



**ISOMETRIC VIEW**  
SCALE: 1:40

**ISOMETRIC VIEW**  
SCALE: 1:40

1. FABRICATE TO W47.1 AND W59.
2. ALL DIMENSIONS TO HAVE A TOLERANCE OF  $\pm 1/8"$  UNLESS OTHERWISE SPECIFIED.
3. DEBURR AND RADIUS ALL SHARP EDGES.
4. WELD PROCESS TO BE MCAW UNLESS OTHERWISE NOTED  
WPDS FC1-10, FC1-15.
5. ALL WELDS TO BE  $1/4"$  CONTINUOUS FILLET WELDS UNLESS OTHERWISE NOTED.
6. BOLT HOLES TO STRADDLE COMMON CENTERLINE.
7. APPROX. WEIGHT: 3400 LBS

# ORIGINAL

## AS BUILT

ISSUED FOR  
CONSTRUCTION

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

W.O.:

S/N: \_\_\_\_\_



P.O. BOX 6280, INNISFAIL, AB T4G 1S9  
PH: (403) 227-4100 FAX: (403) 227-4102



SCALE:

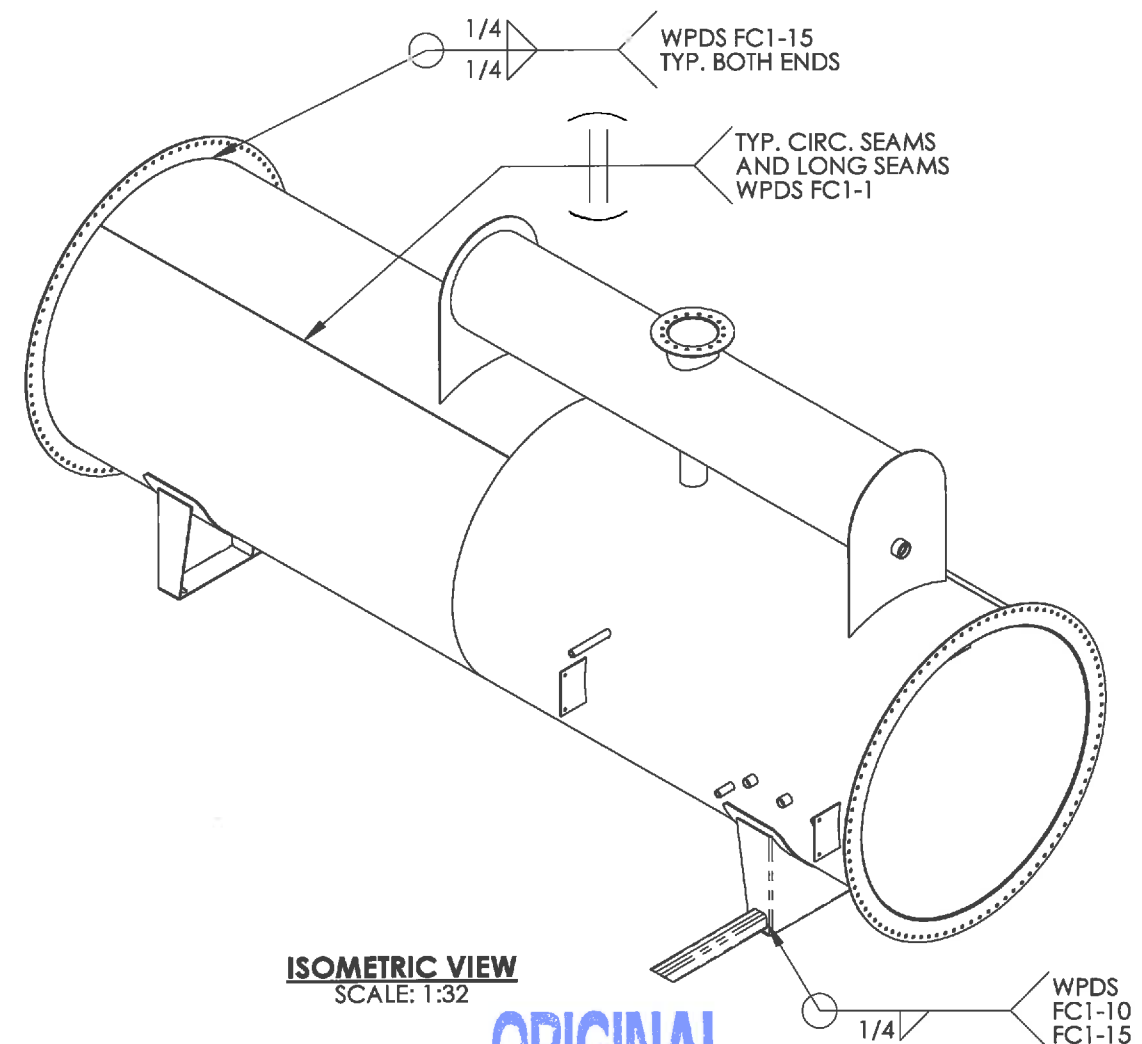
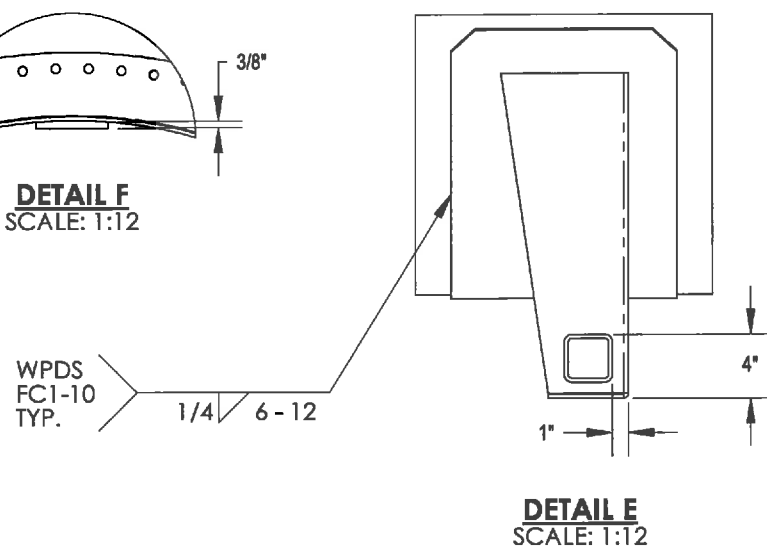
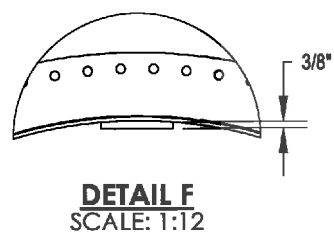
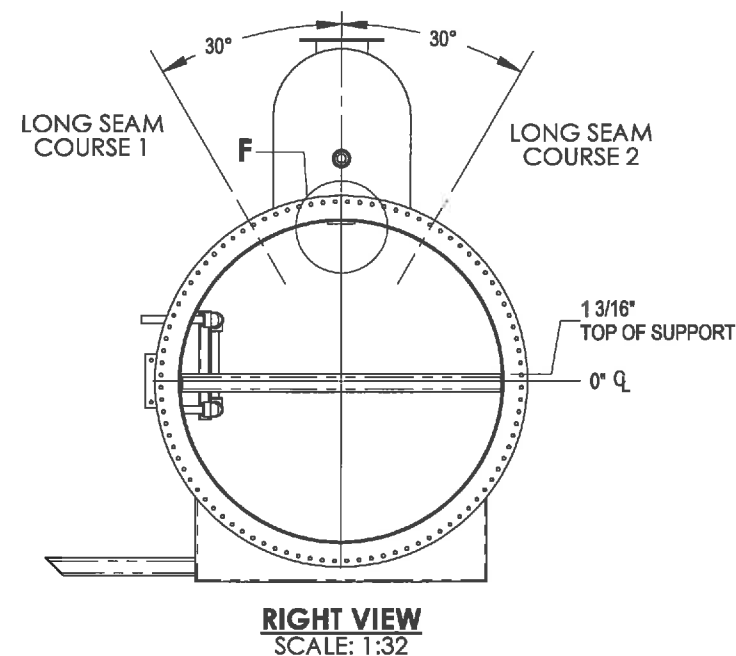
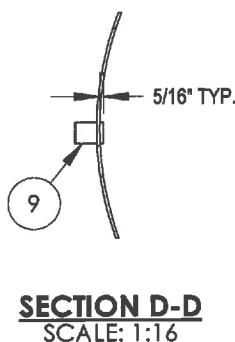
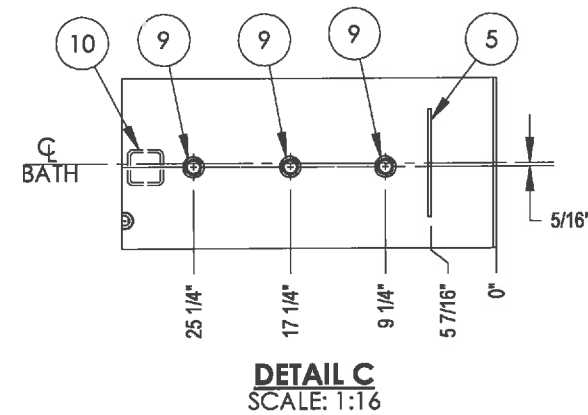
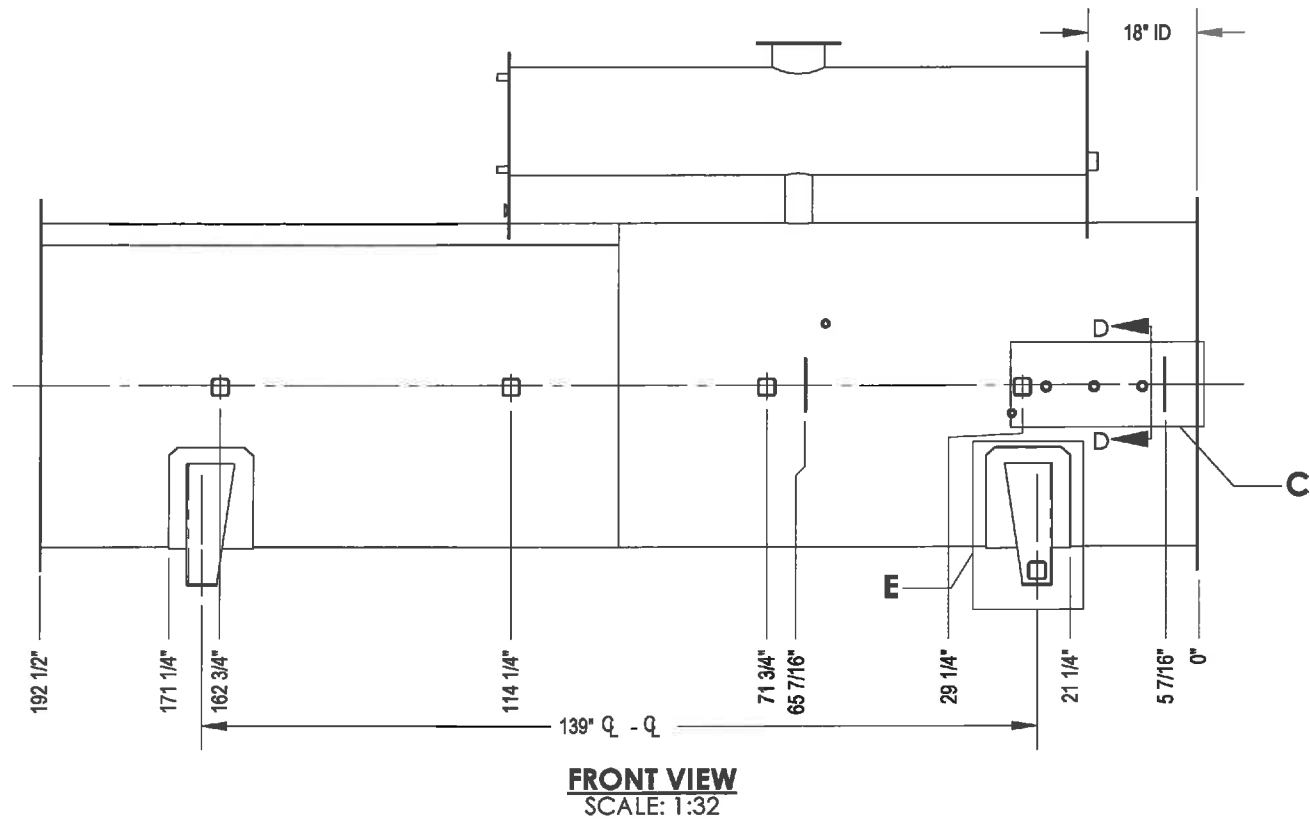
HUSKY ENERGY  
1.5 MMBTU LINE HEATER PACKAGE  
54" OD X 16' LG @ LINE HEATER LH100  
c/w 10"-900# HEADER AND 4" PIPE COIL  
BATH ASSEMBLY

