

REPORT NO. 818

Appendix A2

Petrol

MON – Results

Petrol - Motor Octane Number (MON) - Monthly Results

July '12 to Jun '13

Participant	Jul '12	Aug '12	Sep '12	Oct '12	Nov '12	Dec '12	Jan '13	Feb '13	Mar '13	Apr '13	May '13	Jun '13
BP Refinery (WA) Kwinana Eng No. 5	81.8	84.8	82.8	84.4	83.7	81.8	81.4	85.1	84.6	85.4	84.0	82.0
Caltex Refineries (NSW) Kurnell Eng No. 1	82.2	84.7	83.6	85.0	83.6	81.7	81.5	85.0	84.6	85.3	84.2	81.5
Caltex Refineries (QLD) Lytton Eng No. 2	81.1	84.6	82.7	84.6	83.6	81.6	81.9	85.2	84.4	85.2	84.0	81.7
Independent Petroleum Laboratory (NZ) Whangarei Eng No. 3	81.6	85.1	83.2	84.6	83.5	81.7	81.3	85.2	85.0	85.2	83.7	82.0
Intertek Testing Services (VIC) Melbourne	81.4	84.4	83.0	84.5	83.2	81.5	81.0	85.3	85.0	85.2	83.5	81.8
Mobil Refining (VIC) Altona	81.4	84.3	83.1	84.5	83.1	81.6	81.3	85.0	84.4	85.1	84.0	81.6
Intertek Testing Services (NSW) Clyde	81.5	85.0	83.4	85.1	84.1	81.3	81.0	85.1	84.3	85.3	83.5	81.4
<i>No. of Results:</i>	7	7	7	7	7	7	7	7	7	7	7	7
<i>Median:</i>	81.50	84.70	83.10	84.60	83.60	81.60	81.30	85.10	84.60	85.20	84.00	81.70
<i>Normalised IQR:</i>	0.22	0.30	0.30	0.22	0.27	0.14	0.27	0.14	0.36	0.09	0.36	0.32
<i>Uncertainty of the median:</i>	0.11	0.14	0.14	0.11	0.13	0.06	0.13	0.06	0.17	0.04	0.17	0.15
<i>Test Method Reproducibility Standard Deviation:</i>	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
<i>Robust CV:</i>	0.40%	0.38%	0.39%	0.38%	0.39%	0.40%	0.40%	0.38%	0.38%	0.38%	0.39%	0.40%
<i>Minimum:</i>	81.1	84.3	82.7	84.4	83.1	81.3	81.0	85.0	84.3	85.1	83.5	81.4
<i>Maximum:</i>	82.2	85.1	83.6	85.1	84.1	81.8	81.9	85.3	85.0	85.4	84.2	82.0
<i>Range:</i>	1.1	0.8	0.9	0.7	1.0	0.5	0.9	0.3	0.7	0.3	0.7	0.6

A2.1

Petrol - MON - Z-scores

July '12 to Jun '13

Participants	Jul '12	Aug '12	Sep '12	Oct '12	Nov '12	Dec '12	Jan '13	Feb '13	Mar '13	Apr '13	May '13	Jun '13
BP Refinery (WA) Kwinana Eng No. 5	0.92	0.31	-0.92	-0.62	0.31	0.62	0.31	0.00	0.00	0.62	0.00	0.92
Caltex Refineries (NSW) Kurnell Eng No. 1	2.16	0.00	1.54	1.23	0.00	0.31	0.62	-0.31	0.00	0.31	0.62	-0.62
Caltex Refineries (QLD) Lytton Eng No. 2	-1.23	-0.31	-1.23	0.00	0.00	0.00	1.85	0.31	-0.62	0.00	0.00	0.00
Independent Petroleum Laboratory (NZ) Whangarei Eng No. 3	0.31	1.23	0.31	0.00	-0.31	0.31	0.00	0.31	1.23	0.00	-0.92	0.92
Intertek Testing Services (VIC) Melbourne	-0.31	-0.92	-0.31	-0.31	-1.23	-0.31	-0.92	0.62	1.23	0.00	-1.54	0.31
Mobil Refining (VIC) Altona	-0.31	-1.23	0.00	-0.31	-1.54	0.00	0.00	-0.31	-0.62	-0.31	0.00	-0.31
Intertek Testing Services (NSW) Clyde	0.00	0.92	0.92	1.54	1.54	-0.92	-0.92	0.00	-0.92	0.31	-1.54	-0.92

A2.2

Petrol - MON - BTSF Deviations from Specification

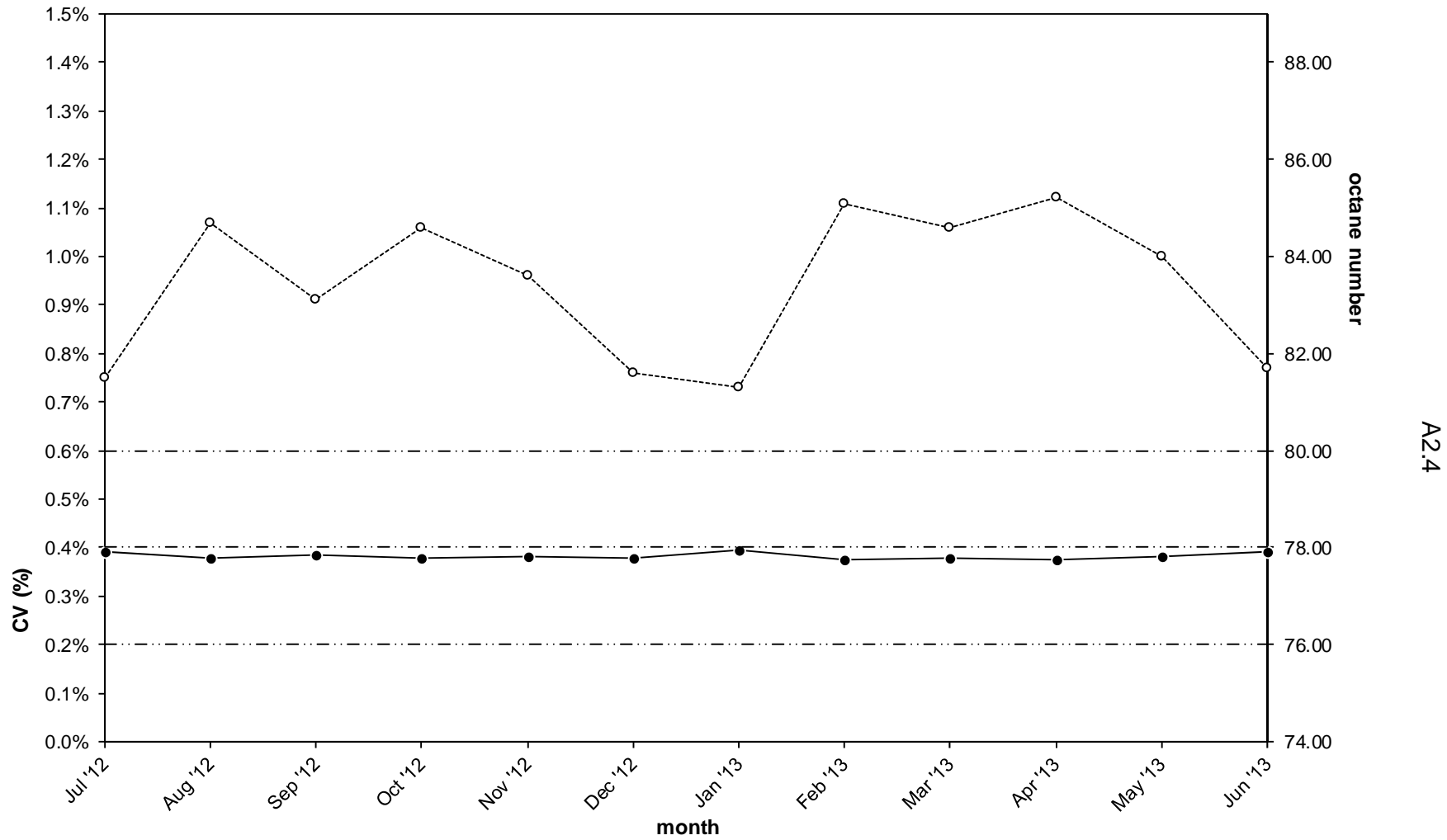
July '12 to June '13

Participants	Jul '12	Aug '12	Sep '12	Oct '12	Nov '12	Dec '12	Jan '13	Feb '13	Mar '13	Apr '13	May '13	Jun '13
BP Refinery (WA) Kwinana Eng No. 5	-0.2	0.0	-0.2	-0.2	0.0	0.0	0.0	-0.1	0.1	-0.1	0.0	0.1
Caltex Refineries (NSW) Kurnell Eng No. 1	0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1
Caltex Refineries (QLD) Lytton Eng No. 2	0.1	-0.1	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0
Independent Petroleum Laboratory (NZ) Whangarei Eng No. 3	0.1	0.2	0.1	0.0	-0.2	-0.1	0.0	-0.1	-0.1	0.0	-0.2	0.3
Intertek Testing Services (VIC) Melbourne	-0.1	0.2	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Mobil Refining (VIC) Altona	0.0	-0.1	0.1	0.1	0.1	-0.1	-0.1	0.1	0.0	-0.1	0.0	0.0
Intertek Testing Services (NSW) Clyde	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A2.3

