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2018

Bio-Solids Annual Report

Wastewater Treatment

City of Newport, Oregon

169 S. Coast Hwy, Newport, OR 97365

Wastewater Treatment Division

Biosolids Annual Report for 2018

Table of Contents

State of Oregon
Department of Environmental Quality
700 NE Multnomah St. Suite 600, Portland, OR 97232

DEQ use only

State of Oregon Department of Environmental Quality

Wastewater Solids and Biosolids Annual Report
Part I: Wastewater solids production and disposition

Part I: Must be completed by all domestic wastewater facilities.

A. REPORTING PERIOD

1.	This report is for biosolids produced during the calendar year: 2018

B. PERMIT INFORMATION

1.	Permit Type (select one): ■ NPDES or ☐ WPCF	DEQ File No.: ~~60731~~ 111142
	DEQ Permit No.: 102497	EPA Permit No.: ORL044571

C. FACILITY INFORMATION

1.	Legal name of facility: Newport STP		
2.	**Physical address**		
	Street Address: 5525 SE 50th Place		
	City: Newport	State: OR	Zip code: 97365
3.	**Mailing address** ☐ Same as physical address.		
	Mailing Address: 169 SW Coast Hwy		
	City: Newport	State: OR	Zip code: 97365
4.	**Facility Type (check all that apply)**		
	■ Major or Tier 1 facility (design flow of 1 mgd or greater, or serving a population of 10,000 or greater)		
	☐ Minor or Tier 2 facility (design flow less than 1 mgd or serving a population less than 10,000)		
	☐ Class I wastewater treatment facility (i.e., facility with a pre-treatment program)		
	☐ Biosolids only facility		
	☐ Lagoon treatment system		
	☐ Other, please specify:		

D. CONTACT INFORMATION

1.	**Responsible official**		
	Name: Andrew Neel Grant	Title: Wastewater Treatment Plant Supervisor	
	Email Address: A.Grant@NewportOregon.gov	Telephone: 541-574-3371	
	Mailing Address: 169 SW Coast Hwy		
	City: Newport	State: OR	Zip code: 97365
2.	**Biosolids contact** ■ Same as responsible official		
	Name:	Title:	
	Email Address:	Telephone:	
	Mailing Address:		
	City:	State:	Zip code:

E. WASTEWATER SOLIDS RECEIVED

Please indicate if you received wastewater solids or hauled from other facilities for processing.

Did you receive wastewater solids or hauled waste from other facilities? ☐ **Yes** ☐ **N0**

If you received unprocessed wastewater solids, please list sources below. All weight values should be reported in US tons. (US ton= 2,000 lbs) Attach additional pages if necessary.

	Name	Type	Quantity	Units (choose one)	% solids
1.	T & L Septic	■ septage ☐ sludge	69288	■ gallons ☐ wet tons ☐ dry tons	1.00%
	M&E Septic	■ septage ☐ sludge	111622	■ gallons ☐ wet tons ☐ dry tons	1.00%
	Best Pots	■ septage ☐ sludge	21209	■ gallons ☐ wet tons ☐ dry tons	1.00%
	Northwest Septic	■ septage ☐ sludge	21989	■ gallons ☐ wet tons ☐ dry tons	1.00%
		☐ septage ☐ sludge		☐ gallons ☐ wet tons ☐ dry tons	0.00%

F. WASTEWATER SOLIDS TREATMENT PROCESSES

Please indicate the solids treatment processes used at your facility (mark all that apply)

	Thickening technology	Stabilization Technology	Dewatering technology
1.	■ Gravity ☐ DAF ☐ Centrifugation ☐ Other:	■ Aerobic digestion ☐ Anaerobic digestion ■ Lime stabilization ☐ ATAD ☐ Composting ■ Thermal ☐ Lagoon ☐ Other:	☐ Belt press ☐ Plate and frame press ☐ Screw press ■ Centrifuge ☐ Vacuum filter ☐ Drying beds ☐ Heat drying ☐ Other:

$$Dry\ tons = \text{wet tons x \%solids} \qquad Dry\ tons = \frac{(gal\ x\ \%solids\ x\ 8.34)}{100}\ x0.0005$$

G. WASTEWATER SOLIDS DISPOSITION

Please indicate how wastewater solids were managed at your facility. Please specify reporting units. *All weight values should be reported in US tons. US ton.= 2,000 lbs*

	Disposition of wastewater solids	Quantity (choose one)			% solids
1.	■ Treated and land applied, sold, or given-away as biosolids or biosolids-derived products	Gallons	Wet tons	Dry Tons 316	20.00%
2.	☐ Sent to landfill. Name:	Gallons	Wet tons	Dry Tons	0.00%
3.	■ Sent to another permitted facility for treatment. Name: Heard Farms LLC	Gallons	Wet tons	Dry Tons 190	20.00%
4.	☐ Long-term storage at treatment facility (e.g., lagoon, drying bed, etc.)*	Gallons	Wet tons	Dry Tons	0.00%
5.	☐ Other. Please specify:	Gallons	Wet tons	Dry Tons	0.00%

* If you operate a lagoon system and do not have accurate data on the quantity of solids in your lagoon, please check the box for long-term storage, but you may leave the quantity and other information blank.

H. LAGOON SYSTEM OPERATION and MAINTENANCE

The following section is required for facilities that operate wastewater treatment lagoons.

1.	A survey of wastewater solids have been completed within the last year: ☐ Y ☐ N
2.	In what year were solids last removed from the lagoon:
3.	When do you estimate the next solids removal? Select only one of the following: ☐ Within the next calendar year ☐ Within the next 5 years ☐ Greater than 5 years from present

I. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

I certify that the information in this report is true and correct to the best of my knowledge and belief. Information and records used or referenced with this report will be maintained and made available to the Oregon Department of Environmental Quality on request.

Signature	Title	Date
AG	WWTP Supervisor	2-12-19

Print Name: Andrew Neel Grant

State of Oregon
Department of Environmental Quality
700 NE Multnomah St. Suite 600, Portland, OR 97232

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Wastewater Solids and Biosolids Annual Report
Part II: Biosolids production and quality

Part II: Must be completed by facilities that produced Class A or Class B biosolids for land application, or sold or gave away biosolids derived products for distribution and marketing.

J. BIOSOLIDS PRODUCTION and DISPOSITION

Please specify quantity (in dry US tons) of finished biosolids stored or produced at your facility.

		Class A	Class B
1.	Produced during reporting period	385	
	Total biosolids production	0	0

Please indicate how finished biosolids were managed (i.e., land applied, sold, stored, or other).

		Class A	Class B
2.	Land applied in bulk to agricultural land	385	
	Land applied in bulk to forest land		
	Land applied in bulk to reclamation site		
	Land applied in bulk to a public contact site (e.g., park, roadside golf course)		
	Sold or given away as feedstock for a biosolids-derived product		
	Sold or given away in bags or other containers		
	Carried-over into next year (i.e., onsite storage)		
	Sent to landfill		
	Other, please specify:		
	Total biosolids disposition (add above lines)	385	0

K. BIOSOLIDS SAMPLING

Select your facility's minimum regulatory monitoring frequency (select only one box):

1.

Monitoring frequency	☐ Once per year	■ Once per quarter (four times per year)	☐ Once per 60 days (six times per year)	☐ Once per month (12 times per year)
Metric tons	<290	290 > 1,500	1,500 > 15,000	≥ 15,000
US Tons	<319	319 > 1,650	1,650 > 16,500	≥ 16,500

Provide details on compliance sampling.

2.

Sample type - Annual - Quarterly - 60 days - Monthly	Class	Processes (select all that apply)			Sampling date	
					Pollutants	Nutrients
Quarterly	■ A ☐ B	■ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	■ Alkaline stabil. ☐ Soil prod/blend ■ Other	3-21-18	3-21-18
Quarterly	■ A ☐ B	■ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	■ Alkaline stabil. ☐ Soil prod/blend ■ Other	6-13-18	6-13-18
Quarterly	■ A ☐ B	■ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	■ Alkaline stabil. ☐ Soil prod/blend ■ Other	8-22-18	8-22-18
Click Arrow	☐ A ☐ B	☐ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	☐ Alkaline stabil. ☐ Soil prod/blend ☐ Other		
Click Arrow	☐ A ☐ B	☐ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	☐ Alkaline stabil. ☐ Soil prod/blend ☐ Other		
Click Arrow	☐ A ☐ B	☐ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	☐ Alkaline stabil. ☐ Soil prod/blend ☐ Other		
Click Arrow	☐ A ☐ B	☐ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	☐ Alkaline stabil. ☐ Soil prod/blend ☐ Other		
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Click Arrow	☐ A ☐ B	☐ Aerobic dig. ☐ Anaerobic dig. ☐ Compost	☐ Air-dried ☐ Heat dried ☐ Lagoon	☐ Alkaline stabil. ☐ Soil prod/blend ☐ Other		

L. BIOSOLIDS POLLUTANT MONITORING

Report pollutant monitoring data from collected samples. Express results in mg/kg (ppm) based on dry wt. Please attach laboratory reports for results only. No lab QA/QC.

Biosolid Type: Class A ■ Class B ☐

Sample type	Average Pollutant Concentrations								
- Annual - Quarterly - 60 days - Monthly	**As (mg/kg)**	**Cd (mg/kg)**	**Cu (mg/kg)**	**Pb (mg/kg)**	**Hg (mg/kg)**	**Mo (mg/kg)**	**Ni (mg/kg)**	**Se (mg/kg)**	**Zn (mg/kg)**
Quarterly	5.3	0.40	69.3	9.1	0.08	2.1	7.56	2.7	260
Quarterly	12	1.1	94.7	6.0	.182	3.2	9.05	ND	435
Quarterly	5.8	ND	71.8	5.3	0.224	2.0	7.59	ND	328
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Click Arrow									
Annual Mean									
Table 1[1] Ceiling conc.	75	85	4300	840	57	75	420	100	7500
Table 3[2] Pollutant conc.	41	39	1500	300	17	N/A	420	100	2800

[1] 40 CFR § 503.13 Table 1 – Ceiling concentrations. Samples with pollutant concentrations that exceed the Table 1 limits are not eligible for land application and must be disposed by other means.

[2] 40 CFR § 503.13 Table 3 – Pollutant Concentrations. Samples with pollutant concentrations that exceed the Table 3 limits are subject to cumulative pollutant loading rates in 40 CFR § 503.13 Table 2. Annual and cumulative pollutant additions to land application sites must be submitted with the annual report.

M. BIOSOLIDS NUTRIENT MONITORING

Report nutrient monitoring data from collected samples. Express results in mg/kg (ppm) based on dry weight, except where otherwise noted. *Please attach laboratory reports for results only. No lab QA/QC.*

Biosolid Type: Class A ■ Class B □

Sample type	Average Nutrient Concentrations							
1. - Annual - Quarterly - 60 days - Monthly	TKN (mg/kg)	NO_3-N (mg/kg)	NH_4-N (mg/kg)	P (mg/kg)	K (mg/kg)	pH (S.U.)	Total solids (%)	F. coli MPN □ CFU ■
Quarterly	42000	ND	1700	9400	395	12	32	0
Quarterly	62000	5.48	4300	17000	4310	11	21	0
Quarterly	40000	ND	2200	11000	4640	12	29	0
Click Arrow								
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Click Arrow								
Click Arrow								
Annual Mean	48000	1.83	2733	12467	3115	12	27	0

N. BIOSOLIDS PATHOGEN REDUCTION MONITORING and RECORDS

Identify alternative(s) used to meet Class A or Class B pathogen reduction (PR): 40 CFR §503.32
Attach documentation on pathogen reduction.

1.

Class A Alternatives	Class B Alternatives
Biosolids have been tested for (select one or both): ☒ fecal coliform ☐ salmonella	☐ Alternative 1: Monitoring of fecal coliform as the geometric mean of the density of fecal coliform of seven representative samples (select option met): ☐ < 2 million Most Probable Number (MPN) per gram of solids (dry wt. basis) ☐ < 2 million Colony Forming Units (CFU) per gram of total solids (dry wt. basis)
☐ Alternative 1: Thermally treated biosolids ☐ Alternative 2: Biosolids treated in a high pH-high temperature process ☐ Alternative 3: Biosolids treated in other processes that meet enteric virus and helminth ova criteria. ☐ Alternative 4: Biosolids treated in unknown processes that meet enteric virus and helminth ova criteria. ☒ Alternative 5: Use of a Process to Further Reduce Pathogens (PFRP) (select all that apply) ☐ (a) Composting ☐ (b) Heat drying ☐ (c) Heat treatment ☐ (d) Thermophilic aerobic digestion ☐ (e) Beta ray irradiation ☐ (f) Gamma ray irradiation ☒ (g) Pasteurization ☐ Alternative 6: Use of a Process equivalent to a PFRP. Identify:	☐ Alternative 2: Biosolids treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described below: ☐ (a) Aerobic digestion ☐ (b) Air drying ☐ (c) Anaerobic digestion ☐ (d) Composting ☐ (e) Lime stabilization ☐ Alternative 3: Biosolids treated in a process that is equivalent to a PSRP. Identify:

O. BIOSOLIDS VECTOR ATTRACTION REDUCTION and RECORDS

1. **Identify option(s) used to meet vector attraction reduction (VAR): 40 CFR §503.33**
Attach documentation demonstrating compliance.

