

October 25, 2019
File No. 02219702.00

Mr. Tom Farrell, Manager
Division of Solid Waste Enforcement
New Jersey Department of Environmental Protection
9 Ewing Street
Trenton, New Jersey 08625-0420

Mr. Jeffrey Meyer, Manager
Division of Air Enforcement
Bureau of Air Compliance and Enforcement
New Jersey Department of Environmental Protection
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927

Subject: October 23 and 24, 2019 Monitoring Station Data
Keegan Landfill
New Jersey Sports and Exposition Authority
Permit Activity Number: EIP190001
EA ID#: NEA 190001-13317

Dear Mr. Farrell and Mr. Meyer:

On October 23 and 24, 2019, NEXA, on behalf of the New Jersey Sports and Exposition Authority (NJSEA), notified the NJDEP hotline (1-877-WARNDEP) via phone that hydrogen sulfide (H₂S) gas measurements in excess of 30 ppb over a 30-minute period (rolling averages) were recorded at monitoring stations MS-2 and MS-3 at the Keegan Landfill (see Attachment 1). NJSEA made these notifications, as required under the NJDEP-approved Monitoring Action Plan and Reference #11 of the subject Permit, for raw data collected from MS-2 and MS-3 on October 23 and 24, 2019 (see Attachment 2). We provide discussion and analysis of the data recorded at MS-2 and MS-3 below.

MONITORING STATION MS-2

The 30-minute rolling average H₂S concentration at Monitoring Station MS-2 was in excess of 30 ppb between 10:54 pm on October 23 and 12:36 am on October 24, 2019; and, between 6:57 am and 8:45 am on October 24, 2019 (see raw data in Attachment 2). The hydrogen sulfide concentration, average wind speed and wind direction measured during the period of the exceedances are provided in Attachment 3. The average wind speed and wind direction were 2.1 mph and 230 degrees; and, 1 mph and 211 degrees, respectively (i.e., from the southwest to south-southwest). The wind direction and MS-2 are shown on a map of the site. The nearest potential receptor is approximately 3,000 feet from the monitoring station (see Attachment 4).

MONITORING STATION MS-3

The 30-minute rolling average H₂S concentration at Monitoring Station MS-3 was in excess of 30 ppb between 4:39 am and 4:45 am on October 24, 2019 (see raw data in Attachment 2). The hydrogen sulfide concentration, average wind speed and wind direction measured during the period of the



October 25, 2019

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exceedances are provided in Attachment 3. The average wind speed and wind direction was 0.4 mph and 279 degrees (i.e., from the west). The wind direction and MS-3 are shown on a map of the site. The nearest potential receptor is approximately 2,000 feet from the monitoring station (see Attachment 4).

The cause of the emissions from Monitoring Stations MS-2 and MS-3 appears to be uncontrolled emissions from the Landfill. There was no corrective action implemented in accordance with the Odor Control Plan as the overnight exceedances returned to less than 30 ppb with 2 hours (maximum).

The landfill gas collection and control system (GCCS) installation is complete and commenced operation on September 5, 2019. The GCCS is being continuously monitored and adjusted to ensure efficient collection of landfill gas and to address specific exceedances at the monitoring stations.

Please call either of the undersigned with any questions or comments.

Sincerely,



Christine H. Stokes
Project Manager
SCS Engineers



Lisa K. Wilkinson, PE
Project Director
SCS Engineers

cc: G. Lugo, NJDEP (electronic copy)
A. Fontana, NJDEP (electronic copy)
T. Marturano, NJSEA (electronic copy)
A. Levy, NJSEA (electronic copy)
C. Sanz, NJSEA (electronic copy)
J. Stewart, Lowenstein (electronic copy)
G. Castano, Castano Quigley (electronic copy)
L. Lim, NJDEP (electronic copy)
B. Farbanish, NJDEP (electronic copy)
J. Mattessich, NJDEP (electronic copy)

Attachment 1

From: [Nexa](#)
To: csanz@njsea.com; [Wilkinson, Lisa](mailto:Wilkinson.Lisa); cwu@emilcott.com; [Ayers, Christine](mailto:Ayers.Christine); tmarturano@njsea.com
Subject: IntelliForm For (8005117069) 2019-10-24 01:00AM
Date: Thursday, October 24, 2019 1:01:36 AM

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===== This message originated outside of SCS Engineers =====
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New Jersey Sports & Exposition Authority

10/24/2019 1:01:21 AM



IN: 10/23/19 10:54 PM (E1MAR)
OUT: 10/24/19 01:00 AM (STLEM AutoFile)

MONITORING STATION #: **2**

TIME 1ST EMAIL RECEIVED: **10:54 PM**

PPB: **33.500**

TIME RELAYED: **11:01 PM**

INCIDENT #: **191023225745**

NEXA ASSOCIATE NAME: **YESENIA**

RELAYED TO OPERATOR #: **35**

TIME LAST ALERT RECEIVED: **1236A**

HIGHEST PPB FOR MS: **69**

TIME RELAYED: **1A**

INCIDENT #: **N/A**

NEXA ASSOCIATE NAME: **MARIANNA**

RELAYED TO OPERATOR #: **35**

-
- 1) 10/23/19 10:55 PM E1YES Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2 dialing
 - 2) 10/23/19 11:02 PM E1YES Set Delay Action 015 (2435145)
 - 3) 10/23/19 11:02 PM E1YES alert rcvd 40 333 ppb at 08 00 pm
 - 4) 10/23/19 11:24 PM D1HCW Get Delay Action (2435145)
 - 5) 10/23/19 11:27 PM E1LEE Set Delay Action 015 (2435145)

- 6) 10/23/19 11:41 PM E1YES alert rcvd 38 500 ppb at 08 39 pm
- 7) 10/23/19 11:48 PM E1YES alert rcvd 47 167 ppb at 0845 pm
- 8) 10/23/19 11:48 PM E1YES Set Delay Action 015 (2435145)
- 9) 10/23/19 11:52 PM D1CAR Get Delay Action (2435145)
- 10) 10/23/19 11:52 PM E1YES alert rcvd 55 833 ppb at 851 pm
- 11) 10/23/19 11:54 PM E1YES Set Delay Action 015 (2435145)
- 12) 10/24/19 12:13 AM D1HCW Get Delay Action (2435145)
- 13) 10/24/19 12:14 AM E1LEE Set Delay Action 015 (2435145)
- 14) 10/24/19 12:31 AM LEE Set Delay Action 015 (2435145)
- 15) 10/24/19 12:33 AM D1TRT Get Delay Action (2435145)
- 16) 10/24/19 12:36 AM D1TRT Set Delay Action 015 (2435145)
- 17) 10/24/19 12:52 AM D1MAR Get Delay Action (2435145)
- 18) 10/24/19 12:58 AM E1MAR Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2
- 19) 10/24/19 01:00 AM E1MAR Auto Script CALL COMPLETED
- 20) 10/24/19 01:00 AM *EM Email OK: OFFICE EMAIL, api@nexa.com
- 21) 10/24/19 01:01 AM API API Email csanz@njsea.com
- 22) 10/24/19 01:01 AM API API Email lwilkinson@scsengineers.com
- 23) 10/24/19 01:01 AM API API Email cwu@emilcott.com
- 24) 10/24/19 01:01 AM API API Email cstokes@scsengineers.com
- 25) 10/24/19 01:01 AM API API Email tmarturano@njsea.com

