

July 18, 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: July 16 and 17, 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 July 16 and 17, 2019, NEXA and SCS Engineers, 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 station MS-1 at the Keegan Landfill (see Attachment 1). NJSEA made this notification, as required under the NJDEP-approved Monitoring Action Plan and Reference #11 of the subject Permit, for raw data collected from MS-1 on July 16 and 17, 2019 (see Attachment 2). We provide discussion and analysis of the data recorded at MS-1 below.

MONITORING STATION MS-1

The 30-minute rolling average H₂S concentration was in excess of 30 ppb at between 11:10 pm and 11:50 pm; and, between 5:20 am and 5:40 am at Monitoring Station MS-1 on July 16 and 17, respectively (see raw data in Attachment 2). The hydrogen sulfide concentration, average wind speed and wind direction measured during the period of the exceedance are provided in Attachment 3. The average wind speed and direction were 4 mph and 207 degrees; and, 3.1 mph and 208 degrees, respectively (i.e., from the south-southwest). The wind direction and MS-1 are shown on a map of the site. The nearest potential receptor is approximately 2,500 feet from the monitoring station (see Attachment 4).

The cause of the emissions from Monitoring Station MS-1 appears to be uncontrolled emissions from the Landfill. There was no corrective action implemented in accordance with the Odor Control Plan, as the exceedances occurred overnight and returned to less than 30 ppb within approximately one-



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half hour. Construction of a landfill gas collection and control system (GCCS) has commenced. The GCCS is expected to be operational by September 17, 2019 to control emissions from the Landfill.

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 I
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; tmarturano@njsea.com; Wilkinson_Lisa; cwu@emilcott.com; Ayers_Christine
Subject: IntelliForm For (8005117069) 2019-07-17 12:48AM
Date: Wednesday, July 17, 2019 12:49:19 AM



New Jersey Sports & Exposition Authority

7/17/2019 12:49:08 AM

IN: 07/16/19 11:11 PM (E1DAN)
OUT: 07/17/19 12:48 AM (STLEM AutoFile)

TIME EMAIL RECEIVED: **8:10 PM** **PST/11:10 PM EST**

REPORTING: **MS - #1 REPORTS 54.667 PPB**

DEP LOG/INCIDENT #1: **19-07-16-0638-48**

DEP LOG/INCIDENT #2: **19-07-16-0638-48**

DEP OPERATOR #: **35**

- 1) 07/16/19 11:12 PM E1LEE Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2 dialed DEP
- 2) 07/16/19 11:16 PM E1LEE relayed to operator 68
- 3) 07/16/19 11:17 PM E1LEE Set Delay Action 015 (2309665)
- 4) 07/16/19 11:53 PM D1MIL Get Delay Action (2309665)
- 5) 07/16/19 11:59 PM E1LEE Set Delay Action 015 (2309665)
- 6) 07/17/19 12:30 AM D1DLC Get Delay Action (2309665)
- 7) 07/17/19 12:39 AM E1DAN Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2
- 8) 07/17/19 12:48 AM E1DAN relayed update to operator 35
- 9) 07/17/19 12:48 AM E1DAN these alerts were all received before 12a
- 10) 07/17/19 12:48 AM E1DAN Auto Script CALL COMPLETED
- 11) 07/17/19 12:49 AM *EM Email OK: OFFICE EMAIL, api@nexa.com
- 12) 07/17/19 12:49 AM API API Email csanz@njsea.com
- 13) 07/17/19 12:49 AM API API Email tmarturano@njsea.com
- 14) 07/17/19 12:49 AM API API Email lwilkinson@scsengineers.com
- 15) 07/17/19 12:49 AM API API Email cwu@emilcott.com
- 16) 07/17/19 12:49 AM API API Email cstokes@scsengineers.com

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From: [Nexa](#)
To: csanz@njsea.com; tmarturano@njsea.com; Wilkinson_Lisa; cwu@emilcott.com; Ayers_Christine
Subject: IntelliForm For (8005117069) 2019-07-17 06:06AM
Date: Wednesday, July 17, 2019 6:07:54 AM



