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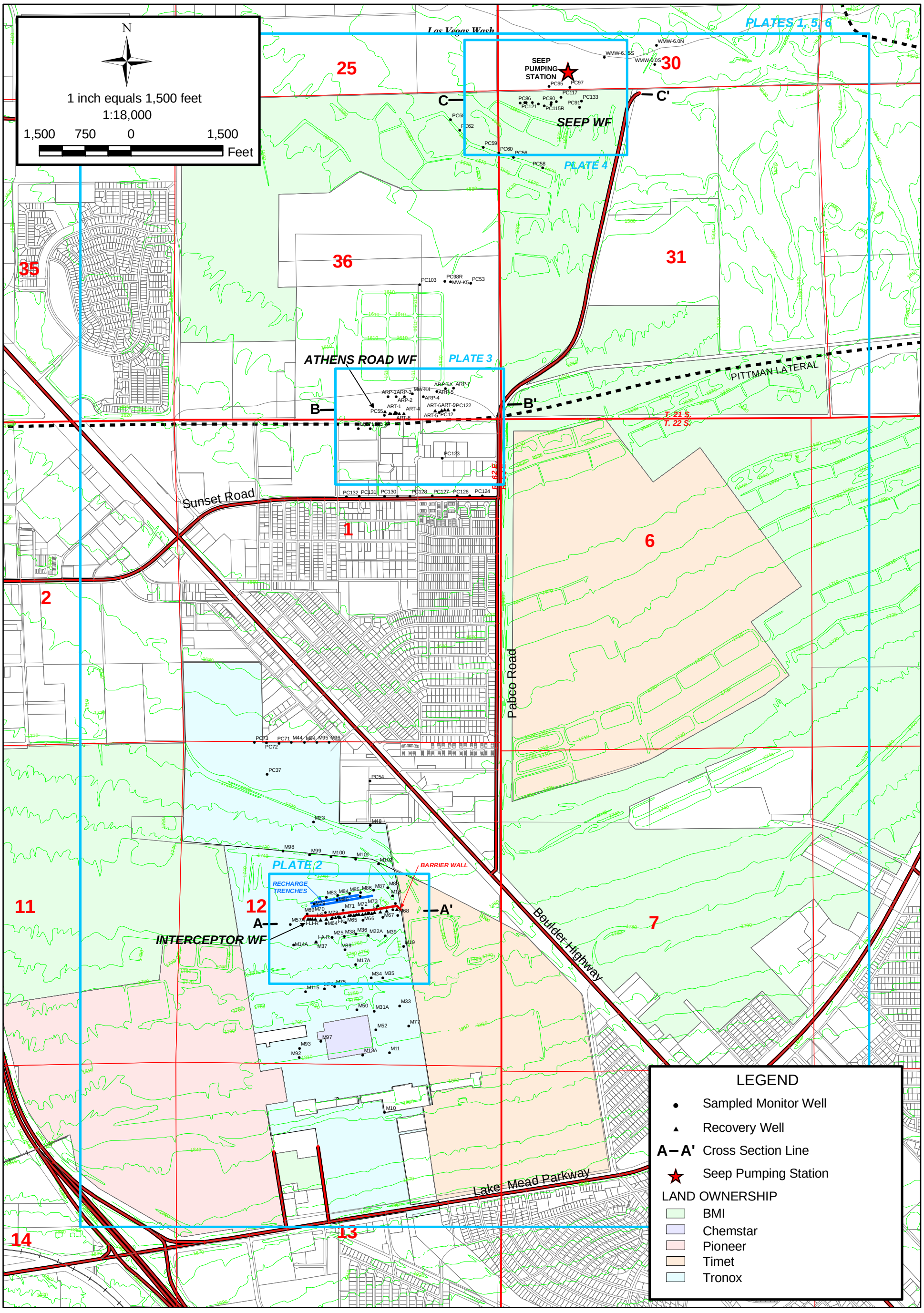

FIGURE NUMBER:	SHEET NUMBER:
1	1

LOCATION MAP

Semi-Annual Performance Report
Tronox Facility
Henderson, Nevada

SCALE:	DATE:	PROJECT NUMBER:
1" = 1,500'	January 2007	04020-023-110

ENSR | AECOM

ENSR CORPORATION
1220 AVENIDA ACASO
CAMARILLO, CALIFORNIA 93012
PHONE: (805) 388-3775
FAX: (805) 388-3577
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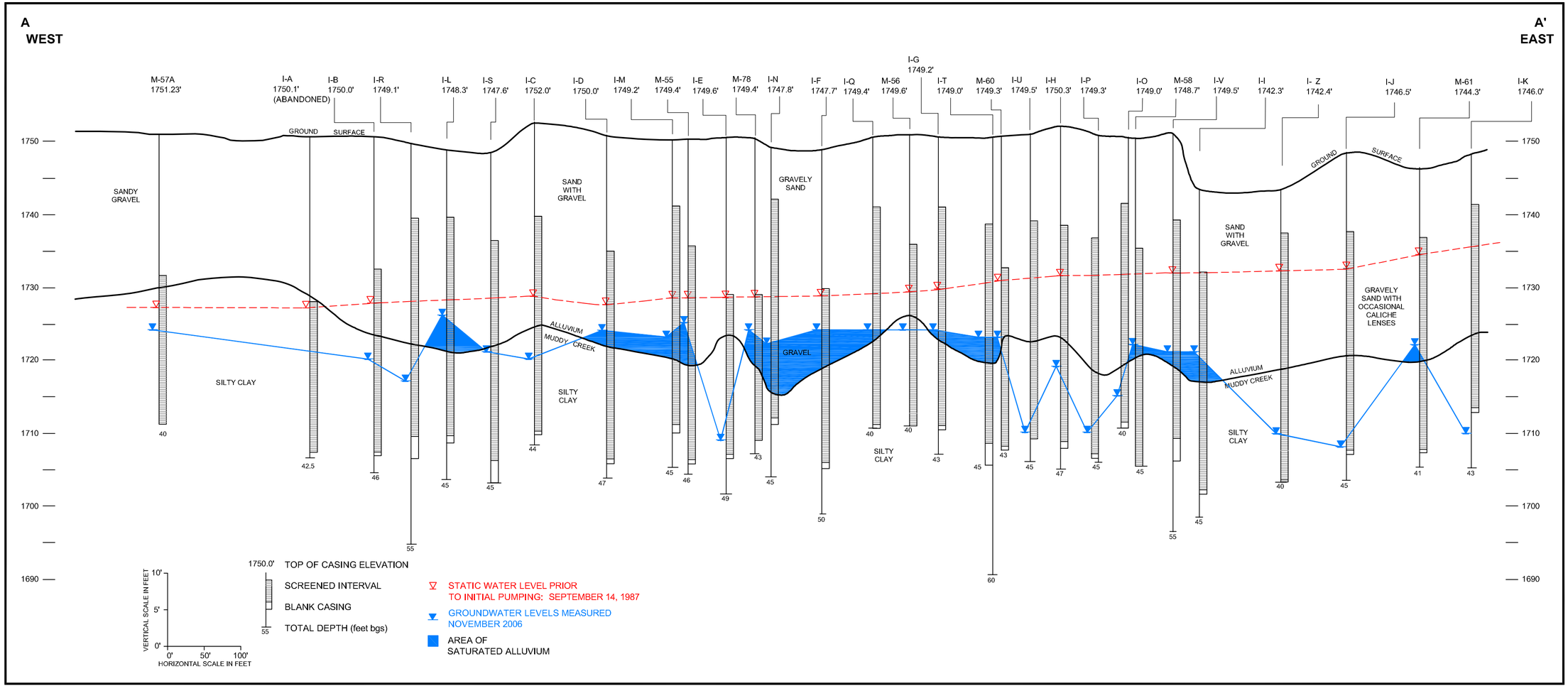
DESIGNED BY:	REVISIONS:			
E. Krish	NO:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
T. McAdam				
CHECKED BY:				
E. Krish				
APPROVED BY:				
D. Gerry				



DESIGNED BY: E. Krish
DRAWN BY: M. Scop
CHECKED BY: E. Krish
APPROVED BY: D. Gerry

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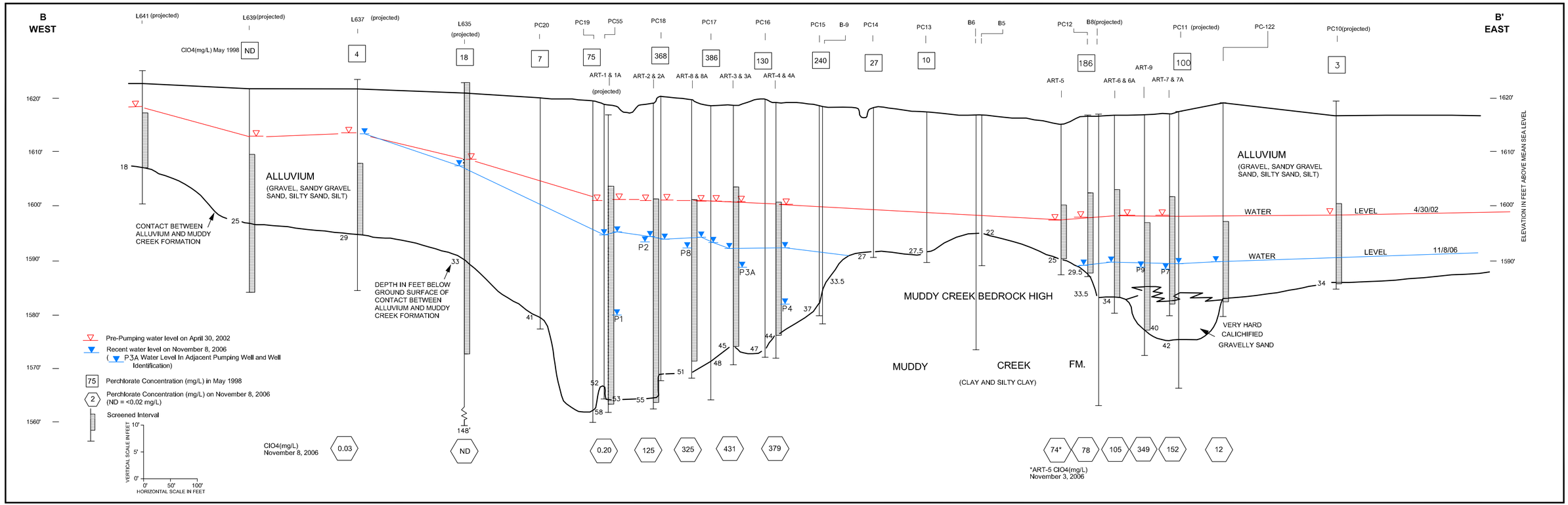
WEST - EAST HYDROGEOLOGIC CROSS SECTION A-A' INTERCEPTOR WELL FIELD NOVEMBER 2006

Semi-Annual Performance Report
Tronox Facility, Henderson, Nevada

SCALE: as noted
DATE: 1/24/2007
PROJECT NUMBER: 04020-023-110

FIGURE NUMBER: 2

SHEET NUMBER: X



DESIGNED BY: E. Krish
DRAWN BY: M. Scop
CHECKED BY: E. Krish
APPROVED BY: D. Gerry

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ENSR CORPORATION
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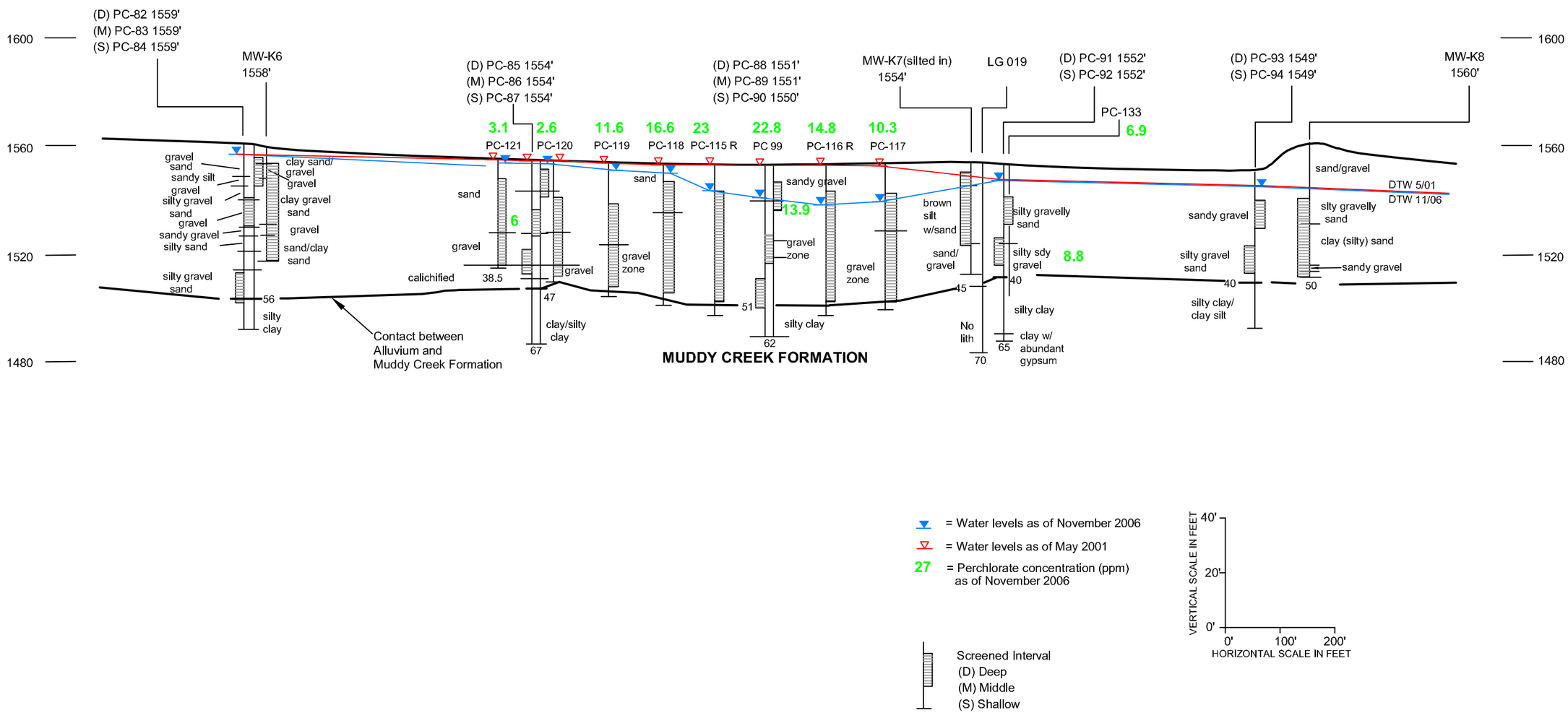
WEST - EAST HYDROGEOLOGIC CROSS SECTION B-B'
ATHENS ROAD WELL FIELD
NOVEMBER 2006
Semi-Annual Performance Report
Tronox Facility, Henderson, Nevada