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From: [Nexa](#)
To: csanz@njsea.com; Wilkinson, Lisa; cwu@emilcott.com; Ayers, Christine; tmarturano@njsea.com
Subject: IntelliForm For (8005117069) 2019-10-24 09:26AM
Date: Thursday, October 24, 2019 9:27:43 AM

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===== This message originated outside of SCS Engineers =====
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New Jersey Sports & Exposition Authority

10/24/2019 9:27:32 AM



IN: 10/24/19 07:02 AM (E1MTZ)
OUT: 10/24/19 09:26 AM (STLEM AutoFile)

MONITORING STATION #: **2**
TIME 1ST EMAIL RECEIVED: **6:57A**
PPB: **35 PPB**
TIME RELAYED: **7:03A**
INCIDENT #: **19-10-24-0703-39**
NEXA ASSOCIATE NAME: **DANIEL G**
RELAYED TO OPERATOR #: **69**
TIME LAST ALERT RECEIVED: ~~8:37 AM~~ **8:45 AM**
HIGHEST PPB FOR MS: **89.667**
TIME RELAYED: **9:25 AM**
INCIDENT #: **19-10-24-0703-39**
NEXA ASSOCIATE NAME: **MARITZA**
RELAYED TO OPERATOR #: **69**

-
- 1) 10/24/19 07:03 AM E1DAN Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2
 - 2) 10/24/19 07:09 AM E1DAN Set Delay Action 015 (2435335)
 - 3) 10/24/19 07:09 AM E1DAN first alert 35 ppb at 657a
 - 4) 10/24/19 07:10 AM E1DAN 41 167 at 703a
 - 5) 10/24/19 07:17 AM E1DAN 45 667 at 712a

- 6) 10/24/19 07:17 AM E1DAN Set Delay Action 015 (2435335)
- 7) 10/24/19 07:26 AM E1DAN 44 167 at 718a
- 8) 10/24/19 07:26 AM E1DAN 38 167 at 724a
- 9) 10/24/19 07:27 AM E1DAN Set Delay Action 015 (2435335)
- 10) 10/24/19 07:34 AM E1MTZ 37 833 at 730 a
- 11) 10/24/19 07:43 AM D1TRT Get Delay Action (2435335)
- 12) 10/24/19 07:43 AM D1TRT Set Delay Action 015 (2435335)
- 13) 10/24/19 07:45 AM E1MTZ 31 667 at 736 a
- 14) 10/24/19 07:50 AM E1MTZ 31 667 at 736 am
- 15) 10/24/19 07:50 AM E1MTZ 30 500 at 748 am
- 16) 10/24/19 07:57 AM E1MTZ 32 500 at 754 am
- 17) 10/24/19 07:59 AM D1TRT Get Delay Action (2435335)
- 18) 10/24/19 07:59 AM D1TRT Set Delay Action 015 (2435335)
- 19) 10/24/19 08:04 AM E1MTZ 39 000 at 8am
- 20) 10/24/19 08:16 AM E1MTZ 54 333 at 806 am
- 21) 10/24/19 08:16 AM E1MTZ 69 500 at 812 am
- 22) 10/24/19 08:17 AM D1MAC Get Delay Action (2435335)
- 23) 10/24/19 08:20 AM D1MAC Set Delay Action 015 (2435335)
- 24) 10/24/19 08:25 AM E1MTZ 89 500 at 821 am
- 25) 10/24/19 08:29 AM E1MTZ 89 667 at 827 am
- 26) 10/24/19 08:30 AM E1MTZ Set Delay Action 015 (2435335)
- 27) 10/24/19 08:48 AM D1HCG Get Delay Action (2435335)
- 28) 10/24/19 08:51 AM E1MTZ 83 500 at 833 am
- 29) 10/24/19 08:51 AM E1MTZ 67 167 at 839 am
- 30) 10/24/19 08:53 AM E1MTZ 48 500 at 845 am
- 31) 10/24/19 08:53 AM E1MTZ Set Delay Action 015 (2435335)
- 32) 10/24/19 09:09 AM D1MAC Get Delay Action (2435335)
- 33) 10/24/19 09:24 AM E1MTZ Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2 dialing
- 34) 10/24/19 09:26 AM E1MTZ Auto Script CALL COMPLETED
- 35) 10/24/19 09:27 AM *EM Email OK: OFFICE EMAIL, api@nexa.com
- 36) 10/24/19 09:28 AM API API Email csanz@njsea.com
- 37) 10/24/19 09:28 AM API API Email lwilkinson@scsengineers.com
- 38) 10/24/19 09:28 AM API API Email cwu@emilcott.com
- 39) 10/24/19 09:28 AM API API Email cstokes@scsengineers.com
- 40) 10/24/19 09:28 AM API API Email tmarturano@njsea.com

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From: [Nexa](#)
To: csanz@njsea.com; [Wilkinson, Lisa](#); cwu@emilcott.com; [Ayers, Christine](#); tmarturano@njsea.com
Subject: IntelliForm For (8005117069) 2019-10-24 05:09AM
Date: Thursday, October 24, 2019 5:10:44 AM

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New Jersey Sports & Exposition Authority

10/24/2019 5:10:27 AM



IN: 10/24/19 04:40 AM (D1MAR)
OUT: 10/24/19 05:09 AM (STLEM AutoFile)

MONITORING STATION #: **3**

TIME 1ST EMAIL RECEIVED: **4:39A**

PPB: **36.833**

TIME RELAYED: **4:42A**

INCIDENT #: **19-10-24-0442-08**

NEXA ASSOCIATE NAME: **DANIEL G**

RELAYED TO OPERATOR #: **35**

TIME LAST ALERT RECEIVED: **445A**

HIGHEST PPB FOR MS: ~~31.667~~ **36.8**

TIME RELAYED: **509A**

INCIDENT #: **N/A**

NEXA ASSOCIATE NAME: **MARIANNA**

RELAYED TO OPERATOR #: **35**

1) 10/24/19 04:41 AM E1DAN first email received at 439a

2) 10/24/19 04:41 AM E1DAN 36 833

3) 10/24/19 04:41 AM E1DAN Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2

4) 10/24/19 04:42 AM E1DAN Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2

5) 10/24/19 04:42 AM E1DAN retrying

- 6) 10/24/19 04:42 AM E1DAN first time went to dead air
- 7) 10/24/19 04:46 AM E1DAN relayed to operator 35
- 8) 10/24/19 04:47 AM E1DAN 31 667 at 445a
- 9) 10/24/19 04:48 AM E1DAN Set Delay Action 015 (2435294)
- 10) 10/24/19 05:06 AM D1MAR Get Delay Action (2435294)
- 11) 10/24/19 05:08 AM D1MAR Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2
- 12) 10/24/19 05:10 AM D1MAR Auto Script CALL COMPLETED
- 13) 10/24/19 05:10 AM *EM Email OK: OFFICE EMAIL, api@nexa.com
- 14) 10/24/19 05:10 AM API API Email csanz@njsea.com
- 15) 10/24/19 05:11 AM API API Email lwilkinson@scsengineers.com
- 16) 10/24/19 05:11 AM API API Email cwu@emilcott.com
- 17) 10/24/19 05:11 AM API API Email cstokes@scsengineers.com
- 18) 10/24/19 05:11 AM API API Email tmarturano@njsea.com

