Pacific Gas and Electric Company®

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December 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. 12
Interim Measure No. 2
PG&E Topock Compressor Station, Needles, California

Dear Mr. Shopay:

Enclosed is the twelfth 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 DTSC's Requirement for Future Monitoring Reports (letter dated July 21, 2004). This report describes the activities performed and monitoring data collected during the period November 1 through 30, 2004. The data presented in this report demonstrate that there was no significant impact on the near river groundwater gradients due to the scheduled shutdown during the period between November 25 and 26, 2004.

Please contact me at (805) 546-5243 if you have any questions or if you need additional information.

Sincerely,

Tim Hewson
for Yvonne Meeks

Enclosure

cc: CWG Members

Performance Monitoring Report No. 12, PG&E Topock Compressor Station, Interim Measures No. 2, November 1 through 30, 2004

Prepared for

Pacific Gas and Electric Company

December 15, 2004

CH2MHILL

Performance Monitoring Report No. 12
PG&E Topock Compressor Station, Interim Measures No. 2
November 1 through 30, 2004

Prepared for
Pacific Gas and Electric Company

This monitoring report was prepared under supervision of a California Registered Geologist,

Brian Schroth, Registered Geologist No. 7423
Senior Hydrogeologist

Performance Monitoring Report No. 12, PG&E Topock Compressor Station, Interim Measures No. 2 November 1 through 30, 2004

Pacific Gas and Electric Company (PG&E) is implementing Interim Measure (IM) No. 2 at the Topock Compressor Station near 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 November 1 and November 30, 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 monthly on the 15th of each month, and each report will cover activities of the entire preceding month. The next report will be submitted on January 15th.

System Operations

Batch Plant Description

On May 21, 2004, the United States Bureau of Land Management approved the PG&E work plan to modify the existing operations to batch treat the water onsite. The modifications were started on June 9, 2004 and completed on July 15, 2004. Start-up and testing of the batch plant began on July 19, 2004.

Treatment is completed in three steps: (1) chromium reduction by reaction with ferrous chloride to reduce the hexavalent chromium to the less soluble trivalent form, (2) iron oxidation to precipitate out excess iron and reduced chromium, and (3) clarification to remove the precipitated solids from the water. Treated water from the clarifier is transferred to holding tanks for off-site disposal. Precipitated solids are periodically pumped from the clarifier into a container (phase separator) for off-site disposal.

System Operations

Table 1 summarizes the pumping data for the reporting period. The pumping rate from TW-2D was maintained at approximately 70 gallons per minute (gpm) for the month of November, except for a DTSC-approved shutdown during the Thanksgiving holiday. The system was shutdown on November 24, 2004 at 10:20 pm and restarted on November 27, 2004 at 3:10 am. The pump rate from TW-2D was temporarily reduced on November 1st (down to 20 gpm for two hours and 55 gpm for four hours) and November 16th (down to 61

gpm for four hours) due delays in processing treated water through the clarifier. Pumping operations where shut down on November 17 (1 hour), November 20 (½ hour), and November 27 (4 hours) due to operations and maintenance issues (e.g., generator power failure).

A total of 2,693,340 gallons of groundwater were extracted and batch treated during this reporting period. The monthly average pumping rate, including system downtime, was 62.7 gpm. The batch treated water was manifested as a RCRA non-hazardous waste and transported to United States Filter Corporation in Los Angeles, California for additional treatment and disposal. Solids accumulated in the clarifier were disposed as a RCRA hazardous waste at the Waste Management, Kettleman Hills Facility.

TABLE 1
Pump Data from TW-2S and TW-2D (November 1 through November 30, 2004)
Performance Monitoring Report No. 12, Topock Compressor Station, Interim Measure No. 2

Extraction Well	Reporting Period[2]		Project To Date
	Average Pumping Rate[3] (gpm)	Volume Pumped (gal)	Cumulative Volume Pumped (gal)
TW-2S[1]	0	0	486,358
TW-2D	62.7	2,735,080	10,400,220
Total	62.7	2,735,080	10,866,578
		Volume Pumped from MW-20 Cluster:	1,224,325
		Total Volume Pumped (gal)	12,110,903
		Total Volume Pumped (ac-ft)	37.2

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

[1]Pumping from TW-2S was temporarily terminated on June 11, 2004.
[2]Pumping results during the reporting period are based on readings collected between October 31, 2004 at 2:00 pm and November 30, 2004 at 8:45 pm (30.3 days)
[3]The "Average Pumping Rate" is the overall average during the reporting period, including system downtime.

Daily inspections include tank inspections, flow measurements, site security, and desert tortoise sitings. Daily logs with documentation of inspections are maintained on site. Significant precipitation events occurred on November 20 and 21, 2004, as well as trace precipitation on November 13, 22, and 24 2004. Total November rainfall measured for the area was approximately 0.3 inches.

Extracted Water Analytical Results

Two grab samples were collected from TW-2D during this reporting period. Table 2 summarizes analytical results from TW-2S and TW-2D since May 19, 2004.

Batch Plant Modifications

A 4,000 gallon polyethylene tank was placed within the secondary containment area of the batch plant in November 2004. The tank will be used to collect excess treated water that is removed from the phase separator that contains the solids that accumulate in the clarifier. This water had previously been pumped back into the batch treatment system. Field operations noted that this water may affect the reproducibility of effluent quality between batches. The water collected in the tank will be field tested and transported to U.S. Filter along with the treated water.

Hydraulic Monitoring

Hydraulic Data

Water levels were recorded at intervals of 30 minutes 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 cluster (2), 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.

Hydrographs for all wells with transducers are provided as Attachment 1; the Colorado River elevation at I-3 is shown on all hydrographs. Reported groundwater elevations (or hydraulic heads) are adjusted for temperature and for salinity differences between wells (i.e., adjusted to a common freshwater equivalent).

The average and the minimum and maximum daily average groundwater/river elevations have been calculated from the transducer data for the November reporting period (November 1 to 30, 2004). These values are shown on Figures 1, 2, and 3.

Attachment 1 also includes a set of hydrographs from November 24 through November 29 that depict the recovery of the aquifer in the vicinity of TW-2D to ambient conditions after turning TW-2D off on November 24. The hydrographs subsequently show the aquifer response to TW-2D after re-starting pumping at 70 gpm on November 27. The hydrographs also capture the aquifer response due to an unplanned temporary shut-down on November 27 due to operational issues at the batch plant (see operations section above). Data from these events will be used to confirm numerical model calibration.

Evaluation of Groundwater Gradients From the Reporting Period

Hydraulic data are summarized and groundwater elevations contoured by zone of unconsolidated aquifer (UA) on the following figures:

Figure 1 – Upper Unconsolidated Aquifer Zone (Upper UA)

Figure 2 – Middle Unconsolidated Aquifer Zone (Middle UA)

Figure 3 – Lower Unconsolidated Aquifer Zone (Lower UA)

The groundwater elevations for the middle and lower zones of the UA indicate landward hydraulic gradients along the floodplain. A landward hydraulic gradient was also observed in the upper zone of the UA, although less pronounced than in the middle and lower zones. The regional hydraulic gradient in the Upper UA is easterly and consistent with regional gradients outside of the river area. These data demonstrate that there was no significant impact on the near river groundwater gradients due to the scheduled shutdown from November 25 to 26.

Figure 4 shows the location of a hydrogeologic section B1 that runs east-west through monitoring points between the MW-20 bench and the Colorado River. Figure 5 shows the average groundwater elevations along section B1. The section indicates natural upward hydraulic gradients in deeper zones across most of the profile. Most noteworthy are converging upward and downward hydraulic gradients from the MW-36 cluster westward, showing the influence of pumping well TW-2D. The area between well clusters MW-36 and MW-34 is transitional between the naturally upward gradient and the pull of the deep zone pumping well to the west. The water level inside the pumping well has not been posted or contoured on these figures because drawdown in actively pumping wells can be exaggerated due to well inefficiency.

Attachment 2 includes longer-term groundwater elevation contour maps for each zone of the UA using averaged groundwater elevation data from June 15 through November 30, 2004. Groundwater gradients in the lower and middle zones of the UA are landward based on these averaged data. Groundwater gradients in the upper zone of the UA are less pronounced, but are landward in the floodplain in the vicinity of TW-2D.

The correlation between Colorado River levels and United States Bureau of Reclamation (USBR) records for Davis Dam discharge has been used to estimate future river levels from of USBR discharge projections. The predicted river levels are input to the groundwater model to help estimate future pumping requirements. Measured Davis Dam discharges do not always agree with USBR projections.

Table 3 summarizes the estimated and actual dam discharges and river elevations since April 2004. The actual Davis Dam November 2004 discharge (monthly average) was significantly less (8,075 cubic feet per second [cfs]) than the USBR projected discharge for the November reporting period. Correspondingly, the actual Colorado River elevation at I-3 (monthly average) was slightly less (0.2 feet) than the predicted elevation for the November reporting period.

Groundwater Chemistry from the Reporting Period

Hexavalent chromium concentrations for monitoring wells in the vicinity of the MW-20 bench are presented in plan view for the three zones of UA and vertically along hydrogeologic section B1. These figures are included as Attachment 3. Analytical results from the most recent sampling event are included for each monitoring well.

Hexavalent chromium concentration trend graphs for November 2003 through November 2004 are presented in tandem with hydrographs for each monitoring well in the vicinity of the MW-20 bench. These graphs are included as Attachment 4.

Future Activities

Reporting of Interim Measures No. 2 activities will continue as described in the *Final Interim Measures Work Plan No. 2*. The next status report will be submitted on January 15th, 2005 and will cover activities from December 1 to December 31, 2004.

Full-time pumping from TW-2D will continue in December 2004. The USBR projects that Davis Dam releases in December 2004 will be decreased relative to November rates. Calculations based on this projected dam release decrease indicate a corresponding decrease in river level on the order of about one foot. Future adjustments in pump rates from TW-2D will be proposed based on expected river levels, observed groundwater gradients, system treatment performance at 70 gpm, potential system modifications, and other relevant factors.

Tables

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
20 days	02-Jun-04	7.93	7.19	2,690	02-Jun-04	7.02	7.33	7,540	02-Jun-04	6.93	7.33	5,350
27 days	09-Jun-04	6.82	7.19	2,740	09-Jun-04	6.98	7.41	7,540	09-Jun-04	6.81	7.50	5,300
34 days	NS				16-Jun-04	7.55	7.11	7,400	NS			
41 days	NS				23-Jun-04	7.11	6.75	7,200	NS			
48 days	NS				30-Jun-04	6.37	6.64	7,060	NS			
56 days	NS				08-Jul-04	7.29	6.29	7,150	NS			
62 days	NS				14-Jul-04	5.92	6.15	7,020	NS			
69 days	NS				21-Jul-04	5.74	6.20	6,830	NS			
76 days	NS				28-Jul-04	5.66	6.01	6,760	NS			
83 days	NS				04-Aug-04	5.95	6.06	7,140	NS			
98 days	NS				19-Aug-04	7.61	6.20	6,700	NS			
105 days	NS				26-Aug-04	5.31	6.03	6,620	NS			
111 days	NS				01-Sep-04	6.26	6.03	6,730	NS			
118 days	NS				08-Sep-04	6.20	6.33	6,960	NS			
119 days	NS				09-Sep-04	6.47	6.17	6,520	NS			
125 days	NS				15-Sep-04	6.31	6.30	6,430	NS			
132 days	NS				22-Sep-04	6.37	6.39	6,650	NS			
147 days	NS				07-Oct-04	5.88	6.72	6,770	NS			
153 days	NS				13-Oct-04	7.02	6.77	6,430	NS			
160 days	NS				20-Oct-04	6.47	6.66	6,270	NS			
173 days	NS				02-Nov-04	6.28	6.72	6,310	NS			
189 days	NS				18-Nov-04	6.38	6.91	6,140	NS			

Notes:
1. NS = Not Sampled
2. Sampling of TW-2S and TW-2 combined were halted when pumping from TW-2S was temporarily terminated on June 11, 2004 per DTSC direction.

Table 3
Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3
PG&E Topock

	Davis Dam Release (cfs)			Colorado River Elevation at I-3 (ft AMSL or ft)		
Month	**Projected**	**Actual**	**Difference**	**Predicted**	**Actual**	**Difference**
April 2004	17,400	17,354	-46	456.4	456.2	-0.2
May 2004	17,100	16,788	-312	456.3	456.3	-0.1
June 2004	15,800	16,869	1,069	455.8	456.6	0.7
July 2004	14,000	14,951	951	455.2	455.9	0.7
August 2004	12,100	12,000	-100	454.5	454.9	0.4
September 2004	11,200	10,979	-221	454.2	454.6	0.4
October 2004	8,600	7,538	-1,062	453.2	453.5	0.3
November 2004	9,500	8,075	-1,425	453.6	453.4	-0.2
December 2004	6,200	---	---	452.4	---	---

Notes:

Projected Davis Dam Releases, updated monthly, are reported by the US Department of Interior, Bureau of Reclamation at http://www.usbr.gov/lc/region/g4000/24mo.pdf; listed projections for April through July are from April 2004, and the remainder were from the beginning of each respective month

Colorado River levels at I-3 are predicted from a linear regression between historical dam releases and measured river levels at I-3 (updated monthly)

cfs = cubic feet per second; ft AMSL = feet above mean sea level

Figures

N

0 150 300 450 Feet

1 inch equals 300 feet

Monitoring Well

River Station

Extraction Well

Groundwater Elevation Contour 0.2 ft

Groundwater Elevation Contour 0.1 ft

Interpreted Groundwater Flow Direction

MW-29 **455.85** Average Groundwater Elevation at Monitoring Station (ft. MSL)

MW-29 **(455.85)** Average Groundwater Elevation at Monitoring Station (ft. MSL) Not Used for Contouring

(455.32 / 456.78) AverageDaily Minimum/Maximum Groundwater Elevation (ft. MSL)

R-29 **455.85** River Elevation (ft. MSL) Interpolated Average

RRB
453.81
453.41 / 454.24

R-29
453.72
453.11 / 454.28

MW-29
454.03
453.98 / 454.06

MW-33-40
453.83
453.66 / 453.99

R-19
453.68
453.07 / 454.24

MW-19
453.96
453.87 / 454.02

MW-28-25
453.53
453.30 / 453.76

R-28
453.65
453.04 / 454.22

R-20
453.62
453.01 / 454.18

MW-30-30
(453.94)
453.89 / 454.00

TW-2D
TW-2S

MW-20-070
453.31
453.21 / 453.39

MW-36-040
453.44
453.19 / 453.69

MW-39-040
453.35
453.13 / 453.58

R-27
453.59
452.98 / 454.15

MW-25
454.39
454.36 / 454.43

MW-27
453.51
453.34 / 453.63

MW-32-20
453.54
453.47 / 453.59

MW-26
454.21
454.13 / 454.28

R-22
453.53
452.92 / 454.10

MW-10
455.00
454.95 / 455.06

I-3
453.42
452.81 / 453.99

454.4 454.2 454.0 453.8 453.6 453.5 453.4 453.6 454.6 454.8 455.0

Approximate 50 ppb contour of hexavalent chromium from September, 2004 monitoring data

COLORADO RIVER

BN & SF RAILROAD

BED ROCK CONTACT

PG&E Topock Compressor Station

Notes:Groundwater elevations shown represent those from the Upper Unconsolidated Aquifer (UA) wells only.

Groundwater elevations are averages of water levels from November 1-30, 2004 measured with transducers at 30 minute intervals.

Groundwater elevations are salinity and temperature adjusted.

River elevations at R- river stations are interpolated from the average river elevations at I-3 and RRB with a resulting river gradient of 8.7 E-5 ft/ft.

Inferred gradients and flow directions are based upon available data; new wells, additional data, and further calibration may change interpretations.

MW-36-20, and MW-31-60, are excluded due to transducer failures.

FIGURE 1
AVERAGE GROUNDWATER (UPPER UA) AND RIVER ELEVATIONS, NOVEMBER 1-30, 2004

INTERIM MEASURES FIELD PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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N

0 150 300 450 Feet

1 inch equals 300 feet

- Monitoring Well
- River Station
- Extraction Well
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Interpreted Groundwater Flow Direction
- **MW-29 455.85** — Average Groundwater Elevation at Monitoring Station (ft. MSL)
- **MW-29 (455.85)** — Average Groundwater Elevation at Monitoring Station (ft. MSL) Not Used for Contouring
- **(455.32 / 456.78)** — AverageDaily Minimum/Maximum Groundwater Elevation (ft. MSL)
- **R-29 455.85** — River Elevation (ft. MSL) Interpolated Average

RRB
453.81
453.41 / 454.24

R-29
453.72
453.11 / 454.28

R-19
453.68
453.07 / 454.24

R-28
453.65
453.04 / 454.22

R-20
453.62
453.01 / 454.18

R-27
453.59
452.98 / 454.15

R-22
453.53
452.92 / 454.10

I-3
453.42
452.81 / 453.99

Approximate 50 ppb contour of hexavalent chromium from September, 2004 monitoring data

MW-33-90
453.73
453.55 / 453.92

MW-28-90
453.50
453.19 / 453.84

MW-36-050
453.47
453.21 / 453.69

MW-34-55
453.63
453.31 / 453.97

MW-30-50
453.43
453.20 / 453.68

MW-39-060
453.27
453.07 / 453.50

MW-32-35
453.53
453.37 / 453.66

TW-2D
TW-2S

MW-20-100
453.06
452.94 / 453.26

453.7
453.6
453.5
453.4
453.3
453.2
453.1
453.1
453.2
453.3
453.4
453.5
453.6
453.7

COLORADO RIVER

BAT CAVE WASH

BN & SF RAILROAD

BED ROCK CONTACT

PG&E Topock Compressor Station

Notes:
Groundwater elevations shown represent those from the Middle Unconsolidated Aquifer (UA) wells only.

Groundwater elevations are averages of water levels from November 1-30, 2004 measured with transducers at 30 minute intervals. Groundwater elevations are salinity and temperature adjusted.

River elevations at R- river stations are interpolated from the average river elevations at I-3 and RRB with a resulting river gradient of 8.7 E-5 ft/ft.

River elevations are shown, but not used in contouring ground water elevations for the Middle UA.

Inferred gradients and flow directions are based upon available data; new well, additional data, and further calibration may change interpretations.

FIGURE 2
AVERAGE GROUNDWATER (MIDDLE UA) AND RIVER ELEVATIONS, NOVEMBER 1-30, 2004

INTERIM MEASURES FIELD PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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N

0 150 300 450 Feet

1 inch equals 300 feet

- Monitoring Well
- River Station
- Extraction Well
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Interpreted Groundwater Flow Direction
- **MW-29 455.85** Average Groundwater Elevation at Monitoring Station (ft. MSL)
- **MW-29 (455.85)** Average Groundwater Elevation at Monitoring Station (ft. MSL) Not Used for Contouring
- **(455.32 / 456.78)** AverageDaily Minimum/Maximum Groundwater Elevation (ft. MSL)
- R-29 455.85 River Elevation (ft. MSL) Interpolated Average

RRB
453.81
453.41 / 454.24

MW-35-135
453.87
453.77 / 453.97

R-29
453.72
453.11 / 454.28

R-19
453.68
453.07 / 454.24

R-28
453.65
453.04 / 454.22

COLORADO RIVER

MW-31-135
453.41
453.28 / 453.60

MW-36-090
453.38
453.14 / 453.64

R-20
453.62
453.01 / 454.18

TW-2S
TW-2D

MW-20-130
452.95
452.80 / 453.25

MW-34-80
453.74
453.43 / 454.07

MW-36-100
453.38
453.15 / 453.63

R-27
453.59
452.98 / 454.15

MW-39-100
453.20
453.01 / 453.43

BAT CAVE WASH

BN & SF RAILROAD

R-22
453.53
452.92 / 454.10

BEDROCK CONTACT

I-3
453.42
452.81 / 453.99

PG&E Topock Compressor Station

Approximate 50 ppb contour of hexavalent chromium from September, 2004 monitoring data

453.8 453.7 453.6 453.5 453.4 453.2 453.0 453.0 453.1 453.2 453.3 453.4 453.5 453.6 453.7

Notes:
Groundwater elevations shown represent those from the Lower Unconsolidated Aquifer (UA) wells only.

Groundwater elevations are averages of water levels from November 1-30, 2004 measured with transducers at 30 minute intervals. Groundwater elevations are salinity and temperature adjusted.

River elevations at R- river stations are interpolated from the average river elevations at I-3 and RRB with a resulting river gradient of 8.7 E-5 ft/ft.

River elevations are shown, but not used in contouring ground water elevations for the Lower UA.

Inferred gradients and flow directions are based upon available data; new well, additional data, and further calibration may change interpretations.

FIGURE 3
AVERAGE GROUNDWATER (LOWER UA) AND RIVER ELEVATIONS, NOVEMBER 1-30, 2004

INTERIM MEASURES FIELD PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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N

0 150 300 450
Feet

LEGEND

- Extraction Well
- Monitoring Well
- River Station

RRB
MW-29
R-29
MW-33-40
MW-33-90
R-19
MW-19
MW-28-25
MW-28-90
R-28
MW-31-060
MW-31-135
TW-2S
TW-2D
MW-30-30
MW-30-50
MW-34-55
MW-34-80
R-20
MW-20 Cluster
B1
MW-36 Cluster
MW-39 Cluster
MW-25
R-27
MW-27
BAT CAVE WASH
BN&SF RAILROAD
MW-32-20
MW-32-35
MW-26
INTERSTATE- 40
R-22
MW-10
I-3
PG&E Topock
Compressor Station

Figure 4
Location of Cross Section B1
INTERIM MEASURES FIELD PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

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West

East
Section B1

TW-2S
TW-2D
proj: 140'

MW-20-070
MW-20-100
MW-20-130

MW-39-040
MW-39-050
MW-39-060
MW-39-070
MW-39-080
MW-39-100

MW-30-30*
MW-30-50

MW-36-020*
MW-36-040
MW-36-050
MW-36-070*
MW-36-090
MW-36-100

MW-34-55
MW-34-80

Colorado River

R-20
453.62

Elevation (feet MSL)

520
500
480
460
440
420
400
380
360
340
320

0
50
100
150
200
250
300
350
400
450
500
550
600
650

Distance (feet)

453.4
453.3
453.2
453.1
453.0
453.5
453.6
453.7

453.31
453.21 / 453.39

453.06
452.94 / 453.26

452.95
452.80 / 453.25

453.35
453.13 / 453.58

453.27
452.70 / 453.51

453.27
453.07 / 453.50

453.13
452.95/ 453.36

453.15
452.95 / 453.38

453.20
453.01 / 453.43

453.94
453.89 / 454.6

453.43
453.20 / 453.68

453.44
453.19 / 453.69

453.47
453.21 / 453.74

453.57
453.31 / 453.85

453.38
453.14 / 453.64

453.38
453.15 / 453.63

453.63
453.31 / 453.97

453.74
453.43 / 454.07

Alluvial Aquifer

Alluvial Aquifer

Miocene Conglomerate (Bedrock)

180
131
67
118
108
93

Notes:
Results shown for November 1-31, 2004.
Adjusted for salinity and temperature.
* Wells MW-30-30, MW-36-020 (transducer failure), and MW-36-070 excluded from contouring.
Average river elevation interpolated from I-3 station.
Data subject to review.

MW-30-30
water level
well screen
453.66
453.40/453.94
boring depth (feet)
103

453.5
Groundwater elevation contour

453.5
Inferred groundwater elevation contour

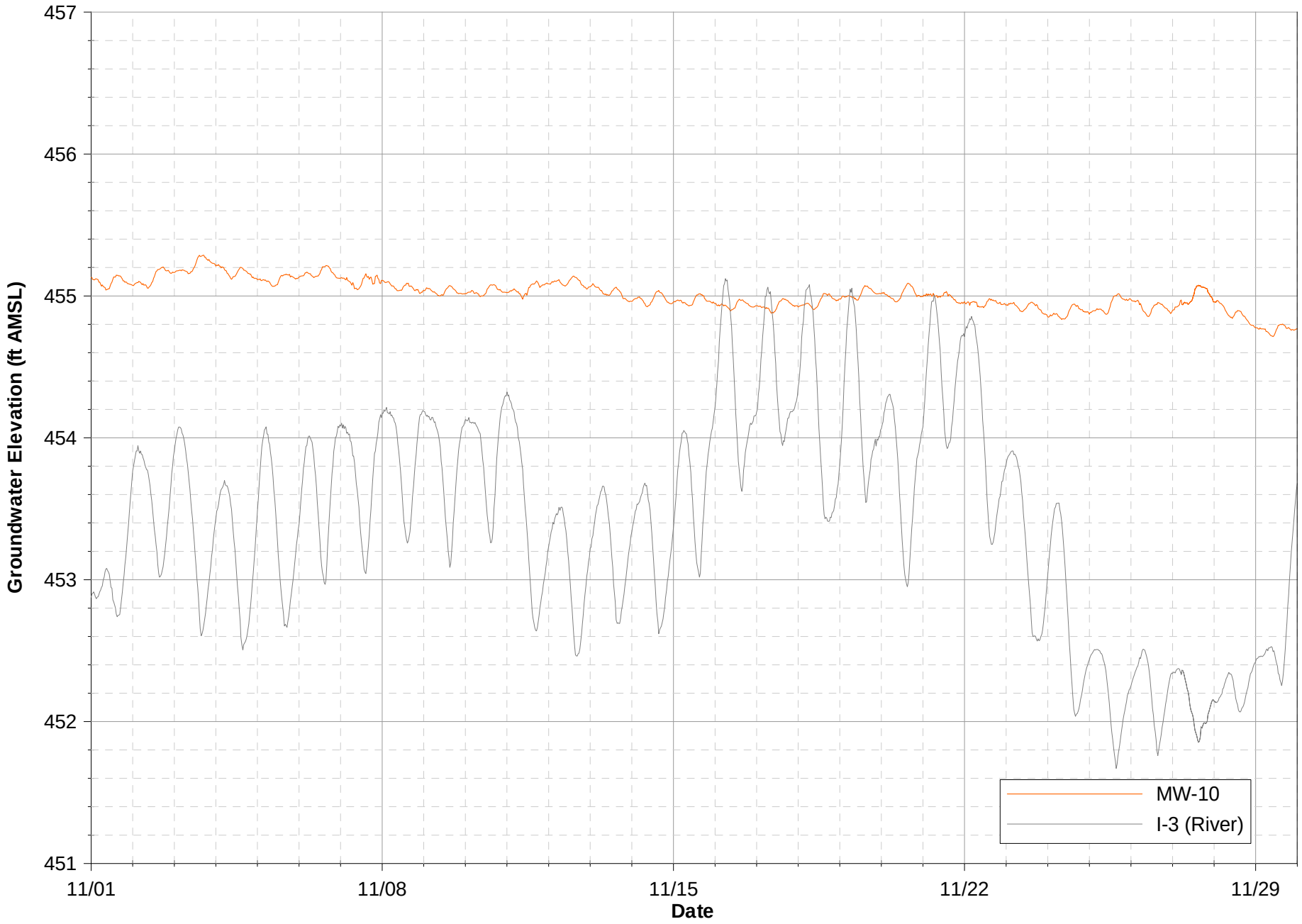
Average groundwater elevation
Minimum / Maximum groundwater elevation

Figure 5
Hydrogeologic Section B1
Average Groundwater Elevation
November 1-30, 2004

INTERIM MEASURES PROGRAM
PG&E TOPOCK PROJECT
NEEDLES, CALIFORNIA

CH2MHILL

Attachment 1
Hydrographs

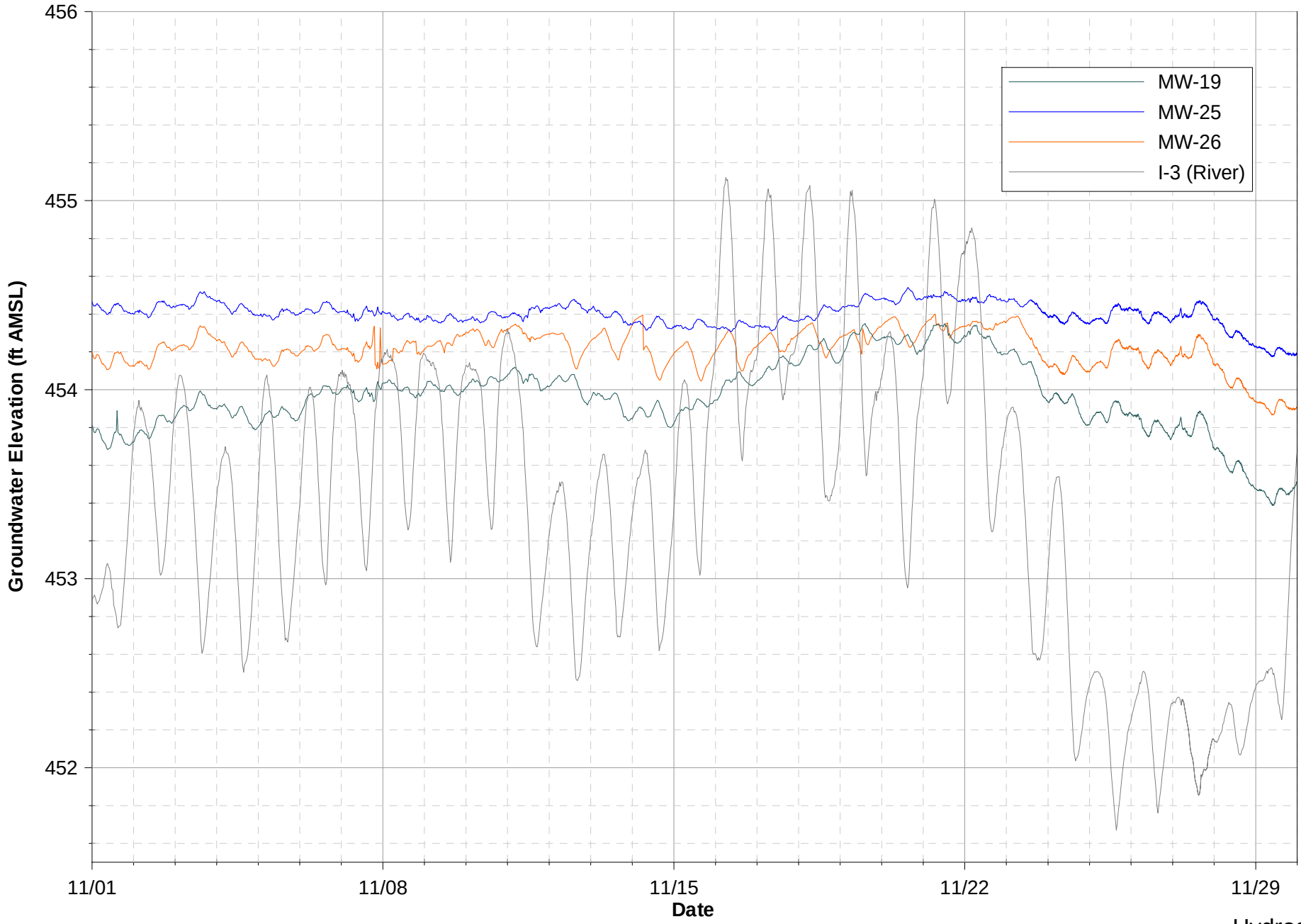


Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL

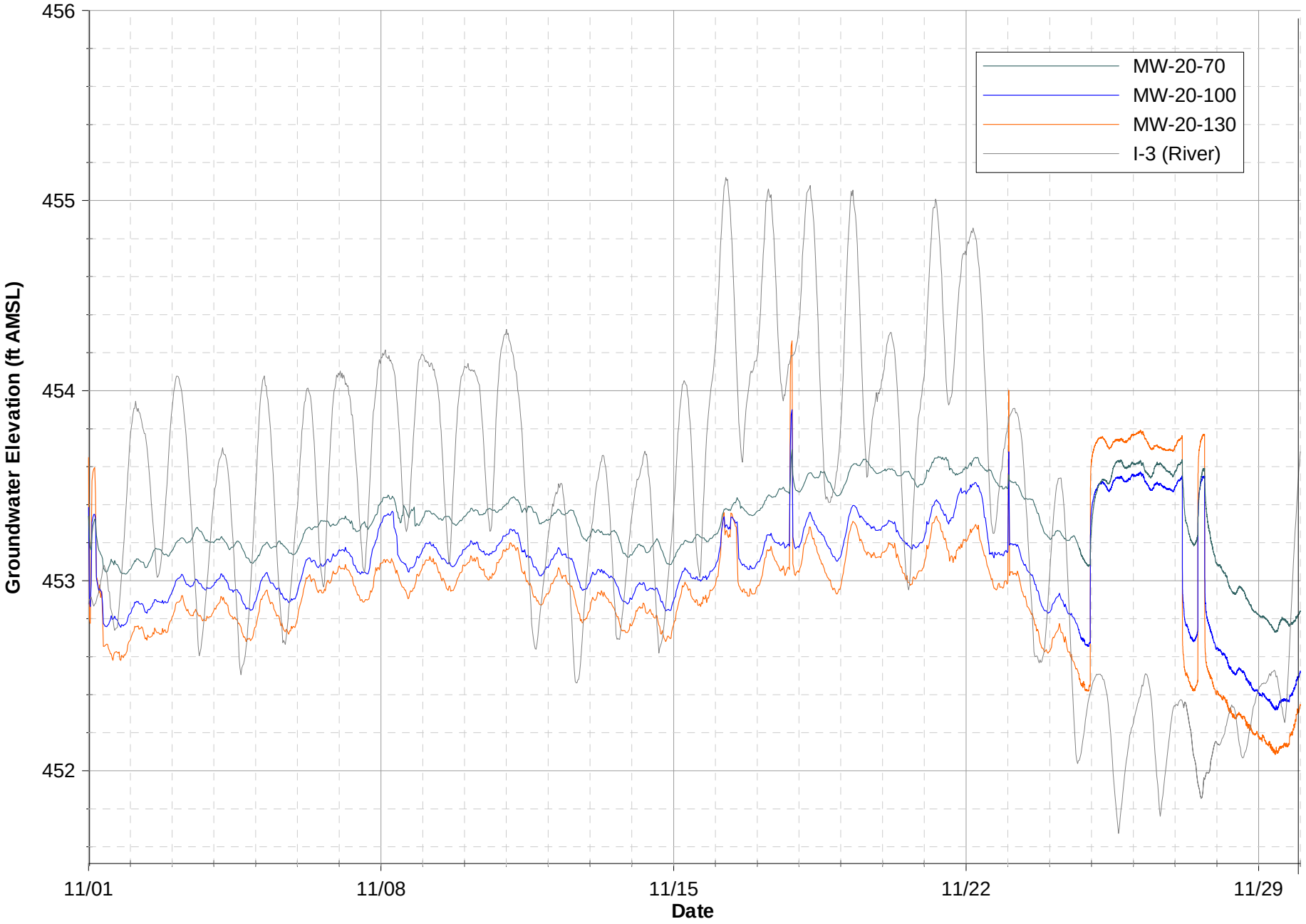


Note: Data subject to review.

Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

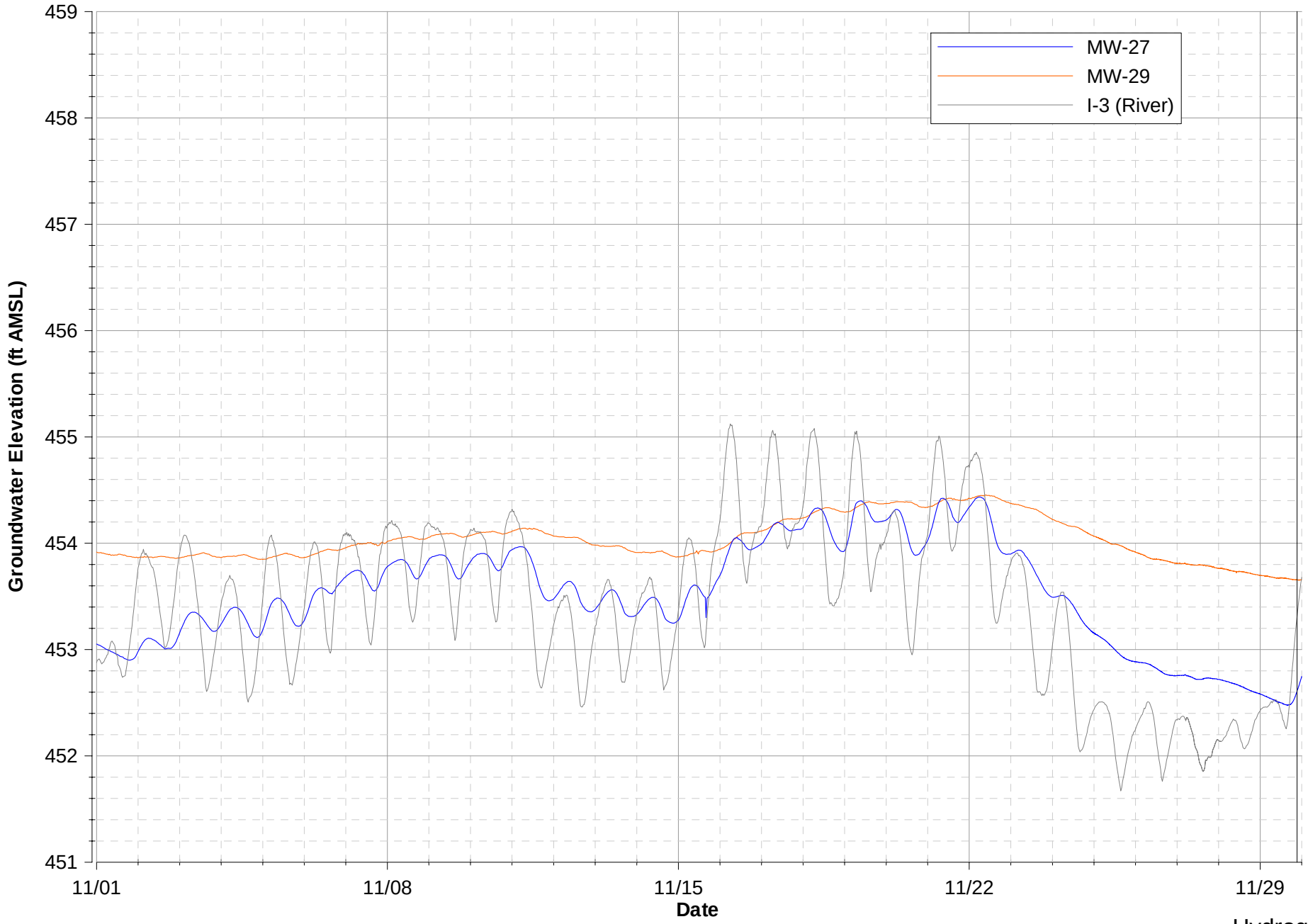
CH2MHILL



Note: Data subject to review.

Hydrograph
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

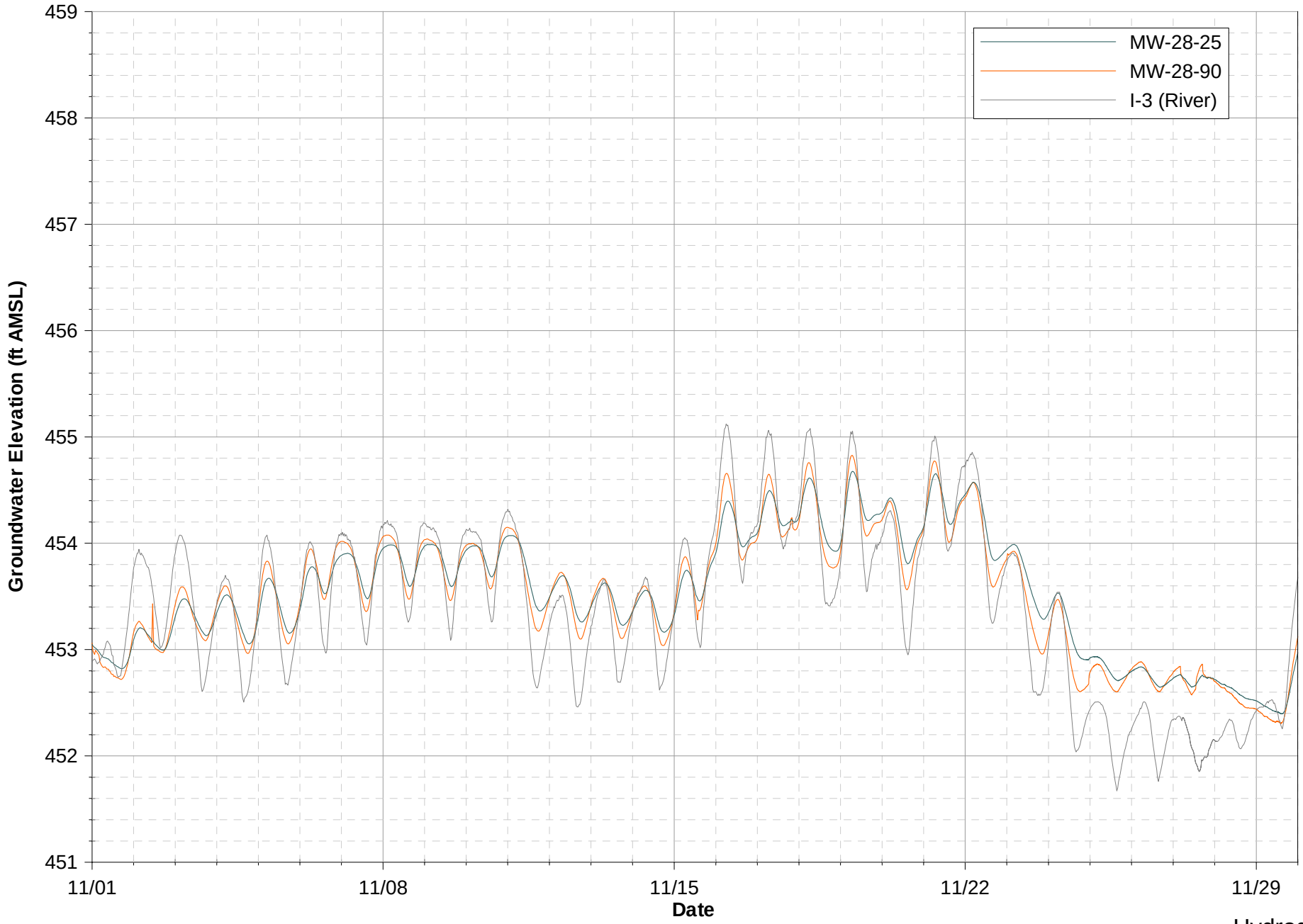
CH2MHILL



Note: Data subject to review.

Hydrograph
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

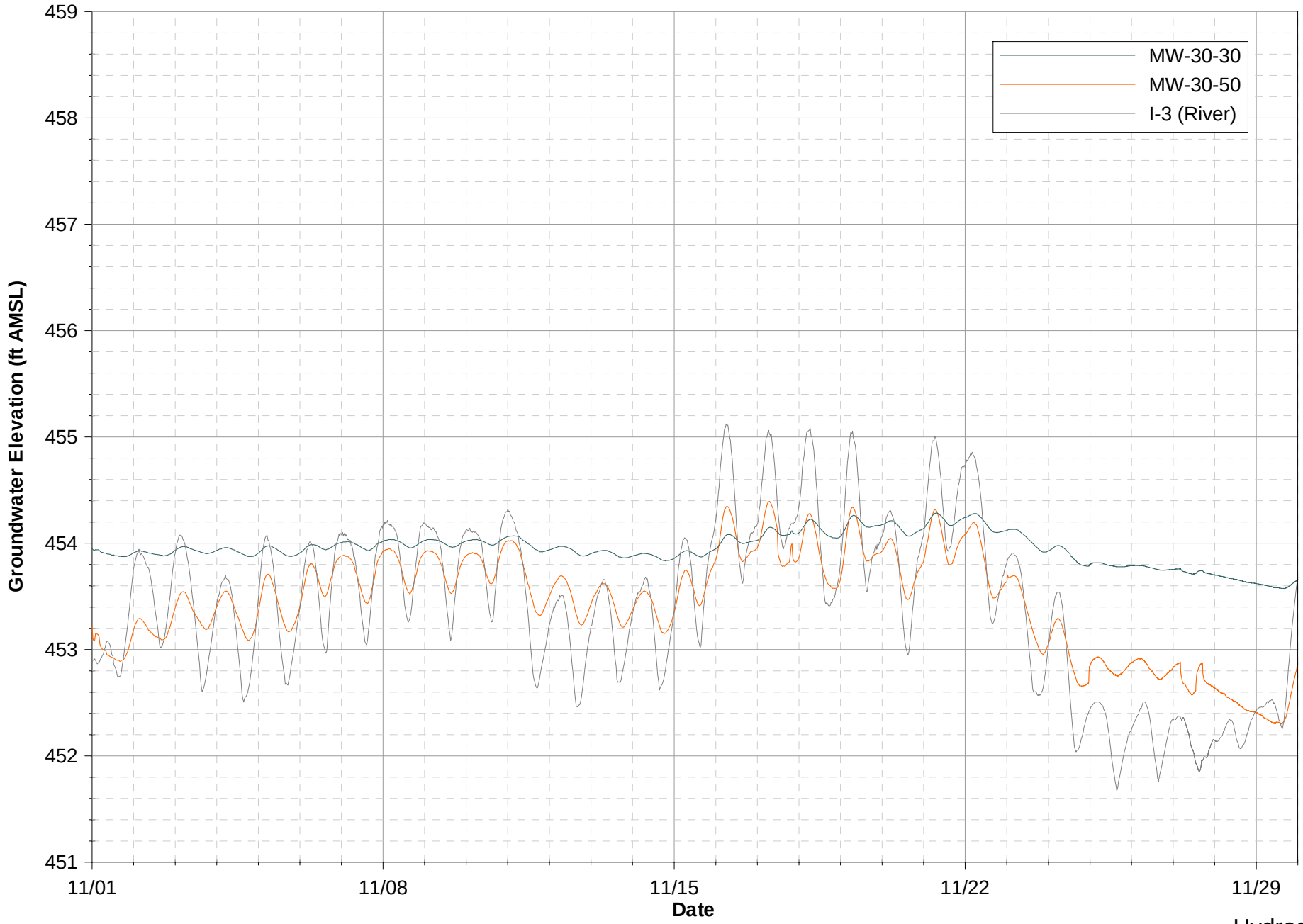


Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL

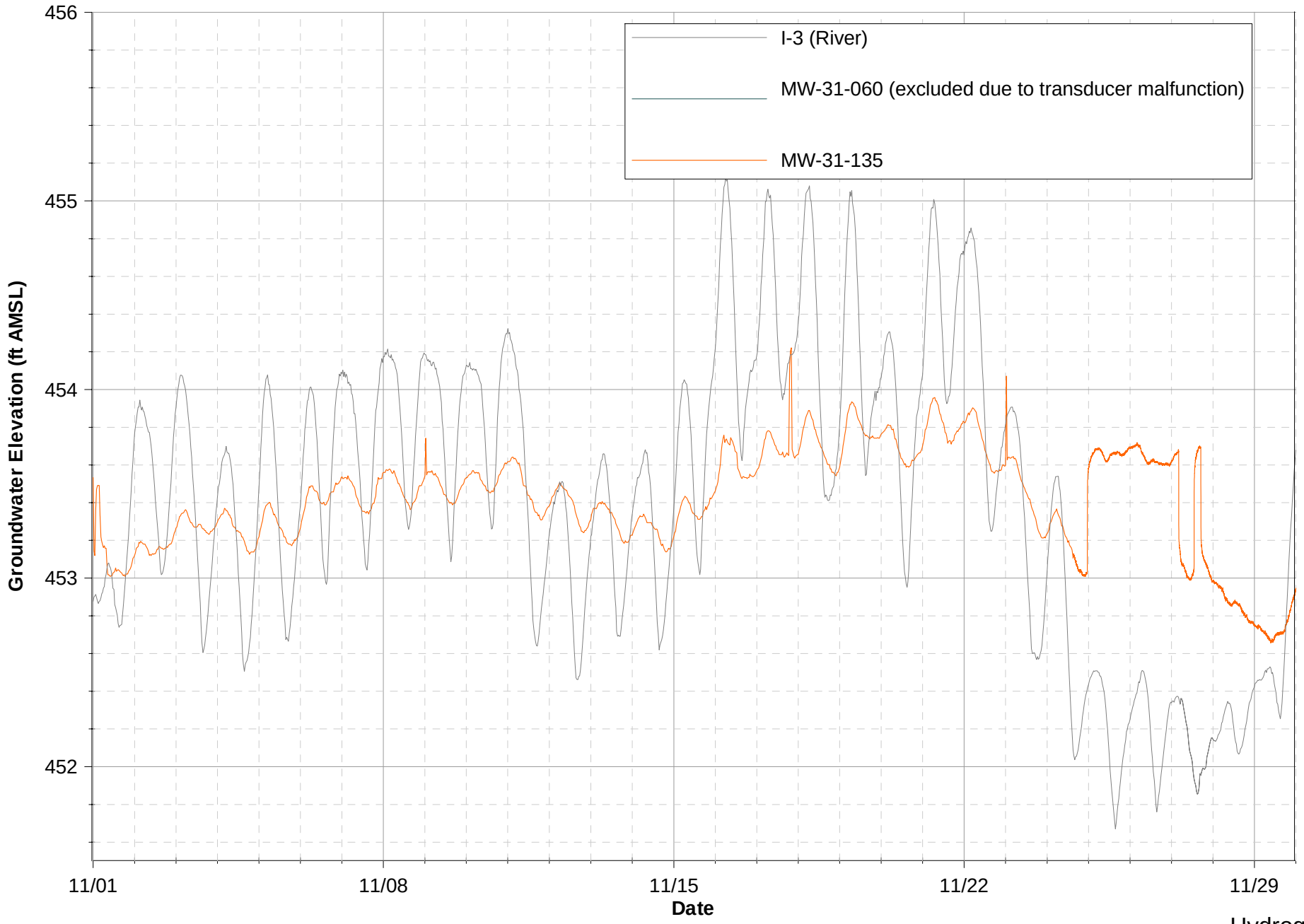


Note: Data subject to review.

PRIVILEGED AND CONFIDENTIAL

Hydrograph
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

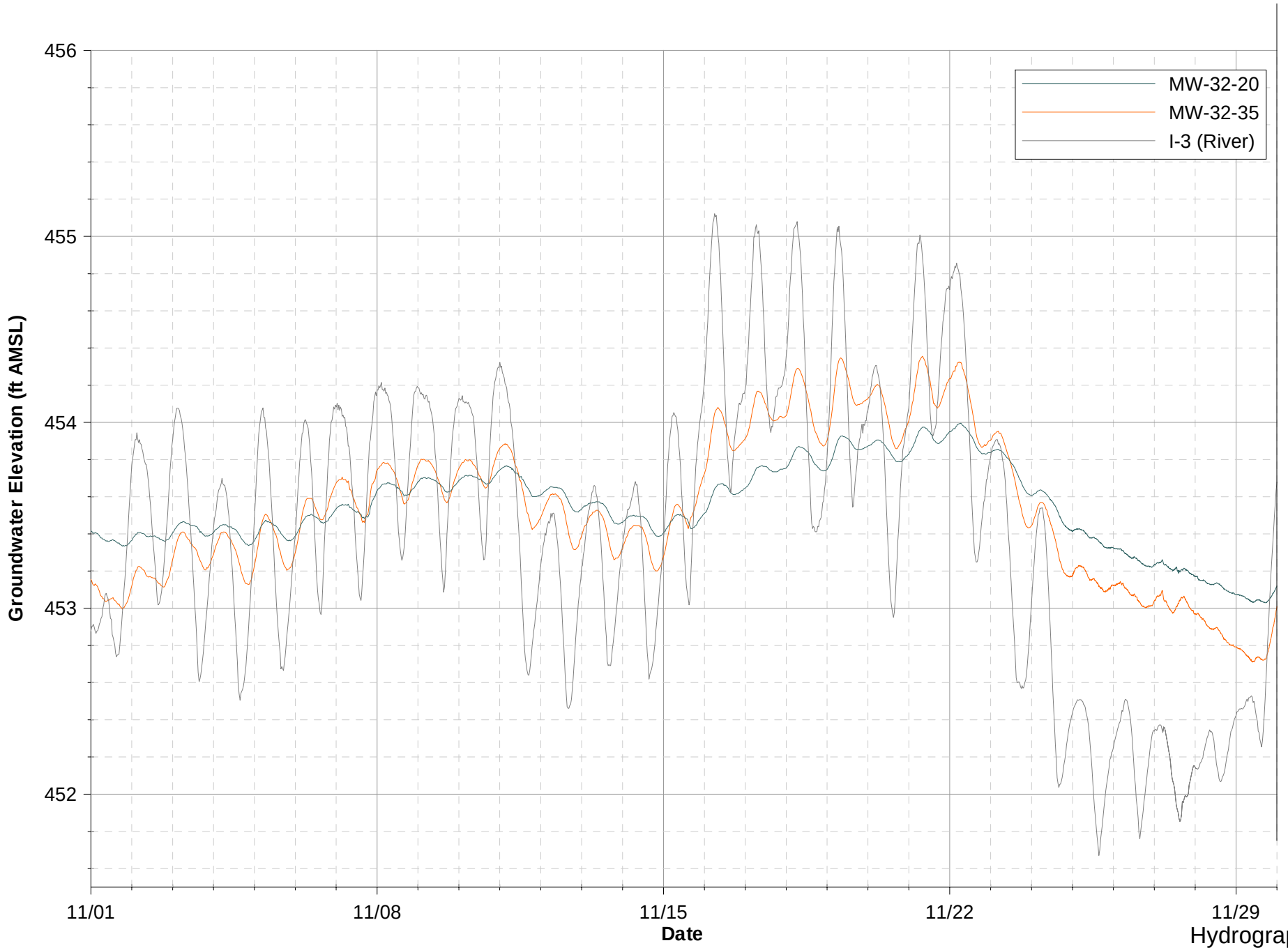
CH2MHILL



Note: Data subject to review.

Hydrograph
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

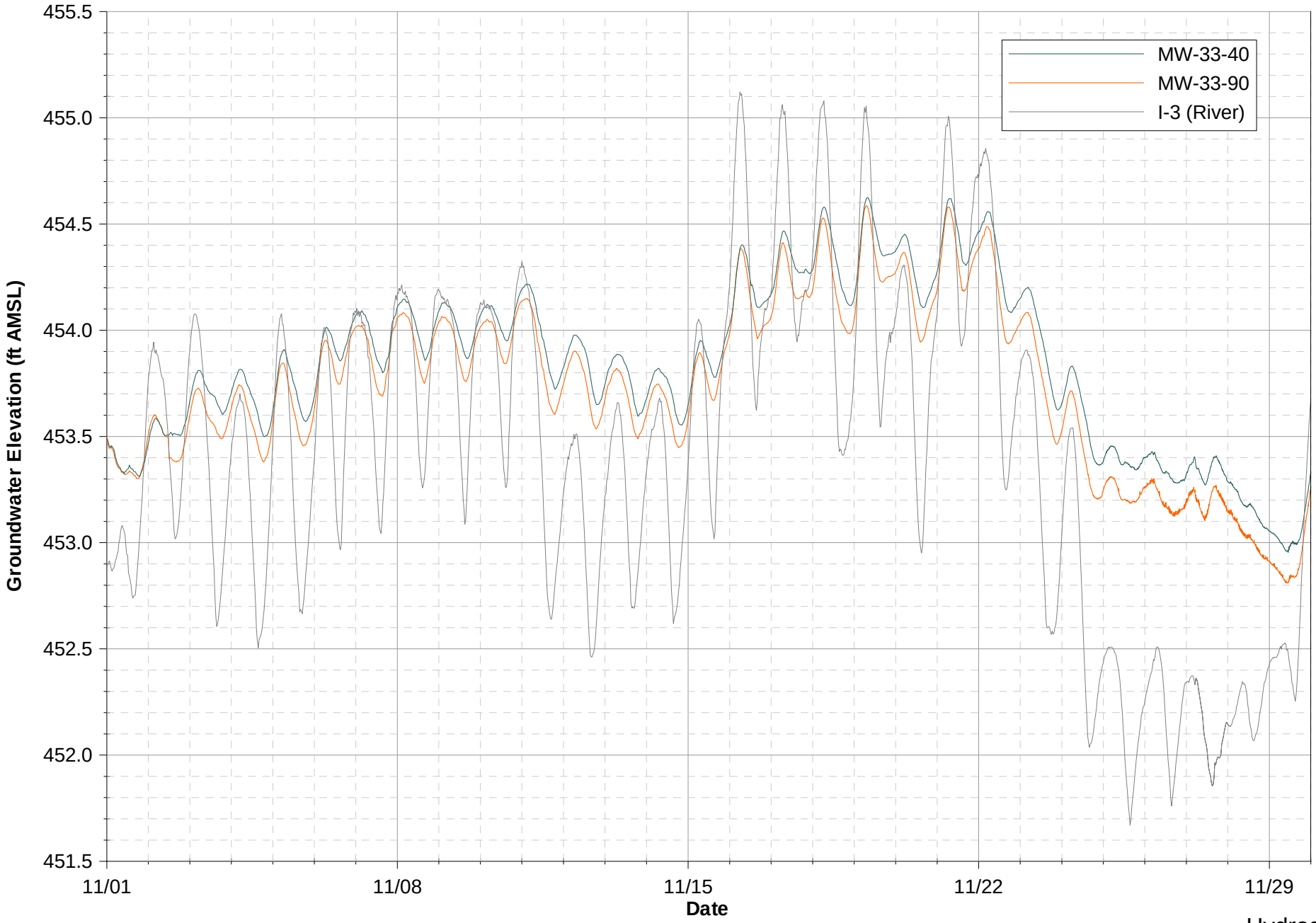


Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL

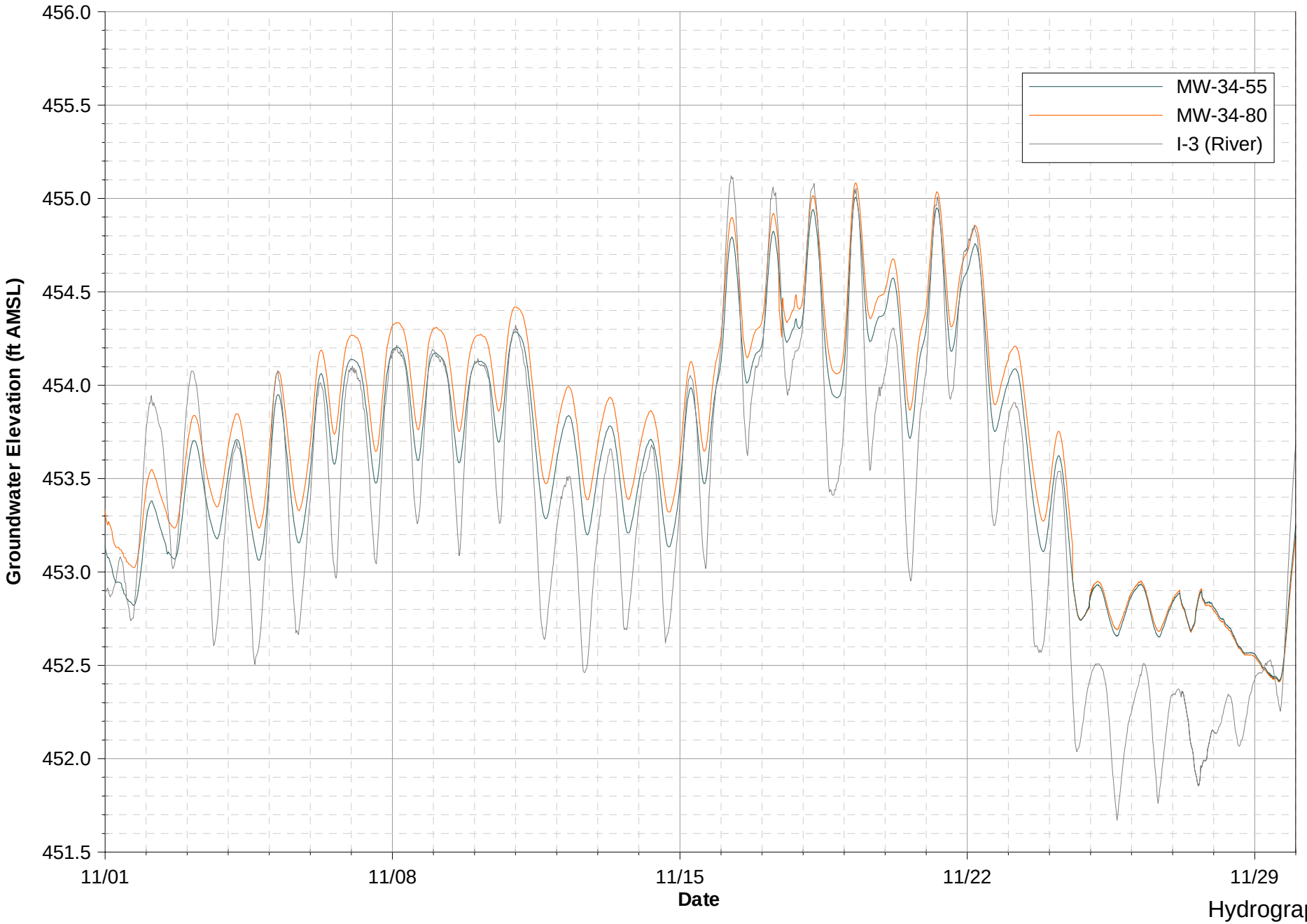


Note: Data subject to review.

Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

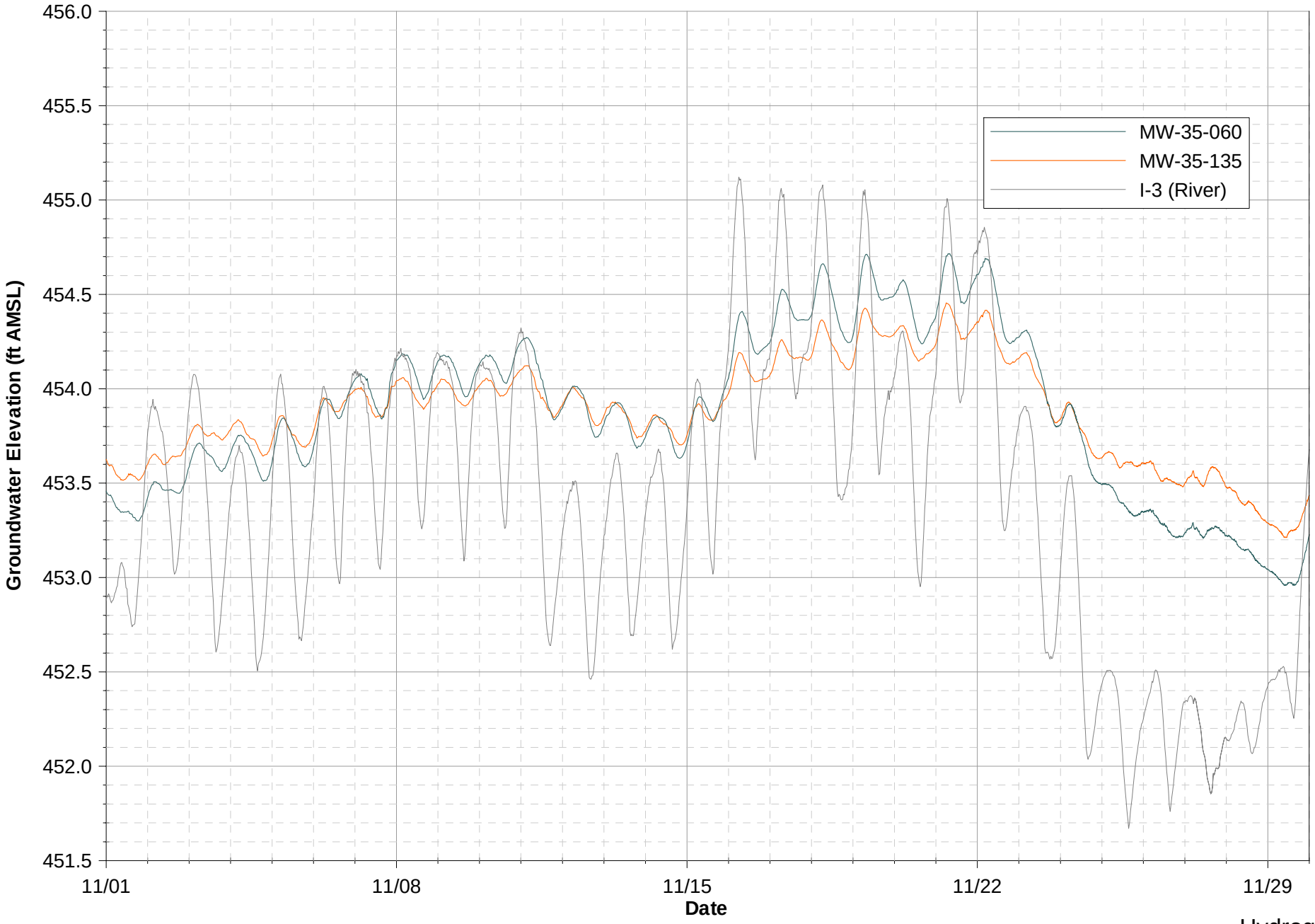


Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL

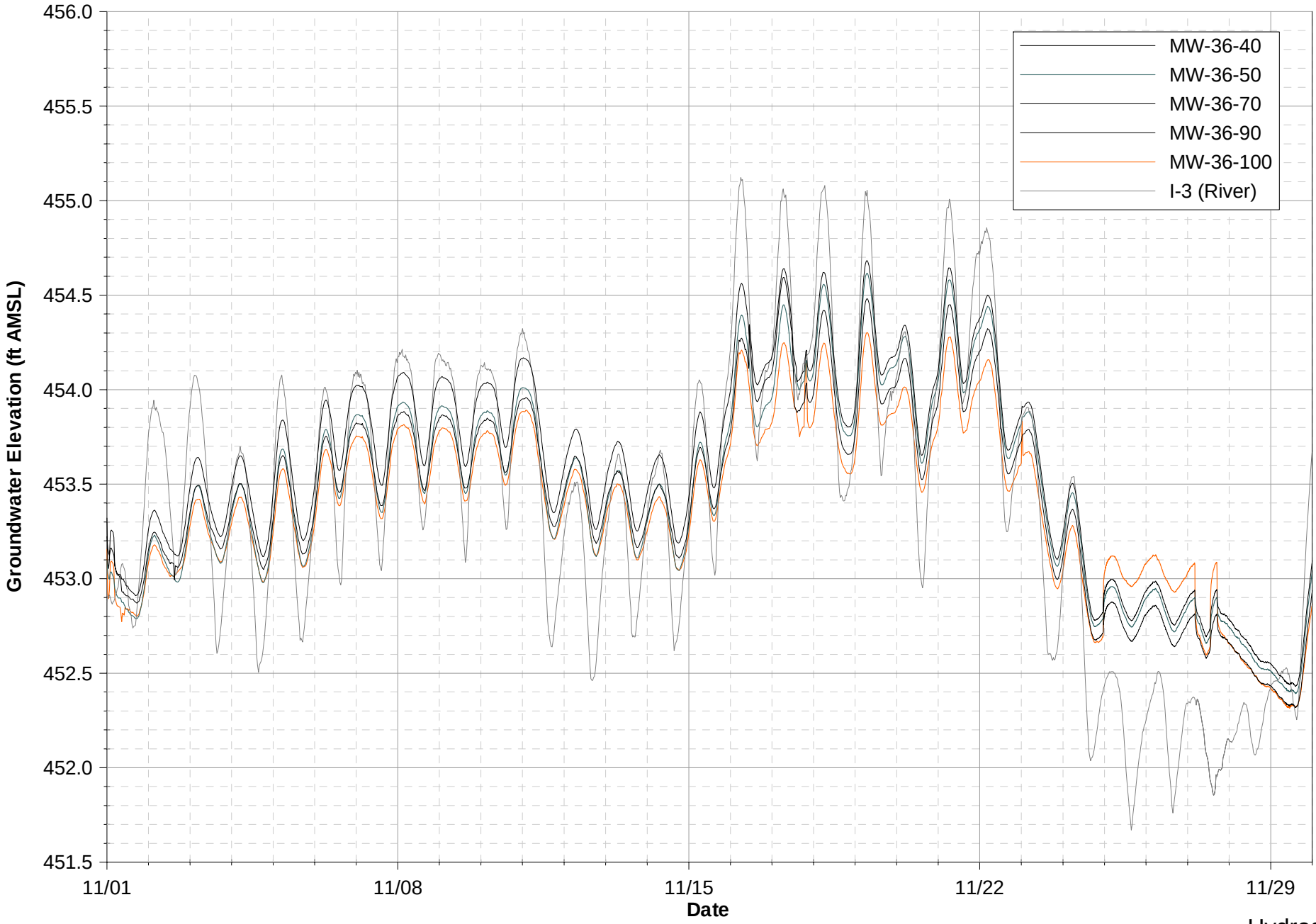


Note: Data subject to review.

Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

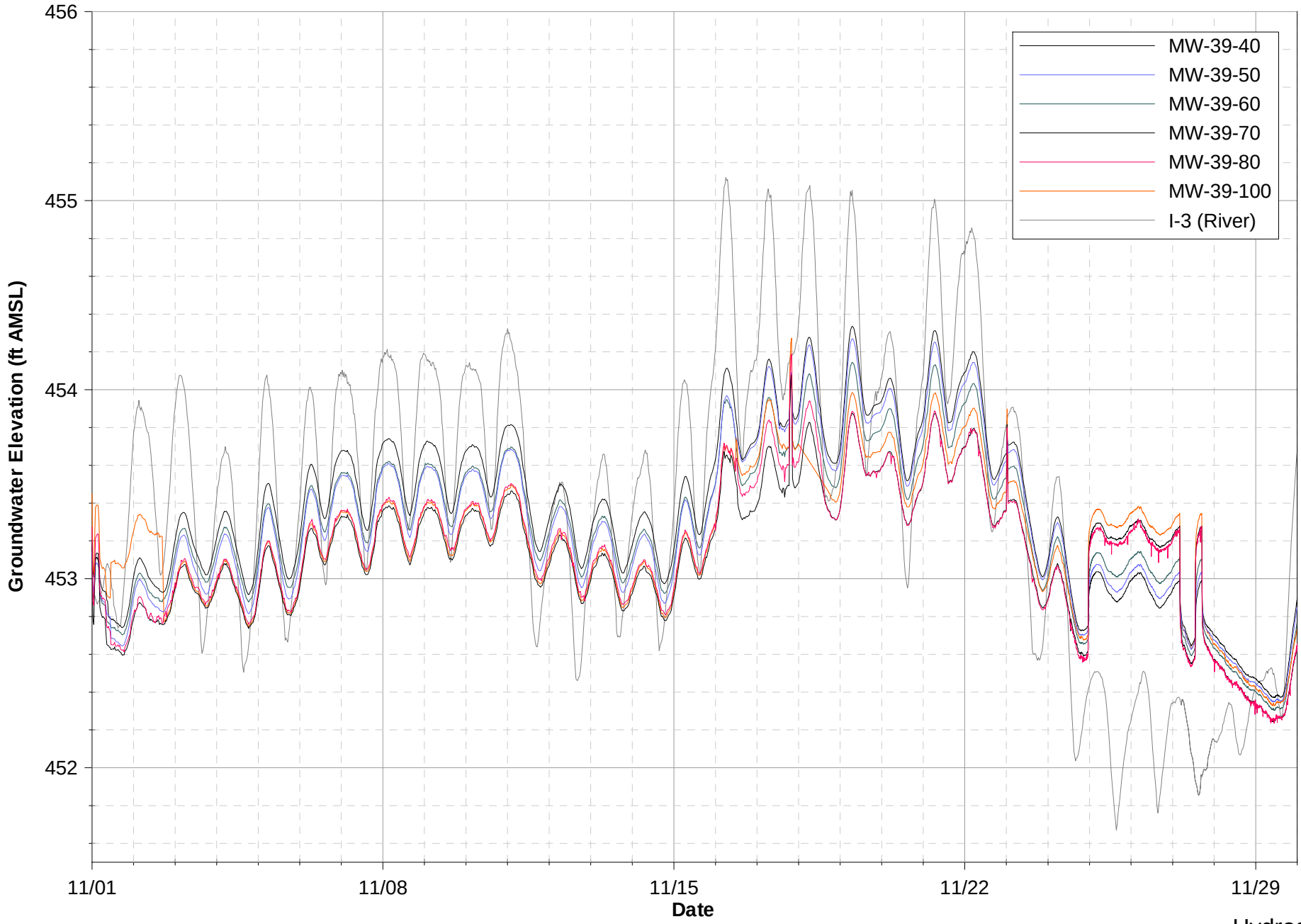


Note: MW-36-20 not included due to transducer failure. Data subject to review.

Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



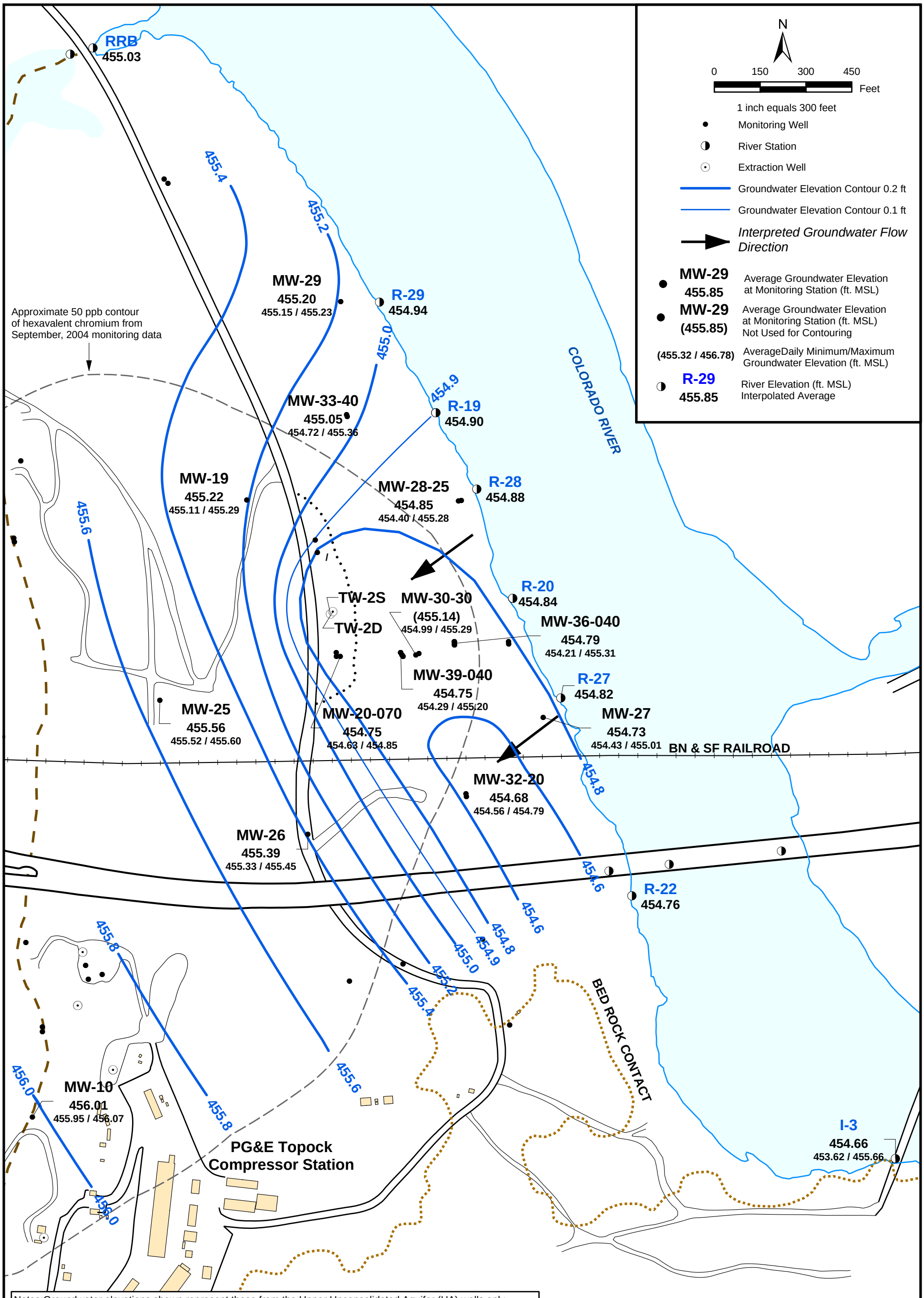
Hydrograph

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL

Attachment 2
Long-term Groundwater Gradients



Notes:Groundwater elevations shown represent those from the Upper Unconsolidated Aquifer (UA) wells only.

Groundwater elevations are averages of water levels from June 15 - November 30, 2004 measured with transducers at 30 minute intervals.

Groundwater elevations are salinity and temperature adjusted.

River elevations at R- river stations are interpolated from the average river elevations at I-3 and RRB with a resulting river gradient of 8.3 E-5 ft/ft.

Inferred gradients and flow directions are based upon available data; new wells, additional data, and further calibration may change interpretations.

MW-36-20, and MW-31-60, are excluded due to transducer failures.

FIGURE 1
AVERAGE GROUNDWATER (UPPER UA) AND RIVER ELEVATIONS, JUNE 15 - NOVEMBER 30, 2004

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PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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SFO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2004\GW\IM_AVERAGE_GROUNDWATER_UA_JUNE_NOV04.MXD
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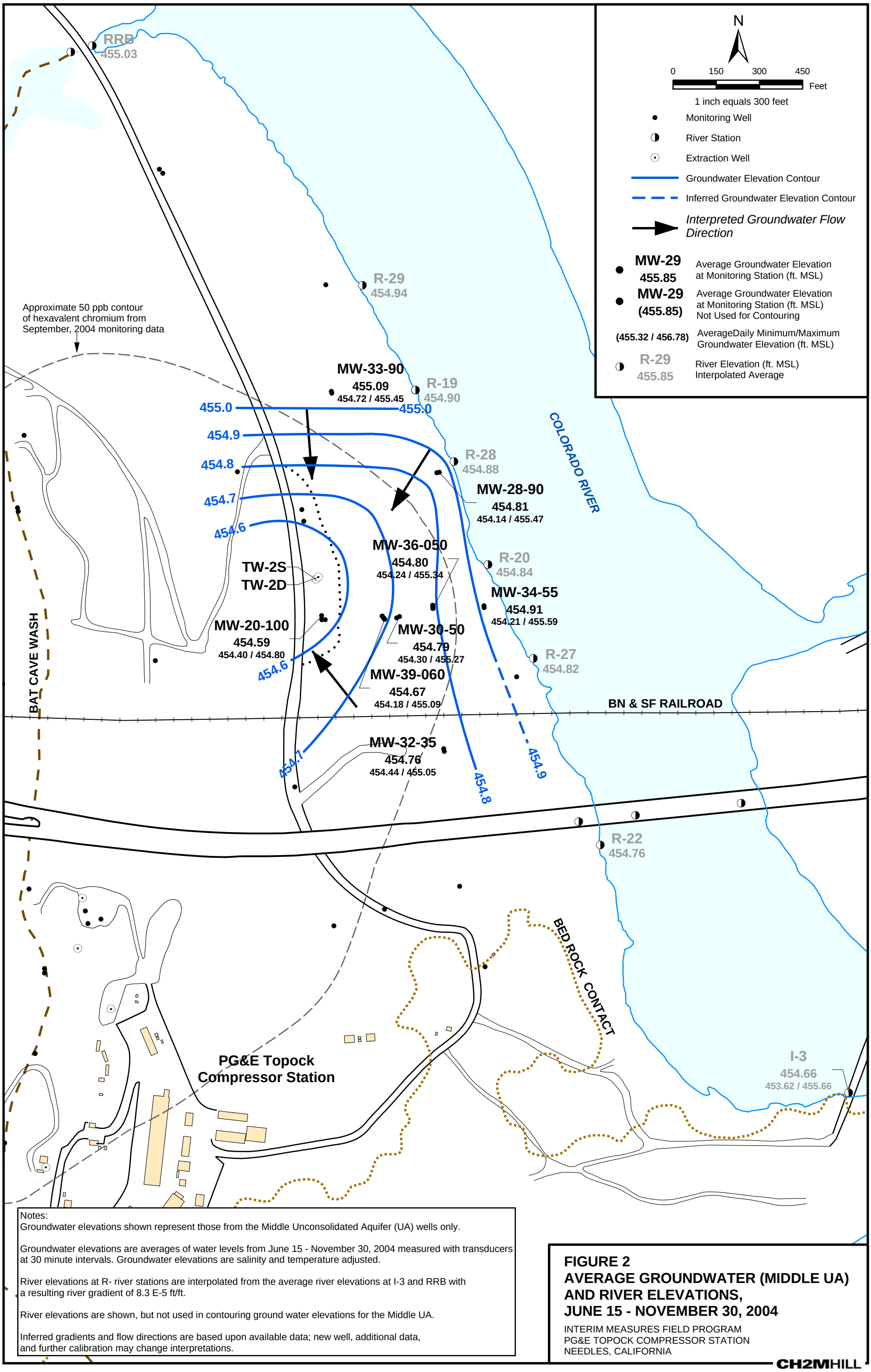

Notes:
Groundwater elevations shown represent those from the Middle Unconsolidated Aquifer (UA) wells only.

Groundwater elevations are averages of water levels from June 15 - November 30, 2004 measured with transducers at 30 minute intervals. Groundwater elevations are salinity and temperature adjusted.

River elevations at R- river stations are interpolated from the average river elevations at I-3 and RRB with a resulting river gradient of 8.3 E-5 ft/ft.

River elevations are shown, but not used in contouring ground water elevations for the Middle UA.

Inferred gradients and flow directions are based upon available data; new well, additional data, and further calibration may change interpretations.

FIGURE 2
AVERAGE GROUNDWATER (MIDDLE UA) AND RIVER ELEVATIONS, JUNE 15 - NOVEMBER 30, 2004

INTERIM MEASURES FIELD PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

SFO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2004\GW\IM_AVERAGE_GROUNDWATER_MA_JUNE_NOV04.MXD
IM_AVERAGE_GROUNDWATER_MA_JUNE_NOV04.PDF 12/7/2004 19:11:39

N

0 150 300 450 Feet

1 inch equals 300 feet

- Monitoring Well
- River Station
- Extraction Well
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Interpreted Groundwater Flow Direction
- **MW-29 455.85** Average Groundwater Elevation at Monitoring Station (ft. MSL)
- **MW-29 (455.85)** Average Groundwater Elevation at Monitoring Station (ft. MSL) Not Used for Contouring
- **(455.32 / 456.78)** AverageDaily Minimum/Maximum Groundwater Elevation (ft. MSL)
- R-29 455.85 River Elevation (ft. MSL) Interpolated Average

RRB 455.03

MW-35-135 455.07 454.89 / 455.26

455.0

R-29 454.94

Approximate 50 ppb contour of hexavalent chromium from September, 2004 monitoring data

454.9

R-19 454.90

454.8

454.7

COLORADO RIVER

R-28 454.88

MW-31-135 454.65 454.41 / 454.92

MW-36-090 (454.81) 454.22 / 455.30

R-20 454.84

TW-2S TW-2D

MW-39-100 454.88 454.51 / 455.24

MW-34-80 455.06 454.38 / 455.70

MW-20-130 454.61 454.36 / 454.90

R-27 454.82

BAT CAVE WASH

BN & SF RAILROAD

MW-36-100 454.91 454.43 / 455.38

R-22 454.76

BEDROCK CONTACT

PG&E Topock Compressor Station

I-3 454.66 453.62 / 455.66

Notes:
Groundwater elevations shown represent those from the Lower Unconsolidated Aquifer (UA) wells only.

Groundwater elevations are averages of water levels from June 15 - November 30, 2004 measured with transducers at 30 minute intervals. Groundwater elevations are salinity and temperature adjusted.

River elevations at R- river stations are interpolated from the average river elevations at I-3 and RRB with a resulting river gradient of 8.3 E-5 ft/ft.

River elevations are shown, but not used in contouring ground water elevations for the Lower UA.

Inferred gradients and flow directions are based upon available data; new well, additional data, and further calibration may change interpretations.

FIGURE 3
AVERAGE GROUNDWATER (LOWER UA) AND RIVER ELEVATIONS, JUNE 15 - NOVEMBER 30, 2004

INTERIM MEASURES FIELD PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

SFO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2004\GW\IM_AVERAGE_GROUNDWATER_LA_JUNE_NOV04B.MXD
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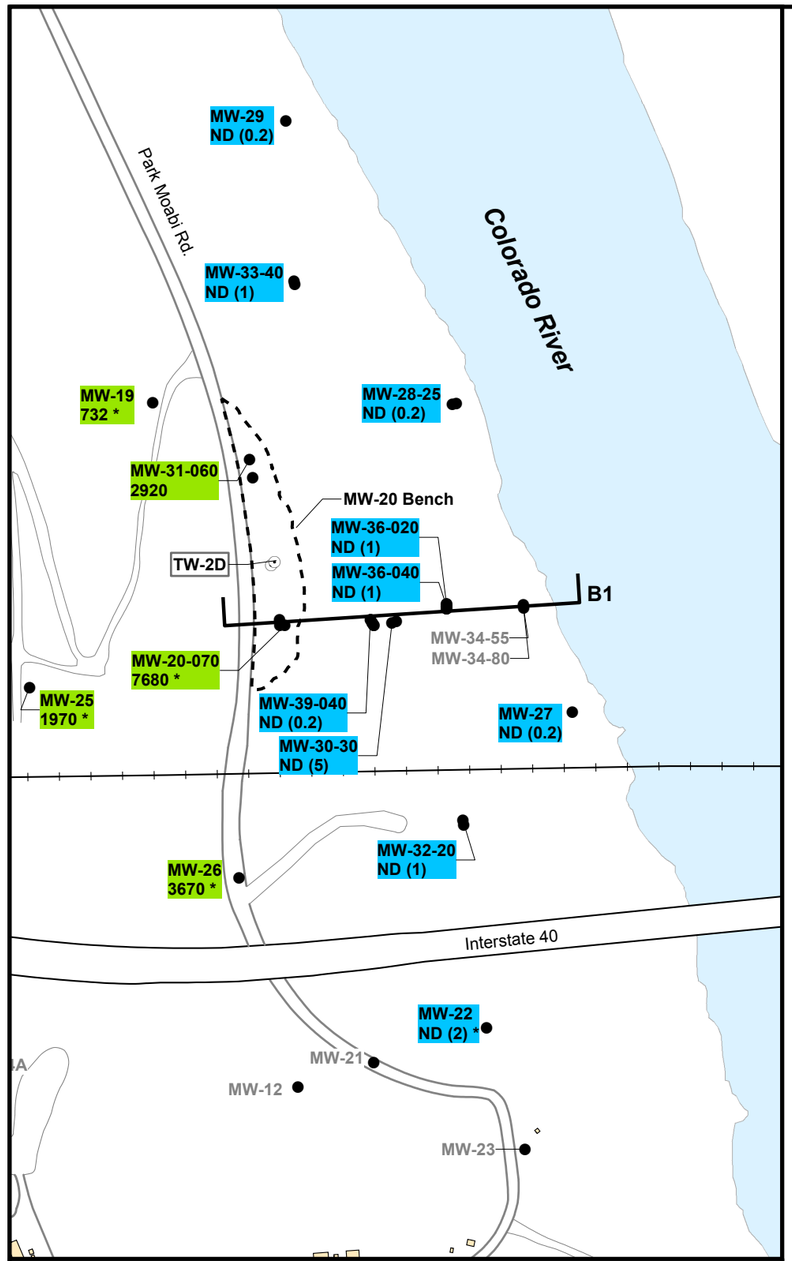
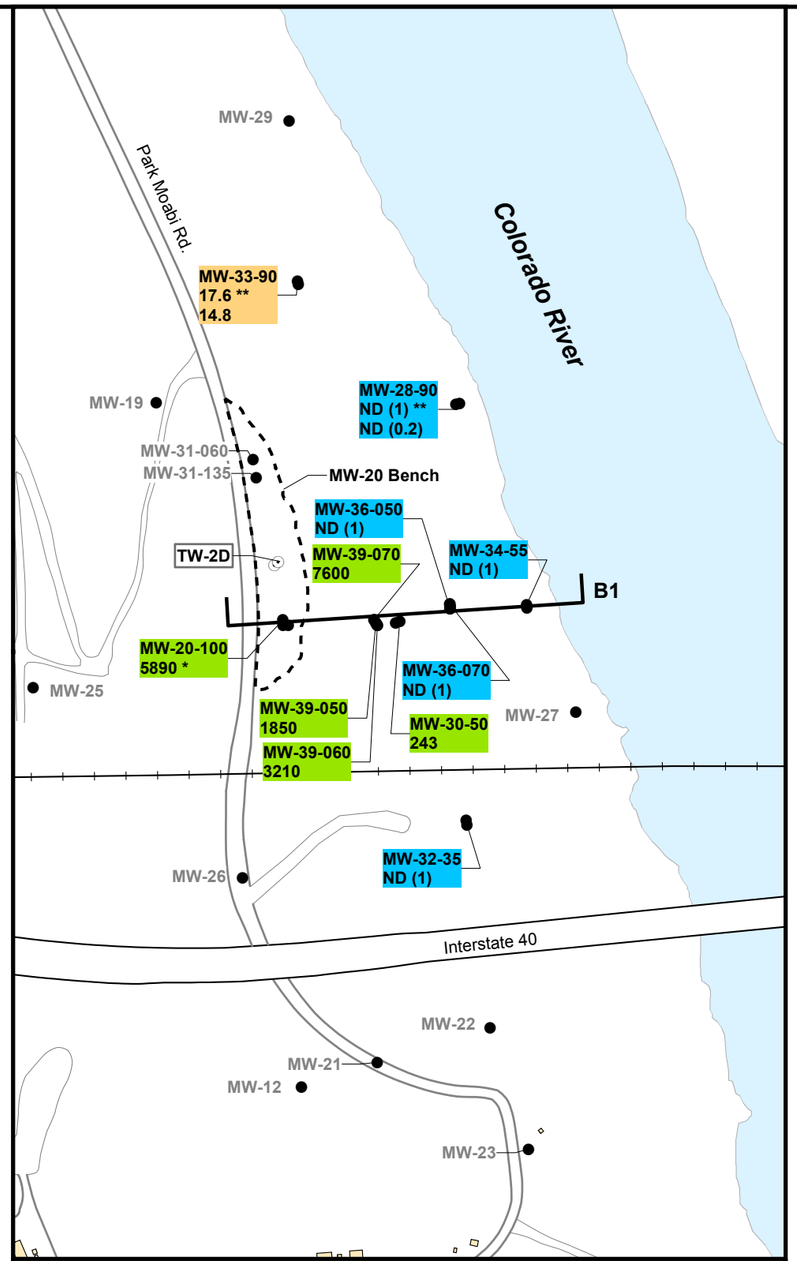
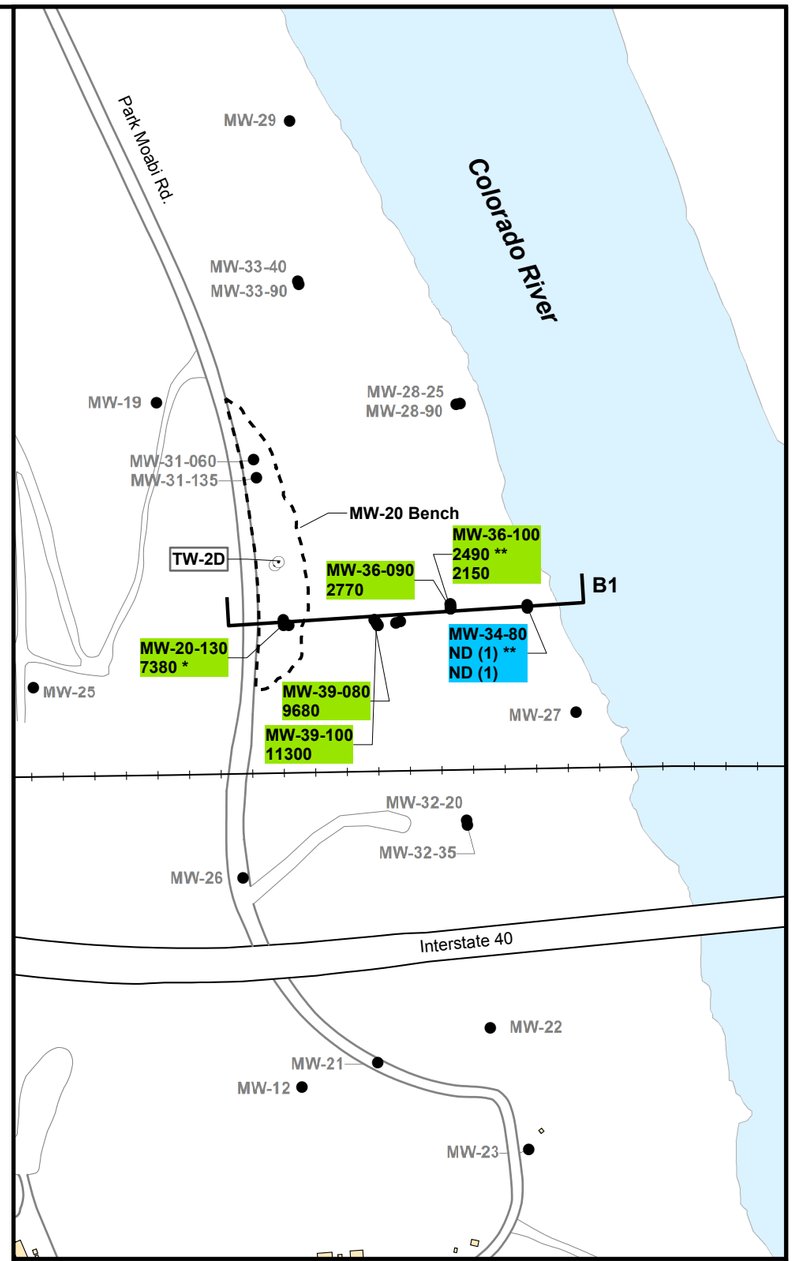
Attachment 3
Hexavalent Chromium Concentration Maps



Shallow Wells



Middle Wells



Deep Wells

Legend

- *Extraction Well*
- *Monitoring Well*

- ND (1) Not detected at listed reporting limit (ppb)
- 41 Less than 50 ppb
- 3,810 Greater than 50 ppb

Notes:
Results marked * are from September 20-24 2004 Quarterly sampling event.
Results marked ** are from November 2 2004 Bi-weekly sampling event.
All other results are from November 15-18 2004 Monthly sampling event.

Hexavalent Chromium Concentrations in Groundwater
November Monthly Monitoring Event
Concentrations in micrograms per liter (µg/L or ppb)
ND = not detected at listed reporting limit.

