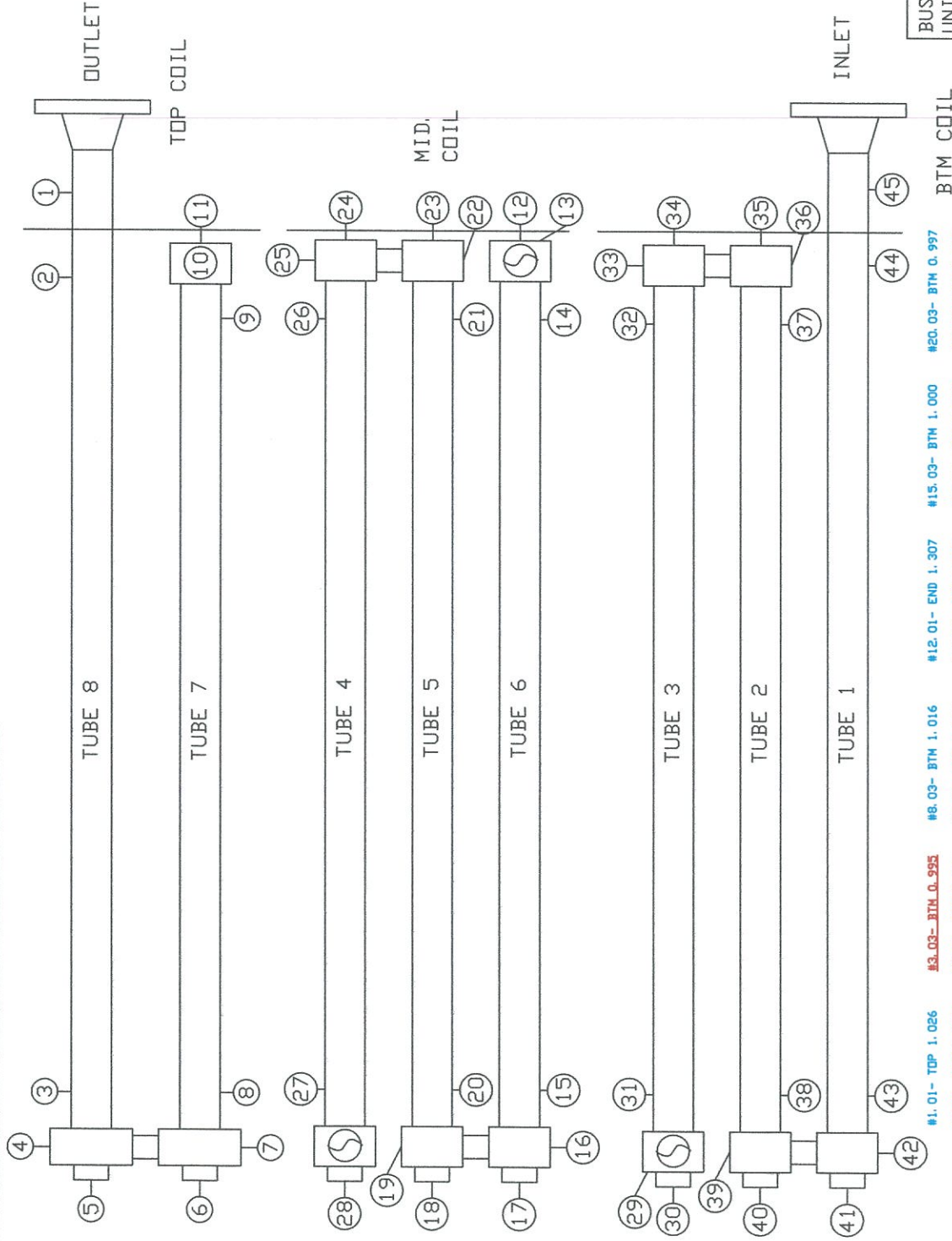


EQUIP RETIREMENT DATE: 11/21/2014
NEXT INSPECTION IS DUE: 1/12/2012



DM-401

#24. 01- END 1.250
#25. 01- SIDE 1.855
#26. 01- TOP 1.011
#26. 02- LFT 1.012
#26. 03- BTM 1.011
#26. 04- RGT 0.992
#27. 01- TOP 0.988
#27. 02- LFT 0.975
#27. 04- RGT 0.968
#28. 01- END 1.930
#29. 01- TOP 1.403
#30. 01- END 1.258
#31. 01- TOP 1.011
#31. 02- LFT 0.976
#31. 03- BTM 1.007
#31. 04- RGT 1.007
#32. 01- TOP 1.003
#32. 02- LFT 1.020
#32. 03- BTM 1.015
#32. 04- RGT 0.987
#33. 01- SIDE 1.395
#34. 01- END 1.864
#35. 01- END 1.232
#36. 01- SIDE 1.904
#37. 01- TOP 0.982
#37. 02- LFT 1.001
#37. 03- BTM 1.005
#37. 04- RGT 0.989
#38. 01- TOP 1.000
#38. 02- LFT 0.957
#38. 03- BTM 1.000
#38. 04- RGT 0.980
#39. 01- SIDE 1.306
#40. 01- END 1.863
#41. 01- END 1.323
#42. 01- SIDE 1.858
#43. 01- TOP 0.982
#43. 02- LFT 0.983
#43. 03- BTM 1.002
#43. 04- RGT 1.008
#44. 01- TOP 0.998
#44. 02- LFT 1.013