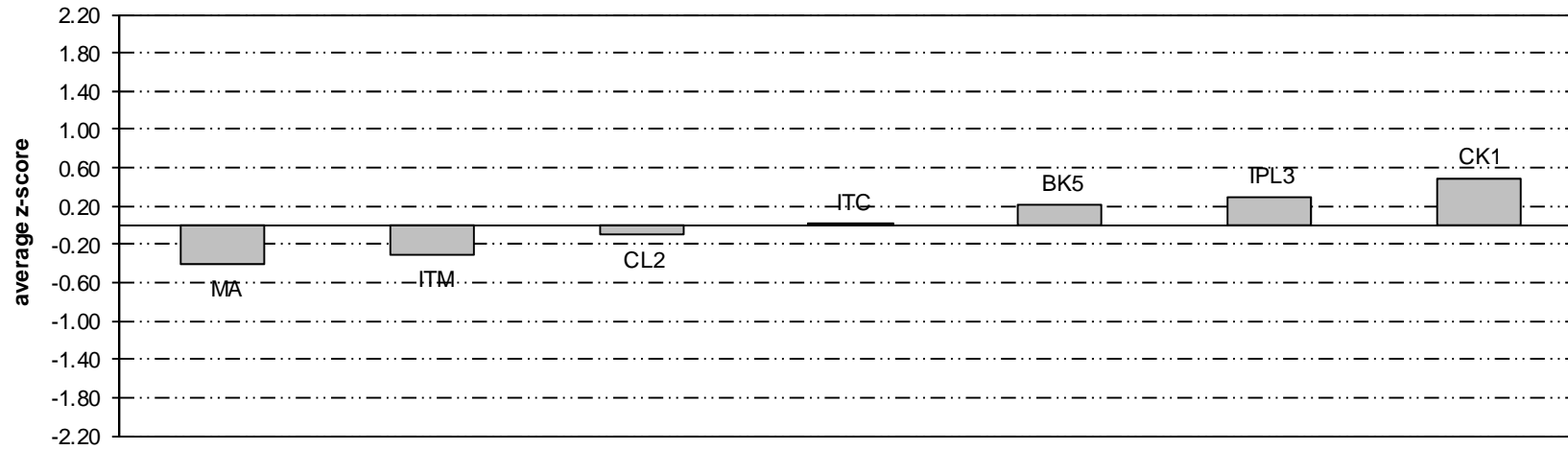
"BTSF Deviation" = "Actual/Resultant BTSF value" - "BTSF Specification"

MON - July '12 to June '13
Monthly Consensus Medians and Coefficients of Variation

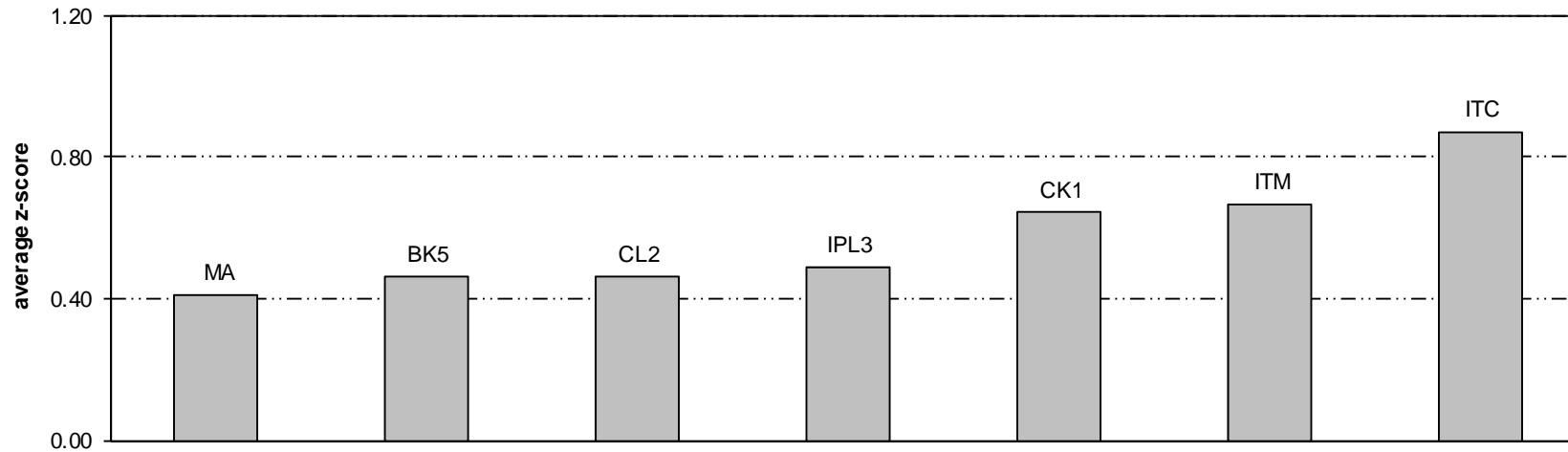


Top: Monthly consensus medians (o)
Bottom: Corresponding monthly CVs (•) as a percentage.

MON - Participant Average Z-scores



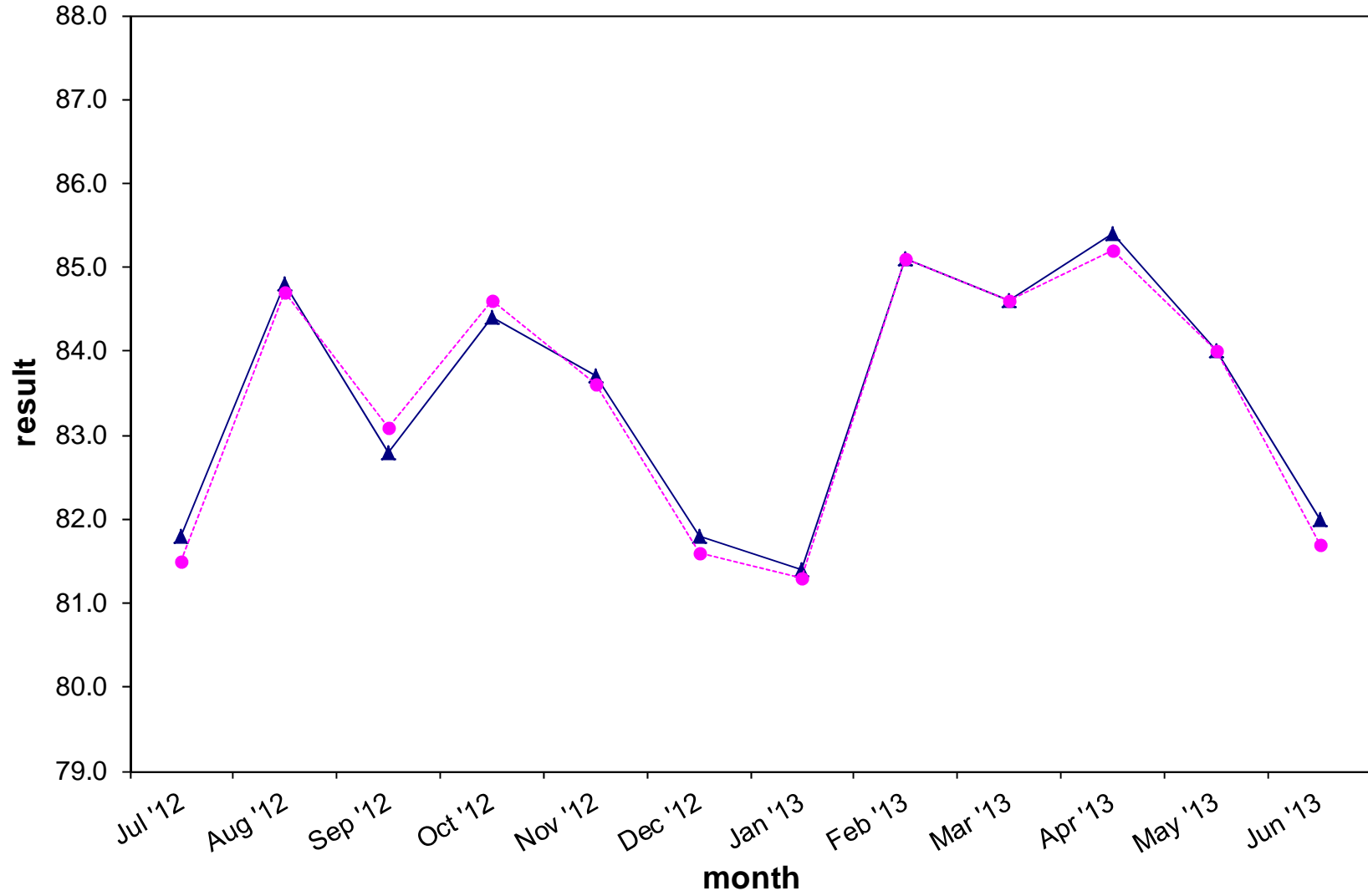
MON - Participant Average Absolute Z-scores



