Pacific Gas and Electric Company®

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June 15, 2004

Norman Shopay
Project Manager
California Department of Toxic Substances Control
Geology and Corrective Action Branch
700 Heinz Avenue
Berkeley, California 94710

Subject: Performance Monitoring Report No. 5
Interim Measure No. 2
PG&E Topock Compressor Station, Needles, California

Dear Mr. Shopay:

Enclosed is the fourth performance monitoring report for Interim Measure No. 2 for the Topock project. This report was prepared in conformance with Final Interim Measures Work Plan No. 2, and describes the activities performed and monitoring data collected during the period May 16 through 31, 2004. Please contact me at (805) 546-5243 if you have any questions or if you need additional information.

Sincerely,

Teri Henson
for Yvonne Meeks

Enclosure

cc: CWG Members

Performance Monitoring Report No. 5, PG&E Topock Compressor Station, Interim Measure No. 2, May 16 through 31, 2004

Prepared for

Pacific Gas and Electric Company

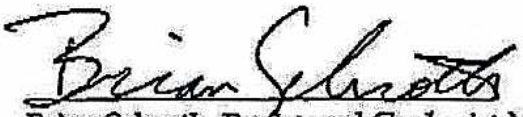
June 15, 2004

CH2MHILL

Performance Monitoring Report No. 5
PG&E Topock Compressor Station, Interim Measures No. 2
May 16 through 31, 2004

Prepared for
Pacific Gas and Electric Company

This work plan was prepared under supervision of a
California Registered Geologist,



Brian Schroth, Registered Geologist No. 7423
Senior Hydrogeologist

Performance Monitoring Report No. 5, PG&E Topock Compressor Station, Interim Measure No. 2 May 16 through 31, 2004

Pacific Gas and Electric Company (PG&E) is implementing Interim Measure (IM) No. 2 at the Topock Compressor Station in Needles, California, as described in the *Final Interim Measures Work Plan No. 2* prepared by CH2M HILL on March 2, 2004 and *Addenda to Interim Measures Work Plan No. 2,* prepared by CH2M HILL on March 1, 2004. This performance monitoring report describes operational and monitoring information for IM No. 2 for the period between May 16 and May 31, 2004.

This performance monitoring report has been prepared in compliance with the *Final Interim Measures Work Plan No. 2*, which requires reporting of system operations and performance monitoring data. Future reports will be submitted to the Department of Toxic Substances Control (DTSC) on the 1st (for the first half of the preceding month) and the 15th (for the last half of the preceding month) of each month, with the schedule subject to reevaluation and adjustment by DTSC.

System Operations

System Description

The groundwater extraction system is located within a secured area on the monitoring well MW-20 bench. Groundwater is pumped from a well cluster, TW-2S and TW-2D, which are co-located on the north side of the compound. Extracted groundwater is stored in holding tanks before transport to an off-site permitted treatment and disposal facility.

Pumping Operations

Table 1 summarizes the pumping data for the reporting period. A total of 490,457 gallons of groundwater were extracted during this reporting period. The extracted groundwater was manifested as a hazardous waste and transported to United States Filter Corporation in Los Angeles, California for treatment and disposal. Copies of field notes, field logs, and waste manifests are maintained on site. Completed waste manifests from the treatment and disposal facility are sent back to the Topock Station.

Daily inspections include tank inspections, flow measurements, site security, and desert tortoise sitings. Daily logs with documentation of inspections are maintained on site. No rainfall events occurred during this reporting period. No other operational changes were noted during the reporting period.

TABLE 1
Pump Data from TW-2S and TW-2D (May 16 through May 31, 2004)
Performance Monitoring Report No. 5, Topock Compressor Station, Interim Measure No. 2

Extraction Well	Reporting Period		Project To Date	
	Average Pumping Rate (gpm)	Volume Pumped (gal)	Average Pumping Rate (gpm)	Volume Pumped (gal)
TW-2S	8.86	203,947	9.10	345,640
TW-2D	12.09	286,510	12.59	442,505
Total	20.95	490,457	21.69	788,145
			Volume Pumped from MW-20 Cluster:	1,224,325
			Total Volume Pumped (gal)	2,012,470
			Total Volume Pumped (ac-ft)	6.177

gpm: gallons per minute.
gal: gallons.
ac-ft: acre-feet.

Note: "Average Pumping Rate" is an average of the periodic flow meter readings over the reporting period, whereas "Volume Pumped" is based on flow totalizer readings from the beginning and end of the reporting period.

System Modifications

On May 21, 2004, the United States Bureau of Land Management approved the PG&E work plan to modify the existing facilities to batch treat of the groundwater on site. The on-site treatment will render the groundwater non-hazardous and substantially reduce the transportation of hazardous waste over long distances. The modifications are scheduled to begin in mid-June 2004 following procurement of equipment. Pumping operations will continue during the modifications, with only minor interruptions to allow for activities such as piping modifications. Start-up and testing of the batch treatment plant will occur in early-July 2004.

Monitoring Data

Chemical Data

The MW-20 cluster was sampled during the week of May 10 as part of the bi-monthly sampling event for chromium concentrations and general geochemistry. The results of the bi-monthly sampling event will be presented in a future report.

Weekly grab samples were collected from TW-2S, TW-2D, and the combined influent during this reporting period. Samples collected from TW-2S and TW-2D are summarized in Table 2.

Hydraulic Data

Water levels were recorded at intervals of 15 minutes or less with pressure transducers in multiple wells and two river monitoring stations (I-3 and RRB). The data are typically continuous with only short interruptions for sampling or maintenance. The wells monitored were:

- **Floodplain Wells**: MW-27, MW-28-25, MW-29, MW-30 cluster (2), MW-32 cluster (2), MW-33 cluster (2), MW-34 cluster (2), MW-36 cluster (6), and MW-39 cluster (6).
- **Intermediate Wells**: MW-19, MW-20 cluster (3), MW-26, MW-31 cluster (2), MW-35 cluster (2), TW-2S, TW-2D.
- **Basin Wells**: MW-10, MW-25.

Attachment 1 contains hydrographs for all transducer data collected between May 1 and May 31, 2004.

Pumping continued at TW-2S and TW-2D during May 15 through May 31 at an average rate of approximately 21 gallons per minute (gpm).

