



# **Air Quality Permitting Statement of Basis**

**July 14, 2005**

**Permit to Construct No. P-050015**

**Clearwater Concrete Inc.  
Portable Concrete Batch Plant**

**Facility ID No. 777-00355**

Prepared by:

**Harbi Elshafei, Air Quality Permitting Analyst 3  
AIR QUALITY DIVISION**

**FINAL**

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## Acronyms, Units, and Chemical Nomenclatures

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
CCI	Clearwater Concrete, Incorporated
CO	carbon monoxide
cy/hr	cubic yard per hour
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HAPs	Hazardous Air Pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

## 1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, for issuing permits to construct.

## 2. FACILITY DESCRIPTION

This facility is a portable concrete batch plant with a maximum production rate of 80 cubic yards per hour. The only point source of emissions is the cement storage silo baghouse stack. In a concrete batch plant, sand, gravel, cement, and water are combined to produce concrete.

## 3. FACILITY / AREA CLASSIFICATION

This facility is defined as a true minor facility because potential emissions for all regulated air pollutants are less than 100 tons per year without consideration of any federally enforceable permit conditions. The facility is not a designated facility as defined by IDAPA 58.01.01.006.27. The facility is not subject to any NSPS, NESHAP, or MACT requirement. The SIC code defining the facility is 3273 and the AIRS facility classification is "B". The AIRS data entry table is provided in Appendix A.

Currently, the facility is located in Valley County, which is located within Air Quality Control Region 63 and UTM zone 11. This area is classified as unclassifiable for all regulated criteria pollutants. The facility will be permitted as a portable facility.

## 4. APPLICATION SCOPE

Clearwater Concrete, Inc. (CCI) has submitted a PTC application for a portable concrete batch plant and for a diesel-fired electrical generator. This permit is the facility's initial permit.

### 4.1 *Application Chronology*

March 31, 2005	DEQ receives PTC application from Clearwater Concrete, Inc. for a portable concrete batch plant and a diesel generator.
April 29, 2005	The PTC application was determined complete.
May 9, 2005	CCI submitted additional information.
May 11, 2005	CCI requested to review a draft PTC No. P-050015 prior to the final issuance.
May 13, 2005	An opportunity for public comment started on May 13, 2005, and ended on June 13, 2005. During this period no comments were received.
June 7, 2005	DEQ sent Boise Regional Office a copy of draft PTC No. P-050015 for review.
June 20, 2005	DEQ sent CCI a copy of draft PTC No. P-050015 for review.
July 7, 2005	DEQ received an email from CCI in which the company requested to eliminate the need for the diesel generator in the facility draft PTC. Therefore, this final PTC does not include the diesel generator. The facility's email is included in Appendix B of this memo.

## 5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC action:

### **Equipment Listing**

Table 5.1 contains the equipment listing and the emissions controls.

**Table 5.1 EQUIPMENT LISTING AND EMISSIONS CONTROLS**

<b>Source Description</b>	<b>Emission Controls</b>
<b>Concrete Batch Plant</b> Manufacturer: Spokane Machinery Model: Spomac Maximum Production Rate: 80 cubic yards per hour	Reasonable control of fugitive dust
<b>Cement Storage Silo</b>	Baghouse Manufacturer: Besser Model: DC5-260 PM <sub>10</sub> control efficiency: 99.9%

### 5.2 Emissions Inventory

Appendix B of this document contains the emissions estimates from the concrete batch plant for particulate matter (PM) and particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>). Emissions factors from the concrete batch plant were obtained from U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Section 11.12, Concrete Batching, 10/01.

Potential to emit was estimated assuming maximum production capacity of the concrete batch plant of 80 cubic yard per hour (cy/hr) and full time operations (8,760 hr/yr). Actual emissions will be considerably less because the facility does not operate 8,760 hr/yr. The emissions estimates show that no criteria air pollutant is emitted in an amount that exceeds the major source threshold of 100 T/yr.

