FIGURES

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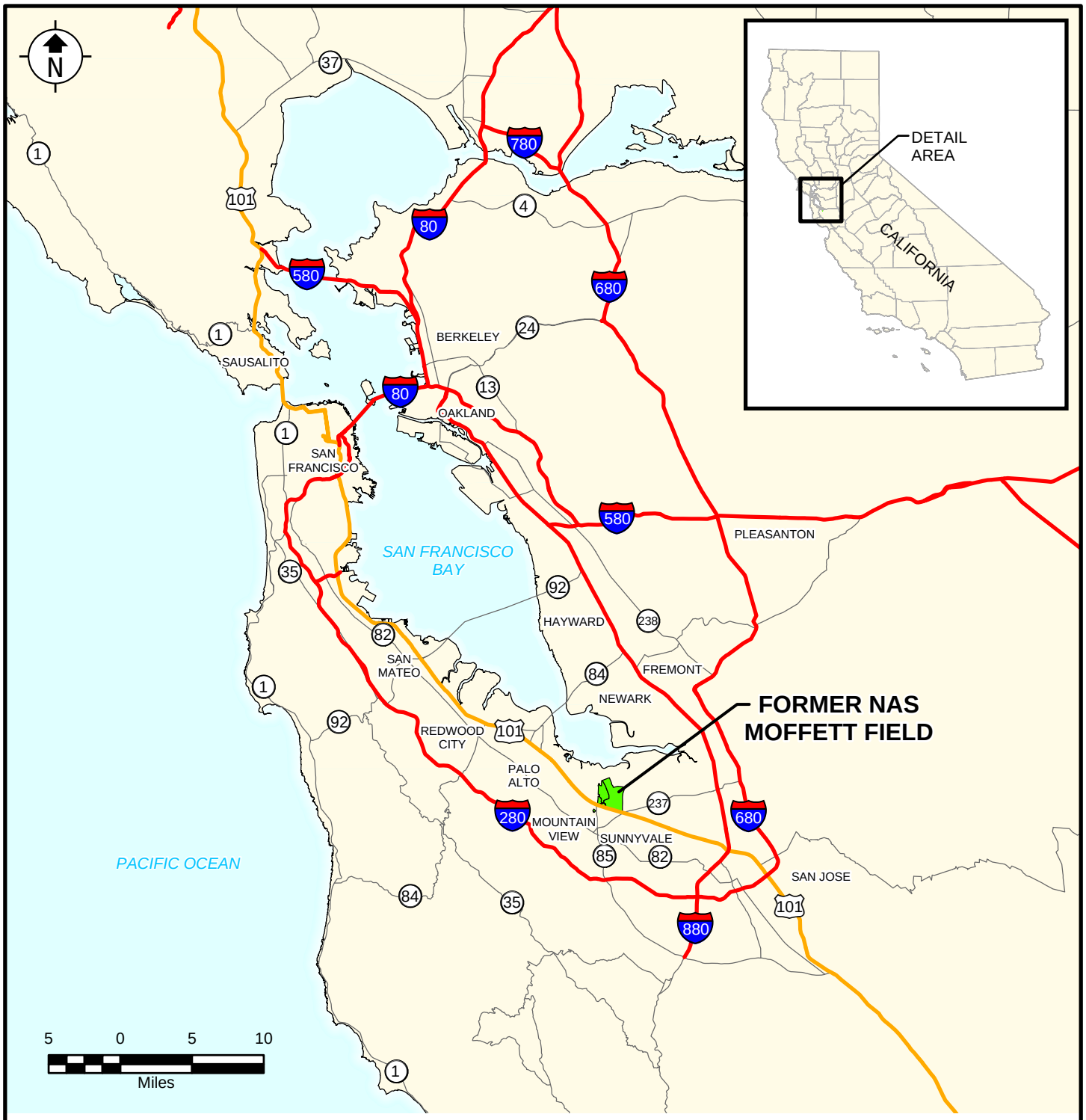


STATE HIGHWAY

US HIGHWAY

INTERSTATE HIGHWAY

FORMER NAS MOFFETT FIELD

WATER

Notes:

IR - Installation Restoration
NAS - Naval Air Station

SES-TECH

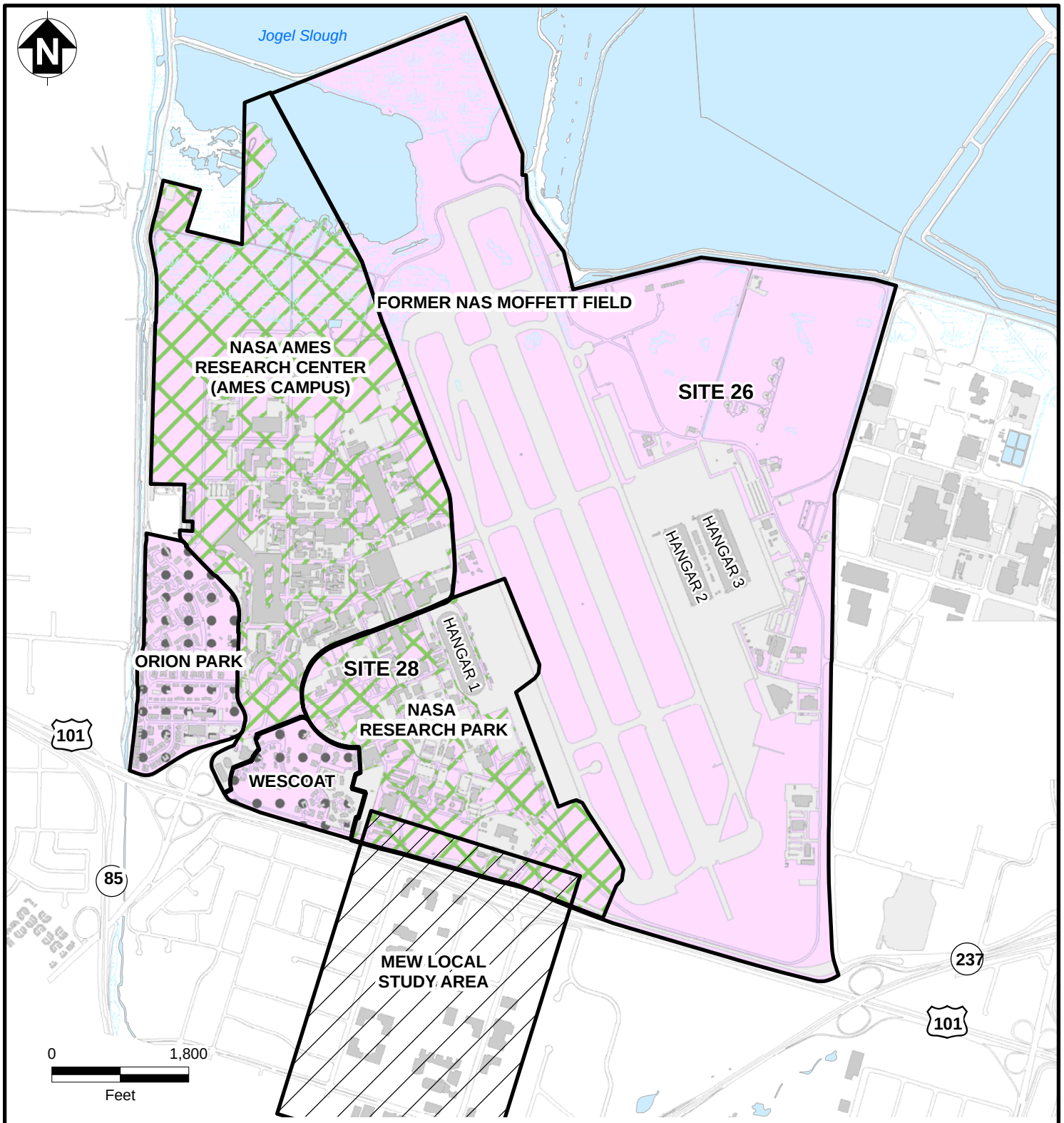
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 1-1

REGIONAL LOCATION MAP

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



FORMER NAS MOFFETT FIELD
NASA REDEVELOPMENT AREA
MOFFETT COMMUNITY HOUSING
MEW SUPERFUND SITE
ROAD
PAVED AREA
BUILDING
WATER
WETLAND

Notes:

IR - Installation Restoration
MEW - Middlefield Ellis Whisman
NAS - Naval Air Station

SES-TECH

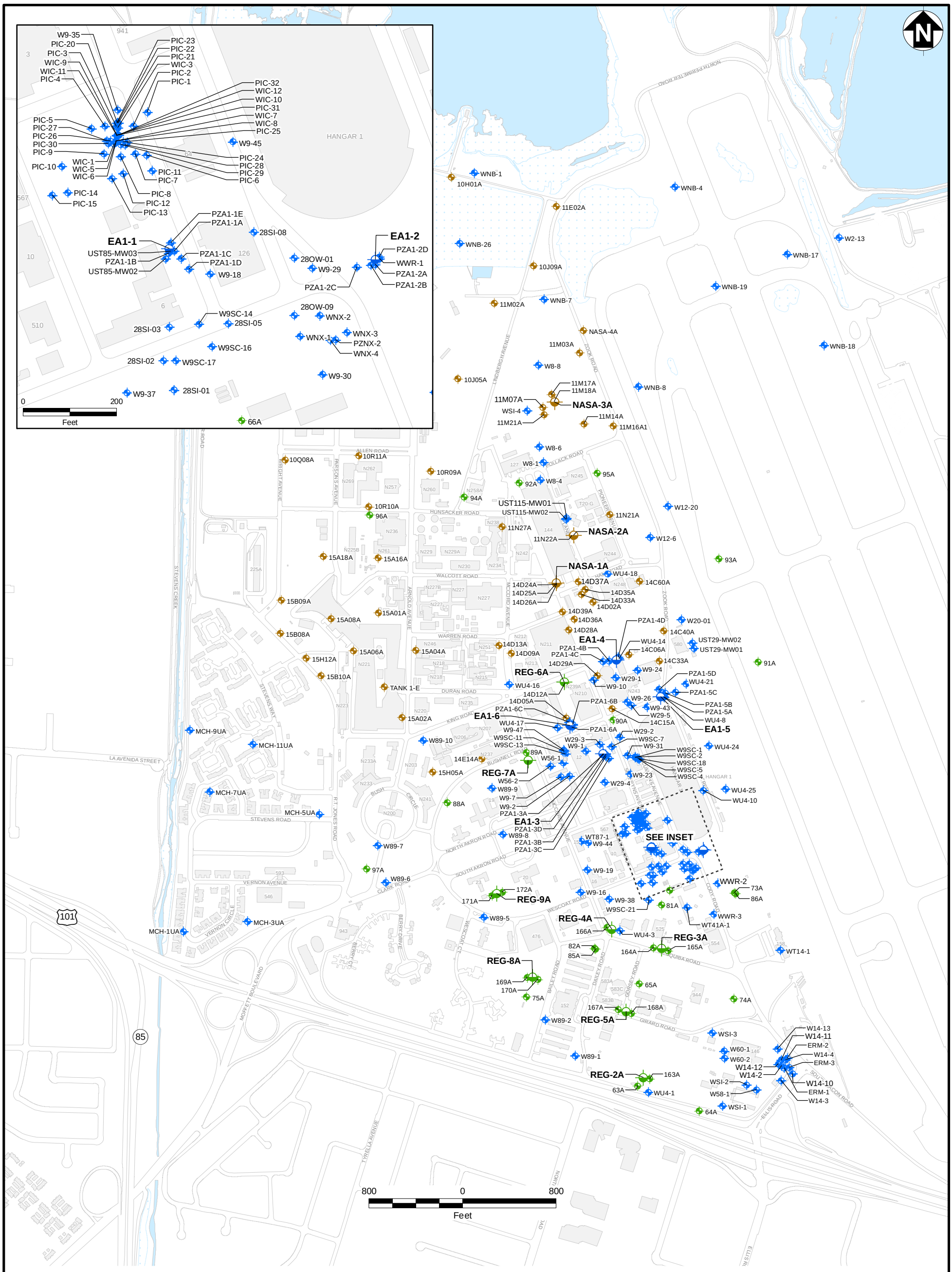
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 1-2

SITE LOCATION MAP

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



NAVY EXTRACTION WELL
NAVY MONITORING WELL
MEW EXTRACTION WELL
MEW MONITORING WELL
NASA EXTRACTION WELL
NASA MONITORING WELL

ROAD
FACILITY INFRASTRUCTURE
WATER
WETLAND

Notes:

IR - Installation Restoration
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NASA - National Aeronautics and Space Administration

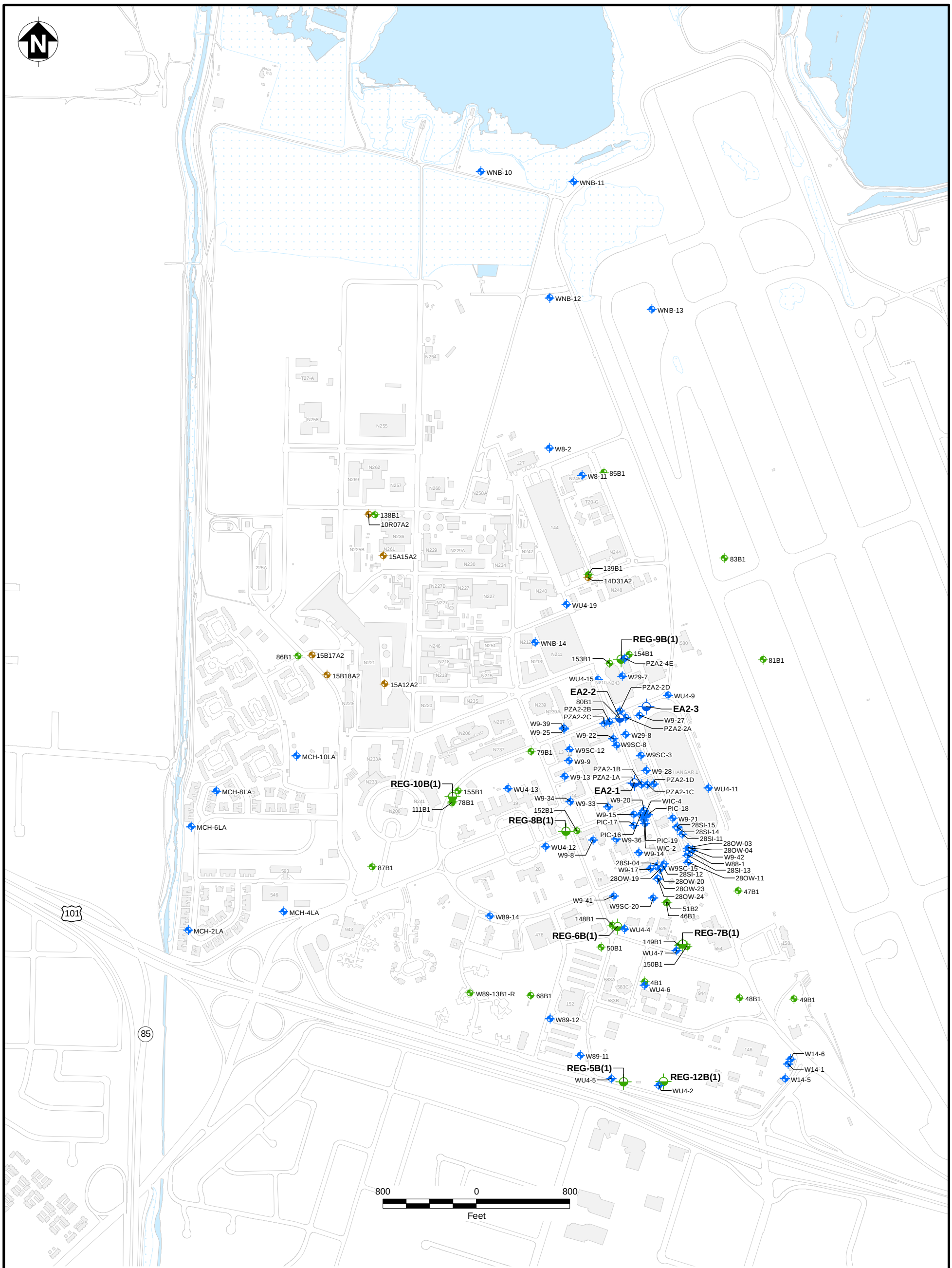
SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 2-1
MONITORING AND EXTRACTION WELL LOCATION MAP, IR SITE 28, UPPER PORTION OF THE A AQUIFER

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



NAVY EXTRACTION WELL
NAVY MONITORING WELL
MEW EXTRACTION WELL
MEW MONITORING WELL
NASA EXTRACTION WELL
NASA MONITORING WELL

