

# Lane Regional Air Protection Agency Simple Air Contaminant Discharge Permit

## **Review Report**

Glacier Northwest, Inc.

Permit No. 204745

703 Broadway Street, Suite 510 Vancouver, Washington 98660 Website: <a href="https://www.calportland.com/">https://www.calportland.com/</a>

### **Source Information:**

Primary SIC	5032
Primary NAICS	423320
Source Categories (LRAPA title 37, Table 1)	B.75: All other sources, both stationary and portable, not listed herein which would have the capacity of 5 or more tons

	per year of direct PM <sub>2.5</sub> or PM <sub>10</sub> if located in a PM <sub>2.5</sub> or PM <sub>10</sub> nonattainment or maintenance area, or 10 c more tons per year of any single criteria pollutant.	
	single criteria poliutant.	
Public Notice Category	III	

**Compliance and Emissions Monitoring Requirements:** 

Unassigned Emissions	N
Emission Credits	N
Compliance Schedule	N
Source Test [date(s)]	N

COMS	N
CEMS	N
Ambient monitoring	N

**Reporting Requirements** 

Annual Report (due date)	February 15
SACC (due date)	N
GHG Report (due date)	N
Quarterly Report (due date)	N

Monthly Report (due dates)	N
Excess Emissions Report	Υ
Other Reports (due date)	N

**Air Programs** 

All I logiums	
NSPS (list subparts)	N
NESHAP (list subparts)	N
Compliance Assurance	N
Monitoring (CAM)	
Regional Haze (RH)	N
TACT	N
Cleaner Air Oregon (CAO)	N
40 CFR Part 68 Risk	N
Management	

Synthetic Minor (SM)	N
SM-80	N
Title V	N
Major FHAP Source	N
Federal Major Source	N
Type A State New Source Review	N
Type B State New Source Review	N
Prevention of Significant	N
Deterioration (PSD)	

Glacier Northwest, Inc.

Permit Number: 204745

Review Report
Page 2 of 10

Expiration Date: September 11, 2034

### **Permittee Identification**

1. Glacier Northwest, Inc. dba CalPortland – Springfield Terminal ('the facility' or 'Glacier Northwest') operates a bulk portland cement distribution facility at 3300 Marcola Road in Springfield, Oregon. The facility started operation in 2002.

2. The facility operates under the primary Standard Industrial Classification (SIC) code of 5032 – Brick, Stone, and Related Construction Materials and the primary North American Industry Classification System (NAICS) code of 423320 – Brick, Stone, and Related Construction Material Merchant Wholesalers.

### General Background

- 3. The significant emission units at the facility include railcar unloading and truck loading. The facility unloads railcars into two (2) hopper chutes that convey the cement into two (2) cement silos. The trucks are loaded through a loading chute from the silos. The particulate matter is controlled with two (2) baghouses. The facility has only paved roads.
- 4. In 2012, the total cement distributed for the facility was approximately 25,000 tons of portland cement. The daily cement handled was approximately 200 tons/day on average. The facility has not operated since November 2017.

#### Reasons for Permit Action and Fee Basis

5. This permit action is a renewal for an existing Simple Air Contaminant Discharge Permit (Simple ACDP) which was issued on July 1, 2019 and expired on July 1, 2024. As the facility submitted a timely renewal application on January 17, 2024, the expired permit will remain in effect until final action has been taken on the renewal application. Because the actual emissions for calendar year 2022 were less than five (5) tons/year of particulate matter (PM) in a maintenance area. The permit action is considered a Simple "low" ACDP renewal under LRAPA 37-0064(2)(a). The facility currently has a temporary closure status, and fees are prorated by LRAPA at one half of the regular annual fee under LRAPA 37-0094.

