

WEAVER
BOOS
CONSULTANTS
LLC
SOUTHWEST

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December 21, 2009
Project No. 0647-02-36-02-01

Mr. Lonnie Banks
City of Garland Environmental Services
1434 Commerce Street
Garland, Texas 75040

Re: Surface Emissions Monitoring
December 10, 2009 Results
Charles M. Hinton, Jr. Regional Landfill

Dear Mr. Banks:

Weaver Boos Consultants, LLC-Southwest (WBC) performed surface emissions monitoring (SEM) at the Charles M. Hinton, Jr. Regional Landfill (Hinton) on December 10, 2009. Although not required, the monitoring event was conducted in accordance with the guidelines set forth in the Environmental Protection Agency's (EPA's) New Source Performance Standards (NSPS), as stated within Title 40 Code of Federal Regulations (CFR) §60.755(c) and (d) and Title 40 CFR Part 60, Appendix A, Method 21. In addition, John Andrews with the Texas Commission on Environmental Quality, Region 4 Office was present during a portion of the monitoring.

FIELD MONITORING

A WBC field technician monitored the landfill surface along the site-specific traverse pattern in the morning and in the afternoon as indicated on Drawing 1 and Drawing 2, respectively. In addition to following the site-specific traverse pattern, the field technician also monitored areas that appeared to be 500 parts per million (ppm) above background of methane based on visual observations. A precalibrated Photovac MicroFID detector according to Method 21 was used for monitoring.

SITE SPECIFIC SUMMARY

During the monitoring, nine landfill gas (LFG) detection readings were located in the morning and eight LFG detection readings were located in the afternoon. Each LFG detection reading location was marked with a pin flag. Six of the eight LFG detection readings found in the afternoon monitoring event were at the same locations found during the morning monitoring event (i.e., 1A, 2A, 3A, 6A, 8A, and 9A). All the detection

Mr. Lonnie Banks
December 21, 2009
Page 2

readings appear to be related to some erosion of the soil cover, and as such, it was recommended that soil be placed at these locations to reduce the potential for surface emissions. It is our understanding that the City is contracting to have additional soil brought into these areas.

Attachments to this letter include information regarding monitoring dates, background and LFG detection reading measurements, equipment response, and calibration data. Site-specific maps indicating the SEM monitoring patterns are also attached.

WBC appreciates the opportunity to provide monitoring services at the Hinton Landfill. Please call us if you have any questions or comments regarding this information.

Sincerely,

Weaver Boos Consultants, LLC-Southwest



Matt K. Stutz, P.E.

LFG/Air Quality Manager - Principal

Attachments: Form 1 - Instrument Response Time Test Record (2)
Form 2 - Calibration Precision Test Record (2)
Form 3 - Calibration Procedure and Background Determination Report (2)
Form 4 - Surface Monitoring Log (2)
Drawing 1 - Surface Emissions Monitoring Map – Morning
Drawing 2 - Surface Emissions Monitoring Map – Afternoon

cc: Divya Garrepalli, City of Garland Environmental Services

**RESPONSE TIME, CALIBRATION, AND
BACKGROUND DETERMINATION DATA**

MORNING MONITORING

FORM 1
INSTRUMENT RESPONSE TIME TEST RECORD

LANDFILL NAME: Hinton

DATE: 12/10/2009

TIME: 7:16 AM

INSTRUMENT MAKE: Photovac MODEL: Micro FID S/N: CZPP308

CALIBRATION STANDARD: 500 ppm Methane

MEASUREMENT #1:

Stabilized Reading Using Calibration Gas: 495.5 ppm

90% of the Stabilized Reading: 445.95 ppm

Time to Reach 90% of Stabilized reading
After switching from Zero Air to
Calibration Gas 7 Seconds (1)

MEASUREMENT #2:

Stabilized Reading Using Calibration Gas: 491.3 ppm

90% of the Stabilized Reading: 442.17 ppm

Time to Reach 90% of Stabilized reading
After switching from Zero Air to
Calibration Gas 8 Seconds (2)

MEASUREMENT #3:

Stabilized Reading Using Calibration Gas: 484.7 ppm

90% of the Stabilized Reading: 436.23 ppm

Time to Reach 90% of Stabilized reading
After switching from Zero Air to
Calibration Gas 7 Seconds (3)

CALCULATE RESPONSE TIME: $\frac{(1) + (2) + (3)}{3}$

= 7.33 SECONDS (MUST BE LESS THAN 30 SECONDS)

PERFORMED BY: Kyle Walker

FORM 2
CALIBRATION PRECISION TEST RECORD

LANDFILL NAME: Hinton

DATE: 12/10/2009 EXPIRATION DATE: 3/10/2009 (3-mos.)

