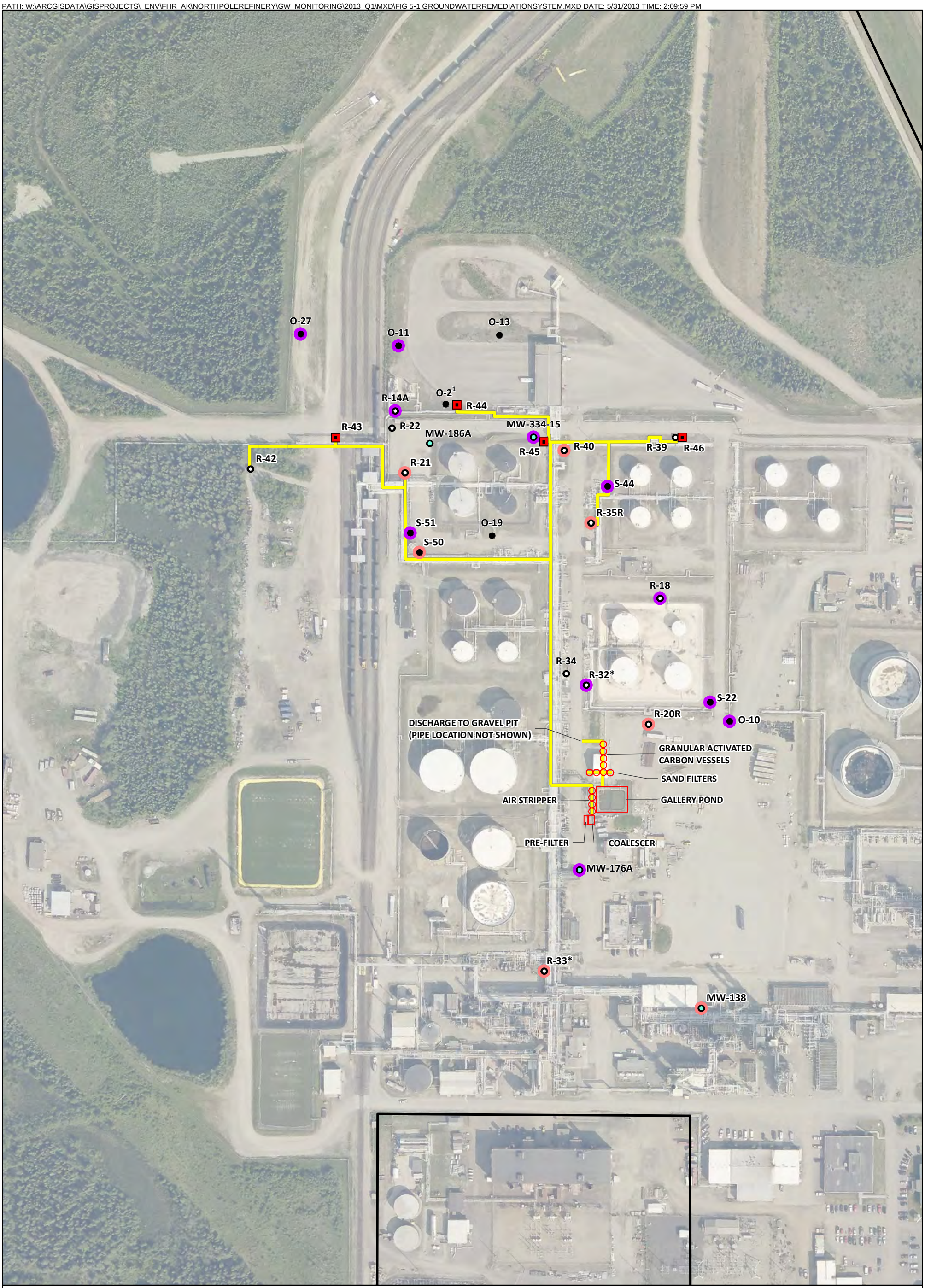
CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGRIFFITH LD: G FRANCE
PATH: W:\ARCGISDATA\GISPROJECTS\ ENV\FHR AK\NORTHPOLEREFINERY\GW MONITORING\2013 Q1\MXD\FIG 5-1 GROUNDWATERREMEDIATIONSYSTEM.MXD DATE: 5/31/2013 TIME: 2:09:59 PM



