December 1, 2020

VIA EMAIL

Oregon Water Resources Commission  
Care of Breeze Potter  
Oregon Water Resources Department 725 Summer St. NE, Suite A,  
Salem, OR 97301-1271  
Email: breeze.k.potter@oregon.gov

Re: Petition for Rule Amendment or Rulemaking to Limit Exempt Stockwatering In Ordinance Critical Groundwater Areas

Dear Chair Reeves and Members of the Commission:

Please consider the following comments on the above matter from Stand Up to Factory Farms, a coalition of 11 local, state and national organizations concerned about the harmful effects of mega-dairies on Oregon’s family farms, communities, environment and animal welfare. Since petitioners are members of the coalition, these comments are primarily in response to comments submitted so far in opposition to the petition. As discussed further below:

I. The Petition Does Not Undermine Regional Economic Development or Water Planning Efforts. ................................................................. 2
II. The Critical Groundwater Areas Need More Protection. ..................................... 3
III. Continuous Case-by-Case Regulation Is Not a Reasonable Alternative. ............... 4
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1 Members of the coalition are Animal Legal Defense Fund, Center for Food Safety, Center for Biological Diversity, Columbia Riverkeeper, Farm Forward, Friends of the Columbia Gorge, Food & Water Watch, Humane Voters Oregon, Oregon Rural Action, Friends of Family Farmers and WaterWatch of Oregon.
I. The Petition Does Not Undermine Regional Economic Development or Water Planning Efforts.

Regional comments in opposition to the Petition promote the significance of the regional agricultural economy, efforts to grow that economy, and collaborative efforts to manage water resources in the area. The Petition proposes nothing that would undermine those efforts. In fact, it would promote those efforts by preventing unlimited new, unpermitted groundwater extractions from aquifers that the region is already struggling to stabilize.

The “Regional Comments” note that, “[f]or over four decades, the Mid-Columbia Region has attempted to fix groundwater curtailments caused by the State of Oregon and Oregon Water Resources Department over-appropriation of aquifers.” (Regional Comments, p. 2.) Yet, as discussed in the petition, the basalt aquifer continues to decline, and the alluvial aquifer requires artificial recharge to remain stable. Significant new unpermitted use under an exemption for “stockwatering” cannot possibly help that situation.

Opponents treat the Petition as a request to ban any new or expanded livestock operation in the area. The Petition does not make that ask. It is a simple, narrow request to limit – to 5,000 gallons per day, the same as for commercial and industrial uses – any new, unpermitted groundwater extractions for stockwatering in two critical groundwater areas that already are struggling from over-appropriation. The Petition does not “target” livestock operations. Those just happen to be the only water users with an unlimited exemption from permit requirements for a significant part of their water demand.

While it is true that petitioners are part of a coalition with a stated goal of stopping new and expanded factory-style dairies in Oregon (for the benefit of family farms and rural economies as well as the environment and animal welfare), we encourage the Commission to focus on the merits of petitioners’ specific proposal and not the opponents’ characterization of our larger agenda.

Concerns raised in the Petition are not just concerns of outsiders. Petitioners have members and supporters in the area. Other local residents are also concerned about the impacts on area water supplies from industrial-scale confined animal feeding operations. According to minutes of the Oregon Sustainability Board, Morrow County’s Planning Director told the Board in October 2017:

Morrow County has 165 dairy cows to every person. There are also beef cows. The large dairies arrived in 2001. Tillamook Cheese also came to Morrow County and now produces twice as much cheese in Morrow County as in Tillamook County. The dairies range in size from 1,000 cows to 30,000 cows. Local residents are concerned about the impacts of the dairies on air quality, ground water quality, and use of water. Residents are more concerned about water than air.
II. **The Critical Groundwater Areas Need More Protection.**

Comments in opposition to the Petition do not seriously challenge the basic premise of the petition: that new and expanded large-scale confined animal feeding operations are likely to occur in the Ordnance critical groundwater areas and that allowing them to use the stockwatering exemption to supply drinking water to the animals would add significant new demands to already over-allocated aquifers.

Opponents suggest the risk of that is low. They claim Lost Valley Farm did not use the exemption, that no existing dairies in the critical areas use it, and that Easterday Farms, the new dairy planned for the old Lost Valley site, has no plans to use it. Our information is to the contrary.

The Department told petitioners that Lost Valley was using the stockwatering exemption at least part of the year, drawing groundwater without a permit from deep basalt aquifers already in perilous decline. Indeed, Lost Valley filed three well logs as exempt wells. (Attachment 2.)

Similarly, we were told as recently as September that use of the stockwatering exemption was still among the options Easterday was considering for its water supply. Easterday also famously used Washington’s stockwatering exemption to water 30,000 cows (between 450,000 and 600,000 gallons of water per day), successfully fighting off a claim that the relevant statute in Washington limited the exemption to 5,000 gallons per day. *Five Corners Family Farmers v. State*, 173 Wash.2d 296, 268 P.3d 892 (2011).

The claim that no existing dairies in the critical areas use the exemption cannot easily be verified for wells drilled before July 23, 2009 (as far as we know). However, information from the Department indicates that the Sage Hollow Ranch dairy (also referred to as the Bosma dairy), which has about 8,000 dairy cows a mile north of the Lost Valley/Easterday site in what we understand to be part of the Ordnance Basalt Critical Groundwater Area, drilled a well in 2011 under a claim of exemption and identified livestock as a use (along with industrial and commercial use, which is limited by statute to 5,000 gallons per day). (Attachment 3.)

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2 The Department later told us that Lost Valley used water from the Columbia River, delivered by an irrigation district canal, for stockwatering during the irrigation season but used its exempt well outside the irrigation season because the canal was turned off. A dairy about a mile away, Sage Hollow Ranch, agreed to not use its groundwater wells in exchange for seasonal transfers of surface water from Lost Valley. However, given the complexities of aquifer connections and disconnections, and of wells pulling from different water-bearing zones, there is no assurance that the “forbearance” by Sage Hollow offset the exempt well use by Lost Valley.

3 The logs are for wells on a list provided to us by the Department of all exempt wells identifying “livestock” as a use since July 23, 2009. Before that, well logs were submitted without indication as to whether the well was drilled as an exempt well or a permitted well.

4 See previous footnote.
In any event, the question is not so much whether large confined animal feeding operations presently use the stockwatering exemption for drinking water for their animals, but whether such operations (existing or new) are likely to do so in the future. Given recent trends, fueled in part by the Tillamook processing facility in Boardman, the answer to that question seems to be “yes.” (Petition; Oregon Sustainability Board Minutes (Attachment 1), p. 3 of attachment (quoted at the end of Section I above).)

Meanwhile, as recently as late September, groundwater levels in observation wells on the Sage Hollow/Bosma and Lost Valley/Easterday properties were continuing to decline dramatically, even though Lost Valley supposedly mitigated its use of groundwater for stockwatering by getting Sage Hollow/Bosma not to use its groundwater wells. (Attachment 4.)

Finally, Department documents show that, before the Petition was filed or any plan to do so was disclosed, the Department was considering initiating a rulemaking on its own to limit stockwatering in the Umatilla Basin as a whole. (Attachment 5, pp. 2-3.) Our understanding is that the Department discontinued that effort out of concern for agency resources, but we believe the rulemaking we request would be relatively simple (as rulemakings go) and would result in fewer demands on agency resources in the long run. (See final section below.)

III. Continuous Case-by-Case Regulation Is Not a Reasonable Alternative.

Comments opposed to the rulemaking also point out that the Department can regulate exempt use based on seniority. (E.g., Comments of Farm Bureau, et. al., p. 2.) Petitioners are aware of that. For several reasons, however, regulation is not an acceptable substitute for the requested rulemaking. First, regulation generally requires a “call” by a senior water user. It is not initiated by the Department simply to protect the public interest in long-term sustainability of groundwater resources. Second, regulation of exempt use may require a conclusion that the exempt use is preventing a senior water right from receiving water to which it is legally entitled. That causal conclusion may be complicated in the case of groundwater aquifers consisting of several distinct water-bearing zones and older wells that may draw from several different zones.

