

Luetje Geological Services, LLC  
Ed Luetje, CG  
153 Flying Point Road  
Freeport, Maine 04032

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February 3, 2021

Ms. Katie Haley  
Town Manager  
Town of Fryeburg  
16 Lovewell Pond Road  
Fryeburg, Maine 04037

RE: Q4 2020 Reporting – Rainmaker Spring Site (on behalf of Poland Spring)

## INTRODUCTION

Nestle Waters North America Inc. (Poland Spring) acquired the Rainmaker Spring site in early August, 2017. This quarterly report (Q4 – October - December 2020) presents monitoring results for the site and satisfies the requirements under local Town Ordinance 17G: *Groundwater and/or Spring Water Extraction*, the Approved Land Use Authorization.

Luetje Geological Services (LGS), an independent hydrogeologic consulting firm, has been contracted by Poland Spring to collect and compile the monitoring data from the Rainmaker Spring site. Monitoring activities include the following:

- Weekly depth to water measurements in five monitoring wells and four piezometers;
- Weekly monitoring of surface water elevation on Wards Pond at Route 113 and west of the site proximate to Spring 2, when possible;
- Weekly flow measurements from Spring 1 and 2, when possible;
- Record of groundwater withdrawal (gallons pumped); and
- Precipitation tracking (Fryeburg Eastern Slopes Airport (ICAO Station KIZG, Northeast Regional Climate Center)).

Figure 1 (Site Map) is provided at the end of this letter report and shows all monitoring locations.

## MONITORING RESULTS

As mentioned above, Poland Spring acquired the Rainmaker Spring site in August 2017. LGS initiated monitoring of the site on August 23, 2017. Previous monitoring and reporting was conducted by the preceding owners and their consultants (CES, Inc.), whose files are available for review at the Fryeburg Town Office.

## GROUNDWATER

Groundwater levels are measured in five monitoring wells at locations shown in Figure 1. All monitoring data is tabulated and located in Table 1. A graphical representation of groundwater elevations, and weekly precipitation, is provided in Figure 2.

During Q4 2020, groundwater levels reached seasonal late-summer lows by the beginning of October. From the beginning of October to the end of Q4 2020, groundwater levels rebounded by approximately  $\frac{3}{4}$  of one foot representing the groundwater recharge that typically occurs in the fall.

## **SURFACE WATER**

Surface water monitoring is conducted at two locations. SG-1, installed on October 12, 2017, is located in Wards Pond west of Spring-2. WPMP-1 is located on the upstream side of Route 113 in Wards Pond (see Figure 1). A graphical representation of surface water elevations is shown in Figure 3.

At the beginning of Q4 2020, the surface water elevation was below both gauges for the first two monitoring rounds. Due to precipitation received in mid-October, surface water levels at SG-1 rose and measurements were again made. Surface water elevation at SG-1 ranged from 397.61 feet NAVD88 (10/21/2020 monitoring round) to 399.20 feet NAVD88 (12/30/2020 monitoring round). Intermittent ice conditions were also observed during Q4 2020.

Surface water elevation at WPMP-1 ranged from 397.39 feet NAVD88 to 397.93 feet NAVD88 during Q4 2020. A rise in surface water levels can be observed at the beginning of the quarter caused by increased precipitation, after which water levels at SG-1 generally stabilized.

## **PIEZOMETER WATER LEVELS**

Water levels are measured at two piezometers located adjacent to each spring. PZ-21D and PZ-21S are located near Spring 1 and P-1 and P-2 are located near Spring 2 (see Figure 1). A graphical representation of piezometer water elevations is shown in Figure 3.

Please note that PZ-21S was vandalized sometime between the 12/4 and 12/13/2020 monitoring events, and is no longer in-place. LGS intends to replace PZ-21S during Q1 2021. In addition, PZ-21D will also be replaced. It is anticipated that by replacing both piezometers, screened slightly deeper and with greater separation between screened intervals, a better connection to the aquifer might be achieved and data will likely better represent vertical hydraulic conditions.

During Q4 2020, and as shown on Figure 3, water levels in all piezometers exhibited an upward trend, representing groundwater recharge typically observed during the late fall season. Water levels in the piezometers rose by approximately 0.5 feet over the course of Q4 2020.

## **SPRING FLOW**

During Q4 2020, flow measurements were able to be conducted at Spring-1 during all monitoring events. Flow from Spring-1 ranged from 3.43 – 6.25 liters per minute during Q4 2020.

