

**Air Quality Permit Application
Carroll County Quarry
Carroll County, GA**

Prepared For

**Rocky Bottom, LLC
2015 3rd Avenue N
Birmingham, Alabama 30185**

Prepared By



**Black Rock Consulting, LLC
7 Dunwoody Park, Suite 115
Atlanta, Georgia 30338**

August 24, 2020

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FOR
CARROLL COUNTY QUARRY

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1.0. APPLICATION



SIP AIR PERMIT APPLICATION

EPD Use Only

Date Received: _____ Application No. _____

FORM 1.00: GENERAL INFORMATION

1. Facility Information

Facility Name: Carroll County Quarry
AIRS No. (if known): 04-13- - (New Permit)
Facility Location: Street: Black Dirt Road
City: Whitesburg Georgia Zip: 30185 County: Carroll
Is this facility a "small business" as defined in the instructions? Yes: ☐ No: ☐

2. Facility Coordinates

Latitude: 33° 31' 15" **NORTH** Longitude: -84° 51' 40" **WEST**
UTM Coordinates: 698641 **EAST** 3711086 **NORTH** **ZONE** 16S

3. Facility Owner

Name of Owner: Rocky Bottom, LLC
Owner Address Street: 2015 3rd Avenue N.
City: Birmingham State: AL Zip: 35203

4. Permitting Contact and Mailing Address

Contact Person: David Grayson Title: Director of Mining Operations
Telephone No.: (678) 296-3019 Ext. _____ Fax No.: _____
Email Address: dgrayson@green-rock.com
Mailing Address: Same as: Facility Location: ☐ Owner Address: ☒ Other: ☐
If Other: Street Address: _____
City: _____ State: _____ Zip: _____

5. Authorized Official

Name: David Grayson Title: Director of Mining Operations
Address of Official Street: 2015 3rd Avenue N
City: Birmingham State: AL Zip: 35203

This application is submitted in accordance with the provisions of the Georgia Rules for Air Quality Control and, to the best of my knowledge, is complete and correct.

Signature: _____

Date: _____

8/24/20

6. Reason for Application: (Check all that apply)

- ☒ New Facility (to be constructed) ☐ Revision of Data Submitted in an Earlier Application
☐ Existing Facility (initial or modification application) Application No.: _____
☒ Permit to Construct Date of Original Submittal: _____
☒ Permit to Operate
☐ Change of Location
☐ Permit to Modify Existing Equipment: Affected Permit No.: _____

7. Permitting Exemption Activities (for permitted facilities only):

Have any exempt modifications based on emission level per Georgia Rule 391-3-1-.03(6)(i)(3) been performed at the facility that have not been previously incorporated in a permit?

- ☒ **No** ☐ **Yes, please fill out the SIP Exemption Attachment** (See Instructions for the attachment download)

8. Has assistance been provided to you for any part of this application?

- ☐ **No** ☐ **Yes, SBAP** ☒ **Yes, a consultant has been employed or will be employed.**

If yes, please provide the following information:

Name of Consulting Company: Black Rock Consulting, LLC
 Name of Contact: Chris Brown
 Telephone No.: (770) 395-6111 Fax No.: _____
 Email Address: cbrown@blackrockga.com
 Mailing Address: Street: 7 Dunwoody Park, # 115
 City: Atlanta State: GA Zip: 30338

Describe the Consultant's Involvement:

Preparation of air permit application and other related documents.

9. Submitted Application Forms: Select only the necessary forms for the facility application that will be submitted.

| No. of Forms | Form |
|--------------|--|
| x | 2.00 Emission Unit List |
| | 2.01 Boilers and Fuel Burning Equipment |
| | 2.02 Storage Tank Physical Data |
| | 2.03 Printing Operations |
| | 2.04 Surface Coating Operations |
| | 2.05 Waste Incinerators (solid/liquid waste destruction) |
| x | 2.06 Manufacturing and Operational Data |
| | 3.00 Air Pollution Control Devices (APCD) |
| | 3.01 Scrubbers |
| | 3.02 Baghouses & Other Filter Collectors |
| | 3.03 Electrostatic Precipitators |
| x | 4.00 Emissions Data |
| | 5.00 Monitoring Information |
| x | 6.00 Fugitive Emission Sources |
| | 7.00 Air Modeling Information |

10. Construction or Modification DateEstimated Start Date: 12/15/20

11. If confidential information is being submitted in this application, were the guidelines followed in the "Procedures for Requesting that Submitted Information be treated as Confidential"?☐ No ☐ Yes **N/A****12. New Facility Emissions Summary**

| Criteria Pollutant | New Facility | |
|--|-----------------|--------------|
| | Potential (tpy) | Actual (tpy) |
| Carbon monoxide (CO) | | |
| Nitrogen oxides (NOx) | | |
| Particulate Matter (PM) (filterable only) | | |
| PM <10 microns (PM10) | 79.951 | 6.559 |
| PM <2.5 microns (PM2.5) | | |
| Sulfur dioxide (SO ₂) | | |
| Volatile Organic Compounds (VOC) | | |
| Greenhouse Gases (GHGs) (in CO ₂ e) | | |
| Total Hazardous Air Pollutants (HAPs) | | |
| Individual HAPs Listed Below: | | |
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13. Existing Facility Emissions Summary

| Criteria Pollutant | Current Facility | | After Modification | |
|--|------------------|--------------|--------------------|--------------|
| | Potential (tpy) | Actual (tpy) | Potential (tpy) | Actual (tpy) |
| Carbon monoxide (CO) | | | | |
| Nitrogen oxides (NOx) | | | | |
| Particulate Matter (PM) (filterable only) | | | | |
| PM <10 microns (PM10) | | | | |
| PM <2.5 microns (PM2.5) | | | | |
| Sulfur dioxide (SO ₂) | | | | |
| Volatile Organic Compounds (VOC) | | | | |
| Greenhouse Gases (GHGs) (in CO ₂ e) | | | | |
| Total Hazardous Air Pollutants (HAPs) | | | | |

Individual HAPs Listed Below:

| | | | | |
|--|--|--|--|--|
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14. 4-Digit Facility Identification Code:

SIC Code: 1423

SIC Description: Crushed and Broken Granite Mining & Quarrying

NAICS Code: 212313

NAICS Description: Crushed and Broken Granite Mining & Quarrying

15. Description of general production process and operation for which a permit is being requested. If necessary, attach additional sheets to give an adequate description. Include layout drawings, as necessary, to describe each process. References should be made to source codes used in the application.

