IADC
ISP PROGRAM
2016

Summary of Occupational Incidents
(US Land Totals)

Issued 1 July 2017
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IADC 2016 US Land Totals (Table 1)

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<td>Recordable Frequency Rate</td>
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Companies Reporting: Land – 31

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

US Land Total Incidence Rates vs Man-hours (Figure 1)
IADC 2016 US Land Charts
US Land Total Lost Time Incidents by Month (Chart 1)
Based on 57 Incidents

- December: 15.79%
- January: 14.04%
- February: 7.02%
- March: 7.92%
- April: 5.26%
- May: 3.51%
- June: 5.26%
- July: 5.26%
- August: 7.02%
- September: 10.53%
- October: 8.77%
- November: 10.53%
US Land Total Recordable Incidents by Month (Chart 2)
Based on 206 Incidents

- December: 13.11%
- November: 11.17%
- October: 11.17%
- September: 11.65%
- August: 7.28%
- July: 6.60%
- June: 7.28%
- May: 5.83%
- April: 7.28%
- March: 6.60%
- February: 4.85%
- January: 6.60%
- November: 11.17%
- October: 11.17%
- September: 11.65%
- August: 7.28%
- July: 6.60%
- June: 7.28%
- May: 5.83%
- April: 7.28%
- March: 6.60%
- February: 4.85%
- January: 6.60%
US Land Total Lost Time Incidents by Occupation (Chart 3)
Based on 57 Incidents

- Floorman: 49.12%
- Driller (Asst. Dr.): 5.26%
- Derrickman: 8.77%
- Toolpusher (Asst. TP, Tourpusher): 5.26%
- Electrician: 5.26%
- Superintendent/other Supervisors: 3.51%
- Motorman: 19.30%
- Welder: 1.75%
- Safety Officer: 1.75%
- Floorman: 49.12%
US Land Total Recordable Incidents by Occupation (Chart 4)
Based on 206 Incidents

- **Motorman** 15.53%
- **Floorman** 49.03%
- **Derrickman** 17.96%
- **Driller (Asst. Dr.)** 7.77%
- **Toolpusher (Asst. TP, Tourpusher)** 2.43%
- **Electrician** 1.46%
- **Superintendent/other Supervisors** 1.46%
- **Roustabout (Lease Hand)** 0.97%
- **Rig Helper** 0.49%
- **Welder** 0.49%
- **Safety Officer** 0.49%
- **Truck Driver / Pusher** 0.97%

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US Land Total Lost Time Incidents by Body Part (Chart 5)
Based on 57 Incidents

- Feet/Ankles: 14.04%
- Leg(s): 14.04%
- Hand(s) / Wrist(s): 8.77%
- Finger(s): 7.02%
- Arm(s): 7.02%
- Shoulder(s): 7.02%
- Neck: 1.75%
- Elbow(s): 1.75%
- Back: 10.53%
- Trunk/Torso (chest, abdomen, groin): 12.28%
- Head: 7.02%
US Land Total Recordable Incidents by Body Part (Chart 6)
Based on 203 Incidents

- Finger(s) 24.14%
- Hand(s) / Wrist(s) 8.87%
- Arm(s) 4.93%
- Trunk/Torso (chest, abdomen, groin) 8.87%
- Back 6.40%
- Head 14.78%
- Shoulders 4.93%
- Neck 0.99%
- Toes 0.99%
- Feet/Ankles 8.37%
- Legs 7.39%
- Digestive/Internal 0.99%
- Lungs/Respiratory 0.99%
- Elbow(s) 0.99%
- Shoulders 4.93%
- Knee(s) 6.40%
- Trunk/Torso (chest, abdomen, groin) 8.87%
- Back 6.40%
- Head 14.78%
- Shoulders 4.93%
- Neck 0.99%
- Toes 0.99%
- Feet/Ankles 8.37%
- Legs 7.39%
- Digestive/Internal 0.99%
- Lungs/Respiratory 0.99%
- Elbow(s) 0.99%
- Shoulders 4.93%
- Knee(s) 6.40%
US Land Total Lost Time Incidents by Incident Type (Chart 7)
Based on 57 Incidents

Caught Between/In
19.30%

Caught Between/In
19.30%

Struck By
26.32%

Struck By
26.32%

Struck Against
3.51%

Struck Against
3.51%

Flame/heat/steam (contact/exposed)
5.26%

Flame/heat/steam (contact/exposed)
5.26%

Electrical Shock
1.75%

Electrical Shock
1.75%

Heat Exhaustion/Heat Stroke
1.75%

Heat Exhaustion/Heat Stroke
1.75%

Sprain
8.77%

Sprain
8.77%

Slip/Fall: Same Level
10.53%

Slip/Fall: Same Level
10.53%

Slip/Fall: Different Level
8.77%

Slip/Fall: Different Level
8.77%

Strain/Overexertion
12.28%

Strain/Overexertion
12.28%

Jump
1.75%

Jump
1.75%
US Land Total Recordable Incidents by Incident Type (Chart 8)
Based on 205 incidents

