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GreatWest ENGINEERING

2025 Long-Term Hydrogeologic Monitoring (LTM) Report

CENTRAL MONTANA REGIONAL WATER AUTHORITY

Ubet Wellfield, Judith Basin

February 2026

Client Commitment *Empowered Employees* *Quality Solutions*

CENTRAL MONTANA REGIONAL WATER AUTHORITY

2025 Long-Term Hydrogeologic Monitoring (LTM) Report

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GreatWest ENGINEERING

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UBet Wellfield/Judith Basin
2025 Long-Term Hydrogeologic Monitoring (LTM)
Summary Report
Central Montana Regional Water Authority

1. INTRODUCTION

1.1 Background

In 2023, the Central Montana Regional Water Authority (CMRWA) began operation of a portion of the Musselshell-Judith Regional Water System (MJRWS) in central Montana. Two deep water supply wells (CMRWA 2 and CMRWA 3) were previously completed in the Madison Aquifer approximately 3 miles west of Garneill, Montana. **Figure 1** is a location map. The wells are currently supplying water to communities including Harlowton, Roundup, Sunset Colony and a number of area ranches/landowners. In 2024, two additional Madison wells (CMRWA 4 and CMRWA 5) were constructed immediately north of the existing wells. These additional wells have not yet been commissioned. CMRWA wells in this area are collectively known as the UBet Wellfield (**Figure 2**).

Beginning in 2016, a Long-Term Hydrogeologic Monitoring (LTM) program was initiated by CMRWA to evaluate and monitor water resources in the Judith Basin, prior to and during production from the UBet Wellfield. Monitoring results have been summarized annually (2016-2022) by Western Groundwater Services, LLC (WGS) under contract to Great West Engineering (GWE). Beginning in 2023, GWE has published the annual LTM reports. This report presents current and historical LTM data along with more recent (2023 through 2025) water production and groundwater monitoring data collected using the on-site UBet Wellfield SCADA system.

1.2 Project Setting

As presented in a 2014 Water Resources Monitoring Plan[1] developed by WGS, the project area lies within the Judith River Basin in Central Montana. The basin is underlain by over 3000 feet of early-Mesozoic and late-Cenozoic sedimentary rocks; primarily shales, sandstones and carbonates. **Figure 3** is a generalized stratigraphic cross-section (**across A to A', Figure 1**, [WGS. 2013]). It should be noted that in the cross-section, "Ubet Test Well" is now known as CMRWA Well 2.

Important aquifers in the basin include the Kootenai Formation and the deeper Madison Group. Most water supply wells in the basin are completed in aquifers and water-bearing units of the Kootenai, which ranges in depth from land surface to as much as approximately 700-1000 feet below ground surface (bgs) depending on the location. The Madison Group is deeper; ranging in depths from approximately 2,000 to 5,000 ft bgs, and as such is less frequently targeted for water production locally. Wells CMRWA 1 through CMRWA 5 are all completed into the Madison.

Both the Kootenai and Madison aquifers are recharged regionally by precipitation and snow melt where outcropping occurs; the Kootenai at the margins of the basin, and the Madison

where exposed in the adjacent mountains. **Figure 4** depicts mapped outcrops of the Kootenai and Madison in the Little Belt and Big Snowy Mountains proximal to the UBet Wellfield (Montana Bureau of Mines and Geology [MBMG], 2025).

1. Western Groundwater Services, LLC (2014) Water Resources Monitoring Plan, Central Montana Regional Water Authority, report to Great West Engineering, Inc.

2. LONG-TERM HYDROGEOLOGIC MONITORING (LTM)

2.1 Monitoring Objectives

The 2014 Water Resources Monitoring Plan was intended to develop baseline hydrogeologic data, and evaluate water resource trends in the Judith Basin over time. The LTM data has served to guide project development and inform the public on the relationships between the various surface and groundwater supplies in the Basin. One area of initial specific concern was how development of high-capacity wells completed in the deep Madison Group could potentially affect the more commonly utilized Kootenai aquifer, surface waters or springs in the area. The LTM has evolved over time from primarily baseline data collection and interpretation to include more recently, the specific hydraulic connection, or lack thereof, between the Kootenai aquifer and pumping of newly developed production wells in the UBet Wellfield. Sections 2.2 and 2.3 identify the historic and current LTM components. Details of LTM well constructions and depths have been provided in prior annual LTM summary reports and CMRWA well construction/testing reports authored by both WGS and GWE. For reference, **Appendix A** includes the MBMG Groundwater Information Center (GWIC) well driller's logs for the CMRWA wells and private wells included in the LTM.

2.2 Historic Monitoring

Pursuant to a written water resources plan[1] and associated monitoring program[2], and as illustrated on **Figure 1**, the historic scope of monitoring included:

- High-frequency (15-minute interval) monitoring of water levels and water temperature measurements in several area wells completed in both the Kootenai and Madison aquifers,
- High-frequency (15-minute interval) water level and water temperature measurements in completed (but idle) production wells CMRWA 2 and CMRWA 3 until mid-2022, leading up to installation of submersible pumps and commissioning of the wells,
- Review of surface water discharge measurement data collected by Montana Fish Wildlife and Parks (FWP) at Big Spring (Station 41S 1380) near Lewistown,
- Review of meteorologic data recorded at the Montana Department of Transportation (MDOT) Judith Gap Road Weather Information System (RWIS) station,
- Review of meteorologic data recorded at the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Crystal Lake SNOTEL (427), and
- Review of Judith River stream flow data reported at the Unites States Geologic Survey (USGS) stream gauge 06110020 located immediately upstream of Carr Creek, near Sapphire Village.

2.3 Current Monitoring

Since UBet Wellfield production began in 2023, the LTM network consists of the following components:

- **Groundwater**
    - **Madison Aquifer Wells**

        - Production wells CMRWA 2 and CMRWA 3: water levels and water production are recorded at 10-minute intervals on the onsite SCADA system.
        - Sentinel well CMRWA 1: located near the Town of Utica (water levels every 6 hours).

    - **Kootenai Aquifer Wells**:
        - Kootenai sentinel well CMRWA MW-1: Located in the UBet Wellfield (water levels at 15-minute intervals).
        - Nicholson Ranch well: Located approximately 12 miles WNW of the UBet Wellfield (water levels every 6 hours).
        - Judith Gap/Mauws well: Located approximately 4 miles SE of the UBet Wellfield (water levels every 6 hours).

- **Surface Water**
    - Judith River USGS Gauge Station 06110020: Near Sapphire Village above Carr Creek. USGS reporting of daily mean stream discharge.
    - Big Spring: Near Lewistown. FWP monitoring of spring and surface water discharges (daily average). These data are generally reflective of groundwater quantity conditions in the Madison Aquifer.
    - Crystal Lake SNOTEL (427): Crystal Lake in Big Snowy Mountains. Precipitation accumulation data reported by NRCS. Beginning in 2025, this LTM report also includes the reported snow water equivalent (SWE) data collected at the station.

Appendix A contains a brief summary of the LTM network wells and monitoring stations.

2.4 Data Archive

Well data are reported to Montana Bureau of Mines & Geology (MBMG) and can be accessed on the Groundwater Information Center (GWIC) website[3]. Big Spring data are collected by the Montana FWP and can be accessed on the Montana Department of Natural Resources (DNRC) Stream and Gauge Explorer (StAGE) website[4] by searching “Big Springs”. The Crystal Lake SNOTEL (427) data is available on the NRCS website[5]. Judith River stream flows are reported on the USGS stream flow monitoring website[6].

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2. Western Groundwater Services, LLC (2020) Judith Basin Monitoring System, Final Report, Central Montana Regional Water Authority, report to Great West Engineering, Inc.
3. http://mbmggwic.mtech.edu
4. https://gis.dnrc.mt.gov/apps/stage/gage-report
5. https://nwcc-apps.sc.egov.usda.gov/site-plots/?state=MT
6. https://waterdata.usgs.gov/mt/nwis/uv/?site_no=06110020

3. LTM RESULTS AND INTERPRETATION

This section presents and provides interpretations of LTM data through 2025, including Groundwater Monitoring (**Section 3.1**), UBet Wellfield Water Production (**Section 3.2**) and Surface Water and SNOTEL reporting (**Section 3.3**).

3.1 Groundwater Monitoring Results

Groundwater levels and water temperature had been recorded at LTM wells for several years using dedicated, downhole, data-logging pressure/temperature transducers recording at 15-minute intervals. The data have been included in previous reports, but the record has become unwieldy and redundant at 15-minute intervals. Beginning with the 2023 LTM Report, the presented historic well data record has been simplified to represent monthly median water levels in all wells *except* the UBet production wells (Madison wells CMRWA 2 and CMRWA 3), and Kootenai monitoring well CMRWA MW-1, which continued in 2024 and 2025 to collect water level data at a high frequency (10 or 15-minute intervals). The high frequency static and pumping water level data from production wells CMRWA 2 and CMRWA 3 are archived in the UBet SCADA system since production began in 2023.

It should be noted the original data-logging, pressure transducers in several monitored wells were nearing the end of their battery lives; leading to the replacement of the units in CMRWA 1, the Nicholson Ranch well and the Judith Gap Mauws well in January 2025, and CMRWA MW-1 in October 2025. The pressure loggers in production wells CMRWA 2 and CMRWA 3 are non-battery units and continued to function in 2025.

Previously collected groundwater temperature values from the monitoring well network have shown that water temperatures are relatively stable. The historical temperature values have been archived, but not carried forward in the reporting. Temperature measurements continue to be collected and archived but not presented unless the results indicate trends of interest.

The LTM plots referenced for Madison and Kootenai wells below in Sections 3.1 and 3.2, respectively, present median monthly water levels as both elevation (ft amsl) and depth to water as ft below top of casing (ft toc) for the period of record 2016-2025.

3.1.1 Madison Aquifer Wells

Per **Section 2.3**, the LTM includes wells completed into the Madison aquifer; currently UBet Wellfield production wells CMRWA 2 and CMRWA 3, and Madison sentinel well CMRWA 1 located near Utica. Production wells CMRWA 4 and CMRWA 5 have not been commissioned at the time of this writing.

3.1.1.1 Sentinel Well CMRWA 1

Madison well CMRWA 1 is located near Utica, Montana and serves as a Madison aquifer sentinel well; it is not equipped with a pump and is not expected to be affected by pumping of UBet CMRWA production wells completed in the Madison (currently wells CMRWA 2 and CMRWA 3).

Figure 5 plots median monthly static water levels in well CMRWA 1. The data illustrate seasonal, annual fluctuations in water levels of 40-50 ft due to annual recharge, while

trending upward overall approximately 50 ft from 2017 through early 2021, followed by a steep decline (approximately 70 ft) in water levels through early 2023. Water levels rebound significantly to previous levels through 2024, before again beginning a 40-50 ft declining trend through 2025. The overall trend in this Madison sentinel well is one of marked fluctuations in water levels throughout the period of record, with current water levels below median values, yet roughly 40 ft above lows recorded in 2023.

3.1.1.2 Production Wells CMRWA 2 and CMRWA 3

Figures 6 and 7 plot monthly median water levels (inclusive of pumping and static water levels) recorded in production wells CMRWA 2 and CMRWA 3, respectively, through 2025. Note the data gaps seen in 2022 and 2023 represent periods of time when the transducers had been removed from the wells to facilitate well completion and pump installation. The commissioning of the wells in mid-2023 is evident in the plots.

While the period of record for well CMRWA 3 is shorter than well CMRWA 2, it can be seen from comparison of **Figures 5 and 6** that well CMRWA 2 historically exhibited a similar, although muted, historic pattern of recorded water levels as Madison sentinel well CMRWA 1. That is, annual water levels fluctuations (in response to aquifer recharge), and an overall similar temporal trend of rising and falling water levels.

More recently, since startup of the UBet wellfield in mid-2023, it can be seen from **Figures 6 and 7** that both wells CMRWA 2 and CMRWA 3 exhibit 10-15 ft annual fluctuations in mean monthly water levels, overprinted on a trend of no significant rise or decline in water levels over time.

Not discernible in **Figures 6 or 7**, but evident in the high-frequency SCADA water level data (**Appendix B**) are the individual pumping water levels recorded in wells CMRWA 2 and CMRWA 3. The data confirm that when well CMRWA 2 is routinely pumped at a rate of about 550 gallons per minute (gpm), the decline in water level in the well is roughly 50 ft. Well CMRWA 3 water levels decline approximately 40 ft when the well is routinely pumped at 1150 gpm. Both wells recover nearly instantaneously when pumping ceases. These well responses have been consistent since operations began in 2023.

It should be noted here that the SCADA data included in **Appendix B** does contain some errors introduced in pumping rates or timing of pumping, but does not materially affect the data interpretation. Recording errors in the SCADA system have been resolved for 2026 reporting.

3.1.2 Kootenai Aquifer Wells

As mentioned in **Section 2.3**, Kootenai wells monitored in the current LTM program include Kootenai sentinel well CMRWA MW-1, the Nicholson Ranch well and municipal Judith Gap/Mauws well (**Figure 1**).

Figures 8 through 10 plot historic (September 2016 through 2025) median monthly water levels in the current Kootenai monitoring well network as discussed further herein.

3.1.2.1 Sentinel Well CMRWA MW-1

Figure 8 plots the historic static water levels recorded in Kootenai monitoring well CMRWA MW-1. The well is located in the UBet Wellfield and serves to observe water level trends in the Kootenai, and also importantly, monitor potential response in the Kootenai to pumping of the UBet Madison wells. Well CMRWA MW-1 is not equipped with a pump; it serves only as a monitoring well.

Over the period of record, well CMRWA MW-1 has experienced hydraulic pressures that, at times, would cause the well to flow freely if it were not equipped with a shut-in valve; historic hydraulic pressures equate to static water levels often a few feet above ground level. Therefore, reported water levels are shut-in values and are considered static water levels. (Note the **Figure 8** Depth to Water scale represents hydraulic head above top of casing, and as such are negative numbers [ft above toc]).

Recorded hydraulic pressures in the well indicate a rising head of the order of nearly 20 ft from 2018 until 2020, followed by a decreasing head of approximately 17 ft until early 2023, and then an increase in head of about 3 ft through the remainder of 2023. In 2024 and 2025, the recorded head in well CMRWA MW-1 declined approximately 4 ft. It is noted the current head value in the well is above the 2018 low value for the period of record.

Apparent throughout the period of record are seasonal, modest water level fluctuations on the well CMRWA MW-1, attributed to response in the aquifer to annual recharge, and a trend of rising and falling mean monthly water levels similar but much more subdued than the Madison LTM wells.

3.1.2.2 Nicholson Ranch Well

Figure 9 plots water levels recorded in the Kootenai Nicholson Ranch well. The well is located approximately 12 miles west-northwest of the UBet wellfield and serves the project as a Kootenai sentinel well; not expected to be affected by operation of UBet Madison wells and indicative of Kootenai aquifer water levels in the vicinity.

The well is an operating, domestic well used for household and stock water supply and as such is periodically pumped. However, instantaneous drawdowns due to pumping are intermittent, limited to approximately 2 ft, and short in duration. The presented he data can be considered essentially static water levels over the duration and frequency of the plot.

The recorded data in the Nicholson Ranch well follows a similar, but subdued trend of rising and falling water levels as well CMRWA MW-1; increasing slightly from 2018 to 2021, with a downward trend which reversed in early 2023 and then slowly declining 2-3 ft in 2024 and 2025. Again, illustrated on the plots are moderate, seasonal water level fluctuations in the well on the order of 2 ft in response to aquifer recharge. The overall water level trend is seen to be similar to the other Kootenai LTM wells, and the Madison LTM wells (although much less pronounced than the Madsion wells).

3.1.2.3 Judith Gap (Mauws) Well

Figure 10 is a historic plot of water levels recorded in the Kootenai Judith Gap (Mauws) well. The well is the municipal supply for the Town of Judith Gap, and as such, is frequently pumped. The high-frequency data set includes only resting, shut-in water levels, but are considered static water levels under some influence from pumping events. (Note the depth to water data are as ft above toc). The plot shows a trend not dissimilar to other Kootenai LTM wells; minor annual fluctuations of a few feet, increasing water levels through 2020 followed by perhaps a decrease in 2021-2023 and a rebound beginning mid-2023, then slightly declining in 2024 and 2025.

3.1.3 Response in Kootenai Aquifer to CMRWA Madison Production Wells

As identified in **Section 3.1.2**, Kootenai sentinel well CMRWA MW-1 is located in the UBet Wellfield adjacent to Madison production well CMRWA 2 and near production well CMRWA 3. Static water level trends in Well CMRWA MW-1 can be evaluated against static and pumping water level trends in the Madison production wells to monitoring potential response in the Kootenai aquifer to pumping of the Madison wells.

As detailed in Section 3.1.1 of the 2024 Annual LTM report (GWE, 2025), a discrete set of data were selected to include consecutive days in August 2024 when both production wells were operated independently and with significant pumping and resting intervals-- in order to closely evaluate the response in the Kootenai sentinel well CMRWA MW-1. There was no observed water level response in Kootenai sentinel well CMRWA MW-1 (rise or decline) attributed to pumping of Madison production wells CMRWA 2 or CMRWA 3.

Furthermore, as discussed in previous sections, historic water level trends in Kootenai LTM wells generally follow, but are more subdued than water levels in the Madison LTM wells. This includes several years of monitoring that pre-date any pumping of the Madison production wells CMRWA 2 or CMRWA 3. While there may be some hydraulic connection between the shallower Kootenai aquifer and the much deeper Madison aquifer, it does not appear significant enough to result in a direct response in the Kootenai to pumping of the UBet Madison wells. However, the LTM will continue to evaluate potential hydraulic connections between the two aquifers over time.

3.2 Water Production

According to the CMRWA system operator, water production from UBet Wells CMRWA 2 and CMRWA 3 began effectively on September 10, 2023. Well CMRWA 2 was the primary UBet Wellfield water source in 2023 and 2024, and well CMRWA 3 was historically operated less frequently and produced about 50% less than well CMRWA 2. However, in 2025, well CMRWA 3 became the primary water source while well CMRWA 2 was operated less frequently. The two production wells are typically not run simultaneously. This operational history is confirmed in the SCADA production records.

With respect to the operation of the water wells, the SCADA system is recording the following information at high frequency (10-minute) intervals for each of the wells:

- Pumping and static water levels (depth to water and water elevation)
- Pumping rates (gpm)
- Daily water production (gallons)

The SCADA system currently auto-generates and archives monthly reports summarizing this information. The 2025 SCADA production data are summarized in **Appendix B**.

Table 1 summarizes the SCADA- reported monthly and total production volumes (gallons) from each well during 2025. A combined total of just under 138 million gallons were produced from well CMRWA 2 and CMRWA 3 in 2025. Approximately 85% of the total 2025 production was from well CMRWA 3.

Table 1. 2025 Monthly Water Production (gallons)

Month	CMRWA 2	CMRWA 3	Monthly Total
Jan	3,010,500	1,730,800	4,741,300
Feb	4,180,200	106,400	4,286,600
Mar	5,014,300	26,700	5,041,000
Apr	2,323,500	5,324,000	7,647,500
May	16,600	13,451,300	13,467,900
June	0	16,091,500	16,091,500
Jul	786,600	21,139,300	21,925,900
Aug	1,226,200	20,100,100	21,326,300
Sep	0	16,459,500	16,459,500
Oct	0	8,336,300	8,336,300
Nov	2,654,600	6,609,900	9,264,500
Dec	2,448,000	6,501,700	8,949,700
2025 Annual	**21,660,500**	**115,877,500**	**137,538,000**

Figure 11 illustrates the historic annual water production from Madison wells CMRWA 2 and CMRWA 3. The data confirms total 2025 production nearly doubled over 2024, and well CMRWA 3 became the primary producing well in 2025.

3.3 Surface Water and SNOTEL

This section presents the LTM surface water data reported by others including: the Montana FWP monitoring of spring discharge and surface water flows associated with the Big Spring near Lewistown (**Section 3.3.1**), precipitation recorded at the Crystal Lake SNOTEL station in the Big Snowy Mountains (**Section 3.3.2**) and the USGS gauging station on the Judith River near Sapphire Village (**Section 3.3.3**). Refer to **Figure 1** for LTM locations.

3.3.1 Big Spring

The Montana Fish, Wildlife and Parks (FWP) monitors spring discharge and surface water flows in and immediately around the Big Springs near Lewiston, Montana. These discharges are useful in understanding both surface water flows in Big Spring Creek as week as groundwater discharge and a measure of dynamic hydraulic conditions in the Madison Aquifer.

Figure 12a is a plot (Station 41S_11380) of the FWP-reported Big Spring discharge (within the larger complex of groundwater seeps and springs at the Big Spring site) for the period of record June 2017 through August 2025 (the most recent published data). Discharge is seen to generally vary from approximately 80 to 100 cubic feet per second (cfs). The overall trend of the data remains steady through 2020, after which flows were reported to decrease slightly in 2021 and 2022, then recovering to more intermediate flows in 2023 through 2025.

Figure 12b plots more recent reported daily discharge (January 2022 to August 2025), and more closely illustrates that the recorded discharge at the Big Spring continues to remain within historical ranges.

3.3.2 Crystal Lake SNOTEL

The NRCS operates the Crystal Lake SNOTEL station in the Big Snowy Mountains on the southeast edge of the Judith River Basin. Data from the station provides useful meteorological information related to the LTM program with respect to potential recharge of the Madison and Kootenai aquifers within the Basin.

Figure 13a and 13b plot accumulated precipitation and snow water equivalent (SWE) values, respectively, recorded at the station for water years 2019 to 2025. Median values for both parameters are also plotted on the graphs for the period or record. **Figure 13a** illustrates that while several years have experienced below normal accumulated precipitation, 2025 was reported above the median values for most of the water year (February through October). Similarly, **Figure 13b** indicates that SWE values are below normal for many years over the period of record, but in 2025 SWE values were near the median values for much of the water year, and approached or defined maximum SWE values from late January to May. Accumulated precipitation and SWE in the 2025 water year, as reported at the Crystal Lake SNOTEL station, are considered to favor recharge to the basin aquifers under typical evapotranspiration conditions.

3.3.3 Judith River Streamflows

The USGS maintains a stream gauging station on the Judith River (USGS 06110020), just upstream of Carr Creek near Sapphire Village. The flows are an indicator of the timing and magnitude of snowmelt in the Little Belt Mountains, and a metric of overall surface water resources in the Judith Basin. **Figure 14** is a plot of recorded mean daily discharge (cfs) for the period from October 2014 through January 2026. Peak and low daily mean flows are typically recorded in May and February/March, respectively. The recent, historical mean daily streamflow trends can generally be described as decreasing beginning in 2020, followed by increasing values beginning in 2023 (maximum mean daily peak flow for the period of record reported at nearly 800 cfs in May 2023). In 2024 and 2025, reported daily mean streamflows were more typical, and trending upwards. For the calendar year 2025, peak daily mean streamflow was reported at 353 cfs in May, and the low recorded in March (3.99 cfs); consistent with historical temporal discharge highs and lows. (It is noted that the 2025 data are provisional, and that low data may often be influenced by ice conditions in the river and subject to error.)

4. SUMMARY

This report is the latest presentation of the results of the LTM program from its inception in 2016 through 2025. The record is robust and provides an understanding of the baseline and current surface and groundwater conditions within the UBet Wellfield and the broader LTM network.

From the hydrographs presented, it appears LTM wells in both the Madison and Kootenai aquifers follow similar, natural historic and seasonal water level trends, with Kootenai wells demonstrating more muted variability.

Production from UBet Wellfield began in September 2023, and monitoring and interpretation have begun to encompass water production from the UBet wells and focused groundwater monitoring of both the Madison and Kootenai Aquifers.

Production wells CMRWA 2 and CMRWA 3 have reportedly been operated at rates on the order of 550 gpm and 1150 gpm, respectively. Annual production from the wells in 2025 was over 137 million gallons. The wells are typically not operated simultaneously for production. Drawdown in the wells in response to pumping is considered negligible, on the order of 40 to 50 ft) in the wells, and recovery is rapid when pumping ceases. The pumping rates are currently considered sustainable for these wells.

A review of static water levels in the Madison and Kootenai wells (and importantly the nearby Kootenai sentinel well CMRWA MW-1) suggests no decline in either aquifer in response to operation of the UBet Madison production wells.

Discharge data recorded at the Big Spring and the Judith River monitoring stations, and meteorological data at the Crystal Lake SNOTEL station suggest near normal hydrologic conditions in 2025.

Future monitoring will include planned UBet production wells CMRWA 4 and CMRWA 5, both currently completed but awaiting connection to the distribution system.

It is recommended LTM data collection and interpretation efforts continue and be documented in subsequent annual LTM reports, and the data archived as appropriate to the existing public databases and on-site SCADA system.

FIGURES

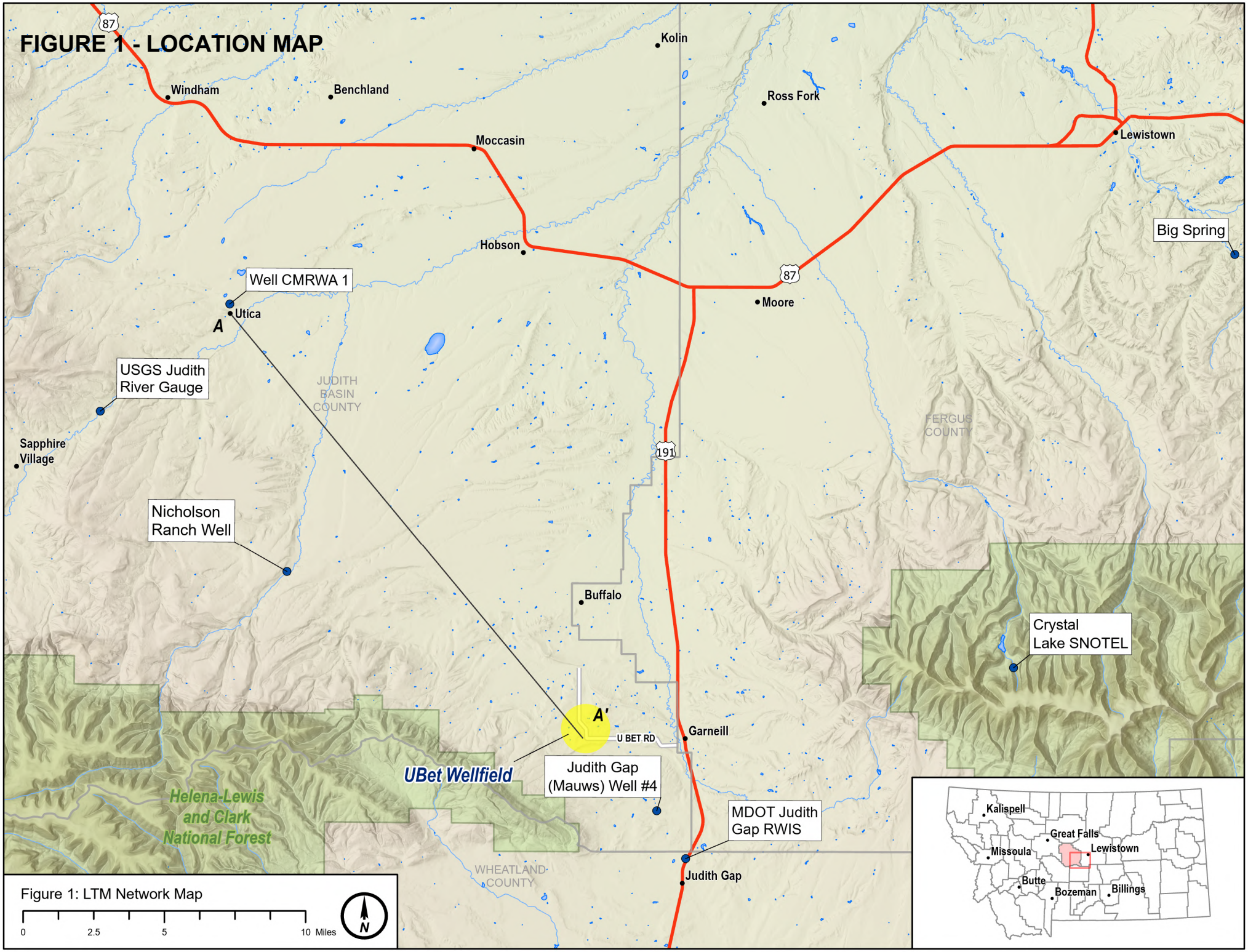
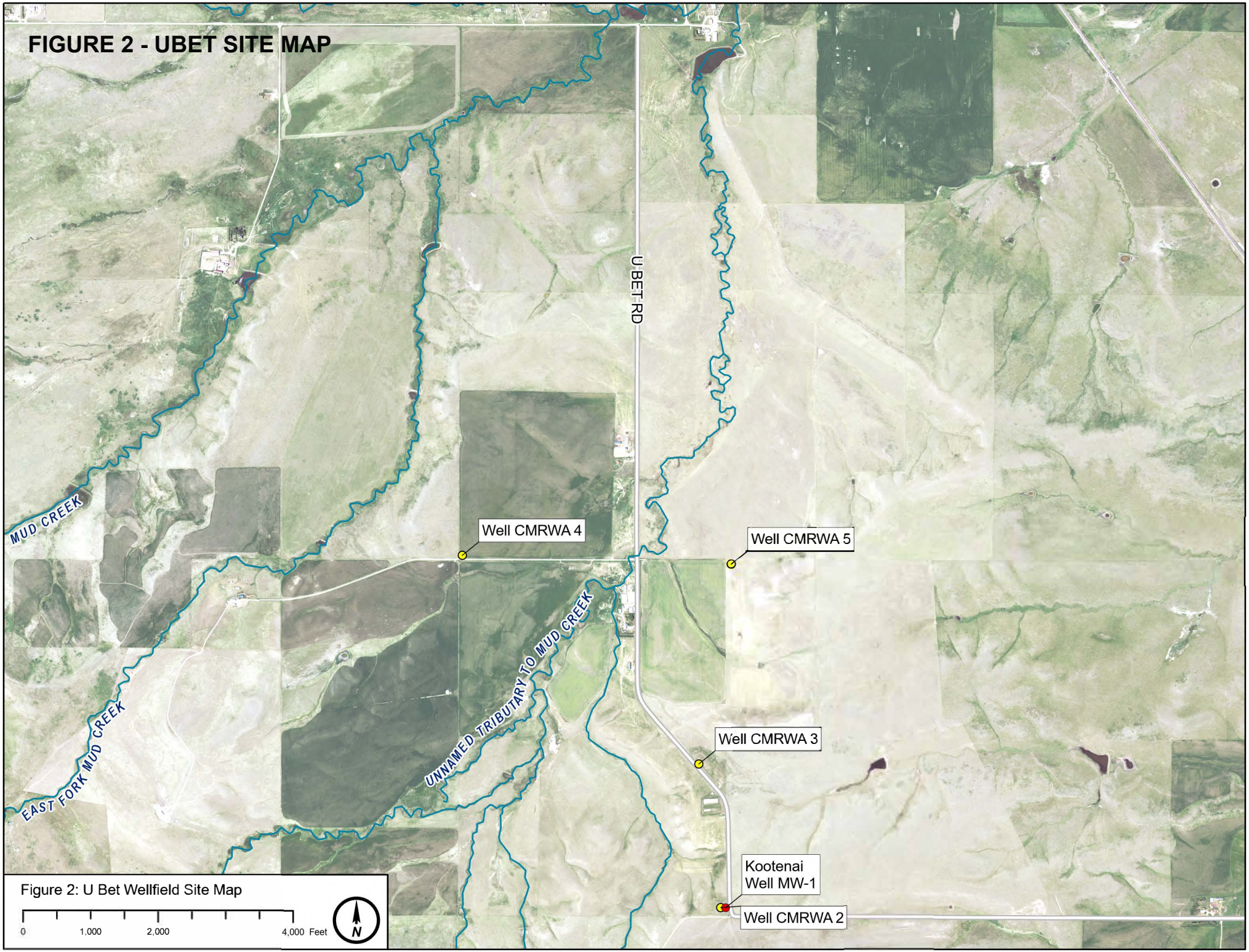
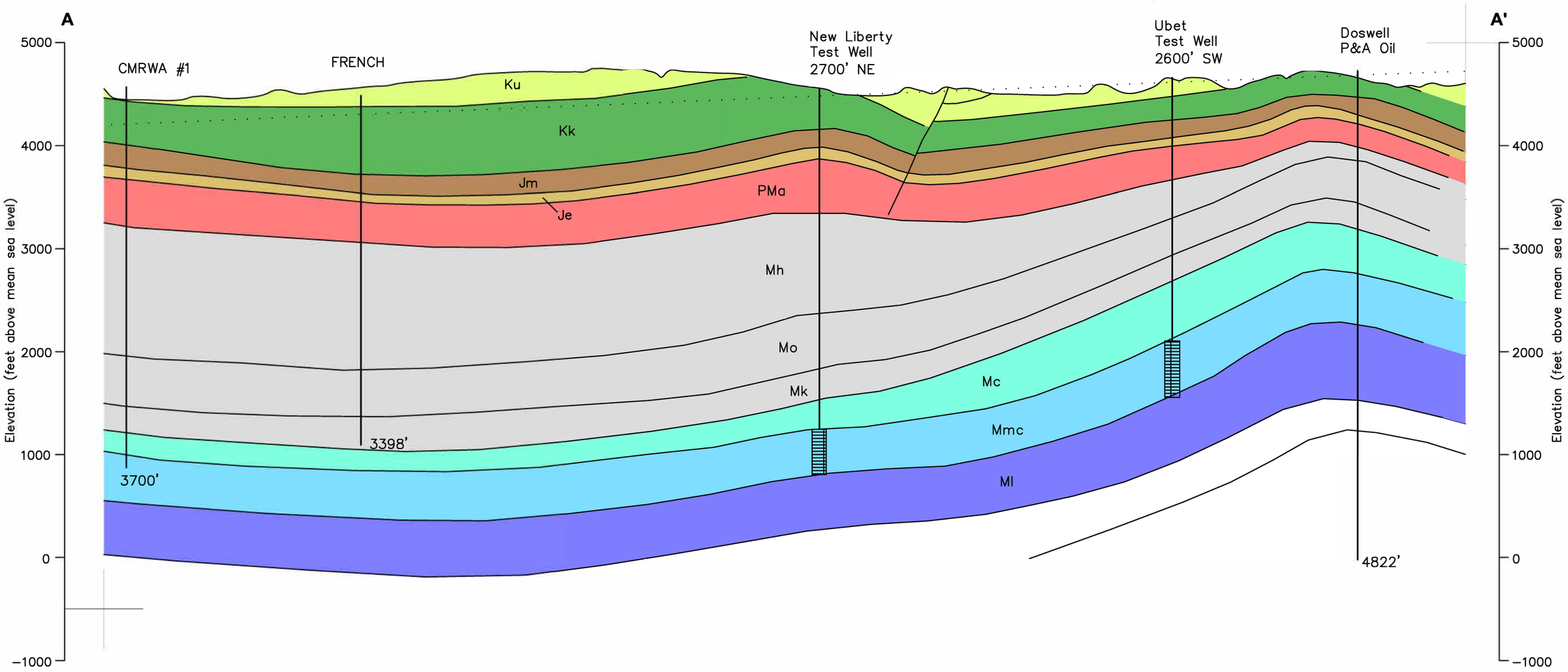


