



**Air Quality Permitting
Statement of Basis**

May 25, 2006

Permit to Construct No. P-050419

**Twin Falls Crushing, Inc.
Twin Falls, ID**

Facility ID No. 777-00365



Prepared by.

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AIR QUALITY DIVISION**

FINAL

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Acronyms, Units, and Chemical Nomenclatures

AACC	acceptable ambient concentration of carcinogenic
acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
bhp	brake horsepower
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
°F	degree Fahrenheit
HAPs	Hazardous Air Pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
kW	kilowatt
lb/hr	pound per hour
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O ₃	ozone
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
SO _x	sulfur oxides
TAP	Toxic Air Pollutant
T/yr	tons per year
µg/m ³	micrograms per cubic meter
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

Twin Falls Crushing, Inc. is a gravel mining, crushing, and screening facility. The maximum capacity of the crushing plant is 300 tons per hour. Electricity is supplied by a diesel-fired generator with a maximum rated capacity of 365 kW.

3. FACILITY / AREA CLASSIFICATION

This facility is classified as a minor facility because its potential to emit is less than all major source thresholds. This facility is not a designated facility (or a source listed pursuant to Section 302(j) of the Clean Air Act) and does not belong to any stationary source category which, as of August 7, 1980, is regulated under Sections 111 (NSPS) or 112 (NESHAP) of the CAA. Therefore, fugitive emissions do not aggregate towards the determination of major facility. This being the case, the AIRS facility classification is "B." The SIC code defining the facility is 1442. The facility is subject to 40 CFR Subpart 000.

This facility is a portable facility. It is initially located 10 miles south of Twin Falls.

The AIRS information provided in the Appendix defines the classification for each regulated air pollutant. This required information is entered into the EPA AIRs database.

4. APPLICATION SCOPE

Twin Falls Crushing, Inc. submitted the PTC application for its existing portable crushing plant currently located at 10 miles south of Twin Falls. This PTC is the facility's initial PTC.

4.1 Application Chronology

July 21, 2005	DEQ received the PTC application.
September 27, 2005	DEQ declared the application incomplete.
October 17, 2005	DEQ received additional application information.
February 9, 2006	DEQ declared the application complete.
March 27, 2006	DEQ issued the facility a draft permit for review.
March 27, 2006	Draft permit was provided to DEQ's Twin Falls Regional Office for review.
April 13, 2006	DEQ through the Twin Falls Regional Office received from the facility four comments as questions resulting in no change to the permit.

5. PERMIT ANALYSIS

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

5.1 **Equipment Listing**

Primary Crusher

The primary crusher was manufactured by EL-JAY/JCI. It is a cone type of crusher with maximum rated capacity of 300 tons per hour. It was remanufactured in 1997. Its serial number is 9TROI45S.

Secondary Crusher

The secondary crusher was manufactured by EL-JAY/JCI. It is a cone type of crusher with maximum rated capacity of 300 tons per hour. It was remanufactured in 1997. Its series number is 22G0286.

Tertiary Crusher

The tertiary crusher was manufactured by REMCO in 2002. It is an impactor type of crusher with maximum rated capacity of 50 - 75 tons per hour.

Electrical Generator

The electrical generator was manufactured by caterpillar. Its model number is SR4B. The maximum rated capacity is 365 kW.

The generator has the following stack parameters:

Stack height from the ground	9.67	feet
Stack inside diameter	0.5	feet
Stack exhaust flowrate	1581	acfm
Stack exhaust gas temperature	900	°F

5.2 **Emissions Inventory**

Emissions estimates for the generator engine were created by DEQ staff based upon comparison data for a typical 365 kW generator set. Additional information required to estimate emissions for quantifying potential emissions and modeling emissions rates were obtained by use of the conversion factor of 1 kW is equivalent to 1.34 horsepower (hp). The 365 kW generator set equates to 489 hp. The comparison engine was a Cummins Model KTA19-G3 Turbocharged diesel generator engine rated at 540 bhp. Cummins diesel generator emission factors were used for criteria air pollutants, TAPs, and HAPs were obtained from AP-42 Section 3.3—Gasoline and Industrial Engines, released October 1996. The engine's horsepower rating and the operating hours of the generator were factors needed to estimate air pollutant emissions. The facility stated in a March 16, 2006, telephone conversation, the facility would not operate more than 1500 hours per year. Table 5.1 contains emissions for operating in an attainment or unclassifiable area. The estimated actual and potential emissions spreadsheets can be found in Appendix B.