Analysis of Colorado River water levels (e.g., I-3, RRB, and the Topock Marsh Inlet) and United States Bureau of Reclamation records for Davis Dam discharge show that daily fluctuations in river levels are caused by the release of water from Davis Dam. Water levels at I-3 are shown on all hydrographs provided in Attachment 1. Historic and predicted Davis Dam discharges and river elevations are being evaluated to assist in predicting future river elevations.

As described in the previous progress monitoring report, pumping tests were conducted at the TW-2 cluster during the first two weeks of May. Subsequent analysis of these data was performed using the computer software MLU (Hemker 1999). The software allows estimation of parameters in layered hydrogeologic systems. Preliminary estimates of properties were made in the analysis and are currently under review by the hydrogeology technical workgroup of the Consultant Workgroup. Following further review and consensus with the hydrogeology technical Consultant Workgroup, the groundwater model will be updated with these parameters.

Future Activities

Reporting of IM No. 2 activities will continue as described in the *Final Interim Measures Work Plan No. 2*. The next status report will be submitted on June 30, 2004 and will cover activities from June 1 to June 15, 2004.

Full-time pumping from TW-2S and TW-2D will continue at a combined flow rate of approximately 20 gpm. Weekly wellhead samples will be collected from each well and the combined influent stream for total chromium, hexavalent chromium, and total dissolved solids. Modifications to the existing facilities to begin batch treatment will begin during the next reporting period.

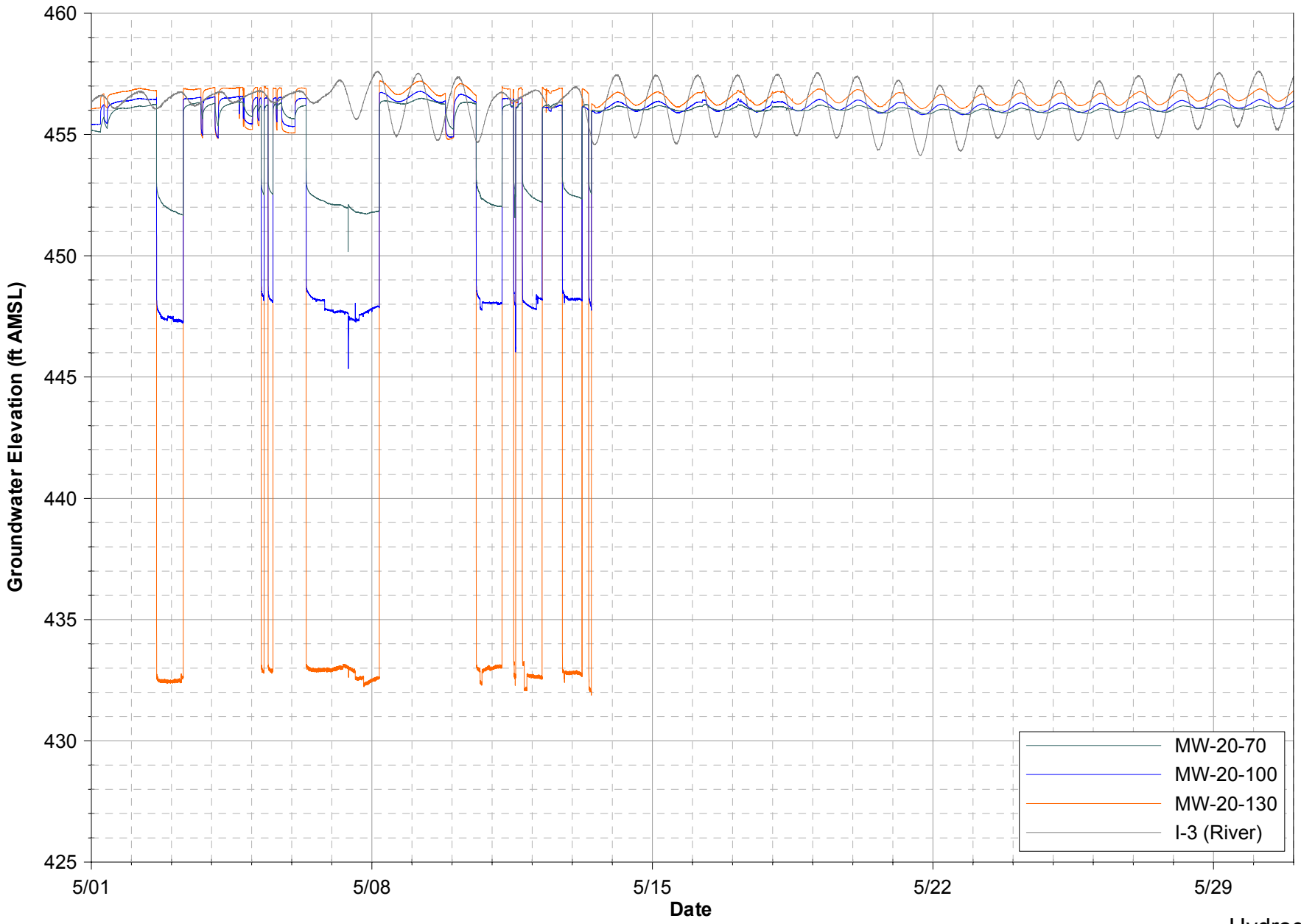
Reference

Hemker, C.J. 1999. Transient well flow in vertically heterogeneous aquifers. *Journal of Hydrology,* 225:1-18.

Table 2
Analytical Results - TW-2 Extraction Wells
Topock Interim Measures No. 2

Sample Time Relative to TW-2 Pumping Start	TW-2S				TW-2D				TW-2 Combined			
	Sample Date	**Total Dissolved Chromium** mg/L	**Hexavalent Chromium** mg/L	**Total Dissolved Solids** mg/L	**Sample Date**	**Total Dissolved Chromium** mg/L	**Hexavalent Chromium** mg/L	**Total Dissolved Solids** mg/L	**Sample Date**	**Total Dissolved Chromium** mg/L	**Hexavalent Chromium** mg/L	**Total Dissolved Solids** mg/L
6 days	19-May-04	6.61	7.36	2,620	19-May-04	7.06	7.77	7,740	19-May-04	6.68	7.58	5,230
13 days	26-May-04	6.68	7.00	2,700	26-May-04	7.15	7.47	7,620	26-May-04	7.29	7.19	5,520

Attachment 1
Hydrographs



Note: Data subject to review.

