

U.S. DEPARTMENT OF LABOR

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MINE SAFETY AND HEALTH ADMINISTRATION

+ + + + +

DIESEL PARTICULATE MATTER EXPOSURE
OF UNDERGROUND METAL AND NONMETAL MINES

+ + + + +

PUBLIC HEARING

+ + + + +

TUESDAY
SEPTEMBER 16, 2003

+ + + + +

SALT LAKE CITY, UTAH

+ + + + +

Panel Members:

- George Saseen
- Jim Petrie
- Becki Smith
- Deborah Green
- Doris Cash
- Jon Kogut

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P-R-O-C-E-E-D-I-N-G-S

1
2 MS. SMITH: Good morning. My name is
3 Becki Smith. I am the Deputy Director of MSHA's
4 Office of Standards, Regulations and Variances,
5 and on behalf of Dave Lauriski I would like to
6 welcome you to this public hearing today.

7 The purpose of this hearing is to
8 obtain input from the public on the proposed rule
9 published in the Federal Register on August the
10 14th, 2003 addressing Diesel Particulate Matter
11 Exposure of Underground Metal and Nonmetal Miners.

12 I would like to take the opportunity
13 to introduce the members of the panel joining me
14 today. On my immediate left, Deborah Green is
15 with the Office of the Solicitor for Mine Safety,
16 Doris Cash is from the Metal and Nonmetal
17 Organization of MSHA, and Jon Kogut is with our
18 Program Evaluation and Information Resource
19 organization. And on my right, Jim Petrie is with
20 Metal and Nonmetal, Northeastern District. Jim is
21 the district manager in that district and also
22 chairman of this committee. And George Saseen is
23 from MSHA's Technical Support Center. There are
24 several other staff members with us in the
25 audience today who you may be hearing from as the

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1 proceedings go forward.

2 This hearing is being held in
3 accordance with Section 101 of the Federal Mine
4 Safety and Health Act of 1977. As is the practice
5 of this agency, formal rules of evidence will not
6 apply; therefore, cross-examination of the hearing
7 panel will not be allowed, but the panel may
8 explain and clarify provisions of the proposed
9 rule. Also, as moderator of this public hearing I
10 reserve the right to limit the amount of time each
11 speaker is given as well as questions of the
12 hearing panel.

13 Those of you who have notified MSHA in
14 advance of your intent to speak will be allowed to
15 make your presentations first. I will call
16 speakers in the order that requests were made.
17 Following these presentations others who request
18 an opportunity to speak will be allowed to do so.
19 We invite all interested parties to present their
20 views at this hearing, and if you wish to speak
21 please be sure to sign in at the registration
22 table. So far I have five of you signed in to
23 speak this morning. We will remain in session
24 today until everyone who desires to speak has an
25 opportunity to do so. Also, if you're not signing

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1 up to speak today, we would like for you to sign
2 the general sign-in sheet so we will have an
3 accurate record of those in attendance at today's
4 hearing. We will also accept written comments and
5 data at this hearing from any interested party,
6 including those of you who are not speaking today.

7 When I call on you to speak, please
8 come to the speaker's table and begin your
9 presentation by identifying yourself and your
10 affiliation for the record. If you have a
11 prepared statement or any supporting documents for
12 the record, please leave a copy with us.

13 You can give written comments on this
14 hearing to us today, or you can send them to
15 MSHA's Office of Standards electronically, by
16 facsimile, by regular mail, or by hand delivery
17 using the address information listed in the
18 hearing notice.

19 In addition to the hearing today,
20 there will be three other hearings -- in
21 St. Louis, Missouri on September the 18th, in
22 Pittsburgh, Pennsylvania on September the 23rd,
23 and in Arlington, Virginia on October the 7th.
24 The post-hearing comment period will end on
25 October 14, and submissions must be received on or

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1 before that date.

2 A verbatim transcript of this hearing
3 will be made as part of the record and it will be
4 posted on MSHA's website. If you would like a
5 copy sooner, you could make your own arrangements
6 with the court reporter. The company information
7 is available at the registration table.

8 We'll take a lunch break around noon,
9 and short breaks in the morning and afternoon as
10 needed.

11 Before we begin I would like to give
12 you some background on the proposed rule we are
13 addressing today. On January the 19th, 2001, MSHA
14 published the final rule addressing the health
15 standards to underground metal and nonmetal miners
16 from exposure to diesel particulate matter. The
17 rule establishes new health standards for
18 underground metal and nonmetal miners by requiring
19 use of approved equipment and low sulfur fuel, and
20 be setting an interim and final concentration
21 limit for diesel particulate matter in underground
22 mining environment. MSHA established staggering
23 effective dates for enforcement of the
24 concentration limits. The interim concentration
25 limit of 400 micrograms per cubic meter of air of

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1 total carbon was to become effective on July 20th,
2 2002. The final concentration limit of
3 160 micrograms per cubic meter of air of total
4 carbon was scheduled to become effective
5 January 20th, 2006.

6 On January 29, 2001, several mining
7 trade associations and individual mine operators
8 challenged the final rule and the United
9 Steelworkers of America intervened in the case,
10 which is now pending in the District of Columbia
11 Circuit.

12 On July 5th, 2001, as a result of
13 Phase 1 settlement negotiations, MSHA published
14 two notices in the Federal Register. One notice
15 delayed the effective date of Section 57.5066(b)
16 related to tagging requirements in the maintenance
17 standard. The second notice proposed a rule to
18 make limited revisions to Section 57.5066(b) and
19 added a new paragraph to Section 57.5067(b)
20 regarding the definition of "introduced" in the
21 engine standard. The final rule was published on
22 February 27th, 2002.

23 Phase 2 of the settlement agreement
24 was reached in June of 2002. Under the agreement
25 the interim concentration limit became effective

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1 on July 20th, 2002, without further legal
2 challenge. Mine operators had one year to develop
3 and implement good-faith compliance strategies to
4 meet the interim concentration limit. MSHA agreed
5 to conduct compliance assistance during the
6 one-year period. MSHA also agreed to reenter
7 rulemaking on several other disputed provisions of
8 the 2001 rule. The legal challenge to the rule
9 has been stayed pending completion of the
10 additional rulemakings.

11 On September the 25th, 2002, MSHA
12 published an Advance Notice of Proposed
13 Rulemaking. MSHA noted in that Advance Notice
14 that the scope of the rulemaking is limited to the
15 terms of the settlement agreement and addresses
16 MSHA's intent to repropose the interim and final
17 concentration limits.

18 On July 20th, 2003, MSHA began
19 enforcing the interim final limit of
20 400 micrograms. The agency's enforcement policy
21 is also based on the terms of the settlement
22 agreement and was discussed with the litigants and
23 stakeholders on July 17th, 2003. The enforcement
24 policy is written into a Compliance Guide, and
25 both the Compliance Guide and a Program Policy

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1 Letter are posted on MSHA's website on the Sole
2 Source page for diesel particulate matter.

3 On August the 14th, 2003, MSHA
4 published it's proposed rule which would
5 accomplishing four things: (1) revise the interim
6 concentration limit measured by total carbon to a
7 comparable permissible exposure limit measured by
8 elemental carbon, which renders a more accurate
9 diesel particulate matter exposure measurement;
10 (2) increase flexibility of compliance by
11 requiring MSHA's longstanding hierarchy of
12 controls at metal and nonmetal mines, but prohibit
13 rotation of miners for compliance; (3) allow MSHA
14 to consider economic as well as technological
15 feasibility in determining if operators qualify
16 for an extension of time in which to meet the
17 diesel particulate matter limits; and, (4),
18 lastly, simplify requirements for a diesel
19 particulate matter control plan.

20 At this time Jim Petrie, who is, as I
21 said, chairman of the Diesel Particulate
22 Committee, will do on overview of the proposed
23 rule, and after Jim's presentation I will begin
24 calling speakers.

25 MR. PETRIE: Thanks, Becki.

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1 Can Everybody in the back see that all
2 right? Okay.

3 This is just a brief summary of the
4 rule. It compares the proposed rule and the
5 existing rule. There's only about ten slides, so
6 it's very short. If you have any questions of
7 clarifications that you would like me to address
8 as I go through these slides, just raise your hand
9 and speak up, and we'll try to address them.

10 These are the sections of the exiting
11 rule that we're going to be addressing in this
12 presentation: 50.66(a) on the interim limit,
13 50.60(c), special extensions, which are the
14 extension of time requirements; 50.60(d), which
15 are exceptions to the diesel particulate limits
16 which allow the use of respirators or require the
17 use of respirators for inspection, maintenance,
18 and repair activities; and then 50.60(e), which is
19 a prohibition on respiratory protection; 50.60(f),
20 which prohibits administrative controls; and
21 50.62, control plan. These are the requirements
22 in the existing rule that we'll be comparing with
23 the proposed rule.

24 As far as the interim limit, the
25 existing rule is based on a 400 microgram per

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1 cubic meter total carbon surrogate. It's a
2 concentration limit. You measure the
3 environmental concentrations. The proposed rule
4 is based on a 308 microgram per cubic meter
5 personal exposure limit, and it's based on
6 elemental carbon as the surrogate. We came up
7 with the 308 by dividing 400 by 1.3. The 1.3 was
8 established as part of the settlement agreement.
9 Now, in addition to this -- it's not on the slide
10 -- we would be using an error factor of 1.12 for
11 the interim limit.

12 The final limit is not addressed in
13 the proposal. The agency feels it needs more time
14 before it can propose a revision to the final
15 limit, and we're going to undertake a separate
16 rulemaking to address that. We're not sure at
17 this time when that will occur.

18 50.60(c) is special extensions. Those
19 are the extension of time requirements that are in
20 the existing rule. In the existing rule it
21 applies only to the final limit. It only
22 considers technological constraints as far as
23 being able to use this extension of time, and each
24 mine is limited to one extension of not more than
25 two years. We are proposing to apply the

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1 extension of time requirements to both the interim
2 and the final limit. We would consider both
3 economic and technological constraints, and there
4 would be no limit on the number of extensions but
5 you would have to renew it each year.

6 I wanted to talk a little bit about
7 hierarchy of controls. In the existing rule you
8 must use engineering or work practice controls to
9 comply with the limits. Rotation of miners is not
10 allowed. You must obtain approval to use
11 respiratory protection for inspection, maintenance
12 and repair activities, and if you use respirators
13 they must meet the requirements in MSHA's existing
14 metal and nonmetal air quality standards, which
15 are 57.5005(a) and (b). That standard
16 incorporates by reference ANSI Z88.21969.

17 Under the proposed rule operators
18 would be required to utilize feasible
19 administration in engineering controls with the
20 exception that rotation of miners would not be
21 permitted, and if controls are infeasible you
22 would be required to use respiratory protection.
23 You would have to exhaust, though, the feasible
24 administrative and engineering controls before you
25 would be allowed to use respiratory protection.

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1 The respiratory protection requirements would be
2 the same as in the existing rule. It would be
3 based on those requirements that are in the air
4 quality standards, and it would be tied to ANSI
5 Z88.21969, with the exceptions that it specifies
6 the types of filters to be used.

7 Regarding rotation of miners, the
8 existing rule prohibits the use of administrative
9 controls, but it uniquely defines administrative
10 controls as rotation of miners. Any other types
11 of administrative controls would be allowed. The
12 existing rule identifies those as work practice
13 controls, and examples of that would be limiting
14 the length of the work shift. Those would be
15 allowed under the existing rule, but you would not
16 be allowed to use rotation of miners.

17 The proposed rule is very similar. It
18 would also prohibit rotation of the miners and
19 other administrative controls would be allowed, so
20 it's really a difference in semantics between the
21 two.

22 Regarding respiratory protection, the
23 proposal does not include provisions on medical
24 evaluation of respirator wearers or transfer of
25 miners who cannot wear respirators. We do,

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1 however, solicit comments on these issues in the
2 proposal. We did not include those requirements
3 because it was not addressed in the settlement
4 agreement.

5 Regarding the DPM control plan, under
6 the existing rule it would be triggered by a
7 single violation. It would require verification
8 monitoring to determine whether the concentrations
9 are still under the various limits. It would be
10 in effect for three years from the date of the
11 violation. In the proposal it would be triggered
12 if a mine was not in compliance within 90 days of
13 the citations, so you would have 90 days to get
14 into compliance, and if you did within that time
15 frame you would not need to submit a control plan.
16 There is no specific verification monitoring
17 requirements, and it would remain in effect for
18 one year after the citation was terminated.

19 Lastly, the proposed rule contains
20 several other conforming changes. Those mainly
21 would correct various wordings. Like if a section
22 of the rule talked about concentration limit, it
23 would change that to read that it's a personal
24 exposure limit. If it talked about TC as the
25 surrogate, it would change it to EC as the

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1 surrogate. We didn't go into detail in describing
2 what those conforming changes are in this
3 presentation.

4 And then lastly, the Compliance Guide
5 and the Program Policy Letter are posted on the
6 Single Source page on MSHA's website.

7 Any questions on that? Okay.

8 MS. SMITH: While Jim is turning that
9 off, our first speaker, Mr. Graham, if you would
10 like to come up to the speaker's table, please.
11 If you would give and spell your name for the
12 court reporter and your affiliation, please.

13 MR. GRAHAM: David Graham of General
14 Chemical and the MARG Group. I have Mr. Henry
15 Chajet here with me as one interpreter if you have
16 any problems with my accent.