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Attachment 2

**Hydrogen Sulfide Concentrations
Monitoring Station MS-2
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/23/2019 19:05	9	
10/23/2019 19:11	7	
10/23/2019 19:17	7	
10/23/2019 19:22	3	
10/23/2019 19:28	3	
10/23/2019 19:34	3	5.3
10/23/2019 19:40	3	4.3
10/23/2019 19:45	4	3.8
10/23/2019 19:51	4	3.3
10/23/2019 19:57	3	3.3
10/23/2019 20:03	3	3.3
10/23/2019 20:08	3	3.3
10/23/2019 20:14	3	3.3
10/23/2019 20:20	3	3.2
10/23/2019 20:26	3	3.0
10/23/2019 20:31	3	3.0
10/23/2019 20:37	3	3.0
10/23/2019 20:43	3	3.0
10/23/2019 20:49	3	3.0
10/23/2019 20:54	3	3.0
10/23/2019 21:00	3	3.0
10/23/2019 21:06	3	3.0
10/23/2019 21:12	3	3.0
10/23/2019 21:17	3	3.0
10/23/2019 21:23	3	3.0
10/23/2019 21:29	3	3.0
10/23/2019 21:35	3	3.0
10/23/2019 21:40	3	3.0
10/23/2019 21:46	3	3.0
10/23/2019 21:52	3	3.0
10/23/2019 21:58	3	3.0
10/23/2019 22:03	3	3.0
10/23/2019 22:09	3	3.0
10/23/2019 22:15	3	3.0
10/23/2019 22:21	6	3.5
10/23/2019 22:26	12	5.0
10/23/2019 22:32	27	9.0
10/23/2019 22:38	47	16.3
10/23/2019 22:44	61	26.0

**Hydrogen Sulfide Concentrations
Monitoring Station MS-2
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/23/2019 22:49	48	33.5
10/23/2019 22:55	47	40.3
10/23/2019 23:01	47	46.2
10/23/2019 23:07	25	45.8
10/23/2019 23:12	25	42.2
10/23/2019 23:18	25	36.2
10/23/2019 23:24	48	36.2
10/23/2019 23:30	51	36.8
10/23/2019 23:35	57	38.5
10/23/2019 23:41	77	47.2
10/23/2019 23:47	77	55.8
10/23/2019 23:53	66	62.7
10/23/2019 23:58	71	66.5
10/24/2019 0:04	66	69.0
10/24/2019 0:10	43	66.7
10/24/2019 0:16	40	60.5
10/24/2019 0:21	40	54.3
10/24/2019 0:27	19	46.5
10/24/2019 0:33	9	36.2
10/24/2019 0:39	4	25.8
10/24/2019 0:44	4	19.3
10/24/2019 0:50	4	13.3
10/24/2019 0:56	9	8.2
10/24/2019 1:02	9	6.5
10/24/2019 1:07	9	6.5
10/24/2019 1:13	9	7.3
10/24/2019 1:19	8	8.0
10/24/2019 1:25	8	8.7
10/24/2019 1:30	8	8.5
10/24/2019 1:36	10	8.7
10/24/2019 1:42	10	8.8
10/24/2019 1:48	10	9.0
10/24/2019 1:53	5	8.5
10/24/2019 1:59	5	8.0
10/24/2019 2:05	5	7.5
10/24/2019 2:11	4	6.5
10/24/2019 2:16	3	5.3
10/24/2019 2:22	3	4.2
10/24/2019 2:28	3	3.8

**Hydrogen Sulfide Concentrations
Monitoring Station MS-2
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/24/2019 2:34	3	3.5
10/24/2019 2:39	4	3.3
10/24/2019 2:45	4	3.3
10/24/2019 2:51	4	3.5
10/24/2019 2:57	4	3.7
10/24/2019 3:02	4	3.8
10/24/2019 3:08	4	4.0
10/24/2019 3:14	4	4.0
10/24/2019 3:20	4	4.0
10/24/2019 3:25	3	3.8
10/24/2019 3:31	2	3.5
10/24/2019 3:37	2	3.2
10/24/2019 3:43	2	2.8
10/24/2019 3:48	2	2.5
10/24/2019 3:54	3	2.3
10/24/2019 4:00	4	2.5
10/24/2019 4:06	4	2.8
10/24/2019 4:11	4	3.2
10/24/2019 4:17	5	3.7
10/24/2019 4:23	6	4.3
10/24/2019 4:29	9	5.3
10/24/2019 4:34	9	6.2
10/24/2019 4:40	9	7.0
10/24/2019 4:46	6	7.3
10/24/2019 4:52	6	7.5
10/24/2019 4:57	6	7.5
10/24/2019 5:03	7	7.2
10/24/2019 5:09	9	7.2
10/24/2019 5:15	13	7.8
10/24/2019 5:20	20	10.2
10/24/2019 5:26	20	12.5
10/24/2019 5:32	20	14.8
10/24/2019 5:38	20	17.0
10/24/2019 5:43	19	18.7
10/24/2019 5:49	19	19.7
10/24/2019 5:55	19	19.5
10/24/2019 6:01	19	19.3
10/24/2019 6:06	12	18.0
10/24/2019 6:12	11	16.5

**Hydrogen Sulfide Concentrations
Monitoring Station MS-2
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/24/2019 6:18	11	15.2
10/24/2019 6:24	11	13.8
10/24/2019 6:29	25	14.8
10/24/2019 6:35	25	15.8
10/24/2019 6:41	37	20.0
10/24/2019 6:47	64	28.8
10/24/2019 6:52	48	35.0
10/24/2019 6:58	48	41.2
10/24/2019 7:04	48	45.0
10/24/2019 7:10	29	45.7
10/24/2019 7:15	28	44.2
10/24/2019 7:21	28	38.2
10/24/2019 7:27	28	34.8
10/24/2019 7:33	29	31.7
10/24/2019 7:38	31	28.8
10/24/2019 7:44	39	30.5
10/24/2019 7:50	40	32.5
10/24/2019 7:56	67	39.0
10/24/2019 8:01	120	54.3
10/24/2019 8:07	120	69.5
10/24/2019 8:13	120	84.3
10/24/2019 8:19	70	89.5
10/24/2019 8:24	41	89.7
10/24/2019 8:30	30	83.5
10/24/2019 8:36	22	67.2
10/24/2019 8:42	8	48.5
10/24/2019 8:47	8	29.8
10/24/2019 8:53	8	19.5
10/24/2019 8:59	10	14.3
10/24/2019 9:05	26	13.7
10/24/2019 9:10	37	16.2
10/24/2019 9:16	37	21.0
10/24/2019 9:22	26	24.0
10/24/2019 9:28	16	25.3
10/24/2019 9:33	16	26.3
10/24/2019 9:39	10	23.7
10/24/2019 9:45	7	18.7
10/24/2019 9:51	6	13.5
10/24/2019 9:56	5	10.0

