

## ARGO STANDARD SINGLE SPHERE SAND SEPARATOR PACKAGE

PAGE	DESCRIPTIONS
1 OF 5	COVER PAGE
2 OF 5	P&ID
3 OF 5	GENERAL LAYOUT
4 OF 5	SAND SEPARATOR
5 OF 5	BLOWDOWN VESSEL

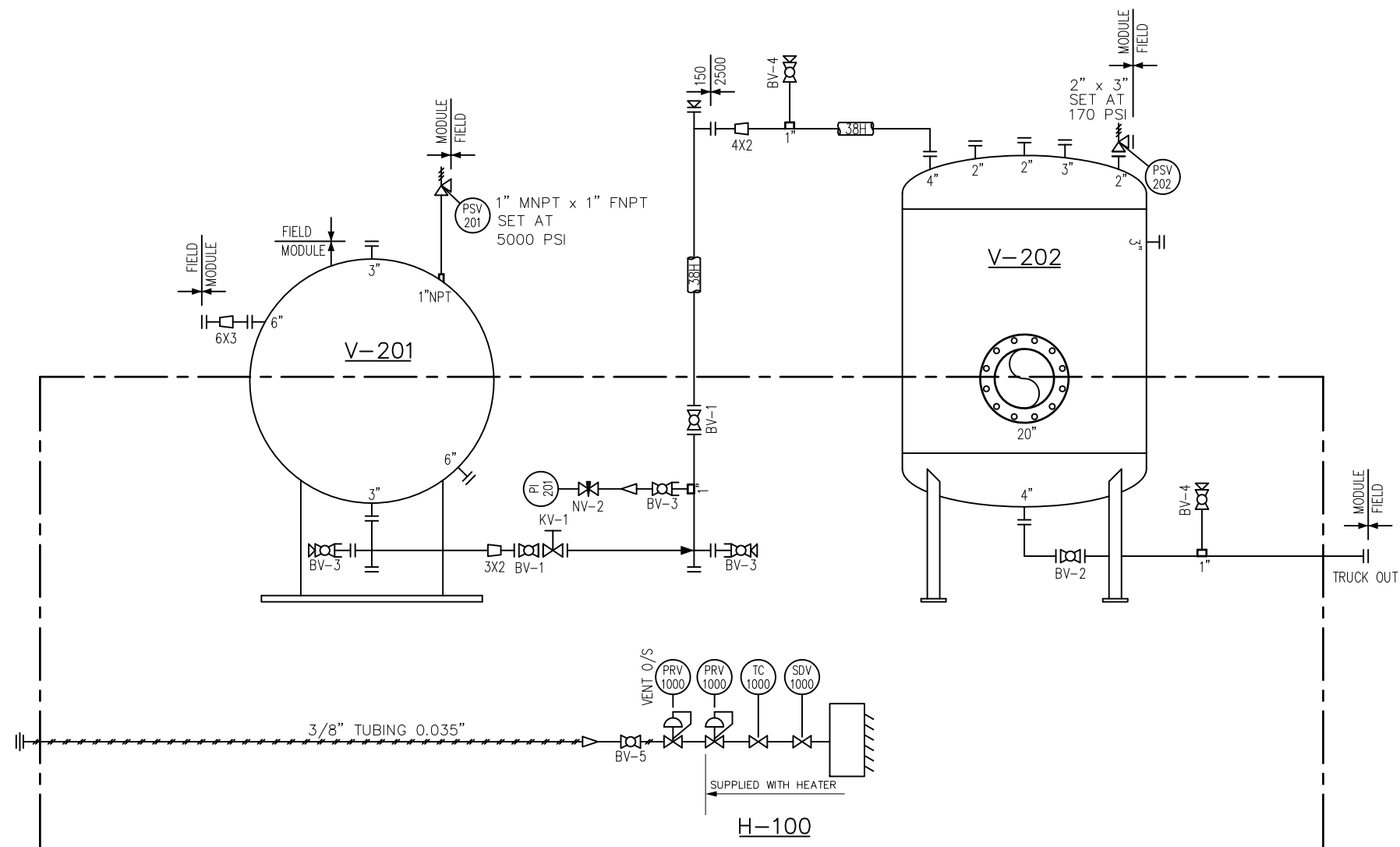
QUALITY, VALUE, PERFORMANCE



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**NOTES:**

ALL TUBING TO BE ASTM A269 TP316/316L, FULLY ANNEALED  
 PROCESS/SENSING: 1/2" X 0.049" W.T. 316SS SMLS TUBING  
 INSTRUMENT LINES: 3/8" X 0.035" W.T. 316SS SMLS TUBING  
 ALL TUBE FITTINGS TO BE SWAGelok 316SS  
 VENT ALL INSTRUMENTS OUTSIDE

0	02	28	18	ISSUED FOR REVIEW	SG	SG	.
REV. No.	MM	DD	YY	DESCRIPTION	BY	CHK'D	APP'D
	DATE						

**INSTRUMENT LIST**

TAG No.	DESCRIPTION
H-100	CCI HEATER, WKII 24" X 24" 12VDC C/W GRILL, REGULATOR, TEMP CONTROL, VENT HOOD 30' STARTER CABLES
V-201	48"ID X 5000 PSI SPHERICAL SEPARATOR, SOUR, NOV/ARGO STANDARD DESIGN
V-202	60" OD X 5'-0" S/S X 170 PSI @ 300F, 1/8" C.A. BLOWDOWN VESSEL, SOUR
PSV 201	FARRIS 1" NPT X 1 NPT" 'D' ORIFICE, MODEL 27DA33H-M20/S7 SET AT 5000PSI
PSV 202	TAYLOR 2" 150 ANSI X 3" 150 ANSI SET AT 170 PSI, MODEL 83J681134140600
PI 201	WKA, 4-1/2", 8000 PSI, SS, BTM, 1/2", LF

