A-65

| THE OF DEFECT - SCLAMPICAL ADDRESS PARTICLES PROVIDED BY COMMISSIBLE METHODS CONTROLLED BY COLORS PARTICLES PROVIDED BY COLORS PARTICLES PARTICLES PROVIDED BY COLORS PARTICLES P | 1. | THE OF SECTION | | MAXIMU | WELDING REPAIR SELECTION M ALLOWABLE OPERATING | PRESSURE OF 100 PSIG O | R LESS | |
|--|--|--|-------------------------------|--|--|----------------------------------|--|-----------|
| OSCIDENCES OSCIDE | DAMES DAME | District Common | | TYPE OF DEFECT | | PERMISSIBLE METHODS OF REPAIR | | |
| ### DISTORTION 10% FOR MYS ## | ### 10 TERMS B. DISTORTION 10% 10% 10% 10% 10% 10% 10% 10% 10% 10% | B. DISTORMENT OF THE PROPERTY OF THE PROPERT | | DAMAGE: | DISTORTION 11/2 FOR | | GROOVES IN DENT. | |
| 2. REPLACE SCHMENT OF PIPE MALE SERVICES D. MOTCH, SCRATCH, GOUGE, PIPE MALE THICKNESS D. MOTCH, SCRATCH, GOUGE, OF PIPE MALE THICKNESS D. MOTC | 2. REPLACE SCHOOL OF PIPE OF STREET, COURTS C. WOTCH, SCREECH, COURTS D. ACTH, SCREECH, COURTS OF STREET, COURTS D. ACTH, SCREECH, COURTS OF STREET, COURTS D. ACTH, SCREECH, COURTS OF STREET, COURTS D. ACTH, SCREECH, COURTS D. CORROSION A. DEPTH, SCREECH, COURTS D. ACTH, SCREECH, COURTS D. CORROSION A. DEPTH, SCREECH, COURTS D. CORROSION D. CORROSION A. DEPTH, SCREECH, COURTS D. CORROSION D. CO | 2. REPLACE SCORMET OF PIPE OF THE THE COURTS OF PIPE OF THE COURT OF THE COURTS | | GOUGES, GROOVES | B. DENT-MORE THAN 10% DISTORTION 11/2" FOR 41/2" | 1. SLEEVING OR CANNING. | PROPER FIT UP. | |
| D. NOTCH, SCRATCH, GOUGE, OF PIECH WALL THICKNESS. D. NOTCH, SCRATCH, GOUGE, GOLDING AND LICENSES, DISCUSSION OF THE WALL THICKNESS. PATCHING 2. PATCHING D. SEEVING OR CANNING. 2. PATCHING D. CESS THAN 100, DISCRETION OF PIECH PROPERTY OF THE WALLESS THAN 50% OF PIECH WALL THICKNESS. D. OEPH OWER 1000 F. SCRATCH AND THE WALLEST OWER 100 F. SCRATCH PROPERTY OF THE WALLEST OWER 100 F. SCRATCH PROPERTY OWER | D. NOTCH, SCRETCH, GDUEL OF PIPE WALL THICKNESS. 1. GRIDING AND STORY OF THE MAJOR STORY | D. NOTCH, SCREECE, COURSE. OF SIFE WALL THICKNOSS. 1. GRINING AND PACHING 2. PATCHING 2. PATCHING 1. CESTINATION OR CANADARY CONTROL OF THE SECTION AFFORD AND CONTROL OR CANADARY C | | | OD AND SMALLER! | 2. REPLACE SEGMENT OF PIPE | MUST BE REMOVED | |
| D. MOTCH, SCRAETCH, GOUSE, OF PIPE WALL THICKNESS. 2. PATCHIND 2. PATCHIND 2. PATCHIND 2. PATCHIND 2. PATCHIND 3. SEEVING OF CANNING. 4. REPLET SEGMENT OF SECTION AFFECTE MASS TO PIPE MALL THICKNESS. 3. SEEVING OF CANNING. 2. PATCHIND 2. PATCHIND 2. PATCHIND 3. SEEVING OF CANNING. 4. REPLET SEGMENT OF SECTION AFFECTE MASS TO PIPE MALL THICKNESS. 5. PATCHING 4. REPLET SEGMENT 5. SEEVING OF CANNING. 6. DEPTH OUTS SEC. 7. PATCHING 7. PATCHING 8. REPLET MAY TO THE MOTE THE MASS TO PIPE MALL THICKNESS. 8. SEEVING OF CANNING. 7. PATCHING 8. REPLET MAY TO THE MOTE THE MASS TO PIPE MALL THICKNESS. 8. SEEVING OF CANNING. 8. SEEVING OF CANNING. 8. SEEVING OF CANNING. 9. PATCHING 9. PATCHING 9. PATCHING 1. PATCHING 2. PARXIMM SIZE 3. SEEVING OR 4. MELLER 5. SEEVING OR 5. MELLER 6. SEEVING OR 6. SE | D. MOTHER SERVICE OBJECT. ORDER THAN SERVICE THAN SERVICE SER | D. HOTCH, SCRAIGH, GUILD, GUIDNAM ON WILDING AND WILDI | | | C. NOTCH, SCRATCH, GOUGE, GROOVE-LESS THAN 50% OF PIPE WALL THICKNESS | I. GRINDING | THICKNESS. | |