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- New Recovery Wells
- Installed Product Recovery System
- Manual Product Recovery
- Remediation System Piping
- FHRA Property Boundary

0 200 400
SCALE IN FEET

Notes:
*Product recovery systems installed in wells R-32 and R-33 are under evaluation.
Manual product recovery is completed with a vacuum truck or portable product pump.
Image provided courtesy of Pictometry International 2012
[1]Manual product recovery. An installed product recovery system was previously used.

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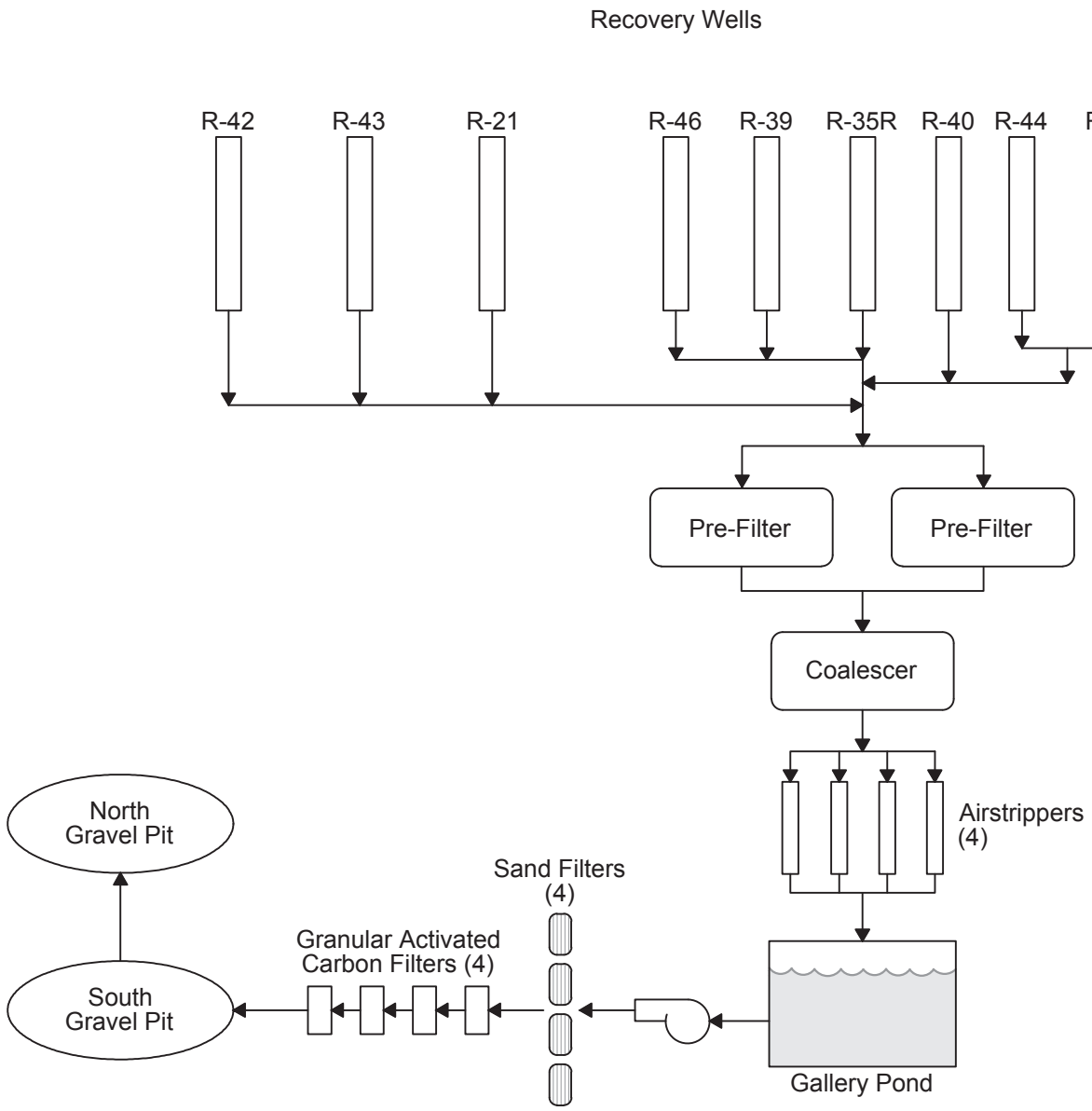
GROUNDWATER RECOVERY AND TREATMENT SYSTEM

