AP32 Section:	12.5.1
Background Chapter	3
Reference:	9
Title:	Report on Particulate Compliance Testing. Performed for: Qualitech Steel Corporation, Pittsboro, IN, Baghouse Stack. By SESCO on January 15, 1999. SESCO Project No. 011599.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Indianapolis

OFFICE MEMORANDUM

To: Phil Perry
Date: August 18, 1999

From: Marie Jackson MMJ
Thru: Ed Surla

Subject: Qualitech Steel
Source I.D. 063-00037
Permit Number CP063-6093-00037

Qualitech Steel has submitted a report concerning the particulate testing at the Electric Arc Furnace in Pittsboro. The test was conducted by SESCO on January 15, 1999. The purpose of the testing was to determine permit compliance for particulate emissions. The protocol was approved by Dave Cline and the field test was observed by Steve Friend. I have reviewed this report and found the sampling procedures used and results to be acceptable to this Office. A copy of the test report is filed in the Compliance Data Section. The following is a summary of the test results:

Date of test: January 15, 1999
Identification: Electric Arc Furnace
Pollution Control Equipment: Baghouse
Test Methods: 1-5, 9
APC Operating Parameters:

	Average Delta P	Range of Delta P
Run 1	6.6"	5.6" to 7.8"
Run 2	6.68"	6.0" to 7.7"
Run 3	6.64"	5.9" to 7.6"

Maximum Operating Rate: 135 TPH
Average Operating Rate During Test: 97 TPH

Filterable PM Testing (Method 5)

Allowable Emission Rate: (326 IAC 2-2-3)	17.36 lb/hr	0.0032 gr/dscf
Measured Emission Rate:	1.52 lb/hr	0.0004 gr/dscf

Allowable Opacity: 3%
Highest Six Minute Opacity: 0%
Average Opacity: 0%

STATUS: IN COMPLIANCE for particulate at 72% capacity

cc: WPS / General File Hendricks County
Marie Jackson

Supreme
Environmental Service Company
SESCo Group

5876 West 71st Street *Indianapolis, Indiana 46278
(317)347-9590, FAX (317)347-9591

REPORT on PARTICULATE COMPLIANCE TESTING

Performed for:
Qualitech Steel Corporation
Pittsboro, Indiana
Baghouse Stack
by: SESCO
on 1/15/99
SESCO Project No.: 011599

To the best of our knowledge, the data presented in this report is accurate and complete.

Respectfully Submitted by:

Michael Dicen, Vice-President

SESCo Group

Qualitech Steel Corporation
Pittsboro, Indiana

SESCO Project No. 011599

1-1 PROJECT OVERVIEW

SESCo Group, was contracted by Qualitech Steel Corporation, to perform air sampling of their (EAF) Electric Arc Furnace - baghouse stack in Pittsboro, Indiana from January 15, 1999 through January 20, 1999. The objective of the testing was to determine permit compliance for particulate emissions. The following personnel were involved with the testing program:

SESCo	Mike Dicen
SESCo	Carlos Brown
SESCo	Andy Young
IDEM	Steve Friend
Qualitech	Carter Hansen
Qualitech	Ken Sills
Qualitech	Perry Porter

The testing program included particulate (Methods 1-5) and visible emissions (Method 9). Below is a summary of the results:

Table 1-1
Summary of Test Results

Date	Runs	Time	Location	Particulate Emissions	Particulate Emissions
1/15/99 1/19/99 1/20/99	1 2 3	09:48-17:43P 09:35-16:47P 10:06-18:09P	EAF Baghouse	Particulate 0.0003 gr/dscf	Filterable 1.51 lbs/hr

1-2 PROJECT OVERVIEW

Table 1-2:
Test Program

Pollutant	Methods	Location	Unit
Particulate	EPA RM 1-5, 9	Steel Plant	EAF Baghouse

The schedule of activities is summarized in Table 1-3.

Table 1-3:
Schedule of Activities

Date	*Run No.*	*Time*
Particulate Test (EAF Baghouse)		
01/15/99	1	09:48-17:43P
01/19/99	2	09:35-16:47P
01/20/99	3	10:06-18:09P

Qualitech Steel Corporation
Pittsboro, Indiana

SESCO Project No. 011599

2-1 Results

FILTERABLE AND CONDENSIBLE PARTICULATE
Baghouse Stack

		1	2	3	Avg.
Gas Conditions					
Ts	Stack Temperature (°F)	93.5	120.1	121.9	111.8
Bwo	Moisture (volume %)	0.12	0.28	0.35	0.25
O2	Oxygen (dry volume %)	20.9	20.9	20.9	20.9
CO2	Carbon Dioxide (dry volume %)	0	0	0	0
Volumetric Flow Rate					
Qa	Actual Conditions (acfm)	482,249	545,114	530,959	519,440
Qstd	Standard Conditions (dscfm)	464,750	498,741	483,920	482,471
Particulate Results					
C_f	concentration, filterable (gr/dscf)	0.0004	0.0003	0.0004	0.00036
E_f	Emission Rate, filterable (lb/hr)	1.6719	1.2712	1.6048	1.5160

3-1 DESCRIPTION OF INSTALLATION

Qualitech Steel Corporation, operates a steel plant in Pittsboro, Indiana. The plant consists of one 135-ton/hr (EAF) Electric Arc Furnace which utilizes charge electrodes. The EAF process involves the use of *100% Scrap Metal* or *Scrap & Maximum Iron Carbide Injection.*

During the 100% scrap process, the furnace undergoes an intial charge of approximately 50-tons of scrap metal, lime and charge carbon before melting for approximately 25-minutes. After completion of initial charge, a second 50-ton charge of scrap metal, lime, and charge carbon are introduced into furnace for an additional 25-minutes. During last 10-minutes of heat, oxygen is blown into furnace to reduce carbon in steel and to foam any slag so that it can be poured off. Approximately 100-tons of molten metal is tapped into the ladle and taken to the Ladle Metallurgy Furnace.

Scrap & Maximum Iron Carbide Injection begins with same initial process as 100% Scrap, with iron carbide being introduced during second charge to bring tap weight up to 100-tons. All other phases of this process follow the 100% scrap procedure.

The testing reported in this document was performed at the EAF Baghouse Stack which controls particulate emission.