FIGURE 1 - LOCATION MAP
87
Windham
Benchland
Kolin
Ross Fork
Moccasin
Lewistown
Big Spring
Hobson
87
Moore
Well CMRWA 1
Utica
A
USGS Judith
River Gauge
JUDITH
BASIN
COUNTY
FERGUS
COUNTY
Sapphire
Village
191
Nicholson
Ranch Well
Buffalo
Crystal
Lake SNOTEL
A'
U BET RD
Garneill
UBet Wellfield
Judith Gap
(Mauws) Well #4
Helena-Lewis
and Clark
National Forest
MDOT Judith
Gap RWIS
WHEATLAND
COUNTY
Judith Gap
Kalispell
Great Falls
Missoula
Lewistown
Butte
Bozeman
Billings
Figure 1: LTM Network Map
0
2.5
5
10 Miles
N

FIGURE 2 - UBET SITE MAP



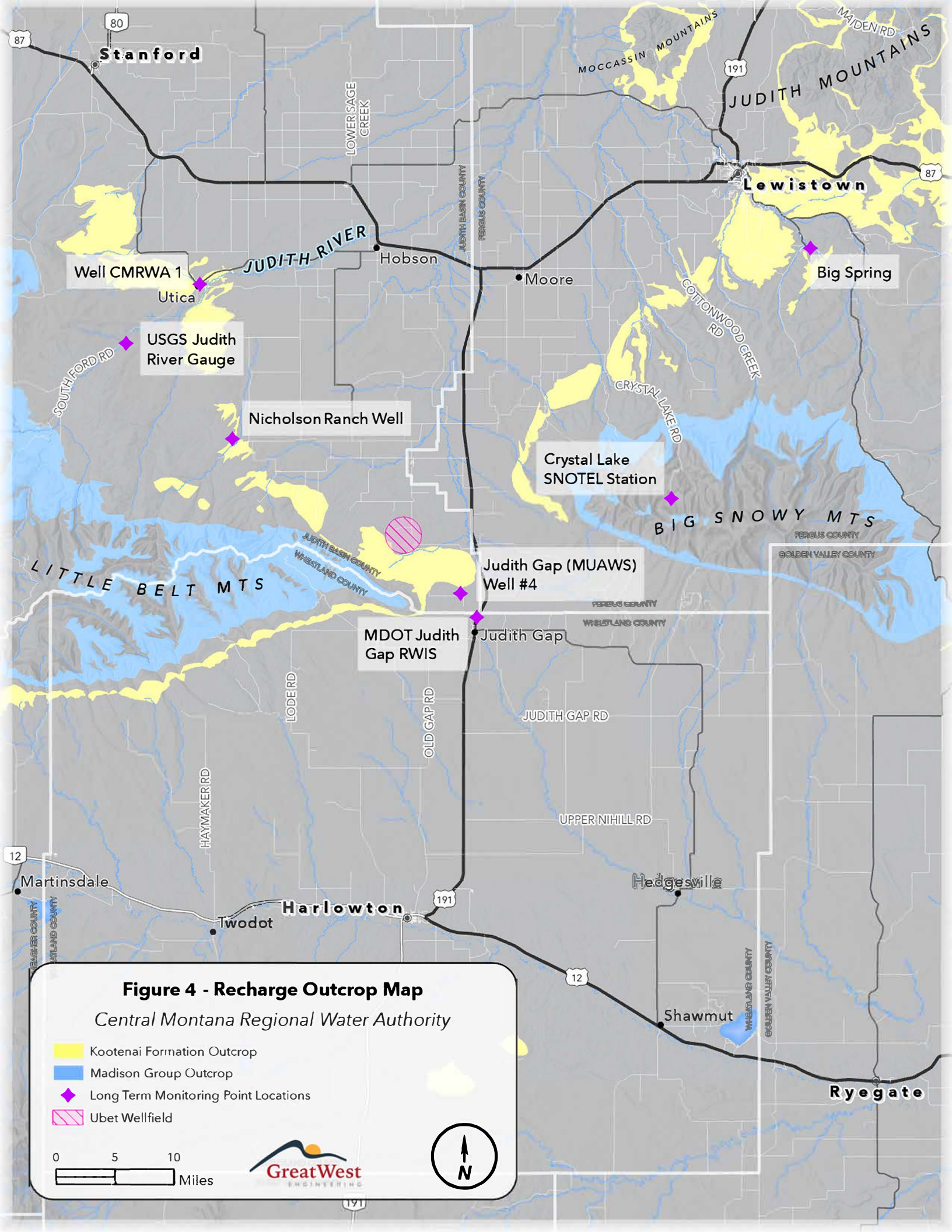


Cross sections were drawn balanced at exaggerated scales.

Ku	Cretaceous rocks, undifferentiated, mostly marine shale	Je	Ellis Group, sandstone, limestone, shale	Mc	Madison Group, Charles fm., limestone, dolomite, shale, anhydrite	CMRWA #1 / 3700'	Borehole location, name and total depth
Kk	Kootenai fm., sandstone and shale	PMa	Amsden Group, limestone, shale, sandstone	Mmc	Madison Group, Mission Canyon fm., limestone, dolomite, target aquifer		Estimated piezometric surface
Jm	Morrison fm., shale	Mbs	Big Snowy Group, Mh (Heath), Mo (Otter), Mk (Kibbey), shale, sandstone, some limestone	Ml	Madison Group, Lodgepole fm., limestone/shale, thin bedded		

0 10,000 20,000 Feet
Horizontal Scale

Figure 3
Geological Cross Section A-A'
From Western Groundwater Services


Stanford
Lewistown
Hobson
Moore
Utica
Martinsdale
Harlowton
Twodot
Hedgesville
Shawmut
Ryegate
Well CMRWA 1
USGS Judith River Gauge
Nicholson Ranch Well
Judith Gap (MUAWS) Well #4
MDOT Judith Gap RWIS
Judith Gap
Big Spring
Crystal Lake SNOTEL Station
JUDITH RIVER
LOWER SAGE CREEK
MOCCASIN MOUNTAINS
JUDITH MOUNTAINS
MAIDEN RD
COTTONWOOD CREEK RD
CRYSTAL LAKE RD
BIG SNOWY MTS
LITTLE BELT MTS
SOUTH FORD RD
LODE RD
OLD GAP RD
JUDITH GAP RD
HAYMAKER RD
UPPER NIHILL RD
JUDITH BASIN COUNTY
FERGUS COUNTY
WHEATLAND COUNTY
GOLDEN VALLEY COUNTY
80
87
191
12
Figure 4 - Recharge Outcrop Map
Central Montana Regional Water Authority
Kootenai Formation Outcrop
Madison Group Outcrop
Long Term Monitoring Point Locations
Ubet Wellfield
0 5 10
Miles
GreatWest ENGINEERING
N

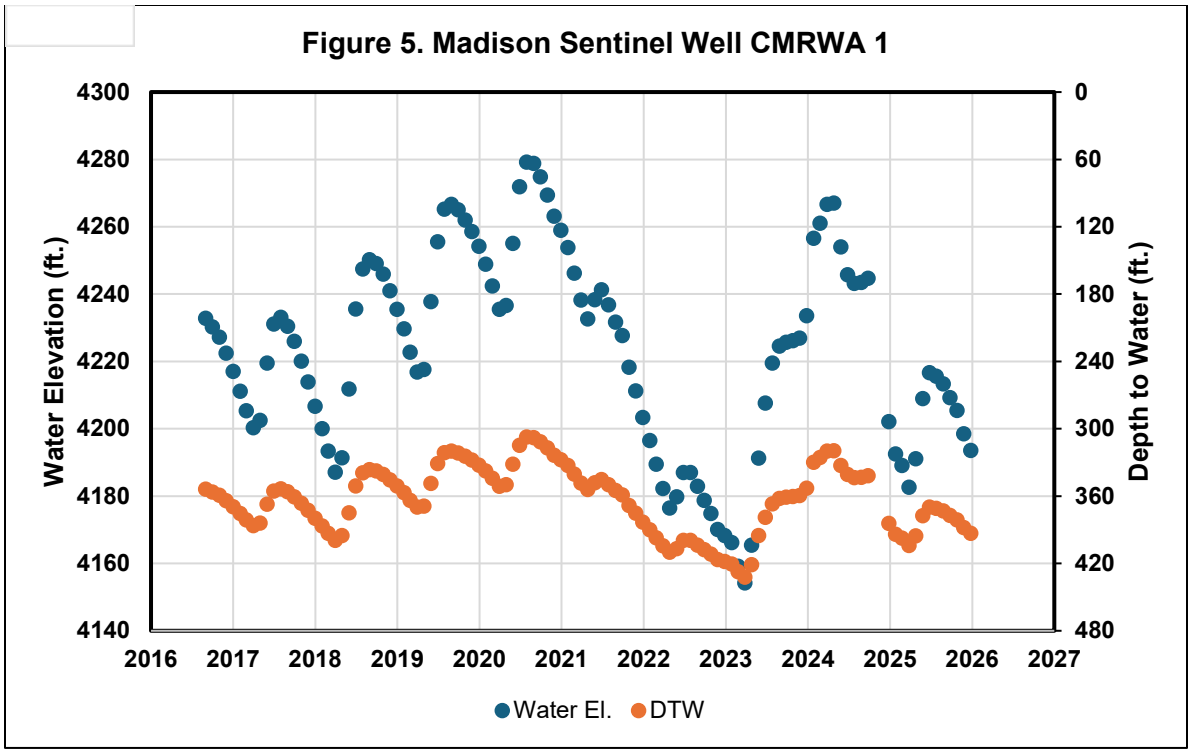


Figure 5. Madison Sentinel Well CMRWA 1
Water Elevation (ft.)
Depth to Water (ft.)
4300
4280
4260
4240
4220
4200
4180
4160
4140
0
60
120
180
240
300
360
420
480
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Water El.
DTW

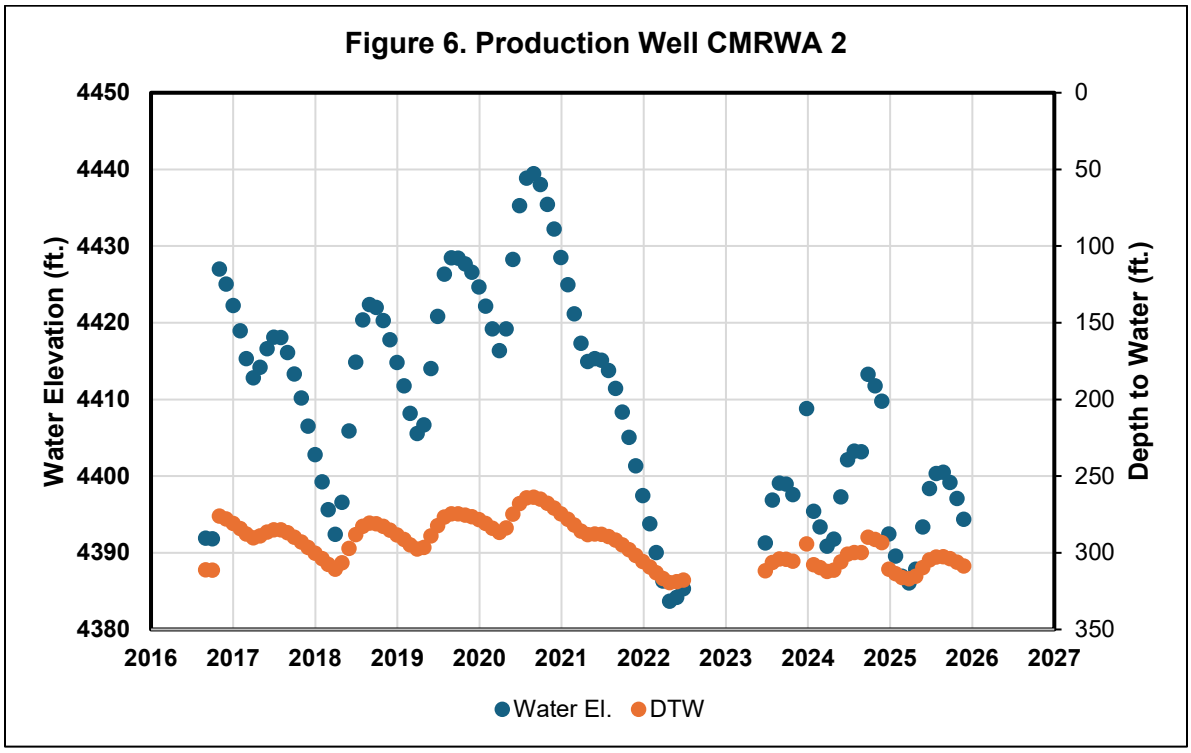


Figure 6. Production Well CMRWA 2
Water Elevation (ft.)
Depth to Water (ft.)
4450
4440
4430
4420
4410
4400
4390
4380
0
50
100
150
200
250
300
350
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Water El.
DTW

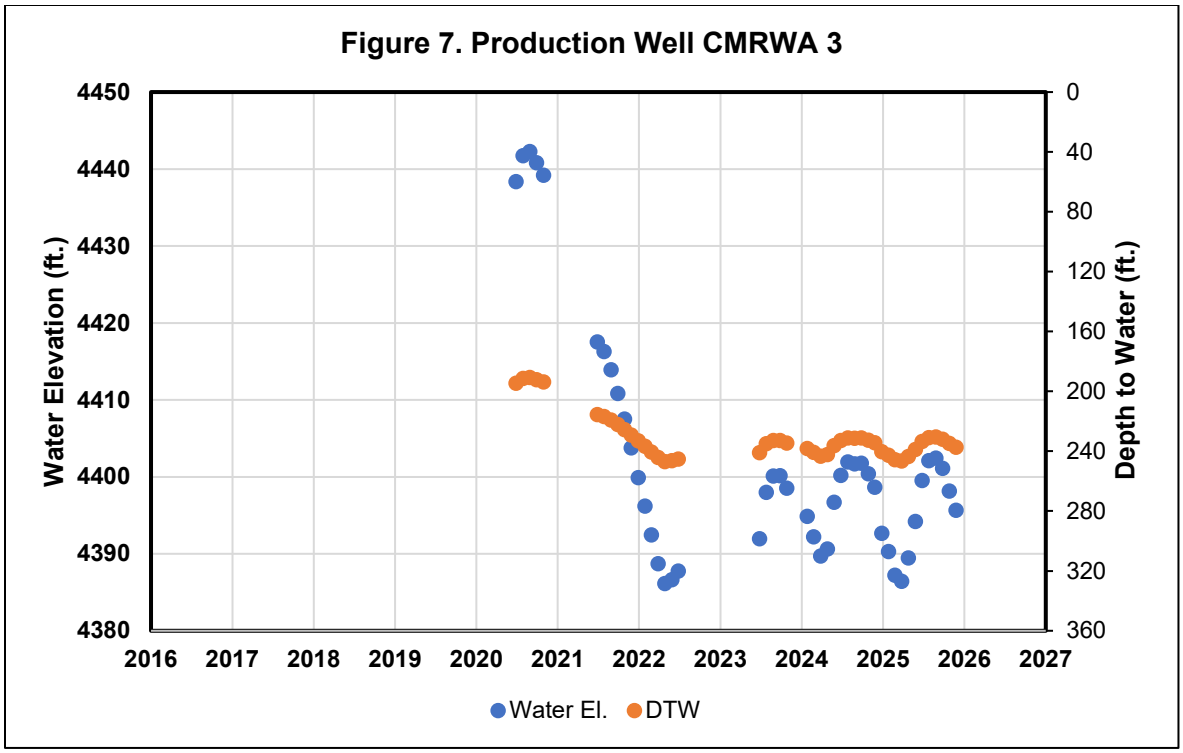


Figure 7. Production Well CMRWA 3
Water Elevation (ft.)
Depth to Water (ft.)
4450
4440
4430
4420
4410
4400
4390
4380
0
40
80
120
160
200
240
280
320
360
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Water El.
DTW

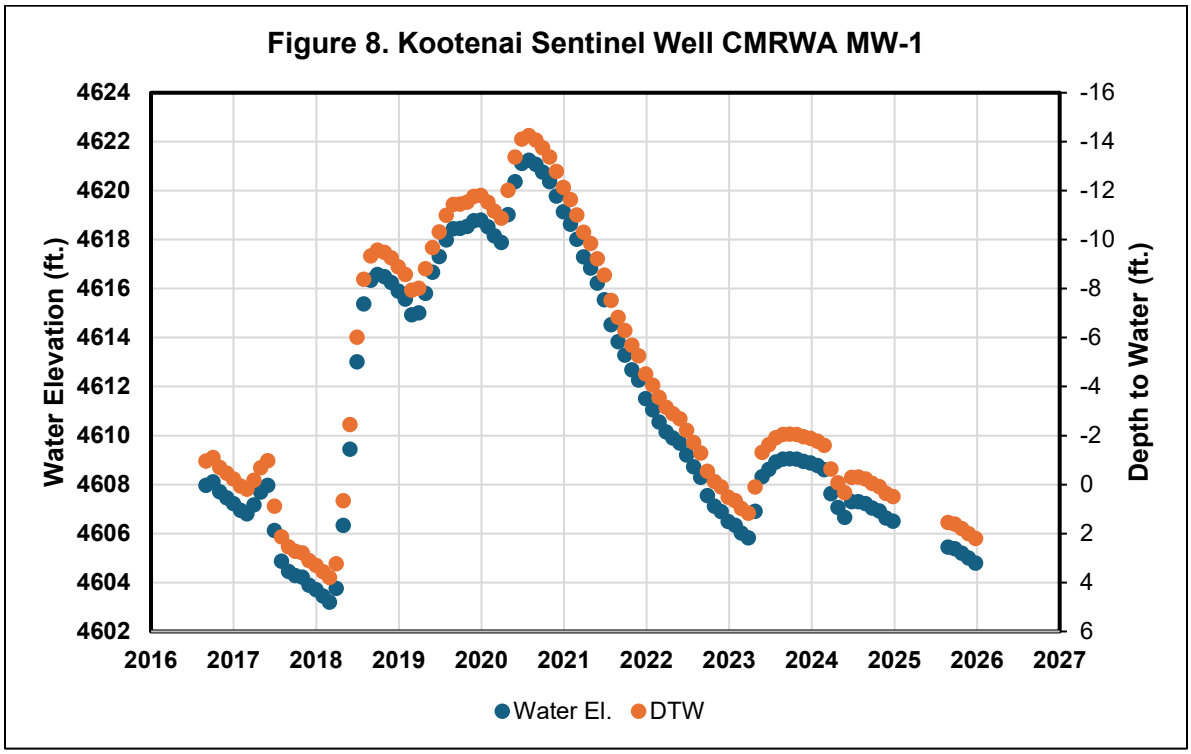


Figure 8. Kootenai Sentinel Well CMRWA MW-1
Water Elevation (ft.)
Depth to Water (ft.)
4624
4622
4620
4618
4616
4614
4612
4610
4608
4606
4604
4602
-16
-14
-12
-10
-8
-6
-4
-2
0
2
4
6
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Water El.
DTW

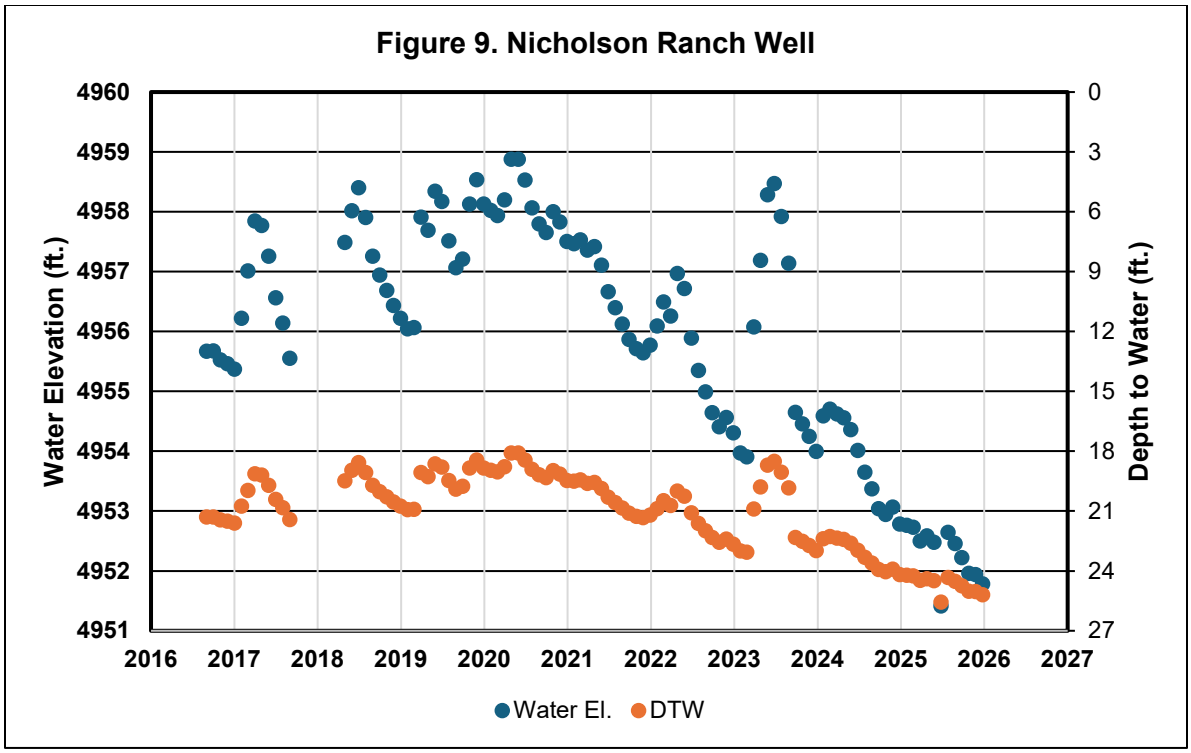


Figure 9. Nicholson Ranch Well
Water Elevation (ft.)
Depth to Water (ft.)
4960
4959
4958
4957
4956
4955
4954
4953
4952
4951
0
3
6
9
12
15
18
21
24
27
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Water El.
DTW

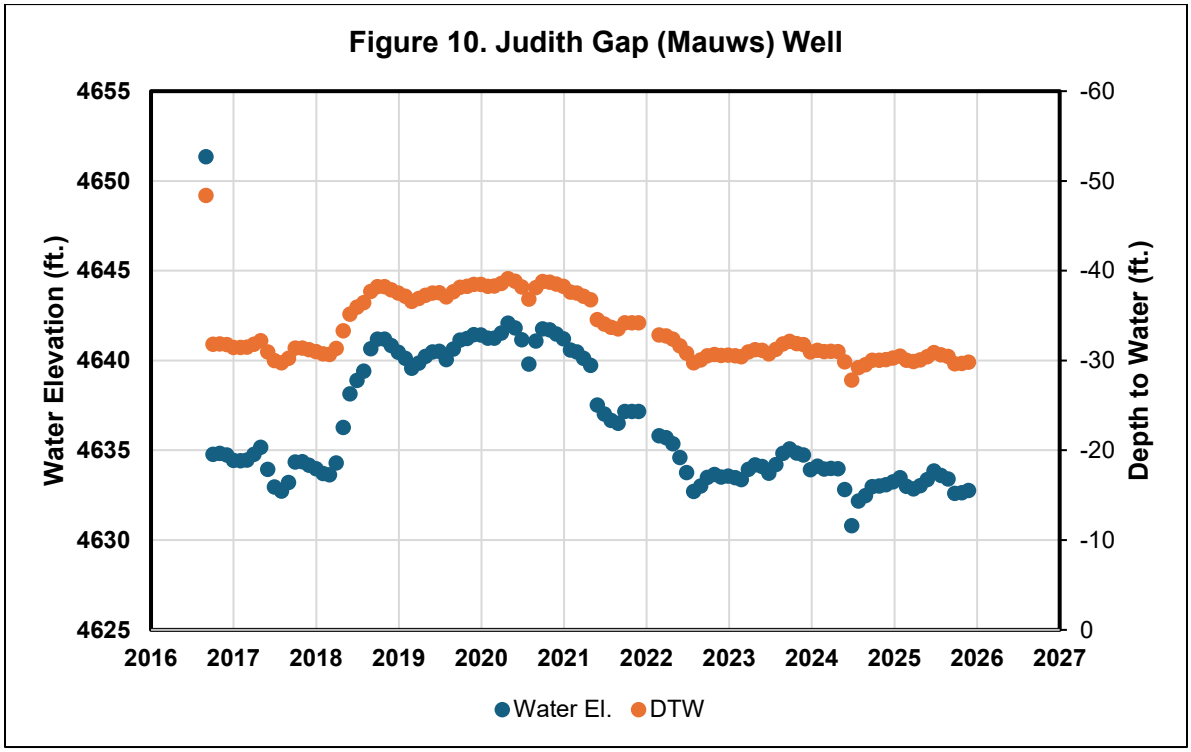
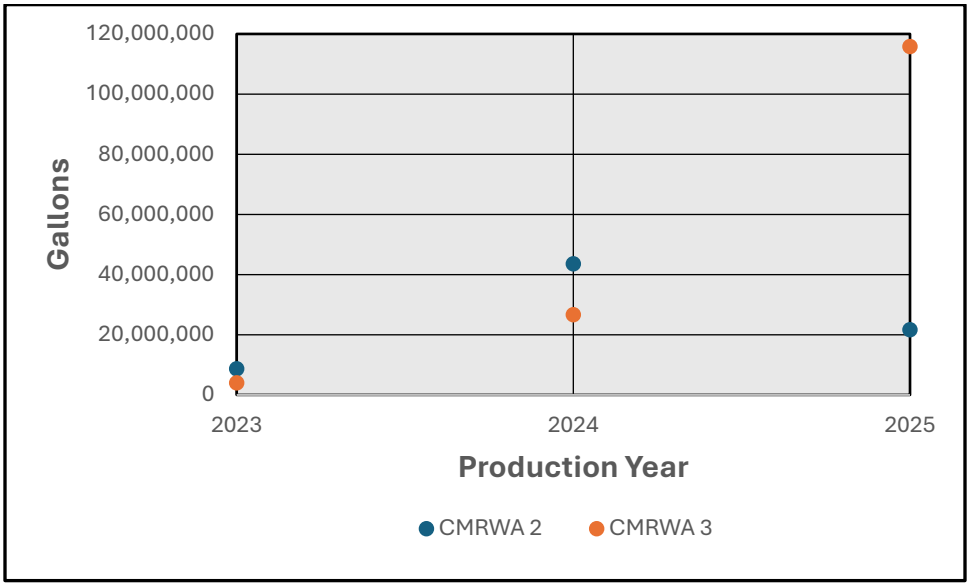


Figure 10. Judith Gap (Mauws) Well
Water Elevation (ft.)
Depth to Water (ft.)
4655
4650
4645
4640
4635
4630
4625
-60
-50
-40
-30
-20
-10
0
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Water El.
DTW

