

LONG VALLEY

HYDROLOGIC ADVISORY COMMITTEE

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DRAFT MEETING MINUTES

Wednesday, February 3, 2021

Public Meeting – 10 a.m.

PUBLIC MEETING ATTENDEES

Ormat: John Akerley, Paolo Alvarado, Mark Hanneman

BLM: Jason Titus

CalGEM: Amar Rao, Jerry Salera, Charlene Wardlow

MCWD: Mark Busby, Clay Murray, Betty Hylton, Garrett Higerd, Dennis Domaille

GBUAPCD: Luke Eisenhardt

Mono County Staff: Nick Criss, Becky Peratt

Lahontan RWQCB: Jeff Fitzsimmons

West Yost Associates: Mike Blazevic

CA Energy Commission Grant & Loan Program: Elisabeth de Jong

Mono County Supervisor: Rhonda Duggan

USGS: Bill Evans

Public/Other: Cheryl (no last name), Drpgoodwin, Edie Trimmer, **Stacey Powells (?) Robert Selwood? (ask Nick if they are with Ormat – I asked but never heard back)**

1. Call to order & attendee introductions
 - Nick Criss called the meeting to order at 10:04 a.m. in the Zoom meeting room. Attendees introduced themselves and their agencies.

2. Public comment
 - Nick Criss had a comment about agenda item 8. After reading the bylaws, this item was added in error. Needed more time – 30 days – to add to the agenda. If Ormat wishes to discuss must discuss under Public Comment but cannot take action. Can set special meeting for it or can discuss concerns now under public comment.
 - i. Ormat: Ormat has supported up to the east of Casa Diablo, along Hot Creek/Mammoth Creek/fish hatchery area - received cost proposal from USGS and requested more information – it's a significant cost. The data, Ormat is not sure – been collecting for 30 years and not sure if it needs to continue to be collected. Can cut back on program and get the data we think is useful so asked for a more detailed cost proposal from USGS and would like – it's a lump sum proposal and would like to pay for itemized invoices like for any other consultant. That is it in a nutshell but can have separate meeting to discuss.

- ii. Nick Criss: What is Ormat looking to do? Need special meeting or wait until summer? Monitoring program that referring to was born out of a settlement agreement from lawsuit from the original NP2 use permit, suit was filed by Cal Fish & Wildlife. The program is part of the settlement agreement from the litigation. If Ormat wishes to modify or get out of doing the monitoring or it's not necessary because of 30 years of data, that will have to go through the court system to renegotiate the settlement and Cal Fish & Wildlife will have to agree.
 - iii. Ormat: We just want more justification for some of the costs. Several sites that the proposal discusses, measurements of flow rates, and we are collecting other data on a regular basis. Cost is significant and would like more input on what we are paying for.
 - iv. Nick Criss: Mono county is middle man between Ormat and USGS so to fund the program Ormat pays the county and county pays USGS. This has not been funded this year, USGS has not done work, and why not had the meeting today and not presenting. So will continue to work with Ormat and USGS to get the FY 2021 monitoring off the ground.
 - v. Questions – Was there no sampling at all in 2020? No - this is for 2021. For 2020 that was done, talking about 2021, so slightly behind on that but if can get resolved quickly then it won't be too much of an issue and hopeful can get up and running soon. Negotiating as we speak. Have we missed anything at this point? That remains to be seen. It's a negotiation – agreements have not been signed by Ormat so county can't sign with USGS because there is some dispute about the cost that USGS is charging Ormat for monitoring. So trying to negotiate something to get underway. Trying to avoid, the underlying issue, without the monitoring, Ormat is technically in violation of its use permit and there could be enforcement actions. So this is a negotiation that we need to figure out how to get 2021 monitoring up and running soon. Talking with Ormat and USGS to get everyone on the same page and get 2021 underway.
 - vi. Ormat: On the USGS website there is continuous reporting, instruments in place at the hatchery for the flow rates and temperature and along Mammoth Creek, data loggers in all the wells recording data. So no data being lost as far as can tell, just a matter of going out and downloading the data and updating charts. So information in the USGS report appears to be data that is collected from these continuous logging units. So don't think we are losing any data at this time.
 - vii. Nick Criss: The data logging will be shared in the August meeting but if it is delayed it might not be ready for that meeting.
3. Review/approve minutes of August 5, 2020 (postponed until August 2021 meeting)
 - Postponed due to staff changes and needing to get last meeting minutes transcribed.

4. Subcommittee status reports

- Ormat went over 3rd quarter reporting, production rates, reservoir pressure numbers. Standard for the subcommittee. Something brought up by Bill Evans re a changing hot area about a mile east of the plant, steam vents that aren't new features but some changing going on there, but based on the data did not seem obvious that it's due to plant operations but might need to be continuously looked at.

