

Monitoring Well GW-1



first 9 events = background

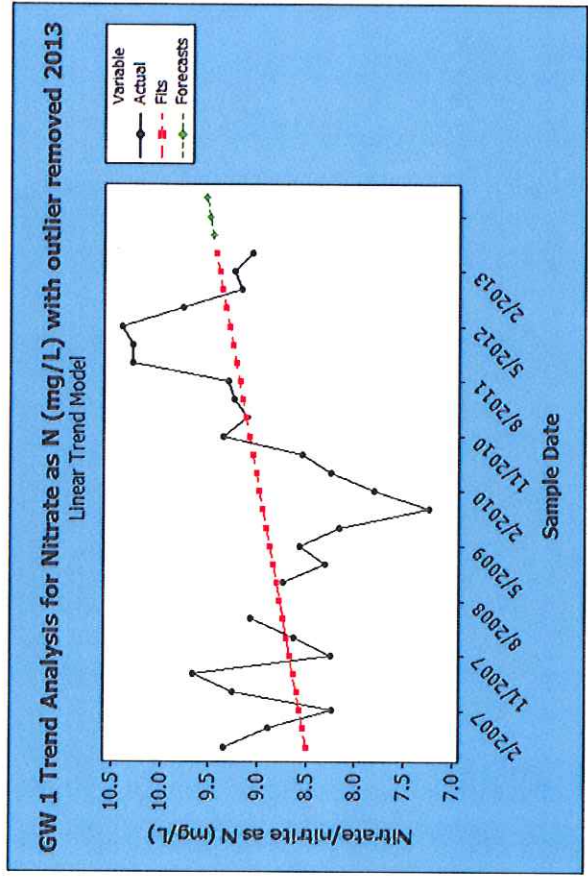
August-06	9.35
November-06	8.89
February-07	8.24
May-07	9.26
August-07	9.67
November-07	8.25
February-08	8.64
May-08	9.08
August-08	5.76

Std Deviation = 1.16
Background Mean = 8.57

Rest of data

November-08	8.74
February-09	8.31
May-09	8.57
July-09	8.17
November-09	7.24
February-10	7.81
May-10	8.25
August-10	8.55
November-10	9.36
January-11	9.11
May-11	9.25
August-11	9.31
November-11	10.30
February-12	10.30
May-12	10.40
August-12	9.78
November-12	9.18
February-13	9.25
May-13	9.06

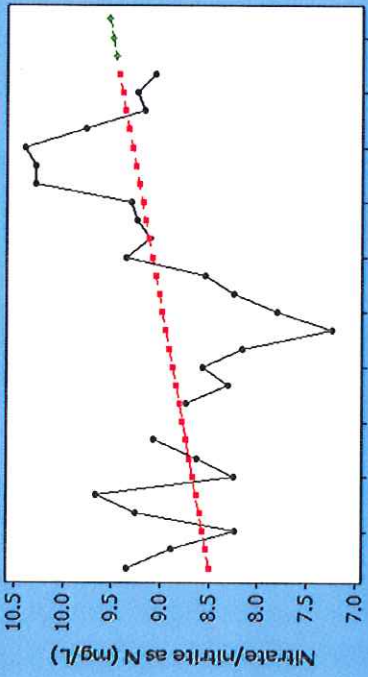
Mean last 8 samples **9.70**
 Difference last 8 samples mean minus background **1.13**
 Std Deviation = 0.85
 Nitrate values have **INCREASED**



GW 1 Trend Analysis for Nitrate as N (mg/L) with outlier removed 2013

Linear Trend Model

Variable
 Actual
 FLS
 Forecasts



Sample Date

Monitoring Well GW-3



first 9 events = background

August-06	22.10
November-06	27.60
February-07	27.60
May-07	19.20
August-07	19.00
November-07	21.00
February-08	21.90
May-08	20.50
August-08	21.60

Std Deviation = 3.21
Background Mean = 22.28

Rest of data

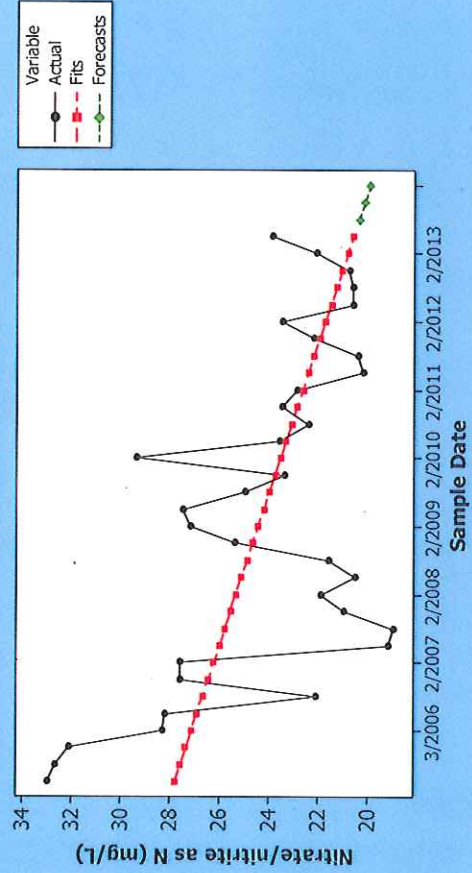
November-08	25.40
February-09	27.20
May-09	27.50
July-09	25.00
November-09	23.40
February-10	29.40
May-10	23.60
August-10	22.40
November-10	23.50
January-11	23.00
May-11	20.20
August-11	20.40
November-11	22.20
February-12	23.50
May-12	20.60
August-12	20.60
November-12	20.80
February-13	22.10
May-13	23.90

Std Deviation = 0.85

Mean last 8 samples **21.76**
 Difference last 8 samples mean minus background **-1.62**
 Nitrate values have **DECREASED**

GW-3 Trend Analysis for Nitrate as N (mg/L) 2013

Linear Trend Model
 $Y_t = 28.06 - 0.225635 * t$



Monitoring Well GW-4D



first 9 events = background

August-06	4.66
November-06	5.40
February-07	4.45
May-07	5.68
August-07	4.99
November-07	4.71
February-08	6.20
May-08	6.08
August-08	5.10

Std Deviation = 6.24
Background Mean = 6.83

Rest of data

November-08	4.90
February-09	5.61
May-09	5.91
July-09	5.09
November-09	5.00
February-10	5.76
May-10	6.70
August-10	5.95
November-10	6.09
January-11	6.53
May-11	7.05
August-11	6.39
November-11	6.61
February-12	7.26
May-12	6.34
August-12	5.12
November-12	9.18
February-13	6.89
May-13	6.88

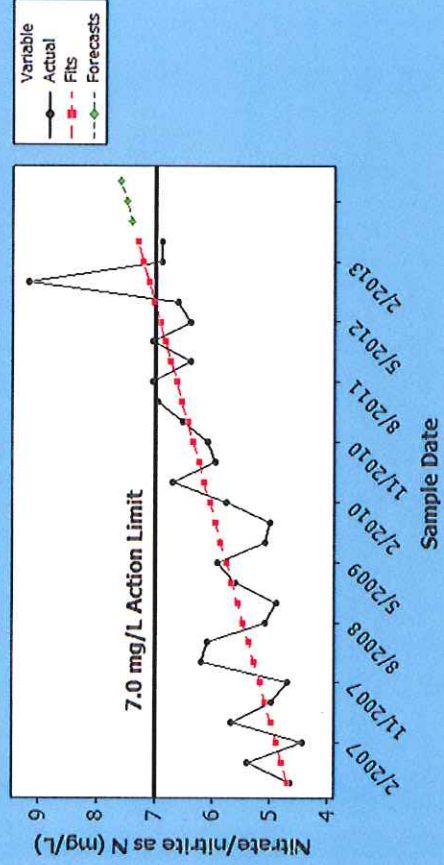
Mean last 8 samples
Difference last 8 samples
mean minus background

Std Deviation = 1.03
Nitrate values have INCREASED

6.83
0.59

GW 4D Trend Analysis for Nitrate as N (mg/L) 2013

Linear Trend Model
 $Y_t = 4.612 + 0.0962^{*}t$



Monitoring Well GW-5



first 9 events = background

August-06	0.93
November-06	0.81
February-07	5.25
May-07	5.17
August-07	0.91
November-07	0.71
February-08	5.49
May-08	6.24
August-08	0.72