**VALVE LIST**

ITEM	QTY.	DESCRIPTION
BV-1	2	KF BV 2" 2500 ANSI RTJ, FP, TRUNNION MOUNT, NACE
BV-2	1	KF BV, 4" 150 ANSI, RF, RP, NACE, WCC BODY, MODEL B100-CS2-42-S2 WR
BV-3	3	NUTRON BV 1" SW X NPT 6000PSI RP BV, LOW TEMP, NACE
BV-4	2	WKM BV 1" NPT 3000PSI RP BV, A105N BODY, NACE
BV-5	1	WKM BV 1/4" NPT 3000PSI FP BV, A105N BODY, NACE
NV-1	1	NEEDLE VALVE 1/2" NPT 6000# MXF, SST
KV-1	1	WILLIS 2" 2500 ANSI RTJ CHOKE VALVE 2-5/8" TRIM, TUNGSTEN CARBIDE WEAR SLEAVE

**BROMLEY MECHANICAL SERVICES**

925 - 23rd Street S.W., Medicine Hat, Alberta, Canada, T1A 8R1 (403) 526-3142

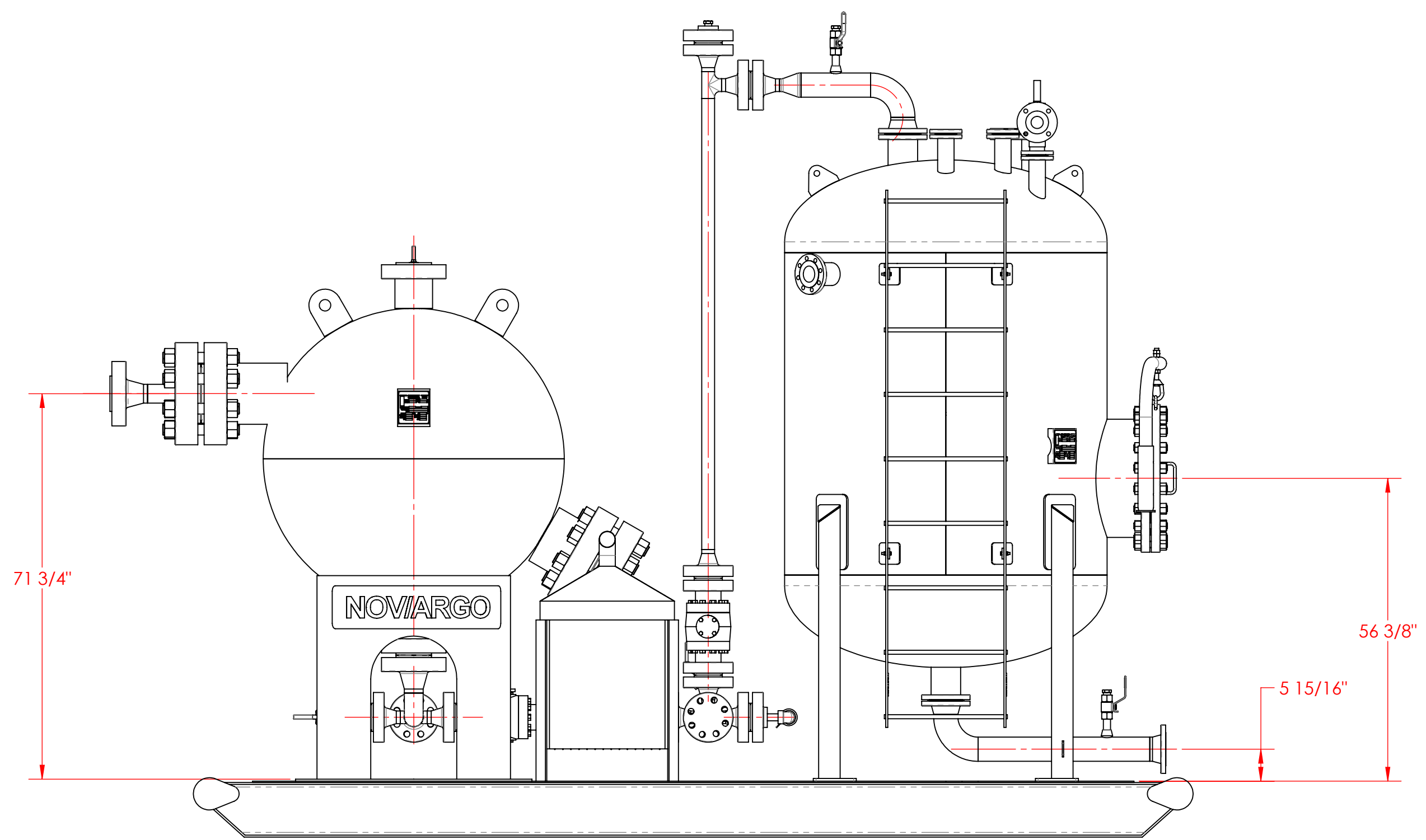
CLIENT **ARGO PROJECT**

PROJECT **48"ID X 5000PSI SPHERICAL  
SADN SEPARATOR PACKAGE**

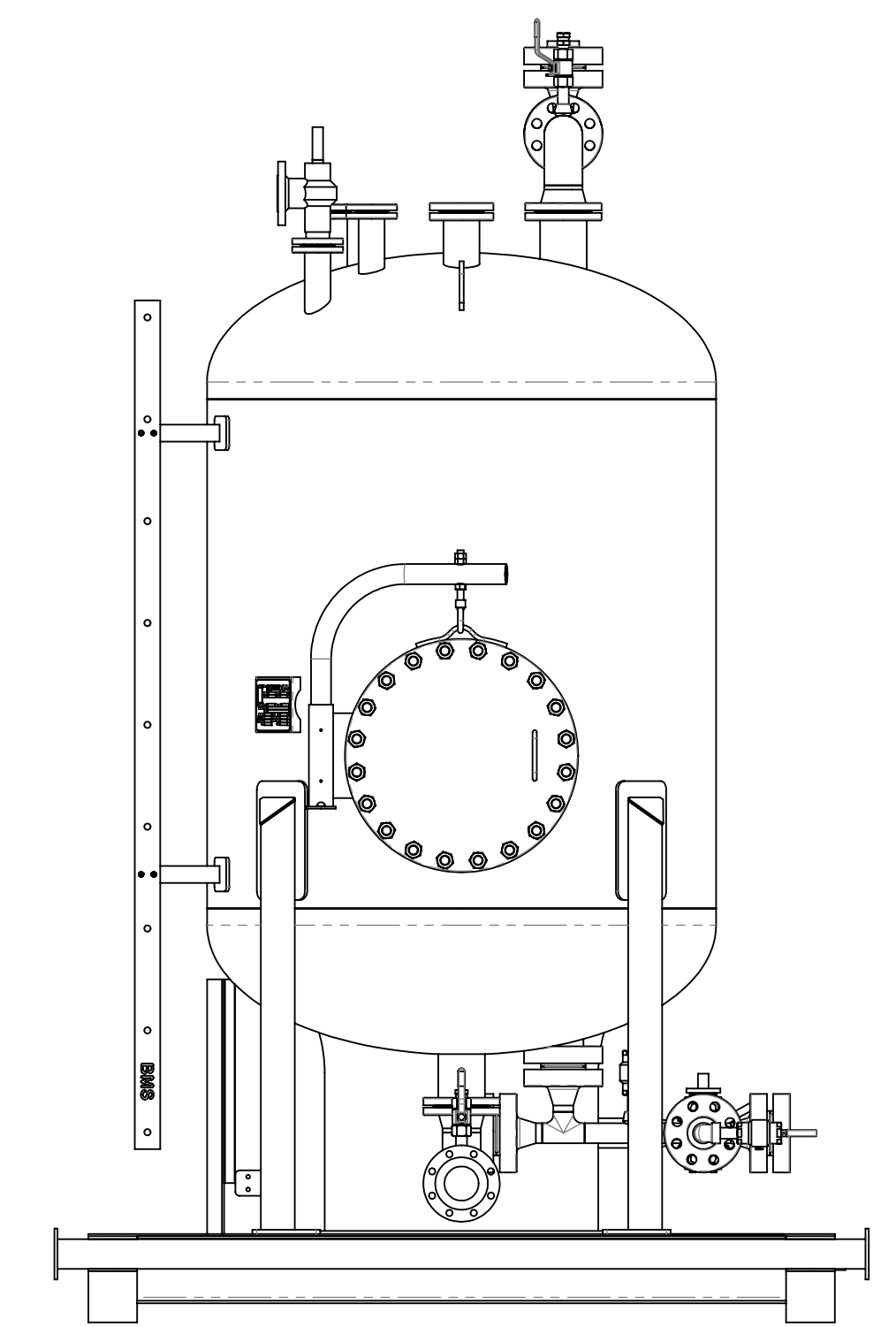
TITLE **P&ID**

Wo No.: **ARGO STOCK DESIGN**