Figure 11. Annual Water Production- UBet Wellfield



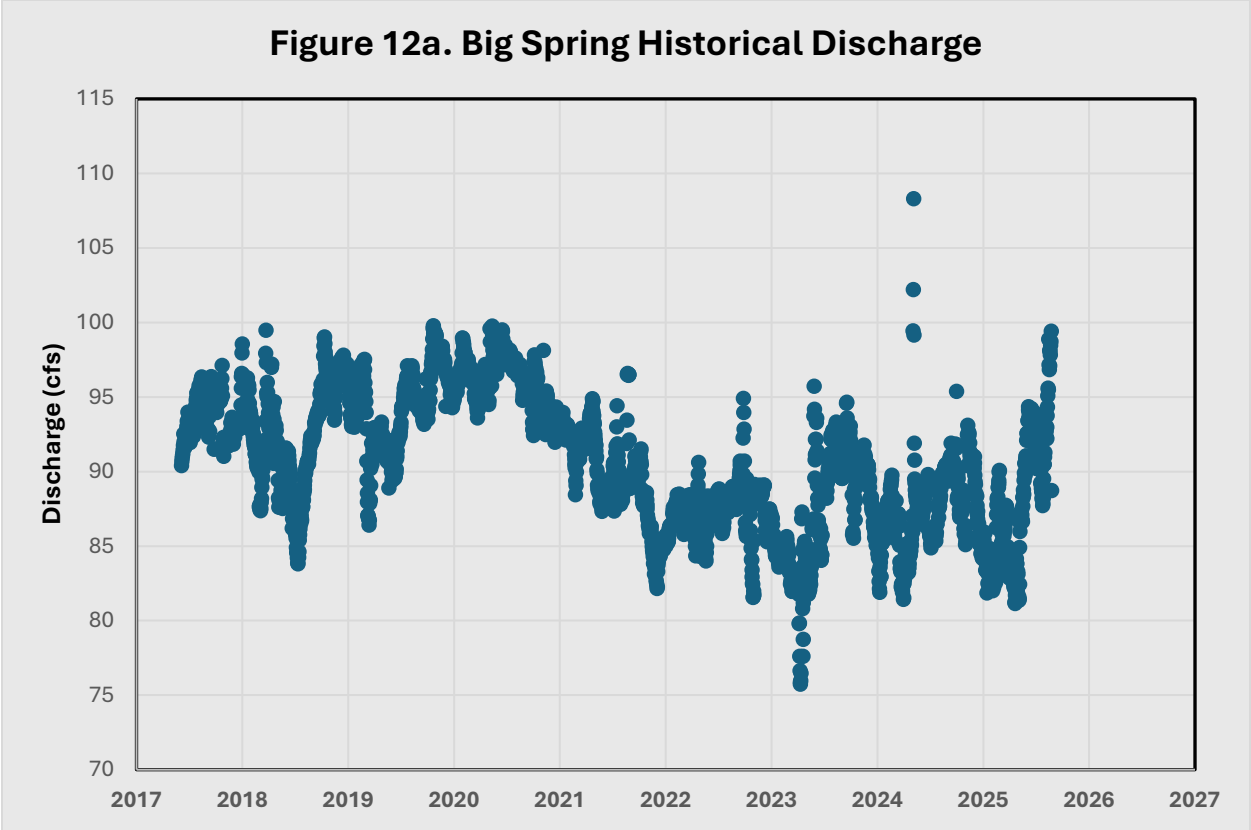
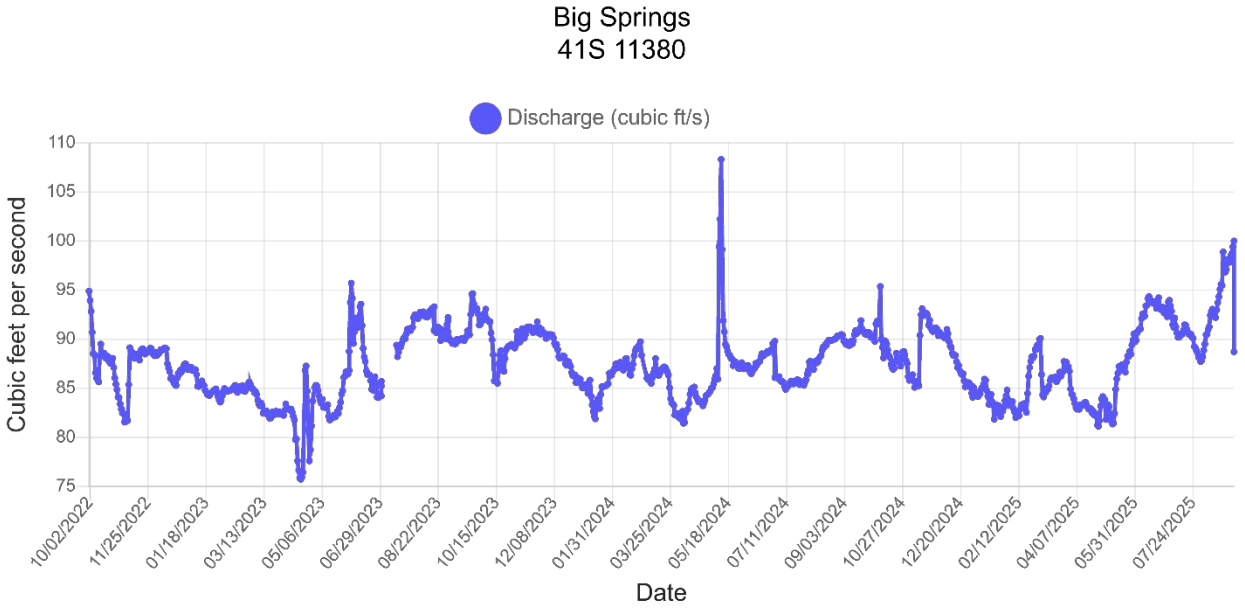
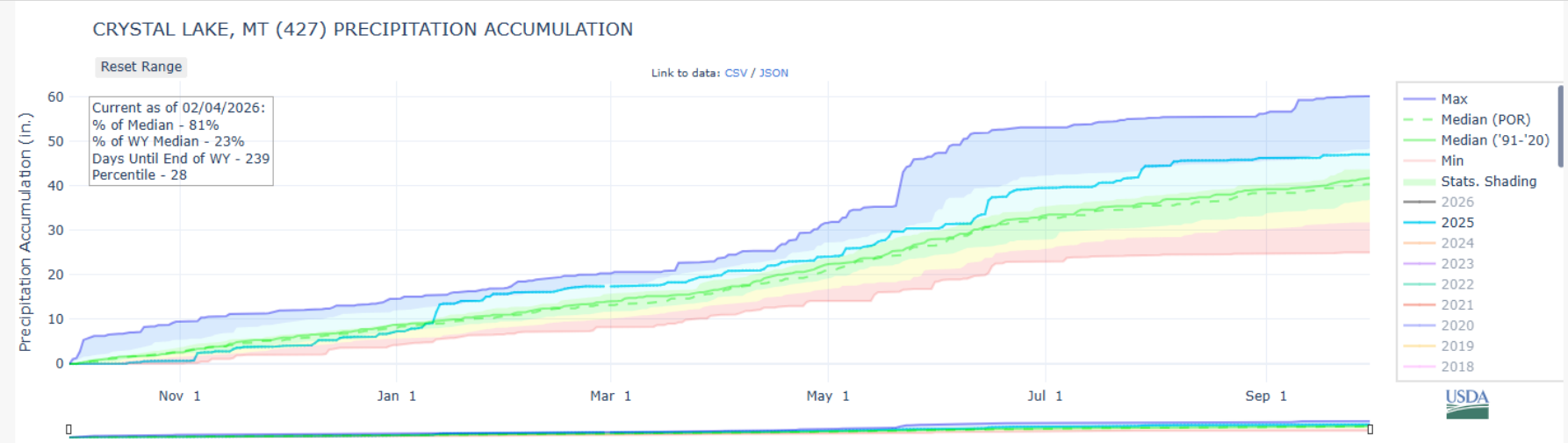


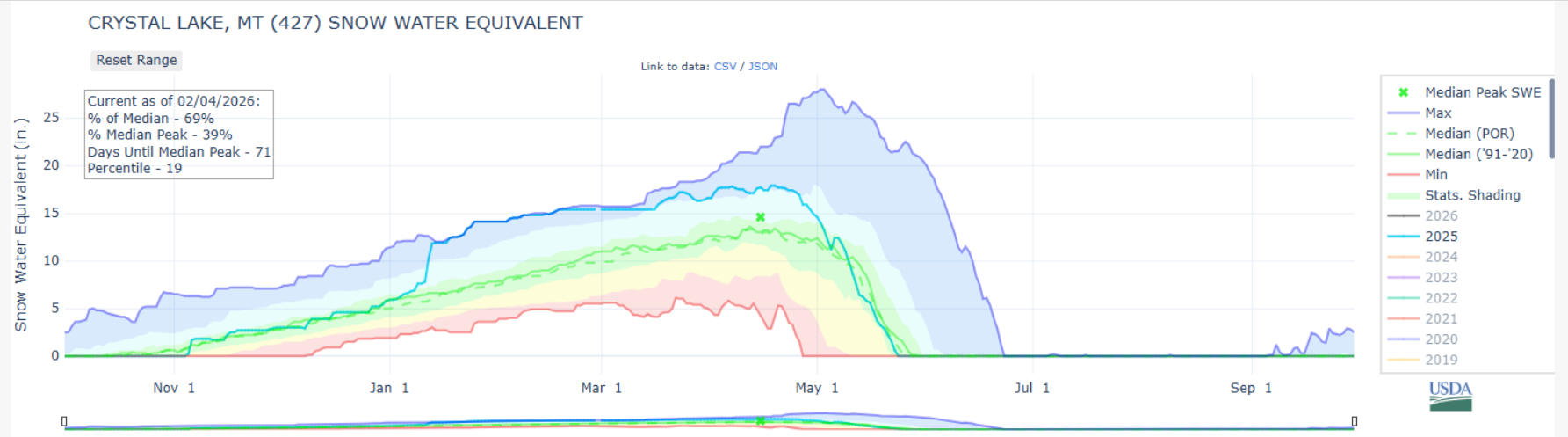
Figure 12b. Big Springs Discharge Hydrograph-Recent





Statistical shading percentiles are calculated from period of record (POR) data, excluding the current water year. Percentile categories range from: minimum to 10th percentile , 10th - 30th , 30th - 70th , 70th - 90th , and 90th - maximum.

Figure 13a. Crystal Lake SNOTEL Precipitation Accumulation (2019-2026)



Statistical shading percentiles are calculated from period of record (POR) data, excluding the current water year. Percentile categories range from: minimum to 10th percentile , 10th - 30th , 30th - 70th , 70th - 90th , and 90th - maximum.

Figure 13b. Crystal Lake SNOTEL SWE Values (2019-2026)

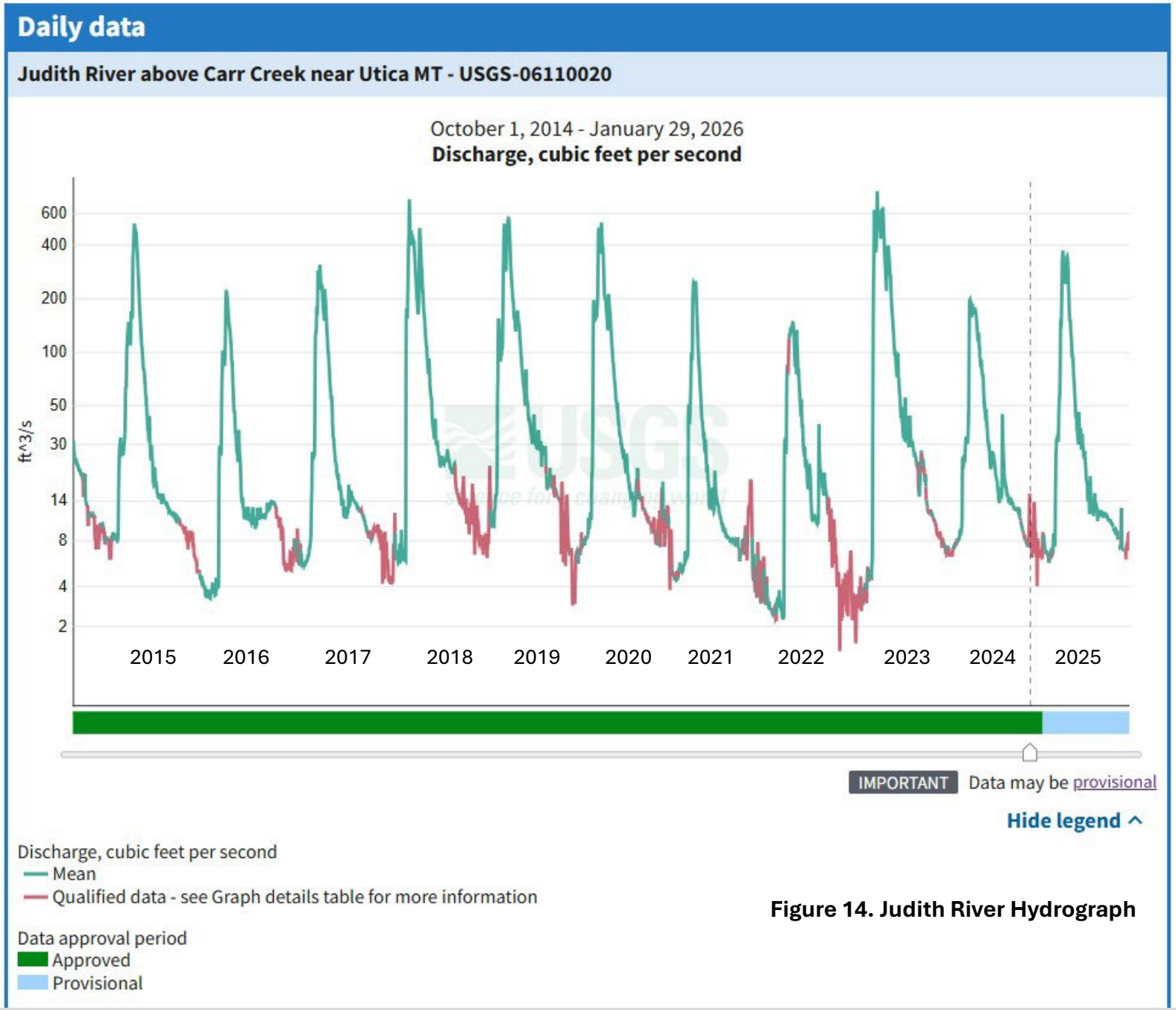


Figure 14. Judith River Hydrograph

APPENDIX A

GWIC Logs and LTM Summary Table

Appendix A CMRWA Well and LTM Network Summary

Well	GWIC ID	DATE COMPLETED	PURPOSE	AQUIFER	YIELD (gpm)	DEPTH (ft bgs)	COORDINATES LAT/LON
Well CMRWA 1	257040	2005	Monitoring	Madison	NA	3700	46.97N/110.09W
Well CMRWA 2	269957	2012	Production	Madison	550	2250	46.75N/109.83W
Well CMRWA 3	304761	2019	Production	Madison	1280	2850	46.76N/109.83W
Well CMRWA 4		2024	Production	Madison	1400	3000	46.77N/109.84W
Well CMRWA 5		2024	Production	Madison	1400	3000	26.77N109.82W
Well CMRWA MW-1	289648	2016	Monitoring	Kootenai	NA	712	46.75N/109.83W
JUDITH GAP (MAUWS) Well #4	132756	2018	Monitoring	Kootenai	250	445	46.71N/109.77W
NICHOLSON RANCH Well	204169	2002	Monitoring	Kootenai	60	120	46.84N/110.05W
Big Spring			Monitoring	Madison	NA	NA	47.00N/109.34W
Crystal Lake SNOTEL Station			Monitoring		NA	NA	76.78N/109.52W
USGS Judith River Gauge (06110020)			Monitoring		NA	NA	46.55N/110.11 W

MONTANA WELL LOG REPORT

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View scanned published report (7/26/2010 4:57:13 PM)

Site Name: CENTRAL MONTANA REGIONAL WATER AUTHORITY * SUPPLY WELL 1
GWIC Id: 257040

Section 1: Well Owner(s)

1) CMRWA (MAIL)
N/A
HOBSON MT 59452 [02/01/2006]

Section 2: Location

Township	Range	Section	Quarter Sections
14N	13E	16	SW¼ NW¼ SW¼

County: JUDITH BASIN
Geocode:

Latitude	Longitude	Geomethod	Datum
46.973135	-110.092816	DIGITALMAP	WGS84

Ground Surface Altitude	Ground Surface Method	Datum	Date
4586.56	DEM	NAVD88	4/7/2020

Measuring Point Altitude	MP Method	Datum	Date Applies
4586.56	DEM	NAVD88	9/19/2016 6:30:00 PM

Addition: **Block:** **Lot:**

Section 3: Proposed Use of Water

DOMESTIC (1)
PUBLIC WATER SUPPLY (2)

Section 4: Type of Work

Drilling Method:
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Saturday, January 1, 2005

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	42	0
42	839	13.5
817	1500	8.75
1500	3700	6.25

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	42	16				STEEL
0	839	9				STEEL
817	1500	7				STEEL
1477	3565	4				STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
3565	3700	4			OPEN HOLE

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
807	817	7X9.625 CASING PACKER	

Section 7: Well Test Data

Total Depth: 3700
Static Water Level: 391.99
Water Temperature:

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source
330MDSN - MADISON GROUP OR LIMESTONE

From	To	Description
0	40	BOULDERY TERRACE DEPOSITS; CALICHE AT TOP
40	135	BLACK SHALE; HARD BLACK SHALE BOTTOM 15 FT.
135	310	INTERBEDDED SHALE, SANDSTONE AND MUDSTONE
310	400	SECOND CAT CREEK SAND, SOFT WHITE SANDSTONE
400	495	VERY DARK REDDISH-BROWN MUDSTONE, TRACES OF SANDSTONE
495	556	THIRD CAT CREEK SAND, HARD SANDSTONE WITH SOME CHERTY LAYERS
556	614	SOFT SANDSTONE
614	805	MUDSTONE WITH A FEW INTERBEDS OF LIMESTONE AND SANDSTONE
805	850	SOFT BROWN SANDSTONE AND RED CLAY
850	895	GREENISH GRAY TO GRAY SHALE
895	1115	INTERBEDDED RED/WHITE SILTSTONE, WHITE SANDSTONE, AND GYPSUM
1115	1214	LIMESTONE AND SOFT RED SHALE
1214	1362	SOFT RED SILTSTONE
1362	1850	BLACK SHALE, SOFT, VERY PETROLIFEROUS, TRACE GYPSUM/ANHYDRITE AND LIMESTONE
1860	1880	BLACK SAND, FLOWS WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company:
License No: -
Date Completed: 1/1/2005

1460	1477	4.5X7 CASING HANGER PACKER	

Site Name: CENTRAL MONTANA REGIONAL WATER AUTHORITY
GWIC Id: 257040
Additional Lithology Records

From	To	Description
1880	1910	WHITE SANDSTONE, HARD, SILICA CEMENT
1925	2615	BLACK SHALE INCLUDED PETROLIFEROUS ZONES
2615	2770	BLACK SHALE
2770	2800	LIMESTONE
2800	3102	BLACK SHALE
3102	3250	WHITE SILTSTONE INTERBEDDED WITH RED SILTSTONE AND ANHYDRITE
3250	3360	REDDISH-BROWN SOFT CLAY SHALE
3360	3398	SHALE WITH 30% ANHYDRITE
3398	3426	ANHYDRITE WITH TRACES OF SHALE
3426	3562	LIMESTON WITH FEW LAYERS OF SOFT CLAY/SHALE AND SHALEY LIMESTONE LAYERS
3562	3700	LIGHT GRAY, SOFT LIMESTONE WITH POROSITY ??? OF SOFT WHITE CLAY AND SOFT SPARRY CELCITE, LIGHT LIMESTONE

MONTANA WELL LOG REPORT

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Site Name: CENTRAL MONTANA REGIONALWATER AUTHORITY WELL-2
GWIC Id: 269957

Section 1: Well Owner(s)

1) CENTRAL MONTANA REGIONALWATER AUTHORITY (WELL)
2501 BELT VIEW DRIVE
HELENA MT 59604 [10/14/2012]

Section 2: Location

Township	Range	Section	Quarter Sections
12N	15E	34	SE¼ SW¼ SW¼

County: JUDITH BASIN
Geocode:

Latitude	Longitude	Geomethod	Datum
46.7517783726	-109.826077447	TRS-SEC	NAD83

Ground Surface Altitude: **Ground Surface Method:** **Datum:** **Date:**

Addition: **Block:** **Lot:**

Section 3: Proposed Use of Water

TEST WELL (1)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Sunday, October 14, 2012

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	1000	12.25
1000	2225	8.75
2225	2250	6.125

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	998	9	0.375		THREADED	STEEL
950	2223	7	0.375		THREADED	STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
2223	2250	7			OPEN HOLE

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	2223	NEAT CEMENT	Y

Section 7: Well Test Data

Total Depth: 2223
Static Water Level: 269.8
Water Temperature:

Pump Test *

Depth pump set for test 562 feet.
541 gpm pump rate with 20.8 feet of drawdown after 72 hours of pumping.
Time of recovery _ hours.
Recovery water level _ feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

PUMP TEST COMPLETED ON 11-28-12

Section 9: Well Log

Geologic Source

Unassigned

From	To	Description
0	35	CLYST, TAN, THN LAM (THERMOPOLIS)
35	65	CLYST, GR & LT TAN, THN LAM
65	95	SH, BLK
95	125	CLYST, GY, THN LAM
125	155	SLTST, GY, ARG, HD, THN LAM
155	185	SLTST, GY, ARG, HD, THN LAM, SG, DK GY
185	215	SLTST, GY, ARG, HD, THN LAM
215	245	SS, LT GY, F, CALC CMT, POS KAO CMT, ANG, MED SRTG (KOOTENAI)
245	275	SH, RED BRN, SLTY, WKLY CALC; SH, GY
275	305	SLTST, RED BRN, GY, HD, ARG
305	335	SS, LT GY, F, ANG, MOD SRTG, CALC CMT
335	365	SS, LT GY, F, ANG, MOD SRTG, CALC CMT (POS SIL CMT), V HD; COAL, RR, BLK, VTR
365	395	CLYST, RES AND LY GY, MOT, SLTY, BENT
395	425	CLYST, LT GY W/ RED CTG, MOT, SLTY
425	455	SS, LT GY, WKLY CALC CMT, POS SIL CMT, HD, SUB ANG TO MD, PRLY SRTD (THIS AND PRIOR SANDSTONES INCLUDE +30% FELDSPAR AND QTZ, AND 10-15% OPAQUES)

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name: FRED ROTHHAUGE
Company: HYDRO RESOURCES
License No: WWC-670
Date Completed: 10/14/2012

Site Name: CENTRAL MONTANA REGIONALWATER AUTHORITY
GWIC Id: 269957
Additional Lithology Records

From	To	Description
455	485	CLYST, RED
485	515	CLYST, RED AND LT GY, INTR-LAM, POS HD SS LAM/BDS
515	545	SS, LT GY, F, , SLTY, CALC CMT, HD
545	575	LS, WHT; CLYST, RED, (LAVENDER), INTR LAM; SH, BLK, FIS
575	605	SS, LT GY, F, SIL CMT, TR PYR, V HD; RED CLY CTGS ON CHPS GIVES LAV COLR
605	635	SS, LT GY, M, LSE GRNS, SOME CALC CMT CHIPS, QTZ, FLD, CHRT
635	665	SS, GY, M, LSE GRNS, TR PYR, ABNT OP GRNS; RR CHPS PRP, RED, GRN MUDST
665	695	SS, GY, C, LSE GRNS, S&P, PYR AND CALC CMT; ABNT F COAL CHPS
695	725	SS, GY, C, LSE GRNS, S&P, TR PYR
725	755	SLTST, GY, SIL, V HD (MORRISON)
755	785	SLTST, WH, CALC, V HD; CLYST, BRN, SLTY
785	815	SLTST, GY; CLYST, GY BRN; SS, WH, F, W/COAL LAM
815	845	SLTST, GY, ARG
845	875	CLYST, GY, SLTY
875	905	SLTST, LT GRN, ARG
905	935	CLYST, LT GRN GY, SLTY
935	965	CLYST, TAN, SFT; CLYST, LT GRN GY, SLTY; SILTST, CALC, HARD (POS DOL)
965	995	SLTST, LT GRN GY, CALC
995	1025	CLYST, LT GRN GY, TR SLTY
1025	1055	SS, LT GY, VF, SLTY, TR GLAU, CALC CMT (SWIFT)
1055	1085	LS, LT TAN, SPAR, THN LAM; LS, RED, ARG (AMSDEN) SPARRY CALCITE CHPS ARE MOST LIKELY FOSSILS
1085	1115	LS, RED-ORG, WHT, GY, ARG (RED CHP CTNGS) INTERLAMINATED/BEDDED LIMESTONE AND CLYSTONE. CLAYSTONE CHIPS SPARSELY REPRESENTED IN SAMPLES.
1115	1145	LS, LT TAN, SPAR, THN LAM; CLYST, RED-ORG
1145	1175	CLYST, RED; LS, LT TAN, WHT, GY, (RED CHP CTNGS)
1175	1205	LS, LT GY, TR ARG (LT RED CHP CTNGS)
1205	1235	LS, WHT, LT GY, TR ARG, SPAR; CLYST, RED, INTERLAMS
1235	1265	LS, GY, LT GY SPAR; RR CLYST, RED (HEATH - MOST REASONABLE BASED ON SAMPLE COLOR)
1265	1295	LS, GY, LT GY SPAR; RR CLYST, RED
1295	1325	LS, GY, ARG; CLYST, RED, CALC
1325	1355	SH, DK GY, CALC, CARB, H2S ODOR IN HCL (ALT; LS, DK GY, CARB)
1355	1385	LS, GY, CARB, SLTY (H2S ODOR IN HCL)
1385	1415	SH, BLK
1415	1445	LS, GY, ARG
1445	1475	LS, LT GRN, ARG (OTTER)
1475	1505	CLYST, LT GRN, CALC
1505	1535	LS, LT GY GRN, ARG
1535	1565	CLYSTN, LT GRN, CALC
1565	1595	SH, GY, CALC
1595	1625	LS, GY, ARG
1625	1655	LS, GY, ARG, HD
1655	1685	ANHY, WHT; INTERLAM/INTERBED WITH LS, DK GY, ARG
1685	1715	CLYST, GY, SL CALC; DOL, GY, CALC; ANHY, WHT, SFT
1715	1745	LS, GY, ARG, TR ANHY
1745	1775	CLYST, GY, ARG, SLTY, CALC, ANHY
1775	1805	SLTST, GY BRN, ARG, CALC/DOL
1805	1835	SLTST, RED BRN, ARG, CALC
1835	1865	SLTST, RED BRN, ARG, ANHY
1865	1890	SLTST, RED BRN, ARG, CALC, ANHY; SH, GY, SFT
1890	1920	SH, OLV GRN; ANHY, WHT, SFT; SH, DK GY
1920	1955	SLTST, RED-BRN, CALC, DOL INTERLAM WITH ANHY, WHT, SFT; LS, DK GY, LAM, ARG
1955	1985	SLTST, RED BRN, CALC

1985	2015	LS, GY, ARG, LAM; CLYST, RED BRN, CALC
2015	2045	LS, WHT, BLKY AND TABLR CHPS (H2S ODOR IN HCL) (CHARLES)
2045	2075	LS, WHT; SH, GY, WHT MIC NODS
2075	2105	LS, TAN; LS, LT GY TO WHT
2105	2135	LS, TAN, FOS
2135	2165	LS, TAN, FOS
2165	2195	LS, TAN, FOS, HD; LS, WHT, SFT; SH, GY
2195	2225	LS, TAN, FOS, HD; LS, WHT, SFT, W/WHT RESID; SH, GY, CALC
2225	2235	LS, WHT, SFT; SH, GY, CALC; LS, TAN, FOS, HD
2235	2250	LOST CIRC. 2241' LS, WHT, TAN, DOL, TR ARG

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View hydrograph for this site
View scanned well log (1/31/2020 8:53:44 AM)
View scanned update/correction (1/31/2020 12:05:40 PM)
View scanned update/correction (4/15/2021 9:52:58 AM)

Site Name: CENTRAL REGIONAL WATER AUTHORITY * CM-RWA-3
GWIC Id: 304761

Section 1: Well Owner(s)

1) CENTRAL REGIONAL WATER AUTHORITY (MAIL)
34 3RD AVE WEST
ROUNDUP MT 59072 [11/17/2019]

Section 2: Location

Township	Range	Section	Quarter Sections
12N	15E	34	NE¼ NW¼ SW¼

County	Geocode
JUDITH BASIN	

Latitude	Longitude	Geomethod	Datum
46.757719	-109.82585	NAV-GPS	WGS84

Ground Surface Altitude	Ground Surface Method	Datum	Date
4629.49	DIGITALMAP	NAVD88	11/17/2019

Measuring Point Altitude	MP Method	Datum	Date Applies
4629.49	DIGITALMAP	NAVD88	7/2/2020 1:30:00 PM

Addition	Block	Lot

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: CAISSON RIG, MUD ROTARY, AND AIR ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Sunday, November 17, 2019

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	40	30
8.75	2165	2850
40	1000	17.5
1000	2165	12.25

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-1	40	20	0.375		THREADED	STEEL
-1	1000	14	0.35		WELDED	STEEL
947	2163	9.625	0.35		WELDED	STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
2163	2850	9.625			OPEN HOLE

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
525	525	CEMENT SEAL	
947	947	LINER HANGER PACKER	

Section 7: Well Test Data

Total Depth: 2163
Static Water Level: 205
Water Temperature:

Pump Test *

Depth pump set for test 890 feet.
1250 gpm pump rate with 39 feet of drawdown after 72 hours of pumping.
Time of recovery 0.92 hours.
Recovery water level 205 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

PWL-246' ON PUMP TEST

Section 9: Well Log

Geologic Source

330MDSN - MADISON GROUP OR LIMESTONE

From	To	Description
0	340	MUDDY SANDSTONE/THERMOPLIS SHALE. DARK GRAY SHALE. ARGILLACEOUS SANDSTONE OCCURS AT TOP OF INTERVAL TO A DEPTH OF APPROXIMATELY 80 FT.
115	1430	AMSDEN GP. CLEAN, LIGHT TAN LIMESTONE OCCURS IN THE TOP 100 FT OF INTERVAL. LOWER PART IS RED SILTSTONE AND INCLUDES DARK GRAY LIMESTONE NEAR BOTTOM.
340	780	KOOTENAI FM. UPPER PART OF FORMATION TO 700 FT CONSISTS OF INTERBEDDED SANDSTONE, SILTSTONE, CLAYSTONE, AND LIMESTONE
700	780	BASAL SANDSTONE FROM 700-780 FT IS 3RD CAT CREEK EQUIVALENT
780	1100	MORRISON FM. INTERBEDS OF SHALE, SANDSTONE, SILTSTONE, CLAYSTONE, AND LIMESTONE
1100	1185	SWIFT FM. PREDOMINANTLY CLEAN MEDIUM-GRAINED SANDSTONE WITH TRACE GLAUCONITE.
1430	1605	HEATH FM. DARK GRAY SHALE WITH OCCASIONAL LIMESTONE BEDS IN LOWER PART OF UNIT
1605	1965	OTTER FM. COMMON LIGHT GREEN CLAYSTONE, BUT ALSO INCLUDES BEDS OF LIMESTONE AND DARK GRAY SHALE. ANHYDRITE IS COMMON IN LOWER PART OF UNIT.
1965	2145	KIBBEY FM. MIXED LITHOLOGIES OF SNADSTONE, SILTSTONE, AND SHALE IN UPPER PART OF UNIT. LOWER PART OF UNIT IS REDDISH BROWN CLAYSTONE
2145	2850	CHARLES/MISSION CANYON FMS. PREDOMINANTLY LIGHT BROWN, TRANSLUCENT, PURE LIMESTONE WITH OCCURRENCES OF WHITE AND LIGHT PINK LIMESTONE. WATER ENTRY AT 2320-,2400-, AND BELOW 2500-FT. DRILLING TERMINATED DUE TO PARTIAL CUTTING RETURNS AND CONCERN OF STUCK TOOL CONDITION.

1550	1550	CEMENT SEAL	

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:
Company:
License No: -
Date Completed: 11/17/2019

MONTANA WELL LOG REPORT

Form No. 603 R2-04

Well ID# CMRWA Well #4

This log reports the activities of a licensed Montana well driller and serves as the official record of work done within the borehole and casing and describes the amount of water encountered. **This form is to be completed by the driller and filed with MBMG within 60 days of completion of the work. Acquiring Water Rights is the well owner's responsibility and is not accomplished by the filing of this report.**

Well log information is stored in the Groundwater Information Center at the Montana Bureau of Mines and Geology (Butte) and water right information is stored in the Water Rights Bureau records (Helena).

For fields that are not applicable, enter NA. Record additional information in the REMARKS section.

