

Note: This is a reference cited in AP 42, *Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

AP32 Section:	12.5.1
Background Chapter	3
Reference:	42
Title:	Stack test report summary sheets for Trico Steel, Decatur, AL. Testing conducted on September 2, 1997; October 9, 1999; and October 24, 2000. Received from Doug Carr, Alabama Department of Environmental Management on April 10, 2002.

Stack Test Report

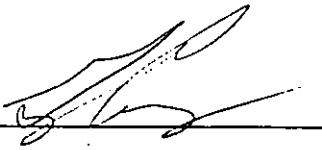
Report generated on 9/26/97

Facility Name: **TRICO STEEL**Facility Number: **712-0-037 X001**Source Name: **EAF BAGHOUSE**

Title V?: Yes Test Date: 9/2/97

Source Information

Pollutants	Allowables	Regulations	Subpart/Chapter
PM	0.0032 gr/dscf	PSD	
PM	3% opacity	NSPS	Aaa

ESB inspector: **GMC** Signature: Date: 97 SEP 26**Observation Information**Test Methods: **Method 5, VE**Test Company: **Ambient Air Services**

Initial Test?: Yes

EMS Observer: **JH**ESB Observer: **GMC**Activity: **STACK TEST****Evaluation Information**

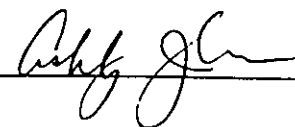
Report Received by ADEM: 9/25/97

Evaluator:

Report Submitted to EMS: 9/26/97

Date Evaluation Finished

Pollutant	Run #1	Run #2	Run #3	Average	Units
PM	0.0007	0.0007	0.0006	0.0007	gr/dscf
OPACITY					
BAGHOUSE	0%	0%	0%	0%	%
MELT SHOP ROOF	5.21%	2.08%	3.33%	3.54%	%
MONITOR				1.67%	%
PAST SILO					

Signature: Date: 10/2/97

COMPANY: Trico Steel
 FAC NO: 712-0037-X001
 EVAL. BY: DAJ
 SOURCE: EAF Baghouse

TEST DATE: 9/2/97
 TESTED BY: AAS
 EVAL. DATE: 10/02/97

Particulate

RUN #	1	2	3
PROD. RATE			
^H("H2O)	2.1354	2.1198	2.1271
SQRT ^p	1.0413	1.0313	1.0939
tm	90.4	87.7	79.3
ts	154.3	148.3	144.6
Pb	29.55	29.55	29.45
Ps	29.49	29.48	29.38
Vm	205.563	204.454	204.126
Y	1.0060	1.0060	1.0060
%CO2	0.0	0.0	0.0
%O2	21.0	21.0	21.0
%CO	0.0	0.0	0.0
Vlc (ml)	124.00	92.10	124.10
Mn (mg) PM	9.5	8.6	7.3
Cp	0.84	0.84	0.84
As (sqft)	530.929	530.929	530.929
dn	0.217	0.217	0.217
time	240	240	240

	RUN 1	RUN 2	RUN 3	AVERAGE	
Fo					
An	2.57E-04	2.57E-04	2.57E-04	0.0	sq ft
Pm	29.71	29.71	29.61	29.7	in. Hg
Md	28.84	28.84	28.84	28.8	dry basis lb/lb-mole
Vwstd	5.84	4.34	5.84	5.3	dscf
Vmstd	196.89	196.78	198.86	197.5	scf
Bws	2.88	2.16	2.85	2.6	percent
Bws THEO.	28.47	24.59	22.51	25.2	percent
Bws MEAS.	2.88	2.16	2.85	2.6	percent
Ms	28.53	28.61	28.53	28.6	wet basis lb/lb-mole
vs	63.90	62.90	66.72	64.5	ft/sec
Qa	2035523.38	2003693.61	2125260.22	2054826	cfm
Qstd	1674765.26	1676672.60	1770489.58	1707309	scfm
vn	239.40	235.26	238.81	237.82	acf
Tvlc					ml

% ISOKINETIC	101.30	101.13	96.79	99.7407
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Cs	0.0007	0.0007	0.0006	0.0007	gr/dscf
PMR	10.6667	9.6723	8.5791	9.6393	#/hr

EMISSIONS	0.0007	0.0007	0.0006	0.0007	gr/dscf
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COMPANY TRICO STEEL DATE OF TEST 9/2/97
FACILITY NUMBER 712 - 0037 - X001
SOURCE BAGHOUSE STACK ID

WITNESS OBSERVER DAVID T. LARocca CERTIFIED BY E.T.A.

LECTURE EXPIRATION 5 / 3 / 00 FIELD EXPIRATION 12 / 4 / 91

(✓) Method 9 Highest SMA 0% Duration of readings 60 mins.
() Method 10 Duration of Opocry _____ mins. Duration of rags _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(✓)	()	
Adequate Background	(✓)	()	
Wind at Right	(✓)	()	
Form Adequate	(✓)	()	
Form Complete	(✓)	()	

(✓) Method 9 Highest SMA 0% Duration of readings 60 mins.
() Method 22 Duration of Opcty _____ mins. Duration of rds _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(✓)	()	
Adequate Background	(✓)	()	
Wind at Right	(✓)	()	
Form Adequate	(✓)	()	
Form Complete	(✓)	()	

(✓) Method 9 Highest SMA 0% Duration of readings 60 mins.
() Method 22 Duration of Opcty _____ mins. Duration of rags _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(✓)	()	
Adequate Background	(✓)	()	
Wind at Right	(✓)	()	
Form Adequate	(✓)	()	
Form Complete	(✓)	()	

