

**FORM U-1A MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS PO#2021-C17610**  
 (Alternate Form for Single Chamber, Completely Shop-Fabricated Vessels Only) ITEM: V-123  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1 S/O 33915

1. Manufactured by PEERLESS MFG. CO., 2811 WALNUT HILL LANE, DALLAS, TX 75220  
 2. Manufactured for Stearns-Roger, Box 5888, Denver, COLORADO 80217  
 3. Location of Installation Colorado Interstate Gas Co., Table Rock, Wyoming  
 4. Type Vert. R-682 6B-31763 8180 (Year Built) 1977  
(Horiz. or vert. tank) (Mfg's Serial No.) (CRN) (Drawing No.) (Nat'l Brd No.)  
 5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1974 and Addenda to Win. 75 and Code Case Nos. 1510  
(Year) (Date)  
 Special Service per UG-120(d) -  
 Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: -

6. Shell: Matl. SA-516-70 Nom. 1-1/8 in. Corr. .125 in. Diam. 30 in. Lgth. 6 ft 8 in.  
(Spec. No., Grade) (Thk.) (Allow.) (in.) (Diam.) (in.) (Lgth.) (ft) (in.)  
 7. Seams: Long. Dbl. Butt R.T. Full Efficiency 100 % H.T. Temp. 1100 °F Time 2-1/4 hr  
(Welded, Dbl, Sngl, Lap, Butt) (Spot or Full) (Spot, Partial, or Full) (No. of Courses)  
 Girth Dbl. Butt R.T. Full No. of Courses 1  
(Welded, Dbl, Sngl, Lap, Butt) (Spot, Partial, or Full)

8. Heads: (a) Material SA-516-70 (Spec. No., Grade) (b) Material - (Spec. No., Grade)  

Location (Top, Bottom, Ends)	Min. Thk.	Corr. Allow.	Crown Radius	Knuckle Radius	Ellipse Ratio	Conical Apex Angle	Hemisph. Radius	Flat Diam.	Side to Pressure (Convex or Concave)
(a) <u>Top, Btm.</u>	<u>1"</u>	<u>.125</u>	<u>-</u>	<u>-</u>	<u>2:1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>Concave</u>
(b)									

If removable, bolts used (describe other fastenings) - (Material, Spec. No., Gr., Size, No.)

9. Constructed for max. allowable working pressure 1004 psi at max. temp. 200 F. Min. temp. (when less than -20 F) - F. Hydrostatic, pneumatic, or other examination test pressure 1506 psi.

10. Safety Valve Outlets: Number - Size - Location -

11. Nozzles and Inspection Openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
<u>In &amp; Out</u>	<u>2</u>	<u>10"</u>	<u>Pipe</u>	<u>SA-106-B</u>	<u>.718</u>	<u>SA-516-70</u>	<u>Welded</u>	<u>Head &amp; Shell</u>
<u>HC Out</u>	<u>1</u>	<u>3-5/16</u>	<u>LWN</u>	<u>SA-105-N</u>	<u>.656</u>	<u>-</u>	<u>Welded</u>	<u>Shell</u>
<u>Water Out</u>	<u>1</u>	<u>3-5/16</u>	<u>LWN</u>	<u>SA-105-N</u>	<u>.656</u>	<u>-</u>	<u>Welded</u>	<u>Shell</u>
<u>Gage Col.</u>	<u>3</u>	<u>4-5/8</u>	<u>LWN</u>	<u>SA-105-N</u>	<u>.8125</u>	<u>-</u>	<u>Welded</u>	<u>Shell</u>
<u>H.L.S.S.</u>	<u>2</u>	<u>2-1/8</u>	<u>LWN</u>	<u>SA-105-N</u>	<u>.5625</u>	<u>-</u>	<u>Welded</u>	<u>Shell</u>
<u>Manway</u>	<u>1</u>	<u>20"</u>	<u>Pipe</u>	<u>SA-106-B</u>	<u>1.031</u>	<u>SA-516-70</u>	<u>Welded</u>	<u>Shell</u>

