



Profile: Oil and Gas Well Drilling and Servicing



Office of General Industry Enforcement

Industry Group 138 – Oil and Gas Field Services

Process Description

The oil and gas well drilling and servicing industry was born in the United States in 1859 when the Drake Well outside Titusville, PA first struck oil. Since then this industry has evolved to become a vital part of the petroleum industry.

Oil and gas well drilling and servicing is part of Major Group 13 in the Standard Industrial Classifications (SIC). This classification is further defined by three subdivisions, including Industry Group 138 – Oil and Gas Field Services.

Industry Group 138 includes SIC 1381 – Drilling Oil and Gas Wells; SIC 1382 – Oil and Gas Field Exploration Services; and SIC 1389 Oil and Gas Field Services, Not Elsewhere Classified.

SIC 1381 includes establishments primarily engaged in drilling wells for oil or gas field operations for others on a contract or fee basis. This industry includes contractors that specialize in the following:

- Directional drilling of oil and gas wells on a contract basis
- Redrilling oil and gas wells on a contract basis
- Reworking oil and gas wells on a contract basis
- Spudding in oil and gas wells on a contract basis
- Well drilling gas, oil, and water intake: on a contract basis
- SIC 1382 includes establishments primarily engaged in performing geophysical, geological, and other exploration services for oil and gas on a contract or fee basis.
- Aerial geophysical exploration, oil and gas field on a contract basis
- Exploration, oil and gas field on a contract basis
- Geological exploration, oil and gas field on a contract basis
- Geophysical exploration, oil and gas field on a contract basis
- Seismograph surveys, oil and gas field on a contract basis

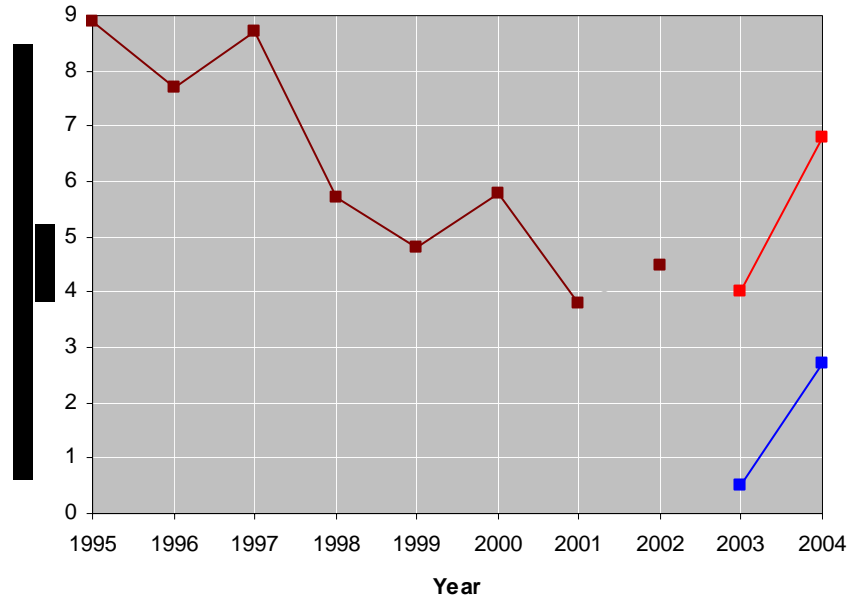
SIC 1389 includes establishments primarily engaged in performing oil and gas field services, not elsewhere classified, for others on a contract or fee basis. Services included are excavating slush pits and cellars; gradings and building of foundations at well locations; well surveying; running, cutting, and pulling casings tubes, and rods; cementing wells; shooting wells; perforating well casings; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells. Establishments that have complete responsibility for operating oil and gas wells for others on a contract or fee basis are classified according to the product extracted rather than as oil and gas field services.

