

**COMMUNITY IMPACT REPORT**

**ADDENDUM A**

**Community Impact Report: The Toll of Refineries on  
Fenceline Communities**

**Public Comment Submission for Petroleum Refinery Sector Risk and**

**Technology Review and New Source**

**Performance Standards, EPA-HQ-OAR-2010-0682**

Submitted by Earthjustice

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# COMMUNITY IMPACT REPORT

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## Introduction

The ten cities profiled in this report represent different regions and communities across the United States. Some are small towns wedged between industrial facilities;<sup>1</sup> some are big cities with a refinery a stone's throw from downtown.<sup>2</sup> These cities are example of the communities in 32 states that share one commonality: the health concerns and fear that come with living next door to a petroleum refinery.<sup>3</sup> Citizens in some communities have appealed to courts and federal and state regulatory authorities for relief, but are often left feeling abandoned.<sup>4</sup>

Community members living near refineries are looking to EPA finally to fulfill the promise of the Clean Air Act, by setting stronger air toxics standards<sup>5</sup> to protect them from unnecessary exposure and health threats from refineries. Community leaders in these cities believe that the cancer rates in their communities and the cancer threats caused by refineries specifically, are both morally and legally unacceptable.<sup>6</sup> The short summaries of the spotlighted communities below provide brief profiles of some communities living in the shadow of U.S. refineries. As EPA works to finalize new standards, commenters urge the EPA to consider all of the available evidence on the health threats faced daily by Americans living and breathing near refineries, including the following:

- Communities are regularly exposed to toxic pollution from the routine use of flares to dispose of waste gas at refineries. In Los Angeles, some community members discovered that the flaring incidents in the area have continued to increase in some recent years, due to the lack of strong limits on flaring pollution.<sup>7</sup>
- Exposure in a single community from multiple refineries and toxic air sources burden communities. For instance, the heavy concentration of petrochemical refineries on the north side of Corpus Christi has earned it the nickname “Refinery Row.”<sup>8</sup>
- Many communities, like Detroit, have higher-than-average rates of cancer and asthma and higher than average racial minority and low-income populations.<sup>9</sup>
- Refineries in some communities have a history of Clean Air Act violations, and evade meaningful enforcement for years. For instance, one refinery was convicted of illegal operations that went on for 10 years, but only faced minor penalties<sup>10</sup>

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<sup>1</sup> See *infra* p. 9.

<sup>2</sup> See *infra* p. 11.

<sup>3</sup> See *infra* p. 12.

<sup>4</sup> See *infra* note 93.

<sup>5</sup> See 42 U.S.C. § 7412(d)(6).

<sup>6</sup> See 42 U.S.C. § 7412(f)(2)(A).

<sup>7</sup> See *infra* p. 25.

<sup>8</sup> See *infra* p. 6.

<sup>9</sup> See *infra* p. 11-12.

<sup>10</sup> See *infra* p. 6.

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- Some communities, like Richmond, CA, have experienced catastrophes resulting in loss of life and dangerous releases of pollution across local fence-lines.<sup>11</sup>
- Community groups have been forced to use scant resources to track the air pollution in their towns and advocate for the health and safety of themselves and their families. Volunteers record toxic air emissions in order to raise awareness, while being forced to continue to breathe that same polluted air.<sup>12</sup> As one community activist said, “I can’t tell you how many times we’ve been to the ICU. This has torn my family down.”<sup>13</sup>

Beyond the facts presented in this report are real people bearing the brunt of air pollution in the United States. These people are asking the EPA to protect their health and well-being from toxic emissions from polluting petroleum refineries.

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<sup>11</sup> See *infra* p. 9-10.

<sup>12</sup> See *infra* p. 23.

<sup>13</sup> See *infra* p. 23, note 193; Peter Moskowitz, *Life in the shadow of an oil refinery*, Al Jazeera, Apr. 15, 2014, <http://america.aljazeera.com/articles/2014/4/15/calumet-shreveportoil.html> (quoting Velma White of Residents for Air Neutralization).

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## Baton Rouge, LA

In 2013, a group of Baton Rouge residents living in the Standard Heights neighborhood near the ExxonMobil refinery and chemical plant filed a lawsuit claiming emissions from the plant “resulted in damaged property, sickness and emotional stress.”<sup>14</sup> The major catalyst for the action was a 2012 leak in which ExxonMobil estimated more than 31,000 pounds of benzene were released. Notably, the reportable quantity for releases of benzene under Louisiana law is only 10 pounds or more.<sup>15</sup> The EPA characterizes benzene as “a known human carcinogen for all routes of exposure based upon convincing human evidence as well as supporting evidence from animal studies.”<sup>16</sup>

Exxon Mobil’s refinery and chemical plant and Placid Refining Company’s petroleum refinery are some of the major air toxics in the area. Sixty-four percent of the people who reside within a three-mile radius of ExxonMobil’s refinery and chemical plant facility in Baton Rouge live below the poverty level.<sup>17</sup> Ninety-two percent of residents are racial minorities.<sup>18</sup> This population is exposed to toxic air emissions as well as more visible pollution events.

In addition to benzene, the ExxonMobil complex releases hydrogen cyanide (87,000 pounds in 2012), lead (1,452 pounds in 2012), and myriad other pollutants.<sup>19</sup> EPA data shows a total of 1.09 million pounds of toxic air emissions released in 2012. The ExxonMobil facility is currently in “significant violation” of the Clean Air Act and has been in significant violation of the Act for 12 out of the last 12 quarters.<sup>20</sup> In January of 2014 the company was cited for hundreds of violations in Louisiana since 2008 and was required to pay \$2.3 million in fines and support for environmental projects.<sup>21</sup>

In addition to the emissions coming from the nation’s second-largest refinery,<sup>22</sup> residents are bombarded with pollutants from many other sources. Two and a half miles from the ExxonMobil complex is the Placid Refining Company’s petroleum refinery, which has been in noncompliance with the Clean Air Act for seven out of the last 12 quarters.<sup>23</sup> The ExxonMobil

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<sup>14</sup> Lauren McGaughy, *Baton Rouge Residents File Suit Against ExxonMobil for ‘gross negligence,’* The Times-Picayune, Jun. 15, 2013, 12:18 AM,

[http://www.nola.com/environment/index.ssf/2013/06/exxonmobil\\_baton\\_rouge\\_class\\_a.html](http://www.nola.com/environment/index.ssf/2013/06/exxonmobil_baton_rouge_class_a.html).

<sup>15</sup> Lauren McGaughy, *ExxonMobil Baton Rouge Plant Inspection Report Raises Concerns,* The Times-Picayune, Dec. 20, 2012, 4:41 PM, [http://www.nola.com/environment/index.ssf/2012/12/exxonmobil\\_baton\\_rouge\\_leak.html](http://www.nola.com/environment/index.ssf/2012/12/exxonmobil_baton_rouge_leak.html).

<sup>16</sup> Benzene, EPA Integrated Risk Information System, <http://www.epa.gov/iris/subst/0276.htm> (last accessed Oct. 20, 2014).

<sup>17</sup> EPA, Enforcement and Compliance History Online, ExxonMobil Baton Rouge Refinery and Chemical Plant Detailed Facility Report, EPA, <http://echo.epa.gov/detailed-facility-report?fid=110043804185> (last accessed Oct. 20, 2014) (hereinafter “ExxonMobil Detailed Report”).

<sup>18</sup> *Id.*

<sup>19</sup> ExxonMobil Detailed Facility Report.

<sup>20</sup> *Id.*

<sup>21</sup> Lauren McGaughy, *ExxonMobil Baton Rouge \$2.3M Settlement Tops Total DEQ Business Fines for 2011,* The Times-Picayune, Jan. 10, 2014 5:39 PM,

[http://www.nola.com/politics/index.ssf/2014/01/exxonmobil\\_baton\\_rouge\\_fines\\_1.html](http://www.nola.com/politics/index.ssf/2014/01/exxonmobil_baton_rouge_fines_1.html).

<sup>22</sup> McGaughy, 2012.

<sup>23</sup> Placid Refining Company Detailed Facility Report, EPA, <http://echo.epa.gov/detailed-facility-report?fid=110000449863> (last accessed Oct. 20, 2014).

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refinery itself is located in a complex with a chemical plant, which has its own emissions. According to *The Times Picayune*, on September 28, 2014 a flaring incident at the ExxonMobil lead to elevated levels of volatile organic compounds in the air around the plant.<sup>24</sup>

The EPA released an inspection report of the ExxonMobil facility in late 2012, raising “serious concerns about emergency readiness, incident reporting and equipment monitoring at the Baton Rouge facility.”<sup>25</sup> *The Times-Picayune* highlighted several important issues raised by the report, such as “failure by [ExxonMobil] to report other incidents at the site, including an event in which nine people were sent to the hospital.... failure ‘of the entire mechanical integrity program...’” and “‘pervasive’ evidence of pipe, valve and vessel corrosion.”<sup>26</sup>

The Wyandotte Early Childhood Center in East Baton Rouge is in the first percentile of schools in USA Today’s school air toxics report – only 30 out of 127,809 schools in the report suffer from worse air quality.<sup>27</sup> Listed under “polluters most responsible for toxics outside this school” is ExxonMobil Refining & Supply.<sup>28</sup> All four of the additional schools listed as “affected most by [Baton Rouge ExxonMobil Refining & Supply]” on USA Today’s website are also in the first percentile of schools with the worst air.<sup>29</sup>

Residents shared with the media stories of how pollution affects their lives and their families.<sup>30</sup> Tonga Nolan remembered the early morning of June 14, 2012. “‘We’re footsteps from the Exxon plant ... the fumes got in,’” and her daughter “‘was vomiting and bleeding, and we rushed her to the hospital.’”<sup>31</sup> *The Huffington Post* also heard from Rhonda Swazer, who said when odors from the plant get bad, “‘[s]uddenly you’re nauseated, have a killer headache and need to lie down.’”<sup>32</sup>

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<sup>24</sup> Renita D. Young, *Power Outage Causes Flaring Incident at ExxonMobil's Baton Rouge Polyolefins Plant*, *The Times-Picayune*, Sept. 29, 2014, [http://www.nola.com/business/baton-rouge/index.ssf/2014/09/power\\_outage\\_causes\\_flaring\\_in.html](http://www.nola.com/business/baton-rouge/index.ssf/2014/09/power_outage_causes_flaring_in.html).

<sup>25</sup> McGaughy, 2012.