### **Attainment Status**

6. Glacier Northwest is located inside the Eugene-Springfield Air Quality Management Area. The facility is located in an area that has been designated attainment/unclassified for PM, PM<sub>2.5</sub>, ozone (VOC), NO<sub>X</sub> and SO<sub>2</sub>, and a maintenance area for CO and PM<sub>10</sub>. The facility is located inside the Eugene-Springfield Urban Growth Boundary (UGB) as described in the current Eugene-Springfield Metropolitan Area General Plan, as amended. The facility is located within 100 kilometers of three Class I air quality protection areas: Diamond Peak, Three Sisters and Mount Washington Wilderness areas.

#### **Permitting History**

7. LRAPA has reviewed and issued the following permitting actions to this facility since 2002:

Date(s) Approved/Valid	Permit Action Type	Description
07/12/2002 – 07/12/2007	Minimal ACDP	Initial permit.
05/08/2009	Addendum 1	Administrative Amendment: Permit reclassification based on 2008 rule amendment.
09/10/2007 – 07/11/2012	Simple ACDP	Renewal.
08/23/2012 – 08/23/2017	Simple ACDP	Renewal.

Review Report Page 3 of 10

Glacier Northwest, Inc.
Permit Number: 204745

Expiration Date: September 11, 2034

Date(s) Approved/Valid	Permit Action Type	Description
07/01/2019 – 07/01/2024	Simple ACDP	Renewal.
05/01/2019	Addendum 1	Temporary closure.
06/25/2021	Addendum 2	Non-Technical Permit Modification: Ownership change.
06/21/2022	Addendum 3	Non-Technical Permit Modification: Ownership and company name change.
06/19/2022	Addendum 4	Non-Technical Permit Modification: Ownership and company and facility name change.
Upon Issuance	Simple ACDP	Renewal.

### **Emission Unit Description**

8. The emission units regulated by this permit are the following:

EU ID	Emission Unit Description	PCD ID	Pollution Control Device Description	Installed / Last Modified	
EU-1	Railcar unloading and truck loading	NA	2 Baghouses	2002	
Categorically Insignificant Activity					
CIA-1	Paved roads and parking lot	NA	NA	2002	

### Significant Emission Units

9. Emission Unit EU-1: The facility operates a cement distribution facility where cement is unloaded from railcars and loaded into trucks from cement silos. The conveying system is pneumatic and is entirely sealed between the receiving hopper/feeder under the railcars to the exhaust and cement gravity discharge points at the cement silos. The pneumatic system alternates between two operating cycles. In the 'load cycle', cement is transferred by gravity into a receiving pan under the railcar, where it is picked up by a vacuum air stream and conveyed under negative pressure to an intermediate transfer hopper/conveyor unit. During each load cycle approximately 150 cubic feet (cf) of cement is transferred from the railcar to the transfer hopper/conveyor. In the 'transfer cycle', cement is conveyed under pressure from the transfer hopper/conveyor to the cement silos. Spent conveying air is discharged through a baghouse filter at the top of the cement silo.

Total system material throughput is approximately 100 tons/hour. The manufacturer's design exhaust volume at the baghouse filter unit is 2166 cfm and maximum exit grain loading from each baghouse of 0.02 grains per actual cubic foot. The baghouses have a built-in 'knocker' system to continuously remove the filter cake by gravity, where it is discharged through an air lock into the cement silo. Because the exhaust flow rate exceeds the conveying air flow rate, an inward-flowing stream of ambient air around the loading chute prevents fugitive cement dust from escaping and draws the particulate matter into the cement silo to be vented through the baghouse filter. Similarly, at the point of unloading the railcar, the negative pressure of the conveying air stream prevents particulate matter from escaping. The permittee assumes that the emission rate of PM<sub>10</sub> and PM<sub>2.5</sub> from each dust collector is equivalent to the particulate matter (PM) emission rate.

### Categorically Insignificant Activity

CIA-1: The facility includes paved roads and paved parking lot and is located within the UGB.

### **Nuisance, Deposition and Other Emission Limitations**

Glacier Northwest, Inc.

