

GENERAL NOTES

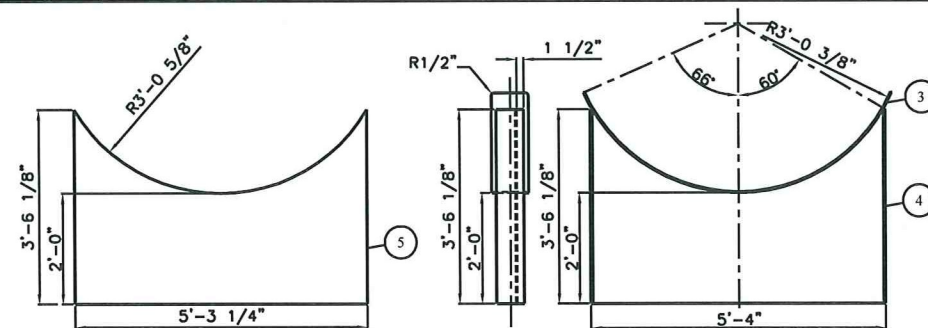
1. QUALITY CONTROL PROGRAM NUMBER: AQP-1317(S)
2. WELDING PROCEDURE REGISTRATION NUMBER: WP1970.2
3. MAGNETIC PARTICLE TESTING: 10% WET FLOURESCENT
-INTERNAL & EXTERNAL BUTT & FILLET WELDS ONLY
4. HYDROSTATIC TEST PRESSURE: 124 PSIG NEW & COLD
-ALL FUTURE HYDROTESTS 75 PSIG
5. HYDROTEST TO BE RECORDED AND HELD FOR 1 HOUR
6. INTERNAL FINISH: NIL
7. EXTERNAL SANDBLAST: SSPC-SP6 (COMMERCIAL)
8. EXTERNAL FINISH:
ALL AREAS: ONE COAT OF PRIMER
NON-INSULATED AREAS: ONE COAT OF INDUSTRIAL ENAMEL (GREY)
9. INSULATION:
VESSEL: 1 1/2" THK - 4# MINERAL WOOL c/w ALUMINUM CLADDING
BUILDING: 1 1/2" THK RIGID URETHANE c/w ALUMINUM CLADDING
-(1) 3'-0" x 7'-0" MANDOR c/w WINDOW, WEATHERSTRIPPING, PANIC
HARDWARE, LOCKSET & CLOSURE
10. ALL BOLT HOLES TO STRADDLE CENTERLINE
11. ALL OPENINGS TO BE COVERED PRIOR TO SHIPPING
12. ALL OUTSIDE PROJECTIONS MEASURED ALONG CENTERLINE OF NOZZLE
13. ALL INSIDE PROJECTIONS MEASURED ALONG SHORTSIDE OF NOZZLE
14. ALL WEAR PADS/REPADS TO HAVE 1/4" NPT WEEP HOLE
15. FABRICATION TOLERANCE AS PER BWML DWG: TOL2002
16. VESSEL TO BE REGISTERED IN ALBERTA & BRITISH COLUMBIA
17. VESSEL TO BE SUPPLIED WITH U-STAMP
18. DRAWINGS TO BE STAMPED BY P.ENG.
19. SHIPPING DIMENSIONS: 9'-0" W x 11'-6" H x 14'-6" LG
20. SHIPPING WEIGHT: 8,000 LBS
21. SERIAL NUMBER: 15148

NOZZLE SCHEDULE

MARK	NO.	DESCRIPTION	NPS	CLASS	TYPE	PROJECTION INSIDE	PROJECTION OUTSIDE	WELD DETAIL	WELD A	WELD B	WELD C	WELD D	REPAD	BILL OF MATERIALS ITEM NUMBER
N1	1	GAS INLET	3	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	8,9,10
N2	1	DRAIN INLET	4	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	11,12
N3	1	GAS VENT	10	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	13,14,15
N4A/B	2	LT/LG	3	150	RFWN	1"	6"	1,2	1/4	-	-	-	-	8,16,17
N5	1	LSHH	4	150	RFWN	1"	6"	1,2	1/4	-	-	-	-	11,12,18,19,20,21
N6	1	TRUCK-OUT	3	150	RFWN	FLUSH	6"	1,3	1/4	-	-	-	-	8,22,23
N7	1	SPARE	3	150	RFWN	FLUSH	6"	1,3	1/4	-	-	-	-	8,18,19,22,24,25
N8	1	SPARE	3	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	8,9,18,19,24,25
N9	1	SPARE	4	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	11,12,18,19,20,26
N10	1	SPARE	4	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	11,12,18,19,20,26
M1	1	MANWAY	24	150	RFWN	1"	8"	1,2	1/4	-	-	-	-	27,28,29,30,31,32,33