A2.5

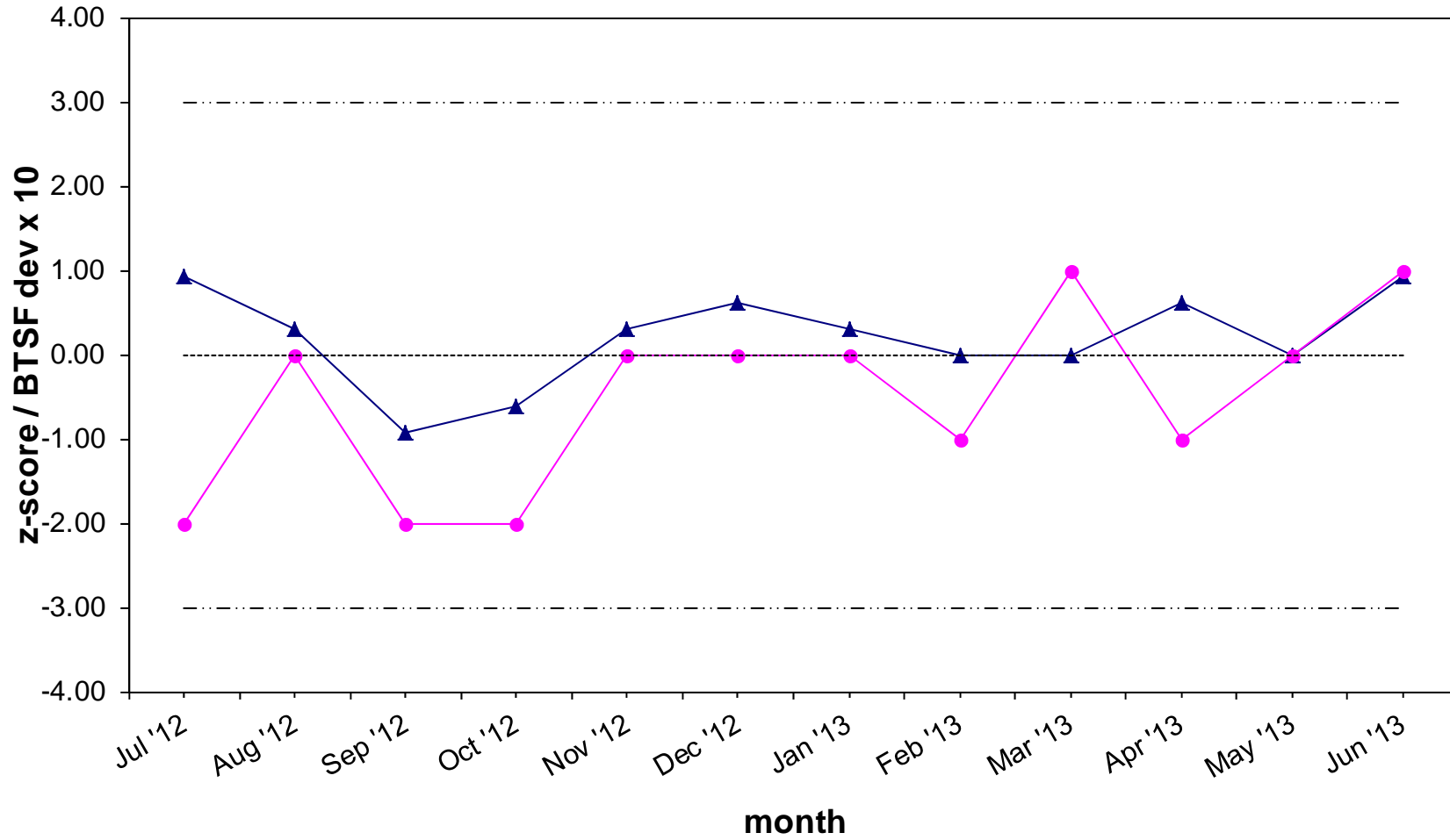
Average z-scores (top) and average absolute z-scores (bottom) shown for: BP - Kwinana - No. 5 (BK5); Caltex - Kurnell - No. 1 (CK1); Caltex - Lytton - No. 2 (CL2); Independent - Whangarei - No. 3 (IPL3); Intertek - Melbourne (ITM); Mobil - Altona (MA); Intertek - Clyde (ITC)

