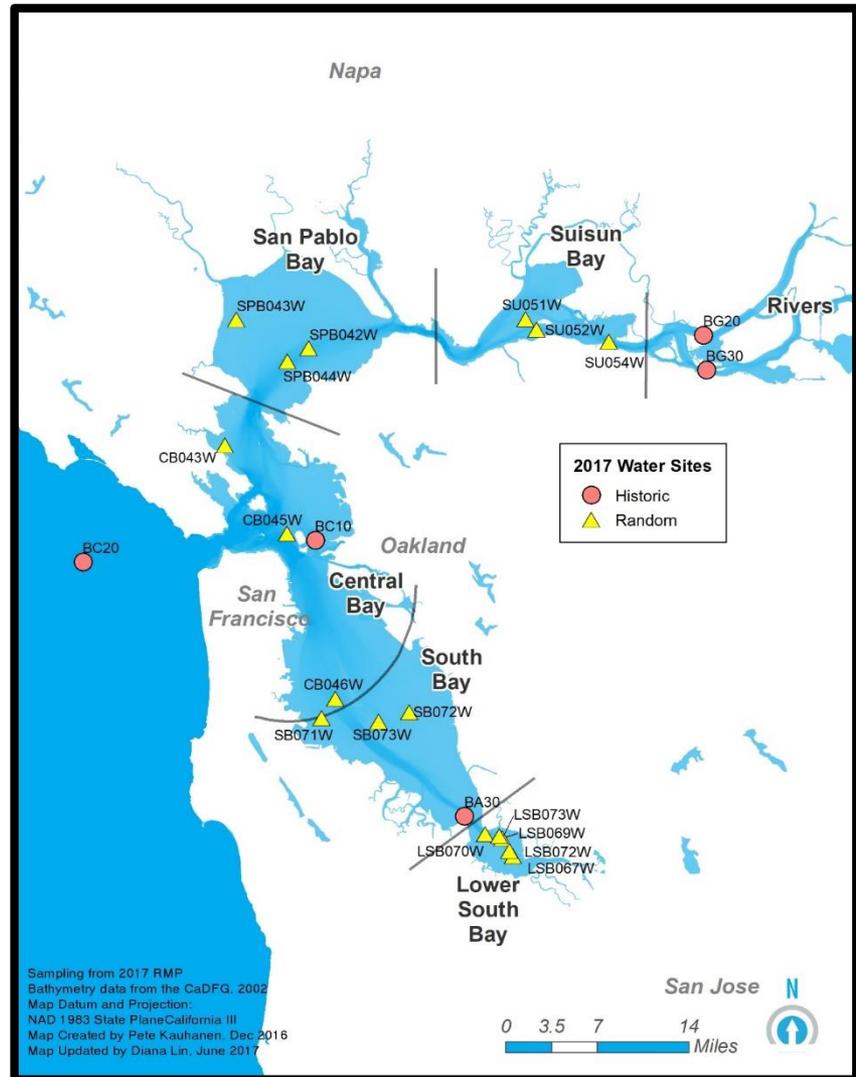


2017 Water Cruise: CN⁻ Rolling Averages



Calculating 3-Event Rolling Averages

- As part of the site-specific objectives (SSO), NPDES dischargers are required to calculate the 3-event rolling average of dissolved copper and total cyanide concentrations in each segment of the Bay, based on RMP data.
- Data from the last three RMP water cruises (2013, 2015, and 2017) were used to update the averages.

