

2017 Rainmaker Spring Annual Report Fryeburg, Maine

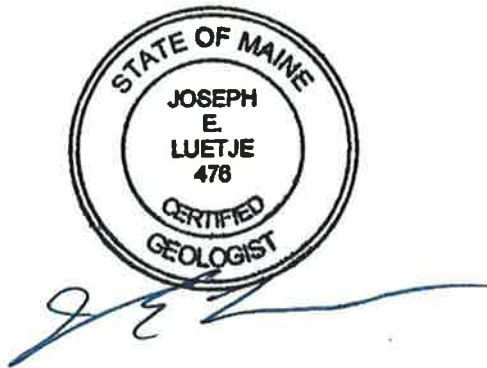
Prepared for:

Nestlé Waters North America Inc.
(d/b/a Poland Spring)
123 Preservation Way
Poland Spring, Maine 04274



Prepared by:

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**2017 RAINMAKER SPRING ANNUAL REPORT
FRYEBURG, MAINE**

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1.0 INTRODUCTION

Pursuant to the Natural Resource Protection Act (NRPA) Significant Groundwater Well Permit #L-24280-GW-A-N, issued in February 2009, LGS presents this 2017 Rainmaker Spring Annual Report. This annual report also satisfies the requirements under local Town Ordinance 17G: *Groundwater and/or Spring Water Extraction*, the Approved Land Use Authorization, dated April 20, 2004 and June 29, 2004.

Nestle Waters North America Inc. (Poland Spring) acquired the Rainmaker Spring site on August 7, 2017. This annual report (data from August 23 through December 31, 2017) summarizes the monitoring results from 2017 since that acquisition.

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;
- Weekly flow measurements from Spring-1 and 2;
- 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.

As stated above, Poland Spring acquired the Rainmaker Spring site on August 7, 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.

2.0 GROUNDWATER MONITORING

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

Since August 23, 2017, groundwater levels in the monitoring wells have shown a seasonal summer decline and a seasonal fall rebound. From late August to mid-October, water levels declined as expected during late summer and into early fall. From mid-October to mid-November, recharge to the aquifer was observed as a result of above average precipitation during the second half of October. Aiding in this rebound was the lack of evapotranspiration (vegetative uptake of groundwater) during this time period. From mid-November to the end of 2017, water

levels were generally stable. Groundwater level fluctuations during this monitoring period were approximately one foot.

3.0 SURFACE WATER MONITORING

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

Only two measurements were made at SG-1 (both in October) prior to the gauge becoming submerged. This was followed by ice conditions at SG-1 for the remainder 2017. Measurements at WPMP-1 continued to be made when possible.

Figure 4 depicts an extended record of data (collected by LGS as part of Evergreen Spring monitoring program) from WPMP-1. Presented in this plot are water levels in Wards Pond at WPMP-1 from 2014 to the December 29, 2017 monitoring event. As shown, there was a sharp rise in the water level in Wards Pond that began in the fall of 2016. This was due to increased beaver activity on the downstream side of the culvert located under Route 113. Beavers have dammed the outlet, effectively raising the water level in Wards Pond by three to four feet. This has caused Spring 1 to be consistently submerged and Spring 2 to be intermittently submerged.

4.0 PIEZOMETER MONITORING

Water levels are measured at two piezometers located adjacent to each spring. PZ-21D and PZ-21S are located near Spring-1 and P1 and P2 are located near Spring-2. From August 23 to mid-October, water levels were fairly steady with one exception. A sharp rise in piezometer water levels of nearly one foot was measured during the September 7th round. This was caused by nearly six inches of precipitation that fell in the Fryeburg area the previous week as recorded at the Fryeburg Eastern Slopes Airport.

Another sharp rise in levels (over two feet) was recorded through the second half of October. This rise is attributed to the nearly eight inches of precipitation the area received from October 19th to October 31st. By mid-November, water levels had receded and generally stabilized to levels slightly higher in elevation than those experienced prior to the late October peak. A pattern of frequent and moderate rainfall through November and December caused little fluctuation in water levels from mid-November to the end of 2017.