In-plant options:

- ☐ Option 1: 38% reduction in volatile solids content. Select method used for determining volatile solids reduction:
  - ☐ Full mass balance equation
  - ☐ Approximate mass balance equation
  - ☐ Van Kleeck equation
  - ☐ Volatile solids loss across all sewage sludge treatment processes
- ☐ Option 2: Bench-scale anaerobic digestion for 40 additional days at 30 °C to 37 °C.
- ☐ Option 3: Bench-scale aerobic digestion for 30 additional days at 20 °C.
- ☐ Option 4: SOUR at 20 °C. (Only for material <2% solids with no dilution.)
- ☐ Option 5: Aerobic treatment for at least 14 days over 40 °C with an average temperature of over 45 °C.
- ■ Option 6: Alkali addition to raise pH to at least 12 at 25 °C and maintain a pH ≥ 12 for 2 hours and a pH ≥ 11.5 for 22 more hours.
- ☐ Option 7: Drying with no unstabilized (primary) solids to at least 75% solids.
- ☐ Option 8: Drying with unstabilized (primary) solids to at least 90% solids.

Site management options:

- ☐ Option 9: Injection with no biosolids present on land surface 1 hour after injection. (Class A biosolids only: Injection within 8 hours of pathogen reduction.)
- ☐ Option 10: Incorporation within 6 hours of application. (Class A biosolids only: Incorporation within 8 hours of pathogen reduction.)

2. **If VAR was met through Option 1, a 38% reduction in volatile solids, report the average reduction percentage found.**

Biosolid Type	Average Volatile Solid Reduction
Class A	0.00%
Class B	0.00%
	0.00%
	0.00%

P. VIOLATIONS OF 40 CFR §503 or OAR CHAPTER 340 DIVISION 50

Did any violations of 40 CFR §503 or OAR Chapter 340 Division 50 occur during the reporting period?

- ☐ No.
- ■ Yes. Provide a detailed description of the violation(s) and remedial actions taken to prevent reoccurrences in the future. If this was a spill, please include the OARS report #.

A lab audit uncovered gaps in reporting test data. 10, 24hr pH values were missing as well one days time and temperature values. The violations are summarized in the attached memo and have been reported to OR DEQ. We have not received a reply from DEQ by the time of this submittal.

Q. SUMMARY OF PART II ATTACHMENTS

1.	**Information DEQ requests with all annual reports:**
	■ Analytical laboratory reports for pollutant monitoring. **No lab QA/QC**
	■ Analytical laboratory reports for nutrient monitoring. **No lab QA/QC**
	■ Documentation to demonstrate compliance with pathogen reduction requirements.
	■ Documentation to demonstrate compliance with vector attraction reduction requirements.
2.	**Information required if pollutants in Section L exceed Table 3 values:**
	☐ Annual and cumulative pollutant additions to land application sites, if any pollutant concentration exceeds the Table 3 values.
3.	**Optional and supplemental information:**
	☐ Other information on changes to solids handling or land application site management.
	■ Other information on biosolids violations and remedial actions.
	☐ Other. Please specify:

R. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in 40 CFR §503.32 (identified in Section P of this report) and the vector attraction reduction requirements in 40 CFR §503.33 (identified in Section Q of this report) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

AG	WWTP Supervisor	2-12-19
Signature	Title	Date

Print Name: Andrew Neel Grant

State of Oregon
Department of Environmental Quality
700 NE Multnomah St. Suite 600, Portland, OR 97232

DEQ use only

Wastewater Solids and Biosolids Annual Report
Part III: Biosolids land application site information

Part III: Must be completed by facilities that land applied Class A biosolids during the reporting period. Add additional pages as needed.

S. LAND APPLICATION SITE INFORMATION

	Site ID	Owner (Last Name)	Location, PLSS (Township, Range, Section, Tax Lot)	Crop(s)	Appl. rate (lbs N/ac)	Total applied (DT/site)*	Total area applied (acres)	Was site applied to the previous year?	Soil test**
1.	Area 52 (AP)	Newport Airport	11-11-32-00-00200	Grass	87.41	156.75	52	■ Yes ☐ No	Y
2.	KY	Keady	12-11-28-00-01000	Pasture	30.16	26	25	■ Yes ☐ No	Y
3.	SK	Skiles	11-11-26-00-00200	Pasture	95.97	92	27.8	☐ Yes ■ No	Y
4.	EL	Eley	14-09-06-00-00502	Pasture	38.21	39	29.6	☐ Yes ■ No	Y
5.	HS	Garofalo	09-09-29-00-00201	Pasture	80.4	33	11.9	☐ Yes ■ No	Y
6.	CS	Crestmont	11-06-22-00-00500	Pasture	11.15	4	10.4	☐ Yes ■ No	Y
7.								☐ Yes ☐ No	☐
8.								☐ Yes ☐ No	☐
9.								☐ Yes ☐ No	☐
10.								☐ Yes ☐ No	☐
11.								☐ Yes ☐ No	☐
12.								☐ Yes ☐ No	☐
13.								☐ Yes ☐ No	☐
14.								☐ Yes ☐ No	☐
15.								☐ Yes ☐ No	☐

Attach additional pages as required to report on all sites that received class A biosolids during the reporting period.

* Please report in units of dry US tons (US ton = 2,000 lbs)

** Please attach laboratory report showing sample results only. No lab QA/QC.

T. SUMMARY OF PART III ATTACHMENTS

1.	**Information required with some annual reports:**
	☐ Additional copies of Table S for additional land application. ☐ Analytical results from soil testing
2.	**Example of documentation held by the permittee and available upon request:**
	☐ Additional land application site information. ☐ Figures showing where biosolids were applied. ☐ Nitrogen loading calculations

U. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

I certify, under penalty of law, that the information that will be used to determine compliance with the site restrictions in Sec. 503.32(b)(5) for each site on which Class A sewage sludge was applied was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

AG	WWTP Supervisor	2-4-2019
Signature	Title	Date

Print Name: Andrew Grant

Date: February 15, 2019

Title: 2018 Biosolids Annual Report Supplemental

Prepared by: Andrew Grant, Wastewater Treatment Plant Supervisor

Background Information:

In August 2018 the City of Newport Wastewater Treatment Plant (WWTP) experienced multiple equipment failures in our RDP thermoblender vessel. We were unable to produce biosolids for the period of August 21 2018 through the end of the reporting period. We have been sending dewatered cake to Heard Farms LLC in Roseburg. As a result, we did not complete the 4th quarter testing for metals and nutrients.

As part of our biosolids management plan the WWTP is required to test biosolids to ensure compliance with EPA 40 CFR Part 503.32. Among these tests are a pH level greater than 11.5, 24 hours after production and records of the time and temperature of biosolids in the pasteurization vessel.

Summary of Reporting Errors:

While compiling the 2018 Annual Report data gaps were found in the biosolids bench sheets. Ten 24hr pH readings were not recorded. The time and temperature was not recorded on one day.

For the day in which the 24hr pH was not recorded, the 2hr pH levels were recorded and were above the required level. In addition to the 2hr data I have included a chart documenting all 24hr pH values in 2018 (attachment A). It is my conclusion that a 24hr pH violation of a value below 11.5 is unlikely to have occurred.

In the one instance in which time and temperature in the pasteurization vessel were not recorded the fecal coliform grab for that day tested as zero cfu.

Remedial Actions:

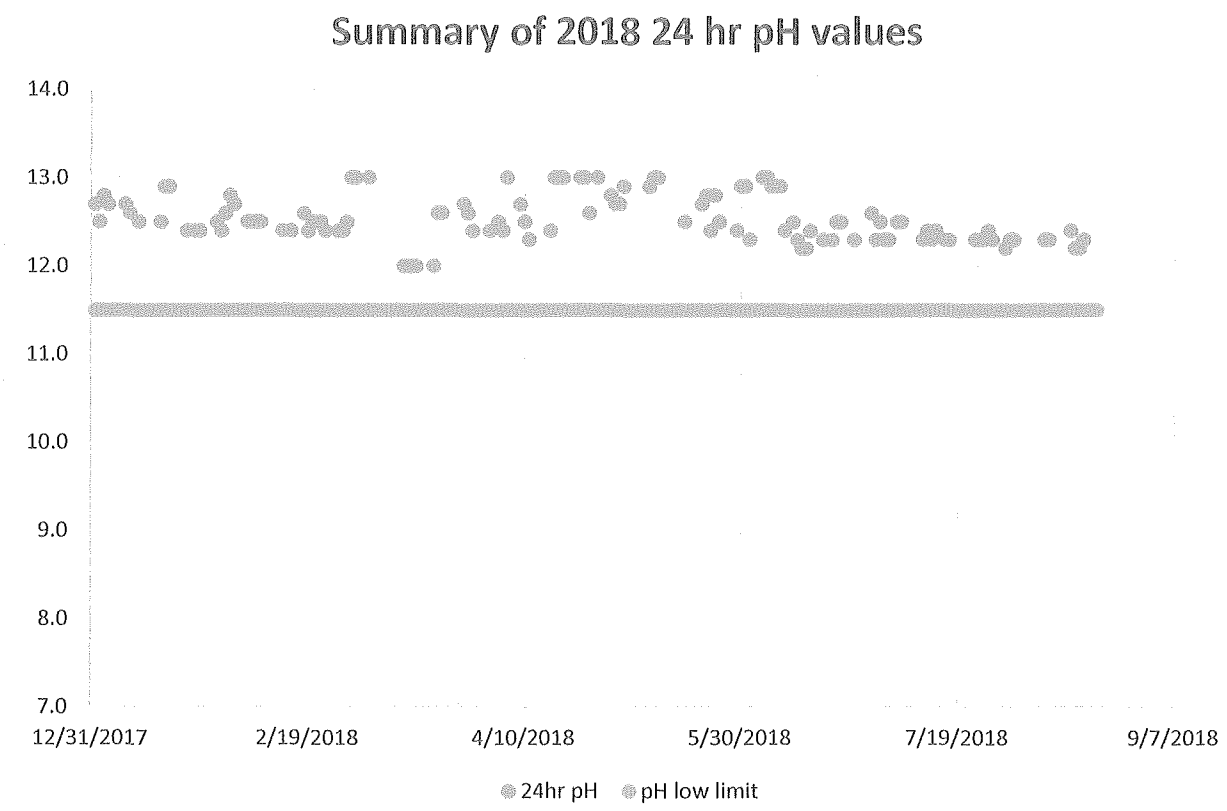
The operators responsible for the data have been reprimanded. Dennis Lilly received a 3 day unpaid suspension. Biosolids bench sheets now have a 2-person authentication procedure with the solids building operator as well as the lab operator

both responsible for data collection and validation. We have begun quarterly NPDES review meetings to verify our data and procedures. Lastly, we have installed a LIMS system in order to streamline data collection.

