EPA Region 5 Records Ctr.
361387

Mallard North Update – June 25, 2009 Bi-weekly Meeting
Prepared by RMT, Inc.

1. Landfill Gas Investigation Activities
   - Activities performed since last meeting
     - Performed gas probe (new and existing) and gas vent monitoring on June 17th (see attached data)
     - Surveyed top of PVC casing elevations at new "GP" gas probes
     - Updated cross-sections with new probe data (this work is in progress).
     - Updated map to include new gas probes (see attached)
   - Activities to be performed prior to next meeting
     - Complete cross sections
     - Continue evaluation of LFG and water level data; assess LFG migration pathways
     - Review and refine LFG monitoring schedule presented in work plan
2. Interim Remedial Action Activities
   - Activities performed since last meeting
     - Continued pumping at EW-L2 via vac-truck
     - Installed piping, tank, equipment for pump test at MH-2. Performed and monitored pump test at MH-2
     - Seep/leachate well EW-L2 pumping and solar flare equipment was ordered
     - Searched area near G-115 for the possible existence of a concrete manhole (none found). Surveyed elevation of seep cluster near G-115.
     - Collected samples from MH-2, seep near MH-2 and seep near G-115.
     - Met with electrical contractor and ComEd to coordinate getting power to EW-L2 area. Authorized electrical contractor to run power from ComEd meter location to EW-L2 (scheduled for June 25)
     - Met with contractor to coordinate grading necessary to place frac tank.
     - Begin installation of piping from seeps and EW-L2 to frac tank area.
     - Construct frac tank pad (scheduled for June 25)
     -

- Activities to be performed prior to next meeting
  - Delivery of pneumatic pumps/,compressor (6/29 or 30), solar flares (7/2)
  - Construction of trench/sump near G115 (week of June 29th)
  - Install pneumatic pumps and compressor (week of June 29th)
  - Startup and shakedown of seep/leachate pumping system (week of June 29th)
  - Solar flare installation (late in week of June 29th)
  - Solar flare startup and shakedown (week of July 6th)
  - Gas/liquid level monitoring (related to leachate/seep pumping and solar flare operation)

Gas Probe Monitoring
Mallard North Landfill, Hanover Park, Illinois

Monitored By: Kucher
Gas Meter: Landtec GEM2000
Serial Number: RMT
Date Calibrated: 6/16/09 PM

Pressure Device: Magnahelics
Water Level Device: Slope Indicator
Ground Conditions: Overcast, wet

Date: 6/17/2009
Weather: 65 deg. F, 29.80"Hg and rising
Comments: 0.5" rain night before

ID	Time	Pressure (" H2O)	CH4 (%)	CO2 (%)	O2 (%)	Balance (%)	Depth to Water (ft BTOC)	Notes/Conditions
GP 1	14:47	0.00	0.2	0.1	19.3	80.4	19.30	
GP 33A	14:44	0.40	62.7	19.5	4.6	13.2	13.84	
GP 33B	14:42	0.00	1.3	0.4	19.1	79.2	12.48	
G 116	14:34	0.00	65.1	24.0	2.7	8.2	11.90	
GP 2A	14:31	0.10	0.6	0.4	19.3	79.7	13.00	
GP 2B	14:28	0.20	0.0	0.0	19.7	80.3	6.90	
GP 34A	14:27	0.20	0.2	1.1	18.5	80.2	12.37	
GP 34B	14:25	0.20	0.3	0.5	19.3	79.9	16.18	
GP 3	14:20	0.40	0.0	0.5	18.9	80.6	5.15	
GP 4A	14:19	0.00	0.0	2.8	17.3	79.9	15.64	
GP 4B	14:15	0.30	0.0	0.1	19.6	80.3	3.62	
GP 4C	14:13	0.90	2.7	3.5	16.9	76.9	18.40	
GP 5	9:10	0.00	0.0	0.0	20.1	79.9	15.97	
P 1A	9:18	1.50	0.0	0.2	20.0	79.8	14.81	
GP 6	9:22	0.0	0.0	0.1	20.1	79.8	10.13	
GP 7A	9:27	0.0	0.0	2.1	17.8	80.1	10.92	
GP 7B	9:25	0.0	0.0	0.1	19.9	80.0	19.44	
GP 8A	9:32	0.0	0.8	2.7	17.8	78.7	8.36	
GP 8B	9:35	0.0	0.0	0.1	20.1	79.8	11.14	
P 3A	9:40	0.0	0.0	2.3	9.2	88.5	17.65	

