

FORM U1-A 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 Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

114

1. Manufactured and certified by Coughlin Equipment Company, 1600 W. Vandament, Yukon, Ok 73099
(Name and address of Manufacturer)

2. Manufactured for Stock
(Name and address of Purchaser)

3. Location of installation Unknown
(Name and address)

4. Type Horizontal CEY-11-U096 0 10-U76-REV-2 Ø83 2011
(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 meets 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
Year

to A-0- 0 0
(Addenda, if applicable (date)) (Code Case Numbers) (Special Service per UG-120(d))

6. Shell SA-516-70N 1.75" 0 3'- 8 1/2" 15'-0 S/S
(Material spec. number, grade) (Nominal thickness) (Corr. Allow.) (inner diameter) (Length (overall))

7. Seams Type 1 Full 100% 1100 1 3/4 Type 1 Full 100% 2
(Long. (Welded, dbl., snlg., lap, butt)) (R.T. (spot or full)) (Eff. %) (H.T. temp.) (Time, hr) (Orth (Welded, dbl., snlg., lap, butt)) (R.T. (spot or full)) (Eff. %) (No. of courses)

8. Heads: (a) Material SA-516-70N (b) Material 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)	Top	1.6229"	0	0	0	(2:1)	0	0	0	CONCAVE
(b)	Bottom	1.6229"	0	0	0	(2:1)	0	0	0	CONCAVE

If removable, bolts used (describe other fastenings) 0
(Material spec. number, grade, size, number)

9. MAWP 1440 N/A at max. temp. 130 130
(Internal) (External) (Internal) (External)

Min. design metal temp. -12 at 1440 Hydro., pneu., or comb. test pressure 1872

Proof test _____

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement	Attachment Details		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Dump, drain, relief	3	2"	Cplg	SA-105	N/A	3000#	N/A	Inherent	UW-16.1-(I)	N/A	Shell
LLC	1	2"	Nozzle	SA-106-B	N/A	Sch 100	N/A	Inherent	UW-16.1-(I)	N/A	Head
Outlet	1	6"	Pipe	SA-106-C	SA-105	XXH	N/A	SA-36	UW-16.1-(I)	Welded	Shell
Inlet	1	6"	Pipe	SA-106-C	SA-105	XXH	N/A	Inherent	UW-16.1-(I)	Welded	Head

11. Supports: Skirt No Lugs 0 Legs 2 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: Shells 127800-1 & 127801-2 Fort Worth F & D Head Copany...X-Ray 100%
(Name of part, item number, Manufacturer's name and identifying stamp)

Horizontal 2 Phase Separator...Charpy Impact Test Exempt Per UCS-66(d)...Other Attachments SA-36

See attached "U-4" Sheet...NON CORROSIVE SERVICE. *PSV flow not to exceed 12,102 @ 1440# PSI. *Radiograph per UW-11 (a)

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 40,379
 expires 2/16/14
 Date 12/28/11 Co. name Coughlin Equipment Company Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by Coughlin Equipment Company at Yukon, Oklahoma
 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 OneBeacon America Insurance
 have inspected the component described in this Manufacturer's Data Report on 12-28-11
 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 12-28-11 Signed [Signature] Commissions NB# 10302AB Oklahoma# 986
(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 I

1. Manufactured and certified by Coughlin Equipment Company, 1600 W. Vandament, Yukon, Ok 73099
(Name and address of Manufacturer)

2. Manufactured for Stock
(Name and address of Purchaser)


3. Location of installation Unknown
(Name and address)


4. Type Horizontal Separator CEY-11-U096
(Horizontal, vertical, or Sphere) (Tank, separator, heat exch., etc.) (Manufacturer's serial number)

-0- 10-U76-REV-2 083 2011
(CRN) (Drawing Number) (National Board number) (Year Built)

Data Report Item Number	Remarks
10	TL.....1.....3/4".....Cplt....SA-105...3000#.....Inherent...UW16.1(bb).....Shell
10	Supply Gas.....1.....1/2".....Couplet....SA-105...3000#...Inherent...UW16.1-(bb)..Shell
10	Access.....2.....2".....Cplg....SA-105...3000#.....Inherent..UW16.1-(a)...Shell

Certificate of Authorization: Type "U" No. 40,379 Expires 2/16 2014

Date 12/28/11 Name Coughlin Equipment Company Signed 
(Manufacturer) (Representative)

Date 12-28-11 Name  Commission NB# 10302AB Oklahoma# 986
(Authorized Inspector) (National Board (incl. endorsements), State, Province, and number)

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

314

1. Manufactured and certified by FORT WORTH F & D HEAD CO. 3040 E. PEDEN RD FORT WORTH, TEXAS 76179
(Name and address of manufacturer)

2. Manufactured for BUILT FOR STOCK
(Name and address of purchaser)

3. Location of installation UNKNOWN
(Name and address)

4. Type (5) 48" O.D. X 1.750 CYLINDERS 10'-0" LONG 127800-1 THRU 5 XXX
(Description of vessel part (shell, two-piece head, tube bundle)) (Mfg's serial No.) (CRN)

