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EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

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February 1, 2017

David Barfield, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Park Dr.
Manhattan, KS 66502

RE: Burrton IGUCA - File 421.12

Dear Mr. Barfield:

On January 31, 2017, the Equus Beds Groundwater Management District No. 2 Board of Directors reviewed the Burrton Intensive Groundwater Use Control Area (IGUCA) review as presented at the October 4, 2016, public hearing. In particular, the Board reviewed the review team's recommendation that the Burrton IGUCA boundaries be expanded to the east and to the south of the current boundary.

The District staff completed an interpretation of the current location of the Burrton chloride plumes and movement through time based on water quality data collected from 2000 through 2016. The review found that the chloride contamination has spread east of the current IGUCA boundary. However, the significant chloride contamination has not yet moved south of the IGUCA boundary and plume movement is such that there is no current need to expand the boundary to the south. A copy of the chloride contamination maps are enclosed for your information. Upon review of the information, it was the decision of the District Board of Directors to recommend that the Burrton IGUCA boundary **is** expanded to the east as recommended by the review team. Additionally, it was the decision of the Board to recommend that the boundary **is not** expanded to the south as recommended by the review team. Please see the enclosed map showing the Board's recommended boundary expansion.

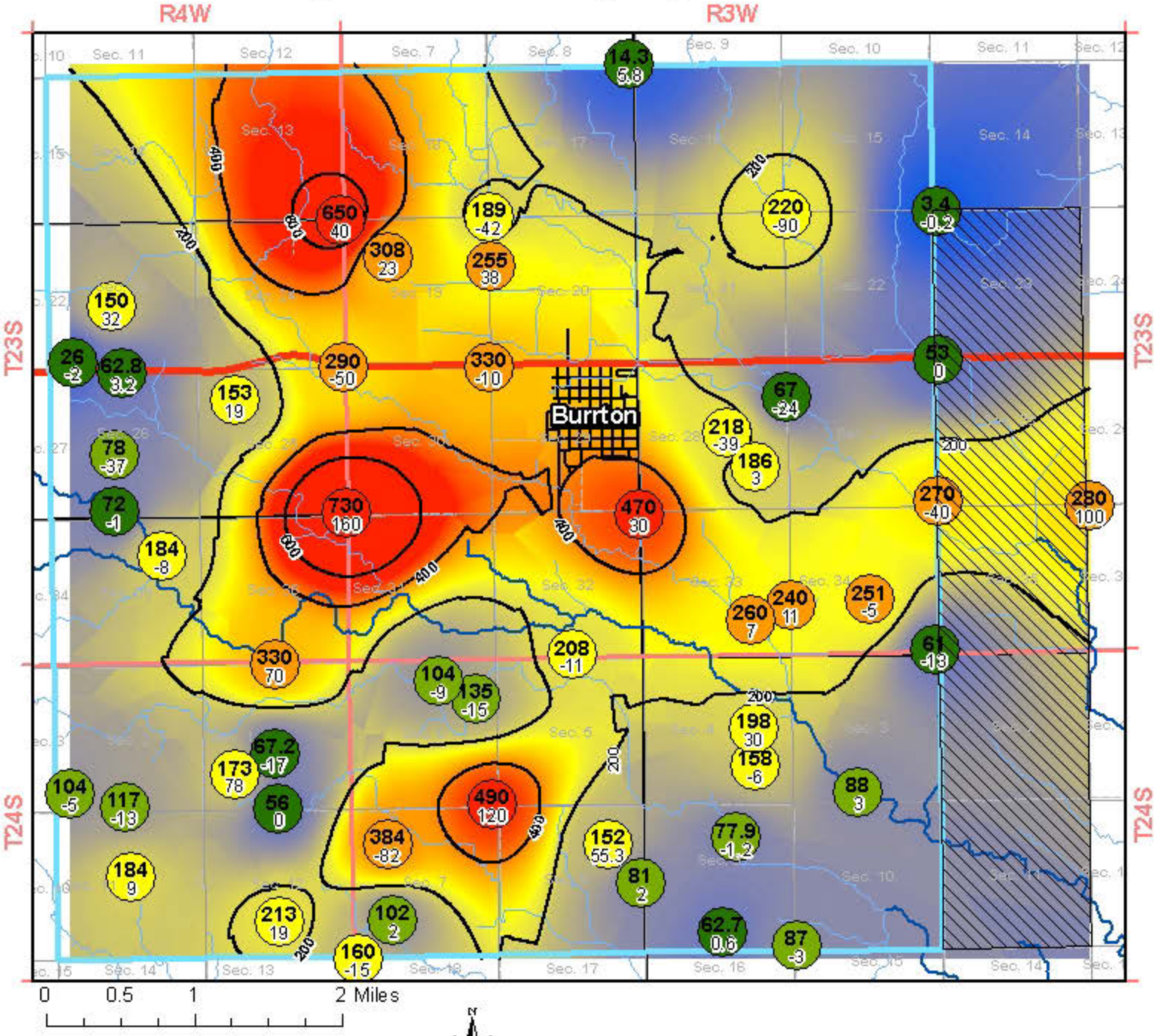
Thank you for the opportunity to provide additional information and comments. Please contact me should you have any questions or need additional information.