Toxic air pollutant (TAPs) and hazardous air pollutants (HAPs) emissions estimates are shown in Appendix B. The emissions estimates shows that emissions of any single HAP is less than 10 T/yr. Emissions of two HAPs or more were estimated to be well below the major source threshold of 25 T/yr for a combination of two HAPs or more.

The emissions estimates presented in Appendix B of this document provided the basis for the PM<sub>10</sub> emissions incorporated in the permit. They are also provided the basis for the NAAQS analysis and for determining the processing fee assessed in accordance with IDAPA 58.01.01.225.

A detailed emissions inventory from the facility is included in Appendix B.

### 5.3 Modeling

Modeling was not required for this project. In accordance with the State of Idaho Air Quality Modeling Guideline (ID AQ-011, December 31, 2002) modeling is not required if the PM<sub>10</sub> emissions increase is less than one ton per year. The PM<sub>10</sub> emissions increase from the facility is 0.04 T/yr and therefore modeling is not required.

## 5.4 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201..... Permit to Construct Required

The CCI proposes to construct a portable source that does not qualify for PTC exemption in any of Sections 220 through 223 of the Rules. Therefore, a PTC is required.

IDAPA 58.01.01.203..... Permit Requirements for New and Modified Stationary Sources.

Ambient air quality modeling has predicted the facility will not violate the National Ambient Air Quality Standards, and Toxic Air Pollutant increments.

## 5.5 Permit Conditions Review

Permit Condition 2.3 *Emissions Limits* – establishes the facility potential to emit, 0.04 T/yr PM<sub>10</sub>. The potential to emit is based on the throughput limit in Permit Condition 2.5

Permit Condition 2.5 *Throughput Limit* – establishes the cement throughput from the cement storage silo to limit the facility's potential to emit below major source thresholds. The throughput limit was established taking into account the efficiency of the cement storage silo baghouse.

Permit Condition 2.6 *Pressure Drop Monitoring Device* - requires that the permittee install, calibrate, operate, and maintain a pressure drop monitoring device to measure the pressure drop across the baghouse to assure the baghouse is operating within the manufacturer's specifications, thereby minimizing emissions.

Permit Condition 2.7 *Operations and Maintenance Manual* – requires that the permit develop an O&M manual for the baghouse within 60 days of issuance of the permit.

Permit Condition 2.8 *Pressure Drop Across the Baghouse* – requires that the permittee maintain the pressure drop across the baghouse within O&M manual and the baghouse manufacturer's specifications.

Permit Condition 2.9 *Baghouse Maintenance and Operation* – requires maintain and operate the baghouse according to the O&M manual and baghouse manufacturer's specifications and recommendations.

Permit Condition 2.10 *Reasonable Control of Fugitive Emissions* – requires reasonable control of fugitive emissions in accordance with IDAPA 58.01.01.650-651.

Permit Condition 2.12 *Throughput Monitoring* – requires the permittee to monitor and record the cement throughput from the cement storage silo monthly and annually to demonstrate compliance with Permit Condition 2.5.

Permit Condition 2.13 *Baghouse Pressure Drop Monitoring* – requires that the permittee monitor and record the pressure drop across the cement storage silo baghouse once per day when operating.

## 6. PERMIT FEES

Clearwater Concrete, Inc. paid the PTC application fee on April 6, 2005. In accordance with IDAPA 58.01.01.225 and .226 a PTC processing fee of \$1,000.00 is required because the increase of emissions are less than 1.0 T/yr. The processing fee was received on July 26, 2005.

**Table 6.1 PTC PROCESSING FEE TABLE**

<b>Emissions Inventory</b>			
<b>Pollutant</b>	<b>Annual Emissions Increase (T/yr)</b>	<b>Annual Emissions Reduction (T/yr)</b>	<b>Annual Emissions Change (T/yr)</b>
NO <sub>x</sub>	0.0	0	0.0
SO <sub>2</sub>	0.0	0	0.0
CO	0.0	0	0.0
PM <sub>10</sub>	0.04	0	0.04
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.04	0	0.04
Fee Due	<b>\$1,000.00</b>		

## **7. PERMIT REVIEW**

### **7.1 Regional Review of Draft Permit**

DEQ's Boise Regional Office was provided the draft permit for review on June 7, 2005.

