

OIL AND GAS

From the 2017 NAICS Code manual, oil and gas businesses are described as those establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily performed at the mine site, or as a part of mining activity. For this cluster, we include ancillary industry sectors that support oil and gas, such as equipment repair and leasing, and oil and gas products wholesalers.

Oil and gas industries pay high wages – with benefits, averaging \$135,900 per year, contribute handsomely to the region’s gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. Oil and gas industries generally require many more middle-skill jobs than most other industries. These middle-skill jobs are in high demand nationwide, and are a particular strength of the Richmond economy. Eleven industry sectors make up the oil and gas cluster in Richmond. See Table 2.3, on the next page, for the full list of industry sectors. Table 2.3 provides an overview for each of the individual industry sectors that comprise the oil and gas cluster in Richmond.

Included are historic, current, and projected employment; historic and projected average annual percent growth (or decline); historic and current employment concentration (LQ); average earnings; gross regional product (GRP); and jobs multipliers. The table is sorted largest to smallest by 2017 sector contribution to GRP.

While the oil and gas cluster had only 208 jobs in 2017 (and a decline from 2012), this is an unusual cluster for a small regional economy. And in Richmond, the oil and gas cluster has an LQ of 3.4 – which is high for this cluster. This means that overall employment for this cluster is 3.4 times more concentrated in Richmond than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced job losses over the last five years as the industry declined with the advent of fracking. The industry is expected to experience continued job loss over the next five years as well. This is an industry that pays handsomely brings considerable income into the regional economy. While adding jobs in this cluster will remain a challenge, the industry contributes to overall economy prosperity in the area.

Total sales for all companies in this cluster were \$375.5 million (7.3% of total regional sales) and the cluster contributed \$255.3 million to the region’s gross regional product (10.2% of total GRP) in 2017.

Among cluster industries, oil and gas extraction are the largest employing sectors in this cluster, although they have experienced the greatest job losses in the years following the recession. Interestingly, well drilling increased dramatically even as extraction declined. In general, though, construction mining (sand and gravel mining, for example) sectors fared the best within this cluster.

Historically, Richmond businesses in these oil and gas sectors declined much faster than the industry cluster throughout the state of Texas. Since 2007, Texas oil and gas activity has been stronger



TABLE 2.3B. OIL AND GAS CLUSTER INDUSTRY EMPLOYMENT TRENDS, RICHMOND

| OIL AND GAS PRODUCTS AND SERVICES CLUSTER | 2012 JOBS | 2017 JOBS | % CHANGE IN JOBS 2012-2017 | 2022 JOBS | % CHANGE IN JOBS 2017-2022 | 2017 LOCATION QUOTIENT | AVG. EARNINGS PER JOB | JOBS MULTIPLIER | 2017 GRP | INDUSTRY SECTOR % SHARE OF CLUSTER GRP |
|--|------------|------------|----------------------------|------------|----------------------------|------------------------|-----------------------|-----------------|----------------------|--|
| Crude Petroleum Extraction | 174 | 62 | (65%) | 28 | (55%) | 3.49 | \$138,758 | 1.2 | \$180,487,087 | 71% |
| Natural Gas Extraction | 41 | 18 | (55%) | 18 | (2%) | 2.92 | \$122,454 | 1.2 | \$53,816,410 | 21% |
| Drilling Oil and Gas Wells | 5 | 48 | 863% | 70 | 46% | 5.54 | \$165,893 | 1.2 | \$11,671,122 | 5% |
| Support Activities for Oil and Gas Operations | 27 | 16 | (41%) | 16 | (2%) | 0.46 | \$165,621 | 1.1 | \$3,616,639 | 1% |
| Commercial and Industrial Equipment Repair and Maintenance | 33 | 24 | (28%) | 25 | 5% | 0.61 | \$60,107 | 1.1 | \$1,778,204 | 1% |
| Construction Sand and Gravel Mining | 8 | 10 | 25% | 10 | 0% | 2.02 | \$76,928 | 1.1 | \$1,471,785 | 1% |
| Construction, Mining, and Forestry Equipment Leasing | 5 | 10 | 100% | 10 | 0% | 0.22 | \$87,699 | 1.3 | \$1,060,546 | 0% |
| Petroleum and Petroleum Products Merchant Wholesalers | 2 | 10 | 400% | 10 | 0% | 0.28 | \$122,735 | 1.3 | \$784,571 | 0% |
| Crushed and Broken Limestone Mining and Quarrying | 3 | 8 | 167% | 8 | 0% | 0.35 | \$93,720 | 1.3 | \$375,503 | 0% |
| Kaolin and Ball Clay Mining | 0 | 2 | NA | 2 | 0% | 1.71 | \$140,041 | 1.3 | \$130,453 | 0% |
| Uranium-Radium-Vanadium Ore Mining | 0 | 0 | NA | 0 | 0% | 0.00 | \$0 | 1.0 | \$103,223 | 0% |
| Oil and Gas Totals | 298 | 208 | (30%) | 197 | (5%) | 3.36 | \$135,900 | 1.2 | \$255,295,542 | 100% |