| 2. PATCHIND 2. PATCHIND 2. PATCHIND 2. PATCHIND 2. PATCHIND 2. CORROSION 3. SEEVING OR CANNING. 3. SEEVING OR CANNING. 4. REPLACE SEGMENT BETHER SECTION AFFECTED MIST BOX-NO LEAKAGE. 3. SEEVING ON CANNING. BOX-NO LEAKAGE. 4. REPLACE SEGMENT BETHER SECTION AFFECTED MIST BOX-NO LEAKAGE. 4. REPLACE SEGMENT BETHER SECTION AFFECTED MIST BOX-NO LEAKAGE. 5. DEPTH OVER 900. GP PIPE VALL THICKNESS BOX-NO LEAKAGE. 6. PATCHING 7. PATCHING 8. SELEVING ON CANNING. 8. DEPTH ROW COPER FIRE 8. SELEVING ON CANNING. 9. SUBJECT NOT TO SCIED VIOLE 1. DEPTH BOX OF PIPE WALL 1. MELLER SAVE A-VALVE SIPPLE 1. PATCHING 1. PATCHING 2. MAXIMUM SIZE ANNINGMENT 3. SEEVING ON CANNING. NO LIMITATIONS. C. DEPTH BOX OF PIPE WALL 1. PATCHING 2. SEEVING ON MORE 1. PATCHING 2. MAXIMUM SIZE 3. SEEVING ON MORE 1. PATCHING 3. SEEVING ON MORE 4. MELLER 5. SEE AS SID. 8-53 5. SEEVAL CLAMPS 5. SEE GAS SID. 8-53 5. SEEVAL CLAMPS 5. SEE GAS SID. 8-53 5. SEEVAL CLAMPS 5. SEE GAS SID. 8-53 6. SEEVAL CLAMPS 5. SEEVAL CLAMPS 5. SEE GAS SID. 8-53 6. SEEVING ON MORE 4. SEEVEN ON MORE 5. SEEVEN ON MORE 6. SEEVEN ON MORE 6. SEEVEN ON MORE 7. MAXIMUM SIZE 7. MAXIMUM SIZE 8. SEEVEN ON MORE 8. SEEVEN ON MORE 8. SEEVEN SIDE SEEVEN ON MORE 9. SEEVEN SIDE SEEVEN ON MORE 1. SEEVEN SEEVEN ON SERVICE 1. SEEVEN SEEVEN SEEVEN 1. SEEVEN SEEVEN SEEVEN 1. SEEVEN SEEVEN | 2. PAICHING 2. PAICHING 2. PAICHING 2. PAICHING 2. PAICHING 3. SEEPING OR PAINTING. 4. BEPLACE SECRET 4. BEPLACE SECRET 4. BEPLACE SECRET 5. CORROSION A. DEPTH_ESS. IMM 90% 6. DEPTH_MAIL TAICHINGS 6. DEPTH_MAIL TAICHINGS 7. PAICHING 80%-NO LERANGE. 1. ORIGINATION 1. PAICHING 2. PAICHING 2. PAICHING 3. SEEPING OR CANNING. 4. MELLER 6. DEPTH_BOS OR PAIR 80%-NO LERANGE. 2. PAICHING 2. PAICHING 3. SEEPING OR CANNING. 4. MELLER 6. DEPTH_BOS OR PAIR 6. DEPTH_BOS OR PAIR 7. PAICHING 2. PAICHING 2. PAICHING 3. SEEPING OR CANNING. NO LIMITATIONS. 4. MELLER 6. CHAPES OR PAIR 6. CHAPES OR PAIR 7. PAICHING 8. SEEPING OR CANNING. NO LIMITATIONS. 4. MELLER 6. SEEPING OR CANNING. 1. PAICHING 7. MELLER 8. SAVE-A-VALVE 8. SEEPING OR SOLDER 9. SEEPING OR SOLDER 1. PAICHING 1. PAICHING 1. PAICHING 2. MALIMAN SIZE 5. SEEPING OR SOLDER 6. SEEPING OR SEEPING 6. SEEPING OR SOLDER 6. SEEPING OR SEEPING 7. SEEPING OR SEEPING 7. SEEPING OR SEEPING 7. SEEPING OR SEEPING 8. SEEP | 2. PAICHNO 2. PAICHNO 2. PAICHNO 2. PAICHNO 2. PAICHNO 3. SECURDO OF CANNING. 4. REPLACE SECHENT 4. REPLACE SECHENT 6. DEPT-LESS THAN 300 6. PET-LESS THAN 300 7. PET-LESS THAN 300 8. DEPT-LESS THAN 300 8. DEPT-LESS THAN 300 7. PET-LESS THAN 300 8. DEPT-LESS THAN 300 8. DEPT-LESS THAN 300 8. DEPT-LESS THAN 300 7. PET-LESS THAN 300 8. DEPT-LESS THAN 300 8. DE | | | D. NOTCH, SCRATCH, GOUGE, GROOVE-MORE THAN 50% OF PIPE WALL THICKNESS. | I. GRINDING AND WELDING | LESS THAN 10% DISTORTION OR BENT (1/4" FOR 4/5" O.D. & SMALLER). REPAIR NOT TO EXCEED 1/4 CIPCUMFER- ENCE OF PIPE NOR 5 SQUARE INCHES NOT MORRE THAN ONE REPAIR PER FOOT | |
| 2. CORROSION DAMAGE A. DEPTH LESS THAN 50% OF PIPE MALL THICKNESS B. DEPTH OVER 50% OF PIPE MALL THICKNESS BOX-NO LEAKAGE. 1. OR THING AND STREAM OF PIPE WALL THICKNESS BOX-NO LEAKAGE. 2. PATCHING CORROSION OAMAGE DEPTH WORK SOX OF PIPE MALL THICKNESS BOX-NO LEAKAGE. 3. SLEEVING OR CANNING. C. DEPTH BOX OF PIPE WALL FILE FOR WALL THICKNESS BOX-NO LEAKAGE. 2. PATCHING CORROSION OF PIPE WALL FILE FOR | 2. CORROSION DANGE A. DEPT-LESS INMASSIS. B. DEPT-NOVER NOT OF PIPE MALL THICKNESS BD CASE THAN STORE THAN SORE BUT ESS THAN SORE BUT ES | 3. SEEVING OR CANNING. 2. CORROSION A. OFFT-LESS THAN 500. A. OFFT-LESS THAN 500. B. OFFT-LESS THA | | | | 2. PATCHING | LES THAN 10% DISTORTION ONDERNING FOR 40 3.0, \$ SMALLER). PORTING FOR 40 3.0, \$ SMALLER). PORTING FOR STATE OF THE OVER B\$(0.0). LENGTH NOT OVER HOPIPE DIAMETERS. A MINIMUM OF 3° CLEARANCE BELWEEN PAICHES. | |
