# Table of Contents

(Table of Contents is Hyperlinked, Just click on Topic & go)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>IADC 2016 US WATER TOTALS (Table 1)</td>
<td>1</td>
</tr>
<tr>
<td>US Water Total LTI &amp; Recordable Incidence Rates vs Man-hours (Figure 1)</td>
<td>1</td>
</tr>
<tr>
<td>IADC 2016 US WATER CHARTS</td>
<td>2</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Month (Chart 1)</td>
<td>2</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Month (Chart 2)</td>
<td>3</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Occupation (Chart 3)</td>
<td>4</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Occupation (Chart 4)</td>
<td>5</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Body Part (Chart 5)</td>
<td>6</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Body Part (Chart 6)</td>
<td>7</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Occupation (Chart 7)</td>
<td>8</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Incident Type (Chart 8)</td>
<td>9</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Equipment (Chart 9)</td>
<td>10</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Equipment (Chart 10)</td>
<td>11</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Operation (Chart 11)</td>
<td>12</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Operation (Chart 12)</td>
<td>13</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Location (Chart 13)</td>
<td>14</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Location (Chart 14)</td>
<td>15</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Time in Service (Chart 15)</td>
<td>16</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Time in Service (Chart 16)</td>
<td>17</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Time of Day (Chart 17)</td>
<td>18</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Time of Day (Chart 18)</td>
<td>19</td>
</tr>
<tr>
<td>US Water Total Lost Time Incidents by Age (Chart 19)</td>
<td>20</td>
</tr>
<tr>
<td>US Water Total Recordable Incidents by Age (Chart 20)</td>
<td>21</td>
</tr>
</tbody>
</table>
IADC 2016 US Water Totals (Table 1)

<table>
<thead>
<tr>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Man-hours</td>
<td>27,758,082</td>
</tr>
<tr>
<td>Total Medical Treatment Incidents</td>
<td>27</td>
</tr>
<tr>
<td>Total Restricted Work Incidents</td>
<td>29</td>
</tr>
<tr>
<td>Total Lost Time Incidents</td>
<td>11</td>
</tr>
<tr>
<td>Total Fatalities</td>
<td>1</td>
</tr>
<tr>
<td>Total Recordables</td>
<td>68</td>
</tr>
</tbody>
</table>

- MTO Incidence Rate: 0.19
- RWC Incidence Rate: 0.21
- LTI Incidence Rate: 0.09
- LTI Frequency Rate: 0.43
- DART Incidence Rate: 0.30
- DART Frequency Rate: 1.48
- Recordable Incidence Rate: 0.49
- Recordable Frequency Rate: 2.45

Companies Reporting: Water – 16

Medical Treatment Incidence Rate = MTOs X 200,000
Restricted Work Incidence Rate = RWCs X 200,000
Lost Time Incidence Rate = LTIs + FTLs X 200,000
Lost Time Frequency Rate = LTIs + FTLs X 1,000,000
DART Incidence Rate = LTIs + RWC X 200,000
DART Frequency Rate = LTIs + RWC X 1,000,000
Recordable Incidence Rate = RCRD X 200,000
Recordable Frequency Rate = RCRD X 1,000,000

US Water Total LTI & Recordable Incidence Rates vs Man-hours (Figure 1)
IADC 2016 US Water Charts
US Water Total Lost Time Incidents by Month (Chart 1)
Based on 11 Incidents

Based on 11 Incidents:
- November 9.09%
- October 9.09%
- May 18.18%
- April 9.09%
- March 18.18%
- February 27.27%
- January 9.09%
US Water Total Recordable Incidents by Month (Chart 2)
Based on 66 Incidents

- January: 12.12%
- February: 12.12%
- March: 9.09%
- April: 9.09%
- May: 10.61%
- June: 4.55%
- July: 9.09%
- August: 4.55%
- September: 6.06%
- October: 6.06%
- November: 7.58%
- December: 9.09%
US Water Total Lost Time Incidents by Occupation (Chart 3)
Based on 11 Incidents