New Jersey Sports & Exposition Authority

7/17/2019 6:07:46 AM

IN: 07/17/19 05:26 AM (E1DAN)
OUT: 07/17/19 06:06 AM (STLEM AutoFile)

TIME EMAIL RECEIVED: **520A**

REPORTING: **MS#1 REPORTS 39.167 PPB**

DEP LOG/INCIDENT #1: **19-07-17-0531-41**

DEP LOG/INCIDENT #2: **19-07-17-0531-41**

DEP OPERATOR #: **68**

-
- 1) 07/17/19 05:27 AM E1DAN Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2
 - 2) 07/17/19 05:31 AM E1DAN dialed dep
 - 3) 07/17/19 05:31 AM E1DAN was placed on hold
 - 4) 07/17/19 05:32 AM E1DAN relayed to operator 68
 - 5) 07/17/19 05:33 AM E1DAN and started a new incident for the day
 - 6) 07/17/19 05:33 AM E1DAN Set Delay Action 015 (2309871)
 - 7) 07/17/19 05:33 AM E1DAN need to give follow up call
 - 8) 07/17/19 05:33 AM E1DAN feel free to send to me
 - 9) 07/17/19 06:04 AM D1TRT Get Delay Action (2309871)
 - 10) 07/17/19 06:05 AM E1DAN Dial DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) 8779276337,,2
 - 11) 07/17/19 06:07 AM E1DAN dialed dep for attempt to
 - 12) 07/17/19 06:07 AM E1DAN gave update to operator 60
 - 13) 07/17/19 06:07 AM E1DAN Auto Script CALL COMPLETED
 - 14) 07/17/19 06:07 AM *EM Email OK: OFFICE EMAIL, api@nexa.com
 - 15) 07/17/19 06:08 AM API API Email csanz@njsea.com
 - 16) 07/17/19 06:08 AM API API Email tmarturano@njsea.com
 - 17) 07/17/19 06:08 AM API API Email lwilkinson@scsengineers.com
 - 18) 07/17/19 06:08 AM API API Email cwu@emilcott.com
 - 19) 07/17/19 06:08 AM API API Email cstokes@scsengineers.com

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July 17, 2019
File No. 02219702.00

Summary of NJDEP Hotline Notification – 1-877-927-6337

- I. Reporter Information
 - a. Lisa Wilkinson, 845-918-5219
 - b. SCS Engineers, 4 Executive Boulevard, Suffern, NY 10901

- II. Facility Information
 - a. Responsible Party: New Jersey Sports & Exposition Authority
 - b. Address: One DeKorte Park Plaza, Lyndhurst, NJ 07071
 - c. Facility Contact and phone: Tom Marturano, 201-460-4613
 - d. Facility Name: Keegan Landfill
 - e. Program Interest Number: 13317
 - f. Permit Number: EIP190001
 - g. Facility Location: 437 Bergen Ave, Kearny, NJ 07032

- III. Incident Information
 - a. Date and time of occurrence: July 17, 2019 from 5:27 am through 5:38 am.
 - b. Log # from DEP line: 19-07-17-2102-06 Operator 16 (call made at approximately 9 pm on July 17, 2019).
 - c. Hydrogen sulfide gas measurement exceeding the limit of 30 ppb for 30 minutes at the monitoring station MS-1 with maximum concentration of 39.3 ppb 5:27 am through 5:38 am.



