

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S-1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

SITE: City of Palo Alto Landfill	FACILITY ID#: A2721
REPORTING PERIOD: from 6/1/2012 through 11/30/2012	

List of Permitted Sources and Abatement Device

Permit Unit Number	Equipment Description
S-#	Description
S-1	Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare
S-5	Wood Grinder and A-5 Water Sprays
S-7	Trommel Screen and A-5 Water Sprays
A-3	Landfill Gas Flare, Sur Lite, 30 MM BTU/hour, 1,000 cfm of landfill gas
A-5	Water Sprays

Notes: Diesel Engine S-8 was permanently taken out of service in August 2007 and replaced with S-9. S-8 is no longer in use.
 A new Title V Permit was issued on June 4, 2012, exempting Diesel Engines S-6 and S-9 from Title V permit requirements; therefore, these sources are not included in this Title V Semi-Annual Monitoring Report.

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S -1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Periods of Inoperation for Parametric Monitors	BAAQMD 1-523.4	Operating records for all parametric monitors (gas flow meters and temperature monitors)	Daily	BAAQMD 1-523.2	≤ 15 consecutive days per incident and ≤ 30 calendar days per 12 month period	Continuous	N/A
Opacity	BAAQMD Condition #1028, Part 17d	Records of all site watering and road cleaning events	Periodic/ Event basis/ Monthly	BAAQMD 6-1-301 and SIP 6-301	Ringelmann No. 1 for < 3 minutes in any hour (applies to S-1)	Continuous	N/A
Opacity	None	NA	None	BAAQMD 6-1-301 and SIP 6-310	Ringelmann No. 1 for < 3 minutes in any hour (applies to flare)	Continuous	N/A
FP	None	NA	None	BAAQMD 6-1-310 and SIP 6-310	≤ 0.15 grains/dscf (applies to flare)	Continuous	N/A
Total Carbon	BAAQMD Condition #1028, Part 3	Surface VOC Analysis and Records	Periodic/ Event basis	BAAQMD 8-2-301 and SIP 8-2-301	≤ 15 pounds per day or ≤ 300 ppmv, dry basis (applies only to aeration of or use as cover soil of soil containing ≤ 50 ppmw of volatile organic compounds)	Continuous	N/A
Collection and Control Systems Shutdown Time	BAAQMD 8-34-501.1	Operating Records	Periodic/ Event basis	BAAQMD 8-34-113.2	≤ 240 hours per year and ≤ 5 consecutive days	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-116.5 and 501.1	Records	Periodic/ Daily	BAAQMD 8-34-116.2	No more than 5 wells at a time or <10% of total collection system, whichever is less	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-116.5 and 501.1	Records	Periodic/ Daily	BAAQMD 8-34-116.3	≤ 24 hours per well	Continuous	N/A

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S -1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Well Shutdown Limits	BAAQMD 8-34-117.4	Records	Periodic/ Daily	BAAQMD 8-34-117.6 and 501.1	No more than 5 wells at a time or < 10% of total collection system, whichever is less	Continuous	N/A
Well Shutdown Limits	BAAQMD 8-34-117.6 and 501.1	Records	Periodic/ Daily	BAAQMD 8-34-117.5	≤ 24 hours per well	Continuous	N/A
Gas Flow	BAAQMD 8-34-501.10 and 508	Gas Flow Meter and Recorder (every 15 minutes)	Continuous	BAAQMD 8-34-301 and 301.1	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system	Continuous	N/A
TOC (Total Organic Compounds Plus Methane)	BAAQMD 8-34-501.6 and 503 and BAAQMD Condition # 1028, Part 17h	Quarterly inspection of collection and control system components with portable analyzer and Records	Periodic/ Quarterly	BAAQMD 8-34-301.2	≤ 1000 ppmv as methane (component leak limit)	Continuous	N/A
Non-Methane Organic Compounds (NMOC)	BAAQMD 8-34-412 and 8-34-501.3 and 8-34-501.4 and 507 BAAQMD Condition # 1028, Parts 15 and 17h	Annual Source Tests and Records	Periodic/ Annual	BAAQMD 8-34-301.3	≤ 98% removal by weight OR < 30 ppmv dry basis @ 3% O ₂ , expressed as methane (applies to A-3 only)	Continuous	N/A
TOC	BAAQMD 8-34-415, 416, 501.6, 506 and 510 and BAAQMD Condition # 1028, Part 17h	Monthly visual inspection of cover, quarterly inspection of surface with portable analyzer, various re-inspection times for leaking areas and records	Periodic/ Monthly, Quarterly, and Event basis	BAAQMD 8-34-303	≤ 500 ppmv as methane at 2 inches above surface	Continuous	N/A