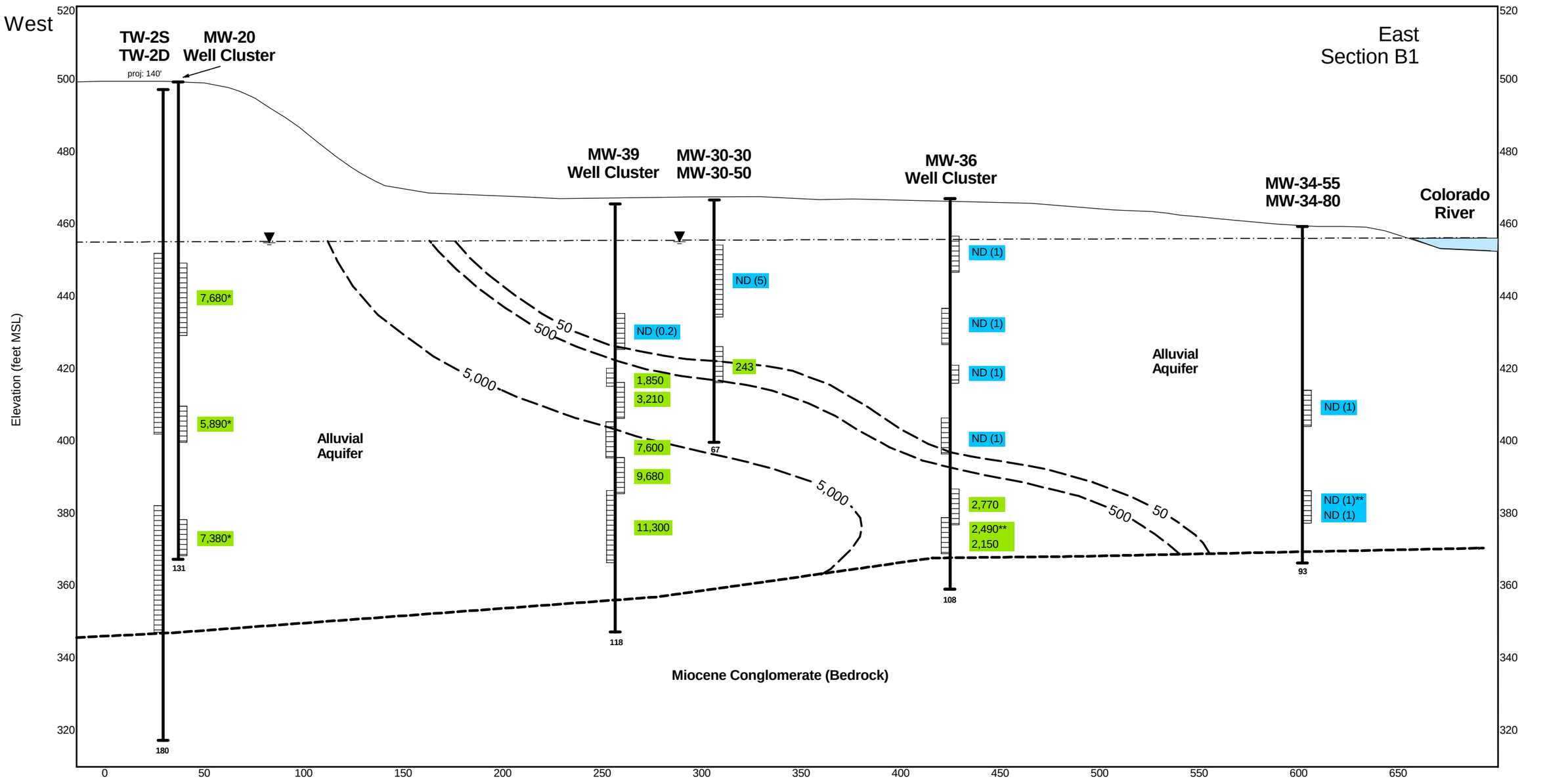
N

0 350 700 Feet

1 inch equals 350 feet

Figure 3-1
Hexavalent Chromium Concentrations in Alluvial Aquifer, November 2004

INTERIM MEASURES PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



Notes:
Results marked * are from September 20-24 2004 sampling event.
Results marked ** are from November 2 2004 biweekly sampling event.
All other results are from November 16-18 2004 sampling event.

Figure 3-2
Hydrogeologic Section B1
Hexavalent Chromium Concentrations
November 2004

INTERIM MEASURES PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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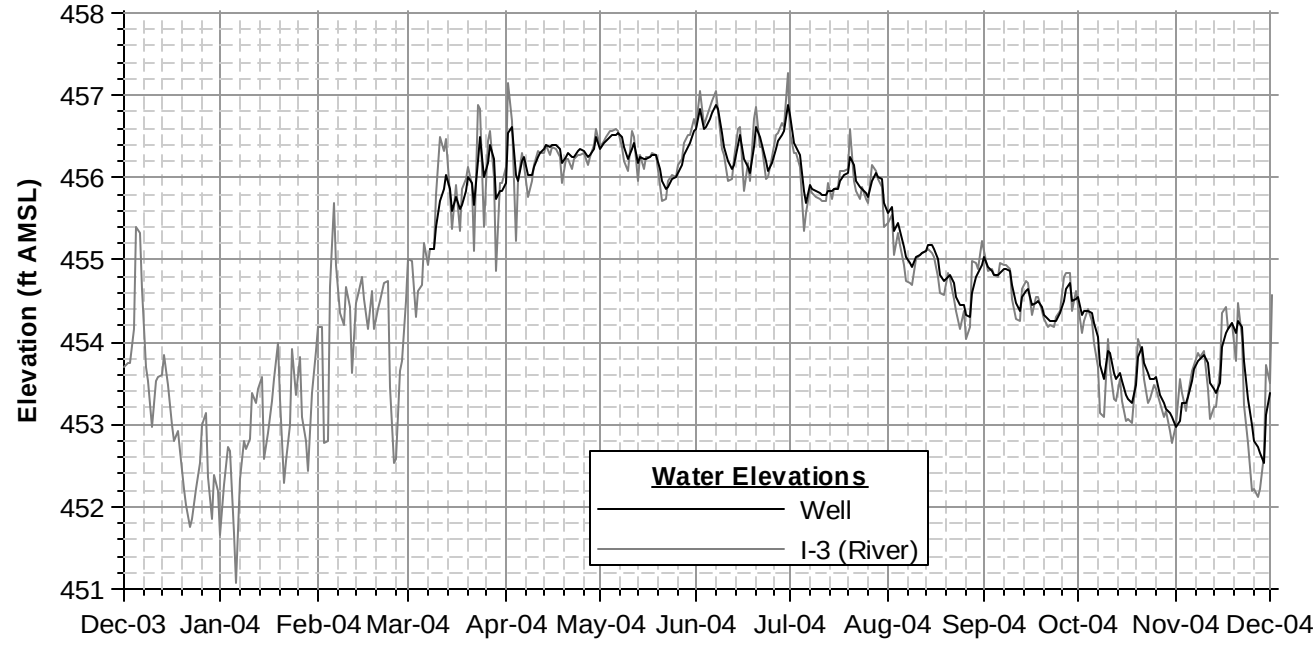
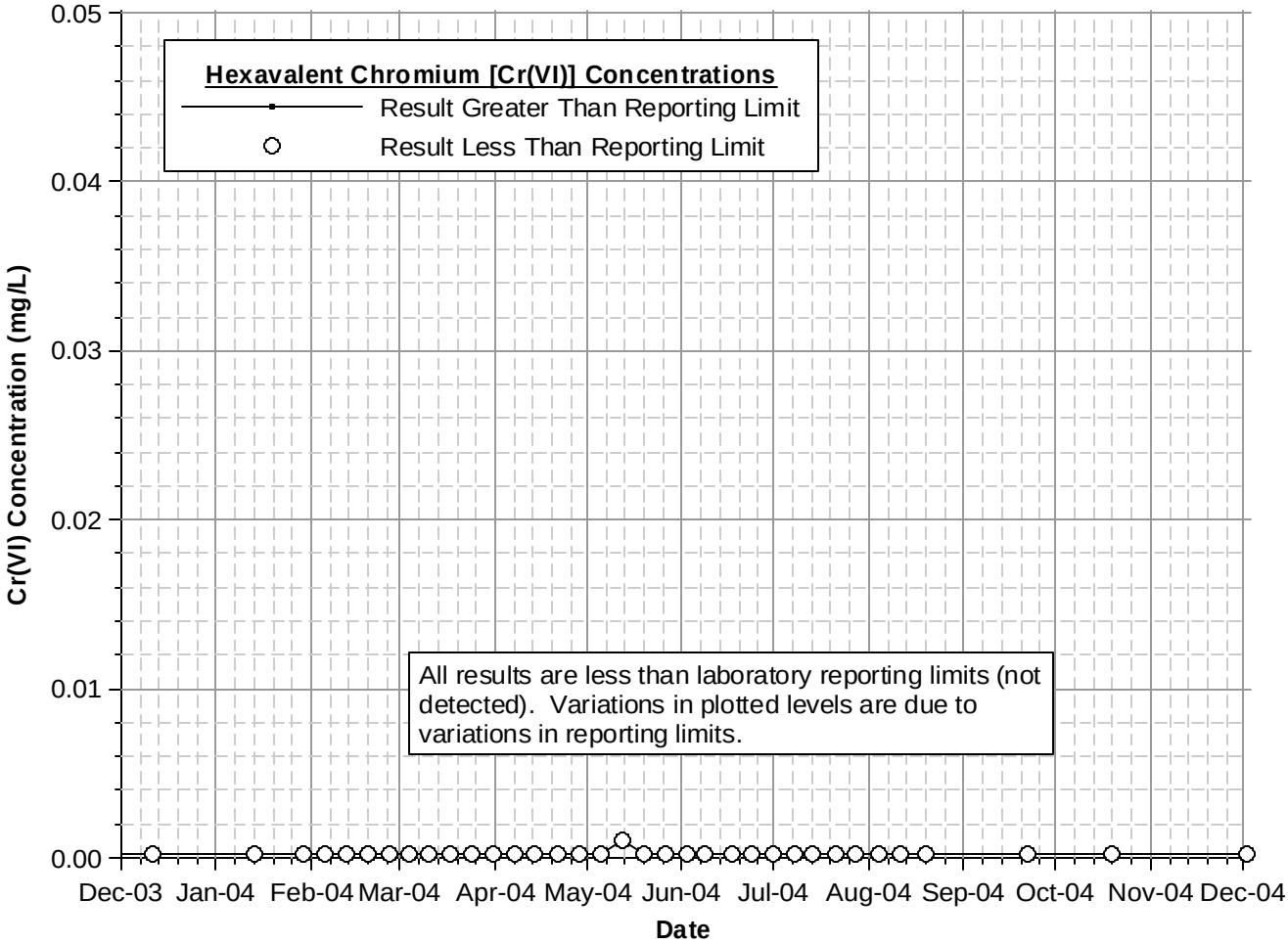
Attachment 4
Trend Graphs





PMR No. 12 - Data Through 12/02/04
MW-27 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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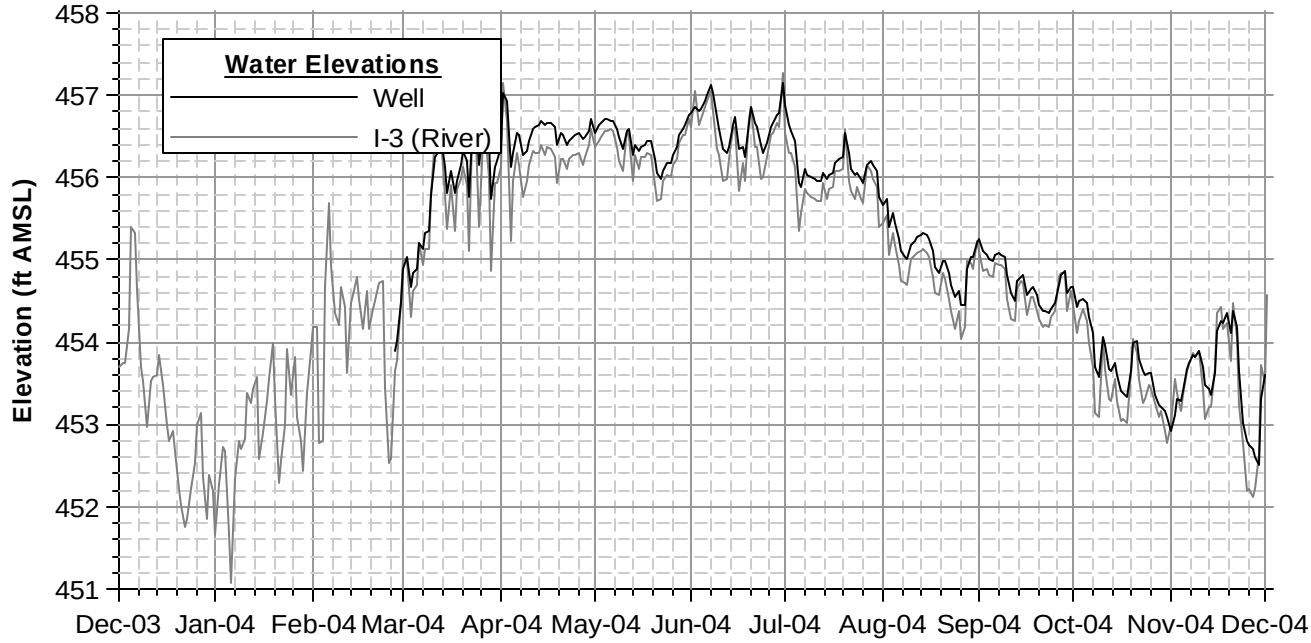

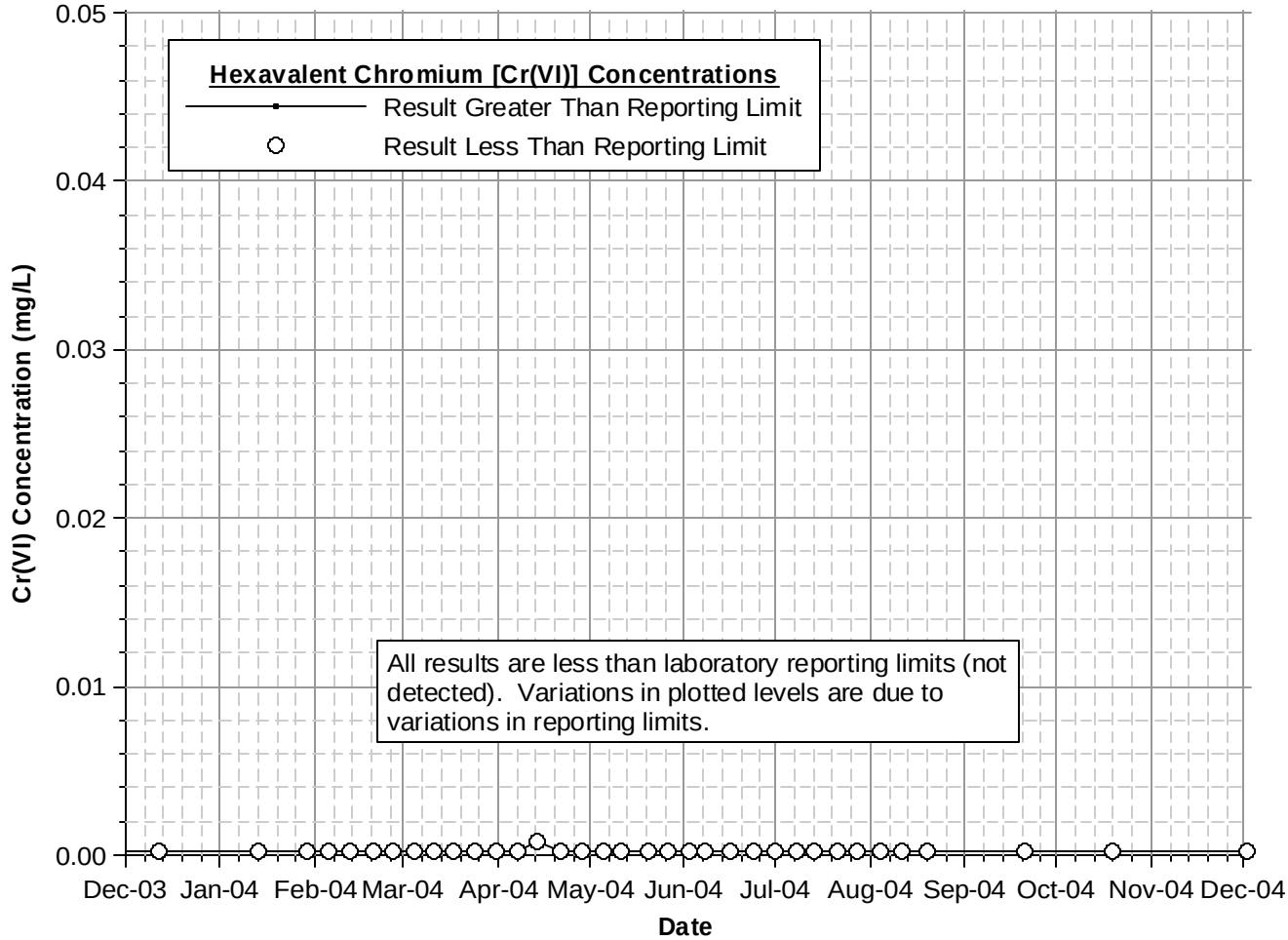

PMR No.12 - Data Through 12/02/04
MW-28-25 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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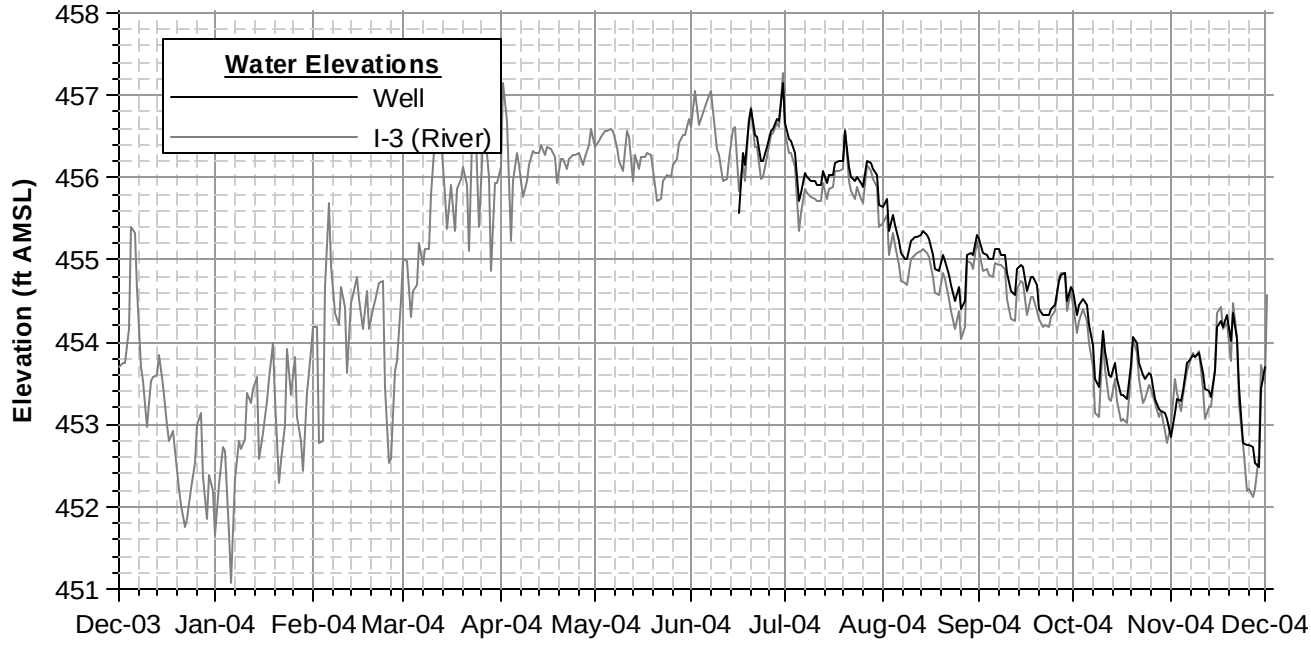

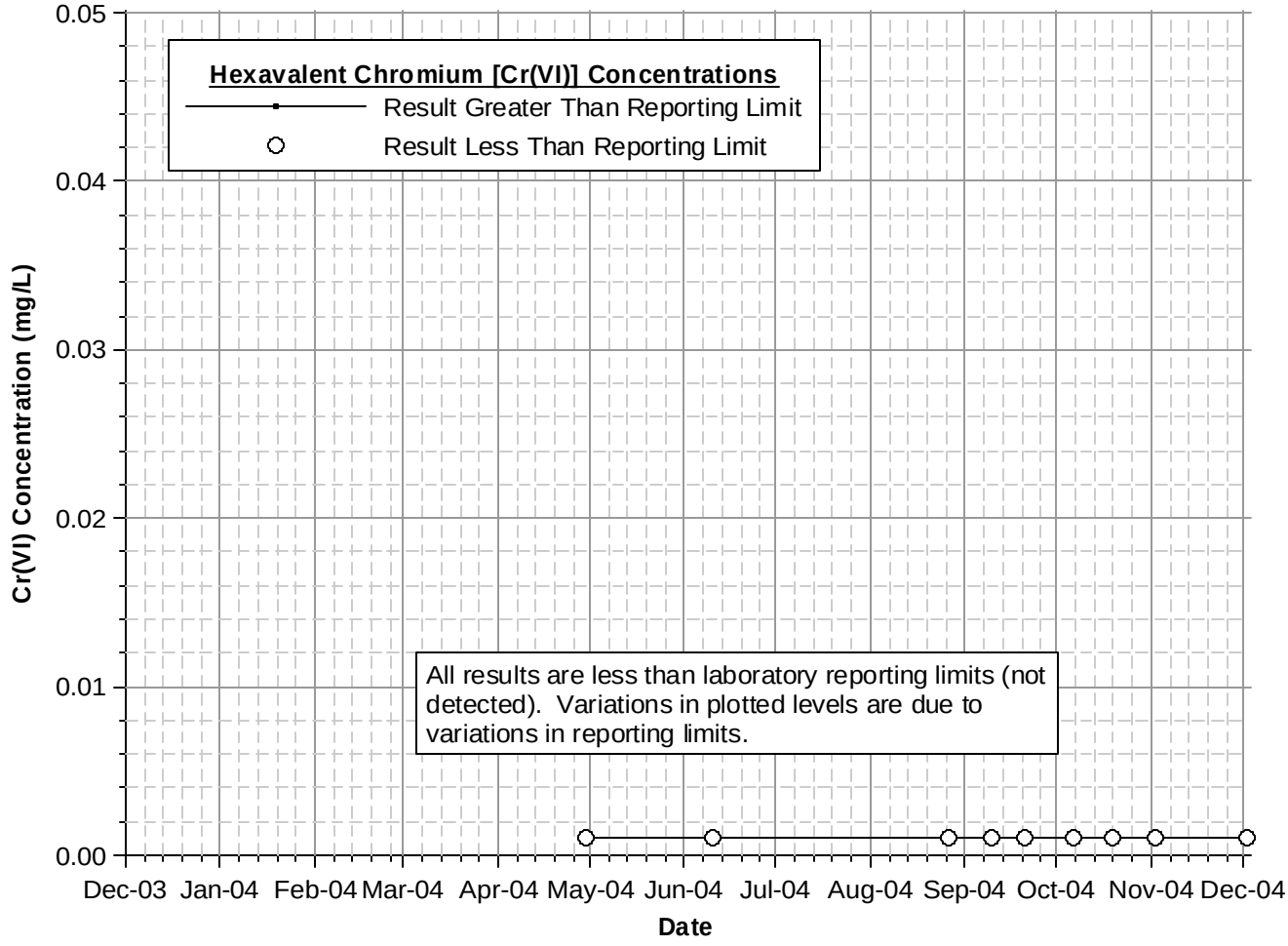

PMR No.12 - Data Through 12/02/04
MW-28-90 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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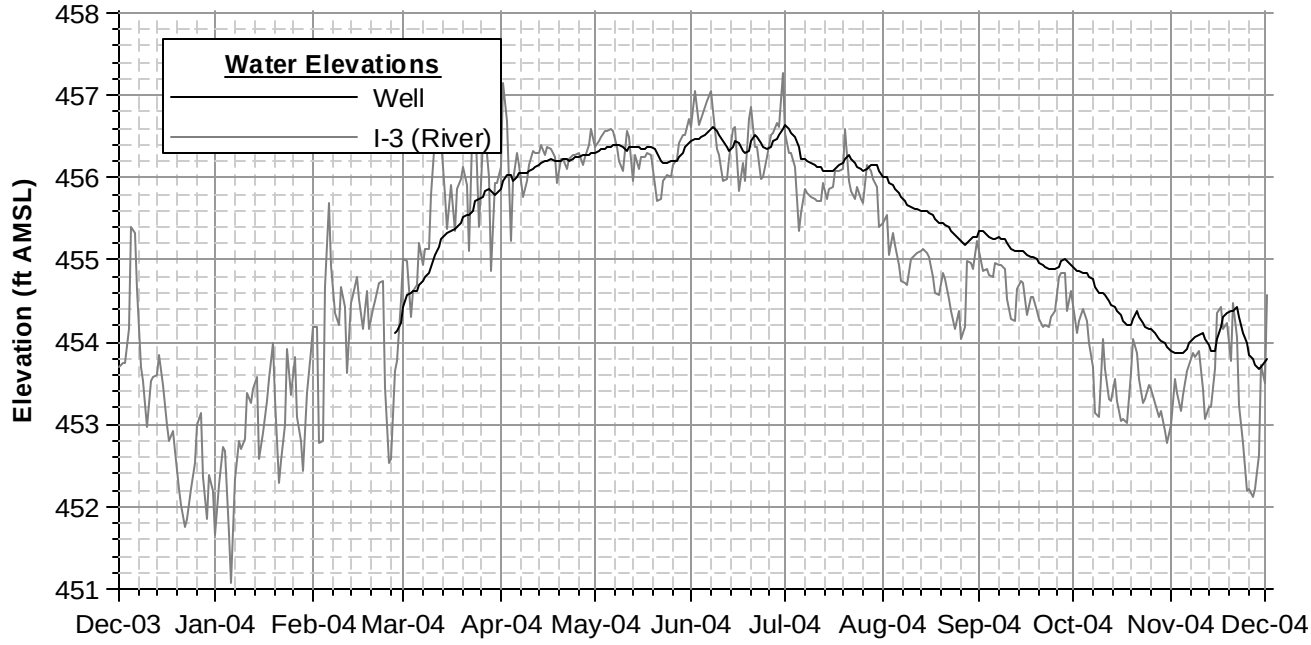

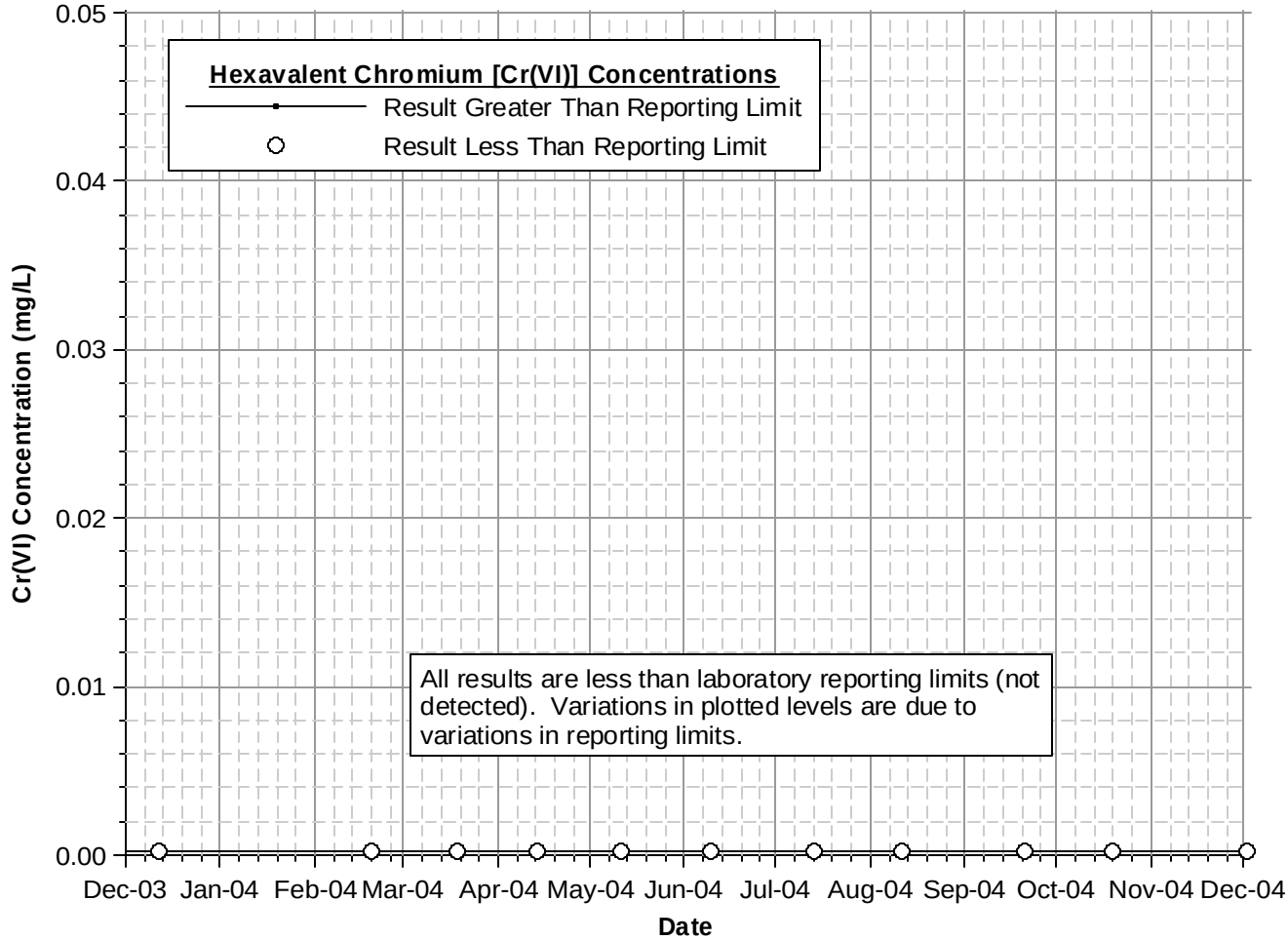

PMR No.12 - Data Through 12/02/04
MW-29 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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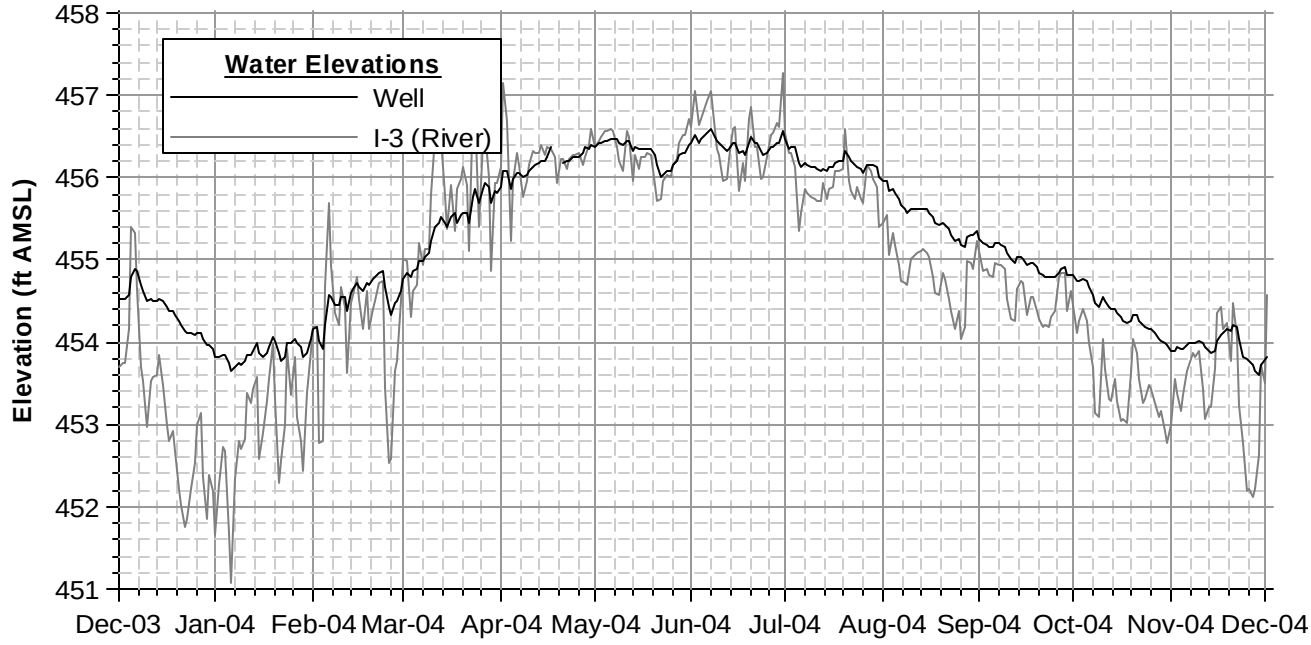

