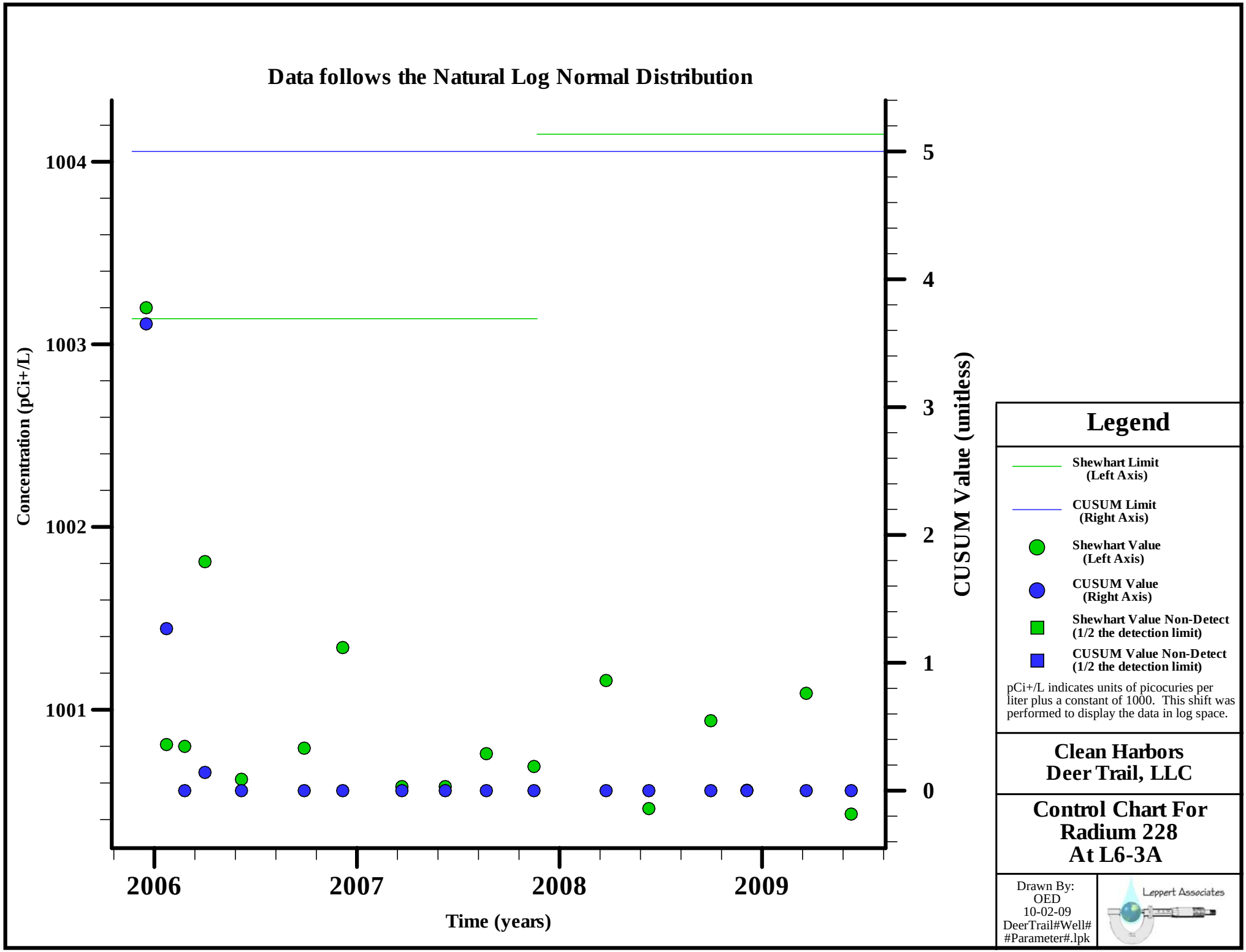
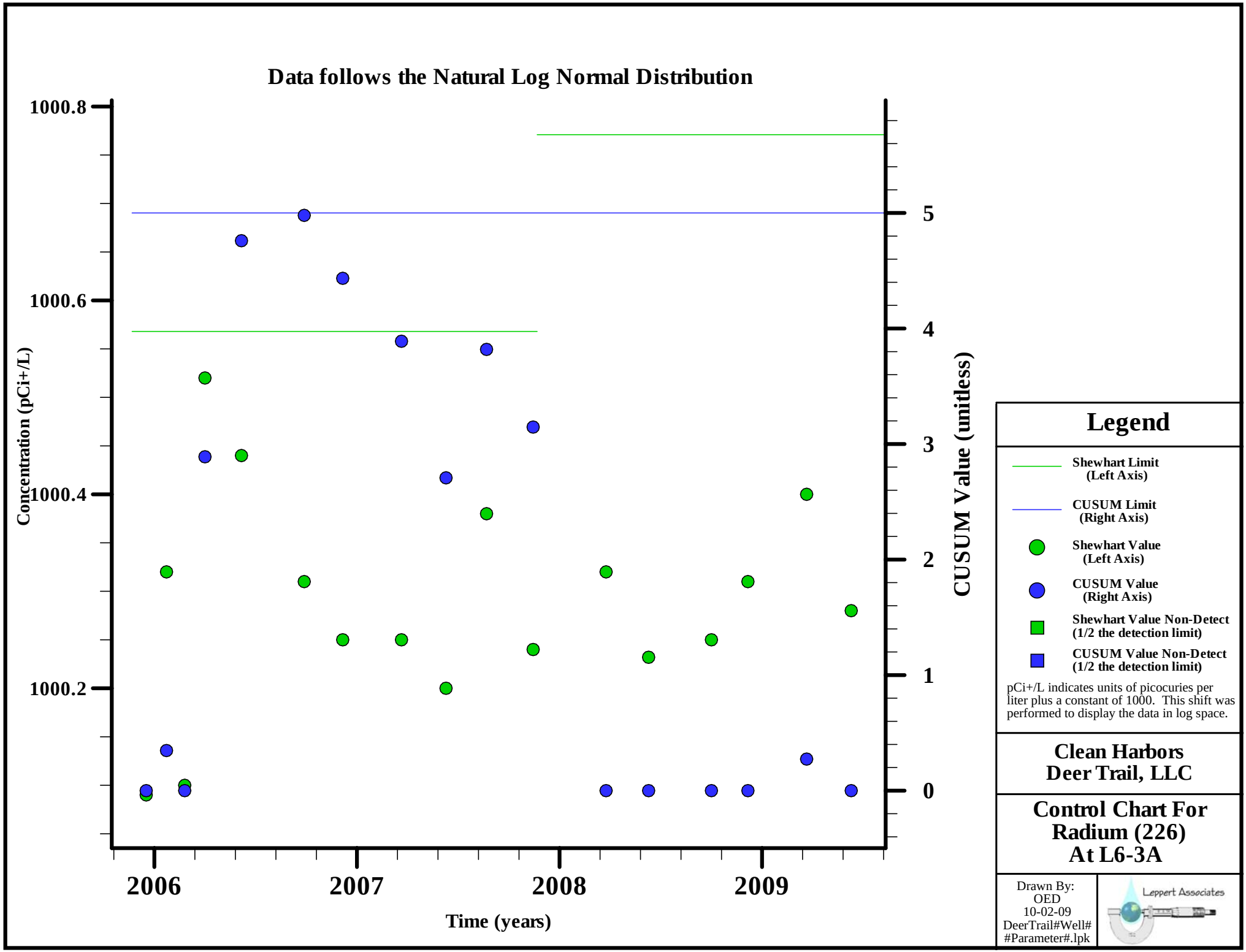
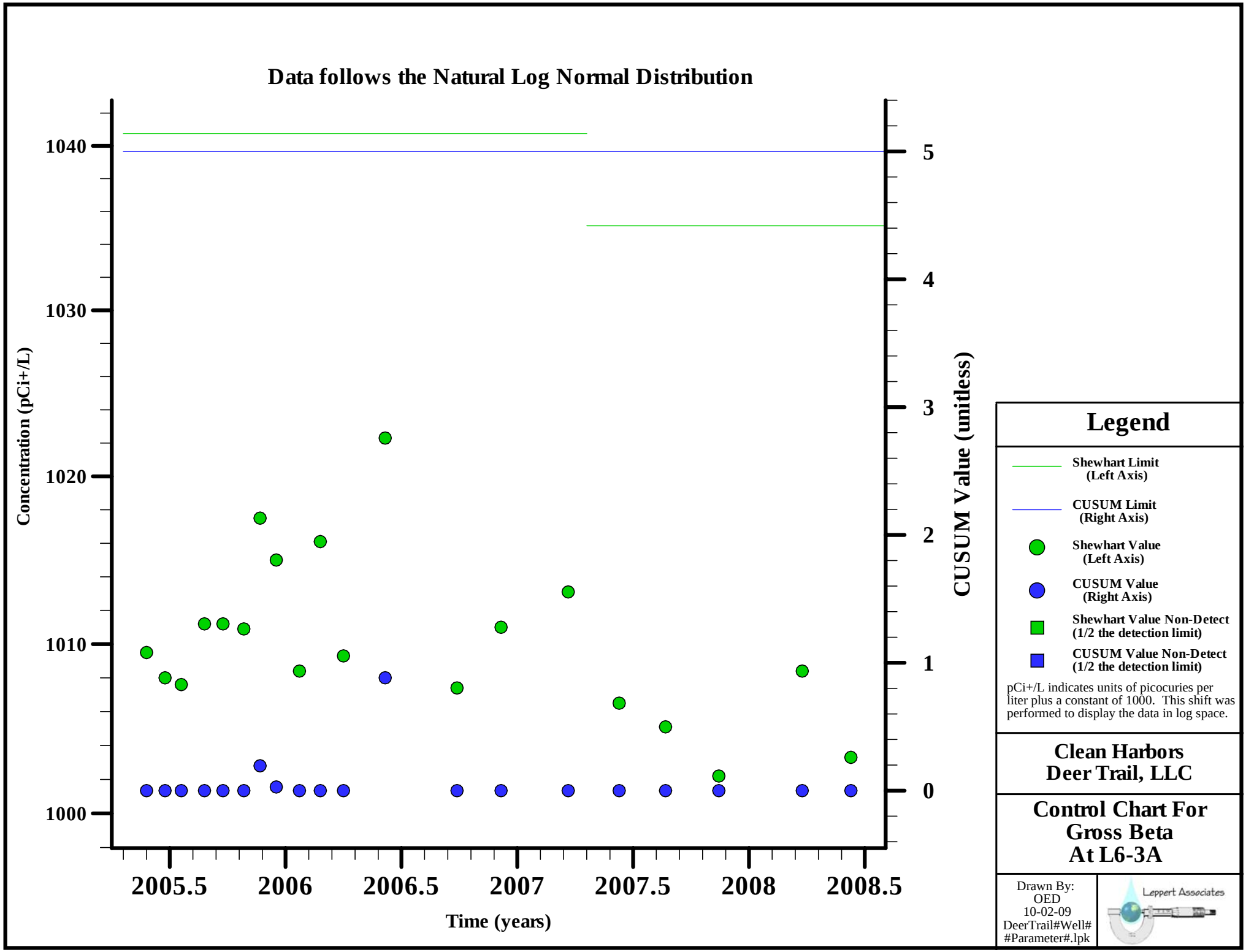
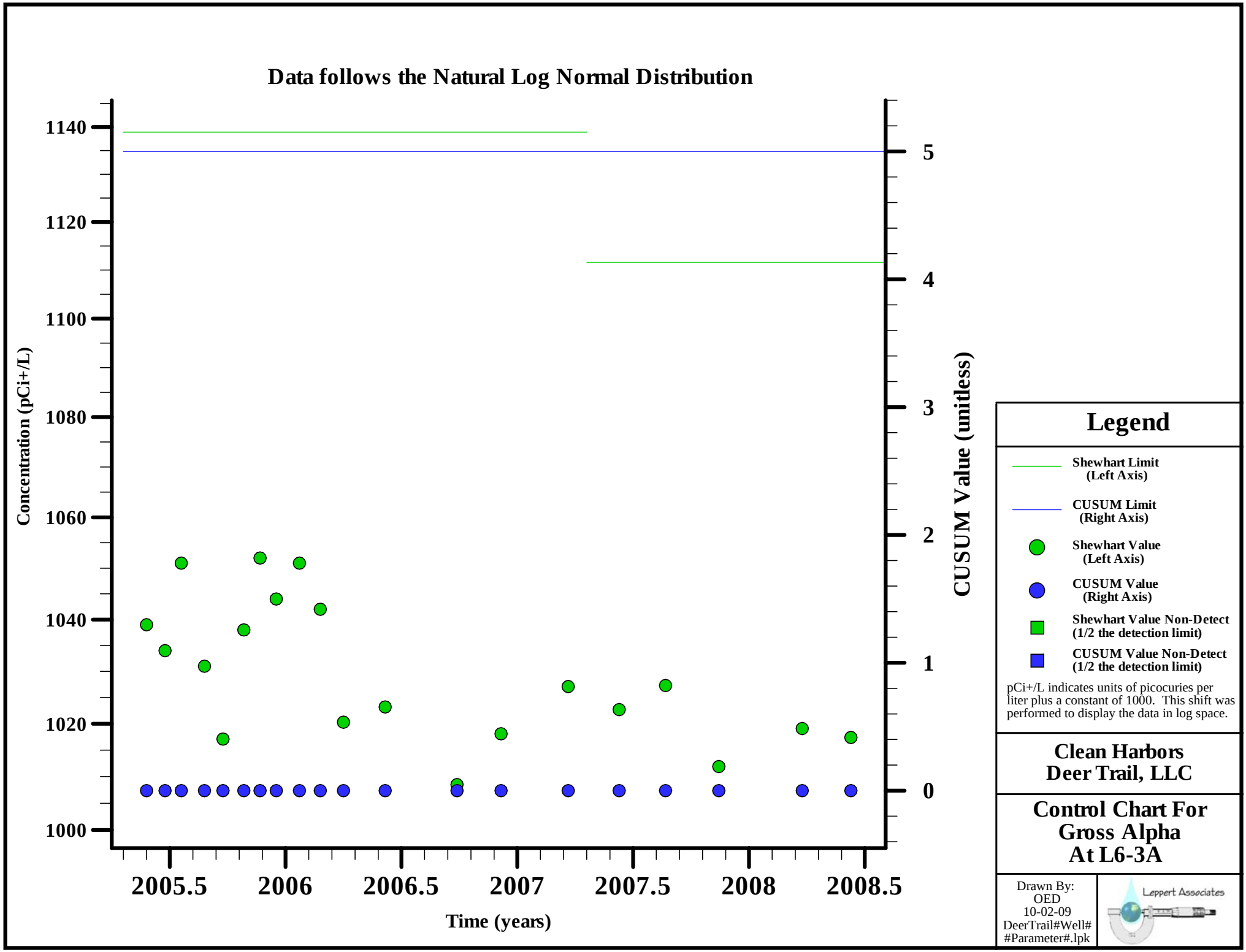
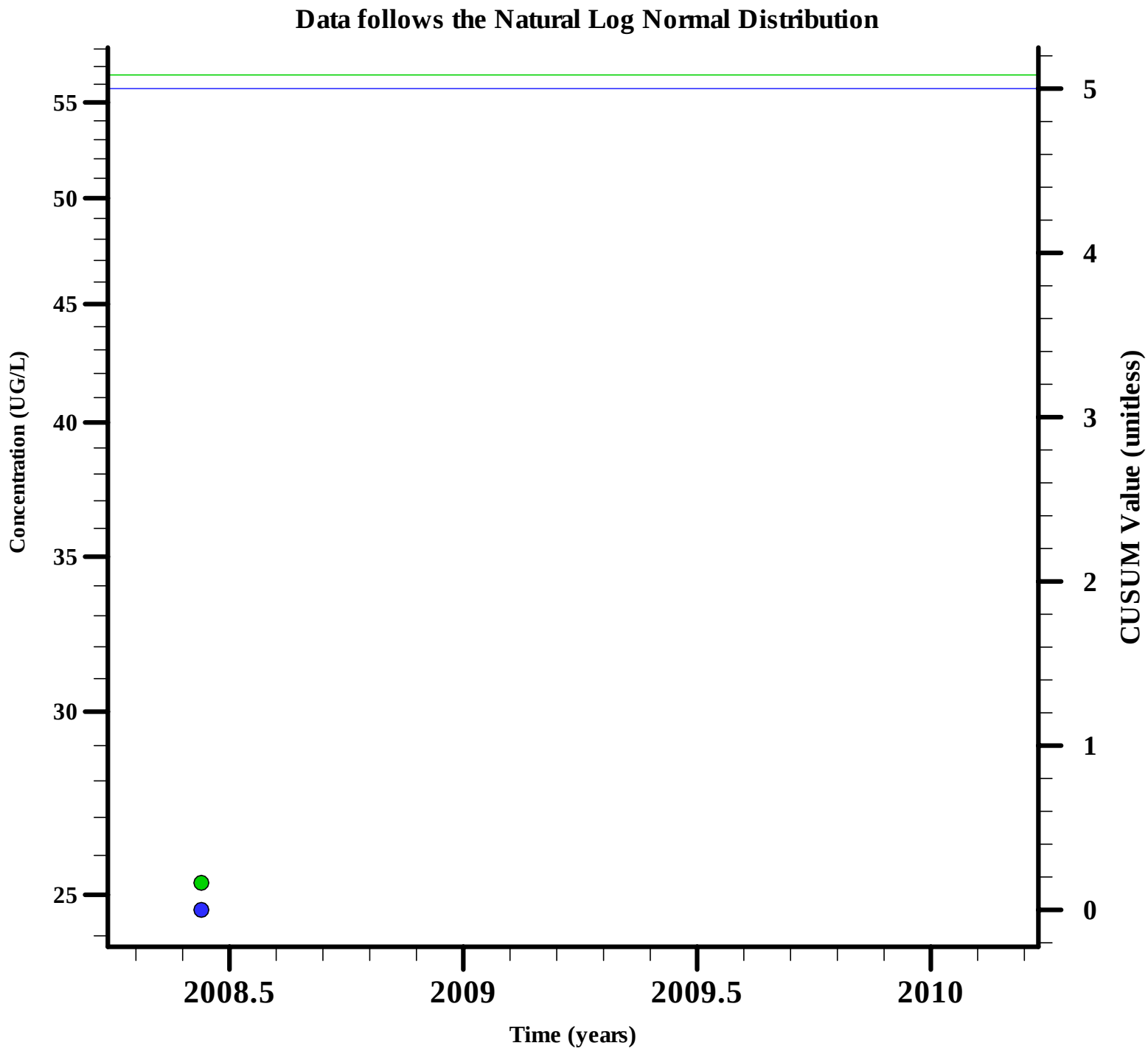

Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1004
1003
1002
1001
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L6-3A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
1000.8
1000.6
1000.4
1000.2
Concentration (pCi+/L)
5
4
3
2
1
0
CUSUM Value (unitless)
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L6-3A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1040
1030
1020
1010
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L6-3A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1140
1120
1100
1080
1060
1040
1020
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L6-3A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

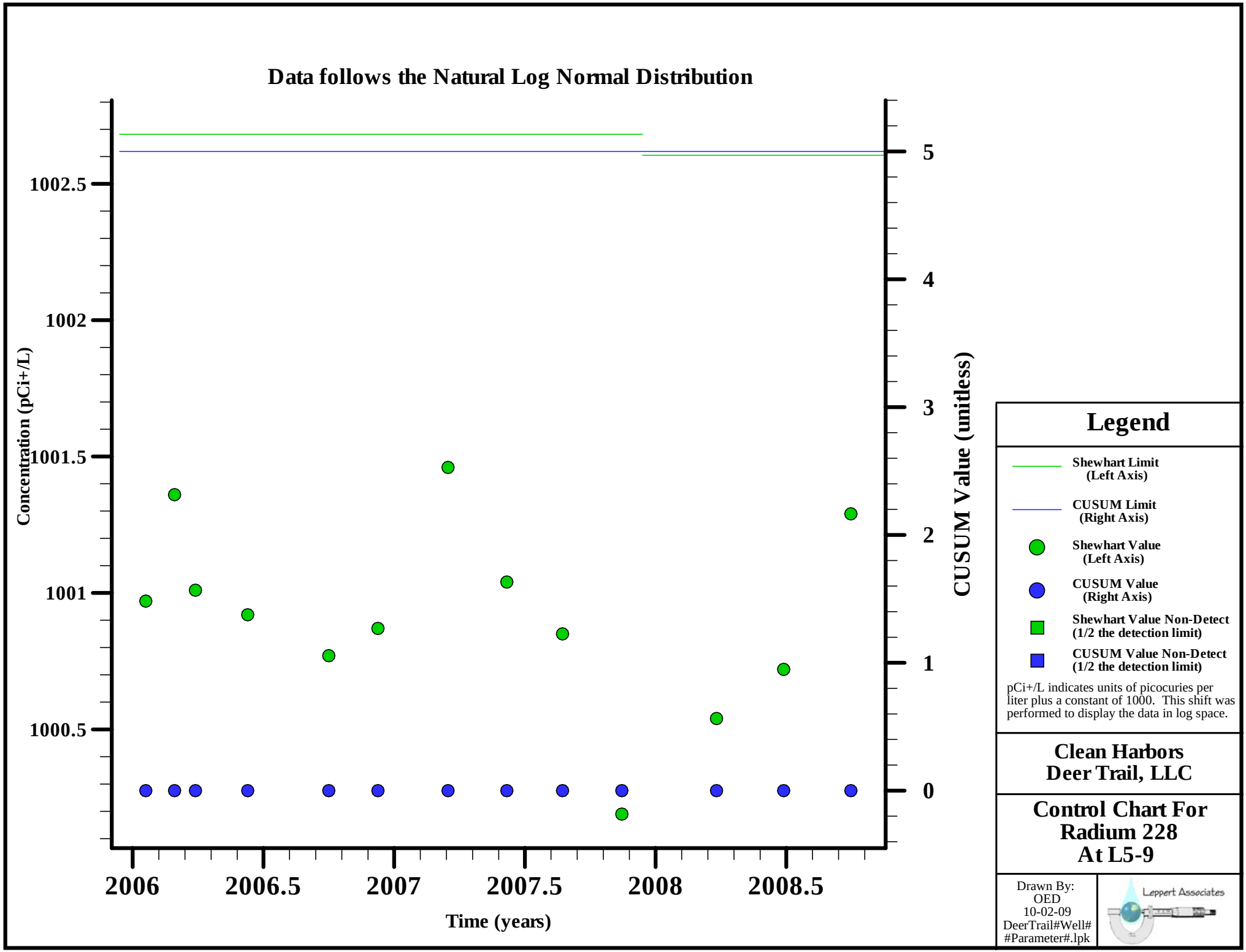
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

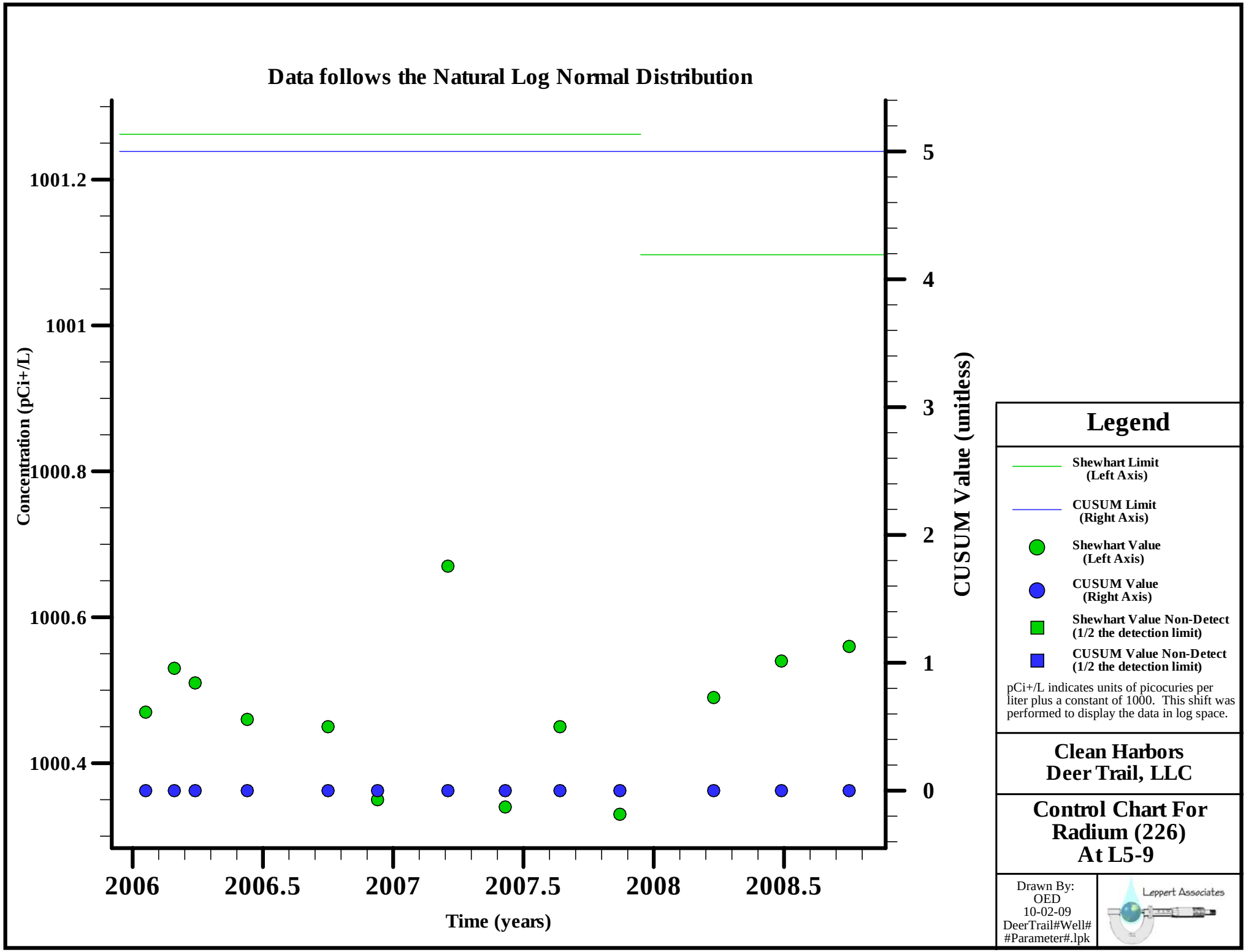
Clean Harbors Deer Trail, LLC

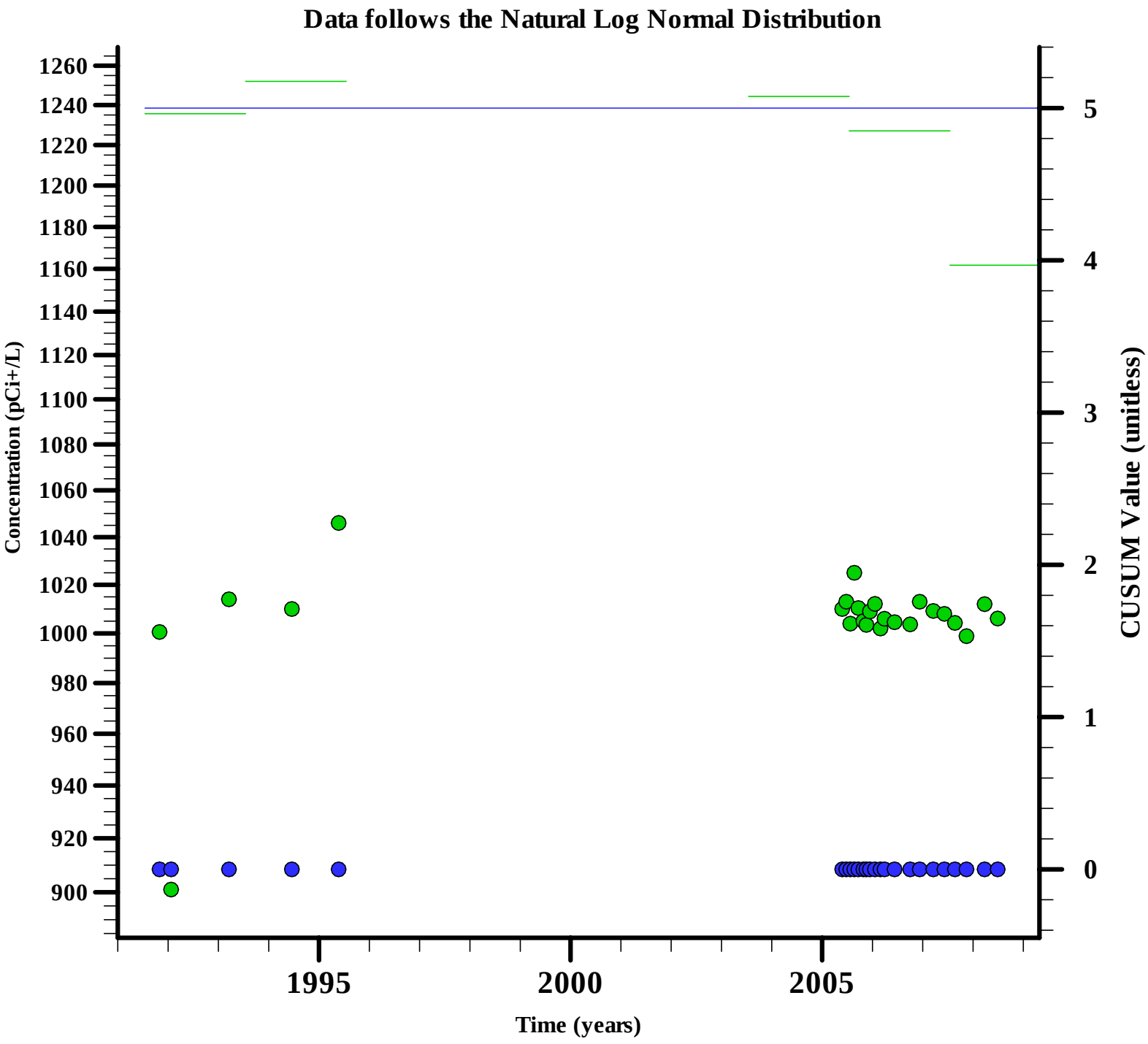
Control Chart For Total Uranium At L6-3A

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1002.5
1002
1001.5
1001
1000.5
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L5-9
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001.2
1001
1000.8
1000.6
1000.4
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-9
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

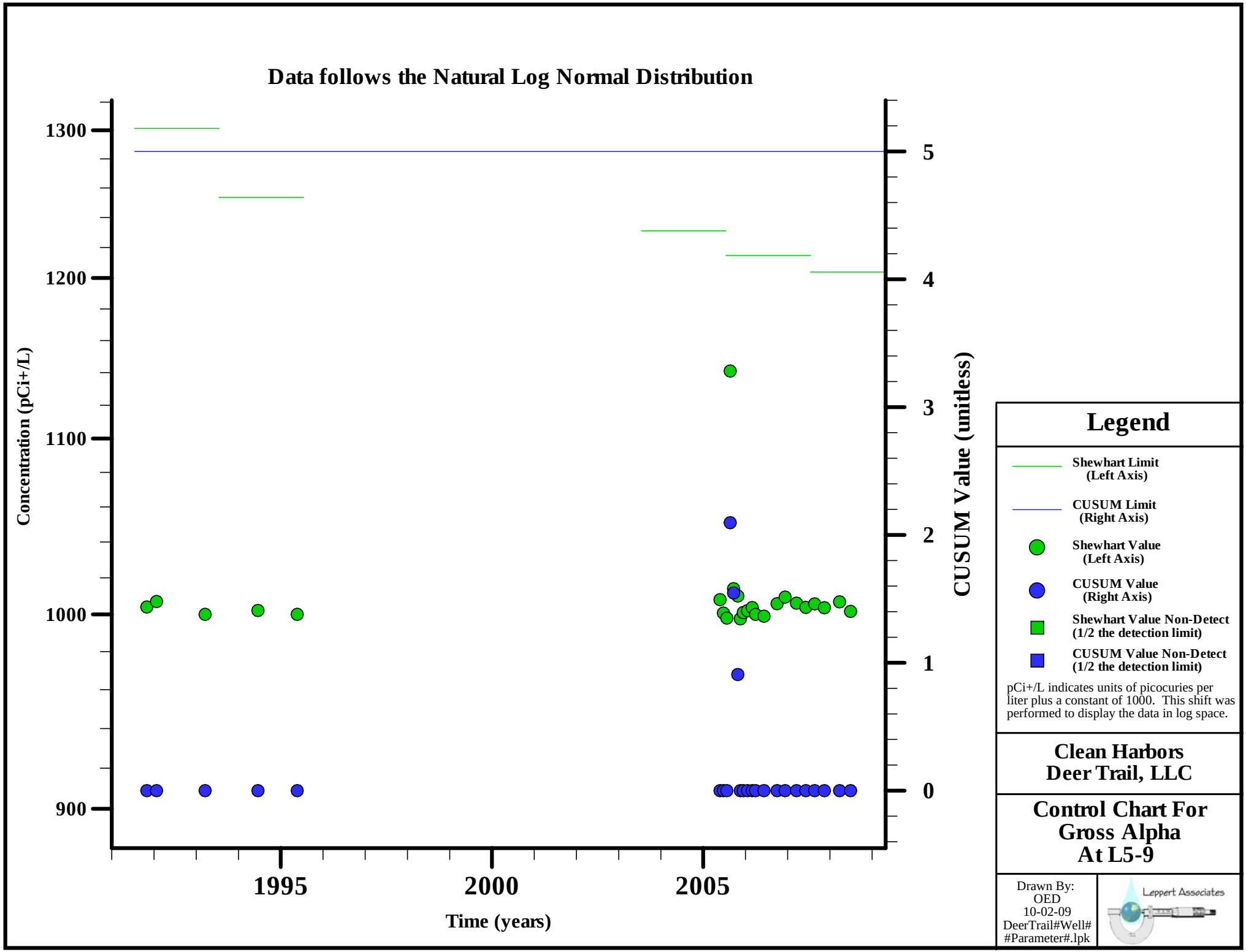
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

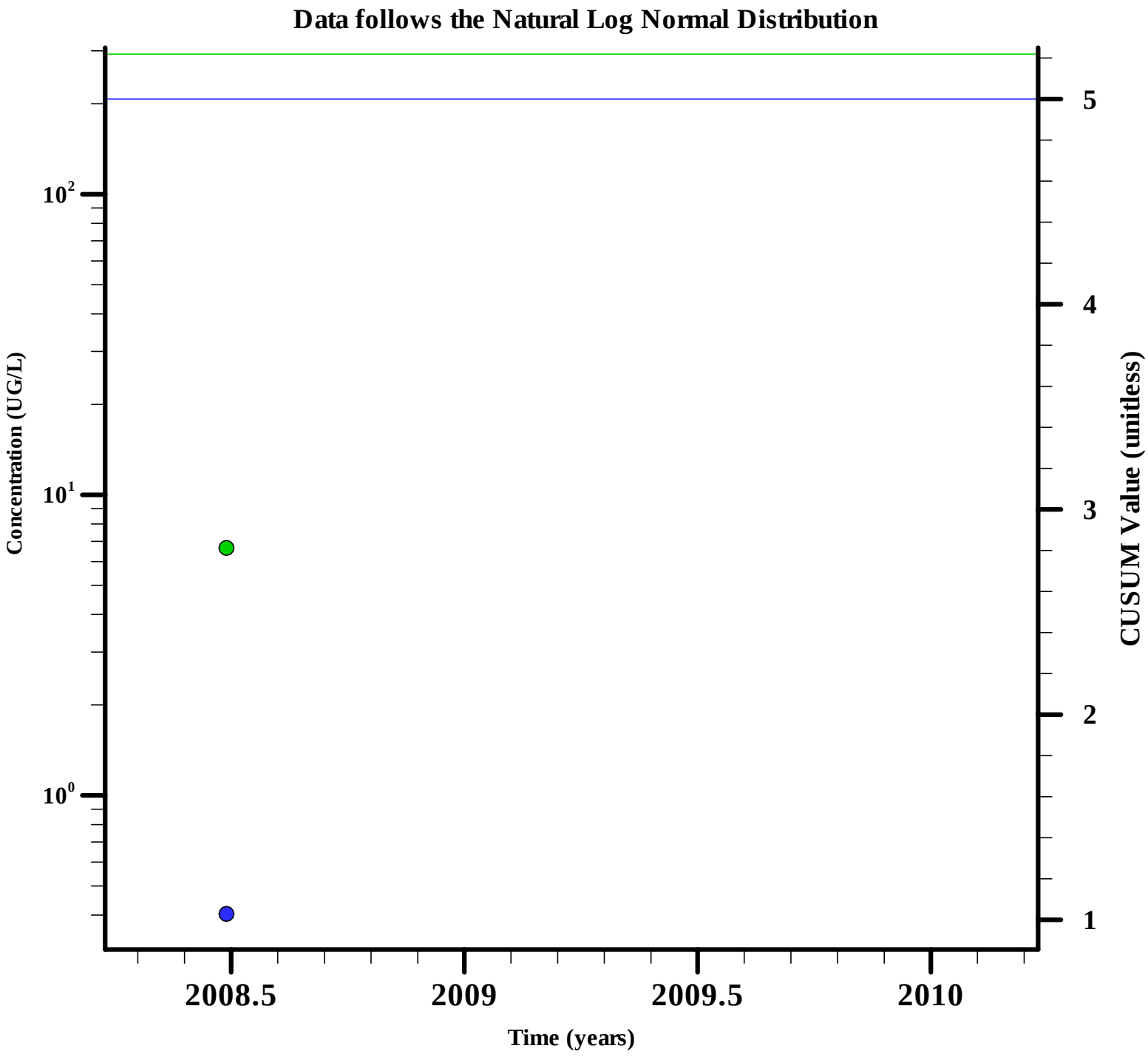
Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L5-9

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1300
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L5-9
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

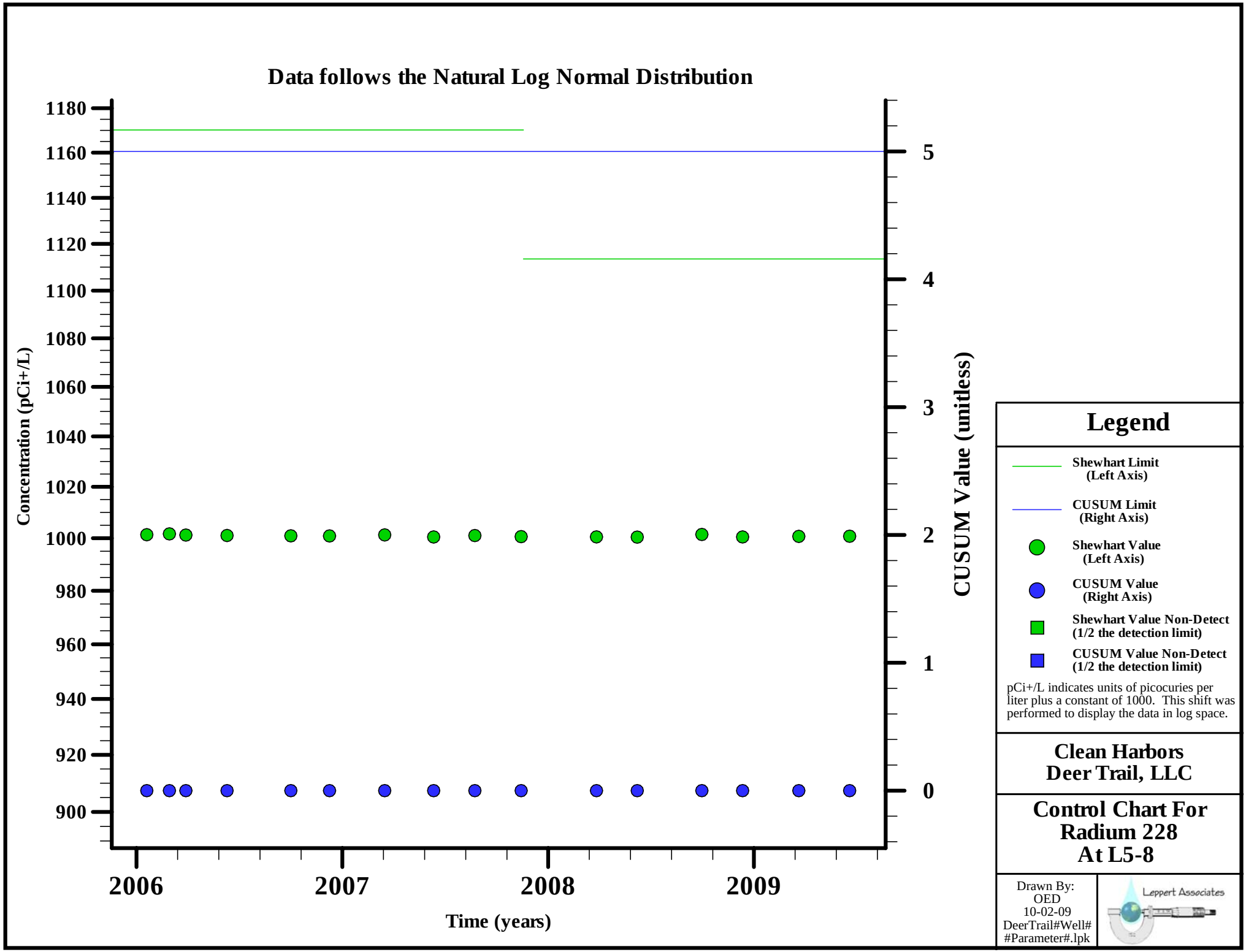
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

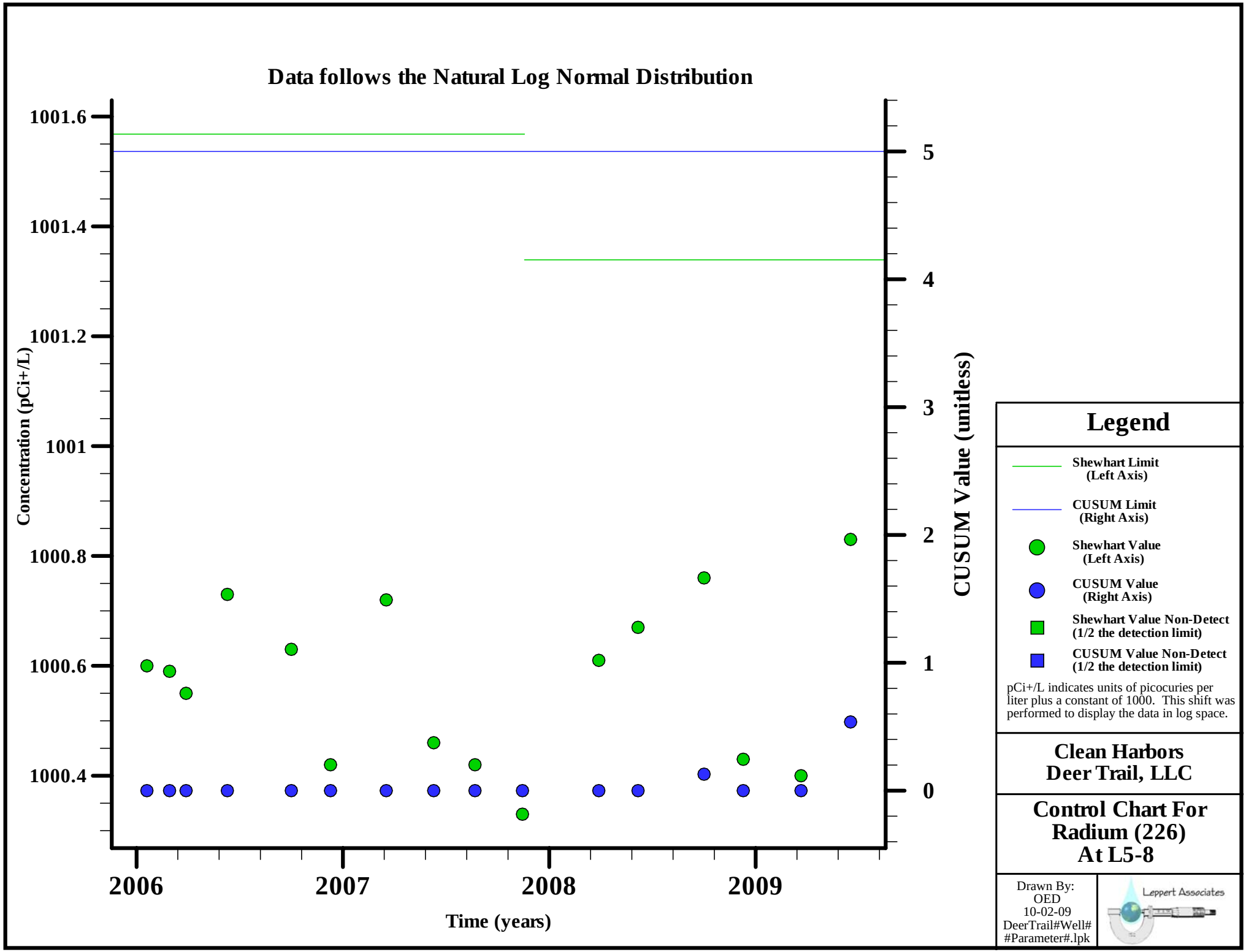
Clean Harbors Deer Trail, LLC

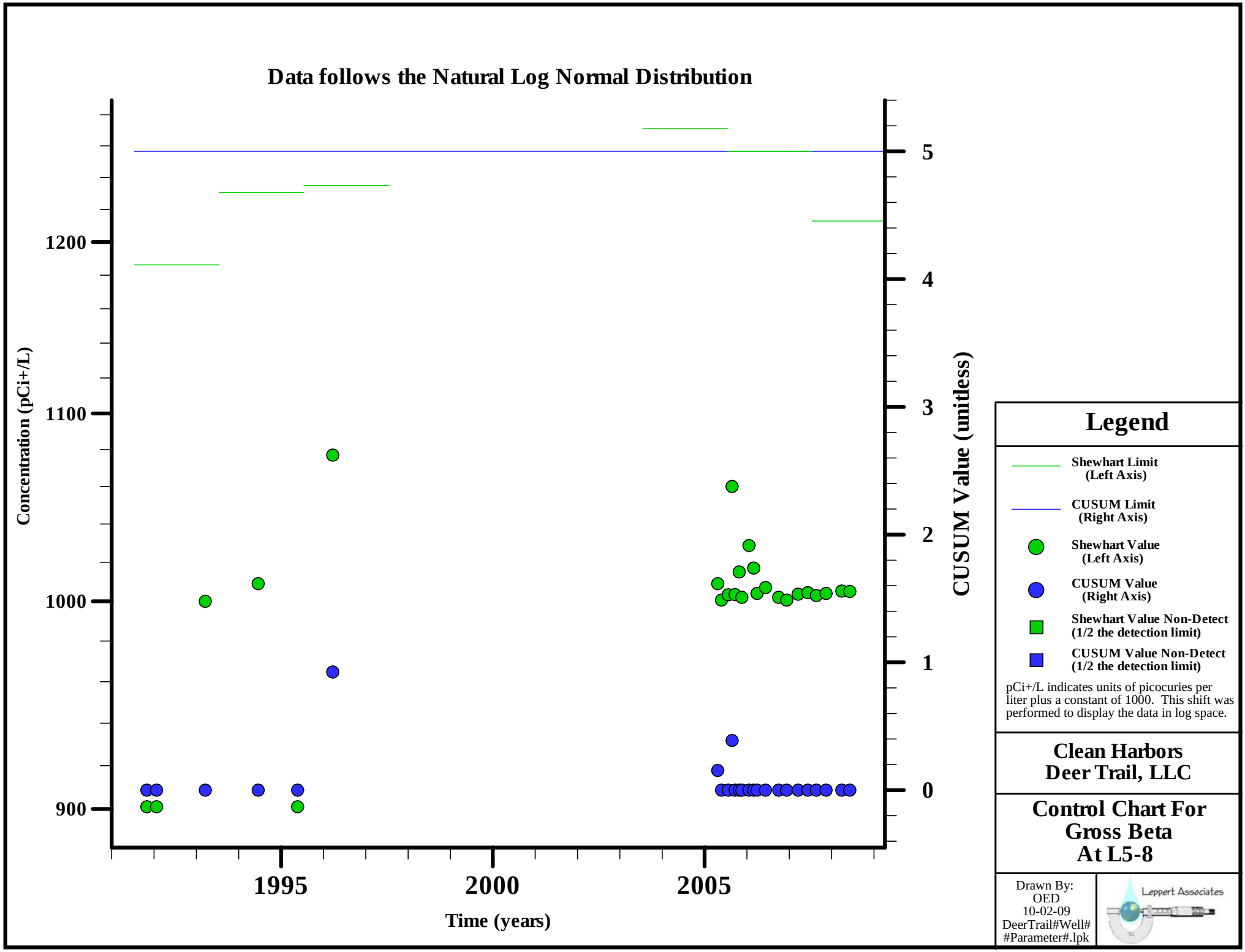
Control Chart For Total Uranium At L5-9

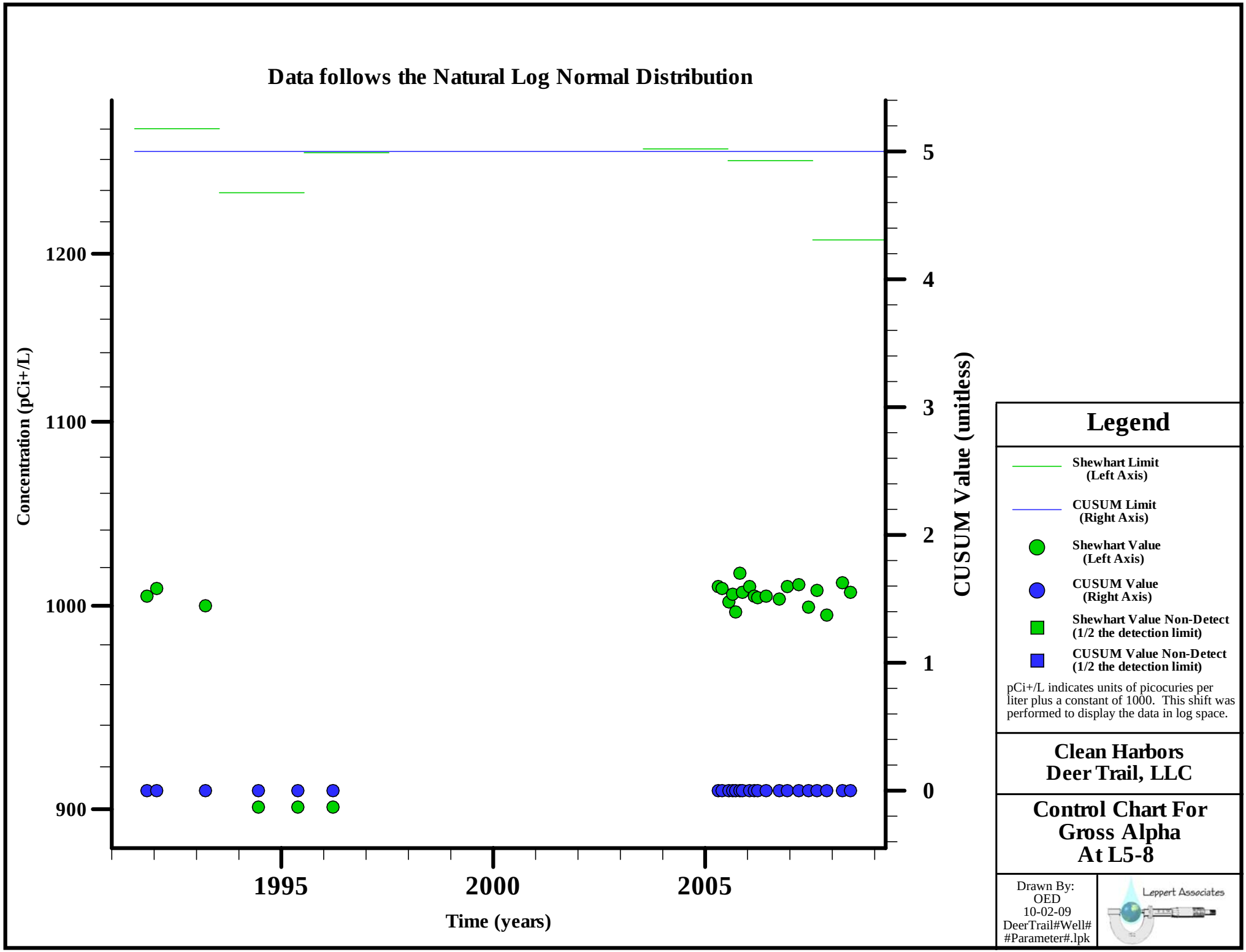
Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

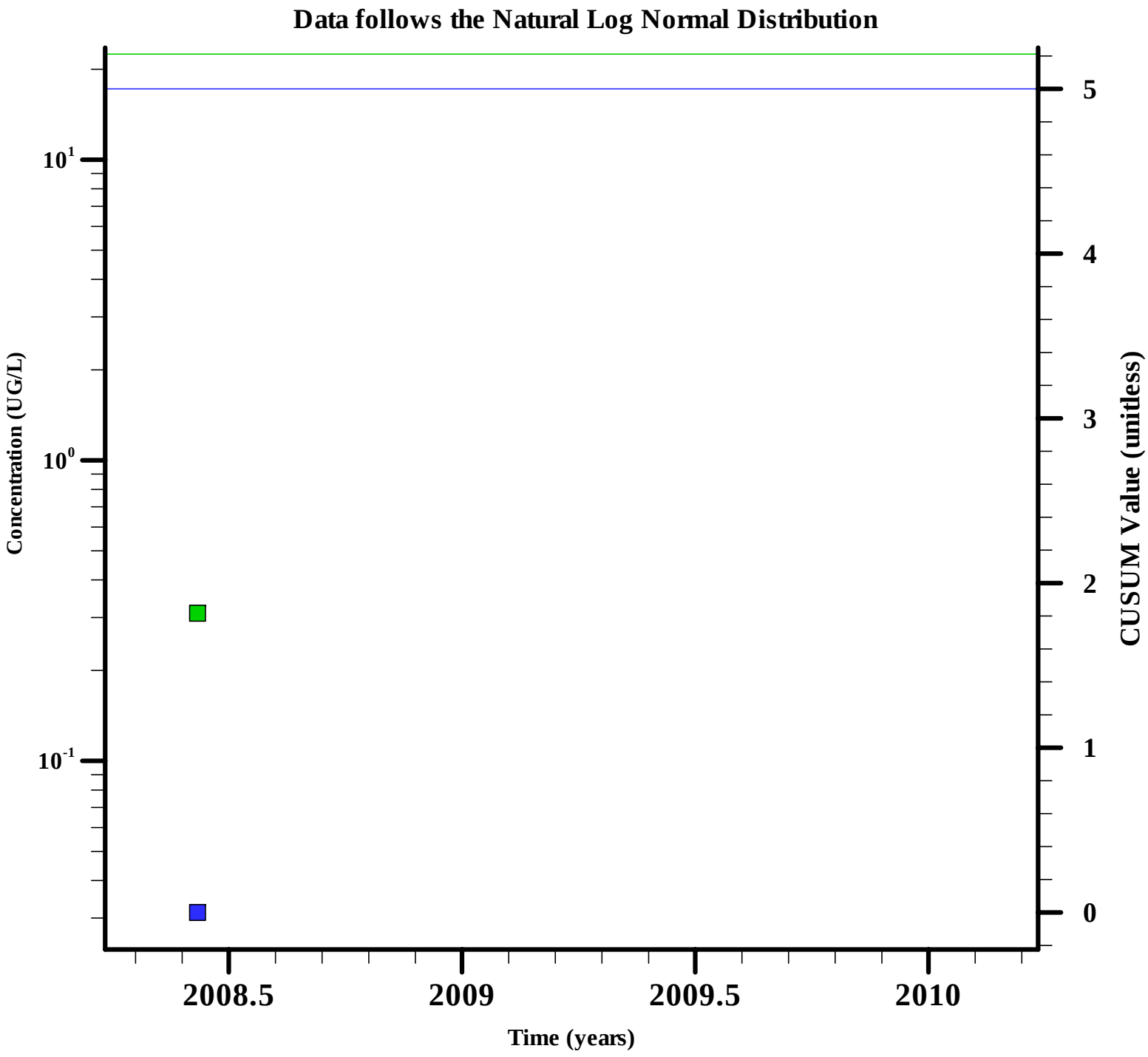
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1180
1160
1140
1120
1100
1080
1060
1040
1020
1000
980
960
940
920
900
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L5-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
1001.6
1001.4
1001.2
1001
1000.8
1000.6
1000.4
Concentration (pCi+/L)
5
4
3
2
1
0
CUSUM Value (unitless)
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L5-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L5-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