1. WELL OWNER:
Name Central Montana Regional Water Authority
Mailing address PO Box 660
Roundup, MT 59072

2. WELL LOCATION: List ¼ from smallest to largest
SE ¼ SE ¼ SW ¼ ____ ¼, Section 28
Township 14 N/S Range 15 E/W County Judith Basin
Lot ____ , Tract/Blk ____ Subdivision Name ____
Certificate of Survey ____
Well Address ____
GPS ☐ Yes ☐ No
Latitude 46.766197 N Longitude 109.839944 W
Error as reported by GPS locator (± feet) ____
Horizontal datum ☒ NAD27 ☐ WGS84

3. PROPOSED USE: ☐ Domestic ☐ Stock ☐ Irrigation
☒ Public water supply ☐ Monitoring Well
☐ Geothermal ☐ Closed System ☐ Open System ☐ Reinjection
☐ Extraction H_2O Temp ____ Number of Wells in System ____
☐ Other: ____

4. TYPE OF WORK:
☒ New well ☐ Deepen existing well ☐ Abandon existing well
Method: ☐ Cable ☒ Rotary ☐ Other: ____

5. WELL CONSTRUCTION DETAILS:
Borehole:
Dia. Nominal 17.5 in. from 0 ft. to 1000 ft.
Dia. Nominal 12.25 in. from 1000 ft. to 2259 ft.
Dia. Nominal 8.75 in. from 2259 ft. to 3000 ft.

Casing:
Steel: Wall thickness ____ ☐ Threaded ☐ Welded
Dia. ID 14 in. from +2 ft. to 1000 ft.
Dia. OD 9.625 in. from 920 ft. to 2259 ft.
Casing Shoe: ☐ Yes ☒ No

Plastic: Pressure Rating____ lbs. ☐ Threaded ☐ Welded
Dia. ____ in. from ____ ft. to ____ ft.

Perforations/Slotted Pipe:
Type of perforator used____
Size of perforations/slots ____ in. by____in.
____no. of perforations/slots from ____ ft. to____ ft.
____no. of perforations/slots from ____ ft. to____ ft.

Screens: ☐ Yes ☒ No
Material____
Dia. ____ Slot size ____ from____ft. to ____ ft.
Dia. ____ Slot size ____ from ____ft. to ____ ft.

Gravel Packed: ☐ Yes ☒ No
Size of gravel ____
Gravel placed from ____ ft. to____ ft.

Packer: ☒ Yes ☐ No
Type L/W Hangar Depth(s) 909 -920

Grout: Material used Neat cement
Depth from ____ ft. to ____ ft. OR ☐ Continuous feed

6. WELL TEST DATA:
A well test is required for all wells. (*See details on well log report cover.*)

☒ Static water level 172 ft. below top of casing **or**
☐ Closed-in artesian pressure ____ psi.

How was test flow measured:
bucket/stopwatch, weir, flume, flowmeter, etc Flowmeter

Yellowstone Controlled Groundwater Area - Water Temperature____°F
☐ AQUIFER TEST DATA FORM ATTACHED

Test - 1 hour minimum
Drawdown is the amount water level is lowered below static level.
All depth measurements shall be from the top of the well casing.
Time of recovery is hours/minutes since pumping stopped.

Air test*
____gpm with drill stem set at____ ft. for ____ hours
Time of recovery ____ hrs/min. Recovery water level ____ ft.

OR Bailer test*
____gpm with ____ ft. of drawdown after____hours
Time of recovery ____ hrs/min. Recovery water level ____ ft.

OR Pump test*
Depth pump set for test 629 ft.
1400 gpm pump rate with 44 ft. of drawdown after 24 hrs pumping
Time of recovery 1 hrs/min. Recovery water level 169 ft.

OR Flowing Artesian*
____ gpm for____ hours
Flow controlled by ____

**During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

7. WELL LOG: Record depth(s) that water is encountered.

Depth, Feet From	Depth, Feet To	Material: color/rock and type/descriptor (example: blue/shale/hard, or brown/gravel/water, or brown/sand/heaving)
0	470	Gray and blk shale (Thermopolis)
470	1010	Red/gray shale, sandstone, limestone (Kootenai)
1010	1360	Gray shale, limestone, sandstone (Morrison)
1360	1490	Sandstone, blk shale (Swift)
1490	1620	Limestone, red/blk/grn shales (Heath)
1620	2060	Grn/gray claystone,anhydrite, limestone (Otter)
2060	2220	Red/gray siltstone, blk shale, anhydrite (Kibbey)
2220	3000	Lt gray limestone, anhydrite (Mission Cnyn)

☐ ADDITIONAL SHEETS ATTACHED

8. DATE WELL COMPLETED: 9/20/24

9. REMARKS: Well completed open-hole into the Madison Limestone.

10. DRILLER/CONTRACTOR'S CERTIFICATION:
All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.
Name, firm, or corporation (print) ____
Address ____
Signature ____
Date____ License no. ____
License type: ☐ MWC ☐ WWC ☐ WWD

Montana Bureau of Mines & Geology
The University of Montana
1300 West Park Street
Butte, MT 59701

MONTANA WELL LOG REPORT

Form No. 603 R2-04

Well ID# CMRWA Well #5

This log reports the activities of a licensed Montana well driller and serves as the official record of work done within the borehole and casing and describes the amount of water encountered. **This form is to be completed by the driller and filed with MBMG within 60 days of completion of the work. Acquiring Water Rights is the well owner's responsibility and is not accomplished by the filing of this report.**

Well log information is stored in the Groundwater Information Center at the Montana Bureau of Mines and Geology (Butte) and water right information is stored in the Water Rights Bureau records (Helena).

For fields that are not applicable, enter NA. Record additional information in the REMARKS section.

1. WELL OWNER:

Name Central Montana Regional Water Authority

Mailing address PO Box 660

Roundup, MT 59072

2. WELL LOCATION: List ¼ from smallest to largest

SE ¼ SE ¼ SW ¼ ____ ¼, Section 29

Township 14 N N/S Range 15 E E/W County Judith Basin

Lot ____ , Tract/Blk ____ Subdivision Name ____

Certificate of Survey ____

Well Address ____

GPS ☐ Yes ☐ No

Latitude 46.765639 N Longitude 109.823958 W

Error as reported by GPS locator (± feet) ____

Horizontal datum ☒ NAD27 ☐ WGS84

3. PROPOSED USE: ☐ Domestic ☐ Stock ☐ Irrigation

☒ Public water supply ☐ Monitoring Well

☐ Geothermal ☐ Closed System ☐ Open System ☐ Reinjection

☐ Extraction H_2O Temp ____ Number of Wells in System ____

☐ Other: ____

4. TYPE OF WORK:

☒ New well ☐ Deepen existing well ☐ Abandon existing well

Method: ☐ Cable ☐ Rotary ☐ Other: ____

5. WELL CONSTRUCTION DETAILS:

Borehole:

Dia. Nominal 17.5 in. from 0 ft. to 1000 ft.

Dia. Nominal 12.25 in. from 1000 ft. to 2300 ft.

Dia. Nominal 8.75 in. from 2300 ft. to 2997 ft.

Casing:

Steel: Wall thickness ____ ☐ Threaded ☐ Welded

Dia. ID 14 in. from +2 ft. to 1000 ft.

Dia. OD 9.625 in. from 941 ft. to 2300 ft.

Casing Shoe: ☐ Yes ☐ No

Plastic: Pressure Rating____ lbs. ☐ Threaded ☐ Welded

Dia. ____ in. from ____ ft. to ____ ft.

Perforations/Slotted Pipe:

Type of perforator used____

Size of perforations/slots ____ in. by____in.

____no. of perforations/slots from ____ ft. to____ ft.

____no. of perforations/slots from ____ ft. to____ ft.

Screens: ☐ Yes ☒ No

Material____

Dia. ____ Slot size ____ from____ft. to ____ ft.

Dia. ____ Slot size ____ from ____ft. to ____ ft.

Gravel Packed: ☐ Yes ☒ No

Size of gravel ____

Gravel placed from ____ ft. to____ ft.

Packer: ☒ Yes ☐ No

Type L/W Hangar Depth(s) 924 -935 ft

Grout: Material used Neat Cement

Depth from 0 ft. to 2300 ft. OR ☐ Continuous feed

6. WELL TEST DATA:

A well test is required for all wells. (*See details on well log report cover.*)

☒ Static water level 171 ft. below top of casing **or**

☐ Closed-in artesian pressure ____ psi.

How was test flow measured:

bucket/stopwatch, weir, flume, flowmeter, etc Flowmeter

Yellowstone Controlled Groundwater Area - Water Temperature____°F

☐ AQUIFER TEST DATA FORM ATTACHED

Test - 1 hour minimum

Drawdown is the amount water level is lowered below static level.

All depth measurements shall be from the top of the well casing.

Time of recovery is hours/minutes since pumping stopped.

Air test*

____gpm with drill stem set at____ ft. for ____ hours

Time of recovery ____hrs/min. Recovery water level ____ ft.

OR Bailer test*

____gpm with ____ ft. of drawdown after____hours

Time of recovery ____hrs/min. Recovery water level ____ ft.

OR Pump test*

Depth pump set for test 629 ft.

1400 gpm pump rate with 238 ft. of drawdown after 72 hrs pumping

Time of recovery 70min hrs/min. Recovery water level 169 ft.

OR Flowing Artesian*

____ gpm for____ hours

Flow controlled by ____

**During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

7. WELL LOG: Record depth(s) that water is encountered.

Depth, Feet		Material: color/rock and type/descriptor (example: blue/shale/hard, or brown/gravel/water, or brown/sand/heaving)
From	To	
0	500	Gray and blk shale (Thermopolis)
500	940	Sandstone, red shale, limestone (Kootenai)
940	1220	Shale, sandstone, limestone (Morrison)
1220	1370	Sandstone and blk shale (Swift)
1370	1500	Limestone, sandstone, red shales (Amsden)
1500	1690	Limestone, red/blk/grn shales (Heath)
1690	2090	Grn/gray claystone, anhydrite limestone (Otter)
2090	2270	Red/gray siltstone, blk shale, anhydrite (Kibbey)
2270	3000	Lt gray limestone and anhydrite (Mission Cnyn)

☐ ADDITIONAL SHEETS ATTACHED

8. DATE WELL COMPLETED: 9/13/2024

9. REMARKS: Well completed open-hole into the Madison Limestone.

10. DRILLER/CONTRACTOR'S CERTIFICATION:

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name, firm, or corporation (print) ____

Address ____

Signature ____

Date ____ License no. ____

License type: ☐ MWC ☐ WWC ☐ WWD

Montana Bureau of Mines & Geology
The University of Montana
1300 West Park Street
Butte, MT 59701

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View hydrograph for this site

Site Name: CENTRAL MONTANA REGIONAL WATER AUTHORITY
GWIC Id: 289648

MW-1

Section 1: Well Owner(s)

1) CENTRAL MONTANA REGIONAL WATER AUTHORITY (MAIL)
34 3RD AVE. W
ROUNDUP MT 59072 [05/21/2016]

Section 2: Location

Township	Range	Section	Quarter Sections
12N	15E	34	SE¼ SE¼ SW¼ SW¼

County: JUDITH BASIN
Geocode:

Latitude	Longitude	Geomethod	Datum
46.751719	-109.824481	MAP	WGS84

Ground Surface Altitude	Ground Surface Method	Datum	Date
4698.11	DIGITALMAP	NAVD88	3/17/2023

Measuring Point Altitude	MP Method	Datum	Date Applies
4698.11	DIGITALMAP	NAVD88	9/20/2016 7:00:00 PM

Addition: **Block:** **Lot:**

Section 3: Proposed Use of Water

MONITORING (1)
TEST WELL (2)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Saturday, May 21, 2016

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	40	12.3
40	615	7.9
615	712	3.9

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-3	615	4.5	0.237		THREAD AND COLLAR	A53A STEEL
0	40	8.6	0.25		WELDED	A53A STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
587	712	2.5		.020	SCREEN-CONTINUOUS-STAINLESS

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	40	CEMENT	
0	615	CEMENT	

Section 7: Well Test Data

Total Depth: 712
Static Water Level: -1.1
Water Temperature:

Air Test *

25 gpm with drill stem set at 560 feet for 8 hours.
Time of recovery _ hours.
Recovery water level _ feet.
Pumping water level _ feet.

Pump Test *

Depth pump set for test 300 feet.
16 gpm pump rate with 71 feet of drawdown after 5 hours of pumping.
Time of recovery 20 hours.
Recovery water level -1 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source

Unassigned

From	To	Description
0	5	BROWN CLAY WITH BROKEN TAN CLAYSTONE
5	11	CLAYSTONE, TAN, FRACTURED
11	36	CLAYSTONE, OLIVE
36	260	SHALE AND CLAYSTONE, DARK GRAY
260	325	SHALE AND CLAYSTONE, REDDISH BROWN
325	362	SANDSTONE, FINE, BROWNISH GRAY, ARGILLACEOUS
362	418	SHALE AND CLAYSTONE, LIGHT GRAY TO REDDISH BROWN, SILTY
418	504	SILTSTONE, REDDISH GRAY, ARGILLACEOUS, SANDY
504	610	SANDSTONE, FINE, REDDISH GRAY, ARGILLACEOUS, SILTY
610	710	SANDSTONE, FINE, GRAY (SALT & PEPPER)
710	712	BLACK SHALE OR COAL

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name: TYREL HLAVNICKA
Company: AQUASOURCE
License No: WWC-199

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View hydrograph for this site
View field visits for this site
View water quality for this site
View scanned well log (2/15/2007 2:46:14 PM)

Site Name: TOWN OF JUDITH GAP * WELL #4
GWIC Id: 132756

Section 1: Well Owner(s)

1) TOWN OF JUDITH GAP (MAIL)
N/A
JUDITH GAP MT 59453 [03/07/1986]

Section 2: Location

Township	Range	Section	Quarter Sections
11N	15E	13	NW¼ SE¼ SE¼ SE¼

County: JUDITH BASIN
Geocode:

Latitude	Longitude	Geomethod	Datum
46.714447	-109.771655	DIGITALMAP	NAD83

Ground Surface Altitude	Ground Surface Method	Datum	Date
4602.96	UNKNOWN	NAVD88	4/3/2023

Measuring Point Altitude	MP Method	Datum	Date Applies
4602.96	UNKNOWN	NAVD88	9/28/2016 11:30:00 AM

Addition: **Block:** **Lot:**

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

Drilling Method: AIR ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Friday, March 7, 1986

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	220	12

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
0	220	12	0.375			STEEL
0	372	8	0.322			STEEL
365	405	6	0.25			STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
405	445	6			SCREEN-CONTINUOUS-STEEL

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	CEMENT	
0	0	NEOPRENE PACKER	

Section 7: Well Test Data

Total Depth: 445
Static Water Level: 0
Closed-in Pressure: 12 psi
Water Temperature:

Pump Test *

Depth pump set for test _ feet.
200 gpm pump rate with _ feet of drawdown after 24 hours of pumping.
Time of recovery _ hours.
Recovery water level _ feet.
Pumping water level 78 feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source
217KOTN - KOOTENAI FORMATION

From	To	Description
0	15	WEATHERED SANDSTONE
15	19	SANDY SHALE (REDDISH)
19	30	WEATHERED GRAY-GREEN SHALE
30	38	RED-GRAY WEATHERED SHALE
38	43	GRAY-BLUE SHALE
43	54	GRAY SHALE
54	60	RED SHALE
60	65	RED SANDSTONE
65	90	GRAY-GREEN SHALE
90	100	GRAY SANDSTONE
100	101	RED SANDSTONE
101	112	GRAY SANDSTONE
112	123	RED SHALE
123	127	GREEN SANDSTONE
127	129	RED SHALE

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name: HERBERT A. POTTS
Company: POTTS DRILLING INC
License No: WWC-150
Date Completed: 3/7/1986

Site Name: TOWN OF JUDITH GAP
GWIC Id: 132756
Additional Lithology Records

From	To	Description
129	133	GREEN SHALE
133	138	RED SHALE
138	146	GREEN-GRAY SHALE
146	150	MIXED RED AND GRAY SHALES
150	160	GRAY CLAYSTONE
160	170	GRAY SHALE- HARD
170	180	RED-GRAY SHALE
180	196	GREY-GREEN SHALE
196	199	RED-GRAY SHALE
199	200	GREEN SHALE
200	223	RED SHALE
223	235	BLUE-GRAY SHALE
235	253	GRAY SANDSTONE
253	261	RED SILTSTONE
261	298	GRAY SANDSTONE
298	301	DARK GRAY SANDSTONE
301	309	LIMESTONE
309	322	GRAY SANDSTONE
322	327	RED SHALE
327	347	GRAY SANDSTONE
347	364	BLUE SHALE
364	376	HARD FINE-GRAINED GRAY SHALE
376	385	GRAY SANDSTONE
385	387	REDDISH-GRAY SANDSTONE- HARD
387	392	GRAY SANDSTONE- HARD
392	405	RED SHALE
405	412	DARK RED SANDSTONE-INTERBLENDED W/BLACK & WHITE SECTIONS (GLASSIFIED)
412	445	FRACTURED DARK RED- WHITE & BLACK SANDSTONE

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site in State Library Digital Atlas
Plot this site in Google Maps
View hydrograph for this site
View scanned well log (6/29/2006 2:27:49 PM)

Site Name: NICHOLSON CHARLES
GWIC Id: 204169

Section 1: Well Owner(s)

1) NICHOLSON, CHARLES (MAIL)
PO BOX 396
HOBSON MT 59452 [11/20/2002]

Section 2: Location

Township	Range	Section	Quarter Sections
12N	13E	2	SW¼ NW¼ NE¼

County
JUDITH BASIN

Geocode

Latitude	Longitude	Geomethod	Datum
46.836131	-110.048608	DIGITALMAP	WGS84

Ground Surface Altitude	Ground Surface Method	Datum	Date
4976.97	DEM	NGVD29	4/7/2020

Measuring Point Altitude	MP Method	Datum	Date Applies
4976.97	DEM	NGVD29	9/21/2016 6:00:00 PM

Addition **Block** **Lot**

Section 3: Proposed Use of Water

DOMESTIC (1)
STOCKWATER (2)

Section 4: Type of Work

Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Wednesday, November 20, 2002

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	18	7.875
18	120	5.875

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	18	6	0.250		WELDED	STEEL
10	220	4		220.00		PVC

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
80	100	4	60	1/8X6	SAW SLOTS

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	18	CEMENT	
55	55	RUBBER PACKER	

Section 7: Well Test Data

Total Depth: 120
Static Water Level: 25
Water Temperature:

Air Test *

60 gpm with drill stem set at 100 feet for 2 hours.
Time of recovery 0.17 hours.
Recovery water level 25 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks

Section 9: Well Log

Geologic Source
217KOTN - KOOTENAI FORMATION

From	To	Description
0	10	GRAVEL AND BROKEN SHALE
10	25	RED AND GRAY SHALE
25	30	RED AND TAN LIMESTONE
30	80	RED AND GRAY SHALES LIMESTONES MARROON SHALES
80	110	GREY TO SALT AND PEPPER SANDSTONE
110	120	GREY TO SALT AND PEPPER SANDSTONE WITH COAL AND IRON PYRITE

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name: MARK A. SMITH
Company: CENTRAL DRILLING INC
License No: WWC-581
Date Completed: 11/20/2002

APPENDIX B

2025 Monthly SCADA Output Reports

Month	CMRWA 2	CMRWA 3	Monthly Total
Jan	3,010,500	1,730,800	4,741,300
Feb	4,180,200	106,400	4,286,600
Mar	5,014,300	26,700	5,041,000
Apr	2,323,500	5,324,000	7,647,500
May	16,600	13,451,300	13,467,900
June	0	16,091,500	16,091,500
Jul	786,600	21,139,300	21,925,900
Aug	1,226,200	20,100,100	21,326,300
Sep	0	16,459,500	16,459,500
Oct	0	8,336,300	8,336,300
Nov	2,654,600	6,609,900	9,264,500
Dec	2,448,000	6,501,700	8,949,700
2025 Annual	**21,660,500**	**115,877,500**	**137,538,000**

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
1/1/25 0:00	0.00	0.00		
1/2/25 0:00	400.00	402000.00		
1/3/25 0:00	400.00	402000.00		
1/4/25 0:00	3000.00	729000.00		
1/5/25 0:00	3000.00	729000.00		
1/6/25 0:00	3800.00	1009500.00		
1/7/25 0:00	4200.00	1283000.00		
1/8/25 0:00	7800.00	1509400.00		
1/9/25 0:00	12200.00	1631500.00		
1/10/25 0:00	160600.00	1711700.00		
1/11/25 0:00	501600.00	1730400.00		
1/12/25 0:00	501600.00	1730400.00		
1/13/25 0:00	501600.00	1730400.00		
1/14/25 0:00	501600.00	1730400.00		
1/15/25 0:00	960200.00	1730600.00		
1/16/25 0:00	960200.00	1730600.00		
1/17/25 0:00	960200.00	1730600.00		
1/18/25 0:00	1371100.00	1730700.00		
1/19/25 0:00	1371100.00	1730700.00		
1/20/25 0:00	1371100.00	1730700.00		
1/21/25 0:00	1371100.00	1730700.00		
1/22/25 0:00	1804700.00	1730700.00		
1/23/25 0:00	1804700.00	1730700.00		
1/24/25 0:00	2147000.00	1730800.00		
1/25/25 0:00	2147000.00	1730800.00		
1/26/25 0:00	2147000.00	1730800.00		
1/27/25 0:00	2440400.00	1730800.00		
1/28/25 0:00	2587100.00	1730800.00		
1/29/25 0:00	2587100.00	1730800.00		
1/30/25 0:00	2587100.00	1730800.00		
1/31/25 0:00	3010500.00	1730800.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
2/1/25 0:00	0.00	0.00		
2/2/25 0:00	257300.00	0.00		
2/3/25 0:00	339100.00	0.00		
2/4/25 0:00	656000.00	0.00		
2/5/25 0:00	656000.00	0.00		
2/6/25 0:00	773700.00	0.00		
2/7/25 0:00	773700.00	0.00		
2/8/25 0:00	1169100.00	0.00		
2/9/25 0:00	1169100.00	0.00		
2/10/25 0:00	1169100.00	0.00		
2/11/25 0:00	1585400.00	0.00		
2/12/25 0:00	1600200.00	0.00		
2/13/25 0:00	1600200.00	0.00		
2/14/25 0:00	2003700.00	0.00		
2/15/25 0:00	2111700.00	0.00		
2/16/25 0:00	2111700.00	0.00		
2/17/25 0:00	2351400.00	0.00		
2/18/25 0:00	2575900.00	106400.00		
2/19/25 0:00	2575900.00	106400.00		
2/20/25 0:00	2857200.00	106400.00		
2/21/25 0:00	2922600.00	106400.00		
2/22/25 0:00	2922600.00	106400.00		
2/23/25 0:00	3236100.00	106400.00		
2/24/25 0:00	3383800.00	106400.00		
2/25/25 0:00	3383800.00	106400.00		
2/26/25 0:00	3842600.00	106400.00		
2/27/25 0:00	3842600.00	106400.00		
2/28/25 0:00	4180200.00	106400.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
3/1/25 0:00				
3/2/25 0:00	0.00	0.00		
3/3/25 0:00	310800.00	0.00		
3/4/25 0:00	601400.00	0.00		
3/5/25 0:00	962800.00	0.00		
3/6/25 0:00	1032000.00	25800.00		
3/7/25 0:00	1032000.00	25800.00		
3/8/25 0:00	1389800.00	25800.00		
3/9/25 0:00	1389800.00	25800.00		
3/10/25 1:00	1389800.00	25800.00		
3/11/25 1:00	1842400.00	25800.00		
3/12/25 1:00	1842400.00	25800.00		
3/13/25 1:00	1842400.00	25800.00		
3/14/25 1:00	2292400.00	25800.00		
3/15/25 1:00	2292400.00	25800.00		
3/16/25 1:00	2292400.00	25800.00		
3/17/25 1:00	2738200.00	25800.00		
3/18/25 1:00	2738200.00	25800.00		
3/19/25 1:00	2996400.00	25800.00		
3/20/25 1:00	3061100.00	25800.00		
3/21/25 1:00	3233200.00	26700.00		
3/22/25 1:00	3383000.00	26700.00		
3/23/25 1:00	3710700.00	26700.00		
3/24/25 1:00	3830700.00	26700.00		
3/25/25 1:00	3915000.00	26700.00		
3/26/25 1:00	4165800.00	26700.00		
3/27/25 1:00	4165800.00	26700.00		
3/28/25 1:00	4444200.00	26700.00		
3/29/25 1:00	4635800.00	26700.00		
3/30/25 1:00	4635800.00	26700.00		
3/31/25 1:00	5014300.00	26700.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
4/1/25 0:00	5183000.00	26700.00		
4/2/25 0:00	5183000.00	26700.00		
4/3/25 0:00	0.00	0.00		
4/4/25 0:00	215200.00	0.00		
4/5/25 0:00	215200.00	0.00		
4/6/25 0:00	673700.00	0.00		
4/7/25 0:00	754600.00	0.00		
4/8/25 0:00	998600.00	0.00		
4/9/25 0:00	998600.00	0.00		
4/10/25 0:00	1297600.00	0.00		
4/11/25 0:00	1505600.00	0.00		
4/12/25 0:00	1848600.00	0.00		
4/13/25 0:00	1848600.00	0.00		
4/14/25 0:00	2323500.00	0.00		
4/15/25 0:00	2323500.00	0.00		
4/16/25 0:00	2323500.00	499000.00		
4/17/25 0:00	2323500.00	499000.00		
4/18/25 0:00	2323500.00	1632800.00		
4/19/25 0:00	2323500.00	1632800.00		
4/20/25 0:00	2323500.00	2083900.00		
4/21/25 0:00	2323500.00	2423700.00		
4/22/25 0:00	2323500.00	2989800.00		
4/23/25 0:00	2323500.00	2989800.00		
4/24/25 0:00	2323500.00	3233600.00		
4/25/25 0:00	2323500.00	3985100.00		
4/26/25 0:00	2323500.00	3985100.00		
4/27/25 0:00	2323500.00	4237600.00		
4/28/25 0:00	2323500.00	4237600.00		
4/29/25 0:00	2323500.00	5324000.00		
4/30/25 0:00	2323500.00	5324000.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
5/1/25 0:00				
5/2/25 0:00	0.00	463000.00		
5/3/25 0:00	0.00	717400.00		
5/4/25 0:00	0.00	1314900.00		
5/5/25 0:00	0.00	1314900.00		
5/6/25 0:00	0.00	2183200.00		
5/7/25 0:00	0.00	2914400.00		
5/8/25 0:00	0.00	3466500.00		
5/9/25 0:00	0.00	4043100.00		
5/10/25 0:00	0.00	4456800.00		
5/11/25 0:00	16600.00	5101600.00		
5/12/25 0:00	16600.00	5101600.00		
5/13/25 0:00	16600.00	6209900.00		
5/14/25 0:00	16600.00	6760500.00		
5/15/25 0:00	16600.00	7338900.00		
5/16/25 0:00	16600.00	7565500.00		
5/17/25 0:00	16600.00	7752800.00		
5/18/25 0:00	16600.00	7754000.00		
5/19/25 0:00	16600.00	8580700.00		
5/20/25 0:00	16600.00	9036500.00		
5/21/25 0:00	16600.00	9037700.00		
5/22/25 0:00	16600.00	9720000.00		
5/23/25 0:00	16600.00	10070400.00		
5/24/25 0:00	16600.00	10427800.00		
5/25/25 0:00	16600.00	10878100.00		
5/26/25 0:00	16600.00	10878100.00		
5/27/25 0:00	16600.00	11609400.00		
5/28/25 0:00	16600.00	12184000.00		
5/29/25 0:00	16600.00	12184000.00		
5/30/25 0:00	16600.00	13451300.00		
5/31/25 0:00	16600.00	13451300.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
6/1/25 0:00				
6/2/25 0:00	0.00	500.00		
6/3/25 0:00	0.00	1057500.00		
6/4/25 0:00	0.00	1057500.00		
6/5/25 0:00	0.00	1797900.00		
6/6/25 0:00	0.00	2421800.00		
6/7/25 0:00	0.00	3557600.00		
6/8/25 0:00	0.00	3557600.00		
6/9/25 0:00	0.00	3557600.00		
6/10/25 0:00	0.00	4995300.00		
6/11/25 0:00	0.00	4995300.00		
6/12/25 0:00	0.00	6804600.00		
6/13/25 0:00	0.00	6804600.00		
6/14/25 0:00	0.00	6804600.00		
6/15/25 0:00	0.00	7429000.00		
6/16/25 0:00	0.00	8488000.00		
6/17/25 0:00	0.00	8488000.00		
6/18/25 0:00	0.00	8784600.00		
6/19/25 0:00	0.00	9690300.00		
6/20/25 0:00	0.00	10376500.00		
6/21/25 0:00	0.00	10376500.00		
6/22/25 0:00	0.00	11862900.00		
6/23/25 0:00	0.00	11862900.00		
6/24/25 0:00	0.00	11862900.00		
6/25/25 0:00	0.00	13029200.00		
6/26/25 0:00	0.00	13531200.00		
6/27/25 0:00	0.00	13532400.00		
6/28/25 0:00	0.00	14682200.00		
6/29/25 0:00	0.00	15533700.00		
6/30/25 0:00	0.00	16091500.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
7/1/25 0:00	0.00	16538700.00		
7/2/25 0:00	0.00	400.00		
7/3/25 0:00	0.00	1351300.00		
7/4/25 0:00	0.00	2675100.00		
7/5/25 0:00	0.00	2676300.00		
7/6/25 0:00	0.00	3764300.00		
7/7/25 0:00	0.00	4441200.00		
7/8/25 0:00	0.00	4442400.00		
7/9/25 0:00	352500.00	5643700.00		
7/10/25 0:00	353000.00	5643700.00		
7/11/25 0:00	786500.00	6392400.00		
7/12/25 0:00	786500.00	8004200.00		
7/13/25 0:00	786500.00	9219800.00		
7/14/25 0:00	786500.00	10116500.00		
7/15/25 0:00	786500.00	10798800.00		
7/16/25 0:00	786500.00	11726600.00		
7/17/25 0:00	786500.00	11726600.00		
7/18/25 0:00	786500.00	13300200.00		
7/19/25 0:00	786500.00	13611700.00		
7/20/25 0:00	786500.00	14446600.00		
7/21/25 0:00	786500.00	15047300.00		
7/22/25 0:00	786500.00	15707900.00		
7/23/25 0:00	786500.00	16092200.00		
7/24/25 0:00	786500.00	16093400.00		
7/25/25 0:00	786500.00	16779200.00		
7/26/25 0:00	786600.00	17969800.00		
7/27/25 0:00	786600.00	18805200.00		
7/28/25 0:00	786600.00	18805200.00		
7/29/25 0:00	786600.00	20215200.00		
7/30/25 0:00	786600.00	20216400.00		
7/31/25 0:00	786600.00	20692100.00		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
8/1/25 0:00	0	261700		
8/2/25 0:00	0	1137900		
8/3/25 0:00	0	1529100		
8/4/25 0:00	0	2462300		
8/5/25 0:00	0	2933100		
8/6/25 0:00	0	3724500		
8/7/25 0:00	0	4369800		
8/8/25 0:00	0	4786700		
8/9/25 0:00	0	5521000		
8/10/25 0:00	0	5852900		
8/11/25 0:00	0	6930400		
8/12/25 0:00	0	7327700		
8/13/25 0:00	0	8436000		
8/14/25 0:00	378000	8470000		
8/15/25 0:00	903800	8797600		
8/16/25 0:00	903800	9508800		
8/17/25 0:00	903800	10384600		
8/18/25 0:00	956600	10776900		
8/19/25 0:00	1226200	11231600		
8/20/25 0:00	1226200	12185800		
8/21/25 0:00	1226200	12922500		
8/22/25 0:00	1226200	13819500		
8/23/25 0:00	1226200	14593200		
8/24/25 0:00	1226200	15279800		
8/25/25 0:00	1226200	16233300		
8/26/25 0:00	1226200	16651000		
8/27/25 0:00	1226200	17629000		
8/28/25 0:00	1226200	17977600		
8/29/25 0:00	1226200	18984800		
8/30/25 0:00	1226200	19159000		
8/31/25 0:00	1226200	20100100		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
9/1/25 0:00				
9/2/25 0:00	1226200	400		
9/3/25 0:00	0	449500		
9/4/25 0:00	0	1854800		
9/5/25 0:00	0	2711200		
9/6/25 0:00	0	3347100		
9/7/25 0:00	0	3635400		
9/8/25 0:00	0	4566500		
9/9/25 0:00	0	4566500		
9/10/25 0:00	0	5927600		
9/11/25 0:00	0	5927600		
9/12/25 0:00	0	7298900		
9/13/25 0:00	0	7698600		
9/14/25 0:00	0	8635000		
9/15/25 0:00	0	8874900		
9/16/25 0:00	0	9837400		
9/17/25 0:00	0	9838600		
9/18/25 0:00	0	10673500		
9/19/25 0:00	0	11117700		
9/20/25 0:00	0	11363500		
9/21/25 0:00	0	12056800		
9/22/25 0:00	0	12056800		
9/23/25 0:00	0	13295900		
9/24/25 0:00	0	13295900		
9/25/25 0:00	0	13469200		
9/26/25 0:00	0	14542600		
9/27/25 0:00	0	15106300		
9/28/25 0:00	0	15106300		
9/29/25 0:00	0	15903600		
9/30/25 0:00	0	16459500		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
10/1/25 0:00		16945300		
10/2/25 0:00	0	0		
10/3/25 0:00	0	746800		
10/4/25 0:00	0	1023400		
10/5/25 0:00	0	1502400		
10/6/25 0:00	0	1503600		
10/7/25 0:00	0	1822300		
10/8/25 0:00	0	2661500		
10/9/25 0:00	0	3047600		
10/10/25 0:00	0	3370800		
10/11/25 0:00	0	3370800		
10/12/25 0:00	0	3666700		
10/13/25 0:00	0	4247500		
10/14/25 0:00	0	4247500		
10/15/25 0:00	0	4399700		
10/16/25 0:00	0	4866200		
10/17/25 0:00	0	5084000		
10/18/25 0:00	0	5367700		
10/19/25 0:00	0	5649300		
10/20/25 0:00	0	5649300		
10/21/25 0:00	0	5819700		
10/22/25 0:00	0	6103000		
10/23/25 0:00	0	6322100		
10/24/25 0:00	0	6931200		
10/25/25 0:00	0	7084700		
10/26/25 0:00	0	7208400		
10/27/25 0:00	0	7208400		
10/28/25 0:00	0	7309200		
10/29/25 0:00	0	7944000		
10/30/25 0:00	0	8336300		
10/31/25 0:00	0	8336300		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
11/1/25 0:00	0	0		
11/2/25 0:00	0	334200		
11/3/25 0:00	0	875400		
11/4/25 0:00	0	914800		
11/5/25 0:00	34600	914800		
11/6/25 0:00	34600	1305500		
11/7/25 0:00	34600	1715300		
11/8/25 0:00	34600	1996500		
11/9/25 0:00	34600	2089200		
11/10/25 0:00	34600	2602000		
11/11/25 0:00	34600	2712500		
11/12/25 0:00	34600	2861500		
11/13/25 0:00	34600	3395400		
11/14/25 0:00	34600	3478200		
11/15/25 0:00	34600	3662400		
11/16/25 0:00	34600	3769700		
11/17/25 0:00	93400	4372100		
11/18/25 0:00	177000	4372100		
11/19/25 0:00	501000	4372100		
11/20/25 0:00	707700	4544200		
11/21/25 0:00	1165800	4544200		
11/22/25 0:00	1321500	4544200		
11/23/25 0:00	1803600	4885800		
11/24/25 0:00	2160000	4885800		
11/25/25 0:00	2160000	5577700		
11/26/25 0:00	2285200	5952900		
11/27/25 0:00	2364600	5952900		
11/28/25 0:00	2562100	5952900		
11/29/25 0:00	2654600	6398000		
11/30/25 0:00	2654600	6609900		