ROAD
FACILITY INFRASTRUCTURE
WATER
WETLAND

SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

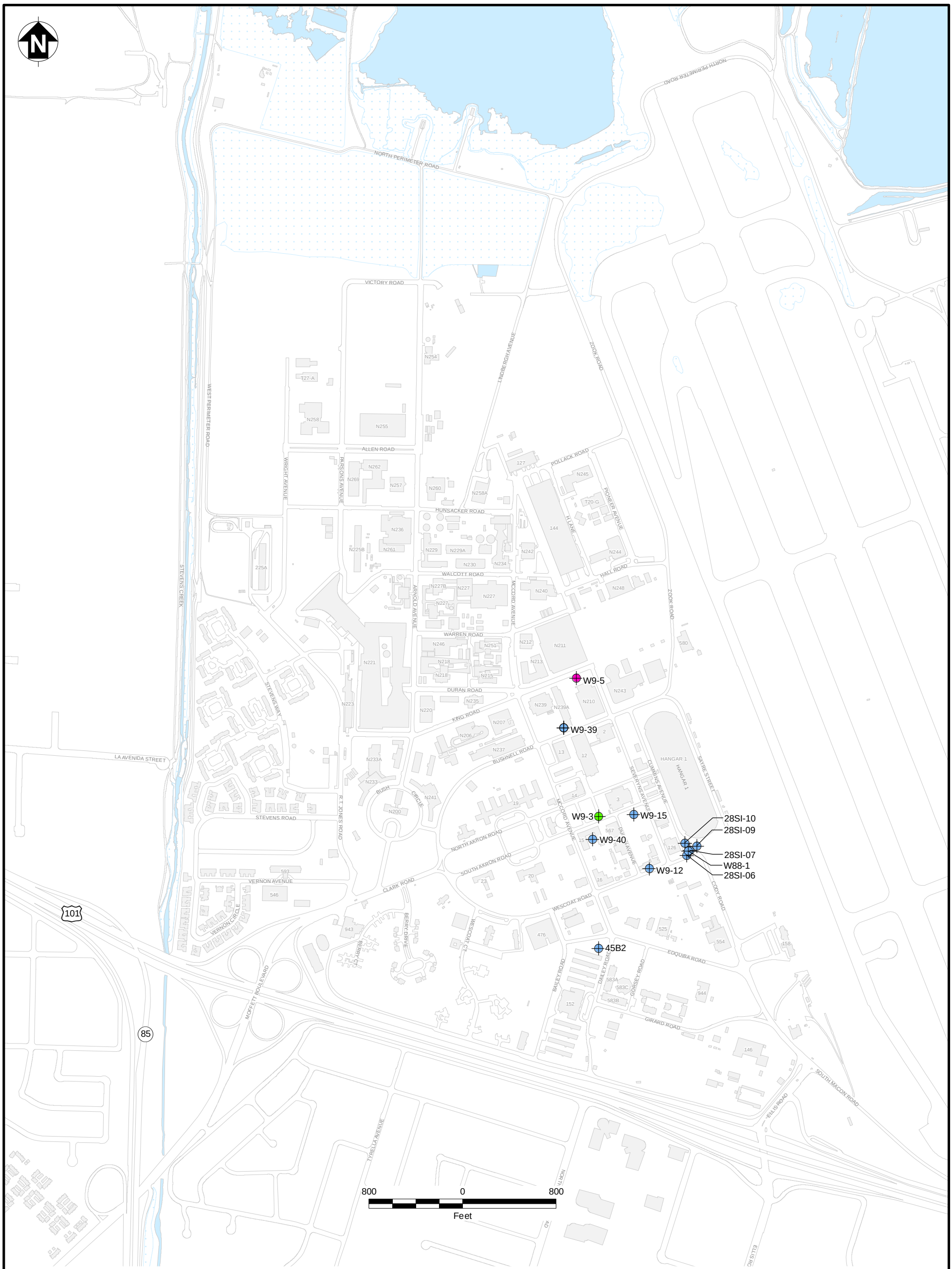
2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 2-2
MONITORING AND EXTRACTION WELL LOCATION MAP, IR SITE 28, LOWER PORTION OF THE A AQUIFER

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA

Notes:

IR - Installation Restoration
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NASA - National Aeronautics and Space Administration



NAVY MONITORING WELL, B2 AQUIFER

NAVY MONITORING WELL, B3 AQUIFER

NAVY MONITORING WELL, C AQUIFER

ROAD

FACILITY INFRASTRUCTURE

WATER

WETLAND

SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

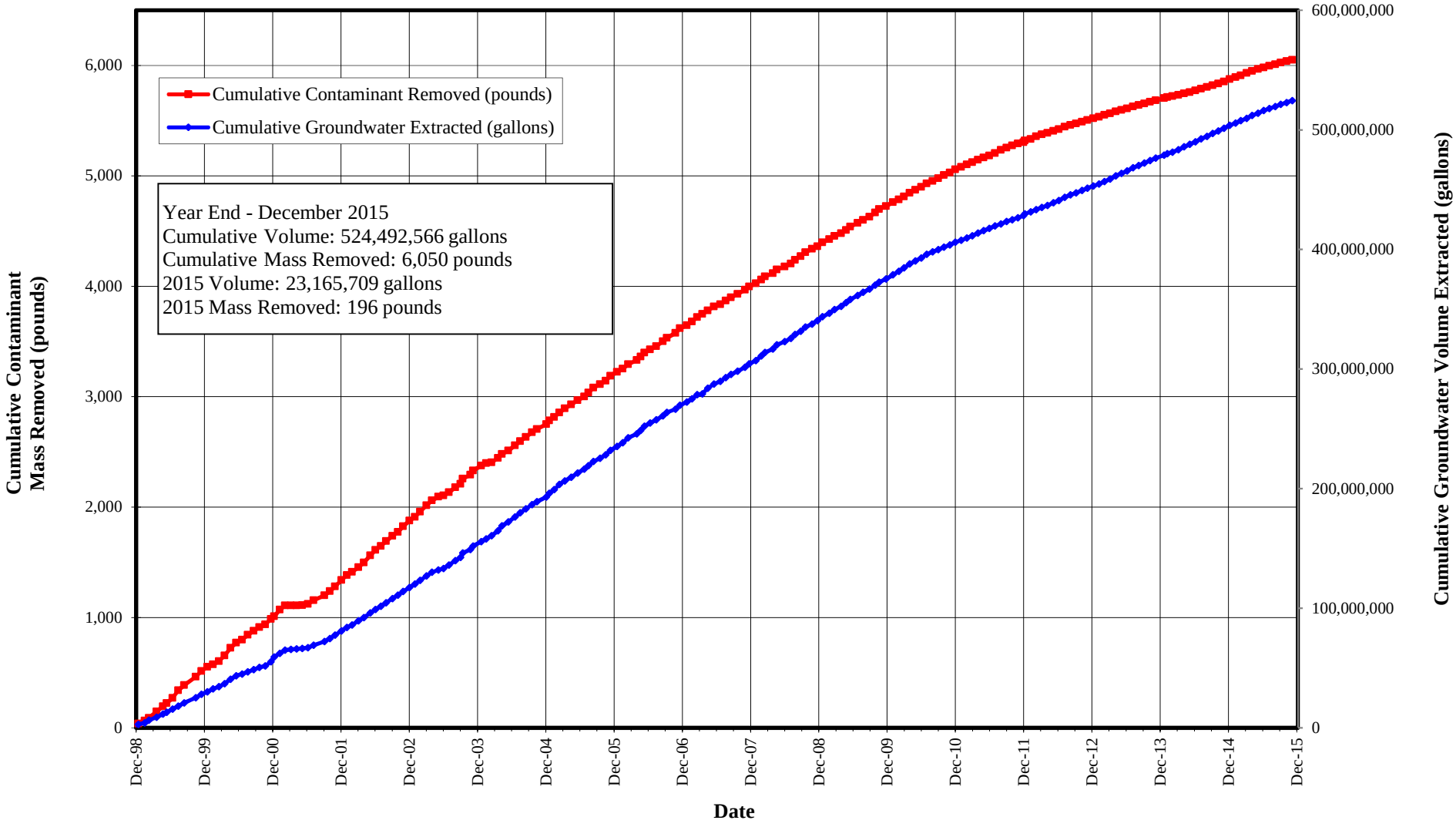
FIGURE 2-3
MONITORING WELL LOCATION MAP,
IR SITE 28, B AND C AQUIFER

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA

Notes:

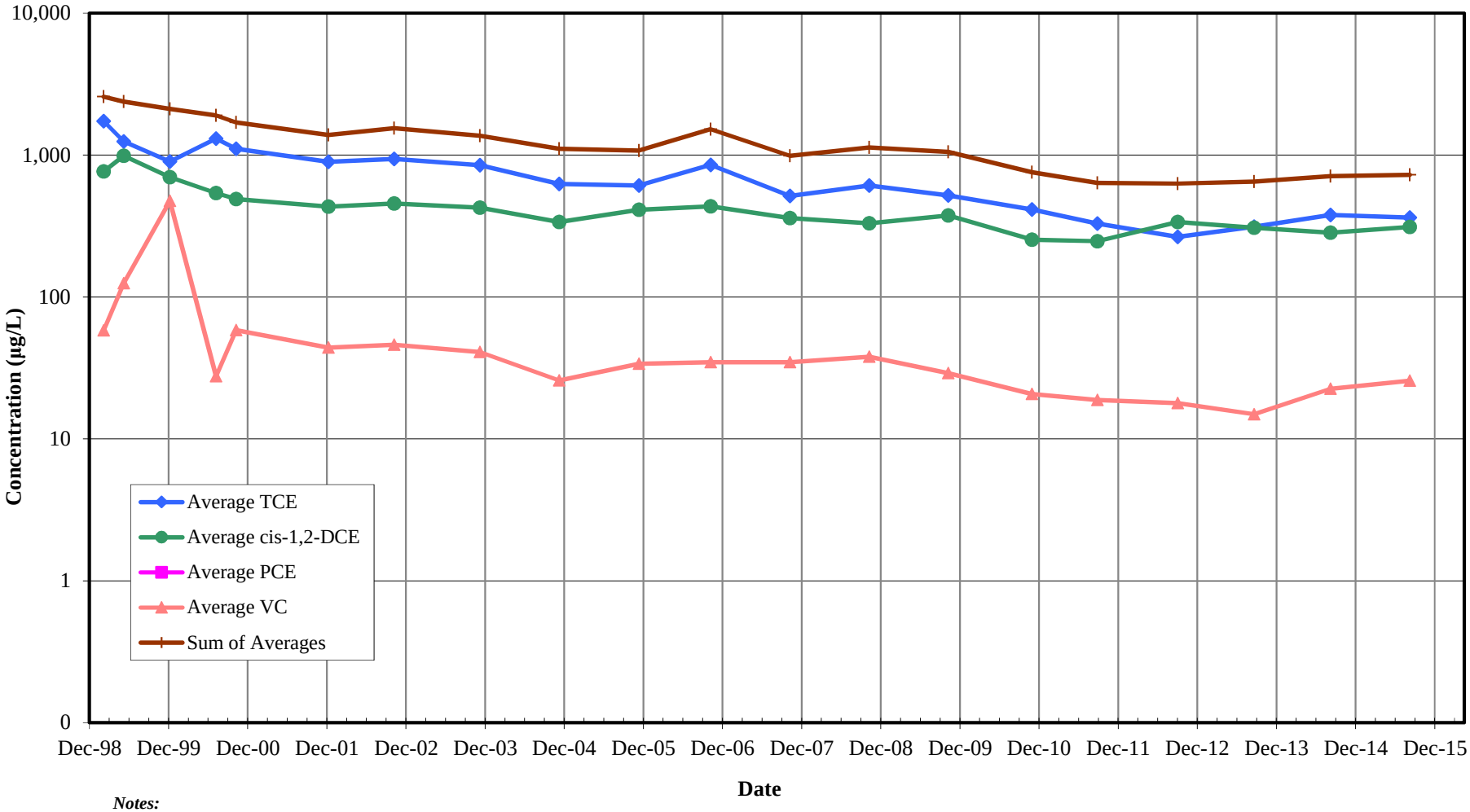
IR - Installation Restoration
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NASA - National Aeronautics and Space Administration

FIGURE 2-4
WATS CUMULATIVE GROUNDWATER EXTRACTED AND MASS REMOVED



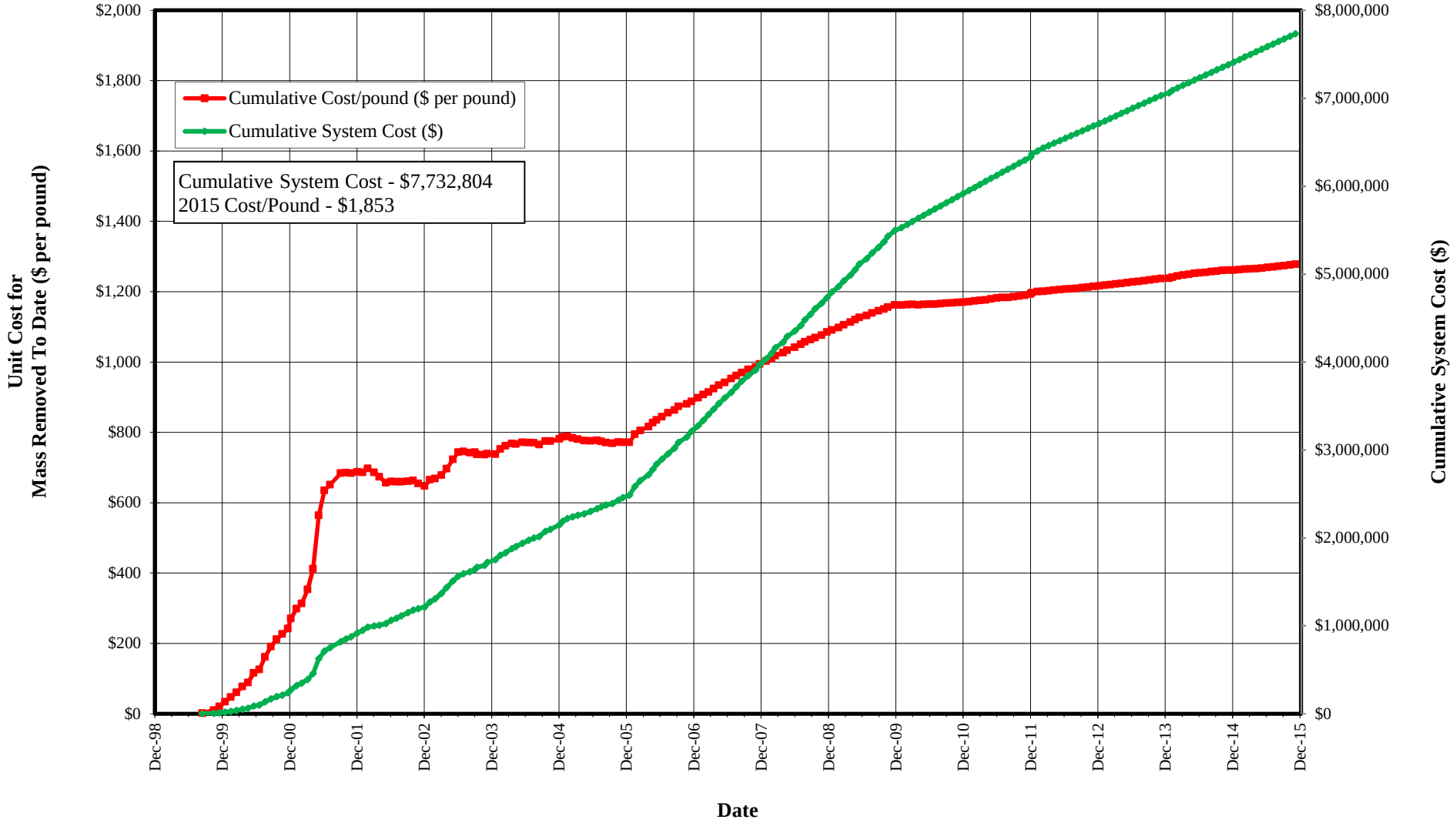
Note:
Total mass removed is based on concentrations of trichloroethene, tetrachloroethene, cis-1,2-dichloroethene, and vinyl chloride.

