APPENDIX 2

Figures

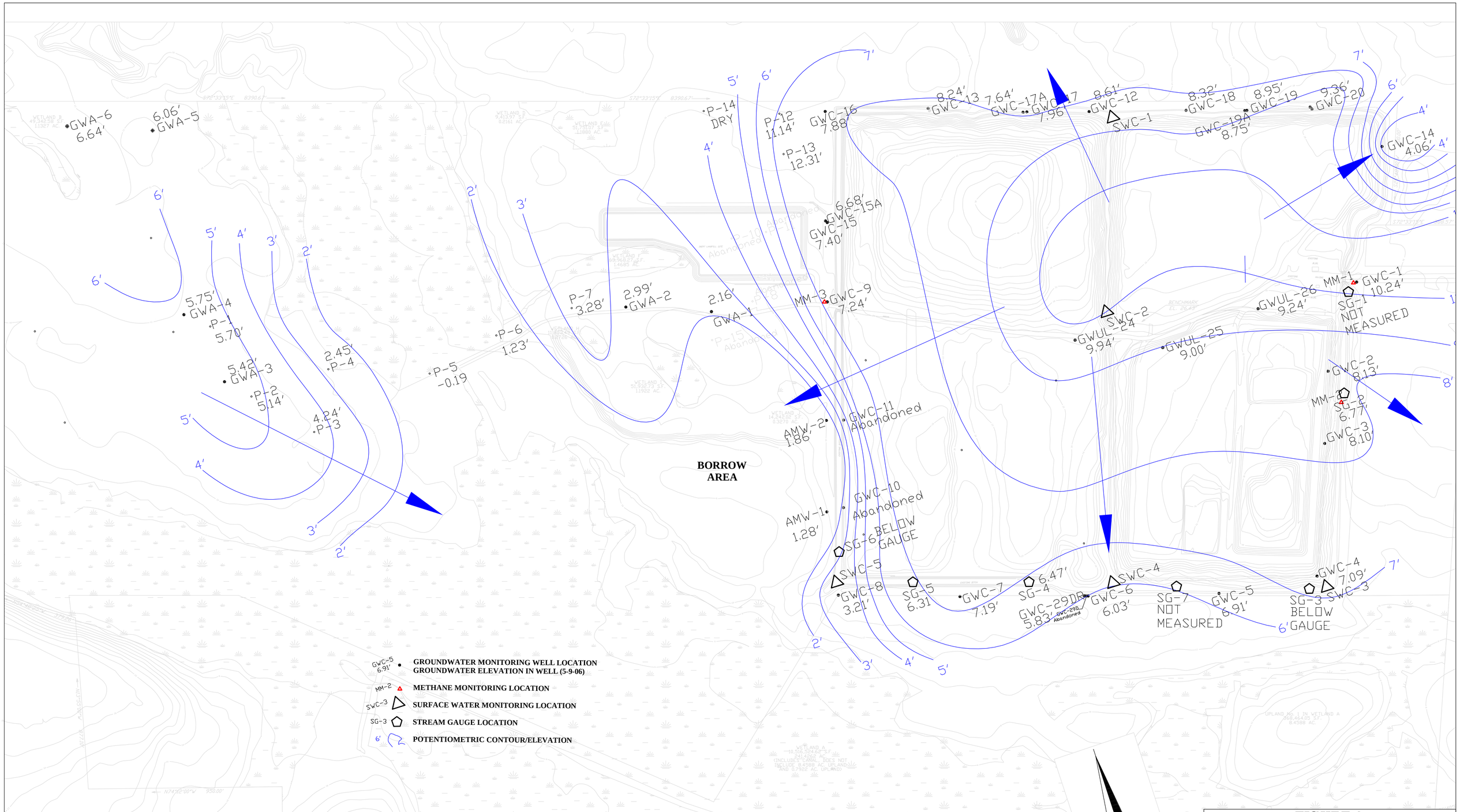


FIGURE 1
POTENTIOMETRIC SURFACE MAP

DEAN FOREST ROAD MSWL
SAVANNAH, GEORGIA
PERMIT NUMBER 025-051D(SL)

PROJECT NO: J0100	
PROJECT MANAGER: DLW	
FILE NAME/PATH: LF/SAV/ACM/PDTMAP1	
DRAWN/EDITED BY: DLW	
DRAWING SCALE: 1"=200'	
DRAWING/REVISION DATE: 2-7-07	
REVISION(S): ADD LEGEND	

ADVANCED ENVIRONMENTAL MANAGEMENT, INC.
2722 SIMPSON CIRCLE; NORCROSS, GEORGIA 30071
PHONE: 770-242-8282; FAX: 770-242-8388; E-MAIL: adv@att.net

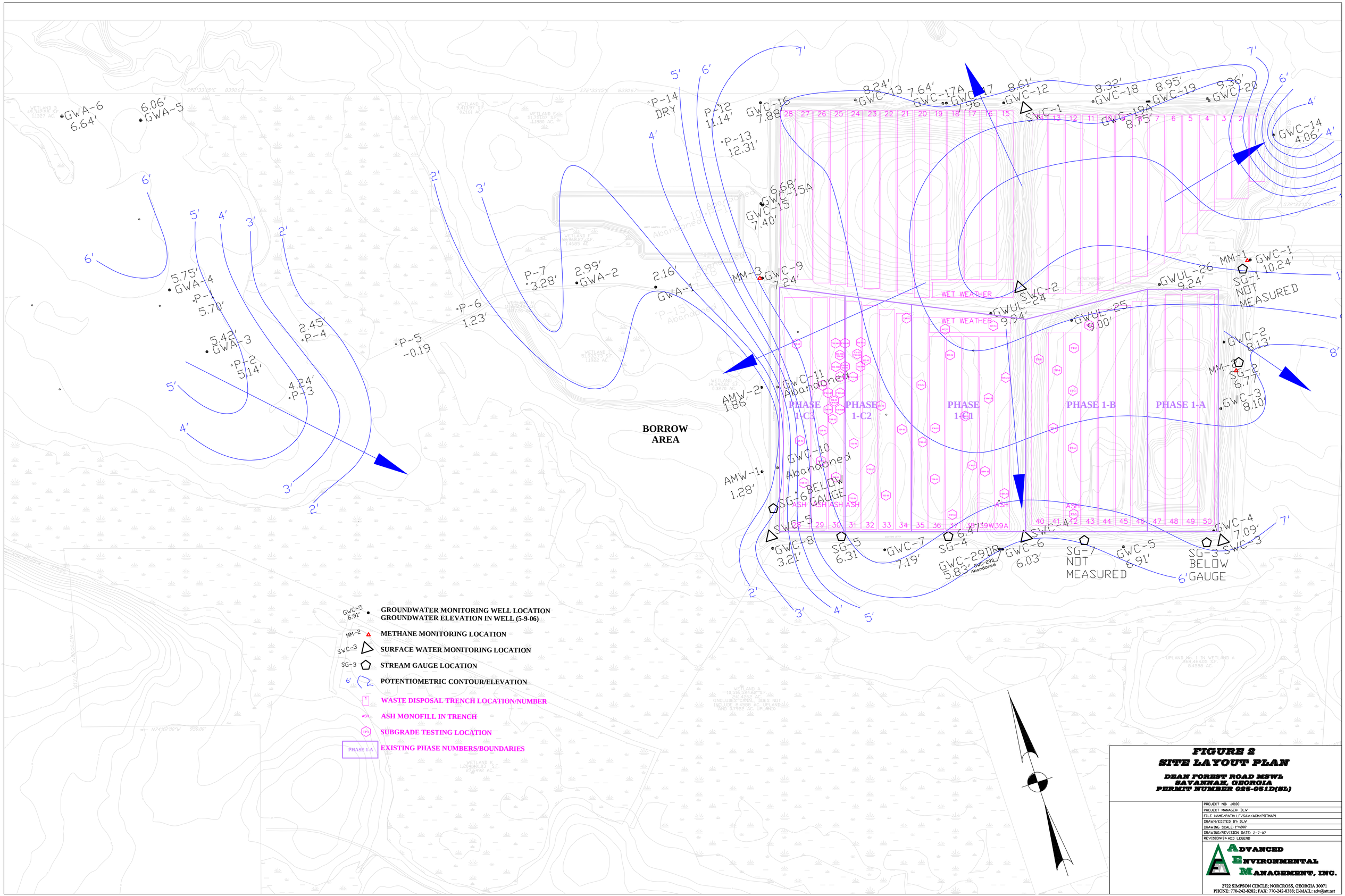


FIGURE 2
SITE LAYOUT PLAN

DEAN FOREST ROAD MSWL
SAVANNAH, GEORGIA
PERMIT NUMBER 025-051D(SL)

PROJECT NO:	J0100
PROJECT MANAGER:	DLW
FILE NAME/PATH:	LF/SAV/ACM/PDTMAP1
DRAWN/EDITED BY:	DLW
DRAWING SCALE:	1"=200'
DRAWING/REVISION DATE:	2-7-07
REVISION(S):	ADD LEGEND

ADVANCED ENVIRONMENTAL MANAGEMENT, INC.
2722 SIMPSON CIRCLE; NORCROSS, GEORGIA 30071
PHONE: 770-242-8282; FAX: 770-242-8388; E-MAIL: adv@att.net

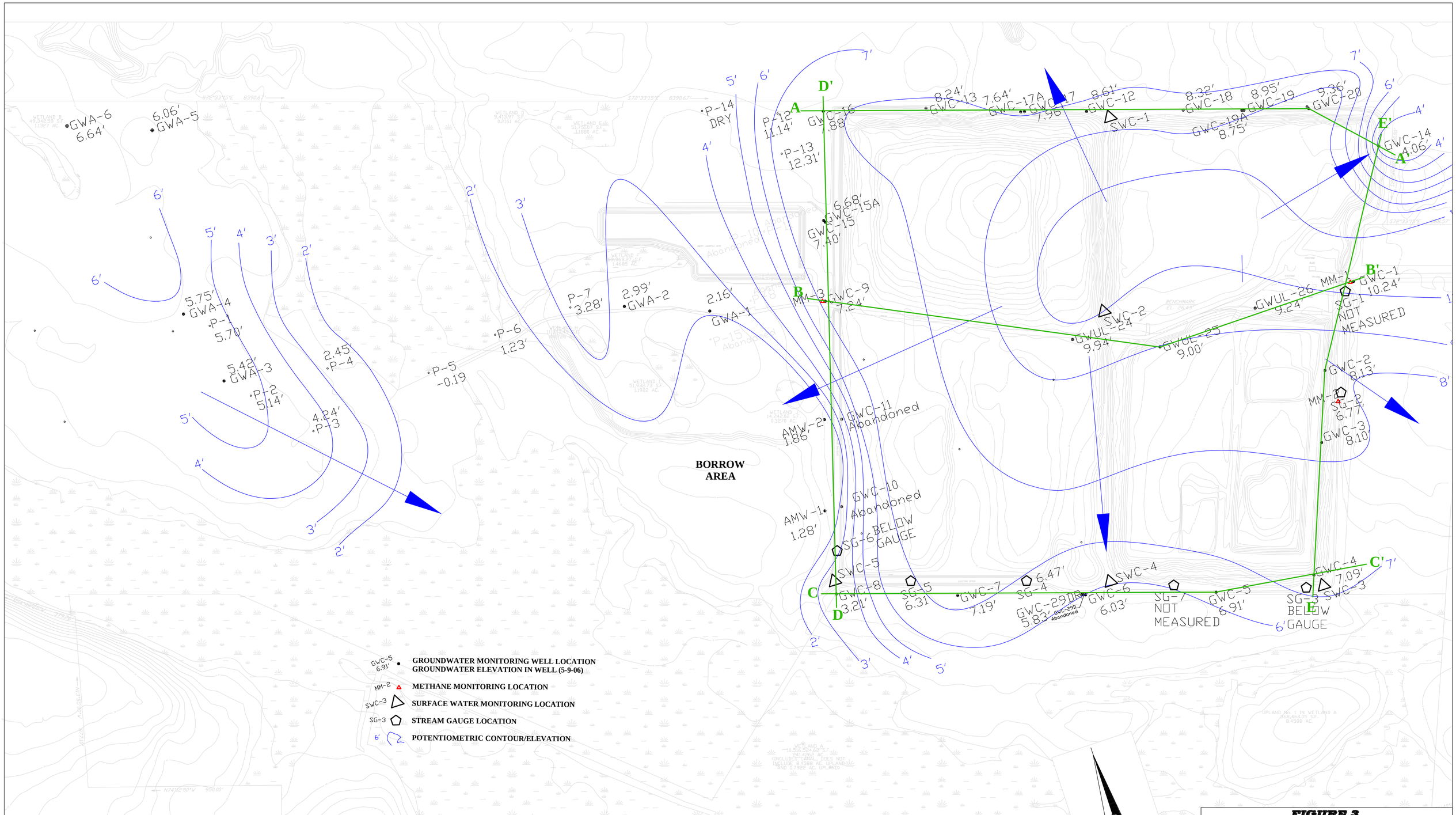


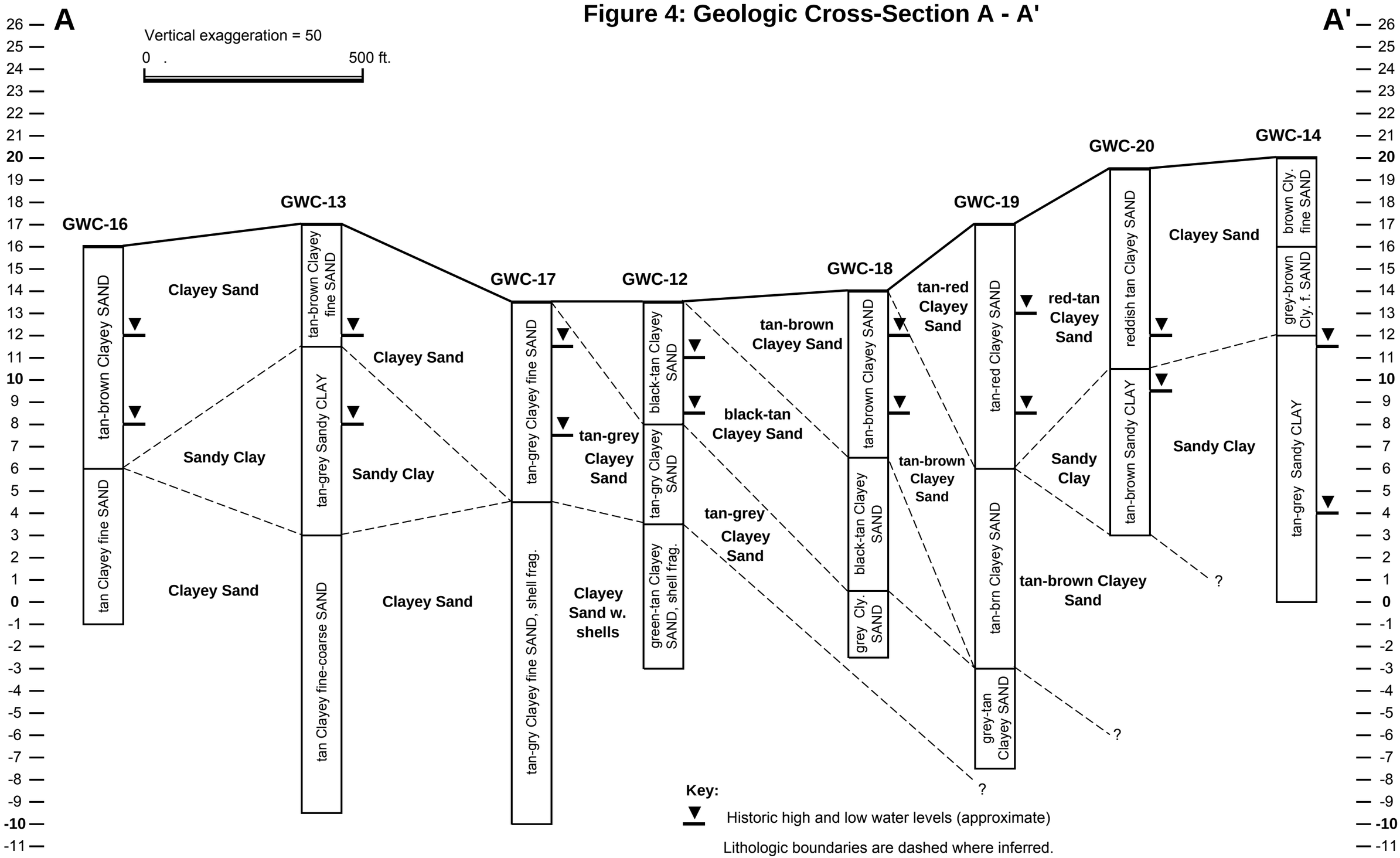
FIGURE 3
CROSS-SECTION LOCATION MAP

DEAN FOREST ROAD MSWL
SAVANNAH, GEORGIA
PERMIT NUMBER 025-051D(SL)

PROJECT NO:	J0100
PROJECT MANAGER:	DLW
FILE NAME/PATH:	LF/SAV/ACM/PDTMAP1
DRAWN/EDITED BY:	DLW
DRAWING SCALE:	1"=200'
DRAWING/REVISION DATE:	2-7-07
REVISION(S):	ADD LEGEND

ADVANCED ENVIRONMENTAL MANAGEMENT, INC.
2722 SIMPSON CIRCLE; NORCROSS, GEORGIA 30071
PHONE: 770-242-8282; FAX: 770-242-8388; E-MAIL: adv@att.net

Figure 4: Geologic Cross-Section A - A'



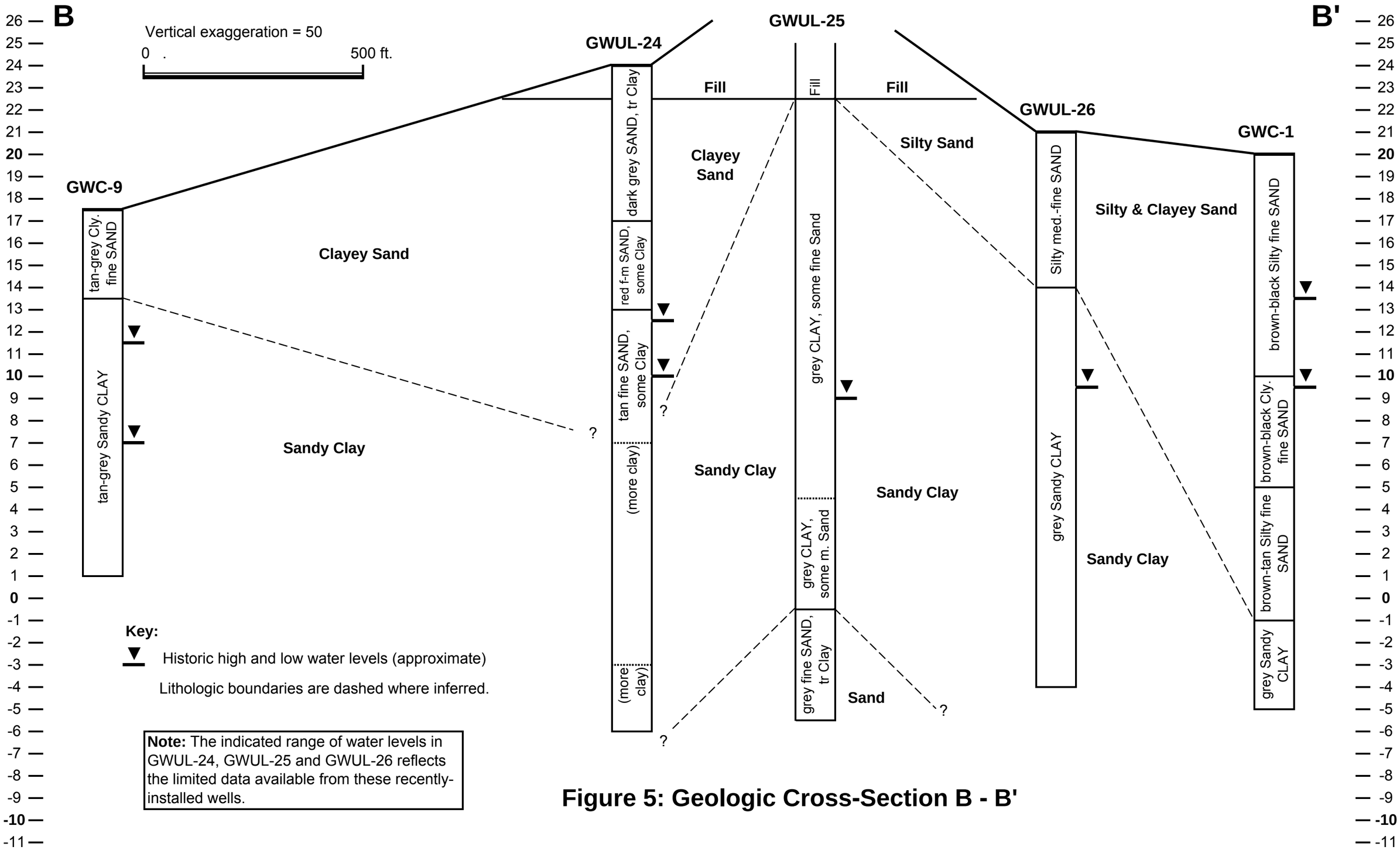


Figure 5: Geologic Cross-Section B - B'

Figure 6: Geologic Cross-Section C - C'

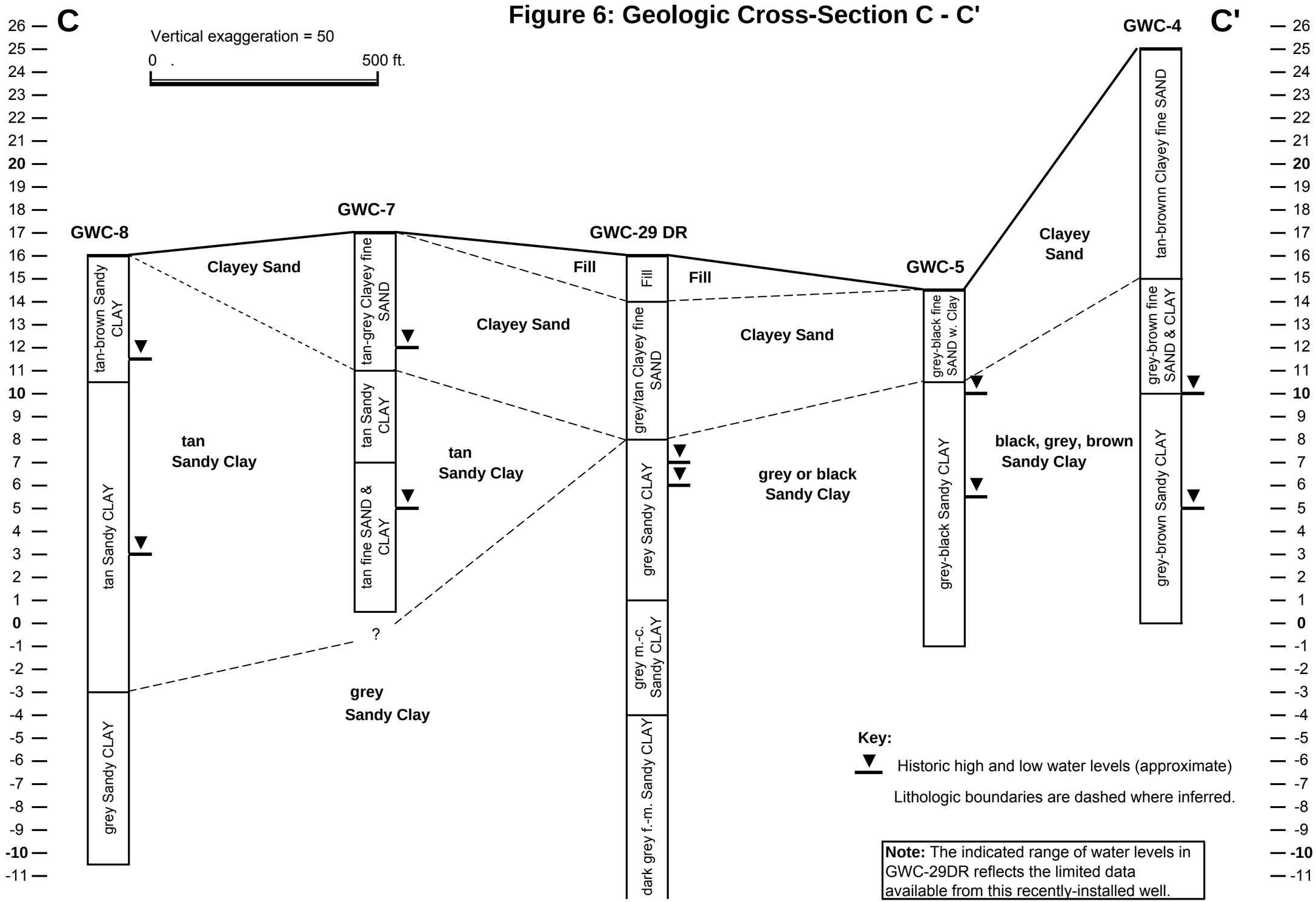
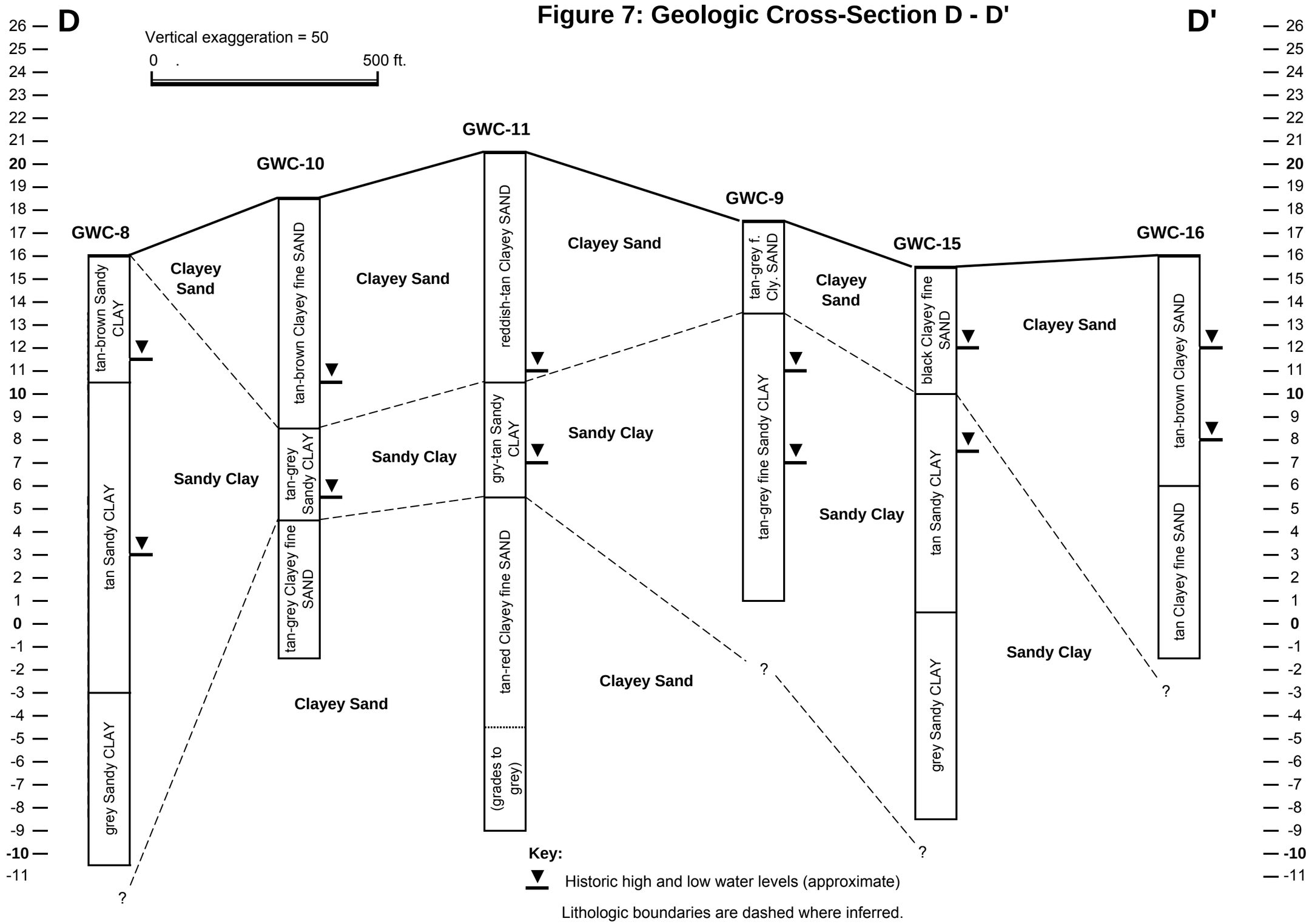