The clearest proof that regulation is no substitute for a clean, simple rule is the critical area orders themselves. Before the orders, the Department could regulate junior use in favor of senior use. Clearly that was not considered an adequate solution. If it was, the orders would have relied on regulation instead of closing the areas to new permits entirely. The orders continued to allow exempt use, but likely only because it was considered de minimis. As demonstrated in the Petition and elsewhere (e.g., Attachment 1), that has changed, and it is now time to put a volume limit on new and expanded stockwatering in the Ordnance critical groundwater areas.
IV. **The Petition Is Procedurally Proper and Will Provide Opportunity for Further Stakeholder Involvement.**

Comments by the Farm Bureau, et. al. suggest the Commission lacks authority to take the action requested by the Petition. However, the Commission does have such authority. Since issuance of the Ordinance critical groundwater orders, the process for designating critical groundwater areas has changed from agency order to agency rulemaking. ORS 537.730 to ORS 537.740. Thus, although the statutes do not expressly say so, the process for changing restrictions within a critical groundwater area is, by implication, through rulemaking. Moreover, the critical groundwater orders are now, by reference in the Umatilla Basin Program, embodied in Commission rules. OAR 690-507-0070(3)(a). This further suggests that a rulemaking is the appropriate process for modifying the orders.

The Farm Bureau, et. al. note the statutory provision requiring at least 60 days between notice of the proposed rulemaking and a hearing on the rulemaking. ORS 537.730(2). We see no reason the terms of that provision cannot be met. To be clear, the Petition, like all petitions for rulemaking, asks the Commission only to initiate the process to consider adopting the proposed rule. ORS 183.390(1) (“Not later than 90 days after the date of submission of a petition, the agency either shall deny the Petition in writing or shall initiate rulemaking proceedings in accordance with ORS 183.335.” (Emphasis added.) The Petition does not (and cannot) ask the Commission simply to adopt the proposed rule at its meeting in December. If the Commission accepts the petition, the next step will be initiation of rulemaking under ORS 183.335, with all the procedural protections provided in that process, including the special 60-day window between notice and hearing. ORS 537.730(2). The process could also consider, as we understand it, a rules advisory committee and alternatives to the specific rule amendment that petitioners propose.

V. **The Proposed Rule Would Not Change County Land Use Laws.**

Several opposing comments claim the proposed rulemaking would amount to a change in Morrow County’s land use laws without following the process for that. To put it mildly, that is a stretch. The proposed rule would say nothing about what types of land uses are allowed where. It would just require those uses to have a permit for water use that exceeds a certain threshold, like all other water uses. An “outright allowed use” under land use laws is not entitled to protection from all other regulation, state and local, that might make that land use more difficult. If the opponents’ argument on this issue had any merit, the state would have no authority to change water law, or any other law, in a way that made any type of land use easier or more difficult. That obviously is not the law.

VI. **The Proposed Rule Would Not Infringe the “Right to Farm.”**

Without explanation, Morrow County claims that Oregon’s “Right to Farm” (RTF) Act prohibits the requested rulemaking. But the RTF Act, ORS 30.935, does not apply to the Department or the rulemaking sought by the Petition. As plainly written,
ORS 30.935 applies to “local government or special district” laws or regulations. The Department is neither a local government, nor a special district; it is an arm of the state government. This makes sense, as the purpose of the RTF Act is to prevent urban/suburban sprawl from harming agricultural and forest lands, through either private rights of action or by local government entities. See ORS 30.933(2)(d) (“Certain private rights of action and the authority of local governments and special districts to declare farming and forest practices to be nuisances or trespass must be limited because such claims for relief and local government ordinances are inconsistent with land use policies…”). The purpose of the RTF Act is to prevent local entities from making laws inconsistent with statewide land use planning and state regulations, and because the Department is a state agency, the RTF Act simply does not apply.

Even if the RTF applied to the Department, it would not apply to the requested regulation here, as it is not a nuisance or trespass action, it does not regulate a “farming activity,” and it is exempted as protecting against damage to other commercial agriculture products. Given the purpose of the Act, which is to prevent suburban sprawl from infringing on farming in rural areas designated for farm use, it is logical that it would have nothing to do with the state protecting groundwater resources and deciding how best to allocate these resources among various users, including other commercial agriculture. See ORS 30.930 to ORS 30.936.

VII. The Proposed Rule Would Not Require Compensation Under Measure 49 or Measure 56.

Without citing the relevant codification or setting forth any applicable text, Morrow County claims the proposed state administrative rule amendment regarding management of Oregon’s water resources would trigger requirements for notice and compensation under land use ballot Measures 49 and 56. We disagree. This proposed rulemaking does not fall under the definition of “land use regulation” found at ORS 195.300(14) so Measure 49 is not implicated. Measure 56 is not implicated because, under the plain wording of ORS 197.047(2), the only state agency to which Measure 56 applies is DLCD/LCDC, and not the Water Resources Department. The proposed rule simply would not trigger either Measure 49 or 56.

VIII. The Proposed Rulemaking Would Be A Reasonable Use of Agency Resources.

We recognize the Petition is coming at a difficult time in which agency resources are strained. We nevertheless believe that the requested rulemaking would be a wise use of agency resources. First, we believe the resource expenditure would be moderate, relatively speaking. The requested rule amendment is simple and straightforward. There is not extensive text to negotiate, draft and re-draft, and discussions can focus on a single, discrete issue. Second, adoption of the requested rule would reduce demands for agency resources later: resources to persuade new and expanded confined animal feeding operations to not use the stockwatering exemption in the critical groundwater areas; resources to review and monitor attempts to mitigate impacts of exempt use; resources to review and approve applications necessary to implement mitigation measures; resources
to monitor impacts of the exempt use; and resources to regulate exempt use in favor of senior water rights (the solution suggested by the Farm Bureau and others).\(^5\)

**IX. Conclusion.**

For reasons given in the Petition and above, the Commission should accept the Petition and initiate rulemaking to further consider the rule proposed by petitioners.

Sincerely,

Stand Up To Factory Farms Coalition

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\(^5\) For example, the supposed mitigation for Lost Valley’s unpermitted groundwater use under the stockwatering exemption required seasonal in-district transfers of a portion of Lost Valley’s Columbia River surface water rights.
MINUTES
Oregon Sustainability Board

Meeting Date: October 5-6, 2017
Time: 9 a.m. – 4 p.m.
Location: 10/05/2017 SAGE Center, Port of Morrow, 101 Olson Road, Boardman, Oregon
10/06/2017 South Gilliam County Rural Fire District Building 220 N. Main Street, Condon, OR

Attendees: Board members: John Miller (Chair), Serena Dietrich, Roje Gootee, Mark Nystrom, Rory Schmick
By Phone: Lisa Gaines, Lauri Aunan
Support: Dave Wortman, DAS; Elin Shepard, ClearResult
Unable to attend: David Gremmels, Lori Hollingsworth

Call in Number: 1-866-377-3315 Passcode: 9604566#

Guests & Presenters:

October 5, Boardman: Jim Doherty, Morrow County Commissioner; Carla McLane, Morrow County Planning Director; Barry Beyeler, Community Development Director, City of Boardman; Lisa Mittelsdorf, Director of Economic Development, Port of Morrow

October 6, Condon: Kathryn Greiner, City Administrator, City of Condon; Christina Kirwan, Gilliam County Soil and Water Conservation District; Jordan Maley, Oregon State University Extension, Gilliam County; Community Action Program of East-Central Oregon (CAPECO), Matt Stanfield; Weekly Newspaper.

ITEM DISCUSSION

Thursday, October 5, 2017
Location: SAGE Center, Port of Morrow, 101 Olson Road, Boardman

Agenda Handout: Board chair John Miller welcomed everyone and introductions were made of those in attendance.

Board Business, David Wortman, Statewide Sustainability Officer

Approval of Minutes: Minutes for the May 5, 2017 Board meeting were approved with two edits: Rory Schmick was in attendance but his name is missing from the attendee list; and Travel Oregon presentation requires correction related to statement of relevance of what they do to sustainability.

