

4th Annual SWFL Regional Brownfields Symposium




Biovation®
Environmental Services, LLC

Who We Are

- Biovation, formerly Bioworld, has been operating as an environmental contractor for over 17 years.
- FL-Licensed Contractor (#01332), Professional Engineering License (#30848) and Geology Business (#GB474).
- Our Advanced Bio-Cycle® (ABC Method®) and CogenV™ microbial blend are approved as Innovative Technology with the FDEP.
- We have an East Coast office in Palm Beach Gardens and West Coast offices in Cape Coral and Fort Myers.

Backed by a Strong Cleanup History

- Our parent company, Product Level Control (PLC), purchased Bioworld in 2009, recognizing the importance of FAST clean-ups and the need to redevelop properties in Florida.
- PLC is a manufacturing company that has provided remediation equipment to the soil and groundwater market for over 25 years.
- Biovation is focused on Site Closures similar to how a manufacturing company looks at a shipment.

Pay Only For Results

- Biovation believes we can better serve our clients by offering Pay for Performance contracts.
- Biovation primarily has worked in the private sector.
- We get RESULTS versus just activity.
- We have made investments to ensure this success:
 - Microbial testing and selection
 - Special tooling and methods
 - Our own treatment trailers

Key Personnel

David Ayres, Vice President

Over 30 years of experience in operations management, process development, and business development in the Aerospace and Environmental Industry. BSME.

Brett Corwin, Vice President of Business Development

Over 30 years of experience in business development, property development, banking and finance. CCFL, Business Mgmt.

Daniel Karl, PhD., Biochemistry

Over 30 years Biochemical research, process development and evaluation.

David Levy, P.G., Professional Geologist

Over 25 years of experience in the design and implementation of mechanical and bioremediation systems. MS Geological Sciences.

Todd Nowland, Project Director

Over 25 years of experience in site assessment/characterization, and the design and implementation of mechanical remediation and bioremediation systems. BS Geology.

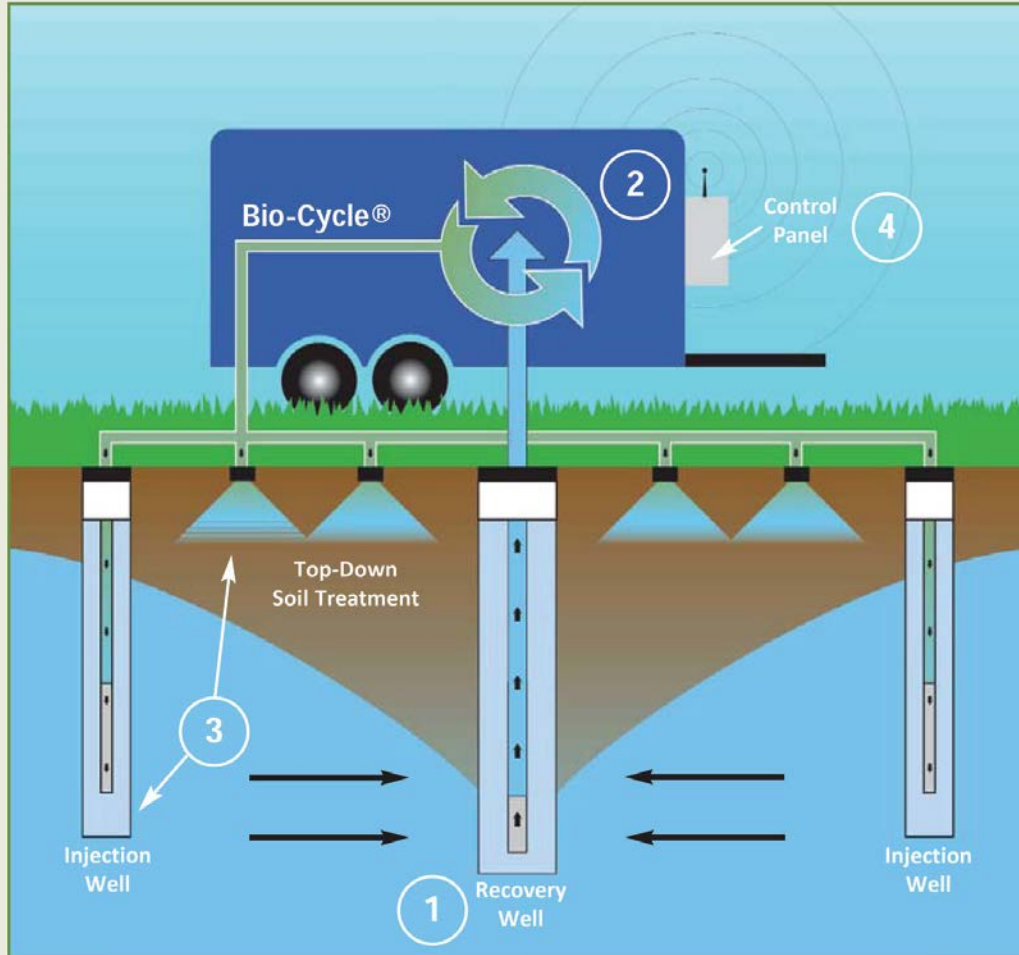
John Krabbe, P.E., Professional Engineer