Other comments _____

Reviewed by WJG
Date reviewed 10 2 97

REVIEW SUMMARY OF VISIBLE EMISSIONS OBSERVATIONS

COMPANY TRICO STEEL DATE OF TEST 9/2/97
 FACILITY NUMBER 712 - 0037 - X001
 SOURCE EAF ID MELTSHOP ROOF MONITOR

V E OBSERVER DAVID T. LARUCCA CERTIFIED BY E.T.A
 LECTURE EXPIRATION 5 3 00 FIELD EXPIRATION 12 4 97

(☒) Method 9 Highest SMA 5.21% Duration of readings 60 mins.
 () Method 22 Duration of Opcty _____ mins. Duration of rdgs _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(☒)	()	
Adequate Background	(☒)	()	
Wind at Right	(☒)	()	
Form Adequate	(☒)	()	
Form Complete	(☒)	()	

(☒) Method 9 Highest SMA 2.08% Duration of readings 60 mins.
 () Method 22 Duration of Opcty _____ mins. Duration of rdgs _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(☒)	()	
Adequate Background	(☒)	()	
Wind at Right	(☒)	()	
Form Adequate	(☒)	()	
Form Complete	(☒)	()	

(☒) Method 9 Highest SMA 3.33% Duration of readings 60 mins.
 () Method 22 Duration of Opcty _____ mins. Duration of rdgs _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(☒)	()	
Adequate Background	(☒)	()	
Wind at Right	(☒)	()	
Form Adequate	(☒)	()	
Form Complete	(☒)	()	

Other comments _____

Reviewed by *Ally Jb*
 Date reviewed 10/2/97

REVIEW SUMMARY OF VISIBLE EMISSIONS OBSERVATIONS

COMPANY TRICO STEEL DATE OF TEST 9/2/97
 FACILITY NUMBER 712 - 8037 - X001
 SOURCE EAF DUST HANDLING TO DUST SILO WITH BIN FILTER

W E OBSERVER DAVID T. LARDECCA CERTIFIED BY E.T.A.
 LABORATORY EXPIRATION 5 / 3 / 00 FIELD EXPIRATION 12 / 4 / 97

(☒) Method 9 Highest SMA 1.67% Duration of readings 60 mins.
 (☐) Method 22 Duration of Opcty _____ mins. Duration of rdgs _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	(☒)	()	
Adequate Background	(☒)	()	
Wind at Right	(☒)	()	
Form Adequate	(☒)	()	
Form Complete	(☒)	()	

(☐) Method 9 Highest SMA _____ Duration of readings _____ mins.
 (☐) Method 22 Duration of Opcty _____ mins. Duration of rdgs _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	()	()	
Adequate Background	()	()	
Wind at Right	()	()	
Form Adequate	()	()	
Form Complete	()	()	

(☐) Method 9 Highest SMA _____ Duration of readings _____ mins.
 (☐) Method 22 Duration of Opcty _____ mins. Duration of rdgs _____ mins.

	YES	NO	COMMENTS
Sun at 140 degs.	()	()	
Adequate Background	()	()	
Wind at Right	()	()	
Form Adequate	()	()	
Form Complete	()	()	

Other comments _____

Reviewed by *[Signature]*
 Date reviewed 9 / 2 / 97

Stack Test Report

Report generated on 11/29/99

Facility Name: TRICO STEEL

Facility Number: 712-0037 X001

Source Name: EAF BAGHOUSE

Title V?: Yes Test Date: 10/9/99

Source Information

Pollutants	Allowables	Regulations	Subpart/Chapter
PM	0.0032 gr/dscf	PSD	
CO	880.0 lb/hr, 2.0 lb/ton	PSD	
SO2	39.7 lb/hr, 0.09 lb/ton	PSD	
NOx	154.0 lb/hr, 0.35 lb/ton		

ESB inspector: GMC Signature: John B Wright

Date: 11/29/99

Observation Information

Test Methods: 5- test will last several days

Test Company: Ambient Air

Initial Test?: No

EMS Observer: NS

ESB Observer: GMC

Activity: STACK TEST

Evaluation Information

Report Received by ADEM: 11/29/99

Evaluator: WFL

Report Submitted to EMS: 11/29/99

Date Evaluation Finished 12/22/99

Pollutant	Run #1	Run #2	Run #3	Average	Units
PM	.0006	.0008	.0001	.0005	gr/dscf

Signature: Wye Eloc

Date: 12/22/99

COMPANY: Trico Steel
 FAC NO: 712-0037-X001
 EVAL BY: WEC
 SOURCE: EAF Baghouse

TEST DATE: 10/9/99
 TESTED BY: AAS
 EVAL DATE: 12/22/99

Particulate				
RUN #	1	2	3	
PROD RATE				
°H ₂ O	2.4060	2.7790	3.0360	
SQRT ρ	1.0555	1.1149	1.1524	
tm	99.0	103.0	106.0	
ts	180.0	193.0	166.0	
Pb	29.38	29.44	29.44	
Ps	29.30	29.36	29.36	
Vm	213.659	230.689	242.732	
Y	1.0200	1.0200	1.0200	
%CO ₂	0.0	0.0	0.0	
%O ₂	20.9	20.9	20.9	
%CO	0.0	0.0	0.0	
Vlc (ml)	184.80	175.00	189.00	
Mn (mg) PM	7.30	10.90	1.20	
Cp	0.8400	0.8400	0.8400	
As (sqft)	530.929	530.929	530.929	
dn	0.229	0.229	0.229	
time	240	240	240	
	RUN 1	RUN 2	RUN 3	AVERAGE
Fo				
An	2.86E-04	2.86E-04	2.86E-04	0.0
Pm	29.56	29.64	29.66	29.6
Md	28.84	28.84	28.84	28.8
Vwstd	8.70	8.24	8.90	8.6
Vmstd	203.27	218.55	228.89	216.9
Bws	4.10	3.63	3.74	3.8
Bws THEO.	51.77	68.25	37.70	52.6
Bws MEAS.	4.10	3.63	3.74	3.8
Ms	28.39	28.44	28.43	28.4
vs	66.48	70.80	71.67	69.6
Qa	2117892.63	2255347.42	2282977.88	2218739
Qstd	1640181.10	1723801.98	1818118.39	1727367
vn	262.47	285.95	287.42	278.61
Tvlc				
% ISOKINETIC	95.85	98.06	97.37	
Cs	0.0006	0.0008	0.0001	0.0005
PMR	7.7905	11.3704	1.2607	6.8072
EMISSIONS	7.7905	11.3704	1.2607	6.8072
CORR. EMISSIONS				