Action: Elaine will correct the May 5, 2017 minutes.

DAS Sustainability Officer, Dave Wortman: Dave shared his background and gave an update of his activities during his four-month tenure at DAS. His experience has taught him how to work with organizations in a strategic way to further sustainability. He is casting a wider net including executive order discussions, reviving green teams, updating the DAS Sustainability Plan, and setting up a strategic management framework in Phase 4 of the DAS sustainability plan. He presented an annual work plan, which is intended to be a living document, updated and refined quarterly. Dave will report activities and accomplishments to the Interagency Sustainability Coordinators Network (ISCN) and Board quarterly to ensure activities are aligned with board priorities.

- Phase I sustainability survey update: Dave shared a PowerPoint of the state agency leadership sustainability survey questions and results. Following collaboration with the Board, the ISCN, and the Governor’s office, Phase I of the survey was developed, rolled out and compiled. The survey contained 9 questions. The initial survey and follow-up was sent out by The Governor’s office using a
Jim Doherty, Morrow County Commissioner, shared some challenges Morrow County is experiencing:

- Preparing and adapting for the future is a challenge as well as farmland irrigation.
- Public Health. A judge did the health piece for 20+ years and has stepped down so he took it over. National Geographic did a study many years ago about where people are living the longest, why, and what they have in common. Some things like bike paths and walking paths, eating more vegetables, having wine at 5 p.m., belonging to faith and community groups, having a social tribe and prioritizing family first are some things identified. It is natural that the rural communities are losing those things, Boardman is pushing to bring those back. They also want to put health considerations into all policies including road work around the County.
- High speed internet. Currently they have dial up broadband so there is a push to get high speed internet to all communities.
- Energy is central in Morrow County. There are 15 wind, solar, natural gas, and biomass projects in waiting. High paying jobs are available but 60% to 70% of the labor force is imported from other cities because Boardman does not have enough housing.
- Transportation. Small cities and counties will receive funding through the 2017 transportation package HB2017 (page 82). Boardman plans to set up a transit system to get workers coming from Hermiston, Pendleton, and Tri-cities, where the labor pool comes from. The County has the third highest income level in the state but the workers live in other cities. The tribes fund little pockets of transit from Hermiston. The biggest challenge is implementing and coordinating an integrated transportation system in cooperation with the surrounding cities. There are pockets of transit service and there are funds for these things but getting blue zones off the ground is visionary and difficult.
- Housing - There is not enough affordable housing for the workers to live in Boardman so they live in other cities and commute. In 1960 the County seat was in Heppner with 200 people, but it is becoming a ghost town after the closure of the mill. These small communities need to be re-built so workers want to live in these small towns. The best thing coming out of small communities is the people. The City of Boardman has taken some money from the energy projects to put into schools focused on STEM, arts, and music programs. These STEM schools make it possible for students to come out of school and go to work. There are currently 200 students but 400 are turned away every year. Housing is needed to get workers to live there and build sustainable communities.

Carla McLane, the Morrow County Planning Director and Chair of the Transportation Committee, presented on behalf of Karen Pettigrew, the City Manager. Carla shared some unique challenges that the City of Boardman and Morrow County are experiencing:

- Carla did not know the Board existed and does not know what the Board does or why.
- Morrow County adopted a Comprehensive Plan in 1980; it was acknowledged in 1986 and there was an industrial land use challenge by 1,000 Friends of Oregon.
- Morrow County became energy central in Oregon. They have a coal fired plant, a gas fired plant, and several nuclear and hydro systems that generate electricity. The coal fired plant is facing closure and the state is making different choices around nuclear but they are still energy central. Every month or so, the Energy Facility Siting Council sends out solicitations for a 90-day look ahead. One-half to one-third of the projects are being sited in Morrow County or in adjacent Gilliam or Umatilla Counties. Three large power lines carry power to much of the Pacific Northwest and the entire west coast from coal, gas, and hydro systems.
- Data centers are coming to the area. There are now five sites with one provider. Two sites have room to expand and another is building two sites in Umatilla County. The County creates a lot of energy, but these large data centers consume a lot too.
- Wind developers find that Morrow County is a good location for wind turbines. While planning for wind began in 1970 and was included in the Comprehensive Plan, it did not happen until 2000 when wind turbine construction exploded.
- Solar development is not ready yet. There are at least five projects in Morrow County in the tire kicking stage. One is on 600 acres expected to be a 75 megawatt project.
- The lack of sustained wind and solar power generation causes some concern because the wind does not always blow and the sun does not always shine. The Governor’s Ten Year Energy Plan calls for renewables. A balanced mix serves us all at the end of the day. The solar and wind facilities also have impacts on the highly productive agricultural lands. There is an extensive
Complete communities take a long time to create, but it is where they want to get to. Boardman has
planning for the new natural resource economy.

The coal-fired power plant is closing in 2022 but the infrastructure is valuable. It was once the
largest item on the city's financial statement and they want it to continue to be a productive
source point. It is probably naturally occurring but they don't know yet. It has been monitored for
20+ years. The original committee was formed early in the 1990s and they are now in the process
of completing their second voluntary action plan. Water is an important piece.

Threemile Canyon Farms has been a leader in sustainable agricultural processes over the past
decade. The farm has 93,000 acres and blends one of the nation's largest dairy operations with
extensive production of potatoes and other crops. Morrow County has 165 dairy cows to every
person. There are also beef cows. The large dairies arrived in 2001. Tillamook Cheese also came
to Morrow County and now produces twice as much cheese in Morrow County as in Tillamook
County. The dairies range in size from 1,000 cows to 30,000 cows. Local residents are concerned
about the impacts of the dairies on air quality, ground water quality, and use of water. Residents are
more concerned about water than air. The state Water Resources Department looked at water
usage and implemented some accountability for water consumption and some water right transfers
were processed to balance use of water with neighbors. One cow can drink 30 gallons of water per
day on a hot day. A lot of innovation has been implemented to deal with waste products. They are
capturing methane and two digesters are turning turbines at Threemile. Both their size and location
- far removed from towns and population centers - provide plenty of area for crop rotation, wildlife
buffers, and composting dairy wastes.

Lost Valley Ranch dairy was established in 2002 on land leased from Threemile Canyon Farms.
Now Lost Valley Ranch will relocate and expand its operation onto 7,288 acres purchased from the
former Boardman Tree Farm and will house 30,000 cows. They milk 10,000 cows at any one time.
Lost Valley is required to account for water consumption and they are implementing innovations.
The dairies have chosen to do many things voluntarily to find solutions for water and waste and have proven to be good neighbors. They have also created a lot of good jobs.

Forestry. There is strong acknowledgement of the need to remove dead stock and create nursery
trees to maintain healthy forests. They have been working for 15 years on a forest plan with
Washington, Idaho, Umatilla and Morrow Counties, and the Greater Eastern Oregon Development
Corporation. A regional strategic economic development document is in development for 2019 to
2024. Economic development strategy ties to energy. Heppner was a thriving community until the
1990s when the mill closed. The population was impacted and that contraction impacted the school
system. The north end of Morrow County became larger by Heppner's shrinking. Bringing some
forest jobs back and creating healthy forests would help rebuild Heppner. If we don't find ways to help our smallest communities become sustainable, we won't have small communities. It takes jobs, schools, a market, churches, day care, and housing for a community to survive.

The coal-fired power plant is closing in 2022 but the infrastructure is valuable. It was once the
largest item on the city’s financial statement and they want it to continue to be a productive
investment. It is still an asset and they don’t want it to become an eye sore. There have been conversations with PGE about converting the plant to burn other things such as biomass or another cleaner generation source.

A community planning workshop was conducted at the University of Oregon about community
planning for the new natural resource economy.

Complete communities take a long time to create, but it is where they want to get to. Boardman has
worked for 20 years to identify what a complete community would look like. People work in Boardman but don’t live there so they don’t shop there, or volunteer there or pay taxes there. They do those things where they live, not where they work. A community needs jobs, schools, a market, church, day care, gas station. There needs to be a bigger system of jobs, shopping, and housing that is connected.

