

BETHLEHEM DISTRICT OFFICE



September 10, 2015

Lower Saucon Township Manager  
3700 Old Philadelphia Pike  
Bethlehem, PA 18015

Attention: Mr. Jack Cahalan

Re: IESI PA Bethlehem Landfill  
TV 48-00027  
Lower Saucon Township, Northampton County

Dear Mr. Cahalan:

Please find enclosed a copy of the report of the inspection performed by this District Office at the IESI PA Bethlehem Landfill, located in your municipality. A copy of the inspection report is being provided to you pursuant to the provisions of Section 1101(a)(1) of Act 101, the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988.

If you have any questions, please feel free to contact me at 610-861-2074.

Sincerely,

*Tara Quinlivan*

Tara Quinlivan  
Air Quality Specialist  
Air Quality Program

**ROUTING**

- Council
- Manager
- Asst. Mgr.
- Zoning
- Finance
- Police
- P. Works
- P/C
- P & R
- EAC
- Engineer
- Solicitor
- Planner
- Landfill
- EMC
- Other *web*

4530 Bath Pike | Bethlehem, PA 18017

610.861.2070 | Fax 610.861.2072

www.depweb.state.pa.us

Date(s) of Inspection: 08/31/2015 & Sept. 1, 3, 8-10, 2015	TV <input checked="" type="checkbox"/> SM <input type="checkbox"/> NM <input type="checkbox"/>	PA <input type="checkbox"/> GP <input type="checkbox"/> MEGA <input type="checkbox"/>	Permit #(s): 48-00027	Expiration Date: 04/12/2018	Case #:	PF ID #: 594728
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Company Name: IESI PA Bethlehem Landfill	Municipality: Lower Saucon Township	County: NORTHAMPTON
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Plant Name:	Physical Location: Same as mailing address	Federal ID — Plant Code #: 22-3575227-1
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Responsible Official: Mr. Allen Schleyer	Mailing Address: 2335 Applebutter Rd.
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Title: District Manager	
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Phone #(s): 610-317-3200	Bethlehem, PA 18015
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**Mark (X) All Inspection Types That Apply To This Inspection:**

<input checked="" type="checkbox"/> Full Compliance Evaluation (FCE)	<input type="checkbox"/> Plan Approval Inspection	<input type="checkbox"/> File Review (FR)
<input type="checkbox"/> Operating Permit Inspection (PI)	<input type="checkbox"/> Initial Permit Inspection (IPI)	<input type="checkbox"/> Complaint Inspection (CI)
<input type="checkbox"/> Routine/Partial (RTPT)	<input type="checkbox"/> Follow-Up Inspection (Ref. Date: _____)	<input type="checkbox"/> Sample Collection (SC)
<input type="checkbox"/> Minor Source(s) Inspection (RFD)	<input type="checkbox"/> Stack Test Observation	<input type="checkbox"/> Multi-Media Inspection (MM)
<input type="checkbox"/> Other:	<input type="checkbox"/> Announced	

Annual Compliance Certification Received: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Date Received: 1/30/2015
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AMS Report Received: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	Date Received: 2/24/2015
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**Mark (X) All Activities That Apply:**

<input checked="" type="checkbox"/> File Review	<input checked="" type="checkbox"/> Pre-Inspection Briefing	<input checked="" type="checkbox"/> Exit Interview/Briefing
<input checked="" type="checkbox"/> Pre-Inspection Observations	<input checked="" type="checkbox"/> Check For New/Unreported Sources	<input type="checkbox"/> Sample(s) Collected
<input type="checkbox"/> Visible Emissions Observations	<input checked="" type="checkbox"/> Verify Operation of CEMS	<input checked="" type="checkbox"/> Other – Surface Monitoring

**Comments/Recommendations:** Enforcement since last FCE Yes  No  (If yes, attach summary)  
 On Monday, August 31, 2015 at 10:15 AM I arrived at IESI PA Bethlehem Landfill (facility) to begin a full compliance evaluation inspection (FCE). The facility operates a municipal waste landfill under Title V (TV) Air Permit # 48-00027, which includes Landfill Operations (Source 001) with a gas collection system and replacement flare (C002), Landfill Surface and Roadways (Source 002), Leachate Storage (Source 004), a CAT C9D1 Engine (Source 008), and Portable Crushing Operations (Source 755844) with water sprays (C005).  
  
