

30	PIPE 4 BIG ROLL	Big Roller Roll on large roller	09/20/2023 09/20/2023	3
				
40	PIPE 7 STRING UP	Initial Weld String-up	09/21/2023 09/21/2023	3
				
50	PIPE 8 ID WELD # 1	ID Weld # 1 ID Weld	09/28/2023 09/28/2023	3
				
60	PIPE 12 PIPE GOUGE	Pipe Gouge Pipe gouge	09/28/2023 09/28/2023	3
				
70	PIPE 5 WELD PREP	Grind After Gouge Weld prep	09/28/2023 09/28/2023	3
				
80	PIPE 9 OD WELD	OD Weld OD Weld	10/04/2023 10/04/2023	3
				
90	FORGE 10 CYLINDER CUT	Cylinder Cut Cylinder Cut	10/11/2023 10/12/2023	3
				
100	FORGE 8 TRIM	Torch Cut Cut hole	10/30/2023 10/30/2023	3
				
110	FORGE 12 FORM/PRESS	2000 Ton Press Forming	10/31/2023 10/31/2023	3
				

120	FORGE 8 TRIM	Torch Cut Trim	10/31/2023 11/01/2023	3
				
130	FORGE 7 HEAT TREAT	Heat Treat Heat treat	07/25/2024 07/25/2024	3
				
140	FORGE 5-6 FORGE BLAST	Forge Shotblast Shot blast	07/25/2024 07/29/2024	3
				
150	PIPE 13 X RAY	Pipe X Ray X-ray	07/29/2024 07/29/2024	3
				
160	E1 MACHINING	E1 Extender Expander	07/29/2024 07/29/2024	3
				
170	M1 MACHINING	M1 Big Mill Machining	07/29/2024 07/30/2024	3
				
180	PIPE 11	Special Welds Bars	07/30/2024 08/06/2024	3
				
190	FAB 8 GRINDING	Fab Grind Grinding Bars	08/06/2024 08/06/2024	3
				
200	FORGE 7 HEAT TREAT	Heat Treat Heat Treat	08/06/2024 08/06/2024	3
				



Time per Piece (HR):	0.00	0.00	0.00	0.00
Total Time for Job (HR):	0.00	0.00	0.00	

Materials List

Quantity					Quantity: 3	
Needed	On Hand	Posted	Short	Unit	Description	Sub-Assy Vendor
12,864.00000	180,625.00000	12,864.00000	0.00000	LB	0PL2633	NO CLEVELAND-CL
PL0 2-A633-E						
Quantities from Bins/Lot Number:						
BCKY (12864.0)						

Marking Information:



FLEET-LINE

MADE IN USA
STEEL FORGINGS

BCKY
36X24
1.188X.812
WPHY70
231735-02

Pipe Shop Traveler Tee Cyl.

304-2023

9/11/2023

☐ Pipe Shop Copy
☐ Pipe Shop Original

Customer	<u>SMP</u>	SFI Order No	<u>231735-02</u>	Due Date	<u>9/25/2023</u>
Part	<u>43.000</u> OD X <u>2.000</u> X <u>55.000</u>	Ship Date	<u>10/23/2023</u>	NoPcs	<u>3</u>
Plate Size	<u>2.000</u> X <u>128.806</u> X <u>55.000</u>	Code	<u>BCKY</u>	Test No	<u>10908</u>
Heat No.	<u>R1551</u>	Test Material	<u>CUT (4) 6X12 FOR (2) 12X12</u>		
Material	<u>A633E</u>				

Cut 3 Plate(s) 2.000 X Thick X 128.806 Width X 55.000 Length 4018 Lbs.

Per Sketch # 6097

From (1) Plate(s) 2.000 Thick X 135.000 Wide X 215.000 Long

Stamp Plates With Heat Code BCKY

Scarf to 128.806 + 1/8" -0" Per Sketch Below

Condition Grind Weld Bevels

Roll Hot To 43.000 " O.D.

Tack Weld Using 5/32 " Dia. E9018M Electrodes Per Procedure # SMAW-HSLA-132-REV. 1

Use Weld Procedure SAW-HSLA-101-REV. 11

Weld I.D. Using 3/16 " Dia. LINCOLN LA-85 Wire and LINCOLN 888 Flux.

Backgouge to Sound Metal and Condition Grind O.D. Weld Groove

Weld O.D. Using 3/16 " Dia. LINCOLN LA-85 Wire and LINCOLN 888 Flux.