**Stearns-Roger RECEIVED**

12. Supports: SQR NO Lugs - Legs - Other - Attached Btm. Head/welded  
(Yes or no) (No.) (No.) (Describe) (Where and how)

13. Remarks: FOR MATERIAL REVIEW 1000 PSIG Vertical Dry Scrubber  
C17610 JUN 6 1977

ITEM NO V-123 FILE NO 13

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.  
 Date 5-10-77 Signed Peerless Mfg. Co. by V.M. McLaughlin  
(Manufacturer) (Representative)  
 "U" Certificate of Authorization No. 825 expires April 11, 19 79

**CERTIFICATE OF SHOP INSPECTION**

Vessel made by Peerless Mfg. Co. at Dallas, Texas  
 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 Texas and employed by H.S.B. I & I CO have inspected the pressure vessel described in this Manufacturers' Data Report on April 29 19 77, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the inspector nor his 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.  
 Signed B. R. RUSSELL Date 5/12/77 Commissions NAT'L BD. #7717  
(Inspector) (Nat'l Board, State, Province and No.)

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N.B. NO	8180	SER. NO	R-682	S/O	33915
	W	PEERLESS MFG. CO.			
	RT1	DALLAS, TEXAS			
	HT	O-RING RPL P/N			
	ELEM. RPL P/N		QTY.		
MAX. WORK PRESS.	1004	PSIG @	200	OF	
CORR. ALLOW.	125 <sup>u</sup>	YEAR BUILT	1977		
MODEL	21-130	ITEM	V-123	C.R.N.	
FIELD TEST PRESS. CORR. 1506 PSIG					