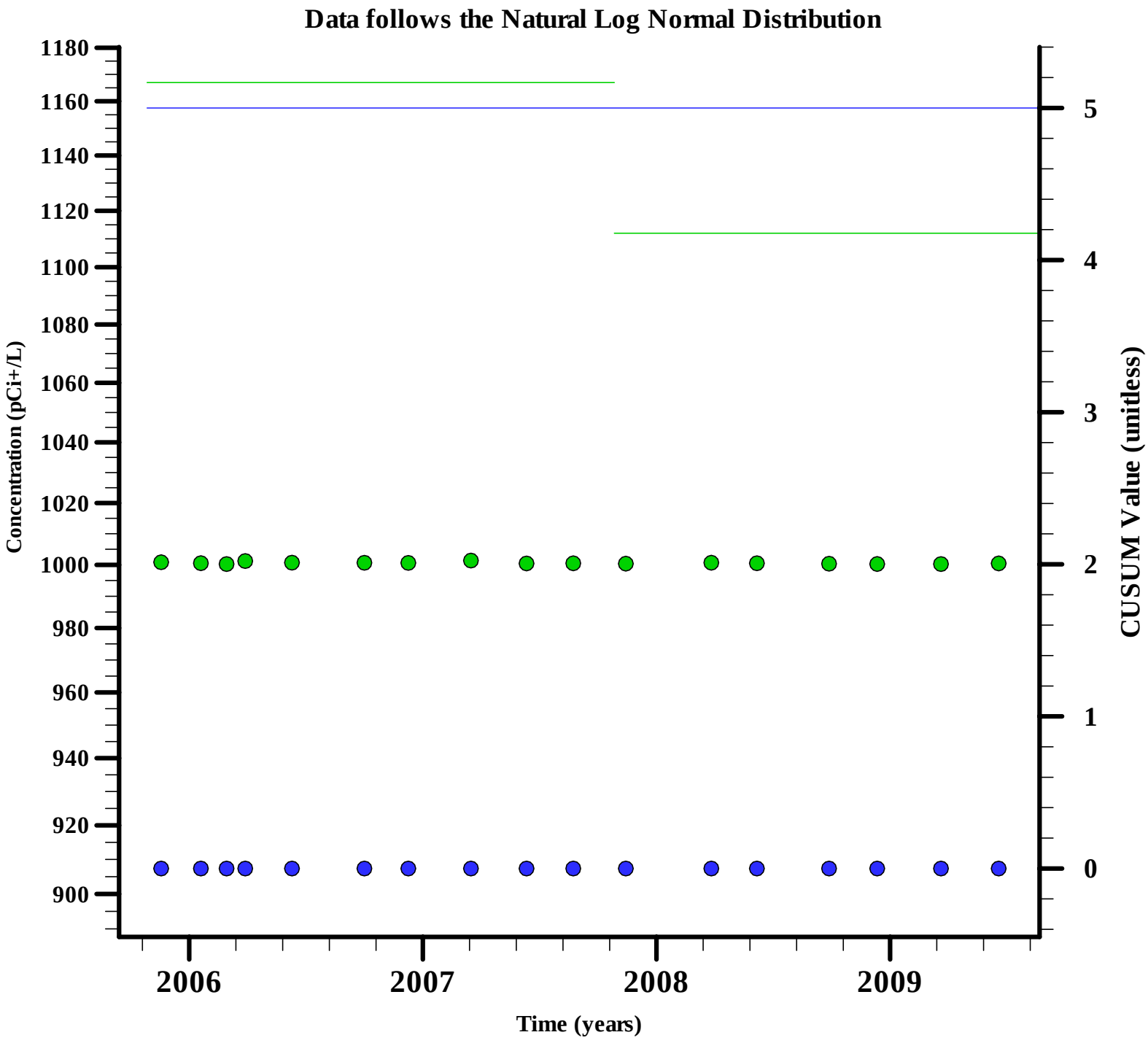
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L5-8

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

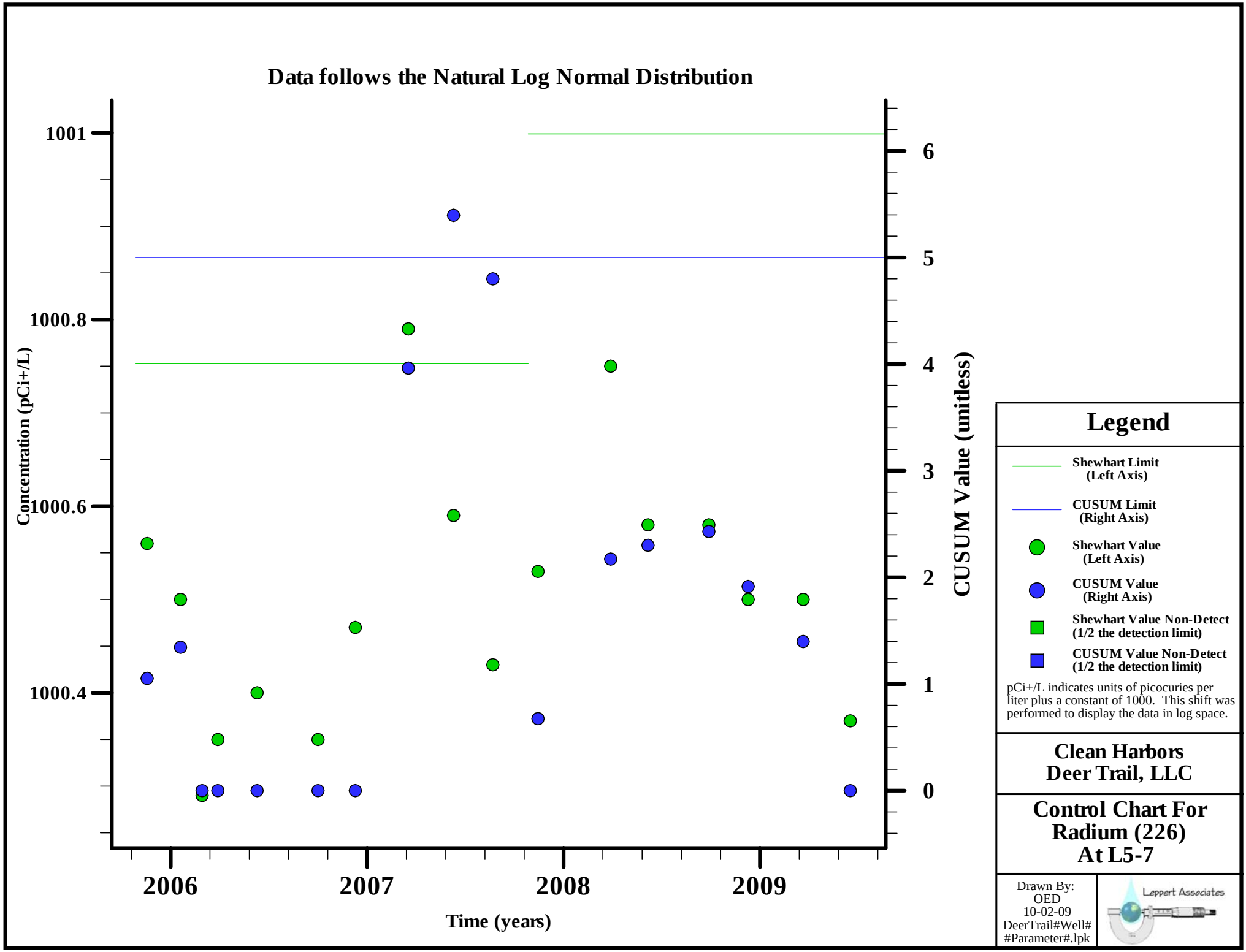
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

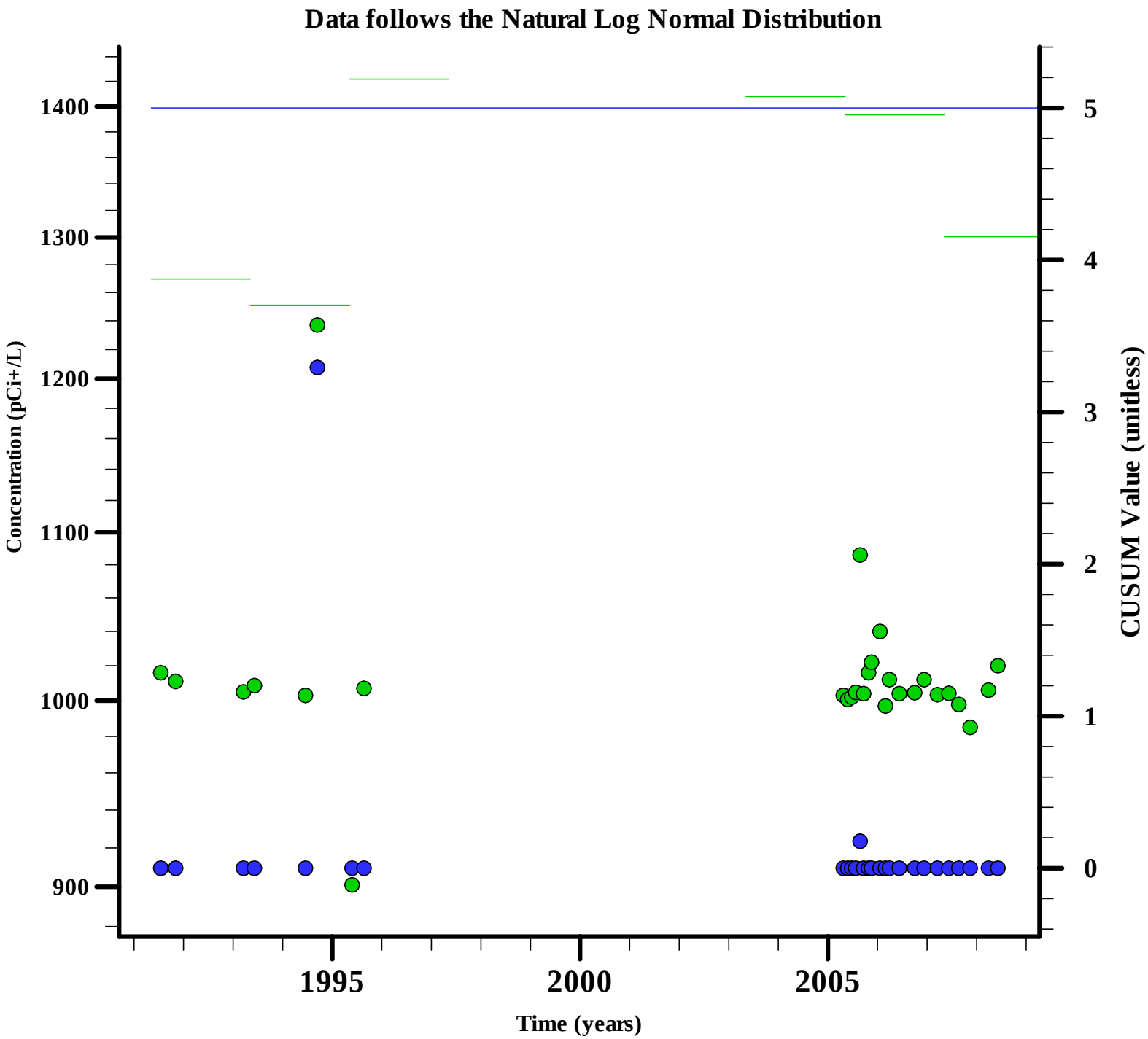
Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L5-7

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
1001
1000.8
1000.6
1000.4
Concentration (pCi+/L)
6
5
4
3
2
1
0
CUSUM Value (unitless)
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-7
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

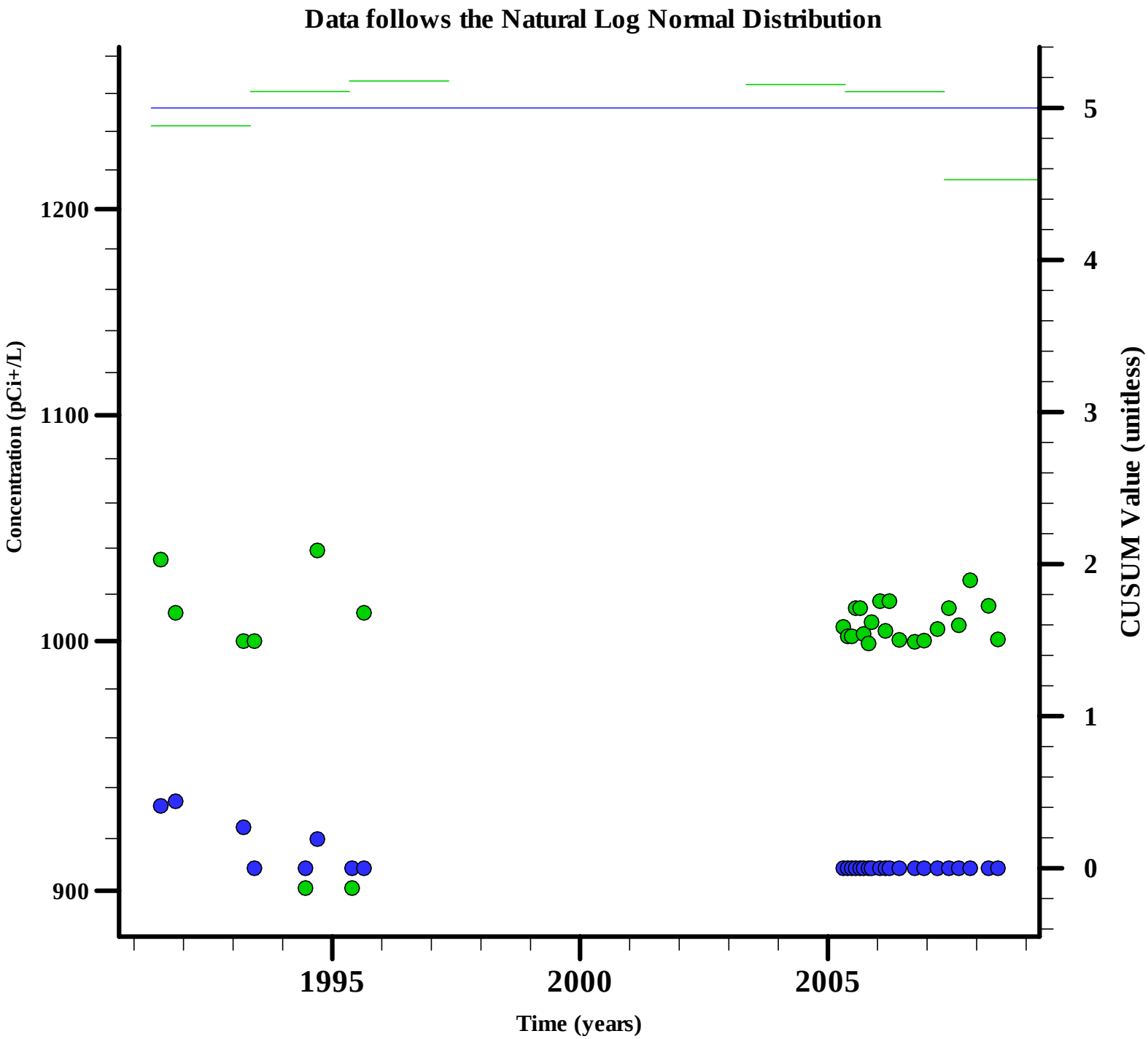
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L5-7

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

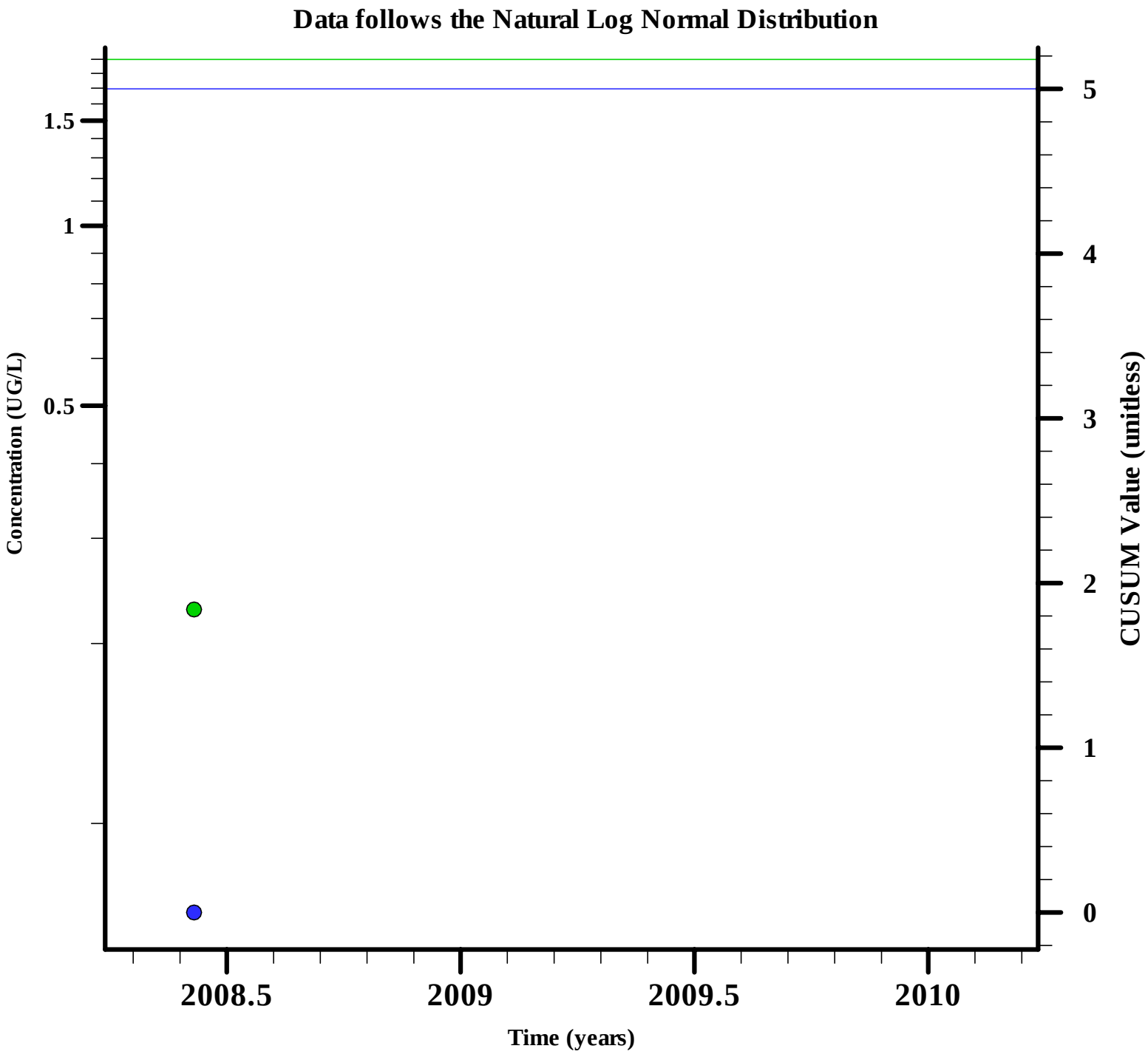
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L5-7

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

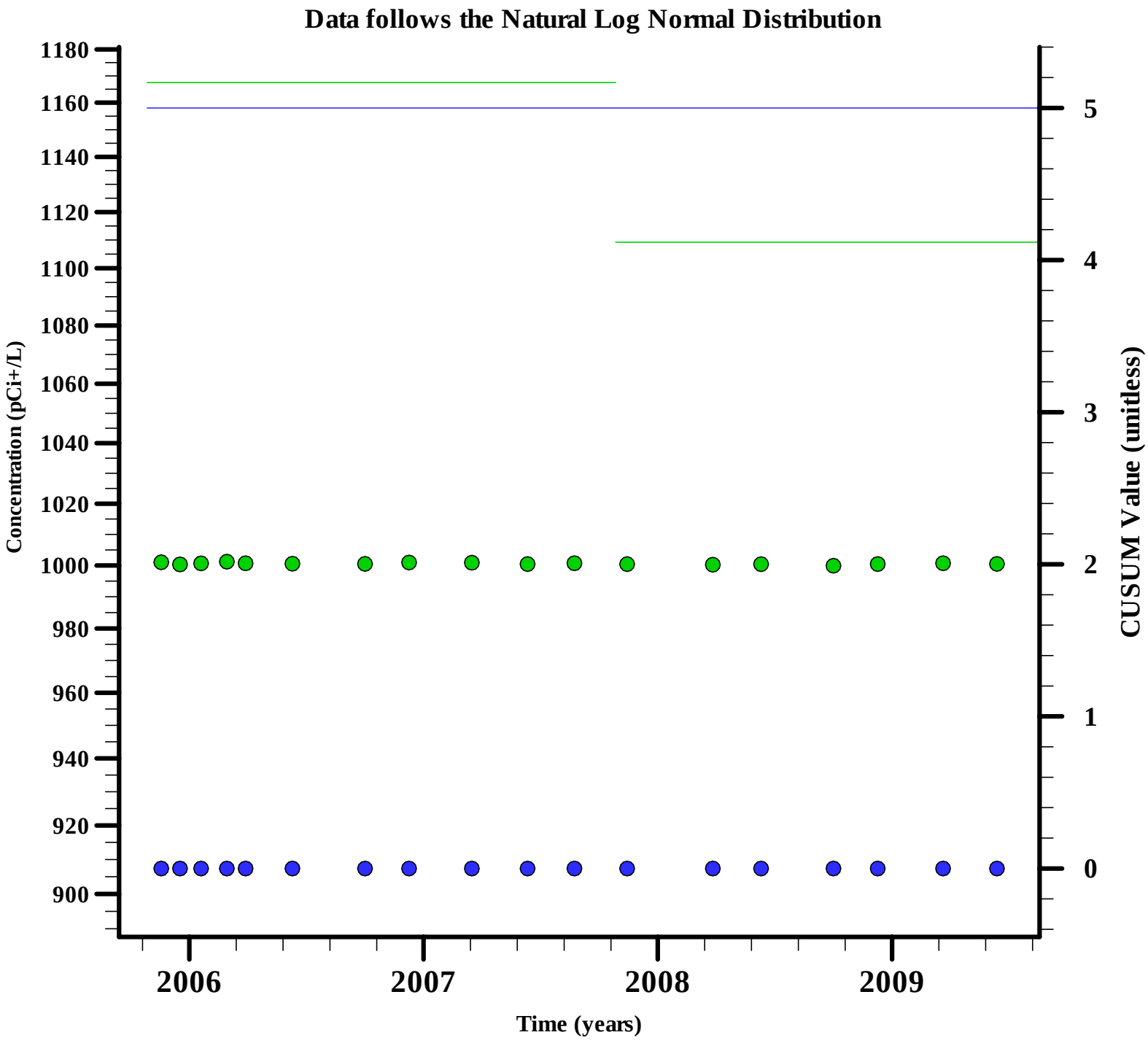
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L5-7

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

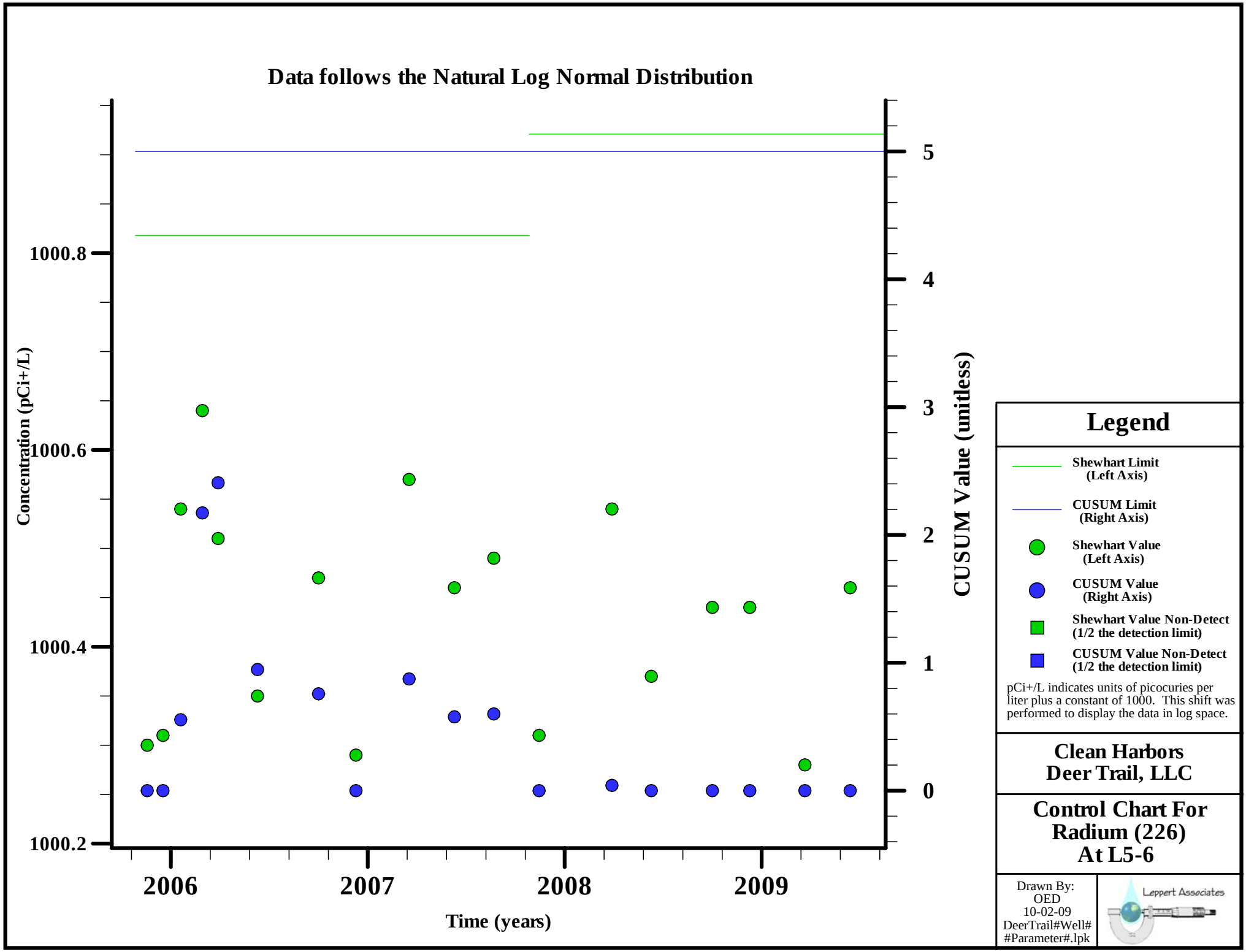
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

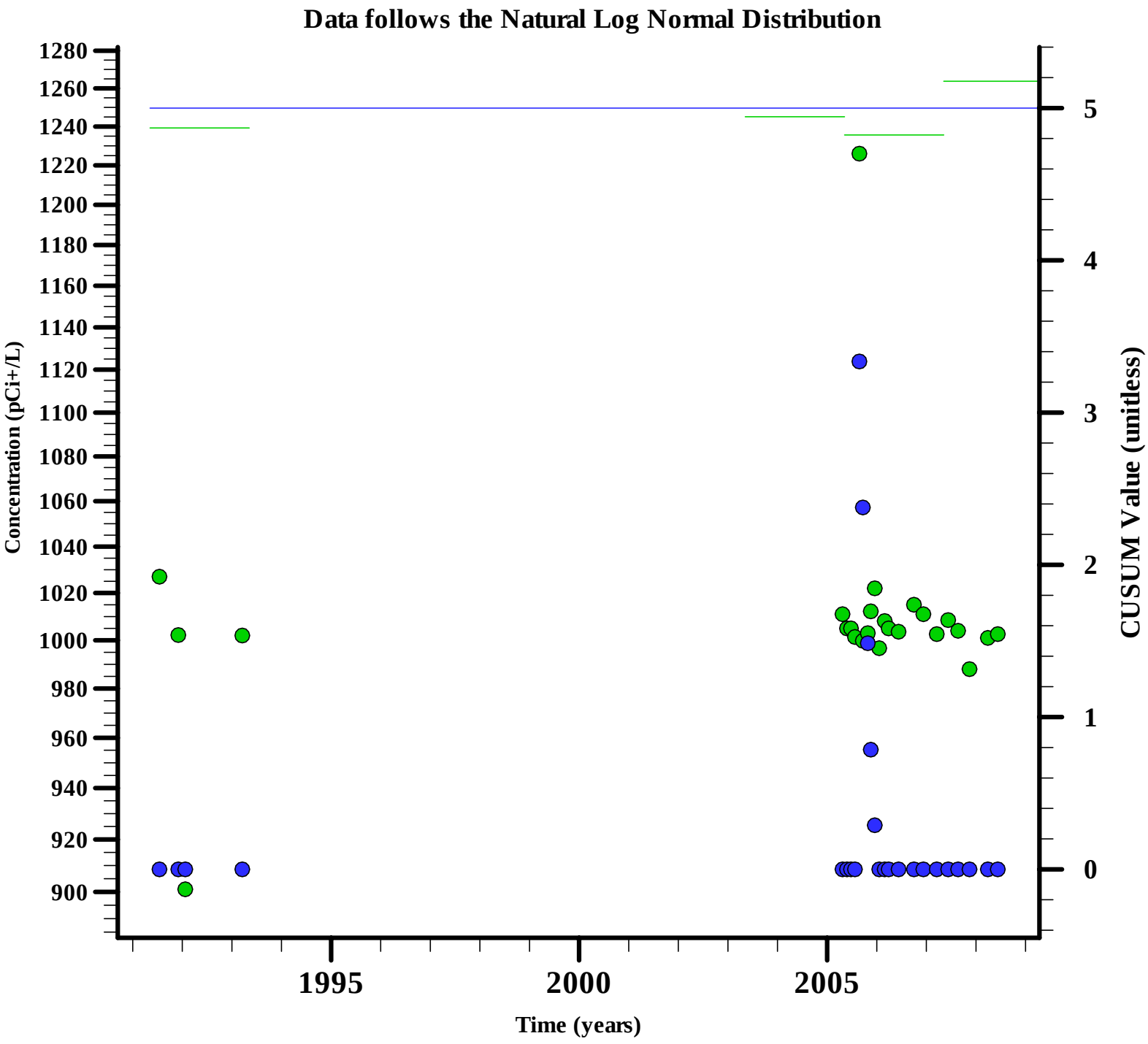
Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L5-6

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1000.8
1000.6
1000.4
1000.2
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-6
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

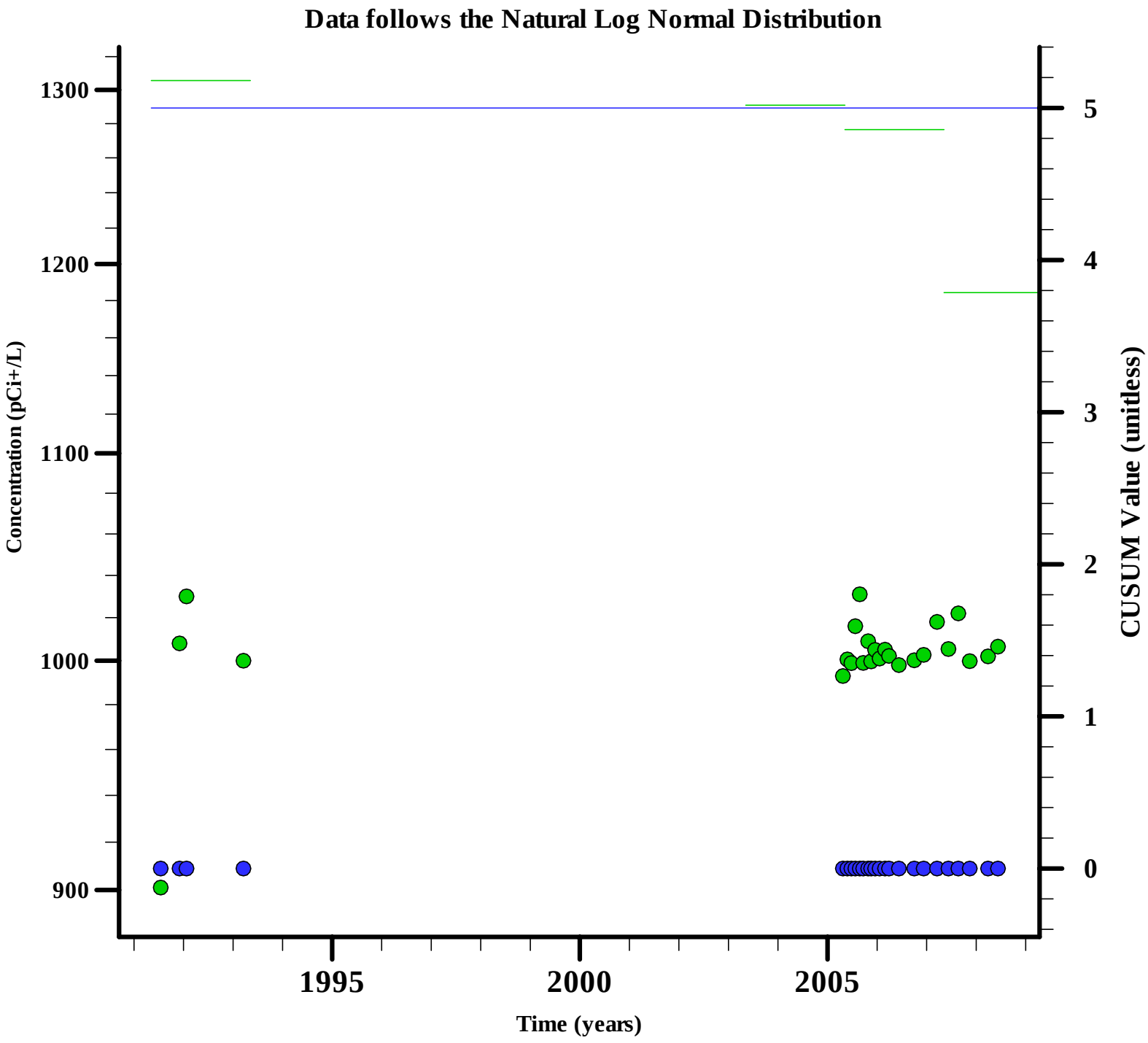
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L5-6

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

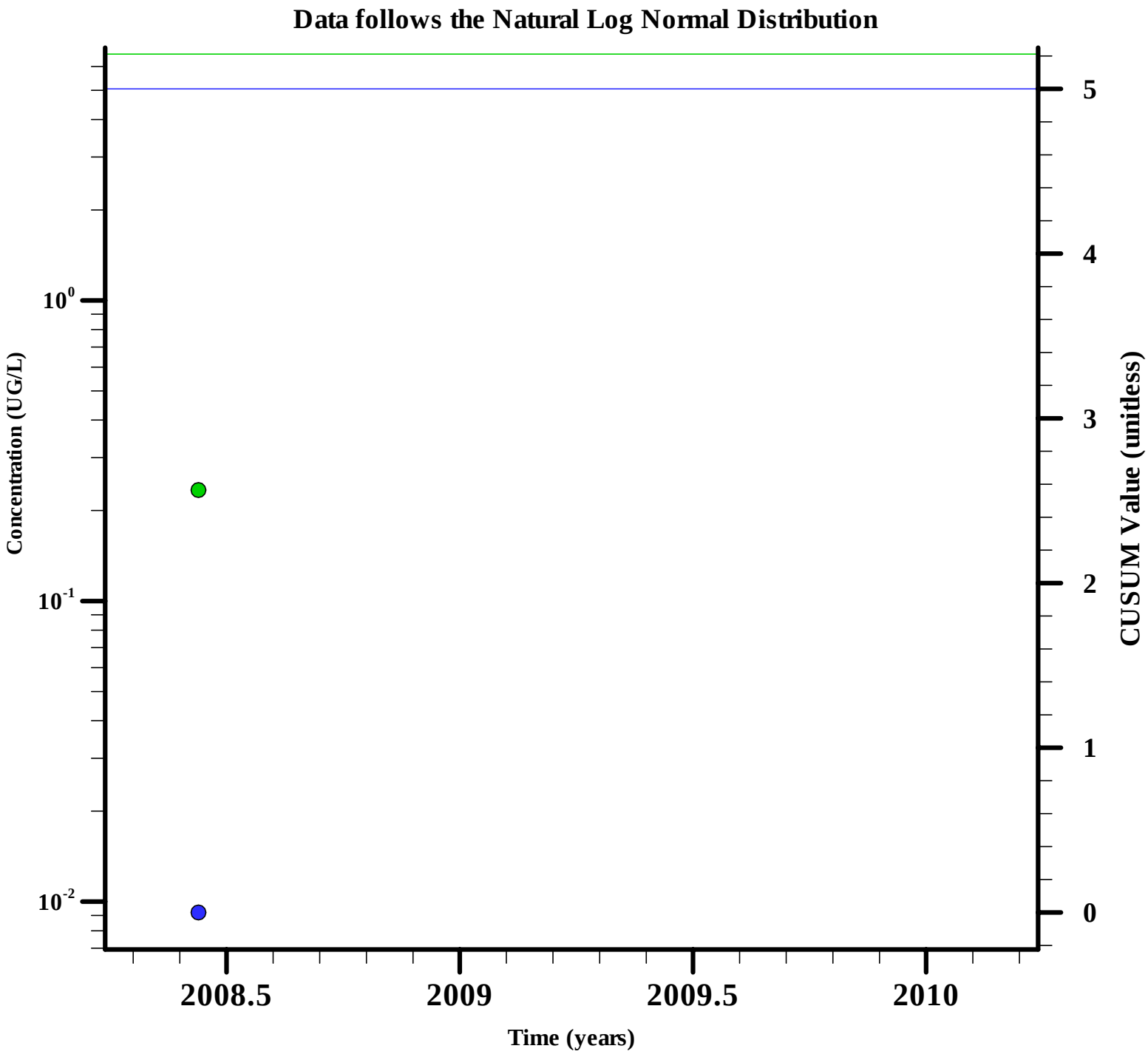
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L5-6

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

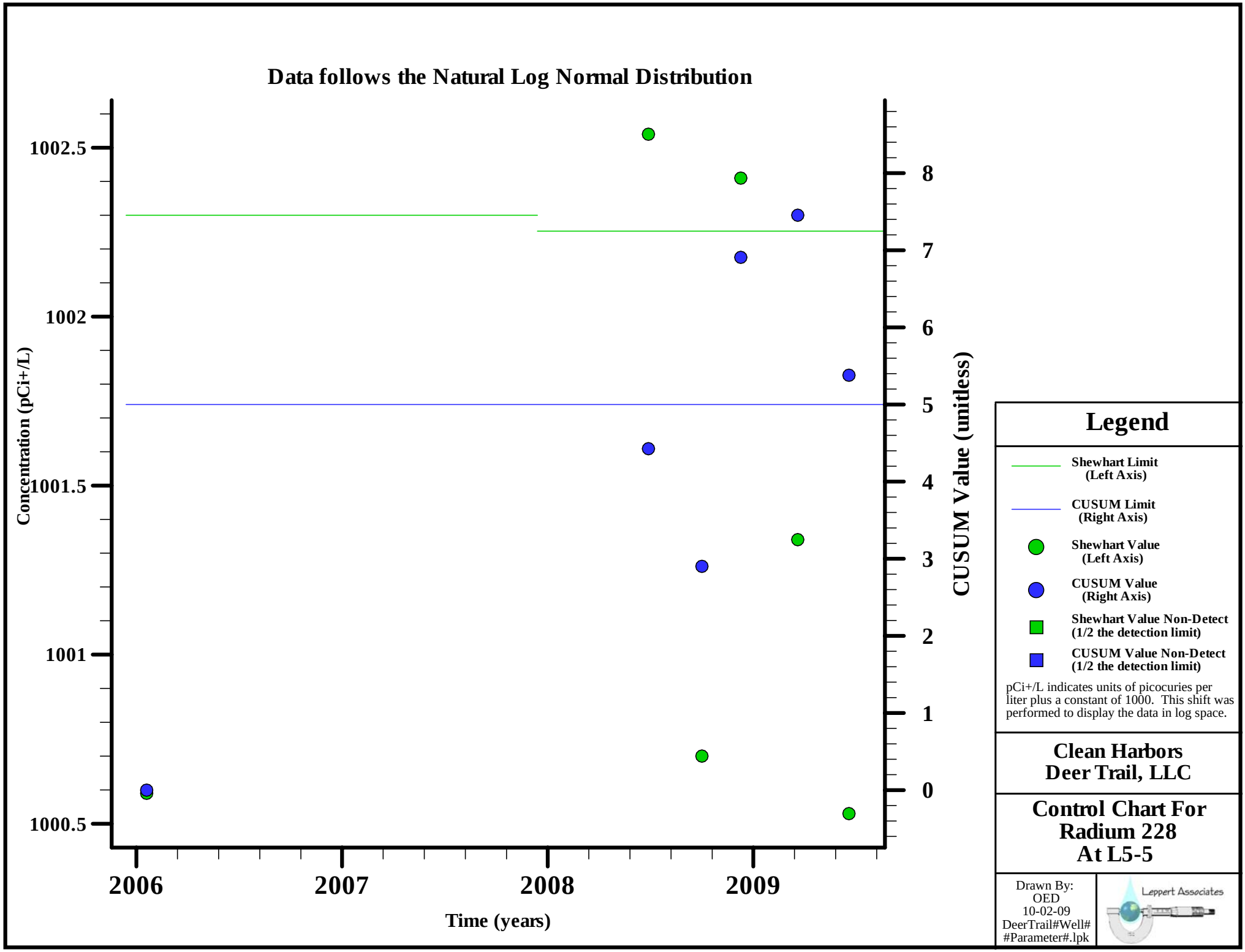
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

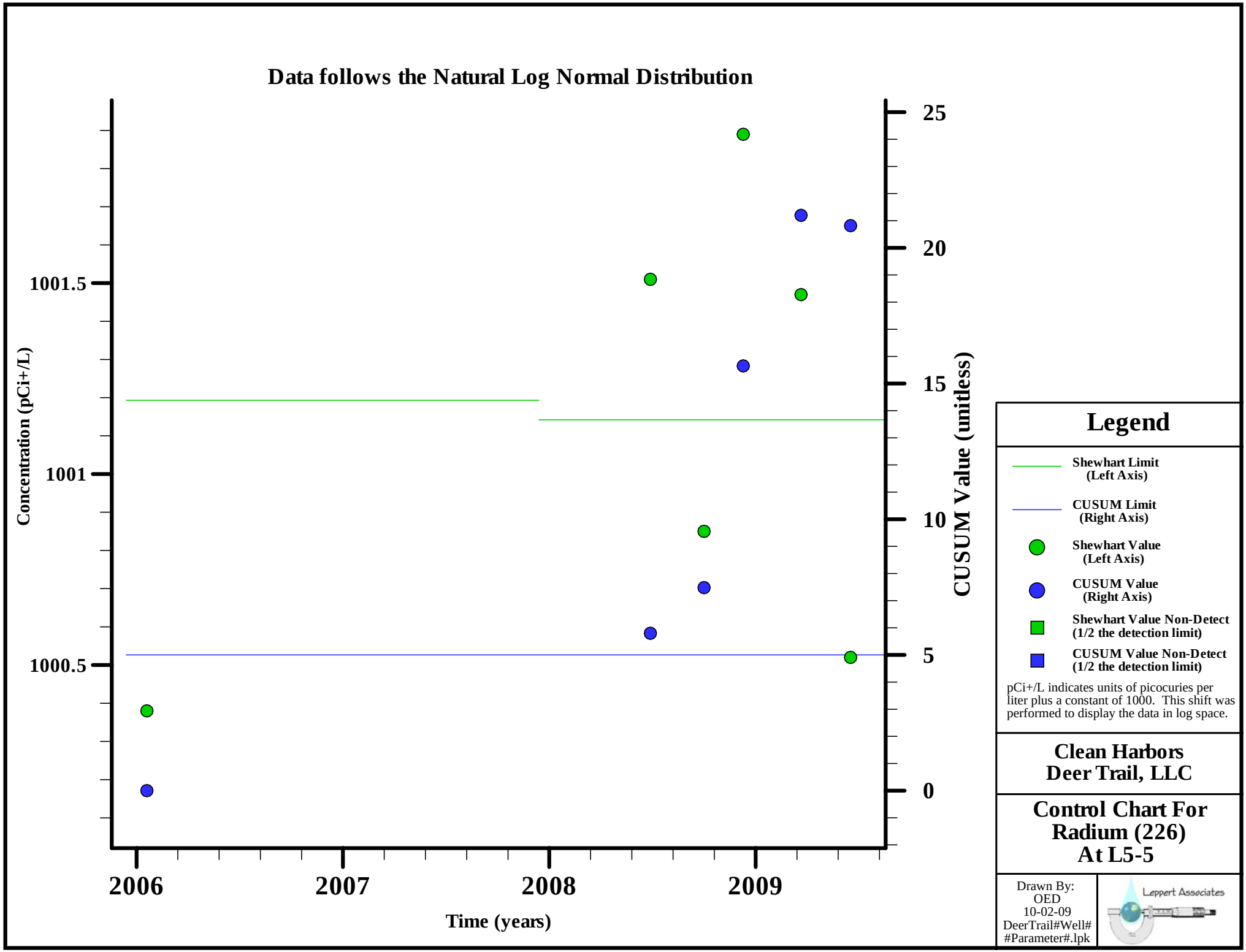
Clean Harbors Deer Trail, LLC

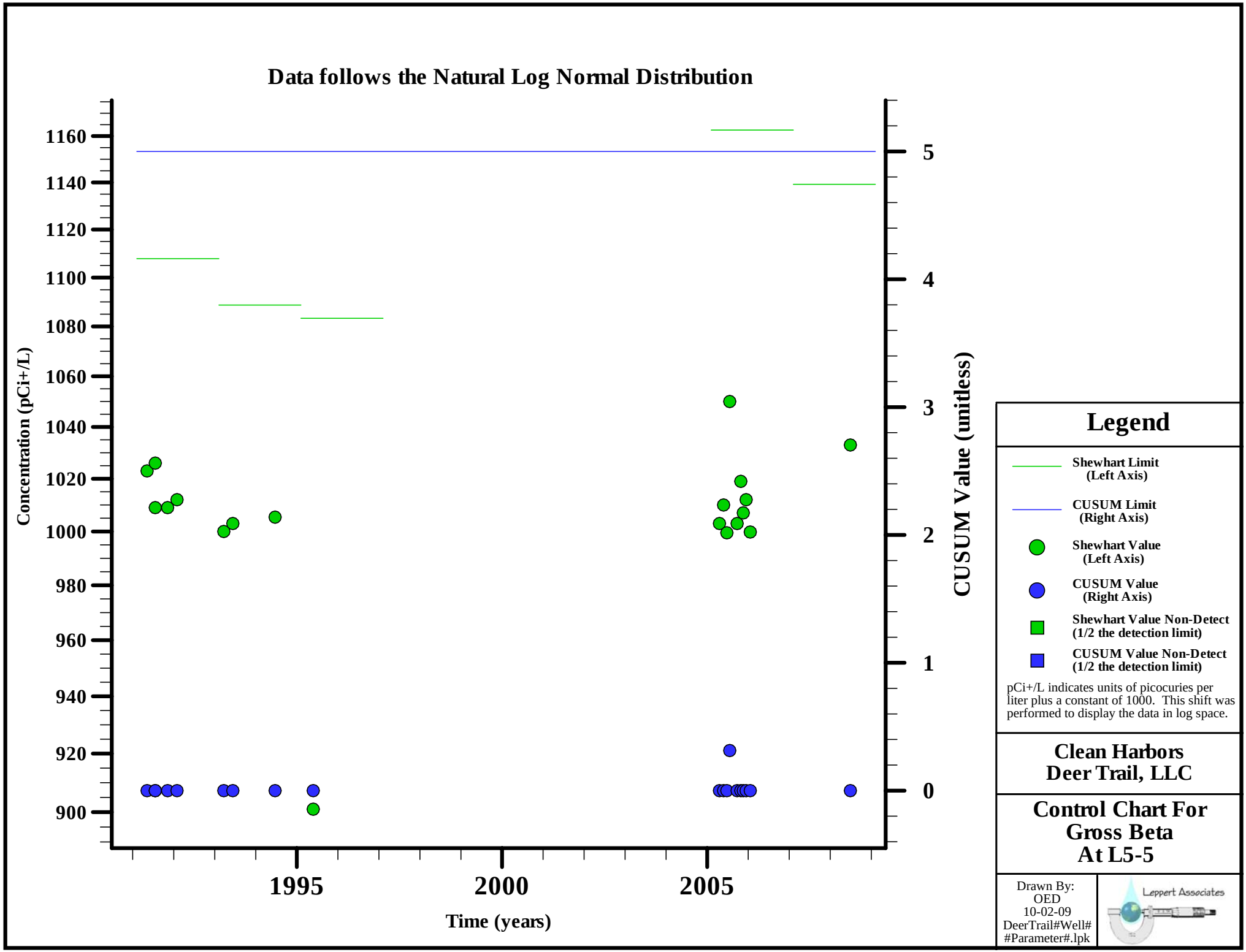
Control Chart For Total Uranium At L5-6

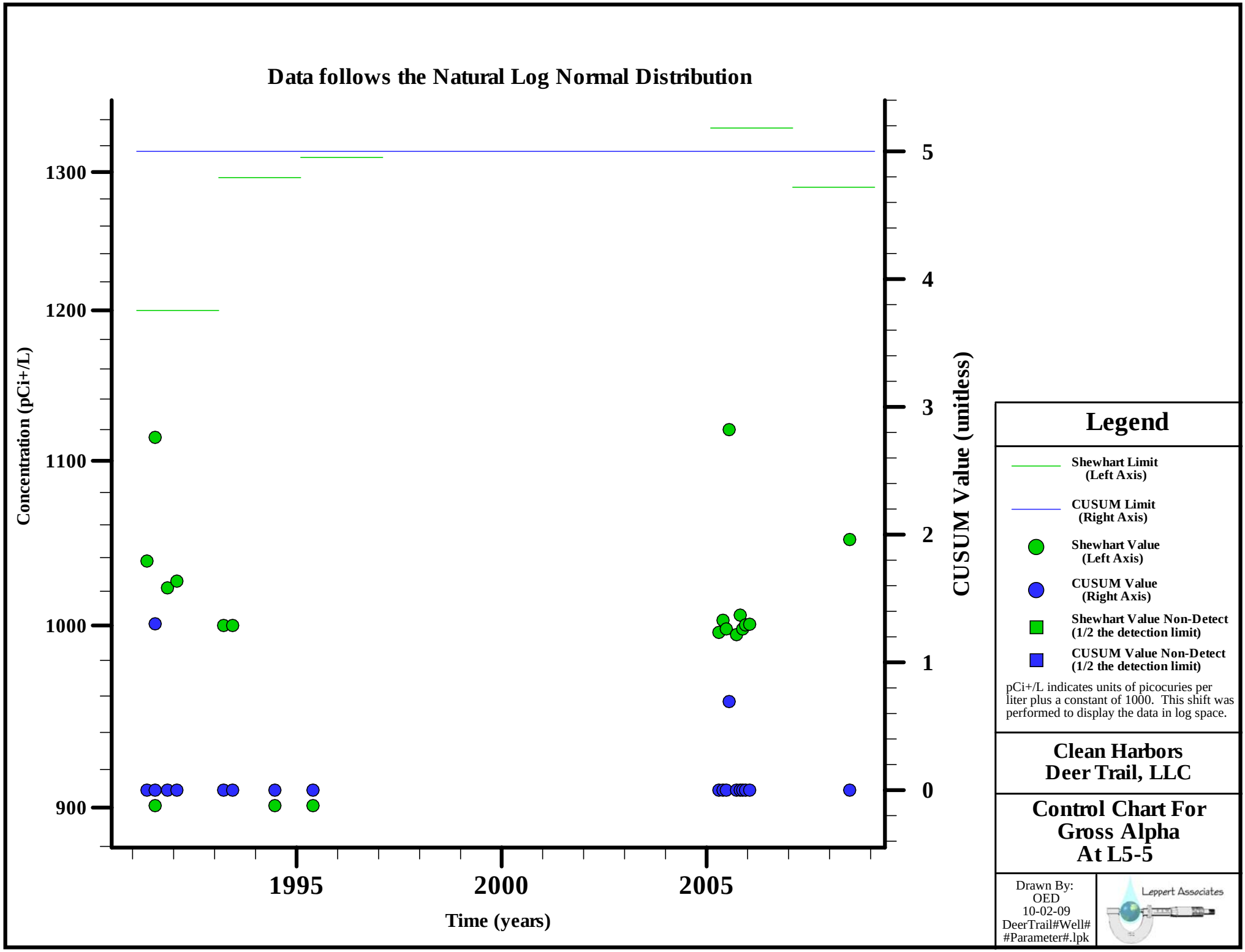
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

