

March 11, 2014

New York State Department of Environmental Conservation Region 4 1150 N. Westcott Road Schenectady, New York 12306-2014

Attn: Mr. Keith Goertz

Re:

Free Product Removal

Stratus (Tenneco) - North Albany Terminal Co.("NATCO")

Green Island Terminal Green Island, New York

#### Gentlemen:

As previously discussed, efforts continue to remove the residual free product from the referenced site. The presence of free product on the site preceded the purchase of the site by North Albany Terminal Co. ("NATCO") from Stratus Petroleum Co. It is our understanding that the release or spill on the site was an unknown quantity of No. 4 fuel oil.

Subsequent to the purchase of the site, NATCO closed the terminal and removed the aboveground steel tanks and associated piping. A number of subsurface investigations have been conducted, the results of which have been reported to your office. As part of these investigations, NATCO authorized the installation of a number of additional groundwater monitoring wells, which have been utilized for both gauging and sampling, as well as product removal. The locations of the monitoring and observation wells currently installed on the site are shown on Figure 1.

Product removal has been conducted by employment of a number of methods. These include the use of a local vacuum truck and, since October 2010, by employment of high vacuum extraction. A total of seventeen (17) high vacuum events have been conducted by EcoVac Services ("EcoVac") of Woodstock, Georgia. Reports presenting a description and the results of each of these events have been previously submitted to the New York State Department of Environmental Conservation, except for the most recent events, which were conducted on August 8, 2013, September 27, 2013 and January 23 and 24, 2014. Copies of the reports describing these events are attached as Exhibit I.

Z:\WS-Files 2003-2004\A03059.ltr23-REV.wpd

New York State Department of Environmental Conservation

Region 4

Attn: Mr. Keith Goertz

March 11, 2014

Page 2

In accordance with our July 1, 2013 report, five (5) additional monitoring or extraction wells were installed on the property on July 31 and August 1 and 2, 2013. The locations of these wells (MW-20 through MW-24, inclusive) are shown on Figure 1. Aquifer Drilling & Testing, Inc. of Albany, New York mobilized on the site, with a representative of this office, to install the wells. Using a truck mounted drill rig (CME-75), each bore hole was advanced using 6.25-inch I.D. hollow stem augers. No soil samples for laboratory analysis were collected. Each of the bore holes was advanced to about 30-feet below the ground surface ("bgs"). A 4-inch PVC well was installed in each bore hole using 15-feet of Schedule 40, 0.020-inch slotted screen. The wells were extended to the surface using Schedule 40 4-inch PVC pipe. The annular space around and to 2-feet above the top of the screen was filled with industrial quartz sand. The remainder of the annular space, to just below the surface, was filled with bentonite chips, which were hydrated. Each well was finished with a expanding plug, with a padlock, and a steel flush mounted well protector. The top of casings were not surveyed, but will be in the near future. Well construction diagrams for each of the wells are attached as Exhibit II. The auger cuttings were placed in drums and will be properly disposed off-site.

EcoVac Services mobilized on the site on August 8, 2013 to conduct the fourteenth vacuum extraction event. Free product was found to be present in eight (8) monitoring wells (MW-9, MW-10, MW-11, MW-17, MW-18, MW-22, MW-23 and MW-24) at thicknesses varying from 0.01 to 1.13-feet. Vacuum was applied to a combination of six (6) wells for about four (4) hours and another combination of six (6) wells for two (2) hours. An equivalent volume of 67 gallons of product was removed in 2,322 gallons of total water. The product/water was appropriately disposed off-site. As indicated above, a copy of the EcoVac Services August 28, 2013 report is attached as Exhibit I.

Gauging of the monitoring wells on site has continued on a bi-weekly basis. The gauging data for 2013 and 2014, to date, are presented in Table No. 1. These data include the depth to groundwater and the measured thickness of free product in the following monitoring or observation wells: MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, MW-11, MW-12, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, OW-A and OW-C. Measurable free product has never been present in the wells on site that are not included in this table; i.e., MW-1, MW-2, MW-6, MW-7, MW-13 and MW-14.

In Table No. 1, the gauging data performed by terminal personnel, EcoVac personnel and/or Shifrin & Associates, Inc. personnel are presented. Examination of these data show that in certain wells, the thickness of the free product varies considerably. As has been previously reported, the consistency of the product present on the site is, at times, quite thick and tends to coat the probe of the oil/water interface meter. This coating of oil appears to affect the readings, thus leading to the inconsistent reported values.

New York State Department of Environmental Conservation

Region 4

Attn: Mr. Keith Goertz

March 11, 2014

Page 3

Nevertheless, the use of high vacuum extraction appears to have been effective. The most recent high vacuum extraction events conducted on the site were performed by EcoVac on January 23 and 24, 2014. As stated above, copies of recent EcoVac reports, which do not appear to have been previously submitted to your office, are attached as Exhibit I.

Review of the gauging data included in the January 23, 2014 EcoVac report shows that no measurable free product remained in the gauged wells (MW-9, MW-11, MW-15, MW-22, MW-23 and MW-24) following completion of the extraction event. The following morning, January 24, the wells were re-gauged, before commencing a second extraction event. At that time, product thickness had rebounded in several of the wells, which had no measurable product the previous evening. These wells included MW-11 (0.03-feet) and MW-22 (0.06-feet). Free product was also present in several other wells (MW-4 - 0.31-feet; MW-8 - 0.39-feet; MW-18 - 2.12-feet; MW-20 - 1.42-feet and MW-21- 0.14-feet) on the second day of the extraction event. Since these five (5) wells were not gauged at the end of the first day of extraction, it is not known whether these measurements reflect a rebound in product thickness or if product remained in these wells following the first day of extraction. It also should be noted that each of the five (5) wells gauged upon completion of the second day of extraction had no measurable free product present.

Due to the heavy snow falls, gauging was not performed following the last Eco Vac event until February 27, 2013. The data from this gauging event are presented in Table No. 2 and also are included with the previous data for the site in Table No. 1. Significant thickness of free product was present at this time in wells MW-11, MW-18, MW-20, MW-21 and MW-22.

As previously reported, no correlation was found between the depth to water; i.e., the groundwater elevation and the free product thickness. Graphs of these data are included in Exhibit III. As also reported, the depth to water or product is generally over 25-feet in each of these wells. Further, the depth to water measurements are subject to tidal variation. However, the thickness of product does reflect the results of the high vacuum extraction events. The attached EcoVac reports show that 64, 42 and 55/22 gallons of product were removed during these most recent events, not including the volume removed as vapor. The equivalent volume of product removed as vapor was relatively low as would be expected. The concentrations of volatiles in the vacuum truck exhaust also were relatively low, reflecting the reported release of heavy oil on the property.

During the first six (6) or seven (7) extraction events conducted on the site, vacuum and hydraulic drawdown data were collected. Vacuum influence was practically non-existent at the adjoining wells or monitoring points, however, it must be kept in mind that the nearest well was approximately 80-feet from the extraction point. Drawdown or hydraulic influence was measured at these same wells. Virtually no change in water levels was recorded, except that resulting from changes in river levels (tidal effect). Based on the above, the additional wells discussed above were

New York State Department of Environmental Conservation

Region 4

Attn: Mr. Keith Goertz

March 11, 2014

Page 4

installed to reduce the spacing and improve the removal rates. As recently discussed by telephone, it is proposed to install four (4) more extraction wells in the vicinity of MW-17, MW-22 and MW-24 as shown on the attached Figure 1, to reduce the well spacing to within the radius of influence of the extraction system. These proposed wells should provide for more efficient removal of product by high vacuum extraction.

We continue to believe that high vacuum extraction is an appropriate technology to address the residual free product on the site, based on the reductions that have been seen to date. Should the removal of free product by additional extraction events indicate diminished volumes of product removal, other means of increasing the efficiency will be investigated.

Your assistance and guidance with the remedial efforts on this site is appreciated. If you have any questions or require further information, please contact the writer at your convenience.

Sincerely yours,

SHIFRIN & ASSOCIATES, INC.

Walter G. Shifrin, P.E., President

WGS:mkh Enclosure

cc: Mr. Ken Fenton

Mr. James Brust

Mr. Mike Schoedel

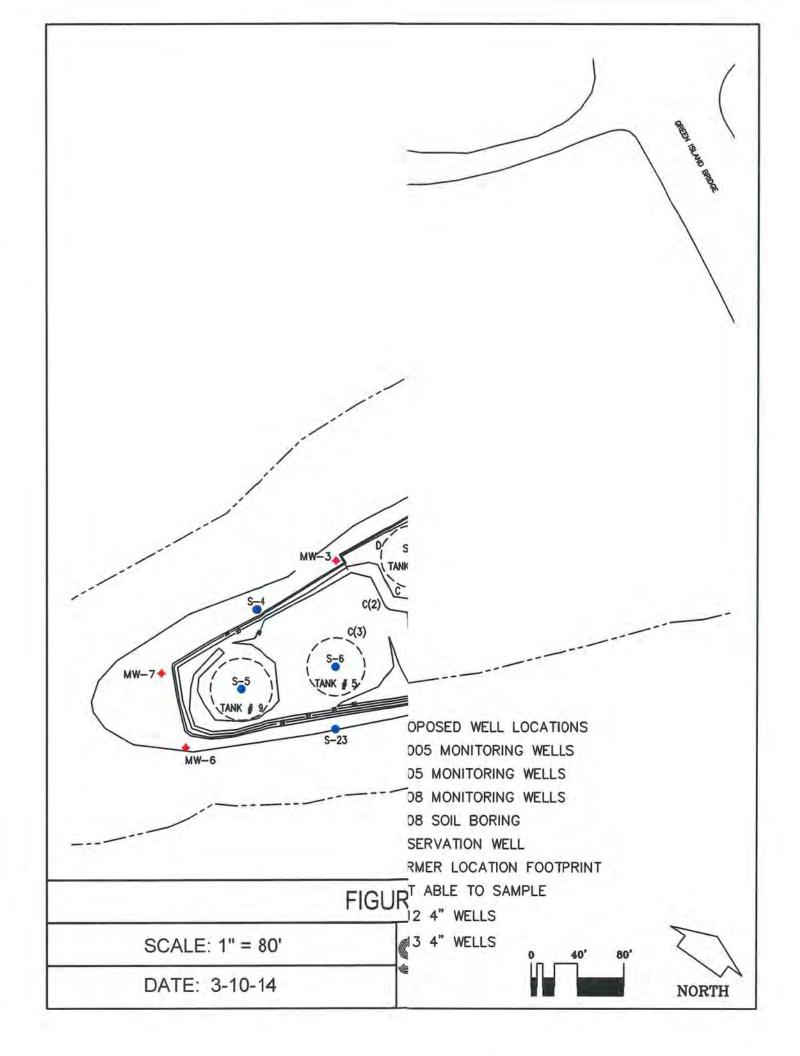


Table No. 1 2012 Gauging Data NATCO Green Island, New York

	I MV	V-3	I MV	V-4	MV	V-5	MV	V-8	I MW	/-9	MW-10	
Date												
		Free Product										
	Depth to Product (ft)	Thickness (ft)										
1/2/2013	29.65	0.00	29.41	0.00	25.35	0.00	27.65	0.00	27.50	0.00	27.60	0.01
1/10/2013	28.80	0.00	29.55	0.00	24.35	0.01	28.02	0.00	27.70	0.02	27.88	0,00
1/17/2013	28.85	0,00	28.74	0.00	24.50	0.01	26.96	0.00	26.40	0.01	26.70	0.00
1/23/2013			28.78	0.00	25.04	0.05	27.31	0,00	27.39	0,59	27.37	0.01
2/1/2013	28.70	0.00	28.45	0.00	24.35	0.01	26.71	0.00	20.42	0.20	25.99	0.01
2/7/2013	28,66	0.00	29.31	0.00	25.68	0.01	27.81	0.00	28.00	0.01	27.72	0.00
2/15/2013	30.08	0.00	29.45	0.00	24.70	0.10	27.10	0.01	27.60	0.00	27.18	0.01
2/26/2013	29.35	0.00	28.12	0.02	26.08	0.02	28.32	0.00	26.31	0.01	27.92	0.00
3/7/2013	27.24	0.00	27.30	0.00	23.56	0.01	25.75	0,00	26.31	0.00	26.16	0.00
3/18/2013	29.40	0.00	29.00	0.01	25.10	0.01	27.20	0.01	26.56	0.01	26.72	0.00
3/27/2013			28.58	0.02	24.60	0.02	26.77	0.03	26.34	0.09	26.40	0.01
4/4/2013	28.67	0.00	29.19	0.00	25.50	0.01	27.62	0.00	27.45	0.01	27.52	0.00
4/10/2013	30.60	0.00	30.30	0.01	26.00	0.01	28.47	0.01	25.58	0.01	27.51	0.01
4/18/2013	27.60	0.00	27.38	0.00	23.50	0.00	26.64	0.00	25.65	0.00	25.66	0.00
5/1/2013	27.56	0.00	29.15	0.01	25.16	0.01	27.40	0.02	26.28	0.00	26.32	0.00
5/8/2013	31.07	0.00	29.50	0.01	25.50	0.00	28.00	0.01	27.35	0.00	27.61	0.06
5/24/2013	30.41	0.00	29.96	0.01	25.95	0.00	28.41	0.00	27.02	0.00	27.42	0.00
5/31/2013	27.80	0.00	25.71	0.01	23.55	0.01	25.88	0.00	25.15	0.01	25.47	0.00
6/5/2013	28.96	0.00	29.15	0.01	25.35	0.01	27.63	0.01	27.02	0.01	27.31	0.00
6/20/2013	28,87	0.00	27.70	0.01	25.50	0.01	27.61	0.00	25.62	0.01	25.25	0.01
7/1/2013	26.05	0.00	26.02	0.02	22.00	0.10	26.25	0.01	23.90	0.02	23.55	0.02
7/12/2013	29.89	0.00	29.68	0.01	25.41	0.01	27.72	0.01	25.63	0.00	25.63	0.00
7/17/2013	27.92	0.00	27.92	0.00	24.15	0.01	26.27	0.00	26.00	0.00	26.00	0.00
7/31/2013	28.46	0.00	27.80	0.05	24.78	0.10	26.87	0.13	26.26	0.34	26.18	0.02
8/8/2013	29.33	0.00	30.42	0.00	26.19	0.00	28.40	0.00	26.68	0.37	26.98	0.01
8/15/2013	28.32	0.00	28.22	0.01	24.40	0.02	26.62	0.00	26.57	0.01	26,57	0.01
8/22/2013	31.12	0.00	31.10	0.01	26.71	0.01	29.24	0.01	27.50	0.02	27.50	0.01
8/30/2013	27.85	0.00	28.01	0.02	24.25	0.01	26.49	0.00	26.50	0.01	26.50	0.01
9/6/2013	31.20	0.00	31.12	0.01	26.81	0.01	29.30	0.00	27.81	0.04	27.81	0.03
9/16/2013	28.76	0.00	29.72	0.01	25.21	0.01	27.74	0.00	27.19	0.00	27.19	0.03
9/19/2013	31.30	0,00	30.82	0.02	26.45	0.01	28.96	0.01	27.21	0.02	27.21	0.01
9/27/2013									27.53	0.39		
10/4/2013	29.78	0.00	30.19	0.01	26.26	0.01	28.51	0.00	27.73	0.02	27.96	0.01
10/9/2013	29.53	0.00	29.21	0.01	25.08	0.01	27.51	0,00	26,51	0.02	26.78	0.01
10/25/2013	29.87	0.00	29.42	0.01	24.86	0.01	27.82	0.00	27.35	0.03	27.28	0.02
10/31/2013			30.31	0.01	26,29	0.01	28.57	0.00	27.39	0.04	28.03	0.01
11/11/2013	29.05	0.00	28.92	0.00	25.03	0.01	27.32	0.00	27.15	0.03	27.12	0.02
11/13/2013			28.80	0.00	24.84	0.00	27.03	0.00	27.05	0.01	26.92	0.00
11/19/2013	31.21	0.00	30.86	0.01	26.52	0.01	29.03	0.01	27.62	0.01	28.02	0.01
12/4/2013	30.15	0.00	30.64	0.00	26.36	0.01	28.82	0.00	27.70	0.02	27.93	0.01
12/20/2013			31.06	0.01			29.32	0.01	27.14	0.04	28.23	0.01
12/23/2013	27.17	0.00	<b></b>		23.23	0.01					L	
1/13/2014	24.81	0.00	24.96	0.03	22.91	0.00	24.62	0.00	24.28	0.00	24.45	0.00
1/20/2014	29.20	0.00	20.88	0.00	24.73	0.01	27.12	0.00	26.12	0.02	26.71	0.00
1/23/2014	ļ		27.78	0.89			26,20	0.35	26.11	0.24	27.48	0.00
1/24/2014	<u> </u>		27.75	0.31			26.14	0.39	26.13	0.00		
2/27/2014	ļ		28,96	0.02	25.38	0.03	27.80	0.03	26.79	0.03	27.10	0.01
	<u> </u>		<u> </u>				ļ					
	ļ						<u> </u>		<b></b>			
							ļ	<u> </u>			<u> </u>	
			l				J					

