DFSP Norwalk RESTORATION ADVISORY BOARD

February 27, 2020

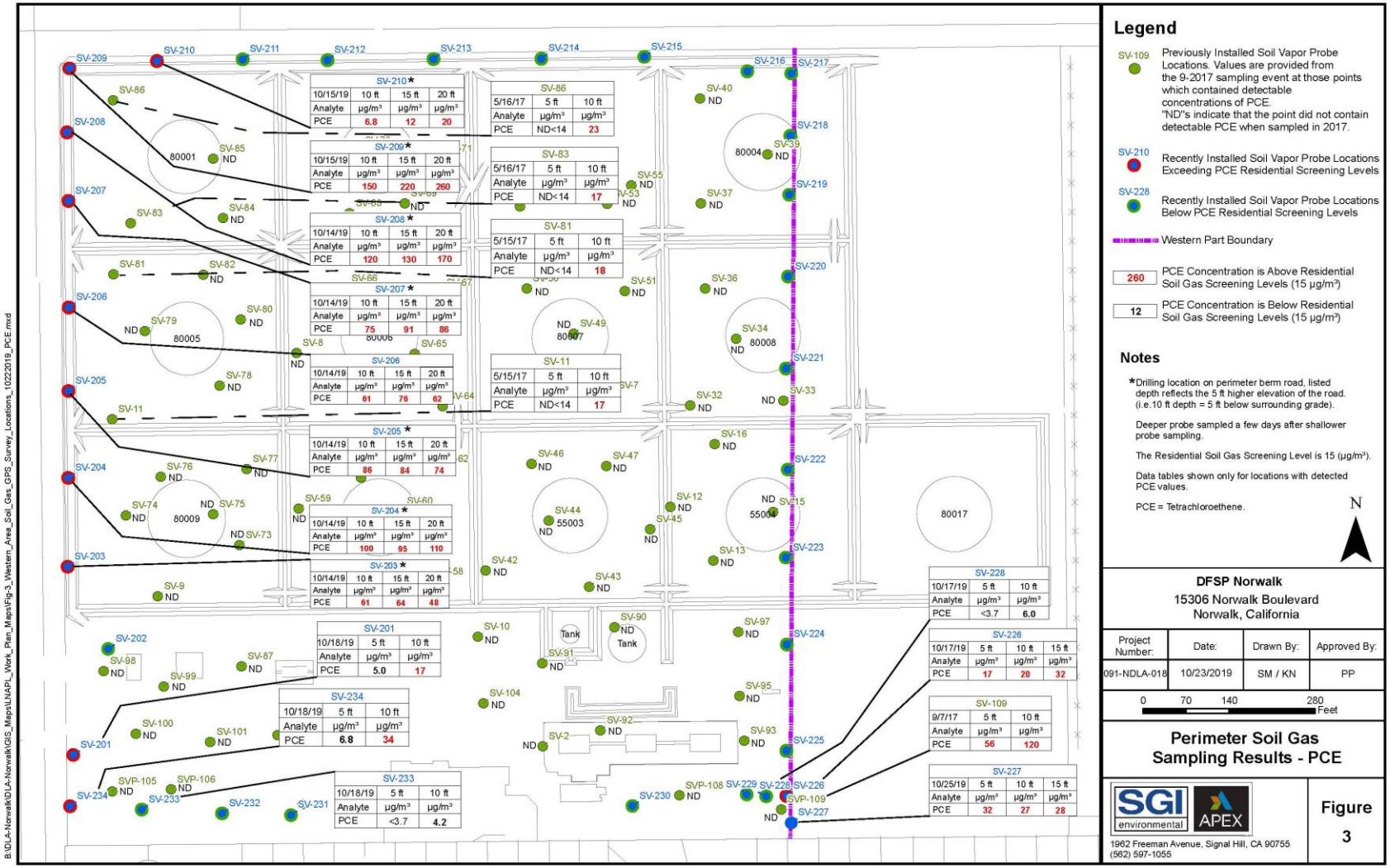
Soil Remediation Project Progress

- **Western Area Report** submitted to the RWQCB; *Office of Environmental Health Hazard Assessment (OEHHA)* has provided comments via memo to the RWQCB.
- Principal concern was the occurrence of isolated areas of tetrachloroethylene (PCE) in areas along western border and southeast corner of Western Portion
- Additional Soil Gas was collected, in accordance with a work plan approved by the RWQCB.

Soil Remediation Project Progress

- ***Additional Soil Gas Data Showed:***
  - ***Central Portion of Western Area – Clean***
  - ***Western Boundary – Elevated PCE – Off-site Source***
  - ***Southeast Corner – Elevated PCE – Unknown Source***
  - ***Risk Evaluation Compared to Acceptable Thresholds of:***
    - ***Commercial/Industrial: 1 x 10-5***
    - ***Residential: 1 x 10-6***
  - ***Western Boundary – Incremental Risk of 2 x 10-5***
  - ***Southeast Corner – Incremental Risk of 2 x 10-6***
- ***DLA will be requesting NFA for Western, On-site Portion***

