BASF CORPORATION
McINTOSH, ALABAMA

Figure 1
July 2011
Potentiometric Surface Map (ALLUVIAL AQUIFER)

Monitoring Well

Groundwater Elevation Contour (1' Interval)

Questionable Data

0 1,000 Feet

LimnoTech

M-1 20.5
M-2 17.89
WP-8 16.8
WP-7 18.29
MW-1 14.8
WP-11 11.85
WP-12 13.58
WP-1 15.61
WP-2 15.53
SW-1 15.87
WP-4 14.11
SW-3 12.13
CA-1 11.81
CA-2 9.57
MW-12A 12.94
PL-1 12.62
PL-2 12.41
PL-4 12.92
PL-8S 14.36
M-15 13.86
M-14 17.81
PL-3 23.84
PL-6S 24.12
PL-6D 11.82
PL-7S 25.15
M-13 23.64
M-11 13.06
MW-8 10.72
MW-7 10.6
M-10 10.51
MW-6 10.07
M-9 10.24
PZ-9 10.53
M-8 10.04
MW-5 8.56
M-7 8.61
TPZ-5 8.46
TPZ-10 8.81
TPZ-6 N/A
TPZ-13 6.03
TPZ-8 3.34
TPZ-12 7.35
TPZ-7 4.8
Alluvial Aquifer Slurry Wall
CA-4A 4.81
PW-9 -6.12
MW-4 7.87
M-6 7.82
PW-1 -0.94
TPZ-9 5.88
MW-11 6.66
M-12 6.5
MW-2 11.07
M-4 10.09
MW-3 8.33
M-5 8.39
M-3 11.47
OW-5A 12.24
OW-3 12.35
OW-1 22.78
OW-2 11.56
OW-4 11.18
WP-5A 11.29
MW-9A 9.98
MW-10A 7.08
PW-2 -7.87
OW-7 5.36
OW-8 7.69
CA-3 7.79
PW-10B 8.69
PW-4 6.62
PW-10 2.01
PW-5 10.28
PW-3 7.13
OW-6 8.97
OW-10 13.16
OW-11 12.53
PW-8 -17.4
PW-8A 11.89
PW-7 1.85
PW-6 8.82

20' 19' 18' 17' 16' 15' 14' 13' 12' 11' 10' 9' 8'

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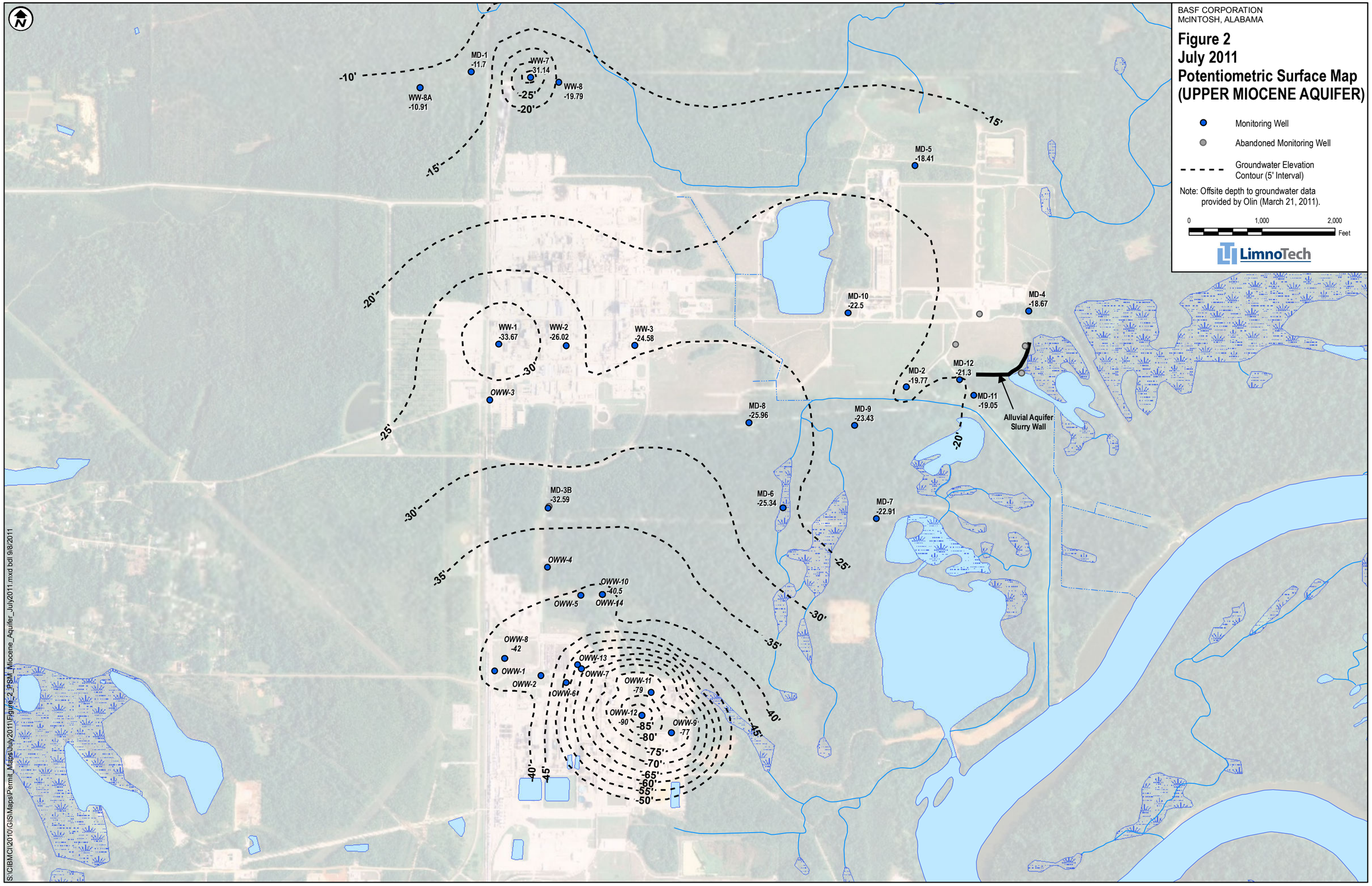
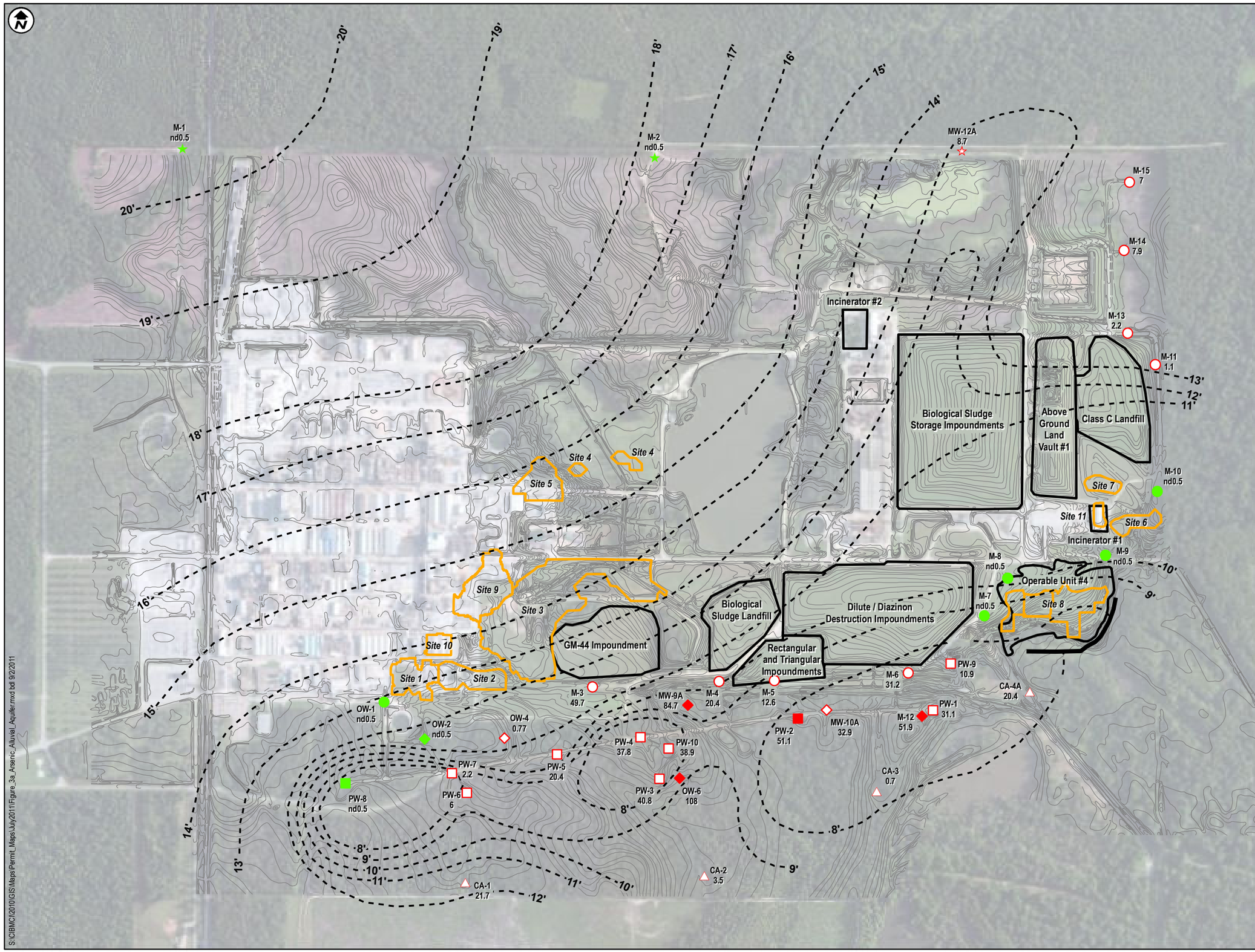

BASF CORPORATION
McINTOSH, ALABAMA
Figure 2
July 2011
Potentiometric Surface Map
(UPPER MIOCENE AQUIFER)
Monitoring Well
Abandoned Monitoring Well
Groundwater Elevation Contour (5' Interval)
Note: Offsite depth to groundwater data provided by Olin (March 21, 2011).
0
1,000
2,000
Feet
LimnoTech
MD-1 -11.7
WW-7 -31.14
WW-8 -19.79
WW-8A -10.91
MD-5 -18.41
MD-10 -22.5
MD-4 -18.67
WW-1 -33.67
WW-2 -26.02
WW-3 -24.58
OWW-3
MD-12 -21.3
MD-2 -19.77
MD-11 -19.05
Alluvial Aquifer Slurry Wall
MD-8 -25.96
MD-9 -23.43
MD-3B -32.59
MD-6 -25.34
MD-7 -22.91
OWW-4
OWW-10 -40.5
OWW-5
OWW-14
OWW-8 -42
OWW-13
OWW-1
OWW-7
OWW-2
OWW-6
OWW-11 -79
OWW-12 -90
OWW-9 -77
-10'
-15'
-20'
-25'
-30'
-35'
-40'
-45'
-50'
-55'
-60'
-65'
-70'
-75'
-80'
-85'
S:\CIBMCI\2010\GIS\Maps\Permit_Maps\July2011\Figure_2_PSM_Miocene_Aquifer_July2011.mxd bdl 9/8/2011