17 MS. SMITH: You're doing fine. Thank
18 you.

19 MR. GRAHAM: Thank you. The MARG
20 Diesel Coalition appreciates this opportunity to
21 testify and MSHA's recent cooperative efforts to
22 resolve our differences over the first and only
23 workplace diesel exhaust particulate matter
24 exposure limit in the United States. We will be
25 filing written comments before the close of the

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1 rulemaking record that will include an updated
2 review of MSHA's health risk assessment and an
3 updated technology and economic feasibility
4 analysis. In the interim, we note that our
5 conclusions have not changed. The rule is not
6 justified by a valid risk assessment, is not
7 feasible, and does not meet MSHA's statutory
8 mandates or OMB's data quality requirements.

9 To partially settle our differences,
10 DOL, MARG and the NMA agreed to an interim,
11 partial settlement of our court challenge in the
12 January 2001 rule. That agreement creates a
13 settlement standard, and this rulemaking is
14 intended to implement that agreement. To the
15 extent that it follows the provisions of the
16 settlement agreement, we endorse the rulemaking
17 proposals.

18 We are disappointed, however, that
19 MSHA has not yet deleted the 160-microgram limit
20 scheduled to take effect in 2006. We strongly
21 encourage MSHA to delete the 160 limit immediately
22 in this rulemaking, and many of our comments are
23 directed at the need for MSHA to act now.

24 The interim partial settlement with
25 MSHA recognizes the industry's position that the

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1 DPM limits are not scientifically justified or
2 technically or economically feasible, but permits
3 implementation of the 400-microgram total carbon
4 limit, converted to elemental carbon as a
5 practical compromise of the legal dispute, in
6 exchange for reexamination of the 160 limit and
7 critical changes to the flawed 400 rule. While we
8 appreciate MSHA's settlement efforts in its
9 attempt to fix the flawed rule, we insist upon the
10 deletion of the 160 limit now in this rulemaking.

11 Since the rule was rushed to
12 publication on the last day of the last
13 presidential administration, scientific evidence
14 and extensive field testing has proven what we
15 knew at the time, that the rule was an unfortunate
16 "shoot first, aim later" approach to regulations.
17 This rulemaking is the tip of the iceberg of the
18 massive efforts and resources dedicated in the
19 last three years to reexamine the rule and try to
20 fix its critical faults; yet these efforts should
21 have been taken well before the rule was ever
22 promulgated and must be accelerated now as we
23 approach enforcement of the settlement agreement
24 terms and the prospect of an unachievable,
25 unjustified 2006 standard. We encourage MSHA and

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1 DOL to end this struggle with the errors of the
2 past, which is causing all of us to miss
3 opportunities to focus our resources for the needs
4 of today and the future.

5 Dr. Jonathan Borak, Yale University
6 Medical School, a world renowned expert in
7 toxicology and risk assessment, agrees with the
8 conclusions of the EPA that the science does not
9 support the establishment of exposure limits. His
10 prior written comments, which demonstrated the
11 lack of scientific basis for MSHA's published risk
12 analysis, are being updated to address the new
13 materials in MSHA's preamble. We will file the
14 update in the record before the end of the comment
15 period.

16 No other federal agency has proposed
17 much less adopted, an occupational DPM exposure
18 limit for diesel particulate matter -- diesel
19 engines in construction, tunneling, rail, truck,
20 marine or bus depots, repair facilities,
21 agriculture or aviation. The silence demonstrates
22 MSHA's unique and isolated error in its approach
23 in diesel regulation. OSHA and other agencies
24 regulate diesel exhaust components (for example,
25 carbon monoxide, nitrous oxide and hydrogen

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1 dioxide). Even though OSHA regulates far more
2 workplace diesel engines and potentially exposed
3 personnel than MSHA, including tunneling with
4 potentially high exposures, MSHA stands alone in
5 its experimental regulation of diesel particulate
6 matter through one of its many components, carbon.

7 The MSHA decision to measure and limit
8 diesel exhaust through one of its thousands of
9 components, total carbon particulate, was based on
10 the use of an experimental sampling device and a
11 new analysis method. All of the MSHA feasibility
12 opinions and analysis used to support the rule
13 were based on the total carbon regulatory scheme
14 that had never been (1) used by MSHA or any other
15 regulatory agency; (2) tested by sampling,
16 analysis and measurement in industrial settings;
17 (3) directly associated with any specific disease
18 risks; or, (4), correlated to the other thousands
19 of components of diesel exhaust to determine if
20 carbon measurements accurately and consistently
21 represent diesel exhaust levels.

22 The device that MSHA helped develop
23 for measuring diesel carbon particulate for this
24 rule, the submicron impactor, was shown to be
25 flawed before the rule was finalized and again

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1 during field tests following the litigation
2 interim settlement agreement. We are concerned,
3 however, that the latest attempted design fix
4 developed after the rule was adopted will continue
5 to produce flawed results.

6 At this time we do not believe that
7 the 5040 method is being followed precisely by
8 MSHA's lab, which we think has made corrections to
9 try to fix its premature adoption. While we
10 appreciate MSHA's efforts and its acknowledged
11 preamble experiments to achieve acceptable
12 results, we are concerned that the ongoing and
13 repeated "fix on the run" will continue to produce
14 results which are not meaningful and instead will
15 produce erroneous enforcement and further wasted
16 resources.

17 We ask that MSHA prepare and publish
18 for review a detailed comparison of its current
19 actual sampling and analysis procedures compared
20 to the published NIOSH 5040 method. We look
21 forward to submitting a further analysis of the
22 accuracy and precision of the 5040 method and
23 MSHA's method to the rulemaking record.

24 Unlike every other MSHA health
25 standard, MSHA prohibited employees with personal

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1 protective equipment in its January 19th, 2001 DPM
2 rule. We are thankful that MSHA now recognizes
3 this error, and we endorse the proposal to permit
4 personal protective equipment. The need to
5 correct this error should serve to remind the
6 agency and any reviewing authorities or courts of
7 the fatal flaws incorporated in the rushed and
8 premature rule. Moreover, we strongly encourage
9 MSHA to delete the rules prohibition of the
10 rotation of personnel as a protective option. It
11 makes no sense for a safety and health agency to
12 prohibit effective options for employee
13 protection.

14 MSHA's 160-microgram total carbon DPM
15 limit is based on a now revoked ACGIH TLV drafted
16 by an MSHA staff member who served on the ACGIH
17 TLV committee while he was drafting the MSHA rule.

18 Following disclosures in the trona
19 ACGIH litigation, DOL signed a settlement
20 agreement requiring it to investigate conflicts
21 identified in the litigation. DOL has issued a
22 new policy which now prohibits the overlapping
23 activities that resulted in the MSHA and ACGIH
24 standards, but MSHA has not yet withdrawn the 160
25 DPM standard. While the staff member has now

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1 retired from MSHA and no longer serves on the
2 ACGIH TLV committee, the damage must be corrected
3 and the tainted standard withdrawn.

4 As demonstrated by the comments in the
5 rulemaking record of internationally recognized
6 mining engineering expert H. John Head, MSHA has
7 not demonstrated that the 400 or 160 limits are
8 feasible. Mr. Head is updating his comments, and
9 they will be placed in the record before the close
10 of the comment period.

11 In the interim, we note that the
12 industry has begun to test MSHA's anticipated
13 primary DPM control, retrofitted exhaust filters,
14 with only limited success in meeting the
15 400 microgram limit and no success in meeting the
16 160 microgram limit.

17 MSHA's preamble notes that 30 percent
18 of the mines tested in the agency's baseline
19 sampling program were not in compliance with the
20 400 microgram standard. While the preamble
21 describes many of the MSHA recommendations to
22 those mines, for most it presents no evidence of
23 the recommendations resulting in compliance.

24 We suggest that MSHA avoid additional
25 litigation by establishing a program to issue

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1 extensions to mines that justify requests before
2 counterproductive enforcement visits result in
3 adversarial situations.

4 Elemental carbon. We endorse MSHA's
5 proposal to conform to the interim, partial
6 settlement agreement and measure the 400 DPM limit
7 by measuring its elemental carbon equivalent
8 rather than total carbon.

9 Our independent research led to our
10 prior recommendation of a 320 microgram elemental
11 carbon equivalent to the 400 total carbon limit.
12 MSHA rejected that conversion number, and we
13 continue to be concerned that the MSHA conversion
14 will permit unfounded enforcement actions. We are
15 reviewing MSHA and industry data for the
16 submission of additional comments.

17 We generally oppose enforcement of
18 occupational health standards based on a single
19 sample because standards are based on long-term
20 exposure and laboratory results of single samples
21 are not an accurate representation of a single
22 shift exposure.

23 We continue to be concerned that
24 MSHA's newly developed and then revised DPM
25 sampling and analysis "single shift" sample

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1 analysis system is not feasible and does not
2 provide accurate, precise, and reliable results.
3 We repeat our request that MSHA retain unused DPM
4 filter sections for analysis by mine operators,
5 and we do not understand the agency's response
6 that its lab process will not permit the retention
7 of this critical evidence.

8 First, we do not understand MSHA's
9 comments that its use of two punches from one
10 filter does not permit the remainder of the filter
11 to be retained for operator analysis. Second, we
12 are not convinced that the corrections MSHA has
13 added are sufficient to produce a feasible system.
14 We ask that MSHA publish its two punch comparative
15 data (with separate, individual entries for each
16 corresponding punch and blank filter results and
17 corrections) for analysis and comment.

18 At Federal Register Page 48701, MSHA
19 asks if any aspect of Section 75.1914(g),
20 diagnostic engine emission tests, should be
21 adopted as part of the final rule. MARG responds
22 that no other provisions are permitted or needed
23 by the settlement agreement. The coal rule was
24 based on engine and filter performance instead of
25 exposure limits, and its provisions are not needed

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1 for this performance-based rule.

2 At Federal Register Page 48710, MSHA
3 asks for comments on its belief that a 25 percent
4 or greater reduction in DPM exposure from an
5 engineering or administrative controls is
6 significant and thereby effective for its
7 decision-making on technological and economic
8 feasibility. We object. First, MSHA states that
9 the 25 percent reduction can be achieved by the
10 control itself or in combination with other
11 controls, thereby eliminating the critical role of
12 the individual component under consideration and
13 rendering its guideline meaningless. We suggest
14 that controls must be evaluated independently, but
15 in reference to site-specific conditions and DPM
16 levels, if meaningful decisions are to be made
17 regarding their significance or effectiveness.

18 We emphasize that the significance of
19 a reduction achieved by a control must be viewed
20 in light of the compliance result, not the
21 percentage reduction. A mine with DPM exposures
22 of over 1,000 micrograms can apply 25 percent
23 effective control, reducing exposures to 750, but
24 has not achieved a significant or effective result
25 and will require continuing personal protective

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1 equipment use, rendering the control not
2 significant.

3 At Federal Register Page 48712, MSHA
4 seeks comments on whether the DPM rule should
5 include new respiratory protection mandates or
6 plan provisions. DPM rules should not be extended
7 to address remotely related topics covered by
8 stand-alone regulations. We believe that the
9 current respiratory rule, 57.5005, are adequate
10 and should be uniformly applied as they are now to
11 all respiratory applications. As a result, MARG
12 opposes any additional respirator-related
13 provisions being added to the DPM rule. In
14 response to MSHA's request for informational costs
15 of these possible additions to the rule, we
16 suggest that MSHA analyze the results of the OSHA
17 lead and cadmium rules and their impact on the
18 regulated industries.

19 At Federal Register Page 48716, MSHA
20 seeks comments on its proposal to obtain a control
21 plan provision. We oppose the plan proposal even
22 though it is an improvement over the January 2001
23 provision. The DPM rule interim settlement
24 permits implementation of a performance-based DPM
25 limit. A control plan merely adds needless

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1 paperwork, without benefits, and causes additional
2 cost and potential for meaningless citations and
3 fines.

4 At Federal Register Page 48670 to 71,
5 MSHA sets forth a misleading and incorrect
6 overview of the 31-Mine Study. As parties to the
7 settlement agreement, we disavow the implication
8 that we agreed to the described study conclusions
9 or results, or that our disagreements were limited
10 to the few recited by the MSHA preamble. In
11 fact, we are disturbed that our request for
12 acknowledgement and publication of our
13 disagreement with MSHA's interpretation was
14 ignored. For the record, we again will provide
15 our comments on MSHA's reports, but we emphasize
16 the following:

17 The report is based on the MSHA
18 estimator, and it is meaningless for a
19 determination of feasibility, as we repeatedly
20 stated in previous discussions and submissions.
21 The estimator assumes perfect ventilation and air
22 mixing and applications that are feasible for all
23 equipment and controls. The estimator does not
24 exist in the real world. MSHA acknowledges it has
25 inadequate information on controls, but does not

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1 acknowledge the vast errors resulting from the
2 estimator's invalid ventilation assumptions. We
3 object to MSHA's continued reliance on the
4 estimator, regardless of its inappropriateness,
5 for its economic and technical feasibility
6 analysis.

7 MSHA states, "The analytical method
8 gives an accurate measurement of the total
9 carbon." That conclusion is rejected by the
10 scientific community, and MSHA itself, which
11 admits interference and establishes an attempted
12 method of converting total carbon measurements to
13 elemental carbon. While MARG prefers elemental
14 carbon to total carbon to reduce interference, we
15 object to the preamble's conclusion. Moreover, we
16 note MSHA's acknowledgement that in the controlled
17 study about 25 percent of the samples were voided
18 (Federal Register Page 48683). In our written
19 comments we will address our continuing concerns
20 regarding the feasibility of the analytical method
21 as applied to elemental carbon.