sq ft
 in. Hg
 dry basis lb/lb-mole
 dscf
 scf
 percent
 percent
 percent
 wet basis lb/lb-mole
 ft/sec
 cfm
 scfm
 acf
 ml

gr/dscf
 #/hr

COMPANY Trico Steel
 FAC NO 712-0037-X003
 EVAL BY WEC
 SOURCE Tunnel Furnace-Roller Hearth-3A

TEST DATE: 10/4/99
 TESTED BY: AAS
 EVAL DATE: 12/22/99

Particulate

RUN #	1	2	3	4		
PROD RATE	77.7	184.65	177.3			
$\Delta H(^{\circ}H_2O)$	1.4833	1.4208	1.7083	1.5063		
SQRT ρ_p	0.1856	0.1815	0.1993	0.1922		
tm	91.0	99.0	107.0	100		
ts	410.0	427.0	433.0	425		
Pb	29.40	29.40	29.56	29.34		
Ps	29.36	29.36	29.52	29.3		
Vm	164.394	164.005	180.370	166.904		
Y	0.9900	0.9900	0.9900	0.9900		
%CO ₂	0.5	0.5	1.0	1.0		
%O ₂	19.0	18.0	19.5	19.5		
%CO	0.0	0.0	0.0	0.0		
Vlc (ml)	170.60	163.10	173.60	219.4		
Mn (mg) PM	17.60	17.30	16.40	9.3		
Cp	0.8400	0.8400	0.8400	0.8400		
As (sqft)	23.758	23.758	23.758	23.758		
dn	0.498	0.498	0.498	0.498		
time	240	240	240	240		

	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE	
Fo					0.0	sq ft
An	1.35E-03	1.35E-03	1.35E-03	1.35E-03	29.5	in. Hg
Pm	29.51	29.50	29.69	29.45	28.9	lb/lb-mole
Md	28.84	28.80	28.94	28.94	8.6	dscf
Vwstd	8.03	7.68	8.17	10.33	155.8	scf
Vmstd	153.75	151.17	164.92	153.29	5.2	percent
Bws	4.96	4.83	4.72	6.31	2079.9	percent
Bws THEO.	1792.92	2147.33	2271.90	2107.39	5.2	percent
Bws MEAS.	4.96	4.83	4.72	6.31	28.3	lb/lb-mole
Ms	28.30	28.28	28.42	28.25	14.0	ft/sec
vs	13.64	13.47	14.77	14.27	20009.7	cfm
Qa	19440.48	19203.99	21050.13	20344.25	11124.1	scfm
Qstd	10998.48	10671.09	11695.42	11131.39	280.2	scf
va	271.77	272.05	296.83	280.16		ml
Tvle						

% ISOKINETIC	102.31	103.68	103.20	100.78		
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Cs	0.0018	0.0018	0.0015	0.0009	0.0015	gr/dscf
PMR	0.1665	0.1615	0.1538	0.0893	0.1428	#/hr

EMISSIONS	0.1665	0.1615	0.1538	0.0893	0.1428	#/hr
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COMPANY: Trico Steel
 FAC NO: 712-0037-X003
 EVAL BY: WEC

TEST DATE: 10/4/99
 TESTED BY: AAS
 EVAL DATE: 12/22/99

SOURCE: Tunnel Furnace-Roller Hearth-3B

Particulate

RUN #	1	2	3	4	
PROD. RATE	77.7	184.65	177.3		
$\Delta H(H_2O)$	1.3030	1.3633	1.5563	1.338	
SQRT Δp	0.1886	0.1939	0.2080	0.1962	
tm	84.0	91.0	95.0	96	
ts	381.0	403.0	398.0	384	
Pb	29.40	29.40	29.56	29.56	
Ps	29.39	29.39	29.55	29.55	
Vm	170.396	177.814	186.894	172.776	
Y	0.9700	0.9700	0.9700	0.9700	
%CO ₂	0.5	0.5	0.5	0.5	
%O ₂	17.0	17.0	17.5	17.5	
%CO	0.0	0.0	0.0	0.0	
Vlc (ml)	209.30	197.60	215.70	222.1	
Mn (mg) PM	12.80	17.60	10.80	5.7	
Cp	0.8400	0.8400	0.8400	0.8400	
As (sqft)	15.611	15.611	15.611	15.611	
dn	0.500	0.500	0.500	0.500	
time	240	240	240	240	

	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
Fo					
An	1.36E-03	1.36E-03	1.36E-03	1.36E-03	0.0
Pm	29.50	29.50	29.67	29.66	29.6
Md	28.76	28.76	28.78	28.78	28.8
Vwstd	9.85	9.30	10.15	10.45	9.9
Vmstd	158.09	162.90	170.98	157.70	162.4
Bws	5.87	5.40	5.61	6.22	5.8
Bws THEO.	1291.93	1659.02	1560.84	1330.66	1460.6
Bws MEAS.	5.87	5.40	5.61	6.22	5.8
Ms	28.13	28.18	28.18	28.11	28.1
vs	13.66	14.21	15.16	14.20	14.3
Qa	12795.02	13313.70	14202.57	13302.68	13403.5
Qstd	7424.86	7566.08	8144.87	7705.07	7710.2
vu	272.43	286.64	298.16	272.27	282.4
Tvlc					

