

## Current Projects Using AgroRemed/VaporRemed

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February 17, 2021

DeeAar Holdings, LLC

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## Abandoned Gas Station in Mays Landing, NJ



#### Site location



Figure: Site: An Abandoned Gas Station

#### Background

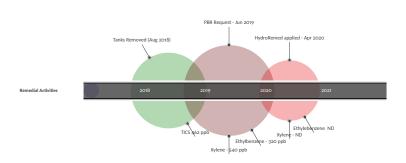
#### 2 x 3000 gallon leaded gasoline

- 1 x 1000 gallon kerosene UST
- 1 x 2000 gallon leaded gasoline UST
- 2 x 8000 gallon UST
- The gas station has been abandoned for over ten (10) years.
- At the time of cleanup, the team could arrive at an estimated gas tanks.
- ► Tanks were removed in 2018.
- Contamination baselines were established in 2019.
  - HydroRemed was added to site in April 2020.
- The hydrocarbon contamination levels have been non-detect (ND) for two samples.
- Secondary contamination has been detected and is being addressed.

Current State: The monitoring for levels of secondary contamination is continuing.

## Mays Landing - Remediation Timeline contd.





#### Contaminated Gas Station in Antrim, NH



#### Site location



Figure: Figure: Sitemap of monitoring wells

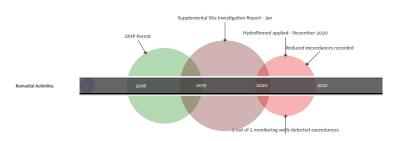
#### Background

- The site is a former retail gasoline and fueling facility, reportedly since 1970s;
- In 1988, several underground storage tanks were removed.
- Previous remedial efforts at the site were conducted by prior consultants and included the use of an in-situ submerged oxygen curtain (ISOC) in 2002 and bio-augmentation via the addition of live bacterial cultures in 2004 to remediate residual petroleum contaminant levels in groundwater at the site.
- Our group acquired the property in July 2018;
- The project is currently 70 % complete. There are exceedances recorded near two monitoring wells;
- Groundwater from MW-101 contained concentrations of 11 VOCs and 3 PAHs, including concentrations of benzene (32 parts per billion [ppb]) and naphthalene (160 ppb) that exceeded the New Hampshire Ambient Groundwater Quality Standards (AGQS);
- Groundwater from MW-102 contained concentrations of eight VOCs and 3 PAHs, none of which exceeded the AGQS; and
- \* Details are in the attached report.

Current State: Active. We are reaching out to the DES to discuss our protocol to address the remaining 30% of contamination.

### Antrim NH - Remediation Timeline contd.





## Past Projects using AgroRemed/HydroRemed



 UST decommissioning and complex soil-only risk-based cleanup, Portland OR

# UST Decommissioning and Complex Soil-only Risk based Cleanup

... As suggested by the results of the second sub-slab air sample, the microbes were particularly successful in degrading the plume beneath the basement slab

Please click on this link for details.



#### Some more references



References from Sarva Bio Remed's online shop, with their permission.

- Cleanup of contaminated soil at ANA Shipyard, 2006
- Corrective Action Plan VDEQ PC#911427
- Corrective Action Plan VDEQ PC#972073
- Corrective Action Plan VDEQ PC# 055074
- PADEP closure report documenting removal of one 500-gallon tank and two 1000-gallon tanks

## About DeeAar Holdings, LLC



Our group specializes in bioremediation of contaminated properties such as,

- abandoned gas stations;
- and properties contaminated with TCE/PCE.

We strive reduce the time-to-market for contaminated properties to realize value to our clients.



► - Dinkar Ganti, Lead Developer, DeeAar Holdings, LLC.