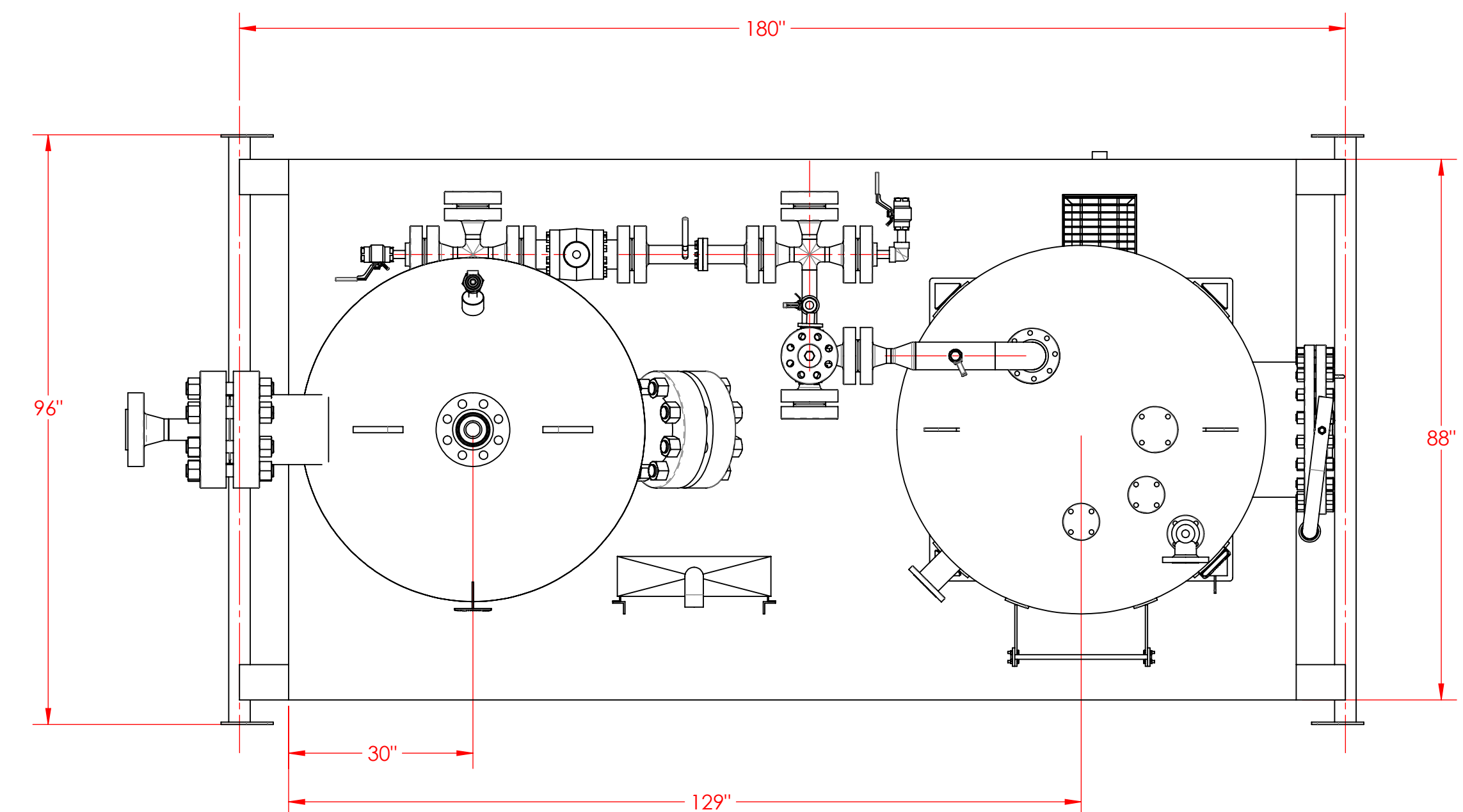
DRAWN BY: <b>S.GAO</b>	REV. No.: <b>0</b>	DATE: MM/DD/YY <b>02/28/18</b>
DATE: MM/DD/YY <b>02/20/18</b>	SCALE: <b>N.T.S.</b>	CAD No.: <b>Y5847-P&amp;ID</b>



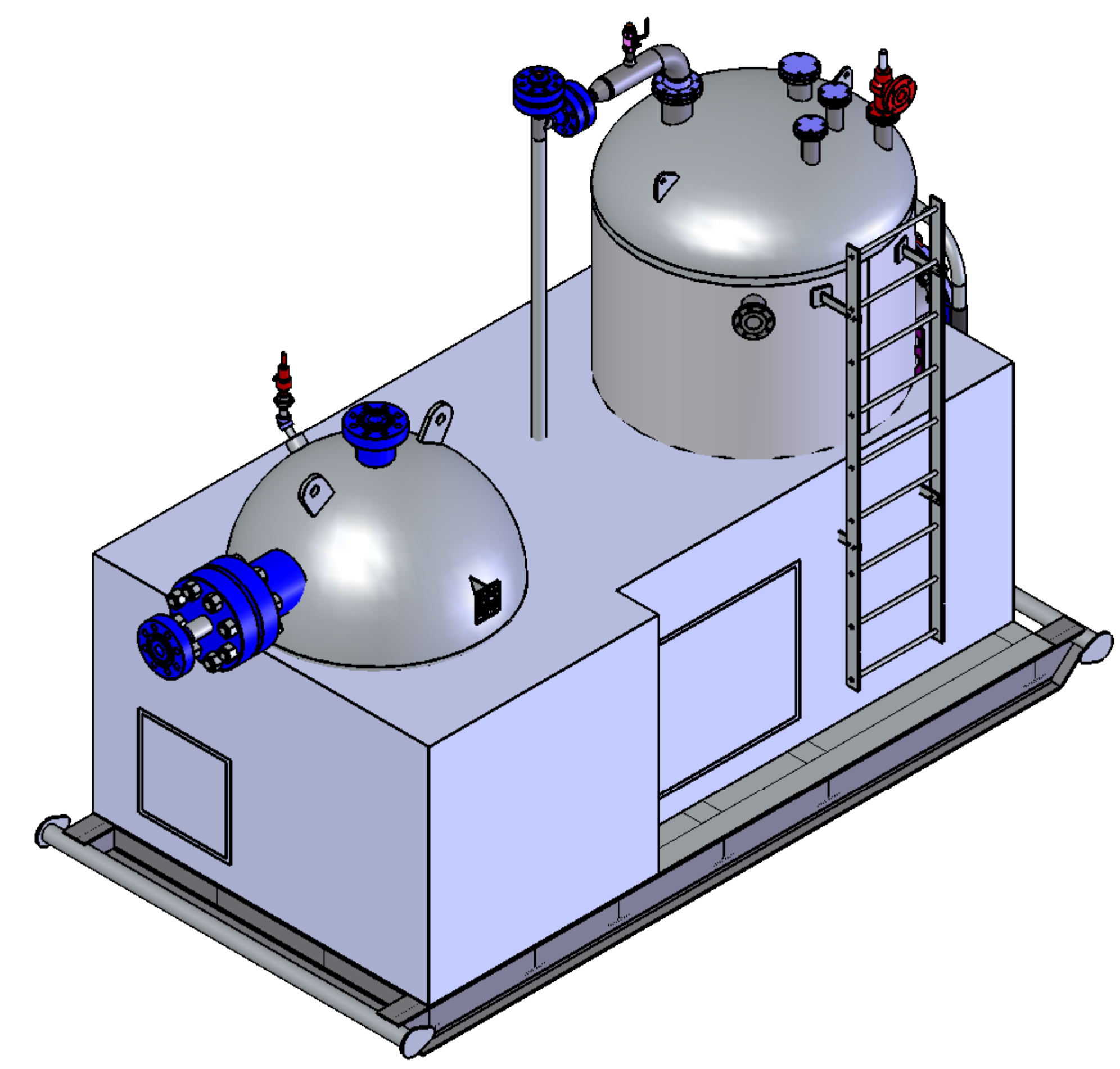
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CERTIFIED BY: **BROMLEY** MECHANICAL SERVICES  
 M.A.W.P. 5000 PSIG AT 200 F  
 M.D.M.T. -40 F AT 5000 PSIG

