



April 22, 2013

Illinois Environmental Protection Agency
Bureau of Air
Air Quality Planning Section (#39)
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

**Subject: Annual Emissions Report, Reporting Year 2012
Shell Oil Products US
Roxana Site, I.D. No. 119090AAO**

To whom it may concern:

URS Corporation, on behalf of Shell Oil Products US, is submitting the enclosed Annual Emissions Report for activities covered under Permit No. 10120040, 11050032, and 11060036. If you have any questions or need any additional information, please contact Robert E. Mooshegian at (314) 429-0100, or via email at robert.mooshegian@urs.com.

Sincerely,

Michael Mittermeyer
Task Manager

Robert Mooshegian, CHMM
Senior Project Manager

cc: Kevin Dyer, SOPUS
Project file

119090AAO - Shell Oil Products US

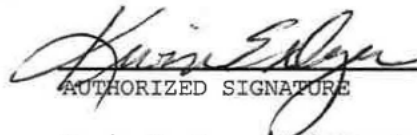
- SOURCE DATA -

| | | | | | | |
|----------|-------------|---------------|--------|------|----------|--------|
| AIRS: | 17-119-0440 | IEPA USE ONLY | SIC 1: | 4613 | NAICS 1: | 486910 |
| FINDS: | | IEPA USE ONLY | SIC 2: | | NAICS 2: | |
| SOURCE | FEIN: | 522074528 | SIC 3: | | NAICS 3: | |
| IDS AND | D&B: | | SIC 4: | | NAICS 4: | |
| LOCATION | LATITUDE: | 38:50:42.3168 | SIC 5: | | NAICS 5: | |
| | LONGITUDE: | 90:04:34.0752 | SIC 6: | | NAICS 6: | |

| | | | |
|---------|---|----------|----------------|
| SOURCE | Shell Oil Products US | CONTACT: | Kevin E. Dyer |
| ADDRESS | Chaffer St. and 8th St. Roxana, IL 62084 | PHONE: | (618) 288-7237 |

| | | | |
|----------|-----------------------------|----------|----------------|
| ANNUAL | Shell Oil Products US | CONTACT: | Kevin E. Dyer |
| EMISSION | 17 Junction Dr. PMB 399 | PHONE: | (618) 288-7237 |
| REPORT | Glen Carbon, IL 62034-43000 | FAX: | |
| MAILING | | E-Mail: | |
| ADDRESS | | | |

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.


 AUTHORIZED SIGNATURE

Kevin E. Dyer, Principal Project Manager
 TYPED OR PRINTED NAME AND TITLE

4/17/13
 DATE

(618) 288-7237
 TELEPHONE NUMBER

119090AAO - Shell Oil Products US

- ANNUAL SOURCE EMISSIONS -

| POLLUTANT CODE | SOURCE REPORTED | ALLOWABLE* | EMISSIONS | IEPA 2012 |
|-------------------|-------------------------|------------------------------------|----------------------------------|---------------------------------------|
| | FOR 2012 (TONS/YEAR) | ALLOWABLE EMISSIONS (TONS/YEAR) | REPORTED FOR 2011 (TONS/YEAR) | ESTIMATED EMISSIONS (TONS/YEAR) |
| CO | 0.82 | 0.511056 6.940000 | 0.110000 | 0.000055 |
| CO ₂ | 1,175 | 681.408000 | 150.240000 | 0.078000 |
| CO ₂ E | 1,184 | 685.553232 | | 0.078475 |
| Methane | 0.13 | 0.013060 | 1.710000 | 0.000001 |
| N ₂ O | 0.02 | 0.012492 | 0.000000 | 0.000001 |
| NH ₃ | 0.03 | 0.018171 | 0.000000 | 0.000002 |
| NO _x | 1.00 | 0.620256 24.720000 | 0.440000 | 0.000065 |
| Part | 0.07 | 0.048048 1.070000 | 0.010000 | 0.000005 |
| PM ₁₀ | 0.07 | 0.043156 1.070000 | 0.010000 | 0.000005 |
| PM _{2.5} | 0.07 | 0.043156 1.070000 | 0.010000 | 0.000005 |
| SO ₂ | 0.01 | 3.699696 3.980000 | 0.000000 | 0.000000 |
| VOM | 11.39 | 24.928831 40.700000 | 2.930000 | 24.897604 |

* The Allowable Emissions have been corrected to be consistent with the permitted annual emission rates in permits 10120040, 11050032, and 11060036. These permits do not contain limits for CO₂, CO₂E, N₂O or NH₃.