 The FCE spanned multiple days. Surface Emission Monitoring occurred on 8/31 & 09/01/2015. The record review began on the afternoons of 08/31 & 09/01. The record review continued on 09/03/2015, and additional requested documents were received and reviewed on 09/08/2015, 09/09/2015, and 09/10/2015. On 08/31/2015 and 09/01/2015, Ms. Jessica Wagoner, Solid Waste Specialist, was also present on behalf of the Department (refer to separate Waste Department Program inspection). Mr. Allen Schleyer, District Manager, represented the facility during the FCE. eFACTS has been

Compliance Status: <input checked="" type="checkbox"/> In <input type="checkbox"/> Out <input type="checkbox"/> Pending <input type="checkbox"/> Awaiting Co. Report	Needs a Follow-Up Inspection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Company Representative: <i>Michael Steuden</i>	Title: OPERATION MANAGER	Signature: <i>[Signature]</i>	Date: 9-10-15
DEP Representative: Tara Quinlivan	Title: Air Quality Specialist	Signature: <i>[Signature]</i>	Date/Time: 14:30 9-10-15

This document is official notification that a representative of the Department of Environmental Protection, Air Quality Program, inspected the identified site. The findings of this inspection are shown above and on any attached pages, and may include violations uncovered during the inspection. Violations may also be discovered upon review of sample results or from any additional review of Department records. Notification will be forthcoming, if such violations are noted.



# INSPECTION REPORT

Continued

Commonwealth of Pennsylvania  
Department of Environmental Protection  
Air Quality Program

updated to ensure Mr. Schleyer is the permit contact. Mr. Schleyer's updated electronic mail address was also entered into the EFACTS system on 09/10/2015. The FCE ended at 12:00 on 9/10/2015.

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Odor patrols were conducted the morning of 8/31/2015 and the afternoon of 09/01/2015 in the area around the facility, including Steel City, Skyline Drive, and Applebutter Road (see odor patrol log attached). Landfill gas-like odors were not detected off-site during the odor patrol. Isolated and intermittent light and moderate landfill gas-like odors were detected on site during the surface monitoring events on 08/31 and 09/01 (see surface monitoring log comments section). Meteorological conditions are recorded on the surface monitoring logs (see logs attached). Instantaneous wind speed and direction while on site were 8.5 mph SSW on 08/31/2015 and 2.9 mph NNW on 09/01/2015. The southern odor neutralizing line (mister) was observed in intermittent operation during the FCE.

During the FCE the landfill was operating (Source 001), the flare was operating (C002), leachate was stored in a closed vessel (Source 004), and the roadways were being used (Source 002). Not in operation during the FCE was the CAT engine (Source 008) and the Portable Crushing Operations (Source 755844). A watering truck was observed treating landfill roadways during the FCE. I did not observe the truck wash in operation during the FCE. Mr. Schleyer indicated the truck wash is operated as needed. The roadways did not appear to merit the truck wash at the time observed.

The flare (C002) was operating during the FCE. Bethlehem Renewable Energy (BRE) appeared to not be accepting landfill gas for electrical generation starting at approximately 1:30 AM on 08/29/2015. As of 09:35 AM on 09/01/2015, BRE still appeared to not be operating. The instantaneous flare temperature was 1649°F, the 3-hour rolling average was 1658°F, and the gas flow to the flare was 3,416 standard cubic feet per minute (scfm).