Hydrograph
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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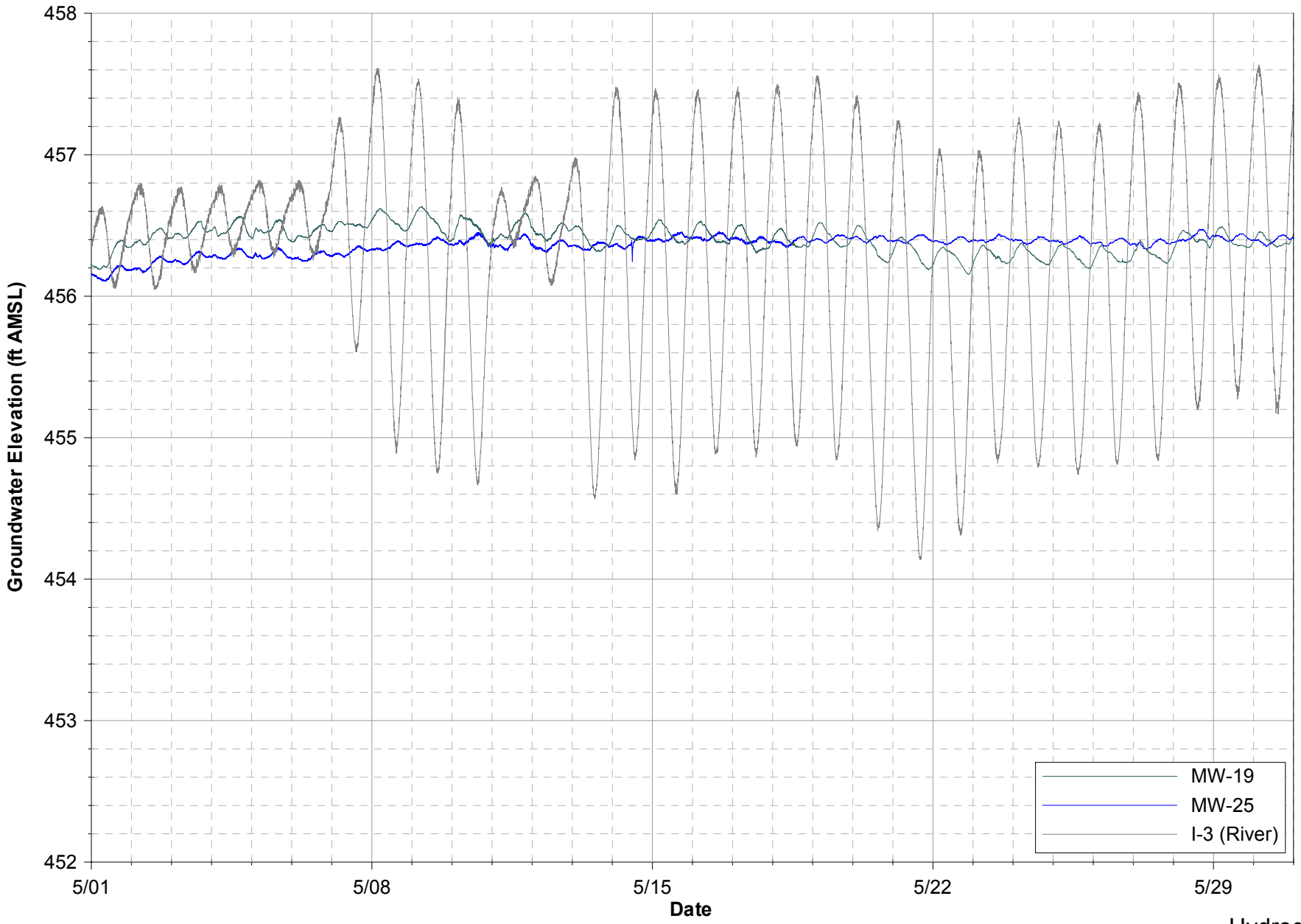

Hydrograph

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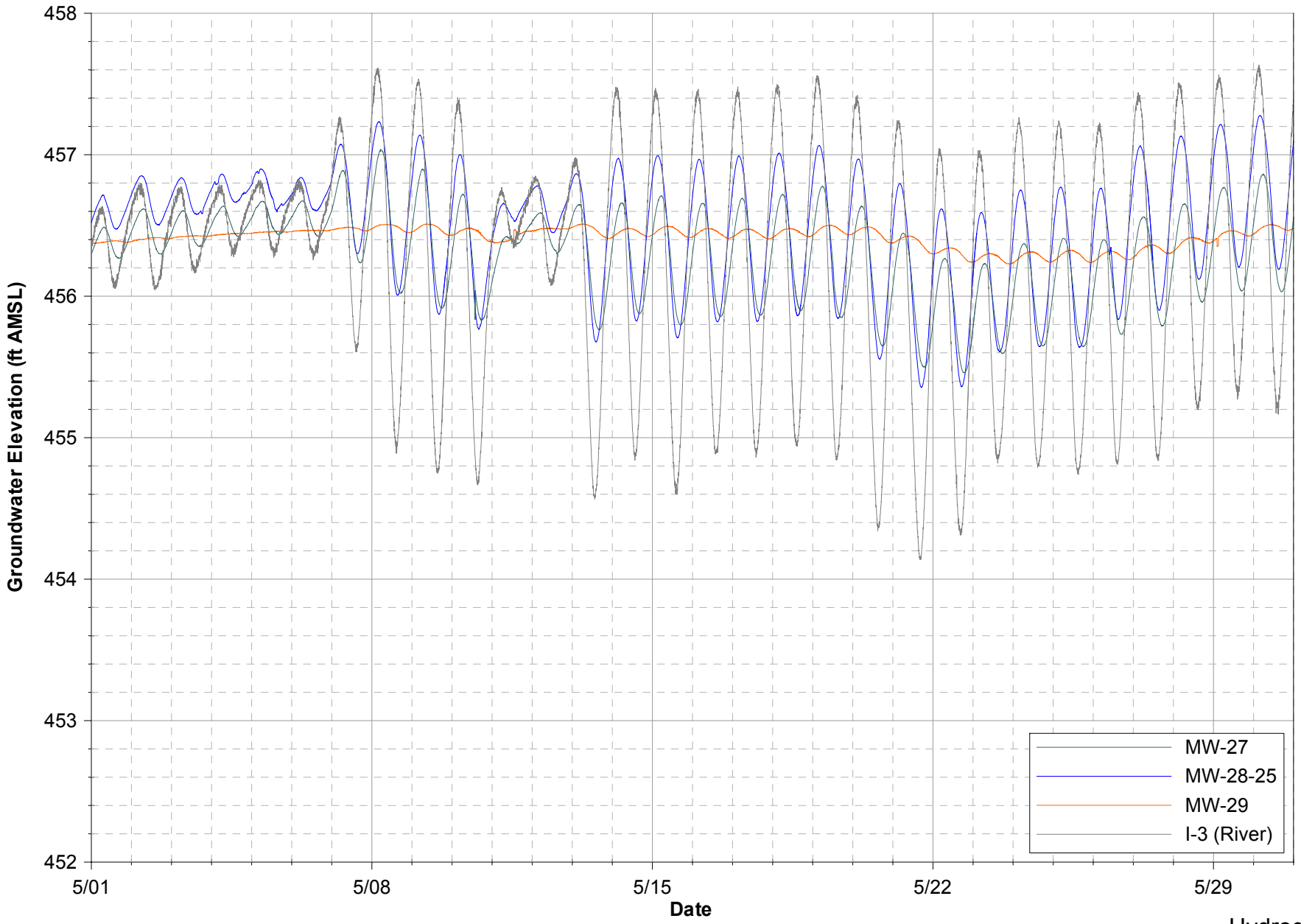