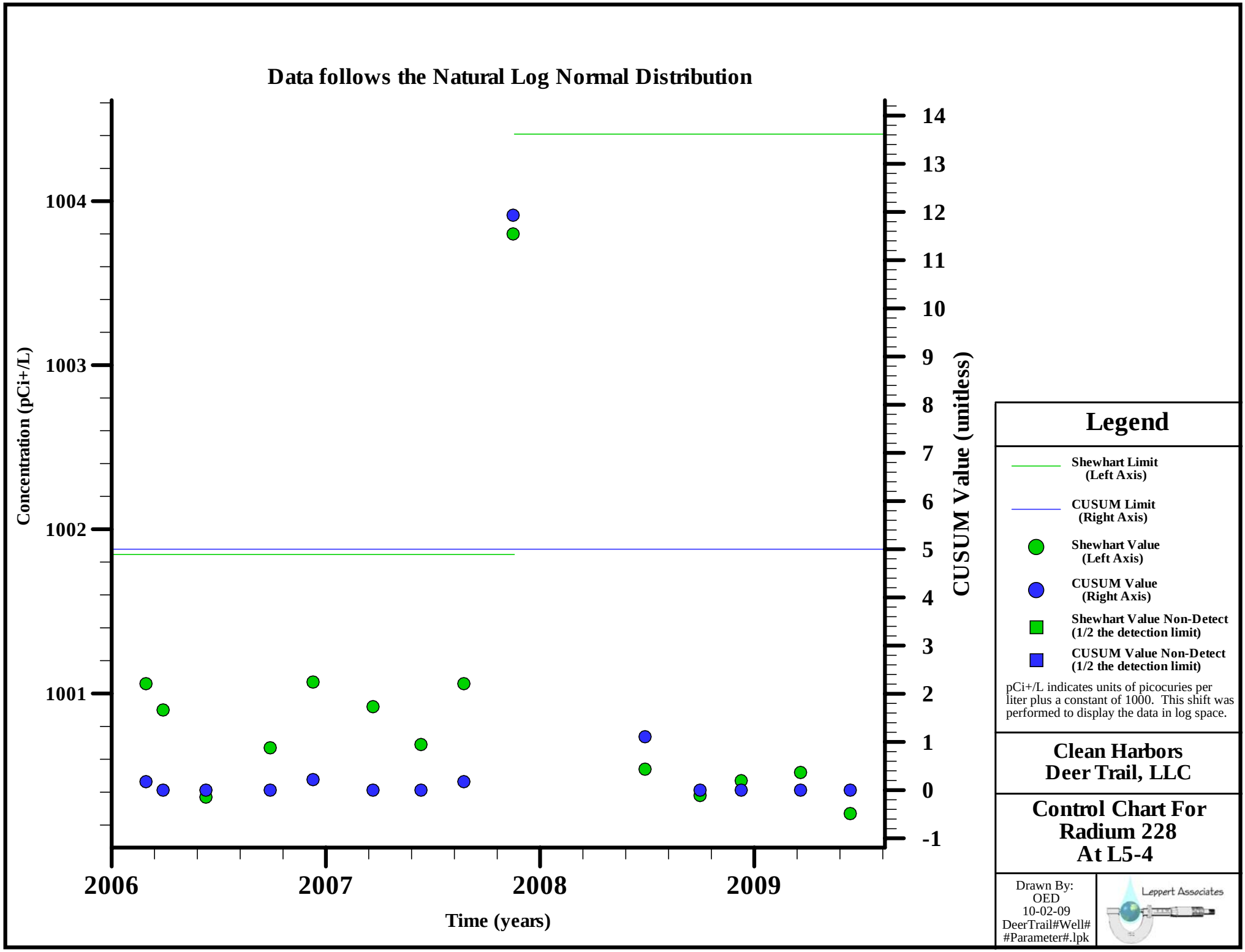
Leppert Associates

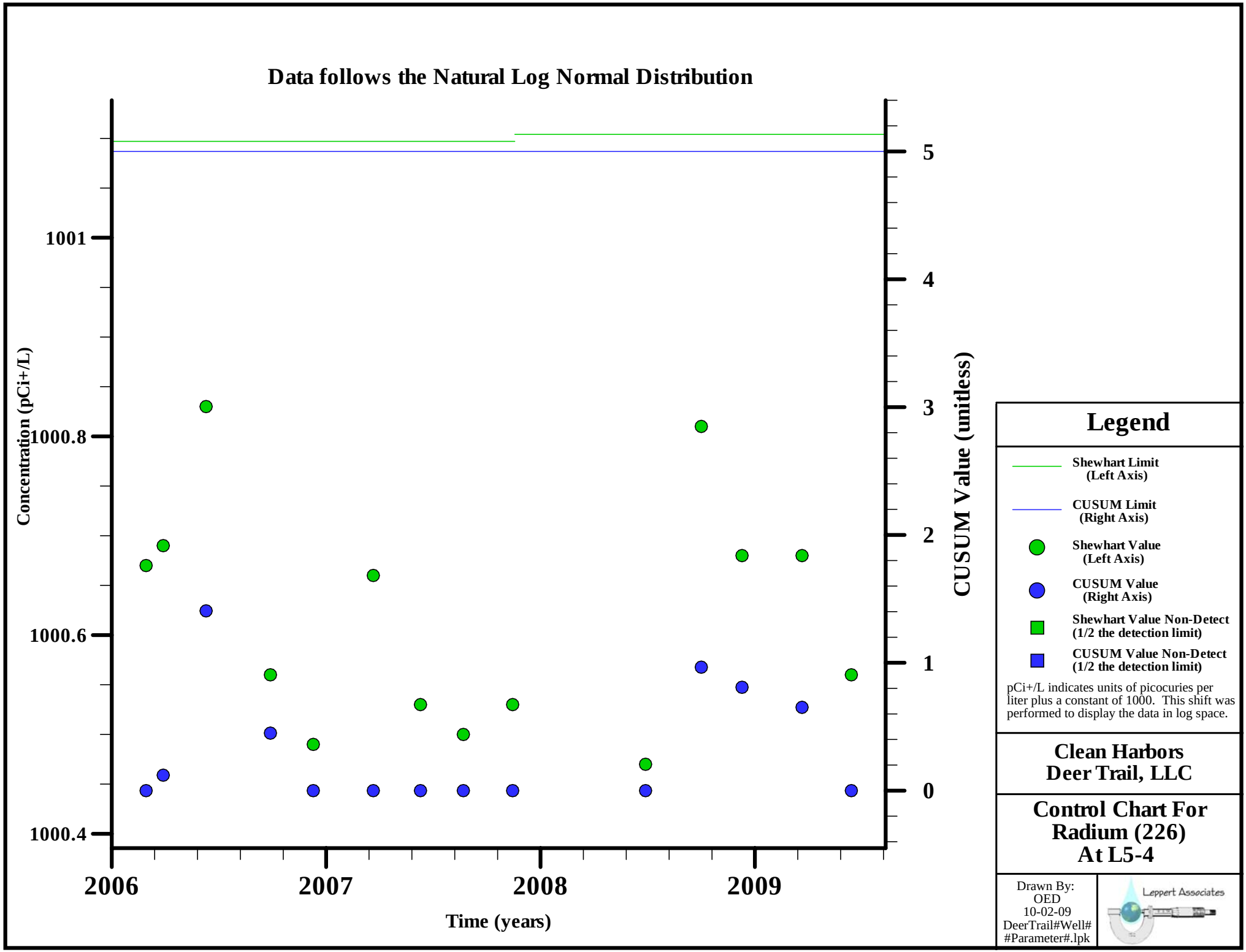

Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1002.5
1002
1001.5
1001
1000.5
CUSUM Value (unitless)
8
7
6
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L5-5
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates

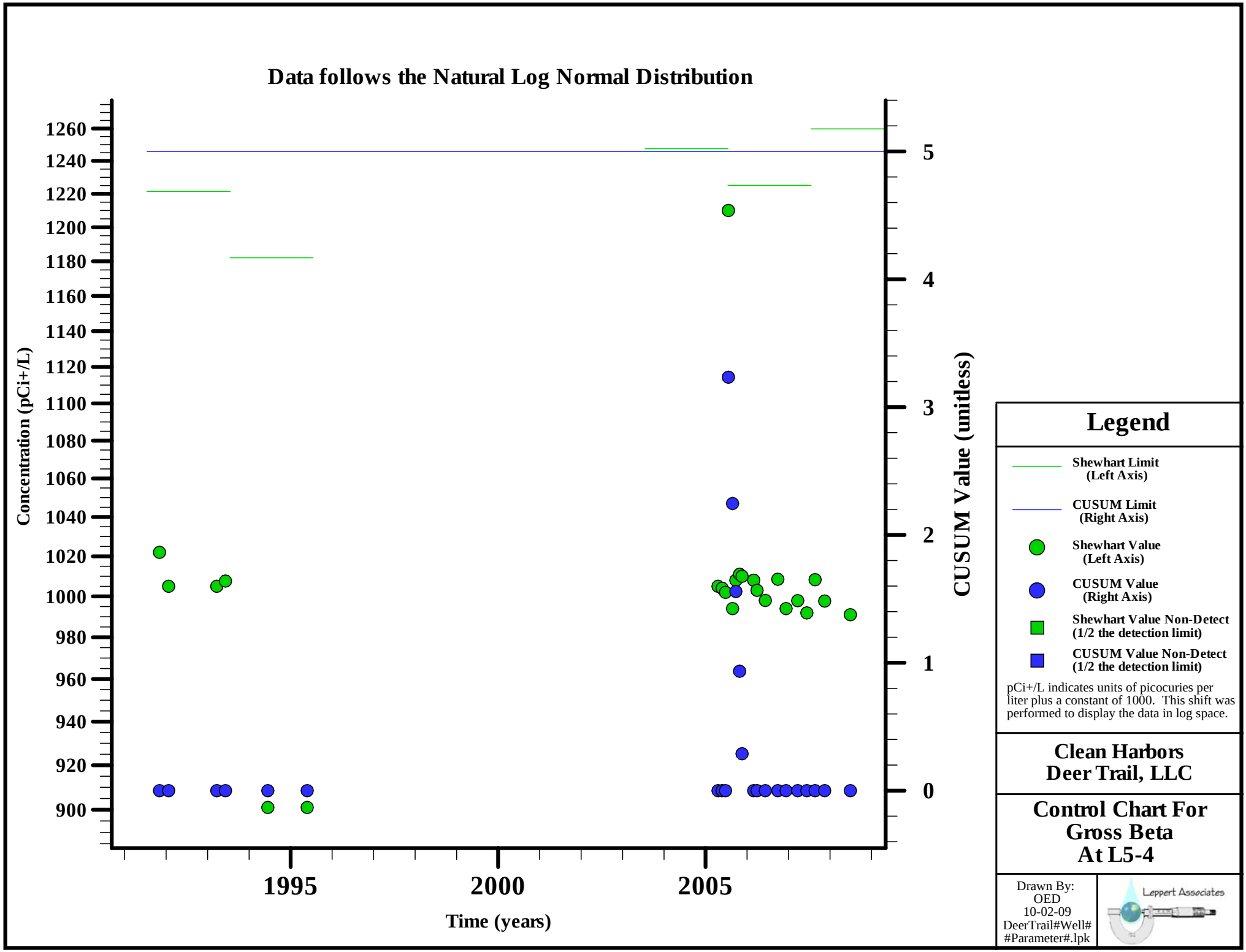

Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001.5
1001
1000.5
CUSUM Value (unitless)
25
20
15
10
5
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-5
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates

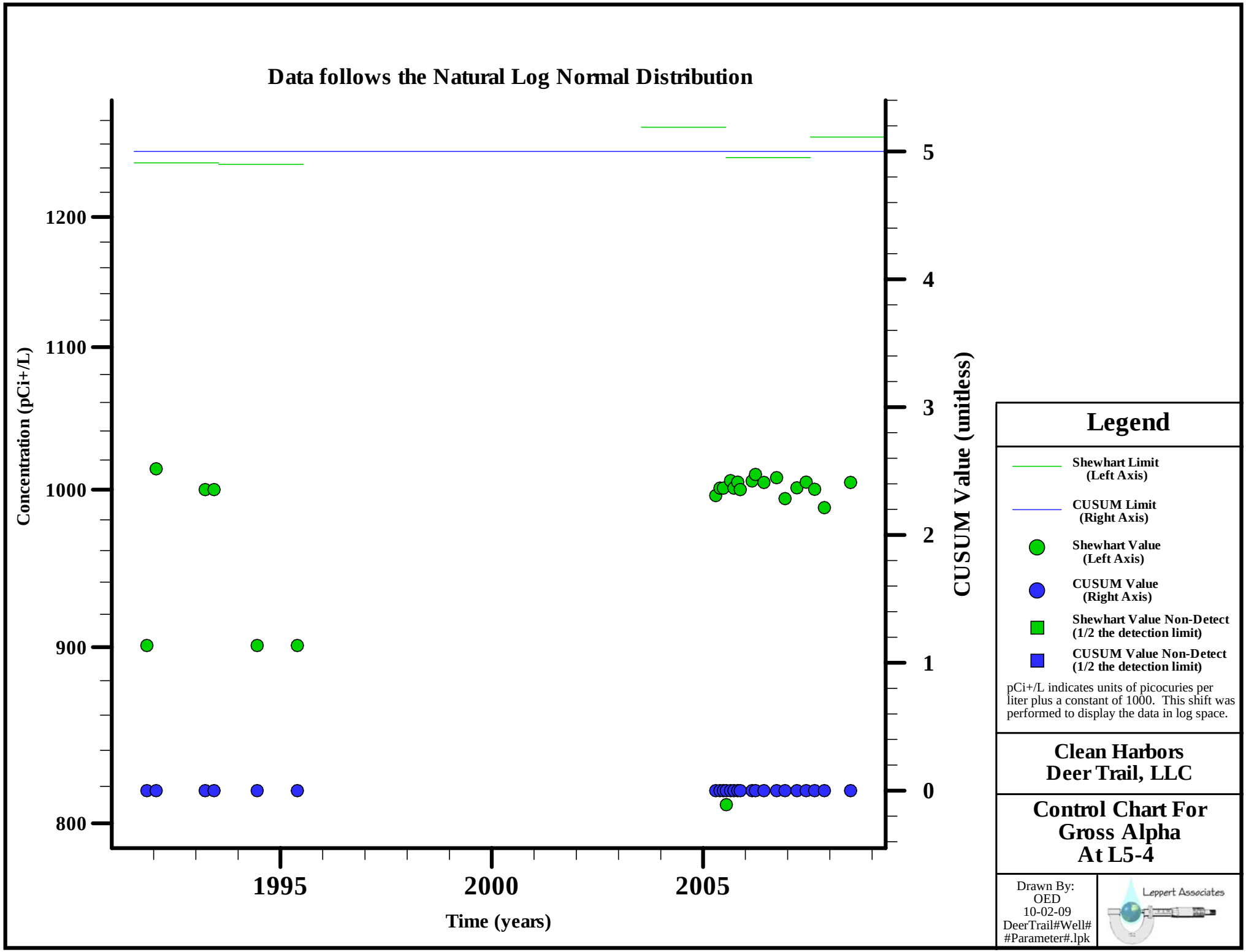

Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1160
1140
1120
1100
1080
1060
1040
1020
1000
980
960
940
920
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L5-5
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates

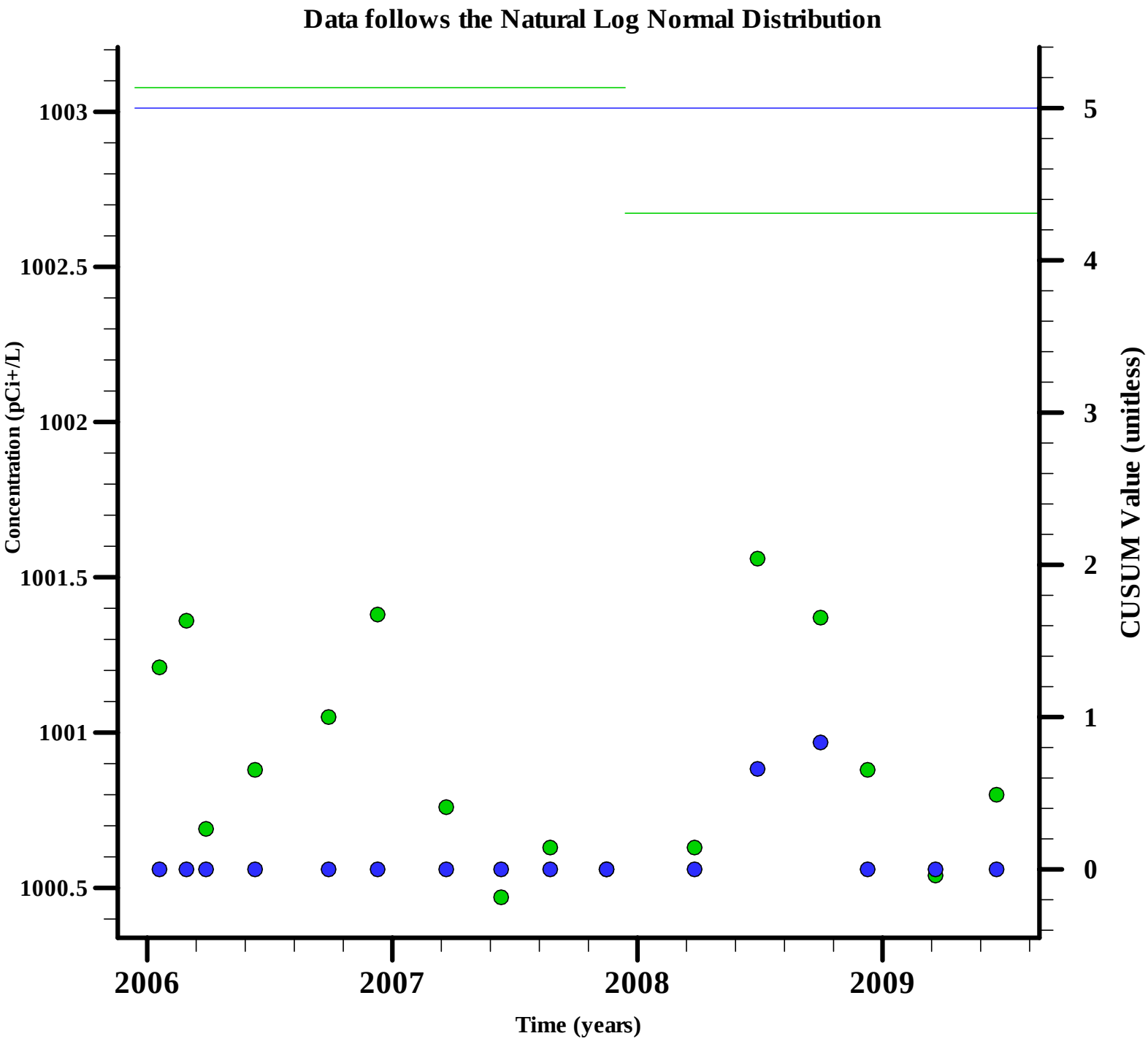

Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1300
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L5-5
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1004
1003
1002
1001
CUSUM Value (unitless)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L5-4
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001
1000.8
1000.6
1000.4
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-4
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1260
1240
1220
1200
1180
1160
1140
1120
1100
1080
1060
1040
1020
1000
980
960
940
920
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L5-4
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1200
1100
1000
900
800
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L5-4
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

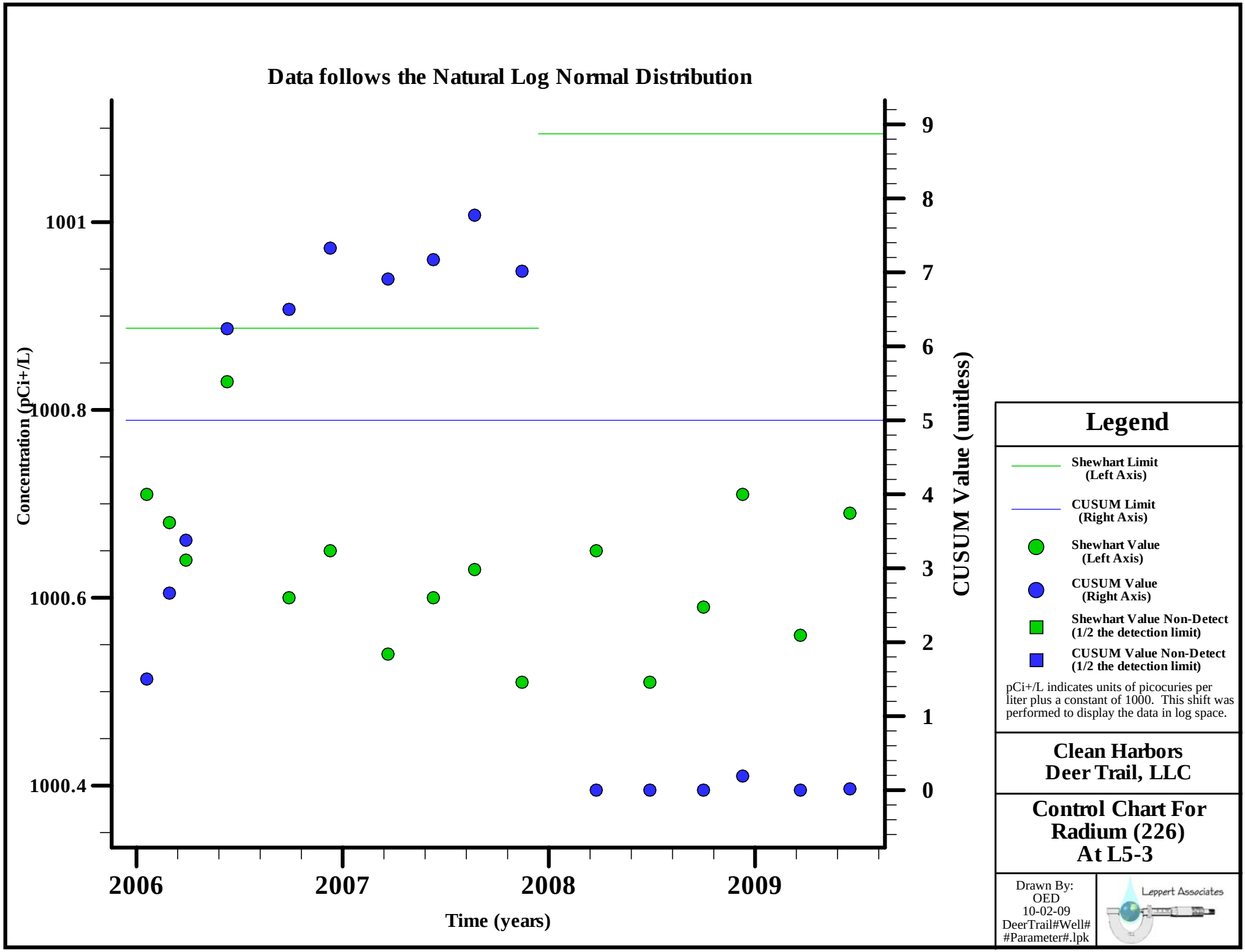
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

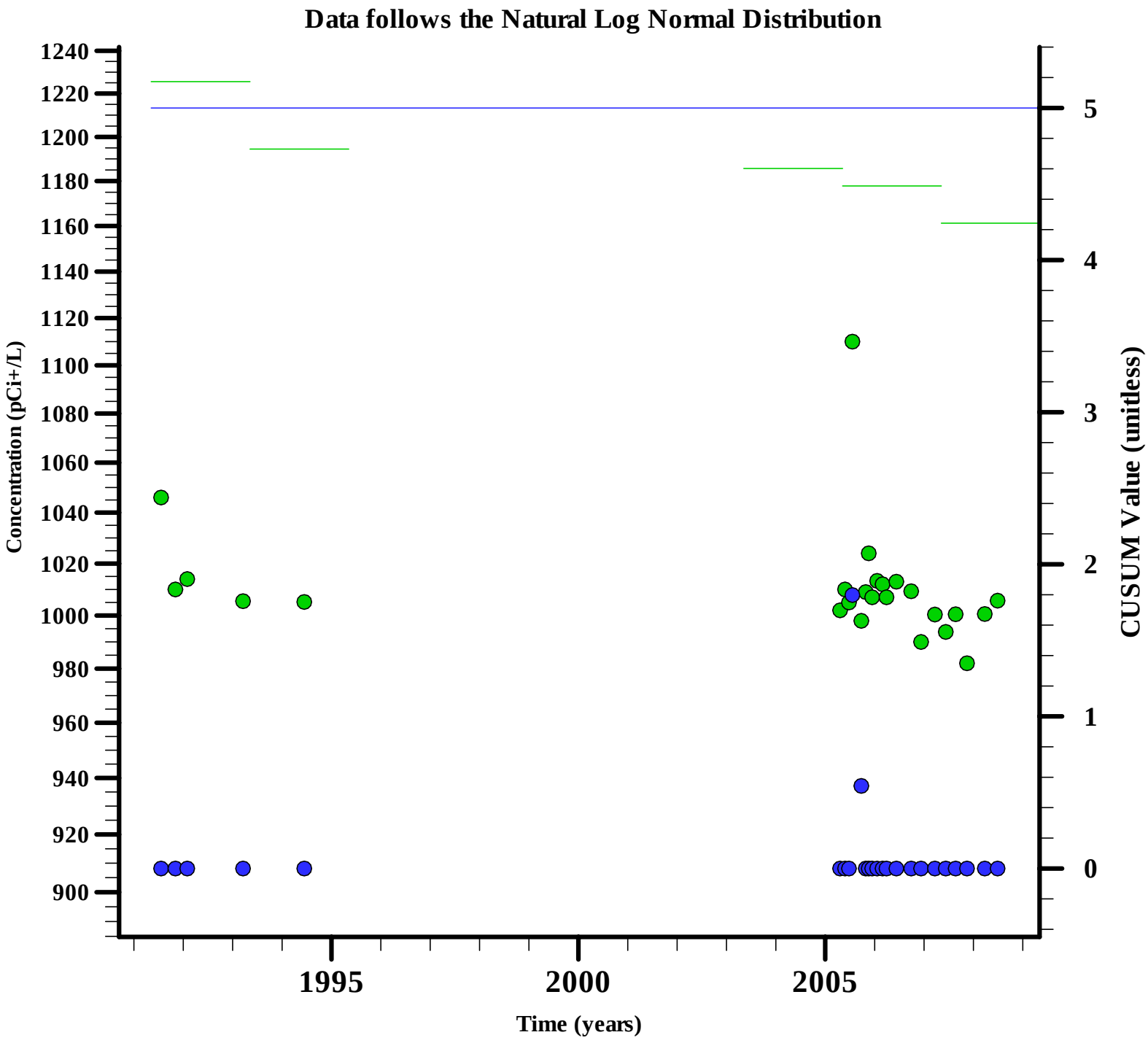
Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L5-3

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001
1000.8
1000.6
1000.4
CUSUM Value (unitless)
9
8
7
6
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L5-3
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

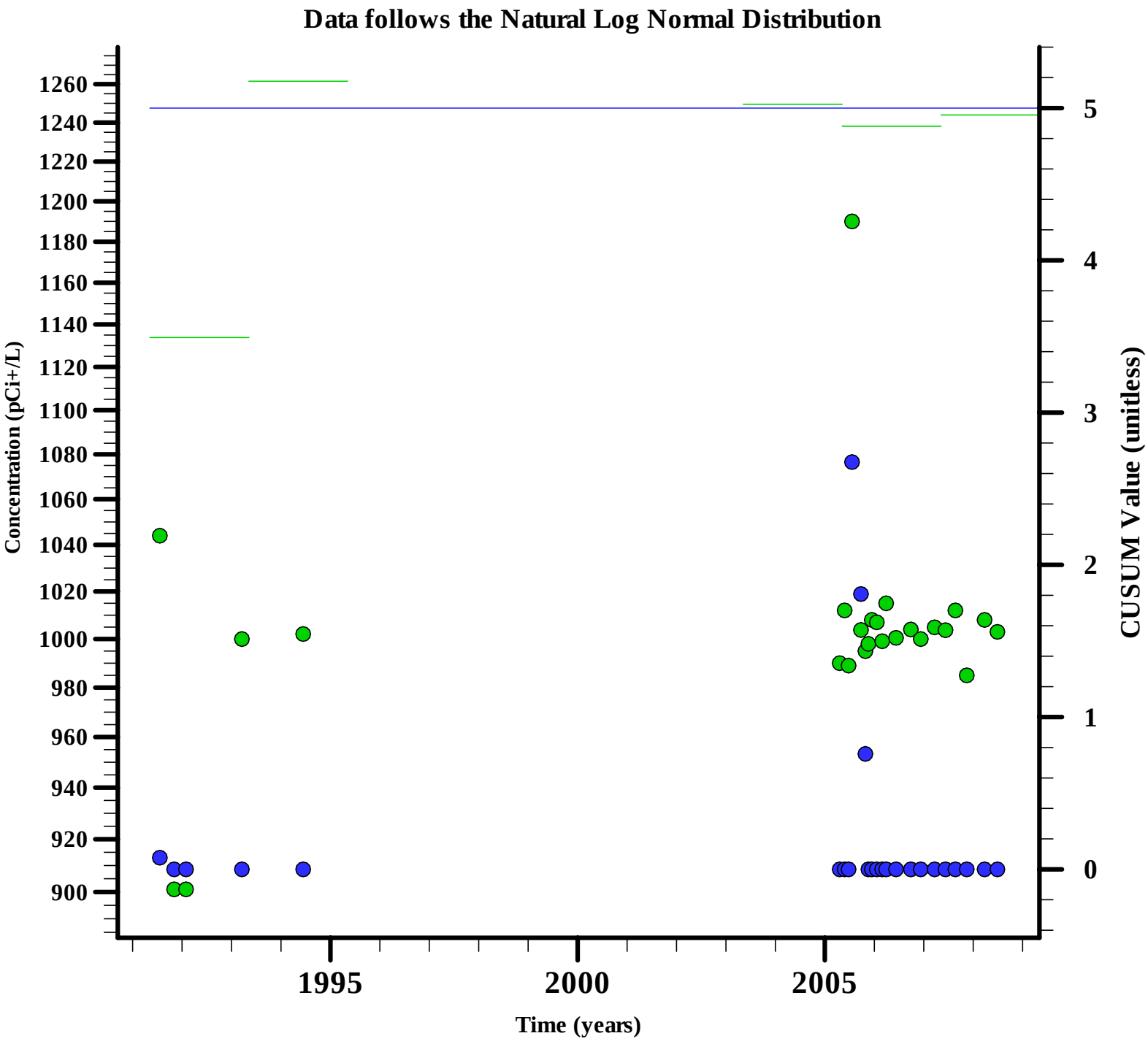
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L5-3

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

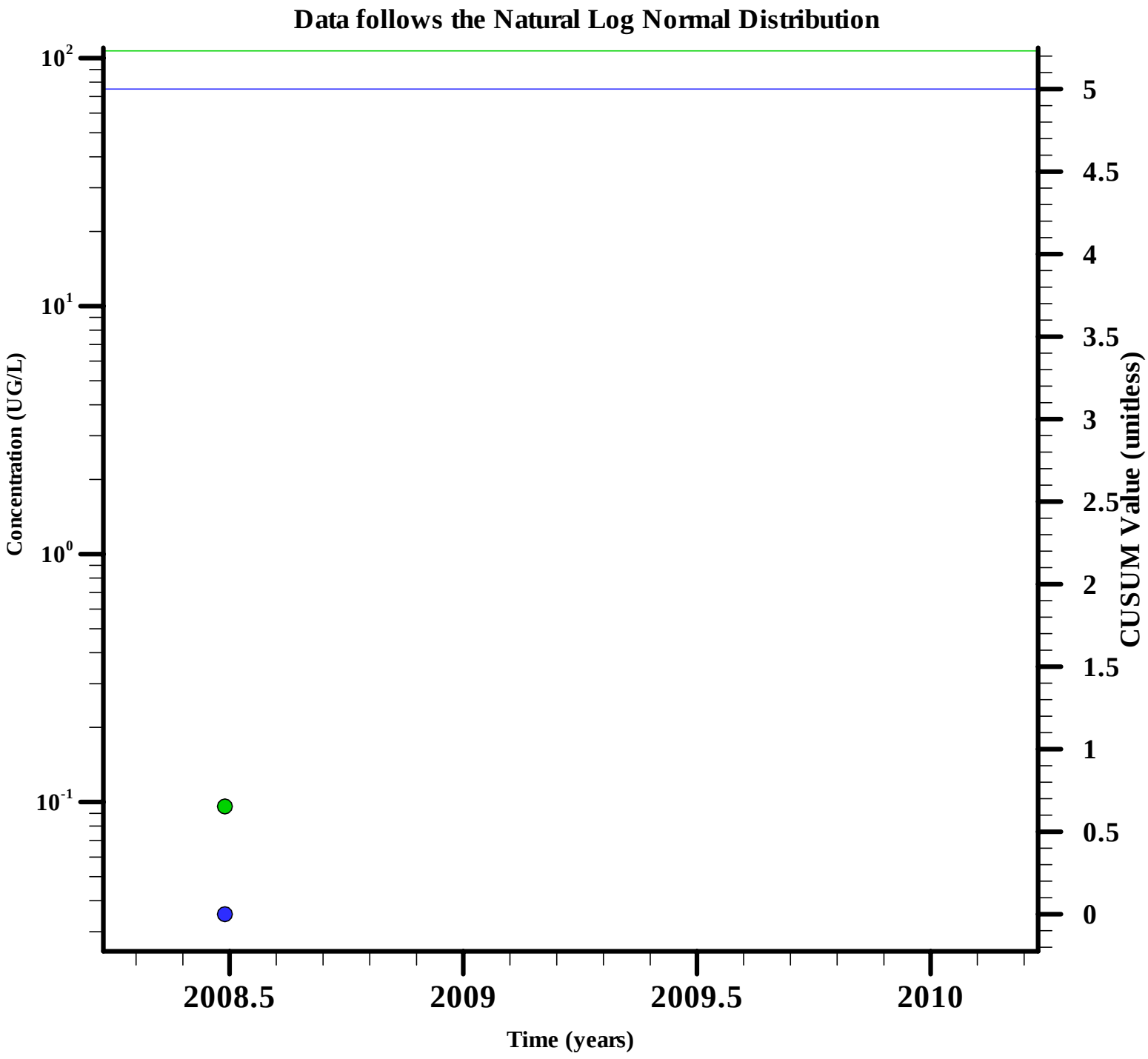
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L5-3

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

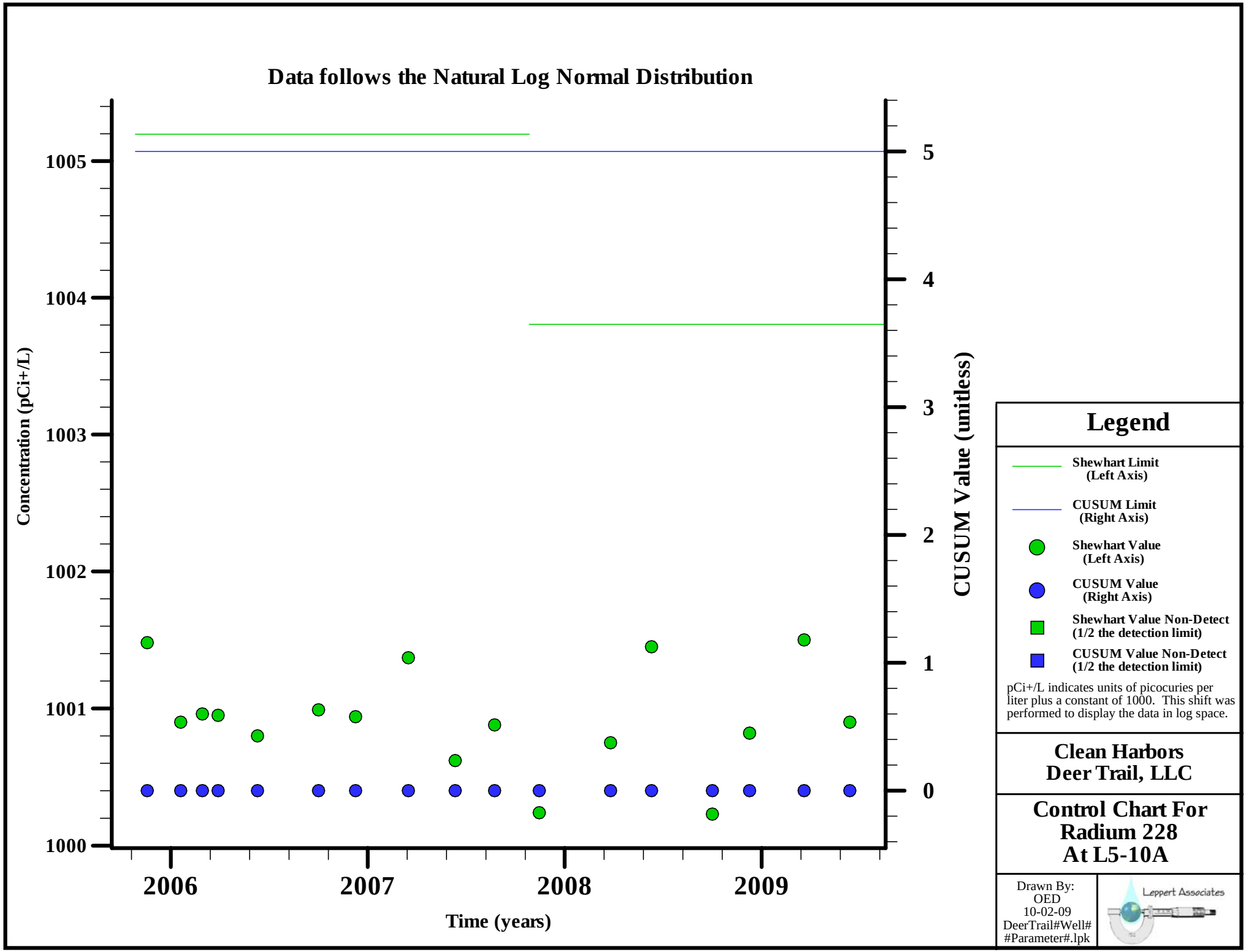
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

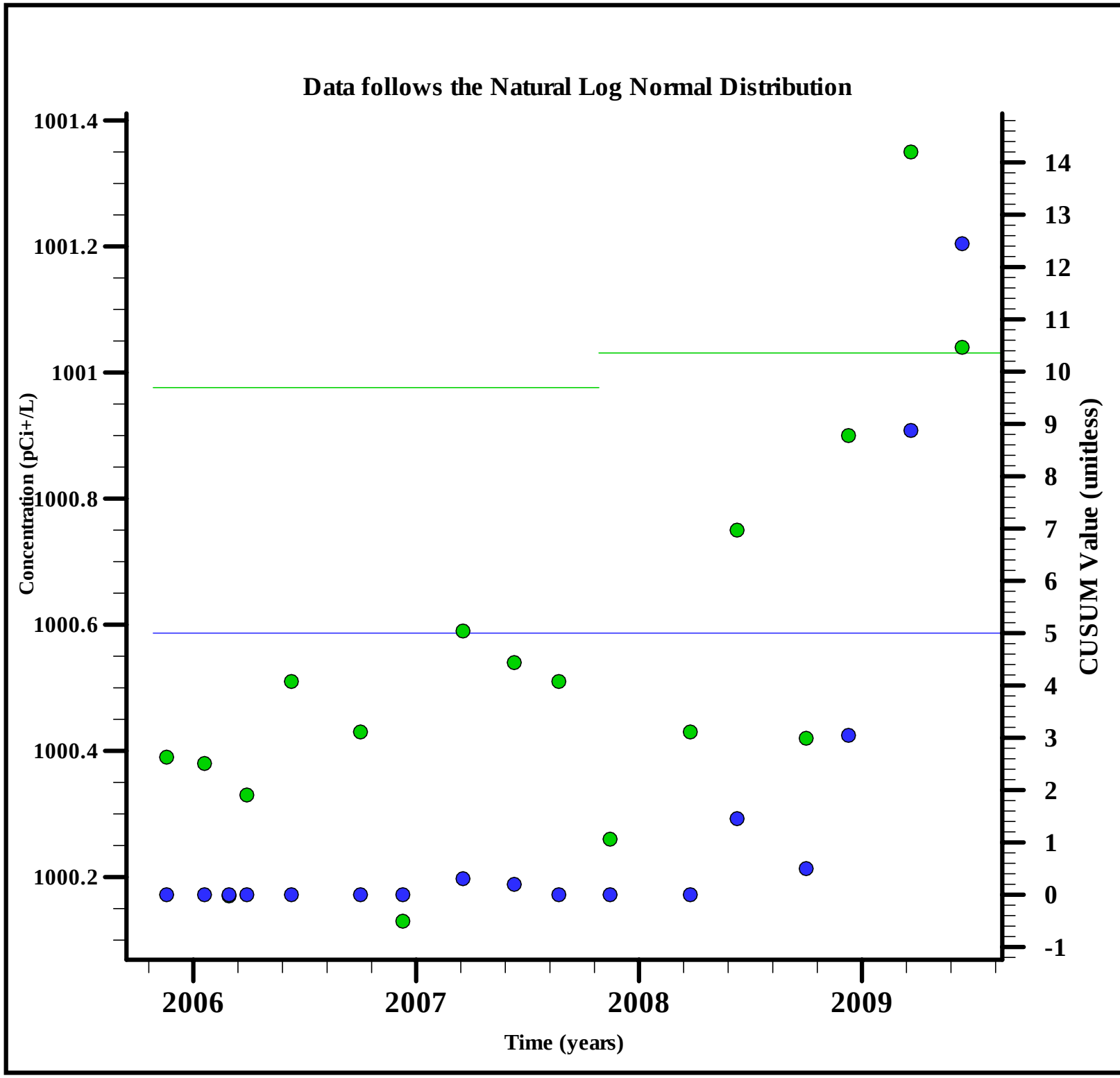
Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L5-3

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1000
1001
1002
1003
1004
1005
CUSUM Value (unitless)
0
1
2
3
4
5
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L5-10A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

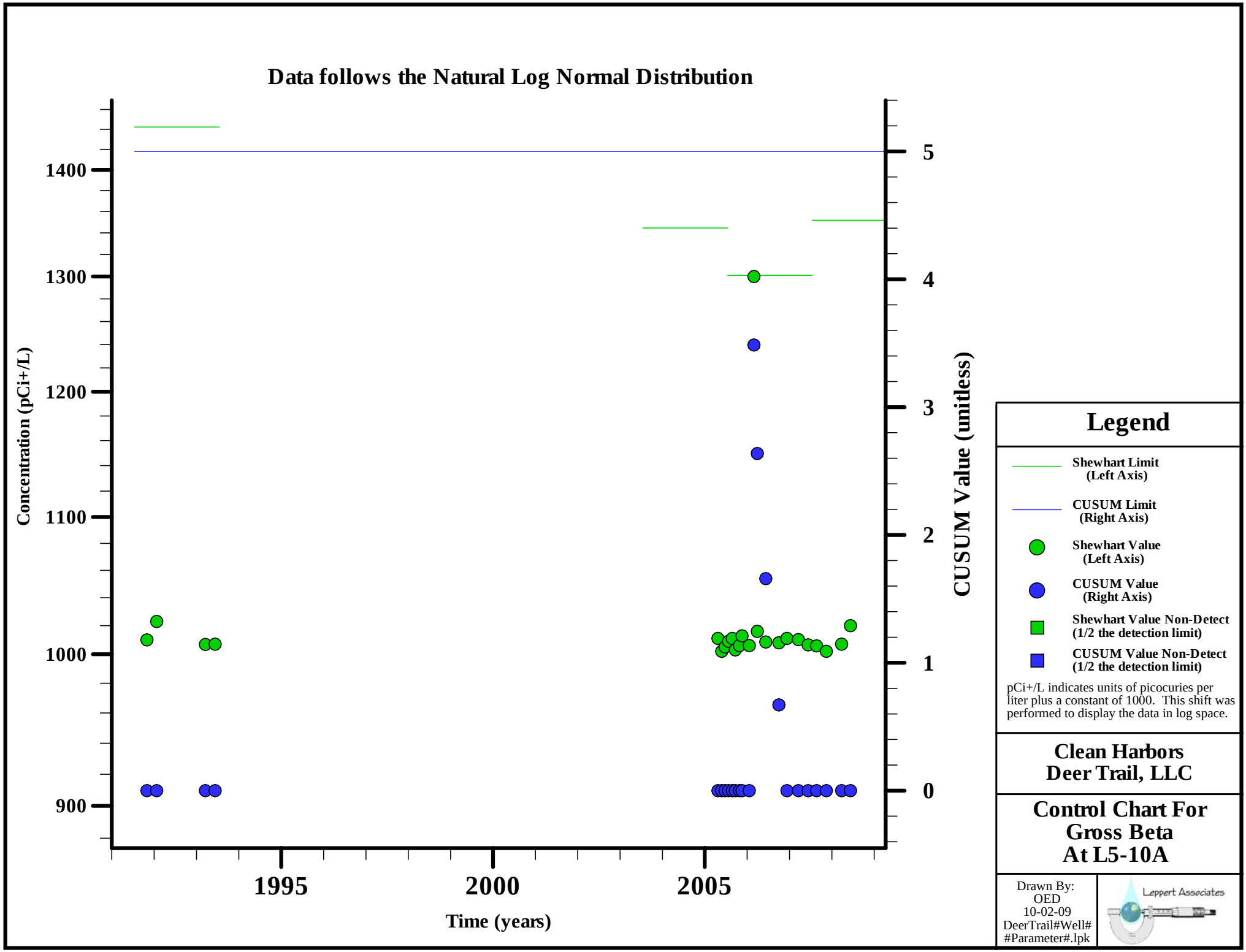
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

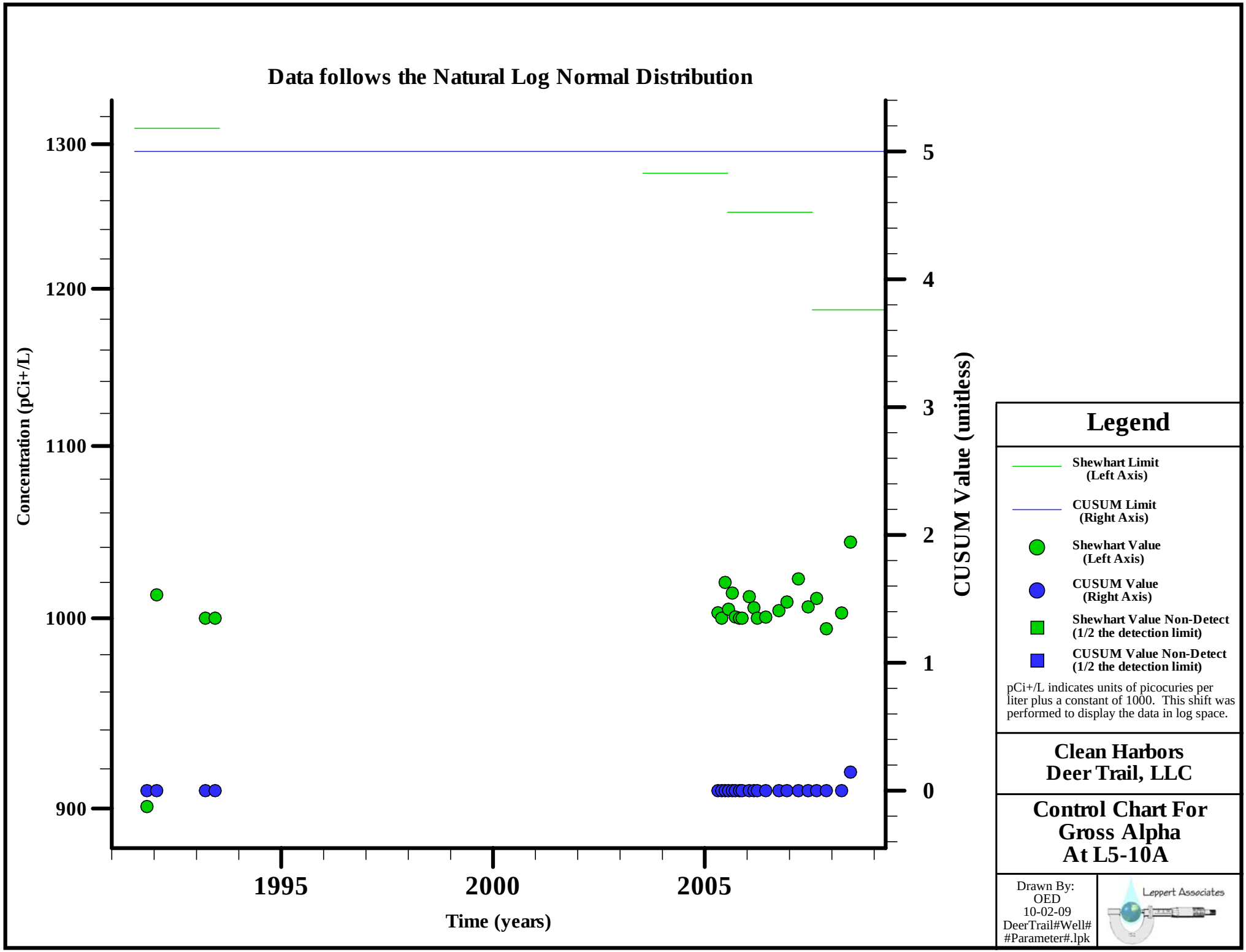
Clean Harbors Deer Trail, LLC

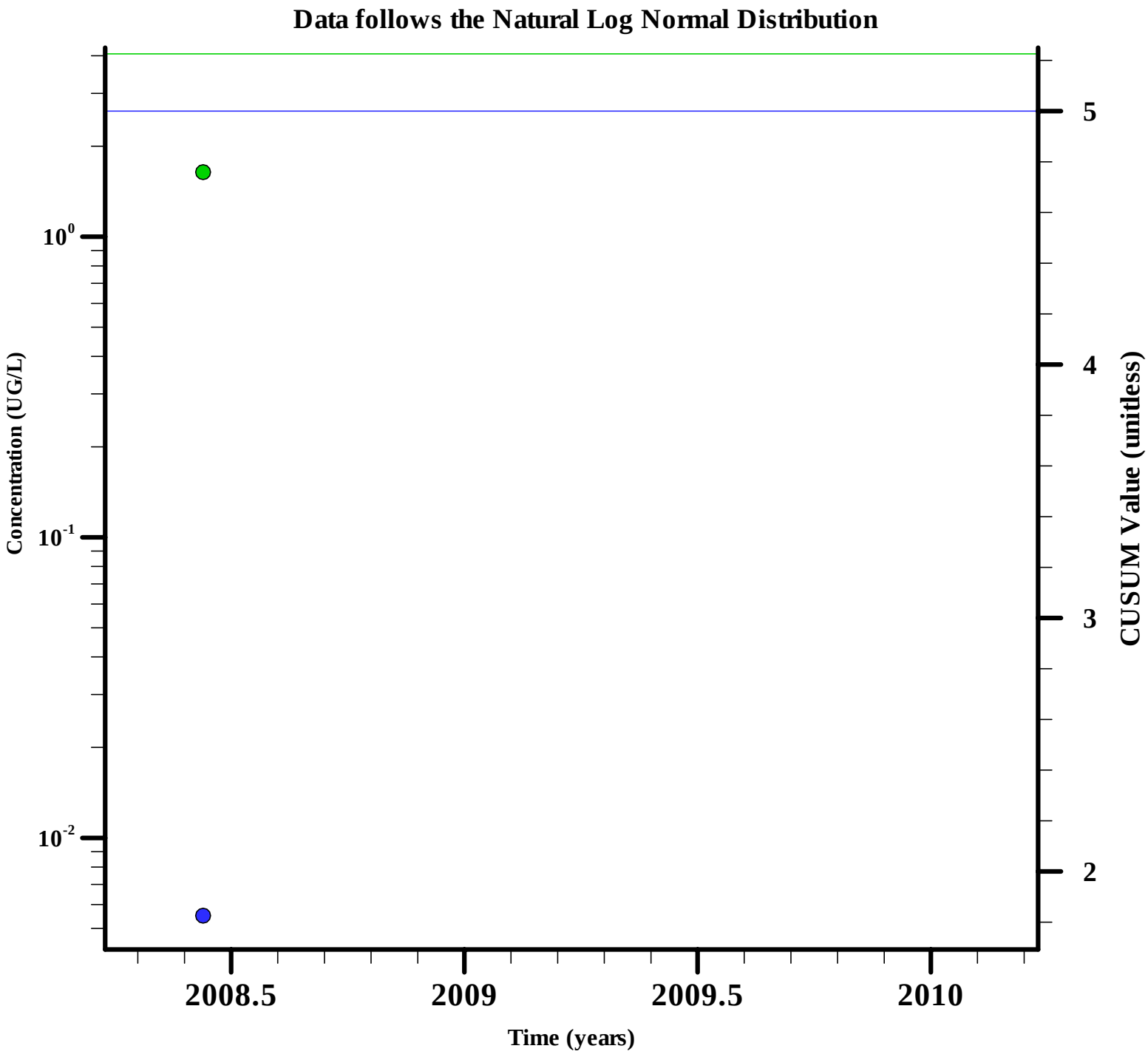
Control Chart For Radium (226) At L5-10A

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1400
1300
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L5-10A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1300
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L5-10A
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

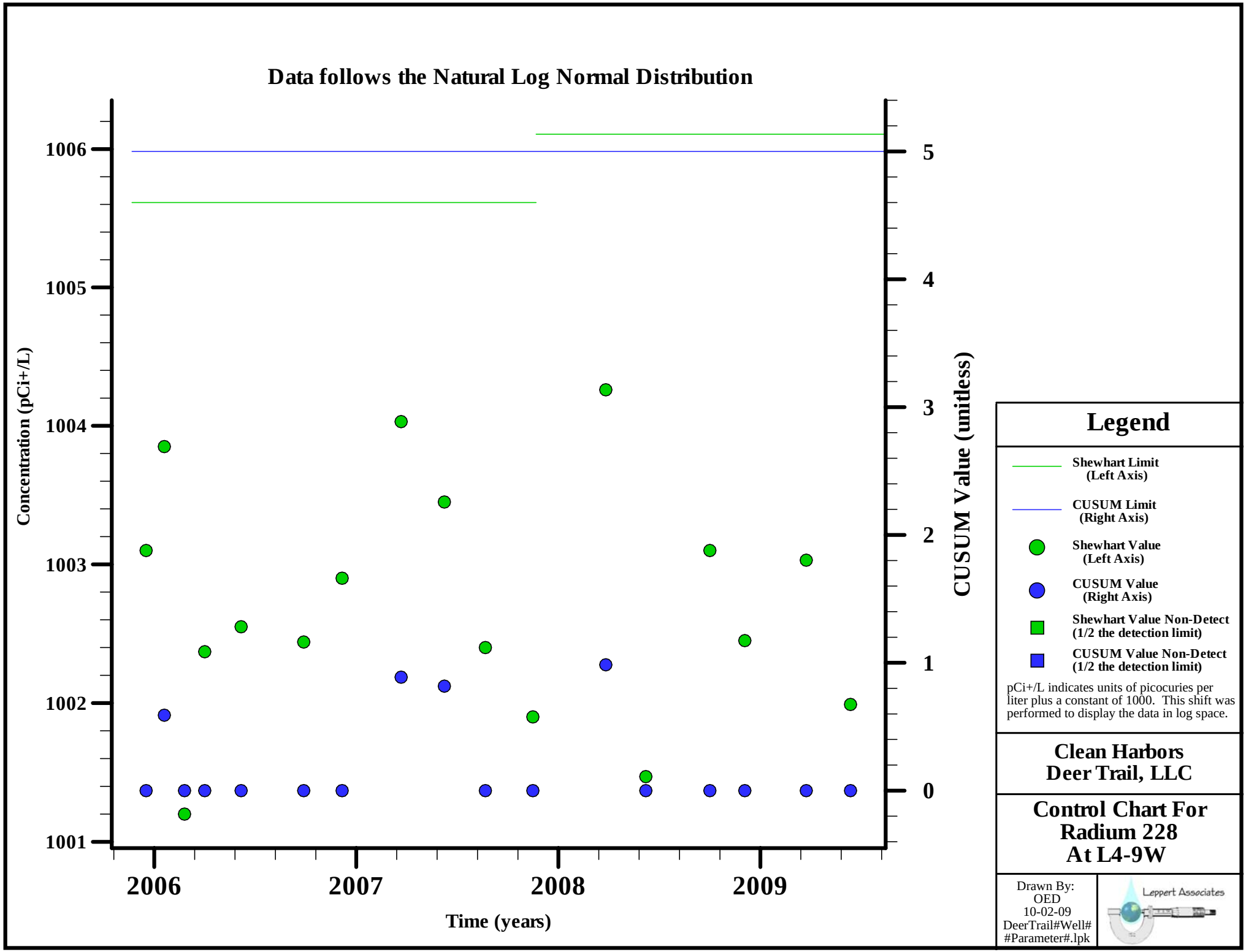
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