## Appendix



		SAMPLE ID:	TMW-1				
					1851886-00	951996-01	
		COLLECTION DATE:	12/17/2018				
		SAMPLE DEPTH					
		SAMPLE MATRICE	WATER				
	Т —	NJ LPL (POL)					
ANALYTE	CAS	(497)	Conc	9	RL	MDG	
MICROEXTRACTABLES BY GC							
VOLATILE ORGANICS BY GCIMS							
Betzene	71-69-2	1	ND:		0.6	0.1	
Diverse	109-89-3	1	ND		0.75	0.2	
Ethyberzene	100-41-4	2	ND		0.6	0.1	
Mediyi set buyi ether	\$636-06-6	1	ND		1	0.1	
Xylene (Tatal)	1330-20-7	2	ND		1	0.30	
cis-1,2-bichlarcethese	156-59-2	1	0.29	J	0.6	0.1	
Acetone	67-66-1	10	2.5	- 3	- 5	1.5	
Carbon disuffide	75-15-0	1	ND		- 6	0.3	
7-Buttone	70-93-2	2	ND		- 5	1.9	
VOLATILE ORGANICS BY GCIMS-TIC							
Total TIC Compounds			-		-	-	
DASEINEUTRAL EXTRACTABLES BY							
Acenaghthene	10-32-9	10	ND		- 2	0.4	
Naphthalene	¥1-20-3	1 2	12	- 3	- 2	0.68	
Bio(2-ethylhexyl)phthalate	117-91-7	2	2.4	J	- 2	1.5	
Fluorene	86-73-7	1	ND		2		
Phenasthrene	85-01-6		ND		2	0.83	
Dibersoluan	132-66-9		ND		2	0.5	
2-Methylmaphthalene	11-57-6		ND		- 2	0.4	
Carbassie	86-74-6		ND	_	2	0.6	
BASEINEUTRAL EXTRACTABLES BY	GDMS-WESTE	OROUGH LAB-TIC					
Total TIC Compounds BASSING (TDA) EVTDA/TABLES BY			162	J	0	Ö	
Berzojijurdracene	\$6-55-3	0.1	0.1		0.1	0.00	
Bet20(s)pyrene	\$0-32-6	0.1	0.09	J	0.1	0.00	
Berzo Effuciantiene	305-99-2	0.2	0.19		0.1		
Betzojkjfuoranthene	207-08-9	0.3	0.09	J	0.1	0.00	
Diservoja i jarovacene			0.03	-			
indeno(1,2,3-cd)pyrene	193-39-5	0.2	0.09	3	0.1	0.00	

Eight Walkup Drive, Westborough, MA 01581-0159 509-999-6220 (Fax) 509-999-9032 900-624-6220 www.alphalab.com

Figure: Concentration Levels, ML: Dec 2018

## Appendix - Contd.



				SAMPLE ID:
				LABID
				COLLECTION DATE:
				SAMPLE DEPTH
				SAMPLE MATRIX
		NJ-GWEA	N2-INTOW	NJ-GWI-PL
MALYTE	CAS	(1991)	(Feet)	(491)
OLATILE ORGANICS BY GOMS		1961	1961	
Inchese	71-63-2	1		1
tybecome	100-61-6	700		2
ylenes, Total	1330-20-7	1000		2
Cesone	67-66-1	6000		10
sograpyberzene	99-62-8	700		1
yolshexane	110-62-7			1
Aethyl cyclohexane	109-97-2			1
OLATILE ORGANICS BY GOMS-TIC		_		
AOLATILE ORGANICS BY GCMS-TIC		_		
		_		- 1
ndane	000896-11-7			
Lagitchalene Jriknown Aromatic	000091-20-2	-		2
Jrknown Aromatic Jrknown Benzene		_		1
Introde Bergene	00000346-1	_		<del></del>
	00000349-1	_		-
Arknown Benzene slandi, Trimethil-	001066-40-6			<del>- i -</del>
Arknown Benzene		_		<u> </u>
ixel TiC Compounds	_	Some		-
ASSINGUTRAL EXTRACTABLES BY C	AMS, WESTER	OUGHLAD		
isohthalene	69-20-3	200		-
lig2-ettythey/jphthalate	117-65-7	200		1
ASENEUTRAL EXTRACTABLES BY C		OUICÚL AD	THE CONTRACT	-
Jriknoun Alkane	CHAP WESTER	OUGH LA	-	- 1
triamen Alizana				1
Arknown Alkane	_			1 1
Jokopun Alkane				1
Jokopan Benzene				1
Jrknown Aldehyde				1
Jokopura Bengene				1
				1
Jrkrown Bergene				1
Jirknown Alkane				1
Anknown				1
Joknown				1
Ankrown				- 1
Anknown Benzene				1
Jrknown Alkane		-		-
Anknown		-		1
dane	000896-11-7			
triknown Benzene		-		1
trknown Benzene drybenzene	000000-41-4	-		1
rkrown Alkane	000000-41-4	_		
	_	_		
Anknown Phenol		_		1

