



IADC ASP PROGRAM

2006



Summary of Occupational Incidents (Industry Totals)

Issued 20 June 2007



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Summary of Occupational Incidents Introductory Briefing:

Data gathered in the IADC ASP data base, shows that the oil and gas well drilling industry continues work toward reducing incidents on rigs. With the continued increase in rig demand around the world, the rate of improvement has slowed or as in the case of recordable incidents has lost ground slightly. Although IADC ASP calculates both Incidence rates and Frequency rates, this brief introductory summary 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 ASP Program. During 2006, 104 contractors representing approximately seventy eight percent of the worldwide oil and gas well drilling rig-fleet, participated in the ASP, with a total of 418.95 million man-hours worked. Contractors striving for safety improvement by participating in the ASP program reported 4,547 Recordable incidents, 1,139 Lost Time incidents and 29 fatalities.

Regional Reporting

Safety data is compiled separately for Land and offshore operations and for seven geographic regions — US, Europe, Canada, Central & South America, Africa, Middle East and Asia Pacific. This report is not designed to measure region against region, but to provide each region tools to measure their efforts and make improvement in their safety efforts year over year.

Industry Improvement

2006 saw the drilling industry's world wide Lost Time Incidence Rate reach a record low LTI rate of to 0.56 which is 7% better than 0.60 in 2005. The Recordable Incident rate was reduced to 2.17 which is 7% better than the 2005 report of 2.34. The oil and gas well drilling industry's efforts towards safety have resulted in the industry's occupational LTI Incidence rate per 100 workers to fall from more than 14.00 in 1963 to 0.56 in 2006, which is a 25-fold improvement.

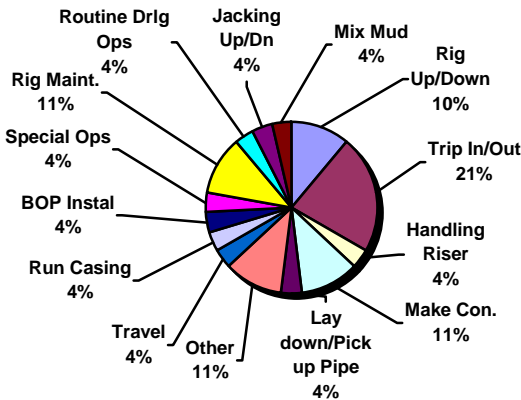
Central / South America Land had the lowest LTI rate of 0.32 while Middle – East Land had the lowest Recordable Incidence rate of 0.97 for land divisions. Middle East Water had the lowest LTI rate of 0.14 as well as the lowest Recordable Incidence rate of 0.78 for the water divisions.

Fatalities:

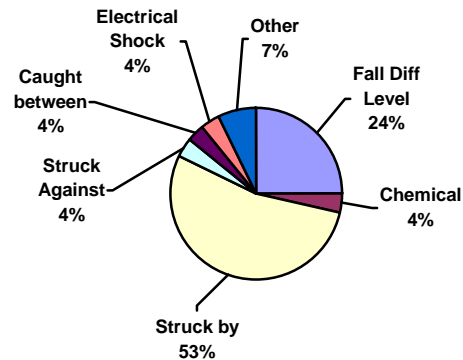
The industry's fatalities rose by six to 29 incidents. The 2006 fatality incidence rate was 0.013 as compared to 0.011 in 2005, while the 1987 rate was 0.060. According to the data reported in 2006, fourteen or the largest percentage of fatalities occurred to employees who had less than one year service with the company. Eight of the victims had worked for the company between one to five years and four had worked for the company over five years. Six fatalities occurred during tripping operations. Eight of the fatalities occurred to floormen, six were supervisors of driller or above, and six were derrickmen.



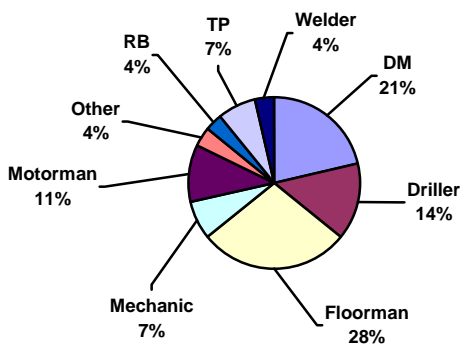
Fatal Incidents by activity



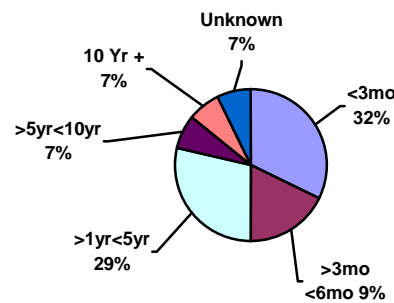
Fatal Incidents by type



Fatality by Position



Fatalities by Time in Service



Regional Summaries: Man-Hours vs Fatalities

Contractors in the **European Land and Offshore** categories together worked more than 38.18 million man-hours in 2006. European offshore accounted for 32.76 million man-hours with one fatality while European Land had 5.42 million man-hours. **US Land and Offshore** contractors together worked more than 133.34 million man-hours with fifteen fatalities occurring in the Land category and four fatalities occurring in the offshore category. US Land exceeded US Water in man-hours 93.84 million to 39.50 million man-hours. **Canadian** contractors accounted for 5.31 million man-hours and no fatal incidents. Canadian Land had 3.70 million man-hours while offshore had 1.61 million man-hours. **Central and South America** accounted

for 73.69 million man-hours. Land operations reported 53.43 million man-hours and four fatal incidents while water operations reported 20.26 million man-hours and one fatality. **Africa** combined land and offshore accounted for 41.26 million man-hours. Africa Land accounted for 16.72 million man-hours with one fatality compared to Africa Water with 24.54 million man-hours. The **Middle East** region accounted for 84.35 million man-hours. The Land division had 63.52 million man-hours and one fatality compared to 20.83 million man-hours and one fatality for the offshore division. **Asia Pacific** accounted for 42.82 million man-hours. Water had 25.83 million man-hours with one fatality while the Land Division had 16.99 million man-hours and no fatality.



Lost Time and Recordable Incidents by Region

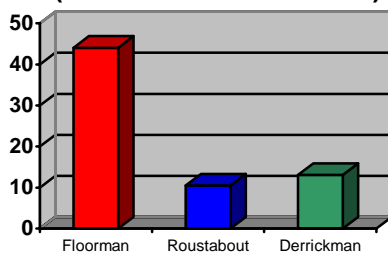
Lost time incidents among **US Offshore** workers worsened 7% from 0.29 in 2005 to 0.31 in 2006, while their Total Recordable Incidence Rate improved 6% from 1.46 in 2005 to 1.37 in 2006. **US Land** workers saw their LTI Incidence rate improved 20% from 1.60 in 2005 to 1.28 in 2006 and Recordable Incidence Rate improved 18% from 6.64 2005 to 5.46 in 2006. **European Land** workers saw their LTI rate worsen 67% from 0.32 for 2005 to 0.96 for 2006, while the Recordable Incidence Rate worsened 143% from 1.00 in 2005 to 2.43 in 2006. **European Offshore** workers LTI rate improved 11% from 0.45 in 2005 to 0.40 for 2006 while the Recordable Incidence rate had no change and remained at 1.25 in 2005 and 2006. In 2005 **Canada Land** had an LTI rate of 1.21 which improved by 14% to 1.03 for 2006, while their Recordable Incidence rate improved 9% from 3.98 in 2005 to 3.62 for 2006. **Canada Offshore** workers saw their 2005 LTI rate of 0.67 improve 63% to 0.25 for 2006, and Recordable Incidence rate of 2.02 for 2005 improved 33% to 1.36 for 2006. **Central and South America Land** LTI rate of 0.20 for 2005 worsened 60% to 0.32 for 2006, while their Recordable Incidence rate of 1.15 for 2005 improved 4% to 1.10 for 2006. **Central and South America Water** had an LTI Rate of 0.37 in 2005, which improved 3% to 0.36 for 2006, while their Recordable Incidence rate improved 9% from 1.51 in 2005 to 1.38 for 2006. **Africa**

Land LTI rate for 2005 was 1.07 and improved 20% to 0.86 for 2006 while their Recordable Incidence rate improved by 8% from 2.68 in 2005 to 2.46 in 2006. **Africa Water** LTI rate of 0.33 for 2005 worsened 30% to 0.23 for 2006 while their Recordable Incidence rate improved 17% from 0.98 in 2005 to 0.81 in 2006. **Middle East Land** 2005 LTI rate was 0.26 and improved 7% to 0.24 in 2006 while their 2005 Recordable Incidence rate of 1.07 improved 9% to 0.97 in 2006. **Middle East Water** LTI rate improved 33% from 0.21 in 2005 to 0.14 in 2006 and their Recordable Incidence rate improved 1% from 0.79 in 2005 to 0.78 in 2006. **Asia Pacific Land** 2005 LTI rate was 0.34 and worsened 15% to 0.39 in 2006, while their Recordable Incidence rate improved 2% from 1.24 in 2005 to 1.22 in 2006. **Asia Pacific Water** 2005 LTI rate of 0.30 worsened 33% to 0.40 for 2006 and their Recordable Incidence rate improved 29% from 0.80 in 2005 to 1.03 in 2006.

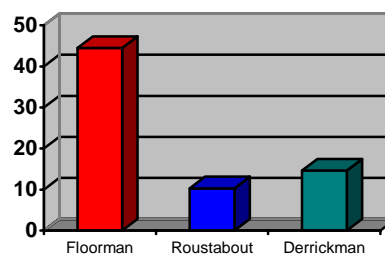
Greatest Risks:

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.

LTI by Occupation
(Based on 1049 incidents)



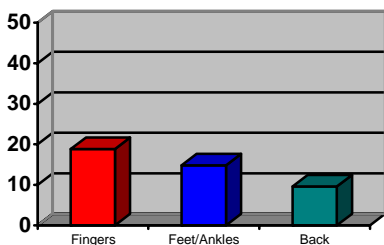
REC by Occupation
(Based on 4360 incidents)



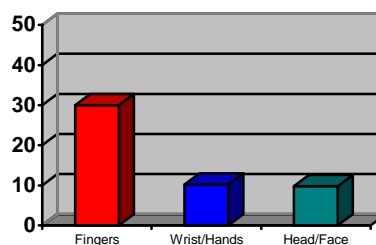
Data from the IADC ASP show that of all the categories, as with previous years, the Floorman position suffers the largest percentage of LTI and Recordable Injuries.



LTI by Body Part
(Based on 1047 incidents)

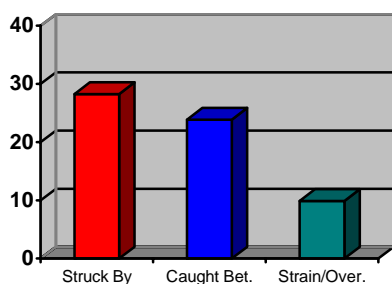


REC by Body Part
(Based on 4350 incidents)

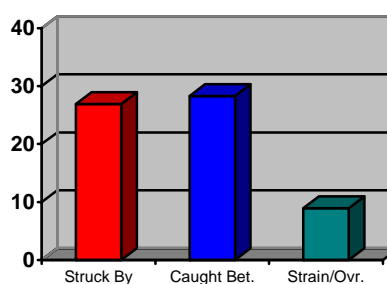


Fingers remained the most vulnerable part of the body.

LTI by Incident Type
(Based on 1047 incidents)

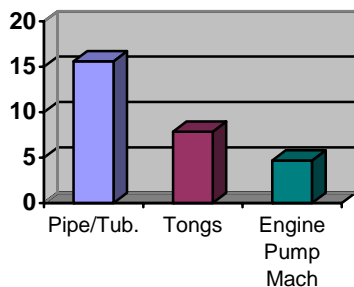


REC by Incident Type
(Based on 4355 incidents)

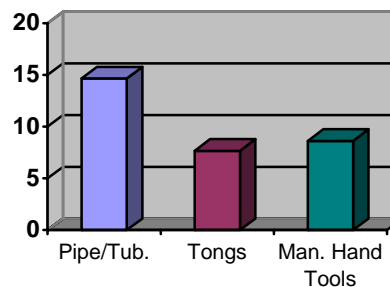


Struck by and Caught Between accounted for 52.15% of the Lost Time injuries and 55.2% of Recordable injuries to drilling personnel in 2006.

