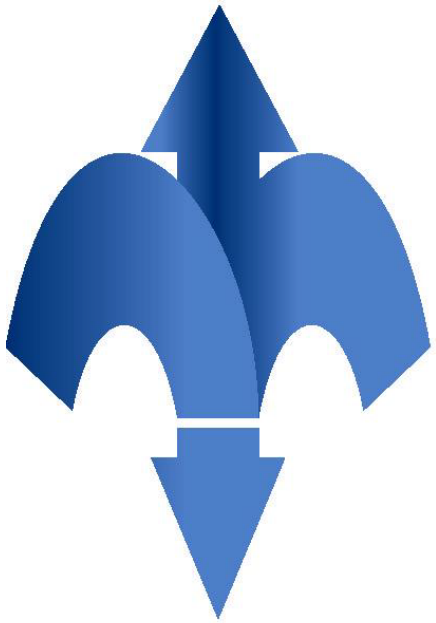

ART

Accelerated Remediation Technologies, Inc.

Mohamed Odah, Ph.D., P.E.

Modah@ARTinWell.com

(913) 302 – 3338 (Cell)

Acknowledgements

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Technologies Overview

- *Integrated, synergistic suites*
- *Several technologies, one well*
- *Soil & water treatment simultaneously*
- *Expedited site closure*
- *Utilizes proven concepts*

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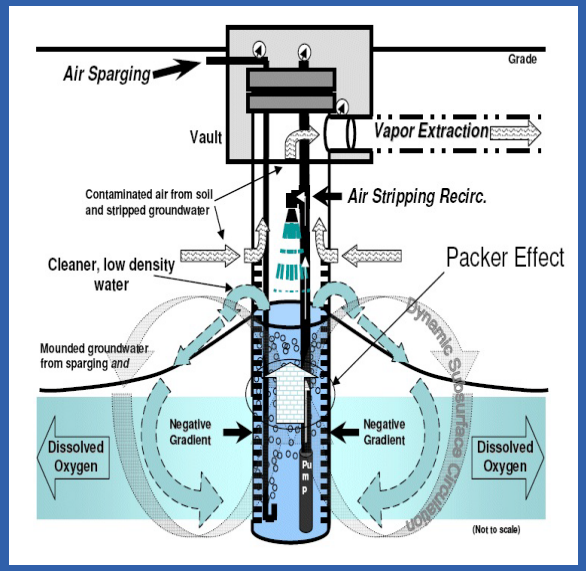
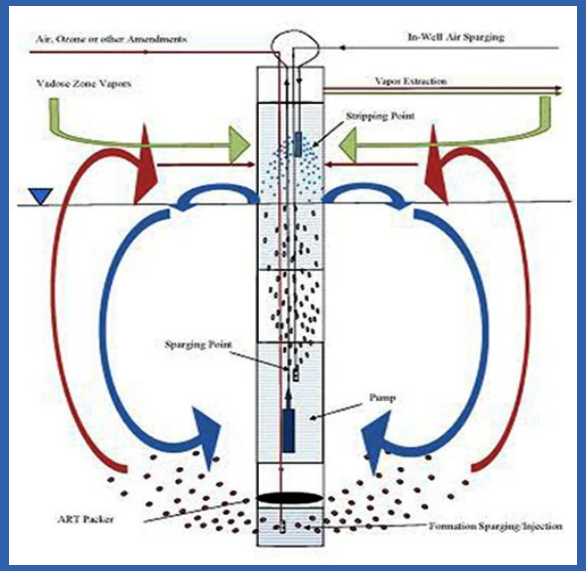
Technologies Overview

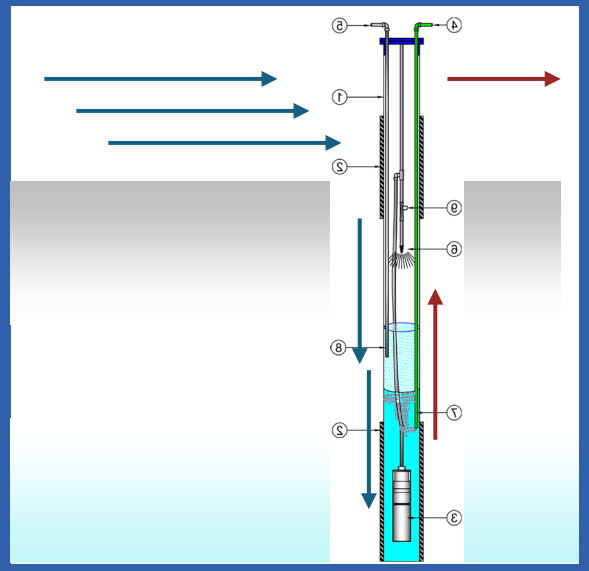
ART In-Well Integrated Technologies



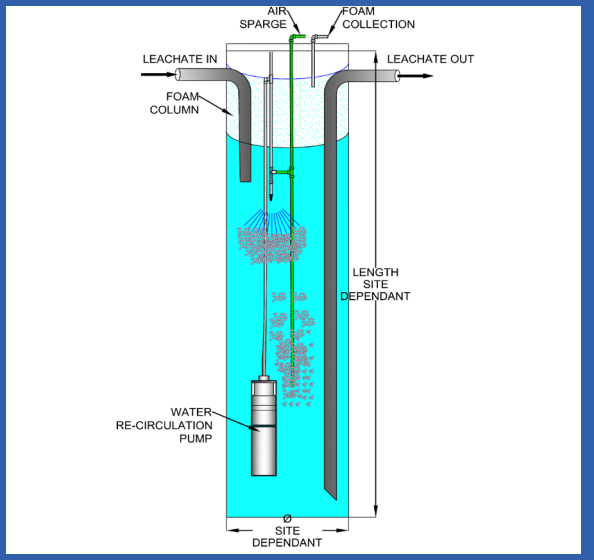
ART-Jection Technologies



ART PFAS Technologies



ART Leachate Cell



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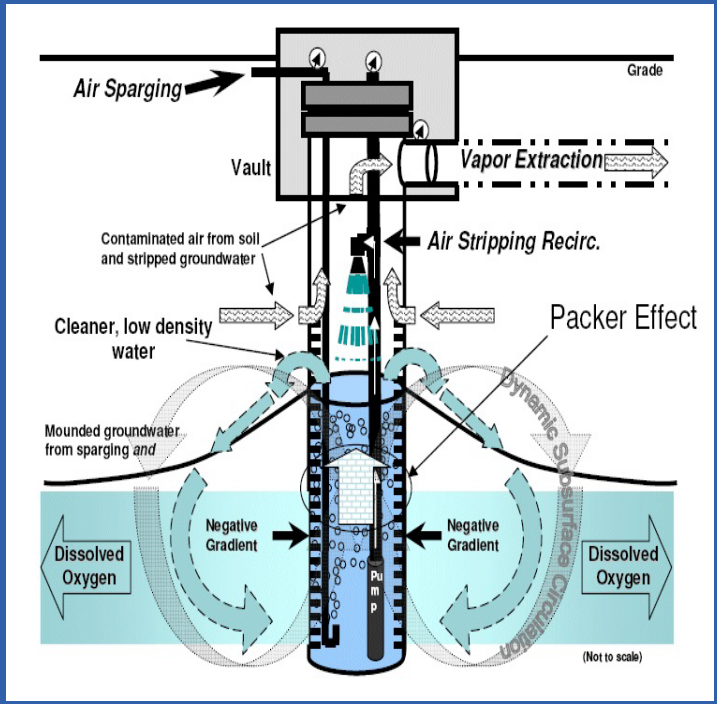
ART In-Well Integrated Technologies



- In-well Air Stripping and Sparging
- Soil Vapor Extraction
- Bioremediation/Oxidation
- Dynamic Subsurface Circulation
- And: Chemical Injection

