the program included geologic mapping, rock/soil sampling, geochemical sampling, ground-based gravity (340 stations), ground based

MT (49 stations), airborne magnetic (1675 line kms.), airborne LiDAR (160km^2), satellite-based digital imaging, and two shallow core-holes to depths of 822' and 1000' respectively.

What we found

Although weather hampered some efforts, the overall findings are encouraging. Structural models were confirmed within the two core-holes via intersection of several fault zones with extensive, fracture-hosted hydrothermal alteration documented at very shallow levels. Anomalous (albeit low) temperatures were found as was encouraging chemistry, although deeper wells will be needed to determine subsurface temperature gradients, permeability and thus a viable geothermal reservoir. Nevertheless, confirmation of faulting coupled with extensive alteration, geothermal-indicative chemistry and anomalous temperature continues to indicate geothermal potential at-depth. There is undoubtedly circulation of hydrothermal waters further to the west beneath the main flanks of Crater Peak; our surveys and field work in 2010 have confirmed that these waters exist within ~3km of the acceptable development areas on the Spurr leases (so-called safe due to their more acceptable distance from various volcanic-induced geohazards). The goal is now to determine if these waters circulate in an accessible region beneath the eastern portion of our leases.

Recommendations

Two additional core holes had been planned for 2010, but the weather and some initial drilling difficulties at 62-2 made additional wells impossible. The third hole was to have been a location to the west on the front face of Crater Peak (the eruptive center from 1992 and 1953). While commercial production would never proceed in this location due to unmanageable volcanic hazard, drilling here was planned in order to measure temperature and chemistry of one of the known hydrothermal upflow areas at Spurr – a place where 65°F water is currently discharging out from beneath the Kid Glacier (the other being the hot springs further to the west in Crater Peak canyon). This location may still be drilled in 2011. The fourth hole (15-11) was to be drilled at the base of the 'bench' that 62-2 and 67-34 were drilled into; it was thought that we could access the deeper rock more quickly by subtracting out the volume of rock required to be drilled by being on top of the bench. This location is very likely to be drilled in 2011 as it now coincides with one of the potential new volcanic features identified in the geophysics and LiDAR.

The combination of LiDAR and heli-magnetics suggests a hitherto unknown volcanic feature (hereafter referred to as a collapse feature) located at the southern base of the 'bench'. While the arcuate nature of the southern edge of the bench was known previously, the high resolution LiDAR has really brought this feature to light; very well-defined 'ring-fractures' are easily visible within the LiDAR data and were confirmed in the field. These fractures are heavily altered and exhibit evidence for normal slip. The magnetic data indicate a large magnetic low in the northern central portion of the collapse feature followed by an arcuate high in the southern half of the lease. A simple circle drawn at the center gives us a rough 1.5 km diameter feature.

This collapse feature, if it really exists, was 'camouflaged' in several ways precluding previous identification. First, the vegetation coverage in this area is heavy; only LiDAR could penetrate this to reveal what lay beneath (see Figure 9 for view along rim). Second, the topography is extremely steep and only one area of the rim is accessible by hiking; only helicopter fly-bys are possible at the rest of the rim. Third, the southern half of the collapse feature is gone. We surmise that whatever may have been left post-eruption has been scoured away by repetitive glaciations.

Figure 9: Picture taken looking east along rim of potential 'collapse feature'. 'Ring' fracture highlighted in yellow

The map in Figure 10 shows a rough summary of one of our current models; a model which will be added to in the future with final gravity and MT results and will eventually be tested with one to two core holes in 2011.