MFR'S SER. NO. \_\_\_\_\_ YR. BUILT \_\_\_\_\_  
 VESSEL TYPE SPHERE  
 TAG SAND TRAP

M.A.W.P. \_\_\_\_\_ KPA AT \_\_\_\_\_ C  
 SHELL NOM. \_\_\_\_\_ MATERIAL \_\_\_\_\_  
 HEAD MIN. \_\_\_\_\_ MATERIAL \_\_\_\_\_  
 C.A. \_\_\_\_\_ CRN \_\_\_\_\_

CERTIFIED BY: **BROMLEY** MECHANICAL SERVICES  
 M.A.W.P. 170 PSIG AT 300 F  
 M.D.M.T. -40 F AT 170 PSIG

MFR'S SER. NO. \_\_\_\_\_ YR. BUILT \_\_\_\_\_  
 VESSEL TYPE VERTICAL VESSEL  
 TAG BLOWDOWN VESSEL

M.A.W.P. \_\_\_\_\_ KPA AT \_\_\_\_\_ C  
 SHELL NOM. \_\_\_\_\_ MATERIAL \_\_\_\_\_  
 HEAD MIN. \_\_\_\_\_ MATERIAL \_\_\_\_\_  
 C.A. \_\_\_\_\_ CRN \_\_\_\_\_

- SKID SPECIFICATIONS
- BUILT TO CSA W59 LATEST EDITION.
  - W10 X 22 MAIN RUNNERS
  - W8 X 18 STRINGERS
  - 1/4" CHECKER FLOOR
  - 3" SCH 80 PULLING BARS
  - 2" FIRE RETARDANT INSULATION UNDERNEATH.

- BUILDING SPECIFICATIONS
- GALVALUME THERMO PANEL (R12)
  - ALUMINUM ANGLE FOR CORNER JOINTS
  - ALUMINUM FRAME FOR REMOVABLE PANELS.
  - C.S. HINGES AND LOCK HARDWARES
  - FLOOR MOUNTED CATADYNE HEATER.

REV.	NO.	DATE	DESCRIPTION	BY	CHK'D	APP'D
	02	26	18	ISSUED FOR REVIEW		
					SG	SG

ASME B31.3 2016 ED. (NORMAL SERVICE)

AQP: 1009(BMS)1176(NISKU) REGISTERED WELD PROCEDURE 505.2 FOR PIPING TOLERANCES, SEE WELDER HANDBOOK

FLUID TYPE: WATER, GAS, OIL

M.A.W.P.: 5000 PSIG (34475 KPa) AT -40°F (-40°C) TO +200°F (+93°C)

P.W.H.T.: OPTIONAL

RADIOGRAPHY: 100% BW OTHER NDE: 100%MPI TOL&SOL

HARDNESS SURVEY: OPTIONAL INT. COATING: N/A

CORROSION ALLOWANCE: 1/8" EXT. SURFACE: WARM GREY

HYDROSTATIC TEST: 7500 PSIG (51713 KPa)

