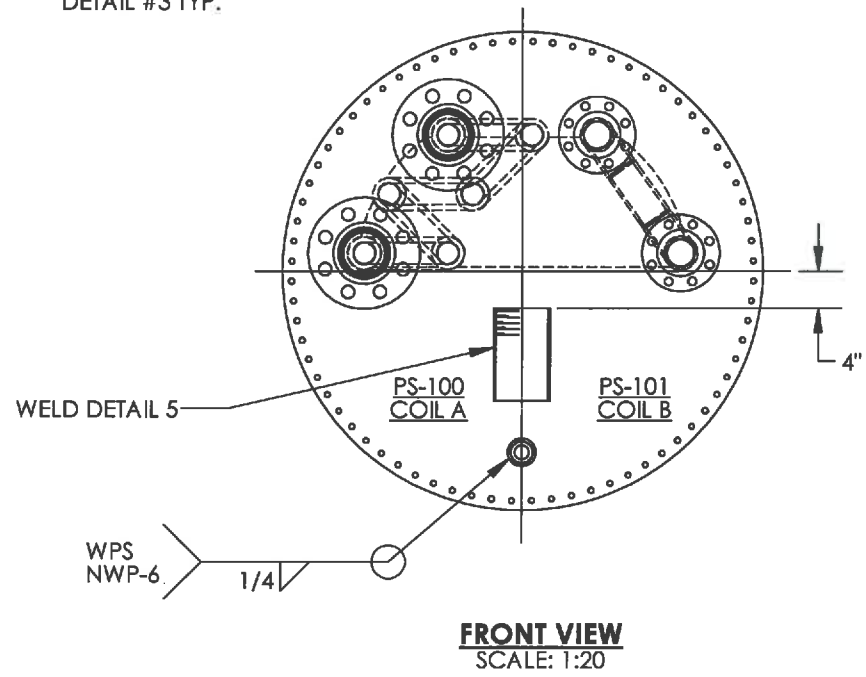
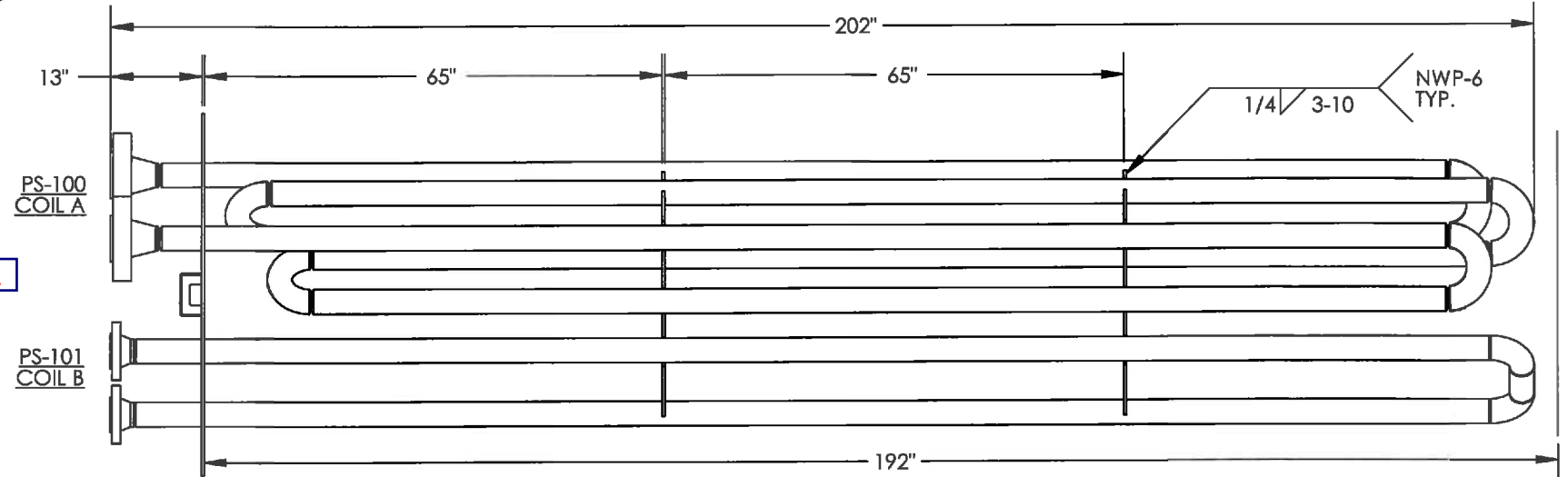
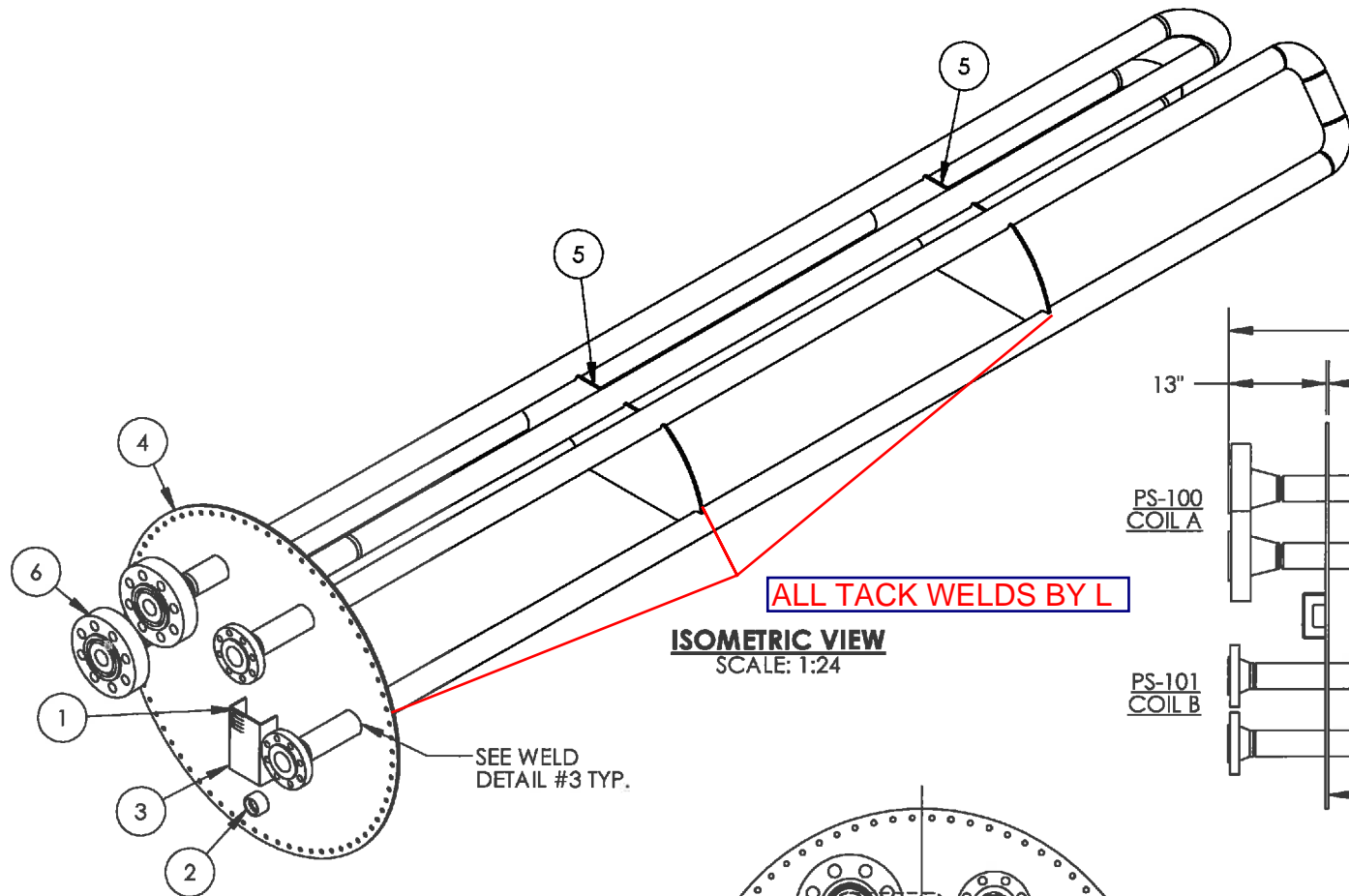
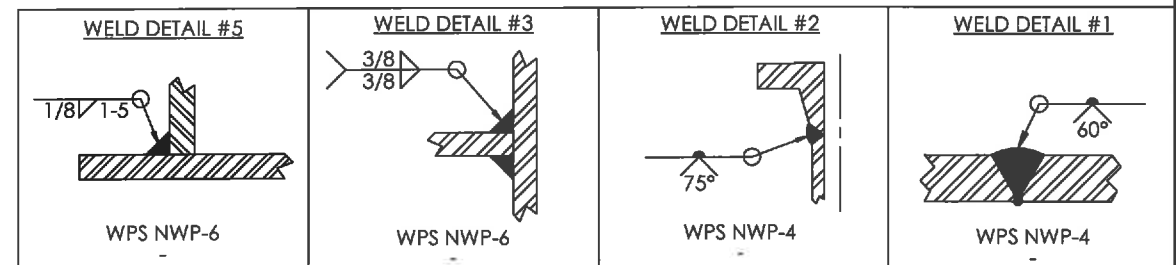