Over 30 years of experience in the design and implementation of mechanical remedial systems and bioremediation systems. BSES, MSCHE, MBA.

Presenter: David Levy

- B.S. Geology – Florida State University
- M.S. Geology – Virginia Polytechnical Institute
- Professional Geologist - Biovation
- Adjunct Professor – Palm Beach State College
- **Public Service (Current):**
 - City Council, Vice Mayor, Mayor – Palm Beach Gardens
 - Biotech Land Advisory Board
 - Loxahatchee River Mgmt. Council
 - Palm Beach League of Cities Board and Env. Committee
 - Palm Beach County Water Resources Task Force
 - Palm Beach County Workforce Alliance Consortium

Advanced Bio-Cycle® Methodology



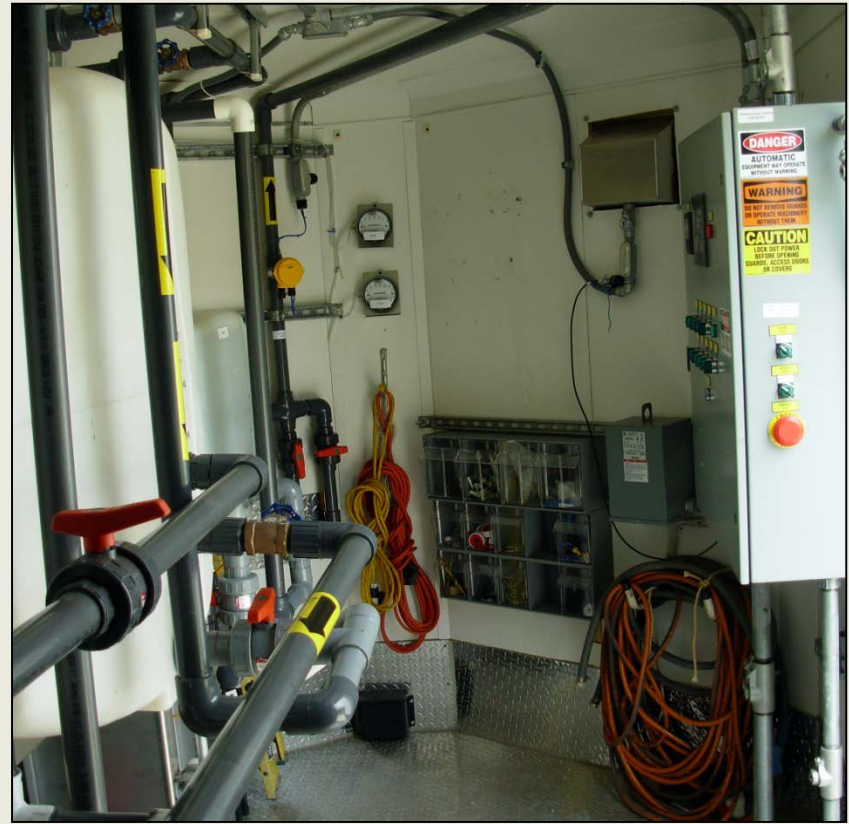
Advanced Bio-Cycle® combines numerous treatment technologies into an advanced recirculation system.