Sincerely,
EQUUS BEDS GROUNDWATER
MANAGEMENT DISTRICT NO. 2

T. Boese

Tim Boese
Manager
TDB/db

Burrton Chloride Plume 2016
Samples from 0 to 90 feet below land surface
Samples Collected During Irrigation Season



Legend

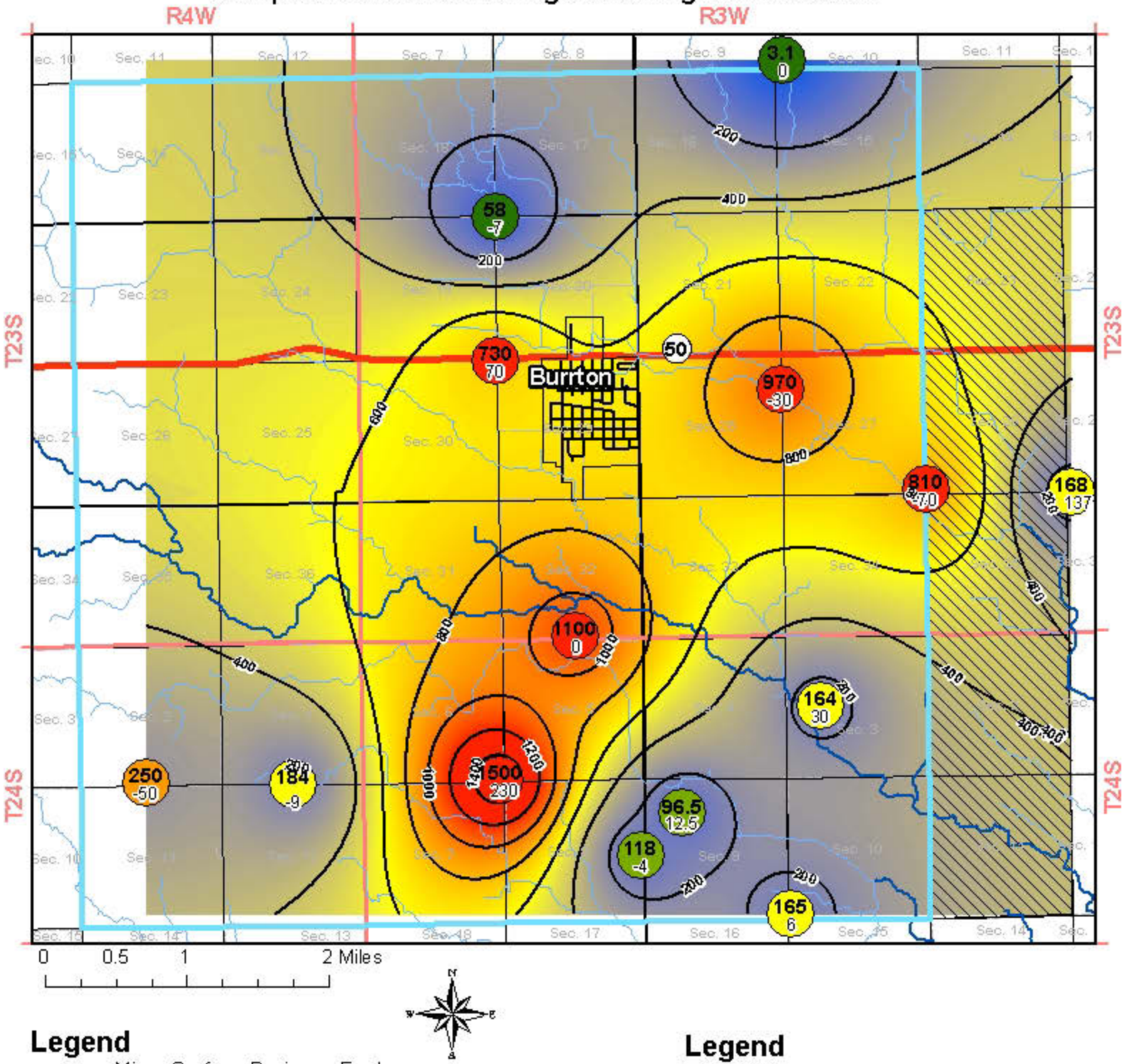
- Minor Surface Drainage Feature
- Moderate Surface Drainage Feature
- Wells Sampled in 2016
- Burrton IGUCA outline
- Proposed Expansion
- High : 500 ppm
- Low : 0 ppm

Legend

730 160 — 2016 Concentration / 2015 to 2016 change

Map by: Stephen Flaherty
GMD2 Hydrogeologist 2016

Burrton Chloride Plume
Samples Collected from 90 to 120 feet Below Land Surface
Samples Collected During 2016 Irrigation Season