### **7.2 Facility Review of Draft Permit**

The facility was provided the draft permit for review on June 20, 2005. The facility requested to remove the diesel generator from the draft permit – see Appendix B for details.

### **7.3 Public Comment**

An opportunity for public comment period on the PTC application was provided in accordance with IDAPA 58.01.01.209.01.c. from May 13, 2005 through June 13, 2005. During this time, there were no comments on the application and no requests for public comment period on DEQ's proposed action.

## **8. RECOMMENDATION**

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommends that Clearwater Concrete, Inc. be issued draft PTC No. P-050015 for its review. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

HE/sd                      Permit No. P-050015

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**Appendix A**

**Clearwater Concrete, Inc., Tamarack**

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***AIRS Information***



## AIRS/AFS<sup>a</sup> FACILITY-WIDE CLASSIFICATION<sup>b</sup> DATA ENTRY FORM

**Facility Name:** Clearwater Concrete, Incorporated – Portable batch plant  
**Facility Location:** Portable – Home location is in Tamarack Resort  
**AIRS Number:** 777-00355

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO <sub>2</sub>	B							U
NO <sub>x</sub>	B							U
CO	B							U
PM <sub>10</sub>	B							U
PT (Particulate)	B							U
VOC	B							U
THAP (Total HAPs)	B							U
			<b>APPLICABLE SUBPART</b>					

<sup>a</sup> Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

<sup>b</sup> AIRS/AFS Classification Codes:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

**Appendix B**

**Clearwater Concrete, Inc., Tamarack**

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***Emissions Inventory***

Potential to Emit: Clearwater Concrete

Source	Specie	Emission factor <sup>2</sup>		Uncontrolled emissions		Controlled emissions	
		units	source	lb/hr	T/yr	lb/hr	T/yr
Cement silo	PM	0.72 lb/T cement	2	14.14	61.94	0.014	0.06
	PM <sub>10</sub>	0.46 lb/T cement	2	9.03	39.57	0.009	0.04
	Arsenic	1.68E-06 lb/T cement	2	3.30E-05	0.00E+00	3.30E-08	1.45E-07
	Beryllium	1.79E-08 lb/T cement	2	3.52E-07	0.00E+00	3.52E-10	1.54E-09
	Cadmium	2.34E-07 lb/T cement	2	4.60E-06	0.00E+00	4.60E-09	2.01E-08
	Chromium	2.52E-07 lb/T cement	2	4.95E-06	0.00E+00	4.95E-09	2.17E-08
	Lead	7.36E-07 lb/T cement	2	1.45E-05	0.00E+00	1.45E-08	6.33E-08
	Manganese	2.02E-04 lb/T cement	2	3.97E-03	0.00E+00	3.97E-06	1.74E-05
	Nickel	1.76E-05 lb/T cement	2	3.46E-04	0.00E+00	3.46E-07	1.51E-06
	Phosphorus	1.18E-05 lb/T cement	2	2.32E-04	0.00E+00	2.32E-07	1.02E-06

Notes:

- Calculations are based on: 8,760 hours per year.  
99.9% efficiency of the baghouse.
- AP-42 Chapter 11.12 Concrete batching; 10/01.
- Uncontrolled emission factors

Throughput	
Concrete:	Cement:
80 cy/hr concrete.	491 lb cement/cy concrete <sup>2</sup>
700,800 cy/yr concrete	19.64 T/hr cement
	172,046 T/yr cement

**Harbi Elshafei**

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**From:** C.P. Seubert [valleypaving@frontiernet.net]

**Sent:** Thursday, July 07, 2005 12:09 PM

**To:** Harbi Elshafei

July 7, 2005

Dear Harbi,

Since we first applied for our permit, the power/electrical service for our operation has changed. The Tamarack resort has had Idaho Power install service to our location, therefore eliminating the need for the generator. Please let me know how this will effect our permit. If you have any questions, please give me a call (208) 634-5101.

Thank you,

Edward V. Hattrup  
Clearwater Concrete, Inc.

7/13/2005