Std Deviation = 2.51
Background Mean = 2.91

Rest of data

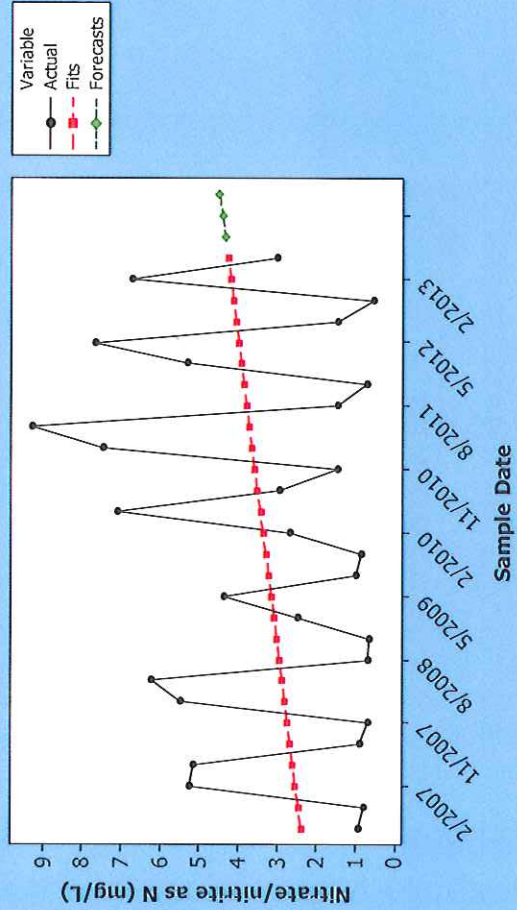
November-08	0.66
February-09	2.50
May-09	4.39
July-09	1.00
November-09	0.86
February-10	2.70
May-10	7.11
August-10	2.96
November-10	1.47
January-11	7.50
May-11	9.32
August-11	1.48
November-11	0.73
February-12	5.31
May-12	7.68
August-12	1.47
November-12	0.58
February-13	6.75
May-13	3.02

Std Deviation = 2.83
Nitrate values have
REMAINED STABLE??

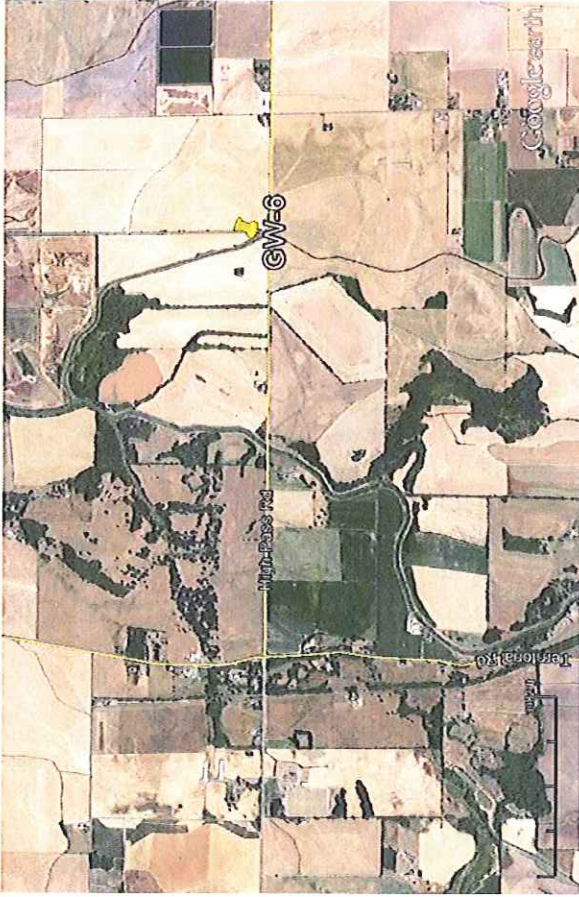
Mean last 8 samples
Difference last 8 samples
mean minus background
-0.01

GW5 Trend Analysis Plot for Nitrate as N (mg/L) 2013

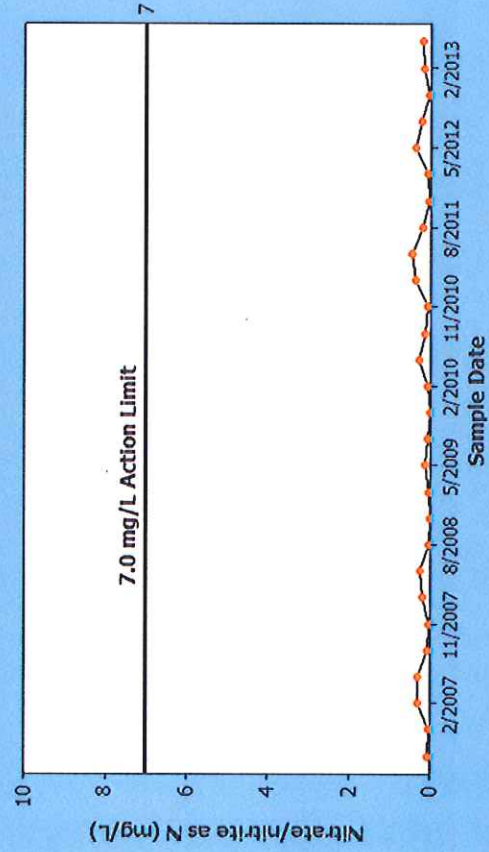
Linear Trend Model



Monitoring Well GW-6



GW 6 Time Series of Nitrate as N (mg/L) 2013



first 9 events = background

August-06	0.05
November-06	0.03
February-07	0.31
May-07	0.31
August-07	0.06
November-07	0.04
February-08	0.18
May-08	0.26
August-08	0.04

Std Deviation = 0.12
Background Mean = 0.14

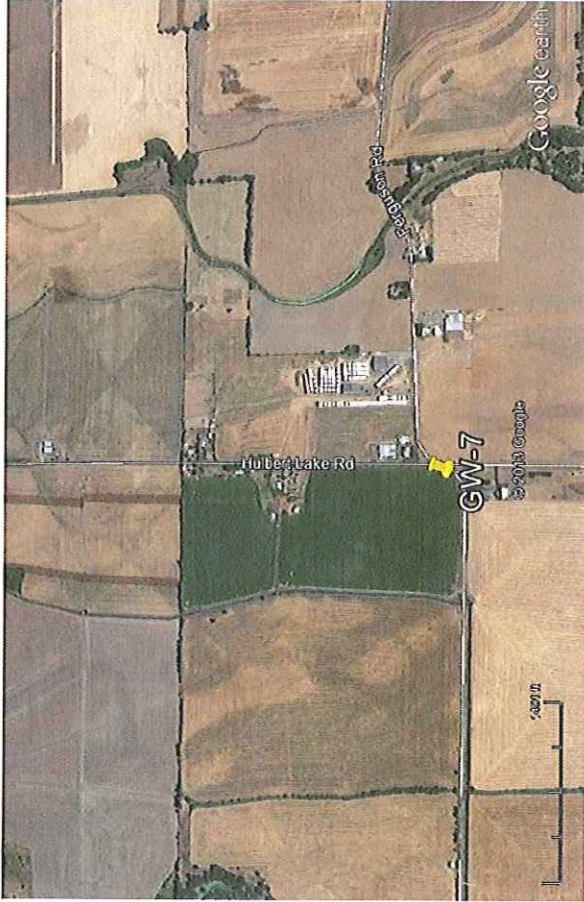
Rest of data

November-08	<0.0050
February-09	0.02
May-09	0.14
July-09	0.06
November-09	<0.0050
February-10	0.06
May-10	0.27
August-10	0.14
November-10	0.06
January-11	0.36
May-11	0.47
August-11	0.18
November-11	0.04
February-12	0.07
May-12	0.36
August-12	0.23
November-12	0.05
February-13	0.16
May-13	0.17

