

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	1
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

P/C

COMPANY NAME AND ADDRESS

Exide Technologies
2700 South Indiana Street
Los Angeles, CA 90023

ID 124838

mailing and equipment address

EQUIPMENT DESCRIPTION

APPLICATION NO. 496415

TITLE V FACILITY PERMIT REVISION

APPLICATION NO. 496416

ALTERATION TO THE EXHAUST SYSTEM OF AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248) BY THE ADDITIONAL VENTING OF 14 POT FURNACE NATURAL GAS BURNER EXHAUSTS AND ONE OVERHEAD HOOD LOCATED AT THE CORRIDOR BUILDING SOUTH ACCESS DOOR.

APPLICATION NO. 496418, 496419

ALTERATION TO THE COMMON EXHAUST SYSTEM VENTING CENTRAL VACUUM SYSTEM A (A/N 374249), CENTRAL VACUUM SYSTEM B (A/N 374251), AND CONNECTED TO THE CUPOLA FURNACE FEED ROOM BAGHOUSE (A/N 374249) BY THE DELETION OF ONE OVERHEAD HOOD LOCATED AT THE CORRIDOR BUILDING SOUTH ACCESS DOOR.

APPLICATION NO. 496420

ALTERATION TO LEAD REFINING POT FURNACE 3 OF A/N 374210 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496421

ALTERATION TO LEAD REFINING POT FURNACE 4 OF A/N 374211 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	2
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

APPLICATION NO. 496423

ALTERATION TO LEAD REFINING POT FURNACE 5 OF A/N 374212 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496424

ALTERATION TO LEAD REFINING POT FURNACE A OF A/N 374199 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496425

ALTERATION TO LEAD REFINING POT FURNACE B OF A/N 374200 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496426

ALTERATION TO LEAD REFINING POT FURNACE 6 OF A/N 414800 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496428

ALTERATION TO LEAD REFINING POT FURNACE 7 OF A/N 415067 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496429

ALTERATION TO LEAD REFINING POT FURNACE 8 OF A/N 415069 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496432

ALTERATION TO LEAD REFINING POT FURNACE 9 OF A/N 415071 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	3
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

APPLICATION NO. 496433

ALTERATION TO LEAD REFINING POT FURNACE G OF A/N 374204 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496434

ALTERATION TO LEAD REFINING POT FURNACE E OF A/N 374201 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496435

ALTERATION TO LEAD REFINING POT FURNACE F OF A/N 374202 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496437

ALTERATION TO LEAD REFINING POT FURNACE 1 OF A/N 374206 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

APPLICATION NO. 496438

ALTERATION TO LEAD REFINING POT FURNACE 2 OF A/N 374208 BY THE VENTING OF THE BURNER EXHAUST SYSTEM TO AIR POLLUTION CONTROL SYSTEM NO. 13 (A/N 374248).

HISTORY

Application Nos. 496416, 18, 19, 20, 21, 23, 24, 25, 26, 28, 29, 32, 33, 34, 35, 37, 38 were received as class I on 3/13/2009 to perform alterations consisting of the venting of the pot furnace burner exhaust systems to the dust collectors of A/N 496416 and the transfer of the venting of an overhead hood located in the corridor building connecting the reverberatory furnace and cupola furnace feed rooms from the APC systems of A/N's 496418 and 496420 to the dust collector of A/N 496416.

The purpose of these changes is to:

1. Prevent the occurrence of uncontrolled lead emissions from the pot furnaces whenever there is a crack in the furnace pot and molten lead infiltrates the burner compartment.
2. Enhance the negative pressure in the corridor building.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	4
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

Prior to the submittal of these permit applications, several related events have occurred as indicated below:

On May 7, 2008, a new Rule 1420 compliance plan was issued under A/N 481923. This application was needed to add specific measures required to bring this facility into compliance with the State and Federal Ambient Air Quality Standard for lead after several months of non-compliance.

On May 13, 2008, the AQMD's Executive Officer issued an Executive Order requiring this facility to reduce the process weight of materials charged to the cupola and reverberatory furnaces at this facility by 50%. This facility appealed the issuance of the conditions related to this order under case no. 3151-18. In addition, a variance petition from these conditions (C1.2 and C1.3) was submitted under case no. 3151-19. The initial dates of these hearings was 6/19/2008

On October 22, 2008, the subject pot furnace burners were identified as sources of lead emissions in a source test conducted by the AQMD.

On November 25, 2008, the Hearing Board issued a minute order revoking the special permit conditions issued to Exide on May 13, 2008.

Subsequent to these events, Exide was issued an addendum to the Rule 1420 compliance plan on December 12, 2008. This addendum provided specific coordinate locations for onsite monitor locations. Two of these monitor locations have measured significantly elevated lead concentration measurements (greater than 1.5 ug/m³). In addition, Exide has received several related Notice of Violations, including most recently, NOV No. P49868, issued on 4/2/2009 for violation of Rule 1420 (d)(1). This NOV was issued because the ambient lead concentration at the fence line of this facility has recently averaged more than 1.5 ug/m³ on a rolling 30 day average.

The measures proposed by Exide in the current set of permit applications is intended to mitigate the lead concentrations measured at the fence lines of this facility.

The tables on the following pages summarize the recent permit history regarding the subject equipment:

AIR POLLUTION CONTROL SYSTEM NO. 13: (device nos. C156, C157, S158)	
496416	received 3/13/2009 for alteration to 374248 - add venting of 14 pot burner exhausts and one overhead hood.
374248	Exide change of ownership (C/O) application received 8/31/2000 - P/C pending
344815	P/C issued 1/27/1999 to GNB for new APCS No. 13

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	5
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

CENTRAL VACUUM SYSTEM A: (device nos. C48, C159, C160, D161, S142)	
496418	received 3/13/2009 for alteration to 374249 - delete venting of one overhead hood
374249	Exide C/O application received 8/31/2000 - P/C pending
344816	P/C issued 1/27/1999 to GNB for new APCS No. 7 to add vacuum system A

CENTRAL VACUUM SYSTEM B: (device nos. C162, C163, D164)	
496419	received 3/13/2009 for alteration to 374251 - delete venting of one overhead hood
374251	Exide C/O application received 8/31/2000 - P/C pending
344818	P/C issued 1/27/1999 to GNB for new APCS No. 7 to add vacuum system B

FURNACE 3 (device no. D11)	
496420	received 3/13/2009 for alteration to 374210 by the venting of the burner exhaust to dust collector of 496416
374210	P/O F36577 issued 1/24/2001 for C/O
178391	P/O D23196 issued 4/18/1990