ARCADIS

FIGURE
5-1



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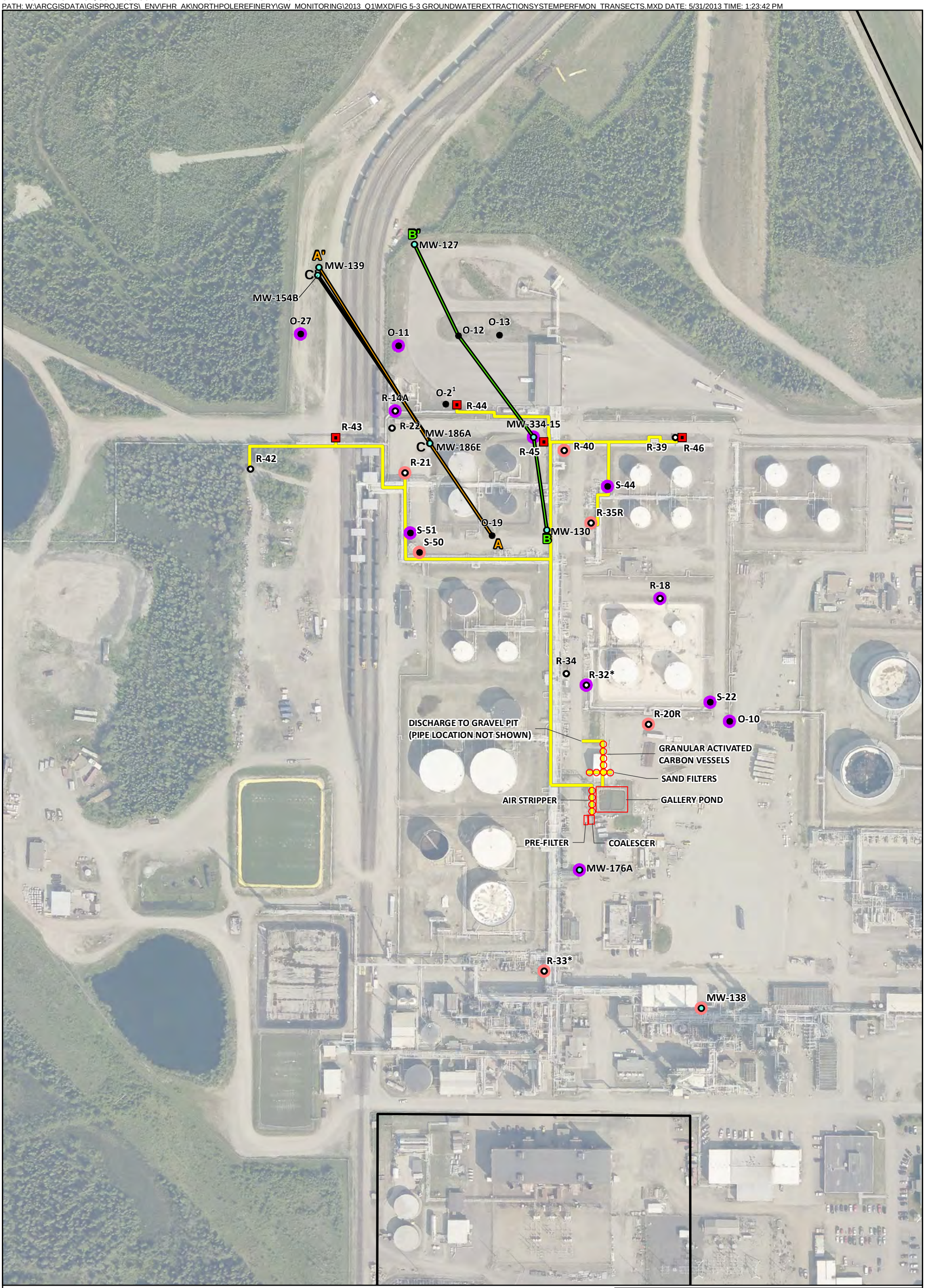
CURRENT PROCESS FLOW DIAGRAM-GROUNDWATER CAPTURE AND TREATMENT SYSTEM