FIGURE 2-5
WATS AVERAGE AND SUM OF AVERAGE TCE, PCE, CIS-1,2-DCE, AND VC INFLUENT CONCENTRATIONS FOR EXTRACTION WELLS

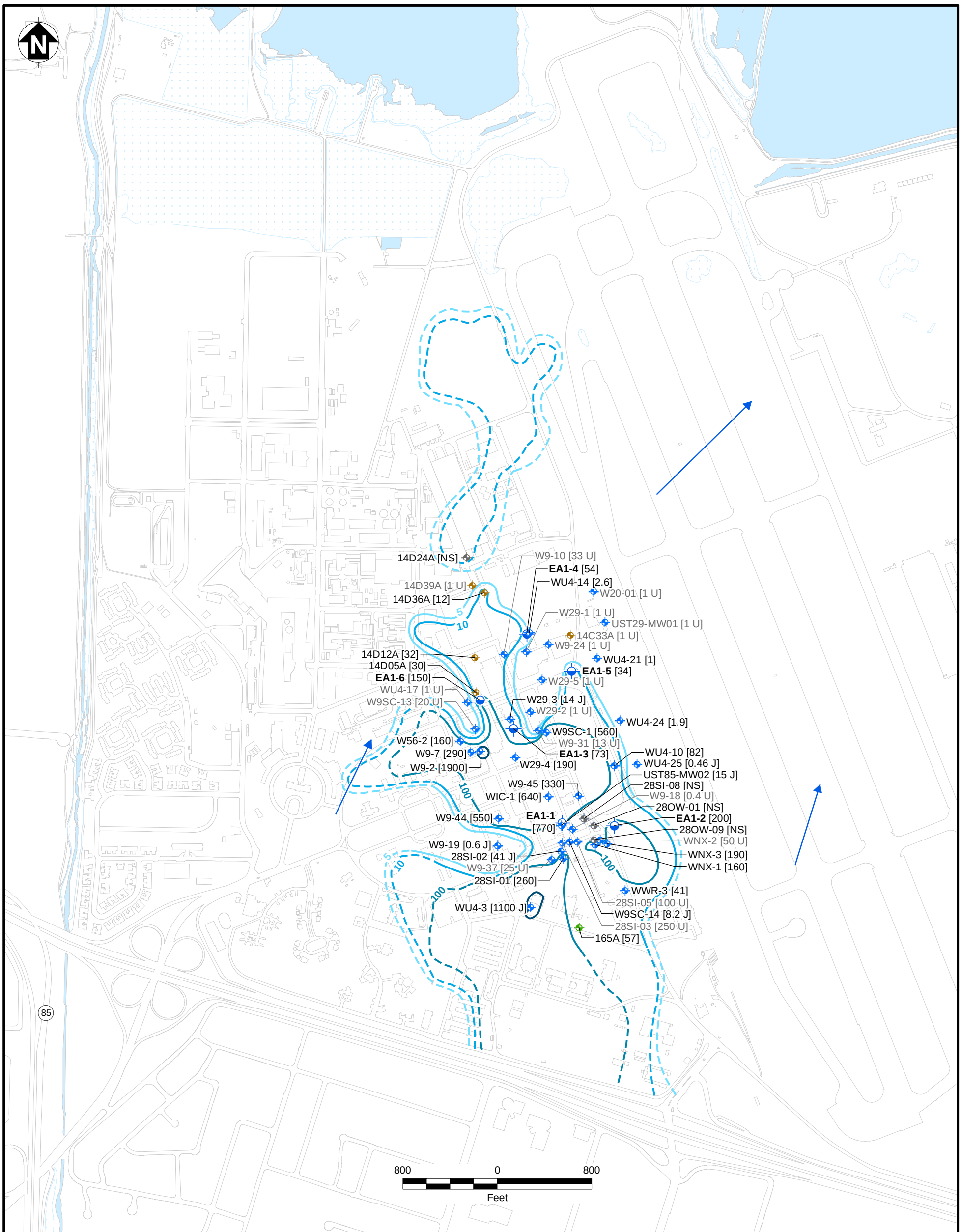


Notes:
Averages are based on extraction well analytical samples
µg/L - micrograms per liter
TCE - trichloroethene, cis-1,2-DCE - cis-1,2-dichloroethene, PCE - tetrachloroethene, VC - vinyl chloride, VOC - volatile organic compound
The average for each target VOC is calculated by adding the reported concentrations from each of the extraction wells and dividing by the number of extraction wells. In the case of non-detect results, one half of the laboratory reporting limit is used to produce the sum. The sum of averages for the target VOCs is calculated by adding the averages for TCE, cis-1,2-DCE, PCE, and VC.

FIGURE 2-6
WATS CUMULATIVE SYSTEM COSTS



Note:
Total mass removed is based on concentrations of trichloroethene, tetrachloroethene, cis-1,2-dichloroethene, and vinyl chloride.



NAVY EXTRACTION WELL

NAVY MONITORING WELL

MEW MONITORING WELL

NASA MONITORING WELL

MONITORING WELL, NOT SAMPLED

TCE ISOCONCENTRATION CONTOUR - 1,000 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

TCE ISOCONCENTRATION CONTOUR - 100 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

TCE ISOCONCENTRATION CONTOUR - 10 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

TCE ISOCONCENTRATION CONTOUR - 5 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

GROUNDWATER FLOW DIRECTION

ROAD

FACILITY INFRASTRUCTURE

WATER

WETLAND

Notes:

1. Samples collected Sept - Oct 2015
2. Due to possible dilution issues, groundwater analytical data collected from active extraction wells were not used as part of the plume contouring
3. TCE concentrations shown in µg/L

µg/L- Micrograms per Liter
IR - Installation Restoration
J - Estimated Value
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NS - Not Sampled
NASA - National Aeronautics and Space Administration
U - Not Detected

SES-TECH

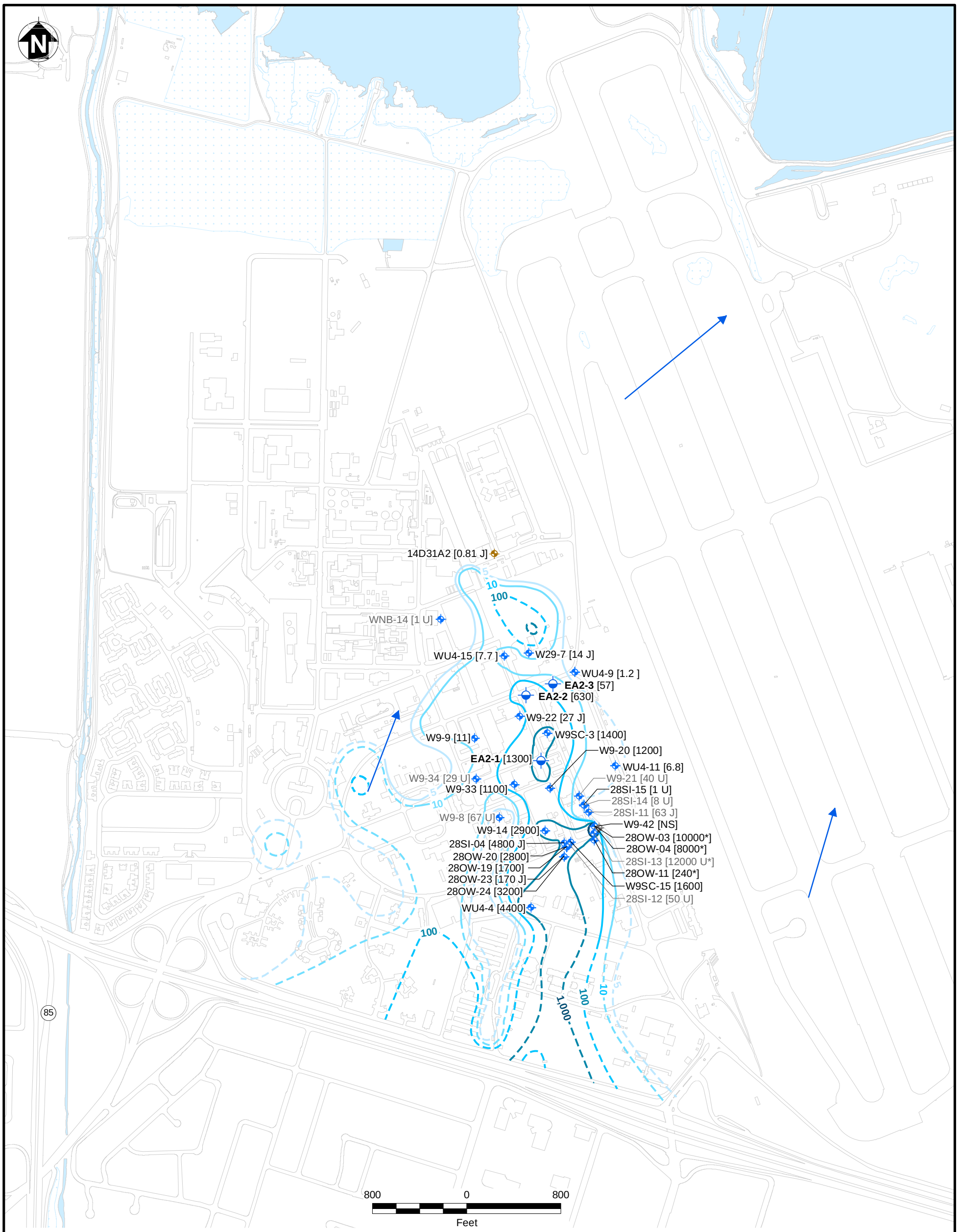
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 2-7

TRICHLOROETHENE (TCE) DISTRIBUTION, IR SITE 28, UPPER PORTION OF THE A AQUIFER - SEPTEMBER 2015

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



NAVY EXTRACTION WELL

NAVY MONITORING WELL

NASA MONITORING WELL

MONITORING WELL, NOT SAMPLED

TCE ISOCONCENTRATION CONTOUR - 10,000 µg/L

TCE ISOCONCENTRATION CONTOUR - 1,000 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

TCE ISOCONCENTRATION CONTOUR - 100 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

TCE ISOCONCENTRATION CONTOUR - 10 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

TCE ISOCONCENTRATION CONTOUR - 5 µg/L (DASHED WHERE INFERRED FROM 2014 DATA)

GROUNDWATER FLOW DIRECTION

ROAD

FACILITY INFRASTRUCTURE

WATER

WETLAND

Notes:

1. Samples collected Sept - Oct 2015
2. * These wells sampled by CB&I, Traffic Island Treatability Study, Sept 2015
2. Due to possible dilution issues, groundwater analytical data collected from active extraction wells were not used as part of the plume contouring
3. TCE concentrations shown in µg/L

µg/L- Micrograms per Liter
IR - Installation Restoration
J - Estimated Value
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NS - Not Sampled
NASA - National Aeronautics and Space Administration
U - Not Detected

SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 2-8

TRICHLOROETHENE (TCE) DISTRIBUTION, IR SITE 28, LOWER PORTION OF THE A AQUIFER - SEPTEMBER 2015

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA

FIGURES 2-9 THROUGH 2-12
HYDROGRAPHS
IR SITE 28

Figure 2-9 14C33A (Upper Portion of the A Aquifer)

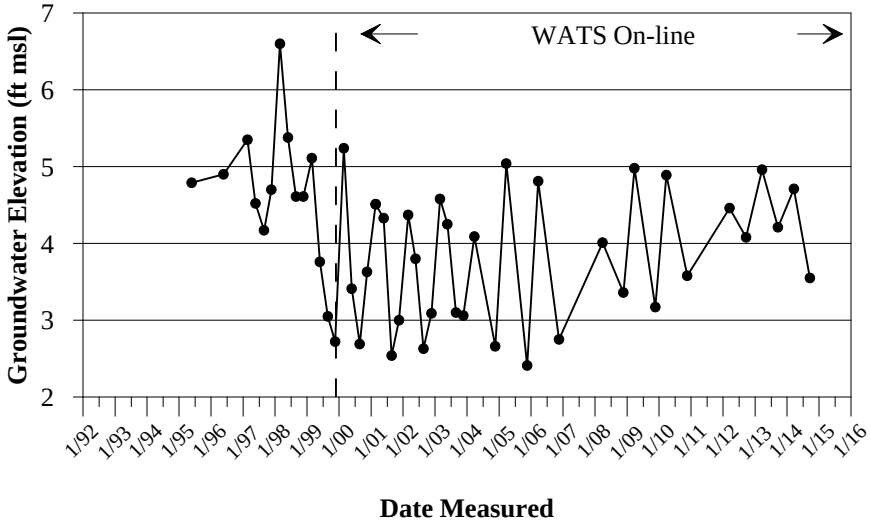


Figure 2-10 14D05A (Upper Portion of the A Aquifer)

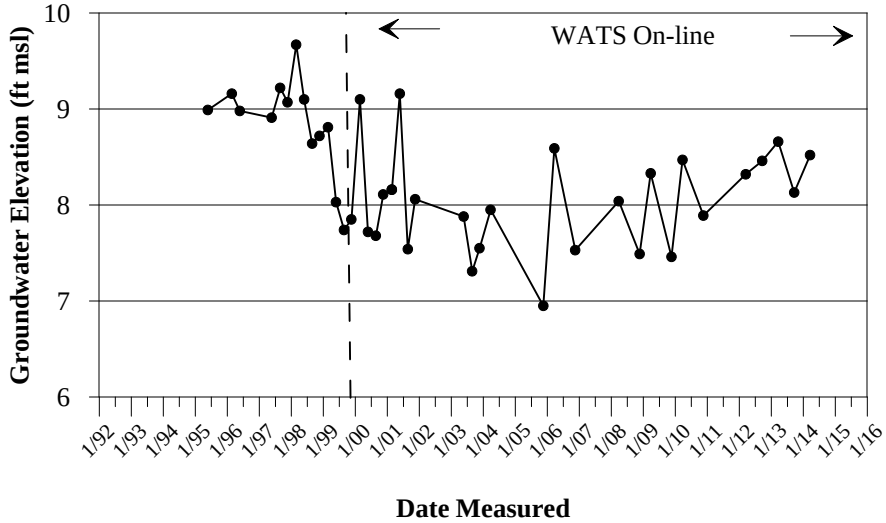


Figure 2-11 W9SC-7 (Upper Portion of the A Aquifer)

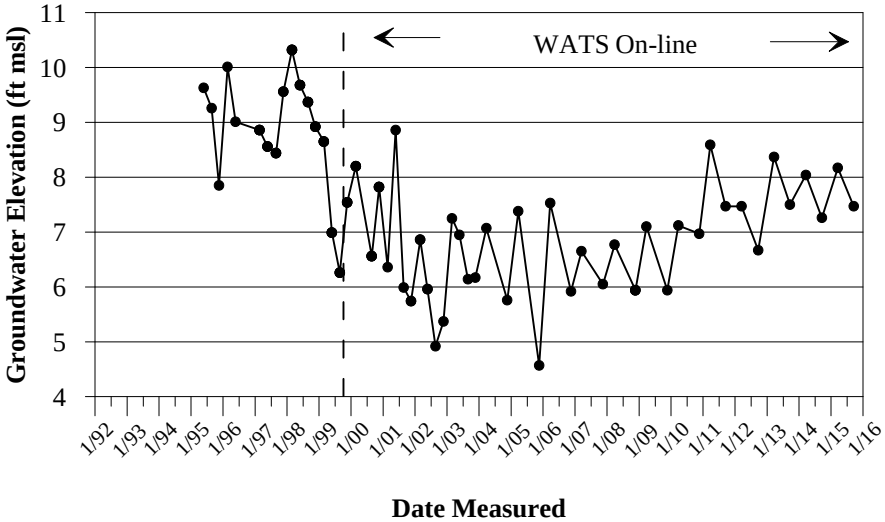
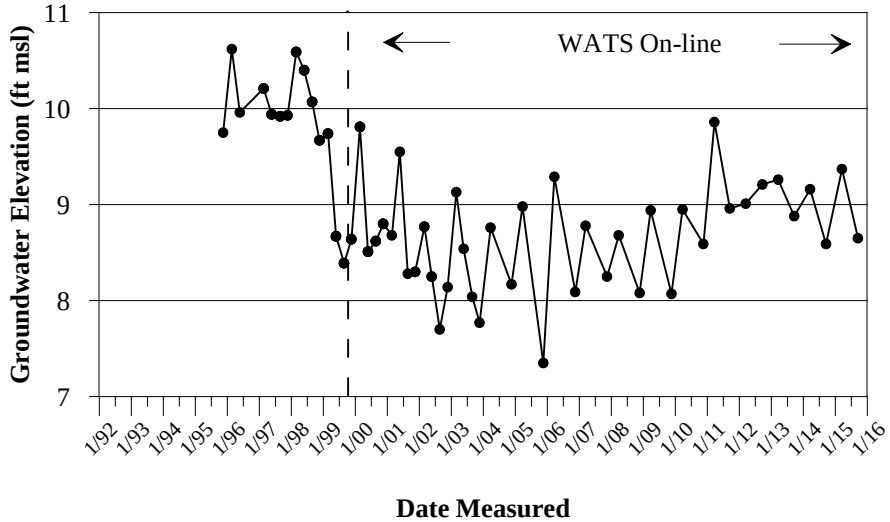


