FIGURES

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SECTION 1 FIGURES

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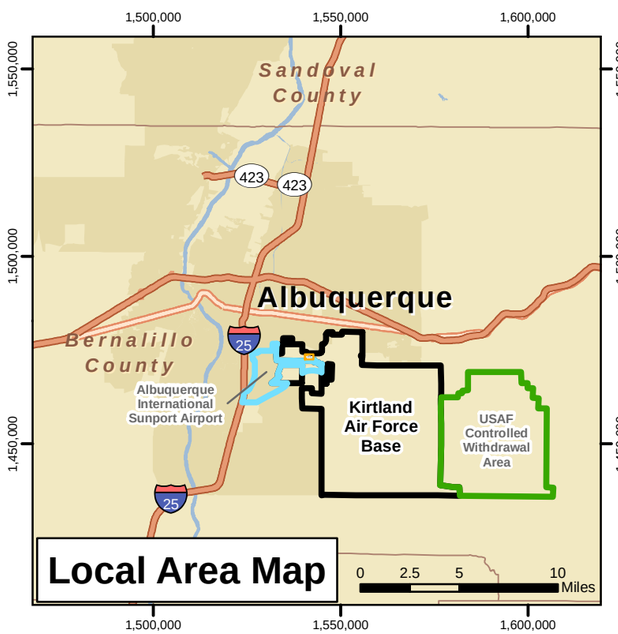

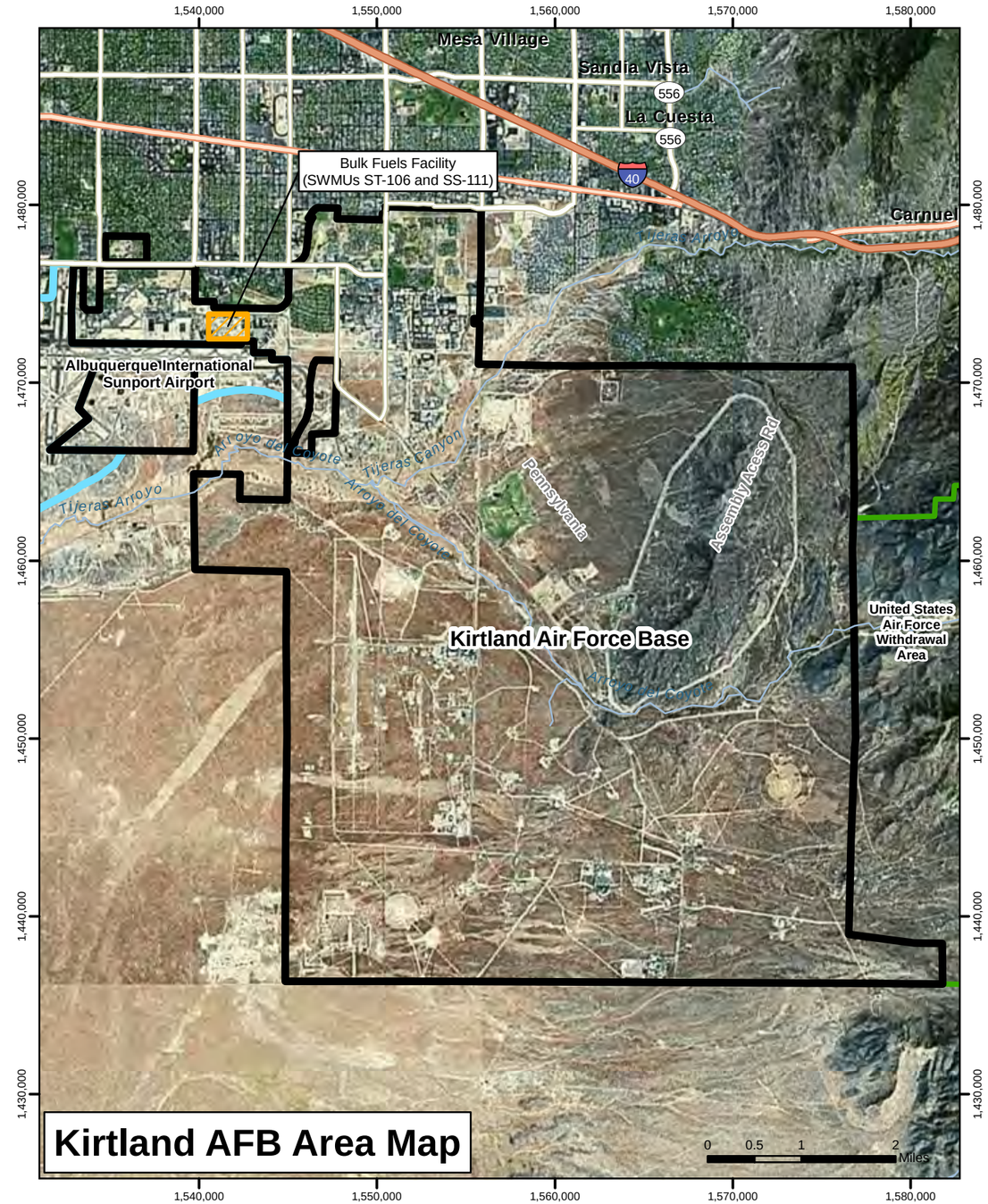

Legend

- Major Highways
- Highways
- Major Roads
- Rivers
- Bulk Fuels Facility (SWMUs ST-106 and SS-111)
- Installation Location
- Kirtland Air Force Base Installation Boundary
- Albuquerque International Sunport Airport
- United States Air Force Withdrawal Area
- Urban Areas
- Counties
- States

N

Revision Date: 04/13/11

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 1-1

SITE LOCATION MAP

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_010_loc_map.mxd 04/13/11

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SECTION 2 FIGURES

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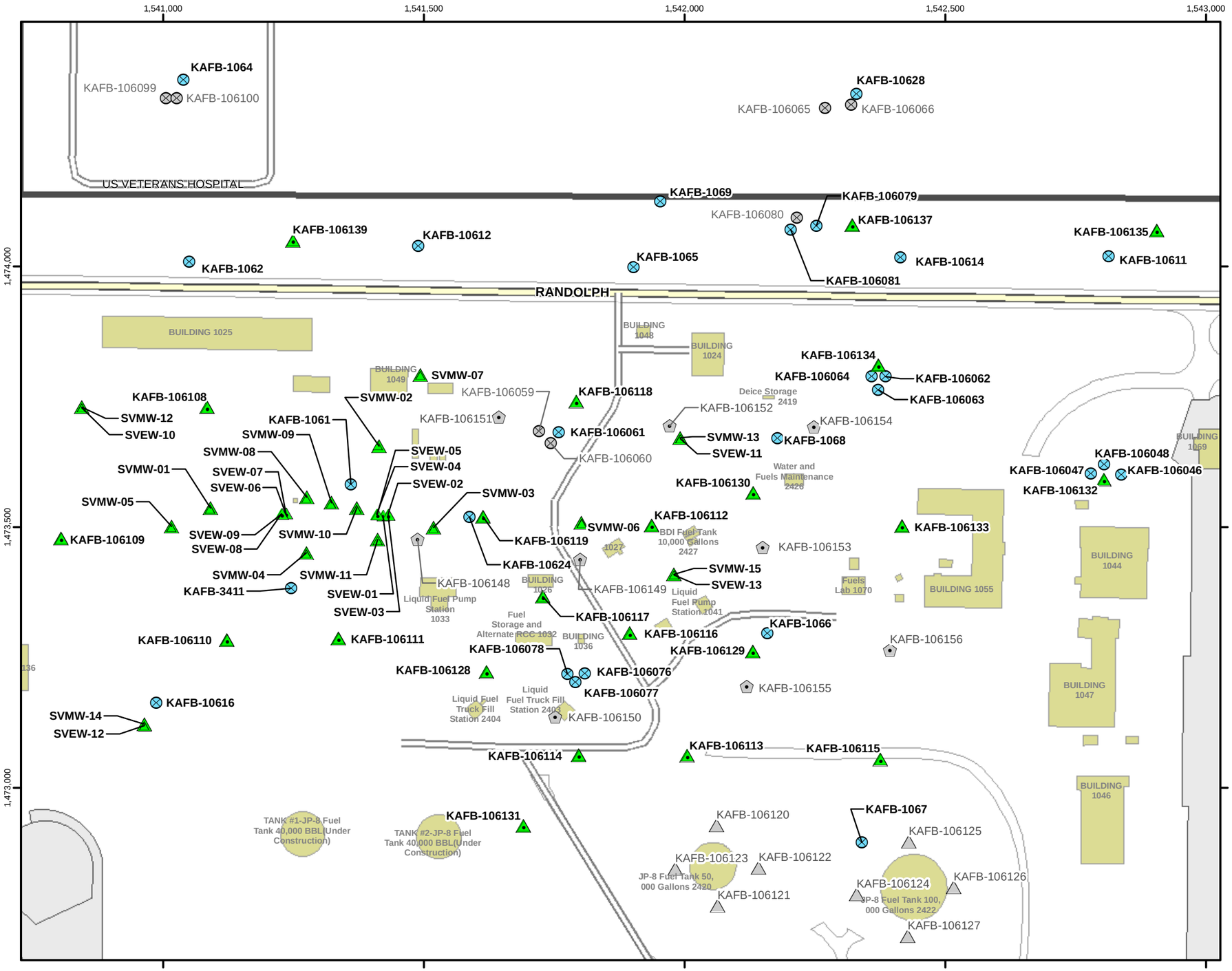
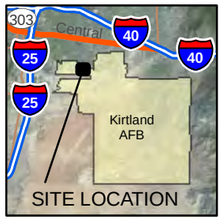


Legend

- Monitor Well
- Pneu Log
- SVE Extraction Well
- SVE Cluster
- SVE Monitor Well
- Proposed Monitor Well
- Proposed Pneu Log
- Proposed SVE Extraction Well
- Proposed SVE Cluster
- Proposed SVE Monitor Well
- Interstate
- Major Road
- Road
- Structure
- Runway
- Installation Boundary



Revision Date: 05/09/11

N

0 100 200 400

Feet

1 inch = 200 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 2-1

LOCATION OF SOIL VAPOR MONITORING AND EXTRACTION WELLS, BULK FUELS FACILITY

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_007_SVE_detail_3.mxd 05/09/11

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SECTION 3 FIGURES

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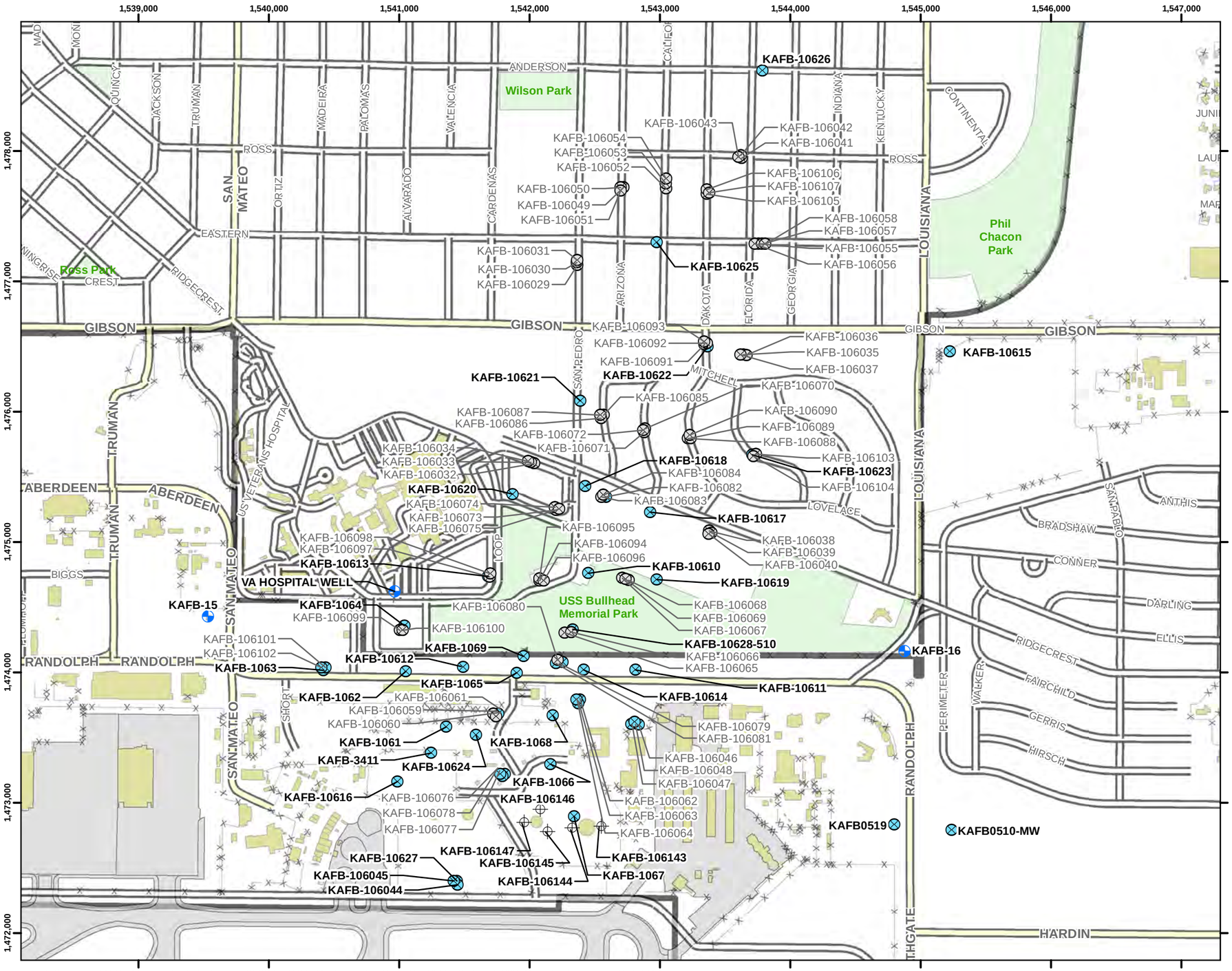
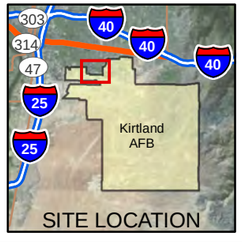


H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_038_GW_BH_locs.mxd 05/09/11

Legend

- Proposed Monitor Well
- Monitor Well
- Water Supply Well
- Borehole
- Fence
- Interstate
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary



N

Revision Date: 05/09/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 3-1

GROUNDWATER MONITORING WELL AND SOIL BORING LOCATIONS

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SECTION 4 FIGURES

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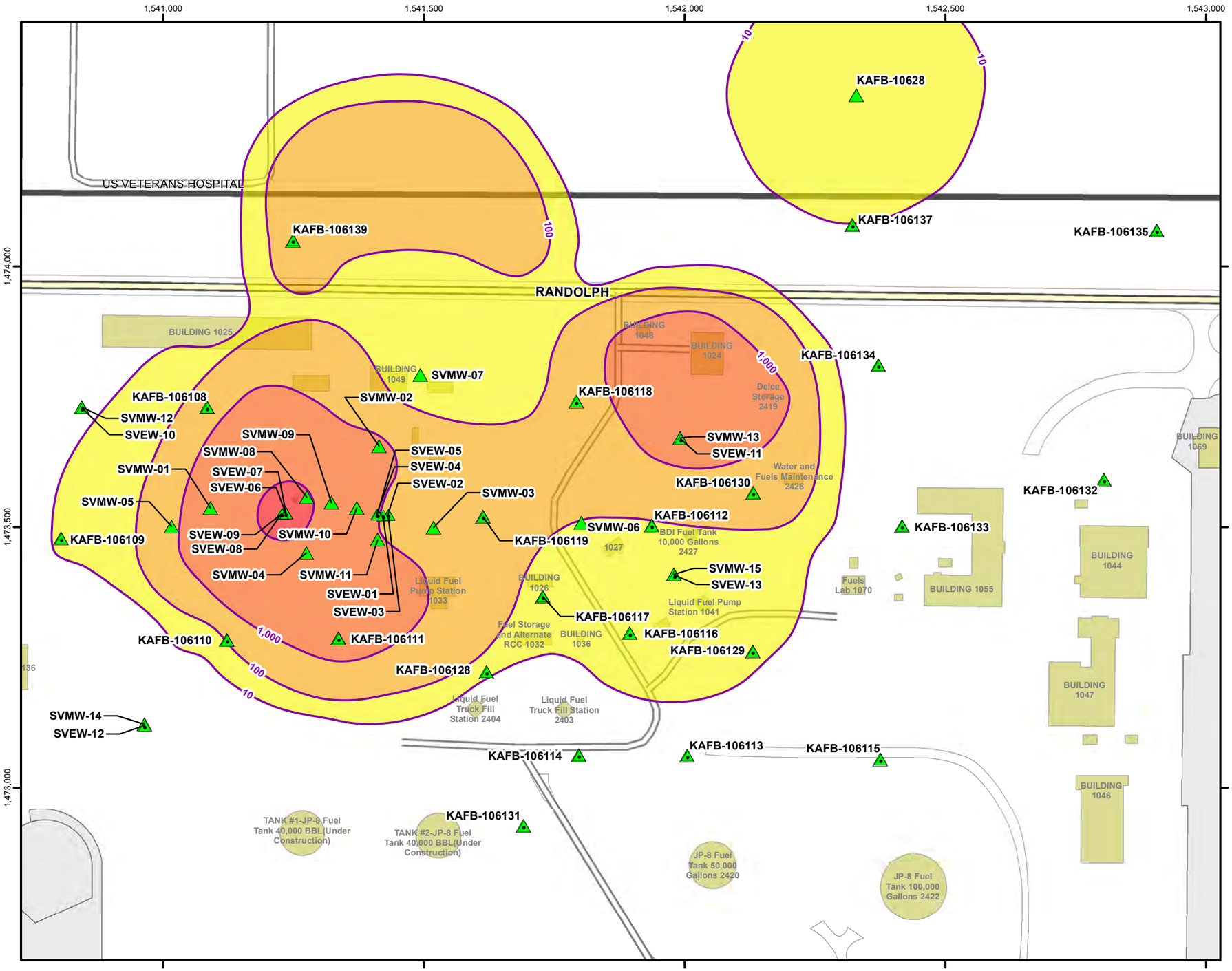


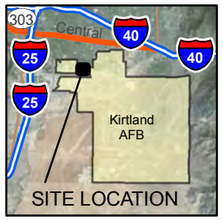
Legend

- Pneu Log
- SVE Extraction Well
- SVE Cluster
- VOC Concentration Contour (ppmV)

VOC Concentration (ppmV)

- 10
- 11 - 100
- 101 - 1000
- 1001 - 10000
- Interstate
- Major Road
- Road
- Structure
- Runway
- Installation Boundary

Note: The vadose zone vapor VOC plume was gridded in three dimensions using inverse distance weighting in RockWorks. The VOC concentration represents a horizontal slice of the three-dimensional vadose zone vapor VOC plume taken at a depth of 150' (elevation 5190').