ARCADIS

FIGURE
5-2

CITY: PETALUMA, CA GROUP: ENVCAD DB: (P. WISTED), J. HARRIS
G:\ENVCAD\Petaluma\ACT\B0081981\0040\00011\Q13\DWG\81981T02.dwg LAYOUT: 5-2 SAVED: 5/16/2013 2:28 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 5/16/2013 3:01 PM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ----
Fig 2-2 Process Flow Diagram_harris.jpg

CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGRIFFITH LD: G FRANCE
PATH: W:\ARCGISDATA\GISPROJECTS\ ENV\FHR AK\NORTHPOLEREFINERY\GW MONITORING\2013 Q1\MXD\FIG 5-3 GROUNDWATEREXTRACTIONSYSTEMPERFMON TRANSECTS.MXD DATE: 5/31/2013 TIME: 1:23:42 PM



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- New Recovery Wells
- Installed Product Recovery System
- Manual Product Recovery
- Remediation System Piping
- FHRA Property Boundary

0 200 400
SCALE IN FEET

Notes:
*Product recovery systems installed in wells R-32 and R-33 are under evaluation.
Manual product recovery is completed with a vacuum truck or portable product pump.
Image provided courtesy of Pictometry International 2012
[1]Manual product recovery. An installed product recovery system was previously used.