- The biggest barrier in addition to land use, lack of capital and lack of builders, is that housing developers do not want to build houses in Boardman because profits are higher in Hermiston and in the Tri-cities. It is not a land use issue. The Tri-cities saw amazing changes in the 70s and 80s and continues to grow because of federal funding and disposable income from the wine industry. The city and the county have offered incentives up to $37,000 and contractors have taken advantage of that. One contractor builds 9 to 10 homes per year and they are sold as soon as built. The growth jobs have more to do with attracting workers than the incentives. It is the market, not construction costs. People want to spend $180,000 to $200,000 for a house in Boardman but they will pay $250,000 to $280,000 in the Tri-cities and they also pay to commute. More applications for building permits are coming in than they saw during the summer. An apartment complex will be built in Boardman that will fill a gap and do wonders for the community.

- Transit Options - Boardman has “The Loop” serving Morrow County veterans, seniors, and the disabled. “Kayak Transit” is funded by the Umatilla Indian Tribe and is a fixed route between Pendleton, Hermiston, Irrigon, and back. There is transit between the Tri-cities and LaGrande using small 15-passenger buses, which is saving commuters $10,000 to $12,000 per year. They want to establish a healthy commute alliance with these other communities, but it is not healthy right now. If a worker does not live in Morrow County, they cannot go get them and bring them back. Morrow County wants to apply for federal 5311 money in the future to help with transit. HB2017 funding will also help.

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**Presentation - Barry Beyeler, Community Development Director, City of Boardman**

- In 2002 the City of Boardman passed the Oregon Department of Land Conservation and Development (DLCD) and Oregon Department of Transportation model code, which was a step forward for them. They modified it to fit local conditions since the model code was too urban to make it work in Boardman. They addressed storm water management. Storm water has a low impact in Boardman because if water drops on your lot, it stays on your land due to the sandy soil. The water does not go into the river. The Columbia River Enterprise zone helps with gap lending for new housing. A new homeowner can get $5,000 from the Boardman Community Development Association, funded by the Columbia River Enterprise Zone. This opportunity is available through Morrow County from different entities.

- In 2011, former Governor Kitzhaber’s Regional Solutions program partnered to solve some workforce housing issues. One of the best things for the community is that water streams are not waste streams, but resource streams. In 1978 the City of Boardman implemented a water pollution control project that pipes waste water to the lagoon and farmland is irrigated with waste water. The waste water is not going back to the river, it is getting reused and repurposed.

- The Port recycles food processing wastewater to irrigate Port-owned land for farm use.

- Waste feed stock. Potatoes are processed off-site and the processing wastes (peels and culls) are returned to the farm and recycled for use as dairy feed stock. Alfalfa, corn, and other rotation crops provide feed for dairy and beef cattle. Corn mash has been a standard part of the business for 35-40 years.

- Methane gas is being extracted from dairy manure to improve air quality and to produce fuel. The Climate Trust partially funded that whole process. They continually look for opportunities to expand the use of digesters.

- Boardman is energy central and grid stability is a concern going forward. Transmission to the grid is also a concern. Trying to integrate renewables into the grid is challenging. If you cannot get energy from A to B, what is the use of putting up a generation facility? Grid modernization is a multi-year program. Transmission will be going to the Dittmer Control Center if the Bonneville Power Administration (BPA) goes down in Portland. They are trying to integrate renewable resources within the grid, but it is difficult in an ever-changing market. They are moving to transmission lines with an interstate renewable energy project, but it becomes challenging to site a linear facility with lots of counties, municipalities, and property owners.
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Original Log #

STATE OF OREGON
WATER SUPPLY WELL REPORT
(No required by ORS 537.765 & OAR 690-205-0210)

Owner Well I.D.:
First Name GREG  Last Name  TE VELDE
Company
Address  5850 AVENUE 160
City TIPPTON  State LA  Zip 97232

(2) TYPE OF WORK
☐ New Well  ☐ Deepening  ☐ Conversion
☐ Alteration (complete 2a & 10)  ☐ Abandonment(complete 5a)

(2a) PRE-ALTERATION

Casing: Diam From To Gauge Stl Plstc Wld Thrd
Material From To Amt sacks/lbs

(3) DRILL METHOD
☐ Rotary Air  ☐ Rotary Mud  ☐ Cable  ☐ Auger  ☐ Cable Mud
☐ Reverse Rotary  ☐ Other

(4) PROPOSED USE
☒ Domestic  ☐ Irrigation  ☐ Community
☐ Industrial/ Commercial  ☐ Livestock  ☐ Dewatering
☐ Thermal  ☐ Injection  ☐ Other

(5) BORE HOLE CONSTRUCTION
Depth of Completed Well  172.00
BORE HOLE

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</table>

How was seal placed: Method ☒ A ☐ B ☐ C ☐ D ☐ E
☐ Other BENTONITE Poured

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount 0
Actual Amount 0

(6) CASING/LINER

<table>
<thead>
<tr>
<th>Casing</th>
<th>Liner</th>
<th>Dia (ft)</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Stl</th>
<th>Plstc</th>
<th>Wld</th>
<th>Thrd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.5</td>
<td>153</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoe ☒ Inside  ☐ Outside  ☐ Other
Location of shoe(s) 153

(7) PERFORATIONS/SCREENS

<table>
<thead>
<tr>
<th>Perf/ Casing/ Screen</th>
<th>Dia (ft)</th>
<th>From</th>
<th>To</th>
<th>Scre/Slot</th>
<th>Slot # of</th>
<th>Tele/</th>
<th>Material</th>
<th>Stainless</th>
</tr>
</thead>
</table>

(8) WELL TESTS: Minimum testing time is 1 hour

<table>
<thead>
<tr>
<th>Pump</th>
<th>Bailer</th>
<th>Air</th>
<th>Flowing Artesian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Yield gal/min  85  Drawdown  172  Drill stem/Pump depth  3  Duration (hr) 85

Temperature  59°F  Lab analysis ☒ Yes By
Water quality concerns? ☒ Yes (describe below) TDS amount 200 ppm

<table>
<thead>
<tr>
<th>Description</th>
<th>Amt/Unit</th>
</tr>
</thead>
</table>

NEAREST: WEST OF POLELINE RD AND HOMESTEAD LN IN BOARDMAN.

© 2021 Brandan C Brown (E-filed)
Contact Info (optional) brandon@waterwelldeveloping.com

STATE OF OREGON
WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK  Form Version:

SUFF Comments, Attachment 2, Page 1
### (2a) PRE-ALTERATION

<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Std</th>
<th>Plst</th>
<th>Wld</th>
<th>Thrd</th>
</tr>
</thead>
</table>

- **Material**: From | To | Amt | sacks/lbs

### (5) BORE HOLE CONSTRUCTION

<table>
<thead>
<tr>
<th>BORE HOLE</th>
<th>SEAL</th>
<th>sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dia</td>
<td>From</td>
<td>To</td>
</tr>
</tbody>
</table>

Calculated
Calculated
Calculated
Calculated

### FILTER PACK

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Material</th>
<th>Size</th>
</tr>
</thead>
</table>

### (6) CASING/LINER

<table>
<thead>
<tr>
<th>Casing Liner</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Std</th>
<th>Plst</th>
<th>Wld</th>
<th>Thrd</th>
</tr>
</thead>
</table>

### (7) PERFORATIONS/SCREENS

<table>
<thead>
<tr>
<th>Perf/ Casing/Sreen Screen Liner</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Scrn/slot width</th>
<th>Slot length</th>
<th># of slots</th>
<th>Tele/pipe size</th>
</tr>
</thead>
</table>

### (8) WELL TESTS: Minimum testing time is 1 hour

<table>
<thead>
<tr>
<th>Yield gal/min</th>
<th>Drawdown</th>
<th>Drill stem/Pump depth</th>
<th>Duration (hr)</th>
</tr>
</thead>
</table>