Source: Emsi Developer 2018.2 dataset

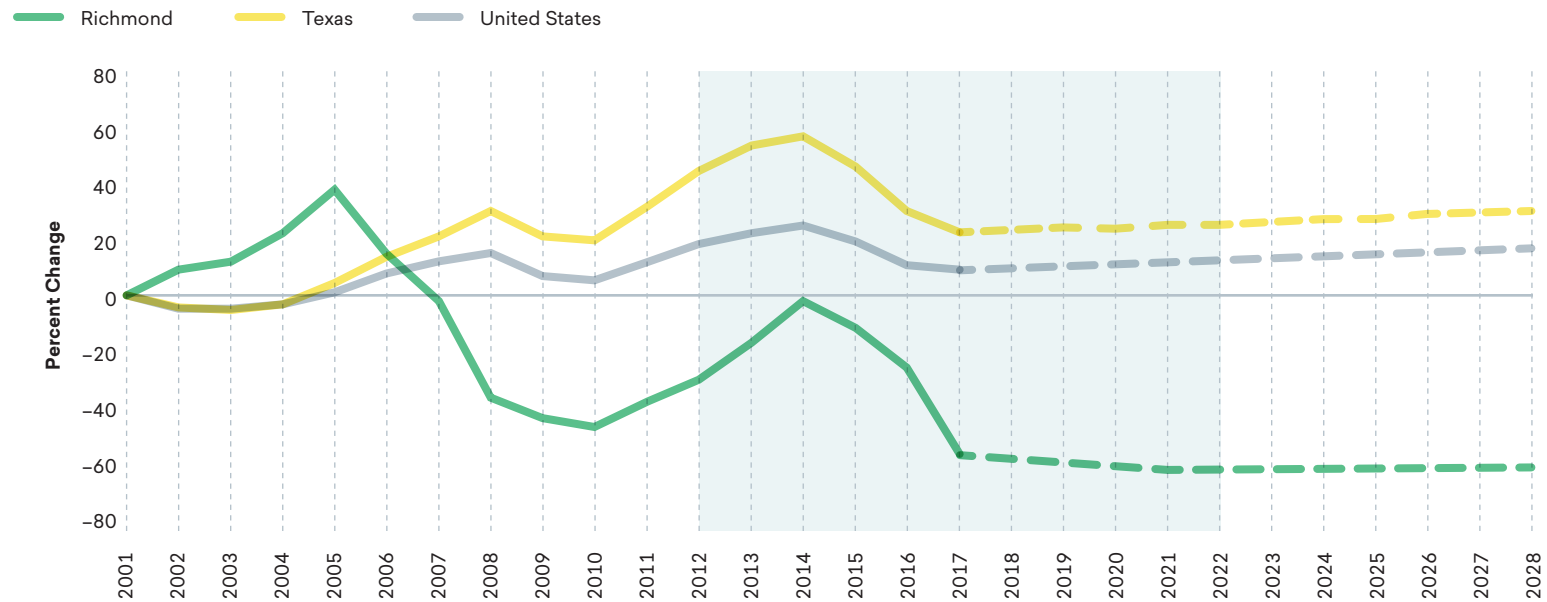


than for the U.S. and much stronger than in Richmond. Figure 2.4 shows that the year-over-year (YOY) growth rate for Richmond was greater than that of Texas or the nation just prior to the recession (up until 2007) but has declined more since. Projections show oil and gas in Texas will remain strong, while the oil and gas industry in Richmond will continue to show less strength than in Texas or the nation.