Rocky Bottom, LLC is proposing to construct and operate a new construction aggregate mine and associated stone processing plant. The facility proposes to operate at a production limit of 350 tons per hour through the primary crusher. Similarly, sales are also projected at 350 tons per hour. No paving of facility customer roads or other interior roads is planned. Road emission will be controlled by water truck. Dust suppression on processing equipment will be supplied by water spray and associated carry over control.

A process flow diagram and site plan are attached.

Due to the limit of 350 tons per hour, no dispersion modeling has been provided.

16. Additional information provided in attachments as listed below:

Attachment 1 - Application

Attachment 2 - Figure

Attachment 3 - PTE and Equipment List

Attachment 4 -

Attachment 5 -

Attachment 6 -

17. Additional Information: Unless previously submitted, include the following two items:

☒ Plot plan/map of facility location or date of previous submittal: _____

☒ Flow Diagram or date of previous submittal: _____

18. Other Environmental Permitting Needs:

Will this facility/modification trigger the need for environmental permits/approvals (other than air) such as Hazardous Waste Generation, Solid Waste Handling, Water withdrawal, water discharge, SWPPP, mining, landfill, etc.?

☐ No ☒ Yes, please list below:

NPDES Stormwater, NPDES Industrial Process Water and Surface Mining

19. List requested permit limits including synthetic minor (SM) limits.

Based on uncontrolled emission from the processing equipment the facility will be a true minor source. Controlled emissions are provided in the attached and are based on production for 24 hours per day. In addition, dust controls are proposed on both equipment (see process flow diagram) as well as the use of a water truck on customer and haul roads. Production and sales not to exceed 8,400 tons in a 24-hour period.

20. Effective March 1, 2019, permit application fees will be assessed. The fee amount varies based on type of permit application. Application acknowledgement emails will be sent to the current registered fee contact in the GECO system. If fee contacts have changed, please list that below:

Fee Contact name: David Grayson
Fee Contact email address: dgrayson@green-rock.com
Fee Contact phone number: (678) 296-3019

Fee invoices will be created through the GECO system shortly after the application is received. It is the applicant's responsibility to access the facility GECO account, generate the fee invoice, and submit payment within 10 days after notification.

Facility Name: Rocky Bottom, LLC - Carroll County Quarry Date of Application: 8/24/2020

FORM 2.00 – EMISSION UNIT LIST

| Emission Unit ID | Name | Manufacturer and Model Number | Description |
|------------------|---------------------------|-------------------------------|-------------|
| | See Attached Spreadsheets | | |
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Facility Name: Rocky Bottom, LLC - Carroll County Quarry Date of Application: 8/24/2020

FORM 2.06 – MANUFACTURING AND OPERATIONAL DATA

Normal Operating Schedule: 16 hours/day 6 days/week 50 weeks/yr
 Additional Data Attached? ☒ - No ☐ - Yes, please include the attachment in list on Form 1.00, Item 16.

Seasonal and/or Peak Operating Periods: NA

Dates of Annually Occurring Shutdowns: NA

PRODUCTION INPUT FACTORS

| Emission Unit ID | Emission Unit Name | Const. Date | Input Raw Material(s) | Annual Input | Hourly Process Input Rate | | |
|------------------|---------------------------|-------------|-----------------------|--------------|---------------------------|--------|---------|
| | | | | | Design | Normal | Maximum |
| | See Attached Spreadsheets | | | | | | |
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PRODUCTS OF MANUFACTURING

| Emission Unit ID | Description of Product | Production Schedule | | Hourly Production Rate (Give units: e.g. lb/hr, ton/hr) | | | |
|------------------|-----------------------------|---------------------|-------|--|--------|---------|-------|
| | | Tons/yr | Hr/yr | Design | Normal | Maximum | Units |
| | Misc Crushed Stone Products | | 8760 | 350 | 300 | 350 | TPH |
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FORM 4.00 – EMISSION INFORMATION