22 MSHA states that the 31-Mine Study
23 supports a finding that the standard is
24 economically feasible. However, MSHA's use of
25 gross revenue as a measure of economic feasibility

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1 is invalid. This method ignores the international
2 commodity markets that determine the viability of
3 mines by setting market prices for their
4 production. For the last ten years in the mining
5 industry volume and gross sales indicated massive
6 losses more frequently than profitability. MSHA's
7 analysis is flawed since it fails to examine the
8 impact of the additional cost of its regulations
9 on industry margins and viability. Copper, lead,
10 zinc, silver and molybdenum industries are
11 examples of industries driven to financial
12 disaster in the United States by foreign
13 competition and regulatory costs, regardless of
14 gross production or gross sales statistics.

15 Mining engineer John Head's analysis
16 contained in the record demonstrates that MSHA's
17 cost estimates are wrong. MSHA has not corrected
18 those flaws, and its lack of a valid economic
19 analysis mandates the deletion of the 160
20 standard.

21 Federal Register Page 48672 states
22 that MSHA used the same sampling strategies for
23 collecting baseline samples as it intends to use
24 for collecting samples for enforcement purposes.
25 However, the same page states that the results of

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1 two analyses were averaged and that dynamic blanks
2 were also tested and/or an unexposed filter was
3 used to correct for background levels. The
4 preamble further states that "in the event results
5 are greater than 100 elemental carbon, a smaller
6 punch of the same filter was taken and used.
7 Blank correction average results were used." At
8 some point we would like a description in detail
9 that these new sampling and analysis procedures
10 and confirm that MSHA will use the same
11 precautions for enforcement sampling.

12 We again ask that MSHA provide a table
13 with the data from its two-punch results from the
14 same filter, in addition to the blank sample
15 correction result and the corrected average
16 result, to permit an analysis of the variance and
17 feasibility of this new system.

18 Hardly visible in the many preamble
19 charts and graphs in a single sentence on Federal
20 Register Page 48676 indicating that almost
21 30 percent of all mines had one or more compliance
22 assistance sampling results above 400 total
23 carbon, adjusted to the elemental carbon
24 equivalent. During the compliance assistance
25 visits many mine operators reported that MSHA was

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1 not sampling in the highest DPM concentration
2 locations. Moreover, if we are correct in our
3 understanding that this 30 percent noncompliance
4 rate was based on a highly variable sampling and
5 analysis system, the one where MSHA used the
6 average of two punches and other corrections, we
7 suspect that a far larger number of samples will
8 be above the 400 limit as enforcement sampling
9 begins, and that almost none of the mines can
10 achieve compliance with the 160 limit.

11 We appreciate MSHA's cooperative
12 efforts in reducing DPM exposures and encourage
13 further similar efforts. However, we believe that
14 the Federal Register preamble confuses these
15 helpful efforts with MSHA's duty to demonstrate
16 the feasibility of its regulation. Of course, a
17 realistic feasibility determination should have
18 preceded the promulgation of the original
19 regulation, and the agency's helpful, cooperative
20 efforts are not a substitute for meeting its
21 statutory mandate in that proceeding or in this
22 one. In fact, the very need for these visits and
23 lab tests and their outcome prove that feasibility
24 has not been demonstrated by MSHA.

25 (1) The vast majority of mine visits

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1 reported in the preamble (4 Martin Marietta sites,
2 the Rogers Group Jefferson, Nalley and Gigson's
3 Georgetown Mine, Stone Creek Brick, Wisconsin
4 Industrial Sand, and Governor Talc) do not report
5 positive results nor support the proposition that
6 compliance is feasible. The silence speaks loudly
7 to the noncompliance status of these mines.

8 The Carmeuse Federal Register
9 discussion represents an excellent attempt to test
10 bio-diesel fuel. It fails to report, however,
11 that the 50 percent bio-diesel presented
12 insurmountable equipment problems and that the
13 cost of bio-diesel has increased significantly,
14 adversely impacting the feasibility potential of
15 the 20 percent mixture. Additional information
16 will be provide by Carmeuse on this subject.

17 The discovery of filters which create
18 NO2 hazards to personnel is alarming and
19 demonstrates the risks of rushing to regulate and
20 mandating the use of unproven technology.
21 Stillwater will address their comprehensive
22 efforts which prove that even the 400 is not
23 feasible at their mine.

24 At Federal Register Pages 48693-4,
25 MSHA sets forth its interpretation of

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1 "feasibility" under the Mine Act and the case law.

2 First, MSHA only seems to pay lip
3 service to the express language of the statute and
4 loses its feasibility focus by reference to the
5 legislative history and aspects of the case law.
6 The express words of the Mine Act are clear in
7 establishing the factors to be used in determining
8 feasibility: Research, demonstrations and
9 experiments; latest available scientific data;
10 experience gained under this or other health and
11 safety laws.

12 Of course, the opinion of the Supreme
13 Court in the cotton dust case is the most
14 important of the cases cited by MSHA, and it
15 defines feasible as, quote, "capable of being
16 done, executed, or effected." By focussing on
17 everything except the Supreme Court's decision and
18 ignoring the express words of its own statute,
19 MSHA reaches an erroneous feasibility decision.

20 MSHA again ignores that no other
21 health and safety law or agency adopts or has
22 proposed to adopt a DPM standard. Instead, OSHA
23 and other agencies rely on the regulation of
24 diesel exhaust gas similar to those already in
25 effect in the MSHA standard. Moreover, MSHA has

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1 not analyzed its own experience in regulating
2 diesel gases to determine if they provide the
3 protection it seeks. These factors alone
4 demonstrate that MSHA has violated its statute in
5 favor of a prejudged result of a conflict of
6 interest that led to the original rule on the last
7 day of the last administration.

8 We commend MSHA, however, for its
9 acknowledgements that prior conclusions regarding
10 feasibility were incorrect. MSHA agrees that it
11 may not be feasible to change engines on some
12 diesel-powered equipment (Federal Register at
13 48696). This acknowledgement, however, is not
14 factored into MSHA's determination of feasibility
15 and is instead ignored in favor of statements
16 encouraging fleet replacement without regard to
17 the feasibility of said suggestions.

18 Similarly, we commend MSHA for
19 acknowledging that ventilation system upgrades may
20 not be the most cost effective DPM control for
21 many mines, and for others ventilation upgrades
22 may be entirely impractical. We also commend MSHA
23 for inspecting each mine subject to the rule over
24 the last year and collecting baseline information.
25 However, rather than quantify or identify which of

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1 the 175 mines are subject to the rule are part of
2 the many for which ventilation is not cost
3 effective or those for which it is entirely
4 impractical, MSHA instead concludes without data
5 or support that for the majority of mines
6 ventilation improvements would be an attractive
7 DPM control option (Federal Register at 48700).
8 Moreover, MSHA continues to rely on the estimator
9 to conclude feasibility regardless of its now
10 acknowledged incorrect assumptions on equipment
11 appropriateness and performance for which it lacks
12 actual knowledge or data.

13 Most importantly, at Federal Register
14 Page 48705, MSHA admits that the 160 limit is not
15 feasible. Quote, "It would be infeasible for the
16 metal and nonmetal mining industry to reach a
17 lower interim limit." This acknowledgement and
18 the evidence in the record provide MSHA with a
19 mandate to delete the 160 microgram limit now
20 under the provisions of the Mine Act sanctioning
21 only feasible standards. MSHA cannot mandate a
22 standard to take effect in less than three years
23 based on pure speculation that feasible controls
24 will appear miraculously.

25 The MARG Diesel Coalition appreciates

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1 the opportunity to comment on MSHA's proposed DPM
2 rule and hopes that MSHA will act in accordance
3 with its recommendations. Thank you.

4 MS. SMITH: Thank you, Mr. Graham.

5 Do any of the panel members have any
6 questions they would like to place to Mr. Graham?

7 Audience?

8 Thank you, Mr. Graham. We appreciate
9 your comments.

10 Our next speaker is Mike Crum.

11 MR. ANDERSON: I'm just moral support
12 for Mike. My name Rick Anderson.

13 MS. SMITH: If you could say and spell
14 your name for the record and your affiliation,
15 please.

16 MR. CRUM: My name is Mike Crum,
17 C-R-U-M. I'm with Stillwater Mining Company.

18 Stillwater Mining Company appreciates
19 MSHA's solicitation of comments on the anticipated
20 rulemaking. It welcomes the opportunity to share
21 thoughts and comments as the agency formulates its
22 proposed rule for notice and comment. Stillwater
23 is a member of MNA and the MARG Diesel Coalition
24 and the NIOSH diesel partnership. We endorse
25 comments of NMA and MARG.

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1 As MSHA is aware, Stillwater mining
2 company has been a leader in the cooperative
3 good-faith effort between labor, industry and the
4 agency. Stillwater also welcomes further
5 opportunities to join in such a partnership to
6 advance or clarify the impending rule.

7 Comments on the 160 microgram limit.
8 MSHA's has set a proposed final limit of 160
9 micrograms for DPM, which at present time is not
10 feasible. Technology has not advanced to provide
11 feasible filtration for all mining equipment.
12 Equipment size constraints, operational
13 variations, and filtration technologies hinder
14 fitting all mining equipment with a DPF. In
15 Stillwater's case, active filtration devices for
16 our smaller mining equipment are not feasible
17 given the cost of excavation for parking areas or
18 oven locations, as well as installing electrical
19 and air installations close to our mining areas,
20 which in some cases is in excess of 5,000 feet for
21 major installations.

22 Another fundamental concern is the
23 creation of NO2 with even a lightly catalyzed
24 filter. As the mine has developed further, we add
25 footage that must be ventilated, and in so doing

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1 ventilation rates decrease with each foot of
2 advancement. Now, given this scenario, two trucks
3 and one LHD have proven to overpower the
4 ventilation and an increase in NO2 occurs,
5 consequently stopping any material haulage, which
6 in our case occurred during the NIOSH case study
7 just last week. This exact scenario occurred
8 during the Phase II case study, and given that
9 information SMC still has not achieved compliance
10 with 400 microgram per cubic meter concentration
11 limit, even with the major points of control as
12 listed in the Compliance Guide as well as in
13 multi-million dollar ventilation upgrade, which
14 occurred two years ago and did take into
15 consideration additional ventilation for DPM
16 control.

17 Comment on utilizing portions or all
18 of CFR 75.1914(g). The metal/nonmetal mining
19 community already has a CO rule in effect as part
20 of 30 CFR 57.5001. It is not necessary to
21 intertwine part 75 requirements with part 57
22 compliance. Weekly emissions testing is
23 impractical as well as unfeasible for an operation
24 that has over 300 pieces of mining equipment in
25 operation. SMC would hardly gain compliance with

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1 this requirement.

2 Comment on active regeneration
3 systems. Active regeneration systems absolutely
4 increased system operating cost. It is unfeasible
5 for SMC to move strictly to the active system
6 because regeneration stations would have to be
7 added to our 48 miles of footwall laterals and
8 ramp systems. This system utilization would
9 require significant excavations in order to park
10 equipment for air and electrical connections in
11 the mine, burdening the operation with enormous
12 cost and yielding minimal return on investment.
13 We would need at least 25 large parking areas,
14 which is cost prohibitive.

15 In an other scenario, should we
16 require our operators to exchange filters, our
17 cost would be substantially lower. However, cost
18 per installation would be, given today's prices,
19 \$8,300 per filter, and a spare filter for every
20 other machine at a cost of \$6,000 per filter. At
21 the present time our heavy emitters total 176
22 units. Total cost of this system would be
23 approximately \$2,114,000, including \$1,000 per
24 installation. Our experience indicates the
25 lifespan of the filter is roughly 1.5 years, which

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1 indicates our cost at a three-year time period
2 would equal \$3.9 million.

3 The variable that is unknown to us at
4 the present time is the effect that continual
5 regeneration has on the filter life, which could
6 shorten the filter life and increase spending on
7 replacement filters. Should the regeneration
8 process diminish the lifespan of the filter, the
9 annual operating cost would significantly
10 increase. And then another variable is the
11 unknown products that are emitted during filter
12 regeneration. This scenario would also require
13 additional manpower to simply manage this process.

14 Compliance with both the 400 and 160
15 standards is not feasible for Stillwater.
16 Stillwater has been at the forefront of testing
17 primary control devices recommended by MSHA and
18 has invested greater resources than any other
19 mining company in experimenting with controls; yet
20 we are convinced that we cannot feasibly comply
21 with the 400 standard at this time and that we
22 will never be capable of complying with the 160
23 standard. Our efforts have demonstrated that
24 compliance with the 400 standard will require a
25 massive ongoing research project, since a number

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1 of our experiments have resulted in increased NO2
2 hazards and other attempts have failed on
3 installation.

4 For other equipment, its size and
5 shape does not permit installation of DPF systems.
6 The most promising DPFs for our equipment seems to
7 be for the heavy-duty cycle equipment, and yet we
8 cannot install the active regeneration systems
9 that some of these require. As a result we concur
10 with the MARG recommendations that MSHA issue
11 justified extensions of time for compliance with
12 the 400 standard before enforcement actions are
13 taken and delete the 2006 160 microgram standard
14 in this rulemaking.

