

Hanover

Engineering Associates Inc

JAN 25 2012

January 24, 2012

Mr. Jack Cahalan, Manager
Lower Saucon Township
3700 Old Philadelphia Pike
Bethlehem, PA 18015

RE: Joint Municipal Landfill Committee
Minutes of January 20, 2012 Meeting
Hanover Project LS90-07

Dear Mr. Cahalan:

The Joint Municipal Committee between IESI Bethlehem Landfill and Lower Saucon Township met at the Landfill Office at 1:45 p.m. on January 20, 2012. This meeting was moved from the originally scheduled date of January 19 due to a conflict with Mr. Taylor's schedule.

Attending the meeting were:

Mr. Allen Schleyer
Mr. Christopher Taylor

AGENDA ITEMS

I. Status of Waste Activities

Monthly Tonnages:

	<u>October 2011</u>	<u>November 2011</u>	<u>December 2011</u>
Mun Solid Waste (total)	25,024.30	24,873.00	26,058.60
Mun Solid Waste (out/state)	(17,749.40)	(15,727.50)	(17,479.10)
Construction and Demolition	5,787.20	4,204.60	3,257.30
Residual Waste (Total)	8,553.20	7,584.60	1,914.70
Asbestos	<u>81.10</u>	<u>118.10</u>	<u>36.30</u>
TOTAL	39,445.80	36,662.20	31,230.60
Recycled Tonnage (percent from Lower Saucon Twp.)	0.0 (80%)	6.90 (85%)	0.0 (86%)

<u>Form U Submittals</u>	<u>Waste</u>	<u>Approval Date</u>
Se-Wy-Co Fire Company	Heating Oil contaminated soil 508	01-05-12
67 Whippany Inv.	ACM 501	Submitted 01-16-12

Annual Groundwater Trend Analysis

- The 1st Quarter 2012 Quarterly Groundwater Monitoring sampling is scheduled to take place the week of March 12, 2012.

ROUTING

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

III. Correspondence and Reports

- Form U Submittals to PADEP and Lower Saucon Township
- Abatement System Report
- Cell F correspondence
- 3rd Quarter 2011 Lower Saucon Township summary report
- 4th Quarter 2011 PADEP Quarterly Report
- Annual Recycling Report

IV. Landfill Operations

- Department of Environmental Protection Inspections
 - December 8, 2011 – S. French: Engineer’s meeting
 - December 13, 2011 – B. Bham: groundwater monitoring
 - December 14, 2011 – B. Bham: groundwater monitoring
 - December 20, 2011 – W. Govern: site inspection
 - January 9, 2012 – R. Croll, Radiation Management Program
 - January 9, 2012 – W. Govern: site inspection, radiation monitoring
 - January 12, 2012 – S. French: Engineer’s meeting
 - January 12, 2012 – S. Pletchan, Water Quality: Basin #4 inspection

Mr. Taylor stated that the inspections by the PADEP regarding radiation-related issues were new, and asked what the reason was for them. Mr. Schleyer responded that on January 7, 2012, two (2) trucks were detected as containing Radium 226, which the landfill cannot automatically accept. He pointed out that he had provided a full explanation of the circumstances in the “Radiation Monitoring” section of the monthly report (see Page 7), but proceeded to give a detailed verbal account as well.

Mr. Taylor asked why a PADEP official from Water Quality had been out to inspect Basin #4. Mr. Schleyer responded that, following a heavy rain storm, there had been a leachate leak above Basin #4 and that leachate had entered the basin. He pointed out that he had provided a full explanation in the “Leachate Collection” section of the monthly report (see Page 6), but proceeded to give a detailed verbal account as well.

- Host Municipal Inspection
 - December 18, 2011 – Chris Taylor
 - December 30, 2011 – Scott Brown
 - January 6, 2012 – Chris Taylor
- Bethlehem Renewable Energy (BRE) and Flare Operations
The following is an update to the Gas Turbine Generator/Flare activity. We had the following BRE/LFG Generator shutdowns at Bethlehem Landfill. Auto-valves closed as designed for each shutdown of either the flare or turbine. No odors were noted or odor complaints received by Bethlehem Landfill during the outage events. The flare and BRE plant are both operating.