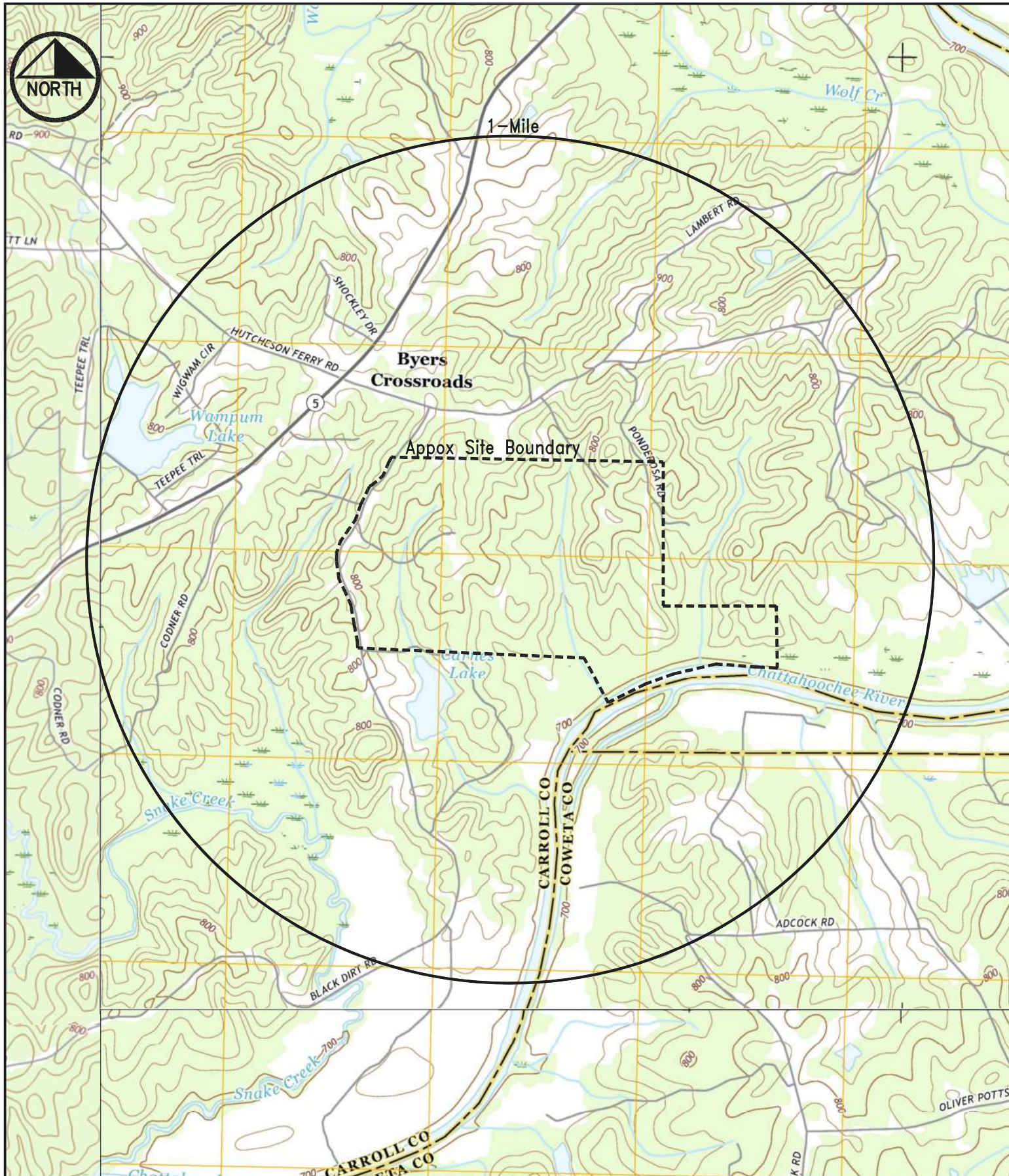
| Emission Unit ID | Air Pollution Control Device ID | Stack ID | Pollutant Emitted | Emission Rates | | | | |
|--------------------------|---------------------------------|----------|-------------------|---------------------------------|------------------------------------|------------------------------|---------------------------------|-------------------------|
| | | | | Hourly Actual Emissions (lb/hr) | Hourly Potential Emissions (lb/hr) | Actual Annual Emission (tpy) | Potential Annual Emission (tpy) | Method of Determination |
| See Attached Spreadsheet | | | | | | | | |
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Facility Name: Rocky Bottom, LLC - Carroll County Quarry Date of Application: 8/24//2020

FORM 6.00 – FUGITIVE EMISSION SOURCES

| Fugitive Emission Source ID | Description of Source | Emission Reduction Precautions | Pot. Fugitive Emissions | |
|-----------------------------------|-----------------------|--------------------------------|-------------------------|-----------|
| | | | Amount (tpy) | Pollutant |
| | Roads | Water Truck | 18.3 | PM10 |
| | Aggregate Stockpiles | Water as needed | 0.865 | PM10 |
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2.0. FIGURES