Labor Market Gap Analysis

Table 2.4, on the next page, lists the top 15 occupations in oil and gas. These occupations account for 72% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring

TABLE 2.4B. EMPLOYMENT TRENDS SPECIFIC TO OIL AND GAS



* Employed in Region column is employment for all industries, not just for oil and gas

Source: Emsi Developer 2018.2 dataset



TABLE 2.4B. LARGEST OCCUPATIONS SPECIFIC TO OIL AND GAS

| OIL AND GAS OCCUPATIONS | EMPLOYED IN INDUSTRY GROUP (2012) | EMPLOYED IN INDUSTRY GROUP (2017) | % CHANGE (2012 - 2017) | EMPLOYED IN INDUSTRY GROUP (2022) | % CHANGE (2017 - 2022) | % OF TOTAL JOBS IN INDUSTRY GROUP (2017) | *ALL JOBS FOR OCCUPATION IN THE REGION (2017) | 2017 RESIDENT WORKERS | 2017 NET COMMUTERS |
|---|-----------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------|--|---|-----------------------|--------------------|
| Extraction Workers | 23 | 23 | (0%) | 26 | 10% | 13.9% | 67 | 514 | (447) |
| Engineers | 30 | 13 | (56%) | 9 | (35%) | 7.8% | 167 | 1,177 | (1,010) |
| Other Installation, Maintenance, and Repair Occupations | 17 | 13 | (23%) | 14 | 6% | 7.7% | 455 | 1,427 | (972) |
| Material Moving Workers | 12 | 9 | (19%) | 9 | (8%) | 5.6% | 713 | 1,684 | (971) |
| Metal Workers and Plastic Workers | 8 | 7 | (12%) | 8 | 8% | 4.4% | 152 | 800 | (648) |
| Financial Specialists | 19 | 7 | (61%) | 4 | (46%) | 4.4% | 403 | 1,482 | (1,079) |
| Business Operations Specialists | 15 | 7 | (55%) | 5 | (34%) | 4.1% | 571 | 1,949 | (1,378) |
| Motor Vehicle Operators | 5 | 6 | 26% | 7 | 18% | 3.5% | 681 | 1,605 | (924) |
| Top Executives | 8 | 5 | (29%) | 5 | (12%) | 3.2% | 355 | 1,003 | (648) |
| Physical Scientists | 13 | 5 | (62%) | 3 | (47%) | 3.1% | 34 | 249 | (215) |
| Computer Occupations | 13 | 5 | (60%) | 3 | (44%) | 3.1% | 316 | 1,769 | (1,453) |
| Other Office and Administrative Support Workers | 9 | 5 | (43%) | 4 | (18%) | 2.9% | 678 | 2,178 | (1,500) |
| Supervisors of Construction and Extraction Workers | 7 | 5 | (25%) | 5 | (1%) | 2.9% | 354 | 449 | (95) |
| Other Management Occupations | 7 | 5 | (35%) | 4 | (22%) | 2.9% | 564 | 1,081 | (517) |
| Construction Trades Workers | 4 | 5 | 28% | 6 | 18% | 2.8% | 2,412 | 2,595 | (183) |
| Top 15 Oil and Gas Occupation Totals | 189 | 121 | (36%) | 108 | (11%) | 72.2% | 7,923 | 19,961 | (12,040) |

* Employed in Region column is employment for all industries, not just for oil and gas

Source: Emsi Developer 2018.2 dataset



for key occupations. Overall, for these 15 occupations, the cluster employs only 1.5% of the people in these occupations in the region. The other 98.5% are employed by industry sectors outside of the oil and gas cluster.