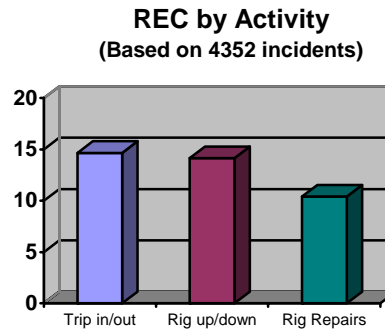
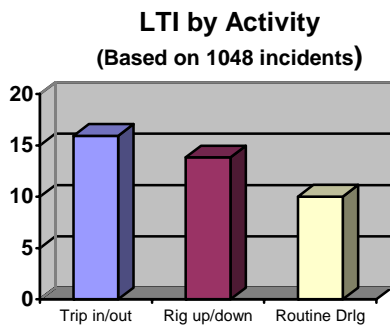
LTI by Equipment
(Based on 1044 incidents)



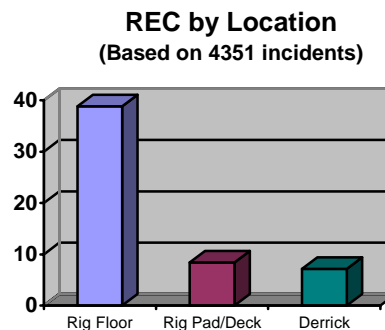
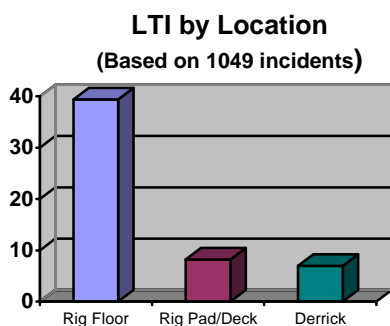
REC by Equipment
(Based on 4344 incidents)



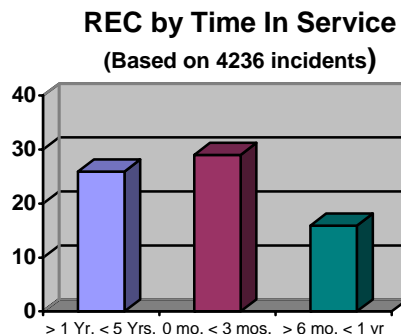
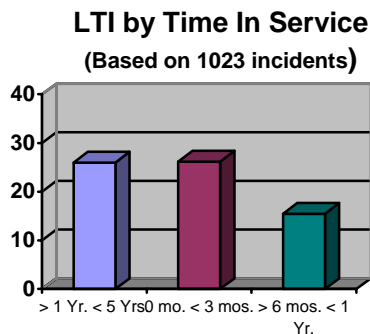
“Pipes/collars/tubulars” is the equipment category responsible for the most Lost Time and Recordable incidents.



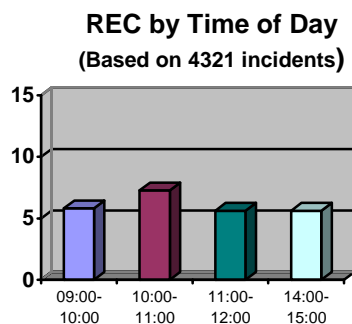
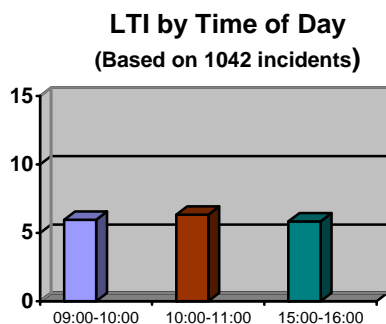
“Tripping in/out” is the operation that involves the most lost time and recordable injuries.



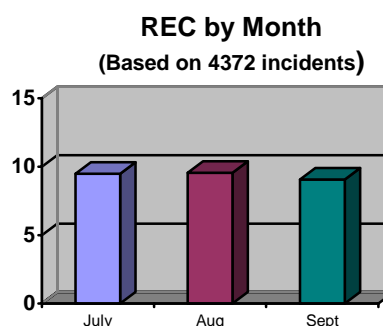
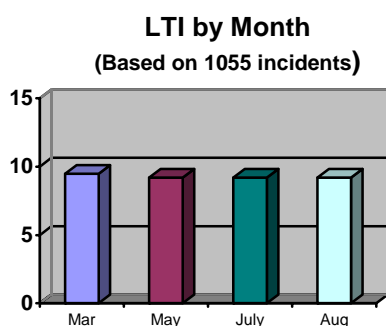
It is no surprise that by far the most injuries in drilling operations occur on the rig floor.



LTIs and Recordables based on Time in Service were led by employees who had less than three months in service followed closely by those with between one to five years service.



The Most LTI incidents occurred between 09:00 and 16:00 hours.



March accounted for the most Lost Time incidents.

Conclusion:

The industry continues to see pressure on personnel as the rig fleet continues to grow. This continued gradual increase in the number of active rigs appears although adding to safety concerns appears to help bring sustained improvement in the industry's overall safety record. Although the industry saw a reduction in the number of Recordable and Lost Time incidents but the number of fatal incidents increased which is a still cause for concern.



2006 ASP Program Industry Totals

IADC ASP Program 2006 Final Report (Table 1)

January – December

Note: Figures are unaudited

CATEGORY	TOTAL MANHOURS	TOTAL MTOs	TOTAL RWCs	TOTAL LTIs	TOTAL FTLs	TOTAL RCRD	LTI INCD. RATE	LTI FREQ. RATE	DART INCD. RATE	DART FREQ. RATE	RCRD INCD. RATE	RCRD FREQ. RATE
US - Land	93,840,947	1284	679	584	15	2562	1.28	6.38	2.72	13.62	5.46	27.30
US - Water	39,500,410	119	90	57	4	270	0.31	1.54	0.76	3.82	1.37	6.84
Canada - Land	3,698,969	36	12	19	0	67	1.03	5.14	1.68	8.38	3.62	18.11
Canada - Water	1,612,941	7	2	2	0	11	0.25	1.24	0.50	2.48	1.36	6.82
Central / South America - Land	53,433,337	124	85	81	4	294	0.32	1.59	0.64	3.18	1.10	5.50
Central / South America - Water	20,257,811	70	34	35	1	140	0.36	1.78	0.69	3.46	1.38	6.91
European - Land	5,424,898	30	10	26	0	66	0.96	4.79	1.33	6.64	2.43	12.17
European - Water	32,759,129	92	47	64	1	204	0.40	1.98	0.68	3.42	1.25	6.23
Africa - Land	16,717,167	102	32	71	1	206	0.86	4.31	1.24	6.22	2.46	12.32
Africa - Water	24,543,788	43	29	28	0	100	0.23	1.14	0.46	2.32	0.81	4.07
Middle East - Land	63,516,584	147	87	74	1	309	0.24	1.18	0.51	2.55	0.97	4.86
Middle East - Water	20,829,176	44	22	14	1	81	0.14	0.72	0.36	1.78	0.78	3.89
Asia Pacific (Asia & Australia) - Land	16,986,603	50	21	33	0	104	0.39	1.94	0.64	3.18	1.22	6.12
Asia Pacific (Asia & Australia) - Water	25,832,457	44	37	51	1	133	0.40	2.01	0.69	3.45	1.03	5.15
US Combined	133,341,357	1403	769	641	19	2832	0.99	4.95	2.14	10.72	4.25	21.24
Canada Combined	5,311,910	43	14	21	0	78	0.79	3.95	1.32	6.59	2.94	14.68
Central/South America Combined	73,691,148	194	119	116	5	434	0.33	1.64	0.65	3.26	1.18	5.89
European Combined	38,184,027	122	57	90	1	270	0.48	2.38	0.78	3.88	1.41	7.07
Africa Combined	41,260,955	145	61	99	1	306	0.48	2.42	0.78	3.90	1.48	7.42
Middle East Combined	84,345,760	191	109	88	2	390	0.21	1.07	0.47	2.36	0.92	4.62
Asia Pacific Combined	42,819,060	94	58	84	1	237	0.40	1.99	0.67	3.34	1.11	5.53
INDUSTRY TOTAL	418,954,217	2192	1187	1139	29	4,547	0.56	2.79	1.12	5.621	2.17	10.85

MTO = Medical Treatment Only	INCD = Incidence Rate (200,000 manhours) :	LTI INCD Rate = (LTI s+ FTLs) * 200000 / Total Manhours DART INCD Rate = (RWC + LTI + FTL) * 200000 / Total Manhours RCRD INCD Rate = (MTOs + RWCs + LTIs + FTLs) * 200000 / Total Manhours
RWC = Restricted Work Case		
LTI = Lost Time Incident	FREQ = Frequency Rate (1,000,000 manhours):	LTI FREQ Rate = (LTI s+ FTLs) * 1000000 / Total Manhours DART FREQ Rate = (RWC + LTI + FTL) * 1000000 / Total Manhours RCRD FREQ Rate = (MTOs + RWCs + LTIs + FTLs) * 1000000 / Total Manhours
FTL = Fatalities		
RCRD = Total Recordables		



IADC ASP Program 5 Year Summary Report (Table 2) Lost Time and Total Recordable Incidence/Frequency Rate

CATEGORIES	TYPE	2006		2005		2004		2003		2002	
		INCD Rate	FREQ Rate	INCD Rate	FREQ Rate	INCD Rate	FREQ Rate	INCD Rate	FREQ Rate	INCD Rate	FREQ Rate
US Land	LTI:	1.31	6.54	1.60	8.01	1.62	8.09	1.59	7.97	1.73	8.63
	DART:	2.68	13.42	3.44	17.21	3.08	15.39	2.90	14.48	3.04	15.20
	RCRD:	5.67	28.37	6.64	33.22	5.83	29.17	5.83	29.15	6.24	31.21
US Water	LTI:	0.30	1.51	0.29	1.44	0.42	2.11	0.51	2.57	0.50	2.52
	DART:	0.75	3.76	0.81	4.03	0.97	4.85	1.00	4.99	1.14	5.69
	RCRD:	1.35	6.75	1.46	7.28	1.64	8.22	1.70	8.51	2.21	11.06
Canada Land	LTI:	1.18	5.92	1.21	6.03	1.83	9.13	1.36	6.82	1.20	6.02
	DART:	1.85	9.25	2.11	10.55	4.07	20.37	5.22	26.09	1.44	7.22
	RCRD:	3.7	18.5	3.98	19.89	6.32	31.61	9.31	46.56	5.77	28.87
Canada Water	LTI:	0.17	0.86	0.67	3.36	0.25	1.27	0.31	1.53	1.06	5.32
	DART:	0.51	2.57	1.15	5.76	0.89	4.46	1.32	6.61	1.37	6.84
	RCRD:	1.54	7.70	2.02	10.08	2.29	11.46	2.95	14.75	3.04	15.21
Central / SA Land	LTI:	0.34	1.72	0.20	1.00	0.37	1.84	0.37	1.87	0.33	1.67
	DART:	0.69	3.45	0.63	3.14	0.75	3.73	0.79	3.94	0.77	3.86
	RCRD:	1.18	5.92	1.15	5.76	1.16	5.79	1.11	5.54	1.18	5.90
Central / SA Water	LTI:	0.37	1.83	0.37	1.83	0.39	1.95	0.37	1.85	0.44	2.20
	DART:	0.76	3.79	0.80	4.01	0.78	3.90	0.89	4.44	1.11	5.57
	RCRD:	1.43	7.17	1.51	7.57	1.72	8.60	1.51	7.56	1.98	9.90
European Land	LTI:	0.72	3.60	0.32	1.60	0.69	3.45	0.84	4.20	0.94	4.70
	DART:	0.98	4.89	0.68	3.40	1.15	5.75	1.49	7.44	1.57	7.83
	RCRD:	1.70	8.49	1.00	5.00	1.74	8.70	2.10	10.50	2.51	12.53
European Water	LTI:	0.48	2.38	0.45	2.25	0.37	1.87	0.45	2.24	0.49	2.47
	DART:	0.73	3.63	0.72	3.61	0.65	3.26	0.70	3.50	0.76	3.82
	RCRD:	1.34	6.68	1.25	6.25	1.20	5.98	1.20	6.01	1.54	7.69
Africa Land	LTI:	0.91	4.53	1.07	5.34	1.03	5.14	0.87	4.34	0.88	4.41
	DART:	1.24	6.18	1.35	6.77	1.33	6.63	1.06	5.30	1.13	5.64
	RCRD:	2.33	11.67	2.68	13.38	2.39	11.95	2.00	10.01	2.01	10.05
Africa Water	LTI:	0.24	1.21	0.33	1.65	0.28	1.41	0.51	2.53	0.44	2.19
	DART:	0.53	2.64	0.57	2.85	0.50	2.50	0.72	3.61	0.78	3.92
	RCRD:	0.91	4.56	0.98	4.92	1.19	5.95	1.55	7.77	1.57	7.84
Middle East Land	LTI:	0.23	1.16	0.26	1.29	0.26	1.28	0.30	1.51	0.28	1.38
	DART:	0.47	2.33	0.57	2.85	0.58	2.89	0.64	3.20	0.63	3.16
	RCRD:	0.94	4.72	1.07	5.34	1.09	5.46	1.08	5.40	1.10	5.50
Middle East Water	LTI:	0.14	0.69	0.21	1.05	0.17	0.85	0.18	0.89	0.43	2.15
	DART:	0.32	1.59	0.38	1.88	0.41	2.04	0.44	2.19	0.75	3.73
	RCRD:	0.68	3.39	0.79	3.93	0.75	3.75	0.91	4.56	1.27	6.33
Asia Pacific Land (Asia / Australia)	LTI:	0.35	1.74	0.34	1.68	0.24	1.22	0.40	2.01	0.51	2.53
	DART:	0.61	3.04	0.54	2.69	0.39	1.97	0.80	4.02	1.03	5.13
	RCRD:	1.21	6.07	1.24	6.18	1.51	7.54	1.84	9.19	2.20	11.00
Asia Pacific Water (Asia / Australia)	LTI:	0.36	1.79	0.30	1.50	0.29	1.44	0.23	1.14	0.42	2.12
	DART:	0.61	3.03	0.42	2.09	0.47	2.37	0.41	2.06	0.56	2.79
	RCRD:	0.92	4.60	0.80	3.99	0.87	4.35	0.97	4.83	1.32	6.62
INDUSTRY TOTALS	LTI:	0.56	2.82	0.60	2.98	0.63	3.13	0.63	3.16	0.65	3.27
	DART:	1.11	5.53	1.23	6.16	1.20	6.00	1.19	5.93	1.20	5.99
	RCRD:	2.19	10.97	2.34	11.71	2.26	11.29	2.23	11.16	2.34	11.72