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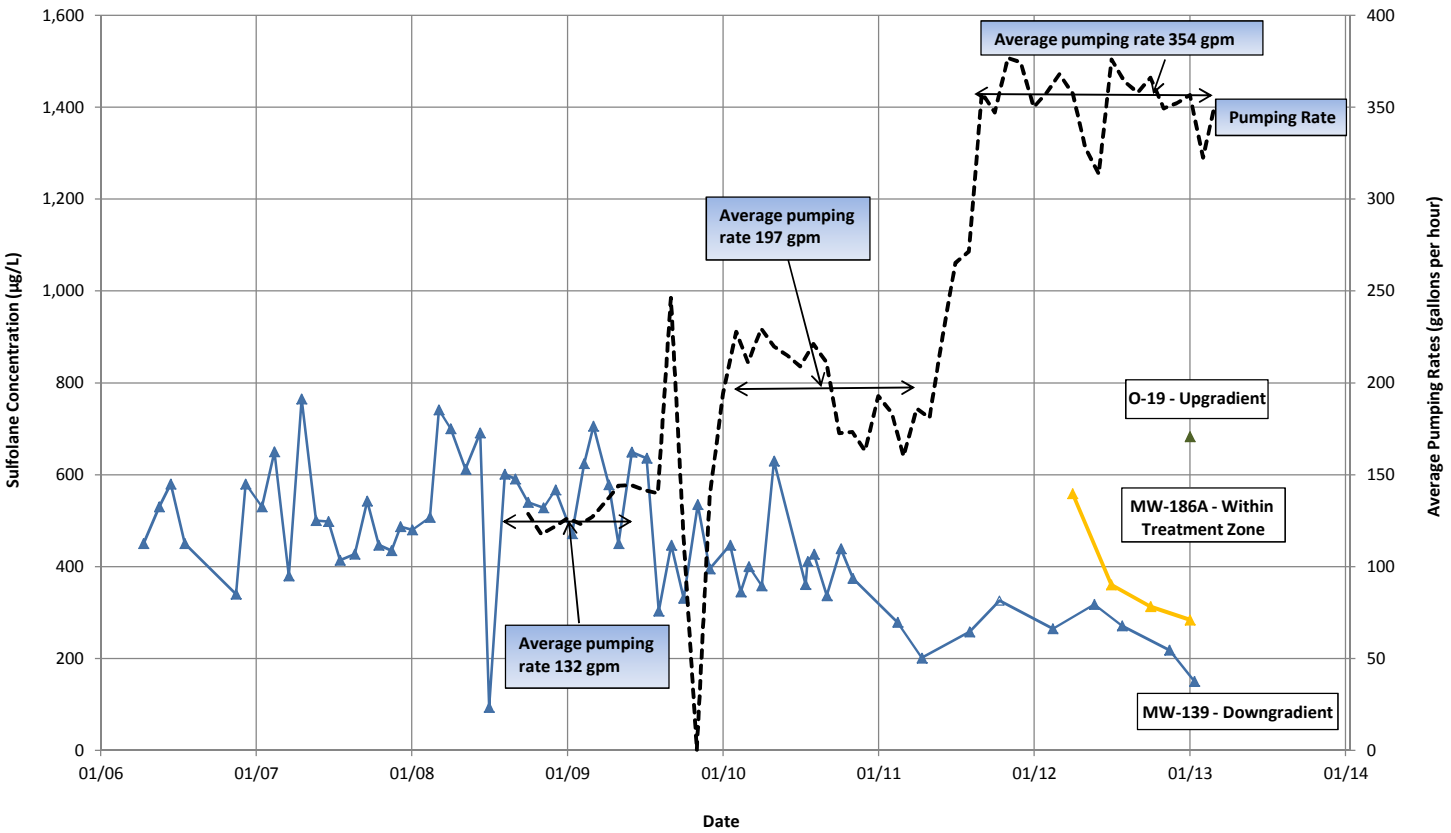
GROUNDWATER MONITORING REPORT

GROUNDWATER EXTRACTION SYSTEM PERFORMANCE MONITORING LONGITUDINAL TRANSECTS

ARCADIS

FIGURE
5-3



Non-Detect values are plotted at the reporting limit and are represented by a circular marker. Estimated values are represented by an open triangle, and detections by a closed triangle.

