Ongoing Impact of the Eagle Ford Shale on South Texas

Thomas Tunstall, Ph.D.
Research Director, Institute for Economic Development
University of Texas at San Antonio
thomas.tunstall@utsa.edu
Small Business Development Centers - SBDC (79 Counties in South Texas)
Rural Business Program (79 Counties in South Texas)
Startech (Texas)
Contracting Resource Center (Texas)
Veteran’s Assistance Center (Texas)
Community and Business Research (National)
SBDC National Information Clearinghouse (National)
Minority Business Center (National)
Sustainable Business Program (National)
International Trade Center (Mexico, Central/South America, Caribbean, North Africa)
As the Research Arm of UTSA’s Institute for Economic Development we are dedicated to serving:

- Economic development corporations (e.g., SA EDF)
- City, state and federal governments
- Workforce development boards
- Businesses
- Associations
- Other community stakeholders
Research at the Institute focuses on research projects that help business and policymakers plan for a dynamic future:

- Economic Impact Studies
- Community Development Studies (I-35, SH 130)
- EB-5 Immigrant Investor Regional Center Impact Studies
- Analysis on Various Topics:
  - Eagle Ford Shale
  - San Antonio Missions
  - South Texas Medical Center
  - University of Texas System
  - Targeted Industry Recruitment / Workforce Analysis
  - Repurposing of Military Bases for Commercial Use
## 2012 Baseline Study Scope

<table>
<thead>
<tr>
<th>Primary Counties</th>
<th>Adjacent Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atascosa</td>
<td>La Salle</td>
</tr>
<tr>
<td>Bee</td>
<td>Live Oak</td>
</tr>
<tr>
<td>DeWitt</td>
<td>Maverick</td>
</tr>
<tr>
<td>Dimmit</td>
<td>McMullen</td>
</tr>
<tr>
<td>Frio</td>
<td>Webb</td>
</tr>
<tr>
<td>Gonzales</td>
<td>Wilson</td>
</tr>
<tr>
<td>Karnes</td>
<td>Zavala</td>
</tr>
</tbody>
</table>

Counts not included in the analysis are Leon, Milam, Brazos, Burleson, Lee, Fayette, Lavaca, Edwards, Houston, and Wood.
2012 EFS Baseline Study Components

• Part I (May 9 Release)
  – Information on production, drilling, and related activities
  – Economic impact on adjacent counties

• Part II (October 2012 Release)
  – Detailed analysis of occupations affected by the shale area

• Part III (October 2012 Release)
  – Specific impacts at the county level with breakout reports for each county
Texas Eagle Ford Shale Condensate Production 2009 through July 2012

Barrels Per Day

- 2009: 1,423
- 2010: 13,708
- 2011: 68,048
- January-July 2012: 65,606

Production (Bbl) Per Day
Total Economic Output Impact in 2011  
14-County Study Region

- Nearly $20 billion in total economic output
- 38,000 full-time jobs supported
- Average annual salaries throughout most of the 14 counties increased from $23,400-$28,600 in 2005, to $31,200-$36,400 in 2011
- $2.6 billion in salaries and benefits paid to workers
- Close to $11 billion in gross regional product
- More than $310 million in state revenues
- More than $211 million in local government revenues
Moderate Scenario Estimated Combined Impacts for 2021 (14-County Area)

- More than $62 billion in total economic output
- Nearly 83,000 full-time jobs supported in the area
- Approximately $6.0 billion in salaries and benefits
- More than $34.1 billion in gross regional product
- More than $1.5 billion in state revenues
- Estimated local government revenues of $888 million
Total Economic Output Impact in 2011
20-county study region

- Over $25 billion in economic output
- 47,097 full-time jobs supported
- $3.1 billion in salaries and benefits paid to workers
- $12.63 billion in gross regional product
- $358 million in state revenues
- $257 million in local government revenues
Moderate Scenario Estimated Combined Impacts for 2021 (20-County Area)

• More than $90 billion in total economic output

• 116,972 full-time jobs supported

• $7.7 billion in salaries and benefits paid

• $42.0 billion in gross regional product

• $1.76 billion in state revenues

• $1.09 billion in local government revenues
<table>
<thead>
<tr>
<th>Date</th>
<th>Oil (BBL)</th>
<th>Gas (MCF)</th>
<th>Condensate (BBL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0</td>
<td>5,676</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>2,379,216</td>
<td>48,586</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>42,126,200</td>
<td>1,661,625</td>
</tr>
<tr>
<td>2011</td>
<td>41,397</td>
<td>111,432,924</td>
<td>3,941,514</td>
</tr>
</tbody>
</table>
## Webb County Economic Impact in 2011