% ISOKINETIC	101.57	102.71	100.14	97.64	
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Cs	0.0012	0.0017	0.0010	0.0006	0.0011
PMR	0.0795	0.1081	0.0680	0.0368	0.0731

EMISSIONS	0.0795	0.1081	0.0680	0.0368	0.0731
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COMPANY: Trico Steel
 FAC NO: 712-0037-X003
 EVAL BY: WEC

TEST DATE: 10/4/99
 TESTED BY: AAS
 EVAL. DATE: 12/22/99

SOURCE: Tunnel Furnace-Roller Hearth-3C

Particulate

RUN #	1	2	3	4	
PROD. RATE	77.7	184.65	177.3		
^H(H2O)	1.5680	1.4470	0.6450	1.251	
SQRT ^p	0.3411	0.3270	0.2090	0.3101	
tm	96.0	101.0	99.0	88	
ts	429.0	452.0	454.0	442	
Pb	29.40	29.40	29.56	29.56	
Ps	29.36	29.36	29.53	29.53	
Vm	178.446	172.550	111.437	158.971	
Y	1.0200	1.0200	1.0200	1.0200	
%CO2	3.0	3.0	1.5	2.0	
%O2	17.5	18.0	17.5	16.5	
%CO	0.0	0.0	0.0	0.0	
Vlc (ml)	198.00	195.50	160.60	233.8	
Mn (mg) PM	15.60	19.10	13.30	7.8	
Cp	0.8400	0.8400	0.8400	0.8400	
As (sqft)	7.467	7.467	7.467	7.467	
dn	0.396	0.396	0.396	0.396	
time	240	240	240	240	

	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
Fo					0.0
An	8.55E-04	8.55E-04	8.55E-04	8.55E-04	29.6
Pm	29.52	29.51	29.61	29.65	29.1
Md	29.18	29.20	28.94	28.98	9.3
Vwstd	9.32	9.20	7.56	11.00	148.7
Vmstd	170.44	163.29	106.20	154.77	6.0
Bws	5.18	5.33	6.65	6.64	2560.3
Bws THEO.	2192.27	2761.70	2799.77	2487.54	6.0
Bws MEAS.	5.18	5.33	6.65	6.64	28.4
Ms	28.60	28.60	28.21	28.25	22.1
vs	25.20	24.47	15.72	23.16	9918.1
Qa	11291.74	10963.70	7042.96	10374.03	5367.9
Qstd	6237.24	5893.96	3747.20	5593.34	274.7
vn	308.57	303.75	199.61	287.06	
Tvlc					

% ISOKINETIC	99.40	100.78	103.09	100.66	
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Cs	0.0014	0.0018	0.0019	0.0008	0.0015
PMR	0.0755	0.0912	0.0621	0.0373	0.0635

EMISSIONS	0.0755	0.0912	0.0621	0.0373	0.0665
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COMPANY: Trico Steel

FAC NO: 712-0037-X003

EVAL. BY: WEC

SOURCE: Tunnel Furnace-Roller Hearth-3D,3E,S4

TEST DATE: 10/4/99

TESTED BY: AAS

EVAL. DATE: 12/22/99

Particulate

RUN #	S3D	S3E	S4
PROD. RATE	77.7	184.65	177.3
$\Delta H(^{\circ}H_2O)$	na	na	na
SQRT Δp	0.0903	0.0928	0.1641
tm	na	na	na
ts	271.0	697.0	144.0
Pb	29.48	29.48	29.48
Ps	29.47	29.47	29.47
Vm	na	na	na
Y	na	na	na
%CO ₂	2.5	2.5	2.5
%O ₂	17.5	17.5	17.5
%CO	0.0	0.0	0.0
Vlc (ml)	na	na	na
Mn (mg) PM	na	na	na
Cp	0.8400	0.8400	0.8400
As (sqft)	6.681	6.681	6.681
dn	na	na	na
time	na	na	na

	S3D	S3E	S4
Fo			
An	na	na	na
Pm	na	na	na
Md	29.10	29.10	29.10
Vwstd	na	na	na
Vmstd	na	na	na
Bws	5.64	5.64	5.64
Bws THEO.	284.61	17304.53	22.10
Bws MEAS.	5.64	5.64	5.64
Ms	28.47	28.47	28.47
vs	6.05	7.83	10.00
Qa	2424.93	3136.95	4007.93
Qstd	1627.23	1329.97	3254.99
vn	na	na	na
Tvlc			

% ISOKINETIC	na	na	na
Cs	0.0014	0.0014	0.0014
PMR	0.0190	0.0160	0.0391
EMISSIONS	0.0190	0.0160	0.0391

Stack Test Report

Report generated on 11/28/00

Facility Name: **TRICO STEEL**

Facility Number: **712-0037 X001**

Source Name: **EAF BAGHOUSE**

Title V?: Yes Test Date: **10/24/00**

Source Information

Pollutants	Allowables	Regulations	Subpart/Chapter
PM	0.0032 gr/dscf	PSD	
CO	880.0 lb/hr, 2.0 lb/ton	PSD	
SO2	39.7 lb/hr, 0.09 lb/ton	PSD	
NOx	154.0 lb/hr, 0.35 lb/ton		

ESB inspector: **GMC** Signature: 

Date: 11/28/00

Observation Information

Test Methods: **Methods 5, 6c, 7e**

Test Company: **AAS**

Initial Test?: **No**

EMS Observer: **KF**

ESB Observer: **GMC**

Activity: **STACK TEST**

Method 5 consists of 3- 4 hour runs per Subpart AAa.