Attachment 2

**Hydrogen Sulfide Concentrations
Monitoring Station MS-1
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	Rolling 30 Minute Average (ppb)
7/16/2019 19:00	0	
7/16/2019 19:06	0	
7/16/2019 19:11	0	
7/16/2019 19:17	1	
7/16/2019 19:23	1	
7/16/2019 19:29	1	0.5
7/16/2019 19:34	1	0.7
7/16/2019 19:40	1	0.8
7/16/2019 19:46	1	1.0
7/16/2019 19:52	1	1.0
7/16/2019 19:57	1	1.0
7/16/2019 20:03	0	0.8
7/16/2019 20:09	0	0.7
7/16/2019 20:15	0	0.5
7/16/2019 20:20	0	0.3
7/16/2019 20:26	0	0.2
7/16/2019 20:32	0	0.0
7/16/2019 20:38	0	0.0
7/16/2019 20:43	0	0.0
7/16/2019 20:49	0	0.0
7/16/2019 20:55	0	0.0
7/16/2019 21:01	0	0.0
7/16/2019 21:06	0	0.0
7/16/2019 21:12	2	0.3
7/16/2019 21:18	2	0.7
7/16/2019 21:24	3	1.2
7/16/2019 21:29	4	1.8
7/16/2019 21:35	4	2.5
7/16/2019 21:41	3	3.0
7/16/2019 21:47	3	3.2
7/16/2019 21:52	4	3.5
7/16/2019 21:58	4	3.7
7/16/2019 22:04	6	4.0
7/16/2019 22:10	11	5.2
7/16/2019 22:15	14	7.0
7/16/2019 22:21	11	8.3
7/16/2019 22:27	11	9.5
7/16/2019 22:33	11	10.7
7/16/2019 22:38	9	11.2

**Hydrogen Sulfide Concentrations
Monitoring Station MS-1
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	Rolling 30 Minute Average (ppb)
7/16/2019 22:44	9	10.8
7/16/2019 22:50	9	10.0
7/16/2019 22:56	55	17.3
7/16/2019 23:01	56	24.8
7/16/2019 23:07	56	32.3
7/16/2019 23:13	55	40.0
7/16/2019 23:19	53	47.3
7/16/2019 23:24	53	54.7
7/16/2019 23:30	41	52.3
7/16/2019 23:36	16	45.7
7/16/2019 23:42	9	37.8
7/16/2019 23:47	9	30.2
7/16/2019 23:53	9	22.8
7/16/2019 23:59	9	15.5
7/17/2019 0:05	9	10.2
7/17/2019 0:10	9	9.0
7/17/2019 0:16	9	9.0
7/17/2019 0:22	19	10.7
7/17/2019 0:28	19	12.3
7/17/2019 0:33	19	14.0
7/17/2019 0:39	7	13.7
7/17/2019 0:45	6	13.2
7/17/2019 0:51	3	12.2
7/17/2019 0:56	3	9.5
7/17/2019 1:02	3	6.8
7/17/2019 1:08	1	3.8
7/17/2019 1:14	1	2.8
7/17/2019 1:19	1	2.0
7/17/2019 1:25	2	1.8
7/17/2019 1:31	1	1.5
7/17/2019 1:37	2	1.3
7/17/2019 1:42	4	1.8
7/17/2019 1:48	6	2.7
7/17/2019 1:54	4	3.2
7/17/2019 2:00	4	3.5
7/17/2019 2:05	1	3.5
7/17/2019 2:11	0	3.2
7/17/2019 2:17	0	2.5
7/17/2019 2:23	0	1.5

**Hydrogen Sulfide Concentrations
Monitoring Station MS-1
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	Rolling 30 Minute Average (ppb)
7/17/2019 2:28	0	0.8
7/17/2019 2:34	0	0.2
7/17/2019 2:40	0	0.0
7/17/2019 2:46	0	0.0
7/17/2019 2:51	0	0.0
7/17/2019 2:57	1	0.2
7/17/2019 3:03	1	0.3
7/17/2019 3:09	2	0.7
7/17/2019 3:14	2	1.0
7/17/2019 3:20	2	1.3
7/17/2019 3:26	10	3.0
7/17/2019 3:32	15	5.3
7/17/2019 3:37	15	7.7
7/17/2019 3:43	15	9.8
7/17/2019 3:49	15	12.0
7/17/2019 3:55	9	13.2
7/17/2019 4:00	7	12.7
7/17/2019 4:06	5	11.0
7/17/2019 4:12	3	9.0
7/17/2019 4:18	3	7.0
7/17/2019 4:23	3	5.0
7/17/2019 4:29	3	4.0
7/17/2019 4:35	3	3.3
7/17/2019 4:41	3	3.0
7/17/2019 4:46	3	3.0
7/17/2019 4:52	3	3.0
7/17/2019 4:58	3	3.0
7/17/2019 5:04	54	11.5
7/17/2019 5:09	54	20.0
7/17/2019 5:15	67	30.7
7/17/2019 5:21	54	39.2
7/17/2019 5:27	4	39.3
7/17/2019 5:32	3	39.3
7/17/2019 5:38	3	30.8
7/17/2019 5:44	3	22.3
7/17/2019 5:50	30	16.2
7/17/2019 5:55	30	12.2
7/17/2019 6:01	30	16.5
7/17/2019 6:07	10	17.7