The occupations with the most jobs in the Oil and Gas cluster are extraction workers followed by engineers. These occupations comprise more than 20% of the cluster's total jobs. Material handlers make the lowest hourly wage (\$14.44), and as shown in Table 2.5 on the next page, have no formal educational requirement. At more than \$50 per hour, executives and engineers are paid the most.

As shown in Table 2.5, nearly half of the top 15 occupations—in engineering or management—typically require a bachelor's degree. The entry-level requirement for the other positions is typically a high school diploma or equivalent. (Note that these educational requirements reflect national averages and may differ from specific requirements of Richmond employers.) What makes most of the lower-level occupations so valuable, however, is the on-the-job training experience provided. These occupations are considered to be middle-skill occupations. People who have the necessary experience and qualifications for middle-skill occupations are in the greatest demand across the nation. Richmond has a surplus of these people, as demonstrated by the net commuting data in Table 2.4 above. Negative commuting numbers in red in the net commuters column indicates that people live in Richmond and travel elsewhere for work.

Table 2.5 shows the average annual openings (averaged over the past five years) for specific occupations within Richmond. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings

for newly created jobs. Construction workers have both the greatest attrition and the largest number of new jobs.

Supply Chain Analysis

Table 2.6 provides a picture about the total demand in Richmond by all Richmond residents and businesses for products made by companies in the oil and gas industry cluster—worth slightly more than \$20 million in the region. Table 2.6 is sorted by the dollar value of demand being met in-region by Richmond businesses. In Table 2.6, we see that the companies in these sectors meet about 30% of Richmond demand for their products, while Richmond imports the other 70% of its needs for these products. This would seem to indicate potential markets for local suppliers. Construction equipment rental, leasing, repair, and maintenance, for example, supply only 10% of local demand, supplying about \$1 million of total local demand of \$18 million, while \$17 million is purchased by Richmond residents and businesses from outside the region.

Table 2.7 shows how important it is for economic development efforts to support the region's supply chain selling to oil and gas companies. This table shows the goods and services that companies within the oil and gas industry cluster buy to use in offering their products or services. Fully one-quarter of oil and gas supply needs are met within the region, while 75% are purchased from outside. In total, the value of the oil and gas supply chain for Richmond businesses is nearly \$20 million. Some purchases are largely made within the region. While the oil and gas cluster offers lower levels of employment and low potential for growth, many of the area's other businesses are heavily dependent on supplying this cluster. Attracting and developing more professional and technical services, more business services (both discussed further in sections below),

TABLE 2.5B. OIL AND GAS OCCUPATIONAL OPENINGS

| OIL AND GAS OCCUPATIONS | MEDIAN HOURLY EARNINGS | TYPICAL ENTRY LEVEL EDUCATION | TYPICAL ON-THE-JOB TRAINING | ANNUAL OPENINGS | ANNUAL REPLACEMENT JOBS | ANNUAL NEW JOBS |
|---|------------------------|-----------------------------------|---|-----------------|-------------------------|-----------------|
| Top Executives | \$54.64 | Bachelor's degree | None | 41 | 28 | 13 |
| Engineers | \$50.86 | Bachelor's degree | None | 17 | 12 | 5 |
| Physical Scientists | \$46.40 | Bachelor's degree or higher | None | 4 | 3 | 1 |
| Computer Occupations | \$34.86 | Bachelor's degree | None | 32 | 21 | 11 |
| Supervisors of Construction and Extraction Workers | \$33.54 | High school diploma or equivalent | None | 48 | 35 | 13 |
| Business Operations Specialists | \$32.50 | Bachelor's degree | Moderate-term on-the-job training | 72 | 52 | 20 |
| Financial Specialists | \$30.29 | Bachelor's degree | Moderate-term on-the-job training | 49 | 35 | 14 |
| Other Management Occupations | \$24.31 | Bachelor's degree | None | 65 | 41 | 24 |
| Metal Workers and Plastic Workers | \$22.07 | High school diploma or equivalent | Moderate-term on-the-job training | 21 | 17 | 5 |
| Extraction Workers | \$20.76 | No formal educational credential | Short-term on-the-job training | 13 | 9 | 3 |
| Other Installation, Maintenance, and Repair Occupations | \$17.34 | High school diploma or equivalent | Apprenticeship or Moderate-term on-the-job training | 61 | 44 | 17 |
| Construction Trades Workers | \$16.96 | High school diploma or equivalent | | 344 | 250 | 94 |
| Motor Vehicle Operators | \$16.78 | High school diploma or equivalent | Short-term on-the-job training | 107 | 72 | 35 |
| Other Office and Administrative Support Workers | \$15.24 | High school diploma or equivalent | Moderate-term on-the-job training | 100 | 78 | 22 |
| Material Moving Workers | \$14.44 | No formal educational credential | Short-term on-the-job training | 126 | 92 | 35 |
| Top 15 Oil and Gas Occupation Totals | \$27.81 | | | 1,100 | 789 | 311 |