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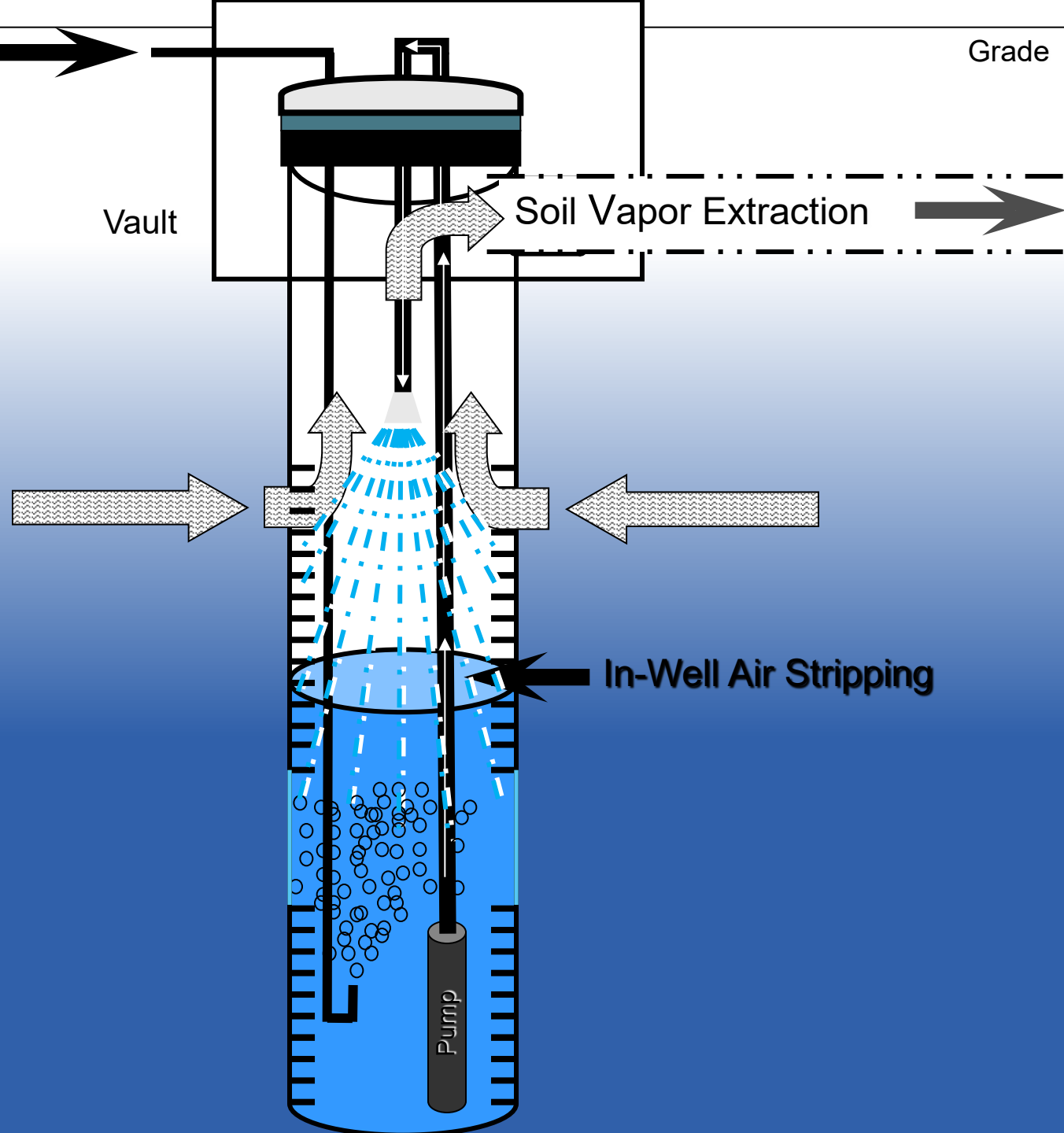
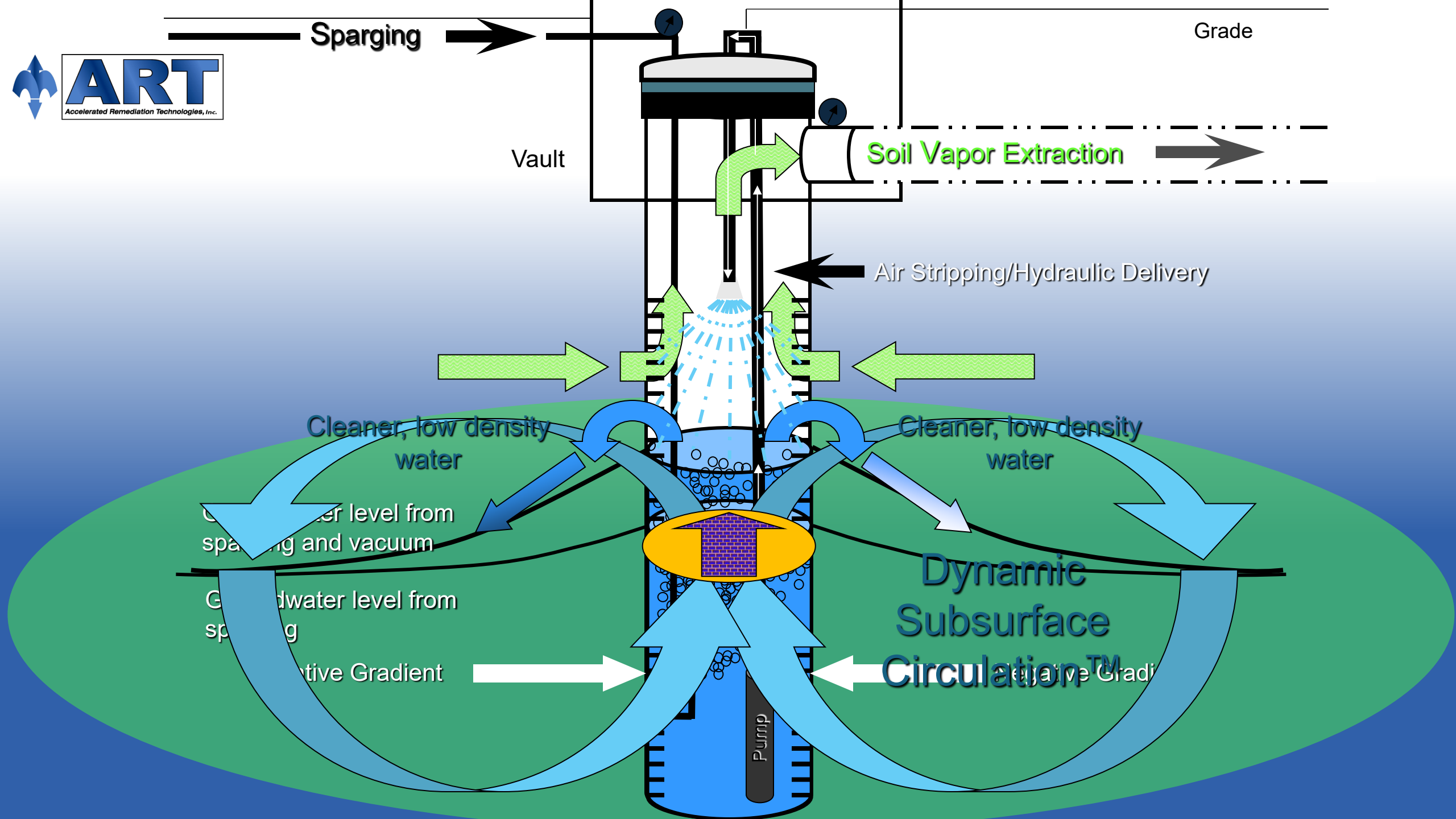
ART In-Well Integrated Technologies

Simplified Diagram




Sparging
Grade
Vault
Soil Vapor Extraction
Air Stripping/Hydraulic Delivery
Cleaner, low density water
Cleaner, low density water
er level from
g and vacuum
dwater level from
g
tive Gradient
Dynamic Subsurface Circulation™
Pump