**Hydrogen Sulfide Concentrations
Monitoring Station MS-2
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/24/2019 10:02	5	8.2
10/24/2019 10:08	4	6.2
10/24/2019 10:14	4	5.2
10/24/2019 10:19	4	4.7
10/24/2019 10:25	5	4.5
10/24/2019 10:31	5	4.5
10/24/2019 10:37	7	4.8
10/24/2019 10:42	7	5.3
10/24/2019 10:48	7	5.8
10/24/2019 10:54	7	6.3
10/24/2019 11:00	6	6.5
10/24/2019 11:05	6	6.7
10/24/2019 11:11	6	6.5
10/24/2019 11:17	6	6.3
10/24/2019 11:23	6	6.2
10/24/2019 11:28	5	5.8
10/24/2019 11:34	5	5.7
10/24/2019 11:40	5	5.5
10/24/2019 11:46	5	5.3
10/24/2019 11:51	5	5.2
10/24/2019 11:57	-	-

**Hydrogen Sulfide Concentrations
Monitoring Station MS-3
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/23/2019 20:03	7	
10/23/2019 20:09	4	
10/23/2019 20:15	4	
10/23/2019 20:20	4	
10/23/2019 20:26	7	
10/23/2019 20:32	5	5.2
10/23/2019 20:38	7	5.2
10/23/2019 20:43	7	5.7
10/23/2019 20:49	5	5.8
10/23/2019 20:55	5	6.0
10/23/2019 21:01	5	5.7
10/23/2019 21:06	5	5.7
10/23/2019 21:12	6	5.5
10/23/2019 21:18	6	5.3
10/23/2019 21:24	6	5.5
10/23/2019 21:29	6	5.7
10/23/2019 21:35	6	5.8
10/23/2019 21:41	6	6.0
10/23/2019 21:47	12	7.0
10/23/2019 21:52	12	8.0
10/23/2019 21:58	12	9.0
10/23/2019 22:04	5	8.8
10/23/2019 22:10	5	8.7
10/23/2019 22:15	5	8.5
10/23/2019 22:21	5	7.3
10/23/2019 22:27	4	6.0
10/23/2019 22:33	4	4.7
10/23/2019 22:38	3	4.3
10/23/2019 22:44	3	4.0
10/23/2019 22:50	2	3.5
10/23/2019 22:56	0	2.7
10/23/2019 23:01	0	2.0
10/23/2019 23:07	0	1.3
10/23/2019 23:13	1	1.0
10/23/2019 23:19	1	0.7
10/23/2019 23:24	2	0.7
10/23/2019 23:30	2	1.0
10/23/2019 23:36	2	1.3
10/23/2019 23:42	9	2.8

**Hydrogen Sulfide Concentrations
Monitoring Station MS-3
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/23/2019 23:47	9	4.2
10/23/2019 23:53	9	5.5
10/23/2019 23:59	5	6.0
10/24/2019 0:05	5	6.5
10/24/2019 0:10	5	7.0
10/24/2019 0:16	3	6.0
10/24/2019 0:22	4	5.2
10/24/2019 4:06	48	-
10/24/2019 4:11	48	-
10/24/2019 4:17	48	-
10/24/2019 4:23	33	-
10/24/2019 4:29	27	-
10/24/2019 4:34	17	36.8
10/24/2019 4:40	17	31.7
10/24/2019 4:46		-
10/24/2019 4:51		-
10/24/2019 4:57		-
10/24/2019 5:03		-
10/24/2019 5:14		-
10/24/2019 5:20		-
10/24/2019 5:32		-
10/24/2019 5:38		-
10/24/2019 5:43		-
10/24/2019 5:49		-
10/24/2019 5:55		-
10/24/2019 6:00		-
10/24/2019 6:06		-
10/24/2019 7:06	0	-
10/24/2019 7:12	0	-
10/24/2019 7:17	0	-
10/24/2019 7:23	9	-
10/24/2019 7:29	9	-
10/24/2019 7:35	9	4.5
10/24/2019 7:40	1	4.7
10/24/2019 7:46	1	4.8
10/24/2019 7:52	1	5.0
10/24/2019 7:58	6	4.5
10/24/2019 8:03	6	4.0
10/24/2019 8:09	6	3.5

Downtime before and after exceedance period



**Hydrogen Sulfide Concentrations
Monitoring Station MS-3
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	30 Minute Rolling Average (ppb)
10/24/2019 8:15	2	3.7
10/24/2019 8:21	0	3.5
10/24/2019 8:26	0	3.3
10/24/2019 8:32	0	2.3
10/24/2019 8:38	0	1.3
10/24/2019 8:44	0	0.3
10/24/2019 8:49	0	0.0
10/24/2019 8:55	0	0.0

Attachment 3

Daily H ₂ S Readings at MS2 - Keegan Landfill Monitoring			
Date/Time	MS-2 -- Hydrogen Sulfide (ppb)	Wind Speed (mph)	Wind Direction
10/23/19 0:01	0	3.9	SSE
10/23/19 0:07	0	3.6	SSE
10/23/19 0:12	0	2.8	S
10/23/19 0:18	0	1.6	SSW
10/23/19 0:24	0	3.0	S
10/23/19 0:30	0	2.2	SSE
10/23/19 0:35	0	2.3	S
10/23/19 0:41	0	1.2	SSW
10/23/19 0:47	0	2.1	SSE
10/23/19 0:53	0	1.1	SW
10/23/19 0:58	0	2.7	S
10/23/19 1:04	0	1.0	SW
10/23/19 1:10	0	2.9	WSW
10/23/19 1:16	0	4.0	NW
10/23/19 1:21	0	3.0	WNW
10/23/19 1:27	0	3.3	WNW
10/23/19 1:33	0	4.5	WNW
10/23/19 1:39	0	1.9	NW
10/23/19 1:44	0	2.4	NW
10/23/19 1:50	0	2.1	NW
10/23/19 1:56	0	1.9	NW
10/23/19 2:02	0	2.3	NNW
10/23/19 2:07	0	1.8	NW
10/23/19 2:13	0	2.9	NNW
10/23/19 2:19	0	2.4	NNW
10/23/19 2:25	0	3.3	N
10/23/19 2:30	0	1.9	NNW
10/23/19 2:36	0	1.8	NNW
10/23/19 2:42	0	2.1	NNW
10/23/19 2:48	0	1.1	NNW
10/23/19 2:53	0	1.2	NW
10/23/19 2:59	0	1.7	WNW
10/23/19 3:05	0	0.7	W
10/23/19 3:11	0	0.6	NW
10/23/19 3:16	0	1.2	NW
10/23/19 3:22	0	1.0	WNW
10/23/19 3:28	0	0.5	W
10/23/19 3:34	0	0.5	WSW
10/23/19 3:39	0	0.7	SSW
10/23/19 3:45	0	0.5	WSW
10/23/19 3:51	0	0.6	W
10/23/19 3:57	1	1.3	WSW
10/23/19 4:02	5	1.2	W
10/23/19 4:08	4	1.2	W

