

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Gulfex, Inc., 401 State Street, South Houston, Texas, 77587
(Name and address of manufacturer)
Manufactured for D-Cok, 3657 Briarpark Dr., Houston, Texas 77042-5205
(Name and address of purchaser)

3. Location of installation Unknown
(Name and address)

4. Type Vertical 2434 ---- 2434 917 2007
(Hoziz. or vert. tank) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)

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 2004 Ed.
(Year)

to A05 ----- -----
Addenda (Date) Code Case Nos. Special Service per UG-120 (d)
6. Shell SA516-70 .625 .125 3'-6" 10'-8"
Mat'l (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft & in.) Length (overall) (ft & in.)

7. Seams Type 1 Full 1.0 ----- ° F ----- Type 1 Full 1.0 2
Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp (F) Time (hr) Girth (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) No. of Courses

8. Heads: (a) Mat'l SA516-70 (b) Mat'l SA516-70
(Spec. No. Grade) (Spec. No. Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	<u>Top</u>	<u>.750</u>	<u>.125</u>	<u>-----</u>	<u>-----</u>	<u>2:1</u>	<u>-----</u>	<u>-----</u>	<u>-----</u>	<u>Concave</u>
(b)	<u>*Btm.</u>	<u>.625</u>	<u>.125</u>	<u>-----</u>	<u>6"</u>	<u>-----</u>	<u>40°</u>	<u>-----</u>	<u>-----</u>	<u>Concave</u>

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

9. MAWP 72 psi at max. temp. 800°F
Min. design metal temp. 0 °F at 72 psi, Hydro., 150 psi, test pressure

10. Nozzles, inspection and safety valve openings: Pressure Relief see UG-125 (a)

Purpose (Inlet, Outlet, Drain)	No.	Diam or Size	Type	Mat'l	Nom Thk	Reinforcement Mat'l	How Attached	Location
<u>Sorbent/Regen.</u>	<u>1</u>	<u>3" 150#</u>	<u>RFWN</u>	<u>SA106B</u>	<u>.438</u>	<u>-----</u>	<u>UW16.1 (e)</u>	<u>Top Head</u>
<u>Aeration Filt.</u>	<u>2</u>	<u>3" 150#</u>	<u>RFWN</u>	<u>SA106B</u>	<u>.438</u>	<u>-----</u>	<u>UW16.1 (e)</u>	<u>4" Blinds</u>
<u>Mount Nozzles</u>	<u>2</u>	<u>4" 150#</u>	<u>RFWN</u>	<u>SA106B</u>	<u>.438</u>	<u>-----</u>	<u>UW16.1 (e)</u>	<u>Cone</u>
<u>Filter Mount</u>	<u>1</u>	<u>16" 150#</u>	<u>RFWN</u>	<u>SA106B</u>	<u>.500</u>	<u>-----</u>	<u>UW16.1 (e)</u>	<u>Top Head</u>
<u>Sorbent/Lock.</u>	<u>1</u>	<u>1.5" 300#</u>	<u>RFLWN</u>	<u>SA105</u>	<u>.625</u>	<u>-----</u>	<u>UW16.1 (e)</u>	<u>Shell</u>
<u>Sorb. Outlet</u>	<u>1</u>	<u>6" 150#</u>	<u>RFWN</u>	<u>SA106B</u>	<u>.432</u>	<u>-----</u>	<u>Type 1</u>	<u>Cone</u>
<u>Sorbent Reinv.</u>	<u>2</u>	<u>4" 150#</u>	<u>RFLWN</u>	<u>SA105</u>	<u>.750</u>	<u>-----</u>	<u>UW16.1 (e)</u>	<u>Shell</u>
<u>Manway</u>	<u>1</u>	<u>24" 150#</u>	<u>RFWN</u>	<u>SA106B</u>	<u>.375</u>	<u>SA516-70</u>	<u>UW16.1 (e)</u>	<u>Shell</u>

11. Supports: Skirt No Lugs 4 Legs ----- Other ----- Attached Shell - Weld
(Yes or No) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: -----
(Name of part, item number, Mfg's name and identifying stamp)

See attached U4 form

Exempt from impacts per UCS 66. Item no. D-609

*Cone O.A.L. 4'-4 7/8"lg.

CERTIFICATE OF SHOP/FIELD 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. "U" Certificate of Authorization No. 23982 expires December 29, 2009
Date 4/11/07 Co. name Gulfex, Inc. Signed Randy Taylor
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION
Vessel constructed by Gulfex, Inc. at 401 State Street, South Houston, Texas 77587
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 Seneca Insurance Company of Houston, Texas
have inspected the component described in this Manufacturer's Data Report on 4-4-2007 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 this manufacturer's 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 the inspection.
Date 4-11-07 Signed Ronald S. Alford Commissions 92800A - TX1033
(Authorized Inspector) (Nat'l Board (incl. Endorsements), State, Prov. and No.)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

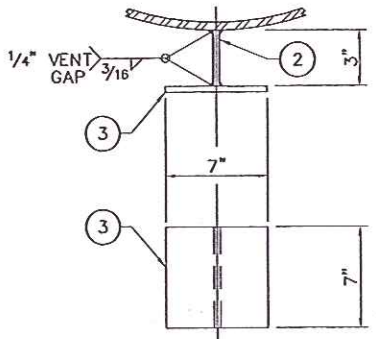
4. Type:	<u>Vertical</u> (Horiz., vert., or sphere)	<u>Regenerator Fines Drum</u> (Tank, separator, heat exc., etc.)	<u>2434</u> (Mfg's. serial No.)
	<u>----</u> (CRN)	<u>2434</u> (Drawing No.)	<u>917</u> (Nat'l. Bd. No.)
			<u>2007</u> (Year built)

Certificate of Authorization: Type "U" No. 23982 Expires December 29, 2009

Date: 4/14/07 Name Gulfex, Inc. Signed [Signature]
(Manufacturer) (Representative)

Date 4/11/07 Name [Signature] Commission 9280 BA - Tpr 33
(Authorized Inspector) (Nat'l Board incl. Endorsement, State, Province and No.)