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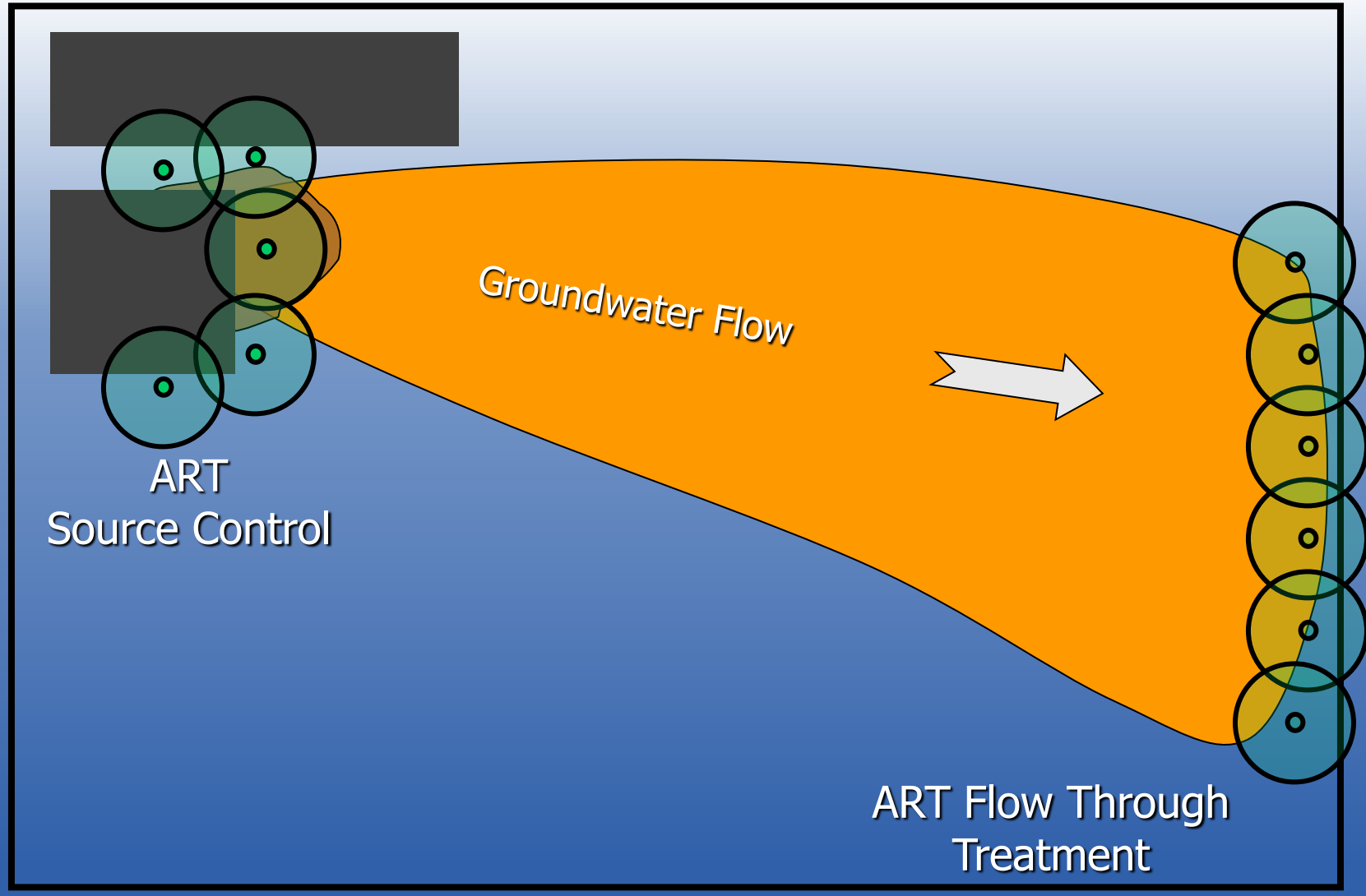
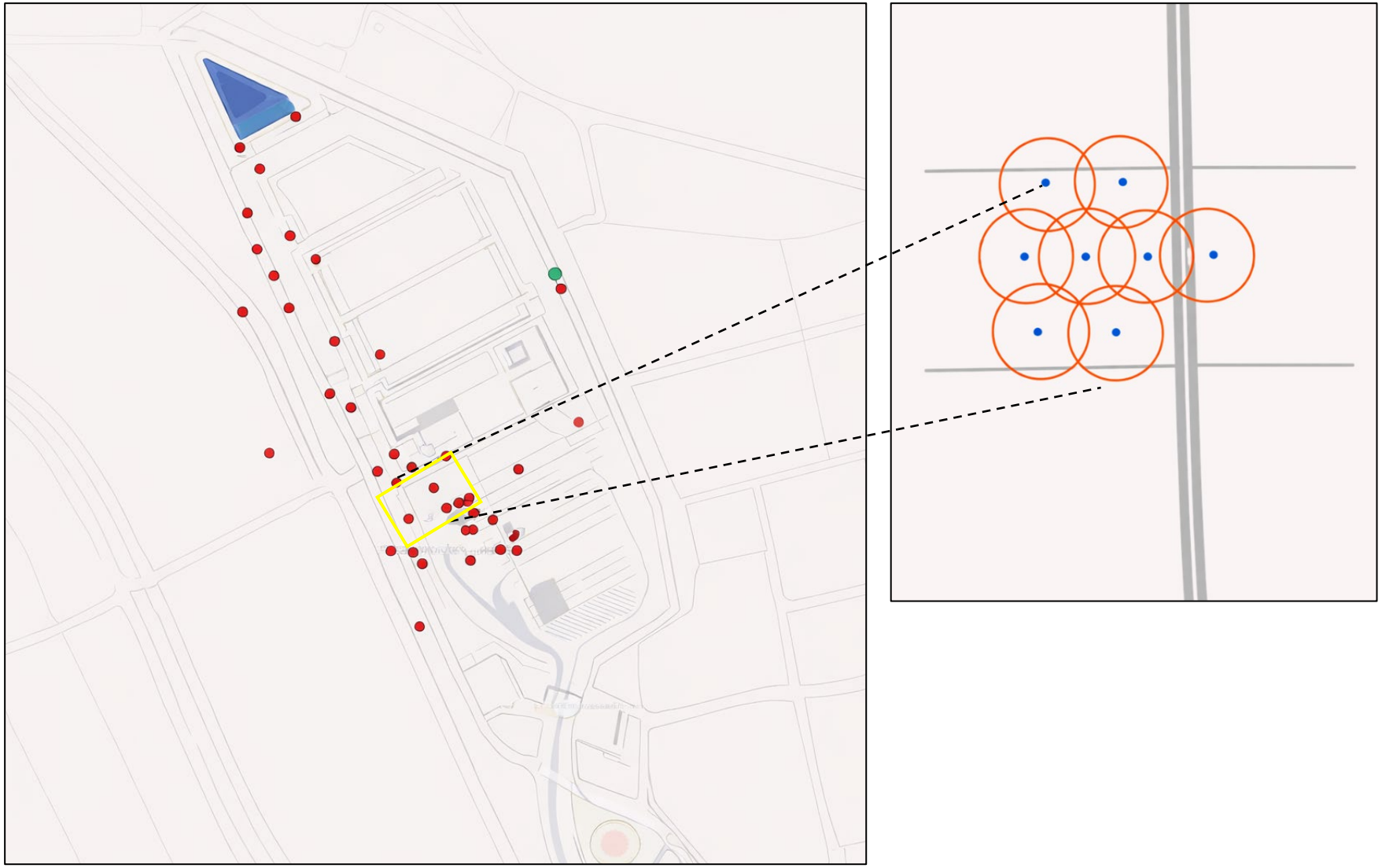
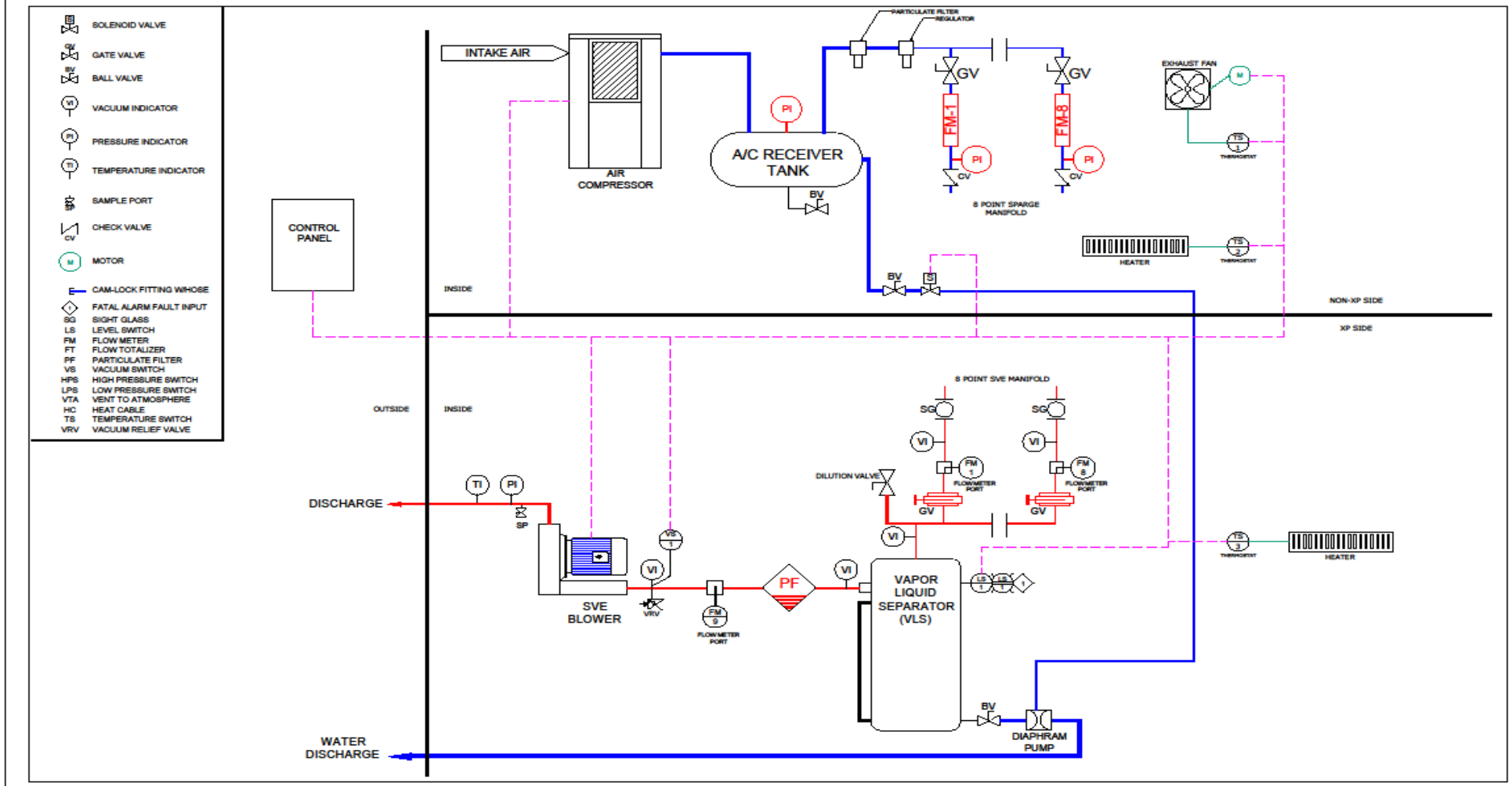


Case Study:
Diesel Bulk Plant

- January 31, 2024 Plume
- Free Products & Dissolved.
- Clayey Sand 10^{-4} cm/sec.
- GW Table 2 to 3 meters bgs
- FP Area 8100 Sq. Meters
- 8 ART wells
- Spacing 110 ft