SCALE: as noted
DATE: 2/15/2007
PROJECT NUMBER: 04020-023-110

FIGURE NUMBER: 3

SHEET NUMBER: X



= Water levels as of November 2006

= Water levels as of May 2001

27 = Perchlorate concentration (ppm) as of November 2006

Screened Interval
(D) Deep
(M) Middle
(S) Shallow

VERTICAL SCALE IN FEET: 40', 20', 0'

HORIZONTAL SCALE IN FEET: 0', 100', 200'

DESIGNED BY: E. Krish
DRAWN BY: M. Scop
CHECKED BY: E. Krish
APPROVED BY: D. Gerry

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WEST - EAST HYDROGEOLOGIC CROSS SECTION C-C'
SEEP WELL FIELD
NOVEMBER 2006

Semi-Annual Performance Report
Tronox Facility, Henderson, Nevada

SCALE: as noted
DATE: 1/23/2007
PROJECT NUMBER: 04020-023-110

FIGURE NUMBER: 4

SHEET NUMBER: X

FILENAME:

FIGURE 5: INTERCEPTOR WELL FIELD TOTAL CHROMIUM SECTION GRAPH
TRONOX LLC HENDERSON, NEVADA

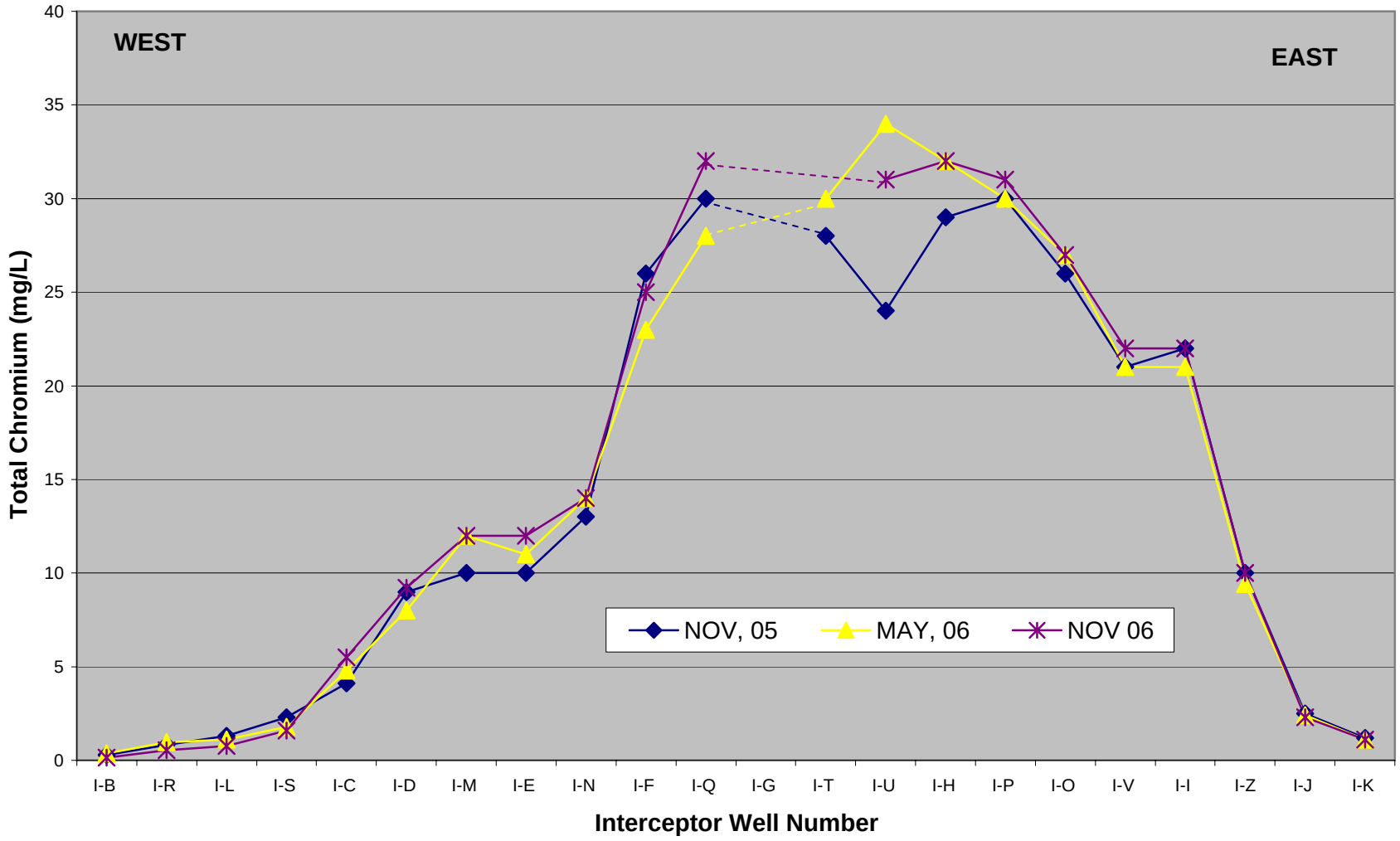


FIGURE 6: ATHENS ROAD WELL FIELD TOTAL CHROMIUM SECTION GRAPH
TRONOX LLC HENDERSON, NEVADA

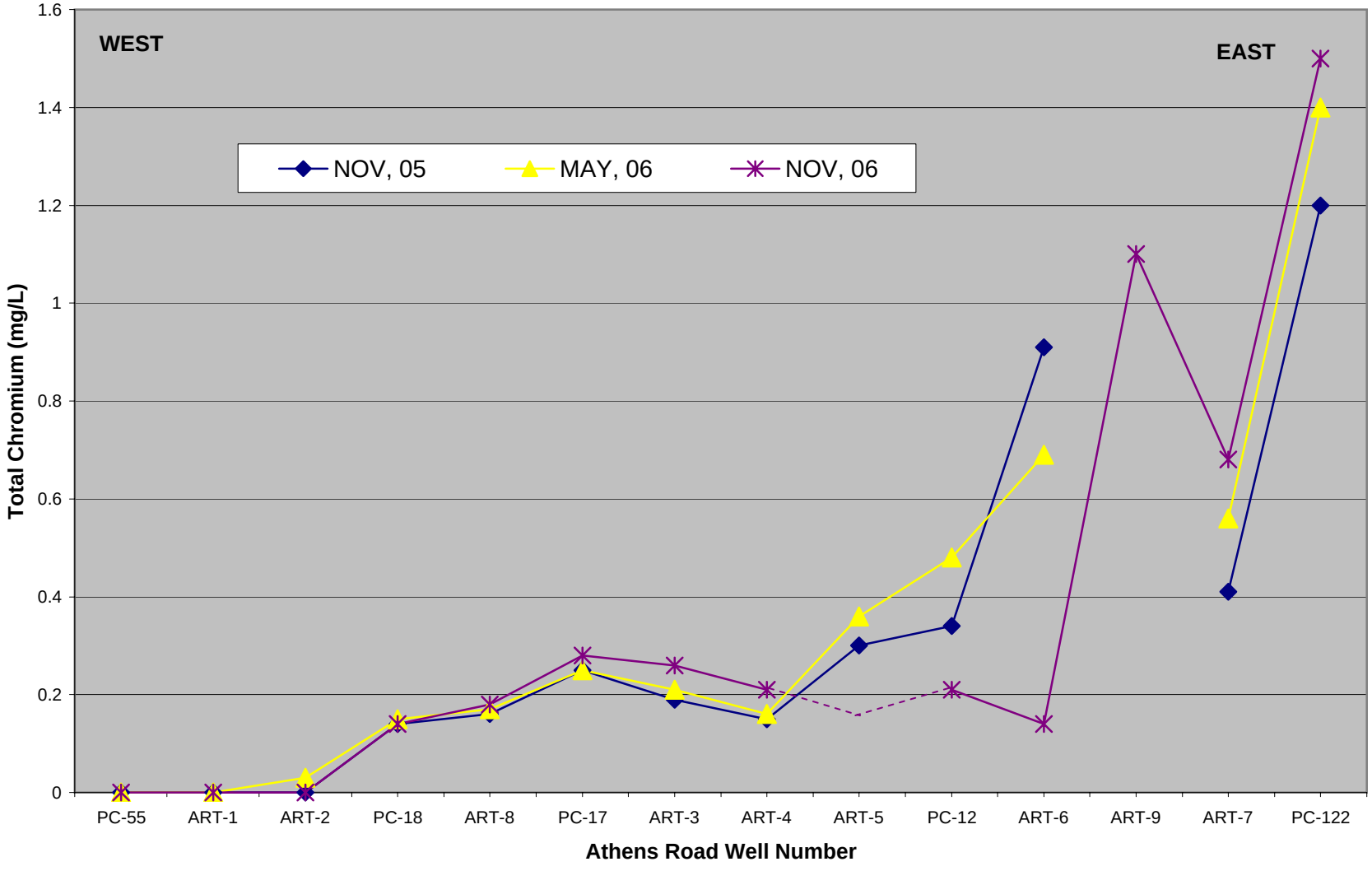
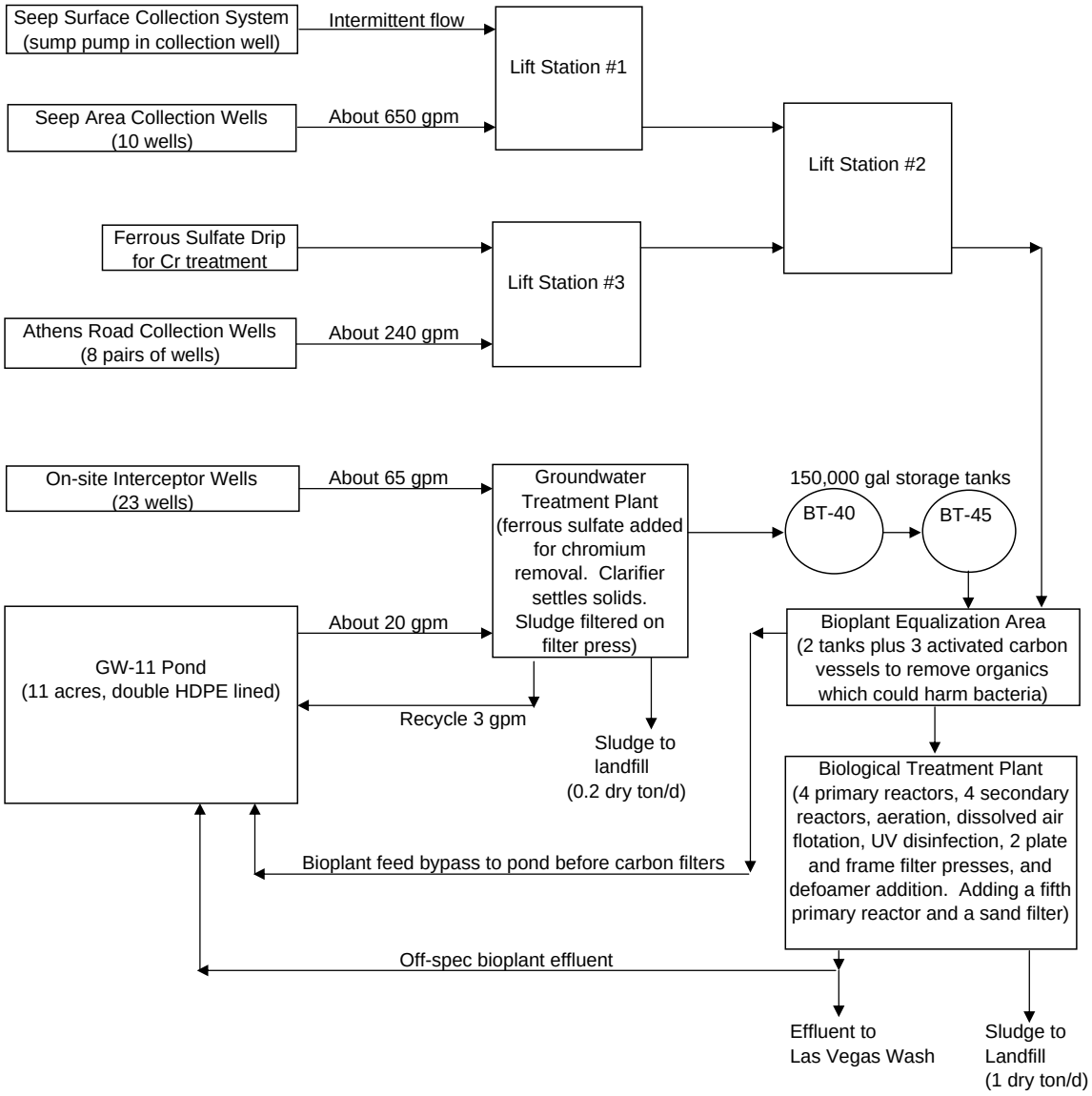