119090AAO - Shell Oil Products US

- PERMIT LISTING -

| PERMIT NUMBER | TYPE OF PERMIT | OPERATION NAME | STATUS | STATUS DATE | EXPIRES |
|------------------|-------------------|---|---------|----------------|------------|
| 10120040 | CONSTRUCTION | Soil Vapor Extraction Treatment System | GRANTED | 03-01-2011 | 04-01-2012 |
| 11050032 | CONSTRUCTION | Soil Vapor Extraction Treatment System w/Dual ICE | GRANTED | 05-31-2011 | 05-31-2012 |
| 11060036 | LIFETIME | SVE Treatment System | GRANTED | 07-14-2011 | 07-14-2012 |
| 11060037 | TITLE V | CLOSED | | | |
| 12040025 * | TITLE V | Treatment of Contaminated Soil Vapor | GRANTED | | |

* A renewal application was submitted to IEPA in April 2012.

119090AAO - Shell Oil Products US

- FUEL COMBUSTION DATA -

POINT 0003 - Regenerative Thermal Oxidizer PERMIT: 11060036
 BEGAN OPERATION: ~~06/2011~~ 01/2012
 CEASED OPERATION: / SCC: 40290013
 MODE 01 - Natural gas combustion

DESCRIPTION CORRECTION:

PERCENT THROUGHPUTS: DEC - FEB: ~~25.00 %~~ 18.47 % MAR - MAY: ~~25.00 %~~ 26.08 %
 BEGAN OPERATION: ~~06/2011~~ 01/2012 JUN - AUG: ~~25.00 %~~ 28.47 % SEP - NOV: ~~25.00 %~~ 26.98 %
 CEASED OPERATION: /

FUEL TYPE: 1 NATURAL GAS HEAT CONTENT: Natural Gas 1,000 Btu/ft3
 INPUT (MMBTU/HR): 1.4 SULFUR CONTENT (%):
 ASH CONTENT (%):
 NITROGEN CONTENT (%):

UNITS: ~~MILLION CUBIC FEET BURNED~~ MILLION BTU BURNED UNITS: ~~MILLION CUBIC FEET BURNED~~ MILLION BTU BURNED

| ANNUAL OPERATION | | | PEAK OZONE SEASON OPERATION | | |
|------------------|-------------------|--------------|-----------------------------|-------------------|--------------|
| HOURS/DAY: | 0.0 | <u>24.0</u> | HOURS/DAY: | 0.0 | <u>24.0</u> |
| DAYS/WEEK: | 0.0 | <u>7.0</u> | DAYS/WEEK: | 0.0 | <u>7.0</u> |
| WEEKS/YEAR: | 0 | <u>46</u> | WEEKS/YEAR: | 0 | <u>13</u> |
| HOURS/YEAR: | 0 | <u>7,659</u> | HOURS/YEAR: | 0 | <u>2,181</u> |
| | | | START TIME: | | <u>00:00</u> |
| | | | END TIME: | | <u>23:59</u> |
| RATE/HR: | 0.0000 | <u>0.09</u> | RATE/HR: | 0.0000 | <u>0.08</u> |