5.0 SPRING MONITORING

Spring flow is measured from each spring catchment via a hole near the base of the catchment. The hole is poorly fitted with a small diameter plastic pipe, and prone to leakage. From August 23rd to the end of 2017, Spring-1's outlet remained flooded and became iced over, while Spring 2's outlet was intermittently submerged. Spring-2's flow ranged from 0.52 liters per minute to 1.32 liters per minute during this monitoring period (Table-1).

6.0 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 has been supplemented with data collected from an on-site rain gauge located at the Evergreen Spring load station. Between the week ending August 23rd to the week ending December 29th (monitoring event dates), KIZG recorded 21.81 inches of precipitation. KIZG recorded an annual total of 53.54 inches of precipitation for 2017. Precipitation data is included in Table 1, and is shown on Figures 2 and 3 as 'weekly precipitation', or the amount recorded between monitoring dates.

7.0 WITHDRAWALS

Poland Spring did not withdraw any water from the Rainmaker Spring site production well from August through December 2017.

8.0 CONCLUSIONS and RECOMMENDATIONS

Groundwater levels from August 23rd to the end of 2017 showed normal seasonal variations and responses to aquifer recharge. From August 23rd to mid-October, groundwater levels steadily declined by approximately one foot. This represents the tail end of a typical summer groundwater decline. Above average precipitation in mid-late October and the lack of evapotranspiration then caused a rebound in aquifer levels by mid-November. This represents the beginning of a typical seasonal fall recharge period. From mid-November to the end of 2017, water levels were generally stable. Groundwater level fluctuations during this monitoring period were approximately one foot.

Surface water levels proved difficult to measure in Wards Pond adjacent to the site at SG-1. Soon after installation of SG-1, water levels rose in response to precipitation and then the pond froze. More consistent measurements were collected from WPMP-1 at the Route 113 crossing. Historical data from this gauge, as shown in Figure 4, demonstrates the elevated surface water level in Wards Pond caused by beaver activity at the Route 113 crossing. Wards Pond water levels are currently three to four feet higher than normal, and this has caused Spring 1 to be consistently submerged and Spring 2 to be intermittently submerged.

Piezometer levels were generally stable from August 23rd to the end of 2017 with two exceptions. Two sharp rises were observed in response to precipitation: an early September 2017 rise of approximately 0.5 feet, and a late October to early November rise of over two feet. From August 23rd to the end of 2017, spring flow measurements from Spring-2 ranged from 0.52 liters per minute to 1.32 liters per minute. Spring-1's outlet remained submerged. Between the week ending August 23rd to the week ending December 29th (monitoring event dates), KIZG recorded 21.81 inches of precipitation.

Based on this analysis of groundwater and surface water data collected at the Rainmaker Spring Site in Fryeburg, Maine, and given that Poland Spring did not withdraw any water from the Site since acquiring it on August 7, 2017, Luetje Geological Service has not observed any adverse

impact to waters of the State, water-related natural resources and existing uses as a result of this acquisition.

To improve the monitoring effort of the Rainmaker Spring Site, LGS proposes the following:

- Re-survey all monitoring measuring points to a common datum (NAVD88);
- Install an improved apparatus at the spring catchment discharge locations to limit or prevent leakage;
- Contact the Maine Department of Transportation (local office) to inquire about removal of the beaver dam on the downstream side of Route 113. This will alleviate the elevated surface water in Wards Pond and allow for flow measurements to be taken from Spring 1.