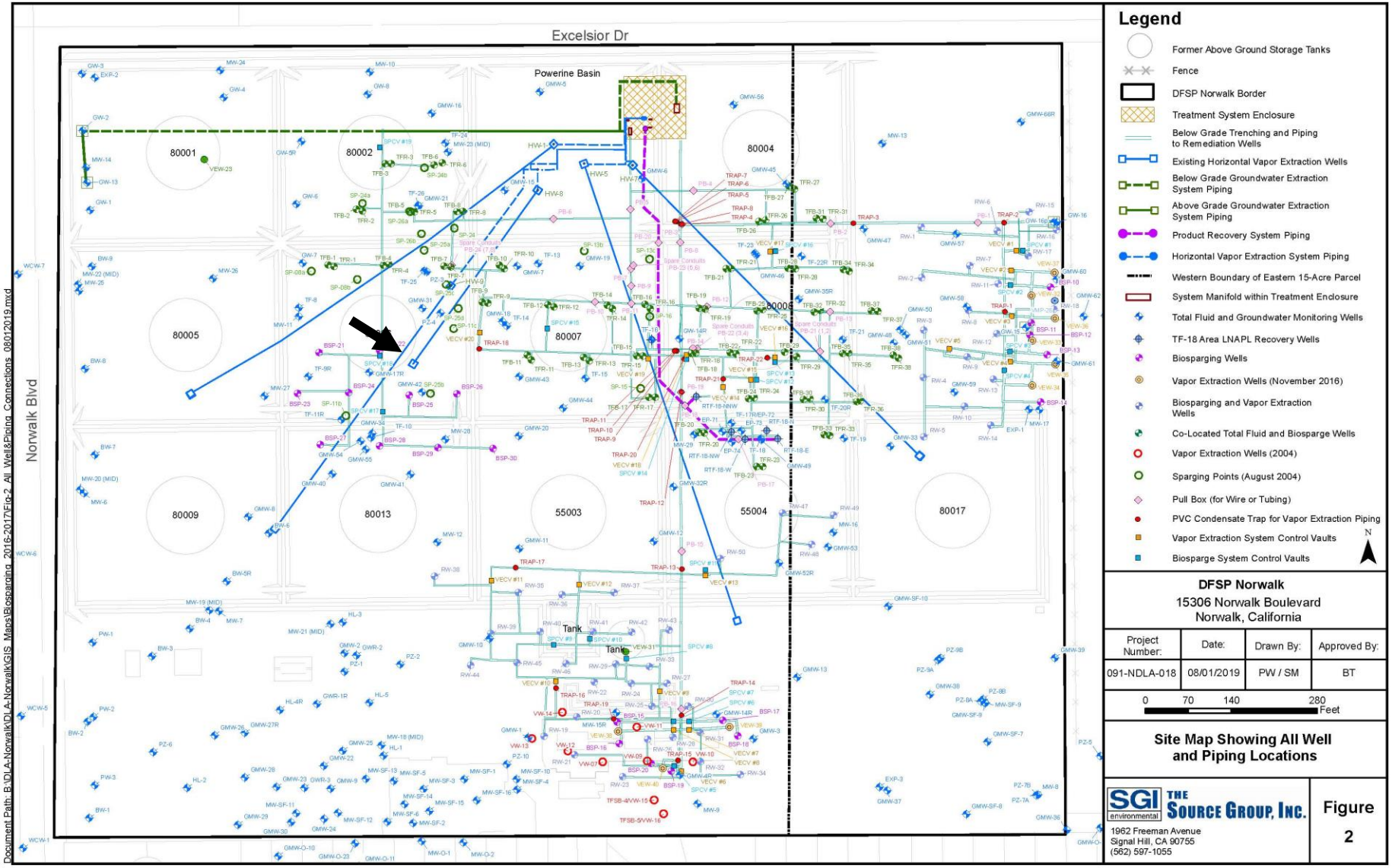
PCE in Shallow Soil Gas



Status of Remediation System

- **Soil and Groundwater Treatment System Components:**
  - **Five Horizontal Vapor Extraction Wells**
  - **40 Total Fluids (LNAPL and Groundwater) Recovery Wells Throughout the Tank Farm**
  - **65 Biosparge Wells -**
  - **66 Vertical Vapor Extraction Wells**
- **Four Current Remedial Technologies:**
  - **Soil Vapor Extraction (2 vapor treatment systems)**
  - **Groundwater Extraction & Treatment**
  - **Air Sparging/Bioremediation**
  - **LNAPL Removal**

Map of Remediation Wells



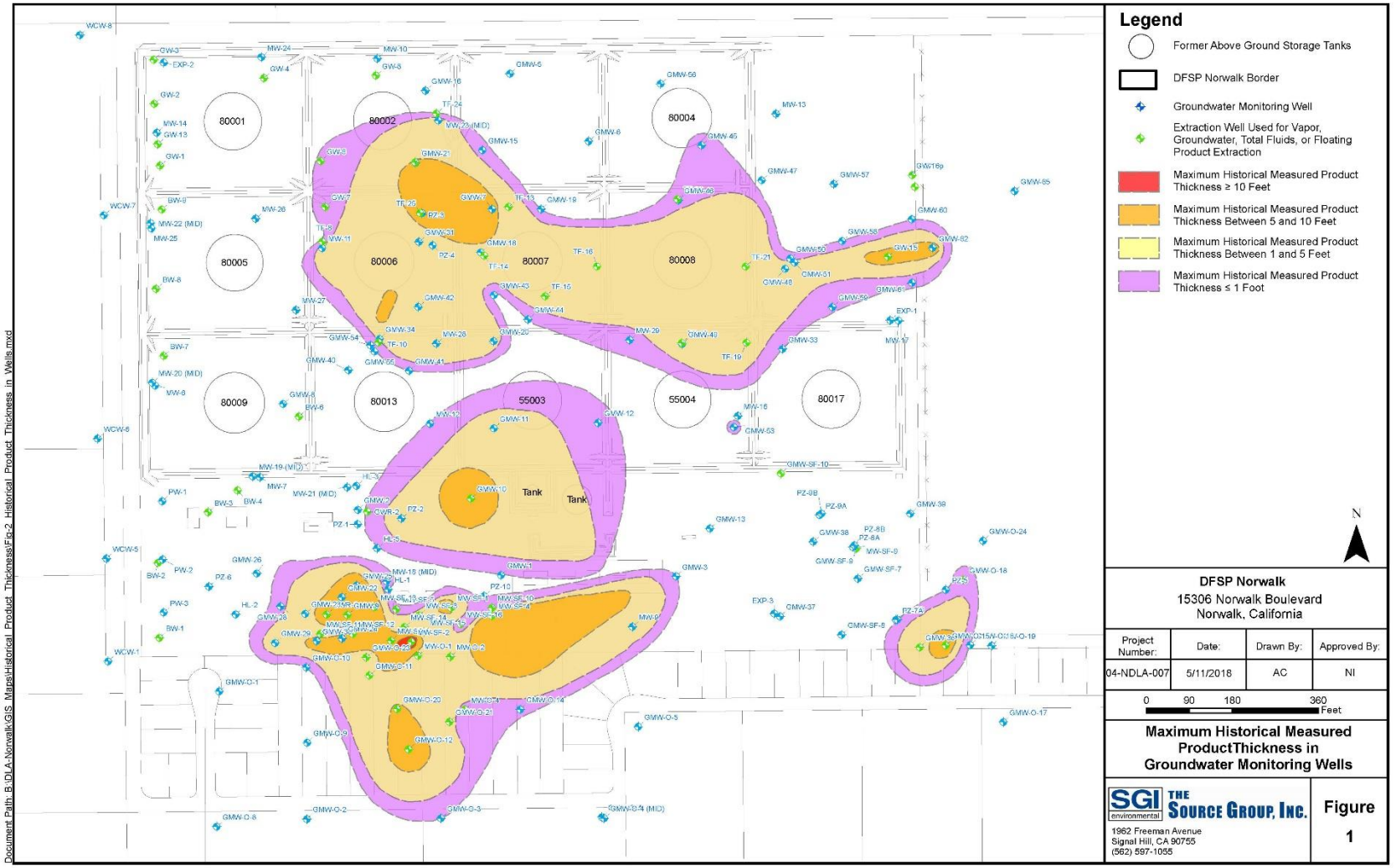
Status of Remediation Systems

- **Groundwater Remediation:**
  - **79.7 million gallons of groundwater extracted and treated since April 1996**
  - **Groundwater Extraction System Restarted – 310,000 gallons Since October 2019: Discharge to Sewer after Treatment**
- **SVE System:**
  - **78,500 lbs removed in Q4 2019 (compared to only 6,918 pounds of vapor-phase hydrocarbons removed in Q2 2019 when Therm Ox not operating)**
- **LNAPL Recovery:**
  - **Amount of LNAPL recovered: 174 gallons in Q4: LNAPL thicknesses are decreasing**
  - **10,088 gallons of LNAPL recovered since Jan 2014**