FURNACE 4 (device no. D13)	
496421	received 3/13/2009 for alteration to 374211 by the venting of the burner exhaust to dust collector of 496416
374211	P/O F36576 issued 1/24/2001
178392	P/O D22934 issued 4/11/1990

FURNACE 5 (device no. D15)	
496423	received 3/13/2009 for alteration to 374212 by the venting of the burner exhaust to dust collector of 496416
374212	P/O F36575 issued 1/24/2001 for C/O
178393	P/O D22931 issued 4/11/1990

FURNACE A (device no. D17)	
496424	received 3/13/2009 for alteration to 374199 by the venting of the burner exhaust to dust collector of 496416
374199	P/O F36597 issued 1/24/2001 for C/O
178384	P/O D22935 issued 4/11/1990

FURNACE B (device no. D19)	
496425	received 3/13/2009 for alteration to 374200 by the venting of the burner exhaust to dust collector of 496416
374200	P/O F36581 issued 1/24/2001 for C/O
178385	P/O D22932 issued 4/11/1990

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	6
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

FURNACE 6 (device no. D24)	
496426	received 3/13/2009 for alteration to 374214 by the venting of the burner exhaust to dust collector of 496416
414800	received 4/30/2003 to change NOx factor for NaNO ₃ reagent - P/O pending
374214	P/O F36574 issued 1/24/2001 for C/O
178394	P/O D34309 issued 11/29/1990

FURNACE 7 (device no. D26)	
496428	received 3/13/2009 for alteration to 374215 by the venting of the burner exhaust to dust collector of 496416
415067	received 5/07/2003 to change NOx factor for NaNO ₃ reagent - P/O pending
374215	P/O F36570 issued 1/24/2001 for C/O
178395	P/O D34310 issued 11/29/1990

FURNACE 8 (device no. D28)	
496429	received 3/13/2009 for alteration to 374216 by the venting of the burner exhaust to dust collector of 496416
415069	received 5/07/2003 to change NOx factor for NaNO ₃ reagent - P/O pending
374216	P/O F36707 issued 1/25/2001 for C/O
178396	P/O D34311 issued 11/29/1990

FURNACE 9 (device no. D30)	
496432	received 3/13/2009 for alteration to 374217 by the venting of the burner exhaust to dust collector of 496416
415071	received 5/07/2003 to change NOx factor for NaNO ₃ reagent - P/O pending
374217	P/O F36708 issued 1/25/2001 for C/O
178397	P/O D34312 issued 11/29/1990

FURNACE G (device no. D32)	
496433	received 3/13/2009 for alteration to 374204 by the venting of the burner exhaust to dust collector of 496416
374204	P/O F36578 issued 1/24/2001 for C/O
178388	P/O D23195 issued 4/18/1990

FURNACE E (device no. D34)	
496434	received 3/13/2009 for alteration to 374201 by the venting of the burner exhaust to dust collector of 496416
374201	P/O F36579 issued 1/24/2001 for C/O
178386	P/O D22933 issued 4/11/1990

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	7
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

FURNACE F (device no. D36)	
496435	received 3/13/2009 for alteration to 374202 by the venting of the burner exhaust to dust collector of 496416
374202	P/O F36569 issued 1/24/2001 for C/O
178387	P/O D23197 issued 4/18/1990

FURNACE 1 (device no. D7)	
496437	received 3/13/2009 for alteration to 374206 by the venting of the burner exhaust to dust collector of 496416
374206	P/O F36585 issued 1/24/2001 for C/O
178389	P/O D34293 issued 11/29/1990

FURNACE 2 (device no. D9)	
496438	received 3/13/2009 for alteration to 374208 by the venting of the burner exhaust to dust collector of 496416
374208	P/O F36584 issued 1/24/2001 for C/O
178390	P/O D34308 issued 11/29/1990

PROCESS DESCRIPTION

Exide is a secondary lead smelter. The current project consists of the venting of the refining pot furnace natural gas burner exhausts to the dust collector identified as APCS No. 13. The purpose of this change is to ensure that any molten lead metal that leaks into the (indirectly fired) burner compartments will not result in uncontrolled lead emissions originating with the burner stacks.

EQUIPMENT DESCRIPTIONS

The subject pot furnace applications are nearly identical, except for small differences. A policy decision has been made to process the subject pot furnaces as identical equipment since only one evaluation is required.

Provided below, for clarification purposes, are the complete permit unit descriptions for the subject equipment following the proposed alterations. **The new changes are indicated in bold.**

APPLICATION NO. 496416

AIR POLLUTION CONTROL SYSTEM NO. 13 CONSISTING OF:

1. DUST COLLECTOR NO. 1, MAC, CARTRIDGE TYPE, MODEL 144MCF494, 14'-0" DIA. X 42'-6"H., WITH 494 CARTRIDGE FILTERS, EACH 0'-5" DIA. X 12'-0"L., PULSE JET CLEANED.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

22	8
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

2. DUST COLLECTOR NO. 2, MAC, CARTRIDGE TYPE, MODEL 144MCF494, 14'-0" DIA. X 42'-6"H., WITH 494 CARTRIDGE FILTERS, EACH 0'-5" DIA. X 12'-0"L., PULSE JET CLEANED.
3. EXHAUST SYSTEM WITH TWO 150 H.P. BLOWERS VENTING TWO REVERBERATORY FURNACE FEED HOPPERS, A BELT CONVEYOR, AN APRON CONVEYOR, A SCREW CONVEYOR, A WEIGH BELT CONVEYOR, 8 OVERHEAD HOODS INSIDE THE REVERBERATORY FURNACE RAW MATERIAL STORAGE BUILDING, **1 OVERHEAD HOOD INSIDE THE CORRIDOR BUILDING BETWEEN THE REVERBERATORY FURNACE AND CUPOLA FURNACE FEED ROOMS, AND 14 LEAD REFINING POT FURNACE BURNER EXHAUSTS.**