#44. 03- BTM 1.031
#44. 04- RGT 1.010
#45. 01- BTM 0.976

NAMEPI E INFO	
MFG	BLUESTAR WELDING
SERIAL NUMBER	BS10K4MM-05A
A NUMBER	514078
DATE BUILT	2005
DESIGN P & T	10,000 psi @ 180°F
NOTE	CRN # ALD-05-001

BUSINESS UNIT	PURE ENERGY
EQ/CIRC ID #	LH0010-C1
EQUIP NAME	LINE HEATER (WITH 2 COILS)
DWG #	LH0010-C1

DESC: COIL 1 ON LINE HEATER 3
DWG#: LH0010-C1-1.01-45.01

Hawkeye Inspection, LLC
1595 So. Hwy 150, Suite F
Evanston, WY 82930
(307) - 789-3540

Report Date: 01/22/2011

(Report in Inches, Corrosion Rates in MPY)
Analysis: Straight Line

Unit: LH-0010
Eq/Circ ID: LH0010-C1
Eq Type: VESSEL
Class:
CM RBI:
Design Code: S8/D1

Flange Rating: 5734 lb/in²
Design Pressure: 10000 lb/in²
Design Temperature: 180 °F

Description: COIL 1 ON LINE HEATER 3, SN:BS10K4MM-05A

Summary: Group Name:
Insp. Due Date = 01/12/2012
Pred. Ret. Date = 11/21/2014

Group Description:
RCR = 21.5 MPY
Rem. Life (from last survey 01/12/2011) = 3.9 yrs