NOTE: Wind Direction reported in the direction that the wind is coming from

10/23/19 4:14	4	0.9	WNW
10/23/19 4:20	5	1.0	SW
10/23/19 4:25	10	0.3	W
10/23/19 4:31	10	1.2	W
10/23/19 4:37	10	1.0	W
10/23/19 4:43	10	1.2	WSW
10/23/19 4:48	10	0.7	SW
10/23/19 4:54	10	0.8	WSW
10/23/19 5:00	7	0.7	WSW
10/23/19 5:06	5	0.5	SW
10/23/19 5:11	5	0.6	SE
10/23/19 5:17	5	0.5	WSW
10/23/19 5:23	5	1.3	WSW
10/23/19 5:29	5	1.6	WSW
10/23/19 5:34	5	1.0	WSW
10/23/19 5:40	3	0.9	WSW
10/23/19 5:46	3	1.0	NNW
10/23/19 5:52	3	1.6	NNW
10/23/19 5:57	1	1.3	NW
10/23/19 6:03	0	1.4	NW
10/23/19 6:09	0	1.9	W
10/23/19 6:15	0	2.7	WNW
10/23/19 6:20	0	2.6	WNW
10/23/19 6:26	0	2.3	WNW
10/23/19 6:32	0	1.8	W
10/23/19 6:38	0	2.3	WNW
10/23/19 6:43	0	2.4	WNW
10/23/19 6:49	0	2.3	WNW
10/23/19 6:55	0	2.3	WNW
10/23/19 7:01	0	2.0	WNW
10/23/19 7:06	0	2.8	W
10/23/19 7:12	0	2.7	WNW
10/23/19 7:18	0	2.1	WNW
10/23/19 7:24	0	2.0	WNW
10/23/19 7:29	0	3.2	W
10/23/19 7:35	0	2.1	W
10/23/19 7:41	0	2.8	W
10/23/19 7:47	0	2.8	W
10/23/19 7:52	1	1.5	WNW
10/23/19 7:58	0	2.8	WNW
10/23/19 8:04	0	2.6	W
10/23/19 8:10	0	2.4	WNW
10/23/19 8:15	0	1.8	W
10/23/19 8:21	0	1.7	WNW
10/23/19 8:27	0	1.9	WSW
10/23/19 8:33	0	1.7	WNW
10/23/19 8:38	0	2.0	W

NOTE: Wind Direction reported in the direction that the wind is coming from

10/23/19 8:44	0	1.7	NW
10/23/19 8:50	0	1.5	NW
10/23/19 8:56	0	1.8	WNW
10/23/19 9:01	0	2.3	WNW
10/23/19 9:07	0	1.3	W
10/23/19 9:13	0	3.5	W
10/23/19 9:19	0	3.4	WNW
10/23/19 9:24	0	4.0	WNW
10/23/19 9:30	0	3.4	WNW
10/23/19 9:36	1	2.8	WNW
10/23/19 9:42	1	4.7	W
10/23/19 9:47	1	4.4	WNW
10/23/19 9:53	1	5.6	WNW
10/23/19 9:59	1	2.8	WNW
10/23/19 10:05	1	4.0	NW
10/23/19 10:10	0	4.1	WNW
10/23/19 10:16	0	2.8	WNW
10/23/19 10:22	0	5.4	WNW
10/23/19 10:28	0	2.1	W
10/23/19 10:33	0	2.2	NNW
10/23/19 10:39	0	1.8	NW
10/23/19 10:45	0	2.3	NW
10/23/19 10:51	1	4.5	NW
10/23/19 10:56	1	1.8	WNW
10/23/19 11:02	1	2.1	WNW
10/23/19 11:08	1	5.4	WNW
10/23/19 11:14	1	3.4	NW
10/23/19 11:19	1	3.4	WNW
10/23/19 11:25	1	3.8	NNW
10/23/19 11:31	1	3.8	WNW
10/23/19 11:37	1	2.6	W
10/23/19 11:42	1	2.3	WNW
10/23/19 11:48	1	5.1	NW
10/23/19 11:54	1	4.7	NW
10/23/19 12:00	1	6.7	WNW
10/23/19 12:05	1	4.9	WNW
10/23/19 12:11	1	5.9	WNW
10/23/19 12:17	1	6.6	WNW
10/23/19 12:23	1	8.0	WNW
10/23/19 12:28	1	6.2	W
10/23/19 12:34	1	6.7	W
10/23/19 12:40	1	8.1	WNW
10/23/19 12:46	1	9.2	W
10/23/19 12:51	1	6.3	WNW
10/23/19 12:57	1	3.4	NW
10/23/19 13:03	1	5.3	WNW
10/23/19 13:09	1	4.0	WNW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/23/19 13:14	1	2.7	NW
10/23/19 13:20	1	2.9	NW
10/23/19 13:26	1	3.4	NW
10/23/19 13:32	1	3.8	NW
10/23/19 13:37	1	6.8	NNW
10/23/19 13:43	1	2.0	NW
10/23/19 13:49	1	5.7	WNW
10/23/19 13:55	1	5.9	WNW
10/23/19 14:00	1	4.4	WNW
10/23/19 14:06	1	3.8	WNW
10/23/19 14:12	1	4.2	WNW
10/23/19 14:18	1	3.4	WNW
10/23/19 14:23	2	2.3	NW
10/23/19 14:29	2	3.1	NW
10/23/19 14:35	2	6.4	WNW
10/23/19 14:41	1	3.8	W
10/23/19 14:46	1	6.3	WNW
10/23/19 14:52	1	8.8	WNW
10/23/19 14:58	1	8.5	W
10/23/19 15:04	1	3.9	NW
10/23/19 15:09	1	3.0	WNW
10/23/19 15:15	1	3.1	WNW
10/23/19 15:21	1	5.9	W
10/23/19 15:27	1	3.9	WNW
10/23/19 15:32	2	8.4	W
10/23/19 15:38	3	3.9	NW
10/23/19 15:44	2	7.2	WNW
10/23/19 15:50	5	8.0	W
10/23/19 15:55	5	6.6	WNW
10/23/19 16:01	2	3.6	WNW
10/23/19 16:07	2	5.3	WNW
10/23/19 16:13	2	3.2	WNW
10/23/19 16:30	1	4.9	WNW
10/23/19 16:36	2	6.8	W
10/23/19 16:41	1	8.3	W
10/23/19 16:47	3	6.2	W
10/23/19 16:53	3	5.0	W
10/23/19 16:59	4	8.4	W
10/23/19 17:04	4	3.8	W
10/23/19 17:10	4	5.5	WNW
10/23/19 17:16	3	4.8	WNW
10/23/19 17:22	3	6.8	W
10/23/19 17:27	3	4.6	W
10/23/19 17:33	3	6.0	W
10/23/19 17:39	4	6.3	WNW
10/23/19 17:45	4	4.7	W
10/23/19 17:50	5	5.2	W