	MW	/-11	MW	/-12	MW	<i>-</i> 15	MW	√-16	MW	-17	MW-18	
l		-										
Date												
		Free Product	l	Free Product		Free Product		Free Product		Free Product		Free Product
	Depth to Product (ft)	Thickness (ft)										
1/2/2013	27.90	0.01	27.70	0.01	28.00	0.00	30.00	0.00	27.02	0.01	27.92	0.00
1/10/2013	27.35	0.00	26.92	0.02	28.62	0.00	29.76	0.00	26.91	0.00	26.70	0.02
1/17/2013	26.81	0.00	26.28	0.01	26.92	0.00	28.80	0.00	25.92	0.01	26.69	0.01
1/23/2013	26.34	0.30	26.47	0.20	28.35	0.01	29.00	0.00	26.04	0.00	27.34	0.02
2/1/2013	26.55	0.00	26.00	0.10	27.01	0.00	28.41	0.00	25.62	0.01	26.42	0.01
2/7/2013	26.60	0.10	27.12	0.01	28.33	0.00	29.44	0,00	26.10	0.01	27.90	1.00
2/15/2013	27,49	0.01	27.10	0.01	27.36	0.01	29.55	0.00	27.20	0.20	27.50	0.05
2/26/2013	27.40	0.05	25.70	0.00	28.15	0.00	30.05	0.00	25.20	0.01	26.10	0.01
3/7/2013	25.00	0.00	25.03	0.00	27.15	0.01	27.76	0,00	24.52	0.00	25,63	0.00
3/18/2013	27.00	0.30	26.75	0.01	26. <del>9</del> 9	0.00	28.72	0.01	24.37	0.00	25.49	0.01
3/27/2013	26.22	0.42	26.05	0.04	26.81	0.00	28.34	0.00	25.51	0,02	26.25	0.85
4/4/2013	26.45	0.01	Dry		28.09	0.01	29.60	0.00	24.05	0.00	27.50	0.20
4/10/2013	25.52	0.00	Well compromised		27.52	0.01	30.07	0.00	24.87	0.00	25.71	0.01
4/18/2013	25.10	0.01			26.15	0.01	27.27	0.00	24.30	0.01	25.35	0.10
5/1/2013	27.10	0.01			26.86	0.00	27.95	0.00	26.40	0.04	27.02	0.05
5/8/2013	27.40	0.01			27.14	0.00	30.09	0.00	27.91	0.01	27.69	0.01
5/24/2013	28.15	0.01			26.41	0.00	29.85	0.01	27.41	0.01	28.15	0.01
5/31/2013	25.70	0.01			25.81	0.00	27.32	0.00	24.91	0.01	25.50	0.01
6/5/2013	26.52	0.01	1		27.22	0.00	27.80	0.01	26.25	0.01	27.46	0.01
6/20/2013	27.46	0.01			25,91	0.01	29.46	0.01	26.73	0.00	27.40	0.02
7/1/2013	23.95	0.01			24.30	0.00	26.01	0.01	26.18	0.00	23.80	0.02
7/12/2013	27.70	0.01			26.20	0.01	29,35	0.01	26.87	0.01	27.32	0.02
7/17/2013	25.62	0.00			26.20 2.67	0.00	28.12 28.54	0.02	25.10 25.78	0.01	25.97 26.58	0.00
7/31/2013	26.23	1,91			2.07	0.00	28.54	0.00	27.84	0.08	28.40	
8/8/2013	28.60	0.72			26.95	0.01	28,42	0.00	25.41	0.01	26.38	0.57
8/15/2013	25.95	0.03			28.00	0.01	30.25	0.00	28.23		28.70	0.03
8/22/2013 8/30/2013	29.05 25.67	0.01			26.88	0.01	28.17	0.00	25.20	0.01	26.30	0.03
9/6/2013	29.10	0.03			28.20	0.01	30.25	0.00	28.30	0.02	28.63	0.02
9/16/2013	27.20	0.00			28.02	0.00	29.28	0.00	26.70	0.03	27.31	0.04
9/19/2013	28.97	0.00			27.81	0.01	30.20	0.00	28.11	0.03	28.52	0.04
9/27/2013	28.64	0.75			27.01	0.01	30.20	0.00	27.62	0.31	28.43	0.60
10/4/2013	27.88	0.75			27.96	0.00	30.28	0.00	27.47	0.02	28.15	0.03
10/4/2013	27.32	0.04			27.03	0.02	29.13	0.00	26.55	0.03	27.24	0.04
10/3/2013	27.43	0.03	1		27.75	0.04	29.53	0.00	27.57	0.02	26.55	0.03
10/31/2013	27.95	0.04	1		28.33	0.01	30.39	0.00	27.60	0.03	28.06	0.03
11/11/2013	26.79	0.04			27.68	0.02	29.07	0,00	26.06	0.04	27.04	0.04
11/13/2013	26.26	0.00			27.70	0.03	28.80	0.00	25.75	0.00	26.70	0.01
11/19/2013	29.00	0.02	-		27.91	0.01	30.28	0,00	28.04	0.02	28.62	0.02
12/4/2013	28.62	0.01			27.71	0.00	30.06	0.00	27.84	0.02	28.47	0.01
12/20/2013	29.04	0.01			28.25	0.00	30.15	0.00	27.99	0.01	28.45	0.03
12/23/2013												
1/13/2014	22.62	0.00			25.02	0.00	25.68	0.01	22.29	0.01	23.40	0.00
1/20/2014	27.42	0.02			26.73	0.00	28.73	0.01	26.02	0.00	26.68	0.01
1/23/2014	25.65	2.78							25.60	0.82	25.70	2.10
1/24/2014	25.70	0.03							26,31	0.00	25.74	2.12
2/27/2014	26.68	1.03			27.22	0.00	29.02	0.01	26.88	0.02	26.30	0.70
-,,												
						<u> </u>						

	MW	-19	OW	/-A	ow	/-C	MW	/-20	MW	-21	MW-22	
_												
Date												
	Depth to Product (ft)	Free Product Thickness (ft)	Depth to Product (ft)	Free Product Thickness (ft)	Depth to Product (ft)	Free Product Thickness (ft)	Depth to Product (ft)	Free Product Thickness (ft)	Depth to Product (ft)	Free Product Thickness (ft)	Depth to Product (ft)	Free Product Thickness (ft)
							Depth to Product (It)	mickness (it)	Depth to Product (It)	mickness (it)	Depth to Product (It)	mickness (it)
1/2/2013	27.11 26.41	0.00	25.60 26.72	0.00	31.02 26.12	0.01						
1/17/2013	25.63	0.00	24.30	0.00	30.80	0.00						
1/23/2013	25.63	0.00	26.08	0.00	30.40	0.00					<del> </del>	
2/1/2013	25.35	0.00	24.60	0.00	29.80	0.00					<u> </u>	
2/7/2013	26.68	0.00	26.17	0.00	30.80	0.00						
2/15/2013	26.70	0.00	23.65	0.00	30.76	0.00						
2/26/2013	27.10	0.00	26.26	0.00	31.47	0.00						
3/7/2013	24.52	0.00	24.73	0.00	28.96	0.00						
3/18/2013	26.05	0.00	24.73	0.00	30.11	0.01						
3/27/2013	20.03	0.00	24.35	0.00	29.05	0.00						
4/4/2013	26.45	0.00	26.32	0.00	30.72	0.00						
4/10/2013	27.15	0.00	25.25	0.00	31.05	0.00						
4/18/2013	24.25	0.00	23.60	0.00	28.67	0.00					1	
5/1/2013	26.26	0.00	24.50	0.00	29.27	0.00					<b> </b>	
5/8/2013	27.55	0.00	26.02	0.00	31.45	0.00						***************************************
5/24/2013	27.10	0.00	24.33	0.00	31.07	0.00	1					
5/31/2013	24,38	0.00	22.84	0.00	28.70	0.00	<b>1</b>				<b> </b>	
6/5/2013	26.35	0.01	24.12	0.00	30.77	0.00						
6/20/2013	25.86	0.00	23.28	0.00	29.43	0.00						
7/1/2013	22.69	0.00	22.16	0.00	26.80	0.01						
7/12/2013	25.69	0.00	23.47	0.00	29.05	0.01						
7/17/2013	25.10	0.00	24.40	0.00	28.17	0.01						
7/31/2013	25.81	0.00	25.03	0.00	28.12	0.01						
8/8/2013											27.75	0.10
8/15/2013	25.41	0.00	25.28	0.00	29.09	0.01	25.52	0.02	26.75	0.03	26.30	0.03
8/22/2013	27.87	0.00	26.40	0.00	31.48	0.01	27.90	0.01	28.61	0.00	29.20	0.04
8/30/2013	25.23	0.00	25.31	0.00	29.08	0.02	25.40	0.04	26.71	0.02	25.91	0.04
9/6/2013	27.97	0.00	31.61	0.00	26.81	0.00	27.91	0.04	28.90	0.02	28.92	0.02
9/16/2013	26.23	0.00	26.42	0.00	31.07	0.00	26.50	0.05	27.71	0.02	26.57	0.04
9/19/2013	27.68	0.00	26.23	0.00	31.11	0.01	28.61	0.02	28.77	0.01	28.94	0.05
9/27/2013											27.90	0.74
10/4/2013	27.31	0.00	24.30	0.00	31.62	0.00	27.54	0.04	28.63	0.02	28.81	0.01
10/9/2013	26.21	0.00	24.50	0.00	29.91	0.01	26.24	0.03	27.52	0.01	27.54	0.04
10/25/2013	26.59	0.00	26.20	0.00	30.56	0.01	26.54	0.03	28.14	0.04	27.65	0.02
10/31/2013	27.36	0.01	26.66	0.00	31.23	0.01	27.56	0.03	28.40	0.03	28.15	0.05
11/11/2013	26.04	0.00	26.02	0.00	30.38	0.02	26.13	0.00	27.66	0.04	26.97	0.04
11/13/2013	27.02	0.00	26.18	0,00	29.33	0.01	25.90	0.01	27.30	0.00	26.62	0.21
11/19/2013	27.71	0.00	25.60	0.00	31.33	0.01	27.66	0.03	29.54	0.03	28.98	0.02
12/4/2013	27.52	0.00	25.52	0.00	31.21	0.01	27.59	0.02	29.12	0.02	28.62	0.02
12/20/2013	27.90	0.00	26.38	0.00	31.62	0.00	27.88	0.03	29.72	0.01	29.05	0.02
12/23/2013	<del> </del>			0.00		0.00	22.52				l	
1/13/2014	22.30	0.00	21.00	0.00	27.71	0.00	22.69	0.02	24.02	0,00	22.93	0.03
1/20/2014	25.00	0.01	23.70	0.00	30.00	0.00	25.51	0.01	27.53	0.01	27.33	0.01
1/23/2014	ļ		<b> </b>								26.34	0.96
1/24/2014			<del>                                     </del>		20.00	2.04	26.20	0.70	77.00	0.05	26.50	0.06
2/27/2014	26.38	0.01	ļ		29.92	0.01	26.20	0.70	27.90	0.26	27.65	2.70
	<del>                                     </del>						<b> </b>		<b> </b>		<del> </del>	
	<b>.</b>								<b></b>		<del></del>	
	<b> </b>											
	<u> </u>	l			I						<u> </u>	,,