Evaluation Information

Report Received by ADEM: **11/27/00**

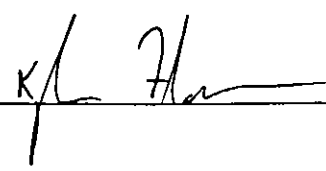
Evaluator:

Report Submitted to EMS: **11/28/00**

Date Evaluation Finished

Pollutant	Run #1	Run #2	Run #3	Average	Units
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See attached Summary Sheet

Signature: 

Date: 12-11-00

Test Summary

Company: TRICO STEEL

Plant/Unit: EAF

Facility Number 712-0037-x001

Parameter:	Standard		Reported		Recalculated	
	LB/HR	LB/TON	LB/HR	LB/TON	LB/HR	LB/TON
SO2						
M6	39.7	0.090	7.056	0.026	6.8124	0.0263
M6C EXTRACTIVE	39.7	0.090	18.164	0.066	18.1100	0.0755
M6C EXTRACTIVE/DILUTION	39.7	0.090	7.290	0.027	7.2019	0.0315
NOx						
M7E EXTRACTIUE	154	0.350	83.270	0.31	123.8450	0.5233
M7E EXTRACTIVE/DILUTION	154	0.350	78.850	0.29	112.82121	0.4764
PARTICULATE						
M5	NA	0.003	11.760	0.0009	11.5371	0.00086

NOTE: Recalculated NOx lb/hr and lb/ton based on molecular wt of NOx (46).
 Reported NOx is based on molecular wt. prorated according to NOx/NO ratio in stack gas
 Recalculated lb/ton based on production data provided by George Cox.

	Standard	Reported	Recalculated
	PERCENT	PERCENT	PERCENT
OPACITY			
EAF STACK	3.00	0.000	0.000
TRUCK LOADING		2.900	2.900
MELTSHP	6.00	0.000	0.000
DUST HANDLING SYSTEM	10.00	2.900*	0.000

* Report summary states 2.9% opacity was found during the observation of the duct handling system. The VE sheet, however, indicates all zeros.

EVALUATED BY:
 DATE:

Kyle M Flowers
 12/11/00



COMPANY: TRICO STEEL
 FAC NO: 675.000
 EVAL. BY: KF
 SOURCE: EAF

TEST DATE: 10/24-25/2000
 TESTED BY: AAS
 EVAL. DATE: 12/06/00

RUN #	1	2	3
PRODUCTION DATA			
^H("H2O)	1.838	1.992	1.945
SQRT ^p	1.013	1.037	1.017
tm	113	120	119
ts	231	230	229
Pb	29.62	29.50	29.37
Ps	29.56	29.44	29.30
Vm	193.964	198.760	189.828
Y	1.010	1.010	1.010
%CO2	0.0	0.0	0.0
%O2	20.9	20.9	20.9
%CO	0.00	0.00	0.00
Vlc (ml)	77.6	75.8	73.2
Mn (mg) PM	10.20	9.30	10.30
Cp	0.840	0.840	0.840
As (sqft)	530.93	530.93	530.93
dn	0.219	0.219	0.219
time	240.0	240.0	240.0

	RUN 1	RUN 2	RUN 3	AVERAGE
An	2.62E-04	2.62E-04	2.62E-04	
Pm	29.76	29.65	29.51	
Md	28.84	28.84	28.84	
Vwstd	3.653	3.568	3.446	
Vmstd	179.483	181.100	172.361	
Bws	2.0	1.9	2.0	
Bws THEO.	141.7	141.2	138.8	%
Bws MEAS.	2.0	1.9	2.0	%
Ms	28.62	28.63	28.62	%
vs	65.7	67.4	66.2	66.4 fps
Q	2094322	2147228	2108502	2116684 acf/m
Qstd	1550396	1585035	1551305	1562246 sdcf/m
vn	242.549	245.433	234.364	

% ISOKINETIC	98	97	94	
Cs	0.00088	0.00079	0.00092	0.00086 gr/sdcf
PMR	11.6303	10.7443	12.2368	11.5371 #/hr

**NITROGEN OXIDES (NO DILUTION)
METHOD 7E MONITOR PERFORMANCE**

CALIBRATION ERROR 7E MONITOR SPAN =				30	ACCEPTABLE = < 2% OF SPAN	
ACCEPTABLE RANGES			C.G. (ppm)	TM (ppm)	% OF SPAN	
	0.075	ZERO	0	-0.295	1.0%	
	18	LOW	12.39	12.258	0.4%	
24	27	HIGH	25.48	25.486	0.0%	
LESS THAN	0.075	ZERO	0	0.018	0.1%	
15 -	18	LOW	12.39	12.286	0.3%	
24 -		HIGH	25.48	25.436	0.1%	
LESS THAN	0.075	ZERO	0	0.046	0.2%	
15 -	18	LOW	12.39	12.428	0.1%	
24 -		HIGH	25.48	25.606	0.4%	

ACCEPTABLE = < 2% OF SPAN

7E BIAS AND DRIFT TEST

ACCEPTABLE :

DRIFT = < 3% of SPAN : BIAS < 5% of SPAN

RUN	UPSCALE		ZERO		MONITOR DRIFT (% OF SPAN)	INITIAL		FINAL		MONITOR DRIFT (% OF SPAN)
	INITIAL SYSTEM RESPONSE (ppm)	INITIAL BIAS (% OF SPAN)	FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)		SYSTEM RESPONSE (ppm)	INITIAL BIAS (% OF SPAN)	SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	
1.1 - 1.2	12.26	0.00%	12.26	0.00%	0.00%	-0.30	0.00%	-0.30	0.00%	0.00%
1.2 - 1.3	12.26	0.01%	12.26	0.00%	0.01%	-0.30	0.00%	0.05	1.14%	1.14%
1.3 - 1.4	12.26	0.01%	12.32	0.19%	0.18%	-0.30	0.00%	0.05	1.14%	1.14%
2.1 - 2.2	12.29	0.00%	12.20	-0.28%	0.28%	0.02	0.00%	0.05	0.09%	0.09%
2.2 - 2.3	12.20	-0.28%	12.23	-0.19%	0.10%	0.02	0.00%	0.10	0.27%	0.27%
2.3 - 2.4	12.23	-0.19%	12.66	1.23%	1.42%	0.05	0.09%	0.07	0.19%	0.09%
3.1 - 3.2	12.43	0.00%	11.46	-3.22%	3.22%	0.05	0.00%	0.07	0.09%	0.09%
3.2 - 3.3	11.46	-3.22%	11.49	-3.12%	0.09%	0.07	0.09%	0.07	0.09%	0.00%

