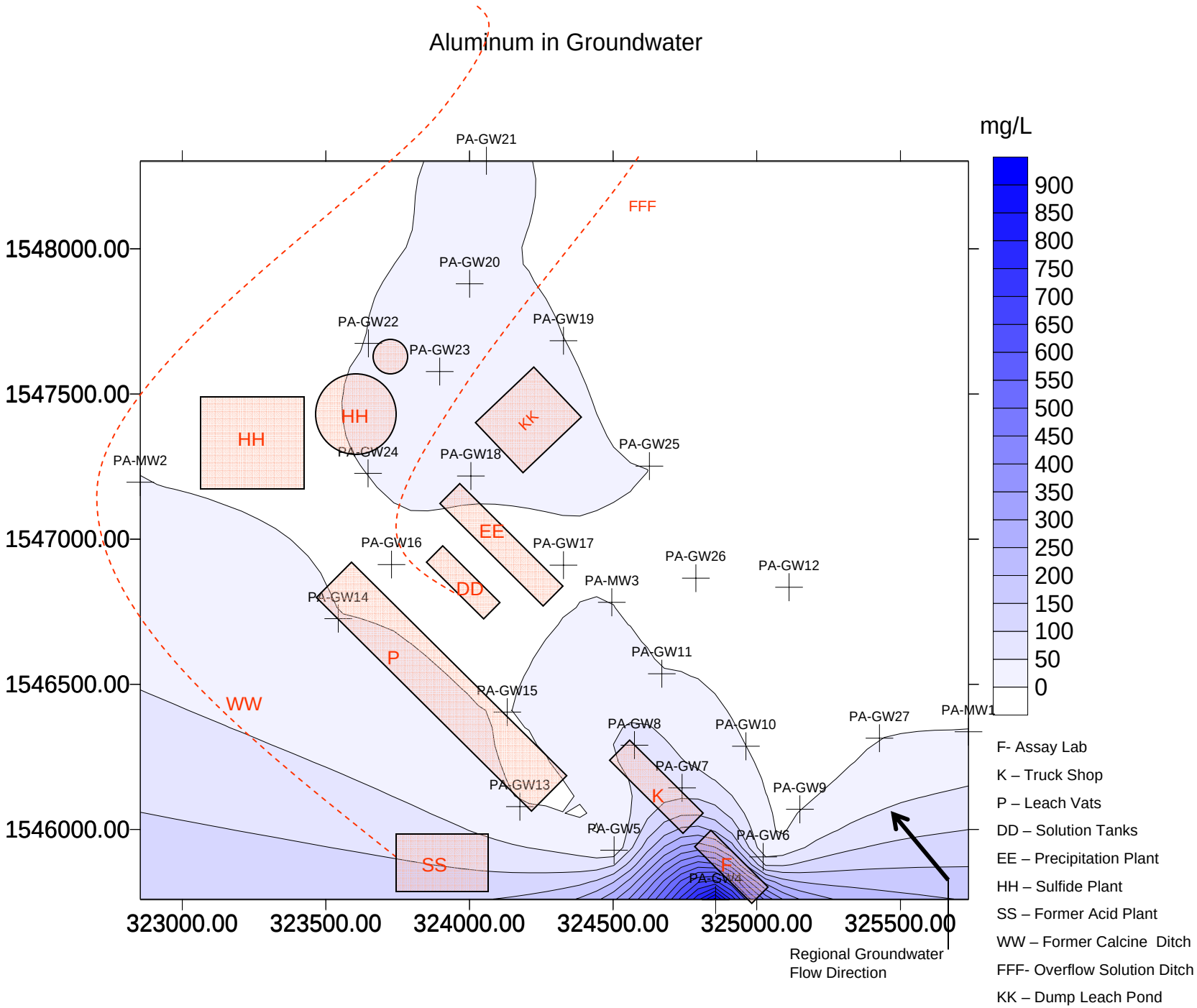
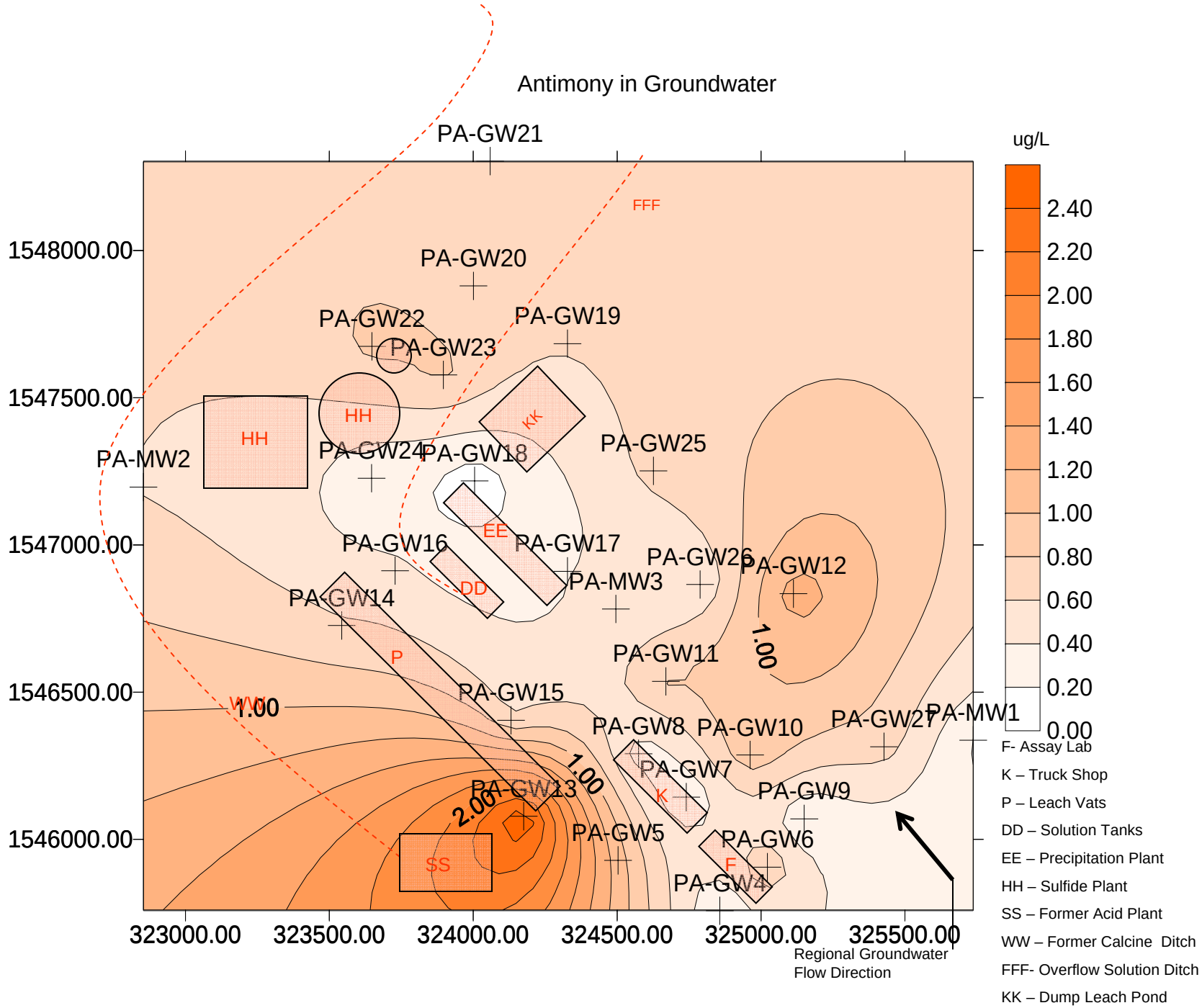
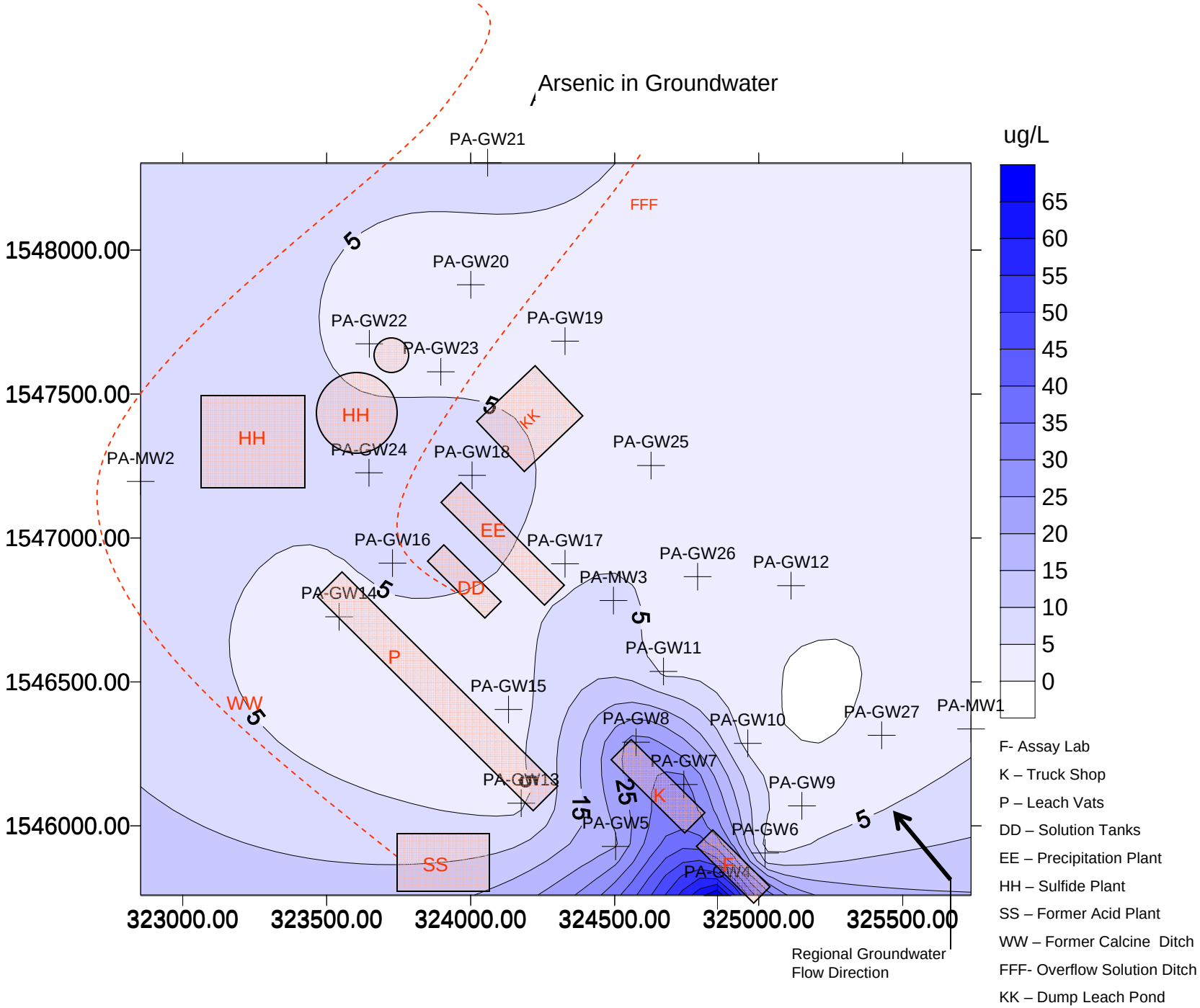
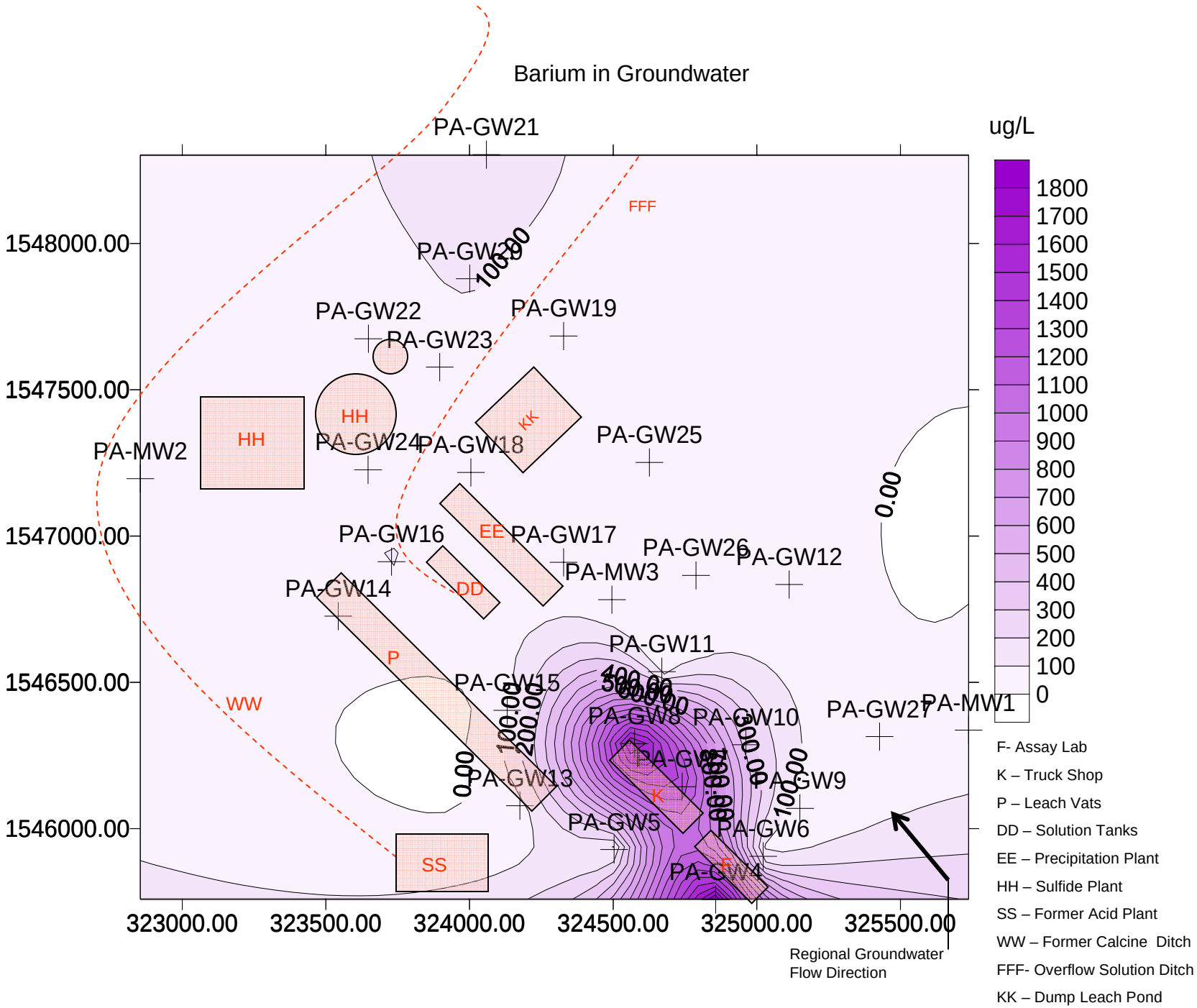
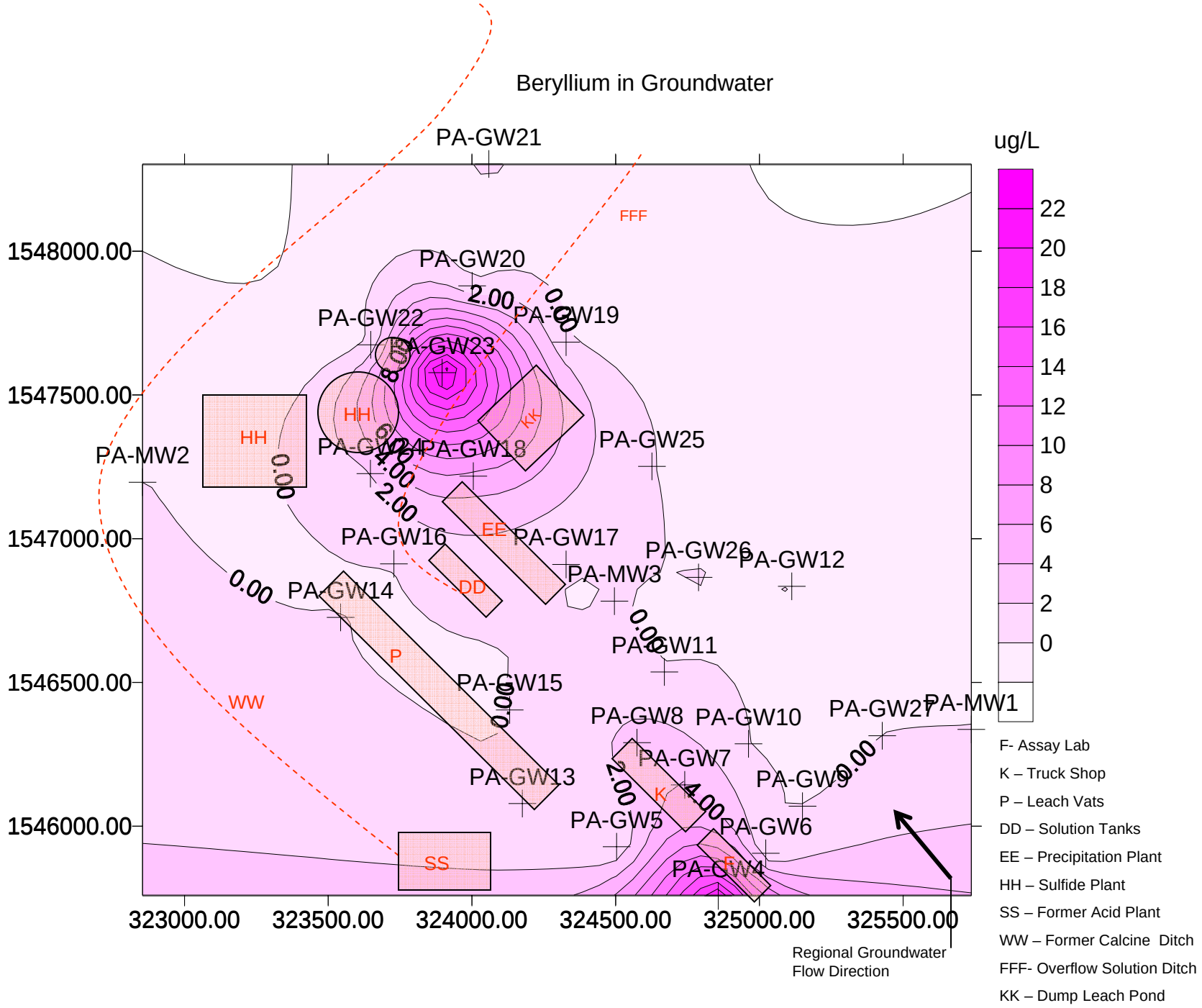
Metals