BASF CORPORATION
McINTOSH, ALABAMA

Figure 3a
Arsenic Results (ug/L)
July 2011
Extent and Distribution Map
ALLUVIAL AQUIFER

Arsenic MCL = 50 ug/L



July 2011 Detections:

	Non-detect	Detected less than or equal to MCL	Detected above MCL
Background Well	★	☆	★
Corrective Action Well	▲	△	▲
Effectiveness Well	◆	◇	◆
Point-of-Compliance Well	●	○	●
Recovery Well	■	□	■
Other Monitoring Locations	⬟	⬠	⬟

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

- Groundwater Elevation Contour (July 2011)
- Closed RCRA Facility/ CERCLA WMU
- Subunit

0 500 1,000 Feet

LimnoTech

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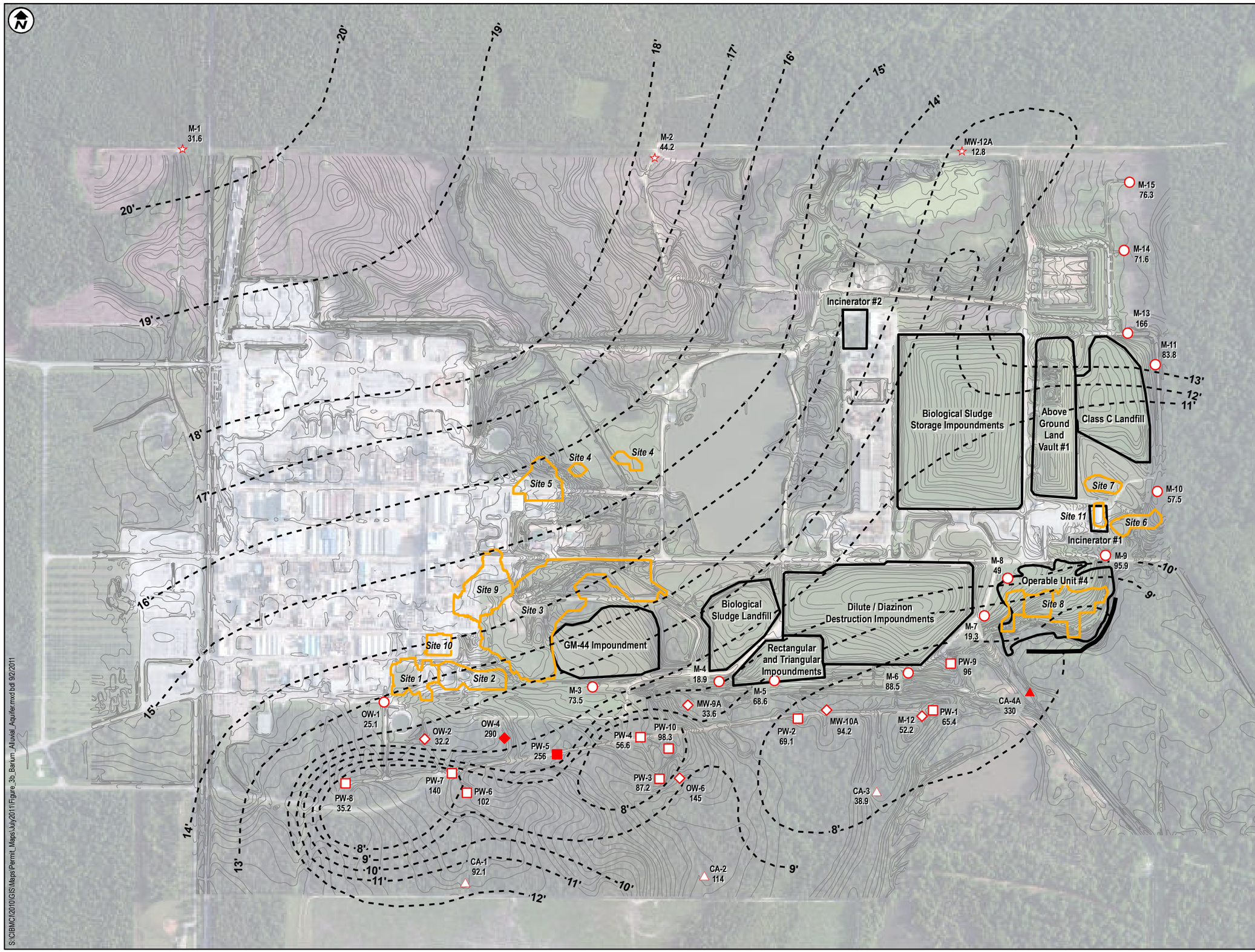
BASF CORPORATION
McINTOSH, ALABAMA

Figure 3b
Barium Results (ug/L)
July 2011
Extent and Distribution Map
ALLUVIAL AQUIFER

Barium MCL = 200 ug/L



July 2011 Detections:

Non-detect	Detected less than or equal to MCL	Detected above MCL	
★	☆	★	Background Well
▲	△	▲	Corrective Action Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
■	□	■	Recovery Well
⬟	⬠	⬟	Other Monitoring Locations

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

- Groundwater Elevation Contour (July 2011)
- Closed RCRA Facility/ CERCLA WMU
- Subunit

0 500 1,000 Feet

LimnoTech

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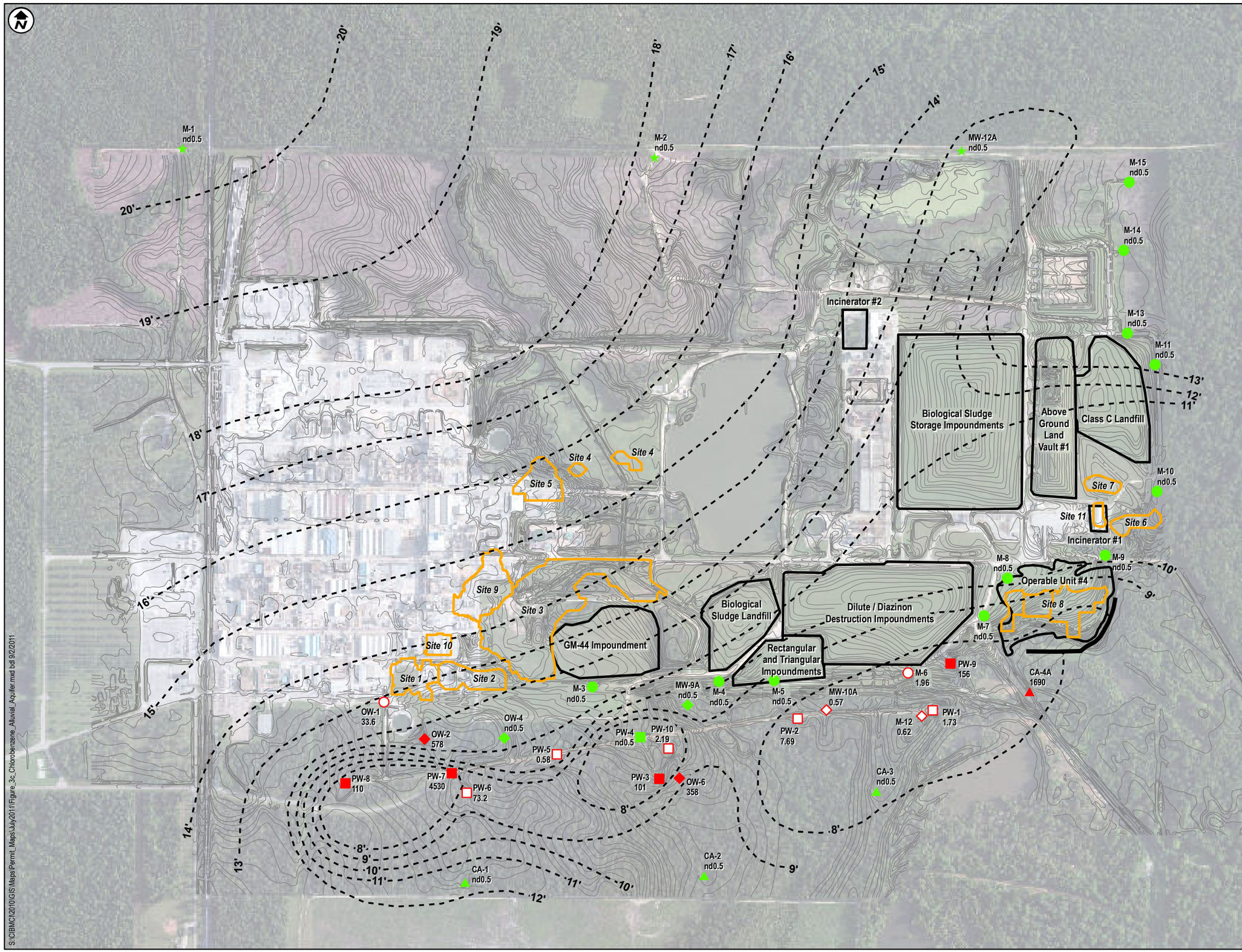
BASF CORPORATION
McINTOSH, ALABAMA

Figure 3c
Chlorobenzen Results (ug/L)
July 2011
Extent and Distribution Map
ALLUVIAL AQUIFER

Chlorobenzene MCL = 100 ug/L



July 2011 Detections:

Non-detect	Detected less than or equal to MCL	Detected above MCL	
★	☆	★	Background Well
▲	△	▲	Corrective Action Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
■	□	■	Recovery Well
⬟	⬠	⬟	Other Monitoring Locations

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

- Groundwater Elevation Contour (July 2011)
- Closed RCRA Facility/ CERCLA WMU
- Subunit