1. Contaminated groundwater is extracted from the aquifer through a recovery well.
2. Approved CogenV™ microbes, nutrients, and oxygen are added to the groundwater.
3. The enhanced groundwater is re-injected into both the soil as a "soil treatment" and into the groundwater via injection wells specifically designed to treat the soil and groundwater from the top down.
4. Advanced telemetry controls offer 24/7 monitoring and support continuous operation.

Bio-Cycle® Trailers



Bio-Cycle® Trailers



Project Overview

BJ's Wholesale Store
Brevard County
FL Facility ID #05-9804192



Pilot Test followed by Full-scale Clean-up

Completed treatments in 4 ½ months

OBJECTIVE: Keep contamination from getting off-site

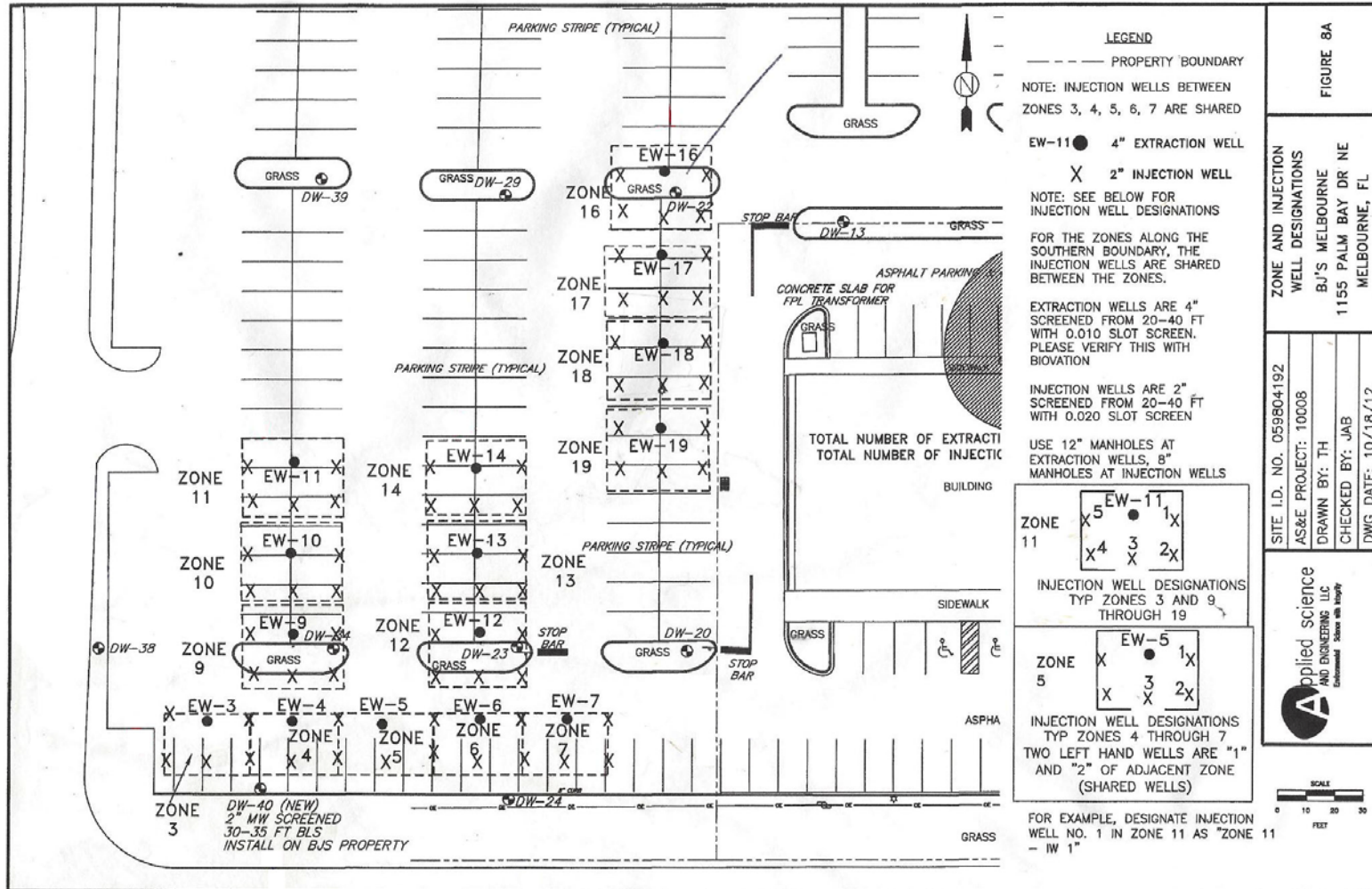
STRATEGY: Use Advanced Bio-Cycle® Process to treat 19 zones in SW corner of property