15 Comment on the appropriateness of the
16 1.3 conversion factor. We endorse the MARG
17 position.

18 Comment on sampling equipment. One of
19 the major drawbacks with the SKC impactors is
20 timeliness of procurement. Although operators are
21 entitled the right to perform side-by-side
22 sampling, we may not have the opportunity with the
23 lead time required obtaining sampling media. We
24 do not know when MSHA will sample for DPM, and
25 unlike sample media utilized for other

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1 contaminants, the DPM impactors do indicate a
2 shelf life.

3 We also endorse the MARG comments that
4 the system is too new with too many recent
5 adjustments to form the basis of a reliable and
6 accurate enforcement system.

7 Comments on extension provisions.
8 Stillwater Mining Company believes that the
9 extension period will be absolutely necessary.
10 Should an operator require the additional time to
11 comply with the interim limit, a development
12 request for extension, that would be a living
13 document that should be utilized for any extension
14 application of the limit. Given the document that
15 SMC has developed, this is in fact a living
16 document that would be updated for any
17 technological changes, operational changes, or
18 research projects completed or pending. The
19 requirement of the compliance plan is not needed
20 and would only serve as a basis for additional
21 unneeded violations.

22 Operators should be allowed the
23 application for the extension prior to enforcement
24 activity. Operators should not have to be
25 subjected to enforcement actions in their efforts

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1 to proactively work on compliance in what has been
2 a positive partnership effort to date. Technology
3 does not exist to meet the 160 microgram limit and
4 it is not on the horizon.

5 The use of the passive filters with
6 any platinum washcoat produces significant NO2
7 concentrations, causing a secondary health issue
8 by attempting to control a contaminant that has
9 not yet been proven to cause significant health
10 risk to miners. This proven result demonstrates
11 the risk in rushing compliance efforts without
12 adequate testing and significantly reduces the
13 options for operators.

14 Comments on the 25 percent reduction
15 factor. MSHA should not rely on a percentage to
16 determine control effectiveness. Instead, MSHA
17 should examine the individual control in light of
18 the mine conditions and the result achieved by the
19 control.

20 Comments on including a new
21 respiratory protection standard. Operators are
22 already governed by a respiratory protection
23 standard in 57.5005. This requirement is already
24 unilaterally applied and effective. A new
25 standard would only compound the paperwork and

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1 intensity of a compliance plan. Therefore, SMC
2 opposes any additional respirator requirements
3 within the DPM rulemaking process.

4 Comments on medical examinations and
5 transfer of employees. With SMC's current
6 respiratory protection program an avenue already
7 exists to provide medical clearance if necessary
8 for a miner to safely wear respiratory protection.
9 This closely relates to the OSHA respiratory
10 protection program requirements as outlined in
11 ANSI Z88.2 with the health questionnaire. In an
12 underground operation, transfer of employees to
13 areas where no diesel exhaust can be identified
14 would be extremely difficult at the very least.

15 We oppose attempts to regulate these
16 efforts since they are neither the subject of this
17 rulemaking and would only serve to form the basis
18 of enforcement actions for technical violations.

19 Comments on information collection.
20 The information requirements that are already in
21 place are adequate for MSHA's function and even
22 excessive. The DPM sampling and analysis, the
23 planned provisions, the posting requirements, and
24 all of the required records constitute more
25 information collection than MSHA already requires

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1 for existing standards governing other diesel
2 exhaust components. These records also provide no
3 practical use since there is no scientific
4 evidence correlating health risks to MSHA's
5 proposed 160 microgram concentration limit. The
6 burden could be effectively minimized by relying
7 on the current diesel exhaust gaseous emissions
8 testing, utilizing the 400 microgram limit that is
9 in place as the final limit, and deleting the
10 160 microgram limit.

11 MSHA's 31-Mine Study. The discussion
12 of MSHA's 31-Mine Study is misleading as presented
13 in the Federal Register. The report was based on
14 MSHA's estimator, which has been proven to be
15 meaningless for a determination of feasibility.
16 The estimator assumes perfect ventilation rates
17 and turbulent mixing of air. This is not always
18 the case in true production situations. During
19 the case study, Phase II of the isolated zone
20 research, equipment operating in excess of
21 80,000 cfm fresh air could not sustain operation
22 utilizing passive filters due to increased NO₂
23 production with new filters. The filters
24 (de-greened) have been proven to be successful at
25 filtering DPM in the Phase I study; however, new

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1 filters will have to be changed eventually. This
2 change-out in filters will produce NO2
3 concentrations that exceed both the TLV and
4 ceiling limits during loading operations,
5 substantially hindering mine operations. This
6 effect is not considered in the feasibility of
7 filters.

8 MSHA has also regarded the analytical
9 method to be accurate for the measurement of TC,
10 total carbon. This conclusion has been rejected
11 by the scientific community and has been
12 reconsidered by MSHA, utilizing a surrogate
13 measurement of EC in place of TC. The preamble,
14 however, is still characterizing TC as a suitable
15 surrogate for the measurement of DPM.

16 MSHA's compliance assistance information.
17 In the Federal Register MSHA states that the same
18 method for collection analysis of samples was used
19 during the study on compliance assistance work that
20 will be used during enforcement. During the 31-Mine
21 Study MSHA averaged two punches and also analyzed the
22 dynamic blanks. The samples were then corrected for
23 the dynamic blank. MSHA has not indicated whether or
24 not this identical process will be utilized for
25 enforcement sampling. If the same process is not to

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1 be utilized during enforcement, MSHA should provide
2 single punch data analysis without averaging or blank
3 correction to the mining community for evaluation. If
4 the single punch is to be used without blank
5 correction or averaging, this data should be used to
6 determine economic feasibility and compliance
7 determinations within the preamble documentation.

8 Thirty percent noncompliance rate. MSHA
9 indicates that 30 percent of the mines had TC results
10 above 400 micrograms, adjusted to EC. There is
11 obviously a far greater number out of compliance with
12 the proposed 400 microgram limit, and we suspect that
13 almost all mines are out of compliance with the
14 160 microgram standard. Clarification of analysis is
15 necessary in the preamble for the determination of
16 technological and economic feasibility to be
17 meaningful.

18 MR. ANDERSON: If I may, I would like
19 to make a couple comments. This represents more
20 or less our abstract for the compliance action
21 plan which is requested. What it suggests is that
22 we are able to hit the compliance numbers of 400
23 and 160. In a year and a half of study that I
24 have done this almost has to have a different name
25 to it, because I cannot project in the future how

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1 we can reach this standard.

2 During our isolated zone study of
3 May 14th to the 30th, I guess it was, a two-week
4 study, the isolated zone study suggested that we
5 might be able to make it, but it was strictly a
6 laboratory study. When we took this as a case
7 study into an operating environment what we found
8 was there was almost an impossibility to reach
9 these numbers. We are using equipment that is
10 almost experimental. We are using the best that
11 is available. I spent over \$100,000 on test
12 equipment, and it is continually back at the
13 manufacturer for repairs because we cannot get
14 repeatable readings. We have no way of getting
15 DPM readings real-time, so using a surrogate we
16 have to guess that we are going to meet the MSHA
17 numbers. As was suggested by my colleague, to
18 reach the DPM limits with our passive system we
19 are driving the emissions of NO2 above the limit
20 where we can leave the miners in there. That is
21 to suggest we have to use a non-platinum based
22 soot trap, which can be proven through our studies
23 to be uneconomic, and, frankly, I don't think it's
24 even remotely practical to do that.

25 Further, on the equipment that we use,

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1 the 5040 method will take much too long to
2 understand and nothing is repeatable. I can show
3 readings taken even a half-hour apart, and one
4 will show a very low reading of gaseous emissions
5 and the other ones will be so far out of
6 compliance that we cannot put the equipment back
7 into service. There has to be more study done on
8 the equipment we are able to use to be able to
9 assure ourselves that we're going to reach your
10 MSHA standard.

11 I have tested possibly -- well, I've
12 got 22,000 hours of study on 20 pieces of
13 equipment using the Inglehardt and DCL soot traps.
14 These are mounted on the Deutz six-cylinder,
15 four-cylinder, and CAT 3306. Where we originally
16 thought after a year of study that the high-duty
17 cycle equipment would be safe with these emission
18 soot traps, we now have determined that we can't
19 even be assured of that. I have some soot traps
20 that have been in service for 5,500 hours and are
21 working very well. They are regenerating as far
22 as we can tell. I've just in the last month
23 noticed that soot traps with only 170 hours on
24 them are failing. We have no study that suggests
25 that these traps after they've been de-greened

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1 when they go into regeneration do not emit DPM or
2 emissions. I've tried to find real-time DPM
3 methodology. There's a company in California,
4 RTM, that was supposed to be at our study, but
5 unfortunately their equipment was offshore so we
6 weren't able to get it.

7 As I say, again, there is no way that
8 we can tell we are within your standard at this
9 time as real-time, and to use a surrogate I think
10 is wrong, because as we have seen it isn't -- you
11 can't equate one gas to a DPM or one gas to
12 another gas. And I can talk for days on this
13 because I've got lots of stuff, but I won't.
14 Thank you very much.

15 MS. SMITH: Mr. Crum, thank you.

16 Are there any questions?

17 MR. SASEEN: Yeah, I have some
18 questions.

19 Mike, on the Phase II case study, can
20 you identify which filter gave you the NO2 problem
21 for this study?

22 MR. CRUM: I can't right now. The two
23 filters we had in place, one was an Inglehardt and
24 one was a DCL.

25 MR. SASEEN: And they were both

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1 platinum catalyzed?

2 MR. CRUM: Right, and they were the...

3 MR. ANDERSON: A Mine-X, and the
4 Inglehardt was a 328PTX. Pardon me.

5 MR. CRUM: DPX9308.

6 MR. ANDERSON: Yeah, DPX9308.

7 MR. SASEEN: And that was the
8 Inglehardt.

9 MR. ANDERSON: And two of these
10 devices were installed for the case study, so they
11 had very little de-greening, which would -- that
12 is the best case scenario for us because that is
13 going to be happening at all times. We will be in
14 some process of changing over.

15 MR. SASEEN: So it was an Inglehardt
16 and DCL that was used in the case study where you
17 got the high N02 reading.

18 MR. ANDERSON: Right. We were
19 actually driven out after two hours on one day.

20 MR. CRUM: We had a myriad of issues.
21 We didn't see a day of testing during the case
22 study that we didn't see N02 below 3 parts per
23 million. The case that I mentioned here, we had
24 one OHDN, one truck, in the main ventilation
25 stream at 80 thousand plus CFM, and we were

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1 approximately 40 feet downstream in the
2 ventilation with the TMX reading 3.8 parts per
3 million. We hit two different occasions during
4 the case study where we had to end the test and
5 remove the miners from the mine because we had
6 exceeded the 5 part per million in ceiling limit.
7 It's going to be a very big struggle for us
8 utilizing the filtration technology that's
9 currently available because, as Rick said, we will
10 continually be replacing filters. When you put a
11 new filter in at a mine, where do you put it? If
12 we see N02 emissions elevated at 80,000 CFM, I
13 can't necessarily rely on that filter in a stope
14 ahead of me. I'll have to chase our miners out.

15 MR. SASEEN: Also, Rick, you made
16 mention of a filter failing at 170 hours, that
17 you're beginning to see that. Is that something
18 that you're going to elaborate on? I mean what
19 caused the failure at 170 hours?

20 MR. ANDERSON: When it looks like it
21 has gone into over-regeneration -- it's gone wild
22 CAT on us -- over temperature in the core -- it is
23 breaking down the core of the machine -- when that
24 happens then the soot is going to get by the core
25 of the filter. This is not an isolated case. We

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1 have seen now in the last month three of the
2 filters that are starting to fail prematurely, and
3 because this equipment is so far afield it is
4 impossible for us to get to it in other than our
5 250-hour maintenance cycle. We haven't noticed up
6 until a month ago that this was happening to us,
7 and I don't have an answer for why it is. We have
8 had some failures that are caused by a turbo that
9 has let oil into the system and physical failures
10 from vibration, but this is the first time we've
11 noticed that we haven't been able to quantify the
12 reason.

13 MR. SASEEN: Is it the same filter
14 manufacturer that shows those three premature
15 failures?

16 MR. ANDERSON: No. Both Inglehardt
17 and DCL have seen failures.

18 MR. POMROY: Bill Pomroy from MSHA.
19 On those filters that fail prematurely, were you
20 monitoring back-pressure on those?

21 MR. ANDERSON: We monitored
22 back-pressure.

23 MR. POMROY: Did you see an
24 unacceptable rise in back-pressure that would have
25 indicated that the filter just wasn't

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1 regenerating?

2 MR. ANDERSON: The back-pressure was
3 cycled. When the back-pressure comes up then it
4 goes into regeneration, so I can't say there was
5 any difference. In 175 hours you wouldn't see a
6 regeneration cycle anyway.

7 What is very difficult is that any of
8 the technologies that are out there are physically
9 too large for the equipment they run. One of the
10 best units that we saw in the isolated zone was
11 called a Clean Air, but it takes a fuel additive,
12 and it too is so large that it will only fit on
13 the equipment. We don't really have a problem
14 because the cycle is appropriate for the soot
15 trap, and I can say it is appropriate for the soot
16 trap on a high-duty cycle machine, but that's not
17 necessarily correct, because we are seeing
18 failures in our large fleet as well that we
19 haven't been able to determine the cause of this
20 yet.