105720

DESIGN DATA		FABRICATION DATA		TESTING, INSPECTION AND IDENTIFICATION		SHIPPING LIST (ATTACHED TO VESSEL)		BILL OF MATERIALS - SPARES & TESTING			
DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ASME CODE SECTION VIII DIVISION 1 A05 CODE STAMP JS REQ'D. NATIONAL BOARD REGISTRATION JS REQ'D. DESIGN PRESSURE (INTERNAL): 50 PSIG @ 800 °F DESIGN PRESSURE (EXTERNAL): PSIA @ °F MAX. ALLOW. WORKING PRESS: 72 PSIG @ 800 °F MINIMUM DESIGN METAL TEMP.: 0 °F @ 72 PSIG RADIOGRAPHY: LONG SM REQ'D PER FULL PER UW-11(a) GIRTH SM REQ'D PER FULL PER UW-11(a) TOP HEAD SM REQ'D PER FULL PER UW-11(a) BOT HEAD SM REQ'D PER FULL PER UW-11(a) JOINT EFFICIENCY: TOP HEAD 1.0 BOTTOM HEAD 1.0 SHELL 1.0 CORROSION ALLOWANCE: HEADS 1/8" SHELL 1/8" NOZZLES 1/8" INTERNALS: WELD IN 1/8" BOLT IN 1/8" HYDROSTATIC TEST: 150 PSIG @ 70 °F MIN. TEMP. VESSEL IS CHARGE IMPACT EXEMPT FOR PRODUCTION TEST WELDS. POST WELD HEAT TREATMENT IS NOT REQ'D. HEATING RATE: COOLING RATE: WIND CODE: ASCE 7-02, I = 1.15 SEISMIC CODE: UBC 1997, ZONE 1, I = 1.25 TOLERANCES SHALL BE PER GULFEX STANDARD TOLERANCES, SHT. 1 THRU 3 OR CUSTOMER STANDARD, WHEN APPLICABLE.		1. FLANGE BOLT HOLES TO STRADDLE NORMAL VESSEL CENTERLINES UNLESS NOTED OTHERWISE. 2. WORKLINE TO BE CENTER PUNCHED ON OUTSIDE OF VESSEL AND INSIDE IF REQUIRED. 3. TOLERANCES SHALL BE PER GULFEX STANDARD TOLERANCES, SHT 1 THRU 3 OR CUSTOMER STANDARDS, WHEN APPLICABLE. 4. PERMISSIBLE OUT OF ROUNDNESS OF CYLINDRICAL AND CONICAL SHELLS SHALL NOT BE EXCEED 1% OF THE NOMINAL DIAMETER. THIS TOLERANCE SHALL BE INCREASED TO 2% WHEN THE CROSS-SECTION PASSES THROUGH OR WITHIN ONE I.D. OF A FITTING. 5. MAXIMUM ALLOWABLE MISALIGNMENT OF BUTT JOINTS IS LIMITED TO SECTION THICKNESS JOINT CATEGORY UP TO 1/2" A BCD 1/2" TO 3/4" 1/41 1/41 3/4" TO 1 1/2" 1/8" 1/41 1 1/2" TO 2" 1/8" 3/16" OVER 2" 1/8" 1/81 LESSER OF 1/161 OR 3/8" 1/81 OR 3/4" 6. MAXIMUM ALLOWABLE EDGE OFFSET BETWEEN PLATES/HEADS OF DIFFERING THICKNESSES IS THE LESSER OF 1/8" OR 1/41 (THINNER PART). 7. ALL OFFSETS OF BUTT WELDED JOINTS SHALL BE BLENDED WITH A 3:1 TAPER. 8. CHECK APPLICABLE WELD PROCEDURE FOR PREHEAT REQUIREMENTS. 9. UNWELDED EDGES OF PENETRATIONS INSIDE THE VESSEL SHALL BE ROUNDED OR CHAMFERED. 10. BUTT JOINT EDGES ARE TO BE SMOOTH AND UNIFORM AND BE FREE OF LOOSE SCALE AND SLAG. 11. TACK WELDS ARE TO BE REMOVED OR THEIR ENDS GROUND SMOOTH WHEN INCORPORATED INTO THE FINAL WELD. 12. TO ASSURE WELD GROOVES ARE COMPLETELY FILLED THE FOLLOWING WELD REINFORCEMENT MAY BE USED. MAXIMUM WELD REINFORCEMENT NOMINAL MATERIAL THICKNESS PIPE & TUBE WELDS OTHER WELDS LESS THAN 3/32" 3/32" 1/32" 3/32" TO 3/16" INCL. 1/8" 1/16" OVER 3/16" TO 1/2" 5/32" 3/32" OVER 1/2" TO 1" INCL. 3/16" 3/32" OVER 1" TO 2" INCL. 1/4" 1/8" 13. FLANGE RAISED FACE TO HAVE 125 Ro MIN. - 250 Ro MAX. SURFACE FINISH. 14. INTERNAL AND EXTERNAL WELDED ATTACHMENTS SHALL BE CONTINUOUSLY WELDED TO THE VESSEL WALL. 15. EACH NOZZLE OR MANWAY REINFORCING PAD OR SEGMENT THEREOF SHALL HAVE TWO 1/4" NPT TEST HOLES LOCATED AT LEAST 45° OFF OF VESSEL HORIZONTAL AXIS. FILL TEST HOLES WITH HEAVY GREASE AFTER HYDROTEST. 16. PRESSURE CONTAINING WELDS SHALL BE FULL PENETRATION UNLESS OTHERWISE NOTED. 17. ALL PRESSURE CONTAINING MATERIAL SHALL HAVE HEAT NUMBERS AND MATERIAL GRADES STENCILED OR MARKED FOR TRACEABILITY.		