Note : Only 3 sets of cals during run 3(approved by adem on site)

Note: Production rate provided by George Cox
Nox lbs based on mol. Wt of 46, not prorated NOx/NO as reported

SUMMARY OF RUNS

RUN	% MOISTURE	Raw NOx (ppm) late start (approved)	NOx WET (ppm) CORR. late start	(from M5 sheet) FLOW RATE sdcl/m	FLOW RATE swcl/m	PRODUCTION RATE	NOx #/HOUR	NOx #/TON
1.1 - 1.2		12.88	13.01					
1.2 - 1.3		12.03	12.13					
1.3 - 1.4								
AVERAGE RUN 1	2.00	12.455	12.57	1550396	1582036.735	251	142.4890	0.5677
2.1 - 2.2		10.54	10.66					
2.2 - 2.3		7.33	7.41					
2.3 - 2.4		9.67	9.62					
AVERAGE RUN 2	1.90	9.18	9.23	1585035	1615733.945	271	106.8294335	0.3942
3.1 - 3.2		9.39	9.73					
3.2 - 3.3		10.96	11.83					
AVERAGE RUN 3	2.00	10.175	10.78	1551305	1582964.286	201	122.2165943	0.6080
AVERAGE NOX (NO DILUTION)			10.86	1562245.333	1593578.322	241	123.84501	0.5233

COMPANY: TRICO STEEL
FAC NO: 712-0037-X001
EVAL. BY: KF
SOURCE: EAF

TEST DATE:
TESTED BY:
EVAL. DATE:

10-24/25-00
AAS
12/11/00

NITROGEN OXIDES (DILUTION)
METHOD 7E MONITOR PERFORMANCE

CALIBRATION ERROR 7E MONITOR SPAN =			ACCEPTABLE = < 2% OF SPAN		
ACCEPTABLE RANGES		30	C.G. (ppm)	TM (ppm)	% OF SPAN
	0.075	ZERO	0	0.09	0.3%
	18	LOW	12.39	12.095	1.0%
24	27	HIGH	25.48	25.025	1.5%
LESS THAN	0.075	ZERO	0	-0.03	0.1%
15 -	18	LOW	12.39	12.015	1.3%
24 -		HIGH	25.48	25.224	0.9%
LESS THAN	0.075	ZERO	0	0.05	0.2%
15 -	18	LOW	12.39	11.774	2.1%
24 -		HIGH	25.48	25.746	0.9%

7E BIAS AND DRIFT TEST

ACCEPTABLE :

DRIFT = < 3% of SPAN : BIAS < 5% of SPAN

RUN	INITIAL SYSTEM RESPONSE (ppm)	UPSCALE		FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	MONITOR DRIFT (% OF SPAN)	ZERO		FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	MONITOR DRIFT (% OF SPAN)
		INITIAL BIAS (% OF SPAN)					INITIAL SYSTEM RESPONSE (ppm)	INITIAL BIAS (% OF SPAN)			
1.1 - 1.2	12.10	0.00%		12.38	0.95%	0.95%	0.09	0.00%	0.13	0.13%	0.13%
1.2 - 1.3	12.38	0.95%		12.42	1.08%	0.13%	0.13	0.13%	0.05	-0.13%	0.27%
1.3 - 1.4	12.42	1.08%		12.18	0.28%	0.80%	0.05	-0.13%	0.01	-0.27%	0.13%
2.1 - 2.2	12.26	0.80%		12.34	1.07%	0.27%	-0.03	0.00%	0.05	0.27%	0.27%
2.2 - 2.3	12.34	1.07%		12.38	1.20%	0.13%	0.05	0.27%	0.01	0.13%	0.13%
2.3 - 2.4	12.38	1.20%		12.50	1.61%	0.40%	0.01	0.13%	0.01	0.13%	0.00%
3.1 - 3.2	12.10	1.07%		11.89	0.40%	0.67%	-0.05	-0.33%	-0.03	-0.27%	0.07%
3.2 - 3.3	11.89	0.40%		12.02	0.80%	0.40%	-0.03	-0.27%	-0.03	-0.27%	0.00%

Note : Only 3 sets of cals during run 3 (approved by adem on site)

SUMMARY OF RUNS

RUN	% MOISTURE	Raw NOx (ppm)	NOx WET (ppm) CORR.	(from M5 sheet) FLOW RATE sdcl/m	FLOW RATE swcl/m	PRODUCTION RATE	NOx #/HOUR	NOx #/TON
1.1 - 1.2		15.08	15.29					
1.2 - 1.3		9.41	9.38					
1.3 - 1.4		11.72	11.80					
AVERAGE RUN 1	2.00	10.565	10.59	1550396	1582036.735	251	120.0517	0.4783
2.1 - 2.2		10.54	10.62					
2.2 - 2.3		7.36	7.37					
2.3 - 2.4		9.41	9.37					
AVERAGE RUN 2	1.90	9.10333333	9.12	1585035	1615733.945	271	105.5634734	0.3895
3.1 - 3.2		9.41	9.73					
3.2 - 3.3		9.81	10.17					
AVERAGE RUN 3	2.00	9.61	9.95	1551305	1582964.286	201	112.8484154	0.5614
AVERAGE NOX (DILUTION)			9.89	1562245.333	1593578.322	241	112.82121	0.4764