**Hydrogen Sulfide Concentrations
Monitoring Station MS-1
Keegan Landfill**

Date & Time	H ₂ S Concentration (ppb)	Rolling 30 Minute Average (ppb)
7/17/2019 6:13	8	18.5
7/17/2019 6:18	2	18.3
7/17/2019 6:24	1	13.5
7/17/2019 6:30	1	8.7
7/17/2019 6:36	1	3.8
7/17/2019 6:41	1	2.3
7/17/2019 6:47	1	1.2
7/17/2019 6:53	1	1.0
7/17/2019 6:59	1	1.0
7/17/2019 7:04	1	1.0
7/17/2019 7:10	1	1.0
7/17/2019 7:16	2	1.2
7/17/2019 7:22	2	1.3
7/17/2019 7:27	2	1.5
7/17/2019 7:33	2	1.7
7/17/2019 7:39	2	1.8
7/17/2019 7:45	3	2.2
7/17/2019 7:50	3	2.3
7/17/2019 7:56	3	2.5
7/17/2019 8:02	3	2.7
7/17/2019 8:08	3	2.8
7/17/2019 8:13	2	2.8
7/17/2019 8:19	2	2.7
7/17/2019 8:25	2	2.5
7/17/2019 8:31	2	2.3
7/17/2019 8:36	2	2.2
7/17/2019 8:42	2	2.0
7/17/2019 8:48	2	2.0
7/17/2019 8:54	2	2.0
7/17/2019 8:59	2	2.0
7/17/2019 9:05	2	2.0
7/17/2019 9:11	2	2.0
7/17/2019 9:17	2	2.0
7/17/2019 9:22	2	2.0
7/17/2019 9:28	2	2.0
7/17/2019 9:34	2	2.0
7/17/2019 9:40	2	2.0
7/17/2019 9:45	1	1.8
7/17/2019 9:51	1	1.7

Attachment 3

Daily H ₂ S Readings at MS1 - Keegan Landfill Monitoring			
Date/Time	MS-1 -- Hydrogen Sulfide (ppb)	Wind Speed (mph)	Wind Direction
7/16/19 7:08	0	1.3	NE
7/16/19 7:14	0	1.2	NE
7/16/19 7:19	0	0.8	ENE
7/16/19 7:37	0	0.6	NNW
7/16/19 7:42	0	0.6	SE
7/16/19 8:17	4	1.9	NE
7/16/19 8:23	3	3.1	NE
7/16/19 10:00	6	2.3	SW
7/16/19 10:05	0	3.4	WSW
7/16/19 10:11	0	3.3	SW
7/16/19 10:17	0	3.6	SW
7/16/19 10:23	0	3.9	SW
7/16/19 10:28	0	4.9	SSW
7/16/19 10:34	1	6.3	SSW
7/16/19 10:40	1	4.0	SW
7/16/19 10:46	2	6.5	SW
7/16/19 11:42	0	5.8	SSW
7/16/19 11:48	1	5.4	SW
7/16/19 11:54	1	1.9	W
7/16/19 11:59	2	4.3	SSW
7/16/19 12:05	4	5.7	SSW
7/16/19 12:11	4	4.4	SW
7/16/19 12:17	4	4.8	SSW
7/16/19 12:22	4	2.5	WSW
7/16/19 12:28	1	3.1	WSW
7/16/19 12:34	0	3.6	WSW
7/16/19 12:40	0	3.0	WSW
7/16/19 12:45	0	2.8	WSW
7/16/19 12:51	0	4.3	W
7/16/19 14:03	0	3.8	SW
7/16/19 14:09	0	4.7	SW
7/16/19 14:15	0	3.2	W
7/16/19 14:20	0	2.2	W
7/16/19 14:25	0	4.0	W
7/16/19 15:39	0	3.1	W
7/16/19 15:44	1	3.6	NW
7/16/19 15:50	2	3.9	SW
7/16/19 15:56	2	3.1	SW
7/16/19 16:02	1	3.5	SW
7/16/19 16:07	1	2.2	WSW
7/16/19 16:13	1	1.6	S
7/16/19 16:19	1	3.6	WSW
7/16/19 16:25	1	3.8	SSW
7/16/19 16:30	1	2.6	WNW