DWN: M.H. CHK: 9 APP: 

DATE: DEC 27/12	DATE: JAN 08 2013	DATE: JAN 08 2013
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SHEET:	DWG:	REV:
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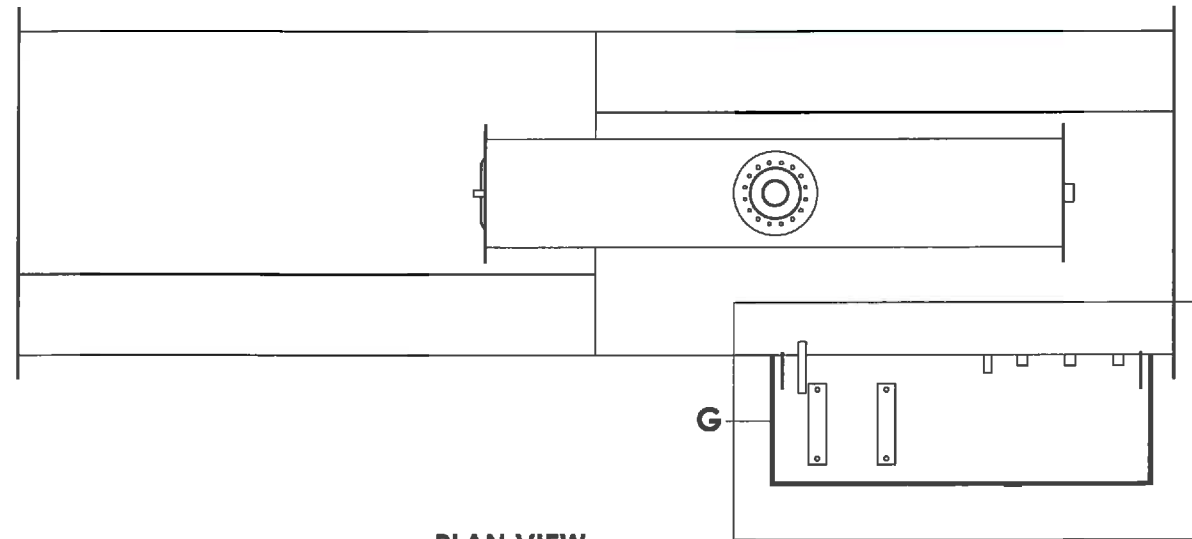
D	1 OF 8	08582-001-B-001	0
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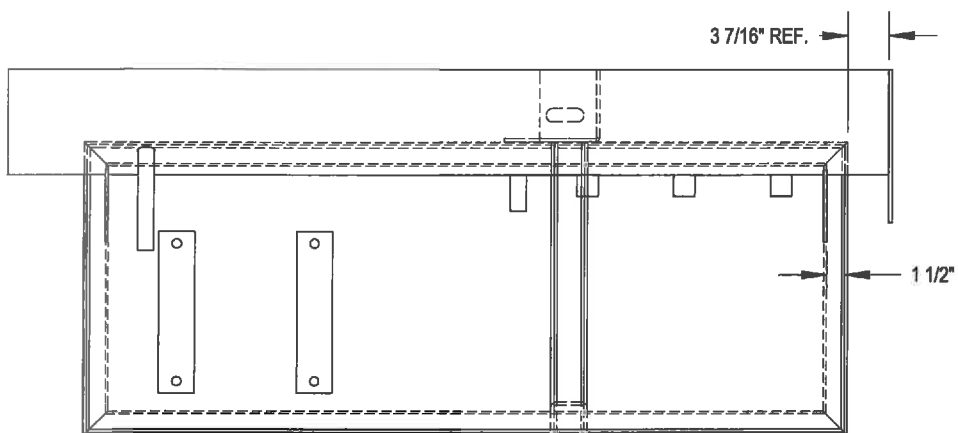
- NOTES**
1. FABRICATE TO W47.1 AND W59.
  2. ALL DIMENSIONS TO HAVE A TOLERANCE OF  $\pm 1/8$ " UNLESS OTHERWISE SPECIFIED.
  3. DEBURR AND RADIUS ALL SHARP EDGES.
  4. WELD PROCESS TO BE MCAW UNLESS OTHERWISE NOTED WPDS FC1-10, FC1-15.
  5. ALL WELDS TO BE 1/4" CONTINUOUS FILLET WELDS UNLESS OTHERWISE NOTED.
  6. BOLT HOLES TO STRADDLE COMMON CENTERLINE.
  7. APPROX. WEIGHT: 3400 LBS