| 2. CORROSION DAMAGE A. DEPTH LESS INHN 50% OF PIPE WALL THICKNESS DAMAGE B. GETH OVER 50% OF PIPE WALL THICKNESS BUT LESS THAN BOX -NO LEAKAGE. 1. ORINDING AND CIRCUMSTERNER OF PIPE WARE SOURCES THAN BOX -NO LEAKAGE. 2. PATCHING CIRCUMSTERNER OF PIPE WARE SOURCES OF PIPE WARE PROT OF PIPE LENGTH. 2. PATCHING CIRCUMSTERNER ON PIPE WALL THICKNESS OF A MALE AND A MALE CIRCUMSTERNER OF PIPE WALL THICKNESS OF MORE PATCHES. 3. SLEEVING OR CANNING. 4. MUELLER MAPPLE VALVE CIRCUMSTERNER OF PIPE WALL THICKNESS OF MORE PATCHES. 5. LEAK CLAMPS SEE GAS 510. 9-53 CANNING COMMISSION PITS 5. LEAK CLAMPS SEE GAS 510. 9-53 CANNING CANNING NO LIMITATIONS. 7. MELLER SAME AS 2.8.2 C. DEPTH BOX OF PIPE WALL THICKNESS OF MORE PATCHES. 8. MUELLER SAME AS 2.8.2 C. DEPTH BOX OF PIPE WALL THICKNESS OF MORE PATCHES. 8. LEAK CLAMPS SEE GAS 510. 9-53 CANNING CANNING NO LIMITATIONS. 7. MELLER SAME AS 2.8.2 C. DEPTH BOX OF PIPE WALL THICKNESS OF MORE PATCHES. 8. MELLER SAME AS 2.8.2 C. DEPTH BOX OF PIPE WALL THICKNESS OF PIPE WALL THICKNESS OF MORE PATCHES. 9. MELLER SAME AS 2.8.2 C. DEPTH BOX OF PIPE WALL THICKNESS OF PIPE WALL THICKNESS OF THE THICKNESS OF T | 2. CORROCION A. DEPTH LESS THAN 50% OF PIPE MALL TRICKNESS BOX MO LEAKAGE. D. DEPTH OUR 50% OF PIPE MALL TRICKNESS BOX MO LEAKAGE. D. DEPTH OUR 50% OF PIPE MALL TRICKNESS BOX MO LEAKAGE. 2. PATCHING D. SCHARE HICHES MO MORE THAN 10% OF PIPE MALL TRICKNESS BOX MO LEAKAGE. 2. PATCHING D. PATCH MORE THAN 10% OF PIPE MALL TRICKNESS BOX MO LEAKAGE. 2. PATCHING D. PATCH MORE THAN 10% OF PIPE MALL FINCHING TO PIPE MALL FINCHING TAXABLE TO PIPE MALL FINCHING TO PIPE MALL FINCHIN | 7. CORROSION A. DEPT-LESS THAM SON. OF PIPE WALL TRICKNESS D. DEPT-LOVES NO. OF PIPE WALL TRICKNESS BOX HO LEAKAGE. 2. PATCHING PATCH | | | | 3. SLEEVING OR CANNING. | DENT MUST NOT PREVENT | |
| 2. COBROSION DAMAGE A. DEPTH LESS THAN SOX OF PIPE WALL THICKNESS BUT HIS SOUTH PROVIDED TO THE WALL THICKNESS BUT HIS SOUTH PROVIDED THE WALL THICKNESS OF HIS SOUTH PART | 2. CORROSION DAMAGE 8. OF PIPE VEXIS THAN SOS BUT LESS THAN SOS B | 2. CORROSION DANGE A. DEPTH CESS THAM SON. OF PIPE WALL INCRNESS B. DEPTH OVER SON OF SIDE OF | | | | 4. REPLACE SEGMENT | ENTIRE SECTION AFFECTED MUST | |
| B. DEPTH OVER SOX. OF PIPE WALL THICKNESS BUT LESS THAN BOX-NO LEAKAGE. 1. DRINDING AND CIRCUMPTERINE OF PIPE WORS SOURCE INCHEST. NOT MORE FROM TO FIPE WORS SOURCE INCHEST. NOT MORE FROM TO PIPE WORS SOURCE INCHEST. NOT MORE FROM THE PIPE WORS SOURCE INCHEST. NOT MORE FROM THE PIPE WORS SOURCE INCHEST. NOT MORE OF PIPE WORS OF PIP | B. DEPTH OWEN SOR OF PIPE WALL TRICKNESS BUT LESS THAN BORNOL LEARNOE. B. DEPTH OWEN SOR OF PIPE WALL TRICKNESS BUT LESS THAN BORNOL LEARNOE. 2. PATCHING CIRCUMSTRUCTURE FOR WASHINGTON OF PIPE LEARNOY OF PIPE LEARNOY OF PIPE LEARNOY OF PIPE LEARNOY OF CREED WASHINGTON OF PIPE LEARNOY | B. CEPH OUR SOT OF PIPE WALL TILCHESS BUT LESS THAN BOX YOU LEAST THAN OUR TRANSPORT CHECKES IN GORD THAN OUR TRANSPORT C | 1 | . CORROSION | A. DEPTH LESS THAN 50% | I. NO REPAIR | BE REPORTS | |