<sup>26</sup> McGaughy, 2012.

<sup>27</sup> Wyandotte Early Childhood Center, USA Today, <http://content.usatoday.com/news/nation/environment/smokestack/school/37585> (last accessed Oct. 20, 2014).

<sup>28</sup> *Id.*

<sup>29</sup> Vision City, USA Today, <http://content.usatoday.com/news/nation/environment/smokestack/school/114006> (last accessed Oct. 20, 2014); Winbourne Elementary School, USA Today,

<http://content.usatoday.com/news/nation/environment/smokestack/school/37578> (last accessed Oct. 20, 2014);

Istrouma Senior High School, USA Today,

<http://content.usatoday.com/news/nation/environment/smokestack/school/37535> (last accessed Oct. 20, 2014);

Community School For Apprenticeship Learning, USA Today,

<http://content.usatoday.com/news/nation/environment/smokestack/school/37582> (last accessed Oct. 20, 2014).

<sup>30</sup> Susan Buchanan, *ExxonMobil is scrutinized in Baton Rouge after past leaks*, *Huffington Post*, Sept. 13, 2013, [http://www.huffingtonpost.com/susan-buchanan/exxonmobil-is-scrutinized\\_b\\_3596815.html](http://www.huffingtonpost.com/susan-buchanan/exxonmobil-is-scrutinized_b_3596815.html).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

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## Corpus Christi, TX

With a population of over 305,000, Corpus Christi is the eighth most populated city in the state of Texas.<sup>33</sup> Nearly 60% of the population is Hispanic or Latino, and 18% live below the poverty level.<sup>34</sup> With a median household income of \$47,029, Corpus Christi's average household makes less than both the average Texan and American household.<sup>35</sup>

Six large oil refineries are located on Corpus Christi's north side, which together reported releasing over 1.5 million pounds of hazardous air pollutants including benzene, diethanolamine, and xylene in 2012.<sup>36</sup> Of these 6 facilities, three are currently identified as being in "significant violation."<sup>37</sup> The heavy concentration of petrochemical refineries on the north side of Corpus Christi has earned it the nickname of "Refinery Row,"<sup>38</sup> because it is the densest concentration of refineries in the nation.<sup>39</sup> *State Impact*, a reporting project of NPR reported that five of the six major refineries in Corpus Christi were deemed "high priority violators" by the EPA.<sup>40</sup>

Residents near the facilities report soot covered cars and windows, acrid smells of sulfur dioxide and benzene pervading their homes, and cancer, respiratory, or cardiologic ailments in every household.<sup>41</sup> Many have sued the refineries for toxic trespass, nuisance, personal injury, and other similar claims.<sup>42</sup> Notably, the entire 288 home Oak Park Triangle neighborhood was bought out by Citgo in the late nineties as part of a settlement to one such suit.<sup>43</sup>

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<sup>33</sup> U.S. Census, Corpus Christi (city), Texas, <http://quickfacts.census.gov/qfd/states/48/4817000.html> (last accessed on Oct. 27, 2010).

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> EPA, Enforcement and Compliance History Online, BTB Refining LLC Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110002345249> (last accessed Oct. 27, 2014); Citgo East Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000505640> (non-compliance for the past 12 quarters) (last accessed Oct. 27, 2014); Flint Hills East Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110038173981> (last accessed Oct. 27, 2014); Valero West Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000465103> (last accessed Oct. 27, 2014); Citgo West Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000465041> (last accessed Oct. 27, 2014); Flint Hills West Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000504918> (last accessed Oct. 27, 2014); Valero East Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000501993> (last accessed Oct. 27, 2014).

<sup>37</sup> *Id.*

<sup>38</sup> Terrence Henry, *On Refinery Row, a Life of Fires, Smoke and Sickness*, *State Impact*, Nov. 10, 2011, <http://stateimpact.npr.org/texas/2011/11/10/for-residents-of-refinery-row-a-life-of-fire-smoke-and-sickness/>.

<sup>39</sup> *See Id.*; Steve Lerner, *Corpus Christi: Hillcrest Residents Exposed to Benzene In Neighborhood Next Door to Refinery Row*, *The Collaborative on Health and the Environment*, Jul. 24, 2007, <http://www.healthandenvironment.org/articles/homepage/1886>.

<sup>40</sup> *See Henry, On Refinery Row, a Life of Fires, Smoke and Sickness.*

<sup>41</sup> *See Lerner, Corpus Christi: Hillcrest Residents Exposed to Benzene In Neighborhood Next Door to Refinery Row.*

<sup>42</sup> *Southwestern Refining Co. Inc. v. Bernal*, 960 S.W.2d 293, 295 (Tex. App. 1997); *Southwestern Refining Co. Inc. v. Bernal*, 22 S.W.3d 425, 429 (Tex. 2000); *Citgo Refining and Marketing, Inc. v. Garza*, 94 S.W.3d 322, 324-25 (Tex. App. 2002)

<sup>43</sup> *See Garza*, 94 S.W.3d at 325.

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Notably, on June 27, 2007, in a federal criminal case, Citgo was convicted of “illegally operating two uncovered tanks containing oil and toxic chemicals like benzene for nearly 10 years.”<sup>44</sup> However, the court denied the federal prosecutors’ request for restitution and imposed a mere slap-on-the-wrist fine of 2 million dollars, in contrast to the prosecutors’ request for a 2 billion dollar fine.<sup>45</sup>

Local refineries also pose a substantial threat in the event of malfunctions. For example, the U.S. Chemical Safety Board (“CSB”) and the American Chemical Society note that one of the Citgo facilities “has a history of problems” with hydrofluoric acid leaks.<sup>46</sup> The CSB found that on July 19, 2009, a hydrogen fluoride vapor leak was ignited, causing an explosion, and the fire burned for several days.<sup>47</sup> During this incident, one employee was critically injured and another was treated for possible hydrogen fluoride exposure.<sup>48</sup> Over 42,000 pounds of hydrogen fluoride were released, with at least 4,000 pounds escaping into the atmosphere.<sup>49</sup>

These facilities also frequently release and burn gas.<sup>50</sup> During these events, known as flaring, “chemicals are burned off into the sky,” and can create flames over a hundred feet high.<sup>51</sup> According to a resident in the Hillcrest neighborhood two blocks from the Flint Hills Resources facility, “[t]he flares are so bright at night ‘that you can read a book inside without turning on the light. . . .’”<sup>52</sup> National news sources frequently report flaring incidents reported to EPA’s National Response Center that have caused concern for Corpus Christi residents.<sup>53</sup>

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<sup>44</sup> Priscila Mosqueda, *Victims Disappointed by Small Penalty in Citgo Criminal Case*, Texas Observer, Feb. 6, 2014 <http://www.texasobserver.org/victims-disappointed-small-penalty-citgo-criminal-case/>; see also *United States v. Citgo Petroleum Corp.*, No. C-06-563, 2014 WL 1758276, at \*1 (S.D. Tex. Apr. 30, 2014)

<sup>45</sup> *Id.*

<sup>46</sup> Jeff Johnson, *Recurring Hydrofluoric Acid Leaks at Texas Citgo Refinery Draw Chemical Safety Board Attention*, Chemical and Engineering News, April 2, 2012 available at <http://cen.acs.org/articles/90/i14/Hydrofluoric-Acid-Safety.html>.

<sup>47</sup> U.S. Chemical Safety Board, *CSB Issues Urgent Recommendations to CITGO; Finds Inadequate Hydrogen Fluoride Water Mitigation System during Corpus Christi Refinery Fire Last July*, Dec. 9, 2009 <http://www.csb.gov/csb-issues-urgent-recommendations-to-citgo-finds-inadequate-hydrogen-fluoride-water-mitigation-system-during-corpus-christi-refinery-fire-last-july/>.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> See Henry.

<sup>51</sup> *Id.*

<sup>52</sup> See Lerner.

<sup>53</sup> See e.g. Reuters, *Valero Corpus Christi Refinery Reports Flaring*, Feb. 12, 2012, <http://www.reuters.com/article/2012/02/12/refinery-operations-valero-corpuschristi-idUSL2E8DC1SA20120212>; Reuters, *Flint Hills' Corpus Christi Refinery Reports Flaring*, Aug. 12, 2012, [http://articles.chicagotribune.com/2012-08-12/news/sns-rt-refinery-operationsflinthills-urgent12e8jc3lf-20120812\\_1\\_refinery-reports-texas-commission-state-pollution-regulators](http://articles.chicagotribune.com/2012-08-12/news/sns-rt-refinery-operationsflinthills-urgent12e8jc3lf-20120812_1_refinery-reports-texas-commission-state-pollution-regulators); Mark Chediak, *Flint Hills Flared Gases at Corpus Christi Refinery, Texas Says*, Bloomberg, Aug. 18, 2013, <http://www.bloomberg.com/news/2013-08-18/flint-hills-flared-gases-at-corpus-christi-refinery-texas-says.html>.



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Citizens for Environmental Justice and other community members are working to protect this fence-line community, and co-founder Suzie Canales highlights the frustration felt in Corpus Christi and other communities:

*I don't understand why we have to keep repeating the same message year after year: having to live next to refineries is bad for your health. EPA knows and has the data regarding all our birth defects studies that show that Corpus Christi has higher rates of birth defects than the rest of the state. EPA knows that we found high levels of benzene in Hillcrest residents. EPA's Office of Environmental Justice acknowledges that these communities are overburdened with pollution. They know this. They've seen this. As we keep having to repeat ourselves, fence-line residents continue to die. Why do we have to keep reminding EPA?*

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## Delaware City, DE

Delaware City is a small port town with a population just above 1,600 people, and is located approximately ten miles south of Wilmington, DE.<sup>54</sup> Although the town is small, Delaware City is home to 5 facilities identified by EPA as major emission sources.<sup>55</sup> These facilities include a polyvinyl chloride product production plant<sup>56</sup> and two refineries.<sup>57</sup> Together, these plants reported releasing over 450,000 pounds of toxic air emissions in 2012.<sup>58</sup>

The largest emitter of these facilities was Delaware City Refinery. In 2012 alone, the refinery reported releasing at least 277,512 pounds of toxic air emissions.<sup>59</sup> Further, according to EPA's Enforcement and Compliance History Online website, the facility has spent the entirety of the past three years in non-compliance with both the Clean Air Act and Clean Water Act.<sup>60</sup>

Among the Delaware City Refinery's reported violations are releases of pollutants during hydrocarbon flaring episodes. The flare system is used to manage pollution like combustible gases and vapors released during upsets, startups, and shutdowns. The state of Delaware prohibits such emissions.<sup>61</sup> These flaring incidents can be highly visible and produce voluminous amounts of smoke.<sup>62</sup> The Delaware Department of Natural Resources found that between June 2011 and December 2012, the facility released at least 130,461 pounds of sulfur dioxide as well as carbonyl sulfide, hydrogen cyanide, hydrogen sulfide, and ammonia through its flare system.<sup>63</sup> Sulfur dioxide is a chemical known to cause and aggravate respiratory and cardiologic conditions.<sup>64</sup>

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<sup>54</sup> U.S. Census, American Fact Finder, Search "Delaware City," <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk> (last accessed Oct. 27, 2014).