Revision Date: 05/19/11

N

0 100 200 400

Feet

1 inch = 200 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-1

FIELD VOC CONCENTRATION CONTOURS
150' BGS (ELEVATION 5190')
MARCH 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_032_VOC_d150_e5190.mxd 05/19/11

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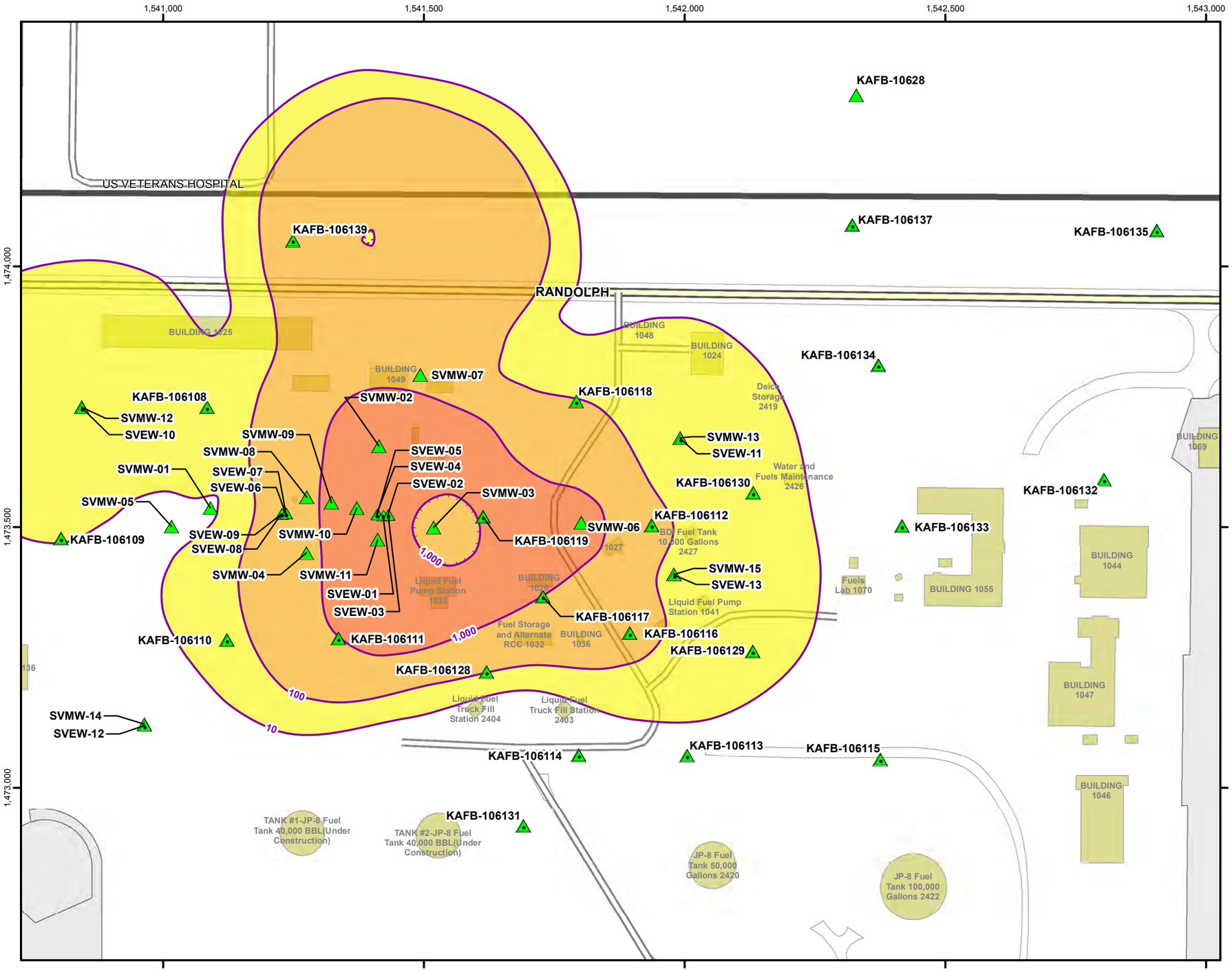


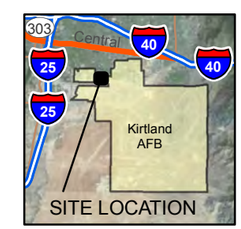
Legend

- Pneu Log
- SVE Extraction Well
- SVE Cluster
- VOC Concentration Contour (ppmV)

VOC Concentration (ppmV)

- 10
- 11 - 100
- 101 - 1000
- 1001 - 10000
- Interstate
- Major Road
- Road
- Structure
- Runway
- Installation Boundary

Note: The vadose zone vapor VOC plume was gridded in three dimensions using inverse distance weighting in RockWorks. The VOC concentration represents a horizontal slice of the three-dimensional vadose zone vapor VOC plume taken at a depth of 250' (elevation 5090').



Revision Date: 05/19/11

N

0 100 200 400

Feet

1 inch = 200 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-2

FIELD VOC CONCENTRATION CONTOURS
250' BGS (ELEVATION 5090')
MARCH 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_033_VOC_d250_e5090.mxd 05/19/11

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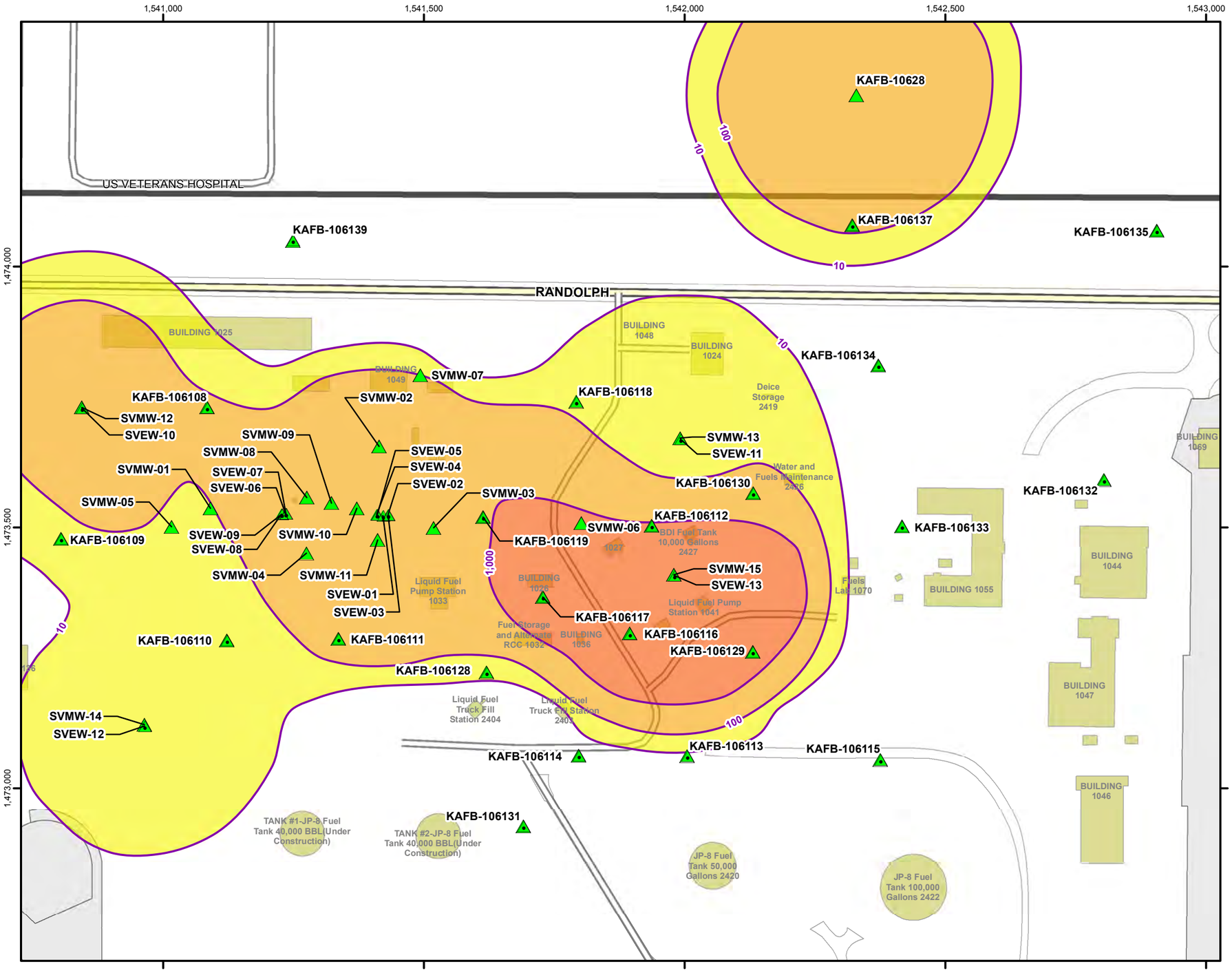


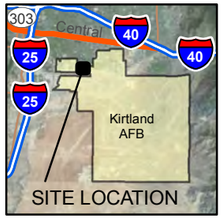
Legend

- Pneu Log
- SVE Extraction Well
- SVE Cluster
- VOC Concentration Contour (ppmV)

VOC Concentration (ppmV)

- 10
- 11 - 100
- 101 - 1000
- 1001 - 10000
- Interstate
- Major Road
- Road
- Structure
- Runway
- Installation Boundary

Note: The vadose zone vapor VOC plume was gridded in three dimensions using inverse distance weighting in RockWorks. The VOC concentration represents a horizontal slice of the three-dimensional vadose zone vapor VOC plume taken at a depth of 350' (elevation 4990').



Revision Date: 05/19/11

N

0 100 200 400

Feet

1 inch = 200 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-3

FIELD VOC CONCENTRATION CONTOURS
350' BGS (ELEVATION 4990')
MARCH 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_034_VOC_d350_e4990.mxd 05/19/11

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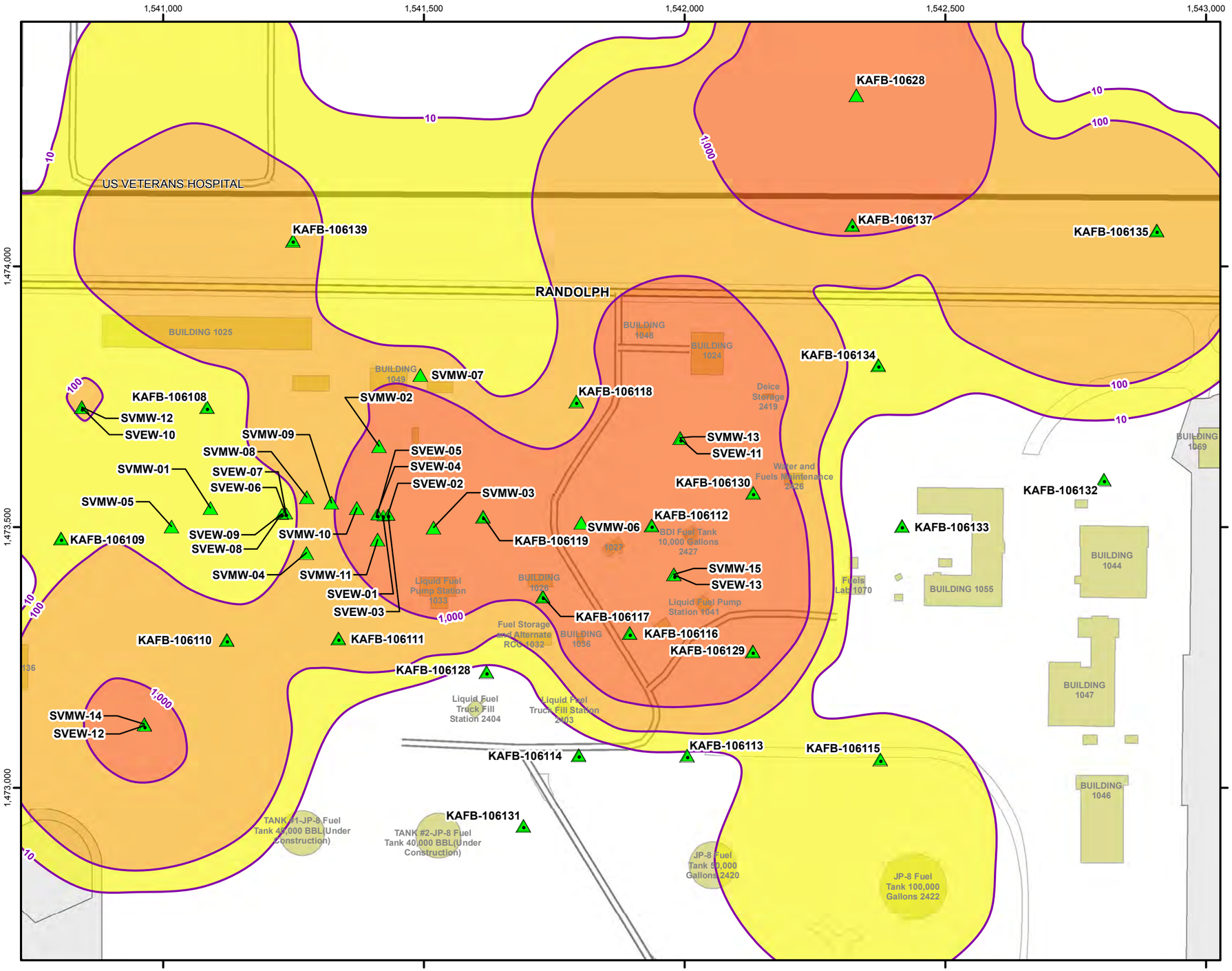


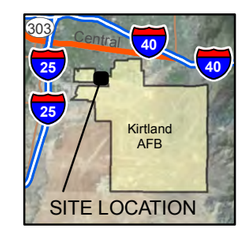
Legend

- Pneu Log
- SVE Extraction Well
- SVE Cluster
- VOC Concentration Contour (ppmV)

VOC Concentration (ppmV)

- 10
- 11 - 100
- 101 - 1000
- 1001 - 10000
- Interstate
- Major Road
- Road
- Structure
- Runway
- Installation Boundary

Note: The vadose zone vapor VOC plume was gridded in three dimensions using inverse distance weighting in RockWorks. The VOC concentration represents a horizontal slice of the three-dimensional vadose zone vapor VOC plume taken at a depth of 450' (elevation 4890').



Revision Date: 05/19/11

N

0 100 200 400

Feet

1 inch = 200 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-4

FIELD VOC CONCENTRATION CONTOURS
450' BGS (ELEVATION 4890')
MARCH 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_035_VOC_d450_e4890.mxd 05/19/11

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SECTION 5 FIGURES

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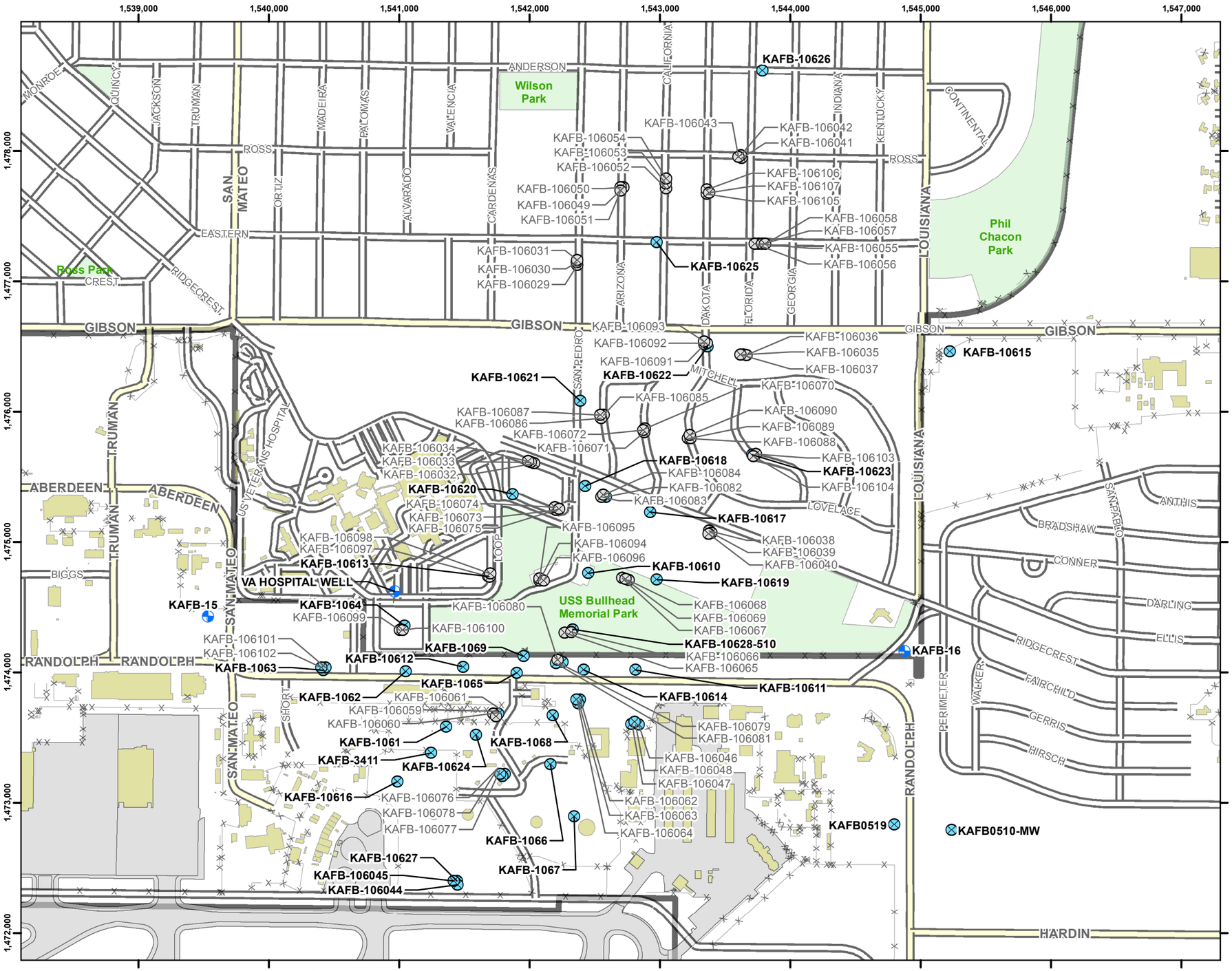
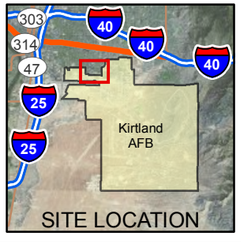


Legend

- Proposed Monitor Well
- Monitor Well
- Water Supply Well
- Fence
- Interstate
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary



N

Revision Date: 05/04/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-1

EXISTING AND PROPOSED
MONITORING WELL LOCATIONS
MARCH 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_005_GW_locs.mxd 05/04/11