Figure 2-12 W9-1 (Upper Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-13 THROUGH 2-16
HYDROGRAPHS
IR SITE 28

Figure 2-13 W9-18 (Upper Portion of the A Aquifer)

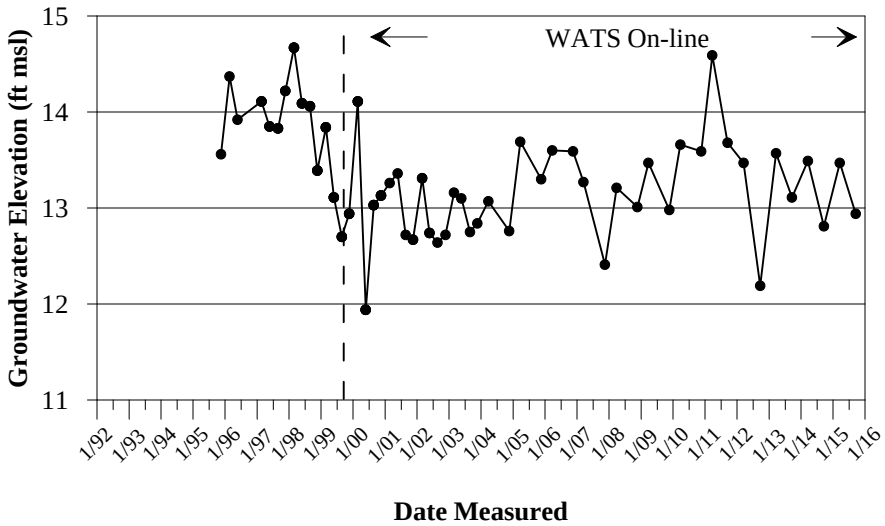


Figure 2-14 W9-29 (Upper Portion of the A Aquifer)

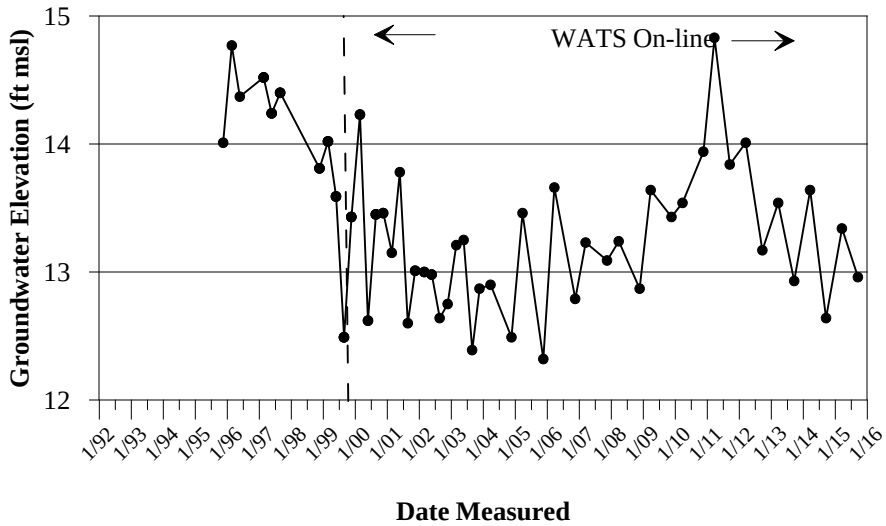


Figure 2-15 W9-31 (Upper Portion of the A Aquifer)

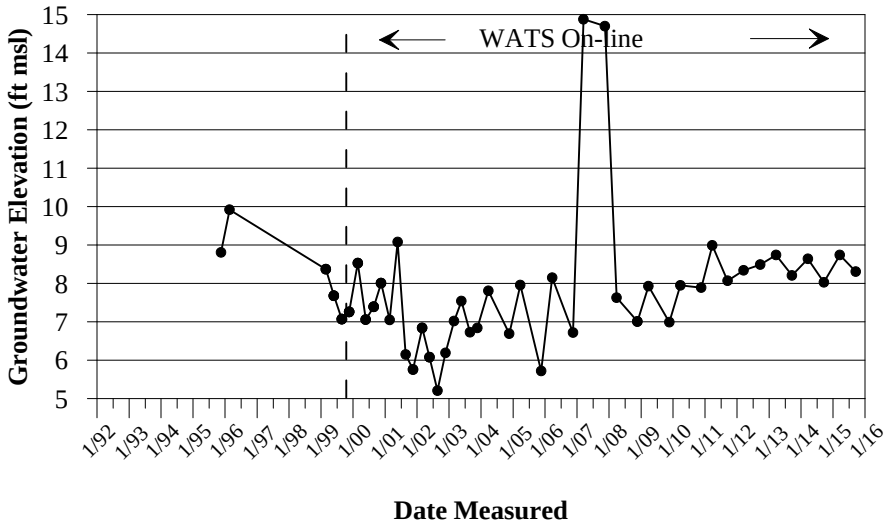
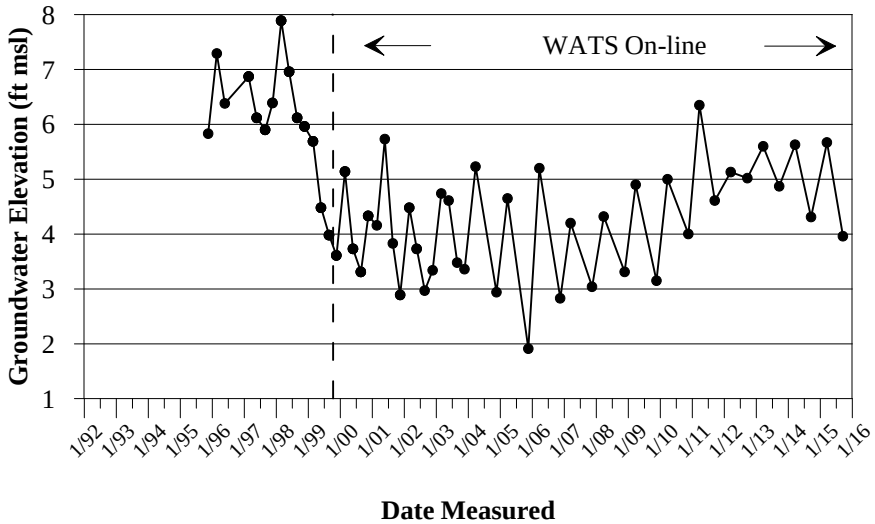


Figure 2-16 W29-1 (Upper Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-17 THROUGH 2-20
HYDROGRAPHS
IR SITE 28

Figure 2-17 W29-3 (Upper Portion of the A Aquifer)

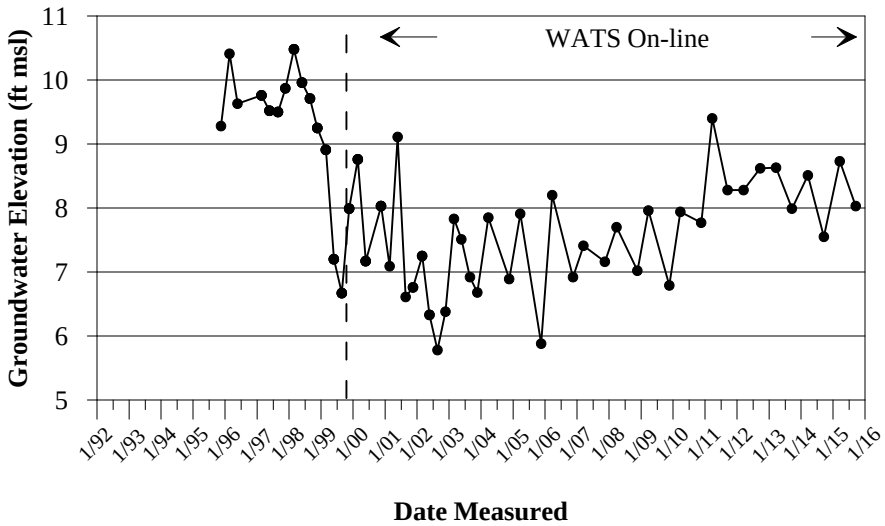


Figure 2-18 WIC-1 (Upper Portion of the A Aquifer)

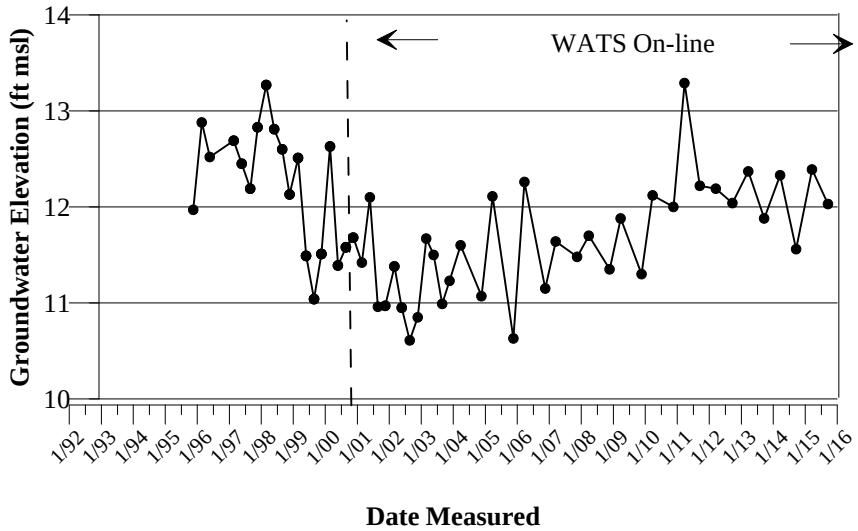


Figure 2-19 WU4-8 (Upper Portion of the A Aquifer)

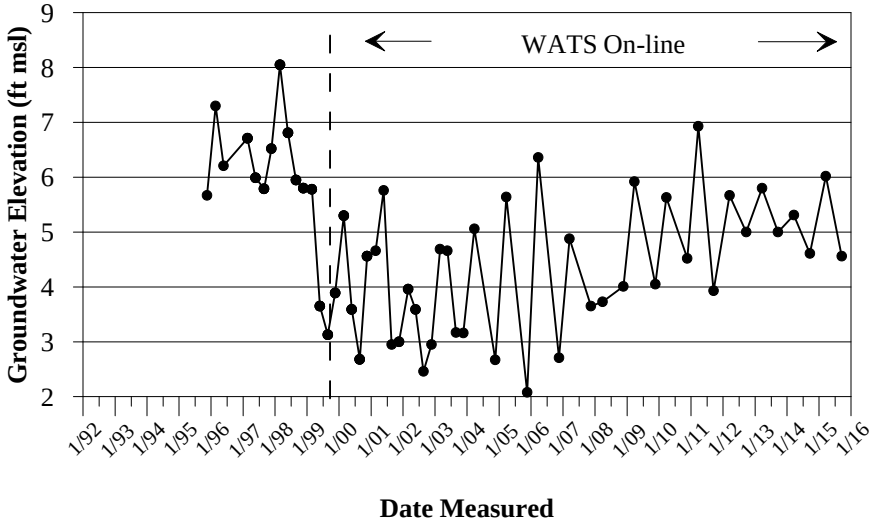
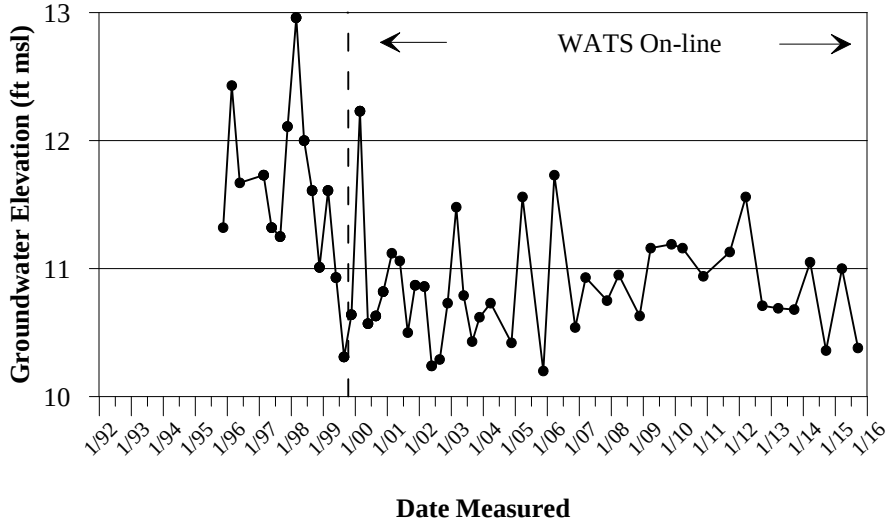


Figure 2-20 WU4-10 (Upper Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-21 THROUGH 2-24
HYDROGRAPHS
IR SITE 28

Figure 2-21 WU4-14 (Upper Portion of the A Aquifer)

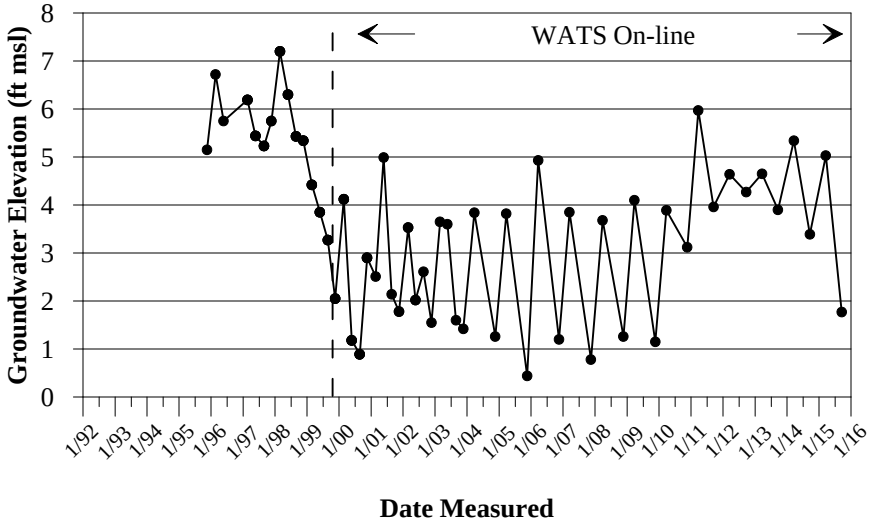


Figure 2-22 WU4-17 (Upper Portion of the A Aquifer)

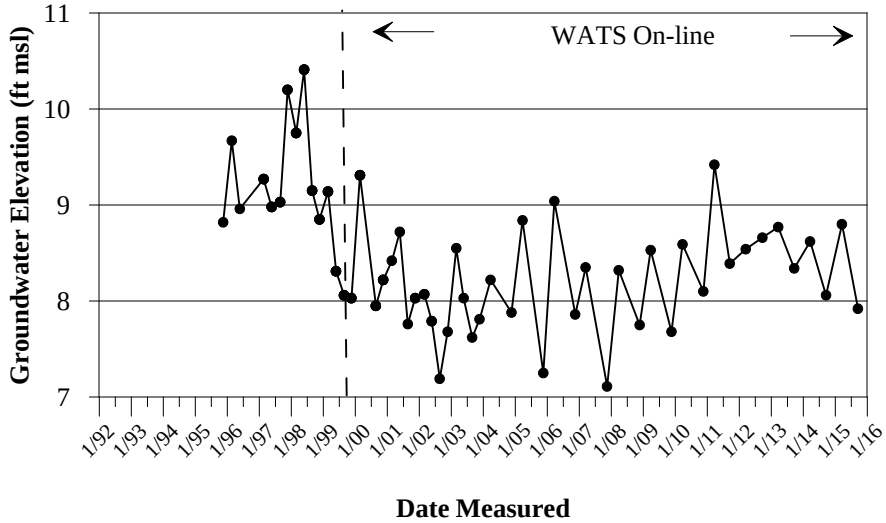


Figure 2-23 WU4-21 (Upper Portion of the A Aquifer)

