IADC

IADC ISP PROGRAM

2016

Summary of Occupational Incidents
(South America Land Totals)

Issued 1 July 2017
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IADC 2016 South America Land Totals (Table 1)

<table>
<thead>
<tr>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Manhours</td>
<td>11,885,011</td>
</tr>
<tr>
<td>Total Medical Treatment Incidents</td>
<td>7</td>
</tr>
<tr>
<td>Total Restricted Work Incidents</td>
<td>19</td>
</tr>
<tr>
<td>Total Lost Time Incidents</td>
<td>16</td>
</tr>
<tr>
<td>Total Fatalities</td>
<td>0</td>
</tr>
<tr>
<td>Total Recordables</td>
<td>42</td>
</tr>
</tbody>
</table>

MTO Incidence Rate 0.12
RWC Incidence Rate 0.32
LTI Incidence Rate 0.27
LTI Frequency Rate 1.35
DART Incidence Rate 0.59
DART Frequency Rate 2.94
Recordable Incidence Rate 0.71
Recordable Frequency Rate 3.53

Companies Reporting: Land – 9

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

South America Land Total Incidence Rates vs Man-hours (Figure 1)
IADC 2016 South America Land Charts
South America Land Total Lost Time Incidents by Month (Chart 1)
Based on 14 Incidents

- January: 21.43%
- April: 14.29%
- February: 14.29%
- March: 14.29%
- June: 7.14%
- August: 7.14%
- September: 14.29%
- December: 7.14%

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South America Land Total Recordable Incidents by Month (Chart 2)
Based on 38 Incidents

January
26.32%

February
7.89%

March
15.79%

April
5.26%

June
7.89%

July
2.63%

August
10.53%

October
2.63%

November
5.26%

December
10.53%

January
26.32%

February
7.89%

March
15.79%

April
5.26%
South America Land Total Lost Time Incidents by Occupation (Chart 3)
Based on 14 Incidents

- Roustabout (Lease Hand): 14.29%
- Floorman: 42.86%
- Motorman: 7.14%
- Superintendent/other Supervisors: 7.14%
- Mechanic (Repair Technician): 7.14%
- Welder: 7.14%
- Rig Helper: 14.29%
South America Land Total Recordable Incidents by Occupation (Chart 4)
Based on 38 Incidents

- Motorman: 2.63%
- Toolpusher (Asst.TP, Tourpusher): 2.63%
- Derrickman: 18.42%
- Floorman: 34.21%
- Mechanic (Repair Technician): 15.79%
- Rig Helper: 5.26%
- Welder: 2.63%
- Crane Operator (Forklift Operator): 2.63%
- Superintendent/other Supervisors: 2.63%
- Roustabout (Lease Hand): 13.16%
South America Land Total Lost Time Incidents by Body Part (Chart 5)
Based on 14 Incidents

- Shoulder(s) 7.14%
- Feet/Ankles 21.43%
- Leg(s) 7.14%
- Eyes (eyelid) 7.14%
- Hand(s) / Wrist(s) 7.14%
- Finger(s) 50.00%
South America Land Total Recordable Incidents by Body Part (Chart 6)
Based on 37 Incidents

- Shoulder(s): 2.70%
- Feet/Ankles: 16.22%
- Leg(s): 5.41%
- Finger(s): 59.46%
- Hand(s) / Wrist(s): 5.41%
- Head: 8.11%
- Eyes (eyelid): 2.70%
South America Land Total Lost Time Incidents by Incident Type (Chart 7)
Based on 14 Incidents

Caught Between/In: 42.86%
Struck By: 14.29%
Sprain: 7.14%
Electrical Shock: 7.14%
Strain/Overexertion: 7.14%
Slip/Fall: Different Level: 7.14%
Slip/Fall: Same Level: 7.14%
Struck Against: 7.14%
South America Land Total Recordable Incidents by Incident Type (Chart 8)
Based on 38 Incidents

- Caught Between/In: 55.26%
- Struck By: 21.05%
- Slip/Fall: Different Level: 5.26%
- Slip/Fall: Same Level: 5.26%
- Struck Against: 2.63%
- Sprain: 2.63%
- Jump: 2.63%
- Electrical Shock: 2.63%
- Strain/Overexertion: 2.63%
South America Land Total Lost Time Incidents by Equipment (Chart 9)
Based on 14 Incidents

- Spinning Chain: 7.14%
- Anchor Chains/Cables/Winches: 7.14%
- Ladders: 7.14%
- Material: 21.43%
- Engines/Pumps/Machinery: 14.29%
- Slings (rope, cable, chain, web): 7.14%
- Pipes/Collars/Tubulars/Csg.: 28.57%
South America Land Total Recordable Incidents by Equipment (Chart 10)
Based on 38 Incidents

- Anchor Chains/Cables/Winches (air/hydraulic): 2.63%
- Top Drive (blocks, swivel, kelly): 5.26%
- Elevators: 7.89%
- Spinning Chain: 2.63%
- Pipes/Collars/Tubulars/Csg.: 21.05%
- Material: 7.89%
- Pressure Hoses/lines: 2.63%
- Ladders: 2.63%
- Engine/Pumps/Machinery: 21.05%
- Hand Tools: Manual: 5.26%
- Engines/Pumps/Machinery: 21.05%
- Well Control (BOP) Stack (well head, tree): 2.63%
- Stairs: 2.63%
South America Land Total Lost Time Incidents by Operation (Chart 11)
Based on 14 Incidents

