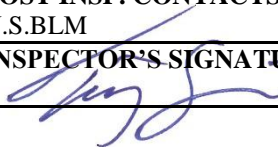




COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Red Canyon Quarry	MINE/PROSPECTING ID#: M-1985-043	MINERAL: Limestone (general)	COUNTY: Fremont
INSPECTION TYPE: Monitoring	INSPECTOR(S): Timothy A. Cazier	INSP. DATE: August 18, 2015	INSP. TIME: 11:00
OPERATOR: Rocky Mountain Materials and Asphalt, Inc.	OPERATOR REPRESENTATIVE: Tom Smith, Rob Mangone	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Citizen Complaint	BOND CALCULATION TYPE: None	BOND AMOUNT: \$334,000.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: U.S.BLM	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 21, 2015

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>N</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>N</u>	(BG) BACKFILL & GRADING----- <u>N</u>	(EX) EXPLOSIVES----- <u>Y</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>NA</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>N</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SW) STORM WATER MGT PLAN---- <u>N</u>	(CI) COMPLETE INSP---- <u>N</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(RS) RECL PLAN/COMP-- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

OBSERVATIONS

The purpose of this site visit was to monitor a planned blast at the Red Canyon Quarry as a result of a complaint received (via email on July 14, 2015) by the DRMS that potentially involved large amounts of dust, blasting intensity and volume, and hour so operation at this mine in Fremont County. Tim Cazier, representing the DRMS met Tom Smith and Rob Mangone, representing the Operator (Rocky Mountain Materials and Asphalt, Inc. – RMMA) and drove to the Complainant's residence to monitor the scheduled blast. All parties made introductions and the RMMA representatives explained some of the details and variables related to their blasting operations.

Blast Monitoring:

Buckley Powder set up a seismograph at the point where they initiated the blast. RMMA set up a second seismograph (see **Photo 1**) on the west side of the Complainant's residence, with a clear view of, and facing the blast area (see **Photo 2**). Based on the blast area coordinates included in Buckley's blast report (attached), the RMMA seismograph was set up approximately 1,250 feet southeast (and upgradient) of the blast site (see **Figure 1**).

It should be noted the DRMS observed RMMA's seismograph calibration had expired on July 21, 2015, approximately a month before this blast. RMMA committed to recalibrating their seismograph before the next blast.

Results:

After the blast was initiated, the Complainant indicated this particular blast was much less intense than earlier blasts that prompted his complaint.

The DRMS received seismograph data and the blast report on September 21, 2015. This documentation is attached. The seismograph results from the initiation point is hand-labeled "Buckley" and the from the Complainant's residence are hand-labeled "RMMA". In summary, the recorded ground vibration peak particle velocity was less than the 1 inch/second limit for a distance between 301 and 5,000 feet from the blast (0.213 and 0.130 – reported as 3.31 mm/s) at the blast initiation area and the Complainant's residence, respectively. The recorded airblasts were also below industry standard limits: Buckley's – 120.1 dB at 4.4 Hz (less than the 129 db limit @ ≤ 6 Hz) and RMMA's 119.8 dB at 1.7 Hz (less than the 133 db limit @ ≤ 2 Hz).

Summary and Recommendations:

1. Based on the Complainant's response and the blast monitoring data, this particular blast would not have initiated a complaint.
2. The Complainant, DRMS and RMMA discussed monitoring future blasts in order to try to determine what conditions result in a blast that would initiate a complaint. RMMA agreed to notify the Complainant of future blasts in a timely manner (ideally at least 48 hours in advance of a blast).
3. The DRMS will be attend future blast monitoring events if either party requests DRMS presence and if the proposed blast schedule can be accommodated by the DRMS.

PHOTOGRAPHS



Photo 1. Seismograph setup adjacent to Complainant residence (looking NW).



Photo 2. Telephoto view of blast area (looking NW).

Inspection Contact Address

Rob Mangone
Rocky Mountain Materials and Asphalt, Inc.
1910 Rand Ave
Colorado Springs, CO 80905

Enclosures

EC: Wally Erickson, DRMS
Tom Smith, RMMA
DRMS file
Stephanie Carter, BLM
Complainant (via email)

Figure 1. August 18 Blast monitoring

Satellite image is from 2011



Buckley Powder Co.**BLAST REPORT**

PO NUMBER: 150800996

SERVICE SITE LOCATION: LouviersORDER NO.: 7402605BLAST NUMBER: 4-2015 BLAST TIME: 2:59 pm BLAST DATE: 08/18/2015CUSTOMER: ROCKY MOUNTAIN MATERIA MINE ADDRESS: Rocky Mountain Matera Colorado Springs, COROCK TYPE: Granite Tons/Yd3: 2.20 EXPECTED VIBRATION: 0.000**LOCATION OF BLAST**LOCATION OF BLAST IN MINE: North BENCH: Bench 1BLAST GPS POINTS: N-038.60765 & W 104.94623**WEATHER**WEATHER: Partly Cloudy CEILING: Medium TEMPERATURE: 86 WIND DIRECTION & SPEED: North 3**NEAREST NON-OWNED STRUCTURE**NAME: ROCKY MOUNTAIN MATERIALS GPS Points: N -038.60765 & W 104.94390DISTANCE: 756 Ft DIRECTION: 90°**SEISMOGRAPH DATA**