Surface Emission Monitoring began on 8/31/2015 and continued into 9/01/2015. A total of 101 locations were monitored. There were thirteen methane concentrations detected greater than 500 parts per million (ppm) above the background concentration on 8/31 and ten above on 09/01 for a total of 23 separate locations for which methane concentrations 500 ppm above the background were detected. The results of the surface monitoring are included on the surface monitoring log sheet attached. The five locations for which methane concentrations detected greater than 500 ppm above background recorded during the last surface monitoring event (routine partial inspection on 07/30/2015) were re-measured during this FCE. The locations are EW 4-30, EW 4-30R, Red Valve (VB) Southeast of EW 4-50, LC-18, and the pipe east of LC-18. During this FCE the Red Valve (VB), LC-18, and the pipes east of LC-18 (now covered with soil) were measured below 500ppm methane, whereas EW 4-30 and EW 4-30R demonstrated methane concentrations more than 500ppm above background.

Company - plant name:  
IESI PA Bethlehem Landfill

Initials of representative interviewed:

Date:

*MS*

9-10-15



# INSPECTION REPORT

Continued

The Department is awaiting the follow-up surface monitoring information to the five 7/30/2015 routine partial inspection (RTPT) exceedances. The Department requests the facility notify the Department of when and what corrective actions were taken in response to the methane exceedances measured during the 7/30/2015 RTPT and during this FCE.

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The facility has expanded the gas collection well field since the last FCE and a summary follows:

- 1<sup>st</sup> Half 2014 (April 2014): EW 4-37, EW 4-38, EW 4-39, EW 4-40, EW 4-41, EW 4-42, EW 4-43
- 2<sup>nd</sup> Half 2014 (Beginning December 2014): EW 18R, EW 33R, EW 3-5R, EW 4-2R, EW 4-8R, EW 4-10R, EW 4-20R, EW 4-21R, EW 4-22R, EW 4-28R, EW 4-30R, EW 4-44, EW 4-46, EW 4-47, EW 4-48, EW 4-49, HW 4-29
- 1<sup>st</sup> Half 2015 (Beginning June 2015): EW 4-25R, EW 4-51, EW 4-55, EW 4-1R, EW 4-16R, EW 4-26R, EW 4-30, EW 4-52, EW 4-53, EW 4-54, HW 4-31, HW 4-32

Records were requested back to the last FCE conducted by the Department's Ms. Becky Easley on May 20, 2015. The following selected records were reviewed and appeared to be complete:

- Monthly waste accepted in tons, monthly total gas flow to BRE and to flare C002, and monthly estimated landfill gas generation rate corrected to 50% methane and using an interpolation of EPA's Landfill GEM Program results (copy enclosed)
- Continuous flow chart records of flare temperature and landfill gas flow rate (selected copies enclosed)
- 3-hour rolling average flare temperatures for selected dates and times (copy enclosed)
- Roadway treatment logs – sweeping and watering (selected copies enclosed)
- Crusher Source 755844 operating and maintenance records (copy enclosed)
- Landfill operations equipment and flare equipment maintenance records (selected copies enclosed)
- Weekly site level fugitive, visible, and malodor emission records (selected copies enclosed)
- Startup, shutdown, and malfunction plan on-site
- Revised copy of the Gas Capture and Collection System (GCCS) Design Plan
- Quarterly facility Field Report of Surface Emission Monitoring (6/24/2014, 12/11/2014, 2/2/2015, 5/28/2015)
- Monthly Pressure, Temperature, and Oxygen well head monitoring
- Asbestos shipment records (customer, tonnage, date, cell location and elevation) (copies enclosed)
- Odor neutralizer hours of operation, volume of neutralizer used, volatile organic compound (VOC) emissions monthly and on a 12-month rolling sum basis (copy enclosed for each unit – north and south)

The following reports have been received since the last FCE:

Company - plant name:  
IESI PA Bethlehem Landfill

Initials of representative interviewed:

MS

Date:

9-10-15



# INSPECTION REPORT

Continued

Commonwealth of Pennsylvania  
Department of Environmental Protection  
Air Quality Program

- 1st Half 2014, 2<sup>nd</sup> Half 2014, and 1<sup>st</sup> Half 2015 Semi-Annual NSPS Subpart WWW and NESHAP MACT Subpart AAAA Reports
- 2<sup>nd</sup> Quarter (Qtr) 2014, 3<sup>rd</sup> Qtr 2014, 4<sup>th</sup> Qtr 2014, 1<sup>st</sup> Qtr 2015, and 2<sup>nd</sup> Qtr 2015 Gas Collection/Capture Efficiency Reports indicated efficiency >80%
- Follow-up SEM reports for the Department SEM monitoring on 5/20/2014, 8/27/2014, 11/5/2014, 4/21/2015, and 6/24 & 6/29/2015
- 2014 Air Information Management System (AIMS) Emission Inventory Report
- 2014 TV Compliance Certification Report

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As of the commencement of this FCE, the Department has not issued the facility any plan approvals since the last FCE. The facility submitted a request for determination (RFD) for the north and south neutralizer system, and the Department approved the RFD (RFD #48-0751). Records related to the RFD were reviewed and included in the records reviewed list above. The facility also submitted an RFD for a separate trial neutralizer system (RFD #48-0766), which was Department approved. The trial system was observed during a previous partial inspection, and no longer appeared to be on-site during the FCE.

Since the last FCE in May 2014, the Department's Air Quality inspectors have conducted 5 routine partial surface monitoring inspections (not including the SEM conducted during this FCE), 1 routine partial inspection related to the Department's Mobile Air Unit (MAU) testing (the Department's Waste Program has conducted additional MAU related inspections), and 7 complaint inspections, each of which may encompass multiple complaints (the Department's Waste Program has conducted additional complaint investigations).

During this FCE no visible, fugitive, or malodor emissions were detected. This concludes this FCE, during which air quality type violations are not noted.

Company - plant name:  
IESI PA Bethlehem Landfill

Initials of representative Interviewed:

*[Handwritten Signature]*

Date:

9-10-15

Investigator: J. Waldner / J. Gammeter Date: 9/1/15  
 Weather Conditions: 88°F, 0% RH, 4 mph wind, 46% humidity, cloud 2404544

SURVEY LOCATION	TIME	ODOR INTENSITY S = Strong M = Moderate SL = Slight N = None	ODOR DURATION P = Persistent I = Intermittent N = None	ODOR DESCRIPTION EG = Rotten Egg LFG = Landfill Gas G = Garbage S = Sewage D = Dredge O = Other (describe)	COMMENTS & OBSERVATIONS
Country Side Ln	1320	N			
Applebucker Rd	1325	N			
Skymine Dr	1328	N			
Applebucker Rd	1332	N			
Shimmersville Rd	1332	SL	I	O	metal exhaust passed truck 0.90 ppm
Salem Ave	1336	N			
Roberts Ave	1340	N			
Mixsell Ave	1339	N			
Adams Ave	1339	N			
Tommison Ave	1340	N			
Jefferson Ave	1341	N			
Riverside Dr	1341	N			
Fritz Ave	1341	N			
Schwab Ave	1343	N			
Snyder Ave	1343	N			
Johnson Ave	1344	N			
Matthews Ave	1345	N			
Shimmersville Rd	1346	N			

COPY

IESI PA BETHLEHEM LANDFILL  
ODOR PATROL SURVEY

Investigator: J. Wagner / T. Quinn / Date: 8/31/15  
Weather Conditions: 74.1°F S @ 1.2 mph mostly cloudy 79% humidity 2404542

