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August 26, 2024
File #34283.000

Matt Vitale
Bureau of Remediation and Redevelopment
Wisconsin Department of Natural Resources, WCR
1300 West Clairemont Avenue
Eau Claire, WI 54702-4001

Re: National Presto Industries, Inc., Superfund Site, Eau Claire, Wisconsin
Area-Wide Hydrogeologic Conceptual Site Model Information Update
USEPA CERCLIS ID WID 006196174
WDNR BRRTS 02-09-000267 and FID 609038320

Dear Matt:

Gannett Fleming TranSystems (GF) is submitting the referenced update for the National Presto Industries, Inc. (NPI) site in Eau Claire, Wisconsin. The update presents an area-wide hydrogeologic conceptual model for the site, including information related to the Eau Claire Municipal Well Field (ECMWF), as requested by Erin Endsley at the Wisconsin Department of Natural Resources (WDNR) during the annual NPI site visit on July 12, 2024. A completed certification page for this submittal is also attached.

INTRODUCTION

The site is relatively flat and abuts a sandstone ridge to the south. Areas to the north, east, and west of NPI are also relatively level, generally sloping gradually toward the Chippewa River, which is located approximately 2 miles north and west of the site. Lake Hallie, an impounded remnant of a former channel of the Chippewa River, lies approximately 1 mile north of the site.

Extending northward from the northwestern portion of the site to Lake Hallie and westerly from the site to the Chippewa River are buried pre-glacial valleys within which alluvial sand and gravel deposits serve as a primary drinking water aquifer in the Eau Claire area. Approximately 2 miles west of the NPI site, for example, the ECMWF draws groundwater from more of these buried deposits and provides drinking water for the City of Eau Claire. The direction of groundwater flow is controlled by the sandstone and granite bedrock valleys beneath the sand and gravel, which carry groundwater to the northwest towards Lake Hallie and to the west towards the Chippewa River and the ECMWF. The depth to bedrock is at or near the surface at the sandstone ridge in the extreme south-central portion of the NPI site and dips to the north and west. The top of bedrock is at least 100 feet below the ground surface (ft bgs) at the north and west property boundaries. The average depth to water under NPI's main building and Melby Road Disposal Site (MRDS) is about 70 ft bgs.

Past waste-handling practices related to the manufacturing activities on the NPI site have included the use of dry wells and seepage lagoons. Manufacturing wastes were also discharged to a former sand and gravel pit. The major waste stream was waste forge compound. NPI discharged wastewater containing significant amounts of waste forge compound to Lagoon #1, a remnant of the former sand and gravel pit. From 1966 to 1969, waste forge compound was also landfilled at the MRDS.

The conceptual site model (CSM) for the volatile organic compounds (VOCs) observed in the source areas on the NPI property is that they migrated vertically through the unconsolidated soils to the groundwater and then traveled within the aquifer following the buried valleys. These valleys, which trend westerly toward the Chippewa River and ECMWF (former Plume 1/2) and northwesterly toward Lake Hallie (former Plumes 3/4 and 5), control the direction of groundwater flow in the unconsolidated deposits in the area. Figure 1 is a 24-inch x 36-inch area-wide map showing the approximate former locations of Plume 1/2, Plume 3/4, and Plume 5, as defined by select NPI VOCs in 1993. The outlines of the former plumes define a groundwater flow divide that bisects the NPI site along a northwesterly line. The average groundwater flow velocity in the alluvial deposits in the area is approximately 12.5 ft/day, with an average gradient of about 0.015 in former Plume 1/2 that stretches from the NPI site to the ECMWF.

Table 1 is a summary of the construction information for all monitoring and extraction wells associated with the NPI site. This summary table also identifies with which former plume each well is/was associated and provides the grid coordinates for each well shown on Figure 1.

An internal review of area-wide hydrogeologic information completed by GF in November 2021 included examination of NPI and ECMWF operation data, well construction, capacity and aquifer characteristic logs and reports prepared from NPI and ECMWF consultant investigations dating back to 1985. The review also included county- and statewide published hydrogeologic reports. Hydrogeologically relevant information obtained during this review was used to develop the updated CSM for NPI outlined below.

PHYSICAL SETTING OF THE STUDY AREA

Surface Water

NPI is located approximately 4 miles north-northeast of the confluence of the Chippewa and Eau Claire Rivers. The Chippewa River generally flows from north to south and locally forms the northern and western borders of the study area for the site. A higher elevation ridge forms the southern border of the study area and a watershed between the Chippewa and Eau Claire Rivers. The ECMWF is located on the eastern side of the Chippewa River. A USGS (United States Geological Survey) gauging station is located on the Chippewa River in Eau Claire about 3.6 miles downriver of the ECMWF, and the river's drainage basin at this station is approximately 6,630 square miles. River flow rates are variable but have been recorded within the range of 790 to 100,000 cubic ft per second (cfs) in Eau Claire. A USGS gauging station also exists on the Chippewa River in Chippewa Falls about 5 miles upriver of the study area. Data from this upriver gauge assisted to estimate river water elevation in the study area. Precipitation in the Eau Claire area averages about 31 inches per year. Since the soils are very permeable in the area, the river flow is mainly composed of groundwater baseflow and to a lesser extent direct surface runoff.

About 2.3 miles downriver from the southern end of the ECMWF and about 1.3 miles upriver of the Eau Claire gauging station, the river's flow and elevation are controlled by a hydroelectric dam (Dells Dam) maintained by Xcel Energy, which impounds Dells Pond. Dells Pond has a 734-acre surface area, a maximum depth of about 30 ft, and its upper river portion borders the southwest side of the study area and at least the southern portion of the ECMWF area. According to Xcel Energy personnel, Xcel Energy must regulate the Dells Pond water elevation between 793 and 795 ft mean sea level (MSL), and they prefer to keep the elevation between 794 and 795.

Lake Hallie is a 79-acre oxbow lake formed historically by the Chippewa River and borders the northeast portion of the study area. Lake Hallie has a maximum depth of about 14 ft and a water elevation around 812 ft MSL. The lake elevation is roughly 10 to 15 ft higher than the nearby Chippewa River.

Geology

Local geology in the study area is characterized by the Chippewa River flood plain, which is in a buried glacial valley filled with unconsolidated glacial outwash deposits. The deposits of glacial outwash (sand and gravel) can overlie both the Cambrian age Mount Simon Formation sedimentary bedrock (sandstone) and Precambrian age igneous and metamorphic crystalline bedrock (granite and gneiss) where the overlying sandstone had been completely eroded away, such as in deeper portions of the buried valley and in the ECMWF. Higher ridge elevations exist about 1.5 to 3 miles southeast to east of the ECMWF, respectively, and are underlain by the Mount Simon Formation. The Mount Simon Formation can be capped by the younger Eau Claire Formation (also sandstone) in some of the ridge locations. This sandstone ridge forms a watershed between the Chippewa and Eau Claire Rivers.

The sand and gravel deposits consist of tan to reddish brown, well-to-poorly sorted, fine to coarse sands with some interspersed gravel and traces of fines (silt and clay). The amount of gravel in the deposits tends to be greater in locations farther from the sandstone ridges in deeper locations of the glacial valley and near the Chippewa River.

Sandstone in the study area is white to tan, poorly cemented, and fine to medium grained, with localized layers of shale. The sandstone was deposited on an eroded surface of the much older underlying crystalline bedrock, therefore the contact between the two units is irregular. After deposition, the sandstone was also greatly eroded by glaciers and is missing in deeper portions of the buried valley. The Precambrian age crystalline bedrock is gray to red in color and greatly weathered at its top surface and more competent with increased depth. The fully weathered crystalline bedrock generally consists of greenish to yellowish-gray clay. The crystalline bedrock surface generally slopes southwestward.

Soils

The soil in the study area is well drained loamy sand characteristic of alluvial terraces. These soils are classified by the Natural Resources Conservation Service (NRCS) as the Sparta and Plainfield loamy sands as well as Burkhardt, Variant, and Menahga loamy sands. The permeability of these soils is moderately rapid to very rapid. The available water capacity is very low to low.