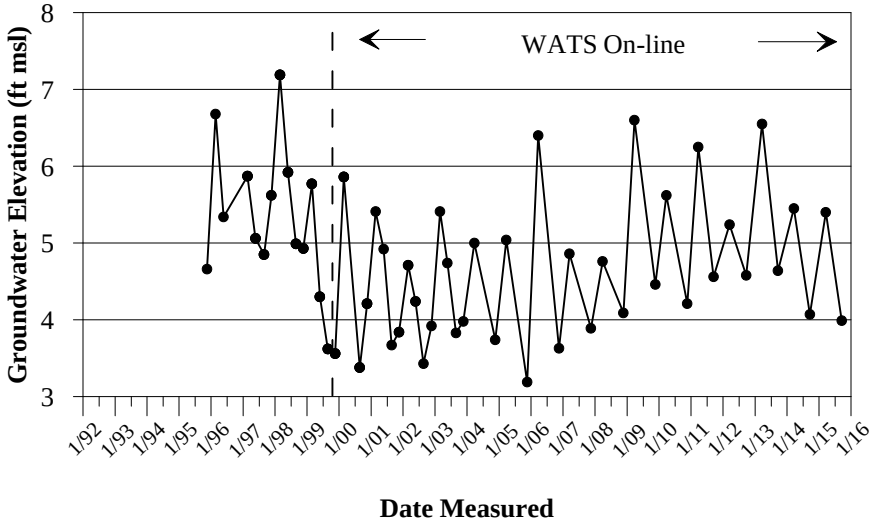
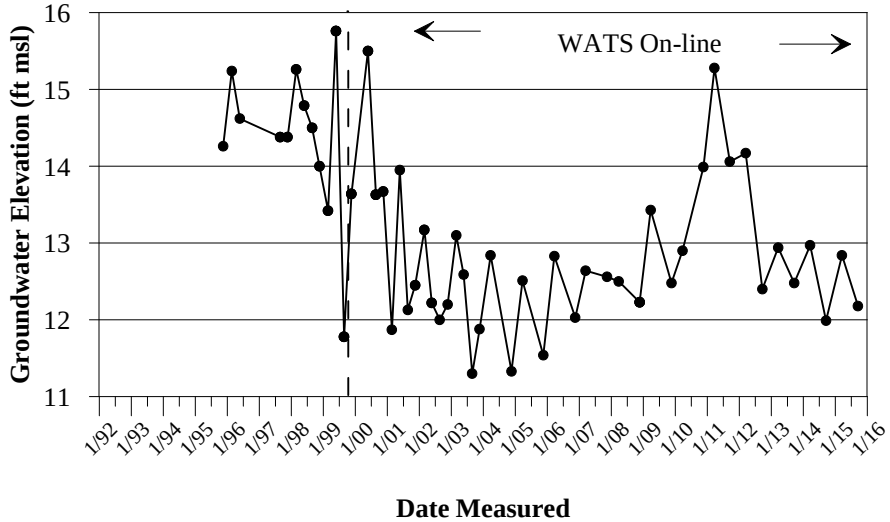


Figure 2-24 WWR-1 (Upper Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-25 THROUGH 2-28
HYDROGRAPHS
IR SITE 28

Figure 2-25 80B1 (Lower Portion of the A Aquifer)

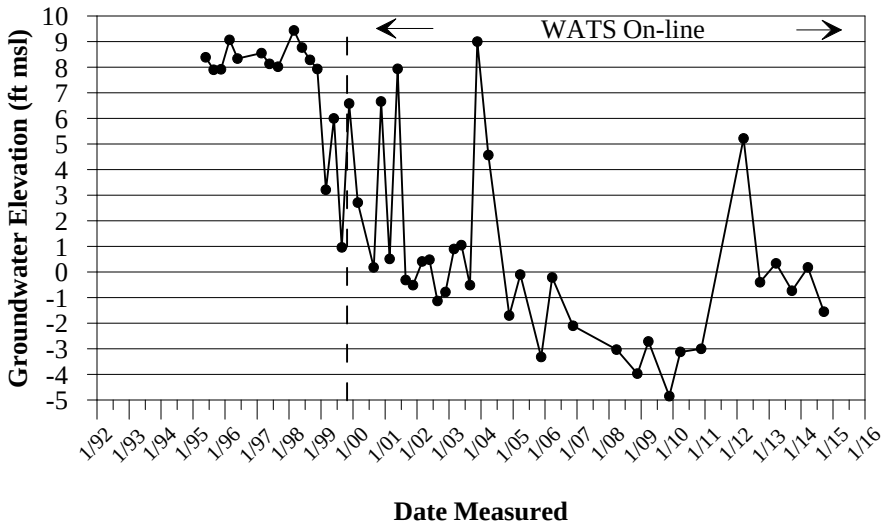


Figure 2-26 W9-27 (Lower Portion of the A Aquifer)

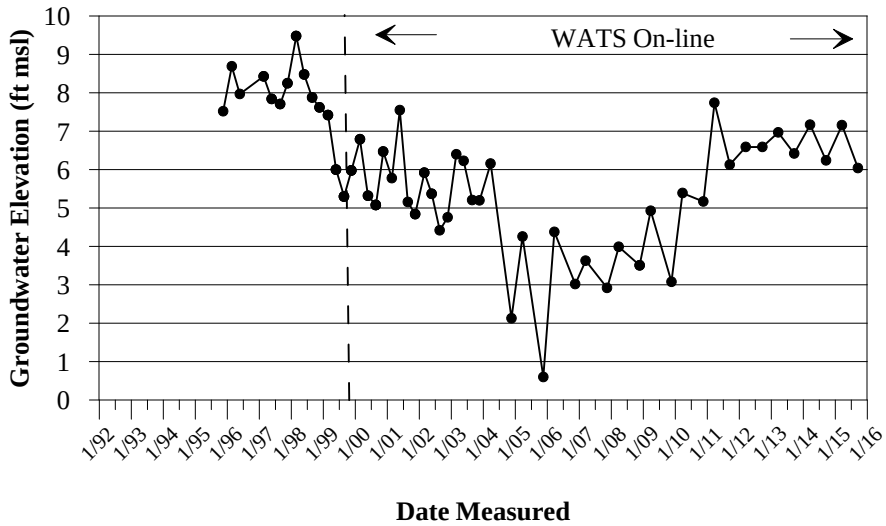


Figure 2-27 W9-28 (Lower Portion of the A Aquifer)

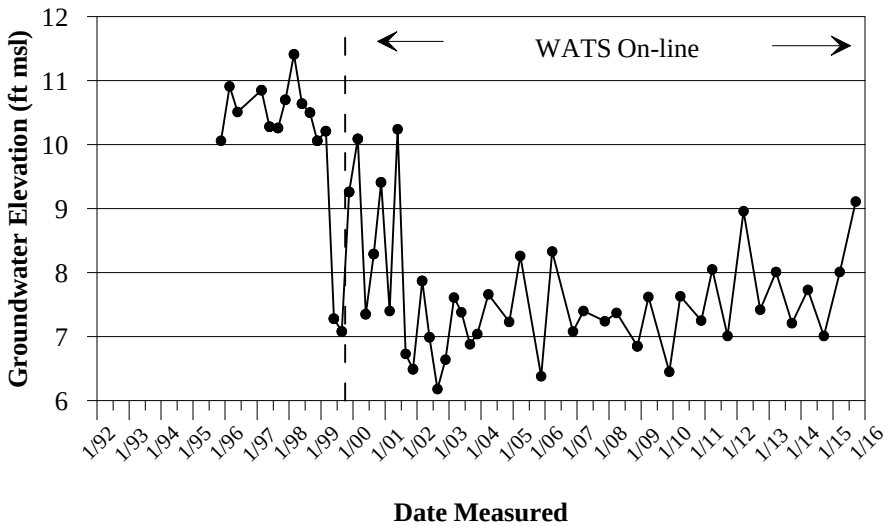
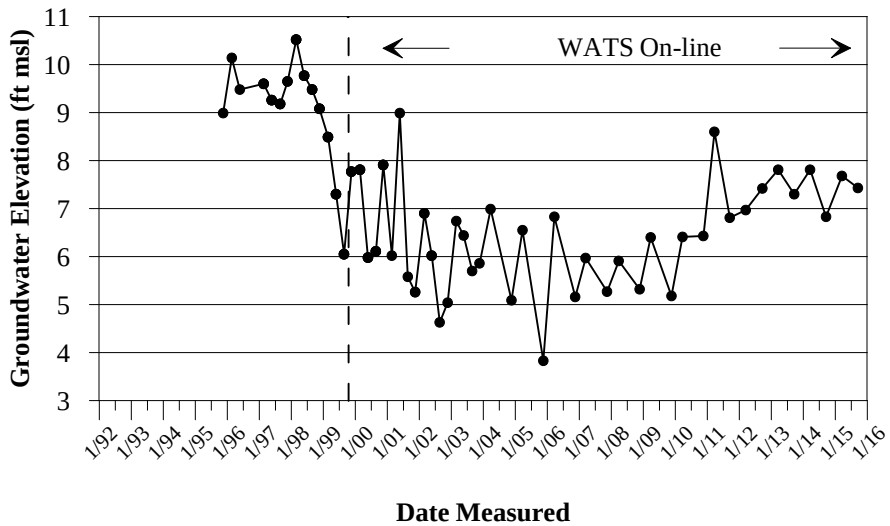


Figure 2-28 W29-8 (Lower Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-29 THROUGH 2-32
HYDROGRAPHS
IR SITE 28

Figure 2-29 WU4-9 (Lower Portion of the A Aquifer)

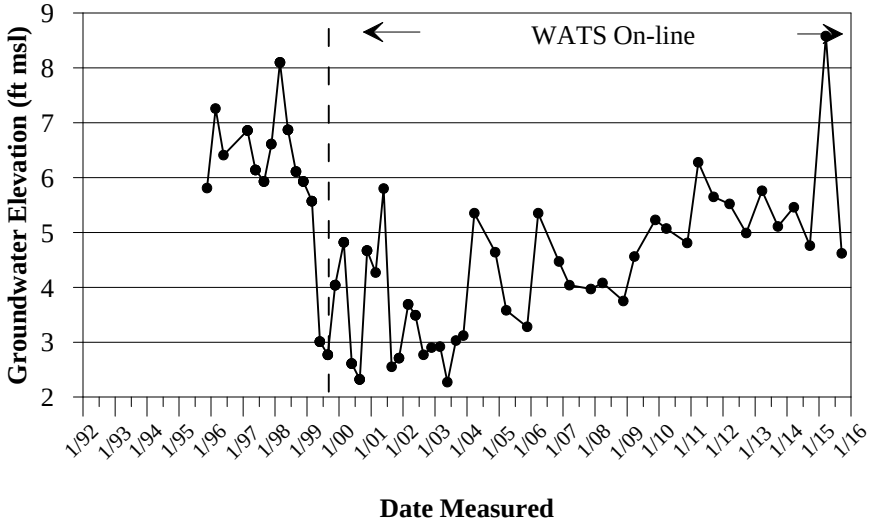


Figure 2-30 WU4-11 (Lower Portion of the A Aquifer)

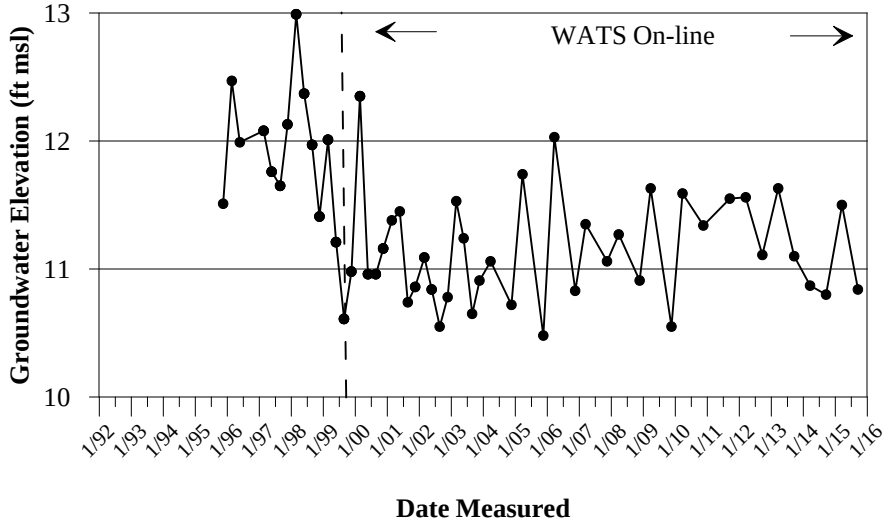


Figure 2-31 PIC-1 (Upper Portion of the A Aquifer)

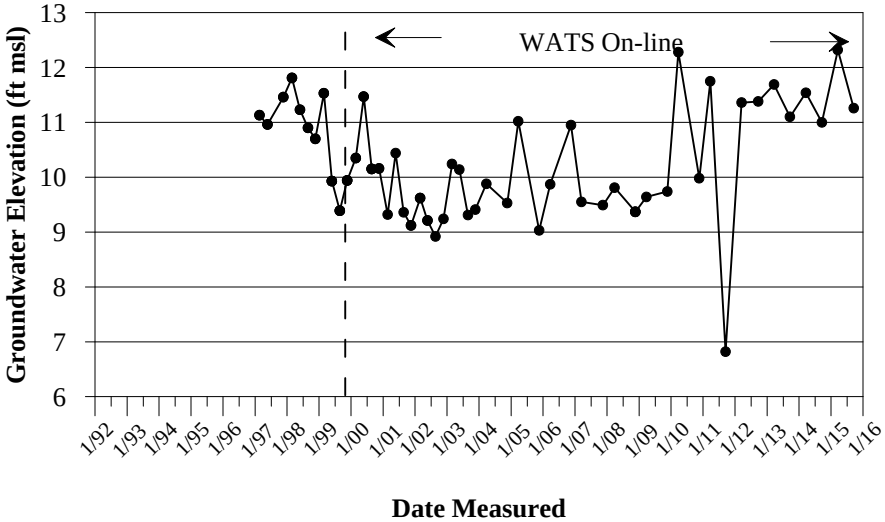
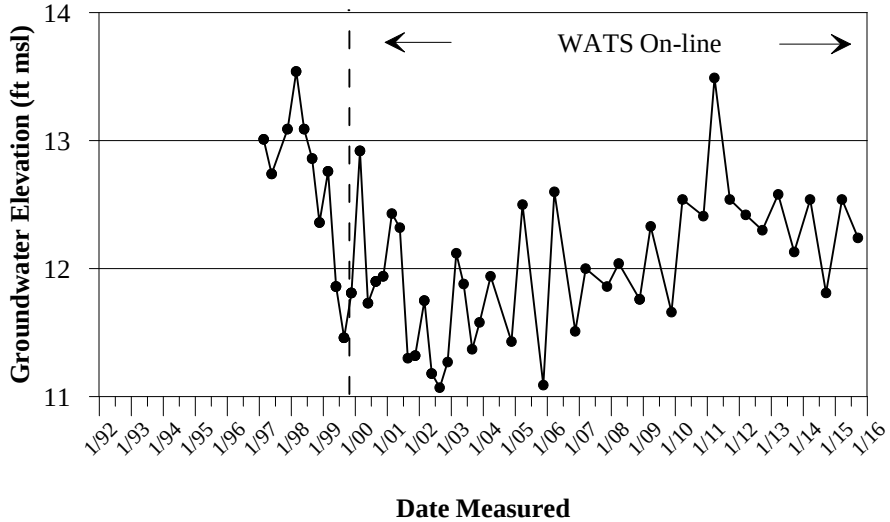


Figure 2-32 PIC-12 (Upper Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-33 THROUGH 2-36
HYDROGRAPHS
IR SITE 28

Figure 2-33 W9-43 (Upper Portion of the A Aquifer)

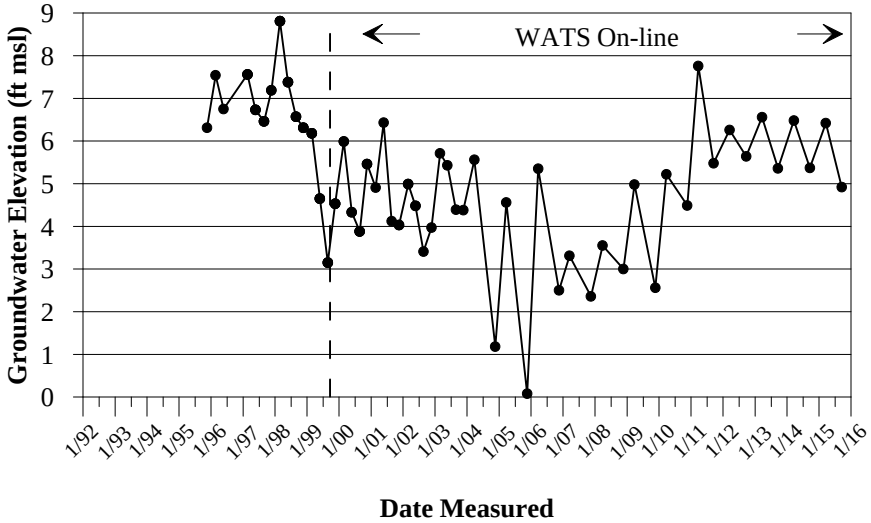


Figure 2-34 W12-6 (Upper Portion of the A Aquifer)