Permit Number: 204745

Review Report
Page 4 of 10

Expiration Date: September 11, 2034

11. Under LRAPA 49-010(1), the permittee must not cause or allow air contaminants from any source subject to regulation by LRAPA to cause a nuisance. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.

- 12. Under LRAPA 32-055, the permittee must not cause or permit the emission of particulate matter which is larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.
- 13. Under LRAPA 32-090(1), the permittee must not discharge from any source whatsoever such quantities of air contaminants which cause injury or damage to any persons, the public, business or property; such determination is to be made by LRAPA. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.

### **Emission Limitations**

- 14. The facility is subject to a limit of 20 percent opacity for each source emission point.
- 15. The non-fuel burning equipment at this source that emit particulate matter are subject to the following particulate matter emission limitations under LRAPA 32-015(2):
  - 15a. For sources installed, constructed, or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source test results, the particulate matter emission limit is 0.14 grains per dry standard cubic foot.
- 16. Each emission unit at the facility is subject to the process weight rate emission limitations under LRAPA 32-045(1). No person may cause, suffer, allow, or permit the emissions of particulate matter in any one (1) hour from any process in excess of the amount shown in LRAPA 32-8010, for the process weight rate allocated to such process. Process weight is the total weight of all materials introduced into a piece of process equipment. Liquid and gaseous fuels and combustion air are not included in the total weight of all materials.
- 17. Compliance with the emission limitations under Items 14 through 16 is demonstrated through a plant survey of visible emissions using EPA Method 22 to be completed at least once a month. The permittee is required to take corrective action if any visible emissions are identified, contact LRAPA or conduct a EPA Method 9 test if the visible emissions cannot be eliminated. In addition, the permittee must prepare and maintain an Operation & Maintenance Plan for all particulate matter emission control devices at the facility.
- 18. The control equipment at the facility must be operated and maintained at the highest and best practicable treatment and control of air contaminant emissions so as to maintain overall air quality at the highest possible levels, and to maintain contaminant concentrations, visibility reduction, odors, soiling, and other deleterious factors at the lowest possible levels under LRAPA 32-005(1). Compliance for the control equipment at the facility will be demonstrated through implementation of an Operation & Maintenance Plan.

### Typically Achievable Control Technology (TACT)

19. LRAPA 32-008(2) requires new or modified emission units after January 1, 1994 to meet TACT if the emission unit meets the following criteria: The emission unit is not subject to Major NSR in title 38, Type A State NSR in LRAPA title 38, an applicable Standard of Performance for New Stationary Sources in title 46, or any other standard applicable only to new or modified sources in title 32, title 33, or title 39 for the regulated pollutant emitted; the source is required to have a permit; if new, the

Glacier Northwest, Inc.

Permit Number: 204745

Review Report
Page 5 of 10

Expiration Date: September 11, 2034

emission unit has emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; if modified, the emission unit would have an increase in emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; and LRAPA determines that the proposed air pollution control devices and emission reduction processes do not represent TACT.

19a. The PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from Emission Unit EU-1 are controlled by two (2) baghouses and collectively exceed one (1) ton per year. While a formal TACT evaluation has not been performed for this emission unit, the use baghouse with a maximum exit grain loading of 0.02 grains per actual cubic foot would be expected to meet TACT.

### **New Source Performance Standards (NSPSs)**

20. There are no emission units at this facility for which NSPS have been promulgated or are applicable. This facility is not subject to 40 CFR 60 subpart F – Standards of Performance for Portland Cement Plants because this facility does not manufacture portland cement by either the wet or dry process.

### National Emission Standards for Hazardous Air Pollutants (NESHAPs)

21. There are no emission units at this facility for which NESHAPs have been promulgated or are applicable. This facility is not subject to 40 CFR 63 subpart LLL – National Emission Standards for Hazardous Air Pollutants from the portland Cement Manufacturing Industry because this facility does not manufacture Portland cement.