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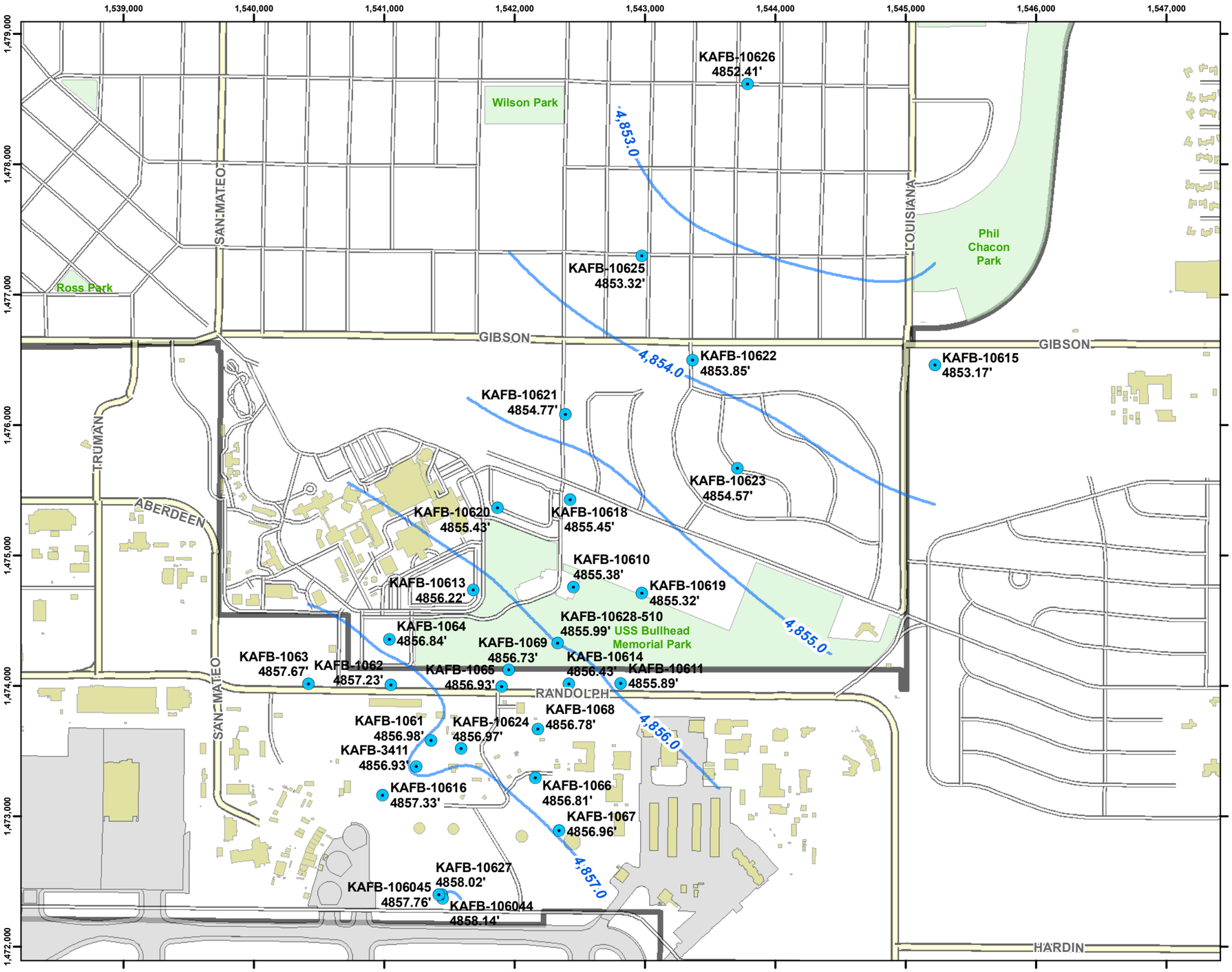
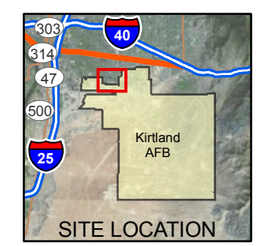


h:\kirtland_afb\gis_documents\project_maps\2001ba_2011_qtr_monitor_sve_om\2011_01\kafb_036_swl_contour_2011_jan.mxd 07/27/11

Legend

- Monitor Well With January 2011 Groundwater Elevation
- Groundwater Level Contour (ft msl)
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary

Note: Groundwater level contours were interpolated using ordinary kriging with a range of 6200 ft using a spherical variogram and a nugget of zero.



N

Revision Date: 07/27/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-2

GROUNDWATER LEVEL CONTOURS
JANUARY 2011
CORRECTED FOR NAPL THICKNESS

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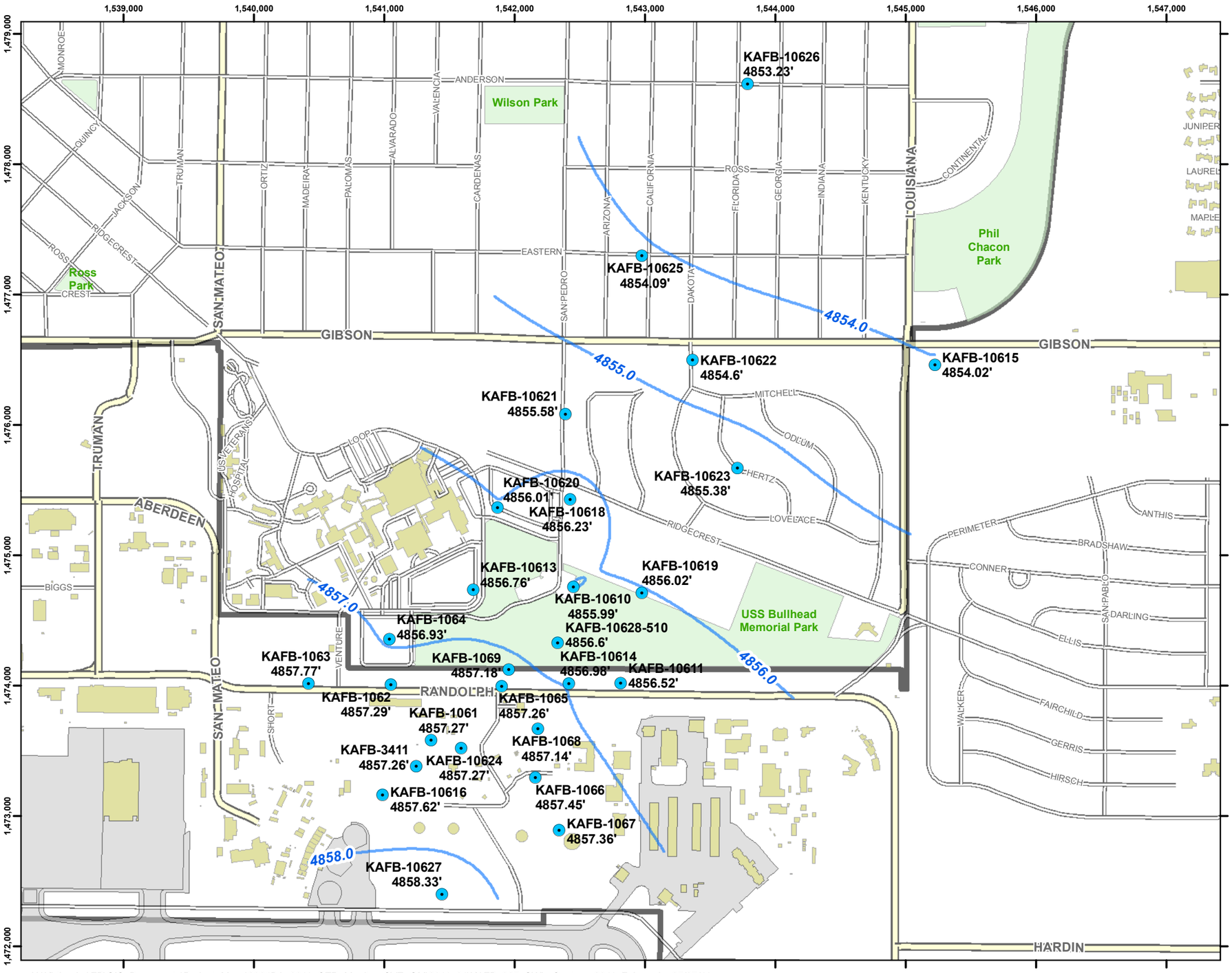
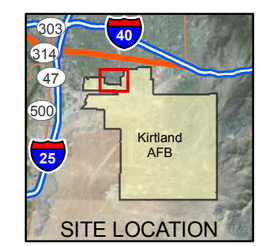


Legend

- Monitor Well With February 2011 Groundwater Elevation
- Groundwater Level Contour (ft msl)
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary

Note: Groundwater level contours were interpolated using ordinary kriging with a range of 6200 ft using a spherical variogram and a nugget of zero.



N

0 400 800 1,600

Feet
1 inch = 800 feet

Revision Date: 07/27/11

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-3

GROUNDWATER LEVEL CONTOURS
FEBRUARY 2011
CORRECTED FOR NAPL THICKNESS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_037_SWL_Contour_2011_Feb.mxd 07/27/11

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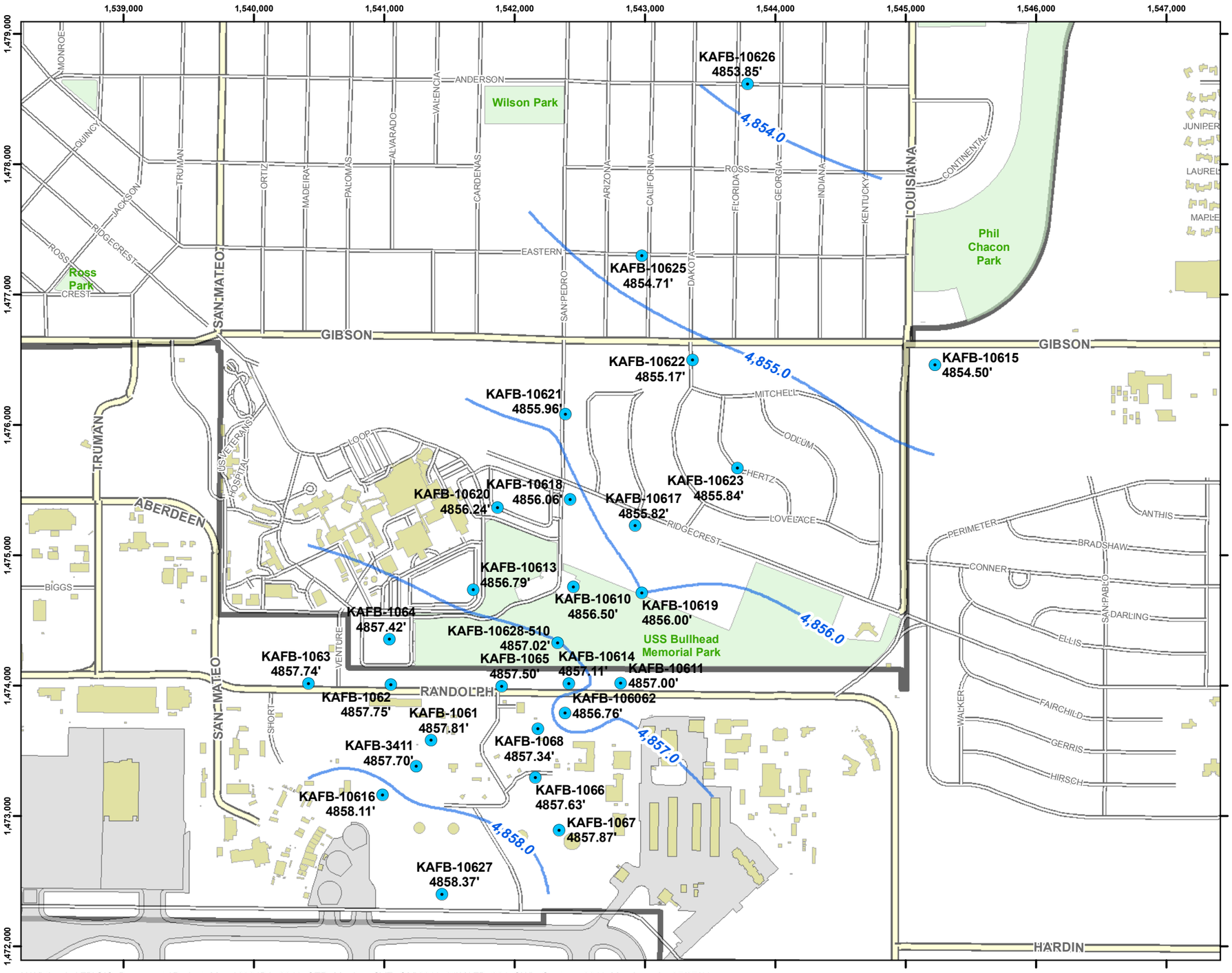
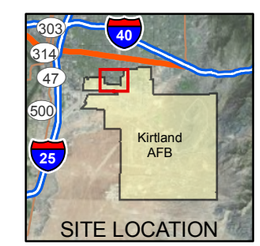


Legend

- Monitor Well With March 2011 Groundwater Elevation
- Groundwater Level Contour (ft msl)
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary

Note: Groundwater level contours were interpolated using ordinary kriging with a range of 6100 ft using a spherical variogram and a nugget of zero.



N

Revision Date: 07/27/11

0 400 800 1,600

Feet
1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-4

GROUNDWATER LEVEL CONTOURS
MARCH 2011
CORRECTED FOR NAPL THICKNESS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_001_SWL_Contour_2011_March.mxd 07/27/11

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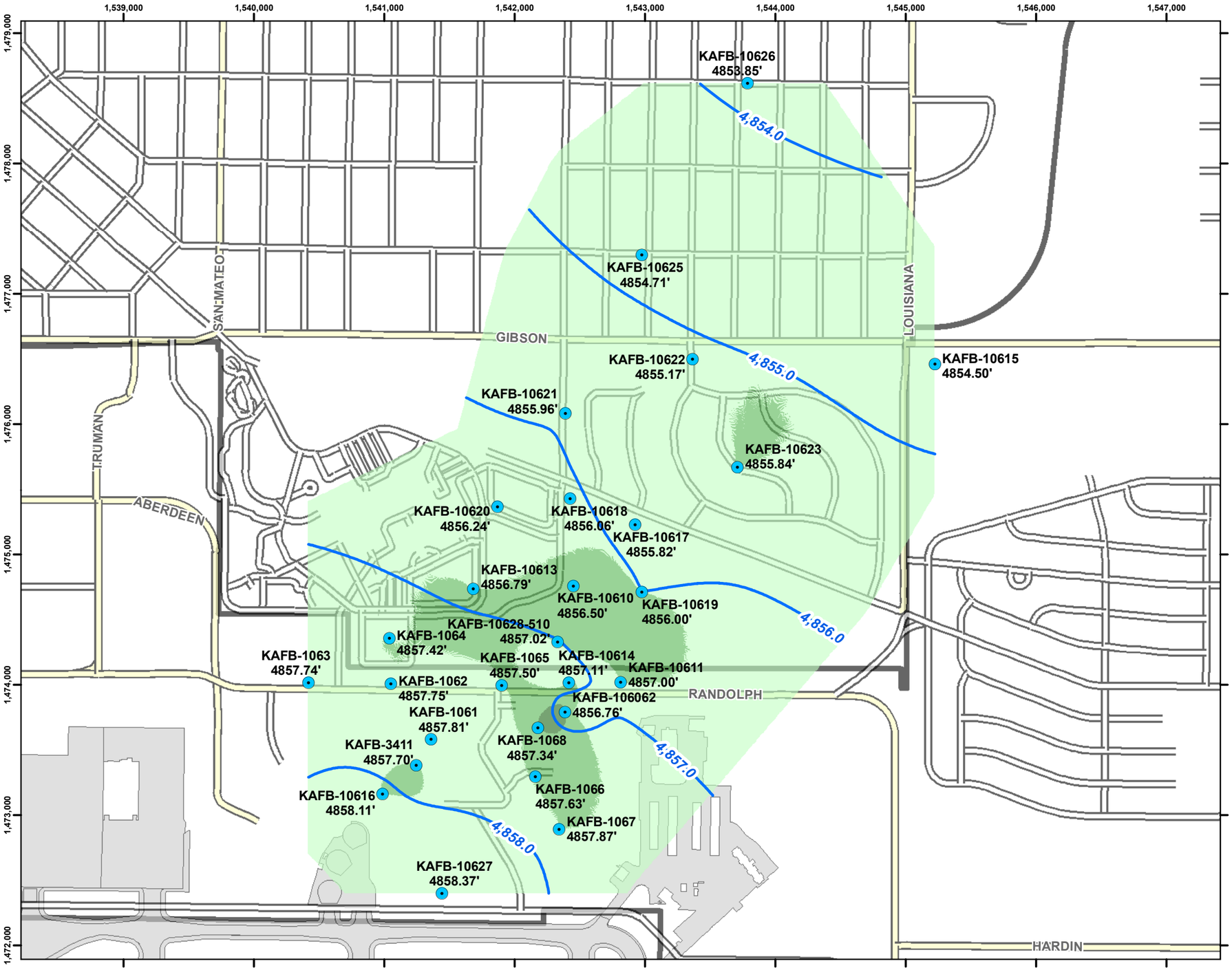


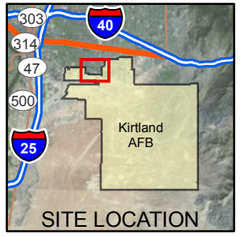
Legend

- Monitor Well With March 2011 Groundwater Elevation
- Groundwater Level Contour (ft msl)

Groundwater Gradient

- 0.0001 - 0.001 ft/ft
- 0.001 - 0.002 ft/ft
- 0.002 - 0.0027 ft/ft
- Interstate
- Major Road
- Road
- Runway
- Installation Boundary

Note: Groundwater level contours were interpolated using ordinary kriging with a range of 6100 ft using a spherical variogram and a nugget of zero. This map represents the horizontal gradient.