0 500 1,000 Feet

LimnoTech

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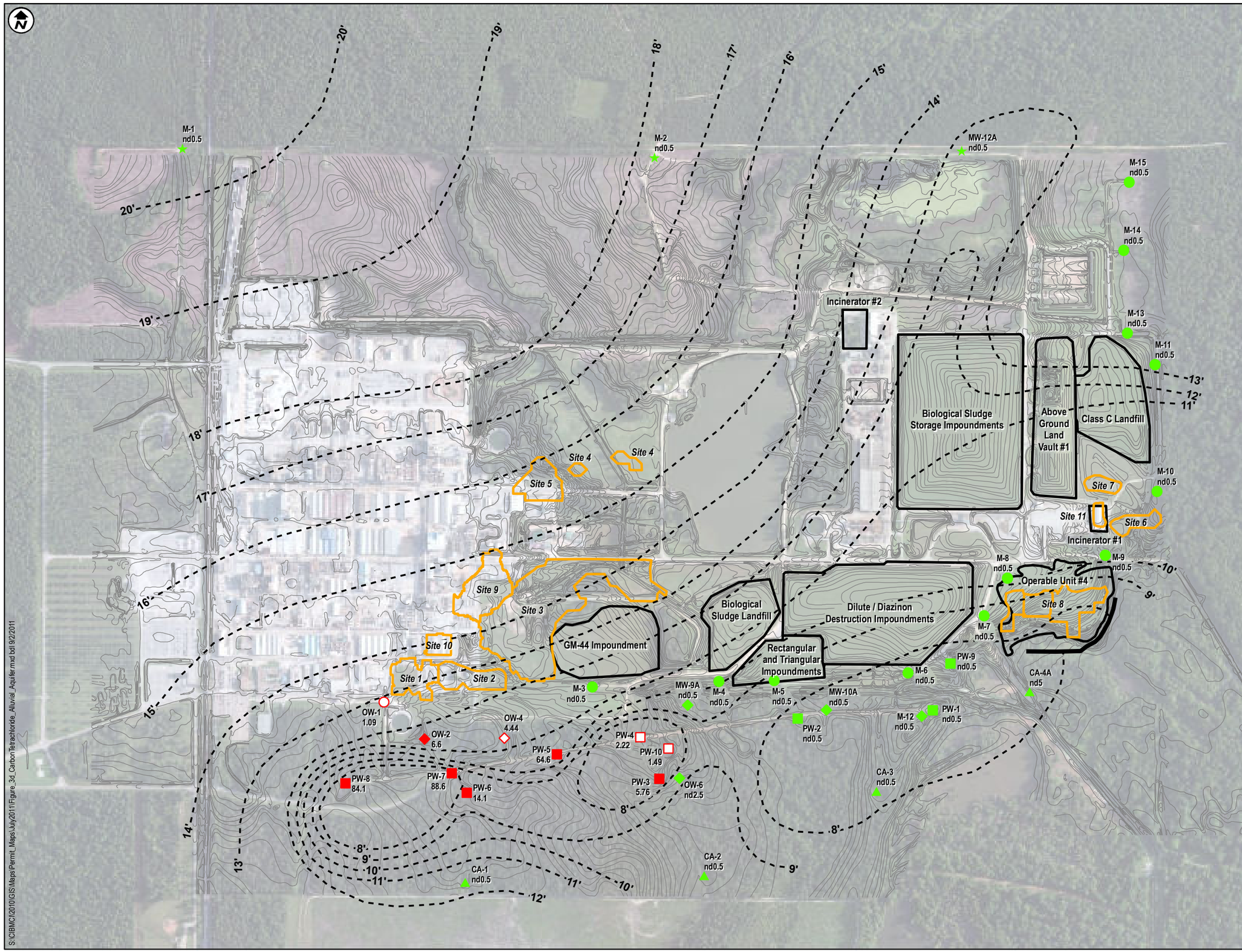
BASF CORPORATION
McINTOSH, ALABAMA

Figure 3d
Carbon Tetrachloride Results (ug/L) July 2011 Extent and Distribution Map ALLUVIAL AQUIFER

Carbon Tetrachloride MCL = 5 ug/L



July 2011 Detections:

Non-detect	Detected less than or equal to MCL	Detected above MCL	
★	☆	★	Background Well
▲	△	▲	Corrective Action Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
■	□	■	Recovery Well
⬟	⬠	⬟	Other Monitoring Locations

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

Groundwater Elevation Contour (July 2011)

Closed RCRA Facility/ CERCLA WMU

Subunit

0 500 1,000 Feet

LimnoTech

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BASF CORPORATION
McINTOSH, ALABAMA

Figure 3e
Benzene Results (ug/L)
July 2011
Extent and Distribution Map
ALLUVIAL AQUIFER

Benzene MCL = 5 ug/L

July 2011 Detections:

Non-detect	Detected less than or equal to MCL	Detected above MCL	
★	☆	★	Background Well
▲	△	▲	Corrective Action Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
■	□	■	Recovery Well
⬟	⬠	⬟	Other Monitoring Locations

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

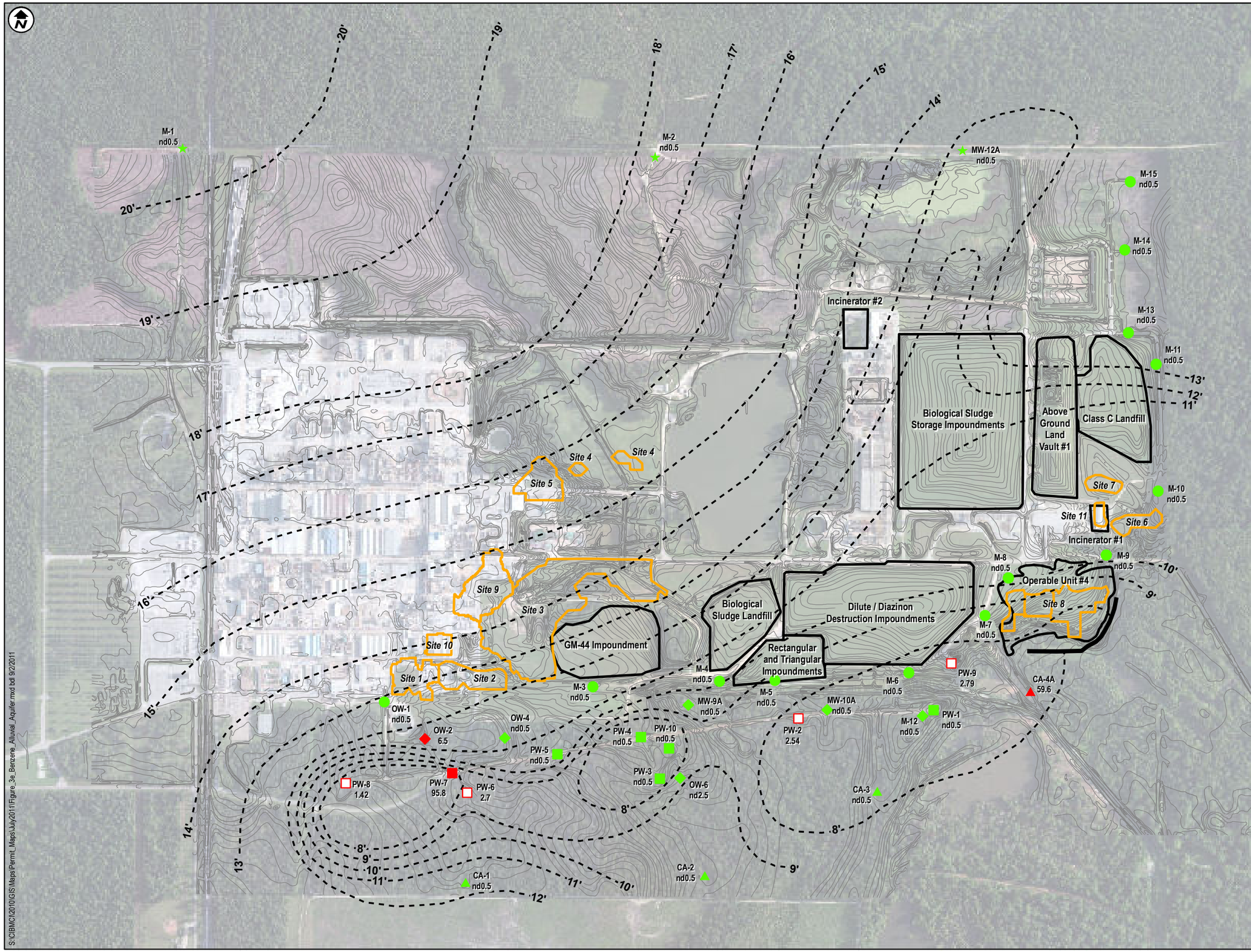
Groundwater Elevation Contour (July 2011)

Closed RCRA Facility/ CERCLA WMU

Subunit

0 500 1,000 Feet

LimnoTech



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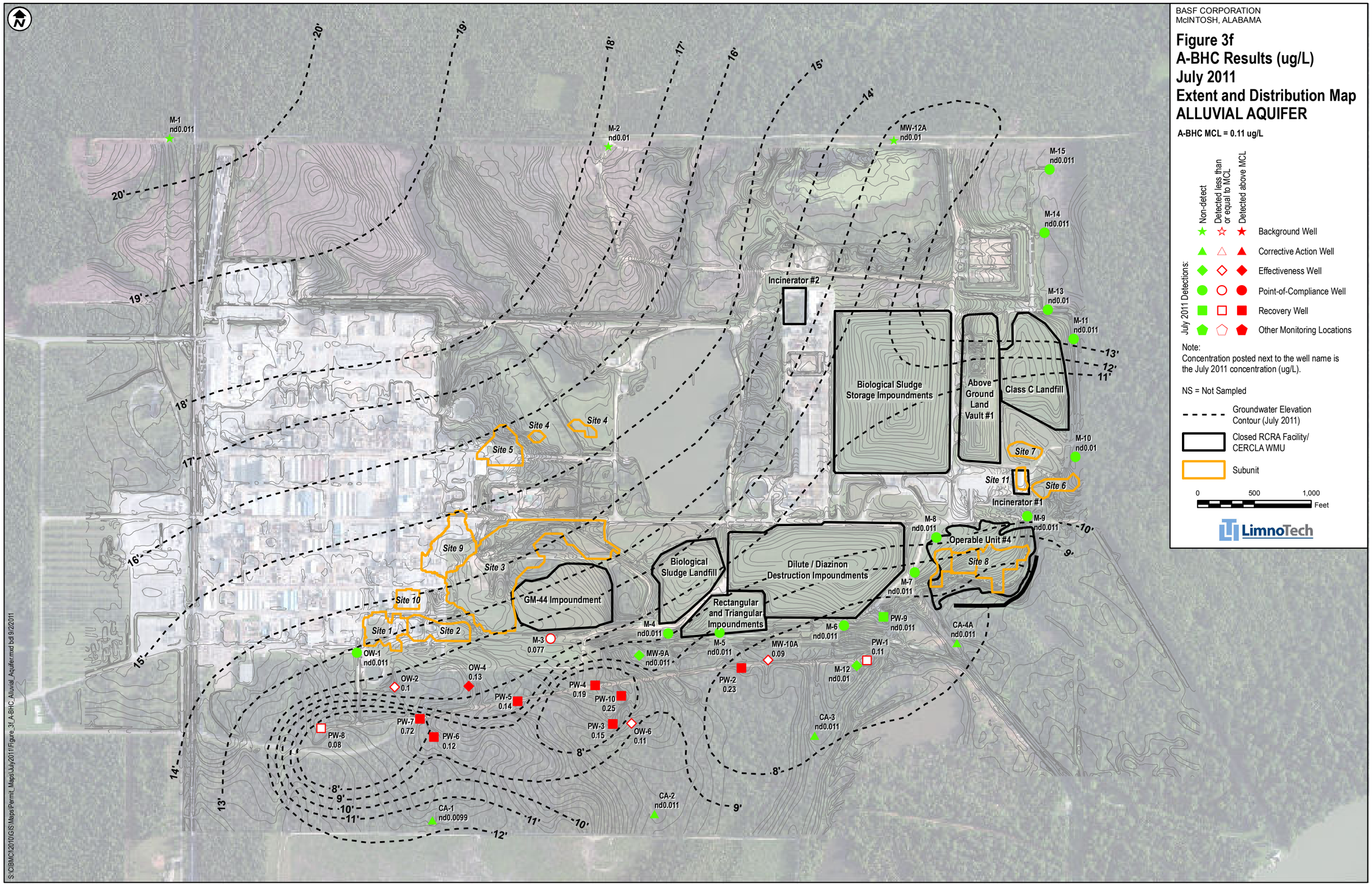
BASF CORPORATION
McINTOSH, ALABAMA

