SUNRISE
ENGINEERING

July 7, 2014

JUL 2014
RECEIVED
AIR QUALITY
DIVISION

Nick Meeker
Wyoming Dept. of Environmental Quality
Air Quality Division
Herschler Building 2-E
122 West 25th St.
Cheyenne, WY 82002

RE: RST SAND AND GRAVEL Mining/Quarry Operations-Non Coal Permit Application & Crushing/Screening Operations Permit Application

Dear Nick:

Attached are copies of revisions to the RST Sand and Gravel Mining/Quarry-Non Coal Permit Application & Crushing/Screening Operations Permit Application clarifying information requested in your email dated 7-2-14. You asked for a response to the following questions.

1. What would you like the site to be called? RST Sand and Gravel Pit or Mine or Quarry?
2. Since the size of the pit is changing to 10 acres, is the disturbed acreage still 3 acres or does it need to be increase to 10 acres?
3. Tons or yd3 were not selected for the topsoil and mined material stockpiles. Please let me know what units.
4. There are no haul trucks listed. I know that you said that the haul trucks have not been selected, but could you provide your best estimate?
5. The max capacity for the crushers and screens is listed as 95 tons per hour. Is this the manufacturer rating or just an estimate? That question is referring to the max capacity that the crushers or screen could do while operating at max potential.

The answers to your questions are contained in the attached revisions to the original permit application dated 6-13-14.

If you have any questions, please contact us.

47 EAST 4TH AVENUE; PO BOX 609 • AFTON, WYOMING 83110 • TEL 307.885.8500 • FAX 307.885.8501 *www.sunrise-eng.com*

SUNRISE
ENGINEERING

Sincerely,

SUNRISE ENGINEERING INC.

Clyde Rainey
Project Manager

Enclosures

47 EAST 4TH AVENUE; PO BOX 609 • AFTON, WYOMING 83110 • TEL 307.885.8500 • FAX 307.885.8501 *www.sunrise-eng.com*

JUL 2014
RECEIVED
AIR QUALITY DIVISION

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal
Permit Application Form

Please submit three (3) copies of the complete application

COMPANY: RST Sand and Gravel

Contact: Roger Seherr-Thoss Title: President

Mailing Address: PO Box 1709

City: Jackson State: WY Zip: 83001

Phone: 307- 733-5511 Fax: 307-733-2349 E-Mail:

MINE/QUARRY NAME: RST Sand and Gravel Pit

New Mine/Quarry: ☐ Modification to existing Mine/Quarry: X

Size of Mine/Quarry: 10 Acres

Legal Description: ____ 1/4 NE 1/4 Section 19 T 40 N R 116 W

Latitude: Longitude:

County: Teton

Number of residences within 1 mile radius: Approx. 720 Distance to nearest residence: .25 miles

TYPE OF MATERIAL MINED: (This form is **Not** for Coal Mines) Sand, Gravel

Total Material Available: 100,000 tons Max. Annual Production: 52,000 tons/yr

Max. Hourly Production: 180 tons/hr Avg. Hourly Production: 170 tons/hr

Max. Hours of Operation: 8 hours/day 5 days/week 24 weeks/year

EQUIPMENT/OPERATION PLANNED AT THIS SITE:
(mark all that apply)

Crushing*	X	Stockpiling*	X
Screening*	X	Blasting*	☐
Hot Mix Asphalt Plant*	☐+	Concrete Batch Plant*	☐+

***Operation of crushers, screens, stock piling, blasting, hot mix asphalt plants or concrete batch plants at the quarry will only be allowed if so designated on this application.**

+Any crushers, screens, hot mix asphalt plants, or concrete batch plants must have a separate, valid air quality permit to operate at this mine/quarry.

This application must include:

1. **Documentation that the proposed site is located in accordance with proper land use planning as determined by the appropriate state or local agency charged with such responsibility (local planning and zoning department, county commissioners, etc) (Per Chapter 6, Section 2(c)(iv) of the WAQS&R).**
2. **A map identifying the site location and mining activities (for operations 10 acres or less) or a mine plan (for operations more than 10 acres). (The mine plan from the Land Quality Division (LQD) Application [Item 9 on LQD Form 1(s)] may be used; a reclamation plan is not required.)**

I, Clyde Rainey for RST Sand and Gravel , , Project Manager

Responsible Official (Please print or type) **Title**

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the maximum production rate listed in this application reflects the maximum anticipated production rate at this mine/quarry. The facility will operate in compliance with all Wyoming Air Quality Standards and Regulations.

Signature: Clyde Rainey **Date:** 7-7-14

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal

WYOMING

DISTURBED/OPEN ACREAGE
Acreage Subject to Wind Erosion: 5 acres

TOPSOIL
Tons/day removed: _____ tons/year removed: 800
Fugitive Particulate Control Method and Frequency: Water truck, 3 or more times daily as needed

TOPSOIL STOCKPILES
No. of Topsoil Stockpiles: 1 Size of Piles: 2500 (tons) or yd^3 (circle one)
Topsoil Stockpile Fugitive Control Method and Frequency: _____

OVERBURDEN
Tons/day removed: 0 tons/year removed: 0
Fugitive Particulate Control Method and Frequency: _____

OVERBURDEN STOCKPILES
No. of Overburden Stockpiles: 0 Size of Piles: 0 (tons) or yd^3 (circle one)
Overburden Stockpile Fugitive Control Method and Frequency: _____

MINED MATERIAL
Tons/day Removed: 900 tons/year removed: 52000
Fugitive Particulate Control Method and Frequency: Water truck 3 or more times daily as needed

MINED MATERIAL STOCKPILES
No. of Mined Material Stockpiles 8 Size of Piles: 1500 (tons) or yd^3 (circle one)
Mined Material Stockpile Fugitive Control Method and Frequency: _____

BLASTING
Number of Blasts per year: 0
Type of Blasting Agent Used: _____ Amount of Blasting Agent Used: _____ tons/yr
Horizontal Area of Blast: _____ ft^2
Operational Practices used for Emission Control: _____

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal
Mined Material Information 2

WYOMING

ACCESS & HAUL ROADS *

Maximum Distance Material will be Hauled until Reaching Pavement: 0.15 miles

Fugitive Particulate Control Method: Water Truck

Type of Dust Suppressant Used: Water Truck

Control Application Frequency: 3 or more times daily as needed

* The application **MUST include a map** identifying all haul roads, including county roads, other unpaved roads, and the first paved road associated with the mining activities.

HAUL TRUCKS (Trucks that Transport Product from the Quarry)

Material is currently excavated with a dragline and stockpiled with a loader which feeds the crusher and screen plant.

Truck Type 1 (Description): 10 Wheel End Dump
No of Trucks: 1 Capacity (tons): 13 Empty Weight (lbs): _____

Truck Type 2 (Description): Bottom Dump
No of Trucks: 1 Capacity (tons): 23.5 Empty Weight (lbs): _____

Truck Type 3 (Description): _____
No of Trucks: _____ Capacity (tons): _____ Empty Weight (lbs): _____

Truck Type 4 (Description): _____
No of Trucks: _____ Capacity (tons): _____ Empty Weight (lbs): _____

CRUSHING/SCREENING/HOT MIX ASPHALT PLANT/CONCRETE BATCH PLANT:

If crushing or screening equipment, a hot mix asphalt plant, or concrete batch plant will be operating at the mine and does not have a valid air quality permit or relocation permit, the appropriate application form (Forms AQD-CS1-4, AQD-HM1-4, or AQD-CB1-3) must be submitted for the equipment.