ITEM	PART #	DESCRIPTION	MTR #	LENGTH	QTY.
1	BRACKET-NAME-3	COIL NAME PLATE BRACKET SA36/44W			1
2	COH2GYEE	Coupling Half 2" 3M THRD SA105N			1
3	COIL-NAMEPLATE-1	COIL NAME PLATE BLACK/SILVER DEEP ETCHED			1
4	PLA.375x6096S	PLATE - 3/8" x 60" x 96" SA-36/44W		51 1/2" x 51 1/2"	1
5	PLA.375x6096S	PLATE - 3/8" x 60" x 96" SA-36/44W		34 11/16" X 14"	2
6	-	PS-100/COIL A - SEE SHEET 2			1
7	-	PS-101/COIL B - SEE SHEET 3			1



- NOTES**
1. ALL DIMENSIONS SHALL HAVE A TOLERANCE OF $\pm 1/8$ " UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS INCLUDE $1/8$ " ROOT GAP.
 3. ALL BOLT HOLES STRADDLE COMMON CENTER LINE.
 4. CUT LENGTHS FOR PIPE ARE FOR REFERENCE ONLY.
 5. COIL TO BE CLEANED WITH ALL OPENINGS PLUGGED BEFORE SHIPMENT.
 6. USE WELD PROCEDURE NWP-4 OR NWP-6 FOR ALL TACK WELDS.
 7. APPROXIMATE WEIGHT: 2575 LBS.