Figure 3f
A-BHC Results (ug/L)
July 2011
Extent and Distribution Map
ALLUVIAL AQUIFER

A-BHC MCL = 0.11 ug/L



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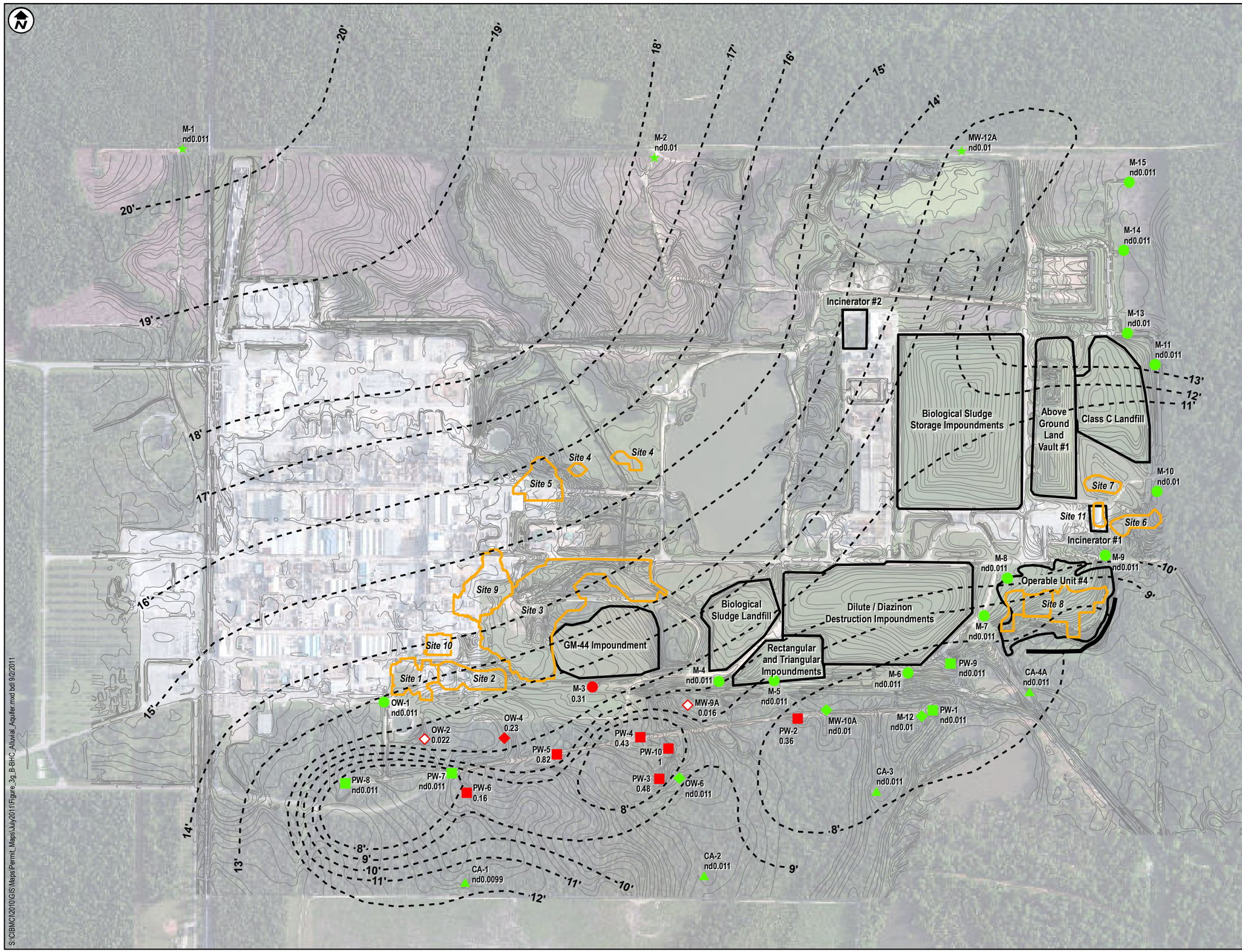
BASF CORPORATION
McINTOSH, ALABAMA

Figure 3g
B-BHC Results (ug/L)
July 2011
Extent and Distribution Map
ALLUVIAL AQUIFER

B-BHC MCL = 0.037 ug/L



July 2011 Detections:

Non-detect	Detected less than or equal to MCL	Detected above MCL	
★	☆	★	Background Well
▲	△	▲	Corrective Action Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
■	□	■	Recovery Well
⬟	⬠	⬟	Other Monitoring Locations

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

- Groundwater Elevation Contour (July 2011)
- Closed RCRA Facility/ CERCLA WMU
- Subunit

0 500 1,000 Feet

LimnoTech

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Figure 4-a. Alluvial Aquifer Chlorobenzene Time-Series Graph
Wells CA1 through CA4A
BASF Corporation - McIntosh, Alabama

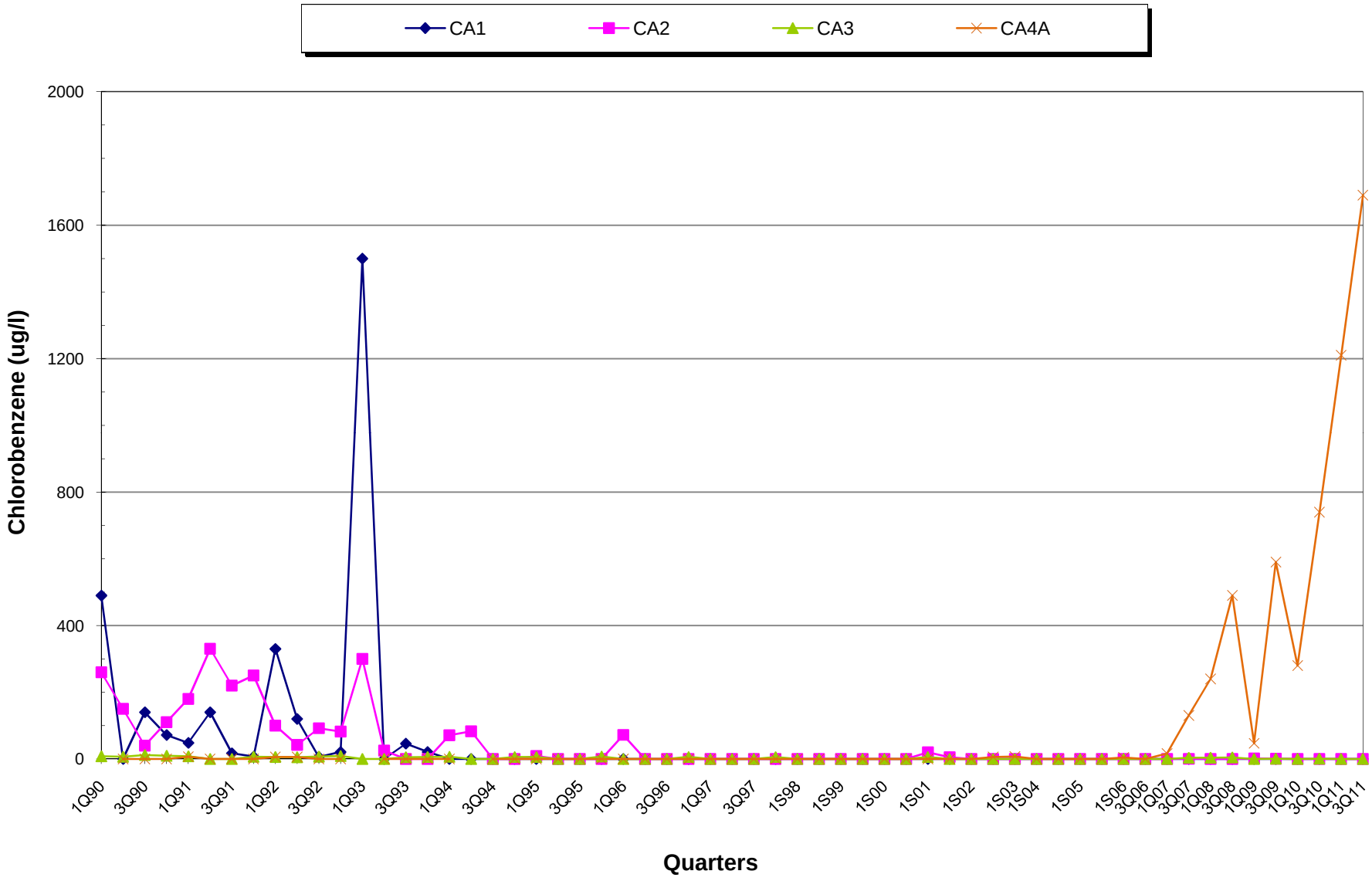


Figure 4-b. Alluvial Aquifer Chlorobenzene Time-Series Graph
Wells PW-1 and PW-9
BASF Corporation - McIntosh, Alabama