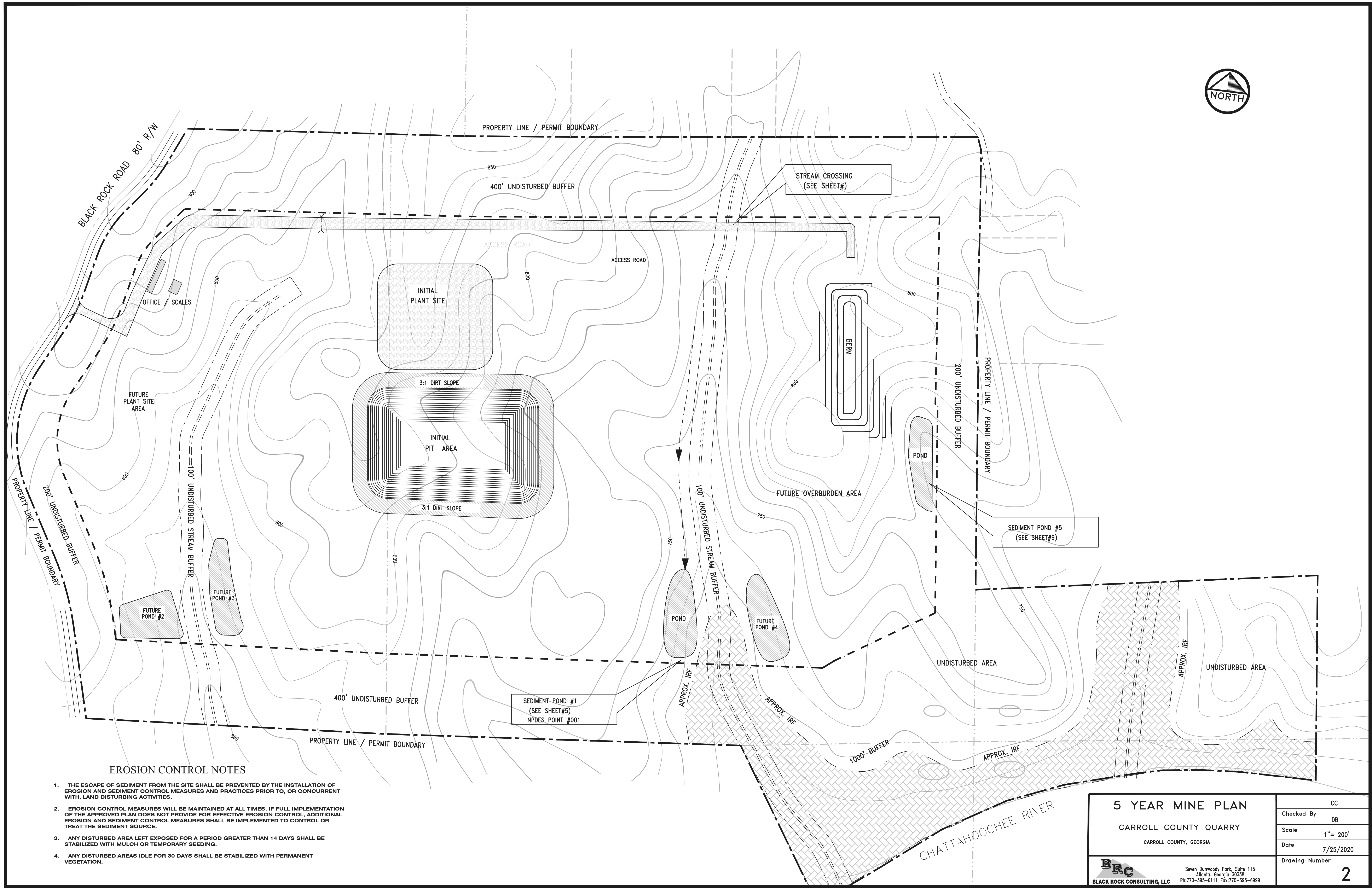


Carroll County Quarry
 Rocky Bottom, LLC
 Carroll County, GA

Project No200502
 Design By: NA
 Drawn By: CB
 Checked By: DB
 Date: 7/24/20
 Scale: 1=2000

Figure 1
Site Location
 Rico, Newnan N., Whitesburg &
 Hulett, GA 7.5 min USGS Topos

BRC
BLACK ROCK CONSULTING, LLC
 Seven Dunwoody Park, Suite 115
 Atlanta, Georgia 30338
 (P) 770.395.6111 (F) 770.395.6999



EROSION CONTROL NOTES

1. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
2. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
3. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
4. ANY DISTURBED AREAS IDLE FOR 30 DAYS SHALL BE STABILIZED WITH PERMANENT VEGETATION.

| | | |
|--|----------------|-----------|
| <div>5 YEAR MINE PLAN</div> <div>CARROLL COUNTY QUARRY</div> <div>CARROLL COUNTY, GEORGIA</div> <div><div><div>BRC</div><div>BLACK ROCK CONSULTING, LLC</div></div><div>Seven Dunwoody Park, Suite 115 Atlanta, Georgia 30338 Ph: 770-395-6111 Fax: 770-395-6999</div></div> | CC | |
| | Checked By | DB |
| | Scale | 1" = 200' |
| | Date | 7/25/2020 |
| | Drawing Number | 2 |

Process Flow Diagram

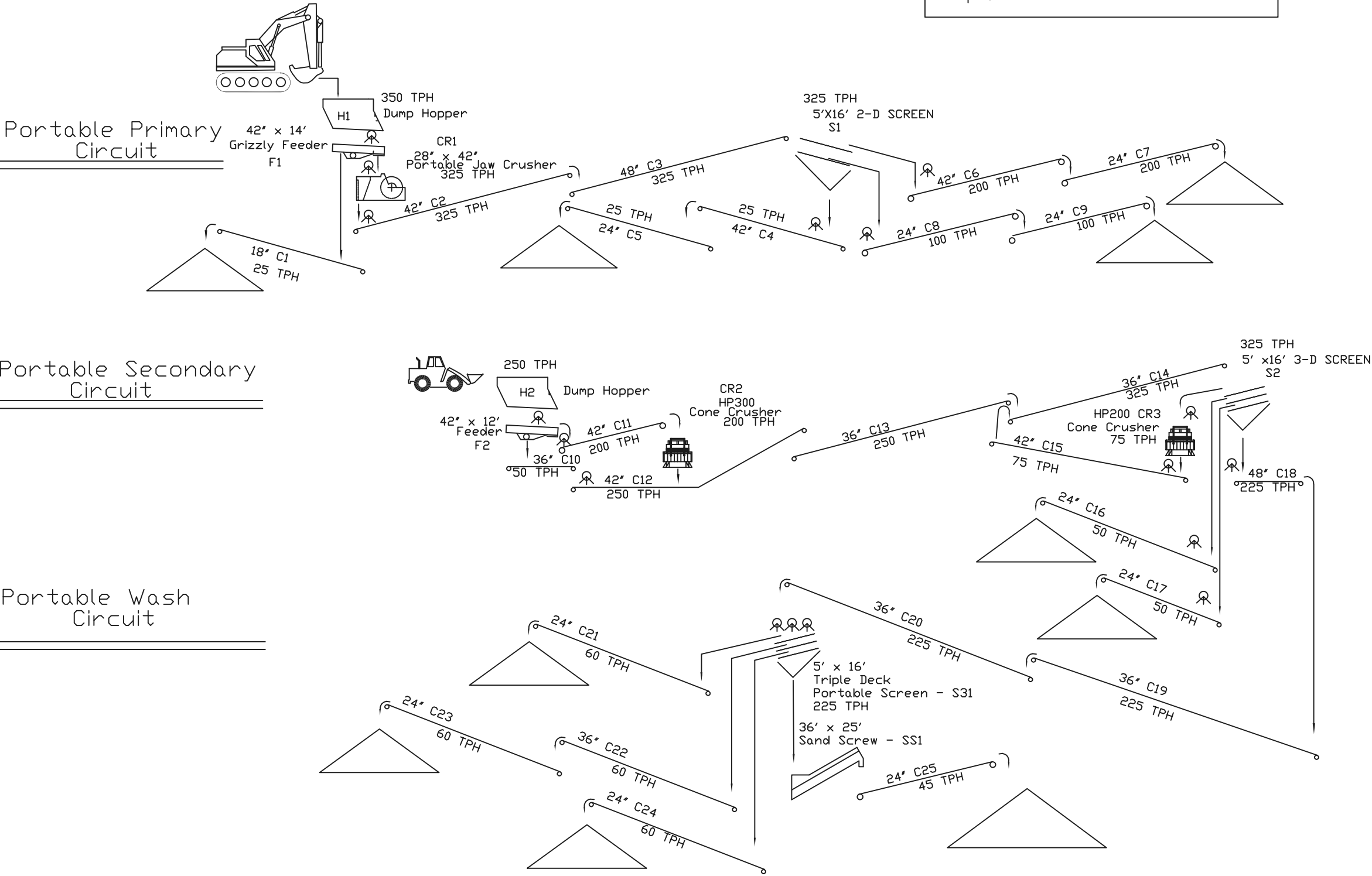
| Project No. | Date |
|---------------|------|
| Design By: | |
| Drawn By: CB | |
| Checked By: | |
| Date: 08/1/20 | |
| Scale: NTS | |