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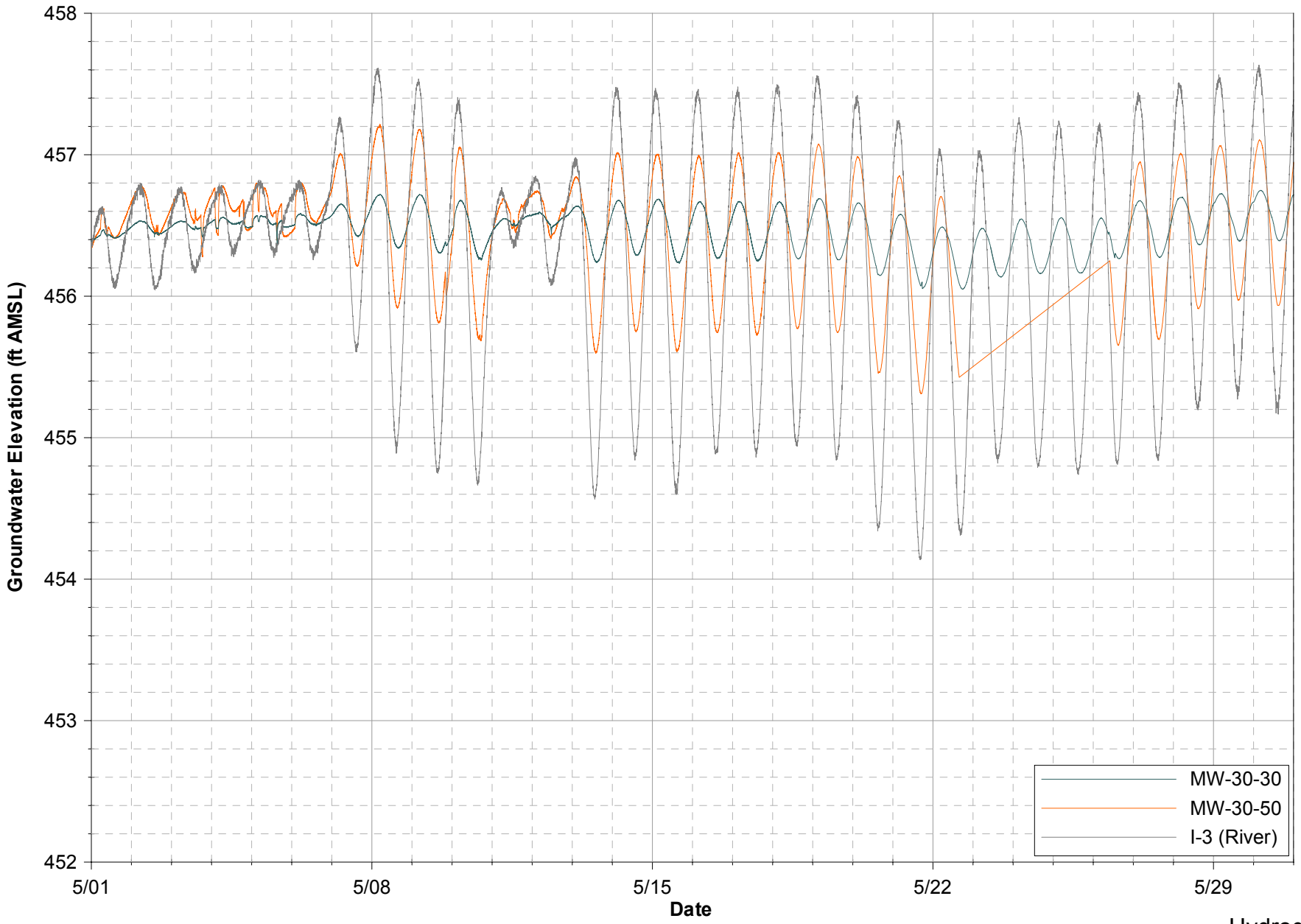