| 2. PATCHING PATCH NOT TO EXCEED WE DIDE CIRCUMERRICE ON PIPE OVER CIRCUMERRICE OF CIRCUMERRI | 2. PATCHING CREATED WE DEED BY DIVER SET ON PIPE ONE SET ON PIPE ON PIPE ONE SET ON PIPE ON PIPE ONE SET ON PIPE ON PI | 2. PATCHING CHECKED V. DIPT. 2. PATCHING CHECKED V. DIPT. 3. SLEEVING OR CANNING. 4. REFLEE CHECK PATCHES. 3. SLEEVING OR CANNING. 4. REFLEE CHECK PATCHES. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. DEPTH BOX OF PIPE WALL INCLUDING LEAKING CORROSION PITS. C. LEAK CLAMPS. S. LEAKS IN WELD. 3. MELLER VALVE REPORT OF PIPE WALL INCLUDING LEAKING LITTLES COLLY. CARRING STANDARD PATCHES COMENT. CARRING LITTLES COLLY. CARRING LITTLES | | DAMAGE | B. DEPTH OVER 50% OF PIPE WALL THICKNESS BUT LESS THAN | I. GRINDING AND | CIRCUMFERENCE OF PIPE NOR 5 SQUARE INCHES, NOT MORE THAN ONE REPAIR PER | |
| A. ALL A. ANY LONGITUDINAL WELD GRACK THAN 2" LONG, A BRANCH OR CIRCUMFRENTIAL WELD GRACK THAN 2" LONG, A BRANCH OR CIRCUMFRENTIAL WELD GRACK THAN 1" LONG, A BRANCH OR CIRCUMFRE | 3. LEAKS IN MELD. 3. LEAK SIN MELD. 4. MUSELLER SEGMENT OF PIPE WALL THICKNESS ON HORE-THICKNESS ON | A. ALL 1. PATCHING 2. MEXIMUM SIZE SAVE A-VALVE MIPPLE 5. LEAK CLAMPS 5. SEE GAS SID. 8-53 1. PATCHING 2. SLEEVING OR CORRUSION PITS 3. MELLER SAVE A-VALVE MIPPLE 4. LEAK CLAMPS 5. REPLACE SEGMENT OF PIPE 6. RENOVED. 2. SLEEVING OR CANNING 6. SAME AS 2.8.2 2. MAXIMUM SIZE SAME AS 2.8.2 2. MAXIMUM SIZE SAME AS 2.8.2 3. LEAKS IN MELD. 3. LEAKS IN MELD. 4. NON-LEAKING CRACKS OR DEFECTS IN WELDS A. ANY LONGITUDINAL WELD CRACK GREATER THAN 2' LONG, A. BRANCH OR CIRCUMFRENTIAL WELD CRACK THAY IS NORE FINAN BY OR WELDERS, SEGMENT OF PIPE 1. REPLACE SEGMENT OF PIPE 2. PATCHING, SLEEVING OR CANNING LIMITATIONS FOR PATCHES SAME AS 2.8.2 2. PEPLACE FITTING 2. REPLACE SEGMENT OF PIPE 3. REPLACE SEGMENT OF PIPE 4. REPLACE SECTION AFFECTED MUST BE REMOVED. 4. ALL 4. LEAK IN BODY 4. ALL 4. LEAK CLAMPS 4. LEAK CLAMPS 5. LEAKS IN BODY 6. CLAMPS 5. LEAKS IN BODY 6. CLAMPS 6. REPLACE SEGMENT OF PIPE 6. REPLACE SECTION AFFECTED MUST BE REMOVED. 6. LEAK SIN BODY 6. CLAMPS 6. REPLACE SEGMENT OF PIPE 6. REPLACE SECTION AFFECTED MUST BE REMOVED. 6. LEAK SIN BODY 6. CLAMPS 6. REPLACE SEGMENT OF PIPE 6. REPLACE SECTION AFFECTED MUST BE REMOVED. 6. LEAK SIN BODY 6. CLAMPS 6. REPLACE SEGMENT OF PIPE 6. REPLACE SECTION AFFECTED MUST BE PILMOVED. 6. LEAK SIN BOD | | | | 2. PATCHING | PATCH NOT TO EXCEED W. PIPE CIRCUMFERENCE. ON PIPE OVER 8% O.O., LENGTH NOT OVER O PIPE DIAMETERS, A MINIMUM OF 3. CLEARANCE | |
| THE SAVE A-VALVE NIPPLE 4. MUELLER SAVE A-VALVE NIPPLE 5. LEAK CLAMPS 6. LEAK CLAMPS 6. LEAK CLAMPS 6. LEAK CLAMPS 7. MAXIMUM SIZE 8. MAXIMUM SIZE 8. MAXIMUM SIZE 9. MAXIMUM SIZE 1. PATCHING 2. SLEEVING OR CANNING 2. SLEEVING OR EXISTING FACILITIES ONLY SAME AS Z.B.Z. 2. MAXIMUM SIZE 8. MAXIMUM SIZE 9. MAXIMUM SIZE 8. MAXIMUM SIZE 9. MAXIMUM SIZE | 4. MUSELLER SAVE-A-VALVE NIPPLE 5. LEAK CLAMPS 5. SEE GAS SID. 9-53 1. PATCHING SAME AS 2.B.2. 1. PATCHING SAME AS 2.B.2. 2. MAXIMUM SIZE. NO LIMITATIONS. 2. CANNING CORNOSION PITS 3. LEAKS IN WELD. 3. LEAKS IN WELD. 4. LEAK CLAMPS 5. GEPLAGE SEGMENT 6. PIPE 4. LEAK CLAMPS 5. GEPLAGE SEGMENT 6. PATCHING EXISTING FACILITIES ONLY SAME AS 2.B.2. 