Figure 7: Geologic Cross-Section D - D'



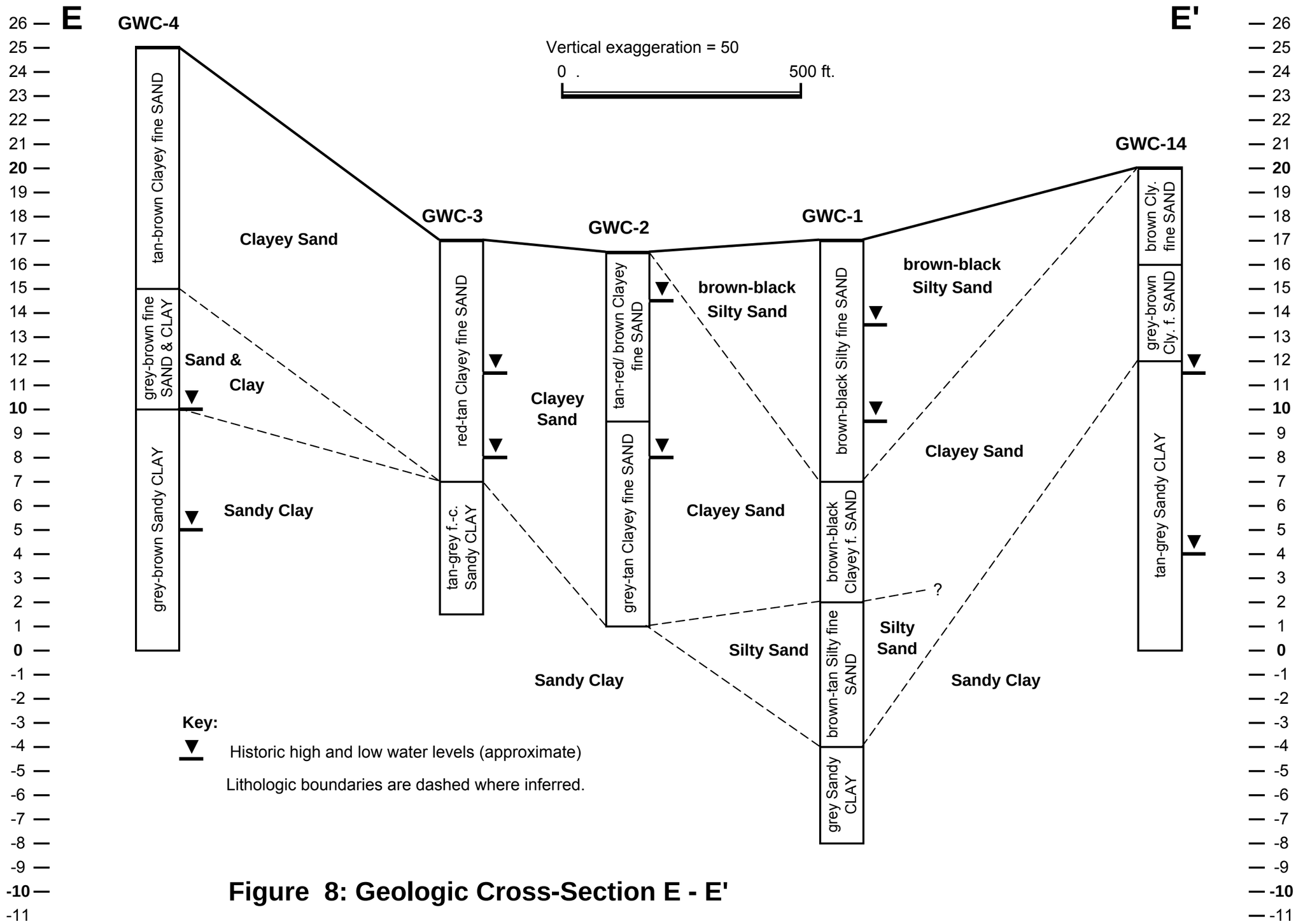


Figure 8: Geologic Cross-Section E - E'

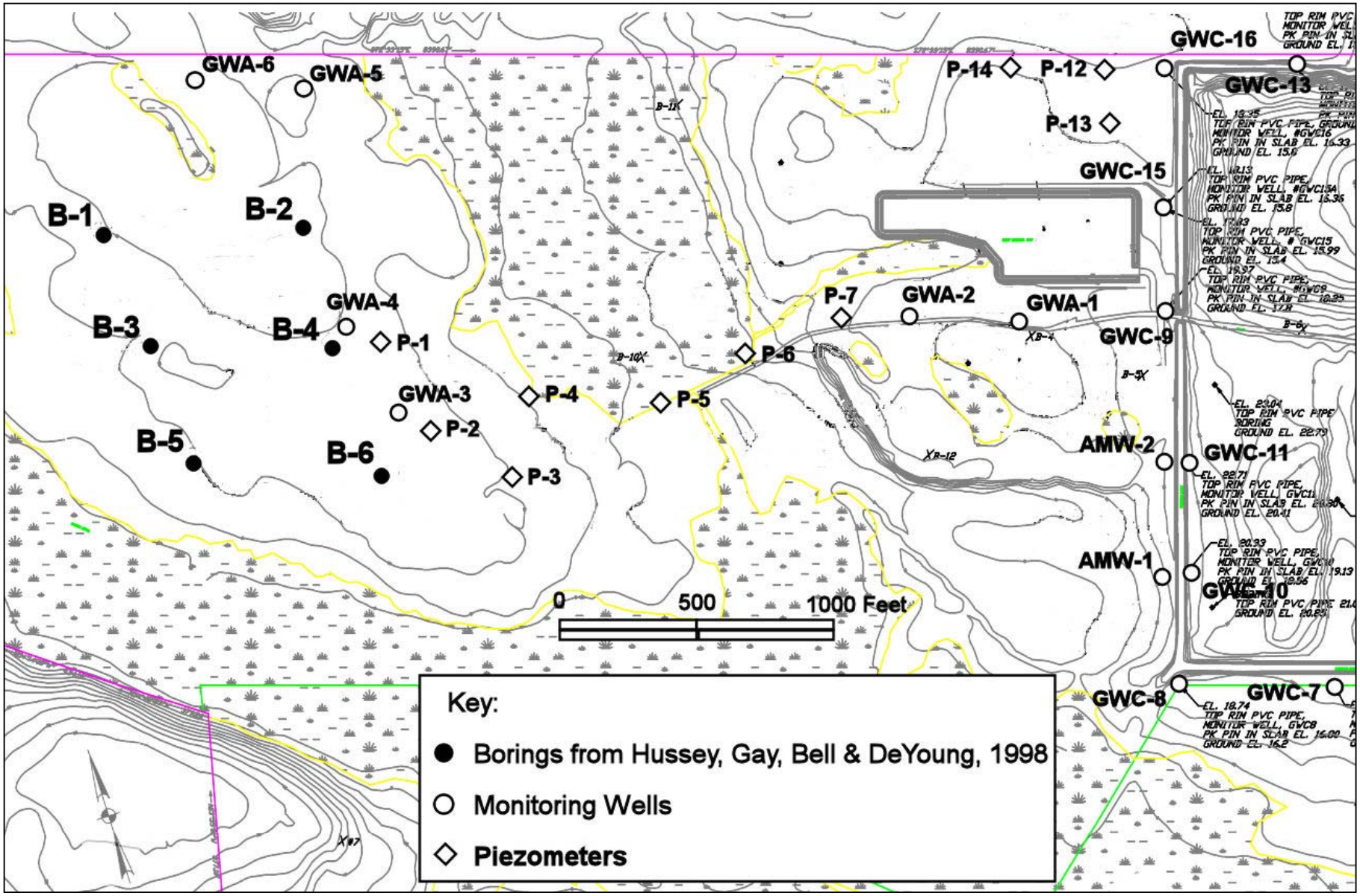


Figure 9: Location of Slug Tests and Borings West of the Landfill

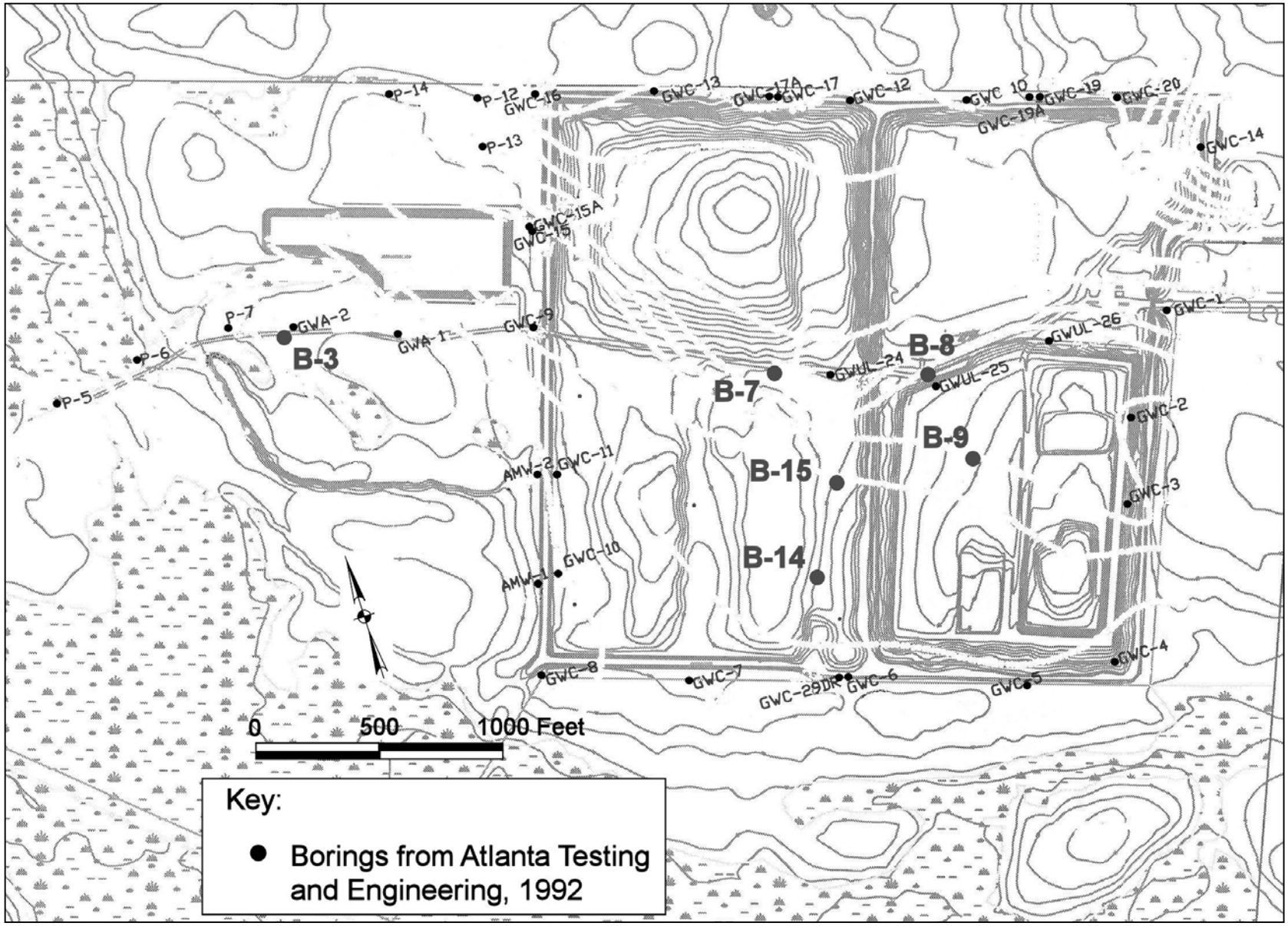


Figure 10: Location of Slug Tests Near the Landfill

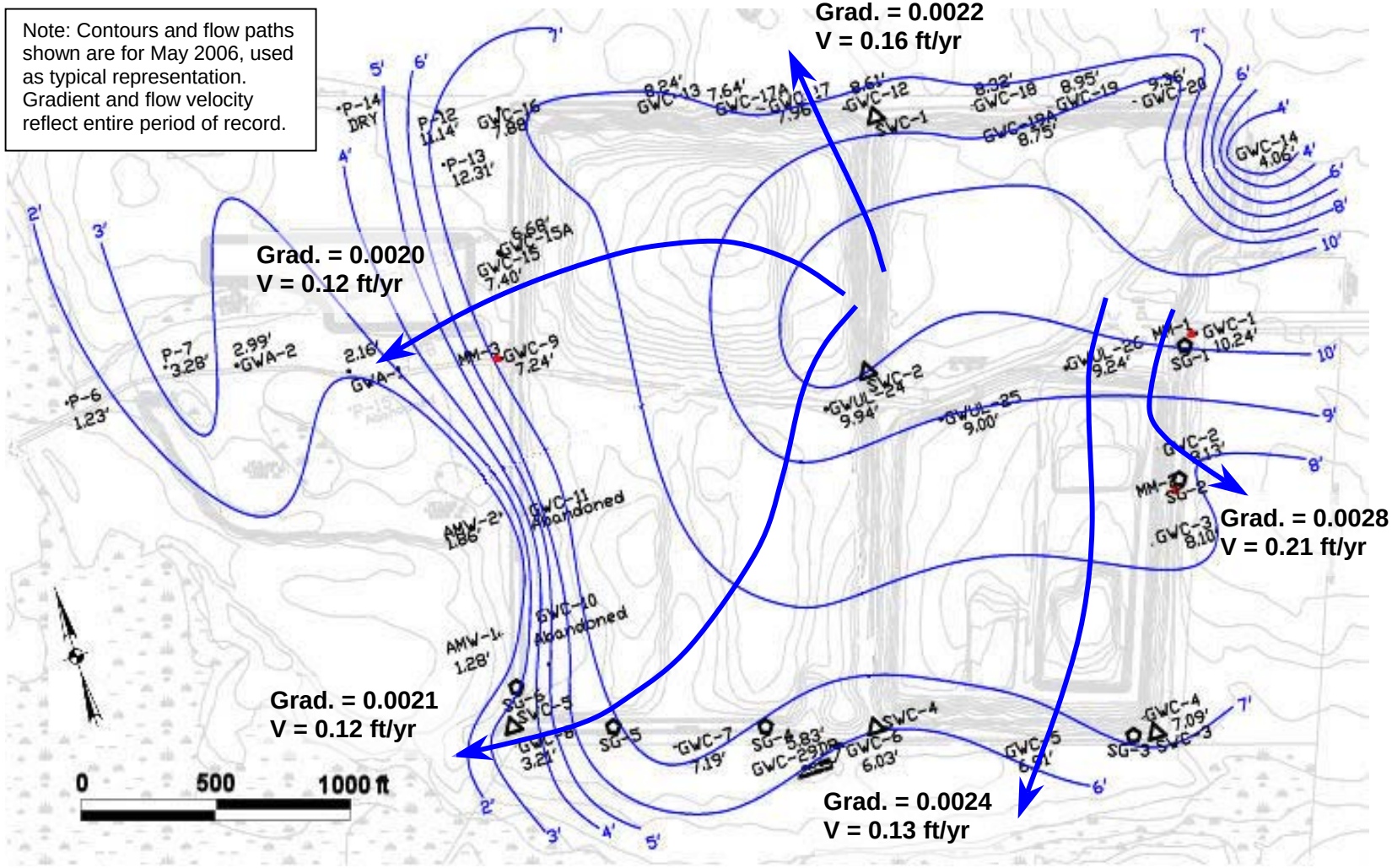


Figure 11: Average Groundwater Gradients and Flow Velocities

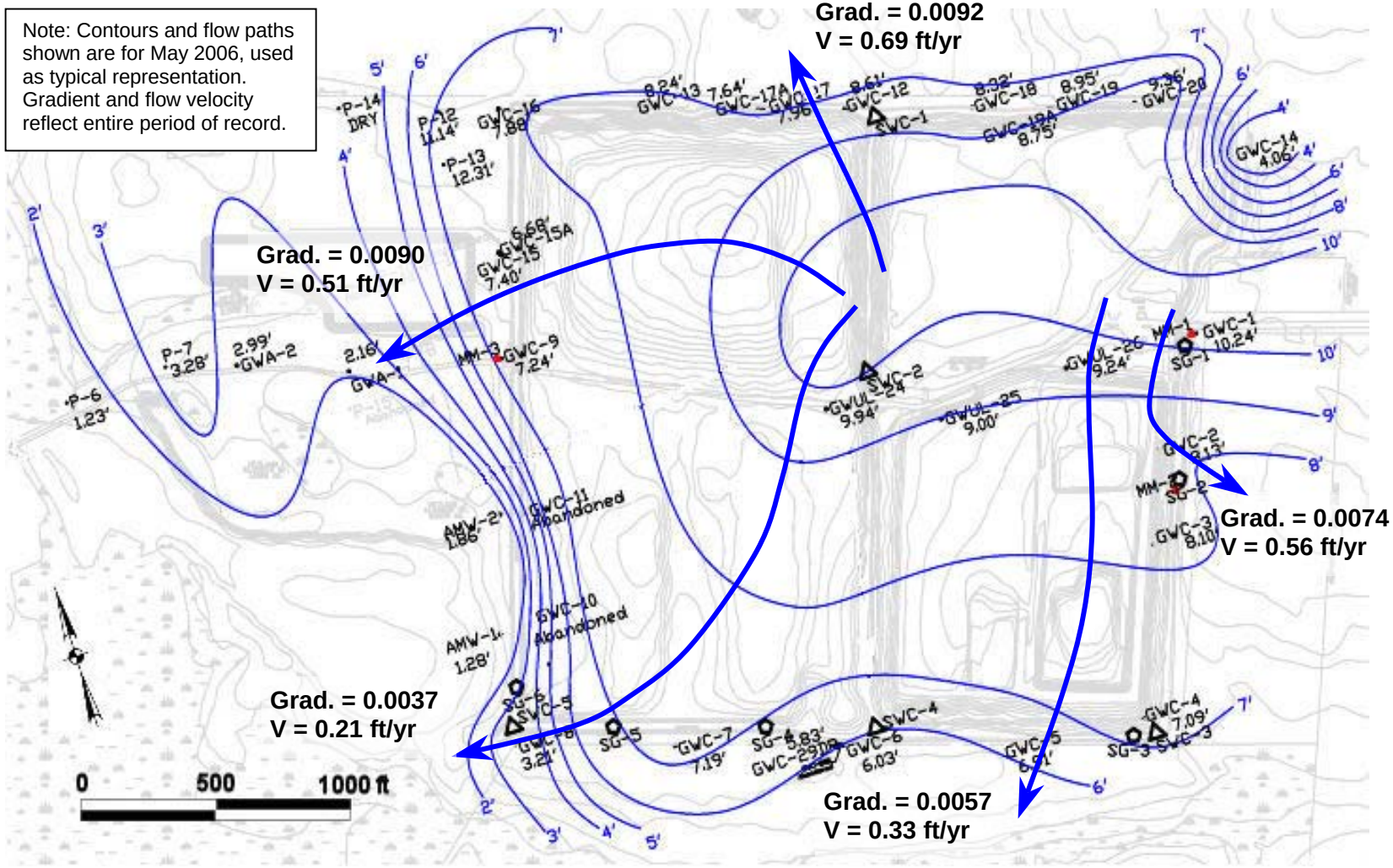


Figure 12: Maximum Groundwater Gradients and Flow Velocities

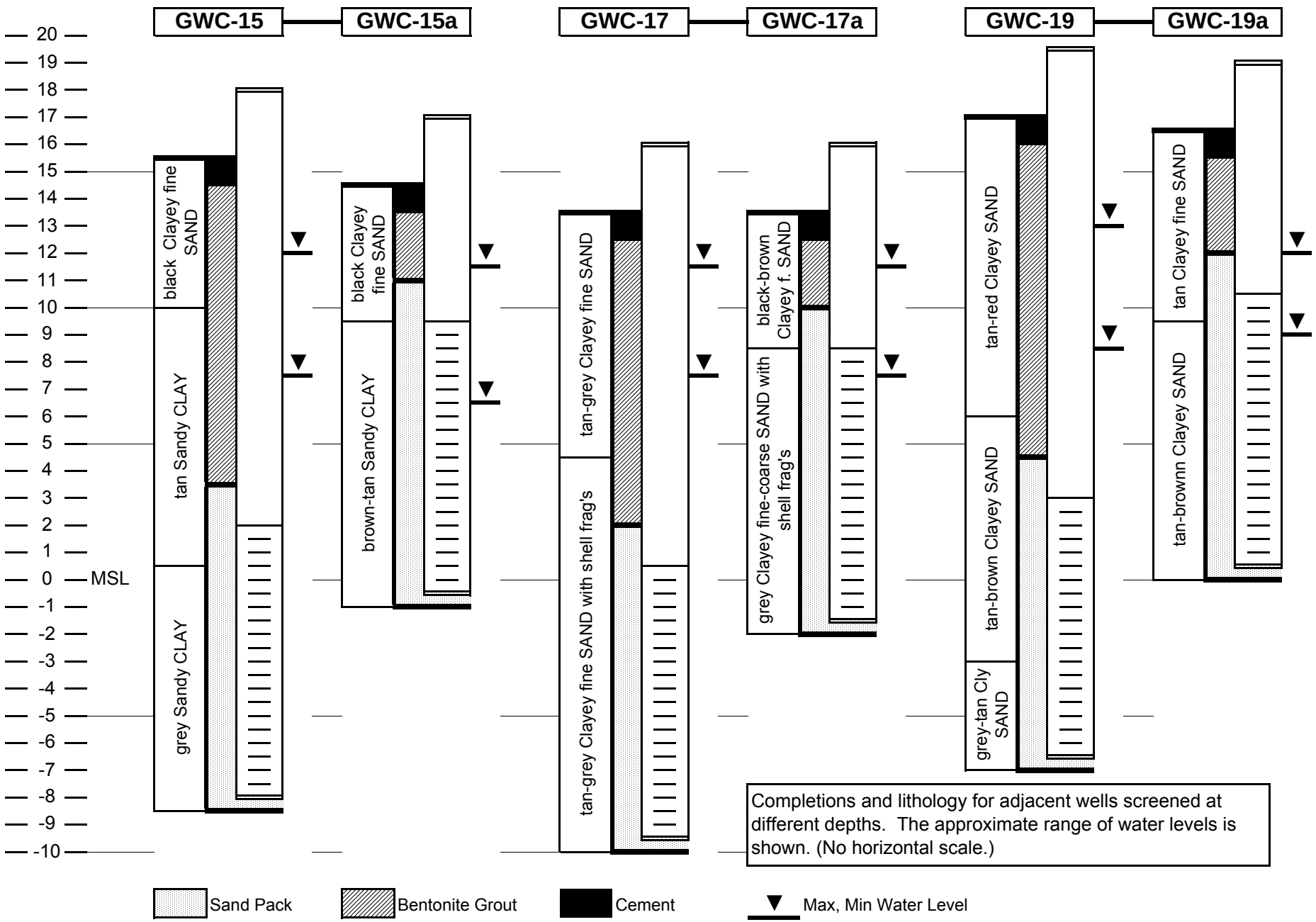


Figure 13: Diagrams for Monitoring Well Pairs

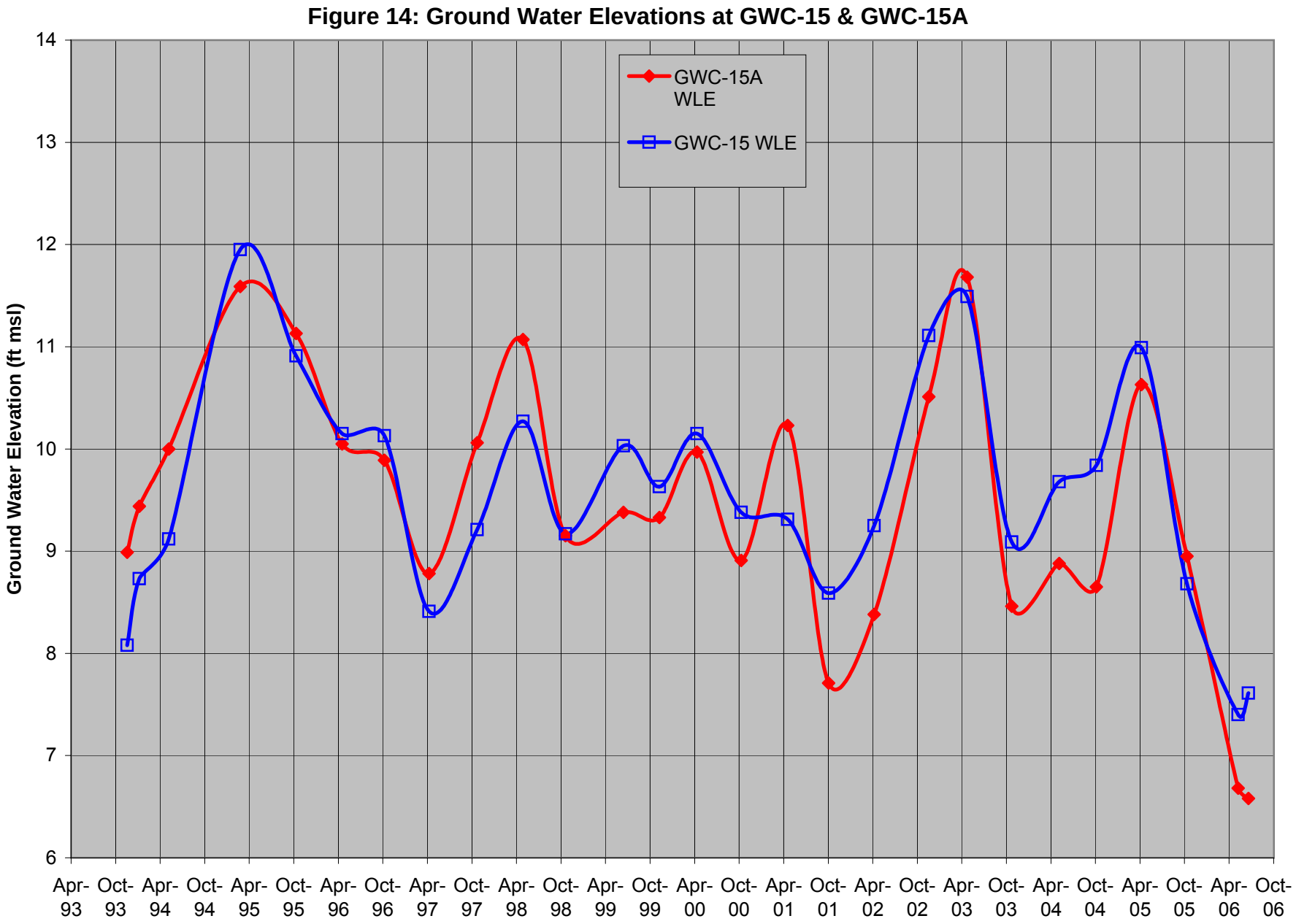


Figure 14: Ground Water Elevations at GWC-15 & GWC-15A
Ground Water Elevation (ft msl)
14
13
12
11
10
9
8
7
6
GWC-15A WLE
GWC-15 WLE
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