- Caught Between/In: 26.34%
- Struck By: 32.20%
- Struck Against: 4.88%
- Slip/Fall: Same Level: 7.32%
- Slip/Fall: Different Level: 7.80%
- Strain/Overexertion: 8.29%
- Electrical Shock: 6.98%
- Contact With Chemicals/Fluids: 0.98%
- Flame/heat/steam (contact/exposed): 1.95%
- Struck By: 2.93%
- Heat Exhaustion/Heat Stroke: 1.95%
- Exposed to Gas: 0.49%
- Cut: 3.41%
- Sprain: 0.49%
- Jump: 0.49%
US Land Total Lost Time Incidents by Equipment (Chart 9)
Based on 52 Incidents

- Anchor Chains/Cables/Winches: 1.92%
- Rig Floor Winch/Deck Winch (air/hydraulic): 1.92%
- Decks (grating, walkway): 17.31%
- Top Drive (blocks, swivel, kelly): 3.85%
- Pressure Hoses/Lines: 3.85%
- Slings (rope, cable, chain, web): 1.92%
- Material: 3.85%
- Hand Tools: Manual: 1.92%
- Engines/Pumps/Machinery: 3.85%
- Kelly Bushings (master bushings): 1.92%
- Stairs: 7.69%
- Rotary: 5.77%
- Slings (rope, cable, chain, web): 1.92%
- Iron Roughneck, Pipe Spinner, etc.: 1.92%
- Pipes / Collars / Tubulars / Csg.: 19.23%
- Top Drive (blocks, swivel, kelly): 3.85%
- Forklift: 5.77%
- Felt Tool: Manual: 1.92%
- Engines/Pumps/Machinery: 3.85%
- Kelly Bushings (master bushings): 1.92%
- Stairs: 7.69%
US Land Total Recordable Incidents by Equipment (Chart 10)
Based on 182 Incidents

- Anchor Chains/Cables/Winches: 1.10%
- Rig Floor Winch/Deck Winch (air/hydraulic): 1.10%
- Top Drive (blocks, swivel, kelly): 6.04%
- Chemicals (sack, drum, pail, bulk hopper): 1.65%
- Decks (grating, walkway): 8.24%
- Ladders: 2.20%
- Forklift: 2.75%
- Winch Truck: 0.55%
- Crane: 1.10%
- Pressure Hoses/Lines: 4.40%
- Material: 5.49%
- Well Control (BOP) Stack (well head, tree): 4.40%
- Kelly Bushings (master bushings): 0.55%
- Stairs: 4.40%
- Engines/Pumps/Machinery: 5.49%
- Hand Tools: Manual: 10.44%
- Hand Tools: Power: 2.75%
- Slings (rope, cable, chain, web): 7.14%
- Iron Roughneck, Pipe Spinner, etc.: 2.20%
- Pipes / Collars / Tubulars / Csg.: 15.93%
- Slips (drill collar clamp): 0.55%
- Elevators: 3.85%
- Tongs: 4.40%
- Rotary: 3.30%
US Land Total Lost Time Incidents by Operation (Chart 11)
Based on 57 Incidents

- Travel/Transportation: 1.75%
- Tripping in/out (makeup/brakeout BHA, test tools, etc.): 14.04%
- Routine Drilling Operations: 14.04%
- Running Casing/Tubing (rig up/down csg. tools): 5.26%
- Laying Down/Picking up Pipe/Tubulars: 12.28%
- Rigging Up/Down (rig move preparation, rig move): 17.54%
- Special Operations (wireline, perforating, etc.): 1.75%
- Well Testing: 8.77%
- Rig/Equipment Repairs or Maintenance: 14.04%
- Material Handling: Manual: 1.75%
- Material Handling: Forklift: 3.51%
- Rigging Up/Down (rig move preparation, rig move): 17.54%
- Walking: 3.51%
US Land Total Recordable Incidents by Operation (Chart 12)
Based on 205 Incidents

