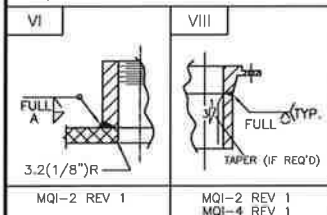


WELD PROCEDURE SPECIFICATION:

MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
AS BUILT	02.19.19		
1 ADDED WELDER ID, XRAY	02.19.19		
0 ISSUED FOR CONSTRUCTION	09.20.16		
REV.	DESCRIPTION	BY	CHKD
		CHKD	DM
		DATE	
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	13'10"	6	PIPE, SCH 80 SMLS, SA-106 GR B/SA-333-6	
2	1	8X6	REDUCER, CONC SCH 80, SA-234 GR WPB	
3	1	8	ELL, 90 LR SCH 80, SA-234 GR WPB	
4	2	6X2	WELDOLET, SCH 160, SA-105N	
5	1	6X1/2	THREDOLET, CL6000 FS, SA-105N	
6	3	6	ELL, 90 LR SCH 80, SA-234 GR WPB	
7	1	1/2	PLUG, CL6000, SA-105N, THRD	
8	1	8	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
9	5	6	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
10	2	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
11	1	8	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
12	2	6	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
13	2	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
14	1	1 1/8	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (7 1/4" LG)	
15	2	1	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (6 3/4" LG)	
16	2	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
17	2	2	FLG, RF BLIND CL600, SA-105N	
18	8 1/2"	2	FOR PS1 SUPPORT - PIPE, SCH 160 SMLS, SA-106 GR B	

WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X37	
2	BW	A	X38	
3	BW	A	X39	
4	WOL	A		
5	BW	A	X40	
6	BW	A	X41	
7	BW	A	X42	
8	BW	A	X43	
9	BW	A	X44	
10	BW	A	X45	
11	WOL	A		
12	BW	A	X46	
13	BW	A	X47	
14	BW	A	X48	
15	TOL	A		
16	BW	A	X49	
17	BW	A	X50	
18	BW	A	X51	
19	FW	A		

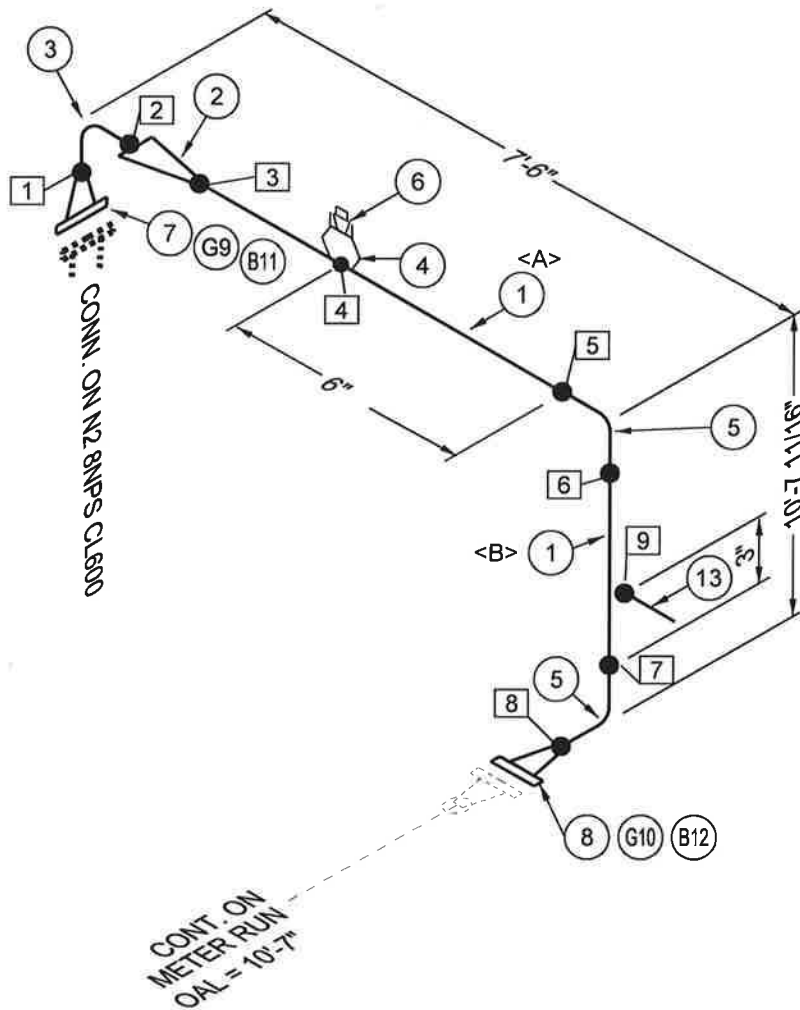
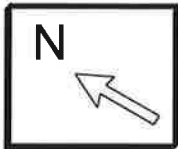
CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	6"	11 3/8"	
B	6"	7"	
C	6"	10 1/8"	
D	6"	8'-9 9/16"	
E	6"	2'-7 1/2"	

SPOOLING DESIGN DATA

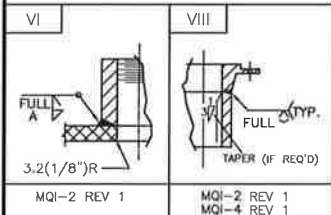
DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION			
DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT / HIC TEST:	NO / NO
P.W.H.T.:	YES @ 1150°F 60MIN.	WEIGHT:	1153 LBS

END USER		CLIENT	
MQ STOCK		DISTRIBUTION	
PROJECT MANAGER		QTY.	
1991-15-S1-1		QC	
CHKD BY		SHOP	
SPOOL 1		PROCUREMENT	
GAS INLET		PROD. MANAGER	
8/6/2 NPS CL600 SCH. 80/80/160		PROV. / P. ENG	
SCALE		DATE	
N.T.S.		Mar-07-2019	
TOTAL		1	



WELD PROCEDURE SPECIFICATION:

MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS							
	AS BUILT					02.19.19	
1	ADDED WELDER ID, XRAY					02.19.19	
0	ISSUED FOR CONSTRUCTION					09.20.16	
REV.	DESCRIPTION		BY	CHKD	CHKD	DM	DATE
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.							

MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	14'5"	6	PIPE, SCH 80 SMLS, SA-106 GR B	
2	1	8X6	REDUCER, CONC SCH 80, SA-234 GR WPB	
3	1	8	ELL, 90 LR SCH 80, SA-234 GR WPB	
4	1	6X1/2	THREDOLET, CL6000 FS, SA-105N	
5	2	6	ELL, 90 LR SCH 80, SA-234 GR WPB	
6	1	1/2	PLUG, CL6000, SA-105N, THRD	
7	1	8	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
8	1	6	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
9	1	8	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
10	1	6	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
11	1	1 1/8	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (7 1/4" LG)	
12	1	1	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (6 3/4" LG)	
13	8 1/2"	2	FOR PS-7 SUPPORT , PIPE, SCH 160 SMLS, SA-106 GR B	

WELDS SUMMARY

CUTTING LIST

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT	PIECE NO.	SIZE	LENGTH	REMARKS
1	BW	A	X65		A	6"	5'-2 13/16"	
2	BW	A	X66		B	6"	9'-1 9/16"	
3	BW	A	X67					
4	TOL	A						
5	BW	A	X68					
6	BW	A	X69					
7	BW	A	X70					
8	BW	A	X71					
9	FW	A						

SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @1150°F 60MIN.	WEIGHT:	808 LBS.

END USER

CLIENT

MQ STOCK

PROJECT MANAGER

1991-15-00

SPOOL 2  
GAS OUT -1  
8/6NPS CL600 SCH. 80

DRAWING

1991-

SCALE

N.T.S.

DATE

Mar-07-2019

DISTRIBUTION

QTY.