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

7/16/19 16:36	1	3.5	WNW
7/16/19 16:42	1	2.5	SW
7/16/19 16:48	1	2.5	W
7/16/19 16:53	1	1.3	WNW
7/16/19 16:59	1	2.3	WSW
7/16/19 17:05	1	2.6	WSW
7/16/19 17:11	0	2.9	WSW
7/16/19 17:16	0	4.6	SSW
7/16/19 17:22	0	3.7	WSW
7/16/19 17:28	0	3.9	SSW
7/16/19 17:34	0	1.7	WSW
7/16/19 17:39	0	2.4	WSW
7/16/19 17:45	1	2.2	SSW
7/16/19 17:51	1	7.3	SSW
7/16/19 17:57	0	3.6	WSW
7/16/19 18:02	2	2.5	SW
7/16/19 18:08	2	1.7	SW
7/16/19 18:14	0	4.3	SW
7/16/19 18:20	0	4.1	SSW
7/16/19 18:25	0	2.5	SW
7/16/19 18:31	0	4.5	SW
7/16/19 18:37	0	2.7	SW
7/16/19 18:43	0	3.4	SW
7/16/19 18:48	0	1.7	SW
7/16/19 18:54	0	3.7	SW
7/16/19 19:00	0	3.7	SSW
7/16/19 19:06	0	3.8	SW
7/16/19 19:11	0	4.8	SSW
7/16/19 19:17	1	6.7	SSW
7/16/19 19:23	1	4.7	SSW
7/16/19 19:29	1	1.4	SSW
7/16/19 19:34	1	4.4	SW
7/16/19 19:40	1	4.1	SW
7/16/19 19:46	1	2.4	SW
7/16/19 19:52	1	4.1	SW
7/16/19 19:57	1	4.0	SW
7/16/19 20:03	0	3.8	SSW
7/16/19 20:09	0	4.1	SW
7/16/19 20:15	0	3.4	SSW
7/16/19 20:20	0	3.4	SSW
7/16/19 20:26	0	3.5	SSW
7/16/19 20:32	0	2.4	SSW
7/16/19 20:38	0	3.8	SW
7/16/19 20:43	0	3.1	SSW
7/16/19 20:49	0	3.0	SSW
7/16/19 20:55	0	2.3	SW
7/16/19 21:01	0	3.0	SSW

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

7/16/19 21:06	0	2.8	SSW
7/16/19 21:12	2	2.4	SSW
7/16/19 21:18	2	2.9	SSW
7/16/19 21:24	3	3.9	SSW
7/16/19 21:29	4	2.9	SSW
7/16/19 21:35	4	3.4	SSW
7/16/19 21:41	3	3.2	SSW
7/16/19 21:47	3	3.1	SW
7/16/19 21:52	4	4.0	SSW
7/16/19 21:58	4	2.5	SSW
7/16/19 22:04	6	2.8	SSW
7/16/19 22:10	11	2.6	SSW
7/16/19 22:15	14	3.0	SSW
7/16/19 22:21	11	2.7	SSW
7/16/19 22:27	11	3.6	SSW
7/16/19 22:33	11	5.1	SSW
7/16/19 22:38	9	4.0	SSW
7/16/19 22:44	9	3.4	SW
7/16/19 22:50	9	4.3	SSW
7/16/19 22:56	55	3.8	SSW
7/16/19 23:01	56	5.3	SSW
7/16/19 23:07	56	4.7	SSW
7/16/19 23:13	55	4.8	SSW
7/16/19 23:19	53	5.5	SSW
7/16/19 23:24	53	4.9	SSW
7/16/19 23:30	41	3.4	SSW
7/16/19 23:36	16	4.4	SSW
7/16/19 23:42	9	3.3	SSW
7/16/19 23:47	9	1.8	SSW
7/16/19 23:53	9	3.0	SSW
7/16/19 23:59	9	2.7	SW

