

**Jennifer Orozco**



**From:** Amber Hudspeth <amber@hlworegon.com>  
**Sent:** Tuesday, March 8, 2022 3:18 PM  
**To:** Plan  
**Subject:** Hudspeth Land+Water Vanier Expansion Groundwater Submittal- 217-21-00436-PLNG  
**Attachments:** HLW Vanier Expansion Groundwater Submittal.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**RECEIVED**

**MAR 08 2022**

**Crook County  
Community Development**

Mr. VanVector and Members of the Planning Commission,

Please see the attached submittal for inclusion to the record. The attached data is included for your reference and to clarify other submitted information.

Please let me know if you have any questions.

cheers and thanks

**Amber L. Hudspeth**

Principal Scientist  
541.420.2710



03.07.2022

# Memorandum

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To  
Matt Ropp  
Knife River

Attachments: 3992 Mikulski Drinking Water Well Monitoring Table  
2021 WW-1A Monitoring Well Water Level  
2021 Precipitation Data

From  
Amber L. Hudspeth  
Hudspeth  
Land+Water

Re  
Mikulski Residence  
Drinking Water Well  
Monitoring

The active domestic water well on the Mikulski property, located at 3992 Stahancyk Lane in Prineville, Oregon, has been monitored since 2017. Domestic usage is ongoing over the period of this sampling and monitoring effort. Farallon Consulting, under the management of Amber Hudspeth, performed sampling and monitoring at this site throughout 2017 and 2018, at which point the monitoring was transferred to Hudspeth Land+Water for the years 2019 to 2021. Ms. Hudspeth has been associated with this project since its inception.

The samples analyzed have been tested by two certified NVLAP laboratories, Edge Analytical (bacteriological) and Neilson Research Corporation (analytical), throughout the entirety of the monitoring period. Additionally, field parameter data has been collected for water level, temperature, turbidity, pH, and specific conductance. This can be seen in the attached summary of data for this well.

No changes have been observed in the sample results or water levels since the initiation of monitoring the Mikulski well outside of seasonal fluctuations. No evidence was observed that suggests water levels have been impacted by Knife River's activities on the Woodward property.

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## HUDSPETH LAND+WATER

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**3992 Mikulski**  
**Drinking Water Well Monitoring**  
**Prineville, Oregon**

Sampled By	Sample Date	Depth to Water from Well Head (feet)	Bacteriological		Analytical Results (milligrams per liter)					Field Parameters				
			Total Coliform	E. Coli	DRO	ORO	GRO	Iron	Manganese	TDS	Water Temp (c)	pH	Conduc-tivity	Turbidity
Hudspeth	12/14/21	26.63	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	503	9.8	7.59	0.563	0.21
Hudspeth	10/06/21	25.4	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	464	11.4	7.39	0.792	0.18
Hudspeth	06/16/21	26.85	Absent	Absent	<0.05	<0.1	<0.02	<0.015	0.00641	450	21.5	7.48	0.8	0.25
Hubler	03/09/21	28.94	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	430	9.1	7.64	0.743	0.00
Hubler	12/08/20	27.17	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	490	11	7.72	0.719	0.00
Hudspeth	09/16/20	27.09	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	484	14.3	7.29	0.83	12.08
Hudspeth	06/16/20	27.43	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	404	13.8	7.56	0.368	1.24
Hudspeth	03/24/20	29.14	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	436	7.4	7.42	0.717	0.00
Hudspeth	11/19/19	26.72	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	430	11.5	7.69	0.403	0.32
Hudspeth	09/18/19	27.54	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	501	13.7	7.33	0.759	0.62
Hudspeth	06/26/19	25.78	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	389	22.2	7.53	0.67	0.06
Hudspeth	04/02/19	26.5	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.002	378	9.27	7.74	0.651	0.22
P. Emahiser	12/27/18	26.38	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.02	419	6.82	7.91	0.766	—
Scott Yankey	09/18/18	24.25	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.02	432	14.75	7.51	0.71	1.10
Scott Yankey	06/19/18	26.25	Absent	Absent	<0.05	<0.1	<0.02	<0.015	<0.02	416	15.82	7.87	1.76	—
Scott Yankey	03/15/18	27.9	Absent	Absent	<0.05	<0.1	<0.02	<0.0162	<0.0216	406	12.5	6.82	0.61	2.20
Scott Yankey	12/26/17	20.48	Absent	Absent	<0.05	<0.1	<0.02	<0.0162	<0.0216	434	11.2	8.33	0.754	1.20
Scott Yankey	10/10/17	26.94	Absent	Absent	<0.05	<0.1	<0.02	<0.0162	<0.0216	460	14.5	7.66	0.738	1.00
Scott Yankey	07/05/17	26.02	Absent	Absent	<0.05	<0.1	<0.02	<0.0162	<0.0216	430	16.56	8.78	0.487	—