QC

1

SHOP

PROCUREMENT

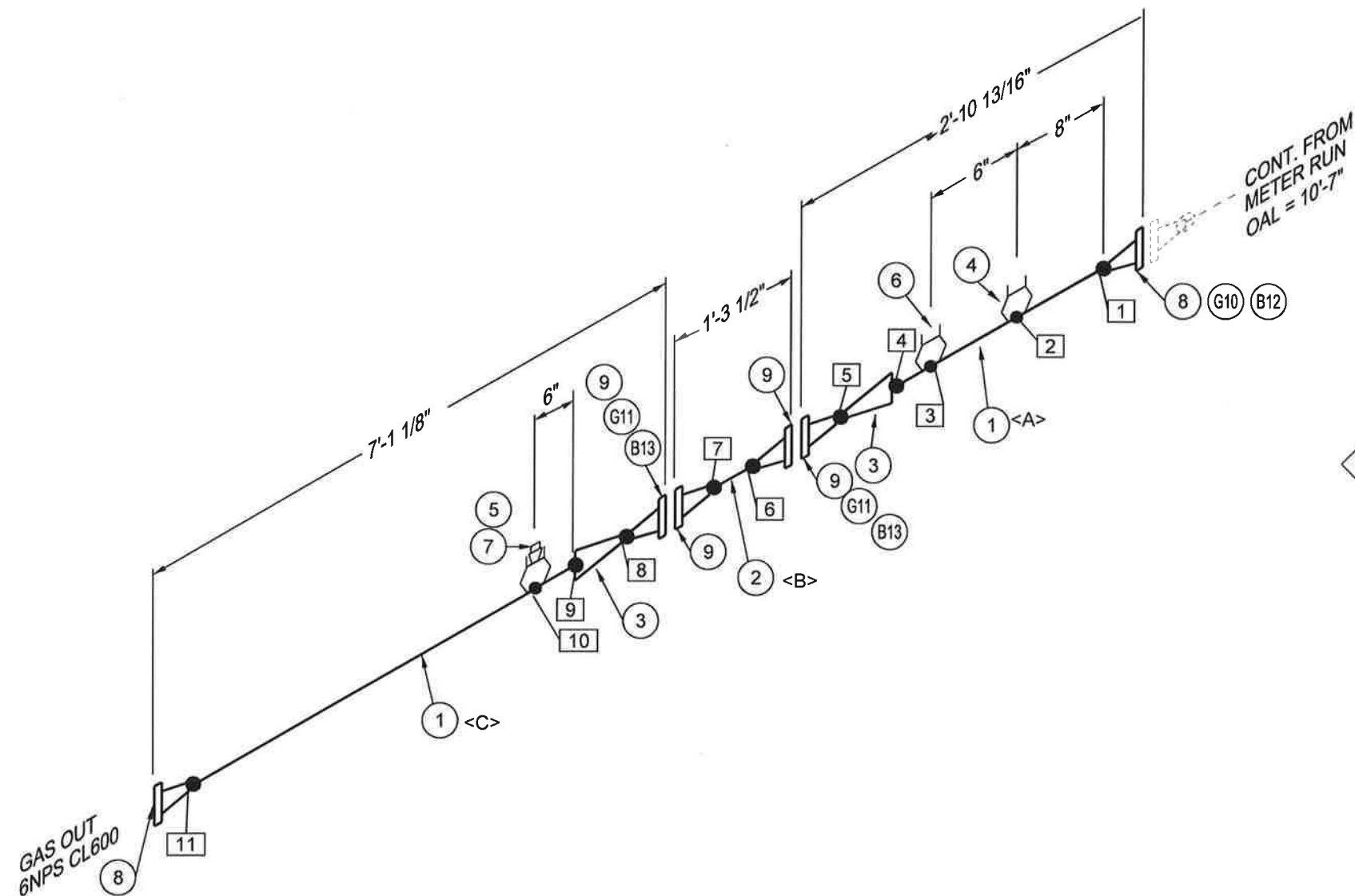
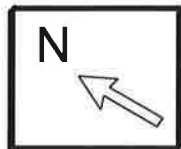
PROD. MANAGER

PROV. / P. ENG

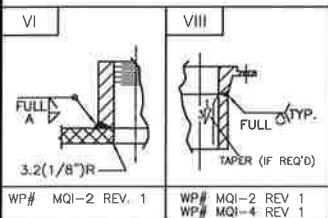
CLIENT

TOTAL

1



WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
AS BUILT			02.19.19
1	ADDED WELDER ID, XRAY		02.19.19
0	ISSUED FOR CONSTRUCTION		09.20.16
REV.	DESCRIPTION	BY   CHKD   CHKD   DM	DATE
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

## MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	7'7"	6	PIPE, SCH 80 SMLS, SA-106 GR B	
2	0'7"	4	PIPE, SCH 80 SMLS, SA-106 GR B	
3	2	6X4	REDUCER, CONC SCH 80, SA-234 GR WPB	
4	1	6X1	THREDOLET, CL6000 FS, SA-105N	
5	1	6X3/4	THREDOLET, CL6000 FS, SA-105N	
6	1	6X1/2	THREDOLET, CL6000 FS, SA-105N	
7	1	3/4	PLUG, CL6000, SA-105N, THRD	
8	2	6	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
9	4	4	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
10	1	6	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
11	2	4	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
12	1	1	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (6 3/4" LG)	
13	2	7/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (5 3/4" LG)	

## WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X3	
2	TOL	A		
3	TOL	A		
4	BW	A	X4	
5	BW	A	X5	
6	BW	A	X6	
7	BW	A	X7	
8	BW	A	X8	
9	BW	A	X9	
10	TOL	A		
11	BW	A	X10	

## CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	6"	1'-8"	
B	4"	6 7/8"	
C	6"	5'-10 5/16"	

## SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @1150°F 60MIN.	WEIGHT:	467 LBS.

END USER

CLIENT

MQ STOCK

DISTRIBUTION	QTY.
QC	1
SHOP	
PROCUREMENT	
PROD. MANAGER	
PROV. / P. ENG	
CLIENT	
TOTAL	1

SPOOL 3  
GAS OUTLET-2  
6/4NPS CL600 SCH. 80

DRAWING

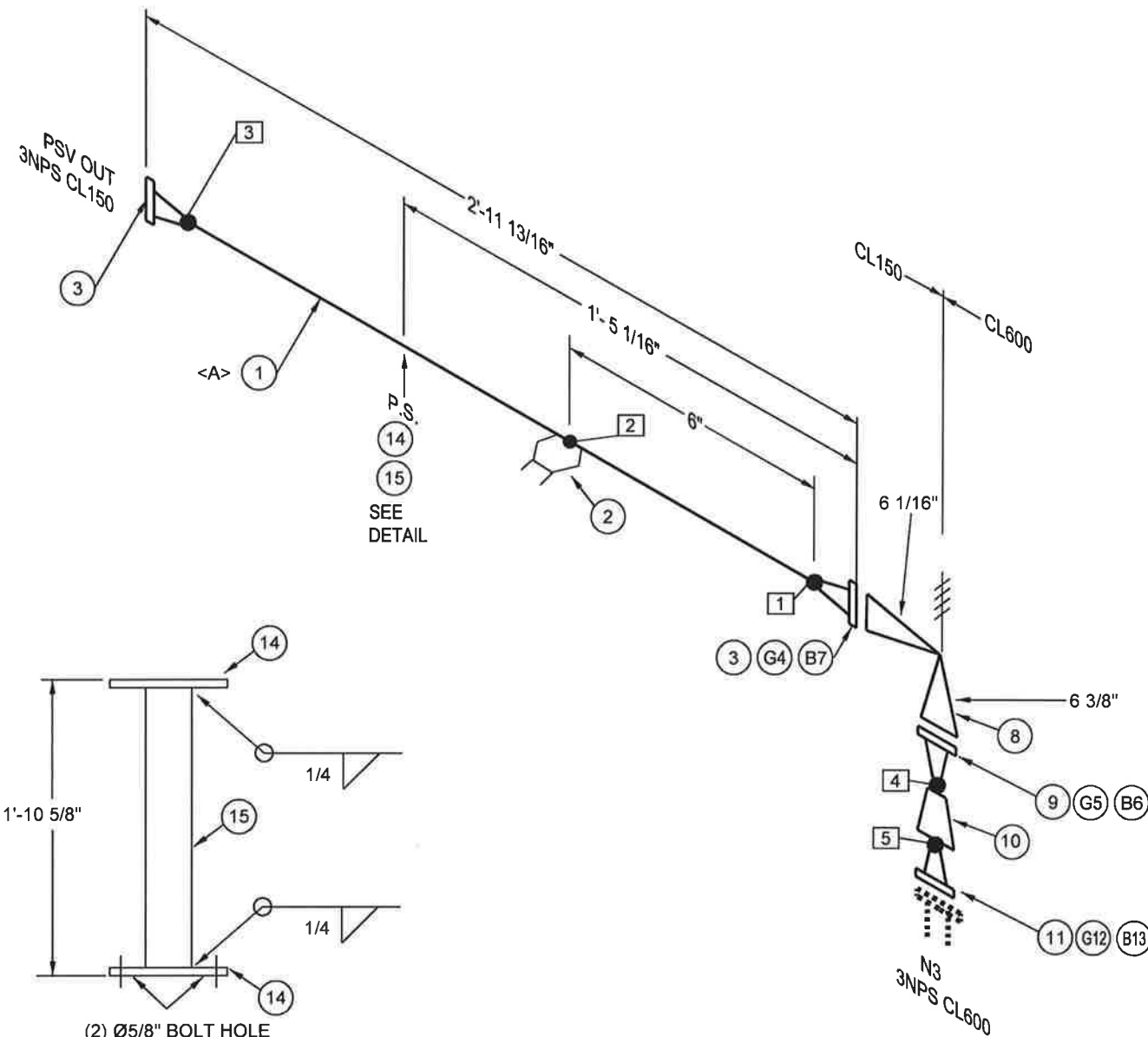
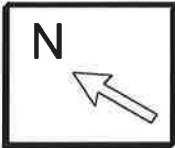
1991-

SCALE

N.T.S.