- Floorman 30.00%
- Roustabout (Lease Hand) 50.00%
- Crane / Forklift Operator 10.00%
- Electrician 10.00%
US Water Total Recordable Incidents by Occupation (Chart 4)
Based on 63 Incidents

- Roustabout (Lease Hand): 25.40%
- Floorman: 36.51%
- Driller (Asst. Dr.): 6.35%
- Derrickman: 1.59%
- Electrician: 4.76%
- Mechanic: 4.76%
- Motorman: 3.17%
- Crane / Forklift Operator: 4.76%
- Superintendent/others Supervisors: 1.59%
- Marine Crew: 4.76%
- Subsea Engineer: 4.76%
- Roustabout (Lease Hand): 25.40%
- Floorman: 36.51%
- Driller (Asst. Dr.): 6.35%
- Derrickman: 1.59%
- Electrician: 4.76%
- Mechanic: 4.76%
- Motorman: 3.17%
- Crane / Forklift Operator: 4.76%
- Superintendent/others Supervisors: 1.59%
- Marine Crew: 4.76%
- Subsea Engineer: 4.76%
US Water Total Lost Time Incidents by Body Part (Chart 5)
Based on 11 Incidents

- Head: 9.09%
- Shoulder(s): 9.09%
- Feet/Ankles: 9.09%
- Leg(s): 9.09%
- Finger(s): 18.18%
- Arm(s): 9.09%
- Trunk/Torso (chest, abdomen, groin): 9.09%
- Knee(s): 27.27%
- Feet/Ankles: 9.09%
US Water Total Recordable Incidents by Body Part (Chart 6)
Based on 66 Incidents

- Finger(s) 24.24%
- Hand(s) / Wrist(s) 16.67%
- Leg(s) 4.55%
- Feet/Ankles 10.61%
- Toes 1.52%
- Shoulder(s) 7.58%
- Knee(s) 9.09%
- Eyes (eyelid) 1.52%
- Head 10.61%
- Back 4.55%
- Trunk/Torso (chest, abdomen, groin) 1.52%
- Arm(s) 7.58%

Based on 66 Incidents

Issued: 1 July 2017
Copyright © International Association of Drilling Contractors
US Water Total Lost Time Incidents by Incident Type (Chart 7)
Based on 11 Incidents

- Struck By: 27.27%
- Struck Against: 9.09%
- Caught Between/In: 18.18%
- Slip/Fall: Same Level: 27.27%
- Slip/Fall: Different Level: 9.09%
- Strain/Overexertion: 9.09%
US Water Total Recordable Incidents by Incident Type (Chart 8)
Based on 66 Incidents

- Struck Against: 3.08%
- Caught Between/In: 26.15%
- Slip/Fall: Same Level: 7.69%
- Slip/Fall: Different Level: 1.54%
- Electrical Shock: 1.54%
- Debris: 1.54%
- Sprain: 3.08%
- Caught On: 1.54%
- Struck By: 21.54%
- Strain/Overexertion: 13.85%
- Cut: 18.46%
- Sprain: 3.08%
- Caught On: 1.54%
- Cut: 18.46%
- Debris: 1.54%
- Electrical Shock: 1.54%
- Strain/Overexertion: 13.85%
- Slip/Fall: Different Level: 1.54%
- Slip/Fall: Same Level: 7.69%
- Struck By: 21.54%
- Struck Against: 3.08%
- Caught Between/In: 26.15%
US Water Total Lost Time Incidents by Equipment (Chart 9)
Based on 10 Incidents

- Material: 20.00%
- Crane: 10.00%
- Ladders: 10.00%
- Tongs: 10.00%
- Pipes/Collars/Tubulars/Csg.: 20.00%
- Slings (rope, cable, chain, web): 10.00%
- Stairs: 10.00%
- Hand Tools: Manual: 10.00%
US Water Total Recordable Incidents by Equipment (Chart 10)
Based on 64 Incidents