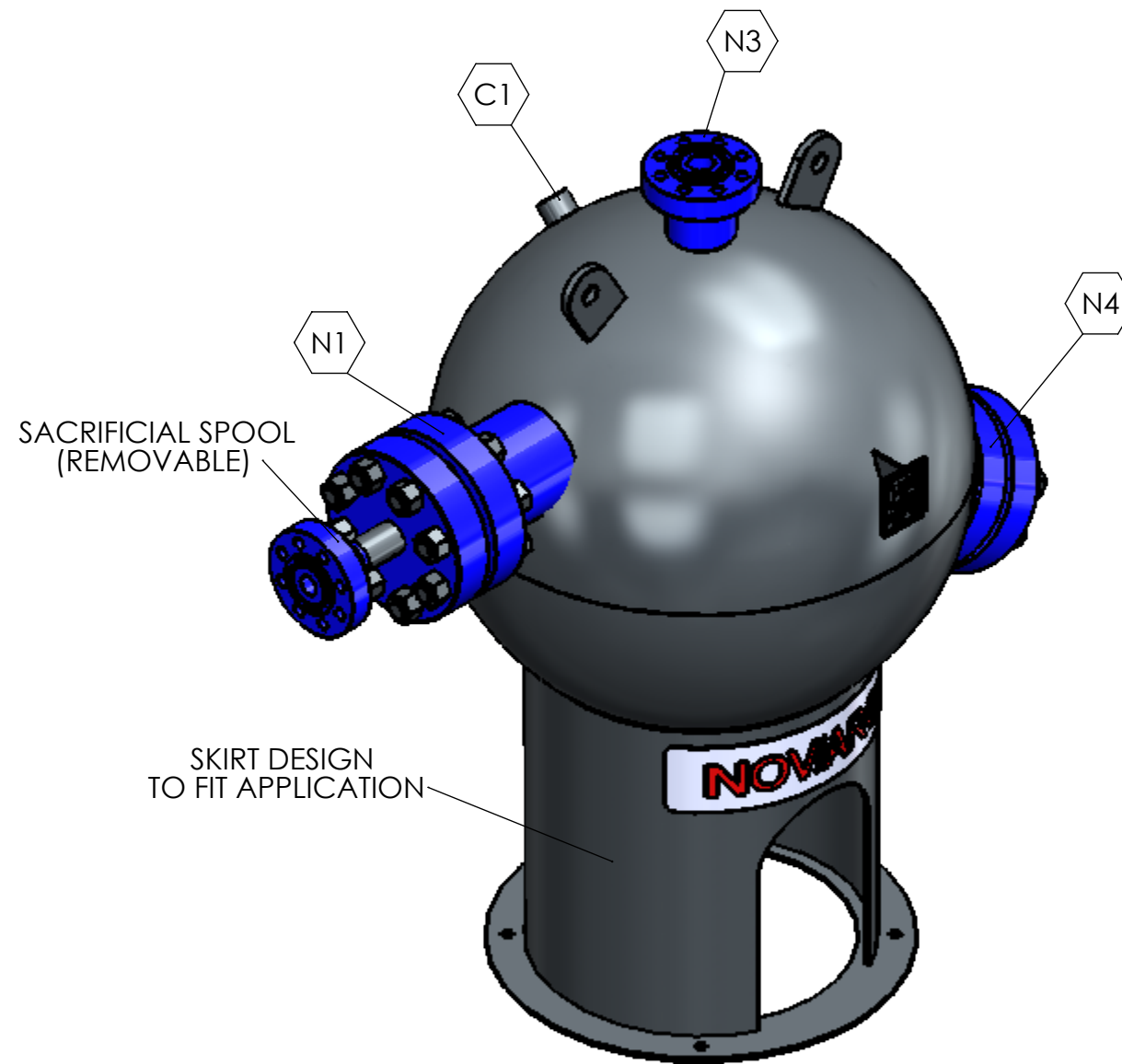
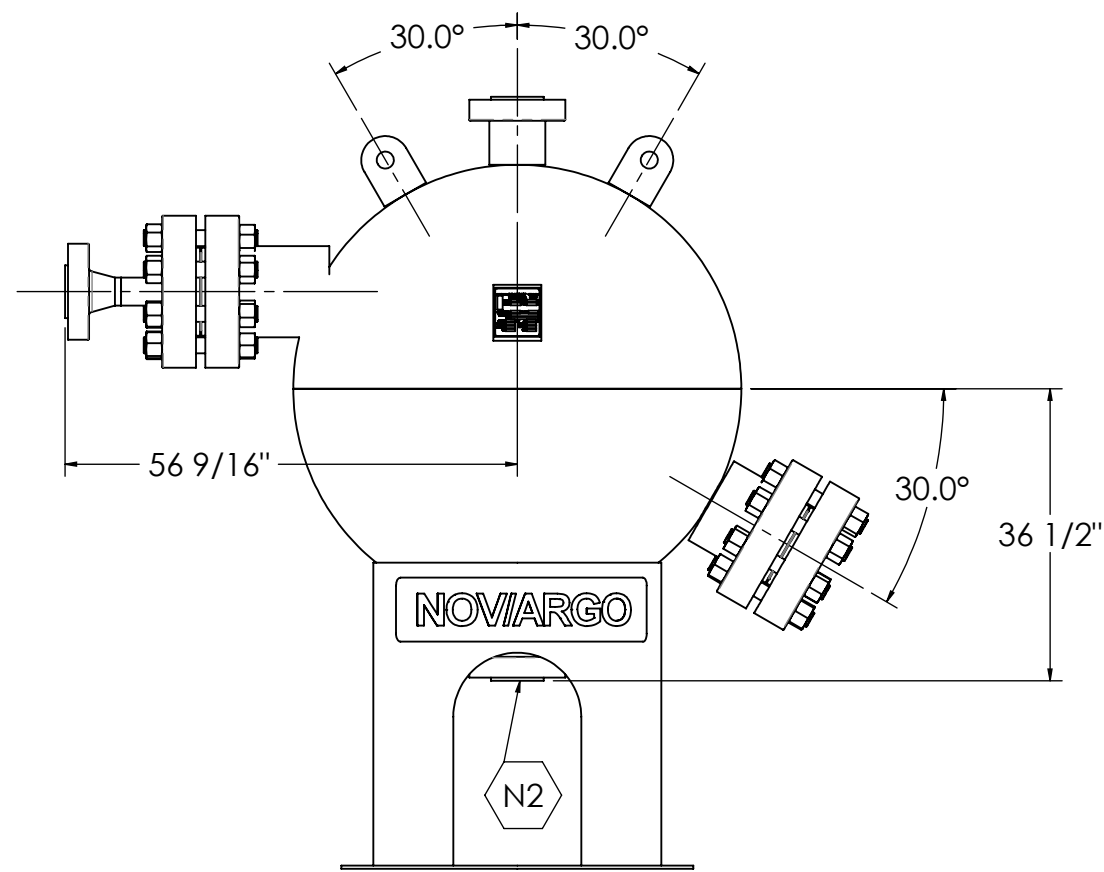
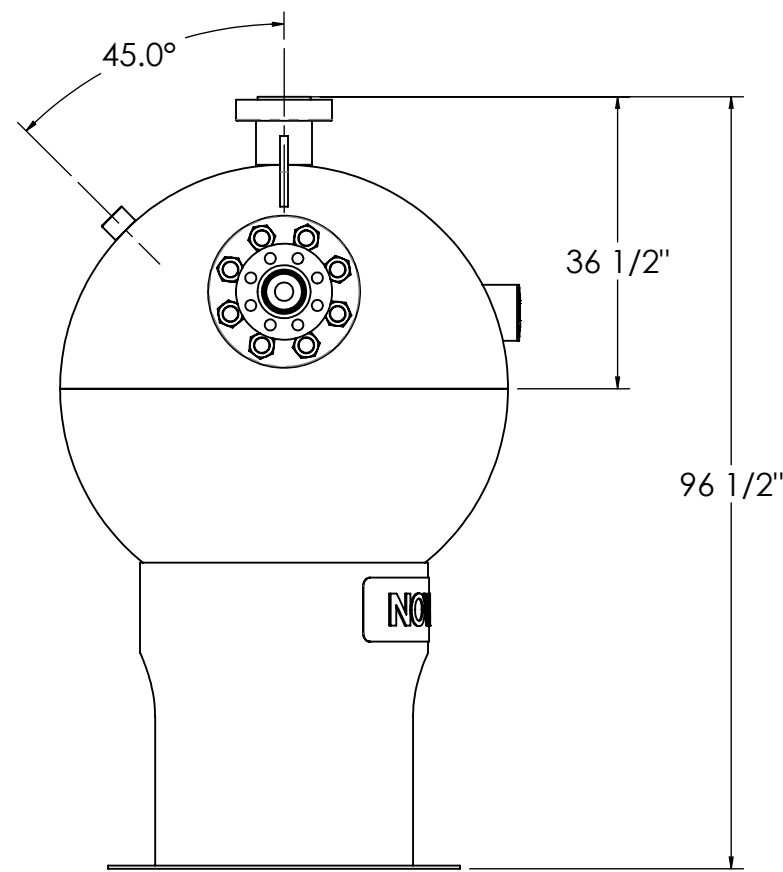
CLIENT: **ARGO STOCK**