Revision Date: 07/27/11

N

0 400 800 1,600

Feet
1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-5

GROUNDWATER GRADIENT
MARCH 2011

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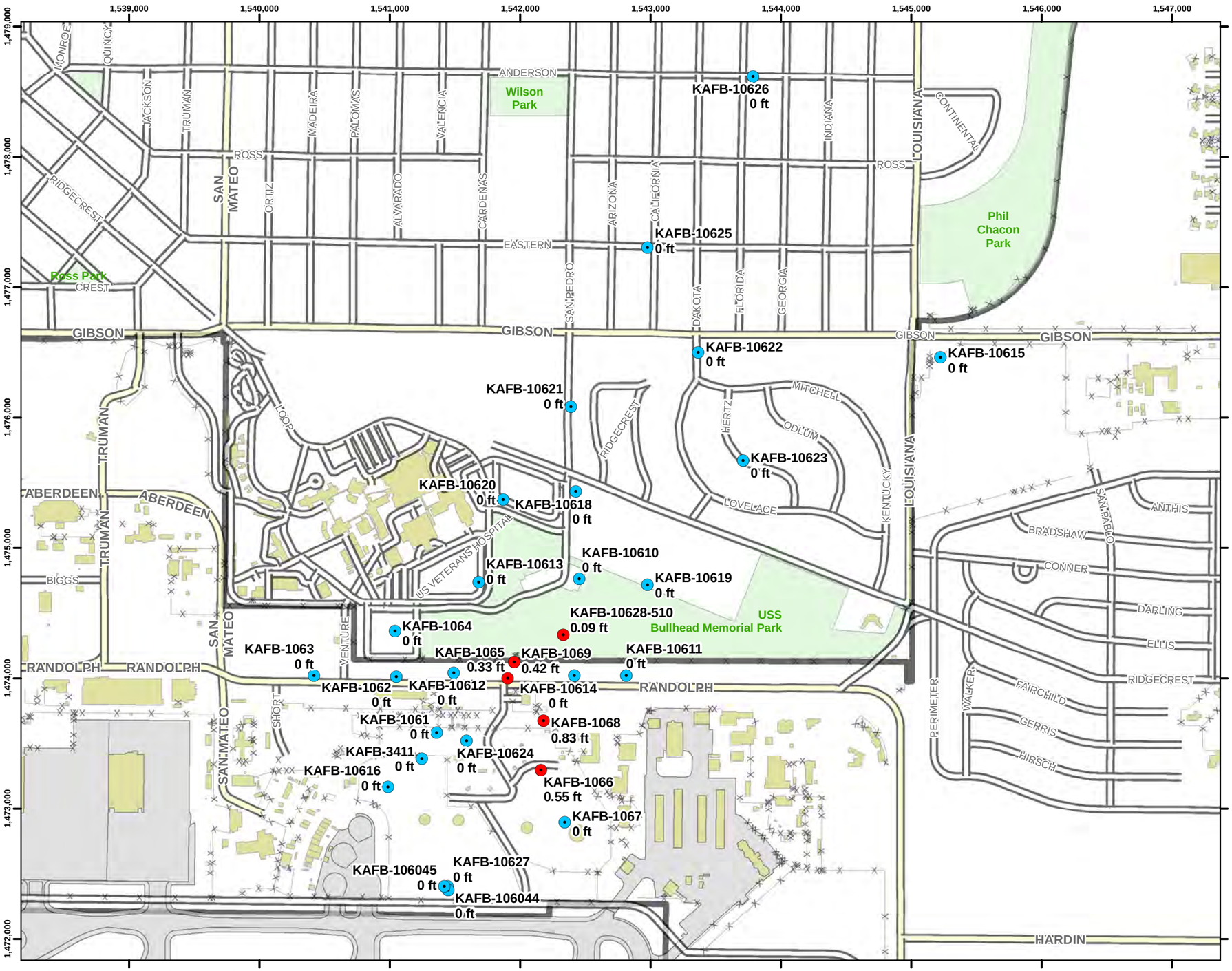
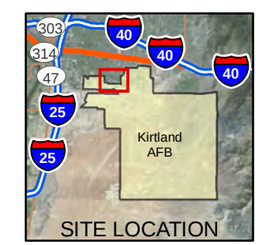


Legend

- Monitor Well With NAPL
- Monitor Well Without NAPL
- Fence
- Interstate
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary



N

Revision Date: 05/04/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-6

MEASURED NAPL THICKNESS
JANUARY 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_002_NAPL_2011_Jan.mxd 05/04/11

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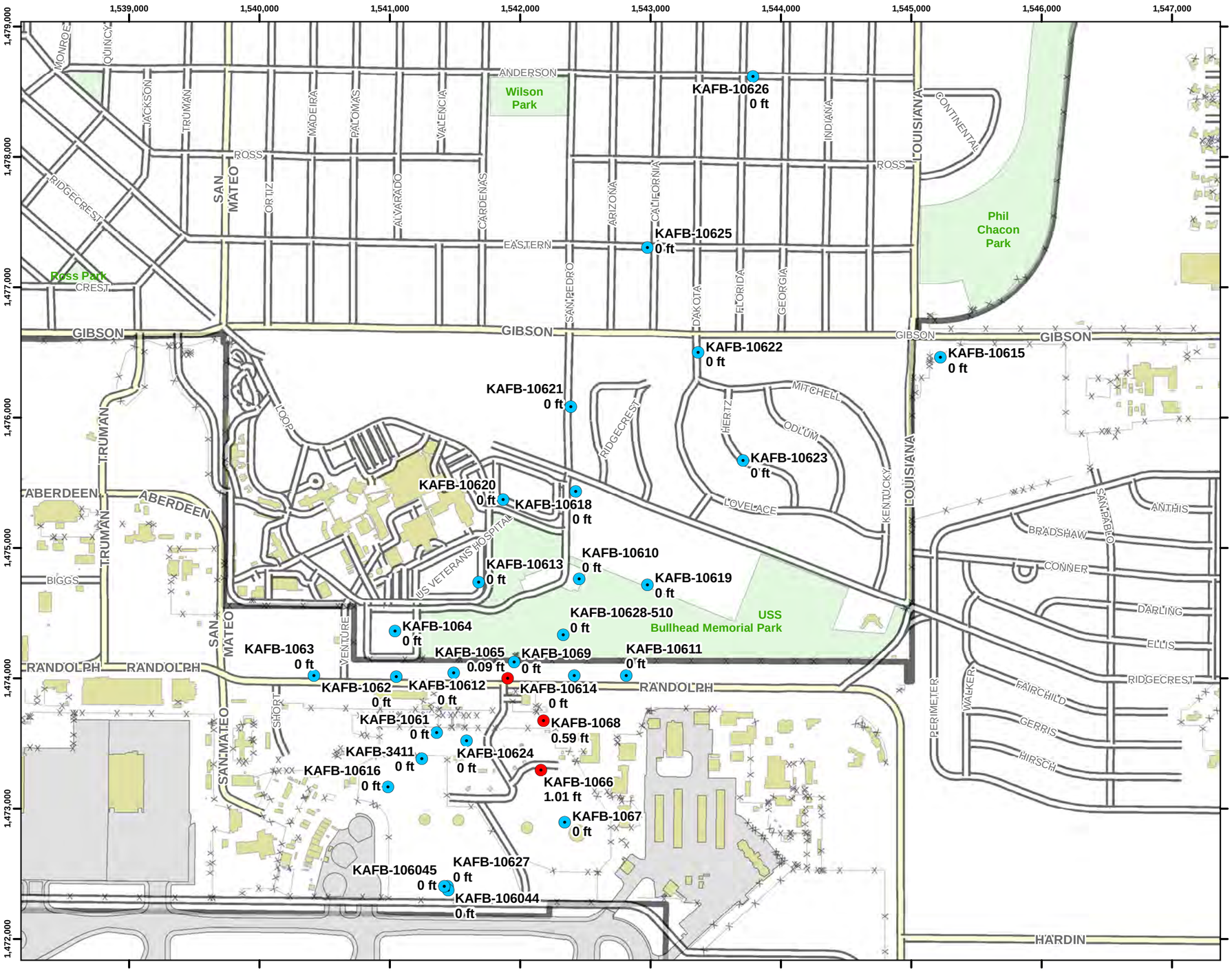
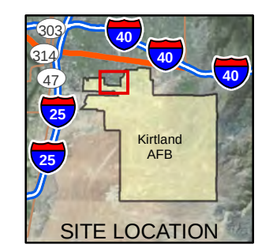


Legend

- Monitor Well With NAPL
- Monitor Well Without NAPL
- Fence
- Interstate
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary



N

Revision Date: 05/04/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

2011 QUARTERLY REPORT 01
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 5-7

MEASURED NAPL THICKNESS
FEBRUARY 2011

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_003_NAPL_2011_Feb.mxd 05/04/11

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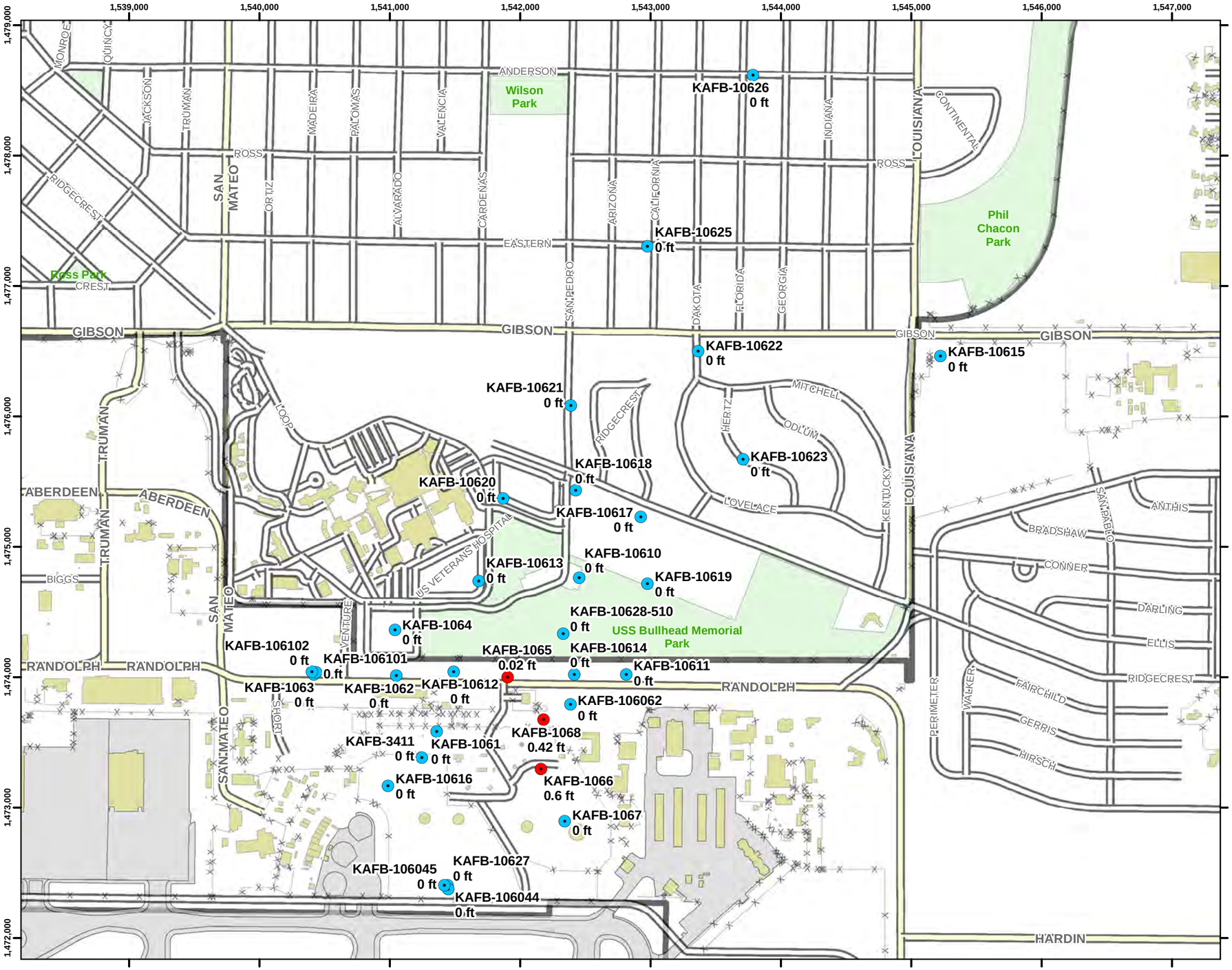
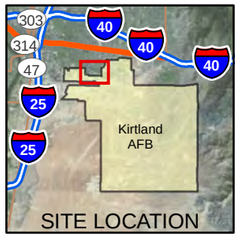


Legend

- Monitor Well With NAPL
- Monitor Well Without NAPL
- Fence
- Interstate
- Major Road
- Road
- Structure
- Runway
- Park
- Installation Boundary



N

Revision Date: 05/04/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-8

MEASURED NAPL THICKNESS
MARCH 2011

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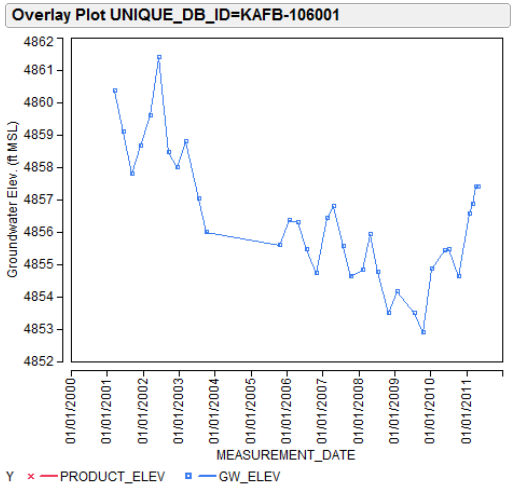

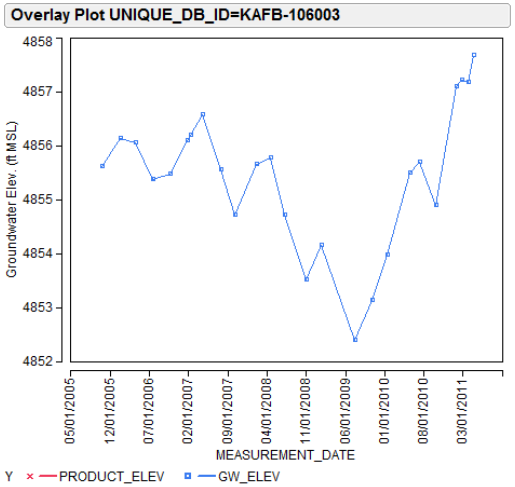

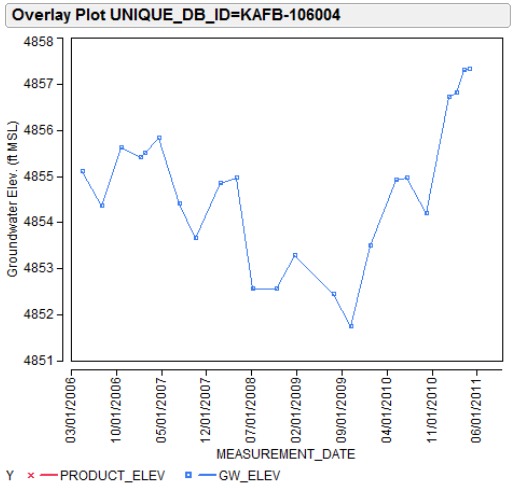

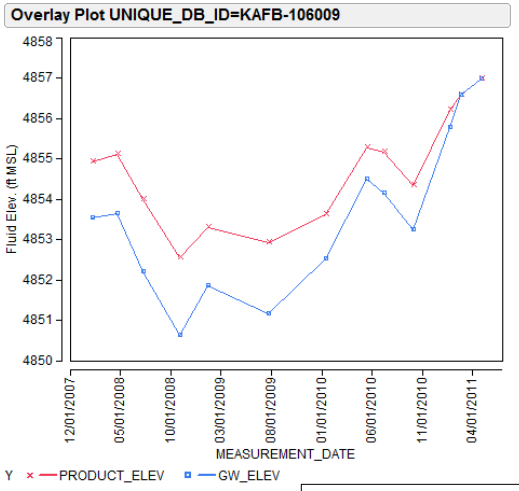

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FIGURE 5-9

GROUNDWATER ELEVATION HYDROGRAPHS

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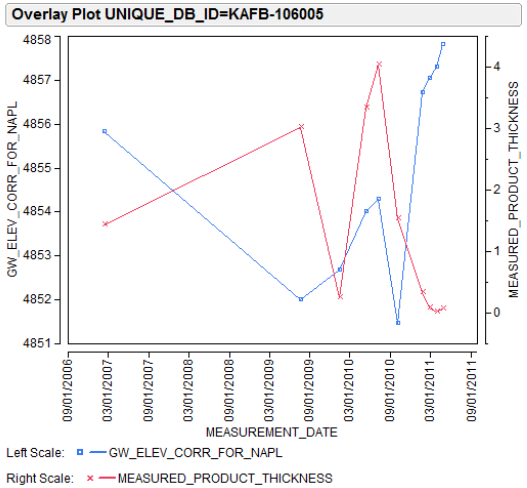