119090AAO - Shell Oil Products US

- FUEL COMBUSTION DATA -

POINT 0003 - Regenerative Thermal Oxidizer PERMIT: 11060036

BEGAN OPERATION: ~~06/2011~~ 01/2012

CEASED OPERATION: / _____ SCC: 40290013

MODE 01 - Natural Gas Combustion

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|---------------------------------|-----------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| CO | 3 | 3 | 84 | 84 lbs/10 ⁶ scf | 0.1092 | 0.01 |
| CO ₂ | 3 | 3 | 120,000 | 120,000 lbs/10 ⁶ scf | 156 | 10 |
| CO ₂ E | 3 | 3 | 120,730 | 120,730 lbs/10 ⁶ scf | 156.949 | 10 |
| Methane | 3 | 3 | 2.3 | 2.3 lbs/10 ⁶ scf | 0.00299 | 0.00 |
| N ₂ O | 3 | 3 | 2.2 | 2.2 lbs/10 ⁶ scf | 0.00286 | 0.00 |
| NH ₃ | 3 | 3 | 3.2 | 3.2 lbs/10 ⁶ scf | 0.00416 | 0.00 |
| NO _x | 3 | 3 | 100 | 100 lbs/10 ⁶ scf | 0.13 | 0.01 |
| PM | 3 | 3 | 7.6 | 7.6 lbs/10 ⁶ scf | 0.00988 | 0.00 |
| PM ₁₀ | 3 | 3 | 7.6 | 7.6 lbs/10 ⁶ scf | 0.00988 | 0.00 |
| PM _{2.5} | 3 | 3 | 7.6 | 7.6 lbs/10 ⁶ scf | 0.00988 | 0.00 |
| SO ₂ | 3 | 3 | 0.6 | 0.6 lb/10 ⁶ scf | 0.00078 | 0.00 |
| VOM* | 3 | NA | 5.5 | NA lbs/10 ⁶ scf | 0.00715 | NA |

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | OZONE SEASON EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|-----------------------------|---------------------------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| NO _x | 3 | 3 | | 100 lbs/10 ⁶ scf | | 0.0079 |
| VOM | 3 | NA | | NA lbs/10 ⁶ scf | | NA |

CAPTURING CONTROLS:

CAPTURING STACKS:

STACK 0003 CAPTURE EFFICIENCY: 100.00 % 100.00 %

*VOM emissions from combustion are accounted for in the SVE emissions on page 7.

119090AAO - Shell Oil Products US

- PROCESS DATA -

POINT 001 - Soil vapor extraction system PERMIT: 10120040, 11050032
 BEGAN OPERATION: ~~12/2010~~ 05/2011
 CEASED OPERATION: / 01/2012 SCC: 50410310
 MODE: 01 -

DESCRIPTION CORRECTION: MODE 01 - Soil Vapor Extraction System with Internal Combustion Engine (3 units) controls

PERCENT THROUGHPUTS: DEC - FEB: ~~12.10 %~~ 100.00 % MAR - MAY: ~~9.10 %~~ 0.00 %
 BEGAN OPERATION: ~~12/2010~~ 05/2011 JUN - AUG: ~~39.40 %~~ 0.00 % SEP - NOV: ~~39.40 %~~ 0.00 %
 CEASED OPERATION: / 01/2012

UNITS: ~~TONS PROCESSED~~ HOURS OPERATED UNITS: ~~TONS PROCESSED~~ HOURS OPERATED

| ANNUAL OPERATION | | | PEAK OZONE SEASON OPERATION | | |
|------------------|------------------|-------------|-----------------------------|------------------|------------|
| HOURS/DAY: | 24.0 | <u>24.0</u> | HOURS/DAY: | 24.0 | <u>0.0</u> |
| DAYS/WEEK: | 7.0 | <u>7.0</u> | DAYS/WEEK: | 7.0 | <u>0.0</u> |
| WEEKS/YEAR: | 33 | <u>4</u> | WEEKS/YEAR: | 13 | <u>0</u> |
| HOURS/YEAR: | 5,544 | <u>720</u> | HOURS/YEAR: | 2,184 | <u>0</u> |
| | | | START TIME: | <u>00:00</u> | |
| | | | END TIME: | <u>0:00</u> | |
| RATE/HR: | | <u>NA</u> | RATE/HR: | <u>NA</u> | |

119090AAO - Shell Oil Products US

- PROCESS DATA -

POINT 001 - Soil vapor extraction system PERMIT:), 11050032

BEGAN OPERATION: 05/2011

CEASED OPERATION: 01/2012

SCC: 50410310

MODE: 01 - Soil Vapor Extraction System with Internal Combustion Engine (3 units) controls

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|----------|-----------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| VOM | 2 | 1 | 0.05 | 0.05 NA | 5.7 | 0.37 |

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | OZONE SEASON EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|----------|---------------------------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| VOM | 2 | NA | 0.05 | 0.05 NA | 0.606 | 0.0000 |

CAPTURING CONTROLS:

CONTROL 0002

CAPTURING STACKS:

STACK 0002

CAPTURE EFFICIENCY: 100.00 % 100.00 %

119090AAO - Shell Oil Products US

- PROCESS DATA -

POINT 001 - Soil vapor extraction system PERMIT: 11060036
 BEGAN OPERATION: ~~06/2011~~ 01/2012
 CEASED OPERATION: / _____
 MODE: 02 - SCC: 50410310