- Acidizing wells on a contract basis
- Bailing wells on a contract basis
- Building oil and gas well foundations on a contract basis
- Cementing oil and gas well casings on a contract basis
- Chemically treating wells on a contract basis
- Cleaning lease tanks, oil and gas field on a contract basis
- Cleaning wells on a contract basis
- Derrick building, repairing, and dismantling oil and gas-on a contract basis
- Dismantling of oil well rigs (oil field service) on a contract basis
- Erecting lease tanks, oil and gas field on a contract basis
- Excavating slush pits and cellars on a contract basis

- Fishing for tools, oil and gas field on a contract basis
- Gas compressing natural gas at the field on a contract basis
- Gas well rig building, repairing, and dismantling on a contract basis
- Grading oil and gas well foundations on a contract basis
- Hard banding service on a contract basis
- Hot oil treating of oil field tanks on a contract basis
- Hot shot service on a contract basis
- Hydraulic fracturing wells on a contract basis
- Impounding and storing salt water in connection with petroleum
- Lease tanks, oil and gas field: erecting, cleaning, and repairing on a contract basis
- Logging wells on a contract basis
- Mud service, oil field drilling on a contract basis
- Oil sampling service for oil companies on a contract basis
- Oil well logging on a contract basis
- Perforating well casings on a contract basis
- Pipe testing service, oil and gas field: on a contract basis
- Plugging and abandoning wells on a contract basis
- Pumping of oil and gas wells on a contract basis
- Removal of condensate gasoline from field gathering lines on a contract basis
- Roustabout service on a contract basis
- Running, cutting, and pulling casings, tubes, and rods: oil and
- Servicing oil and gas wells on a contract basis
- Shooting wells on a contract basis
- Shot-hole drilling service, oil and gas field: on a contract basis
- Surveying wells on a contract basis, except seismographic
- Swabbing wells: on a contract basis

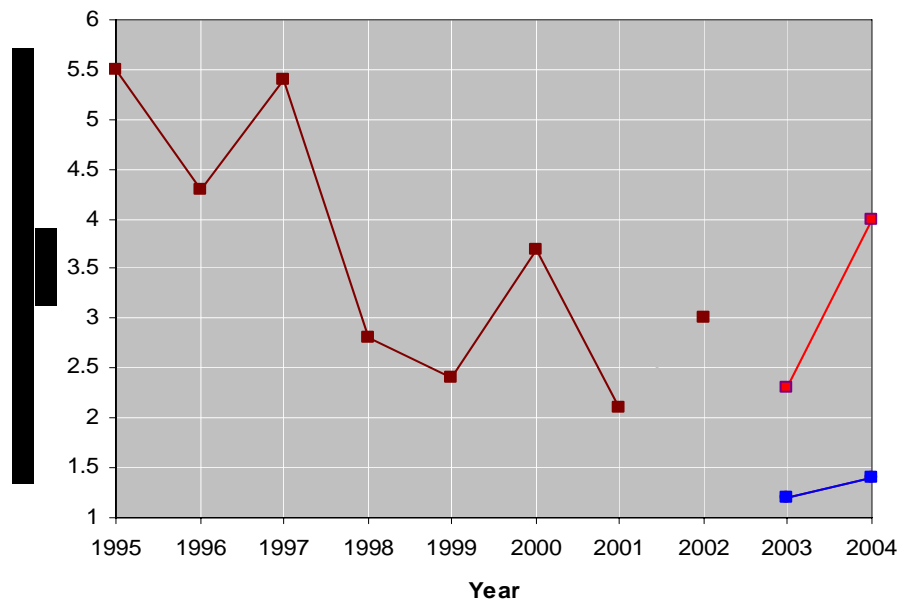
BLS Profile Total Recordable Case Rate (Industry Group – 138)

Year	Annual
1995	8.9
1996	7.7
1997	8.7
1998	5.7
1999	4.8
2000	5.8
2001	3.8
2002	4.5*
2003	4.0/0.5**
2004	6.8/2.7