DATE

Mar-07-2019

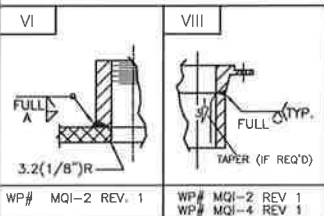


(2) Ø5/8" BOLT HOLE  
LOCATION MATCH SEE 1897-14-A1-1 SHT 2 ITEM 29

PS DETAIL

WELD PROCEDURE SPECIFICATION:

MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS					
	AS BUILT				02.19.19
1	ADDED WELDER ID, XRAY				02.19.19
0	ISSUED FOR CONSTRUCTION				09.20.16
REV.	DESCRIPTION	BY	CHKD	CHKD	DM DATE
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.					

## MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	2'6 3/16"	3	PIPE, SCH STD SMLS, SA-106 GR B	
2	1	3X1	THREDOLET, CL3000 FS, SA-105N	
3	2	3	FLG, RFWN CL150 SCH STD BORE, SA-105N	
4	1	3	GASKET, 1/8" THK, CL150 SPIRAL WOUND 316SS	
5	1	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
6	1	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
7	1	5/8	(4) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (3 1/2" LG)	
8	1	3X2	RELIEF VALVE, 6 3/8" LG CL600 X 6 1/16" LG CL150 FLG.	
9	1	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
10	1	3X2	REDUCER, CONC SCH. 80 X SCH. 160, SA-234 GR WPB	
11	1	3	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
12	1	3	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
13	1	3/4	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (5" LG)	
14	2	-	PIPE SUPPORT, FB 2 X 1/4, 7" LG, 44W	
15	1	-	PIPE SUPPORT, TS 2 X 2 X 1/4, 1'-10 1/8" LG, 44W	

## WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X72	
2	TOL	A		
3	BW	A	X73	
4	BW	A	X74	
5	BW	A	X75	

## CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	3"	2'-6 3/16"	

## SPOOLING DESIGN DATA CL150

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	285 PSIG	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 285 PSIG	INSULATION:	NONE
HYDROSTATIC TEST:	428 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @ 1150°F 60MIN.	WEIGHT:	LBS.

## SPOOLING DESIGN DATA CL600

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSIG	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSIG	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @ 1150°F 60MIN.	WEIGHT:	200 LBS.

END USER

CLIENT

MQ STOCK

PROJECT MANAGER 1991-

SPOOL 4  
PSV OUT  
3NPS CL150 SCH. STD  
3NPS CL600 SCH. 80  
2NPS CL600 SCH. 160

DRAWING

1991-

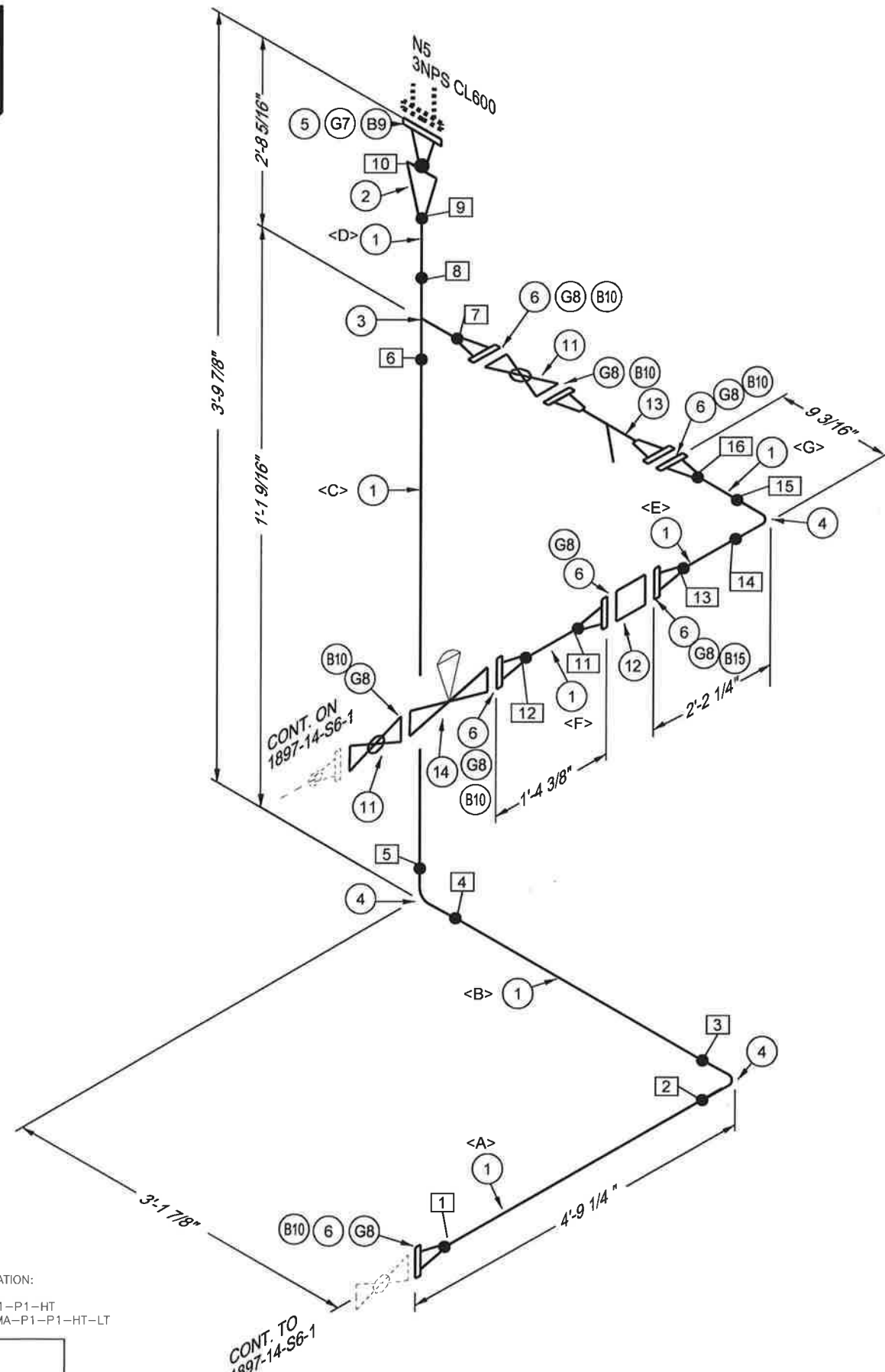
SCALE

N.T.S.