OTHER

Other Emission Sources and Control: _____

Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations – Non Coal

Emission Summary Form

WYOMING

Fill out this portion of the form for every emission source (existing & proposed)

Source	TSP	PM_{10}	NO_x	CO	SO_2	VOC	HAP
	TPY	TPY	TPY	TPY	TPY	TPY	TPY
Total							

FORM: AQD- MN4 REVISED: August 2008

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Permit Application Form
Please submit three (3) copies of the complete application

COMPANY RST Sand and Gravel

Contact: Roger Seherr-Thoss Title: President

Mailing Address: PO Box 1709

City: Jackson State: WY Zip: 83001

Phone: 307-733-5511 Fax: 307-733-2349 E-Mail:

INITIAL LOCATION

Legal Description: ____ 1/4 NE 1/4: Section 19 T 40 N R 116 W

Latitude: 43d 24' 56.30" N Longitude: 110d 47' 52.95" W

County: Teton

Is the initial location an existing mine/quarry: yes x no

Mine/Quarry Name: RST Sand and Gravel Pit Mine/Quarry Owner: Roger Seherr-Thoss

AQD Permit Number (for existing mine):

TYPE OF MATERIAL CRUSHED/SCREENED:

Max. Hourly Production: 180 tons/hr Max. Annual Production: 52,000 tons/year

Avg. Hourly Production: 170 tons/hr

Max. Hours of Operation: 8 hours/day 5 days/week 24 weeks/year

EQUIPMENT/OPERATION
(mark all that apply)

Crushing x
Screening x
Stockpiling x
Conveyor Transfer and Drop Points x How many: 4

Is the equipment intended for stationary or portable use: Stationary x Portable ☐

This application must include:

1. **A brief process description with a plot plan depicting site set up with location of controls.**
2. **Application form AQD-MN1-4 for the mine/quarry, if mine/quarry is not permitted.**

I, Clyde Rainey for RST Sand and Gravel Project Manager

Responsible Official (Please print or type) **Title**

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the maximum production rate listed in this application reflects the maximum anticipated production rate for this crushing/screening operation. The facility will operate in compliance with all Wyoming Air Quality Standards and Regulations.

Signature: Clyde Rainey **Date:** 7-7-14

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Crusher/Screen Form

CRUSHER #1

Primary x Secondary ☐ Tertiary ☐ Other ☐ _____

Manufacturer: CEC Model #: V0045 Serial #: 00520

Type: Jaw ☐ Cone x Impact ☐ Other ☐ _____

Date manufactured: 2001 Max. crusher capacity per hour: N/A tons

Subject to NSPS - OOO: yes x no

CRUSHER #2

Primary x Secondary ☐ Tertiary ☐ Other ☐ _____

Manufacturer: Cedar Rapids Model #: E895 Serial #: 21283

Type: Jaw x Cone ☐ Impact ☐ Other ☐

Date manufactured: 1953 Max. crusher capacity per hour: N/A tons

Subject to NSPS - OOO: yes ☐ no x

(Use additional Crusher/Screen Forms if using more than 2 crushers)

SCREEN #1

Manufacturer: CEC Model #: Screen-It 5'x7' Type: Portable

Date manufactured: 1999 Serial #: 98327

Operating in conjunction with a crusher: yes no x Max. capacity of crusher: N/A tons per hour

SCREEN #2

Manufacturer: L-Jay Model #: F8G6163-82 Type: Stationary

Date manufactured: 1982 Serial #: 46372

Operating in conjunction with a crusher: yes x no ☐ Max. capacity of crusher: N/A tons per hour

(Use additional Crusher/Screen Forms if using more than 2 screens)

SOURCE CONTROL Sources will be controlled as follows:

	No Control	Water Spray	Chemical Dust Suppressant	Other (explain)
Feed hopper	☐	☐	☐	☐
Transfer Points	☐	☐	☐	☐
Inlet to Crushers	☐	x	☐	☐
Outlet of Crushers	☐	☐	☐	☐
Inlet to Screens	☐	x	☐	☐
Outlet of Screens	☐	x	☐	☐
Haul Roads	☐	x	☐	☐
Work Areas	☐	x	☐	☐
Stockpiles	☐	x	☐	☐

Power Source: Line Power ☐ Generator x

*** If using generator, submit Form AQD-CS3 Generator Form.**

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Generator Form

GENERATOR #1 INFORMATION

Manufacturer: Caterpillar Model #: 3306 Serial #: 9NR03330
1999 Site Horsepower Rating: 320 Annual Operating Hours: 960

Fuel Type:
Natural Gas ☐ LP Gas ☐ Diesel x Gasoline ☐
Fuel Consumption (specify units): 5 liters/hour Fuel Sulfur Content (specify units): _____

Emissions Data:

	g/hp-hr	lb/hr	tpy
NOx	See attached	sheets	
CO			
VOC			
PM_{10}			
SO_x			

Emissions Control:
Lean Burn ☐
AFRC ☐
NSCR ☐
SCR ☐
Tier I Certified x
Tier II Certified ☐
Tier III Certified
Other (Describe) ☐ _____

GENERATOR #2 INFORMATION

Manufacturer: _____ Model #: _____ Serial #: _____
Year: _____ Site Horsepower Rating: _____ Annual Operating Hours: _____

Fuel Type:
Natural Gas ☐ LP Gas ☐ Diesel ☐ Gasoline ☐
Fuel Consumption (specify units): _____ Fuel Sulfur Content (specify units): _____

Emissions Data:

	g/hp-hr	lb/hr	tpy
NOx			
CO			
VOC			
PM_{10}			
SO_x			

Emissions Control:
Lean Burn ☐
AFRC ☐
NSCR ☐
SCR ☐
Tier I Certified ☐
Tier II Certified ☐
Tier III Certified ☐
Other (Describe) ☐ _____

(Use additional Generator Forms if using more than 2 generators)

ADDITIONAL INFORMATION:

Please use the following hierarchy for determining emissions from generators.

1. **Emission rates in g/hp-hr based on manufacturer's information: Provide a copy of the manufacturer's information with the application.**
2. **Emission rates in g/hp-hr based on actual test data: Provide a copy of the test report with the application.**
3. **Emission factors: Documentation from the manufacturer must be provided with the application stating no emission factors are available for the generator before the Division will accept other emission factors such as AP-42.**

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Emission Summary Form

Fill out this portion of the form for every emission source (existing & proposed)

Source	TSP	PM_{10}	NO_x	CO	SO_2	VOC	HAP
	TPY	TPY	TPY	TPY	TPY	TPY	TPY
Total							

FORM: AQD-CS4 REVISED: August 2008

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JUL 18 2014

AIR QUALITY DIVISION

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal
Mined Material Information 2

WYOMING

ACCESS & HAUL ROADS *

Maximum Distance Material will be Hauled until Reaching Pavement: 0.15 miles

Fugitive Particulate Control Method: Water Truck

Type of Dust Suppressant Used: Water Truck

Control Application Frequency: 3 or more times daily as needed

* The application **MUST include a map** identifying all haul roads, including county roads, other unpaved roads, and the first paved road associated with the mining activities.