Treatment Duration – 4 ½ Months!

Contaminants	Highest Levels (ppb)	Ending Levels (ppb)
Benzene	182	U
MTBE	38.9	2.4

Project Overview

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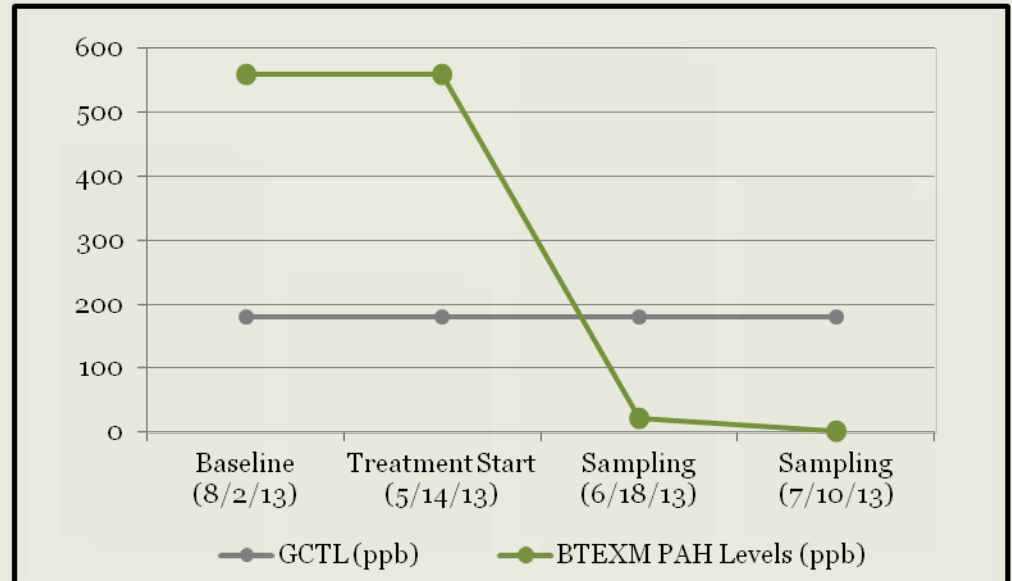