INCD = Incidence Rate (200,000 manhours) :

$$\begin{aligned} \text{LTI INCD Rate} &= (\text{LTI} + \text{FTLs}) * 200000 / \text{Total Man-hours} \\ \text{DART INCD Rate} &= (\text{RWC} + \text{LTI} + \text{FTL}) * 200000 / \text{Total Man-hours} \\ \text{RCRD INCD Rate} &= (\text{MTOs} + \text{RWCs} + \text{LTIs} + \text{FTLs}) * 200000 / \text{Total Man-hours} \end{aligned}$$

FREQ = Frequency Rate (1,000,000 manhours):

$$\begin{aligned} \text{LTI FREQ Rate} &= (\text{LTI} + \text{FTLs}) * 1000000 / \text{Total Man-hours} \\ \text{DART FREQ Rate} &= (\text{RWC} + \text{LTI} + \text{FTL}) * 1000000 / \text{Total Man-hours} \\ \text{RCRD FREQ Rate} &= (\text{MTOs} + \text{RWCs} + \text{LTIs} + \text{FTLs}) * 1000000 / \text{Total Man-hours} \end{aligned}$$



IADC 2006 Industry Totals (Table 3)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	253,618,505	165,335,712	418,954,217
TOTAL MEDICAL TREATMENT INCIDENTS	1,773	419	2,192
TOTAL RESTRICTED WORK INCIDENTS	926	261	1,187
TOTAL LOST TIME INCIDENTS	888	251	1,139
TOTAL FATALITIES	21	8	29
TOTAL RECORDABLES	3,608	939	4,547
MTO INCIDENCE RATE	1.40	0.51	1.05
RWC INCIDENCE RATE	0.73	0.32	0.57
LTI INCIDENCE RATE	0.72	0.31	0.56
LTI FREQUENCY RATE	3.58	1.57	2.79
DART INCIDENCE RATE	1.45	0.63	1.12
DART FREQUENCY RATE	7.24	3.15	5.62
RECORDABLE INCIDENCE RATE	2.85	1.14	2.17
RECORDABLE FREQUENCY RATE	14.23	5.68	10.85

Companies Reporting: Land - 118 Water - 106

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

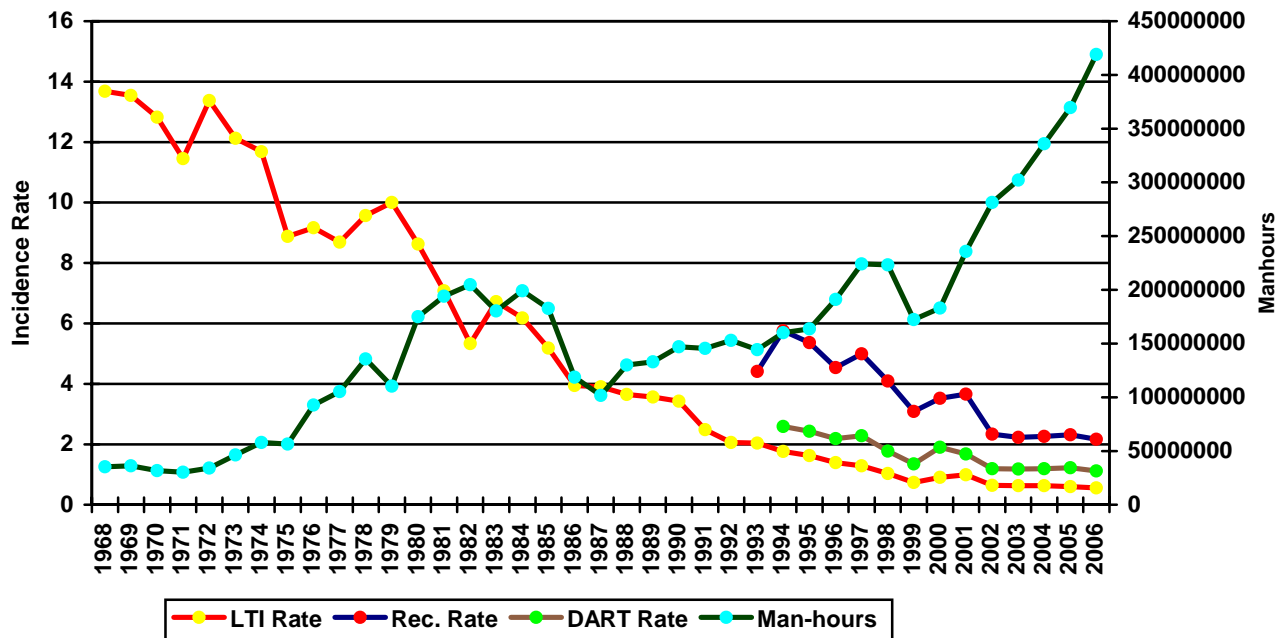
Recordable Incidence Rate = RCRD X 200,000

Lost Time Frequency Rate = LTIs +FTLs X 1,000,000

DART Frequency Rate = LTIs + RWC X 1,000,000

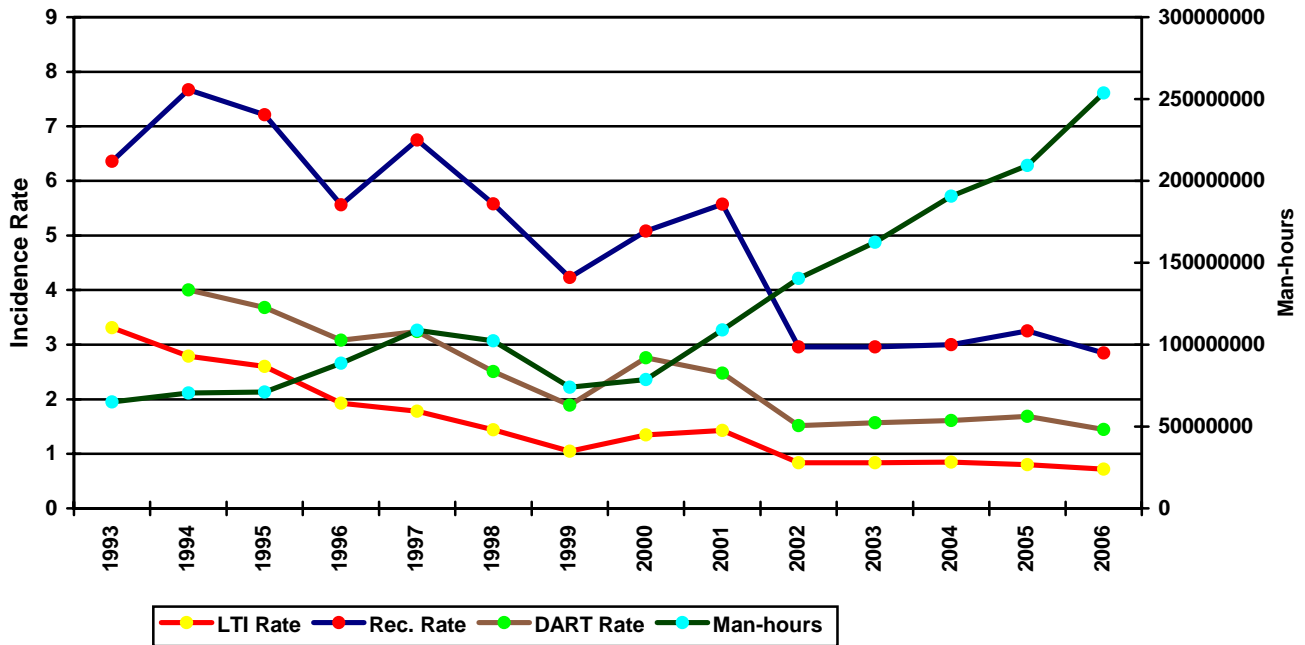
Recordable Frequency Rate = RCRD X 1,000,000

Total Industry LTI & Recordable Incidence Rates vs Manhours (Figure 1)

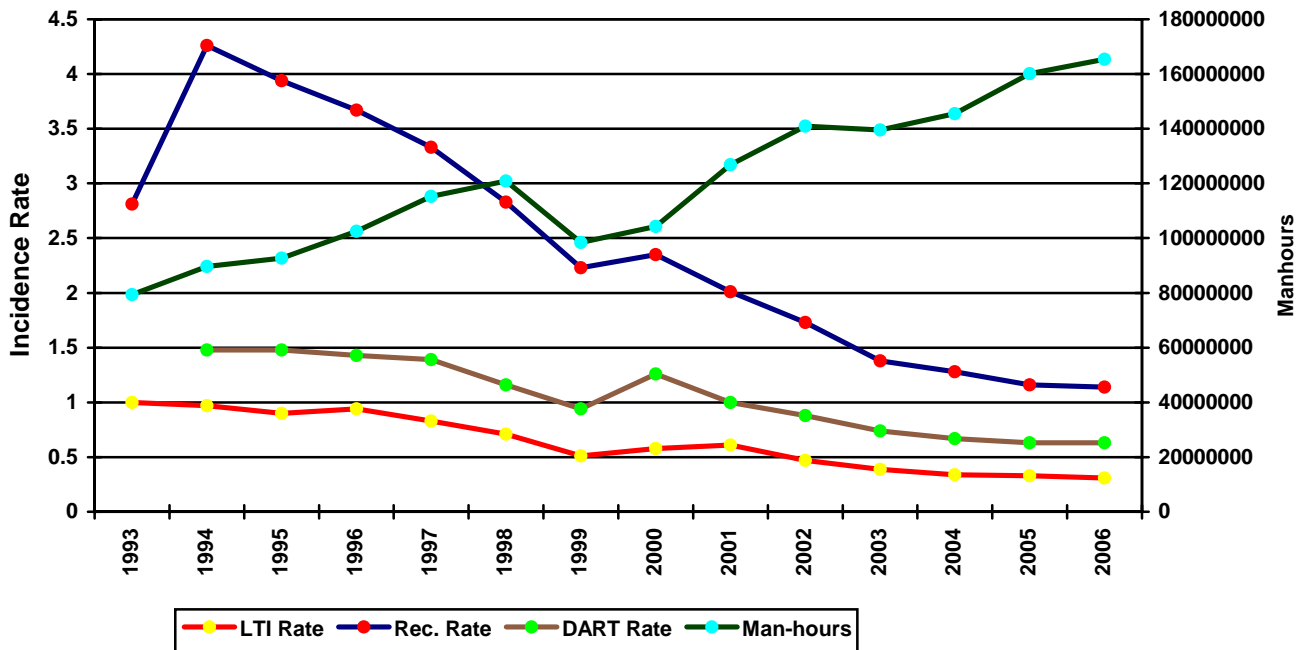




Total Industry Land LTI & Recordable Incidence Rates vs Man-hours (Figure 2)



Total Industry Water LTI & Recordable Incidence Rates vs Man-hours (Figure 3)