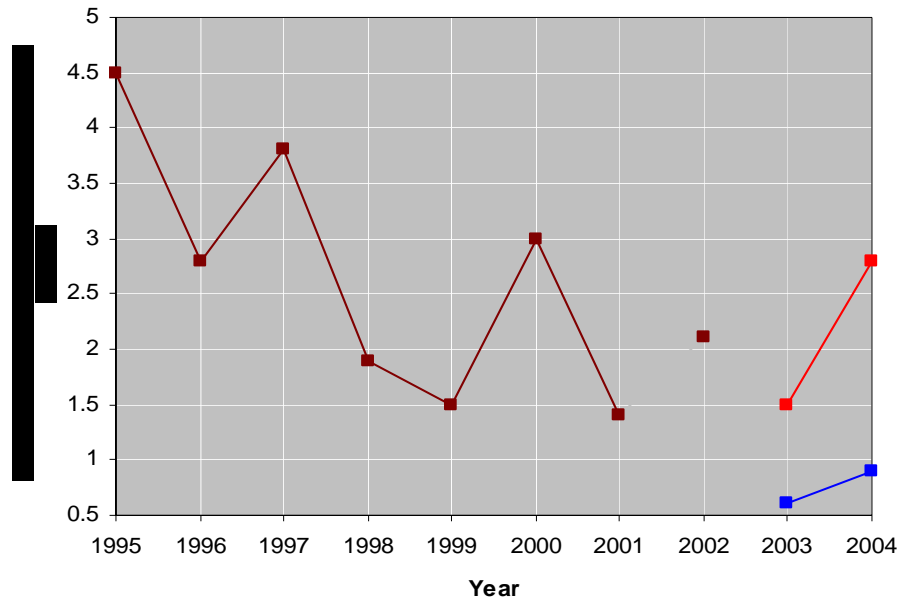
Lost Workday Case Rate (Industry Group – 138)

Year	Annual
1995	5.5
1996	4.3
1997	5.4
1998	2.8
1999	2.4
2000	3.7
2001	2.1
2002	3.0*
2003	2.3/1.2**
2004	4.0/1.4



Cases with Days Away Rate (Industry Group – 138)

Year	Annual
1995	4.5
1996	2.8
1997	3.8
1998	1.9
1999	1.5
2000	3.0
2001	1.4
2002	2.1*
2003	1.5/0.6**
2004	2.8/0.9



Effective January 1, 2002, the Occupational Safety and Health Administration (OSHA) revised its requirements for recording occupational injuries and illnesses. Due to the revised recordkeeping rule, the estimates from the 2002 survey are not comparable with those from previous years, thus resulting in the discontinuous graph lines.

** Beginning with the 2003 reference year, the BLS Survey of Occupational Injuries and Illnesses began using the 2002 North American Industry Classification System (NAICS). Prior to 2003, the survey used the Standard Industrial Classification (SIC) system. The substantial differences between these systems result in breaks in series for industry data. SIC Group 138 encompasses NAICS groups 213111 and 213112. The rates for NAICS 213111 are represented by the red data series on the above charts, and the rates for NAICS 213112 are represented by the blue data series on the above charts.

Fatality Total for NAICS Group 213111 (2004): 30

Fatality Total for NAICS Group 213112 (2004): 39

Source: Bureau of Labor Statistics (National data)

National Summary by Region NAICS 213111 & 213112

Regions	Establishments with 10 or more employees	
	Establishments	Employees
1	15	655
2	26	2076
3	109	3473
4	95	3975
5	101	6215
6	2246	160206
7	94	2885
8	183	6609
9	N/A	N/A
10	2	33

NA = Data not available

Establishment and employment counts come from Dunn & Bradstreet, June 2006

Average Case and Demographic Characteristics

Average cases per year, 1995 – 2000		5,657
Demographics of worker	Sex	98.5% men
	Age	14.9% ages 20-24 38.3% ages 25-34 27.5% ages 35-44 15.1% ages 45-54
	Length of service with employer	51.9% less than one year 26.7% 1-5 years
	Race/ethnic origin	57.9% white non-Hispanic 24.6% Hispanic – any race
Characteristics of injury/illness	Days away from work	18.1% 1-5 days 34.6% 6-30 days 37.4% 31 or more days
	Nature of injury/illness	32.9% sprains/strains 18.9% fractures 15.9% “all other” natures 11.3% bruises/contusions
	Part of body affected	26.0% arms/wrists/hands/fingers 22.8% legs/knees/feet/toes 20.2% back
	Source of injury/illness	31.1% parts/materials 15.1% floors/ground surfaces 14.0% “all other” sources 9.9% machinery
	Event or exposure	23.0% struck by object 18.8% overexertion 12.2% caught in object/equipment/material