Nov 30, 2011	Flare shutdown	12:10	Maintenance
	Flare startup	12:28	Turbine running
Dec 1, 2011	Turbine shutdown	06:59	Maintenance
	Turbine startup	11:59	Flare running
	Turbine shutdown	12:17	Protective shutdown

	Turbine startup	13:49	Flare running
Dec 9, 2011	Turbine shutdown	10:54	Maintenance
	Turbine startup	18:44	Flare running
Dec 11, 2011	Turbine shutdown	19:13	Protective shutdown
	Flare shutdown	19:14	High temperature
	Flare startup	23:44	Duration 4 hr 30 min
Dec 12, 2011	Turbine startup	05:40	Duration 4 hr 30 min then flare running
Dec 13, 2011	Flare shutdown	06:02	High temperature
	Flare startup	09:11	Turbine running
Dec 18, 2011	Turbine shutdown	09:50	Protective shutdown
	Flare shutdown	09:50	High temperature
	Turbine startup	12:24	Duration 2 hr 34 min
	Flare startup	13:05	Duration 2 hr 34 min then turbine running
	Turbine shutdown	23:07	Protective shutdown
	Flare shutdown	23:07	High temperature
Dec 19, 2011	Turbine startup	01:20	Duration 2 hr 13 min
	Turbine shutdown	09:03	Protective shutdown
	Flare startup	09:29	Duration 26 min
	Turbine startup	10:43	Duration 26 min then flare running
Dec 24, 2011	Turbine shutdown	04:32	Protective shutdown
	Flare shutdown	04:33	High temperature
	Turbine startup	08:28	Duration 3 hr 55 min
	Flare startup	09:38	Duration 3 hr 55 min then turbine running
Dec 27, 2011	Turbine shutdown	09:16	Maintenance
	Turbine startup	15:49	Flare running
	Turbine shutdown	16:16	Maintenance
	Turbine startup	17:14	Flare running during turbine shutdown

All shutdown information is provided to the PADEP.

- Well Sampling
 - The 1st Quarter 2012 Quarterly Groundwater Monitoring sampling is scheduled to take place the week of March 12, 2012.
- North Slope
 - The North Slope sedimentation traps are functional.
 - The North Slope perimeter road is accessible.
- Abatement System Operations
 - The abatement system continues to operate and discharge to the Bethlehem Waste Water Treatment Plant. Pump controls were replaced for AB-1 and 2.
- Gas Collection
 - The Bethlehem Renewable Energy plant continues to operate as the primary landfill gas control system. The flare is a back-up to the generating plant. The flare is currently running simultaneously with the power plant.

During the inspection following the meeting, Mr. Taylor confirmed that the BRE plant flare and the landfill flare were both operating.

- Leachate Collection

Flow rates continue to be monitored and reported. Additional toe-drain drainage piping was constructed during the beginning of May. A final construction report was submitted to the PADEP and the Township. Following is a summary of the work history and developments:

- IESI submitted the report from Mieser and Earl, Inc. on December 23, 2008, to DEP and Lower Saucon Township evaluating the various tests that were performed to locate the source of the elevated detection zone flows as outlined in their May 7, 2008 Work Plan. Lower Saucon Township has forwarded their comments on the December 23, 2008 report to DEP.
- IESI has completed welding of approximately 1,200 L.F. of the secondary line to the primary liner along the northern end of Cell 3-D while the anchor trench was open and prior to completing the weld, a 2½-inch rain event occurred. A spike in the leachate collection/detection flow may be observed.
- IESI will retest the gabion stormwater channel over Cell 3-C and discharging into sedimentation Pond 4 for possible infiltration into the detection zone by flooding the channel on September 24, 2009.
- The capping of the remaining five (5) acres of Phase III has been completed.
- IESI provided an updated report on their LMC investigation to DEP and Lower Saucon Township November 2009. The reports in part indicated that:
 1. LMC 7 does not appear to be affected by rainfall since the northern Cell 3 anchor trench cap/liner welding occurred.
 2. LMC 8 still spiking from rainfall events.
- The next investigation will be to the integrity of the liner under gabion channel in Cell 3-C which will occur in the 1st Quarter 2010. IESI is looking for a seven to ten (7-10) day window with no rain for a meaningful evaluation. IESI received authorization for the Gabion Channel Work Plan from DEP on December 22, 2009.
- The investigation of the integrity of the liner under the gabion downchannel located in Cell 3C began April 10, 2010. The southern-most end of the gabion channel was excavated down to the anchor trench as well as to the east and west of the channel along the anchor trench. Toe drains above the primary liner were replaced and the primary and secondary liners were welded together in the excavated areas. The gabion channel and piping leading to Basin 4 were reconstructed. IESI will continue to monitor the LMC flows and prepare a report on the latest work performed.
- To date the flows into LMC-8 appear to have been substantially reduced since the repair in the first week of April 2010.
- As of this date the data appears to indicate that the repairs to the southern end of the gabion downchannel leading to Sedimentation Pond 4 and the toe drains running east/west at the southern most end of the gabion channel have caused a substantial reduction in the detection zone of LMC-8.
- The LMC-8 Detection Zone flow rate continues to be monitored. Existing data continues to show a substantial reduction in the flow rate.
- September/October 2010 – the recent rain events have shown influence on LMC-8. The committee is recommending that IESI investigate and consider extending the toe-drain, which was replaced in April along the toe of the southern slope and above Sedimentation Pond 4, to the east and west. Mr. Schleyer provided a summary of the remedial work completed to date to alleviate the high leachate flows being recorded in LMC-8. He reviewed the recent flow data, and stated his opinion that the remedial work has helped to reduce the overall flows. He stated his opinion that the flow data for 2010 indicates that the “response time” between a storm event and high flows observed in LMC-8 is less, and that the flows are of a shorter duration,

