Buckley Powder Co.
A Dyno Nobel Distributor

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Blast Plan GCC Cedarwood Quarry

Mine Location: Pickney Rd, Rye, CO
GPS: 37.92722, -104.76118

Revision date: December 14, 2022

Blast design specifics

- Hole diameter- 5”
- Drill pattern – 12’x12’
- Drill depth – 20-24’
- Total number of holes in shot- ~180
- Charge weight per hole – 156lb
- Charge weight per delay- 312
- Total weight of explosives- 30,000 lbs.
- Total volume produced- 24,000 cy
- Primer - 3/4 lb. cast primer
- Detonator – 40’ EZ-Det NONEL
- Surface delay programming- 17,25 ms on spacing ; 42,67,91 ms on burden
- Initiation – Nonel Remote
- Blasting agent – Titan XL 1000 density- 1.15
- Stemming height- 8’
- Powder factor –1.3 tons/lb.
- Projected PPV at 500’-. .776 i.p.s.
- Projected PPV at 1000’- .256 i.p.s.
- Nearest protected structure- 2,950 ft.

Blast Schedule

- Blasting will take place between 1 hour after sunrise to 30 minutes after sunset on weekdays.
- No blasting will take place on weekends or holidays.
- Buckley Powder will notify GCC quarry management of blasting schedule.

Pre-blast surveys

- N/A (no known protected structures within 300ft. of mine site).

Transport / Storage of Explosives

- At no time will explosives be left unattended.
- Pre and Post inventory checks will be done.
- Authorized Buckley Powder Co. personnel only will handle explosive material
- Blast area to be barricaded and signs posted to prevent unauthorized entry.
- All explosives will be delivered in D.O.T. approved vehicle. Driver will be licensed for transport of explosives.
- Any products not used in days blasting operation will be returned to storage magazines.

Drill Logs

- Drill log to be completed by driller for each hole drilled
- Drill log to be reviewed by blaster in charge prior to loading
- Any necessary changes to blast design/hole loads will be made after review of drill log

Ground Vibration and Air Blast

- All blasting events to be monitored and readings recorded in blast report to include: peak particle velocity transverse, vertical, and longitudinal. Also to include peak sound pressure, time, date, and location of monitor. PPV shall not exceed 2.0 in/sec.

- Over pressure (air blast) limitation. Air-over pressure at the nearest dwelling house, school, church, or otherwise occupied buildings shall not exceed 133 dB (0.0129 psi).

- Blast will be monitored in location nearest the closest structure to the blast location.

Blast Site Security/Safety

- Blasters checklist to be completed during the shot loading process.
- Prior to blasting all personnel will evacuate to muster point established by blaster in charge.
- All access roads will be blocked, and blaster in charge will maintain radio contact with blockers.
- Audible warning to be given prior to blast.
- Blaster in charge will check area to insure all persons and equipment are out of blast area.
- Blaster in charge will contact each blocker and get verbal confirmation that access is blocked, and area is clear prior to firing shot.
- After firing of shot, blast area is to remain evacuated until blaster in charge inspects the shot, deems it safe to re-enter and gives the “all clear”.

Blast report and documentation

- All blasting events will be documented in blast report
- Blast report will contain all criteria listed in DRMS “Key Elements of a Blasting Plan”
- Blast reports to be completed within 24 hours of blasting event