Attachments:

- Attachment A. Plotted 2018 Biosolids 24hr pH values

Attachment A. Plotted 2018 Biosolids 24hr pH values



ALG
ANALYTICAL LABORATORY GROUP

ALG ORELAP ID #OR100012
361 West 5th Ave
Eugene, OR 97401
TEL: (541) 485-8404 FAX: (541) 484-5995
Website:

Analytical Report

Date Reported: **4/10/2018**

WO#: 1803879
CLIENT: City of Newport
Project:

Received Date: 3/21/2018 2:25:00 PM
Sampler Name Mark Worden
Matrix: Biosolid

Lab ID: 1803879-001 **Client Sample ID** Newport WWTP Biosolids **Collection Date:** 3/21/2018 10:00:00 A

Analyses	Method	Result	Qual	PQL	LOD	Units	Date Analyzed	Analys
Nitrate	EPA 300.0	**ND**		0.010	0.0050	% Dry W	03/23/18 16:44	MJ
Ammonia-N	EPA 350.2	**0.17**		0.010	0.0050	%-dry	03/28/18 15:32	TG
Hydrogen Ion (pH)	EPA 9045D	**12**	H	0	0	pH Units	03/21/18 16:52	ER
Phosphorus, Total (As P)	EPA 365.3	**0.94**		0.010		% Dry W	04/04/18 08:25	RV
Percent Moisture	D2216	**68**		0.10	0	%	03/24/18 14:36	RV
Nitrogen, Kjeldahl, Total	EPA 351.3	**4.2**		0.010	0	% Dry W	04/03/18 11:10	TG
Total Solids	EPA 160.3	**32**		0.10	0	%	03/24/18 14:36	RV
Volatile Solids	EPA 160.3	**38**		0.10	0	%	03/24/18 14:36	RV

Definitions:
- A — Accredited by ORELAP
- LOD — Limit of Detection
- MCL — Maximum Contaminant Level
- ND — Not Detected at the Reporting Limit
- PL — Permit Limit
- PQL — Practical Quantitation Level or Reporting Limit

Qualifiers:
- H — Holding times for preparation or analysis exceeded

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report ORELAP 100016 EPA OR00026

Analytical Laboratory Group, Inc.
361 West Fifth Avenue
Eugene, OR 97401
Client Sample ID: **1803879-002A**
Sample Location: **WWTP**
Project: **1803879**

Lab Order: **1803898**
NRC Sample ID **1803898-01A**
Collection Date: **3/21/2018 10:00:00 AM**
Received Date: **3/23/2018 9:50:00 AM**
Reported Date: **4/4/2018 1:38:50 PM**
Matrix: **Solid**

ANALYTICAL RESULTS

Analyses	Result	Qual	MDL	MRL	Units	DF	NELAP	Date Analyzed
TRACE METALS			**EPA 7471A**					Analyst: **JWC**
Mercury	0.0800		0.0109	0.0337	mg/Kg-dry	1	A	3/28/2018
TRACE METALS			**EPA 6010B**					Analyst: **JWC**
Arsenic	5.3	J	1.04	16.7	mg/Kg-dry	1	A	3/27/2018
Cadmium	0.40	J	0.0561	3.34	mg/Kg-dry	1	A	3/27/2018
Chromium	7.8	J	0.0561	16.7	mg/Kg-dry	1	A	3/27/2018
Copper	69.3		0.198	3.34	mg/Kg-dry	1	A	3/27/2018
Lead	9.1	J	0.242	16.7	mg/Kg-dry	1	A	3/27/2018
Molybdenum	2.1	J	0.0826	16.7	mg/Kg-dry	1	A	3/27/2018
Nickel	7.56		0.157	1.67	mg/Kg-dry	1	A	3/27/2018
Potassium	395		15.9	16.7	mg/Kg-dry	1	A	3/29/2018
Selenium	2.7	J	1.69	16.7	mg/Kg-dry	1	A	3/27/2018
Zinc	260		0.659	16.7	mg/Kg-dry	1	A	3/27/2018
% TOTAL SOLIDS			**SM 2540G**					Analyst: **SCM**
Total Solids	29.6		0.0100	0.01	%	1	A	3/27/2018

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Minimum Reporting Limit
S	Spike Recovery outside accepted recovery limits		

ALG
ANALYTICAL LABORATORY GROUP
Delivering more than just test results

ALG ORELAP ID #OR100012
361 West 5th Ave
Eugene, OR 97401
TEL: (541) 485-8404 FAX: (541) 484-5995
Website:

Analytical Report

Date Reported: **7/9/2018**

WO#: 1806661
CLIENT: City of Newport
Project: Newport WWTP

Received Date: 6/13/2018 2:40:00 PM
Sampler Name James McLaughlin
Matrix: Biosolid

Lab ID: 1806661-001 **Client Sample ID** Off the Conveyor Belt **Collection Date:** 6/13/2018 7:15:00 AM

Analyses	Method	Result	Qual	PQL	LOD	Units	Date Analyzed	Analys
Ammonia-N	EPA 350.2	**0.43**		0.010	0.0050	%-dry	06/14/18 15:00	AS
Hydrogen Ion (pH)	EPA 9045D	**11**	H	0	0	pH Units	06/13/18 16:31	ER
Phosphorus, Total (As P)	EPA 365.3	**1.7**		0.025	0.025	% Dry W	06/23/18 09:57	RV
Percent Moisture	D2216	**79**		0.10	0	%	06/14/18 16:46	RV
Nitrogen, Kjeldahl, Total	EPA 351.3	**6.2**		0.010	0	% Dry W	07/03/18 10:00	ER
Total Solids	EPA 160.3	**21**		0.10	0	%	06/14/18 16:46	RV
Volatile Solids	EPA 160.3	**65**		0.10	0	%	06/14/18 16:46	RV

Definitions:
- A — Accredited by ORELAP
- LOD — Limit of Detection
- MCL — Maximum Contaminant Level
- ND — Not Detected at the Reporting Limit
- PL — Permit Limit
- PQL — Practical Quantitation Level or Reporting Limit

Qualifiers:
- H — Holding times for preparation or analysis exceeded

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report ORELAP 100016 EPA OR00026

Analytical Laboratory Group, Inc.
361 West Fifth Avenue
Eugene, OR 97401
Client Sample ID: **1806661-002A**
Sample Location: **Biosolids**
Project: **1806661**

Lab Order: **1806590**
NRC Sample ID **1806590-01A**
Collection Date: **6/13/2018 7:15:00 AM**
Received Date: **6/14/2018 9:20:00 AM**
Reported Date: **7/3/2018 8:16:19 AM**
Matrix: **Solid**

ANALYTICAL RESULTS

Analyses	Result	Qual	MDL	MRL	Units	DF	NELAP	Date Analyzed
TRACE METALS			**EPA 7471A**					Analyst: **JWC**
Mercury	0.182		0.000106	0.00935	mg/Kg-dry	1	A	6/20/2018
TRACE METALS			**EPA 6010B**					Analyst: **JWC**
Arsenic	12	J	1.45	23.4	mg/Kg-dry	1	A	6/15/2018
Cadmium	1.1	J	0.0787	4.69	mg/Kg-dry	1	A	6/15/2018
Chromium	9.1	J	0.0787	23.4	mg/Kg-dry	1	A	6/15/2018
Copper	94.7		0.278	4.69	mg/Kg-dry	1	A	6/15/2018
Lead	6.0	J	0.340	23.4	mg/Kg-dry	1	A	6/15/2018
Molybdenum	3.2	J	0.116	23.4	mg/Kg-dry	1	A	6/15/2018
Nickel	9.05		0.220	2.34	mg/Kg-dry	1	A	6/15/2018
Potassium	4310		223	234	mg/Kg-dry	10	A	6/22/2018
Selenium	ND		2.37	23.4	mg/Kg-dry	1	A	6/15/2018
Zinc	435		0.924	23.4	mg/Kg-dry	1	A	6/15/2018
NITRATE NITROGEN AS N			**EPA 353.2**					Analyst: **SJK**
Nitrate Nitrogen	5.48		0.842	3.56	mg/Kg-dry	1	A	6/20/2018

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Minimum Reporting Limit
S	Spike Recovery outside accepted recovery limits		

ALG
ANALYTICAL LABORATORY GROUP
Delivering more than just lost results

ALG ORELAP ID #OR100012
361 West 5th Ave
Eugene, OR 97401
TEL: (541) 485-8404 FAX: (541) 484-5995
Website:

Analytical Report

Date Reported: **9/11/2018**

WO#:	1808B34	**Received Date:**	8/22/2018 2:50:00 PM
CLIENT:	City of Newport	**Sampler Name**	Kyle Rickard
Project:	Newport WWTP	**Matrix:**	Biosolid

Lab ID: 1808B34-001 **Client Sample ID** City of Newport **Collection Date:** 8/22/2018 9:30:00 AM

Analyses	Method	Result	Qual	PQL	LOD	Units	Date Analyzed	Analys
Nitrate	EPA 300.0	**ND**		0.010	0.0050	% Dry W	08/24/18 14:38	TG
Ammonia-N	EPA 350.2	**0.22**		0.010	0.0051	% Dry W	08/27/18 14:52	TG
Hydrogen Ion (pH)	EPA 9045D	**12**	H	0	0	pH Units	08/22/18 16:39	ER
Phosphorus, Total (As P)	EPA 365.3	**1.1**		0.010	0.010	% Dry W	08/23/18 12:18	RV
Percent Moisture	D2216	**71**		0.10	0	%	08/22/18 16:42	RV
Nitrogen, Kjeldahl, Total	EPA 351.3	**4.0**		0.010	0	% Dry W	08/28/18 10:10	ER
Total Solids	EPA 160.3	**29**		0.10	0	%	08/22/18 16:42	RV
Volatile Solids	EPA 160.3	**43**		0.10	0	%	08/22/18 16:42	RV

Definitions:

A	Accredited by ORELAP
LOD	Limit of Detection
MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit
PL	Permit Limit
PQL	Practical Quantitation Level or Reporting Limit

Qualifiers:

H	Holding times for preparation or analysis exceeded

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report ORELAP 100016 EPA OR00028

Analytical Laboratory Group, Inc.
361 West Fifth Avenue
Eugene, OR 97401
Client Sample ID: **1808B34-002A**
Sample Location: , **City of Newport**
Project: **1808B34**

Lab Order: **1808B82**
NRC Sample ID **1808B82-01A**
Collection Date: **8/22/2018 9:30:00 AM**
Received Date: **8/24/2018 10:10:00 AM**
Reported Date: **9/7/2018 12:24:53 PM**
Matrix: **Solid**

ANALYTICAL RESULTS

Analyses	Result	Qual	MDL	MRL	Units	DF	NELAP	Date Analyzed
TRACE METALS			**EPA 7471A**					Analyst: **JWC**
Mercury	0.224		0.0115	0.0354	mg/Kg-dry	1	A	9/4/2018
TRACE METALS			**EPA 6010B**					Analyst: **JWC**
Arsenic	5.8	J	1.26	20.3	mg/Kg-dry	1	A	8/31/2018
Cadmium	ND		0.0681	0.406	mg/Kg-dry	1	A	8/31/2018
Chromium	9.25		0.0681	2.03	mg/Kg-dry	1	A	8/31/2018
Copper	71.8		0.241	4.06	mg/Kg-dry	1	A	8/31/2018
Lead	5.3	J	0.294	20.3	mg/Kg-dry	1	A	8/31/2018
Molybdenum	2.0	J	0.100	20.3	mg/Kg-dry	1	A	8/31/2018
Nickel	7.59		0.191	2.03	mg/Kg-dry	1	A	8/31/2018
Potassium	4640		19.3	406	mg/Kg-dry	1	A	8/31/2018
Selenium	ND		2.05	20.3	mg/Kg-dry	1	A	8/31/2018
Zinc	328		0.800	20.3	mg/Kg-dry	1	A	8/31/2018
% TOTAL SOLIDS			**SM 2540G**					Analyst: **SCM**
Total Solids	28.5		0.0100	0.01	%	1		8/28/2018
Volatile Solids				0.01	%	1	A	8/28/2018

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Minimum Reporting Limit
S	Spike Recovery outside accepted recovery limits		

State of Oregon
Department of Environmental Quality
700 NE Multnomah St. Suite 600, Portland, OR 97232

DEQ use only

Wastewater Solids and Biosolids Annual Report
Part III: Biosolids land application site information

Part III: Must be completed by facilities that land applied Class A biosolids during the reporting period. Add additional pages as needed.