<sup>55</sup> EPA, Enforcement and Compliance History Online, Formosa Plastics Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000338536>; DuPont Red Lion Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110015634660>; Delaware City Refinery Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110032877661>; Valero Refinery Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110001148598>; Air Liquide Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110007354246>

<sup>56</sup> Formosa Plastics, Our Operations - Delaware City, Delaware, [http://www.fpcusa.com/company/operations/delaware\\_city\\_de.html](http://www.fpcusa.com/company/operations/delaware_city_de.html) (last accessed Oct. 28, 2014).

<sup>57</sup> See Valero Refinery Detailed Facility Report and Delaware City Refinery Detailed Facility Report.

<sup>58</sup> See Formosa Plastics Detailed Facility Report; DuPont Red Lion Detailed Facility; Delaware City Refinery Detailed Facility Report; Valero Refinery Detailed Facility Report; Air Liquide Detailed Facility Report.

<sup>59</sup> Delaware City Refinery Detailed Facility Report.

<sup>60</sup> *Id.*

<sup>61</sup> Notice of Violation for Delaware City Refinery, Order No. 23-A-0022, 3-9 (Jul. 24, 2013) available at <http://www.dnrec.delaware.gov/Info/Documents/Secretary%27s%20Order%20No.%202013-A-0022.pdf>

<sup>62</sup> See R&T Preppers, (Mar. 16, 2012) Delaware city refining company smokestack fire, <http://www.youtube.com/watch?v=wuoQRw7nY1g&feature=youtu.be>.

<sup>63</sup> Notice of Violation for Delaware City Refinery at 3-9.

<sup>64</sup> EPA, Sulfur Dioxide, Health <http://www.epa.gov/air/sulfurdioxide/health.html> (last accessed Oct. 27, 2014).

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Delaware City Refinery's emissions are not only a threat to the health of nearby communities, but also present serious risks for refinery workers. For example, on July 17, 2001, one of the facility's sulfuric acid tanks exploded, caught on fire, and led to the release of sulfuric acid from the exploded tank as well as other tanks.<sup>65</sup> During this incident, one employee was killed while eight others were injured.<sup>66</sup> Approximately 1.1 million gallons of spent sulfuric acid were released, 99,000 of which reached the Delaware River.<sup>67</sup>

Further, incidents such as these could have been prevented by proper maintenance and operating procedures.<sup>68</sup> The facility's 2011-2012 flaring emissions were largely caused by faulty equipment.<sup>69</sup> Similarly, the fatal explosion could have been prevented "if good process safety management practices had been adequately implemented," namely had the facility conducted timely equipment inspections rather than delaying necessary inspections for approximately 4 years against internal recommendations.<sup>70</sup>

Community groups, including the Delaware City Environmental Coalition and Sierra Club's Delaware Chapter, have been involved in conducting some local monitoring of the facility's emissions. During the Delaware City Refinery's shutdown between 2009 and 2011, these community groups were able to place portable monitors for benzene and other hazardous air pollutants at three locations within a mile of the facility.<sup>71</sup> These monitors were used both during the facility's shutdown and after the refinery was restarted.<sup>72</sup> The findings from these monitors demonstrated that carcinogen levels in the air, including for naphthalene, xylene, and benzene,<sup>73</sup> were substantially higher after the facility began operating again.<sup>74</sup> However, attempts to continue monitoring refinery's emissions were stymied. According to *The News Journal*, refinery operators asked Delaware's Department of Natural Resources and Environmental Control to remove the groups' monitoring equipment.<sup>75</sup>

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<sup>65</sup> Consent Decree at 2, *United States v. Motiva Enterprises*, 02-1292-SLR (D. Del. Sept. 20, 2005).

<sup>66</sup> U.S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, INVESTIGATION REPORT REFINERY ACCIDENT, MOTIVA ENTERPRISES LLC DELAWARE CITY REFINERY 3, 11 (OCT. 2002) AVAILABLE AT [HTTP://WWW.CSB.GOV/ASSETS/1/19/MOTIVA\\_FINAL\\_REPORT.PDF](http://www.csb.gov/assets/1/19/MOTIVA_FINAL_REPORT.PDF).

<sup>67</sup> *Id.* at 13.

<sup>68</sup> Notice of Violation for Delaware City Refinery at 3-9.

<sup>69</sup> *Id.*

<sup>70</sup> U.S. Chemical Safety and Hazard Investigation Board at 11-13.

<sup>71</sup> John Mussoni, *Study Shows Big Difference in Air Quality After Re-start of Delaware City Refinery*, Newsworks, May 20, 2012, <http://www.newsworks.org/index.php/local/item/38795>.

<sup>72</sup> *Id.*

<sup>73</sup> These hazardous air pollutants are regulated under the Clean Air Act. 42 U.S.C. 7412(b)(1).

<sup>74</sup> Mussoni (citing a Sierra Club presentation).

<sup>75</sup> Jeff Montgomery, *Soot Monitoring Device Removed at PBF Refinery*, The News Journal, Jan. 16, 2014 <http://www.delawareonline.com/story/tech/science/environment/2014/01/16/soot-monitoring-device-removed-at-pbf-refinery/4546477/>.

# COMMUNITY IMPACT REPORT

## Detroit, MI

With an estimated population of 688,701, Detroit is the largest city in Michigan and the 11<sup>th</sup> largest city in the United States.<sup>76</sup> The majority of Detroit residents are African American at 82.7%. Detroit boasts a rich cultural, social, and industrial history.<sup>77</sup> Unfortunately, Detroit is also home to an area deemed “Michigan’s most polluted zip code.”<sup>78</sup> Those living there report health issues affecting neighbors and family members of all generations. Residents describe foul odors, metallic ash falling from the sky, and an inability to go outside on some days because of industrial pollution.<sup>79</sup> Not surprisingly, Detroit’s cancer rate was higher than the average rate in the state of Michigan, and hospitalizations for asthma were six times that of the state average.<sup>80</sup> Some residents want to relocate because of pollution, but with 38.1% living below the poverty level,<sup>81</sup> many cannot afford to move.<sup>82</sup> Instead, certain Detroit citizens are stuck living in the shadow of a refinery that threatens their very well-being.

The expanding Marathon Petroleum Corporation refinery raises serious concerns for the health and safety of the surrounding community. According to the EPA, in 2011, Marathon emitted over 20,000 lbs. of benzene and 30,000 lbs. of toluene into the air.<sup>83</sup> Toluene and benzene are known carcinogens that inflict a variety of debilitating health effects.<sup>84</sup> Residents fear additional benzene releases due to the introduction of tar sands oil at the refinery.<sup>85</sup> In addition, 41,000lbs of xylene, a volatile organic compound which can result in a number of adverse human health effects,<sup>86</sup> was released by Marathon in 2011.<sup>87</sup>

These hazardous air emissions correspond with community residents’ reports of illnesses. In a *Detroit Free Press* article, one man, Ronald Wahl, reported that his wife has had several types of cancer, and several of his grandchildren have asthma.<sup>88</sup> Children make up 28% of

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<sup>76</sup> United States Census Bureau, Detroit (city) Michigan Quickfacts, <http://quickfacts.census.gov/qfd/states/26/2622000.html>.

<sup>77</sup> City of Detroit, About Detroit, <http://www.detroitmi.gov/Visitors/AboutDetroit.aspx> (last visited Oct. 23, 2014).

<sup>78</sup> See Tina Lam, *8217: Life in Michigan's most polluted ZIP code*, Detroit Free Press, Jun. 20, 2010.

<sup>79</sup> See *Id.*

<sup>80</sup> Tina Lam, *Cancer Rate in Detroit Outpaces Statewide Figure*, Detroit Free Press, Jun. 20, 2010.

<sup>81</sup> United States Census Bureau, Detroit (city) Michigan Quickfacts, <http://quickfacts.census.gov/qfd/states/26/2622000.html> (last visited Oct. 27, 2014).

<sup>82</sup> *Id.*

<sup>83</sup> See EPA, Enforcement and Compliance History Online, Marathon Petroleum Co LP Detailed Facility Report <http://echo.epa.gov/detailed-facility-report?redirect=page&fid=110000554828> (last accessed Oct. 27, 2014).

<sup>84</sup> California EPA Office of Environmental Health Hazard Assessment, *Chemicals Known to the State to Cause Cancer or Reproductive Toxicity*, 2013, [http://oehha.ca.gov/prop65/prop65\\_list/files/P65single052413.pdf](http://oehha.ca.gov/prop65/prop65_list/files/P65single052413.pdf).

<sup>85</sup> See Renee Lewis, “Life in Michigan’s dirtiest ZIP code,” Al Jazeera America, March 3, 2014, <http://america.aljazeera.com/articles/2014/3/3/michigan-tar-sandsindustryaccusedofactingwithimpunity.html>.

<sup>86</sup> See Marathon Petroleum Co LP Detailed Facility Report.

<sup>87</sup> Xylene can also cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and changes in the liver and kidneys. At high levels, it can cause unconsciousness and even death. Agency for Toxic Substances and Disease Registry, *Xylene* (August 2007) available at <http://www.atsdr.cdc.gov/tfacts71.pdf>.

<sup>88</sup> See Tina Lam, *48217: Life in Michigan's most polluted ZIP code*, Detroit Free Press, Jun. 20, 2010.