DESCRIPTION CORRECTION: MODE 02 - Soil Vapor Extraction System with Regenerative Thermal Oxidizer (RTO) controls

PERCENT THROUGHPUTS: DEC - FEB: ~~12.10 %~~ 18.47 % MAR - MAY: ~~9.10 %~~ 26.08 %
 BEGAN OPERATION: ~~06/2011~~ 01/2012 JUN - AUG: ~~39.40 %~~ 28.47 % SEP - NOV: ~~39.40 %~~ 26.98 %
 CEASED OPERATION: / _____

UNITS: ~~TONS PROCESSED~~ HOURS OPERATED

UNITS: ~~TONS PROCESSED~~ HOURS OPERATED

| ANNUAL OPERATION | | PEAK OZONE SEASON OPERATION | |
|------------------|--------------|-----------------------------|--------------|
| HOURS/DAY: | <u>24.0</u> | HOURS/DAY: | <u>24.0</u> |
| DAYS/WEEK: | <u>7.0</u> | DAYS/WEEK: | <u>7.0</u> |
| WEEKS/YEAR: | <u>46</u> | WEEKS/YEAR: | <u>13</u> |
| HOURS/YEAR: | <u>7,659</u> | HOURS/YEAR: | <u>2,181</u> |
| | | START TIME: | <u>00:00</u> |
| | | END TIME: | <u>23:59</u> |
| RATE/HR: | <u>NA</u> | RATE/HR: | <u>NA</u> |

119090AAO - Shell Oil Products US

- PROCESS DATA -

POINT 001 - Soil vapor extraction system

PERMIT: 10120040, 11050032

BEGAN OPERATION: ~~06/2011~~ 01/2012
 CEASED OPERATION: /

SCC: 50410310

MODE: 02 - Soil Vapor Extraction System with Regenerative Thermal Oxidizer (RTO) controls

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|-----------|-----------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| VOM | | 1 | | <u>NA</u> | 5.7 | 4.92 |

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | OZONE SEASON EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|-----------|---------------------------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| VOM | | 1 | | <u>NA</u> | 0.606 | 5.26 |

CAPTURING CONTROLS:

CONTROL 0001

CAPTURING STACKS:

STACK 0003

CAPTURE EFFICIENCY: 100.00 % 100.00 %

119090AAO - Shell Oil Products US

- FUEL COMBUSTION DATA -

POINT 0002 - Internal Combustion Engines (3)
 BEGAN OPERATION: 05/2011
 CEASED OPERATION: / 01/2012
 MODE 01 - Dual Fuel Combustion - Propane/Soil Vapor

PERMIT: 10120040, 11050032

SCC: 50410530

DESCRIPTION CORRECTION:

PERCENT THROUGHPUTS: DEC - FEB: 100.00 % MAR - MAY: 0.00 %
 BEGAN OPERATION: / 05/2011 JUN - AUG: 0.00 % SEP - NOV: 0.00 %
 CEASED OPERATION: / 01/2012

FUEL TYPE: 69 Other Dual Fuel
 INPUT (MMBTU/HR):
 HEAT CONTENT: Propane 1,000 Btu/ft³
 HEAT CONTENT: Soil Vapors 21,070 Btu/lb
 SULFUR CONTENT (%):
 ASH CONTENT (%):
 NITROGEN CONTENT (%):

UNITS: MILLION BTU BURNED

UNITS: MILLION BTU BURNED

| ANNUAL OPERATION | | PEAK OZONE SEASON OPERATION | |
|------------------|------|-----------------------------|-----|
| HOURS/DAY: | 24.0 | HOURS/DAY: | 0.0 |
| DAYS/WEEK: | 7.0 | DAYS/WEEK: | 0.0 |
| WEEKS/YEAR: | 4 | WEEKS/YEAR: | 0 |
| HOURS/YEAR: | 720 | HOURS/YEAR: | 0 |
| | | START TIME: | |
| | | END TIME: | |
| RATE/HR: | 0.23 | RATE/HR: | NA |

119090AAO - Shell Oil Products US

- FUEL COMBUSTION DATA -

POINT 0002 - Internal Combustion Engines (3)