since the work has been completed. He stated that he is monitoring the flow data and planning out the next step in the process, but is currently concentrating his efforts on the methane gas problem experienced at the residence at 2293 Applebutter Road. Ms. deLeon stated that Lower Saucon Township is very concerned about the high leachate flows, since these could indicate a tear in the landfill liner or other serious problem.

- February 2011: Discussion regarding monitoring results, as provided in the Third Quarter 2010 Quarterly Facility Report, revealed that samples taken from the leachate detection zone provided very similar chemical analyses to samples taken from the leachate collection zone. Mr. Schleyer indicated that IESI had recognized this correlation, and noted it in their cover letter for the report. Mr. Schleyer provided further explanation with regard to how the report is prepared, and noted that the drainage area for LMC-8 is Phase 3, Cell C, which was completed prior to IESI's ownership of the facility.
- March 2011: Mr. Schleyer stated that rainy weather is necessitating working on erosion control, but that the toe-drain work is still at the forefront of his work plan. Ms. deLeon asked "What's going on there" in reference to the high leachate flows documented in the leachate demand report. Mr. Schleyer stated that "stormwater is still getting in" and that they have an "open cell; rainwater is going directly in there". Ms. deLeon stated that leachate flows jumped up starting February 11, 2011. Mr. Schleyer attributed this to a neighboring cell "filling up and overtopping" the short barrier between cells. He stated that LMC-8 serves Phase 3 Cell C, and that when this cell "fills up" with leachate, it causes the high flows documented in LMC-8, but also causes leachate to overspill to the adjacent Phase IV, causing high flows there also.
- April 2011: Mr. Schleyer noted that flows recorded in LMC 6 increased starting March 18, 2011, but that he is not sure exactly why other than to say it is stormwater-related. Mr. Schleyer stated that it is "the same scenario" as last month, with heavy rains every week that has his crews busy repairing leachate seeps and erosion rills.
- May 2011: Additional toe-drain drainage piping was constructed during the beginning of May. A final report will be completed and submitted to the PADEP and Township.
- June 2011: Mr. Taylor asked if the toe drains have been carrying water to daylight (i.e. - has water been flowing out of the new outlets installed in May). Mr. Schleyer responded that there have been a few flowing out.
- July 2011: Ms. deLeon asked what the PADEP says about the LMC 8 work that was completed. Mr. Schleyer stated that they're okay with it, and that it's "everything we said we'd do". Mr. Taylor commented that we'll probably need up to one (1) year of data to evaluate the effectiveness of the work.
- August 2011: Mr. Schleyer confirmed that that he is still collecting leachate flow data. He stated that he is taking LMC 8 detection zone readings every other day to see if the recent heavy rain causes a "bump" in the data. He indicated that the flow data during rain events should be a good tell-tale sign of whether the toe drains are working. He stated that he wants to collect more data, through the wet season.
- September 2011: Mr. Schleyer acknowledged higher detection zone flows during the monitoring period reported herein. He stated that the toe drains are functioning, because he has seen water flowing from them, and noted the extreme rainfall conditions that occurred during this monitoring period.

- October 2011: Mr. Schleyer stated that the flows in LMC 8 still bounce up when it rains. Ms. deLeon asked if anyone has any other ideas (to remediate this problem). Mr. Schleyer responded no. During the inspection following the meeting, I observed water flowing from each of the toe drain outlets. It had just rained in the last twenty-four (24) hours preceding the inspection.
- November 2011: Mr. Taylor asked what specific steps IESI is taking to identify the source of the inflow creating high flows in LMC 8. Mr. Schleyer responded that they are monitoring flow rates versus rainfall.
- December 2011: Mr. Schleyer stated that, as part of the construction of new cell 4F, the anchor trench along the north side of adjacent Cell 4B was exposed in order to "attach" the old cell to the new cell. He stated that this exposure allowed water from rain events at that time to run right into the collection and detection zones, which caused a spike in the flow numbers for those zones in both LMC 7 and LMC 8. He stated that he expects the numbers to come down. Mr. Taylor asked if everything was buttoned up now (i.e. – no continuing exposure to stormwater). Mr. Schleyer responded that, yes, it was.
- January 2012: Mr. Taylor noted that secondary leachate flows continue to exceed 100 gallons per acre per day (G/A/D) through LMC-8, and are also elevated above normal levels for LMC-6 and LMC-7. Mr. Taylor asked Mr. Schleyer if he is still attributing these higher leachate flows to Cell F being open. Mr. Schleyer stated that, yes, he was.