21 But you have to understand, too, as
22 far as the ambient checks that are being made is
23 it depends on the direction the operator is
24 traveling. If he's traveling the same speed as
25 your air, he could be sitting in the plume of his

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1 own DPM, his own smoke. So the administrative
2 control is extremely onerous, trying to determine
3 if this operator is going to be traveling in his
4 own mess.

5 MS. SMITH: Other questions from MSHA?

6 MR. SASEEN: Yeah.

7 Rick, you mentioned about some
8 instrumentation not agreeing with each other.
9 Could you elaborate on what you were trying to
10 measure, what the instrumentation was?

11 MR. ANDERSON: The equipment is called
12 ECOM 400. The problems that we have are the cells
13 that measure the gases, and this is strictly gas,
14 not a PPM, because we don't have real-time for
15 that. They don't give us repetitive readings. I
16 have six units at Stillwater. We endeavor to use
17 the same unit for each equipment to try to
18 mitigate the difference. We calibrate on a
19 regular basis but, as I said earlier, even a
20 half-hour later you'll get a different reading.

21 We don't take spot readings. We graph
22 our analysis of the engine through a three-mode
23 test, and that's an idle, high idle, and a torque
24 stall. The manufacturer, he would like to see all
25 tests done at a torque stall with a hydraulic

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1 stall as well. What we have found is our
2 equipment at the mine is more often at a high
3 idle. He would be traveling down a hill with the
4 throttle down so there's no torque on the engine,
5 so that makes a big difference in the emissions
6 that is put out by that machine. We have a bit of
7 an issue with the manufacturer and MSHA for that
8 reason.

9 Following this I have two days at the
10 Deutz dyno. We are going to put our equipment on
11 the dyno with two of the engines from our mine and
12 make governor changes to determine what is best
13 for our mine as far as governor setups, because we
14 find that the vent rates or the governor setup for
15 our equipment is wrong for our mine.

16 MR. SASEEN: Thanks.

17 MR. PETRIE: Mike, I believe you had
18 mentioned that your company currently voluntarily
19 evaluates miners to determine if they can wear
20 respirators. What do you do if you determine that
21 they cannot wear a respirator?

22 MR. CRUM: Currently we are following
23 the OSHA standard with the health questionnaire.
24 We also employ the use of a pulmonary function
25 test prior to fit testing a miner. We do that

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1 voluntarily because it is not required by any of
2 the regulations. Obviously I'm not an MD. I set
3 our limits quite a bit lower than even the
4 requirements of the NIOSH respiratory oversight.
5 I set my flags a little bit higher than what would
6 be required so that I don't make that judgment
7 call. If I see a pulmonary function test that is
8 questionable based on my limits, I immediately
9 send that to the medical oversight physician. I
10 do not fit test the employee and I do not work in
11 a respirator required area.

12 MR. PETRIE: Okay. Thank you.

13 MR. CRUM: You bet.

14 MR. ANDERSON: I guess further to my
15 last comment there, I was talking about this as
16 being in my compliance action plan for Stillwater.
17 I probably take exception to the term "compliance
18 action plan" because that suggests that I agree
19 that we can meet compliance, and it should be
20 renamed to suggest that we are on the cutting edge
21 of technology and it's a live document that we'll
22 continue.

23 MR. CRUM: I would also like to add
24 one more item in regards to the active
25 regeneration systems. If we get into a situation

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1 where we require extensive excavation in order to
2 park equipment, the other foreseeable challenge
3 that we would face would be ground control in
4 those excavations. The larger openings that we
5 create within our rock formations, our ore body,
6 the heavier chance we receive for ground control
7 issues to arise, whether that is enforcement
8 activity or loss of equipment.

9 MS. SMITH: Jon.

10 MR. KOGUT: Mr. Anderson, I think you
11 asked about whether the method used for
12 noncompliance determinations averaging the two
13 punches and correcting for blank -- whether that
14 would be the same method that was used for the 31
15 Mine Study, it would be continued for the
16 noncompliance samples. Did you ask that?

17 MR. CRUM: That was a question I
18 had -- and Mike Crum, just for clarification.
19 That was a question I had in reading a preamble,
20 that that was going to be consistent through --

21 MR. KOGUT: Okay. Well, maybe I can
22 defer this to the head of our dust lab, but my
23 understanding is that that same method will
24 continue for noncompliance sampling, and that's
25 the assumption that's made in the method that's

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1 used for the error factor that's outlined on the
2 website.

3 So, Bob, maybe you could answer that
4 and confirm my understanding that that same method
5 will continue.

6 MR. HANEY: Not exactly what was used
7 in the 31-Mine Study, but what was used in
8 baseline sampling will be used, because the
9 31-Mine Study did not use the dynamic blanks on
10 the compliance samples. It was the baseline
11 sampling.

12 MR. KOGUT: Right. But for samples
13 that are used in making a noncompliance
14 determination would be the average of two punches
15 and then corrected by a blank, by the dynamic
16 blank.

17 MR. HANEY: Yes.

18 MR. SASEEN: I have just one. You
19 mentioned, Mike, about going back to active
20 regeneration ground control and parking relating
21 to plug-in systems for regeneration. What's your
22 opinion, or Stillwater's opinion, on changing out
23 filters and doing it back at a maintenance shop as
24 a feasible control?

25 MR. CRUM: I'll let Rick answer that.

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1 MR. ANDERSON: We actually addressed
2 that when we sent however many filters we had to
3 have plus the spares. The fact remains that these
4 filters are buried within the body of the machine,
5 so it's impossible for maintenance to be able to
6 change these out. It would have to be done --
7 it's impossible for the operators to change these
8 out. It would have to be done by maintenance in
9 40 miles of footwall lateral and ramp system. It
10 would be an impossibility to get to this equipment
11 in a timely manner, so I think that would be quite
12 onerous.

13 MR. SASEEN: Okay. Thank you.

14 MS. SMITH: Okay. Thank you very
15 much.

16 MR. CRUM: Thank you.

17 MS. SMITH: Our next speaker is Fred
18 Fox.

19 MR. FOX: Good morning. My name is
20 Fred Fox, F-O-X. I'm the Director of Health
21 Safety Environment for Kennecott Minerals, which
22 is located here in Salt Lake City, and I welcome
23 the panel members back to Salt Lake City.

24 Kennecott Minerals is the majority
25 owner and operator of the Greens Creek Mine up

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1 near Juno, Alaska, and with me this morning is
2 Mark Good, who is a safety engineer at the Greens
3 Creek Mine.

4 I thought what I would do this morning
5 is go over this outline and briefly discuss an
6 overview of Kennecott Minerals' involvement in the
7 DPM rulemaking -- I actually agree on some of the
8 MSHA proposals in the proposed rule -- and also
9 highlight some concerns that are still remaining,
10 discuss the need for further time to determine
11 economic and technical feasibility, the need for
12 formalized procedures to grant a special extension
13 for additional time.

14 We really appreciate the cooperative
15 and collaborative effort of MSHA and NIOSH. And
16 on compliance assistance, I would like to discuss
17 why that should continue, and also the need to
18 delete the 160 final limit because more data, we
19 feel, is needed before proposing it.

20 Mark will address more of the
21 mine-specific areas, history of his trials of the
22 different filters, results from the MSHA testing
23 that was done up at Greens Creek, site-specific
24 effects of mine and ventilation design -- I don't
25 know if Mark has got the diagram here so we can

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1 discuss some more site specific issues -- and
2 Greens Creek's existing control plan, which is the
3 voluntary control plan that addresses DPM, and I
4 would like to say the way forward to compliance.

5 Now, early on, DPM sampling at Greens
6 Creek indicated compliance with the 400 micrograms
7 and the 160 total carbon limits might not be
8 feasible. On January 29th then Greens Creek along
9 with Anglo Gold challenged the rule because of
10 this concern, and it was followed by legal
11 challenges from NMA and other companies. For the
12 record, Kennecott Minerals Company is a member of
13 the National Mining Association.

14 We mentioned the partial settlement
15 that was reached on July 5th, 2001 that allowed
16 certain provisions of the new rule to go into
17 effect and required a sampling study, which has
18 been known as the 31-Mine Study, to begin
19 August 2001 to determine the appropriateness of
20 the compliance limits. Greens Creek Mine
21 continues to install and test the feasibility of
22 on-board self-regenerating diesel particulate
23 filters, along with active regenerating filters,
24 and continues to implement a diesel exhaust
25 control plan. The joint MSHA/industry sampling

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1 program and study, the 31-Mine Study, was
2 completed at the end of March 2002. The study
3 showed that the Greens Creek Mine was at the high
4 end of noncompliance with interim standard
5 compared to the other 30 participating mines.

6 For a one-year period after July 20th,
7 2002 and until July 20th, 2003, MSHA stated it
8 would not issue citations if operators were
9 cooperating in good faith to reduce DPM emissions.
10 Since July 20th, 2003, MSHA has not conducted an
11 inspection at the Greens Creek Mine.

12 Greens Creek and MSHA also
13 participated in an additional mine-specific study
14 to assess the performance of catalyzed ceramic
15 filters being applied at Greens Creek for reducing
16 DPM and to determine practical mine-worthy diesel
17 particulate filter technology. The study protocol
18 was developed with input from MSHA and NIOSH and
19 originally scheduled for early November 2002 but
20 later rescheduled for January 20th, 2003 due to
21 sampling equipment and weather-related problems.

22 The results of the DPM study at Greens
23 Creek indicated the use of ceramic filters reduced
24 personal DPM exposure by 60 to 80 percent and CO
25 levels up to 50 percent. Use of the filters

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1 reduced the average DPM emissions by 96 percent.
2 However, because of the cascading ventilation
3 system, which Mark will go through later on, at
4 Greens Creek and with ambient DPM concentrations
5 being measured around 300 micrograms per cubic
6 meter elemental carbon in the intake air to some
7 of the stopes, being able to achieve the personal
8 DPM concentration below the proposed
9 308 micrograms per cubic meter elemental carbon
10 for every underground miner on every shift may not
11 be feasible and is still uncertain.

12 Greens Creek has ordered additional
13 ceramic filters to retrofit all large
14 horse-powered diesel engines and, as stated
15 earlier, is currently researching active
16 regenerating filters for medium and small
17 horse-powered engines. The new proposed rule is
18 expected to be published sometime in the third
19 quarter of 2003 after it has cleared Department of
20 Labor Policy Review Board and Office of Management
21 and Budget Reviews. Kennecott Minerals Company
22 strongly encourages MSHA to expedite this
23 rulemaking process, as it now leaves Greens Creek
24 and all other metal and nonmetal mines out on a
25 limb without a safety net. It is very likely

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1 Greens Creek will not be in compliance during
2 certain mining cycles, and therefore it's
3 imperative that Greens Creek demonstrate to MSHA
4 it is doing everything technically and
5 economically feasible to comply with the standard,
6 allowing MSHA the opportunity to grant an
7 extension of time for compliance and not issue
8 citations.

9 Kennecott Minerals Company agrees with
10 some issues on the sampling and measurement
11 technology. We agree that MSHA has established
12 available technology that can accurately and
13 reliably measure miners' exposure to DPM in all
14 types of underground metal and nonmetal mines. We
15 didn't have much variation at all with our
16 sampling and MSHA's sampling using the 5040 method
17 measuring for elemental carbon.

18 MSHA's position on technological
19 feasibility, as stated in the preamble on
20 Page 48671, MSHA has limited in-mine documentation
21 on diesel particulate matter control technology
22 because sampling results were obtained at a time
23 when few mine operators had implemented controls
24 to reduce DPM concentrations. As a result, MSHA's
25 position on feasibilities does not reflect

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1 consideration of current complications with
2 respect to implementation of controls, such as
3 retrofitting and regeneration of filters.

4 Kennecott Minerals Company agrees with MSHA's
5 acknowledgement that these issues, meaning
6 retrofitting and regenerating of the filters, may
7 influence the extent to which controls are
8 feasible.

9 Additional time is needed to determine
10 feasibility. Kennecott Minerals Company agrees
11 that enclosing a miner in a well-maintained cab is
12 an effective engineering control, and Greens Creek
13 will implement these types of controls wherever
14 practical. However, Greens Creek has limited
15 opportunities to enhance its ventilation, and even
16 if it did, required ventilation to reduce DPM
17 concentrations without the use of filters would
18 not be feasible. We've commented on this numerous
19 times in earlier rulemaking.

20 Greens Creek agrees with MSHA that
21 administrative controls can be effective in
22 reducing miners' exposure to DPM, such as reducing
23 diesel engine idling time, reducing lugging of the
24 engines, designating certain areas off limits for
25 operating certain diesel equipment, and

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1 establishing one-way travel whenever these
2 controls are practical.

3 Kennecott Minerals Company
4 acknowledges, as does MSHA, that some mine
5 operators, such as Greens Creek, may face
6 feasibility challenges implementing current DPM
7 control methods. That is why Greens Creek
8 solicited MSHA's compliance assistance in early
9 2002 to conduct a study for the identification of
10 site-specific practical mine-worthy filter
11 technology. While the study indicated significant
12 reductions both in personal exposures and engine
13 emissions, there is no evidence that the mine can
14 continuously or consistently comply with the
15 interim limit for every underground miner on every
16 shift. Practical mine-worthy filter technology
17 has not been completely defined at Greens Creek,
18 and additional time is required to do so.