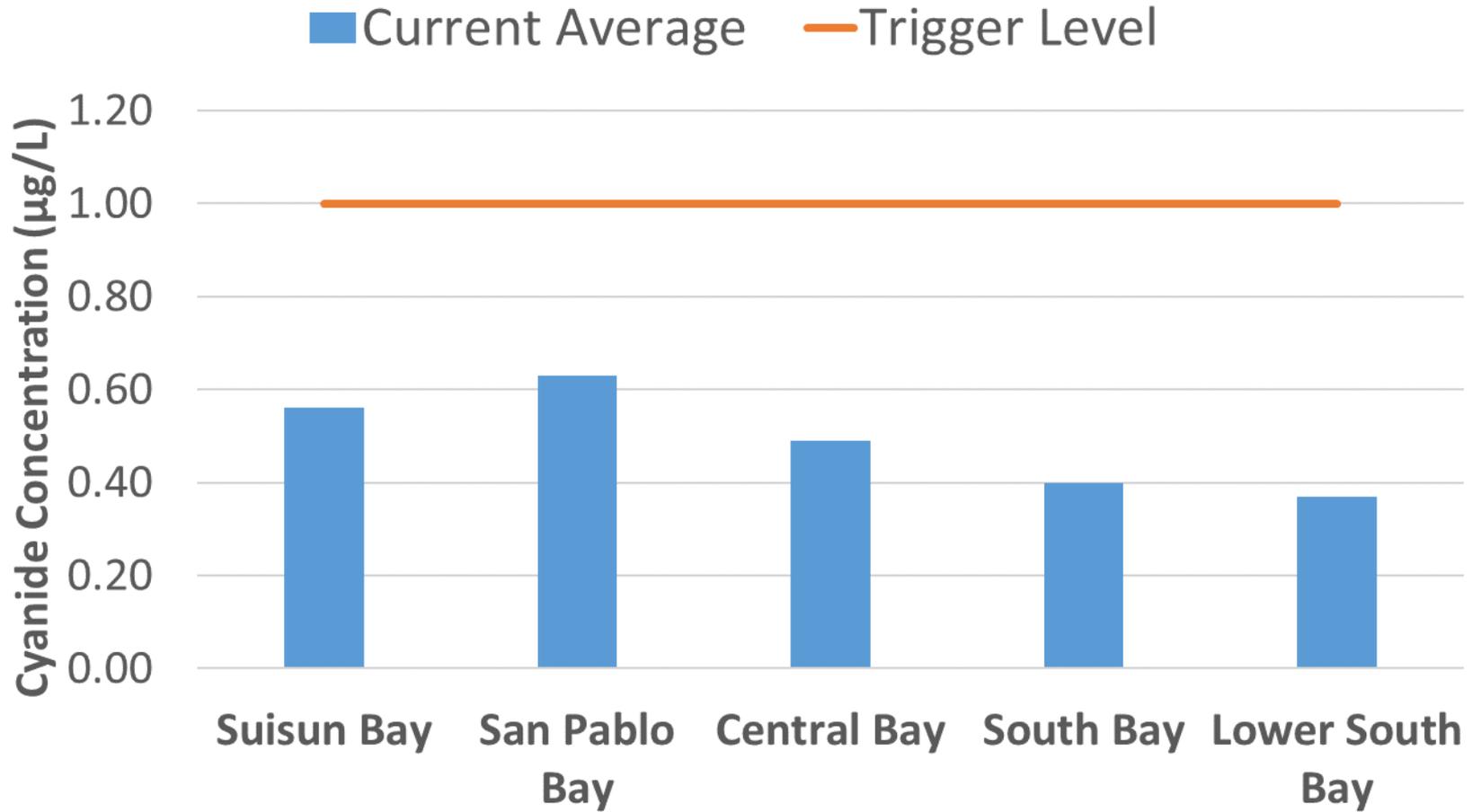


Sites With Results by Year & Region

| | | Suisun Bay | San Pablo Bay | *Central Bay | **South Bay | Lower South Bay |
|--------------------|---|------------|---------------|--------------|-------------|-----------------|
| Cyanide (total) | 2013 | 3 | 3 | 4 | 1 | 5 |
| | 2015 | 3 | 3 | 4 | 4 | 5 |
| | 2017 | 3 | 3 | 4 | 4 | 5 |
| | Total Samples in Rolling Average | 9 | 9 | 12 | 9 | 15 |

*Historical station BC10 included; **Historical station BA30 included

Cyanide Results



Cyanide Results

PRELIMINARY DRAFT DATA

| Region | Cyanide TL ($\mu\text{g/L}$) | Previous Average ($\mu\text{g/L}$) (2011, 2013, 2015) | Current Average ($\mu\text{g/L}$) (2013, 2015, 2017) | Δ Rolling Average | Distance From TL |
|-----------------|-----------------------------------|--|---|-----------------------------|---------------------|
| Suisun Bay | 1 | 0.45 | 0.56 | 0.11 | 0.44 |
| San Pablo Bay | 1 | 0.48 | 0.63 | 0.15 | 0.37 |
| Central Bay | 1 | 0.37 | 0.49 | 0.12 | 0.51 |
| South Bay | 1 | 0.43 | 0.40 | -0.03 | 0.60 |
| Lower South Bay | 1 | 0.40 | 0.37 | -0.03 | 0.63 |

