IADC

IADC ISP PROGRAM

2017

Summary of Occupational Incidents
(US Land Totals)

Issued 15 June 2018
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## IADC 2017 US Land Totals (Table 1)

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<tr>
<th>Category</th>
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<td>55,488,587</td>
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<td>Total Restricted Work Incidents</td>
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<td>Recordable Incidence Rate</td>
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<td>Recordable Frequency Rate</td>
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**Companies Reporting:** Land – 29

- 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
- DART Incidence Rate = LTIs + RWC X 200,000
- Recordable Incidence Rate = RCRD X 200,000
- Lost Time Frequency Rate = LTIs + FTLs X 1,000,000
- DART Frequency Rate = LTIs + RWC X 1,000,000
- Recordable Frequency Rate = RCRD X 1,000,000

## US Land Total Incidence Rates vs Man-hours (Figure 1)
IADC 2017 US Land Charts
US Land Total Lost Time Incidents by Month (Chart 1)
Based on 117 Incidents

- December: 6.84%
- November: 6.84%
- October: 8.55%
- September: 6.84%
- August: 11.11%
- July: 13.68%
- June: 5.13%
- May: 7.69%
- April: 11.11%
- March: 6.84%
- February: 6.84%
- January: 8.55%

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US Land Total Recordable Incidents by Month (Chart 2)
Based on 412 Incidents

- December: 9.71%
- January: 5.83%
- February: 4.13%
- March: 9.47%
- April: 9.22%
- May: 9.22%
- June: 9.71%
- July: 11.65%
- August: 8.98%
- September: 6.07%
- October: 8.01%
- November: 8.01%
- December: 9.71%
- November: 8.01%
- October: 8.01%
- September: 6.07%
- August: 8.98%
- July: 11.65%
- June: 9.71%
- May: 9.22%
- April: 9.22%
- March: 9.47%
- February: 4.13%
- January: 5.83%
US Land Total Lost Time Incidents by Occupation (Chart 3)
Based on 117 Incidents

- Floorman: 58.97%
- Derrickman: 12.82%
- Driller (Asst. Dr.): 6.84%
- Toolpusher (Asst. TP, Tourpusher): 1.71%
- Mechanic: 1.71%
- Rig Helper: 1.71%
- Motorman: 15.38%
- Electrician: 0.85%
US Land Total Recordable Incidents by Occupation (Chart 4)
Based on 412 Incidents

- Mechanic: 3.16%
- Rig Helper: 0.73%
- Roustabout (Lease Hand): 0.49%
- Motorman: 14.08%
- Electrician: 1.21%
- Toolpusher (Asst. TP, Tourpusher): 1.46%
- Driller (Asst. Dr.): 6.31%
- Derrickman: 17.23%
- Floorman: 54.37%
- Superintendent/other Supervisors: 0.49%
- Truck Driver / Pusher: 0.24%
- Welder: 0.24%
- Truck Driver / Pusher: 0.24%
- Superintendent/other Supervisors: 0.49%
- Mechanic: 3.16%
- Rig Helper: 0.73%
- Roustabout (Lease Hand): 0.49%
- Motorman: 14.08%
- Electrician: 1.21%
- Toolpusher (Asst. TP, Tourpusher): 1.46%
- Driller (Asst. Dr.): 6.31%
- Derrickman: 17.23%
- Floorman: 54.37%
US Land Total Lost Time Incidents by Body Part (Chart 5)
Based on 117 Incidents

- Finger(s): 11.97%
- Hand(s) / Wrist(s): 15.38%
- Arm(s): 4.27%
- Back: 5.13%
- Trunk/Torso (chest, abdomen, groin): 16.24%
- Head: 10.26%
- Eyes (eyelid): 0.85%
- Eyes (eyelid): 0.85%
- Digestive/Internal: 2.56%
- Shoulders: 5.13%
- Feet/Ankles: 11.11%
- Legs: 11.11%
- Shoulder(s): 5.13%
- Elbow(s): 1.71%
- Knee(s): 3.42%
- Skin: 0.85%
- Skin: 0.85%
- Skin: 0.85%
- Skin: 0.85%
- Skin: 0.85%
- Skin: 0.85%
US Land Total Recordable Incidents by Body Part (Chart 6)
Based on 412 Incidents