### Water Quality Concerns

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Description</th>
<th>Amount</th>
<th>Units</th>
</tr>
</thead>
</table>

### (10) STATIC WATER LEVEL

<table>
<thead>
<tr>
<th>SWL Date</th>
<th>From</th>
<th>To</th>
<th>Est Flow</th>
<th>SWL( psi)</th>
<th>SWL(ft)</th>
</tr>
</thead>
</table>

Calculated
Calculated
Calculated
Calculated

### (11) WELL LOG

<table>
<thead>
<tr>
<th>Material</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
</table>

### Comments/Remarks

Drilled well and took casing to 172.
Installed screen w/ k-paker.
pulled casing back to expose screen.
# STATE OF OREGON
## WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

### (1) LAND OWNER
Owner Well I.D.
First Name GREG Last Name TE VELDE
Company
Address 5850 AVENUE 160
City EUGENE State OR Zip 97402

### (2) TYPE OF WORK
- New Well
- Deepening
- Conversion

### (2a) PRE-ALTERATION

<table>
<thead>
<tr>
<th>Casing</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>Amt</th>
<th>sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24</td>
<td>0</td>
<td>203</td>
<td>0</td>
<td>Cement</td>
<td>203</td>
<td>350</td>
<td>S</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>203</td>
<td>747</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>747</td>
<td>800</td>
<td></td>
<td></td>
<td>203</td>
<td>810</td>
<td>S</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>800</td>
<td>900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Seal:
- Temperature
- Backfill placed from
- Filter pack from
- Explosives used:
- How was seal placed:
- Method
- Other

### (3) DRILL METHOD
- Rotary Air
- Rotary Mud
- Cable
- Auger
- Cable Mud
- Reverse Rotary
- Other

### (4) PROPOSED USE
- Domestic
- Irrigation
- Commercial
- Livestock
- Dewatering
- Thermal
- Injection
- Other

### (5) BORE HOLE CONSTRUCTION
Special Standard: [Attach copy]

<table>
<thead>
<tr>
<th>Depth of Completed Well</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>Amt</th>
<th>sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>900.00 ft.</td>
<td>24</td>
<td>0</td>
<td>203</td>
<td>Cement</td>
<td>203</td>
<td>350</td>
<td>S</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>203</td>
<td>747</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>747</td>
<td>800</td>
<td></td>
<td>203</td>
<td>810</td>
<td>S</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>800</td>
<td>900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How was seal placed:
- Method
- Other

### (5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount
Actual Amount

### (6) CASING/LINER

<table>
<thead>
<tr>
<th>Casing</th>
<th>Liner</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>Amt</th>
<th>sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
<td>3</td>
<td>702</td>
<td>.375</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>0</td>
<td>203</td>
<td>.375</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shoe: Inside [ ] Outside [ ] Other [ ] Location of shoe(s)
Temp casing: Yes
Dia From To

### (7) PERFORATIONS/SCREENS

<table>
<thead>
<tr>
<th>Perf/Screen</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Slot</th>
<th>Material</th>
</tr>
</thead>
</table>

### (8) WELL TESTS: Minimum testing time is 1 hour

- Drawdown
- Drill stem/Pump depth
- Duration (hr)

<table>
<thead>
<tr>
<th>Yield gal/min</th>
<th>Drawdown</th>
<th>Drill stem/Pump depth</th>
<th>Duration (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>747</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Temperature: 57°F

Water quality concerns: Yes (describe below)
TDS amount

<table>
<thead>
<tr>
<th>Amount</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## WELL I.D. LABEL# L
START CARD #
ORIGINAL LOG #

### (9) LOCATION OF WELL (legal description)

<table>
<thead>
<tr>
<th>County</th>
<th>Twp</th>
<th>Rng</th>
<th>Sec</th>
<th>Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORROW</td>
<td>2</td>
<td>22</td>
<td>22</td>
<td>6</td>
</tr>
</tbody>
</table>

### (10) STATIC WATER LEVEL

<table>
<thead>
<tr>
<th>Date</th>
<th>SWL(psi)</th>
<th>SWL(ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/21/2016</td>
<td>55</td>
<td>195</td>
</tr>
<tr>
<td>3/18/2016</td>
<td>314</td>
<td>5</td>
</tr>
<tr>
<td>3/24/2016</td>
<td>476</td>
<td>200</td>
</tr>
<tr>
<td>6/7/2016</td>
<td>726</td>
<td>200</td>
</tr>
</tbody>
</table>

### (11) WELL LOG

<table>
<thead>
<tr>
<th>Material</th>
<th>Ground Elevation</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>silty clay</td>
<td>0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>silty clay</td>
<td>10</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>sandy, clay</td>
<td>55</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>sandstone w/ some brown clay</td>
<td>64</td>
<td>191</td>
<td></td>
</tr>
<tr>
<td>broken weathered basalt</td>
<td>191</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td>med black basalt</td>
<td>195</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>hard black basalt</td>
<td>198</td>
<td>266</td>
<td></td>
</tr>
<tr>
<td>black basalt/ blue clay</td>
<td>266</td>
<td>322</td>
<td></td>
</tr>
<tr>
<td>med black basalt</td>
<td>322</td>
<td>371</td>
<td></td>
</tr>
<tr>
<td>red fractured vesicular/ blue clay</td>
<td>371</td>
<td>377</td>
<td></td>
</tr>
<tr>
<td>fractured black vesicular</td>
<td>377</td>
<td>389</td>
<td></td>
</tr>
<tr>
<td>med black basalt</td>
<td>389</td>
<td>476</td>
<td></td>
</tr>
<tr>
<td>vesicular basalt</td>
<td>476</td>
<td>493</td>
<td></td>
</tr>
<tr>
<td>med black basalt</td>
<td>493</td>
<td>510</td>
<td></td>
</tr>
<tr>
<td>hard black basalt</td>
<td>510</td>
<td>726</td>
<td></td>
</tr>
<tr>
<td>fractured black vesicular</td>
<td>726</td>
<td>731</td>
<td></td>
</tr>
<tr>
<td>hard black basalt</td>
<td>731</td>
<td>894</td>
<td></td>
</tr>
<tr>
<td>soft black basalt</td>
<td>894</td>
<td>900</td>
<td></td>
</tr>
</tbody>
</table>

Date Started: 3/7/2016
Completed: 7/1/2016

## Unbonded Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

<table>
<thead>
<tr>
<th>License Number</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>117307</td>
<td>9/1/2016</td>
</tr>
</tbody>
</table>

## Bonded Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

<table>
<thead>
<tr>
<th>License Number</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1766</td>
<td>9/1/2016</td>
</tr>
</tbody>
</table>

Signed: BRANDON C BROWN (E-filed)
Contact Info (optional): brandon@watterwelldeveloping.com

SUFF Comments, Attachment 2, Page 3
### (2a) PRE-ALTERATION

<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Std</th>
<th>Plstc</th>
<th>Wld</th>
<th>Thrd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>Amt</th>
<th>sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (5) BORE HOLE CONSTRUCTION

**BORE HOLE**

<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>Amt</th>
<th>sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SEAL**

<table>
<thead>
<tr>
<th>Cement</th>
<th>From</th>
<th>To</th>
<th>Dia</th>
<th>840</th>
<th>900</th>
<th>27</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated

### (6) CASING/LINER

**Casing Liner**

<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Std</th>
<th>Plstc</th>
<th>Wld</th>
<th>Thrd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### (7) PERFORATIONS/SCREENS

**Screen Liner**

<table>
<thead>
<tr>
<th>Perf/ Casing/ Screen</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Screen</th>
<th>Slot</th>
<th># of slots</th>
<th>Tele/ pipe size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (8) WELL TESTS: Minimum testing time is 1 hour

<table>
<thead>
<tr>
<th>Yield gal/min</th>
<th>Drawdown</th>
<th>Drill stem/Pump depth</th>
<th>Duration (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (10) STATIC WATER LEVEL