MON - BP Refinery- Kwinana Engine No. 5



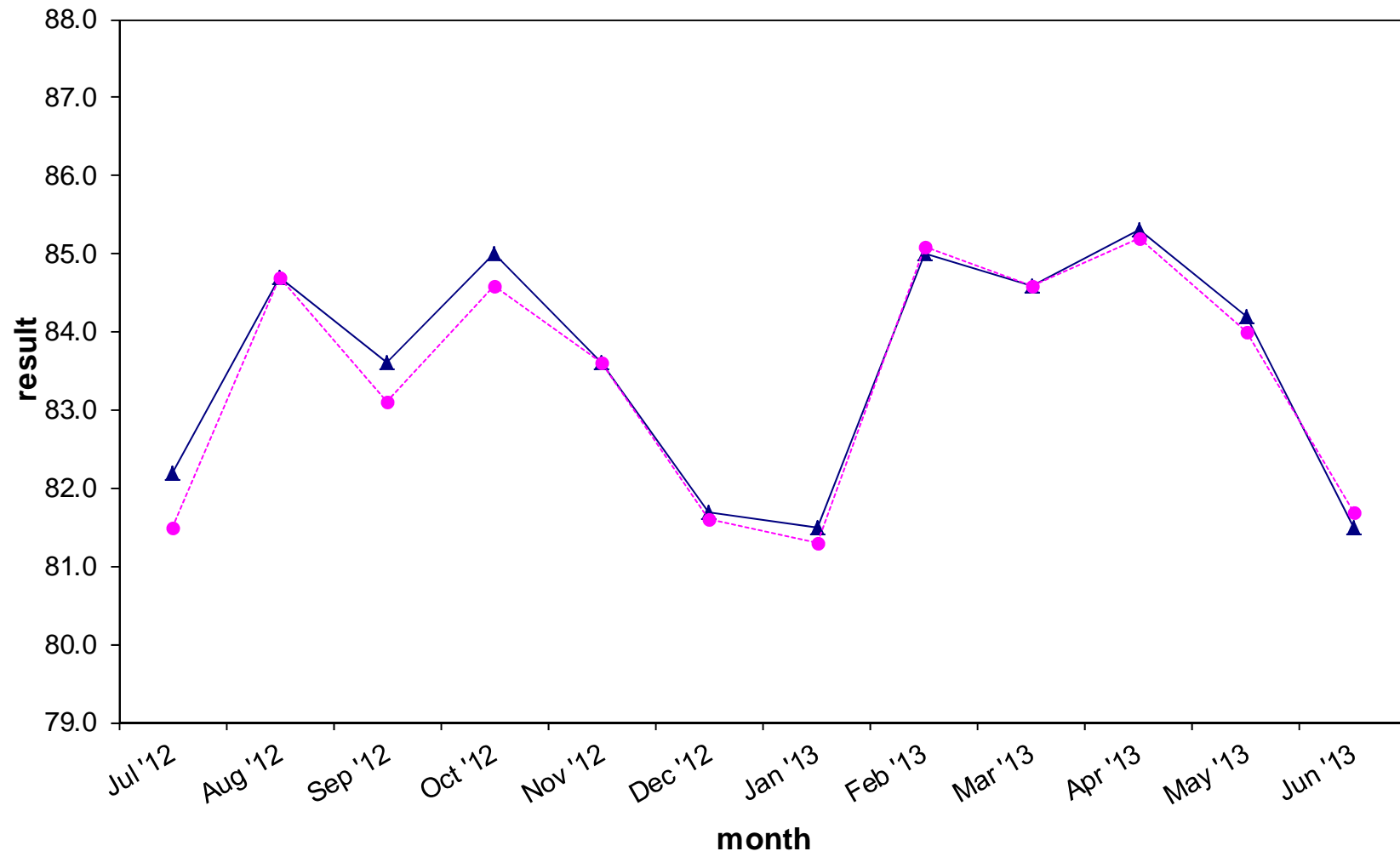
A2.6

MON - BP Refinery - Kwinana Engine No. 5



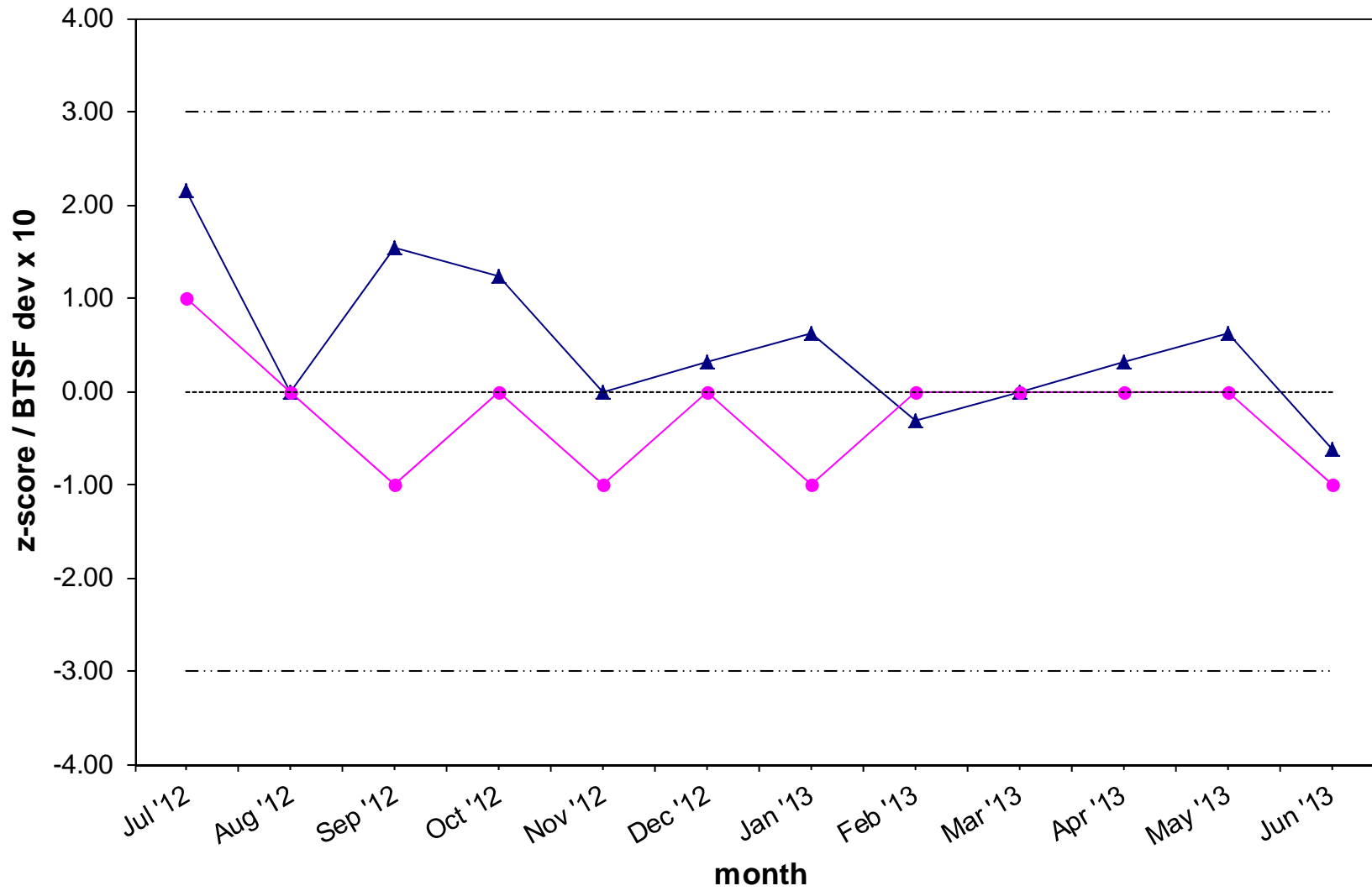
A2.7

MON - Caltex Refineries - Kurnell Engine No. 1



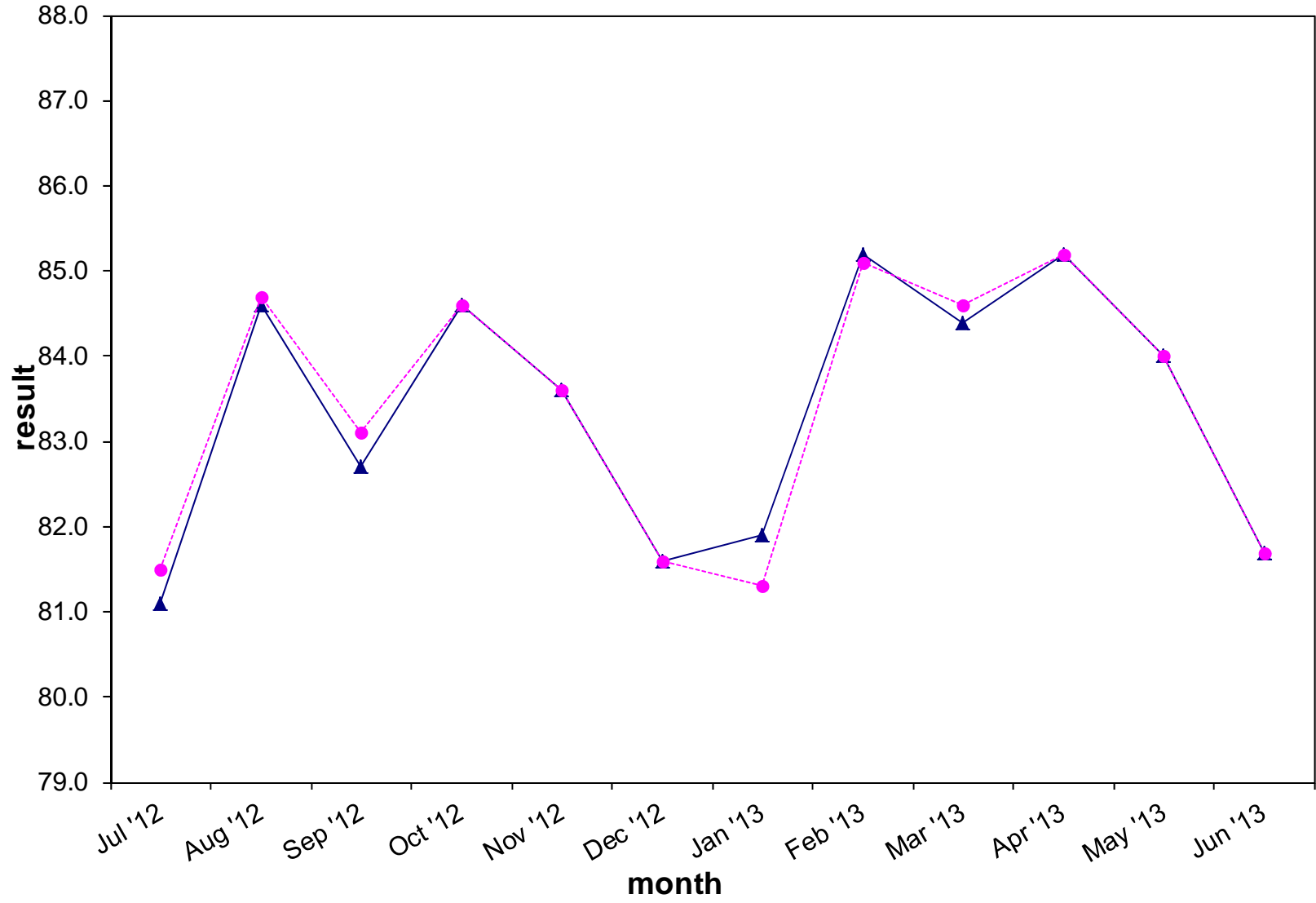