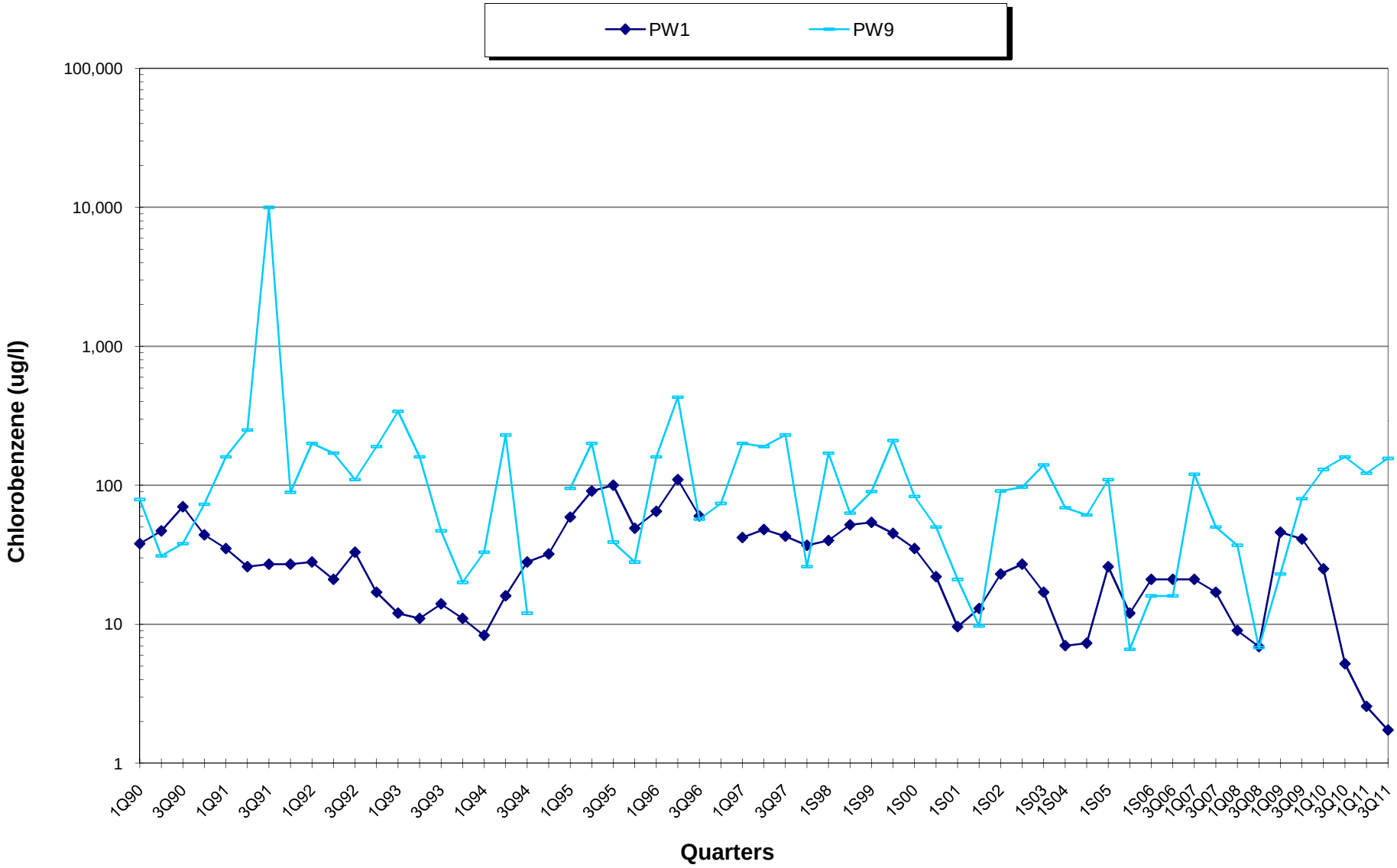


Figure 4-c. Alluvial Aquifer Chlorobenzene Time-Series Graph
Wells PW-2, PW-3 and PW-4
BASF Corporation - McIntosh, Alabama

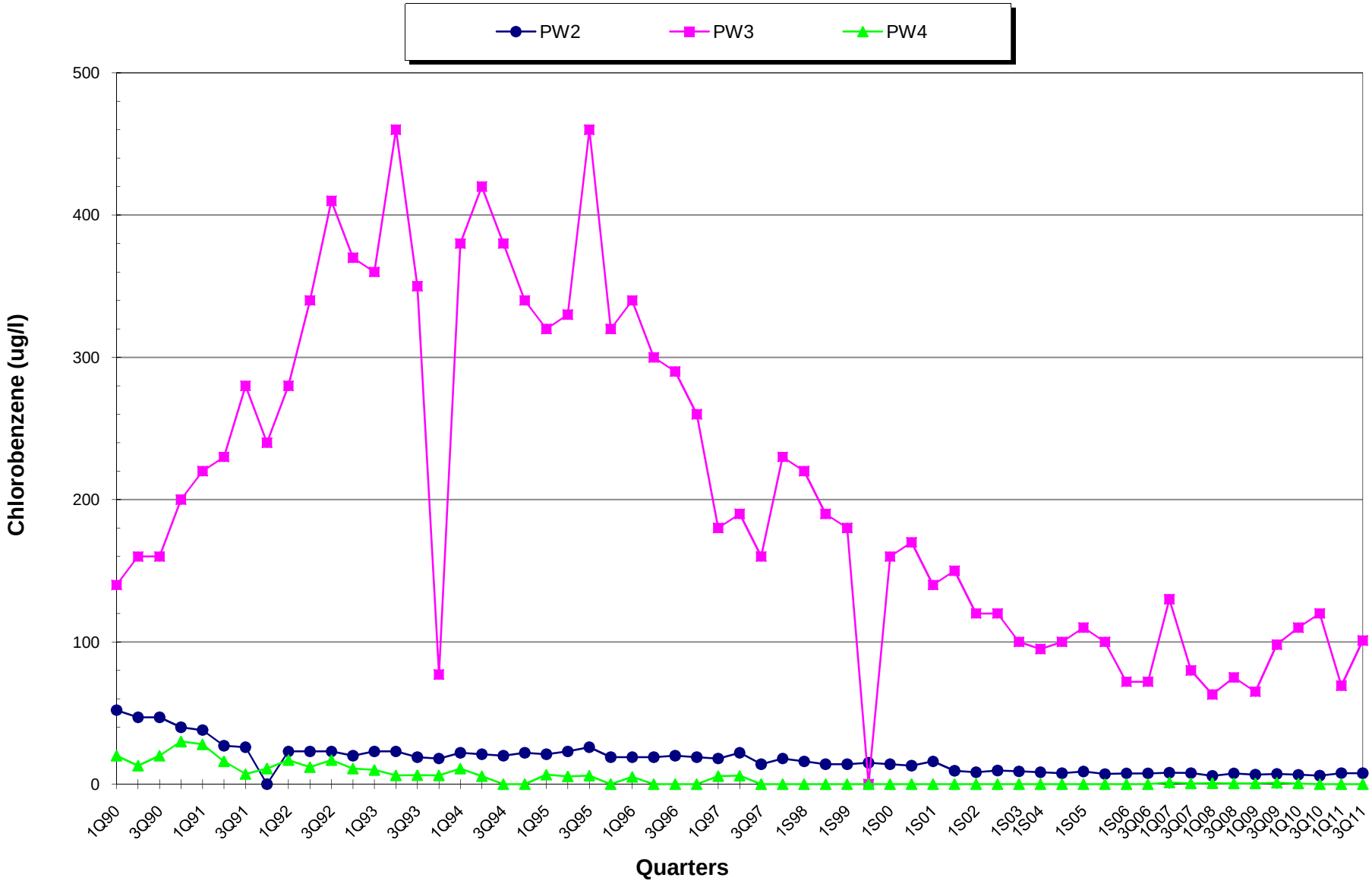


Figure 4-d. Alluvial Aquifer Chlorobenzene Time-Series Graph
Wells PW-5 and PW-8
BASF Corporation - McIntosh, Alabama

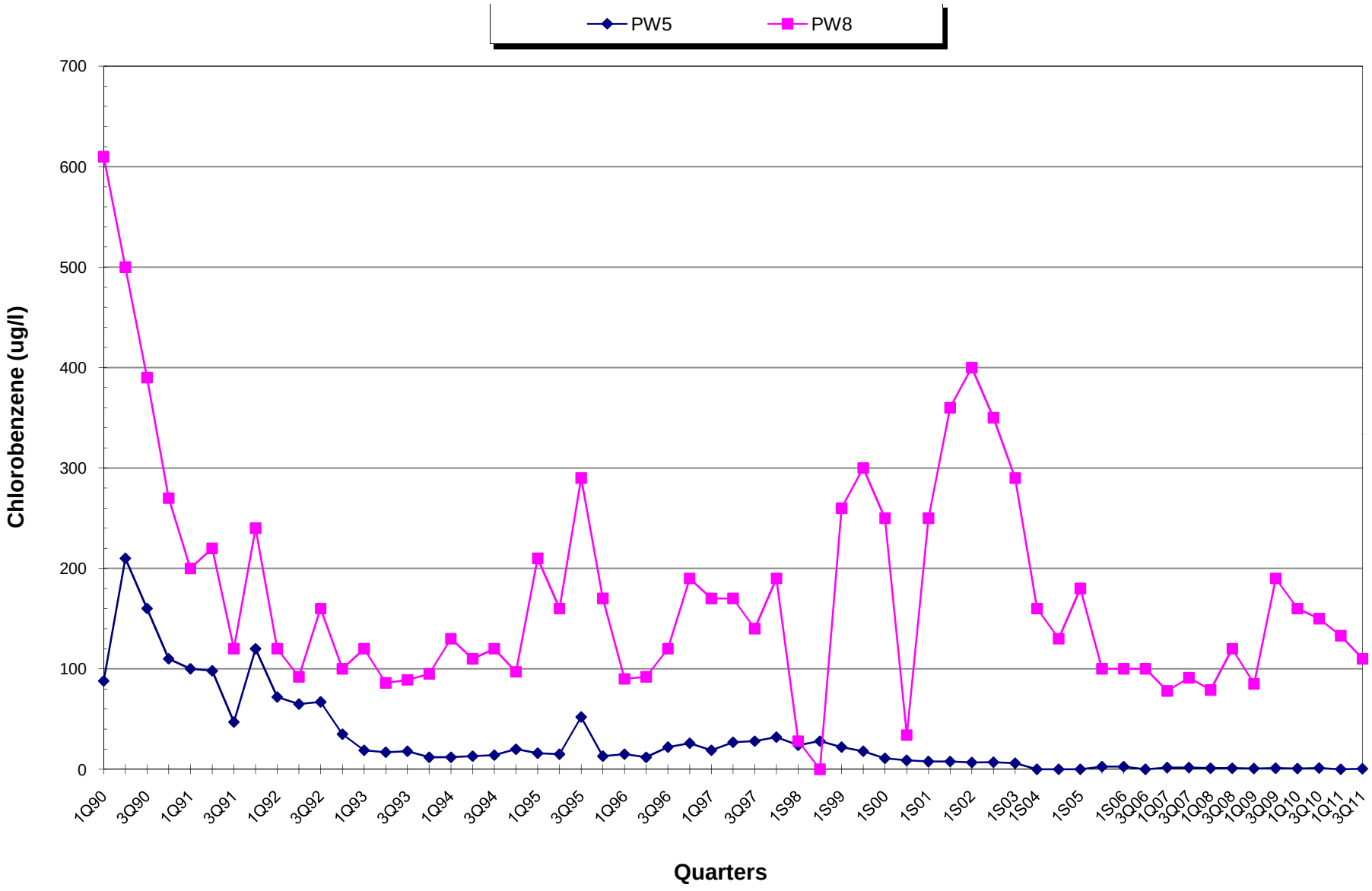
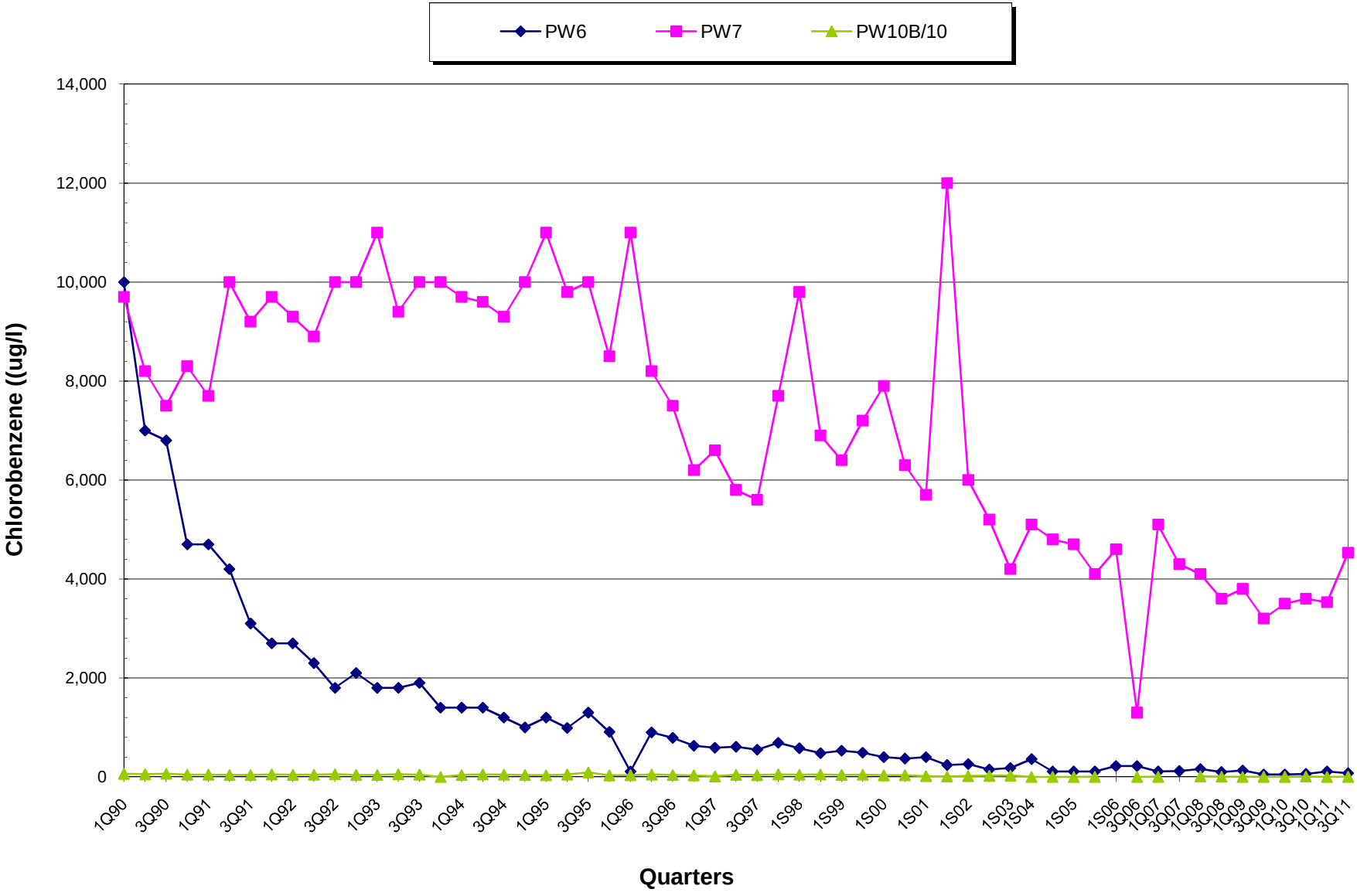