5. USGS monitoring data (Basalt Canyon temperature logs)

- Not doing today since USGS not here

6. USGS water chemistry of MCWD wells and new Basalt Canyon monitoring wells

- Bill Evans: USGS central lab is experiencing Covid related delays in some operations and as a result have not released complete chemistry results to public for the monitoring wells there. Been a few months since have posted complete chemistry. Only partial data on the site for any analyses that might need to be run right away. The lab is promising to get caught up soon but as of Monday had not done so. If looking for new chemistry data it will be awhile longer, but it will appear. Samples have been collected from the Mammoth community wells and monitoring wells on schedule, a little delay last summer due to not doing fieldwork but back on track now. Tracked a preliminary chemistry data from the wells, even if not public yet, and can say there have not been surprising changes in any of the wells, with exception of well P-17. Definite increase in the concentration of chloride in that well, had dropped to 1.5 mg per liter last summer/spring, so at baseline levels for groundwater, but back up to 6 mg per liter in last two samples so definite increase. Concentration of other geothermal constituents like boron and lithium have also gone up, as has temperature. The continuous CTD sensors in that well are working so getting a record of what is happening, downloaded every month, so getting a record to use to look for correlations in data and try to understand what is causing the change and mixing between thermal and non-thermal waters. Finally, very happy with chemistry of samples getting from the deep monitoring well, 2825. Efforts in place to improve access to slotted part of tubing at bottom of well and clean out of well, that helped. So in the record for that well, a couple of earliest samples may be contaminated with drilling water but latest samples have looked good. Pristine geothermal fluid.
- Nick Criss: When expect rest of data available? Bill Evans: We keep asking the central lab and don't know, the last time asked they expected any day but that's been 2 or 3 weeks. Having trouble getting reagents from suppliers, attributed to Covid delays, and until get reagents together can't complete certain analyses. Most tests have been run but to do final quality control an

and publicly release, it's a hitch in supply system that will hopefully be resolved soon. Nick Criss: As far as the increase in the waters is there any indication as to cause? Drought, what does USGS think? Bill Evans: It's an interesting well, the amount of geothermal chloride in that well reached a maximum in 2017 and there were a couple of wet years and the amount of geothermal fluid in that well decreased a lot, reaching a minimum last February. And then it has gone back up again. Correlations – been more pumping of that well so have pumping and climate – last winter was a very dry winter. Several meetings ago showed a graph of chloride concentration versus precipitation versus pumping versus water level – I think there are several factors that control the fluid that gets to that well so teasing out individual ones and which one controls the system the most will take time. But now that these continuous probes are in place, have a better chance to study that even if don't have an answer now.

- Mark Busby: Was there a corresponding decline of water levels in the well as chloride went up? Bill Evans: Would have to go back and check on that as to whether there was a decline in water level. There might have been a small decline but would have to look at the graphs again.

7. CD IV Groundwater Monitoring & Response Plan (GMRP) and BLM report on monitoring well development activities

- Jason Titus: Was not on the email distribution list so does not have anything prepared for this. The GMRP meeting is next week and preparing stuff to send out for that. As far as new monitoring well development activities, USGS finished drilling BLM 2 at Shady Rest campground, the 700 ft well, the deep well being held off because the shallow well took too long to drill, and that will be added into the monitoring network and will get data from USGS next time they are out to do the monitoring. The well is located right at the old Shady Rest campground, just north of it.
- Mark Busby: On BLM 3 was on hold – what's the plan moving forward to get that completed? Jason Titus: Talking with USGS about that, hopefully before end of the month will have agreement with USGS on when to get it drilled but don't know if will happen before the Forest Service wants to open the campground for the year - once it is open can't drill. So 3 might not get finished until next winter.
- Mark Busby: Will there be a report on BLM 2 in the near future? Jason Titus: Yes. Will be discussed at the GRMP, there were delays and had issues with drilling.
- Mark Busby: The Forest Service is involved in a special use permit, have any discussions with them about extending the use permit, or possibility that with Covid restrictions campgrounds might not open as early as usual? Jason Titus: It's possible, once able to get something more concrete from USGS on funding for BLM 3 and the monitoring, can move forward a bit more and will

talk with the Forest Service on when expect the campgrounds to open. If they open late then will push to get it done.

- Mark Busby: Just think from the water district's, looking at getting these wells in place and to be able to monitor and establish baseline data before Ormat's wells are developed and online, the delay is concerning on MCWD part. Jason Titus: The delay is concerning for BLM too, and doing what can to get them drilled. Talk with people at BLM and USGS to try to get movement on it, have meetings on it today, and working on the agreements to get the well drilled. Trying. Mark Busby: If anything the water district can do to help facilitate, please reach out.
8. USGS funding agreement for baseline sampling - sampling locations and USGS cost proposal
 - This agenda item was not taken up at the meeting due to insufficient noticing per the meeting bylaws.
 9. Adjourn to next meeting August 4, 2021

Submitted by: Becky Peratt, clerk