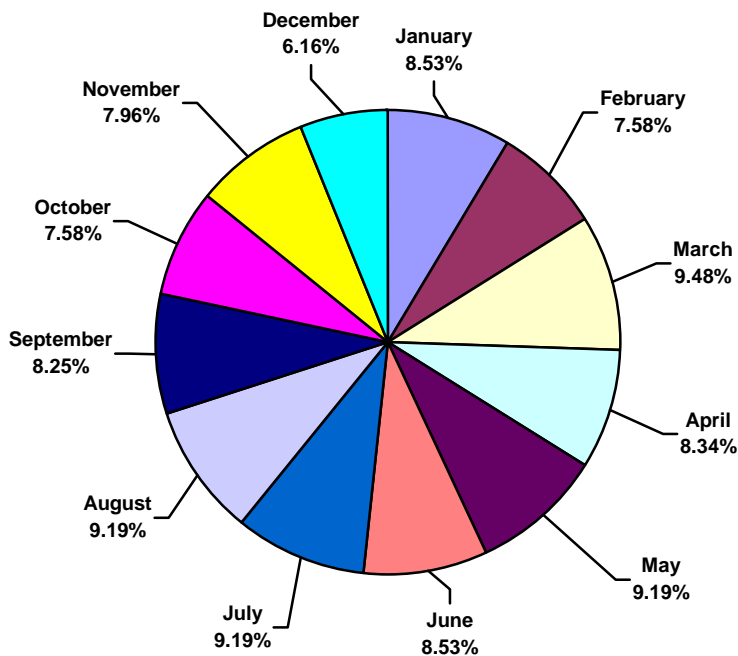




IADC 2006 Total Industry Charts

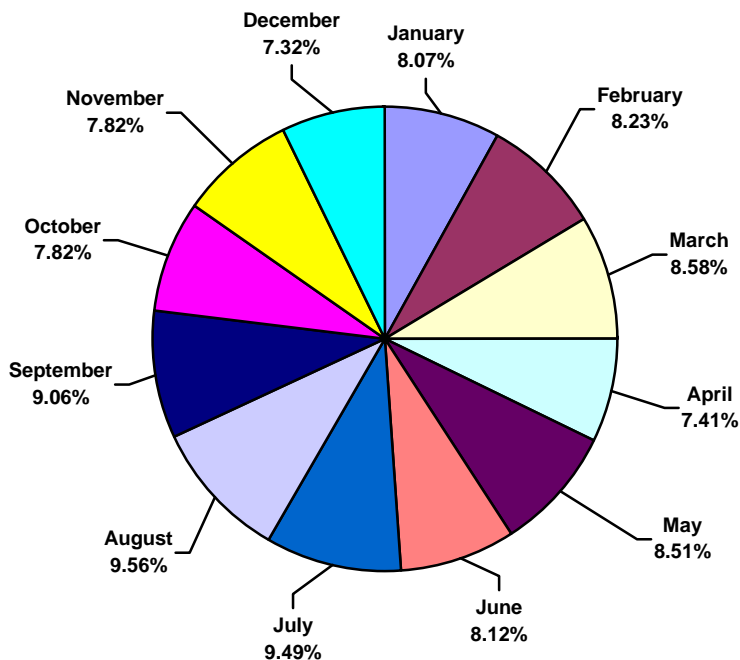
Total Industry Lost Time Incidents by Month (Chart 1)

Based on 1055 Incidents



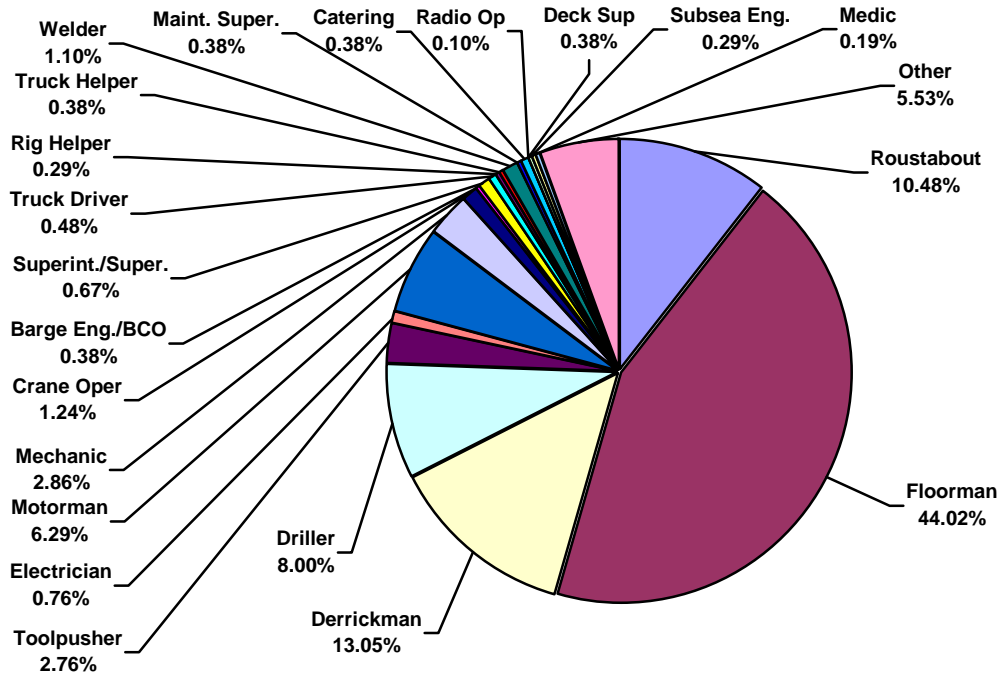
Total Industry Recordable Incidents by Month (Chart 2)

Based on 4372 Incidents

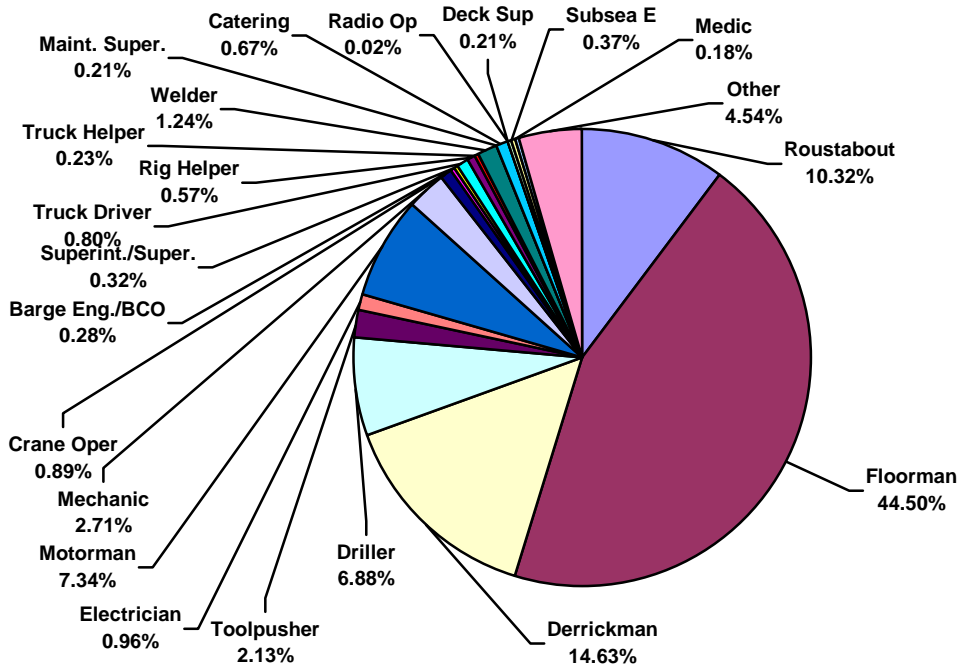




Total Industry Lost Time Incidents by Occupation (Chart 3)
Based on 1049 Incidents

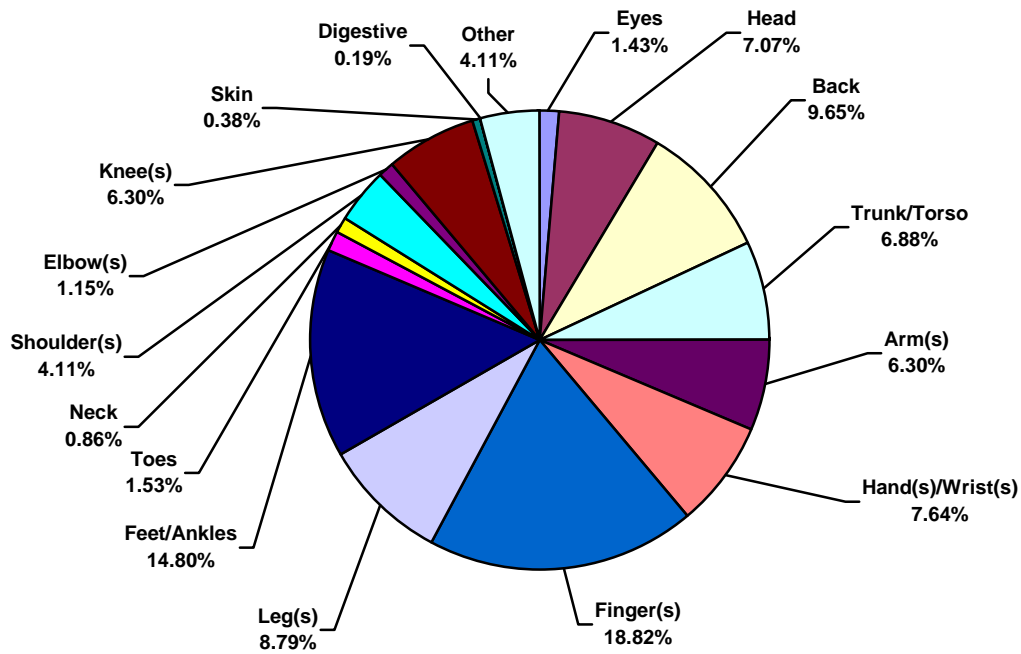


Total Industry Recordable Incidents by Occupation (Chart 4)
Based on 4360 Incidents

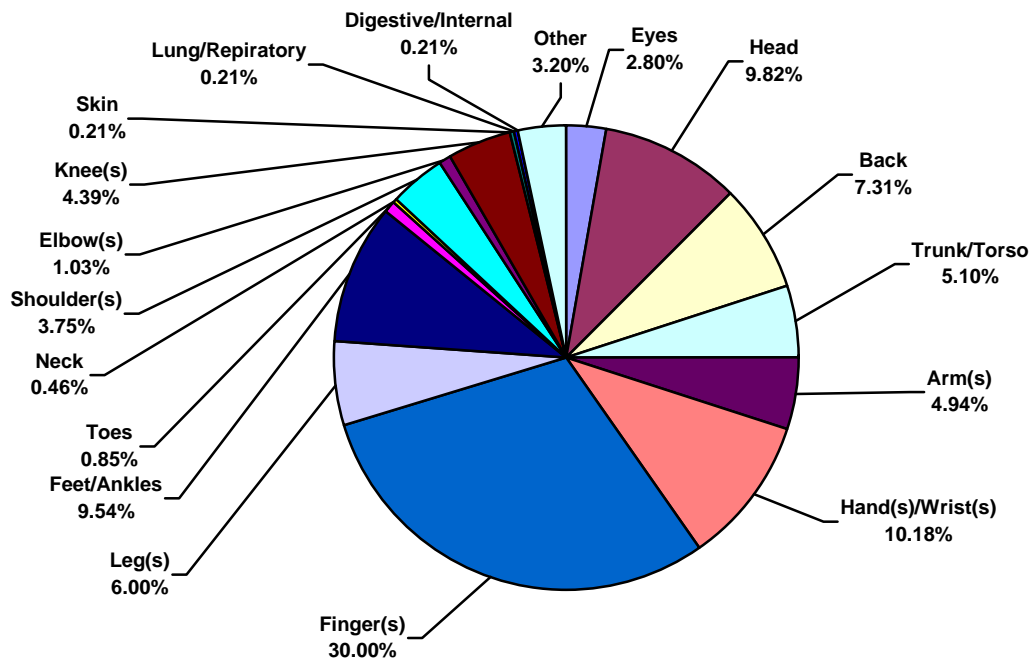




Total Industry Lost Time Incidents by Body Part (Chart 5)
Based on 1047 Incidents

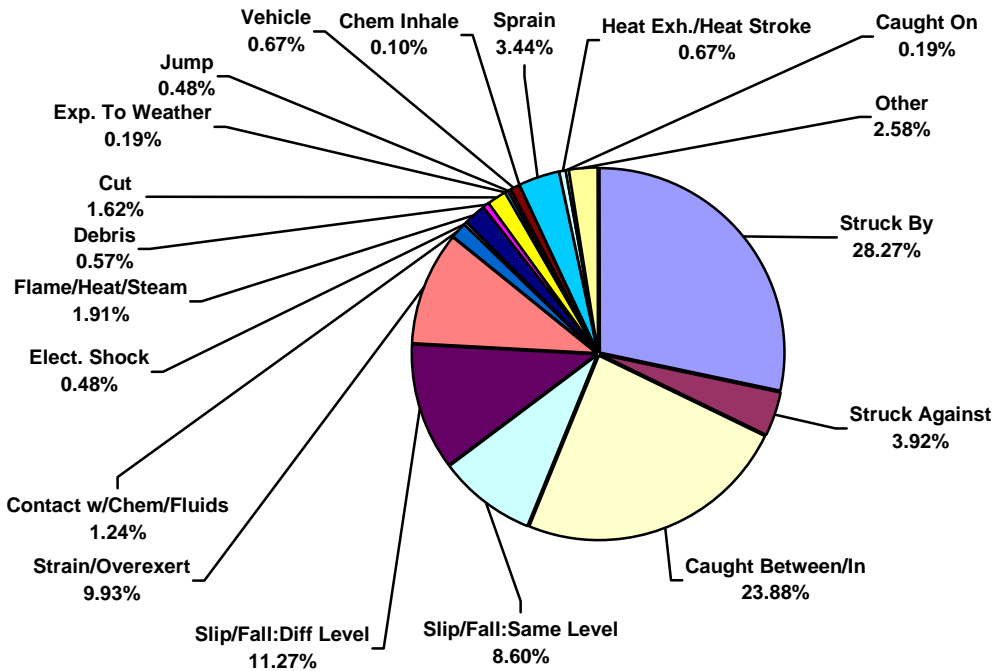


Total Industry Recordable Incidents by Body Part (Chart 6)
Based on 4350 Incidents

