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April 14, 2006

Norman Shopay
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Geology and Corrective Action Branch
700 Heinz Avenue
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Subject: Performance Monitoring Report for March 2006
Interim Measures Performance Monitoring Program
PG&E Topock Compressor Station, Needles, California

Dear Mr. Shopay:

Enclosed is the *Performance Monitoring Report for March 2006* for the Interim Measure Performance Monitoring Program at the PG&E Topock Compressor Station. This monitoring report documents the performance monitoring results for March 1 through 31, 2006, and has been prepared in conformance with DTSC's letter dated February 14, 2005.

Please contact me at (805) 546-5243 if you have any questions on the performance monitoring program.

Sincerely,

Julie Eakins for Yvonne Meeks

Enclosure

Performance Monitoring Report for March 2006

Interim Measures Performance Monitoring Program PG&E Topock Compressor Station Needles, California

Prepared for

California Department of Toxic Substances Control

on behalf of

Pacific Gas and Electric Company

April 14, 2006

CH2MHILL
155 Grand Avenue, Suite 1000
Oakland, California 94612

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PG&E Topock Compressor Station Needles, California

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This report was prepared under the supervision of a California Certified Engineering Geologist

Paul Bertucci, C.E.G. No. 1977
Project Hydrogeologist

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Acronyms and Abbreviations

µg/L	micrograms per liter
cfs	cubic feet per second
Cr(T)	total chromium
Cr(VI)	hexavalent chromium
DTSC	Department of Toxic Substances Control
gpm	gallons per minute
IM	Interim Measure
PG&E	Pacific Gas and Electric Company
PMP	Performance Monitoring Program
USBR	United States Bureau of Reclamation

1.0 Introduction

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The IM consists of groundwater extraction for hydraulic control of the plume boundaries in the Colorado River floodplain and management of extracted groundwater. The groundwater extraction, treatment, and injection systems, collectively, are referred to as Interim Measure Number 3 (IM No. 3). Currently, the IM No. 3 facilities include a groundwater extraction system (four extraction wells TW-2D, TW-3D, TW-2S, and PE-1), conveyance piping, a groundwater treatment plant, and an injection well field for the discharge of the treated groundwater. Figure 1-1 shows the location of the IM No. 3 extraction, conveyance, treatment, and injection facilities.

In a letter dated February 14, 2005, the California Department of Toxic of Substances Control (DTSC) established the criteria for evaluating the performance of the IM. As defined by DTSC, the performance standard for this IM is to "establish and maintain a net landward hydraulic gradient, both horizontally and vertically, that ensures that hexavalent chromium [Cr(VI)] concentrations at or greater than 20 micrograms per liter [µg/L] in the floodplain are contained for removal and treatment" (Enclosure A of the DTSC February 14, 2005 letter). The DTSC directive also defined the monitoring and reporting requirements for the IM. A draft *Performance Monitoring Plan for Interim Measures in the Floodplain Area* was submitted to DTSC on April 15, 2005 (herein referred to as the Performance Monitoring Plan). The site monitoring, data evaluation, reporting, and response actions required under the February 2005 DTSC directive are collectively referred to as the IM Performance Monitoring Program (PMP) for the floodplain area.

This monthly report has been prepared in compliance with DTSC's requirements and documents the monitoring activities and performance evaluation of the IM hydraulic containment system for the period from March 1 through 31, 2006. The next monthly report for the April 2006 reporting period will be submitted with the first 2006 quarterly report (February, March, and April 2006 inclusive) by May 30, 2006.

Figure 1-2 shows the locations of wells used for the IM extraction, performance monitoring, and hydraulic gradient calculation. During March 2006, eight additional groundwater monitoring wells (four well cluster sites) were installed as part of the 2006 IM performance monitoring drilling program (*Technical Addendum No. 1, Well Installation Work Plan*, CH2M HILL, dated January 27, 2006). The new monitoring wells that were installed and initially sampled in March 2006 include MW-44 (3 wells), MW-45 (1 well), MW-46 (2 wells), and MW-47 (2 monitoring wells). Installation of additional monitoring wells at additional drilling sites will continue in April. The new performance monitoring wells are being equipped with pressure transducers and will be incorporated in the hydraulic monitoring well network in the upcoming months.

The performance monitoring wells, updated through March 31, 2006, are defined as:

- **Floodplain Wells** (monitoring wells on the Colorado River floodplain): MW-22, MW-27 cluster (3), MW-28 cluster (2), MW-29, MW-30 cluster (2), MW-32 cluster (2), MW-33 cluster (4), MW-34 cluster (3), MW-36 cluster (6), MW-39 cluster (6), MW-42 cluster (3), MW-43 cluster (3), MW-44 cluster (3), MW-45, and MW-46 cluster (2).
- **Intermediate Wells** (monitoring wells located immediately north, west, and southwest of the floodplain): MW-12, MW-19, MW-20 cluster (3), MW-21, MW-26, MW-31 cluster (2), MW-35 cluster (2), and MW-47 cluster (2).
- **Interior Wells** (monitoring wells located upgradient of IM pumping): MW-10 and MW-25.

Three extraction wells (TW-2D, TW-3D and TW-2S) are located on the MW-20 bench (Figure 1-1). In March 2005, extraction well PE-1 was installed on the floodplain approximately 450 feet east of extraction well TW-2D (Figure 1-1). Construction of the conveyance piping and power supply to PE-1 was completed in January. Testing and commissioning of PE-1 began on January 25, 2006, with full-time operation of the well beginning on January 26, 2006.

The wells screened in the unconsolidated alluvial fan and fluvial deposits, which comprise the Alluvial Aquifer, have been separated into three depth intervals to present groundwater quality and groundwater level data. The depth intervals of the Alluvial Aquifer—designated upper, middle, and lower—are based on grouping the monitoring wells screened at common elevations and do not represent distinct hydrostratigraphic units or separate aquifer zones. The subdivision of the aquifer into three depth intervals is an appropriate construct for presenting and evaluating groundwater quality data in the floodplain. The three-interval concept is also useful for presenting and evaluating lateral gradients while minimizing effects of vertical gradients and observing the influence of pumping from partially-penetrating wells. It should be noted, however, that these divisions do not correspond to any distinct lithostratigraphic layers within the aquifer. The floodplain aquifer is considered to be hydraulically undivided.

2.0 Extraction System Operations

Pumping data for the IM groundwater extraction system for the period March 1 through March 31, 2006 are shown in Table 2-1. During the reporting period, extraction wells TW-3D and PE-1 operated at a combined target pump rate of 135 gallons per minute (gpm), excluding periods of planned and unplanned downtime.

The March 2006 monthly average pumping rate was 133.0 gpm. A total of 5,937,363 gallons of groundwater were extracted and treated by the IM No. 3 treatment plant during March 2006. The operational run time for the IM extraction system was greater than 99 percent during this reporting period. An operations log for the extraction system during March 2006, including downtime, is included in Appendix A. Approximately 10,000 gallons (two truckloads) of well development water from site drilling activities were transferred to the IM No. 3 facility on March 30 and 31, 2006. Pumping from extraction well TW-3D was reduced approximately 3.5 gpm during these days to accommodate the processing of the well development water at the treatment facility.

The concentrate (i.e., brine) from the reverse osmosis system was shipped offsite under manifest as a Resource Conservation and Recovery Act non-hazardous waste and transported to United States Filter Corporation in Los Angeles, California for treatment and disposal. Two containers of solids (approximately 14 cubic yards each) from the IM No. 3 facility were disposed at the Chemical Waste Management at the Kettleman Hills facility during March 2006.

Daily inspections included general facility inspections, flow measurements, and site security monitoring. Daily logs with documentation of inspections are maintained onsite.

Table 2-2 summarizes the analytical results of groundwater samples collected from extraction well system during the March reporting period and prior months. Future monitoring of the extraction well(s) water quality will be completed at the frequency required by the Waste Discharge Requirements issued for the IM No. 3 treatment facility.

3.0 Chromium Sampling Results

The groundwater monitoring wells in the floodplain area are currently sampled for Cr(VI), total chromium [Cr(T)], and field water quality parameters under quarterly, monthly, and biweekly schedules, in accordance with the approved groundwater monitoring plan and DTSC directives. On July 20, 2005, DTSC approved a modified sampling schedule for groundwater monitoring in the floodplain that specified monthly sampling of 12 selected monitoring wells, biweekly sampling of one well (MW-34-100), and quarterly sampling of the other monitoring wells in the PMP area. Under DTSC direction, this frequency was modified on January 26, 2006 to include monthly sampling of MW-36-70, and MW-39-70 (previously quarterly). New monitoring wells at the MW-46 cluster and MW-44-070 will be sampled monthly during April, May, and June 2006 as specified in DTSC's January 6, 2006 letter. In an e-mail dated March 17, 2006, DTSC directed PG&E to put new monitoring wells MW-44-115 and MW-44-125 on a biweekly sampling schedule. The sampling frequency for the other new IM monitoring wells will be evaluated with DTSC, pending review of initial sampling results.

Table B-1 in Appendix B presents the groundwater sampling results for Cr(VI) and Cr(T), as well as groundwater elevation and selected field water quality parameters for monitoring wells in the floodplain area during March 2006 and the previous months. Table B-2 in Appendix B presents the groundwater sampling data for the other wells monitored in the PMP area during the evaluation period.

Figure 3-1 presents the Cr(VI) results distribution for March 2006 in plan view for the groundwater wells monitoring the upper, middle, and lower depth intervals of the Alluvial Aquifer in the floodplain area. Figure 3-1 also shows the approximate locations of the 20 µg/L and 50 µg/L Cr(VI) contour lines in groundwater within each depth interval. The California drinking water standard for Cr(T) is 50 µg/L. Figure 3-1 includes the initial March sampling results for the new IM performance monitoring wells at locations MW-44, MW-45, MW-46, and MW-47.

The Cr(VI) sampling results from the March 2006 monthly sampling event are shown on Figure 3-2, a vertical cross-section extending east-west across the floodplain. Figure 3-3 presents the March 2006 Cr(VI) results for additional floodplain monitoring wells on a cross-section oriented parallel to the Colorado River (see Figure 1-2 for locations of the cross-sections). The hydrogeologic cross sections presented on Figures 3-2 and 3-3 have been updated with the new monitoring wells recently installed at MW-44, MW-45, and MW-46. For ongoing IM performance evaluation, Cr(VI) concentration trend graphs and hydrographs for key floodplain monitoring wells are presented on Figures B-1 (well MW-33-90), B-2 (MW-34-100), and B-3 (MW-36-100) in Appendix B.

4.0 Hydraulic Gradient Results

During the reporting period, water levels were recorded at intervals of 30 minutes with pressure transducers in 47 wells and two river monitoring stations (I-3 and RRB). The data are typically continuous, with only short interruptions for sampling or maintenance. The location of the wells monitored are shown on Figure 1-2 and listed in Section 1.0. Data from RRB were not collected during the mid-month download event for health and safety concerns about a wasp nest at this location. This data will be available for the April 2006 reporting period.

The monthly average and the minimum and maximum daily average groundwater and river elevations have been calculated from the pressure transducer data for the March reporting period (March 1 through March 31, 2006) and are summarized in Appendix C, Table C-1.

Reported groundwater elevations (or hydraulic heads) are adjusted for temperature and for salinity differences between wells (i.e., adjusted to a common freshwater equivalent), as described in the Performance Monitoring Plan. Groundwater elevation hydrographs (for March 2006) for all wells with transducers are included in Appendix C. The elevation of the Colorado River measured at the river gauge (I-3, Figure 1-2) during March 2006 is also shown on the hydrographs.

The March 2006 hydraulic data and groundwater gradient maps for the upper, middle, and lower depth intervals are shown on Figures 4-1, 4-2, and 4-3, respectively. The groundwater elevations for all depth intervals of the Alluvial Aquifer indicate strong landward hydraulic gradients throughout the floodplain. To the west of the TW-3D and PE-1 pumping area, the hydraulic gradient in the upper depth interval is easterly and consistent with the regional gradient outside of the floodplain area. The landward gradients measured during March 2006 were greater than in February 2006. This was the result of a continued high extraction rate (133 gpm) and rising Colorado River levels during this period. The March 2006 average monthly groundwater elevations are also presented and contoured in cross-section on Figure 4-4 (cross-section location shown on Figure 1-2).

Table 4-1 summarizes the estimated and actual dam discharges and river elevations since April 2004. The actual Davis Dam March 2006 average discharge of 12,429 cubic feet per second [cfs] was slightly less than the United States Bureau of Reclamation (USBR) projected discharge of 13,000 cfs for the month of March. The actual Colorado River elevation at I-3 (monthly average) was within 0.2 ft of the level predicted by using the multiple regression method with USBR projections for the March reporting period.

Table 4-2 summarizes gradients measured between the three designated well pairs (MW-31-135/MW-33-150, MW-20-130/MW-34-80, and MW-20-130/MW-42-65) during March 2006. Pumping from extraction, well PE-1 began on January 26, 2006. Since that time, the central well pair has been affected by PE-1 pumping. Pumping at PE-1 would tend to lower the water level in MW-34-80 and decrease the apparent gradient in the central well pair. Nevertheless, average gradients in the three well pairs were landward at magnitudes that

were between two to four times the target value of 0.0010 feet per foot (0.0026, 0.0036, and 0.0039 respectively). These gradients were slightly greater than the average gradients measured in February 2006. This was a result of increased river levels during this reporting period. Transducers were installed in new IM monitoring wells (MW-44 cluster, MW-45, MW-46 cluster, and MW-47 cluster) on April 4, 2006. These data will be included in the April 2006 Performance Monitoring Report, along with gradients between new well pairs as recommended in the *Well Installation Work Plan for Interim Measures Performance Monitoring Program*, CH2M HILL, dated November 30, 2005.

5.0 Status of Operation and Monitoring

Reporting of the IM extraction and monitoring activities will continue as described in the Performance Monitoring Plan. The next status report will be a combined monthly and quarterly performance monitoring report. It will be submitted by May 30, 2006 and cover both the monthly April 2006 reporting period, and the February, March, and April 2006 quarterly reporting period.

As per DTSC direction, PG&E will continue to operate both TW-3D and PE-1 at a target combined pumping rate of 135 gpm, except for periods when planned and unplanned downtime occur during April 2006. Treated groundwater will be discharged into the IM No. 3 injection wells in accordance with Waste Discharge Requirements Order No. R7-2004-0103. Brine generated as a byproduct of the treatment process will continue to be transported offsite.

PG&E will balance the pumping rates between TW-3D and PE-1 to maintain the target pumping rate and maintain appropriate hydraulic gradients across the Alluvial Aquifer. If, at any time, hydraulic data indicate that PE-1 pumping has the potential to draw higher concentrations of chromium away from the capture zone of TW-3D, PG&E will request authorization from DTSC to increase the pumping rate at TW-3D and decrease the rate at PE-1. Well TW-2D will serve as a backup extraction well to TW-3D and PE-1.

Current USBR projections show that the average Davis Dam release for April 2006 (16,600 cfs) will be greater than in March 2006 (12,429 cfs). Based on April 10, 2006 USBR projections, it is anticipated that the Colorado River level at the I-3 gage location in April 2006 will increase (1.2 feet) compared to levels in March 2006. Future adjustments in pumping rates from the IM extraction system will be proposed based on expected river levels, observed groundwater gradients, potential system modifications, and other relevant factors.

Tables

TABLE 2-1
Pumping Rate and Extracted Volume for IM System through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

Extraction Well	March 2006 Period[a]		Project To Date[b]
	Average Monthly Pumping Rate[c] (gpm)	**Volume Pumped (gal)**	**Cumulative Volume Pumped (gal)**
TW-2S[a]	0	0	994,438
TW-2D	0	0	52,875,356
TW-3D	98.1	4,377,424	13,620,919
PE-1	34.9	1,559,939	3,362,084
Total	133.0	5,937,363	70,852,797
Volume Pumped from the MW-20 Well Cluster			1,527,724
Total Volume Pumped (gal)			72,380,521
Total Volume Pumped (ac-ft)			222.1

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

[a] Pumping results during the monthly period are based on readings collected between March 1, 2006 at 12:00 a.m. and March 31, 2006 at 11:59 p.m. (31 days).
[b] Interim Measure groundwater extraction at the Topock site was initiated in March 2004.
[c] The "Average Pumping Rate" is the overall average during the reporting period, including system downtime based on flow meter readings.

TABLE 2-2
Analytical Results for Extraction Wells, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

Well ID	Sample Date	Unfiltered Total Chromium mg/L	Hexavalent Chromium mg/L	Total Dissolved Solids mg/L
TW-2D	05-Oct-05	3.79	3.96	6040
TW-2D	12-Oct-05	4.24	3.60	5950
TW-2D	19-Oct-05	3.68	3.79	6080
TW-2D	25-Oct-05	3.27	3.90	5880
TW-2D	02-Nov-05	3.63	3.75	5950
TW-2D	07-Dec-05	3.67	3.60	5840
TW-2D	18-Jan-06	1.98 LF	2.18	6930
TW-2D	15-Mar-06	1.36 FF	1.36	5220 J
TW-2S	15-Mar-06	2.87 FF	2.72	1620 J
TW-3D	18-Jan-06	4.72 LF	4.33	5090
TW-3D	08-Feb-06	2.88 LF	3.25	5490
TW-3D	08-Mar-06	3.21 FF	3.04	5380
PE-1	08-Feb-06	0.136 LF	0.136	7380
PE-1	08-Mar-06	0.125 FF	0.136	6830

Notes:

mg/L = concentration in milligrams per liter (mg/L)
LF = lab filtered
FF = field filtered
J = concentration or reporting limit estimated by laboratory or data validation.
(---) = data not collected.

Analytical results from inactive extraction wells are presented in Table B-2.

The analytical results from August through December 2005 were obtained from a sample point (SC-100B) on the influent conveyance system at the IM3 treatment system.

TABLE 4-1

Predicted and Actual Monthly Average Davis Dam Discharge and Colorado River Elevation at I-3

Interim Measures Performance Monitoring

PG&E Topock Compressor Station

Month	Davis Dam Release			Colorado River Elevation at I-3		
	Projected (cfs)	Actual (cfs)	Difference (cfs)	Predicted (ft AMSL)	Actual (ft AMSL)	Difference (feet)
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	8,090	1,890	452.4	453.3	0.9
January 2005	8,800	4,900	-3,900	453.4	452.4	-1.0
February 2005	8,000	4,820	-3,180	453.1	452.6	-0.5
March 2005	15,600	7,110	-8,490	455.8	452.9	-2.9
April 2005	16,700	16,306	-394	455.9	456.0	0.1
May 2005	16,700	15,579	-1,121	456.2	456.1	-0.1
June 2005	14,600	15,223	623	455.8	456.1	0.3
July 2005	15,400	15,612	212	456.0	456.0	0.0
August 2005	11,700	11,544	-156	454.6	454.8	0.2
September 2005	12,400	12,335	-65	454.6	NA	NA
October 2005	12,300	11,201	-1,099	454.5	454.3	-0.2
November 2005	10,900	10,216	-684	454.3	454.3	0
December 2005	6,900	6,745	-155	452.8	452.7	-0.1
January 2006	8,400	9,166	766	453.2	453.6	0.4
February 2006	11,100	10,790	-310	454.1	454.1	0.1
March 2006	13,000	12,429	-571	454.7	454.8	0.2
April 2006	16,600	----	----	456.0	----	----

NOTES:

NA = I-3 transducer data unavailable for month of September 2005 due to damage by debris.