Hydrogeology

The hydrogeology in the study area consists of two unconfined aquifers, the glacial outwash (sand and gravel) deposits and the sandstone bedrock, and both can be directly underlain by the crystalline granite and gneiss bedrock, which has extremely low permeability along fractures. The occurrence and movement of groundwater in the study area are primarily controlled by the buried glacial valley system. Where the saturated sand and gravel deposits overlie bedrock within the buried valley, groundwater occurs and is primarily transmitted through the sand and gravel deposits and to a lesser extent through the sandstone. The buried valley is cut deeply into the sandstone and can extend into the underlying granite and gneiss. Groundwater flows from higher elevations to lower elevation discharge areas at Lake Hallie in the northeast corner of the study area and to the Chippewa River that borders the north and west sides of the study area. The groundwater flow paths in the sand and gravel aquifer are controlled by the location and orientation of the buried valley.

Away from the buried valley, as in the southeastern and northern portions of the study area, groundwater occurs only in the Mount Simon Sandstone. Groundwater flow directions in the sandstone generally reflect

the land surface topography. The sandstone formation has a relatively low hydraulic conductivity compared to the sand and gravel deposits and is characterized by steeper hydraulic gradients. Groundwater in the bedrock generally discharges into the buried valley or to the Chippewa River and Lake Hallie on the north side of the study area.

Based on results of previous studies completed for the NPI and ECMWF areas, a northwest to southeast oriented groundwater divide exists within the study area north and northeast of the Chippewa Valley Regional Airport (CVRA) property and runs southeast through the NPI property (Figure 2). Groundwater in the sandstone bedrock and sand and gravel deposit aquifers north and northeast of this divide flow toward the Chippewa River and Lake Hallie. South and southwest of this divide, groundwater flow in the sandstone aquifer is toward the axis of the buried valley and flow in the sand and gravel aquifer is toward the west to southwest, generally parallel to the axis of the buried valley. Results of previous studies indicate groundwater elevations generally range from about 885 ft MSL in the southeast portion of the study area to about 780 ft MSL within the northern ECMWF.

A relatively steep hydraulic gradient has been reported within portions of the sand and gravel aquifer underlying the CVRA property. In this portion of the buried valley, a steeper hydraulic gradient may be caused by a combination of 1) relatively high infiltration rates compared to the rest of the study area; 2) lower hydraulic conductivity of the sand and gravel aquifer near the bottom of the valley because of a larger percentage of fines; and 3) possibly a steepening of the buried valley bottom profile. Groundwater flow in the sandstone aquifer tends to be parallel to the eroded slopes of the buried sandstone surface. Hydraulic gradients in the sandstone are greater than in the sand and gravel because of the considerable difference in the permeability between the two aquifers. The extremely low permeability of the granite and gneiss bedrock makes the bedrock unit an aquiclude, and it is considered a no flow, bottom boundary.

Hydrogeological Cross Sections

Two hydrogeologic cross sections, designated as A-A' and B-B', were developed through the study area and their locations are shown on Figure 2. Figure 3 depicts the top of bedrock elevations which clearly illustrate the subsurface attributes of the buried valley. Figure 3 also identifies each of the active production wells in the ECMWF. Cross Section A-A' is oriented from southwest to northeast with a northwest view (Figure 4). Cross Section B-B' is oriented from southeast to northwest with a southwest view (Figure 5). The cross sections show the approximate top of bedrock and groundwater surface elevations based on borings and wells completed within the study area. Additionally, they show an estimate of the assumed aquifer bottom elevation at the inferred top of the crystalline bedrock surface. The cross sections help to visualize the estimated vertical and horizontal limits of the two shallow aquifers characterized below for the area-wide hydrogeologic CSM.

AREA-WIDE HYDROGEOLOGIC CONCEPTUAL SITE MODEL

The area-wide CSM was developed to concisely characterize the hydrogeology of the surface water bodies, aquifers, and groundwater recharge and discharge within the study area. The objective of the area-wide hydrogeologic CSM was to understand the groundwater inflow and outflow components of the study area aquifers. Figures 2 and 3 show the locations of the 16 currently active ECMWF wells, ECMWF air stripper, ECMWF water treatment plant, select monitoring wells with measured groundwater elevations, Chippewa River and Lake Hallie, and boundary of a 10 square mile groundwater recharge area for the ECMWF. Additional pumping wells (in September 2021) shown include an irrigation well at the Lake Hallie Golf Course and extraction well EW-6 at NPI. The boundaries of the ECMWF groundwater recharge area, which includes the NPI site, are described below.

The estimated groundwater recharge area of the ECMWF is about 10 square miles in size (Figure 2), and its boundaries are the Chippewa River, including Dells Pond and Lake Hallie on the southwestern, western, and northern sides, and topographic highs forming surface drainage watershed divides on the southeastern and eastern sides. In general, the recharge area inflow is assumed to be mostly represented by varying rates of aquifer recharge via precipitation, with minor inflow contributions at the ECMWF wastewater lagoons (not shown on any of the figures) and potentially a small influent stream north of the CVRA. Recharge area outflow is assumed to be mostly represented by natural groundwater discharge to the major surface water bodies along the southwestern, western, and northern boundaries, potentially other surface water lakes north of the CVRA, and withdrawals from higher capacity water supply/extraction wells.

The surface water boundaries along the southwestern, western, and north sides represent lower elevations in the study area and, without the presence of manmade groundwater withdrawals (e.g., at the ECMWF), are natural groundwater discharge boundaries with relatively stable heads. In reaches adjacent to the ECMWF, groundwater withdrawals likely induce recharge into the sand and gravel aquifer from the Chippewa River and Dells Pond.

The topographic highs along the southeastern and eastern sides of the recharge area represent watershed (surface water and groundwater drainage divides) that are underlain by the Mount Simon Sandstone Formation.

The sand and gravel and sandstone aquifers are underlain by Precambrian age crystalline granite and gneiss bedrock, which has extremely low permeability along fractures and is considered an aquiclude. The top surface of the granite and gneiss bedrock represents the bottom boundary of the recharged area. In some areas of recharge area, elevations of the granite and gneiss bedrock surface has been defined by the completion of borings and wells. The sand and gravel and sandstone aquifers overlie the granite and gneiss bedrock. The physical limits of these aquifers in the recharge area were estimated using previously defined top of bedrock surface mapping prepared from results of several previous subsurface investigations conducted in the study area.

If you have any questions during your review of this information update on the area-wide hydrogeologic CSM, please call me at 608/695-3651.

Sincerely,

GANNETT FLEMING, INC.

Cliff Wright, P.E., P.G.
Project Engineer
CCW/Enc.

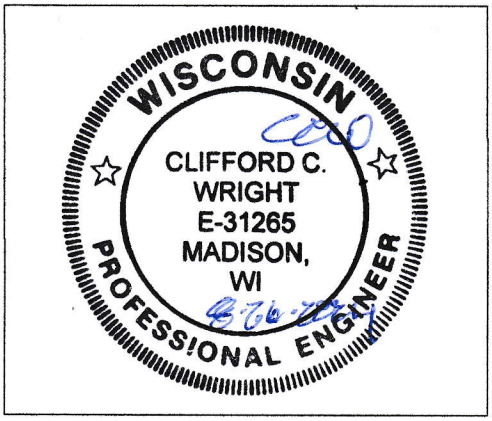
ecc: Erin Endsley (WDNR/Superior)
Glenn Lautenbach (USEPA)
Derrick Paul (NPI)
Chelsea Payne (Gannett Fleming)

ENGINEERING AND HYDROGEOLOGIST CERTIFICATIONS

I hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print Name Clifford C. Wright	Title Project Engineer/Geologist
Signature Clifford C. Wright	Date 8-26-2024

P.E. Seal for E-31265:



I hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print Name Clifford C. Wright	Title Project Engineer/Geologist
Signature Clifford C. Wright	Date 8-26-2024

NEI Area-Wide Hydrogeologic CSM Info Update (34783.000)

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FIGURES

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No.	REVISIONS	DATE	BY
0	PRELIMINARY DRAFT.	07/01/24	JSD

AREA SITE PLAN WITH WELL AND 1993 PLUME LOCATIONS

NATIONAL PRESTO INDUSTRIES, INC. AND
EAU CLAIRE MUNICIPAL WELL FIELD
EAU CLAIRE, WISCONSIN

GANNETT FLEMING

HARRISBURG, PENNSYLVANIA — MADISON, WISCONSIN

PROJECT

NATIONAL PRESTO INDUSTRIES, INC.
EAU CLAIRE, WISCONSIN

TITLE

WATER TABLE GROUNDWATER CONTOUR MAP (JUNE 2024) WITH 1993 PLUME LOCATIONS

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HARRISBURG, PENNSYLVANIA — MADISON, WISCONSIN

DRAWN BY: JSD	SCALE: 1" = 700'
DESIGNED BY: CJP	PROJECT No.: 34283.000
APPROVED BY: CCW	DRAWING NO.: FIGURE 1
DATE: JULY 2024	