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residents within three miles of the refinery.<sup>89</sup> Residents also report living with visible emissions, for instance, smoke blowing over their community and soot falling from the sky.<sup>90</sup>

According to the EPA Enforcement and Compliance History Online, Marathon has been in “significant violation” of the Clean Air Act in all of the last 12 quarters, has been issued 13 state notices of violations in the past five years, and faced two formal enforcement actions in 5 years costing Marathon more than \$4.5 million dollars. Yet, Marathon is expanding its capacity by taking on tar sands oil for processing.<sup>91</sup>

Meanwhile, refinery accidents continue to pose additional risks of danger and extra air pollution for community members and workers. In April 2013, an explosion at Marathon injured one worker and resulted in partial evacuation of a neighboring community.<sup>92</sup>

Local residents have attempted to fill the regulatory gap by demanding monitoring by the EPA, and negotiating promises from Marathon to improve monitoring and pollution control technology as part of the expansion of the refinery.<sup>93</sup> Community leaders are supported by non-profit groups such as 350.org, Sierra Club, and NRDC in organizing demonstrations and bringing about EPA monitoring and investigations in Southwest Detroit.<sup>94</sup> Despite small gains people feel that they do not have sufficient health protection and, as one community summed this up to the Center for Public Integrity: she still feels inundated with toxins as if community members were “lab rats.”<sup>95</sup>

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<sup>89</sup> Marathon Petroleum Co LP Detailed Facility Report.

<sup>90</sup> *Id.*

<sup>91</sup> See Jim Morris, *Detroit Refinery Expansion Adds More Canadian Crude, Brings More Worries*, Center for Public Integrity, May 19, 2014, <http://www.publicintegrity.org/2012/10/31/11566/detroit-refinery-expansion-adds-more-canadian-crude-brings-more-worries>.

<sup>92</sup> CBS Detroit, *Police Give ‘All Clear’ After Mandatory Evacuation Due To Explosion At Marathon Refinery*, Apr. 27, 2013, <http://detroit.cbslocal.com/2013/04/27/reports-of-an-explosion-at-the-marathon-detroit-refinery/>.

<sup>93</sup> See Morris.

<sup>94</sup> David Herndon, *DETROIT: Hundreds gather to protest Marathon Oil Refinery*, The News Herald, Sept. 25, 2013, available at <http://www.thenewsherald.com/articles/2013/09/25/news/doc5241ec9cd9f14215062732.txt>; Lam, 48217: *Life in Michigan's most polluted ZIP code*.

<sup>95</sup> Jim Morris and Chris Hamby, *American Refineries Getting Ready for Dirty Tar Sands Oil*, Mother Jones, Oct. 31, 2012 available at <http://www.motherjones.com/politics/2012/10/tar-sands-oil-refinery-detroit> (reprinted from the Center for Public Integrity).

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## Philadelphia, PA

With over 1.5 million people, Philadelphia has more residents and is more densely populated than any other county in Pennsylvania.<sup>96</sup> Philadelphia is also host to the largest refinery on the Eastern seaboard,<sup>97</sup> the tenth largest in the country.<sup>98</sup> Located between the Schuylkill River and a number of low-income, minority neighborhoods, the Philadelphia Refining Complex has a processing capacity of 330,000 barrels of crude oil per day,<sup>99</sup> or the equivalent of 470 oil tanker cars.<sup>100</sup>

The Philadelphia Refining Complex claims to provide a “safe, reliable and environmentally sound operation,”<sup>101</sup> yet has been in “significant violation” of the Clean Air Act for all twelve quarters of the last three years, according to EPA’s Enforcement and Compliance History Online resource.<sup>102</sup> According to that same resource, it has also been in noncompliance with the Clean Water Act for each of the last 12 quarters, the Resource Conservation and Recovery Act for 11 of the 12, and has been assessed \$838,130 in penalties from formal enforcement actions in the last 5 years.<sup>103</sup> In 2013 alone, according to EPA’s Toxic Release Inventory, the refinery released 701,284 pounds of toxic chemicals into the air, including benzene, hydrogen cyanide, hydrogen sulfide, hexane, sulfuric acid, toluene, and xylene.<sup>104</sup> Between 2000 and 2008, the Philadelphia Refining Complex was among the top three refineries in the U.S. with the largest total benzene emission increases;<sup>105</sup> one of the other two was the nearby Marcus Hook refinery complex, near Philadelphia.<sup>106</sup>

The communities surrounding the refinery complex live with disproportionately high levels of toxic air pollution. According to *USA Today*’s “Toxic Air and America’s Schools”

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<sup>96</sup> U.S. Census Bureau, Guide to 2010 Census State and Local Geography - Pennsylvania, [http://www.census.gov/geo/reference/guidestloc/st42\\_pa.html](http://www.census.gov/geo/reference/guidestloc/st42_pa.html) (last accessed Oct. 24, 2014)

<sup>97</sup> Philadelphia Energy Solutions, <http://pes-companies.com/refining-complex/> (last accessed Oct. 24, 2014)

<sup>98</sup> U.S. Energy Information Administration, Top 10 U.S. refineries operable capacity (as of January 2014), [http://www.eia.gov/energyexplained/index.cfm?page=oil\\_refining#tab4](http://www.eia.gov/energyexplained/index.cfm?page=oil_refining#tab4).

<sup>99</sup> Philadelphia Energy Solutions, <http://pes-companies.com/refining-complex/> (last accessed Oct. 27, 2104).

<sup>100</sup> U.S. Energy Information Administration, <http://www.eia.gov/todayinenergy/detail.cfm?id=7270> (last accessed Oct. 27, 2104).

<sup>101</sup> <http://pes-companies.com/refining-complex/> (last accessed Oct. 27, 2104).

<sup>102</sup> EPA, Enforcement and Compliance History Online, Sunoco Point Breeze Processing Area Detailed Facility Report, <https://echo.epa.gov/detailed-facility-report?fid=110000336994#pane3110000336994> (last accessed Oct. 27, 2104).

<sup>103</sup> *Id.*

<sup>104</sup> EPA, Toxic Release Inventory, Sunoco Point Breeze Processing Area, [http://oaspub.epa.gov/enviro/tris\\_control.tris\\_print?tris\\_id=19145TLNNTC3144P](http://oaspub.epa.gov/enviro/tris_control.tris_print?tris_id=19145TLNNTC3144P) (last accessed Oct. 27, 2104).

<sup>105</sup> ENVIRONMENTAL INTEGRITY PROJECT REPORT, *U.S. REFINERY EMISSIONS INCREASE IN 2008: DATA QUALITY CONCERNS UNDERMINE CONFIDENCE IN REPORTED DATA*, (FEB. 4, 2010) AVAILABLE AT [HTTPS://WEB.ARCHIVE.ORG/WEB/20141027205539/HTTP://WWW.ENVIRONMENTALINTEGRITY.ORG/NEWS\\_REPORTS/D](https://web.archive.org/web/20141027205539/http://www.environmentalintegrity.org/news_reports/documents/benzene_wpfinal_wattachments20100204_001.pdf)OCUMENTS/BENZENE\_WPFINAL\_WATTACHMENTS20100204\_001.PDF.

<sup>106</sup> See Southeastern Pennsylvania Transportation Authority, Wilmington/Newark Line Regional Rail Schedule, [http://www.septa.org/schedules/rail/s/WIL\\_0.html](http://www.septa.org/schedules/rail/s/WIL_0.html) (last accessed Oct. 27, 2014).

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report, comparing air quality at schools nationwide for cancer-causing toxics and other toxic chemicals, primary and secondary schools in a one-mile radius of the refinery rank only between the 2nd and 13th percentiles, registering polycyclic aromatic compounds, sulfuric acid, nickel, benzene, manganese, naphthalene, trimethylbenzene, and other toxics.<sup>107</sup>

Disadvantaged communities bear the brunt of the pollution; within one mile of the facility, 58% of residents identify as minorities, 70% of residents live below the poverty level, and more than 73% of residents make less than the median income for Pennsylvania.<sup>108</sup> Philadelphia County has significantly higher rates of cancer than expected, according to the latest data available from the Pennsylvania Department of Health, with one of the highest general cancer rates of any county in Pennsylvania, and significantly higher rates especially of lung, esophageal, laryngeal, and many other cancers.<sup>109</sup>

Not only are these fence-line communities at risk of long-term adverse health effects, they also face immediate harm from plant upsets. In August of 1975 there was a crisis at the refinery: a 9-alarm fire which killed eight firefighters and sent residents like the mayor to the hospital.<sup>110</sup> More recently, in March of 2011, a fire broke out in a cooling tower, and one worker was hospitalized.<sup>111</sup>

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<sup>107</sup> See USA Today, Special Report: The Smokestack Effect, Toxic Air and America's Schools, available at <http://content.usatoday.com/news/nation/environment/smokestack/search/PA/~philadelphia/audenried/name/~1/> for Audenried Charter School (13th percentile) (last accessed Oct. 24, 2014), <http://content.usatoday.com/news/nation/environment/smokestack/school/76853> for Alcorn Elementary School (13th percentile) (last accessed Oct. 24, 2014), <http://content.usatoday.com/news/nation/environment/smokestack/school/125883> for Our Lady of Angels School (13th percentile) (last accessed Oct. 24, 2014), <http://content.usatoday.com/news/nation/environment/smokestack/search/PA/~philadelphia/delaplaine/name/~1/> for McDaniel Elementary School (8th percentile) (last accessed Oct. 24, 2014), <http://content.usatoday.com/news/nation/environment/smokestack/school/76997> for Vare Middle School (5th percentile), <http://content.usatoday.com/news/nation/environment/smokestack/school/74842> for Prep Charter High School (5th percentile) (last accessed Oct. 24, 2014), and <http://content.usatoday.com/news/nation/environment/smokestack/school/76820> for Girard Academic Music Program (2nd percentile) (last accessed Oct. 24, 2014).

