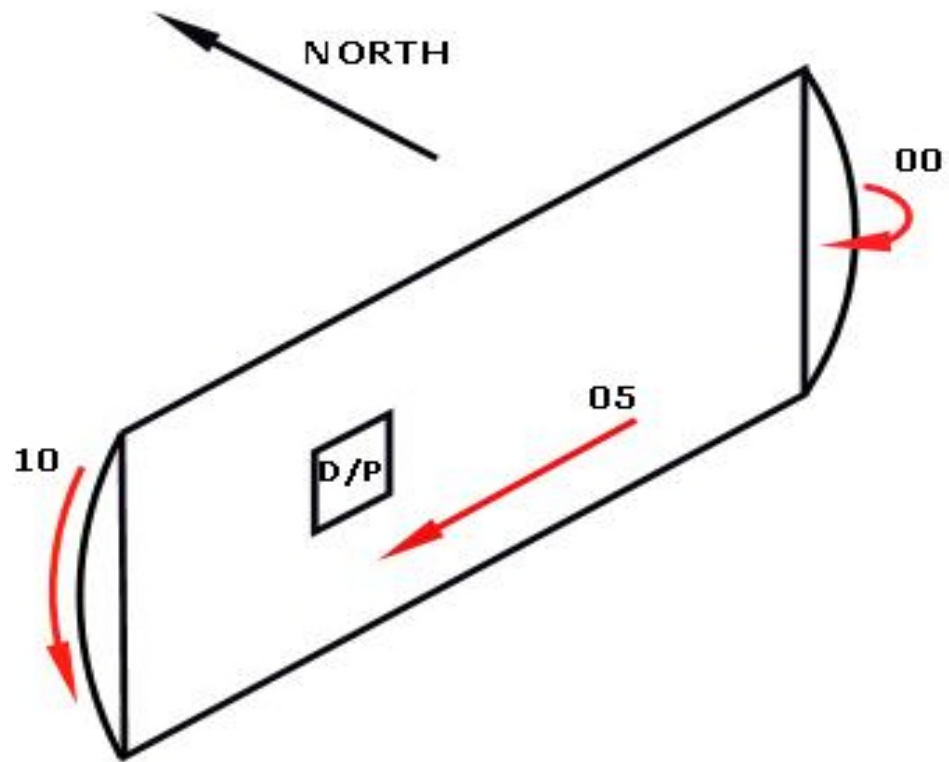




Location Name:	RAVEN CREEK	LSD:	02-20-050-18W5
Jur #:	A0635824	Equipment/Tag No.	287168
Equipment Description:	GLYCOL ACUMMULATOR		
Manufacturer:	ENERFLEX		
Serial Number:	E001004-02-02	CRN:	V8501.2
Shell MAWP:	9308	KPA	Shell Design Temp: 66 °C
Tube MAWP:		KPA	Tube Design Temp: °C
Shell Material:	SA-106-B	Head Material:	SA-234-WPB
Shell Thickness:	12.70	mm	Head Thickness: 11.11 mm
Corrosion Allowance:	1.59	mm	Date Built: 2014
Size:	219.075	mm	Pipe / Rolled Plate: PIPE
RT:	1	Streamline Report #:	STL-190060-DMS 26

NOTES: SAP#66232228







Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: Jan 30, 2019

Streamline Report #: STL-190060-DMS 26

Inspector: Colin Davies

LSD:	02-20-050-18W5	Area:	RAVEN CREEK		Location:	FIELD		
Jur #:	A0635824	Tag Number:	287168		Vessel Name:	GLYCOL ACUMMULATOR		
CRN:	V8501.2	Year Built:	2014		Serial Number:	E001004-02-02		
RT:	1	Vessel CA:	1.590	mm	Manufacturer:	ENERFLEX		
		Shell MAWP:	9308	MAWT: 66	Tube MAWP:		MAWT:	Pipe/Plate
			KPA	°C		KPA	°C	PIPE

CML Description		Baseline		Flange ANSI:			Material: SA-234-WPB		
00	HEAD	2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape:	Ellipsoidal	Min	11.66	11.51	9.520	1.590	11.110	0.030	0.000
OD:	219.075	Avg	11.71						
Spec:	ASME VIII Div.1	Comments:	Remaining Life:						
			Retirement Date:						