### Estimated Impact 2011

<table>
<thead>
<tr>
<th>Economic Impacts</th>
<th>Direct</th>
<th>Indirect</th>
<th>Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output</strong></td>
<td>$1,837,812,751</td>
<td>$360,490,638</td>
<td>$285,677,536</td>
<td>$2,483,980,925</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>1,569</td>
<td>2,529</td>
<td>2,885</td>
<td>6,983</td>
</tr>
<tr>
<td><strong>Payroll</strong></td>
<td>$204,363,265</td>
<td>$77,871,042</td>
<td>$86,723,321</td>
<td>$369,001,191</td>
</tr>
<tr>
<td><strong>Gross County Product</strong></td>
<td>$1,058,011,650</td>
<td>$199,888,553</td>
<td>$162,419,743</td>
<td>$1,420,626,846</td>
</tr>
<tr>
<td><strong>Estimated Local Government Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td>$35,650,630</td>
</tr>
<tr>
<td><strong>Estimated State Revenue, incl. severance</strong></td>
<td></td>
<td></td>
<td></td>
<td>$35,065,838</td>
</tr>
<tr>
<td>Economic Impacts</td>
<td>Direct</td>
<td>Indirect</td>
<td>Induced</td>
<td>Total</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Output</td>
<td>$2,778,312,374</td>
<td>$554,636,591</td>
<td>$441,074,922</td>
<td>$3,774,023,887</td>
</tr>
<tr>
<td>Employment</td>
<td>1,734</td>
<td>4,081</td>
<td>4,483</td>
<td>10,298</td>
</tr>
<tr>
<td>Payroll</td>
<td>$234,095,859</td>
<td>$112,701,939</td>
<td>$131,743,788</td>
<td>$610,825,297</td>
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<tr>
<td>Gross County Product</td>
<td>$1,653,985,144</td>
<td>$303,072,902</td>
<td>$250,837,091</td>
<td>$2,207,895,002</td>
</tr>
<tr>
<td>Estimated Local Government Revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Estimated State Revenue, incl. severance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
# Impacts By Selected Industries (2011)

[Total Impact = $19.8B]

| Industry                                      | Impact  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Gas Well Drilling</td>
<td>$9500M</td>
</tr>
<tr>
<td>Oil and Natural Gas Extraction</td>
<td>$4700M</td>
</tr>
<tr>
<td>Oil and Gas Operational Support</td>
<td>$1100M</td>
</tr>
<tr>
<td>Refineries</td>
<td>$936M</td>
</tr>
<tr>
<td>Construction (non-residential)</td>
<td>$755M</td>
</tr>
<tr>
<td>Banking/Credit</td>
<td>$320M</td>
</tr>
<tr>
<td>Residential Construction and Rents</td>
<td>$231M</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>$188M</td>
</tr>
<tr>
<td>Retail</td>
<td>$175M</td>
</tr>
<tr>
<td>Legal Services</td>
<td>$156M</td>
</tr>
<tr>
<td>Real Estate Services</td>
<td>$145M</td>
</tr>
<tr>
<td>Truck Transport</td>
<td>$120M</td>
</tr>
<tr>
<td>Restaurants/Bars</td>
<td>$107M</td>
</tr>
<tr>
<td>Maintenance/Repair (non-residential)</td>
<td>$92M</td>
</tr>
<tr>
<td>Electric Power</td>
<td>$72M</td>
</tr>
<tr>
<td>Architectural/Engineering</td>
<td>$89M</td>
</tr>
</tbody>
</table>
## Impacts By Selected Industries (2021)

[Total Impact = $62.3B]

<table>
<thead>
<tr>
<th>Industry</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Gas Well Drilling</td>
<td>$35400M</td>
</tr>
<tr>
<td>Oil and Natural Gas Extraction</td>
<td>$12100M</td>
</tr>
<tr>
<td>Refineries</td>
<td>$6200M</td>
</tr>
<tr>
<td>Oil and Gas Operational Support</td>
<td>$1300M</td>
</tr>
<tr>
<td>Banking/Credit</td>
<td>$740M</td>
</tr>
<tr>
<td>Maintenance/Repair (non-residential)</td>
<td>$651M</td>
</tr>
<tr>
<td>Residential Construction and Rents</td>
<td>$551M</td>
</tr>
<tr>
<td>Retail</td>
<td>$473M</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>$387M</td>
</tr>
<tr>
<td>Real Estate Services</td>
<td>$348M</td>
</tr>
<tr>
<td>Legal Services</td>
<td>$291M</td>
</tr>
<tr>
<td>Electric Power</td>
<td>$276M</td>
</tr>
<tr>
<td>Restaurants/Bars</td>
<td>$257M</td>
</tr>
<tr>
<td>Truck Transport</td>
<td>$189M</td>
</tr>
<tr>
<td>Commercial Equipment Rental/Leasing</td>
<td>$184M</td>
</tr>
<tr>
<td>Architectural/Engineering</td>
<td>$147M</td>
</tr>
</tbody>
</table>
2011 Total Employment Impacts

38,000 jobs were supported by Eagle Ford shale.

Key Occupational Impacts:

Most Significant:

- Construction and extraction
- Office support

Also Significant:

- Transportation
- Service
- Business management
- Professional occupations

Service occupations include food preparation and serving, personal care and service, health care support, building/grounds cleaning and maintenance, and protective service.