XXX 127800 N/A 2011
(Nat'l Bd. No.) (Drawing No.) (Drawing prepared by) (Year built)

5. ASME Code Section VIII, Div. 1 2010 EDITION N/A NA
(Edition and Addenda (date)) (Code Case No.) (Special Service per UG-120 (d))

6. Shell a) No. of courses: 1 b) Overall length (ft & in.) 10'-0" (OAL)

No	Course(s)		Material Spec./Grade or Type	Thickness in.		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
	Diameter in.	Length ft & in.		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	48" O.D.	10'-0"	SA516-70 NORM	1.750		1	FULL	-				1656 F	300 MIN

7. Heads: (a) XXX (b) XXX
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp.

(a)	Location (Top, Bottom, Ends)	Thickness in.		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
-	XXX	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) XXX
(Mat'l Spec. No., Grade, Size, No.)

8. MAWP N/A N/A psi at max. temp. N/A N/A °F, Min. design metal temp N/A °F at N/A psi.
(internal) (external) (internal) (external)

9. Impact test NO at test temperature of N/A °F
(Indicate yes or no and the component(s) impact tested)

10. Hydro., pneu., or comb. test pressure N/A Proof test N/A

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness in.		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Nozzle	Nom.	Corr.		Nozzle	Nozzle	
NONE	-	-	-	-	-	-	-	-	-	-	-

12. Identification of part(s)

Name of Part	Quantity	Line No.	Mfr's. Identification No.	Mfr's. Drawing No.	CRN	National Board No.	Year Built
XXX	X	XXX	XXX	XXX	XXX	XXX	XXX

13. Supports: Skirt XXX Lugs XXX Legs XXX Others N/A Attached XXX
(Yes or no) (No.) (No.) (Describe) (Where and how)

14. Remarks NO PRESSURE TEST PERFORMED NORMALIZED AFTER WELDING PARTS DO NOT MEET UCS 58. PWHT IS REQUIRED
NO DESIGN FUNCTION PERFORMED WPS QUALIFIED WITH AND WITHOUT PWHT AND NORMALIZED CONDITIONS

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 Boiler and Pressure Vessel Code, Section VIII, Division 1.

"U" Certificate of Authorization No. 10625 expires 9/07/2011

Date 8/8/11 Name FORT WORTH F & D HEAD CO. Signed [Signature]
(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 OneBeacon America Insurance Co. of Lynn, MA have inspected the pressure vessel part described in this Manufacturer's Data Report on 8-12-11 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 8-12-11 Signed [Signature] Commissions TX-897
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

**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 Boiler and Pressure Code Rules, Section VIII, Division 1**

414

1. Manufactured and certified by FORT WORTH F & D HEAD CO. 3040 E. PEDEN RD FORT WORTH, TEXAS 76179
(Name and address of manufacturer)

2. Manufactured for BUILT FOR STOCK
(Name and address of purchaser)

3. Location of installation UNKNOWN
(Name and address)

4. Type (5) 48" O.D. X 1.750 CYLINDERS 5'-0" LONG 127801-1 THRU 5 XXX
(Description of vessel part (shell, two-piece head, tube bundle)) (Mfg's serial No.) (CRN)

xxx 127801 N/A 2011
(Nat'l Bd. No.) (Drawing No.) (Drawing prepared by) (Year built)

5. ASME Code Section VIII, Div. 1 2010 EDITION N/A NA
(Edition and Addenda (date)) (Code Case No.) (Special Service per UG-120 (d))

6. Shell a) No. of courses: 1 b) Overall length (ft & in.) 5'-0" (OAL)

Course(s) No	Diameter in.	Length ft & in	Material Spec./Grade or Type	Thickness in.		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
				Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	48" O.D.	5'-0"	SA516-70 NORM	1.750		1	FULL	-				1656 F	300 MIN

7. Heads: (a) _____ (Mat'l. Spec. No., Grade or Type) H.T. - Time & Temp. (b) _____ (Mat'l. Spec. No., Grade or Type) H.T. - Time & Temp.

(a)	Location (Top, Bottom, Ends)	Thickness in.		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
-	XXX	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) _____ (XXX) (Mat'l. Spec. No., Grade, Size, No.)

8. MAWP N/A N/A psi at max. temp. N/A N/A °F. Min. design metal temp N/A °F at N/A psi.
(internal) (external) (internal) (external)

9. Impact test NO at test temperature of N/A °F
(Indicate yes or no and the component(s) impact tested)

10. Hydro., pneu., or comb. test pressure N/A Proof test N/A

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness in.		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Nozzle	Nom.	Corr.		Nozzle	Nozzle	
NONE	-	-	-	-	-	-	-	-	-	-	-

12. Identification of part(s)

Name of Part	Quantity	Line No.	Mfr's. Identification No.	Mfr's. Drawing No.	CRN	National Board No.	Year Built
XXX	X	XXX	XXX	XXX	XXX	XXX	XXX

13. Supports: Skirt XXX Lugs XXX Legs XXX Others N/A Attached XXX
(Yes or no) (No.) (No.) (Describe) (Where and how)

14. Remarks NO PRESSURE TEST PERFORMED NORMALIZED AFTER WELDING PARTS DO NOT MEET UCS 56. PWHT IS REQUIRED
NO DESIGN FUNCTION PERFORMED WPS QUALIFIED WITH AND WITHOUT PWHT AND NORMALIZED CONDITIONS

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 Boiler and Pressure Vessel Code, Section VIII, Division 1.