Portable Processing Plant
Carroll County Quarry
Rocky Bottom, , LLC

LEGEND



Dust Suppression



3.0 PTE CALCULATIONS & EQUIPMENT LIST

Rocky Bottom, LLC

Carroll County Quarry
Carroll County, Georgia
Aug-20

| | |
|---------------------|------|
| TONS/HOUR - Primary | 350 |
| TONS/HOUR - Sales | 350 |
| HOURS/YEAR - Plant | 8760 |
| HOURS/YEAR - Sales | 8760 |

Rocky Bottom, LLC

UNCONTROLLED CONDITIONS

TONS/HOUR AT PRIMARY
HOURS/YEAR350
8760

Emission Calculations (without controls)

Carroll County Quarry

Carroll County, Georgia

Aug-20

| SOURCE | SOURCE CODE | MAXIMUM PROCESS RATE (TPH) | EMISSION FACTOR (DRY) (PM ₁₀)(lbs/ton) | EMISSION CONTROL SYSTEM | CONTROL EFFICIENCY | SOURCE OF EMISSION FACTOR AND/OR CONTROL EFFICIENCY | PROCESS EMISSIONS (PM ₁₀ TON/YR) |
|-------------------------|-------------|----------------------------|--|-------------------------|--------------------|---|---|
| DUMP HOPPER #1 | H1 | 350 | 0.000016 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.025 |
| GRIZZLY FEEDER #1 | F1 | 350 | 0.0087 | NONE | 0 | AP-42 SECTION 11.19.2 | 13.337 |
| CONVEYOR 1 | C1 | 25 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.120 |
| PRIMARY CRUSHER | CR1 | 325 | 0.0024 | NONE | 0 | AP-42 SECTION 11.19.2 | 3.416 |
| CONVEYOR #2 | C2 | 325 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.566 |
| CONVEYOR #3 | C3 | 325 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.566 |
| SCREEN #1 | S1 | 325 | 0.0087 | NONE | 0 | AP-42 SECTION 11.19.2 | 12.384 |
| CONVEYOR #4 | C4 | 25 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.120 |
| CONVEYOR #5 | C5 | 25 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.120 |
| CONVEYOR #6 | C6 | 200 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.964 |
| CONVEYOR #7 | C7 | 200 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.964 |
| CONVEYOR #8 | C8 | 100 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.482 |
| CONVEYOR #9 | C9 | 100 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.482 |
| DUMP HOPPER #2 | H2 | 250 | 0.000016 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.018 |
| GRIZZLY FEEDER #2 | F2 | 250 | 0.0087 | NONE | 0 | AP-42 SECTION 11.19.2 | 9.527 |
| CONVEYOR #10 | C10 | 50 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.241 |
| CONVEYOR #11 | C11 | 200 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.964 |
| CONE CRUSHER #1 | CR2 | 200 | 0.0024 | NONE | 0 | AP-42 SECTION 11.19.2 | 2.102 |
| CONVEYOR #12 | C12 | 250 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.205 |
| CONVEYOR #13 | C13 | 250 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.205 |
| CONVEYOR #14 | C14 | 325 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.566 |
| SCREEN #2 | S2 | 325 | 0.0087 | NONE | 0 | AP-42 SECTION 11.19.2 | 12.384 |
| CONE CRUSHER #2 | CR3 | 75 | 0.0024 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.788 |
| CONVEYOR #15 | C15 | 75 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.361 |
| CONVEYOR #16 | C16 | 50 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.241 |
| CONVEYOR #17 | C17 | 50 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.241 |
| CONVEYOR #18 | C18 | 225 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.084 |
| CONVEYOR #19 | C19 | 225 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.084 |
| CONVEYOR #20 | C20 | 225 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 1.084 |
| SCREEN #3 (WASH SCREEN) | S3 | 225 | 0.0087 | NONE | 0 | AP-42 SECTION 11.19.2 | 8.574 |