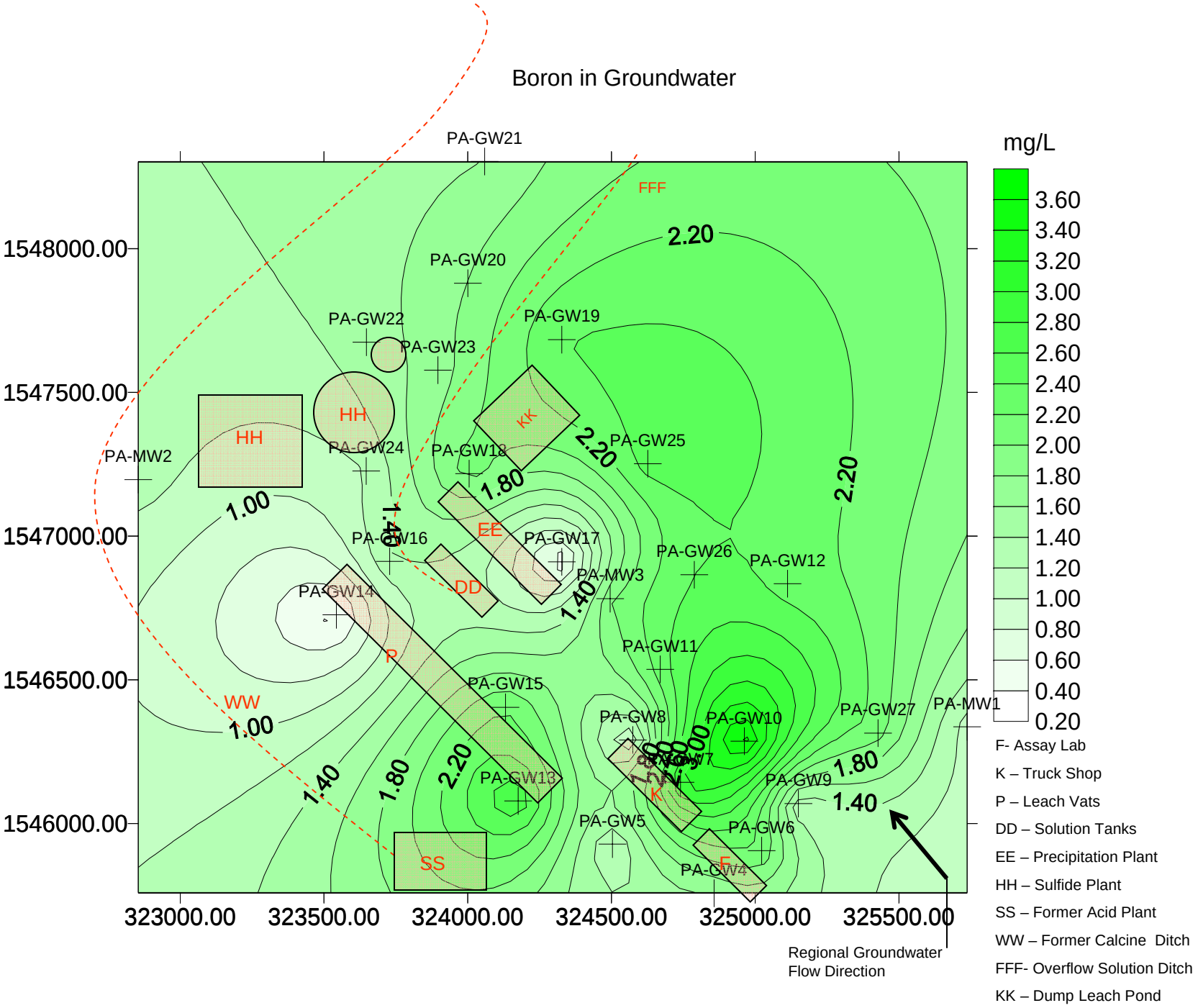

Aluminum in Groundwater
mg/L
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
HH
KK
EE
DD
P
WW
SS
K
F
FFF
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond

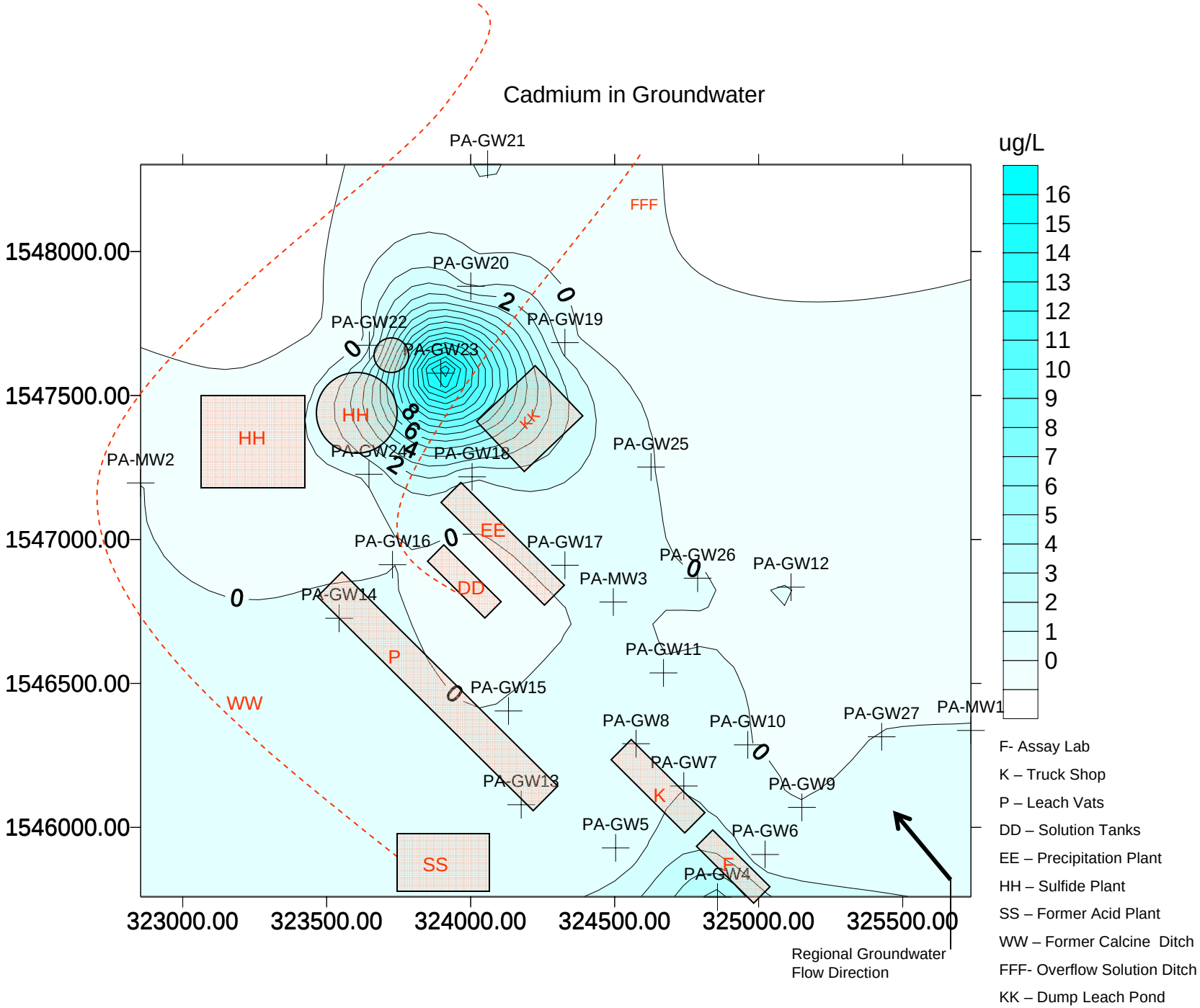

Antimony in Groundwater
ug/L
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW19
PA-GW23
HH
HH
KK
PA-MW2
PA-GW24
PA-GW18
PA-GW25
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
DD
PA-MW3
PA-GW14
1.00
P
PA-GW11
PA-GW15
WW
1.00
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
1.00
K
PA-GW9
PA-GW13
2.00
PA-GW5
PA-GW6
SS
F
PA-GW4
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Arsenic in Groundwater
ug/L
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-MW2
PA-GW24
PA-GW18
PA-GW25
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
HH
KK
EE
DD
P
WW
SS
K
F
FFF
5
5
5
5
5
5
15
25
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Barium in Groundwater
ug/L
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW29
PA-GW22
PA-GW23
PA-GW19
PA-MW2
HH
PA-GW24
PA-GW18
KK
PA-GW25
PA-GW16
EE
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
DD
P
PA-GW11
PA-GW15
WW
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW13
K
PA-GW9
PA-GW5
PA-GW6
SS
PA-GW4
FFF
0.00
100.00
200.00
300.00
400.00
500.00
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond

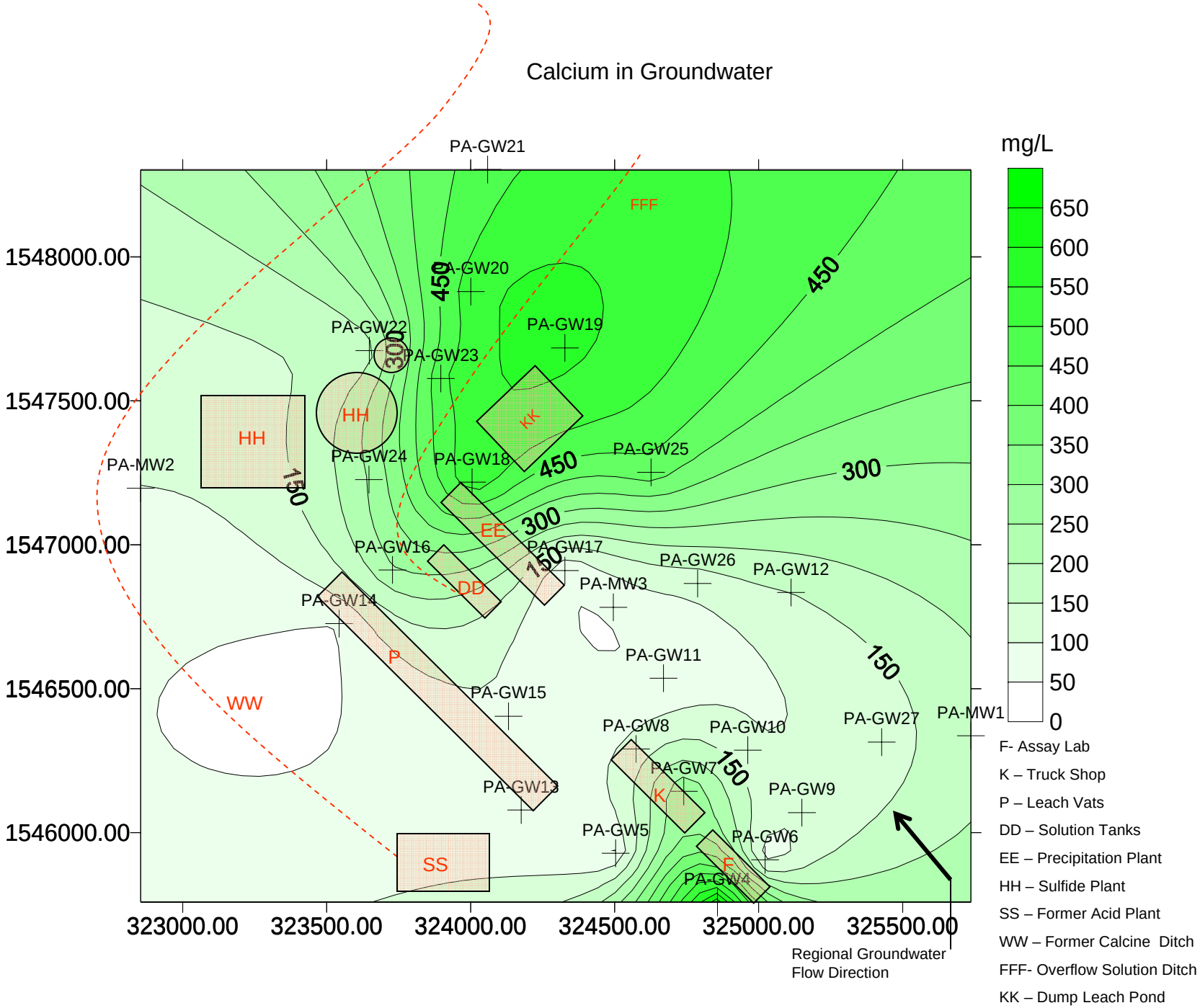

Beryllium in Groundwater
ug/L
22
20
18
16
14
12
10
8
6
4
2
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
SS
8.00
4.00
2.00
0.00
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond

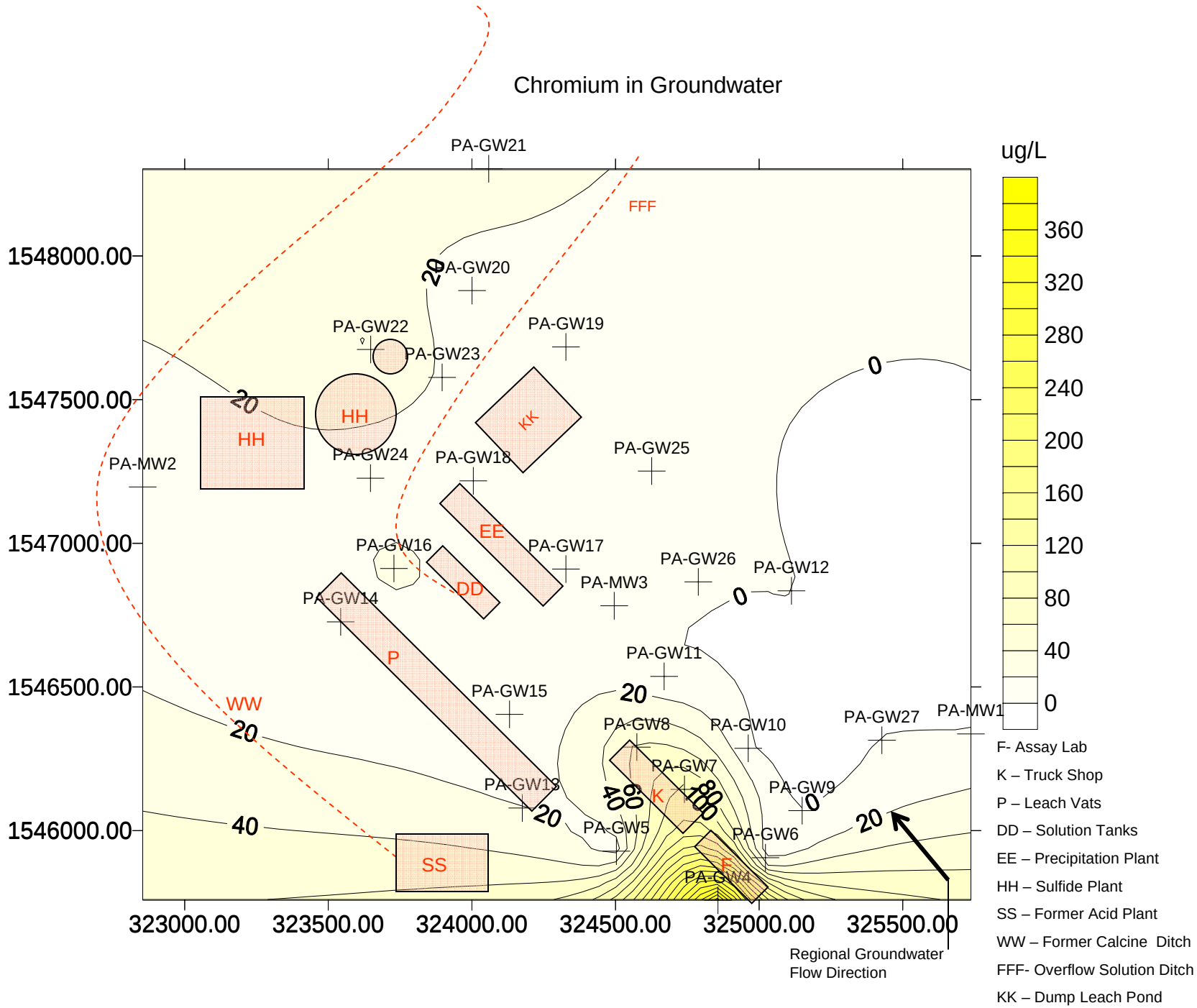

Boron in Groundwater
mg/L
3.60
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-MW3
PA-GW26
PA-GW12
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
HH
KK
EE
DD
P
WW
SS
K
F
FFF
2.20
2.20
2.20
1.80
1.40
1.00
1.00
1.40
1.80
2.20
1.80
1.40
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond



Cadmium in Groundwater
ug/L
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW19
PA-GW22
PA-GW23
HH
HH
KK
PA-GW24
PA-GW18
PA-GW25
PA-MW2
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
DD
PA-GW14
P
PA-GW11
PA-GW15
WW
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
K
PA-GW9
PA-GW5
PA-GW6
SS
F
PA-GW4
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond

Calcium in Groundwater




Chromium in Groundwater
ug/L
360
320
280
240
200
160
120
80
40
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
KK
EE
DD
P
WW
FFF
K
F
SS
0
20
40
60
80
100
Regional Groundwater
Flow Direction
F- Assay Lab
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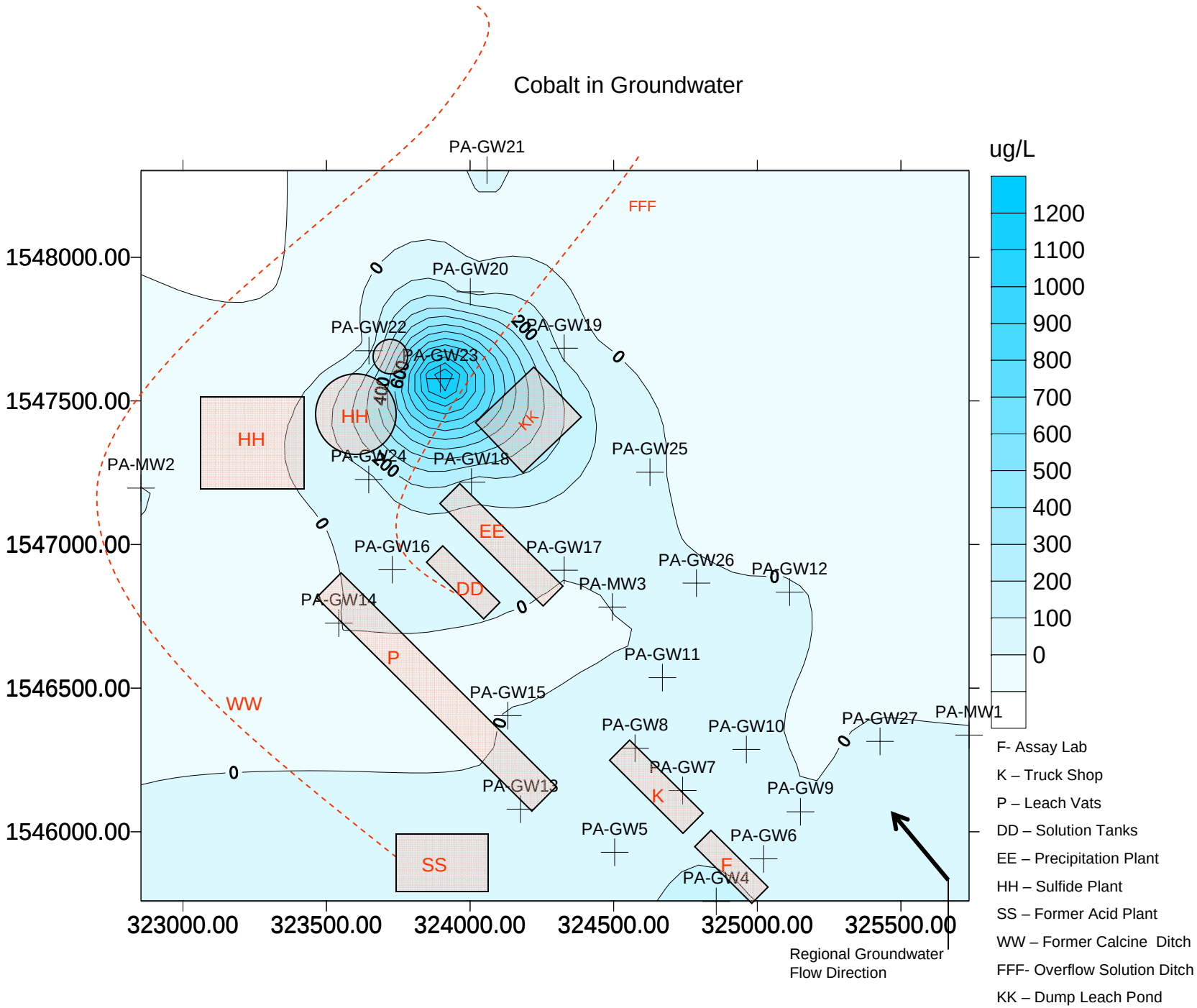
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Cobalt in Groundwater
ug/L
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
F
SS
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
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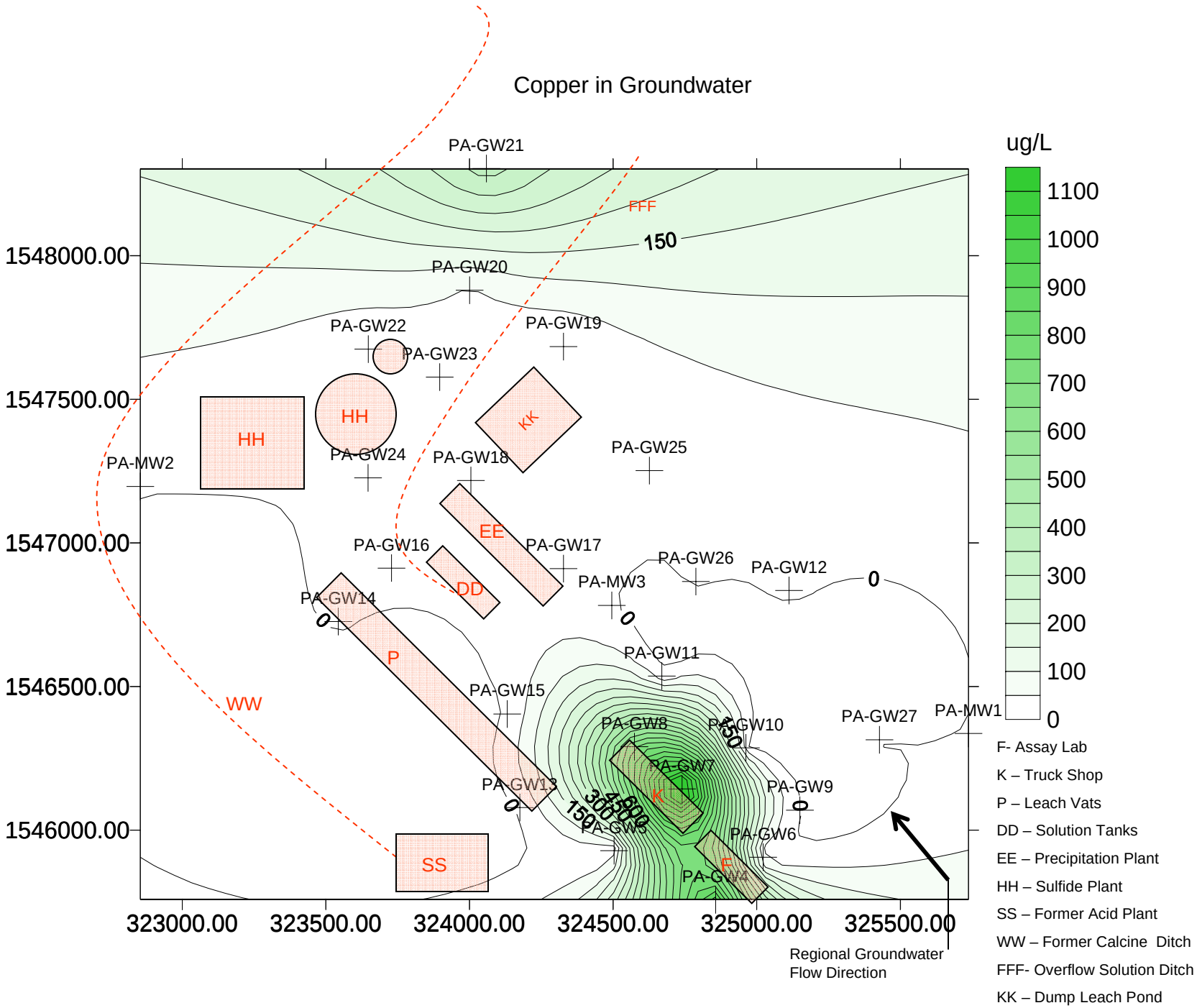
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Copper in Groundwater
ug/L
1100
1000
900
800
700
600
500
400
300
200
100
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
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PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
SS
K
F
150
0
300
450
600
Regional Groundwater
Flow Direction
F- Assay Lab
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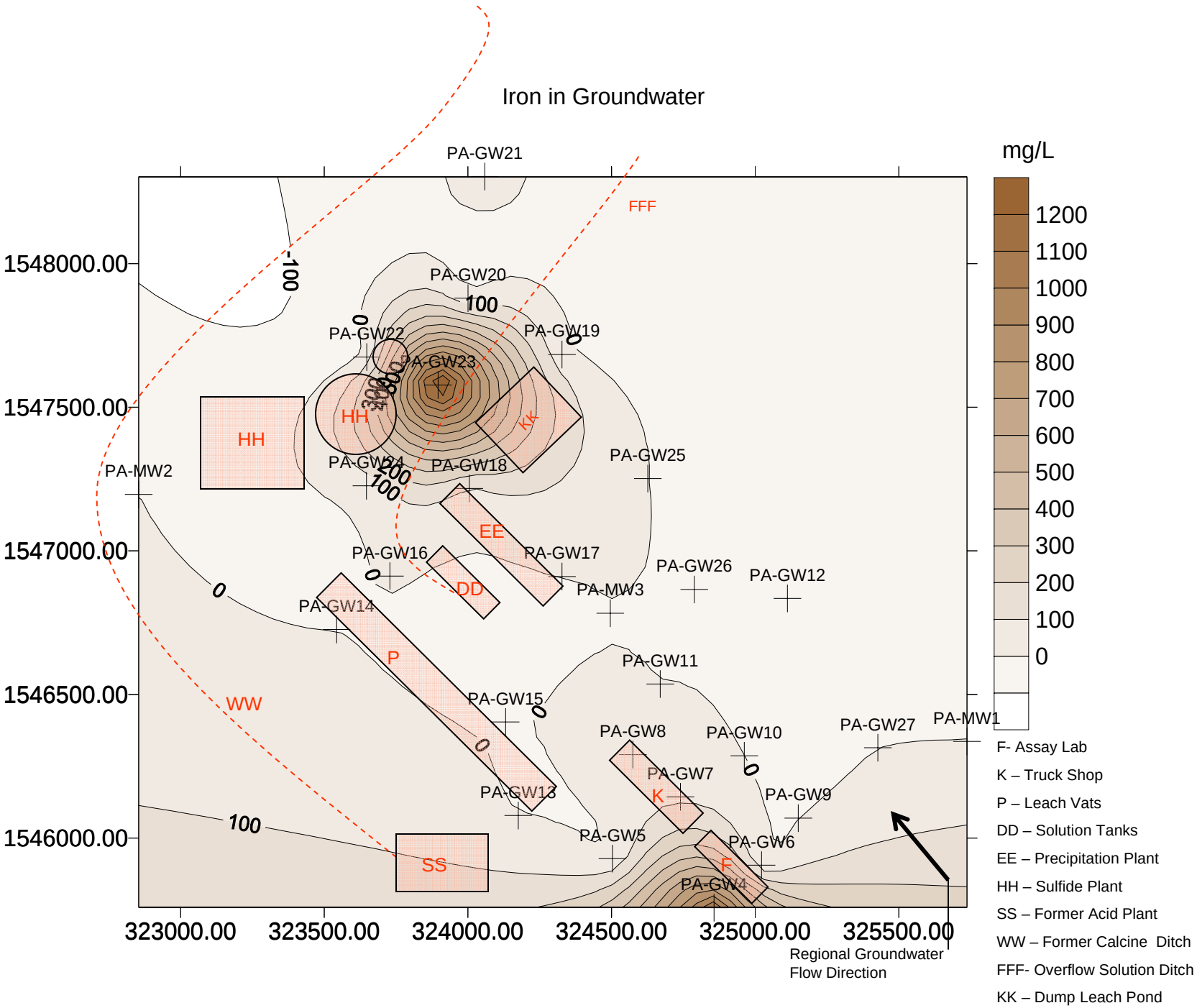
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Iron in Groundwater
mg/L
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
F
SS
-100
0
100
200
300
400
Regional Groundwater
Flow Direction
F- Assay Lab
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DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
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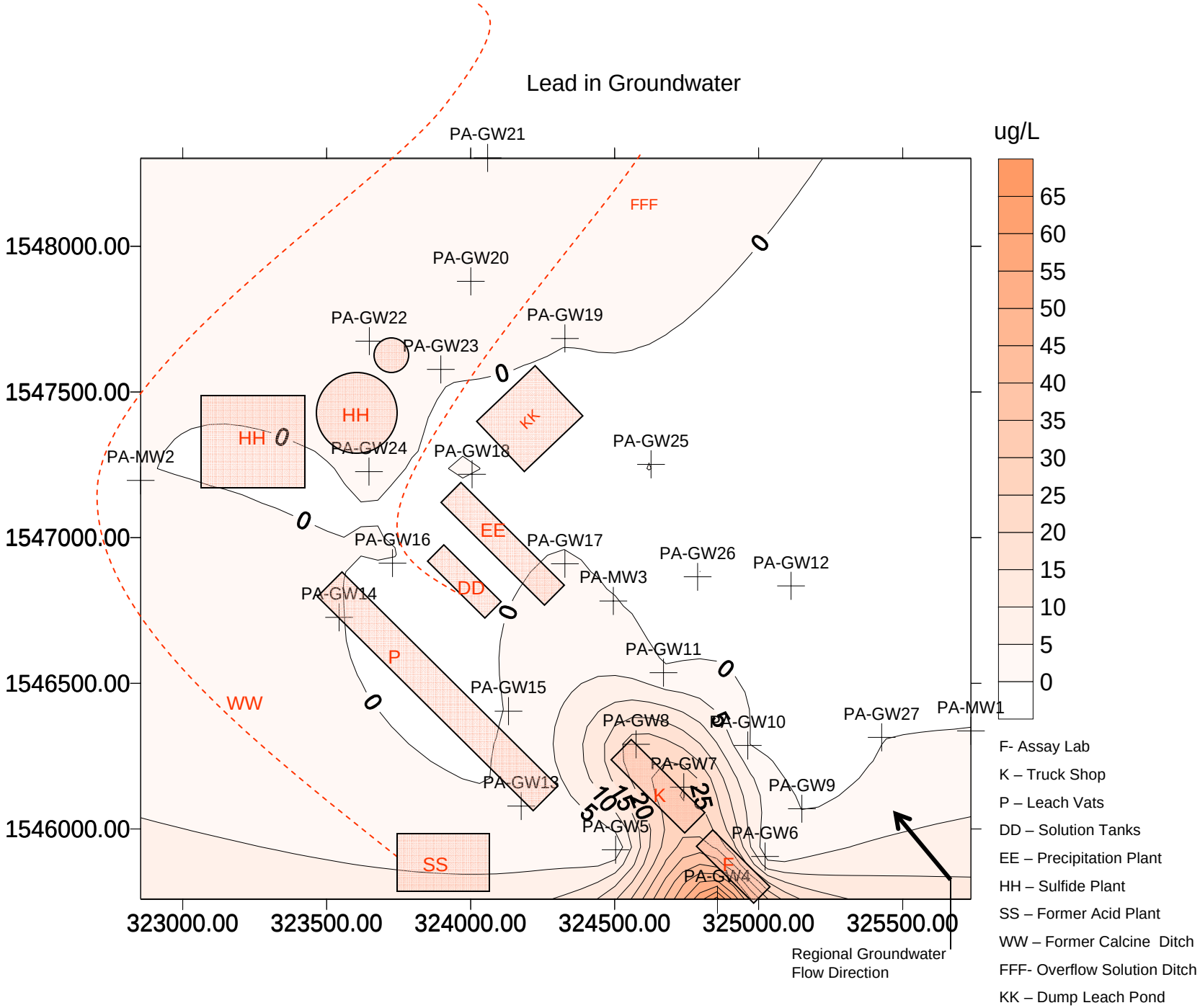
KK – Dump Leach Pond