A2.8

MON - Caltex Refineries - Kurnell Engine No. 1



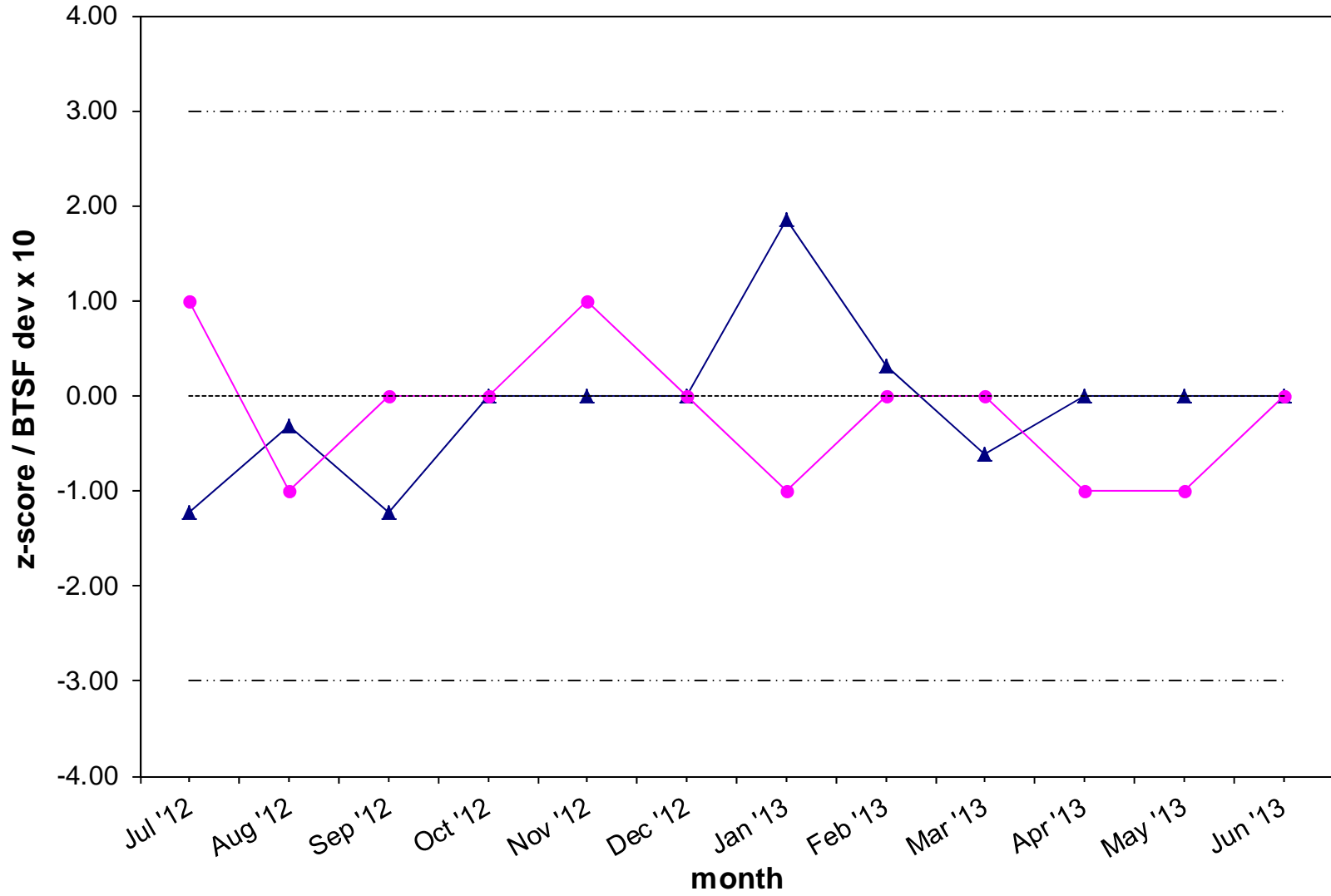
A2.9

MON - Caltex Refineries - Lytton Engine No. 2



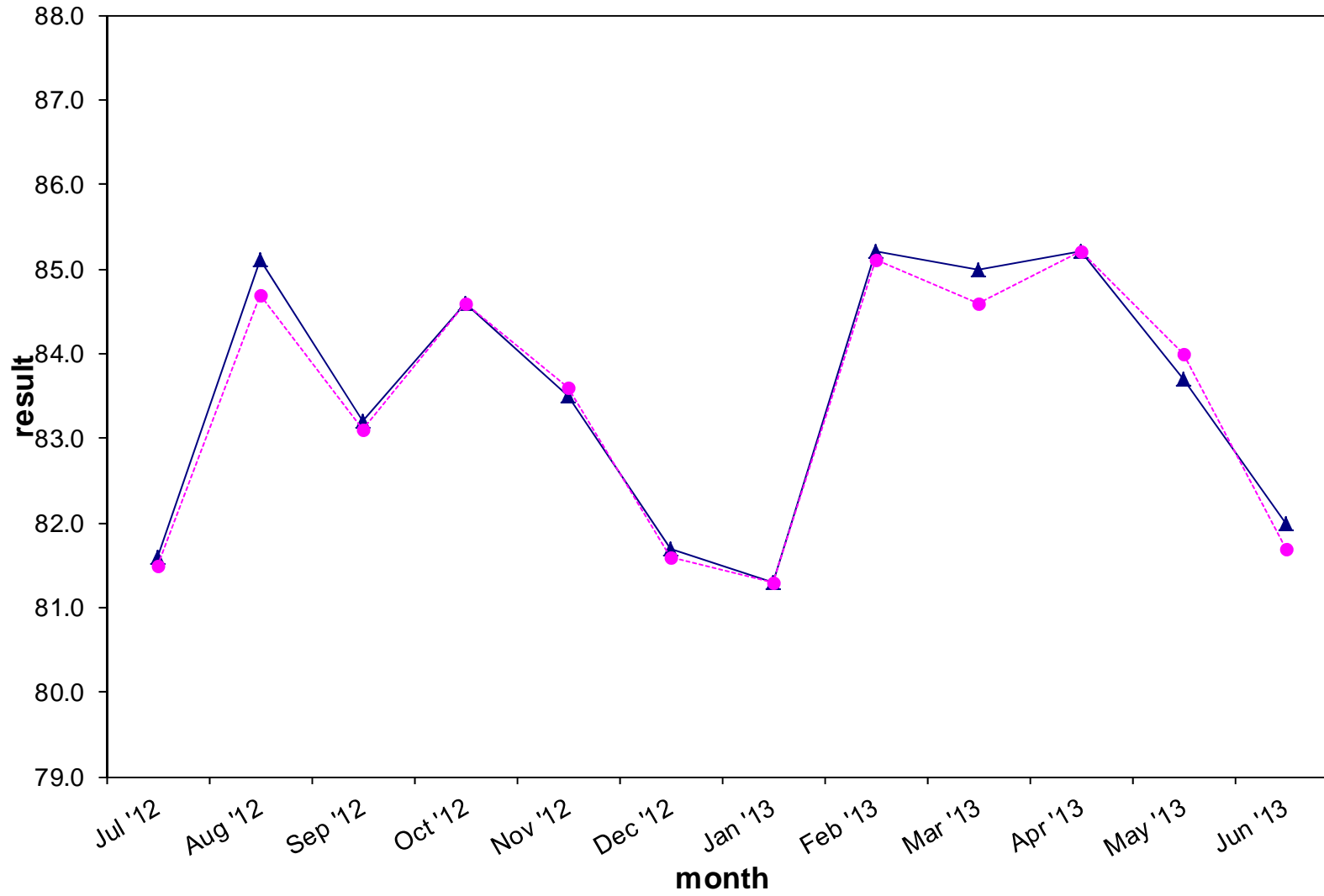
A2.10

MON - Caltex Refineries - Lytton Engine No. 2