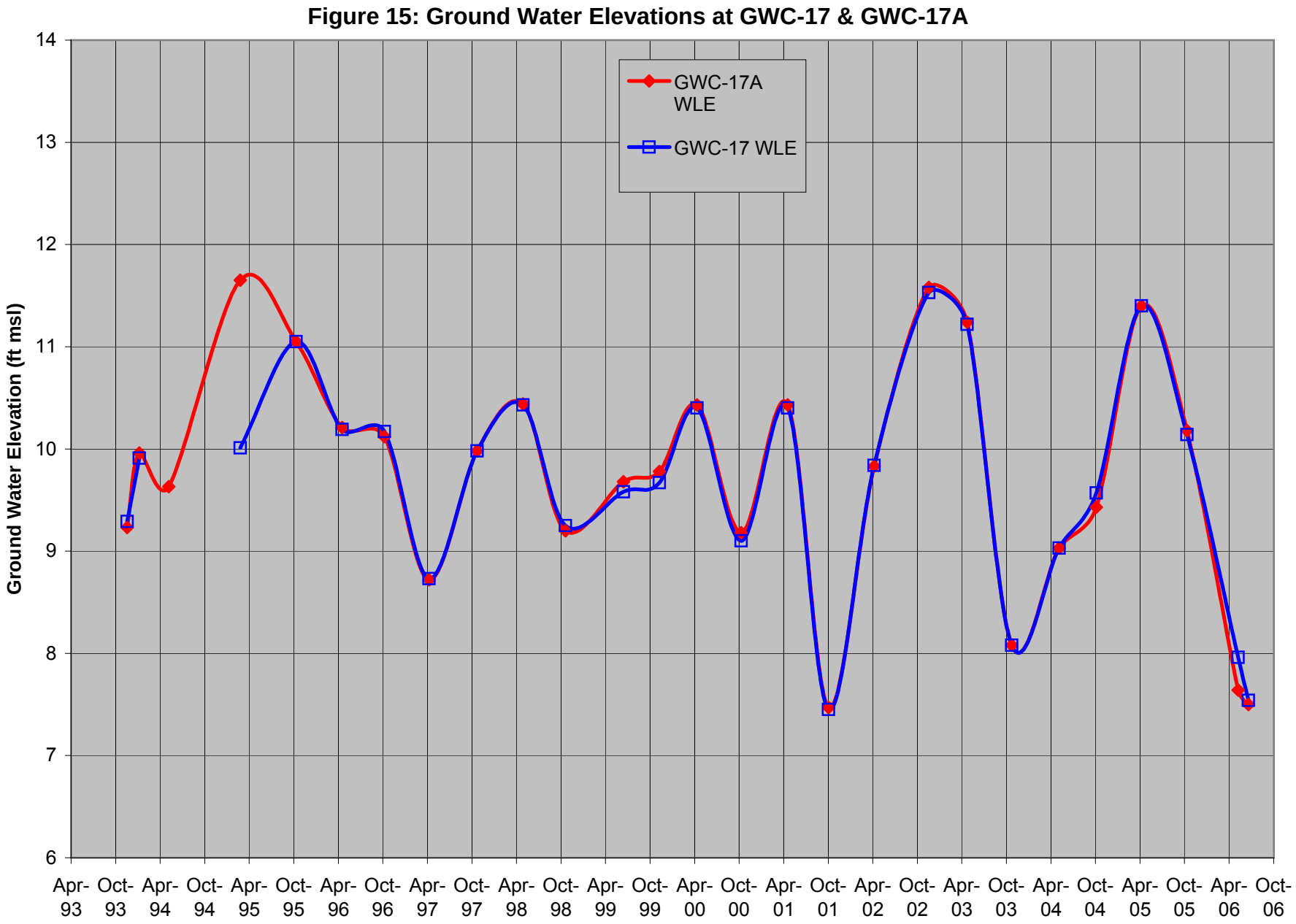


Figure 15: Ground Water Elevations at GWC-17 & GWC-17A
Ground Water Elevation (ft msl)
14
13
12
11
10
9
8
7
6
GWC-17A WLE
GWC-17 WLE
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

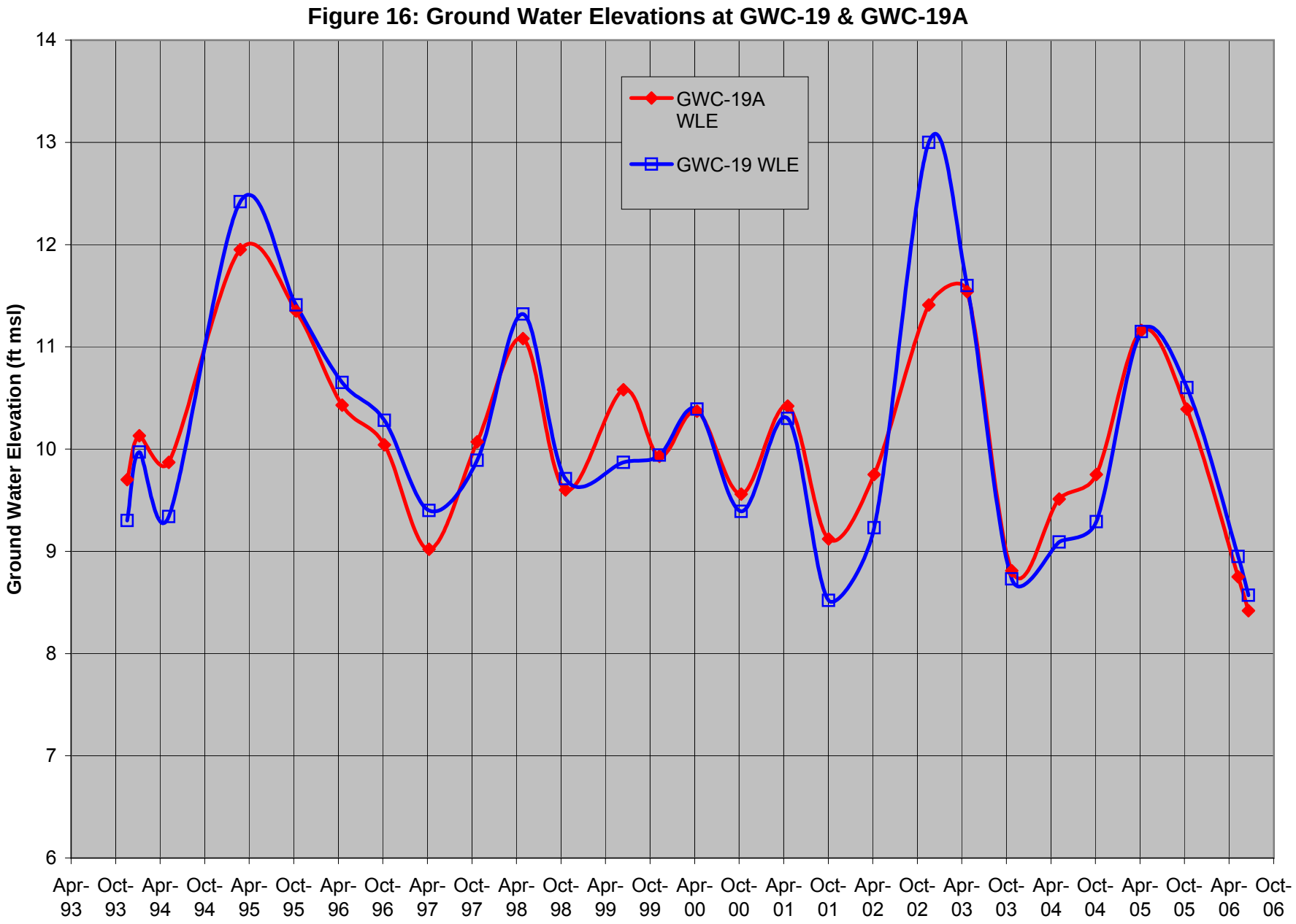


Figure 16: Ground Water Elevations at GWC-19 & GWC-19A
Ground Water Elevation (ft msl)
14
13
12
11
10
9
8
7
6
GWC-19A WLE
GWC-19 WLE
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