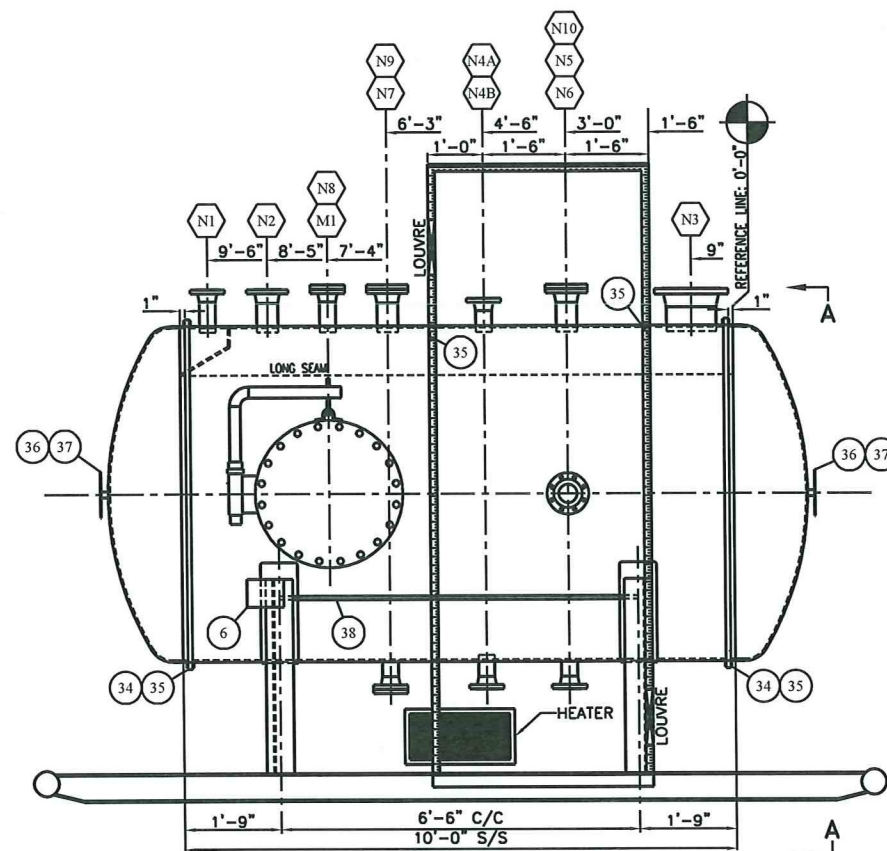
BILL OF MATERIALS

ITEM	REQ'D	PART	DESCRIPTION	MATERIAL	WEIGHT
1	1	SHELL	3/8" THK x 120" W ROLL TO 72" ID (CIRC=19'-0 1/2")	SA-516-70N	2900#
2	2	HEAD	3/8" THK (0.3130" MIN) x 72" ID F&D (KR=5" CR=66")	SA-516-70N	1100#
3	2	SADDLE	8" x 1/4" THK x 7'-0 3/8" LG, ROLL TO 72 3/4" ID	SA-516-70N	95#
4	4	SADDLE	6" x 3/8" FLATBAR x 3'-6 1/8" LG	SA-36	150#
5	2	SADDLE	3/8" THK x 3'-6 1/8" W x 5'-3 1/4" LG (SEE DETAIL)	SA-36	475#
6	1	NAMEPLATE	6" x 8" NAMEPLATE BRACKET c/w ALUMINUM NAMEPLATE	SA-36	3#
7	1	SKID	SKID (SEE DWG C768-2 FOR DETAIL)	-	1200#
8	6	N1,4,6,7,8	3" x CLASS 150 RFWN FLG SCH XH	SA-105-N	60#
9	2	N1,N8	3" PIPE SCH XH x 6 3/4" LG (BOE,ROE)	SA-106-B	12#
10	1	N1	3/8" THK x 2'-8" DEFLECTOR	SA-516-70N	9#
11	4	N2,5,9,10	4" x CLASS 150 RFWN FLG SCH XH	SA-105-N	60#
12	4	N2,5,9,10	4" PIPE SCH XH x 6 1/2" LG (BOE,ROE)	SA-106-B	33#
13	1	N3	10" x CLASS 150 RFWN FLG SCH STD	SA-105-N	52#
14	1	N3	10" PIPE SCH STD x 5 3/4" LG (BOE,ROE)	SA-106-B	20#
15	1	N3	10" x CLASS 150 GOOSENECK VENT PIPE (SEE DWG C768-3)	-	445#
16	2	N4	3" PIPE SCH XH x 4 3/4" LG (BOE,ROE)	SA-106-B	8#
17	2	N4	3" x CLASS 150 LEVEL GAUGE SPOOLS (SEE DWG C768-3)	-	100#
18	36	N5,7,8,9,10	5/8" DIA x 3 1/2" LG STUD	SA-193-B7M	-
19	72	N5,7,8,9,10	5/8" DIA NUT	SA-194-2HM	-
20	3	N5,N9,N10	4" x CLASS 150 RF GRAPHOIL FLEX GASKET	316SS	-
21	1	N5	4" x CLASS 150 RF BLIND FLG, TAPPED TO 1 1/2" NPT	SA-105-N	12#
22	2	N6,N7	3" PIPE SCH XH x 3 3/4" LG (BOE,COE)	SA-106-B	7#
23	1	N6	3" x CLASS 150 TRUCK-OUT SPOOL (SEE DWG C768-3)	-	50#
24	2	N7,N8	3" x CLASS 150 RF BLIND FLG	SA-105-N	16#
25	2	N7,N8	3" x CLASS 150 RF GRAPHOIL FLEX GASKET	316SS	-
26	2	N9,N10	4" x CLASS 150 RF BLIND FLG	SA-105-N	24#
27	1	M1	24" x CLASS 150 RFWN FLG SCH STD	SA-105-N	260#
28	1	M1	24" x CLASS 150 RF BLIND FLG	SA-105-N	430#
29	1	M1	24" x CLASS 150 RF GRAPHOIL FLEX GASKET	316SS	-
30	1	M1	24" x CLASS 150 DAVIT ARM	-	45#
31	1	M1	24" PIPE SCH STD x 5 1/2" LG (BOE,ROE)	SA-106-B	44#
32	20	M1	1 1/4" DIA x 6 3/4" LG STUD	SA-193-B7M	-
33	40	M1	1 1/4" DIA NUT	SA-194-2HM	-
34	2	INSULATION	1" x 1/8" THK x 19'-10" LG, ROLLED TO 75 1/2" ID (EASY WAY)	SA-36	30#
35	14	INSULATION	1 1/2" x 1/4" x INSULATION TAB x 1 1/4" LG	SA-516-70N	3#
36	2	INSULATION	1" PIPE SCH XH x 1 1/2" LG	SA-106-B	1#
37	2	INSULATION	12G x 10" OD INSULATION HEAD PLATE	SA-569	2#
38	2	INSULATION	3/4" DIA HRR x 6'-6" LG	SA-36	8#
39	250sqft	INSULATION	1 1/2" THK - 4# MINERAL WOOL INSULATION c/w ALUMINUM CLADDING	-	-
40	5	INSULATION	1 1/2" THK x 11'-0" LG RIGID URETH. STUCCO EMBOSS ALUMINUM BOTH SIDES	-	-
41	2	INSULATION	1 1/2" THK x 7'-0" LG RIGID URETH. STUCCO EMBOSS ALUMINUM BOTH SIDES	-	-
42	2	INSULATION	12" x 12" ALUMINUM LOUVRES	-	-
43	1	INSULATION	16" x 28" ALUMINUM DOOR WINDOW	-	-
44	1	INSULATION	PANIC HARDWARE & LOCKSET ASSEMBLY	-	-
45	1	INSULATION	DOOR CHECK CHAIN	-	-
46	1	INSULATION	HYDRAULIC DOOR CLOSURE	-	-
47	1	INSULATION	MANDOOR WEATHERSTRIPPING	-	-
48	1	INSULATION	MANDOOR WEATHERSTRIPPING SWEEP	-	-