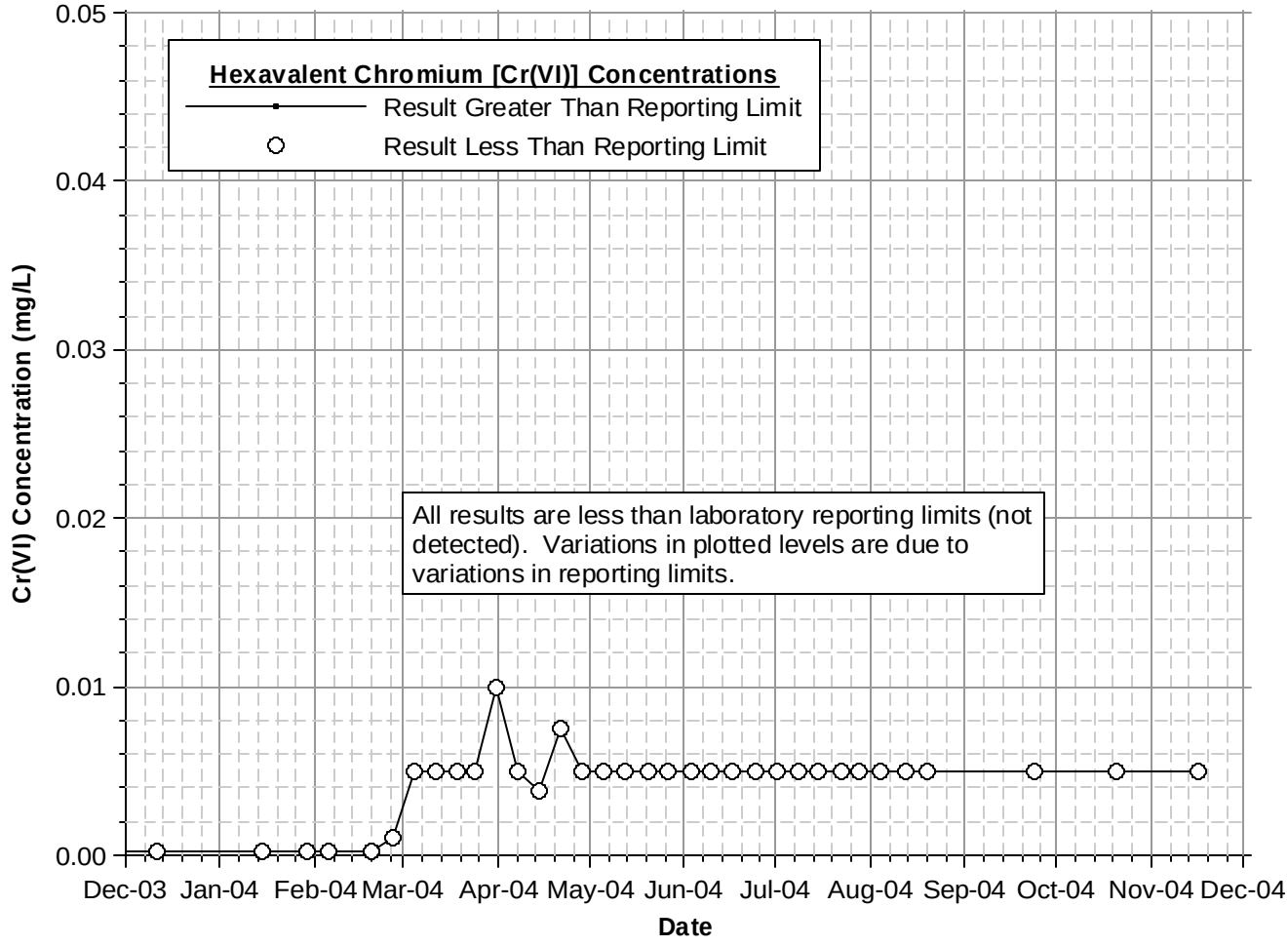

PMR No.12 - Data Through 12/02/04
MW-30-30 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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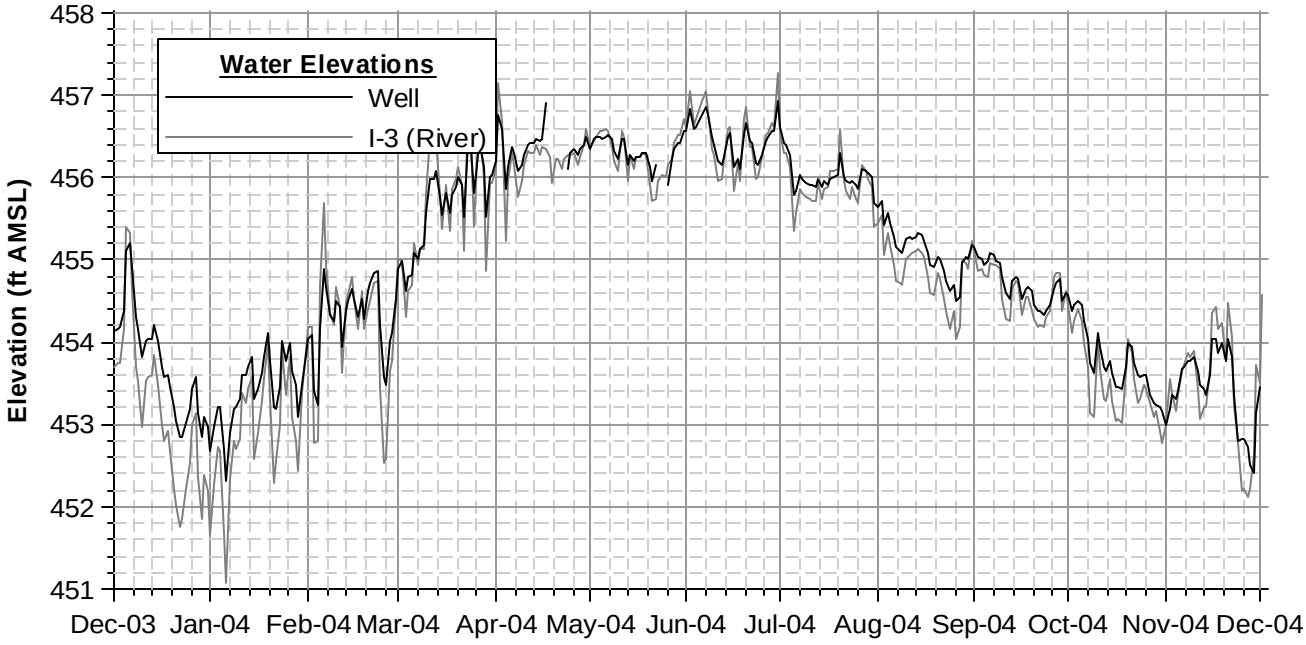

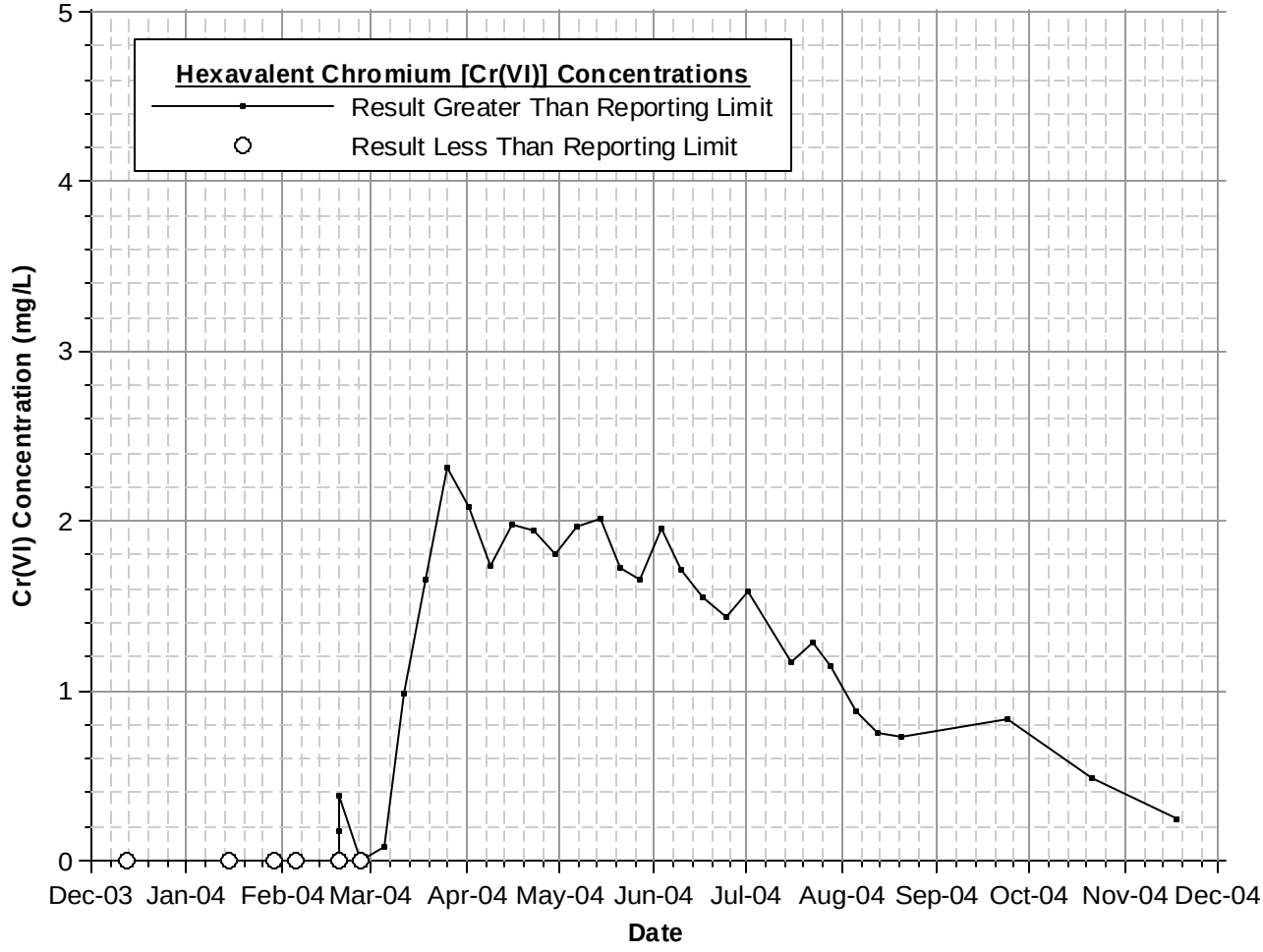

PMR No.12 - Data Through 12/02/04
MW-30-50 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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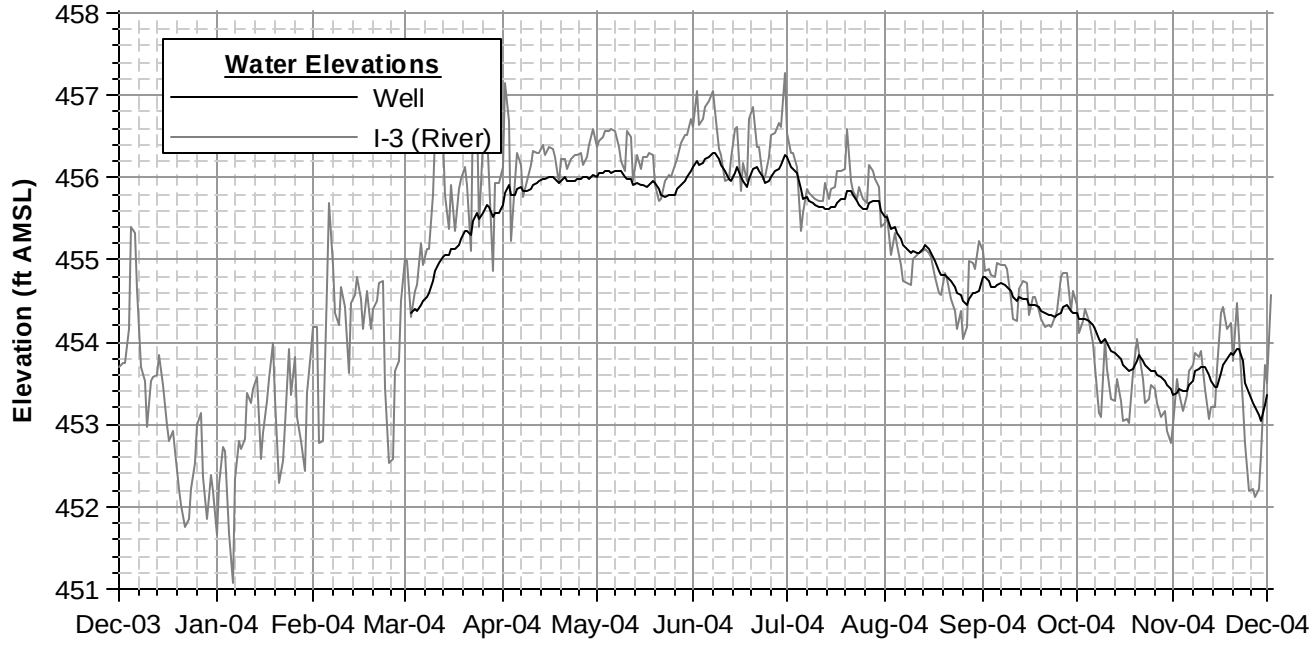

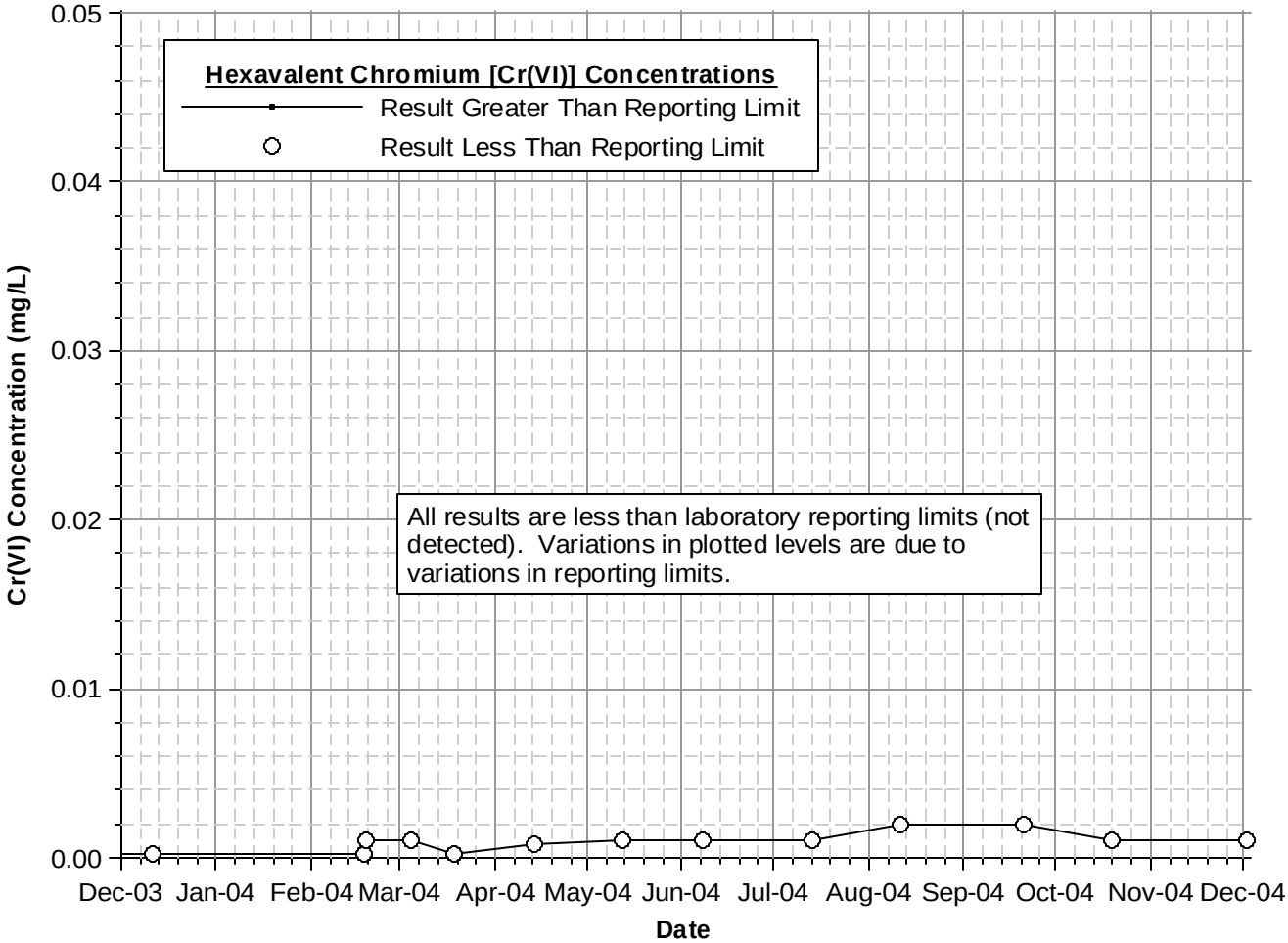

PMR No.12 - Data Through 12/02/04
MW-32-20 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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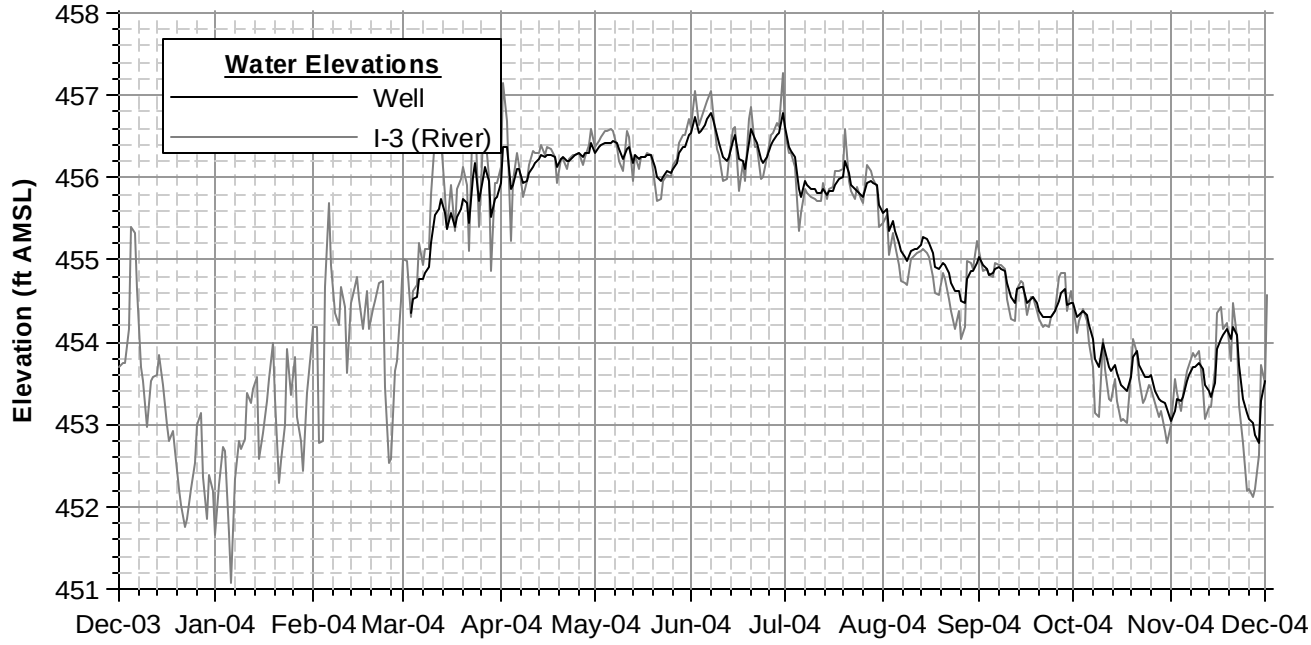

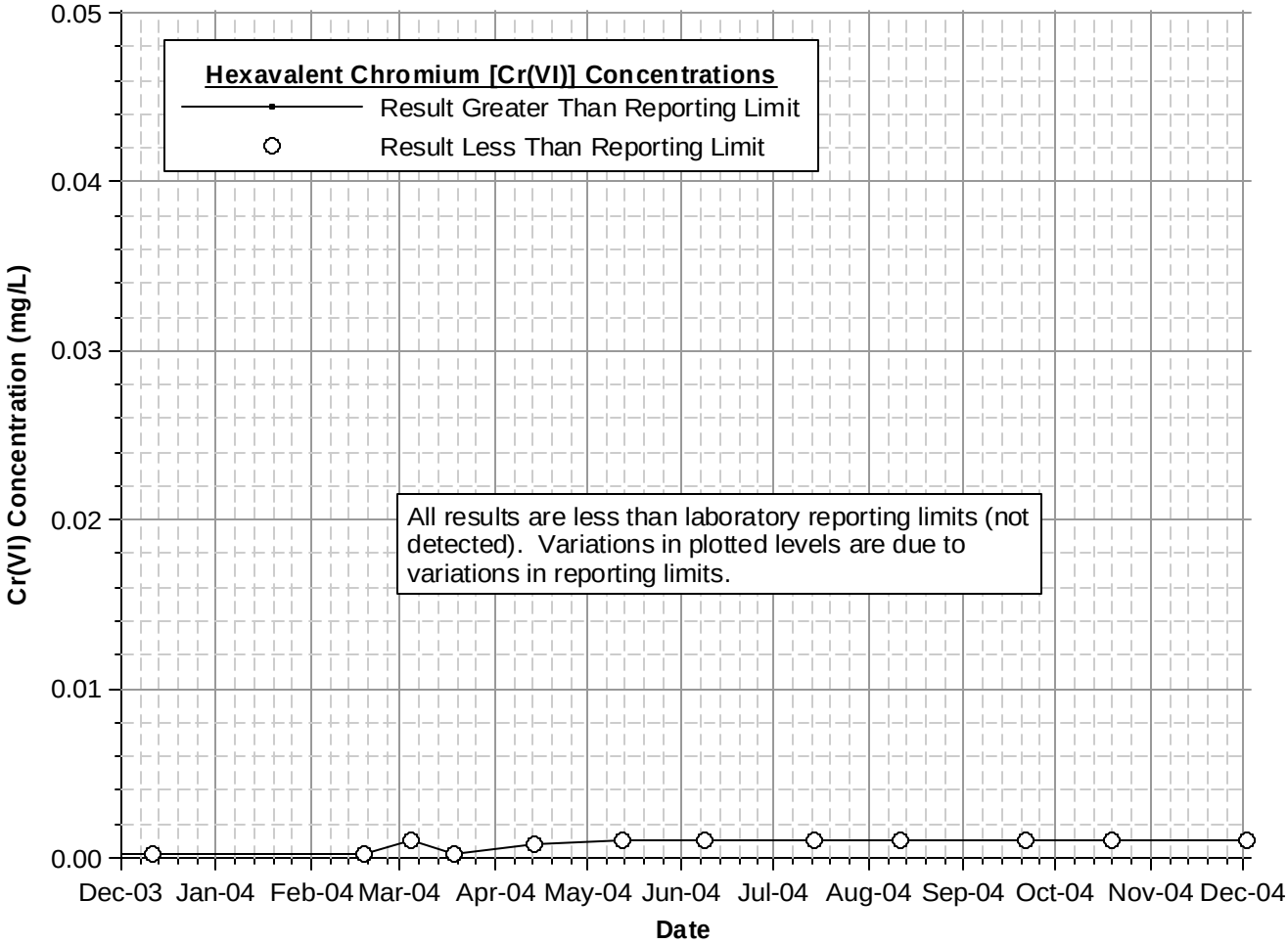

PMR No.12 - Data Through 12/02/04
MW-32-35 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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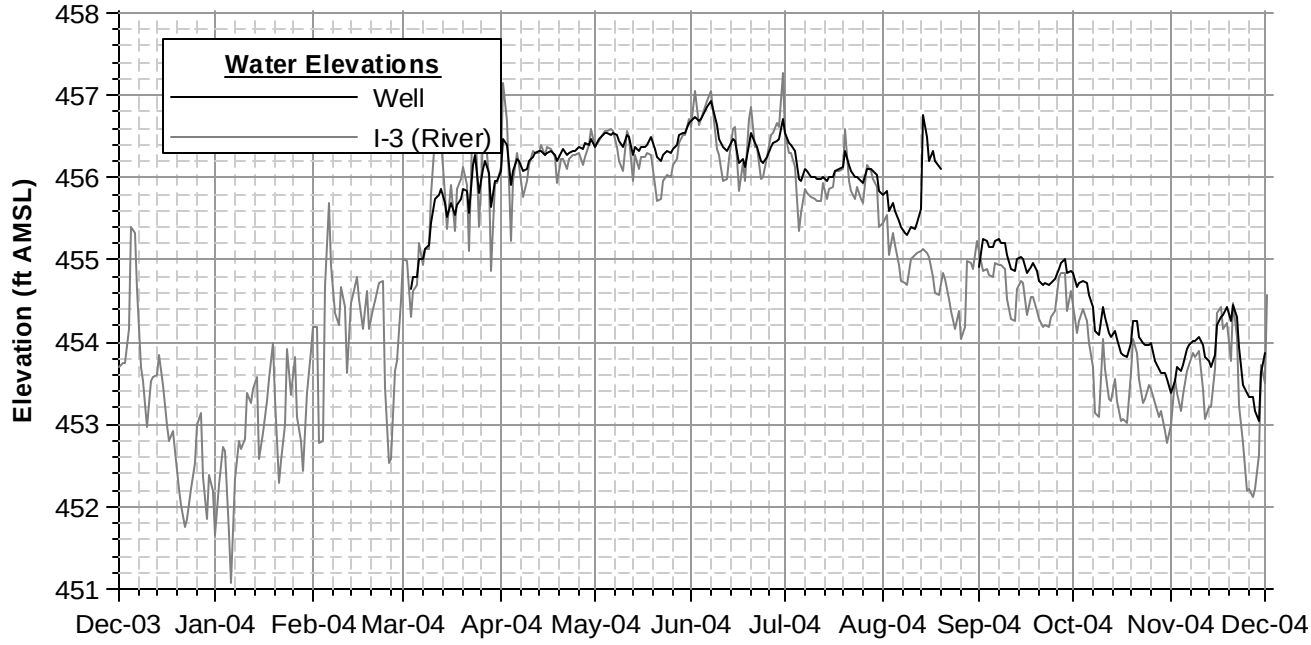

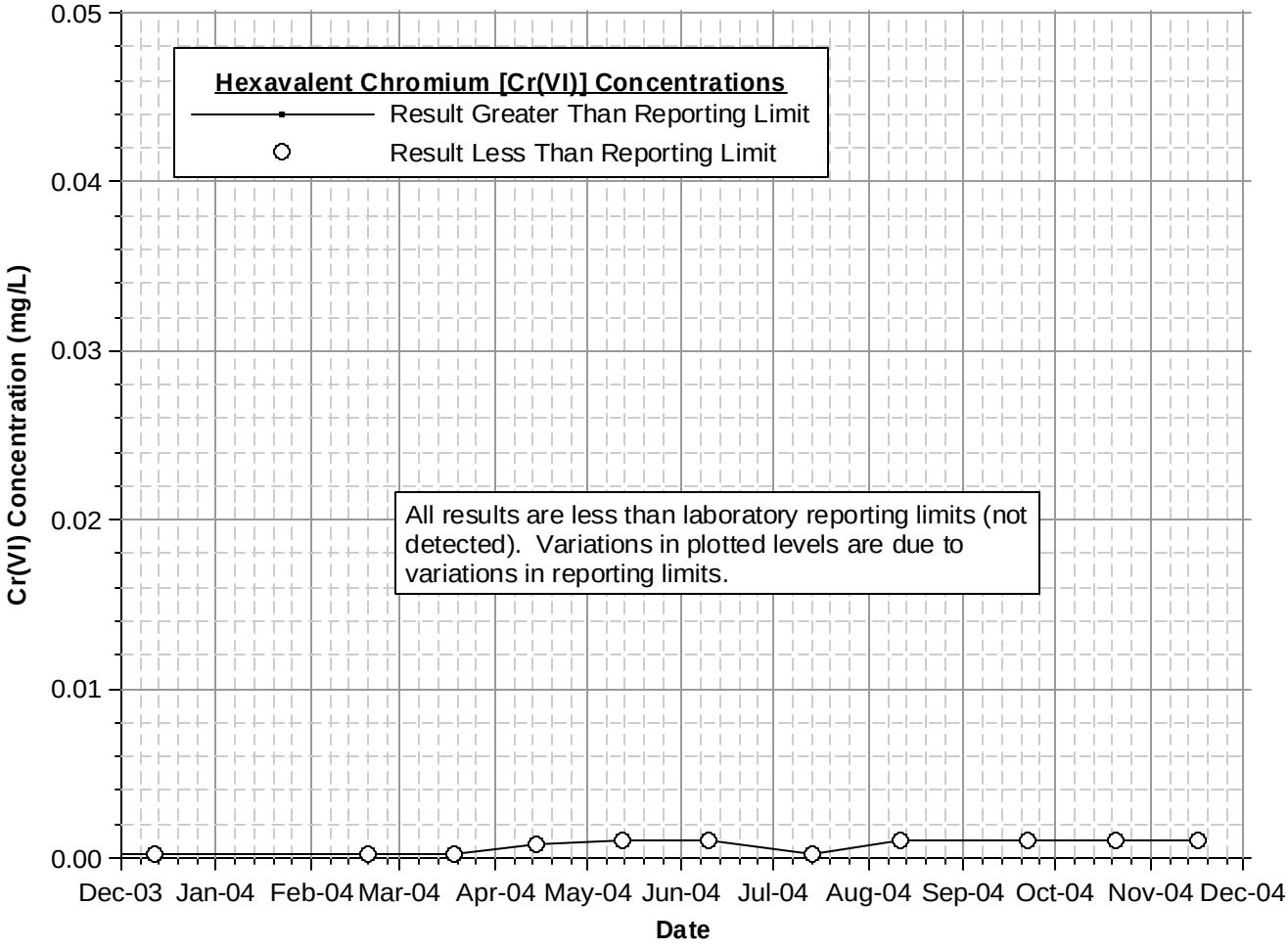

PMR No.12 - Data Through 12/02/04
MW-33-40 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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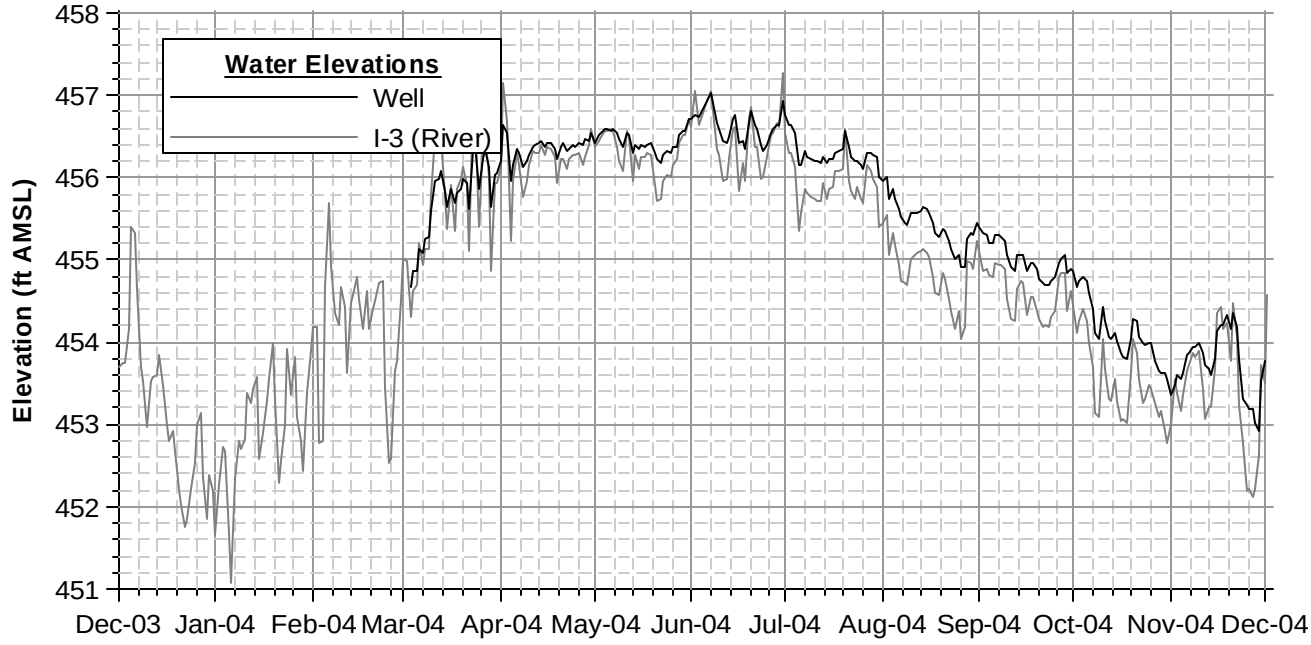