ORIGINAL

AS BUILT

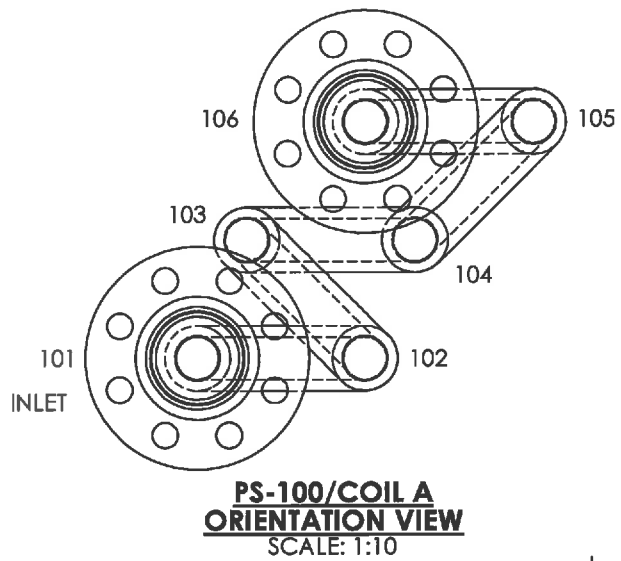
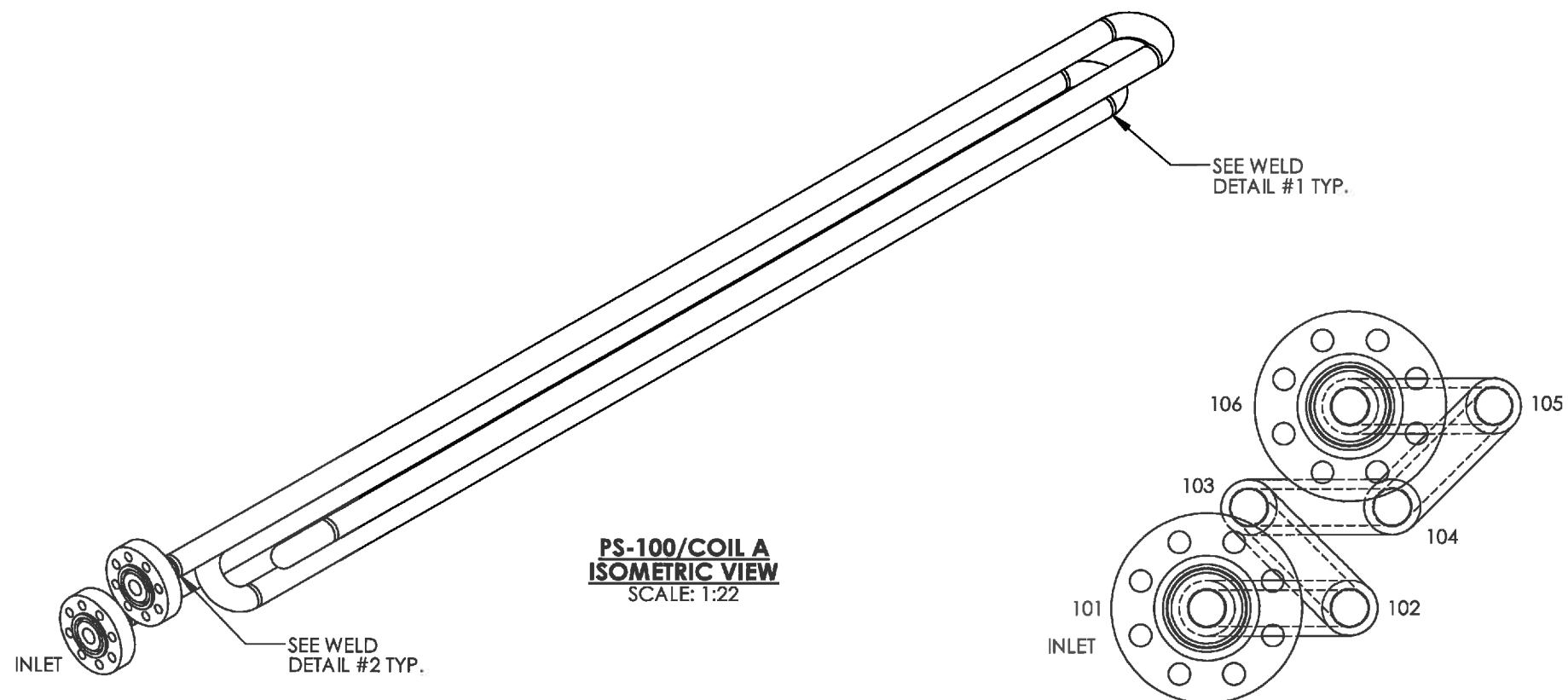
ISSUED FOR CONSTRUCTION