- Finger(s): 29.85%
- Hand(s) / Wrist(s): 10.68%
- Arm(s): 4.37%
- Trunk/Torso (chest, abdomen, groin): 8.74%
- Back: 5.58%
- Head: 13.83%
- Eyes (eyelid): 1.94%
- Digestive/Internal: 1.46%
- Lungs/Respiratory: 0.49%
- Skin: 0.24%
- Toes: 0.24%
- Neck: 0.24%
- Leg(s): 5.10%
- Feet/Ankles: 6.80%
- Shoulder(s): 4.85%
- Elbow(s): 1.46%
- Knee(s): 4.13%
US Land Total Lost Time Incidents by Incident Type (Chart 7)
Based on 114 Incidents

- Struck By: 28.07%
- Caught Between/In: 27.19%
- Struck Against: 2.63%
- Slip/Fall: Different Level: 10.53%
- Slip/Fall: Same Level: 12.28%
- Heat Exhaustion/Heat Stroke: 2.63%
- Sprain: 1.75%
- Cut: 0.88%
- Jump: 0.88%
- Debris: 0.88%
- Contact With Chemicals/Fluids: 1.75%
- Strain/Overexertion: 8.77%
- Flamexheat/steam (contact/exposed): 0.88%
- Electrical Shock: 0.88%
- Contact With Chemicals/Fluids: 1.75%
- Strain/Overexertion: 8.77%
- Slip/Fall: Different Level: 10.53%
- Slip/Fall: Same Level: 12.28%
- Caught Between/In: 27.19%
- Struck By: 28.07%
- Caught Between/In: 27.19%
- Struck Against: 2.63%
US Land Total Recordable Incidents by Incident Type (Chart 8)
Based on 409 Incidents

- Caught Between/In: 33.01%
- Struck By: 24.21%
- Heat Exhaustion/Heat Stroke: 1.96%
- Exposure to Gas: 0.49%
- Sprain: 2.20%
- Cut: 2.93%
- Debris: 1.96%
- Vehicle: 0.49%
- Jump: 0.24%
- Electrical Shock: 0.24%
- Struck Against: 3.67%
- Flame/heat/steam (contact/exposed): 0.73%
- Contact With Chemicals/Fluids: 1.71%
- Strain/Overexertion: 9.54%
- Slip/Fall: Different Level: 6.60%
- Slip/Fall: Same Level: 10.02%

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US Land Total Lost Time Incidents by Equipment (Chart 9)
Based on 113 Incidents

- Top Drive (blocks, swivel, kelly): 2.65%
- Rig Floor Winch/Deck Winch (air/hydraulic): 2.65%
- Tongs: 4.42%
- Elevators: 4.42%
- Slips (drill collar clamp): 6.19%
- Iron Roughneck, Pipe Spinner, etc.: 7.08%
- Stairs: 7.08%
- Engines/Pumps/Machinery: 7.96%
- Hand Tools: Manual: 7.96%
- Slings (rope, cable, chain, web): 7.96%
- Pipes/Collars/Tubulars Csg.: 16.81%
- Rotary: 2.65%
- Forklift: 1.77%
- Crane: 3.54%
- Pressure Hoses/Lines: 6.19%
- Material: 1.77%
- BOP Stack (well head, tree): 7.08%
- Stairs: 3.54%
- Kelly Bushings (master bushings): 1.77%
- Engines/Pumps/Machinery: 5.31%
- Hand Tools: Manual: 7.96%
- Slings (rope, cable, chain, web): 7.96%
- Pipes/Collars/Tubulars Csg.: 16.81%
- Rotary: 2.65%
- Forklift: 1.77%
- Crane: 3.54%
- Pressure Hoses/Lines: 6.19%
- Material: 1.77%
- BOP Stack (well head, tree): 7.08%
- Stairs: 3.54%
- Kelly Bushings (master bushings): 1.77%
- Engines/Pumps/Machinery: 5.31%
- Hand Tools: Manual: 7.96%
- Slings (rope, cable, chain, web): 7.96%
- Pipes/Collars/Tubulars Csg.: 16.81%
- Rotary: 2.65%
- Forklift: 1.77%
- Crane: 3.54%
- Pressure Hoses/Lines: 6.19%
- Material: 1.77%
- BOP Stack (well head, tree): 7.08%
- Stairs: 3.54%
- Kelly Bushings (master bushings): 1.77%
- Engines/Pumps/Machinery: 5.31%
- Hand Tools: Manual: 7.96%
- Slings (rope, cable, chain, web): 7.96%
- Pipes/Collars/Tubulars Csg.: 16.81%
- Rotary: 2.65%
US Land Total Recordable Incidents by Equipment (Chart 10)