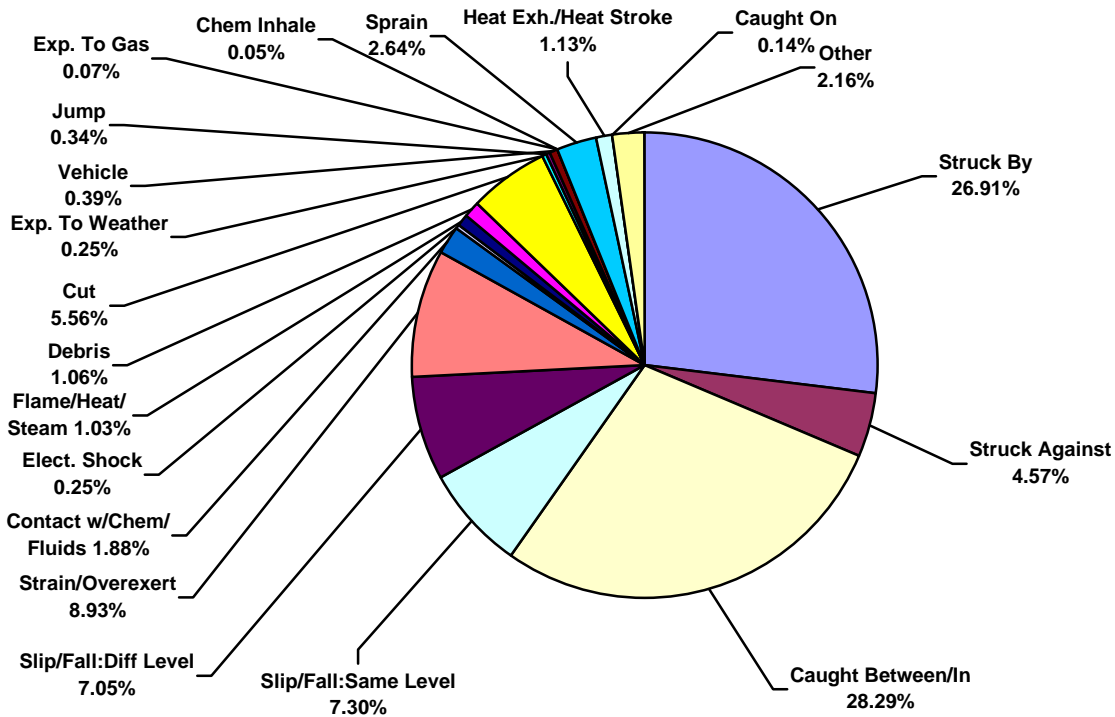




Total Industry Lost Time Incidents by Incident Type (Chart 7)
Based on 1047 Incidents

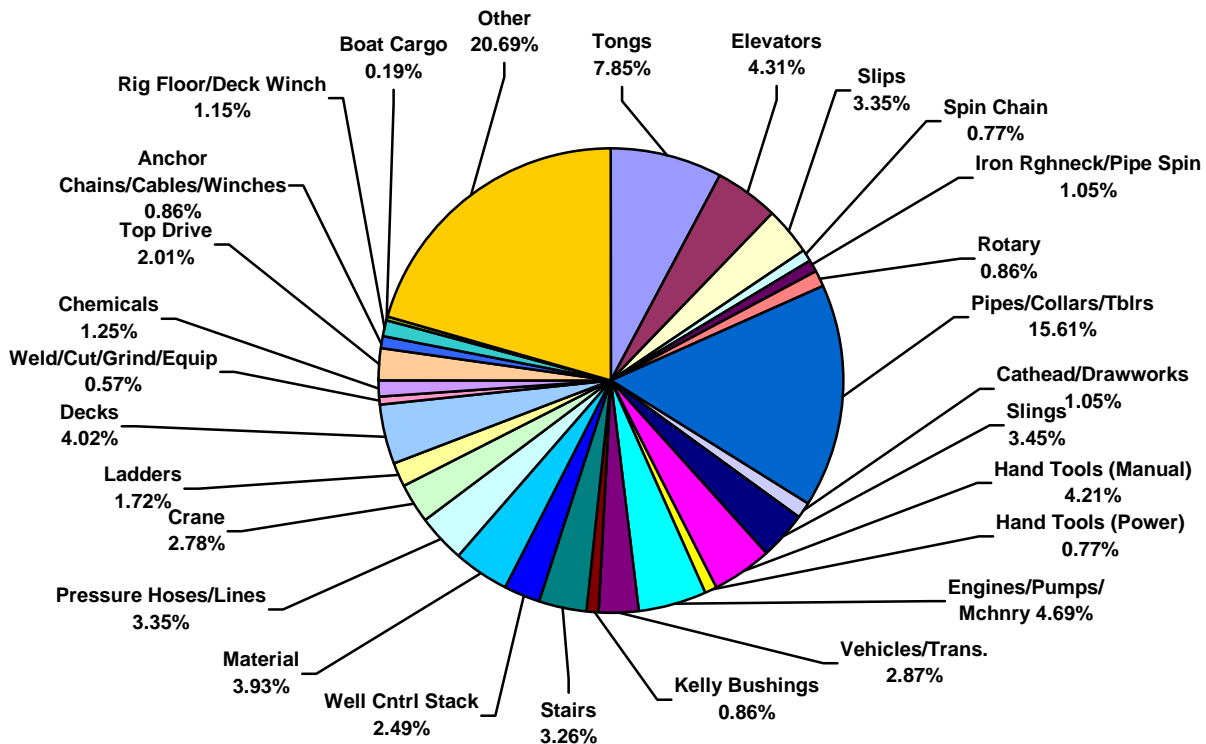


Total Industry Recordable Incidents by Incident Type (Chart 8)
Based on 4355 Incidents

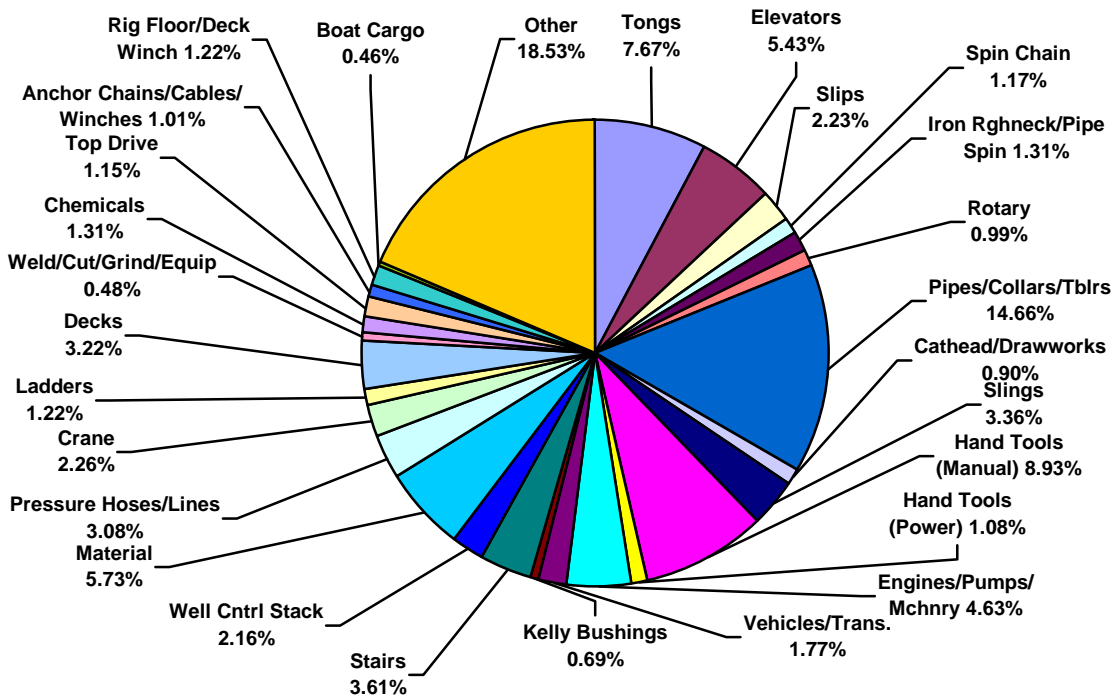




Total Industry Lost Time Incidents by Equipment (Chart 9)
Based on 1044 Incidents

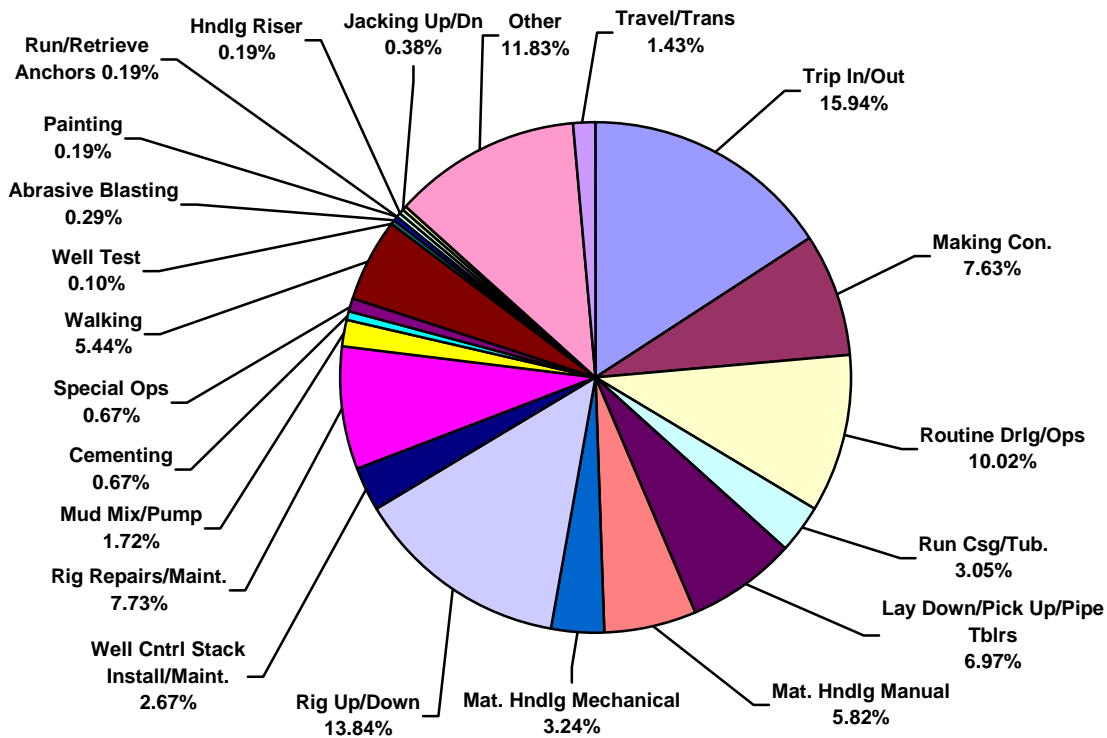


Total Industry Recordable Incidents by Equipment (Chart 10)
Based on 4344 Incidents

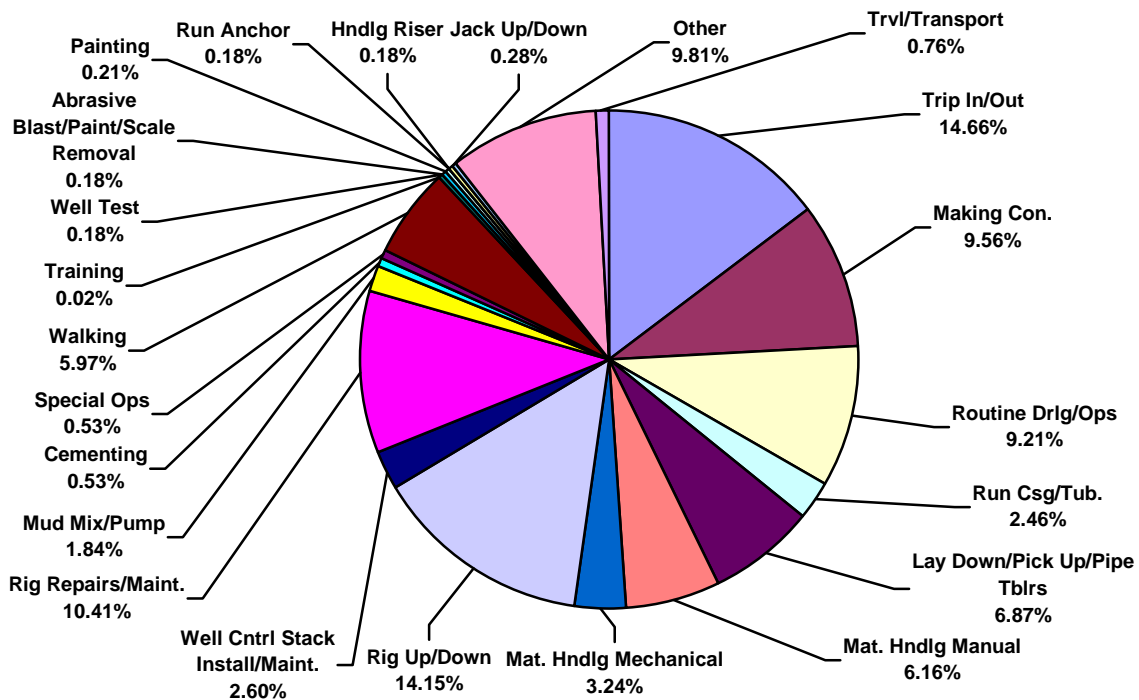




Total Industry Lost Time Incidents by Operation (Chart 11)
Based on 1048 Incidents