S. LAND APPLICATION SITE INFORMATION

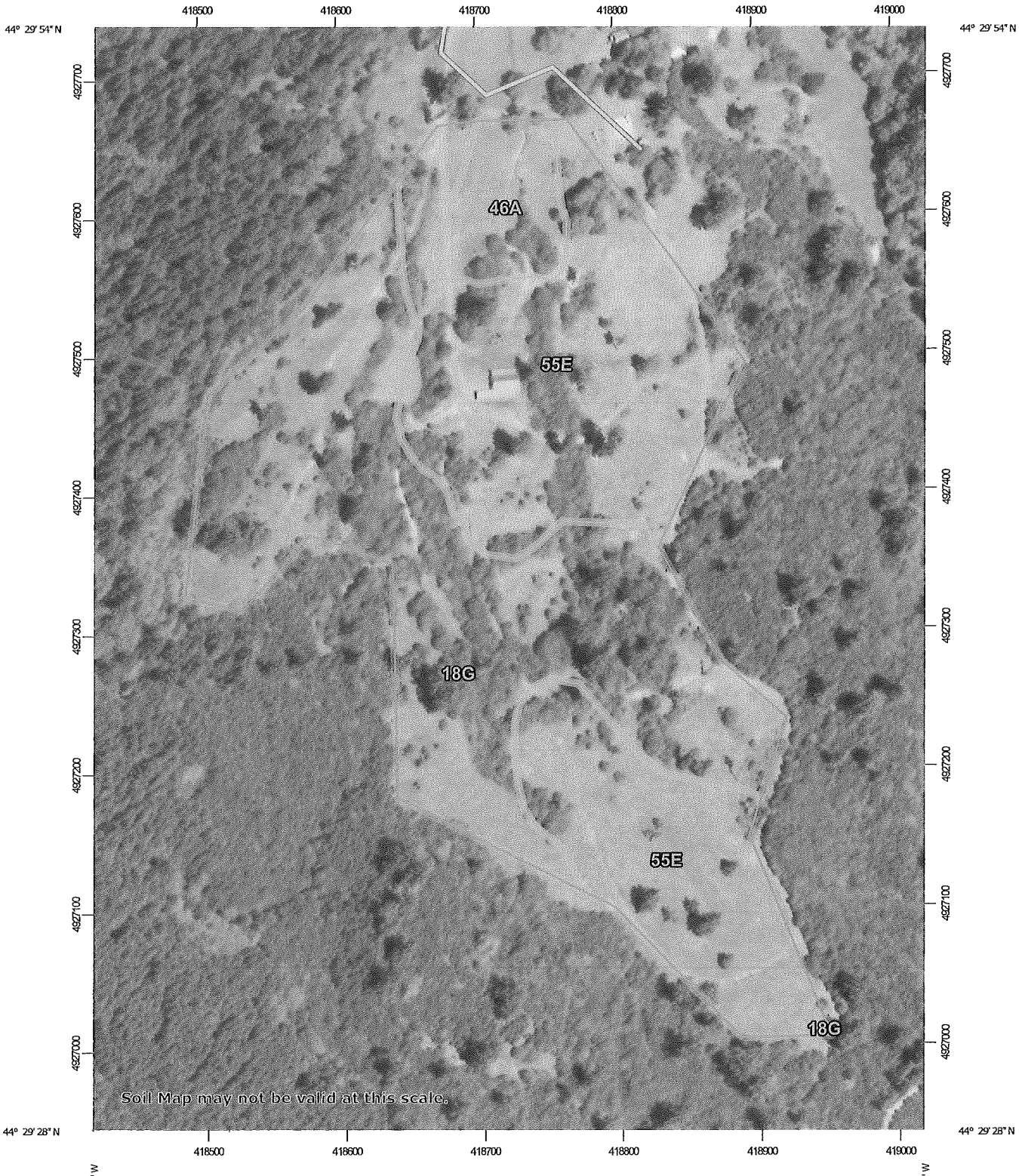
	Site ID	Owner (Last Name)	Location, PLSS (Township, Range, Section, Tax Lot)	Crop(s)	Appl. rate (lbs N/ac)	Total applied (DT/site)*	Total area applied (acres)	Was site applied to the previous year?	Soil test**
1.	Area 52 (AP)	Newport Airport	11-11-32-00-00200	Grass	87.41	156.75	52	■ Yes ☐ No	Y
2.	KY	Keady	12-11-28-00-01000	Pasture	30.16	26	25	■ Yes ☐ No	Y
3.	SK	Skiles	11-11-26-00-00200	Pasture	95.97	92	27.8	☐ Yes ■ No	Y
4.	EL	Eley	14-09-06-00-00502	Pasture	38.21	39	29.6	☐ Yes ■ No	Y
5.	HS	Garofalo	09-09-29-00-00201	Pasture	80.4	33	11.9	☐ Yes ■ No	Y
6.	CS	Crestmont	11-06-22-00-00500	Pasture	11.15	4	10.4	☐ Yes ■ No	Y
7.								☐ Yes ☐ No	☐
8.								☐ Yes ☐ No	☐
9.								☐ Yes ☐ No	☐
10.								☐ Yes ☐ No	☐
11.								☐ Yes ☐ No	☐
12.								☐ Yes ☐ No	☐
13.								☐ Yes ☐ No	☐
14.								☐ Yes ☐ No	☐
15.								☐ Yes ☐ No	☐

Attach additional pages as required to report on all sites that received class A biosolids during the reporting period.

* Please report in units of dry US tons (US ton = 2,000 lbs)

** Please attach laboratory report showing sample results only. No lab QA/QC.

Soil Map—Lincoln County Area, Oregon
(Keady Soil Map)



Map Scale: 1:3,870 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lincoln County Area, Oregon
Survey Area Data: Version 15, Sep 17, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
18G	Fendall-Templeton silt loams, 35 to 60 percent slopes	17.9	46.3%
46A	Nestucca silt loam, 0 to 2 percent slopes	2.2	5.8%
55E	Templeton-Fendall silt loams, 5 to 35 percent slopes	18.6	48.0%
Totals for Area of Interest		**38.7**	**100.0%**

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-022-072

CLIENT NO:

SEND TO: CITY OF NEWPORT WWTP
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY:

GROWER: GRANT

DATE OF REPORT: 02/01/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
AP1FT	59470	14.7VH	323	61VH	248VH	118L	73VL	3657VH	17VL	7.4	7.3	0.0	19.2	1.6	3.1	94.9	0.0	0.4
AP2FT	59471	4.6H	121	2VL	19H	111M	41VL	1823VH	19VL	6.9	7.0	0.1	9.9	2.8	3.4	91.5	1.5	0.8
AP3FT	59472	5.0H	130	1VL	8VL	97M	37VL	1141VH	19L	6.2	6.8	0.9	7.2	3.5	4.2	79.2	12.0	1.1
KY1FT	59473	16.3VH	355	7VL	12**	154M	210M	712VL	31L	4.7	4.8	5.9	11.7	3.4	14.7	30.3	50.5	1.1
KY2FT	59474	12.7VH	284	5VL	11**	176M	251M	836VL	38L	4.8	4.9	6.1	12.9	3.5	16.0	32.3	47.0	1.3

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
AP1FT	17M	30H	6.0H	2L	47VH	2.1H	0.5L	L	0.6L						
AP2FT	17M	58VH	0.8L	1VL	26VH	0.4L	0.3VL	L	0.6L						
AP3FT	23M	109VH	0.4VL	1VL	22H	0.8L	0.2VL	L	0.6L						
KY1FT	5L	30H	0.2VL	5M	18H	0.1VL	0.1VL	L	0.2VL						
KY2FT	3VL	40VH	0.1VL	2L	11M	0.1VL	0.1VL	L	0.2VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-022-072

CLIENT NO:

SEND TO: CITY OF NEWPORT WWTP
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY:

GROWER: GRANT

DATE OF REPORT: 02/01/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
KY3FT	59475	7.4VH	178	5VL	9**	179M	278M	904VL	44L	4.7	5.1	7.6	15.0	3.0	15.2	30.0	50.5	1.3

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
KY3FT	2VL	47VH	0.1VL	1VL	7L	0.1VL	0.1VL	L	0.3L						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES, INC.

1311 Woodland Avenue, Suite 1 • Modesto, California 95351 • (209) 529-4080

Report No: 18-022-072 **Account No:** 9999

Send to: CITY OF NEWPORT WWTP
169 SW COAST HWY
NEWPORT, OR 97365

Grower: GRANT

Date Received: 01/22/2018
Date Reported: 02/01/2018

SOIL ANALYSIS REPORT

Analyte:		**TKN**
Detection Limit:		**40 mg/kg**
Method Code:		**WREP 125 2nd Ed. S - 8.10**
Lab Number:	**Sample ID:**	**mg/kg (ppm)**
59470	AP1FT	4048
59171	AP2FT	1127
59172	AP3FT	786
59173	KY1FT	5260
59174	KY2FT	3671
59175	KY3FT	3671

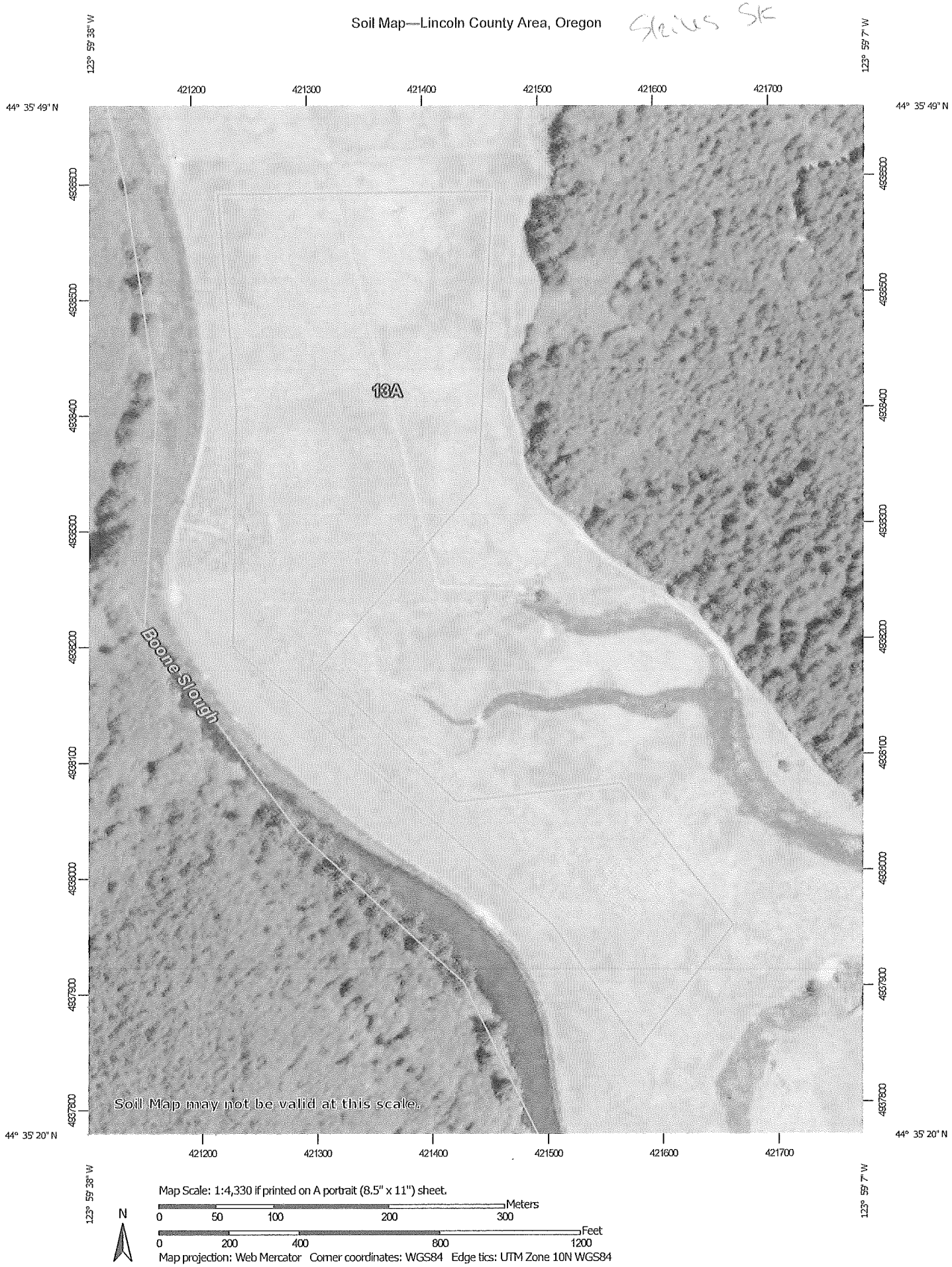
A & L Western Agricultural Laboratories, Inc.