All air pollutant emissions for operating in a PM₁₀ non-attainment area were limited to levels where the predicted ambient impact of PM₁₀ emissions were below the significant contribution levels of 5 µg/m³, 24-hour average, and 1 µg/m³, annual average.

Emissions from the rock crushing and sand screening are considered fugitive emissions and are not quantified for this project.

Table 5.1 EMISSIONS ESTIMATES

Pollutant	PM ₁₀ Attainment or Unclassifiable Area		PM ₁₀ Non-attainment Area	
	Hourly Emissions (lb/hr)	Annual Emissions (T/yr)	Hourly Emissions (lb/hr)	Annual Emissions (T/yr)
PM-10 (total)	0.18	0.14	0.18	0.14
CO	1.85	1.39	1.85	1.39
NO _x	9.6	7.2	9.6	7.2
SO ₂	0.64	0.48	0.64	0.48
VOCs	0.3	0.23	0.3	0.23

Analysis for collocation of this source with other rock crusher, concrete batch plant, or hot mix asphalt plant was not conducted; all the production limits are developed under the assumption that this rock crusher and sand screening plant and generator will be operated alone. Should the facility be moved adjacent to another rock crusher, concrete batch plant, or hot mix asphalt plant, then a new permit application will have to be submitted and a collocation analysis will have to be performed.

TAPs

The detailed TAPs emissions inventory is contained in Appendix C of this memorandum. Emissions of benzene, 1,3-butadiene, and formaldehyde were estimated to exceed the screening emission rates listed in IDAPA 58.01.01.586. Table 5.2 lists the predicted emission rates and screening limitations for these air pollutants.

Table 5.2 TOXIC AIR POLLUTANT EMISSIONS RATES

Pollutant	Averaging Period	PM ₁₀ Attainment or Unclassifiable Area Operation Hourly Emission Rate (lb/hr)	Regulatory Screening Emission Rate (lb/hr)
Benzene	Annual	3.2E-3	8.00E-04
1,3-Butadiene	Annual	1.0E-04	2.40E-05
Formaldehyde	Annual	4.0E-03	5.10E-04

5.3 Modeling

Dispersion modeling was conducted for the generator engine stack using the SCREEN3 dispersion model. The generator engine stack was modeled as a single emissions point at the emissions rate of one lb/hr. The maximum predicted ambient impact concentration at a unit emissions rate were multiplied by the source's emissions rate to obtain the predicted source ambient concentration. Building and structure downwash, complex terrain, and elevated terrain were not incorporated in the modeling analysis. Receptor heights were established at ground elevation. See Appendix C to review the SCREEN3 modeling output and input values.

Background concentrations were obtained from Kevin Schilling, Modeling Coordinator, Stationary Source Programs Office, DEQ, on March 20, 2006. These values are represented in Table 5.4 and are based on state-wide upper monitored values. The allowable ambient PM₁₀ impacts for operation in a PM₁₀ non-attainment were compared to the significant contribution levels listed in IDAPA 58.01.01.006.91.d. All NO_x ambient impacts were assumed to be equal to NO₂ ambient impacts, which is a conservative approach.

Table 5.3 is the summary of the stack parameters used in the modeling.