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 2004 through July 2004 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

TABLE 4-2
Average Hydraulic Gradients Measured at Well Pairs, March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

Well Pair	Mean Landward Hydraulic Gradient (feet/foot)	Measurement Dates 2006
Northern Gradient Pair		
MW-31-135 / MW-33-150	0.0026	March 1 through 31
Central Gradient Pair		
MW-20-130 / MW-34-80	0.0036	March 1 through 31
Southern Gradient Pair		
MW-20-130 / MW-42-65	0.0039	March 1 through 31

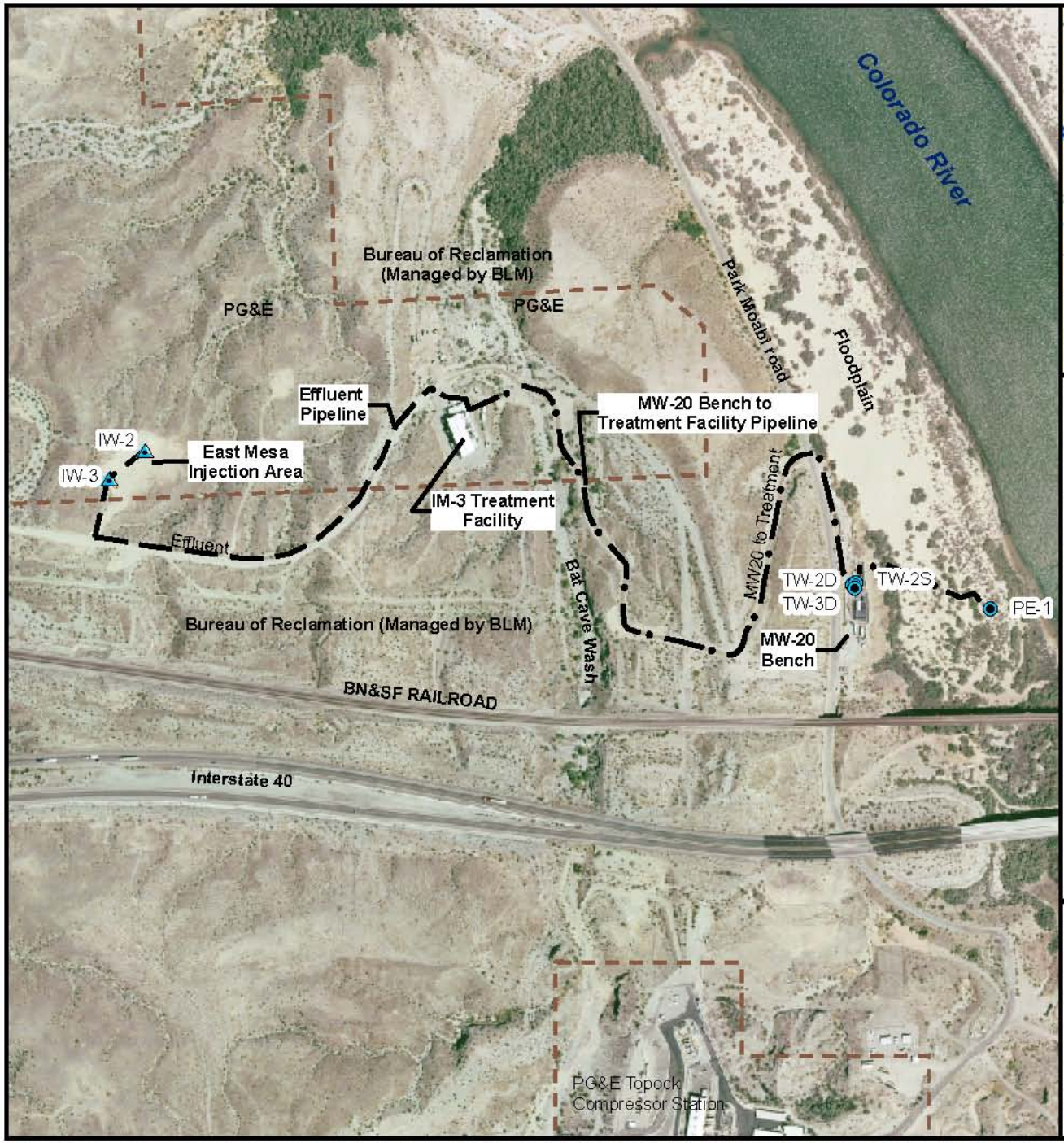
Notes:

1) Refer to Figure 1-2 for location of well pairs

2) For IM pumping, the target landward gradient for the selected well pairs is 0.001 feet/foot

3) Extraction well PE-1 began pumping on 1/26/06. As a result, the gradient reported for the central well pair is affected by having an additional pumping well between wells used for gradient calculation.

Figures



N

0 550 1,100 Feet

1 inch equals 550 feet

LEGEND

- PG&E Property Line
- Existing IM Extraction Well
- Existing IM Injection Well
- Treatment Facility Pipeline

Notes: Location map shows Interim Measures No.3 wells as of of November 2005.
Aerial photography taken May 2005.

FIGURE 1-1
LOCATIONS OF IM NO. 3 GROUNDWATER EXTRACTION, CONVEYANCE, AND TREATMENT FACILITIES

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

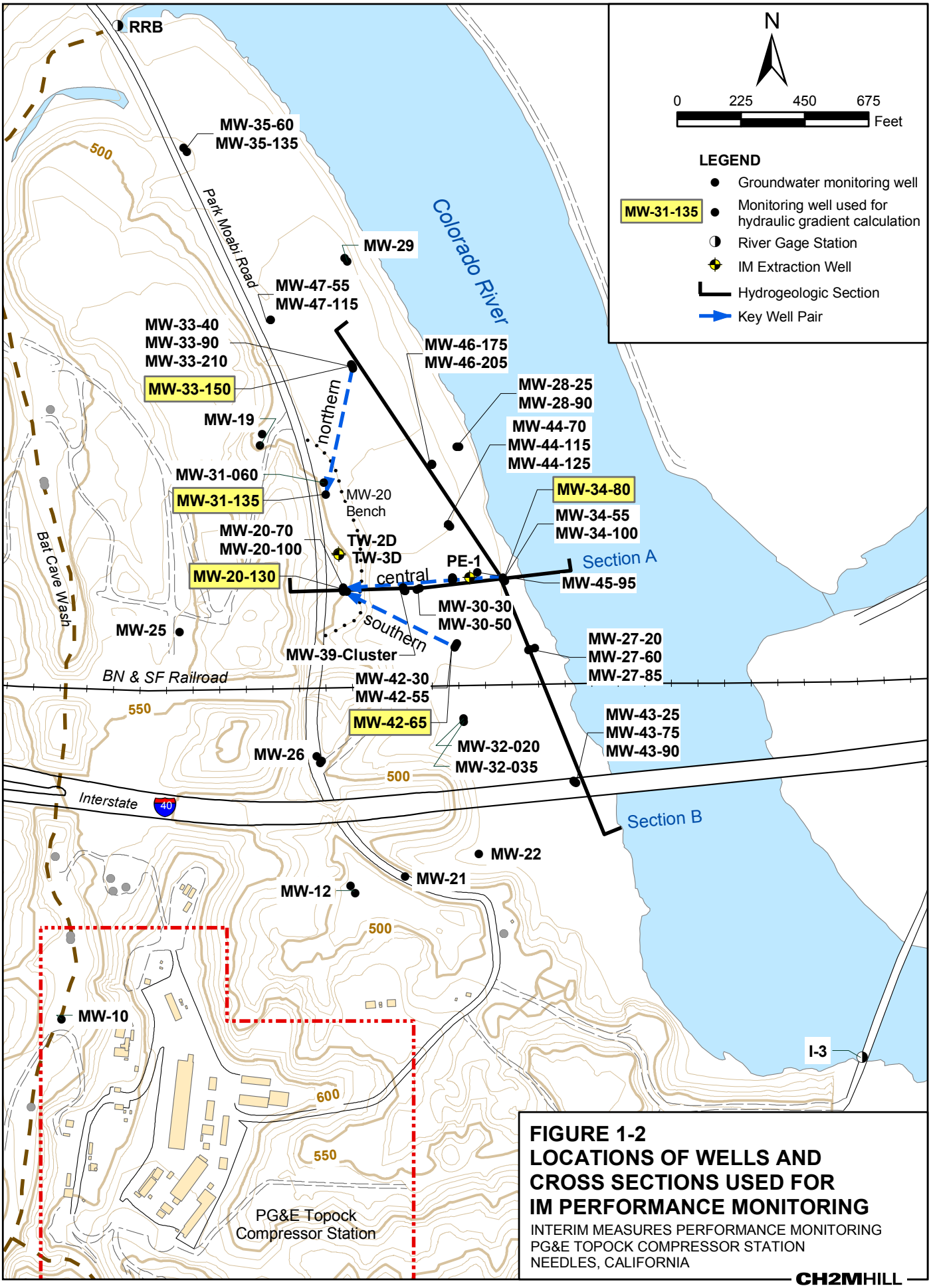


FIGURE 1-2
LOCATIONS OF WELLS AND CROSS SECTIONS USED FOR IM PERFORMANCE MONITORING

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2006\PMP_WELLS_SECTIONS_8X11M_APRIL06.MXD
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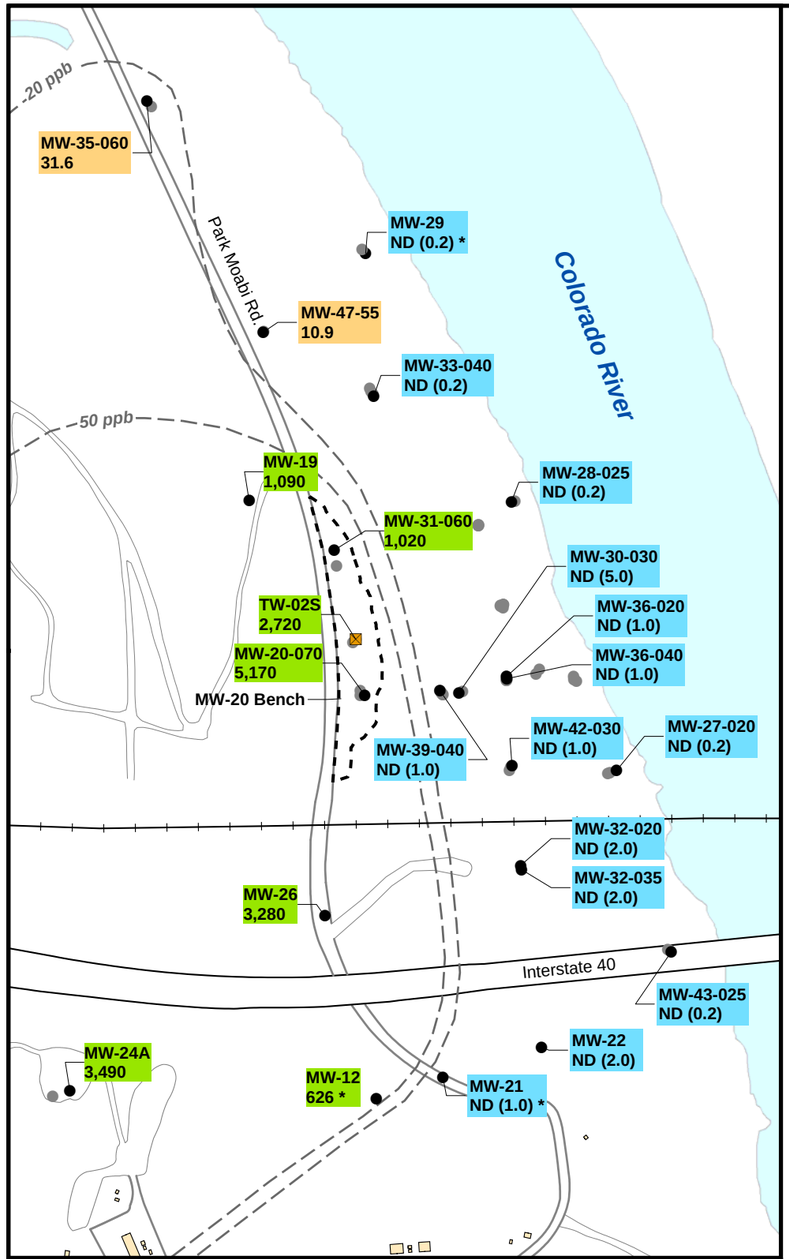
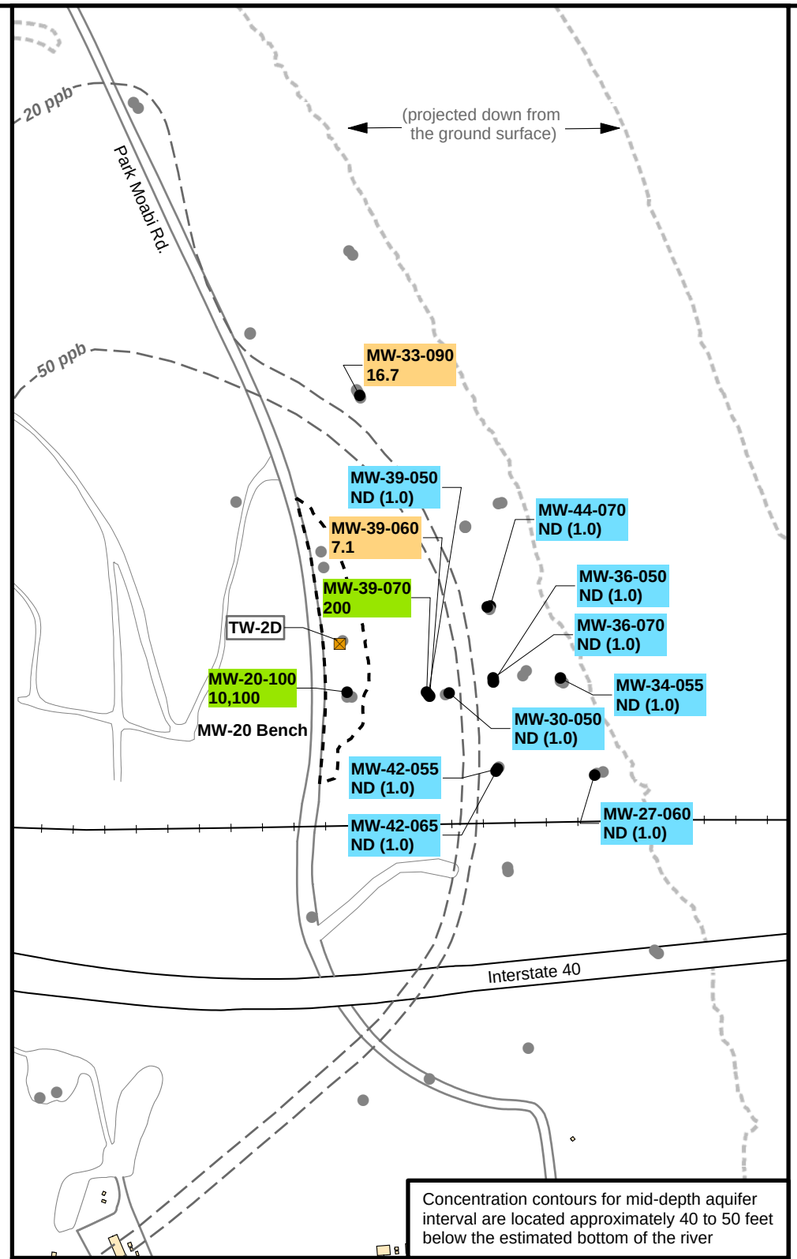
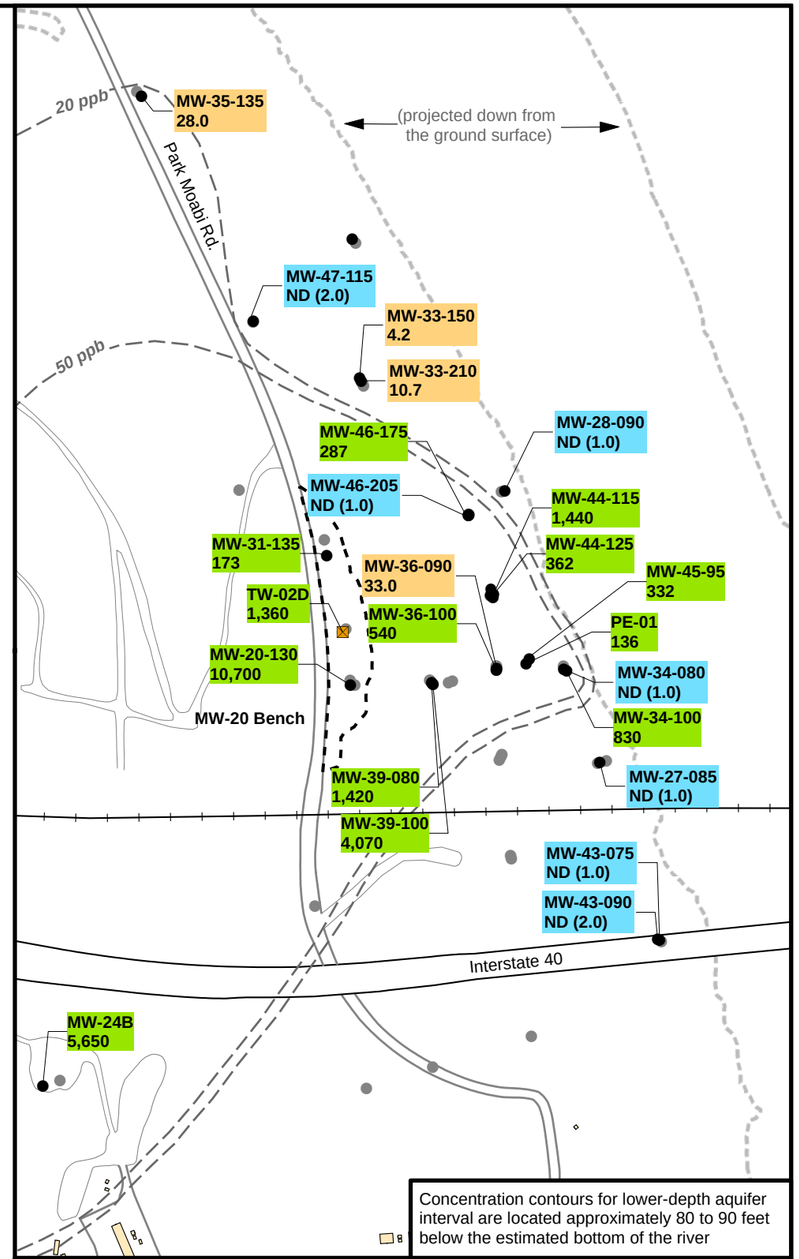


Shallow Wells (Upper Depth Interval)



Intermediate Wells (Middle Depth Interval)



Deep Wells (Lower Depth Interval)

ND (1) Not detected at listed reporting limit (ppb)

41 Less than 50 ppb

3,810 Greater than 50 ppb

— · 50 · — Inferred Cr(VI) concentration contour

Notes:

All data points marked * are from December 2005 sampling events. All other data points are from March 2006 sampling events.

See Tables B-1 and B-2 for data and dates of sampling.

Data posted is the maximum measured concentration of all sampling events and duplicates measured over the reporting period.

Hexavalent Chromium Concentrations in Groundwater March 2006 Sampling Event

Concentrations in micrograms per liter (µg/L) equivalent to parts per billon (ppb)
ND = not detected at listed reporting limit.
J = Analyte is present but the reported value may not be accurate or precise (estimated)

N

0 400 800 Feet

1 inch equals 400 feet

FIGURE 3-1
CR(VI) CONCENTRATIONS IN ALLUVIAL AQUIFER, MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

West

East
Section A

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

TW-3D
projected: 130'

MW-20 Cluster

MW-39 Cluster

MW-30-30
MW-30-50

MW-36 Cluster

PE-1

MW-45-95
projected: 30'

MW-34-55
MW-34-80
MW-34-100

Colorado River

Elevation (feet above MSL)

550
500
450
400
350
300
250

static water level (no pumping)

ALLUVIAL AQUIFER

Upper Depth Interval

Middle Depth Interval

Lower Depth Interval

Approximate geologic contact between alluvial fan (west) and fluvial deposits (east)

5,170
10,100
10,700
132'
157'
180'

ND (1.0)
ND (5.0)
7.1
200
1,420
4,070
67'
118'

33.0
540
108'

136
332
97'
105'

ND (1.0)
830
116'

5,000
500
50
20
?

Miocene Conglomerate (Bedrock)

True-Scale (No Vertical Exaggeration)

0 100 200 300 400 500 600 700
Distance (feet)

water level
well screen
boring depth (feet) 103

3,420

50
Inferred Hexavalent Chromium concentration contour

Hexavalent Chromium concentration in micrograms per liter (ug/L) equivalent to parts per billion (ppb)

ND (1) Not detected at listed reporting limit (ppb)

42 Less than 50 ppb

3,810 Greater than 50 ppb

Notes:
Results posted are maximum measured concentrations from March 2006 sampling events.
See Table B-1 for sampling data.

FIGURE 3-2
CR(VI) CONCENTRATIONS
FLOODPLAIN CROSS-SECTION A
MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

C:\DOCUMENTS AND SETTINGS\KATE EBEL\DESKTOP\FIG3-2_SEC_A_4-10-06.GDW;

North

South
Section B

Cross-Section Parallel to the Colorado River

BN & SF Railroad

I-40 Bridge

MW-33-40
MW-33-90
MW-33-150
MW-33-210

MW-46-175
MW-46-205
projected: 30'

MW-28-25
MW-28-90
projected: 140'

MW-44-70
MW-44-115
MW-44-125

MW-34-55
MW-34-80
MW-34-100

MW-27-20
MW-27-60
MW-27-85

MW-43-25
MW-43-75
MW-43-90

Elevation (feet above MSL)

ALLUVIAL AQUIFER

Oldest Alluvium

Fluvial Deposits

water table (average 454' MSL)

Upper Depth Interval

Middle Depth Interval

Lower Depth Interval

Approximate geologic contact between alluvial fan and fluvial deposits

20 50 500

ND (0.2) | 16.7 | 4.2 | 10.7 | ND (1.0) — 237'

ND (0.2) | ND (1.0) | 287 | ND (1.0) — 148' | 216'

ND (0.2) | ND (1.0) | 1,440 | 362 — 134'

ND (1.0) | ND (1.0) | 830 — 116'

ND (0.2) | ND (1.0) | ND (1.0) — 107'

ND (0.2) | ND (1.0) | ND (2.0) — 97'

Miocene Conglomerate (Bedrock)

True Scale, no vertical exaggeration

Distance (feet)

0 200 400 600 800 1,000 1,200 1,400 1,600

water level

well screen

3,810

boring depth (feet) 103'

50 — Inferred Hexavalent Chromium concentration contour

Hexavalent Chromium concentration in micrograms per liter (ug/L) equivalent to parts per billion (ppb)

ND (1) — Not detected at listed reporting limit (ppb)

42 — Less than 50 ppb

3,810 — Greater than 50 ppb

Notes:
Cross section updated March 2006 with MW-44 and MW-46 drilling data.