APPLICATION NO. 496418

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. BAGHOUSE, EIGHT COMPARTMENTS, WITH 64,000 SQ. FT. TOTAL FILTER AREA AND EIGHT 2-H.P. SHAKERS (COMMON TO 496419).
2. CENTRAL VACUUM SYSTEM A CONSISTING OF:
 - A. CYCLONE SEPARATOR, SPENCER, MODEL CH950CB-MOD, 4'-2"DIA. X 7'-0"H.
 - B. BAGHOUSE, SPENCER, MODEL JH9600B8-M, 5'-0"DIA. X 15'-7"H., WITH 28 POLYPROPYLENE FILTER BAGS, 468 SQ. FT. TOTAL FILTER AREA, REVERSE AIR CLEANED.
 - C. EXHAUST SUBSYSTEM WITH A 75-H.P. BLOWER VENTING 50 FLOOR SWEEPS.
3. EXHAUST SYSTEM (COMMON TO A/N 496419) WITH A 300-H.P. BLOWER VENTING A CUPOLA FURNACE SKIP HOIST CHARGING HOOD, **8** OVERHEAD HOODS INSIDE THE CUPOLA FURNACE RAW MATERIAL STORAGE BUILDING, AND 2 CENTRAL VACUUM SYSTEM BAGHOUSES.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

22	9
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

APPLICATION NO. 496419

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. BAGHOUSE, EIGHT COMPARTMENTS, WITH 64,000 SQ. FT. TOTAL FILTER AREA AND EIGHT 2-H.P. SHAKERS (COMMON TO 496418).
2. CENTRAL VACUUM SYSTEM B CONSISTING OF:
 - A. CYCLONE SEPARATOR, SPENCER, MODEL CH942CB-MOD, 3'-6"DIA. X 6'-0"H.
 - B. BAGHOUSE, SPENCER, MODEL JH9600B8-M, 5'-0"DIA. X 15'-7"H., WITH 28 POLYPROPYLENE FILTER BAGS, 468 SQ. FT. TOTAL FILTER AREA, REVERSE AIR CLEANED.
 - C. EXHAUST SUBSYSTEM WITH A 50-H.P. BLOWER VENTING 48 FLOOR SWEEPS.
3. EXHAUST SYSTEM (COMMON TO A/N 496418) WITH A 300-H.P. BLOWER VENTING A CUPOLA FURNACE SKIP HOIST CHARGING HOOD, **8** OVERHEAD HOODS INSIDE THE CUPOLA FURNACE RAW MATERIAL STORAGE BUILDING, AND 2 CENTRAL VACUUM SYSTEM BAGHOUSES.

APPLICATION NO. 496420

FURNACE 3, HARD LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496421

FURNACE 4, HARD LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496423

FURNACE 5, SPECIALTY LEAD CASTING AND REFINING, CONTINENTAL BOILER WORKS, POT TYPE, 40-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

22	10
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

APPLICATION NO. 496424

FURNACE A, HARD LEAD RECEIVING AND REFINING, CONTINENTAL BOILER WORKS, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496425

FURNACE B, HARD LEAD RECEIVING AND REFINING, CONTINENTAL BOILER WORKS, POT TYPE, 75-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496426

FURNACE 6, SOFT LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496428

FURNACE 7, SOFT LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496429

FURNACE 8, SOFT LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496432

FURNACE 9, SOFT LEAD REFINING, G. W. TAYLOR TANK CO, POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

22	11
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

APPLICATION NO. 496433

FURNACE G, SOFT LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496434

FURNACE E, SOFT LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496435

FURNACE F, SOFT LEAD RECEIVING AND REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496437

FURNACE 1, HARD LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

APPLICATION NO. 496438

FURNACE 2, HARD LEAD REFINING, G. W. TAYLOR TANK CO., POT TYPE, 105-TON CAPACITY, 2,500,000 BTU PER HOUR NATURAL GAS- OR LPG-FIRED WITH A 30-H.P. PORTABLE AGITATOR AND A 7-1/2-H.P. PORTABLE TRANSFER PUMP, **WITH THE BURNER EXHAUST VENTED TO A DUST COLLECTOR.**

REVERB FEED ROOM DUST COLLECTORS (A/N 496416)

The proposed changes are to vent the pot furnace burner exhausts to the reverb feed room dust collectors. These changes are not expected to result in any emissions increases. Overall, a negligible emissions decrease is expected because any presence of molten lead emissions (due to pot malfunction) will now be controlled. The presence of small amounts of molten lead

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	12
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

emissions will make the dust collectors of A/N's 496416 subject to additional requirements of Rule 1407, such as a flow meter in the exhaust system.

CUPOLA FEED ROOM DUST COLLECTOR (A/N's 496418, 496420)

This permit unit has two permit applications due to the fact that two separate plant sanitary vacuum systems are connected to the exhaust system of the cupola feed room dust collector. The proposed changes consist of removing the venting of an overhead hood over the south door entrance to the corridor building, replacing the exhaust duct over this door with a larger diameter duct, and reconnecting the larger duct to the reverb feed room dust collector. There are no specific devices in the corridor building. Therefore, the proposed changes do not result in any new added or deleted device connections in the facility permit. However, since this is a physical alteration, a permit application is required.

There is no significant impact expected as a result of this alteration. The only anticipated effect may be an averaging of the exhaust flow rates between these two permit units. Currently, the reverb feed room dust collector has a capacity of approximately 80, 000 CFM and the cupola feed room dust collector has a capacity of approximately 100,000 CFM. By enlarging a duct to the reverb feed room dust collector, the flow rate of this system may increase closer to 100,000 CFM.

NO_x EMISSION FACTORS FOR POT FURNACES

Previous permit Application Nos. 414800, 415067, 415069, and 415071 were submitted to decrease the NO_x emission factor associated with the charging of sodium nitrate to these furnaces. A source test was performed and the report was conditionally approved by the AQMD source testing group on 10/10/2006. However, the use of the new RECLAIM NO_x factor determined during this testing is currently under review. Therefore, the current set of permit applications which have superseded these applications will not address the new NO_x factor at the P/C stage. This issue may be resolved by the time that the P/O's are issued for the pot furnaces.

VENTING OF A HEAT SOURCE

A heat balance has been performed in the CALCULATIONS section of this report to address the addition of a thermal source to the inlet of the dust collectors of A/N 496416. Based on these calculations, it has been determined that a negligible exhaust gas temperature increase of 3.7° F is expected. Therefore, the heat load is not expected to cause any problems in this case.

The subject equipment is operated 24 hours/day, 7 days/week, and 52 weeks/year.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	13
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

CALCULATIONS

DATA

For data and calculations not shown, refer to the appendix.

