

## SCS FIELD SERVICES

File No. 13213027.01  
October 22, 2014

Mr. Thomas P. Harvey  
Director  
Ontario County Planning Department  
20 Ontario Street  
Canandaigua, NY 14424

Subject: Surface Emission Monitoring (SEM)  
Ontario County Landfill, Stanley, NY

Dear Mr. Harvey:

On September 29 and 30, 2014, SCS Field Services (SCS-FS) conducted surface emissions monitoring (SEM) at the Ontario County Landfill (Landfill) for the Ontario County Planning Department (County). The following report summarizes the work performed and presents the monitoring data collected.

The Landfill is owned by the County and operated by Casella Waste Services of Ontario, LLC (Casella). The Landfill consists of three distinct waste areas: Phase I, Phase II/IIA and Phase III. Phase I and II/IIA are closed and capped, and Phase III is currently active and partially capped.

The Landfill is subject to the mandatory landfill gas (LFG) collection and control system (GCCS) requirements of US EPA's New Source Performance Standards (NSPS), under Subpart WWW. SCS Engineers (SCS) recently prepared a GCCS evaluation report which identified several issues related to the LFG collection system, and recommendations for resolution of these issues. In accordance with NSPS requirements, Casella performs regular surface emission monitoring (SEM) of the Landfill. SCS-FS performed an independent SEM event to corroborate the findings and recommendations in SCS's GCCS evaluation report.

SCS-FS met with Jeff Prince of Landfill Gas O&M, who escorted us while at the Landfill. The monitoring was conducted in general accordance with 40 CFR 60.755 (c) and (d), and 40 CFR 60, Appendix A, Method 21. A total of 261 surface points and 72 wellheads on the landfill were tested for emissions of volatile organic compounds (VOC), as methane, using a Foxboro TVA-1000B flame ionization detector. Monitoring was performed over the path as detailed on the Phase III *SEM Plan*, prepared by SCS on July 23, 2014, included as Attachment 1. It is noted that the path on the SEM plan does not cover the entire Landfill area as required in 40 CFR 60.755 (c) and (d), but instead covers specific areas of the Landfill that represent higher levels of concern relative to odors. This SEM event was not performed to satisfy the requirements of 40 CFR 60.755 (c) and (d), but rather to corroborate the findings of SCS's GCCS evaluation report.

The Calibration and Pertinent Data Forms for the monitoring performed are provided in Attachment 2. The SEM data are presented in Table 1, Attachment 3.



## Observations

Over the area surveyed, nine surface points and nine wellheads were found to have emission levels exceeding 500 ppm above background. Emissions were observed at the following locations:

- Tag 17 539 ppm Poor cover
- Tag 25 614 ppm Poor cover
- Tag 108 776 ppm Poor cover
- Tag 127 673 ppm Poor cover
- Tag 135 1132 ppm Poor cover
- Tag 167 1174 ppm Poor cover
- Tag 169 934 ppm Poor cover
- Tag 205 699 ppm Poor cover
- Tag 238 510 ppm Poor cover
- EW-102 854 ppm Poor well seal
- EW-115 2204 ppm Poor well seal
- EW-128 5083 ppm Poor well seal
- EW-129A 1031 ppm Poor well seal
- EW-7 1147 ppm Poor well seal
- EW-83 808 ppm Poor well seal
- EW-85 11230 ppm Poor well seal
- EW-89 2431 ppm Poor well seal
- EW-91 584 ppm Poor well seal

SCS-FS noted that the cover appeared thin with areas of exposed refuse on the top central portion of the site. SCS-FS further noted an area in the southwest corner of the Landfill where LFG appears to be accumulating under the exposed membrane cap. While surface emissions were not monitored in these areas, such LFG accumulation indicates poor LFG collection coverage in these areas.

The SEM exceedances were reported to Landfill Gas O&M. SCS-FS recommended that cover maintenance be performed in the areas with thin cover and exposed refuse, and that well seals be improved on the wellheads with excessive emissions. In addition, SCS-FS recommended that pipe survey markers be promptly removed once surveying is complete to avoid the possibility of the marker acting as a conduit for emissions.

