

In The Matter of  
Phelps Dodge Safford, Inc.  
Phelps Dodge Safford Inc. Mine  
I.D. No. 02-03131

PETITION FOR MODIFICATION

Docket No. M-2007-007-M

PROPOSED DECISION AND ORDER

On June 19, 2007, a petition was filed by Phelps Dodge Safford, Inc., (Safford) seeking a modification of the application of 30 C.F.R. § 56.6309(b) to its Phelps Dodge Safford Inc. Mine (Safford Mine) located in Safford, Graham County, Arizona. The petitioner alleged that the alternative method outlined in the petition would at all times guarantee no less than the same measure of protection for miners as afforded by the standard.

Standard 56.6309 Fuel oil requirements for ANFO, provides:

- (a) Liquid hydrocarbon fuels with flash points lower than that of No. 2 diesel oil (125 degrees Fahrenheit) shall not be used to prepare ammonium nitrate-fuel oil, except that diesel fuels with flash points no lower than 100 degrees Fahrenheit may be used at ambient air temperatures below 45 degrees Fahrenheit.
- (b) Waste oil, including crankcase oil, shall not be used to prepare ammonium nitrate-fuel oil.

MSHA investigators conducted an investigation relevant to the merits of the petition and filed a report of their findings with the Administrator for Metal and Nonmetal Mine Safety and Health. After a careful review of the entire record, including the petition and MSHA's investigative report this Proposed Decision and Order ("PDO") is issued.

FINDING OF FACT AND CONCLUSION OF LAW

The alternative method uses a blending plant which mixes recycled oil and diesel fuel oil on demand (as required) basis. There is no blended oil tank at the site. The system incorporates tanks containing diesel fuel, and tanks containing recycled filtered oil.

When a recycled oil tank is full, the tank is secured to prevent any additional recycled oil from being added until it is almost empty. The alternative method set forth in the Petition will at all times guarantee no less than the same measure of protection afforded

miners under 30 C.F.R. § 56.6309(b) by ensuring that only waste oils meeting certain conditions will be mixed with diesel fuel and prills to form an ammonium nitrate fuel oil (ANFO) blasting agent. Compliance with this PDO entitles Safford to a modification of the application of 30 C.F.R. § 56.6309(b) to its Safford Mine.

### ORDER

Wherefore, pursuant to the authority delegated by the Secretary of Labor to the Administrator for Metal and Nonmetal Mine Safety and Health and pursuant to Section 101(c) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. Section 811(c), it is ordered that a modification of the application of 30 C.F.R. § 56.6309(b) to the Safford Mine, as it pertains to utilizing recycled oil in preparing ANFO blasting agents is hereby:

**GRANTED**, conditioned upon compliance with the following requirements:

1. Only filtered, waste used petroleum-based, lubrication oil from diesel equipment ("recycled oil") at the Safford Mine shall be used for blending with diesel fuel and conventional prills to create ANFO.
2. Prior to storage in tank(s), the used oil shall be filtered to ensure that it has no particle size larger than 150 microns. Once filtered, the "used oil" becomes "recycled oil."
3. The recycled oil shall not be modified by heating, the addition of additives, or in any other way that could change the relevant properties of the recycled oil. High viscosity oils of 90 weight (90W) or above shall be restricted to less than 10% of the total quantity of the recycled oil.
4. The following tests for ethylene glycol and water shall be conducted on each tank of recycled oil:
  - (a) The recycled oil shall be checked for the presence of ethylene glycol and water prior to blending with the diesel fuel. If present, water or ethylene glycol shall be drained prior to mixing the recycled oil with the diesel fuel.
  - (b) Tests for ethylene glycol and water content shall be made by drawing a sample from the recycled oil tank at no less than 30 day intervals. If either substance is observed by vision or tests of the recycled oil, use of the recycled oil shall be discontinued until the ethylene glycol and/or water is drained from the recycled oil.
5. After mixing the recycled oil with the diesel fuel (this mixture becomes "blended oil"), the recycled oil shall not exceed 50% by volume of this mixture.

6. A representative sample blend of the recycled oil and the diesel fuel ("blended oil") shall be prepared and subjected to the following tests. The tests shall represent the entire tank of recycled oil as long as no additional recycled oil or other substances are added to the tank. Also, any alteration of the blend ratio of recycled oil to diesel requires a new series of tests.

