

The 3.1/3.2-ug/L contour is shown as "-7.-" where inferred and cannot be fully delineated by Fourth Quarter 2013 monitoring data.

MW-196S1
3.8/3.8
MW-196S2
3.1/3.3
MW-196S3
ND/ND

MW-205S1
3.8/3.7
MW-205S2
3.6/3.5
MW-205S3
3.5/3.4

MW-185S1
4.5/3.3
MW-185S2
1.9/2.4
MW-185S3
3.5/3.6

MW-194S1
8.7/8.2
MW-194S2
2.9/3.4
MW-194S3
2.6/2.7

MW-195S1
6.5/7.9
MW-195S2
2.2/5.9
MW-195S3
1.4/2.7

MW-188S1
6.8/6.7
MW-188S2
0.9/1.5
MW-188S3
4.0/4.2

MW-193S1
4.2/4.3
MW-193S2
11.4/11.6
MW-193S3
143/160

MW-162S1
4.3/4.3
MW-162S2
4.2/2/1.4
MW-162S3
0.5/2/2.0

MW-161S1
3.0/3.2
MW-161S2
2.6/2.6
MW-161S3
0.9/1.3

MW-130S1
2.3/2.4
MW-130S2
3.4/3.4

MW-174S1
2.9/3.1
MW-174S2
1.9/2.2
MW-174S3
2.4/2.5

04N-04
1.9/1.8

MW-131S1
2.5/2.6

10-04
0.5/1.1

MW-133S2
0.48/1.2

MW-154S1*
17.9/17.1
MW-154S2
1.1/1.6

MW-166S1
ND/ND
MW-166S2
ND/ND

MW-167S1
0.3/ND
MW-167S2
ND/ND
MW-167S3
1.7/1.8

MW-198S1
1.2/1.4
MW-198S2
ND/ND
MW-198S3
ND/ND

11-09
0.097/ND

MW-137S1
4.4/4.8
MW-137S2
4.3/4.4
MW-137S3
1.8/1.9

11-10
4.6/5.1
MW-138S1
5.0/4.8
MW-138S2
4.3/4.2

MW-140S1
4.4/4.4
MW-140S2
3.3/3.1
MW-140S3
3.2/3.2

MW-141S1
2.9/2.9
MW-141S2
3.7/3.5
MW-141D
ND/ND

MW-104S1
2.3/2.6
MW-104S2
2.8/3.0
MW-104D
ND/ND

MW-113S1
2.9/2.9
MW-113S2
2.7/2.9
MW-113D
ND/ND

MW-111S1
2.4/2.5
MW-111S2
2.2/2.2
MW-111D
0.9/1/ND

MW-106S
2.6/2.6
MW-106D
ND/ND

MW-124S1
2.0/2.4
MW-124S2

MW-105S

MW-173S1
3.6/3.7
MW-173S2
3.2/3.0
MW-173D
0.7/ND

15-15
0.87/1.1

MW-142S1
5.8/5.7
MW-142S2
2.3/2.6
MW-142S3
2.7/3.0

MW-139S1
5.1/5.1
MW-139S2
0.97/1.2

MW-175S1
3.1/3.2
MW-175S2
3.2/2.9
MW-175D
2.5/2.7

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
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2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

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1.8/1.9
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4.3/4.2

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MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND

MW-135S1
2.5/2.7
MW-135S2
2.4/2.3

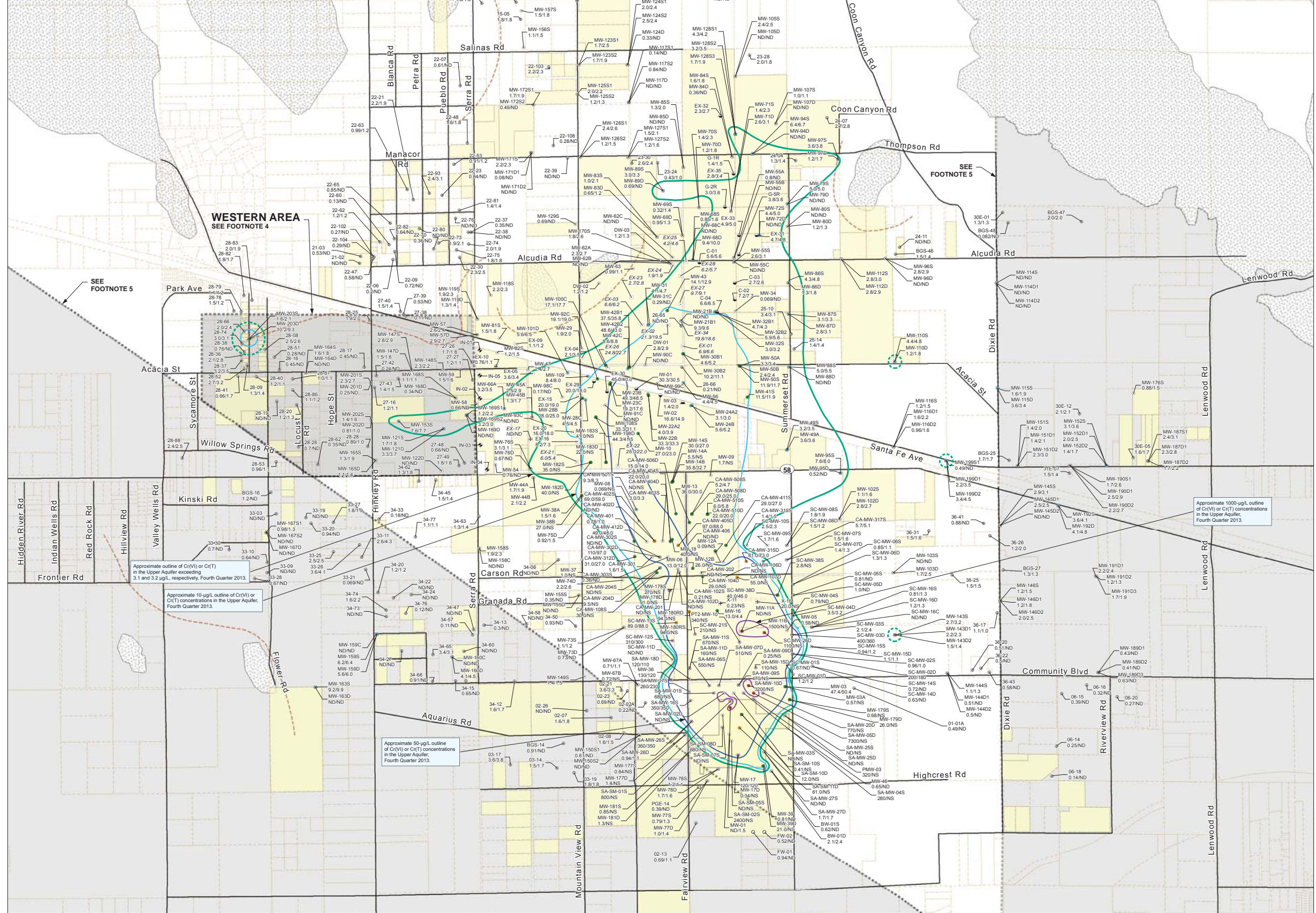
MW-136S1
1.4/1.7
MW-136S2
ND/ND

MW-138S1
1.8/1.9
MW-138S2
4.3/4.2

MW-139S1
3.1/3.2
MW-139S2
3.0/3.0
MW-139S3
3.3/3.2

MW-137S1
2.5/2.5
MW-137S2
0.9/ND
MW-137S3
0.45/ND

MW-200S1
2.6/2.5
MW-200S2
0.9/ND
MW-200S3
0.45/ND



LEGEND:

- Groundwater monitoring well
- Agricultural supply well
- Domestic supply well
- Other supply well
- Groundwater extraction well (active)
- Multiuse test well, or inactive extraction/injection well
- Freshwater injection well
- PG&E-owned property
- PG&E Compressor Station
- County parcels
- Transmission lines
- Approximate limit of saturated alluvium upper aquifer
- Approximate location of Lockhart Fault; fault trace is inferred, and there is no surface expression (Stamos et al., 2001)
- Bedrock exposed at ground surface
- Western area

MW-77S Well ID
0.79/1.3 Cr(VI)/Cr(T) concentrations in µg/L; maximum of primary and duplicate samples during Fourth Quarter 2013 sampling.

ABBREVIATIONS:

- µg/L micrograms per liter
- Cr(VI) hexavalent chromium
- Cr(T) total dissolved chromium
- IRZ In Situ Reactive Zone
- ND not detected
- NS not sampled

Groundwater Cr(VI) concentrations in monitoring wells:

- More than 1,000 µg/L
- 100 to 1,000 µg/L
- 50 to 100 µg/L
- 10 to 50 µg/L
- 3.1 to 10 µg/L
- Less than 3.1 µg/L or ND

NOTES:

- Chromium results are shown for site-wide Groundwater Monitoring Program and domestic wells sampled in the Fourth Quarter (October through December) 2013 monitoring period. Fourth Quarter 2013 results for selected IRZ monitoring wells are shown to aid in plume mapping. For wells sampled multiple times during the reporting period, the most recent results are shown.
- The concentration contours are based on Fourth Quarter 2013 chromium results for the groundwater monitoring and extraction wells that are completed in the shallow zone and deep zone of the Upper Aquifer as noted on Figures 5-1 and 5-2. Results for domestic wells and Lower Aquifer monitoring wells (brown-colored labels) were not used for chromium plume contouring.
- Concentration contours represent the maximum extent of either Cr(VI) or Cr(T) at any depth within the Upper Aquifer based on Fourth Quarter 2013 chromium results. Some chromium results for wells within the 50-, 10-, and 3.1/3.2-µg/L chromium contours are less than the contoured concentrations.
- An evaluation of available hydrogeologic and groundwater quality data for the shaded Western Area shown on this figure was included in the January 14, 2013, document titled *Conceptual Site Model for Groundwater Flow and the Occurrence of Chromium in Groundwater of the Western Area Report* (CH2MHILL and Stantec, 2013). The findings of the January 14 report indicate that groundwater in the Western Area contains naturally occurring chromium.
- Pursuant to the Lahontan Regional Water Quality Control Board's letter *Review of Chromium Plume Maps, Third Quarter 2013 Groundwater Monitoring Report and Agreement with Northern Investigation Concept dated December 12, 2013*, groundwater monitoring wells are not used for chromium contouring if they are located in the areas southwest of the Lockhart Fault and in or east of Dixie Road.

* Monitoring well MW-154S1 is completed in low permeability sediments across the water table. This well purges dry during sampling and is very slow to recharge. Groundwater samples from this well may not be representative of the groundwater conditions in the Upper Aquifer as sampled in other wells in this area.

FIGURE 5-5
CHROMIUM RESULTS FOR FOURTH
QUARTER 2013 GROUNDWATER
MONITORING AND DOMESTIC
WELL SAMPLING AND COMPLIANCE
MAXIMUM PLUME OUTLINE
IN UPPER AQUIFER
FOURTH QUARTER 2013 GROUNDWATER MONITORING
REPORT AND DOMESTIC WELL RESULTS
SITE-WIDE GROUNDWATER MONITORING PROGRAM
PACIFIC GAS AND ELECTRIC COMPANY
HINKLEY COMPRESSOR STATION
HINKLEY, CALIFORNIA

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