



Air Quality Permitting Statement of Basis

June 14, 2005

Permit to Construct No. P-050014

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

Facility ID No. 777-00354

Prepared by:

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AIR QUALITY DIVISION**

FINAL

Table of Contents

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURES	3
1. PURPOSE	4
2. FACILITY DESCRIPTION	4
3. FACILITY / AREA CLASSIFICATION	4
4. APPLICATION SCOPE	4
5. PERMIT ANALYSIS	4
6. PERMIT FEES	6
7. PERMIT REVIEW	6
8. RECOMMENDATION	7
APPENDIX A	8
APPENDIX B	10
APPENDIX C	12

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
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
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO ₂	sulfur dioxide
T/yr	tons per year
µg/m ³	micrograms per cubic meter
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 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.

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.

4. APPLICATION SCOPE

Clearwater Concrete, Inc. has submitted a PTC application for a portable concrete batch plant. 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
April 28, 2005	The PTC application is determined complete
May 20, 2005	Draft permit is issued to facility

5. PERMIT ANALYSIS

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

Equipment Listing

Table 5.1 EQUIPMENT LISTING AND EMISSIONS CONTROLS

Source Description		Emission Controls
Concrete Batch Plant		Reasonable control of fugitive dust
Manufacturer:	Spokane Machinery	
Model:	Spomac	
Max. production rate:	80 cubic yards per hour	
Cement storage silo		<u>Baghouse:</u>
	Manufacturer:	Besser
	Model:	DC5-260
	PM ₁₀ control efficiency:	99.9%

5.1 Emissions Inventory

This facility's potential to emit is 0.04 tons per year of PM₁₀, the only regulated air pollutant emitted. Potential to emit was estimated assuming maximum production capacity (80 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. There is no electrical generator associated with the facility, so no combustion products (PM₁₀, CO, NO_x, SO₂, and VOCs) are emitted. A detailed emissions inventory is included as Appendix B.

5.2 Modeling

Table 5.2 is a summary of the air dispersion modeling analysis and compliance with applicable NAAQS. A detailed modeling analysis is included as Appendix C.

Table 5.2 MODELING RESULTS FOR CLEARWATER CONCRETE MCCALL

Source	Pollutant	Emissions lb/hr	Modeling results (µg/m ³)			
			source	background	total NAAQS	
Cement silo	PM ₁₀ , 24 hr average	0.009	0.8410	81	82	150
	PM ₁₀ , annual average	0.009	0.1682	27	27	50

5.3 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

This facility's uncontrolled potential to emit does not meet NAAQS standards; therefore, the facility does not qualify for an exemption. Because the facility does not qualify for an exemption, a PTC is required.

IDAPA 58.01.01.203 Permit Requirements for New and Modified Stationary Sources.

Ambient air quality modeling of the controlled emissions has predicted the facility will not violate the National Ambient Air Quality Standards or the Toxic Air Pollutant increments.

5.4 Permit Conditions Review

Permit Condition 2.3 *Emissions Limits* – establishes the facility potential to emit, 0.04 T/yr PM₁₀. 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 2.11 *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 2.12 *Baghouse Pressure Drop Monitoring* – requires that the permit 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, a PTC processing fee of \$1,000.00 is required because allowable emissions are less than 1.0 T/yr. The processing fee was paid June 14, 2005.

Table 6.1 PTC PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM ₁₀	0.04	0	0.04
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.04
Fee Due	\$ 1000.00		

7. PERMIT REVIEW

7.1 Regional Review of Draft Permit

DEQ’s Boise Regional Office was provided the draft permit for review on May 20, 2005.

7.2 Facility Review of Draft Permit

The facility was provided the draft permit for review on May 20, 2005.

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. No person or entity requested a public comment period and no comments were submitted.

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 final PTC No. P-050014 for a portable concrete batch plant. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

CM/sd Permit No. P-050014

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Appendix A

AIRS Information

P-050014

AIRS/AFS^a FACILITY-WIDE CLASSIFICATION^b DATA ENTRY FORM

Facility Name: Clearwater Concrete, Incorporated – McCall batch plant
Facility Location: McCall
AIRS Number: 777-00354

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

^a Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

^b 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

Emissions Inventory

P-050014

Potential to Emit: Clearwater Concrete McCall

Source	Species	Emission factor ³		source	Uncontrolled emissions		Controlled emissions	
		units	lb/T cement		lb/hr	T/yr	lb/hr	T/yr
Cement silo	PM		0.72	2	14.14	61.94	0.014	0.06
	PM ₁₀		0.46	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:

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

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

Appendix C

Modeling Review Screen3 Output

P-050014

06/07/05
13:41:21

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 95250 ***

Clearwater Concrete McCall 6/7/05

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	1.00000
STACK HEIGHT (M)	=	10.0600
STK INSIDE DIAM (M)	=	1.0320
STK EXIT VELOCITY (M/S)	=	.3385
STK GAS EXIT TEMP (K)	=	293.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	.0000
MIN HORIZ BLDG DIM (M)	=	.0000
MAX HORIZ BLDG DIM (M)	=	.0000

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 600.00000 (ACFM)

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .031 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	1	1.0	1.0	320.0	8.71	.42	.19	NO
100.	1729.	3	1.0	1.0	320.0	8.71	12.47	7.45	NO
200.	1655.	5	1.0	1.0	10000.0	8.71	11.63	6.25	NO
300.	1519.	6	1.0	1.0	10000.0	8.71	11.24	5.63	NO
400.	1435.	6	1.0	1.0	10000.0	8.71	14.64	7.05	NO
500.	1229.	6	1.0	1.0	10000.0	8.71	17.97	8.40	NO
600.	1030.	6	1.0	1.0	10000.0	8.71	21.24	9.69	NO
700.	864.1	6	1.0	1.0	10000.0	8.71	24.46	10.93	NO
800.	735.9	6	1.0	1.0	10000.0	8.71	27.64	11.98	NO
900.	634.1	6	1.0	1.0	10000.0	8.71	30.78	12.99	NO
1000.	552.3	6	1.0	1.0	10000.0	8.71	33.89	13.96	NO
1100.	487.3	6	1.0	1.0	10000.0	8.71	36.96	14.82	NO
1200.	433.8	6	1.0	1.0	10000.0	8.71	40.02	15.66	NO
1300.	389.1	6	1.0	1.0	10000.0	8.71	43.04	16.47	NO
1400.	351.5	6	1.0	1.0	10000.0	8.71	46.05	17.26	NO
1500.	319.4	6	1.0	1.0	10000.0	8.71	49.03	18.03	NO
1600.	291.8	6	1.0	1.0	10000.0	8.71	52.00	18.78	NO
1700.	267.9	6	1.0	1.0	10000.0	8.71	54.94	19.52	NO
1800.	247.0	6	1.0	1.0	10000.0	8.71	57.87	20.24	NO
1900.	228.7	6	1.0	1.0	10000.0	8.71	60.78	20.94	NO
2000.	212.4	6	1.0	1.0	10000.0	8.71	63.68	21.63	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
 81. 1847. 3 1.0 1.0 320.0 8.71 10.38 6.21 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	1847.	81.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