<table>
<thead>
<tr>
<th>SWL Date</th>
<th>From</th>
<th>To</th>
<th>Est Flow</th>
<th>SWL(psi)</th>
<th>+ SWL(ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (11) WELL LOG

<table>
<thead>
<tr>
<th>Material</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments/Remarks**

Continuous seal installed from 203' to ground surface. Per WRD special requirement.
Continuous seal installed from 702' to ground surface.
Static during drilling process lowered from 378' to 384'.
Static prior to installing casing (384') and after installing casing and continuous seal to ground surface was (384').
STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by OHS 537.765 & OAR 090-205-0210)

(1) LAND OWNER

First Name GREG
Last Name TE VELDE

Address 5850 AVENUE 160

City TIPPON
State CA
Zip 92327

(2) TYPE OF WORK

[ ] New Well Conversion
[ ] Deepening
[ ] Abandonment/complete 5a

(2a) PRE-ALTERATION

Casing:

Dia + From To Gauge Stl Piste Wid Thrd

Material From ToAmt sacks/ls

Seal:

(3) DRILL METHOD

[ ] Rotary Air
[ ] Rotary Mud
[ ] Cable
[ ] Auger
[ ] Reverse Rotary
[ ] Other

(4) PROPOSED USE

[ ] Domestic
[ ] Irrigation
[ ] Community
[ ] Industrial/ Commercial
[ ] Livestock
[ ] Dewatering
[ ] Other

(5) BORE HOLE CONSTRUCTION

Depth of Completed Well 902.00 ft.

BORE HOLE

Dia From To Material SEAL From To Amt sacks/ls

24 0 155 Cement 0 155 240 S

18 155 427 Cement 0 427 168.4

15 427 707 Cement 0 400 576 S

13 707 727 Calculated (354.75)

Depth was sealed at: Method A B X C D E

How was seal placed:

Dept.

Backfill placed from ft. to ft. Material

Filter pack from ft. to ft. Material Size

Explosives used: Yes No Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE

Proposed Amount

Actual Amount

(6) CASING/LINER

Casing Liner Dia + From To Gauge Stl Piste Wid Thrd

18 X 1 156 375

14 X 1 400 375

Shoe Inside Outside Other Location of shoe(s)

Temp casing Yes No Dia From To

(7) PERFORATIONS/SCREENS

Perforations Method

Screens Type Material

Perf/ Casting/Screen Dia From To Srm/Slot width Slot length # of Tele/ slots pipe size

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Yield gal/mins

600

Drawdown

902

Duration (hr)

1

Temperature °F

70

Lab analysis

Yes By

Water quality concerns? Yes (describe below)

TDS amount ppm

300

Amount Units

(9) LOCATION OF WELL (legal description)

County Morrow
Twp 3.00 N
Sec 16
Lot 500

SWL Date From To Est Flow SWL(pi)+ SWL(ft)

4/29/2016 30 35 20 30

7/26/2016 203 295 50 80

8/1/2016 324 333 50 80

8/22/2016 436 445 200 341

8/29/2016 683 695 200 341

(10) STATIC WATER LEVEL

Existing Well/Pre-Alteration

Completed Well 12/12/2016

Flowing Artesian? Yes No

Dry Hole? Yes No

WATER BEARING ZONES

Depth water was first found

SWM Date From To

30.00

SWL(pi)+ SWL(ft)

4/29/2016 30 35 20 30

7/26/2016 203 295 50 80

8/1/2016 324 333 50 80

8/22/2016 436 445 200 341

8/29/2016 683 695 200 341

(11) WELL LOG

Material From To

earth 0 11

earth, sand, clay 11 30

sandstone 30 35

broken basalt 135 137

hard black basalt 145 203

soft fractured basalt 203 208

blue clay 208 264

soft black basalt 264 295

hard black basalt 295 324

broken red vesicular basalt 324 333

fractured black with some vesicular 333 340

fractured black basalt 340 436

fractured vesicular black basalt 436 445

soft black basalt 445 598

soft black basalt 598 617

fractured black basalt 617 683

fractured black basalt 683 687

Date Started 4/27/2016 Completed 12/2016

(unbound) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number Date

Signed

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number Date

Signed

Contact Info (optional) brandon@waterwelldeveloping.com

SUFF Comments, Attachment 2, Page 5
### (2a) PRE-ALTERATION

<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Std</th>
<th>Plate</th>
<th>Width</th>
<th>Thrd</th>
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<table>
<thead>
<tr>
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<th>To</th>
<th>Amt</th>
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<tbody>
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### (5) BORE HOLE CONSTRUCTION

#### BORE HOLE

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<td>902</td>
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#### SEAL

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<table>
<thead>
<tr>
<th>Date</th>
<th>From</th>
<th>To</th>
<th>Est Flow</th>
<th>SWL(PSI) + SWL(8)</th>
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<tr>
<td>9/9/2016</td>
<td>837</td>
<td>862</td>
<td>200</td>
<td>341</td>
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### (6) CASING/LINER

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<th>Dia</th>
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<th>To</th>
<th>Gauge</th>
<th>Std</th>
<th>Plate</th>
<th>Width</th>
<th>Thrd</th>
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### (7) PERFORATIONS/SCREENS

<table>
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<th>From</th>
<th>To</th>
<th>Slot width</th>
<th>Slot length</th>
<th># of slots</th>
<th>Pipe size</th>
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### (8) WELL TESTS: Minimum testing time is 1 hour

<table>
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<tr>
<th>Yield gal/min</th>
<th>Drawdown</th>
<th>Drill stem/Pump depth</th>
<th>Duration (hr)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

**Comments/Remarks**

Cemented off hole from 793' to bottom.
WELL LABEL # L
START CARD # 105922

(1) LAND OWNER
Owner Well I.D.: __________
First Name: BRIAN
Last Name: BOSMA
Company: SAGE HOLLOW RANCH
Address: 3620 INDEPENDANCE RD
City: SUNNYSIDE
State: WA
Zip: 98944

(2) TYPE OF WORK
- New Well
- Deepening
- Conversion
- Alteration (repair/recondition)
- Abandonment

(3) DRILL METHOD
- Rotary Air
- Rotary Mud
- Cable Auger
- Cable Mud
- Reverse Rotary
- Other
- Reverse Rotary

(4) PROPOSED USE
- Domestic
- Community
- Industrial/Commercial
- Irrigation
- Livestock
- Dewatering

(5) BORE HOLE CONSTRUCTION
Depth of Completed Well: 570.00 ft.

<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Material</th>
<th>SEAL</th>
<th>Dia</th>
<th>From</th>
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<td>18</td>
<td>19 S</td>
<td>18</td>
<td>19</td>
<td>S</td>
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<td>10</td>
<td>18</td>
<td>402</td>
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<td>18</td>
<td>19 S</td>
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<td>402</td>
<td>570</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

How was seal placed:
- Method: [A] Poured Bentonite

Other: [ ] Other

Explosives used:
<table>
<thead>
<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Material</th>
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</thead>
<tbody>
<tr>
<td>570</td>
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</tbody>
</table>

Other: [ ] Sacks

(6) CASING/LINER

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<th>To</th>
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<tr>
<td>8</td>
<td>2</td>
<td>306</td>
<td>25</td>
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</table>

Special Standard: [ ] Yes

<table>
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<tr>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Stl</th>
<th>Plst</th>
<th>Wild</th>
<th>Thrd</th>
</tr>
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</table>

Other: [ ] Location of shoe(s)

(7) PERFORATIONS/SCREENS

<table>
<thead>
<tr>
<th>Perf/Screen</th>
<th>Dia</th>
<th>From</th>
<th>To</th>
<th>Slot width</th>
<th>Slot length</th>
<th># of slots</th>
</tr>
</thead>
</table>