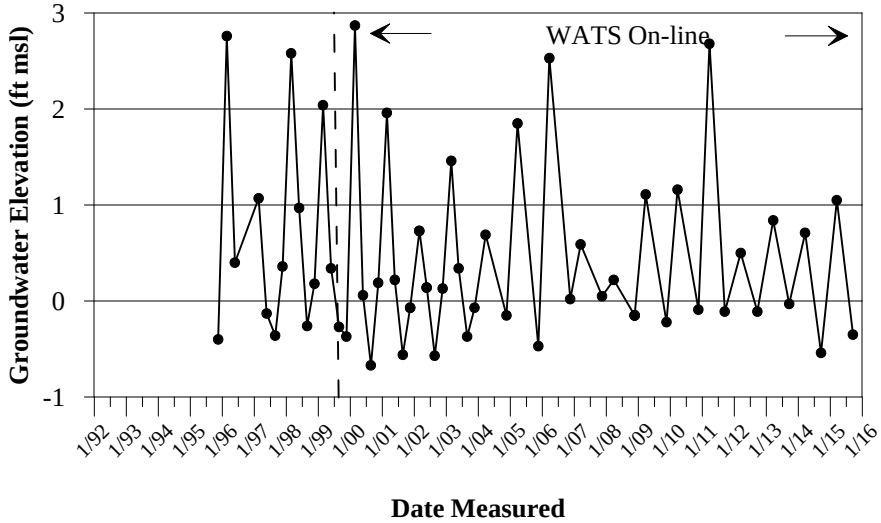


Figure 2-35 W89-2 (Upper Portion of the A Aquifer)

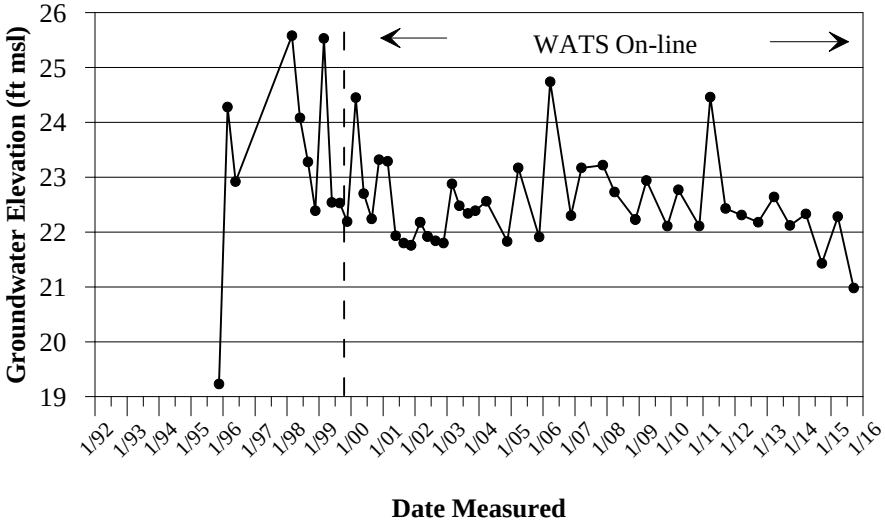
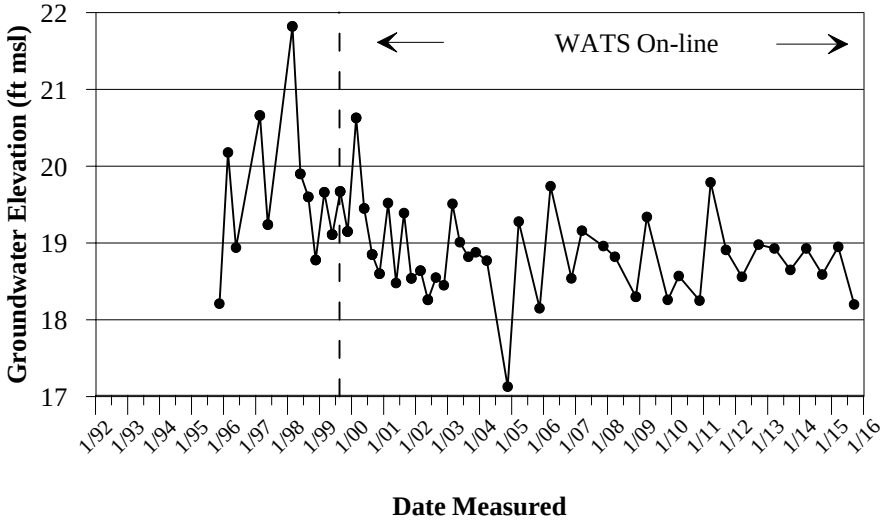


Figure 2-36 W89-5 (Upper Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-37 THROUGH 2-40
HYDROGRAPHS
IR SITE 28

Figure 2-37 W89-7 (Upper Portion of the A Aquifer)

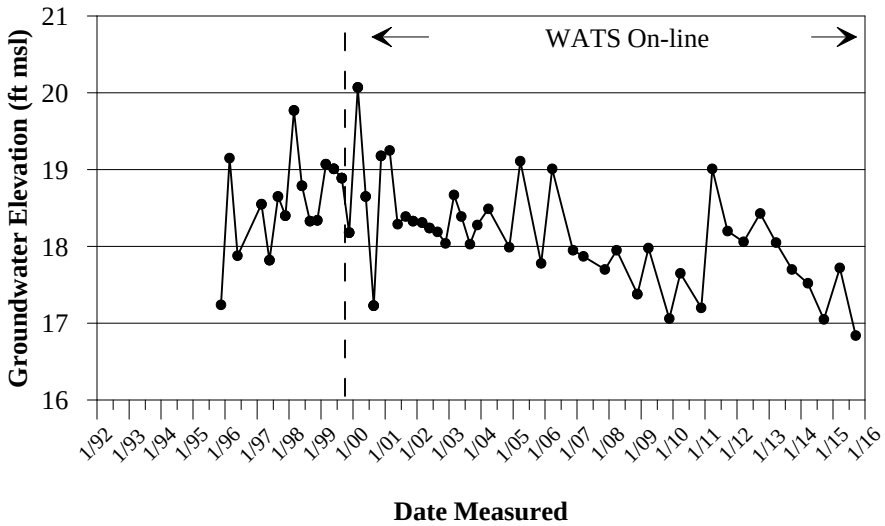


Figure 2-38 W89-9 (Upper Portion of the A Aquifer)

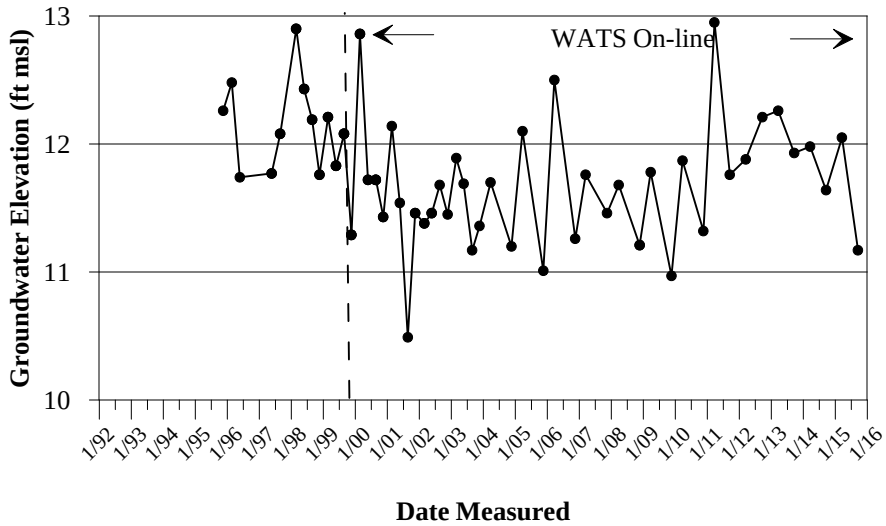


Figure 2-39 87B1 (Lower Portion of the A Aquifer)

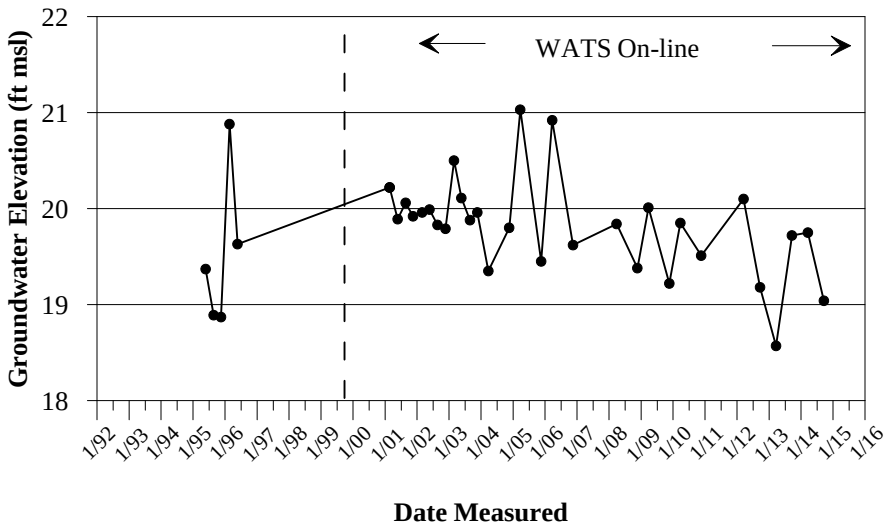
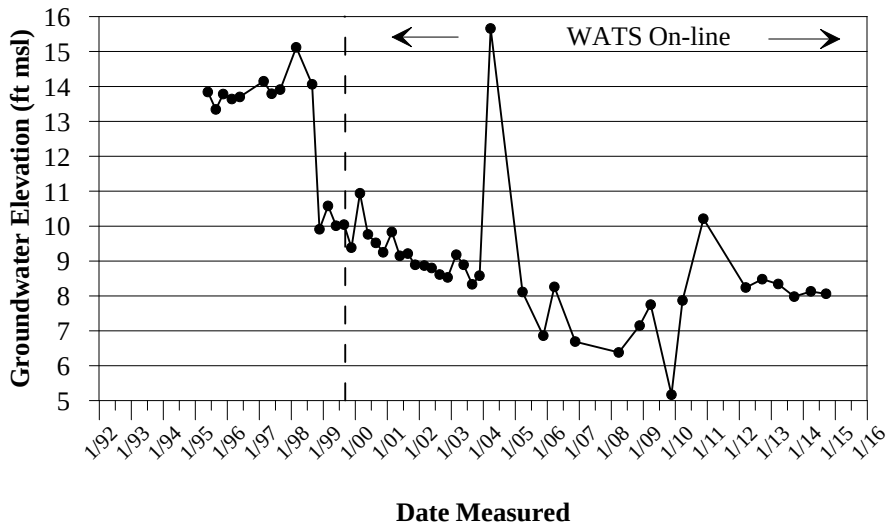


Figure 2-40 111B1 (Lower Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-41 THROUGH 2-44
HYDROGRAPHS
IR SITE 28

Figure 2-41 W9-17 (Lower Portion of the A Aquifer)

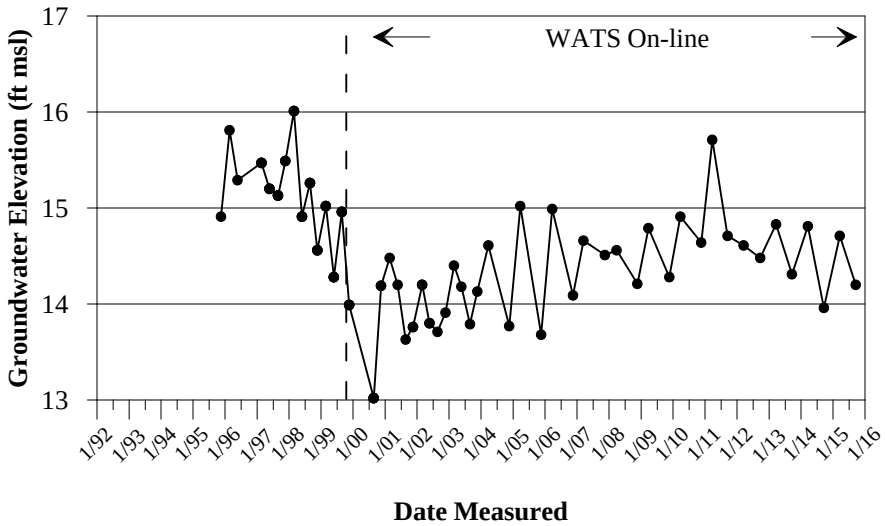


Figure 2-42 W9-25 (Lower Portion of the A Aquifer)

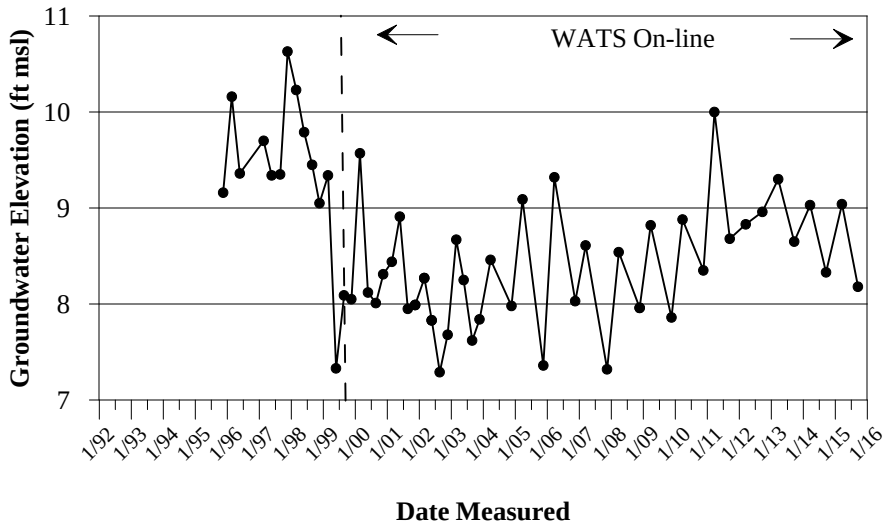


Figure 2-43 W89-12 (Lower Portion of the A Aquifer)

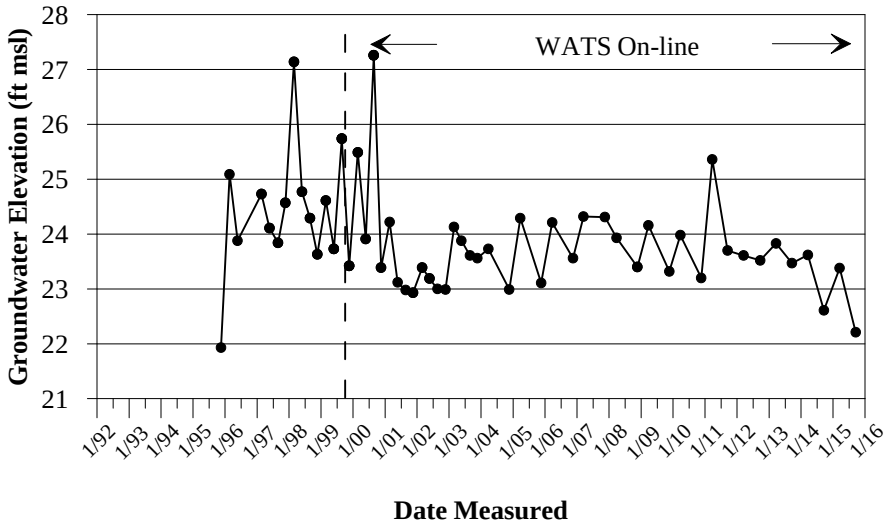
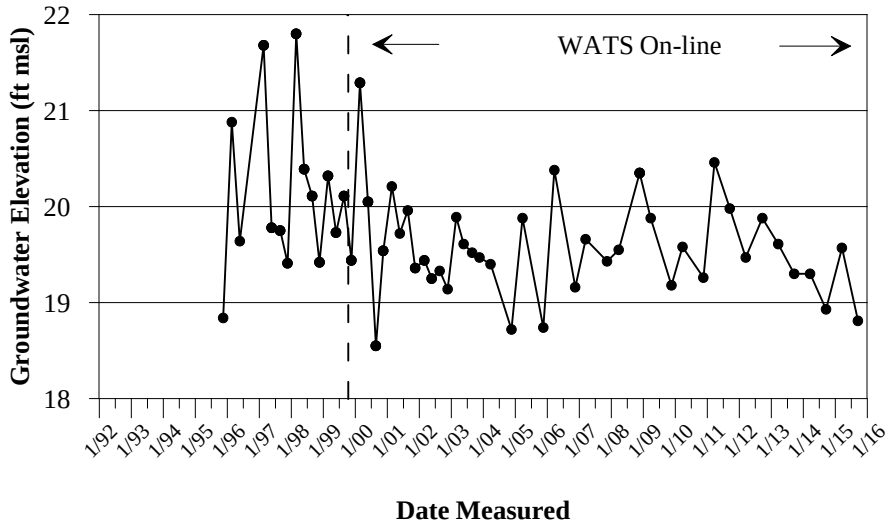