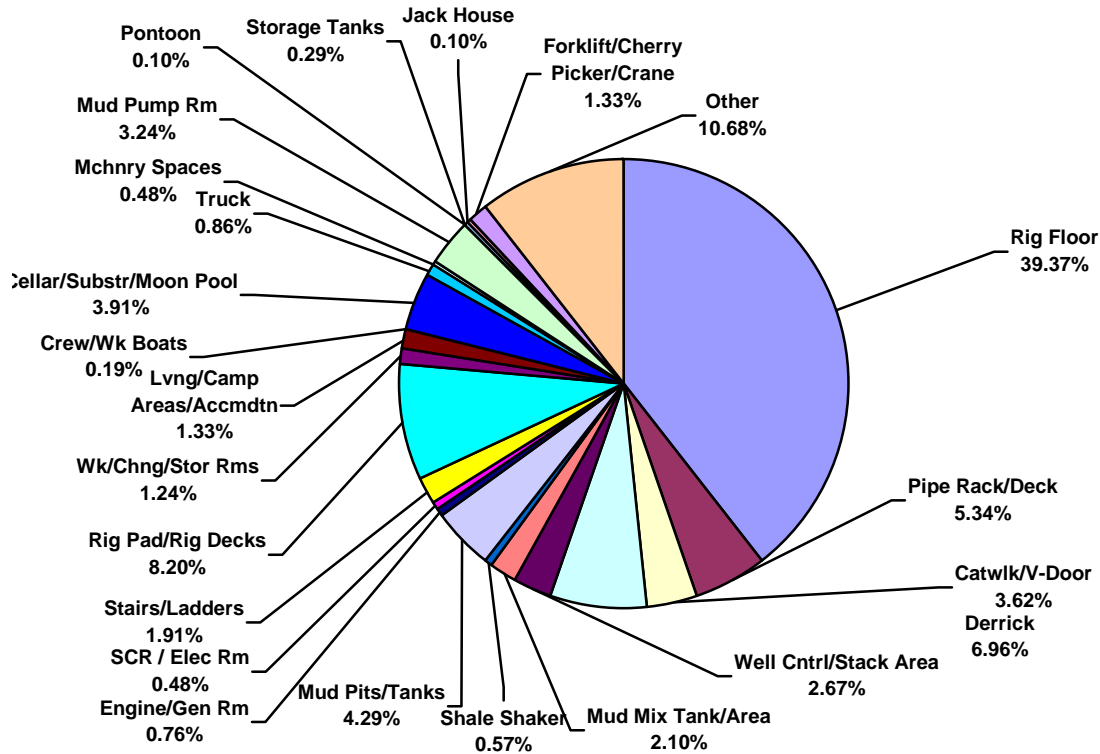


Total Industry Recordable Incidents by Operation (Chart 12)
Based on 4352 Incidents

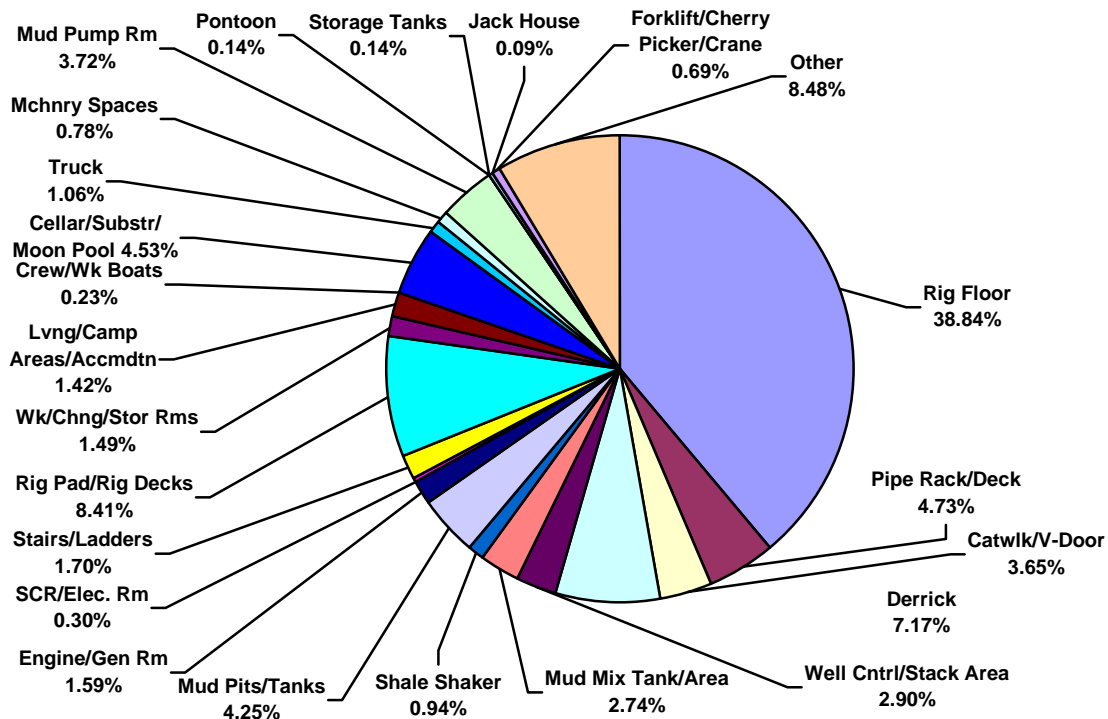




Total Industry Lost Time Incidents by Location (Chart 13)
Based on 1049 Incidents

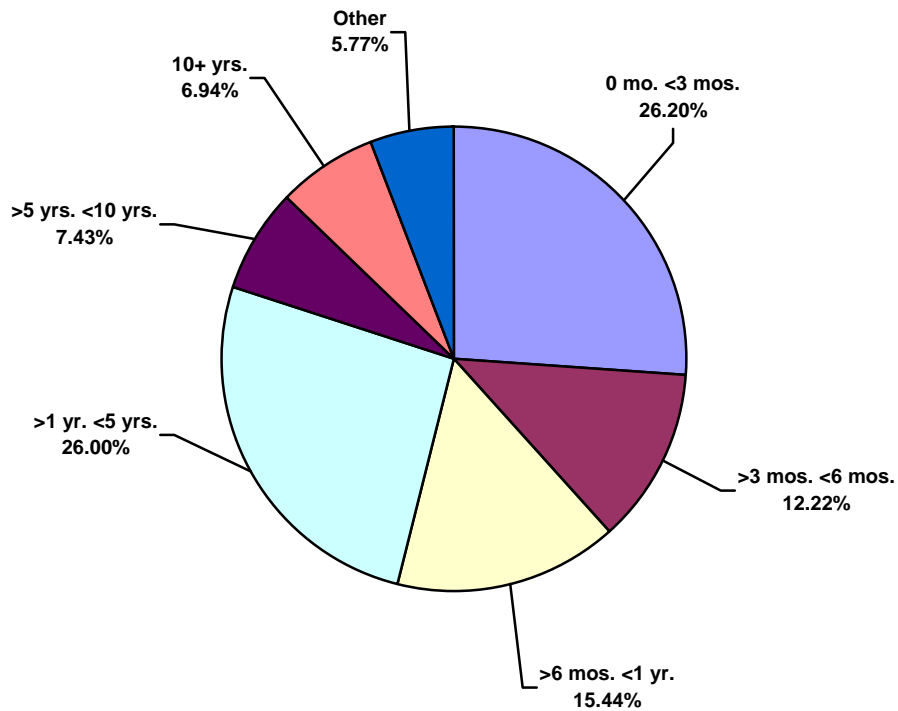


Total Industry Recordable Incidents by Location (Chart 14)
Based on 4351 Incidents

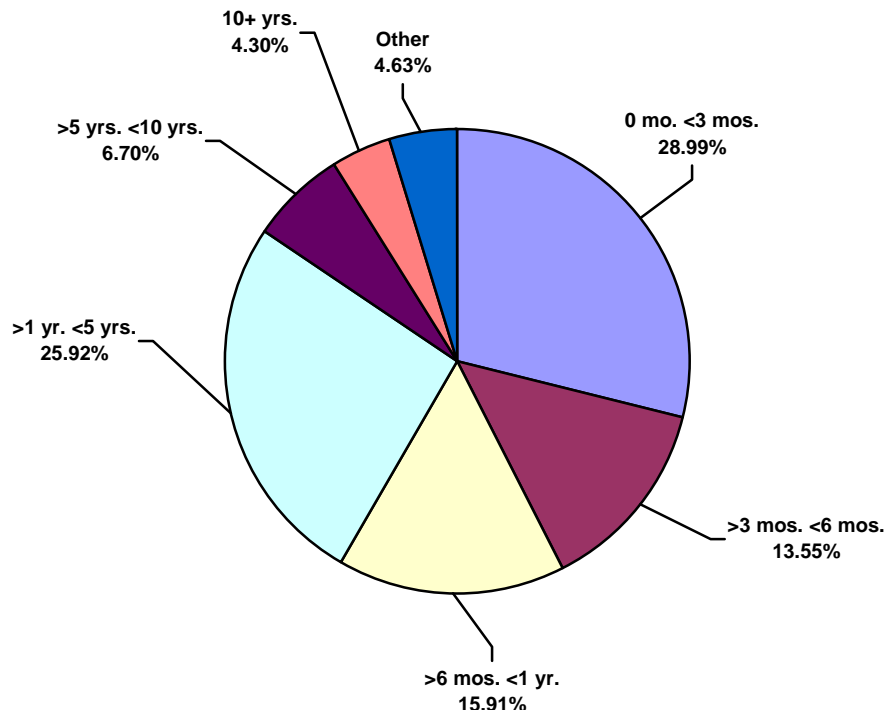




Total Industry Lost Time Incidents by Time in Service (Chart 15)
Based on 1023 Incidents

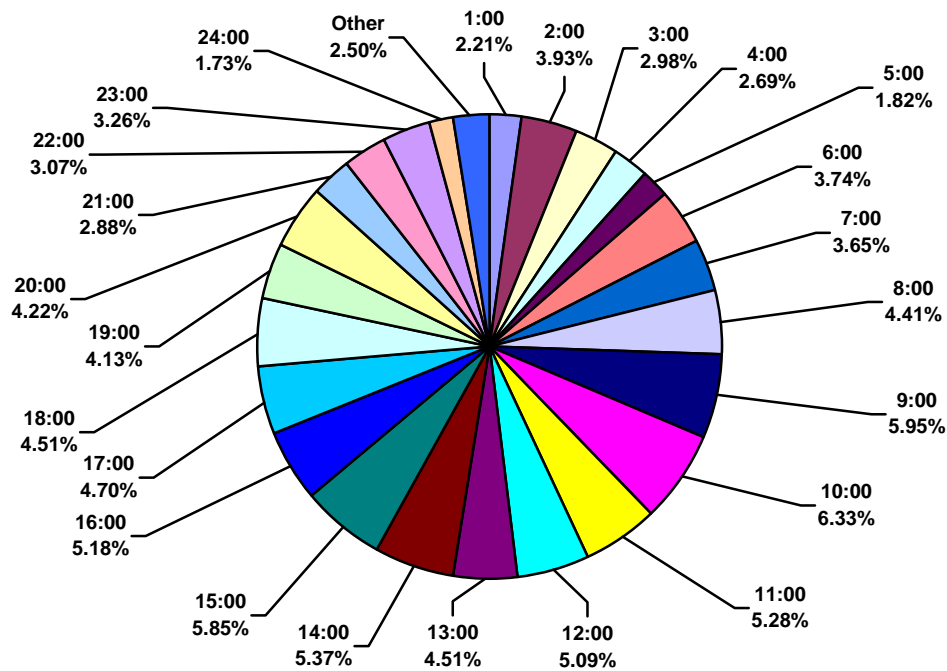


Total Industry Recordable Incidents by Time in Service (Chart 16)
Based on 4236 Incidents