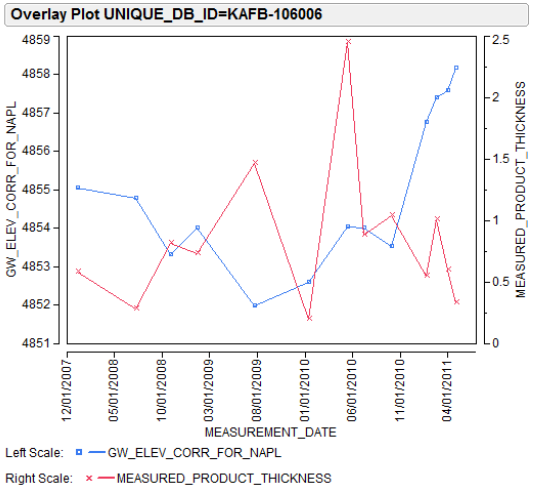

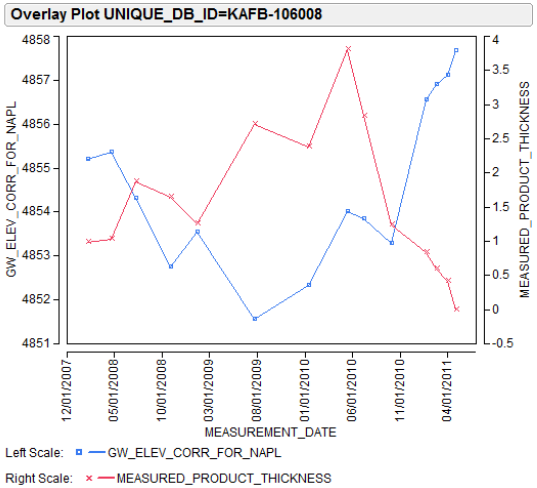

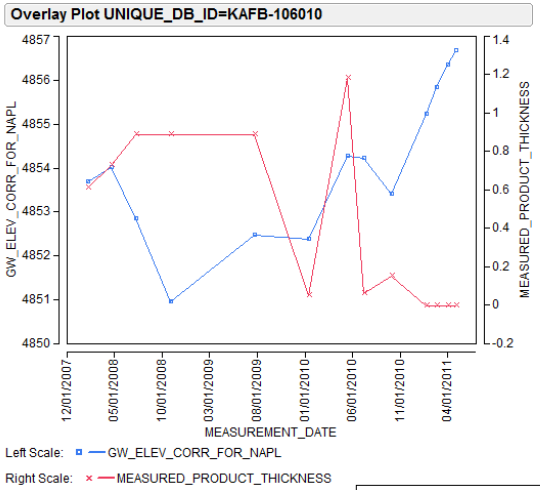

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FIGURE 5-10

NAPL THICKNESS-GROUNDWATER ELEVATION HYDROGRAPHS

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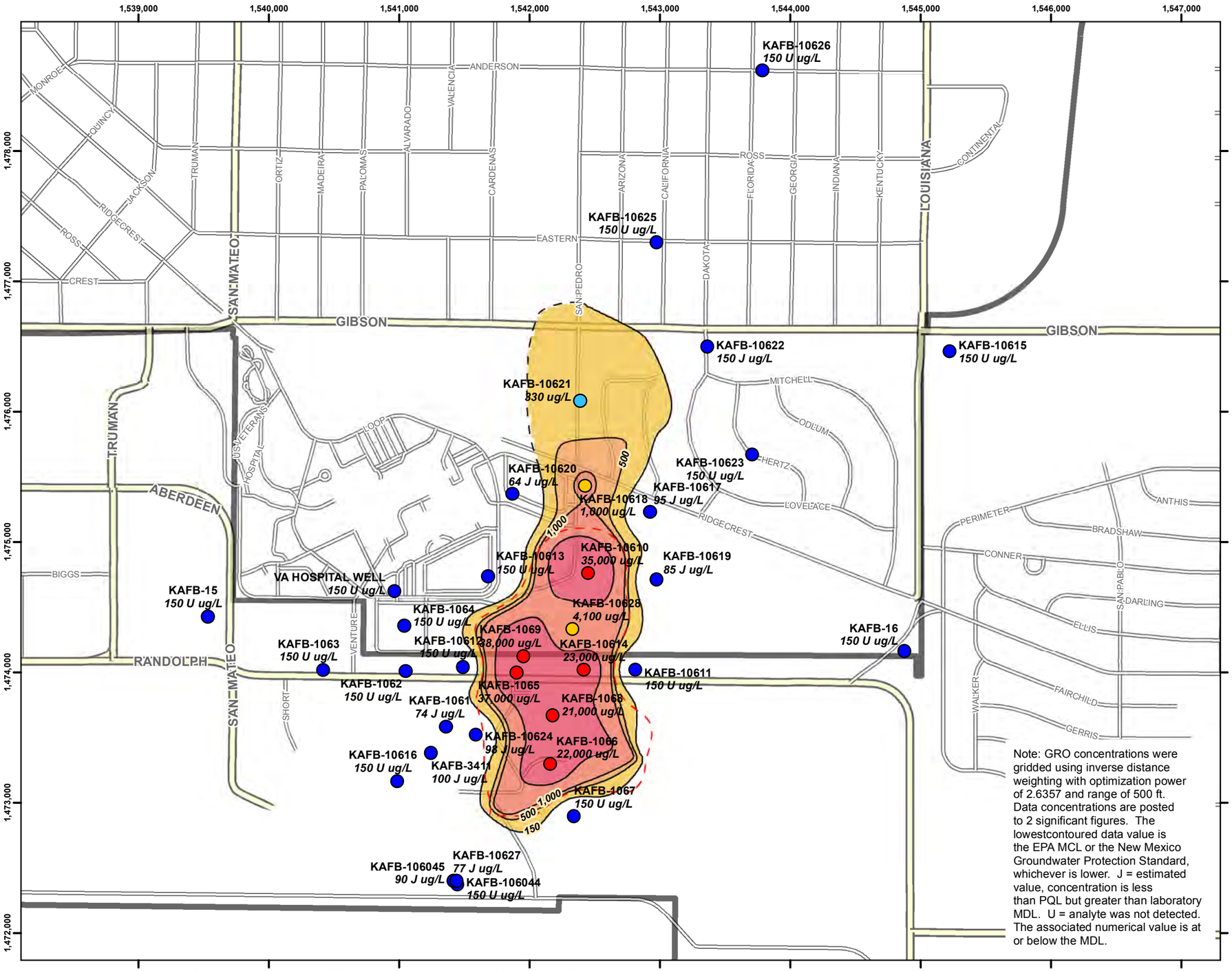


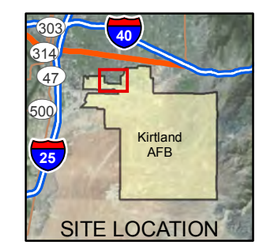
Note: GRO concentrations were gridded using inverse distance weighting with optimization power of 2.6357 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowestcontoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

GRO Result (ug/L)
- 64 - 150
- 150 - 500
- 500 - 1,000
- 1,000 - 10,000
- 10,000 - 38,000
- Historical Area of Observed NAPL (July 2009)
- GRO Concentration Contour (ug/L) (dashed where approximate)

GRO Concentration (ug/L)
- 64 - 150
- 150 - 500
- 500 - 1,000
- 1,000 - 10,000
- 10,000 - 38,300

- Major Road
- Road
- Installation Boundary



Revision Date: 05/17/11

N

0 400 800 1,600

Feet
1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-11

GASOLINE RANGE ORGANIC CONCENTRATIONS IN GROUNDWATER

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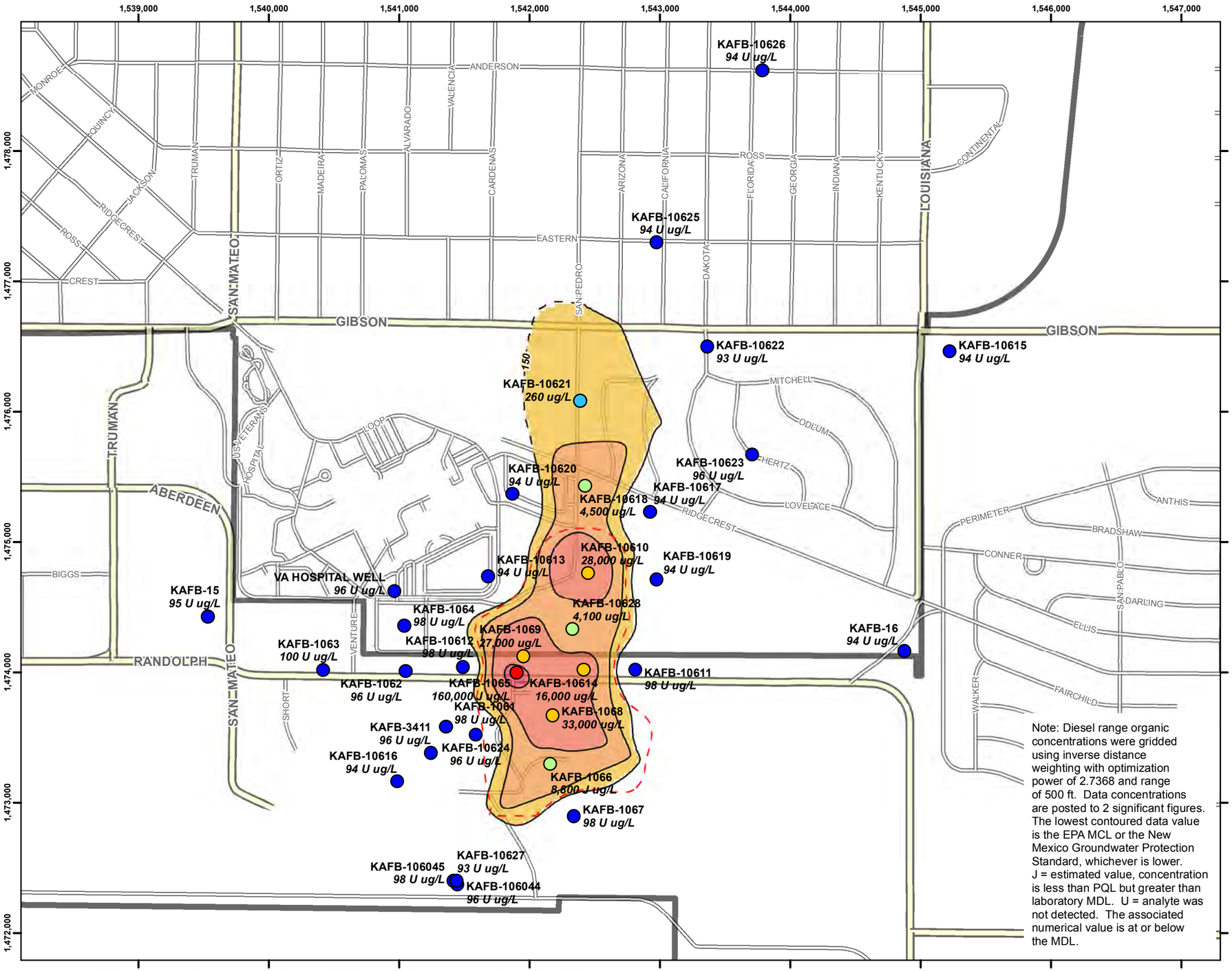


Note: Diesel range organic concentrations were gridded using inverse distance weighting with optimization power of 2.7368 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

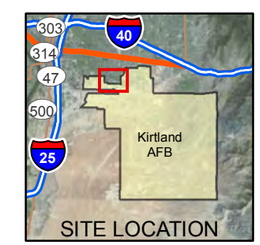
DRO Result (ug/L)

- 93- 150
- 150 - 1,000
- 1,000 - 10,000
- 10,000 - 100,000
- 100,00 - 160,000
- Historical Area of Observed NAPL (July 2009)
- DRO Concentration Contour (ug/L) (dashed where approximate)

DRO Concentration (ug/L)

- 46 - 150
- 150 - 1,000
- 1,000 - 10,000
- 10,000 - 100,000
- 100,000 - 160,000

- Major Road
- Road
- Installation Boundary



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-12

DIESEL RANGE ORGANIC CONCENTRATIONS IN GROUNDWATER

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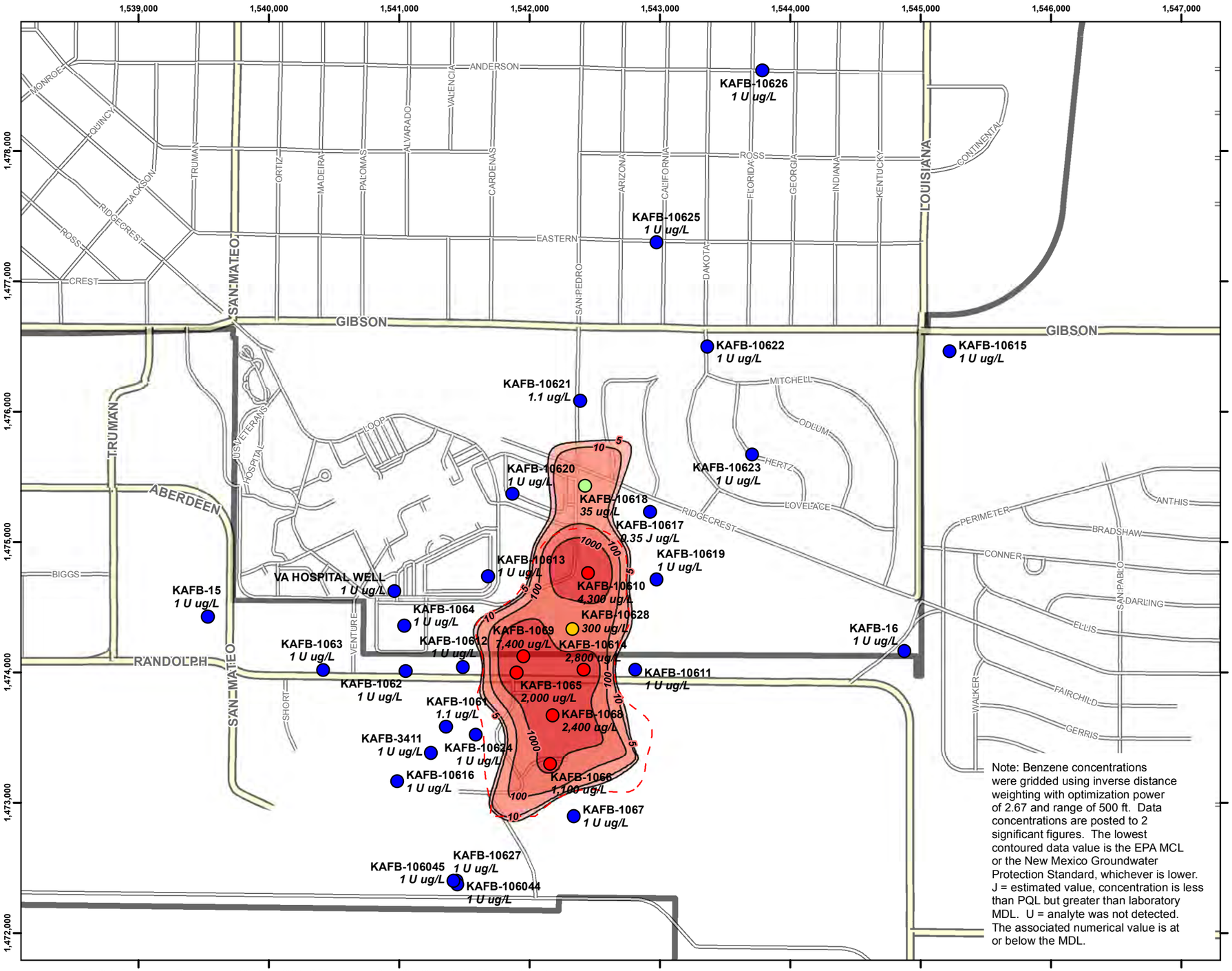


Note: Benzene concentrations were gridded using inverse distance weighting with optimization power of 2.67 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

Benzene Result (ug/L)

- 0.35 - 5.0
- 5.1 - 10
- 11 - 100
- 100 - 1,000
- 1,000 - 7,400

Historical Area of Observed NAPL (July 2009)

Benzene Concentration Contour (ug/L)

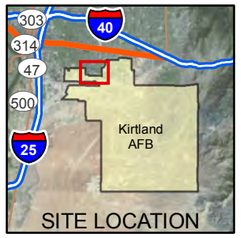
Benzene Concentration (ug/L)

- 0.3 - 5.0
- 5.1 - 10
- 10 - 100
- 100 - 1,000
- 1,000 - 7,400

Major Road

Road

Installation Boundary



N

Revision Date: 05/17/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-13

BENZENE CONCENTRATIONS IN GROUNDWATER

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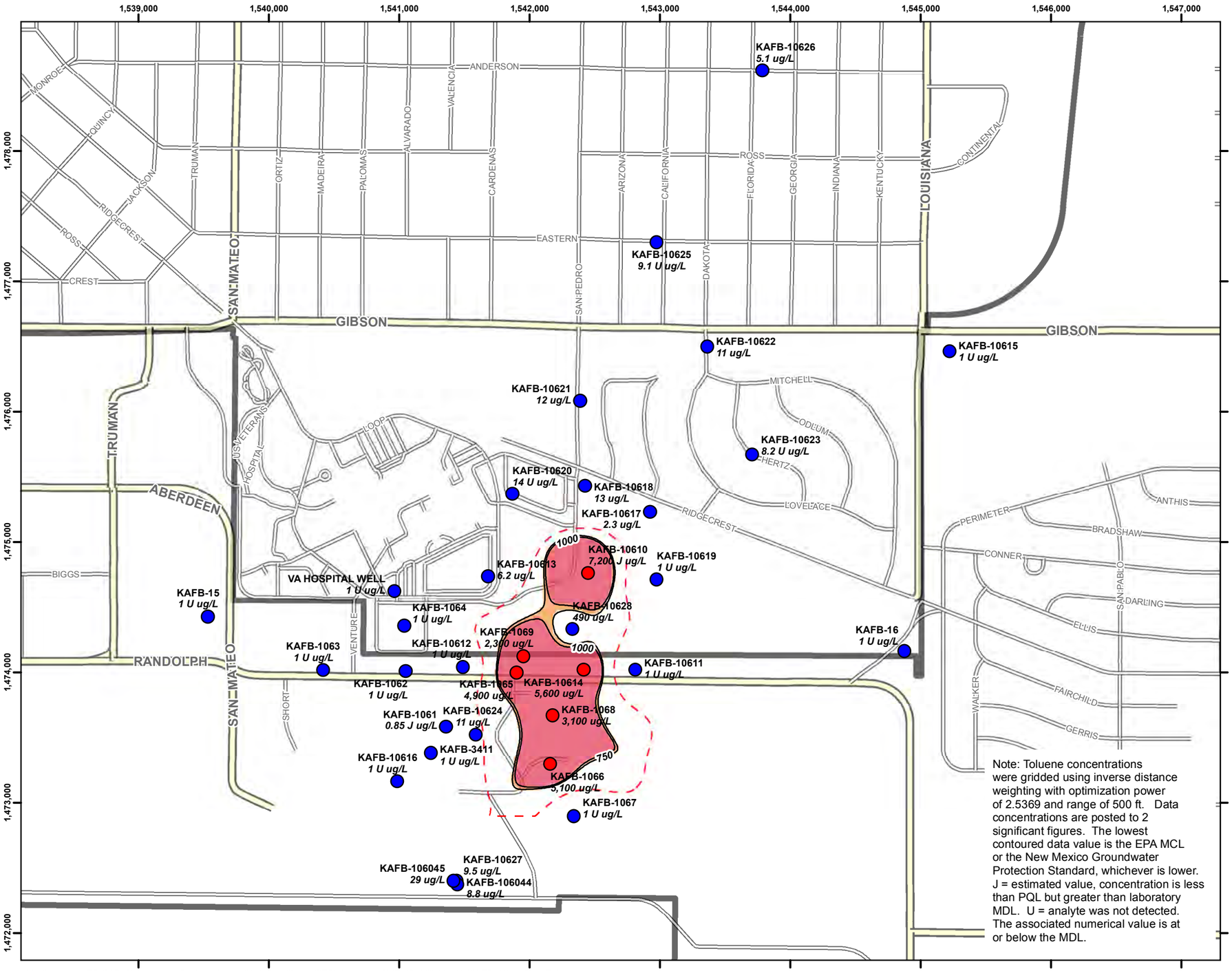


Note: Toluene concentrations were gridded using inverse distance weighting with optimization power of 2.5369 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

Toluene Result (ug/L)

- 0.85 - 750
- 751 - 1,000
- 1,000 - 7,200

Toluene Concentration Contour (ug/L)

Historical Area of Observed NAPL (July 2009)

Toluene Concentration Contour (ug/L)

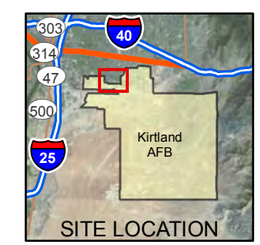
Toluene Concentration (ug/L)

- 0.0 - 750
- 750 - 1,000
- 1,000 - 7,200

Major Road

Road

Installation Boundary



N

Revision Date: 05/17/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-14

TOLUENE CONCENTRATIONS IN GROUNDWATER

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_015_GW_Toluene.mxd 05/17/11

