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Summary of Occupational Incidents Introductory Briefing:

Data gathered in the IADC Incident Statistics Program (ISP) data base, shows that the oil and gas well drilling industry continues work toward reducing incidents on rigs. With the decrease in rig demand in 2018, the incidence rates increased slightly over 2017. Although IADC ISP calculates both Incidence rates and Frequency rates, this report is based on Incidence rates which are calculated on incidents per 200,000 man-hours.

The Summary of Occupational Incidents (SOI) is compiled annually from data volunteered by drilling contractors worldwide to the IADC ISP Program. During 2017, 89 contractors participated in the ISP representing a total of 384,944,906 million man-hours worked. Contractors striving for safety improvement by participating in the ISP program reported 1,305 Recordable incidents, 389 Lost Time incidents including 13 fatalities.

Regional Reporting

Safety data is compiled separately for Land and Offshore operations for nine geographic regions. This report is not designed to measure region against region, but to provide companies operating within each region tools to measure their efforts and make improvement in their safety efforts year over year.

Industry Improvement

2018 saw the drilling industry's worldwide Lost Time Incidence Rate increase to 0.21 which is a 31.25% change of the 2017 report of 0.16. The 2018 Recordable Incident rate increased to 0.68 which is a 25.93% change over the 2017 report of 0.54. The oil and gas well drilling industry's efforts towards safety have resulted in the industry's occupational LTI Incidence rate to improve from more than 14.00 in 1963 to 0.21 in 2018, which is a 99% improvement.

Fatalities:

In 2018 the industry's fatalities increased to 13 incidents compared to 10 incidents reported in 2017. According to the data reported in 2018, five (5) fatalities occurred to an employee who had more than five but less than ten years of service with the company. Four (4) fatalities occurred to employees who had more than one year but less than five years of service. Five (5) fatalities occurred during Rigging up/down. Three (3) victims were struck-by while three (3) were due to caught between incidents. Three (3) fatalities occurred due to flame/heat/steam contact/exposure. Four (4) of the fatalities occurred to floormen. Two (2) occurred to derrickmen and two (2) occurred to drillers.
Fatal Incidents by activity

Fatal Incidents by type

Fatalities by Occupation

Fatalities by Time in Service

Regional Summaries: Man-Hours vs Fatalities

European Land and Offshore categories together worked more than 34.9 million man-hours in 2018 with zero (0) fatalities. European offshore accounted for 26.7 million man-hours with zero (0) fatality while European Land had 8.2 million man-hours and zero (0) fatalities. US Land and Offshore contractors together worked more than 90 million man-hours with four (4) fatalities. US Land had 62.8 million man-hours with four (4) fatalities while US water had 27 million man-hours and zero (0) fatalities. Canadian contractors accounted for 5.7 million man-hours and one (1) fatality. Canadian Land had 4.3 million man-hours and one (1) fatality while offshore had 1.4 million man-hours and no fatalities. Central America and Caribbean accounted for 4.8 million man-hours with zero (0) fatalities. Land operations reported 478 thousand man-hours and no fatalities while water operations reported just over 4.4 million man-hours and no fatalities. Africa combined land and offshore accounted for 45 million man-hours with three (3) fatalities. Africa Land accounted for 32 million man-hours with three (3) fatalities while Africa Water had 12.9 million man-hours and no fatalities. The Middle East region accounted for 135 million man-hours with four (4) fatalities. The Land division had 93 million man-hours and three (3) fatalities while there were 41.7 million man-hours and one (1) fatality for the offshore division. Asia Pacific accounted for 43.9 million man-hours and zero fatalities.
(0) fatalities. Water had 35 million man-hours and no fatalities while the Land Division had 8.9 million man-hours with no fatalities. **South America** made up 19.8 million man-hours with one (1) fatality. Land had 11 million man-hours and one (1) fatality while Water had 8.7 million man-hours and no fatalities. **Australasia** made up 5 million man-hours with no fatalities. Land had 3.8 million man-hours with no fatalities while offshore had 1 million man-hours with no fatalities.