**ORIGINAL**

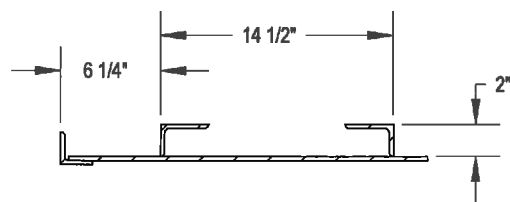
		<b>AS BUILT</b>						<b>ISSUED FOR CONSTRUCTION</b>		 <b>NWP</b> INDUSTRIES INC. Total oilfield supply.		HUSKY ENERGY 1.5 MMBTU LINE HEATER PACKAGE 54" OD X 16' LG @ LINE HEATER LH100 c/w 10"-900# HEADER AND 4" PIPE COIL BATH ASSEMBLY						
08582-001-S-001	SKID ASSEMBLY							SIGNED: _____		P.O. BOX 6280, INNISFAIL, AB T4G 1S9 PH: (403) 227-4100 FAX: (403) 227-4102		DWN: MJH		CHK: _____	APP: 			
08582-001-C-001	COIL ASSEMBLY							DATE: _____				DATE: DEC 27/12		DATE: <b>JAN 08 2013</b>	DATE: <b>JAN 08 2013</b>			
08582-001-F-101	FIRETUBE AND STACK							W.O.: _____						SCALE: AS NOTED		SHEET: 2 OF 8	DWG: 08582-001-B-001	REV: 0
08582-1	P&ID							S/N: _____										
08582-001-G-001	GENERAL ARRANGEMENT	0	DEC 27/12	MJH			ISSUED FOR CONSTRUCTION											
DOCUMENT NO.	DESCRIPTION	REV.	DATE	BY:	CHK:	APP:	DESCRIPTION											
REFERENCE DRAWINGS		DRAWING REVISIONS						ALL DIMENSIONS IN INCHES										



PLAN VIEW  
SCALE: 1:32



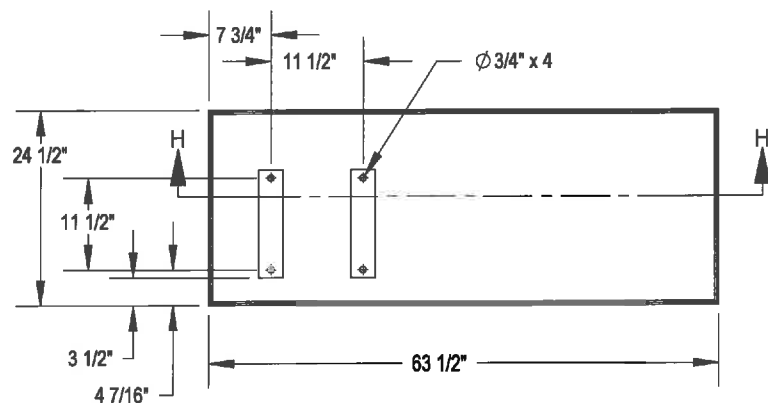
DETAIL G  
SCALE: 1:16



DETAIL J  
SCALE: 1:12



SECTION H-H  
SCALE: 1:24



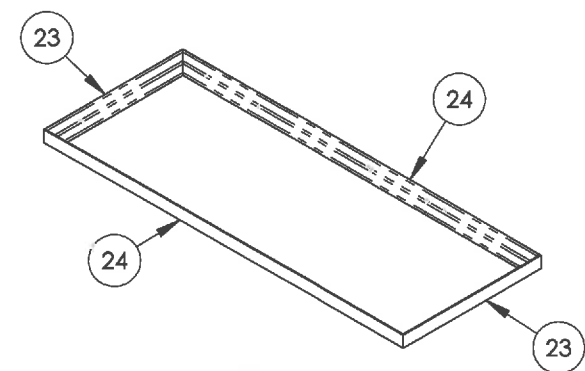
PLAN VIEW  
SCALE: 1:24

ITEM	PART #	DESCRIPTION	MTR #	LENGTH	QTY.
20	-	ENCLOSURE FLOOR PERIMETER ANGLES		-	1
21	-	PLATE - 1/4" - 62 1/2" X 23 1/2" - SA-36/44W		-	1
22	ANGC32A	SCRUBBER SUPPORT ANGLE -3"x2"x1/4" SA-36/44W		13 1/2"	2

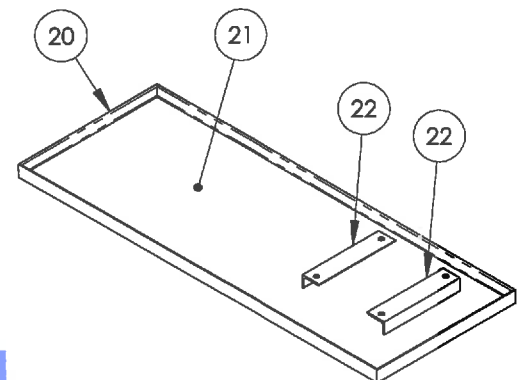
ITEM	PART #	DESCRIPTION	MTR #	Length	QTY.
23	ANGC22A	ANGLE IRON 1/4" x 2" x 2" 300W		24 1/2"	2
24	ANGC22A	ANGLE IRON 1/4" x 2" x 2" 300W		63 1/2"	2

NOTES

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3. DEBURR AND RADIUS ALL SHARP EDGES.
4. WELD PROCESS TO BE MCAW UNLESS OTHERWISE NOTED. WPDS-FC1-15, FC1-10.
5. ALL WELDS TO BE 1/4" CONTINUOUS FILLET WELDS UNLESS OTHERWISE NOTED.



ISOMETRIC VIEW  
SCALE: 1:24



ISOMETRIC VIEW  
SCALE: 1:24

ORIGINAL

AS BUILT

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S/N: \_\_\_\_\_



P.O. BOX 6280, INNISFAIL, AB T4G 1S9  
PH: (403) 227-4100 FAX: (403) 227-4102



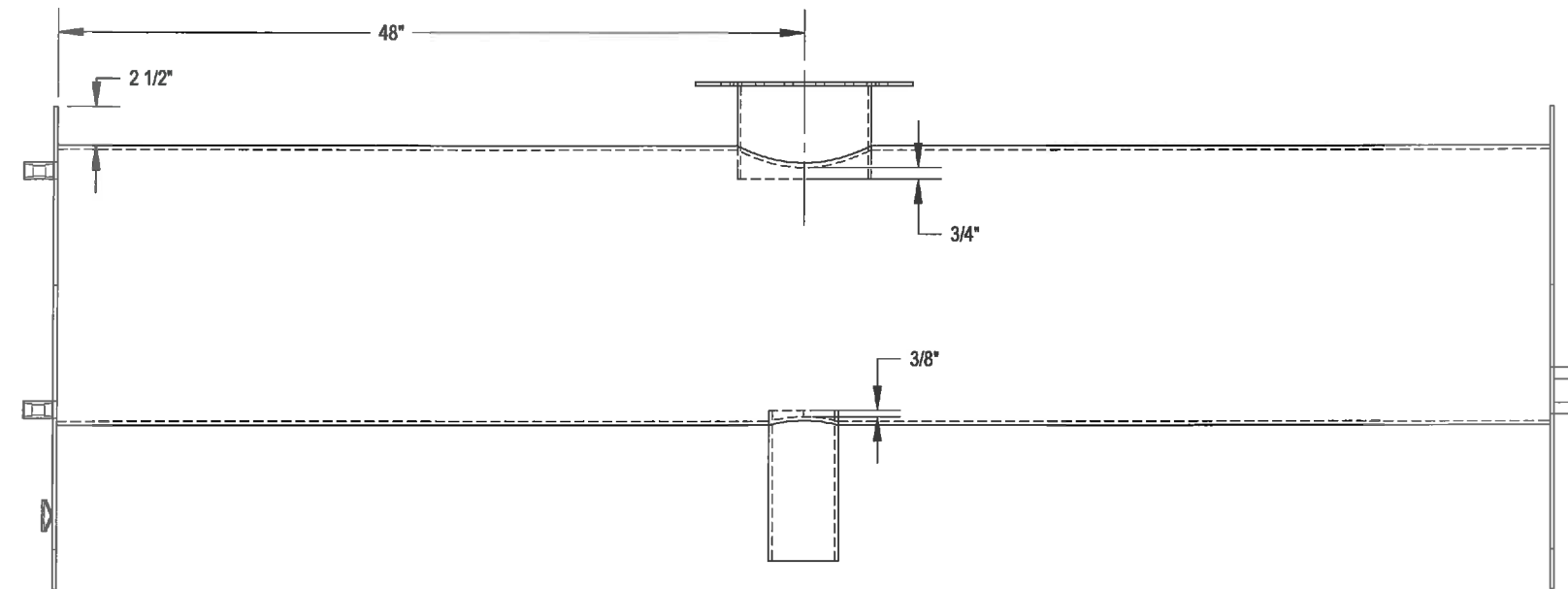
SCALE:  
AS NOTED

HUSKY ENERGY  
1.5 MMBTU LINE HEATER PACKAGE  
54" OD X 16' LG @ LINE HEATER LH100  
c/w 10"-900# HEADER AND 4" PIPE COIL  
ENCLOSURE FLOOR PAN