2. SLEVING OR CANNING EXISTING FACILITIES ONLY SAME AS 2.B.2. 2. SLEVING OR CANNING EXISTING FACILITIES ONLY SAME AS 2.B.2. 2. SLEVING OR CANNING 3. METELLER SAME AS 2.B.2. 2. SLEVING OR CANNING EXISTING FACILITIES ONLY SAME AS 2.B.2. 2. MAXIMUM SIZE EXISTING FACILITIES ONLY SAME AS 2.B.2. 2. SLEVING OR CANNING 3. METELLER SAME AS 2.B.2. 2. SLEVING OR CANNING EXISTING FACILITIES ONLY SERVICE. INSTALL SLEEVE SERVICE. INSTALL SLEEVE 1. GRINDING OR FILL WELDING SECOND BEAD. B. AN LONGITUDINAL WELD CRACK LESS THAN OR EDAL TO 2. COMP. A BRANCH OR CISCUMPERNITAL WELD PROPERTY OR A BRANCH OR CISCUMPERNITA | 4. MUELLER SAVE A VALVE SAVE A | | | | 3. SLEEVING OR CANNING. | NO LIMITATIONS. | |
| C. DEPTH BOX OF PIPE WALL THICKNESS OR MORE- INCLUDING LEAKING CORROSION PITS 2. SLEEVING OR CANNING 3. NULLILER SAVE-A-VALVE NIPPLE 4. LEAK CLAMPS 5. REPLACE SEGMENT OF PIPE BE REMOVED. 3. LEAKS IN MELD. 3. LEAKS IN MELD. 4. ALL 4. NON-LEAKING CRACKS OR DEFECTS IN WELDS 4. ANY LONGITUDINAL WELD CRACK GREATER THAN 2' LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK BRANCH OR C | C. DEPTH 80% OF PIPE WALL THICKNESS OR MORE- INCLUDING LEAKING CORROSION PITS 1. PATCHING 2. SLEEVING OR CANNING 3. NAUELLER SAVE-A-VALVE NIPPLE 4. LEAK CLAMPS 5. REPLACE SEGMENT OF PIPE 8. SEE GAS STD. B-53 5. REPLACE SEGMENT OF PIPE 9. PATCHING 2. SLEEVING OR CANNING 2. SLEEVING OR CANNING 2. SLEEVING OR CANNING 2. SLEEVING OR CANNING 2. MALLITIES ONLY SAME AS 2.8.2. 2. SLEEVING OR CANNING 2. MALLITIES ONLY SAME AS 2.8.2. 3. MUELLER SAVE-A-VALVE NIPPLE 4. NON-LEAKING CRACKS OR DEFECTS IN WELDS 5. NON-LEAKING CRACKS OR DEFECTS OR CRACKS OR D | C. DEPTH 80% OF PIPE WALL THICKNESS OR MORE- INCLUDING LEAKING CORROSION PITS 1. PATCHING SAME AS 2.8.2 2. MAXIMUM SIZE. 3. MUELLER SAME AS VALVE MIPPLE 4. LEAK CAMPS SEE GAS STO. B-53 3. LEAKS IN MELD. 3. LEAKS IN MELD. 3. LEAKS IN MELD. 3. MUELLER SAME AS 2.8.2. 2. SLEEVING OR CANNING EXISTING FACILITIES ONLY SAME AS 2.8.2. 2. SLEEVING OR CANNING EXISTING FACILITIES ONLY SAME AS 2.8.2. 4. NON-LEAKING CRACKS OR DEFECTS IN MELDS DEFECTS IN MELD CRACK DEFECTS DEFECTS IN MELDS DEFECTS IN MELDS DEFECTS IN MELD CRACK DEFECTS DEFECTS IN MELDS DEFECTS IN MELD CRACK DEFECTS DEFECTS IN MELDS DEFECTS IN MELD CRACK DEFECTS DEFECTS DEFECTS IN MELDS DEFECTS DE | | | | SAVE-A-VALVE | | |
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| かまらな」 名 BRANCH OR CIRCLMFERENT IAL WELD CRACK THAT IS MORE | BRANCH OR CIRCUMFERENTIAL WELD CHACK THAY 1'S MORE THAN 8% OF WELD LENGTH, OR A CRACK THAT PENETRATES EITHER THE ROOT OR SECOND BEAD. B. ANY LONGITUDINAL WELD CRACK LESS THAN OR EQUAL TO 2' LONG A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR EQUAL TO 8% OF WELD LENGTH, OR OTHER DEFECTS. 1. GRINDING OR FILL WELDING SECOND BEAD, REPLACE PIPE SEGMENT 2. PATCHING, SLEEVING OR CANNING LIMITATIONS FOR PATCHES SAME AS C.B.2. S. LEAKS IN BODY OF FITTING OR A. ALL 1. CANNING EXISTING FACILITIES ONLY | BRANCH OR CIRCUMFERENTIAL WELD CRACK THAT IS MORE WED CRACK THAT IS MORE THAN 9% OF WELD LENGTH, OR A CRACK THAT PENETRATES EITHER THE ROOT OR SECOND BEAD. B. ANY LONGITUDINAL WELD CRACK LESS THAN OR EQUAL TO 2" LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR EQUAL TO 2" LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR EQUAL TO 8% OF WELD LENGTH OR OTHER COUNTY OF SECOND BEAD, REPLACE PIPE SECMEN: A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR EQUAL TO 2" LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR EQUAL TO 8% OF WELD LENGTH OR OTHER COUNTY OR OTHER DEFECTS. 5. LEAKS IN BODY OF FITTING OR IN CLAMPS A ALL 2. REPLACE FITTING NO LIMITATIONS. | 7 47 | | | NIPPLE | | 0. |