Results posted are maximum measured concentrations from March 2006 sampling events. See Table B-1 for sampling data.

FIGURE 3-3
CR(VI) CONCENTRATIONS
FLOODPLAIN CROSS-SECTION B
MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GINT\INPUT\GINT_WORK_FILE_TYPES\GDW\X-SECTIONS\PMR\4-2006\SEC-B_TRUE-SCALE_MAR06.GDW;

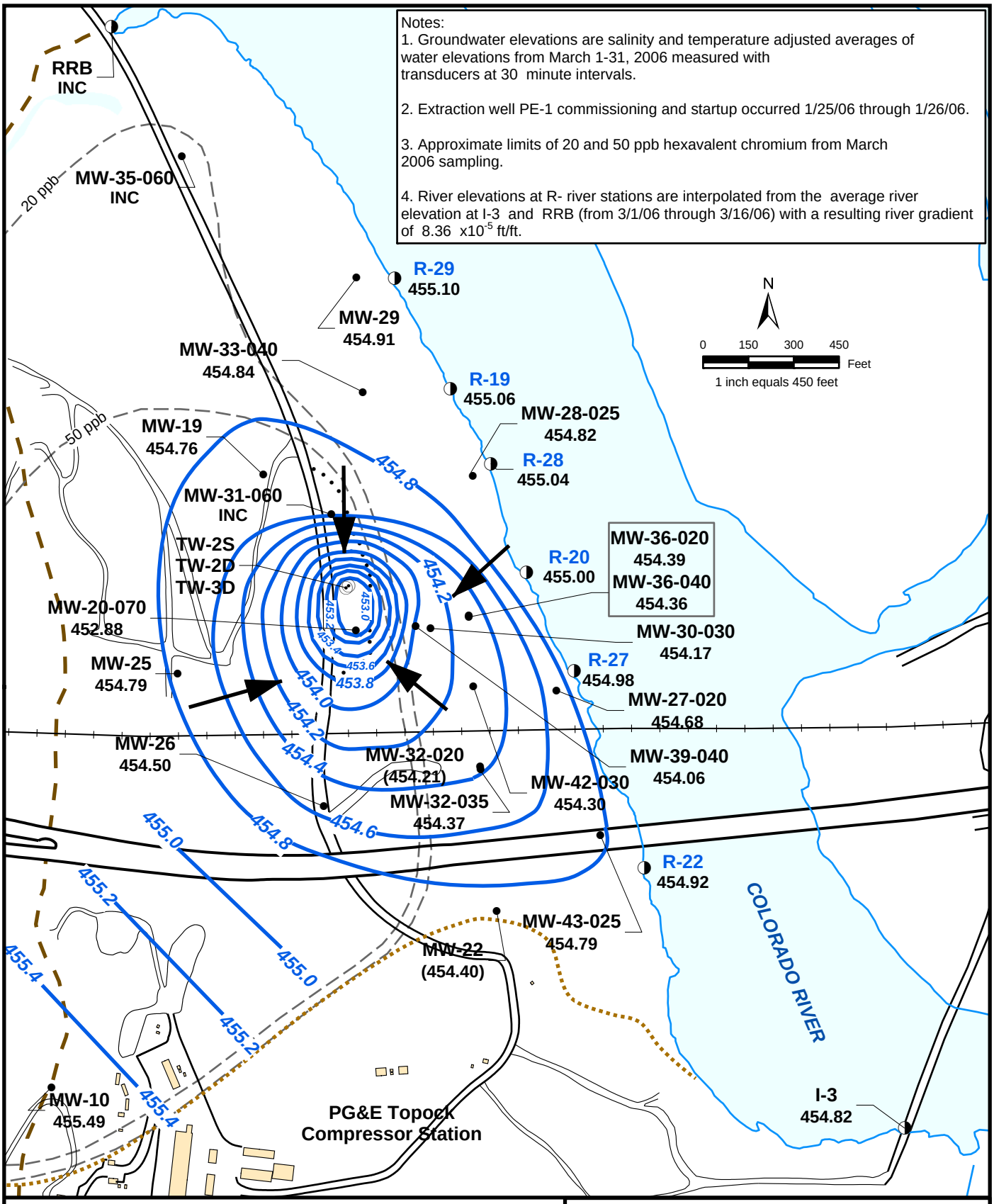


FIGURE 4-1
AVERAGE GROUNDWATER SHALLOW WELLS AND RIVER MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2006\GW\IM_AVERAGE_GROUNDWATER_UA_Mar_06.MXD

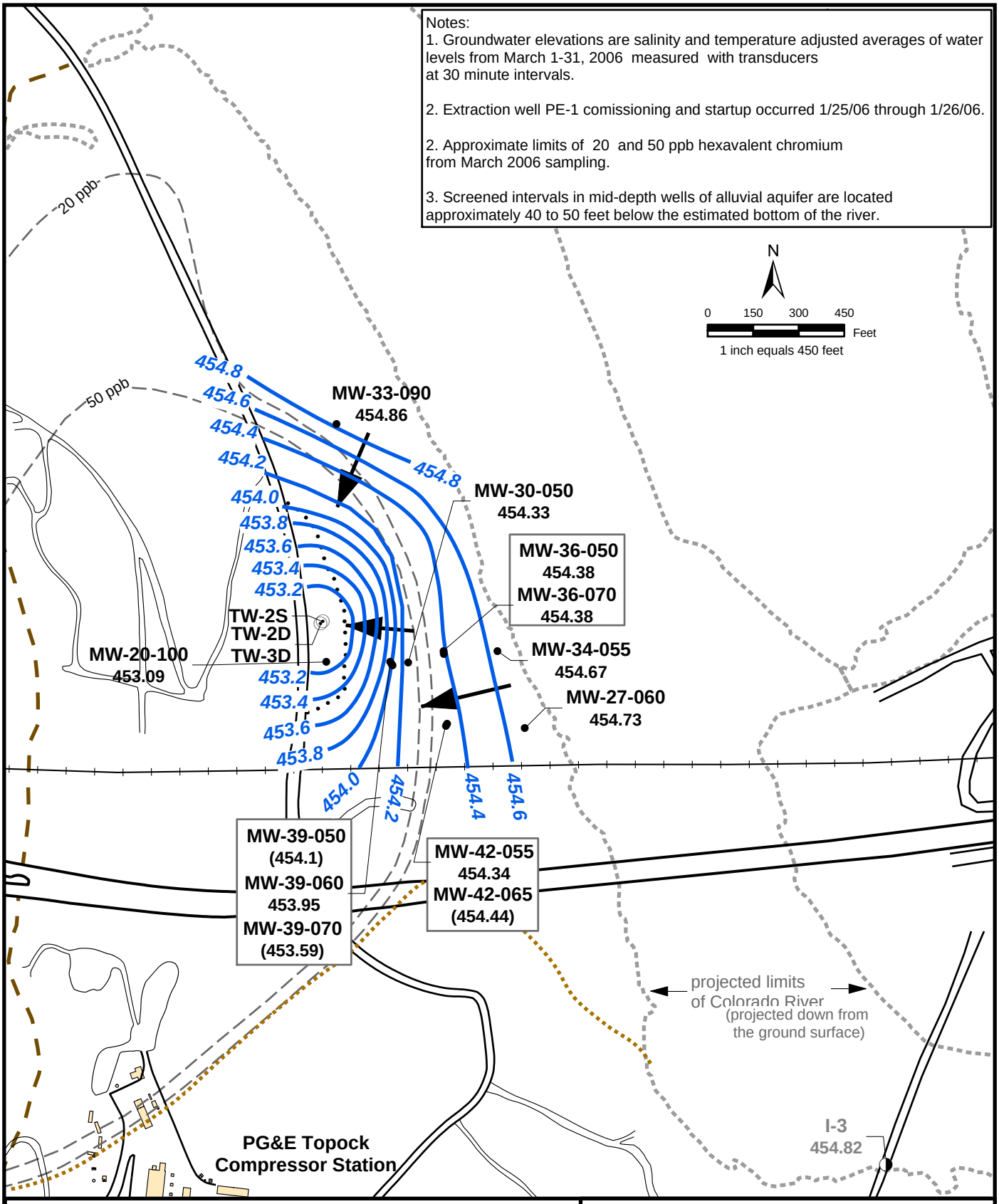


FIGURE 4-2
AVERAGE GROUNDWATER ELEVATIONS MID-DEPTH WELLS MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

SFO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2006\GW\IM_AVERAGE_GROUNDWATER_MA_Mar06.MXD

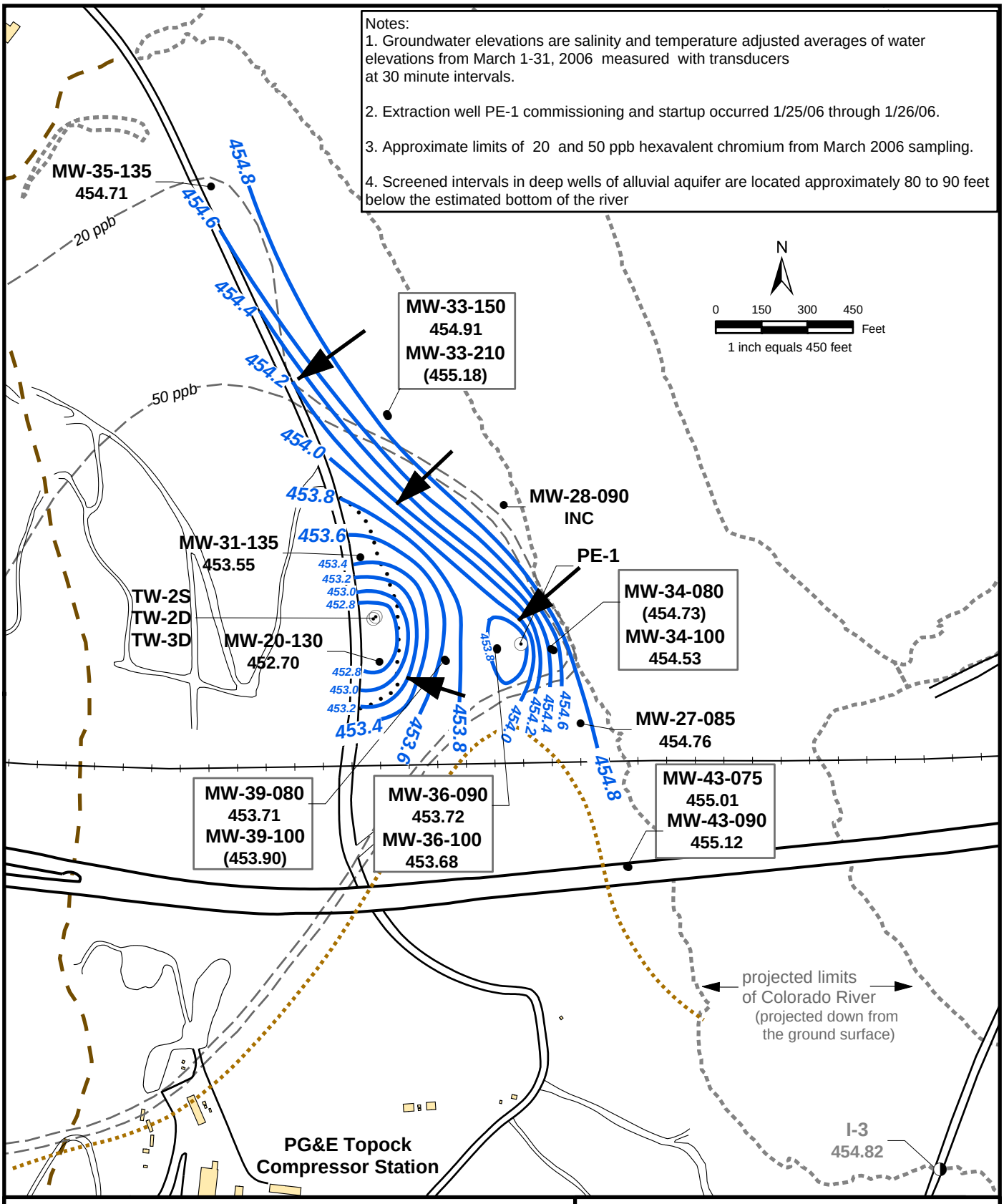
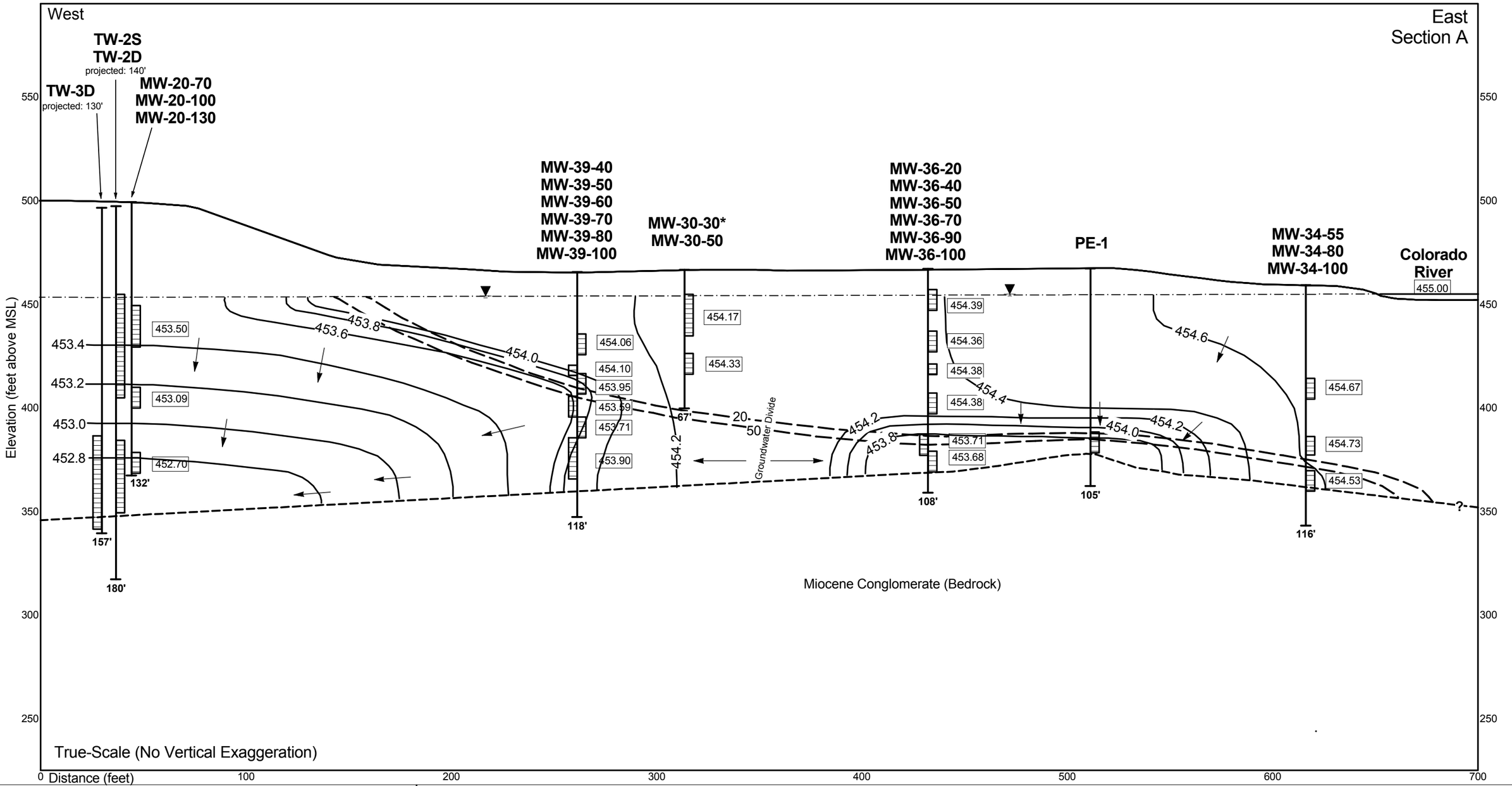


FIGURE 4-3
AVERAGE GROUNDWATER ELEVATIONS DEEP WELLS MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

BAO \\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MXD\2006\GW\IM_Average_groundwater_LA_February_06.mxd



Notes:
Results show average groundwater elevations for March 1-31, 2006 measured with transducers at 30 minute intervals.
Groundwater elevations adjusted for salinity and temperature.

Well MW-30-30* excluded from contouring.

PE-1 pumping began on 1/26/06.
River elevation (R-20) is the calculated average river level based upon the river gradient between RRB and I-3.
Data subject to review.

Legend:

MW-30-50
Inferred water table
well screen
453.66
103 boring depth (feet)

20 Inferred hexavalent chromium contour (ppb) March, 2006

Annual average groundwater head (ft MSL)

453.5 Groundwater head contour

453.5 Inferred groundwater head contour

Interpreted groundwater flow direction

FIGURE 4-4
AVERAGE GROUNDWATER ELEVATIONS FOR WELLS ON FLOODPLAIN CROSS-SECTION A MARCH 2006

INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

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Appendix A
Extraction System Operations Log for March 2006

Appendix A
Extraction System Operations Log for March 2006
PG&E Topock Interim Measures Performance Monitoring Program

During March 2006, the operational run time for the IM groundwater extraction system was greater than 99 percent (i.e., one or more extraction wells operating). Extraction wells TW-3D and PE-1 operated at a target pump rate of at 135 gallons per minute (gpm) excluding periods of planned and unplanned downtime.

No planned extraction system downtime occurred during March 2006. Periods of unplanned extraction system downtime are summarized below.

- **March 5, 8, 10, 11 and 15, 2006**: Extraction well PE-1 was automatically shut down due to a low water level above the well pump. This alarm condition protects the submersible well pump from damage due to overheating. The well pump was re-started after groundwater levels had sufficiently recovered in the well. Periods of PE-1 downtime occurred on March 5 (9 minutes), March 8 (70 minutes), March 10 and 11 (overnight shutdown for 14 hours 54 minutes), and March 15 (11 minutes). Since March 15, the target pump rate from PE-1 was reduced from approximately 37 gpm to 36 gpm to reduce the potential for over-pumping in the well and resulting unplanned shutdown periods. Extraction well TW-3D continued to operate during each of these periods of PE-1 downtime and was temporarily increased to approximately 120 gpm during the longer downtime events until PE-1 was brought back into service.
- **March 7, 2006:** The extraction well system was shut down from 7:00 pm to 7:25 pm (26 minutes) due to power supply issues with City of Needles power.
- **March 25 and 26, 2006:** The extraction well system was shut down from 8:54 pm on March 25 to 2:42 am on March 26 to repair a pinhole leak on the reverse osmosis unit piping. Extraction system downtime was 5 hours 49 minutes.