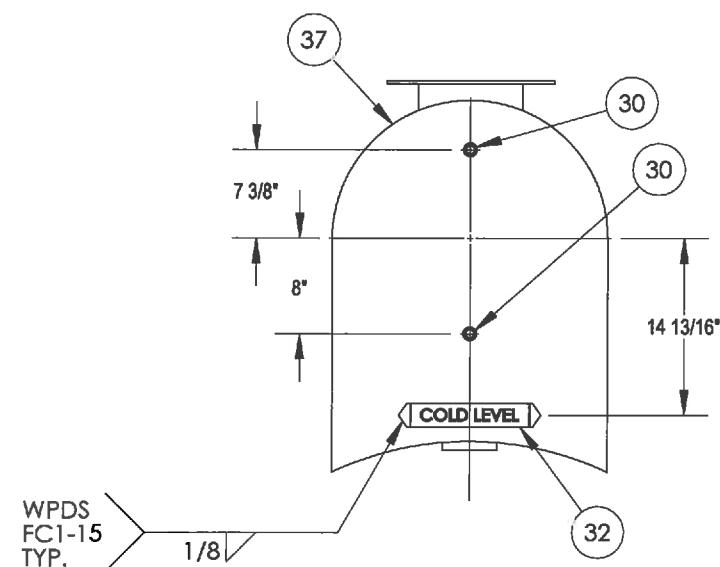
DWN: MJH CHK: *[Signature]* APP: *[Signature]*  
DATE: DEC 27/12 DATE: JAN 08 2013 DATE: JAN 08 2013

SHEET: 3 OF 8 DWG: 08582-001-B-001 REV: 0

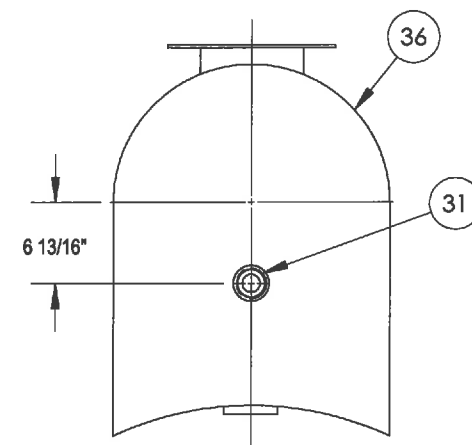
DOCUMENT NO.	DESCRIPTION	REV.	DATE	BY:	CHK:	APP:	DESCRIPTION
08582-001-S-001	SKID ASSEMBLY						
08582-001-C-001	COIL ASSEMBLY						
08582-001-F-101	FIRETUBE AND STACK						
08582-1	P&ID						
08582-001-G-001	GENERAL ARRANGEMENT	0	DEC 27/12	MJH	<i>[Signature]</i>	<i>[Signature]</i>	ISSUED FOR CONSTRUCTION
REFERENCE DRAWINGS		DRAWING REVISIONS					



**FRONT VIEW**  
SCALE: 1:12

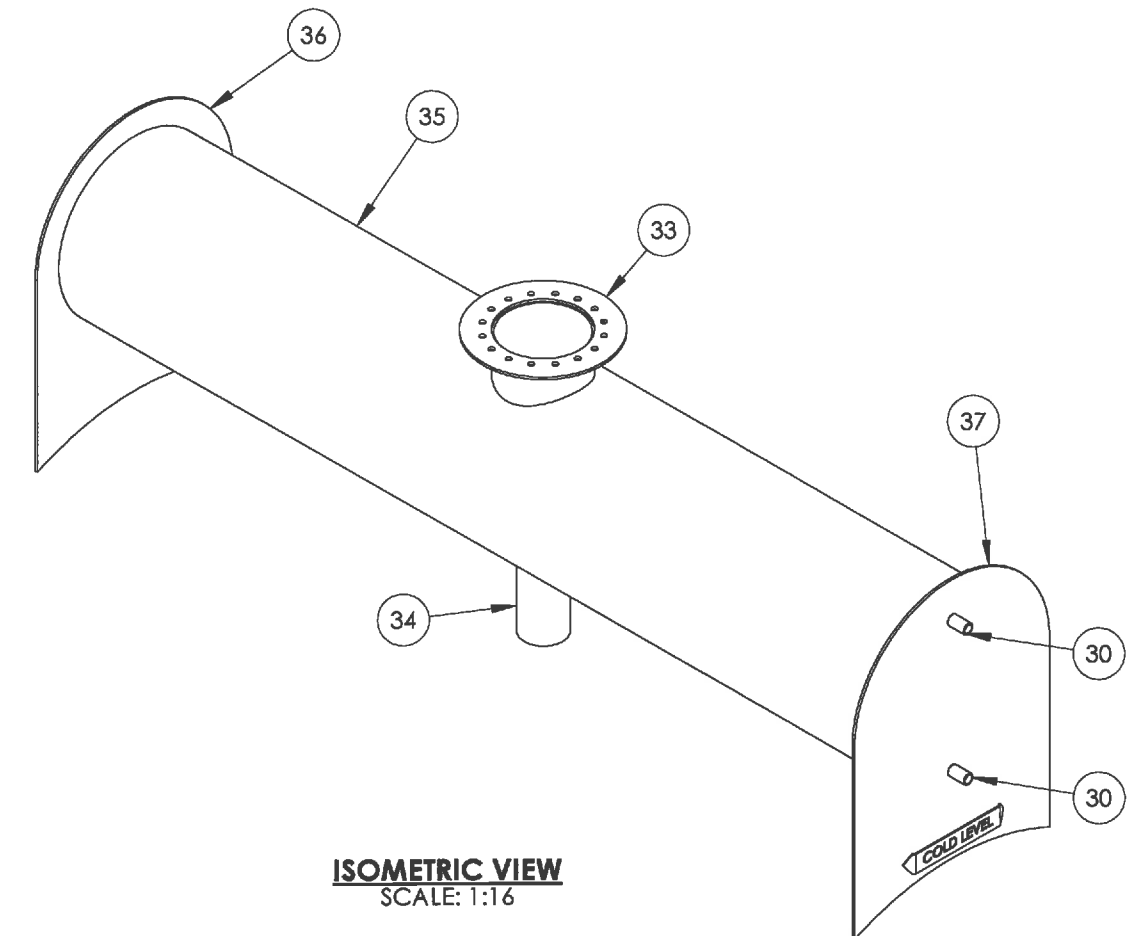


**LEFT VIEW**  
SCALE: 1:16



**RIGHT VIEW**  
SCALE: 1:16

ITEM	PART #	DESCRIPTION	MTR #	LENGTH	QTY.
30	COF.5GYEE	Coupling 1/2" 3M THRD SA105N			2
31	COH2GYEE	Coupling Half 2" 3M THRD SA105N			1
32	COLDLEVEL-1	LH COLD LEVEL INDICATOR			1
33	FLA-TH-8	8" THIEF HATCH BASE ASSEMBLY			1
34	PIP440A	4" SCH. 40 PIPE		9 11/16"	1
35	PIP1810E	PIPE, 18" SCH 10 BE SRL		96"	1
36	-	LH EXPANSION TANK ENDPLATE-2 - 1/4" SA-36/44W			1
37	-	LH EXPANSION TANK ENDPLATE-1 - 1/4" SA-36/44W			1



**ISOMETRIC VIEW**  
SCALE: 1:16

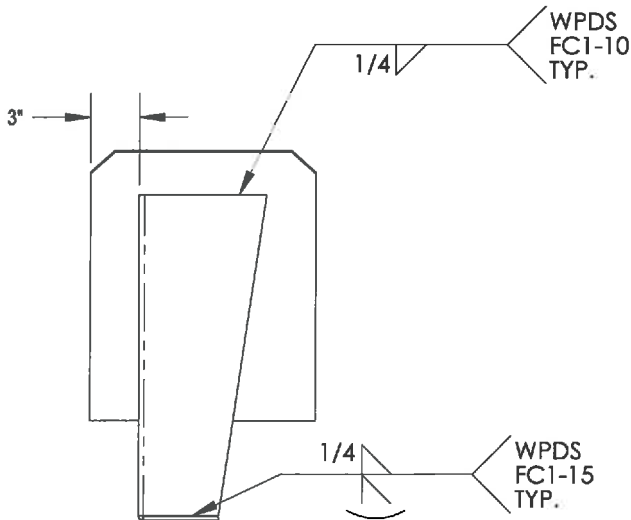
**NOTES**

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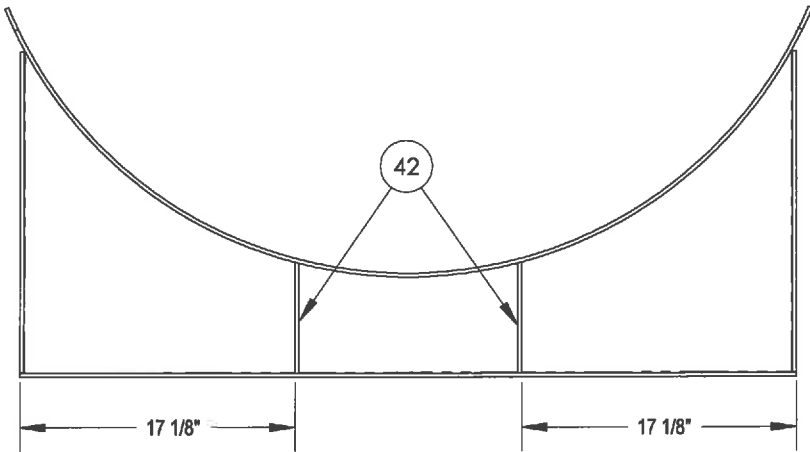
**ORIGINAL**

