



State of West Virginia
Earl Ray Tomblin, Governor

WV Office of Miners' Health, Safety & Training
Eugene White, Director
#7 Player Club Drive, Suite 2, Charleston, WV 25311-1626
Telephone 304-558-1425 • Fax 304-558-1282
www.wvminesafety.org

July 26, 2013

Connie Hendren, CEO
MineShield, LLC
322 Crab Orchard Road
Lancaster, KY 40444

Dear Mr. Hendren:

After evaluation of the documentation submitted and with the recommendation of our technical reviewer the WV Office of Miners' Health Safety and Training approves the modification of MineShield, LLC's "Mine Safety Units" models G10383 - 24", 30", 36" for 6-10 occupants and G10429 -24", 30", 36" for 2-33 occupants to include a variation that utilizes Monel fittings and valves on all high pressure oxygen circuits and either Monel or stainless steel fittings and valves on all compressed air circuits.

As with the previous modification to allow the use of a passive carbon dioxide removal system, units so equipped will be identified by modifying the serial number with an R at the end and a P at the beginning. The R means it has been retrofitted with non-brass fittings and valves and the P is for the passive carbon dioxide system. As an example 1006-MS-202 would now read P1006-ms-202R. Such serial number shall be easily observed by those doing inspections.

This modification does not change the requirement that all WV approved emergency shelters must be made compliant with MSHA part 7 by December 31, 2013 or be decommissioned. The approval for any shelters not either made compliant or decommissioned will be revoked effective January 1, 2014.

MineShield, LLC shall, upon request, provide this office with verification of valid orders, delivery dates and status of deliveries as required for this office to enforce §56-4-8 and related orders.

Any changes required or enhancements to the approved design affecting the ability to meet any provision of §56-4-8 shall require approval of this office prior to any affected MineShield, LLC "Mine Safety Units" being placed in operation.

Sincerely,

A handwritten signature in cursive script that reads "Eugene White".

Eugene White, Director

Enc: 1



MineShield, LLC

322 Crab Orchard Road
Lancaster, KY 40444
859-792-1605



Connie Hendren, CEO
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July 25, 2013

Randall Harris
Applied Engineering Advisor
State of West Virginia
Office Miners' Health Safety and Training

Dear Randy,

MSHA has requested that we contact you in regards to the West Virginia approvals on our retrofitted MineShield chambers. This is actually no different than what is required from and what has already been accepted by you or required by MSHA, but it seems they would rather have the specifics listed as to what our chambers incorporate. I have listed those specifics below for your review. This is for the district level use.

Models

G10383- 24", 30", 36" for 6-10 occupants
G10429- 2-33 occupants

Breathable Oxygen

Compressed Oxygen cylinders, T type, 2500psi with 10% overfill, (2640psi), 324 ft³
Monel Cylinder valves (Parker or Rotorex)
Monel ¼" fittings and tubing (high pressure side)
Monel body regulators (2)
Monel isolation valves
Dual isolated delivery
40µ filtration
Monel isolated particle traps (2)
Entire system in mechanical room Monel
Low pressure side (>200 psi) 316 stainless in living compartment
Oxygen delivered at <25psi and at least 1.32 ft³/hr per person
Graduated calibrated flow regulator

Purge System

Compressed air (nitrogen-oxygen 80/20) cylinders, T type, 2500psi with 10% overfill (2640 psi), 300ft³
Stainless Steel (316) tank valves
Stainless Steel 3/8" tubes and fittings
Stainless Steel high flow regulator
Stainless Steel isolation valves

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Entire system Stainless Steel
Delivery at 100-150 psi
At least 4 volume change out per purge

CO2 Removal

Chem Bio CO2 curtains and stands
Calcium Hydroxide chemical reactant
Passive system
MSHA approval 07-LPA130002

Gas Monitoring

IBRID MX6 gas monitor, base -O2, CO, CO2, CH4
Upgradable to 2 additional gasses
96 hour battery supply
MSHA Electrical Approval 22-A080002-0

Thank you for this clarification. It is deeply appreciated.

Sincerely,

Connie Hendren, CEO
MineShield, LLC