**Lost Time and Recordable Incidents by Region**

Lost time incidents among **US Offshore** workers improved 36% from 0.11 in 2017 to 0.07 in 2018. The Total Recordable Incidence Rate improved 8.7% from 0.46 in 2017 to 0.42 in 2018. **US Land** LTI incidence rate worsened 18.6% from 0.43 in 2017 to 0.51 in 2018 and Recordable Incidence Rate worsened 7% from 1.50 in 2017 to 1.61 in 2018. **European Land** workers saw their LTI rate worsen 85% from 0.21 for 2017 to 0.39 for 2018. The Recordable Incidence Rate worsened 65% from 0.29 in 2017 to 0.48 in 2018. **European Offshore** workers LTI rate improved 26% from 0.15 in 2017 to 0.11 in 2018 while the Recordable Incidence rate worsened 4% from 0.48 in 2017 to 0.50 in 2018. **Canada Land** had a 2017 LTI rate of 0.39 which improved 30% to 0.27 for 2018, while their Recordable Incidence improved 22.8% from 1.18 in 2017 to 0.91 for 2018. **Canada Offshore** workers saw their 2017 LTI rate of 0.16 decrease to 0.00 for 2018 for 100% improvement. The Recordable Incidence rate of 0.62 for 2017 improved 32% to 0.42 for 2018. **Central America and Caribbean Land** 2017 LTI rate of 0.50 increased to 1.25 for 2018. Their 2017 Recordable Incidence rate of 0.50 increased to 2.93 for 2018. **Central America and Caribbean Water** 2017 LTI Rate of 0.37 improved 37.4% to 0.23 in 2018. The Recordable rate of 1.05 for 2017 improved 13% to 0.91 for 2018. **Africa Land** LTI rate increased from 0.14 in 2017 to 0.57 in 2018. The Recordable Incidence rate increased from 0.52 in 2017 to 1.67 in 2018. **Africa Water** LTI rate remained the same at 0.06 and their Recordable Incidence rate worsened 48% from 0.29 in 2017 to 0.43 in 2018. In 2017, **Middle East Land** had a LTI rate of 0.09 which improved 22% to 0.07 in 2018. Their 2017 Recordable Incidence rate of 0.38 improved 26% to 0.28 in 2018. **Middle East Water** LTI rate of 0.06 remained the same and their Recordable Incidence rate improved 17.65% from 0.34 in 2017 to 0.28 in 2018. **Asia Pacific Land** 2017 LTI rate was 0.02 and worsened to 0.04 in 2018, while their Recordable Incidence rate worsened from 57% 0.14 in 2017 to 0.22 in 2018. **Asia Pacific Water** 2017 LTI rate of 0.07 improved 14% to 0.06 for 2018 and their Recordable Incidence rate remained the same at 0.22. In 2017, **South America Land** had an LTI rate of 0.25 which remained the same in 2018 and a 2017 Recordable rate of 0.84 which improved 35% to 0.54 in 2018. **South America Water** 2017 LTI rate was 0.20 which improved 30% to 0.14 in 2018 and a 2017 Recordable rate of 0.27 that worsened 11% to 0.30 in 2018. **Australasia Land** had a 2017 LTI rate of 0.18 which increased to 0.52 for 2018 and Recordable incident rate of 0.54 for 2017 which increased to 1.31 for 2018. **Australasia Water** had a 2017 LTI rate of 0.61 which improved 49% to 0.31 for 2018 and a 2017 Recordable incident rate of 1.52 which improved 69% to 0.47 for 2018.

**Greatest Risks:**

Incidents occur in many places around the rig and to all crewmembers. Many types of equipment and rig operations are involved in incidents and all parts of the body are at risk. Incident data are analyzed by occupation, body part, incident type, equipment type, operation, location time in service and time of day the incident occurred.
Data from the IADC ISP show that of all the categories, as with previous years, the Floorman position suffers the largest percentage of Lost Time and Recordable injuries.

Fingers remained the most vulnerable part of the body.

Struck By accounted for the most Lost Time Injuries while Caught Between accounted for most Total Recordable injuries.

Pipe/Tubulars is the equipment responsible for the most Lost Time and Recordable incidents.
“Rigging up/down” accounted for the most LTI. The most recordable incidents occurred during “Trip In/Out” closely followed by “Routine Drilling Operations”.

The most Lost Time and Recordable injuries in drilling operations occurred on the rig floor.