Figure 2-44 W89-14 (Lower Portion of the A Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-45 THROUGH 2-48
HYDROGRAPHS
IR SITE 28

Figure 2-45 WU4-13 (Lower Portion of the A Aquifer)

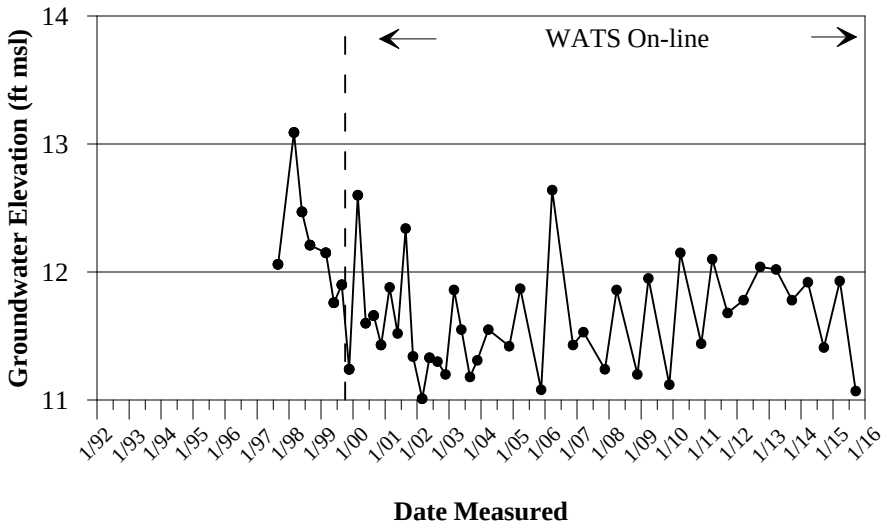


Figure 2-46 54B2 (B2 Aquifer)

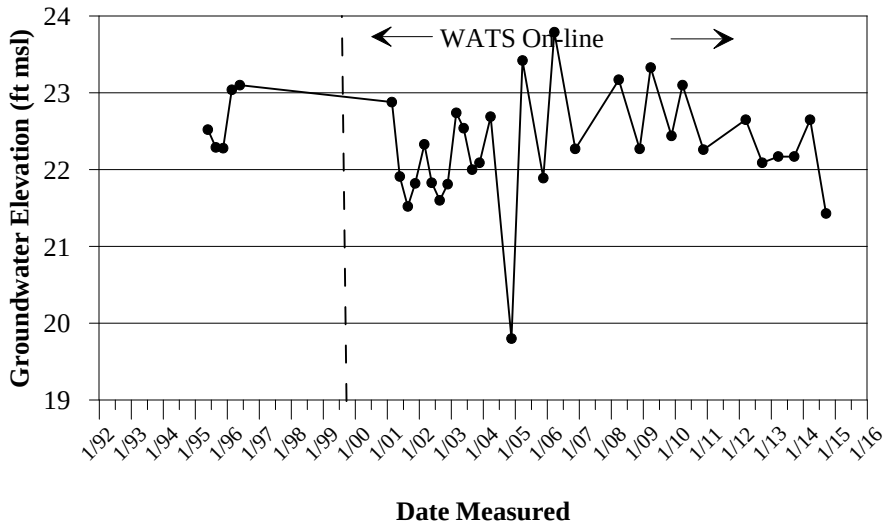


Figure 2-47 82B2 (B2 Aquifer)

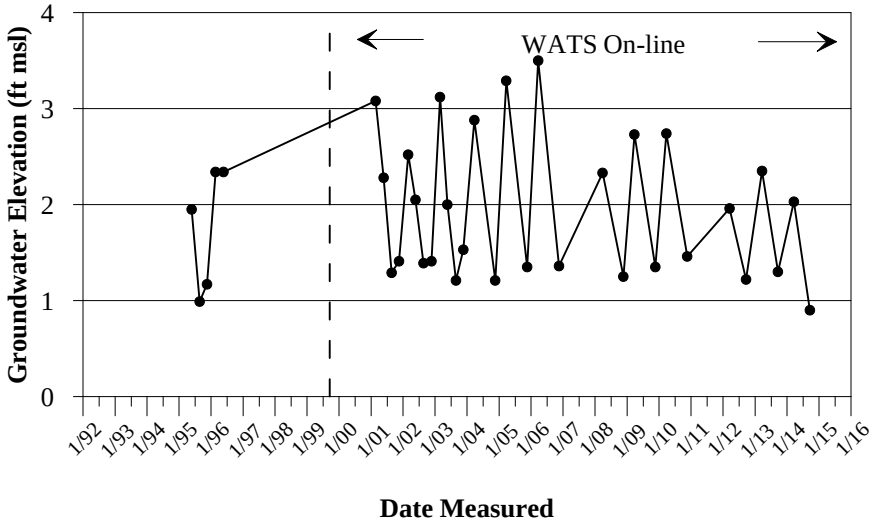
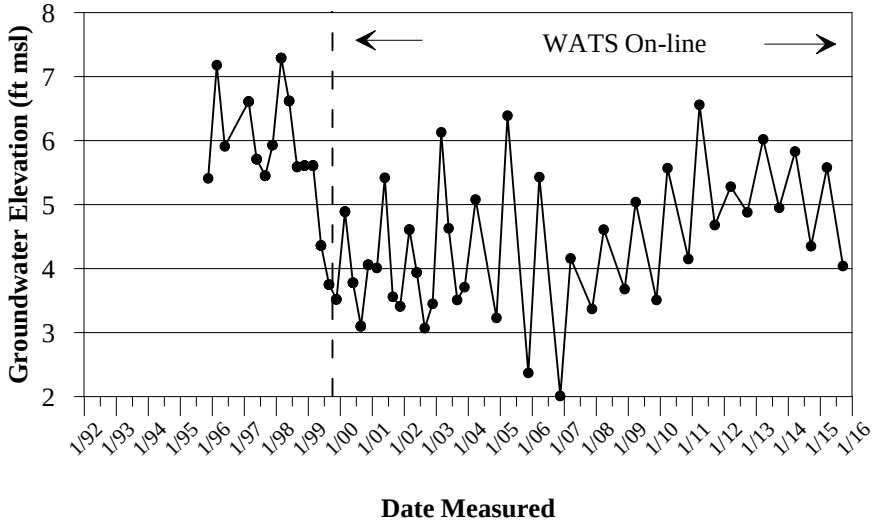


Figure 2-48 W9-11 (B2 Aquifer)



Notes:
ft msl - feet mean sea level

FIGURES 2-49 THROUGH 2-52
HYDROGRAPHS
IR SITE 28

Figure 2-49 W9-12 (B2 Aquifer)

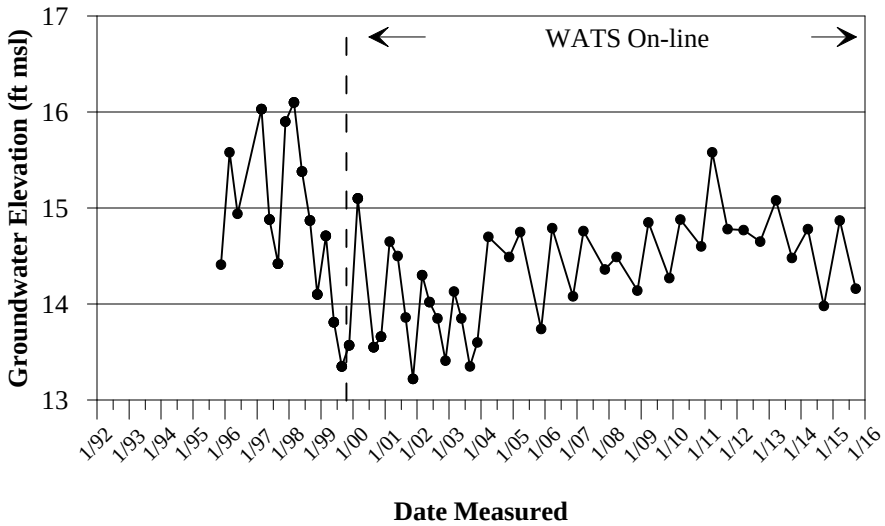


Figure 2-50 W9-15 (B2 Aquifer)

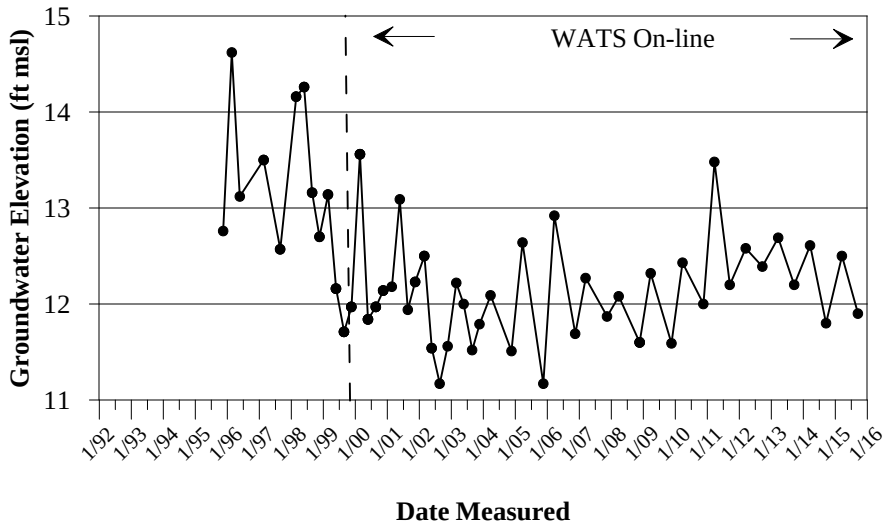


Figure 2-51 W9-39 (B2 Aquifer)

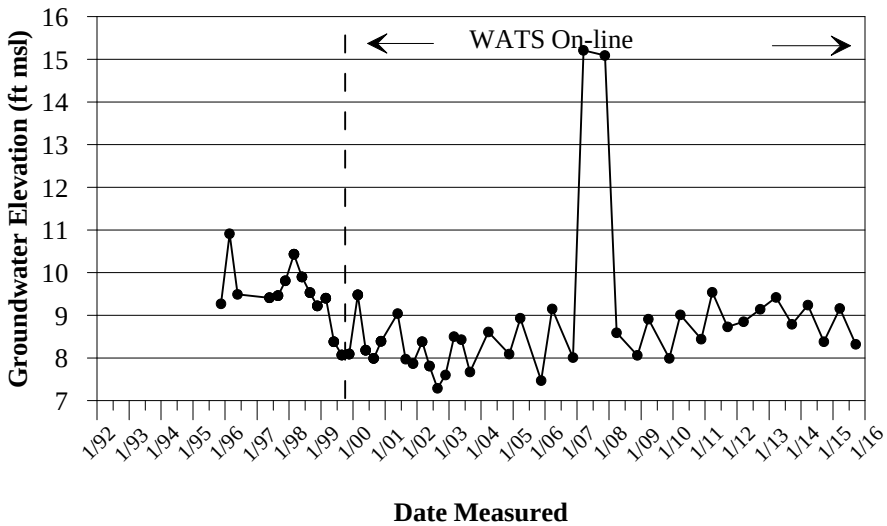
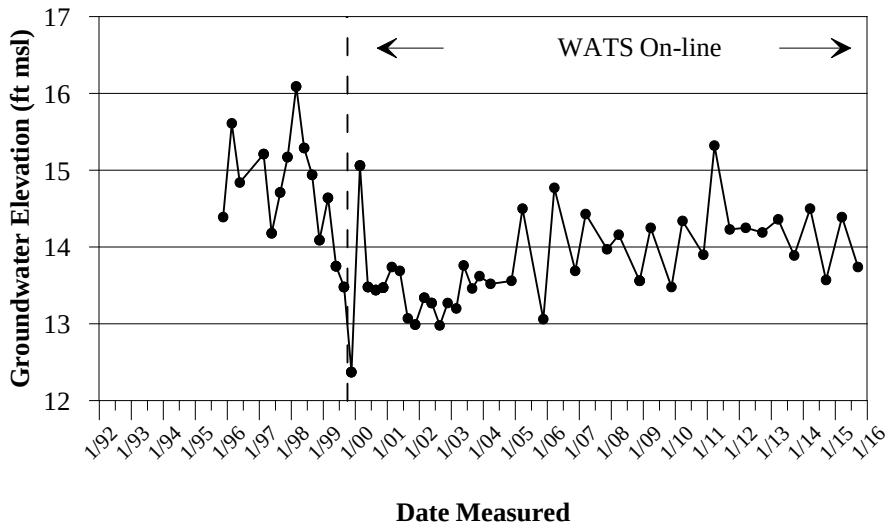


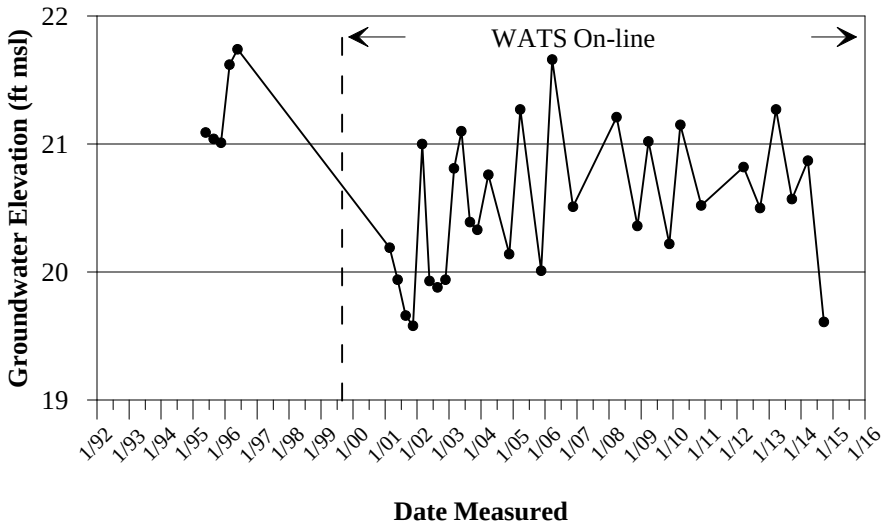
Figure 2-52 W9-40 (B2 Aquifer)



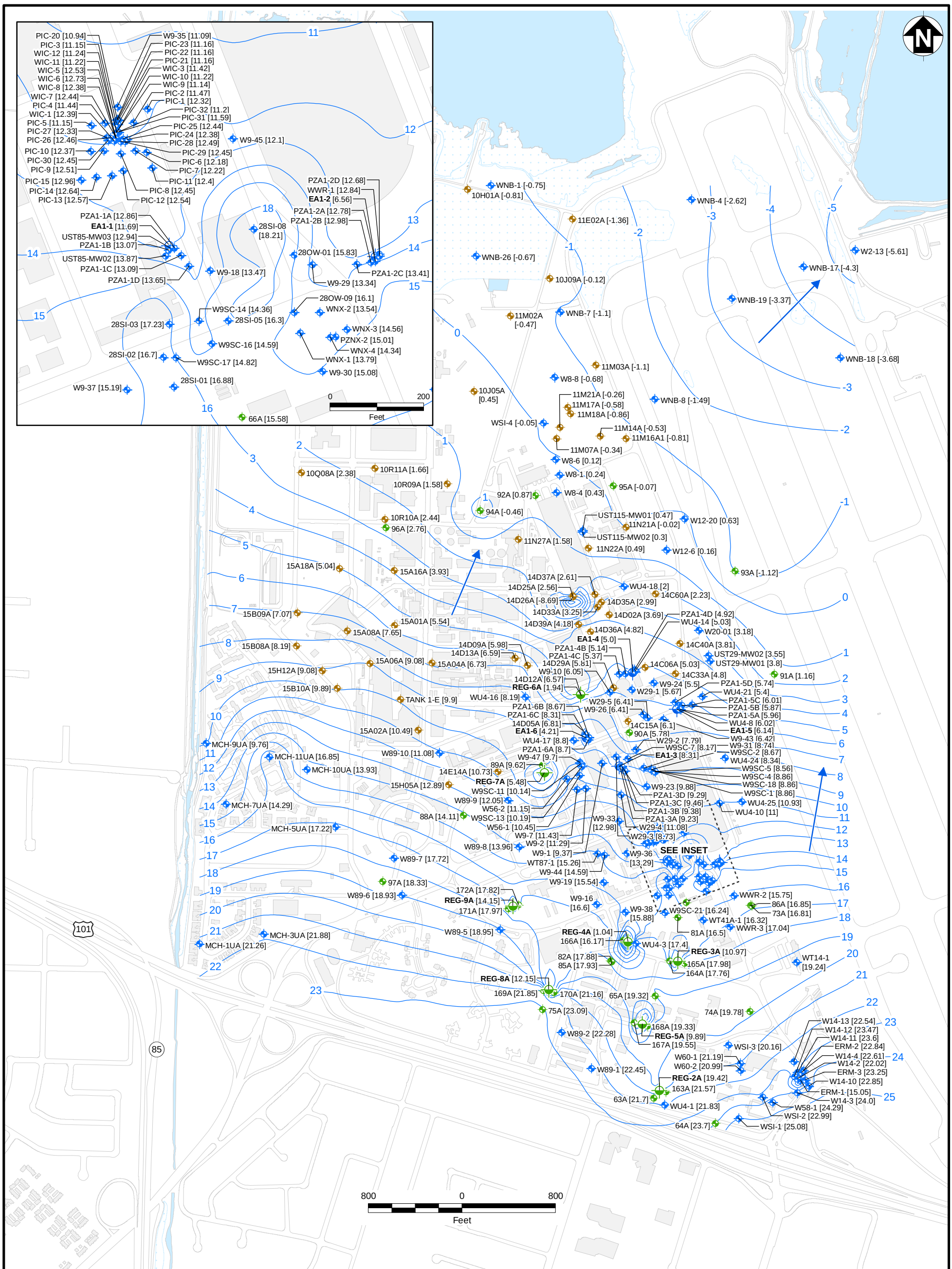
Notes:
ft msl - feet mean sea level

FIGURE 2-53
HYDROGRAPH
IR SITE 28

Figure 2-53 17B2 (B2 Aquifer)