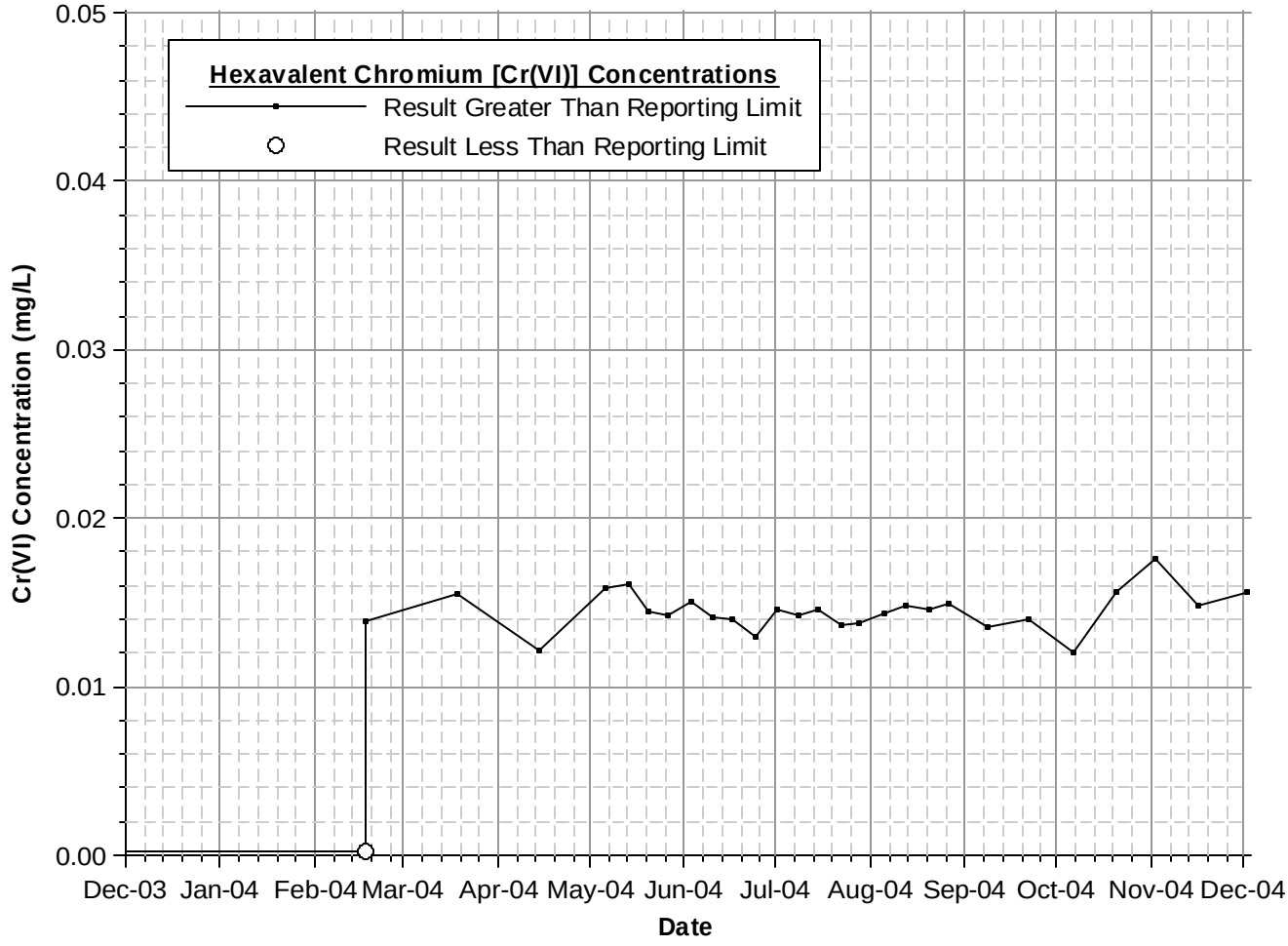

PMR No.12 - Data Through 12/02/04
MW-33-90 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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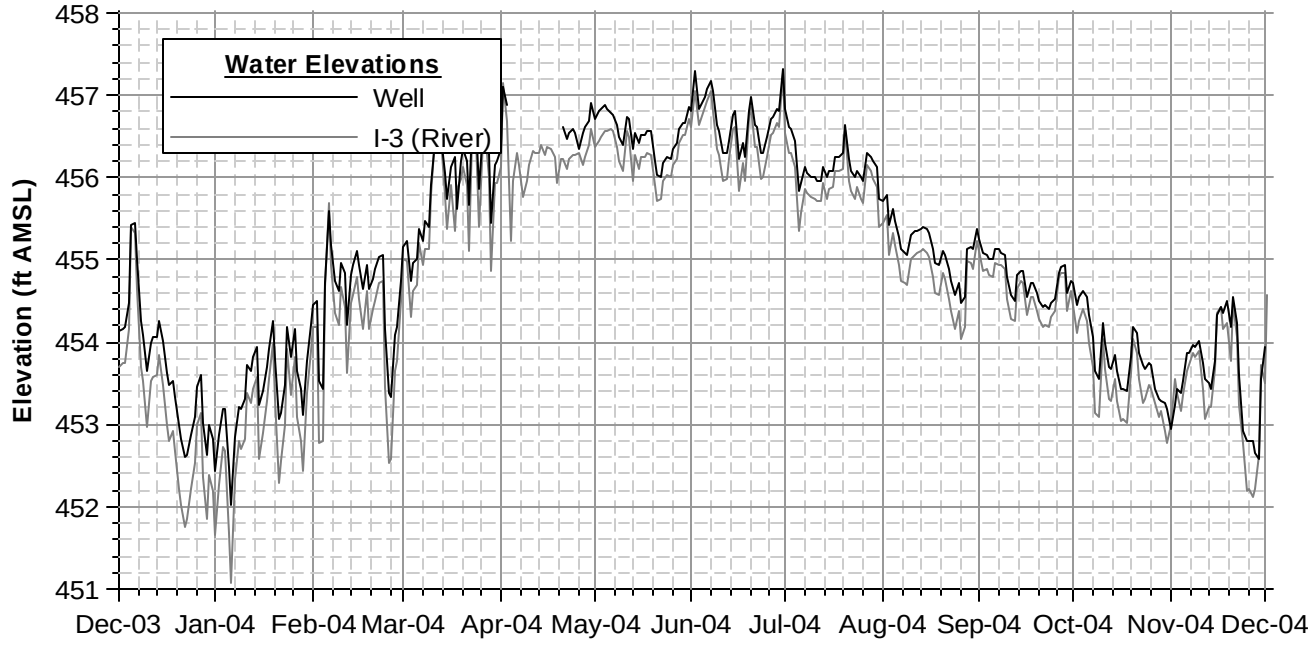

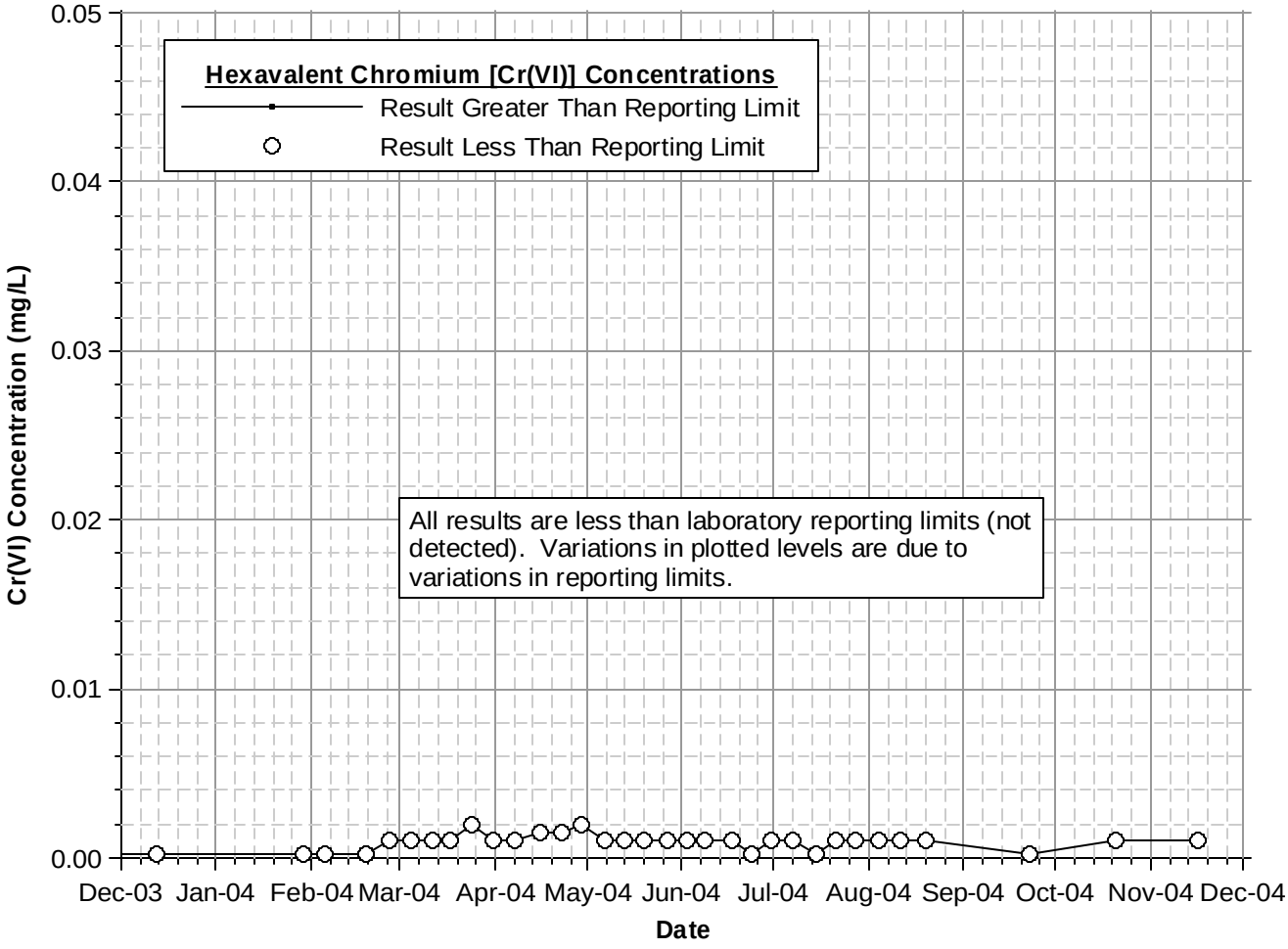

PMR No.12 - Data Through 12/02/04
MW-34-55 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

CH2MHILL

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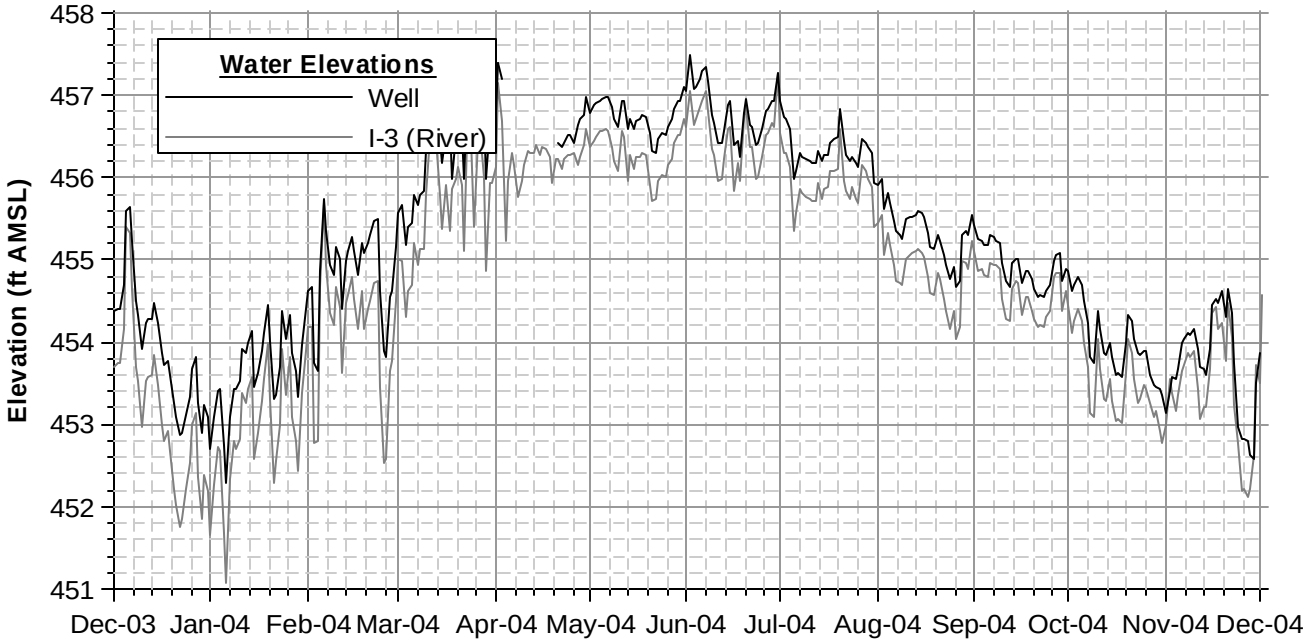

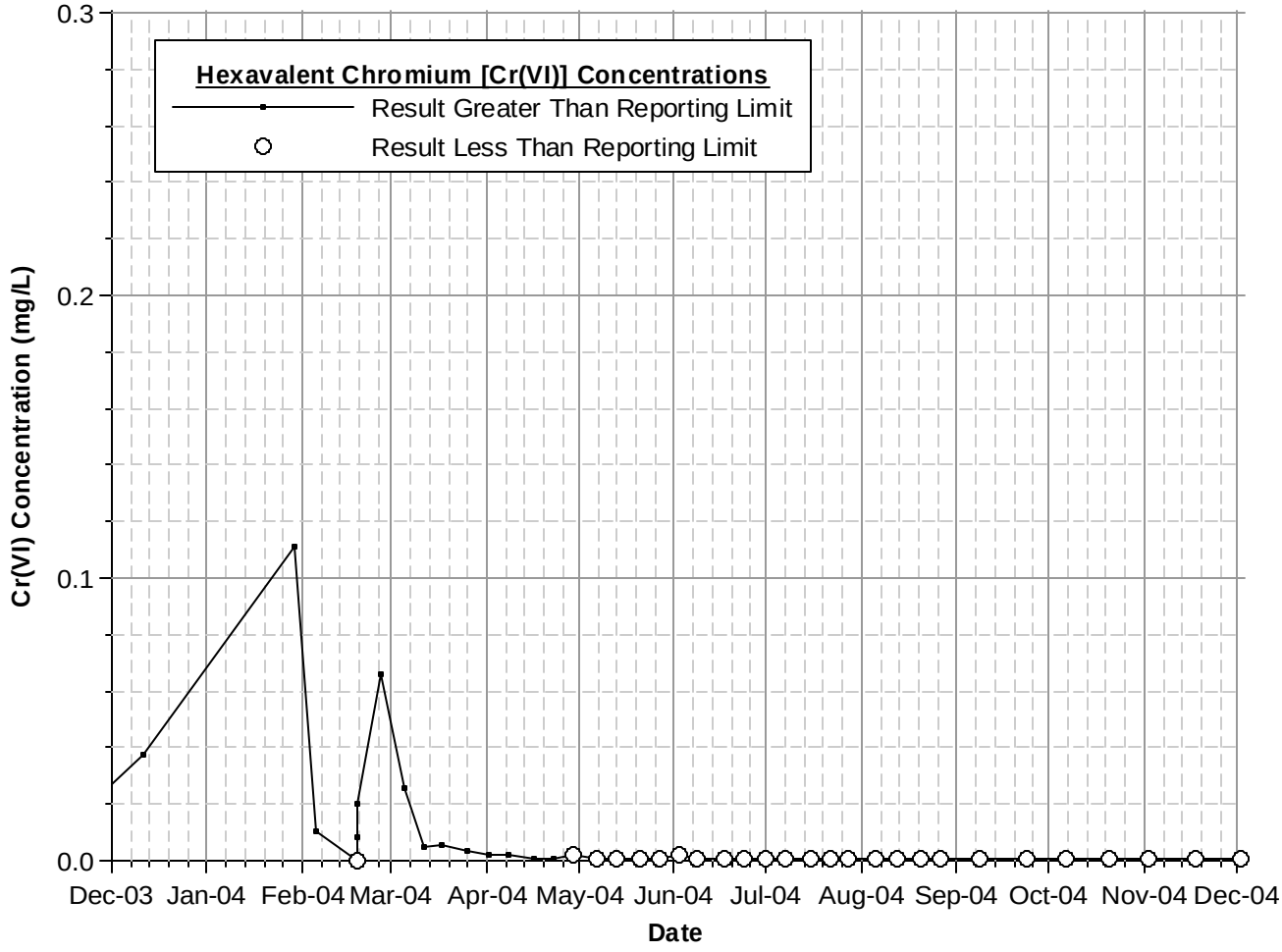

PMR No.12 - Data Through 12/02/04
MW-34-80 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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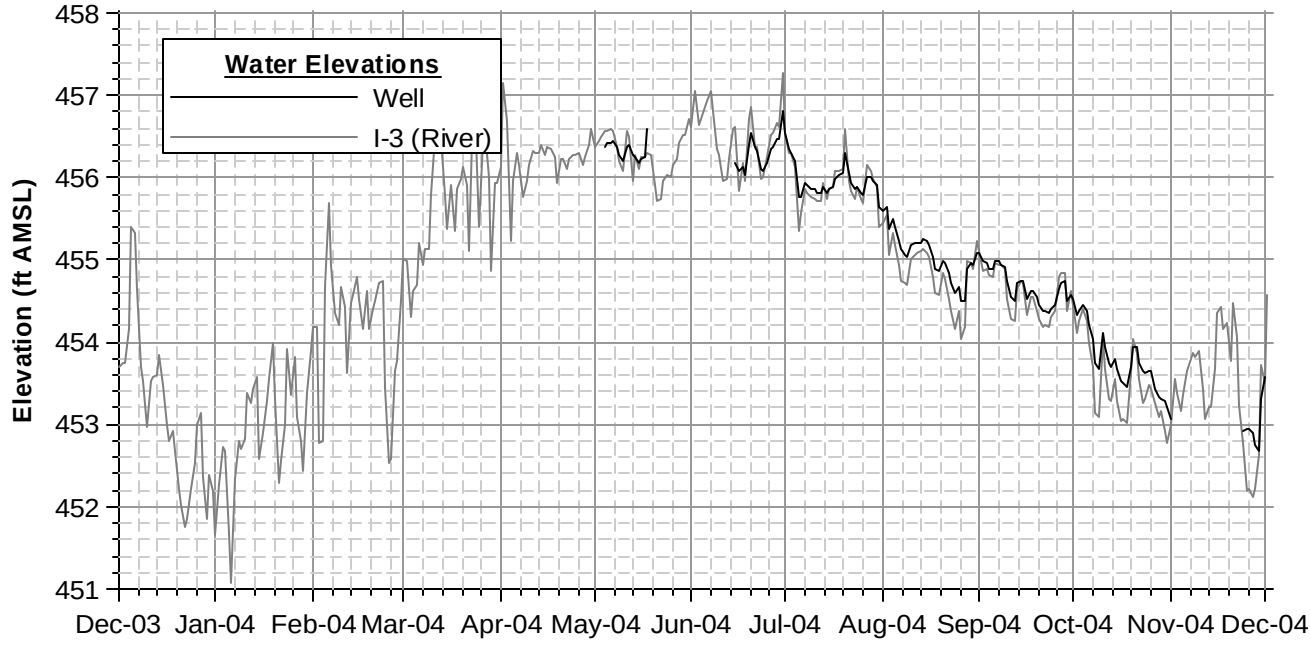

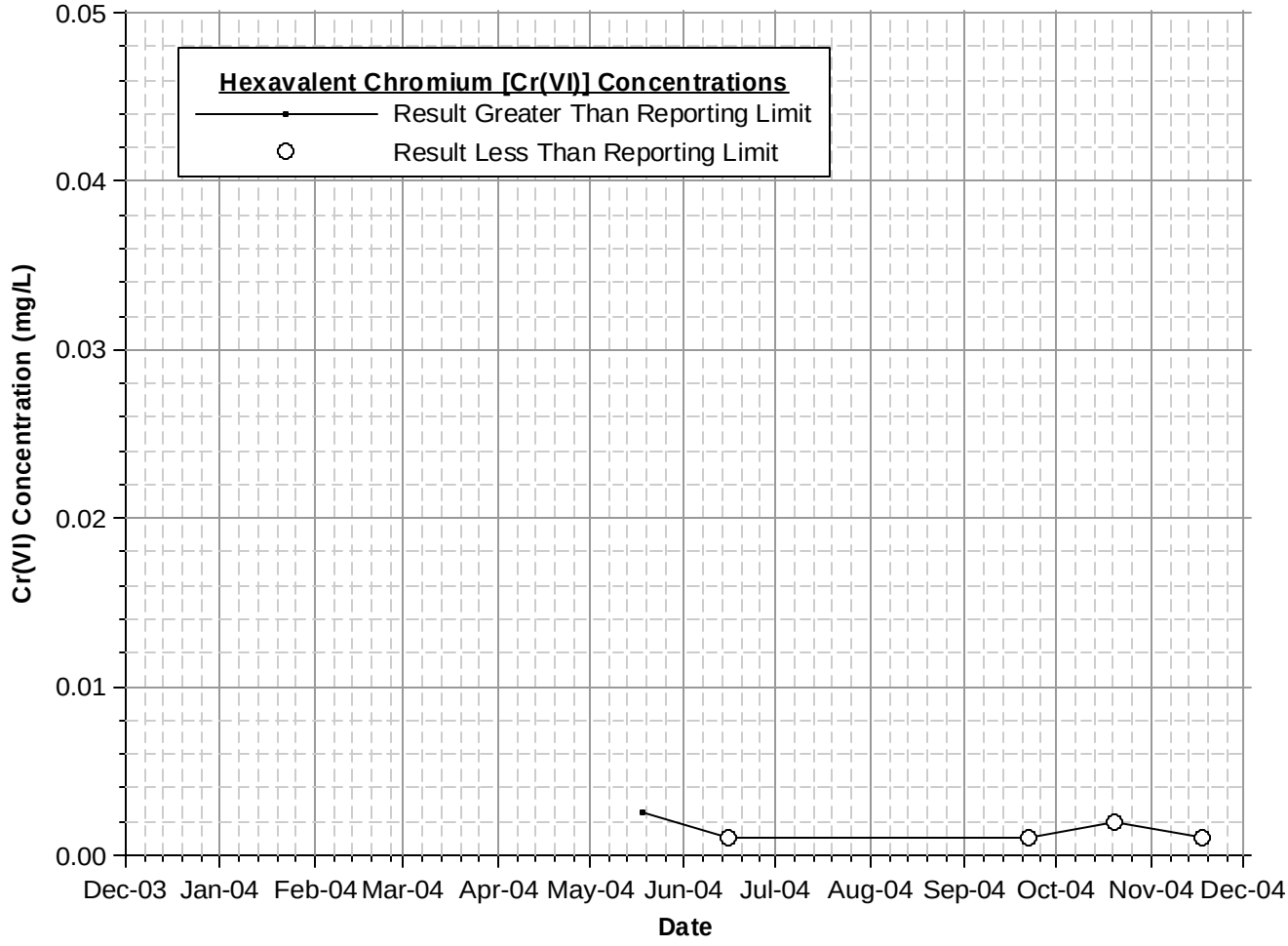

PMR No.12 - Data Through 12/02/04
MW-36-20 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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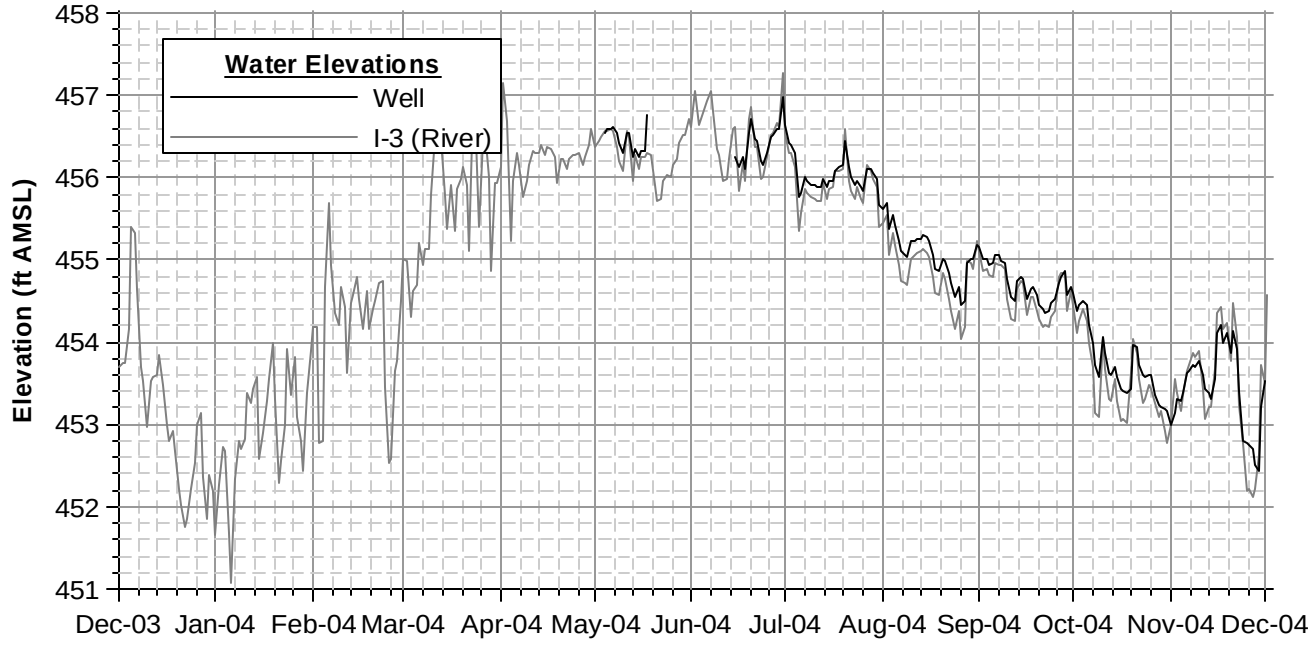

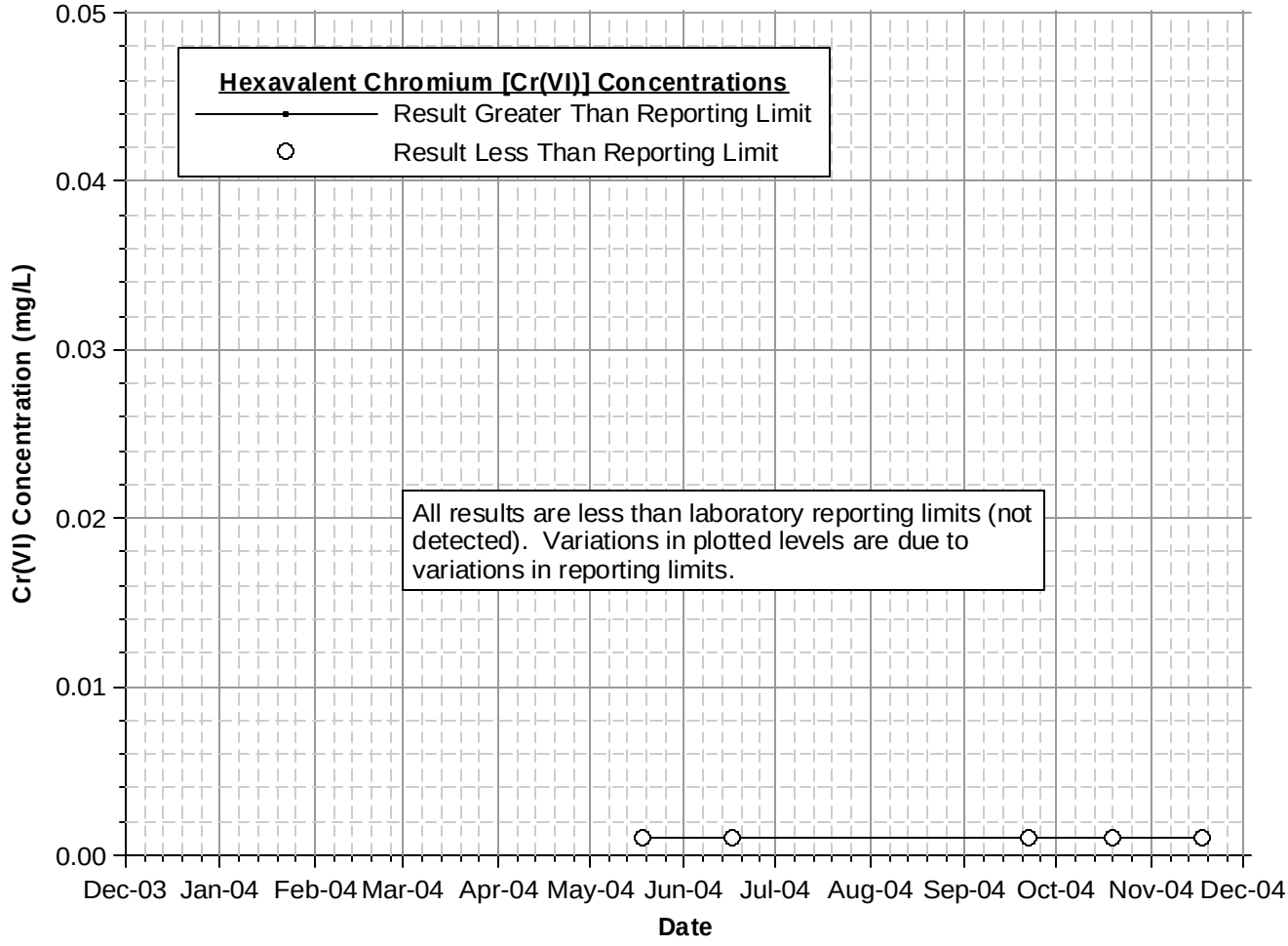

PMR No.12 - Data Through 12/02/04
MW-36-40 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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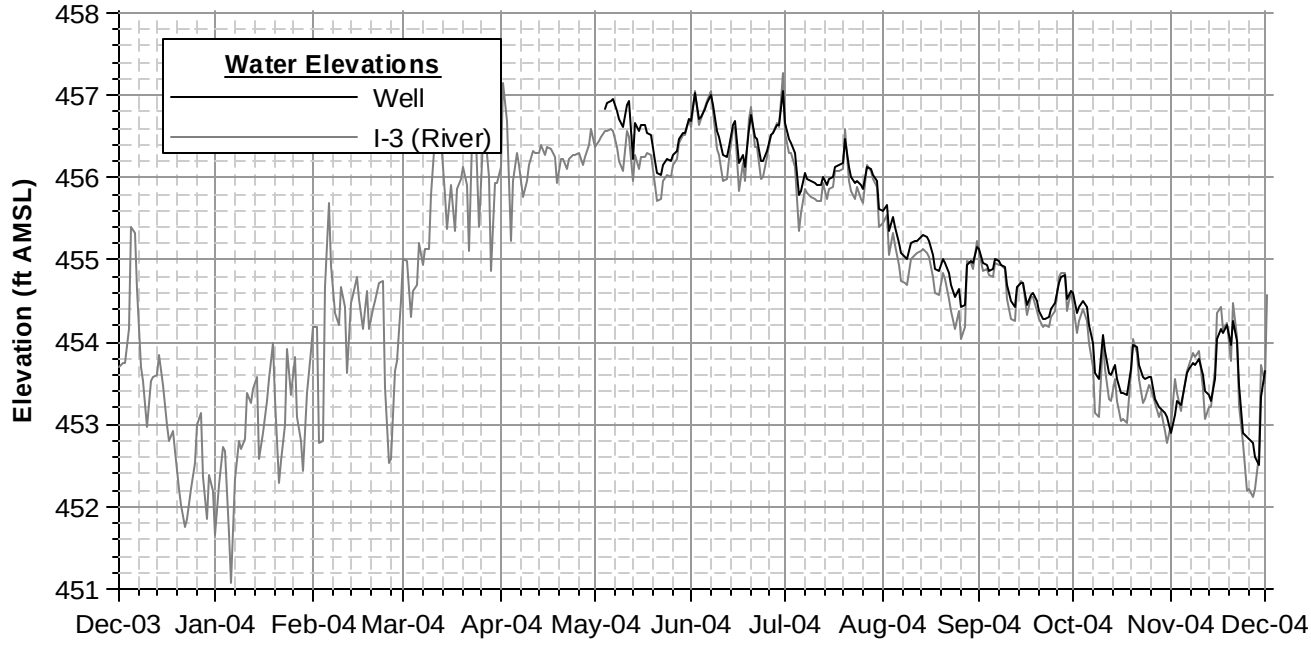