Lost Time and Recordable injuries based on Time in Service were led by employees with between one to five years of service.
The Most LTI and Recordable incidents occurred between 09:00-16:00 hours.

April and September accounted for the most Lost Time and June accounted for the most Recordable incidents.

26 – 35 age range accounted for the most Lost Time and Recordable incidents.

**Conclusion:**

Activity in most sectors of the industry decreased in 201. Overall, Lost Time incidents rates and Recordable incident rates increased slightly in 2018 as compared to 2017, an increase attributable to regions which experienced an uptick in rig activity. The industry also saw the number of fatalities increase by 3.
## 2018 ISP Program Industry Totals

### IADC ISP Program
#### 2018 Final Report (Table 1)
January – December
Note: Figures are unaudited

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TOTAL MANHOURS</th>
<th>TOTAL MTOs</th>
<th>TOTAL RWCs</th>
<th>TOTAL LTIs</th>
<th>TOTAL FTls</th>
<th>TOTAL RCRD</th>
<th>LTI INCD. RATE</th>
<th>LTI FREQ. RATE</th>
<th>DART INCD. RATE</th>
<th>DART FREQ. RATE</th>
<th>RCRD INCD. RATE</th>
<th>RCRD FREQ. RATE</th>
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<td><strong>US Combined</strong></td>
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<td>0.96</td>
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<td>0.75</td>
<td>3.73</td>
<td>1.10</td>
<td>5.50</td>
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</tbody>
</table>

**INDUSTRY TOTAL**

| TOTAL MANHOURS | 384,944,906 | 370 | 533 | 389 | 13 | 1,305 | 0.21 | 1.04 | 0.49 | 2.43 | 0.68 | 3.39 |

**MTO = Medical Treatment Only**

**RWC = Restricted Work Case**

**LTI = Lost Time Incident**

**FTL = Fatalities**

**RCRD = Total Recordables**

---

**INCD = Incidence Rate (200,000 man-hours):**

\[ \text{INCD} = \frac{\text{Number of Incidents}}{200,000 \text{ man-hours}} \]

**LTI INCID. RATE**

\[ \text{LTI INCID. RATE} = \frac{\text{Number of LTIs}}{\text{Total Man-hours}} \]

**LTI FREQ. RATE**

\[ \text{LTI FREQ. RATE} = \frac{\text{Number of LTIs}}{\text{Total Man-hours}} \]

**DART INCID. RATE**

\[ \text{DART INCID. RATE} = \frac{\text{Number of RWCs + LTIs + FTLs}}{\text{Total Man-hours}} \]

**DART FREQ. RATE**

\[ \text{DART FREQ. RATE} = \frac{\text{Number of RWCs + LTIs + FTLs}}{\text{Total Man-hours}} \]

**RCRD INCID. RATE**

\[ \text{RCRD INCID. RATE} = \frac{\text{Number of MTOs + RWCs + LTIs + FTLs}}{\text{Total Man-hours}} \]

**RCRD FREQ. RATE**

\[ \text{RCRD FREQ. RATE} = \frac{\text{Number of MTOs + RWCs + LTIs + FTLs}}{\text{Total Man-hours}} \]
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IADC INDUSTRY TOTALS (Table 3)

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MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENT RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCS) X 200,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCS) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Number of participating companies: 89 – Total; 57 – Land; 49 – Water

Total Industry LTI & Recordable Incidence Rates vs Man-hours (Figure 1)
IADC 2018 Total Industry Charts
Total Industry Lost Time Incidents by Month (Chart 1)
Based on 381 Incidents

- December: 9.45%
- November: 8.14%
- October: 6.56%
- September: 9.97%
- August: 7.35%
- July: 6.82%
- June: 9.71%
- May: 9.19%
- April: 9.97%
- March: 7.61%
- February: 9.19%
- January: 6.04%
Total Industry Recordable Incidents by Month (Chart 2)
Based on 1264 Incidents
Note: Some pie charts may not appear to show all the slices due to the small percentage the slice represents.
Total Industry Recordable Incidents by Occupation (Chart 4)
Based on 1259 Incidents