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

Daily H ₂ S Readings at MS1 - Keegan Landfill Monitoring			
Date/Time	MS-1 -- Hydrogen Sulfide (ppb)	Wind Speed (mph)	Wind Direction
7/17/19 0:05	9	2.1	SSW
7/17/19 0:10	9	3.2	SW
7/17/19 0:16	9	3.8	SSW
7/17/19 0:22	19	4.5	SSW
7/17/19 0:28	19	5.0	SSW
7/17/19 0:33	19	4.8	SW
7/17/19 0:39	7	3.4	SW
7/17/19 0:45	6	3.3	SW
7/17/19 0:51	3	3.7	SW
7/17/19 0:56	3	2.7	SSW
7/17/19 1:02	3	2.8	SSW
7/17/19 1:08	1	3.5	SSW
7/17/19 1:14	1	2.9	SSW
7/17/19 1:19	1	2.5	SW
7/17/19 1:25	2	3.8	SSW
7/17/19 1:31	1	3.4	SSW
7/17/19 1:37	2	3.4	SSW
7/17/19 1:42	4	4.3	SSW
7/17/19 1:48	6	2.7	SSW
7/17/19 1:54	4	1.4	SW
7/17/19 2:00	4	1.6	SSW
7/17/19 2:05	1	2.6	SSW
7/17/19 2:11	0	2.3	SW
7/17/19 2:17	0	1.2	SW
7/17/19 2:23	0	0.9	SW
7/17/19 2:28	0	2.1	SW
7/17/19 2:34	0	1.4	SSW
7/17/19 2:40	0	1.7	SSW
7/17/19 2:46	0	2.6	SW
7/17/19 2:51	0	1.6	SSW
7/17/19 2:57	1	1.4	SW
7/17/19 3:03	1	2.1	SSW
7/17/19 3:09	2	1.9	SSW
7/17/19 3:14	2	3.1	SSW
7/17/19 3:20	2	2.3	SW
7/17/19 3:26	10	5.1	SSW
7/17/19 3:32	15	2.3	SSW
7/17/19 3:37	15	3.3	SSW
7/17/19 3:43	15	3.6	SSW
7/17/19 3:49	15	2.4	SSW
7/17/19 3:55	9	2.1	SSW
7/17/19 4:00	7	2.5	SW
7/17/19 4:06	5	2.3	SSW
7/17/19 4:12	3	2.2	SSW

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

7/17/19 4:18	3	2.3	SSW
7/17/19 4:23	3	2.4	SSW
7/17/19 4:29	3	1.8	SSW
7/17/19 4:35	3	1.5	SW
7/17/19 4:41	3	1.9	SSW
7/17/19 4:46	3	2.1	SSW
7/17/19 4:52	3	3.4	SSW
7/17/19 4:58	3	3.0	SSW
7/17/19 5:04	54	2.1	SSW
7/17/19 5:09	54	2.9	SSW
7/17/19 5:15	67	3.7	SSW
7/17/19 5:21	54	2.9	SSW
7/17/19 5:27	4	3.1	SSW
7/17/19 5:32	3	3.7	SSW
7/17/19 5:38	3	2.7	SSW
7/17/19 5:44	3	2.7	SSW
7/17/19 5:50	30	2.6	SW
7/17/19 5:55	30	2.7	SW
7/17/19 6:01	30	2.2	SSW
7/17/19 6:07	10	4.0	SSW
7/17/19 6:13	8	2.3	SW
7/17/19 6:18	2	2.3	SW
7/17/19 6:24	1	2.7	SSW
7/17/19 6:30	1	2.4	SSW
7/17/19 6:36	1	2.0	SSW
7/17/19 6:41	1	1.9	SSW
7/17/19 6:47	1	2.5	SSW
7/17/19 6:53	1	2.9	SSW
7/17/19 6:59	1	2.9	SSW
7/17/19 7:04	1	2.9	SSW
7/17/19 7:10	1	4.7	SSW
7/17/19 7:16	2	4.7	SSW
7/17/19 7:22	2	3.3	SW
7/17/19 7:27	2	3.0	SW
7/17/19 7:33	2	3.1	SSW
7/17/19 7:39	2	3.8	SSW
7/17/19 7:45	3	4.6	SSW
7/17/19 7:50	3	3.8	SSW
7/17/19 7:56	3	2.9	SW
7/17/19 8:02	3	4.0	SSW
7/17/19 8:08	3	4.4	SW
7/17/19 8:13	2	1.9	SW
7/17/19 8:19	2	1.8	SW
7/17/19 8:25	2	3.1	SW
7/17/19 8:31	2	3.2	WSW
7/17/19 8:36	2	2.9	SW
7/17/19 8:42	2	3.0	SW