ART Well Locations





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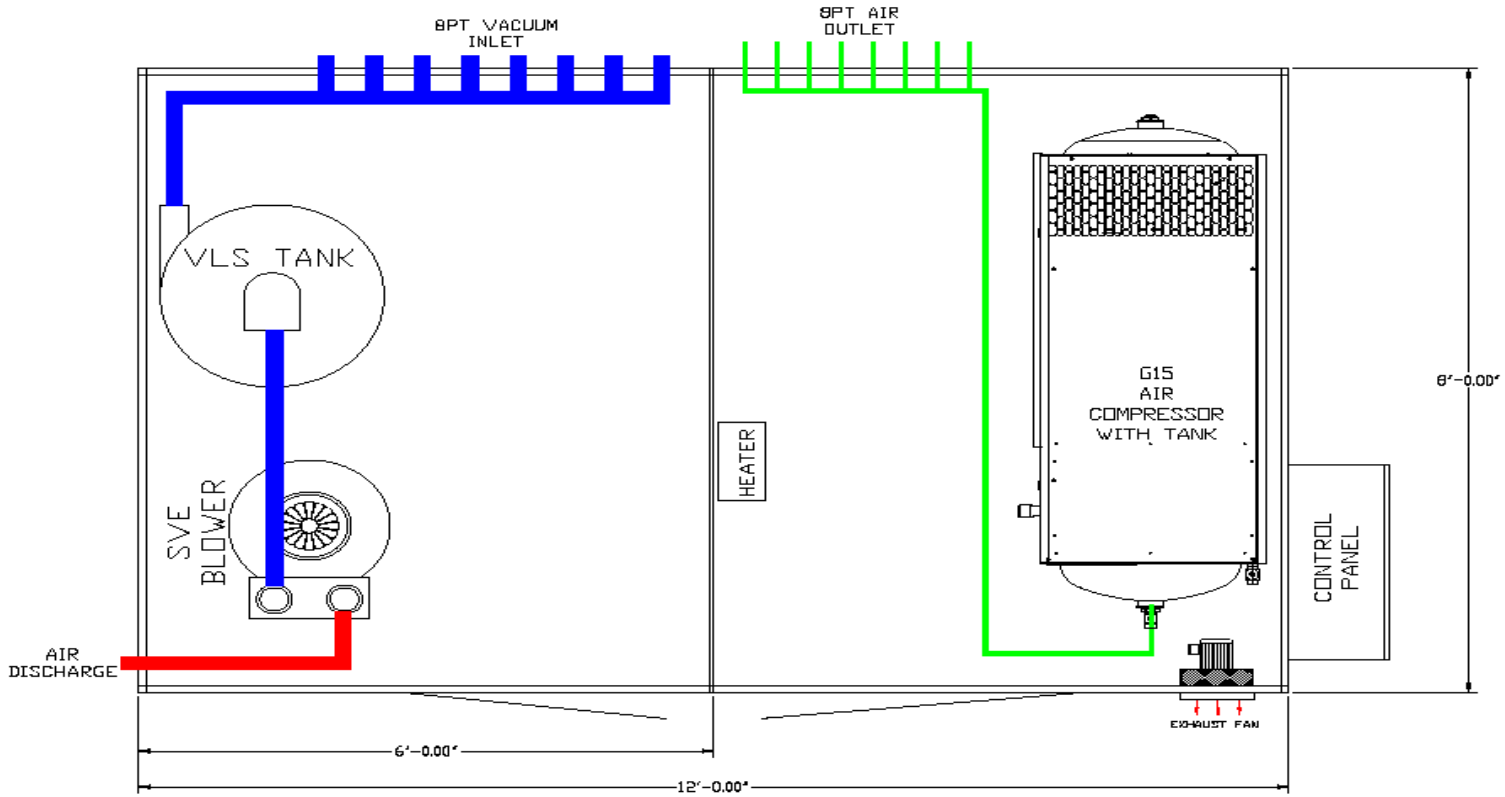
TITLE:
PROCESS & INSTRUMENTATION DIAGRAM
ACCELERATED REMEDIATION TECHNOLOGIES
8 POINT

DWN: MV	DATE: 5/16/2022
CHKD: MV	DRAWING #: 022024-P&ID
REV.: 0	



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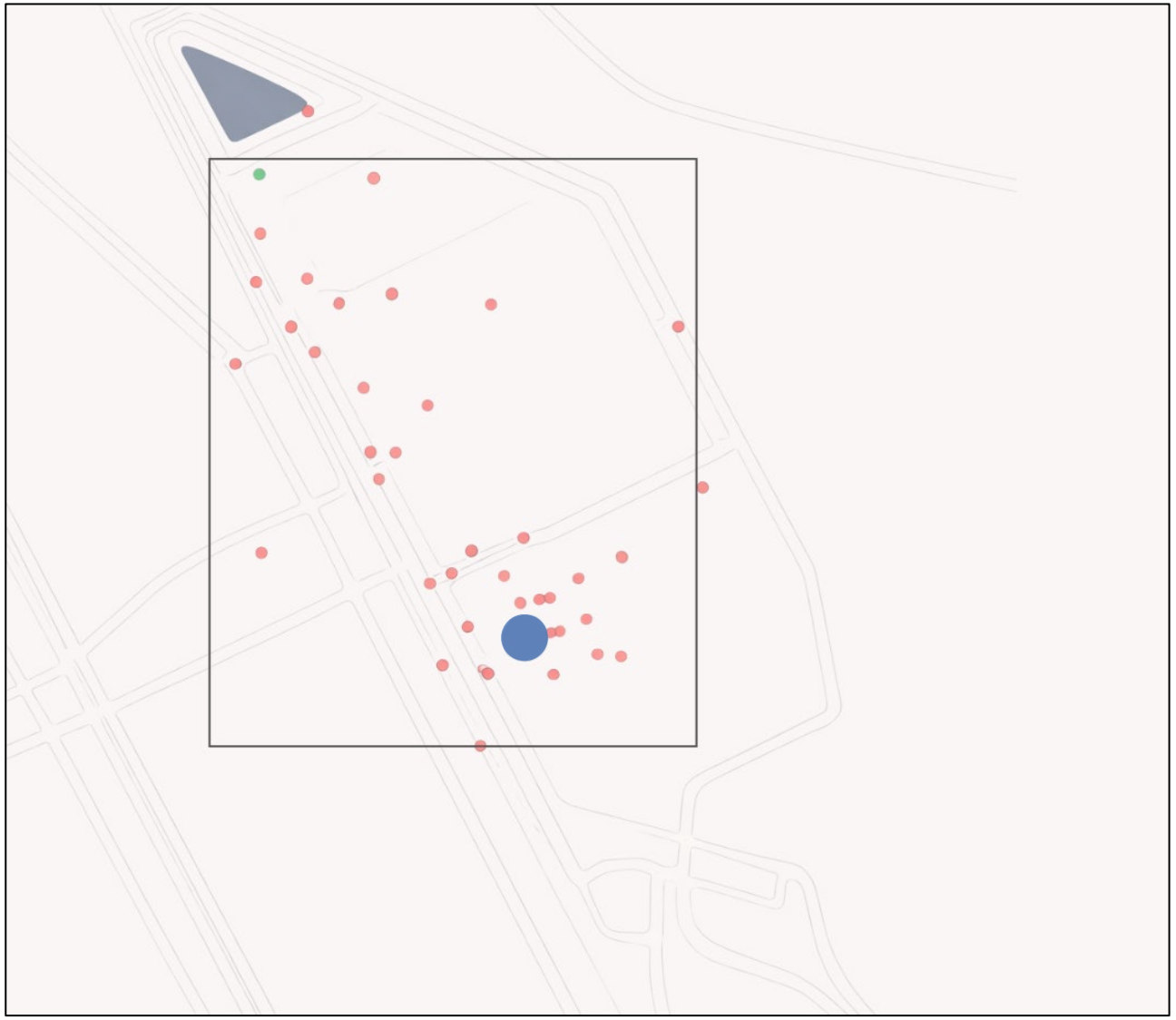
TITLE:
PLAN VIEW DRAWING
ACCELERATED REMEDIATION TECHNOLOGIES
8 POINT