Source: Emsi Developer 2018.2 dataset



TABLE 2.6B. OIL AND GAS REGIONAL DEMAND MET BY RICHMOND COMPANIES

| OIL AND GAS PRODUCTS AND SERVICES CLUSTER | 2017 DEMAND MET IN-REGION | 2017 % DEMAND MET IN-REGION | 2017 DEMAND MET BY IMPORTS | 2017 % DEMAND MET BY IMPORTS | 2017 TOTAL DEMAND |
|---|---------------------------|-----------------------------|----------------------------|------------------------------|---------------------|
| Crude Petroleum Extraction | \$12,788,661 | 77% | \$0 | 23% | \$16,679,200 |
| Natural Gas Extraction | \$3,719,705 | 72% | \$1,453,800 | 28% | \$5,173,505 |
| Construction Sand and Gravel Mining | \$1,833,646 | 47% | \$2,090,440 | 53% | \$3,924,086 |
| Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing | \$564,123 | 4% | \$12,101,509 | 96% | \$12,665,632 |
| Commercial and Industrial Equipment Repair and Maintenance | \$472,505 | 9% | \$4,822,533 | 91% | \$5,295,038 |
| Crushed and Broken Limestone Mining and Quarrying | \$435,645 | 7% | \$6,015,883 | 93% | \$6,451,528 |
| Petroleum and Petroleum Products Merchant Wholesalers | \$317,811 | 6% | \$4,605,102 | 94% | \$4,922,913 |
| Support Activities for Oil and Gas Operations | \$202,952 | 2% | \$8,973,529 | 98% | \$9,176,481 |
| Drilling Oil and Gas Wells | \$154,064 | 7% | \$2,122,306 | 93% | \$2,276,370 |
| Kaolin and Ball Clay Mining | \$97,004 | 50% | \$97,885 | 50% | \$194,889 |
| Uranium-Radium-Vanadium Ore Mining | \$11,074 | 56% | \$8,731 | 44% | \$19,805 |
| Oil and Gas Products and Services Totals | \$20,597,190 | 31% | \$46,182,257 | 69% | \$66,779,447 |