Project Overview

Yeatter-Henderson Trust #41

Lee County

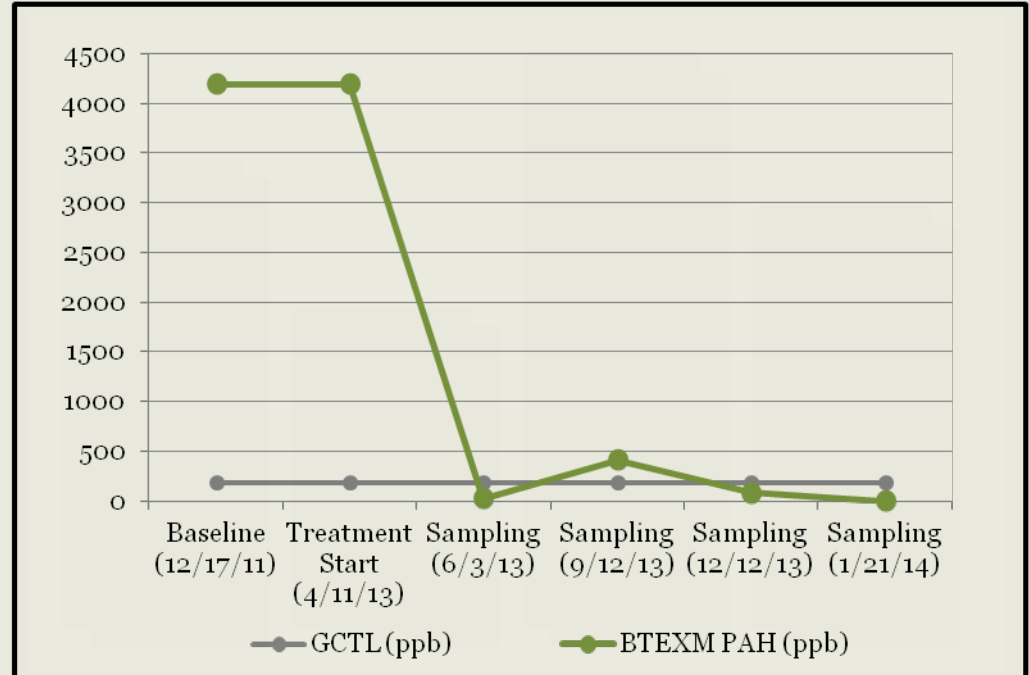
FL Facility ID #36-9201288



Treatment Duration - 60 Days
Received SRCO June 2, 2014 after 4-quarters of PARM

Project Overview

Yole Vero Tire
Indian River County
FL Facility ID # 31-8520272



Treatment Duration – 8 months
Received SRCO June 17, 2015 after 5-quarters of PARM
Was vacant for 3 years, now “Strickland Auto” creating 8 new jobs

