

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(pursuant to NAC 445A.236)

Permittee: Bently Family Limited Partnership
dba Bently Agrowdynamics
P. O. Box 127
Minden, NV 89423

Permit: NEV97012

Location: Bently Agrowdynamics Compost Facility
1089 Stockyard Road
Minden, Douglas County, Nevada, 89423
Township 13 N, Range 20 E, Sections 15, 16, 20, and 22

Latitude: 38.983100° N (38° 58' 59.16" N)
Longitude: 119.733049° W (119° 43' 58.98" W)

Drinking Water Protection Area / Wellhead Protection Area:

A portion of the Bently Biosolids Composting Facility is within the 6000' but outside the 3000' Drinking Water Protection Area (DWPA) around one public water supply well (East Valley Water System Airport South Well). The facility is not within an established Wellhead Protection Zone.

General:

The Permittee proposes to continue to compost up to 16,000 wet tons annually of biosolids (sewage sludge) generated by local municipalities, producing Class A "Exceptional Quality" compost. The Permittee may accept biosolids from Incline Village General Improvement District (IVGID) Water Reclamation Facility (Permit NEV30009), the Douglas County Sewer Improvement District #1 (DCSID) Wastewater Treatment Facility (Permit NEV80033), the Minden Gardnerville Sanitation District (MGSD) Wastewater Treatment Facility (Permit NEV40027), and the South Tahoe (California) Public Utility District (STPUD). The composted biosolids may be land applied for beneficial use at the Permittee's agricultural operation, or may be offered for sale as a soil amendment and source of plant nutrients. Because the composted material will meet the "Exceptional Quality" criteria set forth in Chapter 40 of the Code of Federal Regulations (40 CFR), Part 503, the material may be utilized as a soil amendment/plant nutrient source without restriction.

Previously, NDEP authorized the Permittee to operate a biosolids composting facility on 23 acres of land owned by Bently Family Limited Partnership located in Township 13N, Range 20E, Section 21 in Douglas County. In February 2009, the Permittee moved the composting operation to 20 acres of property at the location listed above, approximately ½ mile northeast of the previous operating location. The location move provided an additional buffer between the facility and residential developments in the area, and allowed for more manageable traffic and operational flow.

The site is surrounded by a drainage ditch system to preclude any water running onto the composting area. Additionally, the windrow area is bermed to preclude runoff of any fluid. A truck wash area with an HDPE liner collects water used to wash biosolids delivery trucks prior to their return to public roadways. All wash water is collected in a sump and is reused in the

process to meet composting moisture requirements. The sump is cleaned out daily. There is no standing water allowed at any time.

At the site, dewatered biosolids from local municipal sanitary wastewater treatment is combined according to strict operating protocol with graded chipped wood waste, green waste and livestock manure, at appropriate moisture content. The mixed material is placed in windrows on laser-leveled and compacted soil for composting.

In order to qualify under the “Exceptional Quality” Option in 40 CFR Part 503, the composted material must meet the following:

1. The ceiling concentrations for pollutants listed in Part 503 may not be exceeded;
2. The pollution concentration limits for metals listed in Part 503 may not be exceeded.
3. One of the Class A pathogen reduction requirements listed in Part 503 and given below must be met;

Alternative 1: Thermally Treated Biosolids: The biosolids must show fewer than 1000 MPN fecal coliform/gram total dry solids or fewer than 3 MPN *Salmonella sp.*/4 grams total dry solids. Additionally, the use of one of four specified time-temperature regimens must be demonstrated.

Alternative 2: Treatment in a High pH- High Temperature Process: The biosolids must meet the same pathogen concentration limits as Alternative 1. Additionally, specific pH, temperature and air-drying requirements must be met.

Alternative 3: Biosolids Treated in Other Processes: The biosolids must meet the same pathogen concentration limits as Alternative 1. Additionally, the process must demonstrate a reduction in enteric viruses and viable helminth ova. The actual operating conditions must be identical to those used in the demonstration.