Appendix B
Chromium Sampling Results for Monitoring Wells in Floodplain Area

TABLE B-1
Groundwater Sampling Results for Floodplain Monitoring Wells, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters			Groundwater and River Elevations at Sampling Time	
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm	Groundwater Elevation salinity-adjusted feet MSL	River Elevation Downstream I-3 Station
Shallow Wells								
MW-27-020	05-Oct-05	ND (0.21)	ND (1.0)	-158	1.8	1,170	454.7	454.4
	14-Dec-05	ND (0.2)	ND (1.0)	-171	2.2	1,120	453.2	452.5
	06-Mar-06	ND (0.2)	ND (1.0)	-153	0.4	910	455.0	455.1
MW-28-025	06-Oct-05	ND (0.2)	ND (1.0)	-35	2.0	1,300	454.9	454.6
	16-Dec-05	ND (0.2)	ND (1.0)	-69	2.5	1,390	453.3	453.1
	09-Mar-06	ND (0.2)	ND (1.0)	-54	3.5	1,140	455.2	455.2
MW-29	04-Oct-05	ND (0.2)	ND (1.0)	-110	3.2	5,240	455.1	452.9
	12-Dec-05	ND (0.2)	ND (1.0)	-40	5.5	4,280	454.0	453.1
MW-30-030	07-Oct-05	ND (0.2)	ND (1.0)	-146	2.5	45,000	453.7	454.2
	15-Dec-05	ND (5.0)	ND (1.0)	-100	3.0	38,900	453.6	452.2
	13-Mar-06	ND (5.0)	ND (1.0)	-99	1.1	55,600	454.1	454.2
MW-32-020	04-Oct-05	ND (2.0)	ND (1.0) J	-115	2.3	36,000	454.4	452.9
	16-Dec-05	ND (2.0)	ND (1.0)	-107	2.7	33,900	453.3	452.7
	10-Mar-06	ND (2.0)	ND (1.0)	-125	0.4	---	454.4	455.1
MW-32-035	04-Oct-05	ND (1.0)	ND (1.0)	-159	2.1	11,600	454.4	452.9
	16-Dec-05	ND (1.0)	ND (1.0)	-141	2.4	11,200	453.1	452.7
	10-Mar-06	ND (2.0)	ND (1.0)	-161	0.1	9,570	454.7	454.9
MW-33-040	07-Oct-05	0.68	ND (1.0)	---	---	---	454.9	454.1
	12-Dec-05	ND (1.0)	1.70	45	4.8	14,500	453.6	452.7
	09-Mar-06	ND (0.2)	ND (1.0) LF	---	---	---	454.8	455.2
MW-36-020	03-Oct-05	ND (1.0)	ND (1.0)	-165	3.0	13,000	454.3	M
	15-Dec-05	ND (2.0)	ND (1.0)	-112	2.4	---	452.7	452.3
	07-Mar-06	ND (1.0)	ND (1.0)	-148	2.5	18,900	461.5	455.2
MW-36-040	03-Oct-05	ND (1.0)	ND (1.0)	-162	3.8	10,800	454.6	M
	15-Dec-05	ND (1.0)	ND (1.0)	-190	2.7	15,400	452.7	452.5
	07-Mar-06	ND (1.0)	ND (1.0)	-166	3.3	17,000	454.4	454.6
MW-39-040	04-Oct-05	ND (0.2)	ND (1.0)	-203	2.9	5,640	454.5	452.9
	16-Dec-05	ND (0.2)	ND (1.0)	-177	2.1	5,680	452.7	453.1
	07-Mar-06	ND (1.0)	ND (1.0)	-162	3.0	8,450	454.1	454.3
MW-42-030	07-Oct-05	ND (1.0)	ND (1.0)	-139	2.9	16,700	454.6	454.7
	15-Dec-05	ND (1.0)	ND (1.0)	-129	2.4	14,500	452.6	452.3
	07-Mar-06	ND (1.0)	ND (1.0)	-154	0.4	11,400	454.3	454.5
MW-43-025	04-Oct-05	ND (0.2)	ND (1.0)	-159	2.0	1,220	454.6	452.9
	16-Dec-05	ND (0.2)	ND (1.0)	-184	2.5	1,420	453.0	452.7
	10-Mar-06	ND (0.2)	ND (1.0)	-153	0.3	1,350	455.3	455.4
Middle-Depth Wells								
MW-27-060	05-Oct-05	ND (1.0)	ND (1.0)	-97	3.2	13,200	454.9	454.6
	15-Dec-05	ND (1.0)	ND (1.0)	-134	2.9	10,000	452.8	452.4
	07-Mar-06	ND (1.0)	ND (1.0)	-118	2.5	13,700	454.8	454.9
MW-30-050	07-Oct-05	ND (1.0)	ND (1.0)	-236	2.8	12,300	454.5	454.3
	16-Dec-05	ND (1.0)	ND (1.0)	-263	2.5	8,840	453.1	453.0

Refer to table footnotes for data qualifier explanation.

TABLE B-1
Groundwater Sampling Results for Floodplain Monitoring Wells, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters			Groundwater and River Elevations at Sampling Time	
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm	Groundwater Elevation salinity-adjusted feet MSL	River Elevation Downstream I-3 Station
Middle-Depth Wells								
MW-30-050	09-Mar-06	ND (1.0)	ND (1.0)	-81	2.4	8,800	454.2	454.2
MW-33-090	06-Oct-05	15.5	13.0	-33	1.9	9,210	454.7	454.0
	13-Dec-05	16.4	21.8 J	-43	2.3	9,310	453.7	452.9
	13-Dec-05 FD	16.5	14.0 J	FD	FD	FD	FD	FD
	08-Mar-06	16.7	14.3	-42	0.3	10,200	454.9	455.0
MW-34-055	05-Oct-05	ND (1.0)	ND (1.0)	-93	1.7	8,610	454.2	453.5
	14-Dec-05	ND (1.0)	ND (1.0)	-124	2.1	6,610	453.2	452.7
	08-Mar-06	ND (1.0)	ND (1.0)	-106	---	8,460	454.4	454.4
MW-36-050	03-Oct-05	ND (1.0)	ND (1.0)	-133	2.9	7,500	454.6	M
	15-Dec-05	ND (1.0)	ND (1.0)	-136	2.8	13,700	452.6	452.5
	07-Mar-06	ND (1.0)	ND (1.0)	-110	2.7	8,400	454.5	454.8
	07-Mar-06 FD	ND (1.0)	ND (1.0)	FD	FD	FD	FD	FD
MW-36-070	03-Oct-05	ND (1.0)	ND (1.0)	-112	2.5	7,680	454.5	M
	15-Dec-05	ND (1.0)	ND (1.0)	-108	2.3	9,310	452.7	452.3
	10-Feb-06	ND (10)	ND (1.0)	-91	2.7	12,600	453.5	453.7
	07-Mar-06	ND (1.0)	ND (1.0)	-67	2.5	9,720	454.6	455.0
MW-39-050	04-Oct-05	ND (10)	4.70	-78	2.6	13,600	454.2	452.9
	12-Jan-06	ND (10)	ND (1.0)	-9	2.8	18,300	453.0	453.9
	08-Mar-06	ND (1.0)	ND (1.0)	71	2.3	16,000	454.3	455.0
MW-39-060	04-Oct-05	72.3	79.6 J	-20	2.2	14,100	454.0	452.9
	16-Dec-05	20.4	20.4	-40	2.3	11,200	452.7	453.2
	08-Mar-06	7.10	2.70	12	2.1	20,600	453.8	454.3
	08-Mar-06 FD	6.90	2.40	FD	FD	FD	FD	FD
MW-39-070	04-Oct-05	840	754	31	2.7	13,800	454.0	452.9
	16-Dec-05	1240	1080	22	2.2	10,000	452.4	453.0
	10-Feb-06	338	340	48	2.8	15,500	452.9	454.0
	08-Mar-06	200	169	201	2.8	16,300	453.5	454.5
MW-42-055	07-Oct-05	ND (1.0)	ND (1.0)	-126	5.6	18,100	454.8	454.7
	15-Dec-05	ND (1.0)	ND (1.0)	-143	2.4	11,100	452.8	452.3
	07-Mar-06	ND (1.0)	ND (1.0)	-122	0.3	16,500	454.3	454.4
MW-42-065	07-Oct-05	ND (1.0)	ND (1.0)	-121	2.8	17,300	454.9	455.0
	15-Dec-05	ND (1.0)	ND (1.0)	-78	2.5	13,200	452.9	452.3
	07-Mar-06	ND (1.0)	ND (1.0)	-58	0.4	20,100	454.4	454.3
MW-44-070	09-Mar-06	ND (1.0)	ND (1.0)	-393	2.4	6,970	---	454.0
	23-Mar-06	ND (1.0) J	ND (1.0)	-166	2.4	7,600	---	454.1
Deep Wells								
MW-27-085	05-Oct-05	ND (1.0)	ND (1.0)	-82	2.1	18,100	454.8	454.5
	03-Nov-05	ND (2.0) J	ND (1.0)	-150	1.1	23,100	454.5	454.2
	15-Dec-05	1.20 J	6.60	-124	2.8	14,300	452.9	452.5
	12-Jan-06	ND (1.0)	ND (1.0)	-91	2.8	22,600	453.4	453.3
	08-Feb-06	ND (1.0)	ND (1.0)	-82	2.6	21,100	453.9	453.7

Refer to table footnotes for data qualifier explanation.

TABLE B-1
Groundwater Sampling Results for Floodplain Monitoring Wells, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters			Groundwater and River Elevations at Sampling Time	
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm	Groundwater Elevation salinity-adjusted feet MSL	River Elevation Downstream I-3 Station
Deep Wells								
MW-27-085	06-Mar-06	ND (1.0)	ND (1.0)	-92	0.2	15,800	454.8	454.8
MW-28-090	06-Oct-05	ND (1.0)	ND (1.0)	-138	2.0	9,070	454.9	454.7
	02-Nov-05	ND (1.0)	ND (1.0)	-183	1.4	9,720	454.0	453.7
	16-Dec-05	ND (1.0)	ND (1.0)	-176	2.5	8,430	453.3	453.2
	10-Jan-06	ND (1.0)	ND (1.0)	-140	3.3	11,000	453.6	453.8
	09-Feb-06	ND (0.2) J	ND (1.0)	-156	2.8	8,830	453.8	453.8
	06-Mar-06	ND (1.0)	ND (1.0)	-151	0.3	6,830	454.4	454.4
MW-33-150	06-Oct-05	4.50	3.90	-41	2.0	15,800	454.6	453.5
	06-Oct-05 FD	5.30	4.90	FD	FD	FD	FD	FD
	02-Nov-05	5.50	4.70	-81	1.4	20,800	454.4	453.7
	12-Dec-05	6.60	5.70	21	3.9	19,200	453.7	452.8
	10-Jan-06	6.40	5.00	27	3.7	21,800	453.7	453.6
	07-Feb-06	4.30 J	6.40	-61	2.7	20,400	455.2	453.9
	08-Mar-06	4.20	3.20	-55	0.3	20,400	454.9	455.2
MW-33-210	06-Oct-05	4.00	4.20	-30	1.8	18,800	454.8	453.7
	02-Nov-05	6.50	5.40	-73	1.4	24,900	454.7	453.8
	12-Dec-05	6.90	5.60	40	3.6	21,900	454.1	452.9
	10-Jan-06	7.60	5.20	13	3.2	24,200	454.0	453.3
	07-Feb-06	9.00	7.20	-14	2.7	22,800	454.6	454.0
	06-Mar-06	10.7	6.50	-37	0.2	16,600	455.1	454.5
MW-34-080	05-Oct-05	ND (1.0)	ND (1.0)	-58	2.2	13,800	454.4	453.1
	03-Nov-05	ND (1.0)	ND (1.0)	-117	1.1	16,300	454.9	454.4
	14-Dec-05	ND (1.0)	ND (1.0)	-88	2.3	10,400	453.6	453.2
	11-Jan-06	ND (1.0)	ND (1.0)	-38	3.1	18,100	453.6	453.3
	08-Feb-06	ND (1.0)	ND (1.0)	-22	2.6	16,400	454.1	454.2
	09-Mar-06	ND (1.0)	ND (1.0)	-12	2.2	15,100	454.8	454.8
MW-34-100	05-Oct-05	732	732	-13	1.9	15,900	454.6	453.7
	05-Oct-05 FD	708	703	FD	FD	FD	FD	FD
	25-Oct-05	752	628	-29	1.4	20,100	454.2	453.7
	25-Oct-05 FD	752	650	FD	FD	FD	FD	FD
	03-Nov-05	748 J	897	-49	1.1	19,900	454.8	454.3
	16-Nov-05	759	762	-2	4.6	16,100	---	M
	16-Nov-05 FD	763	725	FD	FD	FD	FD	FD
	30-Nov-05	791	797	-55	2.6	19,900	454.3	453.8
	30-Nov-05 FD	802	721	FD	FD	FD	FD	FD
	14-Dec-05	808	751	-26	2.3	12,400	453.3	452.6
	14-Dec-05 FD	811	791	FD	FD	FD	FD	FD
	28-Dec-05	804	824	-28	2.4	19,300	452.7	452.3
	12-Jan-06	837	771	104	3.2	21,000	454.0	454.0
	12-Jan-06 FD	856	764	FD	FD	FD	FD	FD
	23-Jan-06	822	716	136	2.6	23,300	454.0	453.8
	08-Feb-06	797	706	65	2.5	20,100	453.8	453.8
	08-Feb-06 FD	785	708	FD	FD	FD	FD	FD

Refer to table footnotes for data qualifier explanation.

TABLE B-1
Groundwater Sampling Results for Floodplain Monitoring Wells, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters			Groundwater and River Elevations at Sampling Time	
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm	Groundwater Elevation salinity-adjusted feet MSL	River Elevation Downstream I-3 Station
Deep Wells								
MW-34-100	22-Feb-06	752	831	225	3.0	21,900	---	453.6
	22-Feb-06 FD	748	846	FD	FD	FD	FD	FD
	08-Mar-06	800	857	-8	---	18,600	454.2	454.3
	08-Mar-06 FD	801	773	FD	FD	FD	FD	FD
	23-Mar-06	830	851	113	2.2	18,400	454.1	454.4
	23-Mar-06 FD	828	855	FD	FD	FD	FD	FD
MW-36-090	03-Oct-05	302	286	174	3.4	12,700	460.7	M
	02-Nov-05	256	247	69	1.4	19,300	453.8	453.9
	15-Dec-05	240	219	34	2.5	18,000	452.5	452.4
	12-Jan-06	245	223	13	2.8	19,500	452.8	453.4
	10-Feb-06	71.8	71.4	37	3.4	16,100	453.0	453.8
	07-Mar-06	33.0	27.5	42	3.1	14,700	453.7	454.4
MW-36-100	05-Oct-05	383	370	4	2.8	16,500	454.7	454.2
	03-Nov-05	315	368	-19	1.3	21,100	454.6	454.0
	13-Dec-05	306	333	5	2.2	16,500	453.0	452.8
	12-Jan-06	287	288	28	2.9	21,600	452.8	453.3
	09-Feb-06	307	288	18	2.6	19,700	452.9	453.6
	13-Mar-06	540	531	-16	0.2	17,400	453.1	453.7
MW-39-080	04-Oct-05	3000	2770	76	2.7	15,900	454.0	452.9
	02-Nov-05	3200	3020	148	1.4	17,600	453.7	454.2
	15-Dec-05	2740	2570	78	2.2	15,400	452.5	452.2
	12-Jan-06	2280	2060	58	2.9	18,200	452.4	453.7
	10-Feb-06	1750	1610	66	2.6	18,900	453.0	454.0
	08-Mar-06	1420	1400	154	2.2	20,900	453.7	454.6
MW-39-100	04-Oct-05	4010	3950	73	2.3	15,900	453.7	452.9
	02-Nov-05	3580	3480	168	1.7	23,000	453.9	454.4
	02-Nov-05 FD	3650	3410	FD	FD	FD	FD	FD
	13-Dec-05	3640	3440	139	3.0	20,100	452.9	452.8
	12-Jan-06	4720	4280	121	3.6	22,900	452.6	453.7
	09-Feb-06	4500	4310	120	2.9	21,700	453.1	453.5
	13-Mar-06	4070	4640	51	0.7	20,400	452.9	453.9
MW-43-075	04-Oct-05	ND (1.0)	ND (1.0) J	-126	2.3	12,900	454.8	452.9
	03-Nov-05	ND (2.0)	ND (1.0)	-168	1.4	16,700	454.3	453.9
	16-Dec-05	ND (1.0)	ND (1.0)	-179	2.4	15,900	453.1	452.7
	11-Jan-06	ND (1.0)	ND (1.0)	-134	3.2	18,400	453.7	453.7
	10-Feb-06	ND (1.0)	ND (1.0)	-154	3.0	18,500	454.4	454.3
	10-Mar-06	ND (1.0)	ND (1.0)	-149	0.1	14,400	455.4	455.4
MW-43-090	04-Oct-05	ND (1.0)	ND (1.0)	-78	4.8	18,400	454.9	452.9
	03-Nov-05	ND (2.0)	ND (1.0)	-127	1.1	27,700	454.3	453.8
	16-Dec-05	ND (1.0)	ND (1.0)	-127	2.5	22,300	453.2	452.7
	11-Jan-06	ND (1.0)	ND (1.0)	-89	3.3	26,500	454.1	453.8
	10-Feb-06	ND (1.0)	ND (1.0)	-112	2.8	25,900	453.9	454.2
	10-Mar-06	ND (2.0)	ND (1.0)	-116	0.0	21,100	455.5	455.1

Refer to table footnotes for data qualifier explanation.

TABLE B-1
Groundwater Sampling Results for Floodplain Monitoring Wells, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters			Groundwater and River Elevations at Sampling Time	
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm	Groundwater Elevation salinity-adjusted feet MSL	River Elevation Downstream I-3 Station
Deep Wells								
MW-44-115	14-Mar-06	735 J	730	-11	1.5	16,500	---	454.2
	22-Mar-06	1440	1970	-74	3.0	30,400	---	453.8
MW-44-125	09-Mar-06	66.6	67.5	-419	2.6	13,500	---	454.1
	22-Mar-06	362	430	-280	1.5	15,000	---	453.7
MW-45-095a	24-Mar-06	259	216	-20	2.3	16,100	---	454.6
MW-45-095b	24-Mar-06	332	327	-12	2.1	16,700	---	454.5
MW-46-175	14-Mar-06	287	279	-44	2.2	19,500	---	454.5
	24-Mar-06	213	173	-93	1.9	19,900	---	454.7
MW-46-205	14-Mar-06	ND (1.0)	ND (1.0)	-117	2.3	22,600	---	454.9
	24-Mar-06	ND (1.0)	ND (1.0)	-202	1.7	24,000	---	454.4

NOTES:

ND = not detected at listed reporting limit (RL)
FD = field duplicate
J = concentration or RL estimated by laboratory or data validation
T = data from the downhole transducers to fill groundwater elevation data gaps at some locations
MSL = mean sea level
(---) = data not collected, available, rejected, or field instrumentation malfunctioned
µg/L= micrograms per liter
mV = oxidation-reduction potential (ORP)
µS/cm = microSiemens per centimeter
M = I-3 Transducer damaged

Beginning in July 2005, samples analyzed for total chromium by EPA Method 6010B or 6020 were filtered and preserved in the field after sample collection, as per DTSC's June 30, 2005 letter.

The RLs for certain hexavalent chromium results from Method 7199 analyses have been elevated above the standard RL of 0.2 µg/L due to required sample dilution to accommodate matrix interferences.

Groundwater and river elevations in feet above mean sea level (MSL) rounded to 0.1 foot. River elevations from presssure transducer record at I-3.