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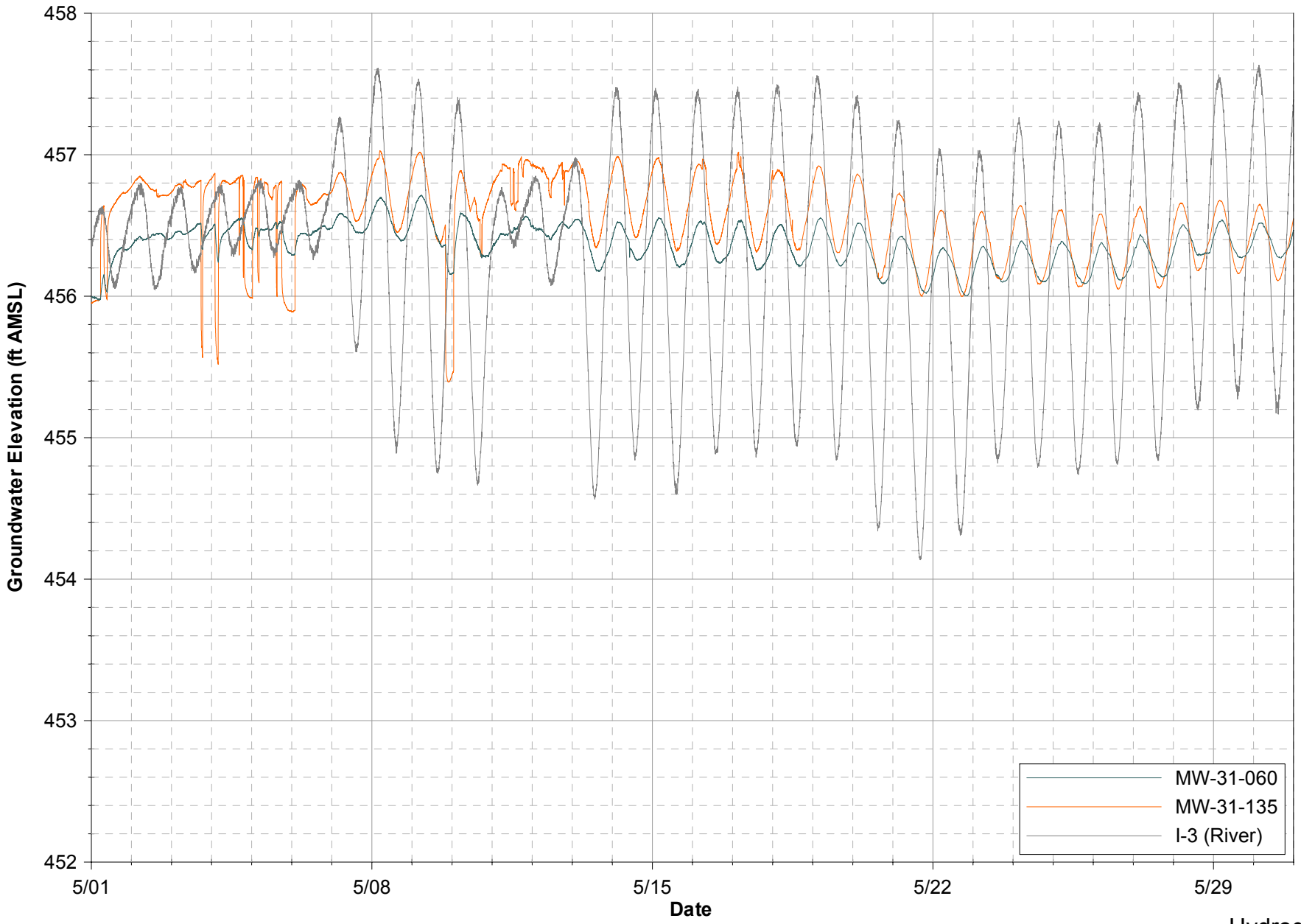

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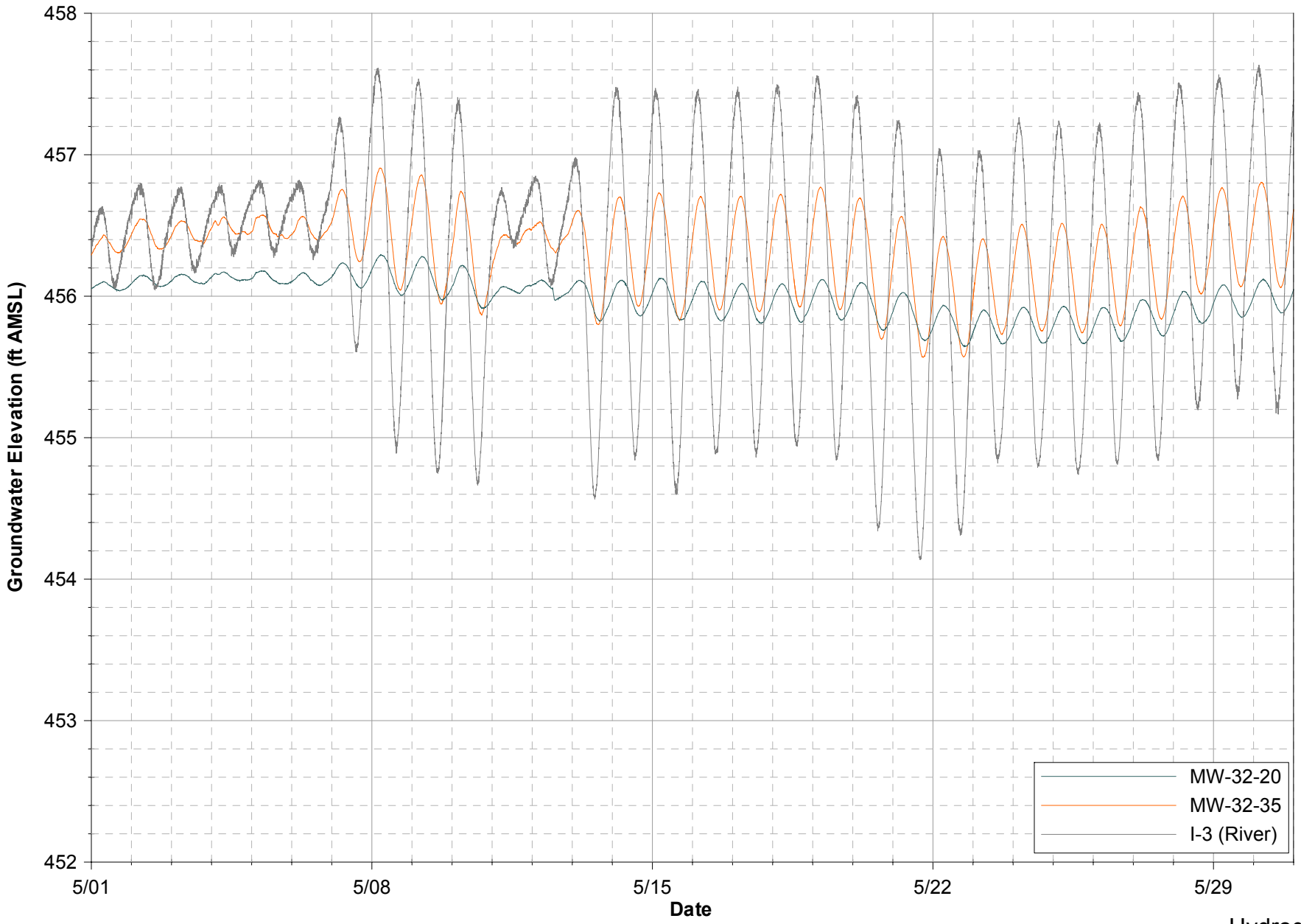