<sup>108</sup> See EPA, Enforcement and Compliance History Online, Sunoco Point Breeze Processing Area Detailed Facility Report, <https://echo.epa.gov/detailed-facility-report?fid=110000336994#>; U.S. Census Bureau, State & County QuickFacts, <http://quickfacts.census.gov/qfd/states/42000.html> (last accessed Oct. 24, 2014)

<sup>109</sup> Pennsylvania Department of Health, Health Statistics and Research, available at <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=596023&mode=2> (2007-2011 data)

<sup>110</sup> Bend, Oregon Bulletin, *Philadelphia mayor injured: Firemen contain refinery flames*, (Oct. 3, 1975), <http://news.google.com/newspapers?nid=1243&dat=19751013&id=NG5YAAAAIIBAJ&sjid=3fcDAAAAIIBAJ&pg=6400,1944849>

<sup>111</sup> ABC News, *Fire at South Philly Sunoco refinery*, Mar. 17, 2011, <http://6abc.com/archive/8019335/>

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### Port Arthur, TX

Port Arthur, a small town with just under 60,000 residents located 90 miles south of Houston on the Gulf Coast of Texas,<sup>112</sup> hosts a large number of industrial sources that release some of the harshest toxic contaminants for public health.<sup>113</sup> Located in Jefferson County, Port Arthur is a part of the Beaumont Metropolitan area.<sup>114</sup> According to the 2010 Census, nearly 70 percent of Port Arthur residents identify as black or Hispanic/Latino.<sup>115</sup> With a median household income of \$33,456, over a quarter of Port Arthur residents live below the poverty line.<sup>116</sup>

Data collected by the Texas Cancer Registry indicates that cancer rates among African Americans in Jefferson County are roughly 15 percent higher than they are for the average Texan,<sup>117</sup> and the mortality rate from cancer is more than 40 percent higher.<sup>118</sup> In addition, a study by the University of Texas Medical Branch at Galveston found that Port Arthur residents were four times more likely than people just 100 miles upwind to report adverse heart and respiratory conditions; nervous system and skin disorders; headaches and muscle aches; and ear, nose, and throat ailments.<sup>119</sup> Port Arthur's combination of low income households and disproportionately poor health outcomes led *OnEarth* magazine to dub it an "American Sacrifice Zone."<sup>120</sup>

One industrial pollution source in Port Arthur, Motiva Enterprises, is owned jointly by Shell Oil Products and Saudi Refining, Inc. and is the largest oil refinery in the United States.<sup>121</sup> Right across the fence-line from Motiva Enterprises, are the residents of Carver Terrace, a local community on the West Side of Port Arthur. Heavy metals and toxic chemicals are released into the air by not only the Motiva facility, but also the Valero Port Arthur Refinery, Huntsman Petrochemical, Chevron, and Flint Hills Resources LLC. Nearby, in East Port Arthur, Total Petrochemicals USA, Premcor Refining, and BASF Fina Petrochemicals add to the toxic air pollution in the greater Port Arthur community.<sup>122</sup>

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<sup>112</sup> U.S Census, State and County Quickfacts, Port Arthur (city), Texas, <http://quickfacts.census.gov/qfd/states/48/4858820.html> (last accessed Oct. 28, 2014).

<sup>113</sup> Ted Genoways, *Port Arthur, Texas: American Sacrifice Zone*, *OnEarth*, Aug. 26, 2013, <http://www.onearth.org/articles/2013/08/if-built-the-keystone-xl-pipeline-will-end-in-one-toxic-town>.

<sup>114</sup> U.S Census, State and County Quickfacts, Port Arthur (city), Texas.

<sup>115</sup> *Id.*

<sup>116</sup> *Id.*

<sup>117</sup> Genoways, *Port Arthur, Texas: American Sacrifice Zone*.

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> EPA, Enforcement and Compliance History Online, Facility Search "Port Arthur," <http://echo.epa.gov/facilities/facility-search?redirect=page&mediaSelected=cwa> (last accessed Oct. 28, 2014).



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Despite site-specific settlements with area refiners like Motiva and Total Petrochemicals, communities are still inundated with the chemical releases associated with flaring. For example, from 2007-2012 the Total Petrochemical refinery failed to avoid 70 flaring incidents that emitted toxic benzene. Total also failed to offer an explanation for why these flaring incidents even occurred.<sup>123</sup> Even though industry self-reports flaring events, the Environmental Integrity Project (EIP) found in a 2012 report that Port Arthur area refineries emitted levels of benzene and other volatile organic compounds at rates 10 times higher than reported levels.<sup>124</sup> Without real-time fence-line monitoring and public reporting, communities like Port Arthur will have continued difficulty holding their industrial neighbors accountable to pollution limits.

2011 North America Goldman Prize Winner, Hilton Kelley, grew up in the shadow of Port Arthur refineries. After spending nearly 30 years in California, Hilton Kelley became the founder and CEO of Community In-Power & Development Association, Inc. (CIDA). “People are breathing benzene out here,” says Kelley. “That’s a known carcinogen. They’re breathing sulfur dioxide, a toxin that messes with your respiratory system—people call that the rotten-egg smell. Clean, breathable air is a basic human right the folks out here have been deprived of.”

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<sup>123</sup> Emily Pickrill, *Violations at Port Arthur Refinery Bring 8.75 million fine*, Houston Chronicle, Sept. 20, 2013, <http://www.houstonchronicle.com/business/energy/article/Violations-at-Port-Arthur-refinery-bring-8-75-4831836.php>.

<sup>124</sup> See Genoways, *Port Arthur, Texas: American Sacrifice Zone*.

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## Richmond, CA

Across the scenic bay from San Francisco sits Richmond, California. Richmond has a population exceeding 103,000 people and is characterized by its diversity: 26.6% of the population is African-American, 39.5% is Hispanic or Latino, and 13.5% is Asian-American.<sup>125</sup> With a median household income of \$54,657, the majority of households in Richmond earn less than 50% than average Californian households.<sup>126</sup> Over 21% of the population over the age of 25 never graduated from high school.<sup>127</sup>

Richmond is also home to a 2,900 acre petroleum refinery built in 1902 that is currently owned and operated by Chevron.<sup>128</sup> This refinery has the capacity to process over 250,000 barrels of crude oil per day and even maintains its own fire department.<sup>129</sup> The aforementioned demographic statistics dramatically shift when examining a 3 mile radius around the facility, with over 80% of the population being African-American or Hispanic or Latino, and over 34% of the population over the age of 25 never graduating from high school.<sup>130</sup>

In 2012, the facility reported to EPA that it released at least 37 different toxic pollutants including 34,500 pounds of methanol, 30,070 pounds of diethanolamine, 27,896 pounds of toluene, and known carcinogens listed under 42 U.S.C. §7412(b)(1).<sup>131</sup> These emissions comprise just a fraction of the refinery's reported release of nearly 400,000 pounds of hazardous pollutants in 2012.<sup>132</sup> Releases of these toxic pollutants are indicative of the facility's regular operations, and can have long-term, negative impacts. According to the EPA, methanol exposure can cause neurological damage.<sup>133</sup> Animal studies indicate that dermal exposure to diethanolamine leads to "increased incidence of liver and kidney tumors,"<sup>134</sup> and toluene exposure can lead to central nervous system dysfunction, heart disease, and birth defects.<sup>135</sup>

The health threats imposed by these emissions are compounded by malfunctions. Between 1989 and 2012, the refinery is reported to have "a history of at least 19 fires, spills, and

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<sup>125</sup> U.S. Census, Quick Facts, Richmond (city) California, <http://quickfacts.census.gov/qfd/states/06/0660620.html> (last accessed on Oct. 27, 2014).

<sup>126</sup> *Id.*

<sup>127</sup> *Id.*

<sup>128</sup> Chevron Richmond, About Chevron Richmond, What We Do <http://richmond.chevron.com/home/aboutchevronrichmond/whatwedo.aspx>; (last accessed on Oct. 27, 2014).

<sup>129</sup> *Id.*

<sup>130</sup> EPA, Enforcement History and Compliance Online, Chevron Richmond Refinery Detailed Facility Report <http://echo.epa.gov/detailed-facility-report?fid=110020506460> (last accessed on Oct. 27, 2014).

<sup>131</sup> *Id.*; 42 U.S.C. §7412(b)(1)

<sup>132</sup> *Id.*

<sup>133</sup> EPA Air Toxics Website, Methanol, <http://www.epa.gov/ttnatw01/hlthef/methanol.html> (last updated Oct. 18, 2013).

<sup>134</sup> EPA Air Toxics Website, Diethanolamine, <http://www.epa.gov/airtoxics/hlthef/diethano.html> (last updated Oct. 18, 2013).

<sup>135</sup> EPA Air Toxics Website, Toluene, <http://www.epa.gov/airtoxics/hlthef/toluene.html> (last updated Oct. 18, 2013).

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explosions.”<sup>136</sup> These incidents have led to shelter-in-place warnings, hospital visits, and severe injuries.<sup>137</sup> For example, on April 10, 1989, “[a]n explosion and fire injured eight workers,” and “[s]moke was released into the air for six days.”<sup>138</sup> In 1994, a pump ignited, resulting in a fire and one reported serious injury.<sup>139</sup> On March 26, 1999, a major explosion led to a massive fire that created a smoke cloud that was reported to be visible from over 18 miles away.<sup>140</sup> Over 110 firefighters and paramedics were called in to control the fire and over 1,200 individuals checked into emergency rooms “complaining of breathing difficulties and eye irritations.”<sup>141</sup>

These incidents are overshadowed by an explosion that occurred on August 6, 2012, which the U.S. Chemical Safety Board found “resulted in a large plume of particulates and vapor traveling across the Richmond, California area. Approximately 15,000 people from the surrounding area sought medical treatment due to the release.”<sup>142</sup> Chevron agreed to pay 2 million dollars in fines and restitution and pled guilty to six charges brought against the refinery because of the 2012 fire.<sup>143</sup> In spite of these reported hazards, EPA indicates that the facility has had an “Unknown” compliance status with the Clean Air Act for the past 3 years.<sup>144</sup>

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<sup>136</sup> Lisa Fernandez, *More Than 4,800 Sue Chevron After Refinery Fire*, NBC Bay Area, Nov. 28, 2012, <http://www.nbcbayarea.com/news/local/More-Than-4800-Sue-Chevron-After-Refinery-Fire-181052941.html>

<sup>137</sup> SF Gate, *Chevron Refinery Incidents*, Mar. 26, 1999, <http://www.sfgate.com/news/article/CHEVRON-REFINERY-INCIDENTS-3091498.php>; Bernadette Tansey, Benjamin Pimentel, Michael Taylor, *Huge Explosion Rocks Richmond Oil Refinery / Thousands ordered indoors -- 3 hurt responding to blast*, SF Gate, Mar. 26, 1999, <http://www.sfgate.com/bayarea/article/Huge-Explosion-Rocks-Richmond-Oil-Refinery-2939736.php#photo-2258096>.

<sup>138</sup> SF Gate, *Chevron Refinery Incidents*.

<sup>139</sup> *Id.*

<sup>140</sup> *See* Tansey.

<sup>141</sup> *See Id.*

<sup>142</sup> U.S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD, REGULATORY REPORT: CHEVRON RICHMOND REFINERY PIPE RUPTURE AND FIRE, 7 (MAY 2014) AVAILABLE AT [HTTP://WWW.CSB.GOV/ASSETS/1/19/CHEVRON\\_REGULATORY\\_REPORT\\_06272014.PDF](http://www.csb.gov/assets/1/19/CHEVRON_REGULATORY_REPORT_06272014.PDF).