Professional occupations include health care practitioners and technical occupations, education/training/library occupations, computer and mathematical science, arts/design/entertainment/sports and media, architecture and engineering, life/physical/social sciences, and legal occupations.
• Service Occupations
  – Food preparation and serving related
  – Personal care and service
  – Health care support
  – Building and grounds cleaning and maintenance
  – Protective service

• Professional and related occupations
  – Health care practitioners and technical occupations
  – Education, training and library
  – Computer and mathematical science
  – Arts, design, entertainment, sports, and media
  – Architecture and engineering
  – Life, physical, and social science
  – Legal
2021 Total Employment Impacts

82,644 jobs are expected to be supported in 2021.

Key Occupational Impacts:

Most Significant:

- Administrative support
- Professional
- Business management
- Service occupations

Also Significant:

- Transportation
- Construction and extraction (still showing significance in 2021)
## Current EFS Occupational Makeup

<table>
<thead>
<tr>
<th>Occupation Code</th>
<th>Occupation Category</th>
<th>Employment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>31-3900</td>
<td>Service occupations</td>
<td>49,237</td>
<td>21.17%</td>
</tr>
<tr>
<td>43-0000</td>
<td>Office and administrative support occupations</td>
<td>39,721</td>
<td>17.08%</td>
</tr>
<tr>
<td>15-2900</td>
<td>Professional and related occupations</td>
<td>35,827</td>
<td>15.40%</td>
</tr>
<tr>
<td>11-1300</td>
<td>Management, business, and financial occupations</td>
<td>29,368</td>
<td>12.63%</td>
</tr>
<tr>
<td>41-0000</td>
<td>Sales and related occupations</td>
<td>22,065</td>
<td>9.49%</td>
</tr>
<tr>
<td>53-0000</td>
<td>Transportation and material moving occupations</td>
<td>20,406</td>
<td>8.77%</td>
</tr>
<tr>
<td>47-0000</td>
<td>Construction and extraction occupations</td>
<td>11,115</td>
<td>4.78%</td>
</tr>
<tr>
<td>45-0000</td>
<td>Farming, fishing, and forestry occupations</td>
<td>9,090</td>
<td>3.91%</td>
</tr>
<tr>
<td>49-0000</td>
<td>Installation, maintenance, and repair occupations</td>
<td>8,399</td>
<td>3.61%</td>
</tr>
<tr>
<td>51-0000</td>
<td>Production occupations</td>
<td>7,362</td>
<td>3.17%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>232,590</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>
## 2021 Occupational Impacts

<table>
<thead>
<tr>
<th>Occupation Code</th>
<th>Eagle Ford Shale Direct and Indirect Impacts 10-Occupational Categories, 2021</th>
<th>Occupational Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-0000</td>
<td>Office and administrative support occupations</td>
<td>9,898</td>
<td>18.1%</td>
</tr>
<tr>
<td>47-0000</td>
<td>Construction and extraction occupations</td>
<td>8,681</td>
<td>15.9%</td>
</tr>
<tr>
<td>11-1300</td>
<td>Management, business, and financial occupations</td>
<td>8,611</td>
<td>15.7%</td>
</tr>
<tr>
<td>15-2900</td>
<td>Professional and related occupations</td>
<td>7,781</td>
<td>14.2%</td>
</tr>
<tr>
<td>53-0000</td>
<td>Transportation and material moving occupations</td>
<td>7,732</td>
<td>14.1%</td>
</tr>
<tr>
<td>51-0000</td>
<td>Production occupations</td>
<td>4,195</td>
<td>7.7%</td>
</tr>
<tr>
<td>49-0000</td>
<td>Installation, maintenance, and repair occupations</td>
<td>3,039</td>
<td>5.6%</td>
</tr>
<tr>
<td>41-0000</td>
<td>Sales and related occupations</td>
<td>2,410</td>
<td>4.4%</td>
</tr>
<tr>
<td>31-3900</td>
<td>Service occupations</td>
<td>2,322</td>
<td>4.2%</td>
</tr>
<tr>
<td>45-0000</td>
<td>Farming, fishing, and forestry occupations</td>
<td>25</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>54,694</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
## 2021 Education/Training Impacts

### Eagle Ford Shale Direct and Indirect Impacts

**14-County, Educational Structure 2021**

<table>
<thead>
<tr>
<th>Number of jobs</th>
<th>Educational Attainment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,209</td>
<td>Moderate-term on-the-job training</td>
<td>27.8%</td>
</tr>
<tr>
<td>12,215</td>
<td>Short-term on-the-job training</td>
<td>22.3%</td>
</tr>
<tr>
<td>8,211</td>
<td>Bachelor's degree</td>
<td>15.0%</td>
</tr>
<tr>
<td>5,934</td>
<td>Work experience in a related occupation</td>
<td>10.8%</td>
</tr>
<tr>
<td>4,891</td>
<td>Long-term on-the-job training</td>
<td>8.9%</td>
</tr>
<tr>
<td>3,423</td>
<td>Bachelor's or higher degree, plus work experience</td>
<td>6.3%</td>
</tr>
<tr>
<td>1,990</td>
<td>Associate degree</td>
<td>3.6%</td>
</tr>
<tr>
<td>1,318</td>
<td>Postsecondary vocational award</td>
<td>2.4%</td>
</tr>
<tr>
<td>921</td>
<td>Master's degree</td>
<td>1.7%</td>
</tr>
<tr>
<td>563</td>
<td>First professional degree</td>
<td>1.0%</td>
</tr>
<tr>
<td>21</td>
<td>Doctoral degree</td>
<td>0.0%</td>
</tr>
<tr>
<td>54,694</td>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
General Qualifications