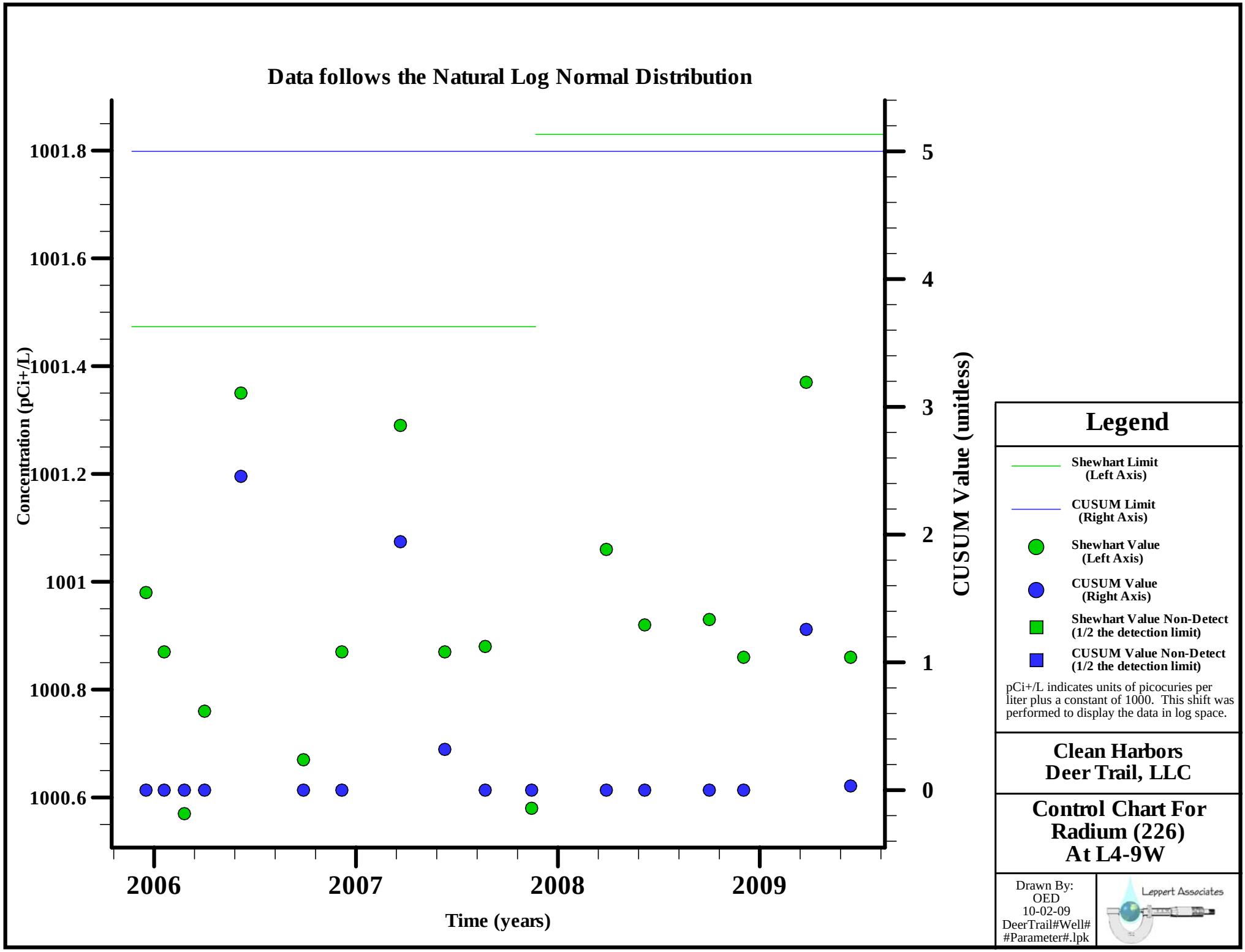
Clean Harbors Deer Trail, LLC

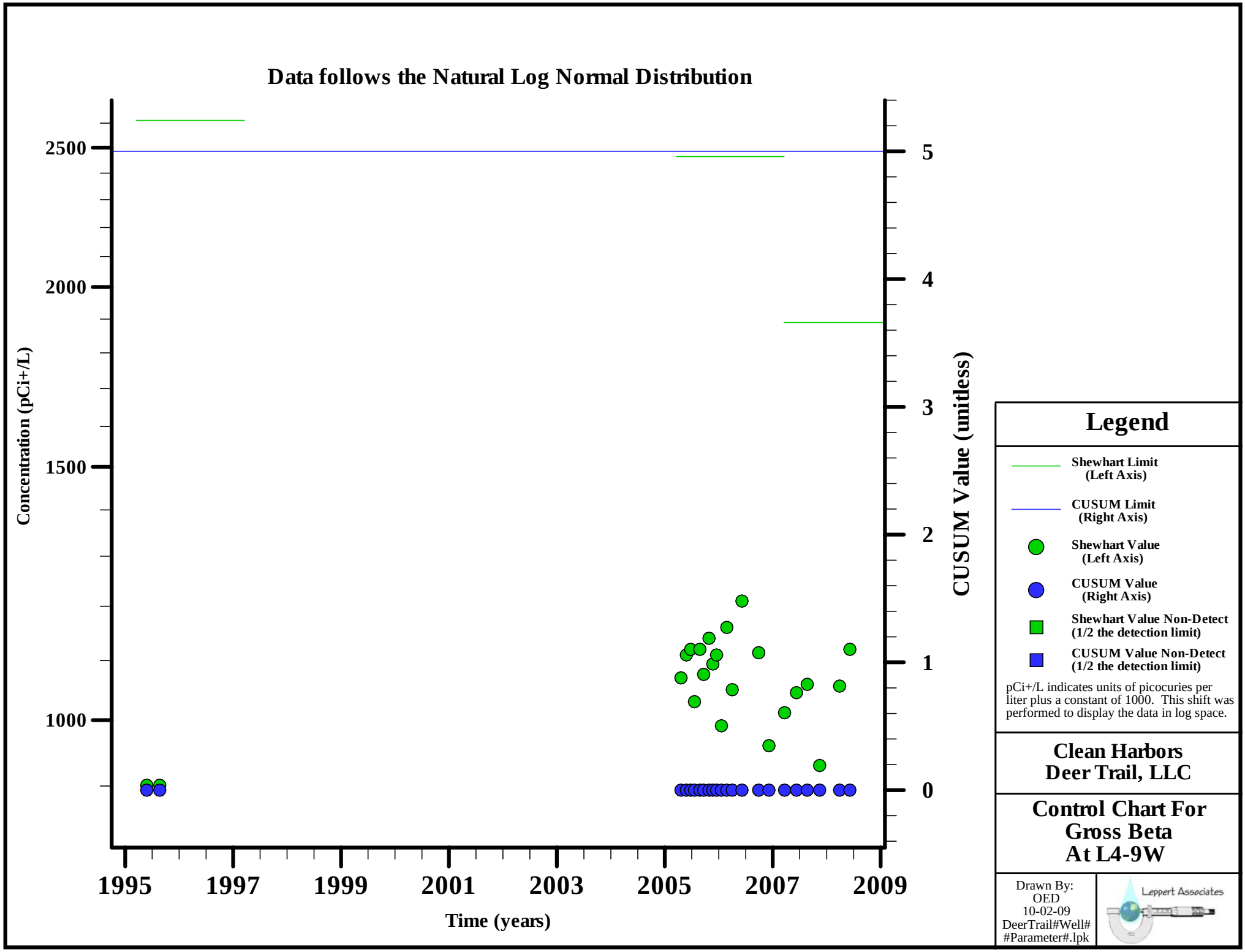
Control Chart For Total Uranium At L5-10A

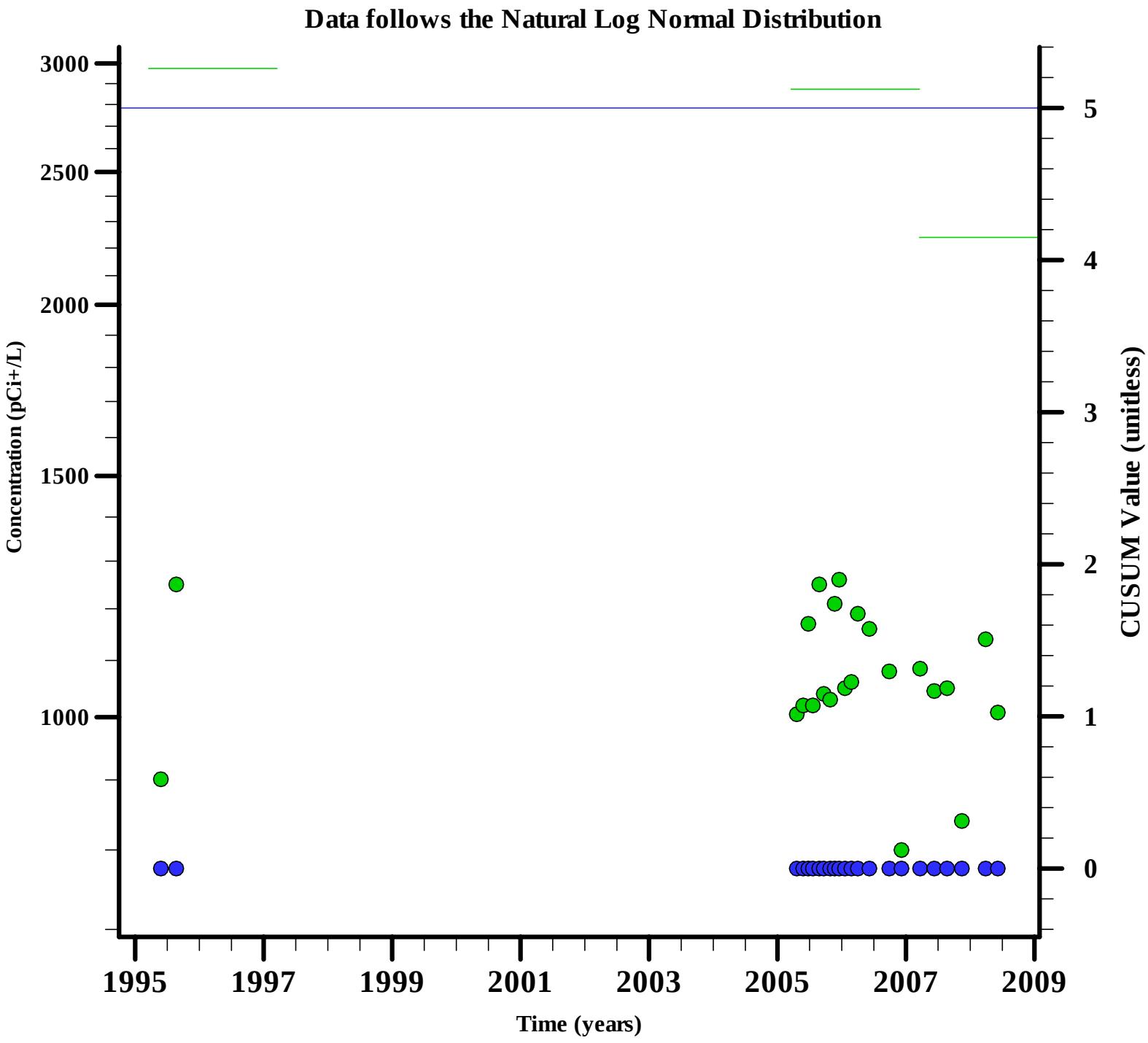
Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001
1002
1003
1004
1005
1006
CUSUM Value (unitless)
0
1
2
3
4
5
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L4-9W
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001.8
1001.6
1001.4
1001.2
1001
1000.8
1000.6
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-9W
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
2500
2000
1500
1000
CUSUM Value (unitless)
5
4
3
2
1
0
1995
1997
1999
2001
2003
2005
2007
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-9W
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

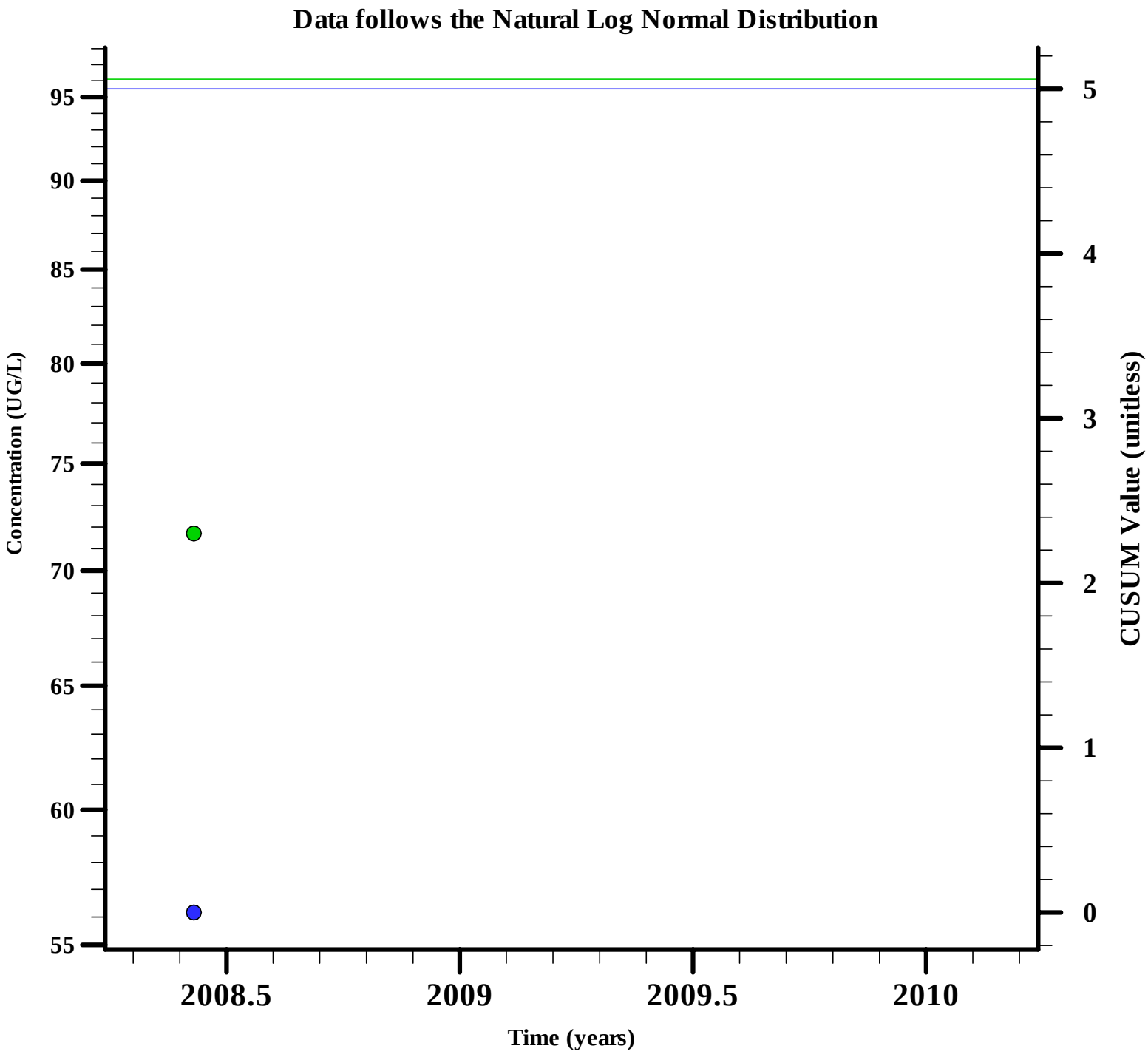
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-9W

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

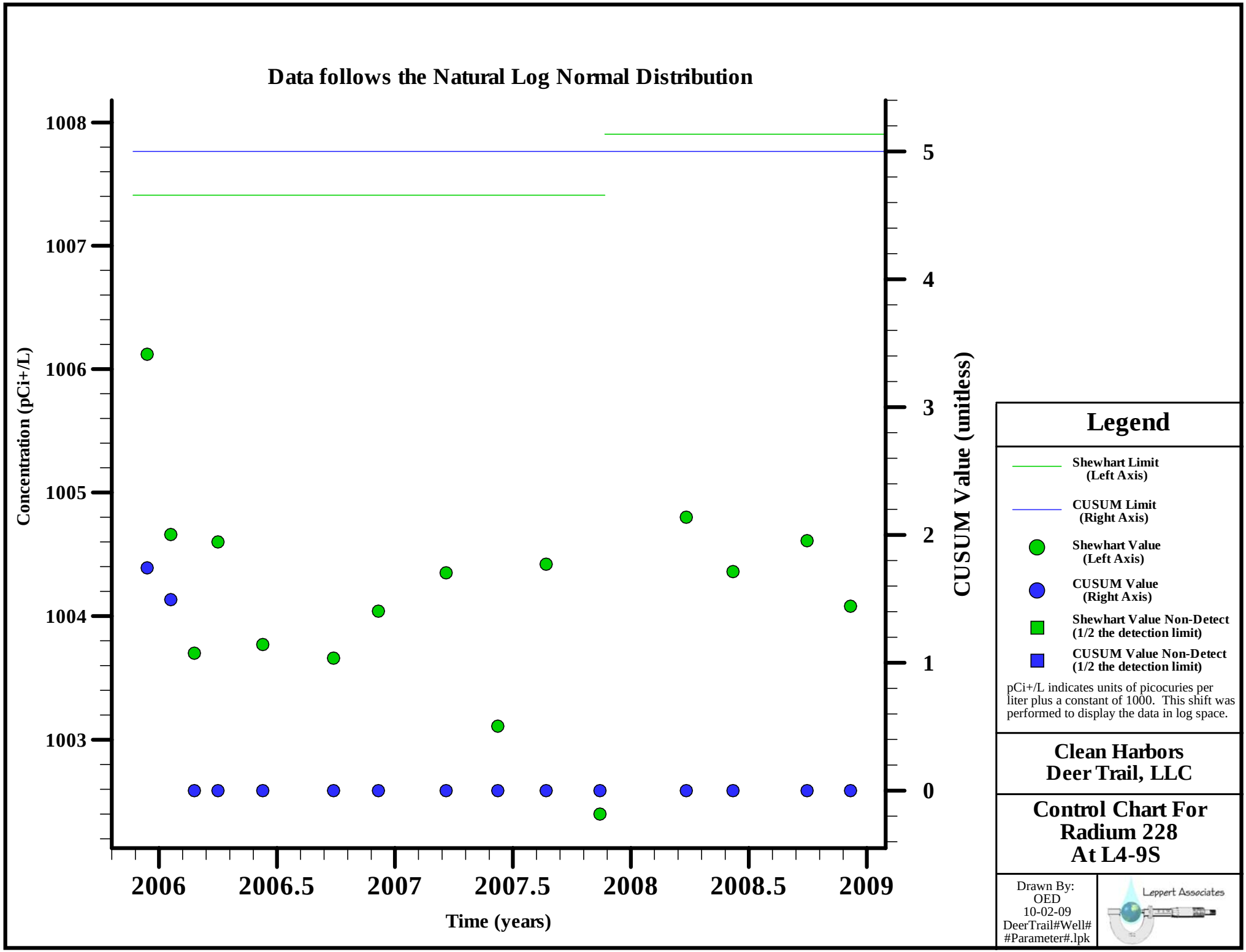
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

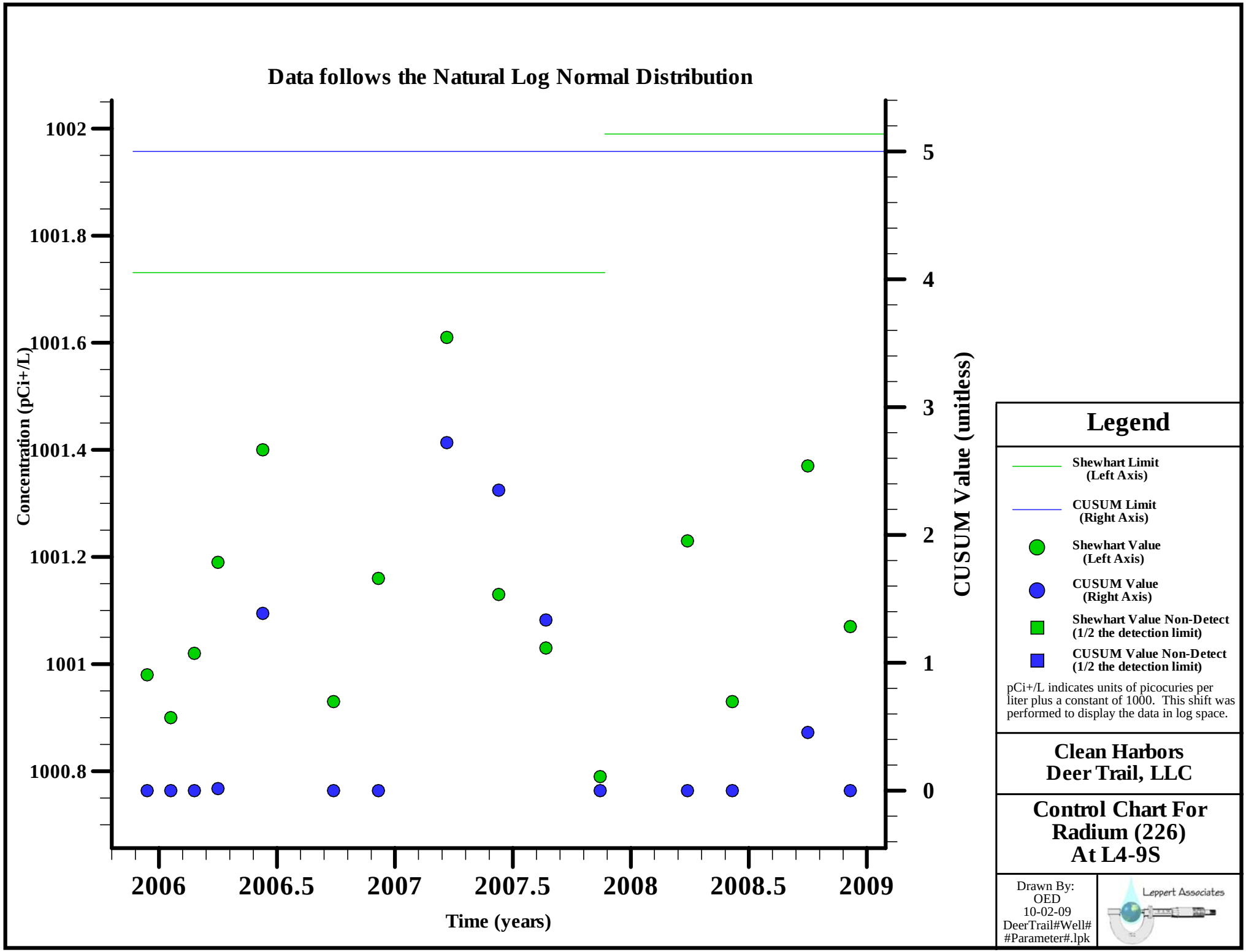
Clean Harbors Deer Trail, LLC

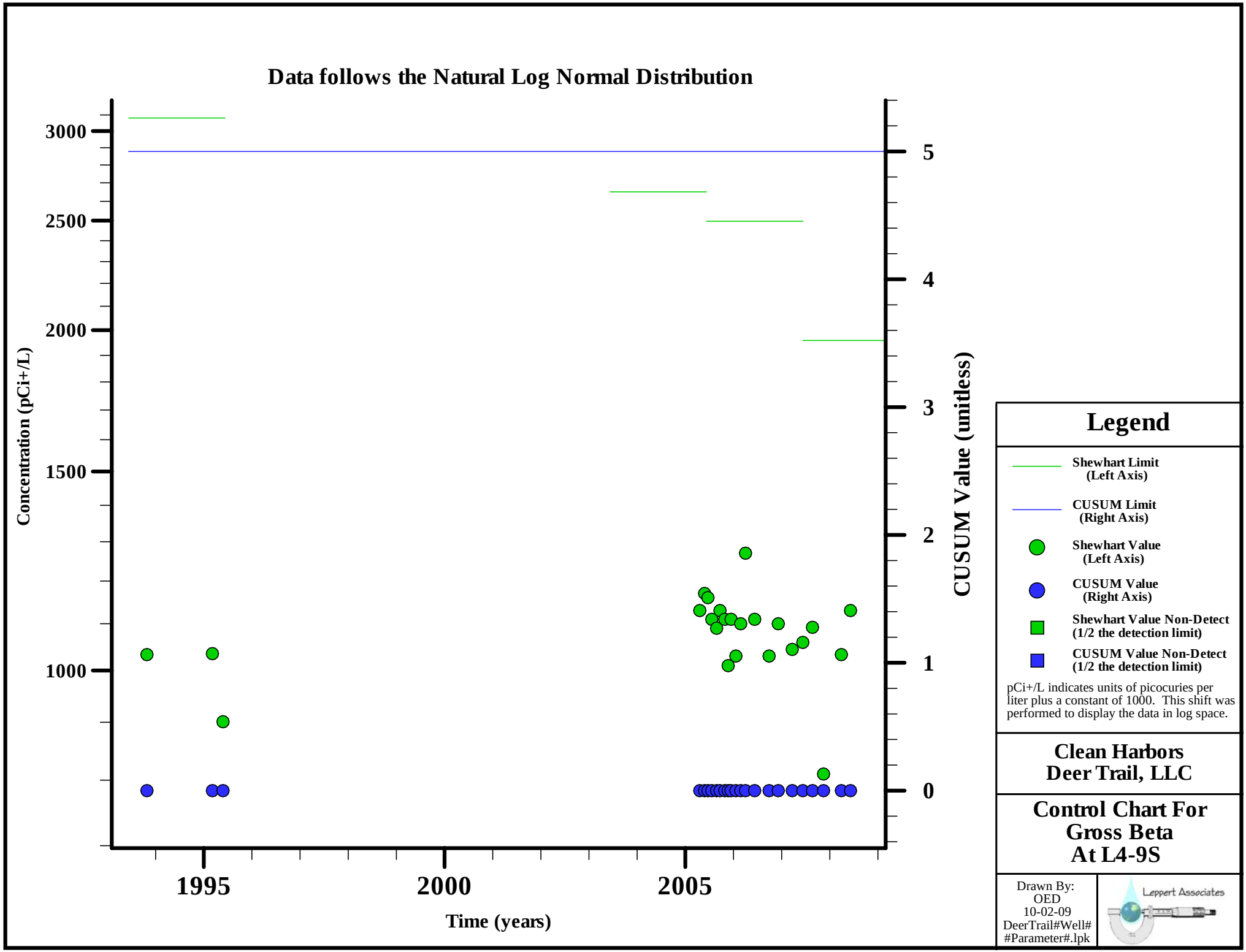
Control Chart For Total Uranium At L4-9W

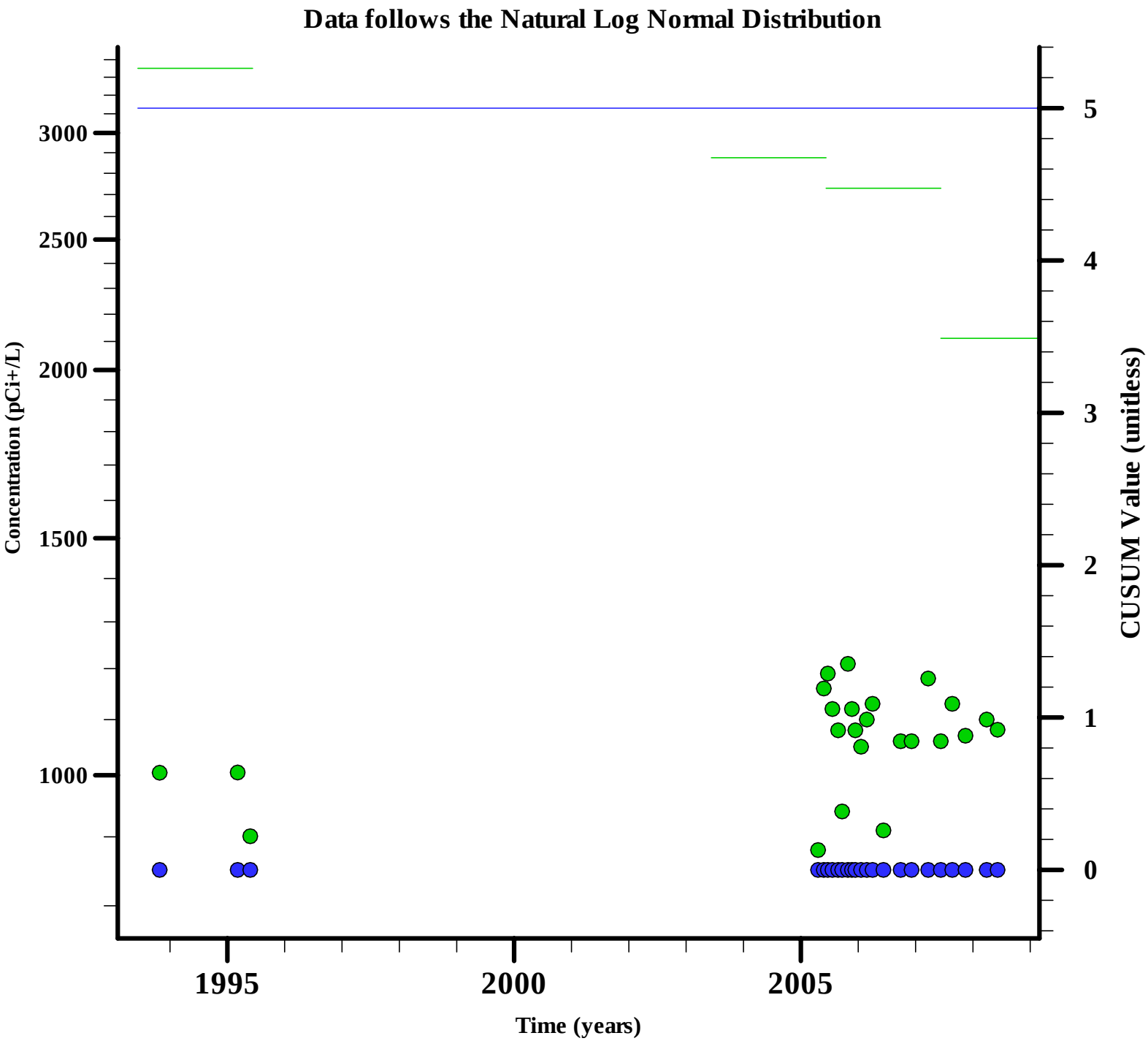
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1008
1007
1006
1005
1004
1003
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L4-9S
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1002
1001.8
1001.6
1001.4
1001.2
1001
1000.8
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-9S
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
3000
2500
2000
1500
1000
CUSUM Value (unitless)
5
4
3
2
1
0
1995
2000
2005
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-9S
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

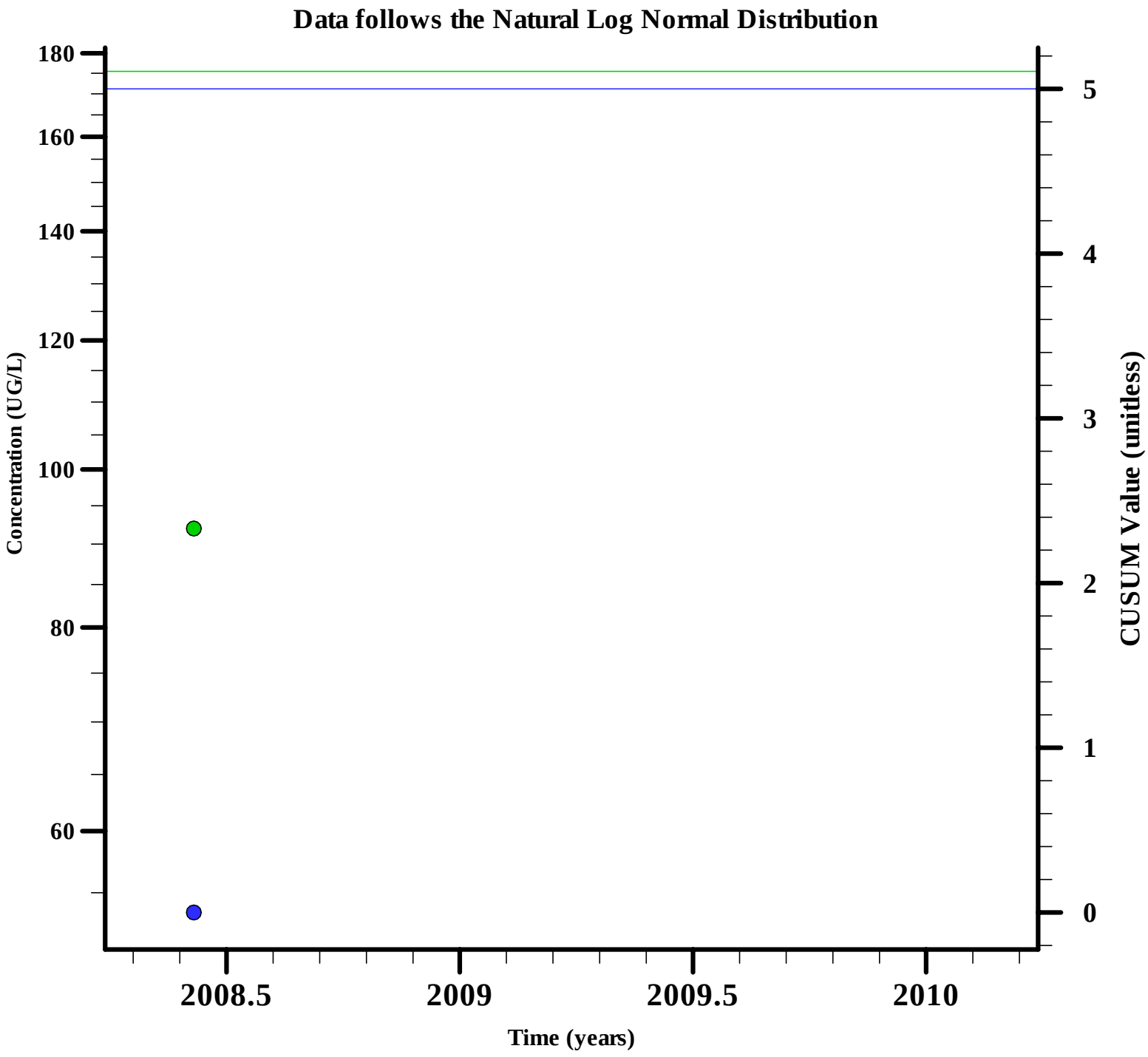
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-9S

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

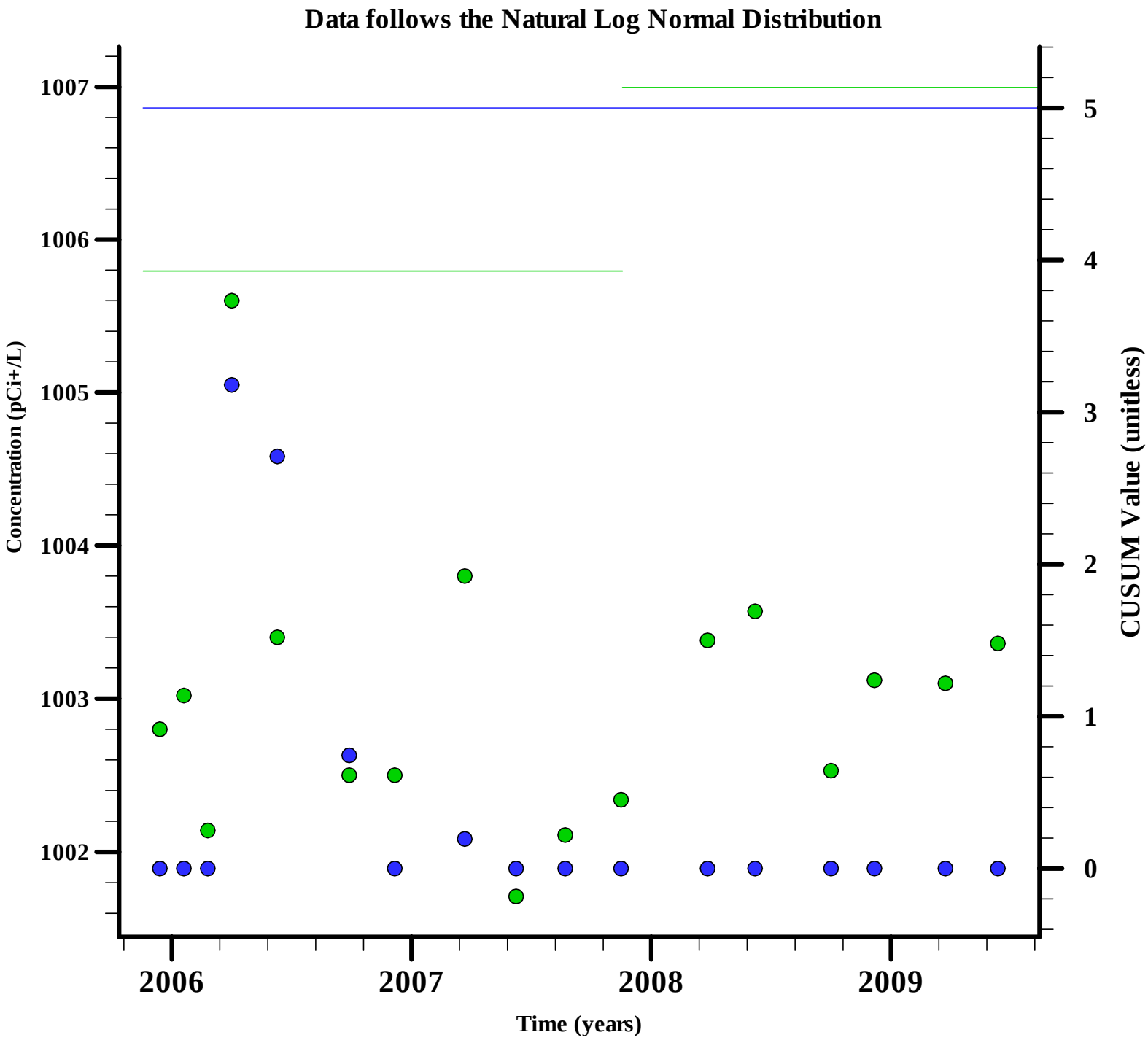
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-9S

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

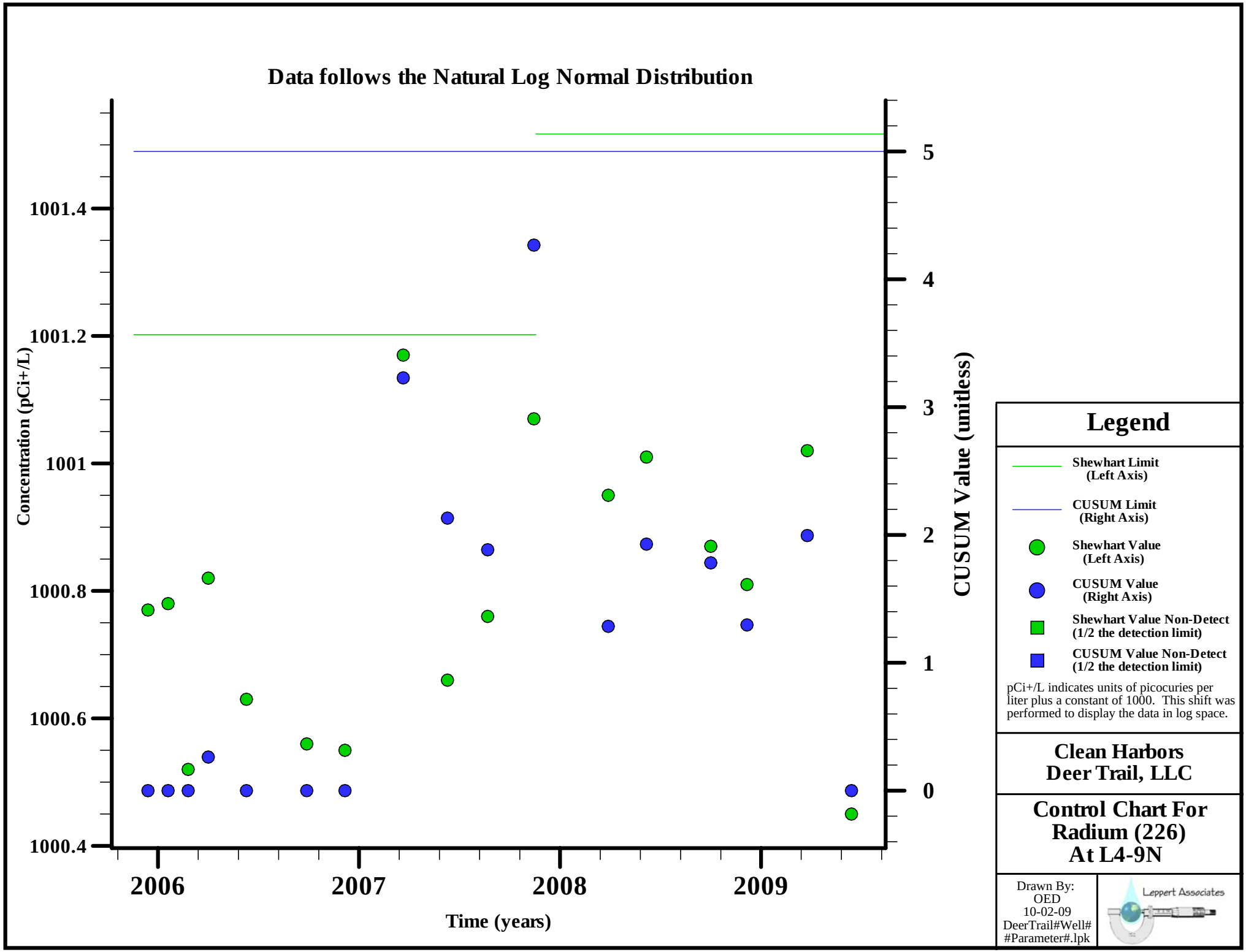
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

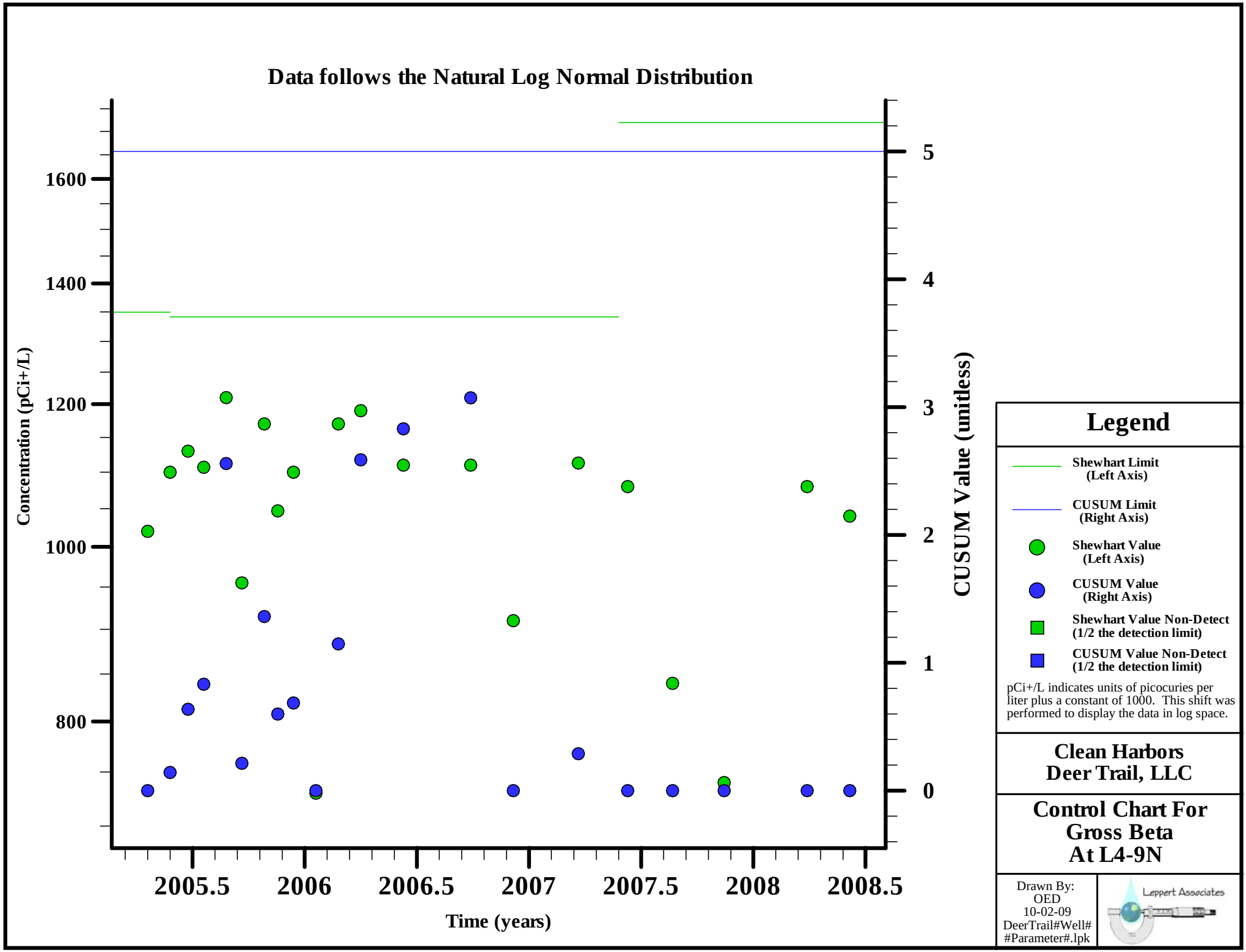
Clean Harbors Deer Trail, LLC

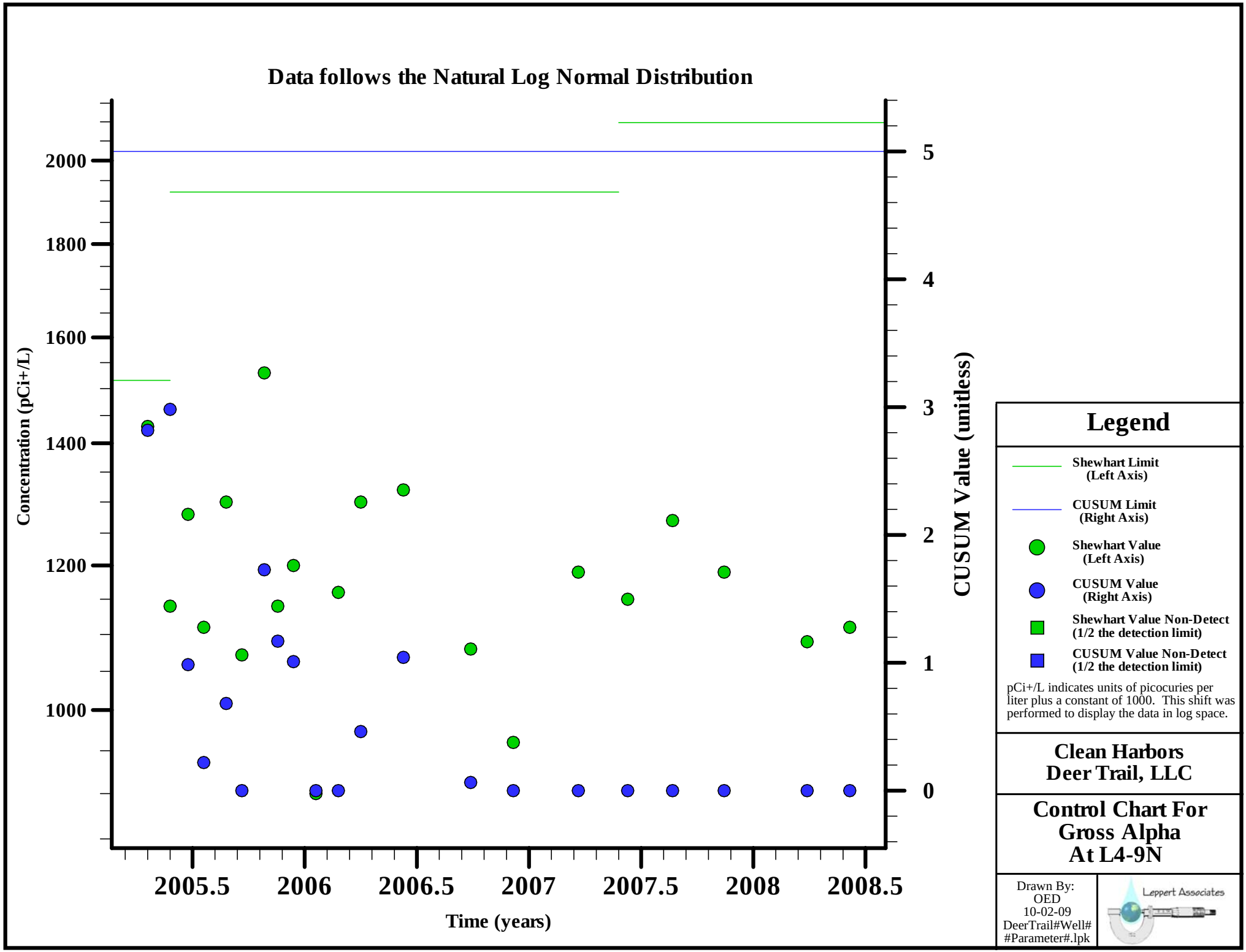
Control Chart For Radium 228 At L4-9N

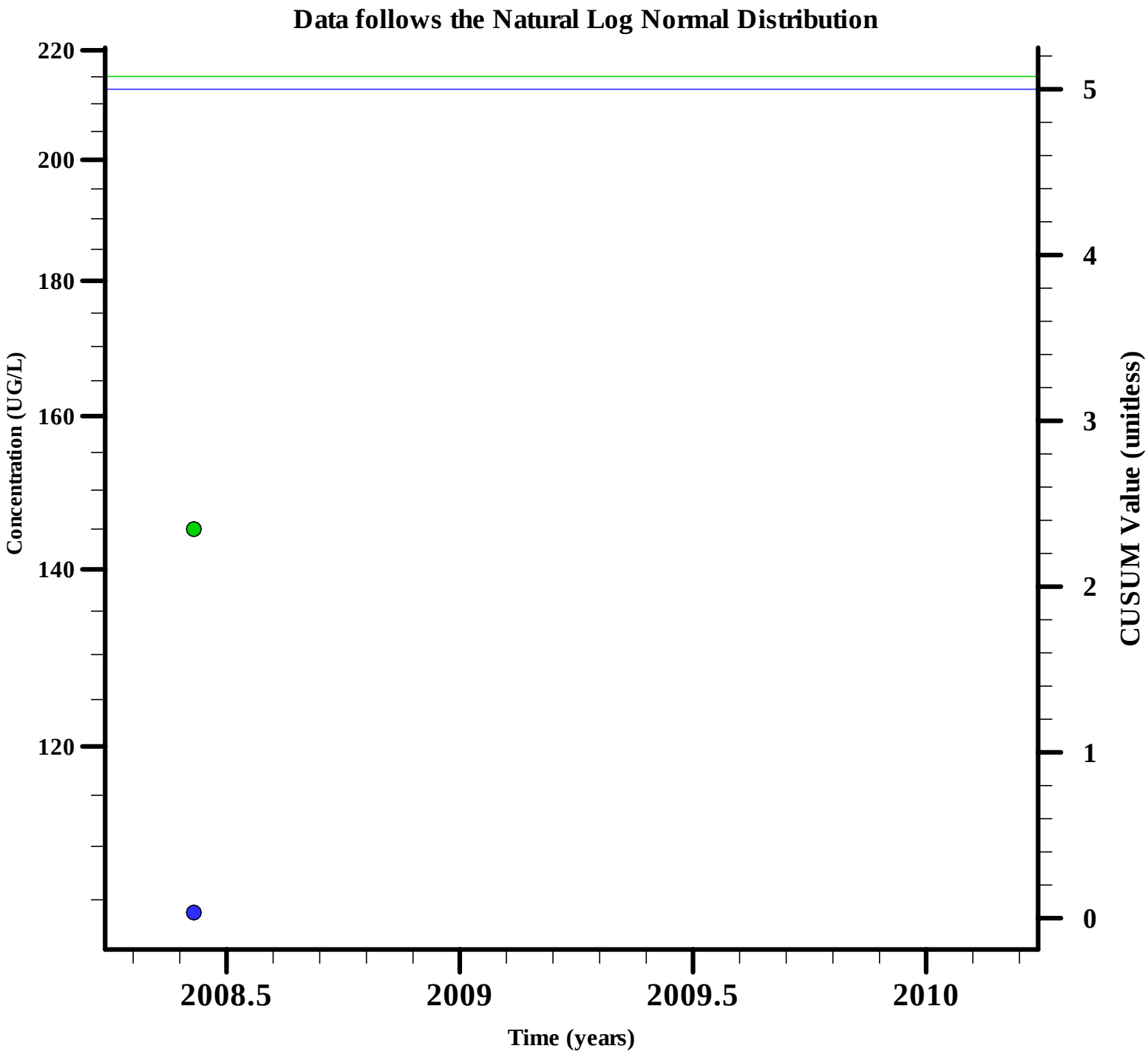
Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001.4
1001.2
1001
1000.8
1000.6
1000.4
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-9N
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1600
1400
1200
1000
800
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-9N
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
2000
1800
1600
1400
1200
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L4-9N
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