070824
2024_34283-000_ccw_EWGR_F01

0 350' 700' 1400'

LEGEND

- 815 — Groundwater Contour (Dashed Where Inferred)
- Flow Direction
- (816.33) Groundwater Elevation At Well (Feet Above Mean Sea Level)
- MW-10A,B Nested Well Identification (Blue Underlined Well Source Of GWE Measurement)
- 1993 TCE Plume (Approximate)
- Eau Claire Production Well (Active Wells)
- Eau Claire Monitoring Well (Monitored by City, EC Prefix)
- WDNR Monitoring Well Nest (WW Prefix)
- WDNR Monitoring Well (WW Prefix)
- USEPA Monitoring Well (RW Prefix)
- USEPA Monitoring Well Nest (RW Prefix)
- NPI Superfund Monitoring Well Nest (MW Prefix)
- NPI Superfund Monitoring Well (MW Prefix)
- NPI LUST Monitoring Well (PW Prefix)
- NPI Superfund Extraction Well (EW Prefix)

NOTES

1. The Data From EC-1, EW-6, MW-4A, and RW-15 Were Not Used To Develop The Contour Map.*
2. Contours Above 830 Are Shown At 5-Foot Intervals And Contours Below 830 Are Shown At 1-Foot Intervals.
3. Each Sampled Well Is In Red Font (e.g., MW-65A/B/C Indicates The MW-65B/C Are Sampled, But MW-65A Is Not.)
4. Shaded Wells Have Been Abandoned.

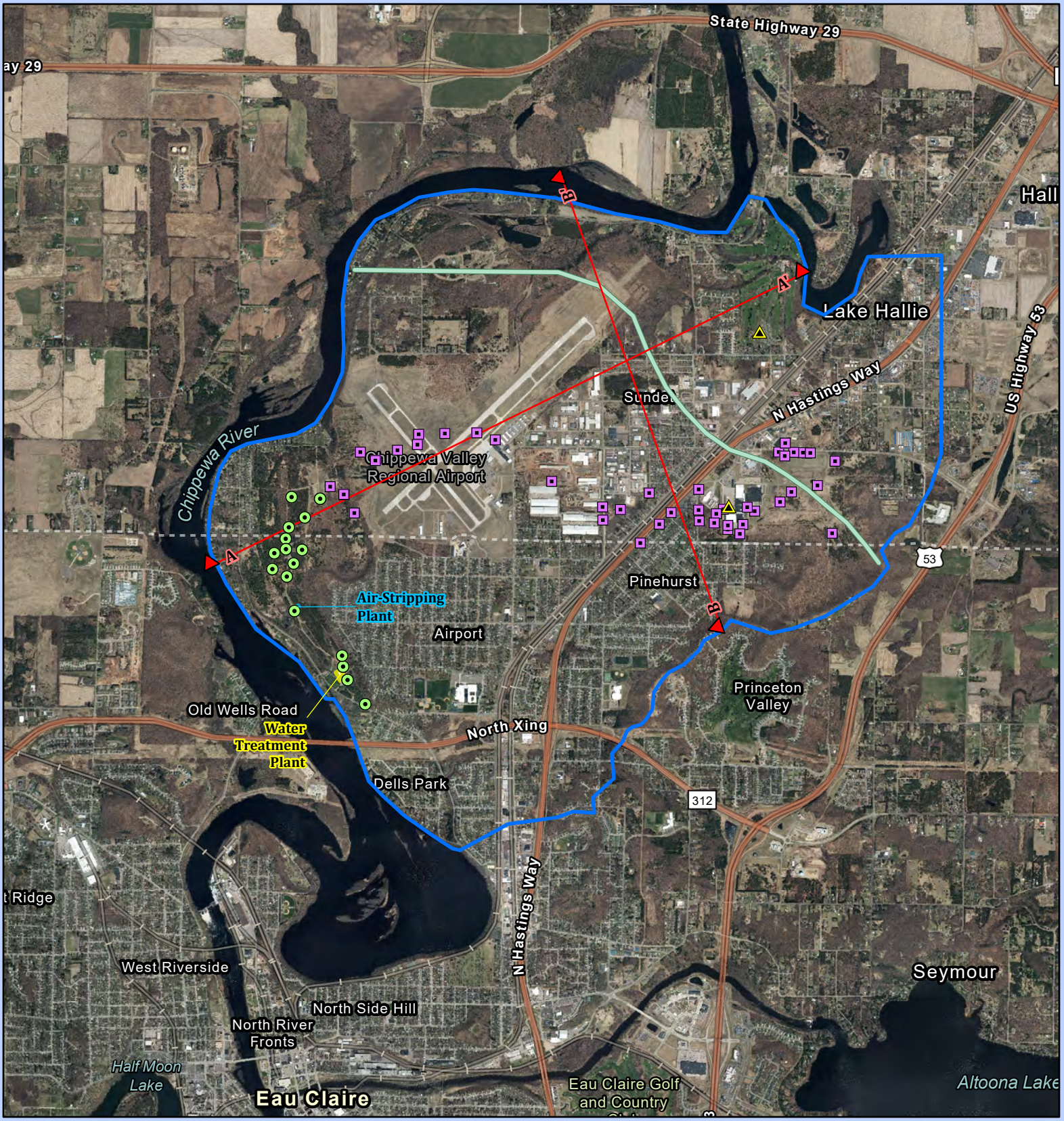

Figure 2
ECMWF Groundwater Recharge Area

- ECMWF Well
- Monitoring Well
- Other Pumping Well
- Section A - A'
- Section B - B'
- Approximate Groundwater Divide
- Air Stripping Plant
- Water Treatment Plant
- Groundwater Recharge Area

N W E S

0 0.5 1 1.5 2
Miles

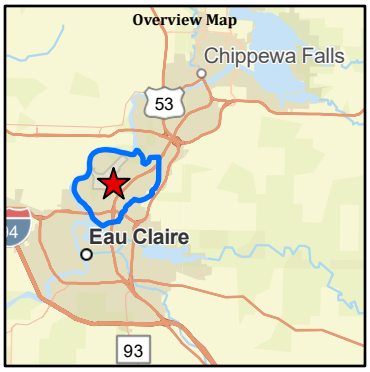

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Figure 3
Top of Bedrock Elevations

ECMWF Well
Monitoring Well
Other Pumping Well
Bedrock Elevation Contours (Feet Above MSL)

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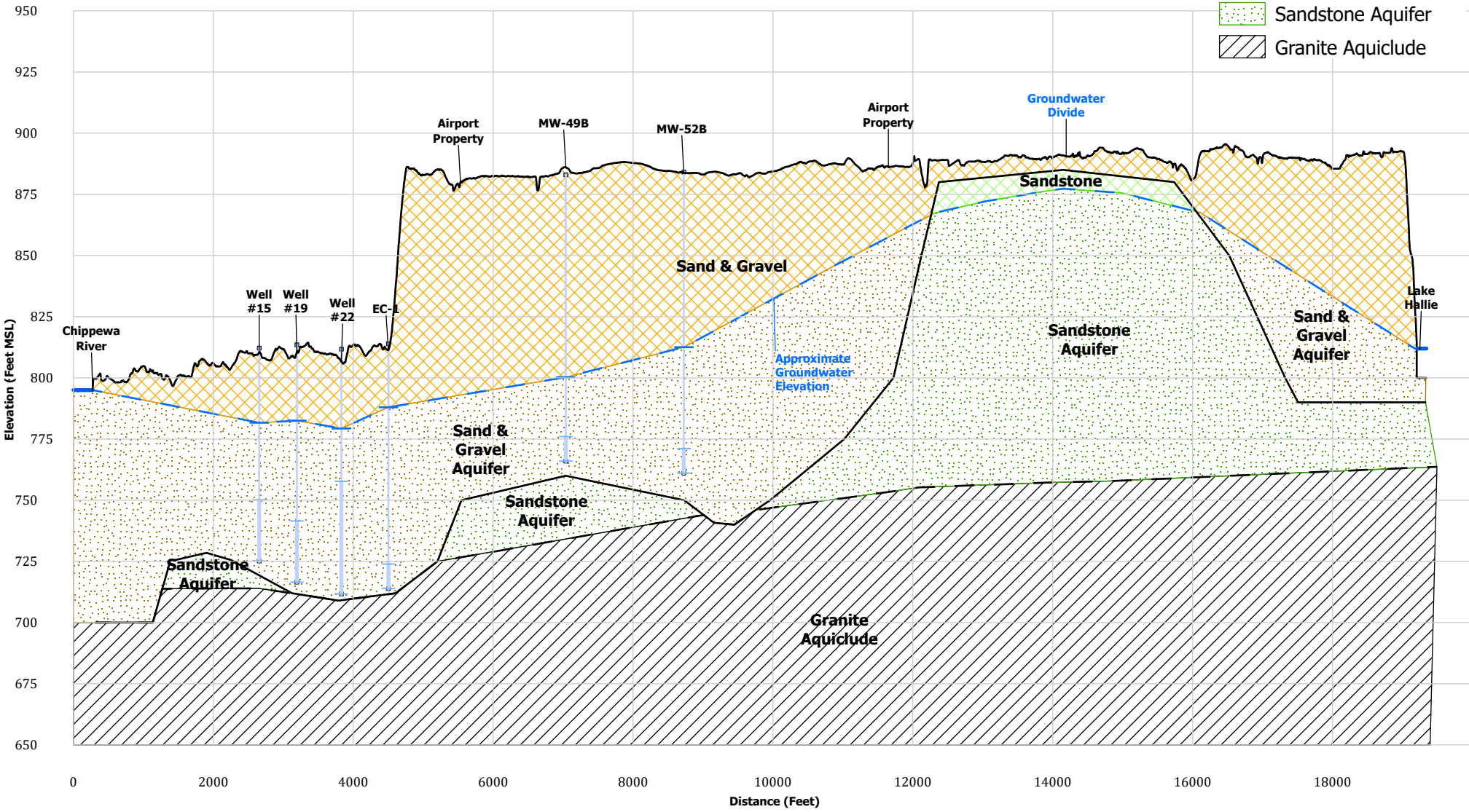