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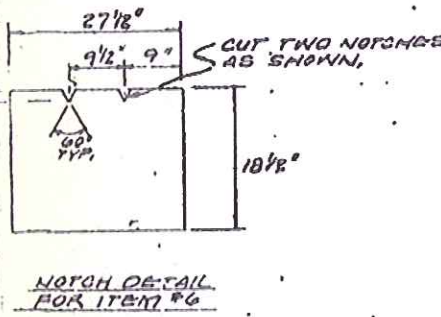
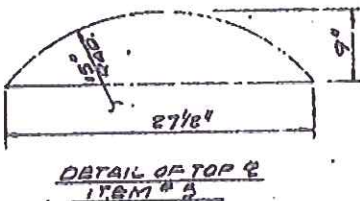
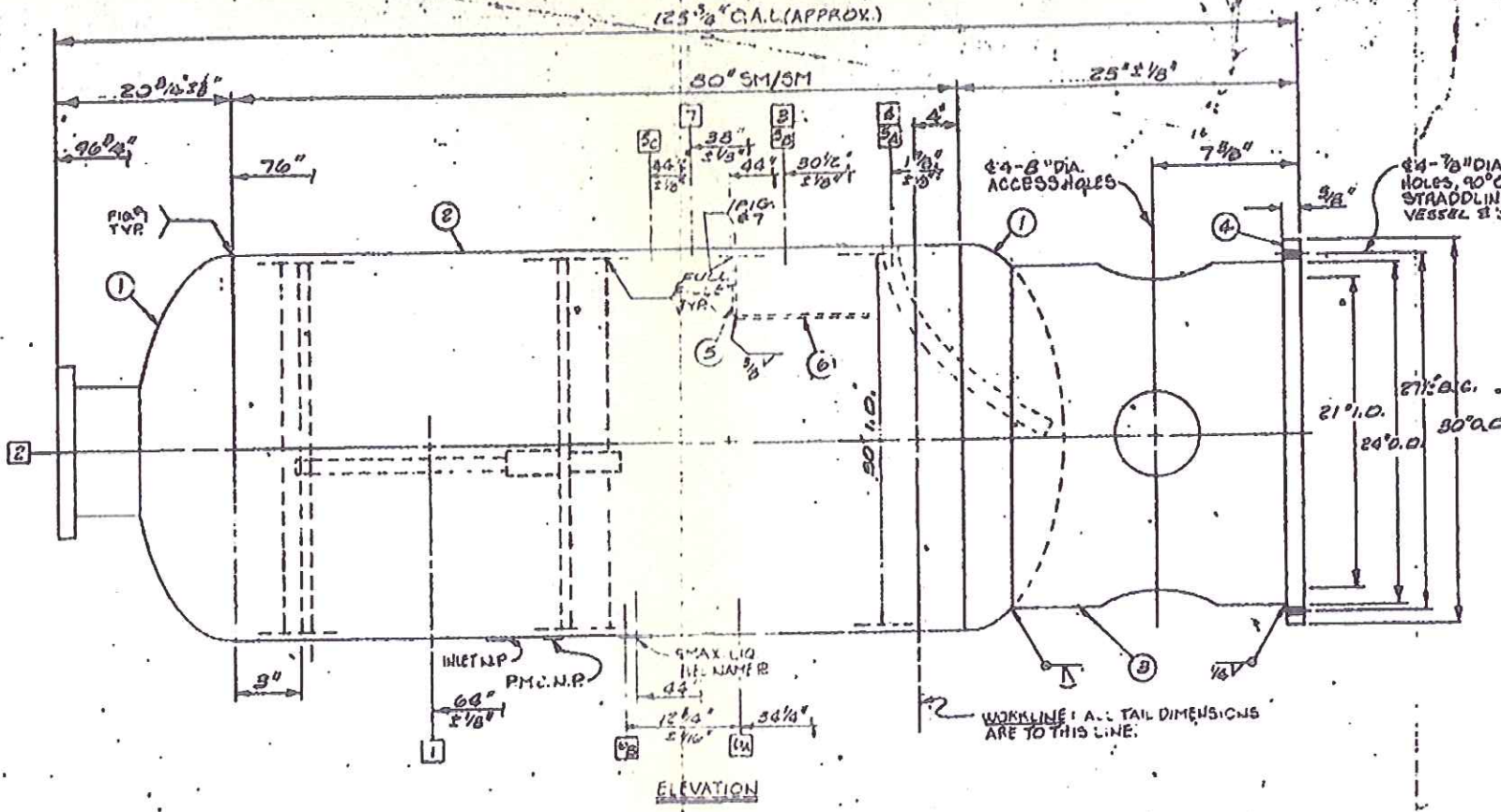
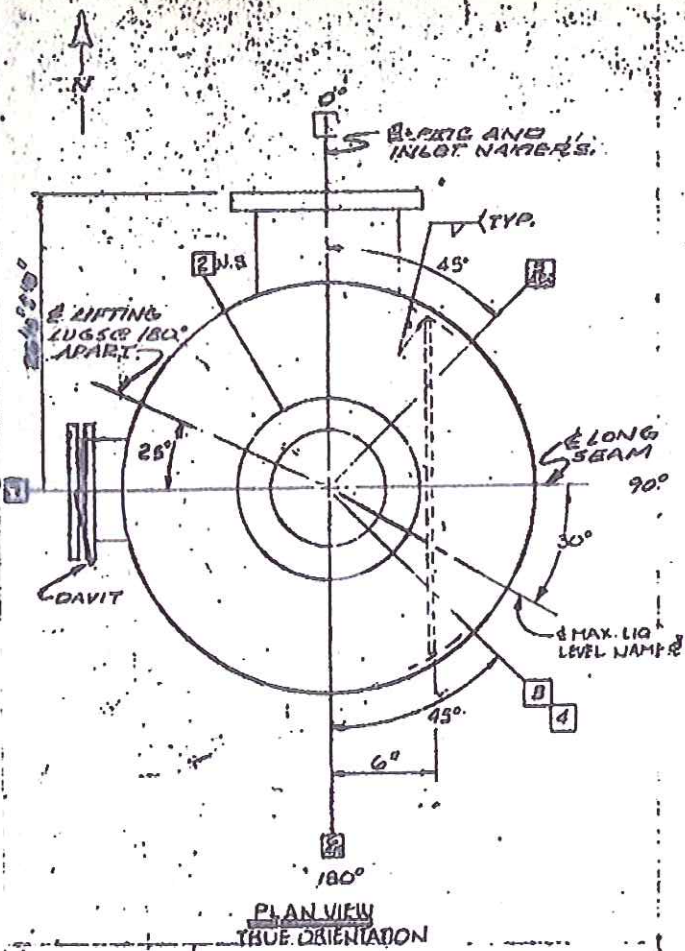
COLORADO INTERSTATE GAS CO.  
MARK NO. V-123 DATE 1977 CODE ASME  
MFG'R PEERLESS SHOP ORDER 33915  
MAXIMUM W.P. 1004 PS.I.G. at 200 °F  
TEST PRESSURE 1500 MEDIUM WATER  
X-RAY FULL STRESS RELIEVE YES  
SHELL-W.T. & GRADE 1.125 SA-516-70  
HEAD-W.T. & GRADE 1.25 NOM. SA-516-70