Hot Reroll to Roundup

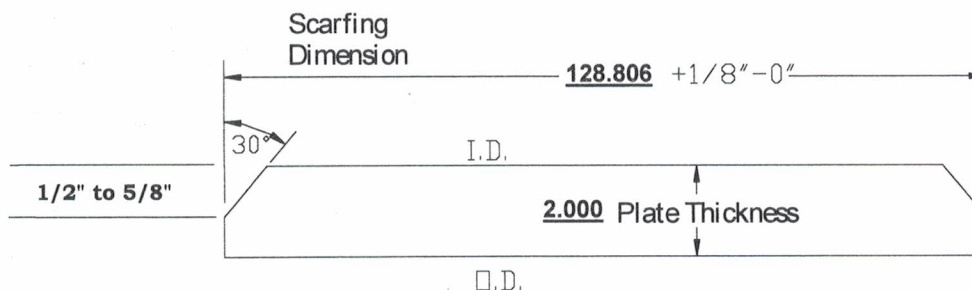
Torch Cut Into 0 Pcs @ 0 Inches

Paint Mark on Cylinder SMP 231735-02

Stamp Each Cylinder in (2) Places With Heat Code BCKY

Fitting Description: (3)TE 36X24 Y70

Comments: 135X168 ALLOCATED. PLATE IS INSIDE SHOP

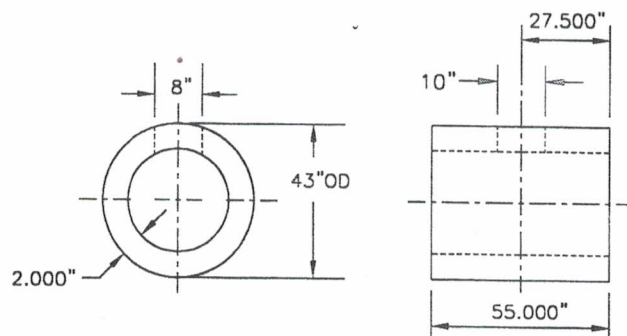


36" Run Diameter = 36.542"
 24" Outlet Diameter = 24.567"

Material Size 43" O.D. x 2.000"W
 Length 55.000"

Ovaling Data:
 Oval HOT to: 35-3/4" ± 1/4"

Hole size 8"x 10" oval
 Grind 1/8" radius on hole edges
 I.D. & O.D.

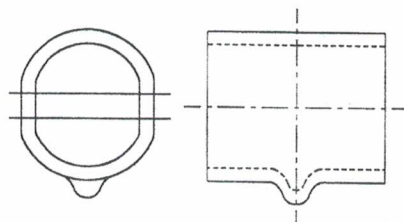


Preform Data:

Press: Machine 2000 Ton Set up#10139 Upper Die# 50046
 Lower Die# 50082 with 36x24" Insert #50082

1st Oper: Heat to 1650°F.—Quench in 28-1/2 inches of water.
 Close dies to 8" and
 Do NOT pull plug.

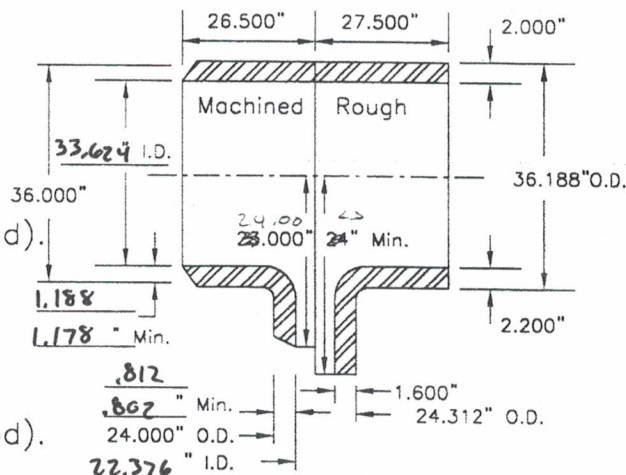
2nd Oper: Re-heat to 1650°F.
 Quench in 25-1/2 inches of water
 Close dies to 6" and
 Pull 11-3/4" diameter plug (4" rod).



3th Oper: Re-heat to 1650°F.
 Quench in 23-1/2 inches of water.
 Close dies to 4" and
 Pull 15-3/8" plug (4" pull rod).

4th Oper: Re-heat to 1650°F.
 Quench in 21 inches of water
 Close dies to 2" and
 Pull 19-5/8" diameter plug (4" rod).

5th Oper: Re-heat to 1650°F.
 Do not quench.
 Close dies to hot and
 Pull 21-1/8" diameter plug (4" rod).



				DATE: 11-23-99
				SCALE: NONE
				DRAWN BY: J.D.
				CHECKED BY: Bull
REV	DESCRIPTION	BY	DATE	

36" x 24"

1.188 x .812

HIGH YIELD
TEE MFG. DATA

DWG#

36-24-6

Use for bevel thicknesses:
 36" Run-1.168" thru. 1.333"
 24" Outlet- 1.312" and less.