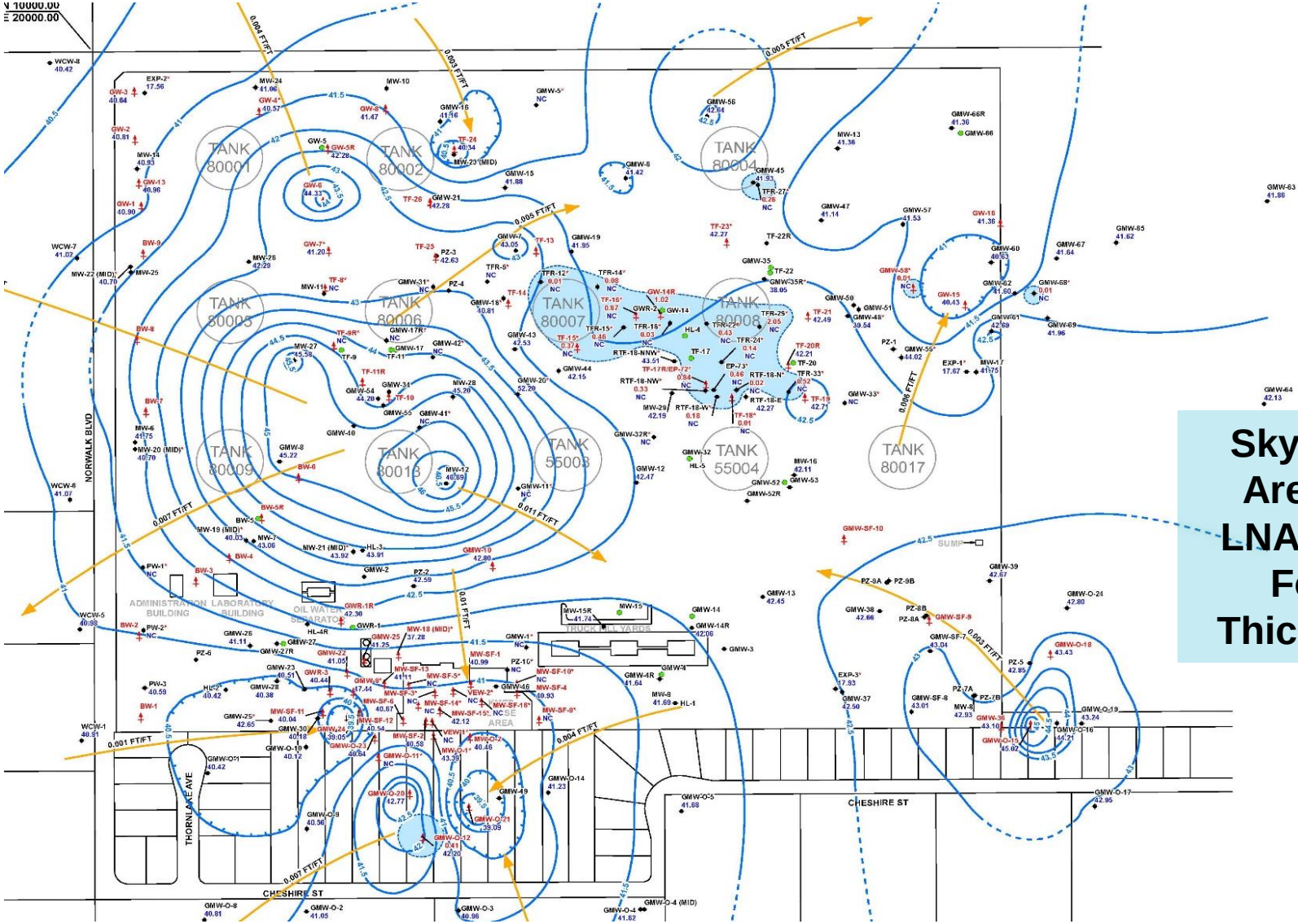
Improvements in Remediation

- **Since Last Summer RAB meeting: ThermOx sound-proofed, operating 24/7- 10X more removal**
- **Groundwater Discharge to Sewer after treatment reduces costs of sampling/reporting**
- **Sanitation District treated water gets re-infiltrated into aquifers**
- **Maps of LNAPL and Dissolved contaminants show clear reduction**