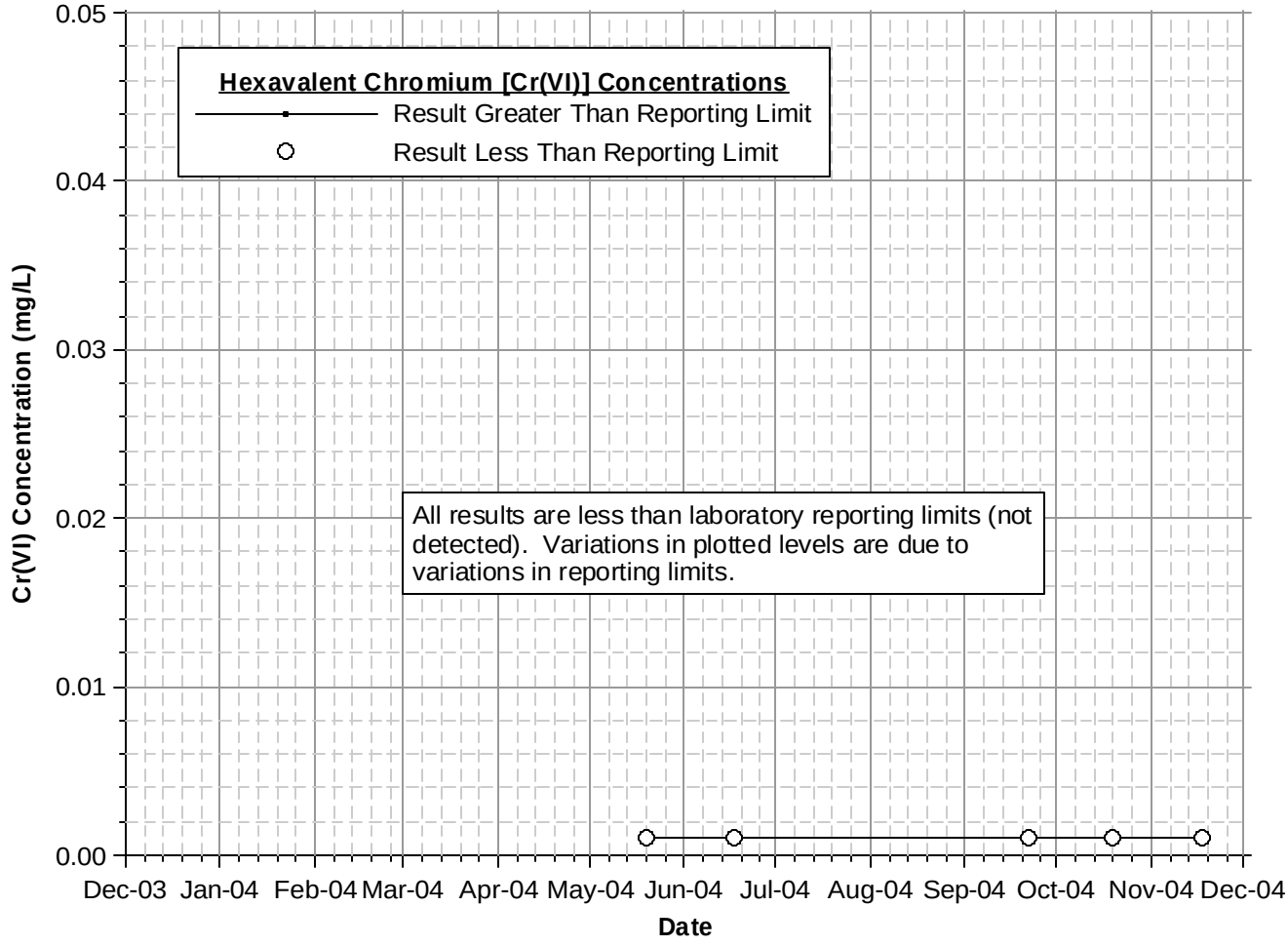

PMR No.12 - Data Through 12/02/04
MW-36-50 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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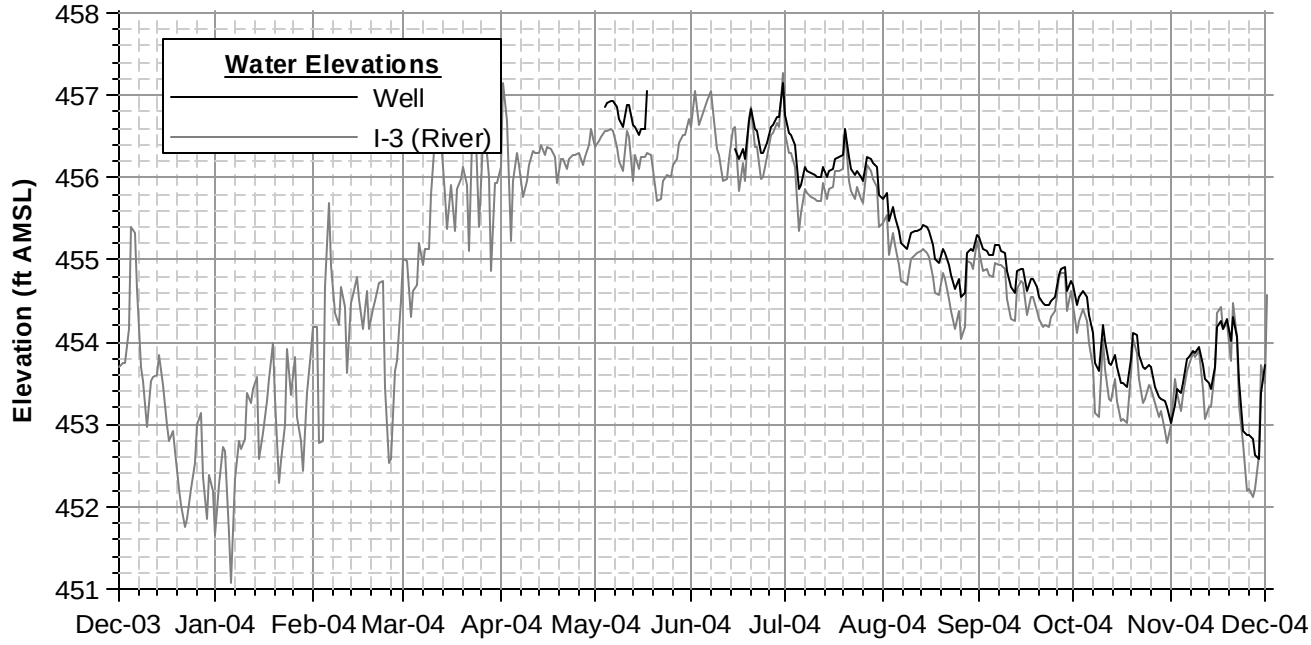

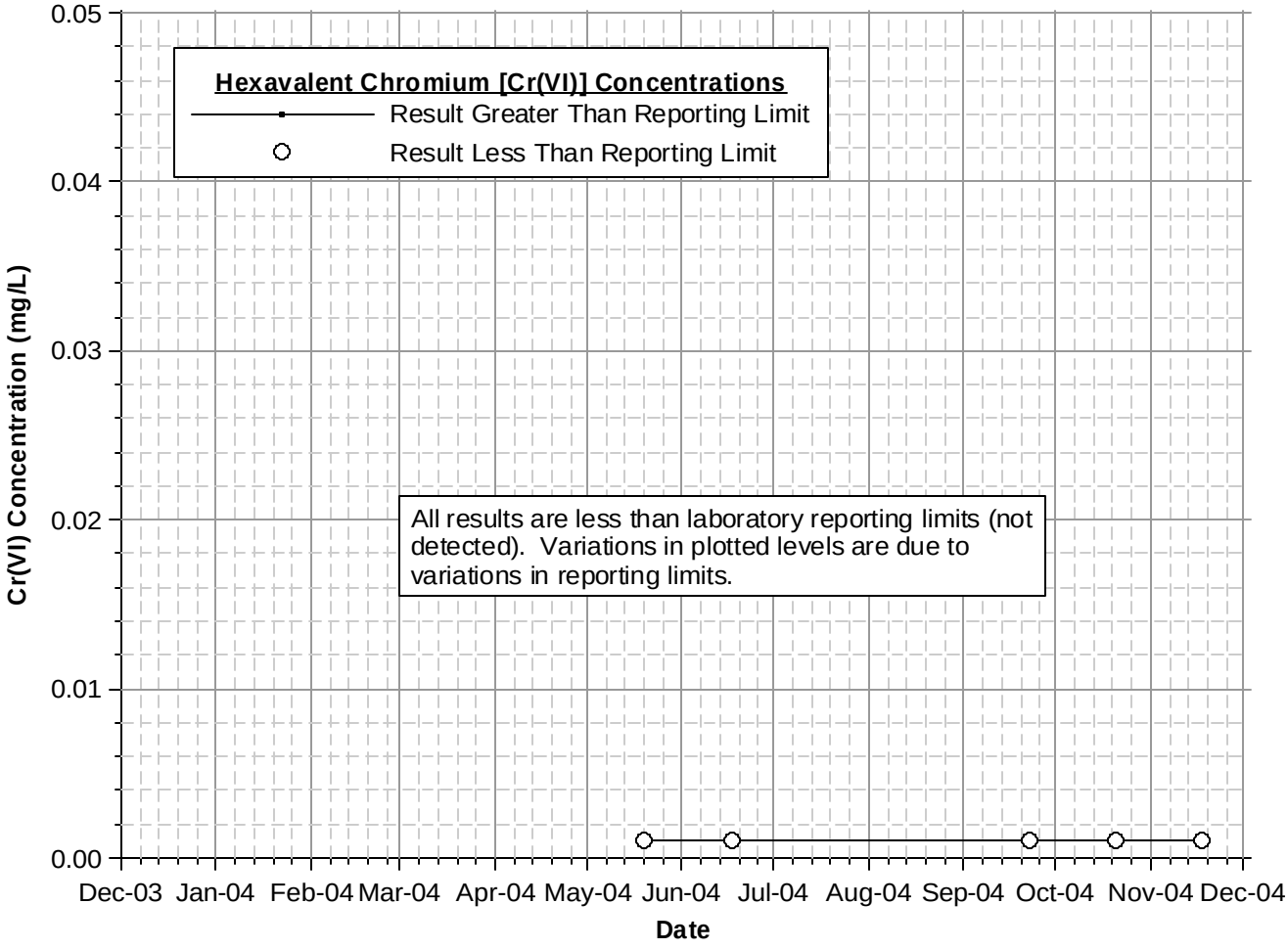

PMR No.12 - Data Through 12/02/04
MW-36-70 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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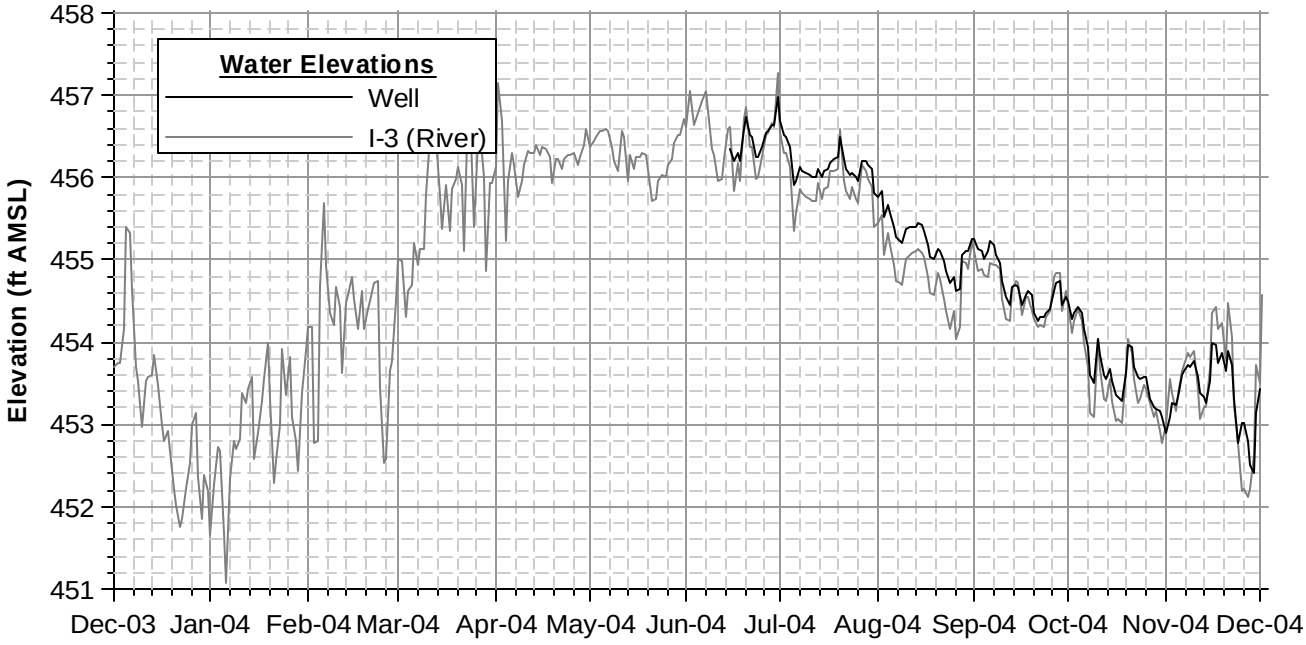

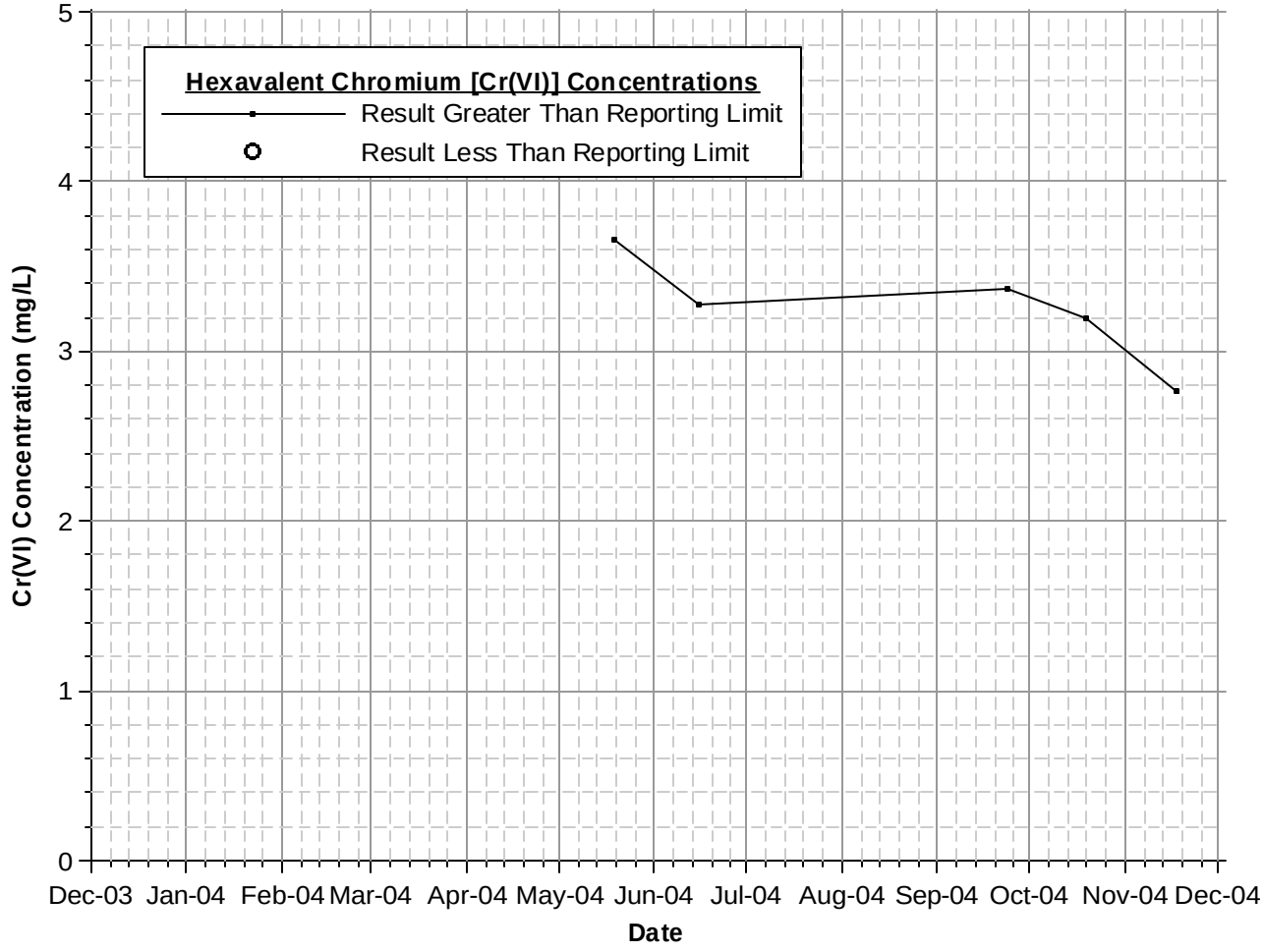

PMR No.12 - Data Through 12/02/04
MW-36-90 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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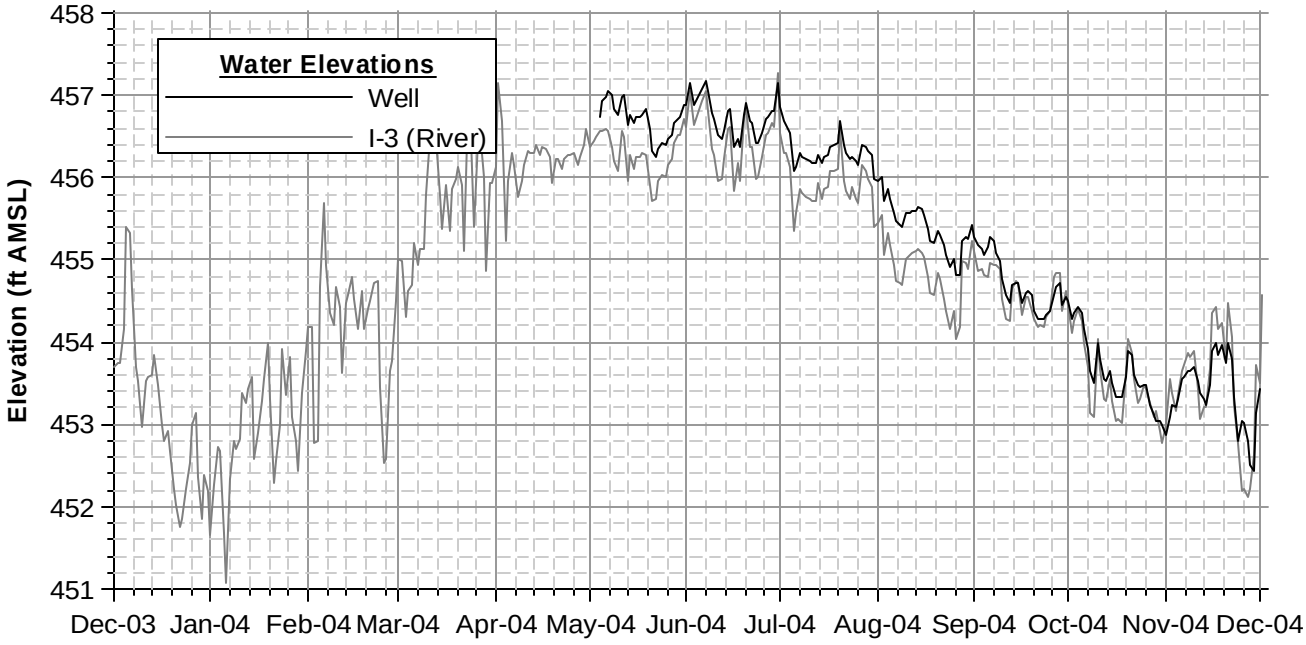

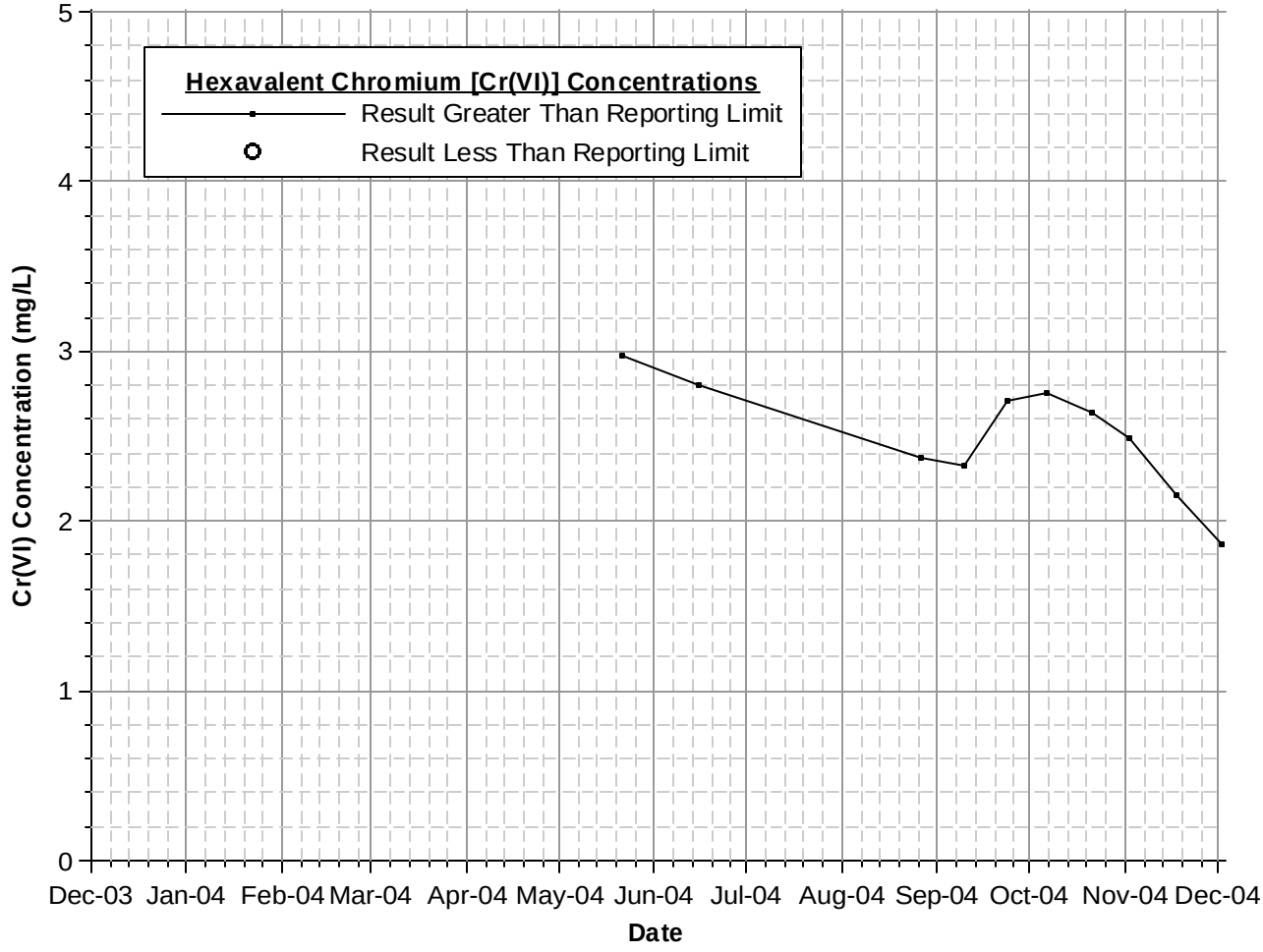

PMR No.12 - Data Through 12/02/04
MW-36-100 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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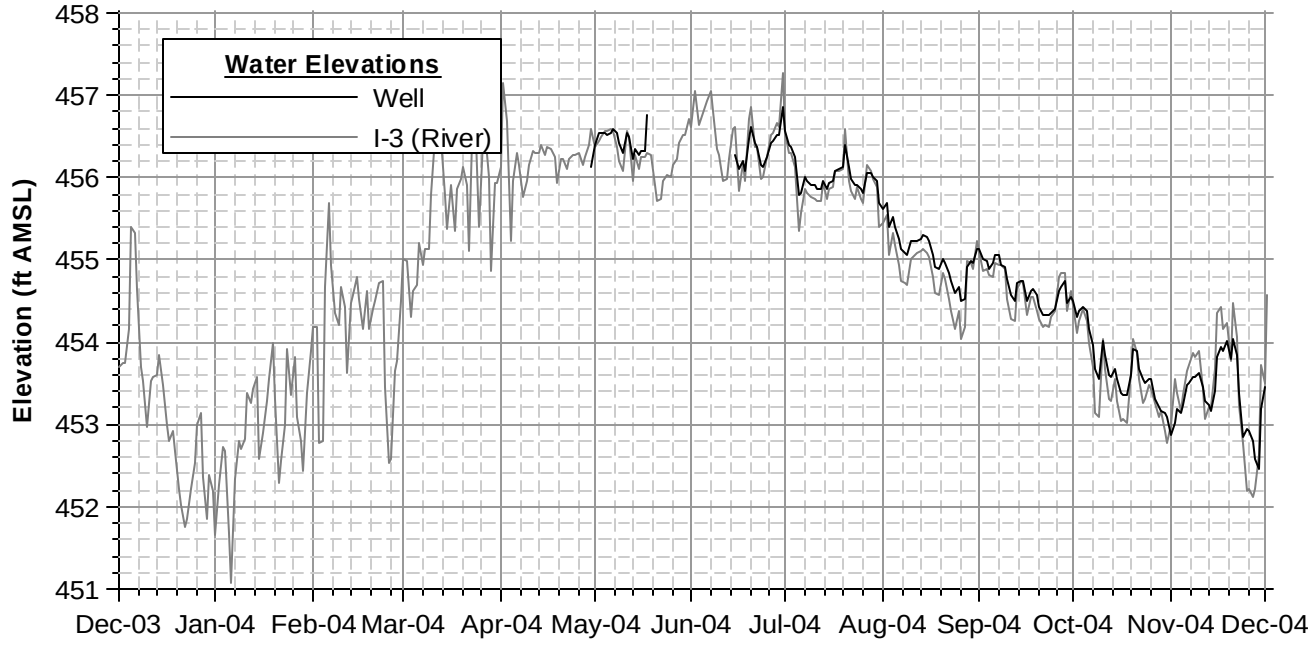

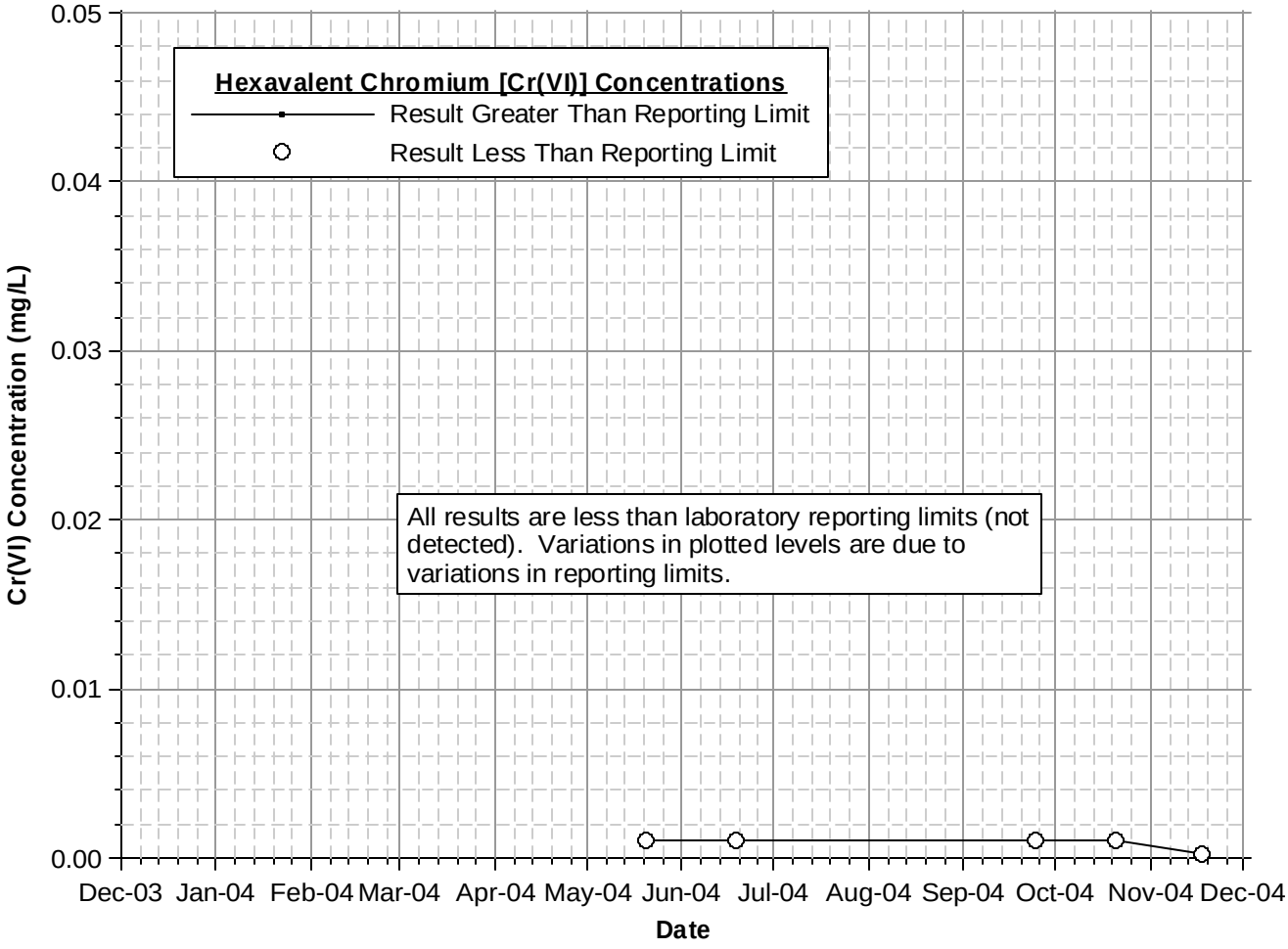

PMR No.12 - Data Through 12/02/04
MW-39-40 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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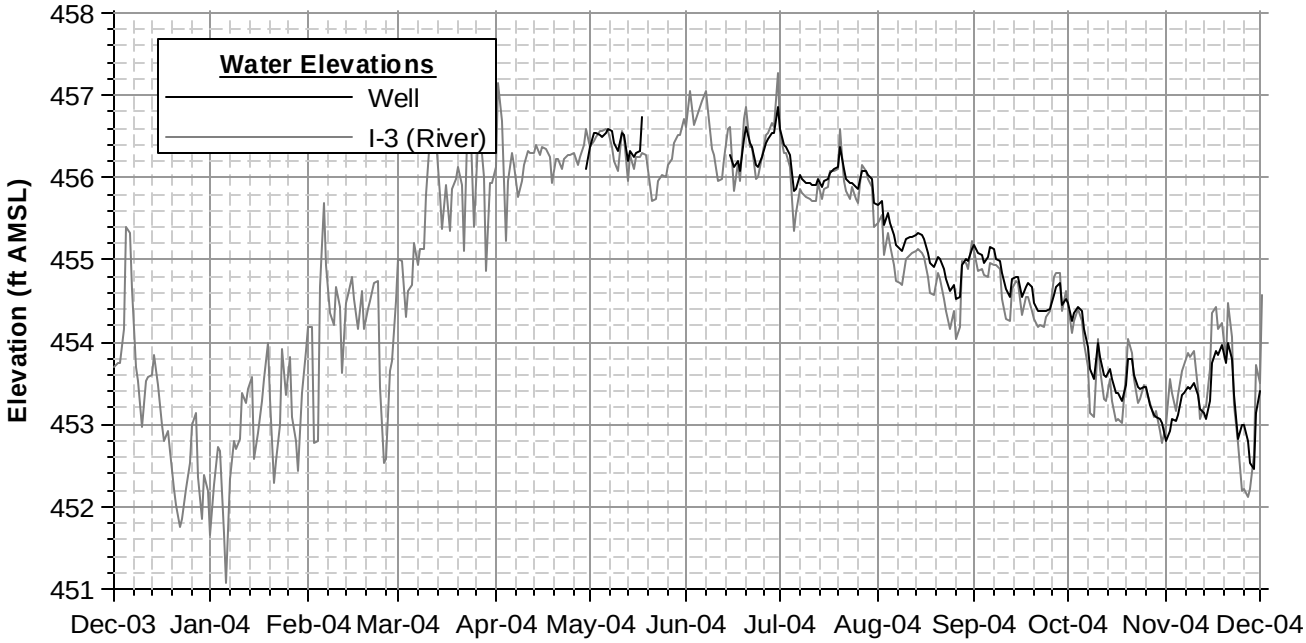