LOCATION		DISTANCE		GPS POINTS		CALIBRATION DATE	
1	ROCKY MOUNTAIN MAT	756	Ft	N -038.60765	& W 104.94390	02/09/2015	
	L (F) T (F)	V (F)	AIR (db)	SEISMOGRAPH	SERIAL	OPERATOR	
1	0.203 17 0.097 22	0.141 17	120	BA 9241	BA 9241		

BLAST DATA

NUMBER OF HOLES (EA)		EXPLOSIVES SIZE, TYPE & WEIGHT	
HOLE DIAMETER (IN)	4.5	SIZE	TYPE
HOLE DEPTH (FT)	45	0.44	SPARTAN 200
FACE HEIGHT (FT)		0.75	SPARTAN 350
SUB DRILLING (FT)	0	BULK	TITAN 1000 XL
AVG. STEM FACE HOLES (FT)			
STEM OTHER HOLES (FT)	12		
BURDEN FRONT ROW (FT)			
BURDEN OTHER ROWS (FT)	15		
SPACING FRONT ROW (FT)			
SPACING OTHER ROWS (FT)	15		
		TOTAL WEIGHT: 27,418.63	

DETONATORS USED IN BLAST: Non-ElectricMATS USED: NoSTEM TYPE: CRUSHED STONE

TYPE	MFG	DATE CODE	USED	TYPE	MFG	DATE CODE	USED
EZDET 25/350 40 FT	Dyno Nobel Global	06JY15	99	EZTL 17MS 20FT	Dyno Nobel Global	08SE14	13
SPARTAN 350	Dyno Nobel Global	10FE15	123	EZTL 67MS 30 FT	Dyno Nobel Global	12JA15	24
SPARTAN 200	Dyno Nobel Global	13MY15	119	MS 350 50FT	Dyno Nobel Global	13OC14	143
LEADLINE 2500FT	Dyno Nobel Global	15JU15	500	EZTL 9MS 30 FT	Dyno Nobel Global	20AP15	2

CU YDS IN SHOT: 45,000SCALED DISTANCE FACTOR: 27% OF ANFO: 0TONS IN SHOT: 99,000HOLES/DELAY: 3FUEL OIL % (BULK): 0MAX LBS/DELAY: 735AVERAGE LBS/HOLE 228POWDER FACTOR (TONS/LB): 3.61POWDER FACTOR POUNDS/YD3: 0.61BLASTERS NAME: Shoemaker, Don S.BLASTERS NUMBER & STATE: 1-1-1636

BLASTERS SIGNATURE:

SITE SAFETY INSPECTION PERFORMED: YesNUMBER OF PERSONNEL ON SITE: 5**REMARKS :**ALL POINTS : -038.60765,104.94623 000.00000,000.00000

START TIME	END TIME	TOTAL TIME	TRUCK NUMBERS
8:30 AM	2:15 PM	05:45	5013

Date 8-18-15Location: Rocky Mtn Materials
Pemase, Cashot #: 4-2015**BLASTER'S CHECKLIST**

Must be filled out as you go

yes / no / NA

PRE-TRIP CHECKLIST

<input checked="" type="checkbox"/>	Measuring Tapes and lead ends
<input checked="" type="checkbox"/>	Burden pole
<input checked="" type="checkbox"/>	Paperwork and Hold Harmless
<input checked="" type="checkbox"/>	Splices
<input checked="" type="checkbox"/>	Starter and primers
<input checked="" type="checkbox"/>	Blasting Signs & cones
<input checked="" type="checkbox"/>	Sirens in working order
<input checked="" type="checkbox"/>	Seismographs
<input checked="" type="checkbox"/>	Paint
<input checked="" type="checkbox"/>	Set back Stakes
<input checked="" type="checkbox"/>	camera and tape for specific acct.