Source: Emsi Developer 2018.2 dataset



TABLE 2.7B. OIL AND GAS SUPPLY CHAIN

| PURCHASES FROM | IN-REGION PURCHASES | % IN-REGION PURCHASES | IMPORTED PURCHASES | % IMPORTED PURCHASES | TOTAL PURCHASES |
|---|----------------------------|------------------------------|---------------------------|-----------------------------|------------------------|
| Mining, Quarrying, and Oil and Gas Extraction | \$10,668,244 | 64.0% | \$5,989,748 | 36.0% | \$16,657,992 |
| Manufacturing | \$59,610 | 0.5% | \$12,825,689 | 99.5% | \$12,885,299 |
| Transportation and Warehousing | \$304,850 | 3.8% | \$7,814,726 | 96.2% | \$8,119,576 |
| Management of Companies and Enterprises | \$41,107 | 0.5% | \$7,994,665 | 99.5% | \$8,035,772 |
| Professional, Scientific, and Technical Services | \$2,483,615 | 31.4% | \$5,434,245 | 68.6% | \$7,917,860 |
| Construction | \$3,454,677 | 58.5% | \$2,446,537 | 41.5% | \$5,901,214 |
| Real Estate and Rental and Leasing | \$522,960 | 12.6% | \$3,643,178 | 87.4% | \$4,166,138 |
| Wholesale Trade | \$206,881 | 5.8% | \$3,369,969 | 94.2% | \$3,576,851 |
| Finance and Insurance | \$182,408 | 5.5% | \$3,135,567 | 94.5% | \$3,317,975 |
| Business Services | \$606,348 | 32.5% | \$1,257,266 | 67.5% | \$1,863,614 |
| Information | \$146,307 | 11.5% | \$1,126,549 | 88.5% | \$1,272,856 |
| Utilities | \$34,217 | 3.2% | \$1,031,963 | 96.8% | \$1,066,181 |
| Retail Trade | \$37,783 | 16.3% | \$194,314 | 83.7% | \$232,097 |
| Other Services (except Public Administration) | \$54,717 | 29.9% | \$128,437 | 70.1% | \$183,155 |
| Health Care and Social Assistance | \$36,436 | 33.0% | \$74,096 | 67.0% | \$110,532 |
| Educational Services | \$13,058 | 17.9% | \$59,727 | 82.1% | \$72,785 |
| Accommodation and Food Services | \$14,360 | 22.3% | \$50,108 | 77.7% | \$64,468 |
| Arts, Entertainment, and Recreation | \$9,238 | 14.3% | \$55,169 | 85.7% | \$64,407 |
| Government | \$11,089 | 34.1% | \$21,446 | 65.9% | \$32,535 |
| Agriculture, Forestry, Fishing and Hunting | \$0 | 0.0% | \$6,045 | 100.0% | \$6,045 |
| Total Oil and Gas Industry Supply Chain Requirements | \$18,887,906 | 25.0% | \$56,659,445 | 75.0% | \$75,547,351 |

Source: Emsi Developer 2018.2 dataset



more retail trade, and more wholesale distribution appear to be those industries that offer the greatest potential for growth in Richmond.

Table 2.8, on the next page, shows greater detail for major products or services purchased by Richmond oil and gas companies. These are industry sectors which are key suppliers to the oil and gas industry. More importantly, these are industry sectors that are already established in the Richmond economy or have strong growth or attraction potential because of synergies with other closely related industry sectors or because they require occupations already present in the Richmond labor market. Unlike other clusters, the oil and gas cluster purchases some goods and services, such as business services and construction services, primarily from within the area – meaning that many Richmond businesses are highly dependent on the oil and gas cluster.

Table 2.9 shows the amount of goods and services sold by Richmond oil and gas companies both inside and outside the region. These companies sell \$375 million of products or services, of which more than \$350 million is sold outside Richmond, thus bringing substantial revenues into Richmond.

In summary, the oil and gas industry brings significant income into the Richmond economy. Further, this cluster is highly concentrated and specialized in Richmond – meaning that this Richmond industry is highly competitive. Other Richmond businesses (outside of oil and gas) are heavily dependent on the oil and gas cluster. In particular, two other strong clusters in Richmond, professional and technical services and specialty trade contractors, are currently supplying 31% and 69% of the oil and gas industry's need for these services.

This industry cluster employs middle skill occupations, which pay living wages and which are in high demand, and often in short supply, across the country. However, Richmond has a surplus of people in these occupations who commute outside of Richmond for work. Building up the industry, its supply chain, and offering a high quality of life for those employed in oil and gas, are prime economic development efforts for Richmond that can capitalize on the strong foundation already present in the city. The one caveat to be cognizant of is that the oil and gas industry fluctuates more than many other clusters, with higher peaks and lower valleys than are seen by average economic conditions.



