UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934 (AMENDMENT NO.)*

MINNESOTA MINING & MANUFACTURING CO. (NAME OF ISSUER) COMMON (TITLE CLASS OF SECURITIES) 604059105 (CUSIP NUMBER)

CHECK THE FOLLOWING BOX IF A FEE IS BEING PAID WITH THIS STATEMENT._X___(A FEE IS NOT REQUIRED ONLY IF THE FILING PERSON: (1) HAS A PREVIOUS STATEMENT ON FILE REPORTING BENEFICIAL OWNERSHIP OF MORE THAN FIVE PERCENT OF THE CLASS OF SECURITIES DESCRIBED IN ITEM 1; AND (2) HAS FILED NO AMENDMENT SUBSEQUENT THERETO REPORTING BENEFICIAL OWNERSHIP OF FIVE PERCENT OR LESS OF SUCH CLASS.) (SEE RULE 13D-7).

*THE REMAINDER OF THIS COVER PAGE SHALL BE FILLED OUT FOR A REPORTING PERSON'S INITIAL FILING ON THIS FORM WITH RESPECT TO THE SUBJECT CLASS OF SECURITIES, AND FOR ANY SUBSEQUENT AMENDMENT CONTAINING INFORMATION WHICH WOULD ALTER THE DISCLOSURES PROVIDED IN A PRIOR COVER PAGE.

THE INFORMATION REQUIRED IN THE REMAINDER OF THIS COVER PAGE SHALL NOT BE DEEMED TO BE "FILED" FOR THE PURPOSE OF SECTION 18 OF THE SECURITIES EXCHANGE ACT OF 1934 ("ACT") OR OTHERWISE SUBJECT TO THE LIABILITIES OF THAT SECTION OF THE ACT BUT SHALL BE SUBJECT TO ALL OTHER PROVISIONS OF THE ACT (HOWEVER, SEE THE NOTES).

CUSIP NO. 604059105 13G PAGE 2A OF 5 PAGES

- 1. NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF PERSON STATE STREET BANK AND TRUST COMPANY, TRUSTEE 3M PAYROLL-BASED EMPLOYEE STOCK OWNERSHIP PLAN, 3M SAVINGS PLAN, 3M VOLUNTARY INVESTMENT PLAN & EMPLOYEE STOCK OWNERSHIP PLAN
- 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP.*

NOT APPLICABLE

- 3. SEC USE ONLY
- 4. CITIZENSHIP OR PLACE OF ORGANIZATION

BOSTON, MASSACHUSETTS

- 5. SOLE VOTING POWER 0 SHARES
- 6. SHARED VOTING POWER 10,783,207 SHARES
- 7. SOLE DISPOSITIVE POWER

0 SHARES

8. SHARED DISPOSITIVE POWER 10,783,207 SHARES

9. AGGREGATED AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 10,783,207 SHARES

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* NOT APPLICABLE 11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 5.0 % 12. TYPE OF REPORTING PERSON* BK CUSIP NO. 604059105 13G PAGE 2B OF 5 PAGES 1. NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF PERSON 04-1867445 STATE STREET BANK AND TRUST COMPANY, TRUSTEE VARIOUS COLLECTIVE INVESTMENT FUNDS FOR EMPLOYEE BENEFIT PLAN AND OTHER INDEX ACCOUNTS ЗМ 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP.* NOT APPLICABLE В 3. SEC USE ONLY 4. CITIZENSHIP OR PLACE OF ORGANIZATION BOSTON, MASSACHUSETTS 5. SOLE VOTING POWER 1,253,310 SHARES 6. SHARED VOTING POWER 0 SHARES 7. SOLE DISPOSITIVE POWER 1,323,810 SHARES 8. SHARED DISPOSITIVE POWER 0 SHARES 9. AGGREGATED AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,323,810 SHARES 10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* NOT APPLICABLE 11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 . 68 12. TYPE OF REPORTING PERSON* BK CUSIP NO. 604059105 13G PAGE 2C OF 5 PAGES 1. NAME OF REPORTING PERSON S.S. OR I.R.S. IDENTIFICATION NO. OF PERSON STATE STREET BANK AND TRUST COMPANY, TRUSTEE/CO-TRUSTEE 04-1867445 VARIOUS TRUST ACCOUNTS ЗМ 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP.* NOT APPLICABLE 3. SEC USE ONLY 4. CITIZENSHIP OR PLACE OF ORGANIZATION BOSTON, MASSACHUSETTS 5. SOLE VOTING POWER 226,535 SHARES 6. SHARED VOTING POWER 146,350 SHARES 7. SOLE DISPOSITIVE POWER 172,507 SHARES 8. SHARED DISPOSITIVE POWER 197,524 SHARES 9. AGGREGATED AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 372,885 SHARES 10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* NOT APPLICABLE 11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 .2% 12. TYPE OF REPORTING PERSON* BK SCHEDULE 13G PAGE 3 OF 5 PAGES TTEM 1. (A) NAME OF ISSUER MINNESOTA MINING & MANUFACTURING CO.