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

7/17/19 8:48	2	4.2	SW
7/17/19 8:54	2	4.8	SSW
7/17/19 8:59	2	1.7	SW
7/17/19 9:05	2	2.4	SW
7/17/19 9:11	2	3.2	SW
7/17/19 9:17	2	3.0	SW
7/17/19 9:22	2	2.3	SW
7/17/19 9:28	2	2.1	SW
7/17/19 9:34	2	2.2	SW
7/17/19 9:40	2	4.5	SSW
7/17/19 9:45	1	5.4	SSW
7/17/19 9:51	1	3.3	SW
7/17/19 9:57	1	2.9	SW
7/17/19 10:03	1	3.1	SW
7/17/19 10:08	1	4.6	SSW
7/17/19 10:14	0	5.0	SSW
7/17/19 10:20	1	2.9	WSW
7/17/19 10:26	1	3.2	SSW
7/17/19 10:31	3	6.1	SSW
7/17/19 10:37	3	3.9	SW
7/17/19 10:43	3	3.6	SW
7/17/19 10:49	3	2.6	W
7/17/19 10:54	14	2.1	SW
7/17/19 11:00	9	2.9	W
7/17/19 11:06	9	3.5	SSW
7/17/19 11:12	9	3.5	SW
7/17/19 11:17	4	2.8	W
7/17/19 11:23	2	3.0	W
7/17/19 11:29	2	4.5	WSW
7/17/19 11:35	2	4.0	WNW
7/17/19 11:40	2	4.3	SW
7/17/19 11:46	1	3.4	WNW
7/17/19 11:52	1	3.6	SW
7/17/19 11:58	1	3.7	SW
7/17/19 12:03	1	3.3	WSW
7/17/19 12:09	1	2.7	SW
7/17/19 12:15	2	8.2	SSW
7/17/19 12:21	4	3.1	SW
7/17/19 12:26	4	5.7	SW
7/17/19 12:32	4	4.4	SW
7/17/19 12:38	4	4.8	SW
7/17/19 12:44	7	2.2	WSW
7/17/19 12:49	7	6.1	SSW
7/17/19 12:55	9	3.1	WSW
7/17/19 13:01	9	3.4	SW
7/17/19 13:07	8	5.0	SSW
7/17/19 13:12	9	7.2	SSW