PROJECT: 5000PSI SAND SEPARATOR UNIT C/W BLOWDOWN VESSEL

TITLE: ASSY, SINGLE SPHERE LAYOUT

WO. No. TBD CAD. No. 15847-SGLAYOUT

DATE: 02/22/18



- NOTES:
1. NOZZLE WELDS SHALL BE UT
  2. MPI ROOT AND CAP OF CIRC SEAM AND NOZZLE ATTACHMENT WELDS
  3. GRIND ALL NOZZLE FILLET WELDS TO OBTAIN SMOOTH TRANSITION TO BASE METAL
  4. MPI THE CAP OF CIRC WELD BEFORE AND AFTER PWHT
  5. ALL PRESSURE CONTAINING MATERIALS TO NACE MR0175
  6. STUD LENGTHS GIVEN ARE THREAD TO THREAD
  7. MTR'S REQUIRED FOR ALL PRESSURE RETAINING COMPONENTS
  8. NON-CORROSIVE SERVICE UNDER REMARKS IN U-1A REPORT

- IMPACT TESTING NOTES
- | COMPONENT   | COMMENT  |
|-------------|--|
| HEMI HEAD   | AVERAGE 18 ft-lb AND MIN. 12 ft-lb @ TEMP. -40°F                 |
| CAT.A WELDS | AVERAGE 18 ft-lb AND MIN. 12 ft-lb PRODUCTION WELD @ TEMP. -40°F |
- ALL THE IMPACT TEST TO BE DONE TO UG-84  
IMPACT TEST SHALL BE DONE WITH SAME HEAT NUMBER AND HEAT TREATMENT AS VESSEL.

EXTERNAL SURFACE PREPARATION AND PAINTING  
PREPARATION: MECHANICAL CLEAN  
PRIMER: ONE (1) COAT INDUSTRIAL PRIMER  
FINISH: ONE (1) COAT MARINE ENAMEL - NOV TAN

NOZZLE NO.	NO.	SIZE	RATING	TYPE OF SERVICE	OD OF NOZ NECK	OUTSIDE PROJECTION	INSIDE PROJECTION	O.D. X THICKNESS	REIF PAD	DETAIL WELD	FILLET WELD SIZE	BILL OF MAT'L	ITEM No.	REMARKS
C1	1	1"	CALC.	PSV	3.50"	2.50"	-	NA	6	1/2"	-	5	-	
N4	1	6"	2500	INSPECTION	11.38"	14.25"	-	NA	6	1.00"	-	3	INSPECTION	
N2	1	3"	2500	OUTLET	7.00"	8.50"	-	NA	6	3/4"	-	4	-	
N2	1	3"	2500	DRAIN	7.00"	8.50"	-	NA	6	3/4"	-	4	-	
N1	1	6"	2500	INLET	11.38"	14.25"	-	NA	6	1 5/8"	-	3	INSPECTION	