Flow measurements at Spring-2 were only made during four monitoring events over Q4 2020, and ranged from 1.43 – 2.00 liters per minute. No flow and submerged conditions were otherwise observed. Flow measurement data is presented in Table 1.

## **PRECIPITATION**

Precipitation data has been obtained from the Fryeburg Eastern Slopes Airport (ICAO Station KIZG, Northeast Regional Climate Center), located approximately two miles to the south of the

site. Missing data from the airport station are supplemented with data collected from an on-site rain gauge located at the Evergreen Spring load station. During Q4 2020 (between the dates 9/25/2020 – 12/30/2020), KIZG recorded 12.68 inches of precipitation (Figure 2 and Figure 3).

## WITHDRAWALS

Poland Spring did not withdraw any water from the Rainmaker Spring site production well during Q4 2020.

## CONCLUSIONS

Groundwater levels (including piezometer water levels) and surface water levels showed typical seasonal trends during Q4 2020. Groundwater levels rose by approximately 3/4 feet, and water levels in the piezometers rose by approximately 0.5 feet. Surface water levels at SG-1 also rose, with surface water elevations at SG-1 ranging from 397.61 feet to 399.20 feet NAVD88. Surface water elevation at WPMP-1 ranged from 397.39 feet to 397.93 feet NAVD88 during Q4 2020.

During Q4 2020 (between the dates 9/25/2020 – 12/30/2020), KIZG recorded 12.68 inches of precipitation.

Of the flow measurements made at Spring 1 and 2 during Q4 2020, flow ranged from 3.43 – 6.25 liters per minute at Spring-1 and ranged from 1.43 to 2.00 liters per minute at Spring-2. No withdrawal from the production well occurred during Q4 2020.

If you have any questions regarding the data included in this report, please do not hesitate to contact me at (207) 415-9898.