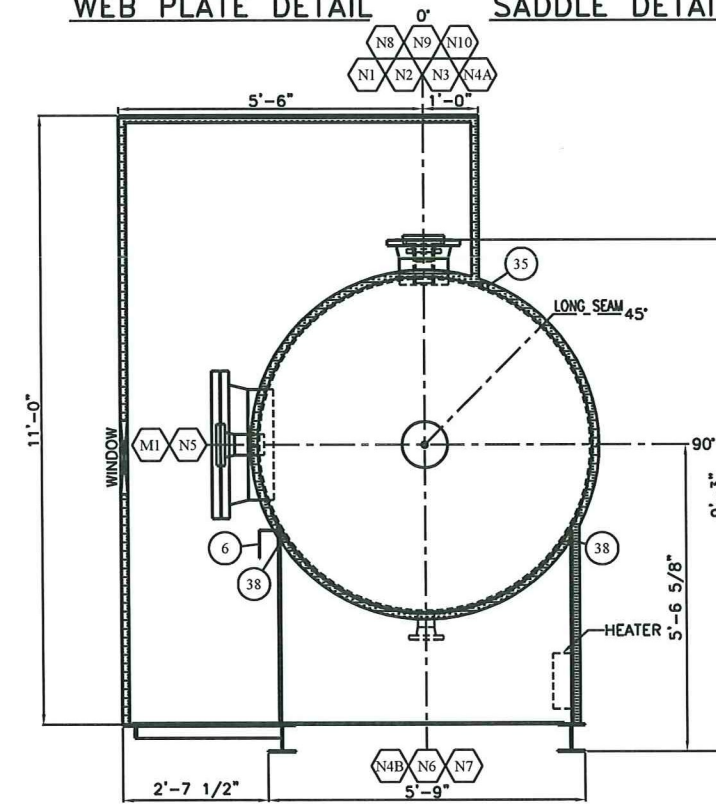


WEB PLATE DETAIL

SADDLE DETAILS



ELEVATION VIEW



ORIENTATION VIEW A-A

WELD DETAIL NUMBER	REGISTERED WELDING PROCEDURE NUMBER	BACKWELD/GOUGE
1,2,3,4	BWM-1 (GMAW) HOT PASS	N/A
5	BWM-1 (GMAW) FILL & CAP	N/A
6	N/A	N/A

1	2	3	4	5	6
WELD NECK FLANGE	NOZZLE NECK	NOZZLE NECK	ATTACHMENTS	SEAMS	STAINLESS ATTACHMENT
α=75°(±15°) G=1/8"(±1/16")	α=40°(±15°) G=1/8"(±1/16") h=1/16"(±1/16")	α=40°(±15°) G=1/8"(±1/16") h=1/16"(±1/16")	WITHOUT BACKING α=60°(±15°) G=1/8"(±1/16") h=3/32"		

REV. NO.	DATE	REVISION	BY	APP'D
0	02/10/09	ISSUED FOR FABRICATION	DSG	JAM
1	04/25/09	CRN INFORMATION	JAM	
2	06/09/09	AS-BUILT	WAM	

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DESIGN SPECIFICATIONS

DESIGN & FABRICATE TO: 2007 ASME BOILER & PRESSURE VESSEL CODE, SEC VIII, DIV 1, 2008 ADD.