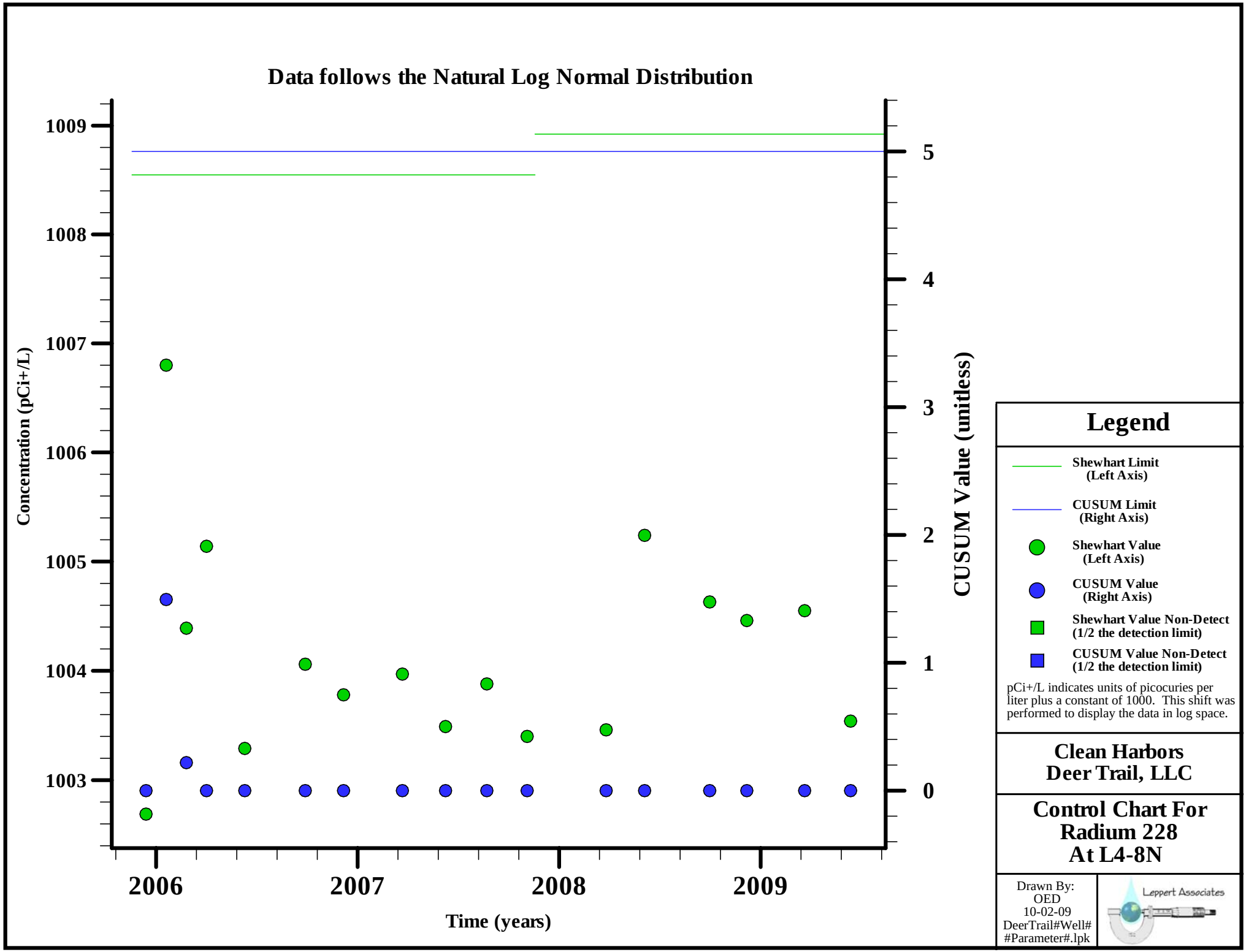
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

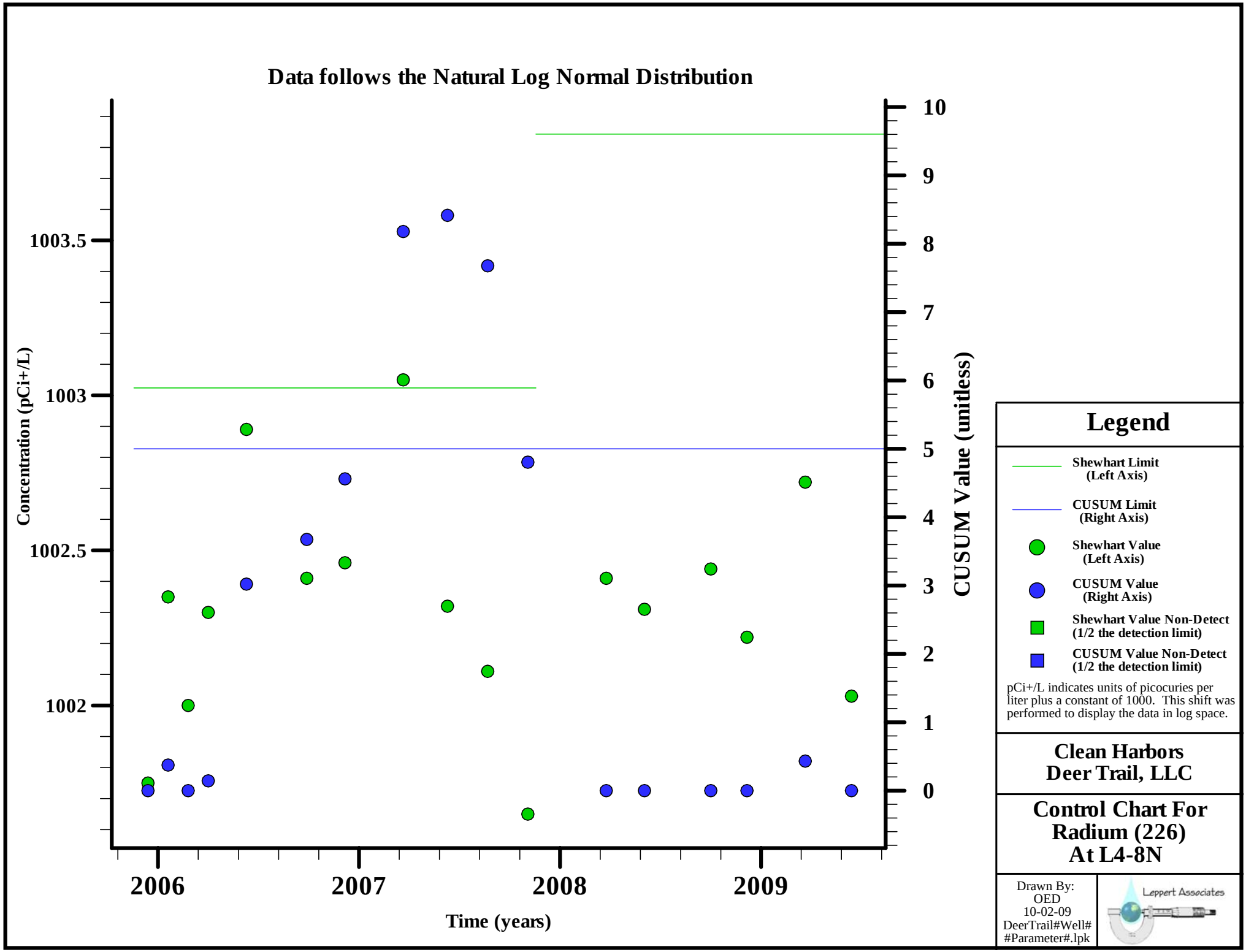
Clean Harbors Deer Trail, LLC

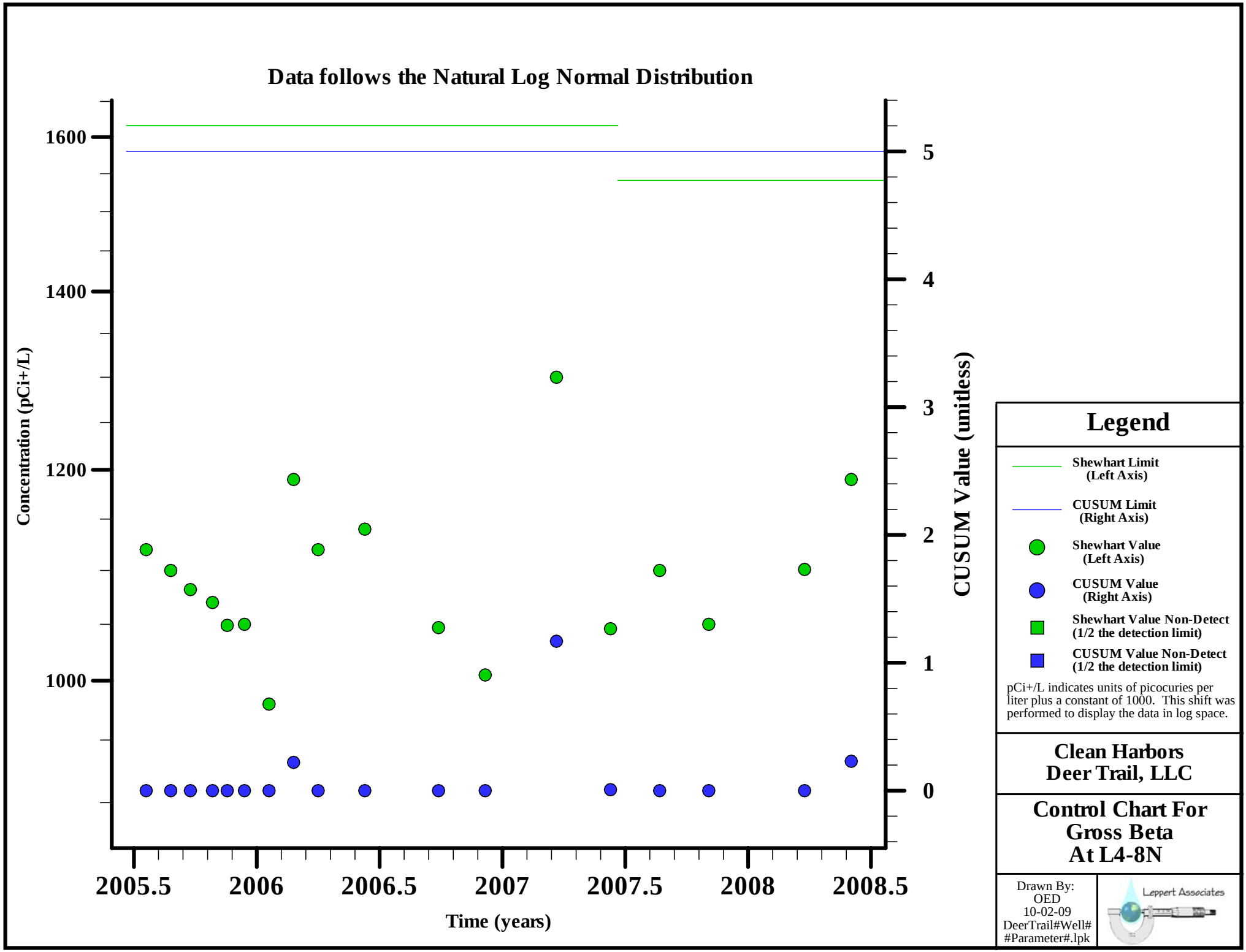
Control Chart For Total Uranium At L4-9N

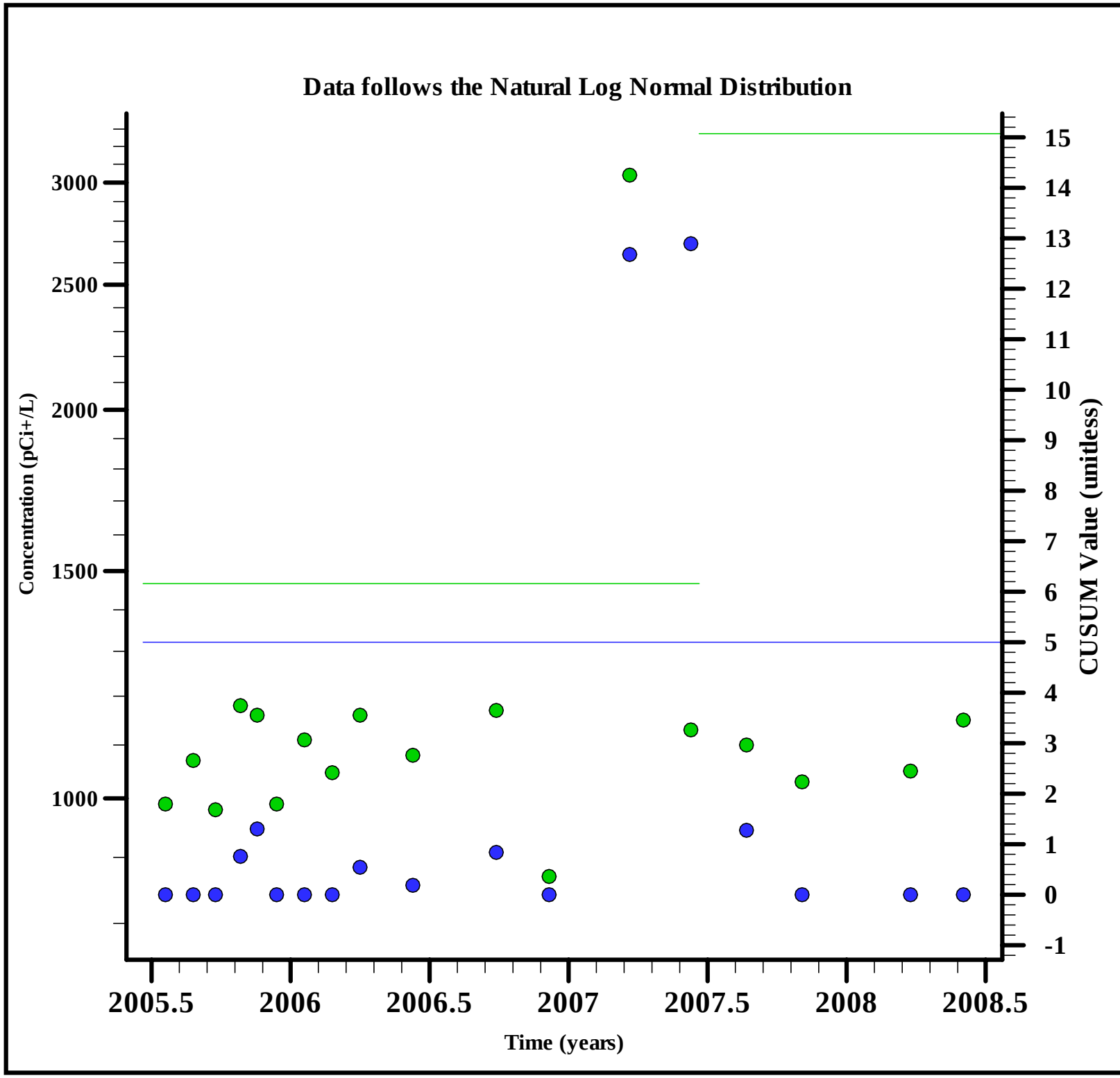
Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1009
1008
1007
1006
1005
1004
1003
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L4-8N
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1003.5
1003
1002.5
1002
CUSUM Value (unitless)
10
9
8
7
6
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-8N
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1600
1400
1200
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-8N
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

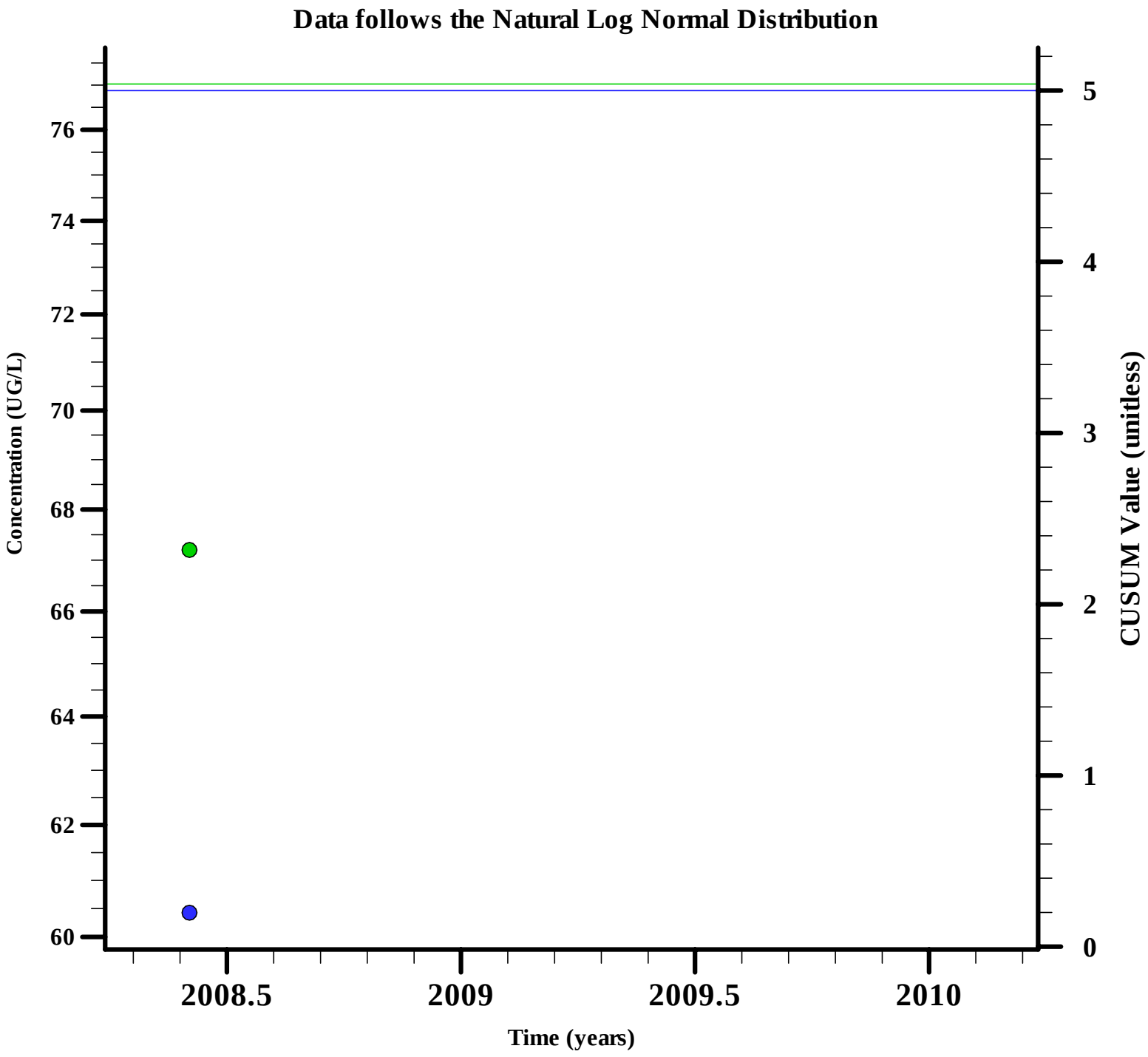
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-8N

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

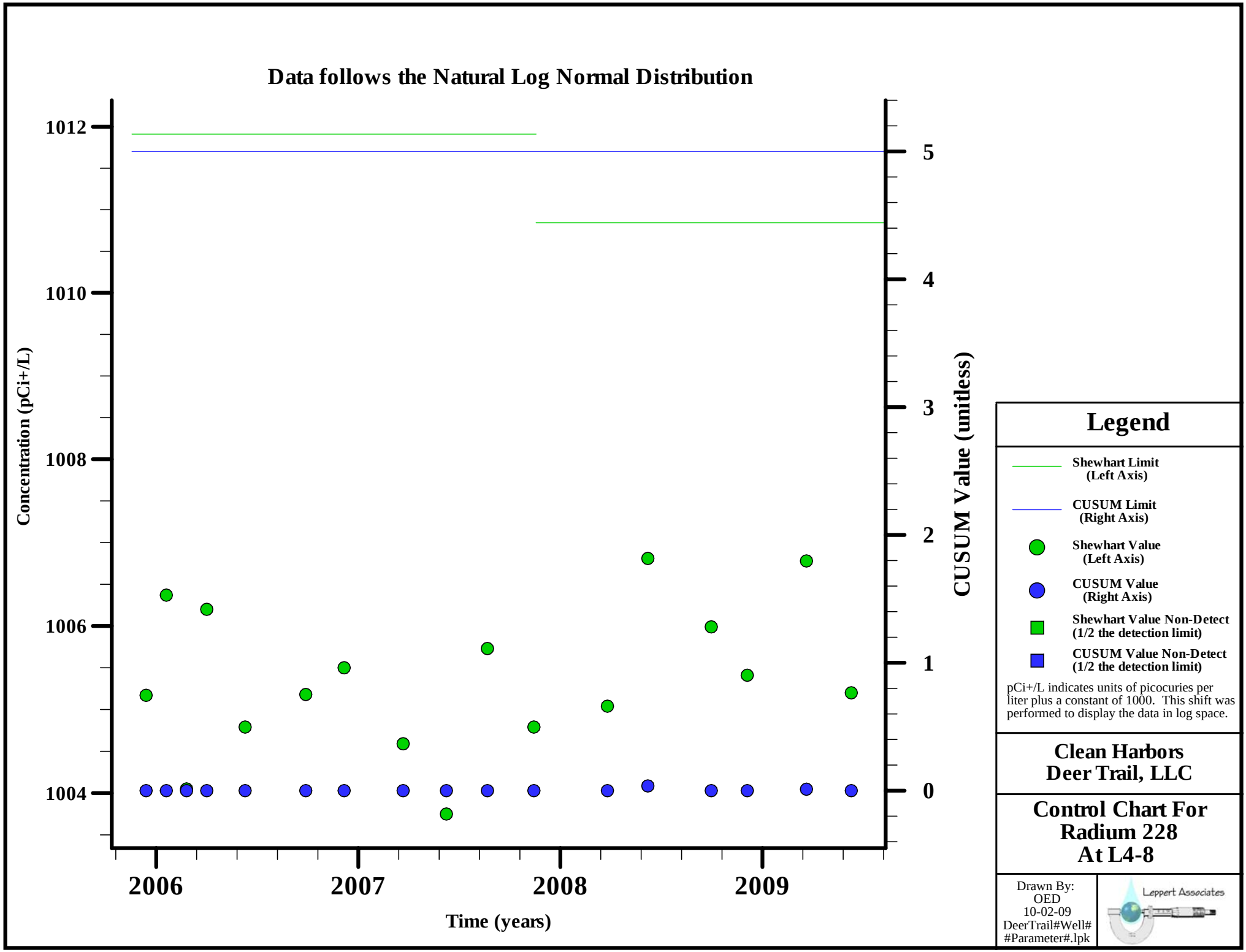
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

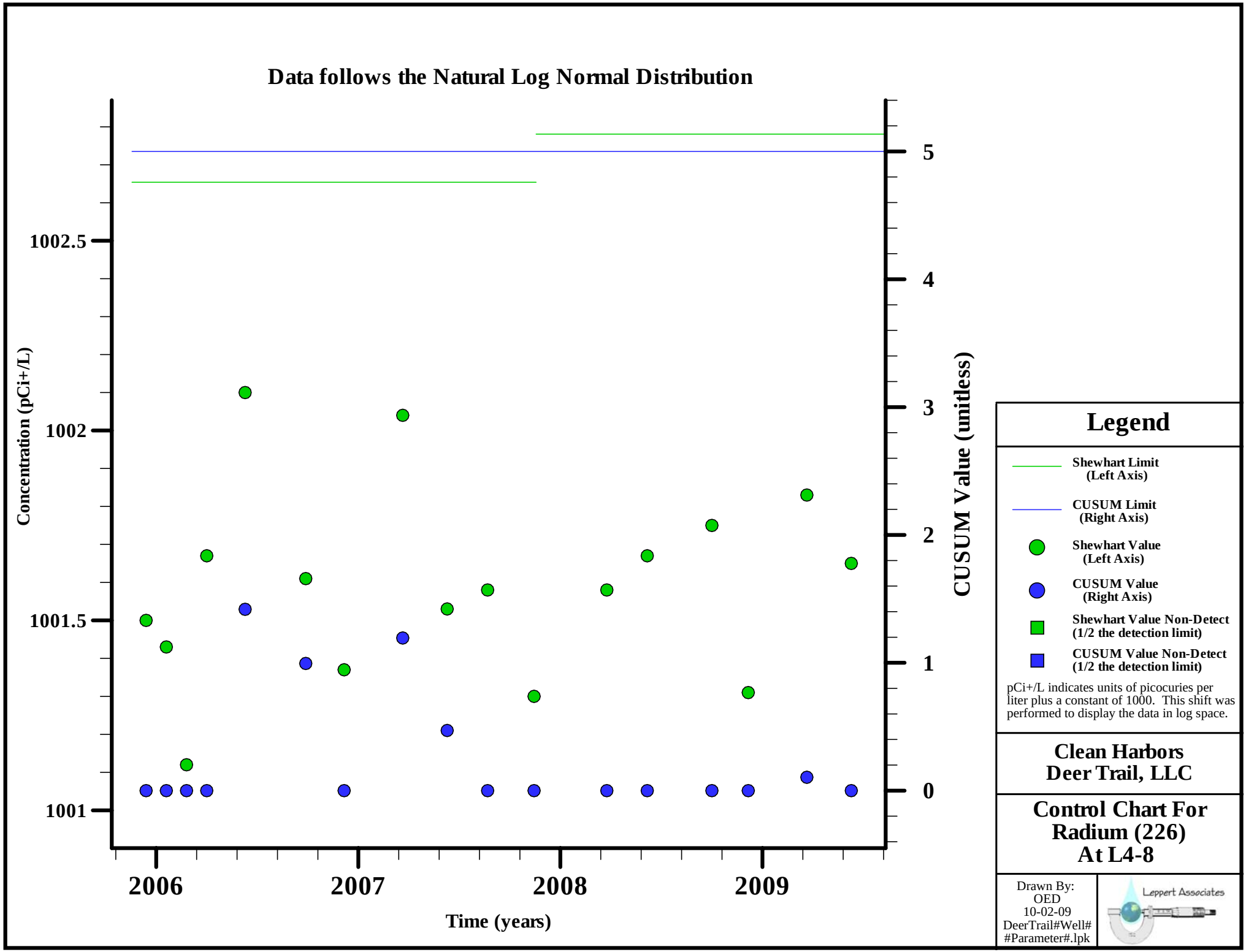
Clean Harbors Deer Trail, LLC

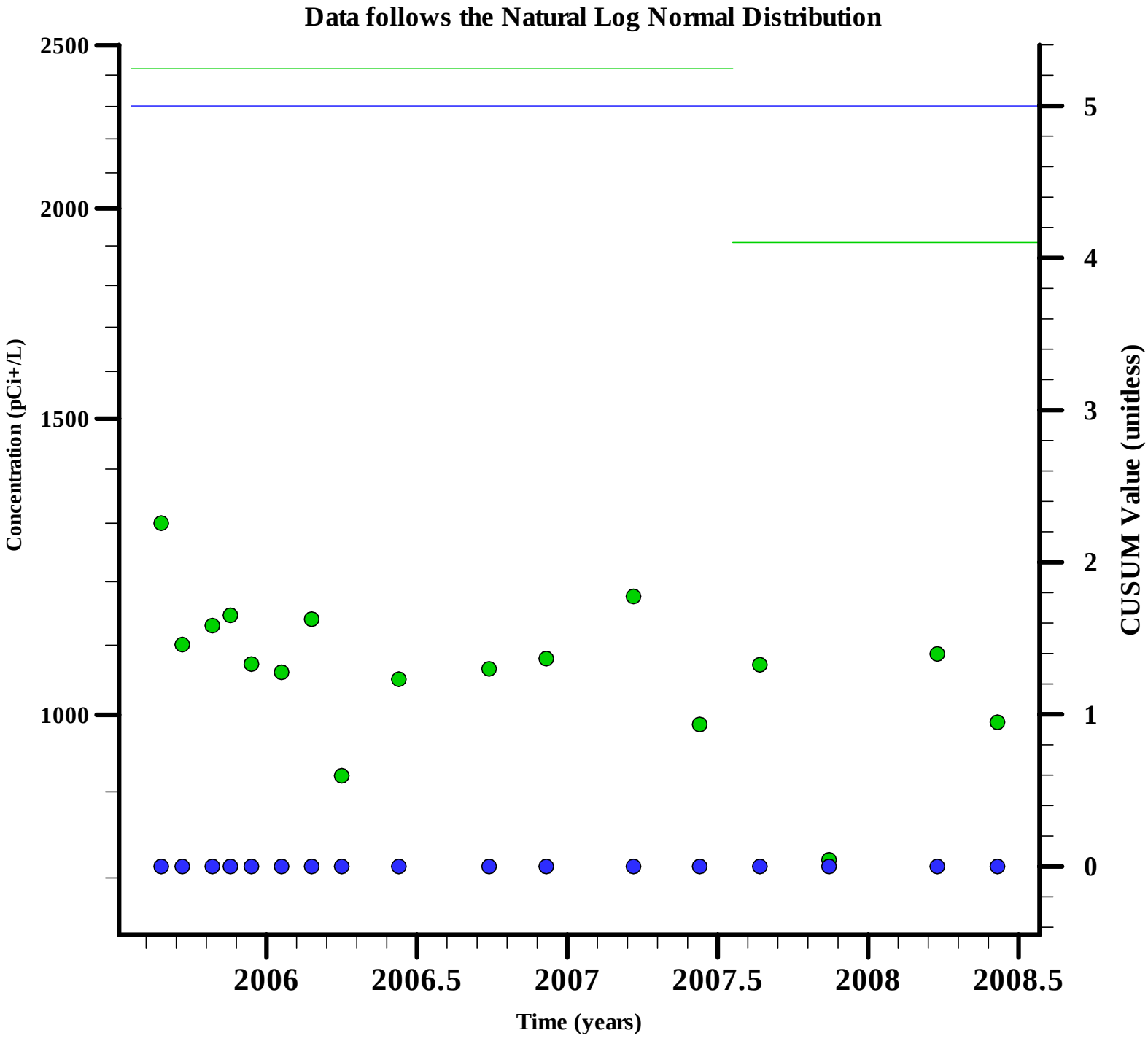
Control Chart For Total Uranium At L4-8N

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1012
1010
1008
1006
1004
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L4-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1002.5
1002
1001.5
1001
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

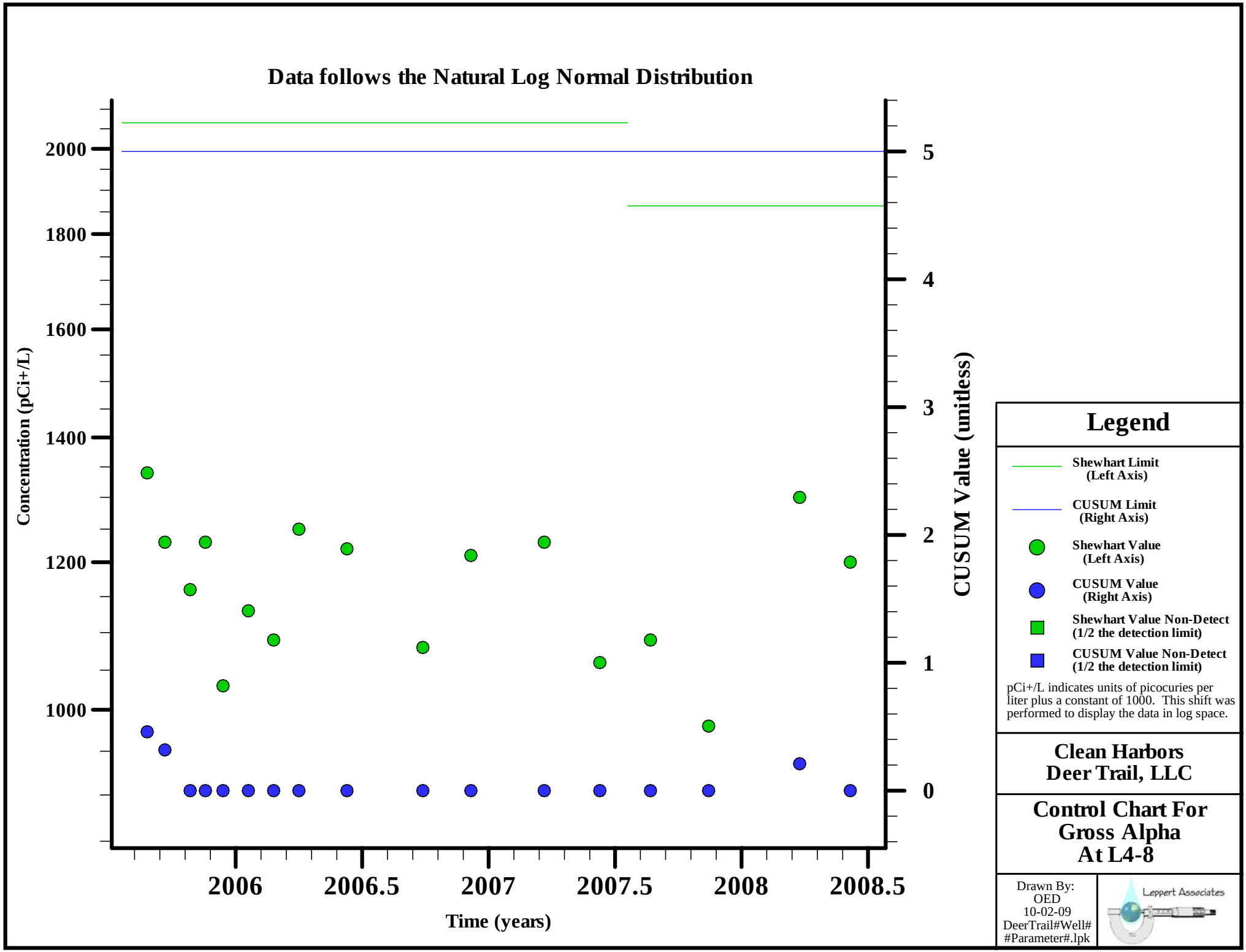
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

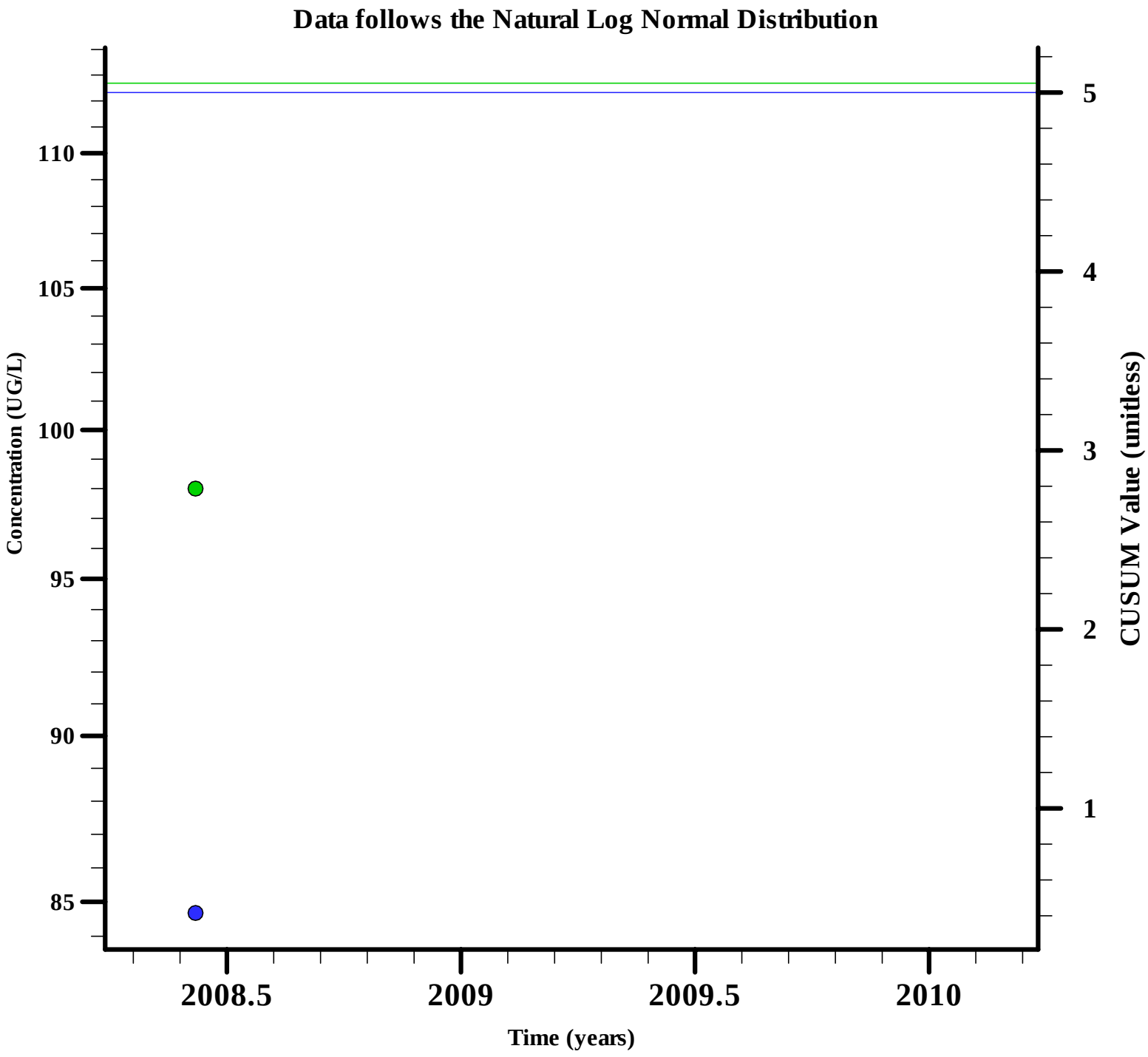
Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-8

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
2000
1800
1600
1400
1200
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L4-8
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

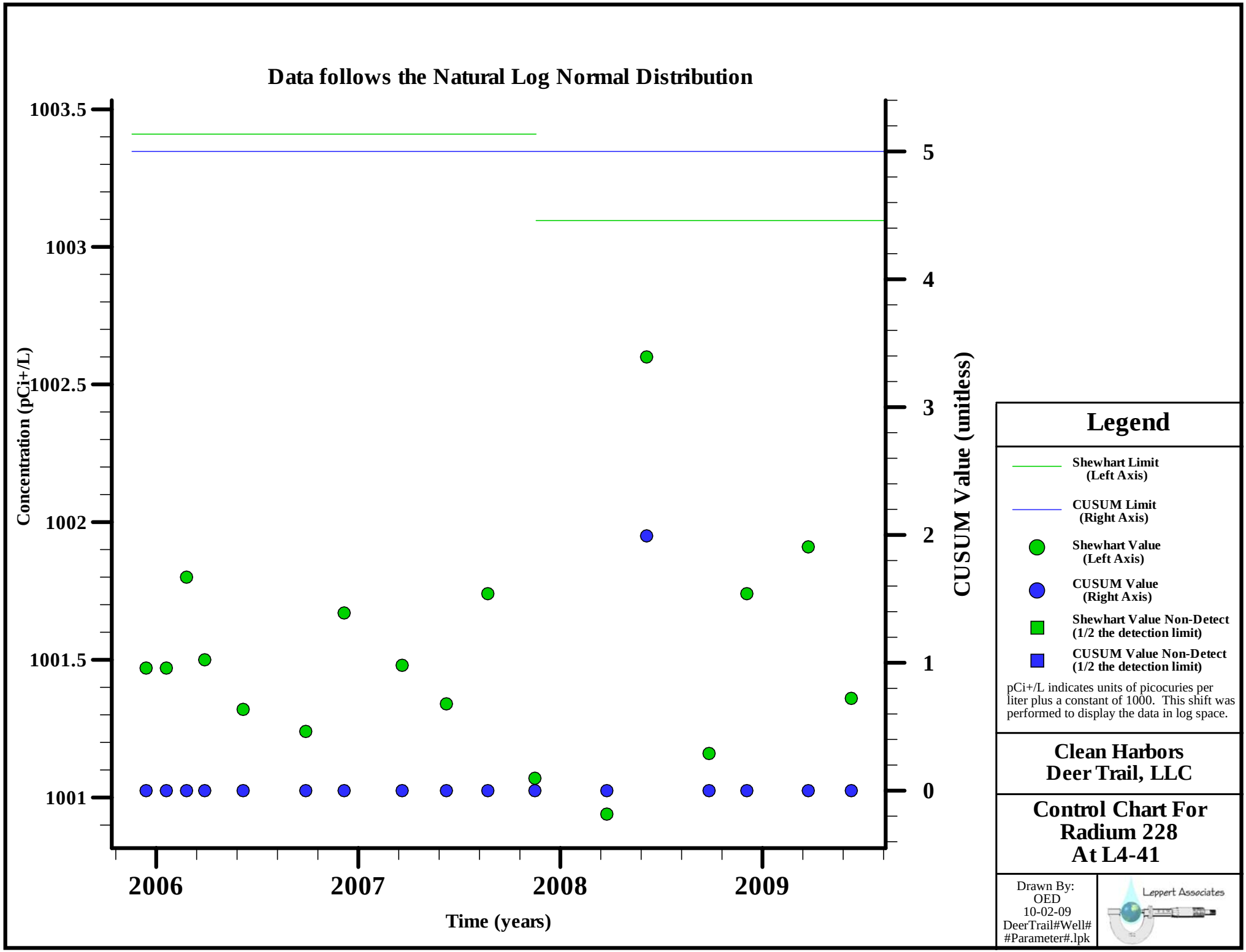
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

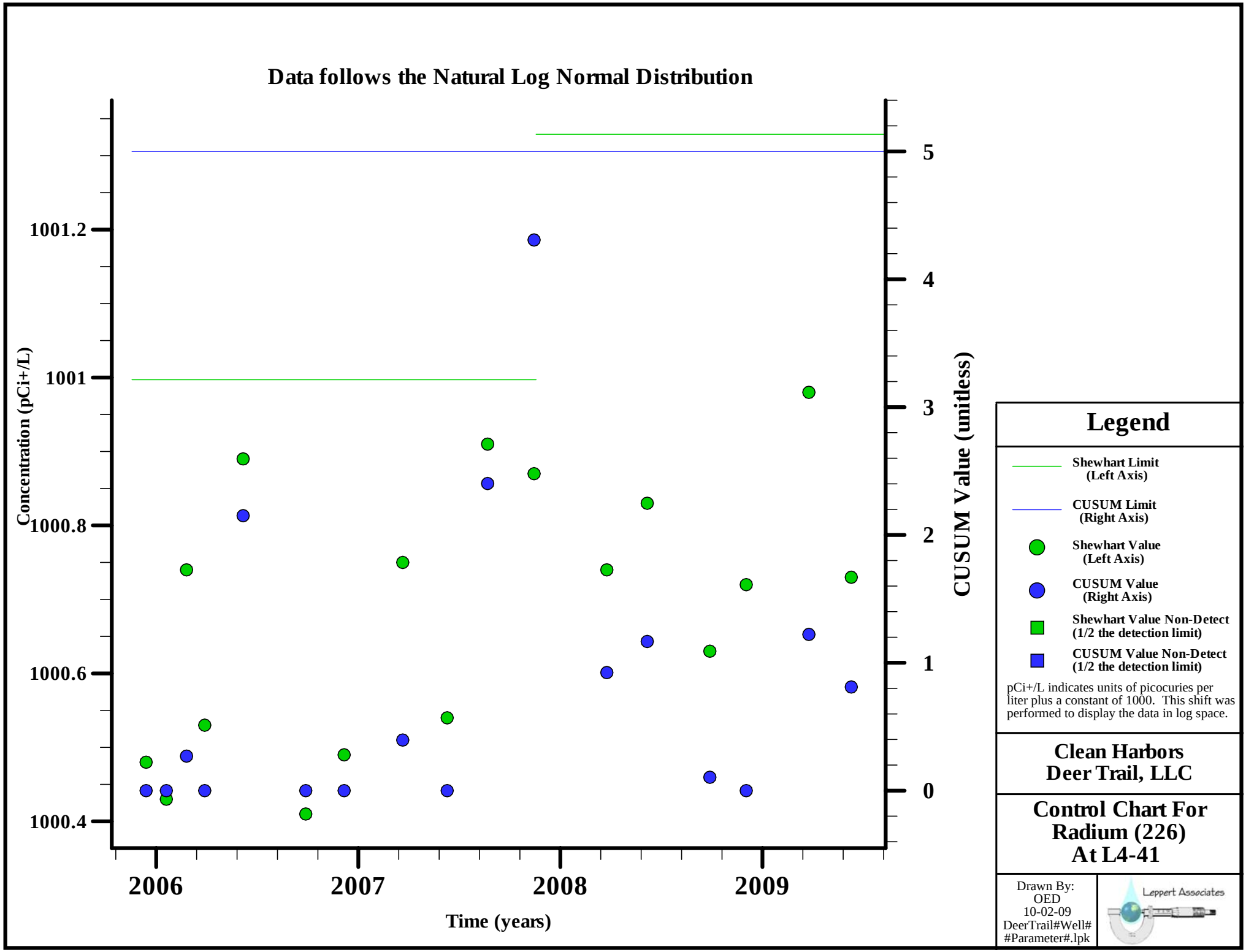
Clean Harbors Deer Trail, LLC

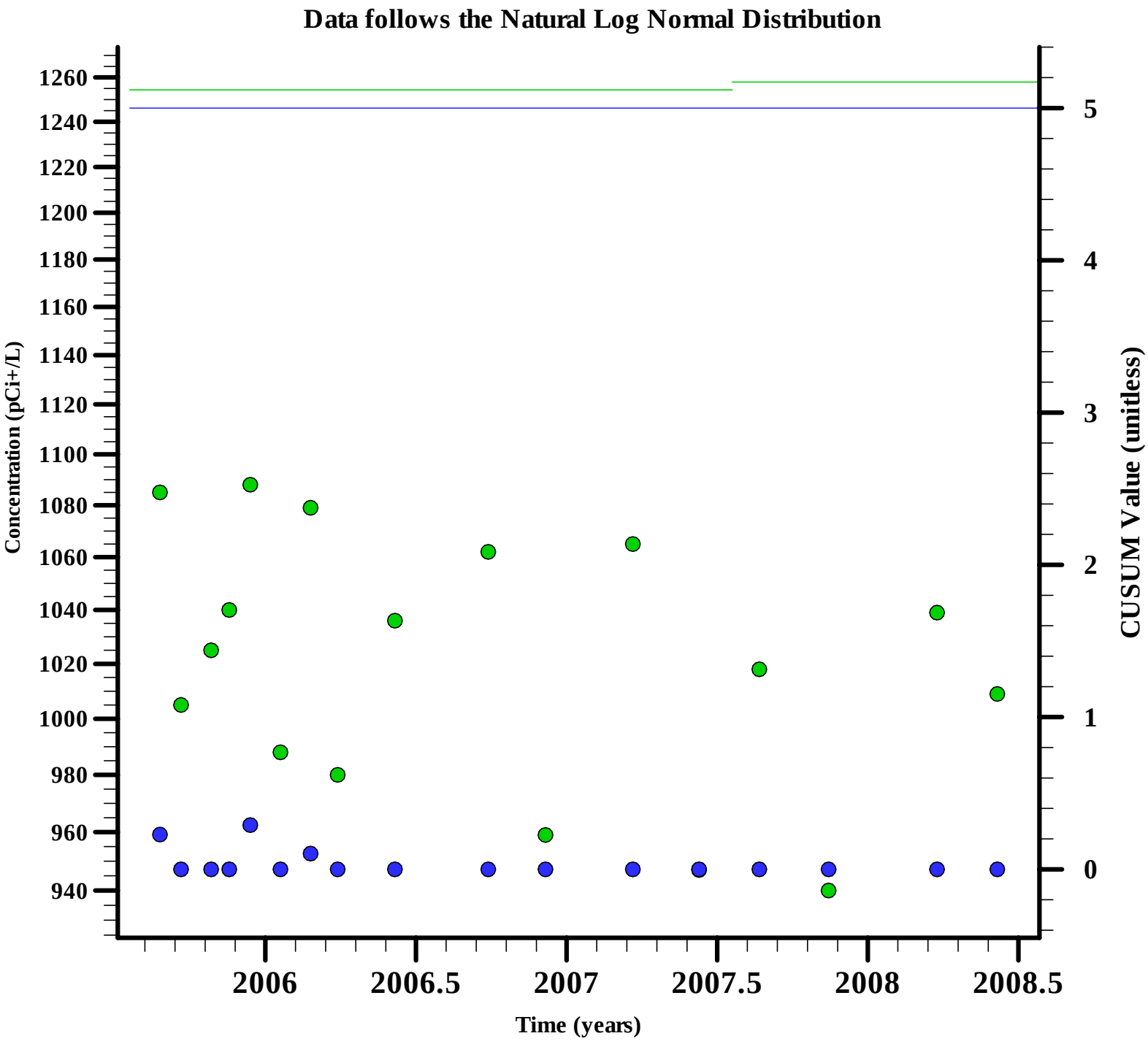
Control Chart For Total Uranium At L4-8

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
1003.5
1003
1002.5
1002
1001.5
1001
Concentration (pCi+/L)
5
4
3
2
1
0
CUSUM Value (unitless)
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L4-41
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001.2
1001
1000.8
1000.6
1000.4
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-41
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

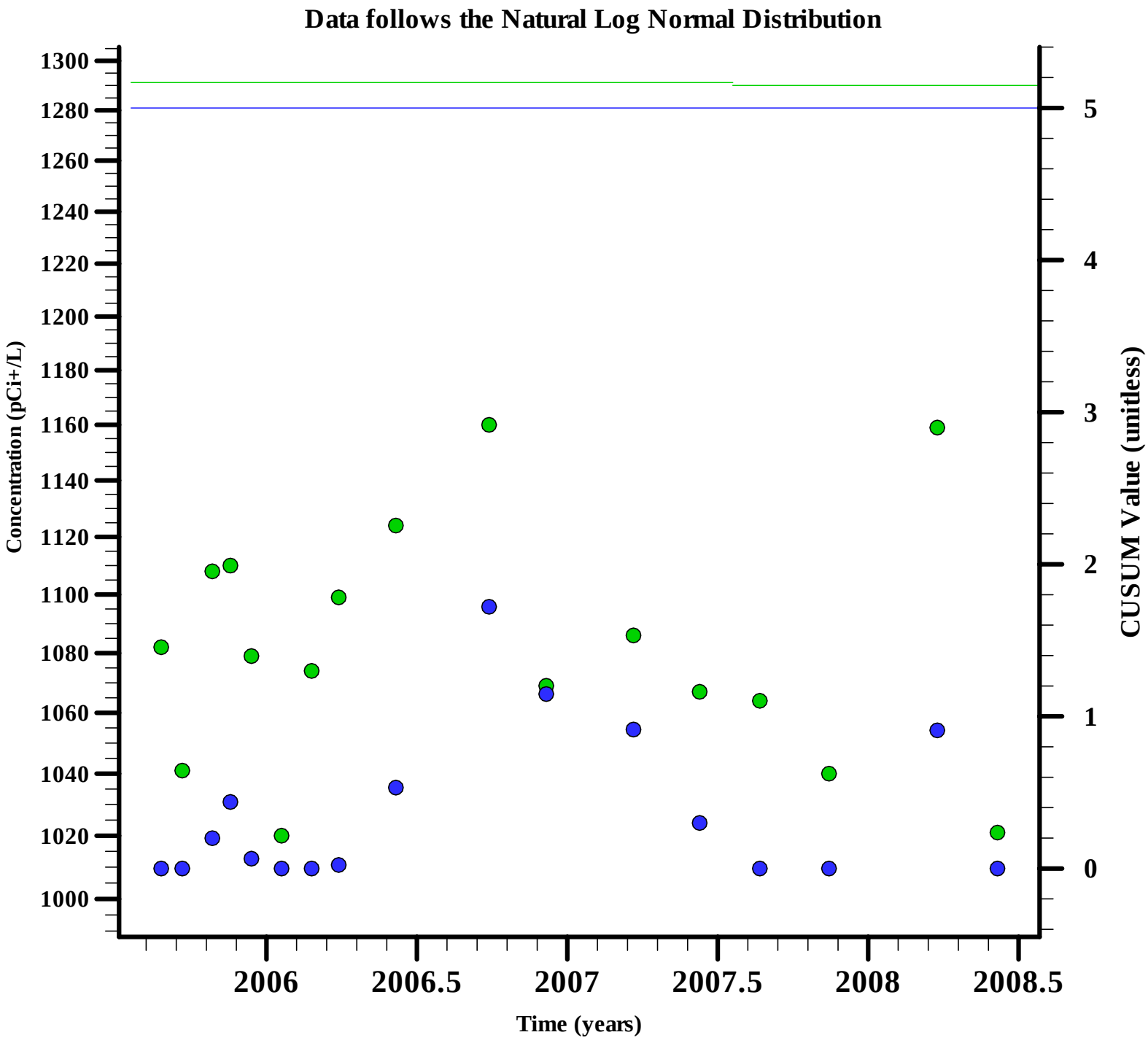
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-41

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

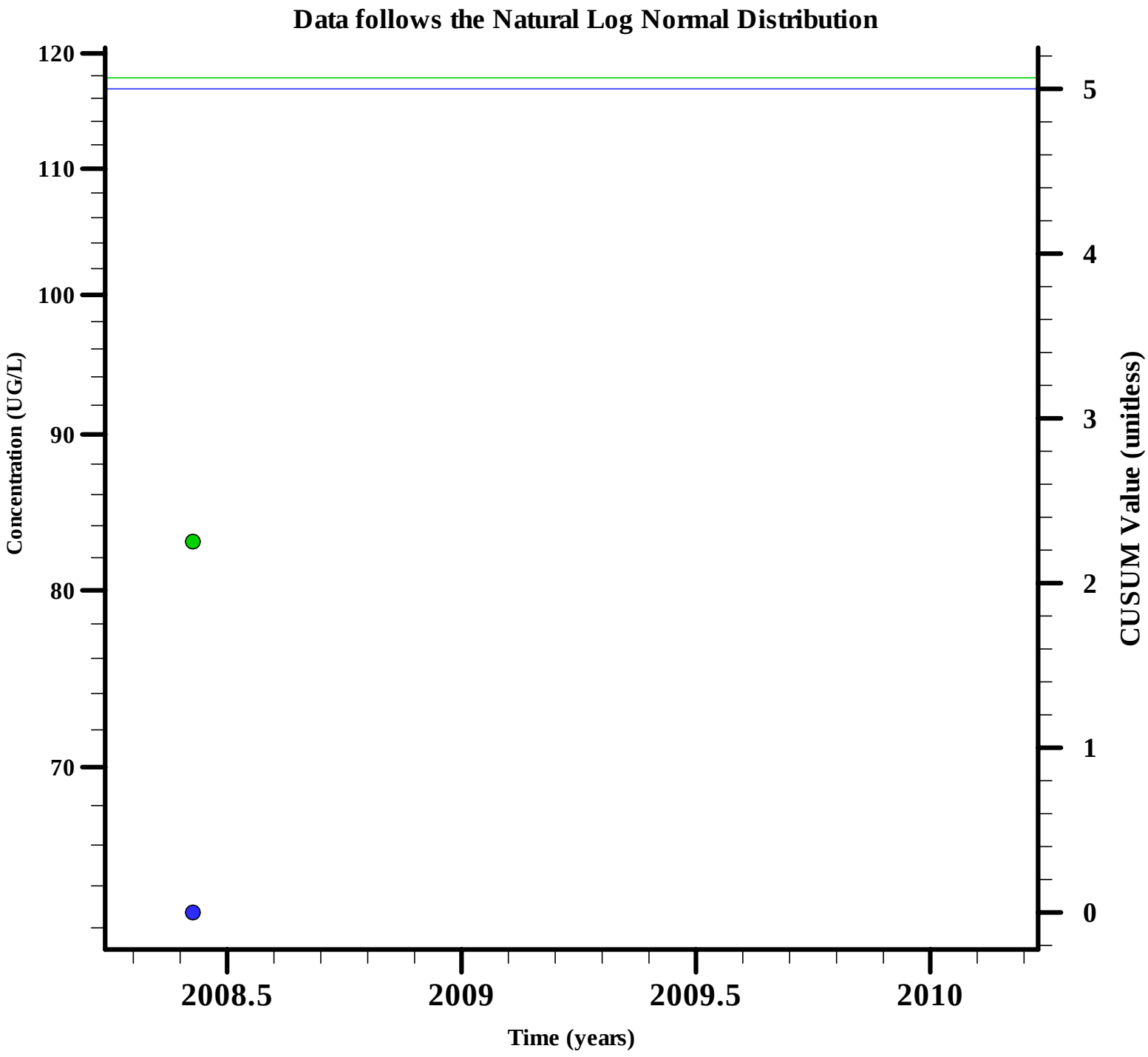
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-41