Figure 4-e. Alluvial Aquifer Chlorobenzene Time-Series Graph
Wells PW-6, PW-7 and PW-10B
BASF Corporation - McIntosh, Alabama



BASF CORPORATION
McINTOSH, ALABAMA

Figure 5a
Arsenic Results (ug/L)
July 2011
Extent and Distribution Map
MIOCENE AQUIFER

Arsenic MCL = 50 ug/L

July 2011 Detections:

All non-detect	At least 1 detection (no MCL exceedances)	At least 1 detection above MCL	
★	☆	★	Background Well
✚	✚	✚	Boundary Well
⬟	⬠	⬟	Compliance Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
▲	△	▲	Production Well
◔	◔	◔	Water Well
◆	◇	◆	Abandoned Well

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

The following wells were abandoned in Nov. 2008: CA-3B, PZD-7, PZD-8, PZD-9, PZMC-1 and B-10B

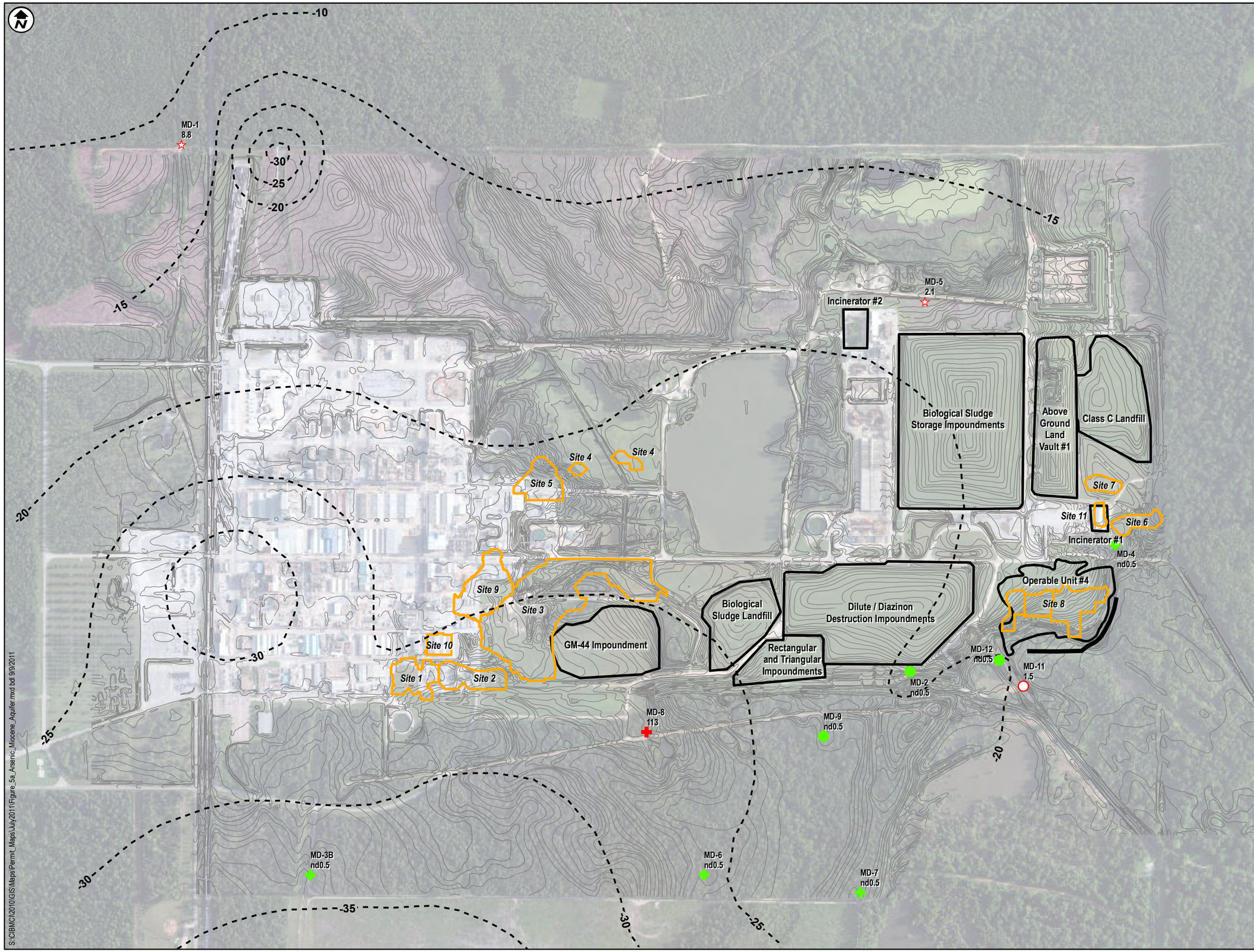
Groundwater Elevation Contour (July 2011)

Closed RCRA Facility/CERCLA WMU

Subunit

0 500 1,000 Feet

LimnoTech



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BASF CORPORATION
McINTOSH, ALABAMA

Figure 5b
Barium Results (ug/L)
July 2011
Extent and Distribution Map
MIOCENE AQUIFER

Barium MCL = 200 ug/L

July 2011 Detections:

All non-detect	At least 1 detection (no MCL exceedances)	At least 1 detection above MCL	
★	☆	★	Background Well
✚	✚	✚	Boundary Well
⬟	⬠	⬟	Compliance Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
▲	△	▲	Production Well
◔	◔	◔	Water Well
◆	◇	◆	Abandoned Well

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

The following wells were abandoned in Nov. 2008: CA-3B, PZD-7, PZD-8, PZD-9, PZMC-1 and B-10B