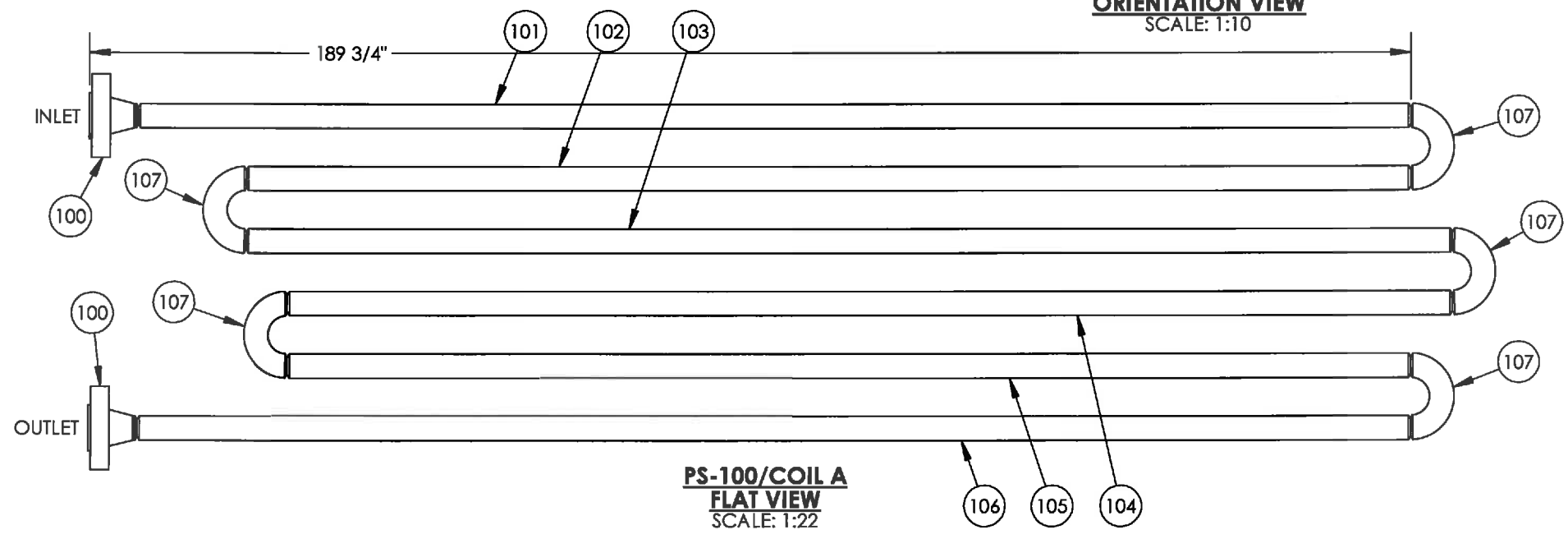
MURPHY OIL
3"-2500 ANSI RTJWN (6 PASS) PRE-HEAT
3"-600 ANSI RFWN (2 PASS) RE-HEAT
FOR 42" OD x 16'-0" 1,000,000 BTU LINEHEATER
ASSEMBLY DETAILS

08664-001-P-001	P&ID	0	JAN 24/13	MJH	0	ISSUED FOR CONSTRUCTION									
DOCUMENT NO.	DESCRIPTION	REV.	DATE	BY:	CHK:	APP:	DESCRIPTION								
REFERENCE DRAWINGS		DRAWING REVISIONS				ALL DIMENSIONS IN INCHES		SCALE: AS NOTED		SHEET: 1 OF 4		DWG: 08664-001-C-001		REV: 0	

ITEM	PART #	DESCRIPTION	LENGTH	QTY.
100	FLA3FXHBF	FLANGE 3" 2500 ANSI SCH XXH RTJWN SA350-LF2-CL1		2
101	PIPBE3XXSCL	PIPE 3" SCH.XXS SA-333-6 SMLS	182 3/4"	1
102	PIPBE3XXSCL	PIPE 3" SCH.XXS SA333-6 SMLS	167 1/8"	1
103	PIPBE3XXSCL	PIPE 3" SCH.XXS SA333-6 SMLS	173 1/8"	1
104	PIPBE3XXSCL	PIPE 3" SCH.XXS SA333-6 SMLS	167 1/8"	1
105	PIPBE3XXSCL	PIPE 3" SCH.XXS SA333-6 SMLS	161 1/8"	1
106	PIPBE3XXSCL	PIPE 3" SCH.XXS SA333-6 SMLS	182 3/4"	1
107	RET3LXXHGD	Return 180 Deg 3" LR S/XXH BW SA420WPL6		5