Based on 401 Incidents

- Anchor Chains/Cables/Winches: 0.25%
- Rig Floor Winch/Deck Winch (air/hydraulic): 1.75%
- Anchor Chains/ Cables/Winches: 0.25%
- Rig Floor Winch/Deck Winch (air/hydraulic): 1.75%
- Top Drive (blocks, swivel, kelly): 2.49%
- Decks (grating, walkway): 9.48%
- Ladders: 1.00%
- Welding, Cutting, Grinding Equipment: 0.25%
- Forklift: 1.25%
- Welding, Cutting, Grinding Equipment: 0.25%
- Crane: 1.00%
- Pressure Hoses/Lines: 5.74%
- Material: 5.74%
- Well Control (BOP) Stack (well head, tree): 5.99%
- Stairs: 3.99%
- Car, truck, bus: 0.75%
- Kelly Bushings (master bushings): 0.75%
- Engines/Pumps/Machinery: 7.73%
- Hand Tools: Manual: 11.72%
- Hand Tools: Power: 1.25%
- Elevators: 2.99%
- Slips (drill collar clamp): 3.99%
- Iron Roughneck, Pipe Spinner, etc.: 3.24%
- Rotary: 1.50%
- Pipes/Collars/Tubulars/Csg: 16.71%
- Cathead/Drawworks: 1.00%
- Slings (rope, cable, chain, web): 4.99%
- Hand Tools: Manual: 11.72%
US Land Total Lost Time Incidents by Operation (Chart 11)
Based on 116 incidents

- Tripping in/out (makeup/brakeout BHA, test tools, etc.) 21.55%
- Routine Drilling Operations 27.59%
- Running Casing/Tubing (rig up/down csg. tools) 5.17%
- Laying Down/Picking up Pipe/Tubulars 0.86%
- Material Handling: Forklift 1.72%
- Material Handling: Manual 1.72%
- Material Handling: Rig Floor Winch 0.86%
- Rigging Up/Down (rig move preparation, rig move) 19.83%
- Well Control (BOP) Stack (well head/tree) Install/Maintenance 6.90%
- Making Connection 1.72%
- Rig/Equipment Repairs or Maintenance 6.90%
- Painting (painting related tasks) 0.86%
- Walking 2.59%
- Cementing 1.72%
US Land Total Recordable Incidents by Operation (Chart 12)
Based on 411 Incidents

- Rig Move (Towing/Anchor Handling): 0.73%
- Well Testing: 0.49%
- Painting (painting related tasks): 0.24%
- Travel/Transportation: 0.49%
- Rigging Up/Down (rig move preparation, rig move): 19.95%
- Routine Drilling Operations: 19.71%
- Tripping in/out (makeup/brakeout BHA, test tools, etc.): 19.71%
- Making Connection: 3.16%
- Running Casing/Tubing (rig up/down csg. tools): 6.08%
- Material Handling: Manual: 1.22%
- Laying Down/Picking up Pipe/Tubulars: 4.38%
- Cementing: 1.22%
- Well Control (BOP) Stack (well head/tree) Install/Maintenance: 5.35%
- Rig/Equipment Repairs or Maintenance: 12.65%
- Mud Mixing/Pumping: 0.73%
- Special Operations (wireline, perforating, etc.): 0.24%
- Walking: 2.19%
- Material Handling: Forklift: 0.73%
- Material Handling: Rig Floor Winch: 0.73%

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US Land Total Lost Time Incidents by Location (Chart 13)
Based on 115 Incidents