Figure 17: Water Levels in Ditch and Nearby Wells, East Side of Landfill

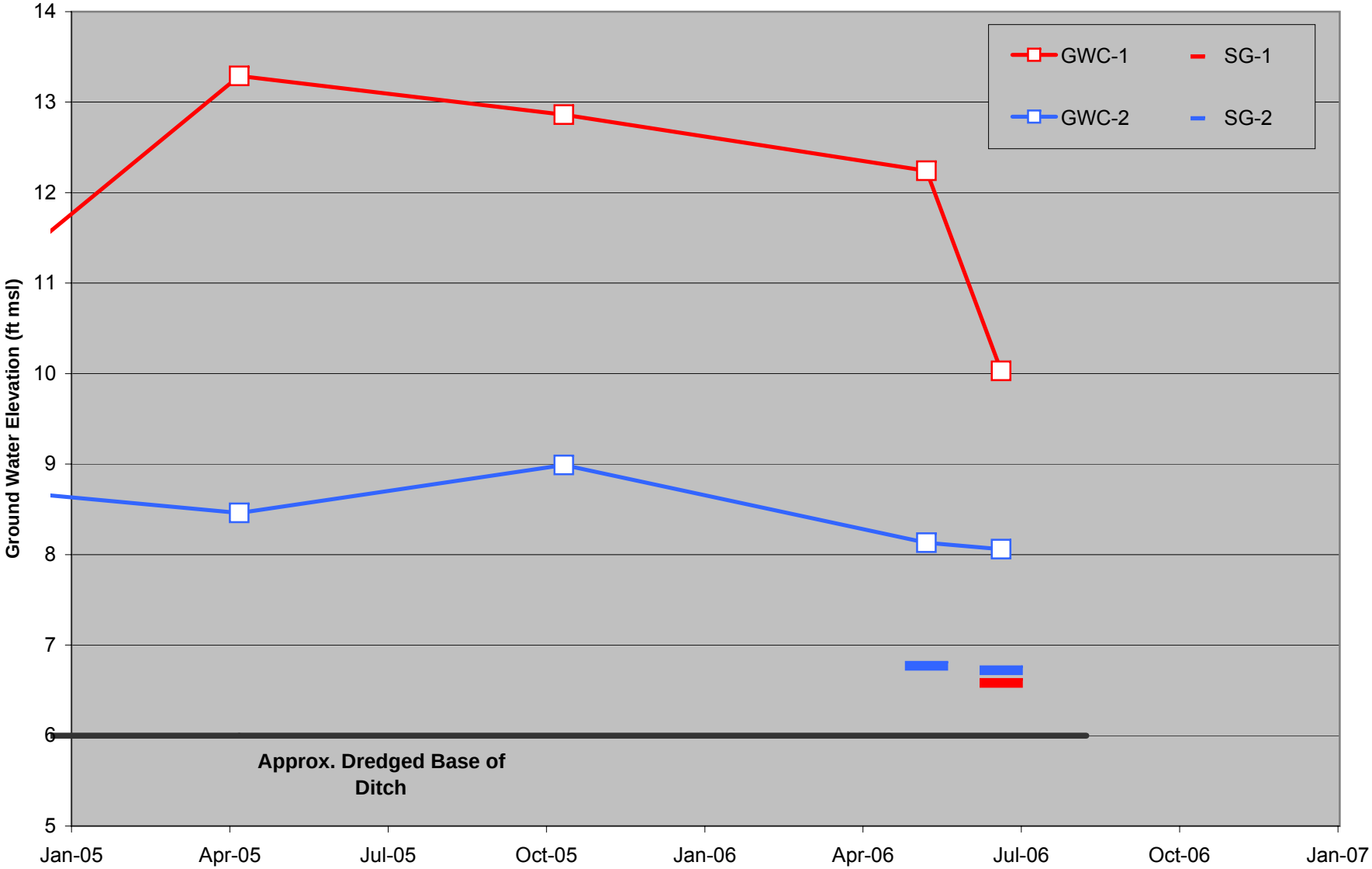


Figure 18: Water Levels in Ditch and Nearby Wells, South Side of Landfill

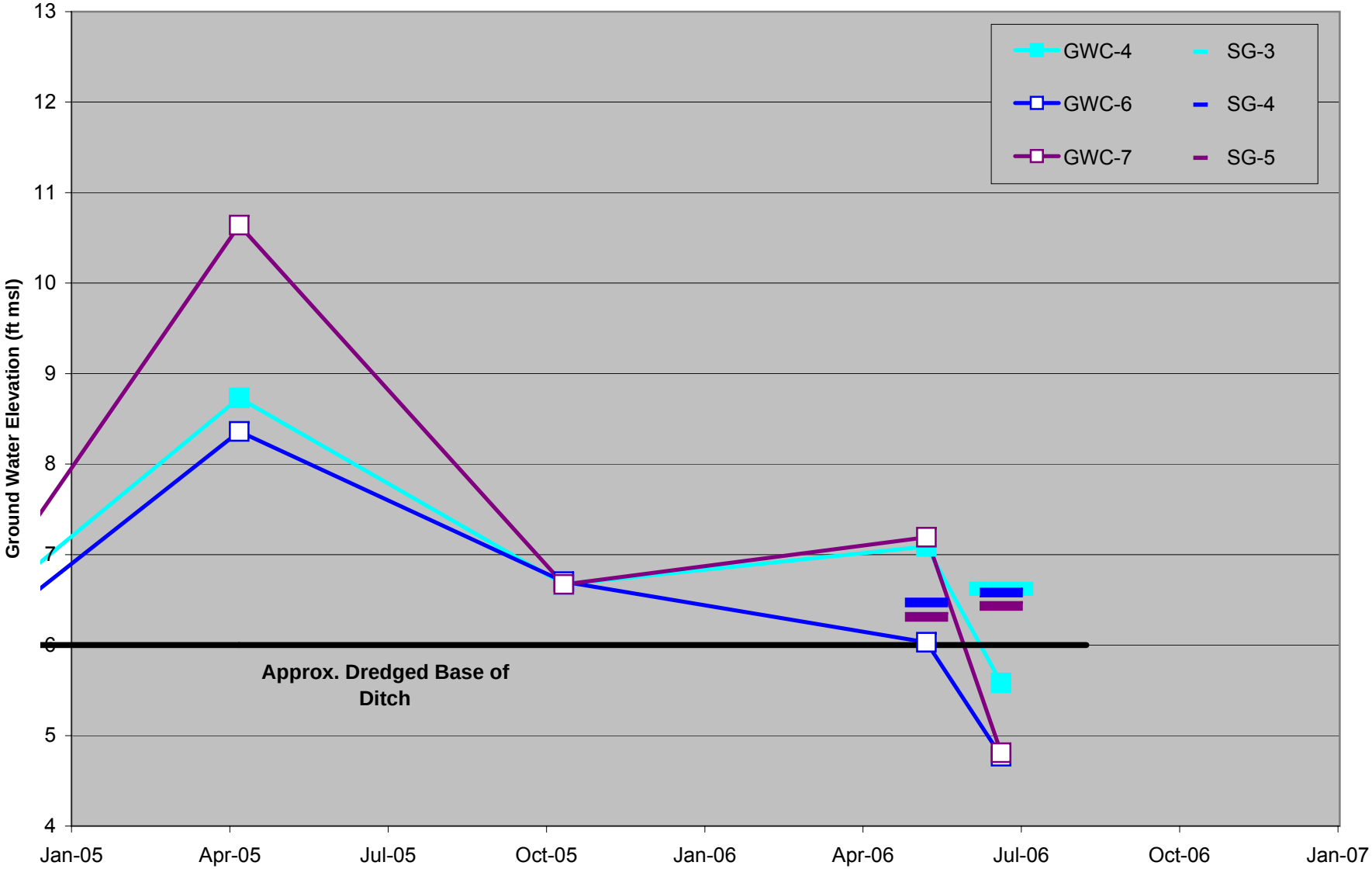


Figure 19: Water Levels in Ditch and Nearby Wells, Northern Portion of Landfill

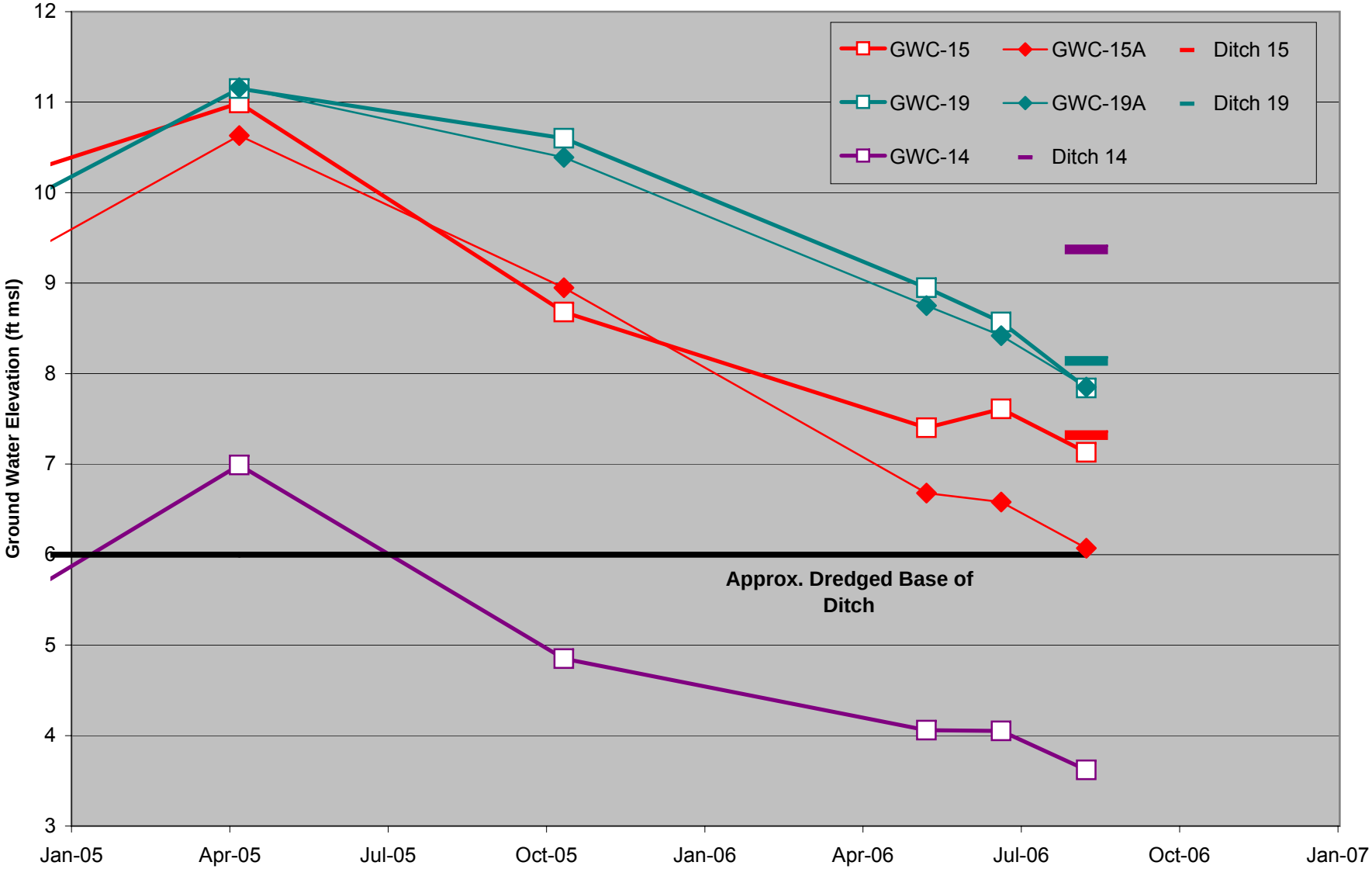


Figure 20: Ground Water Elevations on East Side of Landfill

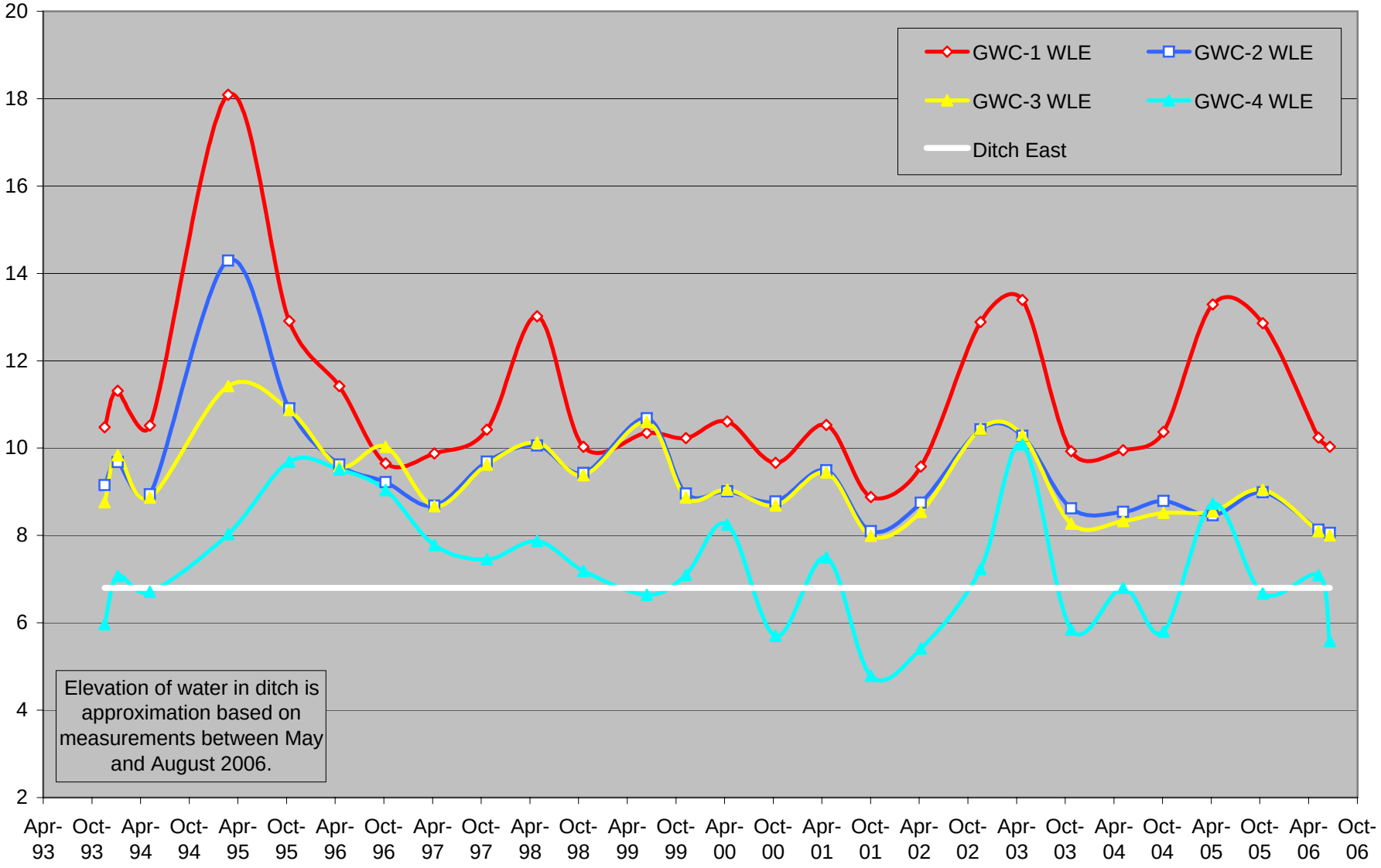


Figure 21: Ground Water Elevations on South Side of Landfill

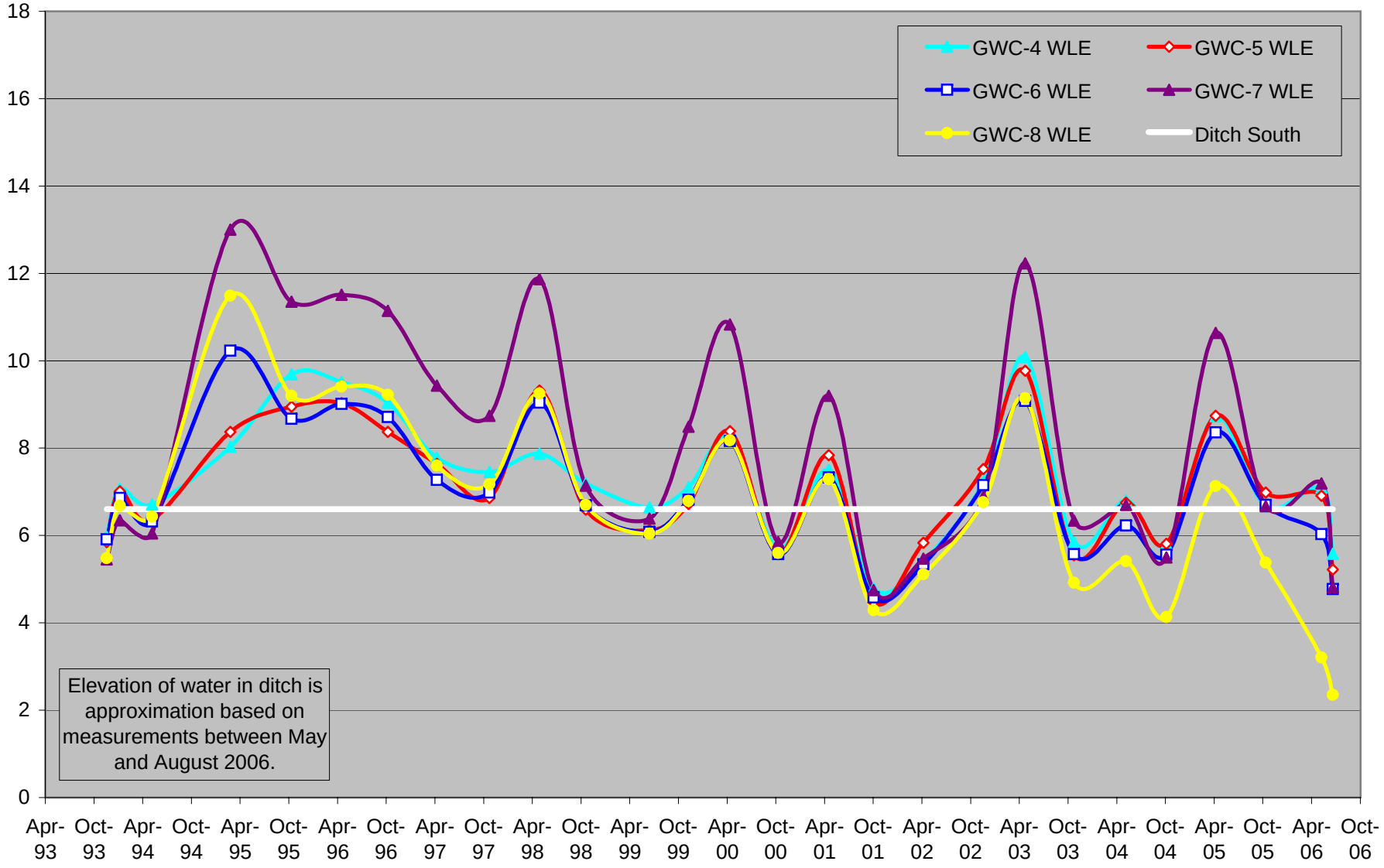
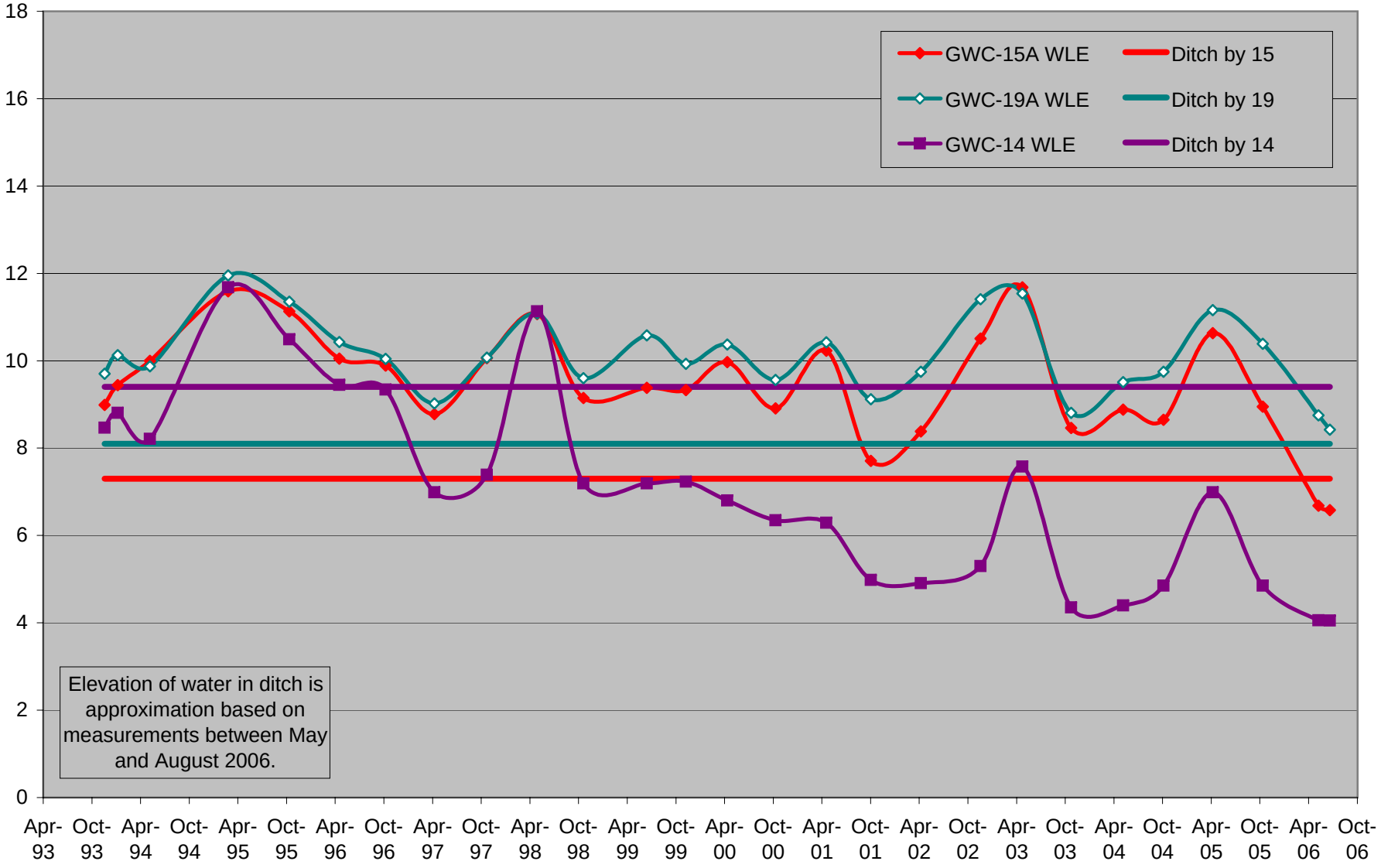


Figure 22: Ground Water and Ditch Elevations on Northern Portion of Landfill



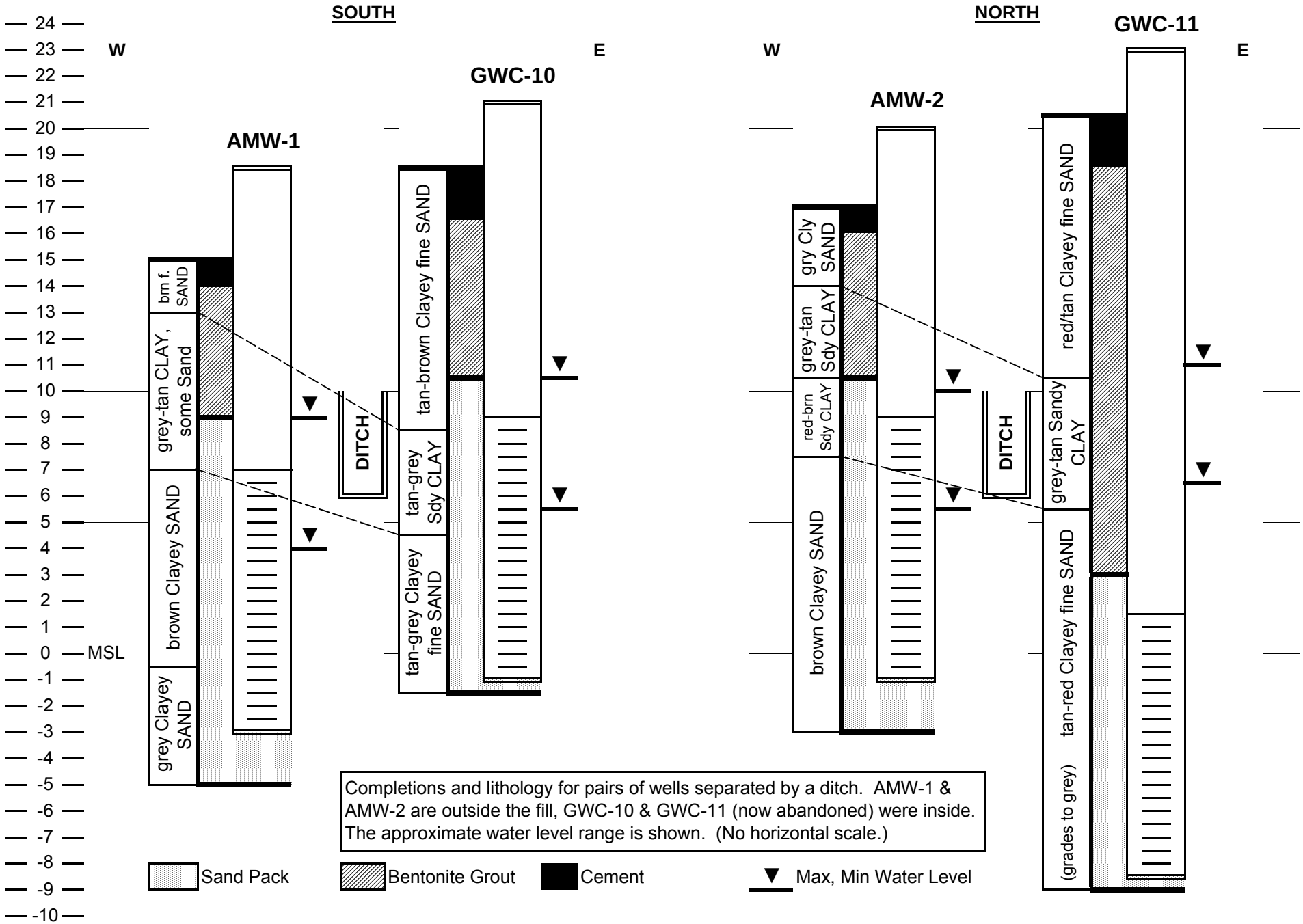
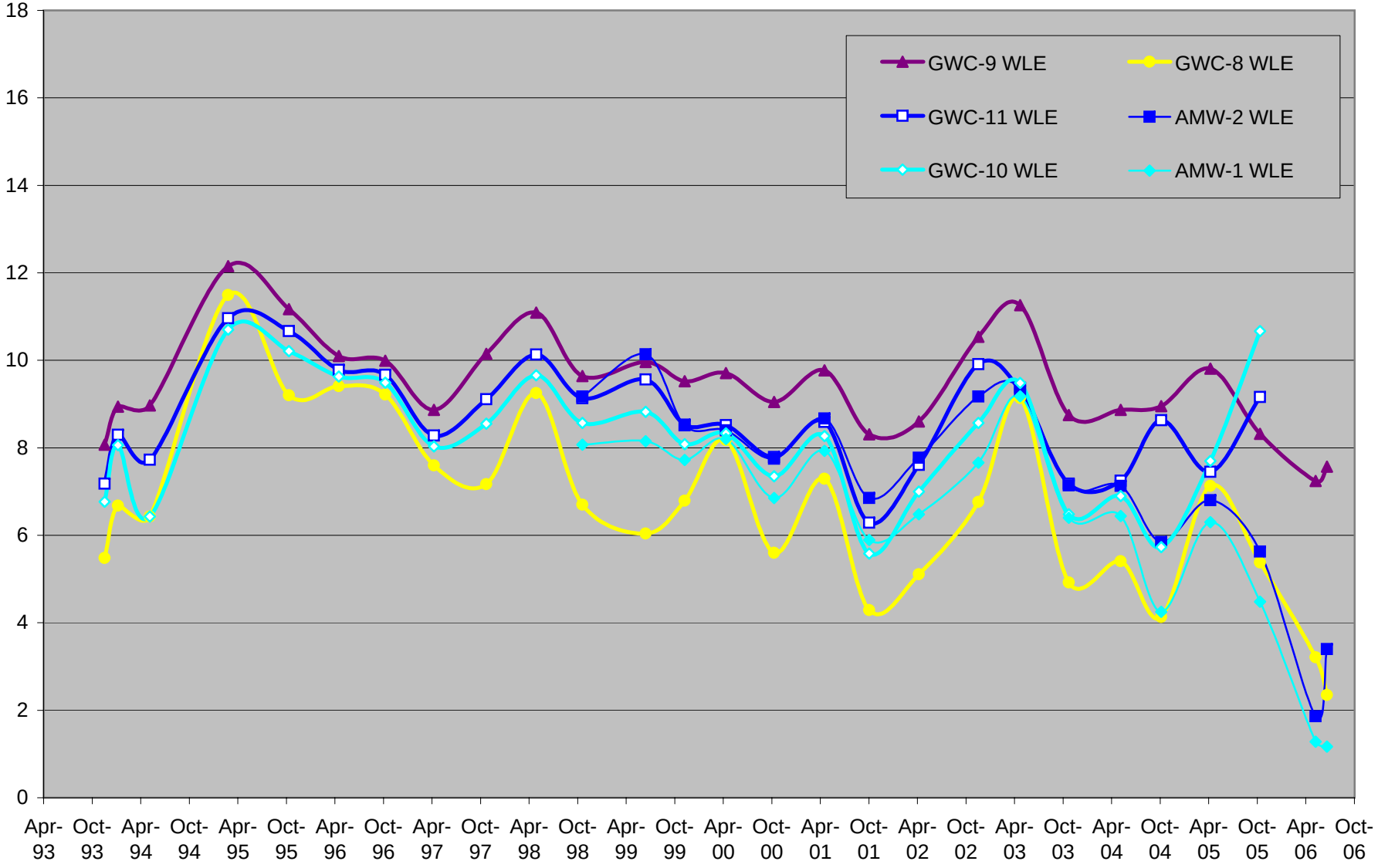


Figure 23: Diagrams for Monitoring Wells on the West Side of the Fill

Figure 24: Ground Water Elevations on West Side of SW Quadrant



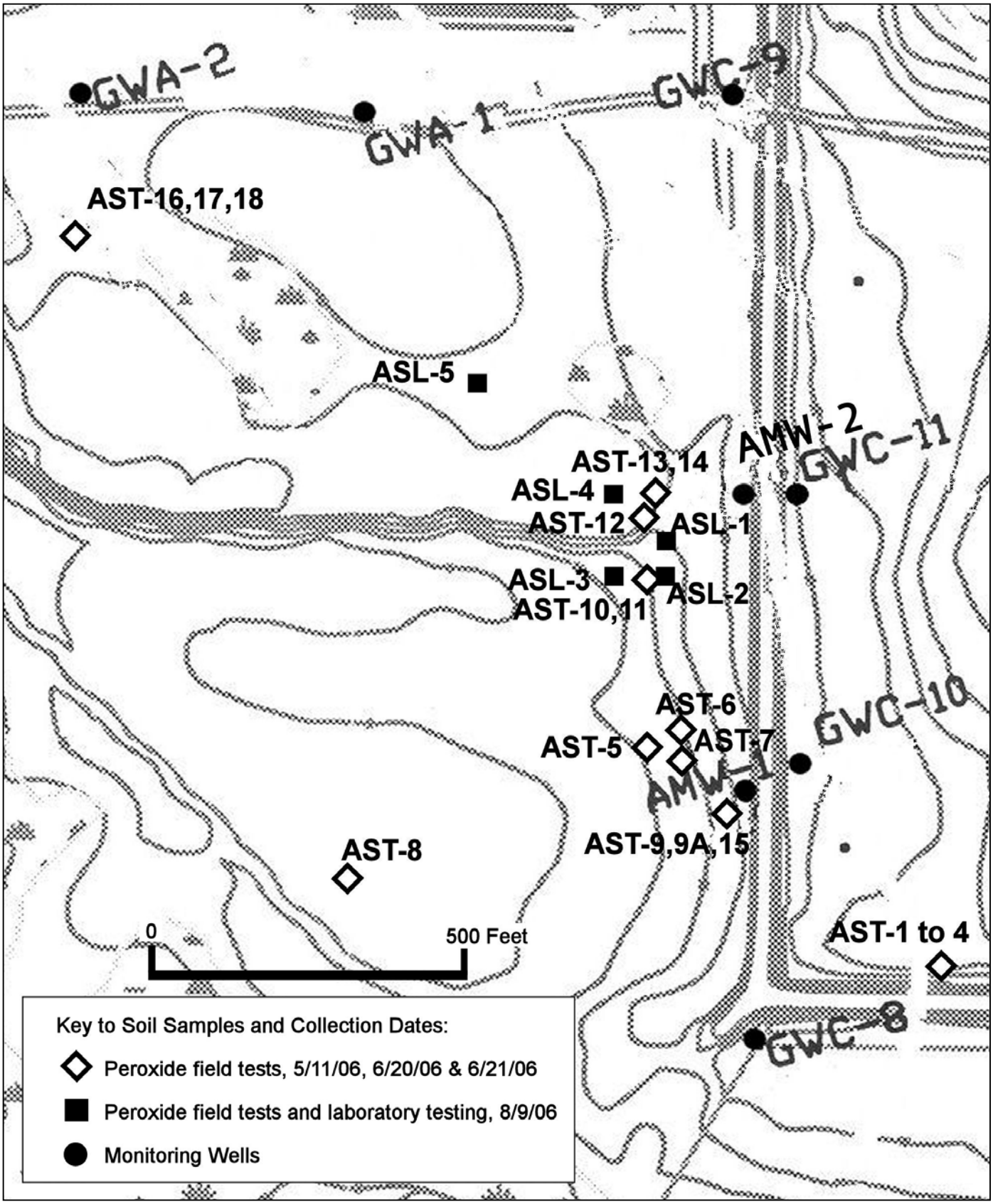


Figure 25: Sample Locations for Acid Sulfate Soil Tests

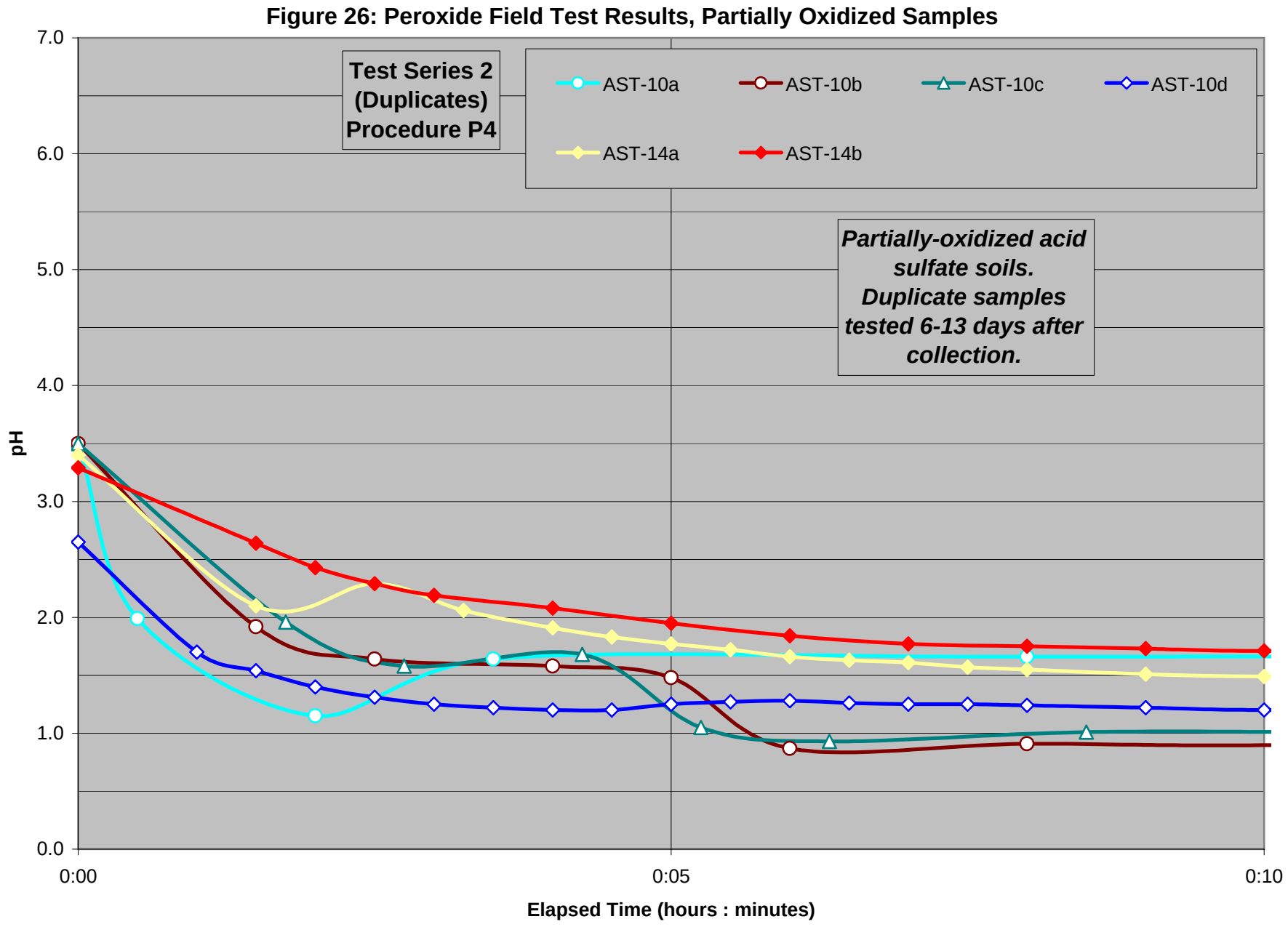


Figure 26: Peroxide Field Test Results, Partially Oxidized Samples
Test Series 2 (Duplicates) Procedure P4
AST-10a
AST-10b
AST-10c
AST-10d
AST-14a
AST-14b
Partially-oxidized acid sulfate soils. Duplicate samples tested 6-13 days after collection.
pH
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0:00
0:05
0:10
Elapsed Time (hours : minutes)