- Good oral and written communication skills
- Good with people and communication
- Strong verbal and written communication skills with demonstrated ability to communicate and transfer technical knowledge to others
- Strong communication, teamwork, and problem solving skills
- Oral and written skills
- Ability to read and write English
- Self-motivated leader ready for the challenge of a high visibility exploration and development play with dynamic market conditions related to availability and cost of personnel, goods and services
- Lives within a 100 mile radius of the South Texas Region (San Antonio, Pearsall, Cotulla) or relocate to the South
- Demonstrated ability to build strong relationships with clients and candidates
- The successful candidate will maintain existing customer base as well as expand market for main product lines
- Willingness to perform general labor duties as required within the warehouse
- Ability to work an 11 am to 8 pm shift, with flexibility for additional hours as necessary
- Results-driven
- Willing to work a 2 week on, one week off rotation
- Able to lift 55 pounds
- Must be 21 years or older with a valid Class A CDL
- Legally authorized to work in the United States
- Must have flexibility to work various shifts
- Must be able to read, write and speak English fluently
- Results-driven
- Must be able to bring existing accounts to generate revenue immediately
- Must be able to pass DOT physical, drug screen, work history verification, MVR and criminal background check
- A job candidate must possess a good work ethic, good communication skills, good computer skills and a never ending desire to continually learn.
- Must be self-directed, process-oriented, detail-oriented, and willing to work outside his/her comfort zone
- Strong active listening skills and interpersonal skills, attention to detail, ability to multi-task
- Excellent written and verbal communication skills, articulate phone skills
- In addition to the tasks outlined in this job description, you may be assigned other responsibilities as needed.
- Relationships with leaders in oil and gas in the Houston area
- Attention to detail
General Qualifications

- This position does require travel. Travel amount is negligible.
- Rotation schedule and travel required.
- Travel Required: Up to 10%
- Background Investigation as well as DOT Drug Screening.
- Legally authorized to work in the United States
- A valid driver's license and clean driving record is required for this position.
- Current valid driver's license and acceptable driving record.
- Must have a clean driving record
- Ability to analyze and identify key uncertainties and provide a work plan to address them.
- Strong communication skills for interfacing with a multi-disciplinary team.
- Strong team player
- Ability to work in a team environment
- Self-motivated individual with the ability to work independently as a geophysical specialist.
- Ability to be present during job
- Positive enthusiasm and a high energy level
- Excellent customer service and communication skills
- Embraces and promotes Safety Culture
- Reliable and committed to delivering quality performance
- Adaptability to change
- Has a strong book of contacts and relationships specific to the Eagle Ford Shale oilfield
- Ability to develop and achieve applicable Annual Territory Sales Plan which sets revenue, profitability and market growth targets
- Focus on delivering revenue and profit
- Positive, self-starter who enjoys working with others in a fast paced environment to deliver consistent quality
- Must be self-directed, process-oriented, detail-oriented, and willing to work outside his/her comfort zone
- Strong active listening skills and interpersonal skills, attention to detail, ability to multi-task
- Excellent written and verbal communication skills, articulate phone skills
- Excellent communication, interpersonal and teamwork skills
- Will be at a centralized location in the region with visits to specific yard sites within the region
Short-Term On-the-Job-Training

- Must manage DOT log requirements and keep track of customer work tickets
- Demonstrated ability to constructively negotiate with internal customers, sales business development managers, and candidate with respect to sales opportunities across range of common staffing issues
- Available to open/close warehouse, work on weekends and travel as required
- Safe operation of the Forklift, as required
- Supports Sales Reps in safety product industry, answers customer phone calls, and processes sales orders
- Follows up on customer orders, ensuring product is ordered, shipped and delivered
- Excellent interpersonal skills needed to work with customers and establish a solid working relationship with them
- Good organizational skills
- Excellent customer service skills
Medium-Term On-the-Job-Training

- Computer skills to include MS Outlook, MS Office.
- Experience working with MS EXCEL spreadsheets, a plus
- Excellent computer skills, including MS Office and good working knowledge of computers/file management
- Must conduct Pre and Post Trip Inspections and maintain maintenance files on all vehicles used daily
- Responsible for providing accurate written and verbal records of the geology, can analyze and write up accurate oil and gas shows, and can give verbal and written updates daily to clients
- Thrives in a metrics-driven environment, without daily oversight (i.e. self-managed), and understands the various staffing metrics and respective importance
- Must be proficient working with automated applicant tracking systems, e.g. Taleo, ICIMS, etc.
- General knowledge across a broad set of technologies, with specialization in a couple, and the initiative to branch out to more
- Knowledge of the local oil and gas industry, computer programs and a team attitude is a must.
- Primary responsibilities include technical sales support, quotation generation and the development of sales forecasts
- Knowledge of market trends as they pertain to the oil and gas industry and company goals required.
- Experience in employee supervision and assigning daily work assignments
- Perform all Manager responsibility in their absences
- Detailed knowledge of Customs Classification of materials being crossed into Mexico
- Ability to perform all Warehouse Reporting (Maintenance, ISO, KPI, daily, etc.)
- Data Entry control and filing (GREAT PLAINS, PO Receipts, RMAs, Raw Material, Excel, Word, Power Point, etc.)
Medium-Term On-the-Job-Training