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REQUIRED PRESENT

ITEM	DESCRIPTION	UNIT	QTY
1	SA-516-70	LB	175
2	SA-516-70	LB	175

CONSTRUCTION NOTES

THE FOLLOWING CUSTOMER SPECIFICATIONS ARE APPLICABLE TO SUPPLEMENT 4-20-76, REVISED 5-7-76, 6-24-76, MATERIAL SELECTION FOR SOUR SERVICE ISSUED 6-24-76, REVISED 5-14-76, AND DV-1 UNPAIRED PRESSURE VESSELS ISSUED 9-30-69, REVISED 4-28-70. THE FOLLOWING PEERLESS SPECIFICATION IS APPLICABLE TO CS-10.

SEE PRESENT DATA ABOVE.

INTERNAL FINISH: SANDBLAST FOR SP-516 AND APPLY ONE-5/32 OR CARBO-FLINE 011 TO 2.0 MILS. DRY. ALL WELDS TO BE 100% RADIOGRAPHED.

CONN. MK. 'G' TO BE FURNISHED WITH BLIND FLG. STUDS, NUTS AND HEX. FALLO. GASKET STYLE COPPERAL. HYDROSTATIC TEST PRESSURE TO BE HOLD FOR A MINIMUM OF ONE HOUR FOR EACH OF THICKNESS. REINFC. PADS TO BE AIR TESTED TO A MIN. OF 30 PSIG. HYDROSTATIC TEST WATER TO BE 4 MIN. OR 60°F. WATER IS OR NOSECB MKD. '7' FOR DIA. 10-820UB. NO WELDING PERMITTED AFTER STRESS RELIEF. VESSEL TO BE ULTRASONICALLY TESTED FOR LAMINATIONS AND DEFECTS. (SA-516 LEVEL FORHS (SHELL) BRINELL HARDNESS IN WELD AND HEAT AFFECTED ZONE SHALL NOT EXCEED 200 AFTER STRESS RELIEF. THE THREADS IN THE TELLTALE HOLES IN THE REINFC. PADS SHALL BE DAMAGED AND THE HOLES LEFT OPEN AFTER TESTING.

FURNISH CONNS. MK. 'G' WITH BLIND FLG., STUDS, NUTS, AND FLEXIBALL GASKET, STYLE CO., OR EQUAL.