DATE

Mar-07-2019

DISTRIBUTION	QTY.
QC	1
SHOP	
PROCUREMENT	
PROD. MANAGER	
PROV. / P. ENG	
CLIENT	
TOTAL	1



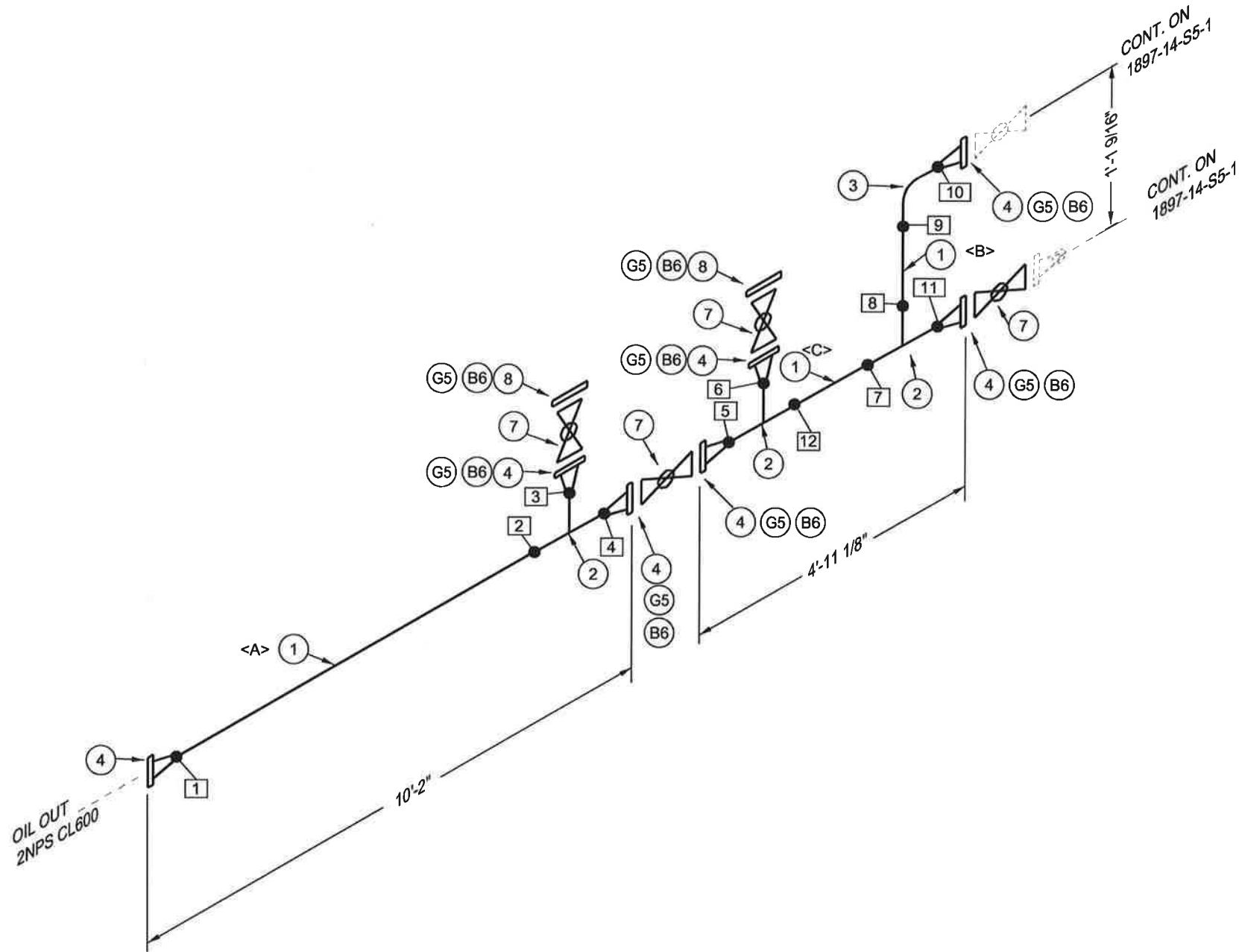
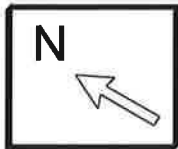
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	WP# MQI-4 REV 1

1991—

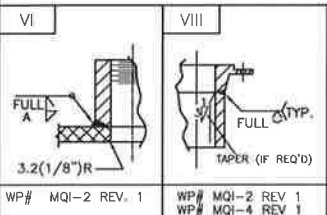
SP00L 5  
OIL OUT-1  
4/2NPS CL600 SCH. 80/SCH. 160

DATE \_\_\_\_\_

Mar-07-2019



WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
	AS BUILT		02.19.19
1	ADDED WELDER ID, XRAY		02.19.19
0	ISSUED FOR CONSTRUCTION		09.20.16
REV.	DESCRIPTION		DATE
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

## MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	13'8"	2	PIPE, SCH 160 SMLS, SA-106 GR B	
2	3	2X2	TEE, STR. SCH 160, SA-234 GR WPB	
3	1	2	ELL, 90 LR SCH 160, SA-234 GR WPB	
4	7	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
5	8	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
6	8	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
7	4	2	BALL VALVE, CL600 FLG	
8	2	2	FLG, RF BLIND CL600, SA-105N	

## WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X25	
2	BW	A	X26	
3	BW	A	X27	
4	BW	A	X28	
5	BW	A	X29	
6	BW	A	X30	
7	BW	A	X31	
8	BW	A	X32	
9	BW	A	X33	
10	BW	A	X34	
11	BW	A	X35	
12	BW	A	X36	

## CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	2"	9'-2 9/16"	
B	2"	7' 15/16"	
C	2"	3'-6 5/8"	

## SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @1150°F 60MIN.	WEIGHT:	368 LBS.

END USER

CLIENT

MQ STOCK

DISTRIBUTION		QTY.
MAR-QUINN	QC	1
	SHOP	
	PROCUREMENT	
	PROD. MANAGER	
	PROV. / P. ENG	
CLIENT		
TOTAL		1

SPOOL 6  
OIL OUT-2  
2NPS CL600 SCH. 160

DRAWING

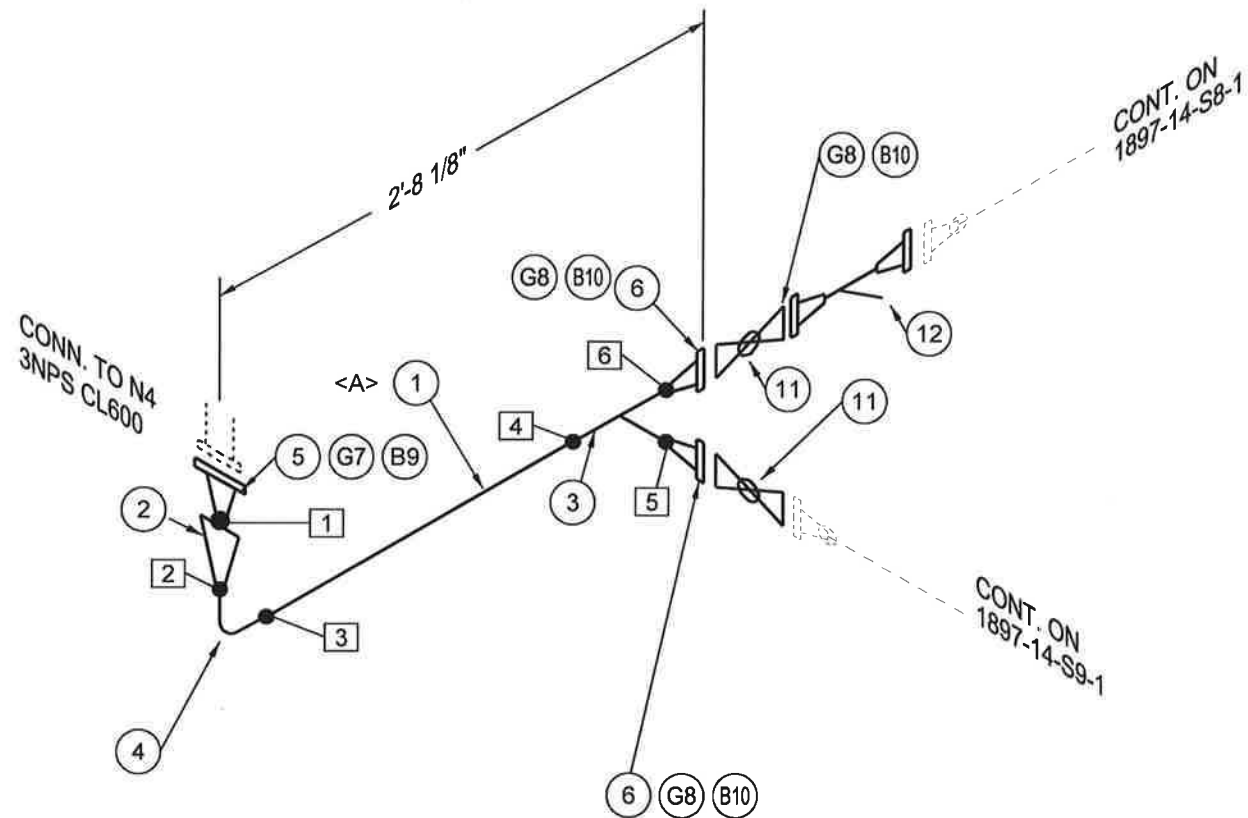
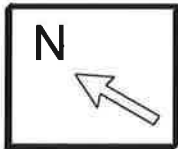
1991-

SCALE

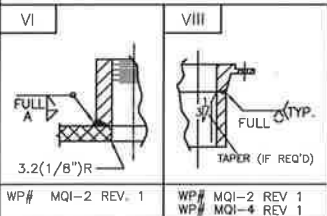
N.T.S.