DWN: MV	DATE: 5/16/2022
CHKD: MV	DRAWING # 022024-Plan
REV.: 0	

December 24, 2024 Plume



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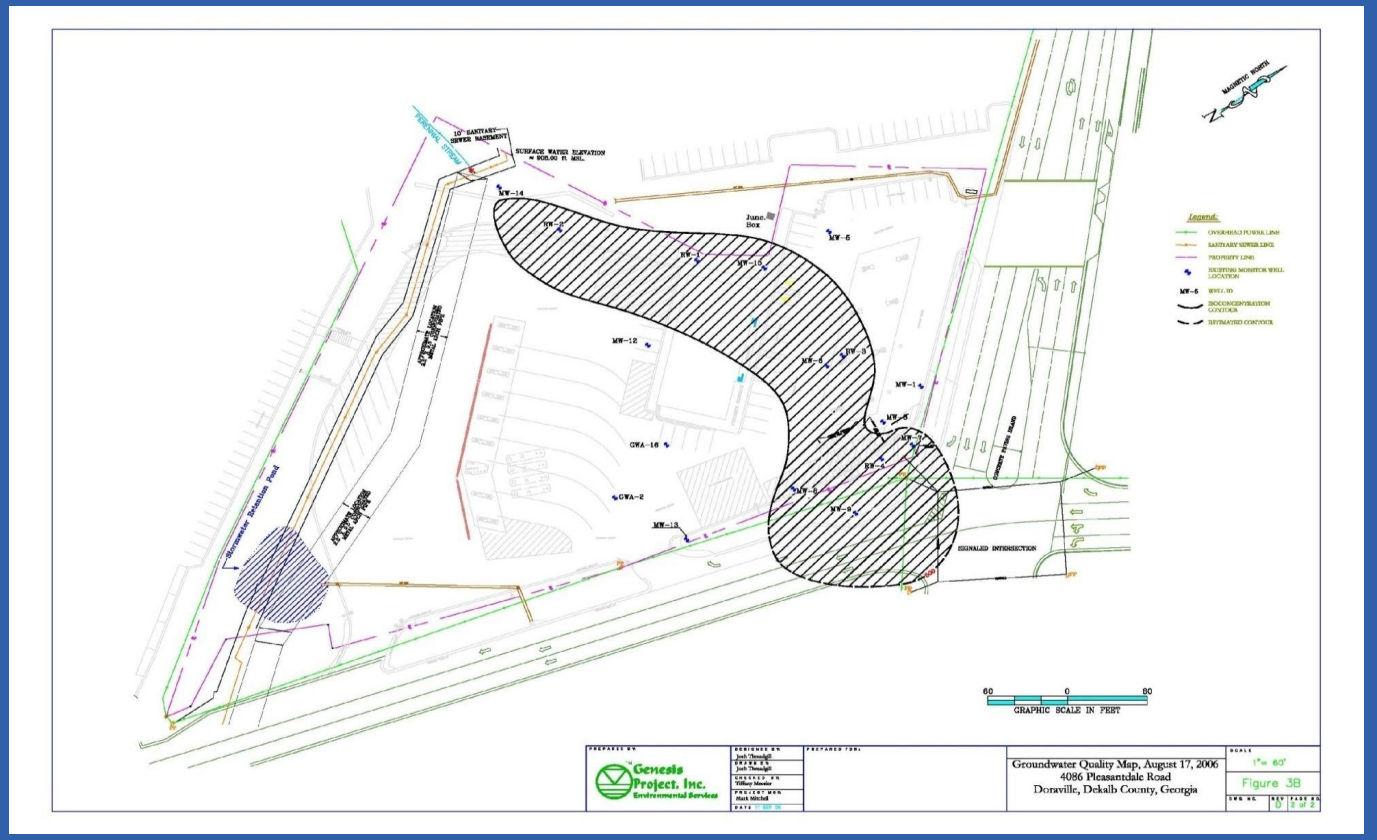
Consultant Conclusion:

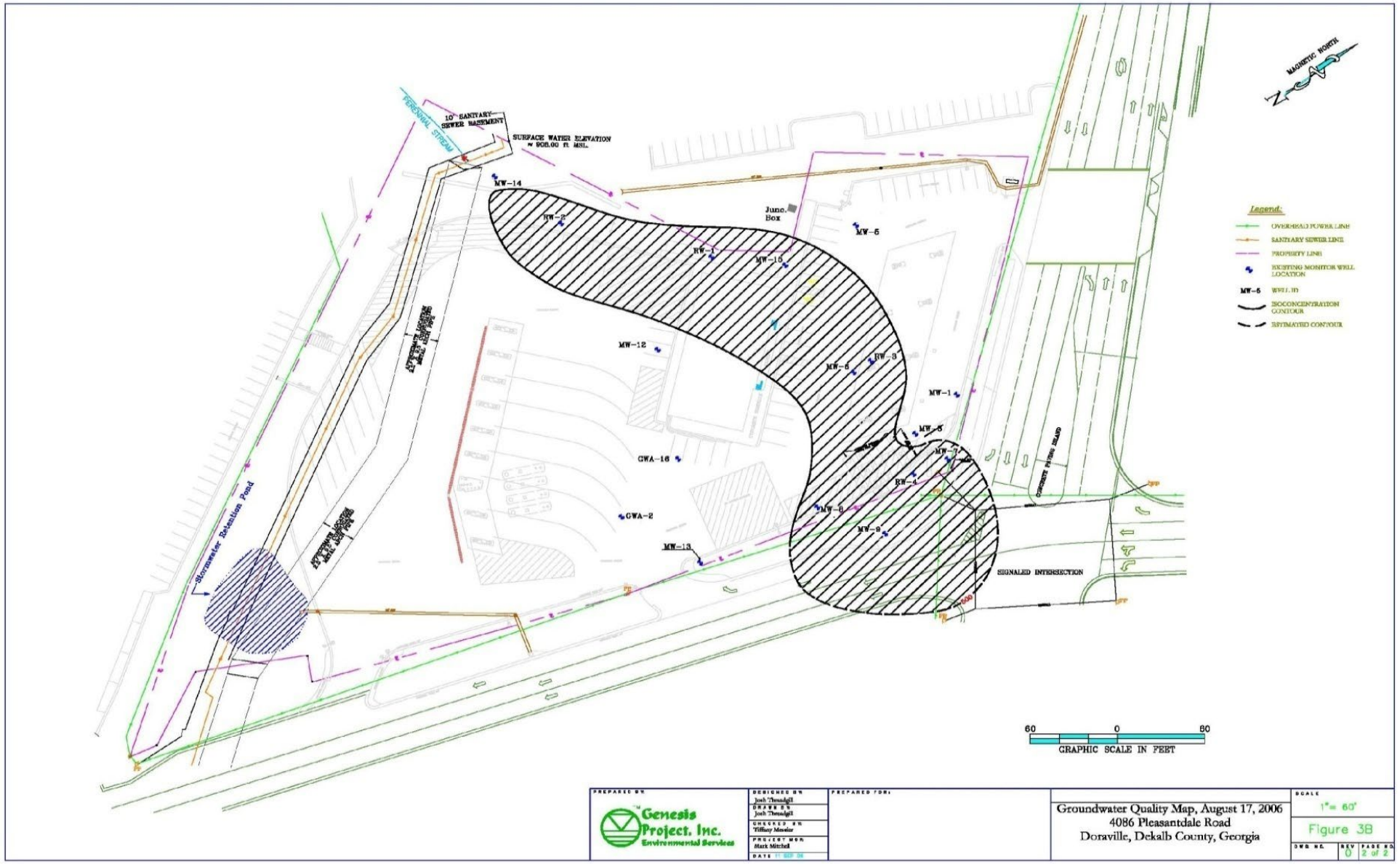
“In summary, the presented results have demonstrated that the “ART” is an effective technology that is capable of stimulating site remediation and has significantly remediated VOCs, BTEX and H2S concentrations from the groundwater.”

Case Study:
Gas Station-BTEX, Atlanta, Georgia

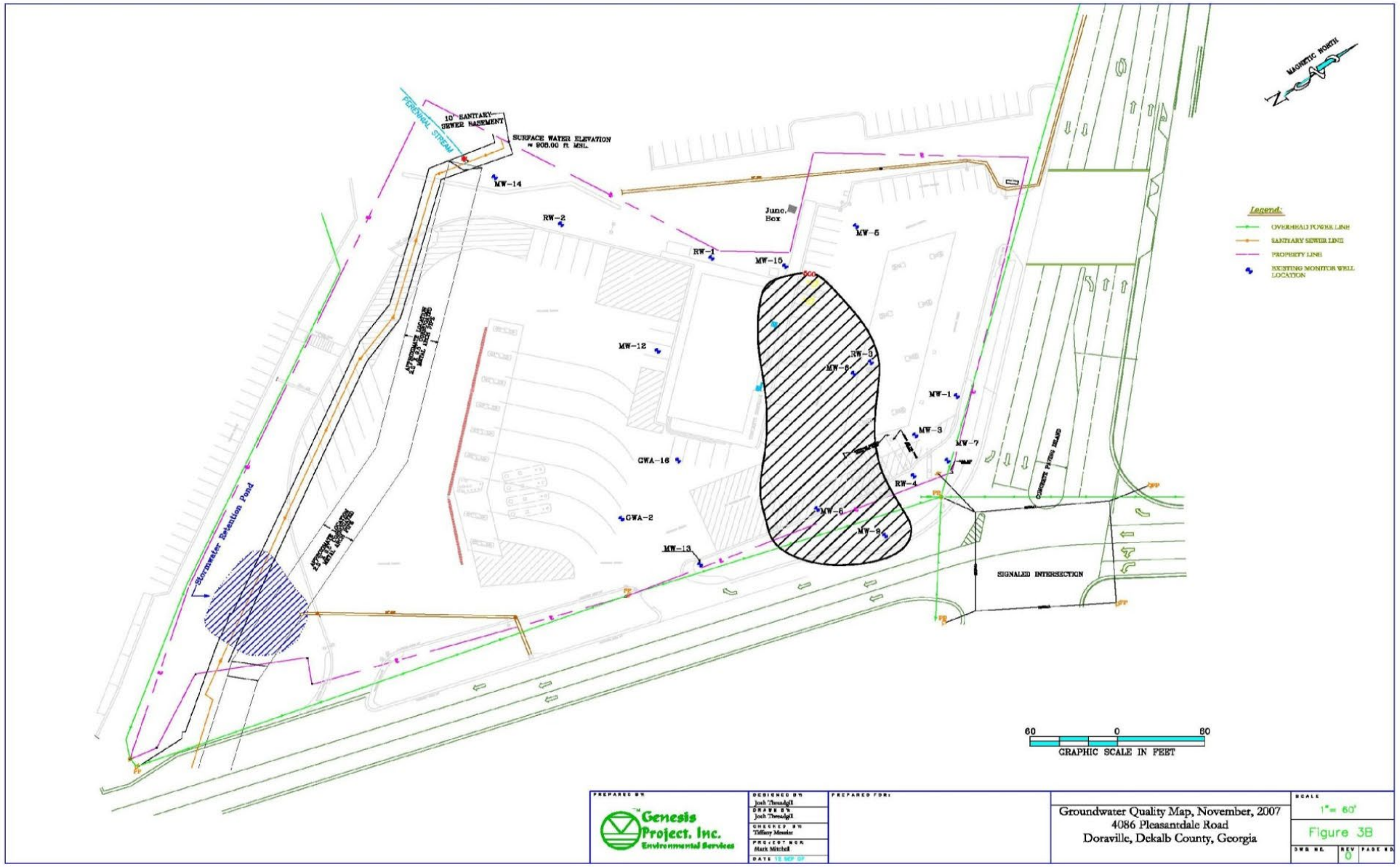
- Gasoline Station/Truck Stop with two confirmed releases in 2003.
- Benzene exceeding 12,000 µg/L.
- Geology: Northern Piedmont formation. Sandy Silt / Partially Weather Rock (Saprolite) overlain by up to 20 feet of sand silt fill material.
- GW Table ~30 feet below ground surface. Hydraulic conductivity estimated at 10-4 cm/sec