LNAPL - Maximum

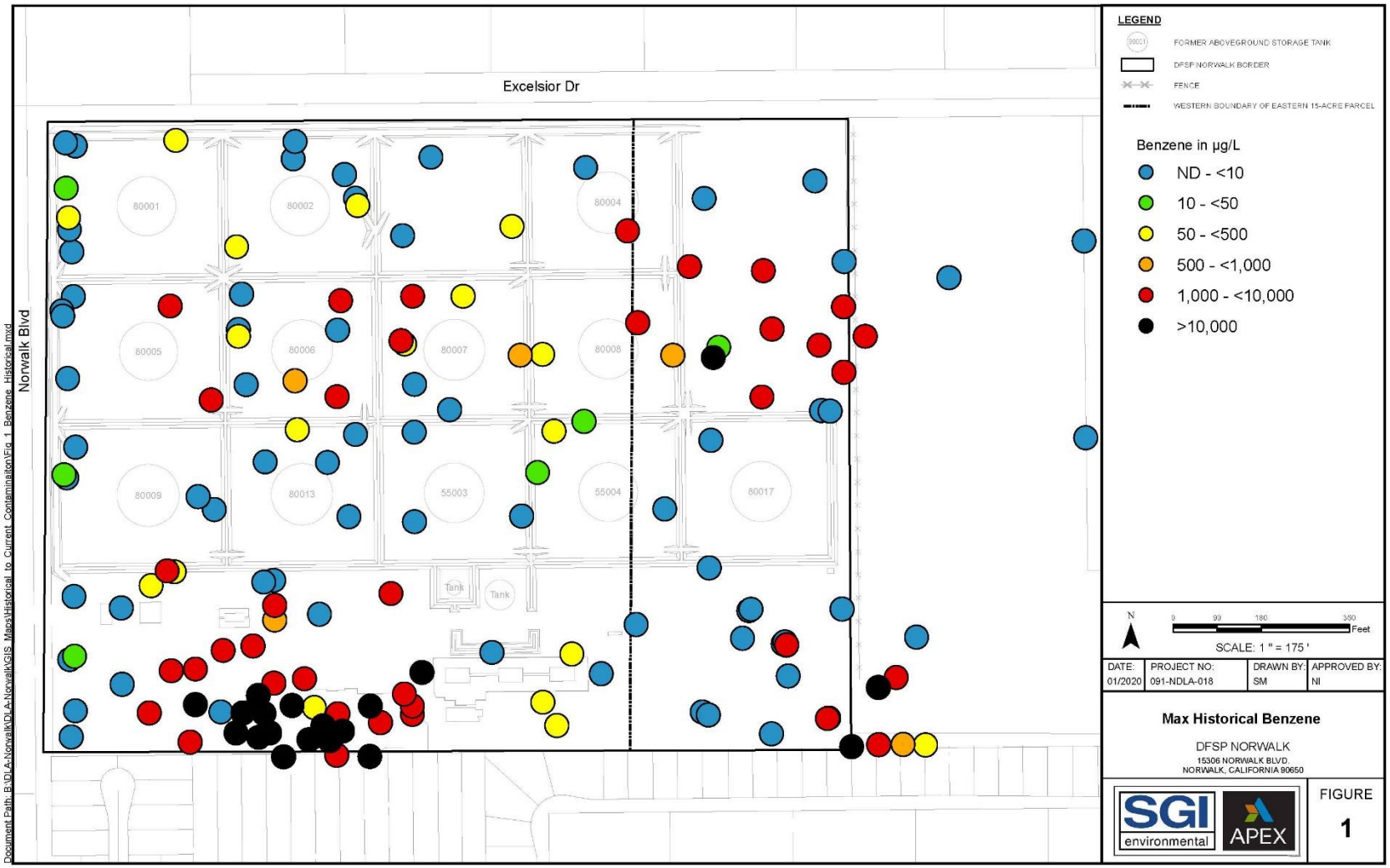


LNAPL – Current (high groundwater)