HAUL TRUCKS (Trucks that Transport Product from the Quarry)

Material is currently excavated with a dragline and stockpiled with a loader which feeds the crusher and screen plant.

Truck Type 1 (Description): 10 Wheel End Dump
No of Trucks: 1 Capacity (tons): 13 Empty Weight (lbs): 22,000

Truck Type 2 (Description): Bottom Dump
No of Trucks: 1 Capacity (tons): 23.5 Empty Weight (lbs): 33,000

Truck Type 3 (Description):
No of Trucks: Capacity (tons): Empty Weight (lbs):

Truck Type 4 (Description):
No of Trucks: Capacity (tons): Empty Weight (lbs):

CRUSHING/SCREENING/HOT MIX ASPHALT PLANT/CONCRETE BATCH PLANT:

If crushing or screening equipment, a hot mix asphalt plant, or concrete batch plant will be operating at the mine and does not have a valid air quality permit or relocation permit, the appropriate application form (Forms AQD-CS1-4, AQD-HM1-4, or AQD-CB1-3) must be submitted for the equipment.

OTHER

Other Emission Sources and Control:

SUNRISE
ENGINEERING

June 30, 2014

JUL 2014
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AIR QUALITY
DIVISION

Cole Anderson
NSR Program Manager
Wyoming Dept. of Environmental Quality
Air Quality Division
Herschler Building 2-E
122 West 25th St.
Cheyenne, WY 82002

RE: RST SAND AND GRAVEL Mining/Quarry Operations-Non Coal Permit Application & Crushing/Screening Operations Permit Application

Dear Cole:

We sent three copies of the Mining/Quarry Operations-Non Coal Permit Application Form along with the Crushing/Screening Operations Permit Application Form for RST Sand and Gravel in Jackson on June 13, 2014.

On June 27th, you emailed us indicating that your legal counsel had advised you that we could move forward permitting the existing acreage at RST Sand and Gravel. This letter serves as an addendum to the applications dated June 13, 2014 in which RST followed your request of submitting equipment and site applications for 3 acres. This addendum is a request to enlarge the 3 acres to 10 acres. The air quality application boundary will now be the same as the existing LMO # 951 ET boundary. We have updated the map showing the proposed 10-acre air quality boundary and included 3 copies with this letter.

We have reviewed the site permit that we submitted on June 13th and cannot see where any other values in the application will change by going from 3 acres to 10 acres. The equipment application does not change with this enlargement.

Therefore, we ask that the permit applications of June 13th and this letter be sufficient for this enlargement from 3 acres to 10 acres.

RST Sand and Gravel is very anxious to move forward with the air quality permitting associated with the Small Mine Permit Application presently before the Land Quality Division. As you recall, this application has been submitted to your office at least twice and returned because your position stated that Teton County was required to indicate that the siting of the gravel operations was in accordance with County land use regulations. We believe that the Supreme Court ruling puts the permitting oversight only in the hands of

47 EAST 4TH AVENUE; PO BOX 609 • AFTON, WYOMING 83110 • TEL 307.885.8500 • FAX 307.885.8501 *www.sunrise-eng.com*

SUNRISE
ENGINEERING

DEQ. Please let us know how you want to proceed with air quality permitting associated with the Small Mine Permit Application?

If you have any questions, please contact us.

Sincerely,

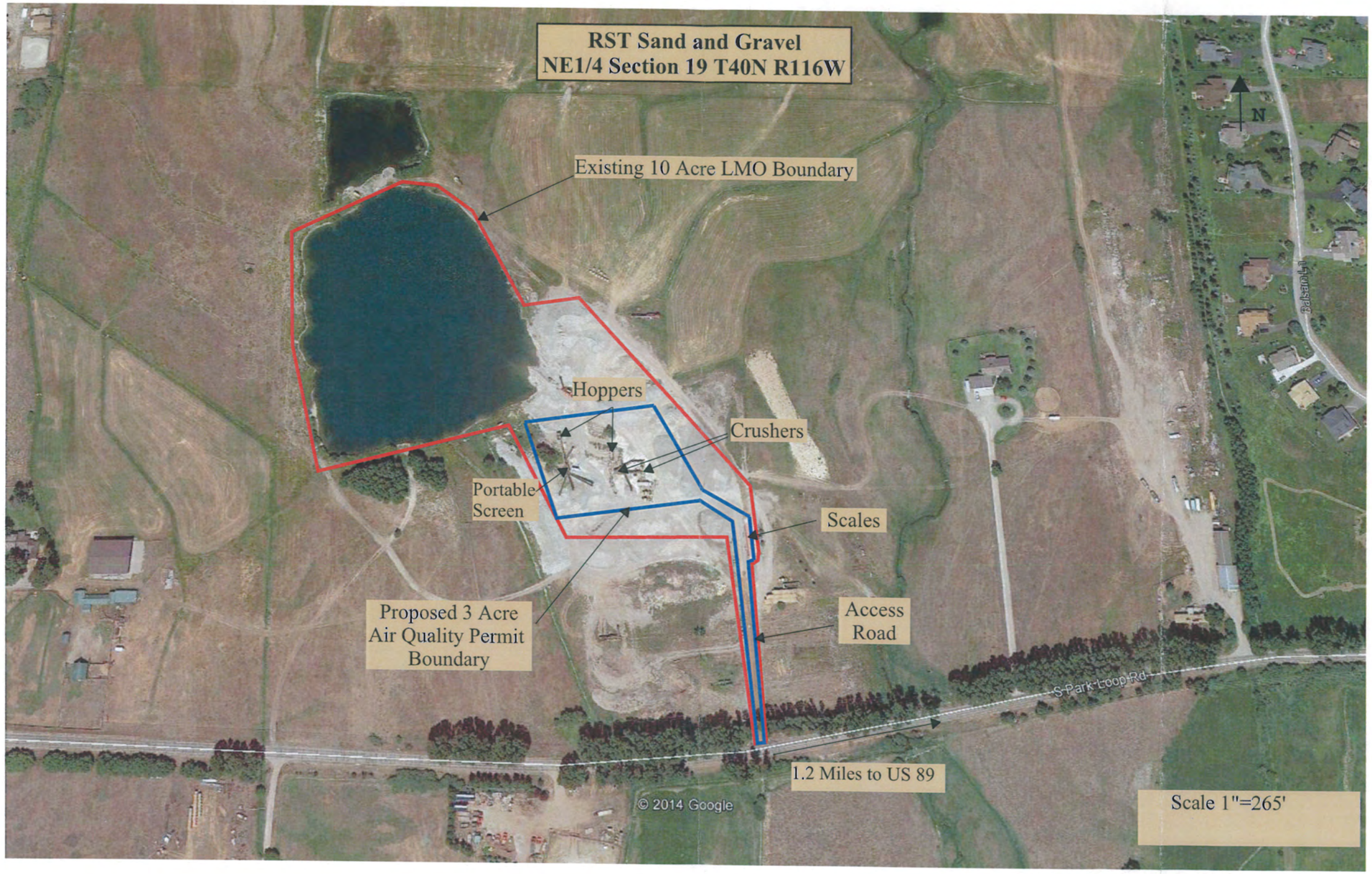
SUNRISE ENGINEERING INC.