Table No. 1 2012 Gauging Data NATCO Green Island, New York

	MV	V-23	MV	V-24
Date				
	Depth to Product (ft)	Free Product Thickness (ft)	Depth to Product (ft)	Free Product Thickness (ft)
1/2/2013				
1/10/2013	ļ	1		
1/17/2013	ļ			
1/23/2013	<b></b>			
2/1/2013			L	
2/7/2013				
2/15/2013 2/26/2013				
3/7/2013				<del>                                     </del>
3/18/2013		-		<del>                                     </del>
3/27/2013	<b></b>		l	
4/4/2013	<del> </del>			<u> </u>
4/10/2013	<b>!</b>			<del> </del>
4/18/2013	<b></b>	<b>†</b>		
5/1/2013				
5/8/2013	<u> </u>	<del> </del>		1
5/24/2013	<del> </del>	<del>                                     </del>	<del></del>	
5/31/2013		<b></b>		
6/5/2013				
6/20/2013				
7/1/2013				
7/12/2013				
7/17/2013				
7/31/2013				
8/8/2013	27.82	1.13	28.30	0.47
8/15/2013	25.40	0.03	25.65	0.04
8/22/2013	28.36	0.01	28.87	0.03
8/30/2013	28.15	0.04	25.30	0.05
9/6/2013	28.40	0.04	28.75	0.01
9/16/2013	26.57	0.05	26.80	0.05
9/19/2013	28.23	0.02	28.61	0.02
9/27/2013	28.96	044	28.31	0.89
10/4/2013	27.44	0.04	27.60	0.03
10/9/2013	26.60	0.03	26.96	0.04
10/25/2013	26.76	0.04	26.96	0.04
10/31/2013	27.50	0.03	27.70 26.30	0.03
11/11/2013	26.14	0.04	25.98	0.00
11/13/2013	25.80 30.20	0.13	28.54	0.00
11/19/2013	28.87	0.03	28.28	0.02
12/20/2013	Snow	0.00	28.63	0.03
12/23/2013	SHOW	+	20.03	0.03
1/13/2014	22.22	0.00	22.37	0.02
1/20/2014	26.12	0.00	26.69	0.01
1/23/2014	25.64	1.56	25.63	0.94
1/24/2014	25.10	0.00	25.61	0.00
2/27/2014	26.75	1.99	27.07	1.60
			1	
	1			

#### TABLE NO. 2 **GROUNDWATER MEASUREMENTS - FEBRUARY 27, 2014** GREEN ISLAND, NEW YORK

LOCATION	TOP OF CASING ELEVATION	DEPTH TO BOTTOM OF WELL (feet)	DEPTH TO PRODUCT (feet)	DEPTH TO WATER (feet)	PRODUCT THICKNESS (feet)	GROUNDWATER ELEVATION		
MW-1	126.15	N/A		N/A		N/A		
MW-2	130.43	N/A	-	N/A	-	N/A		
MW-3	128.79	N/A		N/A		N/A		
MW-4	130.19	35.14	28.96	28.98	0.02	104.79		
MW-5	126.19	34.98	25.38	25.41	0.03	100.80		
MW-6	128.79	N/A		N/A		N/A		
MW-7	128.83	N/A		N/A		N/A		
MW-8	129.03	29.57	27.80	27.83	0.03	101.22		
MVV-9	128.96	29.61	26.79	26.82	0.03	102.16		
MW-10	129.13	29.72	27.10	27.11	0.01	102.02		
MW-11	128.34	29.90	26.68	27.71	1.03	101.38		
MW-12	127.94	19.60	,	Well is plug	ged or damaged			
MW-13	126.43	N/A		N/A		N/A		
MW-14	127.72	N/A		N/A		N/A		
MVV-15	129.36	29.42		27.22		102.14		
MW-16	130.54	30.50	29.02	29.03	0.01	101.51		
MW-17	127.87	29.59	26.88	26.90	0.02	100.98		
MW-18	128.49	29.61	26.30	27.00	0.70	102.00		
MW-19	127.45	29.62	26.38	26.39	0.01	101.06		
MW-20		29.42	26.20	26.90	0.70			
MW-21	است	31.20	27.90	28.16	0.26			
MW-22	<del>,</del>	31.60	27.65	30.35	2.70	-		
MW-23	Taurie .	32.83	26.75	28.74	1.99			
MW-24	, Lucia	32.48	27.07	28.67	1.60			
OW-A			Unable	to access				
OW-B			Unable t	o be located				
OW-C		31.00	29.92	29.93	0.01			

#### NOTES:

- Monitoring wells MW-1 through MW-7 and wells MW-13 through MW-24 are 4-inch diameter Monitoring wells MW-8 through MW-12 are 2-inch diameter Elevations are adjusted for product thickness and density

- Monitoring wells MW-20 through MW-24 have not been surveyed



The World Leader in Mobile Dual-Phase/Multi-Phase Extraction Patented SURFAC®/ISCO-EFR®/SOLV-IT® Technologies Treatability Studies / Research & Development

August 28, 2013

Mr. Walter Shifrin Shifrin & Associates, Inc. 230 S. Bemiston Avenue, Suite 305 St. Louis, Missouri 63105 wshifrin@shifrinandassociates.com

Subject: Enhanced Fluid Recovery (EFR®) Results

Event No. 14 (August 8, 2013)

Green Island Terminal 1 Osgood Avenue

Green Island, New York

Dear Mr. Shifrin:

Please find attached the data summary for the 14<sup>th</sup> EFR® event conducted at the subject site on August 8, 2013. The previous EFR® events were conducted between October 31, 2010 and March 27, 2013. SURFAC® pilot tests were also conducted at the subject site on April 19 and 20, 2011. The following summarizes the results of EFR® at this site.

#### SUMMARY OF RESULTS

Separate phase hydrocarbons (SPH) was detected in eight monitor wells prior to conducting this  $EFR^{\oplus}$  event (MW-9 - 0.37 feet, MW-10 - 0.01 foot, MW-11 - 0.72 foot, MW-17 - 0.08 foot, MW-18 - 0.57 foot, MW-22 - 0.10 foot, MW-23 - 1.13 feet, and MW-24 - 0.47 foot). Additional historical SPH thicknesses are detailed in the attached table and graphs.

This 14<sup>th</sup> EFR® event was conducted for a duration of six hours at seven extraction points. The initial three hours of extraction were conducted at MW-9, MW-11, MW-17, MW-22, MW-23 and MW-24. The final three hours of extraction were conducted at MW-9, MW-11, MW-17, MW-18, MW-23 and MW-24.

An estimated total of 66.7 equivalent gallons of diesel were removed during this event, consisting of approximately 2.7 equivalent gallons of diesel (a calculated 19 pounds of petroleum hydrocarbons) as vapor phase and 64 gallons of SPH contained in the vacuum truck tank upon completion. This recovery is within the range of removals achieved during the previous events (approximately 2.3 to 614 equivalent gallons of diesel). A combined estimated total of 1,080 equivalent gallons of diesel have been removed by EFR® at this site. Some recharge of SPH was detected in the extraction wells upon completion of the 14th event, and is detailed on the EFR® Field Data Sheet.

Vapor phase hydrocarbon removal rates ranged from 1.9 to 3.1 pounds per hour, with a trend of decreasing removal rates throughout this event. Offgas concentrations ranged from 2,200 to 3,000 parts per million (ppm), as compared to 400 to 36,000 ppm during the prior events. Flow rates ranged from 74 to 88 cubic feet per minute (CFM), as compared to 39 to 206 CFM during prior events.

The vacuum readings recorded at the extraction wells during this EFR® event are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well Location	Vacuum Reading
MW-9	2 inches of mercury
MW-11	2 inches of mercury
MW-17	2 inches of mercury
MW-18	2 inches of mercury
MW-22	2 inches of mercury
MW-23	2 inches of mercury
MW-24	2 inches of mercury

Approximately 2,322 gallons of liquid (including approximately 64 gallons of SPH) were removed during this event and transported to Industrial Oil Tank Service Corporation (Oriskany, New York) for disposal.

Thank you for the continued opportunity to team with Shifrin & Associates in serving the environmental needs of Apex. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

David M. Goodrich, P.G.

Hard M. Doodra

**EcoVac Services** 

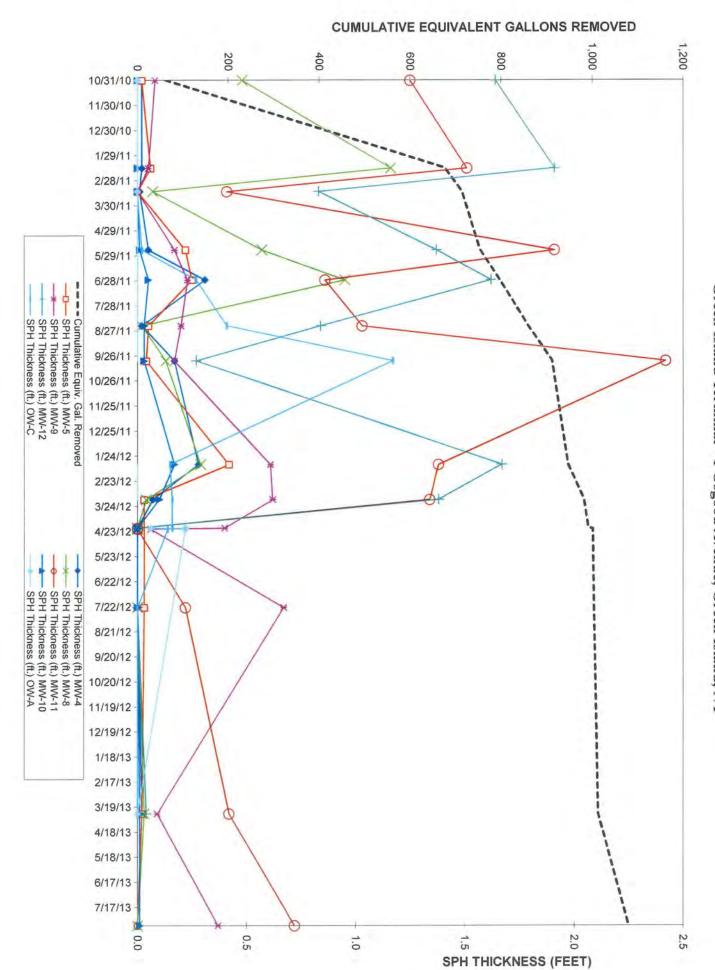
# EFR® FIELD DATA SHEET

Client: Shifrin &	Associate	es			Faci	lity N	ame:	Gree	en Isla	nd Termi						
Facility Address:	1 Osgood	Ave	nue, (	Green	Islan	d, NY					Technician: Ya	rbrough		Date: 8/8/201	3	
					Ex	tracti	on W	ell-				Va	cuum Truck Exha	ust		
Extraction Well(s)	Time hh:mm			_	_		Hg)					Offgas	Flow	Removal	Interval	
Start Time:	13:30	Inlet	6-WM	MW-11	MW-17	MW-18	MW-22	MW-23	MW-24		Concentration PPM	Velocity FT/MIN	Rate CFM	Rate LBS/HR	Removal LBS	
MW-9,11,17,22,	13:45	22	2	2	2	10	2	2	2		3,000	1,800	88	3.1	0.8	
23,24	14:00	22	2	2	2	-	2	2	2		3,000	1,800	88	3.1	0.8	
0	14:15	22	2	2	2	1.3.	2	2	2		3,000	1,800	88	3,1	0.8	
	14:30	22	2	2	2	4	2	2	2		3,000	1,500	74	2,6	0.7	
	15:00	22	2	2	2		2	2	2		2,800	1,500	74	2.4	1.2	
-9	15:30	22	2	2	2	-	2	2	2		2,800	1,500	74	2.4	1.2	
9	16:30	22	2	2	2		2	2	2		2,800	1,500	74	2.4	2.4	
MW-9,11,17,18	17:30	22	2	2	2	2	٠,	2	2		2,800	1,500	74	2.4	4.9	
23,24	18:30	22	2	2	2	2	-	2	2		2,400	1,500	74	2.1	4.2	
	19:30	22	2	2	2	2		2	2		2,200	1,500	74	1.9	1.9	
Well C	Gauging [	Data						В	efore E	xtraction			After Extraction		Corr. DTW	
Well No.	Diam.	_	TD (f	t)	1	OTS (f	ft)		DTW	7 (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft	
MW-1			_			4			25.	_	0.00	-		-		
MW-2						-			29.		0.00		- 14	12	1 11 22	
MW-3						4			29.		0.00	-	147	2		
MW-4						4			30.	42	0.00	5		- 2		
MW-5				- 1		14			26.	19	0.00	4	1.08.11			
MW-6									27.	82	0.00	-		3-		
MW-7				- 1		34			27.	89	0.00					
MW-8						94			28.	40	0.00	-				
MW-9						26,68			27.	05	0.37	R	29.20	0.00	-2:46	
MW-10						26.98			26.	99	0.01		_~	41		
MW-11						28,60			29.	32	0.72	25.51	25.52	0.01	3,20	
MW-17		7			1	27.84			27.	92	0.08	25.05	25.10	0.05	2.79	
MW-18						28.40	C.		28.	97	0.57	26.32	26.70	0.38	2.11	
MW-22					1	28.75			28.	85	0.10	8	26.00	0.00	2.77	
MW-23						27.82			28.	95	1.13	25.10	25.11	0.01	2.89	
MW-24						28,30			28.	77	0.47	25.21	25.25	0.04	3.15	
Vacuum Ti	ruck Info	orma	tion		1	Vell II	0		Breathe	er Port	Stinger Depth		Recovery/Dispos	sal Informatio	n	
Subcontractor:		AllV	ac			MW-9	)		O(clo	sed)	28'	Hydrocarbons R	temoved (vapor):	19	pounds	
Truck Operator:		Yarb	rough	h	N	4W-1	1		O(clo	sed)	30'	Hydrocarbons R	temoved (vapor):	2.7	equiv. gal.	
ruck No.			sed)	29'	Hydrocarbons R	temoved (liquid):	64	gallons								
Vacuum Pumps:		Beck				/W-2			0(clo		29'	Total Hydrocarb		66.7	equiv. gal.	
ump Type:		Twin		445		4W-2			O(clo		30'	Molecular Weig		75	g/mole	
	nk Capacity (gal.): 2,894 MW-24 0(clos			30'	Disposal Facility		Oil Tank - Ori	-								
Stack I.D. (inches)		3.0	-						- (2.0			Total Liquids R		2,322	gallons	
					Time	a.		1	3:30 to	19:30	Notes:	1			3	
ECC				. 1		mps:			2			er 6 hours due to r	eaching truck's le	gal weight limi		
SFR	VII	F		7	RPM				90		Tom chaca and	o invais due to i	caoming muck s le	om meight mill	-	