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ID	Time	Pressure (" H2O)	CH4 (%)	CO2 (%)	O2 (%)	Balance (%)	Depth to Water (ft BTOC)	Notes/Conditions
GP 9A	9:44	0.00	0.0	1.4	18.4	80.2	12.68	
GP 9B	9:46	0.00	0.0	0.3	19.4	80.3	12.44	
P 4C	9:50	0.00	0.0	4.9	14.1	81.0	Dry	
GP 10A	9:53	0.00	0.0	0.3	19.4	80.3	8.70	
GP 10B	9:54	0.20	0.0	0.4	19.5	80.1	11.23	
GP 10C	9:56	0.10	0.0	0.1	19.9	80.0	10.70	
P 5A	9:59	0.00	0.0	0.0	20.0	80.0	8.06	
GP 11A	10:05	0.00	0.0	0.1	20.0	79.9	9.57	
GP 11B	10:03	0.20	0.0	0.1	19.9	80.0	8.62	
P 6C	10:09	0.00	0.0	0.0	20.0	80.0	5.51	
GP 12	10:11	0.40	0.0	0.3	19.6	80.1	4.28	
P 7A	10:15	0.00	0.0	0.0	20.0	80.0	3.99	
P 7B	10:17	0.00	0.0	0.0	19.9	80.1	4.33	
GP 13	10:20	0.10	0.0	0.0	19.4	80.6	5.32	
GP 14	10:22	0.00	0.0	0.0	19.9	80.1	6.58	
G 109	10:30	0.00	0.0	0.0	20.0	80.0	5.22	
GP 15A	10:36	0.25	0.0	0.2	19.5	80.3	3.64	
GP 15B	10:38	0.60	0.0	0.4	19.7	79.9	5.08	
GP 28A	10:40	0.10	0.0	0.1	20.0	79.9	11.80	
GP 28B	10:41	2.90	0.0	0.0	20.0	80.0	3.42	
GP 28C	10:39	0.90	0.0	0.0	19.9	80.1	3.43	
GP 16A	10:44	0.10	0.0	0.0	19.9	80.1	5.39	
GP 16B	10:45	1.40	0.0	0.0	19.4	80.6	3.30	
GP 16C	10:46	0.80	0.0	0.0	19.9	80.1	4.02	
GP 29A	10:49	0.30	0.0	0.0	20.0	80.0	5.57	
GP 29B	10:48	0.40	0.0	0.1	19.4	80.5	12.03	
G110	10:54	NR	0.0	0.0	19.9	80.1	8.16	
GP 17	10:53	0.40	1.1	0.5	19.0	79.4	5.21	

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ID	Time	Pressure (" H2O)	CH4 (%)	CO2 (%)	O2 (%)	Balance (%)	Depth to Water (ft BTOC)	Notes/Conditions
GP 18	11:04	0.20	0.0	0.0	19.9	80.1	7.72	
GP 19	11:07	0.30	0.0	0.0	19.8	80.2	11.75	
GP 20	11:10	0.20	0.0	0.0	19.8	80.2	4.99	
GP 21A	11:12	0.30	0.0	0.0	19.8	80.2	6.70	
GP 21B	11:14	0.20	0.0	0.0	19.8	80.2	13.93	
GP 22A	17:24	0.00	0.3	0.1	19.3	80.3	3.42	
GP 22B	17:27	0.00	0.1	0.9	19.4	79.6	19.19	
GP 30A	11:23	0.20	0.0	1.1	19.9	79.0	8.17	
GP 30B	11:22	0.10	13.2	0.1	17.2	69.5	7.83	
MW 204 D	17:32	0.00	0.4	0.0	19.4	80.2	20.00	
MW 204 S	17:34	0.00	0.0	0.0	19.5	80.5	25.04	
GP 23A	11:26	0.30	0.0	0.0	19.5	80.5	5.23	
GP 23B	11:30	0.20	0.0	0.1	19.4	80.5	10.23	
GP 24A	11:32	0.20	0.0	0.9	19.0	80.1	8.05	
GP 24B	11:34	0.20	0.0	0.0	19.7	80.3	9.62	
GP 25A	17:38	0.00	0.0	0.2	19.1	80.7	4.63	
GP 25B	17:41	0.00	0.0	0.2	18.8	81.0	18.16	
GP 31A	11:40	0.10	0.0	3.2	16.5	80.3	Dry	
GP 31B	11:39	0.10	72.8	0.7	16.8	9.7	15.34	
GP 26A	11:44	0.10	0.0	0.0	19.8	80.2	9.34	
GP 26B	11:46	0.10	0.1	0.0	19.6	80.3	16.67	
GP 27A	17:42	0.00	0.0	0.1	19.4	80.5	8.80	
GP 27B	17:46	0.00	0.0	0.0	19.4	80.6	20.05	
GP 35A	11:53	0.10	0.0	1.1	18.2	80.7	8.36	
GP 35B	11:52	0.20	0.0	0.0	19.7	80.3	10.16	
G 120S	12:11	0.00	0.3	0.8	19.3	79.6	11.68	
G 113	12:17	0.00	0.0	0.0	19.8	80.2	12.00	
G 121	12:19	0.00	0.0	0.0	19.8	80.2	11.97	