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



Ed Luetje C.G.

cc: Poland Spring (Mr. Mark Dubois, Mr. Joshua Bowe)

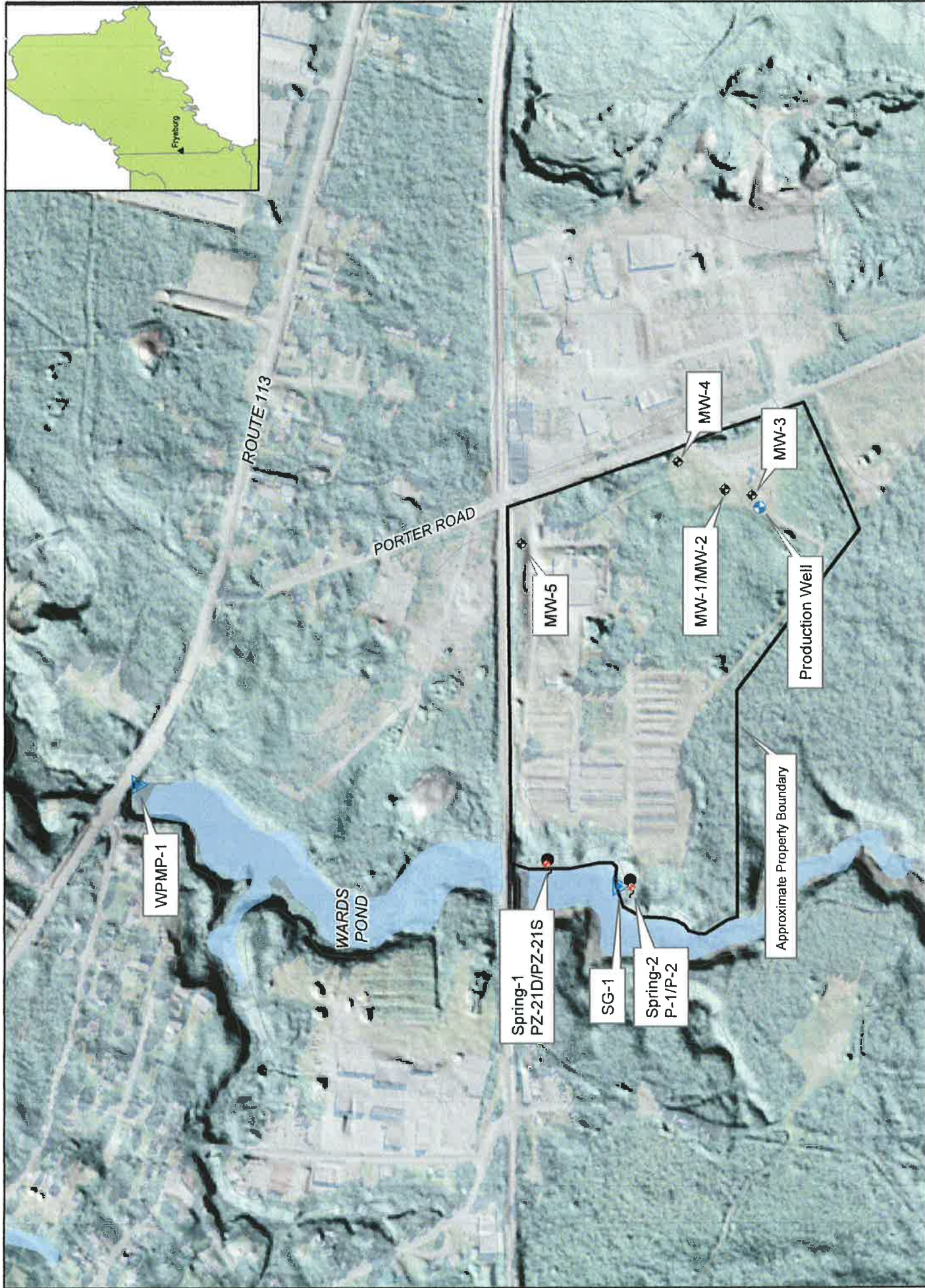