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S-1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Collection System Installation Dates	BAAQMD 8-34-501.7 and 501.8 and BAAQMD Condition # 1028, Parts 12a-c, 12e-f	Records	Periodic / Event basis	BAAQMD 8-34-304.2	For Active Areas: Collection system components must be installed and operating by 5 years + 60 days after initial waste placement	Continuous	N/A
Collection System Installation Dates	BAAQMD 8-34-501.7 and BAAQMD Condition # 1028, Parts 12a-c, 12e-f	Records	Periodic / Event basis	BAAQMD 8-34-304.3	For Any Uncontrolled Areas or Cells: Collection system components must be installed and operating within 60 days after the uncontrolled area or cell accumulates 1,000,000 tons of decomposable waste	Continuous	N/A
Wellhead Pressure	BAAQMD 8-34-414, 501.9 and 505.1 and BAAQMD Condition #1028, Part 17h	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.1	< 0 psig	Continuous	N/A
Temperature of Gas at Wellhead	BAAQMD 8-34-414, 501.9 and 505.2 and BAAQMD Condition # 1028, Part 17h	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.2	< 55 C (< 131 F)	Continuous	N/A
Gas Concentration s at Wellhead	BAAQMD 8-34-414, 501.9 and 505.3 or 505.4 and BAAQMD Condition # 1028, Part 17h	Monthly Inspection and Records	Periodic / Monthly	BAAQMD 8-34-305.3 or 305.4	N2 < 20% by volume OR O2 < 5% by volume	Continuous	N/A
Gas Flow	BAAQMD 8-34-501.1, 501.2, 501.10 and 508 and BAAQMD Condition # 1028, Part 17f	Records of Landfill Gas Flow Rates, Collection and Control Systems Downtime, and Collection System Components	Continuous / Periodic / Event basis	BAAQMD Permit Condition #1028, Parts 5, 6, and 7	Landfill gas collection system shall operate continuously and all collected gases shall be vented to a properly operating control system	Continuous	N/A

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S-1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Continuous Monitors	40 CFR 60.7(b)	Operating Records for All Continuous Monitors (for gas flow and temperature monitors)	Periodic / Daily	40 CFR 60.13(e)	Requires Continuous Operation except for breakdowns, repairs, calibration, and required span adjustments	Continuous	N/A
Startup Shutdown or Malfunction Procedures	40 CFR 63.1980(a-b)	Records (all occurrences, duration of each, and corrective actions)	Periodic / Event basis	40 CFR 63.6(e)	Minimize Emissions by Implementing SSM Plan	Continuous	N/A
Temperature of Combustion Zone (CT)	BAAQMD 8-34-501.3 and 507, Part 15 and 17h	Temperature Sensor and Recorder (continuous)	Continuous	Permit Condition #1028, Part 9	CT > 1420 °F, averaged over any 3-hour period (applies to A-3 only)	Continuous	N/A
NOx	BAAQMD Condition #1028, Part 15 and 17h	Annual Source Test and Records	Periodic / Annual	BAAQMD Condition #1028, Part 11	< 32 ppmv at 15% O ₂ , dry	Continuous	N/A
CO	BAAQMD Permit Condition #1028, Part 15 and 17h	Annual Source Test and Records	Periodic / Annual	BAAQMD Permit Condition #1028, Part 12	< 208 ppmv @ 15% O ₂ , dry	Continuous	N/A
SO ₂	None	None	None	BAAQMD 9-1-301	Property Line Ground Level Limits ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours (applies to A-3 only)	Continuous	N/A
SO ₂	Permit Condition #1028, Part 14 and 17h	Sulfur analysis of landfill gas	Periodic / Quarterly	BAAQMD 9-1-302	< 300 ppm (dry basis) (applies to A-3 only)	Continuous	N/A
Total Sulfur Content in LFG	Permit Condition #1028, Part 14 and 17h	Sulfur analysis of landfill gas	Periodic / Annual	Permit Condition #1028, Part 14	In collected LFG: ≤ 860 ppmv of TRS (expressed as H ₂ S)	Continuous	N/A