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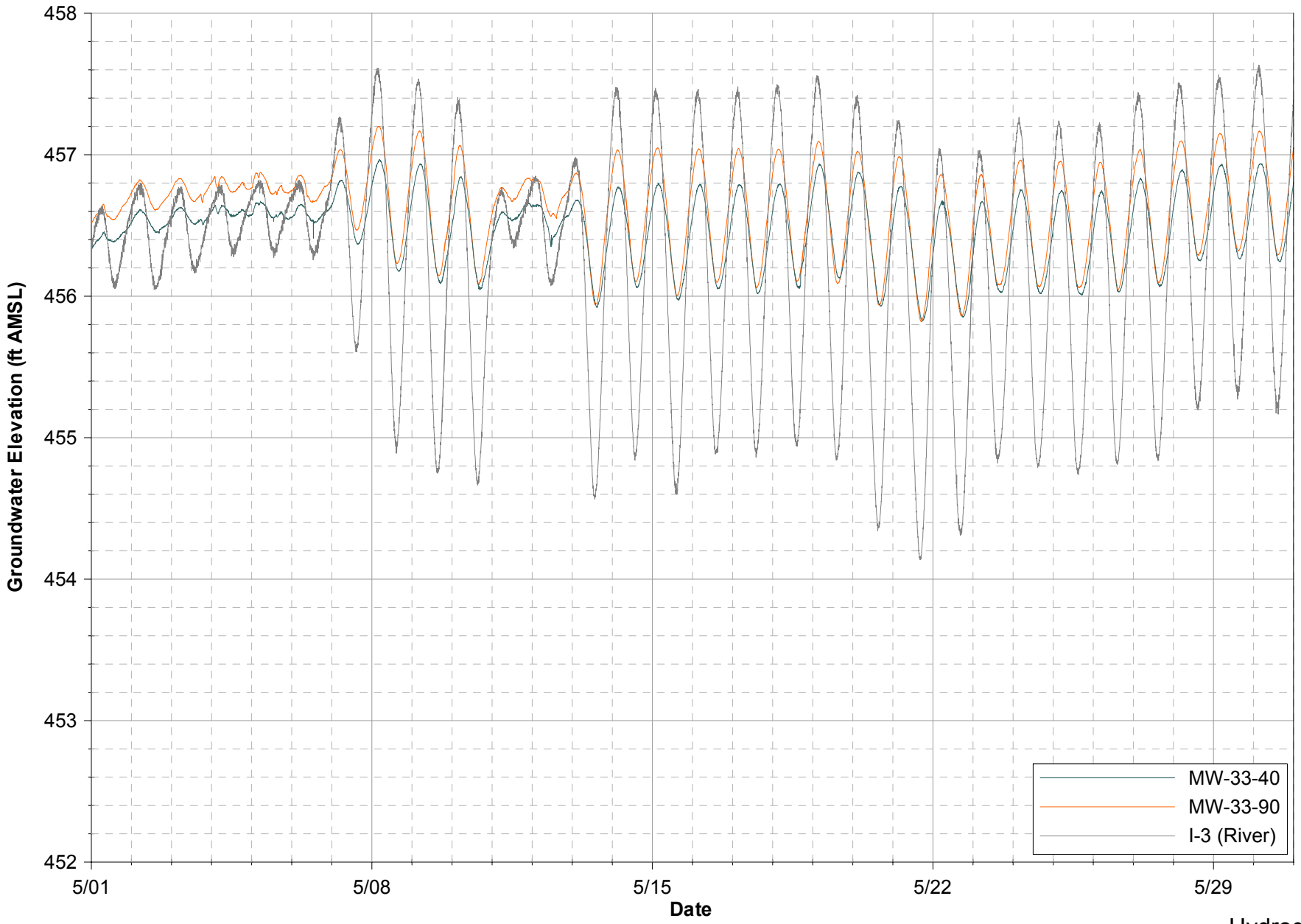

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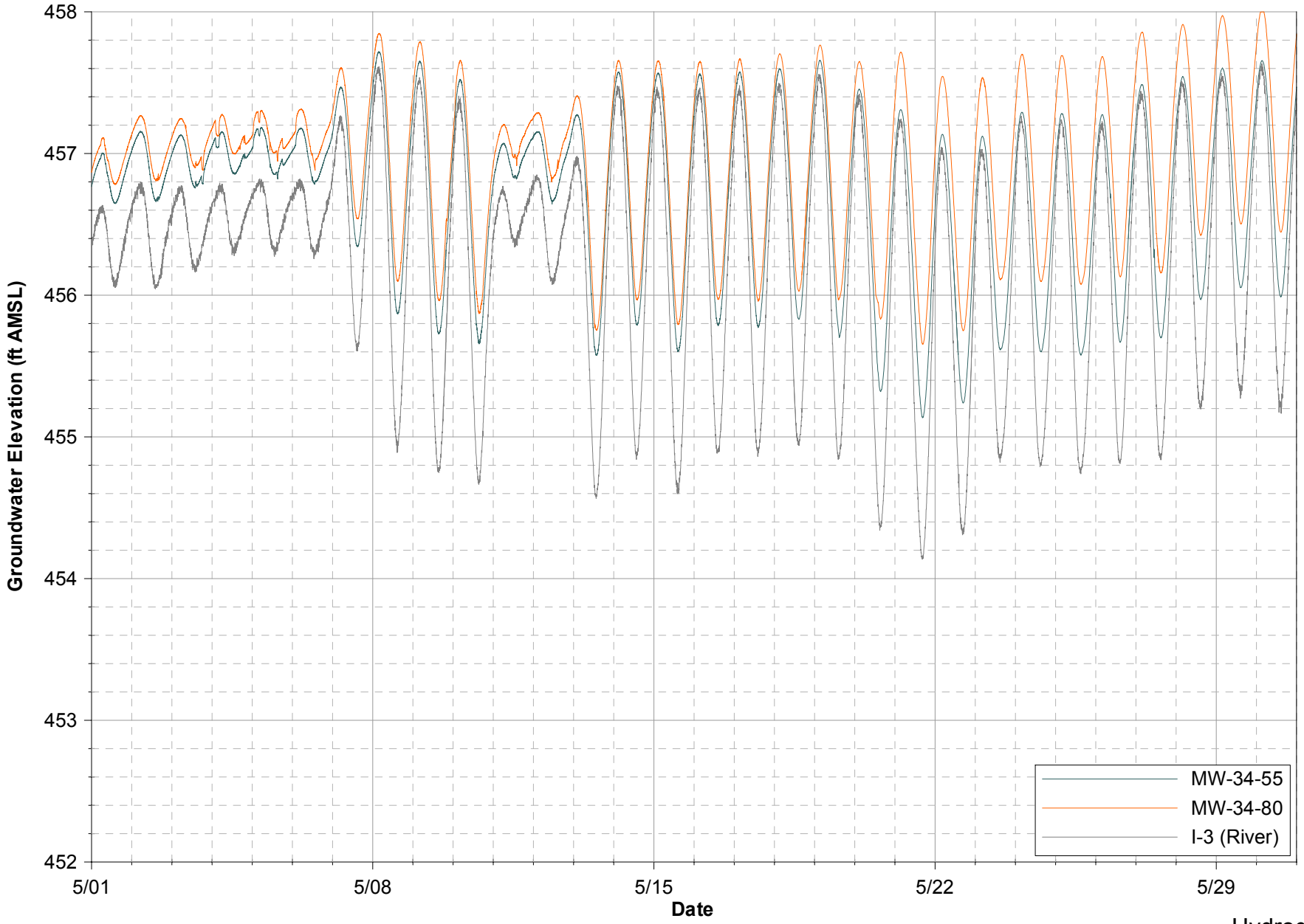