Std Deviation = 0.13
Nitrate values are STABLE

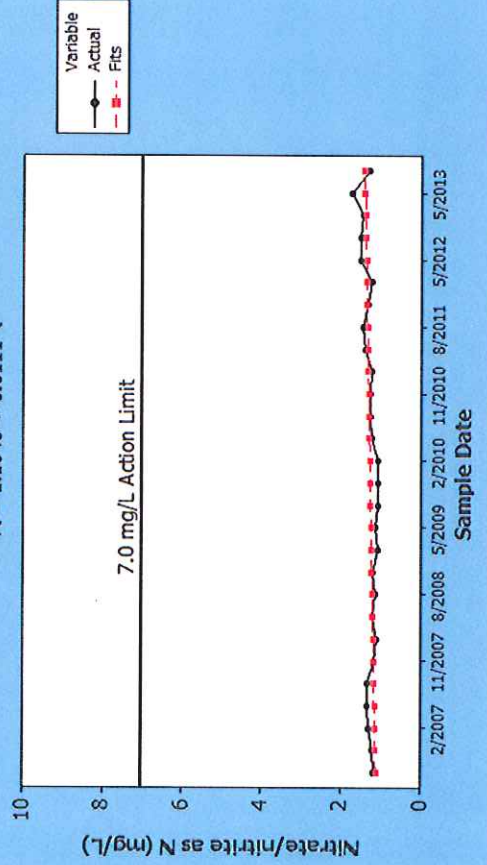
Mean last 8 samples 0.16
Difference last 8 samples mean minus background 0.02

Monitoring Well GW-7



GW 7 Trend Analysis for Nitrate as N (mg/L) 2013

Linear Trend Model
 $Y_t = 1.1048 + 0.0111 * t$



first 9 events = background

August-06	1.16
November-06	1.21
February-07	1.28
May-07	1.33
August-07	1.32
November-07	1.18
February-08	1.11
May-08	1.19
August-08	1.15

Std Deviation = 0.08
 Background Mean = 1.21

Rest of data

November-08	1.21
February-09	1.07
May-09	1.15
July-09	1.08
November-09	1.06
February-10	1.06
May-10	1.24
August-10	1.26
November-10	1.25
January-11	1.24
May-11	1.40
August-11	1.45
November-11	1.33
February-12	1.23
May-12	1.51
August-12	1.50
November-12	1.46
February-13	1.74
May-13	1.28

Std Deviation = 0.18
 Nitrate values are STABLE

Mean last 8 samples 1.43
 Difference last 8 samples mean minus background 0.22

Monitoring Well GW-8



first 9 events = background

August-06	0.93
November-06	0.82
February-07	0.93
May-07	1.01
August-07	1.16
November-07	0.90
February-08	1.08
May-08	0.99
August-08	1.27

Std Deviation = 0.14
Background Mean = 1.01

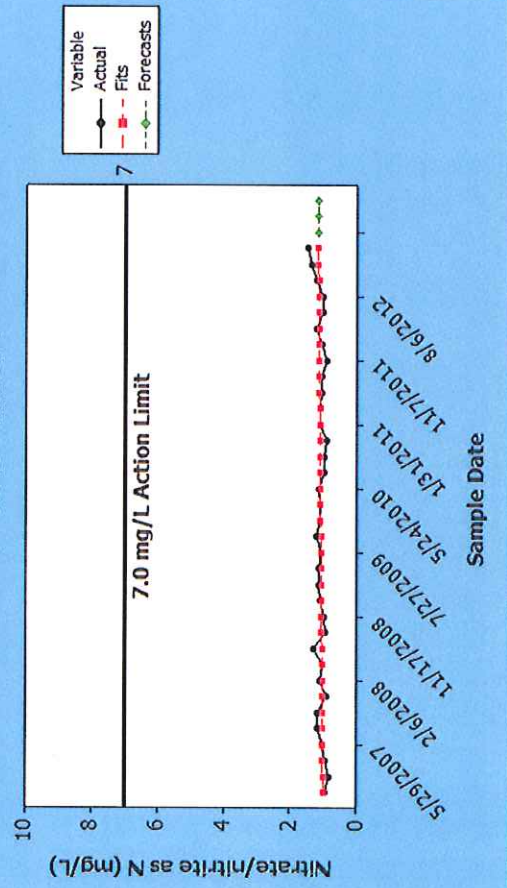
Rest of data

November-08	0.95
February-09	1.10
May-09	1.11
July-09	1.03
November-09	1.18
February-10	1.10
May-10	1.13
August-10	0.95
November-10	0.89
January-11	1.07
May-11	1.08
August-11	1.03
November-11	0.89
February-12	1.05
May-12	1.18
August-12	1.00
November-12	1.18
February-13	1.35
May-13	1.48

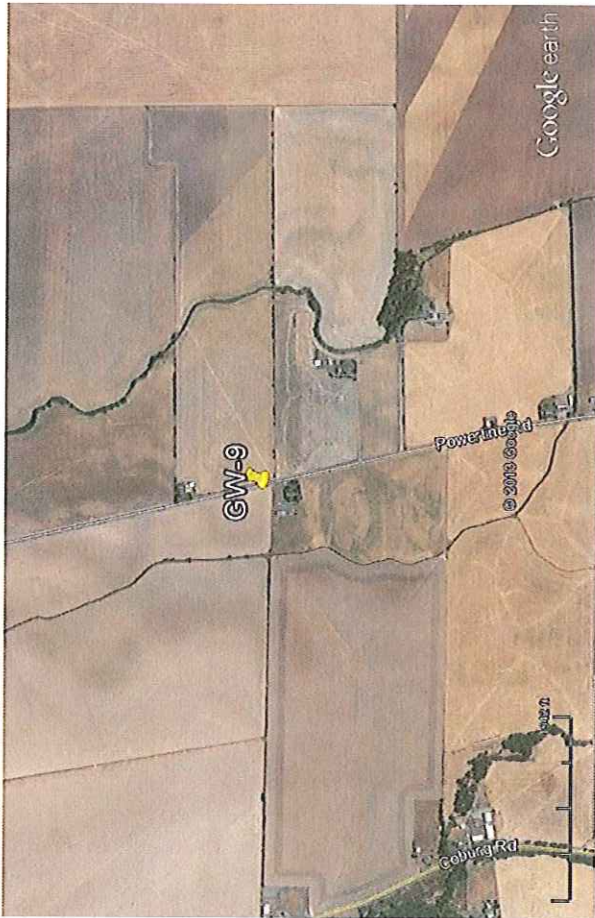
Std Deviation = 0.15
Nitrate values are STABLE

Mean last 8 samples
Difference last 8 samples
mean minus background

GW 8 Trend Analysis for Nitrate as N (mg/L) 2013
Linear Trend Model
 $Y_t = 0.9739 + 0.00490 * t$

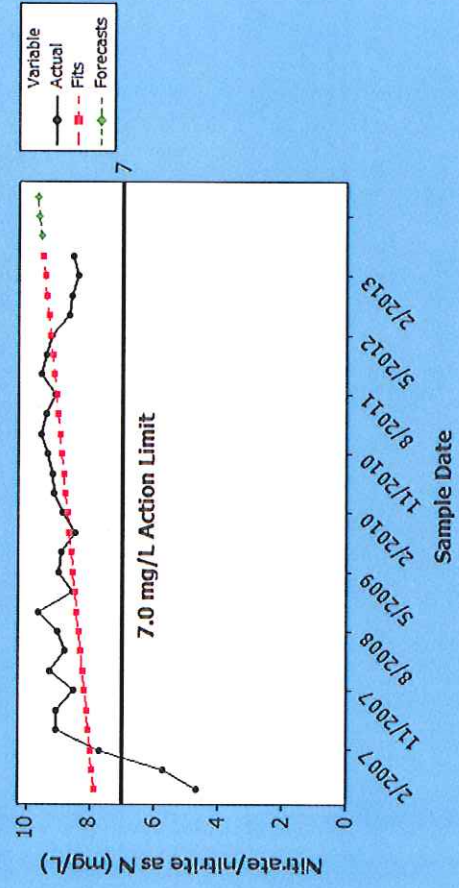


Monitoring Well GW-9



GW 9 Trend Analysis for Nitrate as N (mg/L) 2013

Linear Trend Model
 $Y_t = 7.812 + 0.0603 * t$



first 9 events = background

August-06	4.68
November-06	5.70
February-07	7.71
May-07	9.06
August-07	9.07
November-07	8.52
February-08	9.25
May-08	8.79
August-08	9.01