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

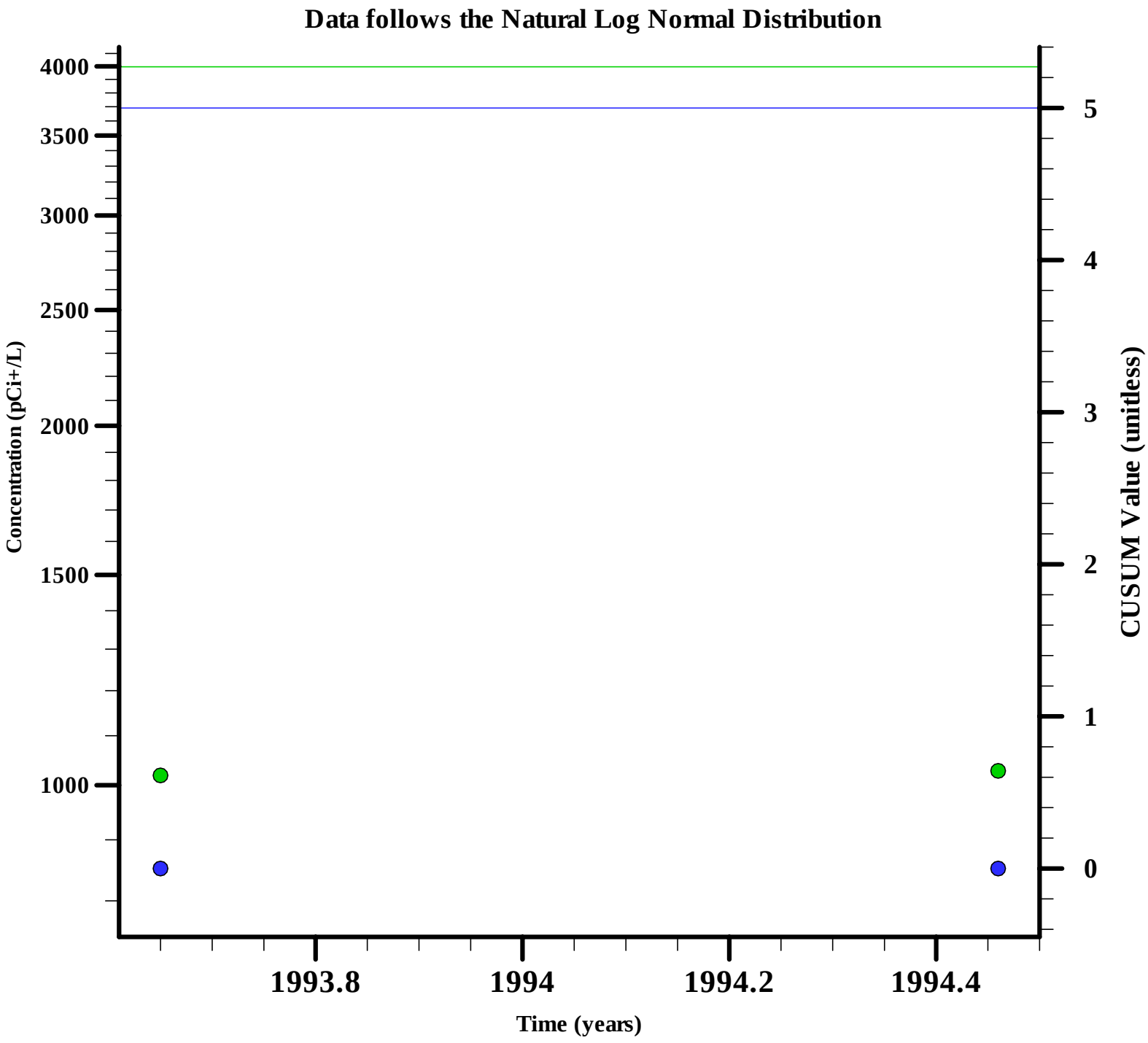
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-41

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

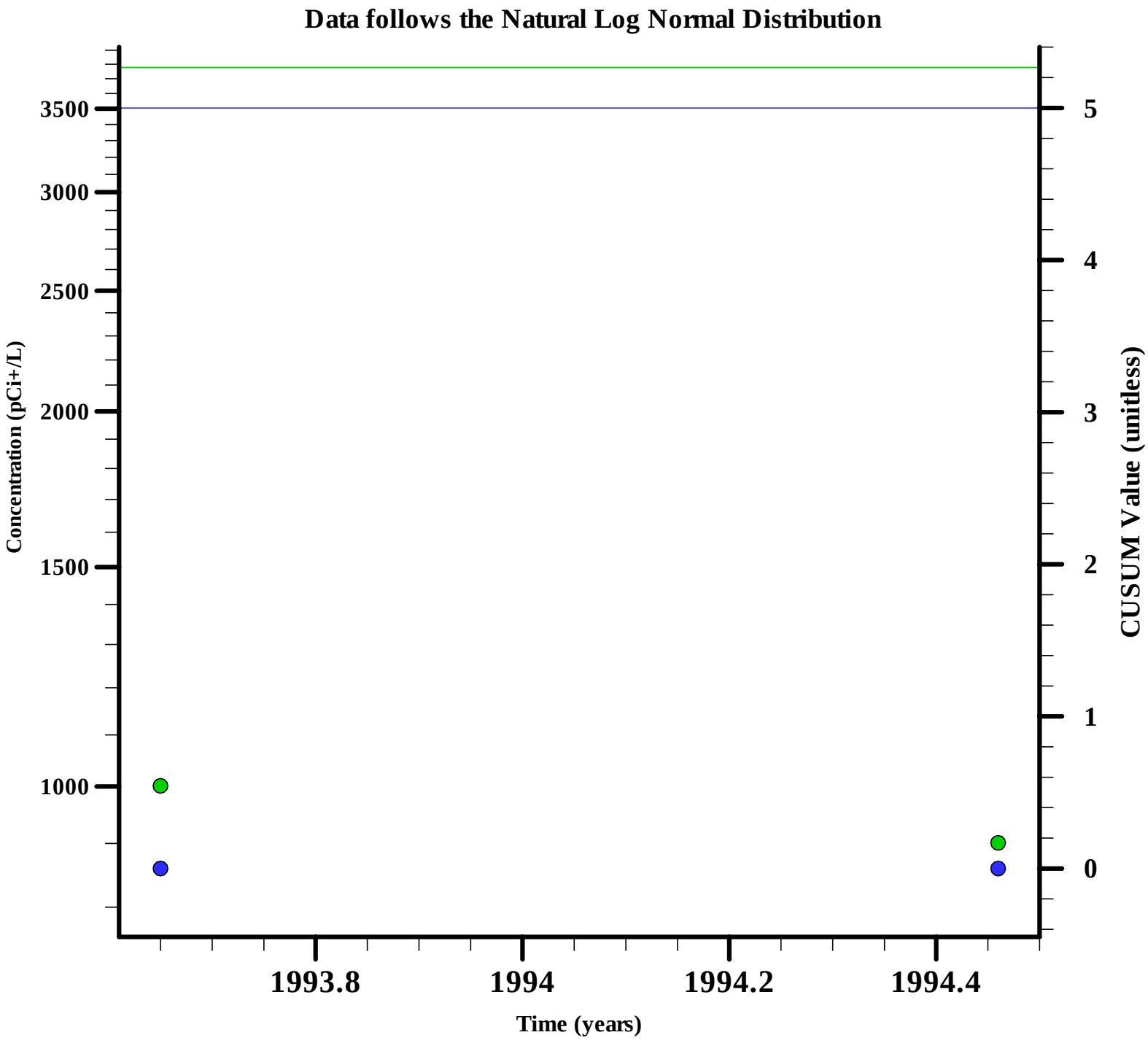
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-34W

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

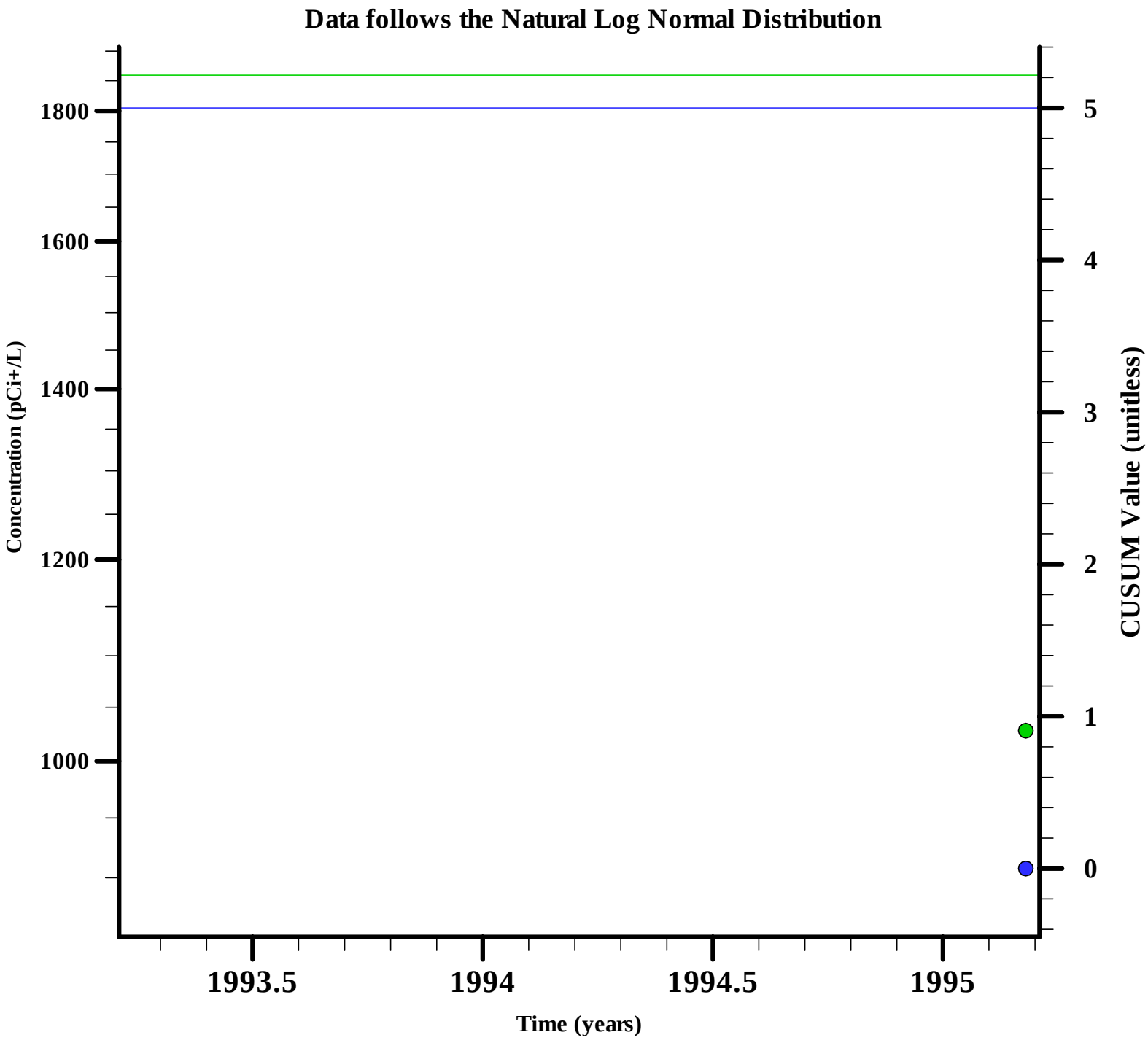
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-34W

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

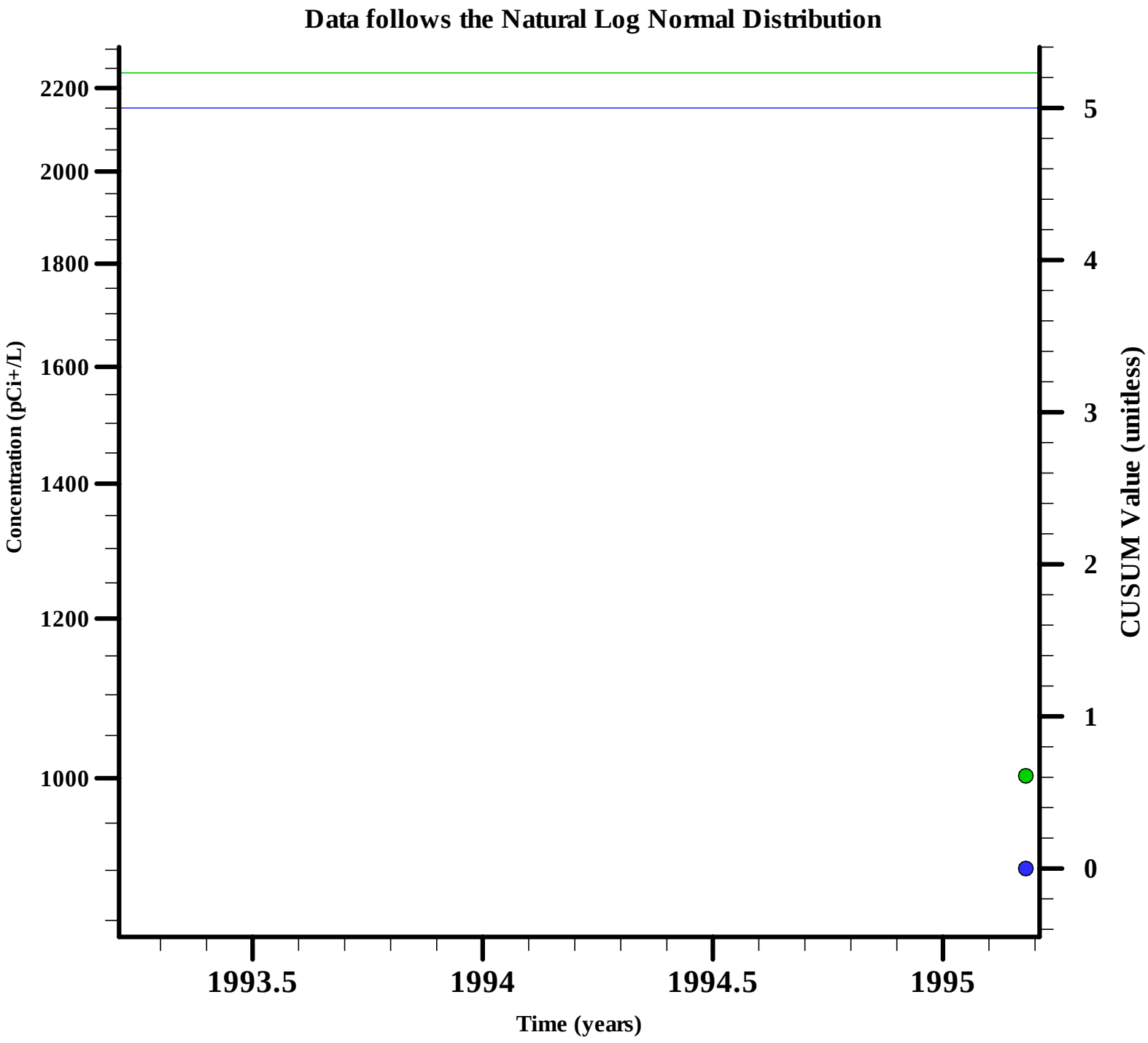
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-33W

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

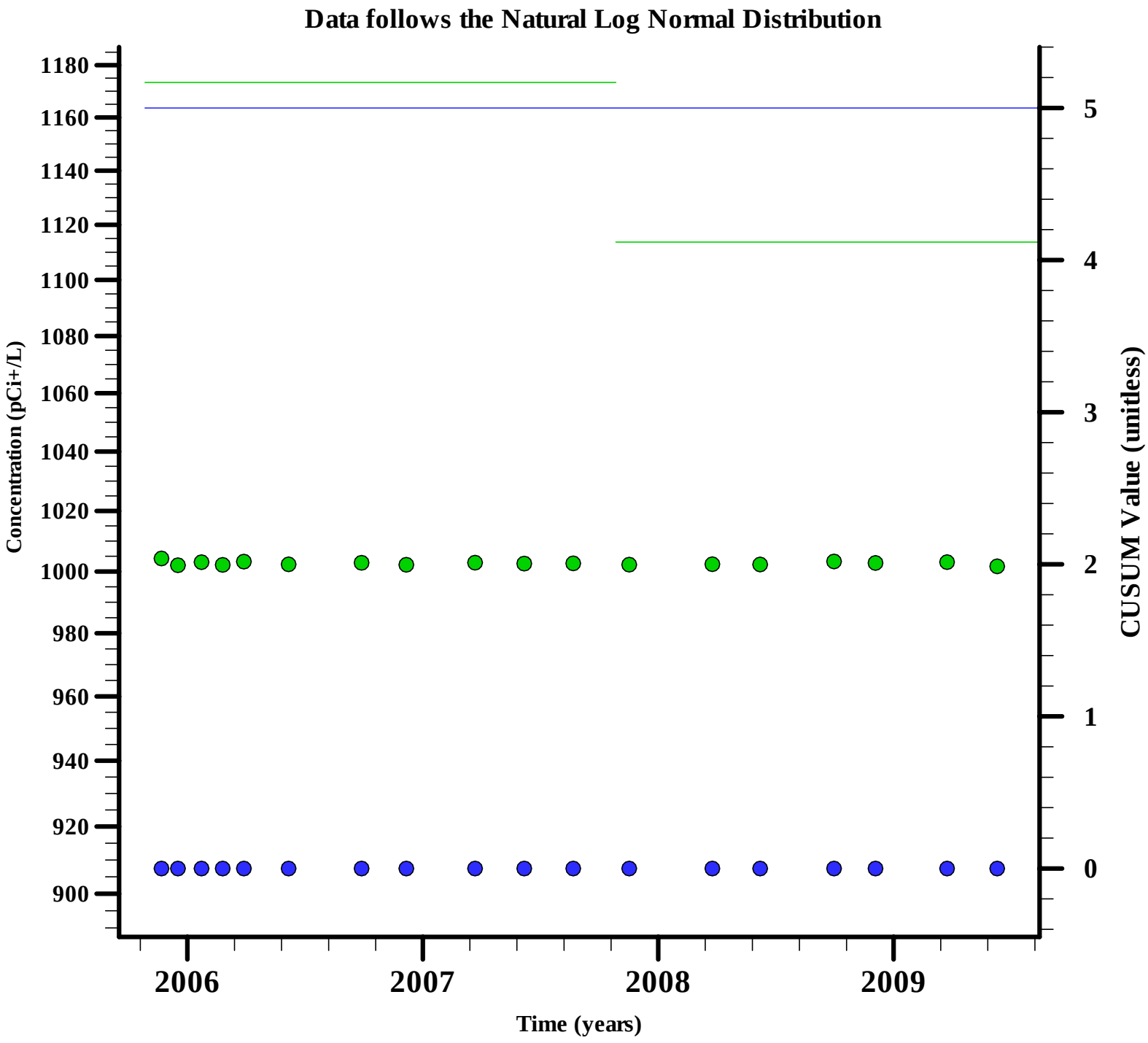
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-33W

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

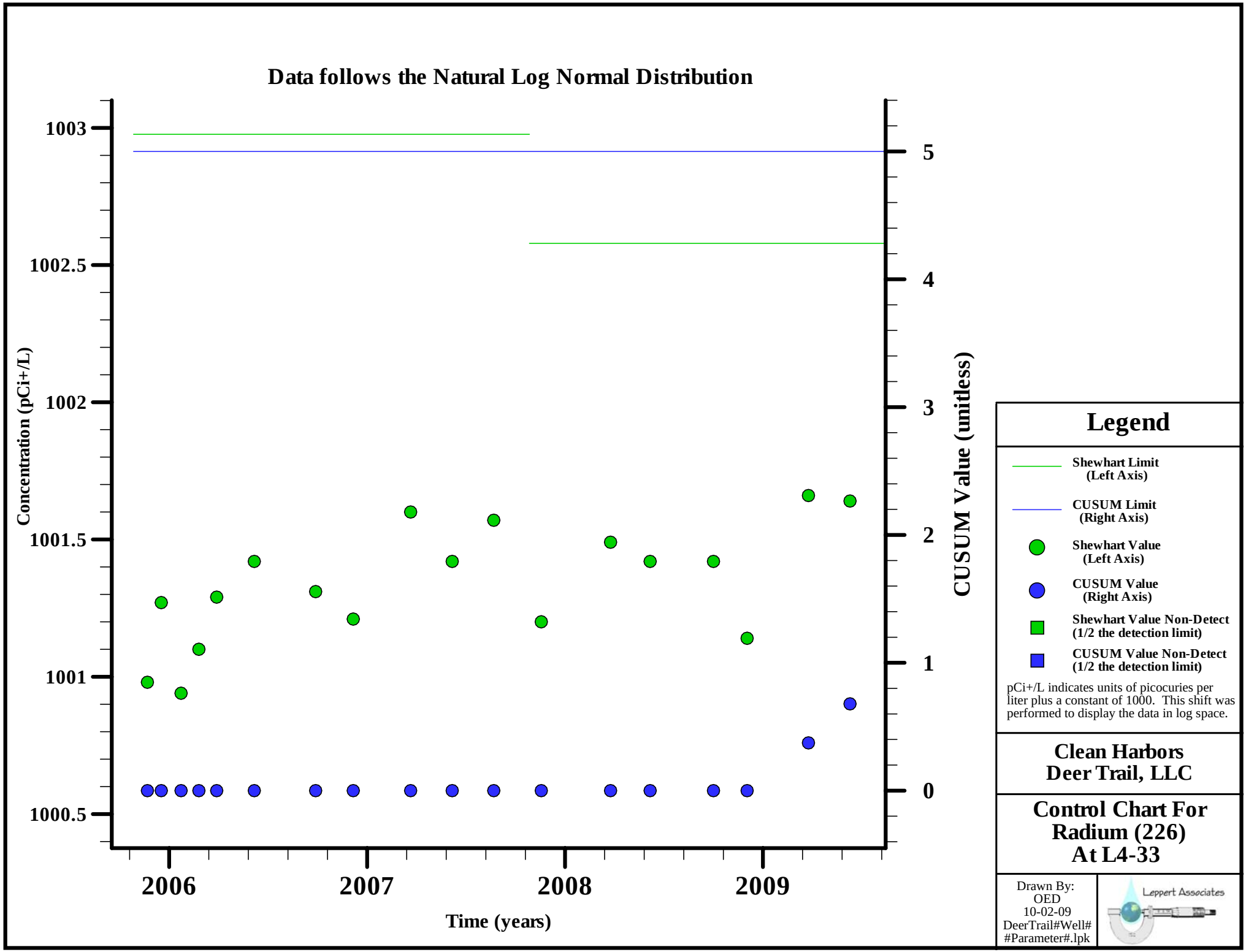
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

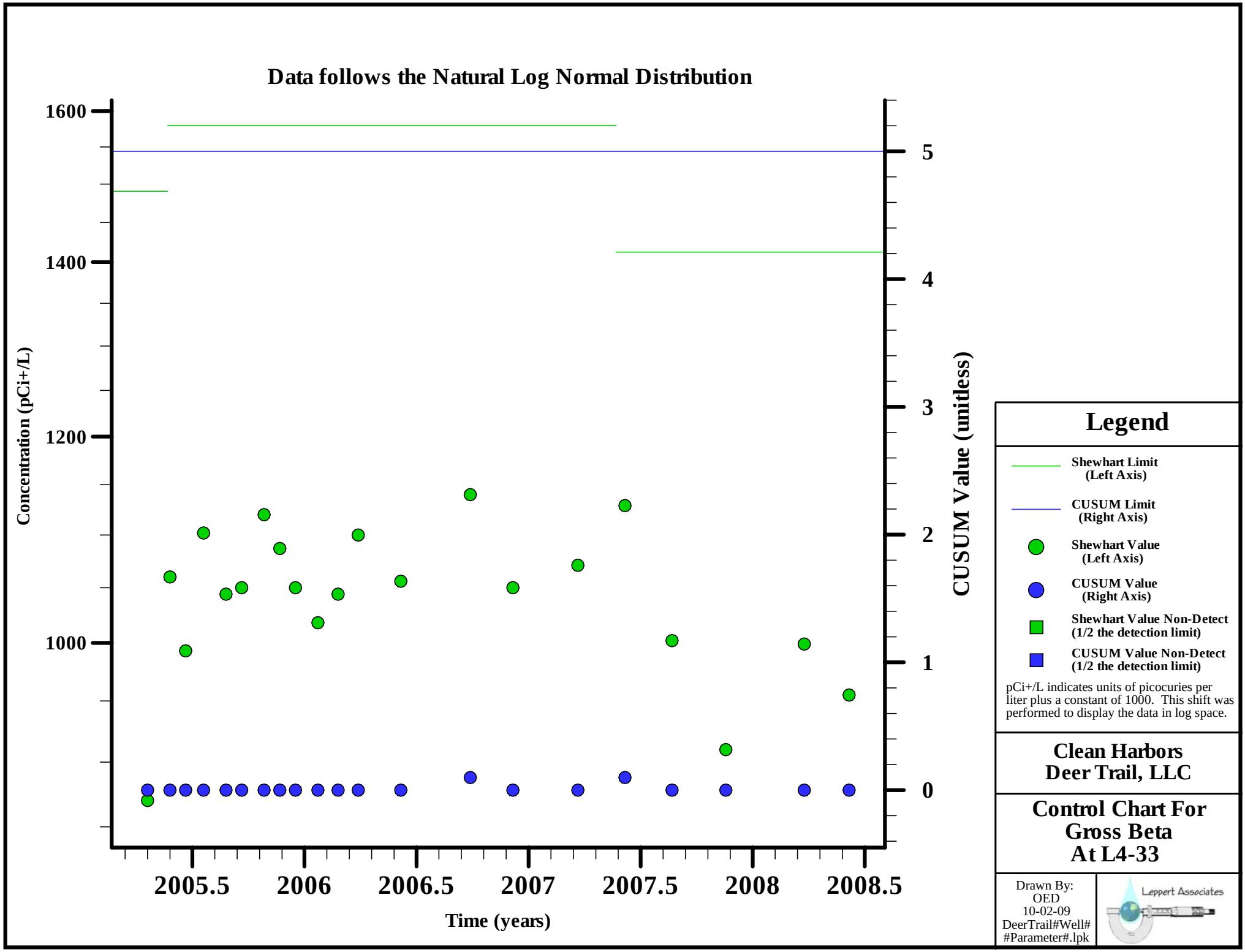
Clean Harbors Deer Trail, LLC

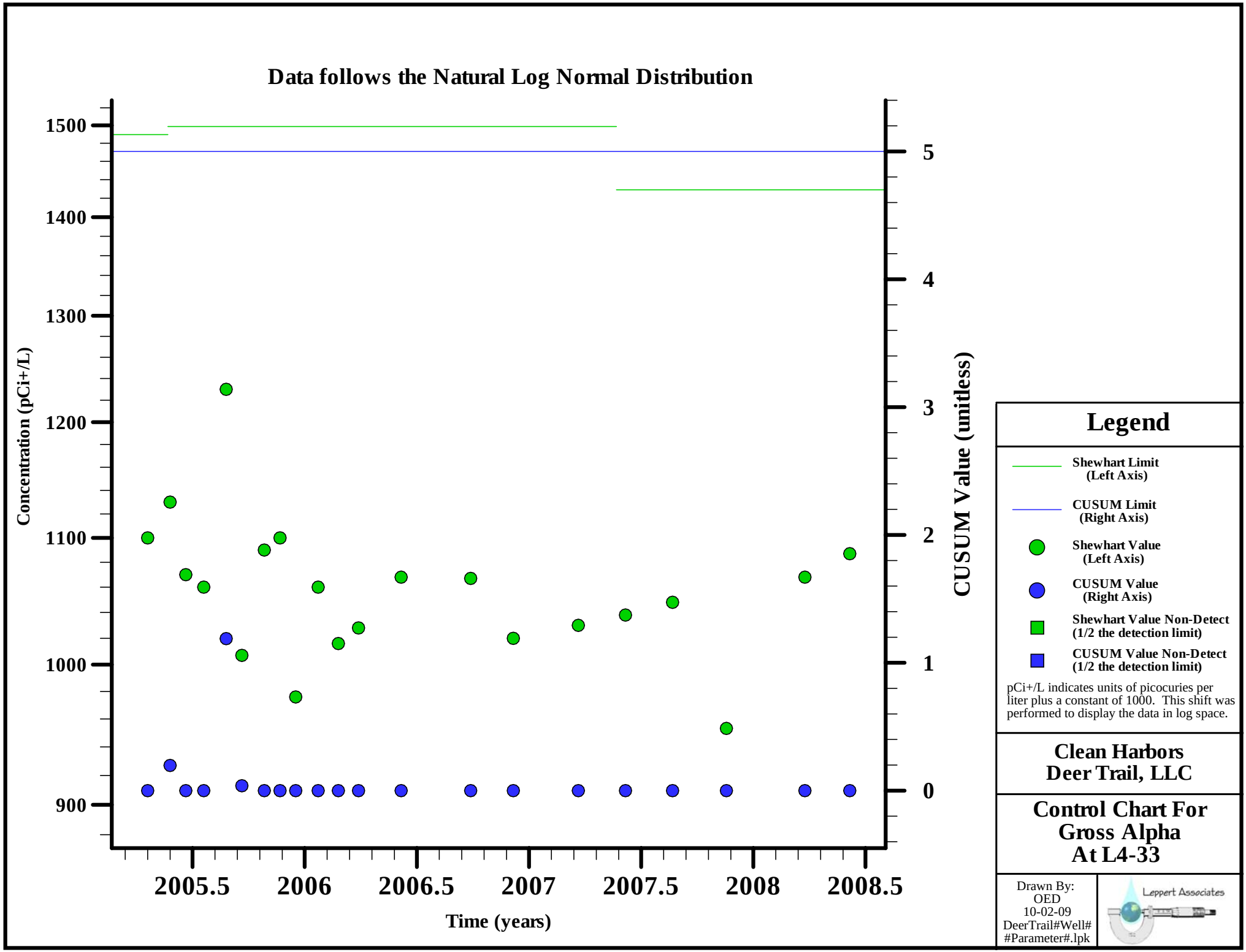
Control Chart For Radium 228 At L4-33

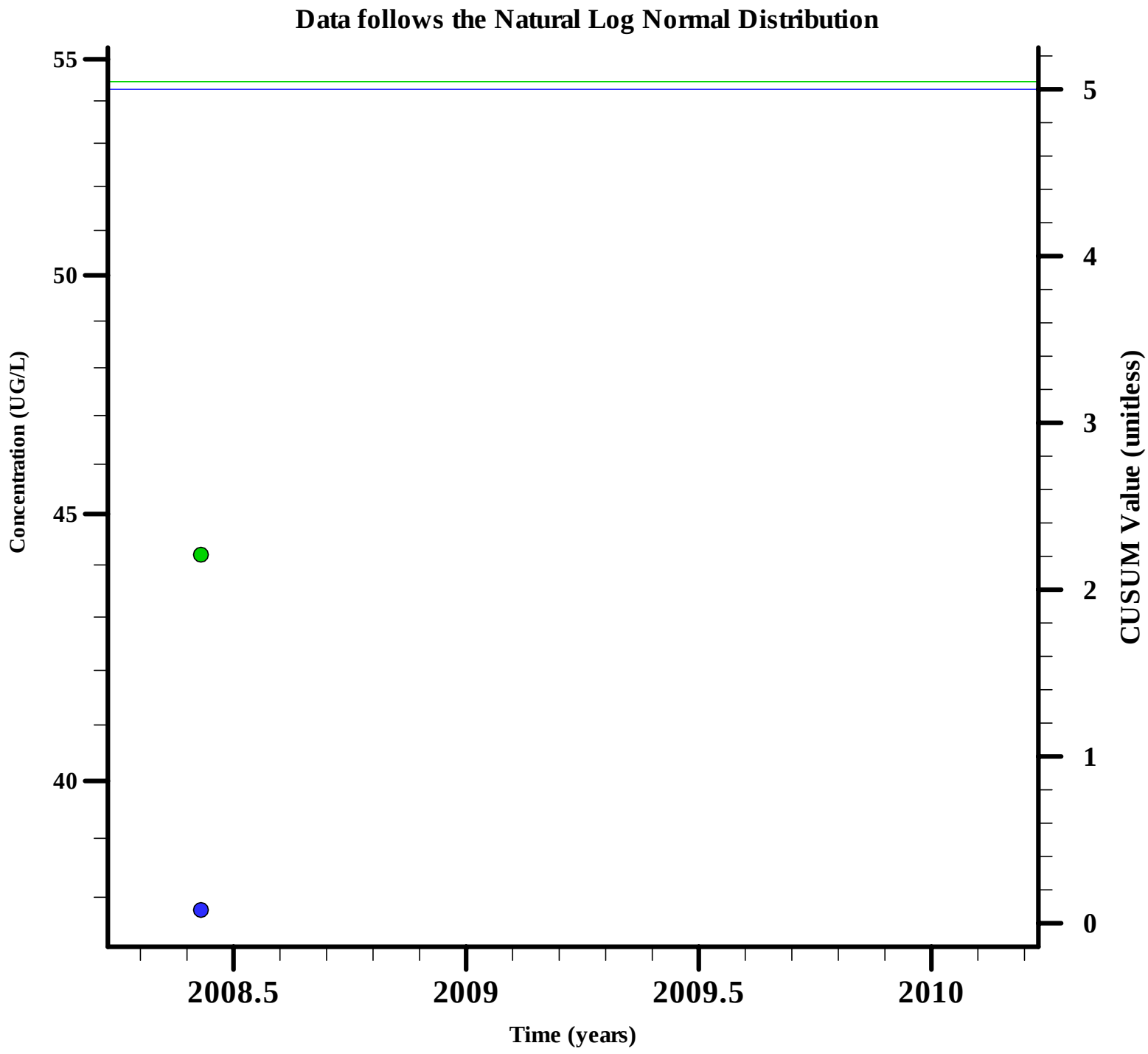
Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1003
1002.5
1002
1001.5
1001
1000.5
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-33
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
1600
1400
1200
1000
Concentration (pCi+/L)
5
4
3
2
1
0
CUSUM Value (unitless)
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-33
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1500
1400
1300
1200
1100
1000
900
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Alpha
At L4-33
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

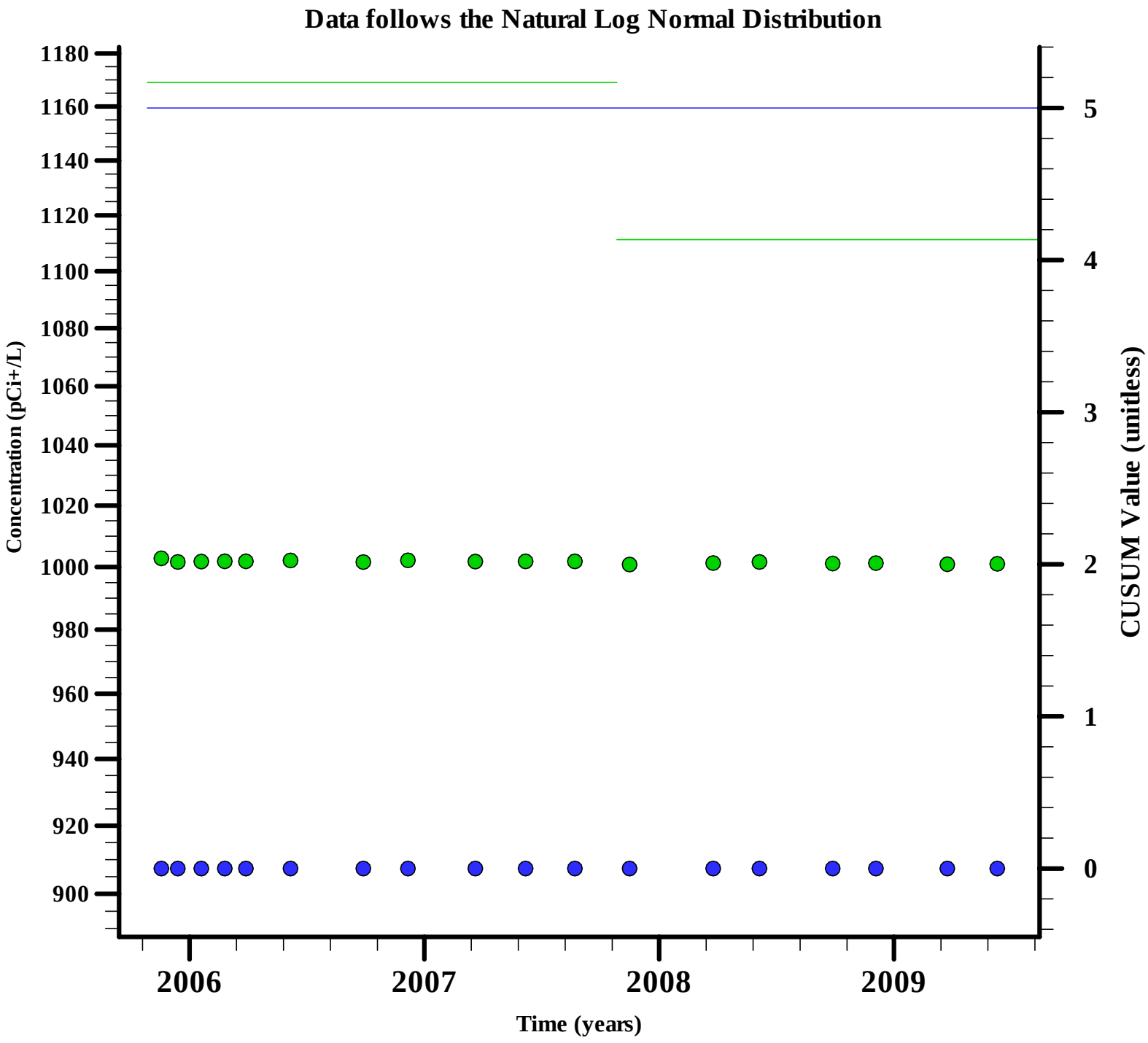
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-33

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

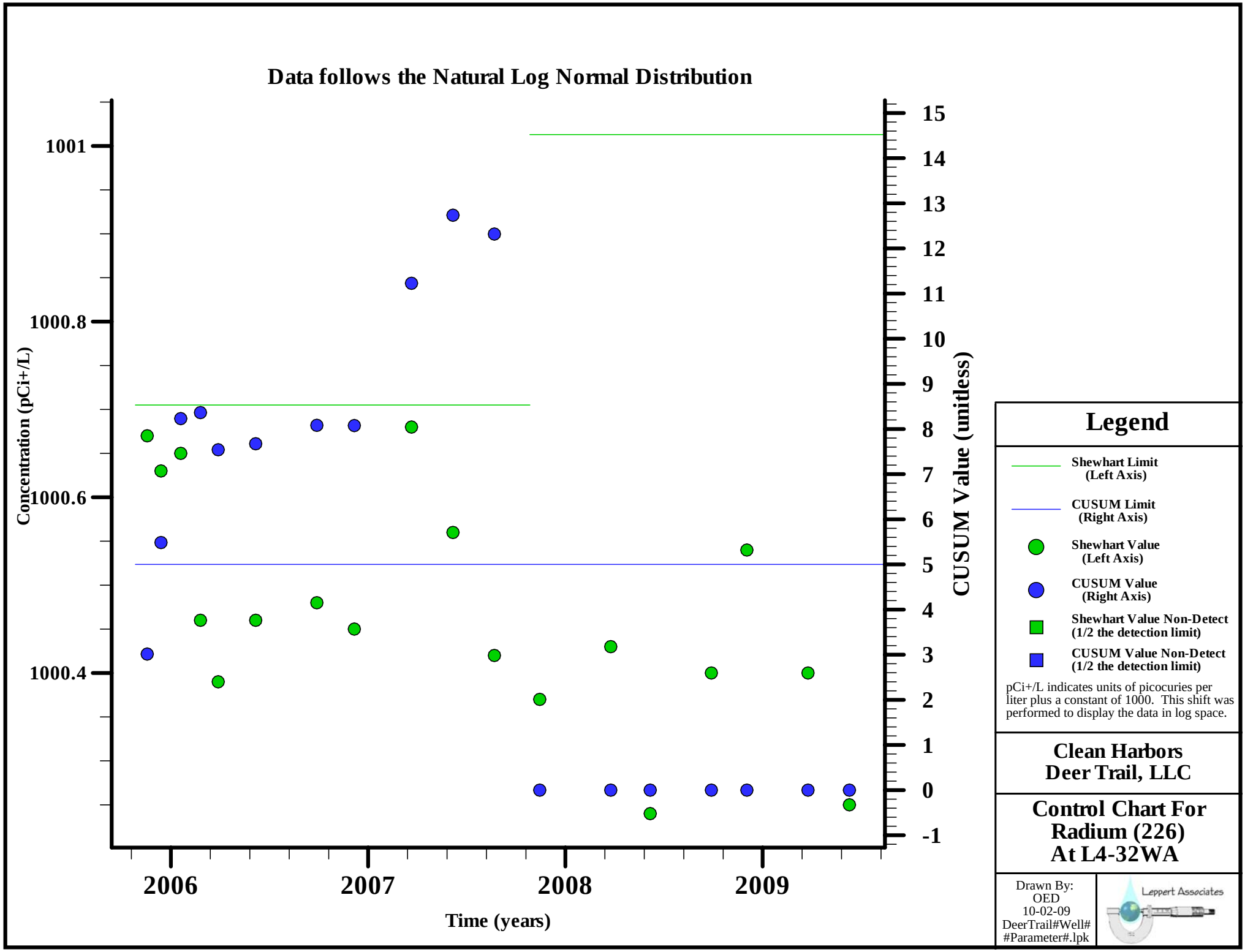
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

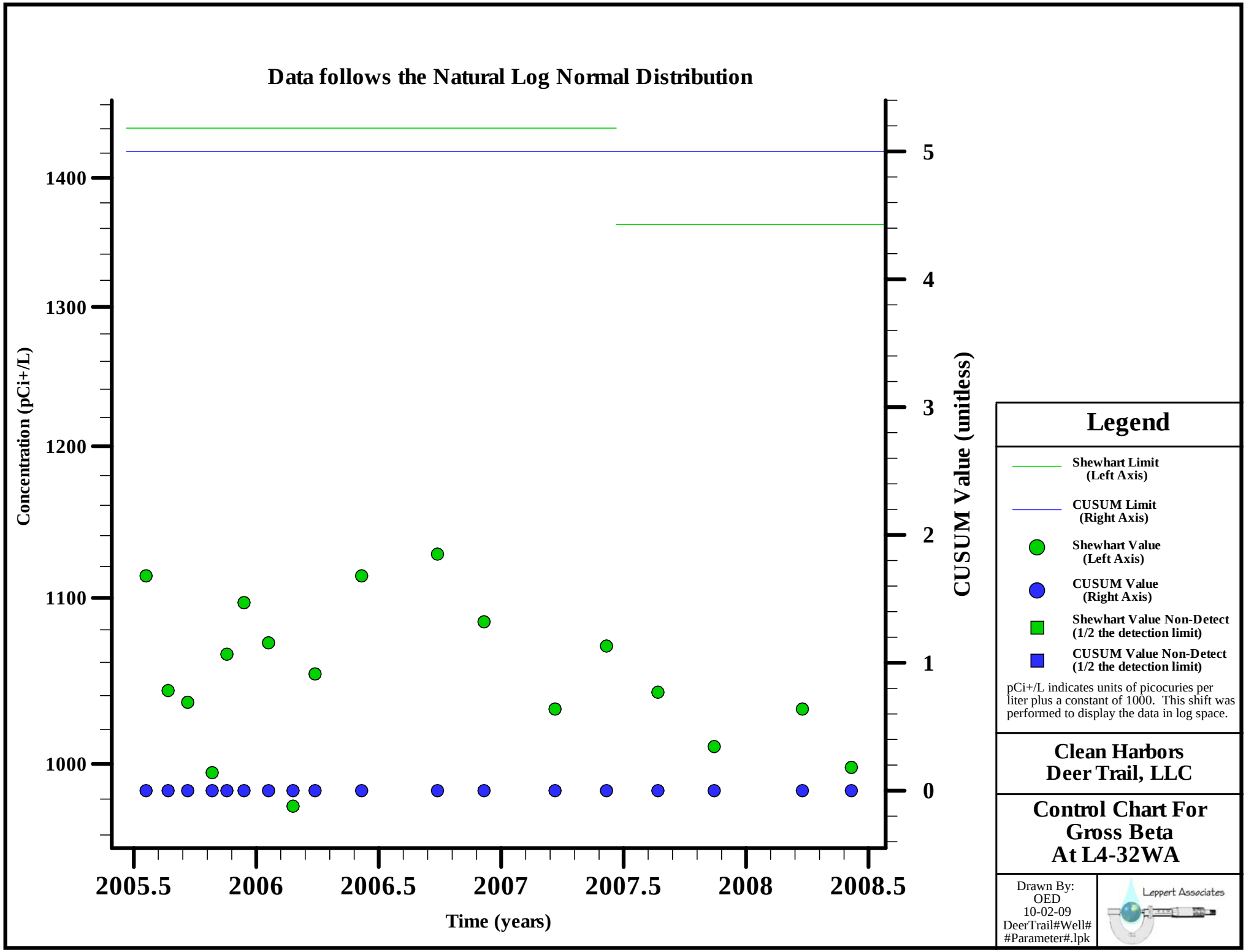
Clean Harbors Deer Trail, LLC

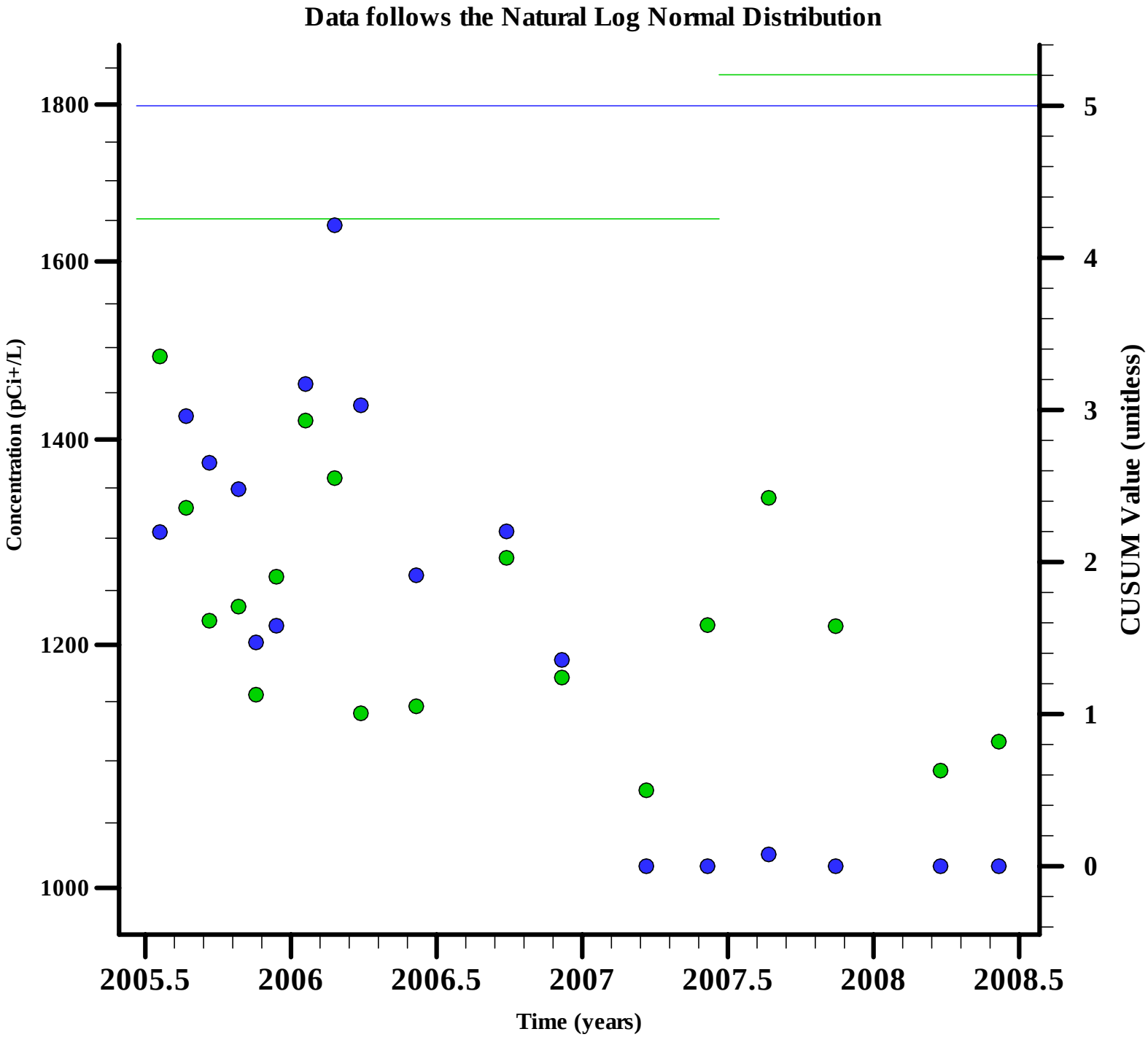
Control Chart For Radium 228 At L4-32WA

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001
1000.8
1000.6
1000.4
CUSUM Value (unitless)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-32WA
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1400
1300
1200
1100
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2005.5
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-32WA
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

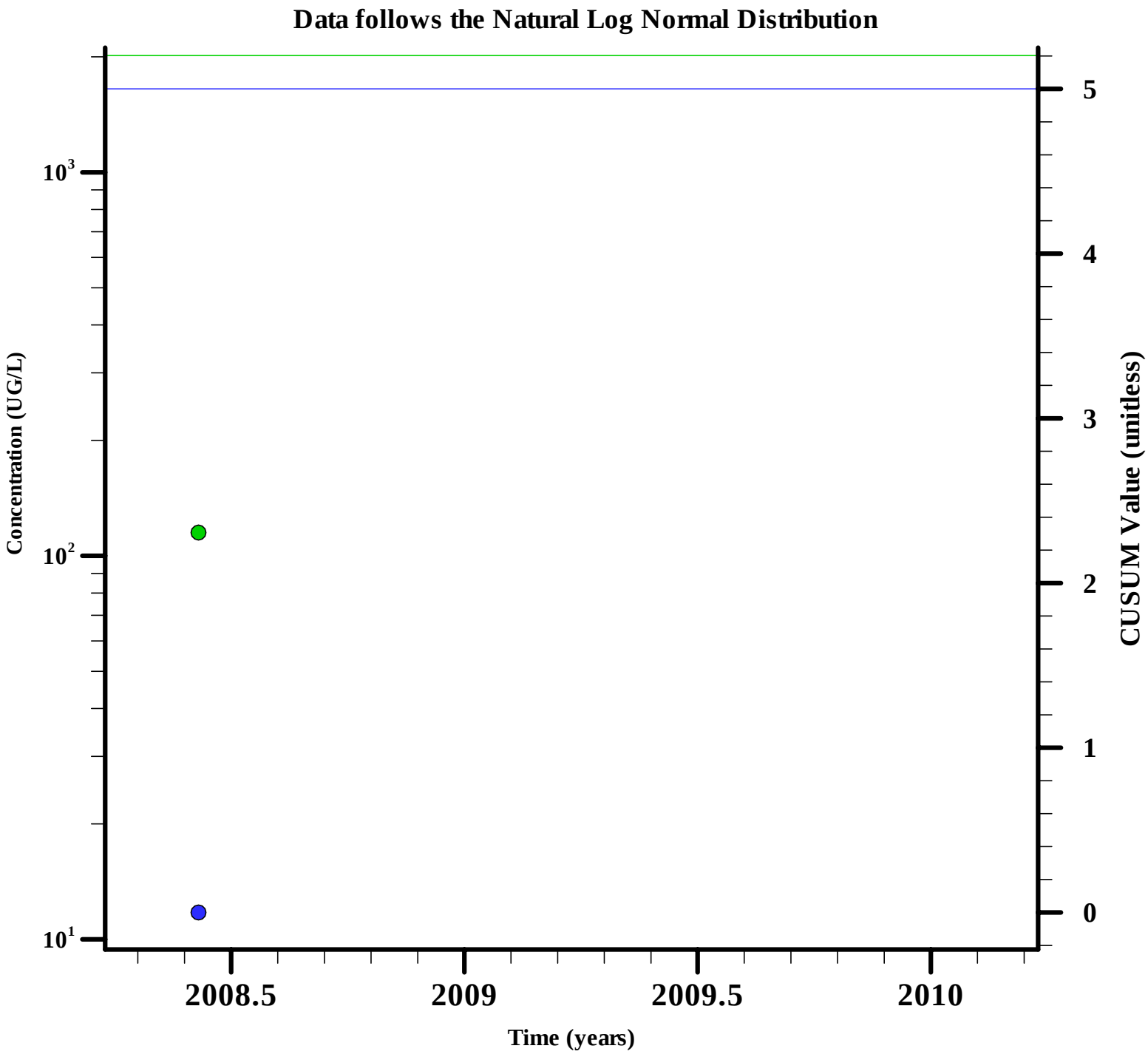
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-32WA