DESIGN PRESSURE & TEMPERATURE: 50 PSI @ 100°F

MINIMUM DESIGN METAL TEMP: -20°F @ 50 PSI

IMPACT TESTS: EXEMPT AS PER UG-20(f)(1)-(5)

RADIOGRAPHY: RT-2 AS PER UW-11(a)(5)(b)

POST WELD HEAT TREATMENT: NONE AS PER UCS-56

HYDROSTATIC TEST PRESSURE: SEE NOTE 4 PREHEAT: 50°F

CORROSION ALLOWANCE: 1/16" MAWP: 50 PSI @ 100°F

HEAD THK. MIN.: 0.3130" VOLUME: 337 F3, 9.6 m3

WEIGHT EMPTY: 6,300 LBS WEIGHT FULL: 34,500 LBS

HUSKY OIL OPERATIONS LTD

60 BBL SINGLE WALL FLARE VENT DRUM
72" ID x 10'-0" S/S x 50 PSI MAWP

DATE: 01/14/09 SALE ORDER: 001332

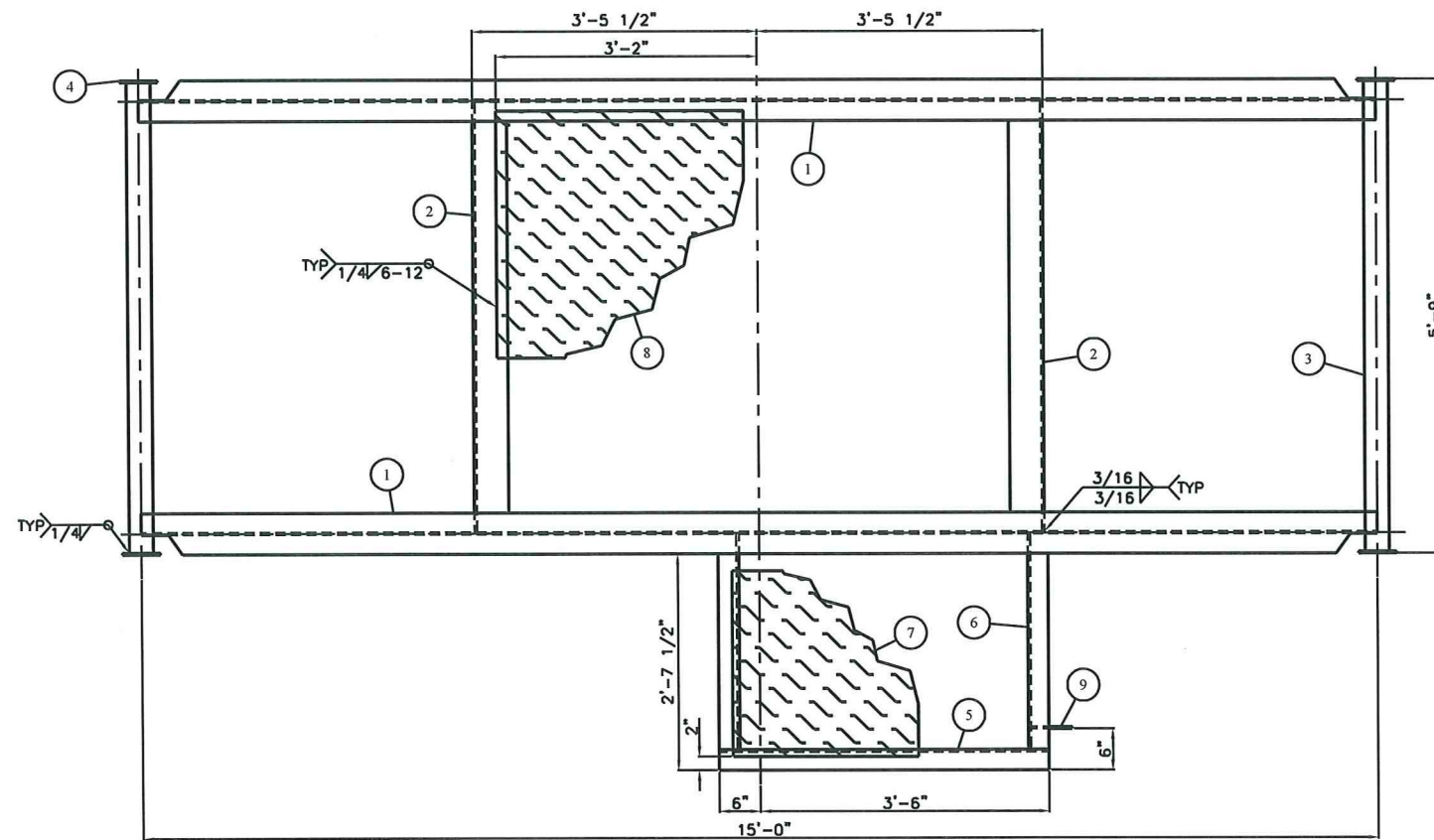
SHEET: 1 OF 4 JOB ORDER: D0923 SIZE D

DRAWN BY: DSG PURCHASE ORDER: 367200-003 DRAWING NO.: C768-1 REV. 2

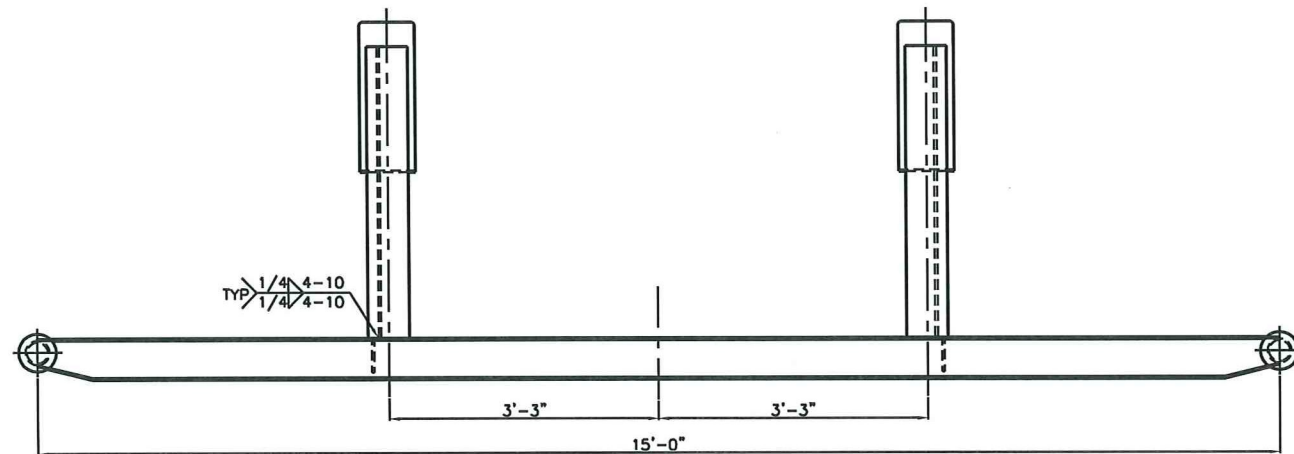
LOCATION: 08-23-61-10 W6M CRN DWG: BWM-106-04 R5 APP'D: CRN NUMBER: R6405.21

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FILE: PATHMAINDATA\CAD\TANKS\C700-C799\C768-2



PLAN VIEW