TIME: 7:16 AM

INSTRUMENT MAKE: Photovac MODEL: Micro FID S/N: CZPP308

CALIBRATION STANDARD: 500 ppm Methane

MEASUREMENT #1:

Meter Reading for Zero Air: 0.0 ppm (1)

Meter Reading for Calibration Gas: 495.5 ppm (2)

MEASUREMENT #2:

Meter Reading for Zero Air: 0.0 ppm (3)

Meter Reading for Calibration Gas: 491.3 ppm (4)

MEASUREMENT #3:

Meter Reading for Zero Air: 0.0 ppm (5)

Meter Reading for Calibration Gas: 484.7 ppm (6)

CALCULATE PRECISION:

$$\frac{[500 - (2)] + [500 - (4)] + [500 - (6)]}{3} \times \frac{1}{500} \times \frac{100}{1}$$

= 1.9 % (must be less than 10%)

PERFORMED BY: Kyle Walker

FORM 3
CALIBRATION PROCEDURE AND BACKGROUND
DETERMINATION REPORT

LANDFILL NAME: Hinton

INSTRUMENT MAKE: Photovac MODEL: Micro FID S/N: CZPP308
CALIBRATION STANDARD: 500 ppm Methane

Calibration Procedure

1. Allow instrument to internally zero itself while introducing zero air.
2. Introduce the calibration gas into the probe.
Stable reading = 499.7 ppm
3. Adjust meter to read 500 ppm.

Background Determination Procedure

1. Upwind Reading (highest in 30 Seconds): 2.1 ppm (1)
2. Downwind Reading (highest in 30 Seconds): 5.7 ppm (2)

Calculate Background Value:

$$\frac{(1) + (2)}{2}$$

Background = 3.9 ppm

PERFORMED BY: Kyle Walker TIME: 7:16 AM

DATE: 12/10/2009

AFTERNOON MONITORING

FORM 1
INSTRUMENT RESPONSE TIME TEST RECORD

LANDFILL NAME: Hinton

DATE: 12/10/2009

TIME: 1:48 PM

INSTRUMENT MAKE: Photovac MODEL: Micro FID S/N: CZPP308

CALIBRATION STANDARD: 500 ppm Methane

MEASUREMENT #1:

Stabilized Reading Using Calibration Gas: 496.5 ppm

90% of the Stabilized Reading: 446.85 ppm

Time to Reach 90% of Stabilized reading
After switching from Zero Air to
Calibration Gas 8 Seconds (1)

MEASUREMENT #2:

Stabilized Reading Using Calibration Gas: 493.5 ppm

90% of the Stabilized Reading: 444.15 ppm

Time to Reach 90% of Stabilized reading
After switching from Zero Air to
Calibration Gas 8 Seconds (2)

MEASUREMENT #3:

Stabilized Reading Using Calibration Gas: 491.2 ppm

90% of the Stabilized Reading: 442.08 ppm

Time to Reach 90% of Stabilized reading
After switching from Zero Air to
Calibration Gas 7 Seconds (3)

CALCULATE RESPONSE TIME: $\frac{(1) + (2) + (3)}{3}$

= 7.67 SECONDS (MUST BE LESS THAN 30 SECONDS)

PERFORMED BY: Kyle Walker

FORM 2
CALIBRATION PRECISION TEST RECORD

LANDFILL NAME: Hinton

DATE: 12/10/2009 EXPIRATION DATE: 3/10/2009 (3-mos.)