DATE

Mar-07-2019



WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
	AS BUILT		02.19.19
1	ADDED WELDER ID, XRAY		02.19.19
0	ISSUED FOR CONSTRUCTION		09.20.16
REV.	DESCRIPTION	DATE	
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

### MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	1' 9"	2	PIPE, SCH 160 SMLS, SA-106 GR B	
2	1	3X2	REDUCER, CONC 3 SCH 80 X 2 SCH 160, SA-234 GR WPB	
3	1	2X2	TEE, STR. SCH 160, SA-234 GR WPB	
4	1	2	ELL, 90 LR SCH 160, SA-234 GR WPB	
5	1	3	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
6	2	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
7	1	3	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
8	3	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
9	1	3/4	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (5" LG)	
10	3	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
11	2	2	BALL VALVE, CL600 FLG	
12	1	2	Y STRAINER, CL600 FLG, (11 1/8" F/F)	

### WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X92	
2	BW	A	X93	
3	BW	A	X94	
4	BW	A	X95	
5	BW	A	X96	
6	BW	A	X97	

### CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	2"	1'-8 13/16"	

### SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT / HIC TEST:	NO / NO
P.W.H.T.:	YES @ 1150°F 60MIN.	WEIGHT:	177 LBS.

END USER

CLIENT

MQ STOCK

DISTRIBUTION

QTY.

MAR-QUINN

QC  
SHOP  
PROCUREMENT  
PROD. MANAGER

PROV. / P. ENG

CLIENT

TOTAL

1

SPOOL 7  
WATER OUT-1  
3/2NPS CL600 SCH. 80/SCH. 160

DRAWING

SCALE

DATE

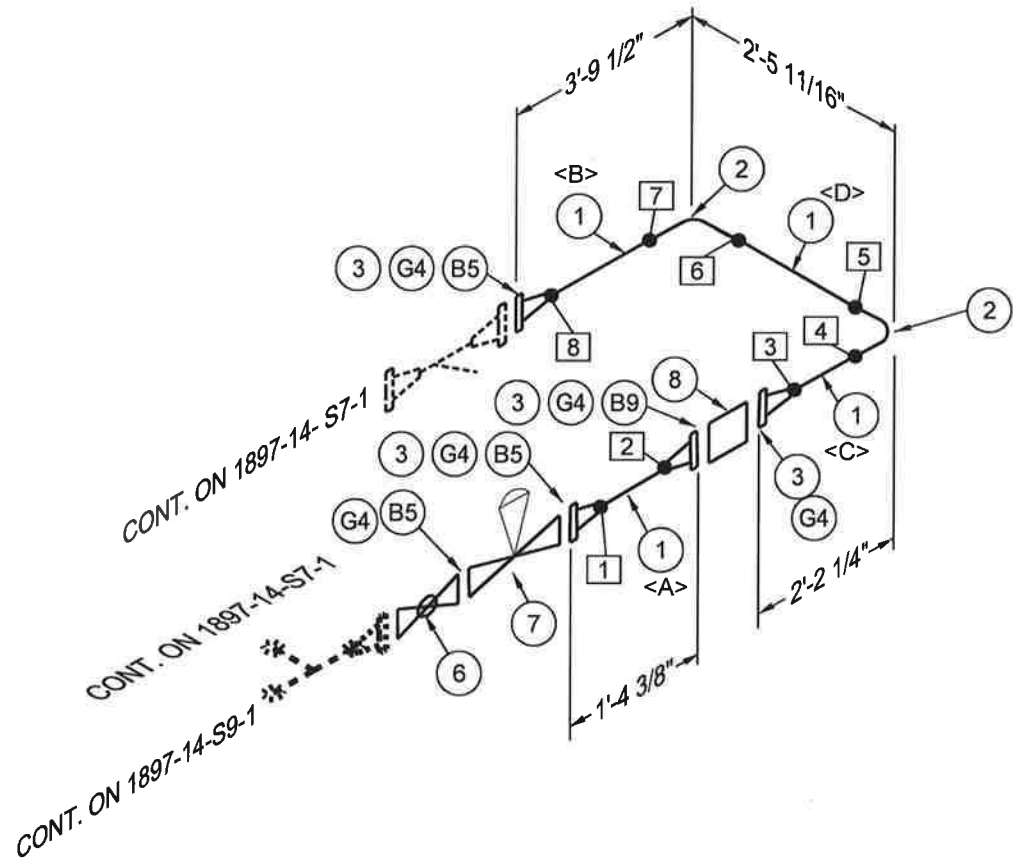
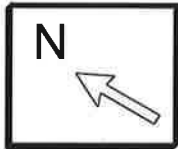
N.T.S.

Mar-07-2019

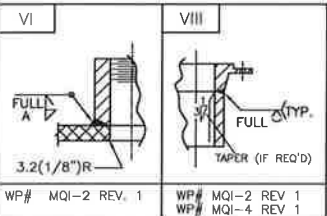
1991-

PLOT DATE





WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
	AS BUILT		02.19.19
1	ADDED WELDER ID, XRAY		02.19.19
0	ISSUED FOR CONSTRUCTION		09.20.16
REV.	DESCRIPTION	DATE	
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

### MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	7'10"	2	PIPE, SCH 160 SMLS, SA-106 GR B	
2	2	2	ELL, 90 LR SCH 160, SA-234 GR WPB	
3	4	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
4	5	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
5	3	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
6	1	2	BALL VALVE, CL600 FLG	
7	1	2	CONTROL VALVE, CL600 FLG, 11 1/4" F/F NORRISEAL 2220	
8	1	2	FLOW METER CL600 FLG, 2 1/2" F/F	
9	1	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (7" LG)	

### WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X98	
2	BW	A	X99	
3	BW	A	X100	
4	BW	A	X101	
5	BW	A	X102	
6	BW	A	X103	
7	BW	A	X104	
8	BW	A	X105	

### CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	2"	10"	
B	2"	3'-3 1/4"	
C	2"	1'-8"	
D	2"	1'-11 9/16"	

### SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @1150°F 60MIN.	WEIGHT:	188 LBS.

END USER

CLIENT

MQ STOCK

DISTRIBUTION

QTY.