SURVEY LOCATION	TIME	ODOR INTENSITY S = Strong M = Moderate SL = Slight N = None	ODOR DURATION P = Persistent I = Intermittent N = None	ODOR DESCRIPTION EG = Rotten Egg LFG = Landfill Gas G = Garbage S = Sewage D = Dredge O = Other (describe)	COMMENTS & OBSERVATIONS
Main	0935	SL	NP	S	
Spinnersville	0936	SL	P	S	
Saucun Rd.	0938	N			garbage
Roberts Ave.	0940	N			
Mixsell Ave.	0941	SL	I	S	very light sewage/musty water
Adams Ave.	0942	N			
Johnston Ave.	0942	N			
Jefferson Ave.	0943	N			
FITZ AVE - RIVERCROSS	0944	SL	I	S	
FITZ AVE	0944	SL	I	S	
Pat Schwab Ave	0945	N			
Snyder Ave	0946	SL	I	S	
Johnston Ave	0947	SL	I	S	
Mathews Ave	0948	N			
Riverside Dr.	0949	N			
Spinnersville Rd.	0950	N			
Applebush Rd.	0951	N			
Skyline Dr - 1007	1007	SL	I	S	

COPY



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Surface Methane Monitoring  
Field Sheet



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill	IES1	Inspection Date	8/31/15
Specialist	Tara Quinnivan Jessica Wagoner	Date Instrument was last calibrated	8/31/15
Background Location (Upwind of Facility)	1.60 Applebutter Rd.	Background Value (FID Reading ppm)	1.88 parking lot

Time	Location	FID Reading ppm	Comment
10:40	EW 4-23	11.68	light LFG odor
10:42	EW 4-8R <sup>or</sup> 408R	25.24	AKA EW 4-8R <sup>or</sup> map
10:45	EW 4-8A	13.63	
10:46	EW 4-12	1.61	
10:48	HW 4-6 <sup>or</sup> 4-6	1.76	
10:50	EW 4-35	2.66	
10:52	EW 4-38	1.95	
10:54	EW 4-39	8100-10,000+	cracked soil & gapping at base. 1.5 to 3 ft waste at base.
10:59	HW 4-9	3001	Base of well.
11:02	EW 4-6	<del>65</del> 2147	light LFG settlement, cracks
11:02	HW 4-5	657	"
11:04	EW 4-40	1130	
11:06	CO-8	367	
11:09	HW 4-8	883	small hole at base

COPY

Surface Methane Monitoring  
Field Sheet



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill		Inspection Date	
Specialist	Sept 81	Date Instrument was last calibrated	
Background Location (Upwind of Facility)		Background Value (FID Reading ppm)	

Time	Location	FID Reading ppm	Comment
11:11	EW 4-48	51.60	
11:14	LC-22	3.71	
11:14	HW422	18.14	light LFG.
11:20	CO-7	4.67	erosion on slope
11:20	HW4-16	3.32	
11:20	CO-21	4.24	
11:20	HW4-21	3.33	light LFG.
11:24	EW4-54	2.82	SSW @ 8.5 mph
11:28	EW4-25*	10.86	HW4-25
11:28	EW4-34	8.07	
11:31	EW4-55	873.	near white pipe next to base
11:34	EW4-41	52.03	
11:36	EW4-32	4311	hole at base of vacuum.
11:40	HW4-24	554	base of vacuum

\* EW4-25B? EW4-25 had been previously buried - re-exposed now?  
possibly HW4-25

Surface Methane Monitoring  
Field Sheet



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill	Sept 21	Inspection Date	
Specialist		Date Instrument was last calibrated	
Background Location (Upwind of Facility)		Background Value (FID Reading ppm)	