- Rig Floor: 46.96%
- Cellar/Substructure/Moonpool: 9.57%
- Fuel/Water Storage Tanks: 2.61%
- Rig Pad/Rig Decks: 9.57%
- Work Rooms: 1.74%
- Stairs/Ladders: 3.48%
- SCR/Electrical Room: 0.87%
- Engine/Gen. Room: 1.74%
- Mud Pits/Tanks: 5.22%
- Shale Shaker: 0.87%
- Mud Mixing Tank/Area: 0.87%
- BOP Stack (well head/tree) Area: 4.35%
- Derrick/Mast: 7.83%
- Catwalk/V-door: 0.87%
- Fuel/Water Storage Tanks: 2.61%
- Rig Floor: 46.96%
US Land Total Recordable Incidents by Location (Chart 14)
Based on 410 Incidents

- **Machinery Spaces**: 0.98%
- **Forklift**: 0.24%
- **Cellar/Subs./Moonpool**: 10.73%
- **Camp/Accommodations Areas**: 0.49%
- **Work, change, storage, rooms**: 1.46%
- **Pipe Rack/Pipe Deck**: 3.41%
- **Catwalk/V-door**: 1.71%
- **Derrick/Mast**: 7.32%
- **BOP Stack (well head/tree) Area**: 3.17%
- **Mud Pump Room**: 4.39%
- **Fuel/Water Storage Tanks**: 1.46%
- **Rig Floor**: 39.27%
- **Rig Pad/Rig Decks**: 13.17%
- **Engine/Gen. Rooms**: 1.22%
- **Mud Pits/Tanks**: 5.12%
- **Mud Mixing Tank/Area**: 1.46%
- **SCR/Electrical Room**: 0.24%
- **Stairs/Ladders**: 2.20%
- **Pipe Rack/Pipe Deck Area**: 3.41%
- **Catwalk/V-door**: 1.71%
- **Derrick/Mast**: 7.32%
- **BOP Stack (well head/tree) Area**: 3.17%

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US Land Total Lost Time Incidents by Time in Service (Chart 15)
Based on 117 Incidents

- >5 yrs. < 10 yrs.: 10.26%
- 10+ yrs.: 5.98%
- >1 yr. < 5 yrs.: 17.09%
- >6 mos. < 1 yr.: 11.11%
- >3 mos. < 6 mos.: 27.35%
- 0 mo. < 3 mos.: 28.21%
US Land Total Recordable Incidents by Time in Service (Chart 16)
Based on 412 Incidents

- >6 mos. < 1 yr.: 18.45%
- >3 mos. < 6 mos.: 20.39%
- >1 yr. < 5 yrs.: 19.17%
- >5 yrs. < 10 yrs.: 9.71%
- 0 mo. < 3 mos.: 28.16%
- >10 yrs.: 4.13%
- >3 mos. < 6 mos.: 20.39%
US Land Total Lost Time Incidents by Time of Day (Chart 17)

Based on 114 Incidents

- 1:00: 1.75%
- 2:00: 4.39%
- 3:00: 0.88%
- 24:00:00: 2.63%
- 23:00: 2.63%
- 22:00: 4.39%
- 21:00: 6.14%
- 20:00: 6.14%
- 19:00: 3.51%
- 18:00: 2.63%
- 17:00: 4.39%
- 16:00: 3.51%
- 15:00: 7.89%
- 14:00: 2.63%
- 13:00: 3.51%
- 12:00: 7.02%
- 11:00: 4.39%
- 10:00: 1.75%
- 9:00: 5.26%
- 8:00: 6.14%
- 7:00: 8.77%
- 6:00: 4.39%
- 5:00: 1.75%
- 4:00: 3.51%
- 3:00: 4.39%
US Land Total Recordable Incidents by Time of Day (Chart 18)
Based on 404 Incidents

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US Land Total Lost Time Incidents by Age (Chart 19)
Based on 106 incidents

- 18 - 25: 16.98%
- 26 - 35: 43.40%
- 36 - 45: 20.75%
- 46 - 55: 9.43%
- 56 - 65: 16.98%
US Land Total Recordable Incidents by Age (Chart 20)
Based on 365 incidents

- 18 - 25: 18.08%
- 26 - 35: 46.03%
- 36 - 45: 21.64%
- 46 - 55: 9.86%
- 56 - 65: 4.38%
- 66 - 75: 7.88%