Source: OSHA Office of Statistical Analysis compilation of BLS data

Note: The percentages on this table do not sum to 100%. Only the most frequently coded characteristics are listed. The “All Other” category should not be interpreted as being all inclusive of the categories not listed above.

**Inspection Summary
FY 2005
Federal OSHA Inspection Data
Industry Group 138**

Federal Data Only	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Total Inspections	0	1	39	3	2	116	2	27	1	7	198
Records	0	0	0	0	0	2	0	0	0	0	2
Safety	0	1	8	3	2	109	2	26	1	7	159
Health	0	0	31	0	0	7	0	1	0	0	39
Inspections by Type											
Unprogrammed	0	1	0	3	2	93	2	11	0	0	112
Accidents	0	1	0	3	1	36	0	1	0	0	42
Complaints	0	0	0	0	1	19	1	8	0	0	29
Referrals	0	0	0	0	0	8	1	0	0	0	9
Monitoring	0	0	0	0	0	0	0	0	0	0	0
Variance	0	0	0	0	0	0	0	0	0	0	0
Follow-Up	0	0	0	0	0	8	0	1	0	0	9
Unprog. Related	0	0	0	0	0	22	0	1	0	0	23
Other	0	0	0	0	0	0	0	0	0	0	0
Programmed											
Planned	0	0	39	0	0	23	0	16	1	7	86
Prog. Related	0	0	0	0	0	23	0	16	1	7	86
Other	0	0	0	0	0	0	2	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0

Source: IMIS Database

Top 10 Violations Cited

Standard	#Cited	#Insp	Description
1910.1200	62	35	Hazard Communication
1910.146	54	10	Permit-Required Confined Spaces
5(a)(1)	52	40	General Duty Clause (Section of OSHA Act)
1910.132	42	30	Personal Protective Equipment, General
1910.305	42	24	Wiring Methods, Components, and Equip. for General Use
1910.23	40	31	Guarding Floor & Wall Openings & Holes
1910.134	39	11	Respiratory Protection
1910.151	37	34	Medical Services & First Aid
1910.141	33	27	Sanitation
1910.157	30	26	Portable Fire Extinguishers

Source: IMIS Database – FY 2005 (Federal only).

Some Potential Hazards and Their Sources

Hazard	Source
Struck by	Falling/moving pipe; tongs and/or spinning chain, kelly, rotary table, etc.; high pressure hose connection failure causing employees to be struck by whipping hose; tools/debris dropped from elevated location in rig; vehicles
Caught in/Between	Collars and tongs, spinning chain, and pipe; clothing gets caught in rotary table/drill string;
Fire/Explosion/High Pressure release	Well blowout, drilling/tripping out/swabbing etc. results in release of gas which might be ignited if not controlled at the surface; welding/cutting near combustible materials, uncontrolled ignition sources near the well head, e.g. heater in the doghouse, unapproved or poorly maintained electrical equipment; aboveground detonation of perforating gun
Rig Collapse	Overloading beyond the rated capacity of the rig; improper anchoring/guying; improper raising and lowering the rig; existing maintenance issues with the rig structure which impacts the integrity
Falls	Fall from elevated areas of the rig, i.e. stabbing board, monkey board, ladder, etc.; Fall from rig floor to grade
Hydrogen Sulfide (H ₂ S) Exposure	H ₂ S release during drilling, swabbing, perforating operations, etc resulting in employee exposures; production tank gauging operations, gaugers sometimes exposed to H ₂ S