O C.A. Status: No
Total Caution TMLs = 15

TML No	Location	Ctn	First Survey Thick	First Survey Nt	First Date	Previous Survey Thick	Previous Survey Nt	Previous Date	Last Survey Thick	Last Survey Nt	Last Date	Shrt Term Rate	Long Term Rate	Best Rate	Max Hist CR	Retirement Thickness	Rep TML CR	TML Retirement Date	TML Inspection Date
1.01	TOP	N	0.998		06/14/2007	0.998 RR		09/08/2009	1.026		01/12/2011	0	0	0	0.9	0.875 U	0.1	01/24/3521	01/12/2012
2.01	TOP	N	1.012		06/14/2007	1.003		09/08/2009	0.983		01/12/2011	14.9	8.1	7.7	14.9	0.875 U	14.9	04/12/2018	01/12/2012
2.02	LFT	Y	1.000 NM		03/10/2005	1.029		09/08/2009	1.002		01/12/2011	20.1	0	0	20.1	0.875 U	20.1	05/08/2017	01/12/2012
2.03	BTM	Y	1.000 NM		03/10/2005	1.055		09/08/2009	1.030		01/12/2011	18.6	0	0	18.6	0.875 U	18.6	05/14/2019	01/12/2012
2.04	RGT	N	1.000 NM		03/10/2005	1.014		09/08/2009	1.009		01/12/2011	3.7	0	0	3.7	0.875 U	3.7	04/01/2047	01/12/2012
3.01	TOP	N	1.002		06/14/2007	0.983		09/08/2009	0.983 RR		01/12/2011	0	5.3	5.6	8.5	0.875 U	5.3	05/30/2031	01/12/2012
3.02	LFT	N	1.000 NM		03/10/2005	1.035		09/08/2009	1.030		01/12/2011	3.7	0	0	3.7	0.875 U	3.7	12/03/2052	01/12/2012
3.03	BTM	Y *	1.000 NM		03/10/2005	1.036		09/08/2009	0.995		01/12/2011	30.5	0.9	0	30.5	0.875 U	30.5	12/19/2014	01/12/2012
3.04	RGT	N	1.000 NM		03/10/2005	0.999		09/08/2009	0.999 RR		01/12/2011	0	0.2	0.2	0.2	0.875 U	0.2	01/17/2631	01/12/2012
4.01	SIDE	N	1.225		06/14/2007	1.225		09/08/2009	1.215		01/12/2011	7.4	2.8	2.5	7.4	0.875 U	7.4	12/23/2056	01/12/2012
5.01	END	N	2.031		06/14/2007	2.031		09/08/2009	2.031 RR		01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
6.01	END	N	1.269		06/14/2007	1.269		09/08/2009	1.269 RR		01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
7.01	SIDE	N	1.884		06/14/2007	1.884		09/08/2009	1.884 RR		01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
8.01	TOP	N	0.999		06/14/2007	0.999 RR		09/08/2009	1.006		01/12/2011	0	0	0	0.9	0.875 U	0.1	01/22/3321	01/12/2012
8.02	LFT	Y	1.000 NM		03/10/2005	1.008		09/08/2009	0.987		01/12/2011	15.6	2.2	1.2	15.6	0.875 U	15.6	03/18/2018	01/12/2012
8.03	BTM	N	1.000 NM		03/10/2005	1.016		09/08/2009	1.016		01/12/2011	0	0	0	0	0.875 U	0.1	01/23/3421	01/12/2012
8.04	RGT	Y *	1.000 NM		03/10/2005	1.058		09/08/2009	1.012		01/12/2011	34.2	0	0	34.2	0.875 U	34.2	01/14/2015	01/12/2012
9.01	TOP	N	0.993		06/14/2007	0.993 RR		09/08/2009	0.998		01/12/2011	0	0	0	11.1	0.875 U	0.1	01/21/3241	01/12/2012
9.02	LFT	N	1.000 NM		03/10/2005	1.009		09/08/2009	0.989		01/12/2011	14.9	1.9	0.9	14.9	0.875 U	14.9	09/07/2018	01/12/2012
9.03	BTM	N	1.000 NM		03/10/2005	0.995		09/08/2009	0.988		01/12/2011	5.2	2.1	1.8	5.2	0.875 U	5.2	10/05/2032	01/12/2012

Hawkeye Inspection, LLC
1595 So. Hwy 150, Suite F
Evanston, WY 82930
(307)-789-3540

Report Date: 01/22/2011

(Report in Inches, Corrosion Rates in MPY)
Analysis: Straight Line

Unit: LH-0010

Eq/Circ ID: LH0010-C1

Eq Type: VESSEL

Class:

CM RBI:

Design Code: S8/D1

Flange Rating: 5734 lb/in²
Design Pressure: 10000 lb/in²
Design Temperature: 180 °F

Description: COIL 1 ON LINE HEATER 3, SN:BS10K4MM-05A

Summary: Group Name:

Insp. Due Date = 01/12/2012

Pred. Ret. Date = 11/21/2014

Group Description:

RCR = 21.5 MPY

Rem. Life (from last survey 01/12/2011) = 3.9 yrs

0 C.A. Status: No

Total Caution TMLs = 15

	TML No	Location	Ctn	First Survey TML	First Survey Nt	First Survey Date	Previous Survey Thick	Previous Survey Nt	Previous Survey Date	Last Survey Thick	Last Survey Nt	Last Date	Shrt Term Rate	Long Term Rate	Best Rate	Max Hist CR	Retirement Thickness	Rep TML CR	TML Retirement Date	TML Inspection Date
9.04		RGT	N	1.000 NM		03/10/2005	1.011		09/08/2009	1.011	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/22/3371	01/12/2012
10.01		TOP	Y	1.333		06/14/2007	1.333		09/08/2009	1.257		01/12/2011	56.5	21.2	19.1	56.5	0.875 U	56.5	10/16/2017	01/12/2012
11.01		END	N	1.801		06/14/2007	1.801		09/08/2009	1.795		01/12/2011	4.5	1.7	1.5	4.5	0.875 U	4.5	06/25/2215	01/12/2012
12.01		END	N	1.306		06/14/2007	1.306		09/08/2009	1.306	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
13.01		BTM	N	1.818		06/14/2007	1.818		09/08/2009	1.818	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
14.01		TOP	N	0.975		06/14/2007	0.975	RR	09/08/2009	0.978		01/12/2011	0	0	0	11.1	0.875 U	0.1	01/19/3041	01/12/2012
14.02		LFT	N	1.000 NM		03/10/2005	0.993		09/08/2009	0.993	RR	01/12/2011	0	1.2	1.3	1.6	0.875 U	1.2	05/14/2109	01/12/2012
14.03		BTM	N	1.000 NM		03/10/2005	1.014		09/08/2009	1.014	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/23/3401	01/12/2012
14.04		RGT	N	1.000 NM		03/10/2005	1.018		09/08/2009	1.018	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/23/3441	01/12/2012
15.01		TOP	N	0.979		06/14/2007	0.979	RR	09/08/2009	0.981		01/12/2011	0	0	0	9.3	0.875 U	0.1	01/20/3071	01/12/2012
15.02		LFT	N	1.000 NM		03/10/2005	1.021		09/08/2009	1.021	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/23/3471	01/12/2012
15.03		BTM	N	1.000 NM		03/10/2005	1.004		09/08/2009	1.000		01/12/2011	3.0	0	0	3.0	0.875 U	3.0	09/12/2052	01/12/2012
15.04		RGT	N	1.000 NM		03/10/2005	0.983		09/08/2009	0.983		01/12/2011	0	2.9	3.1	3.8	0.875 U	2.9	04/09/2048	01/12/2012
16.01		SIDE	N	1.297		06/14/2007	1.297		09/08/2009	1.297	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
17.01		END	N	2.025		06/14/2007	2.025		09/08/2009	2.025		01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
18.01		END	N	1.318		06/14/2007	1.318		09/08/2009	1.318	RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
19.01		SIDE	Y	1.999		06/14/2007	1.999		09/08/2009	1.974		01/12/2011	18.6	7.0	6.3	18.6	0.875 U	18.6	02/12/2070	01/12/2012
20.01		TOP	N	1.016		06/14/2007	1.010		09/08/2009	0.998		01/12/2011	8.9	5.0	4.8	8.9	0.875 U	8.9	11/07/2024	01/12/2012
20.02		LFT	N	1.000 NM		03/10/2005	0.998		09/08/2009	0.988		01/12/2011	7.4	2.1	1.6	7.4	0.875 U	7.4	04/20/2026	01/12/2012
20.03		BTM	N	1.000 NM		03/10/2005			N/A	0.997		01/12/2011	N/A	0.5	N/A	0.5	0.875 U	0.5	01/14/2255	01/12/2012
20.04		RGT	N	1.000 NM		03/10/2005	1.023		09/08/2009	1.018		01/12/2011	3.7	0	0	3.7	0.875 U	3.7	09/05/2049	01/12/2012