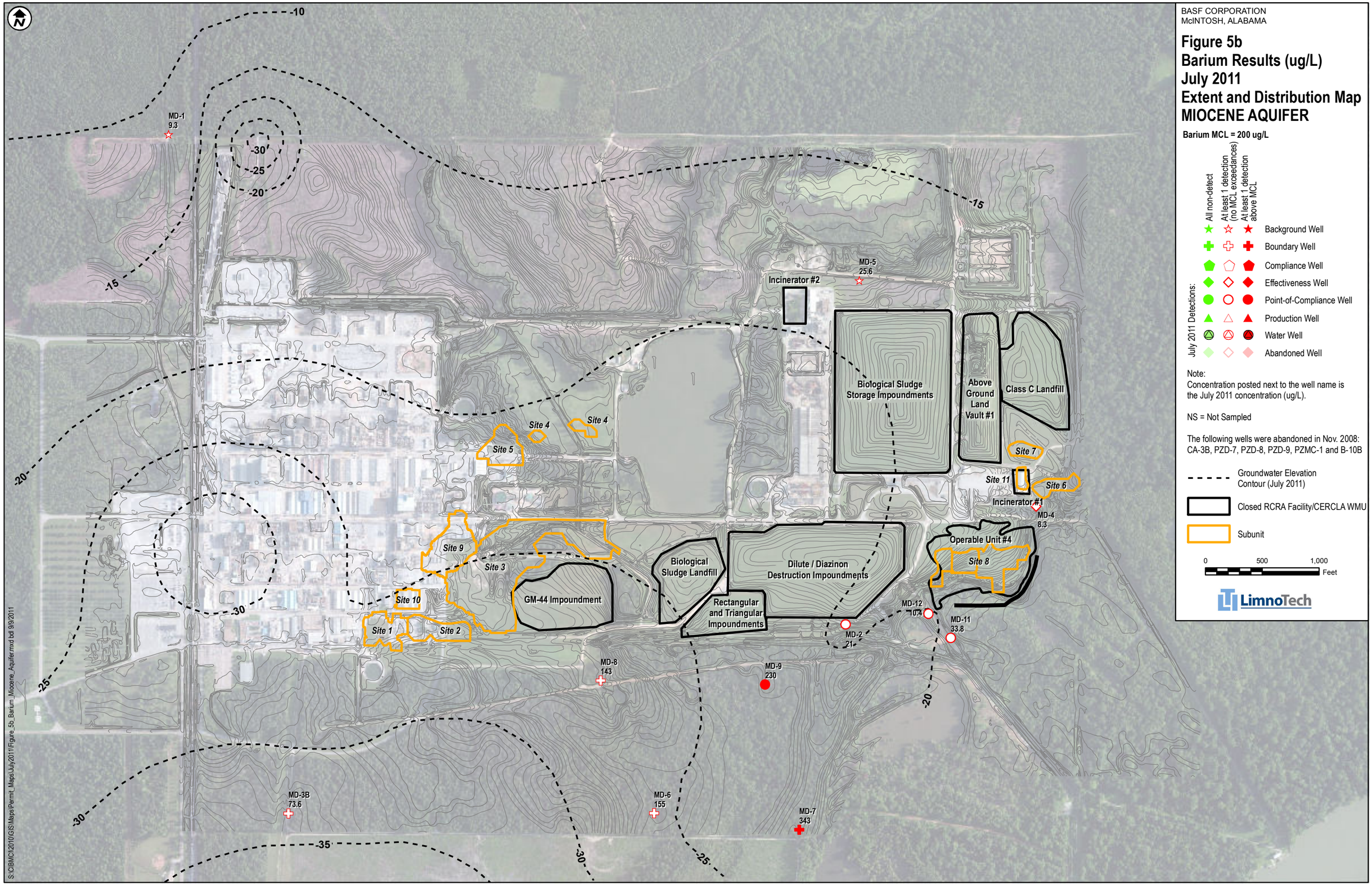
- - - - - Groundwater Elevation Contour (July 2011)

Closed RCRA Facility/CERCLA WMU

Subunit

0 500 1,000 Feet

LimnoTech



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BASF CORPORATION
McINTOSH, ALABAMA

Figure 5c
Chlorobenzene Results (ug/L)
July 2011
Extent and Distribution Map
MIOCENE AQUIFER

Chlorobenzene MCL = 100 ug/L

July 2011 Detections:

All non-detect	At least 1 detection (no MCL exceedances)	At least 1 detection above MCL	
★	☆	★	Background Well
✚	✚	✚	Boundary Well
⬟	⬠	⬟	Compliance Well
◆	◇	◆	Effectiveness Well
●	○	●	Point-of-Compliance Well
▲	△	▲	Production Well
◬	◬	◬	Water Well
◆	◇	◆	Abandoned Well

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

The following wells were abandoned in Nov. 2008: CA-3B, PZD-7, PZD-8, PZD-9, PZMC-1 and B-10B

Groundwater Elevation Contour (July 2011)

Closed RCRA Facility/CERCLA WMU

Subunit

0 500 1,000 Feet

LimnoTech

MD-1
nd0.5

MD-5
nd0.5

Incinerator #2

Biological Sludge Storage Impoundments

Above Ground Land Vault #1

Class C Landfill

Site 7

Site 11

Site 6

Incinerator #1

MD-4
nd0.5

Operable Unit #4

Site 8

Site 4

Site 4

Site 5

Site 9

Site 3

Site 10

Site 1

Site 2

GM-44 Impoundment

Biological Sludge Landfill

Dilute / Diazinon Destruction Impoundments

Rectangular and Triangular Impoundments

MD-12
667

MD-11
1310

MD-2
712

MD-8
2.3

MD-9
19.6

MD-3B
375

MD-6
39.9

MD-7
202

-10 -15 -20 -25 -30 -35

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BASF CORPORATION
McINTOSH, ALABAMA

Figure 5d
Benzene Results (ug/L)
July 2011
Extent and Distribution Map
MIOCENE AQUIFER

Benzene MCL = 5 ug/L

July 2011 Detections:

	All non-detect	At least 1 detection (no MCL exceedances)	At least 1 detection above MCL
Background Well	★	☆	★
Boundary Well	✚	✚	✚
Compliance Well	⬟	⬠	⬟
Effectiveness Well	◆	◇	◆
Point-of-Compliance Well	●	○	●
Production Well	▲	△	▲
Water Well	◬	◬	◬
Abandoned Well	◆	◇	◆

Note:
Concentration posted next to the well name is the July 2011 concentration (ug/L).

NS = Not Sampled

The following wells were abandoned in Nov. 2008: CA-3B, PZD-7, PZD-8, PZD-9, PZMC-1 and B-10B

Groundwater Elevation Contour (July 2011)

Closed RCRA Facility/CERCLA WMU

Subunit

0 500 1,000 Feet

LimnoTech

MD-1
nd0.5

MD-5
nd0.5

Incinerator #2

Biological Sludge Storage Impoundments

Above Ground Land Vault #1

Class C Landfill

Site 4

Site 4

Site 5

Site 7

Site 11

Site 6

Incinerator #1

MD-4
nd0.5

Operable Unit #4

Site 8

Site 9

Site 3

Biological Sludge Landfill

Dilute / Diazinon Destruction Impoundments

GM-44 Impoundment

Site 10

Site 1

Site 2

Rectangular and Triangular Impoundments

MD-12
5.2

MD-11
6.6

MD-2
4.46

MD-8
nd0.5

MD-9
nd0.5

MD-3B
1

MD-6
nd0.5

MD-7
nd1

-10 -15 -20 -25 -30 -35

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Figure 6-a. Miocene Aquifer Chlorobenzene Time-Series Graph
Wells MD-1, MD-2 and MD-3B
BASF Corporation - McIntosh, Alabama

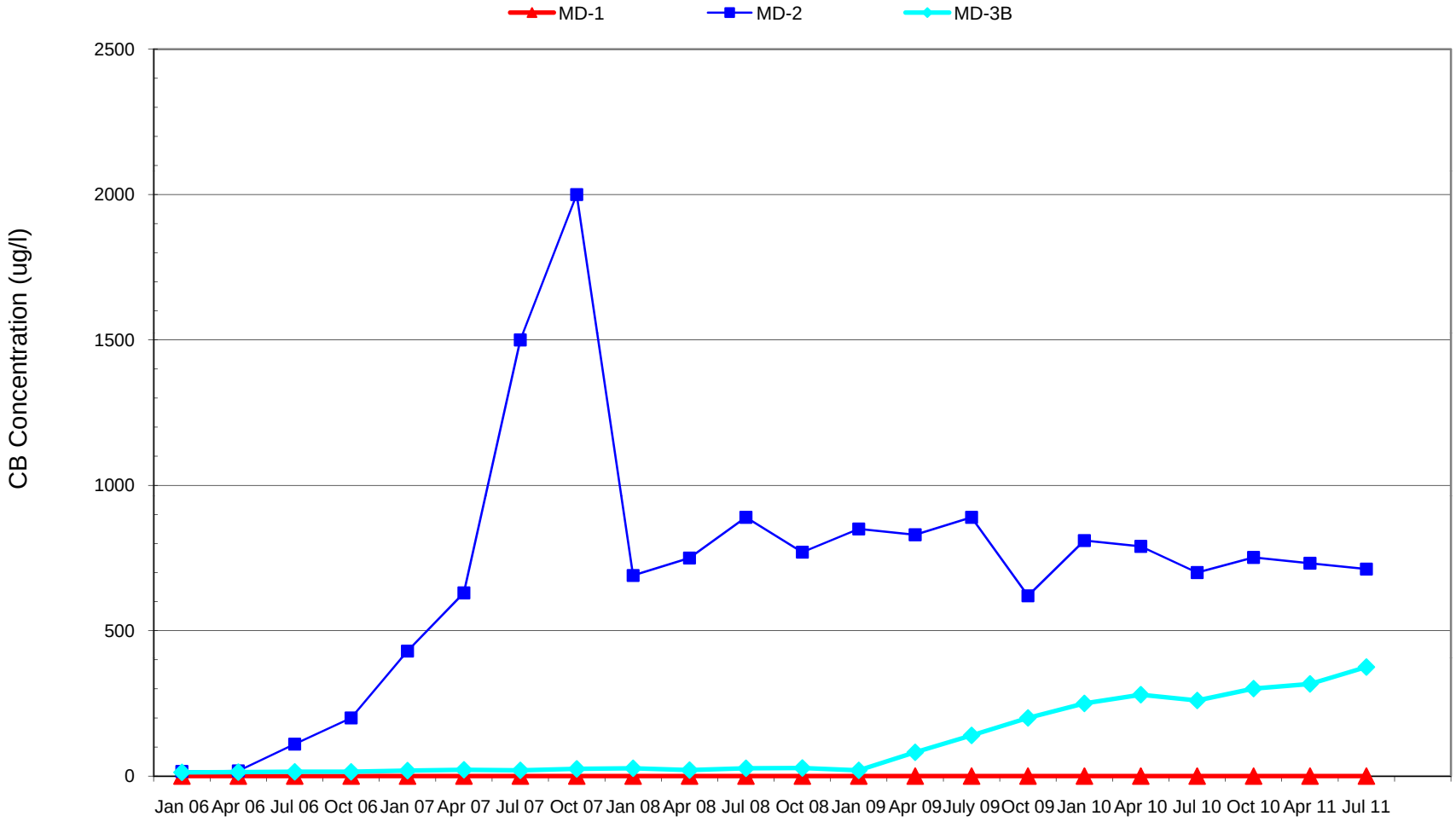

Figure 6-b. Miocene Aquifer Chlorobenzene Time-Series Graph
Wells MD-4, MD-5 and MD-6
BASF Corporation - McIntosh, Alabama