Std Deviation = 1.66
 Background Mean = 7.98

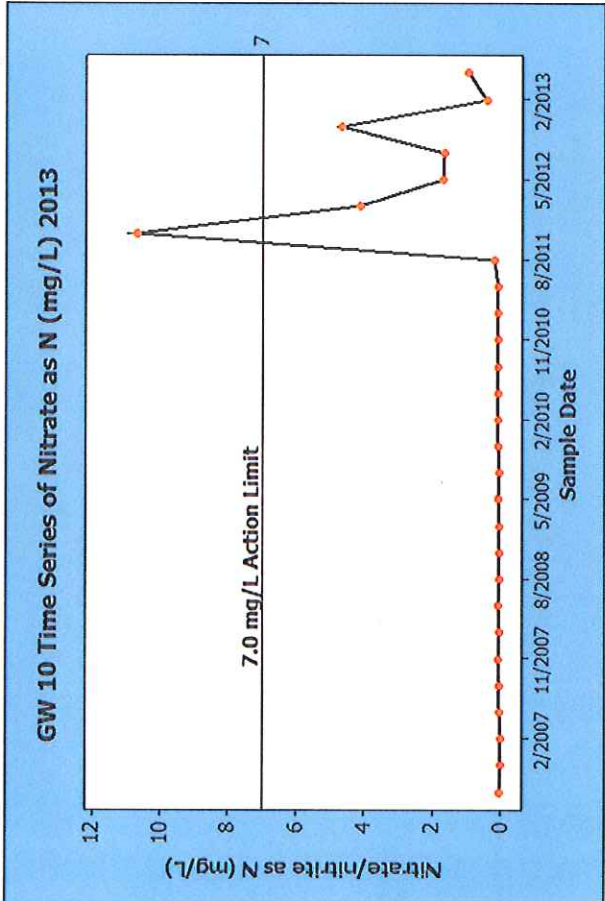
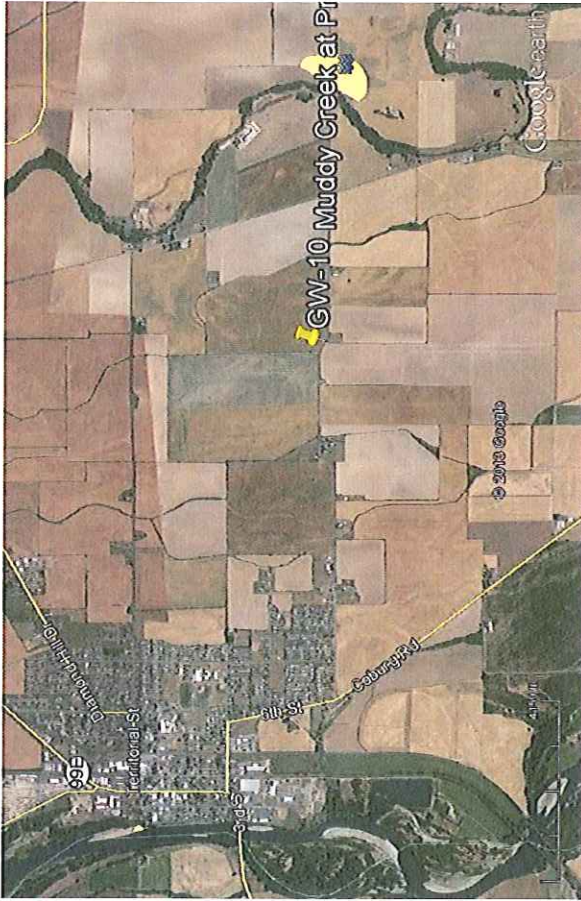
Rest of data

November-08	9.61
February-09	8.54
May-09	8.97
July-09	8.92
November-09	8.47
February-10	8.88
May-10	9.16
August-10	9.18
November-10	9.33
January-11	9.55
May-11	9.38
August-11	9.10
November-11	9.53
February-12	9.40
May-12	9.23
August-12	8.67
November-12	8.57
February-13	8.37
May-13	8.55

Std Deviation = 0.40
 Nitrate values have INCREASED

Mean last 8 samples
 Difference last 8 samples
 mean minus background
8.93
0.95

Monitoring Well GW-10



first 9 events = background

August-06	0.03
November-06	0.01
February-07	<0.0050
May-07	0.02
August-07	0.01
November-07	0.04
February-08	0.03
May-08	0.05
August-08	0.01

Rest of data

November-08	0.04
February-09	0.03
May-09	0.05
July-09	0.03
November-09	0.07
February-10	0.04
May-10	0.06
August-10	0.04
November-10	0.06
January-11	0.06
May-11	0.05
August-11	0.17
November-11	10.70
February-12	4.12
May-12	1.69
August-12	1.63
November-12	4.66
February-13	0.40
May-13	0.95

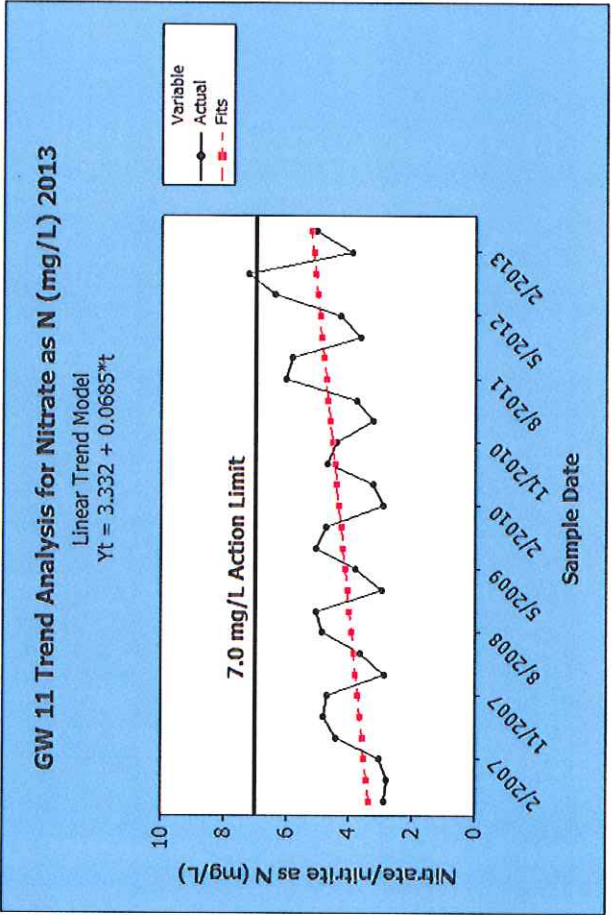
Std Deviation = 0.02
Background Mean = 0.02

Mean last 8 samples
Difference last 8 samples
mean minus background

Std Deviation = 2.66
Nitrate values have
INCREASED

3.04
3.02

Monitoring Well GW-11



first 9 events = background

August-06	2.93
November-06	2.84
February-07	3.06
May-07	4.48
August-07	4.84
November-07	4.73
February-08	2.92
May-08	3.64
August-08	4.89

Std Deviation = 0.91
Background Mean = 3.81

Rest of data

November-08	5.10
February-09	3.00
May-09	3.82
July-09	5.15
November-09	4.77
February-10	2.96
May-10	3.26
August-10	4.72
November-10	4.45
January-11	3.26
May-11	3.79
August-11	6.03
November-11	5.86
February-12	3.65
May-12	4.31
August-12	6.43
November-12	7.27
February-13	4.04
May-13	5.07

Std Deviation = 1.24
Nitrate values have INCREASED

Mean last 8 samples
Difference last 8 samples mean minus background = 1.52

Monitoring Well GW-12



first 9 events = background

August-06	21.30
November-06	20.40
February-07	21.50
May-07	21.70
August-07	22.50
November-07	21.20
February-08	23.50
May-08	18.70
August-08	19.90