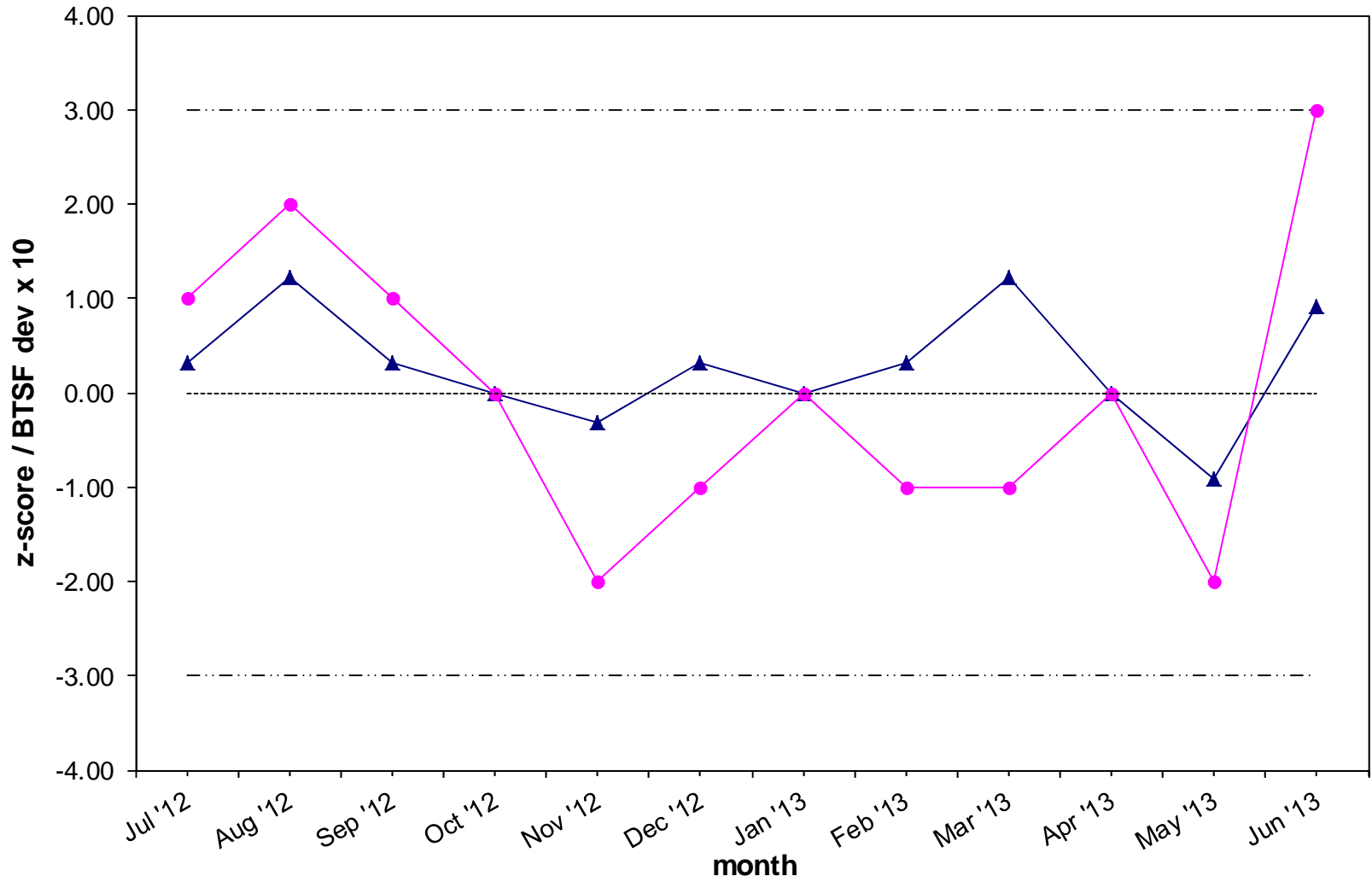
A2.11

MON - Independent Petroleum Laboratory - Whangarei Engine No. 3



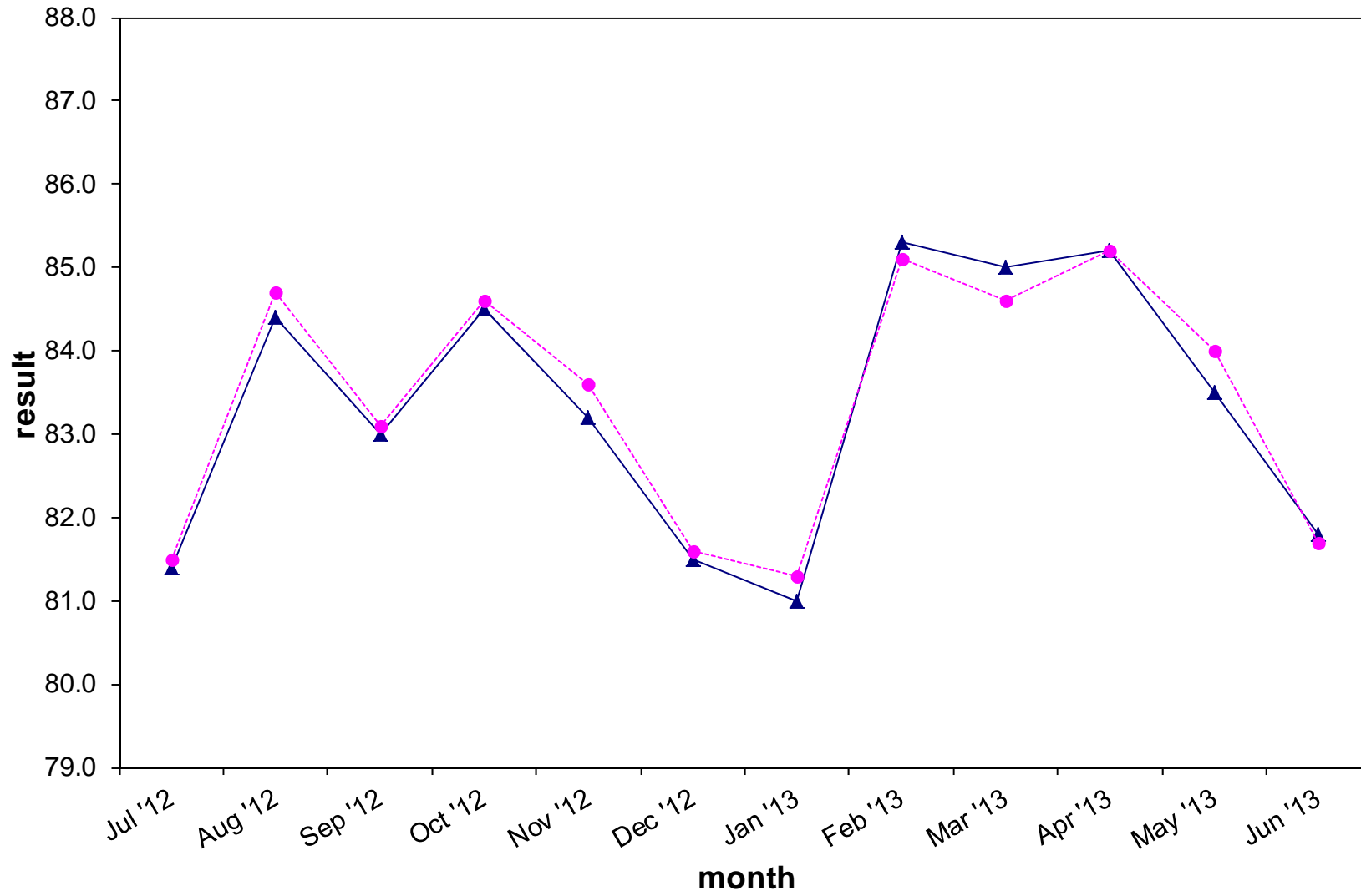
A2.12

MON - Independent Petroleum Laboratory - Whangarei Engine No. 3