Lead in Groundwater
ug/L
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
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PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
SS
K
F
0
5
10
15
20
25
Regional Groundwater
Flow Direction
F- Assay Lab
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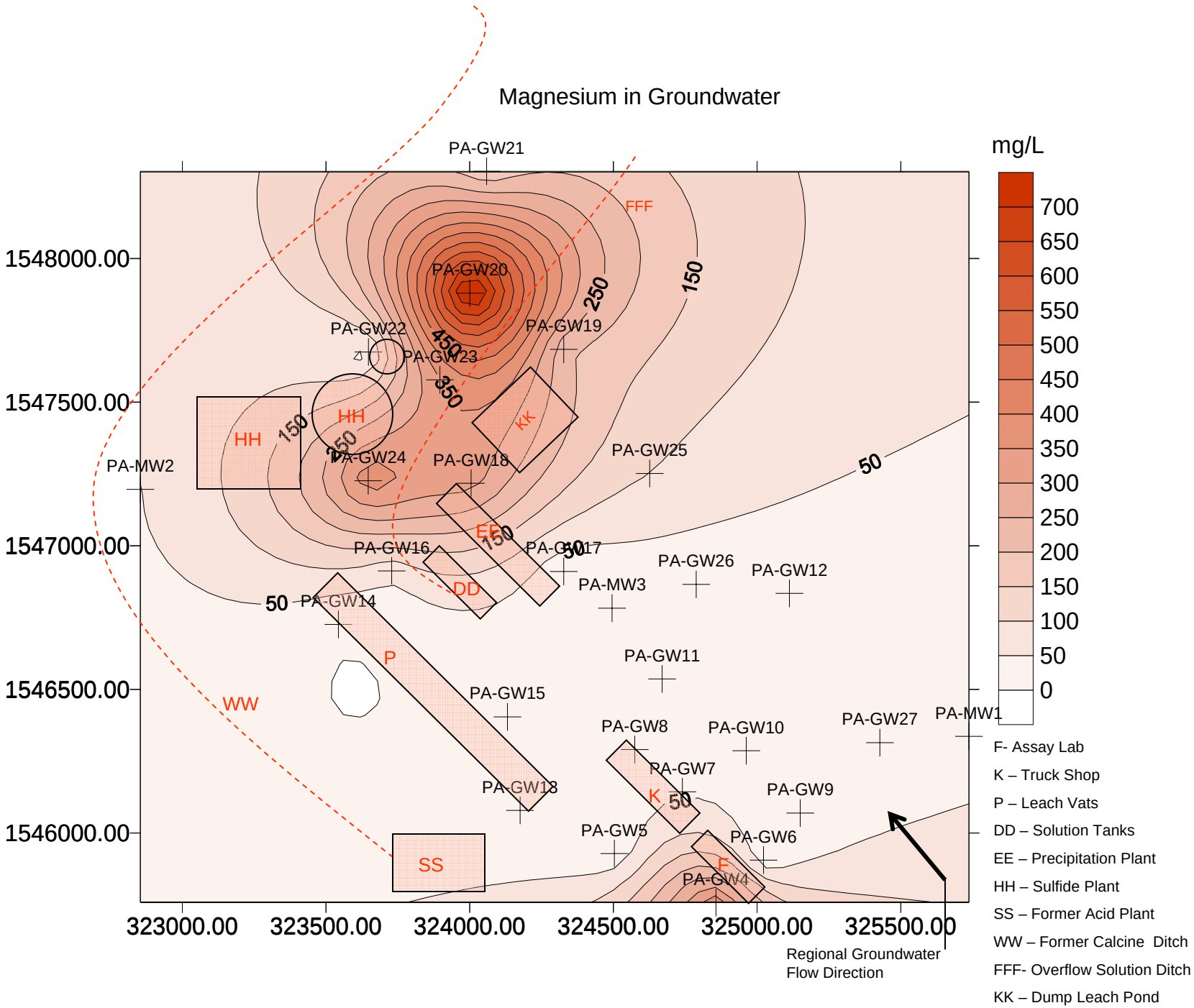
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Magnesium in Groundwater
mg/L
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
SS
F
250
150
450
350
50
Regional Groundwater
Flow Direction
F- Assay Lab
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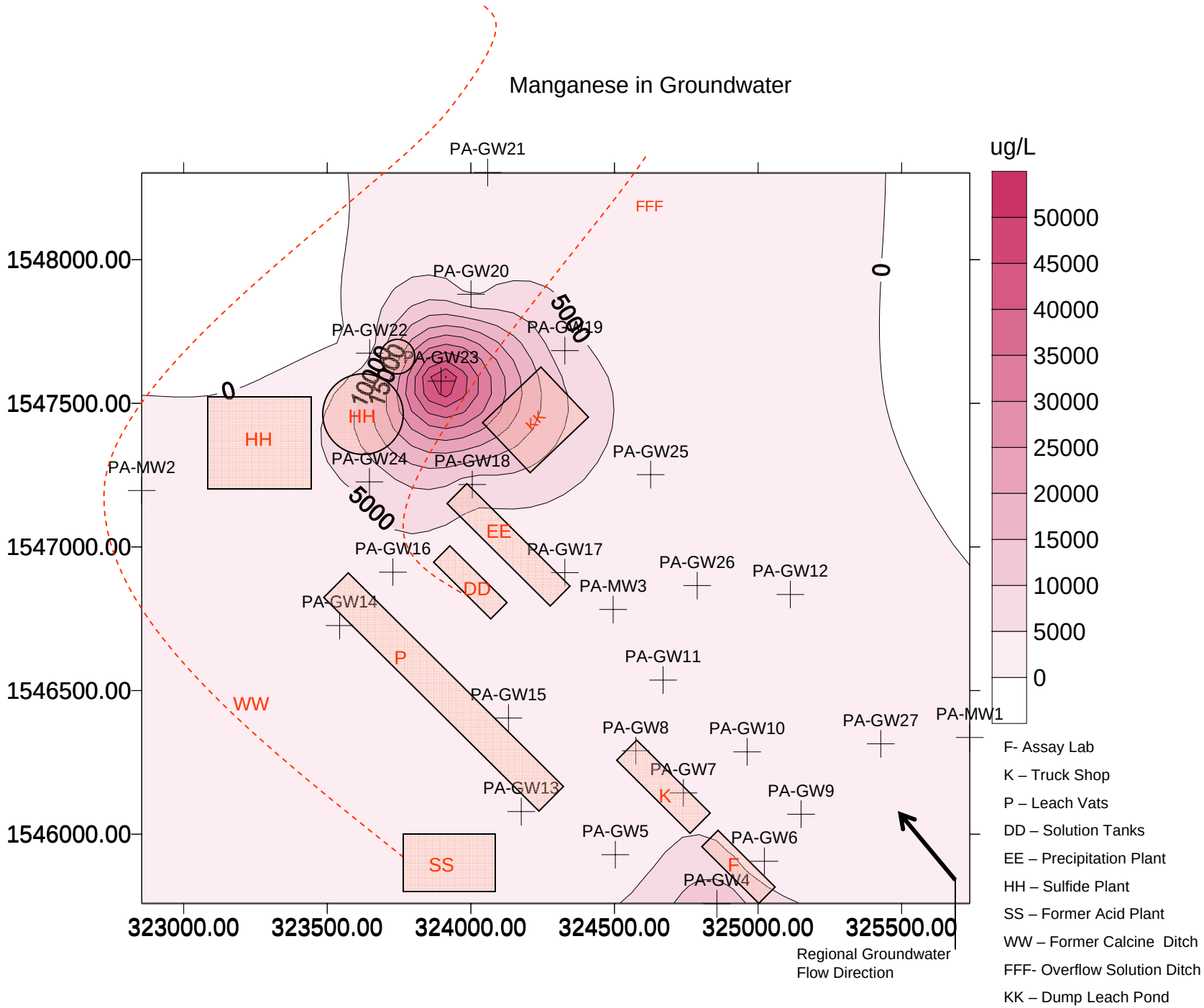
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Manganese in Groundwater
ug/L
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
EE
DD
P
K
F
SS
WW
FFF
KK
0
5000
10000
15000
Regional Groundwater
Flow Direction
F- Assay Lab
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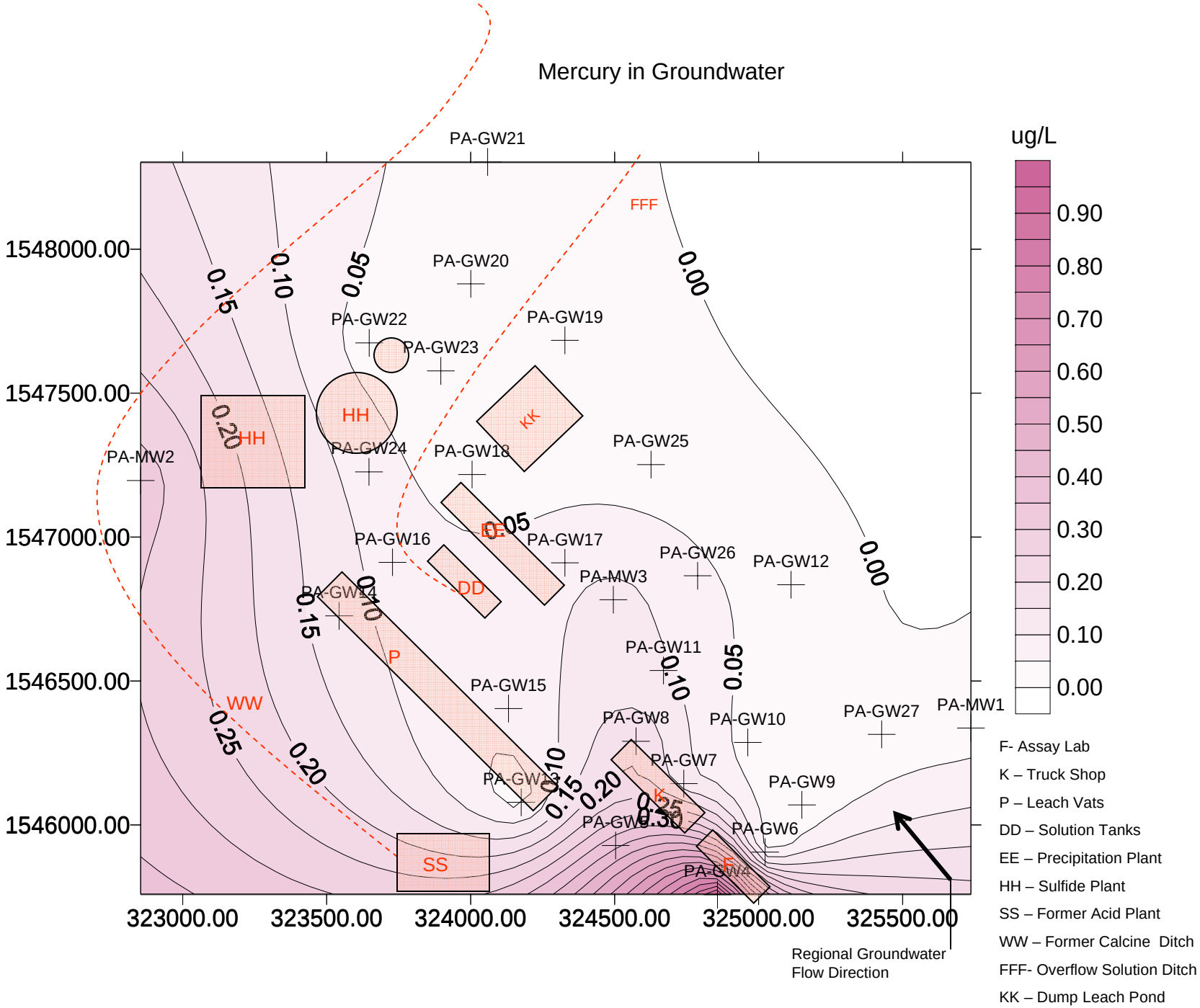
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Mercury in Groundwater
ug/L
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
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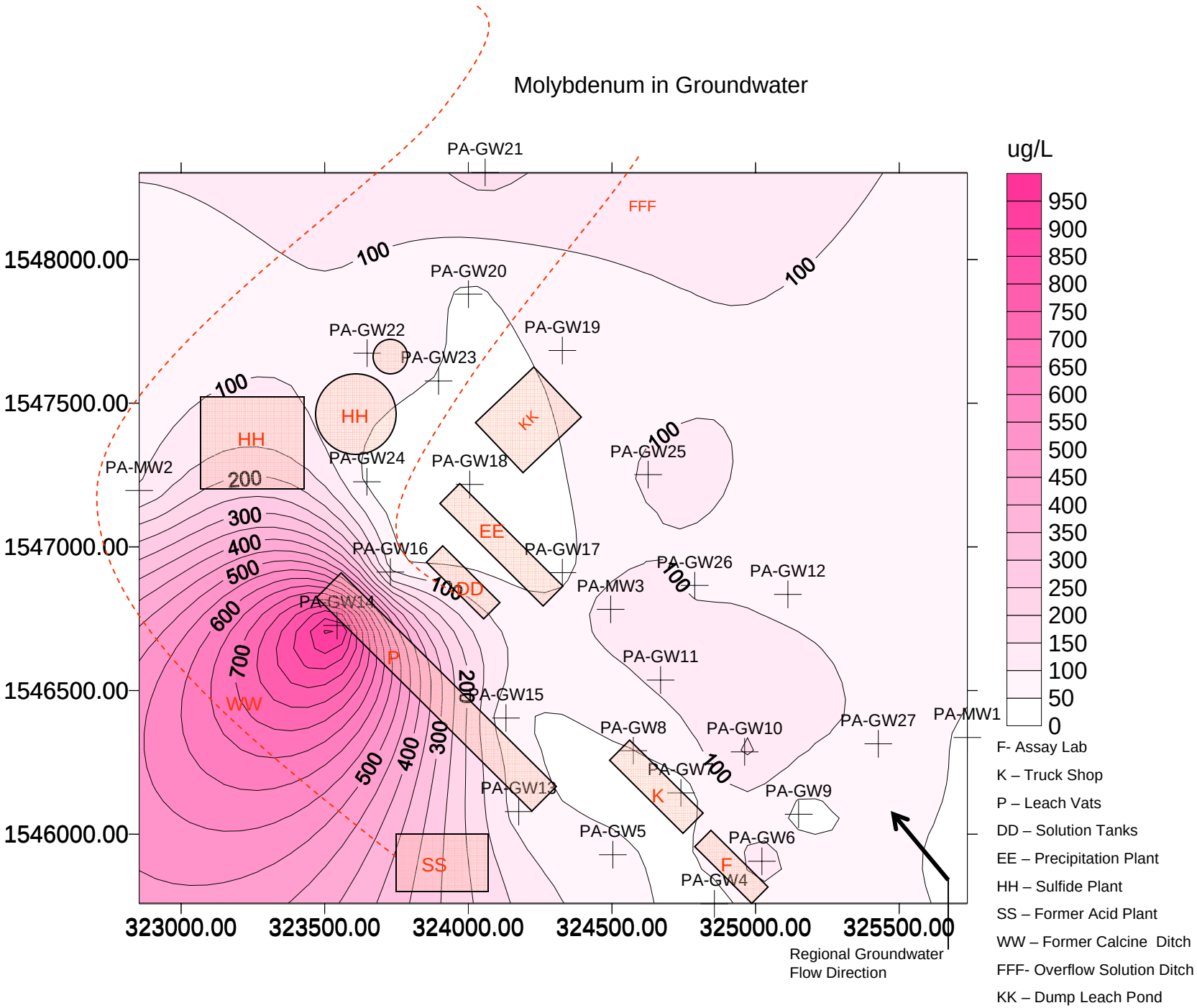
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW6
PA-GW4
HH
KK
EE
DD
P
WW
SS
K
F
FFF
0.00
0.05
0.10
0.15
0.20
0.25
0.30
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Molybdenum in Groundwater
ug/L
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
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PA-MW2
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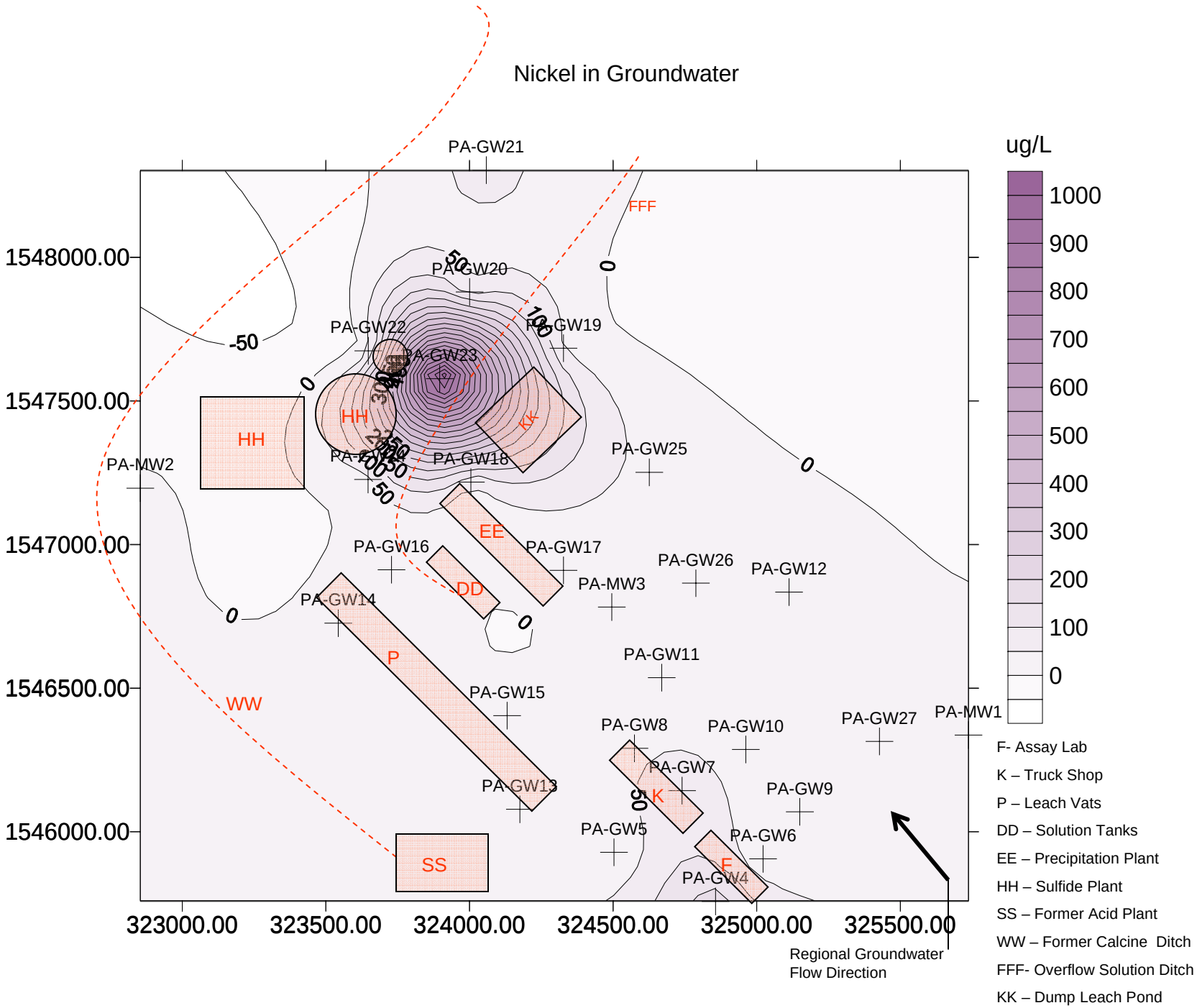
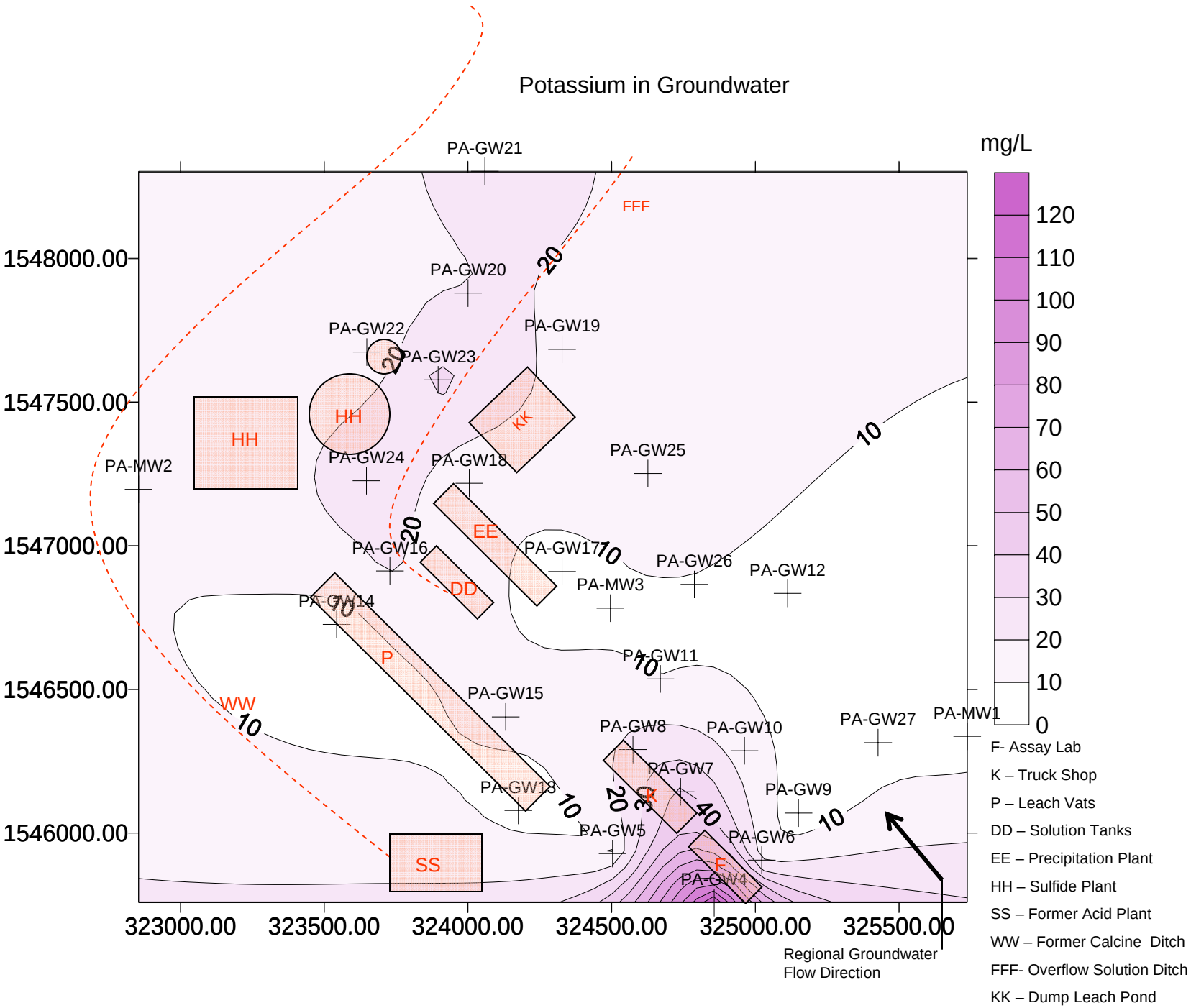
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
F
SS
100
200
300
400
500
600
700
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond



Nickel in Groundwater
ug/L
1000
900
800
700
600
500
400
300
200
100
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
HH
KK
EE
DD
P
WW
K
F
SS
-50
0
50
100
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Potassium in Groundwater
mg/L
120
110
100
90
80
70
60
50
40
30
20
10
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-MW2
PA-GW24
PA-GW18
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PA-GW16
PA-GW17
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PA-GW12
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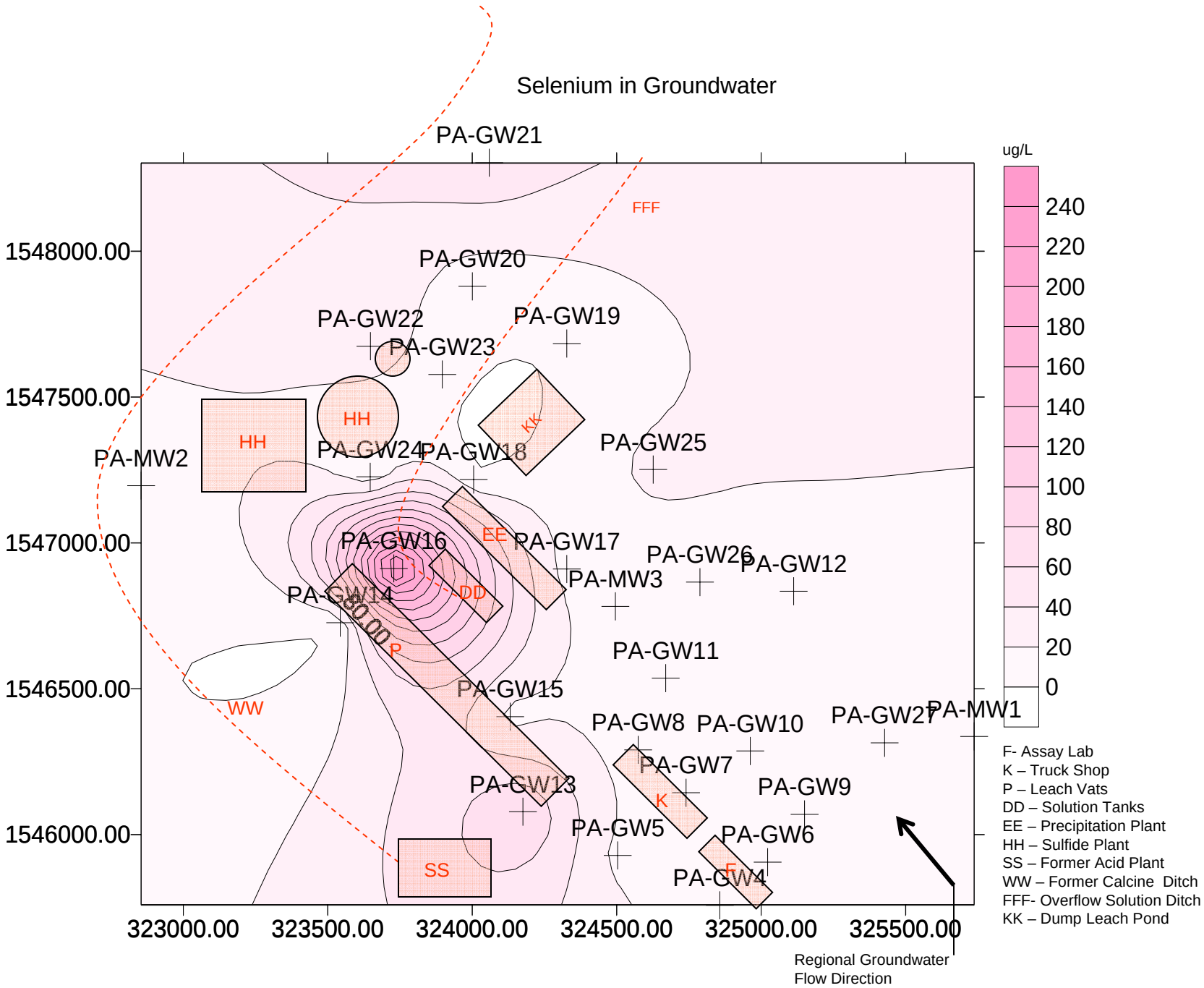
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
HH
KK
EE
DD
P
WW
SS
F
FFF
20
20
20
10
10
10
10
10
20
30
40
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Selenium in Groundwater
ug/L
240
220
200
180
160
140
120
100
80
60
40
20
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-MW2
PA-GW24
PA-GW18
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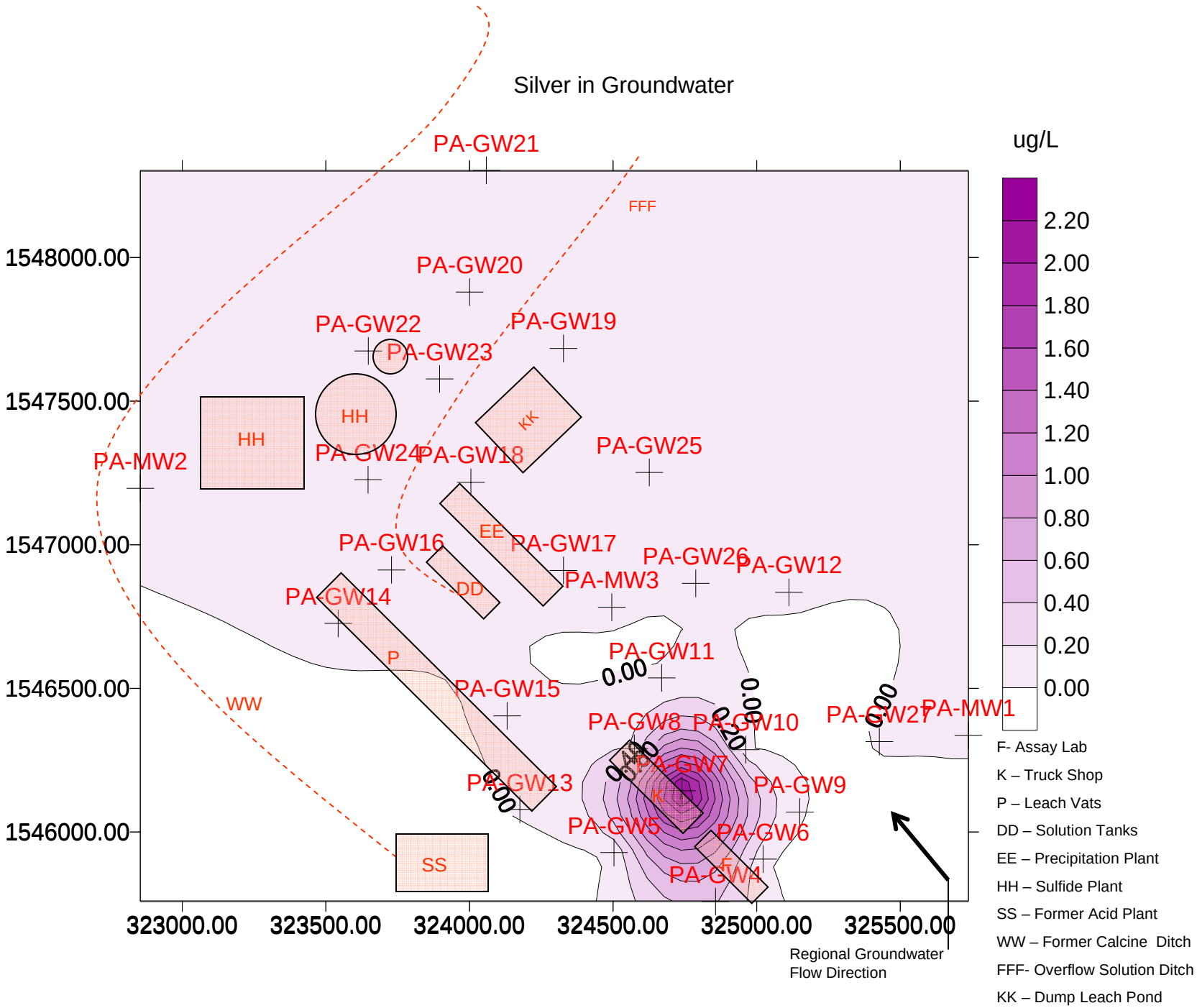
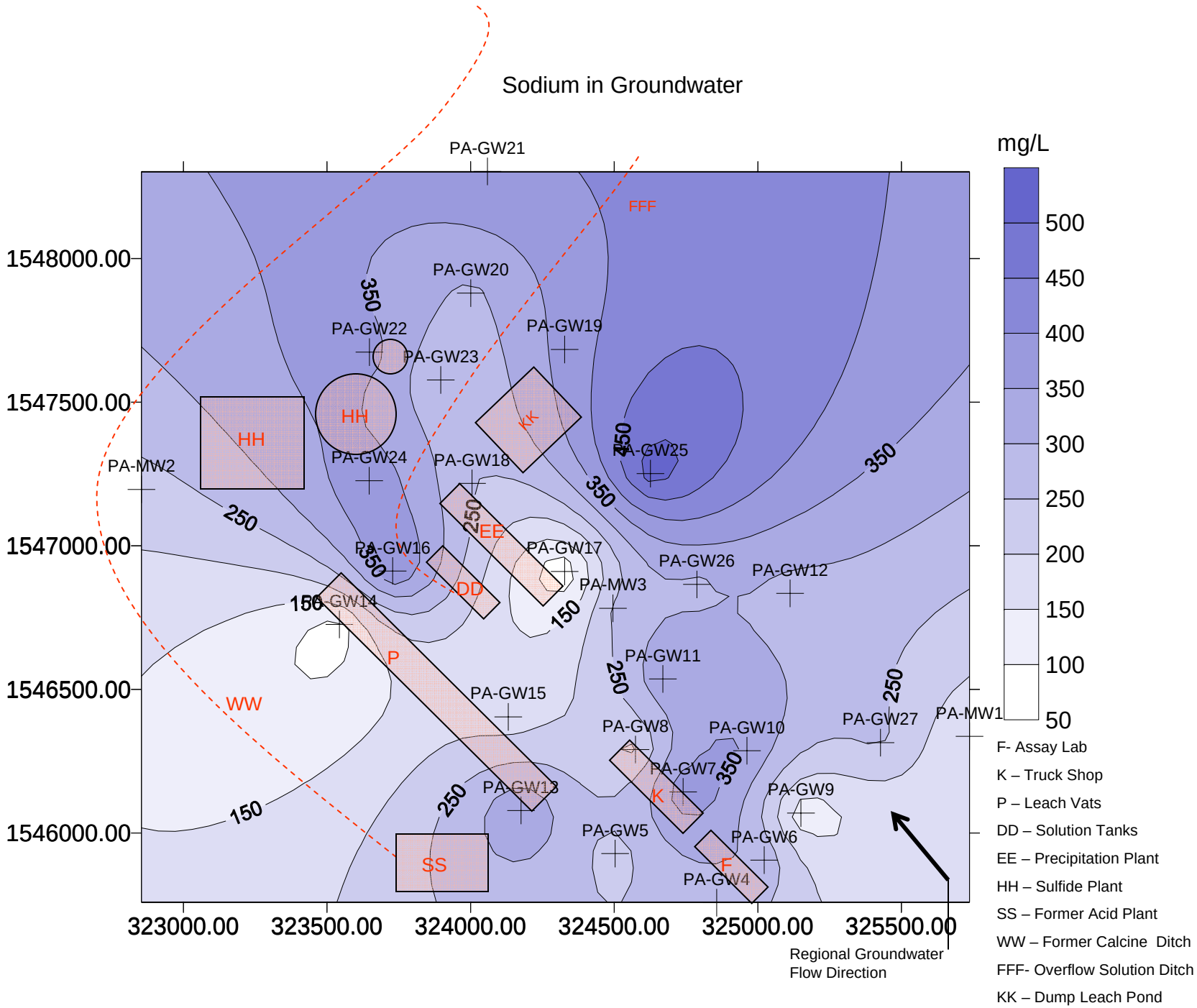
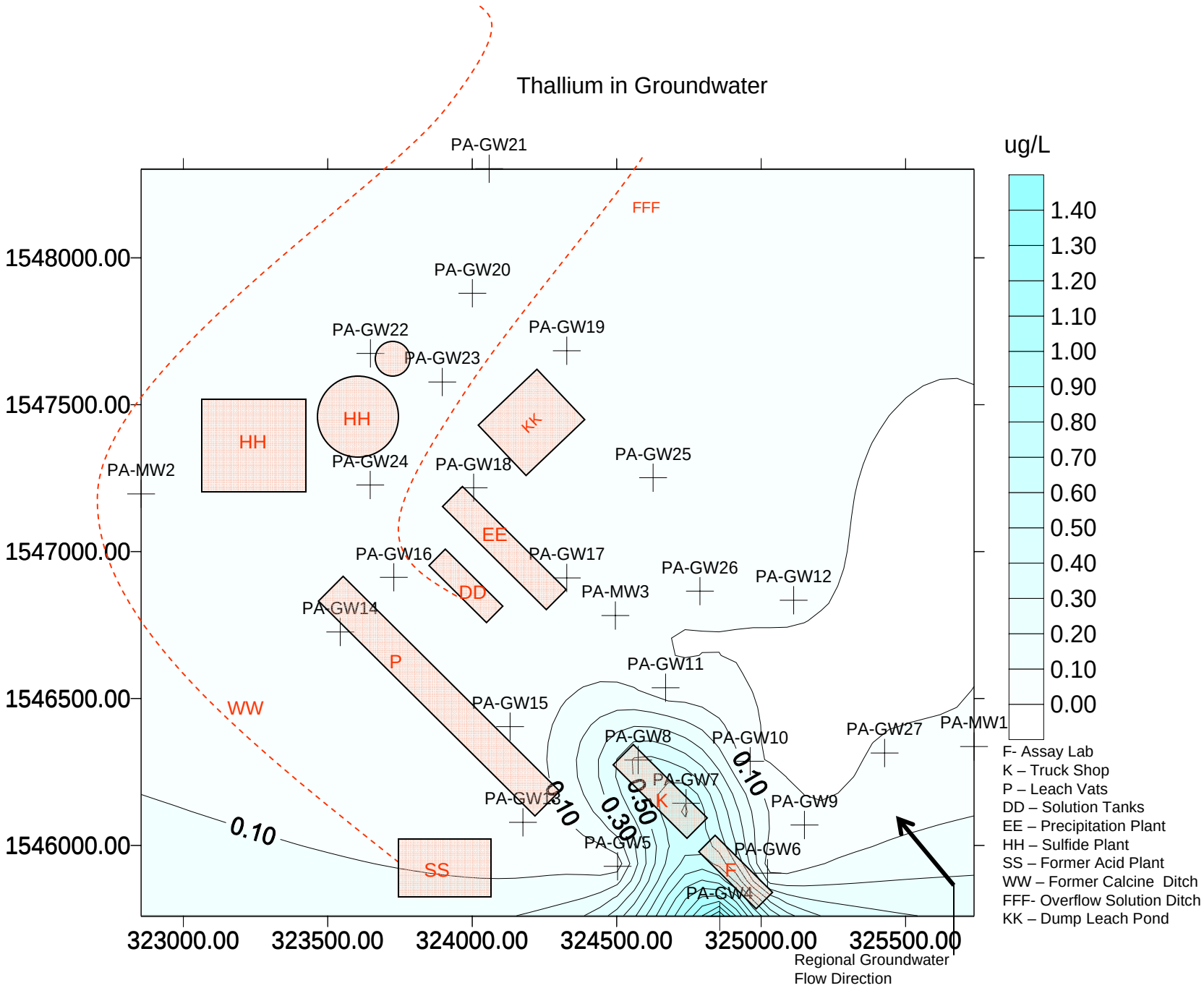
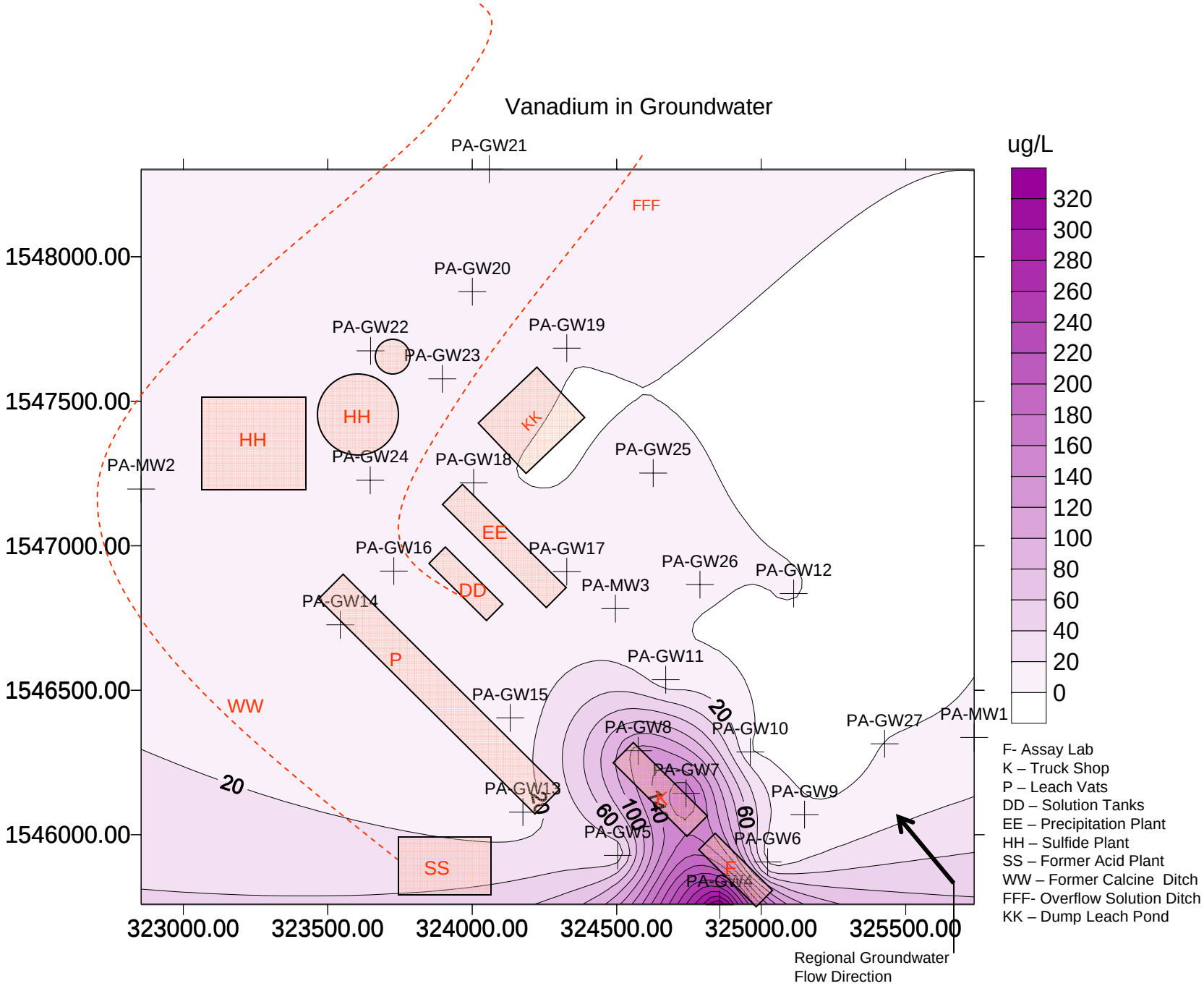
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
80.00
HH
HH
KK
EE
DD
P
WW
SS
K
F
FFF
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond
Regional Groundwater
Flow Direction

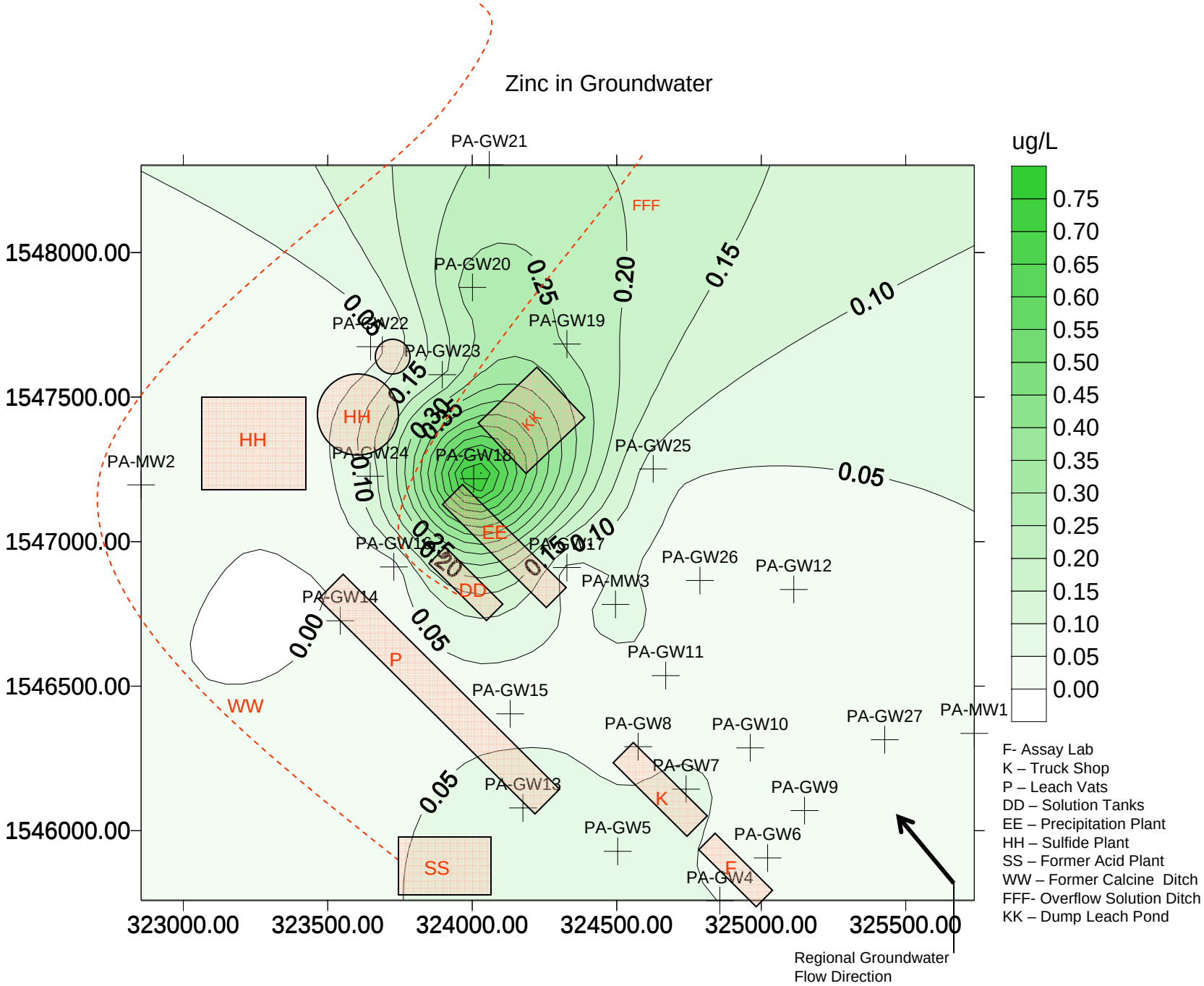

Silver in Groundwater
ug/L
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW19
PA-GW23
HH
HH
KK
PA-MW2
PA-GW24
PA-GW18
PA-GW25
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
DD
PA-GW14
P
PA-GW11
0.00
PA-GW15
WW
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
K
PA-GW5
PA-GW6
SS
F
PA-GW4
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Sodium in Groundwater
mg/L
500
450
400
350
300
250
200
150
100
50
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
SS
F
350
250
150
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Thallium in Groundwater
ug/L
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW19
PA-GW23
HH
HH
KK
PA-MW2
PA-GW24
PA-GW18
PA-GW25
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
DD
PA-MW3
PA-GW14
P
PA-GW11
WW
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
0.10
PA-GW13
0.10
0.50
K
PA-GW9
0.30
PA-GW5
PA-GW6
0.10
SS
F
PA-GW4
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond
Regional Groundwater
Flow Direction