1. THE WELDS OF EACH REINFORCING PAD OR SEGMENT SHALL BE PNEUMATIC TESTED TO 15 PSIG WITH AN AIR AND SOAP SOLUTION. 2. MATERIAL IDENTIFICATION MARKING MUST BE TRANSFERRED TO ALL PRESSURE PARTS. 3. WELDERS STENCILS ARE REQUIRED ON ALL WELDS. 4. MAGNETIC PARTICLE TESTING OR LIQUID PENETRANT EXAMINATION IS REQUIRED FOR THE FOLLOWING: a. TAPERED HEADS b. WELD METAL BUILD-UP WHICH IS APPLIED TO A TRANSITION OR USED TO INCREASE MATERIAL THICKNESS. 5. WHERE WELD METAL BUILD-UP IS USED IN JOINTS REQUIRING RADIOGRAPHY, THE WELD METAL BUILD-UP SHALL BE INCLUDED IN THE RADIOGRAPHIC EXAMINATION. 6. MATERIAL DEFECTS MAY BE REPAIRED AFTER OBTAINING APPROVAL FROM THE AUTHORIZED INSPECTOR. 7. HYDROTEST PRESSURE SHALL BE HELD FOR A MINIMUM OF ONE HOUR USING POTABLE WATER. VESSEL TO BE IMMEDIATELY DRAINED AND DRIED AFTER HYDROTEST. MAXIMUM CHLORIDE CONTENT OF TEST WATER SHALL BE 50 PPM. 8. ONLY LEAD SCREENS AND FINE GRAIN KODAK AA FILM OR EQUAL SHALL BE USED FOR RADIOGRAPHY. 9. ARC STRIKES SHALL BE GROUND SMOOTH. 10. MTR'S REQUIRED FOR ALL PRESSURE RETAINING PARTS.		(1) - 3'-6" I.D. x 19'-0" APPROX. O.A.L. VESSEL		SURFACE PREPARATION & PAINTING 1. PROTECT NAMEPLATE AND ALL FLANGE FACES BEFORE BLASTING AND PAINTING. FLANGE BOLT HOLES AND EXTERNAL SURFACES NOT MACHINED FOR GASKET SEALING TO RECEIVE SPECIFIED SURFACE PREPARATION AND PAINT. 2. PAINTING SHALL CONFORM TO ALL MANUFACTURER'S RECOMMENDATIONS REGARDING THINNING, MIXING, CURING, STORAGE AND APPLICATION METHOD. 3. INSULATION ☐ NO ☐ YES, THICKNESS = 4. FIREPROOFING ☐ NO ☐ YES, THICKNESS = 5. SURFACE PREPARATION: ☐ NO ☐ YES, PER SSFC-SP6 6. PAINT: VESSEL PRIME: 3 mls AMERON D9 FINISH: 3 mls AMERON 400 COLOR: LIGHT GRAY		1. ALL OPENINGS TO BE PROTECTED WITH ONE PIECE PLYWOOD COVERS 1/2" THK. PLYWOOD COVERS TO BE SECURED WITH 3/8" BOLTS IN EVERY OTHER HOLE, (4) MINIMUM. 2. PROTECT ALL MACHINED SURFACES AND THREADED CONNECTIONS WITH A RUST PREVENTATIVE. 3. AFTER HYDROTESTING IS COMPLETE, VESSEL SHALL BE CLEANED INSIDE AND OUTSIDE, FREE OF DIRT, GREASE, DEBRIS, LOOSE MILL SCALE, WELD SPATTER, ETC. VESSEL TO BE DRIED BY BLOWING AIR OR WIPING WITH LINT FREE TOWELS. 4. VESSELS SHALL BE CLEARLY IDENTIFIED BY PAINTING OR DYE STENCILING THE VESSEL TAG NUMBER IN A CONSPICUOUS LOCATION ON SHELL OR SUPPORT. 5. ONE SPARE GASKET, ONE SERVICE GASKET, AND SERVICE BOLTING FOR EACH BLINDED NOZZLE SHALL BE ENCLOSED IN A PLYWOOD CONTAINER AND MARKED WITH THE EQUIPMENT ITEM NUMBER. 6. TEST GASKETS SHALL BE USED FOR SHIPPING ON NOZZLES WITH BLINDS. TAG OR MARK GASKET OR NOZZLE FOR REPLACEMENT IN FIELD.	
MATERIAL SPECIFICATIONS HEADS SA-516-70 SHELL SA-516-70 FLANGES SA-105 NOZZLE NECKS (PIPE) SA-106-B NOZZLE NECKS (FORGED) N/A REINFORCING PADS SA-516-70 BOLTING (PRESSURE) SA-193-B7 / SA-194-2H GASKETS (PRESSURE) 1/4" SPRL WELD JIS SS WINGS, GRAPHITE FILLED W/ CS EXTERIOR RING COUPLINGS N/A SKIRT N/A SUPPORT LUGS SA-516-70 SADDLES N/A WEAR PLATES N/A ALL MATLS SHALL COMPLY WITH GULFEX SUPPLEMENTAL INFORMATION SHEET						WEIGHTS FABRICATED (NO INTERNALS): 6,036 LBS. TRAYS AND/OR INTERNALS: LBS. TOTAL FABRICATED: LBS. INSULATION: LBS. EMPTY: 6,036 LBS. OPERATING: 14,021 LBS. SHOP TEST: 14,252 LBS.		 NAME PLATE BRACKET			

