

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

Job #

(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)

Description

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Blackeagle Energy Services, 230 Commerce Drive, Berthoud, Colorado, 80513

(Name and address of manufacturer)

2. Manufactured for Porous Media, 4301 W Davis, Conroe, Texas, 77304

(Name and address of purchaser)

3. Location of Installation Wattenburg UltiSepts, 635 N 7th Ave, Brighton, Colorado, 80601

(Name and address)

4. Type Vertical 13232-S1-1 N/A 13232 V-101 455 2012
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (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 2010 to 2011a

(year)

(Addenda, if applicable (Date))

N/A

(Code Case numbers)

N/A

(Special Service per UG-120(d))

6. Shell: SA-106 B .375 in .063 in 1' 7.25" (ID) 14' 2.75"
(Material spec. number, grade) (Nominal thickness) (Corr. allow.) (Inner diameter) (Length (overall))7. Seams: N/A Seamless Pipe N/A N/A N/A N/A Welded full 100 1
(Long, (welded, dbl., singl., lap, butt)) R.T. (Spot or Full) Eff. (%) (H.T. temp) Time (hr) (Girth, (welded, dbl., singl., lap, (R.T. (spot or full)) Eff. (%) No. of Courses8. Heads: (a) Material SA-350 LF2 (b) Material SA-234
(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)	Top	.291	.125	N/A	N/A	2:1	N/A	N/A	N/A	Concave
(b)	bottom	.375	.063	N/A	N/A	2:1	N/A	N/A	N/A	Concave

If removable, bolts used (describe other fastenings)

N/A

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

9. MAWP 300 psi 0 psi at max. temp. 400 °F 0 °F
(Internal) (External) (Internal) (External)Min. design metal temp. -20 °F at 300 psi Hydro, pneu., or comb. test pressure HYDRO at 390 psi

Proof test

N/A

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet/Outlet	2	8"300#	RFWN	SA-106B	SA-105	.322	0		Welded	Welded	Shell
MISC	8	2"300#	RFWN	SA-106B	SA-105	.218	0		Welded	Welded	Shell
Inspection	1	6"300#	RFWN	SA-106B	SA-105	.28	0		Welded	Welded	Shell

Additional Nozzles - See Attached U-4...

11. Supports: Skirt Yes Lugs 2 Legs 0 Other N/A Attached Welded to Shell
(Yes or no) (Number) (Number) (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:

Closure R&M Energy Services LLC Mfgs serial # VG325.

(Name of part, item number, Manufacturer's name and identifying stamp)

Material impact test exemption temperature from Fig UCS-66 Curve B=-20 F Fig UCS-66.1 MDMT reduction=35.2 F. Code bound ends at the first threaded joint first sealing surface and face of first flange. Internal Pipe riser welded sub assemblies and filter elements that are used within this vessel are proprietary components that are designed fabricated and supplied by porous media.

Additional Remarks - See Attached U-4...

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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization No. 37442 expires April 4, 2014Date 09/12/2012 Co. name Blackeagle Energy Services Signed David P. Dowling
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by Blackeagle Energy Services at 230 Commerce Drive, Berthoud, Colorado, 80513, I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province CO and employed by HSB CT, of Hartford, CT have inspected the component described in this Manufacturer's Data Report on

September 12, 2012 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 09/12/2012 Signed David J. Polakoff Commissions 10741AB, CO055
(Authorized Inspector) (National Board (incl. endorsements), State, Province and number)

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

1. Manufactured and certified by Blackeagle Energy Services, 230 Commerce Drive, Berthoud, Colorado, 80513
(Name and address of Manufacturer)

2. Manufactured for Porous Media, 4301 W Davis, Conroe, Texas, 77304
(Name and address of Purchaser)

3. Location of installation Wattenburg UltiSepts, 635 N 7th Ave, Brighton, Colorado, 80601
(Name and address)

4. Type Vertical N/A 13232-S1-1
(Horizontal, vertical, or sphere) (Tank, separator, heat exch., etc.) (Manufacturer's serial number)

N/A 13232 V-101 455 2012
(CRN) (Drawing number) (National Board number) (Year built)

Data Report
Item Number Remarks

Additional Remarks:

these internal components are deemed "Non-Code".