- Rig Floor Winch/Deck Winch (air/hydraulic) - 3.13%
- Top Drive (blocks, swivel, kelly) - 1.56%
- Crane - 6.25%
- Pressure Hoses/Lines - 4.69%
- Material - 12.50%
- BOP Stack (well head, tree) - 4.69%
- Stairs - 7.81%
- Car, truck, bus - 1.56%
- Boat - 1.56%
- Engines/Pumps/Machinery - 4.69%
- Iron Roughneck, Pipe Spinner, etc. - 3.13%
- Pipes/Collars/Tubulars/Csg. - 7.81%
- Cathead/Drawworks - 3.13%
- Slings (rope, cable, chain, web) - 7.81%
- Slips (drill collar clamp) - 1.56%
- Elevators - 3.13%
- Hand Tools: Manual - 14.06%
- Hand Tools: Power - 3.13%
US Water Total Lost Time Incidents by Operation (Chart 11)
Based on 11 Incidents

- Walking: 9.09%
- Painting (painting related tasks): 9.09%
- Rigging Up/Down: 9.09%
- Running Casing/Tubing: 9.09%
- Laying Down/Picking up Tubulars: 9.09%
- Material Handling: Manual: 27.27%
- Material Handling: Crane/Cherry Picker: 27.27%
US Water Total Recordable Incidents by Operation (Chart 12)
Based on 66 Incidents

- Travel/Transportation: 4.76%
- Routine Drilling Oper.: 15.87%
- Laying Down/Picking up Tubulars: 9.52%
- Material Handling: Manual: 14.29%
- Laying Down/Picking up Tubulars: 9.52%
- Rigging Up/Down: 3.17%
- BOP Stack Install/Maintenance: 4.76%
- Equipment Repairs or Maintenance: 9.52%
- Mud Mixing/Pumping: 1.59%
- Special Operations: 1.59%
- Tripping in/out: 6.35%
- Painting (painting related tasks): 1.59%
- Handling Riser: 1.59%
- Walking: 4.76%
- Training: 1.59%
- Routine Drilling Oper.: 15.87%
- Running Casing/Tubing: 6.35%
- Laying Down/Picking up Tubulars: 9.52%
- Material Handling: Manual: 14.29%
- Laying Down/Picking up Tubulars: 9.52%
- Rigging Up/Down: 3.17%
- BOP Stack Install/Maintenance: 4.76%
- Equipment Repairs or Maintenance: 9.52%
- Mud Mixing/Pumping: 1.59%
- Special Operations: 1.59%
- Tripping in/out: 6.35%
- Painting (painting related tasks): 1.59%
- Handling Riser: 1.59%
- Walking: 4.76%
- Training: 1.59%
- Routine Drilling Oper.: 15.87%
- Running Casing/Tubing: 6.35%
- Laying Down/Picking up Tubulars: 9.52%
- Material Handling: Manual: 14.29%
- Laying Down/Picking up Tubulars: 9.52%
- Rigging Up/Down: 3.17%
- BOP Stack Install/Maintenance: 4.76%
- Equipment Repairs or Maintenance: 9.52%
- Mud Mixing/Pumping: 1.59%
- Special Operations: 1.59%
- Tripping in/out: 6.35%
- Painting (painting related tasks): 1.59%
- Handling Riser: 1.59%
- Walking: 4.76%
- Training: 1.59%
- Routine Drilling Oper.: 15.87%
- Running Casing/Tubing: 6.35%
- Laying Down/Picking up Tubulars: 9.52%
- Material Handling: Manual: 14.29%
US Water Total Lost Time Incidents by Location (Chart 13)
Based on 10 Incidents

- Rig Floor: 40.00%
- Rig Pad/Rig Decks: 20.00%
- Pipe Rack/ Pipe Deck: 20.00%
- Derrick/Mast: 10.00%
- Stairs/Ladders: 10.00%
US Water Total Recordable Incidents by Location (Chart 14)
Based on 63 Incidents