A leachate release incident occurred due to a rain event early in the morning of January 12, 2012. Storm water from the open Cell F was collected and conveyed into the down gradient Cell 4-C leachate collection system. The hydraulic pressure from the storm water/leachate forced off a cleanout cap at the lowest point, just west of Pump Station No. 1, and caused a release of leachate into Basin #4. IESI personnel observed the water flowing from the cleanout during their routine daily activities and notified the Compliance Manager. The cap was immediately replaced and fastened with screws. IESI notified PADEP of the leachate release by phone and also during a scheduled meeting that morning with S. French, PADEP Engineer. Mr. S. Pletchan, PADEP Water Management Program, came out to the site for an inspection. After sealing the cleanout, IESI informed the Bethlehem WWTP of the remediation plan to pump out Basin #4 and convey the water to the Bethlehem WWTP for treatment. Bethlehem WWTP sent a representative to the site to collect a water sample and analyze prior to IESI discharging the Basin #4 water to the WWTP. IESI consultants also collected Basin #4 discharge water for independent laboratory analysis. Mobil Dredge was contracted to pressure clean the main leachate collection piping, and determined that there was a partial blockage in the line between the cleanout and the pump station, thereby restricting the leachate flow to the pump station. IESI will prepare an incident report and submit the report to PADEP and Lower Saucon Township when the analytical data is complete.

Mr. Taylor asked how this can be stopped from happening again. Mr. Schleyer responded that, once garbage is present in Cell F, they won't have a big rush of water following rain storms. He added that they cleaned out the lines (thus removing the cause of the problem) and installed a gasketed flange on the cleanout to make for a stronger cap. During the inspection following the meeting, Mr. Taylor observed the gasketed flange on the cleanout.

Mr. Schleyer stated that on Friday they started pumping Basin #4 out into the sewer system which leads to the treatment plant. He stated that they were still pumping on the day of this meeting, at a rate of about 200 gallons per minute. He stated that this rate had been approved by treatment plant personnel as being acceptable. During the inspection following the meeting, Mr. Taylor observed the pump-out operation and noted that the basin had been nearly completely dewatered.

- Radiation Monitoring

- December 7, 2011: I-131 Level 1 disposed on site
- December 8, 2011: TC-99M Level 1 disposed on site
- January 7, 2012: Ra-226; Level 1 no on-site disposal. Two (2) trucks from the City of Allentown (C&D) staged at the designated isolation area for PADEP inspection and direction.
- January 19, 2012: Ra-226 waste was consolidated to one (1) roll-off under recommendation from PADEP. Remainder of non-radioactive C&D waste disposed in landfill. Roll-off is in isolation area.

On Saturday January 7, 2012, IESI radiation monitoring equipment detected radioactive material in two (2) trucks of C&D debris from the center city Allentown demolition project. The trucks were scanned and determined to contain Radium 226 isotope. IESI reported the incident via email that day and inadvertently listed it as a Level 2 but it should have been listed as a Level 1. Radium 226 is not on the accepted for disposal list without specific PADEP authorization. Both trailers were staged in the isolation area until Monday, January 9, 2012 when PADEP Radiation Management Program could be directly contacted. IESI personnel and their contracted Health Physicist arrived on site Monday and met with R. Croll, PADEP Radiation Management Program, and W. Govern, PADEP site inspector. Both trailers were re-scanned and confirmed to contain the Radium 226 isotope. Per the IESI Radiation Management Plan and under the direction of R. Croll, PADEP, one (1) trailer was off-loaded onto a plastic tarp near the working face. This is standard practice to locate and remove the radioactive material. Typically Radium 226 may be a World War II era instrument or device that would glow in the dark (i.e. - instrument panel, etc.). The material containing the Radium 226 was determined to be in the grit and fines of the debris and could not be easily extracted. The debris pile was covered with a second tarp and left in-situ for further evaluation by the Department. The Department determined that as much non-radioactive debris should be segregated from the radioactive material to reduce the mass. This process was conducted for both waste loads on January 19, 2012 under the direction of the IESI health physicist. The remaining radioactive waste from both trailers was loaded onto a roll-off container and placed back in the isolation area awaiting further instruction from PADEP for off-site disposal.