Figure 7

Tronox Henderson Groundwater Treatment Block Flow Diagram

Last modified 7/17/2006



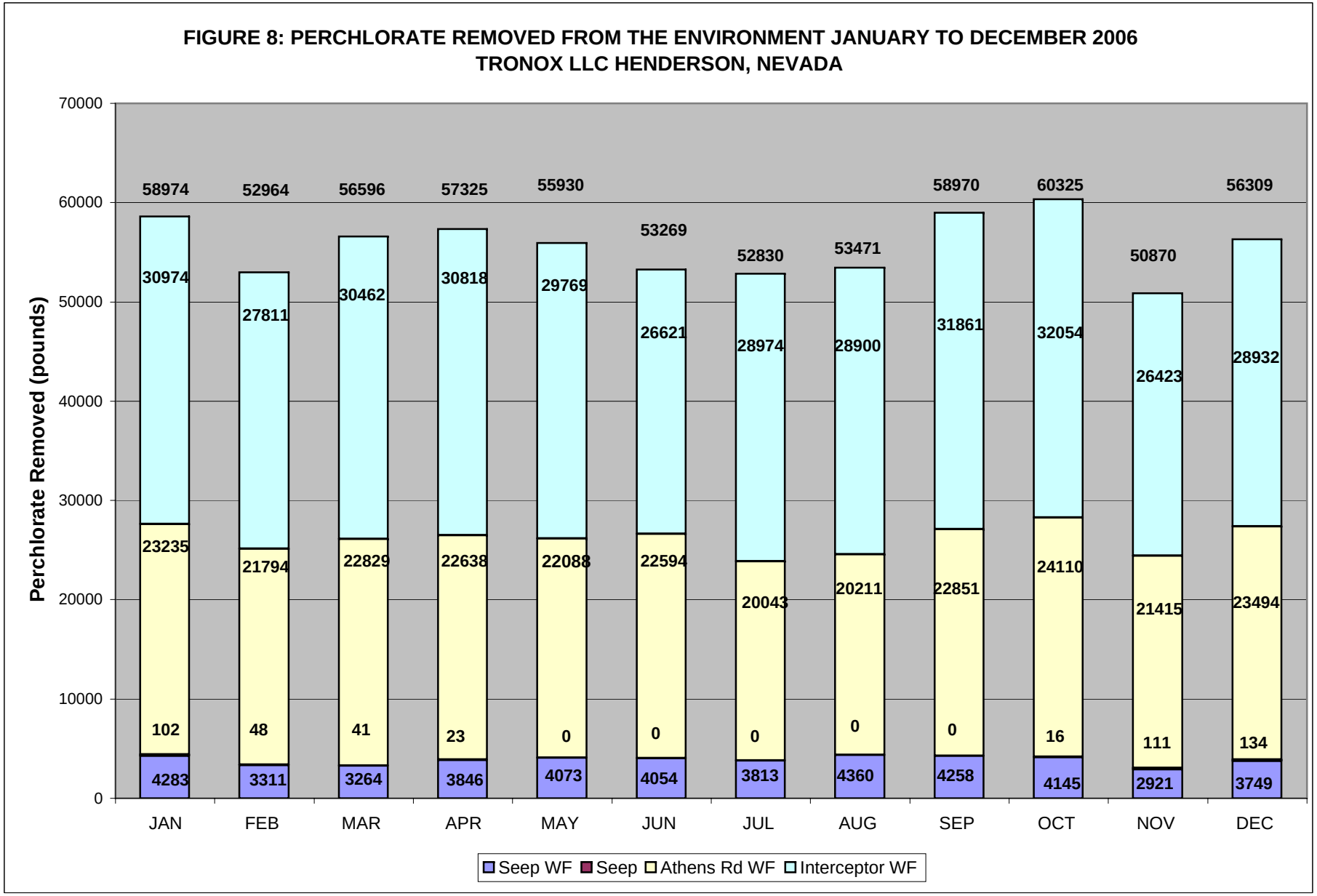


FIGURE 8: PERCHLORATE REMOVED FROM THE ENVIRONMENT JANUARY TO DECEMBER 2006
TRONOX LLC HENDERSON, NEVADA
Perchlorate Removed (pounds)
70000
60000
50000
40000
30000
20000
10000
0
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
58974
52964
56596
57325
55930
53269
52830
53471
58970
60325
50870
56309
30974
27811
30462
30818
29769
26621
28974
28900
31861
32054
26423
28932
23235
21794
22829
22638
22088
22594
20043
20211
22851
24110
21415
23494
102
48
41
23
0
0
0
0
0
16
111
134
4283
3311
3264
3846
4073
4054
3813
4360
4258
4145
2921
3749
Seep WF
Seep
Athens Rd WF
Interceptor WF