Clyde Rainey

Clyde Rainey
Project Manager

Enclosures

47 EAST 4TH AVENUE; PO BOX 609 • AFTON, WYOMING 83110 • TEL 307.885.8500 • FAX 307.885.8501 *www.sunrise-eng.com*


RST Sand and Gravel
NE1/4 Section 19 T40N R116W
N
Existing 10 Acre LMO Boundary
Hoppers
Crushers
Portable Screen
Scales
Access Road
Proposed 3 Acre Air Quality Permit Boundary
S Park Loop Rd
1.2 Miles to US 89
© 2014 Google
Scale 1"=265'

SUNRISE
ENGINEERING

June 13, 2014

JUN 2014
RECEIVED
AIR QUALITY
DIVISION

Cole Anderson
NSR Program Manager
Wyoming Dept. of Environmental Quality
Air Quality Division
Herschler Building 2-E
122 West 25th St.
Cheyenne, WY 82002

RE: RST SAND AND GRAVEL Mining/Quarry Operations-Non Coal Permit Application & Crushing/Screening Operations Permit Application

Dear Cole:

We have attached three copies of the Mining/Quarry Operations-Non Coal Permit Application Form along with the Crushing/Screening Operations Permit Application Form for RST Sand and Gravel in Jackson.

The site currently operates under a 10-Acre Exemption LMO #951ET Permit.

At your request we are identifying a 3-acre parcel inside the 10-acre LMO to be the proposed air quality permit boundary. See the attached map. The location of the crushing and screening equipment is identified on the map inside of the boundary.

Providing these applications to DEQ Air Quality in no way relinquishes RST Sand and Gravel's claim to grandfathered status.

If you have any questions, please contact us.

Sincerely,

SUNRISE ENGINEERING INC.

Clyde Rainey

Clyde Rainey
Project Manager

Enclosures

Reviewer NCM
Copy to:
Cynthia
D.E.

File: 16592

47 EAST 4TH AVENUE; PO BOX 609 • AFTON, WYOMING 83110 • TEL 307.885.8500 • FAX 307.885.8501 www.sunrise-eng.com

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal
Permit Application Form
Please submit three (3) copies of the complete application

JUN 2014 RECEIVED AIR QUALITY DIVISION Department of Environmental Quality WYOMING

COMPANY: RST Sand and Gravel

Contact: Roger Seherr-Thoss Title: President

Mailing Address: PO Box 1709

City: Jackson State: WY Zip: 83001

Phone: 307- 733-5511 Fax: 307-733-2349 E-Mail:

MINE/QUARRY NAME: RST Sand and Gravel

New Mine/Quarry: ☐ Modification to existing Mine/Quarry: X

Size of Mine/Quarry: 3 Acres

Legal Description: ____ 1/4 NE 1/4 Section 19 T 40 N R 116 W

Latitude: Longitude:

County: Teton

Number of residences within 1 mile radius: Approx. 720 Distance to nearest residence: .25 miles

TYPE OF MATERIAL MINED: (This form is **Not** for Coal Mines) Sand, Gravel

Total Material Available: 100,000 tons Max. Annual Production: 52,000 tons/yr

Max. Hourly Production: 180 tons/hr Avg. Hourly Production: 170 tons/hr

Max. Hours of Operation: 8 hours/day 5 days/week 24 weeks/year

EQUIPMENT/OPERATION PLANNED AT THIS SITE:
(mark all that apply)

Crushing*	X	Stockpiling*	X
Screening*	X	Blasting*	☐
Hot Mix Asphalt Plant*	☐+	Concrete Batch Plant*	☐+

***Operation of crushers, screens, stock piling, blasting, hot mix asphalt plants or concrete batch plants at the quarry will only be allowed if so designated on this application.**

+Any crushers, screens, hot mix asphalt plants, or concrete batch plants must have a separate, valid air quality permit to operate at this mine/quarry.

This application must include:

1. **Documentation that the proposed site is located in accordance with proper land use planning as determined by the appropriate state or local agency charged with such responsibility (local planning and zoning department, county commissioners, etc) (Per Chapter 6, Section 2(c)(iv) of the WAQS&R).**
2. **A map identifying the site location and mining activities (for operations 10 acres or less) or a mine plan (for operations more than 10 acres). (The mine plan from the Land Quality Division (LQD) Application [Item 9 on LQD Form 1(s)] may be used; a reclamation plan is not required.)**

I, Roger Seherr-Thoss , , President

Responsible Official (Please print or type) **Title**

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the maximum production rate listed in this application reflects the maximum anticipated production rate at this mine/quarry. The facility will operate in compliance with all Wyoming Air Quality Standards and Regulations.

Signature: Roger Seherr-Thoss **Date:** 6/13/2014

FORM: AQD-MN1 REVISED: August 2008

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal

WYOMING

DISTURBED/OPEN ACREAGE

Acreage Subject to Wind Erosion: 3 acres

TOPSOIL

Tons/day removed: _____ tons/year removed: 800

Fugitive Particulate Control Method and Frequency: Water truck, 3 or more times daily as needed

TOPSOIL STOCKPILES

No. of Topsoil Stockpiles: 1 Size of Piles: 2500 tons or yd^3 (circle one)

Topsoil Stockpile Fugitive Control Method and Frequency: _____

OVERBURDEN

Tons/day removed: 0 tons/year removed: 0

Fugitive Particulate Control Method and Frequency: _____

OVERBURDEN STOCKPILES

No. of Overburden Stockpiles: 0 Size of Piles: 0 tons or yd^3 (circle one)

Overburden Stockpile Fugitive Control Method and Frequency: _____

MINED MATERIAL

Tons/day Removed: 900 tons/year removed: 52000

Fugitive Particulate Control Method and Frequency: Water truck 3 or more times daily as needed

MINED MATERIAL STOCKPILES

No. of Mined Material Stockpiles 8 Size of Piles: 1500 tons or yd^3 (circle one)

Mined Material Stockpile Fugitive Control Method and Frequency: _____

BLASTING

Number of Blasts per year: 0

Type of Blasting Agent Used: _____ Amount of Blasting Agent Used: _____ tons/yr

Horizontal Area of Blast: _____ ft^2

Operational Practices used for Emission Control: _____

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations - Non Coal
Mined Material Information 2

WYOMING

ACCESS & HAUL ROADS *

Maximum Distance Material will be Hauled until Reaching Pavement: 0.15 miles

Fugitive Particulate Control Method: Water Truck

Type of Dust Suppressant Used: Water Truck

Control Application Frequency: 3 or more times daily as needed

* The application **MUST include a map** identifying all haul roads, including county roads, other unpaved roads, and the first paved road associated with the mining activities.

HAUL TRUCKS (Trucks that Transport Product from the Quarry)

Material is currently excavated with a dragline and stockpiled with a loader which feeds the crusher and screen plant.