Table 5.3 SUMMARY OF THE STACK PARAMETERS

Point Source	Stack Height	Stack Diameter,	Exhaust Flowrate	Stack Temperature	Stack Exit configuration
	(ft)	(ft)	ACFM	°F	Horizontal
Generator Engine, Generator Make and Model Number: GMC Model 1271	9.7	0.5	1581	900	No

PM₁₀ Attainment Area

The plant-wide 24-hour PM₁₀ ambient concentration is added to the background for portable sources. Table 5.4 provides the summary of the plant ambient impacts while operating in a PM₁₀ attainment or unclassifiable area. Ambient impacts of PM₁₀, SO₂, CO, and NO₂ were below applicable standards.

Table 5.4 MODELING RESULTS-ATTAINMENT AND UNCLASSIFIABLE AREAS

Pollutant	Averaging Period	Predicted Ambient Impact (µg/m ³)	Background Concentration (µg/m ³)	Total Ambient Concentration (µg/m ³)	Regulatory Limit (µg/m ³)	Percent of Standard
SO ₂	3-hour	31.3	34	35.3	1300	2.7
	24-hour	13.9	26	39.9	365	10.9
	Annual	2.8	8	10.8	80	13.5
NO ₂	Annual	41.7	17	58.7	100	58.7
PM ₁₀	24-hour	3.9	73	73.9	150	49.3
	Annual	0.5	26	26.5	50	53.0
CO	1-hour	100.6	3600	3700.6	40,000	9.25
	8-hour	70.4	2300	2370.4	10,000	23.7

PM₁₀ Non-Attainment Area

The allowable PM₁₀ ambient concentration is limited to the significant contribution levels of 5 µg/m³, 24-hour average, and 1.0 µg/m³, annual average. The operation of the generator is able to meet these levels without any reduction in hours per day or hours per year. The operations of the rock crusher are not limited by this modeling analysis. Only the generator engine’s ambient impacts are included from this facility.

Table 5.5 provides the summary of the plant ambient impacts at PM₁₀ nonattainment areas.

Detailed ambient impact analysis and SCREEN3 modeling output files can be found in Appendix B.

Table 5.5 PM₁₀ AMBIENT IMPACT AT PM₁₀ NON-ATTAINMENT AREA

Source	Modeling Output	
	(µg/m ³ , 24-hour average)	(µg/m ³ , annual average)
Caterpillar Generator Stack	3.9	0.5

TAPs Impact Analysis

The worst-case emissions from the generator result from operation in attainment and unclassifiable areas where allowable operating hours are maximized. Emissions of the following compounds exceeded the screening emissions limitations and required an ambient impact analysis to demonstrate compliance with the AACC increments: benzene, 1,3-butadiene, and formaldehyde. Modeled emissions resulted in ambient impacts that were below the AACC for each pollutant. The detailed results are in Table 5.6. Impacts for operation in a PM₁₀ non-attainment.

Table 5.6 CARCINOGENIC TAPs AMBIENT IMPACTS

Pollutant	Averaging Period	PM₁₀ Attainment or Unclassifiable Area Operation Maximum Concentration (µg/m³)	Regulatory Limit (ug/m³)	Percent Of Increment
Benzene	Annual	2.17E-02	0.12	18
1,3-Butadiene	Annual	7.0E-03	3.6E-03	19.4
Formaldehyde	Annual	2.72E-02	0.077	35.3

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

This facility is proposing to operate air pollutant emitting equipment that requires a PTC. The facility is portable by design and will be operating primarily at one location site without being removed during any 12 month consecutive period.

The facility does not qualify for permitting under the Rock Crusher Permit by Rule because the owner intends to operate this portable source at the current location for a period of time greater than 12 consecutive months.

40 CFR 60 New Source Performance Standards

This facility is subject to NSPS-Subpart OOO based upon the information provided within the PTC application. The facility’s PTC application stated the rock crushing was remanufactured in 1997. The PTC application indicates that most of the screening equipment was manufactured after August 31, 1983. The rock crushing and screening sources that are listed in NSPS-Subpart OOO as “affected facilities” have been modified or reconstructed in a manner that trigger NSPS applicability.

The following factors have been reviewed with regard to applicability of NSPS-Subpart OOO: portable design of the facility; rated production capacities of the equipment; initial dates of construction of the sources; and the basis that sources have been modified or reconstructed. The conclusion is that this facility is subject to the requirements of NSPS-Subpart OOO.