2003 BLS Industry Data for NAICS 213111 – Drilling Oil and Gas Wells

All Reported Cases	880	
Nature of Illness or Injury	Number	% Total
Sprains, Strains	190	21.6
Fractures	230	26.1
Cuts, Punctures	N/A	N/A
Bruises	110	12.5
Heat Burns	N/A	N/A
Chemical Burns	N/A	N/A
Amputations	N/A	N/A
Carpal Tunnel	N/A	N/A
Tendonitis	N/A	N/A
Mult Trauma Total	N/A	N/A
Mult Trauma with Fracture	N/A	N/A
Mult Trauma with Sprain	N/A	N/A
Back Pain Total	20	2.3
Back Pain Hurt Back Only	N/A	N/A
All Other	250	28.4
Part of Body Affected	Number	% Total
Head Total	N/A	N/A
Eyes	N/A	N/A
Neck	N/A	N/A
Trunk Total	340	38.6
Trunk Back	130	14.8
Trunk Shoulder	60	6.8
Upper Extremities Total	230	26.1
Upper Extremities Finger	90	10.2
Upper Extremities Hand	N/A	N/A
Upper Extremities Wrist	N/A	N/A
Lower Extremities Total	200	22.7
Lower Extremities Knee	N/A	N/A
Lower Extremities Foot Toe	70	8.0
Body Systems	N/A	N/A
Multiple Body Parts	N/A	N/A
All Other Body Parts	N/A	N/A
Source of Injury or Illness	Number	% Total
Chem and Chem Products	N/A	N/A
Containers	20	2.3
Furniture and Fixtures	N/A	N/A
Machinery	140	15.9
Parts and Materials	380	43.2
Worker Motion	90	10.2
Floors Walkways	100	11.4
Handtools	N/A	N/A
Vehicle	N/A	N/A

Health Care Patient	N/A	N/A
All Other Sources	90	10.2

Sex	Number	% Total
Men	870	98.9
Women	N/A	N/A
Sex Not Reported	N/A	N/A

Age	Number	% Total
Under 14	N/A	N/A
14 to 15	N/A	N/A
16 to 19	N/A	N/A
20 to 24	100	11.4
25 to 34	350	39.8
35 to 44	190	21.6
45 to 54	200	22.7
55 to 64	N/A	N/A
65 and Over	N/A	N/A
Not Reported	N/A	N/A

Race	Number	% Total
White	610	69.3
Black	N/A	N/A
Asian	N/A	N/A
American Indian or Alaskan Native	N/A	N/A
Native Hawaiian or other Pacific Islander	N/A	N/A
Hispanic or Latino and Others	N/A	N/A
Multirace	N/A	N/A
Not Reported	120	13.6

Length of Service	Number	% Total
Less than 3 Months	360	40.9
3 to 11 Months	220	25.0
1 to 5 years	220	25.0
More than 5 Years	80	9.1
Service Not Reported	N/A	N/A

Days away from work	Number	% Total
1 Day	30	3.4
2 Days	40	4.5
3 to 5 Days	70	8.0
6 to 10 Days	40	4.5
11 to 20 Days	140	15.9
21 to 30 Days	80	9.1
31 Days or More	490	55.7
Median Days Away	32	N/A

Event/Exposure Leading to Injury	Number	% Total
Total Contact with Objects	430	48.9
Struck by Object	250	28.4
Struck Against Object	N/A	N/A
Caught in Object	150	17.0

Fall to Lower Level	20	2.3
Fall on Same Level	120	13.6
Slips or Trips	N/A	N/A
Overexertion Total	190	21.6
Overexertion in Lifting	90	10.2
Repetitive Motion	N/A	N/A
Exposure to Harmful Substance	N/A	N/A
Transportation Accidents	N/A	N/A
Fires and Explosions	N/A	N/A
Total Assaults – Violent Acts	N/A	N/A
Assaults by Person	N/A	N/A
All Other Assaults	N/A	N/A
All Other Events	80	9.1