08582-001-S-001		SKID ASSEMBLY		<b>AS BUILT</b>		ISSUED FOR CONSTRUCTION SIGNED: _____ DATE: _____ W.O.: _____ S/N: _____		 <b>NWP INDUSTRIES INC.</b> Total oilfield supply. P.O. BOX 6280, INNISFAIL, AB T4G 1S9 PH: (403) 227-4100 FAX: (403) 227-4102		HUSKY ENERGY 1.5 MMBTU LINE HEATER PACKAGE 54" OD X 16' LG @ LINE HEATER LH100 c/w 10"-900# HEADER AND 4" PIPE COIL EXPANSION TANK ASSEMBLY			
08582-001-C-001		COIL ASSEMBLY											
08582-001-F-101		FIRETUBE AND STACK											
08582-1		P&ID											
08582-001-G-001		GENERAL ARRANGEMENT		0	DEC 27/12	MJH	ISSUED FOR CONSTRUCTION	DWN: MJH DATE: DEC 27/12 DATE: JAN 08 2013 DATE: JAN 08 2013		SHEET: 4 OF 8 DWG: 08582-001-B-001			
DOCUMENT NO.		DESCRIPTION		REV.	DATE	BY:	CHK:	APP:	DESCRIPTION		SCALE: AS NOTED REV: 0		
REFERENCE DRAWINGS				DRAWING REVISIONS				ALL DIMENSIONS IN INCHES					

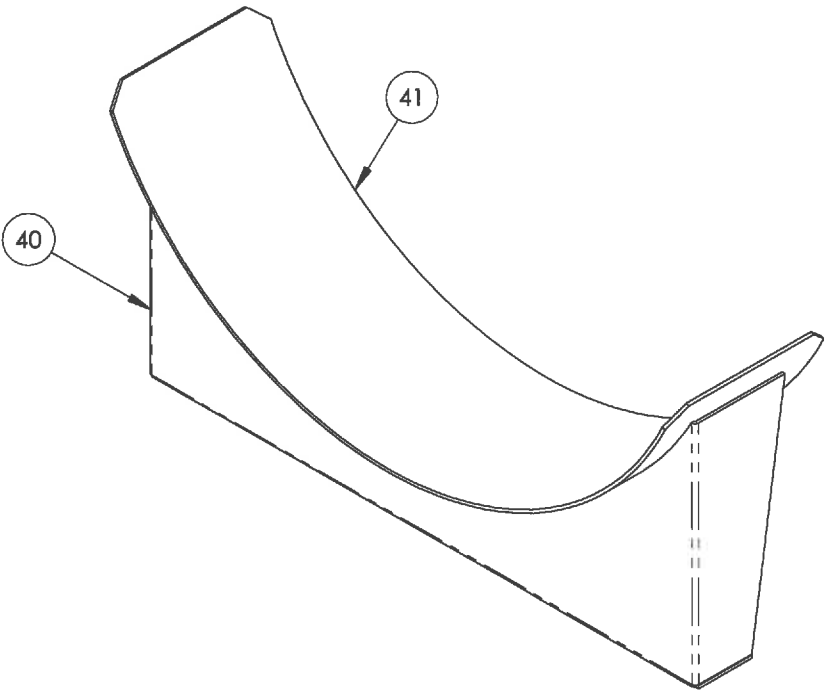
ITEM	PART #	DESCRIPTION	MTR #	LENGTH	QTY.
40	-	LH SADDLE BASE FOR 54" OD BATH		11.0 Ft. Sq.	1
41	-	LH SADDLE WEARPLATE FOR 54" OD BATH			1
42	-	LH SADDLE SUPPORT FOR 54" OD BATH			2



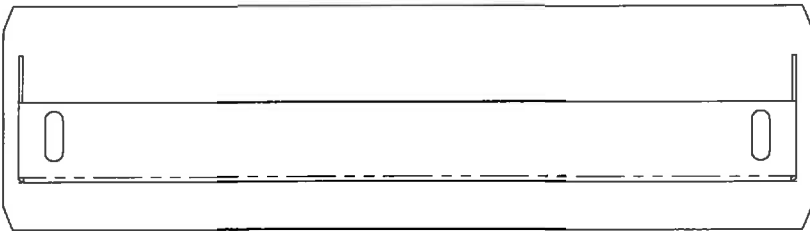
LEFT VIEW  
SCALE: 1:12



REAR VIEW  
SCALE: 1:12



ISOMETRIC VIEW  
SCALE: 1:12



BOTTOM VIEW  
SCALE: 1:12

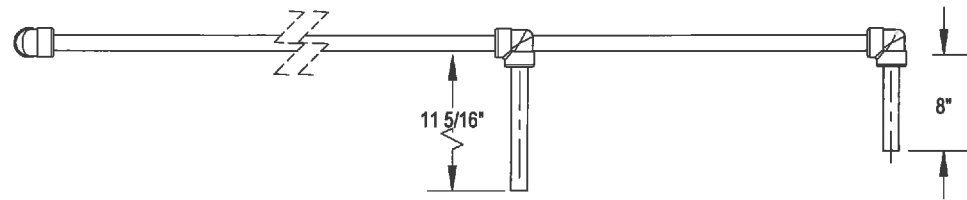
- NOTES**
- FABRICATE TO W47.1 AND W59.
  - ALL DIMENSIONS TO HAVE A TOLERANCE OF  $\pm 1/8"$  UNLESS OTHERWISE SPECIFIED.
  - DEBURR AND RADIUS ALL SHARP EDGES.
  - WELD PROCESS TO BE MCAW UNLESS OTHERWISE NOTED WPDS FC1-10, FC1-15.
  - ALL WELDS TO BE 1/4" CONTINUOUS FILLET WELDS UNLESS OTHERWISE NOTED.

ORIGINAL

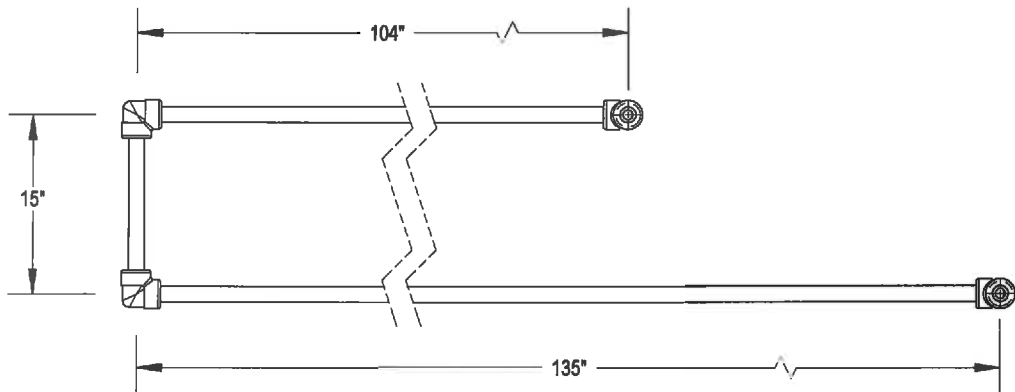
		<div>AS BUILT</div>						<div>ISSUED FOR CONSTRUCTION</div> <div>SIGNED: _____</div> <div>DATE: _____</div> <div>W.O.: _____</div> <div>S/N: _____</div>		<div><div><div><div></div></div><div>NWP</div><div>INDUSTRIES INC.</div><div>Total oilfield supply.</div></div><div>P.O. BOX 6280, INNISFAIL, AB T4G 1S9</div><div>PH: (403) 227-4100 FAX: (403) 227-4102</div></div>		<div>HUSKY ENERGY</div> <div>1.5 MMBTU LINE HEATER PACKAGE</div> <div>54" OD X 16" LG @ LINE HEATER LH100</div> <div>c/w 10"-900# HEADER AND 4" PIPE COIL</div> <div>SADDLE ASSEMBLY</div>			
08582-001-S-001	SKID ASSEMBLY														
08582-001-C-001	COIL ASSEMBLY														
08582-001-F-101	FIRETUBE AND STACK														
08582-1	P&ID														
08582-001-G-001	GENERAL ARRANGEMENT	0	DEC 27/12	MJH	8	4/11	ISSUED FOR CONSTRUCTION								
DOCUMENT NO.	DESCRIPTION	REV.	DATE	BY:	CHK:	APP:	DESCRIPTION								
REFERENCE DRAWINGS		DRAWING REVISIONS						ALL DIMENSIONS IN INCHES							