40 CFR 61 and 63 National Emission Standards for Hazardous Air Pollutants & MACT

This facility is not subject to NESHAP or MACT.

No person shall sell, distribute, use or make available for use, any distillate fuel oil containing more than the following percentages of sulfur:

- ASTM Grade 1 fuel oil – 0.3 percent by weight
- ASTM Grade 2 fuel oil – 0.5 percent by weight.

5.5 Permit Conditions Review

This section describes only those permit conditions that have been revised, modified or deleted as a result of this permit action. All other permit conditions remain unchanged.

- 5.6 Permit Condition 2.3 limits the opacity from any stack, vent, or other functionally equivalent opening to no more than 20% for a period or periods aggregating more than three minutes in any 60 minute period (IDAPA 58.01.01.625).
- 5.7 Permit Condition 2.4 limits the maximum number of crushers and the size of generator that can be used concurrently at any site of operations.
- 5.8 Permit Condition 2.5 limits the sulfur content of the fuel combusted in the generator.
- 5.9 Permit Condition 2.6 describes reasonable control of fugitive emissions. The permit condition contains various methods that are to be used, where practical to prevent particulate matter from becoming airborne. The permittee will show compliance with this requirement when operating by conducting daily facility-wide inspections of potential fugitive emissions sources. The permittee is required to record the periodic methods used to control fugitive emissions.
- 5.10 Permit Condition 2.7 describes the Best Management Practices to be used to control fugitive dust.
- 5.11 Permit Condition 2.8 describes the method used to determine the sulfur content of the fuel.
- 5.12 Permit Condition 2.9 requires that the permittee conduct weekly inspections during operations for potential sources of fugitive dust emissions and take corrective action if fugitive dust emissions are not being reasonably controlled. Documentation must be maintained of the results of each inspection and any measures taken to control fugitive dust.
- 5.13 Permit Condition 2.10 requires that the permittee conduct daily an inspection of potential visible emissions, during daylight hours and under normal operating conditions. This permit conditions requires the permittee to take appropriate actions when visible emissions are present.
- 5.14 Permit Condition 2.11 requires the permittee to register the portable rock crusher and sand screening plant with DEQ at least 10 days prior to relocation.
- 5.15 Permit Condition 3.2.1 limits the opacity from NSPS-affected crushers to 15% opacity.
- 5.16 Permit Condition 3.2.2 limits the opacity from non-NSPS-affected crushers to 20% opacity.
- 5.17 Permit Condition 3.3.1 limits the opacity from NSPS-affected transfer point from belt conveyors, or from each grinding mill, screening operation, bucket elevator, belt-conveyor bagging operation, storage bin, enclosed truck, or rail-car loading station to 10% opacity.

- 5.18 Permit Condition 3.3.2 limits the opacity from non-NSPS-affected transfer point from belt conveyors, or from each grinding mill, screening operation, bucket elevator, belt-conveyor bagging operation, storage bin, enclosed truck, or rail-car loading station constructed, modified, or reconstructed before August 31, 1983, to 20% opacity.
- 5.19 Permit Condition 3.4 requires an initial performance test of the NSPS-affected rock crushing equipment. If an initial test has been performed, documentation is to be made available to DEQ within 24 hours.
- 5.20 Permit Condition 3.5 requires that the permittee submit a performance test protocol to DEQ within 30 days of conducting the test.
- 5.21 Permit Condition 3.6 requires that the permittee submit the results of any performance test within 30 days after the test date.
- 5.22 Permit Condition 3.7 requires monitoring of fugitive dust from non-NSPS-affected crushers, screens, and transfer points on a weekly basis.
- 5.23 Permit Condition 4.2 limits the opacity from the generator stack to 20% opacity.
- 5.24 Permit Condition 4.7 requires that the permittee monitor and record the operating hours of the generator.