Figure 27: Peroxide Field Test Results, Potential Acid Sulfate Soils

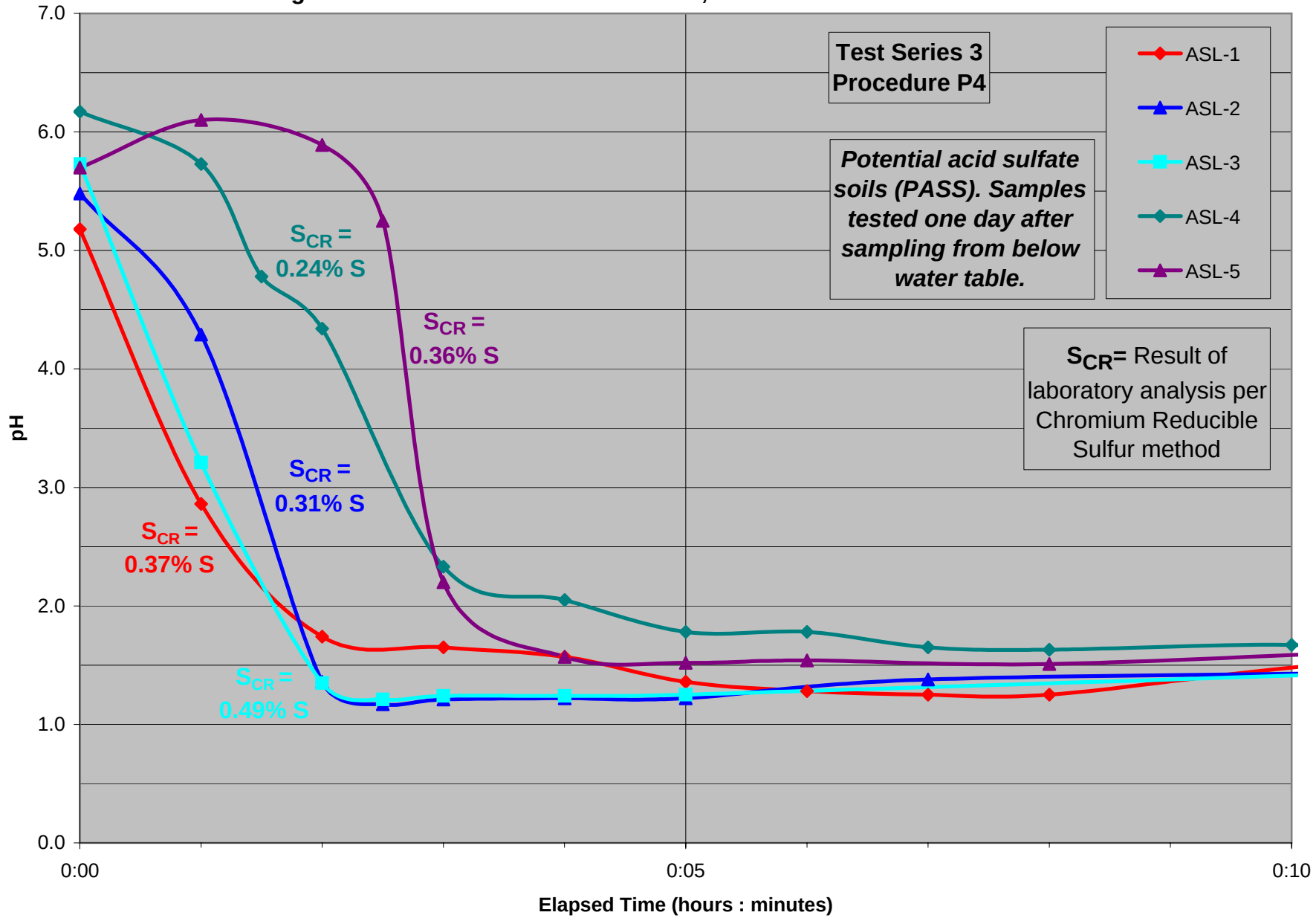


Figure 28: pH in GWC-11, AMW-2, SWC-5 and Leachate

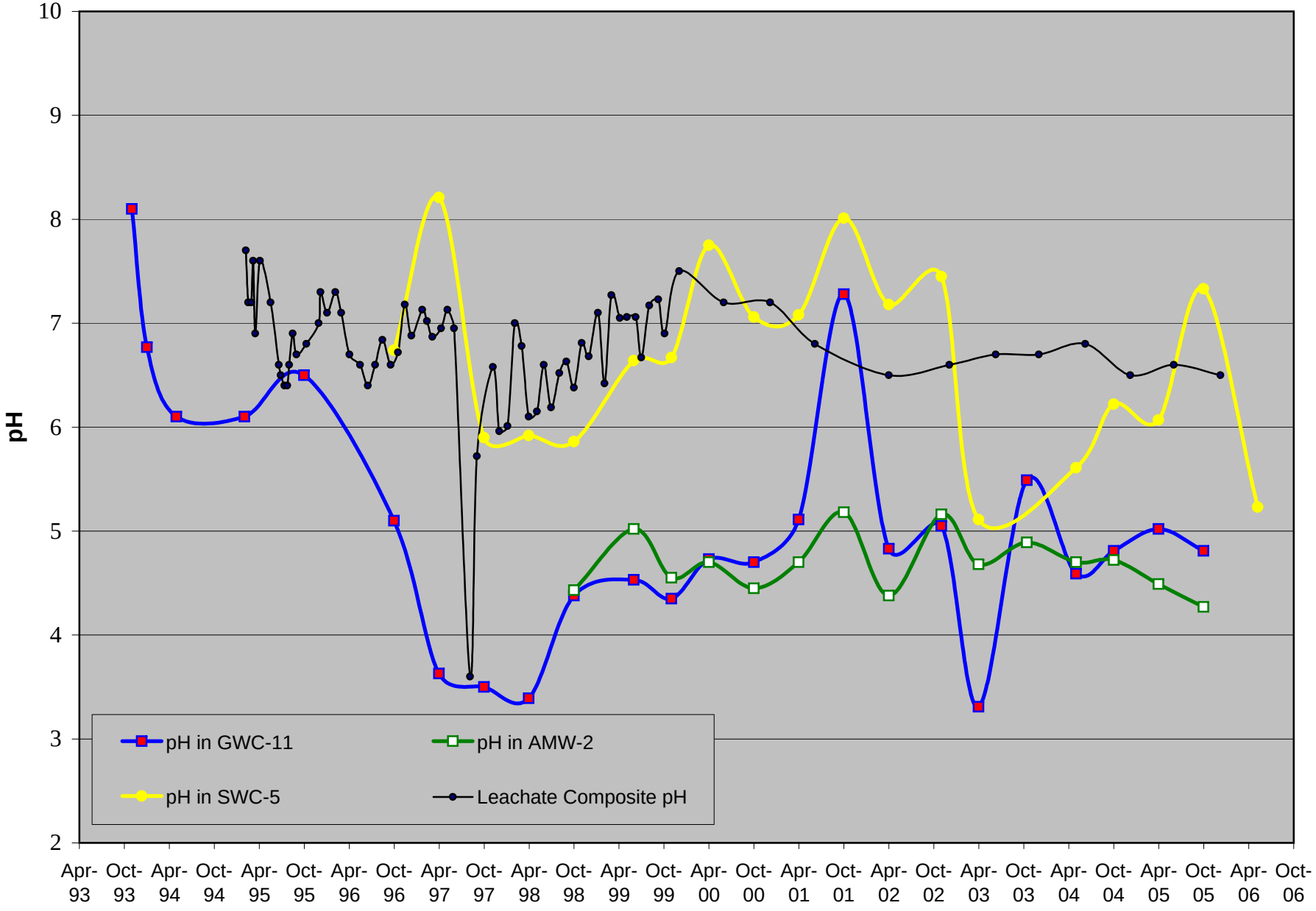


Figure 29: pH in GWC-2, GWC-5, SWC-3, SWC-4 and Leachate

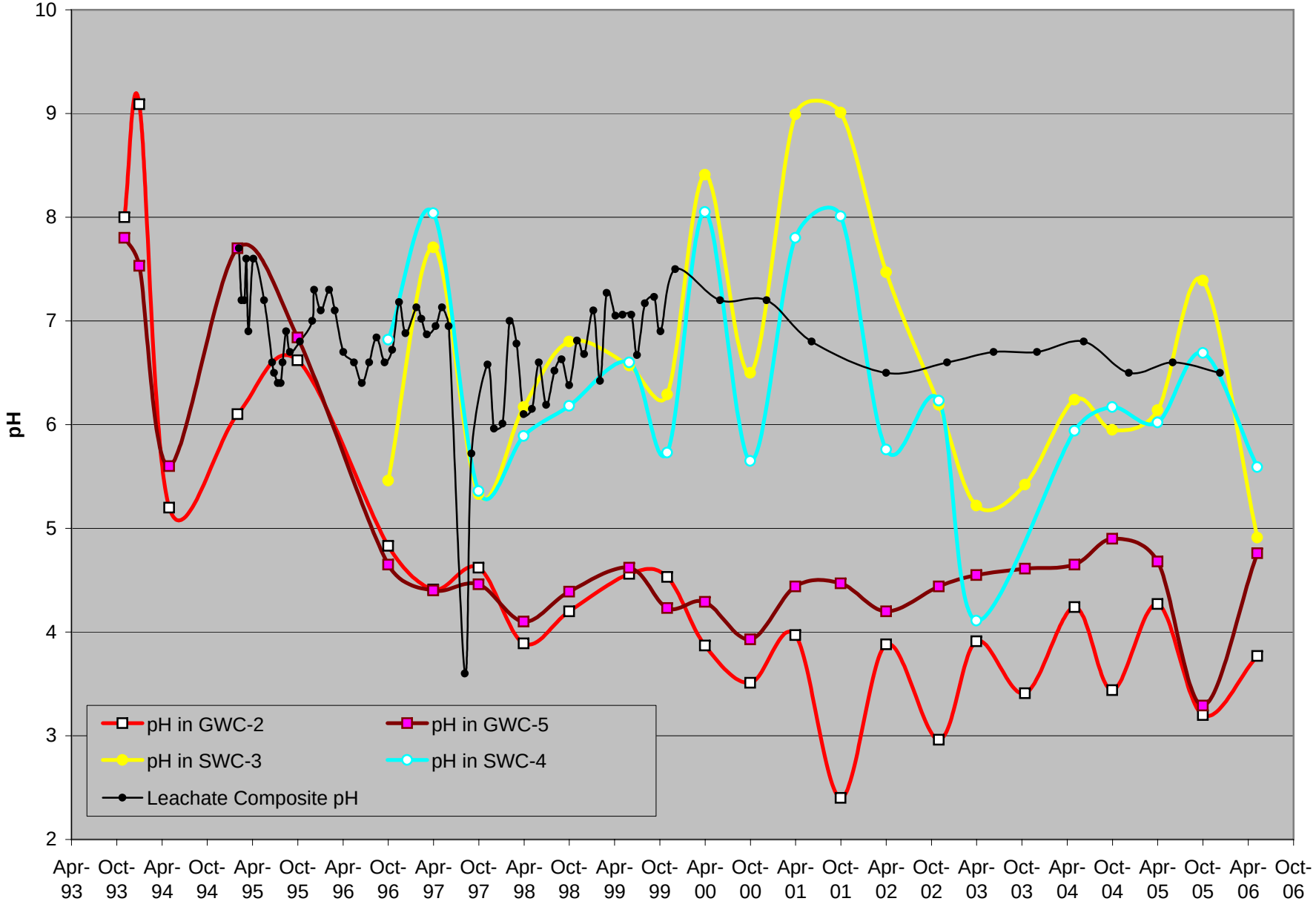
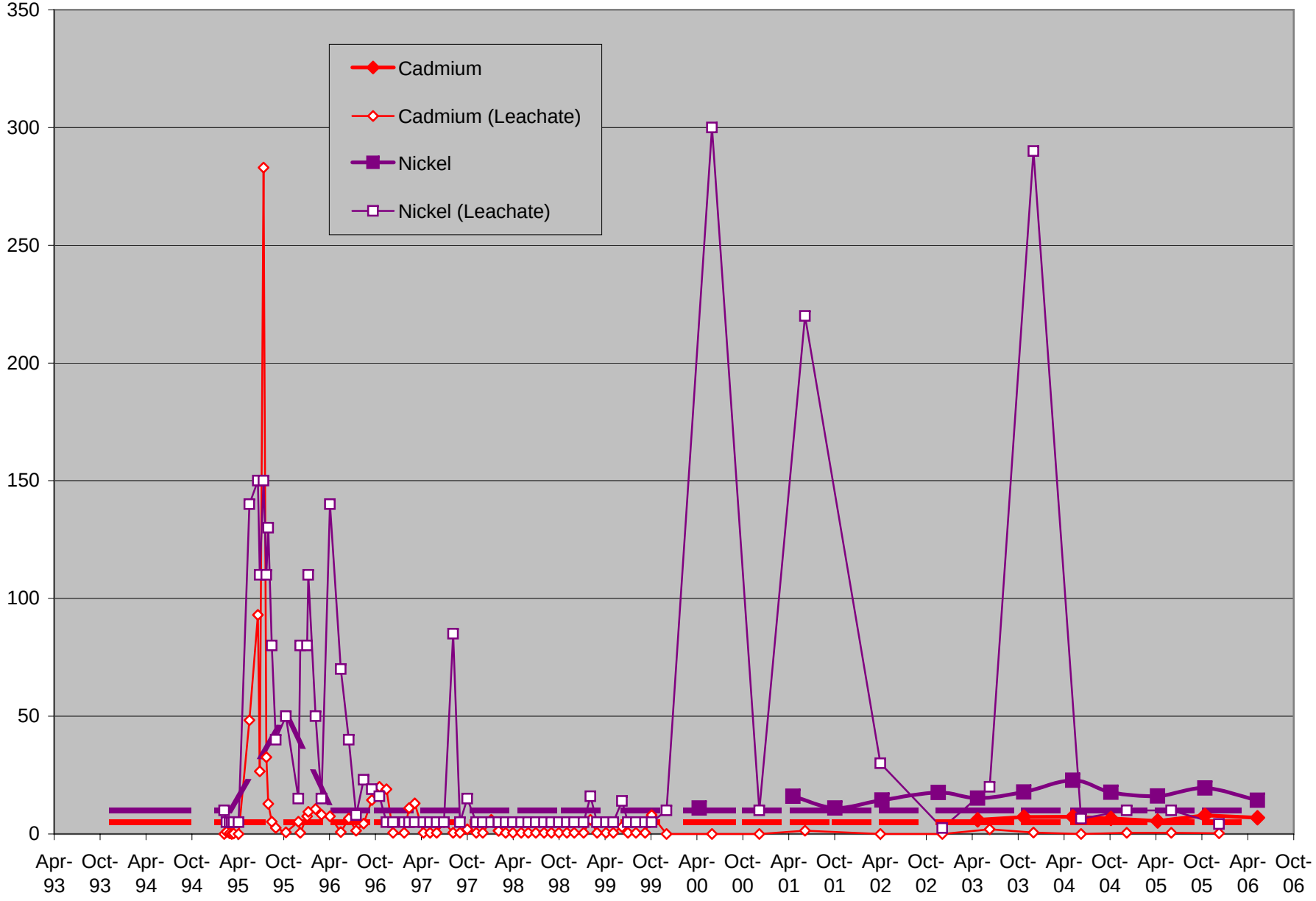


Figure 30: Metals in GWC-2 and Leachate



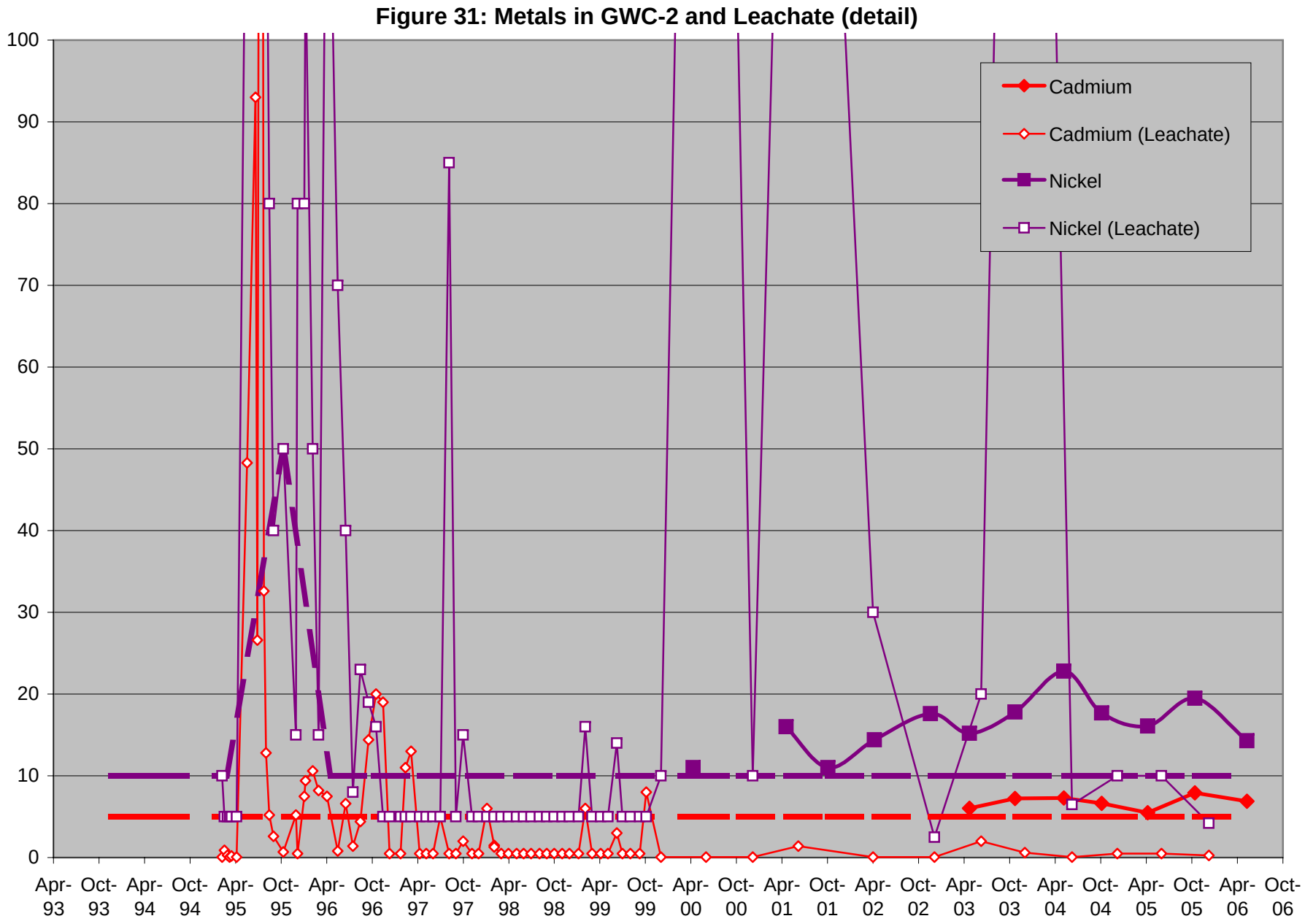


Figure 31: Metals in GWC-2 and Leachate (detail)
100
90
80
70
60
50
40
30
20
10
0
Cadmium
Cadmium (Leachate)
Nickel
Nickel (Leachate)
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