Std Deviation = 1.41
Background Mean = 21.19

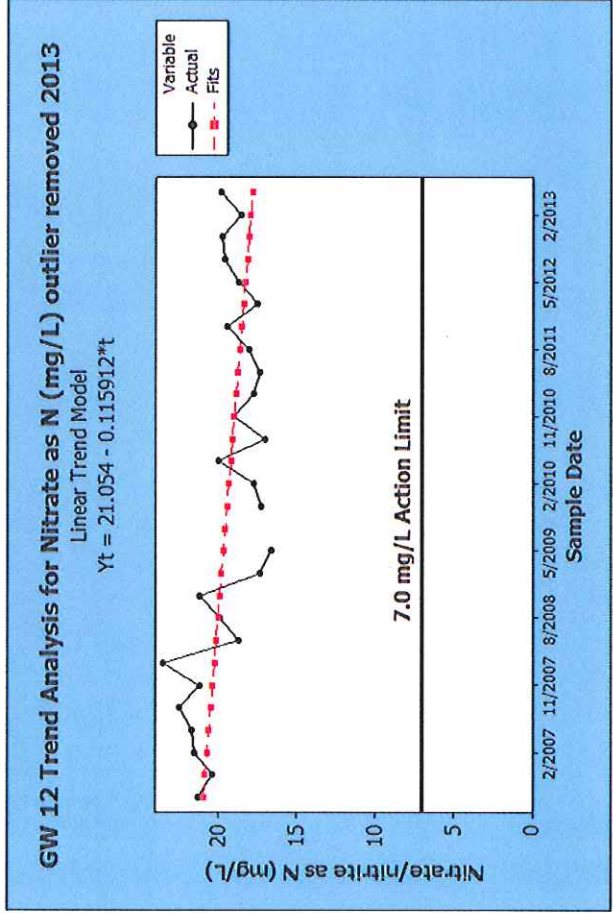
Rest of data

November-08	21.20
February-09	17.30
May-09	16.60
July-09	17.20
November-09	17.70
February-10	20.00
May-10	5.91
August-10	17.00
November-10	19.10
January-11	17.70
May-11	17.30
August-11	18.00
November-11	19.40
February-12	17.50
May-12	18.70
August-12	19.60
November-12	19.00
February-13	18.50
May-13	19.80

Std Deviation = 3.17
Nitrate values have DECREASED

Mean last 8 samples
Difference last 8 samples
mean minus background

18.81
-2.38



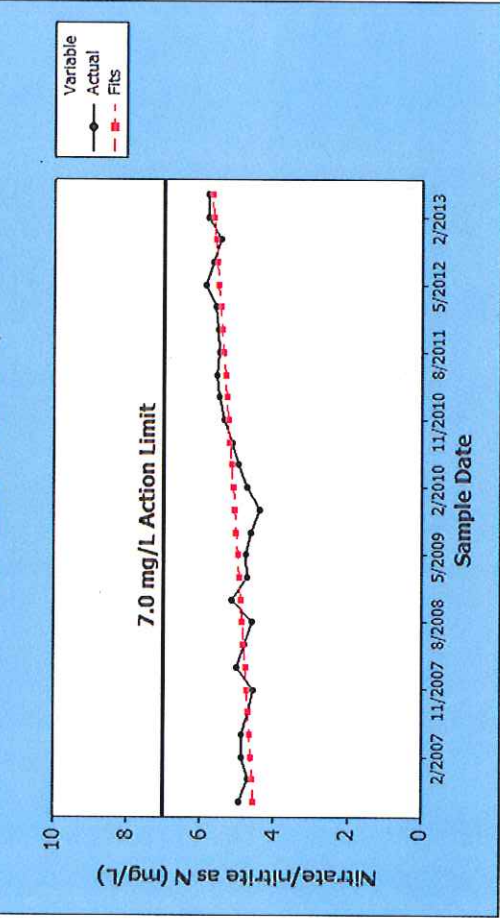
Monitoring Well GW-13



GW 13 Trend Analysis for Nitrate as N (mg/L) lognormal 2013

Growth Curve Model

$$Y_t = 4.5138 * (1.00845^{**t})$$



first 9 events = background

August-06	4.94
November-06	4.69
February-07	4.89
May-07	4.87
August-07	4.69
November-07	4.57
February-08	5.00
May-08	4.82
August-08	4.59

Std Deviation = 0.15
 Background Mean = 4.78

Rest of data

November-08	5.08
February-09	4.74
May-09	4.79
July-09	4.62
November-09	4.35
February-10	4.73
May-10	4.98
August-10	5.05
November-10	5.37
January-11	5.51
May-11	5.58
August-11	5.45
November-11	5.52
February-12	5.60
May-12	5.84
August-12	5.66
November-12	5.47
February-13	5.81
May-13	5.79

Std Deviation = 0.45
 Nitrate values have INCREASED

Mean last 8 samples
 Difference last 8 samples
 mean minus background

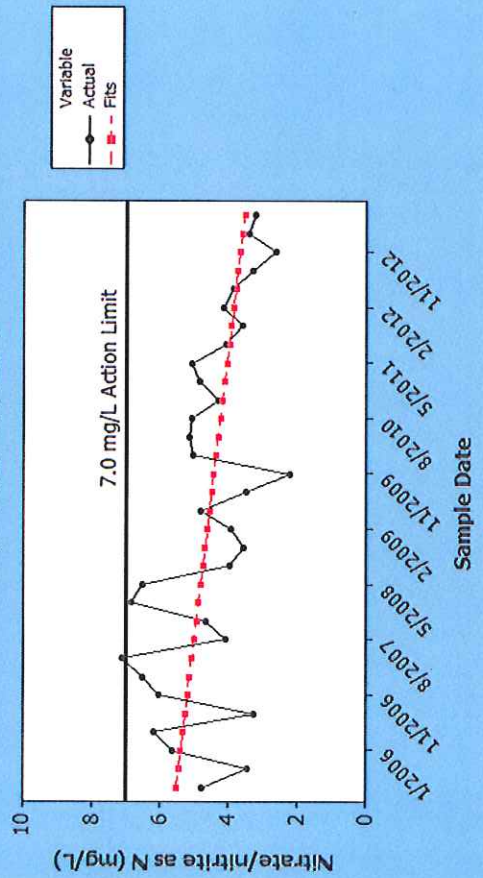
5.64
 0.86

Monitoring Well GW-15



GW 15 Trend Analysis for Nitrate as N (mg/L) 2013

Linear Trend Model
 $Y_t = 5.583 - 0.064122 * t$



first 9 events = background

August-06	3.26
November-06	6.02
February-07	6.52
May-07	7.10
August-07	4.08
November-07	4.68
February-08	6.87
May-08	6.50
August-08	3.97

Std Deviation = 1.45
Background Mean = 5.44

Rest of data

November-08	3.56
February-09	3.89
May-09	4.86
July-09	3.47
November-09	2.23
February-10	5.05
May-10	5.16
August-10	5.06
November-10	4.14
January-11	4.85
May-11	5.08
August-11	4.07
November-11	3.61
February-12	4.12
May-12	3.86
August-12	3.31
November-12	2.63
February-13	3.39
May-13	3.24

Mean last 8 samples
Difference last 8 samples
mean minus background = -1.92

Std Deviation = 0.87
Nitrate values have DECREASED

Monitoring Well GW-16



first 9 events = background

August-06	0.50
November-06	0.18
February-07	1.40
May-07	0.48
August-07	0.63
November-07	0.74
February-08	0.52
May-08	0.22
August-08	0.35

Std Deviation = 0.36
Background Mean = 0.56

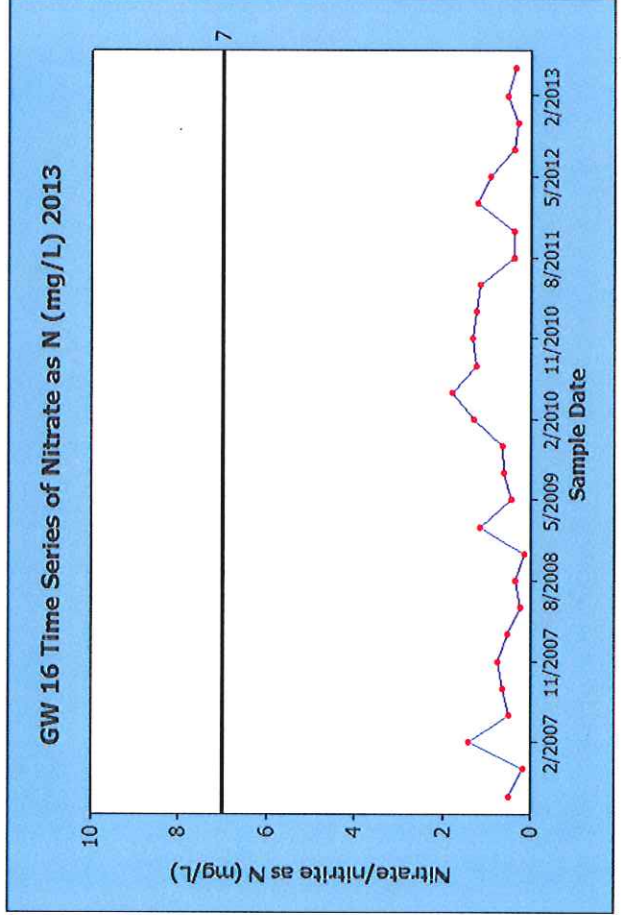
Rest of data

November-08	0.15
February-09	1.14
May-09	0.43
July-09	0.59
November-09	0.64
February-10	1.29
May-10	1.80
August-10	1.23
November-10	1.32
January-11	1.23
May-11	1.15
August-11	0.37
November-11	0.39
February-12	1.22
May-12	0.93
August-12	0.38
November-12	0.28
February-13	0.515
May-13	0.34