yes / no / NA

<input checked="" type="checkbox"/>	Drillers log (if faxed prior to shot)
<input checked="" type="checkbox"/>	Shot reports
<input checked="" type="checkbox"/>	Load - blocked and braced
<input checked="" type="checkbox"/>	Loading Poles / T Bars
<input checked="" type="checkbox"/>	Density Cup and Scales
<input checked="" type="checkbox"/>	Two Way Radios
<input checked="" type="checkbox"/>	Radios fully Charged
<input checked="" type="checkbox"/>	Wheel Chocks
<input checked="" type="checkbox"/>	Harness & Lanyard
<input checked="" type="checkbox"/>	First Aid Kits
<input checked="" type="checkbox"/>	PPE

yes / no / NA

PRESHIFT CHECKLIST

<input checked="" type="checkbox"/>	Inspect blast area for Unsafe Working Conditions (including face) for voids, cracks, caves, etc..
<input checked="" type="checkbox"/>	Ensure all employees have their site specific training.
<input checked="" type="checkbox"/>	Secure blast site with warning signs and cones (including floor in front of face)
<input checked="" type="checkbox"/>	Mark fall zone area at least six(6) feet from the crest
<input checked="" type="checkbox"/>	Inspect Harness/ Lanyard before each use if needed for fall zone or top of trucks
<input checked="" type="checkbox"/>	All equipment - back up alarms operational
<input checked="" type="checkbox"/>	Measure front row burden with burden pole or profiler
<input checked="" type="checkbox"/>	Check drill log and all holes for proper depth and blockage
<input checked="" type="checkbox"/>	Insure all needed products are present-enough boosters, detonators etc
<input checked="" type="checkbox"/>	Insure blast design is consistent with closest structures requirements
<input checked="" type="checkbox"/>	Check shot access including traffic activity
<input checked="" type="checkbox"/>	Any need for calling assistance (Hold Harmless, equipment to close, drilling problems, etc...)
<input checked="" type="checkbox"/>	Conduct pre-blast safety meeting with blast crew and customer blast coordinator (include names below)
	<div style="display: flex; justify-content: space-between;"> Don Bruce Luke Andrew John </div>
	Items covered <u>Stems slowly</u>

yes / no / NA

TIE-IN CHECKLIST

<input checked="" type="checkbox"/>	Shot tie inspected and signed off by two persons prior to shot including lead line (include names below)
	<div style="display: flex; justify-content: space-between;"> Don Bruce </div>
<input checked="" type="checkbox"/>	Blast area is cleared and blocked before attaching starter cap and lead line
<input checked="" type="checkbox"/>	Blaster in charge in communication with all guards at this time
<input checked="" type="checkbox"/>	Blaster in charge will insure blast area has been cleared and guarded before the siren is sounded
<input checked="" type="checkbox"/>	After proper waiting time blaster in charge will contact all guards before firing blast
<input checked="" type="checkbox"/>	Seismograph located at nearest off site structure or at the Property Line
<input checked="" type="checkbox"/>	Was the shot video taped
	Reason for not videoing:

yes / no / NA

POST BLAST CHECKLIST

<input checked="" type="checkbox"/>	Maintain guards until shot is cleared and "all clear" is sounded
<input checked="" type="checkbox"/>	Check for misfires, undetonated explosives or burning product and other dangers
<input checked="" type="checkbox"/>	Sound all clear that is audible to all parties
<input checked="" type="checkbox"/>	Dispose of lead line in approved manner
<input checked="" type="checkbox"/>	Dispose of empty boxes in approved methods only
<input checked="" type="checkbox"/>	Complete all paper work prior to leaving site- delivery ticket, return bill of lading, Blaster's checklist
	<div style="display: flex; justify-content: space-between;"> <div>cup densities</div> <div>1st <u>1.10</u></div> <div>2nd <u>1.05</u></div> <div>3rd <u>1.15</u></div> <div>Final Density</div> <div><u>1.10</u></div> </div>
<input checked="" type="checkbox"/>	Amount of water used in repump operations
<input checked="" type="checkbox"/>	Make one final check of blast site before leaving property to insure no materials have been left and that no hazards are present that may have been missed during clearing process

Must be completed and turned in daily

Blaster In Charge

Don Sholmat

Buckley Powder Co.

DIAGRAM

CUSTOMER NAME: ROCKY MOUNTAIN MATERIALS
BENCH: Bench 1
BLASTER'S NAME: Shoemaker, Don S.

BLAST DATE: 08/18/2015
BLAST NUMBER: 4-2015



○150 ○125 ○100 ○75 ○50 ○25 ○0
○226 ○201 ○176 ○151 ○126 ○101 ○76 ○67 ○92
○368 ○343 ○318 ○293 ○268 ○243 ○218 ○201 ○226
○477 ○452 ○427 ○402 ○377 ○352 ○327 ○310 ○335 ○385 ○410 ○435 ○460
○519 ○494 ○469 ○444 ○419 ○369 ○394 ○377 ○402 ○477 ○502 ○527
○611 ○586 ○561 ○511 ○486 ○469 ○561 ○586 ○611 ○636 ○444 ○469
○770 ○745 ○720 ○695 ○670 ○628 ○653 ○678 ○703 ○728 ○937
○837 ○812 ○787 ○762 ○737 ○720 ○745 ○770 ○795 ○845 ○870
○929 ○904 ○879 ○829 ○812 ○837 ○862 ○887 ○912
○996 ○971 ○946 ○921 ○904 ○929 ○954 ○979 ○1004
○1088 ○1063 ○1038 ○1013 ○996 ○1021 ○1046 ○1071 ○1096
○1180 ○1155 ○1130 ○1105 ○1088 ○1113 ○1138 ○1071 ○1188