NATIONAL BOARD NUMBER: 917	
CERTIFIED BY: GULFEX, INC.	
MAWP: 72 PSIG AT 800 °F	MIN. DESIGN METAL TEMP. 0 °F AT 72 PSIG
YEAR BUILT 2007	MFG. SER. NO. 2434
ITEM NO. D-609	
P.O. NO. 56603-P-11-22	
REGENERATOR FINES DRUM	

NAME PLATE FACSIMILE

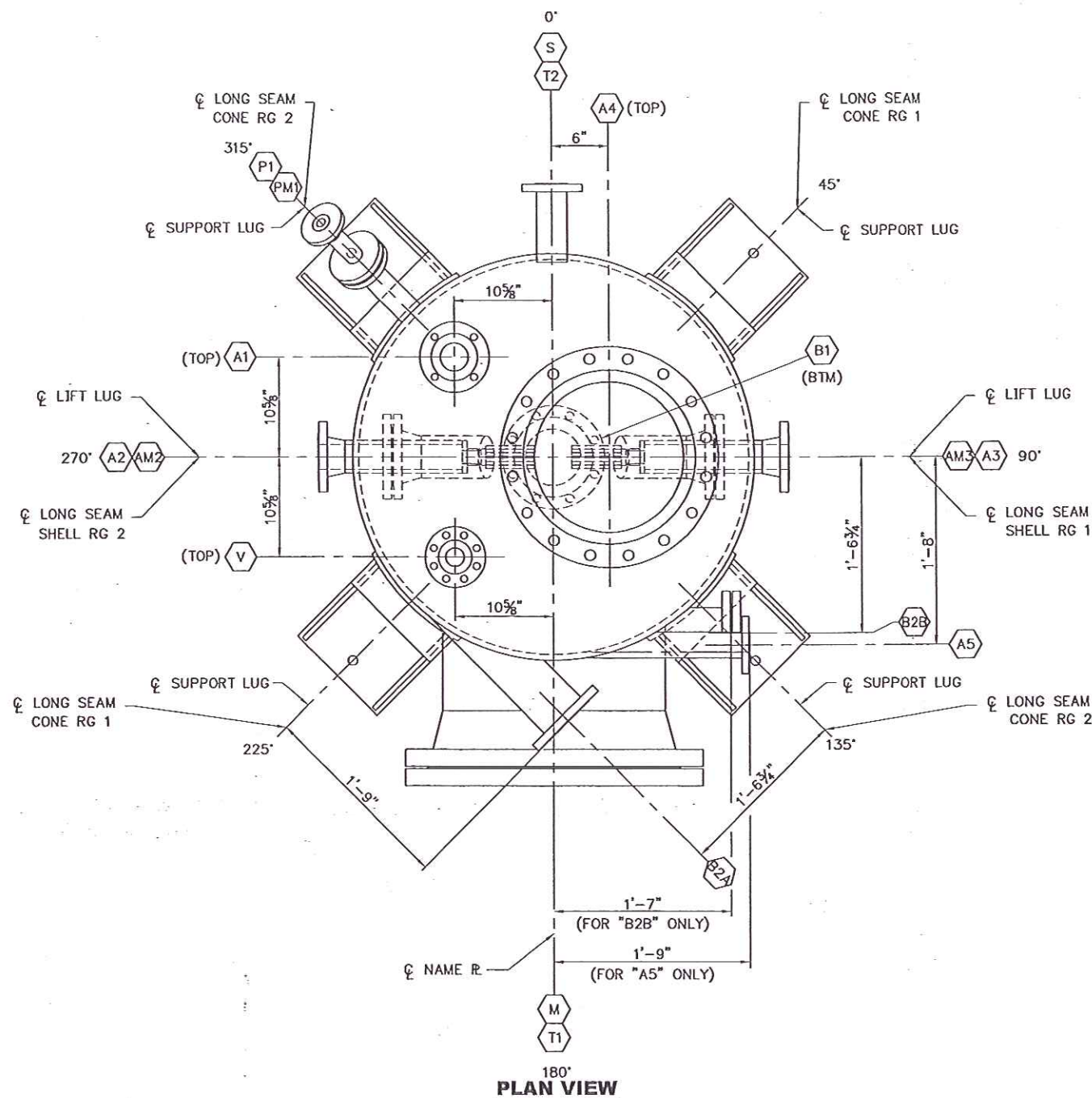
CERTIFIED AS BUILT
BY W. B. SHEEHY
DATE 16 APRIL 2007

Shaw Stone & Webster, Inc.		Project: Giant S Zorb	
SSW: 120653-P-11-22 (M1110-02)	Issue:	Job No: 120653	
EQUIP. NO.: D-609			
☐ FOR INFORMATION	☐ ACCEPTED FOR CIVIL AND PIPING IFC		
☐ ACCEPTED	☐ ACCEPTED AS CERTIFIED		
☐ ACCEPTED AS NOTED	☐ REVISE & RESUBMIT		
SIGNED: _____			
DATE: _____			
THE ACCEPTANCE OF THIS DATA BY SHAW STONE & WEBSTER DOES NOT RELIEVE THE CONTRACTOR OR SUPPLIER FROM THE OBLIGATIONS IMPOSED BY THE PURCHASE ORDER OR CONTRACT.			