- Roustabout: 15.41%
- Floorman: 41.14%
- Driller: 7.15%
- Derrickman: 11.91%
- Mechanic: 5.08%
- Motorman: 6.35%
- Electrician: 2.22%
- Toolpusher: 2.62%
- Driller: 7.15%
- Subsea Eng.: 0.79%
- Catering Personnel: 0.71%
- Rig Helper: 1.35%
- Truck Driver/Pusher: 0.64%
- Crane/Forklift Oper: 1.19%
- Superint./Supervisors: 0.87%
- Catering Personnel: 0.71%
- Safety Officer: 0.32%
- Marine Crew: 0.24%

Based on 1259 Incidents:
- Safety Officer: 0.32%
- Maint. Super: 0.56%
- Truck Helper: 0.16%
- Rig Helper: 1.35%
- Truck Driver/Pusher: 0.64%
- Barge Engin./BCO: 0.32%
- Crane/Forklift Oper: 1.19%
- Mechanic: 5.08%
- Motorman: 6.35%
- Electrician: 2.22%
- Toolpusher: 2.62%
- Driller: 7.15%
- Derrickman: 11.91%
Total Industry Lost Time Incidents by Body Part (Chart 5)
Based on 380 Incidents

Elbow(s): 1.05%
Knee(s): 4.74%
Digestive/Inter.: 0.26%
Shoulder(s): 3.68%
Neck: 0.79%
Toes: 0.53%
Feet/Ankles: 16.58%
Leg(s): 10.26%
Finger(s): 20.26%
Hand(s) / Wrist(s): 9.21%
Arm(s): 6.05%
Trunk/Torso: 7.63%
Back: 8.68%
Head: 9.47%
Eyes (eyelid): 0.79%
Total Industry Recordable Incidents by Body Part (Chart 6)
Based on 1263 Incidents

- Finger(s): 31.12%
- Hand(s) / Wrist(s): 10.29%
- Arm(s): 4.43%
- Trunk/Torso: 5.07%
- Back: 5.78%
- Head: 12.75%
- Leg(s): 5.70%
- Foot/Ankles: 11.64%
- Toes: 0.71%
- Neck: 0.71%
- Shoulder(s): 4.04%
- Knees: 4.35%
- Lungs/Resp.: 0.16%
- Eyes (eyelid): 1.66%
- Digestive/Intest.: 0.48%

All other body parts are recorded at less than 0.5%.
Total Industry Lost Time Incidents by Incident Type (Chart 7)
Based on 381 Incidents

- Struck By: 29.13%
- Struck Against: 6.56%
- Slip/Fall: Different Level: 14.44%
- Slip/Fall: Same Level: 11.02%
- Caught Between/In: 21.52%
- Caught On: 0.52%
- Heat Exh./Stroke: 0.52%
- Sprain: 1.57%
- Vehicle: 1.57%
- Cut: 1.31%
- Flame/heat/steam: 0.26%
- Debris: 0.26%
- Chemicals/Fluids Contact: 1.84%
- Strain/Overexertion: 9.19%
- Sprain: 1.57%
Total Industry Recordable Incidents by Incident Type (Chart 8)
Based on 1254 Incidents

Caught Between/In: 30.38%
Struck Against: 6.46%
Struck By: 27.91%
Slip/Fall: Same Level: 9.09%
Slip/Fall: Different Level: 7.74%
Strain/Overexertion: 7.42%
Chemicals/Fluids Contact: 1.91%
Fire/Heat/Steam: 0.64%
Electrical Shock: 0.08%
Debris: 0.72%
Cut: 3.59%
Exposure to Gas: 0.08%
Sprain: 1.83%
Chemical Inhalation: 0.16%
Heat Exh./Stroke: 0.56%
Caught On: 0.40%
Vehicle: 0.80%
Jump: 0.16%
Exposure to Weather: 0.08%
Chemical Inhal.: 0.16%
Exposure to Weather: 0.08%
Slip/Fall: Different Level: 7.74%
Slip/Fall: Same Level: 9.09%
Total Industry Lost Time Incidents by Equipment (Chart 9)
Based on 360 Incidents