NOTE: Wind Direction reported in the direction that the wind is coming from

10/23/19 17:56	5	4.3	W
10/23/19 18:02	5	5.6	W
10/23/19 18:08	5	3.8	W
10/23/19 18:13	6	4.0	W
10/23/19 18:19	8	3.1	W
10/23/19 18:25	8	2.9	WSW
10/23/19 18:31	8	3.3	W
10/23/19 18:36	10	2.5	W
10/23/19 18:42	10	3.4	W
10/23/19 18:48	10	2.7	W
10/23/19 18:54	9	4.3	W
10/23/19 18:59	9	2.6	W
10/23/19 19:05	9	2.5	W
10/23/19 19:11	7	2.1	WSW
10/23/19 19:17	7	2.9	W
10/23/19 19:22	3	4.0	W
10/23/19 19:28	3	2.2	W
10/23/19 19:34	3	1.9	WSW
10/23/19 19:40	3	2.1	WSW
10/23/19 19:45	4	1.9	W
10/23/19 19:51	4	2.5	WSW
10/23/19 19:57	3	2.5	WSW
10/23/19 20:03	3	3.1	W
10/23/19 20:08	3	3.4	W
10/23/19 20:14	3	3.5	W
10/23/19 20:20	3	2.0	W
10/23/19 20:26	3	2.2	W
10/23/19 20:31	3	1.5	WSW
10/23/19 20:37	3	2.1	W
10/23/19 20:43	3	4.0	W
10/23/19 20:49	3	2.7	WSW
10/23/19 20:54	3	2.4	WSW
10/23/19 21:00	3	2.2	W
10/23/19 21:06	3	2.3	WSW
10/23/19 21:12	3	2.4	WSW
10/23/19 21:17	3	2.3	WSW
10/23/19 21:23	3	2.0	WSW
10/23/19 21:29	3	2.5	WSW
10/23/19 21:35	3	1.6	WSW
10/23/19 21:40	3	1.1	WSW
10/23/19 21:46	3	1.5	WSW
10/23/19 21:52	3	2.3	WSW
10/23/19 21:58	3	1.7	WSW
10/23/19 22:03	3	1.8	WSW
10/23/19 22:09	3	2.0	WSW
10/23/19 22:15	3	2.6	SW
10/23/19 22:21	6	2.2	SW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/23/19 22:26	12	1.3	SSW
10/23/19 22:32	27	1.3	SSW
10/23/19 22:38	47	1.9	SW
10/23/19 22:44	61	2.1	SW
10/23/19 22:49	48	2.4	SW
10/23/19 22:55	47	1.4	SSW
10/23/19 23:01	47	2.3	SW
10/23/19 23:07	25	2.4	SW
10/23/19 23:12	25	1.9	SSW
10/23/19 23:18	25	2.7	SW
10/23/19 23:24	48	2.1	SW
10/23/19 23:30	51	2.2	SW
10/23/19 23:35	57	1.4	SW
10/23/19 23:41	77	1.6	SSW
10/23/19 23:47	77	1.2	WSW
10/23/19 23:53	66	1.7	SSW
10/23/19 23:58	71	2.5	SW

NOTE: Wind Direction reported in the direction that the wind is coming from

Daily H₂S Readings at MS2 - Keegan Landfill Monitoring

Date/Time	MS-2 -- Hydrogen Sulfide (ppb)	Wind Speed (mph)	Wind Direction
10/24/19 0:04	66	1.2	SW
10/24/19 0:10	43	2.8	W
10/24/19 0:16	40	2.0	WSW
10/24/19 0:21	40	2.3	WSW
10/24/19 0:27	19	3.1	WSW
10/24/19 0:33	9	2.7	W
10/24/19 0:39	4	2.1	W
10/24/19 0:44	4	1.6	W
10/24/19 0:50	4	0.8	W
10/24/19 0:56	9	1.5	W
10/24/19 1:02	9	1.5	WSW
10/24/19 1:07	9	1.7	WSW
10/24/19 1:13	9	1.0	WSW
10/24/19 1:19	8	0.5	SW
10/24/19 1:25	8	0.4	W
10/24/19 1:30	8	0.6	W
10/24/19 1:36	10	0.9	W
10/24/19 1:42	10	1.0	W
10/24/19 1:48	10	0.9	NW
10/24/19 1:53	5	0.6	W
10/24/19 1:59	5	1.3	W
10/24/19 2:05	5	1.3	W
10/24/19 2:11	4	1.5	W
10/24/19 2:16	3	1.0	WNW
10/24/19 2:22	3	0.8	WNW
10/24/19 2:28	3	0.8	W
10/24/19 2:34	3	0.9	W
10/24/19 2:39	4	0.9	WNW
10/24/19 2:45	4	1.3	WNW
10/24/19 2:51	4	1.8	WNW
10/24/19 2:57	4	1.4	WNW
10/24/19 3:02	4	1.3	WNW
10/24/19 3:08	4	1.1	WNW
10/24/19 3:14	4	0.8	W
10/24/19 3:20	4	0.8	WSW
10/24/19 3:25	3	0.8	SSW
10/24/19 3:31	2	0.7	SW
10/24/19 3:37	2	0.7	WSW
10/24/19 3:43	2	0.7	WSW
10/24/19 3:48	2	0.8	W
10/24/19 3:54	3	0.7	W
10/24/19 4:00	4	0.6	SW
10/24/19 4:06	4	0.7	WSW
10/24/19 4:11	4	0.7	WSW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 4:17	5	1.1	W
10/24/19 4:23	6	1.0	W
10/24/19 4:29	9	0.8	W
10/24/19 4:34	9	1.0	W
10/24/19 4:40	9	0.5	WSW
10/24/19 4:46	6	0.4	SSW
10/24/19 4:52	6	0.8	S
10/24/19 4:57	6	0.7	SSW
10/24/19 5:03	7	0.6	SSW
10/24/19 5:09	9	0.4	SSW
10/24/19 5:15	13	1.1	S
10/24/19 5:20	20	0.6	SSW
10/24/19 5:26	20	0.8	WNW
10/24/19 5:32	20	1.0	W
10/24/19 5:38	20	1.0	W
10/24/19 5:43	19	0.7	SSW
10/24/19 5:49	19	0.6	SSW
10/24/19 5:55	19	1.3	S
10/24/19 6:01	19	1.1	S
10/24/19 6:06	12	0.7	SSW
10/24/19 6:12	11	0.6	SSW
10/24/19 6:18	11	0.7	W
10/24/19 6:24	11	1.2	WNW
10/24/19 6:29	25	1.4	W
10/24/19 6:35	25	1.6	W
10/24/19 6:41	37	0.8	SW
10/24/19 6:47	64	1.1	SE
10/24/19 6:52	48	0.8	SSW
10/24/19 6:58	48	1.1	W
10/24/19 7:04	48	1.4	WNW
10/24/19 7:10	29	1.8	W
10/24/19 7:15	28	1.2	W
10/24/19 7:21	28	0.4	SSW
10/24/19 7:27	28	1.0	WNW
10/24/19 7:33	29	1.3	W
10/24/19 7:38	31	0.7	SSW
10/24/19 7:44	39	0.9	WNW
10/24/19 7:50	40	1.3	W
10/24/19 7:56	67	0.6	WNW
10/24/19 8:01	120	0.4	ESE
10/24/19 8:07	120	0.6	ESE
10/24/19 8:13	120	0.3	NE
10/24/19 8:19	70	0.3	NE
10/24/19 8:24	41	1.4	ESE
10/24/19 8:30	30	1.6	S
10/24/19 8:36	22	1.9	SSW
10/24/19 8:42	8	1.9	S