Figure 32: Long Term Precipitation Trend, Savannah

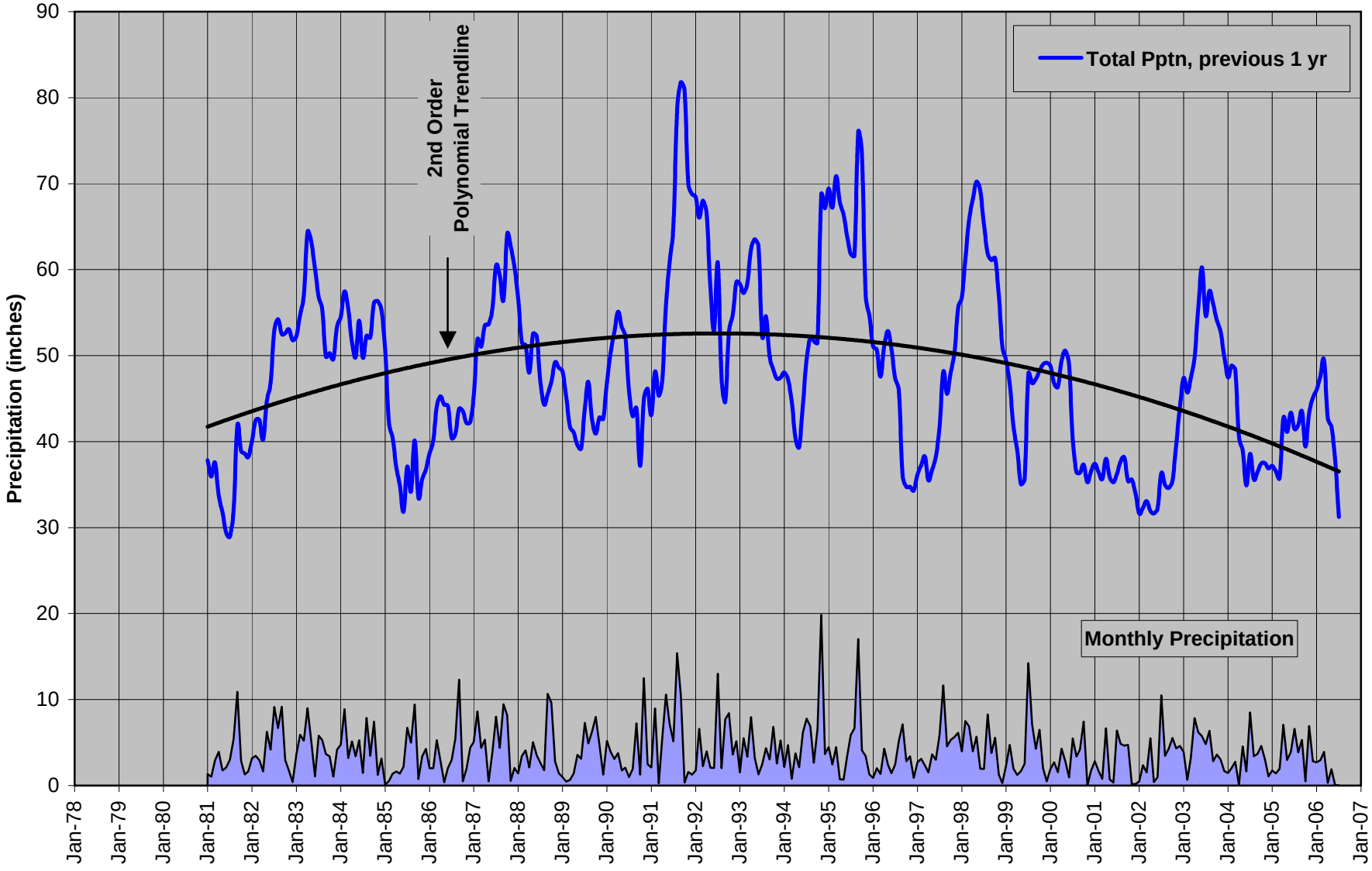


Figure 33: Precipitation Trend, Savannah

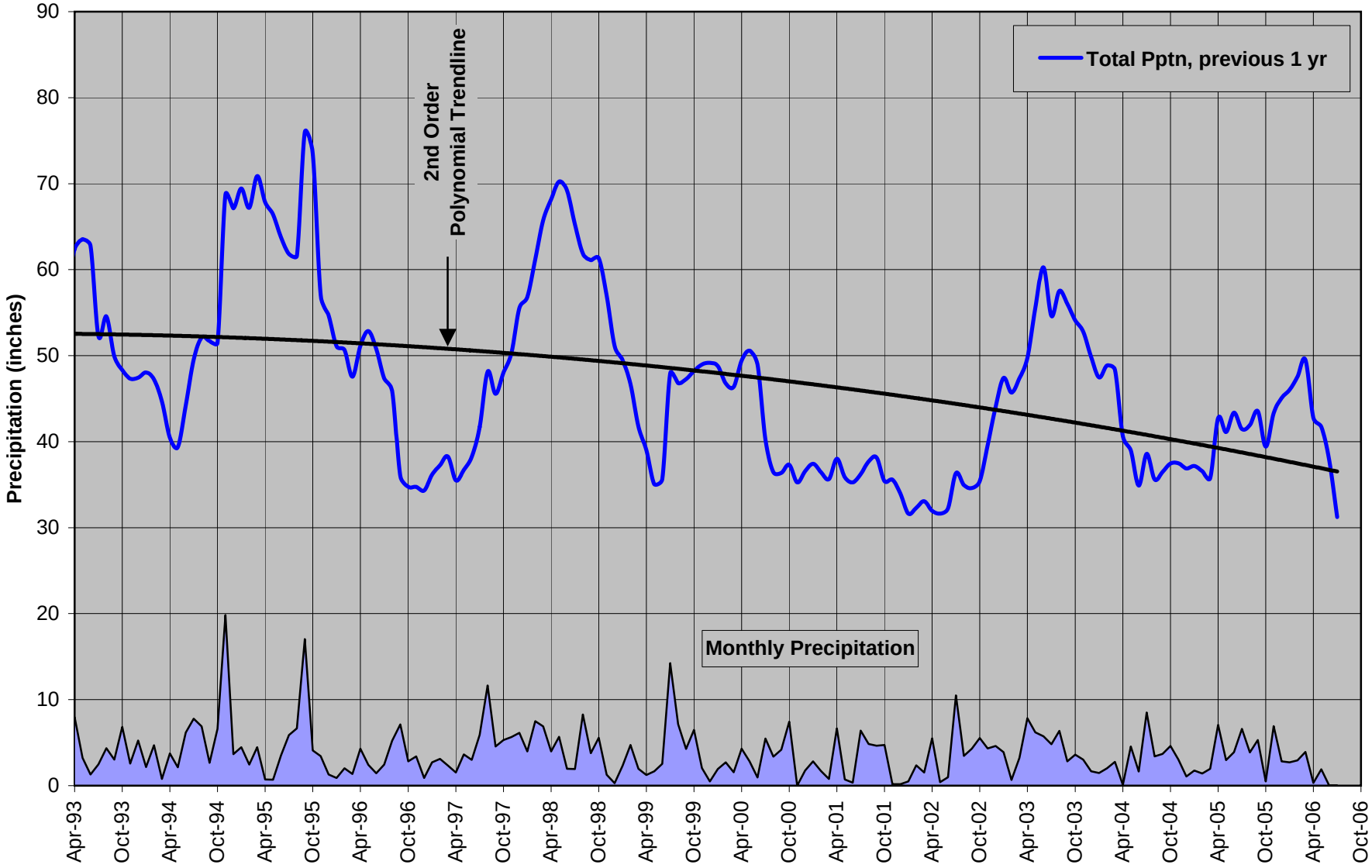


Figure 34: Ground Water Elevations at Wells of Concern

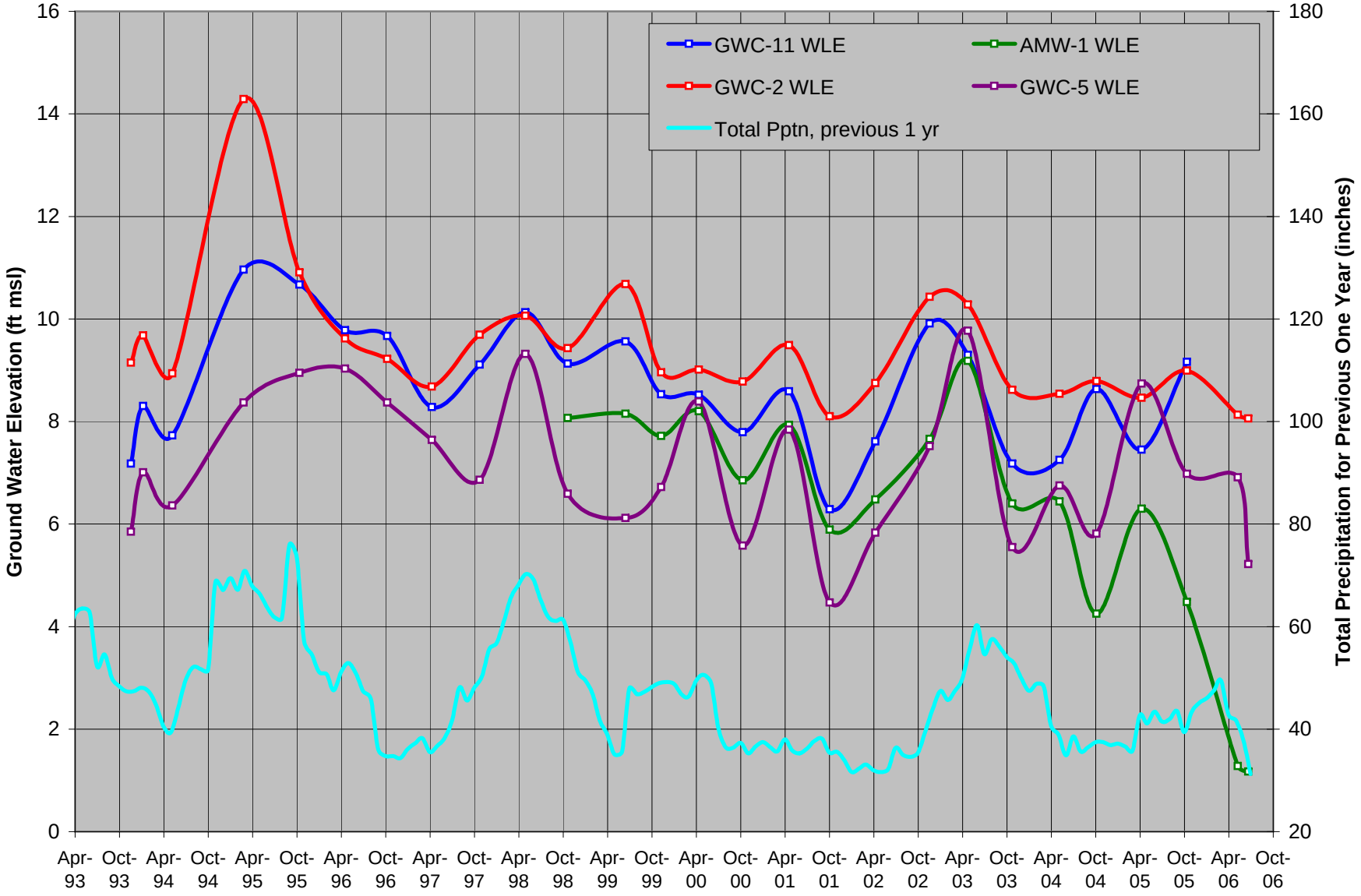


Figure 35: Ground Water pH Trends in Wells of Concern

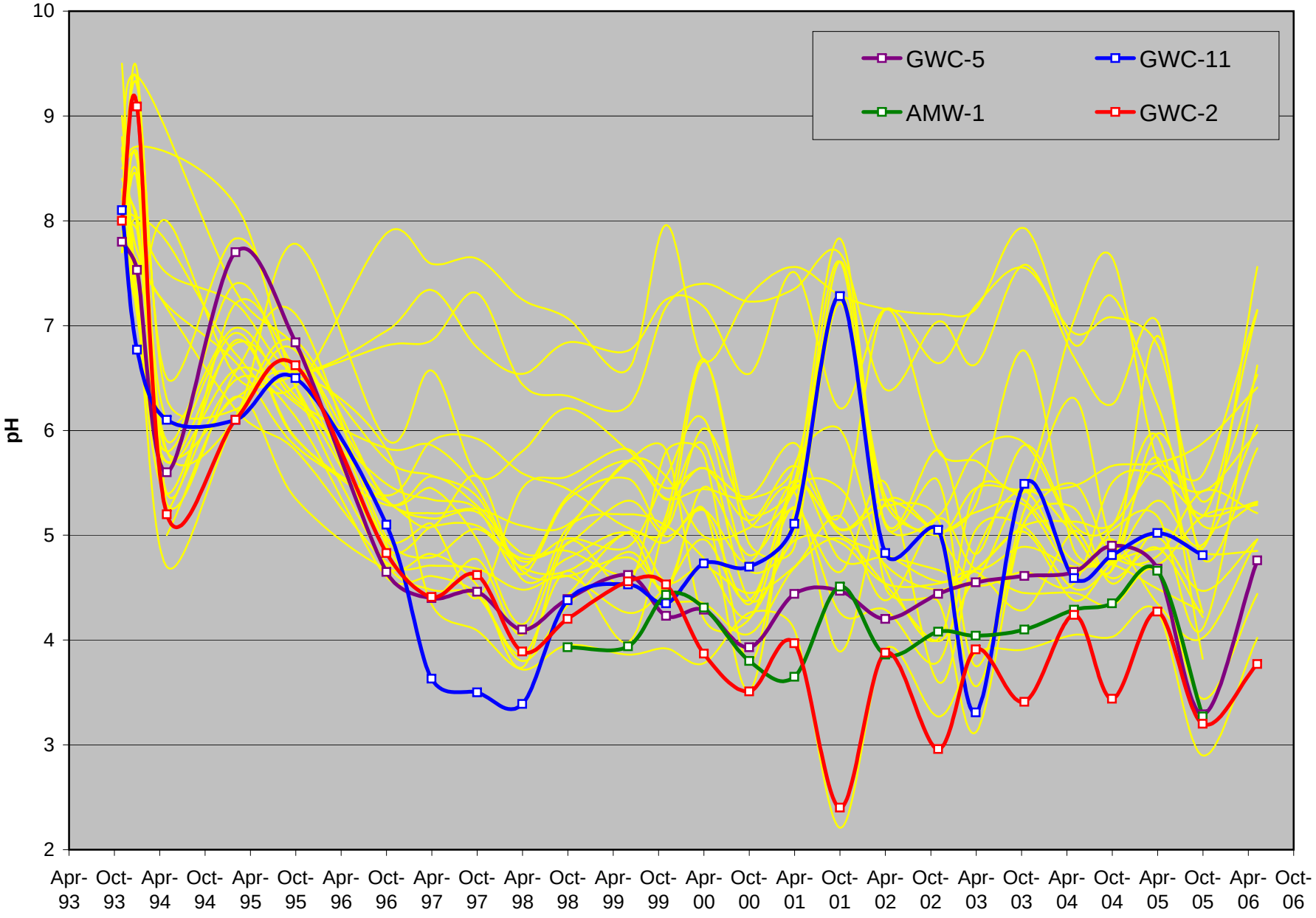
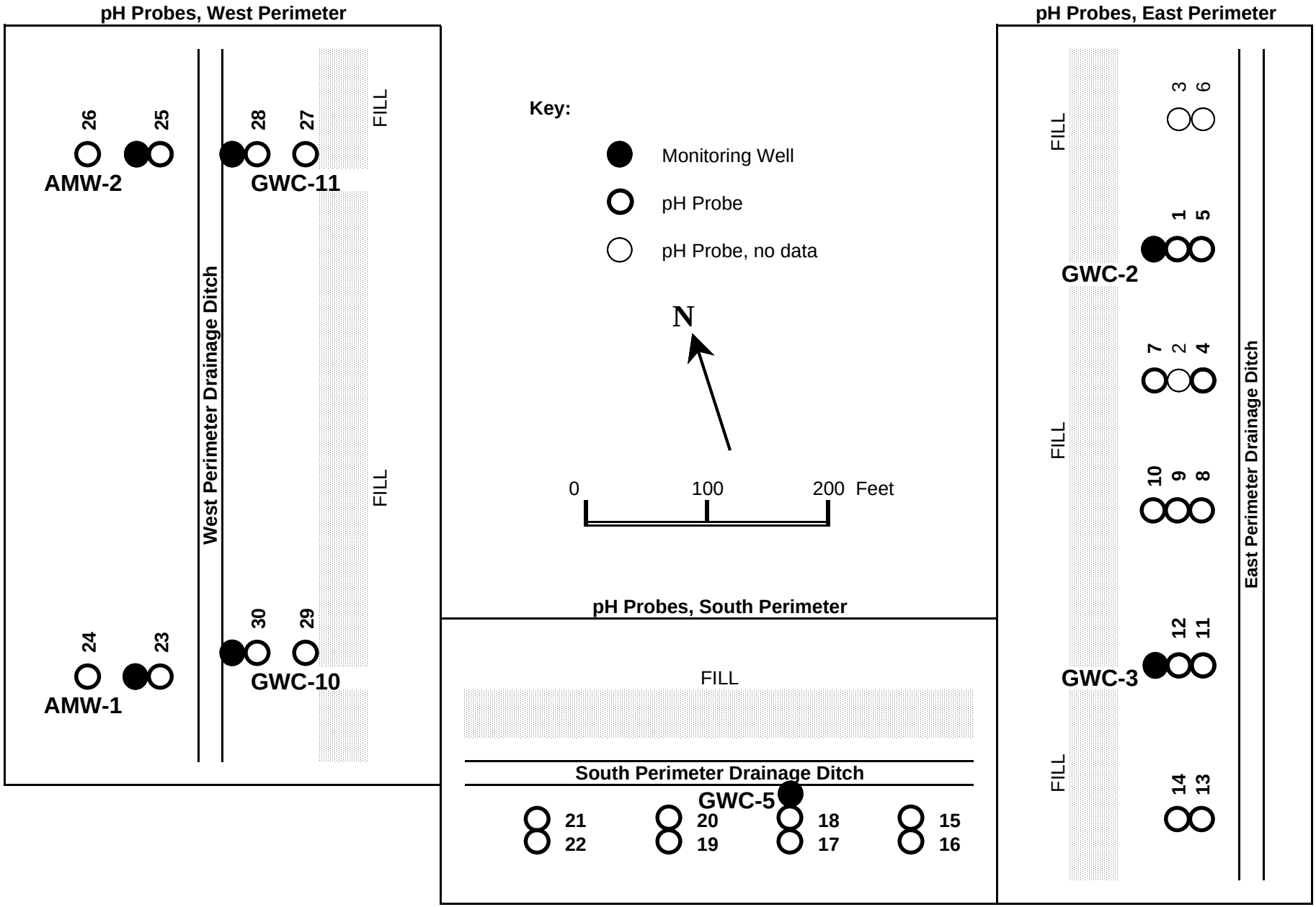


Figure 36: Location of pH Probes



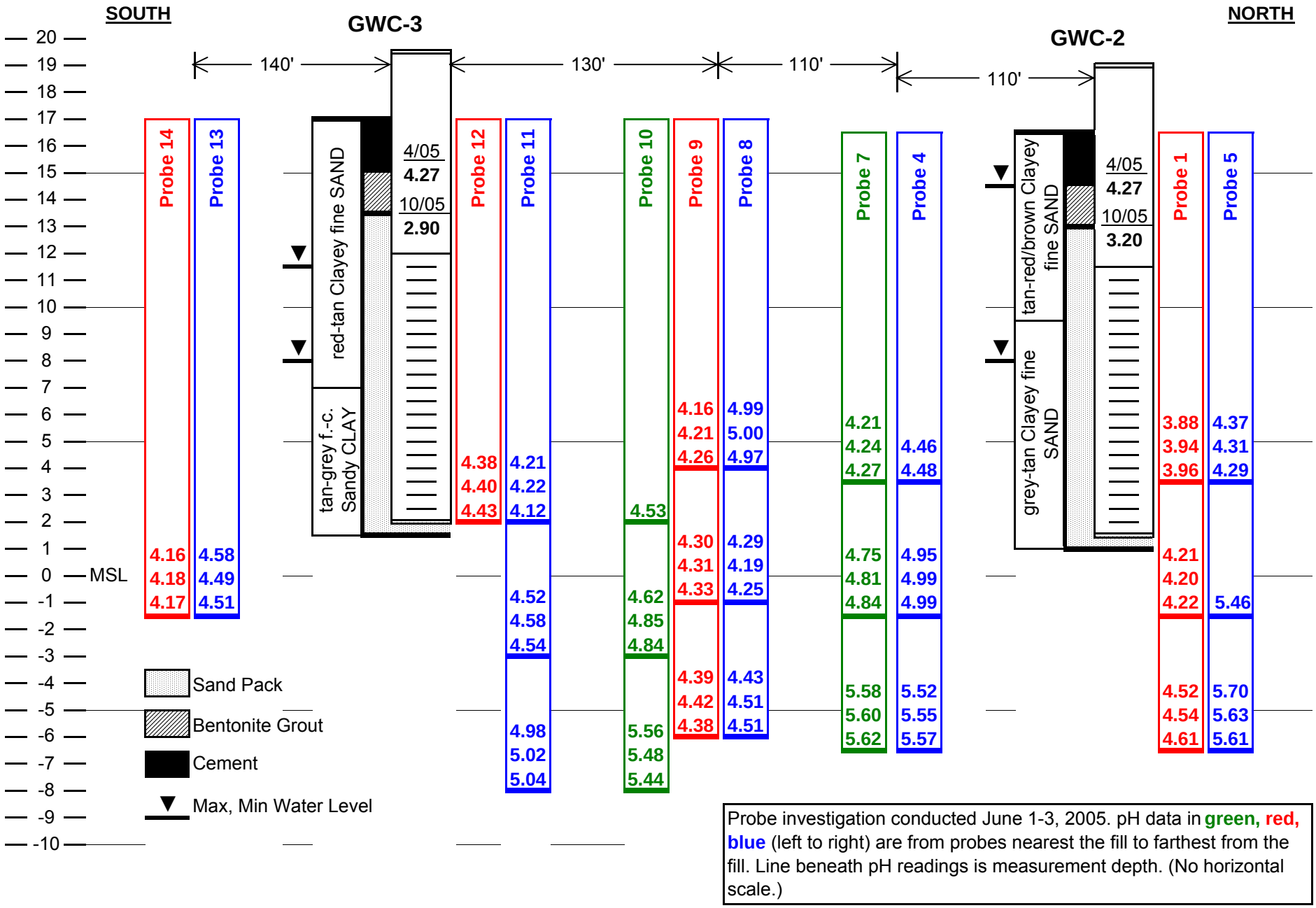


Figure 37: pH Probes near Wells GWC-2 & GWC-3

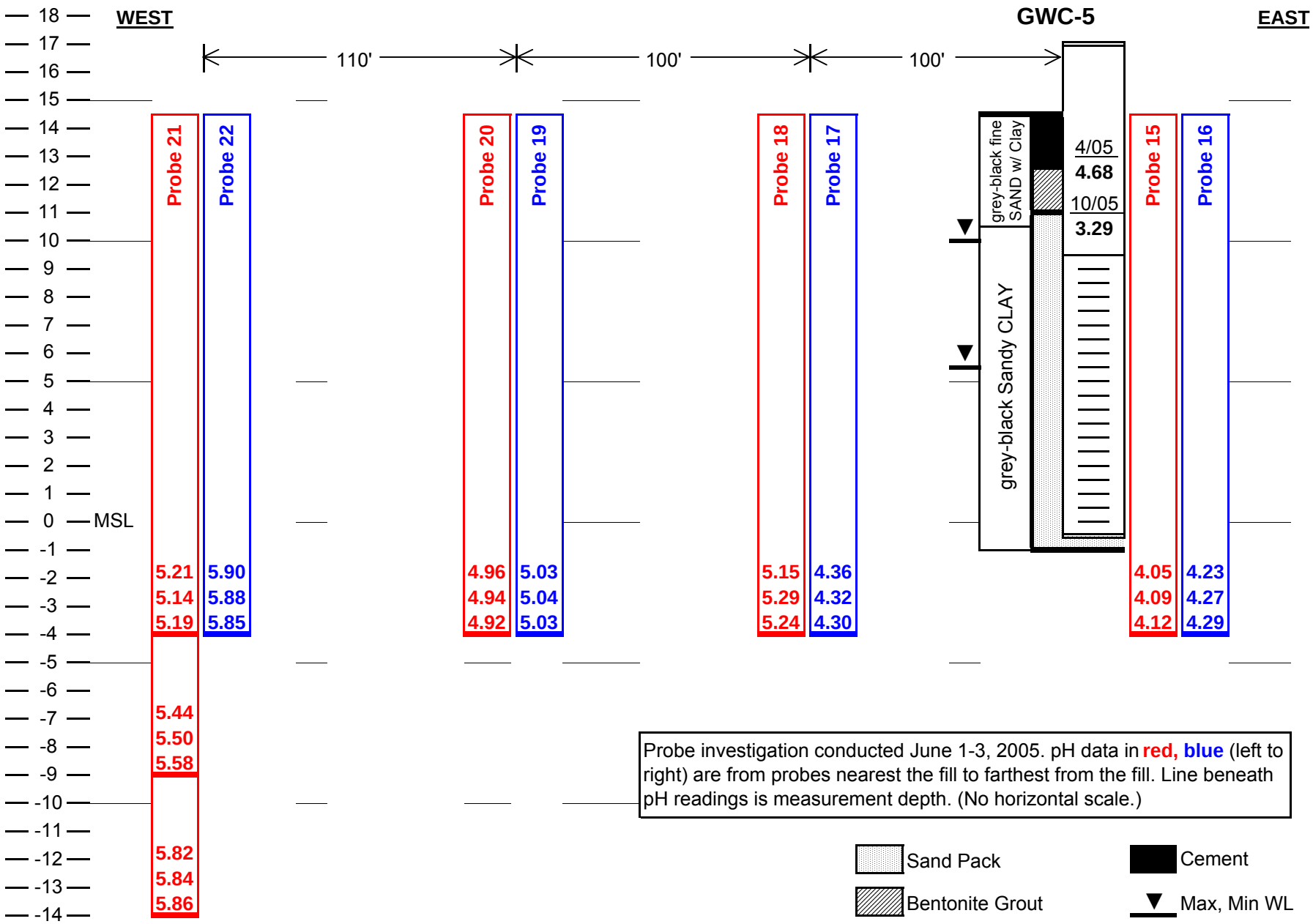


Figure 38: pH Probes near Well GWC-5

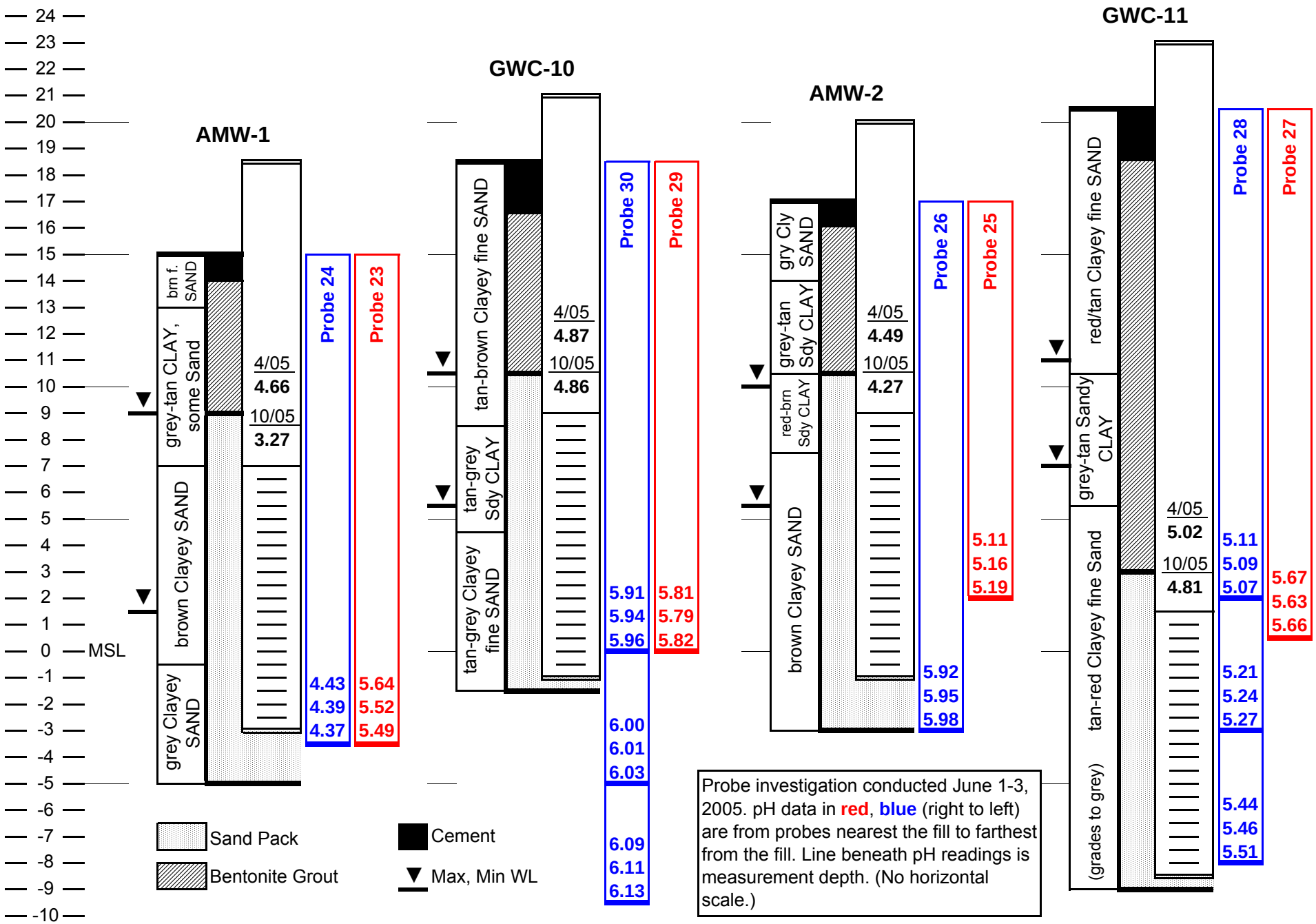


Figure 39: pH Probes near Wells GWC-10, GWC-11, AMW-1 and AMW-2

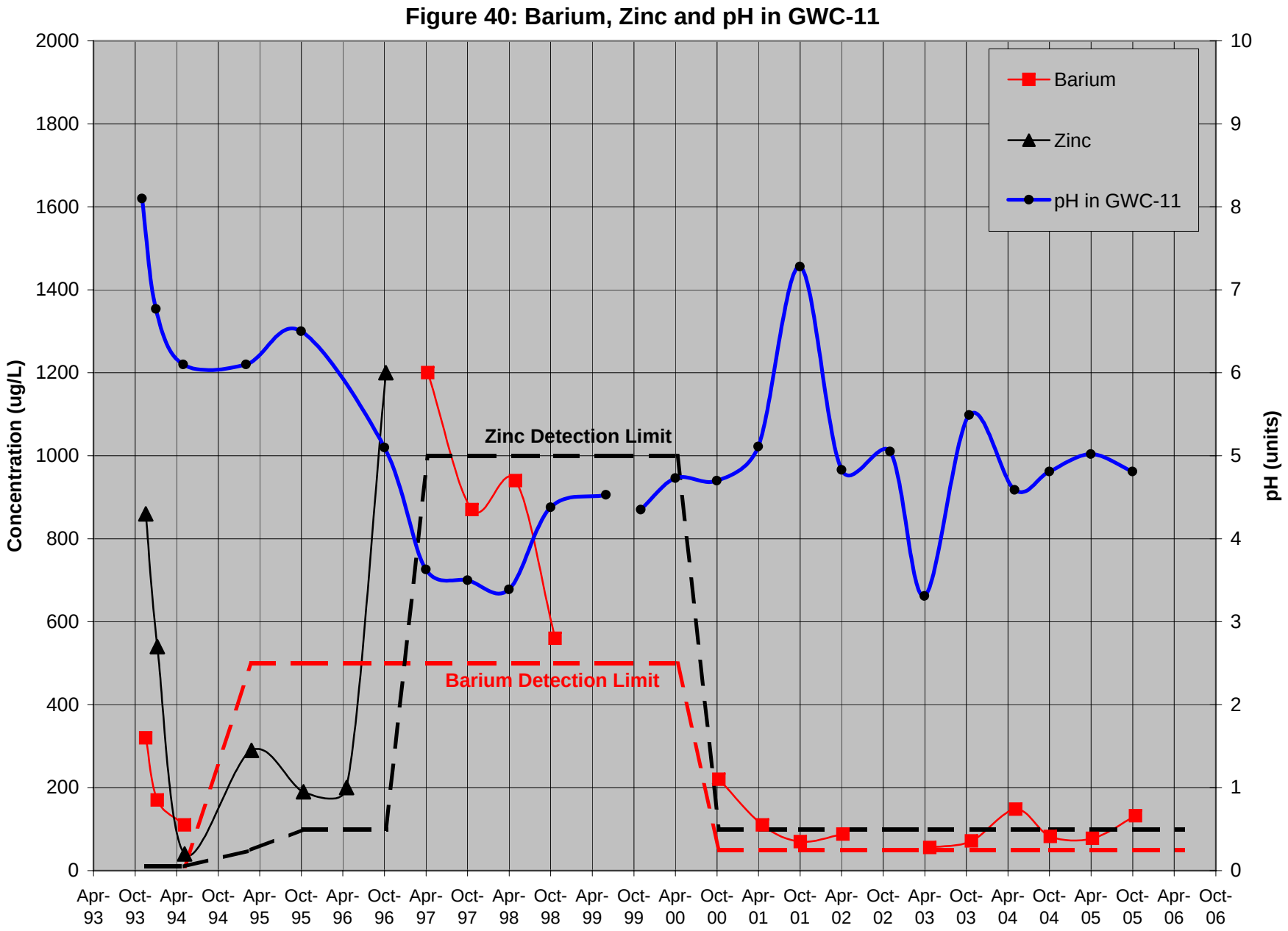


Figure 40: Barium, Zinc and pH in GWC-11
Concentration (ug/L)
pH (units)
Barium
Zinc
pH in GWC-11
Zinc Detection Limit
Barium Detection Limit
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10
9
8
7
6
5
4
3
2
1
0
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