- Cyanide trigger level (TL) is **1 $\mu\text{g/L}$** in all regions
- Cyanide rolling averages are below the trigger level in all regions
- 3/5 Bay Regions showed an increase in the rolling average
- Regions closest to trigger level (South Bay and Lower South Bay) both decreased by 0.03 $\mu\text{g/L}$

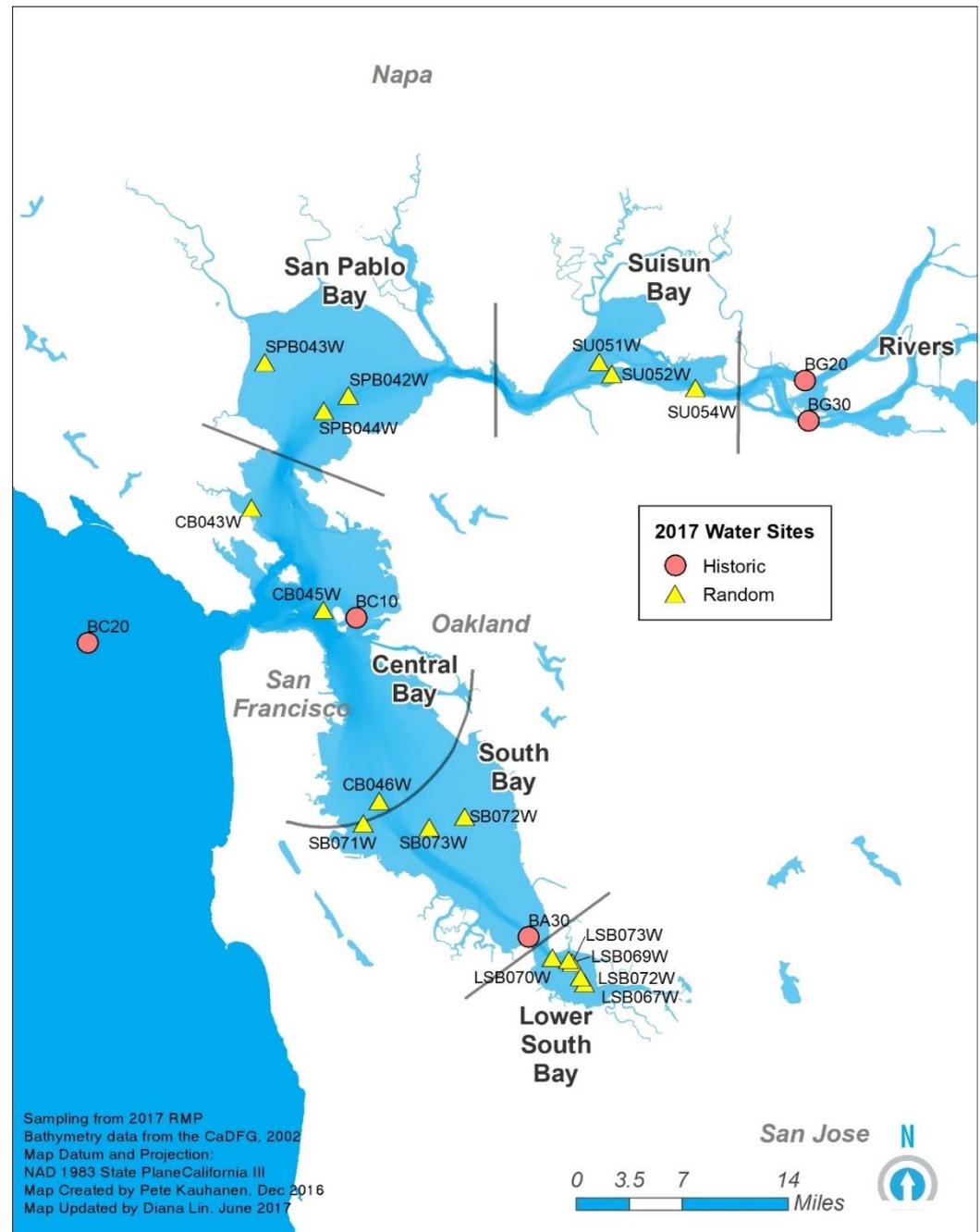
Appendices

- 2017, 2015, 2013 Water Cruise Site Maps
- Cyanide Raw Data

'17 Water Cruise Map

CN-:

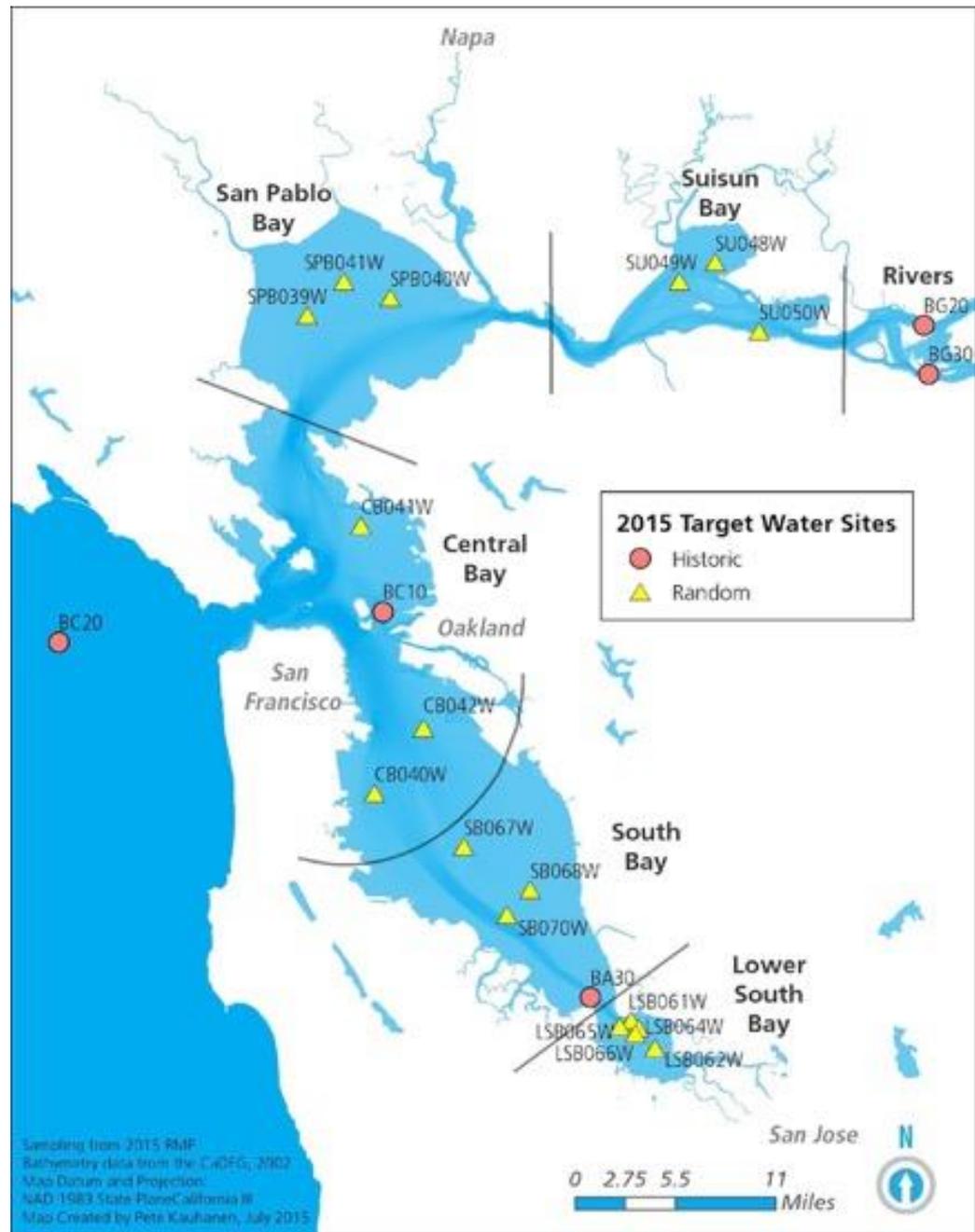
- River sites (BG20 & BG30) not included in the rolling averages



'15 Water Cruise Map

CN-:

- River sites (BG20 & BG30) not included in the rolling averages



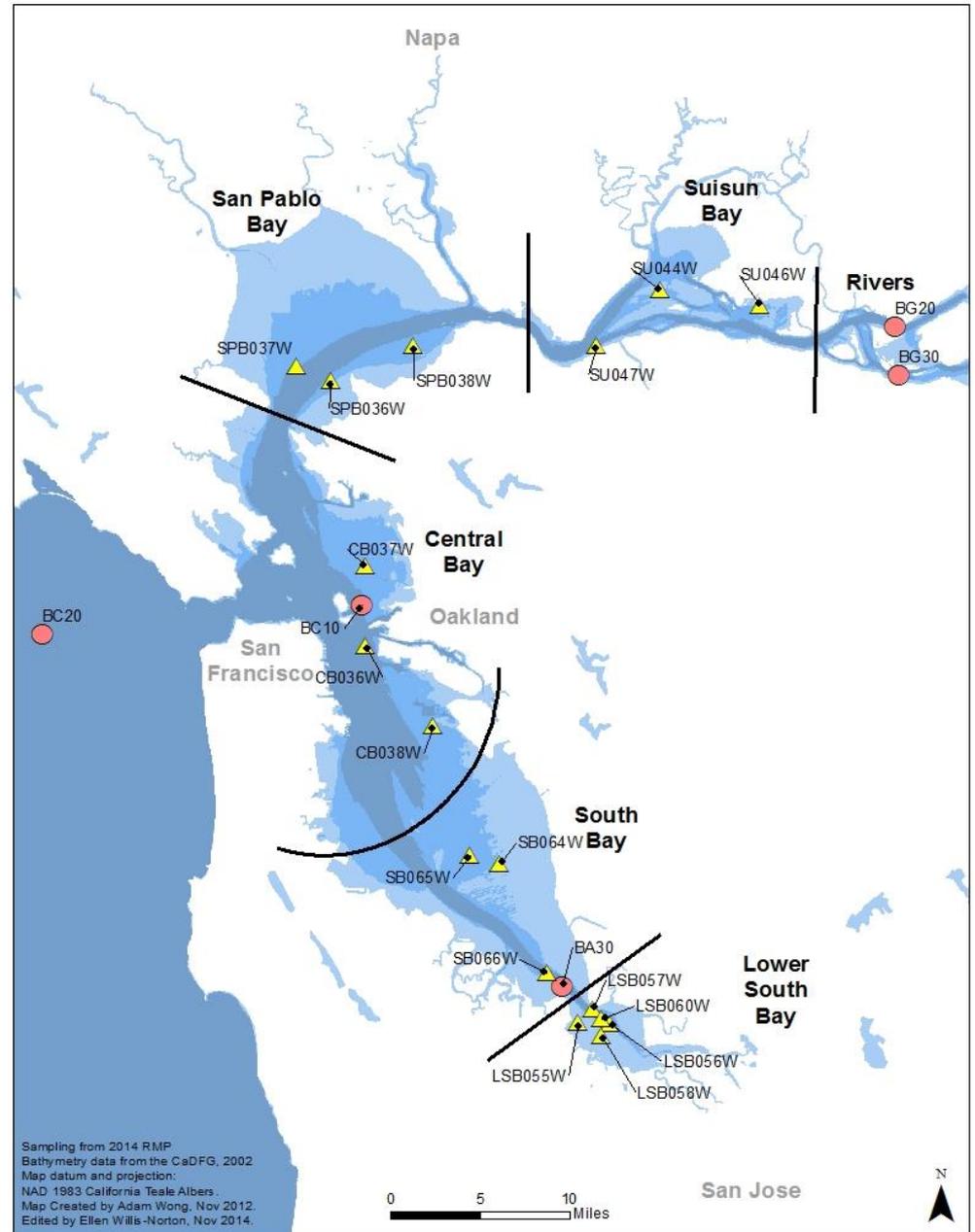
'13 Water Cruise Map

CN⁻:

- River sites (BG20 & BG30) not included in the rolling averages

CN⁻: missing south bay sites

- Kept historical site BA30



Cyanide Data ($\mu\text{g/L}$)

| Site Code | Region | Cruise Number | Result | MDL | Site Code | Region | Cruise Number | Result | MDL |
|-----------|--------|---------------|--------|------|-----------|--------|---------------|--------|------|
| BG20 | RIV | 15RMP2ST | 0.45 | 0.90 | BC20 | CB | 13RMP2ST | 0.59 | 0.44 |
| BG20 | RIV | 17RMP2ST | 2.00 | 0.80 | BC20 | CB | 17RMP2ST | 0.40 | 0.80 |
| BG30 | RIV | 15RMP2ST | 0.45 | 0.90 | CB040W | CB | 15RMP2ST | 0.45 | 0.90 |
| BG30 | RIV | 17RMP2ST | 2.00 | 0.80 | CB041W | CB | 15RMP2ST | 0.45 | 0.90 |
| SU048W | SU | 15RMP2ST | 0.45 | 0.90 | CB042W | CB | 15RMP2ST | 0.45 | 0.90 |
| SU049W | SU | 15RMP2ST | 0.45 | 0.90 | CB036W | CB | 13RMP2ST | 0.22 | 0.44 |
| SU050W | SU | 15RMP2ST | 0.45 | 0.90 | CB037W | CB | 13RMP2ST | 0.45 | 0.44 |
| SU044W | SU | 13RMP2ST | 0.22 | 0.44 | CB038W | CB | 13RMP2ST | 0.22 | 0.44 |
| SU046W | SU | 13RMP2ST | 0.22 | 0.44 | CB043W | CB | 17RMP2ST | 1.50 | 0.80 |
| SU047W | SU | 13RMP2ST | 0.22 | 0.44 | CB045W | CB | 17RMP2ST | 0.40 | 0.80 |
| SU051W | SU | 17RMP2ST | 1.00 | 0.80 | CB046W | CB | 17RMP2ST | 0.40 | 0.80 |
| SU052W | SU | 17RMP2ST | 1.00 | 0.80 | LSB061W | LSB | 15RMP2ST | 0.45 | 0.90 |
| SU054W | SU | 17RMP2ST | 1.00 | 0.80 | LSB062W | LSB | 15RMP2ST | 0.45 | 0.90 |
| SPB039W | SPB | 15RMP2ST | 0.45 | 0.90 | LSB064W | LSB | 15RMP2ST | 0.45 | 0.90 |
| SPB040W | SPB | 15RMP2ST | 0.45 | 0.90 | LSB065W | LSB | 15RMP2ST | 0.45 | 0.90 |
| SPB041W | SPB | 15RMP2ST | 0.45 | 0.90 | LSB066W | LSB | 15RMP2ST | 0.45 | 0.90 |
| SPB036W | SPB | 13RMP2ST | 0.22 | 0.44 | LSB069W | LSB | 17RMP2ST | 0.40 | 0.80 |
| SPB037W | SPB | 13RMP2ST | 0.46 | 0.44 | LSB070W | LSB | 17RMP2ST | 0.40 | 0.80 |
| SPB038W | SPB | 13RMP2ST | 0.22 | 0.44 | LSB072W | LSB | 17RMP2ST | 0.40 | 0.80 |
| SPB042W | SPB | 17RMP2ST | 1.00 | 0.80 | LSB073W | LSB | 17RMP2ST | 0.40 | 0.80 |
| SPB043W | SPB | 17RMP2ST | 0.40 | 0.80 | BA30 | SB | 15RMP2ST | 0.45 | 0.90 |
| SPB044W | SPB | 17RMP2ST | 2.00 | 0.80 | SB067W | SB | 15RMP2ST | 0.45 | 0.90 |
| BC10 | CB | 15RMP2ST | 0.45 | 0.90 | SB068W | SB | 15RMP2ST | 0.45 | 0.90 |
| BC10 | CB | 13RMP2ST | 0.52 | 0.44 | SB070W | SB | 15RMP2ST | 0.45 | 0.90 |
| BC10 | CB | 17RMP2ST | 0.40 | 0.80 | BA30 | SB | 13RMP2ST | 0.22 | 0.44 |
| BC20 | CB | 15RMP2ST | 0.00 | 0.00 | BA30 | SB | 17RMP2ST | 0.40 | 0.80 |
| | | | | | SB071W | SB | 17RMP2ST | 0.40 | 0.80 |
| | | | | | SB072W | SB | 17RMP2ST | 0.40 | 0.80 |
| | | | | | SB073W | SB | 17RMP2ST | 0.40 | 0.80 |