- Demonstrated ability to constructively negotiate with internal customers, sales business development managers, and candidate with respect to sales opportunities across a range of common staffing issues.
- Demonstrated ability to build strong relationships with clients and candidates.
- Computer skills to include MS Outlook, MS Office.
- High School Diploma or GED.
- Moderate ability to understand wiring/piping schematics.
- Computer Proficiencies: Training will be provided for job-specific requirements. Applicants need to have knowledge in standard computer applications.
- Resolves customer problems.
- Excellent computer skills.
- Positive, can-do attitude.
- Customer and detail oriented.
- Internet Sales Processing -- Research with vendors to find non-stock products. Contact customer to process sales orders.
- Support the General Manager on all activities needed to serve the customer and assist in running the operations of the branch.
- Other Skills/Requirements: Excellent computer skills, including MS Office and good working knowledge of computers/file management. Excellent interpersonal skills needed to work with customers and establish a solid working relationship with them.
- Develop customer loyalties to sales reps and customer service reps.
Long-Term On-the-Job-Training

- Strong verbal and written communication skills with demonstrated ability to communicate and transfer technical knowledge to others
- Computer skills to include MS Outlook, MS Office
- Experience working with MS EXCEL spreadsheets, a plus
- Primary responsibilities include technical sales support, quotation generation and the development of sales forecasts
- Knowledge of market trends as they pertain to the oil and gas industry and company goals required
- Knowledge of the local oil and gas industry, computer programs and a team attitude is a must.
- Basic working knowledge of plumbing, painting, HVAC, electrical and other general repair skills.
- Previous supervisory experience is preferred
- Hydraulic fracture treatment, multi-stage frac jobs, acidizing, cross linked gel, slickwater, coiling tubing, pumping, FracPro, Meyers or FracAde stimulation monitoring software
- Extensive experience in business development/outside sales for the upstream/midstream oil and gas business. This position requires an individual who is highly motivated, self-directed, organized, effective with time management, creative and possesses impeccable verbal and written communication skills. This job also requires significant travel.
- Detailed knowledge of Import Audits and Paperwork (Mexico Customs Pedimentos) Must be proficient working with automated applicant tracking systems, e.g. Taleo, ICIMS, etc.
Work Experience in Related Occupation

- Resent experience in Warehouse Shipping & Receiving procedures
- Eagle Ford or Shale experience
- 10-15+ years Production Engineering experience
- Must have E&P or Operator experience
- 1+ years of experience in Project Engineering
- Previous supervisory experience is preferred.
- Needs to have 5+ Years experience in sales in the completions side of the industry
- At least 3 years of related property maintenance experience
- Frac design experience preferred
- Prefer Artificial lift design and optimization experience
- At least 3 years of related property maintenance experience
- 2-4 years of successful IT or Engineering Technical Solutions recruiting experience
- 2+ years equivalent work experience in related field
- Minimum 2 years of geosteering experience
- 8+ years relevant experience
- Minimum of 8 years experience as a Drilling Engineer with knowledge of field operations.
- Looking for a 10+ year Reserves Analyst (They really want a 15+ year person but willing to look at a 10+ year person)
- 10+ years relevant engineering experience in an oil & gas operating company
- Minimum years of experience: 8+
- Chemical handling, refinery, oilfield, chemical pumping experience a plus
- 2-4 years of successful IT or Engineering Technical Solutions recruiting experience
- Oilfield positions available. 2 YEARS EXPERIENCE REQUIRED
Work Experience in Related Occupation

- Years experience preferred: 9+
- Experience selling into Oil & Gas Market
- Minimum 7 years total industry experience with specific experience in Reservoir Engineering and analysis of Unconventional Plays.
- Qualified candidates will have over 8 years of experience in the oil and gas industry and an active network of industry contacts
- Minimum of 15 years of experience in Oil/Gas industry
- 2+ years of experience with progressing shale prospects to technical maturity
- Minimum of 5 years of outside sales experience selling products and/or services within the oil & gas sector
- Experience with seismic acquisition and processing in an onshore environment.
- Eagle Ford Shale oilfield experience a plus.
- Must have experience in permitting oil and gas projects
- Must have ESHIA experience.
- Preferred concentration shale play operations experience
- Preferred candidates should have an Engineering degree from an accredited school or have extensive training through experience (3 years or more). Rotation schedule and travel required.
- Chemical related background strongly preferred, process technology training a plus.
- Candidate must have a minimum of 2 years driving Experience
- Operating company experience required
- Prefer shale operational experience
- Prefer wellwork procedure experience
- Knowledge and experience to design, plan coordinate and implement drilling programs for the Eagle Ford drilling organization.
Associates Degree or Postsecondary Vocational Award