Truck Type 1 (Description): Truck types have not been selected at this time

No of Trucks: _____ Capacity (tons): _____ Empty Weight (lbs): _____

Truck Type 2 (Description): _____

No of Trucks: _____ Capacity (tons): _____ Empty Weight (lbs): _____

Truck Type 3 (Description): _____

No of Trucks: _____ Capacity (tons): _____ Empty Weight (lbs): _____

Truck Type 4 (Description): _____

No of Trucks: _____ Capacity (tons): _____ Empty Weight (lbs): _____

CRUSHING/SCREENING/HOT MIX ASPHALT PLANT/CONCRETE BATCH PLANT:

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OTHER

Other Emission Sources and Control: _____

Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Mining/Quarry Operations – Non Coal

Emission Summary Form

WYOMING

Fill out this portion of the form for every emission source (existing & proposed)

Source	TSP	PM_{10}	NO_x	CO	SO_2	VOC	HAP
	TPY	TPY	TPY	TPY	TPY	TPY	TPY
Total							

FORM: AQD- MN4

REVISED: August 2008

JUN 2014
RECEIVED
AIR QUALITY DIVISION

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Permit Application Form
Please submit three (3) copies of the complete application

WYOMING

COMPANY RST Sand and Gravel

Contact: Roger Seherr-Thoss Title: President

Mailing Address: PO Box 1709

City: Jackson State: WY Zip: 83001

Phone: 307-733-5511 Fax: 307-733-2349 E-Mail:

INITIAL LOCATION

Legal Description: ____ 1/4 NE 1/4: Section 19 T 40 N R 116 W

Latitude: 43d 24' 56.30" N Longitude: 110d 47' 52.95" W

County: Teton

Is the initial location an existing mine/quarry: yes ☐ no X

Mine/Quarry Name: RST Sand and Gravel Mine/Quarry Owner: Roger Seherr-Thoss

AQD Permit Number (for existing mine):

TYPE OF MATERIAL CRUSHED/SCREENED:

Max. Hourly Production: 180 tons/hr Max. Annual Production: 52,000 tons/year

Avg. Hourly Production: 170 tons/hr

Max. Hours of Operation: 8 hours/day 5 days/week 24 weeks/year

EQUIPMENT/OPERATION (mark all that apply)

Crushing x
Screening x
Stockpiling x
Conveyor Transfer and Drop Points x How many: 4

Is the equipment intended for stationary or portable use: Stationary x Portable ☐

This application must include:

1. **A brief process description with a plot plan depicting site set up with location of controls.**
2. **Application form AQD-MN1-4 for the mine/quarry, if mine/quarry is not permitted.**

I, Roger Seherr-Thoss President

Responsible Official (Please print or type) **Title**

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the maximum production rate listed in this application reflects the maximum anticipated production rate for this crushing/screening operation. The facility will operate in compliance with all Wyoming Air Quality Standards and Regulations.

Signature: Roger Seherr-Thoss **Date:** 6/13/2014

FORM: AQD-CS1 REVISED: August 2008

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Crusher/Screen Form

CRUSHER #1

Primary x Secondary ☐ Tertiary ☐ Other ☐

Manufacturer: CEC Model #: V0045 Serial #: 00520

Type: Jaw ☐ Cone x Impact ☐ Other ☐

Date manufactured: 2001 Max. crusher capacity per hour: 95 tons

Subject to NSPS - OOO: yes no x

CRUSHER #2

Primary x Secondary ☐ Tertiary ☐ Other ☐

Manufacturer: Cedar Rapids Model #: E895 Serial #: 21283

Type: Jaw x Cone ☐ Impact ☐ Other ☐

Date manufactured: 1953 Max. crusher capacity per hour: 95 tons

Subject to NSPS - OOO: yes ☐ no x

(Use additional Crusher/Screen Forms if using more than 2 crushers)

SCREEN #1

Manufacturer: CEC Model #: Screen-It 5'x7' Type: Portable

Date manufactured: 1999 Serial #: 98327

Operating in conjunction with a crusher: yes no x Max. capacity of crusher: 95 tons per hour

SCREEN #2

Manufacturer: L-Jay Model #: F8G6163-82 Type: Stationary

Date manufactured: 1982 Serial #: 46372

Operating in conjunction with a crusher: yes x no ☐ Max. capacity of crusher: 95 tons per hour

(Use additional Crusher/Screen Forms if using more than 2 screens)

SOURCE CONTROL Sources will be controlled as follows:

	No Control	Water Spray	Chemical Dust Suppressant	Other (explain)
Feed hopper	☐	☐	☐	☐
Transfer Points	☐	☐	☐	☐
Inlet to Crushers	☐	x	☐	☐
Outlet of Crushers	☐	☐	☐	☐
Inlet to Screens	☐	x	☐	☐
Outlet of Screens	☐	x	☐	☐
Haul Roads	☐	x	☐	☐
Work Areas	☐	x	☐	☐
Stockpiles	☐	x	☐	☐

Power Source: Line Power ☐ Generator x

*** If using generator, submit Form AQD-CS3 Generator Form.**

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Generator Form

GENERATOR #1 INFORMATION

Manufacturer: Caterpillar Model #: 3306 Serial #: 9NR03330
1999 Site Horsepower Rating: 320 Annual Operating Hours: 960

Fuel Type:
Natural Gas ☐ LP Gas ☐ Diesel x Gasoline ☐
Fuel Consumption (specify units): 5 liters/hour Fuel Sulfur Content (specify units):

Emissions Data:

	g/hp-hr	lb/hr	tpy
NOx	See attached	sheets	
CO			
VOC			
PM_{10}			
SO_x			

Emissions Control:
Lean Burn ☐
AFRC ☐
NSCR ☐
SCR ☐
Tier I Certified x
Tier II Certified ☐
Tier III Certified
Other (Describe) ☐

GENERATOR #2 INFORMATION

Manufacturer: Model #: Serial #:
Year: Site Horsepower Rating: Annual Operating Hours:

Fuel Type:
Natural Gas ☐ LP Gas ☐ Diesel ☐ Gasoline ☐
Fuel Consumption (specify units): Fuel Sulfur Content (specify units):

Emissions Data:

	g/hp-hr	lb/hr	tpy
NOx			
CO			
VOC			
PM_{10}			
SO_x			

Emissions Control:
Lean Burn ☐
AFRC ☐
NSCR ☐
SCR ☐
Tier I Certified ☐
Tier II Certified ☐
Tier III Certified ☐
Other (Describe) ☐

(Use additional Generator Forms if using more than 2 generators)

ADDITIONAL INFORMATION:

Please use the following hierarchy for determining emissions from generators.

1. **Emission rates in g/hp-hr based on manufacturer's information: Provide a copy of the manufacturer's information with the application.**
2. **Emission rates in g/hp-hr based on actual test data: Provide a copy of the test report with the application.**
3. **Emission factors: Documentation from the manufacturer must be provided with the application stating no emission factors are available for the generator before the Division will accept other emission factors such as AP-42.**

STATE OF WYOMING
Department of Environmental Quality
Air Quality Division
WAQS&R Chapter 6, Section 2 Permit Application
Crushing/Screening Operations
Emission Summary Form

Fill out this portion of the form for every emission source (existing & proposed)

Source	TSP	PM_{10}	NO_x	CO	SO_2	VOC	HAP
	TPY	TPY	TPY	TPY	TPY	TPY	TPY
Total							

FORM: AQD-CS4 REVISED: August 2008

EMISSIONS DATA [9NR03330] **JUNE 12, 2014**

To Clyde Rainey

For Help Desk Phone Numbers Click here

Print

Engine Emissions Data

For Emissions feedback and questions submit request form

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	**9NR03330**
Sales Model	
Build Date	1999-02-09
Interlock Code Progression	No Interlock Code Progression
As Shipped Data	
Engine Arrangement Number	1302234
Test Spec Number	2T8497
Regulatory Status	EPA / CARB / EU
Labeled Model Year	1999
Family Code	XCPXL10.5MRG
Emissions Level	EPA Tier 1
Emissions Level	EU Stage I
Flash File	No Flash File Found
CORR FL Power at RPM	359 HP (268.0 KW) at 1800 RPM
Advertised Power	320HP 1,800RPM
Total Displacement	10.5

This is not an official emission certificate. This is for emission data information only.