CML Description		Baseline		Flange ANSI:			Material: SA-106-B		
05	SHELL	2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape:	Cylindrical	Min	12.34	12.73	11.110	1.590	12.700	0.000	0.000
OD:	219.075	Avg	13.59						
Spec:	ASME VIII Div.1	Comments:	Remaining Life:						
			Retirement Date:						

CML Description		Baseline		Flange ANSI:		Material: SA-234-WPB			
10	HEAD	2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape:	Ellipsoidal	Min	11.56	11.46	9.520	1.590	11.110	0.021	0.000
OD:	219.075	Avg	12.07						
Spec:	ASME VIII Div.1	Comments:	Remaining Life:						
			Retirement Date:						

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

①638824

1. Manufactured and certified by: AXH air-coolers, LLC - 401 EAST LOWRY ROAD - CLAREMORE, OKLAHOMA 74017
(Name and address of manufacturer)
2. Manufactured for: BIDELL EQUIPMENT INC., 6900 - 112TH AVENUE SOUTHEAST, CALGARY, ALBERTA, CANADA T2C 4Z1
3. Location of installation: 136209B.3 UNKNOWN 24030
(Name and address)
4. Type HORZ. H. EXCHANGER 136209A-B.3 U6099.213 136209 AC R0 & 86817-CRN1 R0 24029-24030 2013
(Horizontal or vertical, tank) (Manufacturer's serial no.) (CRN) (Drawing number(s)) (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 EDITION
Year

to: 2011a ADDENDA
Addenda, if applicable (date) (Code Case numbers) (Special Service per UG-120 (d))
6. Shell: TUBE/PLUG: SA-516-70N FR & BK 1 5/8" .125 FR & BK 0' 6 7/8" 4' 10 3/4"
(Material spec. number, grade) (Nominal thickness) (Corr. allow) (Inner diameter) (Length overall)
7. Seams: CORNER JOINT SEE REMARKS 1.0 1150° 1 - - - 2
(Long. welded, dbl., singl., Lap, Buttl) (R.T. (Spot or Full)) (Eff., %) (H.T. temp.) (Time, hr) (Girth welded, dbl., singl., lap, buttl) (R.T. (Spot or Full)) (Eff., %) (No. of courses)
8. Heads: (a) Material WRAPPERS: SA-516-70N (b) Material ENDS: SA-516-70N
(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	WRAPPERS	7/8"	.125	-	-	-	-	-	**	FLAT
b	ENDS	3/4"	.125	-	-	-	-	-	***	FLAT

If removable, bolts used (describe other fastenings)

9. MAWP 1932 psl. N/A at max. temp 350 °F N/A
(Internal) (External) (Internal) (External)
Min. design metal temp. -20 °F at 1932 psl. Hydro., pres., or comb. test pressure 2512 psl.
Proof Test NONE

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
INLET/OUTLET	2	3"-900#	PIPE/RFWN	SA-106-B	SA-105	S/160	0.125	NONE	UW-16(a)	UW-16(a)	HEADER
INSTRUMENT	1	1"	CPLG	SA-105	-	6000#	0.125	NONE	UW-16(a)	-	HEADER
PLUGS	300	3/4"-16	UNF	SA-105	-	-	-	-	-	-	HEADER

11. Supports: Skirt NO Lugs N/A Legs N/A Other STRUCTURE Attached BOLTED
(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:

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

*2 HEADERS, ONE AT EACH END. **WRAPPERS FLAT DIA. 2 1/2" X 4' 10 3/4". ***ENDS FLAT DIA. 2 1/2" X 5 1/8". AC HEADER VOLUME: 734 CU. IN.
150 TUBES SA-179 5/8" O.D. X 0.065 MW 11' 0" L.G. RADIOGRAPH PER CUSTOMER SPECIFICATIONS.
IMPACTS EXEMPT PER UG-20(f). PRESSURE RELIEF DEVICE BY OTHERS. CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28.

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 Number 34,950 expires 02/07/2014

Date 4-17-13 Co. name

AXH air-coolers, LLC.
(Manufacturer)

Signed

Eduardo Schumbe
(Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

Vessel constructed by AXH air-coolers, LLC. at 401 E. LOWRY ROAD - CLAREMORE, OKLAHOMA 74017

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 OKLAHOMA and employed by TUV RHEINLAND AIA SERVICES, LLC OF TEXAS

have inspected the component described in this Manufacturer's Data Report on 4-16-13 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 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 4-16-13 Signed

(Authorized Inspector)

Commissions

NB12461A OK883

(National Board (incl. endorsements,) State, Province, and number)