Buc 4104

INSTANTEL BlastMate III

Serial Number 8A9241 V 10.72-8.17
Trigger Source Geo 0.0500 in/s
Geo Range Mic 130.0 dB(L)
Record Time 1.25 in/s
Location: Rocky Mtn 3.0 s at 1024 sps
Shot#4-2015 Colo Spr CO
Holes: 120
USER: Don Shoemaker

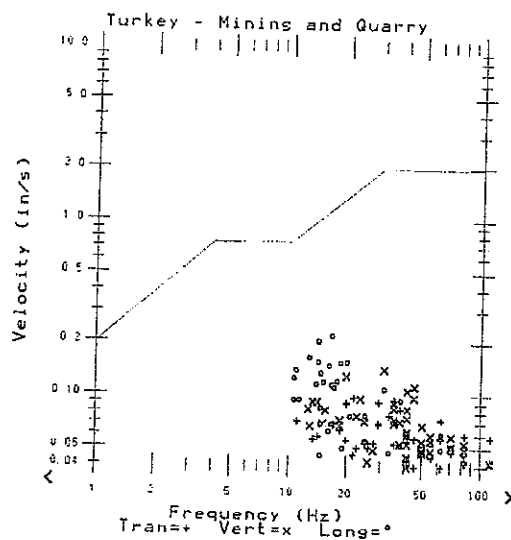
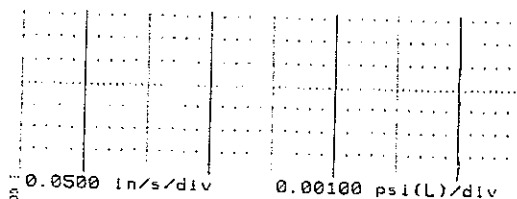
Pattern: 15x15
Scaled Distance 750.0 ft., 449.5 lb.,
35.4

Trigger Long at 02:59:14 PM Aug 18 15

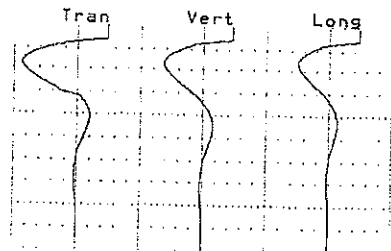
	Tran	Vert	Long
DPV	0.0969	0.141	0.203 in/s
ZC Freq	22	32	17 Hz
Time	0.554	0.078	0.573 sec
Accel	0.0845	0.139	0.101 g
Pk Disp	0.00067	0.00111	0.00173 in

PVS 0.213 in/s at 0.573 Sec

PSPL 120.1 dB(L) at 0.685 Sec
4.4 Hz



SENSORCHECK CALIBRATION



FI=6.1 OT=4.4 FV=7.3 OV=3.9
FL=7.7 OL=3.8 FM=20.1 PM=539
Tran, Vert, Long, MicL Passed
Battery Level: 6.3 Volts

Calibration Name Instantel
Calibration February 9, 2015

Format Copyrighted 1996-2010 Instantel

Date/Time MicL at 14:56:33 August 18, 2015
 Trigger Source Geo: 0.630 mm/s, Mic: 3.90 pa.(L)
 Range Geo: 31.7 mm/s
 Record Time 30.0 sec at 1024 sps
 Job Number: 1

Serial Number BC6736 V 10.72-8.17 MiniMate Plus
 Battery Level 6.2 Volts
 Unit Calibration July 21, 2014 by InstanTel
 File Name _TEMP.EVT

Notes

Location: Red Canon Scalehouse
 Client: Matheson Mining Ltd.
 User Name: Tech: 14
 General: Tests

Microphone Linear Weighting
 PSPL 19.5 pa.(L) at 7.944 sec
 ZC Freq 1.7 Hz
 Channel Test Passed (Freq = 20.1 Hz Amp = 651 mv)

	Tran	Vert	Long	
PPV	2.41	0.968	2.64	mm/s
ZC Freq	11	17	12	Hz
Time (Rel. to Trig)	25.405	25.342	25.271	sec
Peak Acceleration	0.0298	0.0166	0.0315	g
Peak Displacement	0.0333	0.00981	0.0359	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.5	Hz
Overswing Ratio	3.8	3.4	3.6	

Peak Vector Sum 3.31 mm/s at 25.354 sec

USBM RI8507 And OSMRE