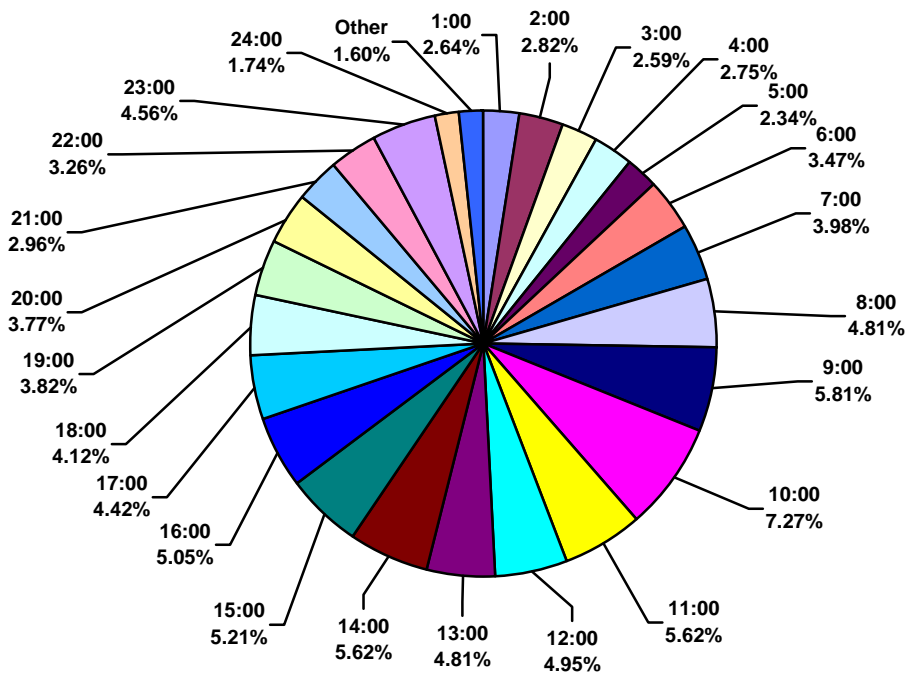




Total Industry Lost Time Incidents by Time of Day (Chart 17)
Based on 1042 Incidents



Total Industry Recordable Incidents by Time of Day (Chart 18)
Based on 4321 Incidents





2006 ASP Program Regional Totals Combined Land & Water



IADC 2006 US Totals (Table 4)

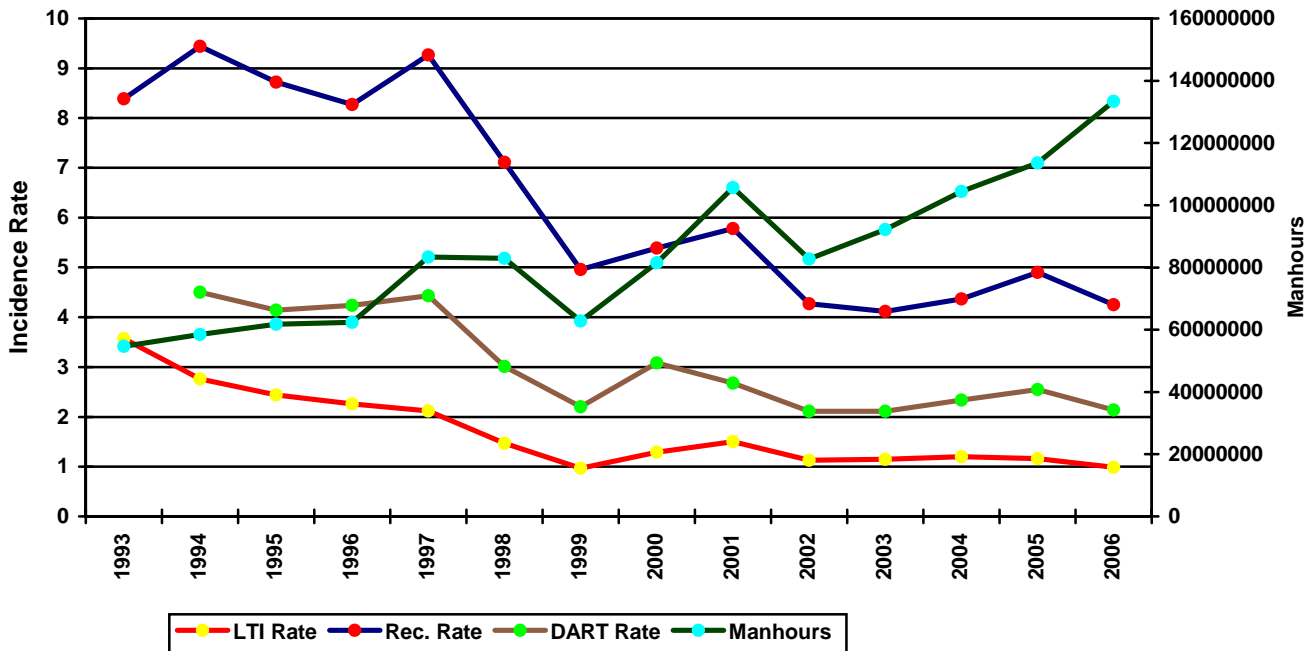
	<u>Land</u>	<u>Water</u>	<u>Total</u>
Total Manhours	93,840,947	39,500,410	133,341,357
Total Medical Treatment Incidents	1,284	119	1,403
Total Restricted Work Incidents	679	90	769
Total Lost Time Incidents	584	57	641
Total Fatalities	15	4	19
Total Recordables	2,562	270	2,832
MTO Incidence Rate	2.74	0.60	2.10
RWC Incidence Rate	1.45	0.46	1.15
LTI Incidence Rate	1.28	0.31	0.99
LTI Frequency Rate	6.38	1.54	4.95
DART Incidence Rate	2.72	0.76	2.14
DART Frequency Rate	13.62	3.82	10.72
Recordable Incidence Rate	5.46	1.37	4.25
Recordable Frequency Rate	27.30	6.84	21.24

Companies Reporting: Land - 51 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
 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 Total LTI & Recordable Incidence Rates vs Manhours (Figure 4)





IADC 2006 European Totals (Table 5)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	5,424,898	32,759,129	38,184,027
TOTAL MEDICAL TREATMENT INCIDENTS	30	92	122
TOTAL RESTRICTED WORK INCIDENTS	10	47	57
TOTAL LOST TIME INCIDENTS	26	64	90
TOTAL FATALITIES	0	1	1
TOTAL RECORDABLES	66	204	270
MTO INCIDENCE RATE	1.11	0.56	0.64
RWC INCIDENCE RATE	0.37	0.29	0.30
LTI INCIDENCE RATE	0.96	0.40	0.48
LTI FREQUENCY RATE	4.79	1.98	2.38
DART INCIDENCE RATE	1.33	0.68	0.78
DART FREQUENCY RATE	6.64	3.42	3.88
RECORDABLE INCIDENCE RATE	2.43	1.25	1.41
RECORDABLE FREQUENCY RATE	12.17	6.23	7.07

Companies Reporting: Land – 8 Water – 15

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

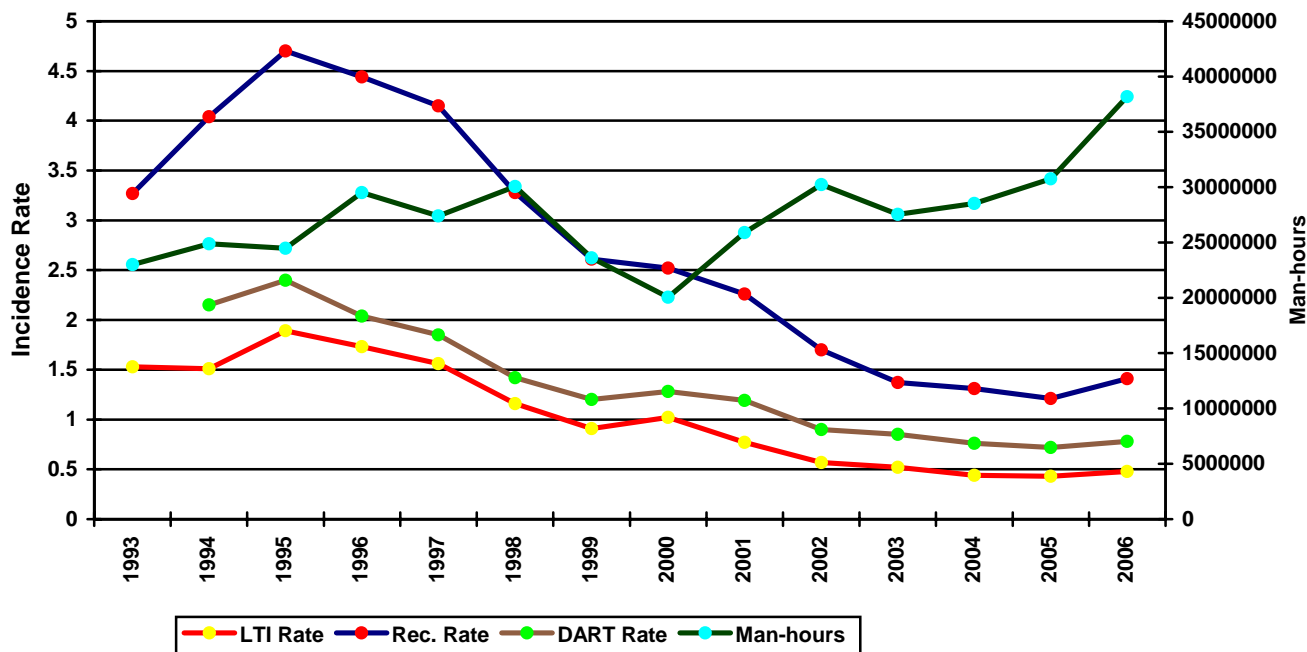
Recordable Incidence Rate = RCRD X 200,000

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

European Total LTI & Recordable Incidence Rates vs Man-hours (Figure 5)





IADC 2006 Canada Totals (Table 6)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	3,698,969	1,612,941	5,311,910
TOTAL MEDICAL TREATMENT INCIDENTS	36	7	43
TOTAL RESTRICTED WORK INCIDENTS	12	2	14
TOTAL LOST TIME INCIDENTS	19	2	21
TOTAL FATALITIES	0	0	0
TOTAL RECORDABLES	67	11	78
MTO INCIDENCE RATE	1.95	0.87	1.62
RWC INCIDENCE RATE	0.65	0.25	0.53
LTI INCIDENCE RATE	1.03	0.25	0.79
LTI FREQUENCY RATE	5.14	1.24	3.95
DART INCIDENCE RATE	1.68	0.50	1.32
DART FREQUENCY RATE	8.38	2.48	6.59
RECORDABLE INCIDENCE RATE	3.62	1.36	2.94
RECORDABLE FREQUENCY RATE	18.11	6.82	14.68

Companies Reporting: Land – 2 Water – 5

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

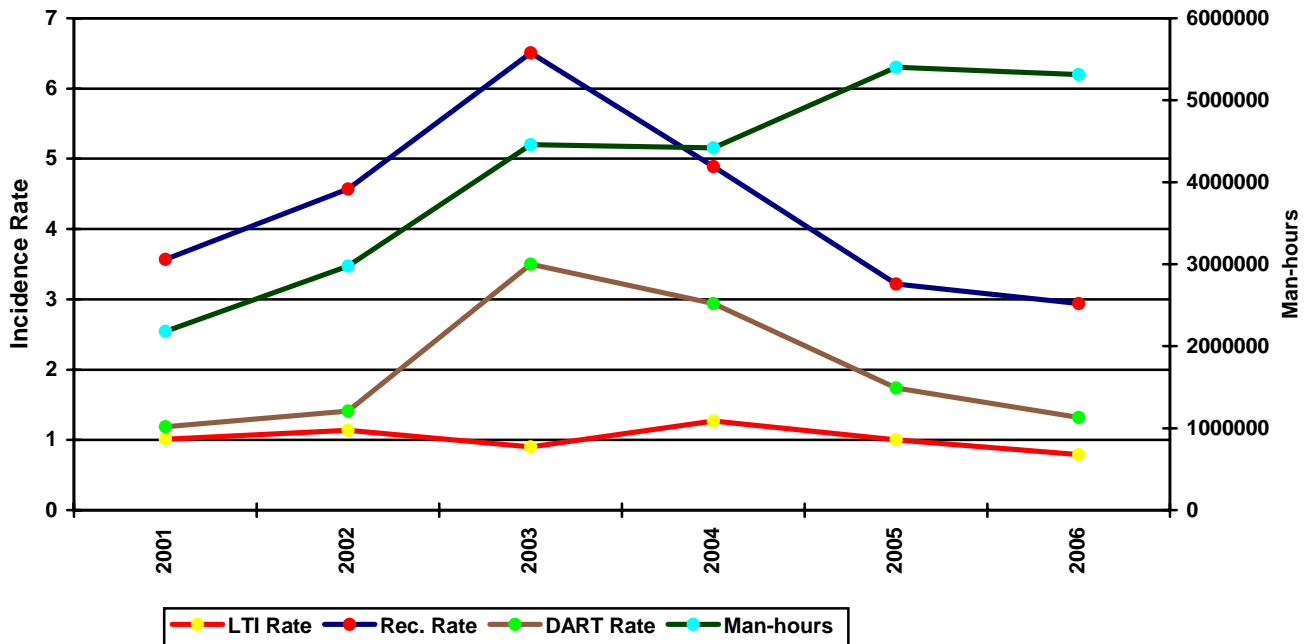
Recordable Incidence Rate = RCRD X 200,000

