

Aspire Energy Resources Ltd.

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Date: 11-28-2014
Client: Aspire Energy Resources Limited
Project Number: 4495
Drawing Number: 2153-3 R0
A Number: 433724
CRN: N0655.2
Serial Number: 2187

Rev: 4

Approved: 
Date: 11/28/14

Design in accordance with ASME Section VIII, Division 1:

Edition: 1995
 Addenda: 1996

The higher stress values allowed by the 1999 Code Addenda have NOT been applied to this design.

Inside Diameter Calculations

Design Data

Design Pressure	P	1440	PSIG	
Minimum Design Temperature		-20	F	
Maximum Design Temperature		131	F	Stress Values Are Affected by Temps Over 100 F!
Flange MAWP	Pf	1480	PSIG	Flange MAWP Is Affected by Temps Over 100 F!
Inside Diameter	D	21.75	in	
Inside Radius	R	10.875	in	
Corrosion Allowance	c	0.125	in	
Shell Material Stress Value	S	17,500	PSI	SA-106-B, Smls - 15,000 SA-516-70 - 17,500
Head Material Stress Value	S	17,500	PSI	SA-234-WPB - 15,000 SA-516-70 - 17,500
Joint Efficiency (Type 1 Joint)	E	1.00		Full / Partial Radiography: 1.0 or Spot Radiography: Pipe - 1.0, Plate - 0.85 or No Radiography: Pipe - 0.85, Plate - 0.70

Shell Minimum Thickness

Shell tr = PR / (SE - 0.6P)
 Minimum shell thickness $tr = 0.9522$ in
 $tr + c = 1.0772$ in

Actual shell thickness UT **1.1250** in
 MAWP based on actual thk **1508.62** PSIG

Head Minimum Thickness

Head tr = PD / (2SE - 0.2P)
 Minimum head thickness $tr = 0.9127$ in
 $tr + c = 1.0377$ in

Actual head thickness UT **1.0810** in
 MAWP based on actual thk **1507.80** PSIG

MAWP of Vessel: 1480.00 PSIG Design Limited by the Flange