NUMBER	DESCRIPTION	NO.	REVISION	BY	DATE
2	AS BUILT	RTA	4/16/07		
1	ADD PAINT FINISH COLOR	RTA	2/26/07		
0	ISSUED FOR FABRICATION	RTA	1/23/07		
A	ISSUED FOR APPROVAL	JSL	11/12/06		
REFERENCE DRAWINGS		NO.	REVISION	BY	DATE

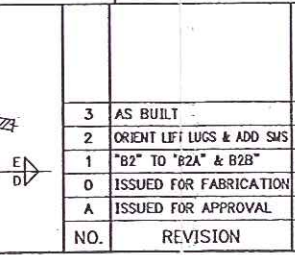
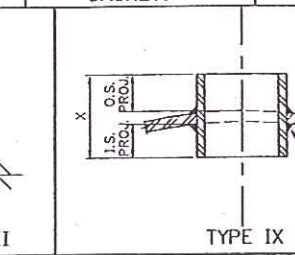
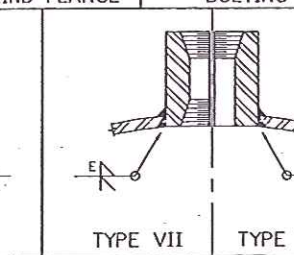
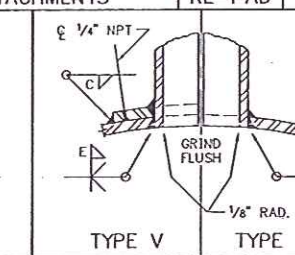
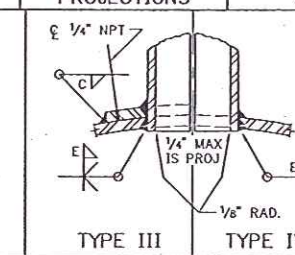
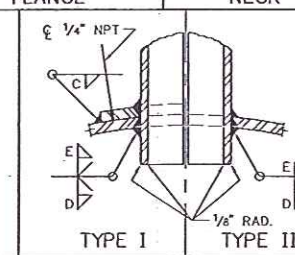
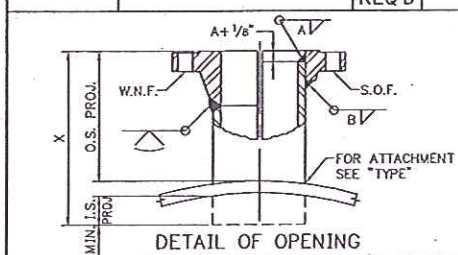
CUSTOMER: D-COK / STONE & WEBSTER			
PURCHASE ORDER NO: 56603-P-11-22			
 GULFEX, INC. METAL FABRICATORS PRESSURE VESSELS - CUSTOM FABRICATION P. O. BOX 12720 HOUSTON, TEXAS 77217 (713) 946-6614			
42" I.D. x 10'-8" SM/SM REGENERATOR FINES DRUM ITEM# D-609			
DESIGN DATA & GENERAL NOTES			
DATE 11/12/06	JOB NO. 2434	SCALE 12"=1'-0"	REVISION 2
DRAWN JSL	APPD. W.B. SHEEHY	DWG. NO. 2434-1	