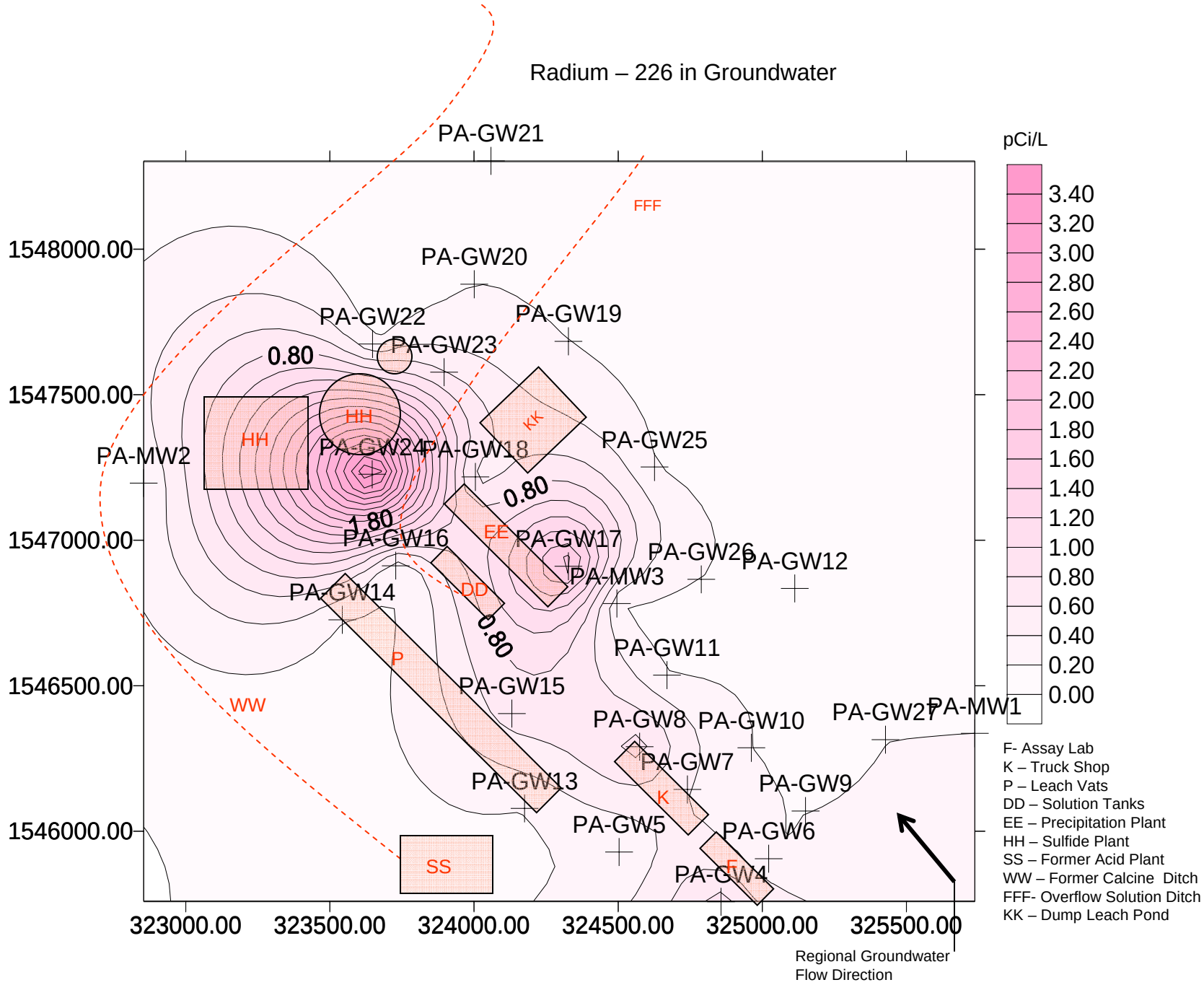


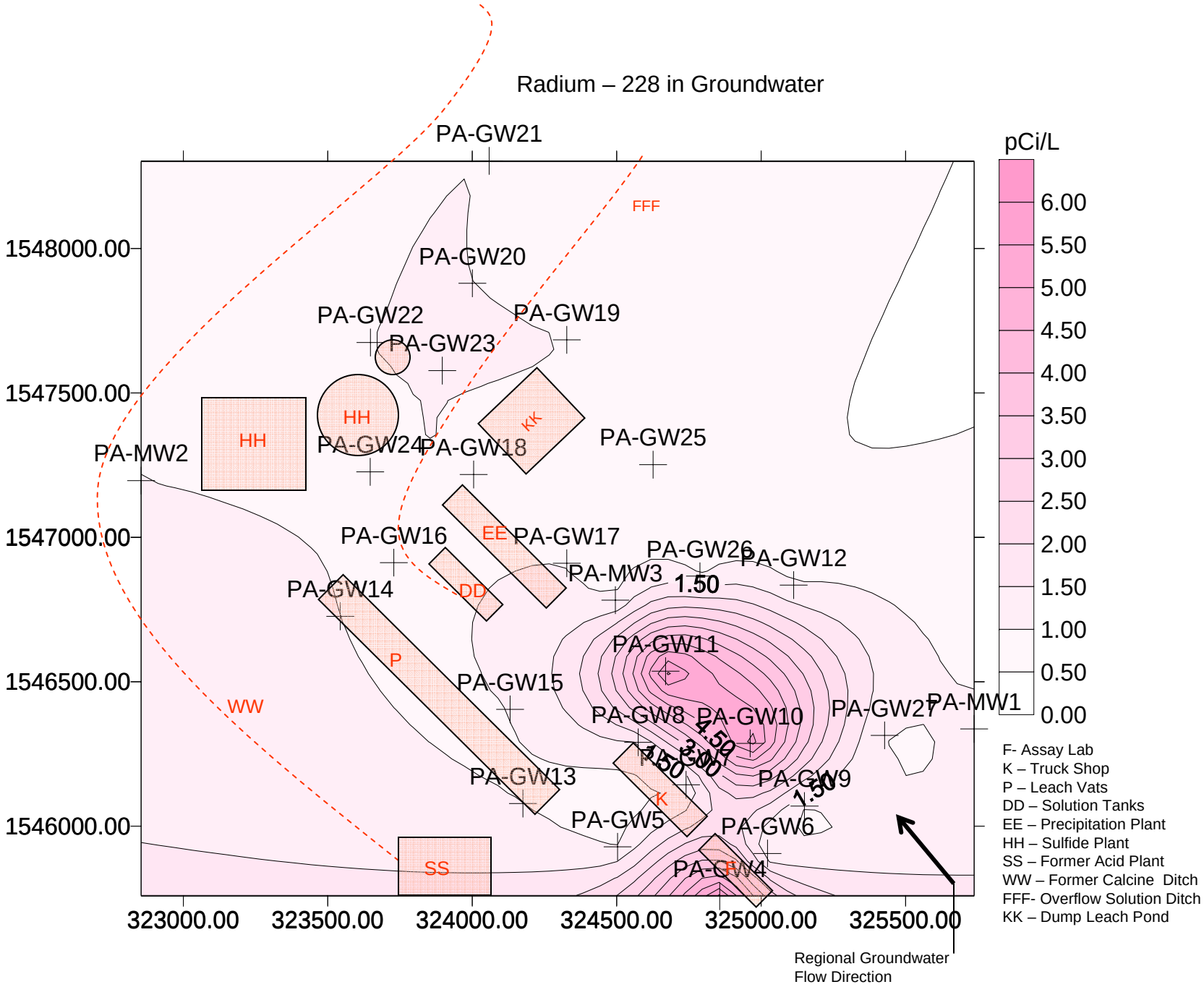
Vanadium in Groundwater
ug/L
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW23
PA-GW19
HH
HH
KK
PA-MW2
PA-GW24
PA-GW18
PA-GW25
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
DD
PA-MW3
PA-GW14
P
PA-GW11
WW
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
K
PA-GW9
PA-GW5
PA-GW6
SS
F
PA-GW4
20
60
100
140
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond



Zinc in Groundwater
ug/L
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
SS
F
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond

Radionuclides


Radium – 226 in Groundwater
pCi/L
3.40
3.20
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW19
PA-GW23
0.80
HH
HH
PA-MW2
PA-GW24
PA-GW18
KK
PA-GW25
0.80
1.80
PA-GW16
EE
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
DD
0.80
PA-GW11
P
PA-GW15
WW
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
K
PA-GW9
PA-GW5
PA-GW6
SS
F
PA-GW4
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Radium – 228 in Groundwater
pCi/L
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
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PA-GW16
PA-GW17
PA-GW26
PA-GW12
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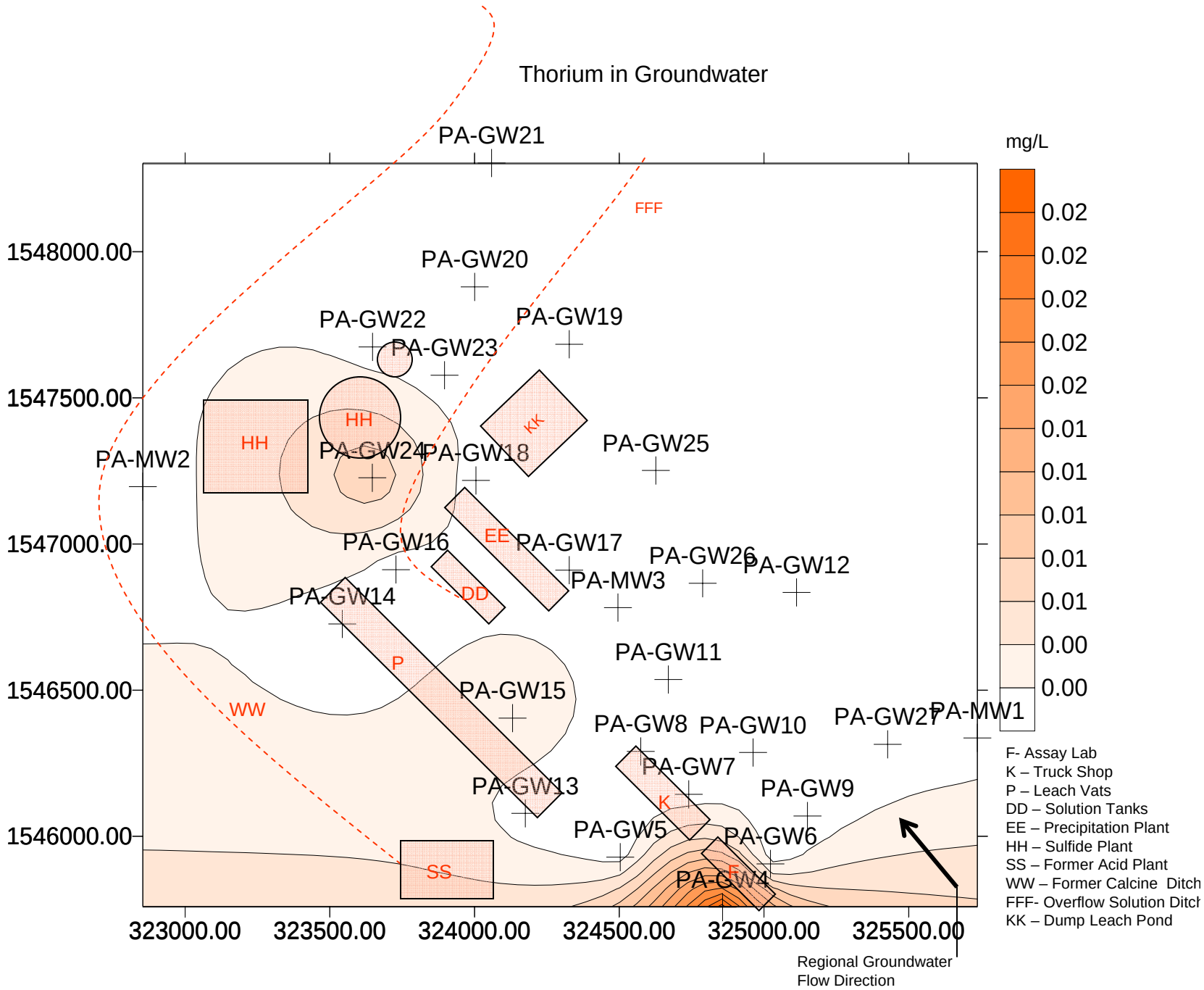
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
1.50
4.50
3.00
1.50
1.50
FFF
HH
HH
KK
EE
DD
P
WW
K
SS
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond
Regional Groundwater
Flow Direction


Thorium in Groundwater
mg/L
0.02
0.02
0.02
0.02
0.02
0.01
0.01
0.01
0.01
0.01
0.01
0.00
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
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PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
HH
KK
EE
DD
P
WW
K
SS
F
Regional Groundwater
Flow Direction
F- Assay Lab
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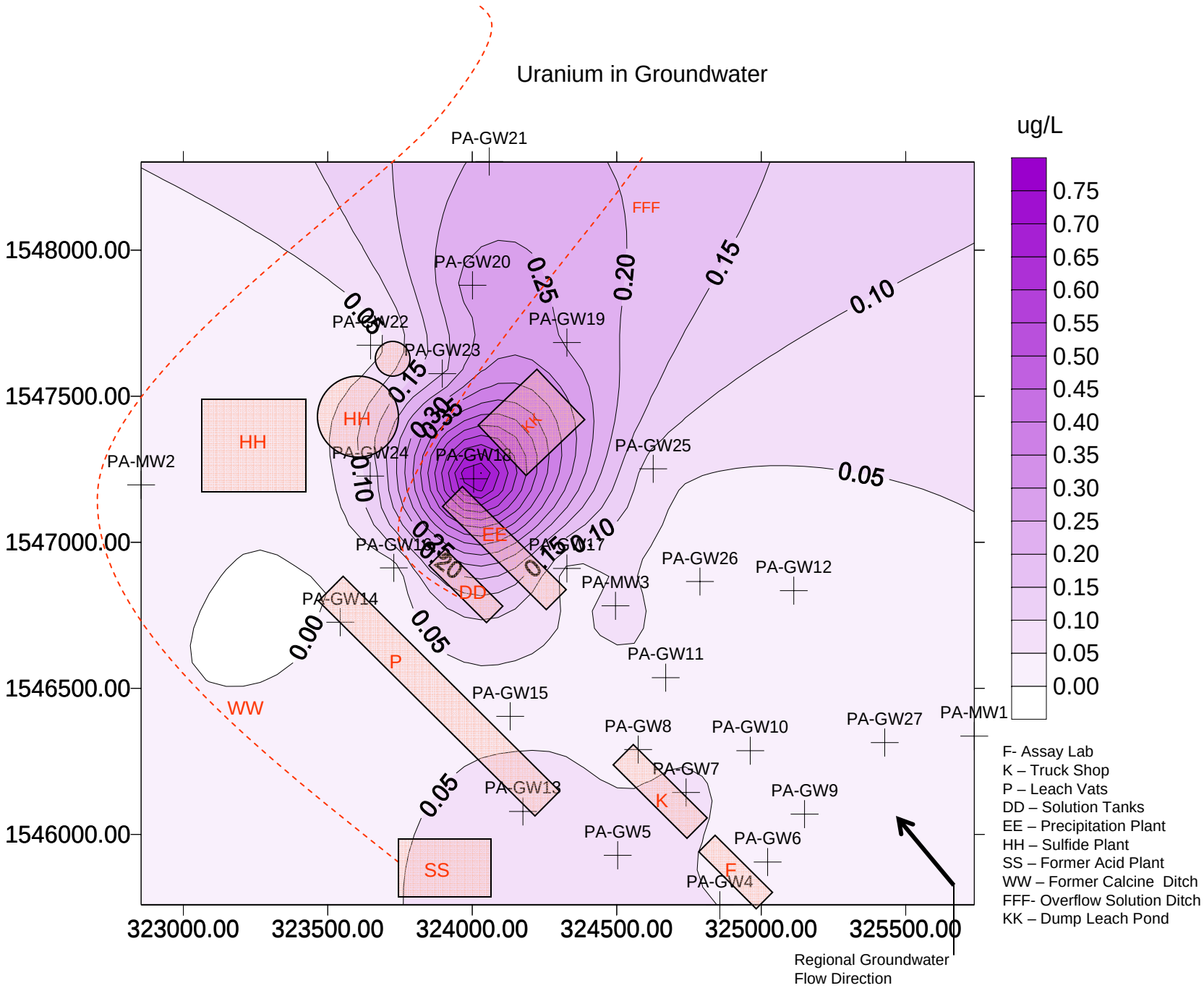
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond


Uranium in Groundwater
ug/L
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
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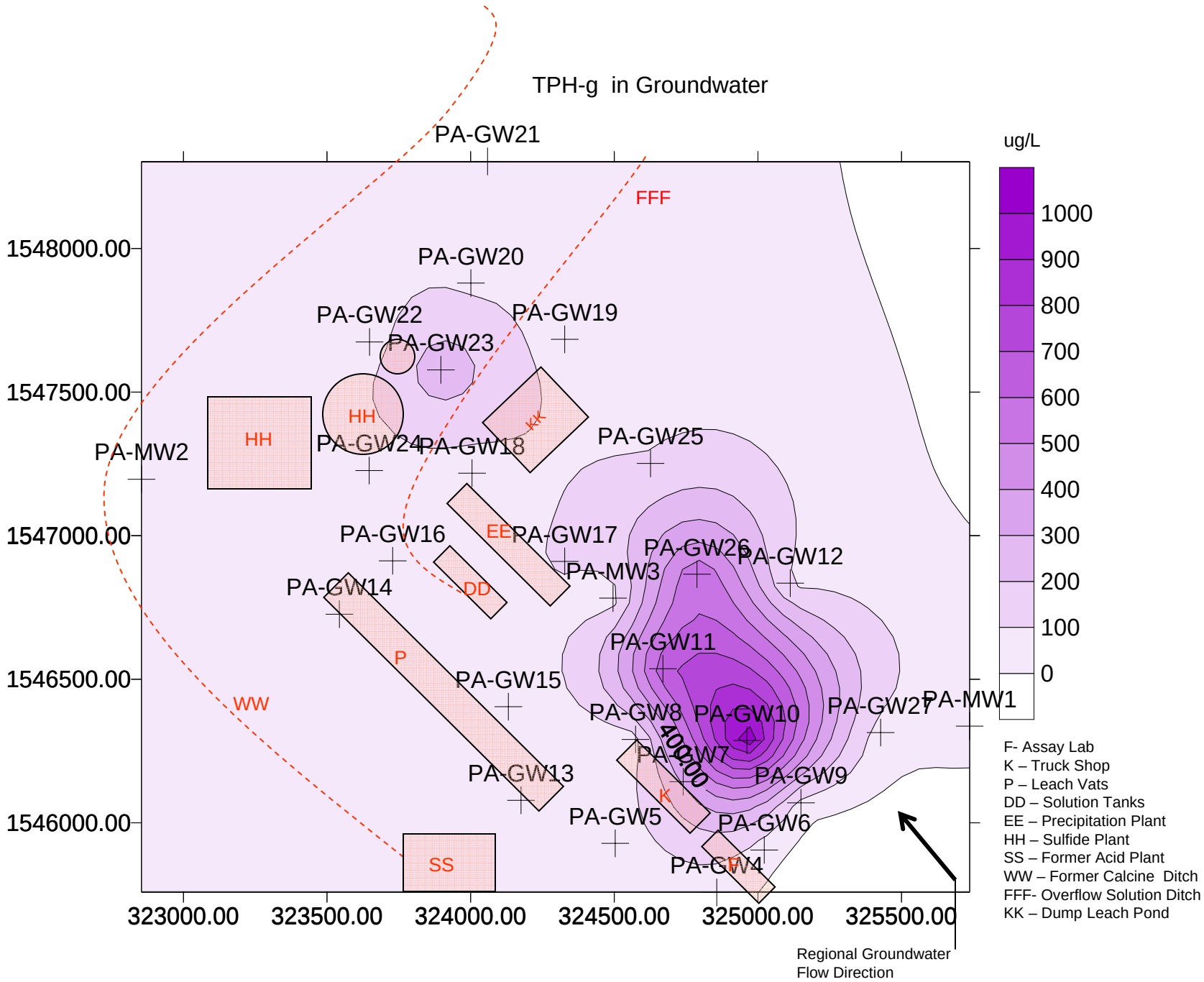
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
EE
DD
P
K
F
SS
WW
FFF
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond

TPHs


TPH-g in Groundwater
ug/L
1000
900
800
700
600
500
400
300
200
100
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
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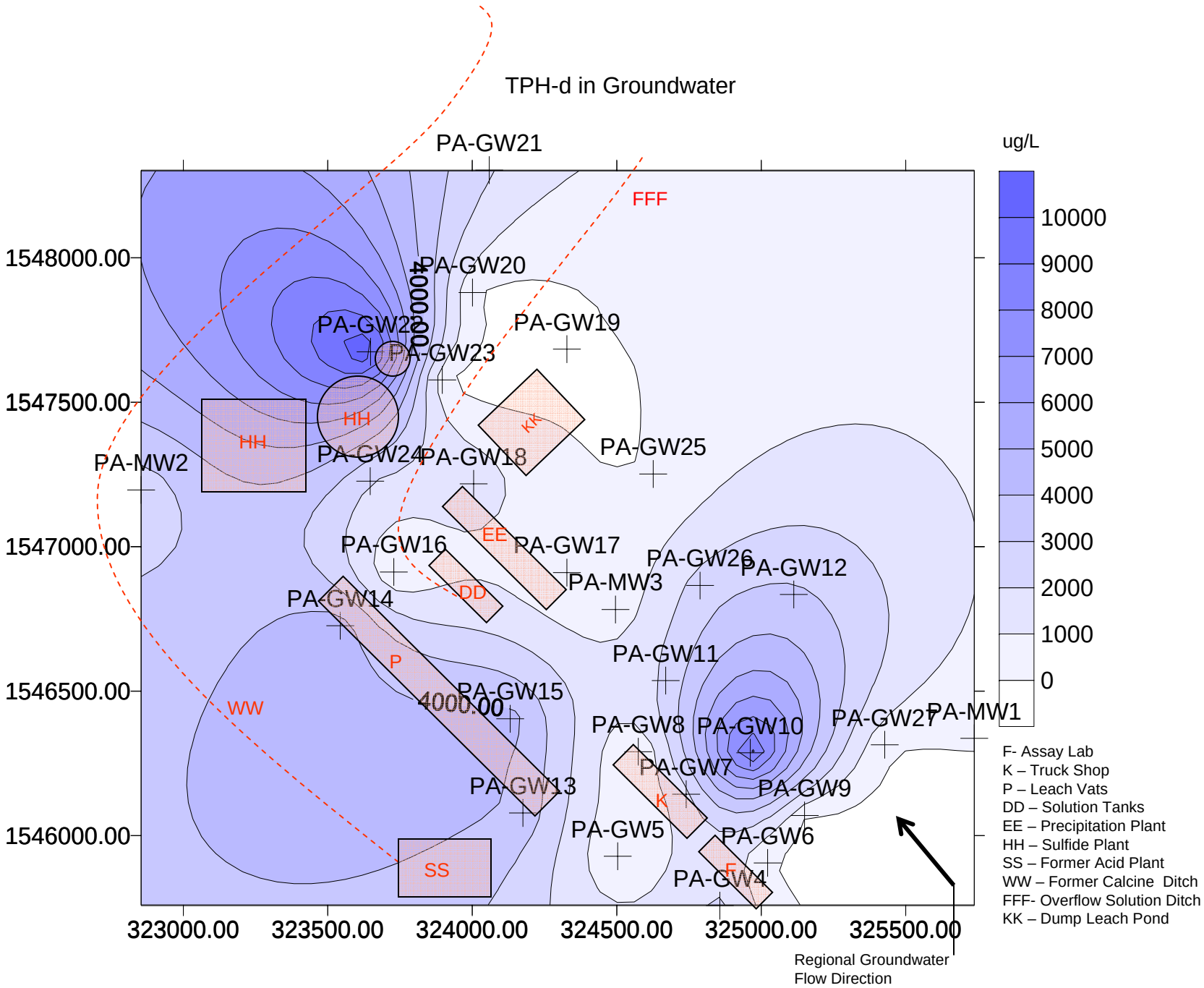
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
400.00
FFF
HH
KK
EE
DD
P
WW
K
SS
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
KK – Dump Leach Pond
Regional Groundwater
Flow Direction


TPH-d in Groundwater
ug/L
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-MW3
PA-GW26
PA-GW12
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
4000.00
FFF
HH
HH
KK
EE
DD
P
WW
K
SS
F
Regional Groundwater
Flow Direction
F- Assay Lab
K – Truck Shop
P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
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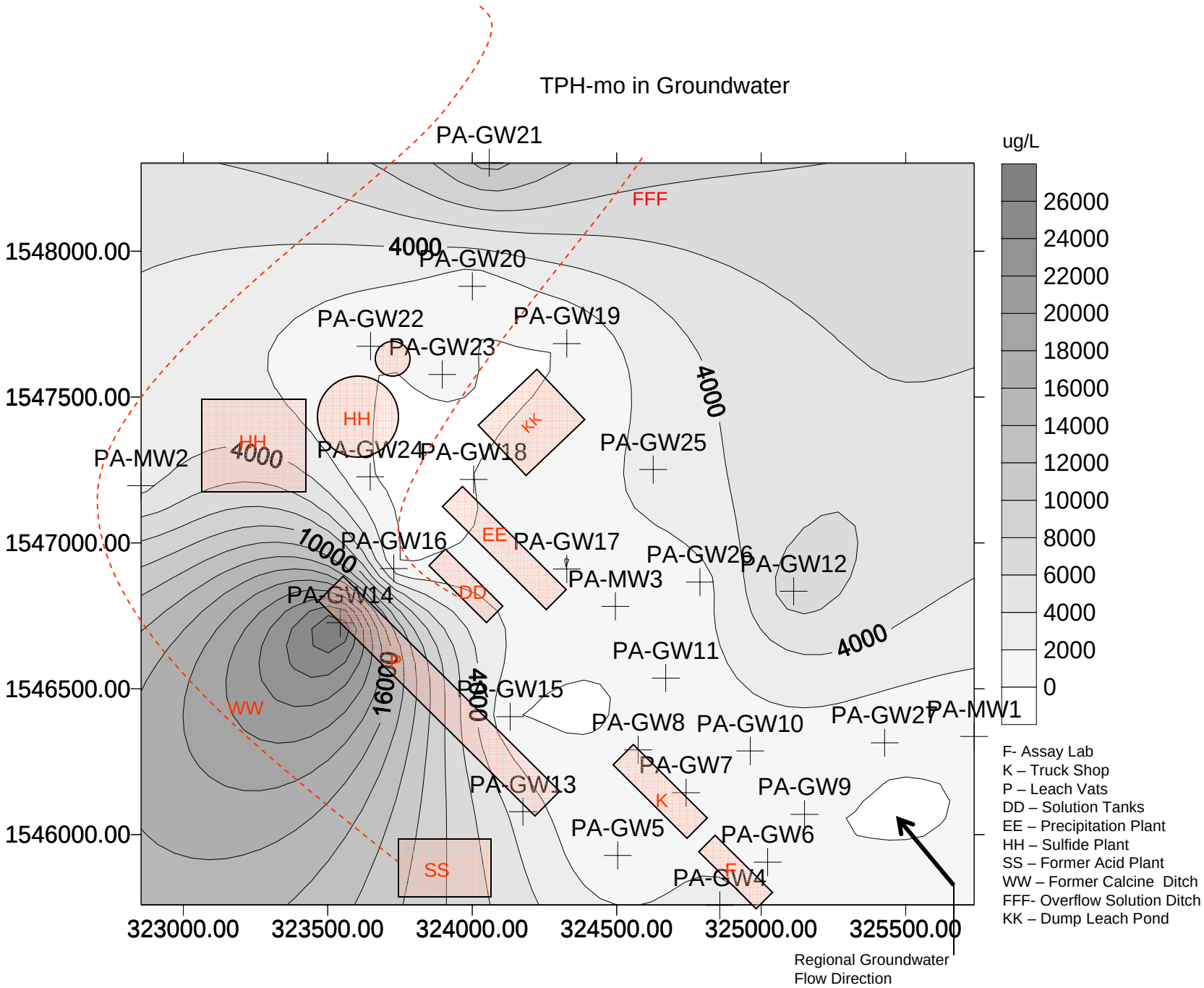
TPH-mo in Groundwater
ug/L
26000
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
WW
SS
K
F
4000
10000
16000
Regional Groundwater
Flow Direction
F- Assay Lab
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P – Leach Vats
DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
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WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
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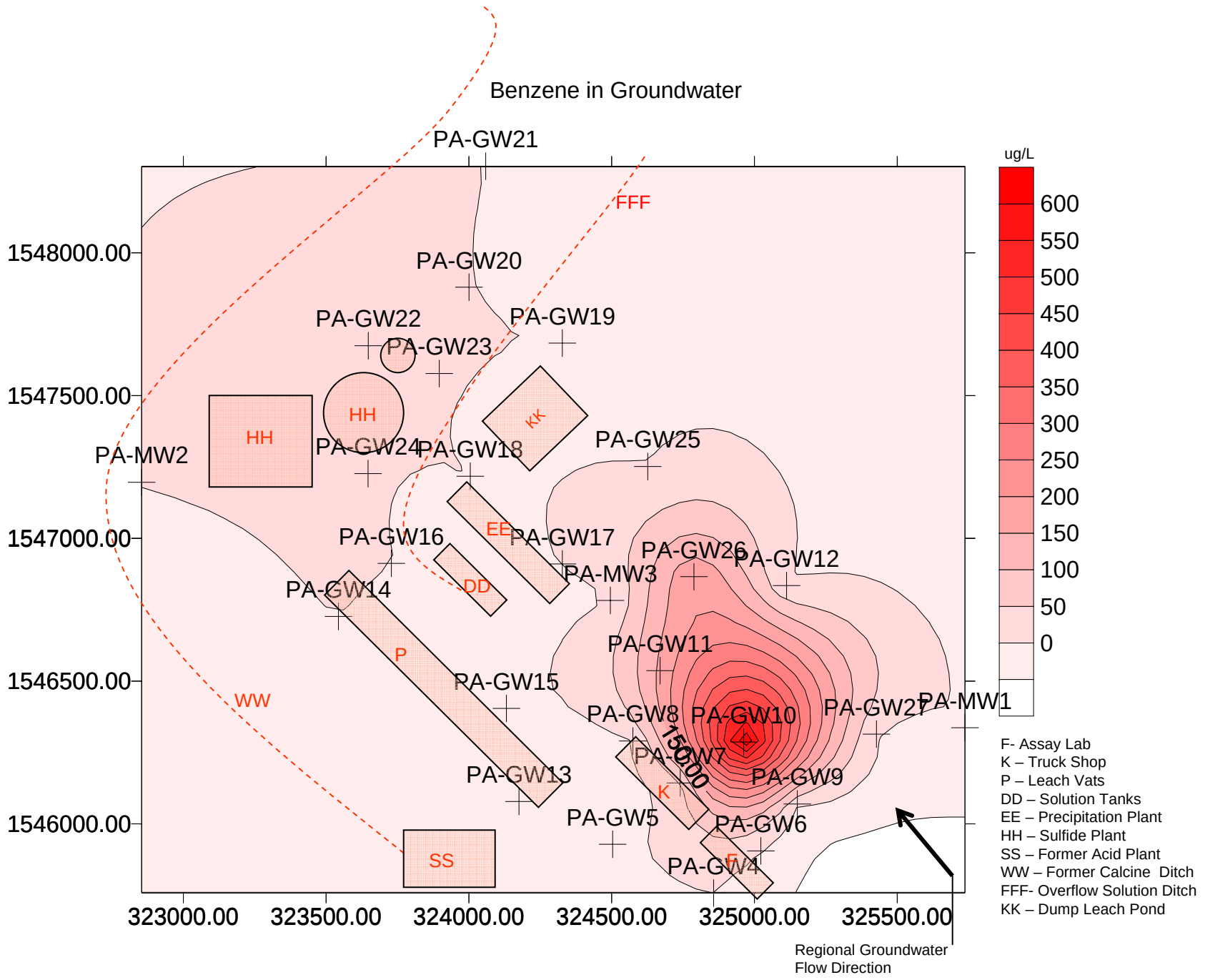
VOCs


Benzene in Groundwater
ug/L
600
550
500
450
400
350
300
250
200
150
100
50
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW19
PA-GW23
HH
HH
KK
PA-MW2
PA-GW24
PA-GW18
PA-GW25
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
DD
PA-GW14
P
PA-GW11
PA-GW15
WW
PA-GW8
PA-GW10
PA-GW27
PA-MW1
150.00
PA-GW7
PA-GW13
PA-GW9
K
PA-GW5
PA-GW6
SS
PA-GW4
F
Regional Groundwater
Flow Direction
F- Assay Lab
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DD – Solution Tanks
EE – Precipitation Plant
HH – Sulfide Plant
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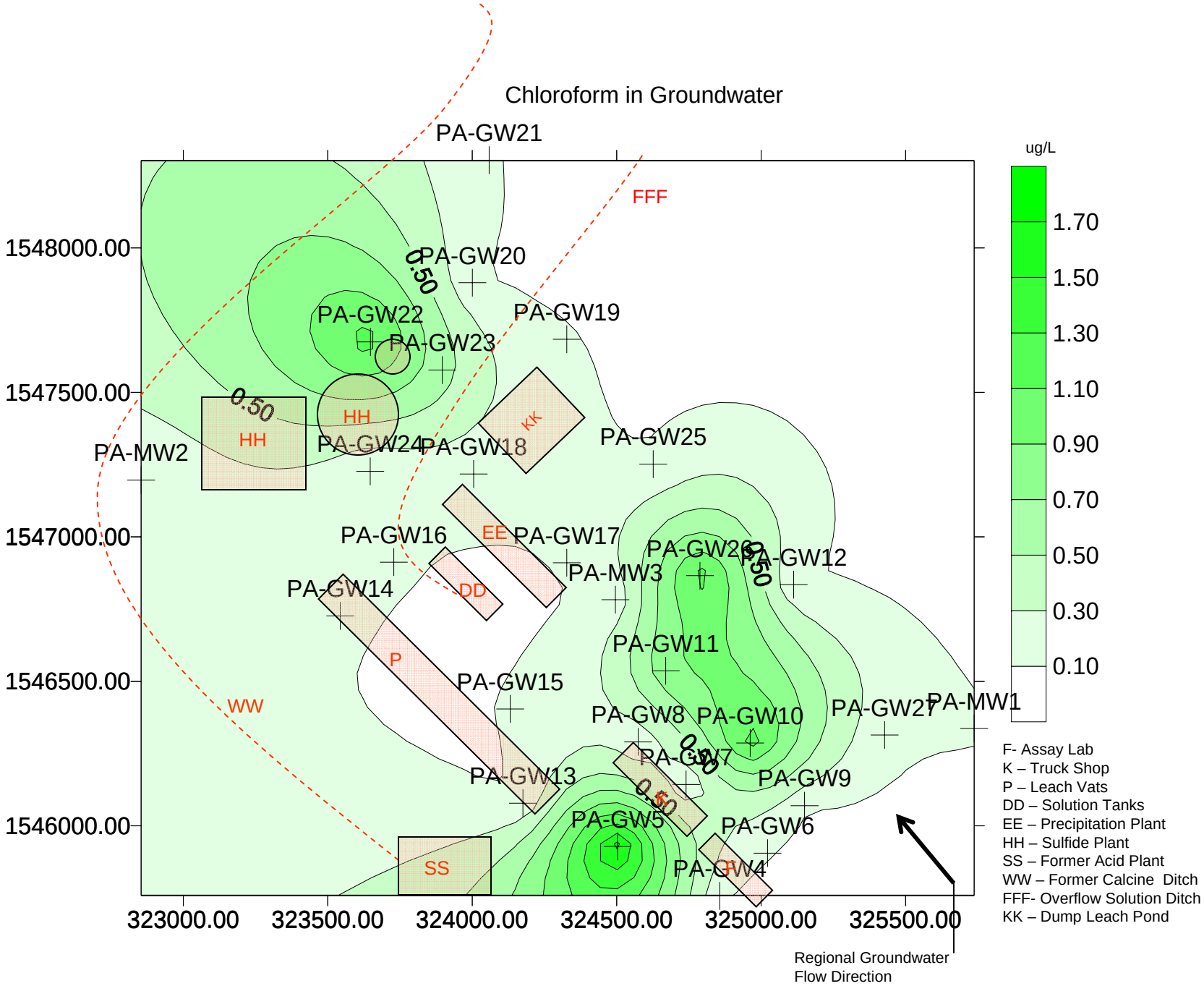
Chloroform in Groundwater
ug/L
1.70
1.50
1.30
1.10
0.90
0.70
0.50
0.30
0.10
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW23
PA-GW19
PA-MW2
PA-GW24
PA-GW18
PA-GW25
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
KK
EE
DD
P
WW
SS
FFF
0.50
F- Assay Lab
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DD – Solution Tanks
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HH – Sulfide Plant
SS – Former Acid Plant
WW – Former Calcine Ditch
FFF- Overflow Solution Ditch
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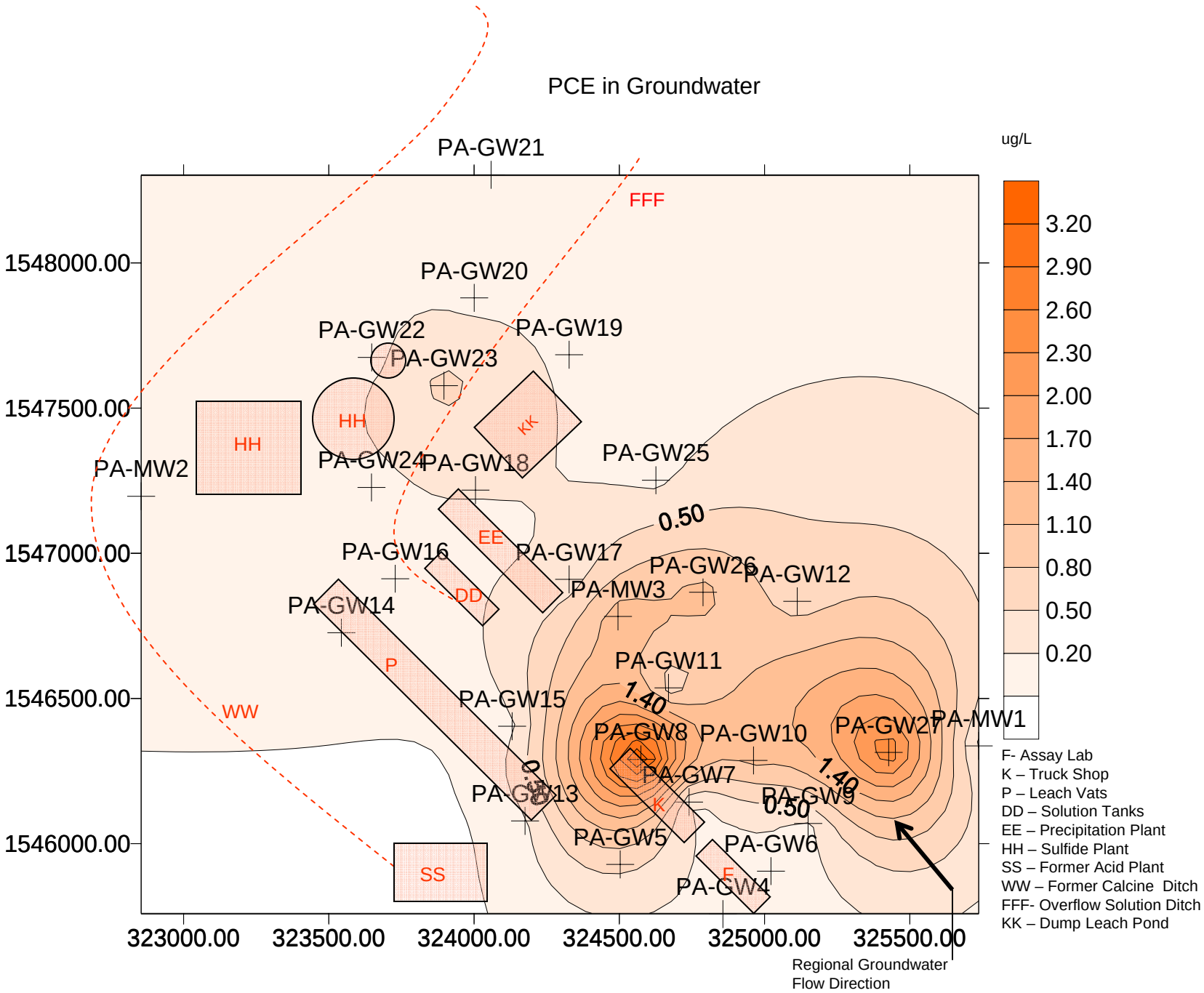
Regional Groundwater
Flow Direction