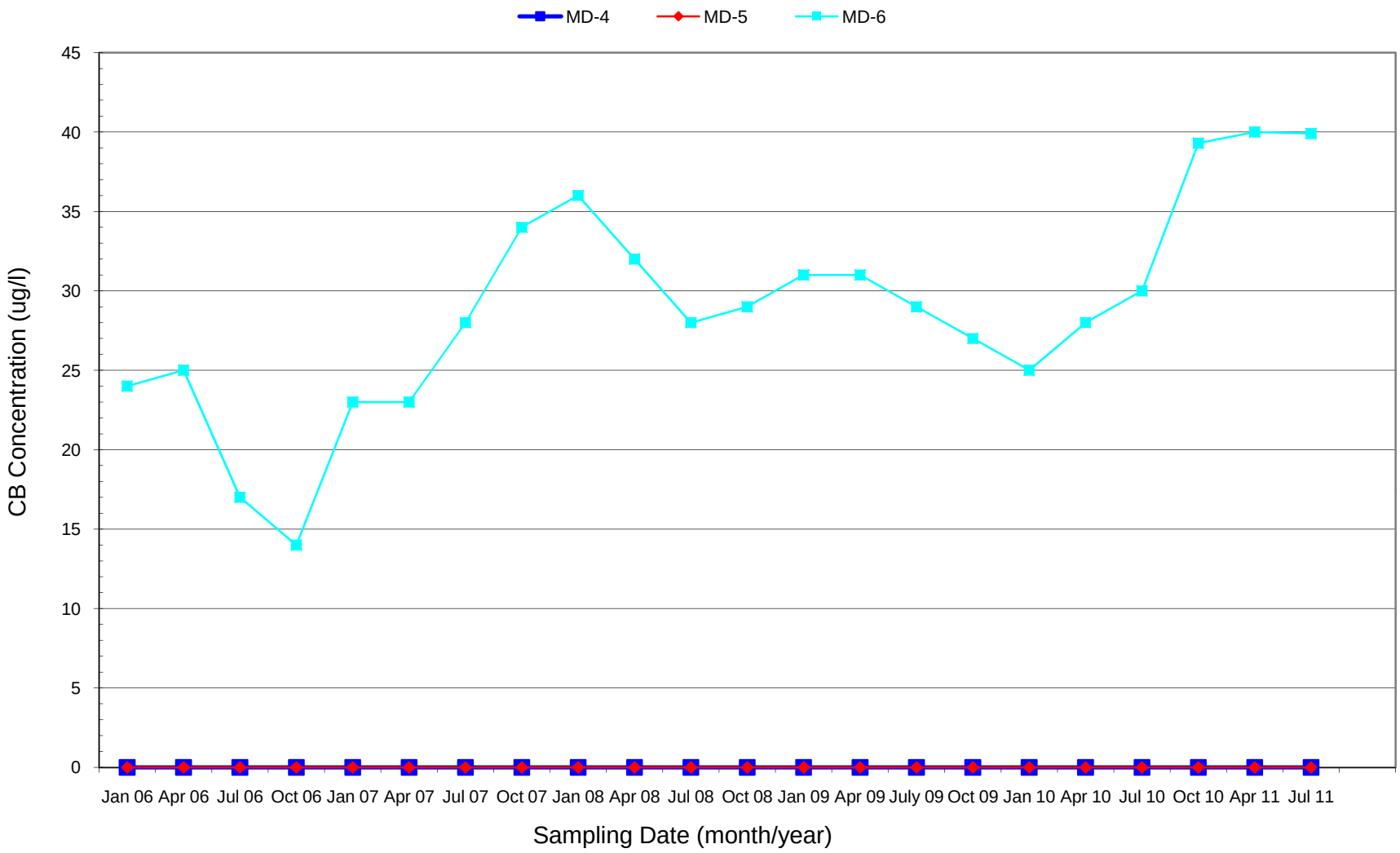

Figure 6-c. Miocene Aquifer Chlorobenzene Time-Series Graph
Wells MD-7 and MD-8
BASF Corporation - McIntosh, Alabama

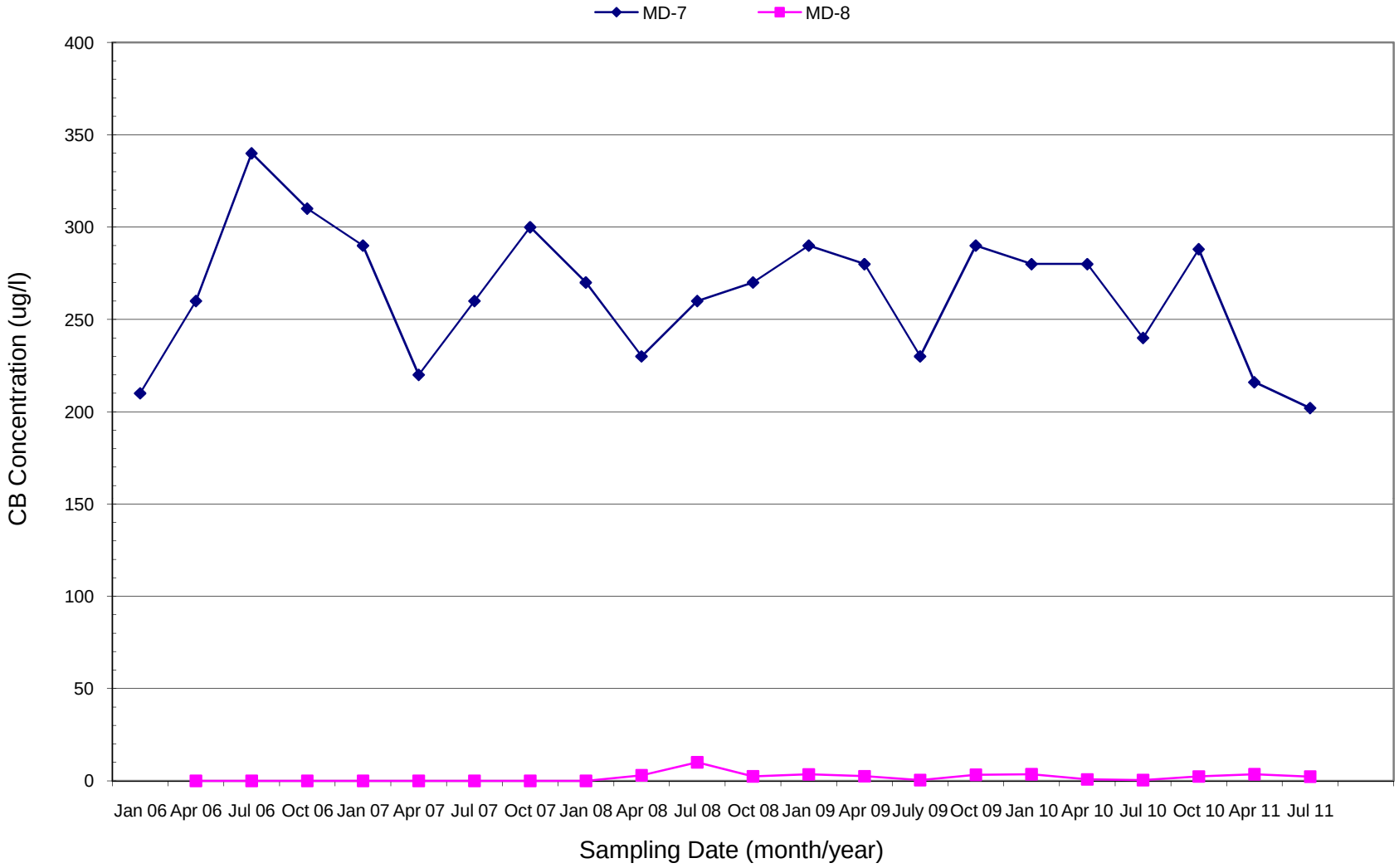
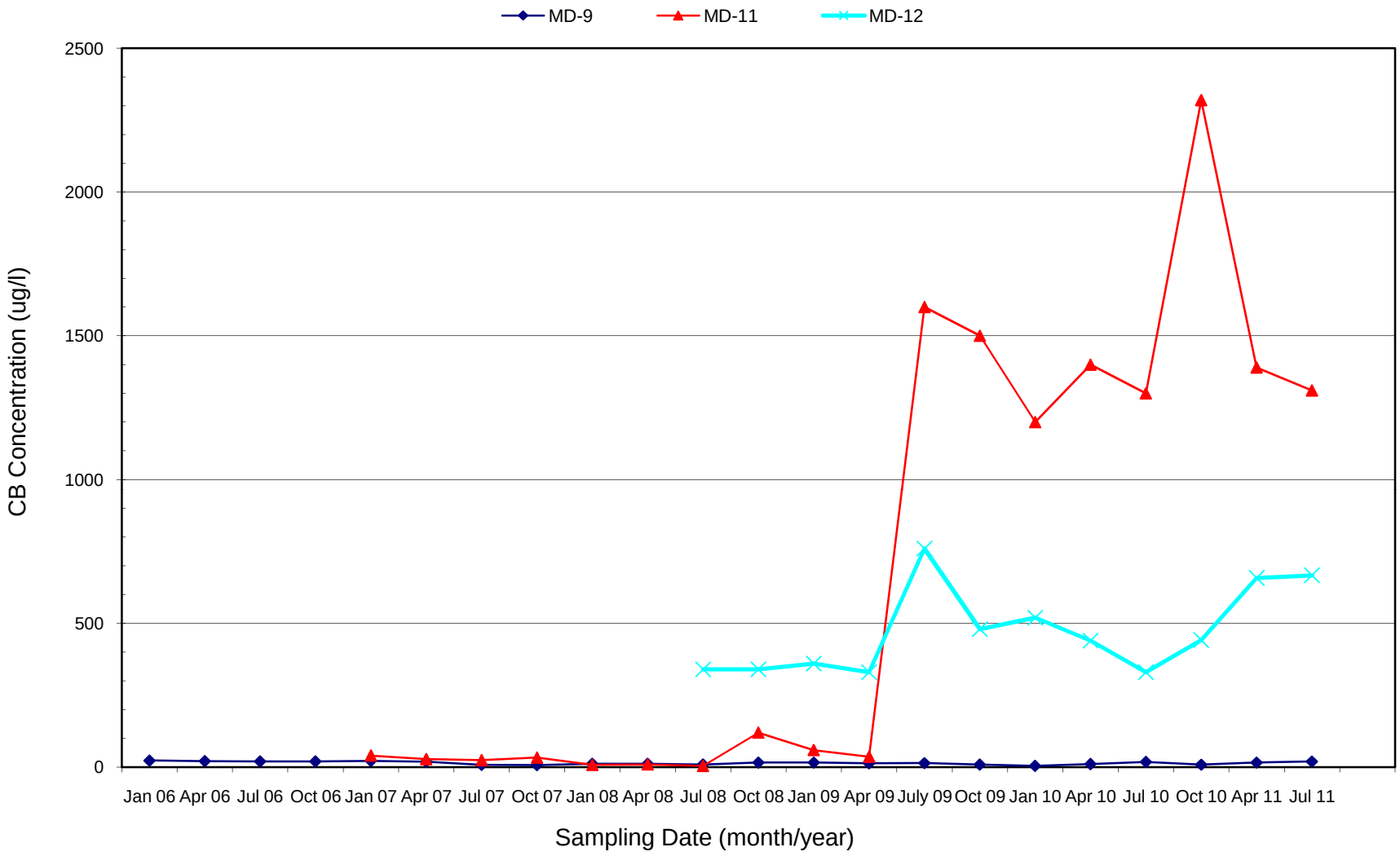
Figure 6-d. Miocene Aquifer Chlorobenzene Time-Series Graph
Wells MD-9, MD-11 and MD-12
BASF Corporation - McIntosh, Alabama