## CUMULATIVE EFR® DATA TABLE

Green Island Terminal 1 Osgood Avenue Green Island, NY

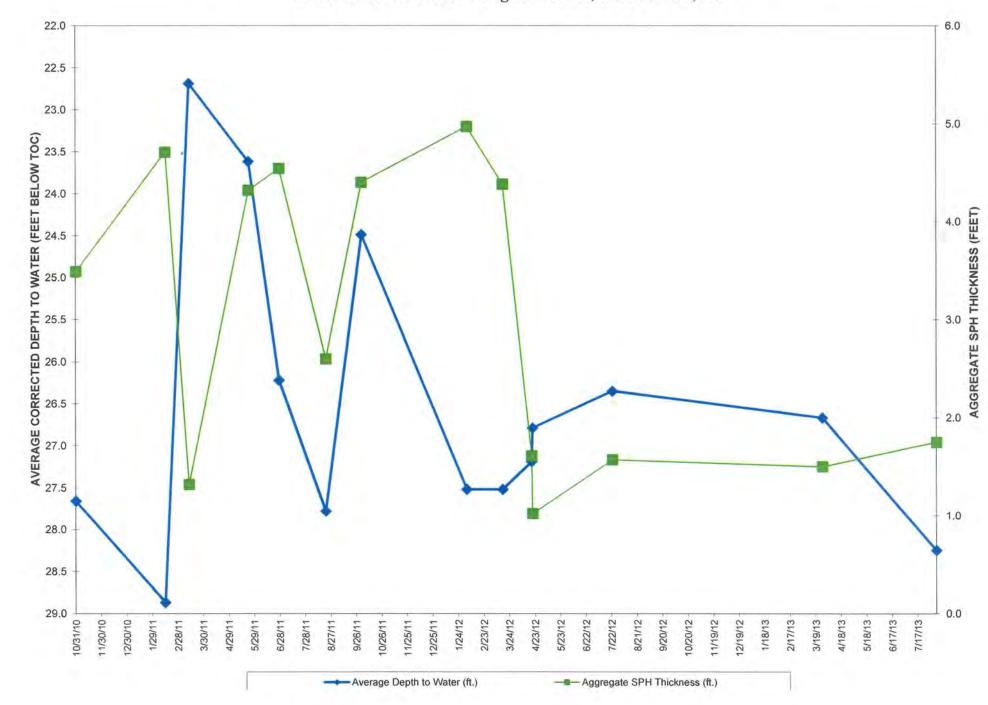
Event No.	1	2	3	4	5	6	7	8	9	10 (pilot)	11 (pilot)	12	13	14
Date	10/31/10	2/13/11	3/13/11	5/22/11	6/27/11	8/21/11	10/2/11	2/3/12	3/16/12	4/19/12	4/20/12	7/23/12	3/27/13	8/8/13
SPH Thickness (ft.) MW-4	0.02	0.02	0.01	0.05	0.31	0.02	0.17	0.28	0.07	0.00	0.00	0.00	0.02	0.00
SPH Thickness (ft.) MW-5	0.02	0.06	0.00	0.22	0.25	0.05	0.04	0.42	0.03			0.03	0.02	0.00
SPH Thickness (ft.) MW-8	0.48	1.16	0.07	0.57	0.95	0.02	0.13	0.29	0.04	0.00	0.00	0.00	0.03	0.00
SPH Thickness (ft.) MW-9	0.08	0.05	0.00	0.17	0.23	0.20	0.17	0.61	0.62	0.40	0.06	0.67	0.09	0.37
SPH Thickness (ft.) MW-10	0.00	0.00	0.00	0.01	0.05	0.03	0.03	0.17	0.10	0.00	0.00	0.00	0.01	0.01
SPH Thickness (ft.) MW-11	1.25	1,51	0.41	1.91	0.86	1.03	2.42	1.38	1.34	0.00	0.00	0.22	0.42	0.72
SPH Thickness (ft.) MW-12	1.64	1.91	0.83	1.37	1.62	0.84	0.27	1.67	1.38	0.00	0.00	0.00	0.04	i I
SPH Thickness (ft.) MW-16									0.01	0.00	0.00	0.00	0.00	
SPH Thickness (ft.) MW-17									0.48	0.02	0.00	0.28	0.02	0.08
SPH Thickness (ft.) MW-18									0.15	0.97	0.60	0.37	0.85	0.57
SPH Thickness (ft.) OW-A										0.06	0.22		0.00	
SPH Thickness (ft.) OW-C				0.02	0.27	0.41	1.17	0.15	0.16	0.16	0.14	0.00	0.00	i
Aggregate SPH Thickness (ft.)	3.49	4.71	1.32	4.32	4.54	2.60	4,40	4.97	4.38	1.61	1.02	1.57	1.50	1.75
Average Depth to Water (ft.)	27.66	28.87	22.69	23.62	26.22	27.78	24.49	27.52	27.52	27.19	26.79	26.35	26.67	28.25
Vapor Pounds Removed/Event	272	484	127	180	115	161	137	72	39	25	13	17	18	19
Cumulative Vapor Removed (lbs.)	272	756	883	1,063	1,178	1,339	1,476	1,548	1,587	1,612	1,625	1,642	1,660	1,679
Vapor Equivalent Gal Removed/Event	38	68	18	25	16	23	19	10	6	4	2	2	3	3
Cumulative Vapor Equiv. Gal. Removed	38	106	124	150	166	189	208	. 218	224	227	229	231	234	237
Liquid Phase Removed/Event (gal.)	24	546	20	14	27	40	33	25	29	6	8	0	7	64
Cumulative Liquid Phase Removed (Gal.)	24	570	590	604	631	671	704	729	758	764	772	772	779	843
Water Removed/Event (gal.)	1,950	1,704	2,109	1,800	1,935	2,038	2,046	1,692	1,499	607	1,042	1,868	1,225	2,258
Cumulative Water Removed (Gal.)	1,950	3,654	5,763	7,563	9,498	11,536	13,582	15,274	16,773	17,380	18,422	20,290	21,515	23,773
Total Liquid Removed/Event (Gal.)	1,974	2,250	2,129	1,814	1,962	2,078	2,079	1,717	1,528	613	1,050	1,868	1,868	2,322
Cumulative Total Liquid Removed (Gal.)	1,974	4,224	6,353	8,167	10,129	12,207	14,286	16,003	17,531	18,144	19,194	21,062	22,930	25,252
Equiv. Gal. Diesel Removed/Event	62	614	38	39	43	63	52	35	35	9.5	9.8	2.4	9.5	66.7
Cumulative Equiv. Gal. Removed	62	676	714	754	797	860	912	947	982	991	1,001	1,003	1,013	1,080



CUMULATIVE EFR® GRAPH
Green Island Terminal - 1 Osgood Avenue, Green Island, NY

### AGGREGATE SPH THICKNESS VS. AVERAGE DEPTH TO WATER

Green Island Terminal - 1 Osgood Avenue, Green Island, NY





The World Leader in Mobile Dual-Phase/Multi-Phase Extraction Patented SURFAC®/ISCO-EFR®/SOLV-IT® Technologies Treatability Studies / Research & Development

October 4, 2013

Mr. Walter Shifrin
Shifrin & Associates, Inc.
230 S. Bemiston Avenue, Suite 305
St. Louis, Missouri 63105
wshifrin@shifrinandassociates.com

Subject: Enhanced Fluid Recovery (EFR®) Results

Event No. 15 (September 27, 2013)

Green Island Terminal

1 Osgood Avenue

Green Island, New York

Dear Mr. Shifrin:

Please find attached the data summary for the 15<sup>th</sup> EFR<sup>®</sup> event conducted at the subject site on September 27, 2013. The previous EFR<sup>®</sup> events were conducted between October 31, 2010 and August 8, 2013. SURFAC<sup>®</sup> pilot tests were also conducted at the subject site on April 19 and 20, 2011. The following summarizes the results of EFR<sup>®</sup> at this site.

#### SUMMARY OF RESULTS

Separate phase hydrocarbons (SPH) was detected in seven gauged monitor wells prior to conducting this EFR® event (MW-9 - 0.39 foot, MW-11 - 0.75 foot, MW-17 - 0.31 foot, MW-18 - 0.60 foot, MW-22 - 0.74 foot, MW-23 - 0.44 foot, and MW-24 - 0.89 foot). Additional historical SPH thicknesses are detailed in the attached table and graphs.

This 15<sup>th</sup> EFR® event was conducted for a duration of eight hours at seven extraction points. The initial five hours of extraction were conducted at MW-9, MW-11, MW-17, MW-22, MW-23 and MW-24. The final three hours of extraction were conducted at MW-9, MW-11, MW-17, MW-18, MW-23 and MW-24.

An estimated total of 46.5 equivalent gallons of diesel were removed during this event, consisting of approximately 4.5 equivalent gallons of diesel (a calculated 32 pounds of petroleum hydrocarbons) as vapor phase and 42 gallons of SPH contained in the vacuum truck tank upon completion. This recovery is within the range of removals achieved during the previous events (approximately 2.3 to 614 equivalent gallons of diesel). A combined estimated total of 1,126 equivalent gallons of diesel have been removed by EFR® at this site. Some recharge of SPH was detected in the extraction wells upon completion of the 15th event, and is detailed on the EFR® Field Data Sheet.

Vapor phase hydrocarbon removal rates ranged from 1.4 to 4.8 pounds per hour, with a trend of decreasing removal rates throughout this event. Offgas concentrations ranged from 1,000 to 3,000 parts per million (ppm), as compared to 400 to 36,000 ppm during the prior events. Flow rates ranged from 69 to 78 cubic feet per minute (CFM), as compared to 39 to 206 CFM during prior events.

The vacuum readings recorded at the extraction wells during this EFR® event are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well Location	Vacuum Reading
MW-9	2 inches of mercury
MW-11	2 inches of mercury
MW-17	2 inches of mercury
MW-18	2 inches of mercury
MW-22	2 inches of mercury
MW-23	2 inches of mercury
MW-24	2 inches of mercury

Approximately 1,929 gallons of liquid (including approximately 42 gallons of SPH) were removed during this event and transported to Industrial Oil Tank Service Corporation (Oriskany, New York) for disposal.

Thank you for the continued opportunity to team with Shifrin & Associates in serving the environmental needs of Apex. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

David M. Goodrich, P.G.

Haid M. Doodril

EcoVac Services

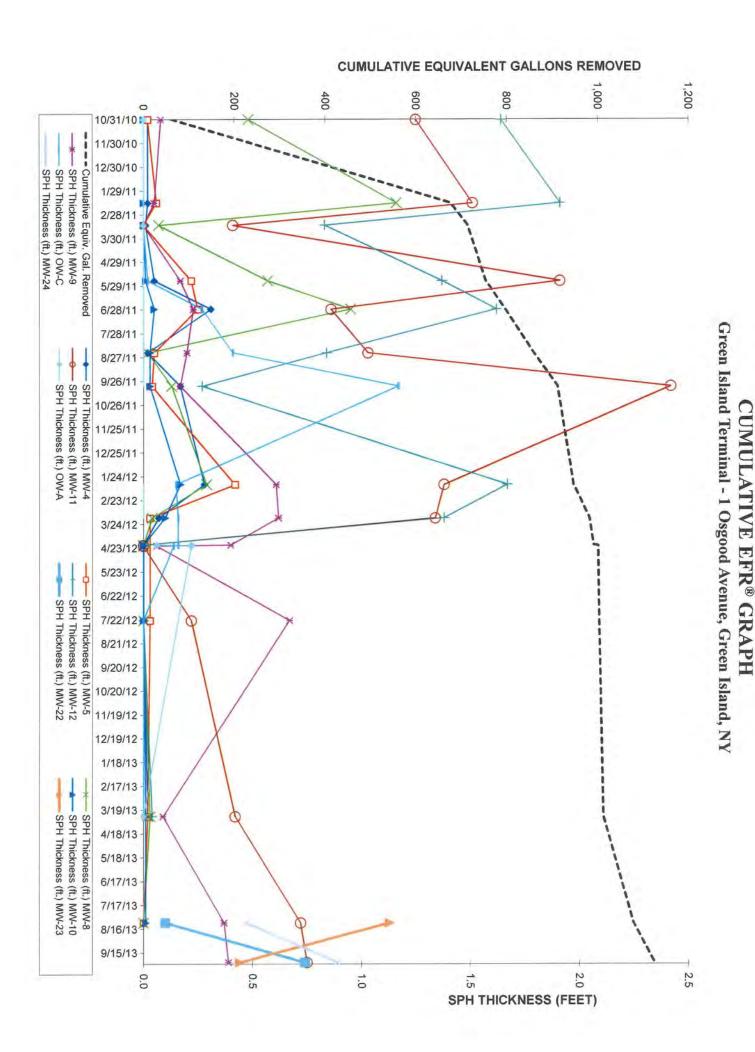
# EFR® FIELD DATA SHEET

Client: Shifrin &	Associate	S			Faci	lity N	lame:	Gre	en Island Termi	inal			Event #: 15		
Facility Address:	1 Osgood	Ave	nue, (	Green	Islan	d, N	Y			Technician: Ya	irbrough		Date: 9/27/20	13	
1					Ex	tracti	on W	ell-			Va	cuum Truck Exha	ust		
Extraction Well(s)	Time hh:mm				head Vacuum (in, Hg)  -   ▷   ∞   ♡   ♡   ♥		Concentration	Offgas Velocity	Flow Rate	Removal Rate	Interval Removal				
Start Time:	5:30	Inlet	6-MM	MW-11	MW-17	MW-18	MW-22	MW-23	MW-24	PPM	FT/MIN	CFM	LBS/HR	LBS	
MW-9,11,17,22,	5:45	20	2	2	2		2	2	2	3,000	1,600	78	4.8	1.2	
23,24	6:00	20	2	2	2	12	2	2	2	3,000	1,600	78	4.8	1,2	
и	6:15	20	2	2	2		2	2	2	2,800	1,600	78	4.5	1,1	
	6:30	20	2	2	2	14	2	2	2	2,600	1,600	78	4.2	1.0	
ú	7:00	20	2	2	2	15	2	2	2	2,200	1,400	69	3.1	1.6	
"	7:30	20	2	2	2	-	2	2	2	2,200	1,400	69	3.1	1.6	
	8:30	20	2	2	2	[2]	2	2	2	1,800	1,400	69	2,5	2.5	
0	9:30	20	2	2	2	12	2	2	2	1,400	1,400	69	2.0	4.0	
6	10:30	20	2	2	2	13	2	2	2	1,400	1,400	69	2.0	4.0	
MW-9,11,17,18	11:30	20	2	2	2	2	-	2	2	1,200	1,400	69	1.7	5.1	
23,24	12:30	20	2	2	2	2	S.	2	2	1,000	1,400	69	1.4	4.2	
, u	13:30	20	2	2	2	2	9.	2	2	1,000	1,400	69	1.4	4.2	
Well C	Well Gauging Data							В	efore Extraction	1		After Extraction		Corr. DTV	
Well No.	Diam.	1 3	TD (fl	t)	I	TS (	ft)		DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft	
MW-9	2"					27.53	3		27.92	0.39		29.27	0.00	-1.68	
MW-11	2"					28.64	1		29,39	0.75	29.01	29,04	0.03	-0.26	
MW-17	4"				6.0	27.62	2		27.93	0.31	26.05	26.11	0.06	1.61	
MW-18	4"	)				28.43	3		29.03	0,60	26.32	26,70	0.38	2.14	
MW-22	4"					27.90	)		28,64	0.74	¥(C)	26.00	0,00	2.01	
MW-23	4"				-	28.96	5		29.40	0.44	25.10	25,11	0.01	3.92	
MW-24	4"					28.31			29.20	0.89	25.21	25.25	0.04	3,23	
Vacuum Ti	ruck Info	rma	tion		1	Well I	D	_	Breather Port	Stinger Depth		Recovery/Dispo	sal Informatio	<u>n</u>	
Subcontractor:		AllV	ac			MW-	9	-	0(closed)	28'	Hydrocarbons R	emoved (vapor):	32	pounds	
Truck Operator:		Yarb	rough	1	N	/W-I	1		0(closed)	30'	Hydrocarbons R	emoved (vapor):	4.5	equiv. gal.	
Fruck No.:		149			N	1W-1	7		0(closed)	29'	Hydrocarbons R	emoved (liquid):	42	gallons	
Vacuum Pumps:			0(closed)	28'	Total Hydrocarb	ons Removed:	46.5	equiv. gal.							
Pump Type:		Twin	LC-	44s	1	/W-2			0(closed)	29'	Molecular Weig		130	g/mole	
Tank Capacity (gal		2,89	_			/W-2			0(closed)	30'	Disposal Facility		Oil Tank - Ori	-	
Stack I.D. (inches)		3.0			-	/W-2	_		0(closed)	30'	Total Liquids Re		1,929	gallons	
			_		Time			0	5:30 to 13:30	Notes: Manifest					
ECC								- 0	2	Total Manifest					
SERVICES			# Pumps: 2  RPMs: 1,000					-							