Hawkeye Inspection, LLC
1595 So. Hwy 150, Suite F
Evanston, WY 82930
(307)-789-3540

Report Date: 01/22/2011

(Report in Inches, Corrosion Rates in MPY)
Analysis: Straight Line

Unit: LH-0010
Eq/Circ ID: LH0010-C1
Eq Type: VESSEL
Class:
CM RBI:
Design Code: S8/D1

Flange Rating: 5734 lb/in²
Design Pressure: 10000 lb/in²
Design Temperature: 180 °F

Description: COIL 1 ON LINE HEATER 3, SN:BS10K4NM-05A

Summary:

Group Description:

Insp. Due Date = 01/12/2012
Pred. Ret. Date = 11/21/2014

RCR = 21.5 MPY

Rem. Life (from last survey 01/12/2011) = 3.9 yrs

O C.A. Status: No
Total Caution TMLs = 15

TM L No	Location	Ctn TML	First Survey Thick Nt	First Date	Previous Survey Thick Nt	Previous Date	Last Survey Thick	Last Date	Shrt Term Rate	Long Term Rate	Best Rate	Max Hist CR	Retirement Thickness	Rep TML CR	TM L Retirement Date	TM L Inspection Date
21.01	TOP	N	1.004	06/14/2007	1.004 RR	09/08/2009	1.014	01/12/2011	0	0	0	0	0.875 U	0.1	01/23/3401	01/12/2012
21.02	LFT	N	1.000 NM	03/10/2005	1.022	09/08/2009	1.003	01/12/2011	14.1	0	0	14.1	0.875 U	14.1	02/10/2020	01/12/2012
21.03	BTM	N	1.000 NM	03/10/2005	1.000	09/08/2009	1.000	01/12/2011	0	0	0	0	0.875 U	0.1	01/21/3261	01/12/2012
21.04	RGT	N	1.000 NM	03/10/2005	1.029	09/08/2009	1.019	01/12/2011	7.4	0	0	7.4	0.875 U	7.4	06/29/2030	01/12/2012
22.01	SIDE	N	1.276	06/14/2007	1.276	09/08/2009	1.276 RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/27/4011	01/12/2012
23.01	END	N	1.844	06/14/2007	1.844	09/08/2009	1.833	01/12/2011	8.2	3.1	2.8	8.2	0.875 U	8.2	11/12/2127	01/12/2012
24.01	END	N	1.262	06/14/2007	1.262	09/08/2009	1.258	01/12/2011	3.0	1.1	1.0	3.0	0.875 U	3.0	09/13/2138	01/12/2012
25.01	SIDE	N	1.861	06/14/2007	1.861	09/08/2009	1.855	01/12/2011	4.5	1.7	1.5	4.5	0.875 U	4.5	10/24/2228	01/12/2012
26.01	TOP	N	0.988	06/14/2007	0.988 RR	09/08/2009	1.011	01/12/2011	0	0	0	5.3	0.875 U	0.1	01/22/3371	01/12/2012
26.02	LFT	N	1.000 NM	03/10/2005	1.012	09/08/2009	1.012	01/12/2011	0	0	0	0	0.875 U	0.1	01/22/3381	01/12/2012
26.03	BTM	N	1.000 NM	03/10/2005	1.014	09/08/2009	1.011	01/12/2011	2.2	0	0	2.2	0.875 U	2.2	11/06/2072	01/12/2012
26.04	RGT	Y	1.000 NM	03/10/2005	1.020	09/08/2009	0.999	01/12/2011	15.6	0.2	0	15.6	0.875 U	15.6	12/24/2018	01/12/2012
27.01	TOP	N	0.986	06/14/2007	0.986 RR	09/08/2009	0.988	01/12/2011	0	0	0	6.2	0.875 U	0.1	01/20/3141	01/12/2012
27.02	LFT	Y *	1.000 NM	03/10/2005	1.021	09/08/2009	0.975	01/12/2011	34.2	4.3	2.0	34.2	0.875 U	34.2	12/15/2013	01/12/2012
27.04	RGT	Y *	1.000 NM	03/10/2005	1.008	09/08/2009	0.968	01/12/2011	29.8	5.5	3.6	29.8	0.875 U	29.8	02/25/2014	01/12/2012
28.01	END	N	1.932	06/14/2007	1.932	09/08/2009	1.930	01/12/2011	1.5	0.6	0.5	1.5	0.875 U	1.5	05/20/2714	01/12/2012
29.01	TOP	N	1.000 NM	03/10/2005		N/A	1.403	01/12/2011	N/A	0	N/A	435.2	0.875 U	0.1	01/27/4011	01/12/2012
30.01	END	Y	1.296	06/14/2007	1.296	09/08/2009	1.258	01/12/2011	28.3	10.6	9.5	28.3	0.875 U	28.3	07/25/2024	01/12/2012
31.01	TOP	N	1.002	06/14/2007	1.002 RR	09/08/2009	1.008 RR	01/12/2011	0	0	0	0	0.875 U	0.1	01/22/3341	01/12/2012
31.02	LFT	N	1.000 NM	03/10/2005	0.995	09/08/2009	0.976	01/12/2011	14.1	4.1	3.4	14.1	0.875 U	14.1	03/12/2018	01/12/2012