(a) The recycled oil shall not exceed 50% of the mixture by volume.

(b) Viscosity tests of the blended oil mixture shall be taken at ambient outside temperatures before it is mixed with prills. Use of the blended oil shall be suspended when it becomes too viscous to obtain proper absorption, at least six (6) percent fuel by weight, in the prills. Additional non-recycled oil may be added to the blended oil and thoroughly mixed to obtain the proper absorption;

(c) A flash point test shall be conducted of the mixture using the open or closed cup ("American Society for Testing and Materials") (ASTM) method. The mixture shall have a minimum flash point of 100° Fahrenheit when the ambient air temperature is below 45° Fahrenheit. A minimum flash point of 125° Fahrenheit shall be maintained if the ambient air temperature is at or above 45° Fahrenheit.

7. A representative sample of each blend of the recycled oil and the diesel fuel ("blended oil"), when combined with the appropriate volume of ammonium nitrate prills and prior to this mixture (ANFO) being loaded in any drill hole, shall be tested in accordance with the following provisions:

(a) The Petitioner shall conduct one test for: (1) sensitivity of the blended oil mixture and ammonium nitrate prills to a No. 8 strength USA detonator in accordance with UN Test 15.4.1 test 5(a) which is attached; and (2) cap sensitivity using a Number 8 USA cap as the detonator which shall be the standard for this test.

(b) During the first thirty (30) days of blended oil use in the ANFO mixture, the Petitioner shall perform one "glass jar test" a day for each truck used that day to load drill holes for blasting to ensure that the oil has been appropriately absorbed. A copy of the "glass jar test" procedure and guidelines is attached to this order.

(c) If the results of the "glass jar" tests performed during the initial 30-day period in Paragraph 7(b) fall within the parameters set forth in the attachment and are satisfactory to MSHA, one "glass jar test" for each tank of recycled oil shall be performed by the Petitioner thereafter. If

unsatisfactory results occur, the MSHA District Manager shall be notified to determine if additional tests will be required.

8. A log shall be maintained for each tank of recycled oil at the Safford Mine for three (3) years following final use of each tank of the recycled oil. The log shall be made available to MSHA representatives and the miners' representative upon request. The following information shall be recorded in the log:

(a) The date and quantity (in gallons) of recycled oil transferred to the recycled oil tank;

(b) Condition No. 6(a) - the ratio of diesel fuel to recycled oil, the blending date, and the quantity (in gallons) of each ingredient;

(c) Condition No. 6 (b) - viscosity test and absorption results;

(d) Condition No. 6 (c) - flash point test results in degrees Fahrenheit;

(e) Condition Nos. 7 (a), (b), and (c) - sensitivity and blended oil/prill mixing test results including whether or not the sample detonated; "glass jar" test results; and

(f) "Load" and "shot" reports using the blended oil. These reports shall include the following information: the date(s) of loading, the date(s) of blasting, the quantities of ANFO or emulsions used, the weather conditions, the detonation methods, the borehole size(s), the use of plastic hole liners, and the number and location of any misfires within the round (shot).

Applicable revisions or appropriate changes to the MSHA 30 C.F.R. § 48 training plan regarding the conditions in this PDO shall be submitted to the MSHA District Manager for revision and approval prior to training plan implementation by the Petitioner.

Any party to this action desiring a hearing shall file a request for hearing within 30 days after service of the Proposed Decision and Order, in accordance with 30 C.F.R. § 44.14, with the Administrator for Metal and Nonmetal Mine Safety and Health, 1100 Wilson Boulevard, Arlington, Virginia 22209-3939. If a hearing is requested, the request shall contain a concise summary of position on the issues of fact or law desired to be raised by the party requesting the hearing, including specific objections to the Proposed Decision and Order. A party other than the petitioner who has requested a hearing shall also comment upon all issues of fact or law presented in the petition. Any party to this action requesting a hearing may indicate a desired hearing site. If no request for a

hearing is filed within 30 days after service thereof, this Proposed Decision and Order will become final and shall be posted by the operator on the mine bulletin board at the mine.

/s/ Felix A. Quintana  
Felix A. Quintana  
Administrator for Metal and Nonmetal  
Mine Safety and Health