Sincerely,  
Luetje Geological Services, LLC

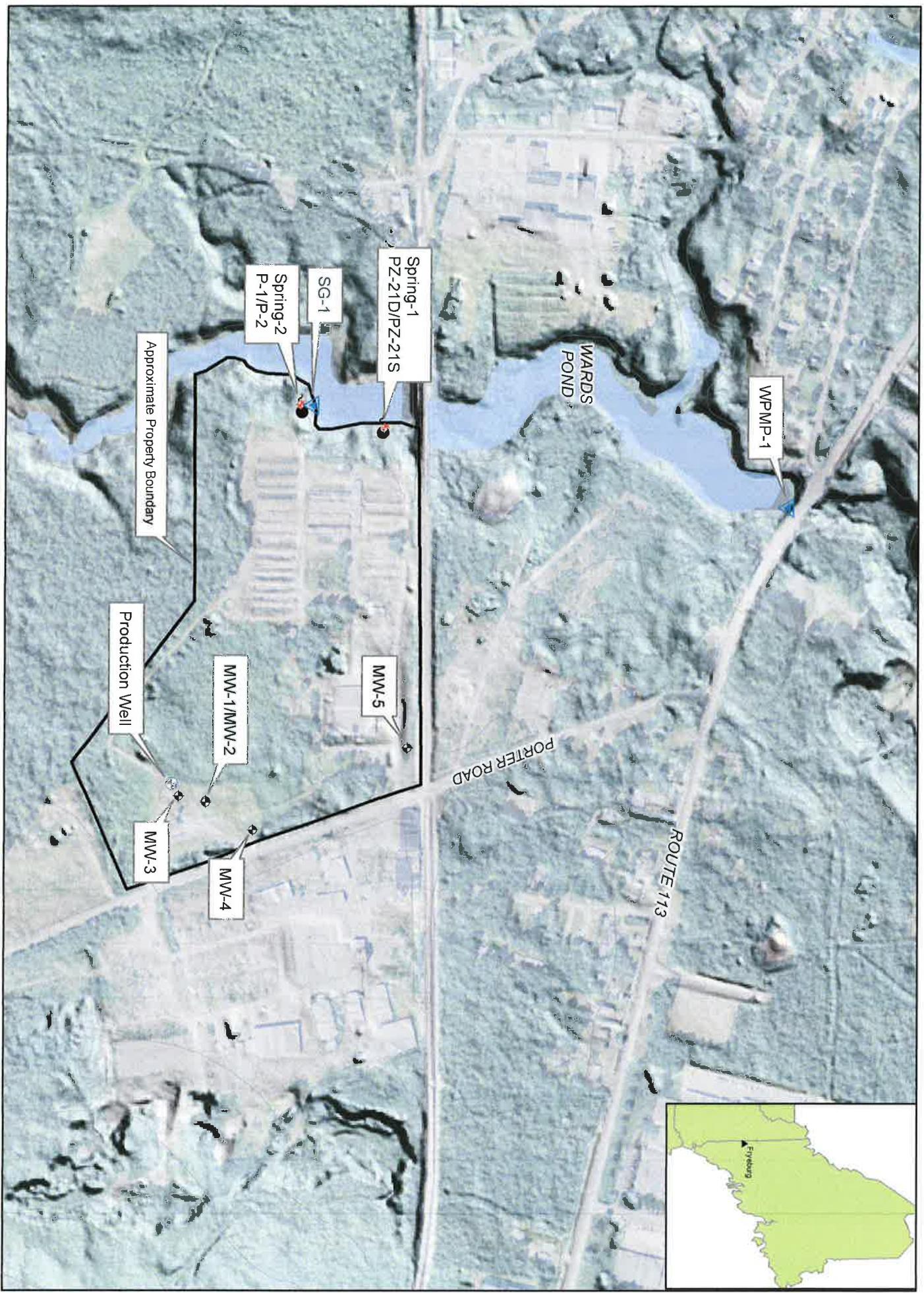


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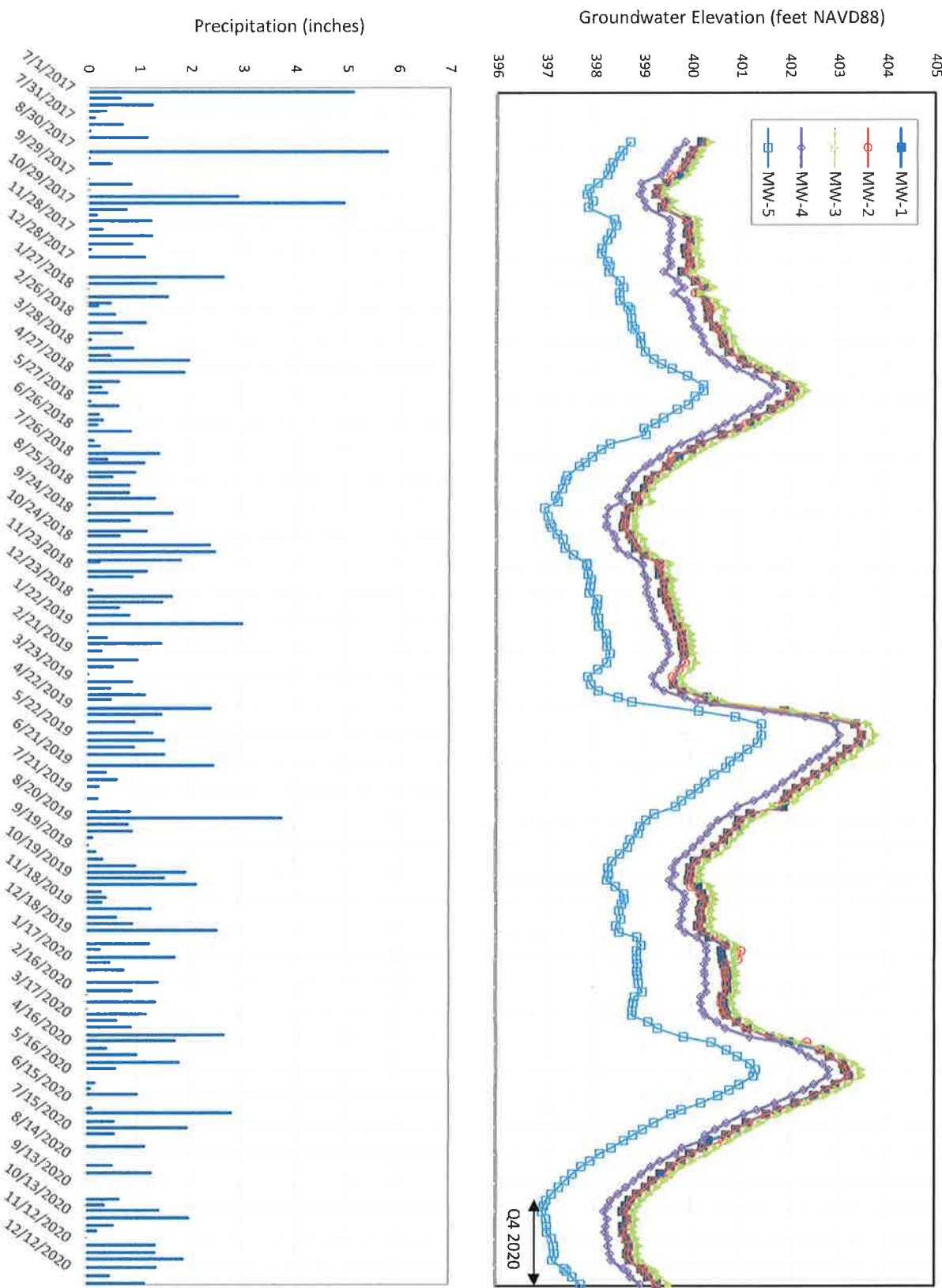
Ed Luetje C.G.