Data from AQMD test report no. 08-277 (October, 2008):

1. Flow rate data (wet scfm)

Device ID C 48	102,794
Device ID's C156, C157	80,574
Kettle Burner Stack	6,561

2. Average stack temperatures

Device ID C 48	104 °F
Device ID's C156, C157	101 °F
Kettle Burner Stack	149 °F

COMPUTATIONS

1. Calculation of Final Stack Temperature for Devices C156 and C157
(Refer to Appendix A for data table)

$Q = v \cdot Cp \cdot (T_2 - T_1)$	BTU/SCF of air	$v_1 = 6591$ scfm
$v =$ SCF	exhaust volume	$T_1 = 149$ °F
$Cp =$ BTU/SCF*°F	heat capacity	$v_2 = 80574$ scfm
$T =$ °F	exhaust temperature	$T_2 = 101$ °F
		$v_3 = 80574$ scfm
		$T_3 = T_f$

$$Q_1 + Q_2 = Q_3$$

$$(v_1)(Cp_1)(T_f - T_1) + (v_2)(Cp_2)(T_f - T_2) = (v_3)(Cp_3)(T_f - T_3) = 0$$

For $T = 100$ to 200 °F, Cp is almost constant (Cp 's cancel out)

Therefore:

$$(6561)(T_f - 149) + (80574)(T_f - 101) = 0$$

solving for T_f :

$$T_f = 9120033/87135 = 104.7 \text{ °F}$$

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	14
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

ASSUMPTIONS

1. The differences in the small amount of CO₂ and water in exhaust gas will have negligible effects on heat capacities of the exhaust gas mixture.
2. The heat capacity of air is constant between 100 and 200 degrees Fahrenheit.
3. The stack temperatures measured in the referenced source test are representative of normal operations.
4. Notwithstanding ambient temperatures, the maximum temperatures in the exhaust gas will not be significantly higher than the calculated final stack temperature.

EMISSIONS SUMMARY FOR POT FURNACES

MAX HOURLY EMISSIONS:

Current A/N	C/O A/N	Previous A/N	Kettle No.	ROG, R1 = R2	NOx, R1 = R2	SOx, R1 = R2	CO, R1 = R2	PM, R1	PM, R2
496420	374210	178391	3	0.0088	0.1663	0.0600	0.0413	0.7417	0.0148
496421	374211	178392	4	0.0088	0.1663	0.0600	0.0413	0.7417	0.0148
496423	374212	178393	5	0.0088	0.1663	0.0600	0.0413	0.3983	0.0080
496424	374199	178384	A	0.0088	0.1663	0.0600	0.0413	1.6717	0.0334
496425	374200	178385	B	0.0088	0.1663	0.0600	0.0413	1.6717	0.0334
496426	374214	178394	6	0.0088	0.1663	0.8933	0.0413	1.7588	0.0352
496428	374215	178395	7	0.0088	0.1663	0.8933	0.0413	1.7588	0.0352
496429	374216	178396	8	0.0088	0.1663	0.8933	0.0413	1.7588	0.0352
496432	374217	178397	9	0.0088	0.1663	0.8933	0.0413	1.7588	0.0352
496433	374204	178388	G	0.0088	0.1663	0.0600	0.0413	2.3421	0.0468
496434	374201	178386	E	0.0088	0.1663	0.0600	0.0413	2.3421	0.0468
496435	374202	178387	F	0.0088	0.1663	0.0600	0.0413	2.3421	0.0468
496437	374206	178389	1	0.0088	0.1663	0.8933	0.0413	0.7417	0.0148
496438	374208	178390	2	0.0088	0.1663	0.8933	0.0413	0.7417	0.0148
Totals, lbs/hr				0.12	2.33	5.84	0.58	20.77	0.42
Totals, lbs/day				2.94	55.86	140.16	13.86	498.47	9.97

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

22	15
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

EMISSIONS SUMMARY FOR POT FURNACES (cont.)

Max PTE Emissions, lbs/day

Current A/N	C/O A/N	Previous A/N	Kettle No.	ROG, R1 = R2	NOx, R1 = R2	SOx, R1 = R2	CO, R1 = R2	PM, R1	PM, R2
496420	374210	178391	3	0.21	3.99	1.44	0.99	17.8	0.36
496421	374211	178392	4	0.21	3.99	1.44	0.99	17.8	0.36
496423	374212	178393	5	0.21	3.99	1.44	0.99	9.56	0.19
496424	374199	178384	A	0.21	3.99	1.44	0.99	40.12	0.80
496425	374200	178385	B	0.21	3.99	1.44	0.99	40.12	0.80
496426	374214	178394	6	0.21	3.99	21.44	0.99	42.21	0.84
496428	374215	178395	7	0.21	3.99	21.44	0.99	42.21	0.84
496429	374216	178396	8	0.21	3.99	21.44	0.99	42.21	0.84
496432	374217	178397	9	0.21	3.99	21.44	0.99	42.21	0.84
496433	374204	178388	G	0.21	3.99	1.44	0.99	56.21	1.12
496434	374201	178386	E	0.21	3.99	1.44	0.99	56.21	1.12
496435	374202	178387	F	0.21	3.99	1.44	0.99	56.21	1.12
496437	374206	178389	1	0.21	3.99	21.44	0.99	17.8	0.36
496438	374208	178390	2	0.21	3.99	21.44	0.99	17.8	0.36
Totals				2.94	55.86	140.16	13.86	498.47	9.97
Total, 30 day Ave.				3	56	140	14	498	10

30 day ave. Emissions, lbs/day
(math rounding corrected for data entry)

Current A/N	C/O A/N	Previous A/N	Kettle No.	ROG, R1 = R2	NOx, R1 = R2	SOx, R1 = R2	CO, R1 = R2	PM, R2
496420	374210	178391	3	0	4	1	1	0
496421	374211	178392	4	0	4	2	1	0
496423	374212	178393	5	1	4	1	1	0
496424	374199	178384	A	0	4	1	1	1
496425	374200	178385	B	0	4	2	1	1
496426	374214	178394	6	0	4	21	1	1
496428	374215	178395	7	0	4	22	1	1
496429	374216	178396	8	0	4	21	1	1
496432	374217	178397	9	1	4	22	1	1
496433	374204	178388	G	1	4	1	1	1
496434	374201	178386	E	0	4	1	1	1
496435	374202	178387	F	0	4	2	1	1
496437	374206	178389	1	0	4	21	1	1
496438	374208	178390	2	0	4	22	1	0
Total, 30 day Ave.				3	56	140	14	10

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	16
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

EVALUATION/DISCUSSION

There are no emissions increases expected with regards to the subject permit applications. Prior to these permit applications, the pot furnace burner exhaust systems were manifolded to a common, uncontrolled exhaust stack. This stack was recently source tested by the AQMD and determined to be emitting small amounts of lead. The emissions of lead were probably due to one or more cracks in the lead pot vessels in the pot furnaces. Normally, the pot furnace burners are not sources of lead emissions. However, lead emissions can periodically occur when the pot vessels malfunction. The addition of a particulate control system to the pot furnace burners will ensure compliance with Rule 1420 and the State and Federal Ambient Air Quality Standards for lead.