Alternative 4: Biosolids Treated in Unknown Processes: Demonstration of the process is not necessary. Instead, compliance with limits for fecal coliform or *Salmonella sp.* and enteric viruses and helminth ova must be demonstrated at the time biosolids are used, disposed of, or are prepared for sale or give-away.

Alternative 5: Use of a One of the Processes to Further Reduce Pathogens (PFRP): Biosolids are treated using one of the recognized PFRP regimens as specified in Appendix B of Part 503: Composting; Heat drying; Heat treatment; Thermophilic aerobic digestion; Beta ray irradiation; Gamma ray irradiation; or Pasteurization.

Alternative 6: Use of a Process Equivalent to PFRP: Biosolids are treated in a process equivalent to one of the PFRPs, as determined by the permitting authority

4. One of the Class A options for vector attraction reduction listed in Part 503 and given below must be met, either after or simultaneous to the pathogen reduction process.

Option 1: Reduce the mass of volatile solids by a minimum of 38%.

Option 2: Demonstrate vector attraction reduction with additional anaerobic digestion in a bench scale unit.

Option 3: Demonstrate vector attraction reduction with additional aerobic digestion in a bench scale unit.

Option 4: Meet specific oxygen uptake rate for aerobically treated biosolids.

Option 5: Use aerobic processes at greater than 40°C (average temperature 45°C) for 14 days or longer (e.g. during biosolids composting)

Option 6: Add alkaline materials to raise the pH under specified conditions.

Option 7: Reduce the moisture content of biosolids that do not contain unstabilized solids from other than primary treatment to at least 75% solids.

Option 8: Reduce moisture content with unstabilized solids to at least 90%.

The Permittee has chosen to operate under Pathogen Reduction Alternative 5 and Vector Attraction Reduction Option 5. Compliance with the pollution concentration limits are verified by the municipalities generating the biosolids.

Receiving Water Characteristics:

The groundwater in the vicinity of the composting site is reported to range in depth from 9.85 to 42.35 feet below ground surface (bgs). Groundwater flow is southeast to northwest. Groundwater is monitored in 3 groundwater monitoring wells. Monitor wells MW1 and MW2 are located generally downgradient of the original composting site. Monitor well MW8 is located downgradient from the new site. Per permit Schedule of Compliance (SoC) item I.A.6.b, an additional monitor well will be installed immediately downgradient of the new composting facility location.

Proposed Limitations and Monitoring Requirements:

Samples shall be taken at the following locations and monitored as specified below:

- a. At the Permittee's scale;
- b. At the facility generating the biosolids;
- c. Finished compost.

Table 1.A: Monitoring Requirements

PARAMETER	DISCHARGE LIMITATION		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Cumulative Total Biosolids Received per Year (wet tons)	---	16,000	a.	Monthly	Calculate Total
Quantity of Biosolids Delivered from Each Supplier (wet tons)	M & R	M & R	a.	Each load	Discrete
Minimum Percent Solids of Delivered Biosolids (%)	15	---	b. ¹	Monthly	Calculate Average
Dry Tons Biosolids Delivered (dry tons)	M & R	---	a.	Monthly	Calculate
Arsenic (mg/kg)	---	41	b. ¹	Quarterly	Discrete
Cadmium (mg/kg)		39	b. ¹	Quarterly	Discrete
Chromium (mg/kg)		1200	b. ¹	Quarterly	Discrete
Copper (mg/kg)		1500	b. ¹	Quarterly	Discrete
Lead (mg/kg)		300	b. ¹	Quarterly	Discrete
Mercury (mg/kg)		17	b. ¹	Quarterly	Discrete
Molybdenum (mg/kg)		75	b. ¹	Quarterly	Discrete
Nickel (mg/kg)		420	b. ¹	Quarterly	Discrete
Selenium (mg/kg)		36	b. ¹	Quarterly	Discrete
Zinc (mg/kg)		2800	b. ¹	Quarterly	Discrete
Fecal Coliform (MPN/gm)	1000	---	c.	60 Days	Composite ²
Total Nitrogen (mg/kg)	M & R	---	c.	Quarterly	Composite

1. Data is to be provided by the supplier of the biosolids.
2. Geometric mean of at least seven samples taken over 14 days.