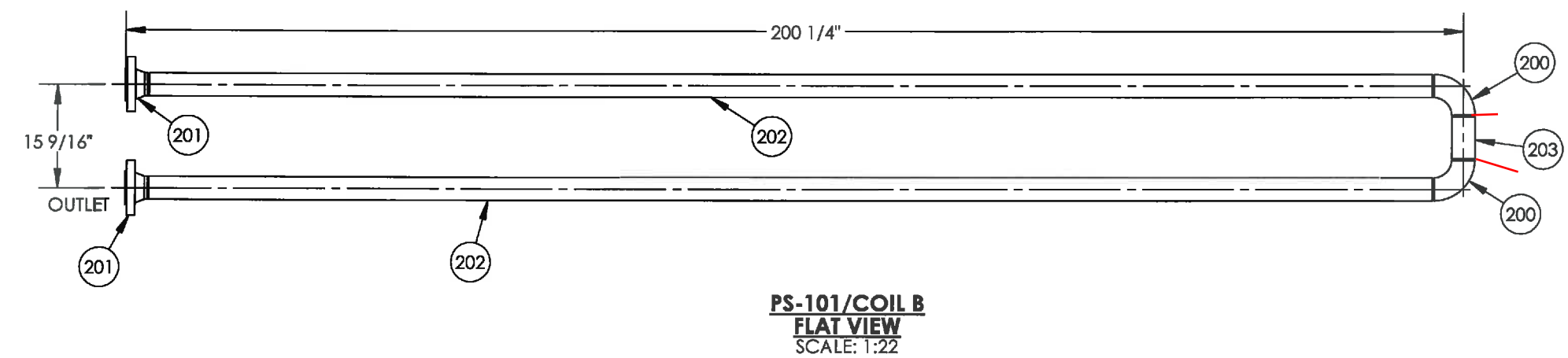
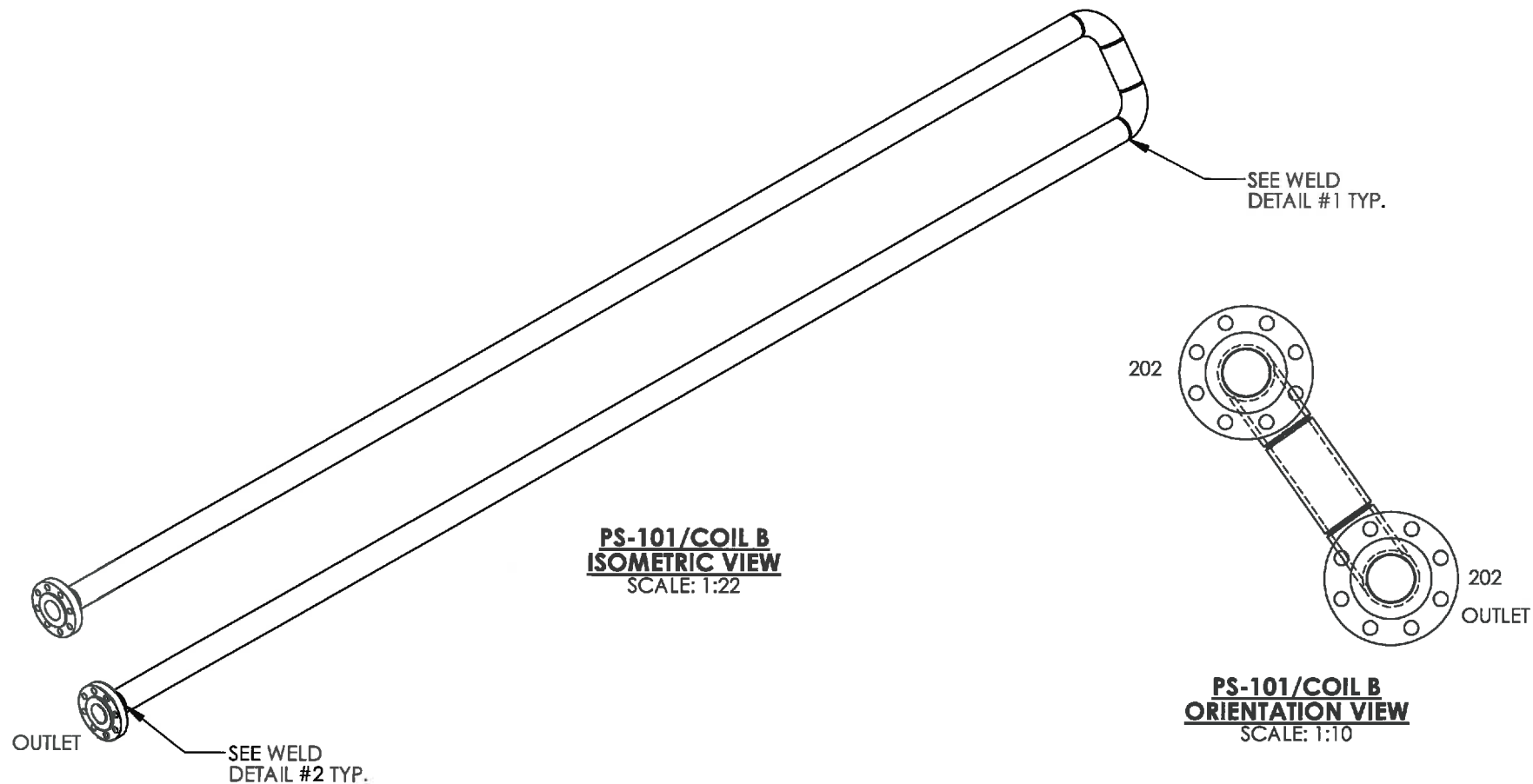
ORIGINAL