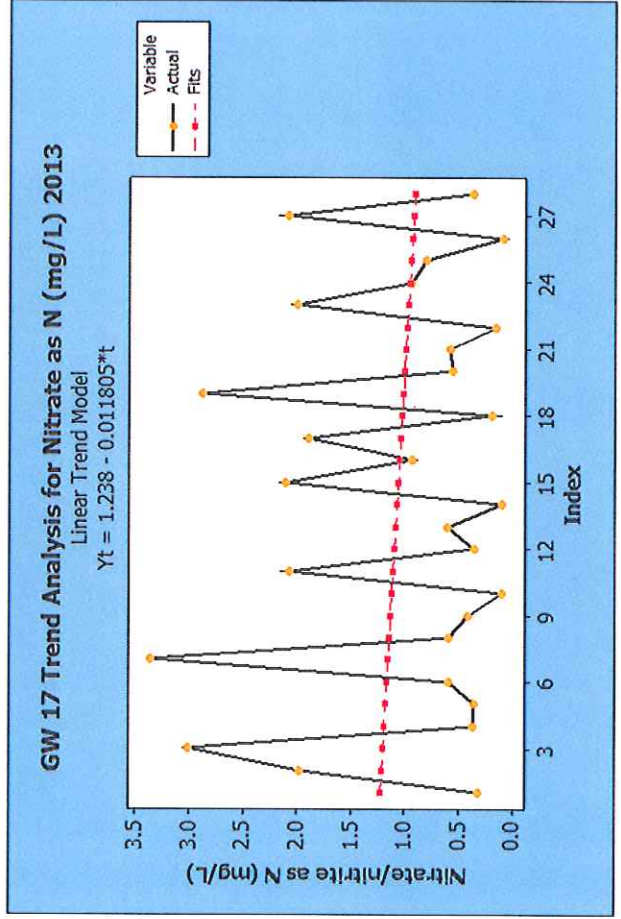
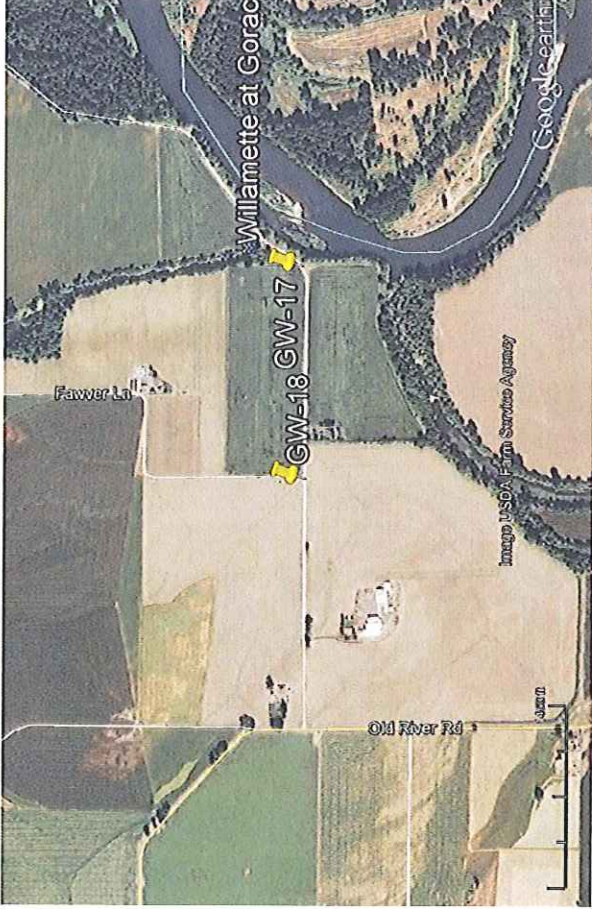
Std Deviation = 0.48
Nitrate values are STEADY

Mean last 8 samples
Difference last 8 samples
mean minus background

0.56
0.00



Monitoring Well GW-17



first 9 events = background

August-06	0.33
November-06	1.98
February-07	3.01
May-07	0.37
August-07	0.36
November-07	0.60
February-08	3.36
May-08	0.59
August-08	0.41

Std Deviation = 1.23
 Background Mean = 1.22

Rest of data

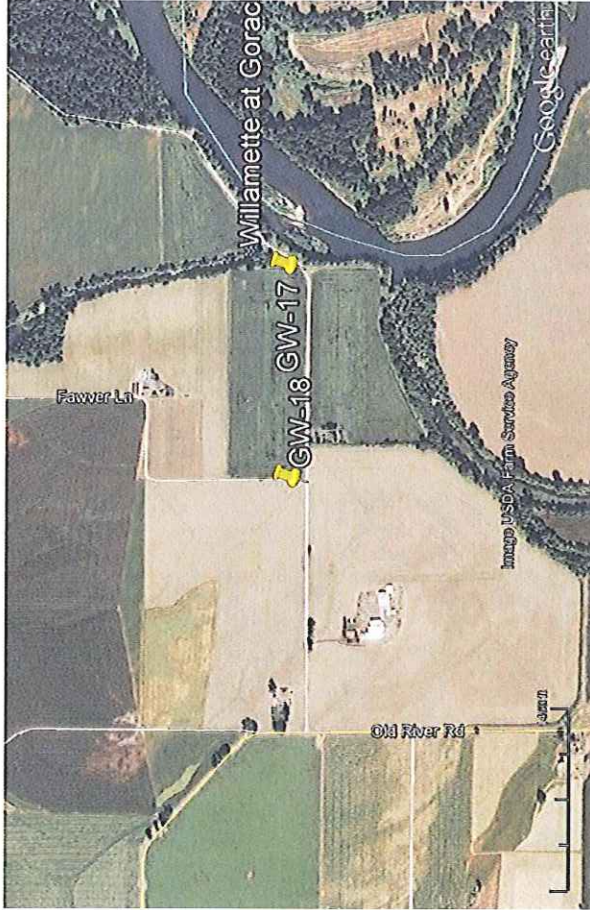
November-08	0.11
February-09	2.07
May-09	0.36
July-09	0.61
November-09	0.11
February-10	2.11
May-10	0.91
August-10	1.90
November-10	0.19
January-11	2.88
May-11	0.56
August-11	0.58
November-11	0.16
February-12	2.00
May-12	0.94
August-12	0.81
November-12	0.09
February-13	2.09
May-13	0.37

Std Deviation = 0.88
 Nitrate values have DECREASED

Mean last 8 samples
 Difference last 8 samples
 mean minus background

0.88
 -0.34

Monitoring Well GW-18



first 9 events = background

August-06	3.48
November-06	3.62
February-07	2.53
May-07	2.80
August-07	2.42
November-07	3.62
February-08	2.80
May-08	2.47
August-08	2.22

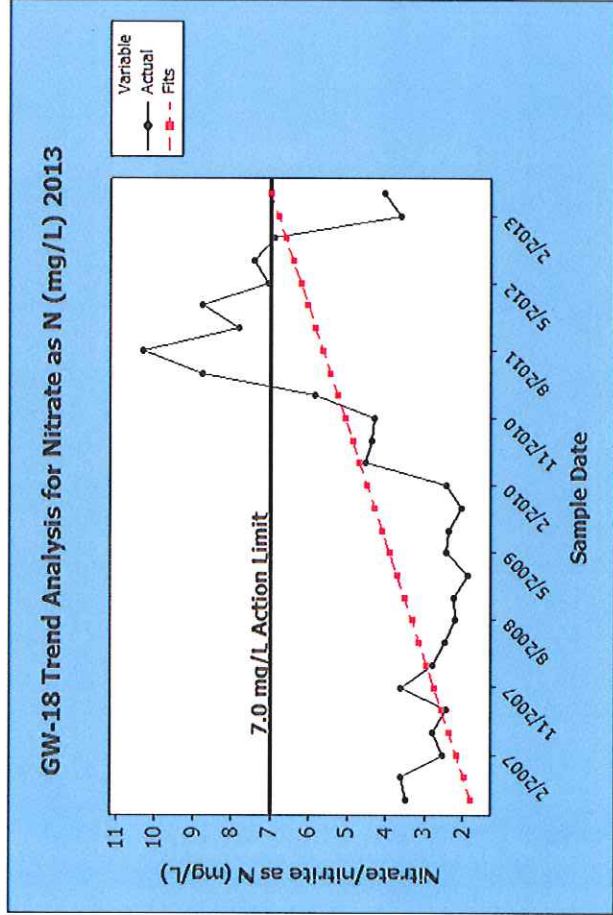
Std Deviation = 0.55
Background Mean = 2.88