FIGURE 9: INTERCEPTOR WELL FIELD PERCHLORATE SECTION GRAPH
TRONOX LLC HENDERSON, NEVADA

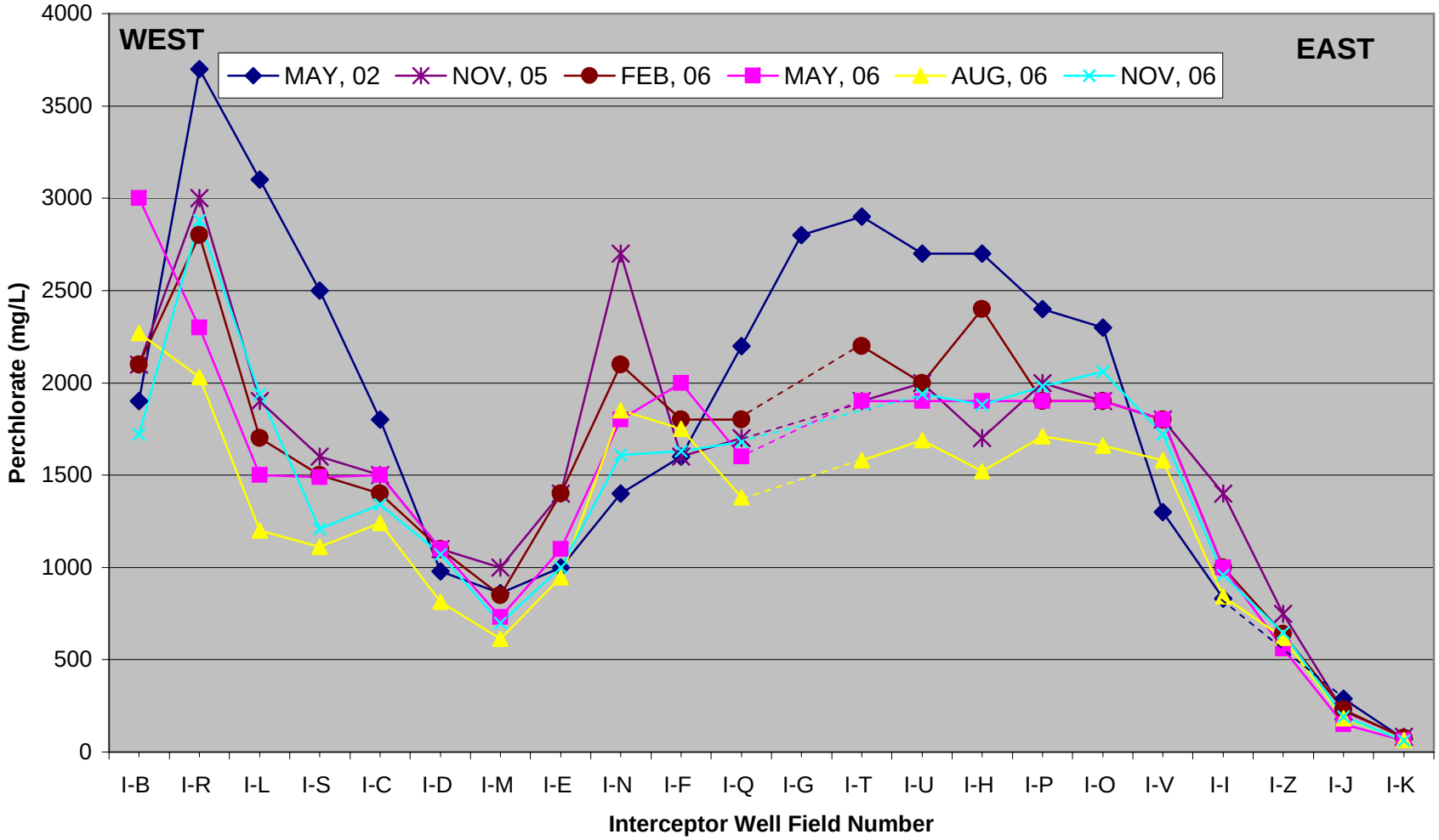


FIGURE 10: INTERCEPTOR WELL FIELD PERCHLORATE TREND GRAPH
TRONOX LLC HENDERSON, NEVADA

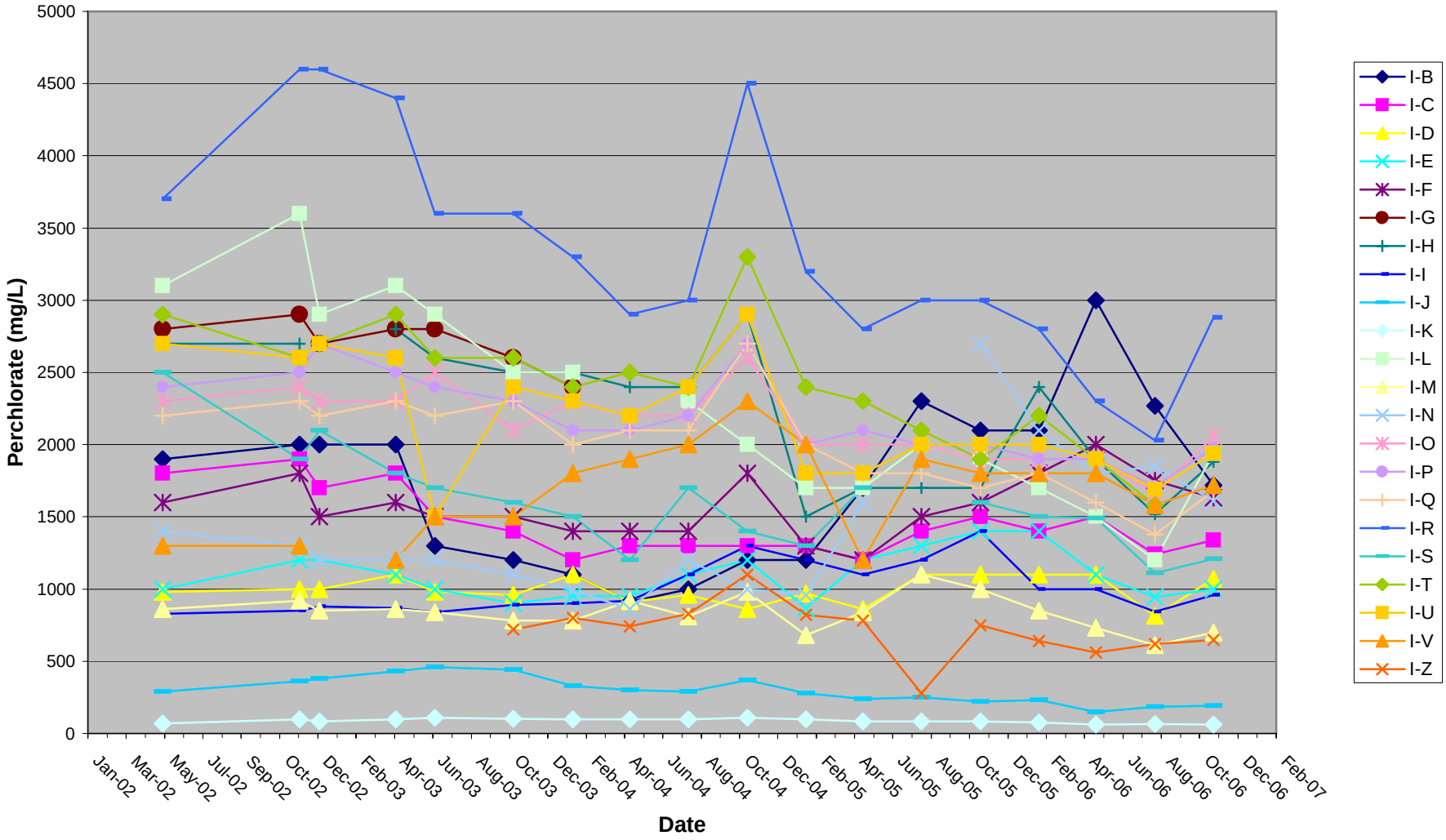


FIGURE 11: INTERCEPTOR WELL FIELD TOTAL DISSOLVED SOLIDS SECTION GRAPH
TRONOX LLC HENDERSON, NEVADA

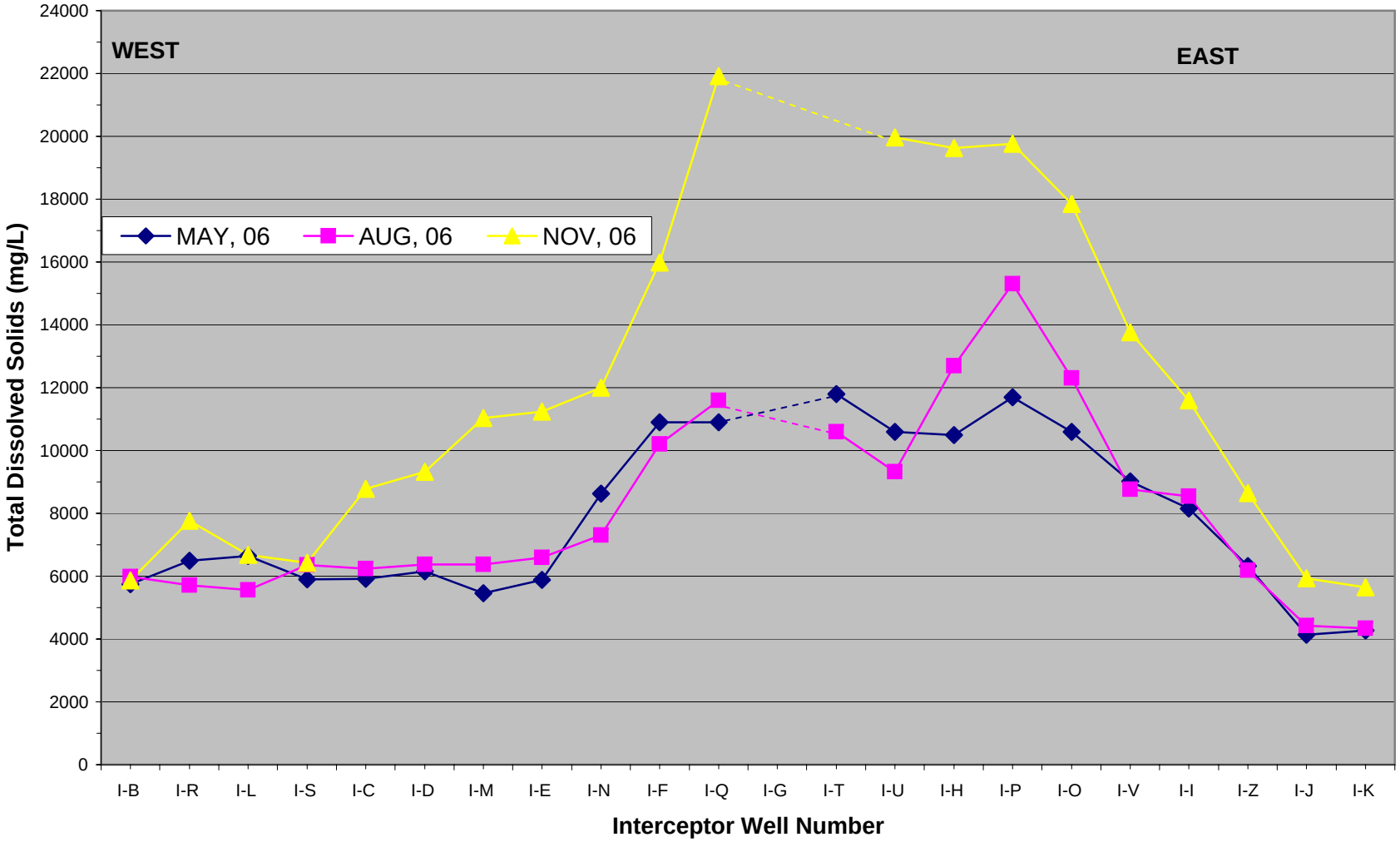


FIGURE 12: INTERCEPTOR WELL FIELD AVERAGE PERCHLORATE CONCENTRATION AND MASS REMOVED TRONOX LLC HENDERSON, NEVADA

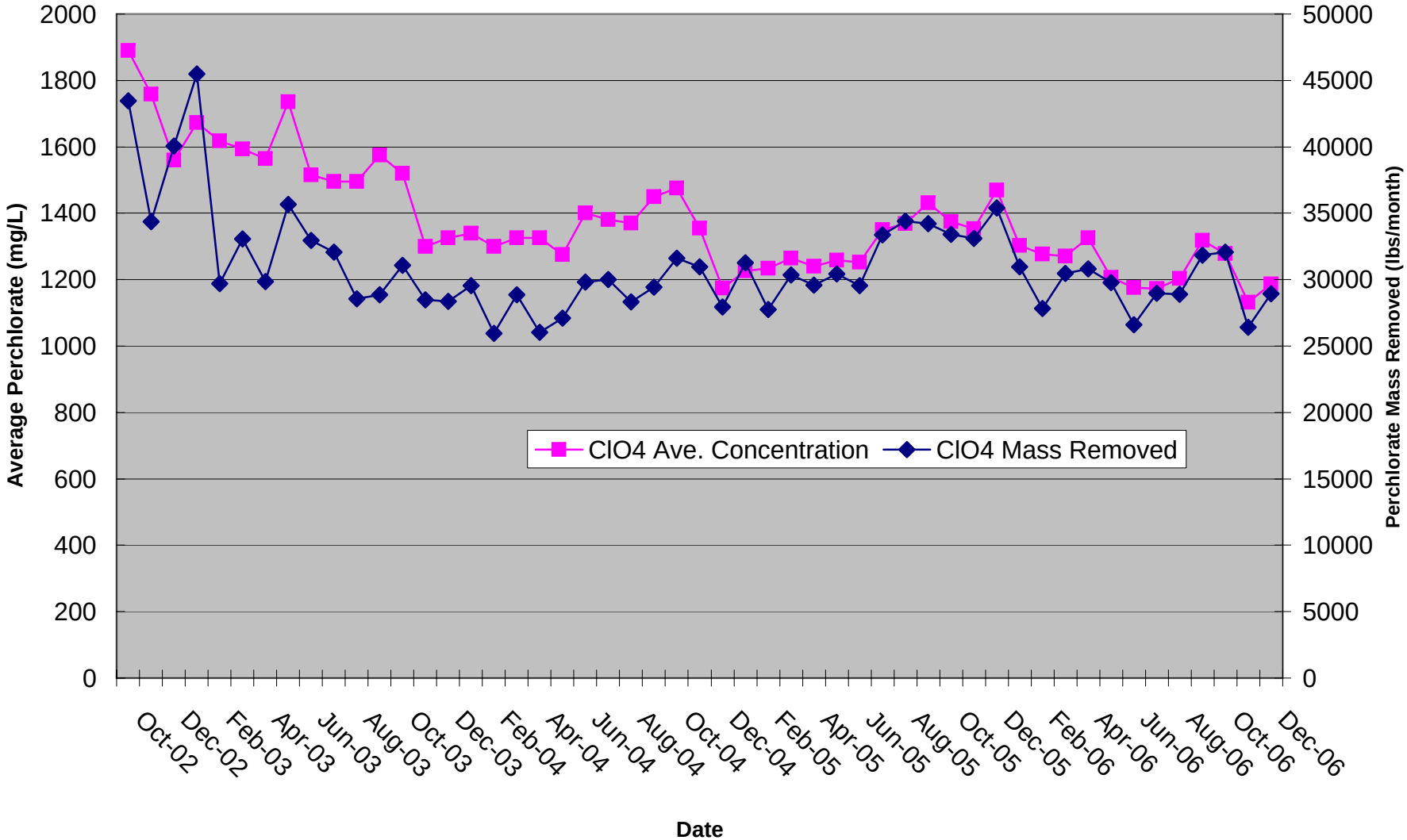


FIGURE 13: WELL M-100 PERCHLORATE VS. WATER ELEVATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA

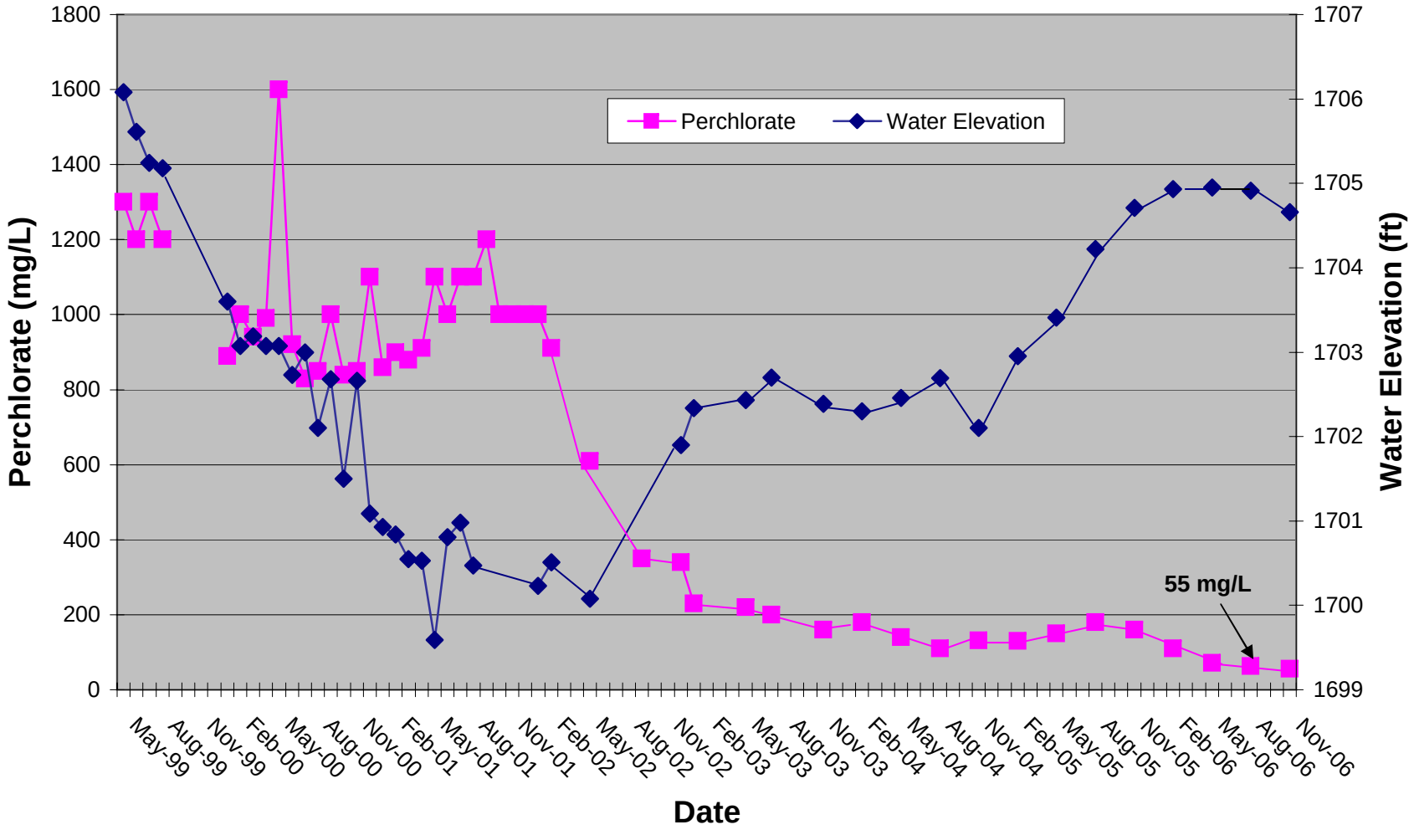


FIGURE 14: ATHENS ROAD WELL FIELD PERCHLORATE CONCENTRATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA

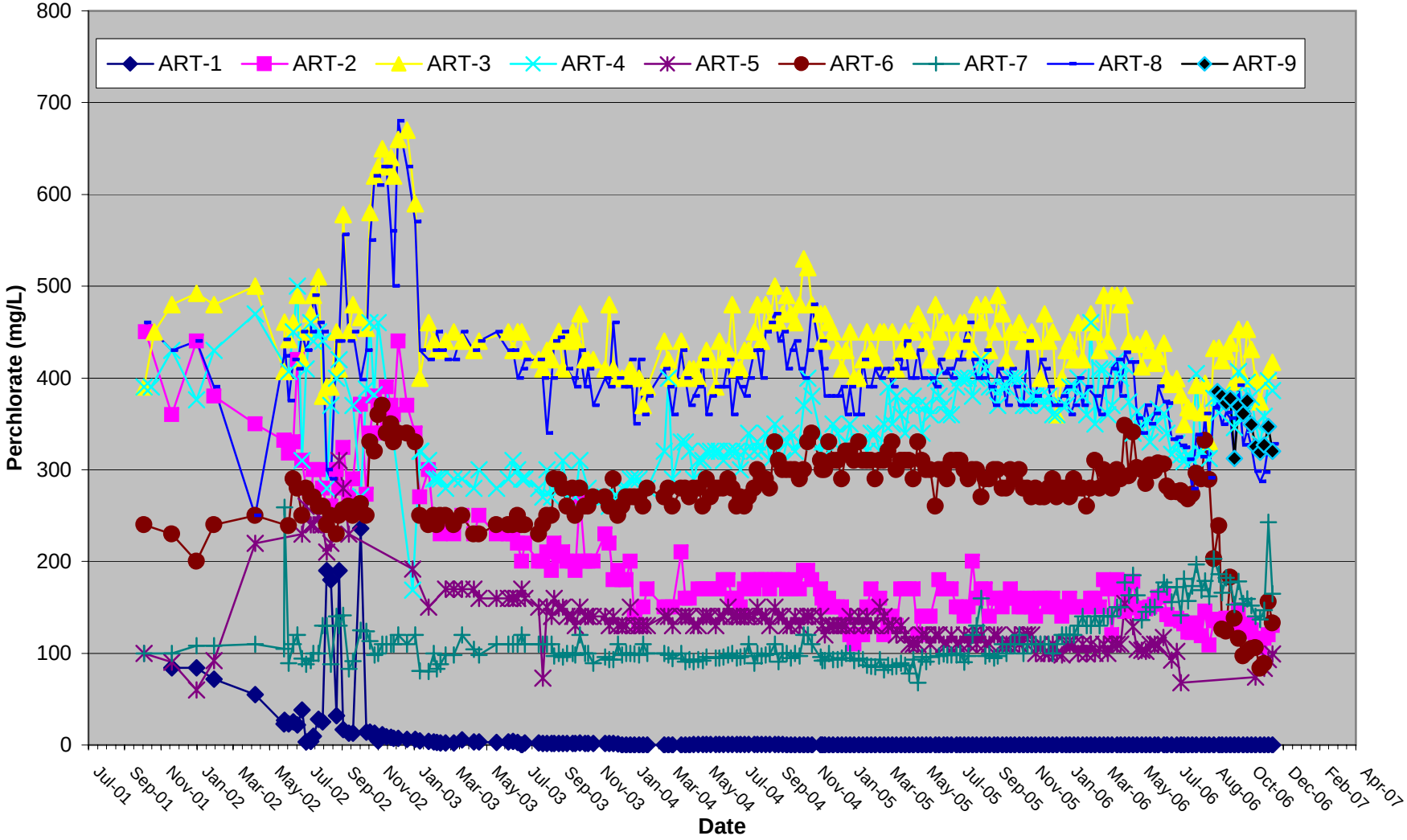
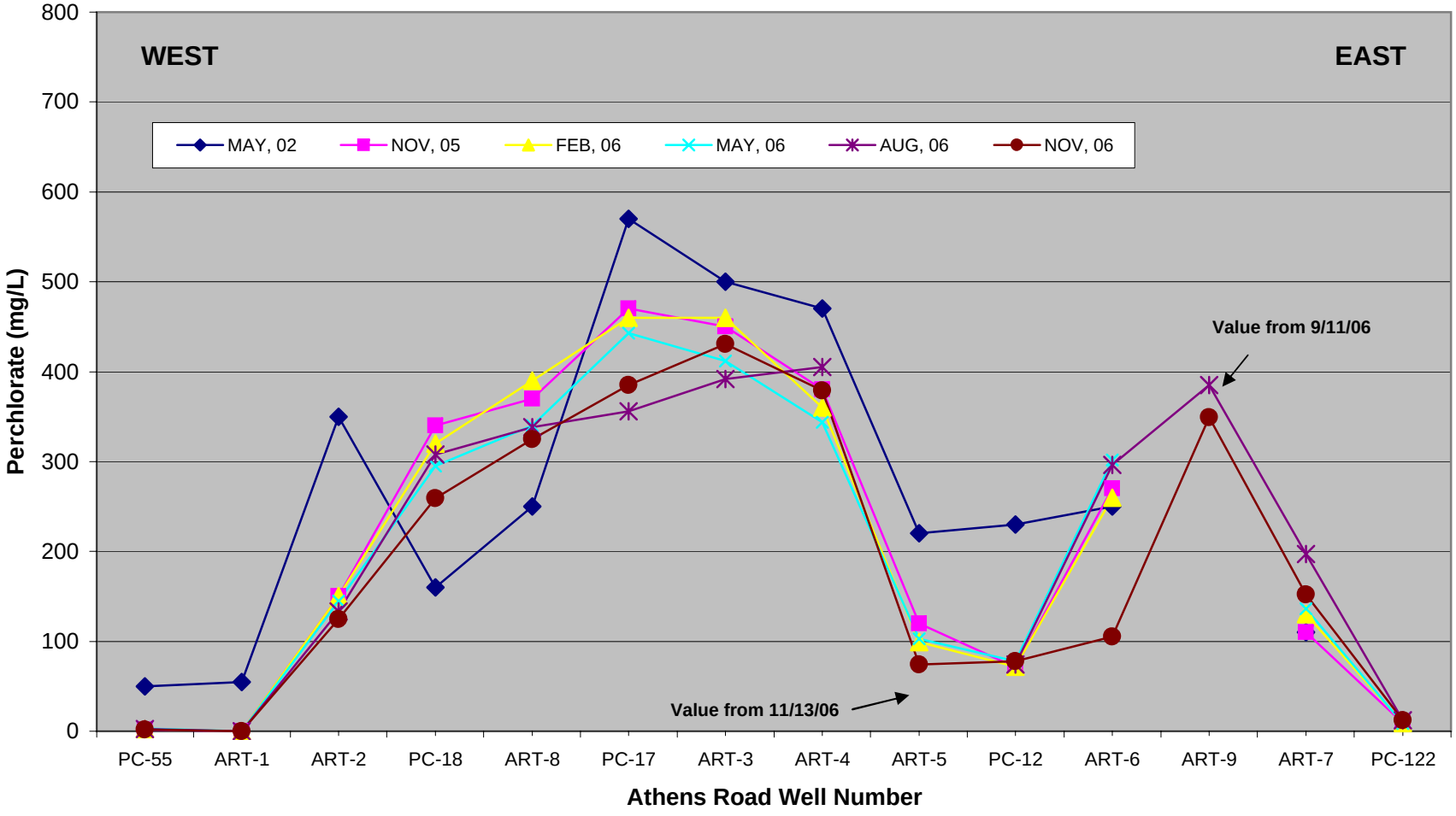