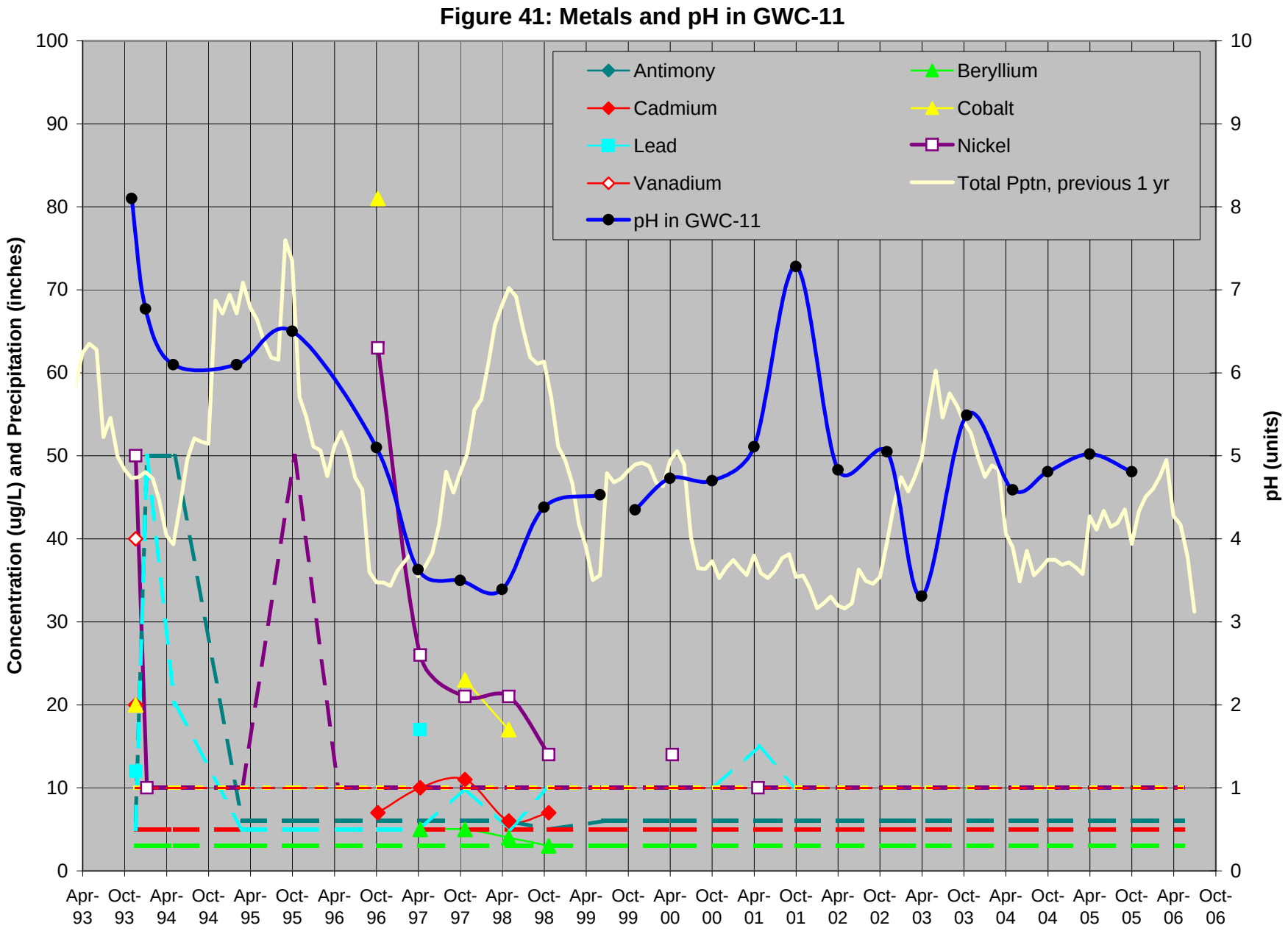


Figure 41: Metals and pH in GWC-11
Antimony
Beryllium
Cadmium
Cobalt
Lead
Nickel
Vanadium
Total Pptn, previous 1 yr
pH in GWC-11
Concentration (ug/L) and Precipitation (inches)
pH (units)
0
10
20
30
40
50
60
70
80
90
100
0
1
2
3
4
5
6
7
8
9
10
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

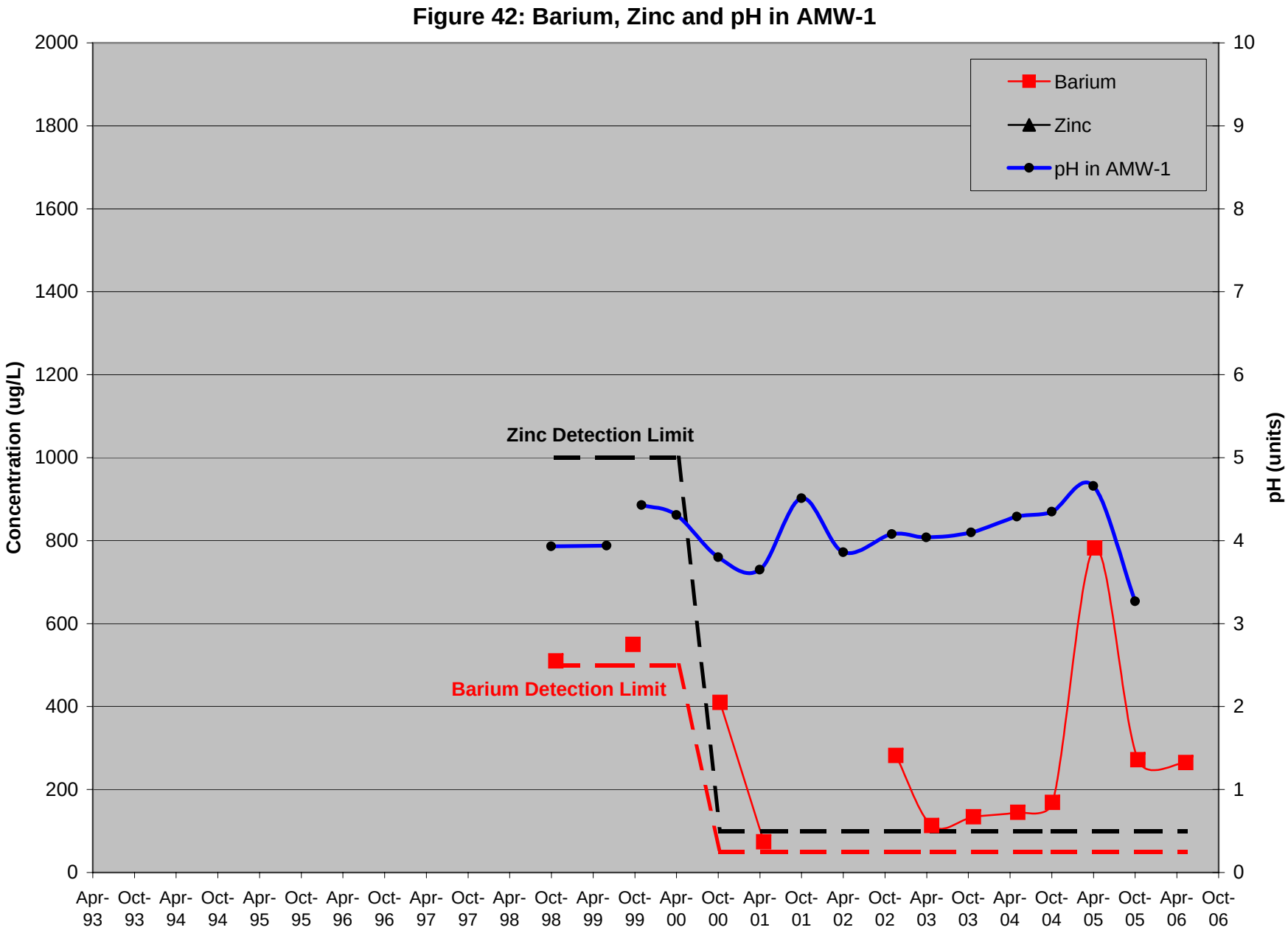


Figure 42: Barium, Zinc and pH in AMW-1
Concentration (ug/L)
pH (units)
Barium
Zinc
pH in AMW-1
Zinc Detection Limit
Barium Detection Limit
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10
9
8
7
6
5
4
3
2
1
0
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

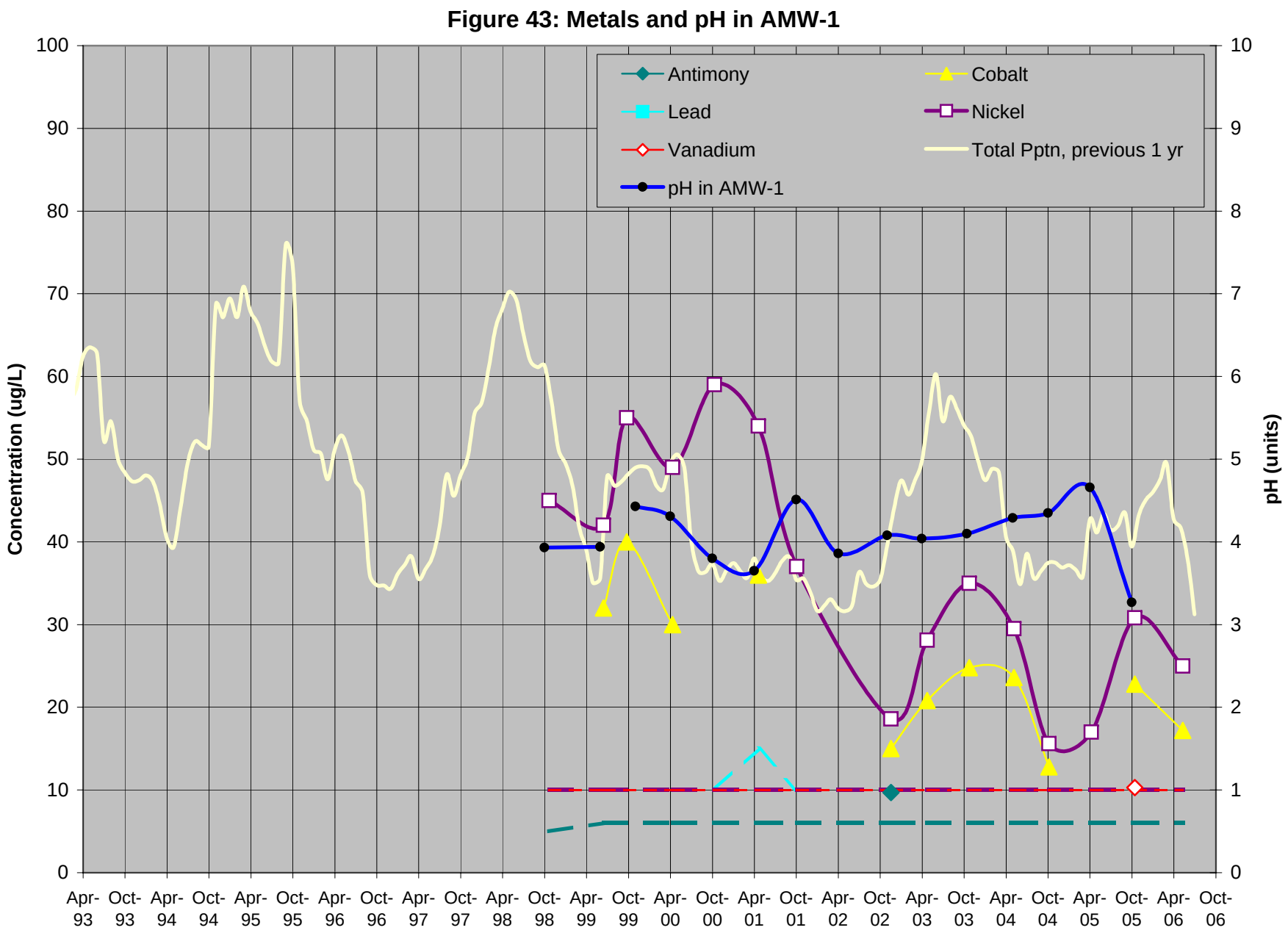


Figure 43: Metals and pH in AMW-1
Antimony
Cobalt
Lead
Nickel
Vanadium
Total Pptn, previous 1 yr
pH in AMW-1
Concentration (ug/L)
pH (units)
100
90
80
70
60
50
40
30
20
10
0
10
9
8
7
6
5
4
3
2
1
0
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

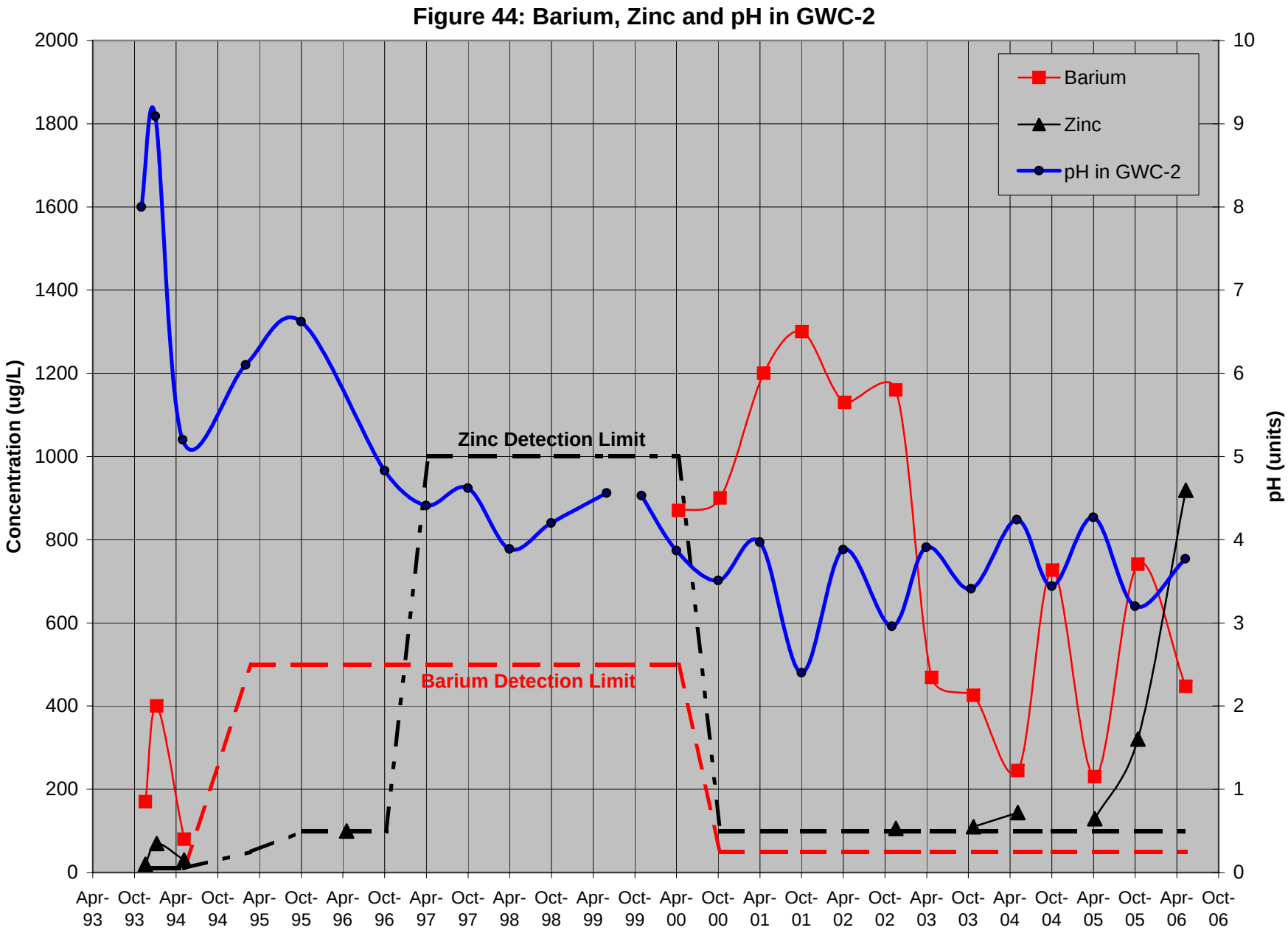


Figure 44: Barium, Zinc and pH in GWC-2
Concentration (ug/L)
pH (units)
Barium
Zinc
pH in GWC-2
Zinc Detection Limit
Barium Detection Limit
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10
9
8
7
6
5
4
3
2
1
0
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

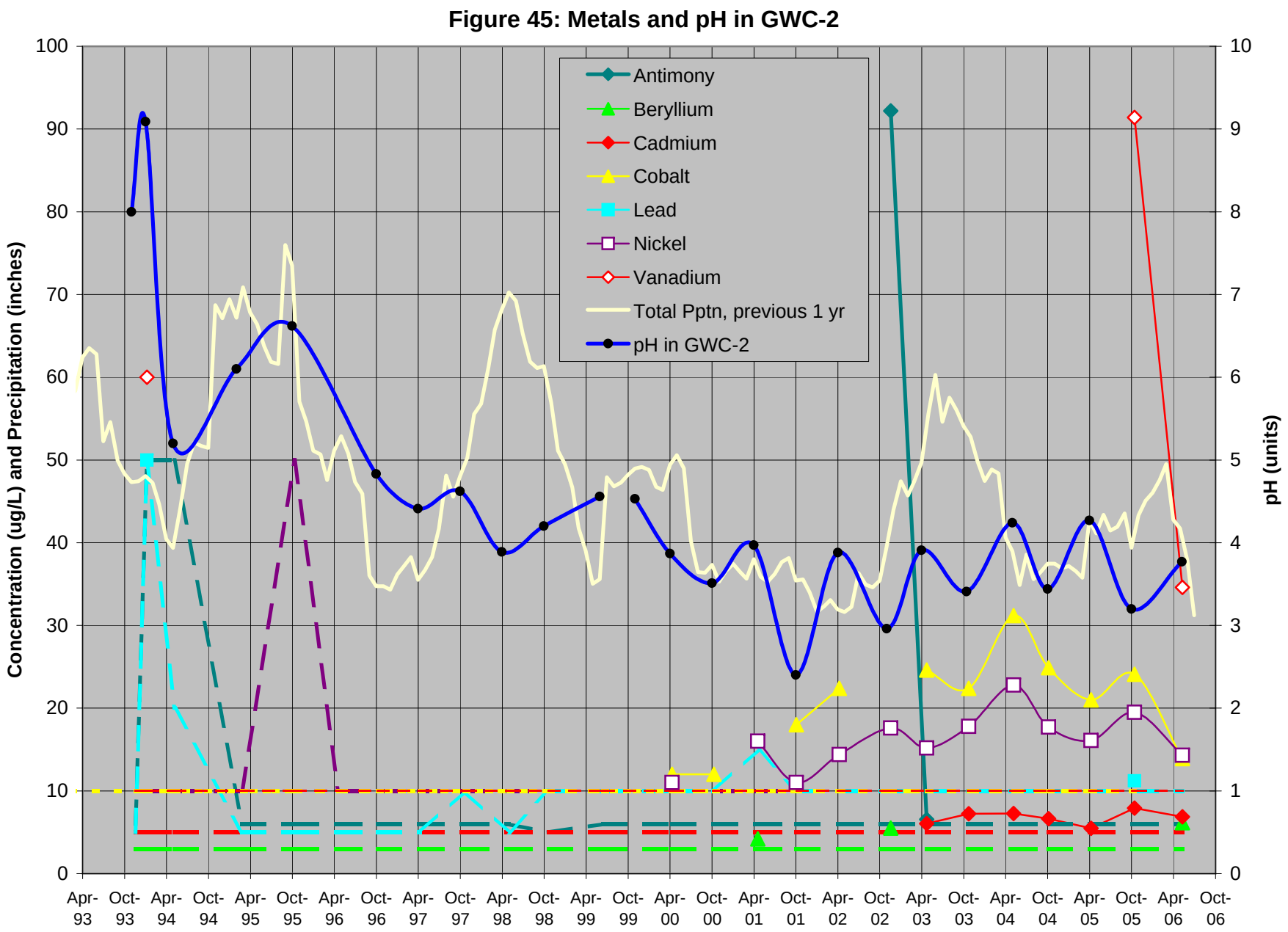


Figure 45: Metals and pH in GWC-2
Concentration (ug/L) and Precipitation (inches)
pH (units)
Antimony
Beryllium
Cadmium
Cobalt
Lead
Nickel
Vanadium
Total Pptn, previous 1 yr
pH in GWC-2
0
10
20
30
40
50
60
70
80
90
100
0
1
2
3
4
5
6
7
8
9
10
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