Rogell Rogers

Rogell Rogers, CCA, PCA
Agronomist

Soil Map—Lincoln County Area, Oregon

Skeins SK



Map Scale: 1:4,330 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lincoln County Area, Oregon
Survey Area Data: Version 14, Sep 19, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13A	Coquille silt loam, 0 to 1 percent slopes, protected	27.8	100.0%
Totals for Area of Interest		**27.8**	**100.0%**

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-180-162

CLIENT NO:

SEND TO: CITY OF NEWPORT-GRANT
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY: GRANT

GROWER: SKILES

DATE OF REPORT: 07/05/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
SK1	58004	7.6VH	182	7VL	21**	238M	641H	1480VL	39VL	4.9	5.6	10.6	24.0	2.5	22.0	30.8	44.0	0.7

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
SK1	16M	22M						L	0.2VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-180-159

CLIENT NO:

SEND TO: CITY OF NEWPORT-GRANT
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY: GRANT

GROWER: SKILES

DATE OF REPORT: 07/05/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
SK2	59995	6.2VH	153	5VL	10**	239M	760VH	866VL	39VL	4.7	5.4	11.6	22.9	2.7	27.2	18.8	50.5	0.7
SK3	59996	4.8H	125	6VL	11**	270M	709VH	412VL	57L	4.4	4.9	14.4	23.2	3.0	25.1	8.9	62.0	1.1

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
SK2	6L	25M						L	0.2VL						
SK3	5L	128VH						L	0.2VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-180-162 CLIENT: 9999

SUBMITTED BY: GRANT

SEND TO: CITY OF NEWPORT-GRANT
169 SW COAST HWY
NEWPORT, OR 97365-

GROWER: SKILES

DATE OF REPORT: 07/05/18

SOIL FERTILITY GUIDELINES

RATE: lb/acre PAGE: 1

Sample ID	Lab Number	Crop	SOIL AMENDMENTS				Nitrogen N	Phosphate P_2O_5	Potash K_2O	Magnesium Mg	Sulfur SO_4-S	Zinc Zn	Manganese Mn	Iron Fe	Copper Cu	Boron B
			Dolomite	Lime	Gypsum	Elemental Sulfur										
SK1	58004	PASTURE		9000			130	200	40		10					

COMMENTS

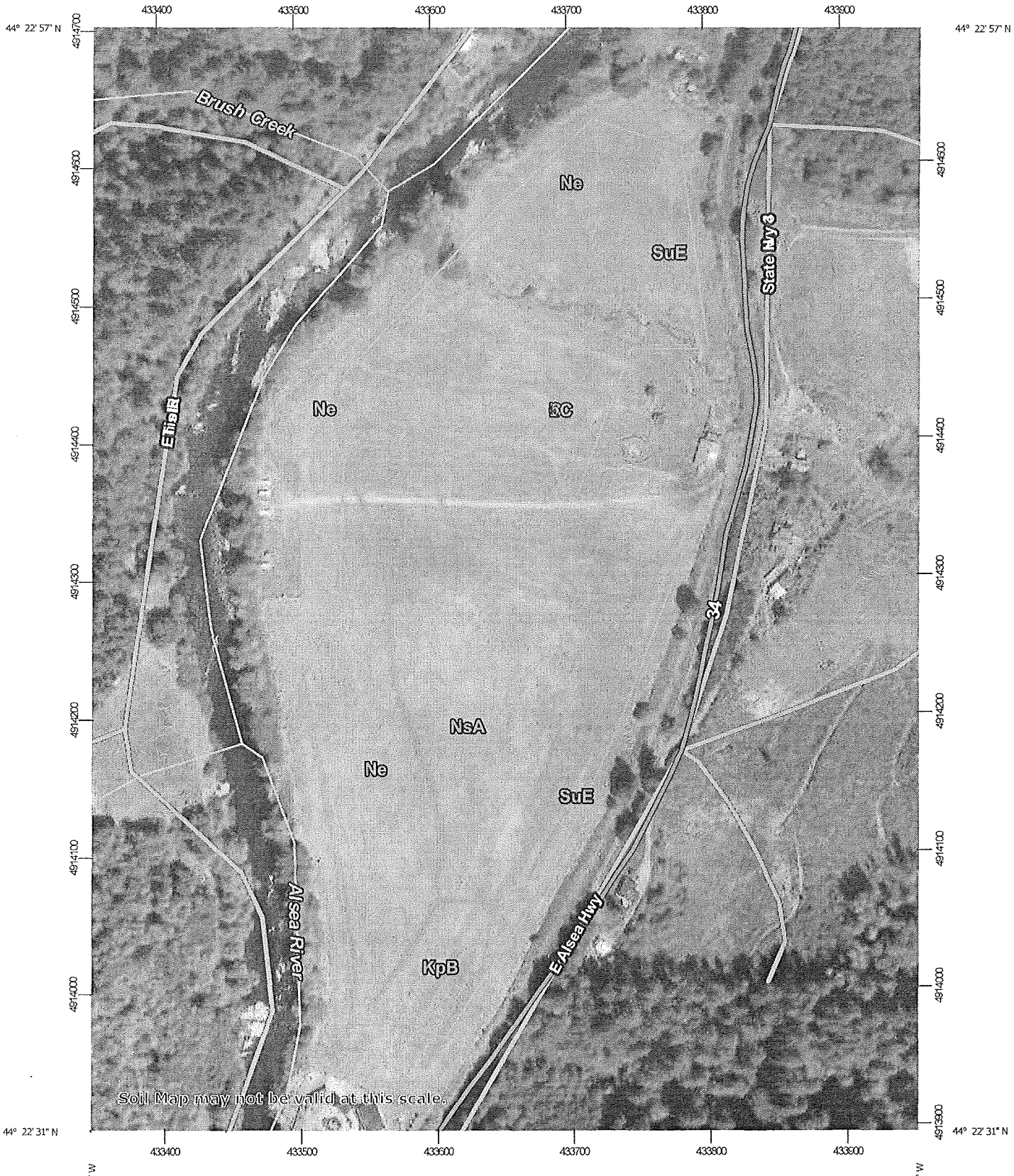
You may want to split high lime requirements over more than one year if you are unable to adequately incorporate the material.
CONSIDER applying up to 60 lb N/ac in September/October if sufficient moisture is available. Apply up to another 60 lb/ac after January, and again after June - moisture permitting.
AMMONIUM AND UREA fertilizers applied directly after liming may lead to some volatilization of nitrogen. Keep this in mind when timing operations. Maintain calcium above 1000 ppm.
POTASH applications on soils with more than about 200 ppm K may not show a response. Consider a Potassium Supply Rate Analysis if in doubt and if report shows less than 2-3% K cation saturation.

NOTES:

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

Eley FL

Soil Map—Alsea Area, Oregon
(Welch Farm)



Map Scale: 1:3,910 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Alsea Area, Oregon
Survey Area Data: Version 13, Sep 19, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 27, 2007—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChC	Chitwood silt loam, 3 to 13 percent slopes	8.8	29.6%
KpB	Knappa silt loam, 3 to 8 percent slopes	1.3	4.4%
Ne	Nehalem silt loam	6.6	22.3%
NsA	Nestucca silt loam, 0 to 3 percent slopes	10.2	34.4%
SuE	Slickrock gravelly loam, seeped, 10 to 35 percent slopes	2.7	9.2%
Totals for Area of Interest		29.6	100.0%

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-211-107

CLIENT NO:

SEND TO: CITY OF NEWPORT-GRANT
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY: ANDREW GRANT

GROWER: ~~WELCH~~ ELEY

DATE OF REPORT: 08/01/18

SOIL ANALYSIS REPORT

PAGE: 1

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
1A	58461	3.2M	95	12L	4**	44L	157H	459L	20L	5.0	5.4	2.6	6.4	1.7	20.1	35.8	41.0	1.4
1B	58462	5.7VH	144	20M	14**	57L	72L	1287M	24L	5.4	5.7	2.9	10.2	1.4	5.8	63.2	28.5	1.0

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
1A	2VL	49VH						L	0.1VL						
1B	3VL	12M						L	0.1VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-211-106

CLIENT NO:

SEND TO: CITY OF NEWPORT-GRANT
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY: ANDREW GRANT

GROWER: ~~WELCH~~ ELBY

DATE OF REPORT: 08/01/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
2A	58457	2.3M	75	3VL	5**	78M	200H	503VL	19L	5.0	5.4	3.1	7.5	2.6	21.9	33.4	41.0	1.1
3A	58458	2.5M	80	3VL	4**	83M	204H	510VL	16VL	5.0	5.6	3.1	7.6	2.8	22.0	33.3	41.0	0.9
2B	58459	4.6H	123	24M	20**	68L	90L	1247M	20VL	5.5	5.8	2.5	9.8	1.8	7.6	63.7	26.0	0.9
3B	58460	3.4M	97	33H	28**	73L	167M	1361L	21VL	5.4	6.0	3.4	11.8	1.6	11.6	57.5	28.5	0.8

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
2A	2VL	33H						L	0.1VL						
3A	3VL	28H						L	0.1VL						
2B	3VL	17M						L	0.1VL						
3B	3VL	18M						L	0.1VL						

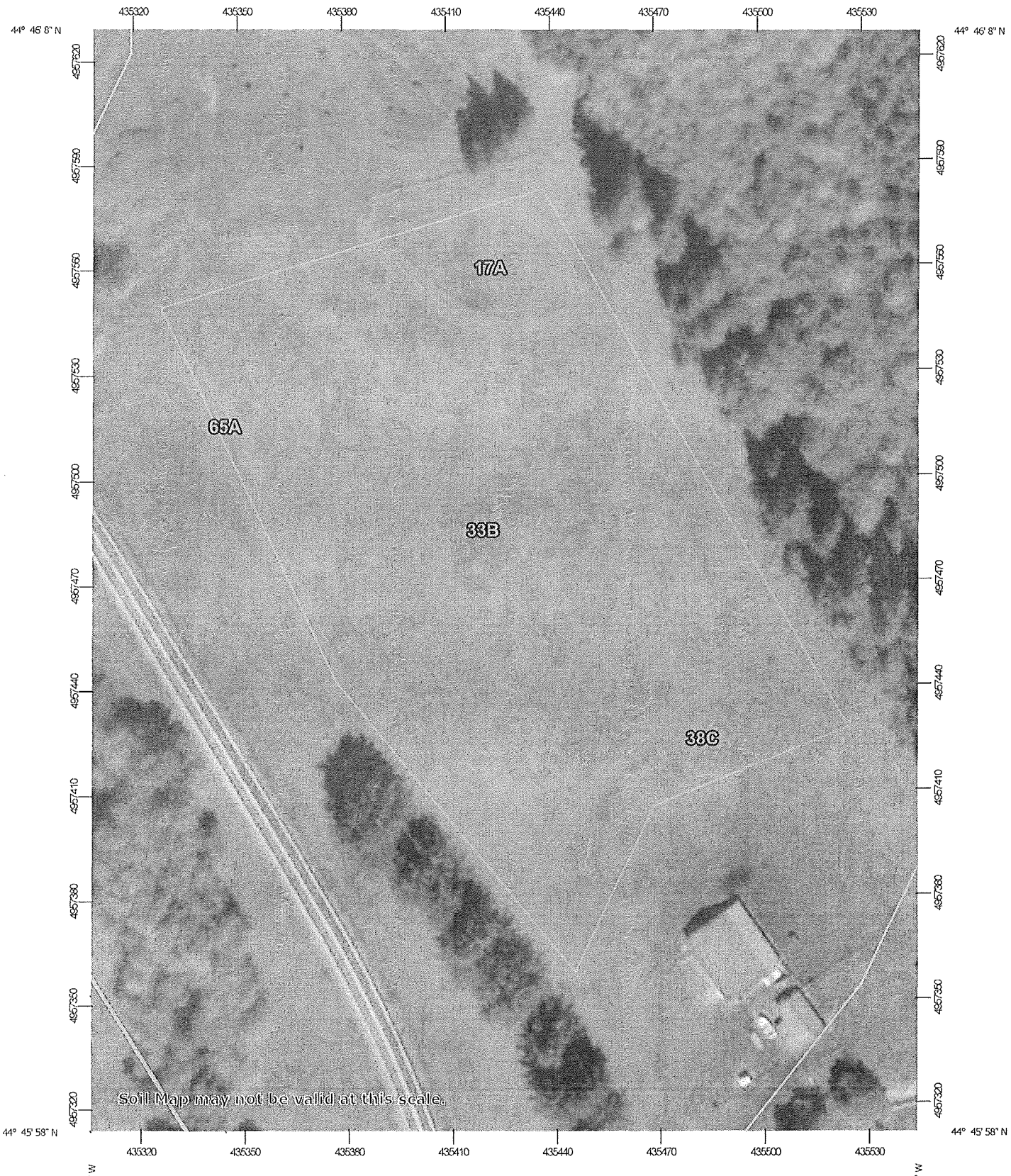
* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

Soil Map—Lincoln County Area, Oregon
(Tower North field)

Gordale



Map Scale: 1:1,540 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lincoln County Area, Oregon
Survey Area Data: Version 15, Sep 17, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
17A	Euchre medial silt loam, 0 to 3 percent slopes	0.3	6.3%
33B	Knappa silt loam, 2 to 7 percent slopes	4.5	81.4%
38C	Meda loam, 3 to 12 percent slopes	0.6	11.7%
65A	Wolfer silt loam, 0 to 3 percent slopes	0.0	0.7%
Totals for Area of Interest		**5.5**	**100.0%**

Soil Map—Lincoln County Area, Oregon
(Tower South Field)