Additional nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
DP	2	11/2"300#	RFLWN	SA-105	SA-105	.500	0		Welded	Welded	Shell
Closure	1	20"300#	YALE	SA-350LF2		.375	.125		Welded		Shell
Drain	1	2"300#	RFWN	SA-106B	SA-105	.218w	0		Welded	Welded	Bottom Head

Certificate of Authorization: Type "U" No. 37442 Expires April 4, 2014

Date 09/12/2012 Name Blackeagle Energy Services Signed David P. Dowling
(Manufacturer) (Representative)

Date 09/12/2012 Name Don J Lockhart Commissions 10741AB, CQ055
(Authorized Inspector) (National Board Authorized Inspector Commission number)

SO No 1382041-2
PO No 3991

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

13232-SI-1
Blackeagle Energy Services
NB# 455

1. Manufactured and certified by **R&M ENERGY SYSTEMS 10906 FM 2920 TOMBALL, TEXAS 77375**
(Name and address of Manufacturer)
2. Manufactured for **BLACKEAGLE ENERGY SERVICES LLC 230 COMMERCE DR BERTHOUD, CO 80513**
(Name and address of Purchaser)
3. Location of Installation **UNKNOWN**
(Name and address)
4. Type: **(1) 20" CLOSURE** **VG325** **N/A**
(Description of vessel part (shell, two-piece head, tube bundle)) (Mfg.'s Serial No.) (CRN)
N/A **1382041-2R1** **R&M ENERGY SYSTEMS** **2012**
(Nat'l Bd. No.) (Drawing No.) (Drawing prepared by) (Year Built)
5. ASME Code, Section VIII, Div. 1 **2010, ADDENDA 2011** **2714** **N/A**
(Edition and Addenda (Date)) (Code Case No.) (Special service per UG-120(d))
6. Shell (a) No. of course(s) **1** (b) Overall length (ft. and in.): **0-11.0**

Course(s)			Material	Thickness, in.		Long Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in	Length,ft.+in	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp., F	Time
1	19.250	0-11.0	SA 350 LF2	0.375	0.125	S	NONE	1	S	NONE	1	N/A	N/A
			CLASS 1										

7. Heads: (a) SA 516-70 N										(b) N/A				
(Mat'l Spec. no., Grade or Type)(H.T. - Time and Temp.)										(Mat'l Spec. no., Grade or Type)(H.T. - Time and Temp.)				
Location (Top, Bottom)		Thickness, in.		Radius, in.		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
Ends)		Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None.	Eff.
(a) TOP		0.291	0.125	----	----	2:1	----	----	----	----	X	S	NONE	1
(b)														

If removable, bolts used (describe other fastening)

8. MAWP **300** **PSI @ max temp. = 400** **°F.** Min Design Metal Temp **-20** **°F** at **300** **PSI**
internal external internal external

9. Impact test **Yes - CAP & HUB** At a test temp of **-50 & -50** **°F**
Indicate yes or no and the component(s) impact tested

10. Hydro., pneu., or comb. Test pressure **SEE REMARKS** Proof Test: **N/A**

11. Nozzles, inspection, and safety valve openings: UG-125(a)				At		PSIG					
Purpose (Inlet, Outlet, Drain, etc.)	No.	Dia. or Size, in.	Flange Type	Material		Nozzle Thickness, in		Reinforcement	How Attached		Location
				Nozzle	Flange	Nom.	Corr.	Material	Nozzle	Flange	(Insp. Open.)
SEE REMARKS											
PAV	1	1/2" NPT	TH'D	SA 350 LF2 CL1		N/A	N/A	INHERENT	INT THD		SHELL

12. Identification of part(s)							
Name of Part	Qty.	Line No.	Mfg's. Identification No.		Mfg's. Dwg No.	CRN	National Board No.
N/A							

13. Supports: Skirt **---** Lugs **---** Legs **---** Others **---** Attached **---**
(Yes or No) (Number) (Number) (Describe) (Where and How)

14. Remarks: **THIS TEMPERATURE APPLICABLE TO CLOSURE METAL COMPONENTS ONLY. ACTUAL SERVICE TEMPERATURE IS DETERMINED BY TEMPERATURE LIMITATIONS OF O-RING MATERIAL. UG-120,c.2 DESIGN & CALCULATION BY R&M ENERGY SYSTEMS. CLOSURE ASSEMBLY IS NOT HYDROSTATICALLY TESTED, PRESSURE ALERT VALVE FURNISHED.**

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. **10052** Expires: **July 16, 2014**

Date: **02/06/12** Name: **R&M ENERGY SYSTEMS** Signed: **James R. Deane**
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD 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 **TEXAS** and employed by **HSB CT** of **CONNECTICUT** have inspected the pressure vessel part described in this Manufacturer's Data Report on **7/6**, **2012**, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 this inspection.

Date: **7/6/12** Signed: **[Signature]** Commissions: **NB 12906A**
(Authorized Inspector) (National Board Incl. Endorsement, State, Province and No.)