PERMIT: 10120040, 11050032

BEGAN OPERATION: / 05/2011

CEASED OPERATION: / 01/2012

SCC: 40290013

MODE: 01 - Dual Fuel Combustion - Propane/Soil Vapor

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|------------------|-----------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| CO | | 3 | | 0.082 lbs/MMBtu | | 0.02 |
| CO ₂ | | 3 | | 110 lbs/MMBtu | | 26 |
| CO ₂ E | | 3 | | 136 lbs/MMBtu | | 32 |
| Methane | | 3 | | 1.25 lbs/MMBtu | | 0.29 |
| NO _x | | 3 | | 0.32 lbs/MMBtu | | 0.07 |
| PM | | 3 | | 0.0066 lbs/MMBtu | | 0.00 |
| PM ₁₀ | | 3 | | 0.0066 lbs/MMBtu | | 0.00 |
| PM _{2.5} | | 3 | | 0.0066 lbs/MMBtu | | 0.00 |
| SO ₂ | | 3 | | 0.0034 lbs/MMBtu | | 0.00 |
| VOM* | | 3 | | NA lbs/MMBtu | | NA |

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | OZONE SEASON EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|----------------|---------------------------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| NO _x | | 3 | | 0.32 lbs/MMBtu | | 0.00 |

CAPTURING CONTROLS:

CAPTURING STACKS:

STACK 0002 CAPTURE EFFICIENCY: 100.00 % 100.00 %

*VOM emissions from combustion are accounted for in the SVE emissions on page 9.

119090AAO - Shell Oil Products US

- FUEL COMBUSTION DATA -

POINT 0003 - Regenerative Thermal Oxidizer
 BEGAN OPERATION: / 01/2012
 CEASED OPERATION: / _____
 MODE 02 - Soil Vapor Combustion

PERMIT: 11060036

SCC: 40290013

DESCRIPTION CORRECTION:

PERCENT THROUGHPUTS: DEC - FEB: 18.47 % MAR - MAY: 26.08 %
 BEGAN OPERATION: / 01/2012 JUN - AUG: 28.47 % SEP - NOV: 26.98 %
 CEASED OPERATION: / _____

FUEL TYPE: 9 OTHER GASEOUS FUEL-SOIL VAPORS HEAT CONTENT: Soil Vapors 21,070 Btu/lb
 INPUT (MMBTU/HR): _____ SULFUR CONTENT (%): _____
 ASH CONTENT (%): _____
 NITROGEN CONTENT (%): _____

UNITS: MILLION BTU BURNED

UNITS: MILLION BTU BURNED

| ANNUAL OPERATION | | PEAK OZONE SEASON OPERATION | |
|------------------|--------------|-----------------------------|--------------|
| HOURS/DAY: | <u>24.0</u> | HOURS/DAY: | <u>24.0</u> |
| DAYS/WEEK: | <u>7.0</u> | DAYS/WEEK: | <u>7.0</u> |
| WEEKS/YEAR: | <u>46</u> | WEEKS/YEAR: | <u>13</u> |
| HOURS/YEAR: | <u>7,659</u> | HOURS/YEAR: | <u>2,181</u> |
| | | START TIME: | <u>00:00</u> |
| | | END TIME: | <u>23:59</u> |
| RATE/HR: | <u>2.50</u> | RATE/HR: | <u>2.18</u> |

119090AAO - Shell Oil Products US

- FUEL COMBUSTION DATA -

POINT 0003 - Regenerative Thermal Oxidizer

PERMIT: 11060036

BEGAN OPERATION: ~~06/2011~~ 01/2012

CEASED OPERATION: / _____

SCC: 40290013

MODE 02 - Soil Vapor Combustion

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|---------------------------------|-----------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| CO | | 3 | | 84 lbs/10 ⁶ scf | | 0.21 |
| CO ₂ | | 3 | | 120,000 lbs/10 ⁶ scf | | 294 |
| CO ₂ E | | 3 | | 120,730 lbs/10 ⁶ scf | | 296 |
| Methane | | 3 | | 2.3 lbs/10 ⁶ scf | | 0.01 |
| N ₂ O | | 3 | | 2.2 lbs/10 ⁶ scf | | 0.01 |
| NH ₃ | | 3 | | 3.2 lbs/10 ⁶ scf | | 0.01 |
| NO _x | | 3 | | 100 lbs/10 ⁶ scf | | 0.25 |
| PM | | 3 | | 7.6 lbs/10 ⁶ scf | | 0.02 |
| PM ₁₀ | | 3 | | 7.6 lbs/10 ⁶ scf | | 0.02 |
| PM _{2.5} | | 3 | | 7.6 lbs/10 ⁶ scf | | 0.02 |
| SO ₂ | | 3 | | 0.6 lb/10 ⁶ scf | | 0.00 |
| VOM* | | NA | | NA lbs/10 ⁶ scf | | NA |