- Tripping in/out (makeup/brakeout BHA, test tools, etc.) 21.43%
- Routine Drilling Operations 21.43%
- Running Casing/Tubing (rig up/down csg. tools) 7.14%
- Special Operations (wireline, perforating, etc.) 7.14%
- Making Connection 7.14%
- Well Control (BOP) Stack (well head/tree) Install/Maintenance 7.14%
- Rigging Up/Down (rig move preparation, rig move) 14.29%
- Material Handling: Manual 7.14%
- Walking 7.14%

Based on 14 Incidents

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South America Land Total Recordable Incidents by Operation (Chart 12)
Based on 38 Incidents

- Walking: 2.63%
- Travel/Transportation: 2.63%
- Tripping in/out (makeup/brakeout BHA, test tools, etc.): 13.16%
- Making Connection: 2.63%
- Routine Drilling Operations: 21.05%
- Running Casing/Tubing (rig up/down csg. tools): 5.26%
- Laying Down/Picking up Pipe/Tubulars: 2.63%
- Material Handling: Manual: 2.63%
- Material Handling: Manual: 2.63%
- Rig/Equipment Repairs or Maintenance: 18.42%
- Well Control (BOP) Stack (well head/tree) Install/Maintenance: 2.63%
- Rigging Up/Down (rig move preparation, rig move): 21.05%
- Rigging Up/Down (rig move): 21.05%
- Special Operations (wireline, perforating, etc.): 2.63%
- Cementing: 2.63%
- Tripping in/out (makeup/brakeout BHA, test tools, etc.): 13.16%
South America Land Total Lost Time Incidents by Location (Chart 13)
Based on 14 Incidents

- Catwalk/V-door: 7.14%
- Derrick/Mast (crown, monkey/stabbing board, a-frame): 14.29%
- Well Control (BOP) Stack (well head/tree) Area: 14.29%
- Engine Room/Generator Room: 14.29%
- Rig Pad/Rig Decks: 14.29%
- Cellar / Substructure / Moonpool: 7.14%
- Fuel/Water Storage Tanks: 7.14%
- Rig Floor (rotary, pipe set back area): 21.43%
- Rig Pad/Rig Decks: 14.29%
- Engine Room/Generator Room: 14.29%
- Cellar / Substructure / Moonpool: 7.14%
- Fuel/Water Storage Tanks: 7.14%
South America Land Total Recordable Incidents by Location (Chart 14)
Based on 38 Incidents

- Rig Floor (rotary, pipe set back area) 26.32%
- Engine Room/Generator Room 13.16%
- Derrick/Mast (crown, monkey/stabbing board, a-frame) 15.79%
- Well Control (BOP) Stack (well head/tree) Area 5.26%
- Shale Shaker 2.63%
- Mud Mixing Tank/Area 2.63%
- Fuel/Water Storage Tanks 2.63%
- Catwalk/V-door 2.63%
- Pontoon 2.63%
- Mud Pump Room 7.89%
- Cellar / Substructure / Moonpool 7.89%
- Rig Pad/Rig Decks 10.53%
South America Land Total Lost Time Incidents by Time in Service (Chart 15)
Based on 14 Incidents

- 10+ yrs.: 14.29%
- 1 yr. < 5 yrs.: 28.57%
- >6 mos. < 1 yr.: 7.14%
- >3 mos. < 6 mos.: 7.14%
- >5 yrs. < 10 yrs.: 21.43%
- 0 mo. < 3 mos.: 21.43%
- 0 mo. < 3 mos.: 21.43%
South America Land Total Recordable Incidents by Time in Service (Chart 16)
Based on 38 Incidents

- 0 mo. < 3 mos. 21.05%
- 3 mos. < 6 mos. 7.89%
- >6 mos. < 1 yr. 7.89%
- >1 yr. < 5 yrs. 34.21%
- >5 yrs. < 10 yrs. 21.05%
- >10 yrs. 7.89%
South America Land Total Lost Time Incidents by Time of Day (Chart 17)
Based on 14 Incidents

- 14:00: 14.29%
- 13:00: 7.14%
- 11:00: 7.14%
- 9:00: 7.14%
- 8:00: 14.29%
- 6:00: 7.14%
- 4:00: 7.14%
- 3:00: 7.14%
- 2:00: 7.14%
- 1:00: 7.14%
- 22:00: 7.14%
- 18:00: 7.14%
- 17:00: 7.14%
- 14:00: 14.29%
South America Land Total Recordable Incidents by Time of Day (Chart 18)
Based on 38 Incidents

12:00: 5.26%
13:00: 5.26%
14:00: 5.26%
15:00: 7.89%
16:00: 10.53%
17:00: 2.63%
18:00: 2.63%
19:00: 2.63%
20:00: 2.63%
21:00: 2.63%
22:00: 2.63%
23:00: 2.63%
00:00: 2.63%
01:00: 2.63%
02:00: 5.26%
03:00: 5.26%
04:00: 2.63%
05:00: 2.63%
06:00: 5.26%
07:00: 2.63%
08:00: 10.53%
09:00: 15.79%
10:00: 5.26%
11:00: 10.53%
South America Land Total Lost Time Incidents by Age (Chart 19)
Based on 8 Incidents

- 18 - 25: 12.50%
- 26 - 35: 37.50%
- 36 - 45: 37.50%
- 46 - 55: 12.50%
South America Land Total Recordable Incidents by Age (Chart 20)
Based on 26 Incidents

- 36 - 45: 34.62%
- 46 - 55: 3.85%
- 56 - 65: 3.85%
- 18 - 25: 15.38%
- 26 - 35: 42.31%