Mr. Taylor asked about the nature of the radiation, whether it was alpha, Beta, or gamma type radiation, and how far the radioactivity could spread. Mr. Schleyer responded that it was the weakest type, and that the radioactivity stayed very contained. He gave the example that when the radioactive material was removed from the tarped ground, a sweep of the area where it had been laying on the tarp revealed no radiation on the surface it had been touching.

- Phase IV Construction Activities

- Phase IV D-Stage 3 cell is currently the active disposal area. Cell F and the MSE wall construction is completed, including the protective cover and leachate collection

pipng. Approximately 1.2 acres of cap was completed during the week of December 12, 2011. Certifications for both capping and cell construction will be submitted to the Department when finalized.

Mr. Schleyer stated that he expected the Cell F certification to be submitted by next week.

During the inspection following the meeting, the installation of the protective cover over the new liner was observed to be complete.

- **Complaints**

- January 3, 2012 – Litter complaint. A complaint was left as voicemail over the weekend to the PADEP Bethlehem Office that bags were blowing across Applebutter Road and one (1) caught on their windshield and hampered their vision. On Tuesday January 3, 2012, IESI received an email from Dean Fisher, PADEP, regarding the complaint. In response, Mr. Schleyer and Mr. Donato conducted a litter survey along Applebutter Road from Shimersville Road past Ringhoffer Road. They observed some litter that did include a few grocery store bags, but no more that would be “typical” roadside litter. IESI sent a litter crew out to clean up the road and collected less than one (1) bag full for the entire road. The information was conveyed via email back to D. Fisher, PADEP.
- January 8, 2012 – A neighbor called in to inform IESI that waste truck drivers were driving too fast around the bad curve on Applebutter Road. The weigh master contacted the hauling companies and the drivers and gave them warnings to slow down.

V. Commercial Waste Vehicles

	<u>October 2011</u>	<u>November 2011</u>	<u>Dec 2011</u>
Total Trucks	2,966	2,978	2,815
Overweight	66	47	39
Warnings	42	34	28
Suspensions	24 (0>3%)	13 (1>3%)	11 (0>3%)
		1-TT	

FL = front loader, RO = roll off, TT = tractor trailer, RL = rear loader,
DT = triaxel dump truck

VI. Correspondence

- Correspondence from Department of Environmental Protection
 - No discussion
- Correspondence to Department of Environmental Protection
 - No discussion.
- Other Correspondences
 - No discussion.

VII. Township Activities/Township Staff Meeting Update

- Township correspondence to the Department of Environmental Protection
 - Mr. Taylor stated that Lower Saucon Township has forwarded Hanover Engineering's comment letter on the Cell 4E Minor Permit Modification to the PADEP for their consideration, pursuant to the allowed thirty (30) day comment period. Mr. Schleyer asked if the letter referenced any big problems. Mr. Taylor responded that the Township was most concerned about the determination of the depth to the water table and about the stability of the steep wall and adjacent stormwater swale proposed along the western edge of Cell 4E. Mr. Taylor stated that Mr. Donato had been copied on the transmittal to the PADEP, and that he should therefore have a copy of the comment letter.
 - Mr. Schleyer stated his belief that the minor permit modification was still under review by PADEP Engineer Susan French.
- Council Meeting IESI Issues
 - No discussion.
- Miscellaneous
 - Mr. Taylor stated that he was not at the January 19, 2012 Township Planning Commission meeting, and asked Mr. Schleyer if there were any hand-outs distributed by IESI at the meeting, and to comment on IESI's presentation at the meeting. Mr. Schleyer stated that he was not at the meeting either, but that his understanding was that IESI's presentation was brief, was conducted as a slide show, and did not include any materials being handed out. Mr. Schleyer stated that the purpose of the meeting was to give the Township a general overview of the proposed expansion, in short simply to announce it to the Township.

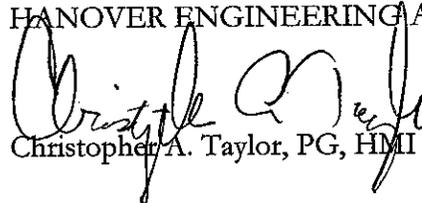
VIII. Establish Time for Next Meeting

1:00 p.m. February 16, 2012 at the Landfill Facility Office.

END OF MINUTES

Respectfully,

HANOVER ENGINEERING ASSOCIATES, INC.