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 8:47	8	2.1	SW
10/24/19 8:53	8	1.7	SSW
10/24/19 8:59	10	1.7	SSW
10/24/19 9:05	26	2.1	WSW
10/24/19 9:10	37	2.1	SSW
10/24/19 9:16	37	1.6	SW
10/24/19 9:22	26	2.3	WSW
10/24/19 9:28	16	1.9	SW
10/24/19 9:33	16	1.4	SW
10/24/19 9:39	10	0.6	SE
10/24/19 9:45	7	1.1	SSE
10/24/19 9:51	6	1.9	SSE
10/24/19 9:56	5	2.0	SE
10/24/19 10:02	5	1.9	SSE
10/24/19 10:08	4	3.1	S
10/24/19 10:14	4	1.5	SW
10/24/19 10:19	4	1.4	WSW
10/24/19 10:25	5	1.6	SE
10/24/19 10:31	5	0.7	SSW
10/24/19 10:37	7	1.9	SE
10/24/19 10:42	7	1.8	SE
10/24/19 10:48	7	1.2	NE
10/24/19 10:54	7	1.5	ESE
10/24/19 11:00	6	2.1	E
10/24/19 11:05	6	2.8	ESE
10/24/19 11:11	6	1.8	E
10/24/19 11:17	6	1.9	SSE
10/24/19 11:23	6	2.4	ESE
10/24/19 11:28	5	1.7	SE
10/24/19 11:34	5	1.3	SSE
10/24/19 11:40	5	2.0	SSE
10/24/19 11:46	5	3.7	SE
10/24/19 11:51	5	2.1	SSE
10/24/19 12:51	6	2.7	S
10/24/19 12:57	8	3.6	SW
10/24/19 13:03	8	7.6	W
10/24/19 13:08	8	3.1	SW
10/24/19 13:14	5	4.3	W
10/24/19 13:20	5	3.4	SSW
10/24/19 13:26	5	4.5	SSW
10/24/19 13:31	5	2.8	WSW
10/24/19 13:37	5	3.7	WSW
10/24/19 13:43	12	3.3	WSW
10/24/19 13:49	12	4.0	S
10/24/19 13:54	12	3.9	SSW
10/24/19 14:00	9	2.9	SW
10/24/19 14:06	12	3.0	SSW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 14:12	14	3.0	WSW
10/24/19 14:17	14	3.8	W
10/24/19 14:23	5	4.6	W
10/24/19 14:29	6	3.1	SSW
10/24/19 14:35	6	3.5	SSW
10/24/19 14:40	6	4.8	SSW
10/24/19 14:46	6	4.8	W
10/24/19 14:52	6	4.4	SSW
10/24/19 14:58	6	3.5	SSW
10/24/19 15:03	3	4.1	SSW
10/24/19 15:09	3	4.8	SSW
10/24/19 15:15	3	4.1	S
10/24/19 15:21	3	4.2	S
10/24/19 15:26	4	3.9	SW
10/24/19 15:32	4	4.7	S
10/24/19 15:38	4	2.7	S
10/24/19 15:44	4	2.4	S
10/24/19 15:49	3	2.7	S
10/24/19 15:55	3	2.4	SSE
10/24/19 16:38	3	3.8	SSE
10/24/19 16:44	4	2.9	SSE
10/24/19 16:50	3	1.5	S
10/24/19 16:56	4	1.5	S
10/24/19 17:01	4	3.4	SSE
10/24/19 17:07	4	3.1	S
10/24/19 17:13	3	2.8	SSE
10/24/19 17:19	3	1.8	S
10/24/19 17:24	3	2.5	S
10/24/19 17:30	3	1.3	SSE
10/24/19 17:36	3	1.6	SSW
10/24/19 17:42	5	1.6	SSE
10/24/19 17:47	6	1.8	SSW
10/24/19 17:53	6	1.3	SSW
10/24/19 17:59	7	0.9	SSW
10/24/19 18:05	7	1.5	SSW
10/24/19 18:10	7	0.7	SSW
10/24/19 18:16	8	1.0	S
10/24/19 18:22	8	1.2	S
10/24/19 18:28	8	0.9	SW
10/24/19 18:33	8	1.4	S
10/24/19 18:39	7	2.2	S
10/24/19 18:45	6	1.7	SSW
10/24/19 18:51	7	1.4	SSW
10/24/19 18:56	4	1.8	SW
10/24/19 19:02	4	1.7	SSW
10/24/19 19:08	4	1.7	SSW
10/24/19 19:14	4	2.7	SSW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 19:19	3	1.4	SW
10/24/19 19:25	3	1.9	SSW
10/24/19 19:31	3	1.0	S
10/24/19 19:37	3	1.6	SSW
10/24/19 19:42	4	2.1	SSW
10/24/19 19:48	6	1.5	SSW
10/24/19 19:54	6	1.7	SW
10/24/19 20:00	6	1.4	WSW
10/24/19 20:05	5	2.3	SW
10/24/19 20:11	5	2.3	SW
10/24/19 20:17	5	1.6	SW
10/24/19 20:23	5	2.9	SSW
10/24/19 20:28	5	3.6	SSW
10/24/19 20:34	5	2.5	SSW
10/24/19 20:40	4	4.3	SSW
10/24/19 20:46	5	4.1	SSW
10/24/19 20:51	3	1.3	SW
10/24/19 20:57	3	3.2	SSW
10/24/19 21:03	3	2.5	SSW
10/24/19 21:09	4	2.1	SSW
10/24/19 21:14	3	1.2	SW
10/24/19 21:20	3	2.0	SSW
10/24/19 21:26	4	2.0	SSW
10/24/19 21:32	3	0.8	SSW
10/24/19 21:37	3	1.6	SW
10/24/19 21:43	5	1.5	SSW
10/24/19 21:49	6	1.5	SW
10/24/19 21:55	6	1.4	SW
10/24/19 22:00	7	1.0	SW
10/24/19 22:06	7	0.8	SW
10/24/19 22:12	7	1.2	WSW
10/24/19 22:18	8	1.5	WSW
10/24/19 22:23	10	1.4	SW
10/24/19 22:29	12	1.7	SW
10/24/19 22:35	12	1.2	SW
10/24/19 22:41	23	1.6	SW
10/24/19 22:46	30	1.6	SW
10/24/19 22:52	33	2.0	SW
10/24/19 22:58	38	2.5	SSW
10/24/19 23:04	38	2.1	SW
10/24/19 23:09	38	2.1	SSW
10/24/19 23:15	34	1.9	SSW
10/24/19 23:21	19	1.9	SSW
10/24/19 23:27	19	1.4	SW
10/24/19 23:32	28	1.8	SW
10/24/19 23:38	28	1.1	SW
10/24/19 23:44	61	1.5	SSW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 23:49	85	1.7	SW
10/24/19 23:55	85	1.7	SW