Figure 46: Barium, Zinc and pH in GWC-5

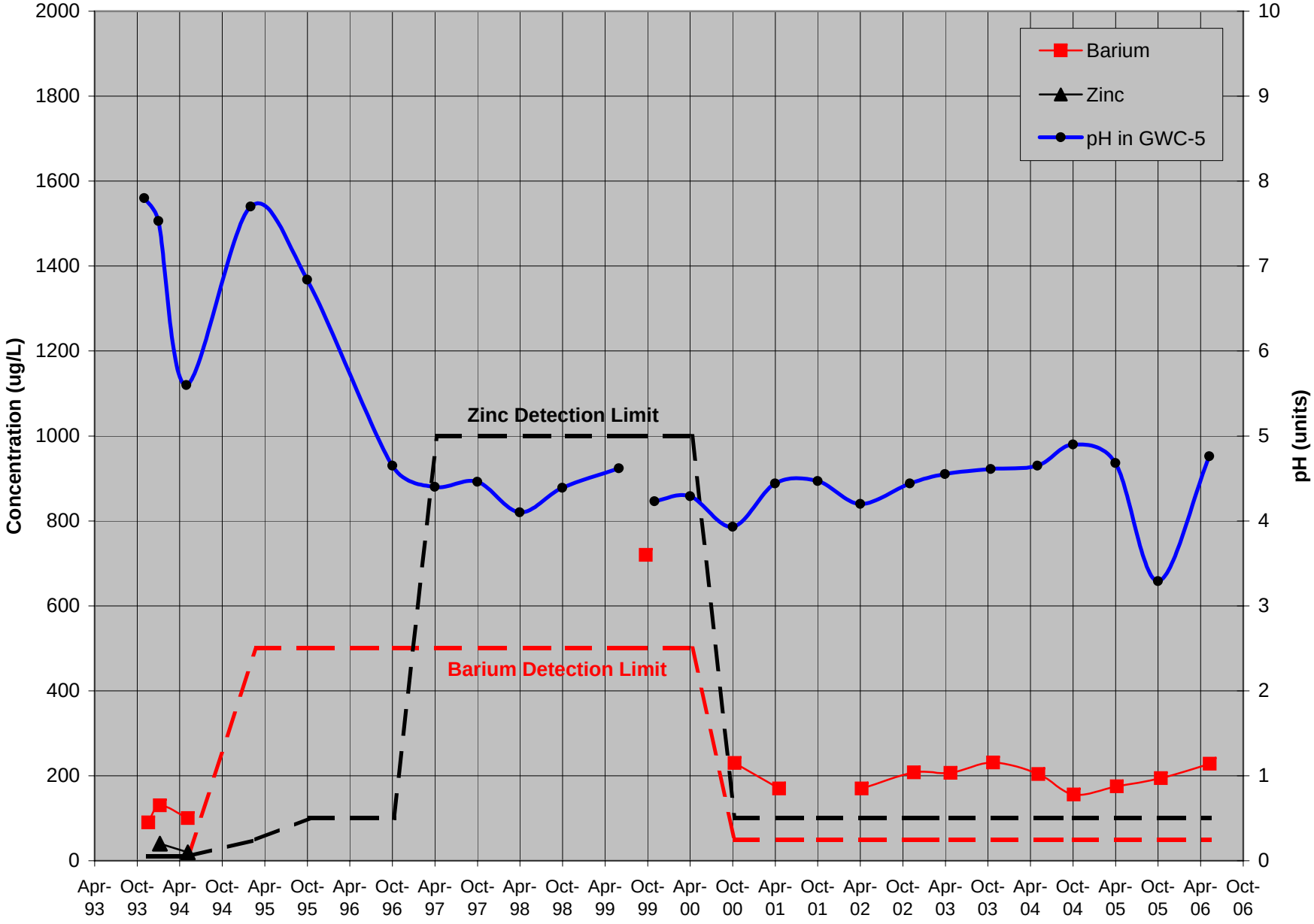


Figure 47: Metals and pH in GWC-5

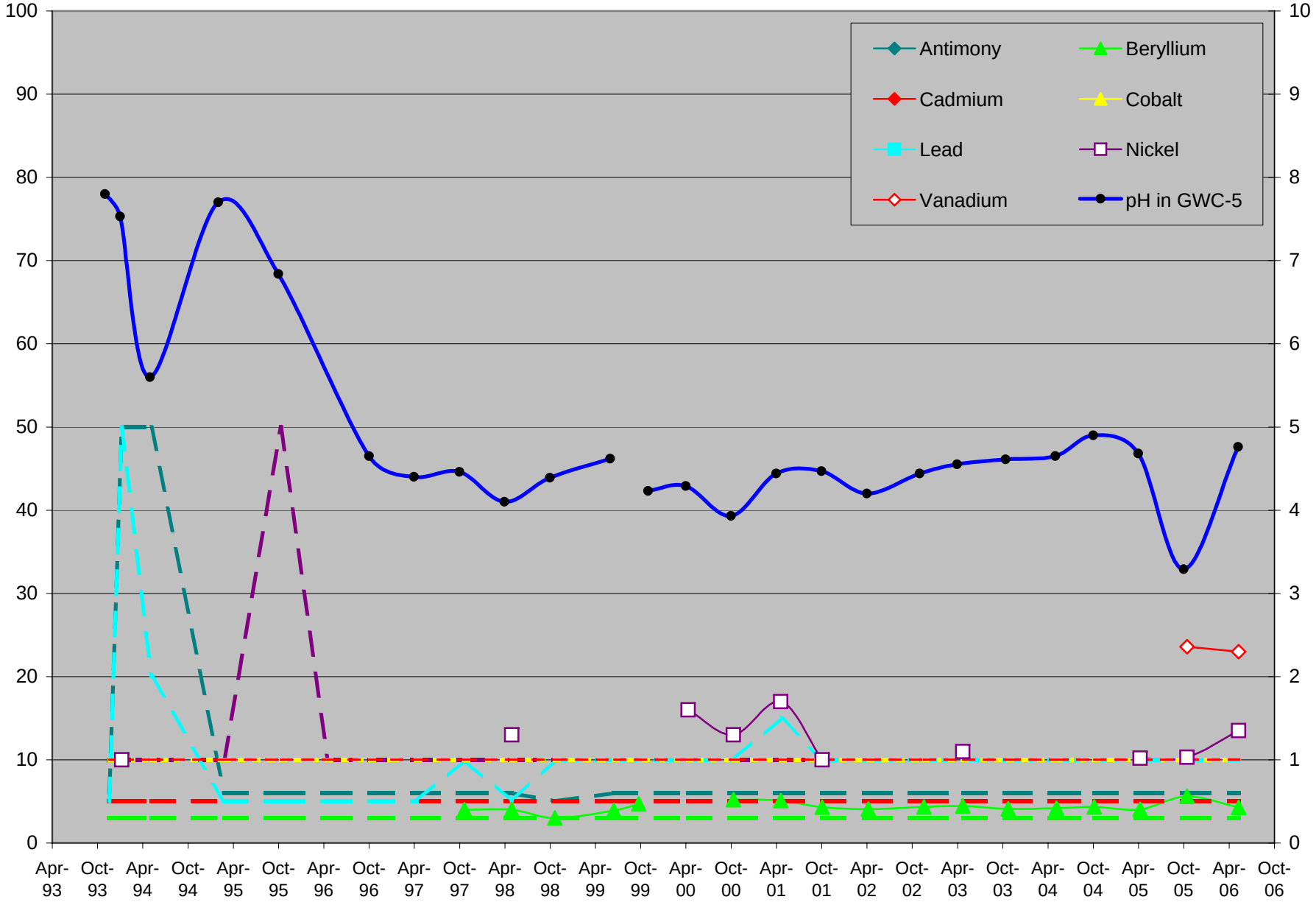


Figure 48: Barium in Site Wells

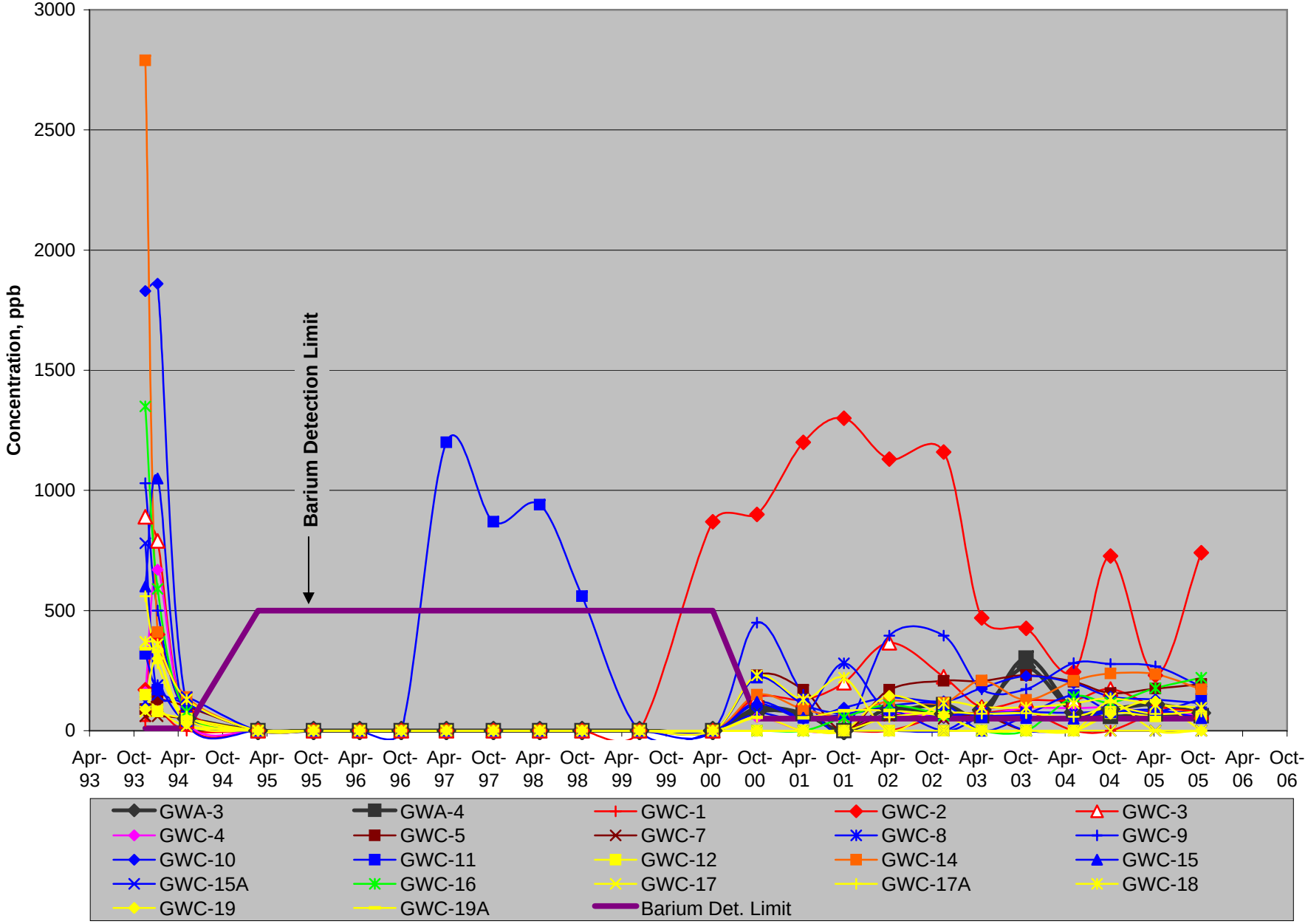
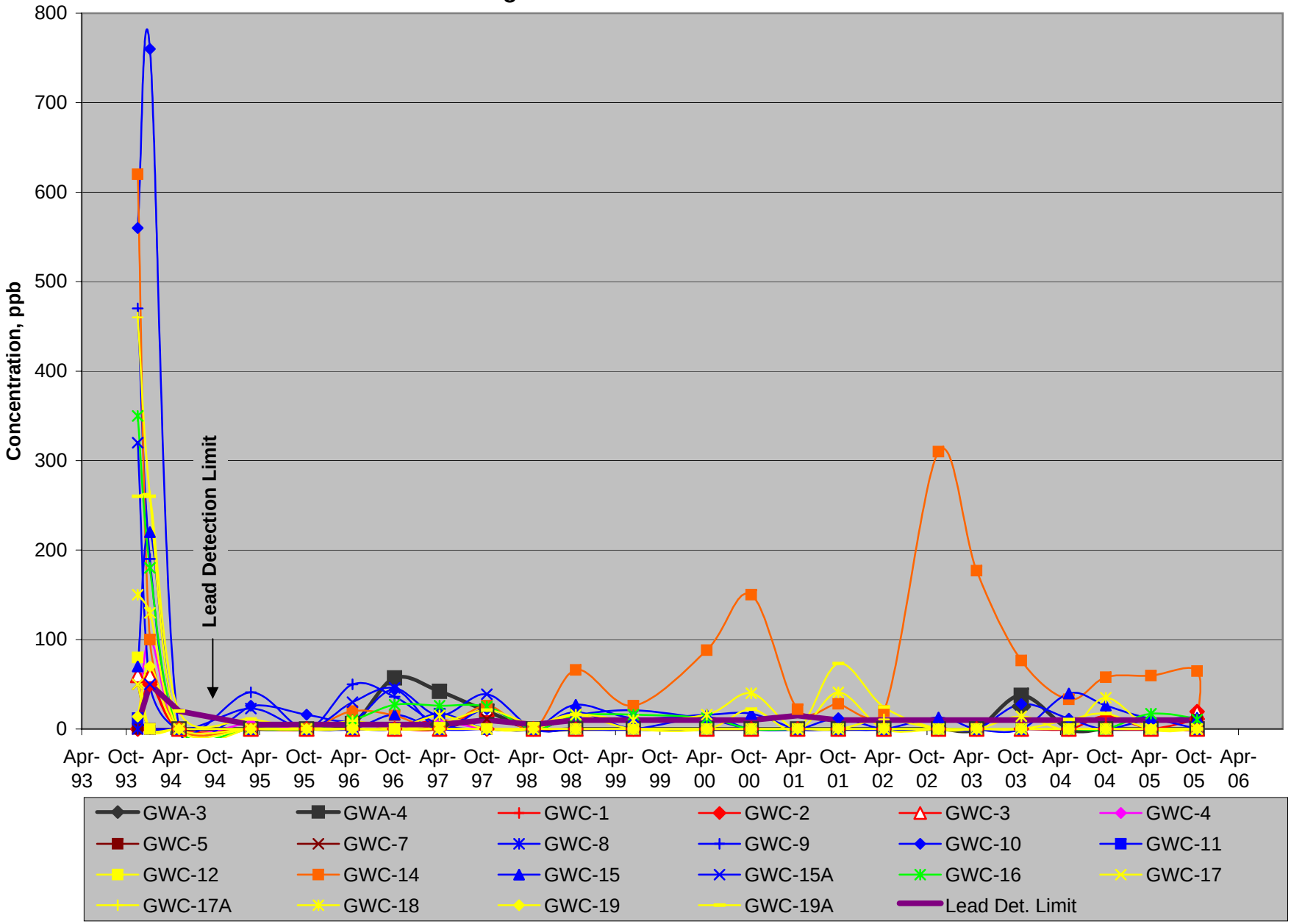


Figure 49: Lead in Site Wells



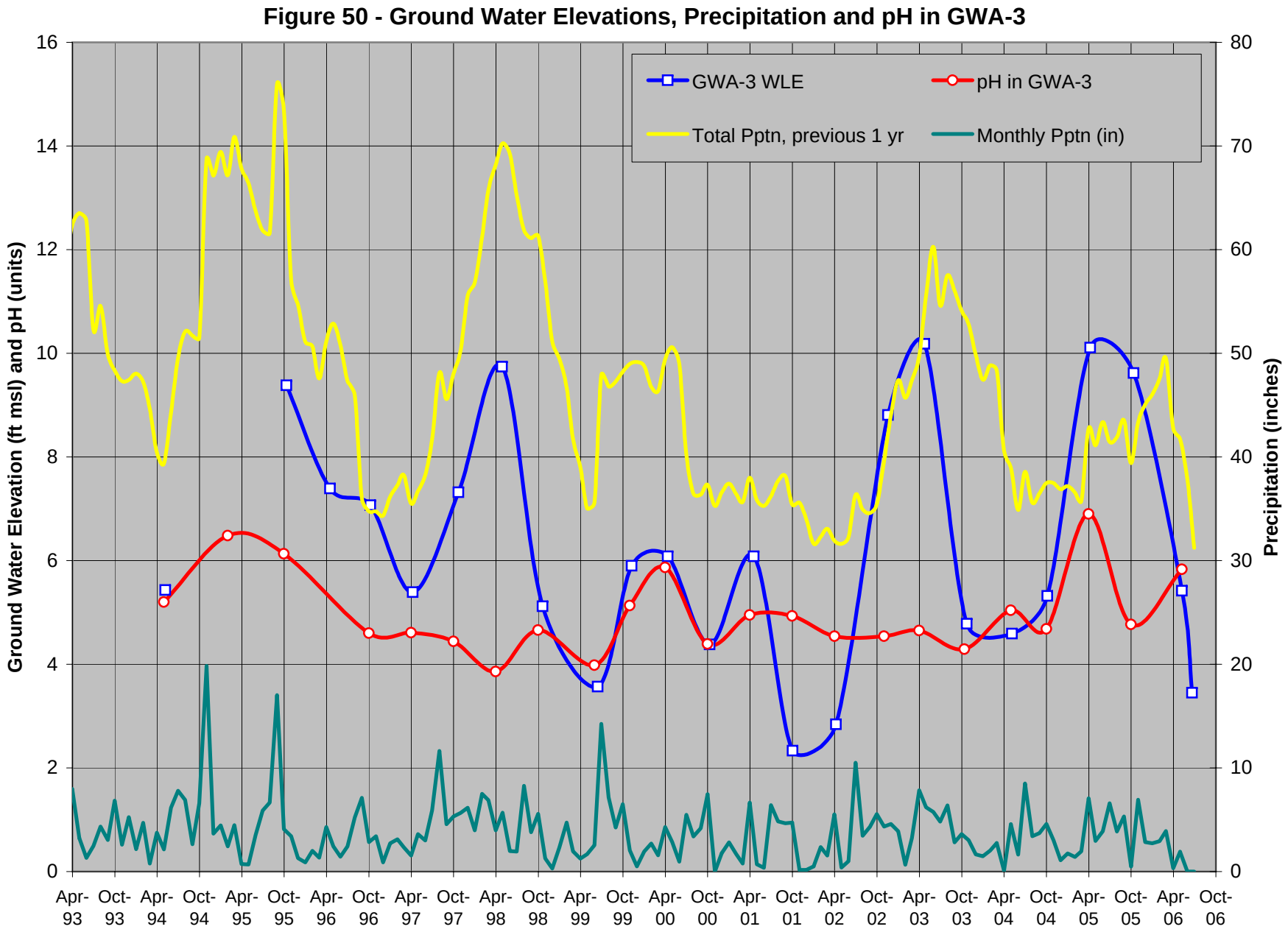


Figure 50 - Ground Water Elevations, Precipitation and pH in GWA-3
GWA-3 WLE
pH in GWA-3
Total Pptn, previous 1 yr
Monthly Pptn (in)
Ground Water Elevation (ft msl) and pH (units)
Precipitation (inches)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70
80
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

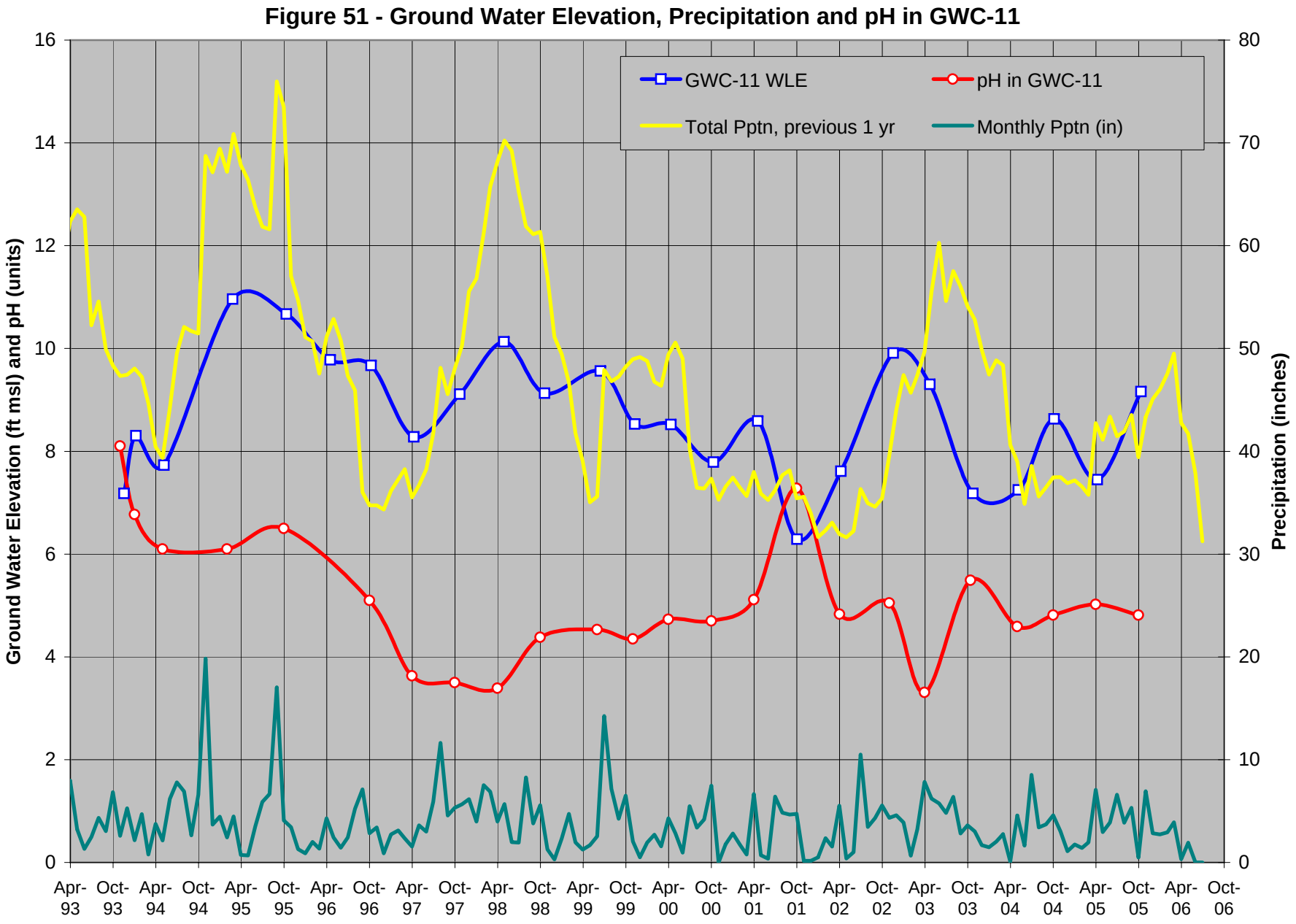


Figure 51 - Ground Water Elevation, Precipitation and pH in GWC-11
GWC-11 WLE
pH in GWC-11
Total Pptn, previous 1 yr
Monthly Pptn (in)
Ground Water Elevation (ft msl) and pH (units)
Precipitation (inches)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70
80
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

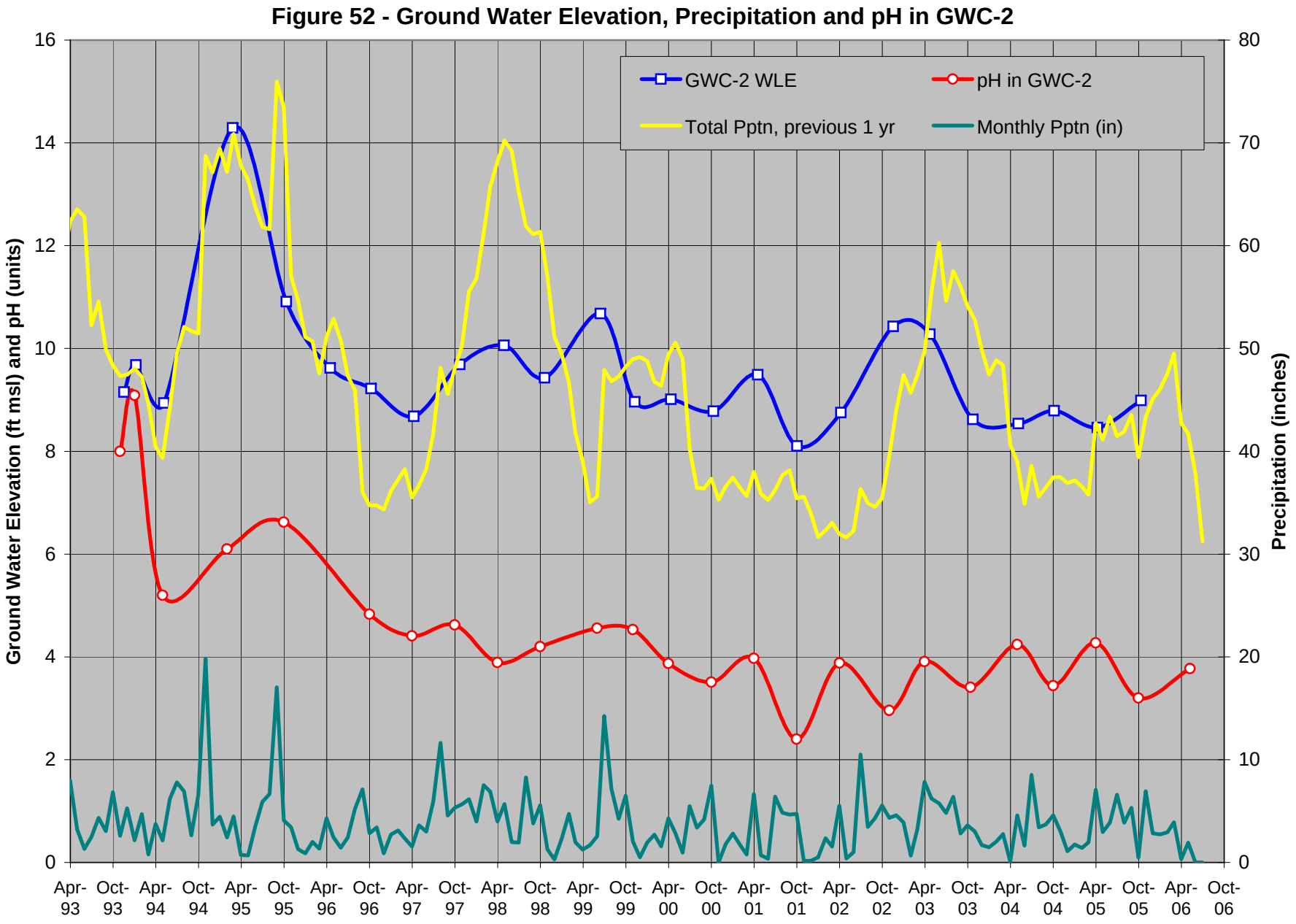


Figure 52 - Ground Water Elevation, Precipitation and pH in GWC-2
GWC-2 WLE
pH in GWC-2
Total Pptn, previous 1 yr
Monthly Pptn (in)
Ground Water Elevation (ft msl) and pH (units)
Precipitation (inches)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70
80
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06

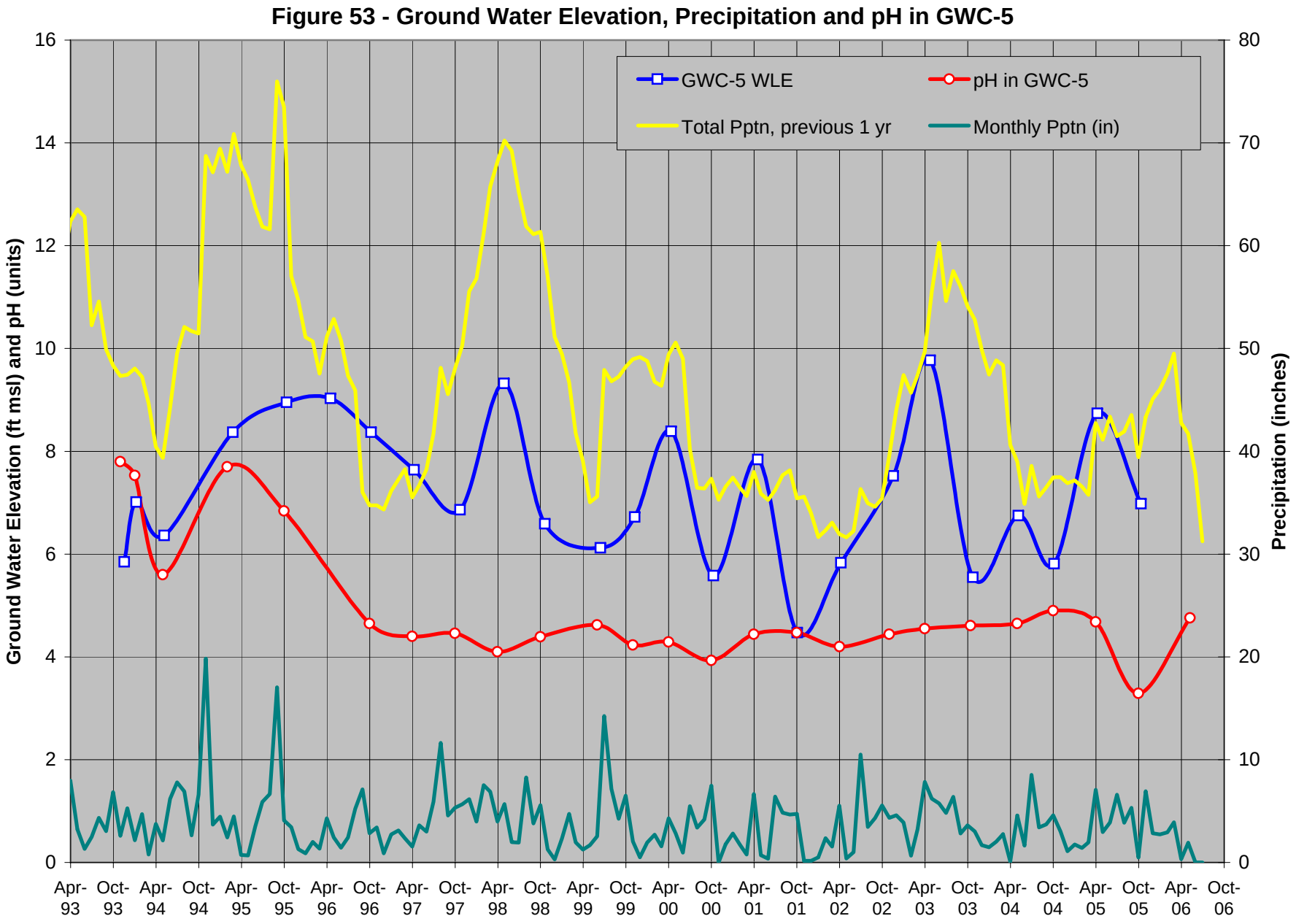


Figure 53 - Ground Water Elevation, Precipitation and pH in GWC-5
GWC-5 WLE
pH in GWC-5
Total Pptn, previous 1 yr
Monthly Pptn (in)
Ground Water Elevation (ft msl) and pH (units)
Precipitation (inches)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70
80
Apr-93
Oct-93
Apr-94
Oct-94
Apr-95
Oct-95
Apr-96
Oct-96
Apr-97
Oct-97
Apr-98
Oct-98
Apr-99
Oct-99
Apr-00
Oct-00
Apr-01
Oct-01
Apr-02
Oct-02
Apr-03
Oct-03
Apr-04
Oct-04
Apr-05
Oct-05
Apr-06
Oct-06