| POLLUTANT CODE | METHOD | | EMISSION FACTOR | | OZONE SEASON EMISSION RATE (LB/HR) | |
|-------------------|--------|-----|-----------------|-----------------------------|---------------------------------------|----------|
| | IEPA | REP | IEPA | REPORTED | IEPA | REPORTED |
| NO _x | | 3 | | 100 lbs/10 ⁶ scf | | 0.21 |
| VOM* | | NA | | NA lbs/10 ⁶ scf | | NA |

CAPTURING CONTROLS:

CAPTURING STACKS:

STACK 0003 CAPTURE EFFICIENCY: 100.00 % 100.00 %

*VOM emissions from combustion are accounted for in the SVE emissions on page 7.

119090AAO - Shell Oil Products US

- CONTROL DEVICE DATA -

CONTROL 0001 - Regenerative Thermal Oxidizer PERMIT: 11060036
 BEGAN OPERATION: ~~06/2011~~ 01/2012
 CEASED OPERATION: / _____ CONTROL CODE: 131 _____

DESCRIPTION CORRECTION:

REMOVAL EFFICIENCY

| POLLUTANT | ANNUAL OPERATION | | | | PEAK OZONE SEASON OPERATION | | | |
|-----------|------------------|----------|--------|----------|-----------------------------|----------|--------|----------|
| | EFFICIENCY | | METHOD | | EFFICIENCY | | METHOD | |
| | IEPA | REPORTED | IEPA | REPORTED | IEPA | REPORTED | IEPA | REPORTED |
| VOM | 97.00 % | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

CAPTURING CONTROLS:

CAPTURING STACKS:
 STACK ~~0001~~ 0003 CAPTURE EFFICIENCY: 100.00 % 100.00 %

119090AAO - Shell Oil Products US

- CONTROL DEVICE DATA -

CONTROL 0002 - Internal Combustion Engines (3) PERMIT: 10120040, 11050032
BEGAN OPERATION: 05/2011
CEASED OPERATION: / 01/2012 CONTROL CODE: 131

DESCRIPTION CORRECTION:

REMOVAL EFFICIENCY

| POLLUTANT | ANNUAL OPERATION | | | | PEAK OZONE SEASON OPERATION | | | |
|-----------|------------------|----------|--------|----------|-----------------------------|----------|--------|----------|
| | EFFICIENCY | | METHOD | | EFFICIENCY | | METHOD | |
| | IEPA | REPORTED | IEPA | REPORTED | IEPA | REPORTED | IEPA | REPORTED |
| VOM | 95.00 % | | | | | | | |

CAPTURING CONTROLS:

CAPTURING STACKS:

STACK 0002

CAPTURE EFFICIENCY:

100.00 % 100.00 %

119090AAO - Shell Oil Products US

- STACK DATA -

| STACK | DIAMETER (FT) | | HEIGHT (FT) | | FLOW RATE (ACFM) | | TEMPERATURE (°F) | | |
|-------|---------------|-------------------------------|-------------|----------|------------------|----------|------------------|----------|--|
| | IEPA | REPORTED | IEPA | REPORTED | IEPA | REPORTED | IEPA | REPORTED | |
| 0001 | - | Soil vapor extraction system* | | | | | | | |
| | 0.74 | NA | 18 | NA | 1,020 | NA | 104 | NA | |
| 0002 | - | Internal Combustion Engine** | | | | | | | |
| | 0.17 | | 14 | | 336 | | 770 | | |
| 0003 | - | Regenerative Thermal Oxidizer | | | | | | | |
| | 1.83 | 1.5 | 30 | 18.5 | 10,000 | | 200 | | |

*The soil vapor extraction system (POINT 001) exhausted through STACK 0002 from 1/1/2012 to 1/29/2012 then through STACK 0003 from 1/29/2012 forward.

**Parameters are for a single engine.