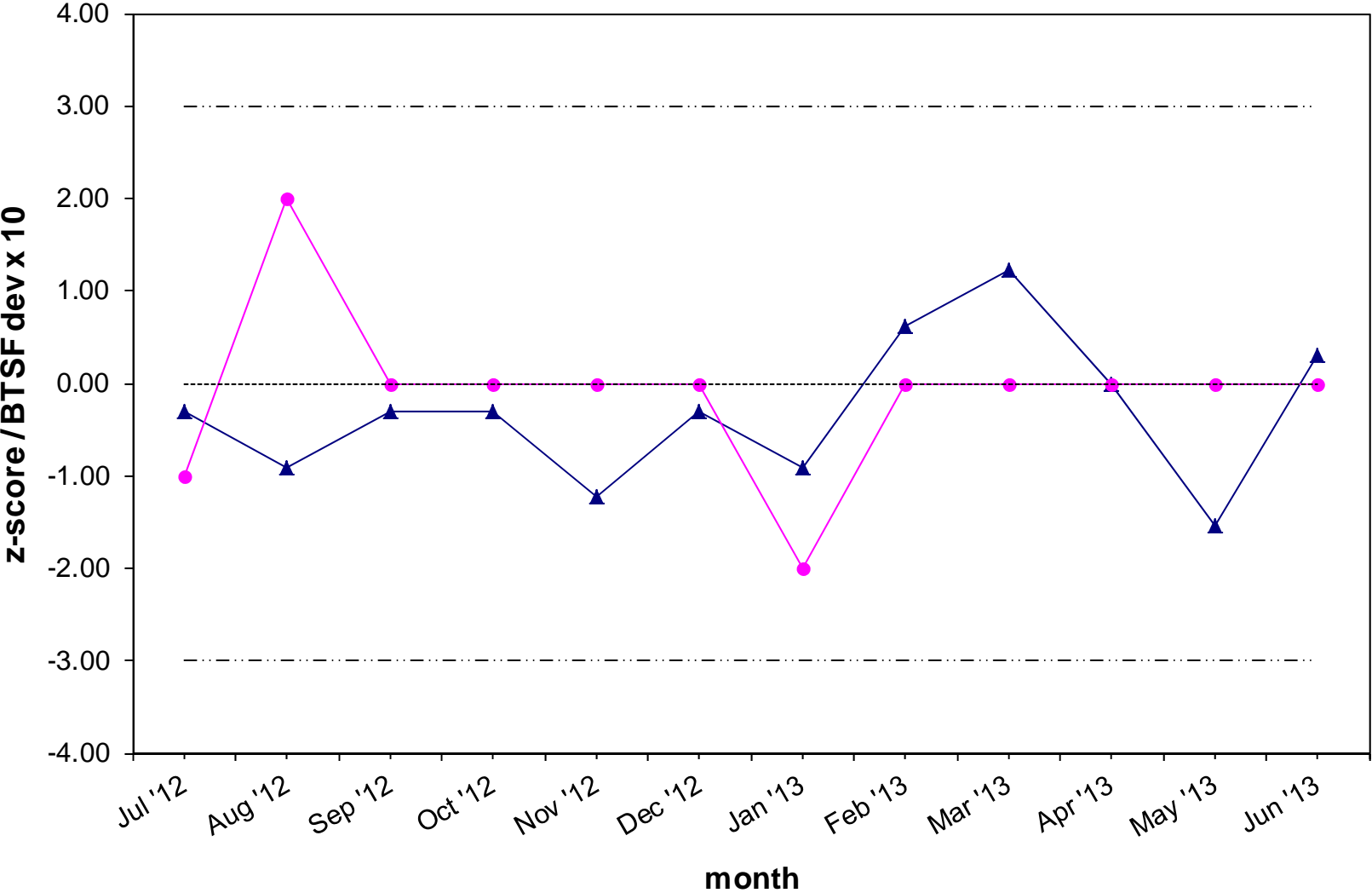
A2.13

MON - Intertek Testing Services (VIC) - Melbourne



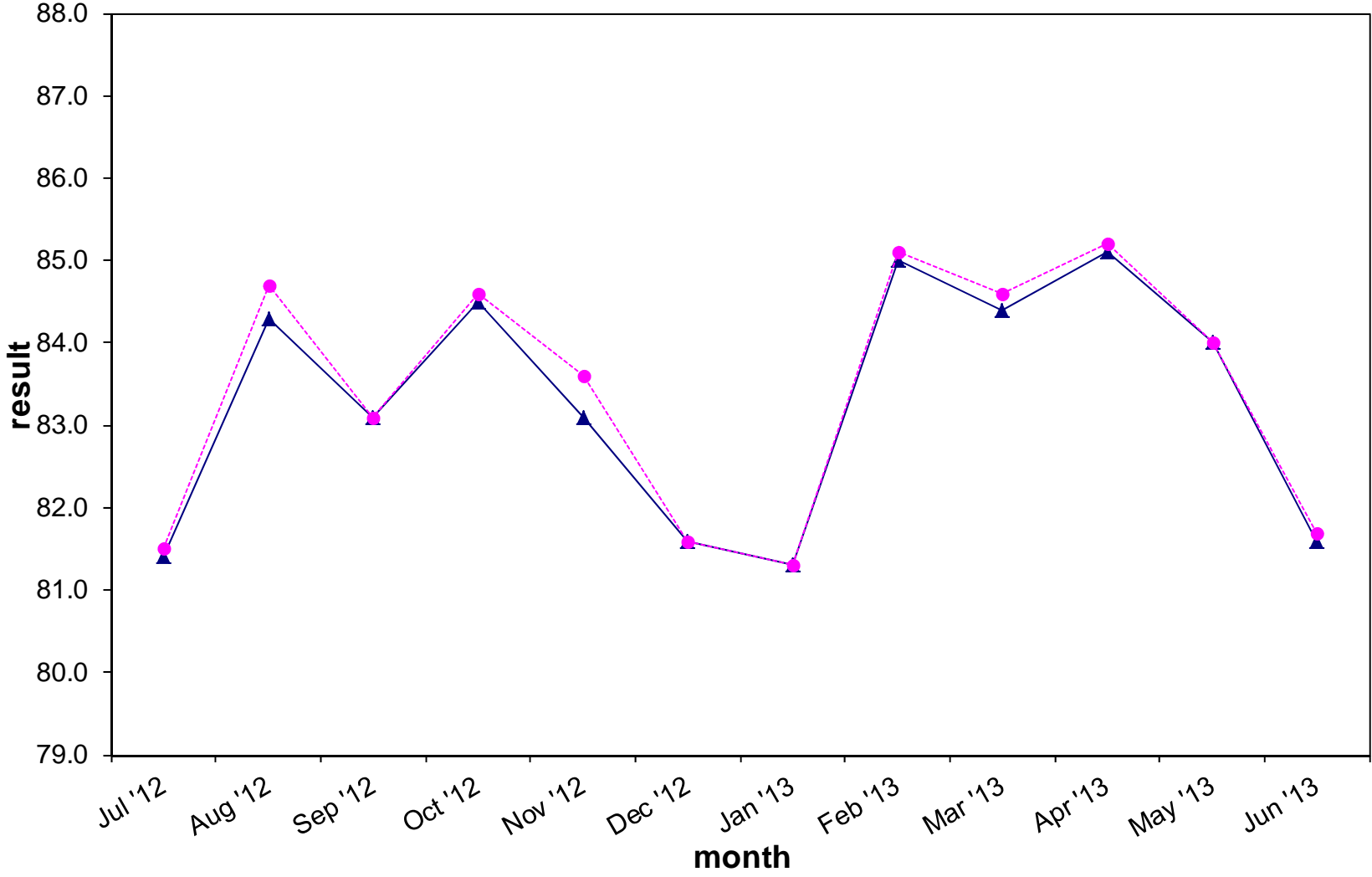
A2.14

MON - Intertek Testing Services (VIC) - Melbourne



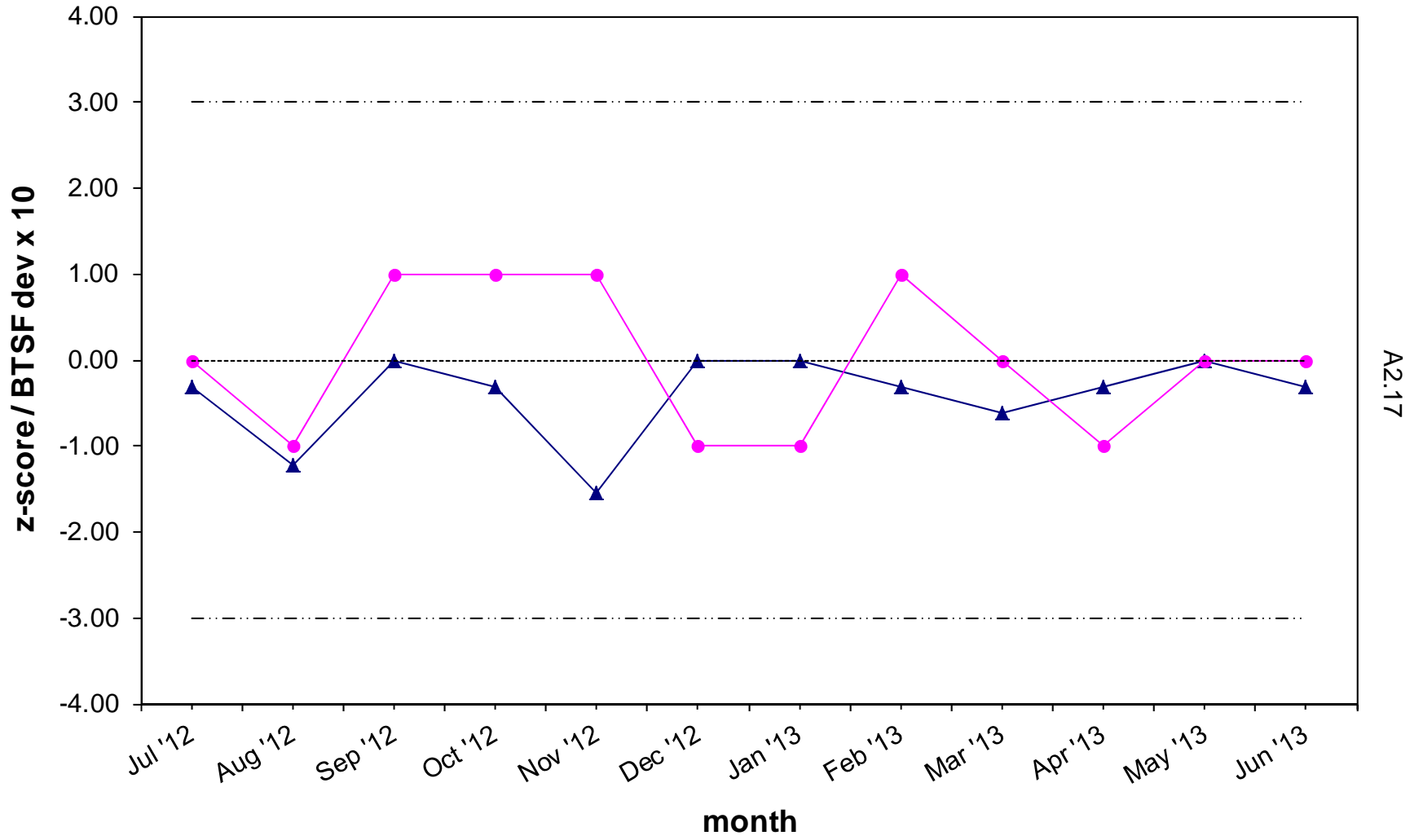
A2.15

MON - Mobil Refining - Altona