M&R: Monitor & Report MPN: Most Probable Number mg: Milligram kg: Kilogram

Groundwater Monitoring: The Permittee shall monitor and sample Monitor Wells MW1, MW2, and MW8, and any other monitor wells approved for inclusion in this permit, on a quarterly basis, according to the following:

Table 1.B.: Groundwater Monitoring

PARAMETER	REQUIREMENTS	SAMPLE FREQUENCY	SAMPLE TYPE
Depth to Groundwater (feet)	Monitor & Report	Quarterly	Field Measurement
Groundwater Elevation (feet AMSL)	Monitor & Report	Quarterly	Calculate
Total Dissolved Solids (mg/L)	Monitor & Report	Quarterly	Discrete
Nitrate as N (mg/L)	Monitor & Report	Quarterly	Discrete
Total Nitrogen (mg/L)	10	Quarterly	Discrete
Total Kjeldahl Nitrogen (mg/L)	Monitor & Report	Quarterly	Discrete
Chlorides (mg/L)	Monitor & Report	Quarterly	Discrete

mg/L: Milligrams per liter AMSL: Above Mean Sea Level

Proposed Additional Requirements:

- a. Equipment necessary to build or turn windrows, clean water collection sumps, or otherwise operate the facility shall be on the site and in operating condition at all times biosolids are accepted or treated.
- b. The Permittee shall maintain in an onsite logbook details of the operation of the facility, with appropriate dates.
- c. Public access to the land application site shall be restricted for a minimum of one (1) year after application of biosolids.
- d. The annual quantity of biosolids delivered to the facility shall not exceed 16,000 wet tons.
- e. The composted biosolids shall be incorporated into the soil of the agricultural reuse site within 72 hours of land application.
- f. Biosolids shall not be applied to land within 100 feet of any public roadway or the property boundary.
- g. Biosolids shall not be applied to land within 200 feet of a drinking well not defined as a public water system well.
- h. Biosolids shall not be applied within 1,000 feet of a public water supply well.
- i. On-site agricultural wells shall be posted “not for domestic consumption”.
- j. All haul/equipment wash-out water shall be collected and contained in a lined basin, and appropriately incorporated into windrows at the compost facility.
- k. The truck wash-out water holding basin and composting facility shall be managed to prevent breeding of mosquitoes and other vectors, and to minimize standing water.
- l. The windrows shall be established on pads constructed from native soil. The pads will be a minimum of six (6) inches thick and compacted to 90% relative density.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the Schedule of Compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the Schedule of Compliance. The Permittee shall implement and/or execute the following scheduled compliance requirements:

- a. Upon the effective date of this permit, the Permittee shall achieve compliance with the beneficial use limitations.
- b. **By MMM DD, 2009**, the Permittee shall submit for review and approval design plans and a map indicating proposed well location, stamped by a Professional Engineer registered in the State of Nevada, for a groundwater monitoring well to be installed immediately downgradient of the compost facility. The well shall be designed in

accordance with NDEP Water Technical Sheet (WTS)4, "Guidance Document For Design Of Groundwater Monitoring Wells".

- c. **By MMM DD, 2009**, the Permittee shall install the approved groundwater monitoring well.
- d. **By MMM DD, 2009**, the Permittee shall submit as-built drawings, stamped by a Professional Engineer registered in the State of Nevada, of the installed groundwater monitoring well.

Rationale for Permit Requirements: Permit requirements are necessary to protect the public health and environment, and to prevent the composting site from becoming a public nuisance or a source of groundwater pollution.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit for a five (5) year period.

Procedures for Public Comment: The notice of the Division's intent to issue a permit authorizing the facility to discharge to the groundwater of the State of Nevada subject to the conditions contained within the permit is being sent to the **Record Courier** and the **Reno Gazette Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice. In order to be considered, written comments must be hand-delivered, sent via mail (postmarked), emailed or faxed no later than **5:00 P.M. on October 9, 2009**. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445.150.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445.274.

Prepared by: Janine O. Hartley, P.E.
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