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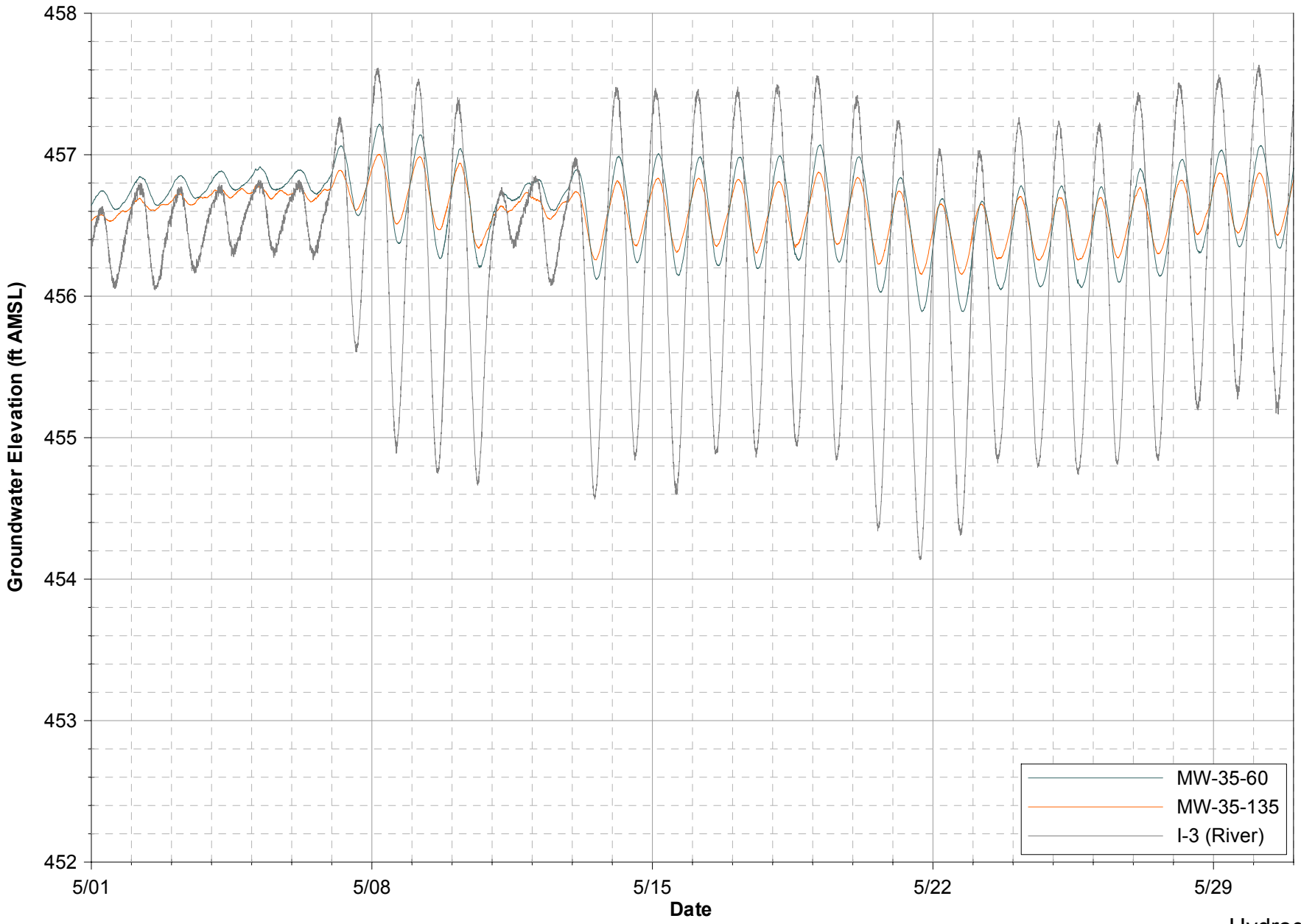