MAR-QUINN  
QC  
SHOP  
PROCUREMENT  
PROD. MANAGER  
PROV. / P. ENG

CLIENT

TOTAL

1

91-15-S8-1

SPOOL 8  
WATER OUT-2  
2NPS CL600 SCH. 160

DRAWN

1991

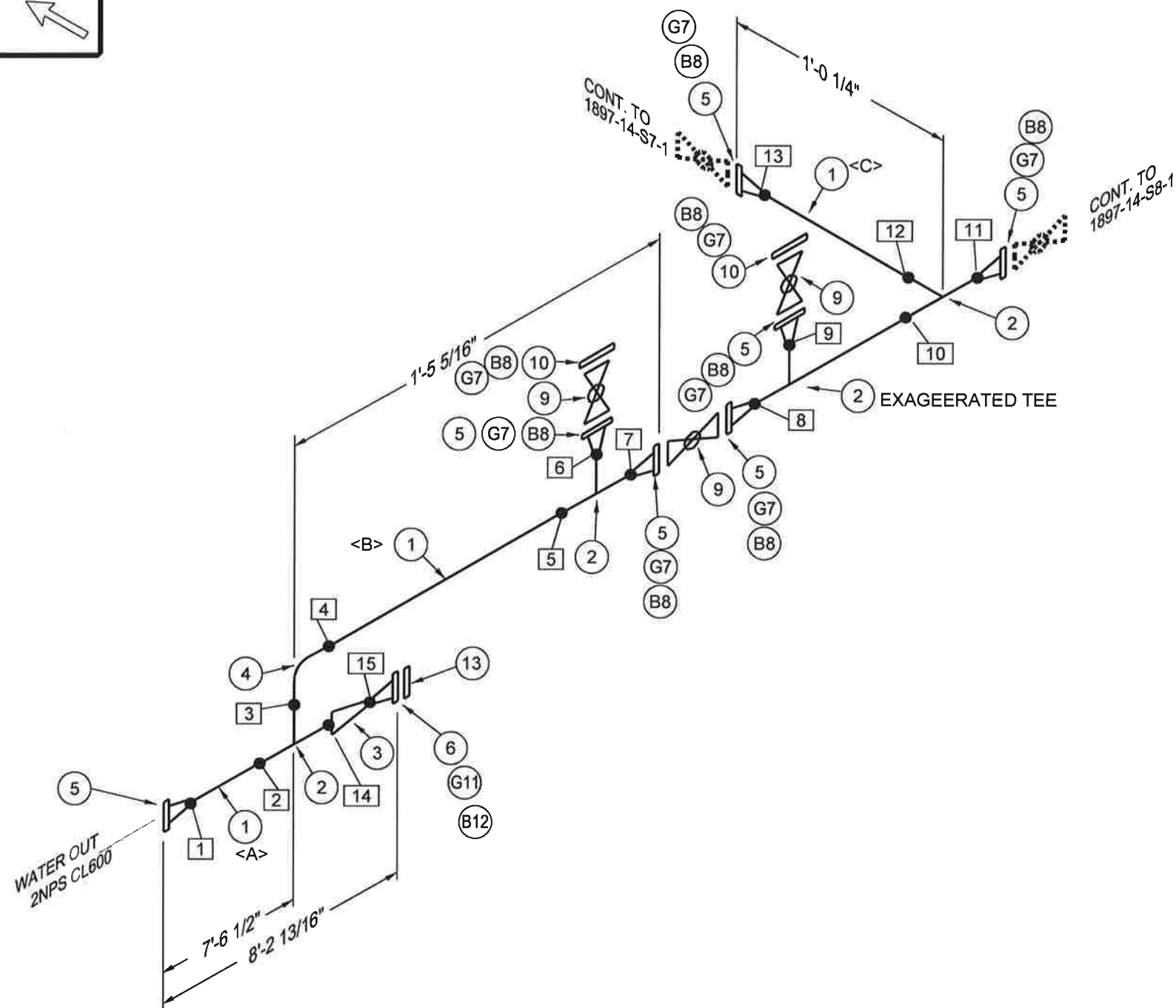
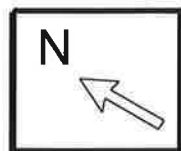
SCALE

N.T.S.

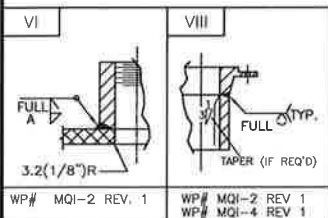
DATE

Mar-07-2019





WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS	
AS BUILT	
1	ADDED WELDER ID, XRAY
0	ISSUED FOR CONSTRUCTION
REV.	DESCRIPTION
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.	

## MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	8'2"	2	PIPE, SCH 160 SMLS, SA-106 GR B	
2	4	2X2	TEE, STR. SCH 160, SA-234 GR WPB	
3	1	2X1	REDUCER, CONC SCH 160, SA-234 GR WPB	
4	1	2	ELL, 90 LR SCH 160, SA-234 GR WPB	
5	7	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
6	1	1	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
7	8	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
8	8	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
9	3	2	BALL VALVE, CL600 FLG	
10	2	2	FLG, RF BLIND CL600, SA-105N	
11	1	1	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
12	1	5/8	(4) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (3 1/2" LG)	
13	1	1	FLG, RF HUB BLIND CL600 TAP 1/2 NPT, SA-105N	

## WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X106	
2	BW	A	X107	
3	BW	A	X110	
4	BW	A	X111	
5	BW	A	X112	
6	BW	A	X114	
7	BW	A	X113	
8	BW	A	X115	
9	BW	A	X116	
10	BW	A	X117	
11	BW	A	X118	
12	BW	A	X119	
13	BW	A	X120	
14	BW	A	X108	
15	BW	A	X109	

## CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	2"	7'-0 3/4"	
B	2"	6"	
C	2"	6 1/2"	

## SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT / HIC TEST:	NO / NO
P.W.H.T.:	YES @1150°F 60MIN.	WEIGHT:	427 LBS.

END USER

CLIENT

MQ STOCK

SPOOL 9  
WATER OUT-3  
2/1NPS CL600 SCH. 160

DRAWN

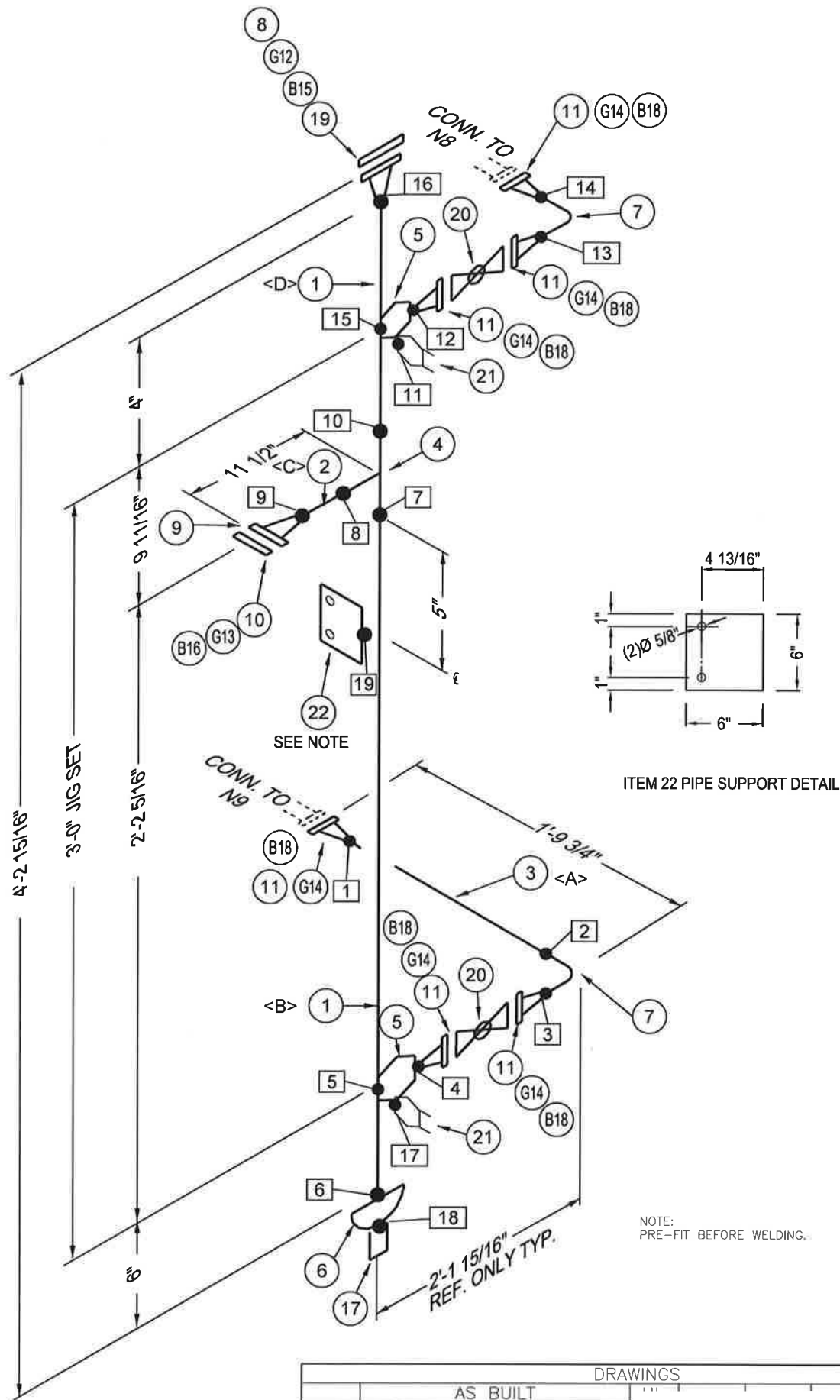
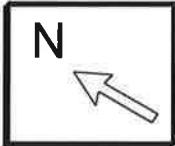
SCALE

DATE

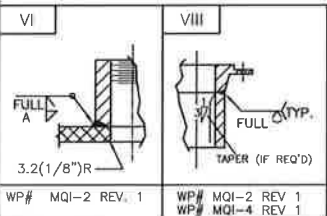
CLIENT

TOTAL

1



WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS		
AS BUILT	02.19.19	
1 ADDED WELDER ID, XRAY	02.19.19	
0 ISSUED FOR CONSTRUCTION	09.20.16	
REV. DESCRIPTION	DATE	
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.		

### MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	2'11"	6	PIPE, SCH 80 SMLS, SA-106 GR B	
2	0'3"	3	PIPE, SCH 80 SMLS, SA-106 GR B	
3	1'4"	2	PIPE, SCH 160 SMLS, SA-106 GR B	
4	1	6X3	TEE, REDUCING SCH 80, SA-234 GR WPB	
5	2	6X2	WELDOLET, SCH 160, SA-105N	
6	1	6	CAP, SCH 80, SA-234 GR WPB	
7	2	2	ELL, 90 LR SCH 160, SA-234 GR WPB	
8	1	6	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
9	1	3	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
10	1	3	FLG, RF HUB BLIND CL600 TAP 2 NPT, SA-105N	
11	6	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
12	1	6	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
13	1	3	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
14	6	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
15	1	1	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (6 3/4" LG)	
16	1	3/4	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (5" LG)	
17	1	1/2	HALF COUPLING, CL6000 FS, SA-105N	
18	6	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
19	1	6	FLG, RF BLIND CL600, SA-105N	
20	2	2	BALL VALVE, CL600 FLG	
21	2	6X3/4	THREDOLET, CL6000 FS, SA-105N	
22	1	6X6	FB/PL 6X6X1/2", 36/44W, C/W (2) Ø5/8" HOLES	

### WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X52	
2	BW	A	X53	
3	BW	A	X54	
4	BW	A	X55	
5	WOL	A		
6	BW	A	X56	
7	BW	A	X57	
8	BW	A	X58	
9	BW	A	X59	
10	BW	A	X60	
11	TOL	A		
12	BW	A	X61	
13	BW	A	X62	
14	BW	A	X63	
15	WOL	A		
16	BW	A	X64	
17	TOL	A		
18	CPLG	A		
19	FW	A		

### CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	2"	1'-3 1/2"	
B	6"	2'-2 5/8"	
C	3"	3"	
D	6"	8"	

### SPOOLING DESIGN DATA

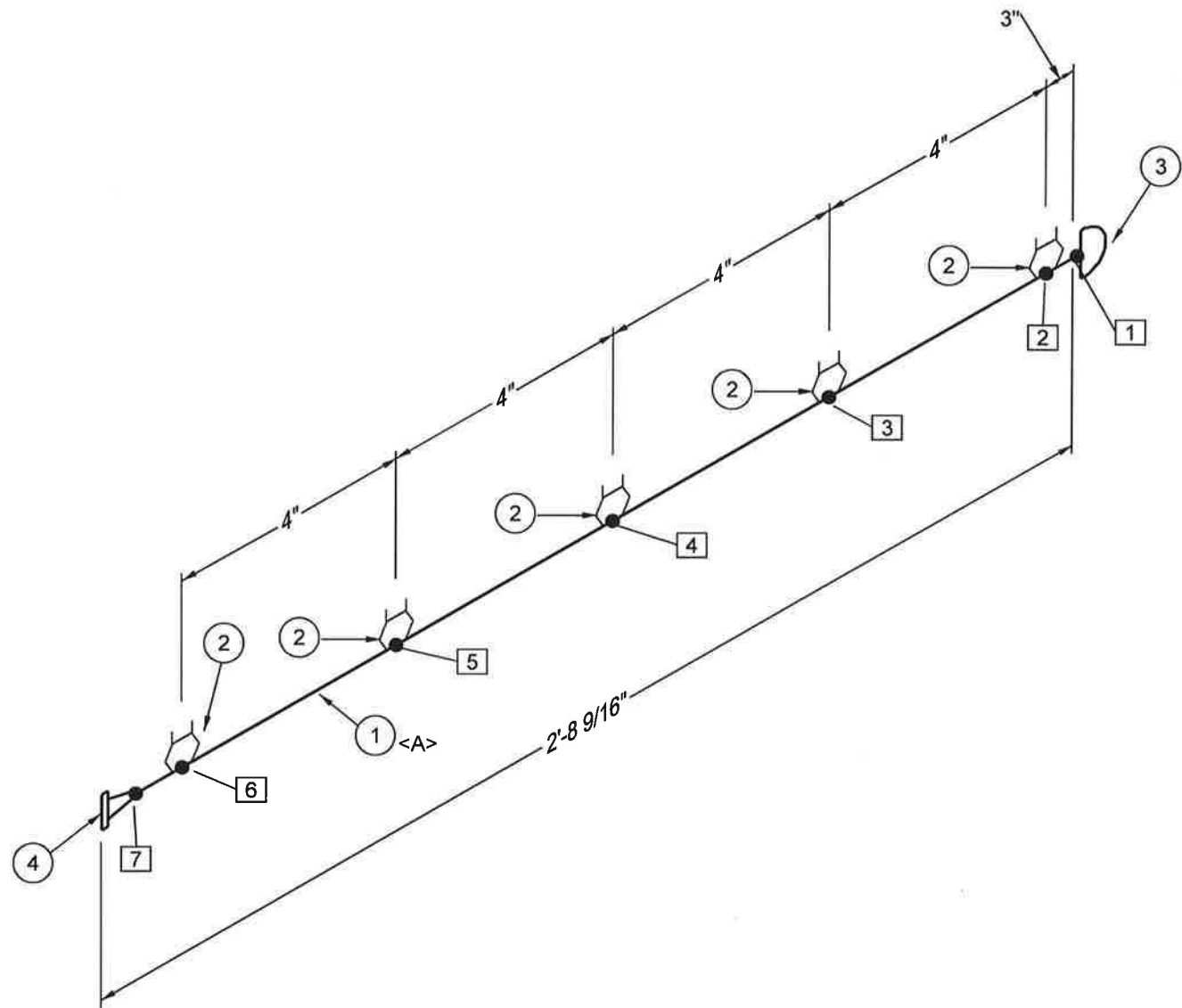
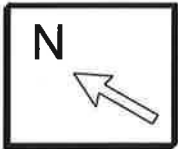
DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES @ 1150°F 60MIN.	WEIGHT:	487 LBS.

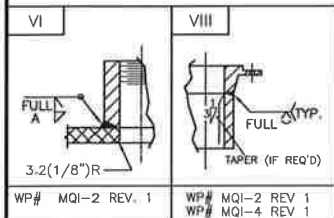
END USER	
CLIENT	
MQ STOCK	
DISTRIBUTION	QTY.
QC	1
SHOP	
PROCUREMENT	
PROD. MANAGER	
PROV. / P. ENG	
CLIENT	
TOTAL	1

SPOOL 10  
WATER BRIDLE  
6/2 NPS CL600 SCH. 80/SCH. 160

SCALE	DATE
N.T.S.	Mar-07-2019



WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
	AS BUILT		02.19.19
1	ADDED WELDER ID, XRAY		02.19.19
0	ISSUED FOR CONSTRUCTION		09.20.16
REV.	DESCRIPTION	DATE	
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

# MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	2'6"	2	PIPE, SCH 80 SMLS, SA-106 GR B	
2	5	2X1/2	THREDOLET, CL3000 FS, SA-105N	
3	1	2	CAP, SCH 80, SA-234 GR WPB	
4	1	2	FLG, RFWN CL150 SCH 80 BORE, SA-105N	

WELDS SUMMARY					CUTTING LIST			
WELD NO.	TYPE	WELDER ID	X-RAY	PWHT	PIECE NO.	SIZE	LENGTH	REMARKS
1	BW	A	X1		A	2"	2'-6"	
2	TOL	A						
3	TOL	A						
4	TOL	A						
5	TOL	A						
6	TOL	A						
7	BW	A	X2					

## SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	285 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 285 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	428 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT   HIC TEST:	NO   NO
P.W.H.T.:	YES 1150°F 60MIN.	WEIGHT:	21 LBS.