Caterpillar Confidential: Green
Content Owner: Commercial Processes Division
Web Master(s): PSG Web Based Systems Support
Current Date: Thursday, June 12, 2014 12:24:16 PM
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Data Privacy Statement.

210, KW

From Roger

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

1999 Model Year Certificate of Conformity with the Clean Air Act

Manufacturer:	CATERPILLAR INC.
Certificate Number:	CPX-NRCI-99-14
Effective Date:	12/3/98
Date Issued:	12/3/98

Jane Armstrong, Director, VPCD
Office of Mobile Sources

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. § 7547) and 40 CFR 89, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 89 and produced in the stated model year.

Nonroad Diesel Engine Family: XCPXL10.5MRG

This certificate of conformity covers only those new nonroad compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 89 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 89. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 89.129-96 and 89.506-96 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 89. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void ab initio for other reasons specified in 40 CFR Part 89.

This certificate does not cover nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-87

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CATERPILLAR, INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 of the Health and Safety Code; and,

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following Caterpillar, Inc. 1999 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Loader, Generator and Industrial Equipment

Fuel Type: Diesel

Engine Family	Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
XCPXL10.5MRG	10.5	(644)	Turbocharger Smoke Puff Limiter Charge Air Cooler

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
0.4	1.6	6.8	0.2	16	4	36

BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2425 et seq.).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 16th day of December 1998.

R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

10/21/98

Manufacturer: CATERPILLAR INC.

Process Code: New Submission

EPA Engine Family: XCPXL10.5MRG

Manufacturer Family Name: NA

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
Note: Peak HP	and Peak Torque	fuel rates are	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	
1 - Cert Engine	3306	362 @ 1800	220	133.0	1328 @ 1200	266	107.0	EM, DI, TC, SPL,
2	3306	320 @ 1800	208	126.0	1196 @ 1400	234	110.0	EM, DI, TC, SPL,
3	3306	349 @ 1800	208	126.0	1196 @ 1400	234	110.0	EM, DI, TC, SPL,
4	3306	311 @ 1800	202	122.0	1142 @ 1400	221	104.0	EM, DI, TC, SPL,
5	3306	311 @ 1800	202	122.0	1142 @ 1400	221	104.0	EM, DI, TC, SPL,
6	3306	311 @ 1800	202	122.0	1142 @ 1400	221	104.0	EM, DI, TC, SPL,
7	3306	306 @ 1800	197	120.0	1134 @ 1400	223	105.0	EM, DI, TC, SPL,
8	3306	306 @ 1800	197	120.0	1134 @ 1400	223	105.0	EM, DI, TC, SPL,
9	3306	330 @ 2200	168	124.0	1092 @ 1400	217	102.0	EM, DI, TC, SPL,
10	3306	325 @ 2200	167	123.0	1074 @ 1400	213	100.0	EM, DI, TC, SPL,
11	3306	325 @ 2100	168	119.0	1047 @ 1400	209	99.0	EM, DI, TC, SPL,
12	3306	325 @ 2100	168	119.0	1047 @ 1400	209	99.0	EM, DI, TC, SPL,
13	3306	325 @ 2000	172	116.0	1057 @ 1400	208	98.0	EM, DI, TC, SPL,
14	3306	295 @ 2000	160	107.0	929 @ 1400	192	90.0	EM, DI, TC, SPL,
15	3306	325 @ 1800	198	120.0	1125 @ 1200	233	94.0	EM, DI, TC, SPL,
16	3306	325 @ 1800	198	120.0	1125 @ 1200	233	94.0	EM, DI, TC, SPL, ATC
17	3306	310 @ 2200	164	121.0	1029 @ 1400	209	98.0	EM, DI, TC, SPL,
18	3306	300 @ 2200	159	118.0	991 @ 1400	203	95.0	EM, DI, TC, SPL,
19	3306	285 @ 2200	146	108.0	934 @ 1400	183	86.0	EM, DI, TC, SPL,
20	3306	310 @ 2100	167	118.0	1008 @ 1400	206	97.0	EM, DI, TC, SPL,
21	3306	310 @ 2100	167	118.0	1008 @ 1400	206	97.0	EM, DI, TC, SPL,
22	3306	260 @ 2200	134	99.0	817 @ 1400	162	76.0	EM, DI, TC, SPL,
23	3306	300 @ 2100	161	114.0	986 @ 1400	198	93.0	EM, DI, TC, SPL,
24	3306	300 @ 2100	160	113.0	985 @ 1400	194	92.0	EM, DI, TC, SPL,
25	3306	270 @ 2100	146	103.0	884 @ 1400	181	85.0	EM, DI, TC, SPL,
26	3306	310 @ 2000	169	114.0	1044 @ 1400	205	97.0	EM, DI, TC, SPL,
27	3306	290 @ 2000	160	108.0	963 @ 1400	194	91.0	EM, DI, TC, SPL,
28	3306	275 @ 2000	149	100.0	897 @ 1400	181	85.0	EM, DI, TC, SPL,
29	3306	310 @ 1850	178	111.0	1034 @ 1400	209	99.0	EM, DI, TC, SPL,
30	3306	300 @ 1850	176	110.0	992 @ 1400	202	95.0	EM, DI, TC, SPL,
31	3306	310 @ 1800	186	113.0	1073 @ 1200	225	91.0	EM, DI, TC, SPL,
32	3306	300 @ 1800	179	109.0	1017 @ 1400	207	97.0	EM, DI, TC, SPL.

33	3306	300 @ 1800	179	109.0	1020 @ 1400	207	97.0	EM, DI, TC, SPL,
34	3306	300 @ 1800	181	110.0	1015 @ 1400	204	96.0	EM, DI, TC, SPL,
35	3306	300 @ 1800	178	108.0	1014 @ 1400	204	96.0	EM, DI, TC, SPL,
36	3306	285 @ 1800	170	103.0	981 @ 1200	206	83.0	EM, DI, TC, SPL,
37	3306	260 @ 1800	154	93.0	888 @ 1200	187	75.0	EM, DI, TC, SPL,
38	3306	265 @ 2200	138	102.0	847 @ 1400	168	79.0	EM, DI, TC, SPL,
39	3306	260 @ 2200	134	99.0	854 @ 1400	163	77.0	EM, DI, TC, SPL,
40	3306	250 @ 2200	130	96.0	800 @ 1400	159	75.0	EM, DI, TC, SPL,
41	3306	230 @ 2200	120	89.0	738 @ 1400	149	70.0	EM, DI, TC, SPL,
42	3306	225 @ 2200	118	87.0	701 @ 1400	141	67.0	EM, DI, TC, SPL,
43	3306	250 @ 2100	132	93.0	791 @ 1400	156	74.0	EM, DI, TC, SPL,
44	3306	250 @ 2100	132	93.0	791 @ 1400	156	74.0	EM, DI, TC, SPL,
45	3306	195 @ 2100	106	74.0	630 @ 1400	119	55.0	EM, DI, TC, SPL,
46	3306	231 @ 2000	123	83.0	718 @ 1400	144	68.0	EM, DI, TC, SPL,
47	3306	210 @ 2000	113	76.0	653 @ 1400	131	62.0	EM, DI, TC, SPL,
48	3306	265 @ 1800	155	94.0	942 @ 1200	185	75.0	EM, DI, TC, SPL,
49	3306	250 @ 1800	145	88.0	848 @ 1400	166	78.0	EM, DI, TC, SPL,

CAC

Engine family: XCP1610.5 MRG EO: U-R-1-87

LARGE ENGINE MODEL SUMMARY

10/21/99

EU: U-R-187

Manufacturer: CATERPILLAR INC.