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S-1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
H ₂ S	None	NA	None	BAAQMD 9-2-301	Property Line Ground Level Limits: ≤ 0.6 ppm averaged over 3 min. and ≤ 0.03 ppm for 60 min. and < 0.05 ppm averaged over 60 min.	Continuous	N/A
Amount of Waste Accepted	BAAQMD Condition # 1028, Part 17a	Records	Periodic / Daily	BAAQMD Condition #1028, Part 1a	≤ 400 tons/day of waste accepted and placed in S-1	Continuous	N/A
Amount of Waste Accepted	BAAQMD Condition # 1028, Part 17a	Records	Periodic / Daily	BAAQMD Condition #1028, Part 1a	0 tons/day of waste accepted and placed in S-1	Continuous	N/A
Amount of Waste Accepted	BAAQMD Condition # 1028, Part 17a	Records	Periodic / Daily	BAAQMD Condition #1028, Part 1b and 1c	≤ 5,830,000 tons (cumulative amount of all decomposable materials) and ≤ 7,759,000 yd ³ (cumulative amount of all wastes and cover materials)	Continuous	N/A
Heat Input	Permit Condition #1028, Part 8 and 17g	Records	Periodic / Daily	Permit Condition #1028, Part 8	≤ 720 MMBTU/day and ≤ 262,800 MMBTU/yr	Continuous	N/A
Total Chlorinated Compounds in Landfill Gas	BAAQMD Condition #1028, Part 16 and 17h	Annual Gas Characterization Analysis and Records	Periodic / Annual	Permit Condition #1028, Part 13	< 104 ppmv, dry	Continuous	N/A
Opacity	Permit Condition #20476, Part 5	Visual Observation of Operations	Periodic / Event basis	BAAQMD Regulation 6-301 and SIP 6-301	Ringelmann 1.0 for <3 minutes in any hour	Continuous	N/A
Opacity	Permit Condition #20476, Part 5	Visual Observation of Operations	Periodic / Event basis	Permit Condition #20476, Part 4	≤ Ringelmann 1.0	Continuous	N/A

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S -1 Palo Alto Landfill with Gas Collection System and A-3 Landfill Gas Flare	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
FP	None	None	None	BAAQMD Regulation 6-311 and SIP 6-311	For P<57,320 pounds/hour: E = 0.026(P) ^{0.67} , For P>57,320 pounds/hr: E = 40 pounds/hr where: E = Maximum allowable emission rate (lbs/hr); and P = process weight rate (lbs/hr)	Continuous	N/A
Wood Throughput	Permit Condition #20476, Part 2	Records	Periodic / Daily	Permit Condition #20476, Part 1	≤ 50,000 tons/year	Continuous	N/A

City of Palo Alto Landfill
TITLE V SEMI-ANNUAL MONITORING REPORT

Site: City of Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S-5 Wood Grinder and A-5 Water Sprays	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	Permit Condition #20476, Part 5	Visual Observation of Operations	Periodic / Event basis	BAAQMD Regulation 6-301	Ringelmann 1.0 for 3 minutes in any hour	Continuous	N/A
Opacity	Permit Condition #20476, Part 5	Visual Observation of Operations	Periodic / Event basis	Permit Condition #20476, Part 4	Ringelmann 1.0	Continuous	N/A
FP	None	None	None	BAAQMD Regulation 6-311	40 pounds/hour	Continuous	N/A
Wood Throughput	Permit Condition #20476, Part 2	Records	Periodic / Daily	Permit Condition #20476, Part 1	50,000 tons/year	Continuous	N/A

Note: Wood Grinder S-5 and S-6 broke down on April 7, 2010 and Rental Portable Equipment Registration Program (PERP) grinding equipment has been used, as-needed, in place of S-5 since that time until the Wood Grinder S-6 was repaired and came back online March 1, 2011. A source test was performed on July 5, 2011.

City of Palo Alto Landfill

TITLE V SEMI-ANNUAL MONITORING REPORT

Site: Palo Alto Landfill	Facility ID#: A2721
Permitted Unit: S-7 TROMMEL SCREEN AND A-5 WATER SPRAYS	Reporting Period: from 6/1/2012 through 11/30/2012

Type of Limit or Criteria	Monitoring Requirement Citation	Monitoring Type	Monitoring Frequency	Citation of Limit	Limit	Compliance	Corrective Actions Taken
Opacity	Permit Condition #20478, Part 5	Visual Observation of Operations	Periodic / Event basis	BAAQMD Regulation 6-301 and SIP 6-301	Ringelmann 1.0 for < 3 minutes in any hour	Continuous	N/A
Opacity	Permit Condition #20478, Part 5	Visual Observation of Operations	Periodic / Event basis	Permit Condition #20478, Part 4	≤ Ringelmann 1.0	Continuous	N/A
FP	None	None	None	BAAQMD Regulation 6-311	For P<57.320 pounds/hour: E = 0.026(P) ^{0.67} , For P>57.320 pounds/hr: E = 40 pounds/hr where: E = Maximum allowable emission rate (lbs/hr); and P = process weight rate (lbs/hr)	Continuous	N/A
Wood Throughput	Permit Condition #20478, Part 2	Records	Periodic / Daily	Permit Condition #20476, Part 1	≤ 50,000 tons/year	Continuous	N/A