TABLE B-2
Groundwater Sampling Results for Other Monitoring Wells in PMP Area, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

Well ID	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters		
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm
Shallow Wells						
MW-12	04-Oct-05	660	644	55.0	6.13	3040
	04-Oct-05 FD	670	613	FD	FD	FD
	13-Dec-05	626	602	97.0	6.99	3260
MW-19	04-Oct-05	1060	996	30.0	6.87	2150
	12-Dec-05	1240	1270	153	7.68	2140
	09-Mar-06	1090	1080	227	7.43	3850
MW-20-070	11-Oct-05	6060	5930	151	6.90	3330
	15-Dec-05	4640	4310	149	7.97	3210
	10-Mar-06	5170	4510	228	7.32	5830
MW-21	05-Oct-05	ND (1.0) J	ND (1.0) J	-149	2.42	11400
	14-Dec-05	ND (1.0)	ND (1.0)	-90	5.35	12100
	09-Mar-06	---	---	---	4.20	15100
MW-22	04-Oct-05	ND (2.0)	ND (1.0) J	-86	2.51	35500
	16-Dec-05	ND (2.0)	ND (1.0)	-90	2.31	31200
	15-Mar-06	ND (2.0)	ND (1.0)	---	8.54	34800
MW-24A	03-Oct-05	3120	2930	157	3.26	3040
	03-Oct-05 FD	3040	2630	FD	FD	FD
	06-Mar-06	3490	3980	239	5.17	3140
MW-26	04-Oct-05	3040	2990	45.0	8.79	3380
	12-Dec-05	3220	3160	161	9.93	3440
	08-Mar-06	3280	3020	170	9.16	3840
MW-31-060	06-Oct-05	1430	1470	54.0	6.36	2990
	13-Dec-05	1300	1250	119	6.75	2870
	15-Mar-06	1020	1010	217	7.01	2750
	15-Mar-06 FD	1000	1010	FD	FD	FD
MW-35-060	07-Oct-05	32.5	28.0	-1.0	1.90	7560
	07-Oct-05 FD	35.1 J	32.0	FD	FD	FD
	14-Dec-05	32.5	32.5	95.0	3.97	5800
	14-Dec-05 FD	33.3	28.6	FD	FD	FD
	14-Mar-06	31.6	24.3	42.0	2.92	15500
MW-47-055	23-Mar-06	10.9 J	7.90	-94	2.98	5800
TW-02S	07-Oct-05	3360	3340	204	8.57	3320
	15-Mar-06	2720	2870	-38	7.53	3200
Middle-Depth Wells						
MW-20-100	11-Oct-05	10200	9430	157	1.54	4140
	15-Dec-05	9460	9010	140	3.03	3980
	10-Mar-06	10100	10200	198	3.77	4360
Deep Wells						
MW-20-130	07-Oct-05	9590	10700	53.0	2.46	12300
	16-Dec-05	10500	9340	123	3.32	11700
	10-Mar-06	10700	10600	213	3.49	14500
MW-24B	03-Oct-05	5240	4930	153	3.19	14000
	07-Mar-06	5650	5970	199	2.59	17200

TABLE B-2
Groundwater Sampling Results for Other Monitoring Wells in PMP Area, October 2005 through March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

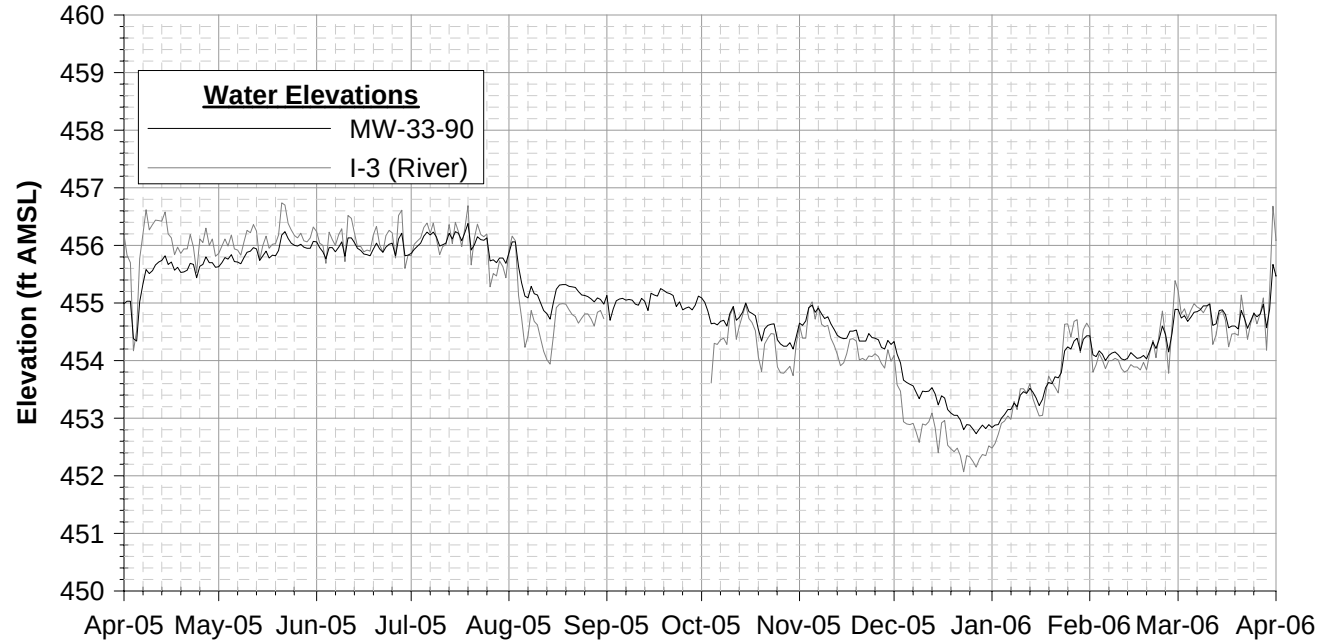
Well ID	Sample Date	Hexavalent Chromium µg/L	Dissolved Total Chromium µg/L	Selected Field Parameters		
				ORP mV	Dissolved Oxygen mg/L	Specific Conductance µS/cm
MW-31-135	06-Oct-05	271	251	-4.0	2.02	10100
	14-Dec-05	221	198	124	4.13	7980
	15-Mar-06	173	186	33.0	3.05	13400
MW-35-135	07-Oct-05	21.2	17.8	-55	1.29	10800
	14-Dec-05	25.7	22.8	38.0	3.17	8480
	10-Mar-06	28.0	24.0	103	2.44	12400
	10-Mar-06 FD	26.5	25.7	FD	FD	FD
MW-47-115	23-Mar-06	ND (2.0) J	ND (1.0)	-161	2.32	15600
PE-01	03-Oct-05	ND (1.0)	ND (1.0)	-202	0.77	11600
	13-Dec-05	ND (1.0)	ND (1.0) LF	-148	2.19	12400
TW-02D	15-Mar-06	1360	1360	5.00	5.20	8470

NOTES:

Analytical results are validated.
ND = not detected at listed reporting limit (RL)
FD = field duplicate
J = concentration or RL estimated by laboratory or data validation
(---) = data not collected, available, or field instrumentation malfunctioned
µg/L= micrograms per liter
mg/L = milligrams per liter
mV = oxidation-reduction potential (ORP)
µS/cm = microSiemens per centimeter

PMP = Interim Measure Performance Monitoring Program

Samples analyzed for total chromium by EPA Method 6010B or 6020 were filtered and preserved in the field after sample collection, as per DTSC's June 30, 2005 letter.



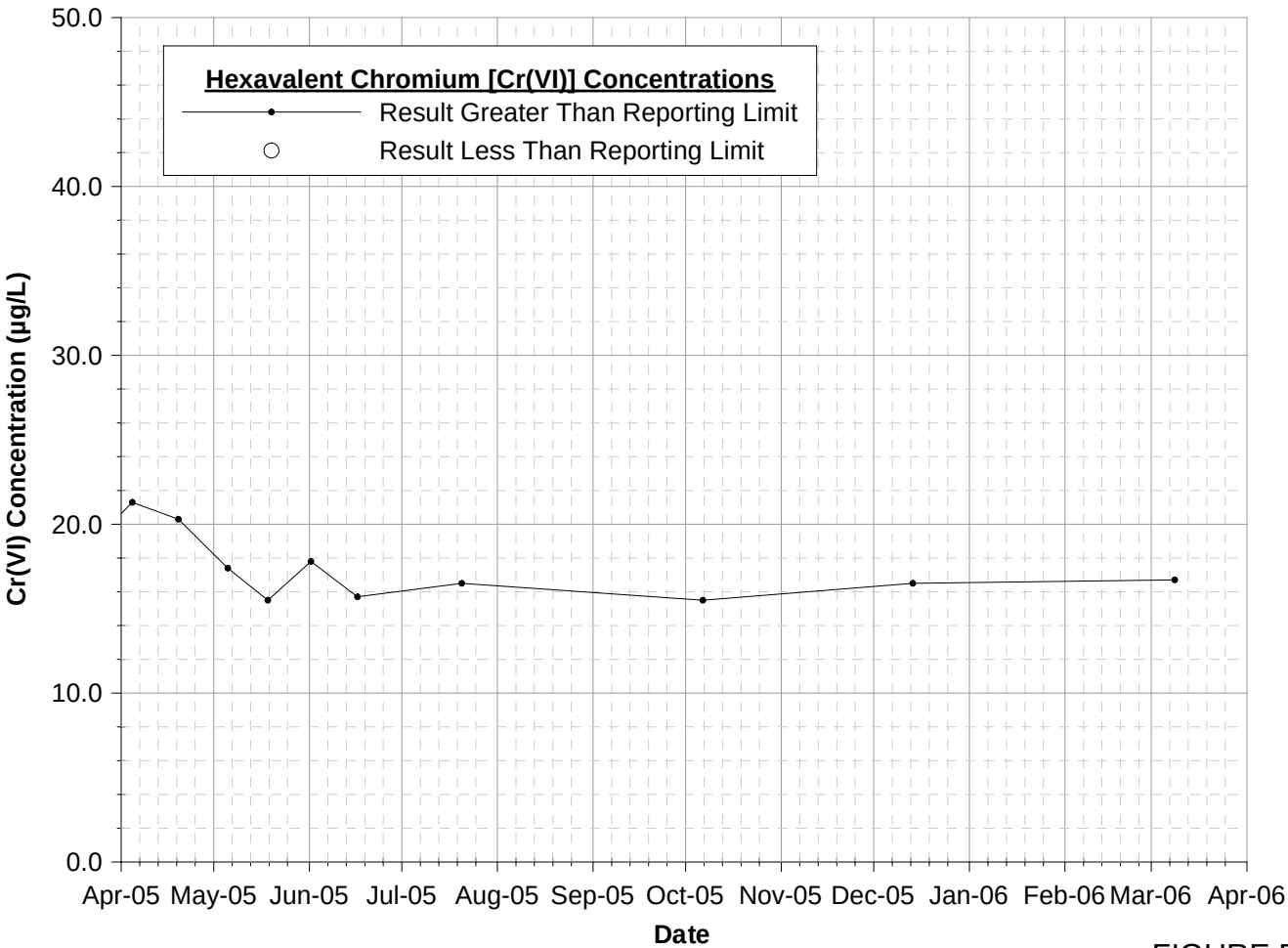


FIGURE B-1
MW-33-90 CR(VI) CONCENTRATION &
HYDROGRAPH - THROUGH 3/8/2006
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes
1. Chromium results in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
2. Data subject to review.
3. Results plotted are maximum concentrations from primary and duplicate samples; see Table B-1 for complete results.
4. I-3 data unavailable 9/1/05 through 10/4/05 due to river damage.

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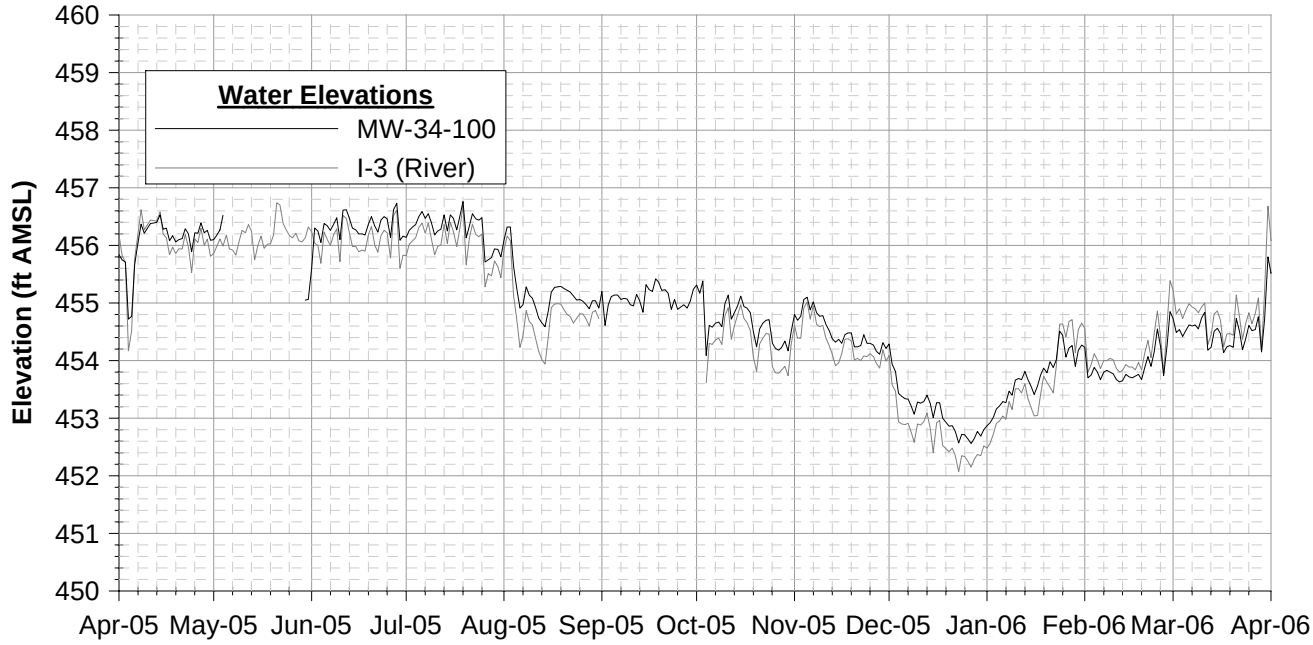

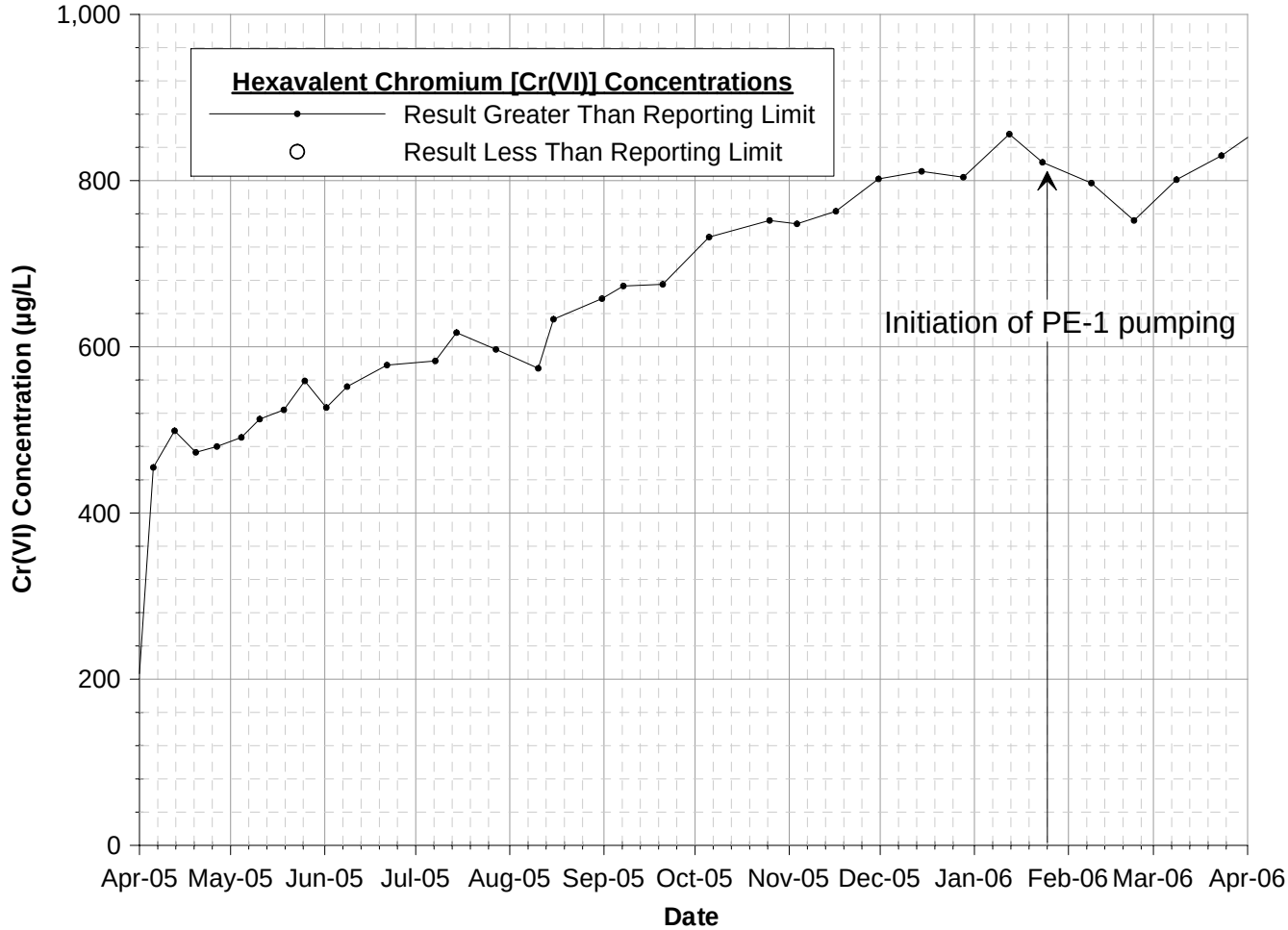

FIGURE B-2
MW-34-100 CR(VI) CONCENTRATION & HYDROGRAPH - THROUGH 3/23/06
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes
1. Chromium results in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
2. No groundwater elevation data available during May 2005 due to transducer malfunction.
3. Data subject to review.
4. Results plotted are maximum concentrations from primary and duplicate samples; see Table B-1 for complete results.
5. I-3 data unavailable 9/1/05 through 10/4/05 due to river damage.

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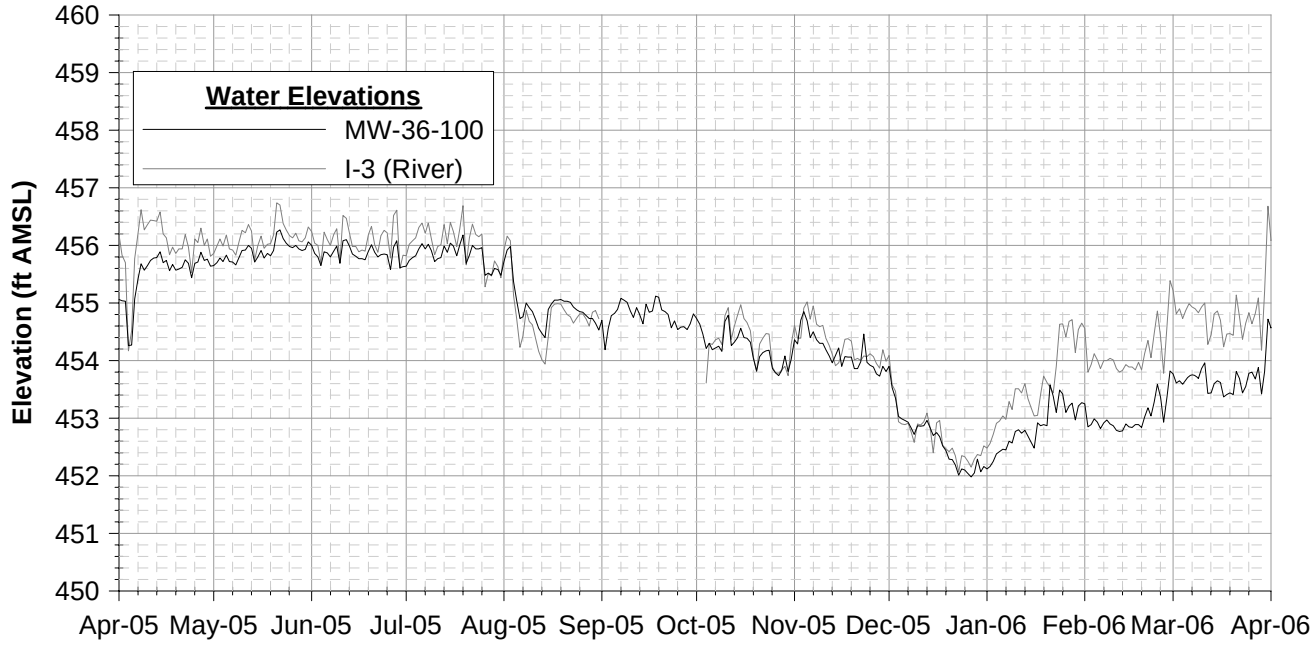

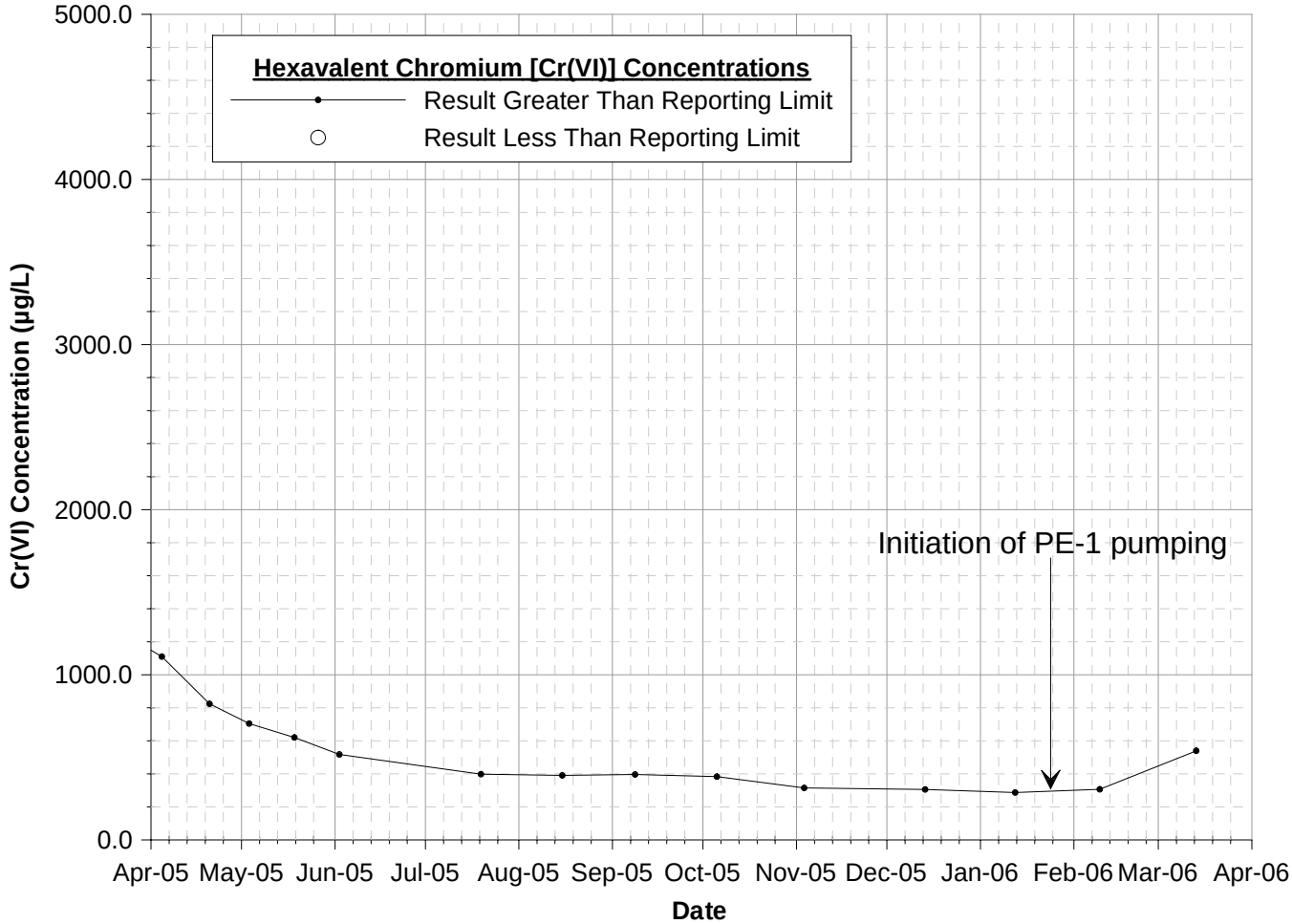

FIGURE B-3
MW-36-100 CR(VI) CONCENTRATION &
HYDROGRAPH - THROUGH 3/13/06
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Notes
1. Chromium results in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
2. Data subject to review.
3. Results plotted are maximum concentrations from primary and duplicate samples; see Table B-1 for complete results.
4. I-3 data unavailable 9/1/05 through 10/4/05 due to river damage.