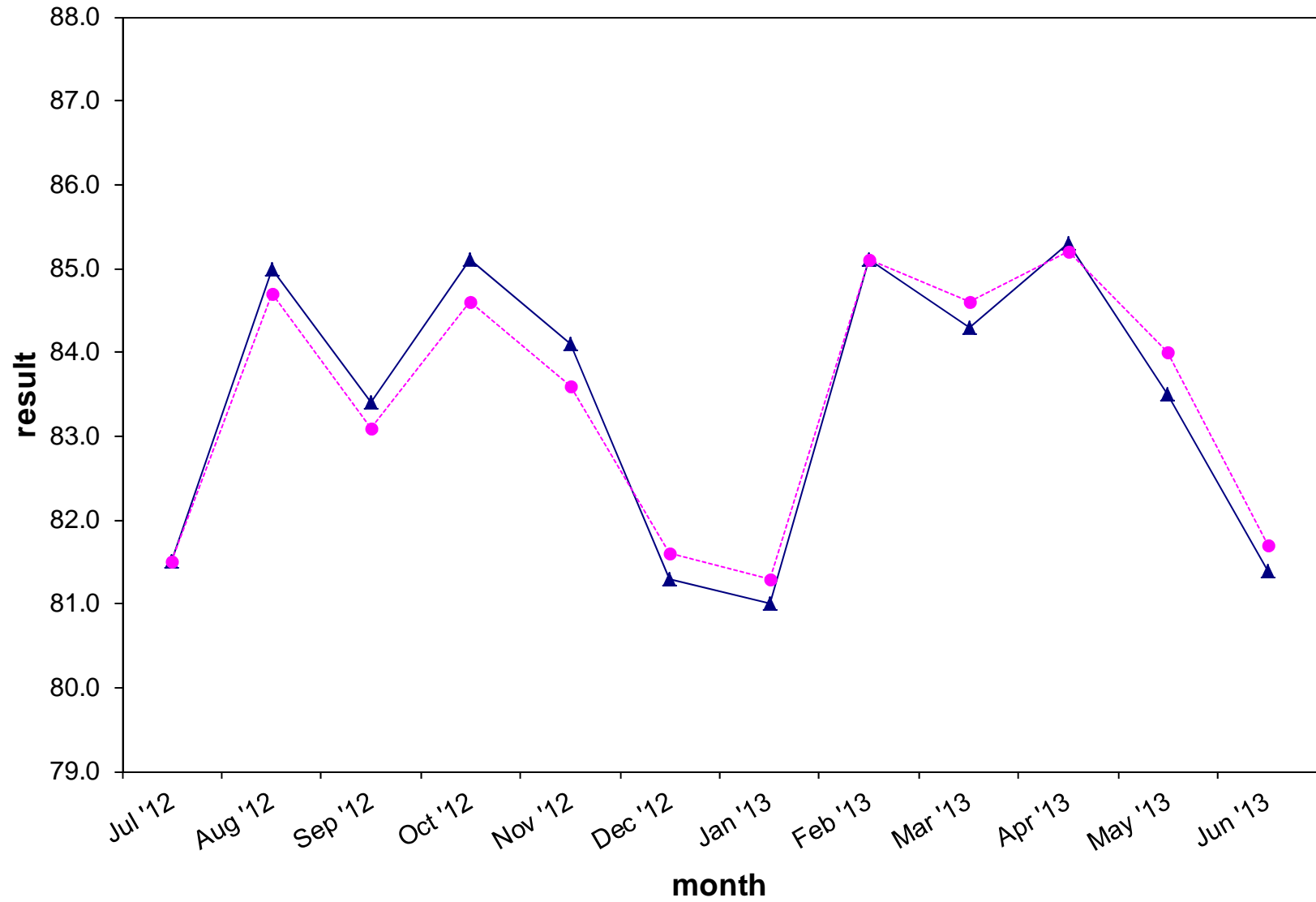
A2.16

MON - Mobil Refining - Altona



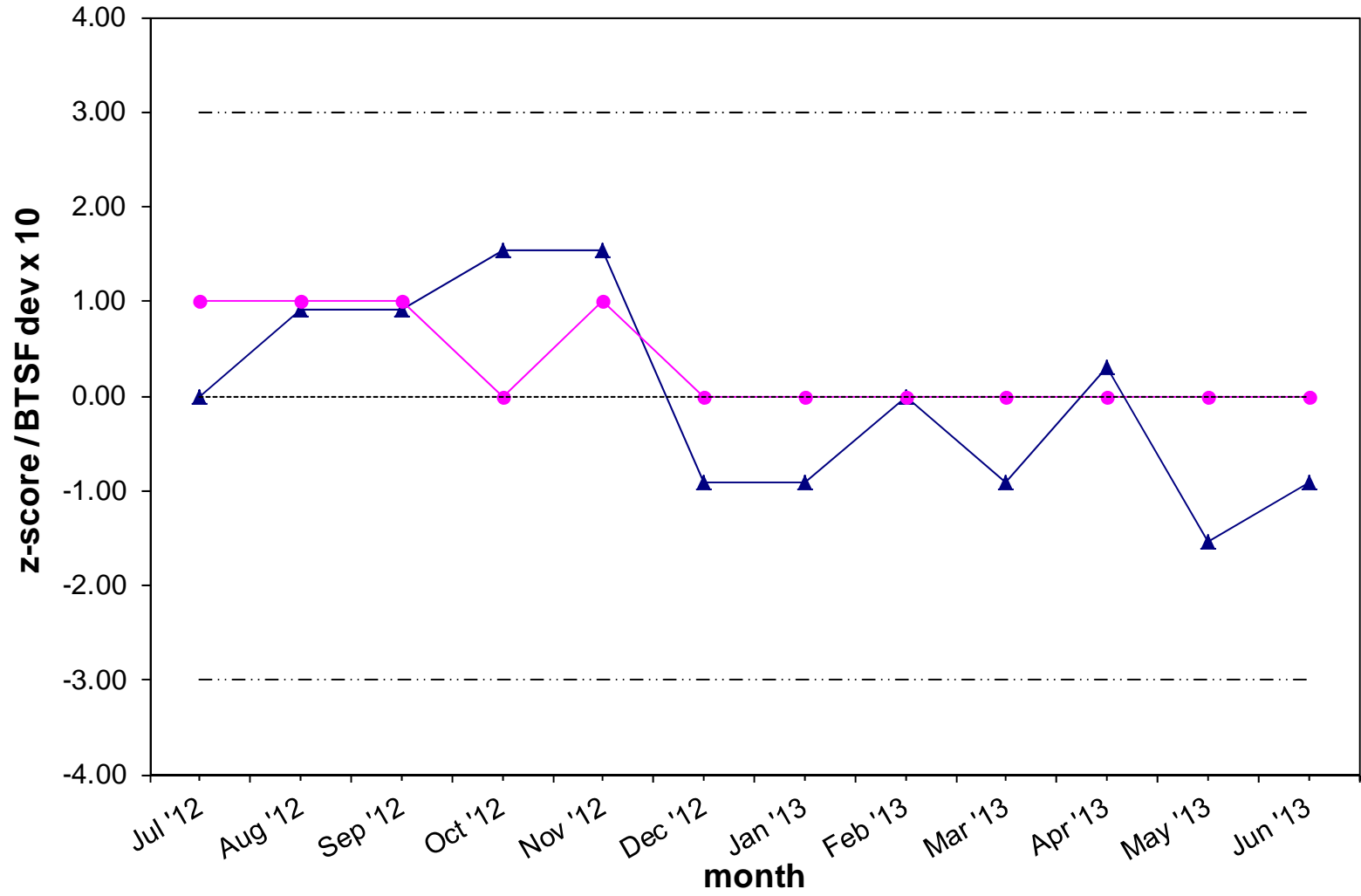
A2.17

MON - Intertek Testing Services (NSW) - Clyde



A2.18

MON - Intertek Testing Services (NSW) - Clyde



A2.19