<sup>143</sup> Susie Cagle, *A Year After A Refinery Explosion, Richmond, Calif., is Fighting Back*, Grist, Aug. 6, 2013, <http://grist.org/climate-energy/a-year-after-a-refinery-explosion-richmond-calif-is-fighting-back/>; Demian Bulwa, *Chevron to Pay \$2 million for Refinery Fire*, (Aug. 5, 2013) <http://www.sfgate.com/news/article/Chevron-guilty-of-refinery-criminal-charges-4707675.php?cmpid=twitter>.

<sup>144</sup> Chevron Richmond Refinery Detailed Facility Report.

# COMMUNITY IMPACT REPORT

## Salt Lake City, UT

On May 20, a local news source reported that parents of students at Legacy Preparatory Academy in Woods Cross were claiming that fumes from the local refinery were making their children sick.<sup>145</sup> They were exhausted, sprawled out on the floor taking naps; their skin itched and their eyes burned.<sup>146</sup> More than 500 of the elementary and junior high students went home early on May 16, 2014.<sup>147</sup>

The previous day, a “tank containing a waxy crude substance overheated and burst at Silver Eagle Refinery” in Woods Cross, spewing fumes into the air near the school.<sup>148</sup> The refinery had to evacuate while “people who live nearby and kids who were going to school in the area had no idea they were being exposed.”<sup>149</sup> The school was not evacuated, nor was a warning put out. Beth Brown, a parent in Woods Cross, told a local news outlet that parents “should have been alerted that our children were put at risk before going to school that day.”<sup>150</sup>

In addition to acute incidents, there are severe chronic health threats posted by industrial emissions. For example, the Mountain View School in Salt Lake City ranks in the 3<sup>rd</sup> percentile nationally for air quality; the Tesoro refinery is one of the polluters most responsible for toxics outside this school according to the USA Today school air toxics report.<sup>151</sup> Compounded with emissions from copper smelters,<sup>152</sup> mineral wool manufacturers,<sup>153</sup> and other industrial polluters in the area, communities in greater Salt Lake are exposed to an unconscionable amount of toxic air pollution. “We shouldn’t be watching and waiting to see ... how children are affected” by their exposure to toxins, said one parent in Woods Cross.<sup>154</sup>

Residents in the greater Salt Lake City area have had other reasons to be concerned about air pollution from nearby petroleum refineries. There are five refineries concentrated within a four mile radius line Route 15 between Salt Lake and Davis Counties. Together, these refineries released 364,595 pounds of toxic air emissions in 2012.<sup>155</sup> In 2010, 29% of residents within

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<sup>145</sup> Gene Kennedy, *Parents claim fumes from Woods Cross refinery made children sick*, FOX 13 Salt Lake City, May 20, 2014, <http://fox13now.com/2014/05/20/parents-claim-fumes-from-woods-cross-refinery-made-children-sick/>.

<sup>146</sup> *Id.*

<sup>147</sup> Brian Carlson, *Parents focus concern over dangerous smell at Silver Eagle Refinery*, ABC 4 Utah (May 20, 2014, 10:08 PM), <http://www.good4utah.com/story/d/story/parents-focus-concern-over-dangerous-smell-at-silv/26876/jyOMfr5Nb0Wgq5PNaP603A>.

<sup>148</sup> Kennedy.

<sup>149</sup> Carlson.

<sup>150</sup> Kennedy.

<sup>151</sup> Mountain View School, USA Today, <http://content.usatoday.com/news/nation/environment/smokestack/school/91873> (last accessed Oct. 17, 2014).

<sup>152</sup> Kennecott Utah Copper Smelter & Refinery, USA Today, <http://content.usatoday.com/news/nation/environment/smokestack/polluter/44172> (last accessed Oct. 17, 2014).

<sup>153</sup> Owens Corning, USA Today, <http://content.usatoday.com/news/nation/environment/smokestack/polluter/44341> (last accessed Oct. 17, 2014).

<sup>154</sup> Carlson.

<sup>155</sup> EPA, Enforcement and Compliance History Online, Silver Eagle Refining, Woods Cross Detailed Facility Report, EPA, <http://echo.epa.gov/detailed-facility-report?fid=110000499069> (last accessed Oct. 16, 2014); Holly Refining & Marketing Co Woods Cross Refinery Detailed Facility Report, <http://echo.epa.gov/detailed-facility->

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three miles of these refineries lived below the poverty line<sup>156</sup> – a concentration that was nearly twice the national poverty rate that year.<sup>157</sup>

Communities in the Salt Lake area need both stronger emission standards and more effective compliance and enforcement requirements. The Big West Oil refinery in North Salt Lake is currently in significant violation of the Clean Air Act (“CAA”), and has spent 12 out of the last 12 quarters in noncompliance and in “significant violation” of, the Act.<sup>158</sup> Chevron’s refinery just over a mile down the road in Salt Lake City has a similarly problematic compliance record, also spending 12 out of the 12 last quarters in noncompliance with, and in significant violation of, the CAA.<sup>159</sup> In 2013, the EPA levied a \$384,000 penalty against Chevron for alleged air emissions violations.<sup>160</sup> Thirty-eight percent of those living in a three mile radius of the Chevron facility are racial minorities.<sup>161</sup> Two and a half miles away (also in Salt Lake City) sits the Tesoro refinery, with a 45% minority population within a three mile radius.<sup>162</sup> The Tesoro facility has had to pay the EPA \$1.1 million in penalties over the last five years.<sup>163</sup>

The refineries release benzene, a known carcinogen;<sup>164</sup> xylenes, which are associated with increased mortality and impaired motor coordination;<sup>165</sup> toluene, known to cause neurological effects;<sup>166</sup> and many other toxins. On top of the hazardous air pollutants, residents in the Salt Lake area also face emissions of SO<sub>2</sub> and NO<sub>x</sub> from the refineries, which respectively contribute to acid rain and “affect breathing and may aggravate existing respiratory and cardiovascular disease;” and “can cause or contribute to a variety of health problems and adverse environmental impacts, such as ground-level ozone, acid rain, global warming, water quality deterioration, and visual impairment. . . . [E]xposure to these conditions can cause damage to lung tissue for people who work or exercise outside.”<sup>167</sup>

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[report?fid=110000469136](#) (last accessed Oct. 16, 2014); Tesoro Petroleum/FKA BP Amoco Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000469243> (last accessed Oct. 16, 2014); Big West Oil Flying J Refinery Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000468921#pane2110000468921> (last accessed Oct. 16, 2014); Chevron Salt Lake Refinery Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000469485> (last accessed Oct. 16, 2014).

<sup>156</sup> Id.

<sup>157</sup> ALEMAYEHU BISHAW, U.S. CENSUS BUREAU, POVERTY: 2009 AND 2010: AMERICAN COMMUNITY SURVEY BRIEFS 1 (OCT. 2011), [HTTP://WWW.CENSUS.GOV/PROD/2011PUBS/ACSB10-01.PDF](http://www.census.gov/prod/2011pubs/ACSB10-01.pdf).

<sup>158</sup> [Big West Oil Flying J Refinery Detailed Facility Report](#).

<sup>159</sup> Chevron Salt Lake Refinery Detailed Facility Report.

<sup>160</sup> Jeremy P. Jacobs, *Chevron to pay \$384K to address alleged permit violations*, Greenwire, Aug. 1, 2013, <http://www.eenews.net/greenwire/2013/08/01/stories/1059985473>.

<sup>161</sup> Chevron Salt Lake Refinery Detailed Facility Report.

<sup>162</sup> [Tesoro Petroleum/FKA BP Amoco Detailed Facility Report](#).

<sup>163</sup> Id.

<sup>164</sup> Benzene, EPA Integrated Risk Information System, <http://www.epa.gov/iris/subst/0276.htm> (last accessed Oct. 17, 2014).

<sup>165</sup> Xylenes, EPA Integrated Risk Information System, <http://www.epa.gov/iris/subst/0270.htm> (last accessed Oct. 17, 2014).

<sup>166</sup> Toluene, EPA Integrated Risk Information System, <http://www.epa.gov/iris/subst/0118.htm> (last accessed Oct. 17, 2014).

<sup>167</sup> Holly Refining and Marketing Company Settlement, EPA (Apr. 21, 2009), <http://www2.epa.gov/enforcement/holly-refining-and-marketing-company-settlement>.

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Salt Lake City area residents are reminded of the proximity of the plant through reports of pipeline leaks,<sup>168</sup> fires and explosions,<sup>169</sup> and serious injuries suffered by refinery workers.<sup>170</sup> In 2012, Holly Refinery in Woods Cross had an oil leak where “more than 8,000 gallons of oil spewed into the air, coating buildings, cars and some property in a mobile home park close by,” resulting in more than 400 claims of damage.<sup>171</sup> At least one major blast (a video is available on YouTube<sup>172</sup>) damaged over 100 homes, severely damaged four, and made two of them uninhabitable, knocking one off its foundation.<sup>173</sup> When that homeowner heard what had happened and rushed home, she found “her front door open, all the windows blown out and dishes on the floor.... [H]er home was condemned.”<sup>174</sup> In a *Salt Lake Tribune* article, the chairman of the U.S. Chemical Safety Board noted it was a lucky chance there were no fatalities and that many residents “had to move out of homes pending repairs.”<sup>175</sup>

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<sup>168</sup> Letter from Scott T. Anderson, Exec. Sec’y, Utah Solid and Hazardous Waste Control Bd., to Stuart Smith, EHS Compliance Manager, Big West Oil, LLC (July 12, 2011), available at [http://www.deq.utah.gov/Divisions/dshw/epa/docs/2011/12Dec/Warning\\_Letter\\_Big\\_West.pdf](http://www.deq.utah.gov/Divisions/dshw/epa/docs/2011/12Dec/Warning_Letter_Big_West.pdf).

<sup>169</sup> U.S. Chemical Safety Board, *CSB to Examine Fire at Tesoro Refinery in Salt Lake City*, Oct. 23, 2009, <http://www.csb.gov/csb-to-examine-fire-at-tesoro-refinery-in-salt-lake-city/>; Joseph M. Dougherty, *Safety board offers video of Silver Eagle Refining Explosion*, Deseret News (Nov. 18, 2009, 12:00 AM), <http://www.deseretnews.com/article/705345229/Safety-board-offers-video-of-Silver-Eagle-Refining-explosion.html>.