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

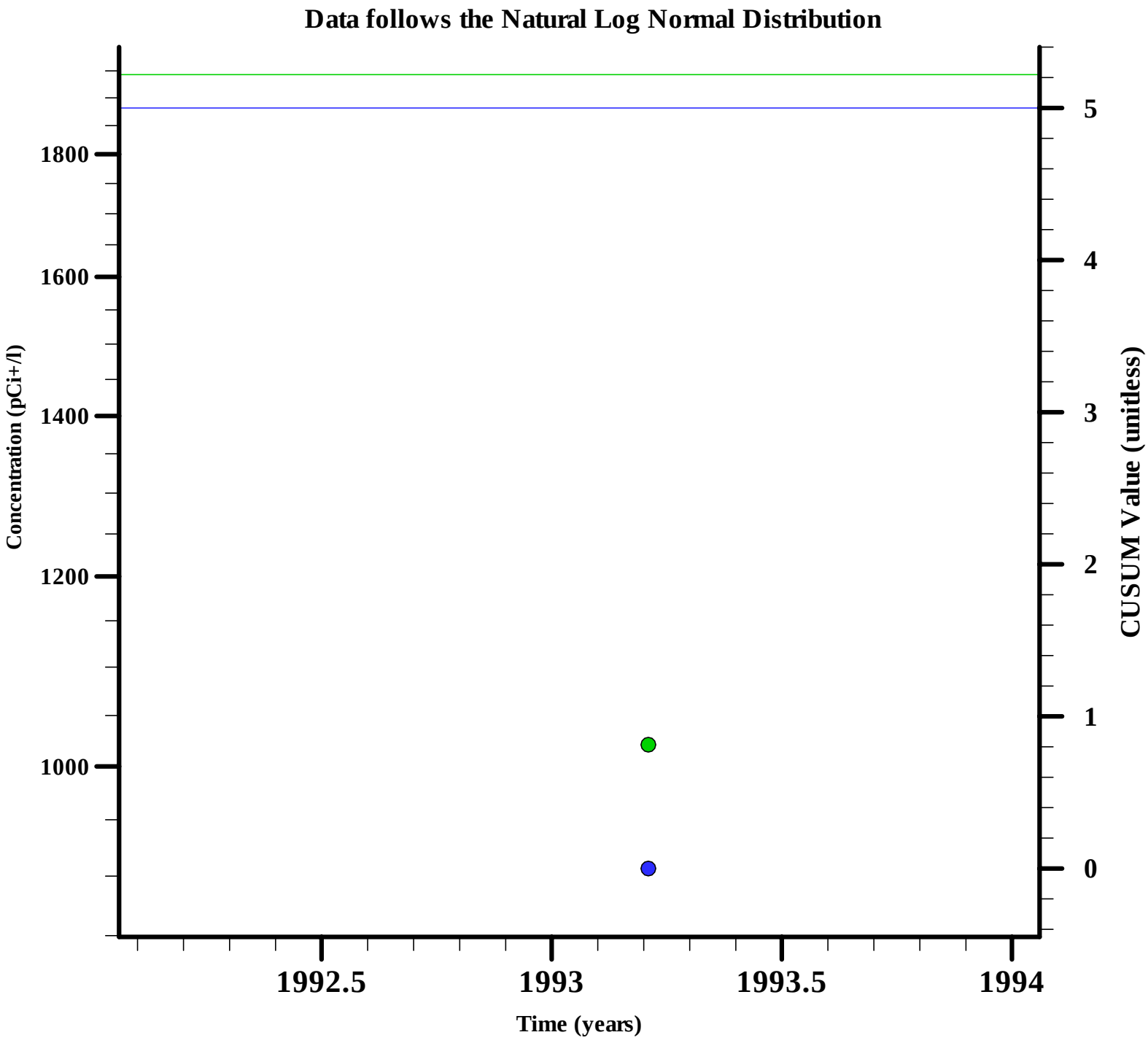
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-32WA

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

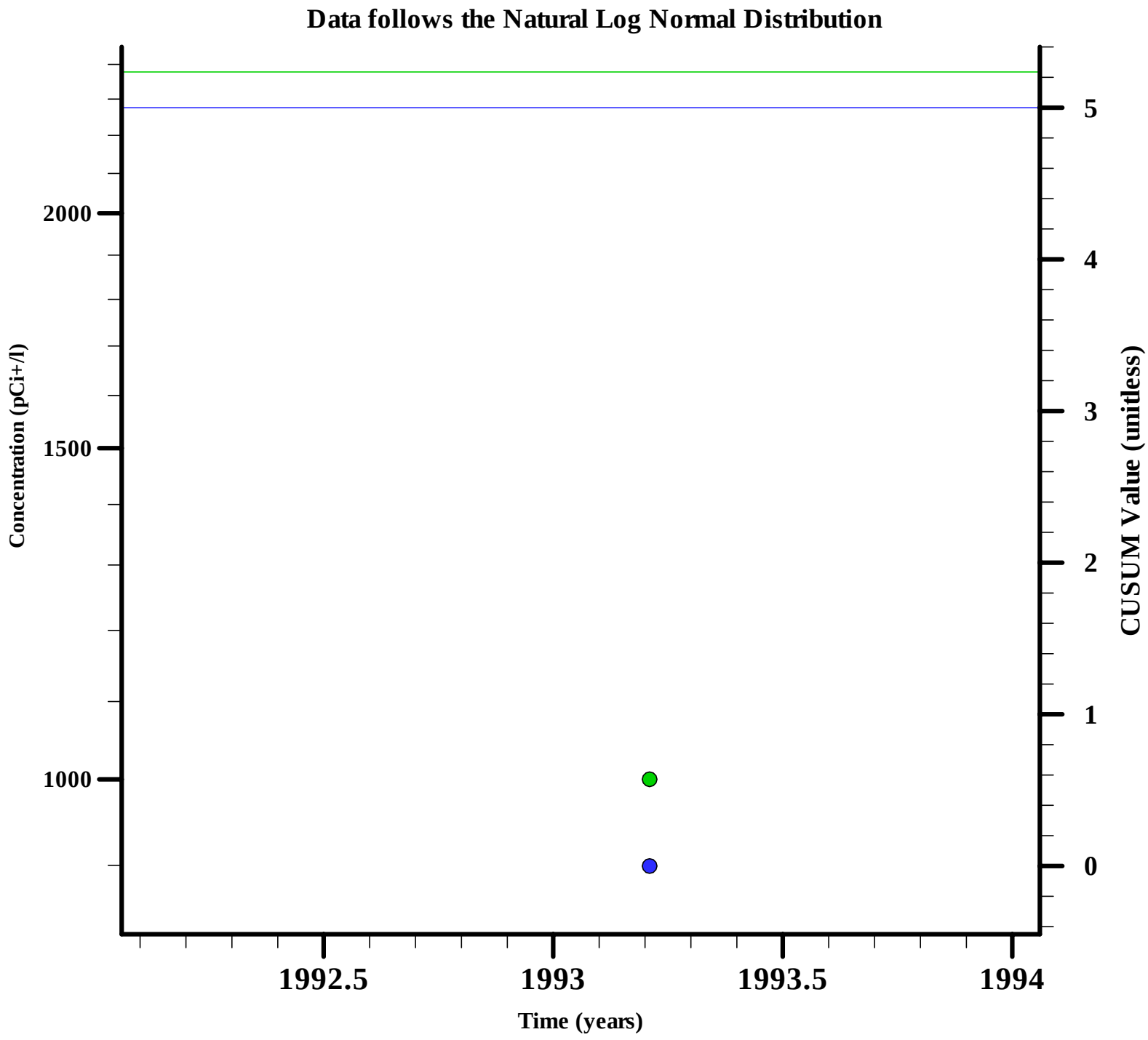
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-32W

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

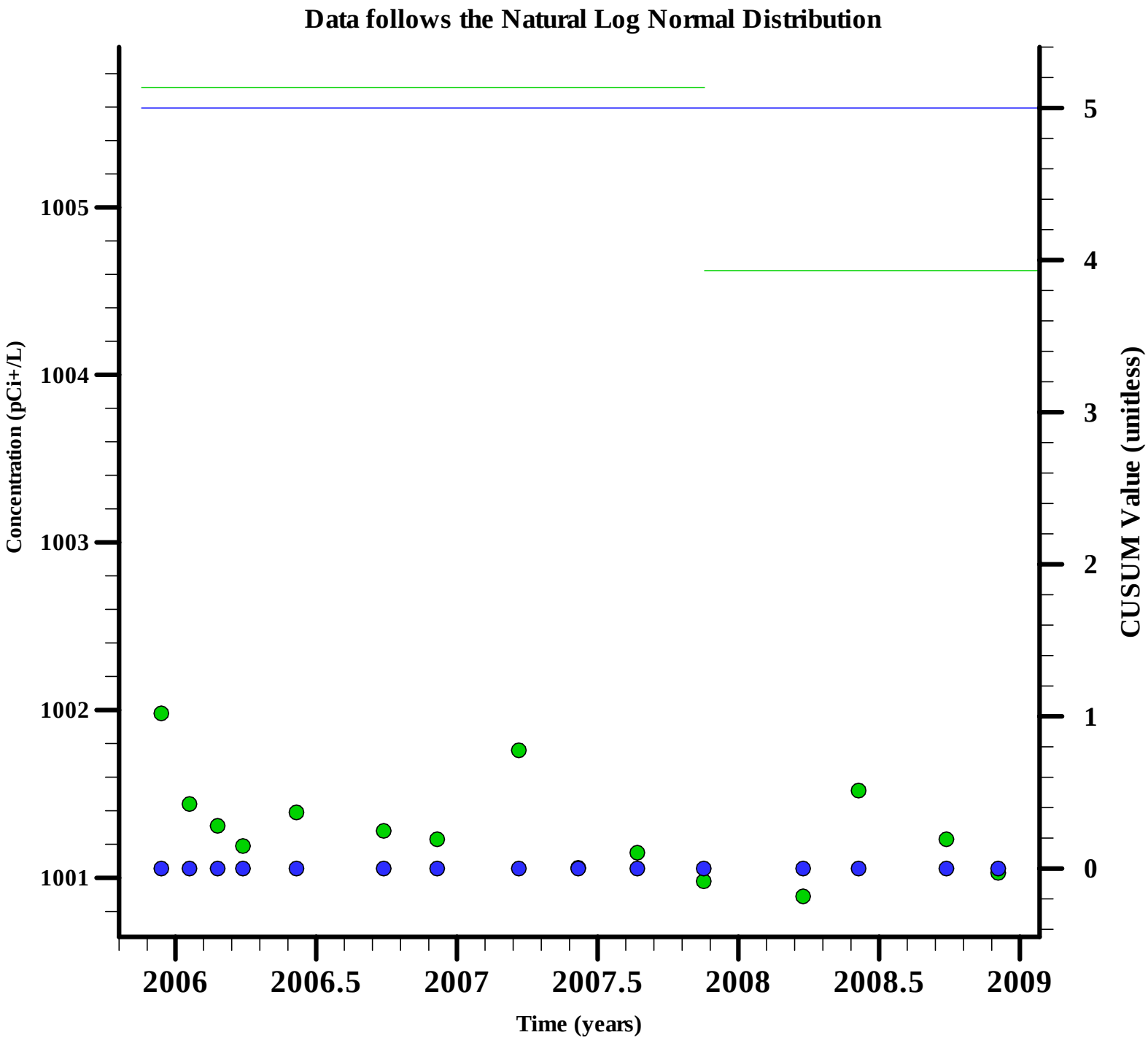
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-32W

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

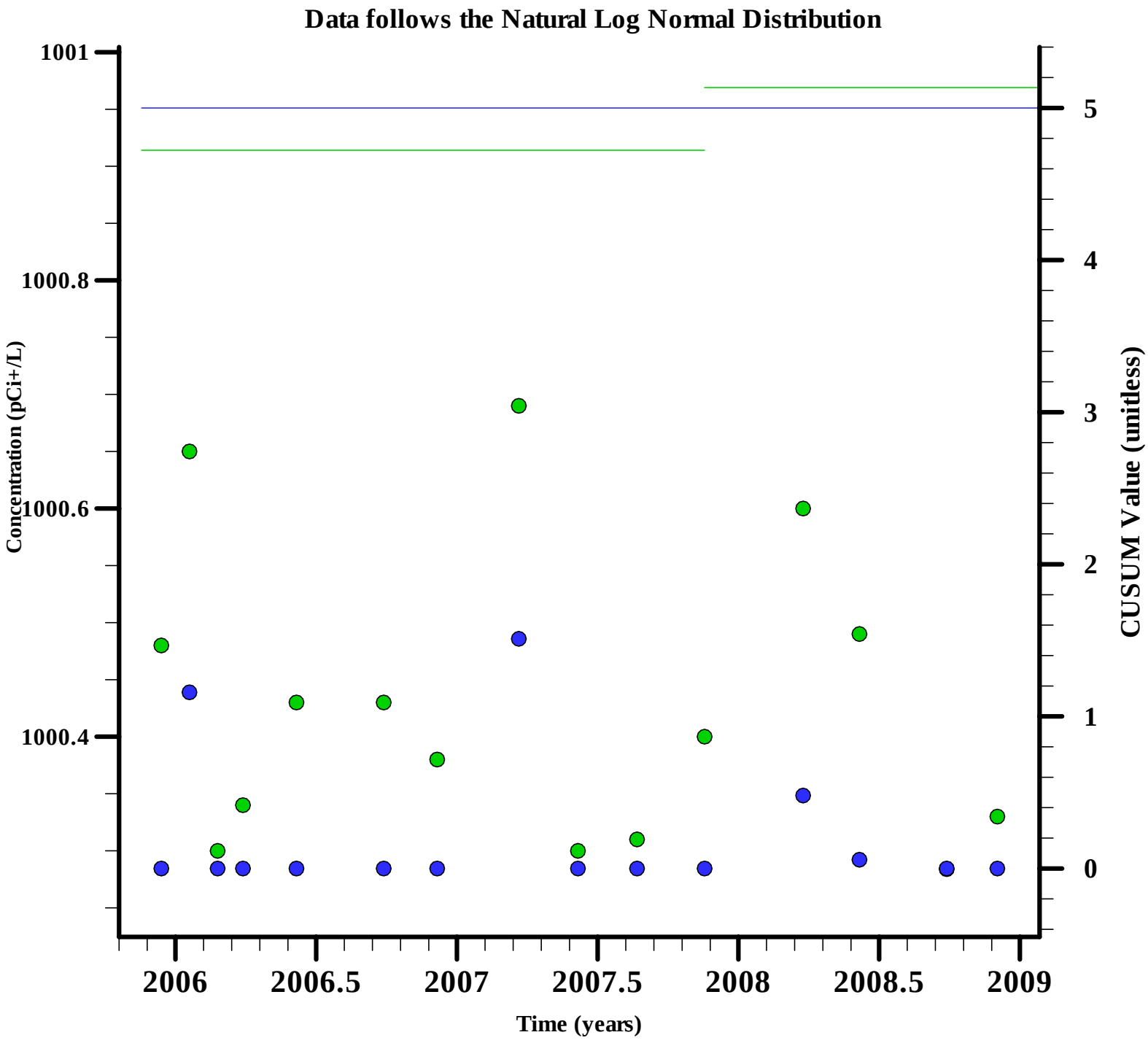
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L4-32EA

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

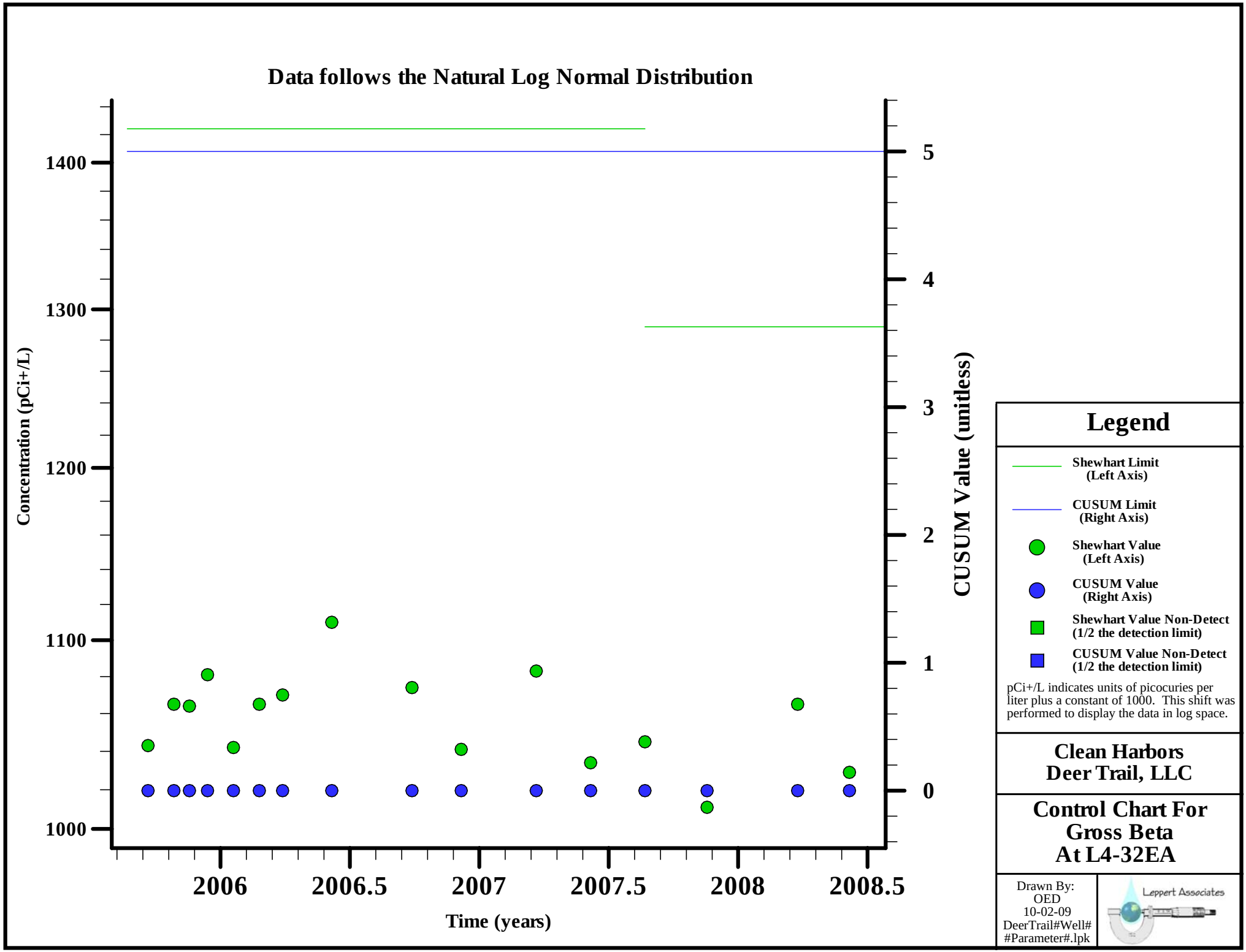
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

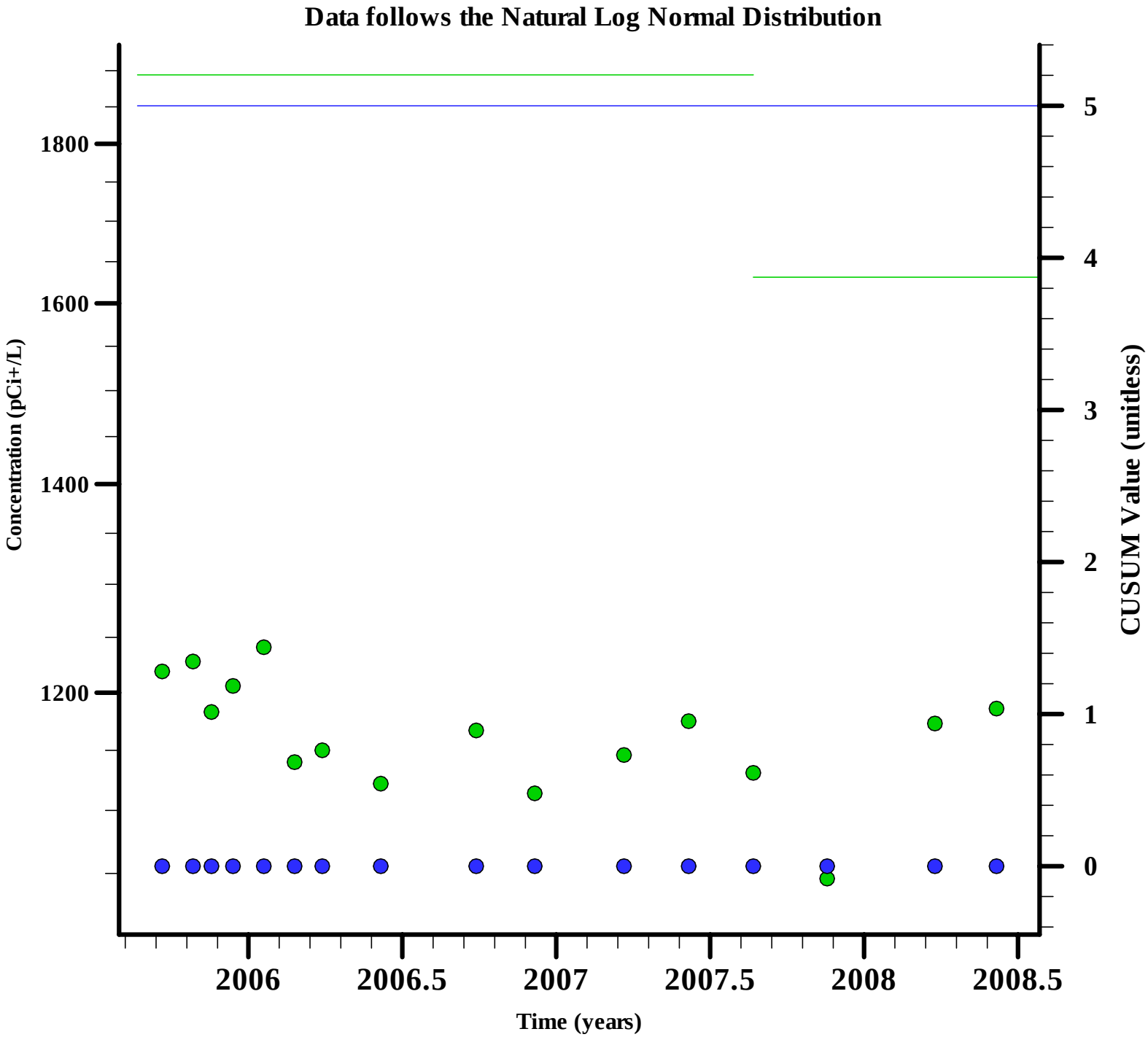
Clean Harbors Deer Trail, LLC

Control Chart For Radium (226) At L4-32EA

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1400
1300
1200
1100
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Gross Beta
At L4-32EA
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

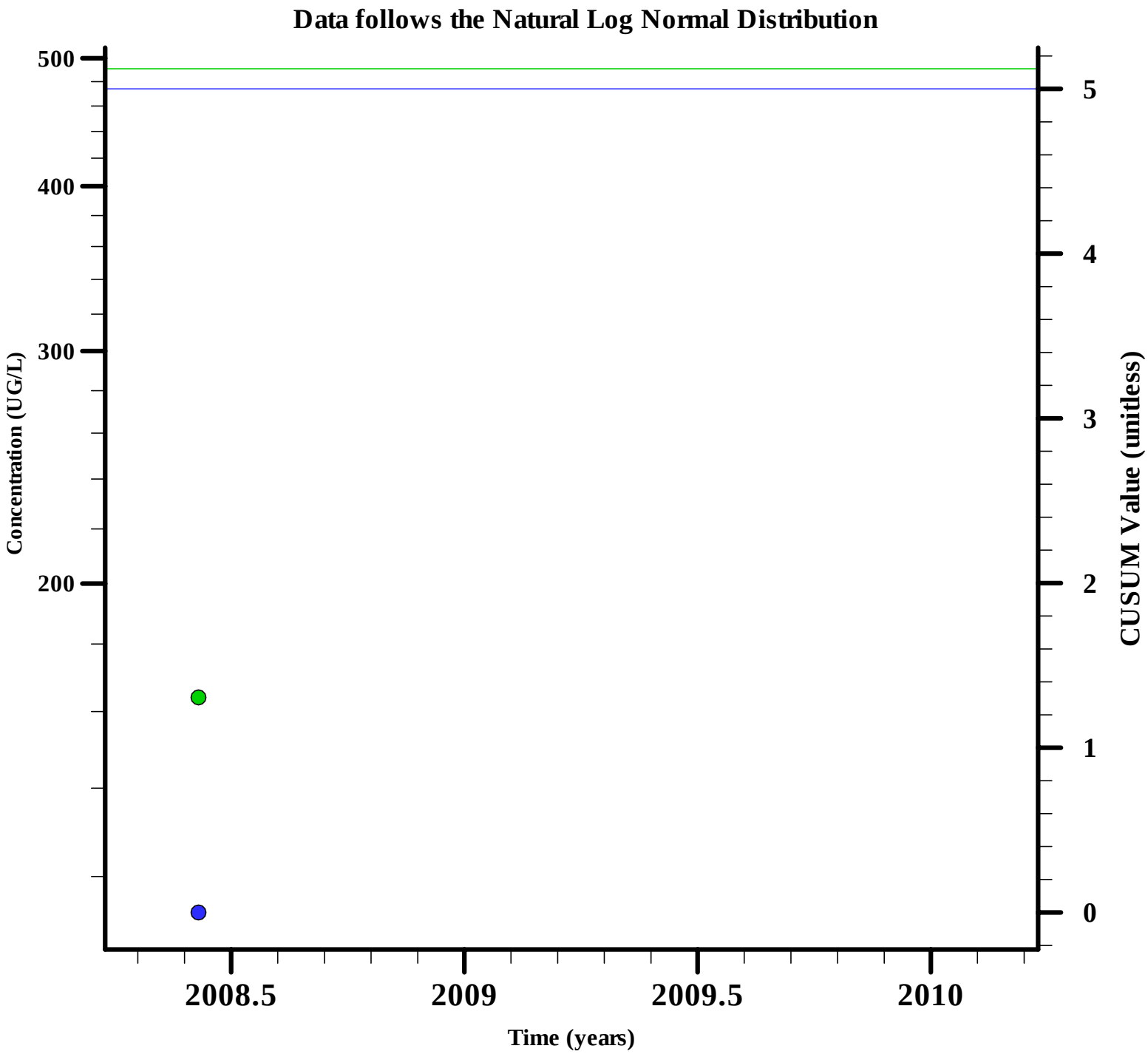
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-32EA

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

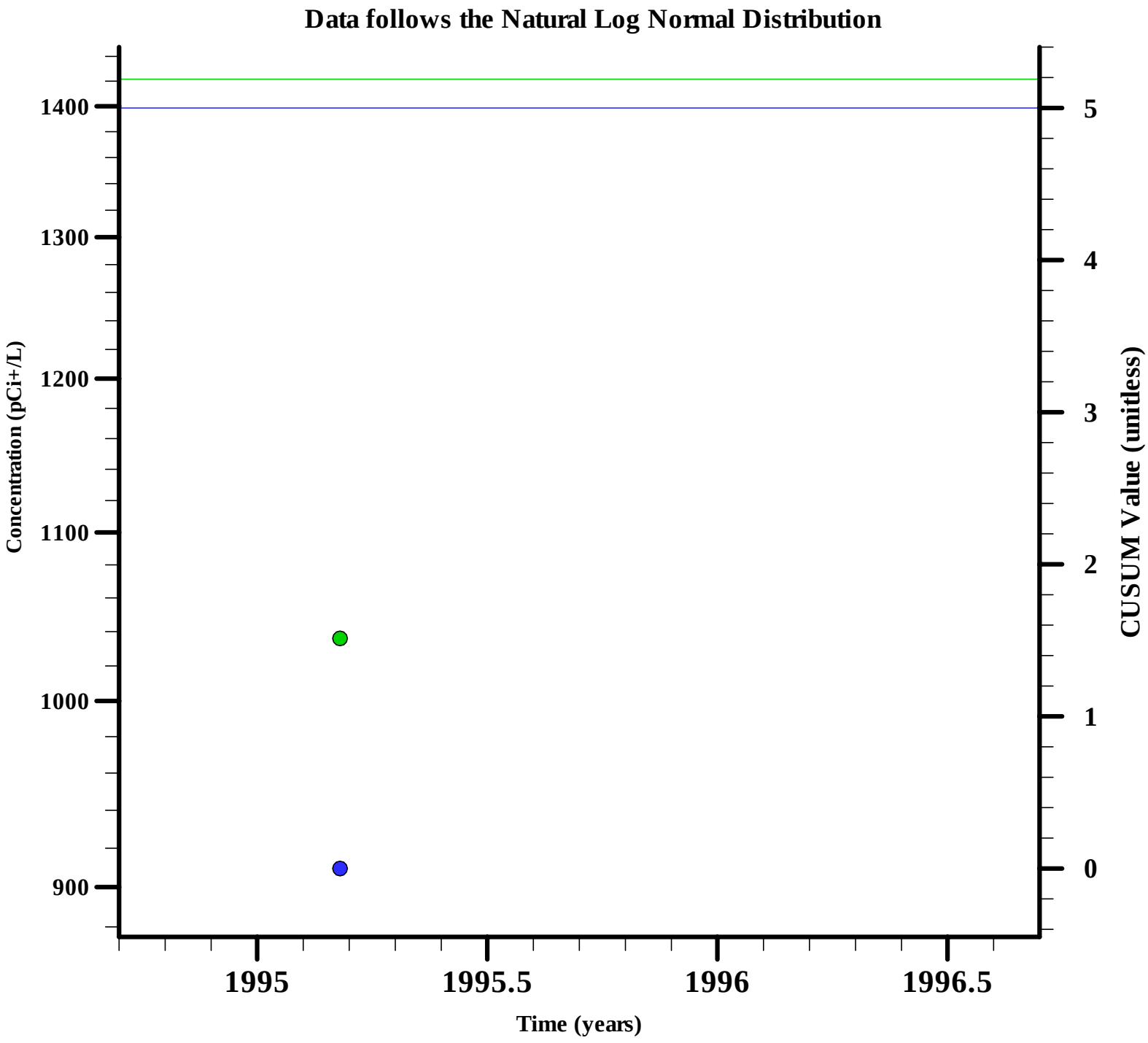
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-32EA

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

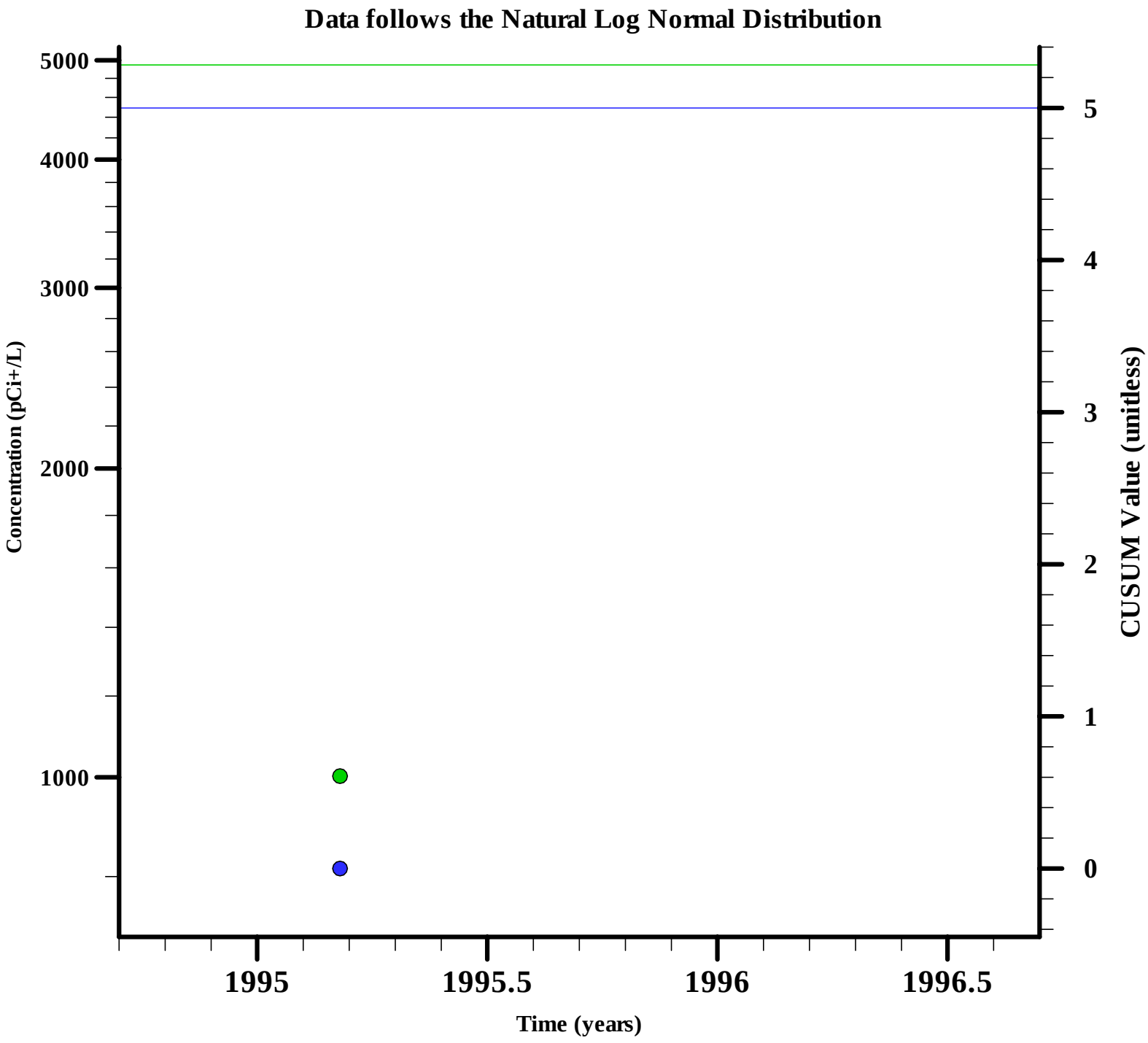
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-32E

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

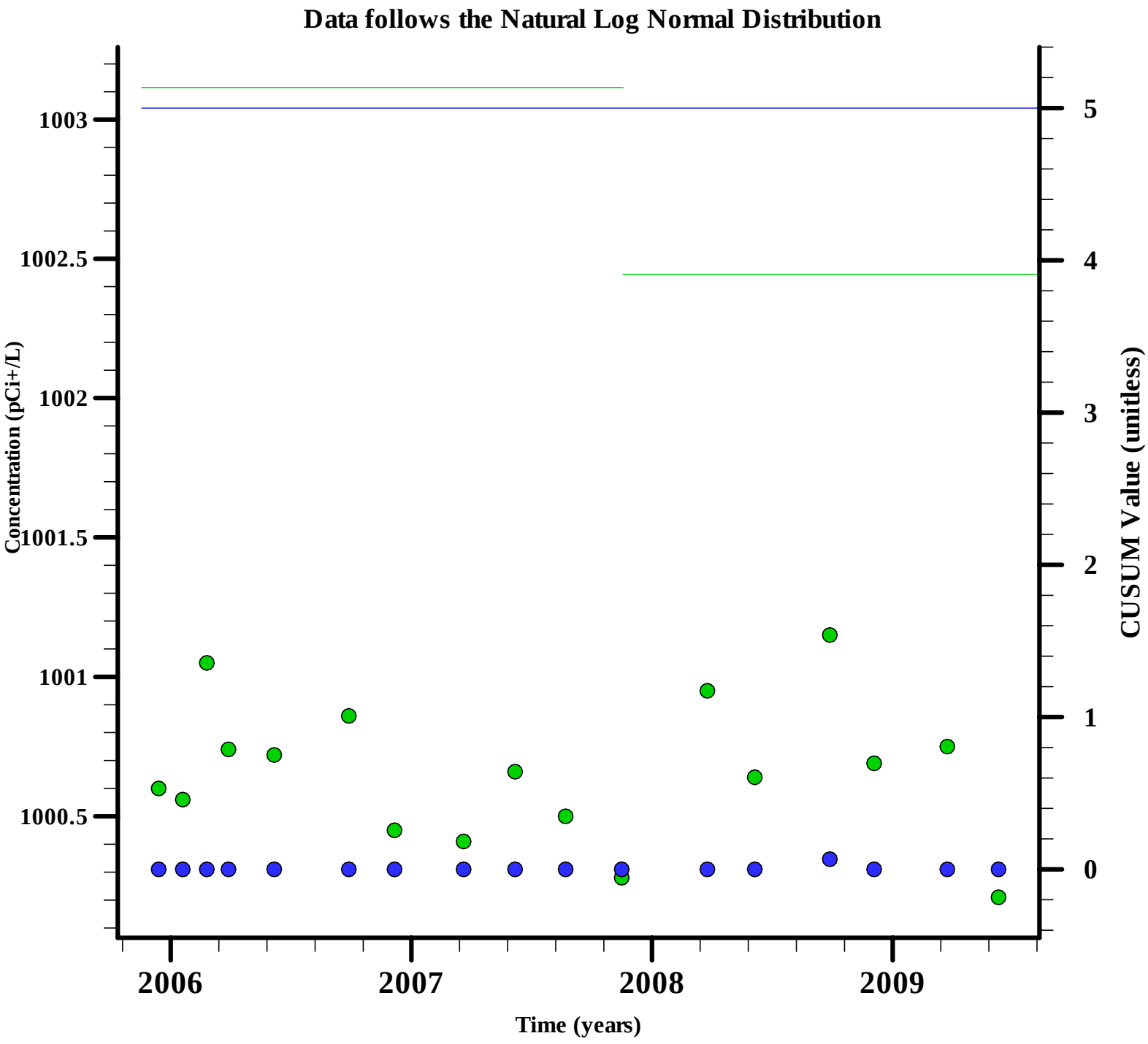
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-32E

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

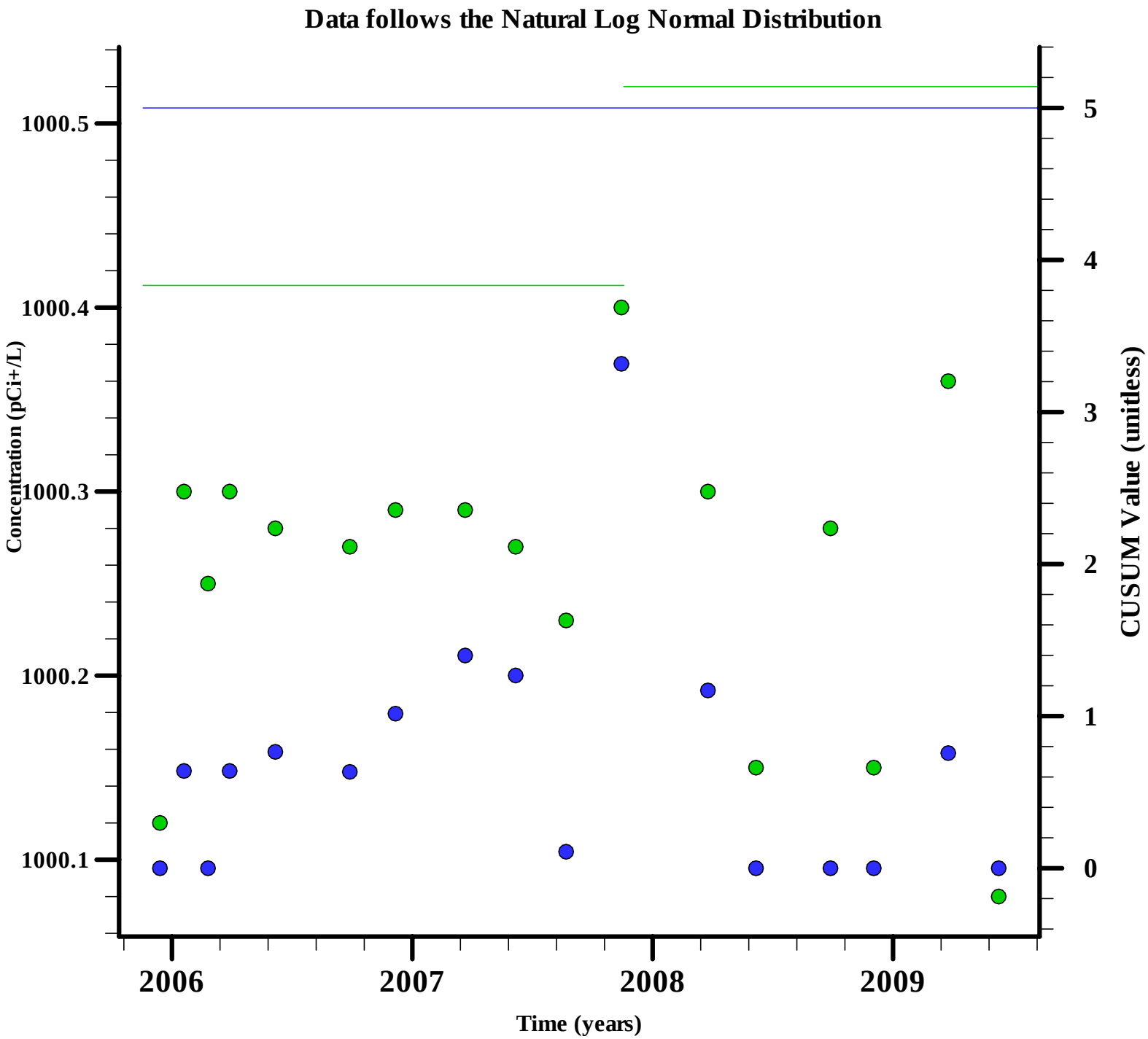
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L4-32A

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

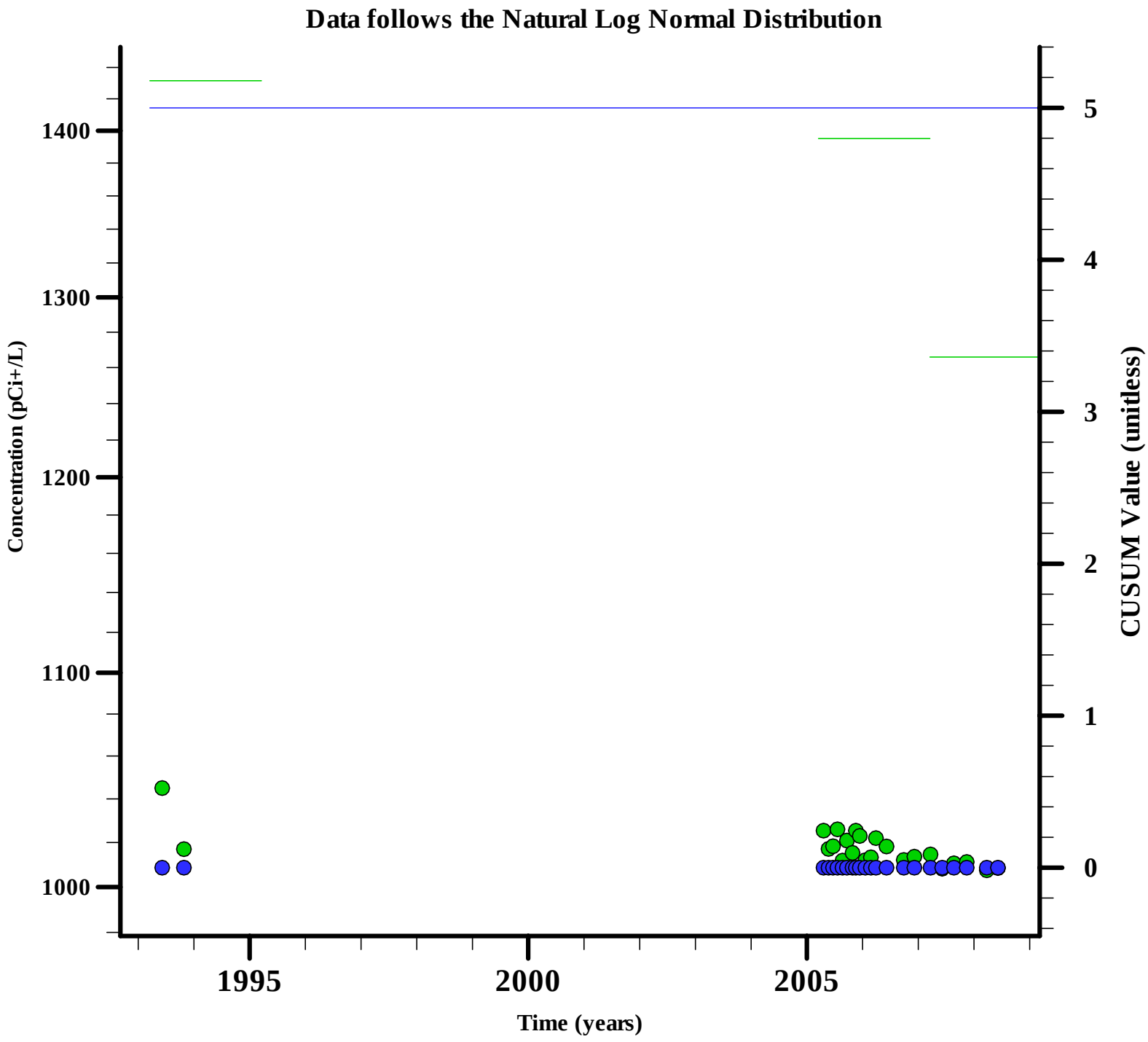
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Radium (226) At L4-32A

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

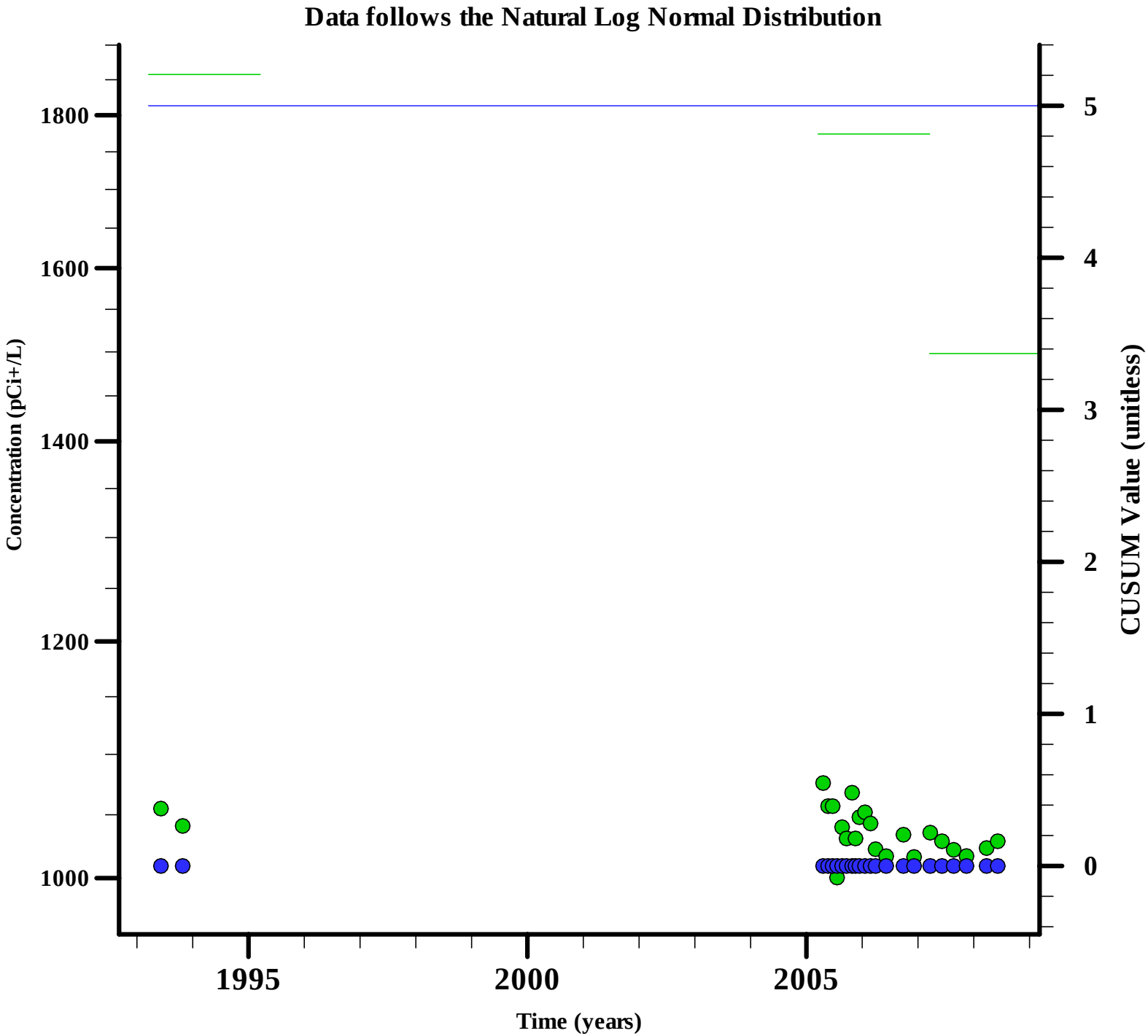
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-32A

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

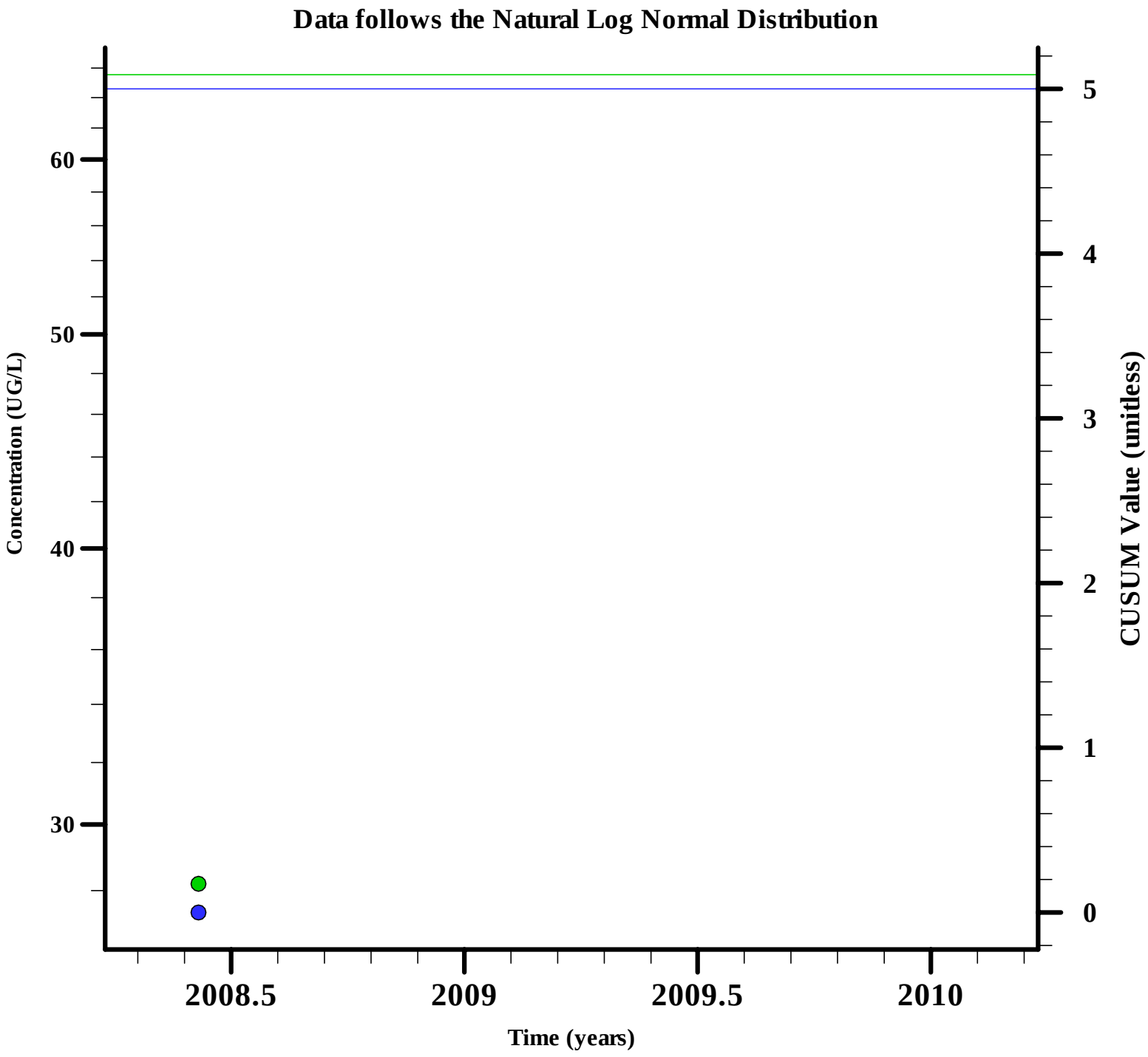
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-32A

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

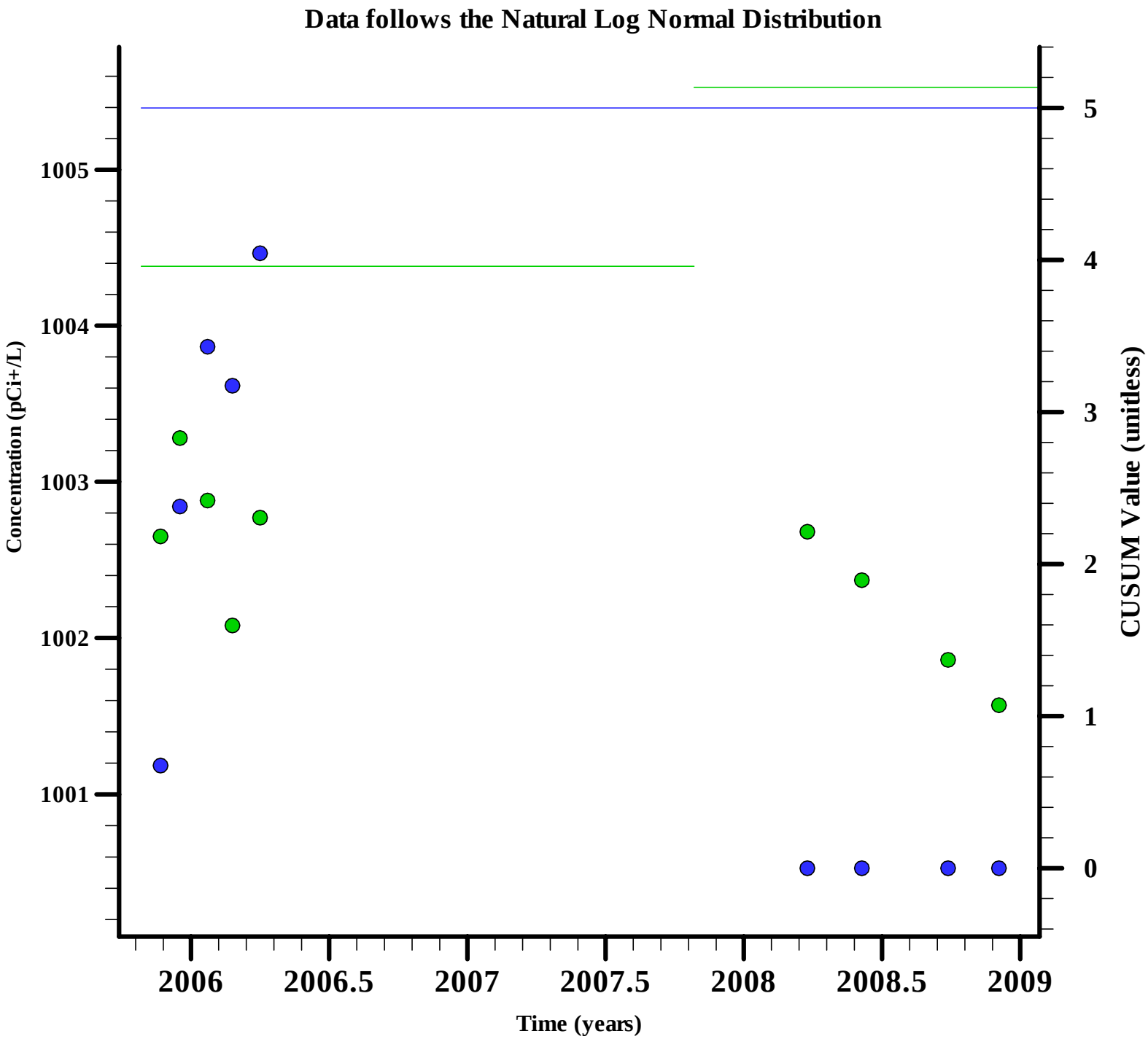
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-32A