### Plant Site Emission Limits (PSELs)

22. Provided below is a summary of the baseline emissions rate, netting basis, and PSELs for this facility.

Baseline Netting		Basis Plant Site Emission Limit (PSEL)		PSEL Increase	Significant		
Pollutant	Emission Rate (TPY)	Previous (TPY)	Proposed (TPY)	Previous PSEL (TPY)	Proposed PSEL (TPY)	Over Netting Basis (TPY)	Emission Rate (TPY)
PM	NA	0	0	24	3.3	3.3	25
PM <sub>10</sub>	NA	0	0	14	3.3	3.3	15
PM <sub>2.5</sub>	NA	0	0	9	3.3	3.3	10
CO	NA	0	0	de minimis	de minimis	NA	100
NOx	NA	0	0	de minimis	de minimis	NA	40
SO <sub>2</sub>	NA	0	0	de minimis	de minimis	NA	40
VOC	NA	0	0	de minimis	de minimis	NA	40
GHG	NA	0	0	de minimis	de minimis	NA	75,000

- 22a. For criteria pollutants other than PM<sub>2.5</sub> and GHGs, the facility does not have a baseline emission rate because the facility was not in operation during either the 1977 or 1978 baseline year. A baseline emission rate is not established for PM<sub>2.5</sub> in accordance with LRAPA 42-0048(3). The facility has no baseline for GHGs because the facility did not request a baseline for this pollutant.
- 22b. The netting basis for all pollutants is 0 (zero) in accordance with LRAPA 42-0046(4).
- 22c. In accordance with LRAPA 42-0041(2), the PSELs for PM, PM<sub>10</sub> and PM<sub>2.5</sub> have been set equal to the source's potential-to-emit (PTE). The previous PSELs for PM, PM<sub>10</sub> and PM<sub>2.5</sub> were set at the Generic PSEL of 24 TPY, 14 TPY, and 9 TPY, respectively. No PSELs are set for NO<sub>X</sub>, CO, SO<sub>2</sub>, VOCs and GHGs in accordance with LRAPA 42-0020(3)(a) because these pollutants are emitted below the de minimis as defined in LRAPA title 12.

Glacier Northwest, Inc.

Permit Number: 204745

Review Report
Page 6 of 10

Expiration Date: September 11, 2034

### Federal Hazardous Air Pollutants/Toxic Air Contaminants

23. The facility is considered a true minor or area source of federal HAPs. The potential emissions of federal HAPs at capacity are below the major source thresholds of ten (10) TPY of any single federal HAP and 25 TPY for the aggregate of federal HAPs. Based on current and previous permit applications and the nature of the facilities business, the facility is not considered a significant source of any federal HAPs.

24. Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is, therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants. LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in the rule. All federal HAPs are on the list of approximately 600 toxic air contaminants. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially.

### **Toxics Release Inventory**

- 25. The Toxics Release Inventory (TRI) is a federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which LRAPA has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI program. In general, chemicals covered by the TRI program are those that cause:
  - Cancer or other chronic human health effects:
  - Significant adverse acute human health effects; or
  - Significant adverse environmental effects.

There are currently over 650 chemicals covered by the TRI program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical. NOTE: The TRI program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA's TRI website.

In 2022, this facility did not report any emissions to the TRI program. In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical. This facility has not reported any emissions to the TRI program because they apparently do not manufacture, process, or otherwise use chemicals in excess of the applicable reporting thresholds.

#### **Compliance History**

26. This facility has been inspected by LRAPA. The following table indicates the inspection history of this facility since 2002.

Agency	Type of Inspection	Date	Results		
LRAPA	Full Compliance Evaluation	07/16/2007	No areas of non-compliance discovered.		
LRAPA	Full Compliance Evaluation	06/08/2012	No areas of non-compliance discovered		

Glacier Northwest, Inc.

Permit Number: 204745

Review Report
Page 7 of 10

Expiration Date: September 11, 2034

27. LRAPA has not issued any violation notices and/or taken enforcement action against this facility since at least 2002.