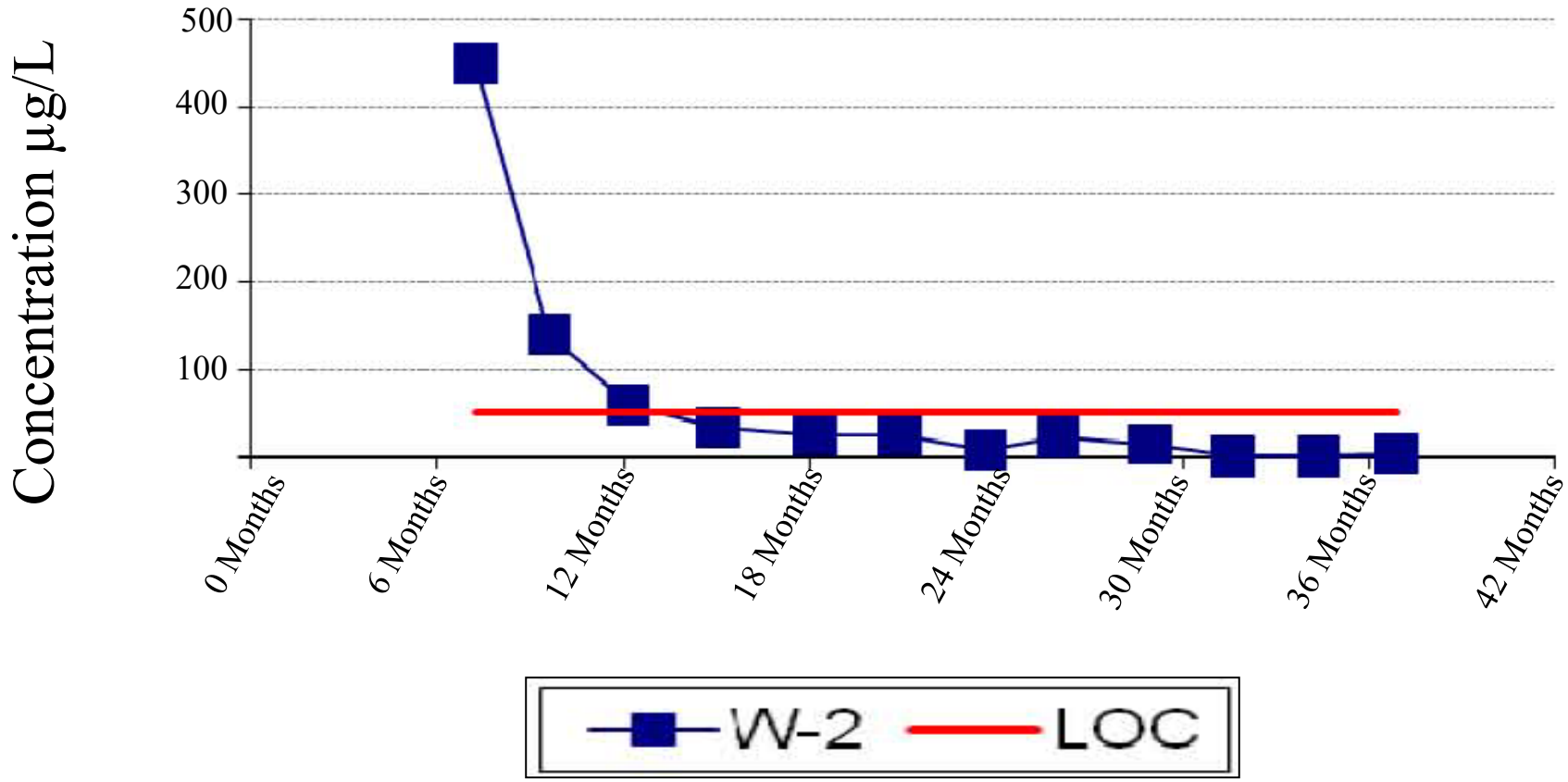
Dissolved Benzene Plume (500 µg/L)

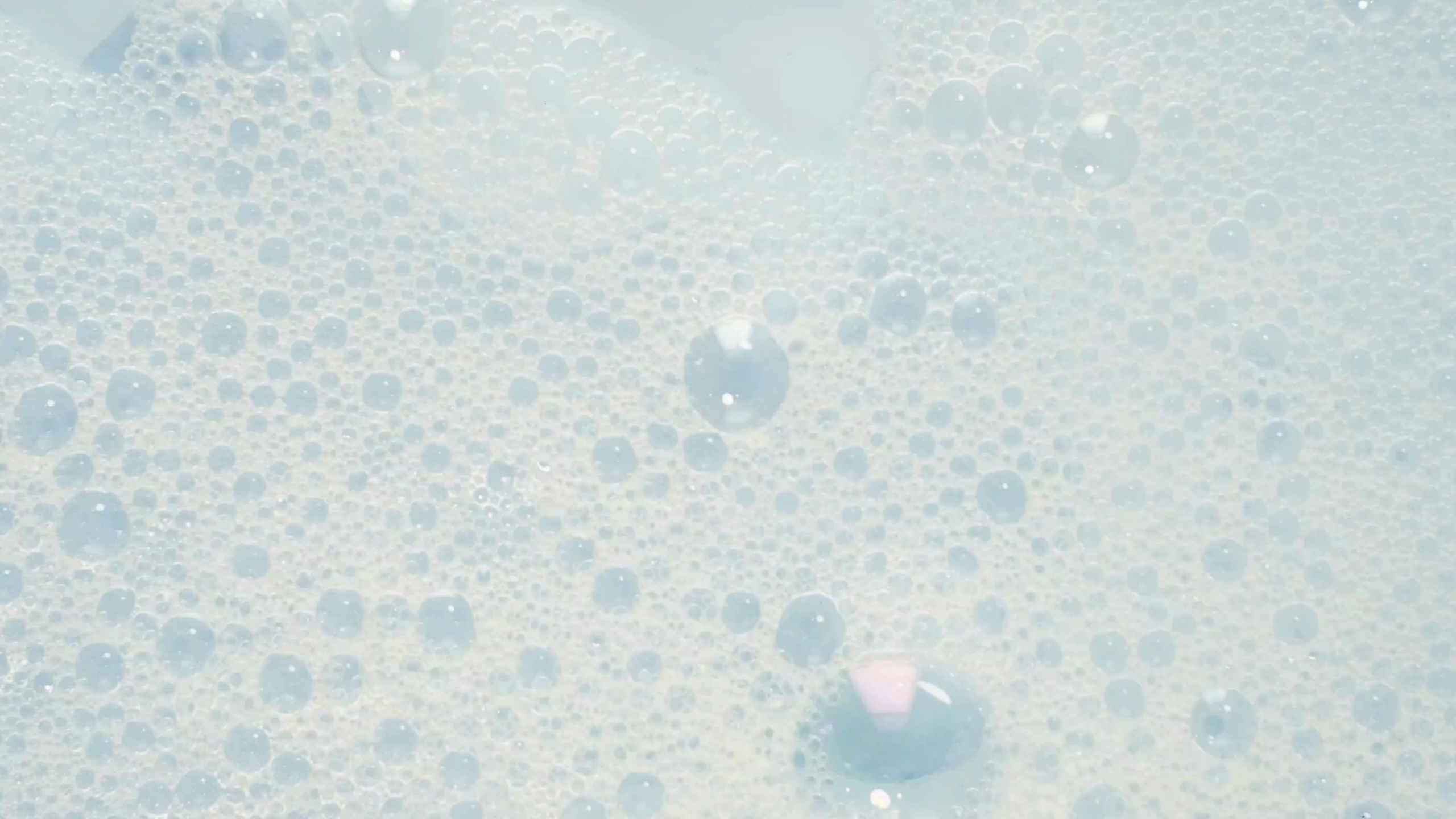


Dissolved Benzene Plume (500 µg/L)