PS-100/COIL A DESIGN DATA	
DESIGN AND FABRICATE TO:	ANSI/ASME B31.3 NFS 2010 EDITION
DESIGN PRESSURE:	5031 PSI
MAX. DESIGN METAL TEMPERATURE:	200 °F
MIN. DESIGN METAL TEMPERATURE:	-20 °F
IMPACT TEST:	EXEMPT PER TABLE 323.2.3 COLUMN A
RADIOGRAPHY:	100%
POST WELD HEAT TREATMENT:	1150 °F ±50 °F FOR 1 HOUR MIN.
HYDROSTATIC TEST PRESSURE:	7547 PSI
CORROSION ALLOWANCE:	1/8"
PRE-HEAT:	50 °F
WEIGHT EMPTY:	1875 LBS
WEIGHT FULL:	2045 LBS
CAPACITY:	2.68 cu.ft.
SURFACE AREA:	85.2 sq.ft.
QUALITY CONTROL PROGRAM:	AQP-1253
WELDING PROCEDURE REGISTRATION NO.:	1604.2
WELD PROCEDURES:	NWP-4, NWP-6
SERVICE:	HYDROCARBONS
CRN NO.:	P9403.231
DESIGN REGISTRATION DRAWINGS:	BDD-300A REV 2
REFERENCE CALCULATIONS:	BDD COILS-2001-ANSI.XLS 3A REV 0

				AS BUILT				ISSUED FOR CONSTRUCTION		 P.O. BOX 6280, INNISFAIL, AB T4G 1S9 PH: (403) 227-4100 FAX: (403) 227-4102		MURPHY OIL 3"-2500 ANSI RTJWN (6 PASS) PRE-HEAT 3"-600 ANSI RFWN (2 PASS) RE-HEAT FOR 42" OD x 16'-0" 1,000,000 BTU LINEHEATER COIL "A" DETAILS		
				SIGNED: _____		DATE: _____		W.O.: _____				S/N: _____		DWN: MJH DATE: JAN 24/13
08664-001-P-001	P&ID	0	JAN 24/13	MJH			ISSUED FOR CONSTRUCTION			SCALE: AS NOTED		SHEET: 2 OF 4	DWG: 08664-001-C-001	REV: 0
DOCUMENT NO.	DESCRIPTION	REV.	DATE	BY:	CHK:	APP:	DESCRIPTION	ALL DIMENSIONS IN INCHES						
REFERENCE DRAWINGS							DRAWING REVISIONS							

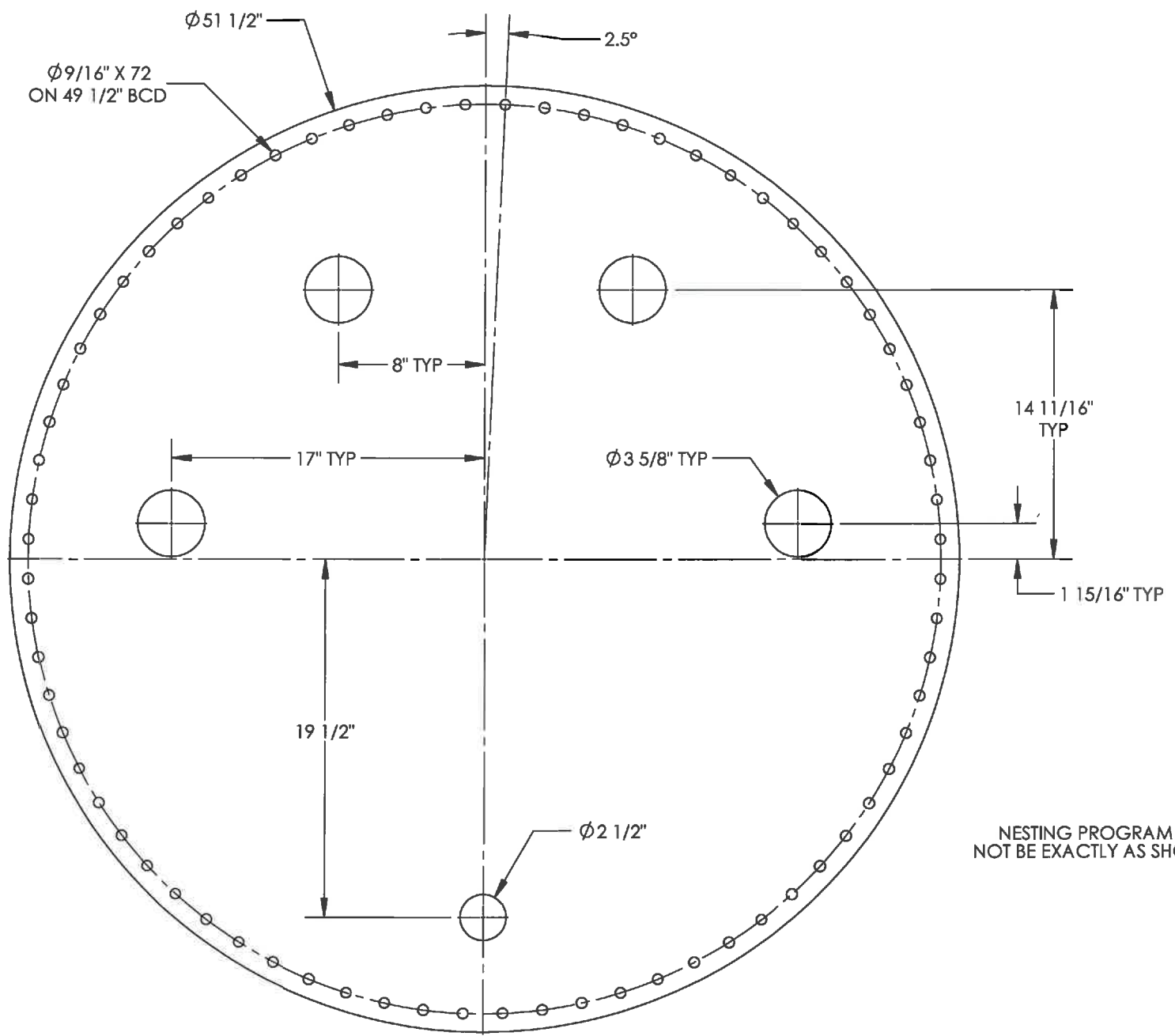
ITEM	PART #	DESCRIPTION	LENGTH	QTY.
200	EL93L80GC	ELBOW 90 DEG 3" LR SCH XH/80 BW SA-234-WPB		2
201	FLA3C80AE	Flange 3" 600 ANSI S/80 RFWN SA-105N		2
202	PIPBE380C	PIPE 3" SCH.80 SA-106B	192 1/4"	2
203	PIPBE380C	PIPE 3" SCH.80 SA-106B	6 9/16"	1