Figure 4
Conceptualized Hydrogeologic Cross Section A - A'
Looking Northwest
Vertical Exaggeration 35x

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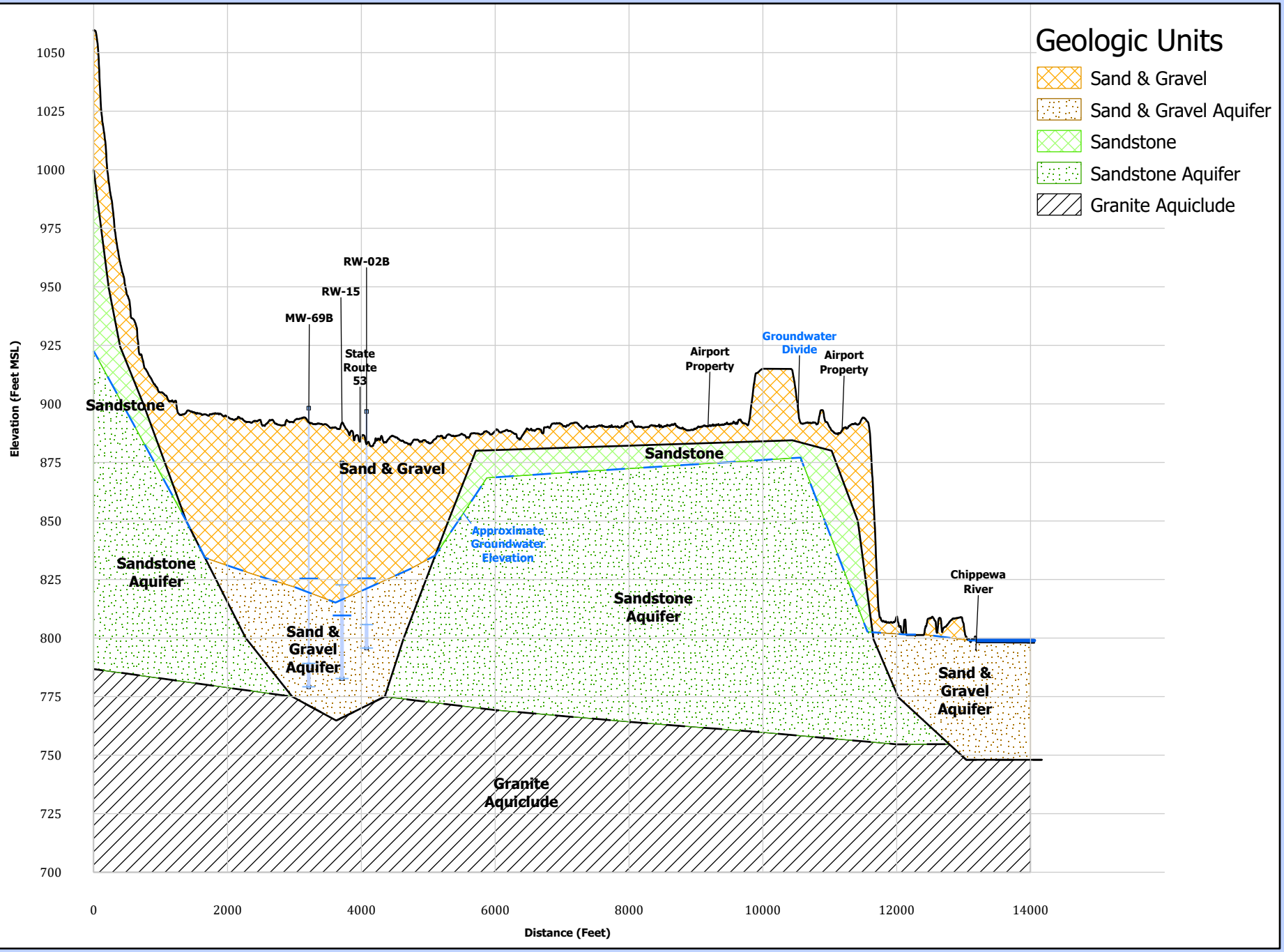

Figure 5
Conceptualized Hydrogeologic Cross Section B - B'
Looking ~Southwest
Vertical Exaggeration 35x