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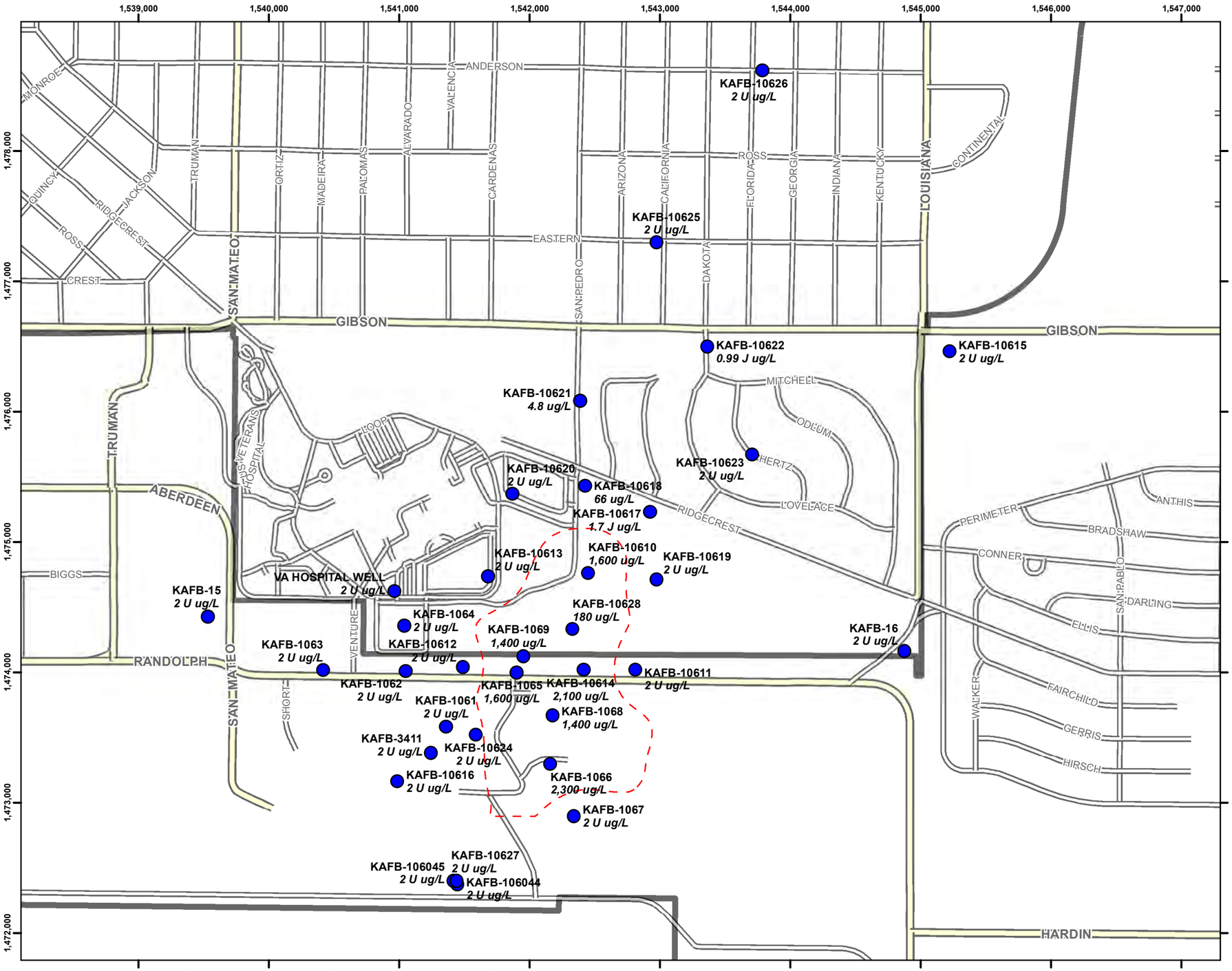

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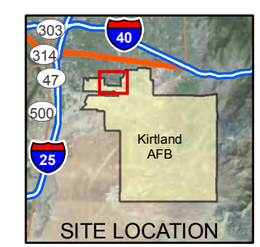
Legend

m,p-Xylenes Result (ug/L)

- 0.99 - 10,000
- Historical Area of Observed NAPL (July 2009)
- Major Road
- Road
- Installation Boundary

Notes: Data concentrations are posted to 2 significant figures.
J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.



Revision Date: 05/17/11

N

0 400 800 1,600

Feet
1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-15

M,P-XYLENES CONCENTRATIONS IN GROUNDWATER

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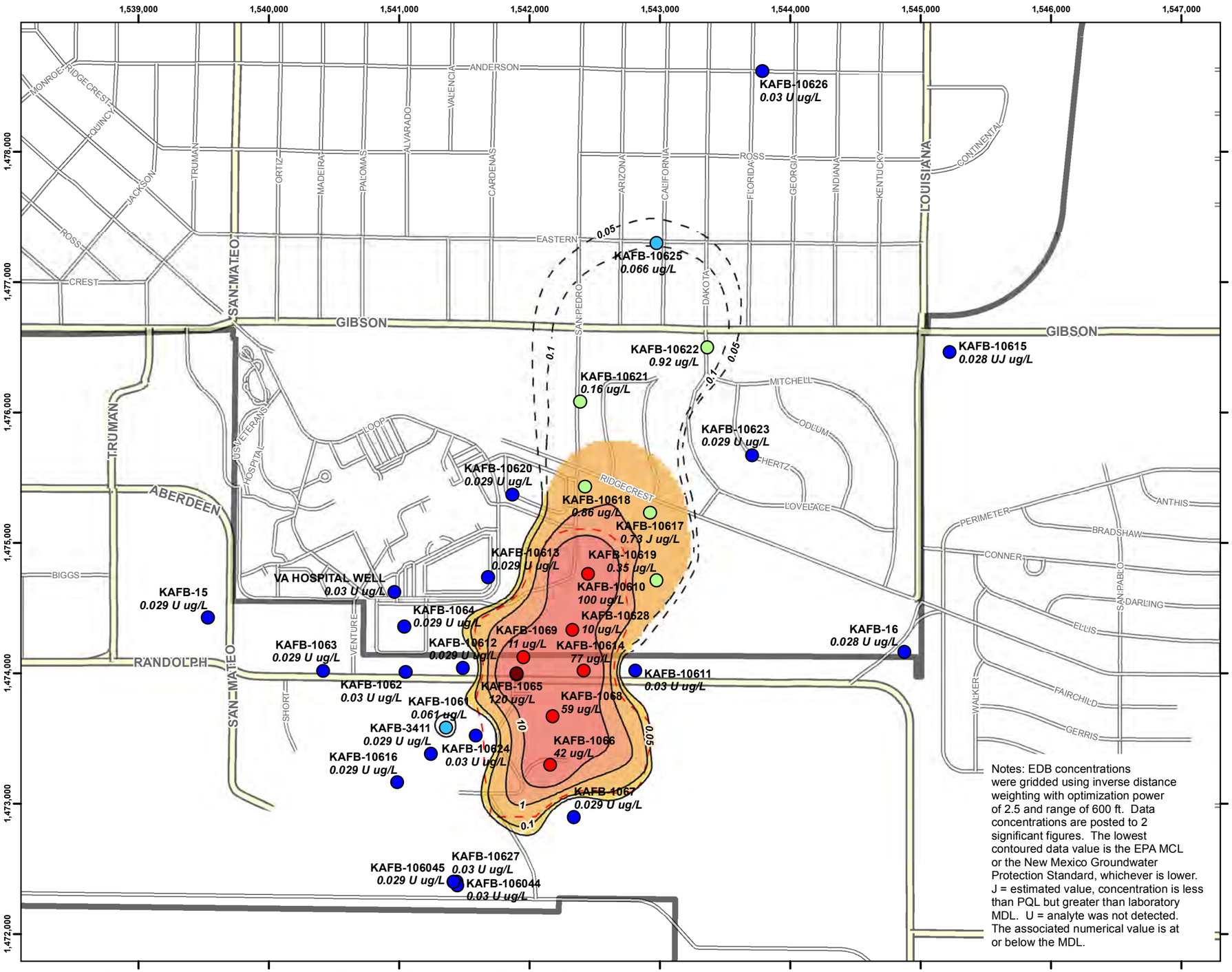


Notes: EDB concentrations were gridded using inverse distance weighting with optimization power of 2.5 and range of 600 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

EDB Result (ug/L)

- 0.028 - 0.050
- 0.051 - 0.10
- 0.11 - 1.0
- 1.1 - 10
- 11 - 100
- 100 - 120

EDB Concentration Contour (ug/L) (line is dashed and not color- filled where approximated)

Historical Area of Observed NAPL (July 2009)

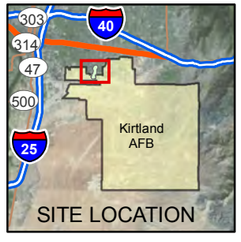
EDB Concentration (ug/L)

- 0.014 - 0.05
- 0.05 - 0.10
- 0.10 - 1.0
- 1.1 - 10
- 11 - 100
- 100 - 120

Major Road

Road

Installation Boundary



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-16

1,2-DIBROMOETHANE
CONCENTRATIONS IN GROUNDWATER

H:\Kirtland_AFB\GIS_Documents\Project_Maps\2001BA_2011_QTR_Monitor_SVE_OM\2011_01\KAFB_013_GW_EDB.mxd 05/17/11

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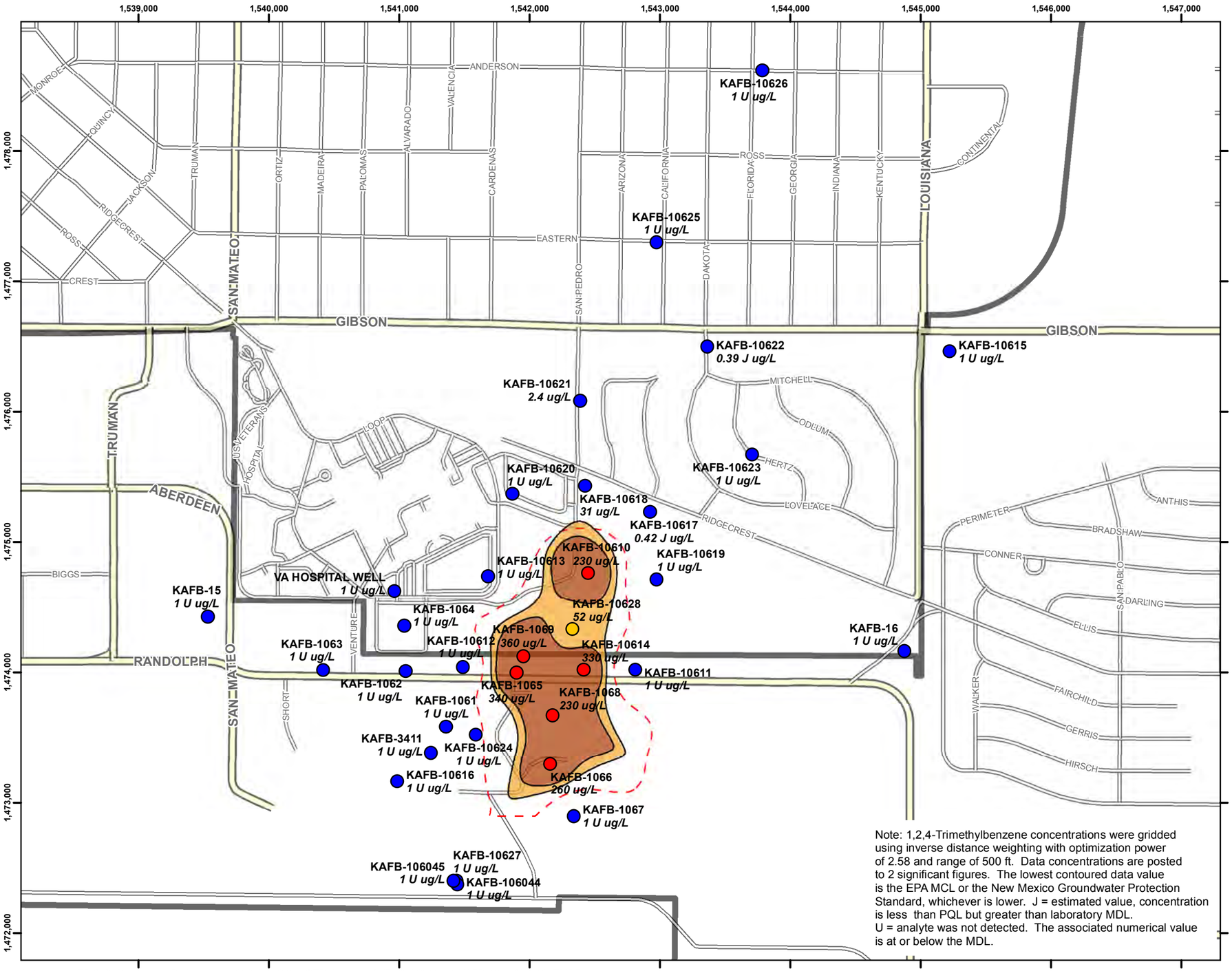


Note: 1,2,4-Trimethylbenzene concentrations were gridded using inverse distance weighting with optimization power of 2.58 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

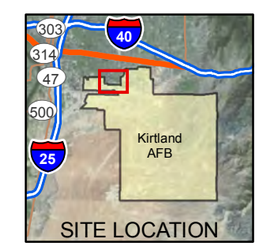
Legend

1,2,4-Trimethylbenzene Result (ug/L)

- 0.39- 35
- 35 - 100
- 100 - 360
- 1,2,4-Trimethylbenzene Concentration Contour (ug/L)
- Historical Area of Observed NAPL (July 2009)

1,2,4-Trimethylbenzene Concentration (ug/L)

- 0.39 - 35
- 35 - 100
- 100 - 360
- Major Road
- Road
- Installation Boundary



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-17

1,2,4-TRIMETHYLBENZENE CONCENTRATIONS IN GROUNDWATER

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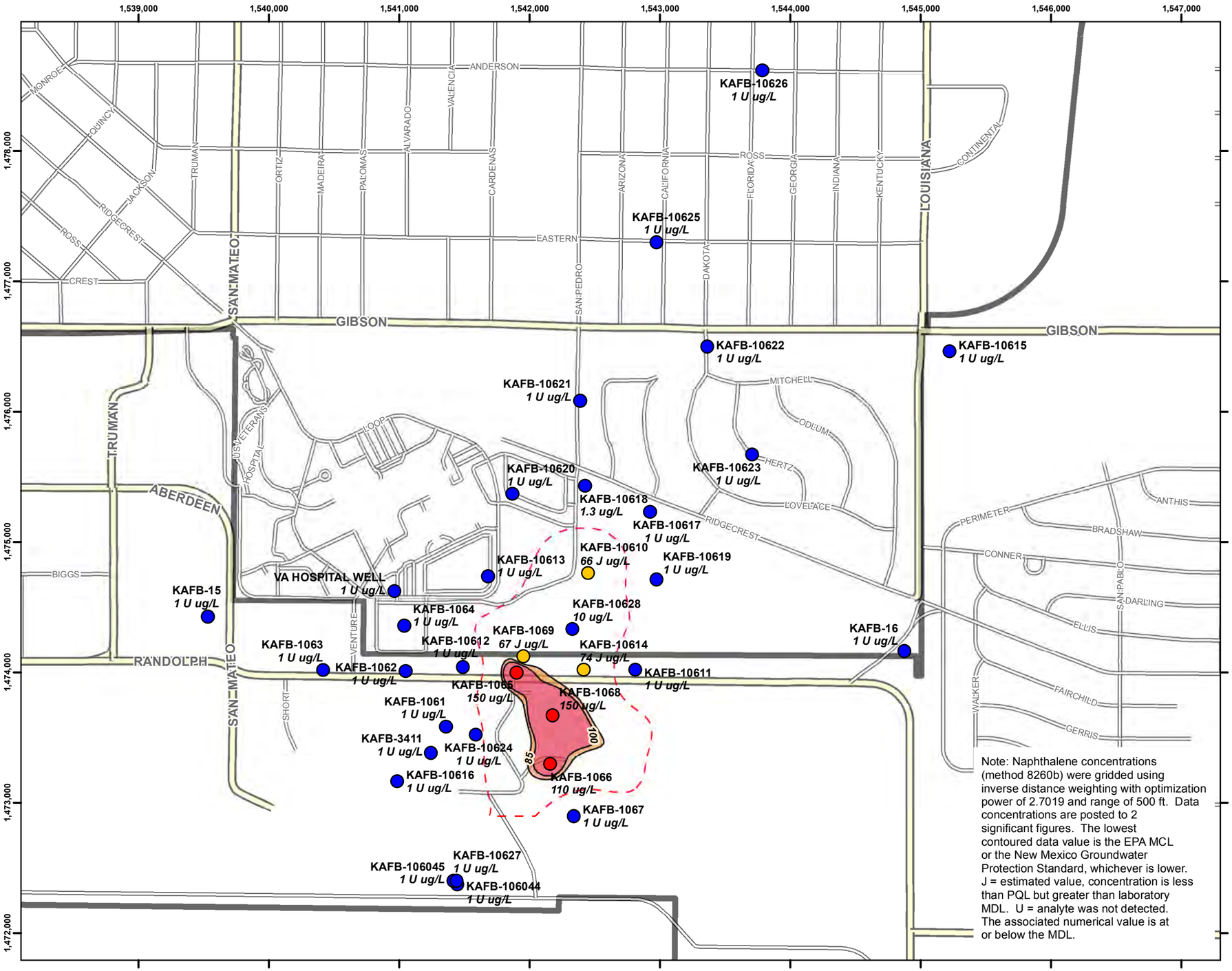


Note: Naphthalene concentrations (method 8260b) were gridded using inverse distance weighting with optimization power of 2.7019 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

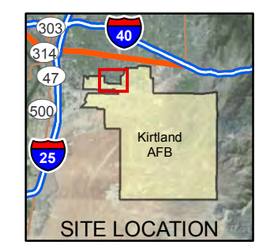
Naphthalene Result (ug/L)

- 0.19 - 30
- 30 - 100
- 100 - 150
- Historical Area of Observed NAPL (July 2009)
- Naphthalene Concentration Contour (ug/L)

Naphthalene Concentration (ug/L)