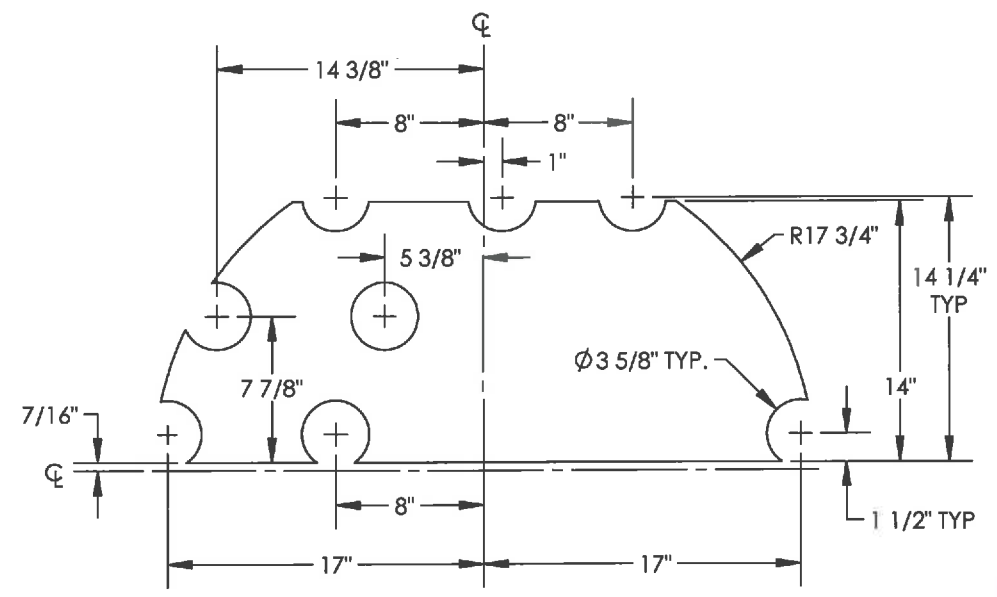
ORIGINAL

PS-101/COIL B DESIGN DATA	
DESIGN AND FABRICATE TO:	ANSI/ASME B31.3 NFS 2010 EDITION
DESIGN PRESSURE:	1350 PSI
MAX. DESIGN METAL TEMPERATURE:	200 °F
MIN. DESIGN METAL TEMPERATURE:	-20 °F
IMPACT TEST:	EXEMPT PER TABLE 323.2.2 COLUMN A
RADIOGRAPHY:	100%
POST WELD HEAT TREATMENT:	1150 °F ±50 °F FOR 1 HOUR MIN.
HYDROSTATIC TEST PRESSURE:	2025 PSI
CORROSION ALLOWANCE:	1/8"
PRE-HEAT:	50 °F
WEIGHT EMPTY:	390 LBS
WEIGHT FULL:	510 LBS
CAPACITY:	1.59 cu.ft.
SURFACE AREA:	31.7 sq.ft.
QUALITY CONTROL PROGRAM:	AQP-1253
WELDING PROCEDURE REGISTRATION NO.:	1604.2
WELD PROCEDURES:	NWP-4, NWP-6
SERVICE:	HYDROCARBONS
CRN NO.:	P9407.231
DESIGN REGISTRATION DRAWINGS:	BDD-300 REV 10
REFERENCE CALCULATIONS:	BDD COILS-2001-ANSI.XLS 3 REV 0