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Appendix C
Hydraulic Monitoring Data for Reporting Period

TABLE C-1
Monthly Average, Minimum, and Maximum Groundwater Elevations, March 2006
Interim Measures Performance Monitoring
PG&E Topock Compressor Station

Well	Average (ft AMSL)	Minimum (ft AMSL)	Maximum (ft AMSL)	Aquifer Depth
I-3	454.82	453.98	455.67	River Station
RRB	INC	INC	INC	River Station
MW-10	455.49	455.43	455.55	Upper
MW-19	454.76	454.68	454.82	Upper
MW-20-070	453.50	453.41	453.61	Upper
MW-22	454.40	454.35	454.43	Upper
MW-25	454.79	454.75	454.83	Upper
MW-26	454.50	454.45	454.56	Upper
MW-27-020	454.68	454.44	454.92	Upper
MW-28-025	454.82	454.46	455.22	Upper
MW-29	454.91	454.86	454.95	Upper
MW-30-030	454.17	454.08	454.28	Upper
MW-31-060	INC	INC	INC	Upper
MW-32-020	454.21	454.11	454.31	Upper
MW-32-035	454.37	454.13	454.62	Upper
MW-33-040	454.84	454.60	455.10	Upper
MW-35-060	INC	INC	INC	Upper
MW-36-020	454.39	454.02	454.73	Upper
MW-36-040	454.36	453.93	454.82	Upper
MW-39-040	454.06	453.69	454.46	Upper
MW-42-030	454.30	454.02	454.61	Upper
MW-43-025	454.79	454.34	455.27	Upper
MW-20-100	453.09	452.95	453.33	Middle
MW-27-060	454.73	454.28	455.21	Middle
MW-30-050	454.33	453.94	454.75	Middle
MW-33-090	454.86	454.57	455.17	Middle
MW-34-055	454.67	454.10	455.26	Middle
MW-36-050	454.38	453.94	454.91	Middle
MW-36-070	454.38	453.93	454.93	Middle
MW-39-050	454.10	453.74	454.49	Middle
MW-39-060	453.95	453.62	454.33	Middle
MW-39-070	453.59	453.32	453.95	Middle
MW-42-055	454.34	454.04	454.66	Middle
MW-42-065	454.44	453.66	454.76	Middle
MW-20-130	452.70	452.51	453.03	Lower
MW-27-085	454.76	454.31	455.24	Lower
MW-28-090	INC	INC	INC	Lower
MW-31-135	453.55	453.37	453.80	Lower
MW-33-150	454.91	454.62	455.23	Lower
MW-33-210	455.18	454.93	455.46	Lower
MW-34-080	454.73	454.18	455.32	Lower
MW-34-100	454.53	454.00	455.10	Lower
MW-35-135	454.71	454.58	454.88	Lower
MW-36-090	453.72	453.32	454.20	Lower
MW-36-100	453.68	453.28	454.17	Lower
MW-39-080	453.71	453.43	454.07	Lower
MW-39-100	453.90	453.62	454.26	Lower
MW-43-075	455.01	454.53	455.53	Lower
MW-43-090	455.12	454.64	455.64	Lower

Notes: INC = Data Incomplete for reporting period due to transducer failure.

RRB trasnducer data was not collected due to health and saftey concerns from wasps nests.

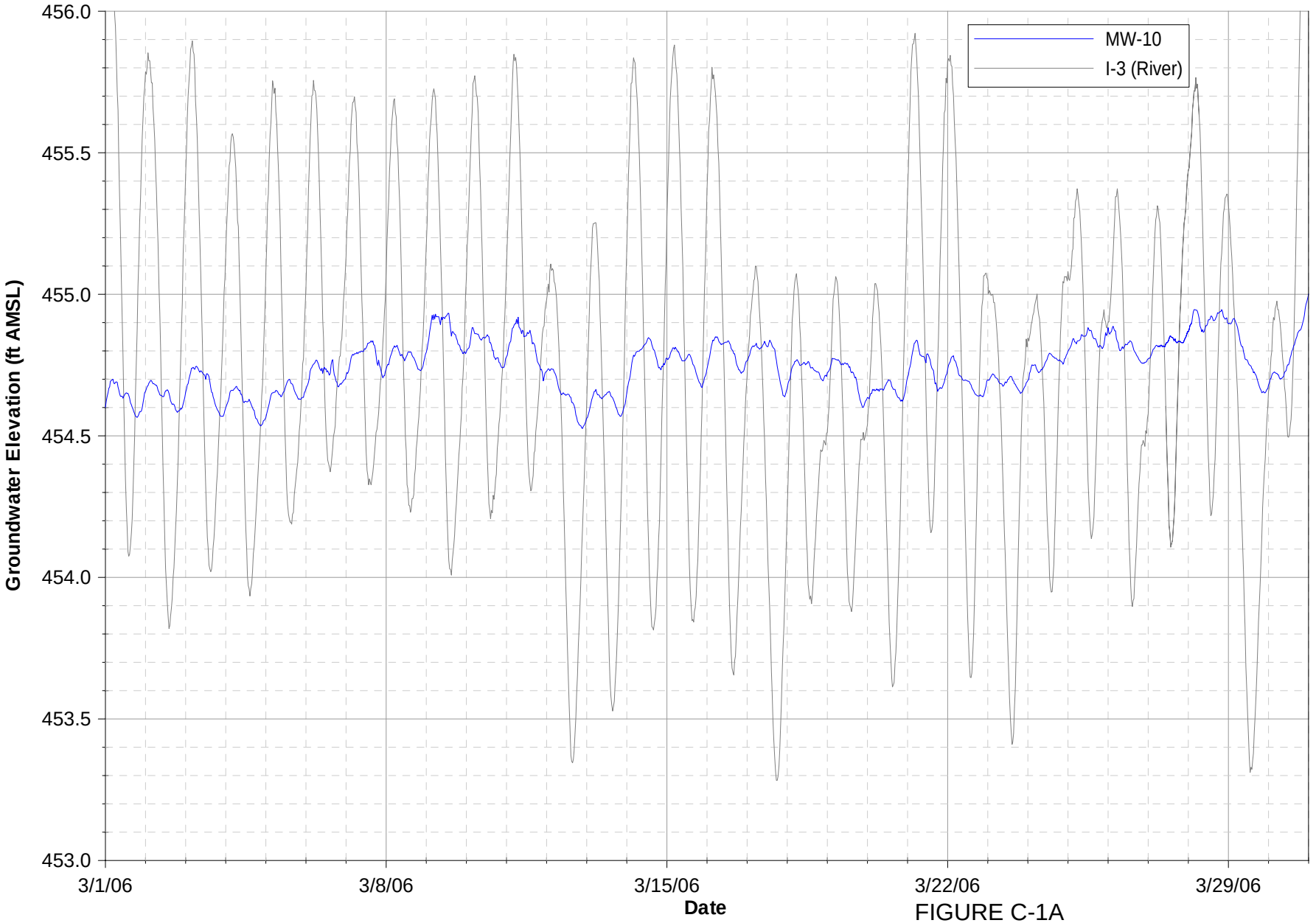

FIGURE C-1A
MW-10 HYDROGRAPH
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

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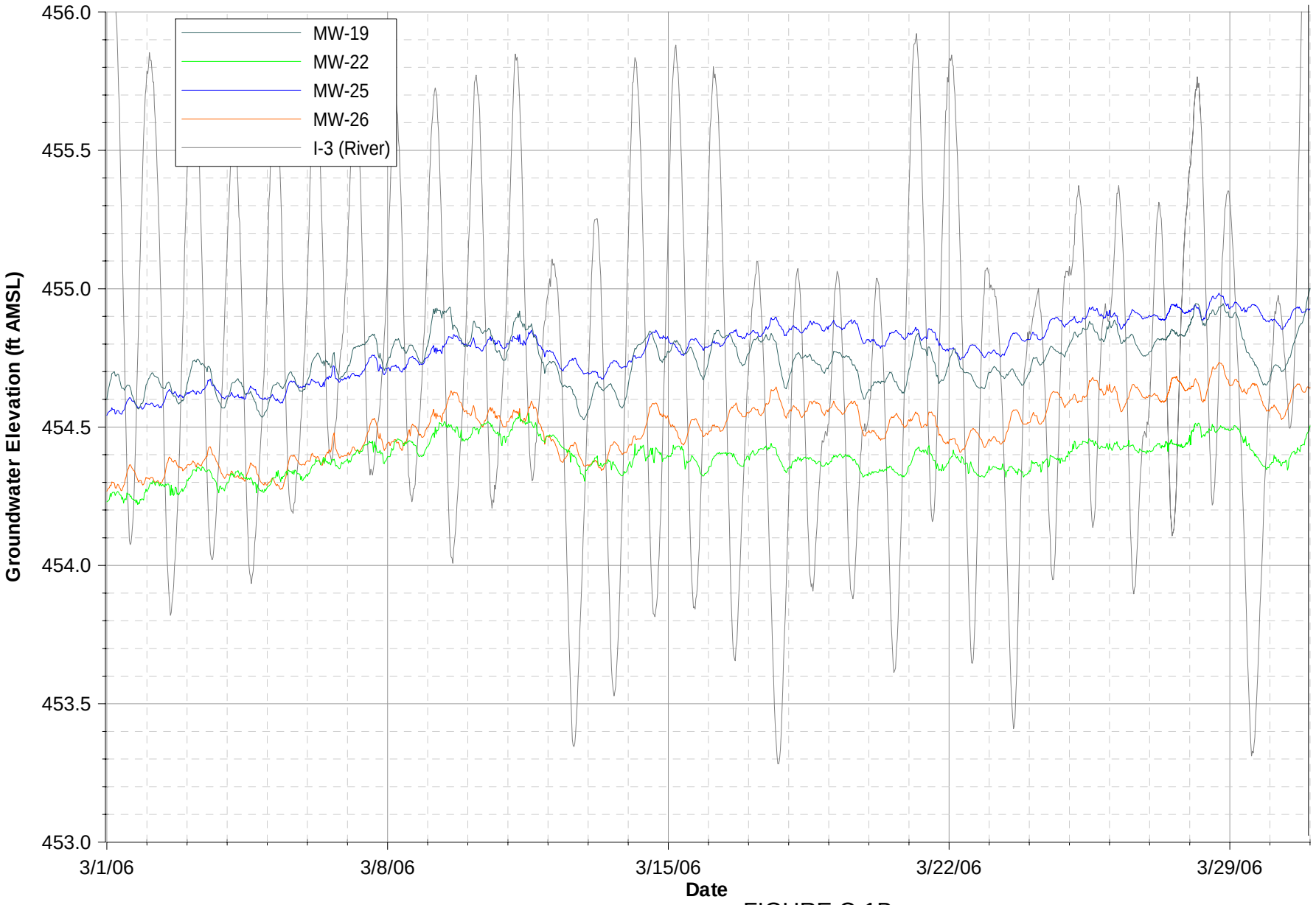

FIGURE C-1B
MW-19, MW-22, MW-25, AND MW-26 HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

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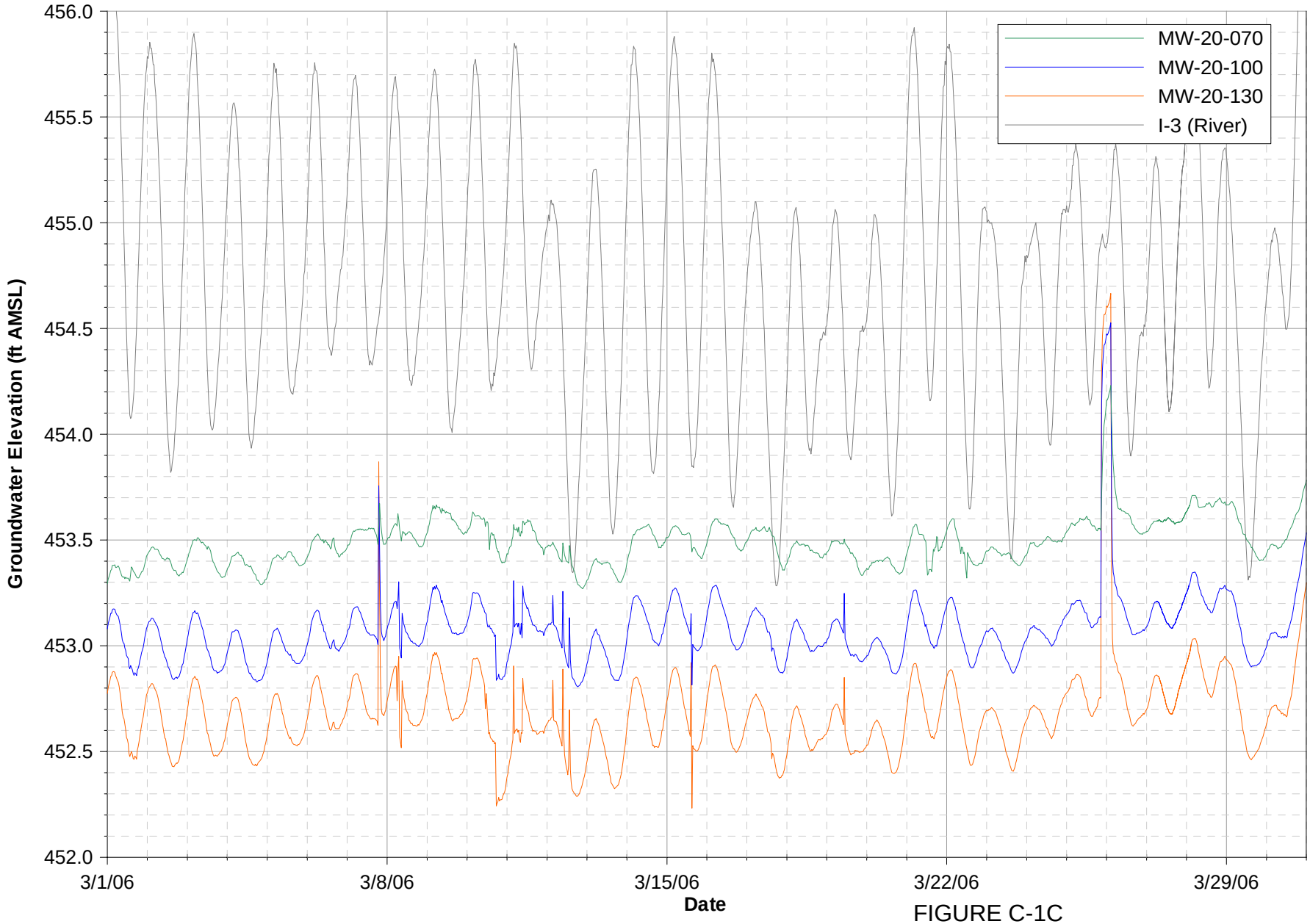

FIGURE C-1C
MW-20 CLUSTER HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

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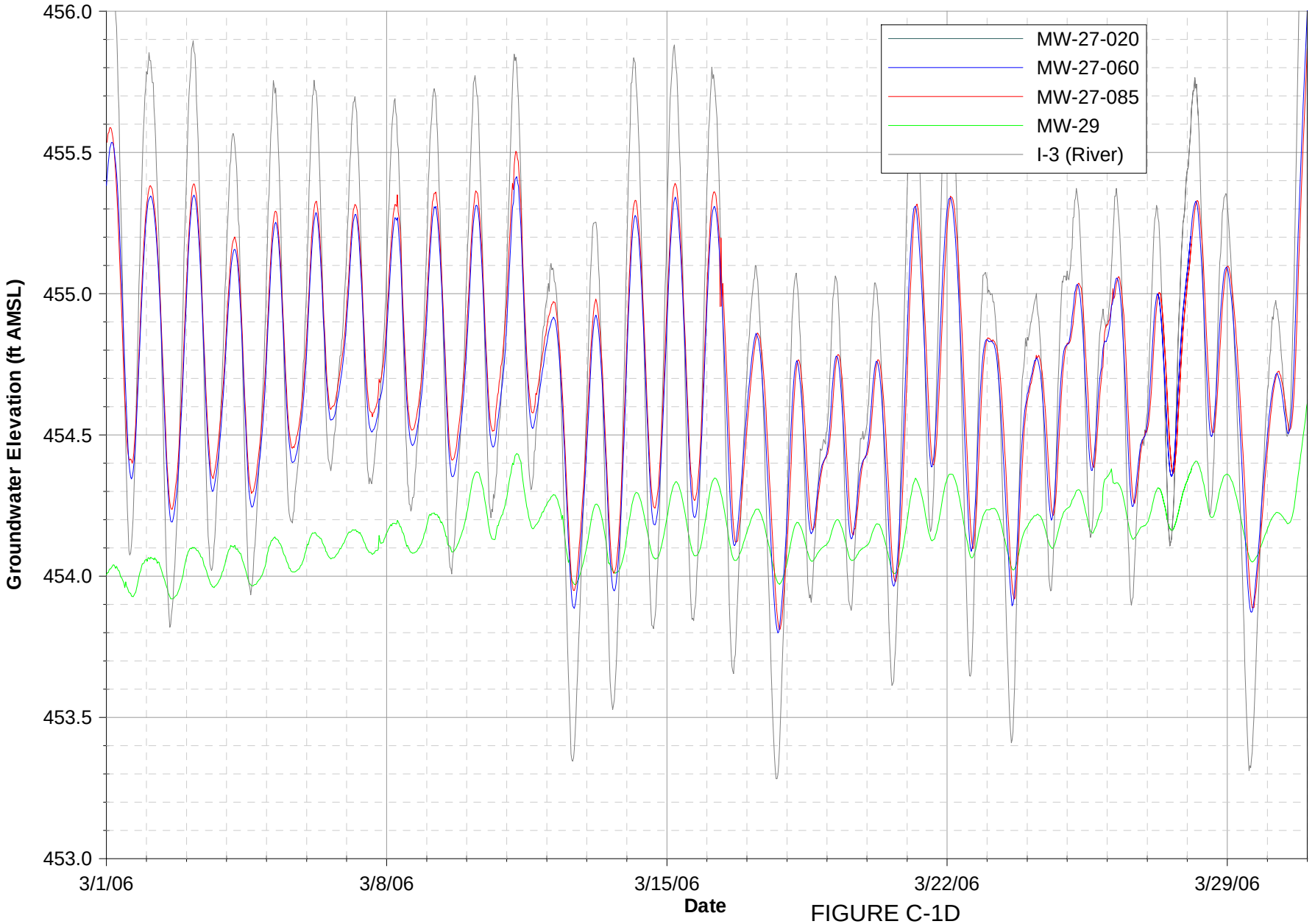

Note: Data subject to review.