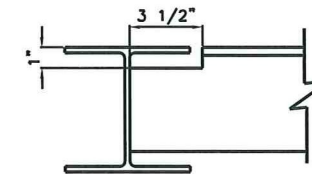


ELEVATION VIEW

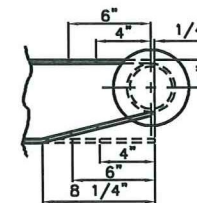
BILL OF MATERIALS					
ITEM	REQ'D	PART	DESCRIPTION	MATERIAL	WEIGHT
1	2	RUNNER	W6@15# x 15'-0" LG (ROUGH CUT TO 180 1/2")	SA-36	450#
2	2	CROSSMEM	5" x 3/8" ANGLE x 5'-2 5/8" LG (SEE ANGLE COPE DETAIL)	SA-36	135#
3	2	PULL	3" STD PIPE x 5'-8 1/2" LG	SA-106-B	90#
4	4	PULLCAP	1/4" THK x 5 1/2" OD (TEMPLATE #11)	SA-36	5#
5	1	WING	3" x 3/8" ANGLE x 4'-0" LG	SA-36	30#
6	2	WING	3" x 3/8" ANGLE x 2'-7 1/4" LG (SEE ANGLE COPE DETAIL)	SA-36	38#
7	1	FLOOR	1/4" THK CHECKERPLATE 2'-6" W x 3'-8" LG	SA-36	95#
8	1	FLOOR	1/4" THK CHECKERPLATE 5'-0" W x 6'-4" LG	SA-36	310#
9	1	GROUND LUG	2" x 1/4" THK x 6" LG c/w HOLE (TEMPLATE #16)	SA-36	1#

GENERAL NOTES

1. WELD PROCEDURE: GM-1
2. SANDBLAST: SSPC-SP6 (COMMERCIAL)
3. PRIME: ONE (1) COAT PRIMER
4. PAINT: ONE (1) COAT INDUSTRIAL ENAMEL (WARM GREY)
5. INSULATION: 4" THK FIRE RETARDANT SPRAY FOAM
6. APPROXIMATE WEIGHT: 1,200 LBS