<sup>170</sup> *Silver Eagle Refinery Flash Fire and Explosion and Catastrophic Pipe Explosion*, U.S. Chemical Safety Board <http://www.csb.gov/silver-eagle-refinery-flash-fire-and-explosion-and-catastrophic-pipe-explosion/> (last accessed Oct. 16, 2014).

<sup>171</sup> Nineveh Dinha, *Refinery says it’s making progress on oil leak cleanup*, FOX 13 Salt Lake City, Oct. 17, 2012, 9:32 PM, <http://fox13now.com/2012/10/17/refinery-says-its-making-progress-on-oil-leak-cleanup/>.

<sup>172</sup> *Silver Eagle Refinery Explosion Surveillance Footage*, U.S. Chemical Safety Board, <http://youtu.be/yDmuaR6rkGU> (last accessed Oct. 16, 2014).

<sup>173</sup> Dougherty.

<sup>174</sup> Alex Cabrero et al., *Explosion, fire at Woods Cross refinery rock neighborhood*, KSL (Nov. 4, 2009, 10:00 PM), <http://www.ksl.com/?sid=8551420>.

<sup>175</sup> Lee Davidson, *Feds blame Utah refinery blast on non-inspected pipe*, The Salt Lake Tribune, Apr. 10, 2014, <http://www.sltrib.com/sltrib/politics/57802954-90/pipe-explosion-eagle-silver.html.csp>.

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## Shreveport, LA

Shreveport is the third-largest city in Louisiana with a population of over 200,000 people,<sup>176</sup> the large majority of whom are Louisiana natives.<sup>177</sup> A quarter of Shreveport's population is children under 18,<sup>178</sup> and Shreveport has a large African American community, 54.7%, compared to Louisiana's 32% average.<sup>179</sup> Approximately 20% of Shreveport residents live below the poverty level<sup>180</sup> and more than 37,000 of those live within three miles of Shreveport's large petroleum refinery.

Shreveport residents are exposed to hazardous air pollutants, including carcinogens like benzene, hexane, toluene, and naphthalene.<sup>181</sup> Based on EPA's Toxic Release Inventory, Shreveport's Calumet petroleum refinery, Calumet Lubricants & Waxes LLC, released 116,846 lbs. of chemicals with significant human health or environmental effects in 2013 alone.<sup>182</sup>

Minorities in Shreveport bear the brunt of Calumet air pollution. Within a three mile radius, nearly 80% of the population is African American.<sup>183</sup> Between 2004 and 2012, the Calumet plant released an average of approximately 6,000 lbs./year of benzene with 15,468 lbs. released in 2012. Other air pollutants released in 2012 include 45,974 lbs. of hexane, 1,449 lbs. of naphthalene, and 48,758 lbs. of toluene. Calumet refinery is currently in "significant violation" of the Clean Air Act and has been so for all of the past 12 quarters as recorded in EPA's Enforcement and Compliance History Detailed report.<sup>184</sup>

Calumet has had three formal compliance actions taken against it in the last five years for CAA violations.<sup>185</sup> In 2010 the plant was required to pay \$1 million to the state, and ordered to invest approximately \$11 to \$15 million to perform beneficial environmental projects and implement emissions reduction projects in Shreveport, Cotton Valley, and Princeton.<sup>186</sup> Louisiana DEQ noted that the agreement would result in a reduction in emissions for residents in Shreveport.<sup>187</sup> However, in 2013, Calumet incurred civil penalties for violations including the failure to conduct inspection and maintenance of the type that reduces unauthorized emissions

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<sup>176</sup> U.S. Census, Shreveport (city), Texas <http://quickfacts.census.gov/qfd/states/22/2270000.html> (Population estimate for 2013) (last accessed Oct. 24, 2014)

<sup>177</sup> U.S. Census, Factfinder "Shreveport," <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk> (76%) (last accessed Oct. 24, 2014).

<sup>178</sup> *Id.*

<sup>179</sup> *Id.*

<sup>180</sup> *Id.* Estimated from 2008-2012 data.

<sup>181</sup> EPA, Enforcement and Compliance History Online, Calumet Lubricants & Waxes, LLC Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000540317#> (hereinafter "Calumet Detailed Facility Report").

<sup>182</sup> Toxics Release Inventory, CALUMET LUBRICANTS & WAXES LLC, Query executed on OCT-23-2014. Results are based on data extracted on OCT-15-2014.

<sup>183</sup> See Calumet Detailed Facility Report.

<sup>184</sup> Calumet Detailed Facility Report.

<sup>185</sup> *Id.*

<sup>186</sup> Louisiana Department of Environmental Quality, Press release "DEQ reaches agreement with Calumet Specialty Products as part of refinery initiative" (Dec. 23, 2010) available at <http://www.deq.state.la.us/portal/portals/0/news/pdf/calumetagreement1.pdf>.

<sup>187</sup> *Id.*

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through pressure events, plant upsets, and flaring.<sup>188</sup> This included the failure to inspect pressure vessels and storage tanks, piping systems and valves, relief and vent systems and devices, emergency shutdown systems, controls (including monitoring devices and sensors, alarms, and interlocks).<sup>189</sup> In addition to community health and environmental impacts, Calumet plant has also had about 206 accidents reported between 2005 and 2013.<sup>190</sup>

Local groups including Residents for Air Neutralization have taken notice of the pollution in Shreveport. State-wide groups like the Louisiana Bucket Brigade gather emissions reports from the Louisiana Department of Environmental Quality for the community at large. Bucket Brigade partners include local chapters of the Sierra Club. These groups encourage citizens to report upsets like overuse of flaring in areas like Shreveport,<sup>191</sup> and use tools for instant reporting like the iWitness pollution map.<sup>192</sup>

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<sup>188</sup> Consent Agreement and Final Order, Region 6, DOCKET NO. CAA-06-2013-3318, at 6-7 Available at [http://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/FE6EFF606E14FF0F85257C1E00214902/\\$File/Calumet2013.pdf](http://yosemite.epa.gov/OA/RHC/EPAAdmin.nsf/Filings/FE6EFF606E14FF0F85257C1E00214902/$File/Calumet2013.pdf).

<sup>189</sup> *Id.*

<sup>190</sup> Louisiana Bucket Brigade, Refinery Accidents by Year (compiled from Louisiana Department of Environmental Quality Reports) available at <http://www.louisianarefineryaccidentdatabase.org/> (accessed Oct. 23, 2014).

<sup>191</sup> Molly Brackin, EPA, Environmental Justice in Action, *It Doesn't Take a Fireman to Spot a Fire: Fighting Pollution with Citizen Science*, Jan. 16, 2014 <http://blog.epa.gov/ej/2014/01/it-doesnt-take-a-fireman/>.

<sup>192</sup> <http://map.labucketbrigade.org/reports#>.



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## Wilmington, CA

Wilmington, California is a small suburb of Los Angeles and boasts a population of approximately 55,000 people.<sup>193</sup> Over 85% of the population is Hispanic or Latino, and nearly 65% of households earn less than the U.S. median household income.<sup>194</sup> Additionally, over 60% of the population over the age of 25 has not completed high school.<sup>195</sup>

This community is surrounded by 6 refineries, 2 owned by ConocoPhillips, 2 owned by Valero, and 2 owned by Tesoro.<sup>196</sup> The facilities have the capacity to process over 843,000 barrels of fuel per day,<sup>197</sup> and contribute to the Los Angeles Harbor's generation of over "20 percent of Southern California's total particulate emissions."<sup>198</sup> Together, these facilities reported releasing over 890,000 pounds of pollutants (including benzene, methanol, toluene, and other hazardous air pollutants regulated under the Clean Air Act) in 2011.<sup>199</sup> Moreover, 5 of the 6 refineries have spent the entirety of the last 3 years in "significant violation" of the Clean Air Act while the sixth was found in "significant violation" for 9 months of the past 3 years, according to EPA's Enforcement Compliance History Online database.<sup>200</sup>

In a recent draft study, the South Coast Air Quality Management District noted that residents of Wilmington have an estimated cancer risk ranging from 400 to 1,000 per million, meaning that between 1 out of every 1,000 to 2,500 people is likely to have cancer.<sup>201</sup> The Clean Air Act requires EPA action where cancer risk is above 1-in-1 million – thousands of times

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<sup>193</sup> LA Times, Mapping LA: Wilmington, <http://maps.latimes.com/neighborhoods/neighborhood/wilmington/> (based on Census 2000, SCAG, Los Angeles Department of City Planning) (last visited Oct. 27, 2014).

<sup>194</sup> *Id.*

<sup>195</sup> *Id.*

<sup>196</sup> EPA, Enforcement and Compliance History Online, Valero Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000476048>; <http://echo.epa.gov/detailed-facility-report?fid=110000746658> (last accessed on Oct. 27, 2014); ConocoPhillips Detailed Facility Report, <http://echo.epa.gov/detailed-facility-report?fid=110000476235> (last accessed on Oct. 27, 2014); <http://echo.epa.gov/detailed-facility-report?fid=110038102969> (last accessed on Oct. 27, 2014); Tesoro Detailed Facility Report <http://echo.epa.gov/detailed-facility-report?fid=110000746630>; <http://echo.epa.gov/detailed-facility-report?fid=110017428988> (last accessed on Oct. 27, 2014).

<sup>197</sup> See The California Energy Commission, Energy Almanac [http://energyalmanac.ca.gov/petroleum/refinery\\_history.html](http://energyalmanac.ca.gov/petroleum/refinery_history.html) (last updated Aug. 2012).

<sup>198</sup> GORDON LAIRD, THE PRICE OF A BARGAIN: THE QUEST FOR CHEAP AND THE DEATH OF GLOBALIZATION, 131 (NOV. 2009) AVAILABLE AT

[HTTP://BOOKS.GOOGLE.COM/BOOKS?ID=AGSH\\_QPPSPSC&PG=PA131#V=ONEPAGE&Q&F=FALSE](HTTP://BOOKS.GOOGLE.COM/BOOKS?ID=AGSH_QPPSPSC&PG=PA131#V=ONEPAGE&Q&F=FALSE).

<sup>199</sup> See Valero Detailed Facility Report; ConocoPhillips Detailed Facility Report, Tesoro Detailed Facility Report; see 42 U.S.C. § 7412(b)(1) (listing hazardous air pollutants under the Clean Air Act).