Garibaldi

Map Scale: 1:1,460 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
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- Interstate Highways
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- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lincoln County Area, Oregon
Survey Area Data: Version 15, Sep 17, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Feb 12, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
33B	Knappa silt loam, 2 to 7 percent slopes	6.1	94.6%
36A	Logsden silt loam, 0 to 3 percent slopes	0.2	2.5%
38C	Meda loam, 3 to 12 percent slopes	0.2	2.8%
65A	Wolfer silt loam, 0 to 3 percent slopes	0.0	0.1%
Totals for Area of Interest		**6.4**	**100.0%**

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-150-109

CLIENT NO:

SEND TO: NEWPORT WWTP
169 SW COAST HIGHWAY
NEWPORT, OR 97365-

SUBMITTED BY: ANDREW GRANT

GROWER: Goodfalo

DATE OF REPORT: 06/04/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
TW2	59507	6.5VH	161	10L	10**	53	38	116	20	4.9	5.1	0.9	2.0	6.8	15.8	29.0	44.0	4.4
TW3	59508	4.7H	123	3VL	7**	54	104	295	27	5.2	5.3	1.4	3.9	3.5	21.7	37.3	34.5	3.0
TD2	59509	7.0VH	169	10L	7**	87	32	300	16	5.4	5.5	0.8	2.9	7.8	9.1	52.2	28.5	2.4

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
TW2	3VL	38VH						L	0.1VL						
TW3	3VL	43VH						L	0.1VL						
TD2	2VL	24M						L	0.1VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-150-109

CLIENT NO:

SEND TO: NEWPORT WWTP
169 SW COAST HIGHWAY
NEWPORT, OR 97365-

SUBMITTED BY: ANDREW GRANT

GROWER: Garofalo

DATE OF REPORT: 06/04/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
TD3	59510	3.1M	92	3VL	11**	68	22	282	13	5.4	5.5	0.7	2.5	6.9	7.1	55.4	28.5	2.2

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
TD3	2VL	35H						L	0.1VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-150-108 CLIENT: 9999

SUBMITTED BY: ANDREW GRANT

SEND TO: NEWPORT WWTP
169 SW COAST HIGHWAY
NEWPORT, OR 97365-

GROWER: Gawfalo

DATE OF REPORT: 06/04/18

SOIL FERTILITY GUIDELINES

RATE: lb/acre PAGE: 1

Sample ID	Lab Number	Crop	SOIL AMENDMENTS				Nitrogen N	Phosphate P_2O_5	Potash K_2O	Magnesium Mg	Sulfur SO_4-S	Zinc Zn	Manganese Mn	Iron Fe	Copper Cu	Boron B
			Dolomite	Lime	Gypsum	Elemental Sulfur										
TW1	59503	PASTURE GRASS	9999				130	140	90							
TD1	59504	PASTURE GRASS	9999				130	140	90		10					

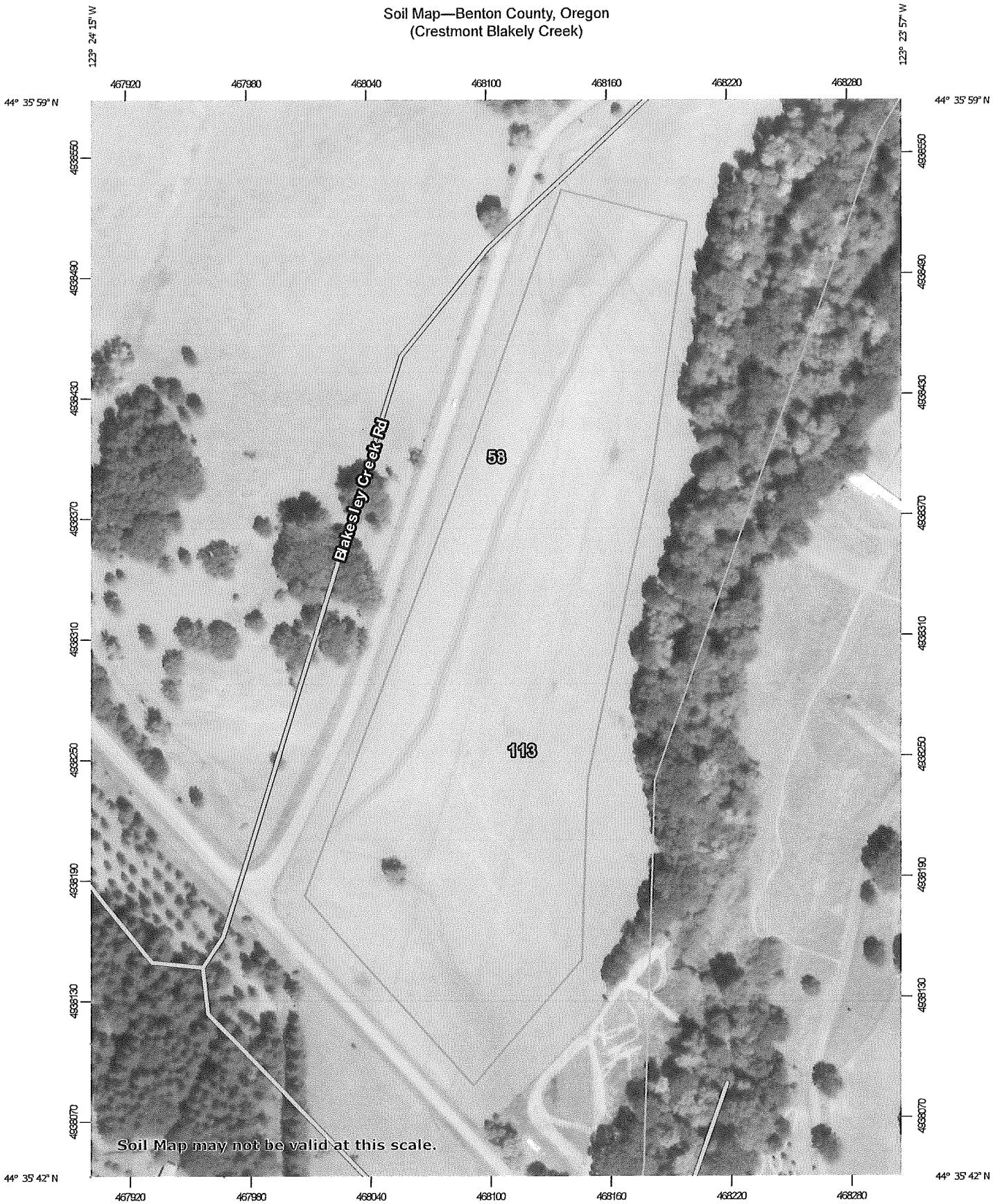
COMMENTS

You may want to split high lime requirements over more than one year if you are unable to adequately incorporate the material.
CONSIDER applying up to 60 lb N/ac in September/October if sufficient moisture is available. Apply up to another 60 lb/ac after January, and again after June - moisture permitting.
LEGUME-GRASS/GRAIN MIX: Excessive nitrogen will decrease the legume stand. Avoid exceeding 40-70 lb N/ac. Apply in late February, and/or late August if irrigated, to stimulate grass growth.
AMMONIUM AND UREA fertilizers applied directly after liming may lead to some volatilization of nitrogen. Keep this in mind when timing operations. Maintain calcium above 1000 ppm.

NOTES:

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

Soil Map—Benton County, Oregon
(Crestmont Blakely Creek)



Map Scale: 1:2,610 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
58	Dixonville-Gellatly complex, 12 to 30 percent slopes	2.4	23.5%
113	McAlpin silty clay loam, 0 to 3 percent slopes	8.0	76.5%
Totals for Area of Interest		**10.4**	**100.0%**

A & L WESTERN AGRICULTURAL LABORATORIES

10220 S.W. NIMBUS AVE I BUILDING K-9 I PORTLAND, OREGON 97223 I (503) 968-9225 I FAX (503) 598-7702

REPORT NUMBER: 18-180-160

CLIENT NO:

SEND TO: CITY OF NEWPORT-GRANT
169 SW COAST HWY
NEWPORT, OR 97365-

SUBMITTED BY: GRANT

GROWER: ~~EASTERLING~~ Crestmont

DATE OF REPORT: 07/05/18

SOIL ANALYSIS REPORT

SAMPLE ID	LAB NUMBER	Organic Matter		Phosphorus		Potassium	Magnesium	Calcium	Sodium	pH		Hydrogen	Cation Exchange Capacity	PERCENT CATION SATURATION (COMPUTED)				
		* % Rating	** ENR lbs/A	P1 (Weak Bray) **** * ppm	$NaHCO_3$-P (OlsenMethod) **** * ppm	K ***** * ppm	Mg *** * ppm	Ca *** * ppm	Na *** * ppm	Soil pH	Buffer Index	H meq/100g	C.E.C. meq/100g	K %	Mg %	Ca %	H %	Na %
92-2	59997	6.3VH	157	2VL	8**	151L	564M	2572L	15VL	5.3	5.7	8.1	26.0	1.5	17.9	49.4	31.0	0.3
1-2FT	59998	6.2VH	155	13L	26**	135L	833M	4295L	38VL	5.6	5.9	8.8	37.6	0.9	18.2	56.9	23.5	0.4
1-3FT	59999	5.5VH	140	12L	21**	127L	835M	4679M	40VL	5.7	6.0	8.2	38.9	0.8	17.7	60.1	21.0	0.4
174-2	58001	4.9H	129	2VL	6**	293M	477M	2050L	11VL	5.5	6.1	5.3	20.2	3.7	19.4	50.6	26.0	0.2
174-3	58002	6.7VH	163	14L	19**	402H	391M	1624L	11VL	5.1	5.6	7.6	20.0	5.1	16.1	40.5	38.0	0.2

** NaHCO3-P unreliable at this soil pH

SAMPLE NUMBER	Nitrogen NO_3-N ppm	Sulfur SO_4-S ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Excess Lime Rating	Soluble Salts mmhos/cm	Chloride Cl ppm		PARTICLE SIZE ANALYSIS			
												SAND %	SILT %	CLAY %	SOIL TEXTURE
92-2	3VL	11M						L	0.1VL						
1-2FT	29H	4L						L	0.4L						
1-3FT	22M	3VL						L	0.3L						
174-2	5L	20M						L	0.1VL						
174-3	4VL	17M						L	0.1VL						

* CODE TO RATING: VERY LOW (VL), LOW (L), MEDIUM (M), HIGH (H), AND VERY HIGH (VH).
** ENR - ESTIMATED NITROGEN RELEASE
*** MULTIPLY THE RESULTS IN ppm BY 2 TO CONVERT TO LBS. PER ACRE OF THE ELEMENTAL FORM
**** MULTIPLY THE RESULTS IN ppm BY 4.6 TO CONVERT TO LBS. PER ACRE P_2O_5
***** MULTIPLY THE RESULTS IN ppm BY 2.4 TO CONVERT TO LBS. PER ACRE K_2O
MOST SOILS WEIGH TWO (2) MILLION POUNDS (DRY WEIGHT) FOR AN ACRE OF SOIL 6-2/3 INCHES DEEP

This report applies only to the sample(s) tested. Samples are retained a maximum of thirty days after testing.

Rogell Rogers, CCA, PCA
A & L WESTERN LABORATORIES, INC.