- Rig Floor Winch / Deck Winch: 1.94%
- Boat Cargo: 0.28%
- Tongs: 6.11%
- Elevators: 2.78%
- Slips (drill collar clamp): 5.00%
- Iron Roughneck, Pipe Spinner, etc.: 1.11%
- Rotary: 0.56%
- Pipes/Collars/Tubulars/Csg.: 16.39%
- Cathead/Drawworks: 1.39%
- Slings: 5.00%
- Engines/Pumps/Machinery: 6.67%
- Car, truck, bus: 2.50%
- Stairs: 4.44%
- Material: 9.44%
- Pressure Hoses/Lines: 5.56%
- Crane: 3.33%
- Forklift: 3.33%
- Winch Truck: 0.56%
- BOP Stack (well head, tree): 2.78%
- Decks (grating, walkway): 8.06%
- Ladders: 2.78%
- Top Drive (blocks, swivel, kelly): 1.67%
- Chemicals: 1.67%
- Engines/Pumps/Machinery: 6.67%

Issued 15 June 2019

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Total Industry Recordable Incidents by Equipment (Chart 10)
Based on 1193 Incidents

- Anchor Chains/Cables/Winch: 0.25%
- Rig Floor Winch/Deck Winch: 1.59%
- Boat Cargo: 0.50%
- Tongs: 6.87%
- Elevators: 3.44%
- Slips (drill collar clamp): 3.35%
- Iron Roughneck, Pipe Spinner, etc.: 2.01%
- Rotary: 0.75%
- Pipes/Collars/Tubulars/Csg.: 15.67%
- Cathead/Drawworks: 0.75%
- Slings: 6.29%
- Welding, Cutting, Grinding Equipment: 0.50%
- Decks (grating, walkway): 7.12%
- Ladders: 1.68%
- Forklift: 2.26%
- Winch Truck: 0.42%
- Crane: 3.10%
- Pressure Hoses/Lines: 5.36%
- Material: 7.96%
- BOP Stack well-head, tree: 3.52%
- Stairs: 3.19%
- Kelly/Master Bushings: 0.17%
- Trans. - Helicopter: 0.17%
- Trans. - Car, truck, bus: 1.59%
- Hand Tools: Power: 1.01%
- Hand Tools: Manual: 9.97%
- Engines/Pumps/Machinery: 7.04%
- Top Drive (blocks, swivel, kelly): 1.00%
- Chemicals: 2.43%
- Material: 7.96%
- BOP Stack well-head, tree: 3.52%
- Stairs: 3.19%
- Kelly/Master Bushings: 0.17%
- Trans. - Helicopter: 0.17%
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- Trans. - Helicopter: 0.17%
- Trans. - Car, truck, bus: 1.59%
- Hand Tools: Power: 1.01%
- Hand Tools: Manual: 9.97%
- Engines/Pumps/Machinery: 7.04%
Total Industry Lost Time Incidents by Operation (Chart 11)
Based on 377 Incidents

- Travel/Transport: 1.86%
- Rig Move (Towing/Anchor Handling): 0.27%
- Walking: 4.51%
- Cementing: 0.80%
- Trip in/out, etc.: 15.12%
- Making Connection: 2.92%
- Routine Drilg Oper.: 13.53%
- Run Casing/Tubing: 6.90%
- Lay Down/Pick up Pipe/Tub.: 6.90%
- Material Handling: Manual: 6.10%
- Material Handling: Crane/Cherry Picker: 2.65%
- Material Handling: Forklift: 2.39%
- Material Handling: Winch: 1.59%
- Material Handling: Rig Floor Winch: 0.27%
- Painting & related tasks: 0.27%
- Handle Riser: 0.27%
- Training: 0.27%
- Rig Move (Towing/Anchor Handling): 0.27%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Rig Up/Down Rig Move: 16.98%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
- Special Ops.: 0.27%
- Mud Mix/Pump: 1.86%
- Rig/Equip. Repairs/Maint.: 10.88%
- Rig Up/Down Rig Move: 16.98%
- BOP Stack, well head/tree Install/Maint.: 2.12%
- Jack Up/Down Oper.: 0.53%
- Well Testing: 0.80%
- Training: 0.27%
Total Industry Recordable Incidents by Operation (Chart 12)
Based on 1031 Incidents