END USER

CLIENT

MQ STOCK

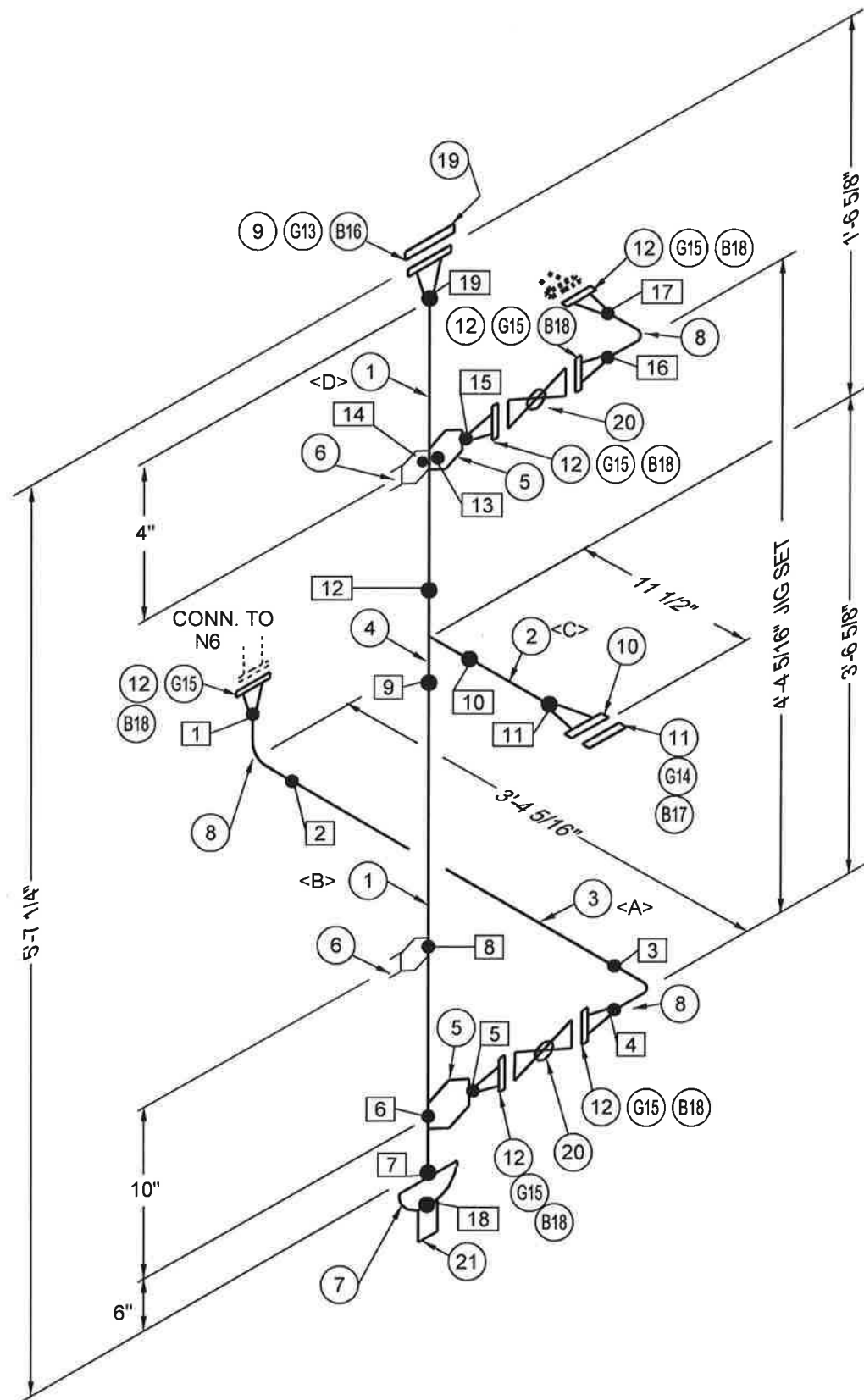
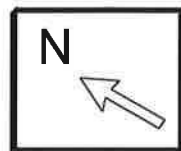
DISTRIBUTION		QTY.
MAR-QUINN	QC	1
	SHOP	
	PROCUREMENT	
	PROD. MANAGER	
PROV. / P. ENG		
CLIENT		
TOTAL		1

SPOOL 11  
INSTRUMENT VENT  
2NPS CL150 SCH. 80

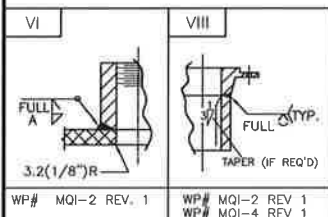
DRAWING  
1991-

SCALE  
N.T.S.

DATE  
Mar-07-2019



WELD PROCEDURE SPECIFICATION:  
MQI-2 REV 1: SMA-SMA-P1-P1-HT  
MQI-4 CVN REV 1: GMA-SMA-P1-P1-HT-LT



DRAWINGS			
	AS BUILT		02.19.19
1	ADDED WELDER ID, XRAY		02.19.19
0	ISSUED FOR CONSTRUCTION		09.20.16
REV.	DESCRIPTION		DATE
WHEN DISCREPANCY OR DOUBT EXIST, PLEASE VERIFY AND CONFIRM.			

## MATERIAL LIST

PT.NO.	QTY.	SIZE	DESCRIPTION	REMARKS
1	4'3"	6	PIPE, SCH 80 SMLS, SA-106 GR B/SA-333-6	
2	0'3"	3	PIPE, SCH 80 SMLS, SA-106 GR B	
3	2'11"	2	PIPE, SCH 160 SMLS, SA-106 GR B	
4	1	6X3	TEE, REDUCING SCH 80, SA-234 GR WPB	
5	2	6X2	WELDOLET, SCH 160, SA-105N	
6	2	6X3/4	THREDOLET, CL6000 FS, SA-105N	
7	1	6	CAP, SCH 80, SA-234 GR WPB	
8	3	2	ELL, 90 LR SCH 160, SA-234 GR WPB	
9	1	6	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
10	1	3	FLG, RFWN CL600 SCH 80 BORE, SA-105N	
11	1	3	FLG, RF HUB BLIND CL600 TAP 2 NPT, SA-105N	
12	6	2	FLG, RFWN CL600 SCH 160 BORE, SA-105N	
13	1	6	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
14	1	3	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
15	6	2	GASKET, 1/8" THK, CL600 SPIRAL WOUND 316SS	
16	1	1	(12) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (6 3/4" LG)	
17	1	3/4	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (5" LG)	
18	6	5/8	(8) STUD BOLTS (SA-193-B7M) W/ NUTS (SA-194-2HM) (4 1/4" LG)	
19	1	6	FLG, RF BLIND CL600, SA-105N	
20	2	2	BALL VALVE, CL600 FLG	
21	1	1/2	HALF CPLG, THRD, CL6000, SA-105N	

## WELDS SUMMARY

WELD NO.	TYPE	WELDER ID	X-RAY	PWHT
1	BW	A	X11	
2	BW	A	X12	
3	BW	A	X13	
4	BW	A	X14	
5	BW	A	X17	
6	WOL	A		
7	BW	A	X18	
8	TOL	A		
9	BW	A	X19	
10	BW	A	X20	
11	BW	A	X21	
12	BW	A	X22	
13	WOL	A		
14	TOL	A		
15	BW	A	X23	
16	BW	A	X15	
17	BW	A	X16	
18	CPLG	A		
19	BW	A	X24	

## CUTTING LIST

PIECE NO.	SIZE	LENGTH	REMARKS
A	2"	2'-10 3/16"	
B	6"	3'-6 15/16"	
C	3"	3"	
D	6"	8"	

## SPOOLING DESIGN DATA

DESIGNED AND FABRICATED TO ASME CODE B31.3, 2014 EDITION

DESIGN PRESSURE:	1440 PSI	SERVICE:	NORMAL SOUR
DESIGN TEMPERATURE:	100°F	TEST MEDIUM:	WATER
CORROSION ALLOWANCE:	1/8"	FAB LOC.:	SHOP
M.D.M.T.:	-20°F @ 1440 PSI	INSULATION:	NONE
HYDROSTATIC TEST:	2160 PSIG	PAINTING:	PER SPECS
RADIOGRAPHY:	100%	UT / HIC TEST:	NO / NO
P.W.H.T.:	YES @1150°F 60MIN.	WEIGHT:	538 LBS.

END USER

CLIENT

MQ STOCK

DISTRIBUTION	QTY.
QC	1

SHOP	
PROCUREMENT	
PROD. MANAGER	
PROV. / P. ENG	

CLIENT	
TOTAL	1

SPOOL 12  
OIL BRIDLE  
6/3 NPS/2NPS SCH 80/160

SCALE	DATE
N.T.S.	Mar-07-2019