Time	Location	FID Reading ppm	Comment
11:40	EW4-6R	3336	base of well
11:47	EW4-47	1.74	
11:49	EW4-46	1.07	
11:52	EW4-21R	7.73	
11:52	4' TOP 90' (pipe)	13.14	pipe w/ duct tape next to 4-21R - light LFG.
11:55	EW4-21	4.44	
11:55	pipe w/ duct tape next	28.64	next to EW4-21
12:00	EW4-5A	575	
12:05	EW4-24	146	light LFG.
12:08	EW4-14	326	
12:10	EW4-13	134	
12:15	EW4-9	6.21	
12:16	EW4-37	5.56	
12:20	EW4-7	1.20	



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Surface Methane Monitoring  
Field Sheet



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill	IESI	Inspection Date	9/1/15
Specialist	Tara Quintivan Jessica Wagoner	Date Instrument was last calibrated	9/1/15
Background Location (Upwind of Facility)	parking lot Steel City	Background Value (FID Reading ppm)	2.70 0.90

Time	Location	FID Reading ppm	Comment
9:46	EW 4-42	5.48	
9:50	HW 4-32	6.81	
9:54	EW 4-36	2.06	
9:57	EW 4-31	2.12	
9:59	EW -33R	3.22	EW 4-33R
10:05	EW 4-22R	1.60	
10:06	EW 4-22	1.77	
10:14	EW 4-53	1.78	
10:16	EW 4-20R	5.23	
10:19	HW 4-23	13.62	
10:19	EW 4-26	10.63	
10:22	EW 4-20R	3.48	
10:26	HW 4-20	2.47	
10:26	EW 4-28	2.07	

Surface Methane Monitoring  
Field Sheet



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill	Scrap-1	Inspection Date	
Specialist		Date Instrument was last calibrated	
Background Location (Upwind of Facility)		Background Value (FID Reading ppm)	

Time	Location	FID Reading ppm	Comment
10:27	EW4-27R	20.40	LFG odor
10:31	EW4-28R	5.20	
10:34	EW4-20	1.96	
10:35	EW4-25R	3.50	COPY
10:39	EW4-43	12.03	
10:40	CKO-14	55.06	
10:43	EW4-52	1.15	
10:49	EW4-19	16.60	
10:51	EW4-18R	1.57	
10:53	EW4-18	364	
10:55	EW4-49	3.07	
10:57	CO/LC-17	18.94	
10:57	HW4-17	571	Small crack in soil between well base - vacuum
11:00	EW4-50	374	

Surface Methane Monitoring  
Field Sheet



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill	See PS-1	Inspection Date	
Specialist		Date Instrument was last calibrated	
Background Location (Upwind of Facility)		Background Value (FID Reading ppm)	

Time	Location	FID Reading ppm	Comment
11:02	EW 4-30R	530	LFG odor moderate
11:06	EW 4-30	603	Moderate LFG odor
11:07	white cap pipe E of EW 4-30	663	Moderate LFG odor
11:12	EW 4-16	266	
11:12	EW 4-10R	94.14	<b>COPY</b>
11:15	CKO-11	342	
11:15	PS-01	2041	
11:20	EW 4-29	1571	(pipe) } LFG odor
11:20	EW 4-29	867-3576	} LFG odor
11:20	LC-14	342	
11:24	HW 4- <del>4</del> <sup>3</sup>	1573	well base HW 4-3
11:26	CO-15	126	
11:26	CO-16	174	
11:28	PS-02	1772	LFG odor

Surface Methane Monitoring  
Field Sheet



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Landfill	Seeps-1	Inspection Date	
Specialist		Date Instrument was last calibrated	
Background Location (Upwind of Facility)		Background Value (FID Reading ppm)	

Time	Location	FID Reading ppm	Comment
11:29	EW4-15	483	
11:30	Red valve	128	VB
11:33	EW4-51	351	
11:36	CKOP south EW4-51	3294	bench below
11:38	HW4-11	102-487	
11:38	10ft N. of well	336	
11:41	HW4-12	124	<b>COPY</b>
11:41	HW4-27	173	
11:41	HW4-24	373	
11:55	—	—	2.9mph NNW
<del>HW</del>			