- Well Testing: 2.44%
- Walking: 1.95%
- Cementing: 1.95%
- Tripping in/out (makeup/brakeout BHA, test tools, etc.): 13.17%
- Making Connection: 2.44%
- Routine Drilling Operations: 12.68%
- Running Casing/Tubing (rig up/down csg. tools): 5.37%
- Laying Down/Picking up Pipe/Tubulars: 7.80%
- Rigging Up/Down (rig move preparation, rig move): 23.41%
- Rig/Equipment Repairs or Maintenance: 18.54%
- Well Control (BOP) Stack (well head/tree) Install/Maintenance: 2.93%
- Special Operations (wireline, perforating, etc.): 0.49%
- Material Handling: Manual: 2.93%
- Material Handling: Forklift: 1.95%
- Material Handling: Crane/Cherry Picker: 0.49%
- Material Handling: Crane/Cherry Picker: 0.49%
- Jacking Up/Down Operations: 0.49%
- Travel/Transportation: 0.98%
- Rigging Up/Down (rig move preparation, rig move): 23.41%
US Land Total Lost Time Incidents by Location (Chart 13)
Based on 57 Incidents

- Forklift 1.75%
- Pipe Rack/Pipe Deck 1.75%
- Catwalk/V-door 8.77%
- Derrick/Mast 7.02%
- BOP Stack (well head/tree) Area 3.51%
- Mud Mixing Tank/Area 3.51%
- Shale Shaker 1.75%
- Mud Pits/Tanks 1.75%
- Rig Pad/Rig Decks 15.79%
- Cellar/Substructure/Moonpool 5.26%
- Work Rooms 5.26%
- Machinery Spaces 5.26%
- Fuel/Water Storage Tanks 1.75%
- Rig Floor 36.84%
- Rig Pad/Rig Decks
- Cellar/Substructure/Moonpool
- Work Rooms
- Rig Pad/Rig Decks

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US Land Total Recordable Incidents by Location (Chart 14)
Based on 205 incidents

- Rig Floor: 34.15%
- Rig Pad/Rig Decks: 14.15%
- Cellar/Subs./Moonpool: 8.29%
- Engine/Gen. Rooms: 1.46%
- Work, change, storage, rooms: 2.44%
- Stairs/Ladders: 0.98%
- Machinery Spaces: 1.46%
- Fuel/Water Storage Tanks: 0.98%
- Cherry Picker/Crane: 0.49%
- Forklift: 0.49%
- Mud Pits/Tanks: 3.41%
- Shale Shaker: 0.98%
- Mud Mixing Tank/Area: 2.44%
- Derrick/Mast: 10.24%
- Catwalk/V-door: 3.90%
- BOP Stack (well head/tree) Area: 1.95%
US Land Total Lost Time Incidents by Time in Service (Chart 15)
Based on 57 Incidents

- 10+ yrs.: 17.54%
- >5 yrs. < 10 yrs.: 26.32%
- >1 yr. < 5 yrs.: 26.32%
- >6 mos. < 1 yr.: 5.26%
- >3 mos. < 6 mos.: 7.02%
- 0 mo. < 3 mos.: 17.54%
US Land Total Recordable Incidents by Time in Service (Chart 16)
Based on 206 incidents

- >6 mos. < 1 yr.: 3.88%
- >3 mos. < 6 mos.: 6.31%
- >1 yr. < 5 yrs.: 34.95%
- >5 yrs. < 10 yrs.: 21.84%
- 0 mo. < 3 mos.: 21.84%
- 10+ yrs.: 11.17%
- 0 mo. < 3 mos.: 21.84%
US Land Total Lost Time Incidents by Time of Day (Chart 17)
Based on 56 Incidents

- 23:00: 7.14%
- 22:00: 3.57%
- 19:00: 1.79%
- 18:00: 3.57%
- 17:00: 3.57%
- 16:00: 5.36%
- 15:00: 5.36%
- 14:00: 7.14%
- 13:00: 7.14%
- 10:00: 3.57%
- 9:00: 1.79%
- 8:00: 5.36%
- 7:00: 5.36%
- 6:00: 7.14%
- 5:00: 5.36%
- 4:00: 3.57%
- 3:00: 3.57%
- 2:00: 3.57%
- 1:00: 7.14%
- 0:00: 23.57%
- 24:00: 3.57%
US Land Total Recordable Incidents by Time of Day (Chart 18)
Based on 205 incidents

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US Land Total Lost Time Incidents by Age (Chart 19)
Based on 49 Incidents

- 18 - 25: 6.12%
- 26 - 35: 26.53%
- 36 - 45: 28.57%
- 46 - 55: 26.53%
- 56 - 65: 12.24%
US Land Total Recordable Incidents by Age (Chart 20)
Based on 168 Incidents

- 18 - 25: 8.33%
- 26 - 35: 44.05%
- 36 - 45: 27.38%
- 46 - 55: 15.48%
- 56 - 65: 4.76%
- 66 - 75: 2.86%
- 76+: 0.59%