SCHEDULE OF OPENINGS

MARK	QVAN	SIZE	SERIES	FACE	TYPE	W/FLO BORE	NOZZ LOTH	SERVICE	OD	WALL	WIDTH	TRANS	PROJECTION	O.S. (SHELL TO SHELL OR FSD)	WELD TO SHELL	ATTACH	TYPE	INSP	SEE NOTE
7	1	20"	600"	RF	WN	5"	10/8	MANWAY	20"	1.281	2 1/2"	12"	1/2"	3/8"	5/8"	3/11	6/10		
8A	2	1"	600"	RF	LWN	1"	8/8	HIGH LEVELS	2 1/2"	5/25	6"	6"	3/4"	10	15				
8B	3	3"	600"	RF	LWN	3"	8/8	WATER	3 1/2"	8/25	6"	6"	3/4"	10					
9	1	2"	600"	RF	LWN	2"	8/8	WATER	3 1/2"	8/25	6"	6"	3/4"	10					
10	1	10"	600"	RF	WN	10"	8/8	GAS. LST	10 1/2"	7/18	6 1/2"	6 1/2"	3/4"	10					

MATERIAL SPECIFICATION

The following mat'l specification applies unless otherwise noted:

FLANGES: ANSI STD. (each stl.)

COUPLINGS: SA-105 (each stl.)

REIN. PADS: SA-516-70

NOZZLES: SA-106-B

BLTFS: SA-45-B7

ALL GASKETS WITH WDS W/ASB/3

NUTS: SA-193-BH WITH MAX. HARDNESS OF Rc 22.

BEVEL DTL. - 18-2240  
LIFT LUG - 18-2170  
DAVIT BRK. - 18-2179  
STANCH. CBL. - 18-2170  
REINFC. PADS - 18-2170

REFERENCE 0465

SIC TRUSS

NO. VESSEL REGD. 1008

EST. SHIPPING WT. EA. 7000 LBS.

PEERLESS MANUFACTURING CO. DALLAS, TEXAS

PROPERTY OF PEERLESS MANUFACTURING CO. NOT TO BE REPRODUCED WITHOUT PERMISSION

CUSTOMER FILE# STEARNS-ROGER

CUSTOMER REFERENCE DATA

JOB NO. 2021-C700

ITEM NO. V-123

DATE 12-25-77

DATE 8/10/89

MATERIAL SPECIFICATION

ITEM QTY	DESCRIPTION
1 2	30" I.D. X 1/8" THK. ST. ELLIPT. HOLES
2 1	30" I.D. X 1/8" THK. ROLLER CPL. X 80" LG. SA-516-70
3 1	84" X 8" STD. BRKFS. PIPE X 10" LG. SA-516-70
4 1	3/4" THK. X 30" O.D. X 21" LG. SA-516-70
5 1	1/2" THK. X 4" X 2 1/2" G.S.
6 1	1/2" THK. X 18 1/2" X 2 1/2" G.S.

4-1/2" DIA. BOLT HOLES, 90° OC STRADDLING VESSEL S'S.

ADDITIONAL MATERIAL SPECIFICATION HIGH RELIABILITY

DESIGN DATA

CONSTRUCTION: ASME Code (1974 Ed.) Sect. VIII, Div. 1

Stamp req'd:  yes  no

Maximum allowable working pressure: 1000 psig at 320°F

Corros. effon. 100% Post weld heat treat:  yes  no

Radiographic exam: FULL POS. UV-LTR AND WATER

Joint efficiency: 100% Hydro. test pr. 1500 psig

Paint: Internal NONE External 3000000

- CONSTRUCTION DATA
- Use weld procedure no.
  - All (long hole) holes full strength normal vessel or apply center lines as applicable unless otherwise noted.
  - Each nozzle reinforcing pad or segment thereof shall have one 1/4" rad. telltale hole.
  - The welding in place of all openings will be done to such a manner as to minimize flat or distorted areas in the head or shell.
  - The vessel shall be aligned inside and outside in accordance with Peerless spec. CS-10
  - All openings must be closed for shipment with hood or VITAL protectors which will prevent the entry of dirt or foreign matter.
  - Dimensional tolerances are as shown, in the case of no tolerance being shown, A.S. 21-110 OR STD. 4195-RANSPEC.01