ANGLE COPE DETAIL



COPE DETAIL

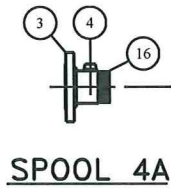
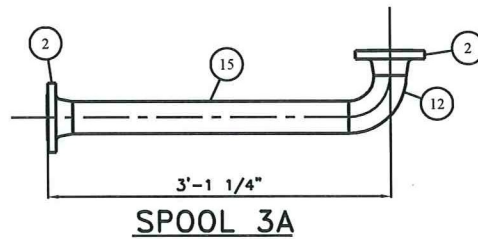
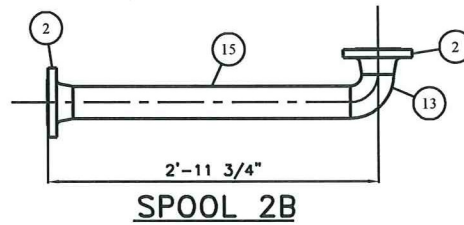
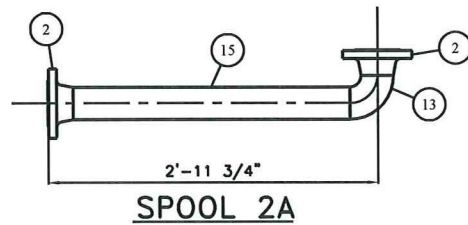
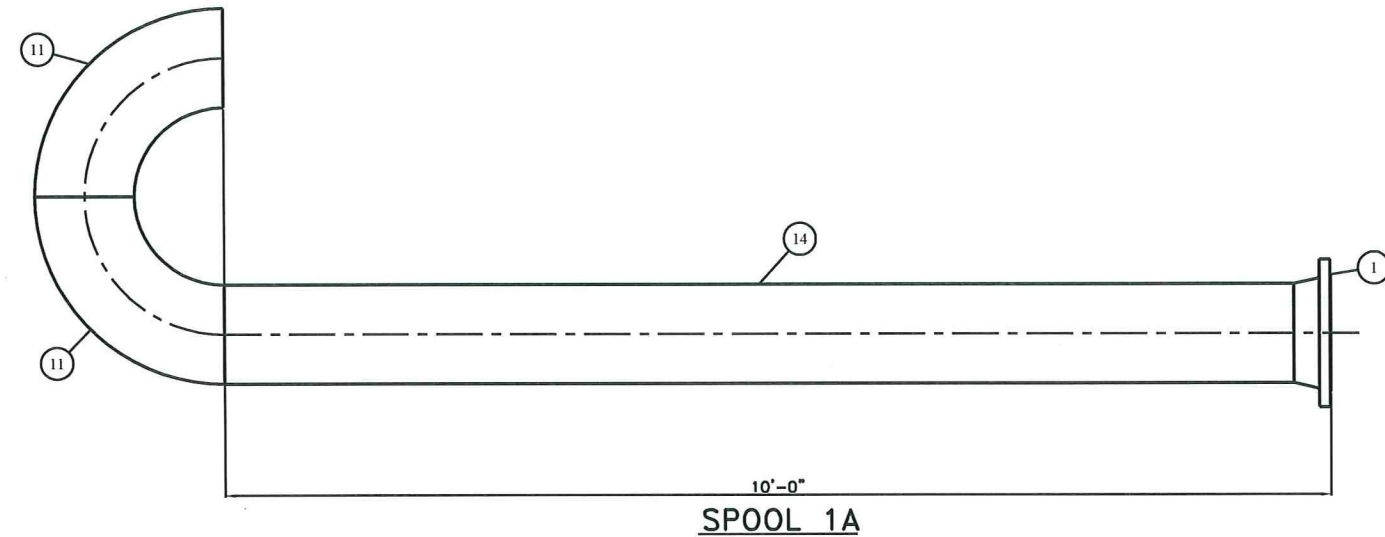
REV. NO.	DATE	REVISION	BY	APP'D
0	02/10/09	ISSUED FOR FABRICATION	DSG	
1	02/23/09	ADDED GROUND LUG	JAH	
2	06/09/09	AS-BUILT	WAM	

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HUSKY OIL OPERATIONS LTD			
60 BBL SINGLE WALL FLARE VENT DRUM			
SKID DETAILS			
DATE: 01/14/09		SALE ORDER: 001332	
SHEET: 2 OF 4		JOB ORDER:	SIZE
DRAWN BY: DSG		D0923	D
PURCHASE ORDER: 367200-003		DRAWING NO.:	
LOCATION: 08-23-61-10 W6M		REV.	
APP'D BY:		C768-2	2