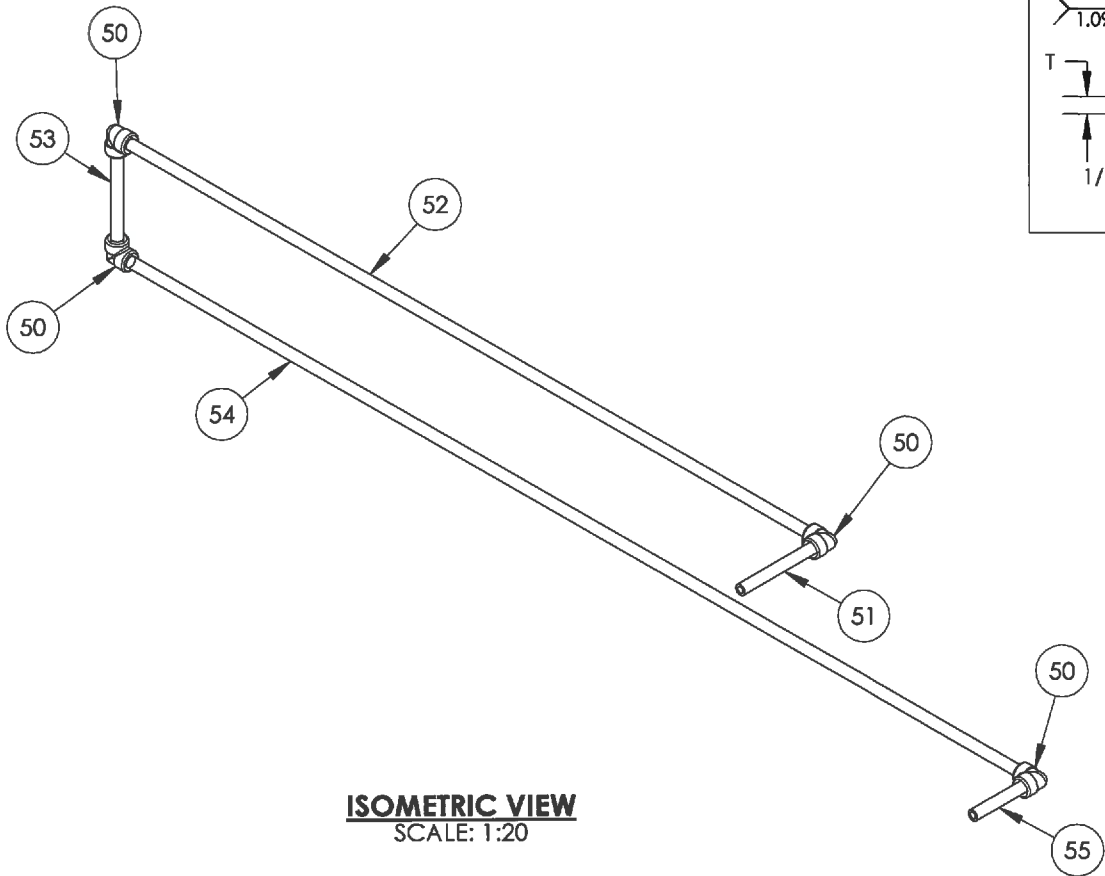
ITEM	PART #	DESCRIPTION	MTR #	LENGTH	QTY.
50	EL91HYFE	Elbow 90 Deg 1" 6M SW SA105N			4
51	PIP1160A	PIPE 1" SCH 160 SA106B		10 15/16"	1
52	PIP1160A	PIPE 1" SCH 160 SA106B		101 5/16"	1
53	PIP1160A	PIPE 1" SCH 160 SA106B		12 5/16"	1
54	PIP1160A	PIPE 1" SCH 160 SA106B		132 5/16"	1
55	PIP1160A	PIPE 1" SCH 160 SA106B		7 11/16"	1



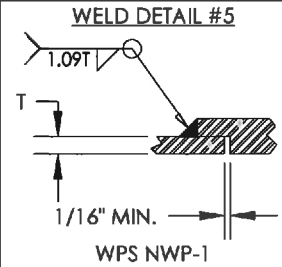
PLAN VIEW  
SCALE: 1:16



FRONT VIEW  
SCALE: 1:16



ISOMETRIC VIEW  
SCALE: 1:20



NOTES  
1. SHOP TO THREAD ENDS OF ITEMS #51 AND #55.

DESIGN DATA	
LINE NUMBER:	FG-1"-C-160BF-101
CLIENT SPECIFICATION:	NONE
DESIGN & FABRICATE TO:	ANSI/ASME B31.3 NFS 2010 EDITION
DESIGN PRESSURE:	150 PSIG
MAXIMUM DESIGN TEMPERATURE:	200°F
MINIMUM DESIGN TEMPERATURE:	-20°F
SERVICE:	HYDROCARBON
HYDROSTATIC TEST PRESSURE:	225 PSIG
RADIOGRAPHY:	NONE
OTHER NDE:	NONE
POST WELD HEAT TREATMENT:	NONE
CORROSION ALLOWANCE:	1/8"
Q.C. PROGRAM NO.:	AQP-1253
WELDING PROCEDURE REGISTRATION NO.:	WP-1604.2

AS BUILT

ISSUED FOR  
CONSTRUCTION



HUSKY ENERGY  
1.5 MMBTU LINE HEATER PACKAGE  
54" OD X 16' LG @ LINE HEATER LH100  
c/w 10"-900# HEADER AND 4" PIPE COIL  
FUEL GAS PREHEAT PIPING

08582-001-S-001	SKID ASSEMBLY
08582-001-C-001	COIL ASSEMBLY
08582-001-F-101	FIRETUBE AND STACK
08582-1	P&ID
08582-001-G-001	GENERAL ARRANGEMENT