CMRWA MONTHLY WELL PRODUCTION REPORT

Date/Time	Well #2 Monthly Total Flow Gallons	Well #3 Monthly Total Flow Gallons	Well #4 Monthly Total Flow Gallons	Well #5 Monthly Total Flow Gallons
12/1/25 0:00	2794500	6609900		
12/2/25 0:00	0	506400		
12/3/25 0:00	8700	721900		
12/4/25 0:00	104300	721900		
12/5/25 0:00	244600	721900		
12/6/25 0:00	244600	1502100		
12/7/25 0:00	337000	1736100		
12/8/25 0:00	476800	1736100		
12/9/25 0:00	476800	2288300		
12/10/25 0:00	561700	2447200		
12/11/25 0:00	701600	2447200		
12/12/25 0:00	701600	2746500		
12/13/25 0:00	791700	3345100		
12/14/25 0:00	981500	3345100		
12/15/25 0:00	1156900	3345100		
12/16/25 0:00	1430400	3345100		
12/17/25 0:00	1430400	3345100		
12/18/25 0:00	1583600	3345100		
12/19/25 0:00	1583600	4087300		
12/20/25 0:00	1663500	4450700		
12/21/25 0:00	1758500	4450700		
12/22/25 0:00	1852700	4450700		
12/23/25 0:00	1852700	4966300		
12/24/25 0:00	1860100	5277000		
12/25/25 0:00	1966400	5277000		
12/26/25 0:00	2105900	5277000		
12/27/25 0:00	2105900	5880300		
12/28/25 0:00	2245300	5880300		
12/29/25 0:00	2366000	5880300		
12/30/25 0:00	2366000	6396800		
12/31/25 0:00	2448000	6501700		

	WELL CMRWA 2			WELL CMRWA 3		
	Flow	DTW (ft)	Elevation	Flow	DTW (ft)	Elevation
1/1/2025 0:00	0	309.55	4394.25	0.00	238.85	4394.15
1/1/2025 6:00	0	309.48	4394.32	0.00	238.80	4394.20
1/1/2025 12:00	0	309.58	4394.22	1305.00	282.23	4350.77
1/1/2025 18:00	0	309.58	4394.22	1290.00	281.65	4351.35
1/2/2025 0:00	0	309.69	4394.11	0.00	238.00	4395.00
1/2/2025 6:00	0	309.56	4394.24	0.00	238.41	4394.59
1/2/2025 12:00	0	309.57	4394.23	0.00	238.63	4394.37
1/2/2025 18:00	0	309.57	4394.23	0.00	238.71	4394.29
1/3/2025 0:00	0	309.61	4394.19	0.00	238.69	4394.31
1/3/2025 6:00	0	309.58	4394.22	0.00	238.81	4394.19
1/3/2025 12:00	0	309.87	4393.93	0.00	238.88	4394.12
1/3/2025 18:00	0	309.73	4394.07	1351.00	236.43	4396.57
1/4/2025 0:00	0	309.90	4393.90	1284.00	281.20	4351.80
1/4/2025 6:00	0	309.87	4393.93	0.00	238.40	4394.60
1/4/2025 12:00	0	310.04	4393.76	0.00	238.68	4394.32
1/4/2025 18:00	0	309.88	4393.92	0.00	238.83	4394.17
1/5/2025 0:00	0	309.86	4393.94	1296.00	226.91	4406.09
1/5/2025 6:00	0	309.82	4393.98	0.00	238.41	4394.59
1/5/2025 12:00	0	310.05	4393.75	0.00	238.65	4394.35
1/5/2025 18:00	0	309.85	4393.95	0.00	238.77	4394.23
1/6/2025 0:00	0	309.84	4393.96	1281.00	230.44	4402.56
1/6/2025 6:00	0	309.96	4393.84	0.00	238.43	4394.57
1/6/2025 12:00	0	309.99	4393.81	1494.00	227.28	4405.72
1/6/2025 18:00	0	309.80	4394.00	1289.00	237.37	4395.63
1/7/2025 0:00	0	309.81	4393.99	1289.00	238.37	4394.63
1/7/2025 6:00	0	309.93	4393.87	0.00	238.55	4394.45
1/7/2025 12:00	0	309.82	4393.98	0.00	282.11	4350.89
1/7/2025 18:00	0	309.90	4393.90	1346.00	226.16	4406.84
1/8/2025 0:00	0	310.00	4393.80	0.00	238.43	4394.57
1/8/2025 6:00	0	309.99	4393.81	0.00	238.69	4394.31
1/8/2025 12:00	0	310.06	4393.74	0.00	238.89	4394.11
1/8/2025 18:00	0	307.33	4396.47	93.00	239.04	4393.96
1/9/2025 0:00	0	309.79	4394.01	219.00	239.31	4393.69
1/9/2025 6:00	0	309.89	4393.91	0.00	239.15	4393.85
1/9/2025 12:00	0	310.10	4393.70	1297.00	237.78	4395.22
1/9/2025 18:00	0	310.10	4393.70	0.00	238.25	4394.75
1/10/2025 0:00	0	310.21	4393.59	0.00	238.83	4394.17
1/10/2025 6:00	0	310.20	4393.60	0.00	239.06	4393.94
1/10/2025 12:00	0	310.33	4393.47	0.00	239.20	4393.80
1/10/2025 18:00	0	308.44	4395.36	1303.00	282.23	4350.77
1/11/2025 0:00	0	310.17	4393.63	0.00	239.23	4393.77
1/11/2025 6:00	0	310.33	4393.47	0.00	239.46	4393.54
1/11/2025 12:00	0	310.40	4393.40	0.00	239.51	4393.49
1/11/2025 18:00	0	310.40	4393.40	0.00	239.66	4393.34
1/12/2025 0:00	0	310.47	4393.33	0.00	239.64	4393.36
1/12/2025 6:00	0	310.43	4393.37	0.00	239.63	4393.37
1/12/2025 12:00	0	310.46	4393.34	0.00	239.64	4393.36
1/12/2025 18:00	0	310.53	4393.27	0.00	239.69	4393.31
1/13/2025 0:00	0	310.45	4393.35	0.00	239.74	4393.26
1/13/2025 6:00	0	310.44	4393.36	0.00	239.84	4393.16
1/13/2025 12:00	0	310.54	4393.26	0.00	239.81	4393.19
1/13/2025 18:00	0	310.53	4393.27	0.00	239.81	4393.19

1/14/2025 0:00	0	310.50	4393.30	0.00	239.88	4393.12
1/14/2025 6:00	0	310.49	4393.31	0.00	239.98	4393.02
1/14/2025 12:00	0	357.32	4346.48	42.00	239.84	4393.16
1/14/2025 18:00	0	307.70	4396.10	0.00	239.97	4393.03
1/15/2025 0:00	0	310.34	4393.46	95.00	239.98	4393.02
1/15/2025 6:00	0	310.44	4393.36	0.00	239.95	4393.05
1/15/2025 12:00	0	310.49	4393.31	0.00	239.92	4393.08
1/15/2025 18:00	0	310.64	4393.16	0.00	239.97	4393.03
1/16/2025 0:00	0	310.63	4393.17	0.00	239.97	4393.03
1/16/2025 6:00	0	310.80	4393.00	0.00	240.09	4392.91
1/16/2025 12:00	0	310.91	4392.89	0.00	240.12	4392.88
1/16/2025 18:00	0	311.04	4392.76	0.00	240.35	4392.65
1/17/2025 0:00	0	311.05	4392.75	0.00	240.34	4392.66
1/17/2025 6:00	543.68	359.87	4343.93	0.00	240.40	4392.60
1/17/2025 12:00	550.58	357.55	4346.25	0.00	240.37	4392.63
1/17/2025 18:00	0	306.63	4397.17	0.00	240.40	4392.60
1/18/2025 0:00	0	310.64	4393.16	0.00	240.34	4392.66
1/18/2025 6:00	0	310.69	4393.11	0.00	240.29	4392.71
1/18/2025 12:00	0	310.69	4393.11	0.00	240.29	4392.71
1/18/2025 18:00	0	310.87	4392.93	0.00	240.31	4392.69
1/19/2025 0:00	0	310.93	4392.87	0.00	240.26	4392.74
1/19/2025 6:00	0	310.95	4392.85	0.00	240.35	4392.65
1/19/2025 12:00	0	310.94	4392.86	0.00	240.38	4392.62
1/19/2025 18:00	0	310.93	4392.87	0.00	240.40	4392.60
1/20/2025 0:00	0	310.96	4392.84	0.00	240.38	4392.62
1/20/2025 6:00	0	310.98	4392.82	0.00	240.37	4392.63
1/20/2025 12:00	0	310.97	4392.83	0.00	240.43	4392.57
1/20/2025 18:00	0	311.07	4392.73	0.00	240.41	4392.59
1/21/2025 0:00	549.08	357.84	4345.96	0.00	240.52	4392.48
1/21/2025 6:00	0	307.09	4396.71	0.00	240.75	4392.25
1/21/2025 12:00	0	311.12	4392.68	100.00	240.69	4392.31
1/21/2025 18:00	0	311.11	4392.69	0.00	240.72	4392.28
1/22/2025 0:00	0	311.17	4392.63	0.00	240.72	4392.28
1/22/2025 6:00	0	311.18	4392.62	0.00	240.75	4392.25
1/22/2025 12:00	0	311.13	4392.67	0.00	240.63	4392.37
1/22/2025 18:00	0	311.13	4392.67	0.00	240.63	4392.37
1/23/2025 0:00	0	311.12	4392.68	0.00	240.66	4392.34
1/23/2025 6:00	550.58	360.08	4343.72	0.00	240.60	4392.40
1/23/2025 12:00	547.73	358.73	4345.07	0.00	240.61	4392.39
1/23/2025 18:00	0	358.52	4345.28	0.00	240.95	4392.05
1/24/2025 0:00	0	311.23	4392.57	0.00	240.89	4392.11
1/24/2025 6:00	0	311.23	4392.57	0.00	240.89	4392.11
1/24/2025 12:00	0	311.48	4392.32	0.00	240.92	4392.08
1/24/2025 18:00	0	311.47	4392.33	0.00	240.95	4392.05
1/25/2025 0:00	0	311.48	4392.32	0.00	240.98	4392.02
1/25/2025 6:00	0	311.46	4392.34	0.00	240.98	4392.02
1/25/2025 12:00	0	311.55	4392.25	0.00	240.91	4392.09
1/25/2025 18:00	0	311.54	4392.26	0.00	240.94	4392.06
1/26/2025 0:00	0	311.60	4392.20	0.00	241.01	4391.99
1/26/2025 6:00	0	311.60	4392.20	0.00	241.00	4392.00
1/26/2025 12:00	0	311.60	4392.20	0.00	241.01	4391.99
1/26/2025 18:00	547.64	359.38	4344.42	94.00	241.06	4391.94
1/27/2025 0:00	549.08	358.85	4344.95	0.00	241.21	4391.79
1/27/2025 6:00	0	311.12	4392.68	0.00	241.15	4391.85
1/27/2025 12:00	0	311.62	4392.18	0.00	241.14	4391.86

1/27/2025 18:00	0	311.61	4392.19	0.00	241.17	4391.83
1/28/2025 0:00	0	311.78	4392.02	0.00	241.23	4391.77
1/28/2025 6:00	0	311.73	4392.07	0.00	241.24	4391.76
1/28/2025 12:00	0	311.88	4391.92	0.00	241.24	4391.76
1/28/2025 18:00	0	311.87	4391.93	0.00	241.30	4391.70
1/29/2025 0:00	0	312.01	4391.79	0.00	241.37	4391.63
1/29/2025 6:00	0	311.96	4391.84	0.00	241.43	4391.57
1/29/2025 12:00	0	312.07	4391.73	0.00	241.43	4391.57
1/29/2025 18:00	0	312.07	4391.73	0.00	241.49	4391.51
1/30/2025 0:00	0	359.72	4344.08	93.00	241.52	4391.48
1/30/2025 6:00	0	359.08	4344.72	0.00	241.63	4391.37
1/30/2025 12:00	0	311.88	4391.92	0.00	241.58	4391.42
1/30/2025 18:00	0	312.09	4391.71	0.00	241.60	4391.40
1/31/2025 0:00	0	312.11	4391.69	0.00	241.59	4391.41
1/31/2025 6:00	0	312.08	4391.72	0.00	241.62	4391.38
1/31/2025 12:00	0	312.27	4391.53	0.00	241.63	4391.37
1/31/2025 18:00	0	312.10	4391.70	0.00	241.57	4391.43
2/1/2025 0:00	0.00	312.20	4391.60	0.00	241.60	4391.40
2/1/2025 6:00	0.00	312.20	4391.60	0.00	241.63	4391.37
2/1/2025 12:00	0.00	312.27	4391.53	0.00	241.57	4391.43
2/1/2025 18:00	643.68	360.85	4342.95	115.00	241.63	4391.37
2/2/2025 0:00	550.58	358.98	4344.82	0.00	241.74	4391.26
2/2/2025 6:00	547.73	359.16	4344.64	90.00	241.65	4391.35
2/2/2025 12:00	0.00	312.14	4391.66	2607.00	241.57	4391.43
2/2/2025 18:00	0.00	312.13	4391.67	0.00	241.71	4391.29
2/3/2025 0:00	0.00	312.22	4391.58	0.00	241.70	4391.30
2/3/2025 6:00	0.00	312.20	4391.60	0.00	241.67	4391.33
2/3/2025 12:00	0.00	312.23	4391.57	0.00	241.68	4391.32
2/3/2025 18:00	573.34	312.23	4391.57	0.00	241.67	4391.33
2/4/2025 0:00	548.37	359.37	4344.43	89.00	241.70	4391.30
2/4/2025 6:00	0.00	311.62	4392.18	0.00	241.74	4391.26
2/4/2025 12:00	0.00	312.20	4391.60	0.00	241.71	4391.29
2/4/2025 18:00	0.00	312.20	4391.60	0.00	241.76	4391.24
2/5/2025 0:00	0.00	312.39	4391.41	0.00	241.83	4391.17
2/5/2025 6:00	0.00	312.50	4391.30	0.00	241.85	4391.15
2/5/2025 12:00	0.00	312.49	4391.31	237.00	242.10	4390.90
2/5/2025 18:00	0.00	303.97	4399.83	101.00	242.03	4390.97
2/6/2025 0:00	0.00	312.40	4391.40	0.00	242.02	4390.98
2/6/2025 6:00	0.00	312.47	4391.33	0.00	241.97	4391.03
2/6/2025 12:00	0.00	312.54	4391.26	0.00	241.97	4391.03
2/6/2025 18:00	0.00	312.62	4391.18	0.00	241.99	4391.01
2/7/2025 0:00	0.00	312.62	4391.18	0.00	242.02	4390.98
2/7/2025 6:00	0.00	312.57	4391.23	0.00	241.99	4391.01
2/7/2025 12:00	664.90	312.59	4391.21	0.00	242.00	4391.00
2/7/2025 18:00	551.16	359.58	4344.22	0.00	242.14	4390.86
2/8/2025 0:00	548.17	304.23	4399.57	79.00	242.10	4390.90
2/8/2025 6:00	0.00	312.39	4391.41	0.00	242.03	4390.97
2/8/2025 12:00	0.00	312.53	4391.27	0.00	242.03	4390.97
2/8/2025 18:00	0.00	311.46	4392.34	0.00	241.54	4391.46
2/9/2025 0:00	0.00	312.62	4391.18	0.00	242.19	4390.81
2/9/2025 6:00	0.00	312.68	4391.12	0.00	242.05	4390.95
2/9/2025 12:00	0.00	312.65	4391.15	0.00	242.05	4390.95
2/9/2025 18:00	0.00	312.71	4391.09	0.00	242.08	4390.92
2/10/2025 0:00	0.00	312.78	4391.02	0.00	242.13	4390.87
2/10/2025 6:00	0.00	312.66	4391.14	0.00	242.19	4390.81

2/10/2025 12:00		577.86	312.66	4391.14	0.00	242.07	4390.93
2/10/2025 18:00		547.64	360.46	4343.34	0.00	242.16	4390.84
2/11/2025 0:00		549.08	359.36	4344.44	0.00	242.22	4390.78
2/11/2025 6:00		0.00	359.77	4344.03	0.00	242.26	4390.74
2/11/2025 12:00		0.00	312.80	4391.00	0.00	242.26	4390.74
2/11/2025 18:00		0.00	312.91	4390.89	0.00	242.37	4390.63
2/12/2025 0:00		0.00	312.91	4390.89	0.00	242.42	4390.58
2/12/2025 6:00		0.00	313.03	4390.77	0.00	242.48	4390.52
2/12/2025 12:00		0.00	313.03	4390.77	0.00	242.48	4390.52
2/12/2025 18:00		0.00	313.19	4390.61	0.00	242.57	4390.43
2/13/2025 0:00		0.00	313.32	4390.48	0.00	242.60	4390.40
2/13/2025 6:00		0.00	313.27	4390.53	0.00	242.68	4390.32
2/13/2025 12:00		699.41	362.14	4341.66	98.00	242.68	4390.32
2/13/2025 18:00		691.95	361.75	4342.05	98.00	242.74	4390.26
2/14/2025 0:00		545.85	360.30	4343.50	0.00	242.82	4390.18
2/14/2025 6:00		0.00	360.56	4343.24	34.00	242.82	4390.18
2/14/2025 12:00		0.00	313.20	4390.60	0.00	242.82	4390.18
2/14/2025 18:00		0.00	313.20	4390.60	0.00	242.77	4390.23
2/15/2025 0:00		0.00	313.32	4390.48	0.00	242.77	4390.23
2/15/2025 6:00		0.00	313.25	4390.55	0.00	242.82	4390.18
2/15/2025 12:00		0.00	313.24	4390.56	0.00	242.70	4390.30
2/15/2025 18:00		0.00	313.29	4390.51	0.00	242.68	4390.32
2/16/2025 0:00		0.00	313.31	4390.49	0.00	242.68	4390.32
2/16/2025 6:00		0.00	313.31	4390.49	0.00	242.73	4390.27
2/16/2025 12:00		0.00	313.41	4390.39	0.00	242.71	4390.29
2/16/2025 18:00		0.00	362.42	4341.38	5.00	242.80	4390.20
2/17/2025 0:00		547.08	361.32	4342.48	0.00	243.00	4390.00
2/17/2025 6:00		549.31	360.29	4343.51	0.00	242.99	4390.01
2/17/2025 12:00		546.26	360.65	4343.15	175.00	242.94	4390.06
2/17/2025 18:00		0.00	313.57	4390.23	1288.00	240.39	4392.61
2/18/2025 0:00		0.00	313.51	4390.29	0.00	242.08	4390.92
2/18/2025 6:00		0.00	313.50	4390.30	0.00	242.59	4390.41
2/18/2025 12:00		0.00	313.51	4390.29	0.00	242.77	4390.23
2/18/2025 18:00		0.00	313.52	4390.28	0.00	242.88	4390.12
2/19/2025 0:00		0.00	313.52	4390.28	0.00	242.90	4390.10
2/19/2025 6:00		0.00	313.49	4390.31	0.00	242.91	4390.09
2/19/2025 12:00		0.00	313.53	4390.27	0.00	242.97	4390.03
2/19/2025 18:00		0.00	362.10	4341.70	94.00	243.10	4389.90
2/20/2025 0:00		544.60	361.32	4342.48	0.00	243.26	4389.74
2/20/2025 6:00		546.08	360.87	4342.93	0.00	243.30	4389.70
2/20/2025 12:00		0.00	313.62	4390.18	0.00	243.30	4389.70
2/20/2025 18:00		0.00	313.62	4390.18	0.00	243.34	4389.66
2/21/2025 0:00		0.00	313.71	4390.09	0.00	243.39	4389.61
2/21/2025 6:00		0.00	313.70	4390.10	0.00	243.31	4389.69
2/21/2025 12:00		0.00	313.73	4390.07	0.00	243.33	4389.67
2/21/2025 18:00		0.00	313.80	4390.00	0.00	243.39	4389.61
2/22/2025 0:00		0.00	313.88	4389.92	0.00	243.46	4389.54
2/22/2025 6:00		0.00	313.92	4389.88	0.00	243.45	4389.55
2/22/2025 12:00		0.00	313.90	4389.90	0.00	243.56	4389.44
2/22/2025 18:00		0.00	313.97	4389.83	0.00	243.54	4389.46
2/23/2025 0:00		545.95	361.98	4341.82	0.00	243.71	4389.29
2/23/2025 6:00		0.00	361.41	4342.39	115.00	243.68	4389.32
2/23/2025 12:00		0.00	313.56	4390.24	0.00	243.68	4389.32
2/23/2025 18:00		0.00	314.10	4389.70	0.00	243.85	4389.15
2/24/2025 0:00		0.00	314.09	4389.71	0.00	243.83	4389.17

2/24/2025 6:00		0.00	314.21	4389.59	0.00	243.79	4389.21
2/24/2025 12:00		0.00	314.21	4389.59	0.00	243.79	4389.21
2/24/2025 18:00		0.00	314.20	4389.60	0.00	243.83	4389.17
2/25/2025 0:00		0.00	314.41	4389.39	0.00	243.89	4389.11
2/25/2025 6:00		0.00	314.34	4389.46	0.00	243.93	4389.07
2/25/2025 12:00		573.92	314.35	4389.45	0.00	243.94	4389.06
2/25/2025 18:00		545.10	362.14	4341.66	0.00	244.03	4388.97
2/26/2025 0:00		547.16	309.61	4394.19	90.00	244.02	4388.98
2/26/2025 6:00		0.00	314.02	4389.78	0.00	243.86	4389.14
2/26/2025 12:00		0.00	314.15	4389.65	0.00	243.86	4389.14
2/26/2025 18:00		0.00	314.14	4389.66	0.00	243.91	4389.09
2/27/2025 0:00		0.00	314.29	4389.51	0.00	243.86	4389.14
2/27/2025 6:00		0.00	314.23	4389.57	0.00	243.86	4389.14
2/27/2025 12:00		603.05	363.06	4340.74	4.00	243.86	4389.14
2/27/2025 18:00		544.45	361.91	4341.89	0.00	244.05	4388.95
2/28/2025 0:00		0.00	361.56	4342.24	74.00	244.06	4388.94
2/28/2025 6:00		0.00	314.08	4389.72	0.00	244.02	4388.98
2/28/2025 12:00		0.00	314.39	4389.41	0.00	244.02	4388.98
2/28/2025 18:00		0.00	314.39	4389.41	0.00	244.09	4388.91
3/1/2025 0:00			314.39	4389.41	0.00	244.09	4388.91
3/1/2025 6:00		0	314.52	4389.28	0	244.14	4388.86
3/1/2025 12:00		0	314.62	4389.18	0	244.26	4388.74
3/1/2025 18:00		0	314.66	4389.14	0	244.33	4388.67
3/2/2025 0:00		0	314.73	4389.07	0	244.26	4388.74
3/2/2025 6:00		0	314.73	4389.07	0	244.34	4388.66
3/2/2025 12:00		0	314.86	4388.94	0	244.46	4388.54
3/2/2025 18:00		549.9058	362.82	4340.98	0	244.46	4388.54
3/3/2025 0:00		546.6006	362.28	4341.52	0	244.54	4388.46
3/3/2025 6:00		0	314.43	4389.37	197	244.56	4388.44
3/3/2025 12:00		0	314.75	4389.05	0	244.59	4388.41
3/3/2025 18:00		545.0283	362.16	4341.64	89	244.66	4388.34
3/4/2025 0:00		0	314.54	4389.26	97	244.51	4388.49
3/4/2025 6:00		0	314.69	4389.11	0	244.48	4388.52
3/4/2025 12:00		0	364.19	4339.61	0	244.49	4388.51
3/4/2025 18:00		546.6042	362.34	4341.46	0	244.63	4388.37
3/5/2025 0:00		546.6042	362.03	4341.77	0	244.57	4388.43
3/5/2025 6:00		0	312.73	4391.07	0	244.54	4388.46
3/5/2025 12:00		67.99341	314.62	4389.18	0	242.79	4390.21
3/5/2025 18:00		67.99341	314.90	4388.90	0	244.19	4388.81
3/6/2025 0:00		0	314.95	4388.85	0	244.40	4388.60
3/6/2025 6:00		0	315.02	4388.78	0	244.54	4388.46
3/6/2025 12:00		0	315.13	4388.67	0	244.68	4388.32
3/6/2025 18:00		0	315.13	4388.67	0	244.83	4388.17
3/7/2025 0:00		0	315.20	4388.60	0	244.83	4388.17
3/7/2025 6:00		0	315.17	4388.63	0	244.79	4388.21
3/7/2025 12:00		548.1292	363.05	4340.75	114	244.92	4388.08
3/7/2025 18:00		545.1296	362.57	4341.23	0	244.92	4388.08
3/8/2025 0:00		545.1296	314.82	4388.98	217	244.91	4388.09
3/8/2025 6:00		0	314.97	4388.83	0	244.91	4388.09
3/8/2025 12:00		0	315.07	4388.73	0	244.86	4388.14
3/8/2025 18:00		0	315.16	4388.64	0	244.92	4388.08
3/9/2025 0:00		0	315.21	4388.59	0	244.92	4388.08
3/9/2025 7:00		0	315.18	4388.62	0	244.89	4388.11
3/9/2025 13:00		0	315.25	4388.55	0	244.96	4388.04
3/9/2025 19:00		0	315.35	4388.45	0	245.06	4387.94

3/10/2025 1:00	0	315.35	4388.45	0	245.06	4387.94
3/10/2025 7:00	547.7183	363.29	4340.51	0	245.23	4387.77
3/10/2025 13:00	545.5449	362.93	4340.87	0	245.34	4387.66
3/10/2025 19:00	0	315.07	4388.73	68	245.26	4387.74
3/11/2025 1:00	0	315.39	4388.41	0	245.26	4387.74
3/11/2025 7:00	0	315.49	4388.31	0	245.32	4387.68
3/11/2025 13:00	0	315.61	4388.19	0	245.32	4387.68
3/11/2025 19:00	0	315.66	4388.14	0	245.42	4387.58
3/12/2025 1:00	0	315.75	4388.05	0	245.51	4387.49
3/12/2025 7:00	0	315.71	4388.09	0	245.43	4387.57
3/12/2025 13:00	0	315.79	4388.01	0	245.43	4387.57
3/12/2025 19:00	0	315.78	4388.02	0	245.49	4387.51
3/13/2025 1:00	0	315.90	4387.90	0	245.49	4387.51
3/13/2025 7:00	0	315.90	4387.90	0	245.60	4387.40
3/13/2025 13:00	548.4739	363.87	4339.93	0	245.79	4387.21
3/13/2025 19:00	544.7976	363.33	4340.47	0	245.79	4387.21
3/14/2025 1:00	0	315.69	4388.11	0	245.79	4387.21
3/14/2025 7:00	0	315.85	4387.95	0	245.77	4387.23
3/14/2025 13:00	0	315.85	4387.95	0	245.82	4387.18
3/14/2025 19:00	0	315.96	4387.84	0	245.74	4387.26
3/15/2025 1:00	0	315.96	4387.84	0	245.74	4387.26
3/15/2025 7:00	0	316.06	4387.74	0	245.75	4387.25
3/15/2025 13:00	0	316.11	4387.69	0	245.85	4387.15
3/15/2025 19:00	0	316.05	4387.75	0	245.79	4387.21
3/16/2025 1:00	0	316.05	4387.75	0	245.82	4387.18
3/16/2025 7:00	0	316.09	4387.71	0	245.80	4387.20
3/16/2025 13:00	548.5364	366.19	4337.61	0	245.80	4387.20
3/16/2025 19:00	546.2495	363.68	4340.12	0	245.95	4387.05
3/17/2025 1:00	0	315.63	4388.17	66	245.95	4387.05
3/17/2025 7:00	0	315.91	4387.89	0	245.88	4387.12
3/17/2025 13:00	0	316.06	4387.74	0	245.86	4387.14
3/17/2025 19:00	0	316.11	4387.69	0	245.88	4387.12
3/18/2025 1:00	0	316.11	4387.69	0	245.89	4387.11
3/18/2025 7:00	0	316.15	4387.65	0	245.86	4387.14
3/18/2025 13:00	0	316.12	4387.68	0	245.85	4387.15
3/18/2025 19:00	546.9316	363.76	4340.04	100	245.89	4387.11
3/19/2025 1:00	544.1819	363.21	4340.59	0	245.82	4387.18
3/19/2025 7:00	0	315.64	4388.16	0	245.71	4387.29
3/19/2025 13:00	0	315.86	4387.94	0	245.75	4387.25
3/19/2025 19:00	0	315.98	4387.82	0	245.75	4387.25
3/20/2025 1:00	0	316.06	4387.74	0	245.82	4387.18
3/20/2025 7:00	0	316.15	4387.65	0	245.89	4387.11
3/20/2025 13:00	0	316.29	4387.51	0	246.00	4387.00
3/20/2025 19:00	660.7412	316.36	4387.44	1122	235.38	4397.62
3/21/2025 1:00	544.7061	316.36	4387.44	1122	235.38	4397.62
3/21/2025 7:00	0	315.83	4387.97	221	246.17	4386.83
3/21/2025 13:00	0	316.17	4387.63	0	246.17	4386.83
3/21/2025 19:00	0	316.35	4387.45	0	246.17	4386.83
3/22/2025 1:00	0	316.41	4387.39	0	246.28	4386.72
3/22/2025 7:00	0	316.50	4387.30	0	246.28	4386.72
3/22/2025 13:00	0	316.57	4387.23	0	246.39	4386.61
3/22/2025 19:00	547.2693	364.54	4339.26	0	246.39	4386.61
3/23/2025 1:00	544.3838	363.97	4339.83	0	246.43	4386.57
3/23/2025 7:00	0	316.01	4387.79	0	246.28	4386.72
3/23/2025 13:00	0	316.26	4387.54	0	246.31	4386.69