The presence of molten lead metal emissions makes operation of the dust collectors of A/N 496416 also subject to Rule 1407. This equipment has been previously tested to demonstrate 98 % control of lead emissions for Rule 1420 compliance. However, since late 2007, this facility has had many problems with Rule 1420 compliance. These problems are mainly attributable to housekeeping and maintenance related problems. Since this dust collector will now be venting 14 pot furnace burners and because there have been many problems with Rule 1420 compliance during the last year, it would be prudent to re-test this control system to ensure that it can comply with Rule 1420 performance requirements subsequent to the alterations. Therefore, permit conditions will be recommended to demonstrate compliance with this rule and with the lead NESHAP (since this dust collector is subject to the lead NESHAP.) Also, additional permit conditions will now be required to demonstrate compliance with the instrumental requirements of Rule 1407. By demonstrating a minimum control efficiency of at least 98% on lead emissions, the dust collectors of A/N 496416 will also demonstrate compliance with Rule 1407 pursuant to the exemption in Rule 1407 (i)(6).

The subject permit applications are being processed in conjunction with the issuance of an updated and enhanced Rule 1420 compliance plan covered by A/N 481923. This facility is also in the process of upgrading and/or improving many different equipment and procedures to enhance the control of all sources of lead emissions at this facility. Altogether, this project is considered to be a significant de-minimus Title V Facility Permit revision.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	17
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

RECOMMENDATION

Issue Permit to Construct subject to the following conditions:

1. Add Process 1, System 5 to Section H: (LEAD METAL REFINING SYSTEM)
2. Add Process 1, System 10 to Section H: (REVERB FEED ROOM APCS)
3. Add Process 1, System 11 to Section H: (CUPOLA FURNACE FEED ROOM APCS)
4. Add device nos.

A/N	DEVICE	DESCRIPTION	PROCESS, SYSTEM
496416	C156	reverb feed room dust collector no. 1	P1, S 10
496416	C157	reverb feed room dust collector no. 2	P1, S 10
496416	S158	stack, reverb feed room dust collector nos. 1 and 2	P1, S 10
496418	C48	cupola feed room baghouse	P1, S 11
496418	C159	cyclone, vacuum system A	P1, S 11
496418	C160	baghouse, vacuum system A	P1, S 11
496418	D161	50 floor sweeps, vacuum system A	P1, S 11
496418	S142	stack, cupola feed room baghouse	P1, S 11
496419	C162	cyclone, vacuum system B	P1, S 11
496419	C163	baghouse, vacuum system B	P1, S 11
496419	D164	50 floor sweeps, vacuum system B	P1, S 11
496420	D11	pot furnace 3	P1, S5
496421	D13	pot furnace 4	P1, S5
496423	D15	pot furnace 5	P1, S5
496424	D17	pot furnace A	P1, S5
496425	D19	pot furnace B	P1, S5
496426	D24	pot furnace 6	P1, S5
496428	D26	pot furnace 7	P1, S5
496429	D28	pot furnace 8	P1, S5
496432	D30	pot furnace 9	P1, S5
496433	D32	pot furnace G	P1, S5
496434	D34	pot furnace E	P1, S5
496435	D36	pot furnace F	P1, S5
496437	D7	pot furnace 1	P1, S5
496438	D9	pot furnace 2	P1, S5

5. Add connections to Device C156 and C157 in Section H:

- A. Existing: D109, D110, D111, D112, D113, D151, S158
- B. New: D7, D9, D11, D13, D15, D17, D19, D24, D26, D28, D30, D32, D34, D36

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

22	18
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

6. Add connections to Devices C48, C159, C160, D161, C162, C163, D164, S142

Existing: C48: D126, S142, C160, C163
C159: C160, D161
C160: C48, C159
D161: C159
C162: C163, D164
C163: C48, C162
D164: C162
S142: C48

7. Add all existing permit conditions and device connections to pot furnaces in section H.

8. Change permit conditions as follows:

APPLICATION NO. 496416

Delete the following condition:

H116.3

Add the following conditions:

(NEW)

C6.4 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, does not exceed 150 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the baghouse inlet duct, in degrees Fahrenheit.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 10 degrees Fahrenheit. It shall be calibrated once every 12 months.

[RULE 1303(a)(1)-BACT, 5-10-1996]

[Devices subject to this condition : C156, C157]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	19
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

D12.9 The operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the cartridge filters, in inches water column.

[RULE 1303(a)(1)-BACT, 5-10-1996]

[Devices subject to this condition : C38, C39, C156, C157]

D12.13 The operator shall install and maintain a(n) sensor to accurately indicate the existence of a leak in the cartridge filters.

[RULE 1303(a)(1)-BACT, 5-10-1996]

[Devices subject to this condition : C156, C157]

(NEW)

D12.15 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the dust collector inlet duct, in degrees Fahrenheit.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 30 degrees Fahrenheit. It shall be calibrated once every 12 months.

[RULE 1303(a)-BACT, 5-10-1996]

[Devices subject to this condition : C156, C157]

(NEW)

D12.16 The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate in the dust collector inlet or outlet duct, in feet per minute.

[RULE 1407, 7-8-1994]

[Devices subject to this condition : C156,157]

(NEW)

D182.2 The operator shall test this equipment in accordance with the following specifications:

- A) The test(s) shall be conducted and a written report submitted to the AQMD not later than 180 days of initial installation of the exhaust system connections to the burner compartments of pot furnace device nos. D7, D9, D11, D13, D15, D17, D19, D24, D26, D28, D30, D32, D34 and D36.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	20
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

- B) The test(s) shall measure the emissions of lead at the common inlet and outlet of the dust collectors. Triplicate source tests shall be conducted simultaneously on the common inlet and outlet of the dust collectors in accordance with the requirements set forth by Rule 1420 (e)(2).
- C) Triplicate source tests shall be conducted for exhaust gas lead concentration in the common dust collector outlet, pursuant to 40CFR 63 Subpart X. The outlet tests in part B of this condition may be used to fulfill this requirement if equivalency in testing methods can be demonstrated to satisfy the requirements of both rules.
- D) The tests shall be conducted while the reverberatory and cupola furnaces are operated under normal operating conditions.
- E) The source tests shall be performed by a qualified testing laboratory, conducted in accordance with acceptable district procedures and monitored by a district representative.
- F) The rule 1420 source tests shall be conducted by a qualified testing contractor approved for rule 1420 testing.
- G) Written notice shall be provided to the AQMD at least 10 days prior to testing so that an AQMD observer may be present during the tests.
- H) Sampling facilities shall comply with the attached district "guidelines for the construction of sampling and testing facilities", pursuant to rule 217.
- D) Written results shall be submitted to the AQMD within 60 days after testing.