19 I'd like to talk about a formal
20 procedure needed for granting these special
21 extensions. We feel special extensions are
22 necessary. MSHA proposes to adapt a special
23 extension provision of existing Section 57.5060(c)
24 and remove the limit on a number of extensions
25 that may be granted to each mine, which was

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1 described earlier in the slide show. Kennecott
2 agrees with this provision, including allowing
3 approval of the extension by the district manager
4 rather than the secretary. However, Kennecott
5 also believes there should be a formal process in
6 place to appeal a district decision on an
7 extension request to the secretary if necessary.

8 Kennecott does not believe that
9 granting a special extension would duplicate the
10 regulatory objectives addressed under the new
11 57.5060(d) and the intended hierarchy of controls
12 for DPM rule. By granting a special extension
13 under the proposed rule that is limited to one
14 year, subject to yearly renewals as described
15 earlier, MSHA would be allowing each operator to
16 define site-specific controls, including
17 engineering, administrative and respiratory
18 controls allowed for by the proposed rule. Such
19 controls would be evaluated yearly to warrant an
20 additional extension of time. Kennecott believes
21 the proposed special extension provision and the
22 ability granted to use administrative controls and
23 respirators is a good start and will most likely
24 be required to enable compliance at Greens Creek
25 with the interim limit. However, Kennecott

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1 Minerals Company also believes there should be
2 provisions to require that MSHA act on a special
3 request and do so within specified time frames.

4 Some concerns remain on other issues.
5 One would be MSHA's discretion to issue citations.
6 If MSHA finds that a miner is overexposed to the
7 DPM standard, and an inspector determines that
8 some form of engineering and administrative
9 controls are feasible, and the operator didn't
10 install or maintain such controls, MSHA can issue
11 a citation to the mine operator. This is a
12 concern to Kennecott Minerals Company because of
13 the current guidance that was cited in the
14 preamble to the Federal Mine Safety and Health
15 Review Commission that engineering controls may be
16 feasible even though they fail to reduce exposures
17 to PELs as long as there's a significant reduction
18 in exposure, and it's cited as capable of reducing
19 miners' exposure by only 25 percent.
20 Notwithstanding, an operator could be subject to
21 citations after implementing engineering and
22 controls deemed feasible by an MSHA inspector.
23 The very reason for MSHA to grant special
24 extension allowing the operator to avoid citations
25 may be moot, leaving the operator totally at

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1 MSHA's mercy unless the provisions are changed to
2 be transparent and MSHA is required to act on a
3 special extension request agreeing on what
4 controls are or are not feasible and do so within
5 a specified time frame. Kennecott believes it's
6 very important for MSHA to place in the new rule a
7 definition of "practical mine-worthy filter
8 technology." We believe it could mean those
9 diesel particulate filters that have been proven
10 in the mine environment to achieve the PELs for
11 DPM. No such definition currently exists.

12 And technological feasibility,
13 Kennecott disagrees with MSHA's conclusion that a
14 personal exposure level of 308 micrograms per
15 cubic meter of carbon is technologically feasible
16 for the metal and nonmetal mining industry,
17 including the Greens Creek Mine, and that control
18 mechanism exist that are capable of reducing DPM
19 exposure to this level in all types of underground
20 mines and nonmetal mines.

21 MSHA acknowledges that it is
22 continuing to consult with NIOSH, industry and
23 labor on availability of practical mine-worthy
24 filter technology. Complications with obtaining
25 adequate ventilation, especially at the face of a

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1 stope located in a dead-end drift, like many
2 situations at Greens Creek, would most likely
3 prohibit meeting the PEL of 308 micrograms per
4 cubic meter of elemental carbon. Many elemental
5 carbon samples taken at Greens Creek were very
6 close to the 308 micrograms per cubic meter
7 standard -- for example, one was 281 and another
8 292 -- demonstrating that being able to achieve
9 personal DPM concentrations below the 308
10 micrograms per cubic meter for every underground
11 miner on every shift in all types of underground
12 mines may not be feasible.

13 On compliance assistance, we feel
14 compliance assistance should continue. Kennecott
15 Minerals Company must for the record state that it
16 retrofitted its first diesel engine with a
17 catalyzed ceramic filter on the newest truck
18 available on March 3rd, 2000, and installed
19 additional filters on different large horsepower
20 diesel engines during the year 2000, well before
21 the 31 Mine Study took place. In addition, Greens
22 Creek believes it was the first underground metal
23 mine to solicit compliance assistance from MSHA
24 and NIOSH. That's contrary to what was perceived
25 in the preamble.

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1 On commercially available DPM filters,
2 MSHA states in the preamble on Page 48698 that it
3 has found that suitable diesel particulate filters
4 for engines for horsepowers used in underground
5 metal and nonmetal mining equipment are
6 commercially available. Kennecott disagrees that
7 there exists suitable diesel particulate filters,
8 especially for the two-cycle engines of midrange
9 horsepower used at Greens Creek, unless you can
10 tell us differently.

11 Also, the results of tests at Greens
12 Creek show that filter rotation was an issue with
13 a particular type of filter mentioned earlier, the
14 Inglehardt, due to a manufacturing problem. This
15 issue was discussed with a filter manufacturer and
16 vendor without obtaining closure on the issue,
17 thus questioning the mine-worthiness of this
18 particular filter.

19 Finally, we do believe that the final
20 limit should be deleted, and at this juncture we
21 question the ability for all types of underground
22 metal and nonmetal mines to meet the revised
23 interim exposure limit of 308, let alone looking
24 at a final limit of 160 micrograms per cubic
25 meter. Therefore, we would like MSHA to delete

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1 the final limit, and if MSHA doesn't delete the
2 final limit we agree that there should be some
3 additional time allowing all types of underground
4 metal and nonmetal mines to demonstrate
5 feasibility for compliance with the interim limit
6 well before addressing the final limit. We openly
7 request MSHA's compliance assistance in meeting a
8 final DPM limit, as it did in its continuing
9 efforts to meet the interim limit.

10 And with that I'd like to turn it over
11 to Mark.

12 MR. GOOD: My name is Mark Good. I'm
13 a safety engineer and Greens Creek Mine. Just to
14 sort of set the stage for our efforts, I'm going
15 to be speaking more to the technical feasibility
16 side of things, what we've experienced at the
17 mine, the work that we've done in conjunction with
18 MSHA, some of the technical issues associated with
19 the mine ventilation aspects of our mine, and a
20 number of other topics here.

21 Just to get going on it, we started
22 out testing ceramic filters three and a half years
23 ago in March of 2000. That was the first ceramic
24 filter that we put in place. At that time there
25 weren't a lot of ceramic filters out there. We

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1 chose Inglehardt as being the sort of leader of
2 the day as it were. They recommended a
3 20-inch-by-15-inch unit to go onto our large haul
4 trucks. We mounted that on a Toro 40D haul truck,
5 and within 500 hours it failed. The back-pressure
6 shot up over 70 inches of water gauge, and the
7 spec on the engine was at 41 inches.

8 So in May of that year we pulled the
9 20-inch unit off and we exchanged it for a couple
10 of smaller 15-by-15's. We ran temperature
11 profiles on the equipment in July of that year and
12 established that the duty cycle was going to be
13 sufficient for self-regeneration. The replacement
14 ceramic filters arrived in September of that
15 year -- lead times on these things were pretty
16 excessive at the time -- and the truck ran for
17 about 200 hours before it clogged up with
18 back-pressures going up over 80 inches, and again
19 we pulled the 15-by-15 out of service and
20 approached the manufacturer for suggestions and
21 recommendations.

22 In December we made another swing at
23 it, so a new 15-by-15 was mounted on the truck
24 again, making the proper physical mounting
25 modifications. We wrapped the exhaust system with

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1 a heat-retaining insulation blank and trials began
2 anew. So that was in December of 2000.

3 By April of the following year, April
4 of 2001, we successfully operated the filter -- it
5 was a passive regeneration system -- for
6 1,100 hours, and based on that success we figured
7 we hit the magic combination, and we ordered an
8 additional five ceramic filters to outfit the
9 remainder of the large haul truck fleet. We ran
10 until September of 2001, when we finally got
11 receipt of those other filters and we started
12 retrofitting them into the equipment. So at that
13 stage we had established successes with the large
14 haul truck fleet.

15 Our next approach was to go and start
16 retrofitting some of the smaller truck fleets, the
17 MT420's, which is a Wagner truck. We put an
18 11-by-14 ceramic filter on in November of 2001 and
19 continued testing that particular unit, so we had
20 a couple of filters in trial here.

21 In August of 2002 we had the
22 opportunity to purchase a brand new truck, and
23 rather than going through the R&D aspect of it we
24 talked to Wagner and told them that we wanted
25 Detroit Engines on board and that we needed to

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1 have Inglehardt soot filters mounted as an OEM
2 package, because this is manufactured from filters
3 and truck manufacturers and engines all working in
4 concert together to provide us with a package that
5 would work. Well, we test drove it down in
6 Portland and it failed, so they asked us to ship
7 one of our spare filters down to them. They put
8 it on and shipped it up to us, and during
9 commissioning up at the mine site there it failed
10 the second time. The filter was not suitable for
11 the application, and this is directly from the
12 manufacturer, so this is the question of original
13 engine equipment manufacturers being able to
14 provide turnkey package. It just doesn't happen.
15 You have to be application specific in your
16 specifications.

17 In September of that year the very
18 first filter failed that we had put in, and that
19 was after twenty months or so of operation. It
20 had achieved around 5,600 hours, and it had
21 cracked and broken up internally, so we put
22 another filter on it and continued on our way.
23 Establishing successes, both good and bad I guess,
24 in terms of the haul truck fleet, we started
25 looking at the loaders, and in October of 2002 we

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1 put our first filter on a mucker machine, slightly
2 smaller in horsepower, 300 horsepower, and again
3 based on Inglehardt's suggestions of
4 specifications they recommended a 12-by-15 filter.
5 We put it on, and back-pressure right out of the
6 box was 50 inches again versus a 40-inch top end,
7 and so that one was unsuitable. We put a larger
8 filter on on our own accord and brought the
9 back-pressures back down into something that was
10 reasonable. So again this is evidence of the
11 equipment manufacturers and filter manufacturers
12 being unable to provide information to operators
13 in terms of the suitability of these things.

14 Moving on, by Christmastime, December
15 of '02, we failed our second soot trap. The
16 ceramic had rotated inside the shell and was
17 loose. There's a canning process involved in this
18 where you have a ceramic substrate that does the
19 filtration, and then there's a metal can that goes
20 around it, and the ceramic had worked free
21 internally and vibrated around and basically
22 cracked up the ceramic internally. And this is
23 just prior to when the MSHA people, well, George
24 Saseen and Bill Pomroy, arrived on site there to
25 do our Compliance Assistance Program, to test the

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1 suitability of these various filters, and during
2 that program we also noticed that there were
3 several filters that had rotated internally,
4 inside the cans, and allowed exhaust gases to
5 bypass the whole filter element, sort of rendering
6 them less effective.

7 So January '03 we kicked off a
8 five-day sampling program with MSHA. We did a
9 three-day -- actually six days. We did three days
10 with the filters and installed sort of a
11 quadra-isozone effort, and then we pulled the
12 filters off and tried to repeat the sampling in
13 headings with the filters removed, and then did a
14 comparative before and after thing there. And
15 also during that period of time the MSHA team
16 conducted the baseline survey that we're required
17 to have by Western District. We also did that
18 during the same program.

19 Following that, May of this year we
20 got into repowering equipment. There was a
21 Caterpillar grader that we had which we ended up
22 repowering with a Mercedes engine because the
23 Caterpillar engines we felt just weren't able to
24 meet the emissions. And in that same month, May
25 of this year, we decided to embark on a program of

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1 different suppliers because we weren't that
2 thrilled with what Inglehardt was producing for us
3 in terms of a filter that was durable. These
4 things were backing up after 2,500 hours on
5 average at this point, and we just didn't deem
6 that that was adequate. So we started out on a
7 program where we're testing Air PCL filters now, a
8 different manufacturer, and we're just in the
9 process. These filters now got somewhat 500 hours
10 on them. They seem to be performing okay at this
11 point, but so did the Inglehardt at 500 hours too,
12 so it's a little too early to tell at this stage.
13 So that was our testing program in terms of our
14 experiences with filters, both successes and
15 failures on them.

16 I've had some correspondence with the
17 DEEP organization -- that's the Canadian
18 equivalent that's working on diesel particulate
19 studies in Canada -- and the correspondence I had
20 with them indicated that Inglehardt was no longer
21 going to be in the retrofit business anymore, or
22 at least the canning stage of that retrofit
23 business, and it looks like they're going to be
24 focussing their attempts on OEM installations with
25 the engine manufacturers, so they've kind of

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1 removed themselves from the picture in any case.
2 But we've still invested over three and a half
3 years of Inglehardt studies and probably close to
4 \$80,000 worth of filtration studies on something
5 that ended up to be a dead-end with that.