- Develop cost estimates
- Strong verbal and written communication skills with demonstrated ability to communicate and transfer technical knowledge to others
- Computer skills to include MS Outlook, MS Office
- Hydraulic fracture treatment, multi-stage frac jobs, acidizing, cross linked gel, slickwater, coiling tubing, pumping, FracPro, Meyers or FracAde stimulation monitoring software.
- Thrives in a metrics-driven environment, without daily oversight (i.e. self-managed), and understands the various staffing metrics and respective importance
- Knowledgeable in slickline, e-line, coiled tubing and service rig operations
- Good computer skills (Microsoft Products)
- Bachelor's degree in business or information management (equivalent experience will be considered)
- Bachelor's degree in business or information management (equivalent experience will be considered)
- Knowledge of industry processes to perform Physical to Virtual Inventory reconciliations
- Basic working knowledge of plumbing, painting, HVAC, electrical and other general repair skills
- Vocational or Technical Educational Certification in related field
- Advanced computer experience in MS Excel & MS PowerPoint
- Excellent communications skills and ability to maintain high project demands
- Aires expert (software).
- Administrative/Accounting -- As required and needed
- Drive for results to achieve standards of excellence and achieve ‘step changes’ in business results
- Hydraulic fracture treatment, multi-stage frac jobs, acidizing, cross linked gel, slickwater, coiling tubing, pumping, FracPro
Bachelor’s Degree

• Strong verbal and written communication skills with demonstrated ability to communicate and transfer technical knowledge to others
• Computer skills to include MS Outlook, MS Office
• Preferred candidates should have an Engineering degree from an accredited school or have extensive training through experience (3 years or more). Rotation schedule and travel required.
• Hydraulic fracture treatment, multi-stage frac jobs, acidizing, cross linked gel, slickwater, coiling tubing, pumping, FracPro, Meyers or FracAde stimulation monitoring software.
• Bachelor’s degree in business or information management (equivalent experience will be considered)
• Preferred candidates should have an Engineering degree from an accredited school or have extensive training through experience (3 years or more). Rotation schedule and travel required.
• Bachelor’s degree in Geophysics or related field is required
• Bachelors Degree in engineering
• Able to read P&ID’s and Isometric drawings
• Bachelor’s degree in business or information management (equivalent experience will be considered)
• General knowledge across a broad set of technologies, with specialization in a couple, and the initiative to branch out to more
• Bachelors required: Petroleum Engineering preferred, related Engineering required.
• Intermediate PC skills are required in Microsoft desktop suites
• Experience with reservoir simulation tools (Eclipse, RadialX), production and pressure transient analysis tools (Fekete Harmony Suite, Topaze, Saphir, Amethyste), data acquisition tools and databases (IHS Enerdeq, TRRC), risk analysis tools and techniques (Crystal Ball and Monte Carlo methods) and economic analysis tools (Aries or equivalent)
• BS in Engineering
• Knowledgeable in well design, completions, production facilities, workovers and production optimization
• Nodal analysis
Bachelor’s Degree

- Casing design
- Tubing design
- Aries Database knowledge/skills
- Artificial Lift Design
- Bachelors Required, Petroleum Engineering preferred, Engineering Degree required
- Bachelor Degree in Geology/Physics or Mathematics, Petroleum Engineering
- Basic understanding of core measurements and applications
- Proficient on all basic logging tool measurements, their limits and strengths
- Ability to perform Petrophysical analysis with available data
- Understand depth control in LWD and wire line tools
- Proven track record of effective teamwork within a geoscience and engineering team
- Multi-well petrophysical evaluation skills
- Familiarity with Interactive Petrophysics, Geolog, Petra and OpenWorks preferred.
- Experience with shale core analysis techniques and related uncertainty
- Horizontal well interpretation experience
- Ability to keep pace with an active drilling program and react to the dynamics as new information changes our knowledge of unconventional gas resources;
- Initiative to work without constant supervision, displaying innovative skills in using the proper tools to effectively characterize reservoir potential.
- BS Degree in Engineering
- Preferred candidates should have an Engineering degree from an accredited school or have extensive training through experience (3 years or more).
- BS Degree in Geology
- Working knowledge of SMT Earthpack and 2D/3D modules, PETRA
- Bachelors in Engineering, Science related, or Geology
- Optimizes drilling programs by recommending appropriate wellbore hydraulics, bit and casing seat selection, mud and cementing programs, and procedures to predict and detect abnormal pressures
Master’s Degree/Advanced Degree

- Proven 2-D and 3-D seismic interpretation expertise (typically onshore U.S.) using geophysical software. Expertise with the IHS Kingdom software suite is highly preferred.
- Skill in developing Time/Depth models from a variety of data sources.
- Working knowledge of the Barnett, Eagle Ford, Marcellus and Utica shale resource plays
- Ability to apply quantitative interpretation techniques appropriate for shale resource plays
- Knowledge of potential field methods as they relate to the shale resource plays
- Master’s degree in Math, Geology, Physics, or Petroleum Engineering
- Master’s degree is strongly preferred
- High-level proficiency with onsite open hole evaluation and problem solving.
- Working knowledge and some practical experience of the role and job responsibilities of completion, reservoir and drilling Engineers, Landmen, and other company professionals in order to accomplish team goals.
- Ability to accurately solve problems.
- Ability to make valuable contribution to team goals and objectives.
- Education preferred: Masters
## Webb County Employment Impacts