FIGURE 15: ATHENS ROAD WELL FIELD PERCHLORATE SECTION GRAPH TRONOX LLC HENDERSON, NEVADA



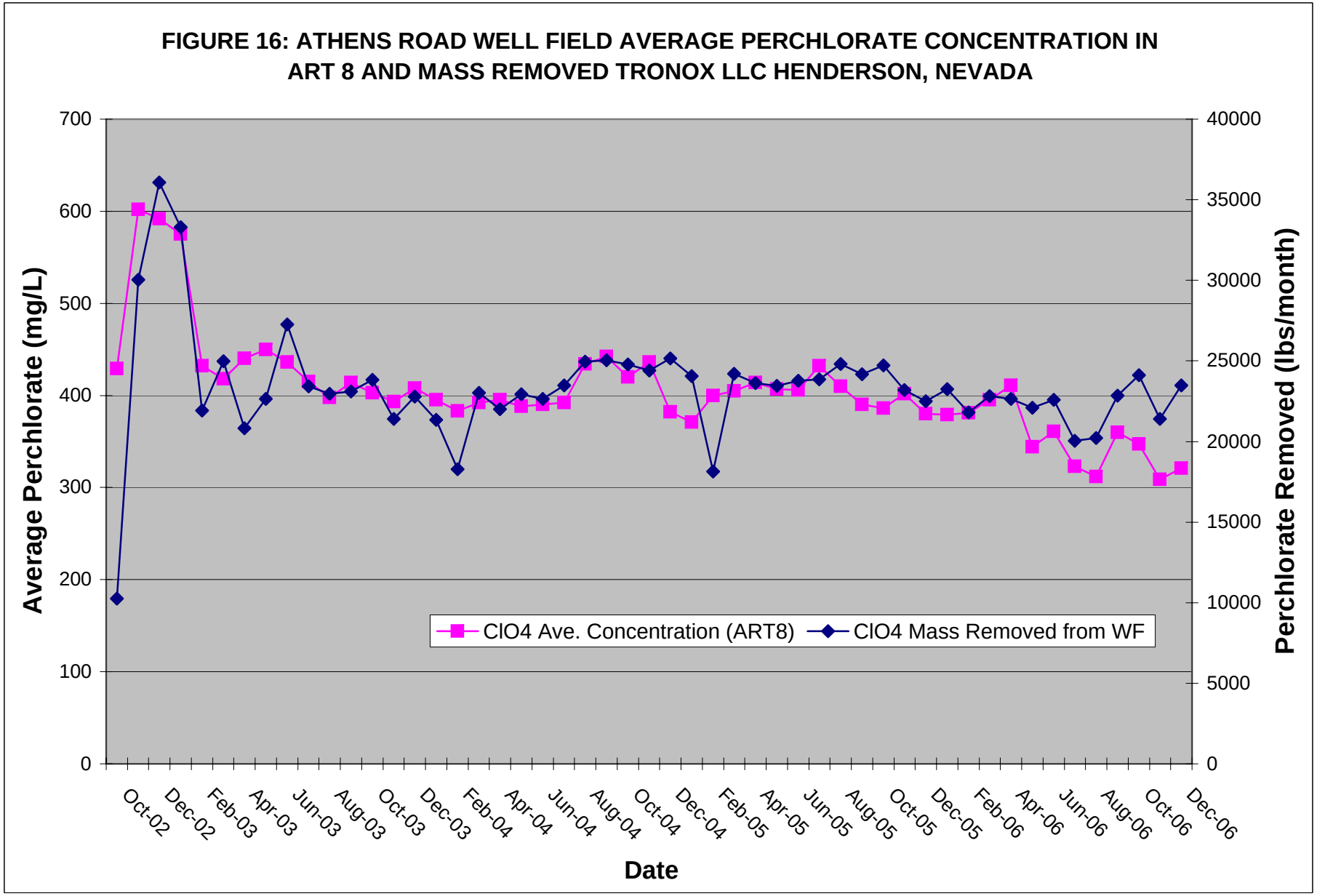


FIGURE 16: ATHENS ROAD WELL FIELD AVERAGE PERCHLORATE CONCENTRATION IN ART 8 AND MASS REMOVED TRONOX LLC HENDERSON, NEVADA
Average Perchlorate (mg/L)
Perchlorate Removed (lbs/month)
Date
ClO4 Ave. Concentration (ART8)
ClO4 Mass Removed from WF
0
100
200
300
400
500
600
700
0
5000
10000
15000
20000
25000
30000
35000
40000
Oct-02
Dec-02
Feb-03
Apr-03
Jun-03
Aug-03
Oct-03
Dec-03
Feb-04
Apr-04
Jun-04
Aug-04
Oct-04
Dec-04
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Jun-06
Aug-06
Oct-06
Dec-06

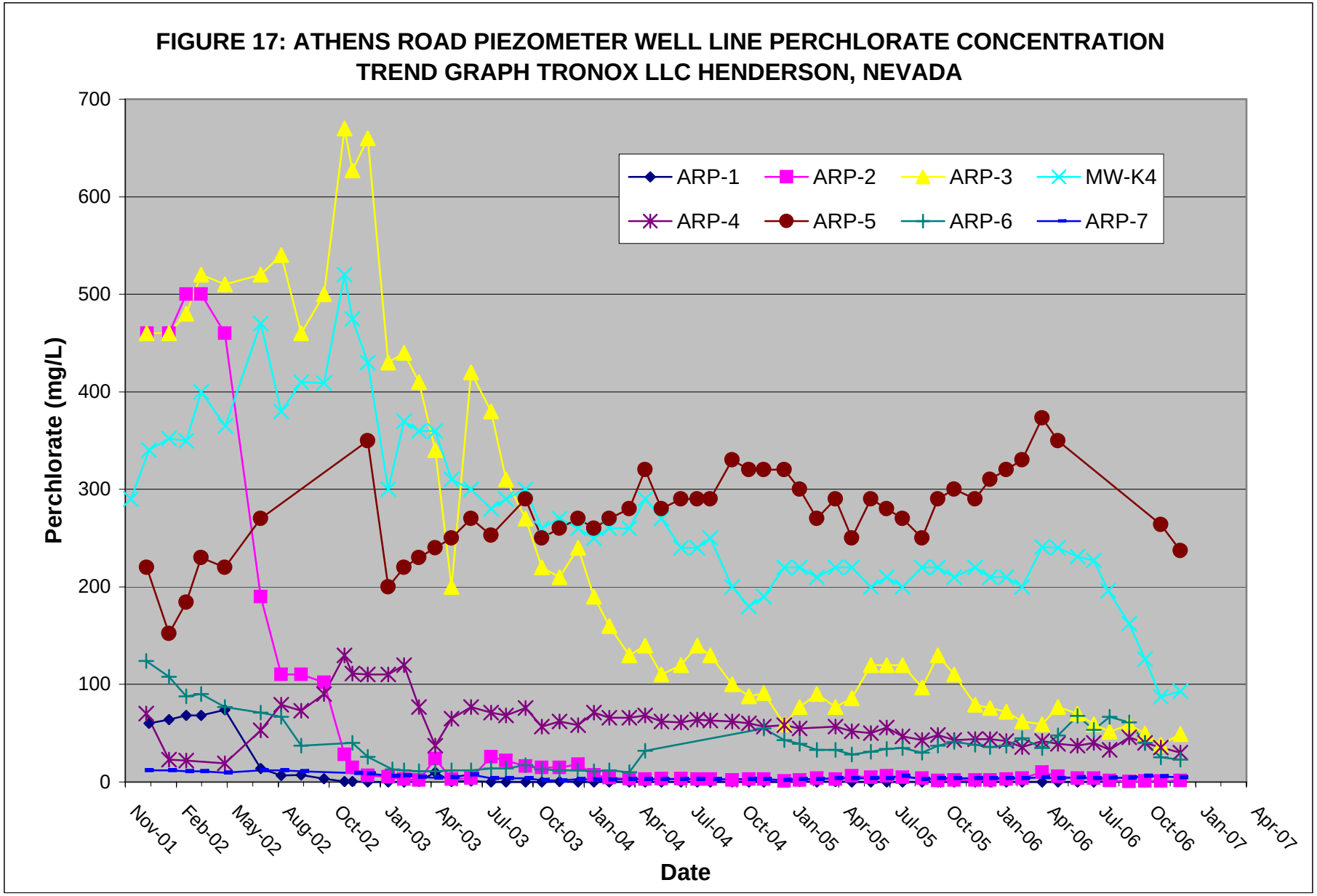
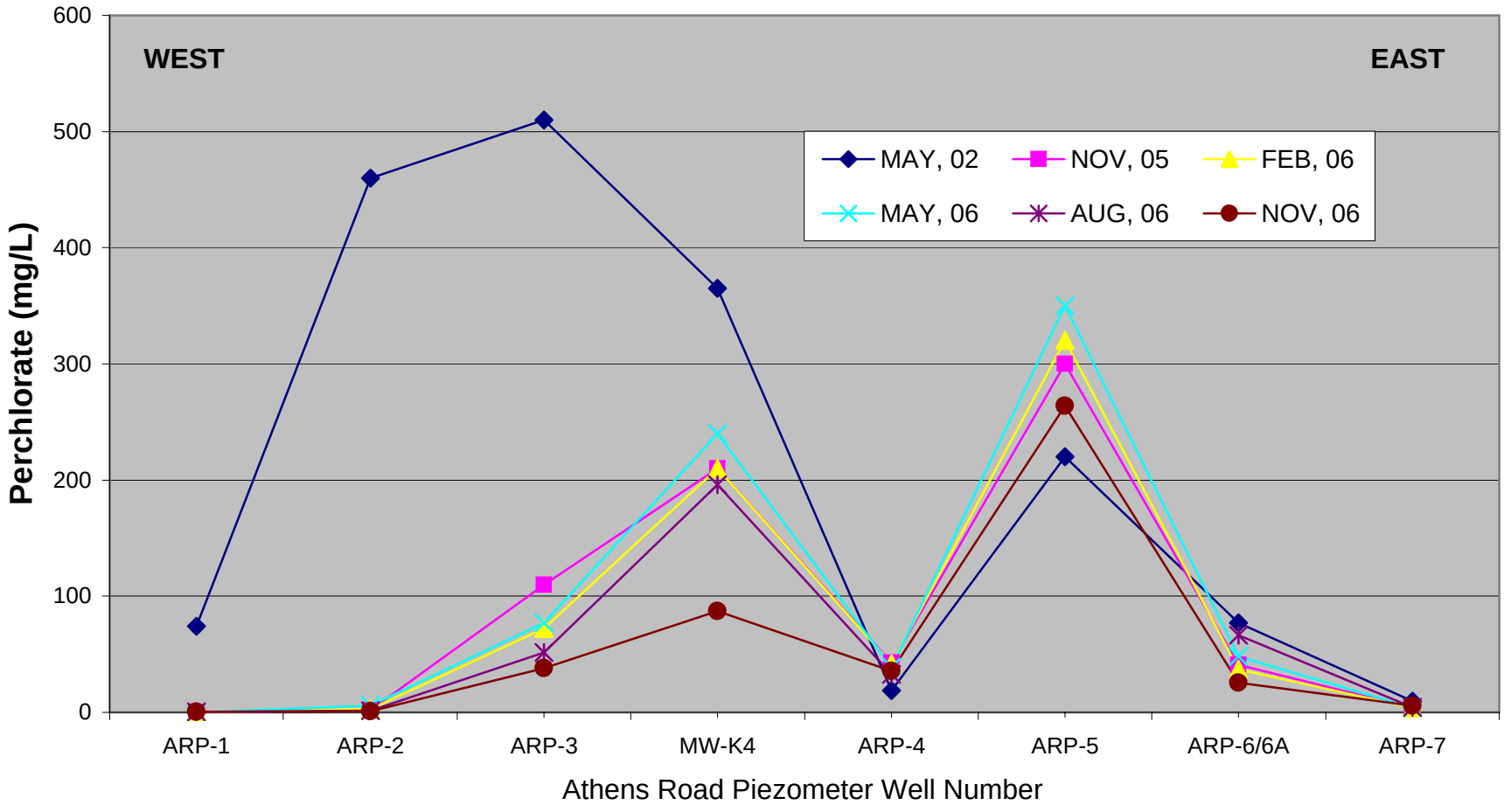


FIGURE 17: ATHENS ROAD PIEZOMETER WELL LINE PERCHLORATE CONCENTRATION TREND GRAPH TRONOX LLC HENDERSON, NEVADA
Perchlorate (mg/L)
700
600
500
400
300
200
100
0
ARP-1
ARP-2
ARP-3
MW-K4
ARP-4
ARP-5
ARP-6
ARP-7
Nov-01
Feb-02
May-02
Aug-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Jan-07
Apr-07
Date