Process Code: New Sub - continued

EPA Engine Family: XCPXL10.5MRG

Manufacturer Family Name:

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
Note: Peak HP	and Peak Torque	fuel rates are	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	
50	3306	250 @ 1800	149	90.0	887 @ 1400	177	83.0	EM, DI, TC, SPL,
51	3306	250 @ 1800	145	88.0	848 @ 1400	166	78.0	EM, DI, TC, SPL,
52	3306	250 @ 1800	145	88.0	832 @ 1400	166	78.0	EM, DI, TC, SPL,
53	3306	230 @ 1800	133	81.0	782 @ 1200	162	65.0	EM, DI, TC, SPL,
54	3306	210 @ 1800	121	74.0	704 @ 1200	143	58.0	EM, DI, TC, SPL,
55	3306	300 @ 2200	154	114.0	952 @ 1400	198	93.4	EM, DI, TC, SPL,
56	3306	300 @ 2200	154	113.6	988 @ 1400	195	91.7	EM, DI, TC, SPL,
57	3306	275 @ 2200	140	103.4	893 @ 1400	176	82.8	EM, DI, TC, SPL,
58	3306	275 @ 2200	140	103.4	893 @ 1400	176	82.8	EM, DI, TC, SPL,
59	3306	300 @ 2100	160	112.7	1020 @ 1400	206	97.0	EM, DI, TC, SPL,
60	3306	215 @ 2100	113	79.8	685 @ 1400	135	63.7	EM, DI, TC, SPL,
61	3306	300 @ 2100	160	112.7	1020 @ 1400	199	93.8	EM, DI, TC, SPL,
62	3306	279 @ 2200	149	110.1	906 @ 1400	187	88.0	EM, DI, TC, SPL,
63	3306	270 @ 2200	139	102.6	876 @ 1400	176	83.1	EM, DI, TC, SPL,
64	3306	291 @ 2200	147	108.5	982 @ 1400	195	91.7	EM, DI, TC, SPL, CAC
65	3306	285 @ 2200	148	109.5	920 @ 1400	187	88.2	EM, DI, TC, SPL,
66	3306	245 @ 2200	128	94.8	798 @ 1400	155	72.8	EM, DI, TC, SPL,
67	3306	240 @ 2200	125	92.4	745 @ 1400	156	73.3	EM, DI, TC, SPL,
68	3306	229 @ 2200	116	86.1	735 @ 1400	146	68.6	EM, DI, TC, SPL,
69	3306	229 @ 2200	118	86.1	735 @ 1400	146	68.6	EM, DI, TC, SPL,
70	3306	229 @ 2200	122	90.1	699 @ 1400	142	67.0	EM, DI, TC, SPL,
71	3306	229 @ 2200	122	90.1	699 @ 1400	142	67.0	EM, DI, TC, SPL,
72	3306	258 @ 2200	133	98.3	947 @ 1400	191	89.7	EM, DI, TC, SPL,
73	3306	258 @ 2200	133	98.3	947 @ 1400	191	89.7	EM, DI, TC, SPL,
74	3306	257 @ 2200	133	98.4	867 @ 1400	169	79.8	EM, DI, TC, SPL,
75	3306	257 @ 2100	139	98.4	867 @ 1400	169	79.8	EM, DI, TC, SPL,
76	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
77	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
78	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
79	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
80	3306	229 @ 1850	134	83.1	800 @ 1200	180	72.5	EM, DI, TC, SPL,
81	3306	226 @ 1850	132	82.0	789 @ 1200	177	71.5	EM, DI, TC, SPL,

83	3306	236 @ 1800	141	85.5	861 @ 1200	188	76.1	EM, DI, TC, SPL,
84	3306	236 @ 1800	141	85.4	861 @ 1200	186	75.1	EM, DI, TC, SPL,
85	3306	240 @ 1800	143	86.8	875 @ 1200	189	76.3	EM, DI, TC, SPL,
86	3306	221 @ 1900	127	80.8	757 @ 1200	173	70.0	EM, DI, TC, SPL,
87	3306	201 @ 1900	115	73.5	694 @ 1200	136	65.0	EM, DI, TC, SPL,
88	3306	214 @ 1900	122	77.8	735 @ 1200	145	58.4	EM, DI, TC, SPL,
89	3306	211 @ 1900	120	76.7	723 @ 1200	142	57.4	EM, DI, TC, SPL,
90	3306	194 @ 1900	111	70.7	664 @ 1200	131	52.7	EM, DI, TC, SPL,
91	3306	191 @ 1900	109	69.6	654 @ 1200	129	51.9	EM, DI, TC, SPL,
92	3306	270 @ 2200	142	104.8	882 @ 1400	176	83.1	EM, DI, TC, SPL,
93	3306	250 @ 2200	132	97.3	774 @ 1400	150	70.7	EM, DI, TC, SPL,
94	3306	275 @ 2200	144	106.2	893 @ 1400	175	82.6	EM, DI, TC, SPL,
95	3306	225 @ 2200	117	86.8	720 @ 1400	146	68.8	EM, DI, TC, SPL,
96	3306	292 @ 1800	190	115.0	1085 @ 1400	208	98.0	EM, DI, TC, SPL,
97	3306	290 @ 2000	168	113.0	1013 @ 1400	197	93.0	EM, DI, TC, SPL,
98	3306	210 @ 2000	113	76.0	640 @ 1400	129	61.0	EM, DI, TC, SPL,

Engine family: XCPXL10.5MRG, EO: U-R-1-87

LARGE ENGINE MODEL SUMMARY

10/21/00

EO: U-R-1-87

Manufacturer: CATERPILLAR INC.

Process Code: New Sub - continued

EPA Engine Family: XCPXL10.5MRG

Manufacturer Family Name:

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
Note: Peak HP	and Peak Torque	fuel rates are	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	
99	3306	210 @ 2000	113	76.0	651 @ 1400	131	62.0	EM, DI, TC, SPL,CAC

LARGE ENGINE TEST ENGINE INFORMATION FORM

10/21/98

Manufacturer: CATERPILLAR INC.