- Rig/Equip. Repairs/Maint. 12.10%
- Mud Mix/Pump 1.61%
- Special Opers. 0.56%
- Training 0.16%
- Walking 3.87%
- Abrasive Blasting/Paint/Scale Removal 0.08%
- Painting & related tasks 0.24%
- Handle Riser 0.16%
- Jack Up/Down Oper. 0.16%
- Travel/Transport. 1.05%
- Rig Move (Towing/Anchor Handling) 0.73%
- Trip in/out, etc.) 16.89%
- Well Testing 0.48%
- BOP Stack, well head/tree Install/Maint. 4.19%
- Making Connection 3.47%
- Rig Up/Down Rig Move 14.52%
- Run Casing/Tubing 6.29%
- Lay Down/Pick up Pipe/Tub. 5.48%
- Material Handling Rig Floor Winch 1.05%
- Material Handling Forklift 1.29%
- Lay Down/Pick up Pipe/Tub. 5.48%
- Material Handling Crane/Cherry Picker 2.82%
- Material Handling Manual 6.69%
- Routine Drilg Oper. 16.21%
- Material Handling Forklift 1.29%
- Material Handling Winch Truck 0.08%
Total Industry Lost Time Incidents by Location (Chart 13)
Based on 376 Incidents

- Rig Floor: 35.90%
- Catwalk/V-door: 3.19%
- Cherry Picker/Crane: 1.33%
- Derrick/Mast: 6.12%
- BOP Stack, Wellhead/Area: 3.46%
- Mud Mixing Tank/Area: 3.99%
- Shale Shaker: 1.06%
- Mud Pits/Tanks: 3.99%
- Cellar/Sub./Moonpool: 7.98%
- Fuel/Water Stor. Tanks: 0.53%
- Machinery Spaces: 0.80%
- Work, change, storage, room/house: 0.53%
- Truck, Car, Bus: 1.86%
- Stairs/Ladders: 1.86%
- Engine/Gen. Room: 1.60%
- Rig Pad/Rig Decks: 14.10%
- Cellar/Sub./Moonpool: 7.98%
Total Industry Recordable Incidents by Location (Chart 14)
Based on 1237 Incidents

- Rig Floor: 37.03%
- Camp/Accom.: 2.34%
- Mud Pump Room: 4.12%
- Cellar/Sub./Moonpool: 7.68%
- Work, change, storage, room/house: 1.94%
- Crew/Work Boats: 0.08%
- Helicopter: 0.08%
- Device, Car, Bus: 1.21%
- Machinery Spaces: 1.29%
- SCR/Electrical Room: 0.24%
- Engine/Gen. Room: 1.29%
- Stairs/Ladders: 1.37%
- Mud Pits/Tanks: 3.96%
- Shale Shaker: 1.37%
- Fuel/Water Stor. Tanks: 0.40%
- Jack. House: 0.08%
- Cherry Picker/Crane: 0.97%
- Cherry Picker/Crane: 0.97%
- Winch Truck: 0.08%
- Forklift: 0.40%
- Anchor Winch Station/Area: 0.08%
- BOP Stack, Well-head/tree Area: 3.64%
- Mud Mixing Tank/Area: 2.75%
- Derrick/Mast: 5.98%
- Catwalk/V-door: 3.56%
- Pipe Rack/Pipe Deck: 5.98%
Total Industry Lost Time Incidents by Time in Service (Chart 15)
Based on 372 Incidents

- 10+ yrs. 14.25%
- >5 yrs. < 10 yrs. 15.32%
- >1 yr. < 5 yrs. 36.83%
- >6 mos. < 1 yr. 12.63%
- >3 mos. < 6 mos. 8.87%
- 0 mo. < 3 mos. 12.10%
Total Industry Recordable Incidents by Time in Service (Chart 16)
Based on 1227 Incidents

- 0 mo. < 3 mos.: 13.28%
- >3 mos. < 6 mos.: 8.88%
- >6 mos. < 1 yr.: 11.49%
- >1 yr. < 5 yrs.: 37.57%
- >5 yrs. < 10 yrs.: 15.97%
- >10 yrs.: 12.80%
Total Industry Lost Time Incidents by Time of Day (Chart 17)
Based on 371 Incidents

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Total Industry Recordable Incidents by Time of Day (Chart 18)
Based on 1238 Incidents

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Total Industry Lost Time Incidents by Age (Chart 19)
Based on 334 Incidents

