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W.A.T.E.R.
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Dear W.A.T.E.R.:

The purpose of this letter is to express my concerns about the errors, omissions, and inadequacies of the economic impact analysis conducted for the proposed Crystal Geyser beverage bottling plant in Siskiyou County, CA. This letter also calls attention to some of the hidden economic costs associated with the plant. As a professional economist, I urge policymakers and concerned citizens to take greater care in estimating the true economic – as well as environmental and social – impacts of the bottling plant before deciding whether to approve it.

The current economic impact analysis of the proposed bottling plant (as it is referred to in the AE study) is the study titled, "Economic Impacts of Crystal Geyser on Siskiyou County, California," March, 2016. This study, authored by the consulting firm Applied Economics of Arizona - hereafter referred to as the **AE study** - is not a good guide to decision-making around the proposed plant. The AE study is riddled with omissions, ambiguities, and faulty assumptions; presents its conclusions out of context; and fails to draw upon the best publicly available data in making its claims.

In the paragraphs that follow, I examine some of the study's most egregious shortcomings, and call attention to a wide range of economic, social, and environmental costs associated with the proposed bottling plant, which the study ignores.

The first major shortcoming of the AE study concerns its employment projections from the proposed bottling plant. The study claims that the proposed plant would create 60 total jobs in Siskiyou County. However, this number is taken out of context. The relevant question is: would an additional 60 jobs make a significant difference in the county unemployment rate? The available public data suggests not. The total adult civilian labor force of Siskiyou County in 2016 was 19,440, of which 17,070 were employed and 2,370 were unemployed; the county civilian unemployment rate in 2016 was 12.2%.¹ If an additional 60 unemployed people in Siskiyou County were to have obtained employment during 2016, the unemployment rate would have dropped to 11.9%. The math isn't hard: the proposed Crystal Geyser bottling plant would reduce county unemployment by 0.3%. It would hardly make a difference in the county's unemployment rate.

Two additional considerations make even the 0.3% impact on the unemployment rate seem optimistic. First, from the Draft Environmental Impact Report (DEIR), we know that the initial employment at the facility would be 30 jobs, not 60. The initial impact on the unemployment rate would thus be a paltry 0.15%. Second, Crystal Geyser (CG) has not guaranteed the expansion of the plant to full capacity, meaning that the creation of 60 direct jobs, projected by the AE study, may be overstated. If the project creates only 30 direct jobs, then it would only create 20 indirect and induced jobs; the total impact on the economy would be much smaller than projected. Third and finally, CG has not guaranteed that *any* of the jobs created at its projected plant would be targeted towards members of the local community. How many workers does CG plan to bring in from plants elsewhere in the region and around the country? We do not know.

The second major deficiency of the AE study concerns its presentation of misleading data on the wages the plant would pay. The study assumed the plant would pay an average wage of \$32,400, which is simply the average annual wage for the county. However, public data indicates that in fact, most of the jobs at the plant would pay salaries significantly lower than the county average. To see

this, first note that by the North American industry classification system (NAICS), the proposed bottling plant is part of the economic sector of Beverage Manufacturing. The Bureau of Labor Statistics (BLS) provides a breakdown of the occupations employed by this sector, and collects datasets by state and region on average wages for each occupation.ⁱⁱ These data reveal that the occupations employed by the Beverage Manufacturing sector, in general, pay lower wages than the county average.

The BLS data reveals that the occupation with the largest percentage of total employment in this sector is called "Packaging and filling machine operators and tenders." The median wage for this occupation in the region of California containing Siskiyou Countyⁱⁱⁱ is only **\$26,570** – 18% below the county average.^{iv} The group of workers employed in this occupation at the plant are thus predicted to earn significantly less than the MIT-computed living wage for 1 adult and 1 child in Siskiyou County, which is \$48,785.^v In fact, the bottling plant workers would earn *46% less* – just over *half* the family wage for Siskiyou County.^{vi} To put it simply, based on the best available evidence, we can say that the most common production line jobs created at the plant would *not be family wage jobs*.

The third major shortcoming of the AE study concerns its treatment of tourism and visitation. The study assumed that "non-local contractors" would spend a total of 11,110 person-nights in the county over the two years of the construction period. However, the study does not cite the source of this number, nor justify it in any way. How many contracting firms would be hired; how many workers hired per firm; and how many nights spent locally per worker are assumed to reach this conclusion? The scarcity of robust data is particularly troubling since a portion of these "projected" impacts were, in fact, delivered in 2015. Has AE ground-truthed its assumptions with real data from the actual construction contracts from 2015? Did the 2015 construction contracts lead to additional spending on tourism and hospitality as projected? Again, we do not know.

The AE study's analysis of tourism expenditures by out-of-county contractors is similarly inadequate. The study assumes an average contractor expenditure of \$79 per person, per day. This figure is "adjusted" from the state average for business overnight visitor expenditures, which is \$191. However, using the state average is entirely inappropriate, given that the State of California contains four of the most expensive metropolitan areas in the United States: San Francisco, Los Angeles, San Diego, and San Jose. The study also fails to reveal its methods for adjusting the state average figure to reflect local conditions. For example, on page 3, the AE study assumes \$105,285 spent on transportation/gas, and \$75,628 in retail, by out-of-county contractors in 2015. What is the justification for these assumptions? Have they been checked against real data? In short, the AE study's analysis of tourism and visitation expenditures by out-of-county contractors is woefully inadequate.