<b>Stearns-Roger</b>		<b>EQUIPMENT DATA SHEET</b>				ITEM NUMBER <b>V-123</b>	PAGE <b>1 of 3</b>
		<input type="checkbox"/> INQUIRY <input type="checkbox"/> PROPOSAL <input type="checkbox"/> STUDY <input checked="" type="checkbox"/> PROJECT					
CUSTOMER & LOCATION <b>COLORADO INTERSTATE GAS CO. ROCK SPRINGS, WYO.</b>		PROJECT <b>TABLE ROCK PROCESSING PLANT</b>				S-R JOB/INQUIRY NO. <b>C-17610/22-DO</b>	DATE: <b>9-15-76</b>
						ACCOUNT NO. <b>01D64123</b>	BY: <b>MEB/BLD</b>
REVISIONS (Date & By)	A	<b>3/8/77</b>	BMS	B	C	D	E
	E			F	G	H	
SERVICE <b>INLET SEPARATOR</b>			MANUFACTURER <b>PEERLESS MFG. CO.</b>			NO. REQ'D. <b>One</b>	SOURCE OF QUOTE
<b>NOZZLES &amp; CONNECTIONS</b>				MFR DWG NO.	<b>6B-31763</b>		
SERVICE	NO.	SIZE - RATING - FACING	DIAMETER	<b>2'-6" I.D.</b>			
<b>1. Gas Inlet</b>	<b>One</b>	<b>10"-600# RF</b>	HEIGHT OR LENGTH	<b>6'-8" Seam to Seam</b>			
<b>2. Gas Outlet</b>	<b>One</b>	<b>10"-600# RF</b>	TYPE OF HEADS	<b>2:1 S.E.</b>			
<b>3. HC Outlet</b>	<b>One</b>	<b>2"-600# RF LWN</b>	TYPE OF SUPPORT	<b>Skirt</b>			
<b>4. Water Outlet</b>	<b>One</b>	<b>2"-600# RF LWN</b>	PRESS. PSIG MAX OPER.	<b>930</b>	DESIGN	<b>1,000</b>	
<b>5. Gage Column</b>	<b>3</b>	<b>3"-600# RF</b>	TEMP. °F MAX OPER.	<b>120</b>	DESIGN	<b>200</b>	
<b>6. High Lev. S.S.</b>	<b>2</b>	<b>1"-600# RF LWN</b>	CORRODED MAX ALLOW. PRESS.		PSIG	°F	
<b>7. Manway</b>	<b>One</b>	<b>18" I.D. Min.</b>	MAX ALLOW. EXTERNAL ΔP		PSI	°F	
		<b>600# RF w/Blind and Davit.</b>	CORROSION ALLOW.	<b>0.125"</b>			
			CODE	<b>ASME Sect. VIII, Div. 1</b>			
			NATIONAL BOARD REGISTRATION REQUIRED	<b>Yes</b>			
			RADIOGRAPHY	<b>Full</b>			
			POST WELD HEAT TREAT.	<b>Yes</b>			
			DESIGN WIND PRESS. ON PROJ. AREA	<b>25 psf Basic</b>			
			EARTHQUAKE-ZONE	<b>One</b>			
			ALLOWABLE ANCHOR BOLT STRESS	<b>15,000 psi</b>			
			CONCRETE STRENGTH	<b>28 Day 3,000 psi</b>			
			TRAYS: NO.	TYPE			
			INSULATION	<b>None</b>			
			SURFACE PREP.	<b>SSPC SP6-63</b>			
			SHOP PRIMER	<b>Carbo-zinc 11</b>			
<b>INTERNALS AND ACCESSORIES</b>				WEIGHT EMPTY	<b>6,800#</b>		
FURNISH	INSTALL		OPERATING WEIGHT				
FAB. OTHER	FAB. OTHER		WEIGHT FULL OF WATER	<b>10,000#</b>			
<b>X</b>		<b>X</b>	DAVITS (M.W.)				
			BAFFLE	<b>MATERIALS</b>			
			VORTEX BREAKER	SHELL	<b>SA-516-70</b>		
			INSUL. RINGS	TOP HEAD	<b>SA-516-70</b>		
			DEMISTER & GRID	BTM HEAD	<b>SA-516-70</b>		
			DEMISTER SUPPORT RING	INT HEADS	THICK.		
			TRAYS	SUPPORTS	<b>SA-516-70</b>		
			TRAY SUPPORT (RINGS-BARS)	INTERNALS	<b>Carbon Stl.</b>		
			PACKING	NOZZLES	<b>SA-106-B, SA-105</b>		
			PACKING SUPPORT	STUDS	<b>SA-193-B7 (Note 2)</b>		
			PACKING HOLDDOWN	GASKETS	<b>Flexitallic Style CGP or Equal</b>		
			LADDER & PLATFORM				
			L. & P. CLIPS-PADS				
			PIPE GUIDE PADS	<b>FOLLOWING SPECS. AND STANDARDS APPLY</b>			
<b>X</b>		<b>X</b>	LIFTING LUGS	STEARNS-ROGER	<b>Unfired Pressure Vessels, DV-1;</b>		
			INTERNAL LADDER RUNGS	<b>c/w Supplement.</b>			
			FIRE PROOFING ATTACHMENTS	<b>Material Selection for Sour Service, DO-1</b>			
NOTES: (1) Vessel will operate in Sour Service Class E.				<b>PSM DOCUMENT</b> <b>FILE# V-123</b> <b>MARK# V-123</b>			
(2) Reduced strength bolting per Code Case 1510 required.							