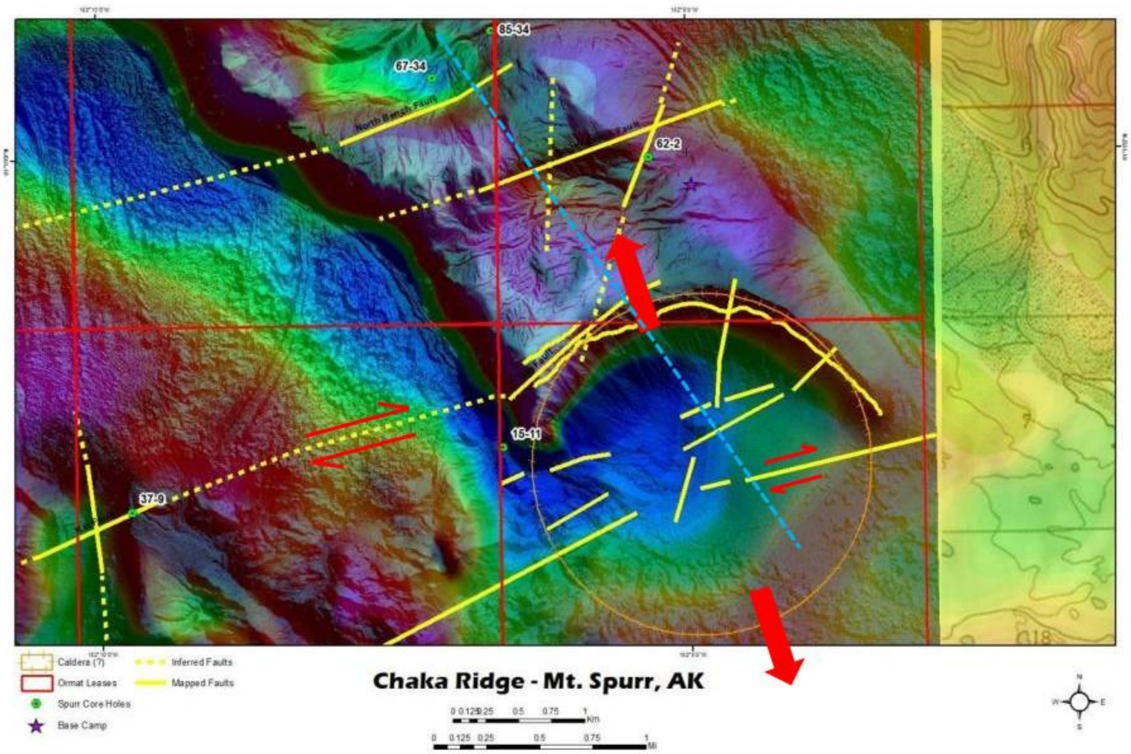

Figure 10: RTP magnetics overlaid on top of LiDAR data which is in turn overlaid on topo quads. Solid yellow fault/fracture segments are a combination of field-mapped faults and LiDAR-based mapping. Large red arrows highlight conjectured extension direction. Dashed blue line refers to line of section shown in Figure 11

We conjecture that right-lateral strike-slip faulting penetrates into the Spurr region and cuts the southern flank not only further up/north on the flank (as a continuation of the Capps Glacier Fault), but also in several subsequent locations to the south. Coupled with this is a strong NW-SE extensional direction that has led to oblique displacement along these faults (down to the southeast). The dip on the main fault intersected in 62-2 was 72° SE. The dip measured at several locations along the northern rim of the collapse feature was also approximately 70°. Figure 11 shows a simple cross section taken along the dashed blue line shown in Figure 11. Note that the angle of the rim (potentially the northern rim of the collapse feature) also has a ~72° dip to the south. We now believe that transtensional displacement may explain the structures observed on the flanks of Spurr within our eastern leases and may also have led to some type of volcanic collapse feature forming within the last 45-65 ka (dates reflect oldest known units on the southern bench; personal communication from M. Coombs at AVO).

Regardless if this feature is indeed volcanic in nature or purely structural, it provides us with a new set of drilling targets. These targets will be near to the previously sited 15-11, but will likely be moved further to the east in order to test the intersection of not only the E-NE trending right-lateral faults, but also the intersection of this fault with a potential 'ring fracture zone' on the north-western side of the collapse feature.