Legend

- Minor Surface Drainage Feature
- Moderate Surface Drainage Feature
- Wells Sampled in 2015
- Active and Abandoned Oil and Gas Wells
- Burrton IGUCA outline
- Proposed Expansion Area
- High : 1500 ppm
- Low : 0 ppm

Legend

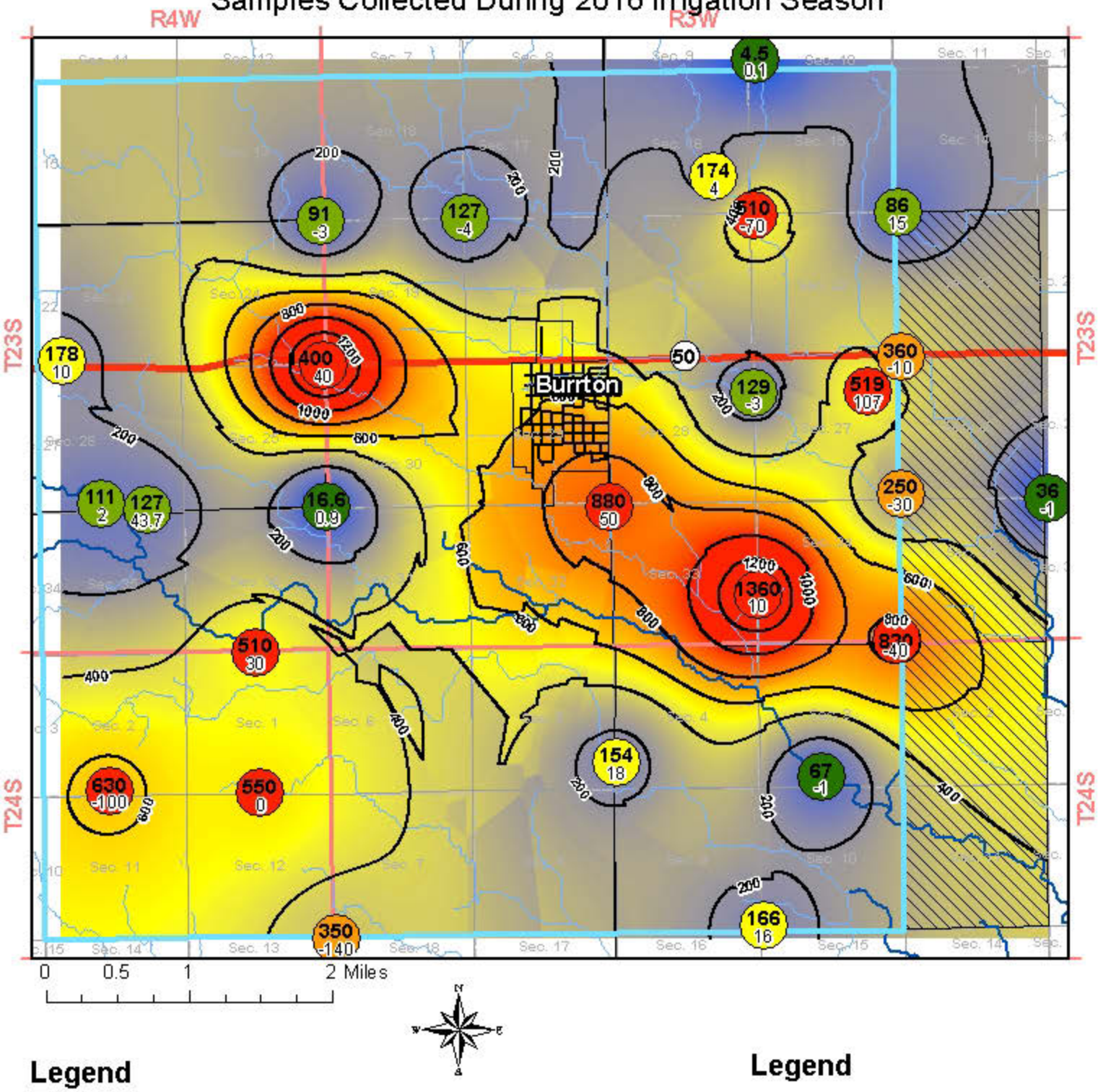
1500 / 230

2016 Concentration

2015 to 2016 change

Map by: Stephen Flaherty
GMD2 Hydrogeologist 2016

Burrton Chloride Plume
Samples Collected below 120 ft of Land Surface
Samples Collected During 2016 Irrigation Season



Legend

- Minor Surface Drainage Feature
- Moderate Surface Drainage Feature
- Wells Sampled in 2015
- Burrton IGUCA outline
- Proposed Expansion Area
- High : 1000 ppm
- Low : 0 ppm

Legend

1400 / 40 — 2016 Concentration / 2015 to 2016 change

Map by: Stephen Flaherty
GMD2 Hydrogeologist 2016