| A CRACK THAT PENETRATES FITHER THE ROOT OF SECOND | LESS THAN OR EQUAL TO 2: LONG 1. GRINDING OR FILL WELDING SECONO BEAD, REPLACE PIPE SECRET. A BRANCH OR CIRCUMFERENTIAL 2. PATCHING, SLEEVING OR CANNING LIMITATIONS FOR PATCHES SAME AS 2.8.2 WELD CRACK LESS THAN OR EQUAL TO 8% OF WELD LENGTH OR OR OTHER DEFECTS. 5. LEAKS IN BODY OF FITTING OR A. ALL 1. CANNING EXISTING FACILITIES ONLY | LESS THAN OR EQUAL TO 2" LONG A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR EQUAL TO 8% OF MELD LENGTH- OR OTHER DEFECTS. 1. GRINDING OR FILL WELDING SECOND BEAD, REPLACE PIPE SCOMEN. 2. PATCHING, SLEEVING OR CANNING LIMITATIONS FOR PATCHES SAME AS 2.8.2. 3. REPLACE SEGMENT OF PIPE ENTIRE SECTION AFFECTED MUST BE REMOVED OF FITTING OR OF FITTING OR OF FITTING OR OF SECOND BEAD, REPLACE PIPE SCOMEN. 2. PATCHING, SLEEVING OR CANNING LIMITATIONS. | A - 62 M | 4. NON-LEAKING CRACKS OR DEFECTS IN WELDS | GREATER THAN 2" LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK THAT IS MORE THAN 8% OF WELD LENGTH, C A CRACK THAT PENETRATES EITHER THE RODT OR SECOND | R | IF NOT FEASIBLE TO TAKE MAIN OUT OF SERVICE, INSTALL SLEEVE | |
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PAGE CHART 11 WELDING REPAIR SELECTIONS CHART FOR MAINS WITH MAXIMUM ALLOWABLE OPERATING PRESSURE GREATER THAN 100 PSIG BUT LESS THAN 20% OF SPECIFIED MINIMUM YIELD STRENGTH AND 500 PSIG LIMITATIONS OF METHODS PERMISSIBLE METHODS OF REPAIR EXTENT OF DEFECT NO NOTCHES, SCRATCHES, GOUGES AND GROOVES IN DENT, NO WELDS AFFECTED. DENT-LESS THAN 5% DISTORTION (%" FOR 6%"O.D. AND SMALLER) MECHANICAL DAMAGE: NOTCHES, SCRATCHES, GOUGES, GROOVES AND DENTS. DENT MUST NOT PREVENT PROPER FIT UP. CANS NOT TO BE USED ON MAIN WITH MAOP OVER 400 PSIG DENT-MORE THAN 5% DISTORTION. (3%" FOR 6%" OD AND SMALLER) I. SLEEVING OR CANNING. ENTIRE SECTION AFFECTED MUST 2. REPLACE SEGMENT NOTCH, SCRATCH, GOUGE, GROOVE-DEPTH LESS THAN 10% OF PIPE WALL THICKNESS I. GRINDING DENT OF DISTORTION LESS THAN 5% OF 0.D. (% FOR 6% O.D. AND SMALLER). REPAIR NOT TO EXCEED '/4 OF PIPE CIRCUMFRERENCE NOR 4 SQUARE INCHES. NOT EN MORE THAN ONE REPAIR PER 5 PIPE DIAMETERS OF LESS OF NOTCH, SCRATCH, GOUGE, GROOVE-DEPTH BETWEEN 10% AND 30% OF PIPE WALL THICKNESS I. GRINDING AND WELDING MORE THAN ONE REPAIR PER 5 PIPE DIAMETERS OF DENT OR DISTORTION LESS THAN 5% OF O.D. 134 FOR 634 O.D. AND SMALLER, PATCH NOT TO EXCEED V. PIPE CIRCUMFERENCE, LENGTH NOT OVER 10 PIPE DIAMETERS ON PIPE OVER 834 O.D. A MINIMUM OF 3" CLEARANCE BETWEEN PATCHES. 2. PATCHING DENT MUST NOT PREVENT PROPER FIT UP. CANS NOT TO BE USED ON MAINS WITH MAOP OVER 400 PSIG 3. SLEEVING OR CANNING. PATCH NOT TO EXCEED 1/2 PIPE CIRCUMFERENCE. ON PIPE OVER 85/8" O.D., LENGTH NOT OVER 10 PIPE DIAMETERS. A MINIMUM OF 3" CLEARANCE BETWEEN PATCHES. NOTCH, SCRATCH, GOUGE, GROOVE-DEPTH MORE THAN 30% OF PIPE WALL THICKNESS. I. PATCHING 2. SLEEVING OR CANNING. DENT MUST NOT PREVENT PROPER FIT UP.