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

Canada Total LTI & Recordable Incidence Rates vs Man-hours (Figure 6)





IADC 2006 Central South America Totals (Table 7)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	53,433,337	20,257,811	73,691,148
TOTAL MEDICAL TREATMENT INCIDENTS	124	70	194
TOTAL RESTRICTED WORK INCIDENTS	85	34	119
TOTAL LOST TIME INCIDENTS	81	35	116
TOTAL FATALITIES	4	1	5
TOTAL RECORDABLES	294	140	434
MTO INCIDENCE RATE	0.46	0.69	0.53
RWC INCIDENCE RATE	0.32	0.34	0.32
LTI INCIDENCE RATE	0.32	0.36	0.33
LTI FREQUENCY RATE	1.59	1.78	1.64
DART INCIDENCE RATE	0.64	0.69	0.65
DART FREQUENCY RATE	3.18	3.46	3.26
RECORDABLE INCIDENCE RATE	1.10	1.38	1.18
RECORDABLE FREQUENCY RATE	5.50	6.91	5.89

Companies Reporting: Land – 13 Water – 14

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

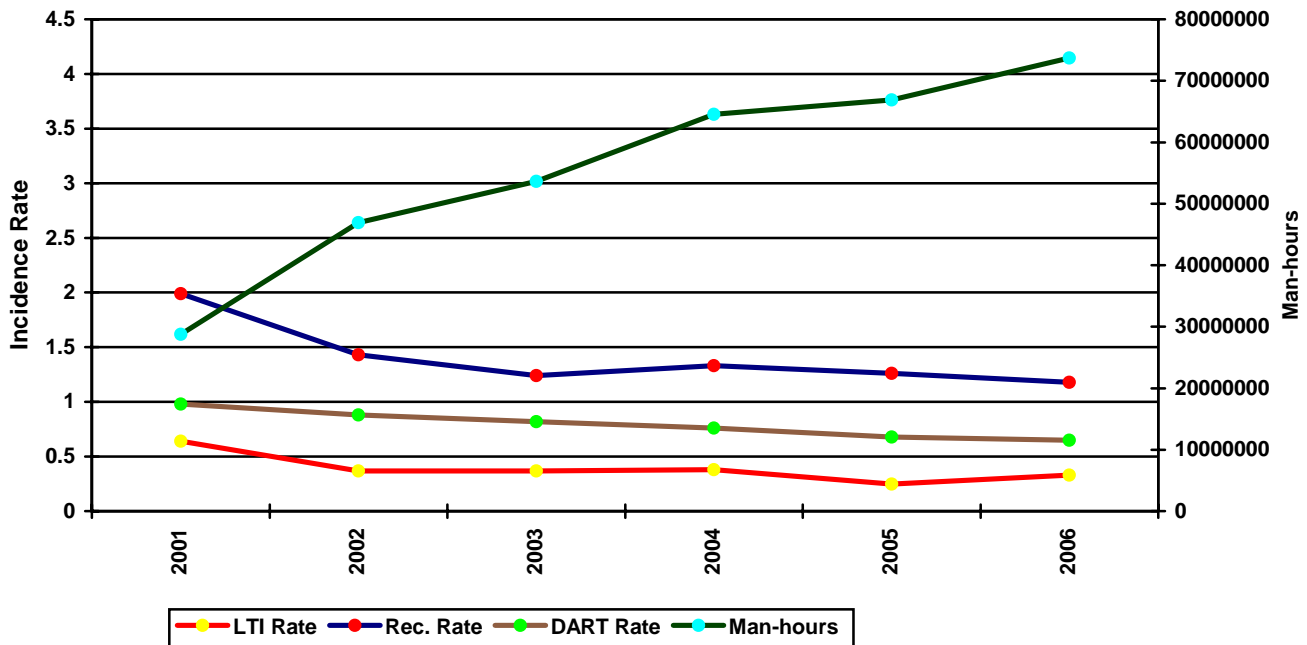
Recordable Incidence Rate = RCRD X 200,000

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

Central/South America Total LTI & Recordable Incidence Rates vs Man-hours (Figure 7)





IADC 2006 Africa Totals (Table 8)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	16,717,167	24,543,788	41,260,955
TOTAL MEDICAL TREATMENT INCIDENTS	102	43	145
TOTAL RESTRICTED WORK INCIDENTS	32	29	61
TOTAL LOST TIME INCIDENTS	71	28	99
TOTAL FATALITIES	1	0	1
TOTAL RECORDABLES	206	100	306
MTO INCIDENCE RATE	1.22	0.35	0.70
RWC INCIDENCE RATE	0.38	0.24	0.30
LTI INCIDENCE RATE	0.86	0.23	0.48
LTI FREQUENCY RATE	4.31	1.14	2.42
DART INCIDENCE RATE	1.24	0.46	0.78
DART FREQUENCY RATE	6.22	2.32	3.90
RECORDABLE INCIDENCE RATE	2.46	0.81	1.48
RECORDABLE FREQUENCY RATE	12.32	4.07	7.42

Companies Reporting: Land – 12 Water – 14

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

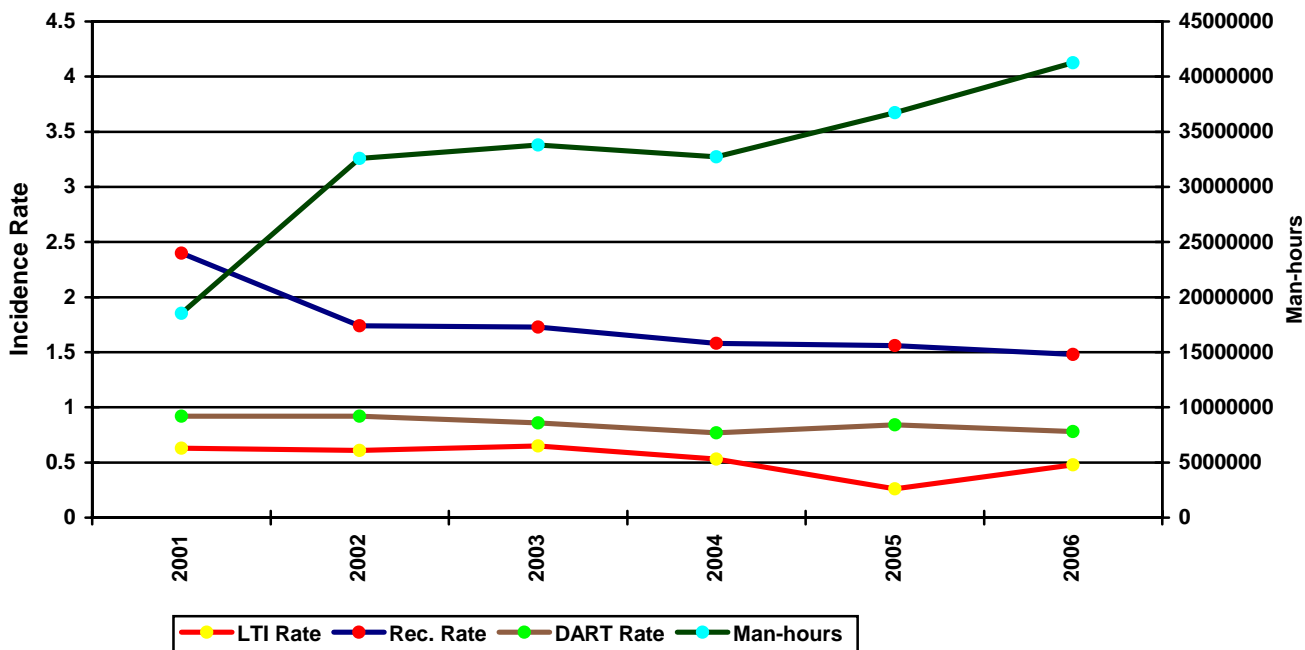
Recordable Incidence Rate = RCRD X 200,000

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

Africa Total LTI & Recordable Incidence Rates vs Man-hours (Figure 8)





IADC 2006 Middle East Totals (Table 9)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	63,516,584	20,829,176	84,345,760
TOTAL MEDICAL TREATMENT INCIDENTS	147	44	191
TOTAL RESTRICTED WORK INCIDENTS	87	22	109
TOTAL LOST TIME INCIDENTS	74	14	88
TOTAL FATALITIES	1	1	2
TOTAL RECORDABLES	309	81	390
MTO INCIDENCE RATE	0.46	0.42	0.45
RWC INCIDENCE RATE	0.27	0.21	0.26
LTI INCIDENCE RATE	0.24	0.14	0.21
LTI FREQUENCY RATE	1.18	0.72	1.07
DART INCIDENCE RATE	0.51	0.36	0.47
DART FREQUENCY RATE	2.55	1.78	2.36
RECORDABLE INCIDENCE RATE	0.97	0.78	0.92
RECORDABLE FREQUENCY RATE	4.86	3.89	4.62

Companies Reporting: Land – 16 Water – 19

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

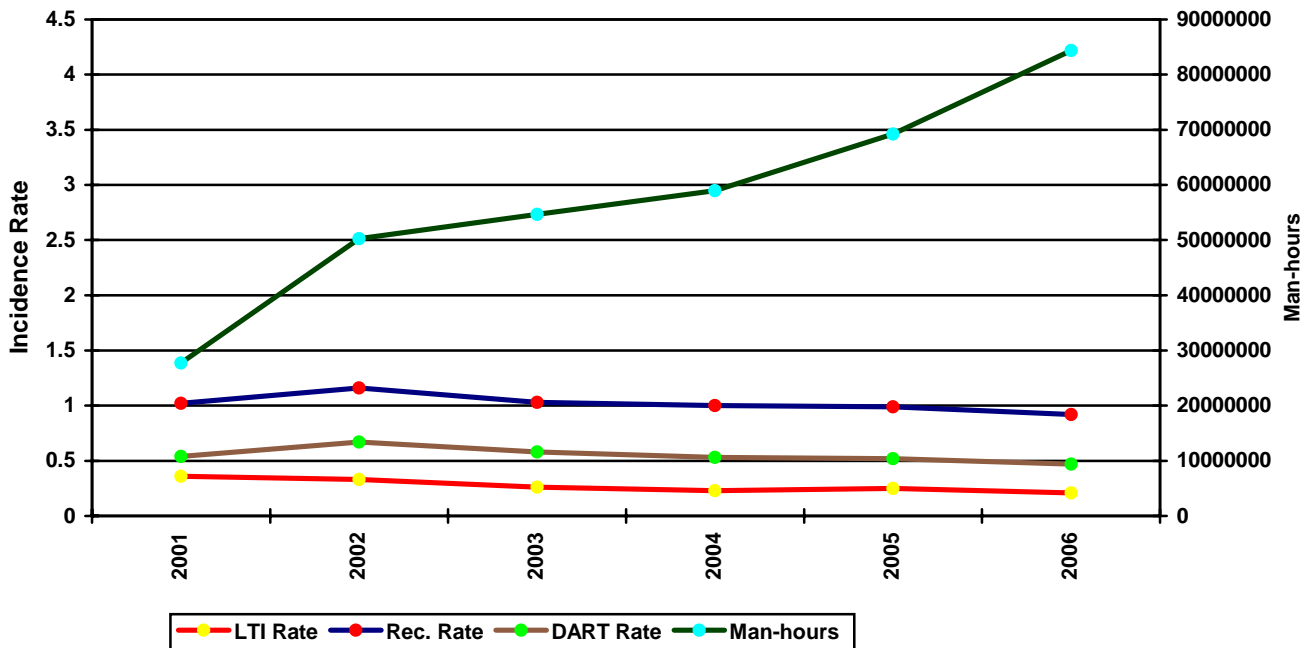
Recordable Incidence Rate = RCRD X 200,000

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

Middle East Total LTI & Recordable Incidence Rates vs Man-hours (Figure 9)





IADC 2006 Asia Pacific Totals (Table 10)

	<u>Land</u>	<u>Water</u>	<u>Total</u>
TOTAL MANHOURS	16,986,603	25,832,457	42,819,060
TOTAL MEDICAL TREATMENT INCIDENTS	50	44	94
TOTAL RESTRICTED WORK INCIDENTS	21	37	58
TOTAL LOST TIME INCIDENTS	33	51	84
TOTAL FATALITIES	0	1	1
TOTAL RECORDABLES	104	133	237
MTO INCIDENCE RATE	0.59	0.34	0.44
RWC INCIDENCE RATE	0.25	0.29	0.27
LTI INCIDENCE RATE	0.39	0.40	0.40
LTI FREQUENCY RATE	1.94	2.01	1.99
DART INCIDENCE RATE	0.64	0.69	0.67
DART FREQUENCY RATE	3.18	3.45	3.34
RECORDABLE INCIDENCE RATE	1.22	1.03	1.11
RECORDABLE FREQUENCY RATE	6.12	5.15	5.53

Companies Reporting: Land – 16 Water – 23

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

Asia Pacific Total LTI & Recordable Incidence Rates vs Man-hours (Figure 10)