### Estimated Impact 2011

<table>
<thead>
<tr>
<th>Webb County</th>
<th>Economic Impacts</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct</td>
<td>Indirect</td>
<td>Induced</td>
<td>Total</td>
</tr>
<tr>
<td>Employment</td>
<td>1,569</td>
<td>2,529</td>
<td>2,885</td>
<td>6,983</td>
</tr>
</tbody>
</table>

### Estimated Impact 2021

<table>
<thead>
<tr>
<th>Webb County</th>
<th>Economic Impacts</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct</td>
<td>Indirect</td>
<td>Induced</td>
<td>Total</td>
</tr>
<tr>
<td>Employment</td>
<td>1,734</td>
<td>4,081</td>
<td>4,483</td>
<td>10,298</td>
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</table>
## 2011 Webb County Occupational Impacts

<table>
<thead>
<tr>
<th>Occupation Code</th>
<th>Total Impacts Webb County Occupational Impacts, 2011</th>
<th>Occupational Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-0000</td>
<td>Office and administrative support occupations</td>
<td>1,388</td>
<td>19.9%</td>
</tr>
<tr>
<td>31-3900</td>
<td>Service occupations</td>
<td>980</td>
<td>14.0%</td>
</tr>
<tr>
<td>53-0000</td>
<td>Transportation and material moving occupations</td>
<td>946</td>
<td>13.5%</td>
</tr>
<tr>
<td>15-2900</td>
<td>Professional and related occupations</td>
<td>909</td>
<td>13.0%</td>
</tr>
<tr>
<td>11-1300</td>
<td>Management, business, and financial occupations</td>
<td>762</td>
<td>10.9%</td>
</tr>
<tr>
<td>41-0000</td>
<td>Sales and related occupations</td>
<td>720</td>
<td>10.3%</td>
</tr>
<tr>
<td>47-0000</td>
<td>Construction and extraction occupations</td>
<td>596</td>
<td>8.5%</td>
</tr>
<tr>
<td>49-0000</td>
<td>Installation, maintenance, and repair occupations</td>
<td>361</td>
<td>5.2%</td>
</tr>
<tr>
<td>51-0000</td>
<td>Production occupations</td>
<td>314</td>
<td>4.5%</td>
</tr>
<tr>
<td>45-0000</td>
<td>Farming, fishing, and forestry occupations</td>
<td>7</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>6,983</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
# 2021 Webb County Occupational Impacts

<table>
<thead>
<tr>
<th>Occupation Code</th>
<th>Total Impacts Webb County Occupational Impacts, 2021</th>
<th>Occupational Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-0000</td>
<td>Office and administrative support occupations</td>
<td>2,098</td>
<td>20.4%</td>
</tr>
<tr>
<td>15-2900</td>
<td>Professional and related occupations</td>
<td>1,534</td>
<td>14.9%</td>
</tr>
<tr>
<td>31-3900</td>
<td>Service occupations</td>
<td>1,529</td>
<td>14.8%</td>
</tr>
<tr>
<td>11-1300</td>
<td>Management, business, and financial occupations</td>
<td>1,271</td>
<td>12.3%</td>
</tr>
<tr>
<td>53-0000</td>
<td>Transportation and material moving occupations</td>
<td>1,138</td>
<td>11.1%</td>
</tr>
<tr>
<td>41-0000</td>
<td>Sales and related occupations</td>
<td>1,084</td>
<td>10.5%</td>
</tr>
<tr>
<td>47-0000</td>
<td>Construction and extraction occupations</td>
<td>785</td>
<td>7.6%</td>
</tr>
<tr>
<td>49-0000</td>
<td>Installation, maintenance, and repair occupations</td>
<td>467</td>
<td>4.5%</td>
</tr>
<tr>
<td>51-0000</td>
<td>Production occupations</td>
<td>382</td>
<td>3.7%</td>
</tr>
<tr>
<td>45-0000</td>
<td>Farming, fishing, and forestry occupations</td>
<td>10</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>10,298</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Ten Best Jobs You Can Get Without a College Degree

- Manufacturing Sales Rep
- Telecommunications Equipment Installers
- Insurance Sales Agents
- Construction and Building Inspectors
- Plumbers, Pipefitters and Steamfitters
- Drywall Tapers
- Electricians
- Commercial Pilots
- Brickmasons and Blockmasons
- Pile-Driver Operators
Best College Majors

- Medical Assisting Services
- Management Information Systems
- Construction Services
- Medical Technologies
- Electrical Engineering
- Chemical Engineering
- Treatment Therapy Professions
- Transportation Sciences and Technology
- Nursing
- Pharmacy and Pharmacology
Worst College Majors

- Anthropology
- Fine Arts
- Film and Photography
- Philosophy and Religious Studies
- Graphic Design
- Studio Arts
- Liberal Arts
- Drama and Theater Arts
- Sociology
- English
Drilling Permits and Completions

RRC Estimates 4293 Permits Will Be Issued for 2012
Rotary drilling rig count in the U.S.