Rest of data

November-08	2.23
February-09	1.86
May-09	2.42
July-09	2.38
November-09	2.04
February-10	2.42
May-10	4.53
August-10	4.36
November-10	4.32
January-11	5.85
May-11	8.76
August-11	10.30
November-11	7.82
February-12	8.78
May-12	7.05
August-12	7.43
November-12	6.91
February-13	3.61
May-13	4.04

Std Deviation = 2.73
Nitrate values have INCREASED

Mean last 8 samples: 7.48
Difference last 8 samples mean minus background: 4.59



Monitoring Well GW-19



first 9 events = background

August-06	0.92
November-06	2.24
February-07	3.18
May-07	2.61
August-07	1.35
November-07	1.15
February-08	4.47
May-08	2.77
August-08	1.46

Std Deviation = 1.15
Background Mean = 2.24

Rest of data

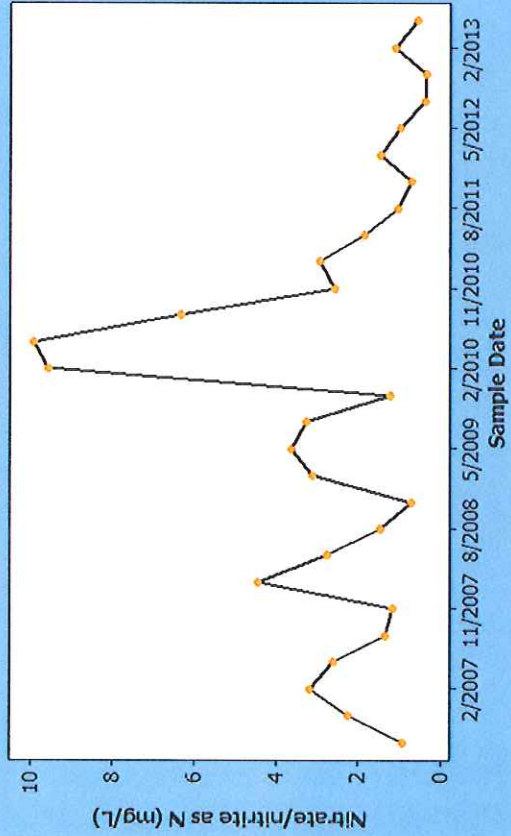
November-08	0.72
February-09	3.13
May-09	3.65
July-09	3.27
November-09	1.21
February-10	9.59
May-10	9.94
August-10	6.33
November-10	2.59
January-11	2.95
May-11	1.85
August-11	1.05
November-11	0.71
February-12	1.46
May-12	0.99
August-12	0.37
November-12	0.35
February-13	1.11
May-13	0.55

Std Deviation = 2.89
Nitrate values have DECREASED

Mean last 8 samples
Difference last 8 samples
mean minus background

0.82
-1.42

GW 19 Time Series of Nitrate as N (mg/L) 2013



Monitoring Well GW-20



first 9 events = background

August-06	17.00
November-06	7.55
February-07	20.80
May-07	13.20
August-07	15.30
November-07	7.15
February-08	16.30
May-08	12.70
August-08	13.30

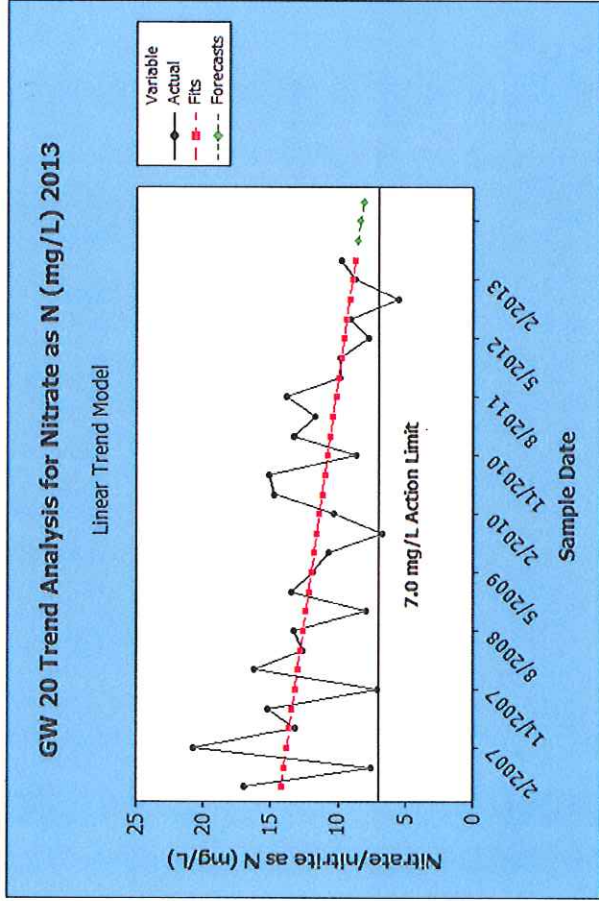
Std Deviation = 4.37
Background Mean = 13.70

Rest of data

November-08	7.93
February-09	13.50
May-09	11.90
July-09	10.70
November-09	6.74
February-10	10.40
May-10	14.80
August-10	15.20
November-10	8.71
January-11	13.30
May-11	11.80
August-11	13.90
November-11	9.95
February-12	9.88
May-12	7.82
August-12	9.15
November-12	5.58
February-13	8.83
May-13	9.77

Std Deviation = 2.73
Nitrate values have DECREASED

Mean last 8 samples 9.36
Difference last 8 samples mean minus background -4.34

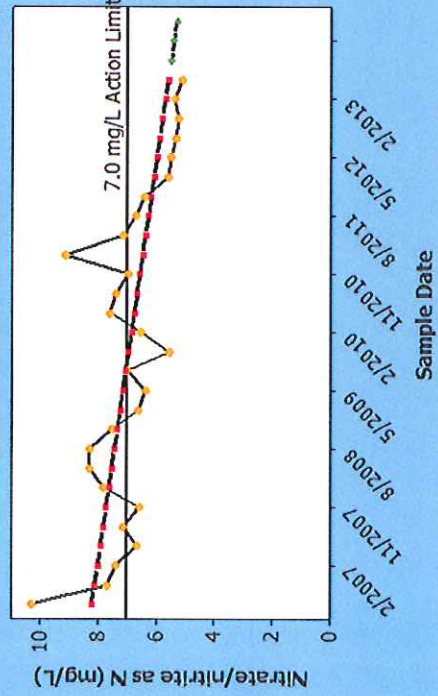


Monitoring Well GW-21



GW 21 Trend Analysis for Nitrate as N (mg/L) 2013

Linear Trend Model
 $Y_t = 8.314 - 0.096322 * t$



first 9 events = background

August-06	10.30
November-06	7.69
February-07	7.40
May-07	6.69
August-07	7.14
November-07	6.61
February-08	7.85
May-08	8.29
August-08	8.29

Std Deviation = 1.12
 Background Mean = 7.81

Rest of data

November-08	7.52
February-09	6.65
May-09	6.39
July-09	7.04
November-09	5.58
February-10	6.53
May-10	7.64
August-10	7.41
November-10	6.98
January-11	9.16
May-11	7.13
August-11	6.71
November-11	6.43
February-12	5.61
May-12	5.50
August-12	5.34
November-12	5.26
February-13	5.39
May-13	5.15