CERTIFIED
AS BUILT



BILL OF MATERIALS					
ITEM	REQ'D	PART	DESCRIPTION	MATERIAL	WEIGHT
1	1	-	10" x CLASS 150 RFWN FLG SCH 20	SA-105-N	52#
2	6	-	3" x CLASS 150 RFWN FLG SCH XH	SA-105-N	60#
3	1	-	3" x CLASS 150 RFTO FLG	SA-105-N	6#
4	1	-	1/2" x 3 x CLASS 3000 TOL	SA-105-N	1#
5	1	-	10" x CLASS 150 RF GRAPHOIL FLEX GASKET	316SS	-
6	7	-	3" x CLASS 150 RF GRAPHOIL FLEX GASKET	316SS	-
7	12	-	7/8" DIA x 4 1/2" LG STUD	SA-193-B7M	-
8	28	-	5/8" DIA x 3 1/2" LG STUD	SA-193-B7M	-
9	24	-	7/8" DIA NUT	SA-193-2HM	-
10	56	-	5/8" DIA NUT	SA-193-2HM	-
11	2	-	10" x 90° LR BW ELBOW SCH 20	SA-234-WPB	110#
12	1	-	3" x 90° LR BW ELBOW SCH XH	SA-234-WPB	6#
13	2	-	3" x 90° SR BW ELBOW SCH XH	SA-234-WPB	8#
14	1	-	10" PIPE SCH 20 x 10'-0" LG (BBE)	SA-106-B	280#
15	3	-	3" PIPE SCH XH x 2'-6" LG (BBE)	SA-106-B	78#
16	1	-	3" x 4" LG NIPPLE SCH XH	SA-106-B	4#
17	2	-	1/2" x 1 1/2" LG NIPPLE SCH XH	SA-106-B	1#
18	1	-	1/2" PIPE SCH XH x 9 1/2" LG (TOE,COE)	SA-106-B	3#
19	1	-	1/2" x CLASS 2000 90° THRD ELBOW	SA-105-N	1#
20	1	-	3" MALE/FEMALE CAMLOCK c/w CAP	ALUMINUM	3#
21	1	-	12 GAUGE 12" x 18" CONTAINMENT TRAY ASSEMBLY	-	24#

GENERAL NOTES

- DESIGNED & FABRICATED AS PER ASME B31.3 2006 EDITION
- DESIGN SPECIFICATIONS:
 - SEE LINE DESIGNATION CHARTS
 - CORROSION ALLOWANCE: 1/16"
 - IMPACT TESTS EXEMPT AS PER 323.2.2A
- EXTERNAL SANDBLAST: SSPC-SP6 (COMMERCIAL)
- EXTERNAL FINISH: ONE (1) COAT SHOP PRIMER
ONE (1) COAT INDUSTRIAL ENAMEL (GREY)
- ALL BOLT HOLES TO STRADDLE CENTERLINE
- FABRICATION TOLERANCES AS PER BILTON DRAWING NUMBER TOL2002
- WELD PROCEDURE: BWM-1

LINE DESIGNATION CHART

LINE	PROCESS	DESIGN PRESS. (kPa)	DESIGN TEMP. (°C)	TEST PRESS. (kPa)	MATERIAL & GRADE	DIAMETER & SCHEDULE	FLANGE RATING	RT (%)	TEST MEDIUM
1A	GAS VENT	ATM	-29/38	NIL	SA-106-B SA-105-N SA-234-WPB	10" S20	150	5	N/A
2A,2B	LEVEL GAUGE	1965	-29/38	2948	SA-106-B SA-105-N SA-234-WPB	3" XH	150	5	WATER
3A	TRUCK OUT	1965	-29/38	2948	SA-106-B SA-105-N SA-234-WPB	3" XH	150	5	WATER
4A	CAMLOCK CONNECTION	ATM	-29/38	NIL	SA-106-B SA-105-N	3" XH	150	5	WATER

