

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by STEELTEK, INC. 4141 SOUTH JACKSON TULSA OKLAHOMA 74107 USA
(Name and address of Manufacturer)
2. Manufactured for Anadarko Petroleum Corporation ; PO Box 4995 ; The Woodlands, TX 77387-4995
(Name and address of Purchaser)
3. Location of Installation Unknown

4. Type Horizontal Heat Exchanger 12S-2783
(Horizontal, vertical, or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Manufacturer's serial number)
NONE 12S-2783-A 2438 2012
(CRN) (Drawing number) (National Board number) (Year built)
5. ASME Code, Section VIII, Div. 1 2010 Edition, 2011(a) Addenda 2714 NONE
(Edition and Addenda (date)) (Code Case number) (Special service per UG-120(d))

Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multichamber vessels.

6. Shell: (a) Number of course(s) 7 (b) Overall length 31' - 8-1/2"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
2	54" I.D.	10' - 0"	SA-516-70N		.625"	.0625"	1	Spot	.85	1	Spot	.85	NONE	NONE
1	54" I.D.	6' - 5"	SA-516-70N		.625"	.0625"	1	Spot	.85	1	Spot	.85	NONE	NONE
2	38" I.D.	0' - 4"	SA-516-70N		.625"	.0625"	1	Spot	.85	1	Spot	.85	NONE	NONE

7. Heads: (a) NONE (b) NONE
(Material spec. number, grade or type) (H.T. - time & temp.) (Material spec. number, grade or type) (H.T. - time & temp.)

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	-	-	-	-	-	-	-	-	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening)

NONE

8. Type of jacket NONE Jacket closure NONE
(Material spec. number, grade, size, number) (Describe as ogee and weld, bar, etc.)
If bar, give dimensions NONE If bolted, describe or sketch.

9. MAWP 300 PSI NONE at max. temp. 200 F. NONE Min. design metal temp. -50 F. at 300 PSI
(Internal) (External) (Internal) (External)
10. Impact test YES ; MATERIAL AND WELDS at test temperature of -50 F

11. Hydro., pneu., or comb. test pressure 391 Proof test NO
(Indicate yes or no and the component(s) impact tested)

Items 12 and 13 to be completed for tube sections.

12. Tubesheet SA-350LF2,CL.1 38.125" 7.750" .125" Welded
[Stationary (material spec. no.)] [Diameter (subject to press.)] [Nominal thickness] [Corr. allow.] [Attachment (welded or bolted)]
SA-350LF2,CL.1 38.125" 7.750" .125" Welded
[Floating (material spec. no.)] (Diameter) (Nominal thickness) (Corr. allow.) (Attachment)
13. Tubes SA-214 .625" .060" 1548 Straight
(Material spec. no., grade or type) (O.D.) (Nominal thickness) (Number) [Type (straight or U)]

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell: (a) Number of course(s) 2 (b) Overall length 4' - 6"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	38" I.D.	2' - 3"	SA-516-70N		1.250"	.0625"	1	Full	1.0	1	Full	1.0	NONE	NONE
1	38" I.D.	2' - 3"	SA-516-70N		1.250"	.0625"	1	Full	1.0	1	Full	1.0	NONE	NONE

15. Heads: (a) SA-516-70N ; NONE (b) SA-516-70N ; NONE
(Material spec. number, grade or type) (H.T. - time and temp.) (Material spec. number, grade or type) (H.T. - time and temp.)

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	END	1.250"	.0625"	NONE	NONE	2 : 1	NONE	NONE	NONE	X	S	NONE	1.0
(b)	END	1.250"	.0625"	NONE	NONE	2 : 1	NONE	NONE	NONE	X	S	NONE	1.0

If removable, bolts used (describe other fastening)

CHANNELS TO SHELL : (36) 1-3/4" SA-193-B7 STUDS WITH (72) SA-194-2H NUTS EACH.

(Material spec. number, grade, size, number)

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16. MAWP 1200 PSI NONE at max. temp. 200 F. NONE Min. design metal temp. -50 F. at 1200 PSI
 (Internal) (External) (Internal) (External)
 17. Impact test YES ; MATERIAL AND WELDS at test temperature of -50 F.
 [Indicate yes or no and the component(s) impact tested]
 18. Hydro., pneu., or comb. test pressure 1561 Proof test NO

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
SH. INLET	1	12"	300#FL	SA-350LF2,CL.1	SA-350LF2,CL.1	1.00"	.0625"	NONE	E	1	N/A
SH. OUTLET	1	18"	300#FL	SA-350LF2,CL.1	SA-350LF2,CL.1	1.00"	.0625"	NONE	E	1	N/A
SH. MISC.	2	2"	300#LW	SA-350LF2,CL.1	NONE	.660"	.0625"	N/A	E	NONE	N/A
CH. IN / OUT	1/1	14"	600#FL	SA-350LF2,CL.1	SA-350LF2,CL.1	2.500"	.0625"	NONE	E	1	N/A
CH. VENT / DRAIN	1/1	3/4"	6000#C	SA-350LF2,CL.1	N/A	.500"	.0625"	NONE	E	N/A	N/A
SH. AUX.	2	1-1/2"	300#LW	SA-350LF2,CL.1	NONE	.630"	.0625"	N/A	E	NONE	N/A
CH. AUX.	2	1-1/2"	600#LW	SA-350LF2,CL.1	NONE	.630"	.0625"	N/A	E	NONE	N/A

20. Supports: Skirt NO Lugs NONE Legs NONE Others 2) SADDLES Attached SHELL - WELDED
 (Yes or no) (Number) (Number) (Describe) (Where and how)
 21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report (list the name of part, item number, Manufacturer's name, and identifying number):
NONE

22. Remarks LN. 19 - SAFETY VALVES BY OTHERS LN. 6 - SHELL HAS TWO (2) 38" I.D. X 54" I.D. 30 DEG. ECC CONE ; SA-516-70N ; .625 ; .0625 ; 1 ; Spot ; None
TYPE : BKM SIZE : 38 / 54-396.
P.O. NO : 4500013868 ITEM NO. : G8-404.
SERVICE : SECOND GAS CHILLER.

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1.

U Certificate of Authorization Number 25,595 Expires 05/16/2015
 Date 9-14-12 Name STEELTEK, INC. Signed [Signature]
 (Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of OK and employed by "HSB CT" of CT

have inspected the pressure vessel described in this Manufacturer's Data Report on 9/14/12, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 9/14/12 Signed [Signature] Commissions NB13413A / OK962
 (Authorized Inspector) [National Board (Incl. endorsements), State, Province, and Number]

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number 25,595 Expires 05/16/2015

Date Name STEELTEK, INC. Signed
 (Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of and employed by

of , have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items , not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. The described vessel was inspected and subjected to a

hydrostatic test of . By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date Signed Commissions
 (Authorized Inspector) [National Board (Incl. endorsements), State, Province, and Number]