Rocky Bottom, LLC

UNCONTROLLED CONDITIONS

TONS/HOUR AT PRIMARY
HOURS/YEAR

350
8760

Emission Calculations (without controls)
Carroll County Quarry
Carroll County, Georgia
Aug-20

| SOURCE | SOURCE CODE | MAXIMUM PROCESS RATE (TPH) | EMISSION FACTOR (DRY) (PM10)(lbs/ton) | EMISSION CONTROL SYSTEM | CONTROL EFFICIENCY | SOURCE OF EMISSION FACTOR AND/OR CONTROL EFFICIENCY | PROCESS EMISSIONS (PM10 TON/YR) |
|-----------------|-------------|----------------------------|---------------------------------------|-------------------------|--------------------|---|---------------------------------|
| CONVEYOR #21 | C21 | 60 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.289 |
| CONVEYOR #22 | C22 | 60 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.289 |
| CONVEYOR #23 | C23 | 60 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.289 |
| CONVEYOR #24 | C24 | 60 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.289 |
| SAND SCREW | SS1 | 45 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.217 |
| CONVEYOR #25 | C25 | 45 | 0.0011 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.217 |
| DRILLING IN PIT | PIT DRILL | 350 | 0.00008 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.123 |
| LOADING IN PIT | PIT LOAD | 350 | 0.000016 | NONE | 0 | AP-42 SECTION 11.19.2 | 0.025 |
| | | | | | | TOTAL | 79.951 |

Rocky Bottom, LLC

PROPOSED WITH CONTROLS

PRIMARY CRUSHER

TONS/HOUR
HOURS/YEAR350
8760

Emission Calculations (with controls)

Carroll County Quarry

Carroll County, Georgia

Aug-20

| SOURCE | SOURCE CODE | MAXIMUM PROCESS RATE (TPH) | EMISSION FACTOR (DRY) (PM ₁₀)(lbs/ton) | EMISSION CONTROL SYSTEM | SOURCE OF EMISSION FACTOR AND/OR CONTROL EFFICIENCY | PROCESS EMISSIONS (PM ₁₀ TON/YR) |
|-------------------------|-------------|----------------------------|--|-------------------------|---|---|
| DUMP HOPPER #1 | H1 | 350 | 0.000016 | NONE | AP-42 Section 11.19.2 | 0.025 |
| GRIZZLY FEEDER #1 | F1 | 350 | 0.00074 | WATER SPRAY | AP-42 Section 11.19.2 | 1.134 |
| CONVEYOR 1 | C1 | 25 | 0.0011 | NONE | AP-42 Section 11.19.2 | 0.120 |
| PRIMARY CRUSHER | CR1 | 325 | 0.00054 | WATER SPRAY | AP-42 Section 11.19.2 | 0.769 |
| CONVEYOR #2 | C2 | 325 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.065 |
| CONVEYOR #3 | C3 | 325 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.065 |
| SCREEN #1 | S1 | 325 | 0.00074 | CONTROL CARRY | AP-42 Section 11.19.2 | 1.053 |
| CONVEYOR #4 | C4 | 25 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.005 |
| CONVEYOR #5 | C5 | 25 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.005 |
| CONVEYOR #6 | C6 | 200 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.040 |
| CONVEYOR #7 | C7 | 200 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.040 |
| CONVEYOR #8 | C8 | 100 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.020 |
| CONVEYOR #9 | C9 | 100 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.020 |
| DUMP HOPPER #2 | H2 | 250 | 0.000016 | WATER SPRAY | AP-42 Section 11.19.2 | 0.018 |
| GRIZZLY FEEDER #2 | F2 | 250 | 0.00074 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.810 |
| CONVEYOR #10 | C10 | 50 | 0.0011 | NONE | AP-42 Section 11.19.2 | 0.241 |
| CONVEYOR #11 | C11 | 200 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.040 |
| CONE CRUSHER #1 | CR2 | 200 | 0.00054 | WATER SPRAY | AP-42 Section 11.19.2 | 0.473 |
| CONVEYOR #12 | C12 | 250 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.050 |
| CONVEYOR #13 | C13 | 250 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.050 |
| CONVEYOR #14 | C14 | 325 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.065 |
| SCREEN #2 | S2 | 325 | 0.00074 | CONTROL CARRY | AP-42 Section 11.19.2 | 1.053 |
| CONE CRUSHER #2 | CR3 | 75 | 0.00054 | WATER SPRAY | AP-42 Section 11.19.2 | 0.177 |
| CONVEYOR #15 | C15 | 75 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.015 |
| CONVEYOR #16 | C16 | 50 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.010 |
| CONVEYOR #17 | C17 | 50 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.010 |
| CONVEYOR #18 | C18 | 225 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.045 |
| CONVEYOR #19 | C18 | 225 | 0.000046 | WATER SPRAY | AP-42 Section 11.19.2 | 0.045 |
| CONVEYOR #20 | C19 | 225 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.045 |
| SCREEN #3 (WASH SCREEN) | C20 | 225 | 0.000046 | CONTROL CARRY | AP-42 Section 11.19.2 | 0.045 |
| CONVEYOR #21 | S3 | 225 | 0 | WET | AP-42 Section 11.19.2 | 0.000 |