6 I'm going to speak a little bit about
7 the Greens Creek DPM sampling efforts. We've had
8 four outside parties work with Greens Creek in
9 terms of measuring diesel particulate. It started
10 out in the summer of 2000. This is a few months
11 after we put our very first filter in place.
12 NIOSH was interested in doing an in-mine study to
13 get baseline readings for what miners or industry
14 was being exposed to, and so that program was
15 headed up by Bruce Cantrell. In NIOSH's five-day
16 program they took over 200 samples and analyzed
17 those. At that time we were looking for carbon
18 interferences with graphitic ore, because at that
19 time the diesel particulate regulations that were
20 on the horizon were going to be based on total
21 carbon, and we were concerned that total carbon
22 was going to become an issue for us because of the
23 nature of carbon in our ore.

24 Following that program, July of 2000,
25 the next outside sampling agency was during the

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1 31-Mine Study that happened in November of 2001.
2 Larry Macken from, I think, the northeast area
3 conducted a two-day study with us taking, I think,
4 at least a dozen samples. During that sampling
5 program, the second day of the samples, our mine
6 ventilation system was interrupted by a fan
7 failure, and so the second day of sampling tended
8 to bias the numbers way high. But nonetheless
9 during the first day of sampling, which was a
10 cross-section of all of our occupations there, we
11 had levels of elemental carbonate 432 micrograms,
12 1,141, 538 and 328. All of these are above the
13 308 couched in today's terms. Subsequent to that
14 the compliance assistance team, that I alluded to,
15 back in January of this year came on, and they did
16 a baseline survey effectively sampling similar
17 occupations that Mr. Macken had the prior time,
18 and in those samples we were under the 308. We
19 were encroaching on it. We were close.

20 MR. FOX: Those are the two
21 concentrations, the 292 and the other one.

22 MR. GOOD: As Fred was saying, we had
23 one and 292 and one at 281 and one at 289, so
24 bumping up against the level there, but we had a
25 bit of a dichotomy there between the two sample

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1 sets and two occupations, one being above 308 and
2 one being just under 308, so we were left at a
3 little bit of a loss where we actually stand.

4 And then the fourth program, as I was
5 saying, was the actual filter efficiency testing
6 which was conducted over a six-day period.

7 That summarizes the sampling efforts
8 that we've undertaken. This is outside sources.
9 These aren't the ones we've conducted internally
10 aside, so our samples were actually fairly close
11 to the ones that Bill and you guys from MSHA had
12 come up with, so consistency on the methodology, I
13 guess, on sampling, I don't really have too many
14 bones with, although there is separation in swing
15 in the actual results.

16 I want to speak a little bit now about
17 the site-specific effects of the mine and the
18 ventilation design at Greens Creek in meeting
19 those diesel particulate limits. I guess our mine
20 is probably not terribly dissimilar to a lot of
21 the precious metal mines, but it is fairly
22 different from some of the more bulk mining
23 styles. In the 31-Mine Study there was a series
24 of trona mines, there was limestone, there was
25 some of these bulk mining areas, as well as the

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1 gold mines, and when we looked at the study it was
2 the precious metal mines that seemed to be at the
3 high end of things, and that's by nature of our
4 mining method, I guess.

5 The Greens Creek Mine operates within
6 the Admiralty Island National Monument, and as
7 such there's fairly severe restrictions imposed on
8 disturbances to the surface lands there. You just
9 can't go and push roads out everywhere.
10 Opportunities for establishing alternative
11 ventilation accesses into the mine are very
12 restrictive not only in establishing ventilation
13 breakthrough locations but also providing access
14 to those openings for maintenance purposes. The
15 permitting process for land disturbances are
16 pretty lengthy. The mine has got two portal
17 accesses driven into the mountainside at 920 and
18 1,350 feet elevations. The mine development is
19 progressively foundational ore at locations deeper
20 and more distal to the portal, so we're getting
21 deeper and further into the mine. As mining
22 develops it has followed the ore body deeper, and
23 the overlying mountains also --

24 MR. FOX: Show them that thing.

25 MR. GOOD: Maybe we can just refer to

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1 this. You'll be able to see. You can see a lot
2 of lines anyway. Over here the portal access is
3 coming in, and up above is the 1,350, and you can
4 sort of see there's a general trend down and away,
5 so as we're chasing the ore bodies further over
6 here the mountain contour is coming up higher as
7 well, so we don't have that opportunity to start
8 pulling 4,000-foot holes up to surface, and not
9 only is it for breakthrough locations, it's pretty
10 rugged terrain up there on the mountaintop. We
11 don't have the opportunity to locate those things
12 in places we can get to, plus getting the
13 permitting to start carving up the national
14 monument is a tough go.

15 MR. FOX: You might say impossible.

16 MR. GOOD: Existing developments
17 reached a depth of roughly 200 feet below sea
18 level at the current phase, and the mountains are
19 roughly 3,000 feet above the workings at that
20 point. The terrain, as I mentioned, is very
21 rugged, and this can be expected from a mountain
22 setting, and additional breakthroughs to the
23 surface have been prohibitively costly in terms of
24 time of permitting and expense. As such, the mine
25 ventilation plan has evolved into a series or a

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1 cascading ventilation system where you bring the
2 miner in and as it courses down the ramp you're
3 ventilating out stopes. It goes in and ventilates
4 the stope, comes back, returns to the airway, and
5 then on to the next one, and ultimately it all
6 comes down to a lower section where it gets
7 collect and brought up. So just by nature of the
8 way the mine has evolved this cascading
9 ventilation system is basically one of the
10 parameters. We haven't been able to bracket the
11 ore body and establish a collection raise up at
12 the far end and basically go with a single
13 ventilation scheme, so it's a series or a
14 cascading ventilation system that we've had to
15 adapt. As such, the mine ventilation plan has
16 evolved into this system, and that's consistent
17 with the original general plan of operation that
18 was accrued by the forest reserves back when the
19 mine was first constructed, so we're living within
20 the bounds that was agreed to with the forestry
21 services in order to put the mine into place.

22 The cascading nature of the mine
23 ventilation system has got some important
24 consequences regarding maintaining the DPM
25 concentrations within proposed limits, and in the

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1 cascading system the ambient levels of contaminant
2 slowly increase. As each time the air ventilates
3 a heading, additional contaminants are introduced
4 into that same airstream as it then cascades down
5 from the following level. There comes a point
6 when the ambient contaminant levels approach close
7 enough to the compliance limit that it makes no
8 difference that no volume of dilutant air could
9 realistically dilute the heading concentrations
10 down to compliance level, so once you're at 308
11 you could blow a hundred thousand CFM and it's not
12 going to make any difference in the heading.
13 You're still going to be above compliance levels.

14 In the 31-Mine Study it indicated that
15 the DPM concentration levels in gold mines were
16 generally higher than those found in the limestone
17 and trona operations. This it felt to be
18 partially a function of the mining geometry. Gold
19 mines, physically we have smaller stopes, smaller
20 headings, and larger tonnage open room geometry
21 utilized by other mining methods. Exhaust comes
22 out at the same entry that it enters, and it has
23 no opportunity to convect up into the upper
24 reaches of the stope areas where sampling would
25 not be able to collect it.

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1 The typical response to lowering DPM
2 concentrations within work headings without
3 resorting to exhaust filtration is to improve
4 stope ventilation either through maintaining
5 existing ventilation ducting or increasing the
6 size of either the auxiliary fan and/or the
7 ducting face that seems to be a problem. While
8 this would seem like a plausible approach, it
9 assumes that such equipment could be mounted in
10 the areas of concern. Large headings can
11 accommodate large vent fans and ducting, but
12 smaller headings, such as those required at the
13 Greens Creek Mine, can only accommodate smaller
14 diameter ducting without interfering with the
15 operation of equipment. Ventilation volumes by
16 their nature, they're limited by fan and ducting
17 diameters, and there's an upper limit to that as
18 the realistically feasible ventilation volumes
19 that can be delivered to stopes. A 36-inch fan
20 will only push so much air, to where you have to
21 start going up to 40-inch, 44, that type of thing.

22 So those kind of speak to the
23 technical issues, I guess, regarding ventilation
24 as we have it at our specific mine study. Should
25 we go into the particulate plan thing?

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1 MR. FOX: Not unless you're
2 interested, you know, in some of the methods that
3 we currently have to control it.

4 MS. GREEN: Would you like to submit
5 those for the record so we can consider them for
6 the final --

7 MR. FOX: Yeah. Basically it's a
8 tiered approach. We're going to start looking at
9 ventilation first, and then filtration until the
10 big ticket items, which is changing of the whole
11 mining environment and that type of thing, so
12 we'll submit those in writing.

13 MR. GOOD: As far as the way forward,
14 what we're going to be looking for, the way I see
15 it, in order to hit these proposed lower levels as
16 a final limit, we're going to have to continue on
17 with compliance assistance to establish controls
18 for all forms of the equipment that we have
19 underground. We have established successes with
20 the higher duty cycle for cycle engines in the
21 fleet, and we've outfitted those already, but when
22 it goes down to the ancillary equipment -- outer
23 trucks, scissor lifts, the smaller utilization or
24 duty cycle engines that don't generate the heat --
25 a number of those things are outfitted with

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1 two-cycle engines, and short of repowering those
2 things into a new engine, which is going to run us
3 anywhere from \$15,000 to \$25,000 each, we don't
4 see anything on the horizon for technologically
5 feasible particulate traps to be fitted on
6 two-cycle engines, unless MSHA has got some
7 information that we don't.

8 There's also additional time necessary
9 to evaluate the durability of these filters. As I
10 say, we've invested about 26,000 hours of
11 filtration time at this point, and we've now got
12 less than a thousand hours on another one, so
13 we're seeing failures at around 2,500 to 3,500
14 hours typically, and that's a fair amount of time
15 to invest in something that's going to fail.
16 You're into the game for eight months or a year,
17 maybe a little bit more, before you can establish
18 whether or not it's durable, can withstand the
19 rigors of the mining environment, and so that
20 needs to be taken into consideration, I guess is
21 our stance. When it comes to establishing a
22 practical mine-worthy filter technology, there's
23 considerable time to invest in trying to come up
24 with that determination.

25 MR. FOX: I think that's why I

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1 mentioned earlier that we haven't really defined
2 what that means, or I haven't seen a definition,
3 and it would really be strongly recommended that
4 MSHA come up with a definition for "mine-worthy
5 practical filter technolog," so that we know what
6 we're trying to achieve. You're welcome to any
7 questions.

8 MS. SMITH: Questions?

9 MR. SASEEN: One. Mark, you said '03
10 May you repowered one of your machines with a
11 Mercedes.

12 MR. GOOD: Yeah.

13 MR. SASEEN: Which one was that?

14 MR. GOOD: That was a grader. It had
15 a Caterpillar 306 in it. We bought it used, and
16 before we sent it underground we had it changed
17 out, I think, with a Mercedes 904.

18 MR. SASEEN: I know at the end you
19 said \$15,000 to \$25,000 on retrofitting engines.
20 Is that about where that cost would have come in?
21 Can you provide us with any information?

22 MR. GOOD: Yeah, Mercedes, because
23 they're knew into the game, they don't want any
24 old person to go and throw an engine in. They
25 want their personnel to install their equipment,

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1 so we have to bring in people to do it, and you
2 pay a premium for that, so they're at the high
3 end. That \$25,000 is for a Mercedes retrofit. To
4 go with a 40 Series retrofit or something like
5 that at Detroit you're probably looking at \$15,000
6 to 18,000 just because we can do it on site
7 ourselves. But those engines are being replaced
8 by the Mercedes line anyway. We're probably going
9 to be looking at \$20,000 to \$25,000 an engine to
10 go with that technology.

11 MR. FOX: George, do you want us to
12 supply information on that?

13 MR. SASEEN: If you would. Do you
14 have a plan for retrofitting the two-cycle
15 engines, or do you just have a plan for
16 retrofitting engines in general?

17 MR. GOOD: As they come up, as they
18 kind of reach the end of their service life, we're
19 replacing engines. The problem with the utility
20 vehicles is that, you know, as a fleet they're
21 probably running about 6,000 hours at this point,
22 and they're going to last forever. We're just not
23 going to burn out at the rate we're using them, so
24 I can see them kind of being a part of the fleet
25 for, you know, five years yet.

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1 MR. SASEEN: Okay.

2 MS. SMITH: Other questions? Thank
3 you, gentlemen.

4 MR. FOX: Thank you.

5 MS. SMITH: I think we'll take a break
6 now for about 15 minutes, and we have one speaker
7 after the break, Mr. Leavitt.

8 (Recess, 11:15 to 11:35 a.m.)

9 MS. SMITH: We're back on the record.
10 Our next speaker is Mr. Leavitt. Would you both
11 say and spell your name and affiliation for the
12 recorder.

13 MR. LEAVITT: My name is Wes Leavitt,
14 L-E-A-V-I-T-T. I am going to present to you two
15 sets of comments here, one for Nevada Mining
16 Association and the second for Newmont Mining
17 Corporation.

18 As I mentioned, my name is Wes
19 Leavitt. I am a certified industrial hygienist
20 employed by Newmont Mining Corporation, which is a
21 member of the Nevada Mining Association. I
22 appreciate the opportunity to comment on the
23 proposed rule for diesel particulate matter
24 exposure of underground metal and nonmetal miners,
25 dated August 14th of '03. NVMA represents

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1 Nevada's mining industry, and a number of our
2 underground mining members are directly affected
3 by the DPM rule. We have monitored the entire DPM
4 regulatory process closely, and we have
5 participated very actively in the initial proposal
6 phase.