REV.	DATE	BY:	CHK:	APP:	DESCRIPTION
0	DEC 27/12	MJH	DP	DP	ISSUED FOR CONSTRUCTION

ALL DIMENSIONS IN INCHES

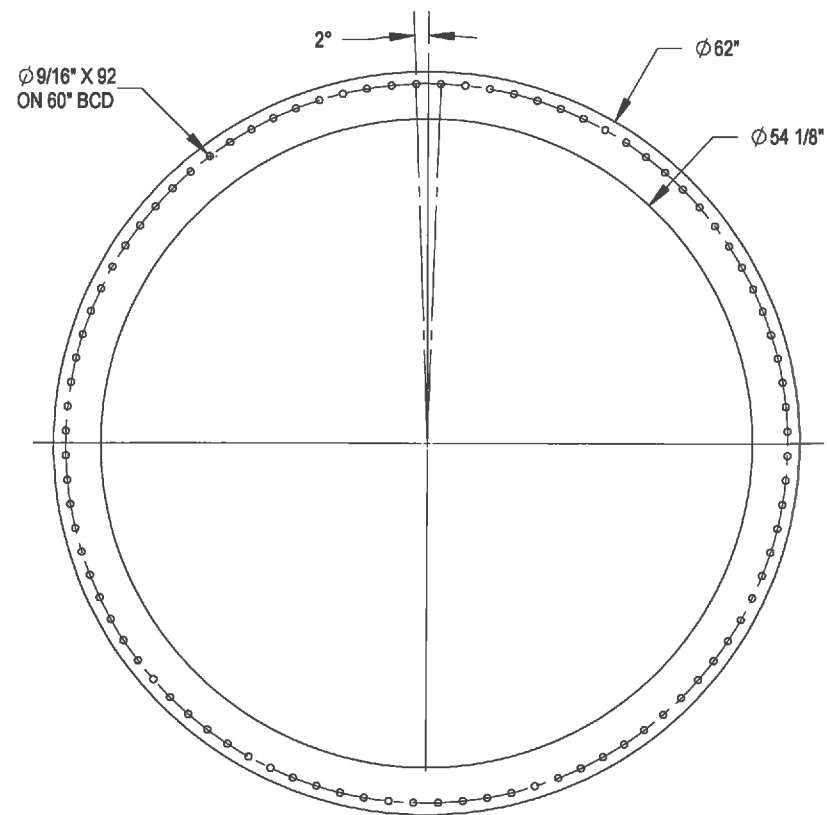


SCALE:  
AS NOTED

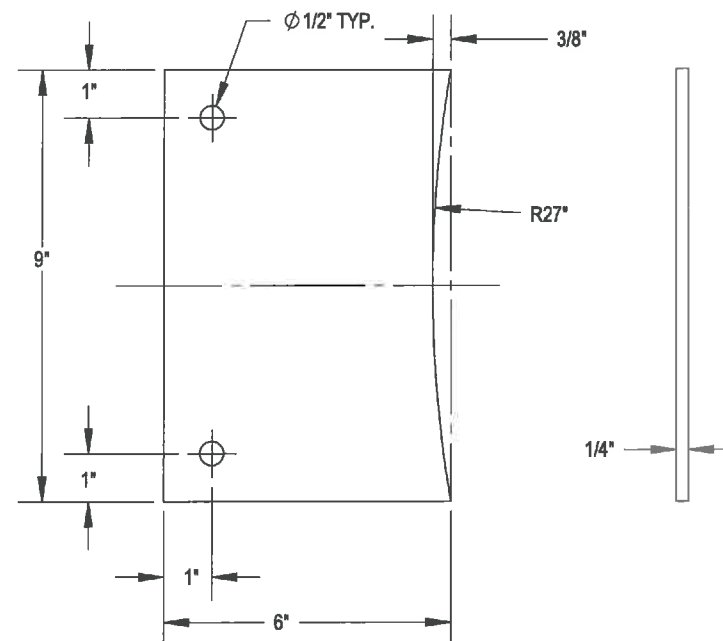
SHEET:  
6 OF 8

DWG:  
08582-001-B-001

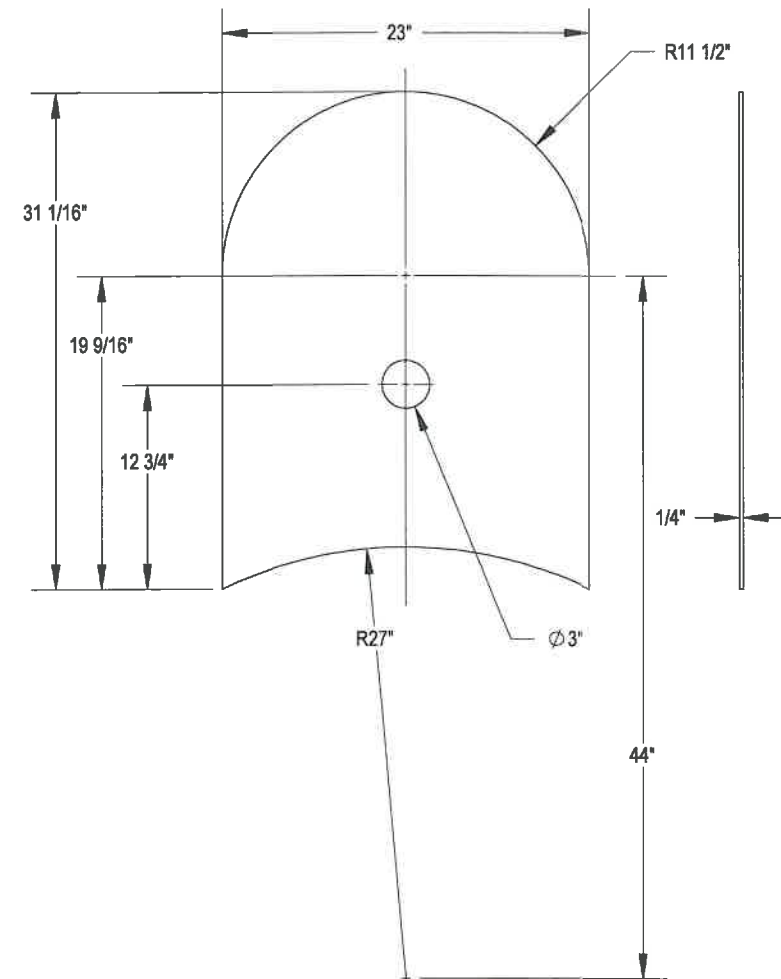
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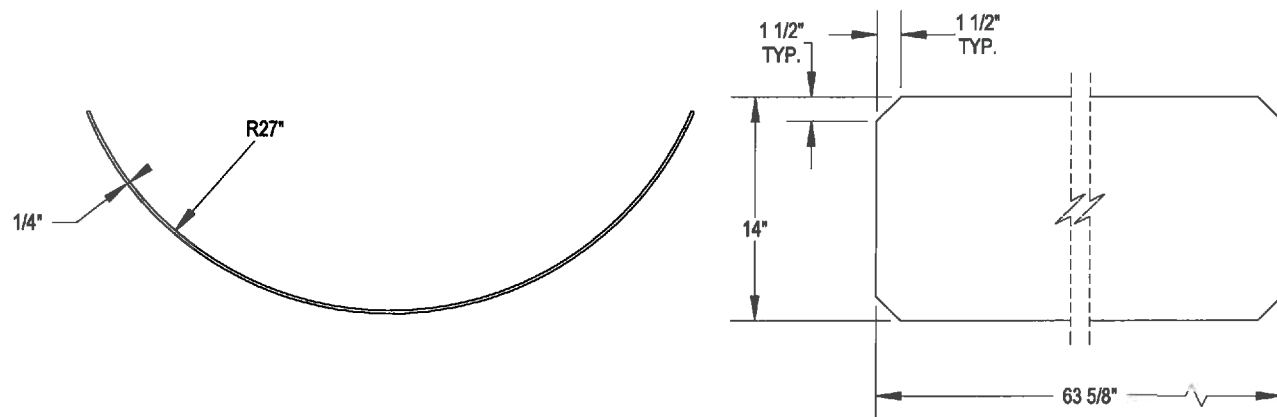
**DETAIL ITEM #4**  
SCALE: 1:16



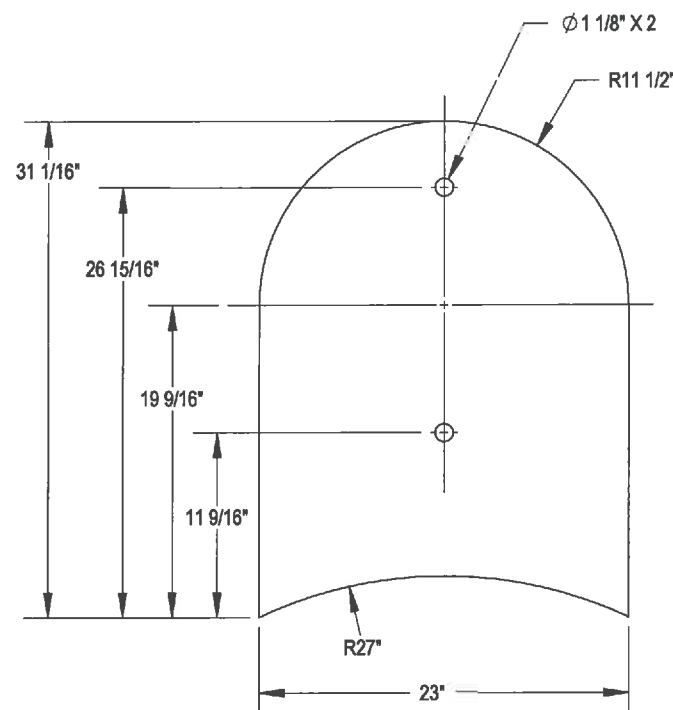
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SCALE: 1:4