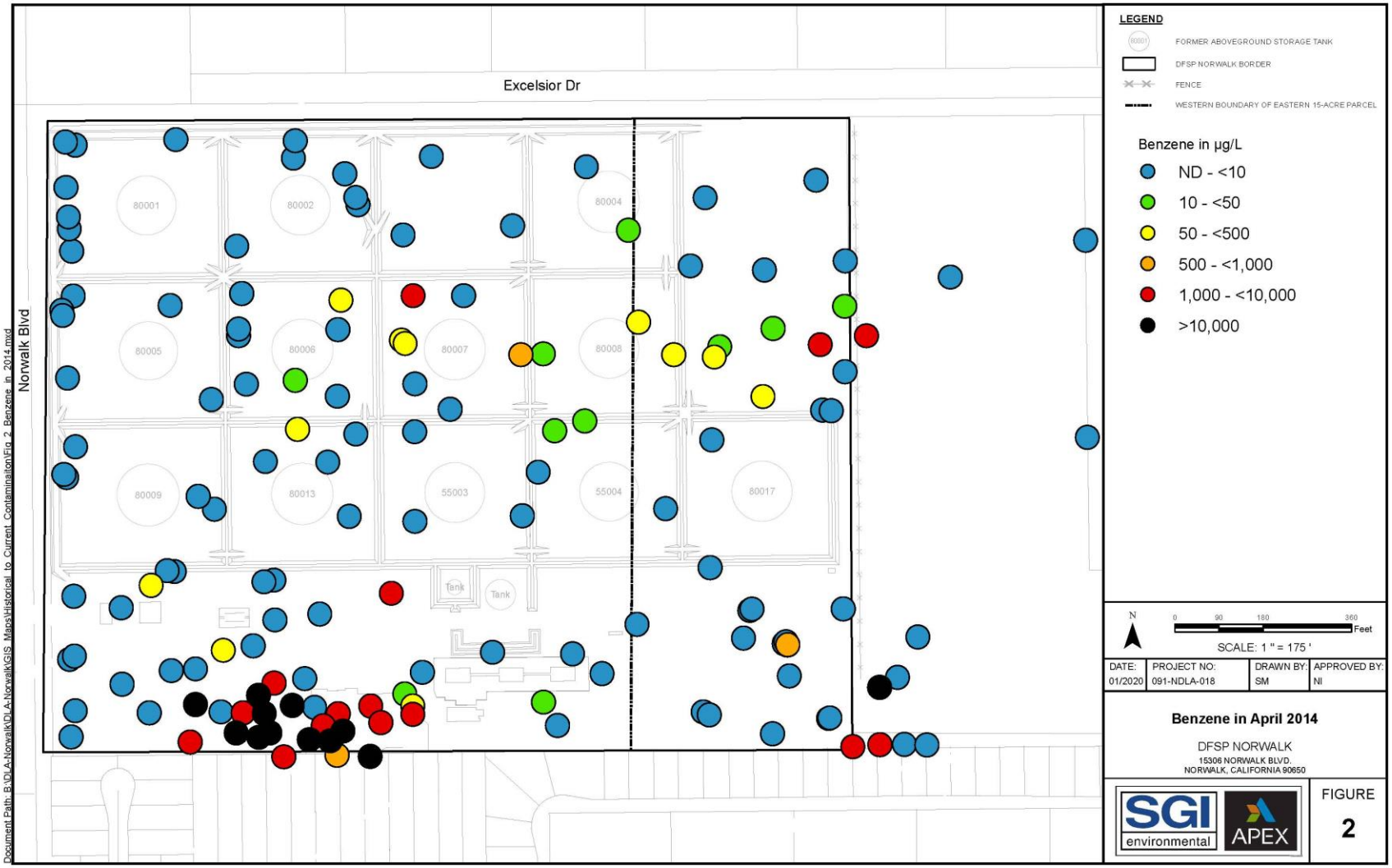


Sky Blue Areas – LNAPL <1 Foot Thickness

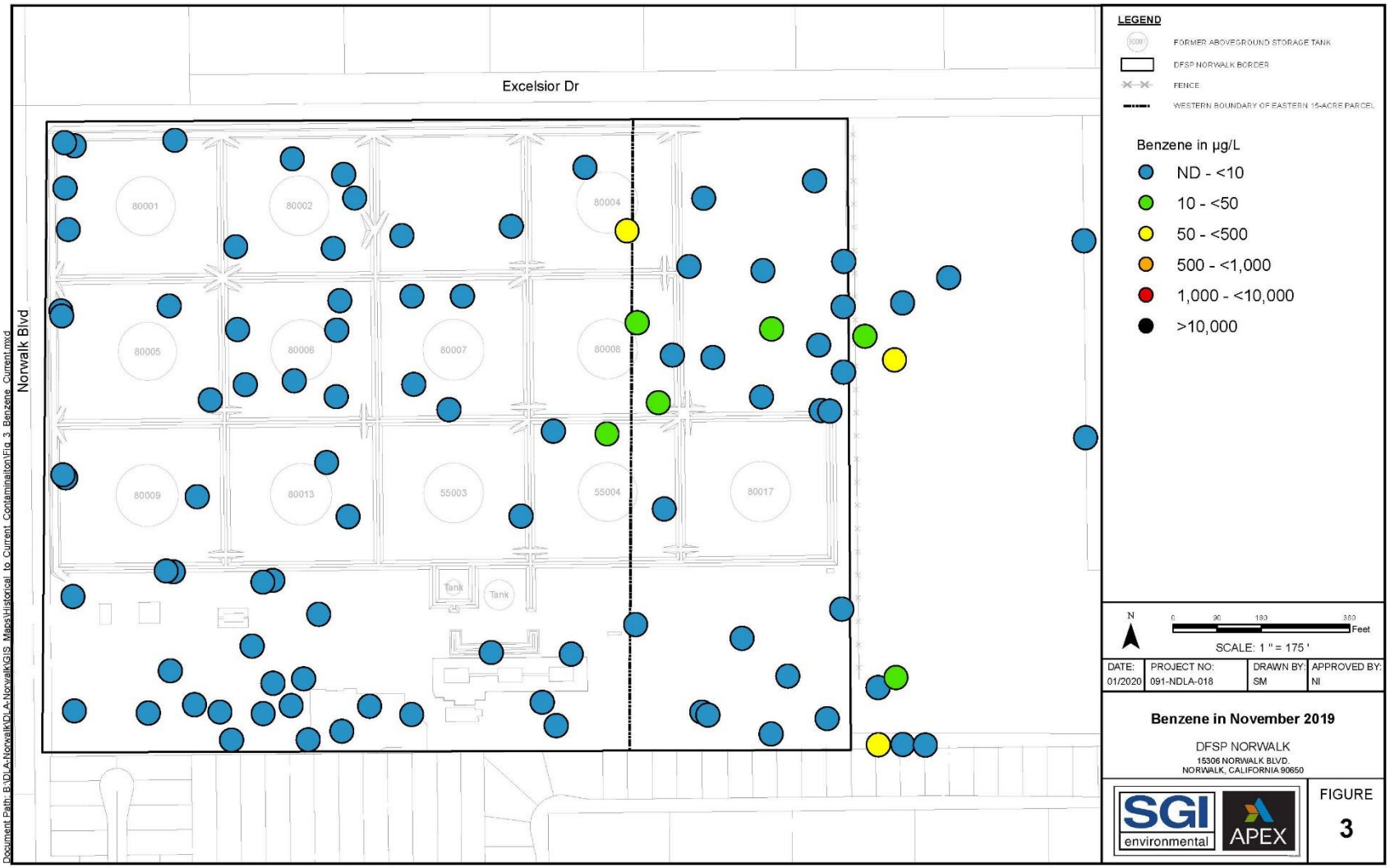
Dissolved Benzene – Max Values



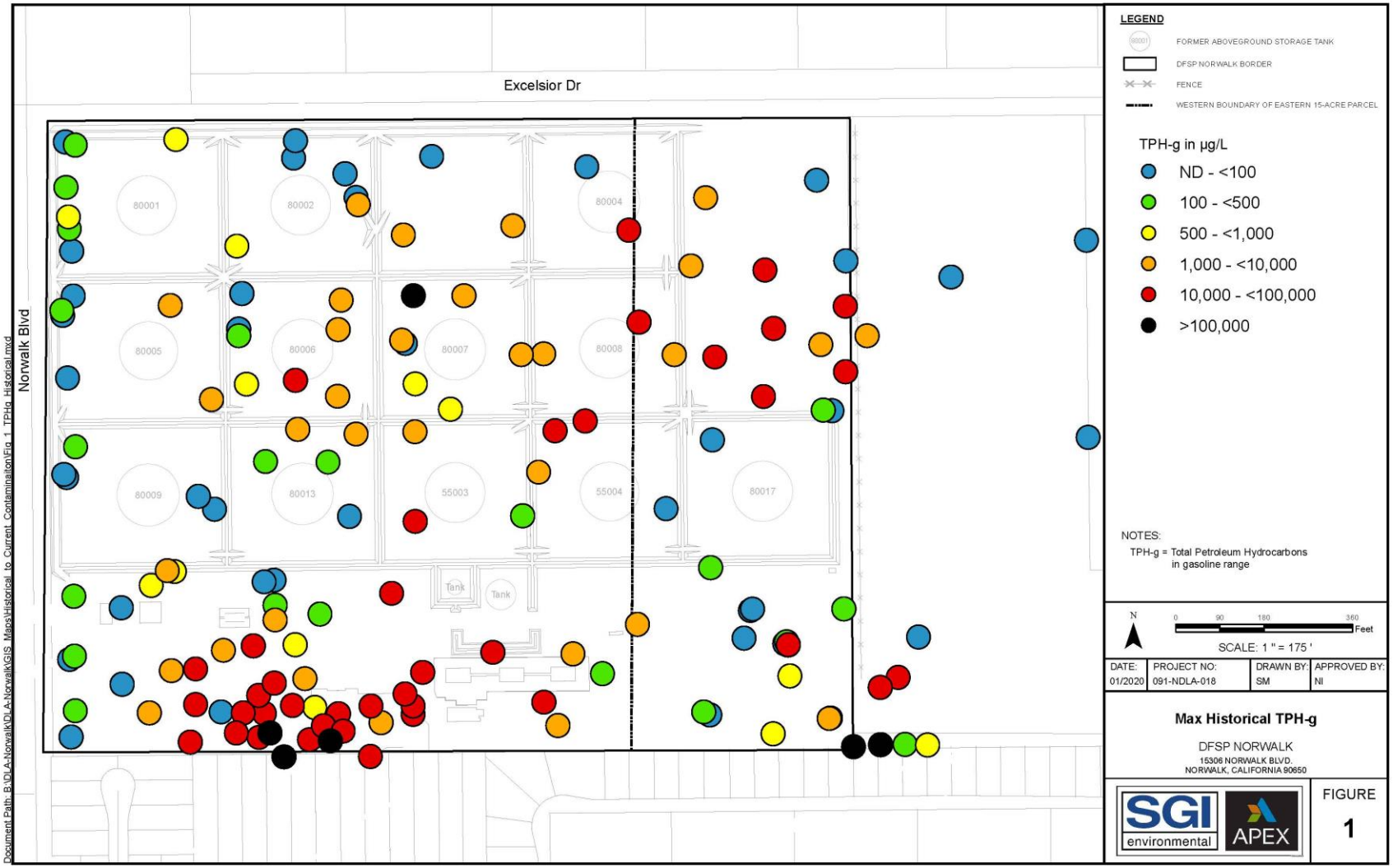