Trend in Benzene Concentrations at Point of Compliance





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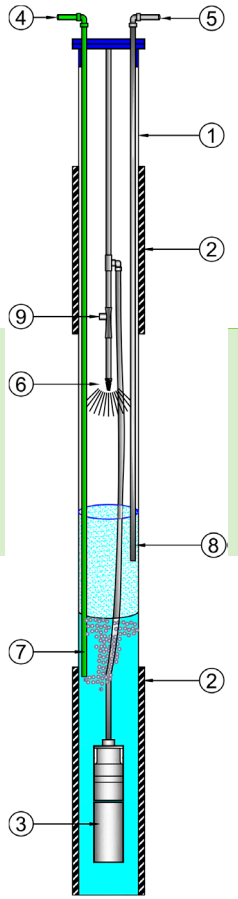
ART PFAS



ART PFAS PROJECTS

- ☑ Several Installations
- ☑ Started with Demonstrations
- ☑ Developed to Full Site Implementations
- ☑ Easy and smooth operation
- ☑ Continued optimization

ART PFAS – NJ Case Notes

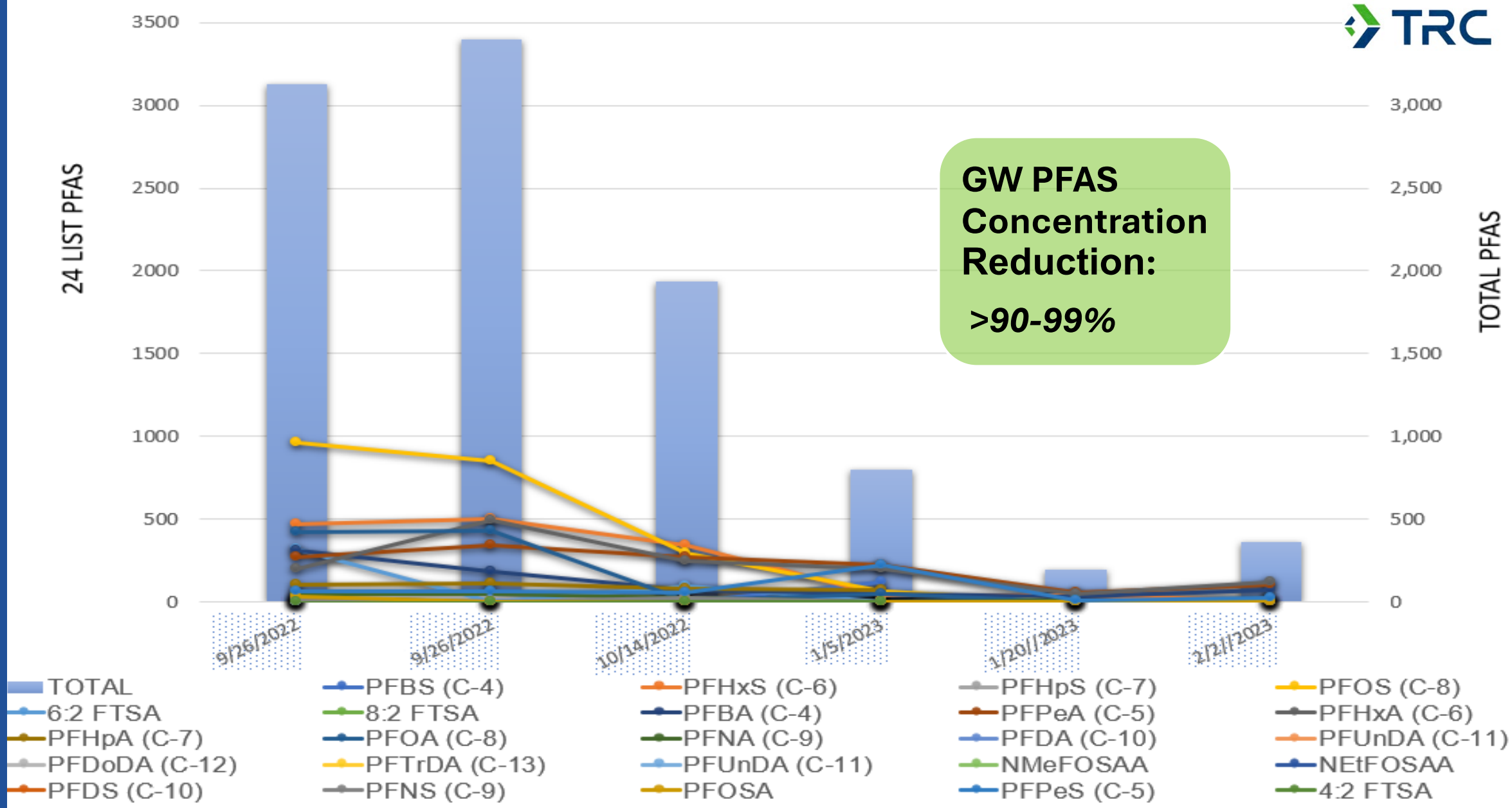
Former Industrial site, current recreational area

- GW Depth 25 ft
- Bottom of Contamination 45 ft
- K 10^{-4} cm/sec

Results - 8 weeks:

- Over 90% PFAS reduction in the ART well.
- 50% in monitoring well
- From 3,000 to 30 PPT
- One gallon of foam for every 10,000 gallons circulated
- MCLs are not an impossibility

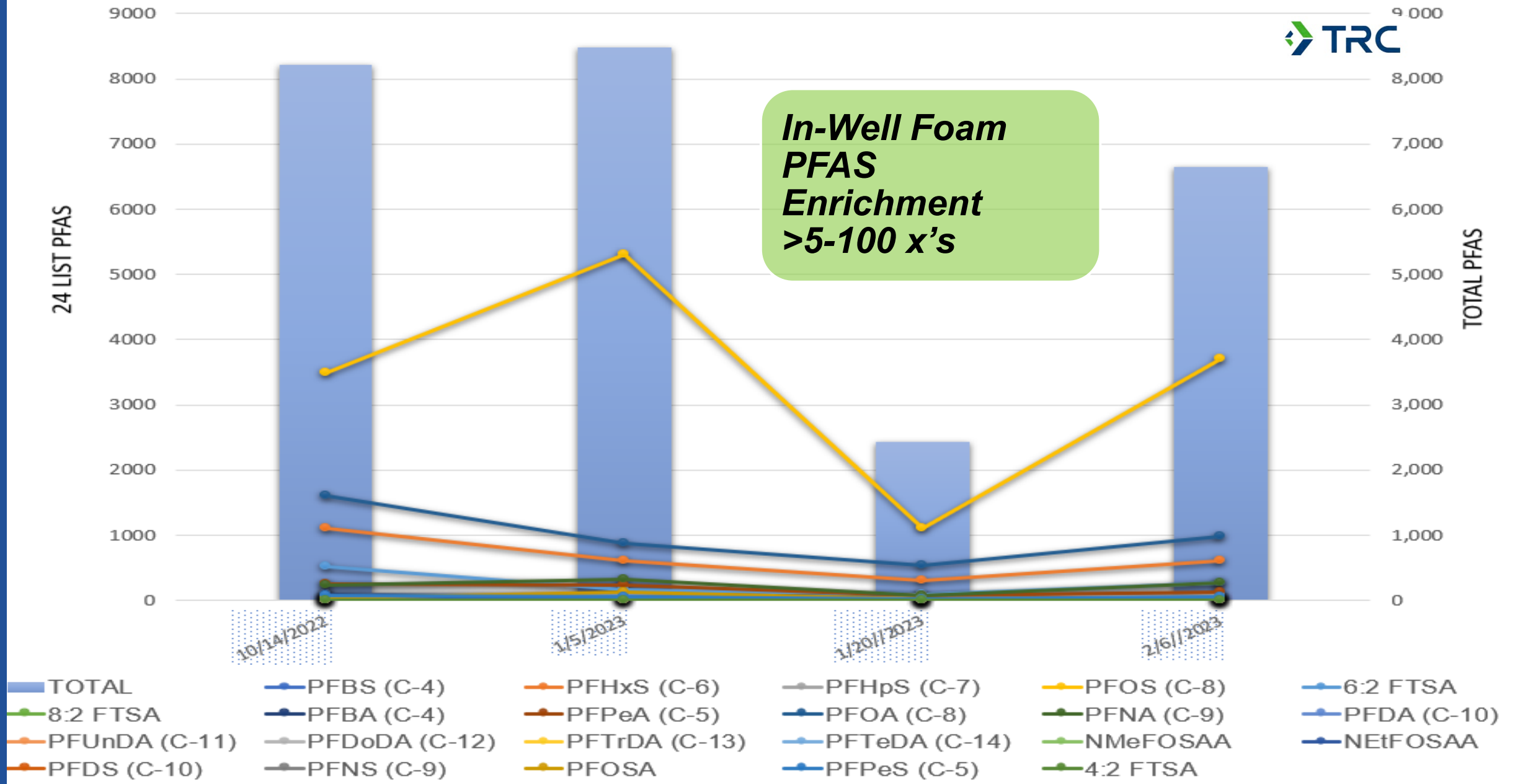
ART PFAS – NJ Case Notes



GW PFAS Concentration Reduction:

>90-99%

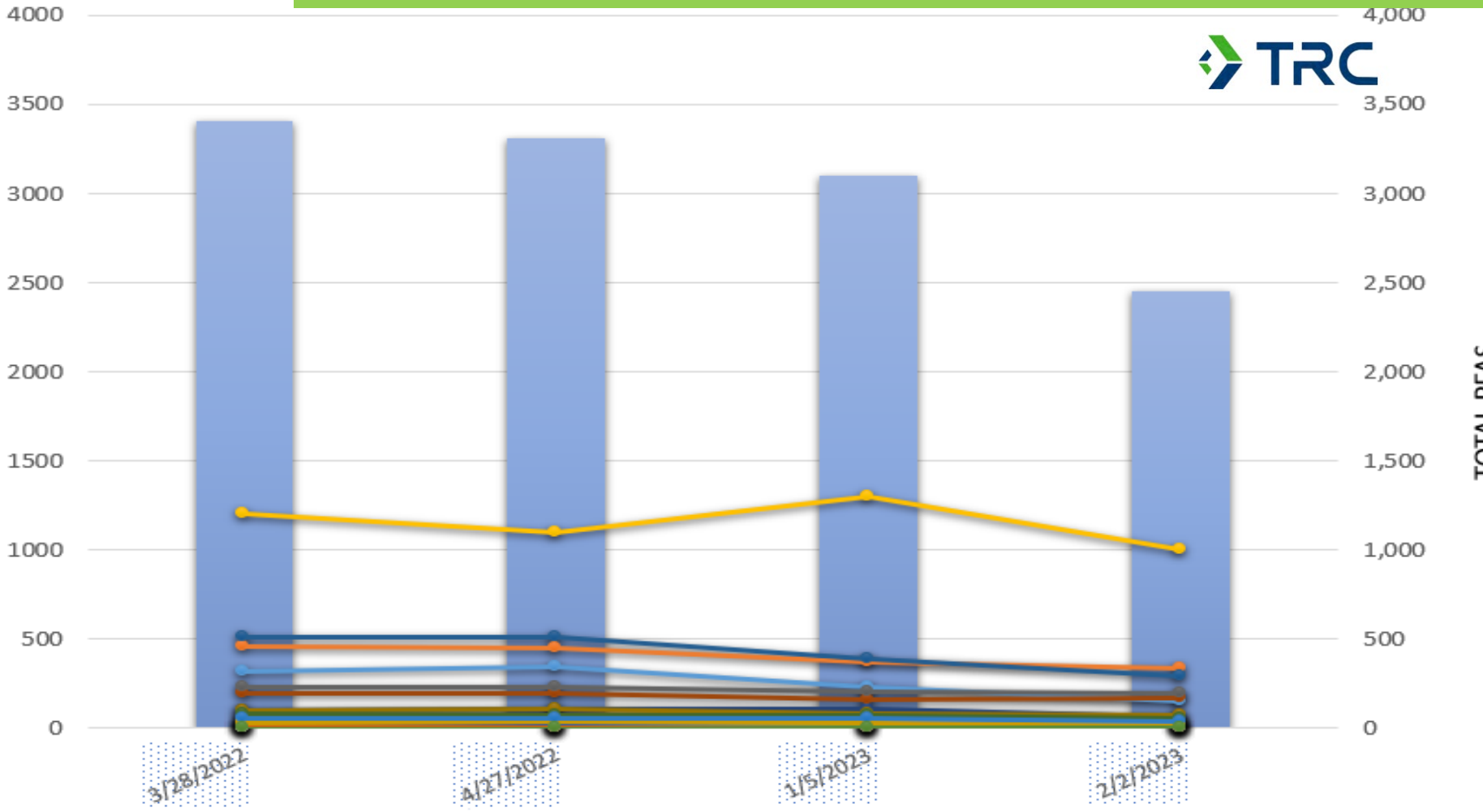
ART PFAS – NJ Case Notes



ART PFAS – NJ Case Notes

GW PFAS Concentration Reduction ~25-40%

(2 months of operation)



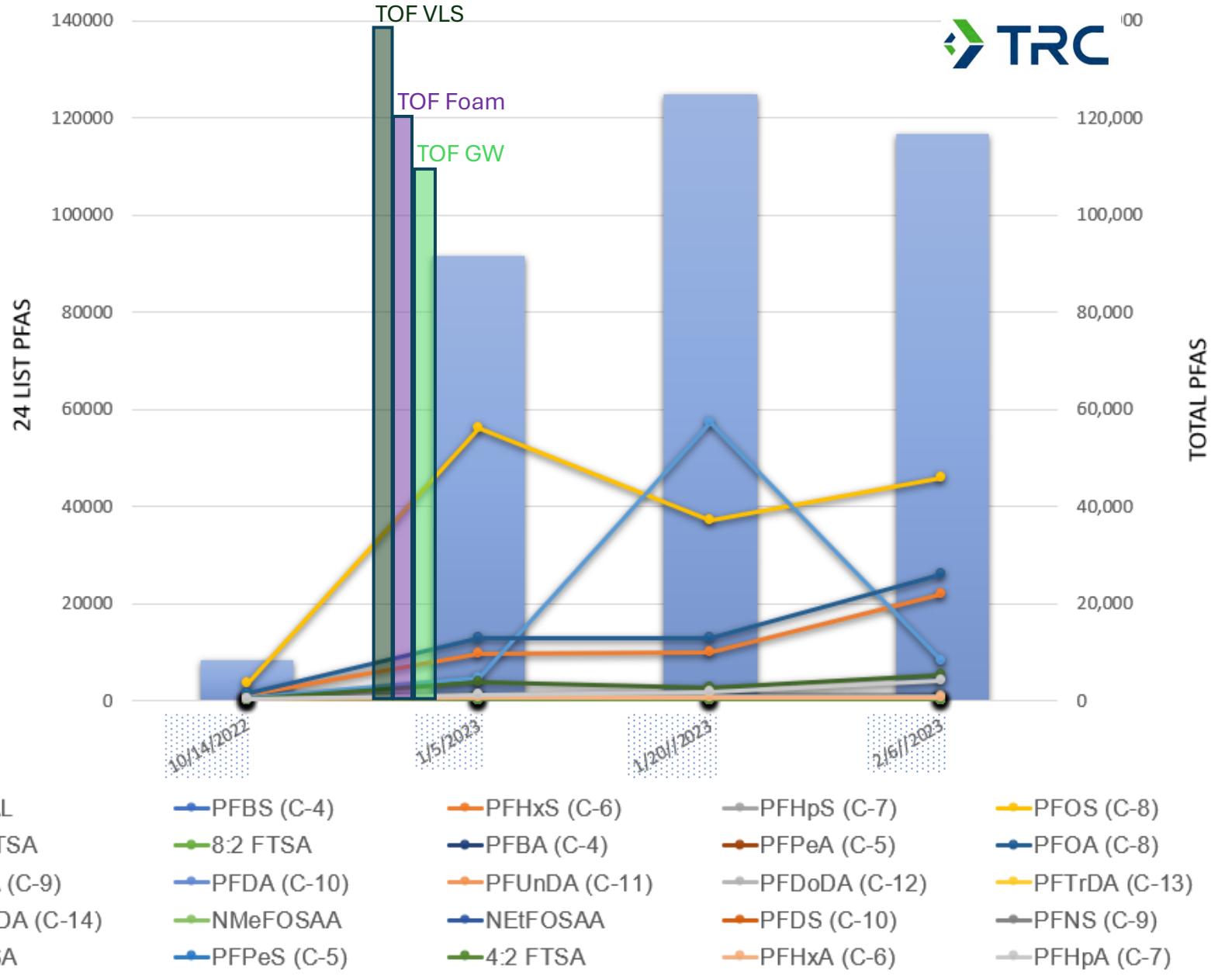
ART PFAS – NJ Case Notes

VLS Foam PFAS Concentration Enrichment >40-300 x's

Recovered Foam/Condensate Volume ~50 Gallons

Total Recirculated GW Volume > 500K Gallons

Recovered GW Volume Reduction (vs. P&T) ~10,000 x's



Environmental Business Journal 2024 Business Achievement Technology Merit Award Recipient

The Technology Merit Award recognizes the ART-PFAS Technology as a pioneering solution transforming the field of in-situ PFAS remediation. TRC received the merit award for ART-PFAS, which was co-patented by Dr. Odah of ART and Dr. Rabah of TRC.

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Above and Below Grade

ART
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Demonstration Units