FIGURE 1
RAINMAKER SPRING SITE MAP
FRYEBURG, MAINE

FIGURE 2
GROUNDWATER ELEVATION DATA - WEEKLY PRECIPITATION

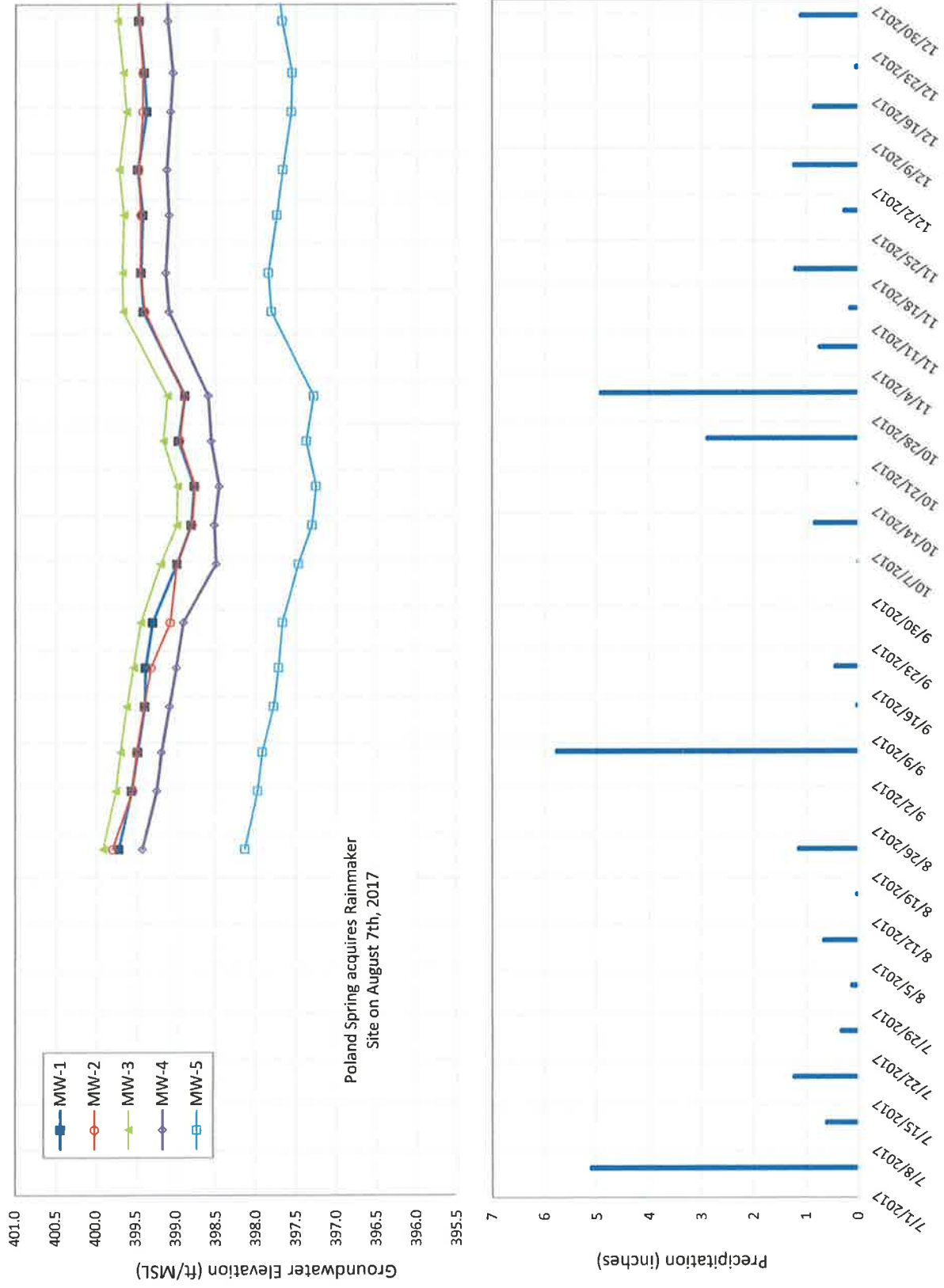