cc: Poland Spring (Mr. Mark Dubois, Mr. Joshua Bowe)  
Town of Fryeburg, CEO ()

FIGURE 1  
RAINMAKER SPRING SITE MAP  
FRYEBURG, MAINE



**FIGURE 2**  
GROUNDWATER ELEVATION DATA - WEEKLY PRECIPITATION



Q4 2020 Report  
Rainmaker Spring Site  
Fryeburg, Maine

**FIGURE 3**  
**SURFACE WATER and PIEZOMETER ELEVATION DATA - WEEKLY PRECIPITATION**

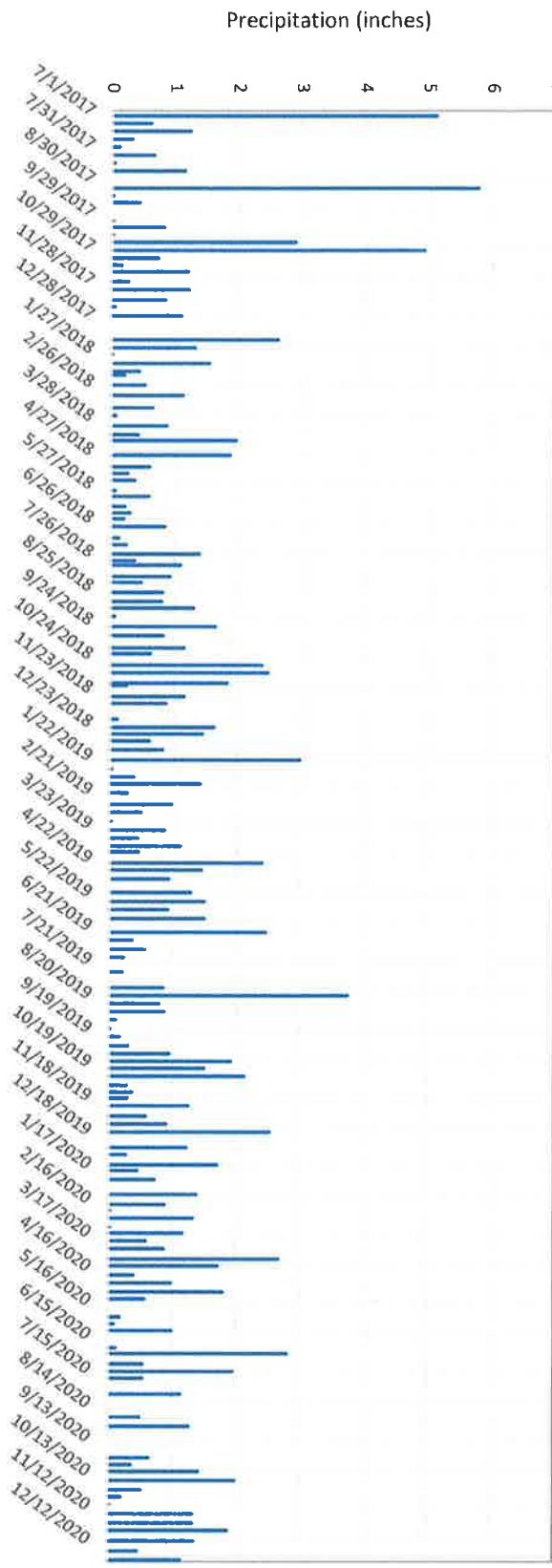
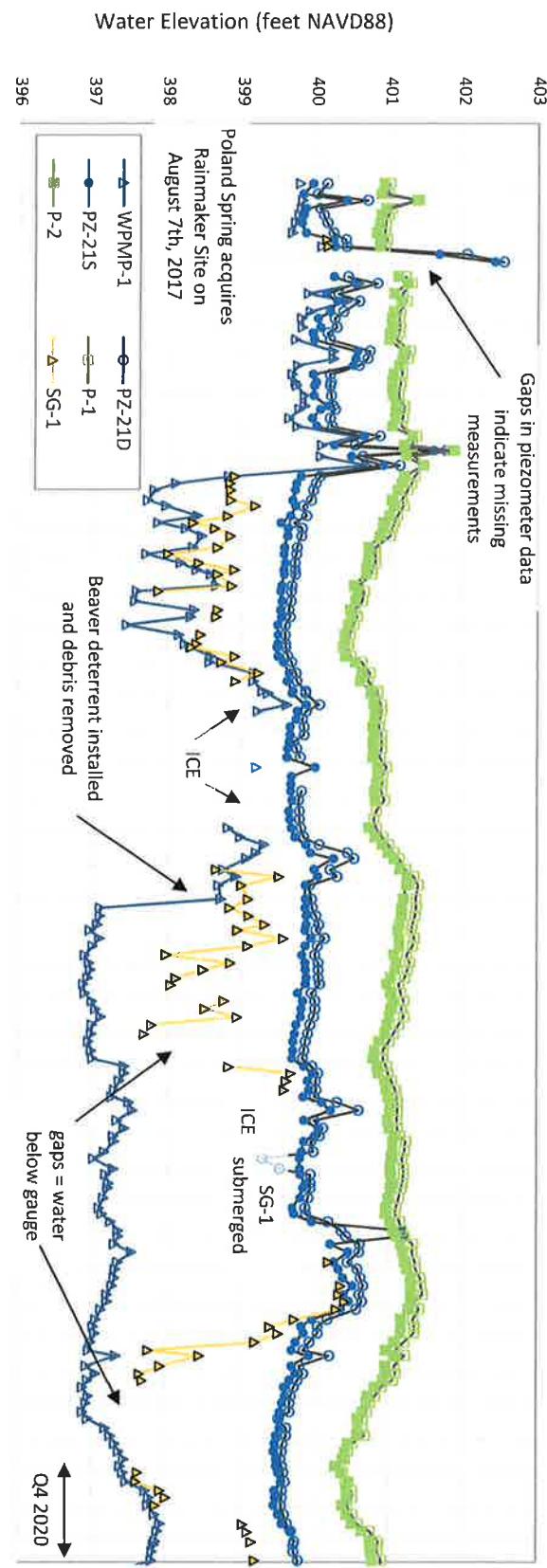