Dissolved Benzene – 2014 Values



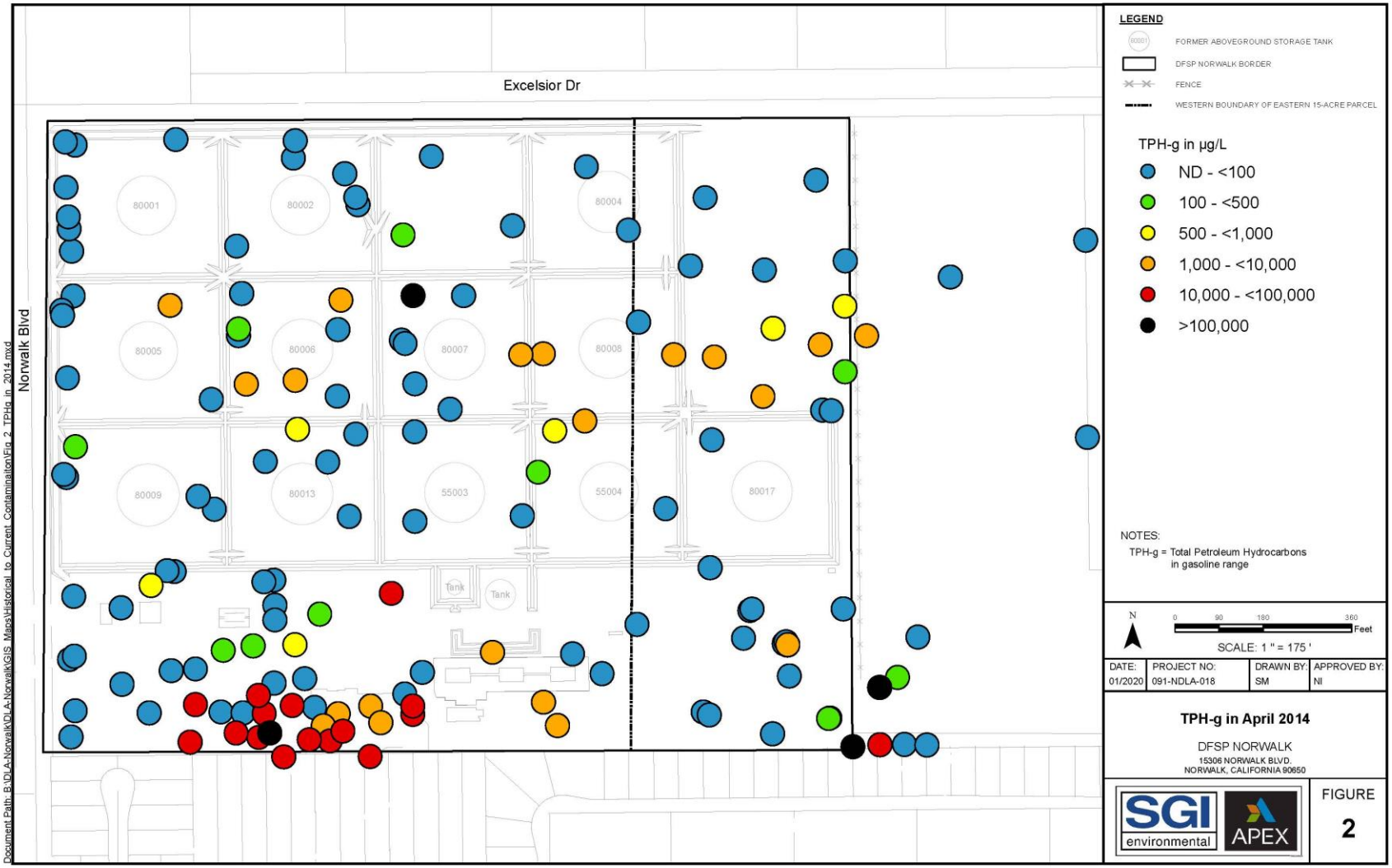
Dissolved Benzene – Current Values



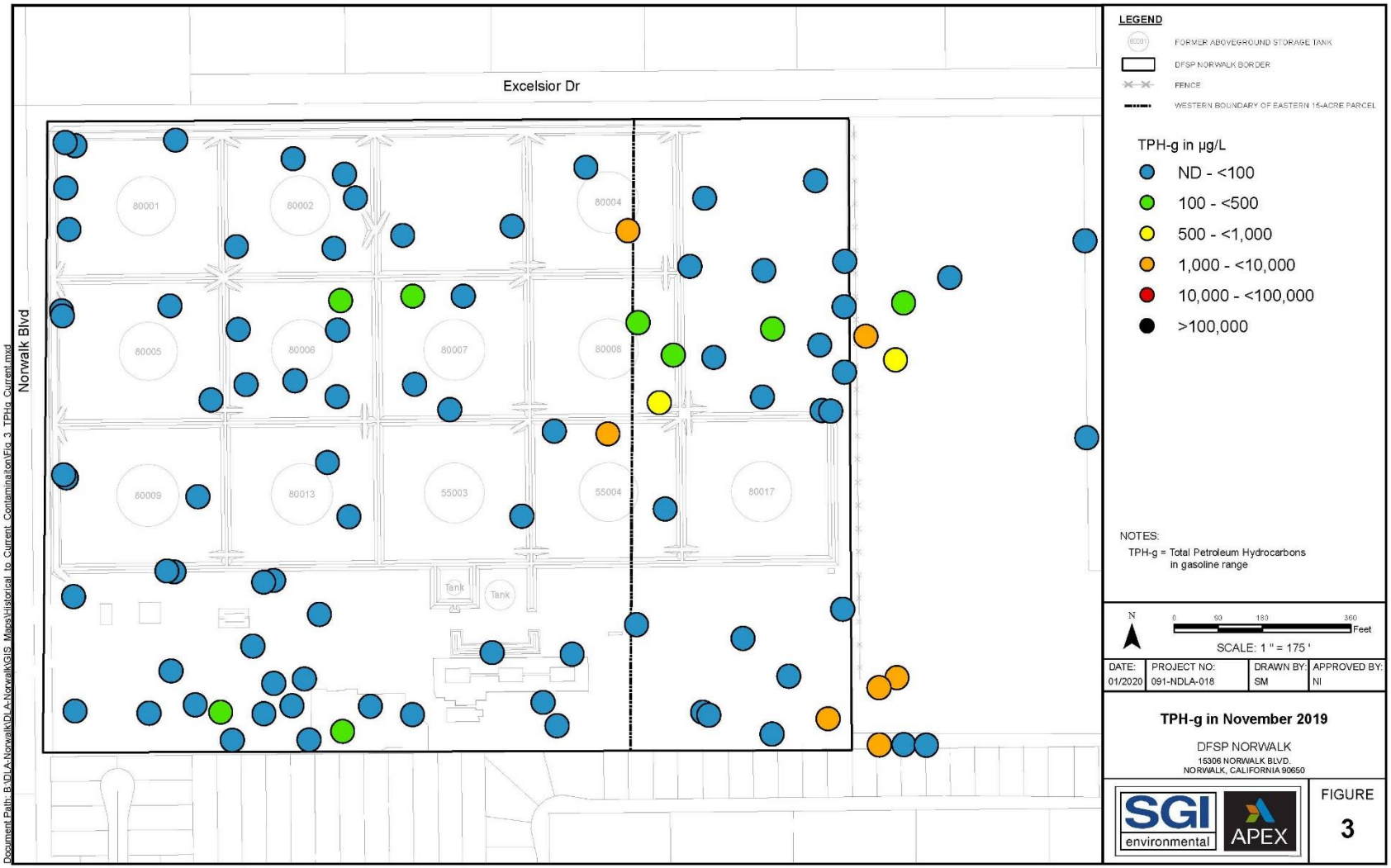
Dissolved GRO – Maximum Values