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Thank you for the opportunity to provide this service. Please contact either of the undersigned if you require further information.

Sincerely,



Keith Kleckner  
Project Superintendent  
**SCS FIELD SERVICES**



Thomas M. Lock  
Project Manager  
**SCS FIELD SERVICES**

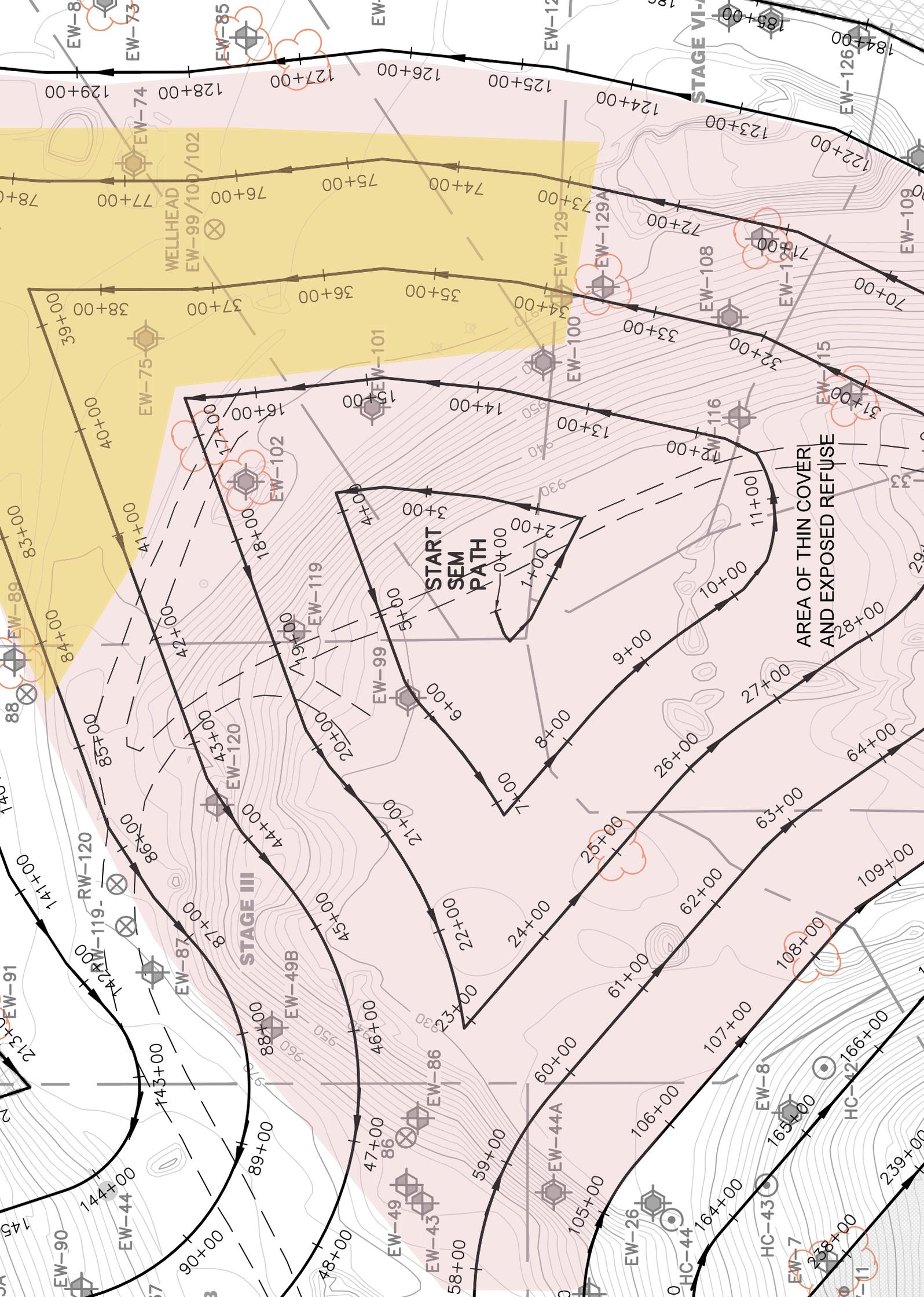
cc: Marcus Scrimgeour, SCS Engineers

Attachments

## ATTACHMENTS

1. SEM Monitoring Plan
2. SEM Calibration and Pertinent Data Form
3. SEM Data (Table 1)

ATTACHMENT 1  
SEM Monitoring Plan



ATTACHMENT 2

SEM Calibration and Pertinent Data Form

# SCS FIELD SERVICES

## NSPS Surface Emissions Monitoring Calibration and Pertinent Data Form

Date: 09/29/14 Site: Ontario county Job Number: 13213027.01

Technician(s): Keith Kleckner

### Weather Observations

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 29.30 "Hg  
Air Temperature: 77 °F General Weather Conditions: Clear

### Calibration Information

Instrument S/N 34945693 Span Calibration Gas Manufacturer: Landtec  
Span Cal Gas Lot #: 43315-66 Expiration Date: Nov.2016 Concentration: 508 ppm  
Zero Cal Gas Lot #: 43315-62 Expiration Date: Nov.2016 Concentration:        ppm

### Pre-monitoring Calibration Precision Check

*Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. **The calibration precision must be less than or equal to 10% of the calibration gas value.***

Trial	Zero Air Reading (ppm)	Cal Gas Reading (ppm)	Cal Gas Conc. – Cal Gas Reading
1	2.23	512	4
2	2.45	515	7
3	3.08	516	8
<b>Average Difference:</b>			6

$$\begin{aligned}
 \text{Calibration Precision} &= \text{Average Difference} / \text{Cal. Gas Conc.} \quad \times 100\% \\
 &= \frac{6}{508} \times 100\% \\
 &= \underline{1.25} \%
 \end{aligned}$$