6. PERMIT FEES

An application fee of \$1,000 is required in accordance with IDAPA 58.01.01 224. The application fee was received by DEQ on July 25, 2005. A permit processing fee of \$2,500.00 is required in accordance with IDAPA 58.01.01 225, because the total increase in emissions is between one and ten tons per year. The processing fee was paid April 11, 2006. This facility is not a major facility and is not subject to Tier I operating permit registration fees.

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	7.2	0	7.2
SO ₂	0.48	0	0.48
CO	1.39	0	1.39
PM ₁₀	0.14	0	0.14
VOC	0.23	0	0.23
TAPS/HAPS	0.0	0	0.0
Total:	9.44	0	9.44
Fee Due	\$ 2,500.00		

7. PERMIT REVIEW

7.1 Regional Review of Draft Permit

The draft permit was sent to the Twin Falls Regional Office on March 27, 2006. The comments from the Twin Falls Regional Office were in the form of questions the facility had asked the Regional Office. The responses to the questions were answered through e-mail dated April 13, 2006.

7.2 Facility Review of Draft Permit

A draft permit was provided for facility review on March 27, 2006. The facility was advised to address any further comments to the permit writer. The review of additional emission factors to for the facilities generator to increase the hours of operation delayed the issuance of the permit. Emission factors for the specific caterpillar generator were received on May 19, 2006. The new emission factors made a negligible difference to the air impact and hours of operation thus the permit remained unchanged.

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 February 21, 2006, to March 22, 2006. To date, there were no comments on the application and no requests for a 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 Twin Falls Crushing, Inc. be issued final PTC No. P-050419 for the rock crushing and screening operation. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

REB/bf Permit No. P-050419

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Appendix A

AIRS Information

P-0500419

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

Facility Name: Twin Falls Crushing, Incorporated
Facility Location: Twin Falls, Idaho
AIRS Number: 777-00365

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 ₂	B							
NO _x	B							
CO	B							
PM ₁₀	B		B					
PT (Particulate)	B		B					
VOC	B							
THAP (Total HAPs)								
			APPLICABLE SUBPART					
			000					

^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-0500149

Emissions for the 365 kW Caterpillar generator using tested emission factors of a 400 kW Cummins generator set.

Estimated emissions for operating 1500 hours per year

	grams/hp-hr	hp	lb/hr	hr/yr	T/yr
PM10	0.17	489	0.18	1500	0.14
NOx	8.91	489	9.60	1500	7.20
CO	1.72	489	1.85	1500	1.39
SO2	0.59	489	0.64	1500	0.48
VOC	0.28	489	0.30	1500	0.23

9.43 Total T/yr

Potential for operating 8760 hours per year

	grams/hp-hr	hp	lb/hr	hr/yr	T/yr
PM10	0.17	489	0.18	8760	0.80
NOx	8.91	489	9.60	8760	42.03
CO	1.72	489	1.85	8760	8.11
SO2	0.59	489	0.64	8760	2.78
VOC	0.28	489	0.30	8760	1.32

55.06 T/yr

Appendix C

Modeling Review

P-0500419

02/07/06
14:21:12
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Twin Falls Crushing's Generator Emissions

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (G/S) = 0.126000
STACK HEIGHT (M) = 2.9474
STK INSIDE DIAM (M) = 0.1524
STK EXIT VELOCITY (M/S) = 40.9123
STK GAS EXIT TEMP (K) = 755.3722
AMBIENT AIR TEMP (K) = 293.1500
RECEPTOR HEIGHT (M) = 0.0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = 0.0000
MIN HORIZ BLDG DIM (M) = 0.0000
MAX HORIZ BLDG DIM (M) = 0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 1.425 M**4/S**3; MOM. FLUX = 3.772 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