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TABLE

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NATIONAL PRESTO INDUSTRIES, INC.
EAU CLAIRE, WISCONSIN

TABLE 1

WELL CONSTRUCTION INFORMATION

Well/Piezometer ID (description/comment)	Plume	Grid Coord.	FN	Drilling Method	Completion Date or Year	Screened Interval (ft bgs)	Screened In (description of material)	Screen Diameter (inches)	Well Top Type	Casing/ Screen Material	Top of Casing Elevation (ft MSL)	Date of Abandon-ment
CW-6 (City Well/water supply)	--	B9		CT	03/17/37	39-76.7	Gravel packed	20	--	AI	812.68	NA
CW-8	--	B9		--	--	49-89	--	16	--	SS	808.79	NA
CW-9	--	B9		CT	01/16/47	65-95	crs S & G	16	--	AI	811.18	NA
CW-10	1/2	B8		CT	01/19/47	65-95	crs S & G	16	--	AI	--	04/22/20
CW-11	1/2	B8		CT	01/17/47	60-90	crs S & G	16	--	AI	812.77	NA
CW-12	--	C11		CT	01/25/55	50-85	Sand & Gravel	--	--	--	805.52	NA
CW-13	--	C11		CT	05/21/62	65-95	Sand & Gravel	16	--	SS	807.65	NA
CW-14	1/2	B8		CT	03/08/68	60-98	crs G & rocks	16	--	SS	810.81	NA
CW-15	1/2	B8		CT	04/12/68	62-87	crs S & G	16	--	SS	812.20	NA
CW-16	1/2	B8		CT	04/08/75	75-110	Sand & Gravel	20	--	SS	810.12	NA
CW-17	1/2	B8		CT	12/09/75	65-100	Sand & Gravel	20	--	SS	808.18	NA
CW-18	--	C11		CT	12/22/77	70-105	Gravel	20	--	SS	810.11	NA
CW-19	1/2	B7		CT	1992	72-97	Gravel	20	--	SS	813.54	NA
CW-21	--	C10		--	--	68-103	--	20	--	SS	806.63	NA
CW-22	1/2	C7		CT	2017	54-100	crs S & G	20	--	SS	811.75	NA
CW-23	1/2	B7		CT	2017	55-80	Sand & Gravel	20	--	SS	813.24	NA
CW-24	1/2	B8		RR	05/22/19	65-100	Sand & Gravel	20	--	SS	807.13	NA
EC-1 (City monitoring well)	1/2	C7		--	12/16/82	90-100	--	4	P	Steel	813.95	NA
EC-2	1/2	C7		--	12/20/82	18-28	--	4	P	Steel	814.44	NA
EC-3	1/2	A8		--	12/23/82	53-75	--	6	P	Steel	799.58	09/04/08
EC-4	1/2	A8		--	01/31/83	9-19	--	4	P	Steel	800.84	09/04/08
EC-5	1/2	C7		--	12/23/82	17-27	--	4	P	Steel	813.56	NA
EC-6	1/2	C7		--	01/04/83	15-25	--	4	P	Steel	813.19	NA
EC-7 (approved for ABND)	1/2	B6	(1)	--	01/05/83	19-29	--	4	P	Steel	816.22	NA
EC-8	1/2	A7		--	01/07/83	20-30	--	4	--	Steel	812.93	09/04/08
EW-1 (fka MW-14)	3/4	L6	(2)	AR	03/05/87	62.5-97.5	Alluvium	5	--	Steel	896.00	08/25/95
EW-1R (replaced EW-1)	3/4	L6		HSA/CT	08/25/95	75-100	Alluvium	6	F	SS	900.08	NA
EW-2 (fka MW-15)	3/4	L6		AR	02/26/87	69-104	Alluvium	8	F	Steel	901.45	NA
EW-3 (Last sampled 7/22/03)	1/2	K8		MR	09/01/92	65.2-85.2	Alluvium	6	Vault	Steel	897.22	06/24/10
EW-4	1/2	K7		MR	09/03/92	72-92	Alluvium	6	Vault	Steel	898.23	10/14/10
EW-5	1/2	K7		MR	07/10/03	70-90	Alluvium	6	Vault	Steel/SS	889.90	NA
EW-6	1/2	K7		Sonic	08/06/11	70.3-100.3	Alluvium	6	Vault	Steel/SS	894.89	NA
MW-1	3/4	M8	(3)	HSA	10/26/76	39.5-49.5	Alluvium	2	P	PVC	910.26	08/15/23
MW-2A	3/4	M7	(3,4)	HSA	10/27/76	45-55	Bedrock	2	--	PVC	905.19	07/15/88
MW-2B	3/4	M7	(3)	HSA	10/27/76	6-16	Alluvium	2	--	PVC	905.19	07/15/88
MW-3A	3/4	L7	(3,4)	HSA	10/28/76	69-72	Bedrock	2	--	PVC	899.95	07/15/88
MW-3B	3/4	L7	(3,4)	HSA	10/28/76	73-76	Bedrock	2	--	PVC	899.95	07/15/88
MW-3C	3/4	L7	(3,4)	HSA	10/28/76	77-80	Bedrock	2	--	PVC	899.95	07/15/88
MW-4A	1/2	K7	(3)	HSA	11/12/76	70-80	Alluvium	2	P	PVC	897.25	NA
MW-4B	1/2	K7		MR	05/24/90	95-105	Alluvium	2	P	PVC	896.65	NA
MW-5A	3/4	L6	(3)	HSA	02/27/84	64-81	Alluvium	2	P	PVC	902.60	NA
MW-5B	3/4	L6	(3)	MR	12/05/86	87-97	Alluvium	2	P	PVC	902.39	04/21/20
MW-6	3/4	L6	(3)	HSA	01/10/85	73.8-88.8	Alluvium	2	P	PVC	904.70	02/24/22
MW-7	3/4	M6	(3,4)	MR	01/08/85	62-77	Bedrock	2	P	PVC	897.73	08/15/23
MW-8	3/4	M6	(3)	HSA	01/11/85	75-90	Alluvium	2	P	PVC	904.24	05/07/18

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TABLE 1

WELL CONSTRUCTION INFORMATION

Well/Piezometer ID (description/comment)	Plume	Grid Coord.	FN	Drilling Method	Completion Date or Year	Screened Interval (ft bgs)	Screened In (description of material)	Screen Diameter (inches)	Well Top Type	Casing/ Screen Material	Top of Casing Elevation (ft MSL)	Date of Abandon-ment
MW-9A	3/4	L6	(3)	MR	03/28/85	80-90	Alluvium	2	P	PVC	905.30	04/24/18
MW-9B	3/4	L6	(3,4)	HSA	03/28/85	98-113	Bedrock	2	P	PVC	905.30	04/24/18
MW-10A	1/2	K8	(4)	HSA	11/14/86	56-71	Both	2	P	PVC	894.84	NA
MW-10B	1/2	K8	(4)	MR	11/14/86	90.5-100.5	Bedrock	2	P	PVC	894.91	NA
MW-11A	1/2	K7		HSA	11/15/86	58-73	Alluvium	2	P	PVC	896.03	NA
MW-11B	1/2	K7	(4)	MR	11/17/86	77-87	Bedrock	2	P	PVC	896.27	11/23/11
MW-12A	3/4	L7		HSA	11/18/86	58-73	Alluvium	2	P	PVC	897.09	NA
MW-12B	1/2	L7	(4)	MR	11/18/86	77.5-87.5	Bedrock	2	P	PVC	897.20	11/23/11
MW-13A	3/4	L7		HSA	11/21/86	58.5-73.5	Alluvium	2	P	PVC	896.86	NA
MW-13B	3/4	L7	(4)	HAS	11/21/86	81-91	Bedrock	2	P	PVC	?	11/23/11
MW-14 (nka EW-1)	3/4	L6	(2)	AR	03/05/87	62.5-97.5	Alluvium	2	--	Steel	896.00	03/05/87
MW-15 (nka EW-2)	3/4	L6		AR	02/26/87	69-104	Alluvium	2	--	Steel	895.81	02/26/87
MW-16A	3/4	M7	(4)	HSA	11/25/86	58-73	Bedrock	2	--	PVC	896.62	08/21/98
MW-16B	3/4	M7	(4)	MR	11/24/86	83.5-93.5	Bedrock	2	--	PVC	896.51	08/21/98
MW-17	5	N7	(4)	HSA	12/03/86	25-40	Both	2	P	PVC	898.91	11/23/11
MW-17B	5	N7	(4)	HSA	12/04/86	50-60	Bedrock	2	P	PVC	899.12	11/23/11
MW-17C	5	N7	(4)	MR	05/20/88	70-80	Bedrock	2	P	PVC	899.50	11/23/11
MW-18	3/4	M7	(4)	HSA	05/19/88	58-73	Bedrock	2	P	PVC	898.38	NA
MW-19	5	N6	(4)	HSA	05/17/88	58-73	Bedrock	2	P	PVC	898.89	11/30/11
MW-20A	3/4	K6		HSA	05/25/88	65.5-80.5	Alluvium	2	--	PVC	897.82	04/15/95
MW-20B	3/4	K6		HSA	06/01/88	92-102	Alluvium	2	--	PVC	896.74	04/15/95
MW-21A	3/4	K7		HSA	05/23/88	67-82	Alluvium	2	--	PVC	899.27	04/07/10
MW-21B	3/4	K7		MR	05/20/88	92-102	Alluvium	2	--	PVC	898.95	04/07/10
MW-22A	3/4	K6		HSA	06/03/88	66.5-81.5	Alluvium	2	P	PVC	900.79	05/07/18
MW-22B	3/4	K6		HSA	06/01/88	91.5-101.5	Alluvium	2	P	PVC	900.75	05/07/18
MW-23A	1/2	J7		HSA	06/04/88	65-80	--	2	P	PVC	895.99	NA
MW-23B	1/2	J7		HSA	06/03/88	90-100	--	2	P	PVC	895.95	NA
MW-24A	3/4	M7	(4)	MR	05/25/88	45-60	Bedrock	2	--	PVC	915.66	09/05/08
MW-24B	3/4	M7	(4)	MR	05/23/88	70-80	Bedrock	2	--	PVC	915.57	09/05/08
MW-25	3/4	M8	(4)	HSA	05/17/88	39-54	Both	2	--	PVC	930.35	09/05/08
MW-26A	3/4	L5		HSA	06/22/89	63-78	Alluvium	2	F	PVC	890.17	05/04/18
MW-26B	3/4	L5		MR	06/20/89	109-119	Alluvium	2	F	PVC	890.03	05/04/18
MW-27A	3/4	L5		HSA	06/21/89	62-77	Alluvium	2	F	PVC	890.20	05/04/18
MW-27B	3/4	L5		MR	06/20/89	85.3-95.3	Alluvium	2	F	PVC	890.15	05/04/18
MW-28A	3/4	L4		HSA	06/08/89	65-80	Alluvium	2	--	PVC	892.86	06/15/99
MW-28B	3/4	L4		MR	06/08/89	113-123	Alluvium	2	--	PVC	893.16	06/15/99
MW-29A	3/4	L3		HSA	05/25/89	69-84	Alluvium	2	P	PVC	892.72	05/08/18
MW-29B	3/4	L3		MR	05/31/89	124-134	Alluvium	2	P	PVC	892.49	05/08/18
MW-30A	5	M5		HSA	06/12/89	66-81	Alluvium	2	--	PVC	898.69	09/08/08
MW-30B	5	M5		MR	06/10/89	115-125	Alluvium	2	--	PVC	898.49	09/08/08
MW-31	1/2	J6		HSA	06/02/89	56-71	Alluvium	2	--	PVC	887.65	09/09/08
MW-32A	3/4	K6		HSA	06/23/89	59-74	Alluvium	2	--	PVC	887.83	04/08/95
MW-32B	3/4	K6		MR	06/21/89	90-100	Alluvium	2	--	PVC	887.77	04/08/95
MW-33A	1/2	J6		HSA	07/07/89	55-70	Alluvium	2	--	PVC	885.30	04/07/10
MW-33B	1/2	J6		MR	07/07/89	100-110	Alluvium	2	--	PVC	885.25	04/07/10
MW-34A (data per boring log)	1/2	K8		HSA	06/08/90	67-72	Alluvium	2	P	PVC	895.36	NA
MW-34B (data per boring log)	1/2	K8	(4)	MR	05/31/90	90-100	Both	2	P	PVC	895.28	NA