### **Source Testing History**

28. The facility is not required to conduct source testing at this time. LRAPA is not aware of any historical source testing conducted at this facility.

## **Recordkeeping Requirements**

29. The facility is required to keep and maintain a record of the following information for a period of at least five (5) years.

Activity	Parameter	Units	Minimum Recording Frequency
PSEL Recordkeeping			
Cement production	Throughput	Tons	Monthly
General Recordkeeping			
Complaint from the public	Log each complaint and the resolution	NA	Upon receipt
Visible Emission Survey	Opacity	See permit Condition 10	Quarterly
Operation and Maintenance Plan			Maintain the current version on-site
Excess emissions log of all planned and unplanned excess emissions	See General Condition G16		Per occurrence

### **Reporting Requirements**

30. The facility must submit to LRAPA the following reports by no later than the dates indicated in the table below:

Report	Reporting Period	Due Date
PSEL pollutant emissions as calculated according to Conditions 5 and 6 of the permit, including the supporting process information.	Annual	February 15
A summary of maintenance and repairs performed on any pollution control devices at the facility.	Annual	February 15
A summary of complaints from the public and the resolution, as required by Condition G11 of the permit.	Annual	February 15
The excess emissions log required by Condition G16 of the permit, if any planned or unplanned excess emissions have occurred during the reporting period.	Annual	February 15

31. The permittee is not subject to greenhouse gas reporting under OAR 340 Division 215 because actual greenhouse gas emissions are less than 2,500 metric tons (2,756 short tons) of CO<sub>2</sub> equivalents per year. If the source ever emits more than this amount, they will be required to report greenhouse gas emissions.

Review Report Page 8 of 10

Glacier Northwest, Inc. Permit Number: 204745

Expiration Date: September 11, 2034

**Public Notice** 

32. Issuance of a renewal Simple Air Contaminant Discharge Permit requires notice in accordance with LRAPA 31-0030(3)(c), which requires LRAPA to provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments.

The proposed permit was on public notice from July 31, 2024, to September 6, 2024. Comments were received during the comment period. No public hearing was requested by ten (10) or more individuals or an individual representing a group of more than ten (10) individuals. After the comment period, LRAPA reviewed the comments but did not make any changes to the permit.

## **Public Comments Summary and LRAPA Responses**

[All public comments that were received for this action are a public record and are retained with the public permit review files. Public comments that are not related to the review report or proposed permit, such as those comments that are statements of fact or express an opinion, are not presented in this document, and do not require a response from LRAPA.]

Comment 1: Have they complied with all existing rules on their current permit?

**Response 1**: Glacier Northwest has complied with all existing rules of their current permit.

**Comment 2**: Do all known emission comply with what they said on their original applications?

**Response 2**: Yes, Glacier Northwest emissions comply with their application.

### **Public Comment Receipt Log**

Oral comments were received from:

Molly Jackson	Mojey75@msn.com	
Wolly backson	I Wojey 7 Swithshi.com	

BE/aa 9/11/2024 Glacier Northwest, Inc. Permit Number: 204745

Expiration Date: September 11, 2034

# LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit	MMBtu	Million British thermal units
AQMA	Air Quality Management Area	MMCF	Million cubic feet
ACS	Applied coating solids	NA	Not applicable
Act	Federal Clean Air Act	NESHAP	National Emission Standards for
ASTM	American Society of Testing and	112011/1	Hazardous Air Pollutants
AOTIVI	Materials	$NO_X$	Nitrogen oxides
DDT			
BDT	Bone dry ton	NSPS	New Source Performance
Btu	British thermal unit		Standards
CAM	Compliance Assurance Monitoring	NSR	New Source Review
CAO	Cleaner Air Oregon	$O_2$	Oxygen
CD ID	Control device identifier	OAR	Oregon Administrative Rules
CEMS	Continuous Emissions Monitoring	ODEQ	Oregon Department of
	System		Environmental Quality
CFR	Code of Federal Regulations	ORS	Oregon Revised Statutes
CI	Compression Ignition	O&M	Operation and maintenance
CMS	Continuous Monitoring System	SB	Lead
CO	Carbon Monoxide	PCD	Pollution Control Device
CO <sub>2</sub>	Carbon dioxide	PM	Particulate matter
CO <sub>2</sub> e	Carbon dioxide equivalent	PM <sub>2.5</sub>	Particulate matter less than 2.5
COMS	Continuous Opacity Monitoring		microns in size
	System	$PM_{10}$	Particulate matter less than 10
CPDS	Certified Product Data Sheet		microns in size
CPMS	Continuous parameter monitoring	ppm	Parts per million
	system	PSEL	Plant Site Emission Limit
DEQ	Department of Environmental	psia	pounds per square inch, actual
	Quality	PTE	Potential to Emit
dscf	Dry standard cubic feet	QIP	Quality Improvement Plan
EF	Emission factor	RICE	Reciprocating Internal
EPA	US Environmental Protection	TUOL	Combustion Engine
	Agency	SACC	Semi-Annual Compliance
EU	Emissions Unit	OACC	Certification
EU ID		CCEMP	
	Emission unit identifier	SCEMP	Surrogate Compliance Emissions
FCAA	Federal Clean Air Act	0.1	Monitoring Parameter
ft <sup>2</sup>	Square foot	Scf	Standard cubic foot
FSA	Fuel sampling and analysis	SDS	Safety data sheet
gal	Gallon	SER	Significant emission rate
GHG	Greenhouse Gas	SERP	Source emissions reduction plan
gr/dscf	Grain per dry standard cubic feet	SI	Spark Ignition
_	(1 pound = 7000 grains)	SIC	Standard Industrial Code
HAP	Hazardous Air Pollutants as	SIP	State Implementation Plan
	defined by LRAPA title 12	SO <sub>2</sub>	Sulfur dioxide
HCFC	Halogenated Chlorofluorocarbons	ST	Source test
Hr	Hour	TAC	Toxic air contaminant
ID	Identification number or label	TACT	Typically Achievable Control
I&M		IACI	
	Inspection and maintenance	TDD	Technology
Lb	Pound	TBD	To Be Determined
LRAPA	Lane Regional Air Protection	TEU	Toxic Emission Unit
	Agency	TPY	Tons per year
MACT	Maximum Achievable Control	VE	Visible emissions
	Technology	VMT	Vehicle miles traveled
MBF	Thousand board feet	VOC	Volatile organic compounds
MERV	Minimum efficiency reporting	Year	A period consisting of any 12-
	values		consecutive calendar months
MM	Million		

Glacier Northwest, Inc. Permit Number: 204745

Expiration Date: [Insert Upon Issuance]

# **Emission Details**

PSELs Totals								
PM	PM         PM10 (TPY)         PM2.5 (TPY)         NO <sub>X</sub> CO         SO <sub>2</sub> VOC         GHG							
(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	
3.3	3.3	3.3	de minimis					
3.3	3.3		de minimis	de minimis	de minimis	de minimis	de min	

Notes:

No FHAP / TAC emissions are reported for this facility.

Baghouse Calculations								
<b>Control Device</b>	Control Device	Flow Rate	low Rate Emission Factor	PM	PM <sub>10</sub>	PM <sub>2.5</sub>		
ID	Name	(acfm)	(gr/acf)	(TPY)	(TPY)	(TPY)		
BH-1	Baghouse 1	2,166	0.02	1.63	1.63	1.63		
BH-2	Baghouse 2	2,166	0.02	1.63	1.63	1.63		
			Total =	3.25	3.25	3.25		

### Notes:

Flow rates per manufacture specifications.

Emission factor is assumed based on the age of the control devices.

7,000 grains = 1 pound.