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

DIST CONC U10M USTK MIX HT PLUME SIGMA SIGMA
(M) (UG/M**3) STAB (M/S) (M/S) (M) HT (M) Y (M) Z (M) DWASH

1. 0.000 1 1.0 1.0 320.0 30.90 1.34 1.29 NO
100. 51.01 4 8.0 8.0 2560.0 6.44 8.26 4.76 NO
200. 38.31 4 4.0 4.0 1280.0 9.93 15.69 8.73 NO
300. 29.68 4 2.5 2.5 800.0 14.13 22.84 12.51 NO
400. 24.06 4 2.0 2.0 640.0 16.92 29.72 15.78 NO
500. 20.22 4 1.5 1.5 480.0 21.58 36.54 19.06 NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
50. 54.36 3 10.0 10.0 3200.0 5.74 6.72 4.08 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 MAX CONC DIST TO TERRAIN

PROCEDURE (UG/M**3) MAX (M) HT (M)

SIMPLE TERRAIN 54.36 50. 0.

AP-42 Emission Factors for all pollutants were used for this analysis to present a more conservative evaluation.
 CONSERVATIVE IMPACT ANALYSIS

Pollutant	Crusher Generator Emission Analysis		3.42 MMBtu/hr		For TAPS If bold Over Limit	Screen 3 1 lb. input	Persistence Factor		Regulatory TAP limit AAC* mg/m3	If negative Models OK
	365 kW	AP-42 lb/MMBtu	Actual lb/hr	IDAPA Screening Level lb/hr			24-hour Actual	Annual Actual		
	NOx	4.41E+00	1.51E+01					8.21E+02		
CO	9.50E-01	3.25E+00			1.77E+02	70.72		14.14		
Sox	2.90E-01	9.93E-01			5.40E+01	21.59		4.32		
PM-10	3.10E-01	1.06E+00			5.77E+01	23.08		4.62		
Aldehydes	7.00E-02	2.40E-01			1.30E+01	5.21		1.04		
Benzene	9.33E-04	3.19E-03			2.39E-03	1.74E-01		2.17E-02	1.20E-01	-9.83E-02
Toluene	4.09E-04	1.40E-03			-2.50E+01	7.61E-02		9.51E-03	1.88E+01	-1.87E+01
Xylene	2.85E-04	9.76E-04			-2.90E+01	5.30E-02		6.63E-03	2.18E+01	-2.17E+01
Propylene	2.58E-03	8.83E-03								
1,3-Butadiene	3.91E-05	1.34E-04			1.10E-04	7.28E-03		9.10E-04	3.60E-03	-2.69E-03
Formaldehyde	1.18E-03	4.04E-03			3.53E-03	2.20E-01		2.75E-02	7.70E-02	-4.95E-02
Acetaldehyde	7.67E-04	2.63E-03			-3.74E-04	1.43E-01		1.78E-02	4.50E-01	-4.32E-01
Acrolein	9.25E-05	3.17E-04			-1.67E-02	1.72E-02		2.15E-03	1.25E-02	-1.03E-02
PHA	1.68E-04	5.75E-04			4.84E-04	3.13E-02		3.91E-03	1.40E-02	-1.01E-02

ACTUAL IMPACT ANALYSIS

The actual emission factors of a Cummins 400 kW generator were used in this table to evaluate more accurately the air impact for the Caterpillar 365 kW generator.

		Persistence factor	Actual lb/hr	ug/m3 for a pound per hour emission	ug/m3	Background Concentration	Total Ambient	Regulatory Limit	Percent of Standard
SOx	3 hour	0.9	0.64	54.36	31.3	120	151.3	1300	11.6
	24-hour								
SOx	hour	0.4	0.64	54.36	13.9	40	53.9	365	14.8
SOx	annual	0.08	0.64	54.36	2.8	10	12.8	80	16.0
NO2	annual	0.08	9.6	54.36	41.7	40	81.7	100	81.7
	24-hour								
PM10	hour	0.4	0.18	54.36	3.9	81	84.9	150	56.6
PM10	annual	0.08	0.108	54.36	0.5	27	27.5	50	54.9
CO	1-hour	1	1.85	54.36	100.6	13,000	13100.6	40000	32.8
CO	8-hour	0.7	1.85	54.36	70.4	4600	4670.4	10000	46.7