EO: U-R-1-87

1. EPA Standardized Engine Family Name: XCPXL10.5MRG 2. Process Code: New Submission 3. Test Data Set: 1

4. Engine Code: 1
5. Engine Model: 3306
6. Displacement(s) (cid Or Liters): 10.5 Liters
7. Engine I.d. Number: 64Z18842
8. Rated *HP* @ 362 @ Rated RPM: 1800
9. Torque *(ft-lb)* @ 1328 @ Engine RPM: 1200

10. WAIVERs:

CO	PM	Smoke	Idle Co
NA	NA	NA	NA

11. COLD START: NA
12. Certification Fuel: Diesel (Part 89,Sub D,Appdx A,Table 5)
13. Special Test Device ☐ Yes ☒ No
14 Test Procedure: Nonroad, 8 Mode & Smoke

15. Official Test Results Date: 8/29/95

	Test 1	Test 2	Test 3
HC/OMHCE	0.16		
NMHC/OMNMHCE			
HC + NOx			
CARBON MONOXIDE	1.57		
OXIDE OF NITROGEN	5.49		
PARTICULATE	0.135		
FORMALDEHYDE			
ACCELERATION (%opacity)	16.1		
LUGGING (Gen) (%opacity)	4.0		
PEAK (%opacity)	31.8		
IDLE CO %			
CO2			

16. Deterioration Factors

17. Certification Levels (Rounded Test Results) Units-- g/bHp-hr --Units

				STDs g/BHP-hr	STDs g/kW-hr	FELs
HC/OMHCE	0.2			e Missing	Missing>	
NMHC/OMNMHCE				e Missing	Missing>	
HC + NOx				e Missing	Missing>	
CARBON MONOXIDE	1.6			e Missing	Missing>	
OXIDE OF NITROGEN	5.5			e Missing	Missing>	NA
PARTICULATE	0.14			e Missing	Missing>	NA
FORMALDEHYDE				e Missing	Missing>	
ACCELERATION (%opacity)	16			e Missing>		
LUGGING (Gen) (%opacity)	4			e Missing>		
PEAK (%opacity)	32			e Missing>		
IDLE CO%				e Missing>		

LARGE ENGINE TEST ENGINE INFORMATION FORM

10/21/98

Manufacturer: CATERPILLAR INC.

EO: U-R-1-87

1. EPA Standardized Engine Family Name: XCPXL10.5MRG 2. Process Code: New Sub - continued 3. Test Data Set: 2

4. Engine Code: 90
5. Engine Model: 3306
6. Displacement(s) (cid Or Liters): 10.5 Liters
7. Engine I.d. Number: 08Z83252
8. Rated *HP* @ Rated RPM: 194 @ 1900
9. Torque *(ft-lb)* @ Engine RPM: 664 @ 1200

10. WAIVERs:

CO	PM	Smoke	Idle Co
NA	NA	NA	NA

11. COLD START: NA
12. Certification Fuel: Diesel (Part 89,Sub D,Appdx A,Table 5)
13. Special Test Device ☐ Yes ☒ No
14 Test Procedure: Nonroad, 8 Mode & Smoke

15. Official Test Results Date: 6/27/95

	Test 1	Test 2	Test 3
HC/OMHCE	0.35		
NMHC/OMNMHCE			
HC + NOx			
CARBON MONOXIDE	1.04		
OXIDE OF NITROGEN	6.79		
PARTICULATE	0.196		
FORMALDEHYDE			
ACCELERATION (%opacity)	10.0		
LUGGING (Gen) (%opacity)	2.0		
PEAK (%opacity)	36.0		
IDLE CO %			
CO2			

16. Deterioration Factors

17. Certification Levels (Rounded Test Results) Units– g/bHp-hr –Units

				STDs g/BHP-hr	STDs g/kW-hr	FELs
HC/OMHCE	0.4			e Missing	Missing>	
NMHC/OMNMHCE				e Missing	Missing>	
HC + NOx				e Missing	Missing>	
CARBON MONOXIDE	1.0			e Missing	Missing>	
OXIDE OF NITROGEN	6.8			e Missing	Missing>	
PARTICULATE	0.20			e Missing	Missing>	
FORMALDEHYDE				e Missing	Missing>	
ACCELERATION (%opacity)	10			e Missing>		
LUGGING (Gen) (%opacity)	2			e Missing>		
PEAK (%opacity)	36			e Missing>		
IDLE CO%				e Missing>		

LARGE ENGINE FAMILY INFORMATION FORM

10/21/98

Manufacturer: CATERPILLAR INC.

Engine category: Nonroad Over 50 Hp

Cert contact: [redacted]

☐ Change of Address

EO: U-R-1-87

1. Model Year: 1999

2. Carryover: Yes
If yes, list the previous family: WCPXL10.5MRG

3. Process Code: New Submission
Date EPA Fee Paid: NA

4. EPA Standard Engine Family Name: XCPXL10.5MRG

5. Mfr's Family Name: NA

Engine Family Characteristics

6. Engine Cycle: Diesel
7. Displacement(s) (cid Or Liters): 10.5 Liters
8. Engine Configuration: I 6
9. Emission Control System:
   - ☐ Catalyst
   - ☒ Engine Modification
   - ☐ Electronic Control
   - ☒ Smoke Puff Limiter
   - ☐ EGR
   - ☐ None
   - ☒ Other...
10. Fuel Type: Diesel
11. Fuel System Type: Mechanical Direct Injection
12. Method Of Aspiration: Turbo Air to Water (TAW)
13. Useful Life Period: 10 Years or 8000 Hours
14. Deterioration Factor Type
    - A. Gaseous Exhaust: NA
    - B. Smoke: NA

16. Projected Sales: USA [redacted]
    CA
17. Estimated Production Period: Start / End
18. Sales Area:
19. Plant Contact:

20. Plant Location: [redacted]

21. Program Information:

NCPs	AVE	B&T
☐ PM	☐ PM	☐ PM
☐ NOx	☐ NOx	☐ NOx
☒ None	☒ None	☒ None
☐ NA	☐ NA	☐ NA

22. Family Emission Limits: PM NA
    NOx NA

23. Nonroad Engine Equipment Types:

☐ Crane	☐ Dozer	☒ Generator Set
☒ Loaders	☐ Pump	☐ NA
☐ Tractor	☐ Compressor	☒ Other...

15. Intended Service Class (Please Check One Box Only.)

☐ LHDD	☐ CFF/LEV
☐ MHDD	☐ CFF/ULEV
☐ HHDD	☐ CFF/ILEV
☐ HDG 1 (<=14k lbs)	☐ CFF/ZEV
☐ HDG 2 (>14k lbs)	☐ Nonroad 1 (<130kW)
☐ HDG 1 (>14k lbs using <14k stds)	☒ Nonroad 2 (>=130kW)
☐ HDG 2 (<14k lbs using >14k stds)	☐ CA Medium duty
☐ Urban Bus	☐ Other...

24. Auxiliary Emission Control Devices:

AECD	PARAMETER Sensed	PARAMETER Controlled	Does AECD result in reducing effectivness of emission control device(s):
Intake Manifold Air Heater	Air or Coolant Temp	Cranking Time, White	☐ Yes ☒ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

25. Adjustable Parameters:

Parameter	Adjustable Range (or N/a)	Tamper Resistance Method (or N/a)
Rated Power	± 3%	* See Large Engine Technical
Peak Torque	± 5%	Description under Section No.
Low Idle	± 10 RPM	02.04.07 for Methods of
High Idle	± 40 RPM	Tamper Resistance.
Fuel Ratio Control	± 0.13 mm	
Static Timing	± 1 degree	