NOTE: Wind Direction reported in the direction that the wind is coming from

Daily H ₂ S Readings at MS3 - Keegan Landfill Monitoring			
Date/Time	MS-3 -- Hydrogen Sulfide (ppb)	Wind Speed (mph)	Wind Direction
10/24/19 0:05	5	2.3	WSW
10/24/19 0:10	5	2.2	SW
10/24/19 0:16	3	2.5	SW
10/24/19 0:22	4	2.2	SW
10/24/19 4:06	48	0.7	W
10/24/19 4:11	48	1.4	W
10/24/19 4:17	48	0.9	WSW
10/24/19 4:23	33	0.5	WSW
10/24/19 4:29	27	0.3	W
10/24/19 4:34	17	0.4	SW
10/24/19 4:40	17	0.3	WNW
10/24/19 7:06	0	0.4	W
10/24/19 7:12	0	0.5	WSW
10/24/19 7:17	0	0.3	WNW
10/24/19 7:23	9	0.3	
10/24/19 7:29	9	0.4	
10/24/19 7:35	9	0.4	WSW
10/24/19 7:40	1	0.7	WSW
10/24/19 7:46	1	0.2	S
10/24/19 7:52	1	0.6	ENE
10/24/19 7:58	6	0.8	E
10/24/19 8:03	6	0.3	ESE
10/24/19 8:09	6	0.5	S
10/24/19 8:15	2	2.6	SSW
10/24/19 8:21	0	2.5	SSW
10/24/19 8:26	0	2.8	SSW
10/24/19 8:32	0	3.5	SSW
10/24/19 8:38	0	2.7	SSW
10/24/19 8:44	0	2.9	SW
10/24/19 8:49	0	3.4	SSW
10/24/19 8:55	0	2.8	SSW
10/24/19 9:01	0	2.6	SSW
10/24/19 9:07	0	1.6	SSW
10/24/19 9:12	0	3.1	SW
10/24/19 9:18	0	1.3	S
10/24/19 9:24	0	2.7	SW
10/24/19 9:30	0	1.9	SSW
10/24/19 9:35	0	0.9	S
10/24/19 9:41	0	1.1	ESE
10/24/19 9:47	0	1.8	S
10/24/19 9:53	0	1.1	SSE
10/24/19 9:58	0	1.7	SSE
10/24/19 10:04	0	1.3	SSE
10/24/19 10:10	0	0.8	SSE

Downtime before and after exceedance period

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 10:16	0	1.1	SE
10/24/19 10:21	0	1.2	S
10/24/19 10:27	0	1.0	S
10/24/19 10:33	0	1.4	S
10/24/19 10:39	0	1.0	S
10/24/19 10:44	0	0.9	E
10/24/19 10:50	0	1.1	SSE
10/24/19 10:56	0	1.1	SSE
10/24/19 11:02	0	0.9	SE
10/24/19 11:07	0	1.5	SSE
10/24/19 11:13	0	1.0	S
10/24/19 11:19	0	1.4	SSE
10/24/19 11:25	0	0.9	SSE
10/24/19 11:30	0	1.7	SSE
10/24/19 11:36	0	1.4	WSW
10/24/19 11:42	0	1.7	SE
10/24/19 11:48	0	1.7	SE
10/24/19 11:53	1	1.4	SSE
10/24/19 11:59	1	2.3	SE
10/24/19 12:05	1	2.9	S
10/24/19 12:11	1	3.2	S
10/24/19 12:16	1	2.5	SSE
10/24/19 12:22	1	2.5	S
10/24/19 12:28	1	2.4	S
10/24/19 12:34	1	4.7	S
10/24/19 12:39	1	6.0	SW
10/24/19 12:45	1	4.4	SSW
10/24/19 12:51	2	4.3	SSW
10/24/19 12:57	2	4.6	SSW
10/24/19 13:02	2	2.8	SSW
10/24/19 13:08	2	4.3	S
10/24/19 13:14	2	3.3	SSW
10/24/19 13:20	2	4.1	SW
10/24/19 13:25	2	2.1	SSW
10/24/19 13:31	3	5.3	SW
10/24/19 13:37	3	5.8	SW
10/24/19 13:43	3	4.7	SW
10/24/19 13:48	3	4.4	S
10/24/19 13:54	2	1.9	S
10/24/19 14:00	2	2.7	S
10/24/19 14:06	2	5.3	SSW
10/24/19 14:11	2	2.7	S
10/24/19 14:17	2	3.4	SSW
10/24/19 14:23	2	4.8	WSW
10/24/19 14:29	2	6.2	SW
10/24/19 14:34	2	3.8	SSW
10/24/19 14:40	2	3.9	SW

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 14:46	2	5.9	SW
10/24/19 14:52	2	2.0	SSW
10/24/19 14:58	2	4.4	S
10/24/19 15:03	2	2.9	SSE
10/24/19 15:09	2	5.9	SSW
10/24/19 15:15	2	4.5	S
10/24/19 15:21	2	4.4	SSW
10/24/19 15:26	2	2.8	S
10/24/19 15:32	2	4.2	S
10/24/19 15:38	2	2.8	SSE
10/24/19 15:43	2	3.2	SSE
10/24/19 15:49	2	2.6	SSE
10/24/19 15:55	2	3.1	S
10/24/19 16:01	2	2.5	SSE
10/24/19 16:07	2	2.1	S
10/24/19 16:24	2	3.6	S
10/24/19 16:30	2	3.1	SSE
10/24/19 16:35	2	2.2	SSE
10/24/19 16:41	2	2.4	SE
10/24/19 16:47	2	2.2	S
10/24/19 16:53	2	2.4	S
10/24/19 16:58	2	1.7	SE
10/24/19 17:04	2	2.9	SSE
10/24/19 17:10	2	2.0	SSE
10/24/19 17:16	2	2.1	S
10/24/19 18:51	0	2.5	SSW
10/24/19 18:57	0	2.2	S
10/24/19 19:03	0	2.1	S
10/24/19 19:09	0	2.1	SSW
10/24/19 19:14	0	2.7	SSW
10/24/19 19:20	0	3.2	S
10/24/19 19:26	0	3.3	SSW
10/24/19 19:32	0	2.2	SSW
10/24/19 19:37	0	3.4	SSW
10/24/19 19:43	0	2.0	S
10/24/19 19:49	0	3.8	S
10/24/19 19:55	0	2.2	SSW
10/24/19 20:00	0	1.5	S
10/24/19 20:06	0	2.9	SSW
10/24/19 20:12	0	3.2	S
10/24/19 20:18	0	2.1	S
10/24/19 20:23	0	2.8	S
10/24/19 20:29	0	3.9	SSW
10/24/19 20:35	0	3.8	S
10/24/19 20:41	0	3.1	S
10/24/19 20:46	0	3.3	S
10/24/19 20:52	0	3.9	S

NOTE: Wind Direction reported in the direction that the wind is coming from

10/24/19 20:58	0	3.0	S
10/24/19 21:04	0	2.8	SSW
10/24/19 21:09	0	2.9	S
10/24/19 21:15	0	3.7	SSW
10/24/19 21:21	0	2.3	S
10/24/19 21:27	0	2.8	S
10/24/19 21:32	0	1.9	SSW
10/24/19 21:38	0	3.6	SSW
10/24/19 21:44	0	3.4	SSW
10/24/19 21:50	0	2.4	SSW
10/24/19 21:55	0	1.2	SW
10/24/19 22:01	0	1.4	SSW
10/24/19 22:07	0	0.8	SSW
10/24/19 22:13	0	0.4	NW
10/24/19 22:18	0	0.8	SW
10/24/19 22:24	0	1.3	SW
10/24/19 22:30	0	0.7	WSW
10/24/19 22:36	0	0.7	WNW
10/24/19 22:41	0	3.0	SSW
10/24/19 22:47	0	1.0	SW
10/24/19 22:53	0	2.1	SW
10/24/19 22:59	0	2.7	SSW
10/24/19 23:04	0	1.9	SSW
10/24/19 23:10	0	1.7	SSW
10/24/19 23:16	0	1.3	SW
10/24/19 23:22	0	1.4	SW
10/24/19 23:27	0	1.5	SW
10/24/19 23:33	0	0.5	SSW
10/24/19 23:39	0	0.9	SW
10/24/19 23:45	0	0.8	W
10/24/19 23:50	0	1.0	WSW
10/24/19 23:56	0	1.0	SSW

NOTE: Wind Direction reported in the direction that the wind is coming from

Attachment 4