Corrosion Monitoring Eq/L ID Analysis Report

Hawkeye Inspection, LLC
1595 So. Hwy 150, Suite F
Evanston, WY 82930
(307) -789-3540

Report Date: 01/22/2011

(Report in Inches, Corrosion Rates in MPY)
Analysis: Straight Line

Unit: LH-0010
Eq/Circ ID: LH0010-C1
Eq Type: VESSEL
Class:
CM RBI:
Design Code: S8/D1

Flange Rating: 5734 lb/in²
Design Pressure: 10000 lb/in²
Design Temperature: 180 °F

Description: COIL 1 ON LINE HEATER 3, SN:BS10K4MM-05A

Summary: Group Name: Group Description: RCR = 21.5 MPY Rem. Life (from last survey 01/12/2011) = 3.9 yrs
Insp. Due Date = 01/12/2012
Pred. Ret. Date = 11/21/2014

O C.A. Status: No
Total Caution TMLs = 15

TM L No	Location	Ctn	First Survey Thick	First Survey Nt	First Date	Previous Survey Thick	Previous Survey Nt	Previous Date	Last Survey Thick	Last Survey Nt	Last Date	Shrt Term Rate	Long Term Rate	Best Rate	Max Hist CR	Retirement Thickness	Rep TML CR	TM L Retirement Date	TM L Inspection Date	
31.03	BTM	N	1.000	NM	03/10/2005	1.017		09/08/2009	1.007		01/12/2011	7.4	0	0	7.4	0.875	U	7.4	11/13/2028	01/12/2012
31.04	RGT	N	1.000	NM	03/10/2005	1.017		09/08/2009	1.007		01/12/2011	7.4	0	0	7.4	0.875	U	7.4	11/13/2028	01/12/2012
32.01	TOP	N	1.006		06/14/2007	1.006	RR	09/08/2009	1.003		01/12/2011	2.2	0.8	0.8	2.2	0.875	U	2.2	03/19/2069	01/12/2012
32.02	LFT	N	1.000	NM	03/10/2005	1.016		09/08/2009	1.016	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/23/3421	01/12/2012
32.03	BTM	N	1.000	NM	03/10/2005	1.009		09/08/2009	1.009	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/22/3351	01/12/2012
32.04	RGT	N	1.000	NM	03/10/2005	0.984		09/08/2009	0.984	RR	01/12/2011	0	2.7	2.9	3.6	0.875	U	2.7	05/27/2051	01/12/2012
33.01	SIDE	N	1.277		06/14/2007	1.277		09/08/2009	1.277	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/27/4011	01/12/2012
34.01	END	N	1.857		06/14/2007	1.857		09/08/2009	1.857	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/27/4011	01/12/2012