TABLE 1  
MONITORING DATA  
RAINMAKER SPRING SITE  
FRYEBURG, MAINE

GROUNDWATER ELEVATION (Net NAVD88)								PIROMETERS @ SPRING 1 (Net NAVD88)				PIROMETERS @ SPRING 2 (Net NAVD88)				SURFACE WATER				SPRING FLOW (in/min)	
MW-1	MW-2	MW-3	MW-4	MW-5	PZ-2D	PZ-2S	P-1	P-2	WPWP-1	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6	SG-7	Spring-1	Spring-2	MEG		
New Measuring Point Old Measuring Point (MP) Elevation	418.75	419.59	421.25	419.75	423.11	403.99	405.40	406.03	404.35	403.55	403.67	403.22	SG-1 (2013)	400.08	399.49	SG-1 (2013)	400.08				
Date Depth to Water Below m (ft) Water Level Elevation below m (ft)	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017	7/15/2017			
7/15/2017 Poland Spring acquired the Rainmaker Site on August 7th, 2017. Monitoring was initiated on August 23rd, 2017.	8/9/2017	8/10/2017	8/11/2017	8/12/2017	8/13/2017	8/14/2017	8/15/2017	8/16/2017	8/17/2017	8/18/2017	8/19/2017	8/20/2017	8/21/2017	8/22/2017	8/23/2017	8/24/2017	8/25/2017	8/26/2017	8/27/2017		
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TABLE 1

MONITORING DATA  
RAINMAKER SPRING SITE

FRYEBURG, MAINE

UW Underwater

TABLE 1  
MONITORING DATA  
RAINMAKER SPRING SITE

FRYEBURG, MAINE

**TABLE 1 CONT.**

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**GROUNDWATER ELEVATION**  
(feet NAVD88)