### Pre-monitoring Response Time Check

*Procedure: Introduce zero concentration methane/H2S into the instrument. Quickly change to the calibration gas. Measure the amount of time it takes the instrument to read 90% of the calibration gas concentration. **This average response time must be less than or equal to 30 seconds.***

Trial	Start Time (Add Cal Gas) (hh:mm:ss)	Time at 90% Reading (hh:mm:ss)	Time Elapsed (Seconds)
1	12:10:00 PM	12:10:06 PM	6
2	12:11:00 PM	12:11:06 PM	6
3	12:12:00 PM	12:12:07 PM	7
<b>Average Response Time:</b>			6

### Background Concentration Checks

Upwind Location Description: Haul road NW of site Reading: 3.56 ppm  
Downwind Location Description: Haul road SE of site Reading: 10.33 ppm  
Average Background Reading: 6.95 ppm

### Post-monitoring Calibration Precision Check

Zero Air Reading: 3.11 ppm Cal Gas Reading: 516 ppm

Notes/Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# SCS FIELD SERVICES

## NSPS Surface Emissions Monitoring Calibration and Pertinent Data Form

Date: 09/30/14 Site: Ontario county Job Number: 13213027.01

Technician(s): Keith Kleckner

### Weather Observations

Wind Speed: 3 MPH Wind Direction: NW Barometric Pressure: 29.20 "Hg  
Air Temperature: 63 °F General Weather Conditions: Clear

### Calibration Information

Instrument S/N 34945693 Span Calibration Gas Manufacturer: Landtec  
Span Cal Gas Lot # : 43315-66 Expiration Date: Nov.2016 Concentration: 508 ppm  
Zero Cal Gas Lot # : 43315-62 Expiration Date: Nov.2016 Concentration:        ppm

### Pre-monitoring Calibration Precision Check

*Procedure: Calibrate the instrument. Make a total of three measurements by alternating zero air and the calibration gas. Record the readings and calculate the average algebraic difference between the instrument reading and the calibration gas as a percentage. **The calibration precision must be less than or equal to 10% of the calibration gas value.***