3/23/2025 19:00	0	316.43	4387.37	0	246.37	4386.63
3/24/2025 1:00	0	316.53	4387.27	0	246.43	4386.57
3/24/2025 7:00	0	316.51	4387.29	0	246.35	4386.65
3/24/2025 13:00	0	316.51	4387.29	0	246.35	4386.65
3/24/2025 19:00	0	316.57	4387.23	0	246.37	4386.63
3/25/2025 1:00	0	316.57	4387.23	102	246.48	4386.52
3/25/2025 7:00	543.353	363.80	4340.00	0	246.37	4386.63
3/25/2025 13:00	543.353	316.15	4387.65	0	246.31	4386.69
3/25/2025 19:00	0	316.36	4387.44	0	246.35	4386.65
3/26/2025 1:00	0	316.50	4387.30	0	246.35	4386.65
3/26/2025 7:00	0	316.52	4387.28	0	246.39	4386.61
3/26/2025 13:00	0	316.62	4387.18	0	246.48	4386.52
3/26/2025 19:00	0	316.68	4387.12	0	246.52	4386.48
3/27/2025 1:00	0	316.68	4387.12	0	246.63	4386.37
3/27/2025 7:00	0	316.80	4387.00	0	246.60	4386.40
3/27/2025 13:00	0	316.80	4387.00	0	246.72	4386.28
3/27/2025 19:00	0	316.92	4386.88	6	246.82	4386.18
3/28/2025 1:00	545.4404	364.78	4339.02	0	246.82	4386.18
3/28/2025 7:00	0	316.02	4387.78	0	246.79	4386.21
3/28/2025 13:00	0	316.72	4387.08	0	246.77	4386.23
3/28/2025 19:00	0	316.78	4387.02	0	246.71	4386.29
3/29/2025 1:00	0	316.78	4387.02	0	246.71	4386.29
3/29/2025 7:00	0	316.86	4386.94	0	246.69	4386.31
3/29/2025 13:00	0	316.94	4386.86	0	246.69	4386.31
3/29/2025 19:00	0	316.94	4386.86	0	246.65	4386.35
3/30/2025 1:00	0	316.90	4386.90	0	246.63	4386.37
3/30/2025 7:00	0	316.85	4386.95	0	246.63	4386.37
3/30/2025 13:00	545.5688	364.80	4339.00	99	246.63	4386.37
3/30/2025 19:00	542.637	364.13	4339.67	0	246.74	4386.26
3/31/2025 1:00	0	316.56	4387.24	0	246.66	4386.34
3/31/2025 7:00	0	316.77	4387.03	0	246.69	4386.31
3/31/2025 13:00	0	316.98	4386.82	0	246.83	4386.17
3/31/2025 19:00	543.2903	364.56	4339.24	0	246.95	4386.05
4/1/2025 0:00	0.00	316.73	4387.07	0.00	246.89	4386.11
4/1/2025 6:00	0.00	316.73	4387.07	0.00	246.88	4386.12
4/1/2025 12:00	0.00	317.15	4386.65	0.00	246.92	4386.08
4/1/2025 18:00	0.00	317.15	4386.65	0.00	246.98	4386.02
4/2/2025 0:00	0.00	317.16	4386.64	0.00	246.91	4386.09
4/2/2025 6:00	0.00	317.12	4386.68	0.00	246.91	4386.09
4/2/2025 12:00	0.00	317.12	4386.68	0.00	246.91	4386.09
4/2/2025 18:00	0.00	317.20	4386.60	0.00	246.92	4386.08
4/3/2025 0:00	0.00	317.06	4386.74	0.00	246.83	4386.17
4/3/2025 6:00	0.00	366.93	4336.87	0.00	246.80	4386.20
4/3/2025 12:00	547.68	365.32	4338.48	63.00	246.91	4386.09
4/3/2025 18:00	0.00	316.79	4387.01	0.00	246.85	4386.15
4/4/2025 0:00	0.00	316.81	4386.99	0.00	246.65	4386.35
4/4/2025 6:00	0.00	316.78	4387.02	0.00	246.59	4386.41
4/4/2025 12:00	0.00	316.78	4387.02	0.00	246.55	4386.45
4/4/2025 18:00	0.00	316.78	4387.02	0.00	246.57	4386.43
4/5/2025 0:00	557.83	316.78	4387.02	0.00	246.54	4386.46
4/5/2025 6:00	543.06	365.18	4338.62	0.00	246.59	4386.41
4/5/2025 12:00	0.00	309.61	4394.19	72.00	246.63	4386.37
4/5/2025 18:00	0.00	316.60	4387.20	0.00	246.55	4386.45
4/6/2025 0:00	0.00	316.59	4387.21	0.00	246.63	4386.37
4/6/2025 6:00	0.00	316.79	4387.01	0.00	246.62	4386.38

4/6/2025 12:00	0.00	316.78	4387.02	0.00	246.71	4386.29
4/6/2025 18:00	0.00	316.86	4386.94	0.00	246.68	4386.32
4/7/2025 0:00	667.62	365.92	4337.88	102.00	246.75	4386.25
4/7/2025 6:00	544.34	364.21	4339.59	0.00	246.82	4386.18
4/7/2025 12:00	0.00	314.35	4389.45	218.00	246.82	4386.18
4/7/2025 18:00	0.00	316.98	4386.82	0.00	246.88	4386.12
4/8/2025 0:00	0.00	316.98	4386.82	0.00	246.94	4386.06
4/8/2025 6:00	0.00	317.12	4386.68	0.00	246.92	4386.08
4/8/2025 12:00	0.00	317.12	4386.68	0.00	246.92	4386.08
4/8/2025 18:00	601.12	366.89	4336.91	0.00	246.95	4386.05
4/9/2025 0:00	546.27	364.59	4339.21	0.00	247.03	4385.97
4/9/2025 6:00	542.95	364.81	4338.99	0.00	246.89	4386.11
4/9/2025 12:00	0.00	316.95	4386.85	0.00	246.88	4386.12
4/9/2025 18:00	0.00	316.96	4386.84	0.00	246.83	4386.17
4/10/2025 0:00	0.00	316.95	4386.85	0.00	246.85	4386.15
4/10/2025 6:00	0.00	316.93	4386.87	0.00	246.72	4386.28
4/10/2025 12:00	0.00	316.98	4386.82	0.00	246.71	4386.29
4/10/2025 18:00	0.00	316.98	4386.82	0.00	246.74	4386.26
4/11/2025 0:00	0.00	366.83	4336.97	0.00	246.74	4386.26
4/11/2025 6:00	541.51	365.23	4338.57	0.00	246.88	4386.12
4/11/2025 12:00	587.57	314.20	4389.60	231.00	246.86	4386.14
4/11/2025 18:00	0.00	316.64	4387.16	0.00	246.91	4386.09
4/12/2025 0:00	0.00	316.90	4386.90	0.00	246.91	4386.09
4/12/2025 6:00	0.00	317.07	4386.73	0.00	246.95	4386.05
4/12/2025 12:00	0.00	317.26	4386.54	0.00	247.08	4385.92
4/12/2025 18:00	0.00	317.27	4386.53	0.00	247.00	4386.00
4/13/2025 0:00	0.00	317.21	4386.59	0.00	246.98	4386.02
4/13/2025 6:00	0.00	317.26	4386.54	0.00	246.94	4386.06
4/13/2025 12:00	595.72	317.19	4386.61	0.00	246.92	4386.08
4/13/2025 18:00	545.84	364.63	4339.17	0.00	246.89	4386.11
4/14/2025 0:00	0.00	364.84	4338.96	0.00	246.91	4386.09
4/14/2025 6:00	0.00	316.82	4386.98	0.00	246.82	4386.18
4/14/2025 12:00	0.00	316.82	4386.98	0.00	246.75	4386.25
4/14/2025 18:00	0.00	316.92	4386.88	0.00	246.74	4386.26
4/15/2025 0:00	0.00	316.91	4386.89	0.00	246.72	4386.28
4/15/2025 6:00	0.00	316.96	4386.84	0.00	246.74	4386.26
4/15/2025 12:00	0.80	317.02	4386.78	0.00	289.42	4343.58
4/15/2025 18:00	57.82	317.15	4386.65	1254.00	244.85	4388.15
4/16/2025 0:00	0.00	317.13	4386.67	0.00	245.72	4387.28
4/16/2025 6:00	0.00	317.16	4386.64	0.00	246.15	4386.85
4/16/2025 12:00	0.00	317.18	4386.62	0.00	246.59	4386.41
4/16/2025 18:00	0.00	317.46	4386.34	1291.00	289.53	4343.47
4/17/2025 0:00	199.21	317.18	4386.62	1254.00	237.25	4395.75
4/17/2025 6:00	0.00	317.19	4386.61	0.00	245.63	4387.37
4/17/2025 12:00	0.00	317.18	4386.62	0.00	245.97	4387.03
4/17/2025 18:00	0.00	317.18	4386.62	1451.00	246.22	4386.78
4/18/2025 0:00	0.00	317.07	4386.73	1256.00	242.74	4390.26
4/18/2025 6:00	0.00	317.08	4386.72	0.00	245.72	4387.28
4/18/2025 12:00	0.00	317.23	4386.57	1290.00	288.94	4344.06
4/18/2025 18:00	453.10	317.28	4386.52	1269.00	287.71	4345.29
4/19/2025 0:00	0.00	317.05	4386.75	0.00	245.48	4387.52
4/19/2025 6:00	0.00	317.06	4386.74	0.00	245.80	4387.20
4/19/2025 12:00	0.00	317.15	4386.65	0.00	246.02	4386.98
4/19/2025 18:00	0.00	317.14	4386.66	0.00	246.35	4386.65
4/20/2025 0:00	0.00	317.08	4386.72	0.00	246.29	4386.71

4/20/2025 6:00		0.00	317.05	4386.75	0.00	246.29	4386.71
4/20/2025 12:00		0.00	317.04	4386.76	0.00	246.31	4386.69
4/20/2025 18:00		573.40	317.06	4386.74	1289.00	242.59	4390.41
4/21/2025 0:00		0.00	317.07	4386.73	0.00	245.39	4387.61
4/21/2025 6:00		0.00	317.07	4386.73	0.00	245.79	4387.21
4/21/2025 12:00		0.00	317.07	4386.73	0.00	246.19	4386.81
4/21/2025 18:00		0.00	317.29	4386.51	0.00	246.17	4386.83
4/22/2025 0:00		0.00	317.08	4386.72	1265.00	244.92	4388.08
4/22/2025 6:00		0.00	317.09	4386.71	0.00	245.43	4387.57
4/22/2025 12:00		0.00	316.99	4386.81	0.00	245.72	4387.28
4/22/2025 18:00		0.00	316.98	4386.82	0.00	245.91	4387.09
4/23/2025 0:00		0.00	316.94	4386.86	0.00	246.02	4386.98
4/23/2025 6:00		0.00	316.89	4386.91	0.00	246.03	4386.97
4/23/2025 12:00		0.00	317.10	4386.70	1295.00	246.06	4386.94
4/23/2025 18:00		79.27	317.07	4386.73	80.00	244.68	4388.32
4/24/2025 0:00		0.00	316.95	4386.85	0.00	245.60	4387.40
4/24/2025 6:00		0.00	316.92	4386.88	0.00	245.80	4387.20
4/24/2025 12:00		0.00	316.86	4386.94	0.00	245.88	4387.12
4/24/2025 18:00		0.00	316.85	4386.95	1275.00	244.46	4388.54
4/25/2025 0:00		0.00	316.82	4386.98	0.00	245.05	4387.95
4/25/2025 6:00		0.00	316.78	4387.02	0.00	245.43	4387.57
4/25/2025 12:00		0.00	316.79	4387.01	0.00	245.60	4387.40
4/25/2025 18:00		0.00	316.79	4387.01	0.00	245.79	4387.21
4/26/2025 0:00		0.00	316.91	4386.89	0.00	245.85	4387.15
4/26/2025 6:00		0.00	316.93	4386.87	0.00	246.00	4387.00
4/26/2025 12:00		0.00	316.93	4386.87	0.00	246.08	4386.92
4/26/2025 18:00		124.35	317.01	4386.79	1291.00	244.46	4388.54
4/27/2025 0:00		0.00	316.98	4386.82	0.00	245.20	4387.80
4/27/2025 6:00		0.00	316.99	4386.81	0.00	245.69	4387.31
4/27/2025 12:00		0.00	317.00	4386.80	0.00	246.12	4386.88
4/27/2025 18:00		0.00	317.09	4386.71	0.00	246.05	4386.95
4/28/2025 0:00		0.00	316.91	4386.89	0.00	246.05	4386.95
4/28/2025 6:00		0.00	317.06	4386.74	0.00	246.06	4386.94
4/28/2025 12:00		142.02	316.90	4386.90	1274.00	236.12	4396.88
4/28/2025 18:00		0.00	316.84	4386.96	1284.00	245.34	4387.66
4/29/2025 0:00		0.00	316.86	4386.94	1277.00	244.48	4388.52
4/29/2025 6:00		0.00	316.78	4387.02	0.00	245.34	4387.66
4/29/2025 12:00		0.00	316.89	4386.91	0.00	245.34	4387.66
4/29/2025 18:00		0.00	316.91	4386.89	0.00	245.68	4387.32
4/30/2025 0:00		79.32	316.81	4386.99	1290.00	244.46	4388.54
4/30/2025 6:00		536.84	317.11	4386.69	1385.00	243.91	4389.09
4/30/2025 12:00		0.00	316.81	4386.99	0.00	245.23	4387.77
4/30/2025 18:00		0.00	317.06	4386.74	0.00	245.54	4387.46
5/1/2025 0:00	16,600 reported in May		316.81	4386.99		244.98	4388.02
5/1/2025 6:00		0	316.61	4387.19	0	244.86	4388.14
5/1/2025 12:00		0	316.61	4387.19	0	245.19	4387.81
5/1/2025 18:00		189.6316	316.84	4386.96	1164	280.72	4352.28
5/2/2025 0:00		0	316.89	4386.91	1146	281.07	4351.93
5/2/2025 6:00		0	316.50	4387.30	1151	233.38	4399.62
5/2/2025 12:00		0	316.52	4387.28	0	245.31	4387.69
5/2/2025 18:00		0	316.58	4387.22	0	245.31	4387.69
5/3/2025 0:00		0.207764	316.52	4387.28	1162	281.10	4351.90
5/3/2025 6:00		0	316.52	4387.28	1158	280.99	4352.01
5/3/2025 12:00		0	316.56	4387.24	1153	244.20	4388.80
5/3/2025 18:00		0	316.64	4387.16	0	245.28	4387.72

5/4/2025 0:00	0	316.58	4387.22	0	245.28	4387.72
5/4/2025 6:00	0	316.59	4387.21	0	245.39	4387.61
5/4/2025 12:00	0	316.56	4387.24	0	245.49	4387.51
5/4/2025 18:00	0	316.85	4386.95	0	245.56	4387.44
5/5/2025 0:00	128.6902	316.45	4387.35	1160	240.07	4392.93
5/5/2025 6:00	0	316.38	4387.42	0	245.06	4387.94
5/5/2025 12:00	0	316.30	4387.50	1167	244.76	4388.24
5/5/2025 18:00	0	316.26	4387.54	1158	280.26	4352.74
5/6/2025 0:00	0	316.29	4387.51	0	244.60	4388.40
5/6/2025 6:00	0	316.48	4387.32	1166	280.70	4352.30
5/6/2025 12:00	0	316.45	4387.35	1158	280.18	4352.82
5/6/2025 18:00	0	316.11	4387.69	0	244.54	4388.46
5/7/2025 0:00	0	316.43	4387.37	1161	243.22	4389.78
5/7/2025 6:00	0	316.03	4387.77	1155	242.63	4390.37
5/7/2025 12:00	0	316.15	4387.65	0	244.48	4388.52
5/7/2025 18:00	0	316.34	4387.46	1161	280.03	4352.97
5/8/2025 0:00	0	316.48	4387.32	1149	280.73	4352.27
5/8/2025 6:00	0	316.45	4387.35	1155	233.82	4399.18
5/8/2025 12:00	0	316.12	4387.68	0	244.33	4388.67
5/8/2025 18:00	0	315.97	4387.83	0	244.62	4388.38
5/9/2025 0:00	0	316.26	4387.54	0	244.69	4388.31
5/9/2025 6:00	151.9187	316.23	4387.57	1157	233.36	4399.64
5/9/2025 12:00	0	315.87	4387.93	0	244.08	4388.92
5/9/2025 18:00	0	315.75	4388.05	0	244.39	4388.61
5/10/2025 0:00	0	316.08	4387.72	0	244.48	4388.52
5/10/2025 6:00	510.5371	316.11	4387.69	1381	240.22	4392.78
5/10/2025 12:00	670.0784	312.08	4391.72	1370	280.41	4352.59
5/10/2025 18:00	0	315.55	4388.25	0	243.96	4389.04
5/11/2025 0:00	0	315.68	4388.12	0	244.25	4388.75
5/11/2025 6:00	0	315.83	4387.97	0	244.48	4388.52
5/11/2025 12:00	0	315.90	4387.90	0	244.60	4388.40
5/11/2025 18:00	0	316.16	4387.64	1164	244.74	4388.26
5/12/2025 0:00	0	315.76	4388.04	1161	277.61	4355.39
5/12/2025 6:00	0	316.21	4387.59	1157	242.02	4390.98
5/12/2025 12:00	0	315.93	4387.87	0	244.09	4388.91
5/12/2025 18:00	0	315.81	4387.99	0	244.45	4388.55
5/13/2025 0:00	0	316.10	4387.70	0	280.44	4352.56
5/13/2025 6:00	0	315.69	4388.11	1164	280.53	4352.47
5/13/2025 12:00	181.7061	315.66	4388.14	1154	233.38	4399.62
5/13/2025 18:00	0	315.73	4388.07	0	244.05	4388.95
5/14/2025 0:00	0	315.51	4388.29	0	244.14	4388.86
5/14/2025 6:00	0	315.52	4388.28	0	244.23	4388.77
5/14/2025 12:00	0	315.54	4388.26	0	244.42	4388.58
5/14/2025 18:00	0	315.85	4387.95	1166	239.47	4393.53
5/15/2025 0:00	0	315.73	4388.07	1359	232.06	4400.94
5/15/2025 6:00	0	315.40	4388.40	0	243.59	4389.41
5/15/2025 12:00	0	315.34	4388.46	188	236.07	4396.93
5/15/2025 18:00	576.4639	315.59	4388.21	1351	232.23	4400.77
5/16/2025 0:00	407.8093	315.64	4388.16	1160	238.81	4394.19
5/16/2025 6:00	0	315.17	4388.63	0	243.51	4389.49
5/16/2025 12:00	0	315.10	4388.70	0	243.69	4389.31
5/16/2025 18:00	0	315.06	4388.74	0	243.93	4389.07
5/17/2025 0:00	543.9839	314.92	4388.88	0	235.93	4397.07
5/17/2025 6:00	0	315.36	4388.44	1163	276.30	4356.70
5/17/2025 12:00	0	315.27	4388.53	1156	239.41	4393.59

5/17/2025 18:00	0	314.99	4388.81	0	243.37	4389.63
5/18/2025 0:00	0	314.90	4388.90	0	243.59	4389.41
5/18/2025 6:00	0	314.90	4388.90	0	243.65	4389.35
5/18/2025 12:00	0	314.93	4388.87	0	243.73	4389.27
5/18/2025 18:00	0	315.17	4388.63	1322	280.06	4352.94
5/19/2025 0:00	0	314.74	4389.06	1197	234.85	4398.15
5/19/2025 6:00	0	314.69	4389.11	0	242.96	4390.04
5/19/2025 12:00	0	314.69	4389.11	0	243.22	4389.78
5/19/2025 18:00	0	314.54	4389.26	1166	243.34	4389.66
5/20/2025 0:00	0	314.95	4388.85	0	279.36	4353.64
5/20/2025 6:00	536.7383	314.91	4388.89	1389	231.10	4401.90
5/20/2025 12:00	0	314.44	4389.36	0	242.62	4390.38
5/20/2025 18:00	0	314.40	4389.40	0	242.90	4390.10
5/21/2025 0:00	0	314.30	4389.50	0	243.05	4389.95
5/21/2025 6:00	0	314.24	4389.56	0	243.05	4389.95
5/21/2025 12:00	0	314.25	4389.55	0	243.08	4389.92
5/21/2025 18:00	0	314.04	4389.76	1173	231.04	4401.96
5/22/2025 0:00	0	314.16	4389.64	0	242.51	4390.49
5/22/2025 6:00	0	314.04	4389.76	0	242.50	4390.50
5/22/2025 12:00	0	314.02	4389.78	0	242.65	4390.35
5/22/2025 18:00	510.428	314.29	4389.51	1175	230.43	4402.57
5/23/2025 0:00	121.0342	313.88	4389.92	1172	231.69	4401.31
5/23/2025 6:00	0	313.95	4389.85	0	242.45	4390.55
5/23/2025 12:00	0	313.93	4389.87	0	242.45	4390.55
5/23/2025 18:00	0	313.88	4389.92	0	242.60	4390.40
5/24/2025 0:00	155.6313	314.12	4389.68	0	279.89	4353.11
5/24/2025 6:00	0	314.07	4389.73	1161	276.37	4356.63
5/24/2025 12:00	71.00513	314.00	4389.80	1168	241.11	4391.89
5/24/2025 18:00	0	313.49	4390.31	0	242.02	4390.98
5/25/2025 0:00	0	313.46	4390.34	0	242.10	4390.90
5/25/2025 6:00	0	313.41	4390.39	0	242.17	4390.83
5/25/2025 12:00	0	313.47	4390.33	0	242.36	4390.64
5/25/2025 18:00	0	313.45	4390.35	0	242.23	4390.77
5/26/2025 0:00	0	313.28	4390.52	0	242.23	4390.77
5/26/2025 6:00	0	313.27	4390.53	0	242.25	4390.75
5/26/2025 12:00	0	313.28	4390.52	0	242.28	4390.72
5/26/2025 18:00	0	313.61	4390.19	0	242.36	4390.64
5/27/2025 0:00	0	313.54	4390.26	1176	279.21	4353.79
5/27/2025 6:00	0	313.60	4390.20	1172	275.70	4357.30
5/27/2025 12:00	144.3271	313.46	4390.34	1169	231.67	4401.33
5/27/2025 18:00	0	312.98	4390.82	0	241.42	4391.58
5/28/2025 0:00	0	312.90	4390.90	0	241.51	4391.49
5/28/2025 6:00	0	312.91	4390.89	0	241.59	4391.41
5/28/2025 12:00	0	312.85	4390.95	0	241.65	4391.35
5/28/2025 18:00	0	312.77	4391.03	0	241.71	4391.29
5/29/2025 0:00	0	312.68	4391.12	0	241.65	4391.35
5/29/2025 6:00	138.1775	313.04	4390.76	0	241.67	4391.33
5/29/2025 12:00	0	312.60	4391.20	1179	275.46	4357.54
5/29/2025 18:00	0	313.14	4390.66	1163	279.49	4353.51
5/30/2025 0:00	63.88721	313.01	4390.79	1171	278.70	4354.30
5/30/2025 6:00	0	312.61	4391.19	0	240.84	4392.16
5/30/2025 12:00	0	312.47	4391.33	0	241.17	4391.83
5/30/2025 18:00	0	312.39	4391.41	0	241.16	4391.84
5/31/2025 0:00	0	312.40	4391.40	0	241.13	4391.87
5/31/2025 6:00	0	312.15	4391.65	1181	241.14	4391.86

5/31/2025 12:00		0	312.64	4391.16	1211	239.93	4393.07
5/31/2025 18:00		0	312.30	4391.50	0	240.82	4392.18
6/1/2025 0:00	no reported production in June	0	312.61	4391.19		241.16	4391.84
6/1/2025 6:00		0	312.68	4391.12	1180	275.32	4357.68
6/1/2025 12:00		0	312.13	4391.67	1175	275.24	4357.76
6/1/2025 18:00		0	312.15	4391.65	1171	239.61	4393.39
6/2/2025 0:00		0	312.10	4391.70	0	240.40	4392.60
6/2/2025 6:00		0	312.07	4391.73	0	240.56	4392.44
6/2/2025 12:00		0	312.08	4391.72	0	240.74	4392.26
6/2/2025 18:00		0	311.95	4391.85	0	240.73	4392.27
6/3/2025 0:00		0	311.84	4391.96	0	240.77	4392.23
6/3/2025 6:00		0	311.82	4391.98	0	240.68	4392.32
6/3/2025 12:00		0	311.82	4391.98	0	240.70	4392.30
6/3/2025 18:00		0	312.14	4391.66	0	278.09	4354.91
6/4/2025 0:00		136.021	311.65	4392.15	1177	274.43	4358.57
6/4/2025 6:00		0	311.62	4392.18	1173	232.16	4400.84
6/4/2025 12:00		0	311.70	4392.10	0	239.88	4393.12
6/4/2025 18:00		0	311.56	4392.24	0	240.11	4392.89
6/5/2025 0:00		0	311.50	4392.30	0	240.22	4392.78
6/5/2025 6:00		0	311.48	4392.32	0	240.27	4392.73
6/5/2025 12:00		12.71436	311.49	4392.31	0	240.31	4392.69
6/5/2025 18:00		363.0781	311.74	4392.06	0	277.96	4355.04
6/6/2025 0:00		1.443848	311.33	4392.47	1171	237.31	4395.69
6/6/2025 6:00		0	311.65	4392.15	0	239.71	4393.29
6/6/2025 12:00		0	311.73	4392.07	1184	274.78	4358.22
6/6/2025 18:00		0	311.20	4392.60	1161	277.21	4355.79
6/7/2025 0:00		0	311.22	4392.58	1168	239.10	4393.90
6/7/2025 6:00		0	311.27	4392.53	0	239.77	4393.23
6/7/2025 12:00		0	311.25	4392.55	0	239.77	4393.23
6/7/2025 18:00		0	311.03	4392.77	0	239.85	4393.15
6/8/2025 0:00		0	310.96	4392.84	0	239.79	4393.21
6/8/2025 6:00		0	310.97	4392.83	0	239.77	4393.23
6/8/2025 12:00		0	310.80	4393.00	1185	239.79	4393.21
6/8/2025 18:00		0	311.27	4392.53	1175	277.04	4355.96
6/9/2025 0:00		0	310.67	4393.13	1173	273.68	4359.32
6/9/2025 6:00		0	311.17	4392.63	1173	276.67	4356.33
6/9/2025 12:00		0	310.83	4392.97	0	238.91	4394.09
6/9/2025 18:00		0	310.82	4392.98	0	239.25	4393.75
6/10/2025 0:00		0	310.69	4393.11	0	239.31	4393.69
6/10/2025 6:00		191.7268	310.61	4393.19	0	277.20	4355.80
6/10/2025 12:00		0	310.58	4393.22	1172	229.21	4403.79
6/10/2025 18:00		250.5654	310.55	4393.25	0	239.05	4393.95
6/11/2025 0:00		0	310.43	4393.37	1185	239.13	4393.87
6/11/2025 6:00		0	310.91	4392.89	1166	273.58	4359.42
6/11/2025 12:00		0	310.90	4392.90	1176	238.21	4394.79
6/11/2025 18:00		0	310.38	4393.42	0	238.59	4394.41
6/12/2025 0:00		0	310.24	4393.56	1182	237.93	4395.07
6/12/2025 6:00		0	310.31	4393.49	0	238.39	4394.61
6/12/2025 12:00		0	310.36	4393.44	0	238.67	4394.33
6/12/2025 18:00		0	310.23	4393.57	0	238.90	4394.10
6/13/2025 0:00		0	310.17	4393.63	0	238.90	4394.10
6/13/2025 6:00		0	310.14	4393.66	0	238.93	4394.07
6/13/2025 12:00		309.1177	310.13	4393.67	0	238.96	4394.04
6/13/2025 18:00		346.9893	310.05	4393.75	0	239.05	4393.95
6/14/2025 0:00		262.9509	309.92	4393.88	1403	232.19	4400.81