[RULE 1407, RULE 1420]

[Devices subject to this condition : C156, C157]

D381.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a quarterly basis, at least, unless the equipment did not operate during the entire quarterly period. The routine quarterly inspection shall be conducted while the equipment is in operation and during daylight hours. If any visible emissions (not including condensed water vapor) are detected, the operator shall take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	21
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions; and
- 3). Date and time visible emission was abated.

[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995]

[Devices subject to this condition : C38, C39, C40, C41, C45, C46, C47, C48, S140, S141, S142, C144, S145, C156, C157, S158]

E102.1 The operator shall discharge dust collected in this equipment only into closed containers.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1420, 9-11-1992]

[Devices subject to this condition : C38, C39, C40, C41, C45, C46, C47, C48, C144, C156, C157, C159, C160, C162, C163]

(NEW)

H116.1 The operator shall ensure that the exhaust system conforms to design and operation specifications given in the most current edition of "Industrial Ventilation, Guidelines and Recommended Practices", published by the American Conference of Governmental and Industrial Hygienists (20th edition or thereafter) in order to comply with Rules 1407 and 1420 whenever the equipment vented by this air pollution control system is in operation.

[RULE 1407, 7-8-1994; RULE 1420, 9-11-1992]

[Devices subject to this condition : C40, C41, C45, C46, C47, C48, C144, **C156, C157, C159, C160**]

(NEW)

H116.4 The operator shall ensure that the bag leak detection system meets the requirements of 40 CFR Part 63, Subpart X, Sections 63.548 (e) (1) through (e) (8), and shall follow the procedures outlined in the USEPAs Fabric Filter Bag Leak Detection Guidance dated September 1997 or any revisions thereafter in order to comply with the National Emission Standards for Secondary Lead Smelting whenever this equipment is in operation.

[40CFR 63 Subpart X, 6-23-2003; 40CFR Part 64, 10-22-1997]

[Devices subject to this condition : C38, C39, C144, **C156, C157**]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

22	22
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

(NEW)

K171.1 The operator shall provide to the District the following items:

- A) Two (2) copies of the test plan shall be submitted to the refinery and waste management permitting unit, engineering and compliance, not less than 60 calendar days prior to the initial test date and shall be approved by the district before the tests commence. The plan shall include the proposed operating conditions of the equipment during each test run.
- B) The total amount, in tons, of all materials charged to the reverberatory and cupola furnaces during each test run shall be recorded. The measuring period for determining the process weight of throughputs shall include the period during which the test run occurred. This requirement shall apply to each test run.
- C) A test plan shall be submitted for district approval, and it shall include the following:
 - 1. The identity of the testing laboratory.
 - 2. A statement from the testing laboratory certifying it meets the criteria in District Rule 304 (k).
 - 3. A list of contaminants to be tested.
 - 4. Testing procedures for each contaminant and a description of all sampling and analytical procedures to be used.
 - 5. Location of points of sampling.
 - 6. Quality assurance measures.
 - 7. Experience in testing procedures.
 - 8. Date(s) and time(s) of commencement of the test(s).
- D) With respect to the devices listed in this condition, the source tests shall be completed and a final report submitted to the AQMD not later than 180 days of initial installation of the new HEPA filters (device no. C39), and/or, the installation of the pot furnace burner compartment exhaust connections (device nos. C156 and C157), respectively.

[RULE 1407, RULE 1420]

[Devices subject to this condition : C39, **C156, C157**]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

APPENDIX A

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

5	A1
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

1. Source test data (AQMD test no. 08-277)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Dr. Diamond Bar, California 91765-4182

Test No. 1

Test Date: October 15, 2008

SOURCE TEST CALCULATIONS

Sampling Location: Exide Technologies, Material Handling, C48
Sample Train: 22
Compound: Lead
Input by: J. Aspell

SUMMARY

A. Average Traverse Velocity.....		57.69	fps
B. Gas Meter Temperature (Use 60 deg.F for Temp Comp. Meters).....		96.5	deg F
C. Gas Meter Correction Factor.....		1.0155	
D. Average Orifice Pressure.....		1.84	"H ₂ O
E. Nozzle Diameter.....		0.2250	inch
F1. Stack Diameter or Dimension #1..	84	inch	
F2. Stack Dim #2 (blank if circular).....	0	inch	
G. Stack Cross Sect. Area.....	38.484	ft ²	
H. Average Stack Temp.....	103.7	deg F	
I. Barometric Pressure.....	29.65	"HgA	
J. Gas Meter Pressure (I+(D/13.6)).....	29.79	"HgA	
K. Static Pressure.....	-0.42	"H ₂ O	
L. Total Stack Pressure (I+(K/13.6))....	29.62	"HgA	
M. Pitot Correction Factor.....	0.84		
N. Sampling Time.....	120	min	
O. Nozzle X-Sect. Area.....	0.00028	ft	
P. Net Sample Collection.....	0.0433	mg	
Q. Net Solid Collection.....	0.0433	mg	
R. Water Vapor Condensed.....	12.9	ml	
S. Gas Volume Metered.....	94.297	dcf	
T. Corrected Gas Volume [(S x J/29.92) x 520/(460+B) x C].....	89.076	dscf	

PERCENT MOISTURE/GAS DENSITY

U. Percent Water Vapor in Gas Sample ((4.64 x R)/((0.0464 x R) + T))..... 0.67 %

V. Average Molecular Weight (Wet):

Component	Vol. Fract.	x	Moist. Fract.	x	Molecular Wt.	=	Wt./Mole
Water	0.007		1.000		18.0	,	0.12
Carbon Dioxide	0.001	Dry Basis	0.993		44.0	,	0.02
Carbon Monoxide	0.000	Dry Basis	0.993		28.0	,	0.00
Oxygen	0.201	Dry Basis	0.993		32.0	,	6.39
Nitrogen & Inerts	0.798	Dry Basis	0.993		28.2	,	22.37
					Sum		28.90