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

7/17/19 13:18	8	2.5	SW
7/17/19 13:24	8	3.8	SW
7/17/19 13:30	8	7.4	SSW
7/17/19 13:35	8	1.6	SW
7/17/19 13:41	8	5.2	SSW
7/17/19 13:47	4	6.5	SW
7/17/19 13:53	4	3.4	SSW
7/17/19 13:58	4	2.8	SW
7/17/19 14:04	7	4.9	SW
7/17/19 14:10	4	6.3	SW
7/17/19 14:16	5	6.5	SSW
7/17/19 14:21	5	5.1	SSW
7/17/19 14:27	4	3.7	SW
7/17/19 14:33	0	3.9	SW
7/17/19 14:38	0	4.6	SW
7/17/19 14:44	0	4.9	SSW
7/17/19 14:50	0	6.7	SW
7/17/19 14:56	0	5.0	SSW
7/17/19 15:01	0	6.4	SSW
7/17/19 15:07	0	5.3	SW
7/17/19 15:13	0	3.4	SW
7/17/19 15:19	0	5.8	SSW
7/17/19 15:24	0	5.7	SW
7/17/19 15:30	0	3.3	WSW
7/17/19 16:44	5	3.9	SSW
7/17/19 16:50	5	6.5	SSW
7/17/19 16:56	3	4.4	SW
7/17/19 17:01	4	4.5	SSW
7/17/19 17:07	8	5.2	SSW
7/17/19 17:13	6	4.5	SW
7/17/19 17:19	4	6.5	SSW
7/17/19 17:24	4	5.1	SW
7/17/19 17:30	3	2.6	SW
7/17/19 17:36	2	2.5	SW
7/17/19 17:42	2	3.4	SW
7/17/19 17:47	2	2.6	SW
7/17/19 17:53	1	5.0	SSW
7/17/19 17:59	1	2.0	WSW
7/17/19 18:05	1	3.6	SW
7/17/19 18:10	1	3.4	SW
7/17/19 18:16	1	5.3	SSW
7/17/19 18:22	1	3.1	SW
7/17/19 18:28	1	2.7	SW
7/17/19 18:33	1	2.4	WSW
7/17/19 18:39	0	2.8	W
7/17/19 18:45	0	2.1	WSW
7/17/19 18:51	0	2.0	W

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

7/17/19 18:56	0	2.3	SW
7/17/19 19:02	0	1.9	WSW
7/17/19 19:08	0	2.3	WSW
7/17/19 19:14	0	2.5	WSW
7/17/19 19:19	0	2.1	W
7/17/19 19:25	0	1.1	SW
7/17/19 19:31	0	0.9	W
7/17/19 19:37	0	1.7	WNW
7/17/19 19:42	0	1.6	NW
7/17/19 19:48	0	1.9	WNW
7/17/19 19:54	0	2.9	WNW
7/17/19 20:00	0	6.4	WNW
7/17/19 20:05	0	8.2	NW
7/17/19 20:11	0	2.5	WNW
7/17/19 20:17	0	2.8	W
7/17/19 20:23	0	6.3	WNW
7/17/19 20:28	0	3.6	W
7/17/19 20:34	0	4.0	W
7/17/19 20:40	0	5.3	W
7/17/19 20:46	0	4.2	NW
7/17/19 20:51	0	3.8	NW
7/17/19 20:57	0	1.5	NNW
7/17/19 21:03	0	1.9	NNW
7/17/19 21:09	0	4.7	NE
7/17/19 21:14	0	6.1	NE
7/17/19 21:20	0	5.9	NE
7/17/19 21:26	0	2.3	NE
7/17/19 21:32	0	1.6	ENE
7/17/19 21:37	0	2.3	SSW
7/17/19 21:43	0	3.1	S
7/17/19 21:49	0	2.7	S
7/17/19 21:55	0	0.3	E
7/17/19 22:00	0	0.8	ENE
7/17/19 22:06	0	1.0	ESE
7/17/19 22:12	0	0.9	SE
7/17/19 22:18	0	0.4	ENE
7/17/19 22:23	0	1.1	ENE
7/17/19 22:29	0	1.2	SE
7/17/19 22:35	0	2.5	E
7/17/19 22:41	0	1.5	E
7/17/19 22:46	0	1.7	ESE
7/17/19 22:52	0	1.4	ESE
7/17/19 22:58	0	0.8	ESE
7/17/19 23:04	0	1.3	SSW
7/17/19 23:09	0	0.8	SW
7/17/19 23:15	0	2.2	SSW
7/17/19 23:21	0	1.9	SSW

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

7/17/19 23:27	0	0.5	SSE
7/17/19 23:32	0	0.6	SE
7/17/19 23:38	0	0.7	SE
7/17/19 23:44	0	1.0	ESE
7/17/19 23:50	0	1.1	SSE
7/17/19 23:55	0	1.4	SSW

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

Attachment 4