#105729



180°
PLAN VIEW

V	VENT	1	2"	300#	RF WN (S/160)	2 3/8"	2" S/160 PIPE	SEE ELEV.	-	21 1/16"	VI	--	--	--	--	3/8"	--	--													11, 23			
T1-2	TW	2	1 1/2"	300#	RF LWN	2 3/4"		7 3/8"	-	8 1/16"	IV	--	--	--	--	3/8"	--	--													9			
S	SAMPLE CONNECTION	1	2"	300#	RF LWN	3 1/16"		SEE DTL.	SEE DTL.	SEE DTL.	VI	--	--	--	--	3/8"	--	--													SEE DETAIL			
PM1	MOUNT FOR NOZZLE "P1"	1	1 1/2"	300#	RF LWN	2 3/4"		SEE DTL.	-	SEE DTL.	VI	--	--	--	--	3/8"	--	--													SEE DETAIL			
P1	PT W/ INSERT	1	1"	300#	RF WN (XX-STG)	1 1/16"	1" XX-STG PIPE	SEE DTL.	SEE DTL.	SEE DTL.	VI	--	--	--	--	3/8"	--	--													SEE DETAIL			
M	MANWAY W/ DAVIT	1	24"	150#	RF WN (S/20)	24"	24" S/20 PIPE	11 3/8"	-	16 1/16"	V	--	--	1/4"	--	3/8"	1/4"	2"	24"	150#	RF	20	1 1/4"	7 1/4"	40	2	1/8"	STD	STD		17,18,26,28,29,30			
B2B	SORBENT REINVENTORY	1	4"	150#	RF LWN	5 1/2"		SEE PLAN	-	18"	IV	--	--	--	--	3/8"	--	--	4"	150#	RF	8	3/8"	4"	16	2	1/8"	STD	STD		27B, 14, 46, 47			
B2A	SORBENT REINVENTORY	1	4"	150#	RF LWN	5 1/2"		SEE PLAN	-	18"	IV	--	--	--	--	3/8"	--	--													27A			
B1	SORBENT OUTLET	1	6"	150#	RF WN (S/80)	6 3/8"	6" S/80 PIPE	SEE ELEV.	-	12"	VI	--	--	--	--	3/8"	--	--													15,24			
A5	SORBENT FROM LOCKHOPPER FILTERS	1	1 1/2"	300#	RF LWN	2 3/4"		SEE PLAN	-	18"	IV	--	--	--	--	3/8"	--	--													6			
A4	FILTER MOUNT	1	16"	150#	RF WN (S/40)	16"	16" S/40 PIPE	SEE PLAN	-	24 3/16"	IV	--	--	--	--	3/8"	--	--													16,25			
AM2-3	MOUNT NOZZLE W/ BLIND FOR "A2" & "A3"	2	4"	150#	RF WN (S/160)	4 1/2"	4" S/160 PIPE	SEE ELEV.	--	11 1/4"	VI	--	--	--	--	3/8"	--	--													13,19	BORE TO S/120 I.D. (3 3/8") SEE DET.		
A2-A3	AERATION FILTER NOZZLE	2	3"	150#	RF WN (S/160)	3 1/2"	3" S/160 PIPE	SEE ELEV.	SEE DTL.	SEE DTL.	VI	--	--	--	--	3/8"	--	--													SEE DETAIL			
A1	SORBENT FROM REGENERATOR EFFLUENT FILTER	1	3"	150#	RF WN (S/160)	3 1/2"	3" S/160 PIPE	SEE ELEV.	-	21 3/16"	IV	--	--	--	--	3/8"	--	--													12,21			
MARK	SERVICE	NO. REQ'D	SIZE	RATING	DESCRIPTION	O.D.	DESCRIPTION	OUTSIDE	INSIDE	DIM. X	TYPE	A	B	C	D	E	THICK	WIDTH	SIZE	RATING	FACING	STUDS	DIA.	LENGTH	NUTS	QTY.	THK.	O.D.	I.D.	B.O.M. ITEMS	REMARKS			
					FLANGE		NECK			PROJECTIONS		ATTACHMENTS						RF-PAD		RI IND	FLANGE		ROLTING						GASKETS					



NO.	REVISION	BY	DATE
3	AS BUILT	RTA	4/16/07
2	ORIENT LFT LUGS & ADD SMS	RTA	3/29/07
1	"B2" TO "B2A" & "B2B"	RTA	2/26/07
0	ISSUED FOR FABRICATION	RTA	1/29/07
A	ISSUED FOR APPROVAL	JSL	11/12/06

Shaw Stone & Webster, Inc.		Project: Giant S Zorb	
SSW: 120563-P-11-22 (M110-02)		Job No: 120553	
EQUIP. No.: D-609		Issue:	
☐ FOR INFORMATION	☐ ACCEPTED FOR CIVIL AND PIPING E.C.		
☐ ACCEPTED	☐ ACCEPTED AS CERTIFIED		
☐ ACCEPTED AS NOTED	☐ REVISE & RESUBMIT		
DATE:			
THE ACCEPTANCE OF THIS DATA BY SHAW STONE & WEBSTER DOES NOT RELIEVE THE CONTRACTOR OR SUPPLIER FROM THE OBLIGATIONS IMPOSED BY THE PURCHASE ORDER OR CONTRACT.			

CUSTOMER: D-COK / STONE & WEBSTER
PURCHASE ORDER NO: 56603-P-11-22

GULFEX, INC.
METAL FABRICATORS
PRESSURE VESSELS - CUSTOM FABRICATION
P. O. BOX 12720 HOUSTON, TEXAS 77217
(713) 946-6614

42" I.D. x 10'-8" SM/SM REGENERATOR FINES DRUM ITEM# D-609			
PLAN VIEW			
DATE	JOB NO.	SCALE	REVISION
11/12/06	2434	1 1/2"=1'-0"	3
DRAWN	APPD.	DWG. NO.	
JSL	W.B. SHEEHY	2434-2	

2'-10" 10'-8" SM/SM 5'-5" 1'-0 7/8"

2'-6" 2'-9" SHELL RG 2 7'-11" SHELL RG 1 4'-4 7/8" 5/8" FORMED CONE (SA-516-70) ④

9/8" ROLLED PLATE (SA-516-70) ③ 5/8" ROLLED PLATE (SA-516-70) ②

2" S.F. 9'-8" 6'-11" 1'-0" 2'-3" 1'-11 7/8" CONE RG 2 CONE RG 1

TANGENT LINE TANGENT LINE

WORK LINE ALL TAIL DIMENS ARE TO THIS LINE

0'-8" T1

0'-8" 4'-6 3/4" A3 A2 AM3 AM2

8" 1'-5 1/4" B1

40° 45° 4'-7 1/8" S

6" K.R.

42" I.D.