Legend

gpm = gallons per minute
µg/L = micrograms per liter

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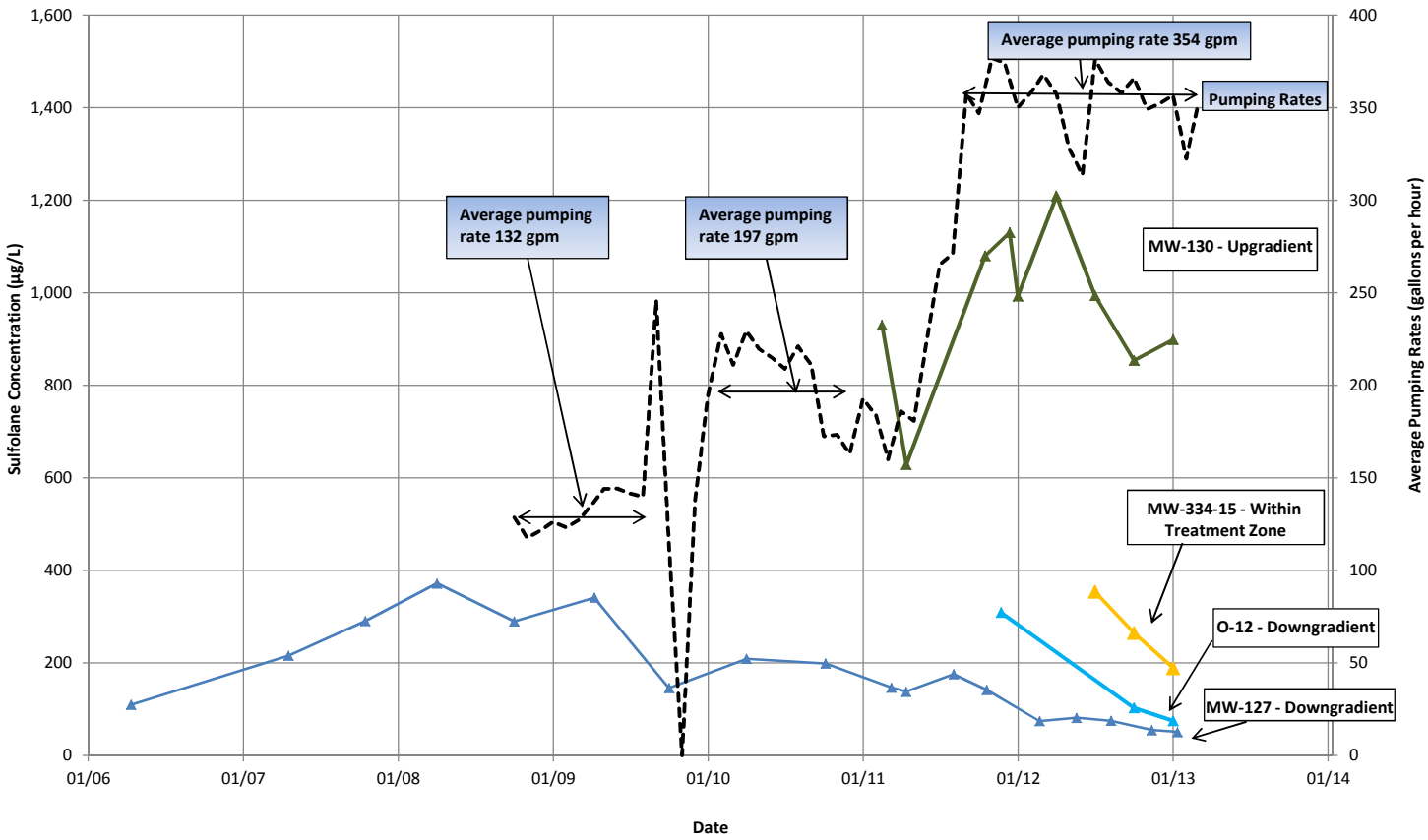
MONITORING WELL ANALYTICAL DATA TRANSECT A (SHALLOW)

ARCADIS

FIGURE
5-4



Non-Detect values are plotted at the reporting limit and are represented by a circular marker. Estimated values are represented by an open triangle, and detections by a closed triangle.