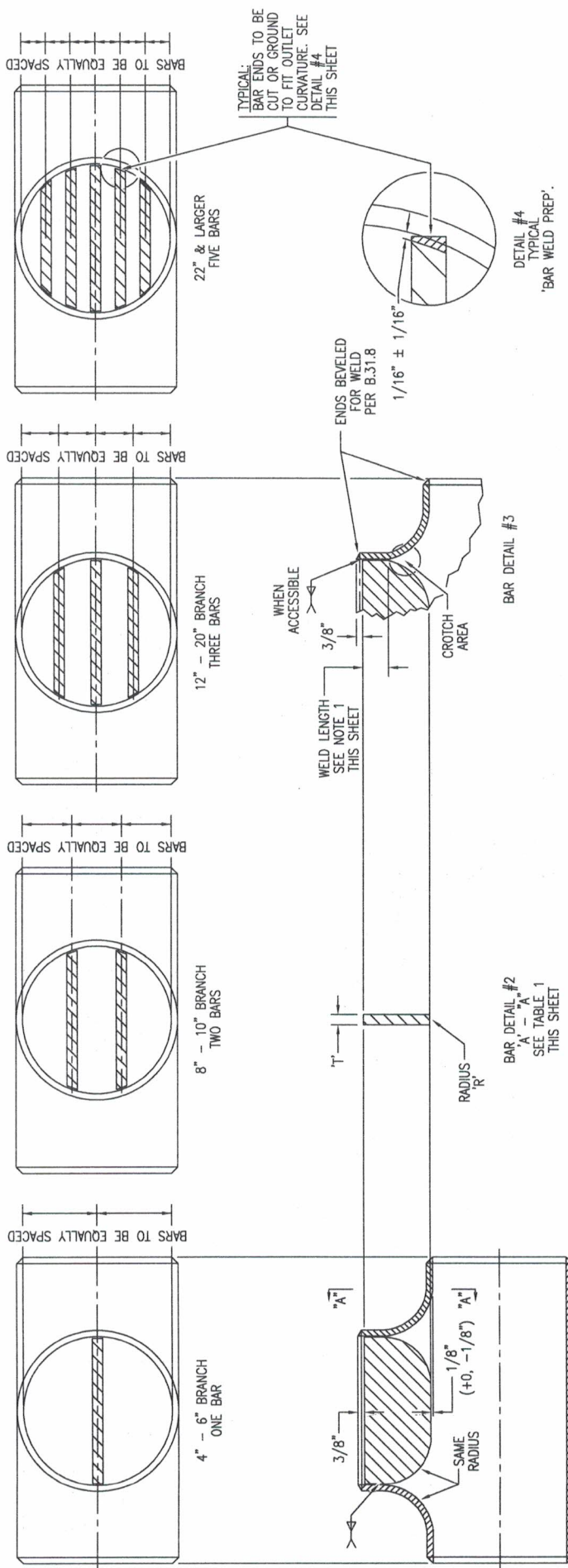


TABLE 1

NOMINAL BRANCH OUTLET SIZE	T DIMENSION	R RADIUS	FILLET WELD SIZE
4" - 10"	1/2" ± 1/16"	1/16"	3/8" LEGS
12" - 18"	1/2" ± 1/16"	1/16"	3/8" LEGS
20" - 24"	7/8" ± 1/16"	1/8"	5/8" LEGS
26" - 34"	7/8" ± 1/16"	1/8"	5/8" LEGS
36"	7/8" ± 1/16"	1/8"	5/8" LEGS
40" & LARGER	7/8" ± 1/16"	1/8"	5/8" LEGS

NOTES:

1. FILLET WELD ALL OF THE STRAIGHT LENGTH OF EACH BAR. AVOID WELDING IN THE CROTCH AREA. SEE BAR DETAIL #3 'WELD LENGTH'.
2. GUIDE BARS SHALL BE ASTM A36 OR ASTM A516.
3. GUIDE BARS ARE TO BE EQUALLY SPACED.
4. FILLET WELDS SHALL BE A MINIMUM OF TWO (2) PASSES MADE WITH E7018 ELECTRODES, FLUX CORE OR EQUIVALENT. PREHEAT WELD AREA TO 200° F. MINIMUM.
5. WHEN PERFORMING SCRAPER BAR WELDS, COMPLETE THE WELD ON ONE END AND ALLOW TO COOL TO AMBIENT TEMPERATURE BEFORE WELDING THE OTHER END.
6. SCRAPER BAR WELDS SHALL BE NONDESTRUCTIVELY INSPECTED USING THE DYE PENETRANT METHOD PER ASTM E165 OR THE MAGNETIC PARTICLE METHOD PER ASTM E709.
7. THE FITTING SHALL BE DESIGNED IN ACCORDANCE WITH CFR TITLE 49 PART 192, MINIMUM FEDERAL SAFETY STANDARDS, AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.
8. THIS DRAWING SUPERSEDES ALL PREVIOUS KINDER MORGAN STANDARD GRATED TEE DETAIL DRAWINGS.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART
192 OF MINIMUM FEDERAL SAFETY STANDARDS
FOR GAS TRANSMISSION AND DISTRIBUTION
PIPING SYSTEMS, LATEST EDITION.