## CUMULATIVE EFR® DATA TABLE

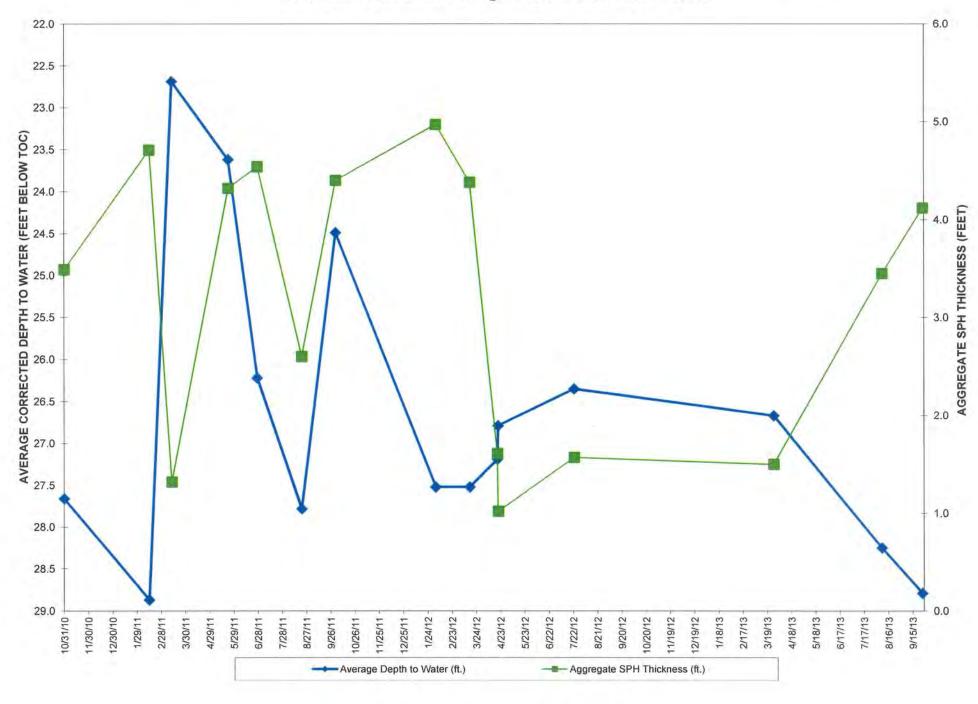
Green Island Terminal 1 Osgood Avenue Green Island, NY

Event No.	1	2	3	4	5	6	7	8	9	10 (pilot)	11 (pilot)	12	13	14	15
Date	10/31/10	2/13/11	3/13/11	5/22/11	6/27/11	8/21/11	10/2/11	2/3/12	3/16/12	4/19/12	4/20/12	7/23/12	3/27/13	8/8/13	9/27/13
SPH Thickness (ft.) MW-4	0.02	0.02	0.01	0.05	0.31	0.02	0.17	0.28	0.07	0.00	0.00	0.00	0.02	0.00	
SPH Thickness (ft.) MW-5	0.02	0.06	0.00	0.22	0.25	0.05	0.04	0.42	0.03			0.03	0.02	0.00	
SPH Thickness (ft.) MW-8	0.48	1.16	0.07	0.57	0.95	0.02	0.13	0.29	0.04	0.00	0.00	0.00	0.03	0.00	
SPH Thickness (ft.) MW-9	0.08	0.05	0.00	0.17	0.23	0.20	0.17	0.61	0.62	0.40	0.06	0.67	0.09	0.37	0.39
SPH Thickness (ft.) MW-10	0.00	0.00	0.00	0.01	0.05	0.03	0.03	0.17	0.10	0.00	0.00	0.00	0.01	0.01	
SPH Thickness (ft.) MW-11	1.25	1.51	0.41	1.91	0.86	1.03	2.42	1.38	1.34	0.00	0.00	0.22	0.42	0.72	0.75
SPH Thickness (ft.) MW-12	1.64	1.91	0.83	1.37	1.62	0.84	0.27	1.67	1.38	0.00	0.00	0.00	0.04		1
SPH Thickness (ft.) MW-16									0.01	0.00	0.00	0.00	0.00		1
SPH Thickness (ft.) MW-17									0.48	0.02	0.00	0.28	0.02	80,0	0.31
SPH Thickness (ft.) MW-18									0.15	0.97	0.60	0.37	0,85	0.57	0.60
SPH Thickness (ft.) MW-22														0.10	0.74
SPH Thickness (ft.) MW-23														1.13	0.44
SPH Thickness (ft.) MW-24														0.47	0.89
SPH Thickness (ft.) OW-A						:				0.06	0.22		0.00		
SPH Thickness (ft.) OW-C				0.02	0.27	0.41	1.17	0.15	0.16	0.16	0.14	0.00	0.00		
Aggregate SPH Thickness (ft.)	3,49	4.71	1.32	4.32	4.54	2.60	4.40	4.97	4.38	1.61	1.02	1.57	1.50	3.45	4.12
Average Depth to Water (ft.)	27.66	28.87	22.69	23.62	26.22	27.78	24.49	27.52	27.52	27.19	26.79	26.35	26.67	28.25	28.79
Vapor Pounds Removed/Event	272	484	127	180	115	161	137	72	39	25	13	17	18	19	32
Cumulative Vapor Removed (lbs.)	272	756	883	1,063	1,178	1,339	1,476	1,548	1,587	1,612	1,625	1,642	1,660	1,679	1,711
Vapor Equivalent Gal Removed/Event	38	68	18	25	16	23	19	10	6	4	2	2	3	3	5
Cumulative Vapor Equiv. Gal. Removed	38	106	124	150	166	189	208	218	224	227	229	231	234	237	241
Liquid Phase Removed/Event (gal.)	24	546	20	14	27	40	33	25	29	6	8	0	7	64	42
Cumulative Liquid Phase Removed (Gal.)	24	570	590	604	631	671	704	729	758	764	772	772	779	843	885
Water Removed/Event (gal.)	1,950	1,704	2,109	1,800	1,935	2,038	2,046	1,692	1,499	607	1,042	1,868	1,225	2,258	1,887
Cumulative Water Removed (Gal.)	1,950	3,654	5,763	7,563	9,498	11,536	13,582	15,274	16,773	17,380	18,422	20,290	21,515	23,773	25,660
Total Liquid Removed/Event (Gal.)	1,974	2,250	2,129	1,814	1,962	2,078	2,079	1,717	1,528	613	1,050	1,868	1,868	2,322	1,929
Cumulative Total Liquid Removed (Gal.)	1,974	4,224	6,353	8,167	10,129	12,207	14,286	16,003	17,531	18,144	19,194	21,062	22,930	25,252	27,181
Equiv. Gal. Diesel Removed/Event	62	614	38	39	43	63	52	35	35	9.5	9.8	2.4	9.5	66.7	46.5
Cumulative Equiv. Gal. Removed	62	676	714	754	797	860	912	947	982	991	1,001	1,003	1,013	1,080	1,126



#### AGGREGATE SPH THICKNESS VS. AVERAGE DEPTH TO WATER

Green Island Terminal - 1 Osgood Avenue, Green Island, NY





The World Leader in Mobile Dual-Phase/Multi-Phase Extraction Patented SURFAC®/ISCO-EFR®/SOLV-IT® Technologies Treatability Studies / Research & Development

January 31, 2014

Mr. Walter Shifrin
Shifrin & Associates, Inc.
230 S. Bemiston Avenue, Suite 305
St. Louis, Missouri 63105
wshifrin@shifrinandassociates.com

Subject:

Enhanced Fluid Recovery (EFR®) Results Event Nos. 16 and 17 (January 23-24, 2014)

Green Island Terminal
1 Osgood Avenue
Green Island, New York

Dear Mr. Shifrin:

Please find attached the data summary for EFR® events sixteen and seventeen conducted at the subject site on January 23 and 24, 2014 respectively. Previous EFR® events were conducted between October 31, 2010 and September 27, 2013. SURFAC® pilot tests were also conducted at the subject site on April 19 and 20, 2011. The following summarizes the results of EFR® at this site.

#### SUMMARY OF RESULTS

## EFR® Event 16 (January 23, 2014)

Separate phase hydrocarbons (SPH) was detected in twelve gauged monitor wells prior to conducting this EFR® event ranging in thickness from 0.02 foot (OW-C) to 2.78 feet (MW-11). Additional historical SPH thicknesses are detailed in the attached Cumulative EFR® table and graphs.

This 16<sup>th</sup> EFR® event was conducted for a duration of eight hours at seven extraction points (MW-9, MW-11, MW-17, MW-18, MW-22, MW-23 and MW-24). An estimated total of 59.5 equivalent gallons of diesel were removed during this event, consisting of approximately 4.5 equivalent gallons of diesel (a calculated 32 pounds of petroleum hydrocarbons) as vapor phase and 55 gallons of SPH contained in the vacuum truck tank upon completion. This recovery is within the range of removals achieved during the previous events (approximately 2.3 to 614 equivalent gallons of diesel).

Vapor phase hydrocarbon removal rates ranged from 1.1 to 4.8 pounds per hour, with a trend of decreasing removal rates throughout this event. Offgas concentrations ranged from 760 to 3,000 parts per million (ppm), as compared to 400 to 36,000 ppm during the prior events. Flow rates

ranged from 69 to 78 cubic feet per minute (CFM), as compared to 39 to 206 CFM during prior events.

The vacuum readings recorded at the extraction wells during this EFR® event are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well Location	Vacuum Reading
MW-9	2 inches of mercury
MW-11	1 inch of mercury
MW-17	1 inch of mercury
MW-18	1 inch of mercury
MW-22	1 inch of mercury
MW-23	2 inches of mercury
MW-24	2 inches of mercury

Approximately 1,929 gallons of liquid (including approximately 55 gallons of SPH) were removed during this event and transported to Industrial Oil Tank Service Corporation (Oriskany, New York) for disposal.

## EFR® Event 17 (January 24, 2014)

Separate phase hydrocarbons (SPH) was detected in seven gauged monitor wells prior to conducting this EFR® event ranging in thickness from 0.03 foot (MW-11) to 2.12 feet (MW-18). Additional historical SPH thicknesses are detailed in the attached Cumulative EFR® table and graphs.

This 17<sup>th</sup> EFR® event was conducted for a duration of eight hours at five extraction points. The initial three hours of extraction occurred at MW-4, MW-8, and MW-21. The remaining five hours of extraction occurred at MW-18 and MW-20. An estimated total of 29.8 equivalent gallons of diesel were removed during this event, consisting of approximately 7.8 equivalent gallons of diesel (a calculated 55 pounds of petroleum hydrocarbons) as vapor phase and 22 gallons of SPH contained in the vacuum truck tank upon completion. This recovery is within the range of removals achieved during the previous events (approximately 2.3 to 614 equivalent gallons of diesel).

Vapor phase hydrocarbon removal rates ranged from 1.7 to 7.6 pounds per hour, with a trend of decreasing removal rates throughout this event. Offgas concentrations ranged from 1,200 to 2,800 parts per million (ppm), as compared to 400 to 36,000 ppm during the prior events. Flow rates ranged from 83 to 132 cubic feet per minute (CFM), as compared to 39 to 206 CFM during prior events.

The vacuum readings recorded at the extraction wells during this EFR® event are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well Location	Vacuum Reading
MW-4	3 inches of mercury
MW-8	2 inches of mercury
MW-18	2 inches of mercury
MW-20	1 inch of mercury
MW-21	8 inches of mercury

Approximately 474 gallons of liquid (including approximately 22 gallons of SPH) were removed during this event and transported to Industrial Oil Tank Service Corporation (Oriskany, New York) for disposal.

A combined estimated total of 1,215 equivalent gallons of diesel have been removed by EFR<sup>®</sup> at this site. Some recharge of SPH was detected in the extraction wells upon completion of the 16<sup>th</sup> and 17<sup>th</sup> events, and is detailed on the EFR<sup>®</sup> Field Data Sheet.

Thank you for the continued opportunity to team with Shifrin & Associates in serving the environmental needs of Apex. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

David M. Goodrich, P.G.