<table>
<thead>
<tr>
<th>Total U.S.</th>
<th>Gas Rigs</th>
<th>Oil Rigs</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2008</td>
<td>1450</td>
<td>316</td>
</tr>
<tr>
<td>August 2012</td>
<td>495</td>
<td>1432</td>
</tr>
</tbody>
</table>

Source: Baker Hughes
Pipeline Infrastructure in California

Southern California

South Texas

“Our goal is for our economy to look more like Texas, and a lot less like California.”

Sam Brownback, Governor of Kansas

Source: Oligney and Longbottom, University of Houston, Nov 2001
Factors That Are Driving Natural Gas Demand

- Input to Electric Generation Power Plants
- Feedstock for Chemical Manufacturers (Chemicals, Plastics, Fertilizers, Steel, etc.)
- Conversion of Local Fleets to CNG Vehicles

City of Laredo moves full speed ahead with CNG

October 15, 2012
Source: AACOG

<table>
<thead>
<tr>
<th>Metropolitan Area</th>
<th>Public CNG Fueling Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oklahoma City</td>
<td>15</td>
</tr>
<tr>
<td>Dallas</td>
<td>14</td>
</tr>
<tr>
<td>Houston</td>
<td>6</td>
</tr>
<tr>
<td>Fort Worth</td>
<td>2</td>
</tr>
<tr>
<td>Austin</td>
<td>2</td>
</tr>
<tr>
<td>Corpus Christi</td>
<td>1</td>
</tr>
<tr>
<td>Laredo</td>
<td>1</td>
</tr>
<tr>
<td>San Antonio</td>
<td>0</td>
</tr>
</tbody>
</table>
Natural Gas Spot Prices (Henry Hub)
Slow-Motion Recovery

On average, 48 economists asked in early October to forecast the U.S. unemployment rate see it declining slowly over the next two years.

Source: Labor Department (history); WSJ survey of economists (forecasts)

The Wall Street Journal
Natural Gas Annual Production Forecast

- 327 BCF Produced in 2011
- 317 BCF Revised Forecast for 2012
Figure 5. Average annual world oil prices in three cases, 1980-2035 (real 2010 dollars per barrel)
Figure 5. Average annual world oil prices in three cases, 1980-2035 (real 2010 dollars per barrel)
Key Contributors to Oil Price Fluctuation

- **Global Supply**
  - OPEC output quotas (up and down), new supplies (including shale oil)

- **Global Demand**
  - Demand changes from emerging economies, such as India and China

- **Oil Inventory Demand**
  - Expectation of shortages due to uncertainty such as political instability (e.g., Nigeria, Iraq, Venezuela, Libya, Iran)

- **Speculation**
  - Plays a role, but often overstated

Source: Federal Reserve Bank of St. Louis (April 2012)
Eagle Ford Shale Oil/Condensate Annual Production Forecast (bbls) Scenarios

- 68M bbls Produced in 2011
- 127M bbls Revised Forecast for 2012

Revised Forecast

Barrels
Critical Immediate Needs: Improved Local Governance and Capacity

- Revenue and Investment Strategies: Dedicating Funds for Public Use Early, Identifying Potential Benefactors
- Strong Institutional Management – Medium and Long-Term Planning, Particularly Land-Use and Capital Outlays
- Joint Planning Efforts Across the Board – All Stakeholders
- Fiscal Discipline
- Development of a Skilled Workforce
- Commitment to Ongoing Education, Working Smarter, Learning from Past Mistakes
Medium-Long Term Strategies for Success

• Look for Opportunities to **Diversify** the Local Economy

• Rediscover Your Community’s **History and Architecture** as a Tool for Economic Development

• Seize the Opportunity to Implement **Form-Based Zoning** That Emphasizes Mixed-Use, Flexibility, Livability and Sustainability

• Forge **Linkages, Alliances and Engage** Other EFS Communities, Higher Education Institutions

• Identify **Best Practices** from Other Shale Plays

• Work with **Elected Representatives** at the Municipal, County, State and National Levels on Infrastructure Planning
Looking Beyond Eagle Ford: Examples of Sustainable Infrastructure
(Key to Attracting New Residents, Visitors and Industry)

- Better Roadways
- Improved Medical Facilities
- More Housing Options, Adequate Water and Power Supply, Improved Waste Management
- Better Quality K-12 and Vocational Education
- Improved Aesthetics, Elimination of Blight, Land Recycling (Bulldozing Derelict Houses, Cleaning Up Junkyards; Renovation and/or Repurposing of Historical Buildings)
- Branding: Identity, Gateways
- Livability: Public Amenities that Improve the Desirability of the Community and Quality of Life (Lakes, Parks, Hike/Bike Trails, Walk-able Neighborhoods)

Why would someone want to live in or visit your community?
Crystal City – Spinach Capital of the World

And coming soon: Olive Oyl?
Laredo – Gateway City
Thank you!

Ongoing Impact of the Eagle Ford Shale on South Texas
October 2012

Thomas Tunstall, Ph.D.
Director, Center for Community and Business Research
thomas.tunstall@utsa.edu