FIGURE C-1D
MW-27 CLUSTER AND MW-29 HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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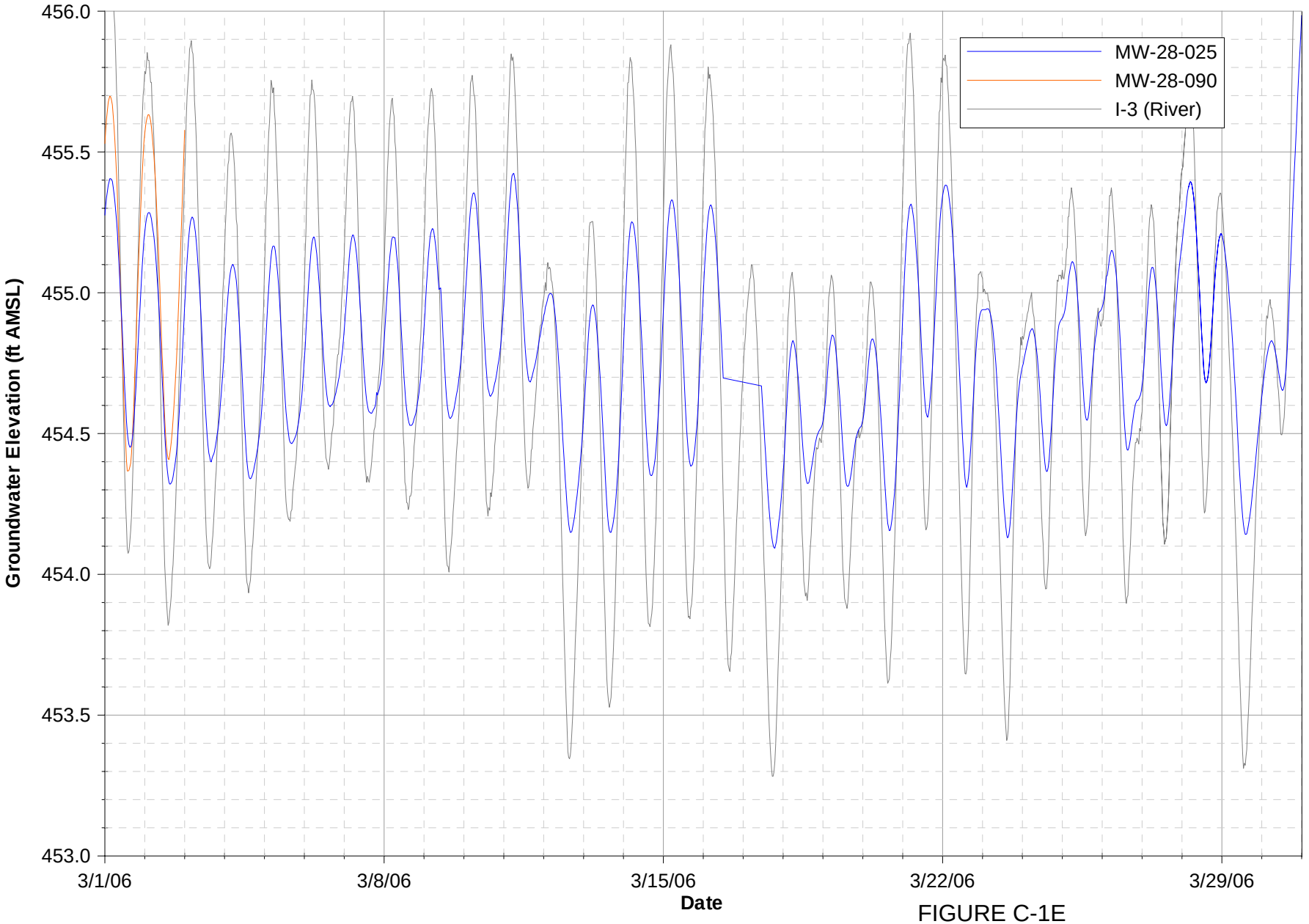

FIGURE C-1E
MW-28 WELL HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.
MW-28-090 transducer failed 3/3/2006.
MW-28-025 transducer data missing 3/16/06 to 3/17/06.

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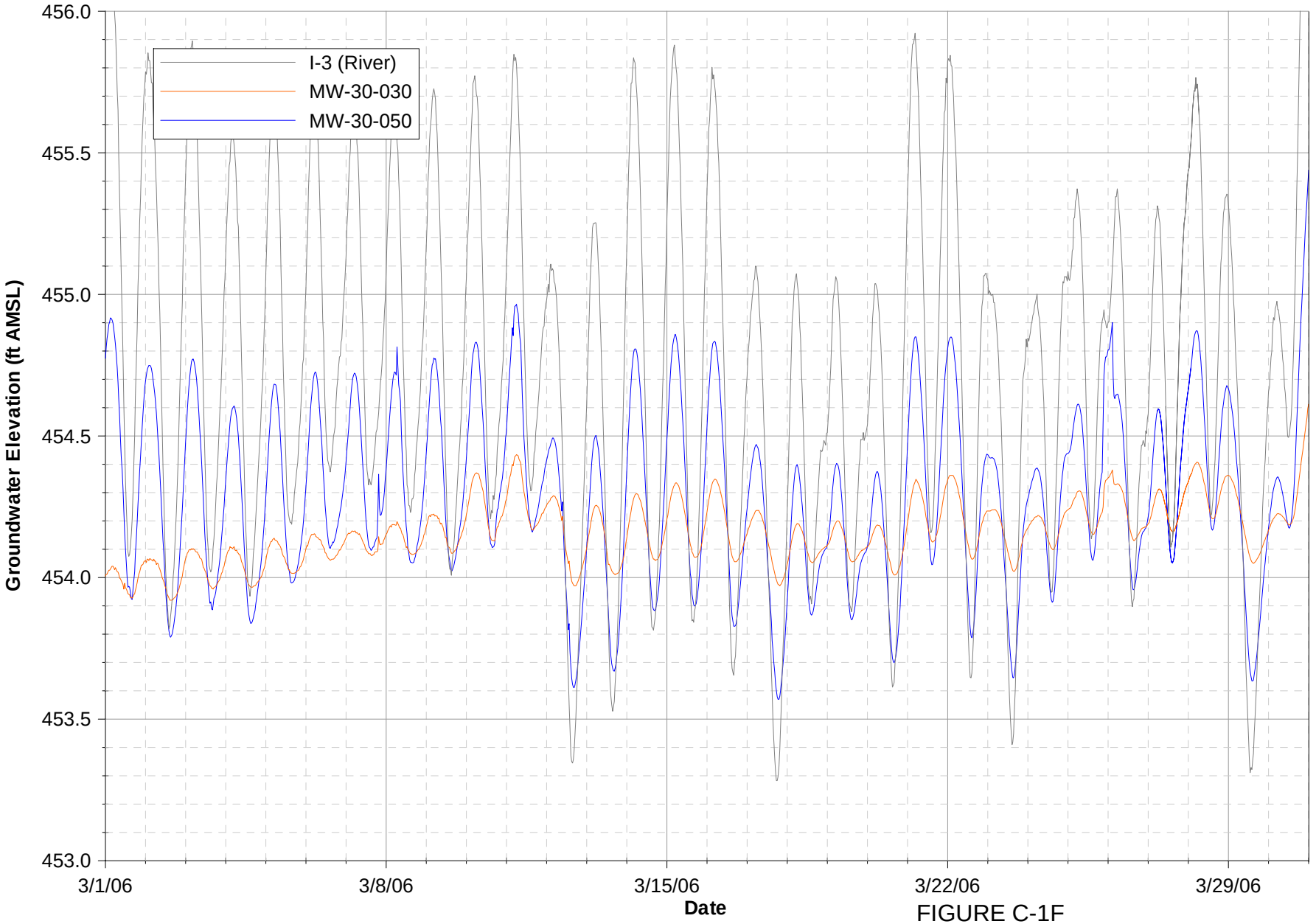

Note: Data subject to review.

FIGURE C-1F
MW-30 WELL HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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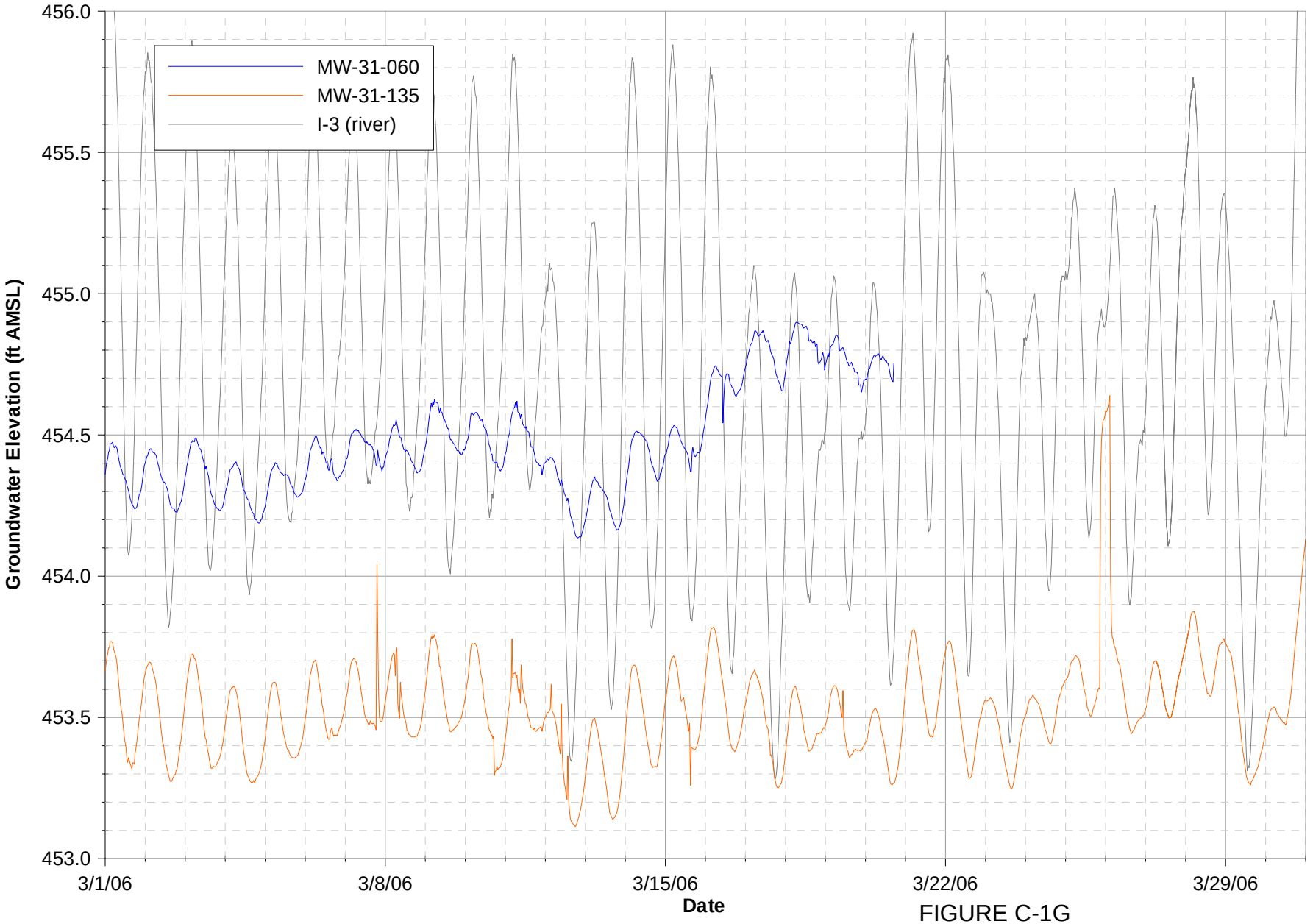

FIGURE C-1G
MW-31 WELL HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.
MW-31-60 transducer failed 3/20/2006.

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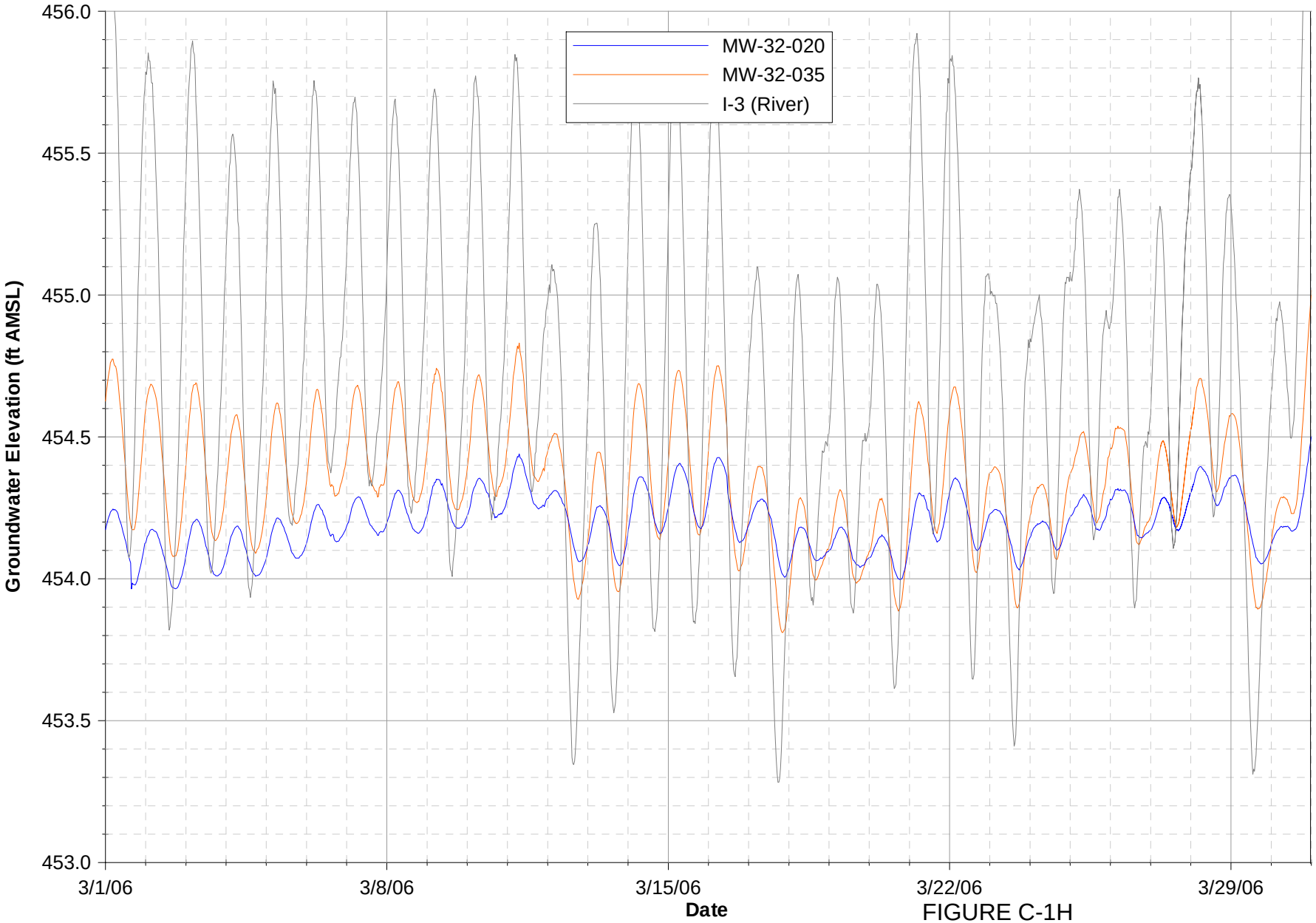
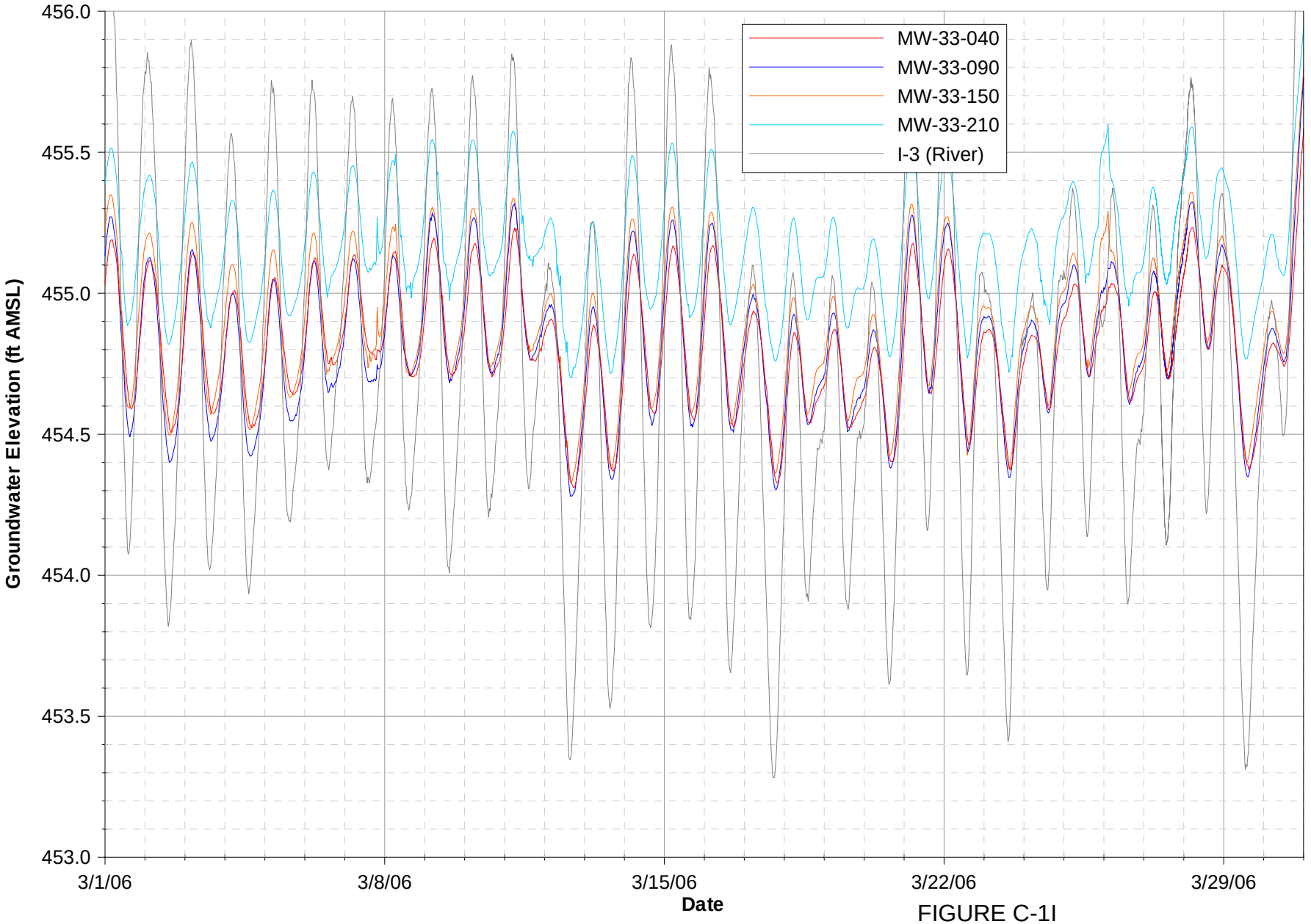


FIGURE C-1H
MW-32 WELL HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL



Note: Data subject to review.

FIGURE C-1I
MW-33 CLUSTER HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

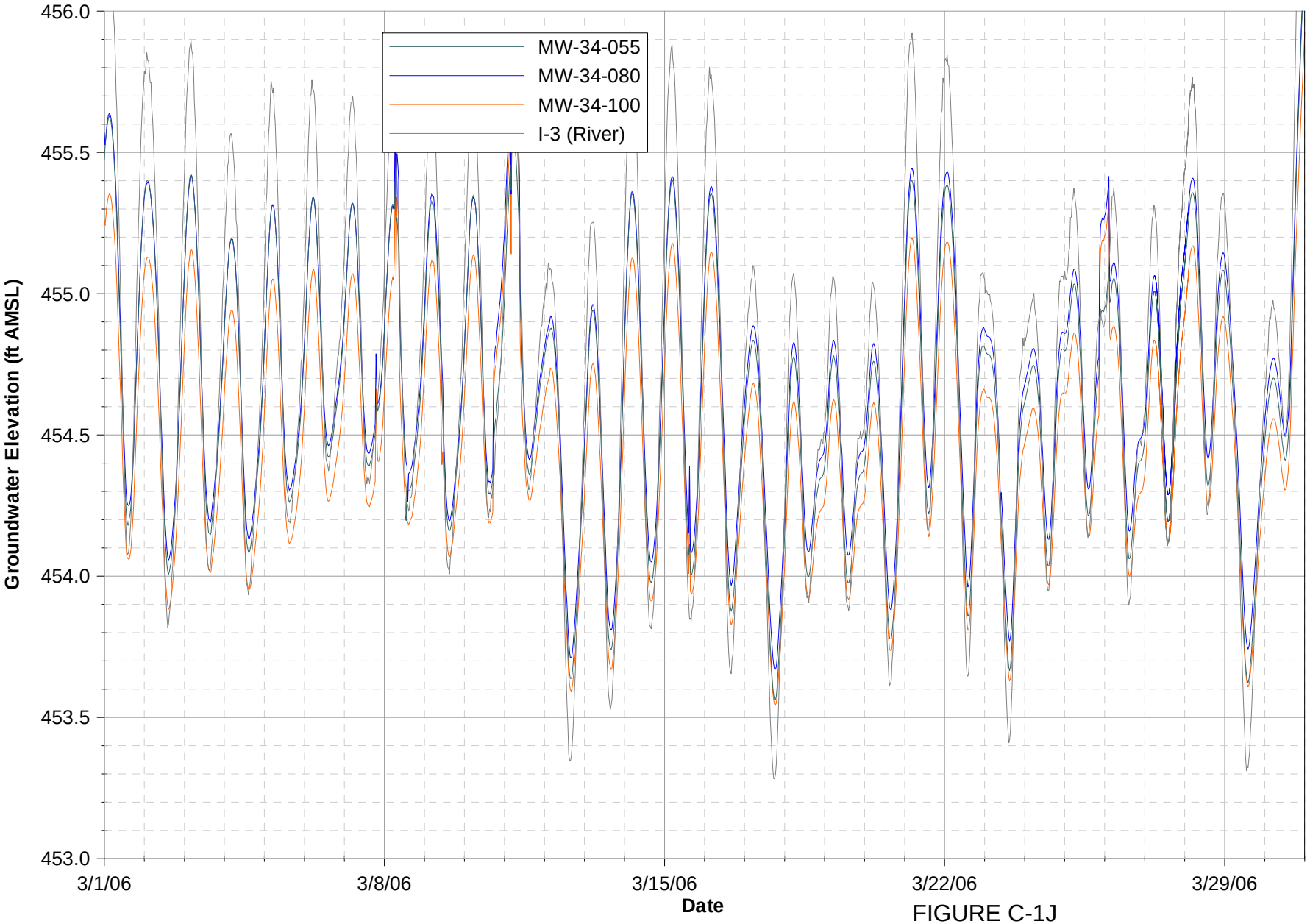


FIGURE C-1J
MW-34 CLUSTER HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.