Notes:
ft msl - feet mean sea level



NAVY EXTRACTION WELL
NAVY MONITORING WELL
MEW EXTRACTION WELL
MEW MONITORING WELL
NASA EXTRACTION WELL
NASA MONITORING WELL
[5.5] GROUNDWATER ELEVATION
20 GROUNDWATER CONTOUR
GROUNDWATER FLOW DIRECTION
ROAD
FACILITY INFRASTRUCTURE
WATER
WETLAND

Notes:

1. Groundwater levels measured on March 19, 2015
2. Groundwater elevations shown in feet amsl

AMSL - Above Mean Sea Level
IR - Installation Restoration
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NASA - National Aeronautics and Space Administration
NM - Not Measured

SES-TECH

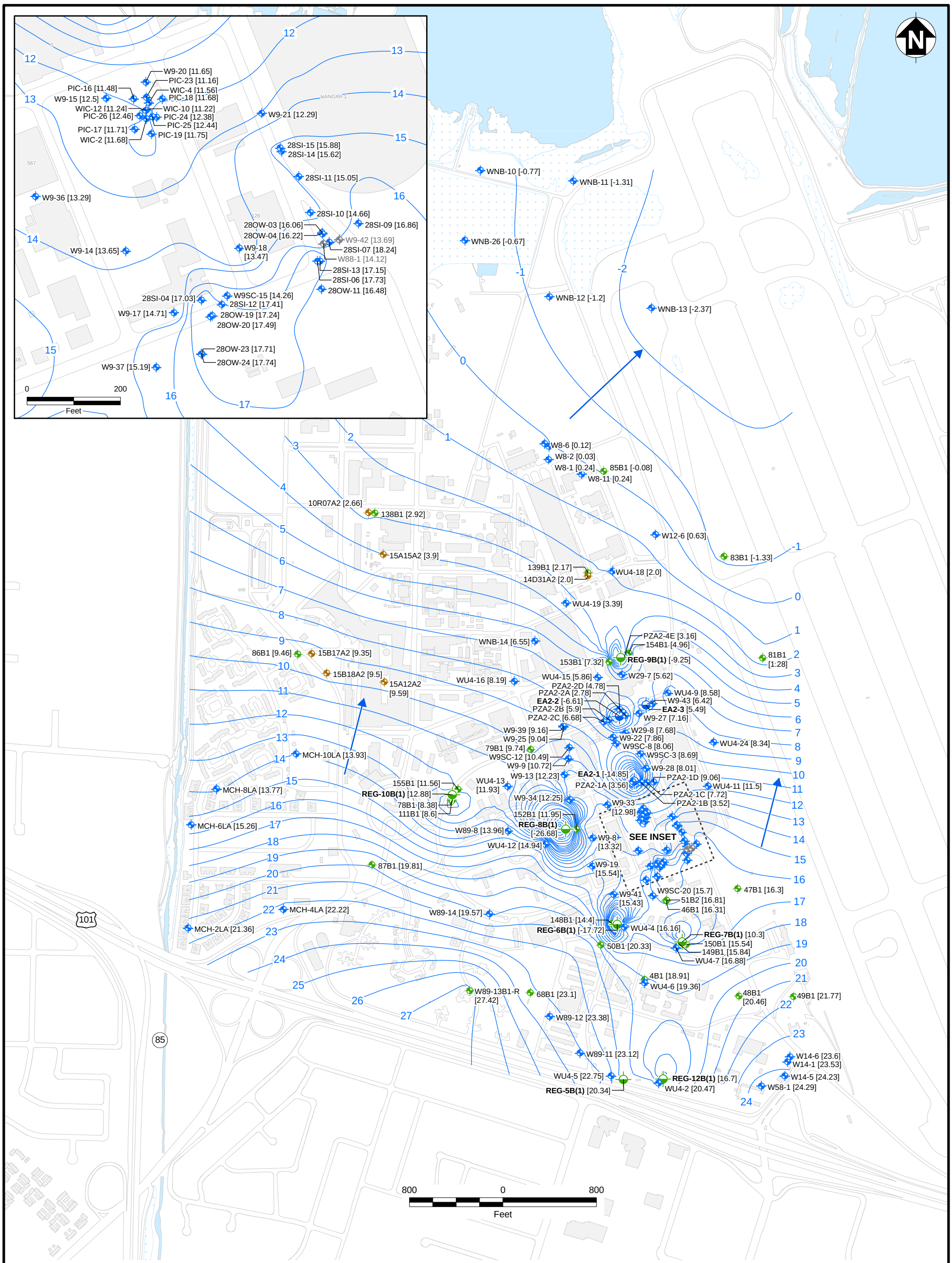
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 2-54

POTENTIOMETRIC SURFACE MAP, IR SITE 28, UPPER PORTION OF THE A AQUIFER MARCH 19, 2015

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



NAVY EXTRACTION WELL

NAVY MONITORING WELL

MEW EXTRACTION WELL

MEW MONITORING WELL

NASA MONITORING WELL

NAVY MONITORING WELL (NOT USED IN GW MODELLING)

(5.5) GROUNDWATER ELEVATION

20 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

GROUNDWATER FLOW DIRECTION

ROAD

FACILITY INFRASTRUCTURE

WATER

WETLAND

Notes:

1. Groundwater levels measured on March 19, 2015
2. Groundwater elevations shown in feet amsl

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MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
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NM - Not Measured

SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
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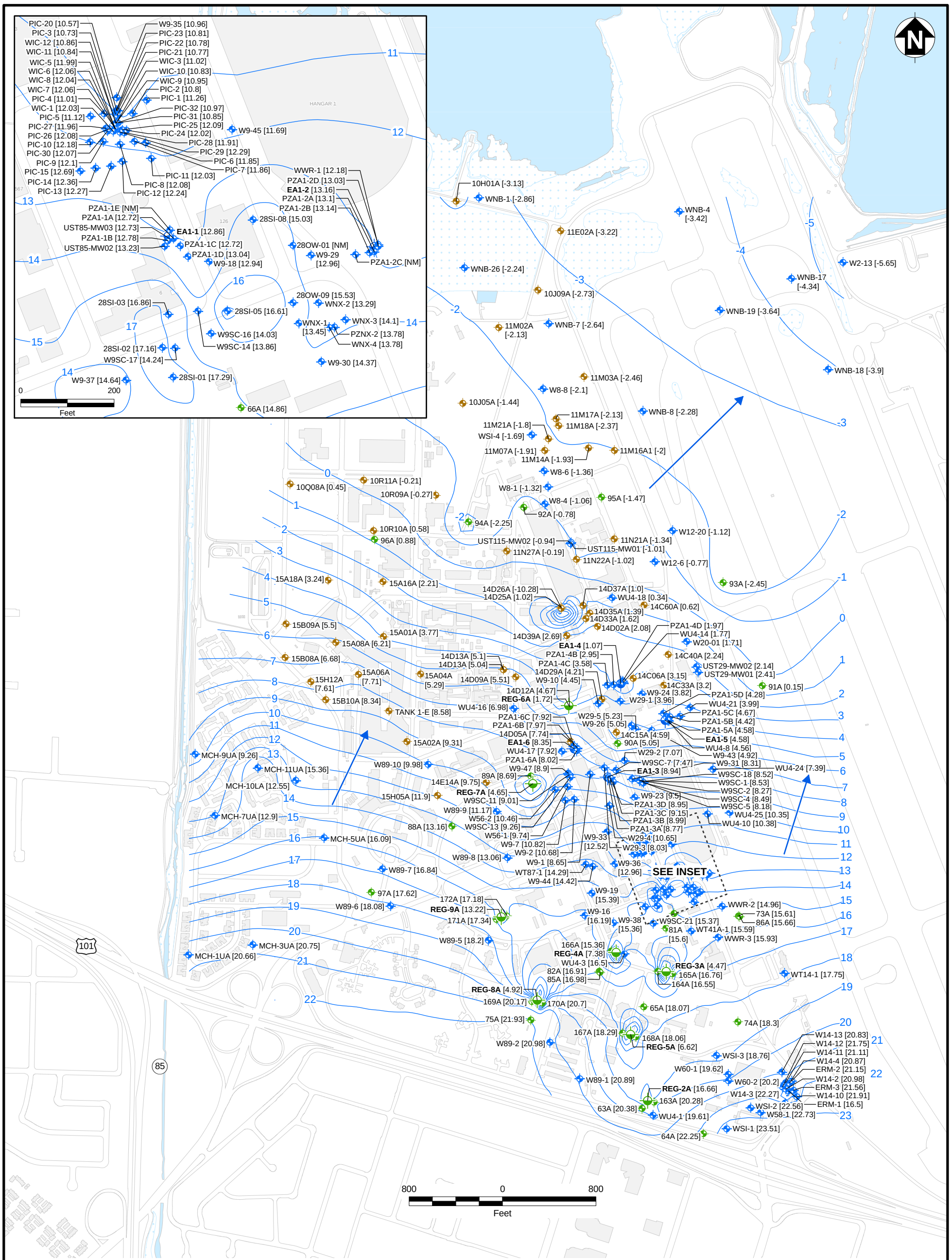
FIGURE 2-55

POTENTIOMETRIC SURFACE MAP, IR SITE 28, LOWER PORTION OF THE A AQUIFER - MARCH 19, 2015

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



NAVY EXTRACTION WELL

NAVY MONITORING WELL

MEW EXTRACTION WELL

MEW MONITORING WELL

NASA EXTRACTION WELL

NASA MONITORING WELL

(5.5) GROUNDWATER ELEVATION

20 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

GROUNDWATER FLOW DIRECTION

ROAD

FACILITY INFRASTRUCTURE

WATER

WETLAND

Notes:

1. Groundwater levels measured on September 17, 2015
2. Groundwater elevations shown in feet amsl

AMSL - Above Mean Sea Level
IR - Installation Restoration
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NASA - National Aeronautics and Space Administration
NM - Not Measured

SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
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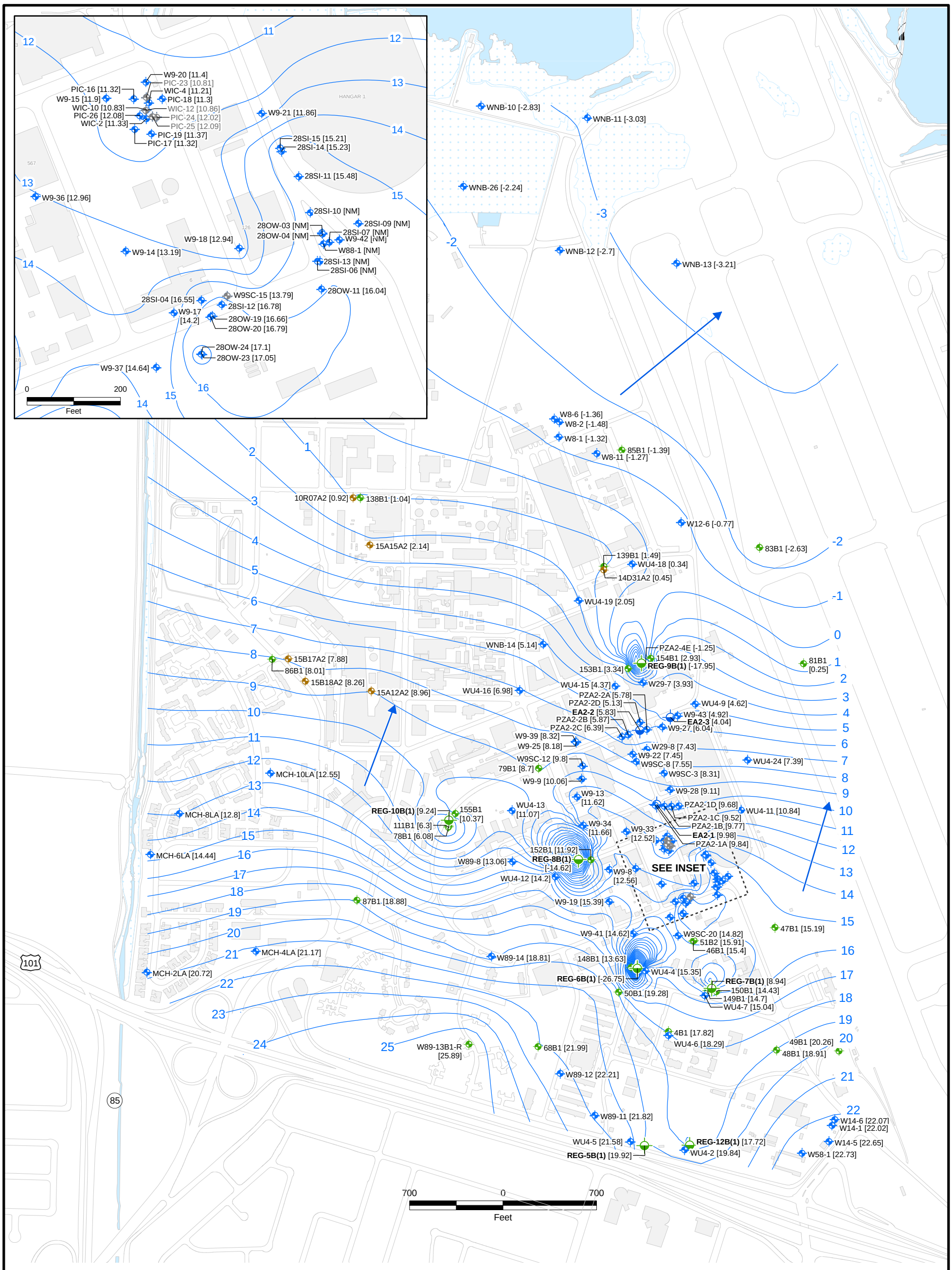
FIGURE 2-56
POTENTIOMETRIC SURFACE MAP, IR SITE 28, UPPER PORTION OF THE A AQUIFER SEPTEMBER 17, 2015

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA



NAVY EXTRACTION WELL

NAVY MONITORING WELL

MEW EXTRACTION WELL

MEW MONITORING WELL

NASA MONITORING WELL

NAVY MONITORING WELL (NOT USED IN GW MODELLING)

(5.5) GROUNDWATER ELEVATION

20 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

GROUNDWATER FLOW DIRECTION

ROAD

FACILITY INFRASTRUCTURE

WATER

WETLAND

Notes:

1. Groundwater levels measured on September 17, 2015
2. Groundwater elevations shown in feet amsl

AMSL - Above Mean Sea Level
IR - Installation Restoration
MEW - Middlefield-Ellis-Whisman
NAS - Naval Air Station
NASA - National Aeronautics and Space Administration
NM - Not Measured

SES-TECH

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

2015 ANNUAL GROUNDWATER REPORT
FOR IR SITES 26 & 28

FIGURE 2-57

POTENTIOMETRIC SURFACE MAP, IR SITE 28 LOWER PORTION OF THE A AQUIFER - SEPTEMBER 17, 2015

FORMER NAS MOFFETT FIELD, MOFFETT FIELD, CALIFORNIA