David M. Dadril

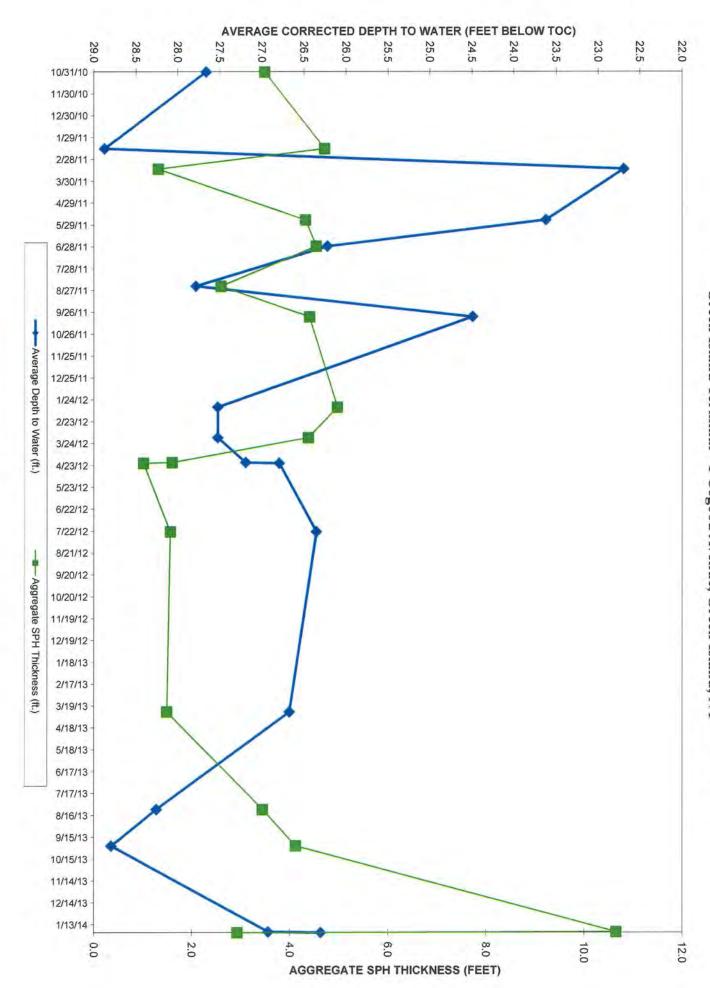
EcoVac Services

# EFR® FIELD DATA SHEET

Client: Shifrin &	Associate	es			Faci	lity N	ame:	Gree	en Island	Termi	nal			Event #: 16	
acility Address:	1 Osgood	Ave	nue, (	Greer	Islan	d, NY	1				Technician: Vite	ovic		Date: 1/23/14	
					Ex	tracti	on W	ell-				Va	cuum Truck Exh	aust	
Extraction Well(s)	Time hh:mm						Hg)			_	27.07.5	Offgas	Flow	Removal	Interval
Start Time:	6:00	Inlet	6-WM	MW-11	MW-17	MW-18	VIW-22	MW-23	MW-24		Concentration PPM	Velocity FT/MIN	Rate CFM	Rate LBS/HR	Removal LBS
MW-9,11,17,22,	6:15	20	2	1	1	1	1	2	2		3,000	1,600	78	4.8	1.2
23,24	6:30	20	2	1	1	1	1	2	2		2,600	1,600	78	4.2	1.0
- 4	6:45	20	2	1	1	1	1	2	2		2,600	1,600	78	4.2	1.0
- 10	7:00	20	2	1	1	1	1	2	2		2,200	1,600	78	3.5	0.9
	7:30	20	2	1	1	1	1	2	2		2,200	1,400	69	3.1	1.6
	8:00	20	2	1	1	1	1	2	2		2,000	1,400	69	2.8	1.4
	8:30	20	2	1	i	1	1	2	2		1,800	1,400	69	2.5	1.3
	9:00	20	2	1	1	1	1	2	2	-	1,600	1,400	69	2.3	2.3
	10:00	20	2	1	1	1	1	2	2	1	1,600	1,400	69	2.3	4.5
- 1	11:00	20	2	T.	1	1	1	2	2		1,400	1,400	69	2.0	4.0
- 1	12:00	20	2	1	1	1	1	2	2	1	1,300	1,400	69	1.8	5.5
	13:00	20	2	1	i	1	1	2	2		920	1,400	69	1,3	3.9
н	14:00	20	2	1	1	1	1	2	2	1	760	1,400	69	1.1	3.2
Well (	Jauging I	Data						Ве	efore Ex	raction			After Extraction		Corr. DTV
Well No.	Diam.		TD (f	t):	I	OTS (	ft)	DTW (ft)		SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft	
MW-4	4"					27.78	3		28.67		0.89				
MW-8	2"					26.20	)		26.55	1	0.35				
MW-9	2"					26.11			26.35		0.24	-	26,44	0.00	-0.29
MW-10	2"								27.48		0.00			3107	
MW-11	2"					25.65	;		28.43		2.78		25.10	0.00	0.97
MW-15	4"								26.70	_	0.00				
MW-17	4"			= 1		25.60	)		26.42		0.82	- 0	25.39	0.00	0.33
MW-18	4"					25.70			27.80		2.10				
MW-19	4"								24.83		0.00		11		
MW-20	4"					24.85			26.15		1.30				
MW-21	4"					26.48	_		26.60	-	0.12		-		
MW-22	4"					26.34	_		27.30		0.96		28.04	0.00	-1.56
MW-23	4"					25.64	_		27.20		1.56	U. T	24.83	0.00	1.04
MW-24	4"					25.63			26.57		0.94		25,66	0.00	0.11
OW-C	4"					26.78	_		26.80	_	0.02		25,00	0.00	
Vacuum T	ruck Info	ormal	tion		1	Well I	D		Breather	Port	Stinger Depth		Recovery/Dispo	sal Informatio	n
ubcontractor:		AllV	ac		71	MW-	9		0(close	d)	30'	Hydrocarbons R	emoved (vapor)	32	pounds
ruck Operator:		Vitov	vic		N	иW-1	1		0(close		30'		emoved (vapor):	4.5	equiv. gal.
ruck No.:		152			1	MW-1	_		0(close		28'		emoved (liquid):	55	gallons
acuum Pumps:		Beck	er		-	MW-1	-		0(close		28'	Total Hydrocarb		59.5	equiv. gal.
ump Type:		Twin		445		vW-2	-		0(close		28	Molecular Weig		130	g/mole
ank Capacity (ga	1)	2,89	_	. 14	1	MW-2	-		0(close		28	Disposal Facility		l Oil Tank - Ori	
tack I.D. (inches)		3.0			11	MW-2	_		0(close		28	Total Liquids R		1,929	gallons
					Time	_		D	6:00 to 1		Notes:	A STATE OF THE PARTY OF THE PAR		-91.50	3
ECC	IV	41				mps:		2	2	7.00	Total.				
SER	VII	E	-	7	RPM				1,000						

# EFR® FIELD DATA SHEET

Client: Shifrin &		_			_			Green Island	1 lermi				Event#: 17	
Facility Address:	1 Osgood	Ave	nue, (	Green	_					Technician: Vit			Date: 1/24/14	
					Ex	tracti	on We	ell-			Va	cuum Truck Exh	aust	
Extraction Well(s)	Time hh:mm					(in.	Hg)	n I I		Concentration	Offgas Velocity	Flow Rate	Removal Rate	Interval Removal
Start Time:	6:00	Inlet	MW-4	MW-8	MW-18	MW-20	MW-21			PPM	FT/MIN	CFM	LBS/HR	LBS
MW-4,8,21	6:15	20	3	2	-	F	8			2,800	2,700	132	7.6	1.9
	6:30	20	3	2	-	12	8			2,400	2,700	132	6.5	1,6
37	6:45	20	3	2			8			2,200	2,500	123	5.5	1.4
	7:00	20	3	2	1-6	-	8			1,800	2,500	123	4.5	1.1
a.	7:30	20	3	2	*	-	8			1,400	2,500	123	3.5	1.8
36.1	8:00	20	3	2	160	[6]	8			1,400	2,500	123	3.5	1.8
	9:00	20	3	2	4	4	8			1,200	2,500	123	3.0	3.0
MW-18,20	9:15	21	-	-	2	1	141			1,400	1,700	83	2.4	4.2
-11	9:30	21	8	-	2	1	lia!			1,400	1,700	83	2.4	3.6
	9:45	21	-	-	2	1	191			1,200	1,700	83	2.1	1.5
	10:00	21	-	1.1	2	1	ire.			1,000	1,700	83	1.7	1.7
	10:30	21		1-	2	1	-			1,200	1,700	83	2.1	2.6
0.1	11:00	21	2	-	2	1	-			1,600	1,700	83	2.7	5.5
10,1	12:00	21	-	-	2	1	-			1,400	1,700	83	2.4	6.6
и-	13:00	21	4	3	2	1	~			1,400	1,700	83	2,4	8.4
36	14:00	21	-	1.2	2	1				1,200	1,700	83	2.1	8.7
Well (	Gauging D	Data				Before Extraction				After Extraction	i	Corr. DTV		
Well No.	Diam.		TD (f	t)	П	TS (f	t)	DTW (	(ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft
MW-4	2"		A-			27.75		28.00	-	0.31	-	26.71	0.00	1.09
MW-8	2"		_			26.14		26.53		0.39		25.44	0.00	0.76
MW-9	4"					-		26.13		0.00			7,50	
MW-11	40					25.70		25.73		0.03				
MW-17	4"							26.31		0.00			,	
MW-18	4 <sup>n</sup>					25.74	-	27.86		2.12		29.51	0.00	-3.45
MW-19	4"							24.91		0.00		2001	19144	0.76
MW-20	4"					24.77		26.19	_	1.42	4	25.89	0.00	-0.91
MW-21	49				_	26.45		26.59		0.14		29.64	0.00	-3.17
MW-22	4"					26.50	_	26.56		0.06			7.00	
MW-23	-4 <sup>n</sup>					-		25.10		0:00				
MW-24	4"					-		25.61		0.00				
Vacuum T	ruck Info	rmat	ion		1	Vell II	0 1	Breather	_	Stinger Depth		Recovery/Dispo	sal Information	1
Subcontractor:	. ace mil	AllV	_			MW-4		0(close		27'	Hydrocarbons Rem		55	pounds
20512-000		Vitov				MW-8		0(close		26'	Hydrocarbons Rem		7.8	equiv gal.
Fruck Operator:			10							30'			22	
Fruck No.:		152 Deal				1W-1		0(close			Hydrocarbons Remo			gallons
Vacuum Pumps:		Beck	1 1	11		/W-2		0(close	/-	30'	Total Hydrocarb		29.8	equiv. gal.
Pump Type:		Twin		44S	1	1W-2	1	0(close	ed)	26'	Molecular Weig		130	g/mole
Fank Capacity (ga		2,89	)4								Disposal Facility		l Oil Tank - Oris	
Stack I.D. (inches)	)	3.0									Total Liquids Re	emoved:	474	gallons
ECC	71/2	VE	=		Time	1		06:00 to 1	14:00	Notes:				
					# Pu	mps:		2						
JEH	VIC	=	-		RPM	S:		1,000	)					