The AE study also provides misleading figures on local spending by CG employees, which likely overstate the amount of additional income that would be spent in the county. The study finds that the proposed project would lead to an additional \$3.8 million in personal income, which – assuming a 5% savings rate - translates to potential annual household spending of \$3.6 million, "*a portion of which will be captured in Siskiyou County.*" The AE study assumes some "multiplier" that describes the number of times a new dollar will circulate in the county, without validating that multiplier for Siskiyou County. What portion of employee dollars would be spent locally within the county? The study does not say, and for good reason: Siskiyou County, California, borders the state of Oregon, which has no sales tax. The portion of personal income spent locally is thus likely to be small, since residents would certainly drive across the border on a regular basis to buy everyday household goods tax-free.

Finally, the AE study ignores a range of additional economic costs, associated with the degradation of the local natural environment and quality of life, that the proposed Crystal Geyser plant would impose on Siskiyou County and the City of Mt. Shasta. A responsible decision must take account of these negative impacts on property, health, and overall quality of life. Briefly, these costs are as follows:

- The 24-hour truck and car traffic from the bottling plant would increase the volume of traffic noise along key corridors in the City and County, disrupting residential neighborhoods, including during quiet nighttime hours. A wide range of economic studies find a measurable and significant negative impact of increases in traffic noise on residential property values.^{vii}
- The increased volume of truck and car traffic would also impose infrastructure costs on the City and County, in the form of increased safety monitoring, maintenance and road repair and intersection improvements. These costs must be estimated but were ignored in the AE Study.
- The large volume of wastewater generated by the bottling plant would likely be treated at the municipal wastewater treatment plant in Mt. Shasta City, imposing an additional cost on taxpayers and the public sector in the form of operations, maintenance, and repair due to increased use of the existing infrastructure. This cost must be estimated as well.
- The proposed bottling plant would draw from the groundwater in unincorporated Siskiyou County; despite the claims of the company, the volume and direction of the local aquifers is not well understood. Drawing significant amounts of groundwater would place a key natural asset at risk, and would likely impose additional costs on local property owners and Mt Shasta City whose wells would be depleted, contaminated, or otherwise rendered useless.
- The negative visual and auditory impact of the bottling plant and its associated truck traffic would likely reduce local and regional tourism and recreation revenues, including the revenues associated with visitors pursuing outdoor activities such as skiing, hiking, fishing, mountaineering, mountain biking, and wildlife viewing.

To sum up the previous points, the existing Draft Environmental Impact Report (DEIR) does not address the question of the *total* economic costs of the project's environmental impacts: the risk of declining health outcomes, reduced quality of life, and degradation of the natural assets that sustain a community's health and well-being over the long term.^{viii} Before making a judgment as to whether the bottling plant's construction would provide *net* benefits to the regional tourism and hospitality industries, the questions raised above must be answered.

In short, Crystal Geysers' promises of jobs and economic revitalization in Siskiyou County cannot be taken at face value. Its leading economic study is riddled with errors, omissions, and questionable assumptions, and it has failed to take account of the economic costs of the project's environmental impacts. The above paragraphs have shown that the benefits claimed by the AE study are almost certainly overstated; and the costs to private and public property, health, and the natural environment, ignored. The AE study thus fails to answer the question of whether there is a *net* benefit of the proposed bottling plant to the Siskiyou County community. Until these questions are definitively answered, issuing permits for the proposed bottling plant should not be considered.

Sincerely,



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ⁱState of California, Employment Development Department (2017): "Labor Market Information for Siskiyou County." Accessed July 10, 2017. URL:

<http://www.labormarketinfo.edd.ca.gov/county/sisk.html>

ⁱⁱBureau of Labor Statistics (2017), "Industry-occupation matrix data, by industry." Accessed July 10, 2017. URL: https://www.bls.gov/emp/ep_table_109.htm. Scroll down to the line item labeled 312100, Beverage manufacturing.

ⁱⁱⁱBureau of Labor Statistics (2017), "Northern Mountains Region of California nonmetropolitan area." Accessed July 10, 2017. URL: https://www.bls.gov/oes/current/msa_def.htm#0600005

^{iv}Bureau of Labor Statistics (2017), "Occupational Employment Statistics." URL:

<https://www.bls.gov/oes/>

^vMassachusetts Institute of Technology (2017), "Living Wage Calculation for Siskiyou County, California." Accessed July 10, 2017. URL: <http://livingwage.mit.edu/counties/06093>

^{vi}Assuming a two-parent household where one parent is a homemaker, the results do not change; the MIT threshold wage is \$46,711.

^{vii}Bateman, I., et al. (2000), "The Effect of Road Traffic on Residential Property Values: A Literature Review and Hedonic Pricing Study." URL:

https://www.researchgate.net/publication/265483928_The_Effect_of_Road_Traffic_on_Residential_Property_Values_A_Literature_Review_and_Hedonic_Pricing_Study

^{viii} Cf. public comments on WATER's website: <http://www.co.siskiyou.ca.us/content/community-development-crystal-geyser-project>