FIGURE 3
SURFACE WATER and PIEZOMETER ELEVATION DATA - WEEKLY PRECIPITATION

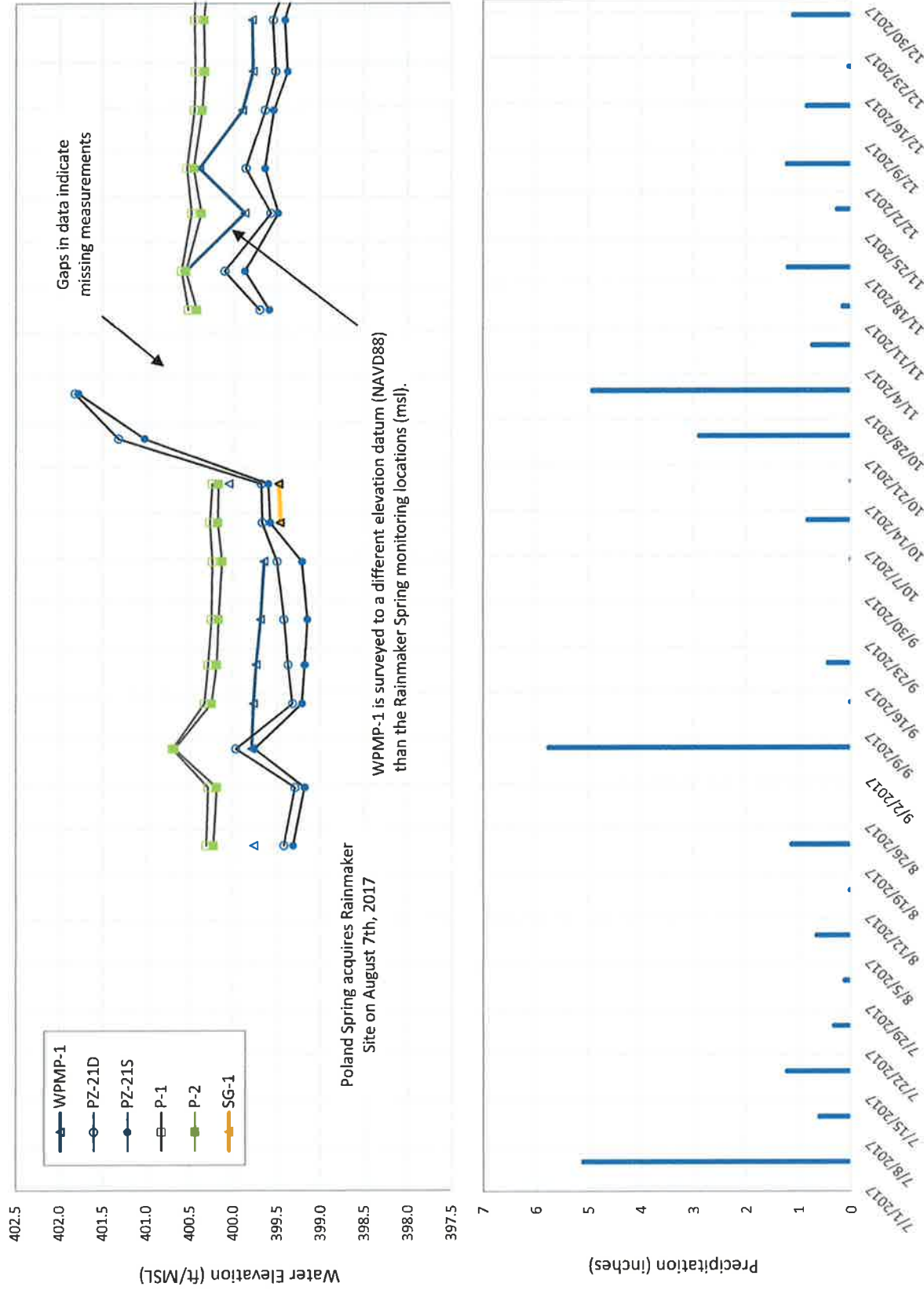


FIGURE 4
WPMP-1 HYDROGRAPH