Figure: Concentration Levels, ML: Jun 2019

## Appendix - Contd.



		SAMPLE ID:	L2036435-65 \$1387020			
		LAR ID:				
		COLLECTION DATE:				
		SAMPLE DEPTH:				
		SAMPLE MATRIX		WATER		
		N3-GW8A				
NALYTE CLATILE ORGANICS BY GOMS	CAS	(Fgs)	Conc	Q RL	MDL	
	96-12-8	0.02	ND.	2.5	0.35	
6-Dioxane	123-91-1	9.4	ND:	250	60	
2-Dibromoethane	109-93-4	0.03	MD	2	0.19	
ethylene chloride	15-09-2 15-33-1	- 3	NO.	25	0.68	
1-Dicholoethane	79-30-3 67-66-3	10	ND ND	0.79	0.22	
adon tetrachioride	56-23-5	1	MS	0.5	0.13	
	79-97-5	1	MD	1	0.14	
bromochioromethane	120-09-1	1	NO:	0.6	0.15	
1,2-Trichloroethane	79-00-5	3	ND:	0.75	0.14	
machioroethene Paramontoria	127-18-6	-8-	- 90	0.5	0.18	
CONTRACTOR CONTRACTOR	75-99-4	900	ND ND	2.5	0.15	
2-Dichlossethane	117-06-2	2	ND.	0.5	0.13	
1,1-Trichiproethane	71-65-6	30	ND	0.5	0.16	
romodichloromethane	75-27-4	1	ND:	0.6	0.19	
ann-1,3-Elichloropropene	10061-02-6		MD.	0.6	0.16	
ic-1,3-Ochloropropene 3-Dichloropropene, Total	10061-01-5	- 1	ND ND	0.5	0.14	
	75757	-	MS		0.25	
1.2.0.Eartachinosethane	79-34-5	1	MS	A.C	617	
erpene	71-63-2	1	NO.	0.6	0.16	
auece .	109-99-2	600	ND:	0.76	0.2	
tybeczese	100-61-6	700	MD.	0.6	0.17	
hisromethane orromethane	7447-3	30	NO NO	25	0.2	
ryl (7600de	75-03-0	10	NO NO	1 67	0.09	
nizarnane	75-00-3	-	MS	1	0.13	
	75-35-4	1	NO.	0.9	0.17	
sno-1,2-Dichloroethene	159-60-6	200	NO.	0.76	0.16	
Charcethese	79-01-6	1	MD:	0.6	0.18	
2-Dichloroberzene	95-60-1	600	100	25	0.18	
3-Dichlosperzene 5-Dichlosperzene	106-66-7	800	MS	2.5	0.19	
HENV SHIT DUDY HENV	1534,64.4	70	MS	- 1	0.12	
ID-Xulene	179601,03.1		MS		0.93	
Xylana	95-47-6		ND:	i	0.39	
denes, Total	1330-20-7	2000	ND MD	100	0.33	
t-1,2 Octorostena 2-Dotorostena, filia	150-50-2 583-59-0	70	ND ND	0.5	0.19	
	195.95	100	NO NO	0.5	0.16	
Chlorod fluoromethane	75-71-8	1000	ND.	- 5	0.34	
petone	67464	6000	6.3	- 6	1.5	
atton disultide	75-45-0	700	ND:	- 6	0.3	
Ruzanone	78-93-3	200	102	- 6	1.9	
Methyl-2-pentanone Heightigh	10910-1		100		0.42	
HENDESON CONTRACTOR	73.07.4	- 60	MS	- 12	0.12	
occon/her tane	60.07.0	990	MO	0.5	0.18	
2.3-Trichlanderzene	87-61-6		NO.	2.5	0.23	
2.6-Trichloroberzene	120-92-1	9	162	2.5	0.22	
etry Acesse voteware	79-20-9 110-92-7	7000	MD:		0.23	

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Figure: Concentration Levels, ML: Dec 2020

## Appendix - Contd.





Figure: Snapshot of the report submitted in June 2020, AN

This document presents a high-level overview. Details are available for review.