2003 BLS Industry Data for NAICS 213112 – Support Activities for Oil and Gas Operations

All Reported Cases	940	
Nature of Illness or Injury	Number	% Total
Sprains, Strains	380	40.4
Fractures	N/A	N/A
Cuts, Punctures	N/A	N/A
Bruises	70	7.4
Heat Burns	N/A	N/A
Chemical Burns	N/A	N/A
Amputations	N/A	N/A
Carpal Tunnel	N/A	N/A
Tendonitis	N/A	N/A
Mult Trauma Total	N/A	N/A
Mult Trauma with Fracture	N/A	N/A
Mult Trauma with Sprain	N/A	N/A
Back Pain Total	80	8.5
Back Pain Hurt Back Only	N/A	N/A
All Other	280	29.8
Part of Body Affected	Number	% Total
Head Total	70	7.4
Eyes	N/A	N/A
Neck	N/A	N/A
Trunk Total	470	50.0
Trunk Back	320	34.0
Trunk Shoulder	120	12.8
Upper Extremities Total	110	11.7
Upper Extremities Finger	80	8.5
Upper Extremities Hand	N/A	N/A
Upper Extremities Wrist	N/A	N/A
Lower Extremities Total	170	18.1
Lower Extremities Knee	80	8.5
Lower Extremities Foot Toe	N/A	N/A
Body Systems	N/A	N/A
Multiple Body Parts	80	8.5
All Other Body Parts	N/A	N/A
Source of Injury or Illness	Number	% Total
Chem and Chem Products	N/A	N/A
Containers	N/A	N/A
Furniture and Fixtures	N/A	N/A
Machinery	110	11.7
Parts and Materials	410	43.6
Worker Motion	N/A	N/A
Floors Walkways	100	11.4

Handtools	N/A	N/A
Vehicle	80	8.5
Health Care Patient	N/A	N/A
All Other Sources	120	12.8

Sex	Number	% Total
Men	940	100.0
Women	N/A	N/A
Sex Not Reported	N/A	N/A

Age	Number	% Total
Under 14	N/A	N/A
14 to 15	N/A	N/A
16 to 19	N/A	N/A
20 to 24	140	14.9
25 to 34	240	25.5
35 to 44	230	24.5
45 to 54	200	21.3
55 to 64	100	10.6
65 and Over	N/A	N/A
Not Reported	N/A	N/A

Race	Number	% Total
White	520	55.3
Black	N/A	N/A
Asian	N/A	N/A
American Indian or Alaskan Native	N/A	N/A
Native Hawaiian or other Pacific Islander	N/A	N/A
Hispanic or Latino and Others	N/A	N/A
Multirace	N/A	N/A
Not Reported	110	11.7

Length of Service	Number	% Total
Less than 3 Months	150	16.0
3 to 11 Months	290	30.9
1 to 5 years	380	40.4
More than 5 Years	120	12.8
Service Not Reported	N/A	N/A

Days away from work	Number	% Total
1 Day	50	5.3
2 Days	50	5.3
3 to 5 Days	80	8.5
6 to 10 Days	80	8.5
11 to 20 Days	140	14.9
21 to 30 Days	N/A	N/A
31 Days or More	500	53.2
Median Days Away	31	N/A

Event/Exposure Leading to Injury	Number	% Total
Total Contact with Objects	290	30.9
Struck by Object	210	22.3

Struck Against Object	N/A	N/A
Caught in Object	N/A	N/A
Fall to Lower Level	N/A	N/A
Fall on Same Level	N/A	N/A
Slips or Trips	N/A	N/A
Overexertion Total	350	37.2
Overexertion in Lifting	180	19.1
Repetitive Motion	N/A	N/A
Exposure to Harmful Substance	N/A	N/A
Transportation Accidents	70	7.4
Fires and Explosions	N/A	N/A
Total Assaults – Violent Acts	N/A	N/A
Assaults by Person	N/A	N/A
All Other Assaults	N/A	N/A
All Other Events	N/A	N/A

Photo Credits

1) Title page photos from OSHA website – Oil and Gas Well Drilling and Servicing eTool (<http://www.osha.gov/SLTC/etools/oilandgas/index.html>)