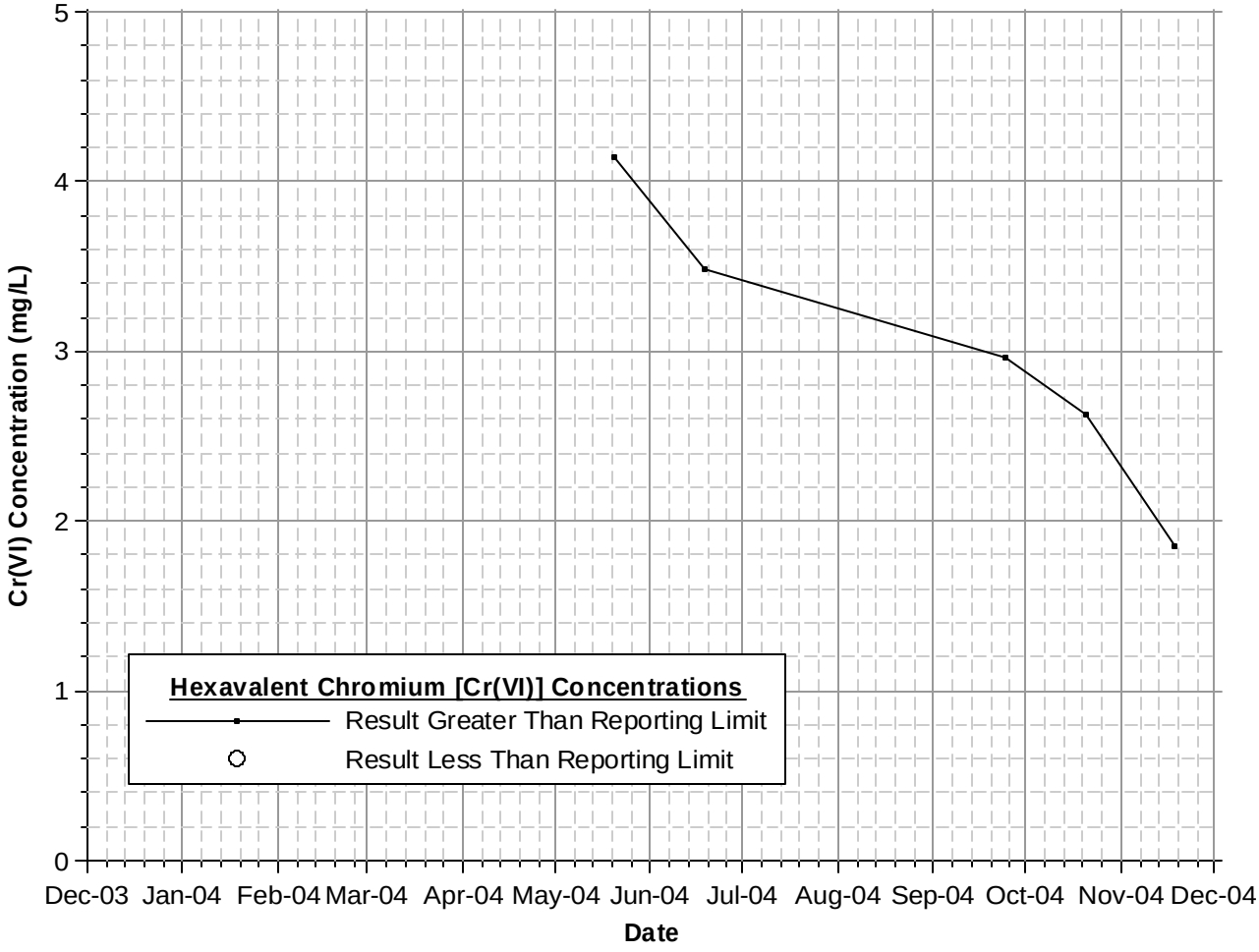

PMR No.12 - Data Through 12/02/04
MW-39-50 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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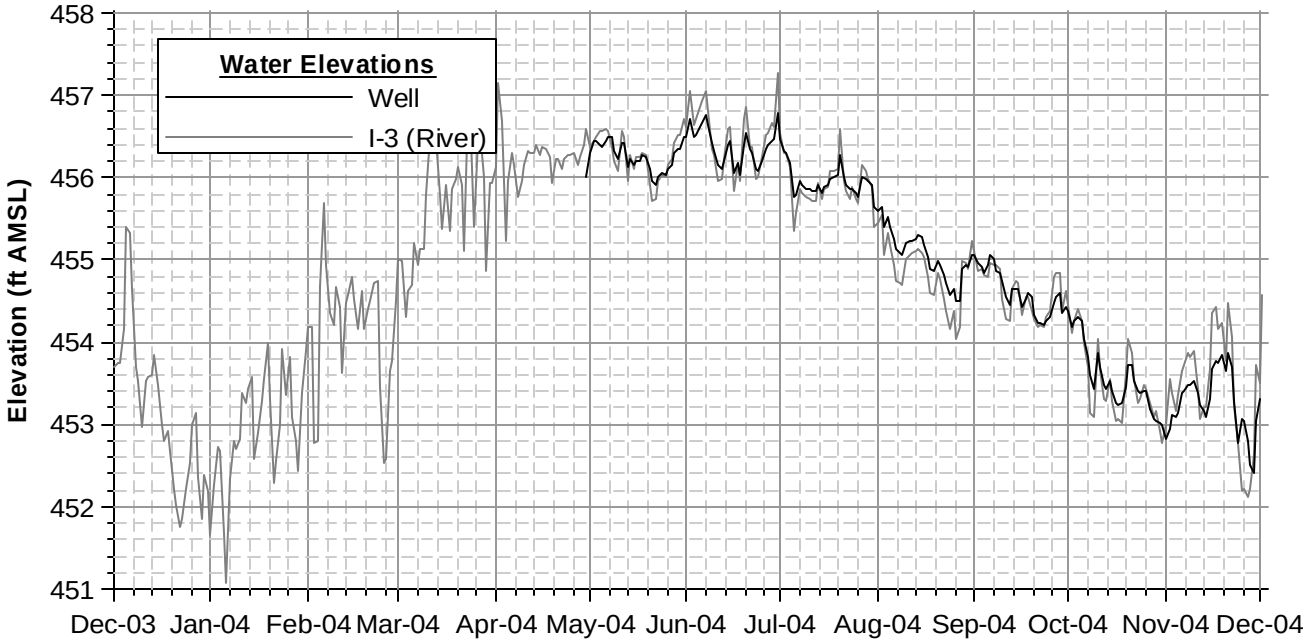

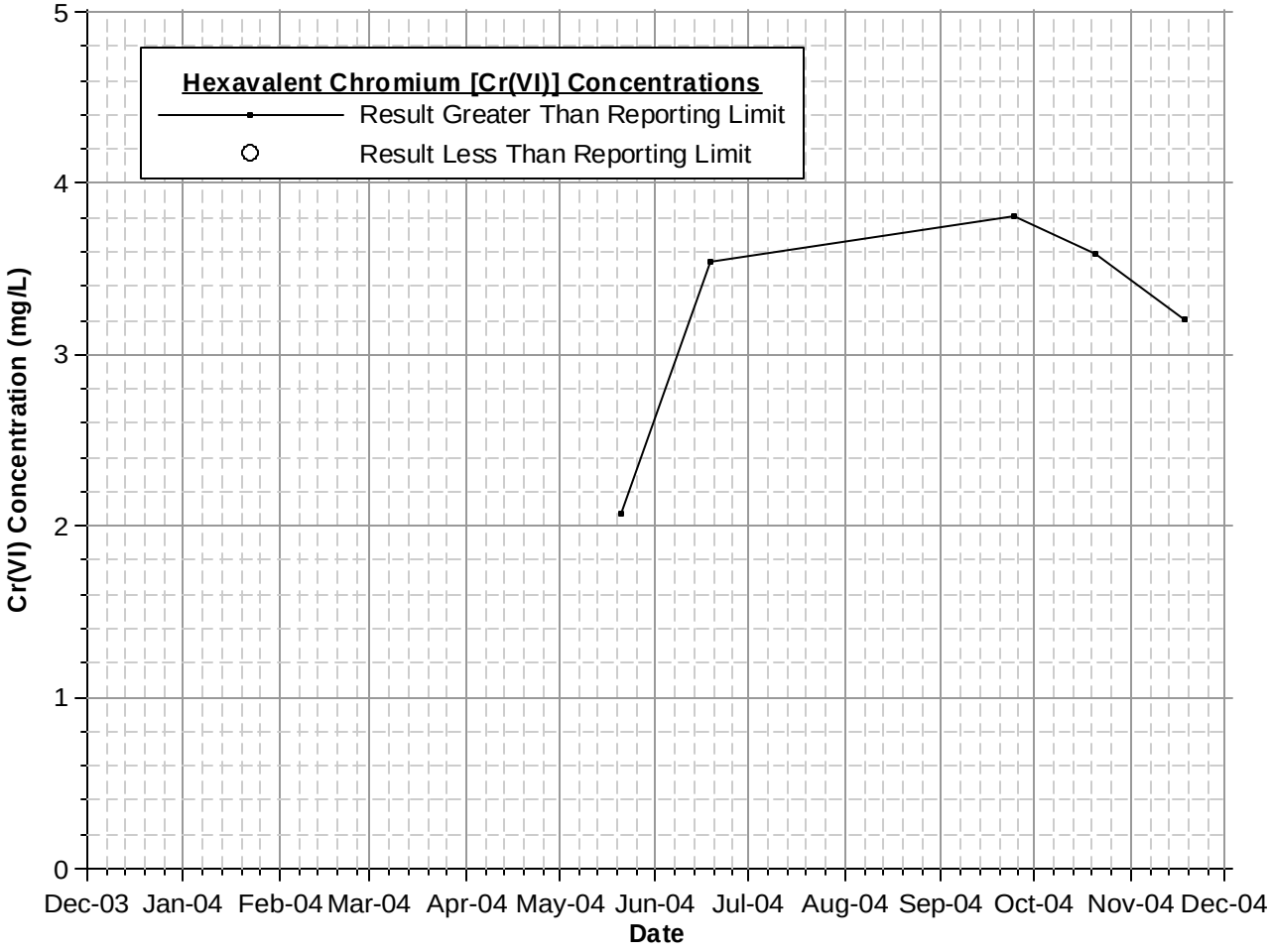

PMR No.12 - Data Through 12/02/04
MW-39-60 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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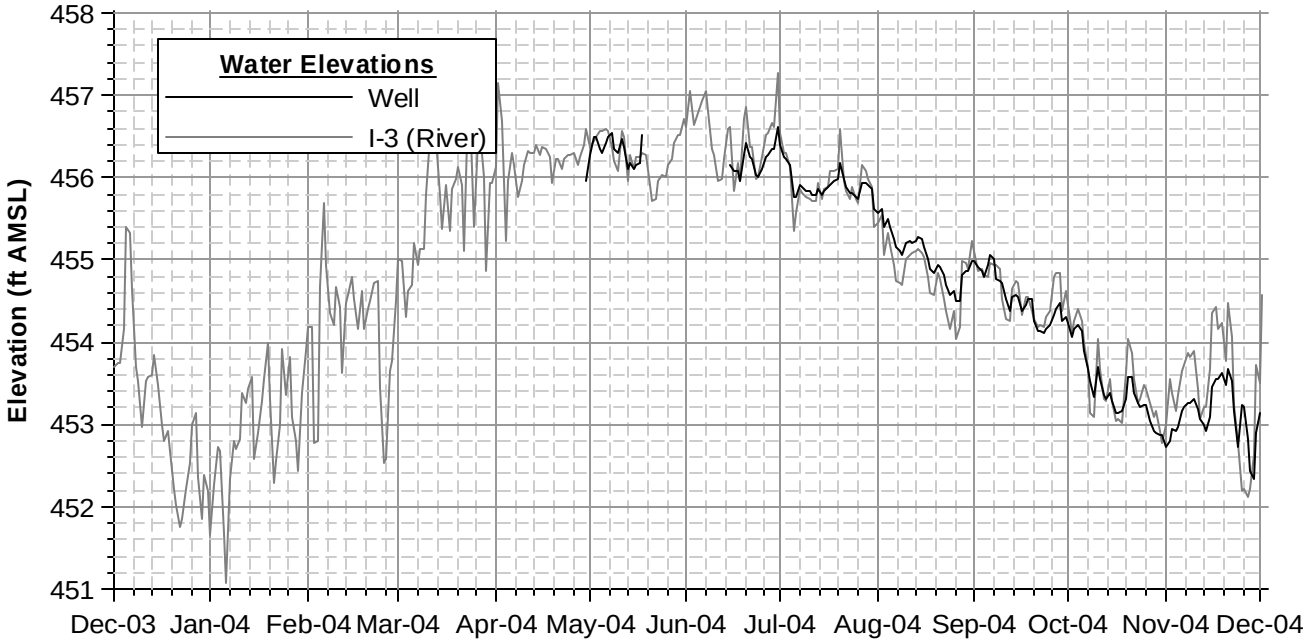

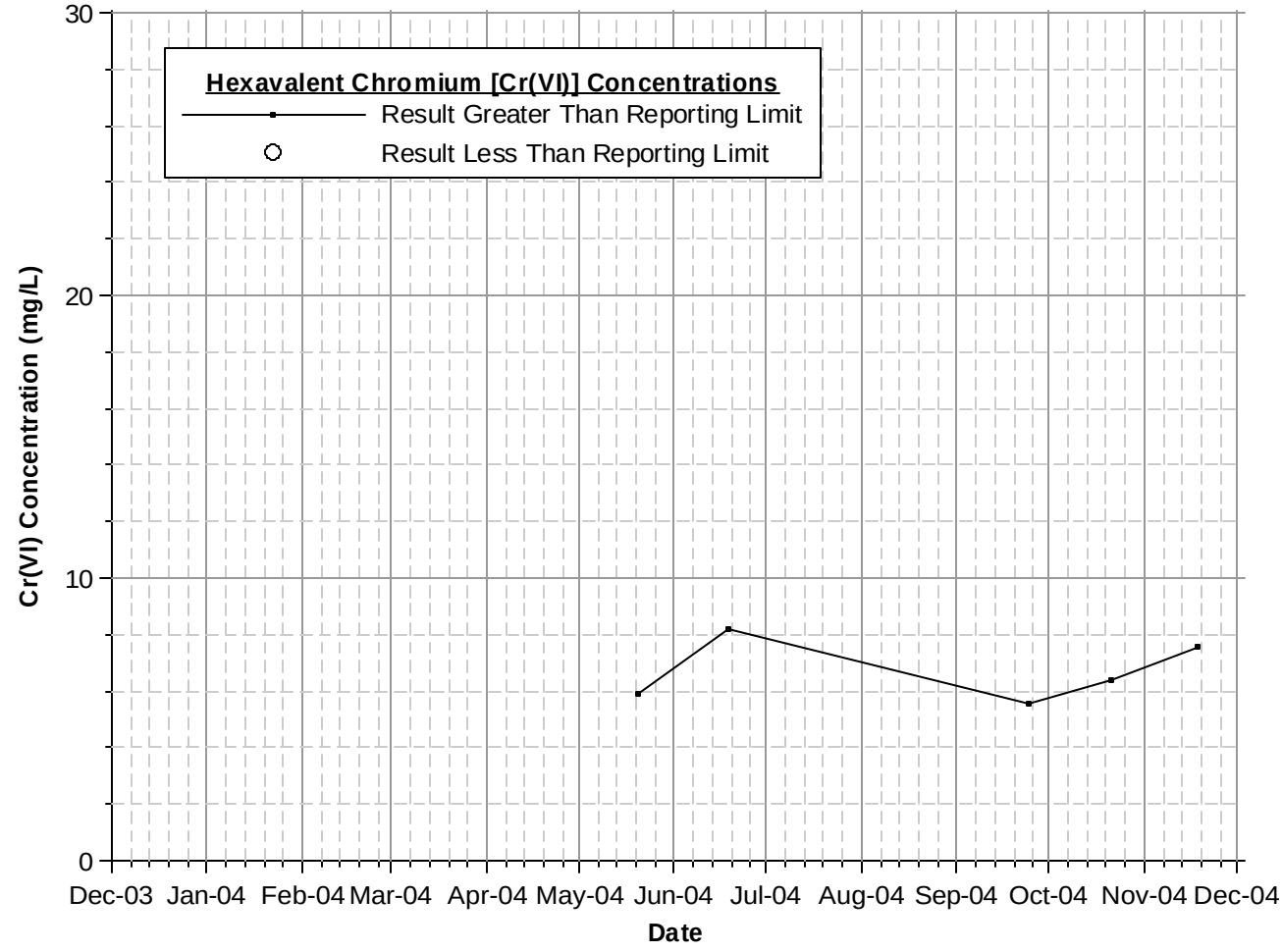

PMR No.12 - Data Through 12/02/04
MW-39-70 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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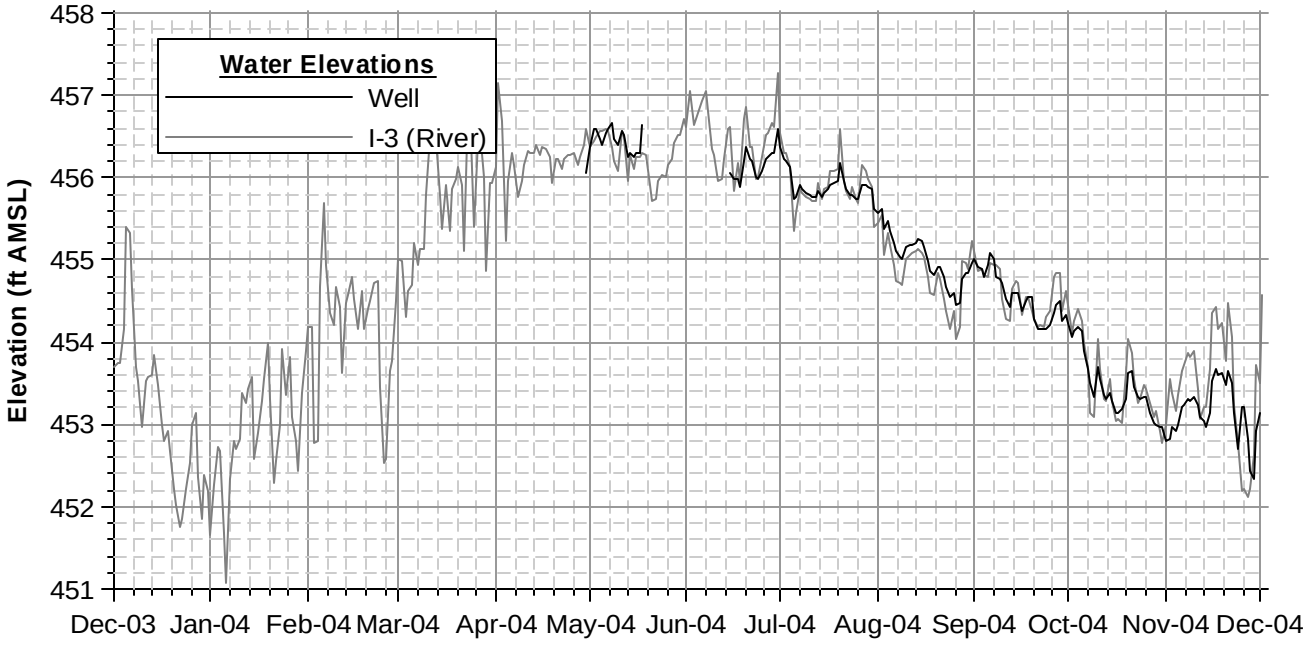

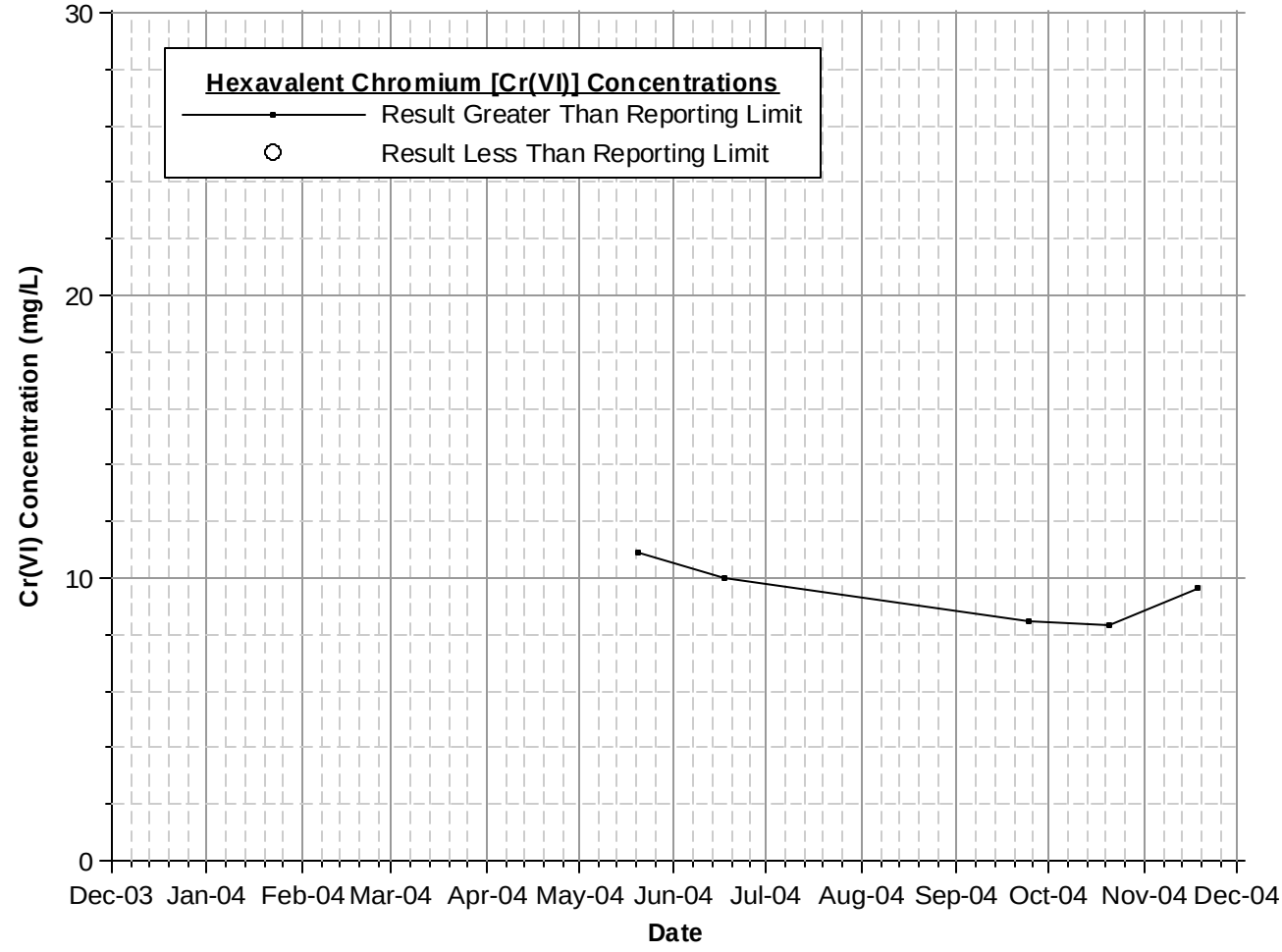

PMR No.12 - Data Through 12/02/04
MW-39-80 HEXAVALENT CHROMIUM CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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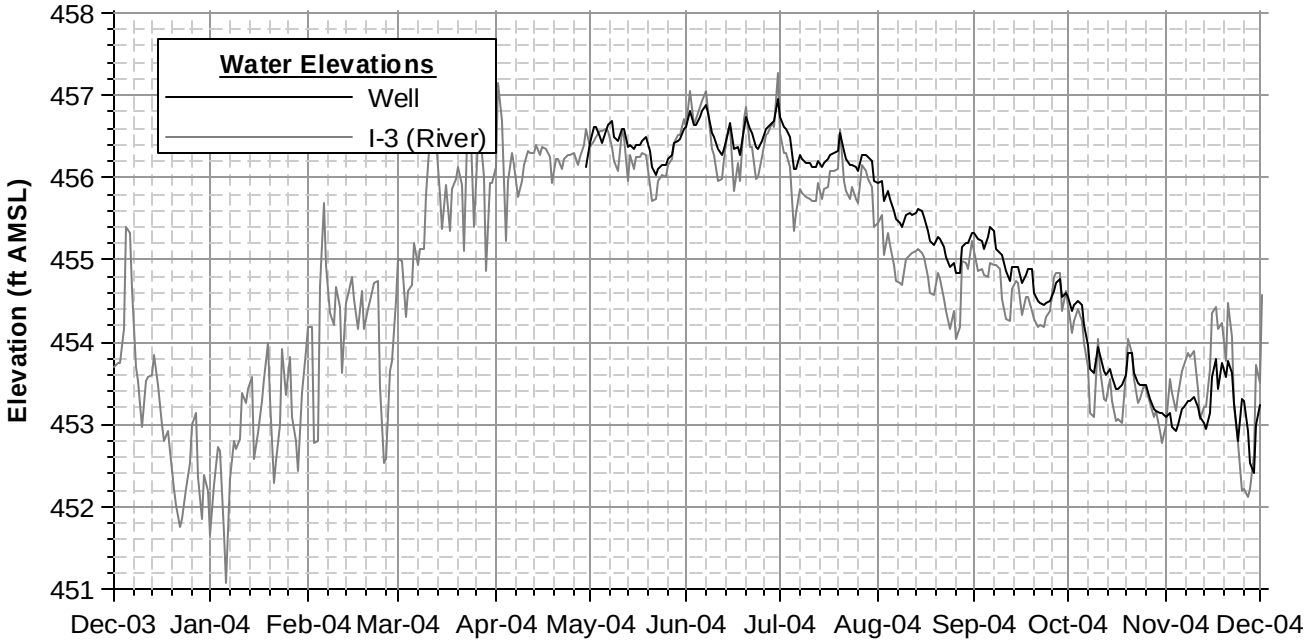

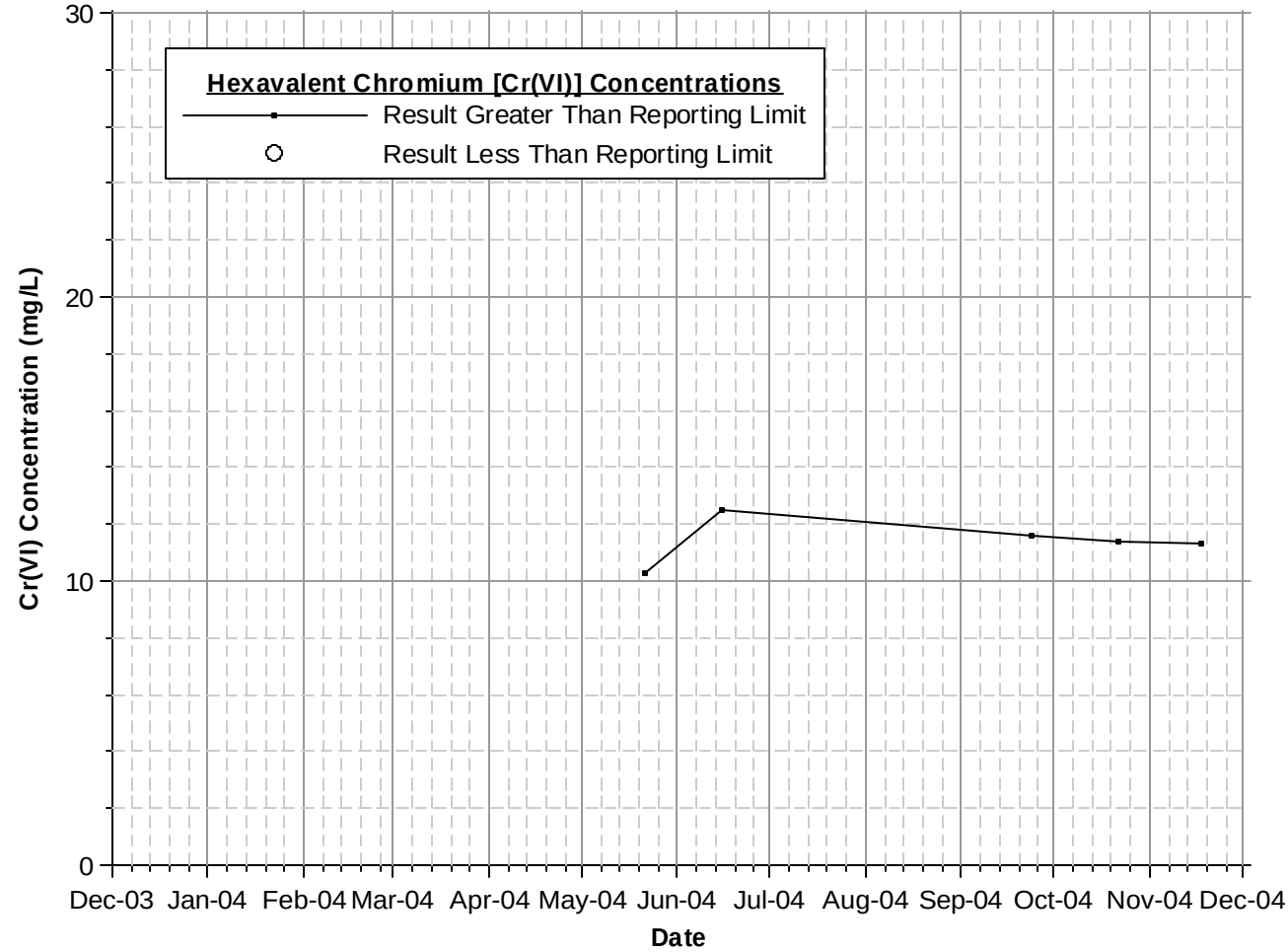

PMR No.12 - Data Through 12/02/04
MW-39-100 HEXAVALENT CHROMIUM
CONCENTRATION & HYDROGRAPH

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes

1. Beginning March 2004, groundwater samples from floodplain wells in the groundwater monitoring program are collected using the well-volume sampling method. Prior to the Feb. 17-20, 2004 sampling method comparison test, all samples from floodplain wells were collected using low-flow purging method.
2. Data subject to review.

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