Legend

gpm = gallons per minute
µg/L = micrograms per liter

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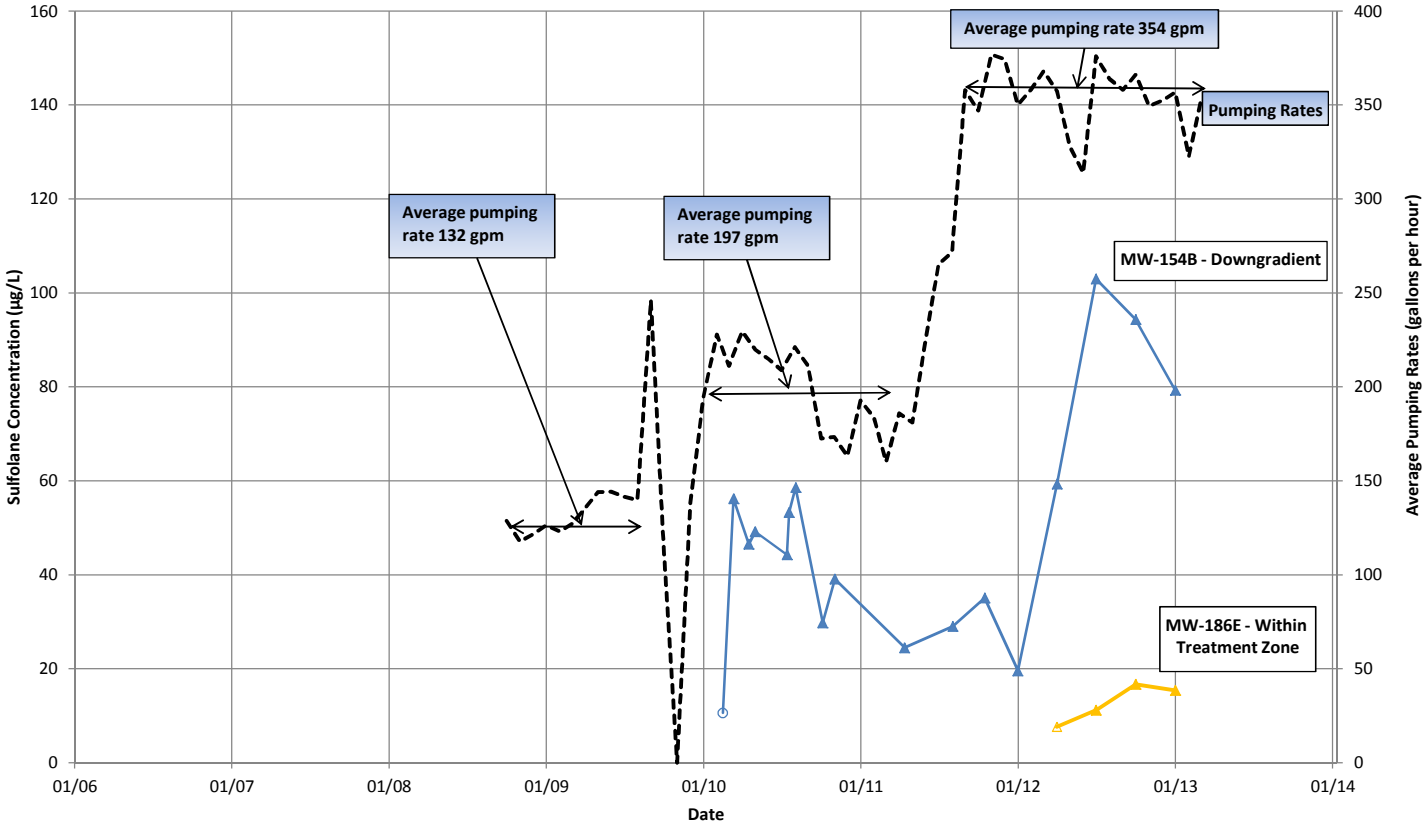
MONITORING WELL ANALYTICAL DATA TRANSECT B (SHALLOW)

ARCADIS

FIGURE
5-5



Non-Detect values are plotted at the reporting limit and are represented by a circular marker. Estimated values are represented by an open triangle, and detections by a closed triangle.

Legend

gpm = gallons per minute
µg/L = micrograms per liter

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MONITORING WELL ANALYTICAL DATA TRANSECT C (DEEP)

ARCADIS

FIGURE
5-6