Other: [ ] Tele/pipe size

(8) WELL TESTS: Minimum testing time is 1 hour

- Pump
- Bailier
- Air
- Flowing Artesian

<table>
<thead>
<tr>
<th>Yield</th>
<th>Drawdown</th>
<th>Drill stem/Pump depth</th>
<th>Duration</th>
<th>Temperature</th>
<th>Lab analysis</th>
<th>Water quality concerns</th>
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<tbody>
<tr>
<td>300</td>
<td>570</td>
<td>1</td>
<td>1</td>
<td>68</td>
<td>Yes</td>
<td>Yes (describe below)</td>
</tr>
<tr>
<td>200</td>
<td>470</td>
<td>1</td>
<td></td>
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(9) LOCATION OF WELL (legal description)

<table>
<thead>
<tr>
<th>County</th>
<th>Sec</th>
<th>Twp</th>
<th>Lot</th>
<th>Range</th>
<th>SWL(foot)</th>
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<tbody>
<tr>
<td>Morrow</td>
<td>10</td>
<td>06</td>
<td>1/4</td>
<td>N/S</td>
<td>08-26-2011</td>
</tr>
</tbody>
</table>

Existing Well / Predeepening: 08-26-2011
Completed Well: 08-26-2011

Flowing Artesian? [ ] Yes

(10) STATIC WATER LEVEL

SWL Date: 08-26-2011

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Est Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>170</td>
<td>212</td>
<td>50</td>
</tr>
<tr>
<td>490</td>
<td>515</td>
<td>150</td>
</tr>
<tr>
<td>545</td>
<td>565</td>
<td>150</td>
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</tbody>
</table>

(11) WELL LOG

<table>
<thead>
<tr>
<th>Material</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
</table>

- Sand
- Brown Clay
- Brown Clay/Gravel
- Brown Clay
- Black Basalt
- Brown Sandstone
- Black Basalt
- Tan Claystone
- Black Basalt
- Brown Scoria/Green Clay
- Black Basalt
- Brown Scoria
- Black Basalt

Contact Info (optional)

Additional comments:

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

Form Version: 0.95

SUFF Comments, Attachment 3, Page 1
STATE OF OREGON
EXEMPT USE WELL MAP
(as required by ORS 537.545 & OAR 690.190)
This map is supplemental to the WATER SUPPLY WELL REPORT

LOCATION OF WELL
Latitude: 45.758449
Longitude: -119.544010
Datum: WGS84
Township/Range/Section/Quarter-Quarter Section: 3N 26E 10 SENE
Address of Well: POLELINE RD & HOMESTEAD RD NEAR BOARDMAN

Well Label #: L105922
Well Log: MORR 51933
Printed: Sep 19, 2011

DISCLAIMER: This map is intended to represent the approximate location of the exempt use well provided by the land owner. It is not intended to be construed as survey accurate in any manner.
Yes. I’ve been working with Greg on this one. Glad he’s finally getting meters replaced.

jen

From: GALL Ivan K * WRD <Ivan.K.Gall@oregon.gov>
Sent: Thursday, September 24, 2020 9:11 AM
To: IVERSON Justin T * WRD <Justin.T.Iverson@oregon.gov>; WOODY Jennifer L * WRD <Jennifer.L.Woody@oregon.gov>
Subject: FW: Data - Wells near Easterday Dairy

This is Coleman; no flowmeter for years.  Wells produce from alluvial (recharge project); not sure if any basalt.

Greg sent NOV, he continued to use, so we’ll hit him with civil penalties this fall.  Sounds like owner is installing meters soon.

Of note is that Coleman pulls from the alluvial system, part of the recharge project, but his use is not measured, so the recharge project accounting is likely off.  Jen may be aware of such.

Thanks—ig

Ivan Gall
FIELD SERVICES DIVISION ADMINISTRATOR
725 Summer Street NE, Suite A Salem, OR 97301 | Phone 503-986-0847 Mobile 971-283-6010

Integrity | Service | Technical Excellence | Teamwork | Forward-Looking

From: KOWITZ Chris C * WRD <Chris.C.Kowitz@oregon.gov>
Sent: Thursday, September 24, 2020 8:55 AM
To: GALL Ivan K * WRD <Ivan.K.Gall@oregon.gov>; SILBERNAGEL Greg M * WRD <Greg.M.Silbernagel@oregon.gov>
Subject: FW: Data - Wells near Easterday Dairy

Some of his wells border the Depot, some are on the other side of the freeway – I’ve attached a very high tech and fancy map showing some of the locations and their distance to Easterday’s property. He did not have flow meters on these five wells, so no way for us to know how use has changed year over year.

Chris

From: GALL Ivan K * WRD <Ivan.K.Gall@oregon.gov>
Sent: Thursday, September 24, 2020 8:29 AM
To: SILBERNAGEL Greg M * WRD <Greg.M.Silbernagel@oregon.gov>; KOWITZ Chris C * WRD <Chris.C.Kowitz@oregon.gov>
Subject: RE: Data - Wells near Easterday Dairy

Fyi, bump down in gw levels around Bosma and the Depot.  Where was the guy you sent the NOV to?  Was that just no flow meters, or was there an increase in use there also?

thanks

Ivan Gall
FIELD SERVICES DIVISION ADMINISTRATOR
725 Summer Street NE, Suite A Salem, OR 97301 | Phone 503-986-0847 Mobile 971-283-6010

Integrity | Service | Technical Excellence | Teamwork | Forward-Looking

From: IVERSON Justin T * WRD <Justin.T.Iverson@oregon.gov>
Sent: Thursday, September 24, 2020 8:25 AM
To: GALL Ivan K * WRD <Ivan.K.Gall@oregon.gov>
Subject: FW: Data - Wells near Easterday Dairy

FYI regarding your musings on wl response to changes in use.

Justin Iverson, RG
GROUNDWATER SECTION MANAGER
Oregon Water Resources Department

From: WOODY Jennifer L * WRD <Jennifer.L.Woody@oregon.gov>
Sent: Thursday, September 24, 2020 7:44 AM
To: IVERSON Justin T * WRD <Justin.T.Iverson@oregon.gov>
Subject: RE: Data - Wells near Easterday Dairy

Bosma’s two wells, MORR 595 and MORR 591 show no use for water years 2017,2018,2019. Neither of these wells has been measureable for the last 3 years.  MORR 595 was measureable in 2016, and we know it tracks with other Ordinance “deep basalt” wells. There is not good news in the water level trend: I noticed this Feb an unusual drop since last Feb- on the order of 10 feet since 2019 Feb measurements. I can’t point to any known cause to this year’s drop, but also haven’t looked beyond flowmeter data on wells we visit.  Note MORR 52314 is the well on Easterday property that started as an alluvial well, then was deepened into basalt.  We now have a transducer in that well.  MORR 601 is airline only.  MORR 667, 938, 1719, 1720 are on the Depot and are etape measurements I collect quarterly.
Quick note for when this comes in – Ivan thinks that Bosma had been using the surface water that’s been transferred to his property, and it’d be interesting to confirm actual use from his wells and compare to any changes in use to the water level record in the vicinity.

Cheers,
Justin Iverson, RG
GROUNDWATER SECTION MANAGER
Oregon Water Resources Department
Hello everyone,

During conversations on the draft Easterday permit, the agencies determined it would be helpful to have updated information on wells in the vicinity. The information below has been compiled by DEQ with input and review from OWRD, OHA, and ODA. Many thanks to Lauri and everyone who helped pull this information together!

The attached map shows wells within a one-mile buffer (yellow line) around the Easterday CAFO. Also shown are other nearby CAFOs and a landfill. Please note that the OWRD well log database does not contain a well log for every well drilled, and well location information on some wells is not accurate. Other wells may be present and in use for which no data exist.

Map labeling of the wells:
M = Monitoring Well
D = Domestic Well
I = Irrigation Well
L = Livestock Well
C = Construction/Livestock Well
X = Construction/Industrial/Commercial/Livestock

According to OWRD and OHA, any water supply well, including wells drilled for stock, commercial, irrigation, etc. can be used to supply potable water, so depending solely on the well log info can be misleading. OHA can approve any of the listed types of wells for drinking water use as long as they meet construction standards, setback requirements, and water quality standards.