PCE in Groundwater
ug/L
3.20
2.90
2.60
2.30
2.00
1.70
1.40
1.10
0.80
0.50
0.20
PA-GW21
FFF
PA-GW20
PA-GW22
PA-GW19
PA-GW23
HH
HH
KK
PA-MW2
PA-GW24
PA-GW18
PA-GW25
0.50
EE
PA-GW16
PA-GW17
PA-GW26
PA-GW12
DD
PA-MW3
PA-GW14
P
PA-GW11
1.40
PA-GW15
WW
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
1.40
PA-GW13
K
PA-GW9
0.50
PA-GW5
PA-GW6
SS
F
PA-GW4
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
Regional Groundwater
Flow Direction
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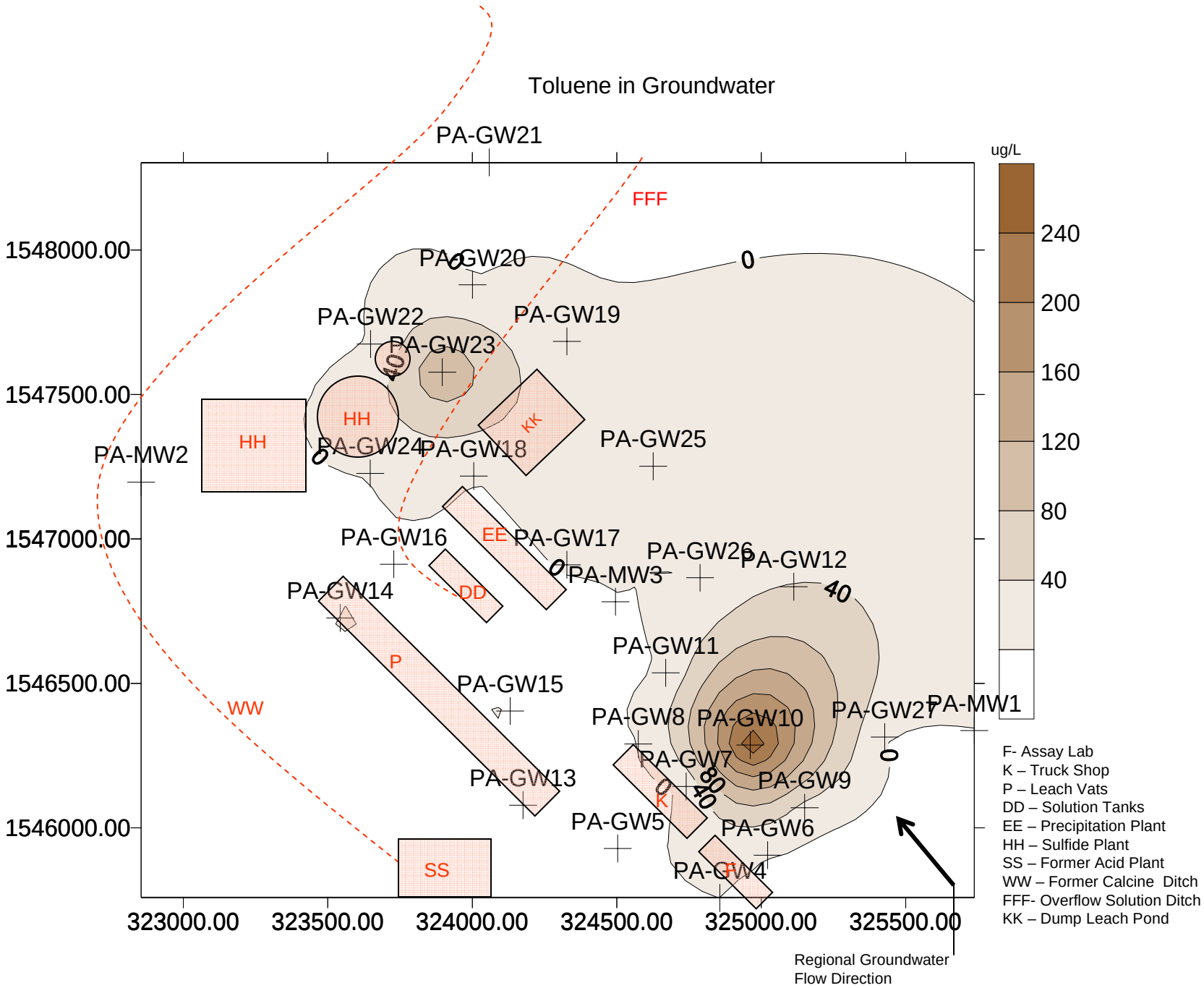
Toluene in Groundwater
ug/L
240
200
160
120
80
40
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
SS
F
0
40
80
Regional Groundwater
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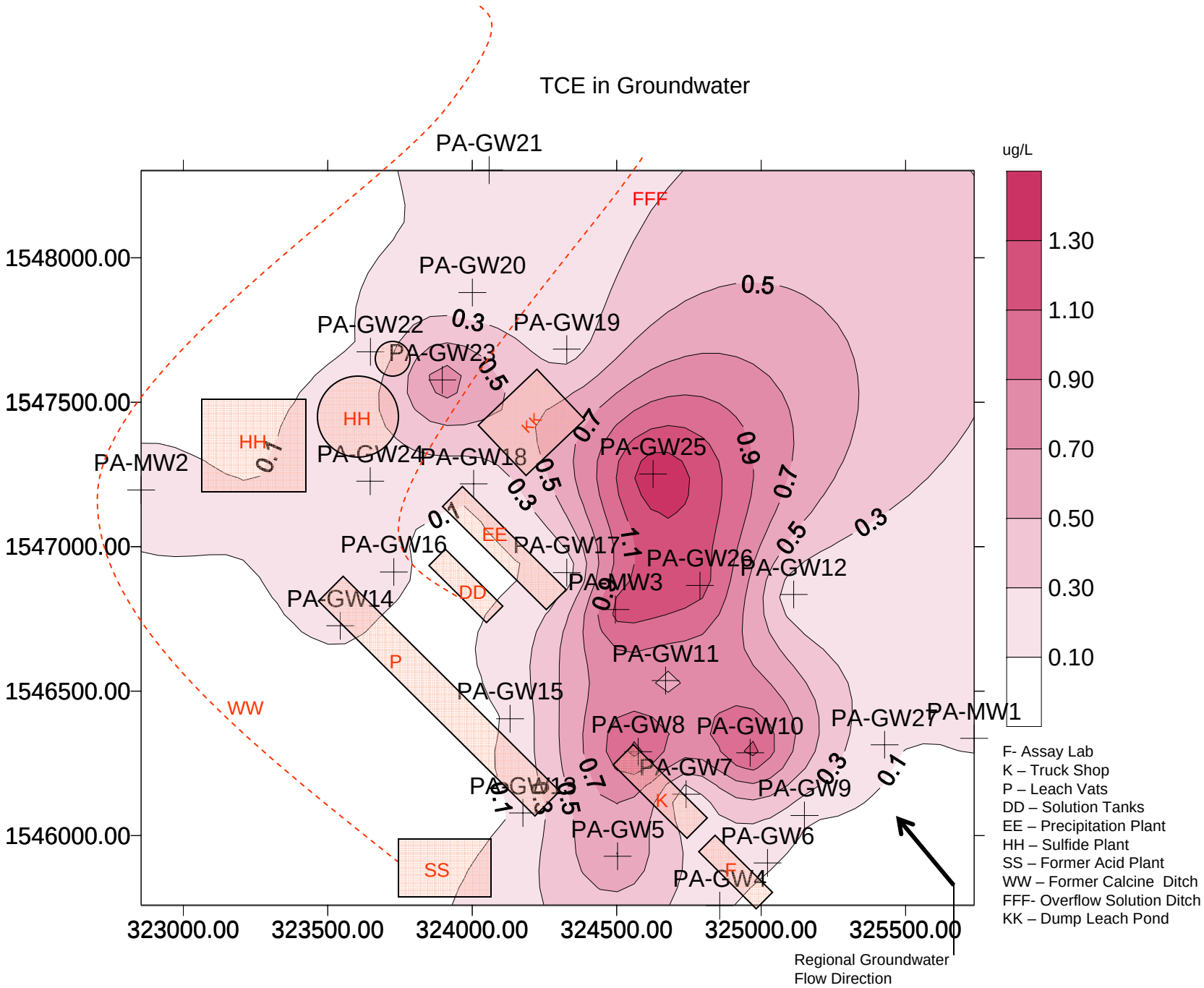
TCE in Groundwater
ug/L
1.30
1.10
0.90
0.70
0.50
0.30
0.10
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-MW2
PA-GW24
PA-GW18
PA-GW25
PA-GW16
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PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW9
PA-GW13
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
SS
K
F
0.5
0.3
0.7
0.9
1.1
0.1
Regional Groundwater
Flow Direction
F- Assay Lab
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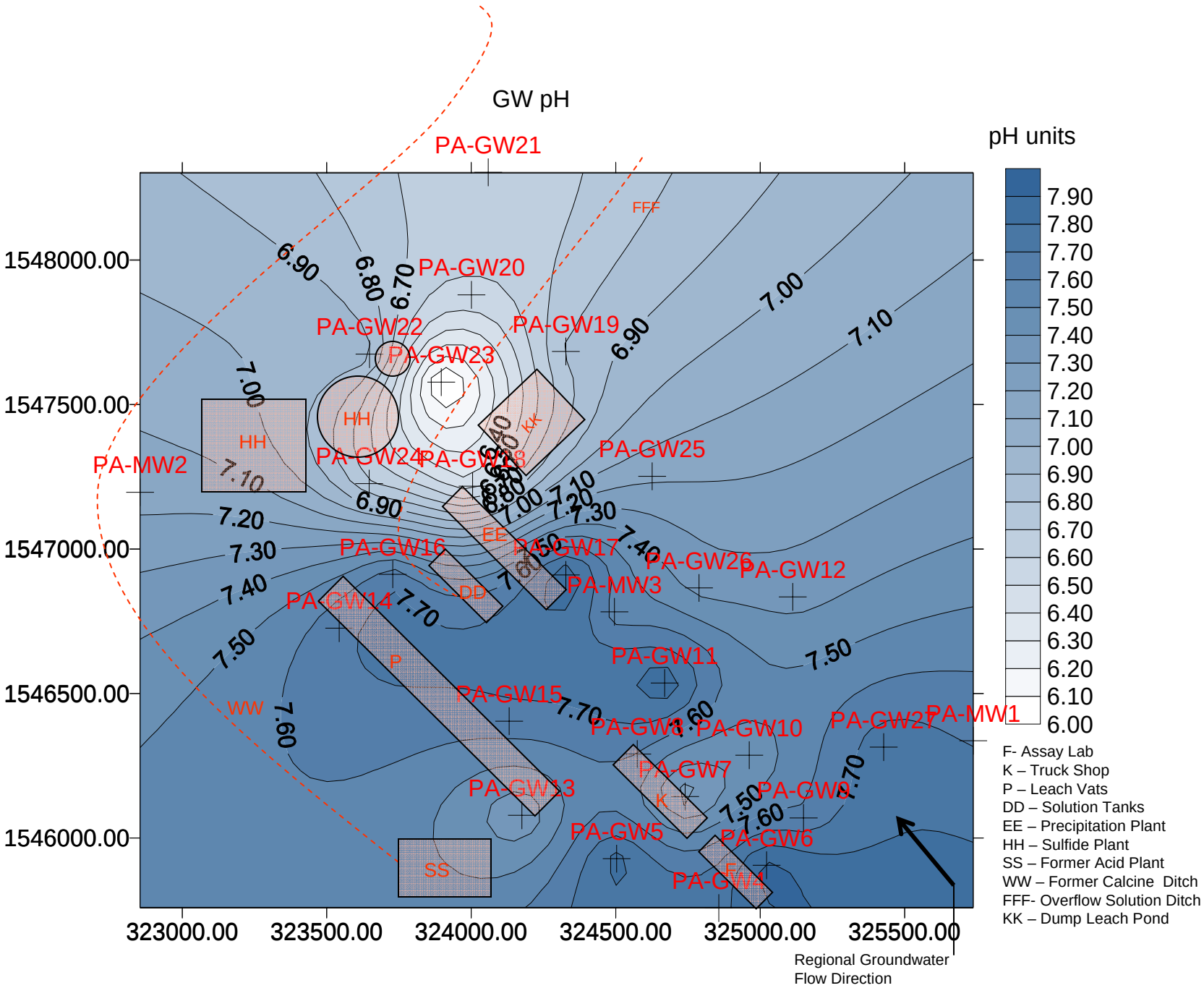
Water Chemistry


GW pH
pH units
7.90
7.80
7.70
7.60
7.50
7.40
7.30
7.20
7.10
7.00
6.90
6.80
6.70
6.60
6.50
6.40
6.30
6.20
6.10
6.00
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW22
PA-GW19
PA-GW23
PA-MW2
PA-GW24
PA-GW18
PA-GW25
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW3
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
HH
KK
EE
DD
P
WW
SS
K
F
FFF
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WW – Former Calcine Ditch
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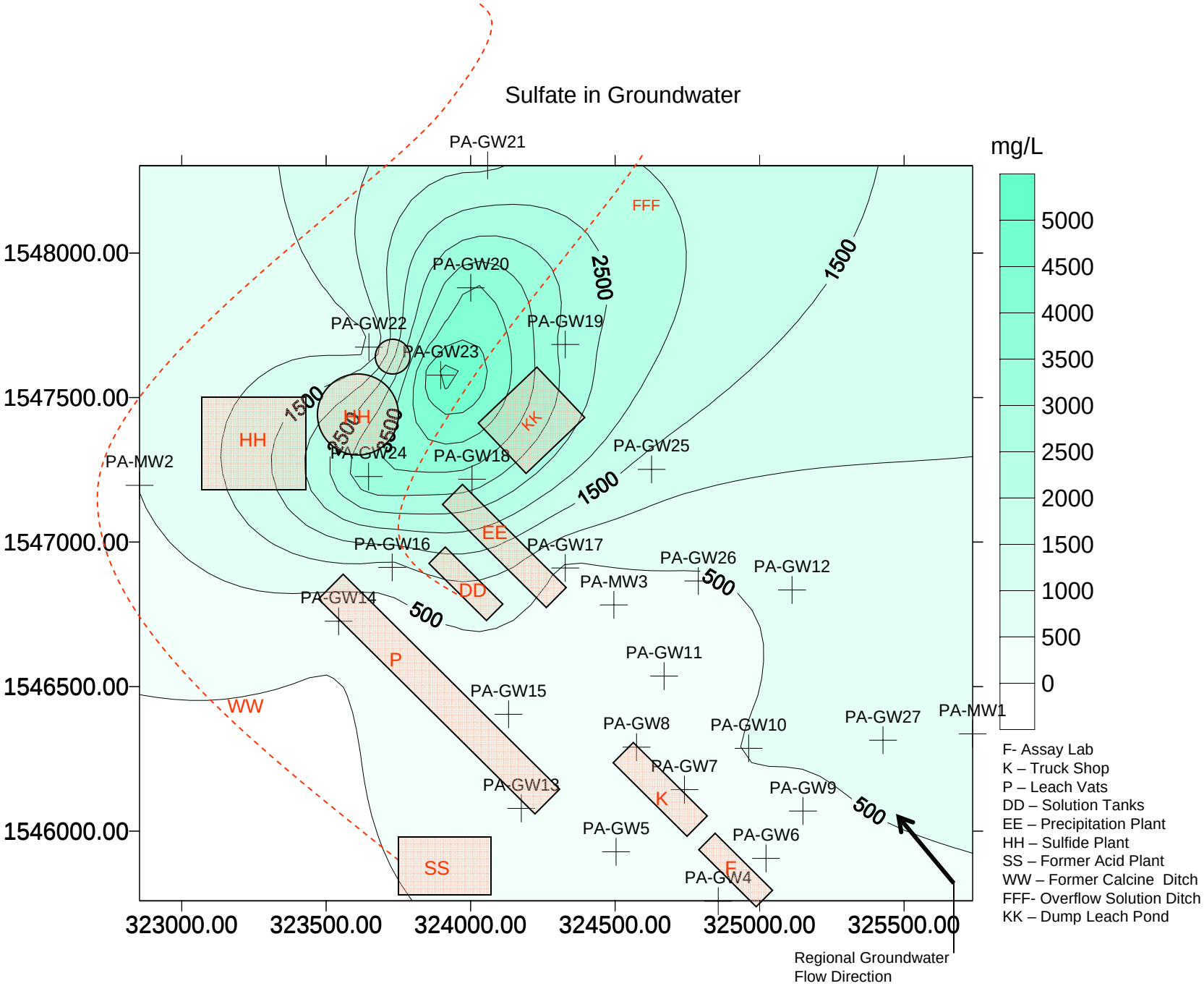
Regional Groundwater
Flow Direction


Sulfate in Groundwater
mg/L
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1548000.00
1547500.00
1547000.00
1546500.00
1546000.00
323000.00
323500.00
324000.00
324500.00
325000.00
325500.00
PA-GW21
PA-GW20
PA-GW19
PA-GW22
PA-GW23
PA-GW24
PA-GW18
PA-GW25
PA-MW2
PA-GW16
PA-GW17
PA-GW26
PA-GW12
PA-MW3
PA-GW14
PA-GW11
PA-GW15
PA-GW8
PA-GW10
PA-GW27
PA-MW1
PA-GW7
PA-GW13
PA-GW9
PA-GW5
PA-GW6
PA-GW4
FFF
HH
KK
EE
DD
P
WW
K
SS
F
2500
1500
500
Regional Groundwater
Flow Direction
F- Assay Lab
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