Trial	Zero Air Reading (ppm)	Cal Gas Reading (ppm)	Cal Gas Conc. – Cal Gas Reading
1	2.48	510	2
2	2.55	516	8
3	2.75	512	4
<b>Average Difference:</b>			5

$$\begin{aligned}
 \text{Calibration Precision} &= \text{Average Difference} / \text{Cal. Gas Conc.} \quad \times 100\% \\
 &= \frac{5}{508} \times 100\% \\
 &= \underline{0.92} \quad \%
 \end{aligned}$$

### Pre-monitoring Response Time Check

*Procedure: Introduce zero concentration methane/H2S into the instrument. Quickly change to the calibration gas. Measure the amount of time it takes the instrument to read 90% of the calibration gas concentration. **This average response time must be less than or equal to 30 seconds.***

Trial	Start Time (Add Cal Gas) (hh:mm:ss)	Time at 90% Reading (hh:mm:ss)	Time Elapsed (Seconds)
1	6:55:00 AM	6:55:06 AM	6
2	6:56:00 AM	6:56:06 AM	6
3	6:58:00 AM	6:58:07 AM	7
<b>Average Response Time:</b>			6

### Background Concentration Checks

Upwind Location Description: Haul road NW of site Reading: 4.56 ppm  
Downwind Location Description: Haul road SE of site Reading: 12.33 ppm  
Average Background Reading: 8.45 ppm