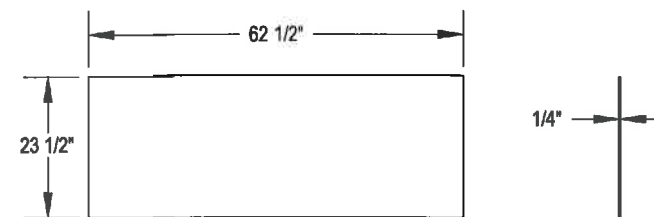
**DETAIL ITEM #36**  
SCALE: 1:12



**DETAIL ITEM #41**  
SCALE: 1:16



**DETAIL ITEM #37**  
SCALE: 1:12



**DETAIL ITEM #21**  
SCALE: 1:32

**ORIGINAL**

**AS BUILT**

**ISSUED FOR  
CONSTRUCTION**

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

W.O.: \_\_\_\_\_

S/N: \_\_\_\_\_



P.O. BOX 6280, INNISFAIL, AB T4G 1S9  
PH: (403) 227-4100 FAX: (403) 227-4102

SCALE: AS NOTED

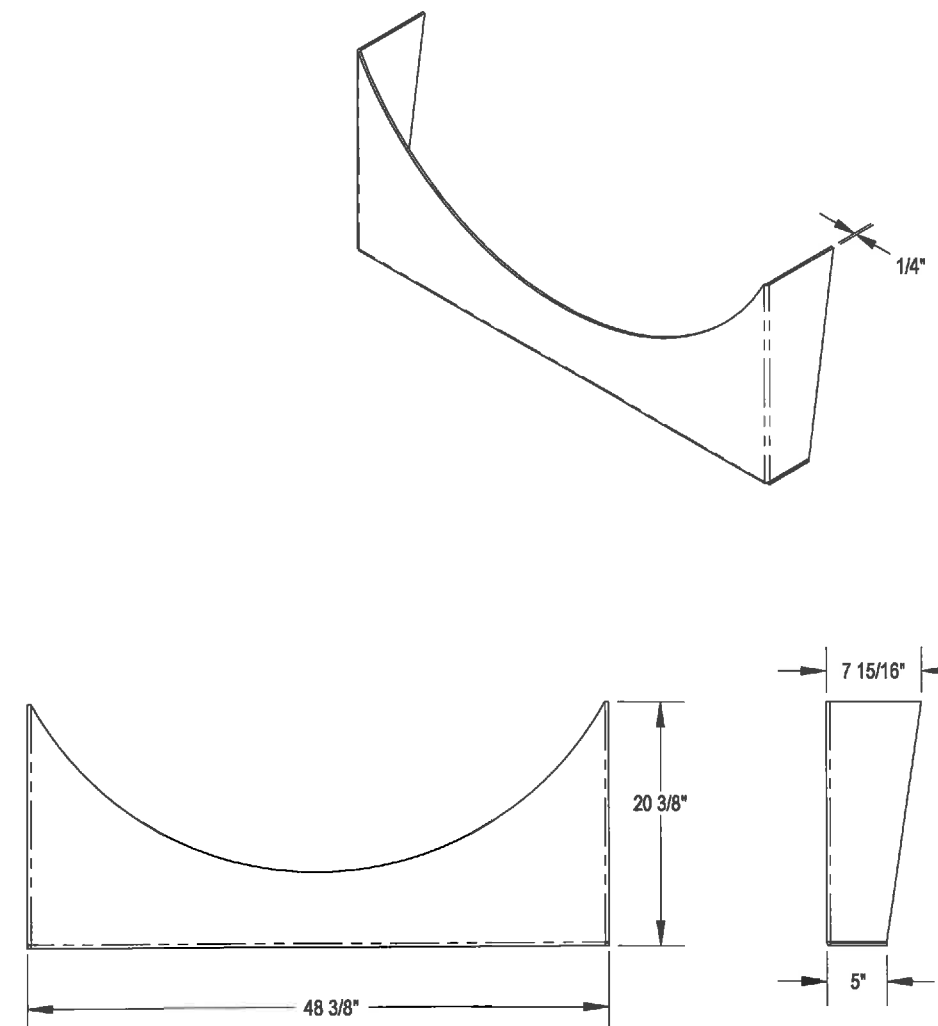
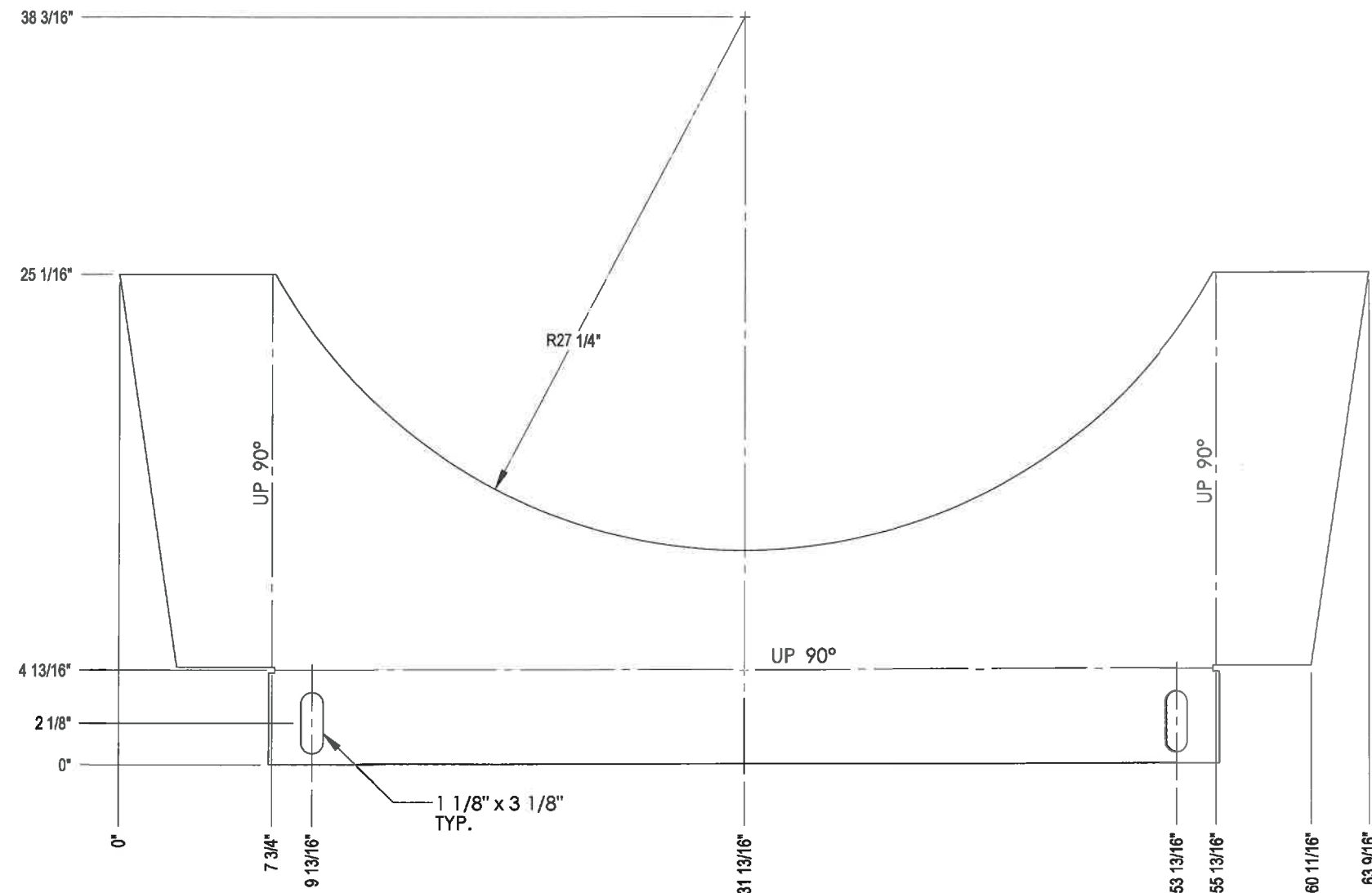
HUSKY ENERGY  
1.5 MMBTU LINE HEATER PACKAGE  
54" OD X 16' LG @ LINE HEATER LH100  
c/w 10"-900# HEADER AND 4" PIPE COIL  
PART DETAILS

DWN: MJH CHK: APP:   
DATE: DEC 27/12 DATE: JAN 08 2013 DATE: JAN 08 2013

SHEET: 7 OF 8 DWG: 08582-001-B-001 REV: 0





DOCUMENT NO.	DESCRIPTION
08582-001-S-001	SKID ASSEMBLY
08582-001-C-001	COIL ASSEMBLY
08582-001-F-101	FIRETUBE AND STACK
08582-1	P&ID
08582-001-G-001	GENERAL ARRANGEMENT

REV.	DATE	BY:	CHK:	APP:	DESCRIPTION
0	DEC 27/12	MJH			ISSUED FOR CONSTRUCTION



**DETAIL ITEM #40**  
SCALE: 1:8

**ORIGINAL**

		<div>AS BUILT</div>						<div>ISSUED FOR CONSTRUCTION</div>		<div><div><div><div></div></div><div>NWP</div><div>INDUSTRIES INC.</div><div>Total oilfield supply.</div></div><div>P.O. BOX 6280, INNISFAIL, AB T4G 1S9 PH: (403) 227-4100 FAX: (403) 227-4102</div></div>		<div>HUSKY ENERGY</div> <div>1.5 MMBTU LINE HEATER PACKAGE</div> <div>54" OD X 16' LG @ LINE HEATER LH100</div> <div>c/w 10"-900# HEADER AND 4" PIPE COIL</div> <div>PART DETAILS</div>							
08582-001-S-001	SKID ASSEMBLY											SIGNED: _____				DWN: MJH		CHK: 	APP: 
08582-001-C-001	COIL ASSEMBLY											DATE: _____				DATE: DEC 27/12		DATE: <b>JAN 08 2013</b>	DATE: <b>JAN 08 2013</b>
08582-001-F-101	FIRETUBE AND STACK											W.O.: _____							
08582-1	P&ID			S/N: _____															
08582-001-G-001	GENERAL ARRANGEMENT	0	DEC 27/12	MJH			ISSUED FOR CONSTRUCTION												
DOCUMENT NO.	DESCRIPTION	REV.	DATE	BY:	CHK:	APP:	DESCRIPTION												
REFERENCE DRAWINGS		DRAWING REVISIONS						ALL DIMENSIONS IN INCHES		<div><div><div><div></div></div><div></div><div></div></div><div>SCALE: AS NOTED</div></div>		SHEET: 8 OF 8		DWG: 08582-001-B-001		REV: 0			