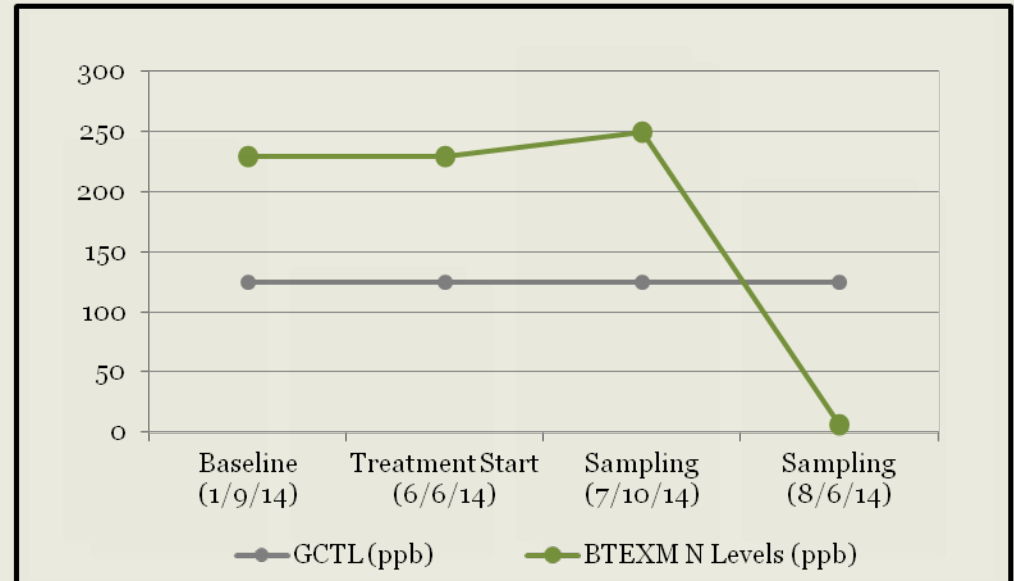
Project Overview

Yole Vero Tire
Indian River County
FL Facility ID # 31-8520272



Project Overview

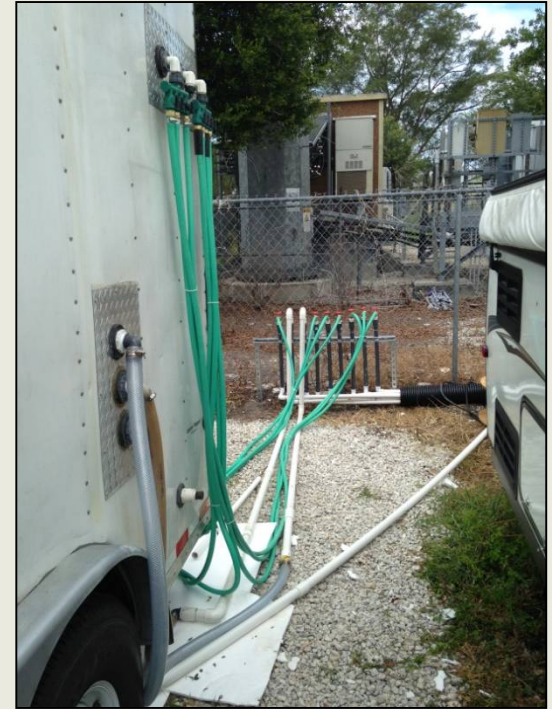
First Fuel & Food, LLC
Collier County
FL Facility ID #11-8518236



Treatment Duration - 95 Days
Received SRCO June 25, 2015 after 4-quarters of PARM
Was vacant for 3 years, now “The Boat House” creating 3 jobs