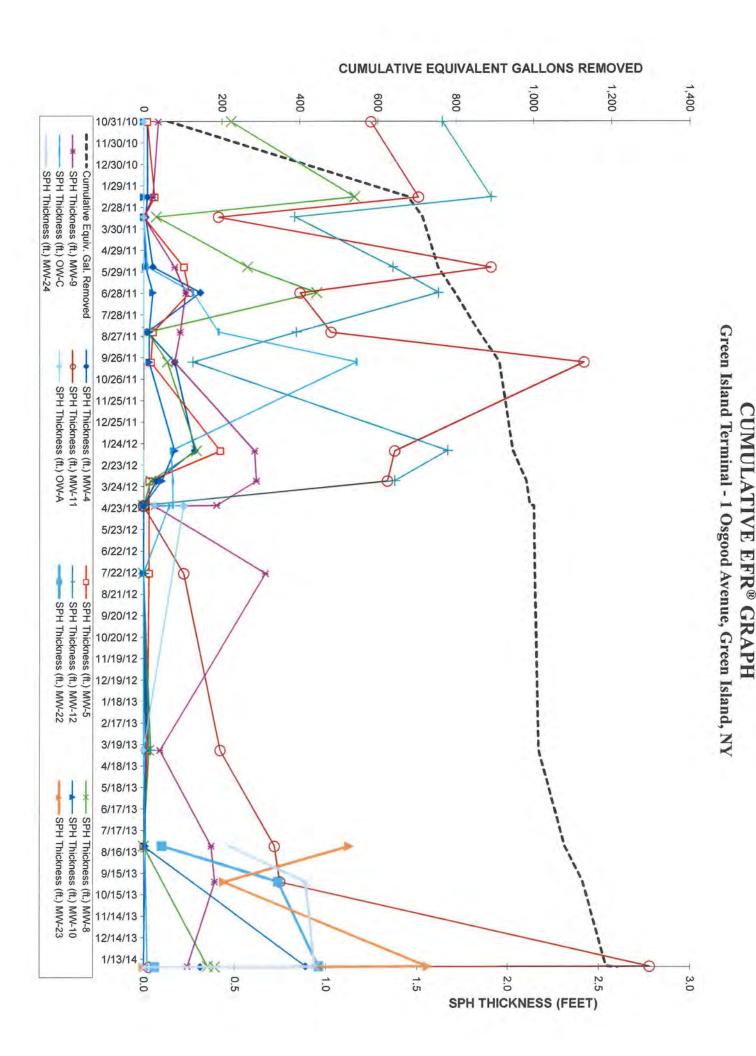


# AGGREGATE SPH THICKNESS VS. AVERAGE DEPTH TO WATER Green Island Terminal - 1 Osgood Avenue, Green Island, NY

# CUMULATIVE EFR® DATA TABLE

Green Island Terminal 1 Osgood Avenue Green Island, NY

Event No.	1	2	3	4	5	6	7	8	9	10 (pilot)	11 (pilot)	12	13	14	15	16	17
Date	10/31/10	2/13/11	3/13/11	5/22/11	6/27/11	8/21/11	10/2/11	2/3/12	3/16/12	4/19/12	4/20/12	7/23/12	3/27/13	8/8/13	9/27/13	1/23/14	1/24/14
SPH Thickness (ft.) MW-4	0.02	0.02	0.01	0.05	0.31	0.02	0.17	0.28	0.07	0.00	0.00	0.00	0.02	0.00		0.89	0.31
SPH Thickness (ft.) MW-5	0.02	0.06	0.00	0.22	0.25	0.05	0.04	0.42	0.03			0.03	0.02	0.00			
SPH Thickness (ft.) MW-8	0.48	1.16	0.07	0.57	0.95	0.02	0.13	0.29	0.04	0.00	0.00	0.00	0.03	0.00		0.35	0.39
SPH Thickness (ft.) MW-9	0.08	0.05	0.00	0.17	0.23	0.20	0.17	0.61	0.62	0.40	0.06	0.67	0.09	0.37	0.39	0.24	0.00
SPH Thickness (ft.) MW-10	0.00	0.00	0.00	0.01	0.05	0.03	0.03	0.17	0.10	0.00	0.00	0.00	0.01	0.01		0.00	
SPH Thickness (ft.) MW-11	1.25	1.51	0.41	1.91	0.86	1.03	2.42	1.38	1.34	0.00	0.00	0.22	0.42	0.72	0.75	2.78	0.03
SPH Thickness (ft.) MW-12	1.64	1.91	0.83	1.37	1.62	0.84	0.27	1.67	1.38	0.00	0.00	0.00	0.04				
SPH Thickness (ft.) MW-16									0.01	0.00	0.00	0.00	0.00				
SPH Thickness (ft.) MW-17									0.48	0.02	0.00	0.28	0.02	0.08	0.31	0.82	0.00
SPH Thickness (ft.) MW-18									0.15	0.97	0.60	0.37	0.85	0.57	0.60	2,10	2.12
SPH Thickness (ft.) MW-22														0.10	0.74	0.96	0.06
SPH Thickness (ft.) MW-23														1.13	0.44	1.56	0.00
SPH Thickness (ft.) MW-24														0.47	0.89	0.94	0,00
SPH Thickness (ft.) OW-A										0.06	0.22		0.00				
SPH Thickness (ft.) OW-C				0.02	0.27	0.41	1.17	0.15	0.16	0.16	0.14	0.00	0.00			0.02	0.02
Aggregate SPH Thickness (ft.)	3.49	4.71	1.32	4.32	4.54	2.60	4.40	4.97	4.38	1,61	1.02	1.57	1.50	3.45	4.12	10.66	2.93
Average Depth to Water (ft.)	27.66	28.87	22.69	23.62	26.22	27.78	24.49	27.52	27.52	27.19	26.79	26.35	26.67	28.25	28.79	26.92	26.30
Vapor Pounds Removed/Event	272	484	127	180	115	161	137	72	39	25	13	17	18	19	32	32	55
Cumulative Vapor Removed (lbs.)	272	756	883	1,063	1,178	1,339	1,476	1,548	1,587	1,612	1,625	1,642	1,660	1,679	1,711	1,743	1,798
Vapor Equivalent Gal Removed/Event	38	68	18	25	16	23	19	10	6	4	2	2	3	3	5	5	8
Cumulative Vapor Equiv. Gal. Removed	38	106	124	150	166	189	208	218	224	227	229	231	234	237	241	246	253
Liquid Phase Removed/Event (gal.)	24	546	20	14	27	40	33	25	29	6	8	0	7	64	42	55	22
Cumulative Liquid Phase Removed (Gal.)	24	570	590	604	631	671	704	729	758	764	772	772	779	843	885	940	962
Water Removed/Event (gal.)	1,950	1,704	2,109	1,800	1,935	2,038	2,046	1,692	1,499	607	1,042	1,868	1,225	2,258	1,887	1,874	452
Cumulative Water Removed (Gal.)	1,950	3,654	5,763	7,563	9,498	11,536	13,582	15,274	16,773	17,380	18,422	20,290	21,515	23,773	25,660	27,534	27,986
Total Liquid Removed/Event (Gal.)	1,974	2,250	2,129	1,814	1,962	2,078	2,079	1,717	1,528	613	1,050	1,868	1,868	2,322	1,929	1,929	474
Cumulative Total Liquid Removed (Gal.)	1,974	4,224	6,353	8,167	10,129	12,207	14,286	16,003	17,531	18,144	19,194	21,062	22,930	25,252	27,181	29,110	29,584
Equiv. Gal. Diesel Removed/Event	62	614	38	39	43	63	52	35	35	9.5	9.8	2.4	9.5	66.7	46.5	59.5	29.8
Cumulative Equiv. Gal. Removed	62	676	714	754	797	860	912	947	982	991	1,001	1,003	1,013	1,080	1,126	1,186	1,215



WASTE MANIFEST	1. Generator ID Number	2. Page 1 of 3.	Emergency Respon	se Phone	4. Waste	Tracking Nu	mber
5. Generator's Name and Maili	ing Address	Ge	DVLLEN - Z OSC	25/4wi 25/4wi 003 /4	than realing add	iress)	
Generator's Phone:		1	Grun	Tela	ALA AL		
6 Transporter 1 Company Nar			Crack	23100	U.S. EPA ID	Number	
AllVAC	Sucs.				1 G	4000	0026591
7 Transporter 2 Company Nam					U.S. EPA IC	Number	
8. Designated Facility Name an	nd Site Address EnDus Than	1.7 Than Succ	Cat A.		U.S. EPA ID	Number	
	120 Day	P.d. TANK SUCS.	Compi				
Facility's Phone (3/5) 7	-36-6080 OLISKANY,	Ny. 13424			1		
9, Waste Shipping Name	e and Description		10. Con	tainers Type	11. Total Quantity	12. Unit Wt/Vol.	
1Nbn- H42A	mous' Nont Regulate	d Petroleum	140	Турс		1,0,0	
Non- H424 In	mouns; Now Regulate	A Les	-1-	TT	424	6	
2.	poured Chomony	4 714	-	11	17-7	6	
	4						
3.			1				
4							
13. Special Handling Instruction							
14. GENERATOR'S/OFFEROR marked and labeled/placard	'S CERTIFICATION: I hereby declare that the co ed, and are in all respects in proper condition for	transport according to applicable	international and na	scribed above	by the proper si nental regulations	nipping name	, and are classified, packaged,  Month Day Year
Generator's/Offeror's Printed/Ty	ped Name	Shimin Signatur	Va.	11 1/21	,		11 24 14
Generator's/Offeror's Printed/Tyl  KAU V7-m  15. International Shipments	Import to U.S.	Shiffin Export from U.S.	Port file		/		11   24 14
Generator's/Offeror's Printed/Ty  15. International Shipments  Transporter Signature (for export 16. Transporter Acknowledgment	nt of Receipt of Materials	Shiffin   Export from U.S.	1/	ntry/exit_ ving U.S.:	/		11   24 14
Generator's/Offeror's Printed/Tyl  LAAL V.7  15. International Shipments  Transporter Signature (for expor	ns only): nt of Receipt of Materials me	Shiffin   Export from U.S.	Date lear		/		Month Day Yea
Generator's/Offeror's Printed/Ty  15. International Shipments  Transporter Signature (for export  16. Transporter Acknowledgment	ns only): nt of Receipt of Materials me  V. Fovz JA		Date lear	ving U.S.:	,		
Generator's/Offeror's Printed/Ty  LAU VITIN  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar  LAU T.  Transporter 2 Printed/Typed Nar	ns only): nt of Receipt of Materials me  V. Fovz JA	Signatur	Date lear	ving U.S.:	,		Month Day Yea
Generator's/Offeror's Printed/Tyl  LAU V.7- 15. International Shipments  Transporter Signature (for export 16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar	ns only: nt of Receipt of Materials me  V. Fovz JA me	Signatur   Signatur 	Date lear	ving U.S.:			Month Day Yea    (   24   14  Month Day Yea
Generator's/Offeror's Printed/Ty  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy	ns only: nt of Receipt of Materials me  V. Fovz JA me	Signatur	Date lear	ving U.S.:	Partial Re	jection	Month Day Yea
Generator's/Offeror's Printed/Ty  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy	ns only: nt of Receipt of Materials me  V.7ovz JL me	Signatur   Signatur       Type	Date lear	Ving U.S.:	Partial Re		Month Day Yea
Generator's/Offeror's Printed/Tyl  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy  17a. Discrepancy Indication Spar	ns only: nt of Receipt of Materials me  V.7ovz JL me	Signatur   Signatur       Type	Date lear	Ving U.S.:			Month Day Yea
Generator's/Offeror's Printed/Tyl  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy  17a. Discrepancy Indication Span  17b. Alternate Facility (or General  Facility's Phone:	in of Receipt of Materials  me  V.7ov.z J.L  me  Ce Quantity [	Signatur   Signatur       Type	Date lear	Ving U.S.:			Month Day Yea    [ 24 ] 14  Month Day Yea
Generator's/Offeror's Printed/Tyl  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgment  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy  17a. Discrepancy Indication Span  17b. Alternate Facility (or General	in of Receipt of Materials  me  V.7ov.z J.L  me  Ce Quantity [	Signatur   Signatur       Type	Date lear	Ving U.S.:			Month Day Yea    [ 24 ] 14  Month Day Yea
Generator's/Offeror's Printed/Tyl  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgmen  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy  17a. Discrepancy Indication Span  17b. Alternate Facility (or General  Facility's Phone:	in of Receipt of Materials  me  V.7ov.z J.L  me  Ce Quantity [	Signatur   Signatur       Type	Date lear	Ving U.S.:			Month Day Yea    [ 24 ] 14  Month Day Yea
Generator's/Offeror's Printed/Tyl  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgment  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy  17a. Discrepancy Indication Spai  17b. Alternate Facility (or General  Facility's Phone:  17c. Signature of Alternate Facility	ris only: not Receipt of Materials me  V.7-v.z J.L me  Ce Quantity  ty (or Generator)	Signatur   Signatur     Type	Pe Albertage  Residue  Manifest Reference	Ving U.S.:			Month Day Yea    [ 24 ] 14  Month Day Yea
Generator's/Offeror's Printed/Tyl  15. International Shipments  Transporter Signature (for expor  16. Transporter Acknowledgment  Transporter 1 Printed/Typed Nar  Transporter 2 Printed/Typed Nar  17. Discrepancy  17a. Discrepancy Indication Spai  17b. Alternate Facility (or General  Facility's Phone:  17c. Signature of Alternate Facility	in of Receipt of Materials  me  V.7ov.z J.L  me  Ce Quantity [	Signatur   Signatur     Type	Pasidue Residue Manifest Reference	Ving U.S.:	U.S. EPA ID		Month Day Yea

WASTE MANIFEST	Generator ID Number	2. Page 1 of	3 Emergency Respons	se Phone	4. Waste Tr	acking Numb	er
5 Generator's Name and Mail	ing Address		Benerator's Site Address Courn Z Z OSGO Green	SAMA	Tenemial,	108) A/	
Generator's Phone: 6. Transporter 1 Company Nar	me		CHEN	ISLA	D N. S	-7 - Number	
	AC Sucs.				Can	000	026591
7. Transporter 2 Company Na					U.S. EPA ID	Number	0 0 7 .
8. Designated Facility Name a	nd Sile Address Industrial of 120 Dry Ollor KANY	7 79 NK Sucs. Gul Rd. NY 13424	1.		U.S. EPA ID I	Number	
9. Waste Shipping Nam			10. Con	tainers	11. Total	12. Unit	
		0 .	No	Туре	Quantity	WI./Vol.	
Fmph	Amous; NON-lega Acted Creamon	lated Petroleum	-1-	T	1929	E	
2.	C IZE CHI I	410		1	1721		
		_					
3.							
4,							
13. Special Handling Instruction	no and Additional Information						
	n'S CERTIFICATION: I hereby declare that i	ne contents of this consignment are	fully and accurately de	scribed abov	e by the proper shi	pping name, a	
marked and labeled/placard Generator's/Offeror's Printed/Ty		n for transport according to applicab Signa	le international and na	tional govern			Month Day Year
marked and labeled/placard Generator's/Offeror's Printed/Ty  KAR \ V/70V/2	/ped Name	n for transport according to applicab	le international and nature	Ž.			Month Day Year
marked and labeled/placard Generator's/Olferor's Printed/Ty  KAR V/Apv/z  15. International Shipments  Transporter Signature (for expo	on Behalf of Signs Import to U.S.	n for transport according to applicab	ture    April 1   April 2     Port of e	Ž.			Month Day Year
marked and labeled/placard Generator's/Olferor's Printed/Ty  KAR V/Apv/z  15. International Shipments  Transporter Signature (for expo	pped Name  ON Behalf of Significant to U.S. rts only): nt of Receipt of Materials	n for transport according to applicab	le international and nature    Mod/   Mod/   Mod/   Port of e   Date lear	ntry/exit: ving U.S.:			Month Day Year
marked and labeled/placard Generator's/Olferor's Printed/Ty  KAR VIADVIZ  15. International Shipments  Transporter Signature (for expo	pred Name  ON Behalf of Sites only):  Its only):  Int of Receipt of Materials  The Vi-Fovic TR.	n for transport according to applicab Signa	le international and nature    Not   Not of e	ntry/exit: ving U.S.:			Month Day Year
marked and labeled/placard Generator's/Offeror's Printed/Ty KAR V/Apvic 15. International Shipments Transporter Signature (for expo 16. Transporter Acknowledgme Transporter 1 Printed/Typed Na	pred Name  ON Behalf of Sites only):  Its only):  Int of Receipt of Materials  The Vi-Fovic TR.	n for transport according to applicab Signa Tip Cing Export from U.S	le international and nature    Not   Not of e	ntry/exit: ving U.S.:			Month Day Year    1   2.3   14    Month Day Year    1   2.3   14
marked and labeled/placard Generator's/Offeror's Printed/Ty  LAL VIADVIC  15. International Shipments  Transporter Signature (for expo  16. Transporter Acknowledgment  Transporter 1 Printed/Typed Na  LAL  Transporter 2 Printed/Typed Na	Import to U.S.  Install of Significant to U.S.  Install of Receipt of Materials  Import to U.S.  Install of Receipt of Materials  In	n for transport according to applicab Signa Tip Cing Export from U.S	le international and nature    No.     No.     Port of e     Date lear	ntry/exit: ving U.S.:		action	Month Day Year    1   2.3   14    Month Day Year    1   2.3   14
marked and labeled/placard Generator's/Offeror's Printed/Ty  LAL VITOVIC  15. International Shipmenis  Transporter Signature (for expo  16. Transporter Acknowledgment  Transporter 1 Printed/Typed Na  LAL  Transporter 2 Printed/Typed Na  17. Discrepancy	Import to U.S.  Import to U.S.  Its only):  Int of Receipt of Materials  Import to U.S.  Its only):  I	n for transport according to applicab Signa  Transport from U.S Signa Signa	le international and nature  No.1/155 Port of e Date lear	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   14    Month Day Year
marked and labeled/placard Generator's/Otferor's Printed/Ty KAR V/7DV/C  15. International Shipments Transporter Signature (for expo 16. Transporter Acknowledgment Transporter 1 Printed/Typed Na KARI Transporter 2 Printed/Typed Na  17. Discrepancy 17a. Discrepancy Indication Spe	Import to U.S.  Import to U.S.  Its only):  Int of Receipt of Materials  Import to U.S.  Its only):  I	n for transport according to applicab Signa  Transport from U.S Signa Signa	le international and nature    No.     No.     Port of e     Date lear	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   14    Month Day Year
marked and labeled/placard Generator's/Offeror's Printed/Ty KAR V/7pv/c  15. International Shipments Transporter Signature (for expo 16. Transporter Acknowledgmei Transporter 1 Printed/Typed Na KARI Transporter 2 Printed/Typed Na 17. Discrepancy 17a. Discrepancy Indication Spa	pred Name  ON Behalf of Signature  Import to U.S. rts only): nt of Receipt of Materials me  J. V. Furic TR.  ace Quantity  ator)	n for transport according to applicab Signa  Transport from U.S Signa Signa	le international and nature    No.     No.     Port of e     Date lear	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   34    Month Day Year    Full Rejection
marked and labeled/placard Generator's/Offeror's Printed/Ty KAR V/7pv/z  15. International Shipments Transporter Signature (for expo 16. Transporter Acknowledgmei Transporter 1 Printed/Typed Na KARI Transporter 2 Printed/Typed Na 17. Discrepancy 17a. Discrepancy Indication Spa	pred Name  ON Behalf of Signature  Import to U.S. rts only): nt of Receipt of Materials me  J. V. Furic TR.  ace Quantity  ator)	n for transport according to applicab Signa  Transport from U.S Signa Signa	le international and nature    No.     No.     Port of e     Date lear	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   14    Month Day Year
marked and labeled/placard Generator's/Offeror's Printed/Ty KAR V/70v/c  15. International Shipments Transporter Signature (for expo- 16. Transporter Acknowledgment Transporter 1 Printed/Typed Na  // ARI Transporter 2 Printed/Typed Na  17. Discrepancy 17a. Discrepancy Indication Spa	pred Name  ON Behalf of Signature  Import to U.S. rts only): nt of Receipt of Materials me  J. V. Furic TR.  ace Quantity  ator)	n for transport according to applicab Signa  Transport from U.S Signa Signa	le international and nature    No.     No.     Port of e     Date lear	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   34    Month Day Year    Full Rejection
marked and labeled/placard Generator's/Offeror's Printed/Ty KAR V/7012  15. International Shipments Transporter Signature (for expo 16. Transporter Acknowledgment Transporter 1 Printed/Typed Na KAR 1  Transporter 2 Printed/Typed Na 17. Discrepancy 17a. Discrepancy Indication Spa 17b. Alternate Facility (or Gener Facility's Phone: 17c. Signature of Alternate Facility	pred Name  ON Behalf of Signs and Import to U.S. ris only): Int of Receipt of Materials me  J. V. Fovic TR.  ace Quantity  ator)	In for transport according to applicable Signal Sig	le international and nature    A   A   A   A	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   34    Month Day Year    Full Rejection
marked and labeled/placard Generator's/Offeror's Printed/Ty KAR V/7012  15. International Shipments Transporter Signature (for expo 16. Transporter Acknowledgment Transporter 1 Printed/Typed Na KAR 1  Transporter 2 Printed/Typed Na 17. Discrepancy 17a. Discrepancy Indication Spa 17b. Alternate Facility (or Gener Facility's Phone: 17c. Signature of Alternate Facility	pred Name  ON Behalf of Signature  Import to U.S. rts only): nt of Receipt of Materials me  J. V. Furic TR.  ace Quantity  ator)	In for transport according to applicable Signal Sig	le international and nature    A	ntry/exit: ving U.S.:	mental regulations.		Month Day Year    1   2.3   14    Month Day Year    1   2.3   34    Month Day Year    Full Rejection
marked and labeled/placard Generator's/Offeror's Printed/Ty  LAR VITOVIC  15. International Shipments  Transporter Signature (for expo  16. Transporter Acknowledgment Transporter 1 Printed/Typed Na  LAR 1  Transporter 2 Printed/Typed Na  17. Discrepancy  17a. Discrepancy Indication Spa  17b. Alternate Facility (or Generation of Alternate Facility's Phone:  17c. Signature of Alternate Facility  18. Designated Facility Owner of	pred Name  ON Behalf of Signs and Import to U.S. ris only): Int of Receipt of Materials me  J. V. Fovic TR.  ace Quantity  ator)	Is covered by the manifest except as	le international and nature    A	ntry/exit: ving U.S.:	mental regulations.		Month Day Year        2.3   14    Month Day Year          2.3   34    Month Day Year    Full Rejection