Use of private wells for potable water
None of the agencies has direct information about residences, businesses or worker housing that are using private wells in the area for drinking water. According to OWRD, it’s safe to assume that any business or home will have an exempt well and likely are using the water for a potable supply. The only way to be sure is going door to door and asking.

Three basalt wells on the Easterday property had gone partially through OHA’s review process for use as a drinking water sources, but were never granted approval for use. OHA has no water quality data on those wells.

Water quality data
Most of the nitrate contamination that we have been concerned with in the GWMA is based on well testing within the shallow alluvial aquifer, although DEQ has also sampled a few deeper basalt wells in the area. In the attached map, a red well symbol represents the shallow alluvial (e.g. sand and gravel) aquifer and the blue is the deeper basalt aquifer. The 3 wells with a DEQ label have been sampled by DEQ (one domestic, one monitoring well, one livestock) with some of the data going back to 1992. DEQ doesn’t have nitrate data for all wells shown on the map. DEQ receives annual reports and sample results for most monitoring wells. Most irrigation wells, domestic wells and other wells on the map do not appear to have data.

DEQ generally considers background to be <1mg/L Nitrate-N. The federal drinking water maximum contaminant level (MCL) for nitrate is 10 mg/L. An action level for establishing a ground water management area per ORS 468B.180 1(a) specifies 70 percent of the MCL or 7 mg/L. The action level was supposed to give enough time for corrective action prior to exceeding the MCL.

In general, alluvial groundwater nitrate concentrations can be summarized with results from the following well data:

- Lost Valley Dairy/Easterday monitoring wells (M on the map) range from single digit to over 20 mg/L nitrate.
- Meenderick Dairy M (labelled DEQ) – 21 mg/L nitrate
- Sage Hollow Dairy M – 66 mg/L nitrate
- POM site directly east of Easterday (not shown on the map) - 12 monitoring wells range from non-detectable to 34 mg/L nitrate

A few other wells with data:

- A basalt livestock watering well labelled DEQ just east of Easterday was sampled in 2015 and nitrate was less than 1 mg/L.
- A basalt domestic well labelled DEQ on the Easterday footprint was sampled in 1992 and nitrate was less than 1 mg/L.
- Finley Butte Landfill – non-detectable in all 8 monitoring wells (<0.05 mg/L) in most recent annual monitoring event.

OHA has nitrate and other data for the following nearby water systems: Finley Butte Landfill’s drinking water well https://yourwater.oregon.gov/nitrates.php?pwsno=319119; however it is a deep well in the basalt aquifer with low nitrates. Cascade Specialties, also a basalt well https://yourwater.oregon.gov/nitrates.php?pwsno=590045 and the former Greenwood Resources - Upper Columbia Mill https://yourwater.oregon.gov/nitrates.php?pwsno=95397. The mill’s well is into the basalt but has some connection to the alluvial aquifer which is why there are nitrate results over 10 mg/L. The lower nitrate results were collected after a treatment unit was installed. OHA has no information or data on private wells. OWRD does not have any additional water quality data for the area.
CAFO interagency coordination call
Scheduled: Sep 17, 2020 at 3:00 PM to 4:00 PM
Location: See Zoom call information below

We'll keep the weekly schedule for these calls going into September & cancel a call the day before if we find that there are no updates.

Invitees: Rian Hooff, Amelinda Bhatia, Gail Iran K. * Wel, William E.GOX&FELDAE@deq.state.or.us, Moulun Renee M, Isaak C Stapleton, AUNAN Lauri G, Don Batcher, JONES Randy, Lloyd Duna, Evan Racapd R * Wrl, Eric Nigg, GLEIM Laura, JONES Randy@dhsoha.state.or.us, Christina Joyce Highy, William J Matthews, Chadan Bynes, * Wel, Kassie Reinerstein, KOWITZ Chris C * WRL, Andrea Costa-Ashmore, SILBERNAGEL Greg M * WRL, Stephanie A Page

Join Zoom Meeting
https://zoom.us/j/92303436988?pwd=Q3VuZ0FhbTdHbTBtQ0FucylsZz09
Meeting ID: 923 0343 6988
Password: 737009

Dial by your location
+16699006833, 92303436988 US (San Jose)
+12532158782, 92303436988 US (Tacoma)

Find your local number: https://zoom.us/u/acg3noHuG

Stephanie Page
Oregon Department of Agriculture – Natural Resources & Pesticides
635 Capitol St NE, Salem, OR 97301-2532
503.931.5608 | Oregon.gov/ODA
Pronouns: she, her, hers
Personal Notes on Stockwater Exemption Issue

Call to Touch Base re: CAFO 05-07-2020 at 1 PM

Chris Kowitz – North Central Region Manager, Field Services Division
(chris.c.kowitz@oregon.gov; 971-600-6137)

DISCUSSION

- Easterday Farms bought old dairy operation in critical area (no permits/restrictions on water use); in process of obtaining CAFO from Dept. of Ag which requires proof of potable water for cattle
- Exemption ‘loophole’ in the code allows for watering of stock without permit (unregulated)
- Easterday will make good faith effort not to use stockwater exemption (except in emergency) – not memorialized yet
- Draft schedule from Dept. of Ag (with Director)
- Draft permit will go out for public review in August
  o Get rulemaking process started before then?
  o Need to verify authority to make rule change
    o Rule change should be narrow (limited to critical area; forward-looking only)
- Last session Senator Dembrow was looking into changing stockwater exemption language

CAFO Interagency Coordination Call 05-07-2020 at 3 PM

DISCUSSION

Media/communications/PRRs
- PRR (Ag?) but broad not specifically related to CAFO/Easterday Farms
- Discussion re: stakeholder engagement about draft permit
  o Convos before public comment period?
  o Convos during public comment period?

Permit application status
- Review of timeline
  o July – agencies identify tasks related to stakeholder engagement
  o August – comment period open for draft permit

Update on water rights
- Continuing to dialogue on a number of issues, including potable water and lagoons (potential UIC permit with ODEQ)

Questions
- OHA: planning on getting water transported from Port of Morrow (sp?) – not confirmed
- Problem with offsite septic system?
  o Do have permit in place, unaware of any problems

NEXT STEPS
- Schedule next meeting – monthly?
- Earlier meeting to get update on stakeholder engagement plan? June 4th at 3 PM

Quick Coordination Call re: GW Rulemaking 05-12-2020 at 11:30 AM

CONTEXT
- Rulemaking related to OAR 690-507
- Stock water is an exemption (no way to track, no limit on use—even in a designated critical area for GW)
  o ORS 537.545: List of exemptions
- Senator Dembrow has held several workgroups (looking for statewide solution)
- Potentially contentious issue
- Withdrawal provisions not a good vehicle for changes
- Critical groundwater area may not be a good fit either (might decline to reference critical area at all in language)
  o OAR 507.0070: Good place to start review of OARs related to this
  o Area in questions is actually in overlapping critical area
- Best route for rule changes might be basin classification?
  o Look at Smith River example—basin rulemakings require additional steps (per statute)
  o Likely to be challenged, so need to build a rulemaking record
  o Consider what evidence is required for rulemaking
    ▪ “Study” of basin?
    ▪ “Substantial evidence” standard?

NEXT STEPS

Coordination
- Department of Ag: Lim Matthews/Stephanie Paige
  o Coordinate rulemaking with CAFO process (to maximum extent possible)
  o CAFO out for public comment in August
  o Expected to have decision in late fall
  o Lim is good resource for determining what is reasonable quantity (from livestock perspective)
- Internal
  o GW experts
    ▪ Work on study/other necessary evidence
    ▪ Determination of reasonable quantity (from water perspective)
Loop in Director, Justin, Dwight as things progress
Include Deirdre in communications with Racquel so she is aware of timelines
Chris: Help gather names for RAC (Cattleman’s Association, Dairy, Farm Bureau, JR Cook, Water Watch, Tribe, conservation interests)?

**Timeline**
- Prepare feasible timeline
- RAC unlikely before June?
- Ideally have rules adopted prior to CAFO being issued in late fall (possible?)
- Adopt at November Commission Meeting?
- Will likely need hearing in basin area