CANS NOT TO BE USED ON MAINS WITH MAOP OVER 400 PSIG 3. REPLACE SEGMENT ENTIRE SECTION AFFECTED MUST BE REMOVED. A. DEPTH LESS THAN 20% OF PIPE WALL THICKNESS 2. CORROSION I. NO REPAIR B. DEPTH BETWEEN 20% AND 30% OF PIPE WALL THICKNESS REPAIR NOT TO EXCEED /4
PIPE CIRCUMFERENCE NOR 4 SQUARE
INCHES. NOT MORE THAN ONE
REPAIR PER 5 PIPE DIAMETERS OF LENGTH GRINDING AND WELDING 2. PATCHING SAME AS I.E. 1. 3. SLEEVING NO LIMITATIONS 4. MUELLER SAVE-A-VALVE NIPPLE 2" MAXIMUM SIZE DEPTH OVER 30% OF PIPE WALL THICKNESS BUT LESS THAN 80% -NO LEAKAGE I. PATCHING SAME AS I.E. 1. 2. SLEEVING NO LIMITATIONS. THIS GAS STANDARD AND 3. MUELLER SAVE-A-VALVE NIPPLE 2" MAXIMUM SIZE DEPTH 80% OF PIPE WALL THICKNESS OR MORE -INCLUDING LEAKING CORROSION PITS I. PATCHING SAME AS 1.E.I. 2. SLEEVING NO LIMITATIONS 2" MAXIMUM SIZE 3. MUELLER SAVE-A-VALVE NIPPLE ENTIRE SECTION AFFECTED MUST BE REMOVED. 4. REPLACE SEGMENT OF PIPE 4 OF PATCH I. PATCHING SAME AS 1.E. I. EXISTING FACILITIES ONLY 3. LEAKS IN WELDS A. ALL 2. SLEEVING OR EXISTING FACILITIES ONLY
CANS NOT TO BE USED ON MAINS WITH MADP OVER 400 PSIG LEAK SLEEVING MUELLER NIPPLE, L CANNING PATCHING ARC WELDING 2" MAXIMUM SIZE EXISTING FACILITIES ONLY 3. MUELLER SAVE-A-VALVE NIPPLE ANY LONGITUBINAL WELD CRACK GREATER THAN 2" LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK THAT IS MORE THAN BY OF WELD LENGTH, OR A CRACK THAT PERTATES EITHER THE ROOT OR SECOND BEAD. ENTIRE SECTION AFFECTED MUST BE REMOVED. IF NOT FEASIBLE TO TAKE MAIN OUT OF SERVICE, INSTALL SLEEVE APPLICABLE GAS REPLACE SEGMENT OF PIPE 4. NON-LEAKING CRACKS
OR DEFECTS IN WELDS A-62 A-63 B-64 D-22 IF CRACK PENETRATES EITHER THE ROOT OR SECOND BEAD, REPLACE PIPE SECMENT LIMITATIONS FOR PATCHES SAME AS I.E.I CANS NOT TO BE USED ON MAINS WITH MAOP OVER 400 PSIG B. ANY LONGITUDINAL WELD CRACK LESS THAN OR EQUAL TO 2° LONG, A BRANCH OR CIRCUMFERENTLAL WELD CRACK LESS THAN OR EQUAL TO 8% OF WELD LENGTH, OR OTHER DEFECTS. PEPAIR P I. GRINDING AND FILL WELDING 2. PATCHING. SLEEVING OR CANNING FOR ENTIRE SECTION AFFECTED MUST BE REMOVED 3. REPLACE SEGMENT OF PIPE I. REPLACE FITTING DE FITTINGS OR IN A. ALL EXISTING FACILITIES ONLY. NOT TO BE USED ON MAINS WITH MACP OVER 400 PSIG. 2. CANNING (200,210)2839065H2.G24 04-25-88 DWH

APPROVED BY 3 4-15-68 REVISED TYPE OF DEFECT NO.4 AND ALL OTHER ASSOCIATED COLUMNS 3-4-87 REVISED PAGE NO. FROM 6 TO 7 1 4-20-84 ENTIRE CHART REVISED ADDED 2.D, 4. 8.3, AND NOTE 0 1-20-77 ISSUE FOR USE DWN CHKD APVD REV DATE DESCRIPTION SUPERSEDES 084491 PG 5 PIPING-DATA SHEET SUPV GAS OPER. SUPERSEDED BY DSGN REPAIR REQUIREMENTS FOR DAMAGED OR LEAKING MAINS SHEET NO. 2 3 SHEETS DWN GAS STANDARD DRAWING NUMBER REV CHKD 3 OK PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA 283906 DATE SCALE 9-24-76 MICROFILM

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CHART III

REPAIR SELECTION CHART FOR LINES WITH AN M.A.O.P. OF 20%