- 18-25: 12.57%
- 26-35: 48.50%
- 36-45: 24.25%
- 46-55: 11.38%
- 56-65: 3.29%
- 56-65: 3.29%
Total Industry Recordable Incidents by Age (Chart 20)
Based on 1106 Incidents

- 18-25: 14.47%
- 26-35: 48.73%
- 36-45: 24.77%
- 46-55: 9.22%
- 56-65: 2.71%
- 66 & Above: 0.09%

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# 2018 ISP Program Regional Totals

## Combined Land & Water

### IADC 2018 Africa Totals (Table 4)

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<th>COMBINED</th>
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<td>12,926,329</td>
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<td>Total Medical Treatment Incidents</td>
<td>26</td>
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<tr>
<td>Total Restricted Work Incidents</td>
<td>151</td>
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<tr>
<td>Total Lost Time Incidents</td>
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<td>Total Fatalities</td>
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<tr>
<td>Total Recordables</td>
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<td>28</td>
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**Incidence Rates**

- **MTO Incidence Rate**: 0.16<br>
- **RWC Incidence Rate**: 0.94<br>
- **LTI Incidence Rate**: 0.57<br>
- **LTI Frequency Rate**: 2.83<br>
- **DART Incidence Rate**: 1.51<br>
- **DART Frequency Rate**: 7.53<br>
- **Recordable Incidence Rate**: 1.67<br>
- **Recordable Frequency Rate**: 8.34

**Incidence Rate Formulas**

- **Medical Treatment Incidence Rate** = MTOs X 200,000 / Man-hours (LTIs NOT INCLUDED)
- **Restricted Work Incidence Rate** = RWCs X 200,000 / Man-hours (LTIs NOT INCLUDED)
- **Lost Time Incidence Rate** = (LTIs + FTLs) X 200,000 / Man-hours
- **Lost Time Frequency Rate** = (LTIs + FTLs) X 1,000,000 / Man-hours
- **DART Incidence Rate** = (LTIs + FTLs + RWCs) X 200,000 / Man-hours
- **DART Frequency Rate** = (LTIs + FTLs + RWCs) X 1,000,000 / Man-hours
- **Recordable Incidence Rate** = Recordables X 200,000 / Man-hours
- **Recordable Frequency Rate** = Recordables X 1,000,000 / Man-hours

### Companies Reporting:
- Land: 13
- Water: 19

### Africa Total LTI & Recordable Incidence Rates vs Man-hours (Figure 4)

[Graph showing incidence rates over time]
IADC 2018 Asia Pacific Totals (Table 5)

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<td>TOTAL FATALITIES</td>
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<td>RWC INCIDENCE RATE</td>
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<tr>
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<td>LTI FREQUENCY RATE</td>
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<td>DART INCIDENCE RATE</td>
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MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENT RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting:  Land – 10  Water – 28

Asia Pacific Total LTI & Recordable Incidence Rates vs Man-hours (Figure 5)
### IADC 2018 Australasia Totals (Table 6)

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<td>0</td>
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<td>0.27</td>
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<td>LTI INCIDENCE RATE</td>
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<td>5.50</td>
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MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 6; Water – 4

Australasia Total LTI & Recordable Incidence Rates vs Man-hours (Figure 6)
## IADC 2018 Canada Totals (Table 7)

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<tr>
<td>TOTAL LOST TIME INCIDENTS</td>
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<td>5</td>
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<td>TOTAL FATALITIES</td>
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<td>0</td>
<td>1</td>
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<tr>
<td>TOTAL RECORDABLES</td>
<td>20</td>
<td>3</td>
<td>23</td>
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</table>

### Incident Rates

- **MTO INCIDENT RATE**: 0.14 0.00 0.10
- **RWC INCIDENT RATE**: 0.50 0.42 0.48
- **LTI INCIDENT RATE**: 0.37 0.00 0.21
- **LTI FREQUENCY RATE**: 1.37 0.00 1.03
- **DART INCIDENT RATE**: 0.78 0.42 0.69
- **DART FREQUENCY RATE**: 3.88 2.12 3.45
- **RECORDABLE INCIDENT RATE**: 0.91 0.42 0.79
- **RECORDABLE FREQUENCY RATE**: 4.57 2.12 3.97