- Rig Floor: 36.67%
- Pipe Rack/Pipe Deck: 10.00%
- SCR/Electrical Room: 1.67%
- Engine Generator Room: 3.33%
- Stairs/Ladders: 5.00%
- Mud Pump Room: 3.33%
- SCR/Electrical Room: 1.67%
- BOP Stack /well head/tree Area: 5.00%
- Rig Pad/Rig Decks: 13.33%
- Work Rooms change, storage, room: 3.33%
- Crew/Work Boats: 3.33%
- Fuel/Water Storage Tanks: 1.67%
- Shale Shaker: 1.67%
- Cherry Picker/Crane: 1.67%
- Living/Camp Areas/Accommodations: 1.67%
- Cellar / Sub / Moonpool: 1.67%
- Truck, Car, Bus: 1.67%
- Machinery Spaces: 3.33%
- Rig Pad/Rig Decks: 13.33%
- SCR/Electrical Room: 1.67%
US Water Total Lost Time Incidents by Time in Service (Chart 15)
Based on 11 Incidents

- >1 yr. < 5 yrs. 54.55%
- >5 yrs. < 10 yrs. 9.09%
- 10+ yrs. 27.27%
- >3 mos. < 6 mos. 9.09%
US Water Total Recordable Incidents by Time in Service (Chart 16)
Based on 66 Incidents

- 10+ yrs. 22.73%
- >5 yrs. < 10 yrs. 6.06%
- >1 yr. < 5 yrs. 63.64%
- >3 mos. < 6 mos. 1.52%
- >6 mos. < 1 yr. 4.55%
- 0 mo. < 3 mos. 1.52%
- >3 mos. < 6 mos. 1.52%

Issued: 1 July 2017
Copyright © International Association of Drilling Contractors
US Water Total Lost Time Incidents by Time of Day (Chart 17)
Based on 11 Incidents

- 7:00: 18.18%
- 5:00: 9.09%
- 2:00: 9.09%
- 3:00: 9.09%
- 4:00: 9.09%
- 10:00: 9.09%
- 6:00: 9.09%
- 12:00: 9.09%
- 13:00: 9.09%
- 14:00: 9.09%
- 15:00: 9.09%
- 16:00: 9.09%
- 17:00: 9.09%
- 18:00: 9.09%
- 19:00: 9.09%
- 20:00: 9.09%
- 21:00: 9.09%
- 22:00: 9.09%
- 23:00: 9.09%
US Water Total Recordable Incidents by Time of Day (Chart 18)
Based on 64 Incidents

- 2:00: 1.56%
- 3:00: 3.13%
- 24:00: 1.56%
- 23:00: 6.25%
- 22:00: 4.69%
- 21:00: 1.56%
- 20:00: 6.25%
- 19:00: 1.56%
- 18:00: 7.81%
- 17:00: 4.69%
- 16:00: 7.81%
- 15:00: 4.69%
- 14:00: 3.13%
- 13:00: 3.13%
- 12:00: 4.69%
- 11:00: 4.69%
- 10:00: 6.25%
- 9:00: 7.81%
- 8:00: 6.25%
- 7:00: 3.13%
- 6:00: 4.69%
- 5:00: 3.13%
- 4:00: 3.13%
- 3:00: 6.25%
- 2:00: 3.13%
- 1:00: 4.69%
- 0:00: 6.25%
US Water Total Lost Time Incidents by Age (Chart 19)
Based on 8 Incidents

- 18 - 25: 25.00%
- 26 - 35: 12.50%
- 36 - 45: 25.00%
- 56 - 65: 25.00%
- 66 & Above: 12.50%
US Water Total Recordable Incidents by Age (Chart 20)
Based on 44 Incidents

- 18 - 25: 13.64%
- 26 - 35: 36.36%
- 36 - 45: 22.73%
- 46 - 55: 15.91%
- 56 - 65: 9.09%
- 66 & Above: 2.27%