### Post-monitoring Calibration Precision Check

Zero Air Reading: 3.11 ppm Cal Gas Reading: 516 ppm

Notes/Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ATTACHMENT 3

Table 1 –SEM Data

**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
1	85	Start of September 29th monitoring
2	36	
3	46	
4	38	
5	26	
6	186	
7	80	
8	102	
9	33	
10	73	
11	31	
EW-116	14	
12	23	
13	56	
EW-100	71	
14	101	
15	60	
EW-101	55	
16	75	
17	539	Poor cover
EW-102	854	Poor well seal
18	101	
19	63	
EW-119	99	
20	70	
21	354	
22	69	
23	206	
24	34	
25	614	Poor cover
26	157	
27	97	
28	232	
29	174	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
30	206	
EW-114	141	
31	87	
EW-115	2204	Poor well seal
32	25	
33	45	
EW-129A	1031	Poor well seal
34	NA	Active working area; not accessible
35	NA	Active working area; not accessible
36	NA	Active working area; not accessible
37	NA	Active working area; not accessible
38	NA	Active working area; not accessible
39	NA	Active working area; not accessible
40	NA	Active working area; not accessible
41	NA	Active working area; not accessible
42	38	
43	98	
EW-120	238	
44	80	
45	83	
46	40	
EW-86	22	
47	9	
48	19	
49	8	
50	8	
51	9	
52	8	
53	20	
54	18	
55	10	
56	40	
57	23	
58	9	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
59	58	
60	92	
61	54	
62	78	
63	45	
64	31	
65	41	
66	51	
67	25	
EW-113	55	
68	35	
69	65	
70	79	
71	66	
EW-128	5083	Poor well seal
72	35	
73	NA	Active working area; not accessible
74	NA	Active working area; not accessible
75	NA	Active working area; not accessible
76	NA	Active working area; not accessible
77	NA	Active working area; not accessible
78	NA	Active working area; not accessible
79	NA	Active working area; not accessible
80	NA	Active working area; not accessible
81	NA	Active working area; not accessible
82	NA	Active working area; not accessible
83	NA	Active working area; not accessible
84	NA	Active working area; not accessible
EW-89	2431	Poor well seal
RW-88	250	
85	32	
86	40	
RW-120	17	
RW-119	28	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
EW-87	36	
87	48	
88	33	
89	18	
90	10	
91	7	
EW-90	21	
92	9	
EW-37	13	
93	14	
EW-36	220	
EW-122	6	
94	6	
95	6	
EW-35	40	
96	10	
EW-34	7	
97	18	
98	16	
99	19	
100	62	
101	42	
EW-29	17	
102	25	
EW-30	84	
103	18	
104	20	
EW-31	158	
105	198	
HC-44	487	
106	106	
107	94	
108	776	Poor cover
109	58	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
110	28	
111	43	
112	18	
113	13	
114	50	
115	10	
116	18	
EW-111	189	
117	NA	Active working area; not accessible
118	NA	Active working area; not accessible
119	NA	Active working area; not accessible
120	62	
121	112	
122	23	
123	33	
124	30	
125	60	
126	104	
127	673	Poor cover
EW-85	11230	Poor well seal
128	190	
129	246	
130	85	
131	194	
132	276	
133	147	
134	219	
135	1132	Poor cover
136	172	
137	91	
138	27	
139	56	
140	117	
141	33	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
142	72	
143	87	
144	23	
145	78	
EW-121	54	
EW-58	14	
146	15	
147	26	
EW-45A	11	
148	7	
EW-46A	8	
149	7	
150	8	
EW-19A	8	
151	8	
152	8	
153	8	End of September 29th monitoring
EW-16	22	Start of September 30th monitoring
154	21	
EW-32	21	
155	26	
156	27	
157	40	
EW-27	62	
158	25	
EW-28	88	
159	25	
EW-23	70	
160	24	
161	25	
EW-24	29	
162	33	
EW-25	293	
163	56	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
164	106	
HC-43	147	
165	280	
HC-42	321	
166	240	
167	1174	Poor cover
168	224	
169	934	Poor cover
170	173	
171	85	
172	14	
173	20	
174	20	
EW-98	186	
175	20	
176	13	
177	NA	Active working area; not accessible
178	NA	Active working area; not accessible
179	NA	Active working area; not accessible
180	NA	Active working area; not accessible
181	NA	Active working area; not accessible
EW-127	232	
182	88	
183	227	
184	83	
EW-126	126	
185	37	
EW-125	69	
186	82	
EW-124	90	
187	76	
188	51	
EW-123	26	
189	41	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
190	33	
191	68	
EW-83	808	Poor well seal
192	73	
EW-82	54	
193	133	
194	29	
195	104	
196	37	
EW-80	39	
197	14	
198	14	
199	50	
200	59	
201	113	
202	176	
EW-79	117	
203	93	
EW-78	104	
204	131	
205	699	Poor cover
206	269	
EW-77	145	
207	75	
208	130	
209	111	
210	247	
EW-76	155	
211	117	
EW-92	80	
212	87	
EW-91	584	Poor well seal
213	186	
214	223	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
215	219	
216	207	
217	219	
218	154	
219	91	
220	71	
221	63	
222	64	
223	36	
224	22	
225	45	
226	25	
227	17	
EW-15	17	
228	16	
EW-14	14	
229	31	
EW-20	21	
GV-7	9	
230	13	
EW-21	20	
231	35	
232	28	
GV-9	19	
EW-22	17	
233	19	
234	101	
235	24	
236	16	
EW-6	15	
237	25	
GV-11	34	
EW-7	1147	Poor well seal
238	510	Poor cover

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
239	26	
240	42	
241	39	
242	81	
243	6	
244	6	
245	6	
246	8	
HC-34	14	
247	9	
248	54	
HC-33	8	
249	5	
HC-32	6	
250	6	
251	5	
252	6	
253	6	
254	6	
255	6	
256	6	
257	6	
258	6	
259	6	
260	6	
261	6	
WCO-3	6	
262	6	
263	6	
264	6	
265	6	
266	6	
267	6	
268	6	

ppm - parts per million  
nd - not detected  
<1 - less than 1

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**TABLE 1. SURFACE EMISSIONS TESTING RESULTS  
Ontarion County Landfill, Stanley, NY**

**September 29 and 30, 2014**

Tag	FID Conc. (ppm)	Notes
269	6	
270	6	
271	6	
272	6	
273	7	
274	6	
275	6	
276	6	
277	6	
278	6	
279	6	
280	6	
281	6	
282	6	
283	6	
284	6	
285	6	
286	10	
287	12	
288	15	
289	14	End of September 30th monitoring