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ID	Time	Pressure (" H2O)	CH4 (%)	CO2 (%)	O2 (%)	Balance (%)	Depth to Water (ft BTOC)	Notes/Conditions
GP 32A	15:00	0.20	0.0	0.2	19.3	80.5	10.03	
GP 32B	14:58	0.10	0.0	0.0	19.4	80.6	12.92	
GP 37A	14:54	0.00	0.2	0.0	19.4	80.4	13.03	
GP 37B	14:53	0.20	0.2	0.0	19.3	80.5	12.81	
EWL 10	15:15	0.00	23.3	10.8	12.7	53.2	NR	
EWL 11	15:13	0.00	58.9	30.9	2.1	8.1	NR	
UAV 1	15:23	0.90	68.4	31.4	0.5	0.0	18.49	
DV 1	15:27	0.40	66.8	32.7	0.4	0.1	19.17	
DV 8	15:35	0.20	69.4	30.3	0.3	0.0	6.7 (dry)	
UAV 4	16:04	0.00	60.8	38.7	0.3	0.2	5.2 (dry)	
DV 12	15:46	0.00	64.2	31.6	0.3	3.9	NR	
DV 13	15:52	0.00	27.3	7.0	12.3	53.4	NR	
SV 12	11:59	0.00	74.7	24.8	0.6	0.0	NR	
DV 3	16:14	0.00	77.8	20.7	0.3	1.2	17.51	
DV 6	16:44	0.00	42.5	25.5	6.1	25.9	11.97	

NA=Not applicable
NR=Nor recorded
Created by: B. Zimmerman, 6/18/09
Checked by: J. Schoephoester, 6/18/09

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LEGEND

- APPROXIMATE LANDFILL LIMITS
- LEACHATE COLLECTION TRENCH (APPROXIMATE LOCATION)
- ELEVATION CONTOUR (2-FT INTERVAL)
- PRIVATE WELLS
- MONITORING WELLS
- PIEZOMETERS
- LEACHATE PIPE
- GAS VENTS
- GAS VENTS (P)
- GAS EXTR HEAD WELLS
- LEACH GAS EXTR WELLS
- GAS PROBES
- FEMA 100-YR FLOOD PLAIN
- APPROXIMATE RIVER & STREAM CENTERLINES
- EXISTING 16" FORCE MAIN
- FORCE MAIN VENT
- GAS PROBE LOCATION
- POND

CROSS SECTIONS

- A-A'
- B-B'
- C-C'
- D-D'
- E-E'

NOTES:

1. BASE AERIAL IMAGE FROM THE USGS SEAMLESS DATA SERVER, MARCH 2005.
2. ROADS DATA FROM ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE.
3. ELEVATION CONTOURS AND FEMA FLOOD PLAIN INFORMATION PROVIDED BY THE DUPAGE COUNTY, ILLINOIS GIS DEPARTMENT VIA CHAPMAN AND CUTLER, LLP.
4. LANDFILL LIMITS AND HYDRO FEATURE CENTERLINES ESTIMATED BY AERIAL PHOTOGRAPH.
5. SAMPLE LOCATION DATA FROM MARTINEZ CORPORATION.
6. MAP PROJECTION & COORDINATE SYSTEM IS ILLINOIS STATE PLANE EAST NAD83.
7. WELL AND PROBE APPROXIMATE LOCATIONS FROM DUPAGE CO FOREST PRESERVE DISTRICT AND BFI.
8. LEACHATE COLLECTION TRENCH LOCATION IS APPROXIMATE BASED ON THE 1995 SITE MAP FROM EMCON.

N

0 100 200 FEET

1" = 100'
1:1,200

WORKING COPY

PROJECT	MALLARD NORTH LANDFILL FOREST PRESERVE DISTRICT DU PAGE COUNTY, ILLINOIS
SHEET TITLE	LANDFILL GAS INVESTIGATION WORK PLAN BASE MAP

DRAWN BY: MCKEEFRY J	SCALE: AS NOTED	PROJ. NO. 86-06809.03	
CHECKED BY:		FILE NO. 68090306.mxd	
APPROVED BY:	DATE PRINTED: 6/24/2009	FIGURE 1	
DATE: JUNE 2009			

RMT

744 Heartland Trail
Madison, WI 53717-1934
P.O. Box 8923 53708-8923
Phone: 608-831-4444
Fax: 608-831-3344

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Table A
Un-ionized Ammonia Evaluation
Mallard North Landfill - June 19, 2009 Sampling Event

Unionized ammonia = $[(\text{Total ammonia})*10^{pH}] / [e^{[6344/(273+T)]} + 10^{pH}]$

	MH-2	MH-2 seep	West Seep (Near G115)
Total ammonia (mg/L) [1]	**161**	**145**	**108**
35 IAC Subpart B Total Ammonia Standard (mg/L)	15	15	15
pH	6.63	6.67	7.01
Temp (C)	11.6	13.7	16.9
Total ammonia)*10^{pH}	686,793,025.27	678,215,954.87	1,105,156,431.66
[6344/(273+T)]	22.29	22.13	21.88
[e[6344/(273+T)]	4,795,384,122.58	4,072,996,027.30	3,190,340,065.97
10^{pH}	4,265,795.19	4,677,351.41	10,232,929.92
Un-ionized Ammonia (mg/L)	**0.1431**	**0.1663**	**0.3453**
35 IAC Subpart D Un-ionized Ammonia Standard (mg/L)	0.1	0.1	0.1

Notes:
1. Final Analytical Report received by RMT via e-mail dated 6/26/09