- 0.5 - 85
- 85 - 100
- 100 - 300

- Major Road
- Road
- Installation Boundary



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-18

NAPHTHALENE CONCENTRATIONS IN GROUNDWATER

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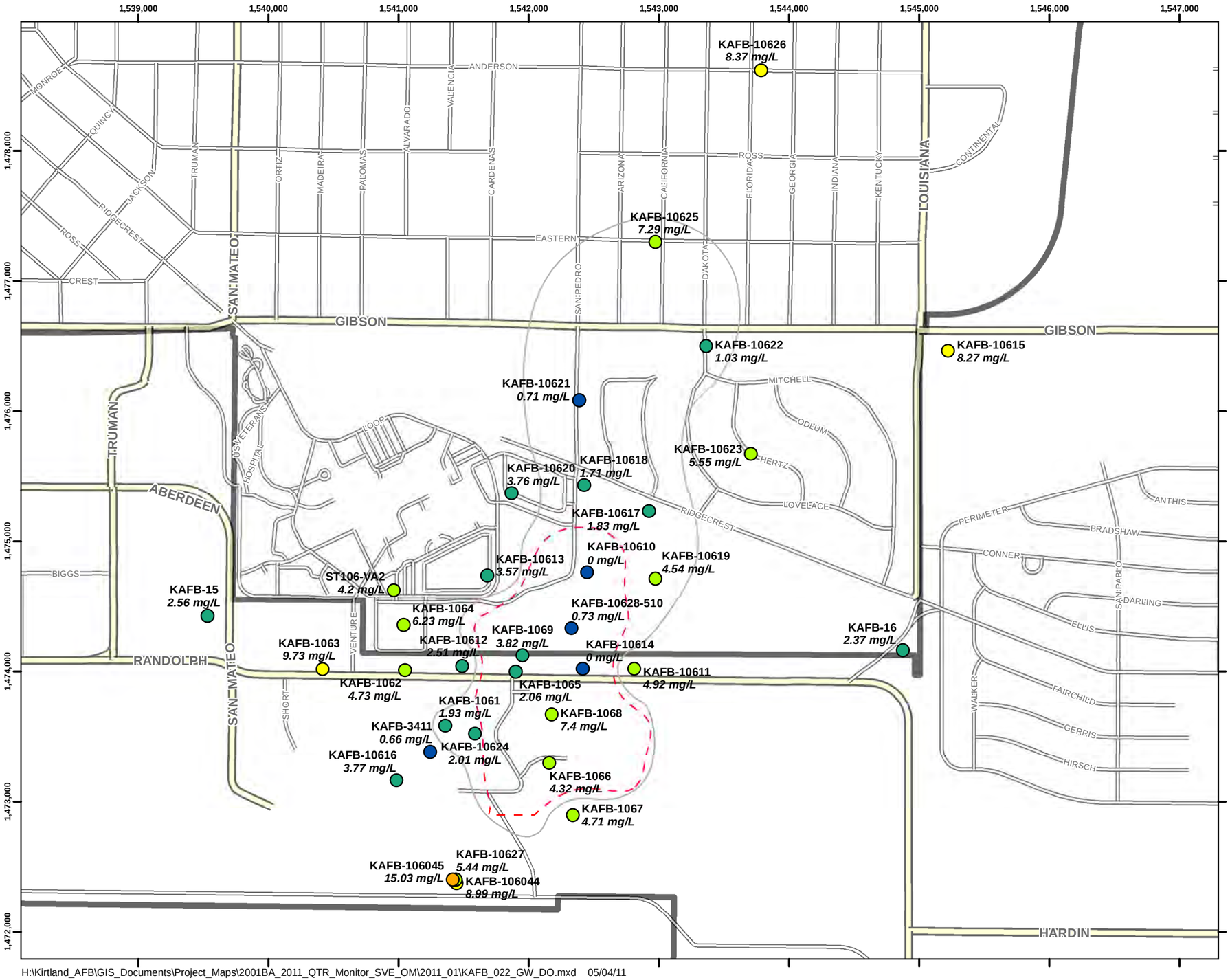
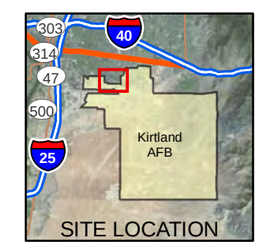


Legend

Dissolved Oxygen (mg/L)

- 0.00- 1.00
- 1.01 - 4.00
- 4.01 - 8.00
- 8.01 - 12.00
- 12.01 - 15.03
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary



Revision Date: 05/04/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-19

DISSOLVED OXYGEN CONCENTRATIONS IN GROUNDWATER

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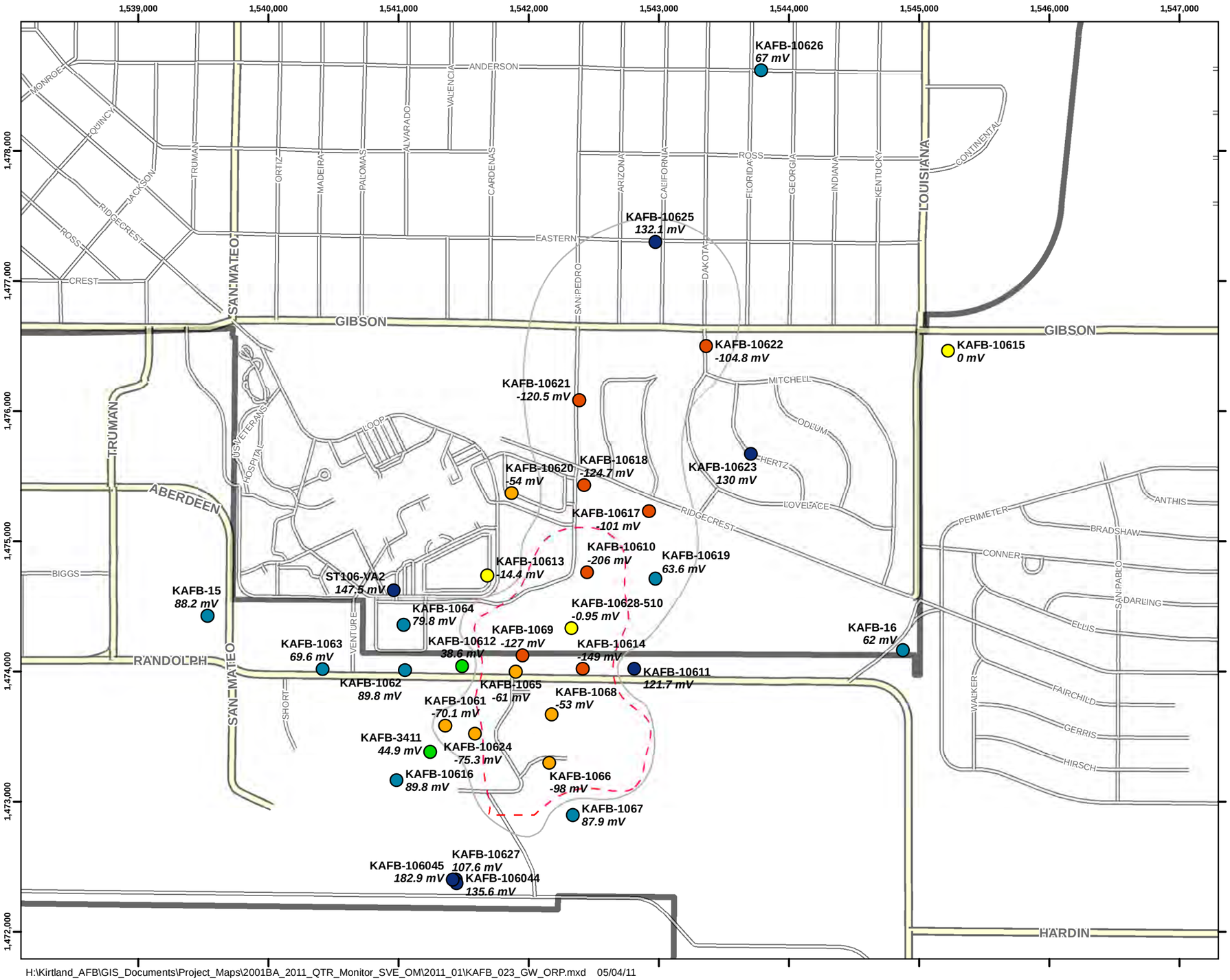


Legend

Oxidation-Reduction Potential (mV)

- -206.0 - -100.0
- -99.9 - -50.0
- -49.9 - 0.0
- 0.1 - 50.0
- 50.1 - 100.0
- 100.1 - 182.9

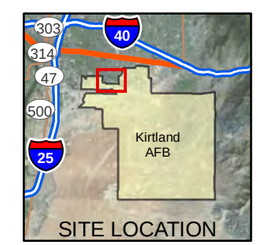
Historical Area of Observed NAPL (July 2009)

Dissolved Plume March 2011

Major Road

Road

Installation Boundary



Revision Date: 05/04/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-20

OXIDATION-REDUCTION POTENTIAL IN GROUNDWATER

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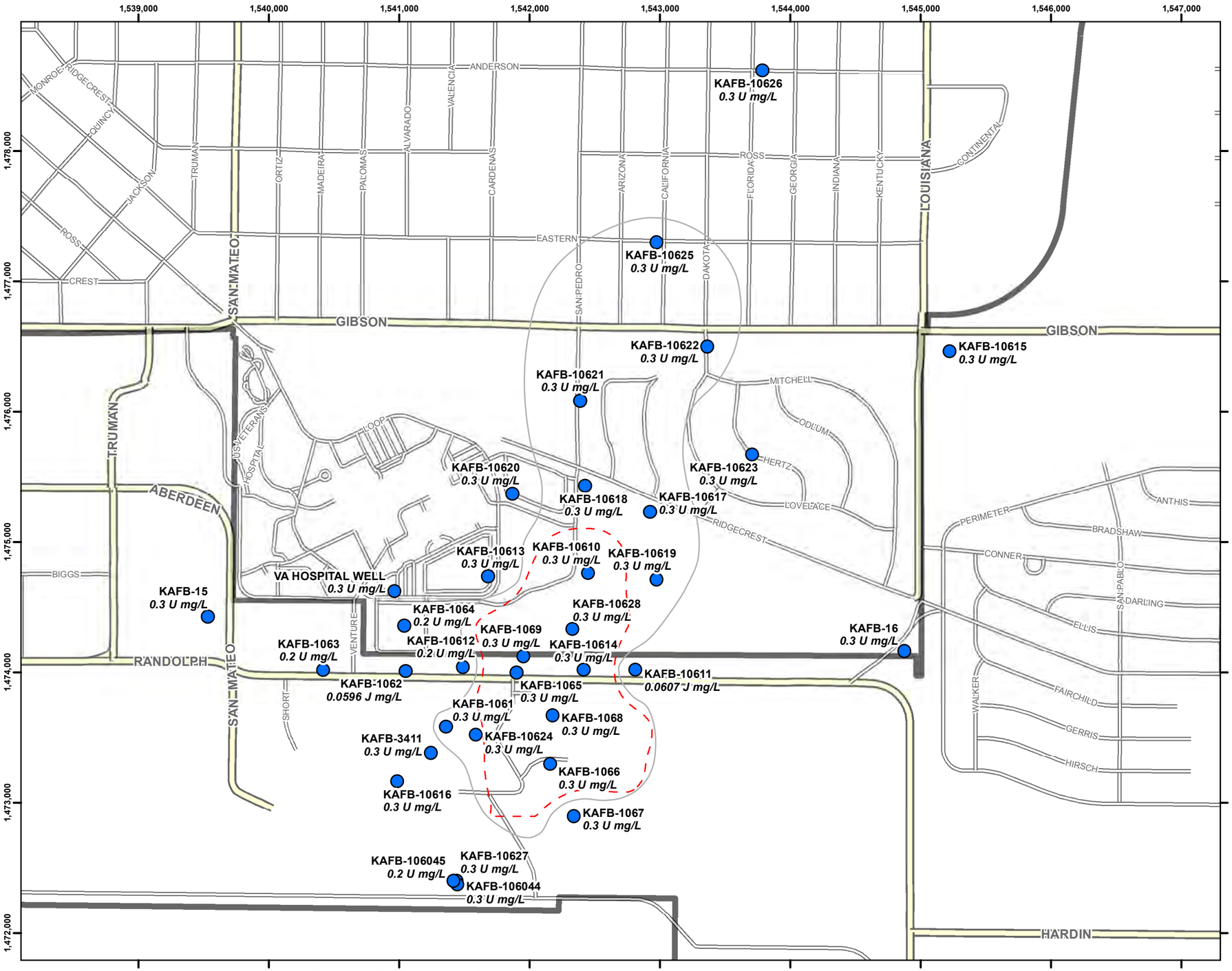
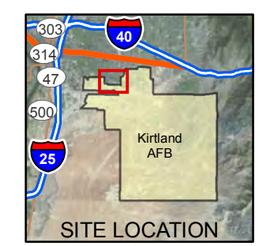


Legend

Ammonia (as Nitrogen) Result (mg/L)

- 0.0596 - 0.3000
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary

Notes: J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.



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N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-21

AMMONIA (AS NITROGEN) IN GROUNDWATER

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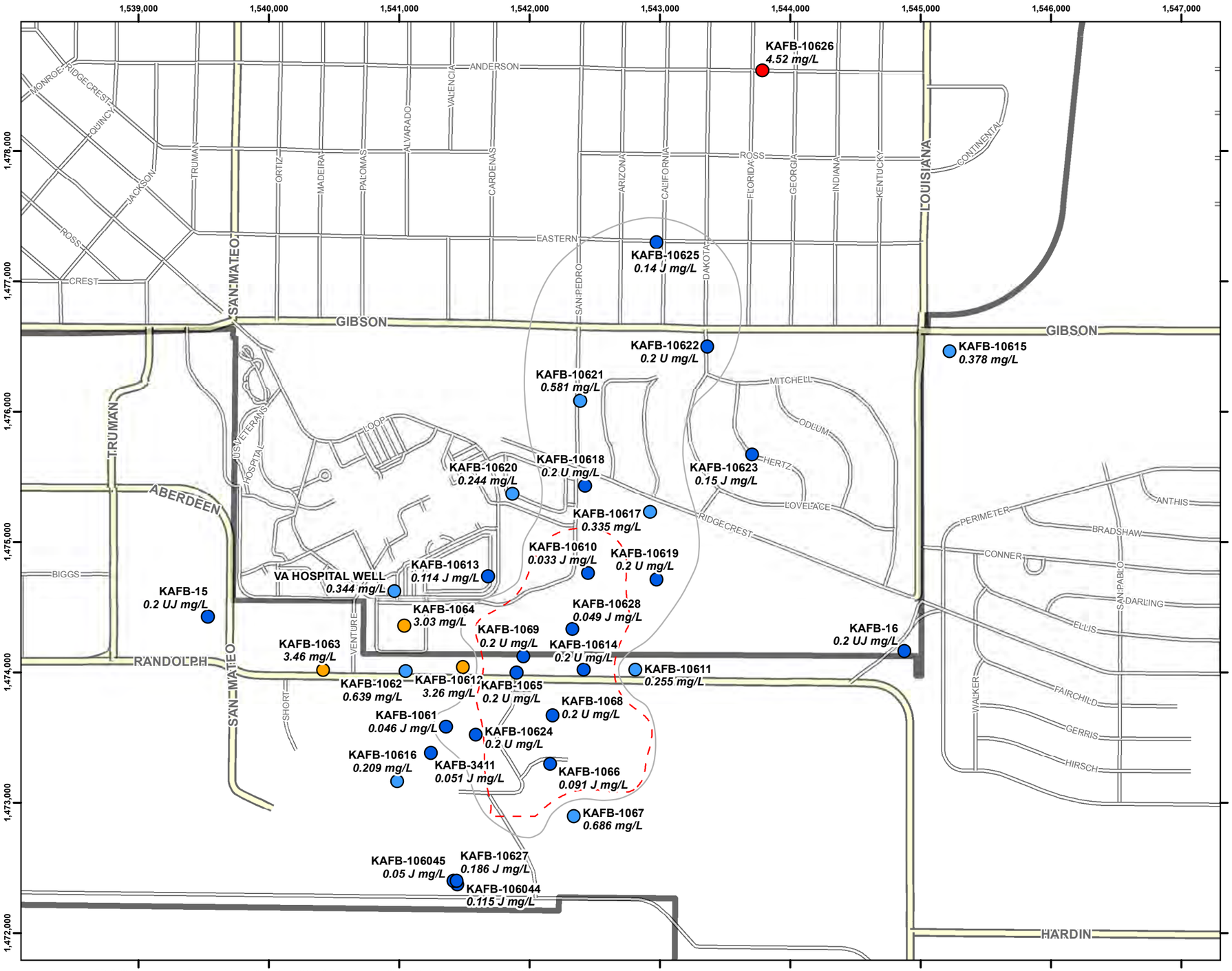
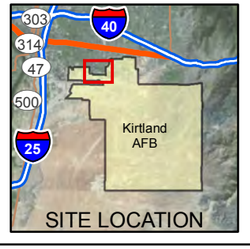


Legend

Nitrate Result (mg/L)

- 0.0330- 0.2000
- 0.2001 - 1.00
- 1.01 - 2.00
- 2.01 - 3.00
- 3.01 - 4.00
- 4.01 - 4.52
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary

Notes: J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.



N

Revision Date: 05/17/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-22

NITRATE CONCENTRATIONS IN GROUNDWATER

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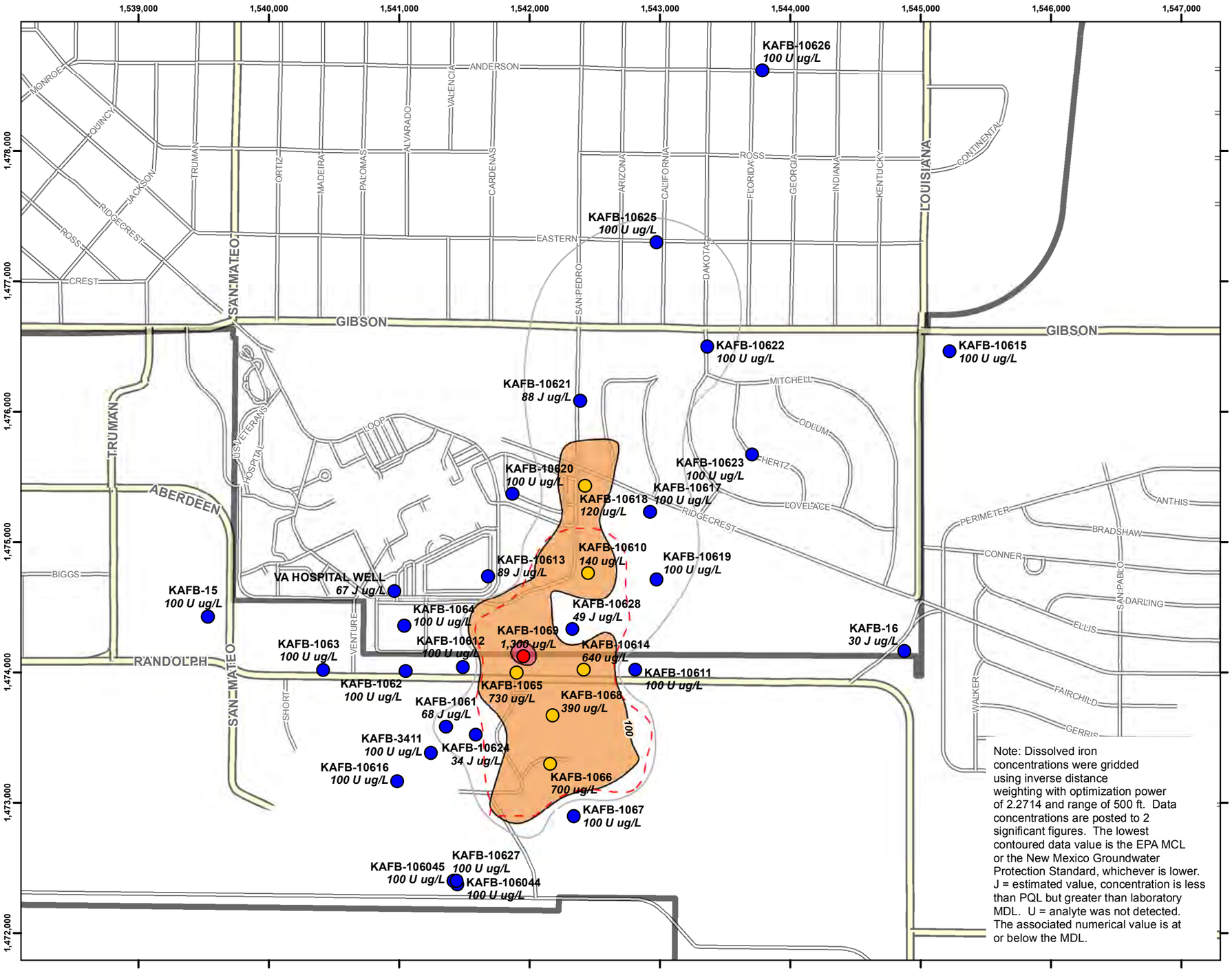


Note: Dissolved iron concentrations were gridded using inverse distance weighting with optimization power of 2.2714 and range of 500 ft. Data concentrations are posted to 2 significant figures. The lowest contoured data value is the EPA MCL or the New Mexico Groundwater Protection Standard, whichever is lower. J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.