GANNETT FLEMING

TABLE 1

WELL CONSTRUCTION INFORMATION

Well/Piezometer ID (description/comment)	Plume	Grid Coord.	FN	Drilling Method	Completion Date or Year	Screened Interval (ft bgs)	Screened In (description of material)	Screen Diameter (inches)	Well Top Type	Casing/ Screen Material	Top of Casing Elevation (ft MSL)	Date of Abandon-ment
MW-34C	1/2	K8	(4)	--	--	?-102	Bedrock	2	P	PVC	895.25	NA
MW-35A	1/2	I7		HSA	05/31/90	59-74	Alluvium	2	P	PVC	888.28	NA
MW-35B	1/2	I7		MR	06/06/90	84-94	Alluvium	2	P	PVC	888.02	NA
MW-36A	1/2	I7		HSA	06/06/90	63.5-78.5	Alluvium	2	F	PVC	889.87	11/23/11
MW-36B	1/2	I7		MR	06/07/90	88.5-98.5	Alluvium	2	F	PVC	889.89	11/23/11
MW-37A	1/2	I7		HSA	12/18/90	55.7-70.7	Alluvium	2	F	PVC	885.55	NA
MW-37B	1/2	I7		HSA	02/12/91	68.5-73.5	Alluvium	2	F	PVC	885.27	NA
MW-38A	1/2	I8		HSA	12/16/90	54.5-69.5	Alluvium	2	F	PVC	884.89	NA
MW-38B	1/2	I8		HSA	02/05/91	97.5-107.5	Alluvium	2	F	PVC	884.82	NA
MW-38C	1/2	I8		MR	01/13/91	139.2-149.2	Alluvium	2	F	PVC	884.83	NA
MW-39A	1/2	J8		HSA	12/11/90	62.5-77.5	Alluvium	2	P	PVC	896.17	11/11/19
MW-39B	1/2	J8		MR	01/26/91	114.8-124.8	Alluvium	2	P	PVC	896.38	11/29/11
MW-40A	1/2	H7		HSA	12/20/90	58-73	Alluvium	2	--	PVC	886.57	08/24/09
MW-40B	1/2	H7		MR	01/16/91	79-89	Alluvium	2	--	PVC	886.34	08/24/09
MW-41A	1/2	H8		HSA	12/19/90	56-71	Alluvium	2	F	PVC	884.04	NA
MW-41B	1/2	H8		MR	01/23/91	102.5-112.5	Alluvium	2	F	PVC	883.84	NA
MW-42A	1/2	G7		HSA	01/31/91	65.5-75.5	Alluvium	2	P	PVC	891.83	11/29/11
MW-42B	1/2	G7		MR	01/17/91	74.5-84.5	Alluvium	2	P	PVC	891.32	11/29/11
MW-43A	1/2	H7		HSA	02/12/91	61-76	Alluvium	2	F	PVC	885.34	NA
MW-43B	1/2	H7		MR	02/11/91	107.5-117.5	Alluvium	2	F	PVC	885.35	NA
MW-44A	1/2	F6		HSA	08/20/91	62-67	Alluvium	2	F	PVC	885.35	08/25/15
MW-44B	1/2	F6		HSA	08/24/91	114-124	Alluvium	2	F	PVC	885.34	08/25/15
MW-45A	1/2	F6	(5)	HSA	08/21/91	63-78	Alluvium	2	F	PVC	886.20	Destroyed
MW-45B	1/2	F6	(5)	MR	09/11/91	101-111	Alluvium	2	F	PVC	886.26	Destroyed
MW-45C	1/2	F6	(5)	MR	08/26/91	134-144	Alluvium	2	F	PVC	886.05	Destroyed
MW-46A (not found)	1/2	G7		HSA	08/22/91	60-75	Alluvium	2	P	PVC	885.46	NA
MW-46B (not found)	1/2	G7		MR	09/12/91	99.5-109.5	Alluvium	2	P	PVC	885.42	NA
MW-46C (not found)	1/2	G7		MR	08/28/91	134.3-144.3	Alluvium	2	P	PVC	885.38	NA
MW-47A	1/2	G7		HSA	08/23/91	60-75	Alluvium	2	P	PVC	888.39	05/08/18
MW-47B	1/2	G7		MR	09/04/91	100-110	Alluvium	2	P	PVC	888.24	05/08/18
MW-48A	1/2	E6		HSA	09/07/91	66.5-81.5	Alluvium	2	F	PVC	885.15	12/01/11
MW-48B	1/2	E6		MR	09/06/91	93-103	Alluvium	2	F	PVC	885.40	12/01/11
MW-49A	1/2	D6		HSA	09/10/91	78.5-91.5	Alluvium	2	F	PVC	883.04	NA
MW-49B	1/2	D6		MR	09/09/91	107-117	Alluvium	2	F	PVC	883.02	NA
MW-50A (not found)	1/2	F6		HSA	09/16/91	63.4-78.4	Alluvium	2	F	PVC	883.61	NA
MW-50B (not found)	1/2	F6		MR	09/15/91	95-105	Alluvium	2	F	PVC	883.57	NA
MW-51A	1/2	F6		HSA	09/17/91	63.5-78.5	Alluvium	2	F	PVC	884.02	NA
MW-51B	1/2	F6		MR	09/17/91	102-112	Alluvium	2	F	PVC	883.99	NA
MW-52A	1/2	F6		HSA	10/02/91	67.4-82.4	Alluvium	2	F	PVC	884.13	NA
MW-52B	1/2	F6		MR	10/02/91	113-123	Alluvium	2	F	PVC	884.12	NA
MW-53A	1/2	E6		HSA	10/05/91	76-91	Alluvium	2	F	PVC	887.93	NA
MW-53B	1/2	E6		MR	10/05/91	112-123	Alluvium	2	F	PVC	888.25	NA
MW-54A	1/2	D6		HSA	10/10/91	77-92	Alluvium	2	F	PVC	883.78	NA
MW-54B	1/2	D6		MR	10/11/91	112-122	Alluvium	2	F	PVC	883.87	NA
MW-54C	1/2	D6		MR	10/09/91	142-152	Alluvium	2	F	PVC	883.66	NA
MW-55A	1/2	D6		HSA	11/05/91	78-93	Alluvium	2	F	PVC	881.75	NA
MW-55B	1/2	D6		MR	11/26/91	118.5-128.5	Alluvium	2	F	PVC	882.08	NA