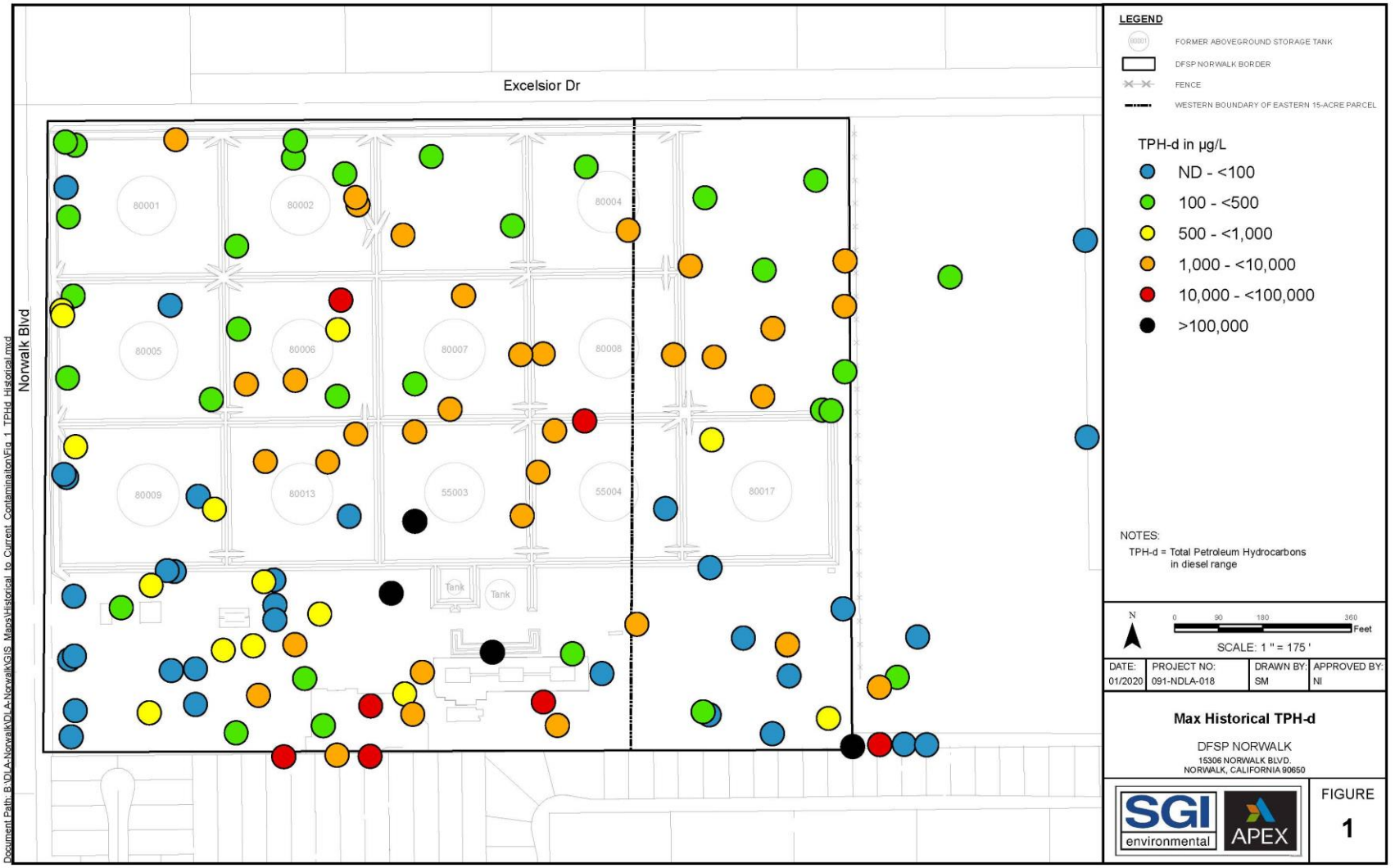
Dissolved GRO – 2014 Values



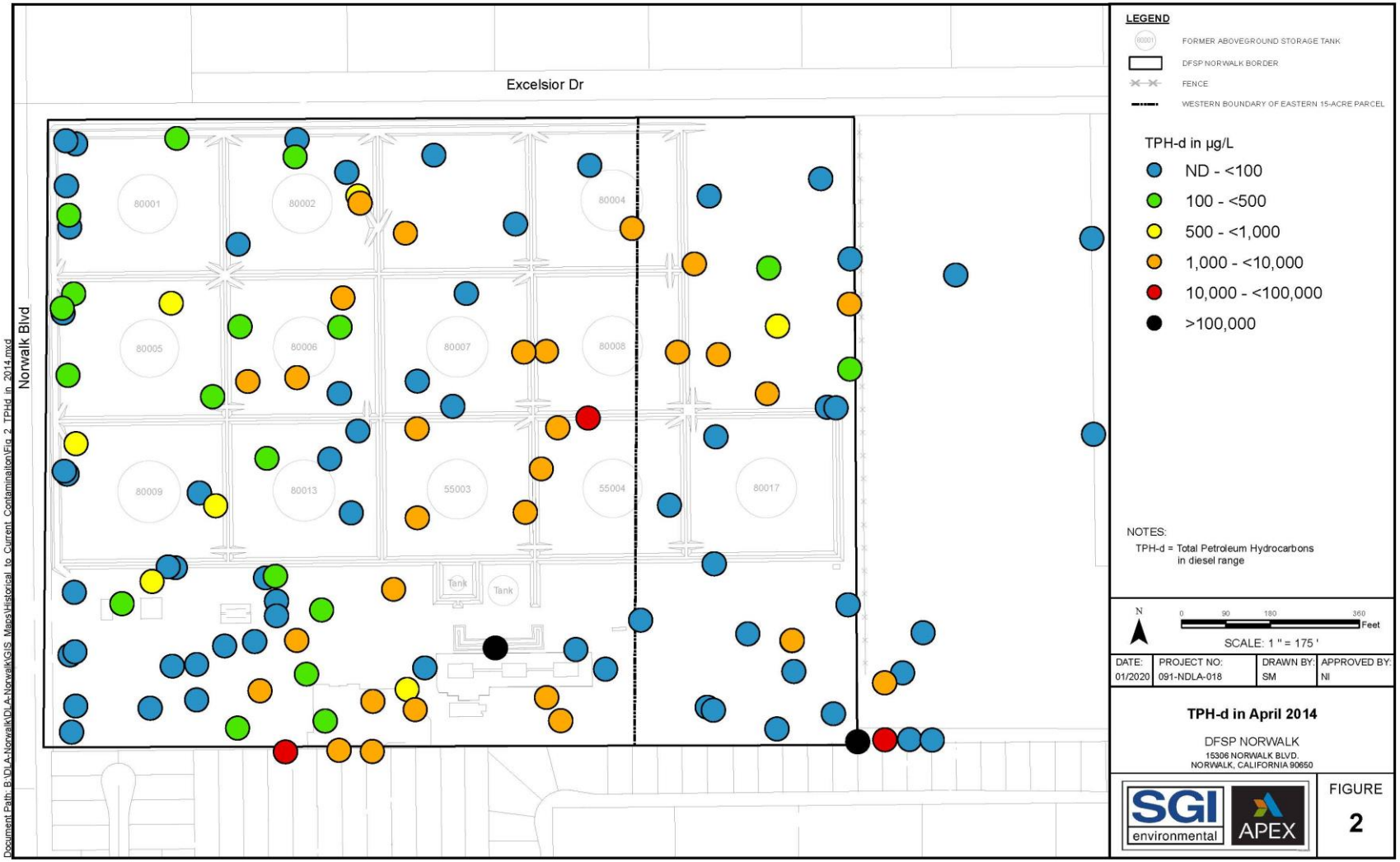
Dissolved GRO – Current Values



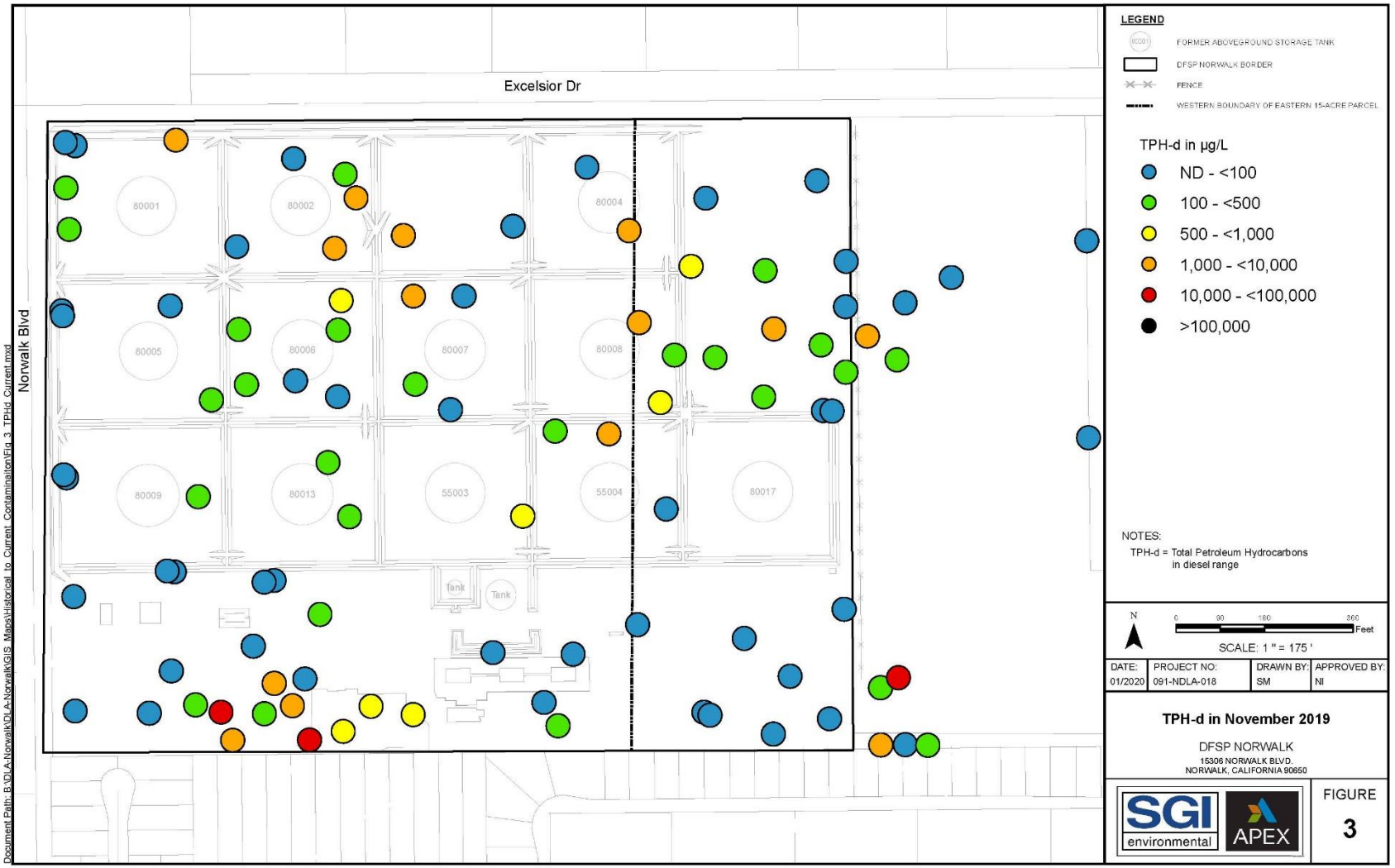
Dissolved DRO – Maximum Values



Dissolved DRO – 2014 Values



Dissolved DRO – Current Values



We Fight Dust

We Work in The Rain

We Clean the Environment!


DEFENSE LOGISTICS AGENCY