TABLE 2.8B. OIL AND GAS SUPPLY CHAIN DETAIL FOR KEY PRODUCTS OR SERVICES

| PURCHASES FROM | IN-REGION PURCHASES | % IN-REGION PURCHASES | IMPORTED PURCHASES | % IMPORTED PURCHASES | TOTAL PURCHASES |
|--|----------------------------|------------------------------|---------------------------|-----------------------------|------------------------|
| Professional, Scientific, and Technical Services | \$2,646,722 | 34.2% | \$5,083,116 | 65.8% | \$7,729,838 |
| Management of Companies and Enterprises | \$34,435 | 0.5% | \$7,310,933 | 99.5% | \$7,345,368 |
| Machinery Manufacturing | \$72,602 | 1.6% | \$4,453,569 | 98.4% | \$4,526,171 |
| Support Activities for Mining | \$176,089 | 4.7% | \$3,605,470 | 95.3% | \$3,781,559 |
| Specialty Trade Contractors | \$2,026,476 | 65.3% | \$1,078,991 | 34.7% | \$3,105,466 |
| Rental and Leasing Services | \$232,244 | 9.6% | \$2,178,714 | 90.4% | \$2,410,957 |
| Credit Intermediation and Related Activities | \$121,760 | 6.6% | \$1,718,410 | 93.4% | \$1,840,171 |
| Merchant Wholesalers, Durable Goods | \$67,800 | 3.9% | \$1,676,707 | 96.1% | \$1,744,506 |
| Construction of Buildings | \$486,694 | 38.3% | \$785,586 | 61.7% | \$1,272,280 |
| Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) | \$80,164 | 6.7% | \$1,108,547 | 93.3% | \$1,188,712 |
| Insurance Carriers and Related Activities | \$79,458 | 7.1% | \$1,033,750 | 92.9% | \$1,113,208 |
| Merchant Wholesalers, Nondurable Goods | \$134,734 | 12.2% | \$966,000 | 87.8% | \$1,100,734 |
| Waste Management and Remediation Services | \$310,742 | 31.1% | \$689,893 | 68.9% | \$1,000,635 |
| Administrative and Support Services | \$438,856 | 51.0% | \$421,645 | 49.0% | \$860,500 |
| Truck Transportation | \$180,262 | 22.7% | \$614,028 | 77.3% | \$794,290 |
| Heavy and Civil Engineering Construction | \$387,038 | 49.6% | \$392,684 | 50.4% | \$779,722 |

Source: Emsi Developer 2018.2 dataset



TABLE 2.9B. RICHMOND OIL AND GAS COMPANIES SALES IN REGION AND EXPORTED OUT OF REGION

| OIL AND GAS PRODUCTS AND SERVICES CLUSTER | 2017 SALES SOLD IN-REGION | 2017 % SALES SOLD IN-REGION | 2017 SALES SOLD AS EXPORTS | 2017 % SALES SOLD AS EXPORTS | 2017 TOTAL SALES |
|--|---------------------------|-----------------------------|----------------------------|------------------------------|----------------------|
| Crude Petroleum Extraction | \$12,788,661 | 5% | \$253,086,751 | 95% | \$265,875,412 |
| Natural Gas Extraction | \$3,719,705 | 5% | \$74,325,158 | 95% | \$78,044,863 |
| Drilling Oil and Gas Wells | \$154,063 | 1% | \$17,281,024 | 99% | \$17,435,087 |
| Support Activities for Oil and Gas Operations | \$202,952 | 4% | \$4,839,336 | 96% | \$5,042,288 |
| Commercial and Industrial Equipment Repair and Maintenance | \$472,504 | 16% | \$2,518,954 | 84% | \$2,991,458 |
| Construction Sand and Gravel Mining | \$1,833,647 | 75% | \$609,278 | 25% | \$2,442,925 |
| Construction, Mining, and Forestry Machinery Leasing | \$564,123 | 38% | \$936,395 | 62% | \$1,500,518 |
| Petroleum and Petroleum Products Merchant Wholesalers | \$317,811 | 27% | \$840,866 | 73% | \$1,158,677 |
| Crushed and Broken Limestone Mining and Quarrying | \$435,646 | 76% | \$139,503 | 24% | \$575,149 |
| Kaolin and Ball Clay Mining | \$97,004 | 45% | \$116,811 | 55% | \$213,815 |
| Uranium-Radium-Vanadium Ore Mining | \$11,074 | 6% | \$168,618 | 94% | \$179,692 |
| Oil and Gas Products and Services Totals | \$20,597,189 | 5% | \$354,862,694 | 95% | \$375,459,883 |

Source: Emsi Developer 2018.2 dataset