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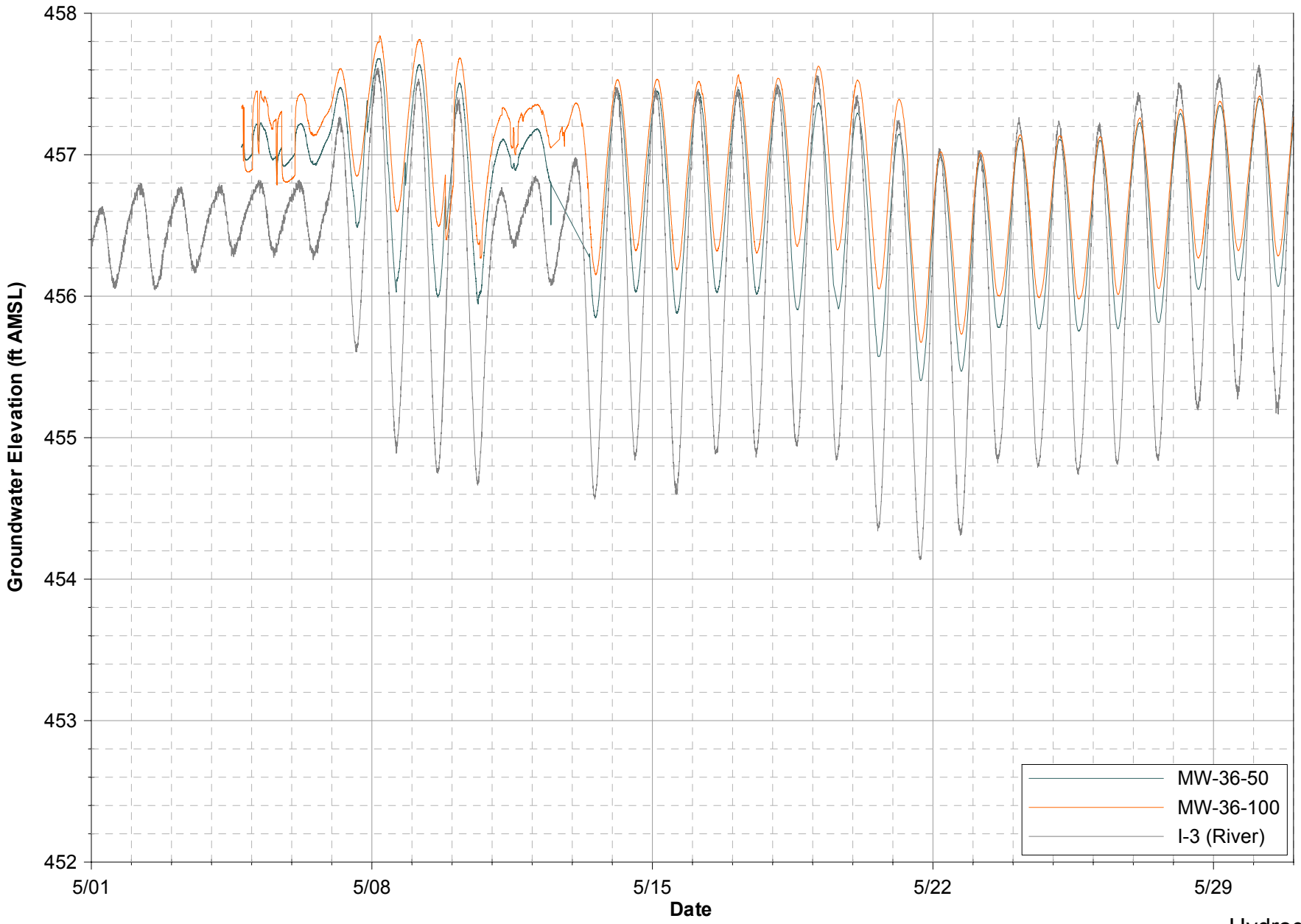

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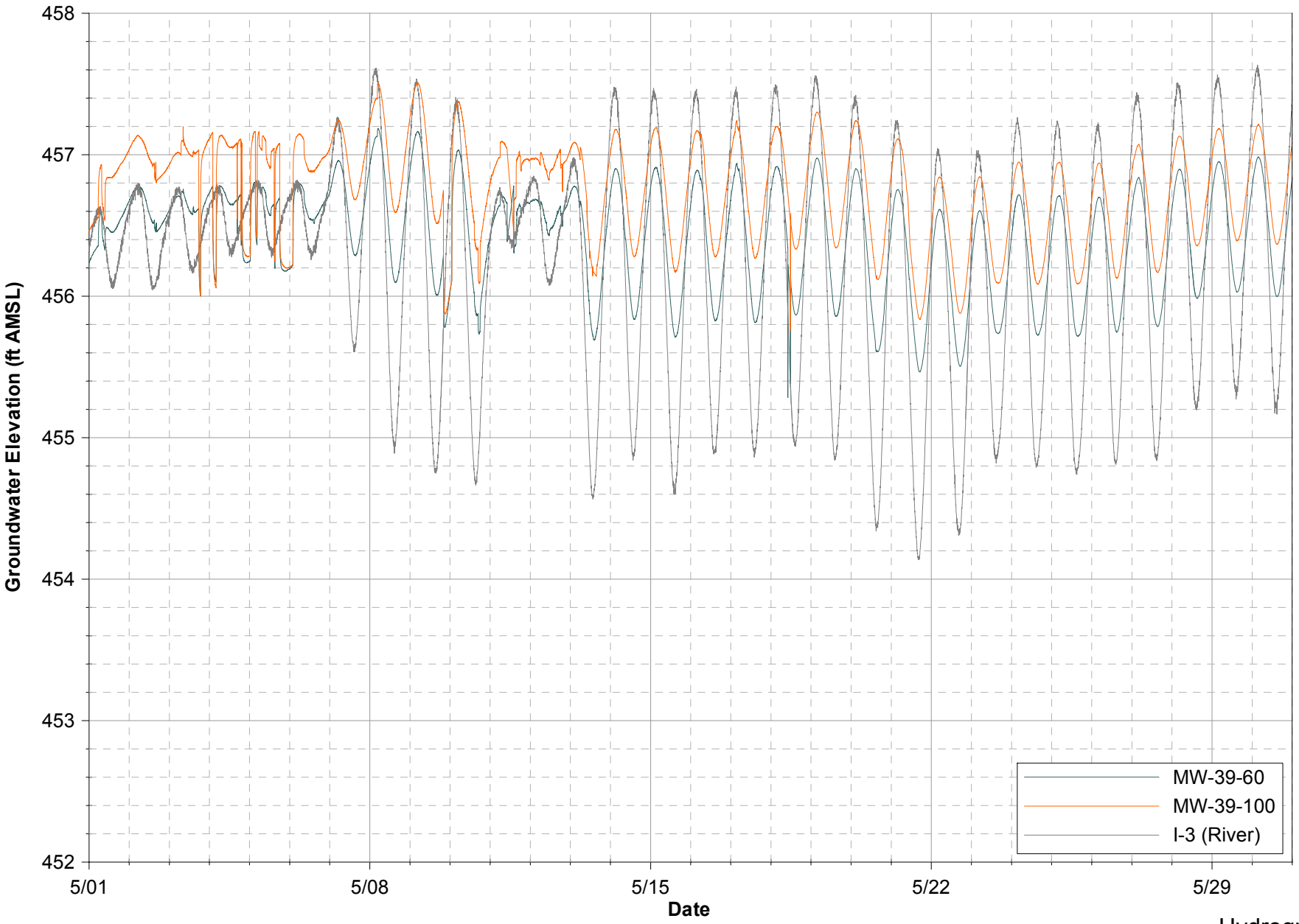

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