(B) ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES

3M CENTER

TTEM 2.

- (A) NAME OF PERSON FILING
 STATE STREET BANK AND TRUST COMPANY, TRUSTEE
- (B) ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE

225 FRANKLIN STREET, BOSTON, MA 02110

(C) CITIZENSHIP

BOSTON, MASSACHUSETTS

- (D) TITLE CLASS OF SECURITIES COMMON
- (E) CUSIP NUMBER 604059105
- ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO RULE 13D-1(B), OR 13D-2(B), CHECK WHETHER THE PERSON FILING IS A:
 - (B) X BANK AS DEFINED IN SECTION 3(A)(6) OF THE ACT

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ITEM 4. OWNERSHIP

- (A) AMOUNT BENEFICIALLY OWNED
 - 12,479,902 SHARES
- (B) PERCENT OF CLASS 5.8%
- (C) NUMBER OF SHARES AS TO WHICH SUCH PERSON HAS:
 - (I) SOLE POWER TO VOTE OR TO DIRECT THE VOTE 1,479,845 SHARES
- (II) SHARED POWER TO VOTE OR TO DIRECT THE VOTE 10,929,557 SHARES
- (III) SOLE POWER TO DISPOSE OR TO DIRECT THE DISPOSITION OF 1,496,317 SHARES
- (IV) SHARED POWER TO DISPOSE OR TO DIRECT THE DISPOSITION OF 10,980,731 SHARES
- ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS

NOT APPLICABLE

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON.

NOT APPLICABLE

ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY

NOT APPLICABLE

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP

NOT APPLICABLE

ITEM 9. NOTICE OF DISSOLUTION OF GROUP

NOT APPLICABLE

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ITEM 10. CERTIFICATION

THE FOLLOWING CERTIFICATION SHALL BE INCLUDED IF THE STATEMENT IS FILED PURSUANT TO RULE 13D-1(B):

BY SIGNING BELOW I CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE SECURITIES REFERRED TO ABOVE WERE ACQUIRED IN THE ORDINARY COURSE OF BUSINESS AND WERE NOT ACQUIRED FOR THE PURPOSE OF AND DO NOT HAVE THE EFFECT OF CHANGING OR INFLUENCING THE CONTROL OF THE ISSUER OF SUCH SECURITIES AND WERE NOT ACQUIRED IN CONNECTION WITH OR AS A PARTICIPANT IN ANY TRANSACTION HAVING SUCH PURPOSES OR EFFECT.

THIS REPORT IS NOT AN ADMISSION THAT STATE STREET BANK AND TRUST COMPANY IS THE BENEFICIAL OWNER OF ANY SECURITIES COVERED BY

THIS REPORT, AND STATE STREET BANK AND TRUST COMPANY EXPRESSLY DISCLAIMS BENEFICIAL OWNERSHIP OF ALL SHARES REPORTED HEREIN PURSUANT TO RULE 13D-4.

SIGNATURE

AFTER REASONABLE INQUIRY AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, I CERTIFY THAT THE INFORMATION SET FORTH IN THIS STATEMENT IS TRUE, COMPLETE AND CORRECT.

10 FEBRUARY 1994

STATE STREET BOSTON CORPORATION STATE STREET BANK AND TRUST COMPANY, TRUSTEE

/s/JANET DENNEEN
ASSISTANT SECRETARY