



Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/22/2018
Date Submitted 06/19/2018

To: Nathan Cannon
City of Redding/Solid Waste Utility
P.O. Box 496071
Redding, CA 96001

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following:
Location : CITY OF REDDING Site ID : COMPOST. Thank you for your business.
* For future reference to this analysis please use SUN # 77284-161328.

COMPOST ANALYSIS

Physical Characteristics		Sample analysis on dry weight basis
pH	8.18	% Moisture 44.8
Electrical Conductivity	6.58 mmho/cm	
Total Dissolved Salts	4211.20 ppm	
Total Organic Matter	58.00 %	C/N Ratio (est) 20.8
Bulk Density	839 Lb./cu.yd.	Yd/Ton 2.4

Available Chemical Components

Chemical Analysis	Analytical Results	Results in lb/ton
Nitrate-N	0.19 ppm	<.01
Phosphate-P	25.16 ppm	0.050
Potassium-K	9136.97 ppm	18.27
Sulfur-S	99.96 ppm	0.20
Magnesium	2172.78 ppm	4.35
Calcium	8099.38 ppm	16.20
Sodium	258.27 ppm	0.52
Copper-Cu	2.89 ppm	<.01
Iron-Fe	304.50 ppm	0.61
Manganese-Mn	85.93 ppm	0.172
Zinc-Zn	45.27 ppm	0.091
Boron-B	5.08 ppm	

Total Chemical Components

Chemical Analysis	Analytical Results	Results in lb/ton
Total-N	1.73 %	34.60
Phosphate-P	0.32 %	6.40
Potassium-K	1.42 %	28.40
Sulfur-S	0.30 %	6.00
Magnesium	0.86 %	17.20
Calcium	2.86 %	57.20
Sodium	0.05 %	
Copper-Cu	50.20 ppm	0.10
Iron-Fe	13219.2 ppm	26.44
Manganese-Mn	650.28 ppm	1.30
Zinc-Zn	195.95 ppm	0.39



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The reported analysis was requested for the following location:
Location : CITY OF REDDING Site ID : COMPOST.
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PHYSICAL CONTININATION

Type of TEST	Result	Units
-----	-----	-----
Moisture	44.80	%
Greater than 4mm	30.79	%
Contamination	ND	

ND = None Detected



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 Date Collected 06/18/2018
 ELAP CERT # 2014

To: Nathan Cannon
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 Redding, CA 96001

From: Gene Oliphant, Ph.D. \ Randy Horney
 General Manager \ Lab Manager

The reported analysis was requested for the following:
 Location : CITY OF REDDING Site ID : COMPOST.
 Your purchase order number is .
 Thank you for your business.

* For future reference to this analysis please use SUN # 77283-161327.

 ANALYSIS OF COMPOST FOR REGULATED METALS

Percent Moisture 44.8

* Sample analyzed as recieved and reported on a dry weight basis.

Regulated Limits ++		Values Determined +		Reporting Limits
-----		-----		-----
41	Arsenic (As)	2.708 mg/kg	*****	1.1
39	Cadmium (Cd)	ND	*	4.
1200	Chromium (Cr)	18.4 mg/kg	*****	7.
1500	Copper (Cu)	45.8 mg/kg	*****	6.
300	Lead (Pb)	17.9 mg/kg	*****	4.
17	Mercury (Hg)	0.45 mg/kg	*****	0.01
420	Nickel (Ni)	18.7 mg/kg	*****	1.5
36	Selenium (Se)	ND	*	1.4
2800	Zinc (Zn)	143.7 mg/kg	*****	2.

ND = value below detection limits

ND | Below Limits | At Toxic Level

Element/Methods

Sb	As	Ba	Be	Cd	Cr	Cr-VI	Co	Cu	Digest.Method
7040	7060	7080	7090	7130	7190	7195	7200	7210	3050
Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn	
7420	7471	7480	7520	7740	7760	7840	7910	7950	



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LABORATORY CONTROL REPORT

Metal Analysis and Preparation for Sun Nos. 161327.

Method of Sample Preparation:

Analyte -----	Conc. of Analyte -----	Accuracy % -----	Precision (+/- RPD) -----
Arsenic	5.000	109	2
Cadmium	5.000	100	1
Chromium	5.000	99	2
Copper	2.500	99	1
Lead	5.000	102	1
Mercury	0.050	100	<1
Nickel	5.000	103	2
Selenium	5.000	97	2
Zinc	5.000	103	1

NOTES (All of the following are specific for the current analysis process.)

1. Analyte concentration is obtained from purchased Quality Control Standards
2. Accuracy is the percent of the known analyte concentration determined and should fall within the range of 85 - 115%.
3. Precision is the relative percent difference of two determinations (D1 & D2) of the know analyte. $RPD = ((D1-D2)/(D1+D2)/2) * 100$



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Date Reported 06/22/2018
Date Submitted 06/19/2018 14:44
Date Collected 06/18/2018 09:45
Analysis Started 06/19/2018 16:15
ELAP Cert. # 2014

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* For future reference to this analysis please use SUN # 77282-161325.

COMPOST ANALYSIS for COLIFORMS in 1 GRAM SAMPLE

Total Coliforms None Detected

Fecal Coliforms None Detected

Percent Moisture 44.8

Method: SMEWWW 9221-A, 9221-B, 9221-E
Determined as received and reported on a dry weight basis.
Detection Limit for Total and Fecal Coliforms is 4 MPN/gm.
Maximum allowable limit for Fecal Coliforms is 1000 MPN/gm. (14 CCR, div 7)



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COMPOST ANALYSIS for SALMONELLA per 4 GRAM SAMPLE

Total Salmonella None Detected

Percent Moisture 44.8

Method: Enrichment: LT Broth; Selection: Selenite-Cystine Broth,
XLD Agar; ID: Biochemical BBL Interotube II, Gram Stain.
Determined as received and reported on a dry weight basis.
Detection Limit for Salmonella is 0.14 MPN/4 gm.
Maximum allowable limit for Total Salmonella is 3/ 4gm (14 CCR,div 7).