Christopher A. Taylor, PG, HMI

cat:bls/rfr

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Enclosure(s)

cc: Ms. Priscilla deLeon (via e-mail)
Mr. Allen Schleyer (via e-mail)
Ms. Lauressa J. McNemar, PE (via e-mail)
Mr. James B. Birdsall, PE (via e-mail)
Mr. Scott J. Brown, HMI (via e-mail)
Mr. Jacob A. Schray, HMI (via e-mail)
Mr. Rich Sichler (via e-mail)
Ms. Leslie Huhn (via e-mail)
Ms. Diane Palik (via e-mail)

BETHLEHEM LANDFILL
LEACHATE DEMAND REPORT

December 2011

<u>Location</u>	<u>Total gallons</u>
LMC-6	48,171
LMC-7	46,047
LMC-8	93,378
LMC-10	1,961,000
PS-1	610,175
PS-2	260,097
Phase-IV	870,272

Total LMC-10 Flow = LMC-6, 7, 8, Abatement Well System, Phase I and II, and LFG condensate. Phase-IV total from PS-1 and PS-2.

Total Discharge

LMC-10	1,961,000
<u>Phase IV</u>	<u>870,272</u>
TOTAL	2,831,272 gallons

Total Leachate

Leachate	374,147
<u>Phase IV</u>	<u>870,272</u>
TOTAL	1,244,419 gallons

LMC-10 Flow – Abatement System Flow = Leachate System Flow (gallons).
Abatement System Flow = 1,586,853 gallons (Neptune Flow meters)

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
																				TIME (days)
558																				
559																				
560																				
561																				
562	12/31/2010	7.00	523,680	1,613	230	15	1,413,983	1088	155	13	2,624,248	5284	755	130						
563	1/7/2011	7.00	831,335	1,475	211	13	1,415,078	1095	156	13	2,628,917	5669	810	140						
564	11/4/2011	7.00	832,680	1,345	182	12	1,418,189	1111	158	13	2,634,703	4766	884	118						
565	1/21/2011	7.00	833,918	1,238	177	11	1,417,882	1073	153	13	2,642,581	7878	1,125	194						
566	1/20/2011	7.00	833,129	1,213	173	11	1,418,400	1138	163	13	2,651,579	8988	1,285	222						
567	2/4/2011	7.00	836,320	1,181	170	11	1,419,579	1179	168	14	2,661,482	9903	1,415	244						
568	2/11/2011	7.00	837,568	1,238	177	11	1,420,709	1129	161	13	2,661,589	20107	2,872	485						
569	2/18/2011	7.00	838,811	1,365	196	13	1,421,923	1215	174	14	2,668,906	15317	2,188	377						
570	2/25/2011	7.00	840,369	1,416	202	13	1,423,150	1227	175	14	2,675,652	8746	1,249	215						
571	3/1/2011	7.00	841,782	1,413	202	13	1,423,336	1186	169	14	2,679,454	13802	1,972	340						
572	3/1/2011	7.00	843,480	1,698	243	15	1,425,735	1399	200	16	2,736,277	16823	2,403	414						
573	3/18/2011	7.00	846,648	3,168	453	29	1,427,315	1580	226	18	2,750,119	13841	1,977	341						
574	3/25/2011	7.00	848,885	3,037	434	28	1,428,735	1420	203	17	2,762,682	12574	1,766	310						
575	4/1/2011	7.00	852,257	2,872	367	23	1,429,954	1279	174	14	2,773,451	10759	1,557	265						
576	4/8/2011	7.00	855,353	3,068	442	28	1,431,214	1260	180	15	2,782,202	8751	1,250	216						
577	4/15/2011	7.00	857,919	2,965	367	23	1,432,403	1189	170	14	2,788,478	16278	2,325	401						
578	4/22/2011	7.00	860,648	2,727	390	25	1,433,439	1036	146	12	2,814,185	15707	2,244	387						
579	4/29/2011	7.00	863,837	3,161	456	28	1,434,883	1050	150	12	2,823,651	9466	1,352	233						
580	5/6/2011	7.00	866,634	2,787	400	25	1,436,598	1019	146	12	2,832,482	8631	1,262	218						
581	5/13/2011	7.00	869,015	2,381	340	22	1,436,433	925	132	11	2,836,935	4453	636	110						