Note: Production rate provided by George Cox
Nox lbs based on mol. Wt of 46, not prorated NOx/NO as reported

COMPANY: TRICO STEEL
FAC NO: 712-0037-X001
EVAL BY: KF
SOURCE: EAF

TEST DATE:
TESTED BY:
EVAL DATE:

10-24/25-00
AAS
12/11/00

SO2, Method 6						
COMPANY: TRICO			TEST DATE:		10-24/25-00	
FAC NO: 712-0037-X001			TESTED BY:		AAS	
EVAL. BY: kf			EVAL. DATE:		08/04/97	
SOURCE: EAF						
RUN #	1	2	3			
Vot	0.33	0.10	0.09	ml		
Volb	0.050	0.050	0.050	ml		
Nt	0.0100	0.0100	0.0100	meq/ml		
Vsample	145.0	124.0	162.0	ml		
Valiquot	20.0	20.0	20.0	ml		
PRODUCTION RATE	251	571.000	201.000	TON/HR	NOTE: STACK FLOW DATA	
STACK FLOW Vmstd	1550396	1585035	1551305	SDCF/M	FROM M5 SHEET	
SAMPLE VOLUME	8.450	9.020	8.860	DSCF		
Mass mg	0.65	0.10	0.10	Averages:		
Conc. gr/dscf	0.001	0.000	0.000			
Conc. lb/dscf	0.000000170	0.000000024	0.000000026			
Emiss. #/hr	15.7782	2.2572	2.4018	#DIV/0!	gr/dscf	
Emiss. #/TON	0.0629	0.0040	0.0119	6.8124	#/hrSO2	
				0.0263	#/tonSO2	

**SULFUR DIOXIDE (DILUTION)
METHOD 6C MONITOR PERFORMANCE**

CALIBRATION ERROR 7E MONITOR SPAN =			ACCEPTABLE = < 2% OF SPAN		
ACCEPTABLE RANGES			12 C.G. (ppm)	TM (ppm)	% OF SPAN
	0.03	ZERO	0	-0.07	0.6%
	7.2	LOW	5.94	5.973	0.3%
9.6	10.8	HIGH	11.5	11.71	1.8%
LESS THAN	0.03	ZERO	0	-0.084	0.7%
6 -	7.2	LOW	5.94	6.109	1.4%
9.6 -		HIGH	11.5	11.499	0.0%
LESS THAN	0.03	ZERO	0	-0.016	0.1%
6 -	7.2	LOW	5.94	6.136	1.6%
9.6 -		HIGH	11.5	11.539	0.3%

7E BIAS AND DRIFT TEST					ACCEPTABLE : DRIFT = < 3% of SPAN : BIAS < 5% of SPAN					
RUN	INITIAL SYSTEM RESPONSE (ppm)	UPSCALE	FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	MONITOR DRIFT (% OF SPAN)	ZERO				
		INITIAL BIAS (% OF SPAN)				INITIAL SYSTEM RESPONSE (ppm)	INITIAL BIAS (% OF SPAN)	FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	MONITOR DRIFT (% OF SPAN)
1.1 - 1.2	5.97	0.00%	5.98	0.06%	0.06%	-0.07	0.00%	-0.08	-0.12%	0.12%
1.2 - 1.3	5.98	0.06%	5.99	0.11%	0.05%	-0.08	-0.12%	-0.10	-0.23%	0.11%
1.3 - 1.4	5.99	0.11%	5.81	-1.36%	1.47%	-0.10	-0.23%	-0.08	-0.12%	0.11%
2.1 - 2.2	6.11	0.00%	5.81	-2.49%	2.49%	-0.08	0.00%	-0.08	0.00%	0.00%
2.2 - 2.3	5.81	-2.49%	5.95	-1.36%	1.13%	-0.08	0.00%	-0.08	0.00%	0.00%
2.3 - 2.4	5.95	-1.36%	5.86	-2.04%	0.68%	-0.08	0.00%	-0.08	0.00%	0.00%
3.1 - 3.2	6.14	0.00%	6.18	0.34%	0.34%	-0.02	0.00%	-0.07	-0.45%	0.45%
3.2 - 3.3	6.18	0.34%	6.19	0.46%	0.12%	-0.07	-0.45%	-0.10	-0.68%	0.23%

Note : Only 3 sets of cals during run 3(approved by adern on site)

Note: Production rate recalculated and provided by George Cox

SUMMARY OF RUNS

RUN	% MOISTURE	Raw SO2 (ppm)	SO2 WET (ppm) CORR.	(from M5 sheet) FLOW RATE sdct/m	FLOW RATE swct/m	PRODUCTION RATE	SO2 #/HOUR	SO2 #/TON
1.1 - 1.2		0.04	0.11					
1.2 - 1.3		0.17	0.25					
1.3 - 1.4		0.28	0.36					
AVERAGE RUN 1	2.00	0.221	0.24	1550396	1582036.735	251	3.8249	0.0152
2.1 - 2.2		0.19	0.27					
2.2 - 2.3		0.47	0.55					
2.3 - 2.4		0.43	0.51					
AVERAGE RUN 2	1.90	0.36233333	0.44	1585035	1615733.945	271	7.124052226	0.0263
3.1 - 3.2		0.49	0.51					
3.2 - 3.3		0.80	0.84					
AVERAGE RUN 3	2.00	0.647	0.68	1551305	1582964.286	201	10.65673618	0.0530
AVERAGE SO2 (DILUTION)			0.45	1562245.333	1593578.322	241	7.20191	0.0315

COMPANY: TRICO STEEL
FAC NO: 712-0037-X001
EVAL. BY: KF
SOURCE: EAF

TEST DATE:
TESTED BY:
EVAL. DATE:

10-24/25-00
AAS
12/11/00

**SULFUR DIOXIDE (NO DILUTION)
METHOD 6C MONITOR PERFORMANCE**

CALIBRATION ERROR 7E MONITOR SPAN =			ACCEPTABLE = < 2% OF SPAN		
ACCEPTABLE RANGES			C.G. (ppm)	TM (ppm)	% OF SPAN
	0.03	ZERO	0	0.048	0.4%
	7.2	LOW	5.94	5.98	0.3%
	10.8	HIGH	11.5	11.71	1.8%
9.6 -					
LESS THAN	0.03	ZERO	0	-0.092	0.8%
6 -	7.2	LOW	5.94	6.086	1.2%
9.6 -					
LESS THAN	0.03	ZERO	0	0.048	0.4%
6 -	7.2	LOW	5.94	5.946	0.0%
9.6 -					
		HIGH	11.5	11.634	1.1%

7E BIAS AND DRIFT TEST

ACCEPTABLE :

DRIFT = < 3% of SPAN : BIAS < 5% of SPAN

RUN	INITIAL SYSTEM RESPONSE (ppm)	UPSCALE INITIAL BIAS (% OF SPAN)	FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	MONITOR DRIFT (% OF SPAN)	INITIAL SYSTEM RESPONSE (ppm)	ZERO INITIAL BIAS (% OF SPAN)	FINAL SYSTEM RESPONSE (ppm)	FINAL BIAS (% OF SPAN)	MONITOR DRIFT (% OF SPAN)
1.1 - 1.2	5.98	0.00%	5.92	-0.52%	0.52%	0.05	0.00%	-0.16	-1.75%	1.75%
1.2 - 1.3	5.92	-0.52%	5.97	-0.05%	0.47%	-0.16	-1.75%	-0.18	-1.87%	0.12%
1.3 - 1.4	5.97	-0.05%	6.04	0.53%	0.58%	-0.18	-1.87%	-0.16	-1.75%	0.12%
2.1 - 2.2	6.09	0.00%	5.81	-2.33%	2.33%	-0.09	0.00%	-0.13	-0.35%	0.35%
2.2 - 2.3	5.81	-2.33%	5.69	-3.27%	0.93%	-0.13	-0.35%	-0.11	-0.12%	0.23%
2.3 - 2.4	5.96	-1.02%	5.73	-2.98%	1.96%	-0.11	-0.12%	-0.09	0.00%	0.12%
3.1 - 3.2	5.95	0.00%	5.86	-0.70%	0.70%	0.05	0.00%	-0.12	-1.40%	1.40%
3.2 - 3.3	5.86	-0.70%	5.85	-0.82%	0.12%	-0.12	-1.40%	-0.16	-1.75%	0.35%

Note : Only 3 sets of cals during run 3(approved by adem on site)

Note: Production rate recalculated and provided by George Cox

SUMMARY OF RUNS

RUN	% MOISTURE	Raw SO2 (ppm)	SO2 WET (ppm) CORR.	(from M5 sheet) FLOW RATE sdct/m	FLOW RATE swct/m	PRODUCTION RATE	SO2 #/HOUR	SO2 #/TON
1.1 - 1.2		0.65	0.70					
1.2 - 1.3		1.79	1.90					
1.3 - 1.4		1.39	1.50					
AVERAGE RUN 1	2.00	1.59	1.37	1550396	1582036.735	251	21.5301	0.0858
2.1 - 2.2		0.66	0.75					
2.2 - 2.3		1.34	1.48					
2.3 - 2.4		0.95	1.04					
AVERAGE RUN 2	1.90	0.9806667	1.09	1585035	1615733.945	271	17.56960157	0.0648
3.1 - 3.2		0.72	0.76					
3.2 - 3.3		1.04	1.17					
AVERAGE RUN 3	2.00	0.8835	0.97	1551305	1582964.286	201	15.23762127	0.0758
AVERAGE SO2 (NO DILUTION)			1.14	1562245.333	1593578.322	241	18.112448	0.0755

COMPANY: TRICO STEEL
FAC NO: 712-0037-X001
EVAL. BY: KF
SOURCE: EAF

TEST DATE:
TESTED BY:
EVAL. DATE:

10-24/25-00
AAS
12/11/00

Trico's Revised
Production Data

Run #	Start Time (Runs)	End Time (Runs)	Duration of Run (hr)	Sum of Weighted Production (TPH)	Test Results (lbs/hr) SO ₂	Test Results (lb/ton) SO ₂	Test Results (lb/hr) NO _x	Test Results (lb/ton) NO _x
1A	10/24/00:12:00	10/24/00:13:07	1.12	308	16.395	0.053	96.51	0.31
1B	10/24/00:13:35	10/24/00:14:05	0.50	237	16.395	0.069	96.51	0.41
1C	10/24/00:16:05	10/24/00:17:52	1.78	285	16.395	0.057	96.51	0.34
1	N/A	N/A	3.40	251	16.395	0.065	96.51	0.38
2A	10/24/00:19:10	10/24/00:21:05	1.92	223	1.572	0.007	69.84	0.31
2B	10/24/00:21:33	10/24/00:22:37	1.07	314	1.572	0.005	69.84	0.22
2C	10/24/00:23:03	10/25/00:01:04	1.02	317	1.572	0.005	69.84	0.22
2	N/A	N/A	4.00	271	1.572	0.006	69.84	0.26
3A	10/25/00:14:00	10/25/00:15:50	1.83	253	3.2	0.013	83.45	0.33
3B	10/25/00:16:33	10/25/00:18:45	2.20	157	3.2	0.020	83.45	0.53
3	N/A	N/A	4.03	201	3.2	0.016	83.45	0.42
			Average	241	7.06	0.029	83.27	0.353

Ambient Air Services, Inc.

106 Ambient Air Way • Starke, FL 32091 • (904)964-8440 • Fax (904)964-6675

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