35.01	END	N	1.210		06/14/2007	1.210		09/08/2009	1.210	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/27/4011	01/12/2012
36.01	SIDE	N	1.910		06/14/2007	1.910		09/08/2009	1.904		01/12/2011	4.5	1.7	1.5	4.5	0.875	U	4.5	09/15/2239	01/12/2012
37.01	TOP	N	0.998		06/14/2007	0.971		09/08/2009	0.971	RR	01/12/2011	0	7.5	8.0	12.1	0.875	U	7.5	10/31/2023	01/12/2012
37.02	LEFT	N	1.000	NM	03/10/2005	1.012		09/08/2009	1.001		01/12/2011	8.2	0	0	8.2	0.875	U	8.2	05/25/2026	01/12/2012
37.03	BTM	N	1.000	NM	03/10/2005	1.004		09/08/2009	1.004	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/22/3301	01/12/2012
37.04	RGT	N	1.000	NM	03/10/2005	0.990		09/08/2009	0.989		01/12/2011	0.7	1.9	2.0	2.2	0.875	U	1.9	01/12/2071	01/12/2012
38.01	TOP	N	1.015		06/14/2007	1.009		09/08/2009	1.000		01/12/2011	6.7	4.2	4.0	6.7	0.875	U	6.7	09/08/2029	01/12/2012
38.02	LFT	N	1.000	NM	03/10/2005	0.969		09/08/2009	0.957		01/12/2011	8.9	7.4	7.2	8.9	0.875	U	8.9	03/30/2020	01/12/2012
38.03	BTM	N	1.000	NM	03/10/2005			N/A	1.000		01/12/2011	N/A	0	N/A	0	0.875	U	0.1	01/21/3261	01/12/2012
38.04	RGT	N	1.000	NM	03/10/2005	0.981		09/08/2009	0.980		01/12/2011	0.7	3.4	3.6	4.2	0.875	U	3.4	11/30/2041	01/12/2012
39.01	SIDE	N	1.253		06/14/2007	1.253		09/08/2009	1.253	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/27/4011	01/12/2012
40.01	END	N	1.864		06/14/2007	1.864		09/08/2009	1.863		01/12/2011	0.7	0.3	0.3	0.7	0.875	U	0.7	06/28/3422	01/12/2012
41.01	END	N	1.263		06/14/2007	1.263		09/08/2009	1.263	RR	01/12/2011	0	0	0	0	0.875	U	0.1	01/27/4011	01/12/2012

Hawkeye Inspection, LLC
1595 So. Hwy 150, Suite F
Evanston, WY 82930
(307)-789-3540

Report Date: 01/22/2011

(Report in Inches, Corrosion Rates in MPY)
Analysis: Straight Line

Unit: LH-0010

Eq/Circ ID: LH0010-C1

Eq Type: VESSEL

Class:

CM RBI:

Design Code: S8/D1

Flange Rating: 5734 lb/in²
Design Pressure: 10000 lb/in²
Design Temperature: 180 °F

Description: COIL 1 ON LINE HEATER 3, SN:BS10K4MM-05A

Summary: Group Name:

Insp. Due Date = 01/12/2012

Pred. Ret. Date = 11/21/2014

Group Description:

RCR = 21.5 MPY

Rem. Life (from last survey 01/12/2011) = 3.9 yrs

0 C.A. Status: No

Total Caution TMLs = 15

TML No	Location	Ctn	First Survey Thick	First Date	Previous Survey Thick	Previous Date	Last Survey Thick	Last Date	Shrt Term Rate	Long Term Rate	Rest Rate	Max Hist CR	Retirement Thickness	Rep TML CR	TML Retirement Date	TML Inspection Date
42.01	SIDE	Y	1.893	06/14/2007	1.893	09/08/2009	1.858	01/12/2011	26.0	9.8	8.8	26.0	0.875	26.0	11/02/2048	01/12/2012
43.01	TOP	Y	1.003	06/14/2007	1.003 RR	09/08/2009	0.982	01/12/2011	15.6	5.9	5.3	15.6	0.875	15.6	11/21/2017	01/12/2012
43.02	LFT	Y *	1.000 NM	03/10/2005	1.032	09/08/2009	0.983	01/12/2011	36.5	2.9	0.4	36.5	0.875	36.5	12/28/2013	01/12/2012
43.03	BTM	Y *	1.000 NM	03/10/2005	1.038	09/08/2009	1.009	01/12/2011	21.6	0	0	21.6	0.875	21.6	03/27/2017	01/12/2012
43.04	RGT	N	1.000 NM	03/10/2005	1.016	09/08/2009	1.008	01/12/2011	6.0	0	0	6.0	0.875	6.0	03/13/2033	01/12/2012
44.01	TOP	N	1.008	06/14/2007	1.008 RR	09/08/2009	0.998	01/12/2011	7.4	2.8	2.5	7.4	0.875	7.4	08/27/2027	01/12/2012
44.02	LFT	N	1.000 NM	03/10/2005	1.023	09/08/2009	1.013	01/12/2011	7.4	0	0	7.4	0.875	7.4	09/05/2029	01/12/2012
44.03	BTM	N	1.000 NM	03/10/2005	1.041	09/08/2009	1.031	01/12/2011	7.4	0	0	7.4	0.875	7.4	02/11/2032	01/12/2012
44.04	RGT	N	1.000 NM	03/10/2005	1.022	09/08/2009	1.010	01/12/2011	8.9	0	0	8.9	0.875	8.9	03/14/2026	01/12/2012
45.01	BTM	N	0.985	06/14/2007	0.985	09/08/2009	0.976	01/12/2011	6.7	2.5	2.3	6.7	0.875	6.7	02/08/2026	01/12/2012

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Report Date: 01/22/2011

(Report in Inches, Corrosion Rates in MPY)
Analysis: Straight Line

Flange Rating: 5734 lb/in²
Design Pressure: 10000 lb/in²
Design Temperature: 180 °F

Description: COIL 1 ON LINE HEATER 3, SN:BS10K4MM-05A

Unit: LH-0010
Eq/Circ ID: LH0010-C1
Design Code: S8/D1
Eq Type: VESSEL
Class:
CM RBI:

TML Corrosion Rates are each the Maximum of:
(A) -- Calculated Corrosion Rates x 1.00 :
(B) -- Default Corrosion Rate : Varies
: 0.1 MPY

Representative Corrosion Rate is the Maximum of:
(A) -- Average Corrosion Rate x 1.00 : 7.1 MPY
(B) -- Average Max 25.0% of TMLs, Min of 2 : 21.5 MPY
(C) -- Formula Corrosion Rate (Sigma = 1.28) : 8.0 MPY
(D) -- Default Corrosion Rate : 0.1 MPY
Representative Corrosion Rate = 21.5 MPY

TML thickness readings have not been compensated for high Temperatures.
TML thickness readings have been compensated for growths.

TML Life calculations are based on the Representative TML Corrosion Rate using Short Term and Long Term Corrosion Rates.

Nominal thickness is used for TML corrosion rate calculations with less than 3 surveys.

Minimum time between inspections required for corrosion rate calculation is 3 months.

TML Inspection Interval is:
(A) -- Minimum(TML Life / 2.00, 1.00 years)

Eq/Circ ID Last Survey Date is based on the LAST of the last 0% of TML survey dates (Min 1).

Eq/Circ ID Estimated life = 3.9 years from the most recent survey date.
(Estimated Life based on the ave of the earliest 0% (Min 6) TML retirement dates.)

Predicted Eq/Circ ID Retirement date is 11/21/2014

Recommended Eq/Circ UT/RT Inspection Date is 01/12/2012
UT/RT Inspection Interval is the minimum(Remaining life / 2.0, 1.00 years).

Caution TML Logic: TML Corrosion Rate > 15.0 MPY .OR. TML Remaining Life < 3.00 Years.
There are 15 Caution TMLs in this Eq/Circ ID.