582	5/20/2011	7.00	871,207	2,192	313	20	1,437,397	964	138	11	2,843,414	6479	928	160						
583	5/27/2011	7.00	873,291	2,084	298	19	1,438,347	950	136	11	2,854,378	10864	1,566	270						
584	6/3/2011	7.00	875,387	2,106	301	19	1,439,326	981	140	11	2,858,191	3813	545	94						
585	6/10/2011	7.00	877,033	1,836	234	15	1,440,159	831	119	10	2,859,338	1145	164	28						
586	6/17/2011	7.00	878,641	1,608	230	15	1,440,981	832	119	10	2,860,323	987	141	24						
587	6/24/2011	7.00	880,111	1,608	230	15	1,441,787	806	115	9	2,862,641	2318	331	57						
588	7/1/2011	7.00	882,439	1,409	201	13	1,442,496	699	100	8	2,865,101	2480	351	61						
589	7/8/2011	7.00	884,839	1,319	188	12	1,443,239	743	106	9	2,867,271	2170	310	53						
590	7/15/2011	7.00	886,790	851	159	10	1,443,905	586	94	8	2,869,685	2614	436	75						
591	7/22/2011	7.00	888,078	1,288	161	10	1,444,463	658	82	7	2,872,097	2212	277	48						
592	7/29/2011	7.00	889,104	1,029	147	9	1,445,001	538	77	6	2,875,193	3096	442	76						
593	8/5/2011	7.00	889,065	952	136	9	1,445,538	537	77	6	2,877,302	2109	301	52						
594	8/12/2011	7.00	890,187	3,530	441	28	1,446,076	536	77	6	2,879,447	2145	306	53						
595	8/19/2011	7.00	891,901	2,704	366	25	1,446,676	600	86	7	2,897,906	18458	2,637	455						
596	8/26/2011	7.00	893,067	1,093	140	8	1,447,243	567	81	7	2,902,919	10014	1,431	247						
597	9/2/2011	7.00	894,178	1,212	158	11	1,447,937	694	99	8	2,922,281	14962	2,052	354						
598	9/9/2011	7.00	895,863	1,475	211	13	1,448,566	631	90	7	2,933,864	11583	1,655	285						
599	9/15/2011	7.00	895,857	2,804	467	30	1,449,076	508	85	7	2,946,789	12935	2,156	372						
600	9/23/2011	7.00	898,187	3,530	441	28	1,449,788	722	90	7	2,954,666	7667	958	165						
601	9/30/2011	7.00	901,901	2,704	366	25	1,450,482	684	96	8	2,971,002	16538	2,362	407						
602	10/6/2011	7.00	904,055	2,154	359	23	1,451,031	549	92	8	2,985,305	14903	2,364	411						
603	10/13/2011	7.00	907,271	3,216	402	26	1,451,808	777	97	8	3,007,389	9550	1,194	206						
604	10/20/2011	7.00	910,083	2,812	402	26	1,452,496	686	98	8	3,007,389	12444	1,778	307						
605	10/27/2011	7.00	912,507	2,424	346	22	1,453,108	612	87	7	3,017,734	10435	1,491	257						
606	11/3/2011	7.00	913,986	2,279	326	21	1,453,680	552	79	6	3,034,927	17183	2,456	423						
607	11/10/2011	7.00	917,600	2,814	402	26	1,454,428	768	110	8	3,044,333	9406	1,344	232						
608	11/17/2011	7.00	920,449	2,849	407	26	1,455,117	669	98	8	3,050,350	6027	861	148						
609	11/24/2011	7.00	922,981	2,542	363	23	1,457,419	2302	329	27	3,085,946	15586	2,227	384						
610	12/1/2011	7.00	925,110	2,119	353	22	1,460,479	3060	510	42	3,079,165	13219	2,203	380						
611	12/8/2011	7.00	928,118	3,008	378	24	1,464,026	3547	443	36	3,085,027	16862	2,108	383						
612	12/15/2011	7.00	931,329	3,211	459	28	1,465,803	1777	284	21	3,109,394	13557	1,908	329						
613	12/22/2011	7.00	934,554	3,225	461	28	1,467,197	1394	199	16	3,116,186	6802	972	168						
614	12/29/2011	7.00	937,452	2,888	414	26	1,468,467	1270	181	15	3,131,363	15177	2,168	374						
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11/18-25 LMC-7 primary/secondary liner exposed for Cell F 9a-in