FLOW RATE

W. Gas Density Correction Factor (28.95/V) ^{0.5}	1.00
X. Velocity Pressure Correction Factor (29.92/L) ^{0.5}	1.01
Y. Corrected Velocity (A x M x W x X).....	48.75
Z. Flow Rate (Y x G x 60).....	112558
AA. Flow Rate (Standard) {Z x (L/29.92) x [520/(460+H)]}.....	102794
BB. Dry Flow Rate (AA x (U/100)).....	102108

SAMPLE CONCENTRATION/EMISSION RATE

CC. Sample Concentration [0.01543 x (P/T)].....	0.00001	gr/dscf
DD. Sample Concentration [54,143xC / 207.2 (Molecular Wt.)].....	0.002	ppm
EE. Sample Emission Rate (0.00857 x BB x CC).....	0.007	lb/hr
FF. Solid Emission Rate [(0.001322 x Q x BB)/T].....	0.007	lb/hr
GG. Isokinetic Sampling Rate [(G x T x 100)/(N x O x BB)].....	101.3	%

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

5	A2
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Dr. Diamond Bar, California 91765-4182

Test No. 1

Test Date: October 16, 2008

SOURCE TEST CALCULATIONS

Sampling Location: Exide Technologies, MAC Baghouse, C156/C157
 Sample Train: 6 Input by: J. Aspell
 Compound: Lead

SUMMARY

A. Average Traverse Velocity.....		44.90	fps
B. Gas Meter Temperature (Use 60 deg.F for Temp Comp. Meters).....		102.5	deg F
C. Gas Meter Correction Factor.....		1.0155	
D. Average Orifice Pressure.....		1.03	"H ₂ O
E. Nozzle Diameter.....		0.2190	inch
F1. Stack Diameter or Dimension #1.....	84	inch	
F2. Stack Dim #2 (blank if circular).....	0	inch	
G. Stack Cross Sect. Area.....	38.484	ft ²	
H. Average Stack Temp.....	100.9	deg F	
I. Barometric Pressure.....	29.75	"HgA	
J. Gas Meter Pressure (I+(D/13.6)).....	29.83	"HgA	
K. Static Pressure.....	-0.22	"H ₂ O	
L. Total Stack Pressure (I+(K/13.6)).....	29.73	"HgA	
M. Pitot Correction Factor.....		0.84	
N. Sampling Time.....		120	min
O. Nozzle X-Sect. Area.....		0.00026	ft
P. Net Sample Collection.....		0.0812	mg
Q. Net Solid Collection.....		0.0812	mg
R. Water Vapor Condensed.....		13.5	ml
S. Gas Volume Metered.....		70.402	dscf

T. Corrected Gas Volume [(S x J/29.92) x 520/(460+B) x C]..... 65.883 dscf

PERCENT MOISTURE/GAS DENSITY

U. Percent Water Vapor in Gas Sample ((4.64 x R)/((0.0464 x R) + T))..... 0.94 %

V. Average Molecular Weight (Wet):

Component	Vol. Fract.	x	Moist. Fract.	x	Molecular Wt.	=	Wt./Mole
Water	0.009		1.000		18.0	,	0.17
Carbon Dioxide*	0.000	Dry Basis	0.991		44.0	,	0.00
Carbon Monoxide*	0.000	Dry Basis	0.991		28.0	,	0.00
Oxygen*	0.209	Dry Basis	0.991		32.0	,	6.63
Nitrogen & Inerts*	0.791	Dry Basis	0.991		28.2	,	22.10
					Sum		28.89

FLOW RATE

W. Gas Density Correction Factor (28.95/V) ^{0.5}	1.00
X. Velocity Pressure Correction Factor (29.92/L) ^{0.5}	1.00
Y. Corrected Velocity (A x M x W x X).....	37.88 fps
Z. Flow Rate (Y x G x 60).....	87458 cfm
AA. Flow Rate (Standard) {Z x (L/29.92) x [520/(460+H)]}.....	80574 scfm
BB. Dry Flow Rate (AA x (U/100)).....	79815 dscfm

SAMPLE CONCENTRATION/EMISSION RATE

CC. Sample Concentration [0.01543 x (P/T)].....	0.00002	gr/dscf
DD. Sample Concentration [54,143xC / 207.2 (Molecular Wt.)].....	0.005	ppm
EE. Sample Emission Rate (0.00857 x BB x CC).....	0.013	lb/hr
FF. Solid Emission Rate [(0.001322 x Q x BB)/T].....	0.013	lb/hr
GG. Isokinetic Sampling Rate [(G x T x 100)/(N x O x BB)].....	101.2	%

* Ambient air concentrations were assumed for molecular weight calculations

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

5	A3
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Dr. Diamond Bar, California 91765-4182

Test No. 1

Test Date: October 22, 2008

SOURCE TEST CALCULATIONS

Sampling Location: Exide Technologies, Kettle Burner Vent Stack
Sample Train: 22
Compound: Lead
Input by: J. Aspell

SUMMARY

A. Average Traverse Velocity.....		41.71	fps
B. Gas Meter Temperature (Use 60 deg.F for Temp Comp. Meters).....		101.5	deg F
C. Gas Meter Correction Factor.....		1.0155	
D. Average Orifice Pressure.....		0.81	"H ₂ O
E. Nozzle Diameter.....		0.2240	inch
F1. Stack Diameter or Dimension #1..	26	inch	
F2. Stack Dim #2 (blank if circular).....	0	inch	
G. Stack Cross Sect. Area.....	3.687	ft ²	
H. Average Stack Temp.....	148.8	deg F	
I. Barometric Pressure.....	29.30	"HgA	
J. Gas Meter Pressure (I+(D/13.6)).....	29.36	"HgA	
K. Static Pressure.....	-0.12	"H ₂ O	
L. Total Stack Pressure (I+(K/13.6)).....	29.29	"HgA	
M. Pitot Correction Factor.....		0.84	
N. Sampling Time.....		120	min
O. Nozzle X-Sect. Area.....		0.00027	ft
P. Net Sample Collection.....		1.649	mg
Q. Net Solid Collection.....		1.649	mg
R. Water Vapor Condensed.....		13.9	ml
S. Gas Volume Metered.....		62.502	dscf