CH2MHILL

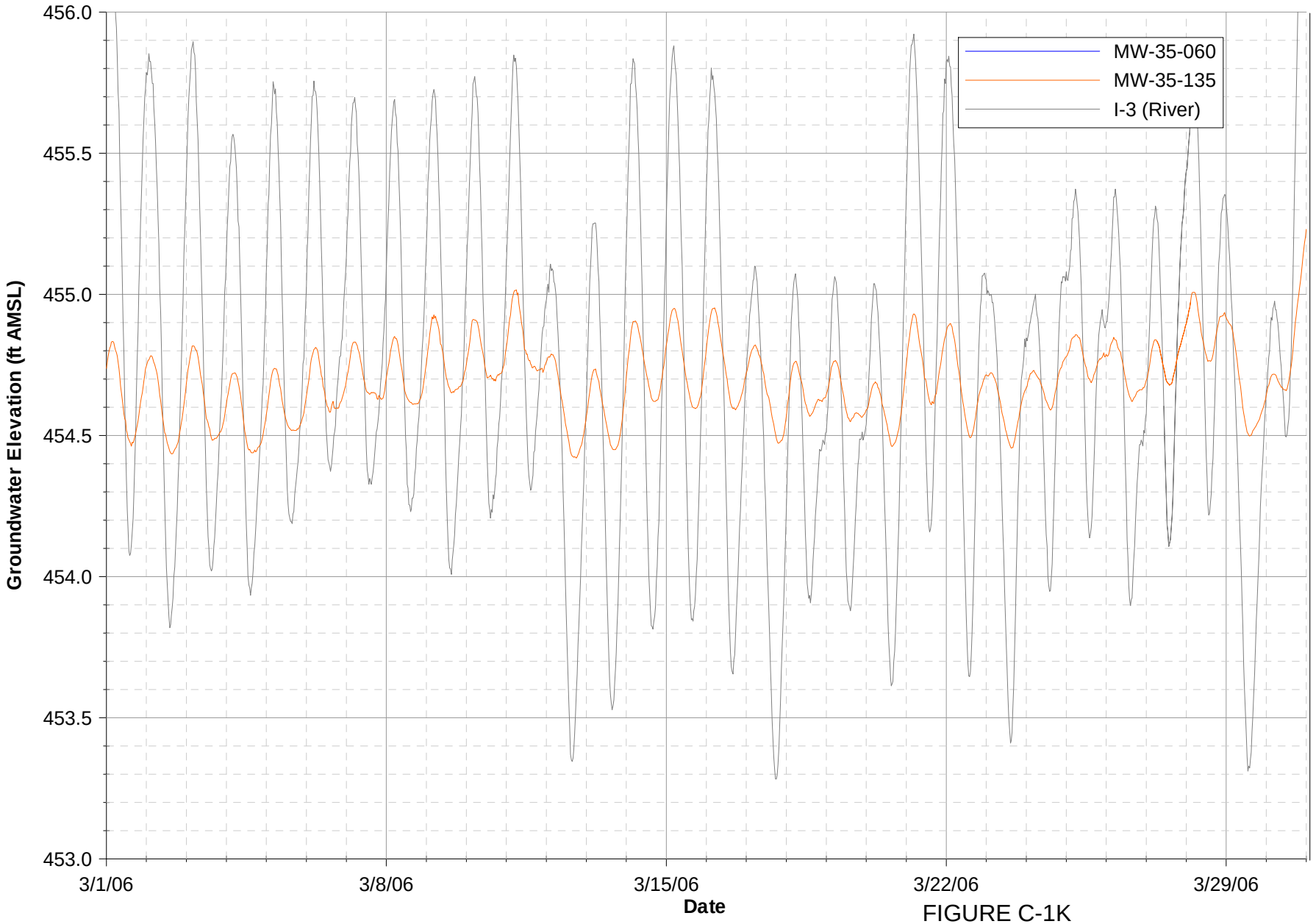
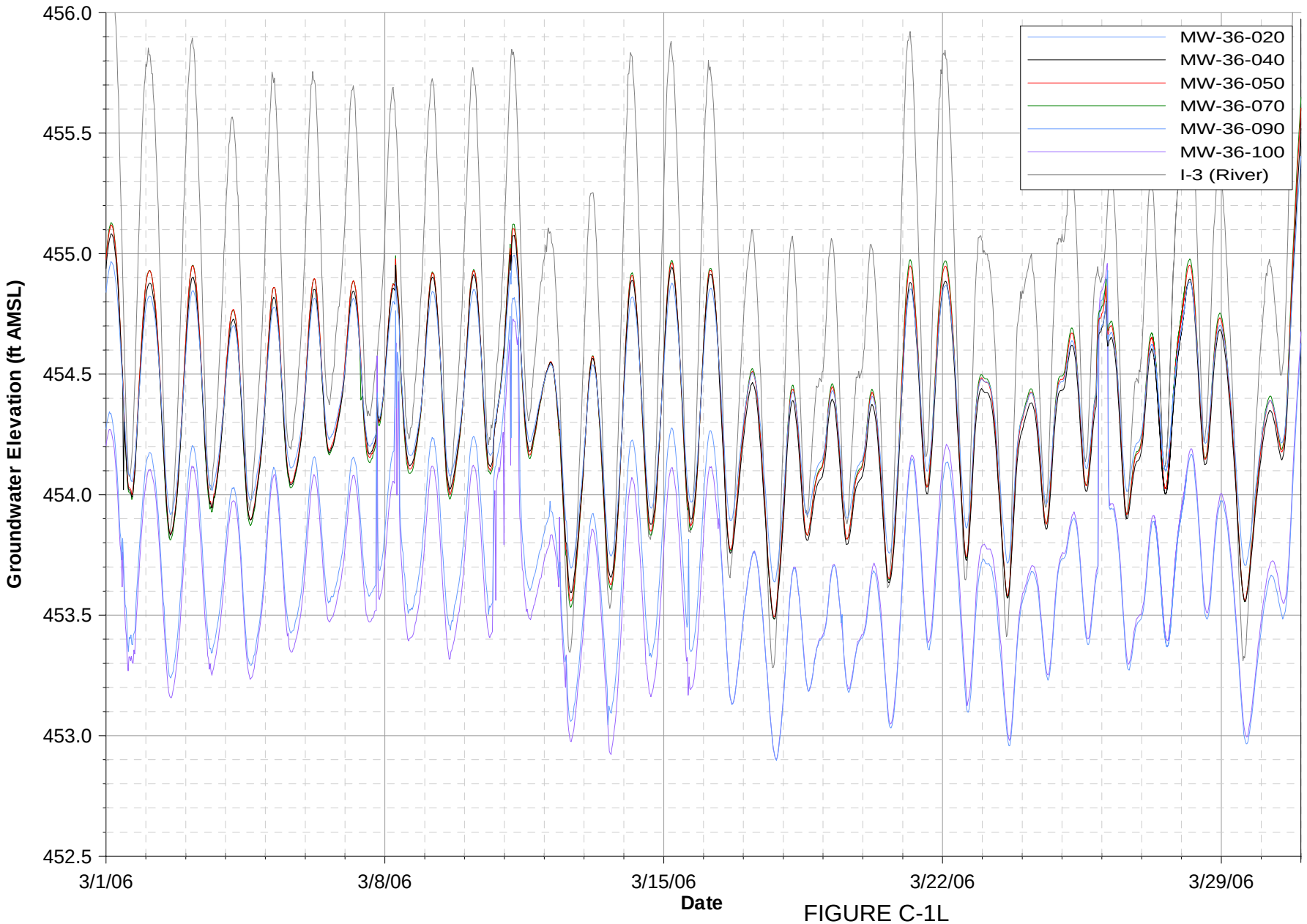


FIGURE C-1K
MW-35 WELL HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Note: Data subject to review.
MW-35-60 transducer failed in March 2006.

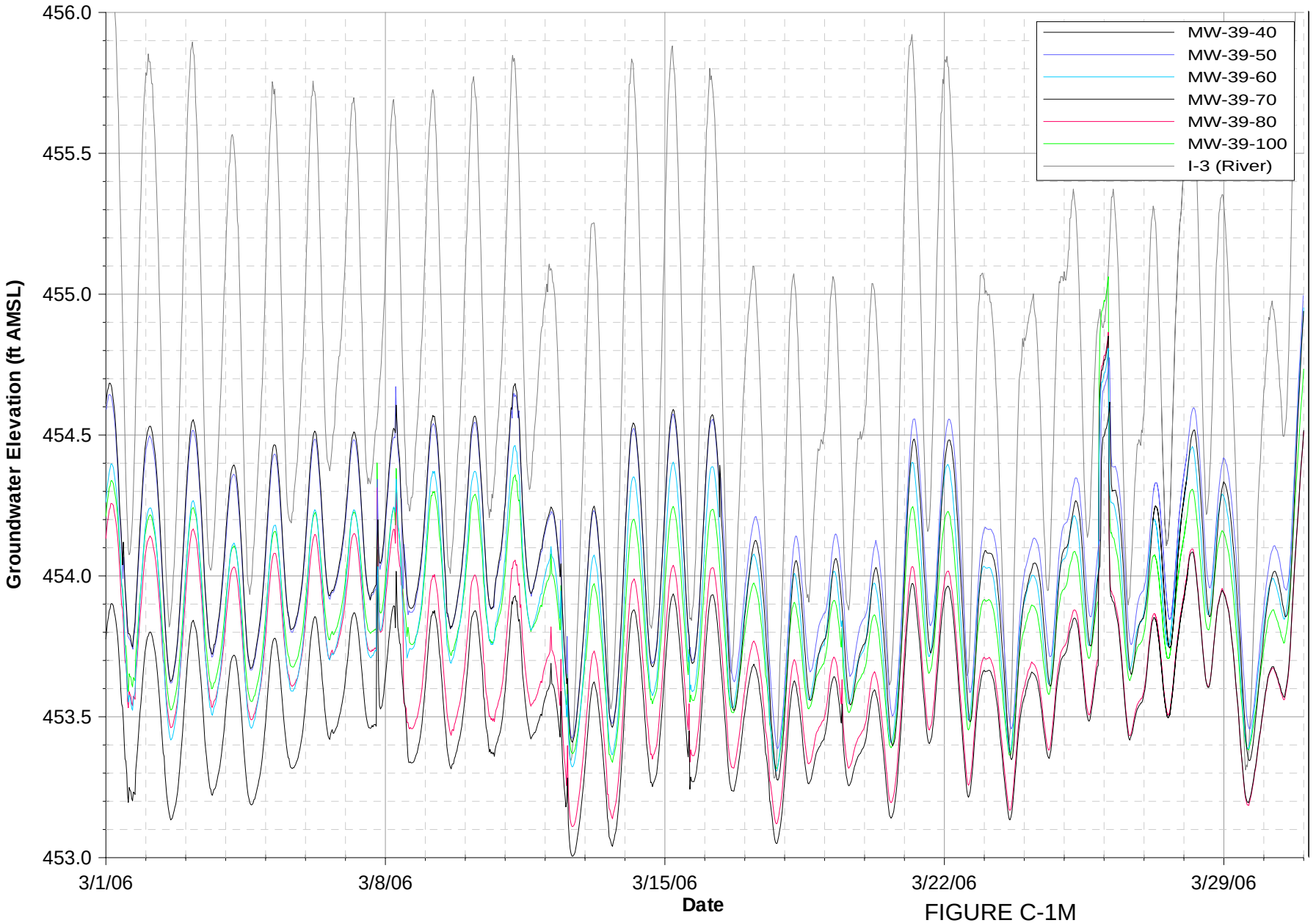
CH2MHILL



Note: Data subject to review.

FIGURE C-1L
MW-36 CLUSTER
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

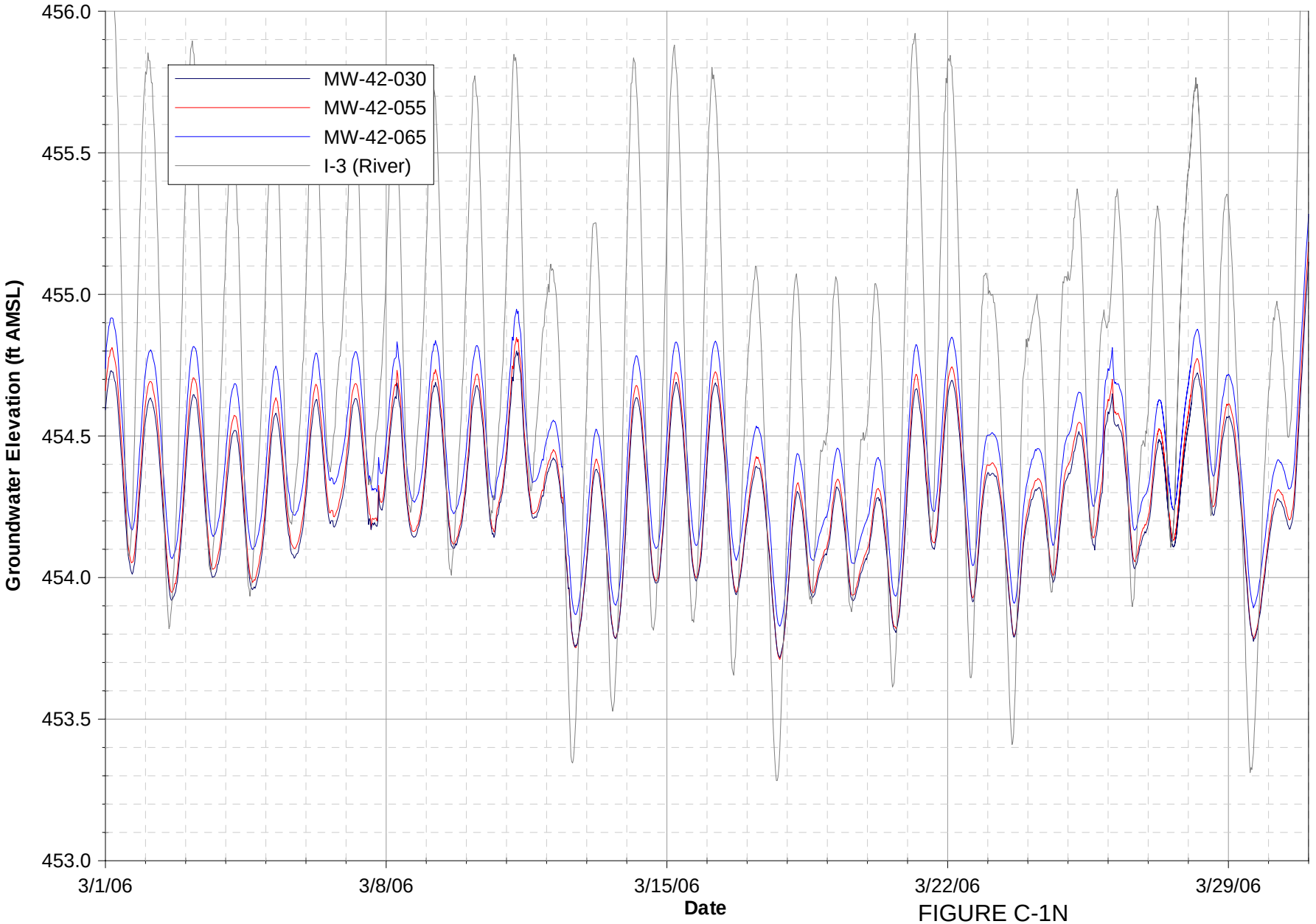
CH2MHILL



Note: Data subject to review.

FIGURE C-1M
MW-39 CLUSTER HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

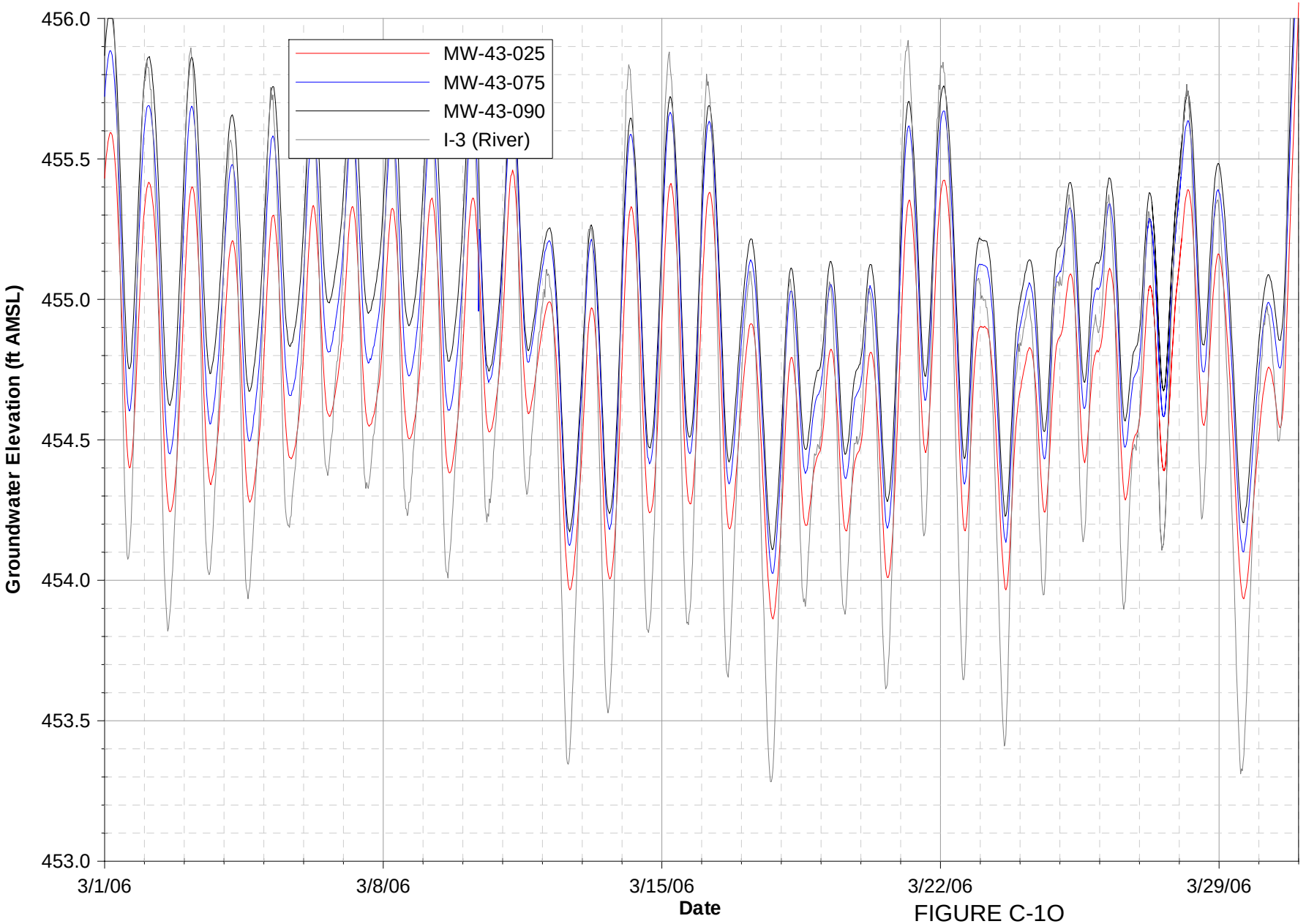
CH2MHILL



Note: Data subject to review.

FIGURE C-1N
MW-42 CLUSTER HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL



Note: Data subject to review.

FIGURE C-1O
MW-43 CLUSTER HYDROGRAPHS
INTERIM MEASURES PERFORMANCE MONITORING
PG & E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

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