"U" Certificate of Authorization No. 10625 expires 9/07/2011

Date 8/8/11 Name FORT WORTH F & D HEAD CO. Signed [Signature]
(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 OneBeacon America Insurance Co. of Lynn, MA have inspected the pressure vessel part described in this Manufacturer's Data Report on 8-12-11 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 8-12-11 Signed [Signature] Commissions 1x.897
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)



FORM R-2 REPORT OF ALTERATION

In accordance with provisions of the National Board Inspection Code

49
(Form "R" Registration No.)
N/A
(PO No., Job No., etc.)

1a. DESIGN PERFORMED BY: Big Iron Oilfield Services, Inc.
(Name of "R" organization responsible for design)
22650 Highway 29, Elmore City, Oklahoma, 73433, USA
(address)

1b. CONSTRUCTION PERFORMED BY: Big Iron Oilfield Services, Inc.
(Name of "R" organization responsible for construction)
22650 Highway 29, Elmore City, Oklahoma, 73433, USA
(address)

2. OWNER OF PRESSURE RETAINING ITEM: Big Iron Oilfield Services, Inc.
(name)
22650 Highway 29, Elmore City, Oklahoma, 73433, USA
(address)

3. LOCATION OF INSTALLATION: Unknown
(name)
Unknown
(address)

4. ITEM IDENTIFICATION: Pressure Vessel NAME OF ORIGINAL MANUFACTURER: **Coughlin Equipment Company**
(boiler, pressure vessel or piping)

5. IDENTIFYING NOS: CEY-11-U096 083 N/A N/A 2011
(mfg. serial no.) (National Board No.) (Jurisdiction No.) (other) (year built)

6. NBIC EDITION / ADDENDA: 2015 N/A
(edition) (addenda)

Original Code of Construction for Item: **ASME/8/1 2010/A-0/**
(name/ section/ division) (edition/ addenda)

Construction Code Used for Alteration Performed: **ASME/8/1 2015/N/A/**
(name/ section/ division) (edition/ addenda)

7a. DESCRIPTION OF SCOPE DESIGN:
Recalculate the addition of one 2" 6000# CPLG; SA-105, one 3" x Sch 160; SA-106-B; with 1/2"; SA-516-70 repad.

7b. DESCRIPTION OF CONSTRUCTION SCOPE:
Using WPS 200N, added one 2" 6000# CPLG; SA-105, one 3" x Sch 160; SA-106-B; with 1/2"; SA-516-70 repad. Welded nozzels and couplings with calculated weld sizes from calcs.

Yes Pressure Test, if applied **1872 psi** MAWP **1440 psi**



8. REPLACEMENT PARTS: Attached are Manufacturer's Partial Data Reports or Form R-3's properly completed for the following items of this report:

N/A
(name of part, item number, data report type or Certificate of Compliance, mfg's name and identifying stamp)

9. REMARKS:

Vessel sent to Post Weld Heat Treat after construction.

Post Weld Heat Treat calculated in with calcs.

DESIGN CERTIFICATION

I, Matthew Simpson, certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the *National Board Inspection Code*.

National Board "R" Certificate of Authorization No. 9358 expires on 03/24/2020
Date 05/16/2017 Big Iron Oilfield Services, Inc. Signed Matthew Simpson
(name of design organization) (authorized representative)

CERTIFICATE OF DESIGN CHANGE REVIEW

I, Chris G. Gillum, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency, where required, issued by the jurisdiction of TX, OK and employed by OneCIS Insurance Company of Lynn, MA have reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the *National Board Inspection Code*.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, or property damage or loss of any kind arising from or connected with this inspection.

Date 05/18/2017 Signed Chris G. Gillum Commissions: 11223R, TX1446, OK 663
(inspected) (National Board and jurisdiction no.)

CONSTRUCTION CERTIFICATION

I, Everett Heuer, certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No. 9358 expires on 03/24/2020
Date 05/19/2017 Big Iron Oilfield Services, Inc. Signed Everett Heuer
(name of alteration organization) (authorized representative)

CERTIFICATE OF INSPECTION

I, Chris G. Gillum, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency, where required, issued by the jurisdiction of TX, OK and employed by OneCIS Insurance Company of Lynn, MA have inspected the work described in this report on April 27, 2017 and state that to the best of my knowledge and belief this work complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, or property damage or loss of any kind arising from or connected with this inspection.

Date 05/24/2017 Signed Chris G. Gillum Commissions: 11223R, TX1446, OK 663
(inspected) (National Board and jurisdiction no.)