JAN 2018	Bio - Solids							Land Applied	
Day of Month	Time and pH				Feed	Cake	Feed Rate	Quantity Removed	Method used	Air-port or off site
	Time	2 Hours	Time	24 Hours	CFU / 100 mg/L	Fecal CPU / 100	mg/L	lbs.	Class A or B	
1	10:30	12.7	1:00	12.7	430K	Ø	5420	3061	A	AP
2	1:00	12.5	1:00	12.5	410K	Ø	5490	2962	A	AP
3	1:00	12.9	1:00	12.8	330K	Ø	5404	4241	A	AP
4	1:00	12.8	1:00	12.7	380K	Ø	5384	4075	A	AP
5	1:00	12.2					5224	4035	A	AP
6										
7										
8	12:00	12.7	12:00	12.7	340K	Ø	5768	4441	A	
9	12:00	12.6	12:00	12.6	310K	Ø	5764	6215	A	AP
10	~~12:00~~	~~12.5~~								
11	12:00	12.5	12:00	12.5	350K	Ø	5592	4310	A	
12	12:00	12.4					5712	4396	A	
13										
14										
15	11:00									
16	~~12:00~~	12.2	12:00	12.5	300K	Ø	5824	4491	A	
17	12:00	12.2	12:30	12.9	190K	Ø	5632	4349	A	
18	12:00	12.2	12:30	12.9			5584	4291	A	AP
19										
20										
21										
22	11:30	12.4	11:30	12.4	330K	Ø	5936	4578	A	AP
23										
24	1:00	12.4	12:00	12.4	280K	Ø	5472	4236	A	AP
25	12:00	12.4	12:00	12.4	320K	Ø	5080	3943	A	AP
26	12:00	12.5					5156	3996	A	AP
27										
28								3749 ↓		
29	12:00	12.5	12:00	12.5	360K	Ø	6204	~~4326~~	A	AP
30	12:00	12.4	12:15	12.4	350K	Ø	6148	~~4781~~	A	
31	12:15	12.6	12:00	12.6	300	Ø	6200	~~4786~~		

*Fill electrod

Biosolids Management Bench Sheet

2018

Day of Month FEB	Time and pH					Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	12:00	12.8	12:00	12.8	33	163	172	340K	0	2014	6200	4706	A		JM/MW
2	12:00	12.7	12:00	12.7	33	161	169	320K	0	2242	6248	4229	A		JM
3					~~33~~	~~166~~	~~172~~								
4															
5	12:00	12.5	12:00	12.5	33	166	172	370K	0	1876	5456	4186	A		JM
6	12:00	12.6	12:00	12.5	33	163	168	300K	0	1964	5432	4190	A		JM
7	12:30	12.5	12:30	12.5	33	168	172	340K	0	1998	5444	3954	A		JM
8	12:00	12.5	12:00	12.5	33	165	169	320K	0	1600	~~5340~~ 4112	4112	A		JM
9															
10															
11															
12					~~33~~	~~163~~	~~168~~			2145	6936	3316	A		MW
13	12:30	12.4	12:00	12.4	33	163	168	310K	0	2145	6436	3316	A		MW
14															
15	12:00	12.4	12:00	12.4	33	162	163	310K	0	3675	6020	5950	A		MW
16															
17											~~7120~~				
18	12:00	12.6	12:00	12.6	33	161	165	350K	0	2870	4874	4876	A		DL
19	12:00	12.5	12:00	12.4	33	163	163	550K	0	1790	6604	3632	A		MW
20	12:00	12.5	12:00	12.5	33	163	165	370K	0	3336	6184	3995	A		JM
21	12:00	12.6	12:00	12.5	33	164	165	510K	0	3620	6084	4269	A		JM
22	12:00	12.5	12:00	12.5	33	164	161	620K	0	4688	5988	6082	A		JM
23	12:00	12.4	12:00	12.4	33	164	162	560K	0	4338	5728	5664	A		JM

pH must be >12 @ 2 h and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month FEB		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24															
25															
26	12:00	12.4	12:00	12.4	33	163	164	2580K	0	2696	5780	3882	A		JH
27	12:00	12.4	12:00	12.4	33	163	163	6900C	0	2040	6208	3229	A		JH
28	12:30	12.5	12:00	12.5	33	163	165	6100C	0	2442	6492	3919	A		JH
29															
30															
31															
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month MARCH	Time and pH					Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	12:00	13	12:00	13	33	163	165	440K	0	2596	6313	4430	A	AP	JM
2	12:30	13	12:30	13	33	164	161	270K	0	2118	6060	3514	A	AP	JM
3															
4															
5	12:00	13	12:00	13	33	170	164	320K	0	2289	5848	4354	A	AP	JM
6															
7															
8															
9															
10															
11															
12															
13	1:00	12	1:00	12	33	163	167	430K	0	2232	6688	3385	A	AP	JM
14	1:00	12	1:00	12	33	162	166	330K	0	5998	7164	9515	A	AP	JM/DL
15	1:00	12	1:00	12	33	163	164	340K	0	3990	6936	5608	A	AP	JM/MH
16	1:00	12	11:00	12	33	162	164	410K	0	3122	6924	4547	A	AP	JM
17															
18															
19															
20	1:00	12	1:00	12	33	163	167	430K	0	2232	6688	3385	A	AP	JM
21	1:00	13	1:00	12.6	33	165	172	370K	0	1769	6692	4465	A	AP	JM
22	1:00	12.6	1:00	12.6	33	162	169	400K	0	2520	6944	4183	A	AP	JM
23	1:00	12.4			33	168	169	260K	0	2700	6472	4083	A	AP	DL

pH must be
>12 @ 2 h .nd >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily rage of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month MARCH		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			Operator
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	
24															
25															
26															
27	12:00	12.6	12:00	12.7	33	165	164	470K	0	2648	7212	4175	A		JM
28	12:00	12.7	12:15	12.6	33	164	169	420K	0	2596	6948	4336	A		JM
29	12:15	12.4	12:00	12.4	33	163	171	360K	0	3657	6848	~~4346~~ 4187	A		JM
30	12:00	12.4			33	167	169	360K	0	3444	6668	6052	A	DL	JM/DL
31															
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month APRIL		Time and pH				Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied: Quantity Removed	Land Applied: Method used	Land Applied: Site Applied	Operator
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	lbs.	Class A or B		
1															
2	12:00	12.4	12:00	12.4	33	164	169	41/410K	0	3016	6564	4902	A	A-P	JM/MW
3											~~6512~~				
4	12:00	12.5	2:00	12.5	33	164	172	44/440K	0	2354	6512	3789	A	A-P	JM
5	2:00	12.4	12:00	12.4	33	162	172	52/520K	0	3290	7052	5198	A	AP	JM
6	9:00	13.1	9:00	13.0	33	167	174	51/510K	0	6601	7388	11.595	A	A-P	JM/MW
7															
8															
9	12:00	12.7	12:00	12.7	33	163	187	53/530K	0	2746	6124	4529	A	A-P	JM
10	12:00	12.5	12:00	12.5	33	163	172	55/550K	0	2826	6284	4837	A	A-P	JM
11	12:00	12.3	12:00	12.3	33	159	172	59/590K	0	2844	6484	5024	A	A-P	JM
12															
13															
14															
15															
16	12:00	12.4	12:00	12.4	33	164	172	76/760K	0	3555	7584	5641	A	AP	JM
17	12:00	13.0	12:00	13.0	33	163	172	75/750K	0	3318	7256	5397	A	AP	JM
18	12:00	13.0	12:00	13.0	33	166	172	81/810K	0	2844	6.924	5151	A	AP	JM
19	12:00	13.0	2:00	13.0	33	164	168	70/710K	0	2699	6.784	5067	A	DL	JM
20															
21															
22															
23	12:00	13.0	12:00	13.0	33	166	169	59/590K	0	2680	6.556	4865	A	AP	JM

pH must be
>12 @ 2 hr and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24	12:00	13.1	12:30	13.0	33	164	169	65/650K	0	2647	6876	4896	A	AP	JM
25	12:30	12.6	12:30	12.6	33	163	170	91/910K	0	2648	8276	4298	A	AP	JM
26															
27	10:30	13.0	10:00	13.0	33	164	171	64/640K	0	2925	7,256	5397	A	AP	JM
28															
29															
30	12:00	12.9	12:00	12.8	33	165	167	62/620K	0	2850	7,136	5320	A	AP	JM
31															
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month MAY		Time and pH				Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	12:00	12.8	12:00	12.7	33	164	165	81/810K	Ø	2057	6884	5120	A	AP	JM
2	12:00	12.7	12:00	12.7	33	166	167	97/970K	Ø	1998	6872	4352	A	KY	JM
3	12:00	12.9	12:00	12.9	33	164	169	TNTC	Ø	3060	6656	5877	A	KY	JM/MW
4															
5															
6															
7															
8															
9															
10	10:00	12.9	10:00	12.9	33	166	163	TNTC	Ø	1920	9.768	5748	A	KY	JM/MW
11	10:00	13.0	10:00	13.0	33	172	161	TNTC	Ø	2280	8.760	4692	A	KY	JM/MW
12	10:00	13.0	10:00	13.0	33	166	164	TNTC	Ø	2280	8.124	4347	A	KY	JM/DL
13															
14	2:30	12.6			33	170	165	52/520K	Ø	1120	8852	2467	A	KY	JM/DL
15	7:00	12.5									8460				
16	2:00	12.7	2:00		33	173	170	TNTC	Ø	900	8528	2535	A	KY	JM/DL
17	10:00	12.5	12:00	12.5	33	162	164	TNTC	Ø	1192	7972	3425	A	KY	JM
18	12:00	12.4			33	163	169	TNTC	Ø	923	10.964	2890	A	KY	JM
19															
20															
21	11:30	12.7	11:30	12.7	33	164	166	TNTC	Ø	1980	11.080	5421	A		JM/MW
22	11:30	12.9	12:00	12.8	33	164	168	TNTC	Ø	2025	9,996	4823	A		JM/MW
23	11:30	12.4	11:30	12.4	33	163	165	TNTC	Ø	1560	9,124	4104	A		JM/MW

pH must be
>12 @ 2 hr nd >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily rage of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month MAY		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			Operator
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	
24	11:30	12.8	11:30	12.8	33	164	170	1110 IC	Ø	1625	8,596	4263	A		EM/MW
25	11:30	12.5	9:30	12.5	33	163	169	91 90K	Ø	1440	7,848	3948	A		EM
26															
27															
28															
29	11:30	12.4	11:30	12.4	33	166	169	TNTC	Ø	1465	7,572	3969	A		EM/DL
30	11:30	13.0	11:30	12.9	33	164	167	730 K	Ø	1750	7,396	4350	A		EM/DL
31	11:30	12.9	9:30	12.9	33	166	170	630 K	Ø	1925	7356	4513	A		EM/DL
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0		~~7,356~~		A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month JUNE		Time and pH				Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	8:30	12.4	8:00	12.3	33	165	172	40/400K	0	1740	7,284	3562	A		JM/DL
2															
3															
4	8:30	13.0	10:30	13.0	33	161	166	560K	0	1441	6.816	3996	A		JM/DL
5	10:30	13.0	11:30	13.0	33	163	167	410K	0	1200	7,116	3490	A		JM/MW/K
6	11:30	12.9	11:30	12.9	33	166	171	560K	0	1425	8,812	3525	A		JM/DL
7	11:30	12.9	9:30	12.9	33	165	169	490K	0	1755	8,084	4590	A		JM/MW
8	9:30	12.9	9:00	12.9	33	163	167	420K	0	1553	7,752	4661	A		JM/MW
9	9:00	12.4	10:00	12.4	33	162	166	610K	0	1737	7,124	3601	A		JM/MW
10											6,240				
11	11:30	12.5	10:30	12.5	33	174	169	530K	0	1563	6,240	3825	A		JM/MW
12	10:30	12.4	10:30	12.3	33	163	165	460K	0	893	6712	2565	A		JM/DL
13	10:30	12.2	11:30	12.2	33	166	168	490K	0	1,200	6,664	3.140	A		JM
14	3:30	12.3	330	12.2	33	161	168	390	0	980	10,168	2.646	A		JM/MW
15	9:00	12.4	9:00	12.4	33	163	167	TNTC	0	1500	9,408	4663	A		JM/MW
16															
17															
18	10:00	12.3	10:00	12.3	33	166	165	520K	0	1375	7544	4438	A		ALL
19															
20	10:30	13.0	10:00	12.3	33	167	166	650K	0	1375	9,320	4325	A		ALL
21	10:00	12.4	10:10	12.5	33	162	164	TNTC	0	1120	8832	3500	A		JM/MW
22	9:00	12.5	9:00	12.5	33	163	166	630K	0	1500	8272	4350	A		JM/DL
23															

pH must be >12 @ 2 hr and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK

Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month JUNE		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24															
25	11:00	12.4	11:00	12.3	33	166	164	82/220K	0	1190	7064	3465	A	Skiles	ALL
26															
27															
28												3981 mw			
29	1100	12.5	1100	12.6	33	161	165	26 260K	0	2625	7578	~~3981~~	A	Skiles	MW
30	11:00	12.3	11:00	12.3	33	165	163	~~25/250K~~	0	2800	8892	~~8892~~	A	Skiles	2
31												5284T			
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month JULY	Time and pH					Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	2:00 P	12.46	3:00P	12.46	33	162	169	280 K	Ø	3200	8628	~~3705~~ 6412	A	Skiles	D
2	10:00A	12.10	10:30A	12.3	33	163	170	340K	Ø	1995	8484	4392	A		
3	9:00A	12.5	9:30A	12.3	33	161	167	400K	Ø	1438	8744	4873	A		
4	~~9:30A~~														
5	9:30A	12.5	9:30A	12.5	33	164	169	330K	Ø	2475	8336	9646	A		
6	10:15A	12.5	10:15A	12.5	33	164	168	270K	Ø	3240	8384	7374	A		MW
7															
8															
9															
10															
11	9:30A	12.3	9:30A	12.3	33	162	170	430K	Ø	3305	9768	6751	A		JM
12	11:30A	12.4	11:30	12.4	33	164	168	680	Ø	4290	9476	8544	A		JM/MW
13	11:30	12.3	11:30	12.3	33	162	167	560K	Ø	3486	9232	6561	A		JM
14	11:30	12.4	10:00	12.4	33	162	165	520K	Ø	3200	9208	6386	A		JM
15															
16	11:00A	12.3	9:30A	12.3	33	164	168	320K	Ø	2255	8912	6706	A		JM/MW
17	11:00A	12.3	9:10A	12.3	33	164	171	510K	Ø	2400	8448	5024	A		JM
18											8008				
19															
20															
21															
22															
23	11:00A	12.4	9:00A	12.3	33	161	166	510K	Ø	1190	9456	2907			