TIME: 1:48 PM

INSTRUMENT MAKE: Photovac MODEL: Micro FID S/N: CZPP308
CALIBRATION STANDARD: 500 ppm Methane

MEASUREMENT #1:

Meter Reading for Zero Air: 0.0 ppm (1)

Meter Reading for Calibration Gas: 496.5 ppm (2)

MEASUREMENT #2:

Meter Reading for Zero Air: 0.0 ppm (3)

Meter Reading for Calibration Gas: 493.5 ppm (4)

MEASUREMENT #3:

Meter Reading for Zero Air: 0.0 ppm (5)

Meter Reading for Calibration Gas: 491.2 ppm (6)

CALCULATE PRECISION:

$$\frac{[500 - (2)] + [500 - (4)] + [500 - (6)]}{3} \times \frac{1}{500} \times \frac{100}{1}$$

= 1.25 % (must be less than 10%)

PERFORMED BY: Kyle Walker

FORM 3
CALIBRATION PROCEDURE AND BACKGROUND
DETERMINATION REPORT

LANDFILL NAME: Hinton

INSTRUMENT MAKE: Photovac MODEL: Micro FID S/N: CZPP308
CALIBRATION STANDARD: 500 ppm Methane

Calibration Procedure

4. Allow instrument to internally zero itself while introducing zero air.
5. Introduce the calibration gas into the probe.
Stable reading = 499.9 ppm
6. Adjust meter to read 500 ppm.

Background Determination Procedure

3. Upwind Reading (highest in 30 Seconds): 3.7 ppm (1)
4. Downwind Reading (highest in 30 Seconds): 4.9 ppm (2)

Calculate Background Value:

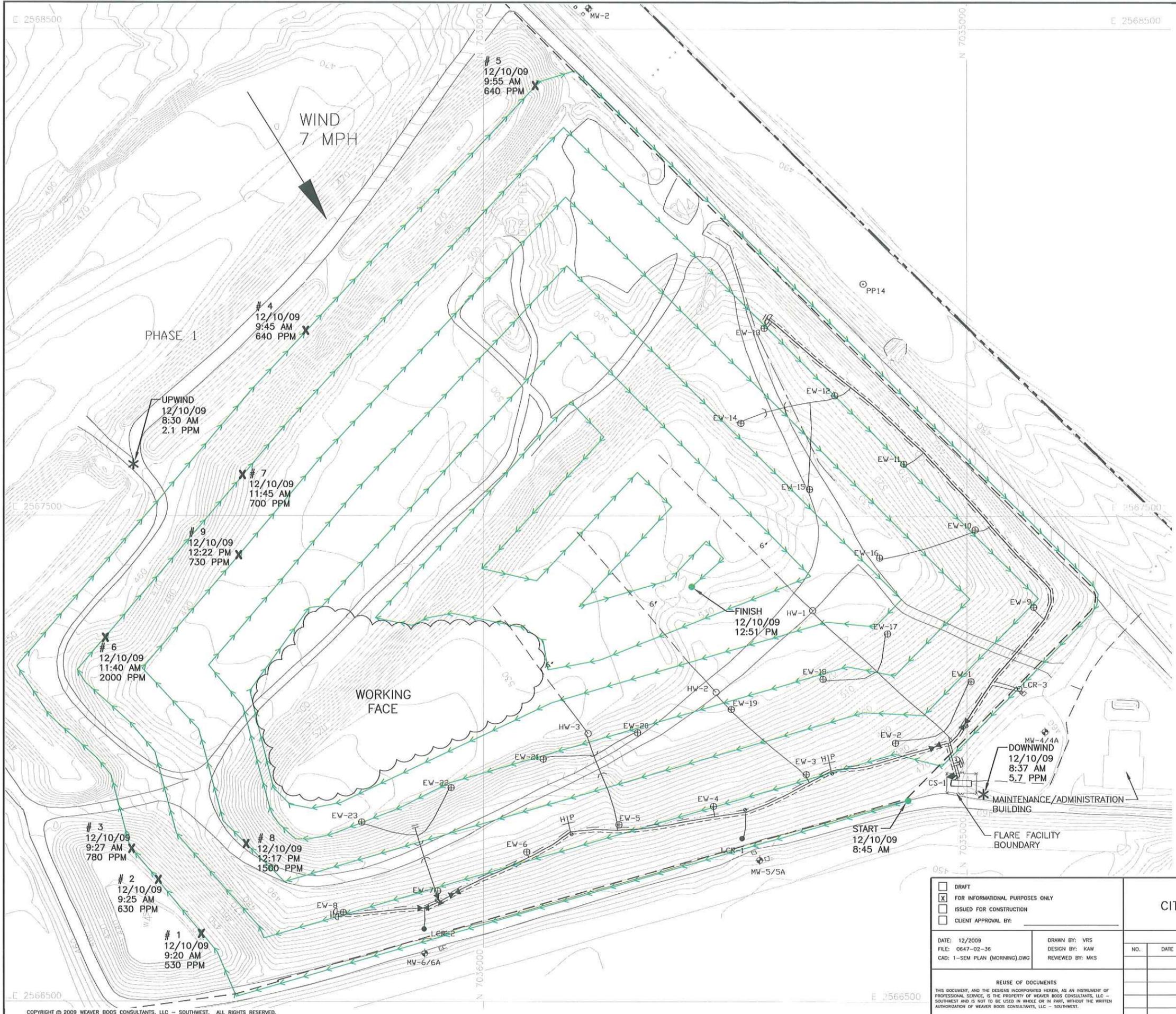
$$\frac{(1) + (2)}{2}$$

Background = 4.3 ppm

PERFORMED BY: Kyle Walker TIME: 1:48 PM

DATE: 12/10/2009

SURFACE EMISSION MONITORING MAPS



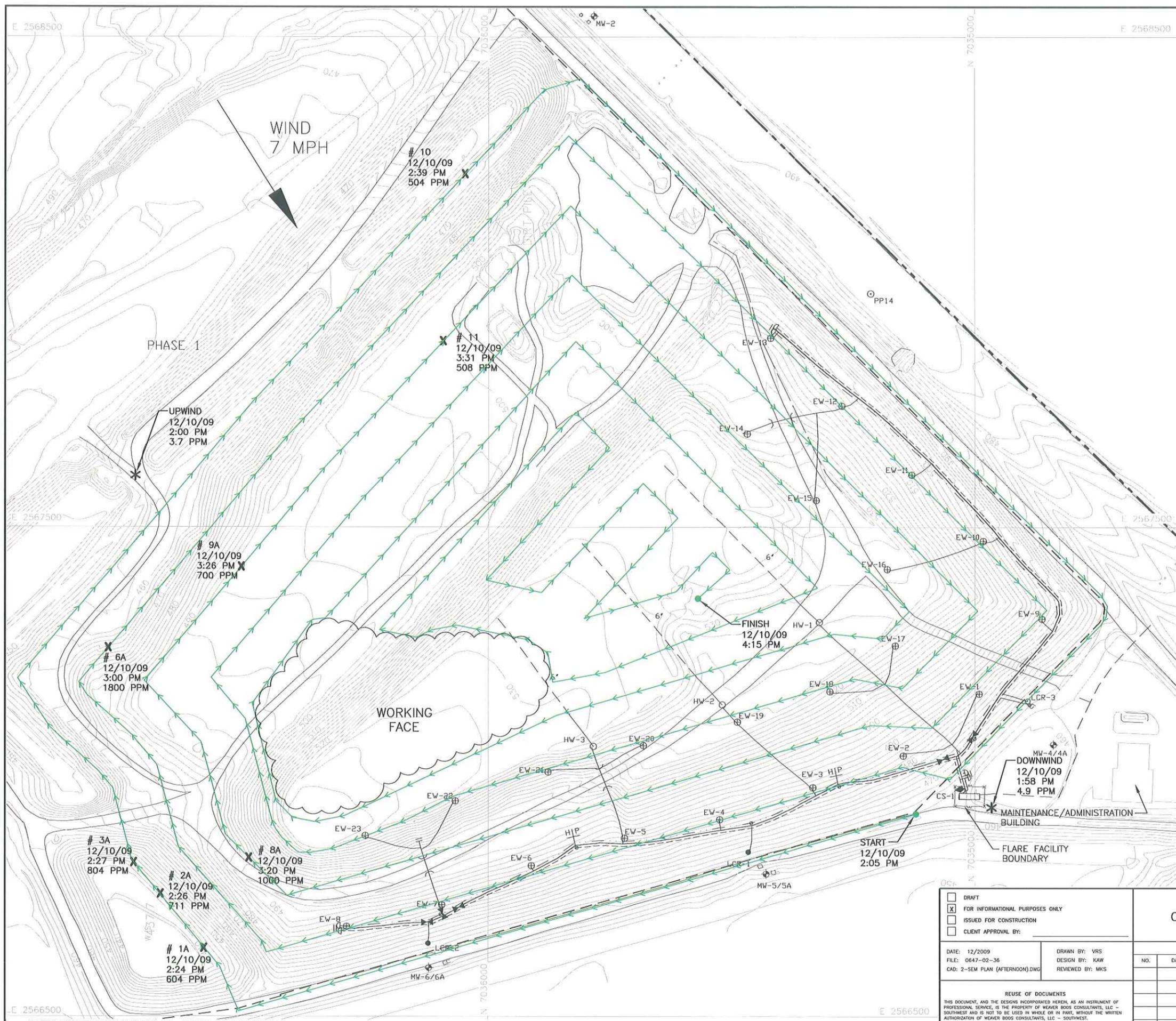
LEGEND:

	PERMIT BOUNDARY
	LIMITS OF WASTE
	STATE PLANE COORDINATE
	EXISTING CONTOUR (SEE NOTE 1)
	EXISTING GROUNDWATER MONITORING WELL
	EXISTING LFG MONITORING PROBE
	EXISTING LFG EXTRACTION WELL
	EXISTING LFG COLLECTION PIPING
	EXISTING LFG HORIZONTAL COLLECTOR
	EXISTING ISOLATION VALVE
	EXISTING CONDENSATE SUMP
	EXISTING BLIND FLANGE
	EXISTING HDPE CAP
	EXISTING ROAD CROSSING
	EXISTING LEACHATE CLEANOUT RISER CONNECTION
	EXISTING U-TRAP TO LEACHATE CLEANOUT RISER CONNECTION
	EXISTING AIR SUPPLY PIPING
	EXISTING CONDENSATE FORCEMAIN
	EXISTING AIR/CONDENSATE VALVE
	EXISTING BURIED ELECTRICAL LINE
	SURFACE EMISSIONS PATH
	LOCATION OF LANDFILL GAS DETECTION READINGS

- NOTES:**
- EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. COMPILED FROM AERIAL PHOTOGRAPHY FLOWN 09-08-2008. COORDINATE SYSTEM BASED ON STATE PLANE NAD 83, TEXAS NORTH CENTRAL.
 - MONITORING DATE - 12/10/2009
START - 8:45 AM
FINISH - 12:51 PM
 - TECHNICIAN - KYLE WALKER
 - WEATHER - PARTLY CLOUDY
BAROMETRIC PRESSURE - 30.22 IN.
WIND - ENE @ 7 MPH
TEMP - 30° F

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR INFORMATIONAL PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION <input type="checkbox"/> CLIENT APPROVAL BY:	PREPARED FOR	CITY OF GARLAND SEM PATH-MORNING SITE PLAN CHARLES M. HINTON JR. REGIONAL LANDFILL DALLAS COUNTY, TEXAS								
	DATE: 12/2009 FILE: 0647-02-36 CAD: 1-SEM PLAN (MORNING).DWG		DRAWN BY: VRS DESIGN BY: KAW REVIEWED BY: MKS							
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- LEGEND:**
- PERMIT BOUNDARY
 - - - LIMITS OF WASTE
 - E 2570500 STATE PLANE COORDINATE
 - 510 EXISTING CONTOUR (SEE NOTE 1)
 - MW-2 EXISTING GROUNDWATER MONITORING WELL
 - PP12 EXISTING LFG MONITORING PROBE
 - EW-3 EXISTING LFG EXTRACTION WELL
 - HW-1 EXISTING LFG COLLECTION PIPING
 - HW-1 EXISTING LFG HORIZONTAL COLLECTOR
 - CS-1 EXISTING ISOLATION VALVE
 - CS-1 EXISTING CONDENSATE SUMP
 - II- EXISTING BLIND FLANGE
 - II- EXISTING HDPE CAP
 -) (EXISTING ROAD CROSSING
 - LCR-3 EXISTING LEACHATE CLEANOUT RISER CONNECTION
 - LCR-2 EXISTING U-TRAP TO LEACHATE CLEANOUT RISER CONNECTION
 - EXISTING AIR SUPPLY PIPING
 - EXISTING CONDENSATE FORCEMAIN
 - oo EXISTING AIR/CONDENSATE VALVE
 - EXISTING BURIED ELECTRICAL LINE
 - SURFACE EMISSIONS PATH
 - X LOCATION OF LANDFILL GAS DETECTION READINGS

- NOTES:**
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START - 2:05 PM
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BAROMETRIC PRESSURE - 30.22 IN.
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