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**WW-1A South                      2021**  
**Monitoring Wells**  
**Prineville, Oregon**

	Sample Date	Sample Time	Sample Location	Sampled By	Depth to Water From Top of Casing (feet)	Depth to Water From Ground (feet)
1	2/26/21	1050	WW-1A	MAH	24.8	22.18
2	3/9/21	1100	WW-1A	ALH	27.92	25.3
3	3/26/21	1410	WW-1A	MAH	28.50	25.88
4	4/2/21	1330	WW-1A	MAH	27.74	25.12
5	4/9/21	1446	WW-1A	MAH	28.03	25.41
6	4/15/21	1355	WW-1A	MAH	27.89	25.27
7	4/23/21	1600	WW-1A	ALH	27.96	25.34
8	4/27/21	830	WW-1A	ALH	27.75	25.13
9	4/30/21	900	WW-1A	ALH	27.69	25.07
10	5/7/21	1510	WW-1A	KLB	28.12	25.5
11	5/12/21	1448	WW-1A	ALH	27.82	25.2
12	5/14/21	1245	WW-1A	KLB	28.04	25.42
13	5/21/21	1414	WW-1A	AHL	27.82	25.2
14	5/26/21	1100	WW-1A	KLB	25.9	23.28
15	6/2/21	1530	WW-1A	KLB	25.11	22.49
16	6/11/21	1130	WW-1A	KLB	29.02	26.4
17	6/16/21	1055	WW-1A	KLB	28.77	26.15
18	6/23/21	1530	WW-1A	KLB	29.43	26.81
19	7/2/21	1550	WW-1A	KLB	25.18	22.56
20	7/9/21	1420	WW-1A	KLB	27.89	25.27
21	7/17/21	1545	WW-1A	KLB	28.94	26.32
22	7/20/21	1030	WW-1A	KLB	27.67	25.05
23	8/2/21	1055	WW-1A	KLB	28.57	25.95
24	8/25/21	1520	WW-1A	ALH	27.86	25.24
25	10/6/21	1345	WW-1A	ALH	26.56	23.94
26	10/29/21	1500	WW-1A	ALH	27.28	24.66
27	11/10/21	1209	WW-1A	ALH	21.25	18.63
28	12/14/21	1223	WW-1A	ALH	21.66	19.04
29						
30						

\* Casing Height = 2.62 feet from ground

\* WW-1A South well location noted on KRC CUP Application - Woodward/Vanier Hydrogeologic Evaluation March 2021

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**2021 Precipitation Data - Woodward Monitoring Wells**  
**National Weather Service**  
**Primary Station: PRINEVILLE 4NW (HADS)**

<b>Year</b>	<b>Month</b>	<b>Precipitation Monthly Total (inches)</b>
2021	January	0.72
2021	February	0.71
2021	March	0.14
2021	April	0.21
2021	May	0.27
2021	June	0.29
2021	July	0.09
2021	August	0.06
2021	September	0.92
2021	October	0.98
2021	November	0.22
2021	December	0.58
<b>2021</b>	<b>Annual Total</b>	<b>5.19</b>

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