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month July	Time and pH					Average Temp of Vessel		Feed	Cake	Lime	Feed Rate	Land Applied			Operator
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	
24	11:00A	12.3	9:15A	12.3	33	165	172	430K	0	4032	8976	7511	A		JM/MW
25	2p	12.4	12P	12.3	33	163	169	720K	0	1946	8660	4200	A		JM/MW
26	11:00A	12.4	9:15A	12.4	33	162	168	840K	0	3875	8660	8621	A		JM/MW
27	11:00A	12.4	10:45A	12.3	33	164	169	970K	0	3720	8280	7875	A		JM/MW
28	~~11:30A~~	—													
29															
30	11:30A	12.2	9:30A	12.2	33	164	172	TNTC	0	4320	10,448	8193	A		JM/MW
31	11:30A	12.4	9:30A	12.3	33	163	167	TNTC	0	2800	9664	5360	A		JM
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month Aug	Time and pH					Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	11:40A	12.3	9:40A	12.3				720K	Ø	3	8944				DL
2	9:30A	12.4			33	162	168			3600	8608	7680	A	Hea	JH/MW
3															
4															
5															
6															
7															
8	11:30A	12.3	9:30A	12.3	33	165	170	TNTC	Ø	3240	11,152	6,192	A		JH
9	12:00P	12.3	9:00A	12.3	33	163	170	TNTC	Ø	3120	10,668	5,920	A		JH
10	11:00A	12.4			33	163	168			2560	9,572	5,312	A		JH
11															
12															
13															
14	1230	12.95	11:30	12.4	33	165	173	TNTC	Ø	2400	13,012	4838	A		JH
15	1130	12.2	1215	12.16	33	164	170	TNTC	Ø	2880	12,156	5784	A		JH
16	1230	12.2	1215	12.2	33	164	171	TNTC	Ø	3360	11,244	6,208	A		JH
17	12:15	12.3	1130	12.3	33	165	171	TNTC	Ø	2880	9,624	5561	A		DL
18															
19															
20	1200	12.3			33	163	181	TNTC	Ø	4240	8896	5464	A		JH
21	1200														
22															
23															

pH must be
>12 @ 2 hr and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month Aug		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24															
25															
26															
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10,824	3217	B		JM
28	"	"	"	"	"	"	"	"	"	"	10,220	5511	B		JM
29	"	"	"	"	"	"	"	"	"	"	9,772	5813	B		JM
30	"	"	"	"	"	"	"	"	"	"	9,128	5766	B		JM
31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8,360	5723	B		JM
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management

2018

FEED 6720 - loss = 6653
.0114 x 6653 x 8.34 x 1 HR = 633 lbs/Hr

0920 100 GPM 100 GPM
FEED 6388 - loss = 6324
.012 x 6324 x 8.34 x 1 HR = 633 lbs/Hr

Day of Month SEPT		Time and pH				Temp of Vessel > 70C		Feed							
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.							
1															
2															
3															
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8708	5500	CAKE		JM
5	"	"	"	"	"	"	"	"	"	"	7772	7935	CAKE		JM
6	"	"	"	"	"	"	"	"	"	"	7592	7030	CAKE		JM
7	"	"	"	"	"	"	"	"	"	"	7104	6956	CAKE		JM
8															
9															
10															
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8064	5572	CAKE		JM
12															
13															
14															
15															
16	N/A														
17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7628	6117	CAKE	USA	MW
18	"	"	"	"	"	"	"	"	"	"	7616	7676	CAKE		JM
19	"	"	"	"	"	"	"	"	"	"	6720	4906	CAKE		JM
20	"	"	"	"	"	"	"	"	"	"	6388	4906	CAKE		JM
21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5908	4534	CAKE		JM
22															
23															

pH must be >12 @ 2 hr and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

2018

Day of Month		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24															
25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7556	5109	CAKE		JM
26	"	"	"	"	"	"	"	"	"	"	6,600	4347	CAKE		JM
27	"	"	"	"	"	"	"	"	"	"	5,748	4418	CAKE		JM
28	"	"	"	"	"	"	"	"	"	"	5,276	4053	CAKE		JM
29															
30															
31															
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

October 2018

Day of Month	Time and pH				Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1		NA	NA	NA	NA	NA	NA	NA	NA	NA	3924	2886	CAKE		[illegible]
2		NA	NA	NA	NA	NA	NA	NA	NA	NA	3656	2689	CAKE		[illegible]
3		NA	NA	NA	NA	NA	NA	NA	NA	NA	3444	3038	CAKE		[illegible]
4		NA	NA	NA	NA	NA	NA	NA	NA	NA	3100	2280	CAKE		[illegible]
5															
6															
7															
8															
9		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4676	3588	CAKE		[illegible]
10		"	"	"	"	"	"	"	"	"	5440	~~5440~~ 4030 CAKE			[illegible]
11		"	"	"	"	"	"	"	"	"	5496	4095	CAKE		[illegible]
12															
13															
14															
15		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5164	7744	CAKE		[illegible]
16		"	"	"	"	"	"	"	"	"	5852	7540	CAKE		[illegible]
17		"	"	"	"	"	"	"	"	"	6156	5490	CAKE		[illegible]
18		"	"	"	"	"	"	"	"	"	4512	7008	CAKE		[illegible]
19															
20															
21															
22											5860	3521	CAKE		[illegible]
23											4985	7168	CAKE		[illegible]

pH must be >12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK

Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

October 2018

Day of Month	Time and pH					Average Temp of Vessel		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4568	3225	CAKE		JM
25											4496	3247			DL
26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4420	3120	CAKE		JM
27															
28															
29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5100	3648	CAKE		JM
30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5432	7102	CAKE		JM DL
31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5008	6594	CAKE		JM DL
Permit Reqs.	> 12		> 11.5	>30 min	>70C	>70C			0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

November 2018

Day of Month	Time and pH					Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
1	NA	NA	NA	NA	NA	NA	NA	N/A	N/A	N.A	4860	7084	CAKE		[illegible]
2											4484	3374	CAKE		
3															
4															
5											5532	4193	CAKE		
6											5300	6617	CAKE		
7											5188	3500	CAKE		MW
8											4980	5859	CAKE		
9															
10															
11															
12															
13											5520	3897	CAKE		
14											5500	4012	CAKE		
15											5196	5714	CAKE		
16											5408	5571	CAKE		
17															
18															
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6344	4179	CAKE		JM
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5864	8675	CAKE		EM/DL
21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5912	8765	CAKE		EM/DL
22															
23															

pH must be >12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

November 2018

Day of Month	Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24															
25															
26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7,016	3795	CAKE		JM
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.764	9979	CAKE		JM DL
28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6316	9306	CAKE		JM DL
29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6052	8977	CAKE		JM DL
30															
31															
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

Biosolids Management Bench Sheet

December 2018

Day of Month		Time and pH				Temp of Vessel > 70C		Feed	Cake	Lime	Feed Rate	Land Applied: Quantity Removed	Land Applied: Method used	Land Applied: Site Applied	Operator
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	lbs.	Class A or B		
1															
2															
3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6284	3404	CAKE		JM
4	N										7268				DL
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6052	9367	CAKE		JM DL
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5560	8352	Cake		JM DL
7											4684				DL
8															
9															
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4276	3627	CAKE		JM
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4372	4126	CAKE		JM
12															
13															
14															
15															
16															
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6228	5519	CAKE		JM
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5768	5973	CAKE		JM
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5420	8985	CAKE		JM DL
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5200	8404	CAKE		JM
21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5260	4456	CAKE		JM
22															
23															

pH must be >12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK

Minimum temp= daily average of inlet and outlet

Biosolids Manage ent Bench Sheet

2018

Day of Month		Time and pH				AverageTemp of Vesse		Feed	Cake	Lime	Feed Rate	Land Applied			
	Time	2 Hour pH	Time	24 Hour pH	Time (min) in vessel	Minimum Temp inlet	Minimum Temp outlet	Fecal Bacteria/ g.	Fecal Bacteria/ g.	lbs.	mg/L	Quantity Removed lbs.	Method used Class A or B	Site Applied	Operator
24															
25															
26	NA	→	→								5600	9029	CAKE		JT
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5060	8092	CAKE		JT
28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4636	4038	CAKE		JT
29															
30															
31															
Permit Reqs.		> 12		> 11.5	>30 min	>70C	>70C		0				A		

pH must be
>12 @ 2 hrs and >11.5 @ 24hrs

Site codes Airport- AP Keady- KY Skiles-SK
Minimum temp= daily average of inlet and outlet

KENNEDY Paul

To: Andrew Grant
Cc: KENNEDY Paul
Subject: RE: Fecal coliform reporting

Will do Grant
Thanks.
Paul

From: Andrew Grant [mailto:A.Grant@NewportOregon.gov]
Sent: Friday, February 15, 2019 4:24 PM
To: 'KENNEDY Paul' <Paul.KENNEDY@state.or.us>
Subject: Fecal coliform reporting

Paul,

Upon further research I believe that the fecal coliform reporting gaps do not constitute a violation of my reporting requirements as outlined in both the NPDES and BMP. We are required to test 7 representative samples, monthly. We have been testing every batch. Even with the missing sample data we still meet the minimum testing requirements.

The other reporting violations for 24hr pH readings and recording time and temp are valid errors.

I have amended the attached memo. Please disregard the earlier version.

Thanks

Grant
Wastewater Treatment Plant Supervisor

NEWPORT
OREGON

The City of Newport
5525 SE 50th Place
South Beach, OR 97366

541.574.3371 (o)
708.606.5249 (cell)
a.grant@newportoregon.gov

KENNEDY Paul

From: Andrew Grant <A.Grant@NewportOregon.gov>
Sent: Friday, February 15, 2019 4:24 PM
To: 'KENNEDY Paul'
Subject: Fecal coliform reporting
Attachments: 2018 Annual report memo.docx; Attachment A Plotted 24hr pH values.docx

Paul,

Upon further research I believe that the fecal coliform reporting gaps do not constitute a violation of my reporting requirements as outlined in both the NPDES and BMP. We are required to test 7 representative samples, monthly. We have been testing every batch. Even with the missing sample data we still meet the minimum testing requirements.

The other reporting violations for 24hr pH readings and recording time and temp are valid errors.

I have amended the attached memo. Please disregard the earlier version.

Thanks

Grant
Wastewater Treatment Plant Supervisor

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Date: February 15, 2019

Title: 2018 Biosolids Annual Report Supplemental

Prepared by: Andrew Grant, Wastewater Treatment Plant Supervisor

Background Information:

In August 2018 the City of Newport Wastewater Treatment Plant (WWTP) experienced multiple equipment failures in our RDP thermoblender vessel. We were unable to produce biosolids for the period of August 21 2018 through the end of the reporting period. We have been sending dewatered cake to Heard Farms LLC in Roseburg. As a result, we did not complete the 4th quarter testing for metals and nutrients.

As part of our biosolids management plan the WWTP is required to test biosolids to ensure compliance with EPA 40 CFR Part 503.32. Among these tests are a pH level greater than 11.5, 24 hours after production and records of the time and temperature of biosolids in the pasteurization vessel.

Summary of Reporting Errors:

While compiling the 2018 Annual Report data gaps were found in the biosolids bench sheets. Ten 24hr pH readings were not recorded. The time and temperature was not recorded on one day.

For the day in which the 24hr pH was not recorded, the 2hr pH levels were recorded and were above the required level. In addition to the 2hr data I have included a chart documenting all 24hr pH values in 2018 (attachment A). It is my conclusion that a 24hr pH violation of a value below 11.5 is unlikely to have occurred.

In the one instance in which time and temperature in the pasteurization vessel were not recorded the fecal coliform grab for that day tested as zero cfu.

Remedial Actions:

The operators responsible for the data have been reprimanded. Dennis Lilly received a 3 day unpaid suspension. Biosolids bench sheets now have a 2-person authentication procedure with the solids building operator as well as the lab operator

both responsible for data collection and validation. We have begun quarterly NPDES review meetings to verify our data and procedures. Lastly, we have installed a LIMS system in order to streamline data collection.

Attachments:

- **Attachment A.** Plotted 2018 Biosolids 24hr pH values

Attachment A. Plotted 2018 Biosolids 24hr pH values