GANNETT FLEMING

TABLE 1

WELL CONSTRUCTION INFORMATION

Well/Piezometer ID (description/comment)	Plume	Grid Coord.	FN	Drilling Method	Completion Date or Year	Screened Interval (ft bgs)	Screened In (description of material)	Screen Diameter (inches)	Well Top Type	Casing/ Screen Material	Top of Casing Elevation (ft MSL)	Date of Abandon-ment
MW-55C	1/2	D6		MR	11/04/91	154-164	Alluvium	2	F	PVC	881.91	NA
MW-56A	1/2	E5		HSA	11/06/91	75.5-90.5	Alluvium	2	--	PVC	885.67	09/04/08
MW-56B	1/2	E5		MR	11/11/91	150-160	Alluvium	2	--	PVC	885.89	09/04/08
MW-57A	1/2	E6		HSA	11/23/91	76-91	Alluvium	2	F	PVC	886.31	05/08/18
MW-57B	1/2	E6		MR	11/21/91	108-118	Alluvium	2	F	PVC	886.13	05/08/18
MW-58A	1/2	D6		HSA	11/07/91	76-91	Alluvium	2	F	PVC	880.88	?
MW-58B	1/2	D6		MR	11/13/91	112-122	Alluvium	2	F	PVC	880.96	12/01/11
MW-59A (approved for ABND)	1/2	F6		HSA	11/08/91	62-77	Alluvium	2	--	PVC	882.00	NA
MW-59B (approved for ABND)	1/2	F6		MR	11/19/91	129-139	Alluvium	2	--	PVC	882.07	NA
MW-60A	1/2	D7		HSA	12/04/91	78.5-93.5	Alluvium	2	F	PVC	879.19	05/07/18
MW-60B	1/2	D7		MR	12/08/91	104-114	Alluvium	2	F	PVC	879.09	05/07/18
MW-61A	1/2	C6		HSA	12/05/91	78.5-93.5	Alluvium	2	F	PVC	879.37	NA
MW-61B	1/2	C6		MR	12/11/91	124-134	Alluvium	2	F	PVC	879.58	NA
MW-62A	3/4	L6		HSA	06/25/92	61-76	Alluvium	2	--	PVC	893.69	12/22/98
MW-62AR	3/4	L6		HSA	12/22/98	71-86	Alluvium	2	P	PVC	901.75	NA
MW-62B	3/4	L6		MR	06/30/92	96-106	Alluvium	2	P	PVC	901.79	NA
MW-62C	3/4	L6		MR	06/24/92	126.5-136.5	Alluvium	2	P	PVC	901.15	04/21/20
MW-63A	3/4	M6		HSA	06/28/92	65-80	Alluvium	2	P	PVC	899.05	NA
MW-63B	3/4	M6		MR	06/27/92	95-105	Alluvium	2	P	PVC	899.13	04/21/20
MW-64A	3/4	L6		HSA	07/08/92	63.5-78.5	Alluvium	2	P	PVC	894.89	05/08/14
MW-64B	3/4	L6		MR	07/08/92	103.8-113.8	Alluvium	2	P	PVC	895.24	05/08/14
MW-64C	3/4	L6		MR	07/01/92	139-149	Alluvium	2	P	PVC	894.75	05/08/14
MW-65A	3/4	L6		HSA	07/02/92	60.4-75.4	Alluvium	2	P	PVC	891.68	NA
MW-65B	3/4	L6		MR	07/08/92	100-110	Alluvium	2	P	PVC	891.62	NA
MW-65C	3/4	L6		MR	07/07/92	133.9-143.9	Alluvium	2	P	PVC	891.77	NA
MW-66A	3/4	L6	(6)	HSA	06/27/92	66.5-81.5	Alluvium	2	F	PVC	897.70	NA
MW-66B	3/4	L6	(6)	MR	07/01/92	111-121	Alluvium	2	F	PVC	897.26	NA
MW-66C	3/4	L6	(6)	MR	06/27/92	150-160	Alluvium	2	F	PVC	897.35	04/21/20
MW-67A	1/2	K7		HSA	06/22/92	61-76	Alluvium	2	--	PVC	895.96	09/22/10
MW-67B	1/2	K7		MR	07/09/92	77.8-82.8	Alluvium	2	--	PVC	895.79	09/22/10
MW-68A	1/2	K7		HSA	07/08/92	63.5-78.5	Alluvium	2	P	PVC	896.47	NA
MW-68B	1/2	K7		MR	06/19/92	97-107	Alluvium	2	P	PVC	896.77	NA
MW-69A	1/2	J8		HSA	07/09/92	65-80	Alluvium	2	P	PVC	898.02	NA
MW-69B	1/2	J8		MR	06/21/92	108.8-118.8	Alluvium	2	P	PVC	898.23	NA
MW-70A	1/2	K8	(7)	HSA	06/22/92	62-77	Alluvium	2	F	PVC	893.49	NA
MW-70B	1/2	K8	(7)	HSA	07/10/92	77-82	Alluvium	2	F	PVC	893.62	NA
MW-71A	1/2	K8		MR	06/17/92	57-72	Alluvium	2	P	PVC	894.70	11/11/19
MW-71B	1/2	K8	(4)	MR	07/09/92	79-89	Both	2	P	PVC	894.89	11/23/11
MW-72	5	N7		HSA	09/09/98	34-49	Both	2	P	PVC	899.26	11/23/11
MW-73	5	N7		HSA	09/09/98	32-47	Both	2	P	PVC	899.71	11/23/11
MW-74A	1/2	J8		HSA	07/08/03	66-76	Alluvium	2	P	PVC	896.08	NA
MW-74B	1/2	J8	(4)	MR	07/09/03	95-100	Bedrock	2	P	PVC	895.88	NA
MW-75	1/2	K8	(4)	HSA	07/11/03	56-66	Bedrock	2	P	PVC	890.61	NA
MW-76A	1/2	K7		Sonic	09/22/10	65-80	Alluvium	2	F	PVC	894.80	NA
MW-76B	1/2	K7		Sonic	09/22/10	95-100	Alluvium	2	F	PVC	895.12	NA
MW-77A	1/2	K7		Sonic	09/22/10	65-80	Alluvium	2	F	PVC	895.22	NA
MW-77B	1/2	K7		Sonic	09/21/10	95-100	Alluvium	2	F	PVC	895.21	NA