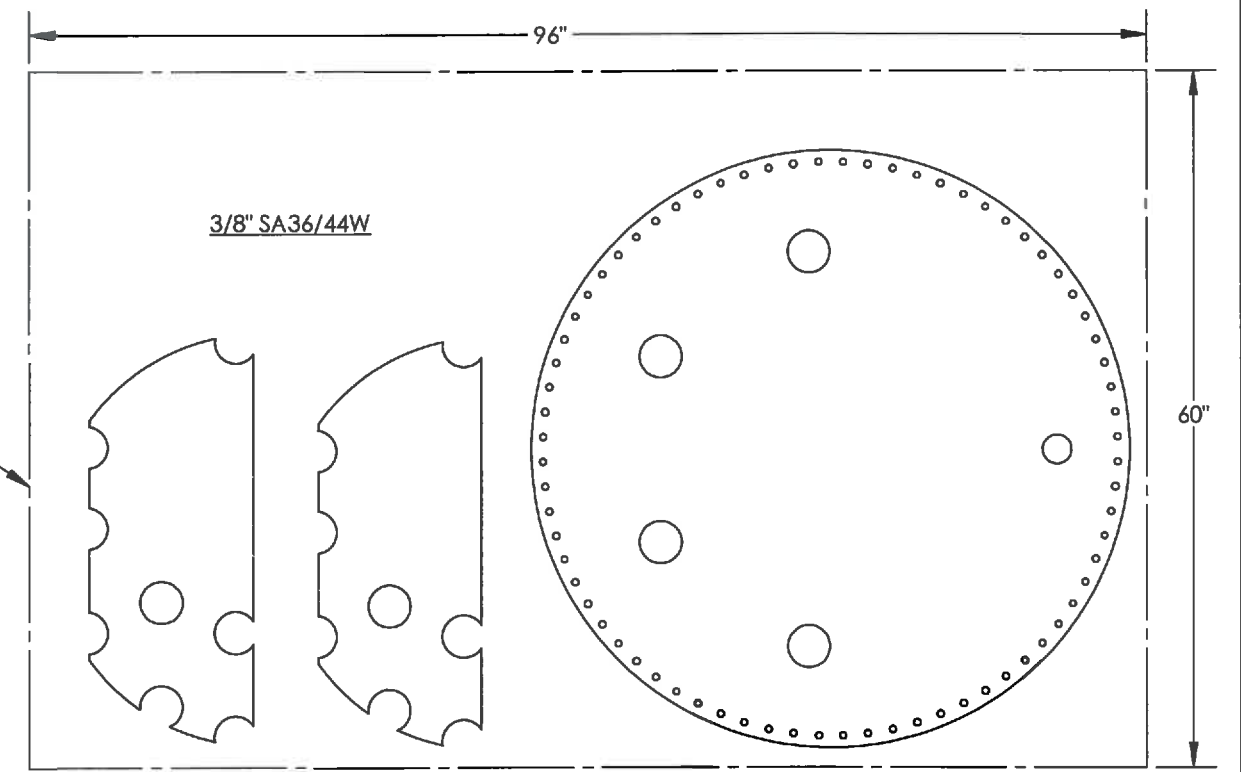
AS BUILT				ISSUED FOR CONSTRUCTION		 NWP INDUSTRIES INC. Total oilfield supply.	MURPHY OIL 3"-2500 ANSI RTJWN (6 PASS) PRE-HEAT 3"-600 ANSI RFWN (2 PASS) RE-HEAT FOR 42" OD x 16'-0" 1,000,000 BTU LINEHEATER COIL "B" DETAILS		
SIGNED: _____ DATE: _____ W.O.: _____ S/N: _____				P.O. BOX 6280, INNISFAIL, AB T4G 1S9 PH: (403) 227-4100 FAX: (403) 227-4102			DWN: MJH DATE: JAN 24/13 SHEET: 3 OF 4		
08664-001-P-001 P&ID DOCUMENT NO. DESCRIPTION		0 JAN 24/13 MJH REV. DATE BY:		ISSUED FOR CONSTRUCTION CHK: APP:		DATE: JAN 30 2013 DATE: JAN 30 2013		SCALE: AS NOTED DWG: 08664-001-C-001 REV: 0	
REFERENCE DRAWINGS		DRAWING REVISIONS		ALL DIMENSIONS IN INCHES					



DETAIL ITEM #4
SCALE: 1:22



DETAIL ITEM #5
SCALE: 1:10



COIL-08664 QTY OF PARTS/SHEET
SCALE: 1:16

ORIGINAL

		AS BUILT				ISSUED FOR CONSTRUCTION		NWP INDUSTRIES INC. Total oilfield supply.		MURPHY OIL 3"-2500 ANSI RTJWN (6 PASS) PRE-HEAT 3"-600 ANSI RFWN (2 PASS) RE-HEAT FOR 42" OD x 16'-0" 1,000,000 BTU LINEHEATER PART DETAILS					
										DWN: MJH		CHK: <i>o</i>		APP: <i>b</i>	
08664-001-P-001		P&ID		0 JAN 24/13 MJH <i>o</i> <i>b</i>		ISSUED FOR CONSTRUCTION		P.O. BOX 6280, INNISFAIL, AB T4G 1S9 PH: (403) 227-4100 FAX: (403) 227-4102		DATE: JAN 24/13		DATE: JAN 30 2013		DATE: JAN 30 2013	
DOCUMENT NO. DESCRIPTION		REV. DATE BY: CHK: APP:		DESCRIPTION		S/N:		SCALE: AS NOTED		SHEET: 4 OF 4		DWG: 08664-001-C-001		REV: 0	
REFERENCE DRAWINGS				DRAWING REVISIONS		ALL DIMENSIONS IN INCHES									