7 We're pleased that the agency has
8 worked cooperatively with the industry to resolve
9 major flaws in the initial rule. Allowing mine
10 operators to apply for an exception of time when
11 unable to apply with the standard is an example of
12 positive change in the rule. More often than not
13 DPM reductions take a great deal of time money and
14 effort to implement. As long as employees' health
15 is being protected using PPE or other acceptable
16 controls, the time required for compliance should
17 be based on each mining situation.

18 As far as addressing feasibility, as
19 indicated by table V-10 in the preamble,
20 representing the agency's baseline study and as
21 our member companies can and will testify later
22 on, many underground metal mines will not be able
23 to meet the initial 400 standard, and virtually
24 none can meet the final proposed limit of 160. In
25 fact, Federal Register Page 48676 indicates that

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1 30 percent of all mines had one or more compliance
2 assistance visit results above 400 total carbon,
3 adjusted to the EC equivalent. This is in spite
4 of the fact that mine operators are implementing
5 controls such as changing out older engines with
6 new cleaner burning ones, installing exhaust
7 filters, improving PM programs, and spending
8 millions of dollars on ventilation upgrades.

9 Members of our association have been
10 working several years doing test work on sampling
11 methodology and exploring DPM control methods such
12 as exhaust filters. We're pleased to acknowledge
13 the fact that many member companies of the
14 association have participated in the filter tests
15 conducted in house, in conjunction with NIOSH, and
16 also in conjunction with NIOSH and MSHA. At least
17 one company has been using exhaust filters on
18 select pieces of equipment for over three years.
19 As a result we are convinced that where filters
20 can feasibly be sized and fitted to equipment
21 significant reductions in DPM levels will result.
22 There are still, however, applications where
23 filters are not feasible and at least one member
24 company is it experiencing back-pressures in
25 excess of engine manufacturers' recommendations.

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1 Filter efficiencies are good but are not
2 universal, and it's only one dimension. There's
3 still plenty of work to be done before this
4 technology can be relied upon.

5 As mentioned earlier, member companies
6 have participated since the beginning in testing
7 sample methodology. We agree with the agency's
8 decision to rely upon only personal samples for
9 compliance determination. We also agree with the
10 decision to use elemental carbon as a surrogate
11 instead of total carbon as recommended by the 5040
12 method. Although not totally eliminating the
13 interference, using EC as a surrogate for DPM
14 reduces the interference significantly.

15 As mentioned in the Federal Register,
16 Volume 68, No. 157, Page 48670, the goals of the
17 31-Mine Study include an assessment of the
18 validity, precision and feasibility of the
19 sampling and analytical method. It is noted
20 further that the actual results of the 31-Mine
21 Study suggests that the analytical method is
22 accurate and appropriate. There is no scientific
23 basis in the results of the 31-Mine Study to
24 conclude that a single sample is appropriate for
25 enforcement purposes. The paired sample analysis

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1 of the 31-Mine Study clearly demonstrates the
2 uncertainty of using a single sample to
3 characterizing average DPM concentrations.
4 Although the single sample strategy is consistent
5 with other MSHA strategies, this consistency does
6 not make it correct.

7 In the proposed 57.5062 MSHA intends
8 to cite for a violation of the plan regardless of
9 DPM exposure. Thus if an operator decided to use
10 more effective engineering and/or administrative
11 controls than were identified in the control plan
12 they would be cited. The DPM control plan must be
13 a dynamic document that enables the operator to
14 respond quickly to changes in technology or
15 operating conditions. A citation should only be
16 issued for documented overexposure, not changes in
17 DPM control strategy that are meant to take
18 advantage of rapidly evolving technology.

19 My final comments are related to the
20 need for a rule to begin with. The risk
21 assessment used to justify the rule is flawed and
22 does not meet the requirements set forth by OMB
23 data, quality mandates or MSHA's statutory duty to
24 issue rules that address significant risks,
25 provide significant benefits, are based on the

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1 latest scientific evidence, and are consistent
2 with other governmental agency actions. NIOSH and
3 NCI are in the tenth year of a massive study
4 commissioned because of suspected health concerns
5 that are not supported by existing science. We
6 are urge MSHA to withdraw 160 and make 400 the
7 final PEL.

8 That concludes my comment from the
9 Nevada Mining Association. Do you want to do any
10 questions on that or just roll into the next
11 section?

12 MS. SMITH: Does any panel members or
13 MSHA folks have questions of Mr. Leavitt? Okay.

14 MR. LEAVITT: The next comments here
15 are specifically to Newmont. Again, we appreciate
16 the opportunity to comment.

17 We own and/or operate four underground
18 gold mines in Nevada that are subject to these
19 rules and a fifth mine that's in the development
20 stage. During the last several years we have
21 engaged in DPM sampling analysis and an ongoing
22 engineering analysis of possible methods of
23 compliance with the standard. We have tested
24 diesel filters and engine replacement as the
25 primary means of attempted compliance, and have

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1 instituted a number of work practice controls
2 aimed at reduction of DPM.

3 Our filter tests have had mixed
4 results with some filters lasting in excess of
5 6,000 operating hours and providing an excess of
6 80 percent DPM reduction from the tailpipe, and
7 others failing within one month of use. We have
8 determined that many pieces of equipment that we
9 use cannot accommodate filter systems or for which
10 filters do not make sense from an economic or
11 operating feasibility basis. We also have
12 discovered that filter systems for our equipment
13 generally are far more costly than he estimated by
14 MSHA, with filtering systems at two of the mines
15 budgeted at \$1.9 million for equipment,
16 installation and downtime costs.

17 We have installed some test
18 replacement engines and ordered replacements for
19 portions of our underground diesel fleet which we
20 discovered through testing were the greatest
21 contributors to DPM levels. We'll be monitoring
22 the success of these retrofits for feasibility,
23 and we're examining the potential to change
24 engines in additional equipment. Again, we've
25 discovered that the cost for engine changes

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1 exceeded those estimated by MSHA at \$1.9 million
2 for the cost of the filters, the engines,
3 installation, downtime, et cetera.

4 In addition, we have analyzed the
5 potential DPM reductions achieved through
6 additional ventilation that is feasible from an
7 engineering perspective, and we're in the planning
8 stages for the addition of a new major shaft to
9 service two of the mines. This addition will cost
10 and an additional \$1.1 million to install and an
11 additional \$414,000 per year to operate in energy
12 costs. We note that the potential for ventilation
13 additions is not only contingent upon available
14 resources but also on engineering capacity.
15 Ventilation quantity and velocity limitations are
16 created for each mine by the distance, width and
17 height of entries, road and dust conditions, and
18 ground control conditions that may prevent
19 expansion of entry dimensions.

20 Our exposures and control estimates
21 tell us that our efforts may achieve compliance
22 with the 400 standard, but we're concerned that
23 MSHA's single sample compliance determination will
24 still create compliance difficulties for the 400
25 standard. Moreover, we do not believe that

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1 there's any feasible method of compliance with the
2 160 standard.

3 As a result of our review of the
4 health effect science, we agree with others that
5 there is no valid risk assessment that supports
6 the 160 standard scheduled to take effect in 2006.
7 When we combine the risk analysis with the lack of
8 potential for compliance, we conclude that MSHA
9 must delete the 160 standard in this rulemaking.

10 First, we ask that MSHA accept and
11 process requests for compliance extensions with
12 the 400 standard before enforcement is initiated.
13 Second, to the extent that the rulemaking
14 implements the interim partial settlement
15 agreement, we endorse it. However, we believe
16 that the agreement required MSHA to review the 160
17 standard in this rulemaking, and we strongly urge
18 them to delete the 160 standard.

19 The settlement with MSHA recognizes
20 our position that DPM limits are not
21 scientifically justified or technically or
22 economically feasible, but permits implementation
23 of the 400 total mark carbon limit, converted to
24 elemental carbon, as a compromise. Another part
25 of that compromise in the reexamination of the 160

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1 limit and the changes needed to fix the 400 rule.
2 While we appreciate MSHA's settlement efforts and
3 its attempt to fix the rule, we need the deletion
4 of the 160 limit in the rulemaking to permit
5 adequate mine planning and operation lead times
6 and compliance efforts with the 400 standard.

7 Since the DPM rule selects one
8 surrogate for measuring diesel exhaust based on
9 measuring convenience, not a specific risk
10 analysis, the DPM rule is somewhat redundant to
11 the regulation of other diesel components such as
12 regulated gases (CO, NO, NO2). These existing
13 standards provide protection, and OSHA relies on
14 them for diesel engines in construction,
15 tunneling, rail, truck, marine or bus depots,
16 repair facilities, agricultural and aviation
17 facilities. We believe that the 400 settlement
18 standard combined with the existing regulation of
19 diesel gases provides more than adequate
20 protection and that the 160 standard should be
21 deleted.

22 The group proposal for an elemental
23 carbon standard recognizes the interference
24 problems identified earlier, and we endorse the
25 change. However, we still question the accuracy

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1 of the new measurement system. The submicron
2 impactor was proven to be flawed before the rule
3 was finalized and again during the field tests.
4 We appreciate MSHA's repeated efforts to fix it,
5 but we're still worried that it will continue to
6 produce flawed results. The device and method is
7 simply too new to be used for enforcement.

8 We're particularly concerned that the
9 results at or below 160 are not feasible from an
10 accuracy perspective.

11 We appreciate MSHA's change in the
12 rule to permit PPE, and we strongly urge MSHA to
13 delete the prohibition of rotation of personnel as
14 a protective option.

15 We oppose enforcement of occupational
16 health standards based on a single sample because
17 health standards are based on a long-term
18 exposure, and laboratory results of single samples
19 are not accurate representation of exposure or
20 health risks. We endorse MSHA's new enforcement
21 policy which provides that MSHA will consider
22 operator sampling results that differ from MSHA
23 results in determining compliance, but we ask that
24 that be made part of the rule.

25 At Federal Register Page 48706, MSHA

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1 asks for information and data on the
2 appropriateness of 1.3 as the factor to convert EC
3 to TC, and the interim limit at 308 micrograms of
4 elemental carbon derived from the original 400.
5 The MARG Group responded during settlement
6 discussions that its extensive sampling base
7 published by Drs. Howard Cohen, Jonathan Borak and
8 Thomas Hall support at least 320 micrograms of EC
9 equivalent compared to a 400 microgram total
10 limit, and we endorse that proposal.

11 MSHA states that 25 percent reduction
12 is feasible and can be achieved by the control
13 itself or in combination with other controls. The
14 controls should be evaluated independently but in
15 reference to site-specific changes in DPM levels
16 if meaningful decisions are to be made regarding
17 their significance or effectiveness.

18 The DPM rules should not address other
19 topics covered by other regulations, such as
20 respiratory protection. Current respiratory rules
21 in 5005 are adequate and should be uniformly
22 applied to all respirator applications.

23 We generally oppose plan proposals,
24 even though this one is an improvement over the
25 original January 2001 provision. A control plan

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1 adds paperwork without benefits and performance is
2 still measured by DPM levels regardless of the
3 plan. The limited time and efforts of my health
4 and safety personnel is better spent elsewhere.

5 Thanks for the opportunity to testify,
6 and we may submit additional comments prior to the
7 close of the comment period.

8 MS. SMITH: Thank you, Mr. Leavitt.

9 Questions from the MSHA panel or other
10 representative?

11 MR. SASEEN: Becki.

12 MS. SMITH: Okay.

13 MR. SASEEN: You mentioned some
14 failures of one month on some filters. Can you
15 elaborate on what that was, or would you like to
16 include that in your written comments?

17 MR. LEAVITT: I'll have to include
18 that in the written comments because I don't have
19 that information.

20 MR. SASEEN: I would appreciate that,
21 to see what specific failures were.

22 MR. LEAVITT: Okay.

23
24 MR. POMROY: Did you do like a failure
25 analysis of those?

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1 MR. LEAVITT: I didn't, but I'm sure
2 it was done. I'll have to get with our
3 maintenance guys.

4 MR. POMROY: Okay. I have one other
5 question too. When you talked about not adding
6 additional requirements related to PPE, are you
7 more concerned about the selection of the
8 respirators themselves or more with medical
9 transfers and that aspect of it, or just anything
10 having to do with PPE?

11 MR. LEAVITT: You mean why I don't
12 think it should be addressed in the rule?

13 MR. POMROY: You said you were
14 generally opposed to putting specific requirements
15 related to PPE in the DPM standard, and we have
16 complaints for the PPE requirements elsewhere.

17 MR. LEAVITT: I just think it should
18 be consistent, at one rule. I don't know if this
19 is really the place to address it.

20 MR. SASEEN: Just one quick follow-up.
21 On this matter was it one manufacturer or several
22 filter manufacturers?

23 MR. LEAVITT: We are currently using
24 two.

25 MR. SASEEN: Would you address that

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1 specifically in your comments?

2 MR. LEAVITT: Yes.

3 MS. SMITH: Mr. Leavitt, thank you
4 very much. We appreciate your comments.

5 Do we have any others signed up for
6 speakers?

7 What I think we'll do at this point is
8 go off the record and reconvene at 1:00, and we'll
9 check at that point to see if we have additional
10 speakers who wish to present testimony, and if not
11 we will close the record at that time, so we'll be
12 back on the record at 1:00.

13 (Recess, 11:52 a.m. to 1:00 p.m.)

14 MS. SMITH: We're back on the record.
15 We have no further speakers lined up to testify
16 today, and therefore we officially close this
17 record. Thank you for coming.

18 (Concluded at 1:00 p.m.)

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