Legend

Dissolved Iron Result (ug/L)
- 30 - 100
- 100 - 1,000
- 1,000 - 1,300

Dissolved Plume March 2011

Historical Area of Observed NAPL (July 2009)

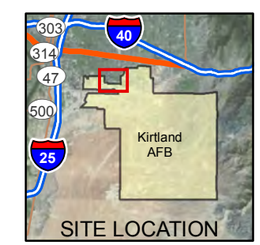
Dissolved Iron Concentration Contour (ug/L)

Dissolved Iron Concentration (ug/L)
- 30 - 100
- 100 - 1,000
- 1,000 - 1,300

Major Road

Road

Installation Boundary



N

Revision Date: 05/17/11

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-23

DISSOLVED IRON CONCENTRATIONS IN GROUNDWATER

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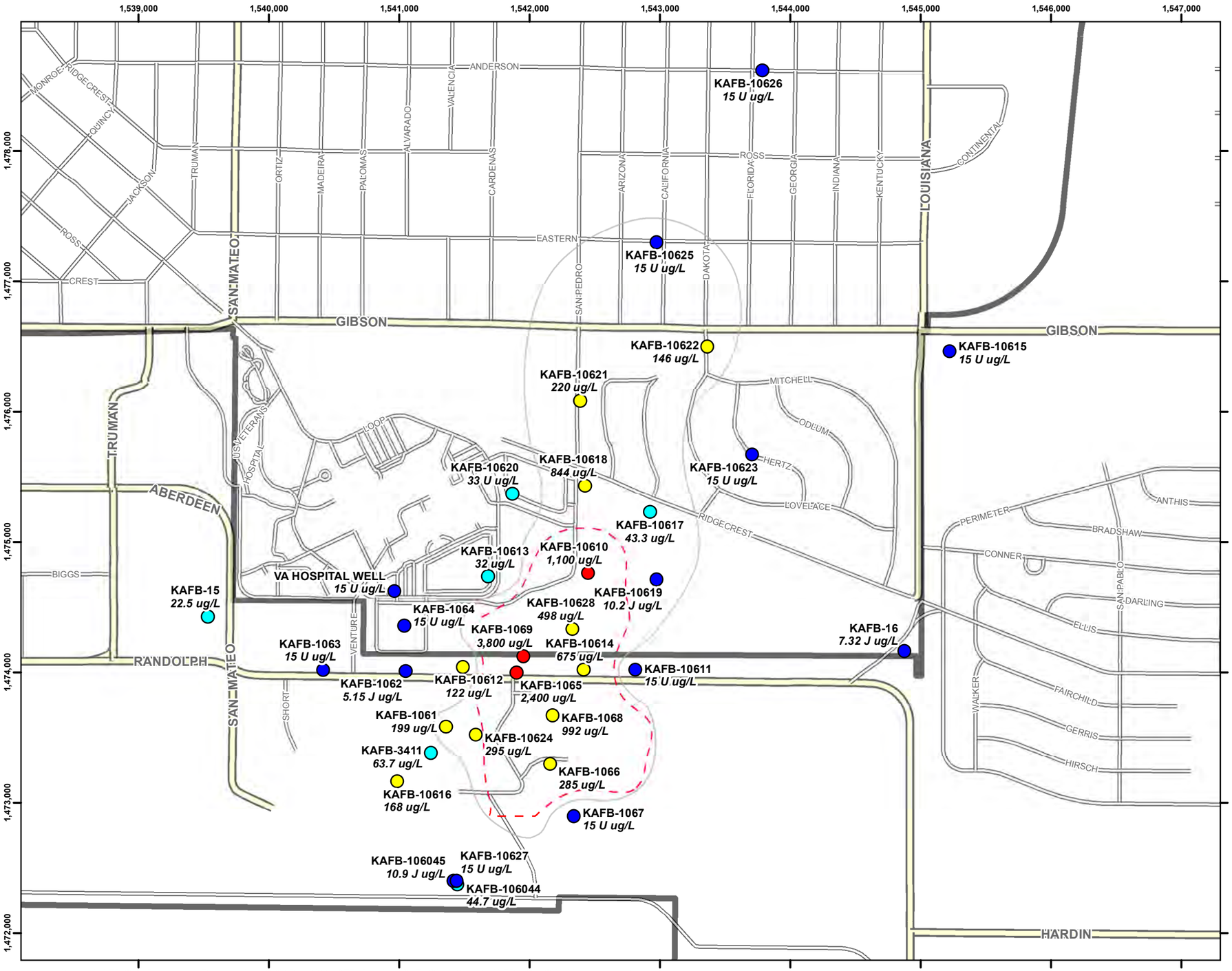
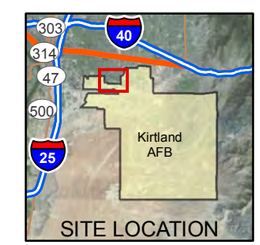


Legend

Dissolved Manganese Result (ug/L)

- 5.15 - 15.0
- 15.1 - 100
- 101 - 1000
- 1,001 - 3,800
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary

Notes: J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-24

DISSOLVED MANGANESE CONCENTRATIONS IN GROUNDWATER

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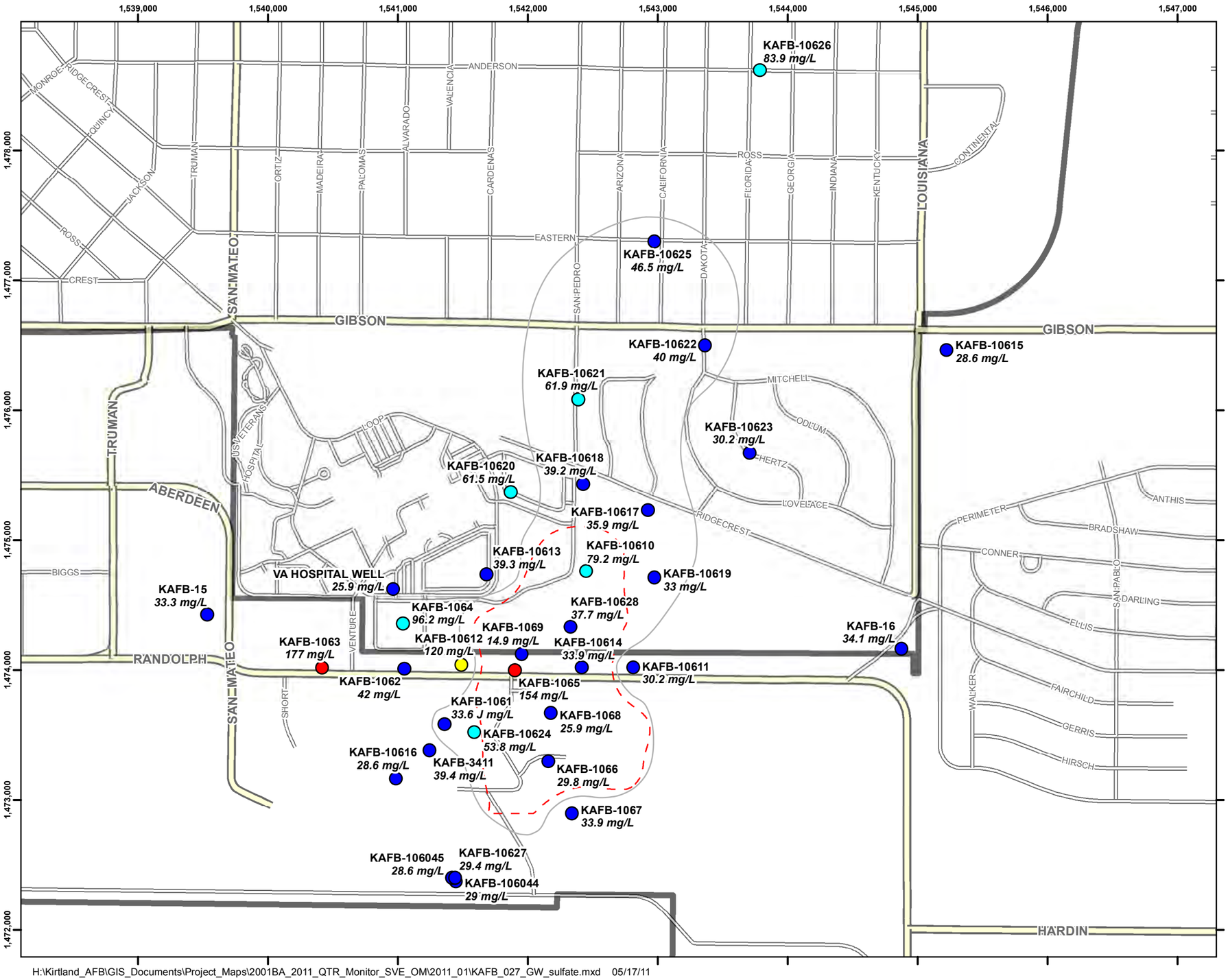
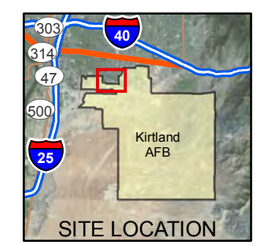


Legend

Sulfate Result (mg/L)

- 14.9 - 50.0
- 50.1 - 100
- 101 - 150
- 151 - 177
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary

Note: J = estimated value, concentration is less than PQL but greater than laboratory MDL. U = analyte was not detected. The associated numerical value is at or below the MDL.



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-25

SULFATE CONCENTRATIONS IN GROUNDWATER

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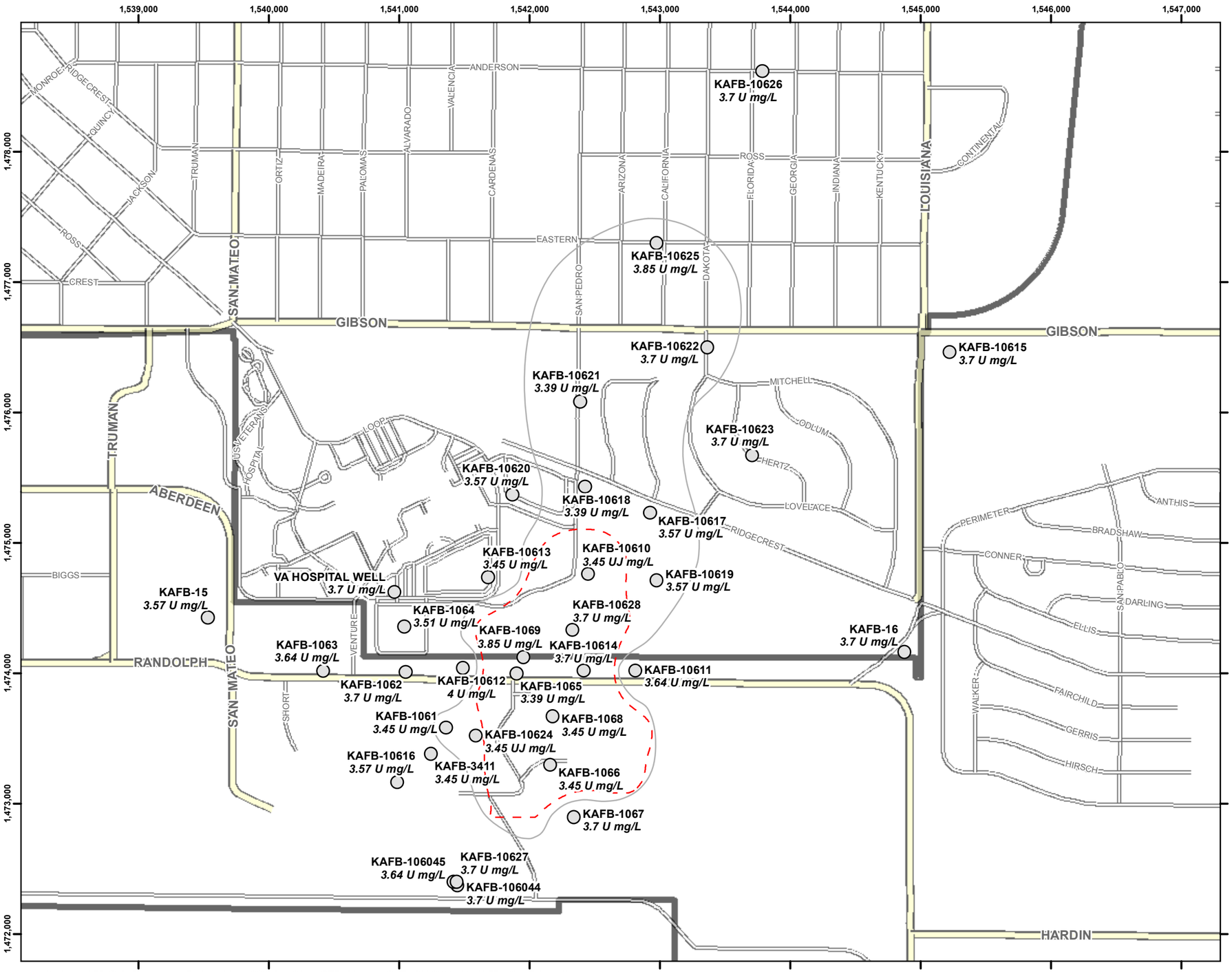
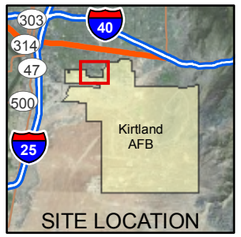


Legend

- 3.39 - 4.00
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary

Notes: J = estimated value, concentration is less than PQL but greater than laboratory MDL.
U = analyte was not detected. The associated numerical value is at or below the MDL.



Revision Date: 05/18/11

N

0 400 800 1,600

Feet
1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-26

TOTAL SULFIDE CONCENTRATIONS IN GROUNDWATER

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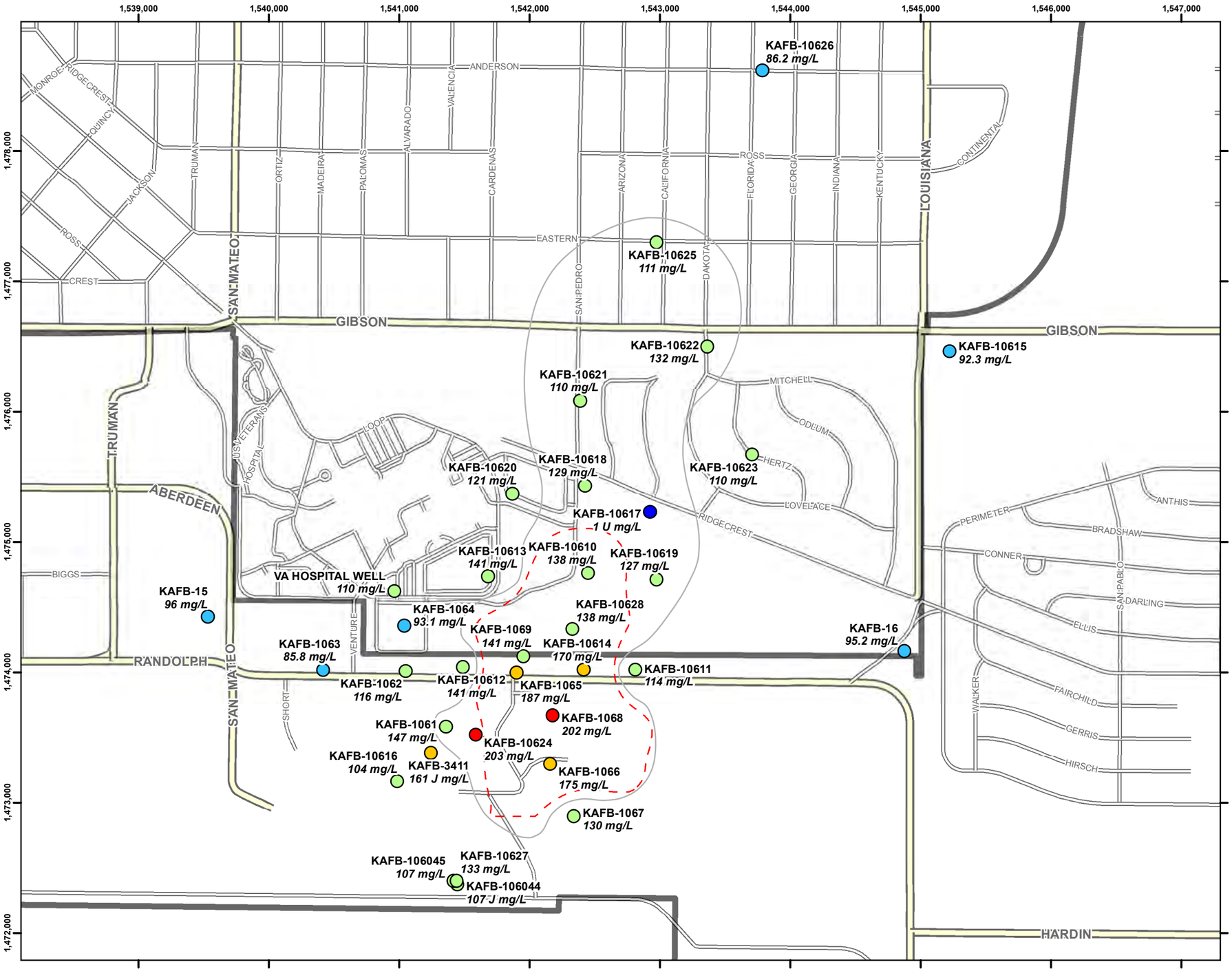
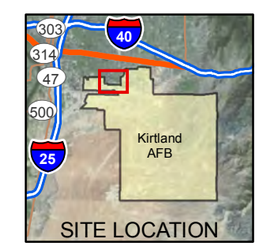


Legend

Alkalinity, Bicarbonate (as CACO3), Result (mg/L)

- 1.0 - 5.0
- 5.1 - 100
- 101 - 150
- 151 - 200
- 201 - 203
- Historical Area of Observed NAPL (July 2009)
- Dissolved Plume March 2011
- Major Road
- Road
- Installation Boundary

Note: J = estimated value, concentration is less than PQL but greater than laboratory MDL.



Revision Date: 05/17/11

N

0 400 800 1,600

Feet

1 inch = 800 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

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FIGURE 5-27

ALKALINITY, BICARBONATE (AS CACO3), CONCENTRATIONS IN GROUNDWATER

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