Std Deviation = 1.05
 Nitrate values have DECREASED

Mean last 8 samples
 Difference last 8 samples
 mean minus background

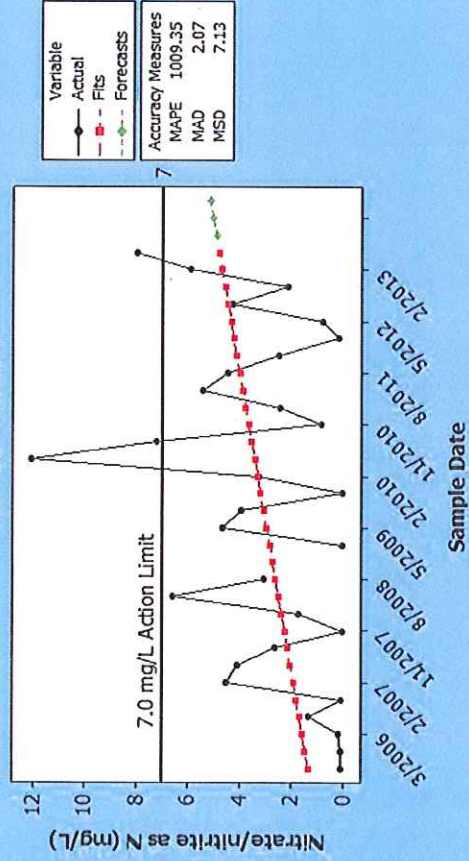
-2.13

Monitoring Well GW-22



GW 22 Trend Analysis for Nitrate as N (mg/L) w_o outlier 2013

Linear Trend Model
 $Y_t = 1.24 + 0.115 * t$



first 9 events = background

August-06	1.32
November-06	0.10
February-07	4.50
May-07	4.08
August-07	2.64
November-07	0.04
February-08	1.72
May-08	6.60
August-08	3.08

Std Deviation = 2.16
 Background Mean = 2.67

Rest of data

November-08	<0.0050
February-09	0.04
May-09	4.96
July-09	3.96
November-09	0.05
February-10	3.29
May-10	12.10
August-10	7.24
November-10	0.86
January-11	2.43
May-11	5.46
August-11	4.48
November-11	2.50
February-12	0.19
May-12	0.81
August-12	4.29
November-12	2.14
February-13	5.91
May-13	7.98

Std Deviation = 3.24
 Nitrate values have INCREASED

Mean last 8 samples
 Difference last 8 samples
 mean minus background 0.52

Monitoring Well GW-23



first 9 events = background

August-06	<0.0050
November-06	<0.0050
February-07	<0.0050
May-07	<0.005
August-07	<0.0050
November-07	0.03
February-08	<0.0050
May-08	<0.0050
August-08	<0.0050
Std Deviation = 0	
Background Mean = 0.03	

Rest of data

November-08	<0.0050
February-09	<0.0050
May-09	<0.0050
July-09	<0.0050
November-09	<0.0050
February-10	0.01
May-10	<0.0050
August-10	<0.0050
November-10	<0.0050
January-11	<0.0050
May-11	<0.0050
August-11	0.01
November-11	<0.0050
February-12	0.01
May-12	<0.0050
August-12	<0.0050
November-12	<0.0050
February-13	<0.0050
May-13	<0.0050
Std Deviation = 0.0	
Nitrate values are	
STEADY	

Mean last 8 samples

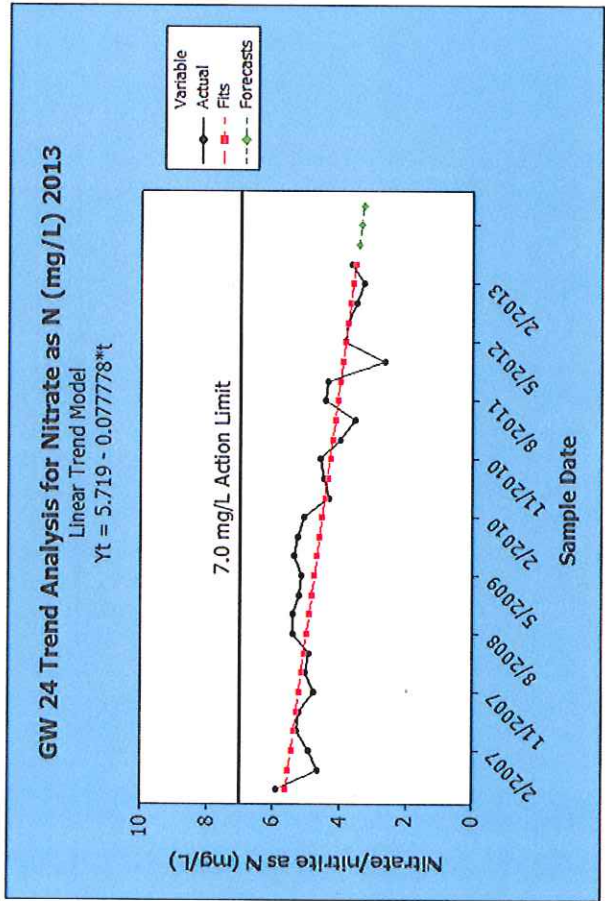
Difference last 8 samples

mean minus background

0.01

-0.02

Monitoring Well GW-24



first 9 events = background

August-06	5.92
November-06	4.67
February-07	4.94
May-07	5.32
August-07	5.23
November-07	4.81
February-08	5.07
May-08	4.96
August-08	5.43

Std Deviation = 0.38
 Background Mean = 5.15

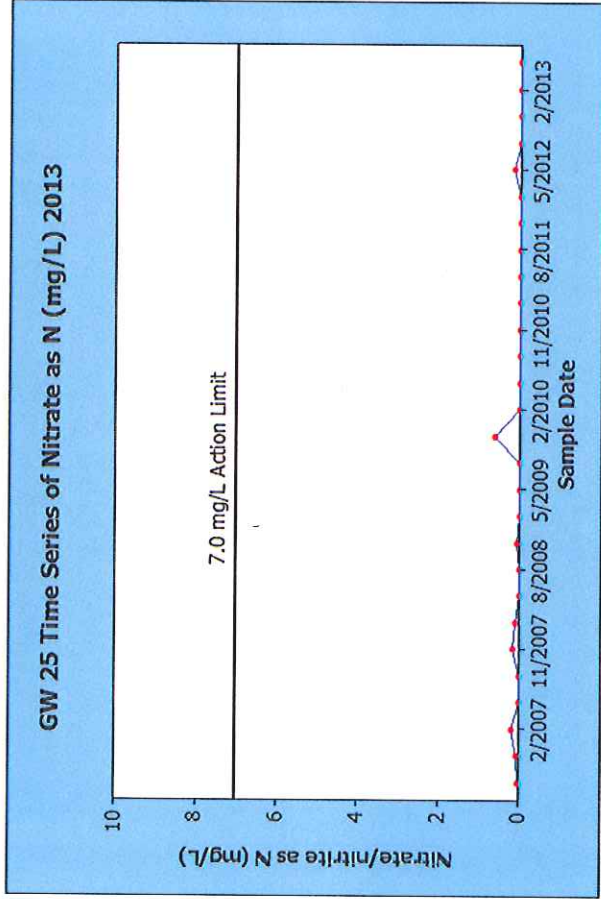
Rest of data

November-08	5.42
February-09	5.25
May-09	5.16
July-09	5.40
November-09	5.27
February-10	5.10
May-10	4.34
August-10	4.49
November-10	4.62
January-11	4.01
May-11	3.54
August-11	4.44
November-11	4.38
February-12	2.66
May-12	3.85
August-12	3.78
November-12	3.52
February-13	3.30
May-13	3.68

Std Deviation = 0.79
 Nitrate values have DECREASED

Mean last 8 samples
 Difference last 8 samples
 mean minus background
 -1.39

Monitoring Well GW-25



first 9 events = background

August-06	0.04
November-06	0.05
February-07	0.19
May-07	<0.005
August-07	0.01
November-07	0.16
February-08	0.08
May-08	<0.0050
August-08	<0.0050

Std Deviation = 0.07
Background Mean = 0.09

Rest of data

November-08	0.05
February-09	<0.0050
May-09	0.01
July-09	<0.0050
November-09	0.60
February-10	0.01
May-10	<0.0050
August-10	0.01
November-10	0.01
January-11	<0.0050
May-11	<0.0050
August-11	<0.0050
November-11	<0.0050
February-12	<0.005
May-12	0.14
August-12	0.01
November-12	<0.005
February-13	<0.005
May-13	<0.005

Std Deviation = 0.21
Nitrate values are STEADY

Mean last 8 samples 0.07
Difference last 8 samples mean minus background -0.02