GANNETT FLEMING

TABLE 1

WELL CONSTRUCTION INFORMATION

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MW-77C	1/2	K7		Sonic	09/21/10	115-120	Alluvium	2	F	PVC	895.18	NA
PW-1	1/2	K7		HSA	01/05/94	65-75	Alluvium	2		PVC	898.28	09/08/08
PW-2	1/2	K7		HSA	01/03/94	66-76	Alluvium	2	--	PVC	894.71	08/15/23
PW-3	1/2	K7		HSA	07/12/94	69-79	Alluvium	2	--	PVC	898.83	06/15/96
PW-3R	1/2	K7		HSA	11/22/96	69-79	Alluvium	2	F	PVC	896.21	08/18/17
PW-4	1/2	K7		HSA	07/12/97	68-78	Alluvium	2	--	PVC	895.59	09/08/08
PW-5	1/2	K7		HSA	07/13/94	67-77	Alluvium	2	--	PVC	886.93	01/15/04
PW-67 (Owner: Joles)	5	M4		--	--	--	--	--	--	--	--	NA
PW-218 (Owner: Martens)	5	M4		--	--	--	--	--	--	--	--	NA
PW-230 (Owner: Ihlenfeld)	5	M4		--	--	--	--	--	--	--	--	NA
RW-1	1/2	F7		HSA	12/12/85	60.5-112.5	Alluvium	2	--	PVC	887.19	07/27/09
RW-2A	1/2	J7		HSA	01/03/86	69-79	Alluvium	2	P	PVC	897.18	NA
RW-2B	1/2	J7		HSA	01/04/86	91-101	Alluvium	2	P	PVC	896.78	NA
RW-2C	1/2	J7		HSA	12/15/85	108-118	Alluvium	2	P	PVC	897.57	NA
RW-3A	1/2	C6		HSA	12/19/85	79-89	Alluvium	2	P	PVC	881.78	NA
RW-3B	1/2	C6		HSA	01/07/86	96-106	Alluvium	2	P	PVC	881.48	NA
RW-3C	1/2	C6		HSA	01/05/86	108.5-118.5	Alluvium	2	P	PVC	881.30	NA
RW-4	1/2	H9	(4)	HSA	02/04/86	53-78	Both	2	--	PVC	884.65	09/10/08
RW-5 (approved for ABND)	1/2	D8		HSA	01/18/86	82-112	Alluvium	2	--	PVC	882.19	NA
RW-6	1/2	D7	(4)	HSA	02/11/86	78.5-103.5	Both	2	--	PVC	883.89	09/03/08
RW-7	1/2	H6		HSA	01/29/86	68-118	Alluvium	2	--	PVC	890.71	09/10/08
RW-8	1/2	G5		HSA	02/05/86	64-109	Alluvium	2	--	PVC	889.12	09/09/08
RW-9	1/2	D4		HSA	01/20/86	75.5-105.5	Alluvium	2	--	PVC	886.62	09/10/08
RW-10	1/2	D6		HSA	07/21/87	70-120	Alluvium	2	--	PVC	888.28	09/04/08
RW-11	1/2	E5		HSA	07/21/87	65-120	Alluvium	2	--	PVC	890.45	09/03/08
RW-12	1/2	F6		HSA	07/22/87	60-120	Alluvium	2	--	PVC	891.01	07/27/09
RW-13	1/2	F8	(4)	HSA	08/11/87	65-75	Bedrock	2	--	PVC	885.57	09/03/08
RW-14	1/2	H7		HSA	07/24/87	54-114	Alluvium	2	--	PVC	888.06	07/27/09
RW-15	1/2	J7		HSA	07/24/87	52-92	Alluvium	2	P	PVC	874.76	NA
RW-16	1/2	G7		HSA	07/28/87	63-73	Alluvium	2	P	SS	888.87	NA
RW-16B	1/2	G7		HSA	02/06/91	103-113	Alluvium	2	P	PVC	889.66	NA
RW-16C	1/2	G7		MR	01/31/91	142.5-152.5	Alluvium	2	P	PVC	890.01	NA
RW-17 (approved for ABND)	1/2	G7		HSA	07/29/87	60-70	Alluvium	2	--	SS	890.24	NA
RW-18 (not found)	1/2	H8	(9)	HSA	07/29/87	62-72	Alluvium	2	--	SS	890.62	NA
RW-19	1/2	G7		HSA	07/30/87	60-70	Alluvium	2	P	SS	888.57	12/01/11
RW-20	1/2	G7		HSA	07/30/87	64-74	Alluvium	2	--	SS	889.43	05/15/95
RW-21	1/2	G6		HSA	07/31/87	63-73	Alluvium	2	--	SS	890.39	02/15/95
RW-22	1/2	G7		HSA	07/31/87	62-72	Alluvium	2	P	SS	887.42	12/01/11
RW-23 (not found)	1/2	H7		HSA	07/31/87	61-71	Alluvium	2	--	SS	890.30	NA
RW-24	1/2	E6		HSA	08/01/87	66-76	Alluvium	2	--	SS	886.52	09/04/08
RW-25 (approved for ABND)	1/2	G3	(4)	HSA	08/13/87	55-65	Bedrock	2	--	PVC	926.22	NA
WW-1	--	--		HSA	08/08/85	30-40	--	2	--	PVC	945.05	10/16/01
WW-2	--	--		HSA	08/10/85	57.5-67.5	--	2	--	PVC	900.53	NA
WW-3	3/4	K5		HSA	07/27/85	63.2-73.2	--	2	--	PVC	891.45	12/12/91
WW-3B	3/4	K5		MR	06/19/89	138.5-148.5	Alluvium	2	--	PVC	888.98	12/12/91
WW-4	--	--		HSA	08/07/85	70-80	--	2	--	PVC	904.18	07/26/06
WW-5	3/4	K4		HSA	08/01/85	69-79	--	2	--	PVC	892.55	09/09/08

GANNETT FLEMING

TABLE 1

WELL CONSTRUCTION INFORMATION

Well/Piezometer ID (description/comment)	Plume	Grid Coord.	FN	Drilling Method	Completion Date or Year	Screened Interval (ft bgs)	Screened In (description of material)	Screen Diameter (inches)	Well Top Type	Casing/ Screen Material	Top of Casing Elevation (ft MSL)	Date of Abandon-ment
WW-5P	3/4	K4		HSA	10/01/85	104-109	--	2	--	PVC	892.69	09/09/08
WW-6	1/2	I6		HSA	07/31/85	57.8-67.8	--	2	--	PVC	889.46	09/09/08
WW-7	1/2	I4		HSA	08/08/85	15-25	--	2	--	PVC	893.19	09/08/08
WW-8	3/4	J2		HSA	08/01/85	16.75-26.75	--	2	--	PVC	846.94	09/08/08
WW-9	3/4	N3		HSA	08/06/85	74.9-84.9	--	2	--	PVC	901.71	08/19/99
WW-9P	3/4	N3		HSA	07/25/85	105-115	--	2	--	PVC	901.63	08/19/99
WW-10	3/4	J6		HSA	10/02/85	60-70	--	2	--	PVC	889.10	05/07/99
WW-10P	3/4	J6		HSA	10/02/85	91.3-96.3	--	2	--	PVC	889.19	05/07/99
WW-11	5	N6		HSA	09/26/85	36.5-46.5	--	2	--	PVC	901.36	09/05/08
WW-11P	5	N6		HSA	09/30/85	72-77	--	2	--	PVC	901.16	09/05/08
WW-12 (not found)	3/4	J4		HSA	09/27/85	17-27	--	2	--	PVC	892.25	NA
WW-13	4	L5		HSA	10/01/85	67-77	--	2	P	PVC	905.45	11/29/11
WW-14	5	O4		HSA	05/07/85	70-80	--	2	--	PVC	899.72	09/10/08
WW-15	1/2	I8		HSA	10/03/85	53-63	Alluvium	2	P	PVC	882.61	NA
WW-15B	1/2	I8		HSA	02/06/91	95.6-105.6	Alluvium	2	F	PVC	879.97	11/23/11
WW-15C	1/2	I8		MR	02/01/91	137-147	Alluvium	2	F	PVC	879.76	11/23/11
WW-16	1/2	H8		HSA	10/02/86	57-67	--	2	--	PVC	885.63	09/10/08
WW-17	1/2	H5		HSA	10/01/85	13-23	--	2	--	PVC	887.21	09/08/08
WW-18	1/2	I5		HSA	10/01/85	16-26	--	2	--	PVC	890.84	09/08/08
WW-19	3/4	J3		HSA	09/28/85	20-30	--	2	--	PVC	894.02	11/30/11
Hallie Golf Course	--	110th Avenue		--	--	TD = 86	--	6.5	--	--	--	09/05/08
Don & Bonnie Berg	5	11265 16th Ave		--	--	TD = 73.4	--	4	--	--	--	09/09/08

GANNETT FLEMING

TABLE 1

WELL CONSTRUCTION INFORMATION

NOTES:
Red font in the "Well/Piezometer ID" column indicates the well/piezometer is abandoned or lost/destroyed (139).
Purple font in the "Well/Piezometer ID" column indicates well/piezometer is approved for ABND (six).
Blue font in the "Grid Coord." column indicates well/piezometer not found (13).
Melby Rd. wells MW-62B/C and MW-5A/B and East Disposal Site wells MW-17A, MW-72, and MW-73 were resurveyed by Ayres in December 1998.
Site datum = Mean sea level (MSL).
ABND = Abandonment.
AI = Armco Iron (screen).
AR = Air rotary.
crs S & G = Coarse sand and gravel.
CT = Cable tool.
CW = City production well.
EC = City monitoring well.
EW = NPI extraction well.
F = Flush-mount well.
FN = Footnote (see below).
HSA = Hollow stem auger.
LUST = Leaking underground storage tank.
MR = Mud rotary.
MW = NPI monitoring well.
NA = Not abandoned.
P = Pro top well.
PVC = Polyvinyl chloride.
PW = former NPI petroleum LUST wells PW-1 thru PW-5 on site & for "private well" at the listed residential/commercial locations.
RR = Reverse rotary.
RW = EPA monitoring well.
Screened Interval = Depth in feet below ground surface (ft bgs) of screened interval.
SS = Stainless steel.
TD = Total depth.
WW = WDNR monitoring well.
-- = Not available/not applicable/unknown.

FOOTNOTES:
(1) Approved for ABND but kept by City.
(2) Converted to/replaced by EW-1R in August 1995.
(3) Pre-remedial investigation monitoring well.
(4) Denotes a well screened in sandstone bedrock or both bedrock and alluvium (i.e., sand and gravel glacial outwash).
(5) MW-45A/B/C were inadvertently destroyed in the second half of 2019 by an excavation contractor while site grading.
(6) MW-66A/B/C were changed from stickup to flush-mount wells in Oct. 2017; their measuring point elevations decreased as a result.
(7) MW-70A/B were changed from stickup to flush mount wells in May 2019; their measuring point elevations decreased as a result.
(8) Approved for ABND but kept for water level measurements.
(9) Could be private well PW-6 on the Indianhead property. Hence, PW-6 is not included in Table 1 or shown on Figure 1.