Rocky Bottom, LLC

PROPOSED WITH CONTROLS

PRIMARY CRUSHER

TONS/HOUR
HOURS/YEAR

350
8760

Emission Calculations (with controls)
Carroll County Quarry
Carroll County, Georgia
Aug-20

| SOURCE | SOURCE CODE | MAXIMUM PROCESS RATE (TPH) | EMISSION FACTOR (DRY) (PM10)(lbs/ton) | EMISSION CONTROL SYSTEM | SOURCE OF EMISSION FACTOR AND/OR CONTROL EFFICIENCY | PROCESS EMISSIONS (PM10 TON/YR) |
|-----------------|-------------|----------------------------|---------------------------------------|-------------------------|---|---------------------------------|
| CONVEYOR #22 | C22 | 60 | 0 | WET | AP-42 Section 11.19.2 | 0.000 |
| CONVEYOR #23 | C22 | 60 | 0 | WET | AP-42 Section 11.19.2 | 0.000 |
| CONVEYOR #24 | C24 | 60 | 0 | WET | AP-42 Section 11.19.2 | 0.000 |
| SAND SCREW | SS1 | 45 | 0 | WET | AP-42 Section 11.19.2 | 0.000 |
| CONVEYOR #25 | SS1 | 45 | 0 | WET | AP-42 Section 11.19.2 | 0.000 |
| DRILLING IN PIT | PIT DRILL | 350 | 0.00008 | WET | AP-42 Section 11.19.2 | 0.123 |
| LOADING IN PIT | PIT LOAD | 350 | 0.000016 | WATER SPRAY | AP-42 Section 11.19.2 | 0.025 |
| | | | | | | |
| | | | | | | |

| | |
|-----------------------------|--------|
| Controlled Emission Summary | |
| Total Equipment | 6.559 |
| Fugitive Emission | |
| Paved Roads | 0.000 |
| Unpaved Roads | 18.326 |
| Stockpiles | 0.865 |
| Drilling in Pit | 0.123 |
| Loading in Pit | 0.025 |
| Total Fugitive Emissions | 0.000 |
| Total Emissions | 19.338 |
| | 19.338 |

Rocky Bottom, LLC

Air Model Source Parameters
Fugitive Emission Calculations

PROPOSED PERMITTED
CONDITIONS

350 TONS/HOUR
8760 HOURS/YEAR

Carroll County Quarry

CURRENT ROADWAY CONDITIONS

350 Ton/Hr @ Primary Crusher
350 Ton/Hr Customer Shipping
8760 Hr/Yr Primary Circuit Operation
8760 Hr/Yr Customer Shipping
3,066,000 Tons Production per Year
3,066,000 Tons Shipping per Year

| | |
|------|--|
| 0 | ft of paved customer roads |
| 2600 | ft of unpaved customer roads |
| 2500 | ft of unpaved haul road to bottom of pit |
| 4.00 | approximate acres of stockpile area |

I. FUGITIVE EMISSIONS - UNPAVED ROADS

Unpaved roadway PM10 fugitive emission factor:

$$E = k \cdot (s/12)^a \cdot (W/3)^b$$

[Section 11.2.1, AP-42 and Equ. 3-2, EPA-450/3-88-008]

Where: E = PM10 emission factor (lbs/vehicle mile traveled)

k = Aerodynamic particle silt multiplier

s = silt content of road surface material (percent)

Specifics: k = 1.5 [Section 11.2.1-3, AP-42]

s = 7 % [assumed silt content subject to verification]

W_q = 56.5 Tons (for Quarry Trucks, vehicle mean weight)

W_c = 4.9 Tons (Customer Trucks, vehicle mean weight)

a = 0.9

b = 0.45

E = 3.46 (lbs/vehicle mile traveled) for 50 ton capacity Quarry Trucks (GEPD 2013 Model Guidance)

E = 1.15 (lbs/vehicle mile traveled) for Customer Trucks (GEPD 2013 Model Guidance)

Unpaved roadway fugitive emission control efficiency by fixed spray or water truck: 90% assumed

q = capacity of Quarry Truck 50 tons

c = capacity of Customer Truck 21 tons

dq = 14.00 trips/hour (for Quarry Trucks)
dc = 33.333333 trips/hour (for Customer Trucks)

Conversion from lbs./VMT to g/s

$E(\text{lbs/VMT}) * MT * V/s * 454\text{g/lb} * \text{control factor} = \text{g/s}$

Where: MT= 0.0076 (40' road source) 0.0189 (100' road source)
V/s= 0.0092593 (customer trucks) 0.003889 (quarry trucks)
control factor= 90 percent (default from GA-EPD)

For 40' customer road sources: 0.003679 g/s

For 100' customer road sources: 0.009149 g/s 0.004575 (30% pit retention factor)

For 100' quarry road sources: 0.011547 g/s 0.008083 (30% pit retention factor)

II. FUGITIVE EMISSIONS - PAVED ROADWAYS

Paved roadway PM10 fugitive emission factor:

$E = k * (sL)^{.91} * (W)^{1.02}$

(AP-42 Section 13.2.4.2, Eq. 1)

Where E = PM10 emission factor
k = emission factor 0.0022 lbs/VMT for PM-10
sL = surface silt loading 8.2 g/sqm
W = Estimated truck weight 20 tons

E = 0.32 (lbs/vehicle mile traveled) for Customer Trucks (2013 GEPD Model Guidance)

Specifics V = 33.333333 vehicle passes in one hour

Conversion from lbs./VMT to g/s

$\text{lbs/VMT} * MT * V/s * 454\text{g/lb} * \text{control factor} = \text{g/s}$

Where: MT= 0.0076 (40' road source) 0.0189 (100' road source)
V/s= 0.0092593 (customer trucks)

For 40' customer road sources: 0.010127 g/s

For 100' customer road sources: 0.025185 g/s

With fixed Water Sprays or Water Truck:

control factor= 95 percent

For 40' customer road sources: 0.000506 g/s

For 100' customer road sources: 0.001259 g/s

III. FUGITIVE EMISSION FROM STOCKPILE AREAS

Stockpile fugitive emission factor (wind erosion):

$$E = 1.7 * (s/1.5) * ((365-p)/235) * (f/15)$$

[Equ. 4-9, EPA-450/3-88-008]