T. Corrected Gas Volume [(S x J/29.92) x 520/(460+B) x C]..... 57.679 dscf

PERCENT MOISTURE/GAS DENSITY

U. Percent Water Vapor in Gas Sample ((4.64 x R)/((0.0464 x R) + T))..... 1.11 %

V. Average Molecular Weight (Wet):

Component	Vol. Fract.	x	Moist. Fract.	x	Molecular Wt.	=	Wt./Mole
Water	0.011		1.000		18.0	,	0.20
Carbon Dioxide	0.002	Dry Basis	0.989		44.0	,	0.08
Carbon Monoxide	0.000	Dry Basis	0.989		28.0	,	0.00
Oxygen	0.195	Dry Basis	0.989		32.0	,	6.17
Nitrogen & Inerts	0.803	Dry Basis	0.989		28.2	,	22.39
					Sum		28.85

FLOW RATE

W. Gas Density Correction Factor (28.95/V)^{.5}..... 1.00
X. Velocity Pressure Correction Factor (29.92/L)^{.5}..... 1.01
Y. Corrected Velocity (A x M x W x X)..... 35.47 fps
Z. Flow Rate (Y x G x 60)..... 7847 cfm
AA. Flow Rate (Standard) {Z x (L/29.92) x [520/(460+H)]}..... 6561 scfm
BB. Dry Flow Rate (AA x (U/100))..... 6488 dscfm

SAMPLE CONCENTRATION/EMISSION RATE

CC. Sample Concentration [0.01543 x (P/T)]..... 0.00044 gr/dscf
DD. Sample Concentration [54.143xC / 207.2 (Molecular Wt.)]..... 0.115 ppm
EE. Sample Emission Rate (0.00857 x BB x CC)..... 0.025 lb/hr
FF. Solid Emission Rate [(0.001322 x Q x BB)/T]..... 0.025 lb/hr
GG. Isokinetic Sampling Rate [(G x T x 100)/(N x O x BB)]..... 99.8 %

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

**ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS**

5	A4
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

HEAT CAPACITY OF AIR

(ref: AP40, page 937, Table D1)

T, Deg F	H, Cp, Btu/(lb*oF)	Density, 60 oF (lb/scf)	Cp, Btu/scf*oF
0	0.240	0.0763	0.0183
20	0.240	0.0763	0.0183
40	0.240	0.0763	0.0183
60	0.240	0.0763	0.0183
80	0.240	0.0763	0.0183
100	0.240	0.0763	0.0183
120	0.240	0.0763	0.0183
140	0.240	0.0763	0.0183
160	0.240	0.0763	0.0183
180	0.240	0.0763	0.0183
200	0.240	0.0763	0.0183
250	0.241	0.0763	0.0184
300	0.241	0.0763	0.0184
350	0.241	0.0763	0.0184
400	0.241	0.0763	0.0184
450	0.242	0.0763	0.0185
500	0.242	0.0763	0.0185
600	0.242	0.0763	0.0185
700	0.243	0.0763	0.0185
800	0.244	0.0763	0.0186
900	0.245	0.0763	0.0187
1000	0.246	0.0763	0.0188
1200	0.248	0.0763	0.0189
1400	0.251	0.0763	0.0192
1600	0.254	0.0763	0.0194
1800	0.257	0.0763	0.0196
2000	0.260	0.0763	0.0198

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

5	A5
APPL. NO see pp. 1-3	DATE 04-16-2009
PROCESSED BY MAP	CHECKED BY

GNB FIELD REPORT DATED 11-8-1989 -- POT FURNACE EMISSIONS SUMMARY:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION .. FIELD REPORT

NAME OF APPLICANT GNB, Incorporated	APPL.NO. see pp.1-3	INSPECT.DATE 11-08-89
--	------------------------	--------------------------

based on approximately 15 % firing rate with no permit conditions regarding fuel usage). These calculations also account for SO₂ emissions, previously unaccounted for, resulting from the use of elemental sulfur in the refining process. The particulate emissions due to Lead refining are those as reported in the field report dated 1-10-84. The R2 emissions of Lead are negligible (less than 0.01 lbs/day per furnace) and therefore are not reported below. Refer to p A3 for the Lead emissions.

EMISSIONS SUMMARY (maximum emissions, each kettle)

1 Emissions (lbs/day, R1 = R2)

Note: Sulfur is added only to kettle nos. 1, 2, 6, 7, 8, 9.

A/N	Kettle no.	RHC	NOx	SO ₂	CO	PM
178384	A	0.21	3 99	1.44	0.99	40 12
178385	B	0 21	3.99	1.44	0.99	40.12
178386	E	0.21	3.99	1 44	0.99	56.21
178387	F	0.21	3.99	1.44	0.99	56.21
178388	G	0.21	3.99	1 44	0.99	56.21
178389	1	0.21	3 99	21.44	0.99	17.80
178390	2	0.21	3 99	21.44	0.99	17.80
178391	3	0.21	3.99	1.44	0.99	17.80
178392	4	0.21	3.99	1 44	0.99	17.80
178393	5	0.21	3.99	1.44	0.99	9.56
178394	6	0.21	3.99	21.44	0.99	42.21
178395	7	0.21	3.99	21 44	0.99	42.21
178396	8	0.21	3.99	21 44	0.99	42.21
178397	9	0.21	3.99	21 44	0.99	42.21

2. Reg XIII emissions increases (lbs/day, R1 = R2)

(Note: PM emissions are as found in NSR record)

A/N	RHC	NOx	SO ₂	CO	PM
178384	0.23	4 39	1 58	1.09	41.00
178385	0 23	4 39	1 58	1.09	41.00
178386	0 23	4.39	1.58	1.09	57.00
178387	0.23	4.39	1.58	1.09	57.00
178388	0.23	4.39	1.58	1.09	57.00
178389	0.23	4.39	23.58	1.09	18.00
178390	0.23	4.39	23.58	1.09	18 00
178391	0.23	4.39	1 58	1.09	18 00
178392	0.23	4 39	1 58	1.09	18.00
178393	0 23	4 39	1.58	1.09	10.00
178394	0.23	4.39	23.58	1.09	43.00
178395	0.23	4.39	23.58	1.09	43 00
178396	0.23	4.39	23.58	1.09	43 00
178397	0 23	4.39	23.58	1 09	43 00

SIGNATURE

M.A. POLO, AQ Eng. II PAGE 9 OF 18 PAGES