FIGURE 18: ATHENS ROAD PIEZOMETER WELL LINE PERCHLORATE CONCENTRATION SECTION GRAPH TRONOX LLC HENDERSON, NEVADA



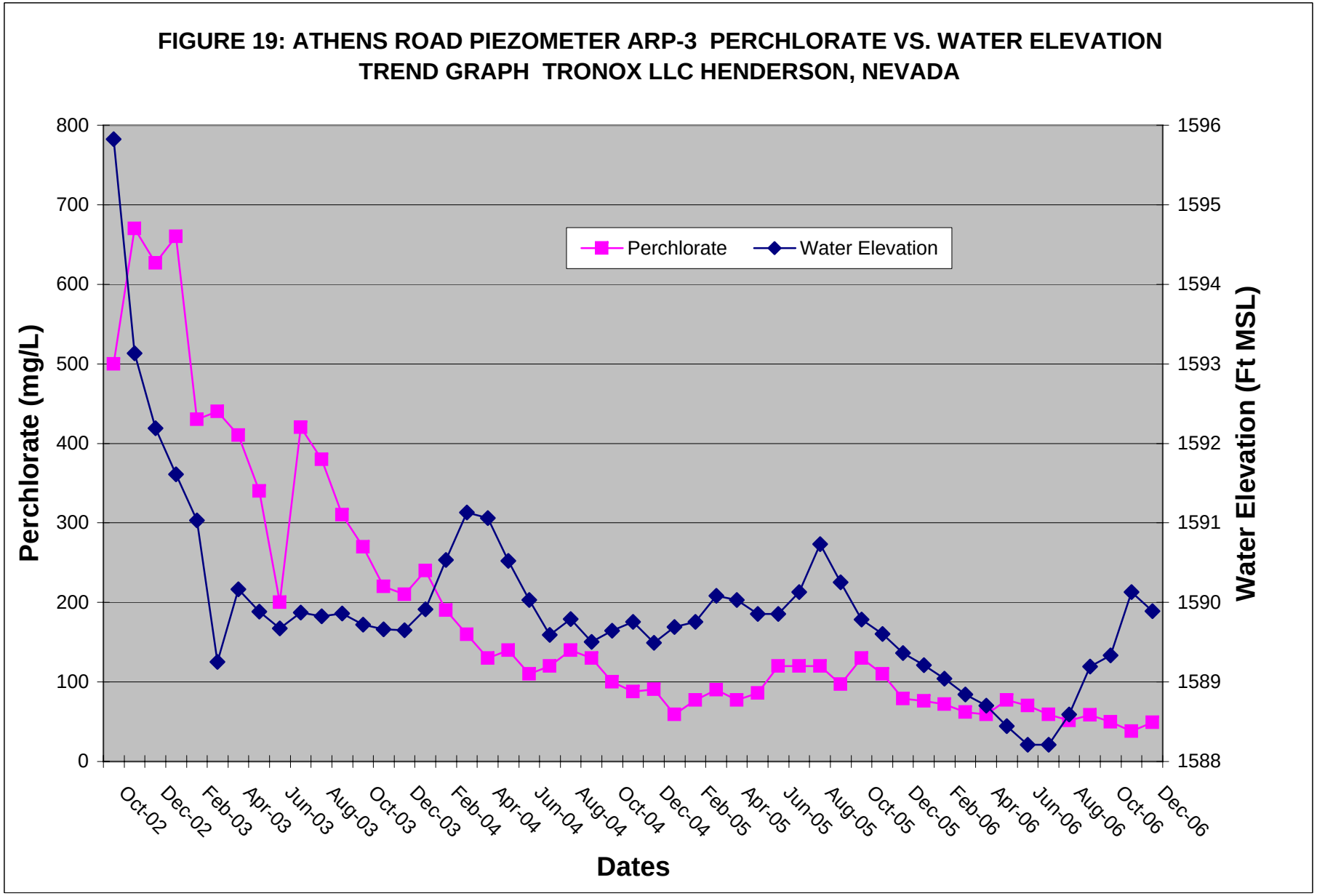


FIGURE 19: ATHENS ROAD PIEZOMETER ARP-3 PERCHLORATE VS. WATER ELEVATION
TREND GRAPH TRONOX LLC HENDERSON, NEVADA
Perchlorate
Water Elevation
Perchlorate (mg/L)
Water Elevation (Ft MSL)
Dates
800
700
600
500
400
300
200
100
0
1596
1595
1594
1593
1592
1591
1590
1589
1588
Oct-02
Dec-02
Feb-03
Apr-03
Jun-03
Aug-03
Oct-03
Dec-03
Feb-04
Apr-04
Jun-04
Aug-04
Oct-04
Dec-04
Feb-05
Apr-05
Jun-05
Aug-05
Oct-05
Dec-05
Feb-06
Apr-06
Jun-06
Aug-06
Oct-06
Dec-06

FIGURE 20: COH WRF WELL LINE PERCHLORATE CONCENTRATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA

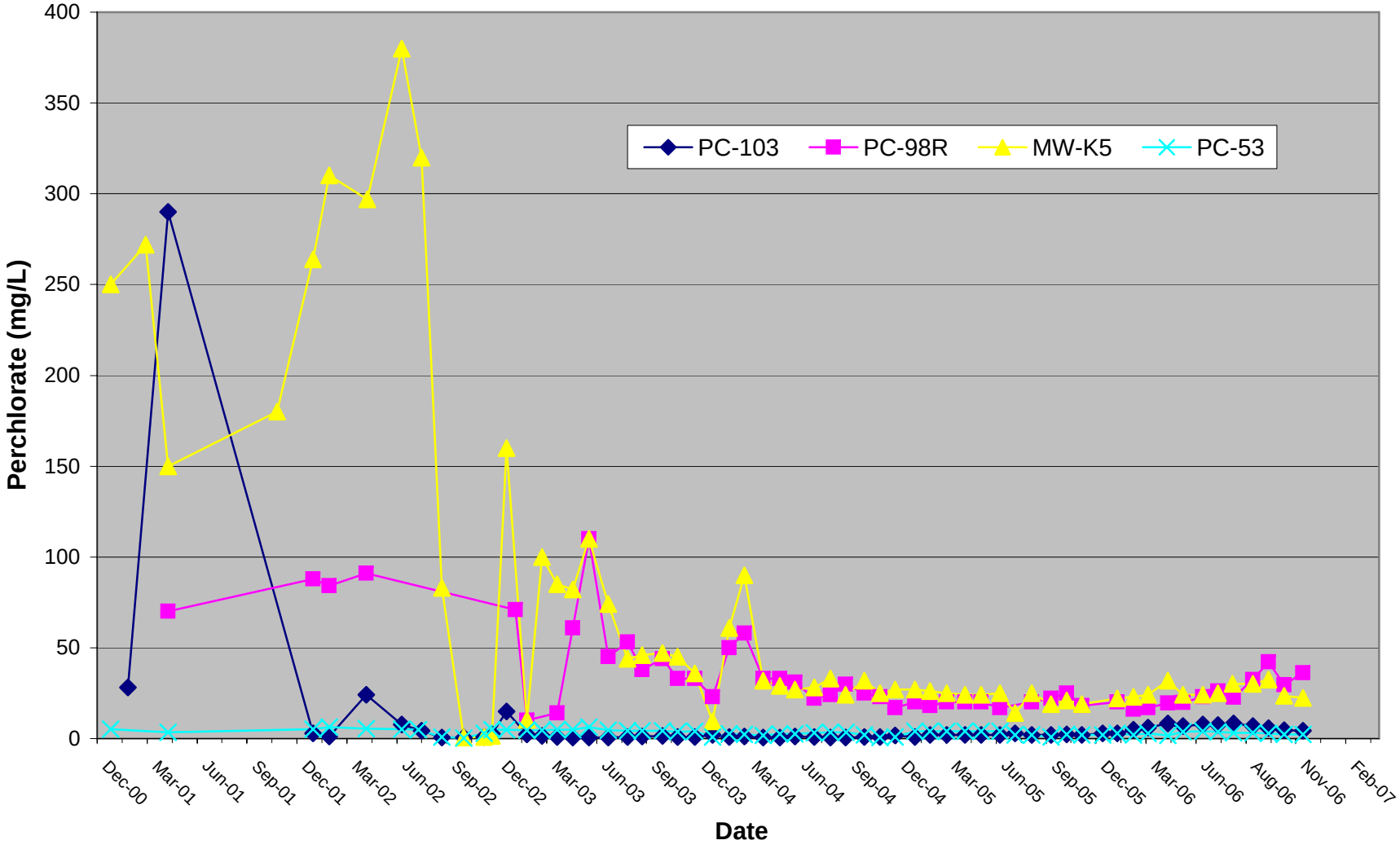
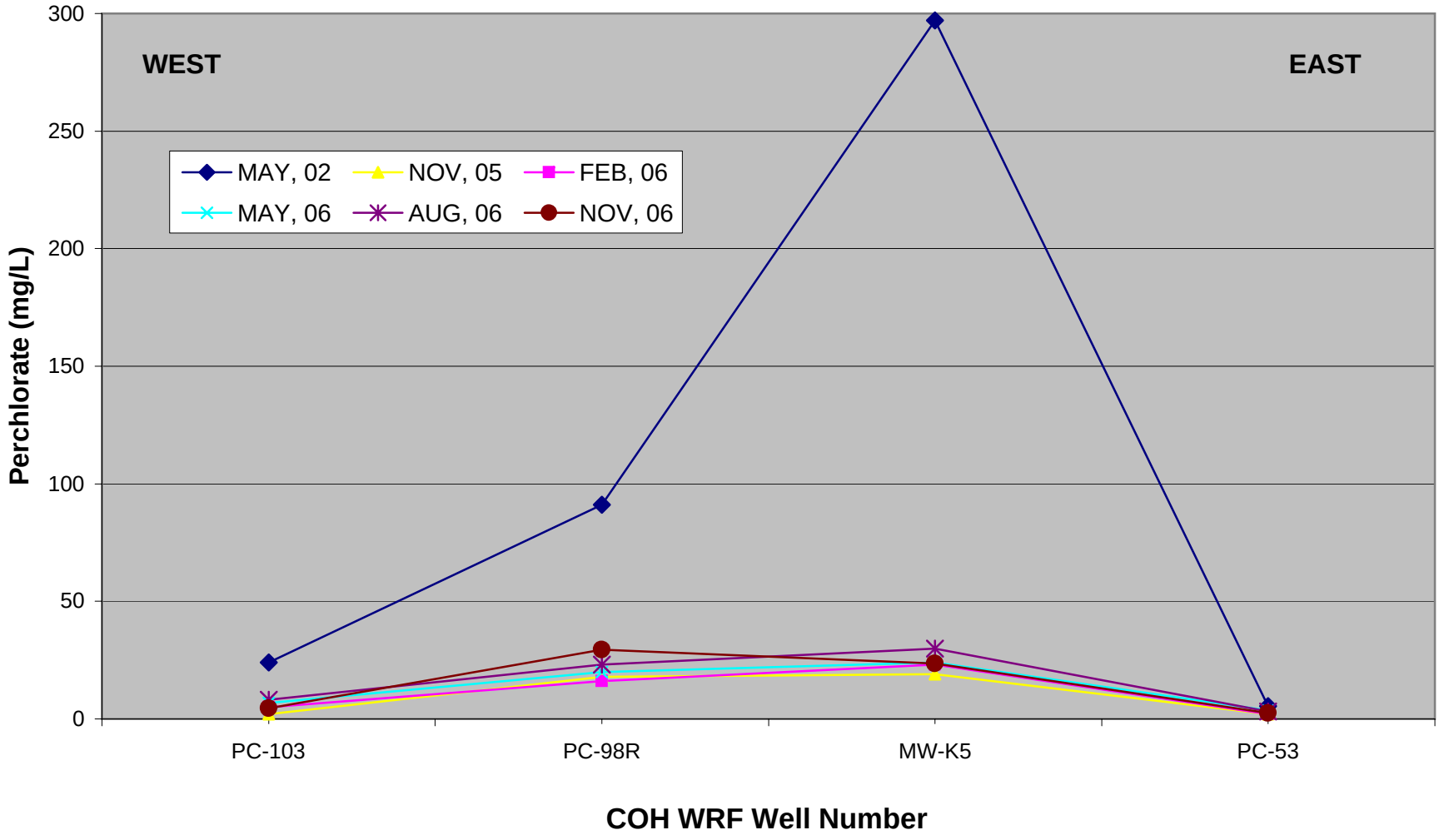


FIGURE 21: COH WRF WELL LINE PERCHLORATE CONCENTRATION SECTION GRAPH
TRONOX LLC HENDERSON, NEVADA



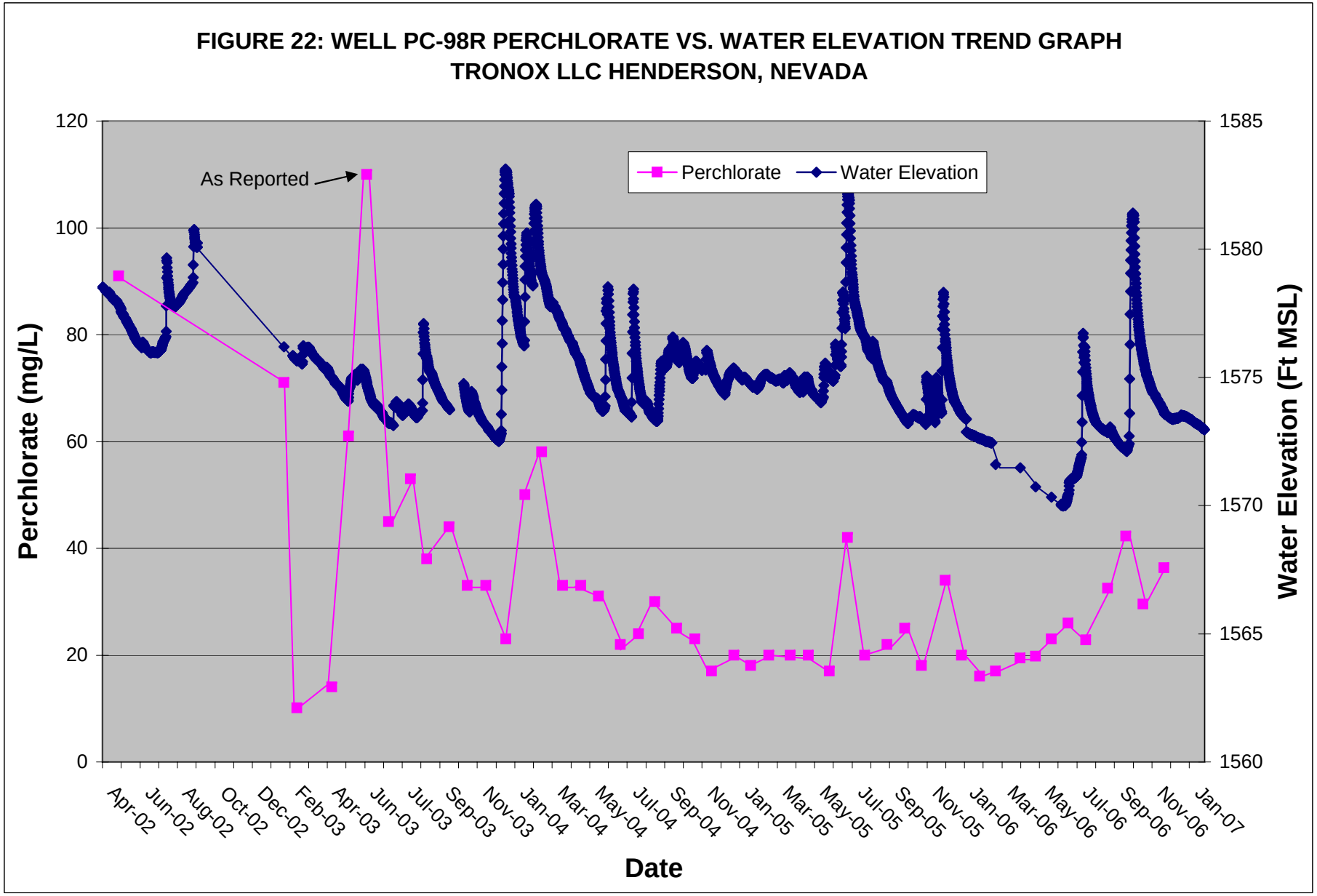


FIGURE 22: WELL PC-98R PERCHLORATE VS. WATER ELEVATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA
Perchlorate (mg/L)
Water Elevation (Ft MSL)
Date
Perchlorate
Water Elevation
As Reported
120
100
80
60
40
20
0
1585
1580
1575
1570
1565
1560
Apr-02
Jun-02
Aug-02
Oct-02
Dec-02
Feb-03
Apr-03
Jun-03
Jul-03
Sep-03
Nov-03
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
Jul-05
Sep-05
Nov-05
Jan-06
Mar-06
May-06
Jul-06
Sep-06
Nov-06
Jan-07