6/14/2025 6:00	0	310.41	4393.39	1178	276.61	4356.39
6/14/2025 12:00	0	309.99	4393.81	0	238.05	4394.95
6/14/2025 18:00	21.27002	309.87	4393.93	0	238.50	4394.50
6/15/2025 0:00	0	309.63	4394.17	1191	238.45	4394.55
6/15/2025 6:00	46.72583	310.15	4393.65	1182	276.60	4356.40
6/15/2025 12:00	0	310.10	4393.70	1174	236.25	4396.75
6/15/2025 18:00	0	309.68	4394.12	0	237.96	4395.04
6/16/2025 0:00	0	309.68	4394.12	0	238.14	4394.86
6/16/2025 6:00	0	309.52	4394.28	0	238.19	4394.81
6/16/2025 12:00	0	309.49	4394.31	0	238.25	4394.75
6/16/2025 18:00	46.22363	309.52	4394.28	0	238.31	4394.69
6/17/2025 0:00	0	309.33	4394.47	1183	238.33	4394.67
6/17/2025 6:00	0	309.78	4394.02	1291	275.90	4357.10
6/17/2025 12:00	0	309.76	4394.04	1176	235.98	4397.02
6/17/2025 18:00	32.40674	309.35	4394.45	0	237.62	4395.38
6/18/2025 0:00	543.3088	309.18	4394.62	1185	237.85	4395.15
6/18/2025 6:00	0	309.21	4394.59	1175	234.35	4398.65
6/18/2025 12:00	0	309.18	4394.62	0	237.58	4395.42
6/18/2025 18:00	0	309.16	4394.64	0	237.71	4395.29
6/19/2025 0:00	0	309.08	4394.72	0	237.87	4395.13
6/19/2025 6:00	424.4299	309.49	4394.31	0	231.06	4401.94
6/19/2025 12:00	0	309.46	4394.34	0	280.92	4352.08
6/19/2025 18:00	0	309.30	4394.50	1178	234.22	4398.78
6/20/2025 0:00	0	308.96	4394.84	0	237.36	4395.64
6/20/2025 6:00	0.100586	309.02	4394.78	0	237.50	4395.50
6/20/2025 12:00	0	309.35	4394.45	0	275.57	4357.43
6/20/2025 18:00	93.04663	308.88	4394.92	0	226.55	4406.45
6/21/2025 0:00	0	308.89	4394.91	1179	236.68	4396.32
6/21/2025 6:00	72.52515	309.28	4394.52	0	275.34	4357.66
6/21/2025 12:00	0	309.30	4394.50	1180	236.39	4396.61
6/21/2025 18:00	0	308.70	4395.10	0	237.04	4395.96
6/22/2025 0:00	0	308.71	4395.09	0	237.22	4395.78
6/22/2025 6:00	0	308.62	4395.18	0	237.19	4395.81
6/22/2025 12:00	0	308.53	4395.27	0	237.27	4395.73
6/22/2025 18:00	0	308.35	4395.45	0	237.30	4395.70
6/23/2025 0:00	0	308.28	4395.52	0	237.16	4395.84
6/23/2025 6:00	287.5432	308.59	4395.21	0	237.10	4395.90
6/23/2025 12:00	212.9209	308.25	4395.55	1385	228.26	4404.74
6/23/2025 18:00	0	308.02	4395.78	1321	274.71	4358.29
6/24/2025 0:00	88.36133	307.96	4395.84	1179	271.05	4361.95
6/24/2025 6:00	0	308.45	4395.35	1170	235.84	4397.16
6/24/2025 12:00	0	308.02	4395.78	0	236.24	4396.76
6/24/2025 18:00	0	307.89	4395.91	0	236.50	4396.50
6/25/2025 0:00	0	307.84	4395.96	0	236.50	4396.50
6/25/2025 6:00	0	307.86	4395.94	0	236.56	4396.44
6/25/2025 12:00	0	307.76	4396.04	1188	274.17	4358.83
6/25/2025 18:00	0	308.17	4395.63	1175	235.61	4397.39
6/26/2025 0:00	0	307.82	4395.98	1187	273.55	4359.45
6/26/2025 6:00	359.4365	308.07	4395.73	1188	270.09	4362.91
6/26/2025 12:00	0	307.65	4396.15	1387	229.32	4403.68
6/26/2025 18:00	0	307.64	4396.16	1345	227.27	4405.73
6/27/2025 0:00	0	307.57	4396.23	0	235.73	4397.27
6/27/2025 6:00	0	307.52	4396.28	0	235.95	4397.05
6/27/2025 12:00	0	307.50	4396.30	0	236.22	4396.78
6/27/2025 18:00	0	307.48	4396.32	1246	273.95	4359.05

6/28/2025 0:00	0	307.36	4396.44	0	235.55	4397.45
6/28/2025 6:00	0	307.29	4396.51	0	235.75	4397.25
6/28/2025 12:00	0	307.26	4396.54	0	235.87	4397.13
6/28/2025 18:00	0	307.13	4396.67	0	273.71	4359.29
6/29/2025 0:00	0	307.04	4396.76	1181	273.66	4359.34
6/29/2025 6:00	126.821	306.96	4396.84	1170	273.03	4359.97
6/29/2025 12:00	0	307.00	4396.80	1159	228.94	4404.06
6/29/2025 18:00	0	306.93	4396.87	0	235.41	4397.59
6/30/2025 0:00	513.0981	306.94	4396.86	1184	272.66	4360.34
6/30/2025 6:00	0	306.72	4397.08	1185	231.53	4401.47
6/30/2025 12:00	0	306.80	4397.00	0	234.90	4398.10
6/30/2025 18:00	0	306.73	4397.07	0	235.33	4397.67
7/1/2025 0:00	0.00	307.20	4396.60	1175.00	271.32	4361.68
7/1/2025 6:00	0.00	307.27	4396.53	1180.00	273.90	4359.10
7/1/2025 12:00	0.00	306.80	4397.00	0.00	272.68	4360.32
7/1/2025 18:00	0.00	307.18	4396.62	825.00	273.15	4359.85
7/2/2025 0:00	120.52	306.71	4397.09	1171.00	233.17	4399.83
7/2/2025 6:00	0.00	306.79	4397.01	0.00	234.99	4398.01
7/2/2025 12:00	0.00	306.72	4397.08	0.00	235.25	4397.75
7/2/2025 18:00	0.00	306.75	4397.05	1309.00	270.84	4362.16
7/3/2025 0:00	91.36	306.58	4397.22	1187.00	234.56	4398.44
7/3/2025 6:00	0.00	306.65	4397.15	0.00	235.12	4397.88
7/3/2025 12:00	243.39	306.52	4397.28	1243.00	235.12	4397.88
7/3/2025 18:00	0.00	306.47	4397.33	1440.00	273.38	4359.62
7/4/2025 0:00	0.00	306.96	4396.84	1183.00	273.28	4359.72
7/4/2025 6:00	0.00	306.40	4397.40	965.00	269.35	4363.65
7/4/2025 12:00	0.00	306.84	4396.96	1181.00	238.83	4394.17
7/4/2025 18:00	426.63	306.28	4397.52	1397.00	231.14	4401.86
7/5/2025 0:00	0.00	306.24	4397.56	0.00	234.42	4398.58
7/5/2025 6:00	0.00	306.24	4397.56	0.00	234.60	4398.40
7/5/2025 12:00	0.00	306.14	4397.66	0.00	234.77	4398.23
7/5/2025 18:00	0.00	306.04	4397.76	0.00	234.77	4398.23
7/6/2025 0:00	0.00	306.05	4397.75	0.00	234.79	4398.21
7/6/2025 6:00	0.00	305.92	4397.88	1355.00	272.72	4360.28
7/6/2025 12:00	0.00	305.96	4397.84	0.00	234.09	4398.91
7/6/2025 18:00	0.00	305.96	4397.84	0.00	234.39	4398.61
7/7/2025 0:00	0.00	306.21	4397.59	0.00	234.48	4398.52
7/7/2025 6:00	86.44	306.22	4397.58	1186.00	267.56	4365.44
7/7/2025 12:00	0.00	305.76	4398.04	1183.00	272.67	4360.33
7/7/2025 18:00	156.58	306.21	4397.59	1178.00	222.58	4410.42
7/8/2025 0:00	0.00	305.69	4398.11	0.00	233.89	4399.11
7/8/2025 6:00	0.00	305.70	4398.10	0.00	234.12	4398.88
7/8/2025 12:00	247.87	305.95	4397.85	1215.00	272.75	4360.25
7/8/2025 18:00	700.71	305.67	4398.13	104.00	234.03	4398.97
7/9/2025 0:00	552.80	355.09	4348.71	0.00	234.22	4398.78
7/9/2025 6:00	549.00	355.81	4347.99	0.00	234.31	4398.69
7/9/2025 12:00	477.54	346.81	4356.99	0.00	234.51	4398.49
7/9/2025 18:00	0.00	303.18	4400.62	1186.00	234.46	4398.54
7/10/2025 0:00	56.31	305.07	4398.73	1183.00	232.70	4400.30
7/10/2025 6:00	0.00	305.66	4398.14	1181.00	268.24	4364.76
7/10/2025 12:00	0.00	305.74	4398.06	1161.00	268.75	4364.25
7/10/2025 18:00	145.88	305.79	4398.01	1181.00	222.23	4410.77
7/11/2025 0:00	0.00	305.22	4398.58	1181.00	233.45	4399.55
7/11/2025 6:00	0.00	305.15	4398.65	0.00	233.62	4399.38
7/11/2025 12:00	0.00	305.14	4398.66	0.00	233.74	4399.26

7/11/2025 18:00	126.62	305.08	4398.72	1290.00	226.75	4406.25
7/12/2025 0:00	0.00	305.06	4398.74	0.00	233.22	4399.78
7/12/2025 6:00	0.00	305.06	4398.74	0.00	233.49	4399.51
7/12/2025 12:00	0.00	305.50	4398.30	0.00	229.56	4403.44
7/12/2025 18:00	557.01	305.50	4398.30	1441.00	272.78	4360.22
7/13/2025 0:00	0.00	305.44	4398.36	1178.00	268.73	4364.27
7/13/2025 6:00	0.00	304.88	4398.92	1187.00	272.19	4360.81
7/13/2025 12:00	0.00	304.86	4398.94	1184.00	271.70	4361.30
7/13/2025 18:00	70.38	305.32	4398.48	1175.00	232.63	4400.37
7/14/2025 0:00	0.00	304.86	4398.94	0.00	233.23	4399.77
7/14/2025 6:00	0.00	304.78	4399.02	1190.00	233.37	4399.63
7/14/2025 12:00	144.92	304.76	4399.04	1184.00	221.59	4411.41
7/14/2025 18:00	0.00	304.88	4398.92	0.00	233.09	4399.91
7/15/2025 0:00	0.00	305.17	4398.63	0.00	222.36	4410.64
7/15/2025 6:00	0.00	304.73	4399.07	1173.00	267.93	4365.07
7/15/2025 12:00	68.26	304.60	4399.20	0.00	271.47	4361.53
7/15/2025 18:00	149.63	304.65	4399.15	1184.00	271.78	4361.22
7/16/2025 0:00	0.00	304.68	4399.12	0.00	232.90	4400.10
7/16/2025 6:00	0.00	304.62	4399.18	0.00	233.05	4399.95
7/16/2025 12:00	0.00	304.55	4399.25	0.00	233.19	4399.81
7/16/2025 18:00	0.00	304.44	4399.36	0.00	233.23	4399.77
7/17/2025 0:00	0.00	304.46	4399.34	1192.00	233.31	4399.69
7/17/2025 6:00	69.58	304.68	4399.12	1169.00	232.30	4400.70
7/17/2025 12:00	0.00	304.95	4398.85	1193.00	232.97	4400.03
7/17/2025 18:00	0.00	304.94	4398.86	1231.00	271.32	4361.68
7/18/2025 0:00	0.00	304.44	4399.36	0.00	271.55	4361.45
7/18/2025 6:00	70.58	304.88	4398.92	1181.00	232.25	4400.75
7/18/2025 12:00	0.00	304.53	4399.27	0.00	232.93	4400.07
7/18/2025 18:00	0.00	304.40	4399.40	0.00	232.93	4400.07
7/19/2025 0:00	8.26	304.30	4399.50	1193.00	271.35	4361.65
7/19/2025 6:00	0.00	304.71	4399.09	1181.00	231.76	4401.24
7/19/2025 12:00	0.00	304.39	4399.41	0.00	232.79	4400.21
7/19/2025 18:00	0.00	304.20	4399.60	0.00	271.16	4361.84
7/20/2025 0:00	0.00	304.26	4399.54	1187.00	267.67	4365.33
7/20/2025 6:00	123.31	304.68	4399.12	1184.00	229.90	4403.10
7/20/2025 12:00	0.00	304.30	4399.50	0.00	232.45	4400.55
7/20/2025 18:00	0.00	304.21	4399.59	0.00	232.68	4400.32
7/21/2025 0:00	17.02	304.14	4399.66	1191.00	232.03	4400.97
7/21/2025 6:00	0.00	304.12	4399.68	1187.00	267.64	4365.36
7/21/2025 12:00	138.86	304.21	4399.59	1178.00	270.21	4362.79
7/21/2025 18:00	0.00	304.14	4399.66	0.00	232.54	4400.46
7/22/2025 0:00	7.23	304.48	4399.32	0.00	232.62	4400.38
7/22/2025 6:00	538.45	304.42	4399.38	0.00	229.14	4403.86
7/22/2025 12:00	0.00	304.19	4399.61	0.00	232.66	4400.34
7/22/2025 18:00	0.00	304.03	4399.77	1174.00	268.15	4364.85
7/23/2025 0:00	0.00	304.37	4399.43	1196.00	232.40	4400.60
7/23/2025 6:00	0.00	304.36	4399.44	0.00	233.88	4399.12
7/23/2025 12:00	267.05	304.34	4399.46	1187.00	270.73	4362.27
7/23/2025 18:00	0.00	304.30	4399.50	1190.00	221.36	4411.64
7/24/2025 0:00	0.00	303.85	4399.95	0.00	232.08	4400.92
7/24/2025 6:00	0.00	303.83	4399.97	0.00	232.28	4400.72
7/24/2025 12:00	0.00	304.03	4399.77	1190.00	232.40	4400.60
7/24/2025 18:00	0.00	309.17	4394.63	1190.00	229.56	4403.44
7/25/2025 0:00	139.47	303.75	4400.05	1323.00	232.00	4401.00
7/25/2025 6:00	0.00	304.19	4399.61	1190.00	271.18	4361.82

7/25/2025 12:00	69.12	304.25	4399.55	1187.00	231.60	4401.40
7/25/2025 18:00	0.00	303.97	4399.83	813.00	231.47	4401.53
7/26/2025 0:00	0.00	303.85	4399.95	0.00	232.33	4400.67
7/26/2025 6:00	0.00	303.82	4399.98	0.00	232.40	4400.60
7/26/2025 12:00	172.27	304.15	4399.65	1357.00	220.49	4412.51
7/26/2025 18:00	0.00	304.17	4399.63	1186.00	231.86	4401.14
7/27/2025 0:00	0.00	304.07	4399.73	1181.00	230.33	4402.67
7/27/2025 6:00	0.00	304.11	4399.69	0.00	270.62	4362.38
7/27/2025 12:00	57.49	303.58	4400.22	1186.00	230.74	4402.26
7/27/2025 18:00	516.90	303.99	4399.81	1189.00	228.31	4404.69
7/28/2025 0:00	0.00	303.55	4400.25	0.00	231.77	4401.23
7/28/2025 6:00	0.00	303.56	4400.24	0.00	231.94	4401.06
7/28/2025 12:00	16.66	303.82	4399.98	1192.00	270.56	4362.44
7/28/2025 18:00	133.84	303.86	4399.94	1189.00	225.64	4407.36
7/29/2025 0:00	0.00	303.32	4400.48	1196.00	270.39	4362.61
7/29/2025 6:00	0.00	303.79	4400.01	1187.00	270.18	4362.82
7/29/2025 12:00	0.00	303.26	4400.54	0.00	225.48	4407.52
7/29/2025 18:00	71.61	304.20	4399.60	1187.00	270.04	4362.96
7/30/2025 0:00	0.00	303.15	4400.65	0.00	231.45	4401.55
7/30/2025 6:00	0.00	303.30	4400.50	0.00	231.74	4401.26
7/30/2025 12:00	203.82	303.58	4400.22	1324.00	231.86	4401.14
7/30/2025 18:00	0.00	303.23	4400.57	1186.00	220.16	4412.84
7/31/2025 0:00	0.00	303.25	4400.55	0.00	231.59	4401.41
7/31/2025 6:00	0.00	303.66	4400.14	0.00	270.49	4362.51
7/31/2025 12:00	0.00	303.24	4400.56	1223.00	220.63	4412.37
7/31/2025 18:00	0.00	303.21	4400.59	1186.00	227.87	4405.13
8/1/2025 0:00	0	303.27	4400.53	0	231.60	4401.40
8/1/2025 6:00	0	303.31	4400.49	0	231.59	4401.41
8/1/2025 12:00	219	303.54	4400.26	1298	231.79	4401.21
8/1/2025 18:00	74	303.61	4400.19	1189	230.80	4402.20
8/2/2025 0:00	0	303.24	4400.56	0	231.42	4401.58
8/2/2025 6:00	0	303.21	4400.59	1195	231.65	4401.35
8/2/2025 12:00	0	303.16	4400.64	1173	270.10	4362.90
8/2/2025 18:00	72	303.13	4400.67	1179	230.85	4402.15
8/3/2025 0:00	0	303.23	4400.57	0	231.23	4401.77
8/3/2025 6:00	0	303.17	4400.63	1193	269.99	4363.01
8/3/2025 12:00	180	303.61	4400.19	1186	270.02	4362.98
8/3/2025 18:00	261	303.32	4400.48	1182	268.79	4364.21
8/4/2025 0:00	0	303.16	4400.64	0	231.42	4401.58
8/4/2025 6:00	0	303.21	4400.59	0	231.62	4401.38
8/4/2025 12:00	73	303.62	4400.18	1196	270.49	4362.51
8/4/2025 18:00	547	303.11	4400.69	1446	228.93	4404.07
8/5/2025 0:00	0	303.49	4400.31	1325	270.70	4362.30
8/5/2025 6:00	0	303.56	4400.24	1192	220.07	4412.93
8/5/2025 12:00	0	303.18	4400.62	0	231.22	4401.78
8/5/2025 18:00	0	303.44	4400.36	1361	229.68	4403.32
8/6/2025 0:00	0	303.03	4400.77	0	231.25	4401.75
8/6/2025 6:00	0	303.04	4400.76	0	231.45	4401.55
8/6/2025 12:00	0	303.02	4400.78	0	269.76	4363.24
8/6/2025 18:00	128	303.43	4400.37	1192	228.64	4404.36
8/7/2025 0:00	0	303.35	4400.45	1373	270.27	4362.73
8/7/2025 6:00	0	302.92	4400.88	1191	270.22	4362.78
8/7/2025 12:00	58	303.03	4400.77	1168	230.24	4402.76
8/7/2025 18:00	0	302.99	4400.81	1348	229.82	4403.18
8/8/2025 0:00	0	302.99	4400.81	0	231.14	4401.86

8/8/2025 6:00	0	303.02	4400.78	0	231.39	4401.61
8/8/2025 12:00	58	303.00	4400.80	0	269.73	4363.27
8/8/2025 18:00	412	303.37	4400.43	1338	269.98	4363.02
8/9/2025 0:00	0	302.94	4400.86	0	231.02	4401.98
8/9/2025 6:00	0	303.23	4400.57	0	269.96	4363.04
8/9/2025 12:00	0	303.33	4400.47	1189	269.63	4363.37
8/9/2025 18:00	0	303.37	4400.43	1164	219.89	4413.11
8/10/2025 0:00	0	302.89	4400.91	0	231.28	4401.72
8/10/2025 6:00	0	302.86	4400.94	0	231.27	4401.73
8/10/2025 12:00	0	302.87	4400.93	0	231.36	4401.64
8/10/2025 18:00	486	302.78	4401.02	1273	227.34	4405.66
8/11/2025 0:00	0	302.86	4400.94	0	230.85	4402.15
8/11/2025 6:00	0	303.05	4400.75	0	231.14	4401.86
8/11/2025 12:00	552	303.12	4400.68	1456	228.48	4404.52
8/11/2025 18:00	0	302.71	4401.09	1415	229.82	4403.18
8/12/2025 0:00	138	302.68	4401.12	1196	230.79	4402.21
8/12/2025 6:00	0	302.69	4401.11	1190	219.80	4413.20
8/12/2025 12:00	0	302.73	4401.07	0	230.90	4402.10
8/12/2025 18:00	141	302.75	4401.05	1215	229.48	4403.52
8/13/2025 0:00	0	302.83	4400.97	0	230.88	4402.12
8/13/2025 6:00	4	303.09	4400.71	1201	269.56	4363.44
8/13/2025 12:00	0	303.19	4400.61	1195	270.55	4362.45
8/13/2025 18:00	56	302.79	4401.01	1187	229.57	4403.43
8/14/2025 0:00	0	302.78	4401.02	0	269.66	4363.34
8/14/2025 6:00	192	302.81	4400.99	0	220.73	4412.27
8/14/2025 12:00	0	302.80	4401.00	95	231.10	4401.90
8/14/2025 18:00	556	353.89	4349.91	0	231.30	4401.70
8/15/2025 0:00	0	302.00	4401.80	79	231.50	4401.50
8/15/2025 6:00	550	352.49	4351.31	0	231.48	4401.52
8/15/2025 12:00	550	353.31	4350.49	0	231.59	4401.41
8/15/2025 18:00	556	298.70	4405.10	1198	229.19	4403.81
8/16/2025 0:00	34	302.15	4401.65	1199	230.76	4402.24
8/16/2025 6:00	0	302.79	4401.01	1193	227.21	4405.79
8/16/2025 12:00	0	302.59	4401.21	0	230.93	4402.07
8/16/2025 18:00	0	302.53	4401.27	1191	228.84	4404.16
8/17/2025 0:00	0	302.54	4401.26	1196	269.73	4363.27
8/17/2025 6:00	0	302.54	4401.26	1194	270.07	4362.93
8/17/2025 12:00	57	303.00	4400.80	1192	229.73	4403.27
8/17/2025 18:00	0	302.56	4401.24	1194	225.07	4407.93
8/18/2025 0:00	0	302.55	4401.25	0	230.91	4402.09
8/18/2025 6:00	0	302.56	4401.24	0	230.90	4402.10
8/18/2025 12:00	549	302.59	4401.21	1194	228.22	4404.78
8/18/2025 18:00	546	302.47	4401.33	1465	275.54	4357.46
8/19/2025 0:00	665	302.49	4401.31	88	230.56	4402.44
8/19/2025 6:00	557	353.42	4350.38	0	230.90	4402.10
8/19/2025 12:00	0	300.34	4403.46	0	230.36	4402.64
8/19/2025 18:00	455	302.15	4401.65	1285	226.67	4406.33
8/20/2025 0:00	0	302.36	4401.44	0	230.57	4402.43
8/20/2025 6:00	0	302.36	4401.44	0	230.87	4402.13
8/20/2025 12:00	189	302.80	4401.00	1367	269.82	4363.18
8/20/2025 18:00	532	302.40	4401.40	1196	227.22	4405.78
8/21/2025 0:00	0	302.42	4401.38	0	230.56	4402.44
8/21/2025 6:00	553	302.75	4401.05	1190	269.36	4363.64
8/21/2025 12:00	174	302.41	4401.39	1372	268.86	4364.14
8/21/2025 18:00	0	302.32	4401.48	1194	269.56	4363.44

8/22/2025 0:00		0	302.30	4401.50	0	269.66	4363.34
8/22/2025 6:00		0	302.32	4401.48	1196	266.27	4366.73
8/22/2025 12:00		429	302.69	4401.11	1275	223.12	4409.88
8/22/2025 18:00		68	302.31	4401.49	1196	229.73	4403.27
8/23/2025 0:00		0	302.29	4401.51	0	230.44	4402.56
8/23/2025 6:00		0	302.28	4401.52	0	230.68	4402.32
8/23/2025 12:00		424	302.68	4401.12	1396	225.88	4407.12
8/23/2025 18:00		0	302.69	4401.11	1194	269.73	4363.27
8/24/2025 0:00		0	302.69	4401.11	1202	230.39	4402.61
8/24/2025 6:00		0	302.30	4401.50	1235	221.75	4411.25
8/24/2025 12:00		0	302.43	4401.37	0	230.39	4402.61
8/24/2025 18:00		554	302.35	4401.45	1297	227.71	4405.29
8/25/2025 0:00		0	302.39	4401.41	0	230.42	4402.58
8/25/2025 6:00		0	302.39	4401.41	0	230.71	4402.29
8/25/2025 12:00		0	302.78	4401.02	0	270.16	4362.84
8/25/2025 18:00		0	302.87	4400.93	1193	269.67	4363.33
8/26/2025 0:00		0	302.32	4401.48	1201	230.45	4402.55
8/26/2025 6:00		0	302.38	4401.42	1196	229.65	4403.35
8/26/2025 12:00		0	302.44	4401.36	0	230.48	4402.52
8/26/2025 18:00		69	302.76	4401.04	1192	230.07	4402.93
8/27/2025 0:00		0	302.41	4401.39	0	230.56	4402.44
8/27/2025 6:00		0	302.47	4401.33	0	230.82	4402.18
8/27/2025 12:00		0	302.40	4401.40	1197	228.96	4404.04
8/27/2025 18:00		170	302.37	4401.43	1195	269.67	4363.33
8/28/2025 0:00		0	302.37	4401.43	1249	230.44	4402.56
8/28/2025 6:00		554	302.79	4401.01	1194	227.82	4405.18
8/28/2025 12:00		0	302.40	4401.40	0	230.53	4402.47
8/28/2025 18:00		189	302.69	4401.11	1204	269.30	4363.70
8/29/2025 0:00		0	302.39	4401.41	0	230.56	4402.44
8/29/2025 6:00		0	302.45	4401.35	0	230.96	4402.04
8/29/2025 12:00		0	302.82	4400.98	1197	230.94	4402.06
8/29/2025 18:00		0	302.35	4401.45	1222	219.09	4413.91
8/30/2025 0:00		0	302.38	4401.42	0	269.93	4363.07
8/30/2025 6:00		153	302.39	4401.41	1191	220.24	4412.76
8/30/2025 12:00		0	302.44	4401.36	0	230.63	4402.37
8/30/2025 18:00		132	302.37	4401.43	1194	269.15	4363.85
8/31/2025 0:00		0	302.36	4401.44	0	230.53	4402.47
8/31/2025 6:00		0	302.37	4401.43	0	230.77	4402.23
8/31/2025 12:00		0	302.67	4401.13	1274	229.54	4403.46
8/31/2025 18:00		0	302.29	4401.51	1192	220.58	4412.42
9/1/2025 0:00	no September production		302.13	4401.67	0	227.83	4405.17
9/1/2025 6:00		497	302.09	4401.71	1196	226.55	4406.45
9/1/2025 12:00		0	302.22	4401.58	0	230.17	4402.83
9/1/2025 18:00		439	302.04	4401.76	1370	226.06	4406.94
9/2/2025 0:00		0	302.12	4401.68	0	230.13	4402.87
9/2/2025 6:00		30	302.13	4401.67	0	230.40	4402.60
9/2/2025 12:00		0	302.52	4401.28	1196	266.23	4366.77
9/2/2025 18:00		0	302.07	4401.73	1191	223.71	4409.29
9/3/2025 0:00		77	302.15	4401.65	1198	230.09	4402.91
9/3/2025 6:00		0	302.52	4401.28	1192	229.77	4403.23
9/3/2025 12:00		0	302.50	4401.30	1193	226.21	4406.79
9/3/2025 18:00		157	302.34	4401.46	1178	228.52	4404.48
9/4/2025 0:00		0	302.22	4401.58	0	230.41	4402.59
9/4/2025 6:00		163	302.25	4401.55	0	230.61	4402.39
9/4/2025 12:00		0	302.66	4401.14	1194	269.94	4363.06

9/4/2025 18:00	0	302.62	4401.18	1193	269.29	4363.71
9/5/2025 0:00	0	302.22	4401.58	0	230.23	4402.77
9/5/2025 6:00	146	302.53	4401.27	0	269.52	4363.48
9/5/2025 12:00	157	302.24	4401.56	1228	218.90	4414.10
9/5/2025 18:00	0	302.24	4401.56	1189	229.24	4403.76
9/6/2025 0:00	0	302.24	4401.56	0	230.33	4402.67
9/6/2025 6:00	82	302.23	4401.57	1196	230.56	4402.44
9/6/2025 12:00	0	302.64	4401.16	1425	269.31	4363.69
9/6/2025 18:00	55	302.28	4401.52	1177	229.10	4403.90
9/7/2025 0:00	0	302.52	4401.28	1216	269.29	4363.71
9/7/2025 6:00	0	302.25	4401.55	1196	269.89	4363.11
9/7/2025 12:00	0	302.70	4401.10	1180	269.43	4363.57
9/7/2025 18:00	47	302.29	4401.51	1185	269.25	4363.75
9/8/2025 0:00	0	302.36	4401.44	0	230.41	4402.59
9/8/2025 6:00	248	302.47	4401.33	1194	230.64	4402.36
9/8/2025 12:00	56	302.61	4401.19	1193	229.27	4403.73
9/8/2025 18:00	541	302.30	4401.50	1179	267.82	4365.18
9/9/2025 0:00	40	302.29	4401.51	1200	230.49	4402.51
9/9/2025 6:00	0	302.29	4401.51	1194	270.08	4362.92
9/9/2025 12:00	69	302.68	4401.12	0	229.60	4403.40
9/9/2025 18:00	158	302.61	4401.19	1303	218.96	4414.04
9/10/2025 0:00	0	302.35	4401.45	0	230.46	4402.54
9/10/2025 6:00	0	302.75	4401.05	1369	269.79	4363.21
9/10/2025 12:00	0	302.64	4401.16	1190	218.88	4414.12
9/10/2025 18:00	272	302.37	4401.43	1191	268.89	4364.11
9/11/2025 0:00	0	302.40	4401.40	0	230.32	4402.68
9/11/2025 6:00	0	302.47	4401.33	0	230.66	4402.34
9/11/2025 12:00	15	302.36	4401.44	0	230.76	4402.24
9/11/2025 18:00	0	302.34	4401.46	1192	229.95	4403.05
9/12/2025 0:00	275	302.70	4401.10	1200	230.29	4402.71
9/12/2025 6:00	242	302.38	4401.42	1187	227.07	4405.93
9/12/2025 12:00	0	302.46	4401.34	0	230.35	4402.65
9/12/2025 18:00	267	302.38	4401.42	1190	229.26	4403.74
9/13/2025 0:00	0	302.28	4401.52	0	230.47	4402.53
9/13/2025 6:00	0	302.42	4401.38	0	230.72	4402.28
9/13/2025 12:00	0	302.37	4401.43	1198	270.08	4362.92
9/13/2025 18:00	0	302.35	4401.45	1309	229.86	4403.14
9/14/2025 0:00	227	302.42	4401.38	0	269.39	4363.61
9/14/2025 6:00	0	302.53	4401.27	1190	229.53	4403.47
9/14/2025 12:00	0	302.56	4401.24	0	230.61	4402.39
9/14/2025 18:00	217	302.47	4401.33	1314	219.02	4413.98
9/15/2025 0:00	0	302.52	4401.28	0	230.81	4402.19
9/15/2025 6:00	0	302.51	4401.29	0	230.80	4402.20
9/15/2025 12:00	31	302.50	4401.30	0	230.96	4402.04
9/15/2025 18:00	0	302.79	4401.01	1195	229.78	4403.22
9/16/2025 0:00	173	302.73	4401.07	1384	230.33	4402.67
9/16/2025 6:00	0	302.75	4401.05	1193	230.09	4402.91
9/16/2025 12:00	0	302.43	4401.37	0	230.41	4402.59
9/16/2025 18:00	71	302.58	4401.22	1220	268.72	4364.28
9/17/2025 0:00	0	302.29	4401.51	0	230.35	4402.65
9/17/2025 6:00	0	302.30	4401.50	0	230.58	4402.42
9/17/2025 12:00	0	302.38	4401.42	0	230.73	4402.27
9/17/2025 18:00	0	302.64	4401.16	1353	229.55	4403.45
9/18/2025 0:00	155	302.37	4401.43	0	269.43	4363.57
9/18/2025 6:00	56	302.37	4401.43	1197	229.61	4403.39