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<b>Stearns-Roger</b>		<b>EQUIPMENT DATA SHEET</b>		ITEM NUMBER V-123	PAGE 2 OF 3
<input type="checkbox"/> INQUIRY <input type="checkbox"/> PROPOSAL <input type="checkbox"/> STUDY <input checked="" type="checkbox"/> PROJECT		PROJECT		S-R JOB/INQUIRY NO. C-17610/22-DO	DATE: 9-15-76
CUSTOMER & LOCATION COLORADO INTERSTATE GAS CO. ROCK SPRINGS, WYO.		TABLE ROCK PROCESSING PLANT		ACCOUNT NO. 01D64123	BY: MEB/PLW
REVISIONS (Date & By)	A	3/8/77	BMS*	B	
	E			F	
SERVICE	INLET SEPARATOR		MANUFACTURER	NO. REQ'D.	SOURCE OF QUOTE
			PEERLESS MFG. CO.	One	

\* Reissued with no change.

CONDITIONS OF SERVICE

Operating Pressure	930 psig
Design Pressure	1,000 psig
Operating Temperature	40-120°F
Design Temperature	200°F
Max. Allow. Pressure Drop	3-5 psi

Gas Properties

Type	Sour natural gas
H <sub>2</sub> S Content, max.	5 Volume %
Flow Rate, normal	60,000,000 SCFD
Flow Rate, minimum	20,000,000 SCFD
Molecular weight	22.8
Density @ Feed Conditions	3.73 lb./cu. ft.

Water Liquid Properties

Type	Water
Flow Rate, maximum	3 gpm
Flow Rate, normal	Trace
Separation Requirement	99+% Removal of particles of entrained liquid 10 micron size and smaller

Hydrocarbon Liquid Properties

Type	Light Hydrocarbon
Flow Rate, maximum	2 gpm
Flow Rate, normal	Trace
Density @ Flowing Conditions	35.5 lb./cu. ft.
Viscosity @ Flowing Conditions	0.3 cp
Separation Requirement	99+% Removal of particles of entrained liquid 10 micron size and smaller

PSM DOCUMENT

FILE# V-123

MARK# V-123

Solids Properties

Type	Normal pipeline solids
Flow Rate, normal	Trace
Separation Requirement	99+% Removal of particles of entrained solids 10 micron size and smaller