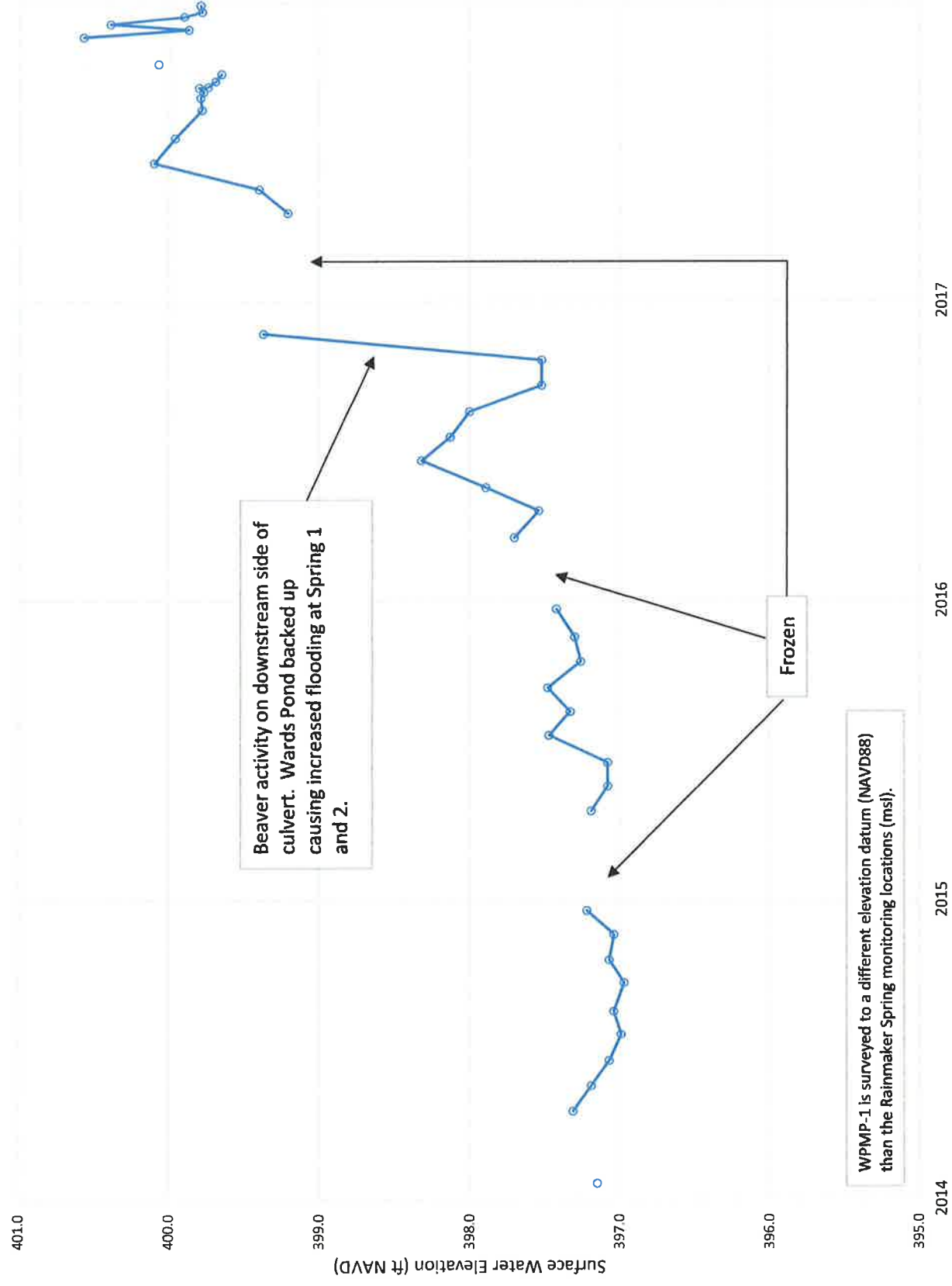


TABLE 1
MONITORING DATA
RAINMAKER SPRING SITE
FRYEBURG, MAINE

[illegible]

Notes:
N/A = No measurement
UW = under water