FIGURE 23: LOWER PONDS WELL LINE PERCHLORATE CONCENTRATION TREND GRAPH TRONOX LLC HENDERSON, NEVADA

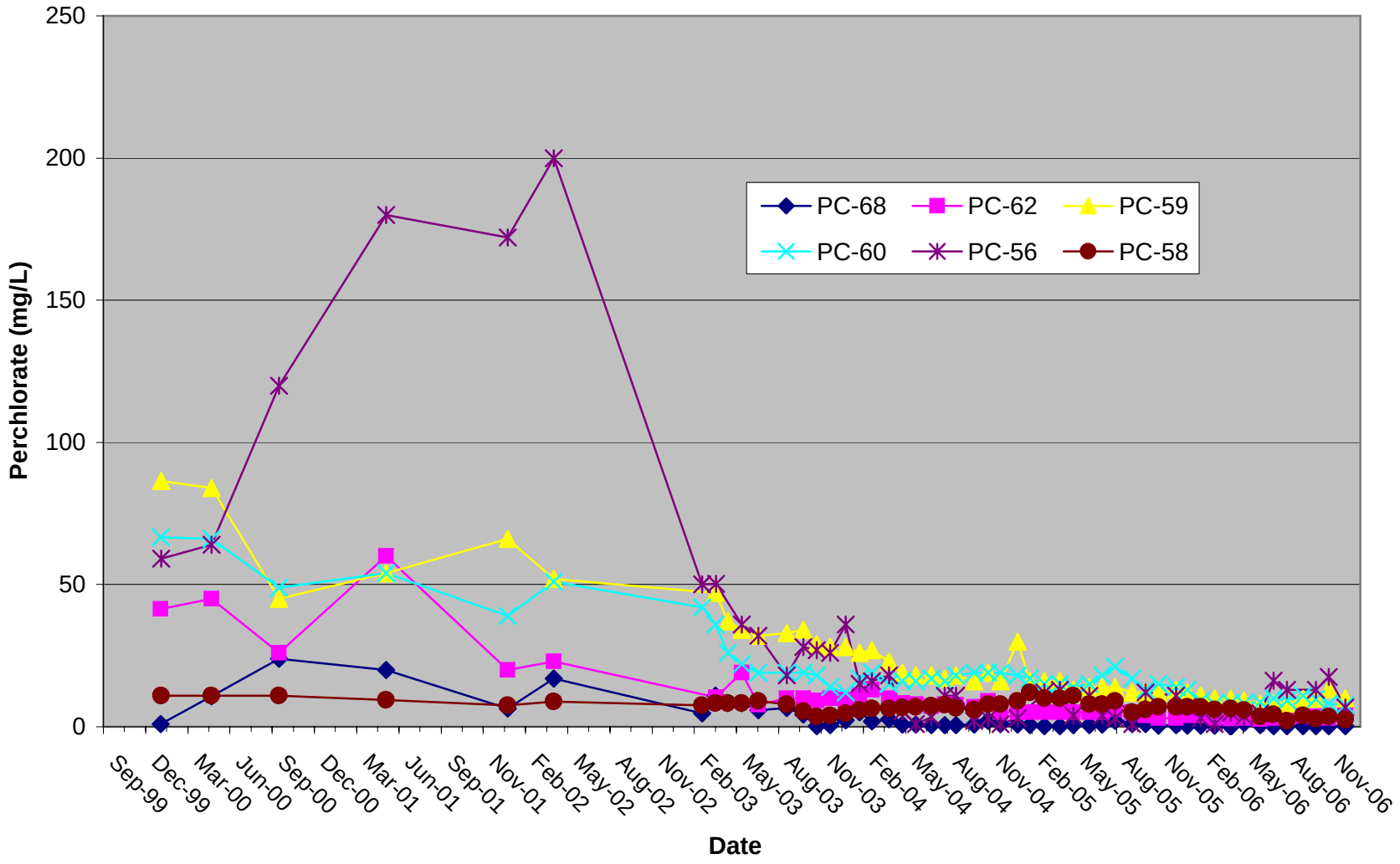


FIGURE 24: LOWER PONDS WELL LINE PERCHLORATE CONCENTRATION SECTION GRAPH TRONOX LLC HENDERSON, NEVADA

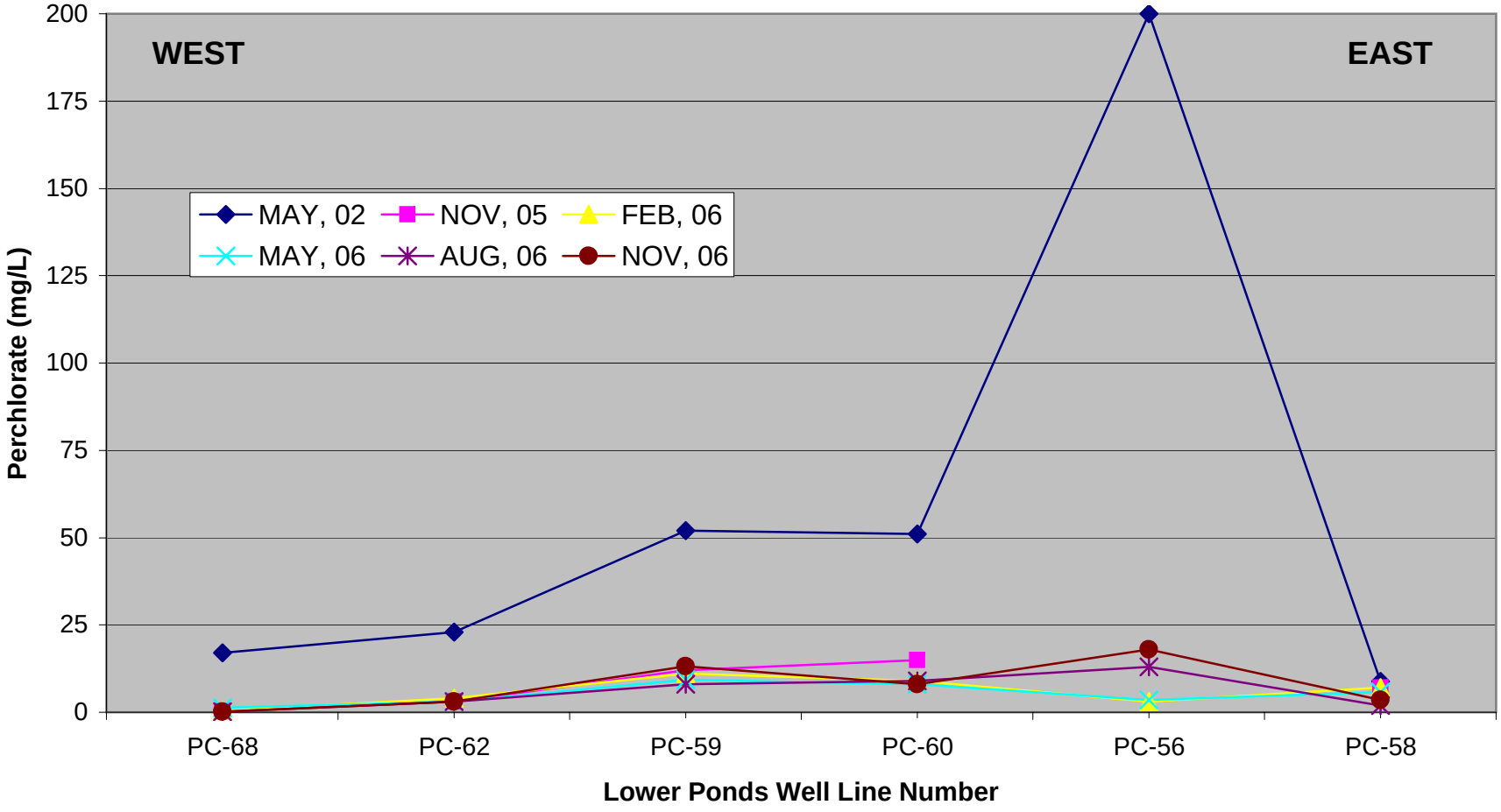


FIGURE 25: SEEP WELL FIELD PERCHLORATE CONCENTRATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA

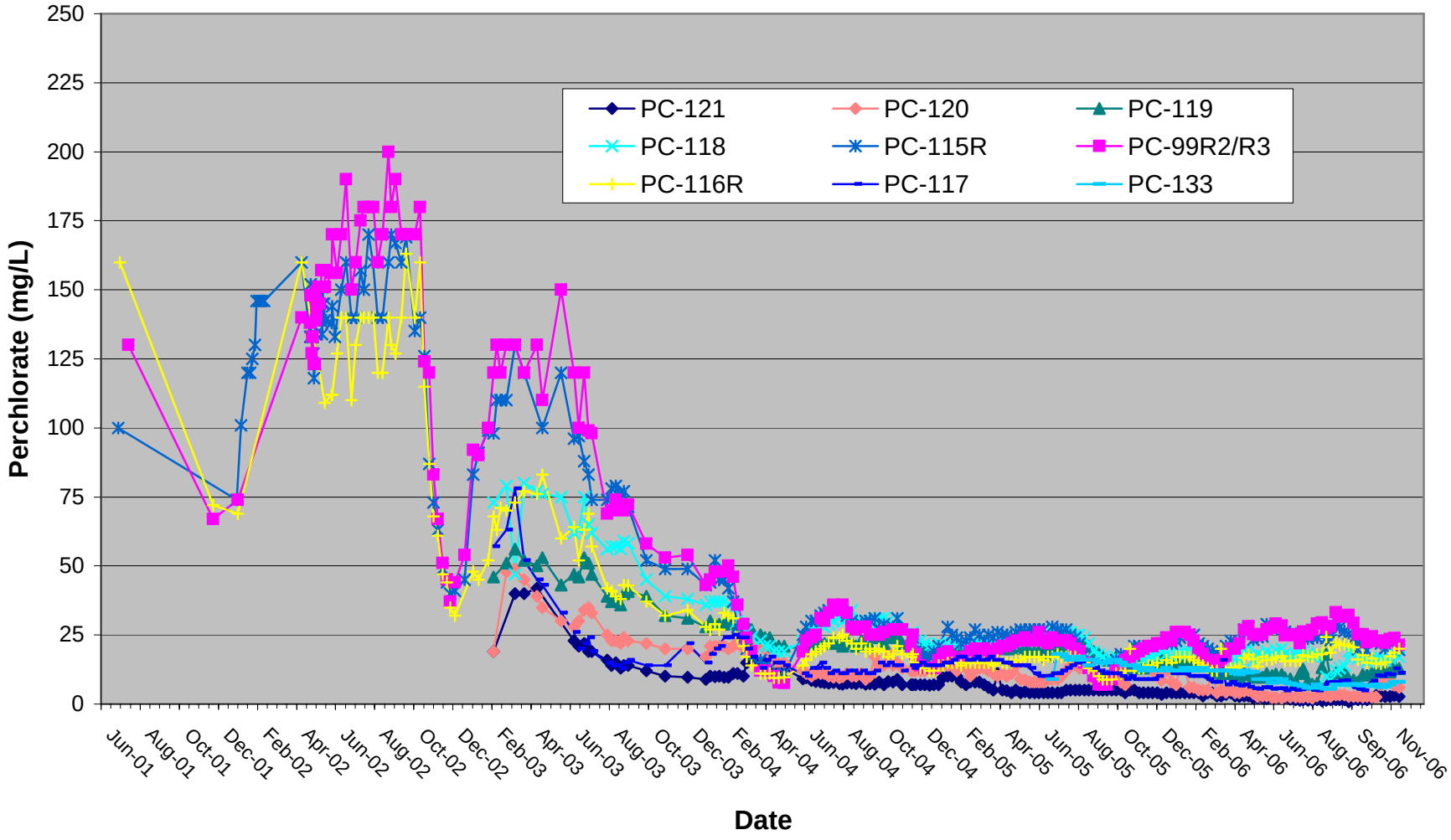


FIGURE 26: WELL PC-97 PERCHLORATE VS. WATER ELEVATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA

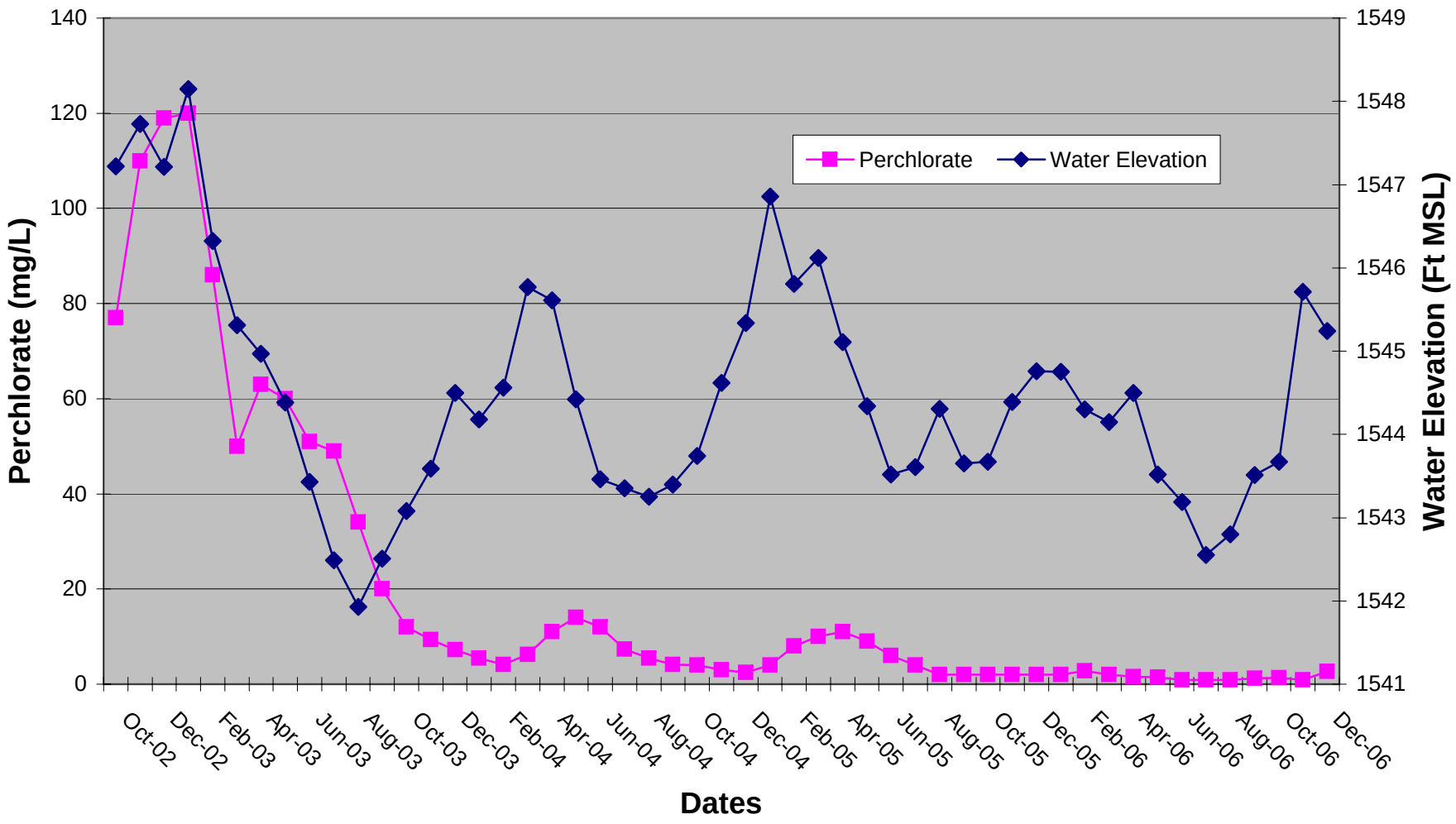


FIGURE 27: SEEP WELL FIELD PERCHLORATE CONCENTRATION SECTION GRAPH
TRONOX LLC HENDERSON, NEVADA

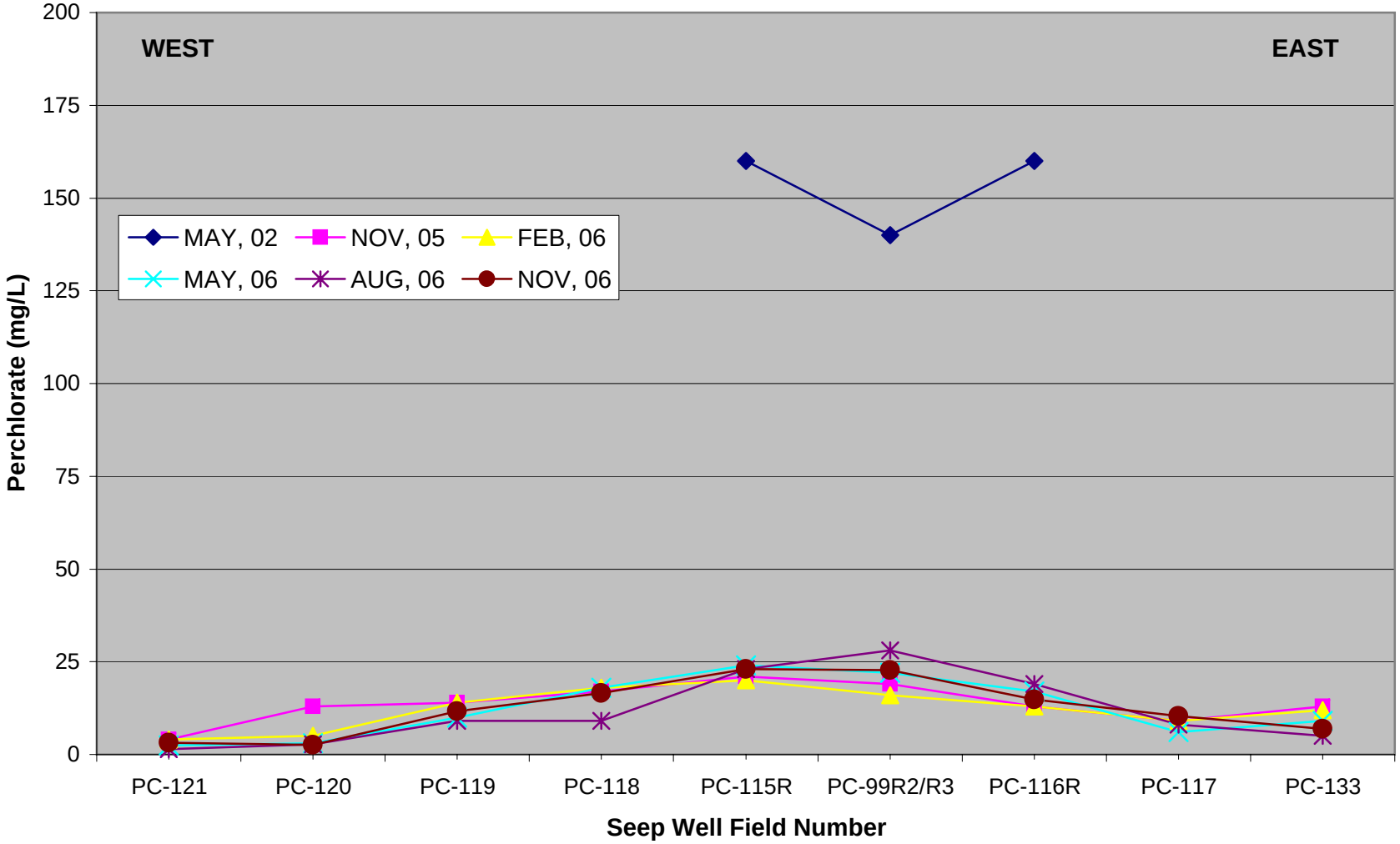


FIGURE 28: SEEP AREA AVERAGE PERCHLORATE CONCENTRATION AND MASS REMOVED
TRONOX LLC HENDERSON, NEVADA

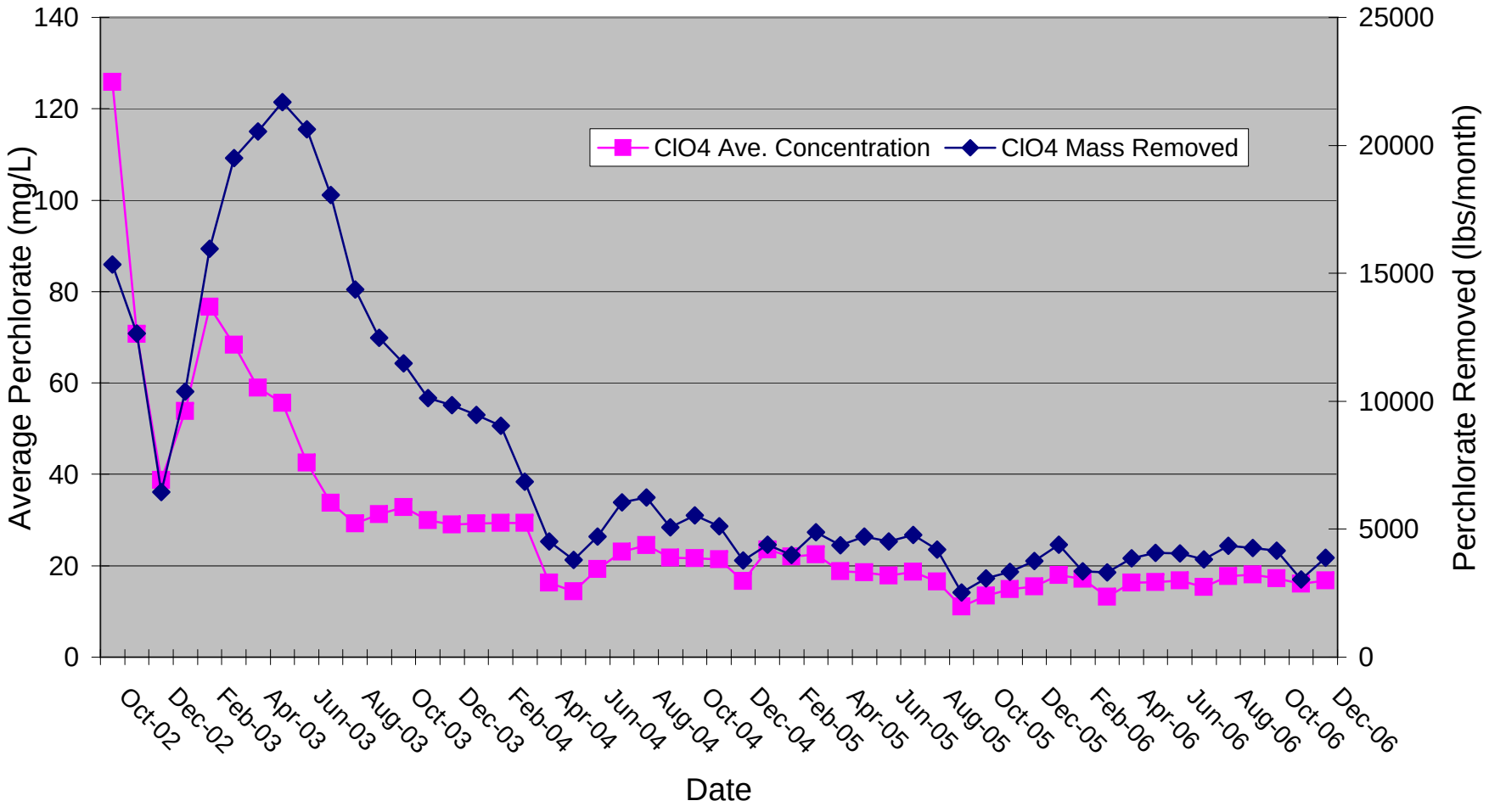
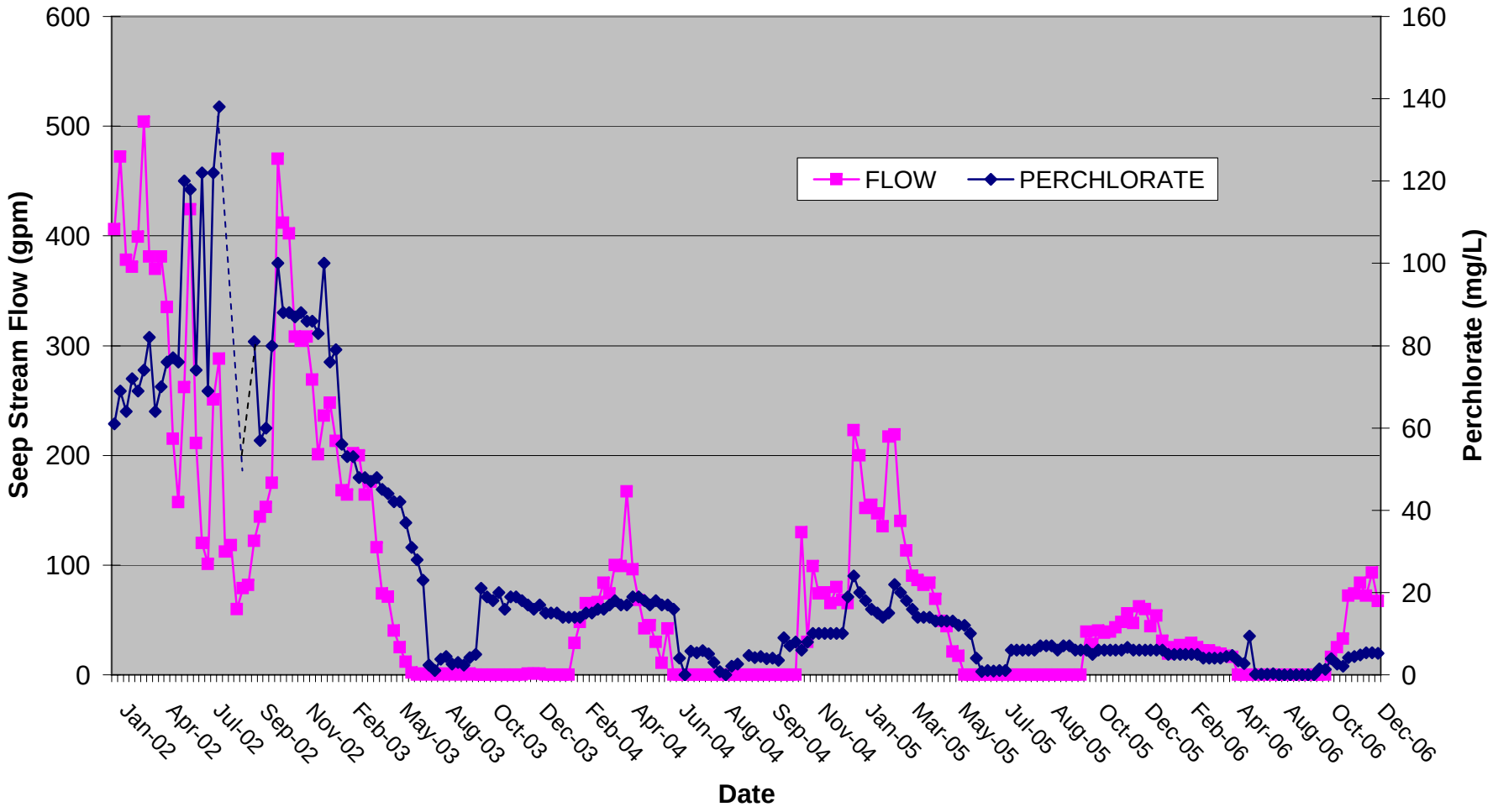



FIGURE 29: SEEP STREAM FLOW VS. PERCHLORATE CONCENTRATION TREND GRAPH
TRONOX LLC HENDERSON, NEVADA