Where E = wind erosion factor (lbs/day/acre)
s = silt content of aggregate (percent)
p = number of days with > or = 0.01 inches of precipitation per year
f = % of the time that the unobstructed wind speed exceeds 12 mph at the mean pile height

Specifics s = 0.8 % [Table 4-1, EPA-450/3-88-008] (adjusted for PM10)
p = 120 days [Figure 13.2.2-1 from AP-42]
f = 18.8 % [USAF climate survey, 1946-1957, Dobbins AFB, Marietta, GA]

$$\begin{aligned} E &= 1.1847111 \text{ lbs of PM}_{10}/\text{Acre-Day} \\ \text{lbs/ac/day} * 454 \text{ g/lb} / (86400 \text{ s/day}) / (4047 \text{ sqm/ac}) &= \text{g/s/sqm} \\ E &= 1.538\text{E-}06 \text{ g/s/sqm} \end{aligned}$$

Control efficiency (CE) assumed to be 90 % for Surge Pile and Stockpiles with Water Spray

Specifics A = 4 acres of stockpiles
E = 1.1847111 lbs/acre/day (emission factor)
CE = 90% % (control efficiency - When Applicable)
CE = 0% % control efficiency applied
PE = 0.8648391 tons/year of potential stockpile emissions

TOTAL CALCULATED FUGITIVE EMISSIONS -

8760 HOURS/YEAR OF ALLOWABLE ROADWAY ACTIVITY

ROADWAYS = 18.326401 tons/year
STOCKPILES = 0.8648391 tons/year

TOTAL = 19.19124 tons/year of fugitive emissions

Total unpaved roadway fugitive emissions:

$$TE = (E * (\# \text{ of trucks/hour}) * (\# \text{ of miles traveled by truck}) * (\# \text{ of permitted oper.hours/year}) / (2000)) * (1 - (C/100))$$

Specifics 14.00 # of Quarry Trucks per hour [from application]
33.333333 # of Customer Trucks per hour [from application]
0.4734848 miles traveled by Quarry Truck
0.4924242 miles traveled by Customer Trucks
8760 Hrs [annual operating hours]

TE = 10.047126 tons/year of fugitive emissions from unpaved haul roads
TE = 8.2792753 tons/year of fugitive emissions from unpaved customer roads
TE = 18.326401 tons/year of fugitive emissions from unpaved customer and haul roads

$$TE = (E * (\# \text{ of trucks/hr}) * (\# \text{ of miles traveled by truck}) * (\# \text{ of permitted oper.hours/yr}) / (2000)) * (1 - (C/100))$$

Specifics 33.333333 # of Customer Trucks per hour [from application]
0 paved miles covered by Customer Trucks [measured from photographs]

TE = 0 tons/year of fugitive emissions from paved customer roads

Total Roadway Fugitive Emissions= 18.3264 tons/year of fugitive emissions from roadways

Rocky Bottom, LLC

Equipment List Carroll County Quarry Carroll County, Georgia

| SOURCE | SOURCE CODE | SIZE | NSPS |
|-------------------------|----------------|-----------------|------|
| DUMP HOPPER #1 | H1 | | Yes |
| GRIZZLY FEEDER #1 | F1 | 42"X14' | Yes |
| CONVEYOR 1 | C1 | 18" | Yes |
| PRIMARY CRUSHER | CR1 | 28"X42" | Yes |
| CONVEYOR #2 | C2 | 42" | Yes |
| CONVEYOR #3 | C3 | 48" | Yes |
| SCREEN #1 | S1 | 5' X 16' 2 Deck | Yes |
| CONVEYOR #4 | C4 | 42" | Yes |
| CONVEYOR #5 | C5 | 24" | Yes |
| CONVEYOR #6 | C6 | 42" | Yes |
| CONVEYOR #7 | C7 | 24" | Yes |
| CONVEYOR #8 | C8 | 24" | Yes |
| CONVEYOR #9 | C9 | 24" | Yes |
| DUMP HOPPER #2 | H2 | | Yes |
| GRIZZLY FEEDER #2 | F2 | 42" x 12' | Yes |
| CONVEYOR #10 | C10 | 36" | Yes |
| CONVEYOR #11 | C11 | 42" | Yes |
| CONE CRUSHER #1 | CR2 | HP300 | Yes |
| CONVEYOR #12 | C12 | 42" | Yes |
| CONVEYOR #13 | C13 | 36" | Yes |
| CONVEYOR #14 | C14 | 36" | Yes |
| SCREEN #2 | S2 | 5' x 16' 3Deck | Yes |
| CONE CRUSHER #2 | CR3 | HP200 | Yes |
| CONVEYOR #15 | C15 | 42" | Yes |
| CONVEYOR #16 | C16 | 24" | Yes |
| CONVEYOR #17 | C17 | 24" | Yes |
| CONVEYOR #18 | C18 | 48" | Yes |
| CONVEYOR #19 | C19 | 36" | Yes |
| CONVEYOR #20 | C20 | 36" | Yes |
| SCREEN #3 (WASH SCREEN) | S3 | 5' x 16' 3 Deck | Yes |
| CONVEYOR #21 | C21 | 24" | Yes |
| CONVEYOR #22 | C22 | 36" | Yes |
| CONVEYOR #23 | C23 | 24" | Yes |
| CONVEYOR #24 | C24 | 24" | Yes |
| SAND SCREW | SS1 | 36" x 25' | Yes |
| CONVEYOR #25 | C25 | 24" | Yes |