KINDER MORGAN

SCRAPER BAR DETAILS
FOR GRATED PIGGING TEE

DATE: 10/14/05
SCALE: N.T.S.
APPROVED BY: JT
TYP-P-0100-B220
SH. 1 OF 1

NO.	DATE	DESCRIPTION	BY	CHKD.	APPR.
1	10/11/04	APPROVED	MS	CM	JT
2	07/01/05	END REBUTT RELAXE	MS	CM	JT
3	10/14/05	REV DETAIL #3, TEE & NOTES	MS	CM	JT

DO NOT USE GRADE C MATERIAL

FORM BY EXTRUSION PER CARD: _____

PRE CUT ENDS

IF ORDER SIZE IS LARGER THAN FURNACE LOAD, SERIALIZE UNDER CUTTER STAMP PRIOR TO HEAT TREAT

HEAT TREATMENT PER QCP 8.1 REV.1: (WITH TEST MAT'L B- _____)

HEAT TREAT 1 HR @ 1650°F **WATER QUENCH** FURNACE LOAD # _____

TEMPER 2 HR @ 1100 °F - AIR COOL - FURNACE LOAD# _____

100% RADIOGRAPH WELD SEAM PER SPEC. XL-RT-100 (LATEST REVISION) _____

FINISH MACHINE OUTLET PER MSS-SP75-2019 EXCEPT ID TOLERANCE ± 3/32

INSTALL 5 7/8 ± 1/16 in. THICK FULL HEIGHT SCRAPER BARS PER TYP-P-0100-B220 10/14/2015 (ATTACHED)

PER WPS FCAW-CS-HSLA-131 (LATEST REV.)

CLIP 1/2" OFF TOP CORNERS OF BAR(S)

PREHEAT TO AT LEAST 150°F AND KEEP INTERPASS AT LESS THAN 450°F

INSPECTOR TO SIGN OFF ON BARS AFTER THEY ARE FIT-UP _____

INSPECTOR TO SIGN OFF ON BARS AFTER THEY ARE GROUND _____

100% ME SCRAPER BAR WELDS PER SPEC. XL-MT-100 (LATEST REVISION), ACCEPTANCE CRITERIA MORE STRINGENT OF E709 AND/OR CUSTOMER SPECIFICATION _____

HEAT TREATMENT PER QCP 8.1 REV.1 **STRESS RELIEVE** 2 HR @ 1100 °F - AIR COOL - FURNACE LOAD # _____

SHOTBLAST TO NEAR WHITE FINISH

MACHINE RUN ENDS PER MSS-SP75-2019: **EXCEPT ID TOLERANCE** ± 3/32

BORE RUN I.D. STRAIGHT TO: 32.874 + 1/4 -0 33.624 1.188

BORE OUTLET I.D. STRAIGHT TO: 21.876 + 1/8 -0 22.376 1.178

OUT OF ROUNDNESS 1/8" MAX 0.812

MIN. WALL AT BEVEL NO LESS THAN .010" UNDER NOMINAL 0.802

OUT OF ROUNDNESS 1/8" MAX

MIN. WALL AT BEVEL NO LESS THAN .010" UNDER NOMINAL

STAMP PER MSS-SP75-19

CUSTOMER INSPECTION REQUIRED

RANDOM HARDNESS TEST (30%): 2 PCS (BASE, WELD, HAZ); 240 BHN MAX

PC B _____ W _____ H _____ B _____ W _____ H _____

B _____ W _____ H _____ B _____ W _____ H _____

PAINT MARK ON ID (6" FROM ONE END) _____

COAT OD SURFACES ONLY AFTER INSPECTION

PACKAGING - PROVIDE SUITABLE END PROTECTION, 16" AND LARGER REQUIRES END PROTECTION AND 1 PC PER PALLET

BASE CHARPY 50% SHEAR MIN.

WELD CHARPY 20/15 MIN.

VANADIUM .025% MIN.

PE OR ME BEVELS IF STATED ON PO

RANDOM B,W,H HARDNESS

CE .45 MAX; STAMP CE IF >.42

M8110 - 55K TENSILE MAX

S:\PUBLIC\TAVELER\Kinder Morgan M8120\KM TRAVELERS.XLSX