REV. NO.	DATE	REVISION	BY	APP'D
0	02/10/09	ISSUED FOR FABRICATION	DSG	
1	06/09/09	AS-BUILT	WAM	

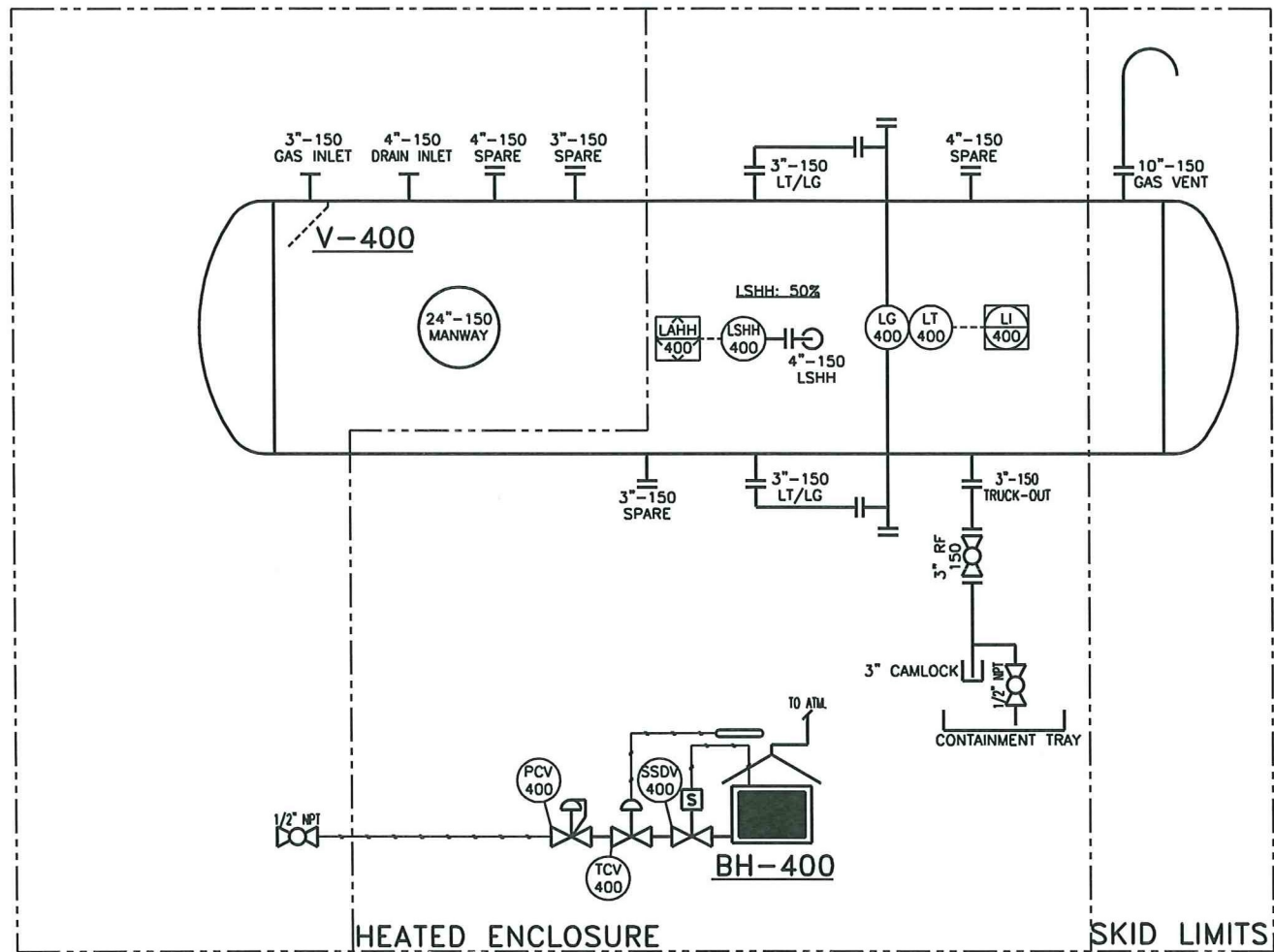
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HUSKY OIL OPERATIONS LTD			
60 BBL SINGLE WALL FLARE VENT DRUM PIPE SPOOLS			
DATE: 01/15/09	SALE ORDER:001332		
SHEET: 3 OF 4	JOB ORDER:	D0923	SIZE D
DRAWN BY: DSG	PURCHASE ORDER:367200-003	DRAWING NO.:	REV.
	LOCATION:08-23-61-10 W6M	C768-3	1
APP'D BY:			

CERTIFIED
AS BUILT

FILE: PATH\\MAINDATA\\CAO\\TANKS\\C700-C799\\C768-4



V-400
FLARE KNOCKOUT DRUM
72" ID x 10'-0" S/S
50 PSIG @ 100°F
C.A.: 1/16"
SERIAL #: 15148
CRN: TBD
BUILT: 2009

BH-400
CATADYNE MKII-12x24
DUTY: 8,000 BTU/HR
12 VOLT, NATURAL GAS
c/w VENT HOOD

REV. NO.	DATE	REVISION	BY	APP'D
0	02/10/09	ISSUED FOR FABRICATION	DSG	
1	06/09/09	AS-BUILT	WAM	

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HUSKY OIL OPERATIONS LTD
60 BBL SINGLE WALL FLARE VENT DRUM
P&ID

DATE: 01/14/09	SALE ORDER: 001332
SHEET: 4 OF 4	JOB ORDER: D0923
DRAWN BY: DSG	SIZE: D
PURCHASE ORDER: 367200-003	DRAWING NO.: C768-4
LOCATION: 08-23-61-10 W6M	REV: 1
APP'D BY:	

INSTRUMENTATION

TAG	REQ'D	DESCRIPTION
BH-400	1	12" x 24" CATADYNE HEATER, 12 VOLT NATURAL GAS c/w VENT HOOD
LSHH-400	1	1 1/2" NPT SOR 1510C ELECTRIC LEVEL SWITCH (NACE)
LG-400	1	LIQUID LEVEL GAUGE ENDRESS & HAUSER MODEL: 4200291
LT-400	1	LEVEL TRANSMITTER ENDRESS AND HAUSER MODEL: FMP40-VKM2AEJB21JY

PIPING

ITEM	REQ'D	DESCRIPTION	MATERIAL
1	1	3" x CLASS 150 RF RP ENFLOW BALL VALVE	SA-105-N
2	2	1/2" x CLASS 2000 BARSTOCK BALL VALVE (NACE)	SA-105-N

GENERAL NOTES:

1. PIPING DESIGNED & FABRICATED TO ASME B31.3
2. TUBING MATERIAL: 316SS SEAMLESS c/w 316SS SWAGelok FITTINGS
-PROCESS TUBING: 1/2" OD - 0.035"
-INSTRUMENT TUBING: 3/8" OD - 0.035"
3. ALL THREADED FITTINGS SHALL BE CLASS 3000
4. THREADED PIPING: 1/2" to 1 1/2" SHALL BE SCH XH
5. ALL INSTRUMENTS SHALL BE IDENTIFIED WITH STAINLESS STEEL TAGS
6. DRAIN ALL WATER FROM ALL INSTRUMENTS

CERTIFIED
AS-BUILT