**INSIDE & OUTSIDE OF NOZZLE BE ROUNDED PER UG-76 (C)**

ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:	ROOT: F&C:
WELD DETAIL 1	WELD DETAIL 2	WELD DETAIL 3	WELD DETAIL 4	WELD DETAIL 5	WELD DETAIL 6	WELD DETAIL 7	WELD DETAIL 8	WELD DETAIL 9	WELD DETAIL 10	WELD DETAIL 11	WELD DETAIL 12	WELD DETAIL 13	WELD DETAIL 14	WELD DETAIL 15	
WITHOUT BACKING R=1/8" (±1/8") a=60° (±15°) h=1/16" (±1/16")	WITHOUT BACKING R=1/8" (±1/8") a=60° (±15°) h=1/16" (±1/16")	3:1 TRANSITION R=1/8" (±1/8") a=60° (±15°) h=1/16" (±1/16")	R=1/8" (±1/8") a=75° (±15°)	R=1/8" (±1/8") a=40° (±15°) h=1/16" (±1/16")	R=1/8" (±1/8") a=40° (±15°) BOTH h=1/16" (±1/16")	R=1/8" (±1/8") a=40° (±15°) BOTH h=1/16" (±1/16")	R=1/8" (±1/8") a=40° (±15°) h=1/16" (±1/16")	R=1/8" (±1/8") a=MIN. 30° h=1/16" (±1/16")	TYPICAL NON PRESSURE ATTACHMENT WELD	TYPICAL NON PRESSURE WELD (LUGS, DAVIT ARMS)					

ITEM NO.	PART NUMBER	QTY.	Description
1	Y5847-HEMI1	1	HEMI HEAD, 48"ID X 4"NOM, SA516-70N, TOP
2	Y5847-HEMI2	1	HEMI HEAD, 48"ID X 4"NOM, SA516-70N, BOT
3	Y5847-BASE	1	SKIRT WELDMENT, 36"OD SKIRT, 44"OD BASE
4	SFG02031	1	RTJHBWN, 6" CL2500X2.81NOMX11"OAL, SA350 LF2 CL1
5	SFG02032	2	RTJHBWN, 3" CL2500X2.05NOMX8 1/2"OAL, SA350 LF2 CL1
6	SFG02021	1	RTJHBWN, 6" CL2500X2.81NOMX16"OAL, SA350 LF2 CL1
7	Y5847-CPLG	1	COUPLING, 1"NPT, 3 1/2"OD X 2 1/2"H, SA516-70N
8	Y5847-LUG	2	PLATE, 1"TK X 6" X 8", SA516-70N
9	Y5847-DEFL	1	DEFLECTOR PLATE, 1"TK X 43 5/8"OD, A36/44W
10	Y5847-NPHOLD	1	WELDMT, NP HOLDER, 1/4"TK PLATE
11	SFG02033	1	RTJB, 6" CL2500, SA350 LF2 CL1
12	Y5847-VESSP	1	SPOOL, SACRIFICIAL, 3"X6"-2500RTJ, SCH XXH
13	GAS1023	2	R47 RING GASKET 316SS
14	SSN90013	16	B7M STUD, 2" X 14", SA193-B7M
15	SSN90014	32	2HM NUT, 2", SA194-2HM

REVISION	DATE	DESCRIPTION	CALC. NO.	BY	CHK'D	SIGN'D
0	2018/02/20	ISSUED FOR CONSTRUCTION		SG	SG	SG

**ASME 2015 ED. CODE SEC. VIII DIV 1**

BMS AQP (S) 1009	REGISTERED WELD PROCEDURE 505.2
FOR VESSEL TOLERANCES, SEE WELDER HANDBOOK	
VESSEL TYPE: SPHERICAL	
M.A.W.P.:	5000 PSIG (34475kPa) AT 200 °F (93 °C)
M.D.M.T.:	-40 °F (-40 °C) AT 5000 PSI (34475kPa)
IMPACT TESTING: SEE IMPACT TEST NOTES	
P.W.H.T.:	1150 °F FOR 165 MIN.
RADIOGRAPHY:	RT-1 CIRC: PHASE-ARRAY LONG: N/A UT: PHASE-ARRAY
JOINT EFFICIENCY:	HEADS: 1.0 SHELL: 1.0
CORROSION ALLOWANCE: 1/8" (3.2mm)	
HYDROSTATIC TEST: 7500 PSIG (51713kPa)	
VOLUME: 33.5 cu.ft (0.95 cu.meter)	
WEIGHT (DRY):	13000 LBS (5897kg)
WEIGHT (FLOODED):	15100 LBS (6850kg)

CLIENT	<b>NOVIARGO STANDARD DESIGN</b>				
PROJECT	48"ID X 5000PSI SAND TRAPS				
TITLE	<b>SAND TRAP, 48"ID X 5000PSI</b>				
WO No.:	ARGO STOCK	CRN No.:	Y5847.2	SERIAL No.:	TBA
DRAWN BY:	S.GAO	REV No.:	0	SHEET	1 OF 1
DATE	2018/02/20	DRAWING No.:	Y5847-VESSEL	SCALE	1:24