9'-2" 45° P1 PM1

3/4" MIN. THK. ASME CODE 2:1 ELLIPTICAL HEAD w/ 2" S.F. (SA-516-70) ①

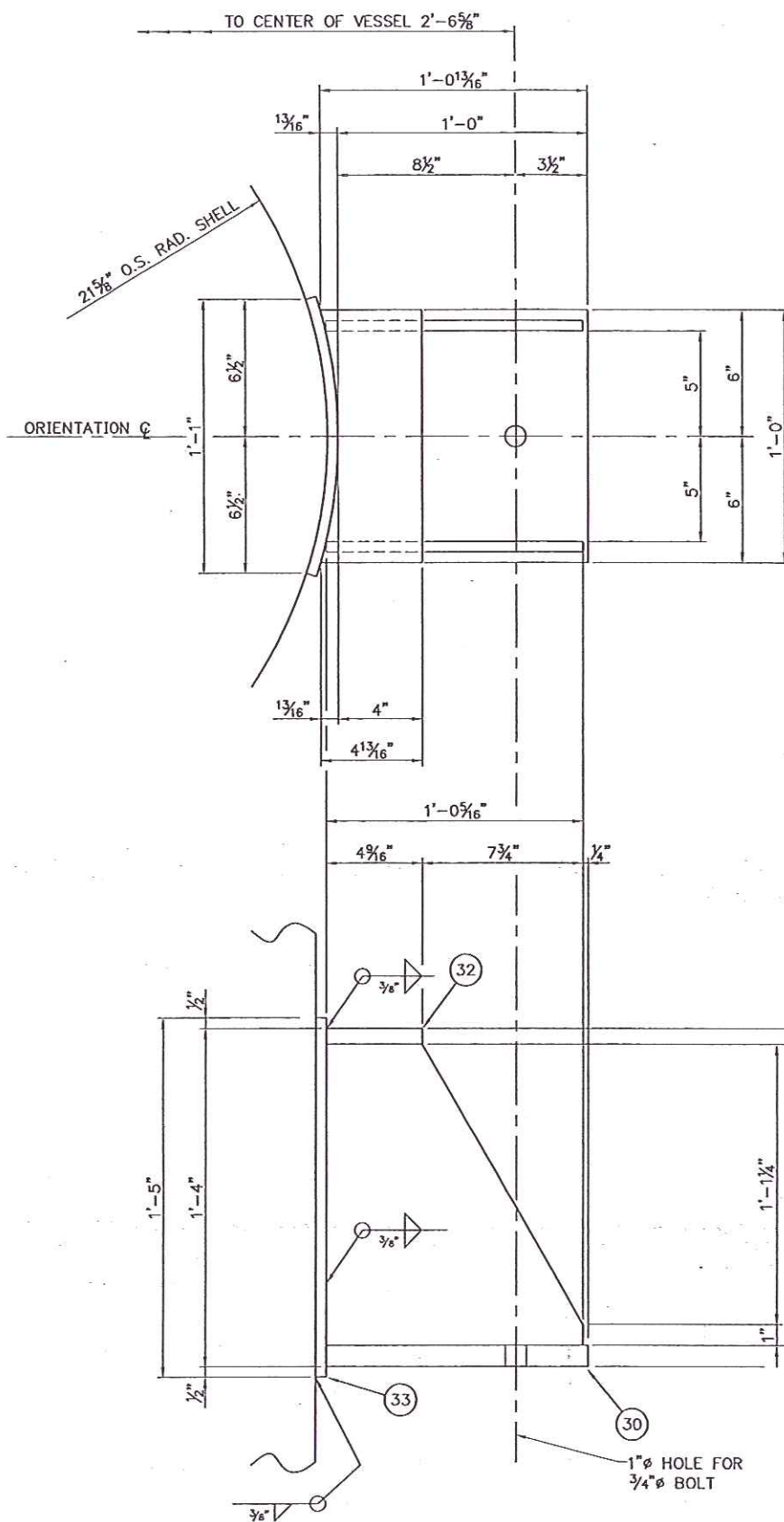
LIFTING LUG

A5 T2 9'-4" B2B B2A 8'-4" M 3'-0" 4'-4"