SHIFRIN & ASSOC	CIATES, II	VC.			WELL CON	PLETION REPORT		
Incident No.:		the opening of the second	Techy many many many	Well No.: MW-2	20	этээр тэр тэр тэр тэр тэр тэр тэр тэр тэ		
Site Name: Green Island, NY		······································		07/04/40				
Drilling Contractor: Aquifer	Drillina .			Date Completed: 08/02/13				
<u>-</u>				Geologist:				
Drilling Method: CME-75 6.				-				
Annular Space Details					Elevation	1s01 ft. Top of Protective Casin		
Type of Surface Seal:Co	ncrete			T	<b>T</b>			
Type of Annular Scalant: Be						Ground Surface		
Type of Bontonite Seel (Granu		chips				Top of Annular Sealant Casing Stickup		
Type of Sand Pack: Industria	l Quartz					Casing Success		
Well Construction Materi	Strinboss Stool Specify Type	PVC Specify Typo	Other Specify Type		∕	. Top of Seal . Total Seal Interval		
	N N N	H S	S		X	. Top of Sand		
Riser coupling joint	ļ	Threaded Sch 40			<u> </u>	. Top of Salar		
Riser pipe above w.t.		Sch 40	<del> </del>					
Riser pipe below w.t. Screen		Sch 40	<b> </b>		14.42	. Top of Screen		
Coupling joint screen to riser	<del></del>	Threaded				. Top or better		
Protective casing		Tilleaded						
Measurements Riser pipe length	to .01 ft (where	applicable)						
Screen length	15'				15'	Total Screen Interval		
Screen slot size	0.020					•		
Dentaration region langet					%   			
LIORECTAR CHRISTIS TENSOR	27.40	1						
	27.48							
Depth to water	27.48							
Depth to water Elevation of water	0.02'							
Protective casing length  Depth to water  Elevation of water  Free Product thickness  Gallons removed (develop)								
Depth to water  Elevation of water  Free Product thickness								

Incident No.:  Site Name: Green Island, NY  Drilling Contractor: Aquifer									
Site Name: Green Island, NY Drilling Contractor: Aquifer		THE RESERVE THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAMED I		Vell No.: MW-21					
<u>=</u>			I	07/24/42					
<u>=</u>	Drilling .			00/00/40					
Driller:									
Drilling Method: CME-75 6.2	25 ID HSA			-					
Annular Space Details					Elevation	us01 ft. Top of Protective Casing			
Type of Surface Seal: Con	ncrete			<del></del>	7	Top of Riser Pipe			
Type of Annular Scalant: Be						Ground Surface			
Type of Bontonite Seel (Granul		chips				Top of Annular Sesiant			
Type of Sand Pack: Industrial	l Quartz			***************************************		Casing Stickup			
Well Construction Materi	als								
	Stainloss Stool Specify Typo	PVC Specify Typo	Other Specify Type		4	Top of Seal  Total Seal Interval			
Riser coupling joint		Threaded		$\dashv$ $\bowtie$ $\bowtie$	14.20	Top of Sand			
Riser pipe above w.t.		Sch 40							
Riser pipe below w.t.		Sch 40							
Screen		Sch 40			16.20	Top of Screen			
Coupling joint screen to riser		Threaded			j				
Protective casing									
	to .01 ft (where a	pplicable)							
Riser pipe length	16.20								
Screen length	15'				15'	Total Screen Interval			
Screen slot size	0.020								
Protective casing length						•			
Depth to water	28.60								
Elevation of water					}				
Free Product thickness	0.01'								
Gallons removed (develop)									
Gallons removed (purge)									
Other					31.20	Bottom of Screen  Bottom of Borehole			

	CIATES, IN							
Incident No.:				07/04/40				
Site Name: Green Island, NY								
Drilling Contractor: Aquifer	·Drilling .	P. Andrews M. Andrews		to Completed:				
Driller:		***************************************	Geo	ologist:				
Drilling Method: CME-75 6.	25 ID HSA	and the state of t	Dri	Iling Fluids (type):	· · · · · · · · · · · · · · · · · · ·			
Annular Space Details					Elevation	s01 ft. Top of Protective Casin		
Type of Surface Seal:Co	oncrete		•	7		Top of Riser Pipe		
Type of Annular Scalant: B						Ground Surface		
Type of Bentonite Seal (Grant		chips			1'	Top of Annular Sesians		
Type of Sand Pack: Industria	al Quartz	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Casing Stickup		
Well Construction Mater	ials	·						
	Stainless Stool Specify Type	PVC Specify Typo	Other Specify Type			Top of Seal  Total Seal Interval		
Riser coupling joint		Threaded			_14.60	Top of Sand		
Riser pipe above w.t.		Sch 40						
Riser pipe below w.t.		Sch 40						
Screen		Sch 40			16.60	Top of Screen		
Coupling joint acreen to riser		Threaded						
cooping joint actoon to tract								
Protective casing								
	to .01 ft (where a	applicable)						
Protective casing	to .01 ft (where a	applicable)						
Protective casing  Measurements		applicable)			_15'	Total Screen Interval		
Protective casing  Measurements  Riser pipe length	16.60	applicable)			<u>15'</u>	Total Screen Interval		
Protective casing  Measurements  Riser pipe length  Screen length	16.60 15'	applicable)			<u>15'</u>	Total Screen Interval		
Protective casing  Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length	16.60 15'	epplicable)			_15'	Total Screen Interval		
Protective casing Measurements Riser pipe length Screen length Screen slot size Protective casing length Depth to water	16.60 15' 0.020	mpplicable)			<u>15'</u>	Total Screen Interval		
Protective casing  Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water	16.60 15' 0.020	applicable)			<u>15'</u>	Total Screen Interval		
Protective casing  Measurements  Riser pipe length  Screen length  Screen slot size	16.60 15' 0.020 28.60	explicable)			_15'	Total Screen Interval		
Protective casing  Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water  Free Product thickness	16.60 15' 0.020 28.60	mpplicable)			<u>15'</u>	Total Screen Interval		

SHIFRIN & ASSOC	CIATES, IN	1C.		W	ELL COM	PLETION REPORT		
Incident No.:		Milwan de major de la companya de l	W	ell No.: MW-23				
Site Name: Green Island, NY			De	sto Drilled Start:	07/31/13	•		
Drilling Contractor: Aquifer Drilling .			De	00/00/40				
Driller:				ologist:				
Drilling Method: CME-75 6.				-				
Annular Space Details				Elevations01 ft.  Top of Protective Casin				
Type of Surface Seal: Co	ncrete		i	<del>~~~</del>	,	Top of Riser Pipe		
Type of Annular Scalant: Be						Ground Surface		
Type of Bontonite Seel (Granu		chips		4		Top of Annular Seelant		
Type of Sand Pack: Industria						Casing Stickup		
Well Construction Materi	als							
	Stainless Stool Specify Type	PVC Specify Typo	Other Specify Type			Top of Seal Total Seal Interval		
Riser coupling joint		Threaded			<u>15.83</u>	Top of Sand		
Riser pipe above w.t.		Sch 40						
Riser pipe below w.t.		Sch 40						
Screen		Sch 40			17.83	Top of Screen		
Coupling joint screen to riser		Threaded						
Protective casing	<u> </u>	<u> </u>						
Measurements	to .01 ft (where a	epplicable)						
Measurements Riser pipe length	17.83	applicable)						
Measurements Riser pipe length Screen length	17.83 15'	epplicable)			<u>15'</u>	Total Screen Interval		
Measurements  Risor pipe length  Screen length  Screen slot size	17.83	applicable)			<u>15'</u>	Total Screen Interval		
Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length	17.83 15' 0.020	applicable)			<u>15'</u>	Total Screen Interval		
Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water	17.83 15'	applicable)			15'	Total Screen Interval		
Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water	17.83 15' 0.020 27.40	applicable)			<u>15'</u>	Total Screen Interval		
Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water  Free Product thickness	17.83 15' 0.020	applicable)			<u>15'</u>	Total Screen Interval		
Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water  Free Product thickness  Gallons removed (develop)	17.83 15' 0.020 27.40	epplicable)			15'	Total Screen Interval		
Measurements  Riser pipe length  Screen length  Screen slot size  Protective casing length  Depth to water  Elevation of water  Free Product thickness	17.83 15' 0.020 27.40	applicable)			<u>15'</u>	Total Screen Interval		

SHIFRIN & ASSO	CIATES, I	VC.	74-11-11-11-11-11-11-11-11-11-11-11-11-11		WELL COMPLETION F	EPORT	
Incident No.:				Vell No.: MW-2	4		
Site Name: Green Island, NY				eto Drilled Start:	07/31/13		
Drilling Contractor: Aquifer Drilling .				ete Completed:			
Driller:							
Drilling Method: CME-75 6.				-			
Dining Mounts.			-	trans t man (t) by			
Annular Space Details					Elevations01 ft. Top of Protes	tive Casing	
Type of Surface Seal:Co	ncrete			T	Top of Riser	Pipe	
Type of Annular Scalant: B					Ground Surf		
Type of Bentonite Seel (Grant		chips			Top of Amaz		
``	<del></del>				—— Casing Stick	क्र	
Type of Sand Pack: Industria	al Quartz			*	* e		
Well Construction Mater	ials			5 Adds			
			1	$\neg \mid \mid \mid \mid$			
	trinloss tool pocify Type	VC pecify Type	Other Specify Type				
	tainloss tool pocify T	ify.	4		1.00 Top of Seal		
	Stain Stool Stool	PVC	Other		14.48 Total Seal In	t	
	N N N	l <sub>B</sub> 8	S		1001 Seal II	TEI ANT	
Riser coupling joint		Threaded			15.48 Top of Sand		
Riser pipe above w.t.		Sch 40					
Riser pipe below w.t.	<u> </u>	Sch 40			47.40		
Screen		Sch 40			17.48 Top of Scree	<b>en</b>	
Coupling joint screen to riser	<del></del>	Threaded					
Protective casing			<u></u>				
Measurements	to .01 ft (where	applicable)					
Riser pipe length	17.48						
Screen length	15'				15' Total Screen	Interval	
Screen slot size	0.020						
Protective casing length							
Depth to water	27.40						
Elevation of water		1			ı		
Free Product thickness				<del>     </del>	ì		
Free Product thickness Gallons removed (develop)							
Free Product thickness					Bottom of Se		