OR MORE OF SPECIFIED MINIMUM YIELD STRENGTH, OR 500 PSI OR GREATER DACE 6 PERMISSIBLE METHODS OF REPAIR LIMITATIONS ON METHODS EXTENT OF DEFECT TYPE OF DEFECT NO NOTCHES, SCRATCHES, GOUGES, AND GROOVES IN DENT. NO WELDS AFFECTED BY DENT. . NO REPAIR REQUIRED. I. MECHANICAL DAMAGE: NOTCHES, SCRATCHES, DENT-LESS THAN 2% DISTORTION (1/4" FOR 0.D. LESS THAN 12.750"). B. DENT-MORE THAN 2% DISTORTION (1/4" FOR O.D. LESS THAN 12.750"). DENT MUST NOT PREVENT PROPER FIT UP. IF DENT AFFECTS A WELD, REPAIR AS IN 1.8.2 I. SLEEVING. GROOVES, DENTS. ENTIRE SECTION AFFECTED MUST 2. REPLACE SEGMENT PIPE WALL NOT TO BE REDUCED TO LESS THAN 90% OF NOMINAL WALL THICKNESS (92% ON WELDED PIPE 20° O.D. OR LARGER) DENT OR DISTORTION LESS THAN 2% OF O.D. (1/4° FOR O.D. LESS THAN 12.750°). C. NOTCH, SCRATCH, GOUGE, GROOVE-DEPTH LESS THAN 10% OF PIPE WALL THICKNESS AND LESS THAN 8% OF PIPE W.T. FOR WELDED PIPE 20" O.D. OR LARGER NOTCH, SCRATCH, GOUGE, GROOVE-DEPTH 10% OR MORE OF PIPE WALL THICKNESS. DESIGN PRESSURE LESS THAN 40% SMYS. DENT OR DISTORTION MUST NOT PREVENT PROPER FIT UP. I. SLEEVING. NOTCH, SCRATCH, GOUGE, GROOVE-DEPTH 10% OR MORE OF PIPE WALL THICKNESS. DESIGN PRESSURE 40% SMYS OR MORE. (8% OR MORE FOO WELDED PIPE 20" OR LARGER ENTIRE SECTION AFFECTED MUST BE REMOVED. IF NOT FEASIBLE TO TAKE MAIN OUT OF SERVICE, REPAIR WITH SLEEVE AS IN 1.B.1 I. REPLACE SEGMENT A. DEPTH 10% OR LESS OF PIPE WALL THICK-NESS* I. NO REPAIR REQUIRED. 2. CORROSION DAMAGE PIPE OF NOT MORE THAN 40,000 PSI SMYS. LENGTH OR WIDTH OF PATCH NOT TO EXCEED 1/2. PIPE CIRCUMFERENCE. A MINIMUM OF 3" CLEARANCE BETWEEN PATCHES. B. DEPTH OVER 10% OF PIPE WALL THICKNESS BUT LESS THAN 80%-NO LEAKAGE. NO LIMITATIONS. 2. SLEEVING ENTIRE SECTION AFFECTED MUST BE REMOVED. 3. REPLACE SEGMENT OF PIPE DEPTH 80% OF PIPE WALL THICKNESS OR MORE-INCLUDING LEAKING CORROSION PITS. SAME AS 2.B. I. I. PATCHING NO LIMITATIONS. 2. SLEEVING ENTIRE SECTION AFFECTED MUST BE REMOVED. 3. REPLACE SEGMENT ENTIRE SECTION AFFECTED MUST BE REMOVED. IF NOT FEASIBLE TO TAKE MAIN OUT OF SERVICE REPAIR AS IN 1.B. I I. REPLACE SEGMENT A. ALL 3. LEAKS A. ANY LONGITUDINAL WELD CRACK GREATER THAN 2" LONG, A BRANCH OR CIRCUMFERENTIAL WELD CRACK MORE THAN 8% OF WELD LENGTH, OR A CRACK THAT PENETRATES EITHER THE ROOT OR SECOND BEAD B. ANY LONGITUDINAL WELD CRACK LESS THAN OR GUALT TO 2", A BRANCH OR CIRCUMFERENTIAL WELD CRACK LESS THAN OR GUALT OZONG THAN OR OTHER DEFECTS ENTIRE SECTION AFFECTED MUS BE REMOVED. IF NOT FEASIBLE TO TAKE MAIN OUT OF SERVICE REPAIR AS IN 1.B.1 REPLACE IF FEASIBLE REMOVE FROM SERVICE OR SLEEVE 4. NON-LEAKING CRACKS OR DEFECTS IN WELDS. AT LEAST 1/8" WALL THICKNESS
REMAINING. FOR MAXIMUM
HOOP STRESS PERMITTED DURING
WELDING SEE PARAGRAPH 2 OF THIS
GAS STANDARD. INSPECT REPAIR. IF
DEFECT REMAINS, REPAIR AS IN 4.4.1 I. GRINDING OR FILL WELDING NO LIMITATIONS. ENTIRE SECTION AFFECTED MUST 3. REPLACE SEGMENT X-RAY TIE-IN WELDS OF REPLACED FITTINGS. 5. LEAKS IN BODY OF FITTINGS OR IN CLAMPS I. REPLACE FITTING OR CLAMP. A. ALL * THE ALLOWABLE DEPTH IS LESS FOR ASTM A-381 MATERIAL. CONTACT GAS SYSTEM DESIGN. NOTE: FOR REPAIR PROCEDURES SEE PARAGRAPH 4 OF THIS GAS STANDARD OR THE FOLLOWING APPLICABLE GAS STANDARDS: A-60 SLEEVING A-64 PATCHING D-22 ARC WELDING APPROVED BY 4 4-15-88 REVISED TYPE OF DEFECT NO. 4 AND ALL OTHER ASSOCIATED COLUMNS

3 3-4-87 REVISED PAGE NO. FROM 7 TO 8

2 4-20-84 REVISED ENTIRE CHART. ADDED 2.8.3, 2.C.1, 2.C.2, FOOTNOTE & REFERENCE TO G.S. A-60 & A-64.

1 12-28-76 REMOVED REF TO TRANSMISSION LINES FROM TITLE, CHG'D "DP" TO DESIGN PRESSURE, ADDED 1.A & 1. DWN CHKD APVD REV DATE SUPERSEDES 084491, GM GAS OPERATION PIPING-DATA SHEET SUPERSEDED BY DSGN REPAIR REQUIREMENTS FOR DAMAGED OR LEAKING MAINS SHEET NO. 3 OF SHEETS DWN DRAWING NUMBER REV CHKD OK PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA 4 283906 DATE 7-14-83 SCALE MICROFILM

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