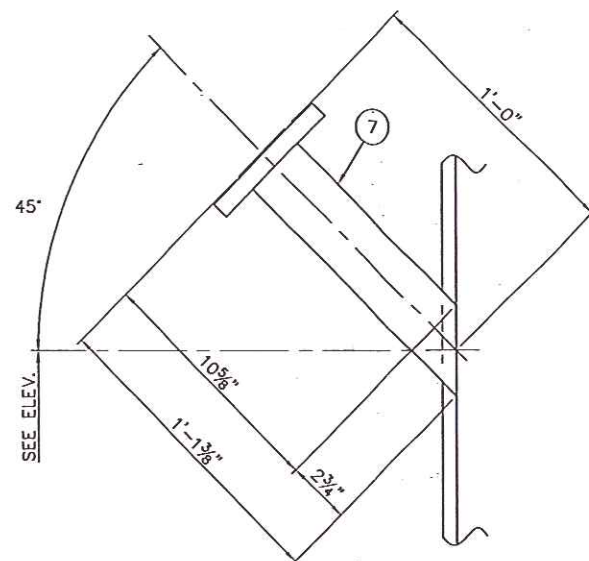
NAME R

ELEVATION VIEW

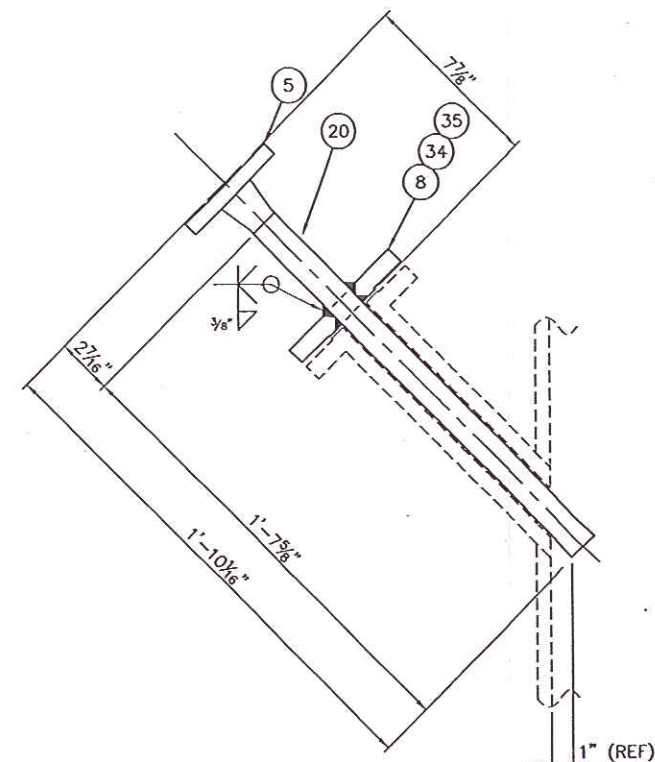
4	AS BUILT	RTA	4/16/
3	CLARIFIED RING NUMBERS	RTA	3/29/
2	"B2" TO "B2A" & B2B"	RTA	2/26/
1.	AM2/3 & A2/3 PER CUST.	RTA	1/28/
0	ISSUED FOR FABRICATION	RTA	1/29/
A	ISSUED FOR APPROVAL	JSL	11/12/
NO.	REVISION	BY	DATE



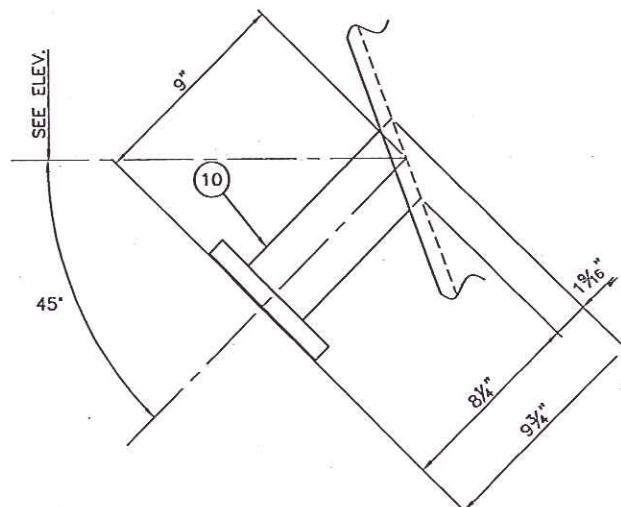
SUPPORT LUG DETAIL
FOUR (4) REQ'D.



NOZZLE "PM1" DETAIL



NOZZLE "P1" DETAIL



NOZZLE "S" DETAIL

BILL OF MATERIALS			
ITEM	QTY	DESCRIPTION	MATERIAL SPEC
30	4	PLATE: 1" x 12" x 12 ¹³ / ₁₆ "	SA-516-70
31	8	PLATE: 1/2" x 12 ⁵ / ₁₆ " x 14 ¹ / ₄ "	SA-516-70
32	4	PLATE: 3/4" x 4" x 12 ¹³ / ₁₆ "	SA-516-70
33	4	PLATE: 1/2" x 13 ¹ / ₂ " x 17"	SA-516-70
34	4	BOLT: 3/4" STUD x 4" LONG	SA-193-B7
		w/ (2) HEAVY HEX NUTS EACH	SA-194-2H
35	3	GASKET: 1/8" SPIRAL WOUND "RWI"	316 SS/GRAPHITE
		SS INNER RING & CS OUTER RING	
		FOR 1 1/2" 300# RF	

**CERTIFIED
AS BUILT**
BY **W. B. SHEEHY**
DATE 16 APRIL 2007

 Shaw Stone & Webster, Inc.		Project: Gulf 2434	
REV: 120613-P-11-22 (M11-05)		Job No: 120613	
REV#:		REV#:	
EQ/FP No: D-05			
☐ FOR INFORMATION	☐ ACCEPTED FOR OWN AND P.F.F. INC.		
☐ ACCEPTED	☐ ACCEPTED AS CERTIFIED		
☐ ACCEPTED AS NOTED	☐ REVISED & REWORK		
SIGNED			
DATE			
THE ACCEPTANCE OF THIS DATA BY SHAW STONE & WEBSTER DOES NOT RELIEVE THE CONTRACTOR OR SUPPLIER FROM THE OBLIGATIONS IMPOSED BY THE PURCHASE ORDER OR CONTRACT.			

1 AS BUILT		RTA	4/16/07
0 ISSUED FOR FABRICATION		RTA	1/23/07
A ISSUED FOR APPROVAL		JSL	11/12/06
NO.	REVISION	BY	DATE
		JSL	11/12/06
DATE 11/12/06		JOB NO. 2434	SCALE 3"=1'-0"
DRAWN JSL		APPD. W.B. SHEEHY	REVISION 1
		DWG. NO. 2434-4	

CUSTOMER: D-COK / STONE & WEBSTER
PURCHASE ORDER NO: 56603-P-11-22
GULFEX, INC.
METAL FABRICATORS
PRESSURE VESSELS - CUSTOM FABRICATION
P. O. BOX 12720 HOUSTON, TEXAS 77217
(713) 946-6614
42" I.D. x 10'-8" SM/SM
REGENERATOR FINES DRUM
ITEM# D-609

MISCELLANEOUS DETAILS