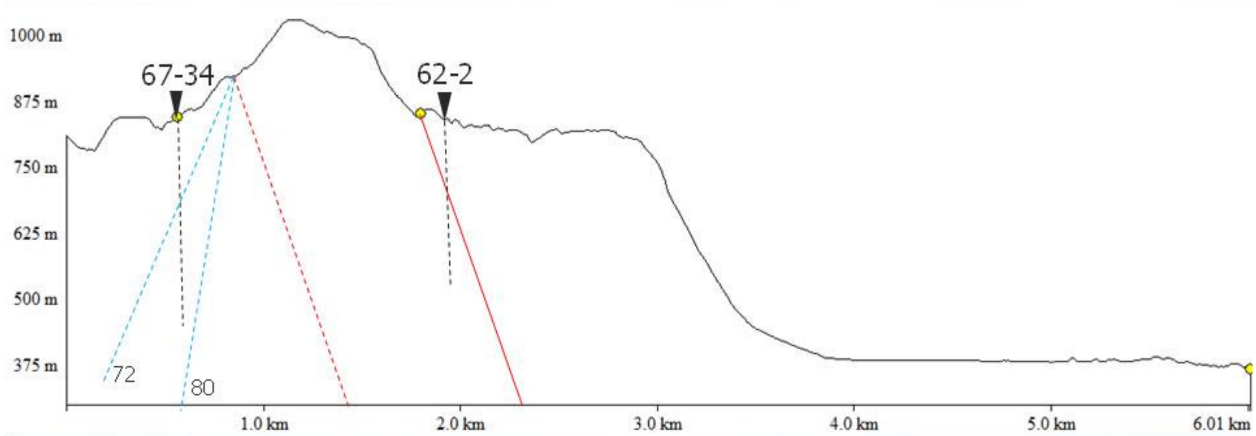

Figure 11: Cross-section showing location of core-holes and the intersected fault (solid line), originally projected faults (dashed blue lines) and currently projected fault (dashed purple line)

Furthermore, we will likely drill an additional hole in the vicinity of this 'base of bench' location much further to the east; especially if our first location is successful in finding anomalous gradients and permeability. While ring fractures can be prolific geothermal producers, they can also be bad. If rock is too young and/or hot, it may lack the requisite heat for geothermal production. The presence of a very deep-seated, north-south trending structure beneath this collapse feature (indicated in gravity and MT) may be a magma conduit feeding formation of this collapse feature. This could mean a more shallow heat source existed in this region at one time. If true, this source of heat could be long gone and this collapse feature may not host any residual anomalous heat flow, or it could in fact still hold a source of heat and be the geothermal engine we are looking for.

Finally, one of the planned holes will seek to access the confirmed structure intersected in 62-2 at a much deeper depth on the 'bench' (~3000-4000 ft.). Hydrothermal fluid flow is severely depressed/masked on such ice-covered edifices and deeper drilling depths are required in order to truly assess geothermal potential in these northern latitudes. We must attempt to 'punch through' the cold groundwater flow and into the potential hydrothermal reservoir.

In summary, the exploration at Mt. Spurr proceeded extraordinarily fast in 2010, and though we are still bringing in the last bits of data and completing models, we are planning an equally aggressive drilling program in 2011 to test and verify our evolving models. Drilling in 2011 will categorically confirm or exclude the geothermal potential of Mt. Spurr.

Ormat recommends that the exploration program continues with the suggested drilling targets discussed above. Additional processing of 2010 field and exploration data coupled with final drilling results will aid in siting additional gradient core holes, slim wells and production wells for the 2011-2012 drilling season.

Appendix A: Selected Photographs from the 2010 Exploration Activities

Photo 1: Mobilization of rig for well 62-2 via helicopter

Photo 3: Close-up of rig at well 62-2

Photo 2: Rig at 62-2 well pad with cuttings containment system

Photo 4: Camp at night

Photo 5: Looking south from well 62-2 at base camp

Photo 7: Field work on eastern leases; mapping extent of volcanic and tertiary sediment units

Photo 6: Field work in Kid Canyon approx. 8 km west of base camp

Photo 8: Heli-magnetic survey helicopter