IESI BETHLEHEM LANDFILL

Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
409	TIME	Phase IV PS-2 (Secondary Flows)				Phase IV PS-2 Primary Flow						
410	(days)	TOTALIZER	GALLONS	FLOW (gpd)	g/ac/day		TIME	TOTALIZER	Gallons	FLOW (gpd)	g/ac/day	
411	12/31/2010	7	3622	0	0	0.0		4,857,012	23172	3310	487	
412	1/7/2011	7	3623	1	0	0.0		4,893,270	36258	5180	489	30.3"
413	1/14/2011	7	3623	0	0	0.0		4,918,692	25422	3632	343	28.6"
414	1/21/2011	7	3623	0	0	0.0		4,971,379	52687	7527	710	31.0"
415	1/28/2011	7	3624	1	0	0.0		5,023,386	52007	7430	701	20.8"
416	2/4/2011	7	3624	0	0	0.0		5,067,520	44134	6305	595	30.5"
417	2/11/2011	7	3624	0	0	0.0		5,216,789	149269	21324	2012	28.4"
418	2/18/2011	7	3624	0	0	0.0		5,353,543	136754	19536	1843	32.0"
419	2/25/2011	7	3624	0	0	0.0		5,442,511	88968	12710	1199	25.0"
420	3/4/2011	7	3624	0	0	0.0		5,582,673	140162	20023	1889	26.1"
421	3/11/2011	7	3624	0	0	0.0		5,792,689	210016	30002	2830	31.2"
422	3/18/2011	7	3702	78	11	1.1		5909298	116609	16658	1572	22.7"
423	3/25/2011	7	3702	0	0	0.0	*	5909298	87500	12500	1179	30.3"
424	4/1/2011	7	3702	0	0	0.0	*	5952948	83650	11950	1127	21.2"
425	4/8/2011	7	3702	0	0	0.0		6026139	73191	10458	986	30.3"
426	4/15/2011	7	3702	0	0	0.0		6125530	99391	14199	1340	32.0"
427	4/22/2011	7	3702	0	0	0.0		6212047	86517	12360	1166	28.2"
428	4/29/2011	7	3706	4	1	0.1		6292829	80782	11540	1089	31.6"
429	5/6/2011	7	3706	0	0	0.0	*	6292829	52345	7478	705	29.7"
430	5/13/2011	7	3707	1	0	0.0		6342505	49676	7097	669	31"
431	5/20/2011	7	3707	0	0	0.0		6429307	86802	12400	1170	31.6"
432	5/27/2011	7	3707	0	0	0.0	*	6,434,817	67510	9644	910	27.1"
433	6/3/2011	7	3708	1	0	0.0		6,483,064	58247	8321	785	25.7"
434	6/10/2011	7	3708	0	0	0.0		6,539,531	46467	6638	626	21.2"
435	6/17/2011	7	3939	231	33	3.1		6,559,409	19878	2840	268	27.8"
436	6/24/2011	7	3938	0	0	0.0		6,676,256	116847	16692	1575	29.2"
437	7/1/2011	7	3941	2	0	0.0		6,759,656	83400	11914	1124	23.1"
438	7/8/2011	7	3941	0	0	0.0		6,773,685	14029	2004	189	23.9"
439	7/14/2011	8	3941	0	0	0.0		6,861,072	87387	14565	1374	28.2"
440	7/22/2011	8	3941	0	0	0.0		6,930,261	69189	8649	816	23.5"
441	7/29/2011	7	3941	0	0	0.0		7,003,137	72876	10411	982	20.0"
442	8/5/2011	7	3941	0	0	0.0		7,059,619	56482	8069	761	29.9"
443	8/12/2011	7	3941	0	0	0.0		7,096,381	36762	5252	495	24.6"
444	8/19/2011	7	3941	0	0	0.0		7,194,892	98511	14073	1328	22.9"
445	8/26/2011	7	3942	1	0	0.0		7,262,926	68034	9719	917	27.6"
446	9/2/2011	7	3942	0	0	0.0		7,404,797	141871	20267	1912	31.8"
447	9/9/2011	7	3942	0	0	0.0		7,652,370	247573	35368	3337	20.4"
448	9/16/2011	6	4125	183	31	4.5		7,698,090	45720	7620	719	23.6"
449	9/23/2011	8	4125	0	0	0.0		7,728,749	30659	3832	362	28"
450	9/30/2011	7	4125	0	0	0.0		7,875,611	146862	20980	1979	22.1"
451	10/6/2011	6	4125	0	0	0.0		7,887,726	12115	2019	190	23.5"
452	10/14/2011	8	4125	0	0	0.0		7,891,346	3620	453	43	22.6"
453	10/21/2011	7	4125	0	0	0.0	*	7891346	19750	2821	415	34.5"
454	10/28/2011	7	4125	0	0	0.0		7,910,149	18803	2886	395	34.5"
455	11/4/2011	7	4405	280	40	5.9		7,934,427	24278	3468	510	29.9"
456	11/11/2011	7	4405	0	0	0.0		7,942,021	7594	1065	180	24.8"
457	11/18/2011	7	4459	54	8	1.1		7,989,808	47787	8827	1004	32"
458	11/26/2011	7	4459	0	0	0.0		8,072,913	83105	11872	1746	33.7"
459	12/1/2011	6	4459	0	0	0.0		8,145,490	72577	12066	1776	23.1"
460	12/9/2011	8	4794	335	42	6.2		8,240,801	95311	11914	1752	33.7"
461	12/16/2011	7	4856	62	9	1.3		8,284,214	43413	6202	912	34.2"
462	12/23/2011	7	4859	3	0	0.1		8,314,341	30127	4304	633	33.5"
463	12/30/2011	7	4859	0	0	0.0		8405587	91248	13035	1917	33.9"
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* Estimated flow rate meter malfunction repaired

* Flow meter malfunction - repair made estimated lag

* Flow meter sensor replaced 5/12 pump levels reset 6/16