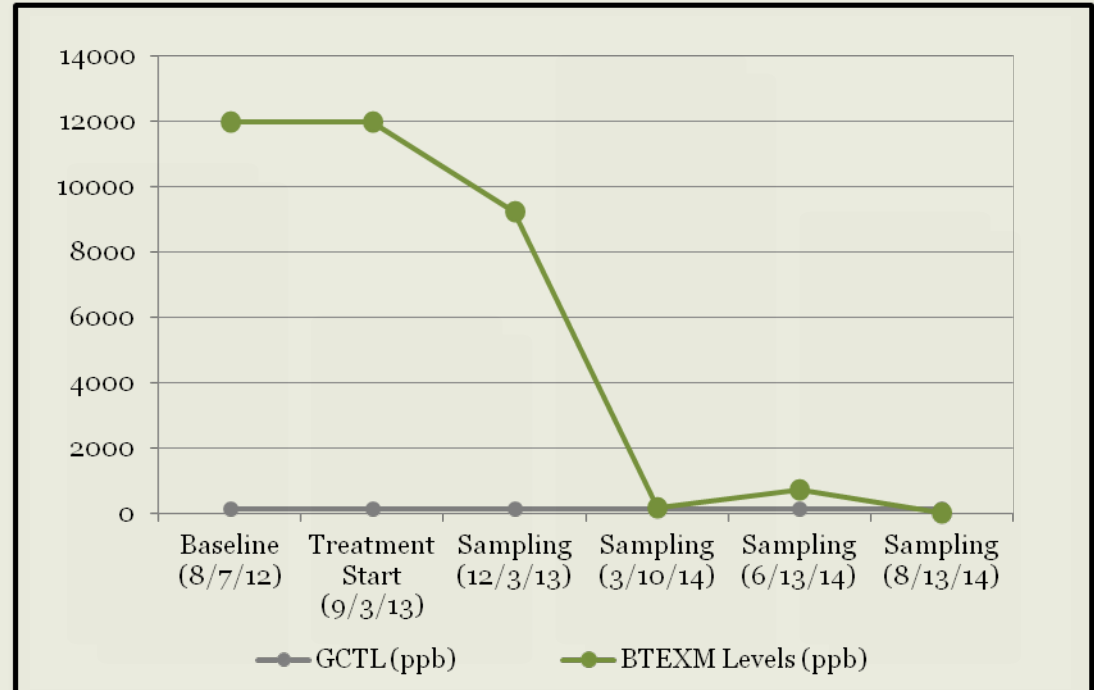
Project Overview

First Fuel & Food, LLC
Collier County
FL Facility ID #11-8518236



Project Overview

Doyle's Marine
Lee County
FL Facility ID # 36-9201078



Treatment Duration – 11 months

Achieved SRCO April 7, 2016 after 6-quarters of PARM

Was vacant for 12 years, now “Fat Free” expanding their business to this location adding 10 jobs

Project Overview

Doyle's Marine
Lee County
FL Facility ID # 36-9201078



Compressed
Organic
Layer

Stiff Clay
Layer



Project Overview

North Palm Beach Mercedes
Palm Beach County
FL Facility ID # 50-9804189



SRCO issued by FDEP October 4, 2007
Treatment Duration - 4 ½ Months
Developed into Benz dealer vs. storage lot

Treatment Duration—4 ½ Months!		
Contaminants	Highest Levels (ppb)	Ending Levels (ppb)
Benzene	16.1	U
Ethyl Benzene	381	U
Toluene	290	U
Xylenes	1328	U
1,2,4 Trimethylbenzene	1740	<1
1,3,5 Trimethylbenzene	563	<1

Project Overview

Joe's Texaco
Broward County
FL Facility ID # 06-8838491



Treatment Duration—4 Months!		
Contaminants	Highest Levels (ppb)	Ending Levels (ppb)
Benzene	1020	U
Ethyl Benzene	151	U
MTBE	2800	U

SRCO issued by FDEP March 26, 2009
Treatment Duration - 4 Months

References

- “As promised, within one year of treatment the results were well below acceptable readings and my property was clean...I cannot express enough how pleased I have been with the way the Biovation team handled my site clean-up needs. I am now able to proceed with my development plans for the site. We plan on relocating our business to the new location. This will allow us to expand from the 25 employees we now have to 35 employees within the next two years.”

*David Nowack, Fat Free Systems
Doyles Marine*

References

- “We are very pleased with Biovation. They cleaned up our site in 8-months to acceptable state levels and after a year of monitoring they were able to get us a Site Rehabilitation Completion Order (SRCO).

With this SRCO, we have been able to lease this high visibility corner property to an auto mechanic business that is expanding their business.”

*Gary Smigiel, Smigiel Partners XXV, Ltd.
Yole Vero Tire*

References

- “I highly recommend Biovation Environmental. Pay for performance is the only way to tie all three parties: Property owner, Insurance company and Environmental firm to the same team, same goal, and to achieve results.”

*Michael K. Corradi, CC&E Investments, LLC
First Fuel & Food, LLC*

Biovation Advantage

Biovation can cleanup contaminated sites

FAST

- **Clean up FAST for Brownfields Redevelopment.**
- **Clean up FAST to facilitate property Buy/Sell.**
- **Clean up FAST for Expanding Businesses.**
- **Clean up FAST for Job Creation.**

Biovation Environmental Services, LLC

For more information regarding this presentation or sites mentioned please contact us at the following offices:

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