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

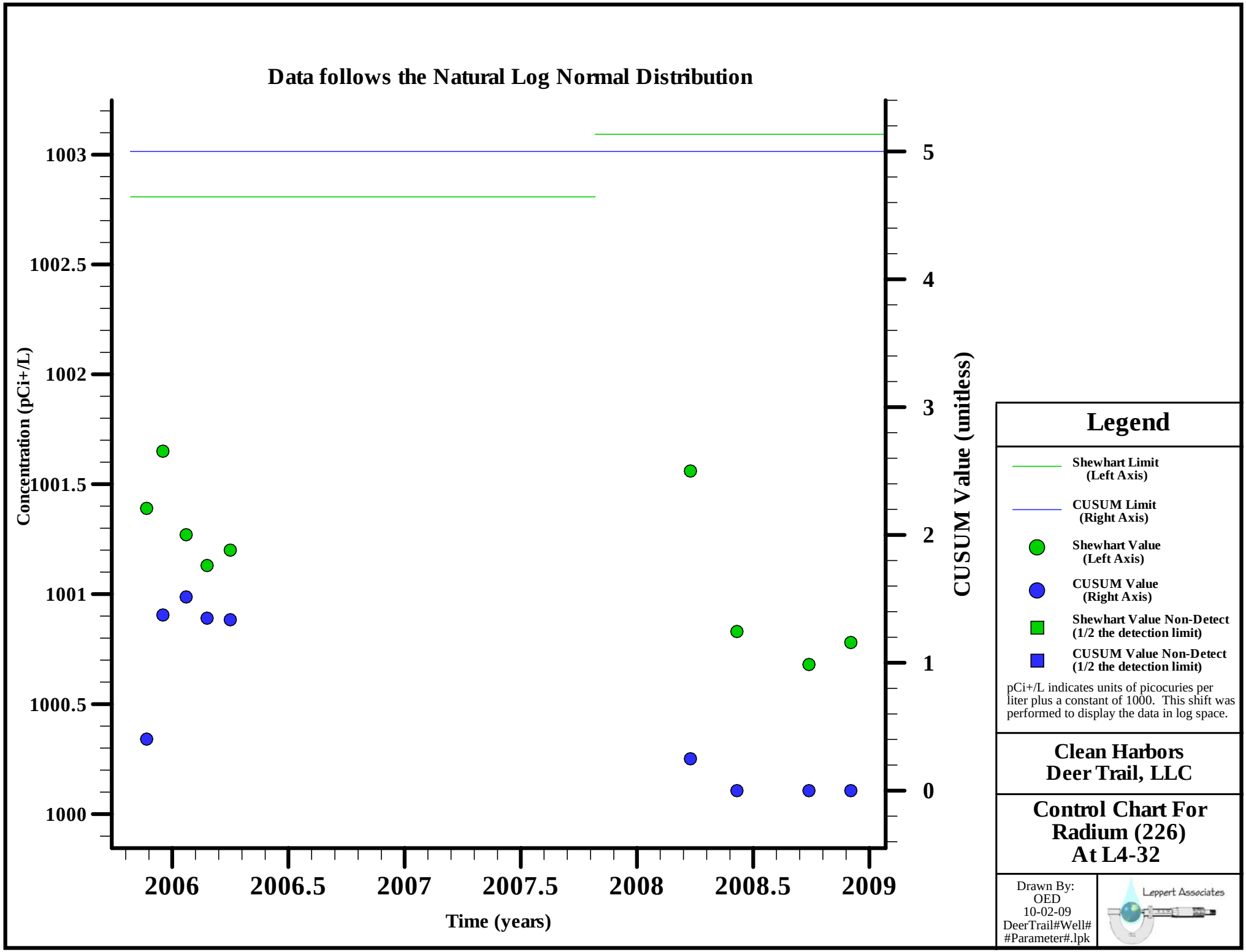
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

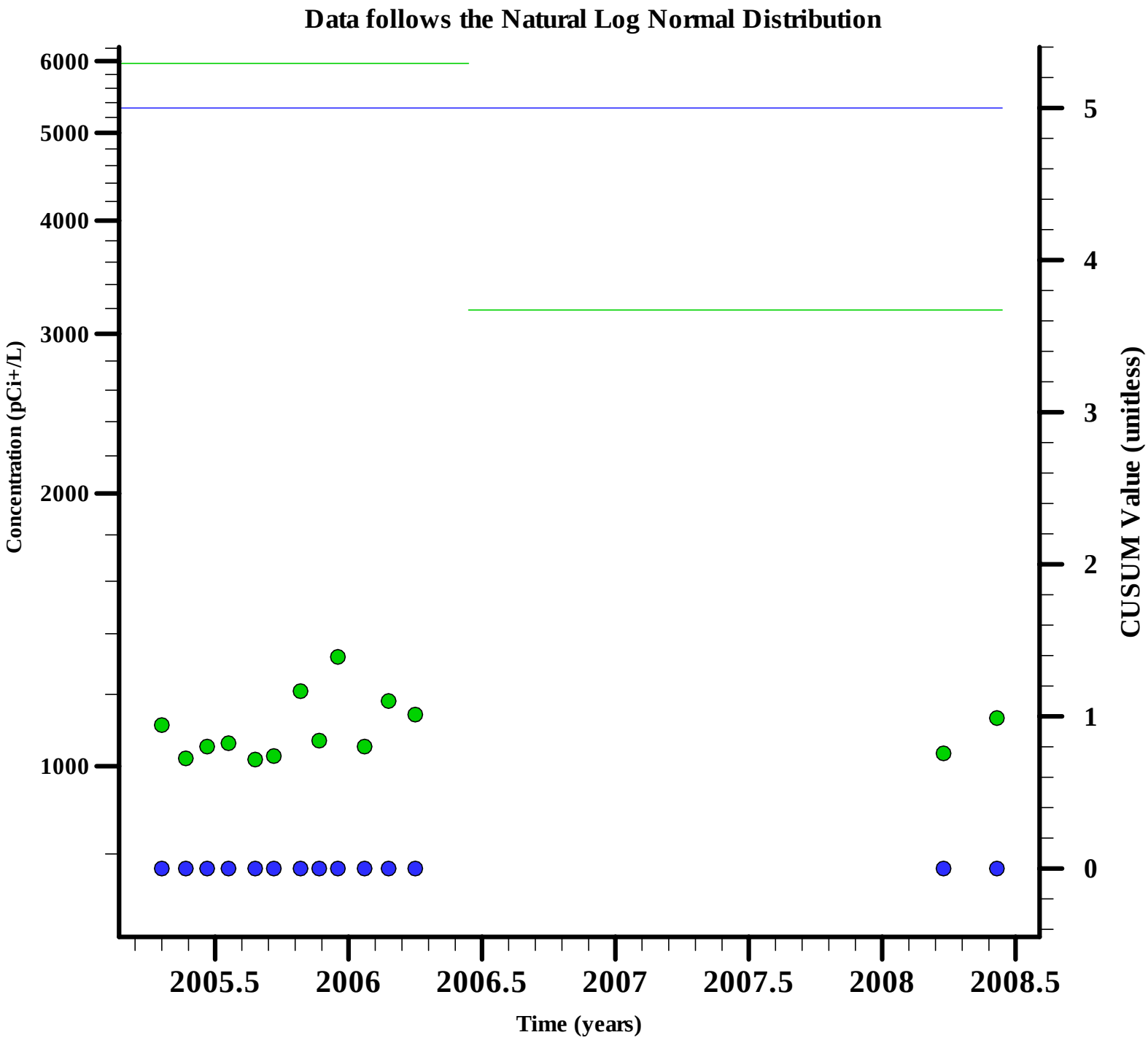
Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L4-32

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1003
1002.5
1002
1001.5
1001
1000.5
1000
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2006.5
2007
2007.5
2008
2008.5
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-32
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

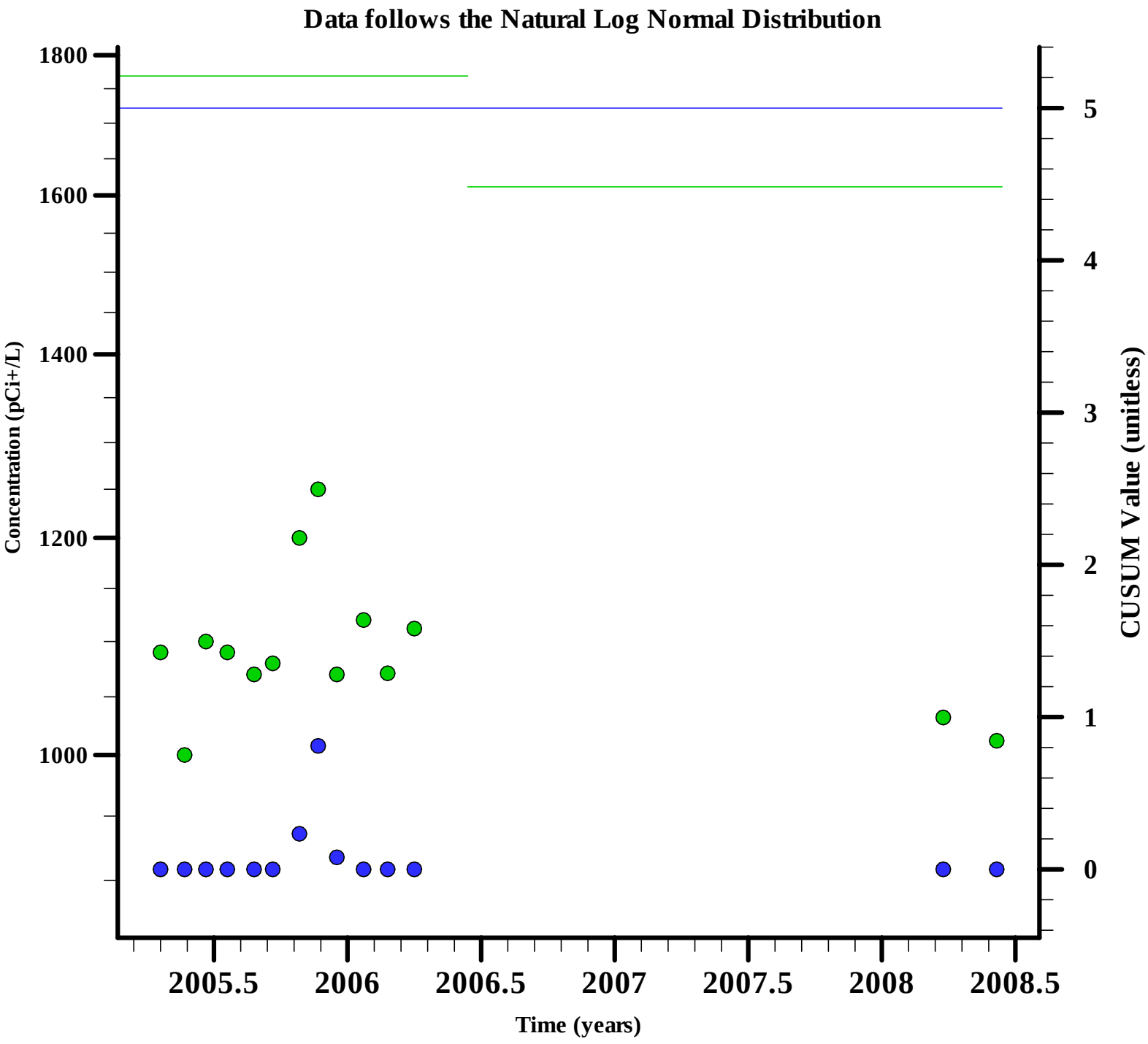
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-32

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

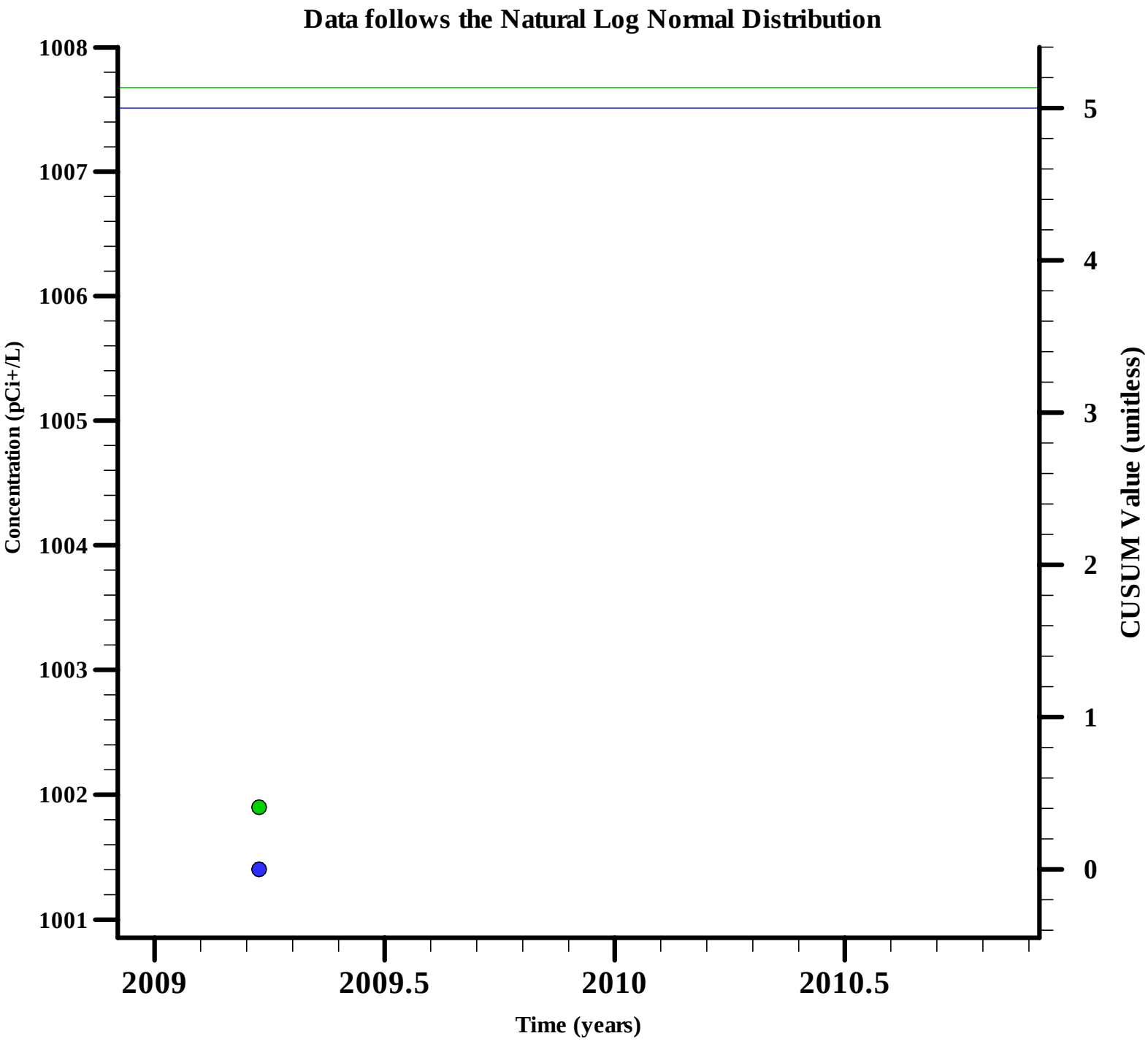
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-32

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

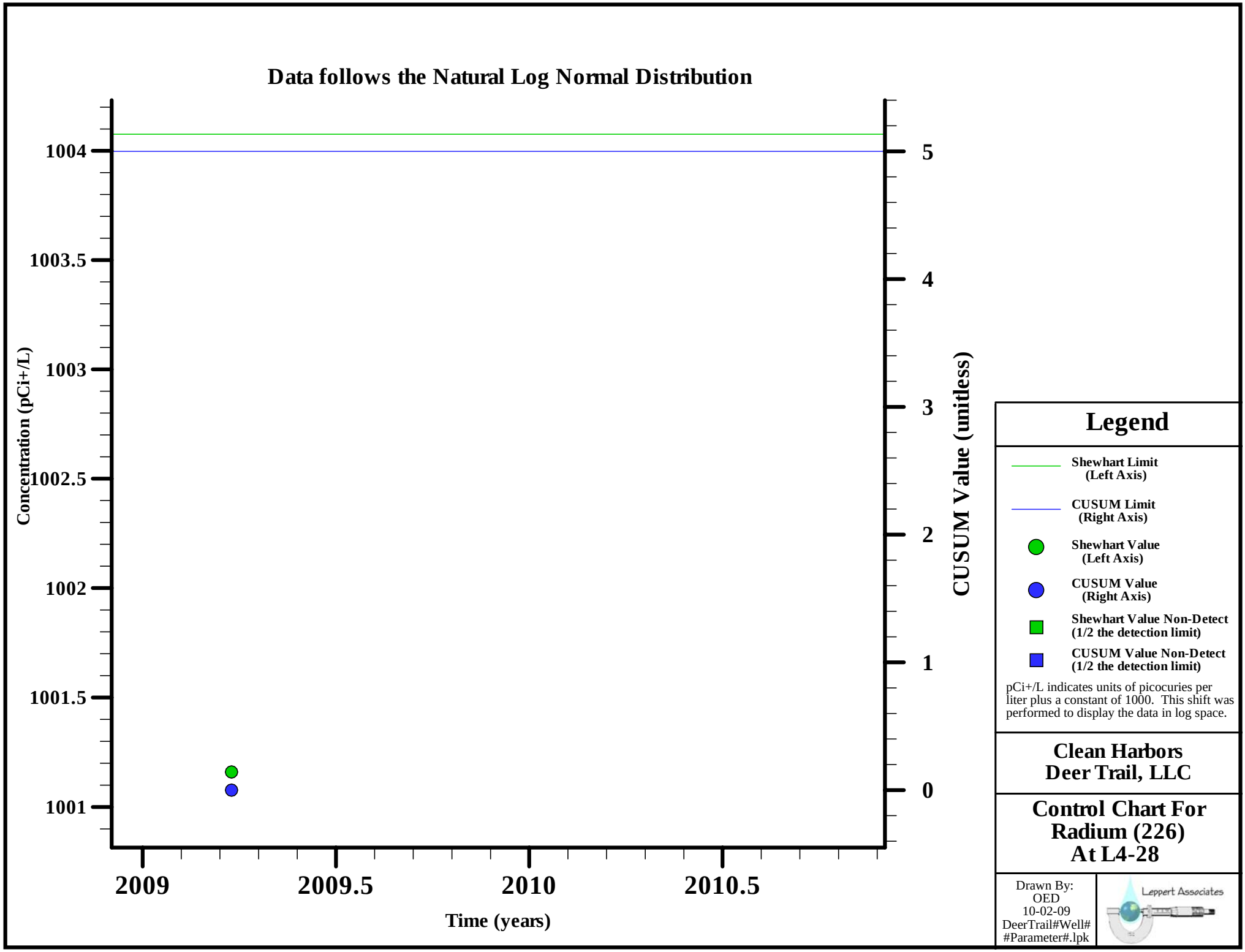
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

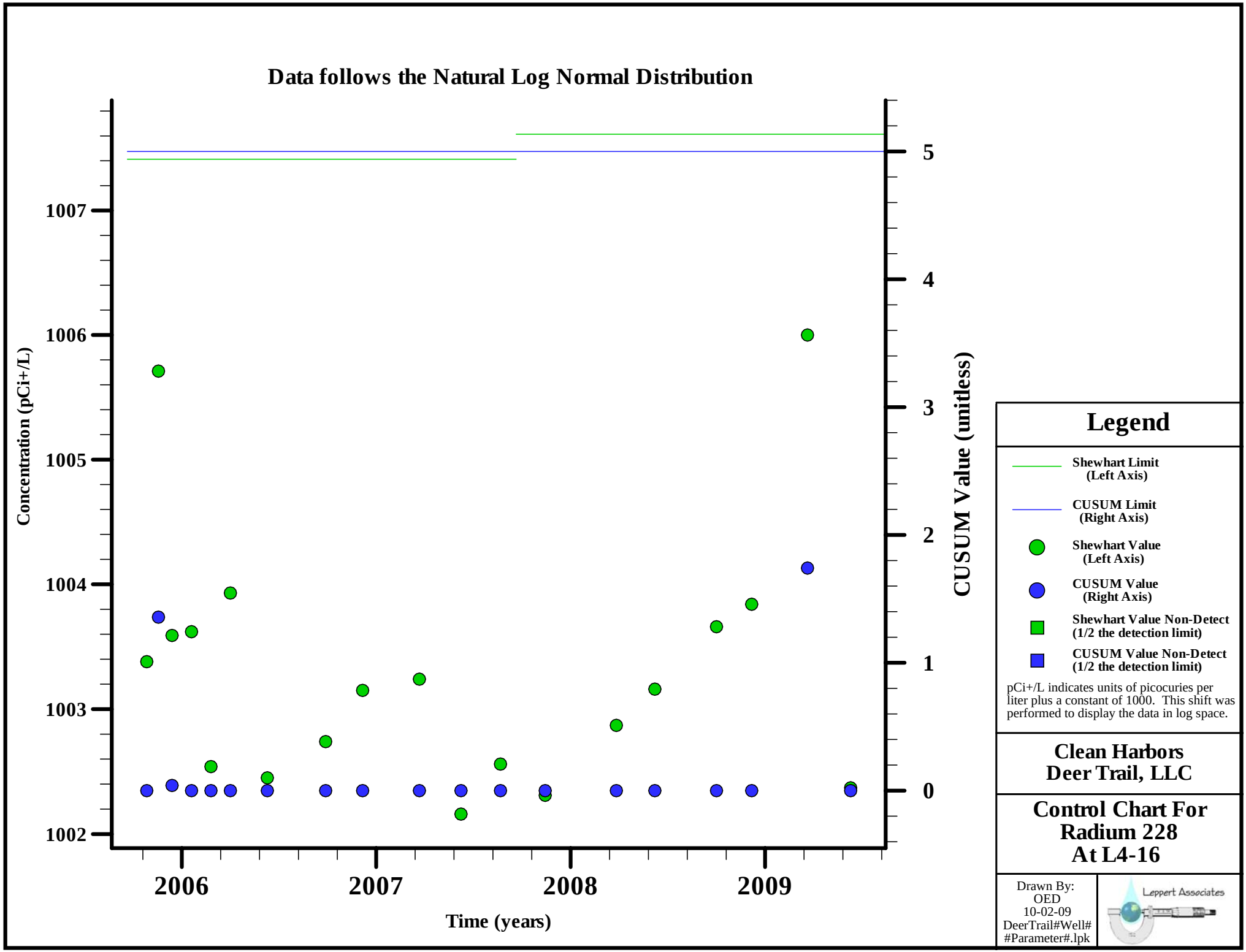
Clean Harbors Deer Trail, LLC

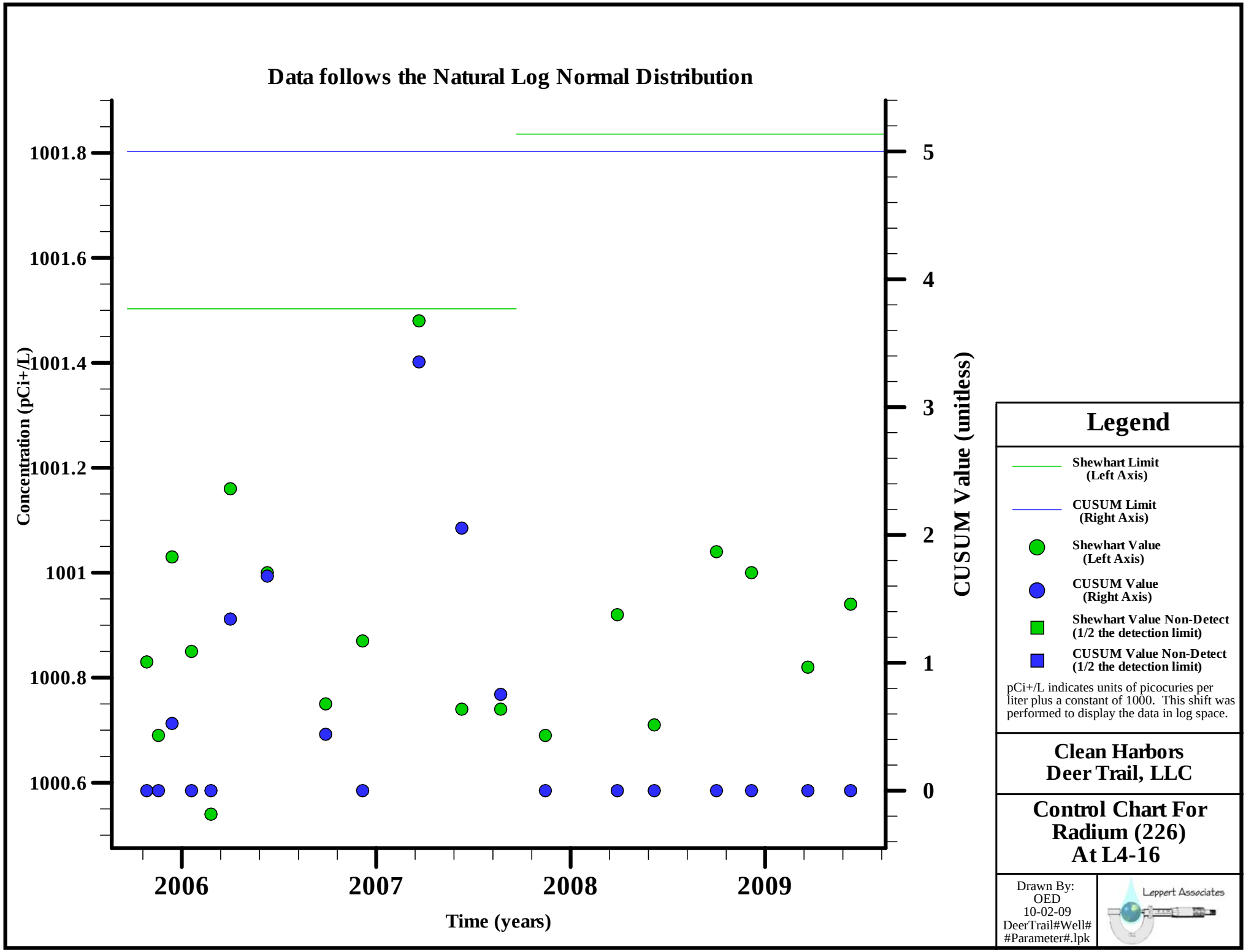
Control Chart For Radium 228 At L4-28

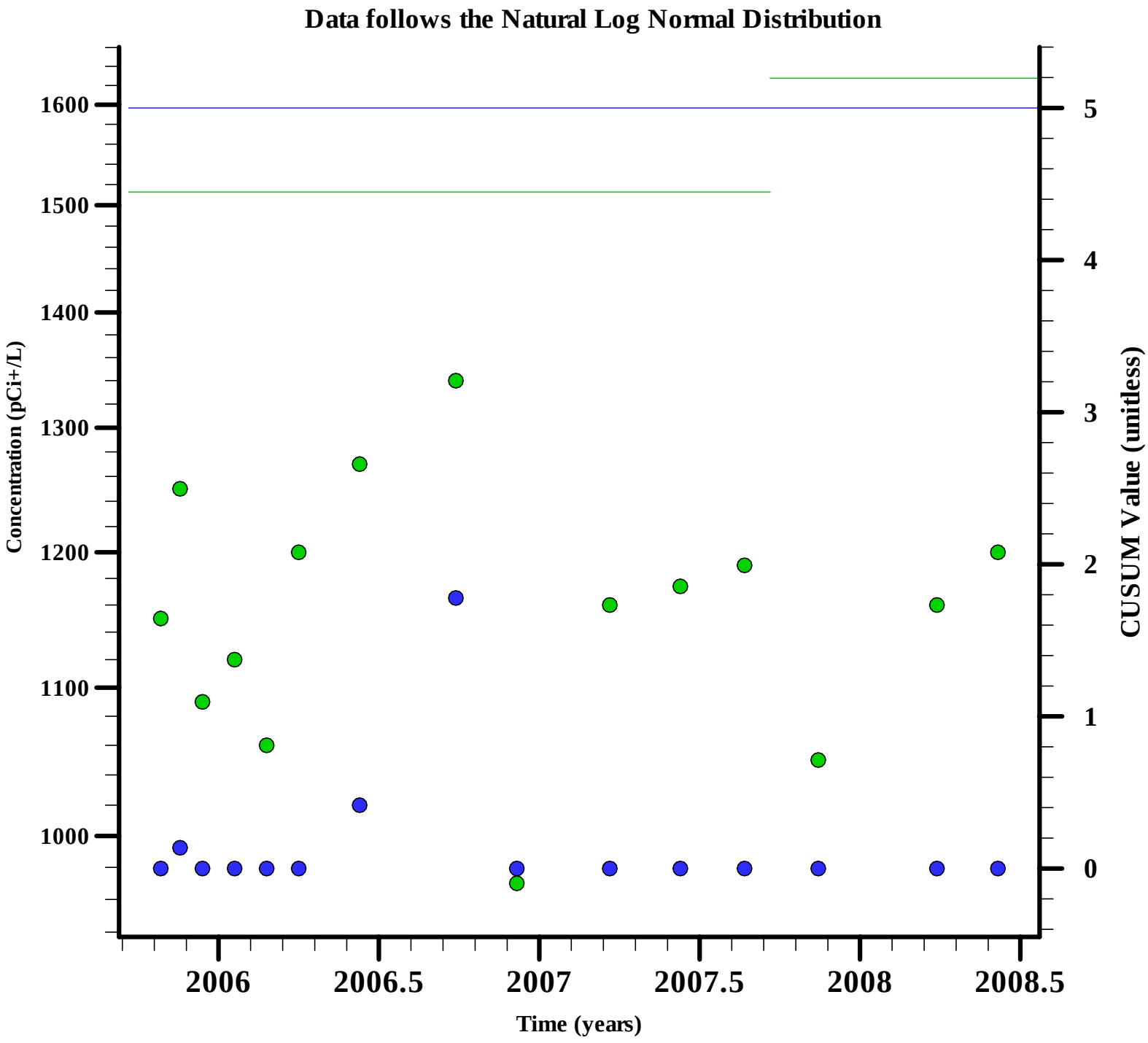
Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1004
1003.5
1003
1002.5
1002
1001.5
1001
CUSUM Value (unitless)
5
4
3
2
1
0
2009
2009.5
2010
2010.5
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-28
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1002
1003
1004
1005
1006
1007
CUSUM Value (unitless)
0
1
2
3
4
5
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium 228
At L4-16
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates


Data follows the Natural Log Normal Distribution
Concentration (pCi+/L)
1001.8
1001.6
1001.4
1001.2
1001
1000.8
1000.6
CUSUM Value (unitless)
5
4
3
2
1
0
2006
2007
2008
2009
Time (years)
Legend
Shewhart Limit (Left Axis)
CUSUM Limit (Right Axis)
Shewhart Value (Left Axis)
CUSUM Value (Right Axis)
Shewhart Value Non-Detect (1/2 the detection limit)
CUSUM Value Non-Detect (1/2 the detection limit)
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.
Clean Harbors
Deer Trail, LLC
Control Chart For
Radium (226)
At L4-16
Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk
Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

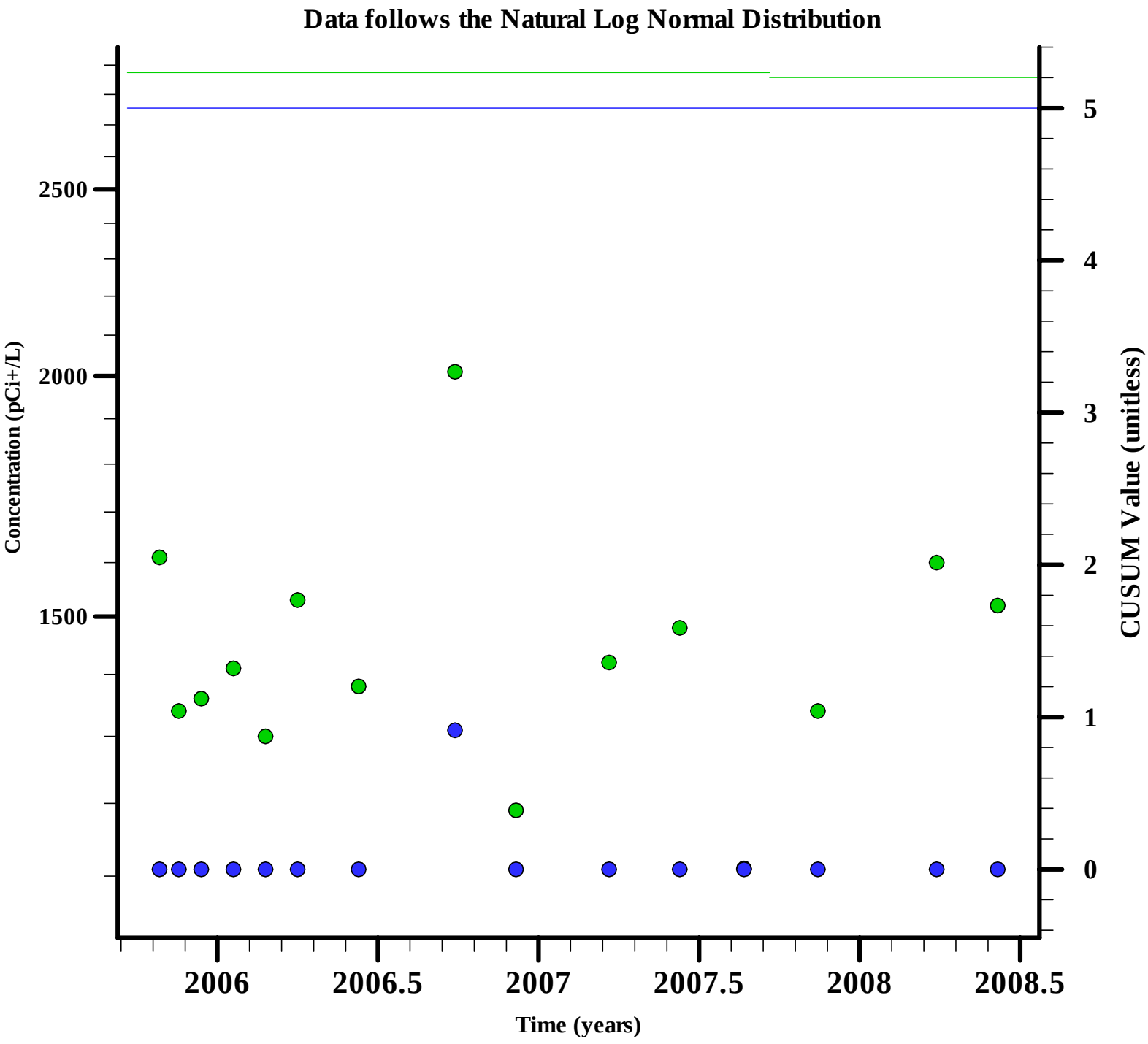
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L4-16

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

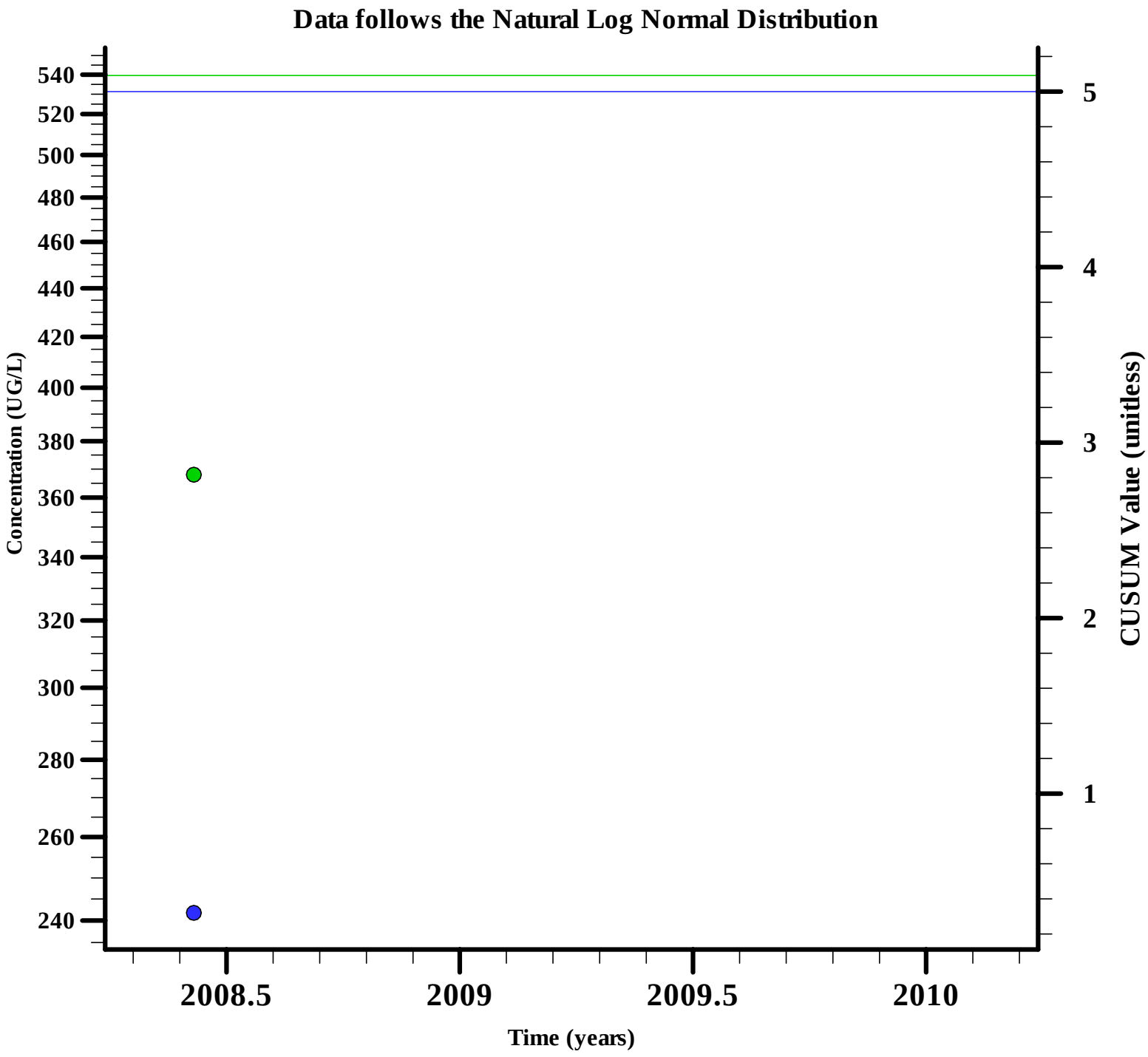
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L4-16

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

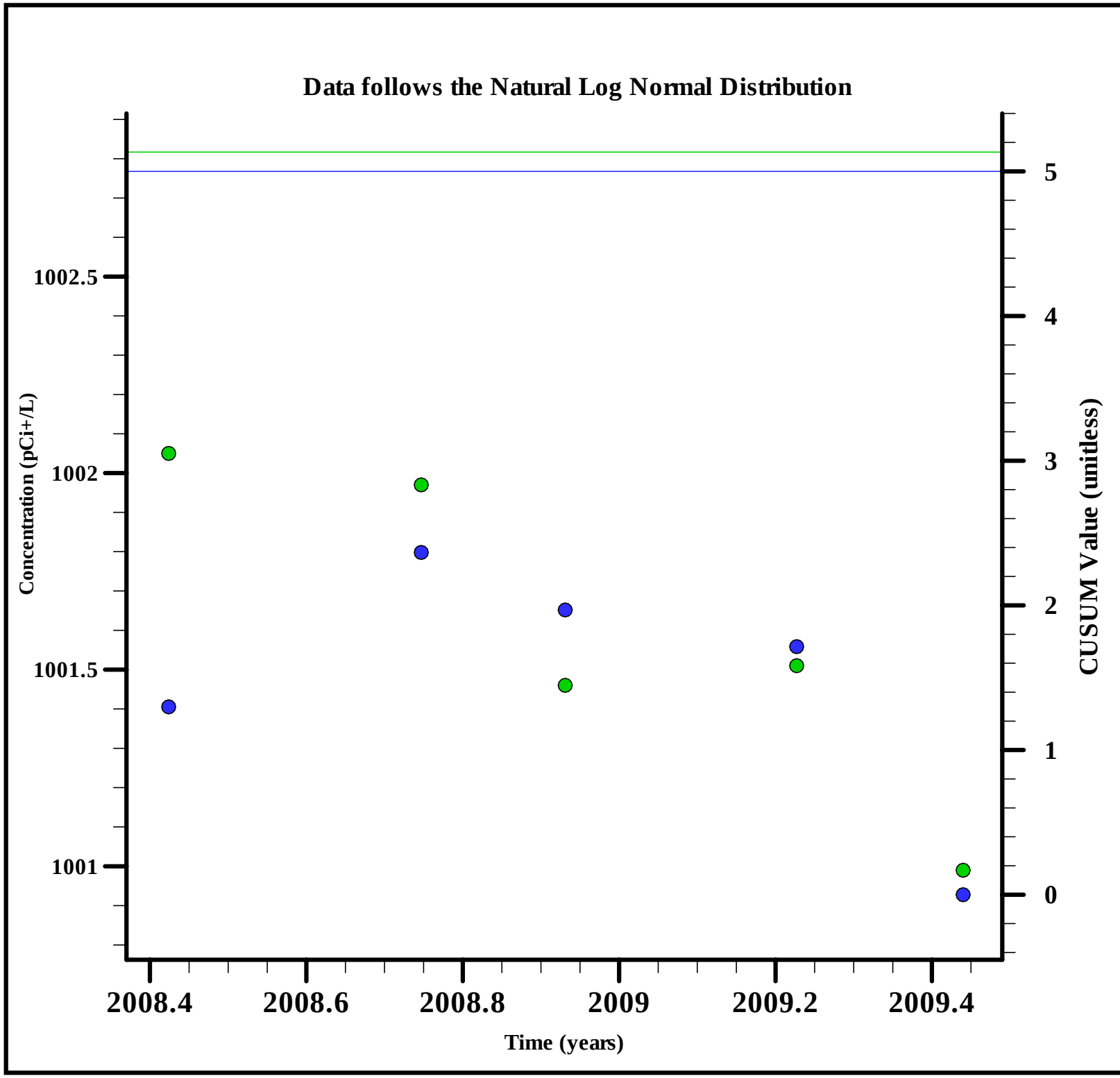
- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

Clean Harbors Deer Trail, LLC

Control Chart For Total Uranium At L4-16

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

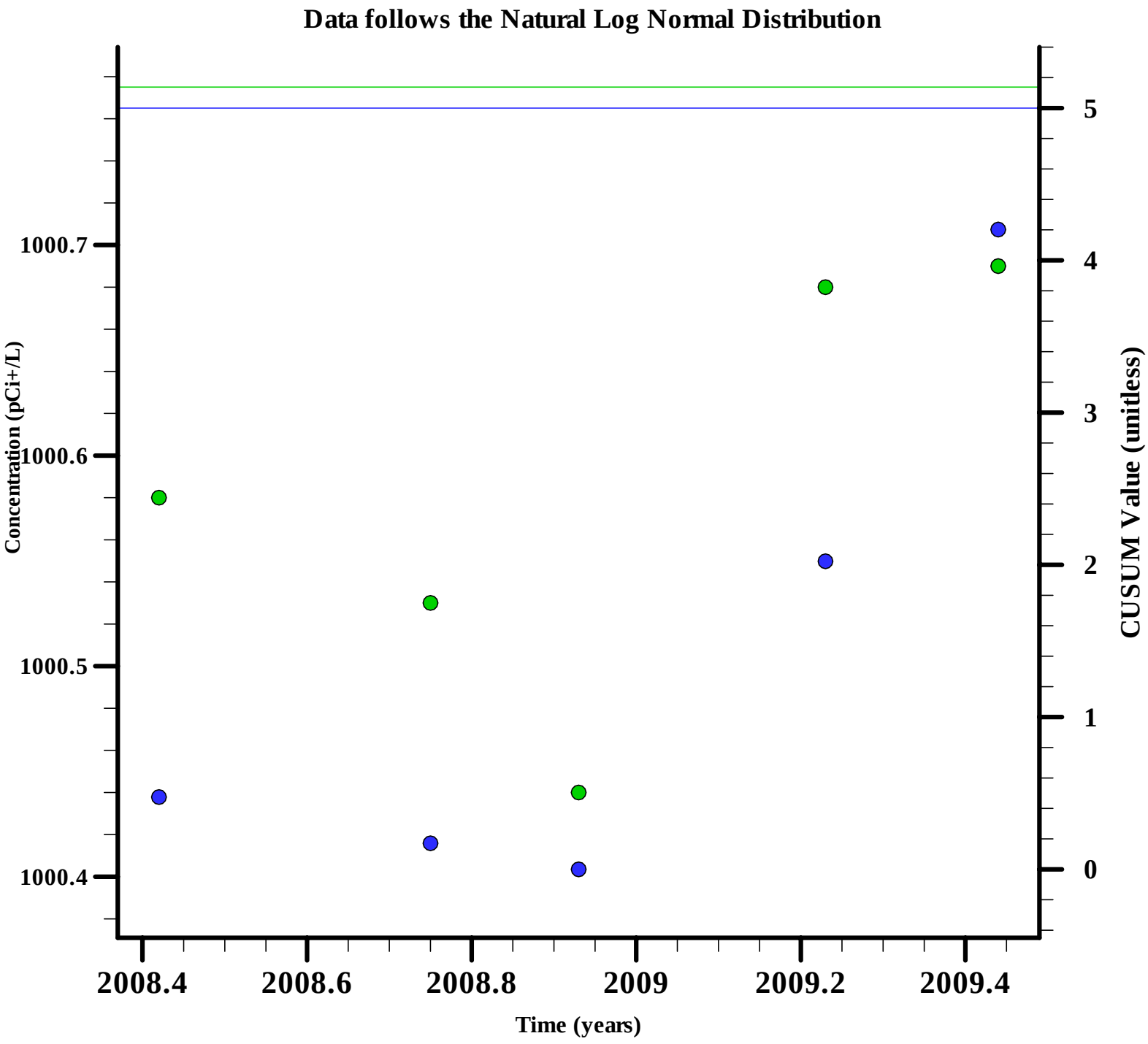
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Radium 228 At L3-42

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

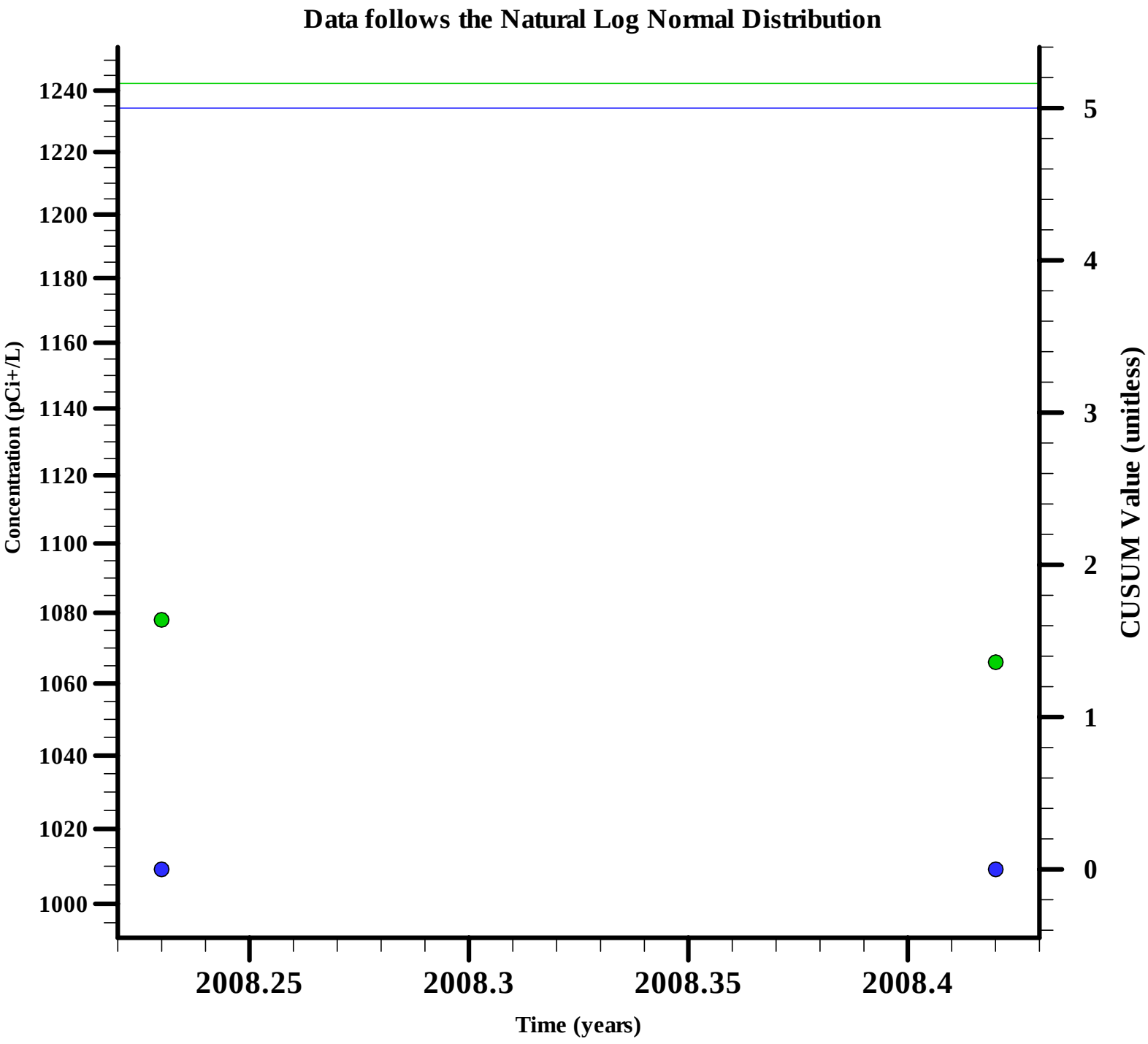
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Radium (226) At L3-42

Drawn By: OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

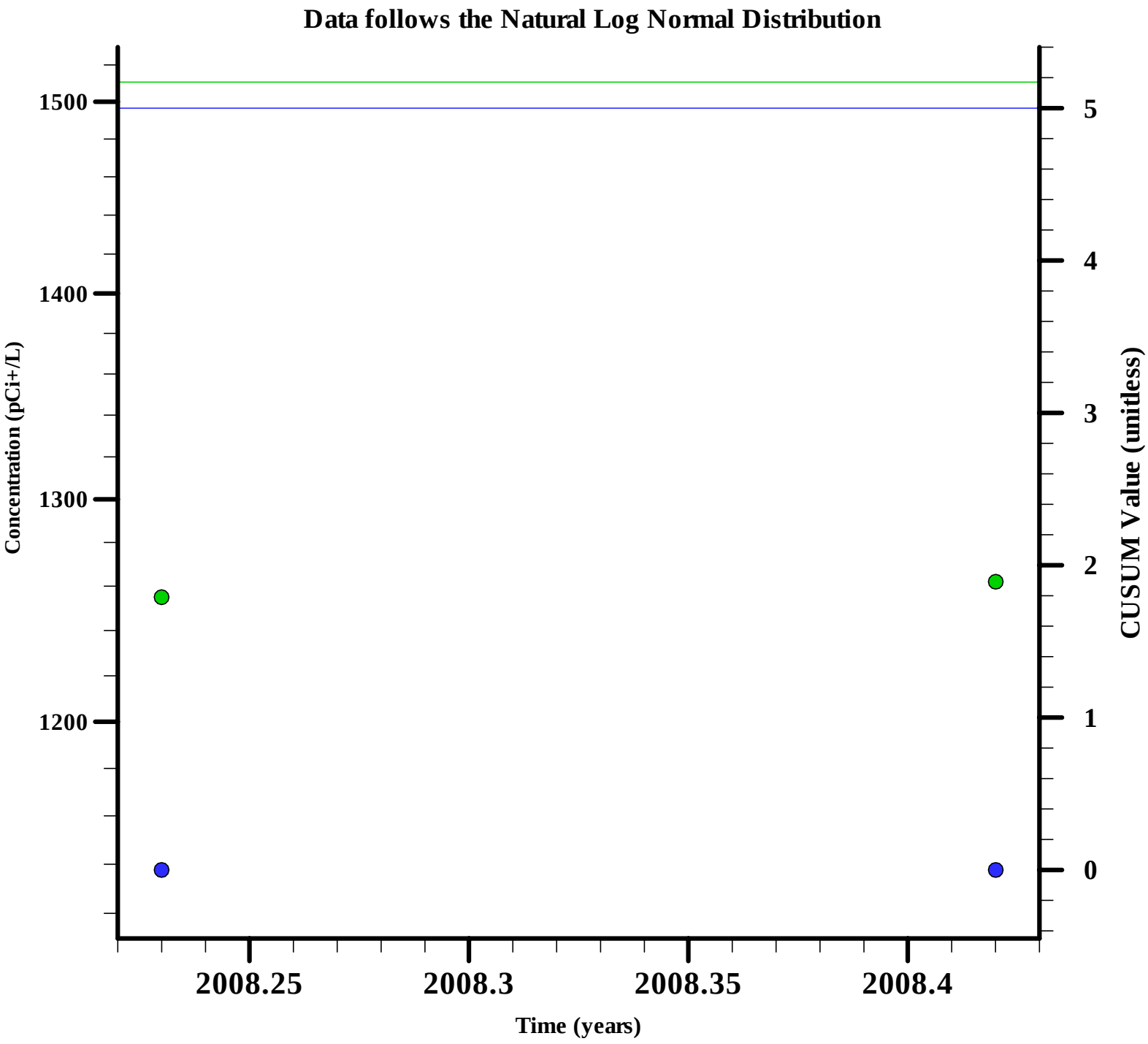
pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Beta At L3-42

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates



Legend

- Shewhart Limit (Left Axis)
- CUSUM Limit (Right Axis)
- Shewhart Value (Left Axis)
- CUSUM Value (Right Axis)
- Shewhart Value Non-Detect (1/2 the detection limit)
- CUSUM Value Non-Detect (1/2 the detection limit)

pCi+/L indicates units of picocuries per liter plus a constant of 1000. This shift was performed to display the data in log space.

Clean Harbors Deer Trail, LLC

Control Chart For Gross Alpha At L3-42

Drawn By:
OED
10-02-09
DeerTrail#Well#
#Parameter#.lpk

Leppert Associates