<sup>200</sup> See Valero Detailed Facility Report; ConocoPhillips Detailed Facility Report, Tesoro Detailed Facility Report.

<sup>201</sup> SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, DRAFT REPORT: MULTIPLE AIR TOXICS EXPOSURE STUDY IN THE SOUTH COAST AIR BASIN, 2-11 (OCT. 2014) AVAILABLE AT <HTTP://WWW.AQMD.GOV/HOME/LIBRARY/AIR-QUALITY-DATA-STUDIES/HEALTH-STUDIES/MATES-IV 2-10, 11>.

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lower than the cancer risk in Wilmington – and EPA has recognized that a cancer risk above 100-in-1 million is presumed to be unacceptable.<sup>202</sup>

In addition to posing long term health risks to Wilmington residents, these refineries also pose an immediate threat to their lives and safety. Recently, on December 31, 2013, the Wilmington ConocoPhillips refinery reported a sulfur dioxide leak that sent 11 refinery workers to be treated for respiratory problems.<sup>203</sup>

In 2013, Coalition For A Safe Environment (CFASE) analyzed the flaring data for the 6 oil refineries in Los Angeles for the years 2000-2011 and discovered that the number of flaring incidents had increased every year at every oil refinery during that time. There was never any investigation by the California South Coast Air Quality Management District or the U.S. EPA.

CFASE and other community groups are now trying to monitor the emissions from these facilities.<sup>204</sup> Having been exposed firsthand to the refineries' emissions over the past 43 years, CFASE launched the LACEEN-Los Angeles Community Environmental Enforcement Network Pilot Project in February 2014. CFASE recently installed a multi-sensor air monitoring station on the roof of a resident's garage near the fence-line of the ConocoPhillips Oil Refinery.<sup>205</sup> On numerous days, the emissions are visible as huge dark menacing plumes of black smoke and residents smell toxic odors of burning oil, gases and fuels.<sup>206</sup> However, some emissions cannot be detected, and CFASE is hoping their monitors will help determine whether or not these facilities are accurately reporting releases.<sup>207</sup> These monitoring devices are not sufficient to protect the community, and EPA, not community members, has the responsibility to assure refineries' compliance with all Clean Air Act requirements.

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<sup>202</sup> See 42 U.S.C. § 7412(f)(2)(A); 54 FR 38045, September 14, 1989.

<sup>203</sup> CBS Los Angeles, *11 Hurt In Leak at Wilmington Oil Refinery*, Dec. 31, 2013 10:28 AM, <http://losangeles.cbslocal.com/2013/12/31/9-hurt-in-leak-at-wilmington-oil-refinery/>.

<sup>204</sup> Sandy Mazza, *Environmental Activists Monitoring Pollution from Phillips 66 Refinery in Wilmington*, Daily Breeze, Mar. 5, 2014, 6:56 PM PST, <http://www.dailybreeze.com/business/20140305/environmental-activists-monitoring-pollution-from-phillips-66-refinery-in-wilmington>.

<sup>205</sup> *Id.*

<sup>206</sup> *Id.*; Tony Barboza, *Project to Monitor Air Pollution Near Wilmington Refinery*, LA Times, Feb. 26, 2014, available at <http://articles.latimes.com/2014/feb/26/local/la-me-ln-wilmington-air-pollution-refinery-20140226>.

<sup>207</sup> Mazza.

# COMMUNITY IMPACT REPORT

## Whiting, IN

Whiting, IN is a Southern Shores Community of Lake Michigan and is just 20 minutes from Chicago.<sup>208</sup> Whiting is a quaint yet bustling town of 4,997 people,<sup>209</sup> and draws crowds with its Lakefront activities and events like the annual Pierogi Festival.<sup>210</sup> The community represents a broad range of age groups with a median age of 34.4.<sup>211</sup> A large refinery plant, BP Amoco Whiting Refinery sits on the Little Claumet-Galien Watershed and population density around the plant is 2,548 persons per mile in a three mile radius.<sup>212</sup>

Over the past 6 years, some of the citizens of Whiting have tried to keep air pollution down in their city.<sup>213</sup> For instance, community groups along with NRDC, Sierra Club, and LEAF opposed the expansion of BP's Amoco Whiting Refinery.<sup>214</sup> Although recently community members have gained additional transparency with some pollution reporting from its local refinery,<sup>215</sup> the town has been subjected to large releases of air pollutants over the years. For instance according to voluntary reports<sup>216</sup> made to the State of Indiana, the BP Whiting refinery released over 1700 tons of volatile organic compounds in 2010.<sup>217</sup>

According to EPA's Enforcement and Compliance History Online, in 2012, BP Whiting Refinery released 26,498 pounds of benzene,<sup>218</sup> a known carcinogen.<sup>219</sup> Additional hazardous air pollutants released in 2012 include 117,007 lbs. of hexane and 136,458 lbs. of toluene.<sup>220</sup> A

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<sup>208</sup> Whiting, Indiana official website, About the City, <http://www.whitingindiana.com/about-the-city/> (accessed Oct. 24, 2014).

<sup>209</sup> U.S. Census Bureau, American Fact Finder, Profile of General Population and Housing Characteristics: 2010, Whiting City, Indiana.

<sup>210</sup> Pierogi Fest, Home page, <http://www.pierogifest.net/> (last accessed Oct. 27, 2014).

<sup>211</sup> Visit, Whiting Indiana, Home page, <http://www.visitwhiting.com/> (last visited Oct. 27, 2014).

<sup>212</sup> EPA, Enforcement and Compliance History Online, BP Amoco Whiting Refinery Detailed Facility Report, <https://echo.epa.gov/detailed-facility-report?fid=110000398338#> (last accessed Oct. 27, 2014)

<sup>213</sup> See Hoosier Environmental Council, HEC v. IDEM (BP Whiting), <http://www.hecweb.org/about/legal-defense-fund/hec-v-idem-bp-whiting/> (last accessed Oct. 27, 2014); Henry Henderson, "BP's Lake Michigan Oil Spill: More mess and less transparency from the refinery Chicagoans love to hate," NRDC Switchboard (blog) (Mar. 26, 2014) [http://switchboard.nrdc.org/blogs/hhenderson/bps\\_lake\\_michigan\\_oil\\_spill\\_mo.html](http://switchboard.nrdc.org/blogs/hhenderson/bps_lake_michigan_oil_spill_mo.html).

<sup>214</sup> *Id.*

<sup>215</sup> EPA, BP Whiting Settlement (Flaring), <http://www2.epa.gov/enforcement/bp-whiting-settlement-flaring#overview> (last updated Sept. 10, 2014); see also BP Whiting real-time monitoring website at <http://raqis.radian.com/pls/raqis/bpw.whiting>.

<sup>216</sup> Reporting of hazardous air pollutants is voluntary, that state of Indiana uses the reports to assist in state air toxics planning efforts and for the national inventory for air toxics. Indiana.gov, Air Quality in Indiana, <http://www.in.gov/idem/airquality/2521.htm> (last accessed Oct. 27, 2014).

<sup>217</sup> Indiana.gov, Emissions Summary Data, 2012 Excel data, <http://www.in.gov/idem/airquality/2507.htm> (last accessed Oct. 27, 2014).

<sup>218</sup> BP Amoco Whiting Refinery Detailed Facility Report, *echo.epa.gov*.

<sup>219</sup> Benzene, EPA Integrated Risk Information System, <http://www.epa.gov/iris/subst/0276.htm> (last accessed Oct. 20, 2014).

<sup>220</sup> *Id.*

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total of 69,3746.8 lbs. of dioxin and dioxin-like compounds were released in 2012 according to EPA's Toxic Release Inventory.<sup>221</sup>

The BP Whiting Refinery has had one formal enforcement action and two EPA cases lodged against it in the last five years resulting in penalties of \$7.2 million and \$8.294 million respectively.<sup>222</sup> EPA's latest consent decree required BP to implement "industry-leading" pollution controls as part of the plan's expansion and to install equipment on new and existing flares to cut emissions up to 90%. The consent decree also required monitoring at the fence line for dangerous benzene, toluene, pentene, sulfur dioxide, hexane, hydrogen sulfide and other sulfur compound emissions.<sup>223</sup> Groups are now hosting trainings to help citizens understand the monitoring technology.<sup>224</sup>

Recent accidents highlight the vulnerability of Whiting, IN and Lake Michigan residents because of the location and capacity of the refinery. On April 27, 2014 neighbors to the BP refinery were shaken by an explosion which one resident told the *Chicago Sun-Times* felt like an earthquake.<sup>225</sup> The 'operational incident' resulted in a fire put out by BP's in house firemen. A month after the explosion, a large oil spill put at least 1,600 gallons of oil in Lake Michigan the source of drinking water for 7 million people in Chicago and the suburbs.<sup>226</sup>

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<sup>221</sup> EPA, Envirofacts, Pollution Prevention, Facility ID: 46394MCLC 2815I, [http://oaspub.epa.gov/enviro/P2\\_EF\\_Query.p2\\_report?FacilityId=46394MCLC%202815I&pReport=2](http://oaspub.epa.gov/enviro/P2_EF_Query.p2_report?FacilityId=46394MCLC%202815I&pReport=2) (last accessed Oct. 27, 2014).

<sup>222</sup> BP Amoco Whiting Refinery Detailed Facility Report.

<sup>223</sup> EPA, BP Whiting Settlement (Flaring).

<sup>224</sup> Global Community Monitor, *Advocacy group hosts training seminars on planned BP air monitors*, Apr. 30, 2013 <http://www.gcmonitor.org/advocacy-group-hosts-training-seminars-on-planned-bp-air-monitors/>.

<sup>225</sup> Michelle L. Quinn, *Explosion, fire at BP refinery in Whiting*, The Chicago Sun-Times, Apr. 27, 2014, available at <http://www.suntimes.com/news/metro/29527875-418/explosion-fire-reported-at-bp-refinery-in-whiting-indiana.html#.VE6vkfldV1Y>.

<sup>226</sup> Michael Hawthorne, *BP Raises Estimate of Lake Michigan Oil Spill*, The Chicago Tribune, Mar. 28, 2014, available at [http://articles.chicagotribune.com/2014-03-28/news/chi-bp-oil-spill-lake-michigan-20140327\\_1\\_london-based-oil-company-oil-spill-whiting](http://articles.chicagotribune.com/2014-03-28/news/chi-bp-oil-spill-lake-michigan-20140327_1_london-based-oil-company-oil-spill-whiting).