9/18/2025 12:00		0	302.54	4401.26	0	230.36	4402.64
9/18/2025 18:00		0	302.79	4401.01	1322	229.30	4403.70
9/19/2025 0:00		0	302.52	4401.28	0	230.56	4402.44
9/19/2025 6:00		0	302.49	4401.31	0	230.81	4402.19
9/19/2025 12:00		0	302.50	4401.30	0	230.93	4402.07
9/19/2025 18:00		135	302.84	4400.96	1274	229.70	4403.30
9/20/2025 0:00		0	302.56	4401.24	0	230.49	4402.51
9/20/2025 6:00		0	302.88	4400.92	0	269.65	4363.35
9/20/2025 12:00		532	302.55	4401.25	1192	227.32	4405.68
9/20/2025 18:00		0	302.59	4401.21	1277	267.42	4365.58
9/21/2025 0:00		0	302.59	4401.21	0	230.80	4402.20
9/21/2025 6:00		0	302.67	4401.13	0	231.04	4401.96
9/21/2025 12:00		0	302.72	4401.08	0	231.29	4401.71
9/21/2025 18:00		0	302.70	4401.10	1194	230.26	4402.74
9/22/2025 0:00		139	302.69	4401.11	1196	230.73	4402.27
9/22/2025 6:00		0	302.66	4401.14	1190	223.22	4409.78
9/22/2025 12:00		228	302.98	4400.82	1250	230.78	4402.22
9/22/2025 18:00		416	302.60	4401.20	1195	270.48	4362.52
9/23/2025 0:00		0	302.64	4401.16	0	230.78	4402.22
9/23/2025 6:00		0	302.63	4401.17	0	230.76	4402.24
9/23/2025 12:00		0	302.53	4401.27	0	230.86	4402.14
9/23/2025 18:00		0	302.86	4400.94	1195	228.95	4404.05
9/24/2025 0:00		0	302.55	4401.25	0	230.58	4402.42
9/24/2025 6:00		0	302.90	4400.90	1199	270.05	4362.95
9/24/2025 12:00		0	302.55	4401.25	1179	267.11	4365.89
9/24/2025 18:00		0	302.63	4401.17	1186	228.92	4404.08
9/25/2025 0:00		0	302.63	4401.17	1186	230.80	4402.20
9/25/2025 6:00		0	302.71	4401.09	0	231.03	4401.97
9/25/2025 12:00		0	302.69	4401.11	0	231.23	4401.77
9/25/2025 18:00		173	303.06	4400.74	1197	229.09	4403.91
9/26/2025 0:00		133	303.12	4400.68	1197	230.66	4402.34
9/26/2025 6:00		0	302.83	4400.97	1182	267.23	4365.77
9/26/2025 12:00		79	302.84	4400.96	1187	230.50	4402.50
9/26/2025 18:00		331	302.83	4400.97	1192	228.86	4404.14
9/27/2025 0:00		0	302.88	4400.92	0	230.89	4402.11
9/27/2025 6:00		0	302.89	4400.91	0	231.13	4401.87
9/27/2025 12:00		1	302.80	4401.00	0	270.45	4362.55
9/27/2025 18:00		0	303.23	4400.57	1182	220.05	4412.95
9/28/2025 0:00		0	302.88	4400.92	1182	230.86	4402.14
9/28/2025 6:00		0	302.93	4400.87	0	231.15	4401.85
9/28/2025 12:00		0	302.88	4400.92	0	231.30	4401.70
9/28/2025 18:00		485	302.85	4400.95	1188	228.64	4404.36
9/29/2025 0:00		0	302.89	4400.91	0	230.93	4402.07
9/29/2025 6:00		0	303.24	4400.56	0	231.20	4401.80
9/29/2025 12:00		0	303.26	4400.54	1188	227.78	4405.22
9/29/2025 18:00		0	302.91	4400.89	1191	228.66	4404.34
9/30/2025 0:00		0	303.00	4400.80	0	231.33	4401.67
9/30/2025 6:00		0	303.00	4400.80	0	231.33	4401.67
9/30/2025 12:00		9	303.30	4400.50	1196	231.52	4401.48
9/30/2025 18:00		463	303.41	4400.39	1193	270.45	4362.55
10/1/2025 0:00	no October production	0	303.09	4400.71		270.28	4362.72
10/1/2025 6:00		0	303.11	4400.69	0	231.26	4401.74
10/1/2025 12:00		0	303.32	4400.48	1364	231.44	4401.56
10/1/2025 18:00		154	303.02	4400.78	1191	220.00	4413.00
10/2/2025 0:00		0	303.02	4400.78	0	231.15	4401.85

10/2/2025 6:00	0	303.02	4400.78	0	231.50	4401.50
10/2/2025 12:00	0	303.06	4400.74	0	231.49	4401.51
10/2/2025 18:00	0	302.94	4400.86	1199	225.45	4407.55
10/3/2025 0:00	0	303.01	4400.79	1193	270.23	4362.77
10/3/2025 6:00	0	302.94	4400.86	1190	220.79	4412.21
10/3/2025 12:00	0	303.11	4400.69	0	231.40	4401.60
10/3/2025 18:00	132	303.24	4400.56	1183	268.39	4364.61
10/4/2025 0:00	0	303.13	4400.67	0	231.30	4401.70
10/4/2025 6:00	0	303.18	4400.62	0	231.53	4401.47
10/4/2025 12:00	0	303.17	4400.63	0	231.79	4401.21
10/4/2025 18:00	316	303.23	4400.57	1193	270.58	4362.42
10/5/2025 0:00	0	303.24	4400.56	1196	270.22	4362.78
10/5/2025 6:00	0	303.56	4400.24	1189	229.77	4403.23
10/5/2025 12:00	0	303.21	4400.59	0	231.20	4401.80
10/5/2025 18:00	125	303.36	4400.44	1189	227.63	4405.37
10/6/2025 0:00	0	303.13	4400.67	0	231.20	4401.80
10/6/2025 6:00	0	303.12	4400.68	0	231.46	4401.54
10/6/2025 12:00	0	303.12	4400.68	0	231.49	4401.51
10/6/2025 18:00	0	303.49	4400.31	1194	220.02	4412.98
10/7/2025 0:00	0	303.17	4400.63	1194	231.07	4401.93
10/7/2025 6:00	166	303.13	4400.67	1195	270.92	4362.08
10/7/2025 12:00	0	303.16	4400.64	1235	270.26	4362.74
10/7/2025 18:00	0	303.51	4400.29	1185	230.69	4402.31
10/8/2025 0:00	0	303.37	4400.43	0	231.33	4401.67
10/8/2025 6:00	152	303.27	4400.53	1331	270.80	4362.20
10/8/2025 12:00	0	303.38	4400.42	0	231.21	4401.79
10/8/2025 18:00	0	303.37	4400.43	1211	228.34	4404.66
10/9/2025 0:00	0	303.37	4400.43	0	231.47	4401.53
10/9/2025 6:00	155	303.36	4400.44	1193	219.85	4413.15
10/9/2025 12:00	0	303.38	4400.42	0	231.23	4401.77
10/9/2025 18:00	0	303.28	4400.52	1183	228.95	4404.05
10/10/2025 0:00	0	303.27	4400.53	0	231.43	4401.57
10/10/2025 6:00	0	303.35	4400.45	0	231.69	4401.31
10/10/2025 12:00	0	303.36	4400.44	0	231.78	4401.22
10/10/2025 18:00	201	303.68	4400.12	1192	223.43	4409.57
10/11/2025 0:00	0	303.44	4400.36	0	231.44	4401.56
10/11/2025 6:00	0	303.65	4400.15	0	231.84	4401.16
10/11/2025 12:00	0	303.65	4400.15	0	232.04	4400.96
10/11/2025 18:00	0	303.64	4400.16	1191	230.66	4402.34
10/12/2025 0:00	0	303.78	4400.02	0	231.81	4401.19
10/12/2025 6:00	154	303.77	4400.03	1194	222.60	4410.40
10/12/2025 12:00	49	303.73	4400.07	0	231.69	4401.31
10/12/2025 18:00	73	303.99	4399.81	1187	231.09	4401.91
10/13/2025 0:00	0	303.67	4400.13	0	231.78	4401.22
10/13/2025 6:00	0	303.68	4400.12	0	231.96	4401.04
10/13/2025 12:00	0	303.60	4400.20	0	232.06	4400.94
10/13/2025 18:00	551	303.54	4400.26	1193	228.83	4404.17
10/14/2025 0:00	0	303.59	4400.21	0	231.59	4401.41
10/14/2025 6:00	0	303.95	4399.85	1195	225.38	4407.62
10/14/2025 12:00	0	303.64	4400.16	0	231.55	4401.45
10/14/2025 18:00	0	303.61	4400.19	1193	229.44	4403.56
10/15/2025 0:00	0	303.63	4400.17	0	231.56	4401.44
10/15/2025 6:00	0	303.70	4400.10	0	232.03	4400.97
10/15/2025 12:00	0	303.69	4400.11	0	232.03	4400.97
10/15/2025 18:00	72	303.71	4400.09	1194	231.01	4401.99

10/16/2025 0:00	0	303.73	4400.07	0	231.78	4401.22
10/16/2025 6:00	0	303.78	4400.02	0	232.07	4400.93
10/16/2025 12:00	0	303.82	4399.98	0	232.23	4400.77
10/16/2025 18:00	497	304.07	4399.73	1189	220.60	4412.40
10/17/2025 0:00	0	303.93	4399.87	0	231.92	4401.08
10/17/2025 6:00	0	303.95	4399.85	0	232.23	4400.77
10/17/2025 12:00	0	303.95	4399.85	0	232.36	4400.64
10/17/2025 18:00	70	303.97	4399.83	1189	231.52	4401.48
10/18/2025 0:00	0	304.27	4399.53	1196	271.81	4361.19
10/18/2025 6:00	99	303.95	4399.85	1193	271.12	4361.88
10/18/2025 12:00	0	303.94	4399.86	0	231.90	4401.10
10/18/2025 18:00	56	303.86	4399.94	1185	231.01	4401.99
10/19/2025 0:00	0	303.91	4399.89	0	232.07	4400.93
10/19/2025 6:00	0	303.97	4399.83	0	232.46	4400.54
10/19/2025 12:00	0	304.12	4399.68	0	232.66	4400.34
10/19/2025 18:00	0	304.36	4399.44	1193	271.02	4361.98
10/20/2025 0:00	0	304.13	4399.67	0	232.15	4400.85
10/20/2025 6:00	0	304.07	4399.73	0	232.47	4400.53
10/20/2025 12:00	0	304.05	4399.75	0	232.49	4400.51
10/20/2025 18:00	314	303.96	4399.84	1195	226.12	4406.88
10/21/2025 0:00	0	304.02	4399.78	0	231.90	4401.10
10/21/2025 6:00	0	303.97	4399.83	0	232.26	4400.74
10/21/2025 12:00	0	303.97	4399.83	0	232.50	4400.50
10/21/2025 18:00	267	304.32	4399.48	1192	230.56	4402.44
10/22/2025 0:00	0	304.02	4399.78	1192	231.98	4401.02
10/22/2025 6:00	0	304.10	4399.70	0	232.33	4400.67
10/22/2025 12:00	0	304.06	4399.74	0	232.39	4400.61
10/22/2025 18:00	0	304.06	4399.74	1244	271.15	4361.85
10/23/2025 0:00	0	304.11	4399.69	0	232.13	4400.87
10/23/2025 6:00	74	304.50	4399.30	1195	231.43	4401.57
10/23/2025 12:00	194	304.46	4399.34	0	231.98	4401.02
10/23/2025 18:00	0	304.55	4399.25	1188	230.49	4402.51
10/24/2025 0:00	0	304.19	4399.61	0	232.56	4400.44
10/24/2025 6:00	0	304.24	4399.56	0	232.55	4400.45
10/24/2025 12:00	0	304.26	4399.54	0	232.76	4400.24
10/24/2025 18:00	0	304.25	4399.55	1370	230.72	4402.28
10/25/2025 0:00	0	304.43	4399.37	0	232.72	4400.28
10/25/2025 6:00	0	304.45	4399.35	0	232.70	4400.30
10/25/2025 12:00	0	304.39	4399.41	0	232.82	4400.18
10/25/2025 18:00	0	304.41	4399.39	1314	222.74	4410.26
10/26/2025 0:00	0	304.48	4399.32	0	232.53	4400.47
10/26/2025 6:00	0	304.57	4399.23	0	233.02	4399.98
10/26/2025 12:00	0	304.52	4399.28	0	232.99	4400.01
10/26/2025 18:00	135	304.51	4399.29	1291	232.04	4400.96
10/27/2025 0:00	0	304.54	4399.26	0	232.63	4400.37
10/27/2025 6:00	0	304.55	4399.25	1278	231.55	4401.45
10/27/2025 12:00	154	304.50	4399.30	0	272.12	4360.88
10/27/2025 18:00	67	304.50	4399.30	1187	272.23	4360.77
10/28/2025 0:00	0	304.48	4399.32	0	232.55	4400.45
10/28/2025 6:00	0	304.50	4399.30	0	232.75	4400.25
10/28/2025 12:00	0	304.45	4399.35	0	232.78	4400.22
10/28/2025 18:00	0	304.55	4399.25	1193	230.53	4402.47
10/29/2025 0:00	0	304.33	4399.47	0	232.43	4400.57
10/29/2025 6:00	0	304.38	4399.42	0	232.67	4400.33
10/29/2025 12:00	0	304.50	4399.30	0	232.84	4400.16

10/29/2025 18:00	153	304.48	4399.32	1187	271.97	4361.03
10/30/2025 0:00	0	304.55	4399.25	0	232.75	4400.25
10/30/2025 6:00	0	304.83	4398.97	1192	271.72	4361.28
10/30/2025 12:00	0	304.60	4399.20	0	232.41	4400.59
10/30/2025 18:00	0	304.86	4398.94	1193	231.04	4401.96
10/31/2025 0:00	0	304.59	4399.21	1193	232.44	4400.56
10/31/2025 6:00	0	304.61	4399.19	0	232.76	4400.24
10/31/2025 12:00	0	304.67	4399.13	0	233.10	4399.90
10/31/2025 18:00	0	304.63	4399.17	1189	221.26	4411.74
11/1/2025 0:00		304.62	4399.18	0	233.01	4399.99
11/1/2025 6:00		304.75	4399.05	0	233.19	4399.81
11/1/2025 12:00		304.82	4398.98	0	233.33	4399.67
11/1/2025 18:00		305.09	4398.71	0	232.75	4400.25
11/2/2025 0:00		304.92	4398.88	1189	270.54	4362.46
11/2/2025 5:00		305.24	4398.56	0	232.87	4400.13
11/2/2025 11:00		304.97	4398.83	0	233.13	4399.87
11/2/2025 17:00		304.87	4398.93	0	233.02	4399.98
11/2/2025 23:00		304.87	4398.93	1183	271.22	4361.78
11/3/2025 5:00		305.10	4398.70	0	232.87	4400.13
11/3/2025 11:00		304.83	4398.97	0	233.16	4399.84
11/3/2025 17:00		304.92	4398.88	0	233.29	4399.71
11/3/2025 23:00		304.99	4398.81	0	233.55	4399.45
11/4/2025 5:00		305.11	4398.69	0	233.56	4399.44
11/4/2025 11:00		357.49	4346.31	0	233.67	4399.33
11/4/2025 17:00		304.59	4399.21	0	233.67	4399.33
11/4/2025 23:00		304.92	4398.88	0	233.75	4399.25
11/5/2025 5:00		305.06	4398.74	0	233.64	4399.36
11/5/2025 11:00		305.00	4398.80	0	233.76	4399.24
11/5/2025 17:00		305.10	4398.70	1179	271.60	4361.40
11/5/2025 23:00		305.26	4398.54	1183	270.35	4362.65
11/6/2025 5:00		305.56	4398.24	1176	270.95	4362.05
11/6/2025 11:00		305.34	4398.46	0	233.36	4399.64
11/6/2025 17:00		305.35	4398.45	0	233.56	4399.44
11/6/2025 23:00		305.32	4398.48	0	233.78	4399.22
11/7/2025 5:00		305.44	4398.36	0	233.82	4399.18
11/7/2025 11:00		305.35	4398.45	0	233.87	4399.13
11/7/2025 17:00		305.38	4398.42	0	236.53	4396.47
11/7/2025 23:00		305.43	4398.37	0	233.59	4399.41
11/8/2025 5:00		305.50	4398.30	0	233.67	4399.33
11/8/2025 11:00		305.36	4398.44	0	233.70	4399.30
11/8/2025 17:00		305.49	4398.31	0	233.22	4399.78
11/8/2025 23:00		305.24	4398.56	0	233.52	4399.48
11/9/2025 5:00		305.28	4398.52	1188	271.89	4361.11
11/9/2025 11:00		305.20	4398.60	1186	270.19	4362.81
11/9/2025 17:00		305.51	4398.29	0	233.18	4399.82
11/9/2025 23:00		305.26	4398.54	0	233.50	4399.50
11/10/2025 5:00		305.42	4398.38	0	233.73	4399.27
11/10/2025 11:00		305.39	4398.41	0	233.81	4399.19
11/10/2025 17:00		305.72	4398.08	0	233.44	4399.56
11/10/2025 23:00		305.49	4398.31	0	233.82	4399.18
11/11/2025 5:00		305.58	4398.22	0	233.99	4399.01
11/11/2025 11:00		305.62	4398.18	0	234.04	4398.96
11/11/2025 17:00		305.57	4398.23	0	233.52	4399.48
11/11/2025 23:00		305.60	4398.20	0	233.84	4399.16
11/12/2025 5:00		305.63	4398.17	1186	270.42	4362.58

11/12/2025 11:00		305.73	4398.07	0	233.72	4399.28
11/12/2025 17:00		306.00	4397.80	0	233.52	4399.48
11/12/2025 23:00		305.72	4398.08	0	233.85	4399.15
11/13/2025 5:00		305.75	4398.05	0	234.07	4398.93
11/13/2025 11:00		305.79	4398.01	0	234.21	4398.79
11/13/2025 17:00		305.81	4397.99	0	233.87	4399.13
11/13/2025 23:00		305.91	4397.89	0	234.19	4398.81
11/14/2025 5:00		305.95	4397.85	0	234.38	4398.62
11/14/2025 11:00		306.07	4397.73	0	234.47	4398.53
11/14/2025 17:00		305.98	4397.82	1177	271.85	4361.15
11/14/2025 23:00		306.06	4397.74	0	234.15	4398.85
11/15/2025 5:00		306.01	4397.79	0	234.30	4398.70
11/15/2025 11:00		306.01	4397.79	0	234.39	4398.61
11/15/2025 17:00		306.27	4397.53	0	233.96	4399.04
11/15/2025 23:00		306.01	4397.79	0	234.25	4398.75
11/16/2025 5:00		305.99	4397.81	1186	272.15	4360.85
11/16/2025 11:00		355.96	4347.84	1172	271.22	4361.78
11/16/2025 17:00		306.06	4397.74	0	234.01	4398.99
11/16/2025 23:00		305.99	4397.81	0	234.38	4398.62
11/17/2025 5:00		306.16	4397.64	0	234.52	4398.48
11/17/2025 11:00		306.25	4397.55	0	378.33	4254.67
11/17/2025 17:00		297.56	4406.24	0	378.33	4254.67
11/17/2025 23:00		305.75	4398.05	0	378.25	4254.75
11/18/2025 5:00		306.03	4397.77	0	378.22	4254.78
11/18/2025 11:00		306.05	4397.75	0	378.15	4254.85
11/18/2025 17:00		306.12	4397.68	0	378.21	4254.79
11/18/2025 23:00		355.23	4348.57	0	378.19	4254.81
11/19/2025 5:00		356.20	4347.60	0	378.15	4254.85
11/19/2025 11:00		355.56	4348.24	0	378.01	4254.99
11/19/2025 17:00		306.09	4397.71	0	235.16	4397.84
11/19/2025 23:00		305.99	4397.81	0	234.52	4398.48
11/20/2025 5:00		306.14	4397.66	0	234.64	4398.36
11/20/2025 11:00		306.12	4397.68	0	234.84	4398.16
11/20/2025 17:00	552	356.54	4347.26	0	234.98	4398.02
11/20/2025 23:00	550	355.44	4348.36	0	235.11	4397.89
11/21/2025 5:00	548	355.78	4348.02	0	235.01	4397.99
11/21/2025 11:00	548	305.91	4397.89	0	235.08	4397.92
11/21/2025 17:00	603	357.58	4346.22	0	235.24	4397.76
11/21/2025 23:00	603	305.69	4398.11	0	235.24	4397.76
11/22/2025 5:00	0	306.12	4397.68	0	235.16	4397.84
11/22/2025 11:00	644	306.14	4397.66	0	235.24	4397.76
11/22/2025 17:00	610	352.92	4350.88	0	234.36	4398.64
11/22/2025 23:00	552	356.49	4347.31	0	234.85	4398.15
11/23/2025 5:00	549	356.34	4347.46	0	234.96	4398.04
11/23/2025 11:00	549	305.96	4397.84	0	235.05	4397.95
11/23/2025 17:00	0	357.56	4346.24	0	235.24	4397.76
11/23/2025 23:00	550	304.30	4399.50	0	235.31	4397.69
11/24/2025 5:00	550	306.10	4397.70	0	235.35	4397.65
11/24/2025 11:00	0	306.31	4397.49	1235	275.55	4357.45
11/24/2025 17:00	0	306.66	4397.14	1232	274.24	4358.76
11/24/2025 23:00	0	306.49	4397.31	1237	275.26	4357.74
11/25/2025 5:00	0	306.71	4397.09	1229	274.8	4358.20
11/25/2025 11:00	0	306.52	4397.28	0	234.68	4398.32
11/25/2025 17:00	575	358.02	4345.78	0	234.91	4398.09
11/25/2025 23:00	575	305.93	4397.87	0	235.08	4397.92

11/26/2025 5:00	0	306.36	4397.44	0	235.19	4397.81
11/26/2025 11:00	0	306.50	4397.30	0	235.22	4397.78
11/26/2025 17:00	570	357.85	4345.95	0	235.31	4397.69
11/26/2025 23:00	570	306.18	4397.62	0	235.35	4397.65
11/27/2025 5:00	0	306.44	4397.36	0	235.39	4397.61
11/27/2025 11:00	0	306.53	4397.27	0	235.38	4397.62
11/27/2025 17:00	567	358.01	4345.79	0	235.58	4397.42
11/27/2025 23:00	609	306.09	4397.71	0	235.68	4397.32
11/28/2025 5:00	550	300.93	4402.87	0	235.71	4397.29
11/28/2025 11:00	550	306.44	4397.36	0	235.73	4397.27
11/28/2025 17:00	0	306.65	4397.15	0	234.81	4398.19
11/28/2025 23:00	0	306.75	4397.05	1235	275.03	4357.97
11/29/2025 5:00	0	306.92	4396.88	0	234.98	4398.02
11/29/2025 11:00	0	306.79	4397.01	0	235.18	4397.82
11/29/2025 17:00	0	306.95	4396.85	0	234.96	4398.04
11/29/2025 23:00	0	306.88	4396.92	0	235.24	4397.76
11/30/2025 5:00	0	306.90	4396.90	0	235.41	4397.59
11/30/2025 11:00	0	306.95	4396.85	0	235.55	4397.45
11/30/2025 17:00	563	358.33	4345.47	0	235.76	4397.24
11/30/2025 23:00	563	306.46	4397.34	0	235.79	4397.21
12/1/2025 0:00	0	306.86	4396.94	0	235.78	4397.22
12/1/2025 6:00	0	306.99	4396.81	0	235.81	4397.19
12/1/2025 12:00	0	307.10	4396.70	0	235.91	4397.09
12/1/2025 18:00	0	307.10	4396.70	0	235.22	4397.78
12/2/2025 0:00	0	307.28	4396.52	1231	275.43	4357.57
12/2/2025 6:00	0	307.55	4396.25	0	235.36	4397.64
12/2/2025 12:00	0	307.36	4396.44	0	235.67	4397.33
12/2/2025 18:00	557	358.01	4345.79	0	235.84	4397.16
12/3/2025 0:00	0	307.31	4396.49	0	235.88	4397.12
12/3/2025 6:00	0	307.29	4396.51	0	235.84	4397.16
12/3/2025 12:00	0	358.44	4345.36	90	235.99	4397.01
12/3/2025 18:00	629	306.63	4397.17	0	236.05	4396.95
12/4/2025 0:00	0	307.31	4396.49	0	236.18	4396.82
12/4/2025 6:00	0	307.28	4396.52	0	236.13	4396.87
12/4/2025 12:00	0	305.01	4398.79	0	236.24	4396.76
12/4/2025 18:00	629	358.18	4345.62	0	236.34	4396.66
12/5/2025 0:00	0	306.87	4396.93	0	236.47	4396.53
12/5/2025 6:00	0	307.38	4396.42	0	236.34	4396.66
12/5/2025 12:00	0	307.64	4396.16	1234	275.55	4357.45
12/5/2025 18:00	0	307.50	4396.30	0	235.59	4397.41
12/6/2025 0:00	0	307.67	4396.13	1233	276.06	4356.94
12/6/2025 6:00	0	308.06	4395.74	0	235.81	4397.19
12/6/2025 12:00	0	307.80	4396.00	0	236.07	4396.93
12/6/2025 18:00	601	358.21	4345.59	0	236.21	4396.79
12/7/2025 0:00	0	307.30	4396.50	0	236.39	4396.61
12/7/2025 6:00	0	307.63	4396.17	0	236.33	4396.67
12/7/2025 12:00	0	307.60	4396.20	0	236.33	4396.67
12/7/2025 18:00	604	304.86	4398.94	0	236.44	4396.56
12/8/2025 0:00	0	307.56	4396.24	0	236.58	4396.42
12/8/2025 6:00	0	307.65	4396.15	0	236.54	4396.46
12/8/2025 12:00	0	308.15	4395.65	0	236.54	4396.46
12/8/2025 18:00	0	307.66	4396.14	0	235.71	4397.29
12/9/2025 0:00	0	307.79	4396.01	1237	276.89	4356.11
12/9/2025 6:00	0	308.01	4395.79	0	236.11	4396.89
12/9/2025 12:00	0	307.95	4395.85	0	236.31	4396.69

12/9/2025 18:00	601	358.78	4345.02	0	236.44	4396.56
12/10/2025 0:00	0	307.50	4396.30	0	236.5	4396.50
12/10/2025 6:00	0	307.74	4396.06	0	236.59	4396.41
12/10/2025 12:00	0	307.87	4395.93	0	236.67	4396.33
12/10/2025 18:00	599	359.23	4344.57	0	236.81	4396.19
12/11/2025 0:00	0	307.86	4395.94	0	236.88	4396.12
12/11/2025 6:00	0	307.85	4395.95	0	236.94	4396.06
12/11/2025 12:00	0	308.05	4395.75	0	236.93	4396.07
12/11/2025 18:00	0	308.01	4395.79	0	235.99	4397.01
12/12/2025 0:00	0	308.01	4395.79	0	236.31	4396.69
12/12/2025 6:00	0	308.00	4395.80	0	235.85	4397.15
12/12/2025 12:00	0	308.21	4395.59	1232	277.29	4355.71
12/12/2025 18:00	0	308.15	4395.65	0	236.11	4396.89
12/13/2025 0:00	0	308.19	4395.61	0	236.45	4396.55
12/13/2025 6:00	549	306.02	4397.78	0	236.54	4396.46
12/13/2025 12:00	0	307.75	4396.05	0	236.65	4396.35
12/13/2025 18:00	572	359.43	4344.37	0	236.79	4396.21
12/14/2025 0:00	0	307.70	4396.10	0	236.84	4396.16
12/14/2025 6:00	0	307.96	4395.84	0	236.9	4396.10
12/14/2025 12:00	0	308.17	4395.63	0	236.98	4396.02
12/14/2025 18:00	569	306.15	4397.65	0	237.08	4395.92
12/15/2025 0:00	684	307.84	4395.96	0	237.16	4395.84
12/15/2025 6:00	549	358.79	4345.01	0	237.14	4395.86
12/15/2025 12:00	550	358.21	4345.59	0	237.19	4395.81
12/15/2025 18:00	0	308.20	4395.60	0	237.3	4395.70
12/16/2025 0:00	0	308.19	4395.61	0	237.36	4395.64
12/16/2025 6:00	0	308.43	4395.37	0	237.36	4395.64
12/16/2025 12:00	0	308.45	4395.35	0	237.34	4395.66
12/16/2025 18:00	0	308.53	4395.27	0	237.51	4395.49
12/17/2025 0:00	0	308.53	4395.27	0	237.59	4395.41
12/17/2025 6:00	0	308.61	4395.19	0	237.65	4395.35
12/17/2025 12:00	565	360.76	4343.04	0	237.82	4395.18
12/17/2025 18:00	640	300.32	4403.48	0	237.82	4395.18
12/18/2025 0:00	0	308.40	4395.40	0	237.79	4395.21
12/18/2025 6:00	0	308.59	4395.21	0	237.67	4395.33
12/18/2025 12:00	0	308.59	4395.21	1229	277.56	4355.44
12/18/2025 18:00	0	309.00	4394.80	0	236.76	4396.24
12/19/2025 0:00	0	308.82	4394.98	1233	278.27	4354.73
12/19/2025 6:00	0	309.38	4394.42	0	236.94	4396.06
12/19/2025 12:00	0	309.08	4394.72	0	237.36	4395.64
12/19/2025 18:00	561	360.43	4343.37	0	237.53	4395.47
12/20/2025 0:00	0	308.92	4394.88	0	237.64	4395.36
12/20/2025 6:00	0	308.93	4394.87	0	237.56	4395.44
12/20/2025 12:00	0	308.90	4394.90	0	237.62	4395.38
12/20/2025 18:00	558	360.20	4343.60	0	237.65	4395.35
12/21/2025 0:00	0	308.79	4395.01	0	237.74	4395.26
12/21/2025 6:00	0	308.77	4395.03	0	237.7	4395.30
12/21/2025 12:00	0	308.80	4395.00	0	237.76	4395.24
12/21/2025 18:00	557	360.31	4343.49	0	237.84	4395.16
12/22/2025 0:00	0	308.93	4394.87	0	237.99	4395.01
12/22/2025 6:00	0	308.92	4394.88	0	237.96	4395.04
12/22/2025 12:00	0	309.01	4394.79	0	237.96	4395.04
12/22/2025 18:00	0	309.26	4394.54	0	236.99	4396.01
12/23/2025 0:00	0	309.34	4394.46	1234	277.87	4355.13
12/23/2025 6:00	0	309.39	4394.41	0	237.05	4395.95

12/23/2025 12:00	0	309.05	4394.75	0	237.37	4395.63
12/23/2025 18:00	583	360.13	4343.67	0	237.56	4395.44
12/24/2025 0:00	0	309.14	4394.66	0	237.74	4395.26
12/24/2025 6:00	0	309.14	4394.66	0	237.79	4395.21
12/24/2025 12:00	0	309.14	4394.66	0	237.85	4395.15
12/24/2025 18:00	683	360.34	4343.46	0	237.99	4395.01
12/25/2025 0:00	0	309.17	4394.63	0	238.13	4394.87
12/25/2025 6:00	0	309.17	4394.63	0	238.17	4394.83
12/25/2025 12:00	0	309.32	4394.48	0	238.21	4394.79
12/25/2025 18:00	664	360.39	4343.41	0	238.28	4394.72
12/26/2025 0:00	0	308.78	4395.02	0	238.33	4394.67
12/26/2025 6:00	0	309.19	4394.61	0	237.39	4395.61
12/26/2025 12:00	0	309.34	4394.46	1225	277.86	4355.14
12/26/2025 18:00	0	309.50	4394.30	0	237.81	4395.19
12/27/2025 0:00	0	309.54	4394.26	0	238.02	4394.98
12/27/2025 6:00	0	309.60	4394.20	0	238.21	4394.79
12/27/2025 12:00	0	309.66	4394.14	0	238.22	4394.78
12/27/2025 18:00	620	360.46	4343.34	0	238.27	4394.73
12/28/2025 0:00	620	308.95	4394.85	0	238.17	4394.83
12/28/2025 6:00	0	309.23	4394.57	0	238.17	4394.83
12/28/2025 12:00	0	309.32	4394.48	0	238.16	4394.84
12/28/2025 18:00	614	307.64	4396.16	0	238.25	4394.75
12/29/2025 0:00	0	309.13	4394.67	0	238.19	4394.81
12/29/2025 6:00	0	309.22	4394.58	0	238.19	4394.81
12/29/2025 12:00	0	309.21	4394.59	0	238.22	4394.78
12/29/2025 18:00	0	309.59	4394.21	0	237.37	4395.63
12/30/2025 0:00	0	309.67	4394.13	1227	277.67	4355.33
12/30/2025 6:00	0	309.41	4394.39	0	237.59	4395.41
12/30/2025 12:00	0	309.41	4394.39	0	237.87	4395.13
12/30/2025 18:00	669	360.34	4343.46	0	238.14	4394.86
12/31/2025 0:00	0	309.46	4394.34	0	238.25	4394.75
12/31/2025 6:00	0	309.46	4394.34	0	238.27	4394.73
12/31/2025 12:00	0	309.52	4394.28	0	238.42	4394.58
12/31/2025 18:00	0	309.97	4393.83	0	237.74	4395.26