**MEDICAL TREATMENT INCIDENCE RATE** = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)

**RESTRICTED WORK INCIDENT RATE** = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)

**LOST TIME INCIDENCE RATE** = (LTIs+FTLs) X 200,000 / MAN-HOURS

**DART INCIDENT RATE** = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS

**LOST TIME FREQUENCY RATE** = (LTIs+FTLs) X 1,000,000 / MAN-HOURS

**RECORDABLE INCIDENCE RATE** = RECORDABLES X 200,000 / MAN-HOURS

**RECORDABLE FREQUENCY RATE** = RECORDABLES X 1,000,000 / MAN-HOURS

### Companies Reporting:
- Land – 3
- Water – 4

## Canada Total LTI & Recordable Incidence Rates vs Man-hours (Figure 7)
IADC 2018 Central America & Caribbean Totals (Table 8)

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<td>4,884,314</td>
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<td>5</td>
<td>8</td>
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<tr>
<td>TOTAL FATALITIES</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>TOTAL RECORDABLES</td>
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<td>27</td>
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</table>

MTO INCIDENCE RATE = 0.84
RWC INCIDENCE RATE = 0.84
LTI INCIDENCE RATE = 1.25
LTI FREQUENCY RATE = 6.27
DART INCIDENCE RATE = 2.09
DART FREQUENCY RATE = 10.45
RECORDABLE INCIDENCE RATE = 2.93
RECORDABLE FREQUENCY RATE = 14.63

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting:  Land – 5  Water – 10

Central America & Caribbean Total LTI & Recordable Incidence Rates vs Man-hours
(Figure 8)

![Graph showing incidence rates over time](image)
IADC 2018 European Totals (Table 9)

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<tr>
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<tr>
<td>TOTAL RESTRICTED WORK INCIDENTS</td>
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<td>26</td>
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<tr>
<td>TOTAL LOST TIME INCIDENTS</td>
<td>16</td>
<td>15</td>
<td>31</td>
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<tr>
<td>TOTAL FATALITIES</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>TOTAL RECORDABLES</td>
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<td>67</td>
<td>87</td>
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</table>

MTO INCIDENCE RATE        0.10       0.19       0.17
RWC INCIDENCE RATE        0.00       0.19       0.15
LTI INCIDENCE RATE        0.39       0.11       0.18
LTI FREQUENCY RATE        1.93       0.56       0.89
DART INCIDENCE RATE       0.39       0.31       0.33
DART FREQUENCY RATE       1.93       1.53       1.63
RECORDABLE INCIDENCE RATE 0.48       0.50       0.50
RECORDABLE FREQUENCY RATE 2.42       2.51       2.49

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 10    Water – 18

European Total LTI & Recordable Incidence Rates vs Man-hours (Figure 9)
## IADC 2018 Middle East Totals (Table 10)

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<td><strong>RWC INCIDENCE RATE</strong></td>
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<td>0.12</td>
</tr>
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<td><strong>LTI INCIDENCE RATE</strong></td>
<td>0.07</td>
<td>0.06</td>
<td>0.07</td>
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<td><strong>LTI FREQUENCY RATE</strong></td>
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<td>0.29</td>
<td>0.34</td>
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<tr>
<td><strong>DART INCIDENCE RATE</strong></td>
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<td>0.19</td>
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<tr>
<td><strong>DART FREQUENCY RATE</strong></td>
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<td>0.96</td>
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<td><strong>RECORDABLE FREQUENCY RATE</strong></td>
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MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENT RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

**Companies Reporting:** Land – 19  Water – 18

### Middle East Total LTI & Recordable Incidence Rates vs Man-hours (Figure 10)

![Graph showing incidence rates vs man-hours for LTI, DART, and recordable incidents for Middle East from 2001 to 2018.](image)
IADC 2018 South American Totals (Table 11)

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<td>DART INCIDENCE RATE</td>
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MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting:  Land – 8  Water – 12

South America Total LTI & Recordable Incidence Rates vs Man-hours (Figure 11)
IADC 2018 US Totals (Table 12)

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<td>0.18</td>
<td>0.43</td>
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MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
LTI FREQUENCY RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS
LOST TIME INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS
DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 26; Water – 15

US Total LTI & Recordable Incidence Rates vs Man-hours (Figure 12)