

IADC ISP Program 2019

SUMMARY OF OCCUPATIONAL INCIDENTS (INDUSTRY TOTALS)

Issued 2 December 2020



IADC ISP Program 2019

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SUMMARY OF OCCUPATIONAL INCIDENTS

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Summary of Occupational Incidents Introductory Briefing

Data gathered in the IADC Incident Statistics Program (ISP) data base, shows that the oil and gas well drilling industry continues work toward reducing incidents on rigs. With the decrease in rig demand in 2019, the incidence rates decreased slightly over 2018. Although IADC ISP calculates both Incidence rates and Frequency rates, this report 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 ISP Program. During 2019, 89 contractors participated in the ISP representing a total of 360,626,626 million man-hours worked. Contractors striving for safety improvement by participating in the ISP program reported 1,146 Recordable incidents, 331 Lost Time incidents including 8 fatalities.

REGIONAL REPORTING

Safety data is compiled separately for Land and Offshore operations for nine geographic regions. This report is not designed to measure region against region, but to provide companies operating within each region tools to measure their efforts and make improvement in their safety efforts year over year.

INDUSTRY IMPROVEMENT

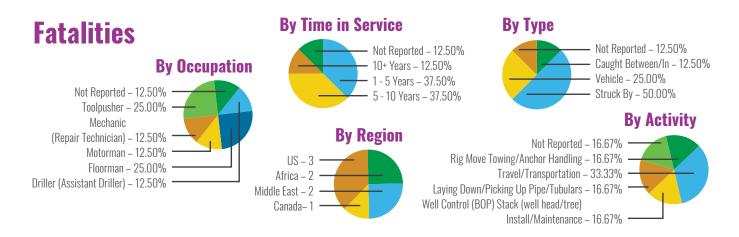
2019 saw the drilling industry's worldwide Lost Time Incidence Rate decrease to 0.18 which is a 14.28% change of the 2018 report of 0.21. The 2019 Recordable Incident rate decreased to 0.63 which is a 7.93% change over the 2018 report of 0.68. The oil and gas well drilling industry's efforts towards safety have resulted in the industry's occupational LTI Incidence rate to improve from more than 14.00 in 1963 to 0.18 in 2019, which is a 99% improvement.

FATALITIES

In 2019 the industry's fatalities decreased to 8 incidents compared to 13 incidents reported in 2018. According to the data reported in 2019, three (3) fatalities occurred to an employee who had more than five but less than ten years of service with the company. Three (3) fatalities occurred to employees who had more than one year but less than five years of service. Two (2) fatalities occurred during Rigging up/down. One (1) victim was not reported while two (2) occurred during travel. The remaining (3) fatalities occurred during rig move towing, well control, and laying down operations. Two (2) of the fatalities occurred to floormen and two (2) occurred to tool pushers. One (1) fatality was recorded for each occupation: Driller, Motorman, and Mechanic. One (1) fatality was not reported to IADC.

Regional Summaries: Man-Hours vs Fatalities

European Land and Offshore categories together worked more than 36.2 million man-hours in 2019 with zero (0) fatalities. European offshore accounted for 28.4 million man-hours with zero (0) fatality while European Land had 7.7 million man-hours and zero (0) fatalities. US Land and Offshore contractors together worked 78.1 million man-hours with three (3) fatalities. US Land had 57.7 million man-hours with three (3) fatalities while US water had 20 million manhours and zero (0) fatalities. Canadian contractors accounted for 5.8 million man-hours and one (1) fatality. Canadian Land had 4.3 million man-hours and one (1) fatality while offshore had 1.4 million man-hours and no fatalities. Central America and Caribbean accounted for 4.2 million man-hours with zero (0) fatalities. Land operations reported 799 thousand man-hours and no fatalities while water operations reported just over 3.4 million man-hours and no fatalities. Africa combined land and offshore accounted for 36.1 million man-hours with two (2) fatalities. Africa Land accounted for 20 million manhours with two (2) fatalities while Africa Water had

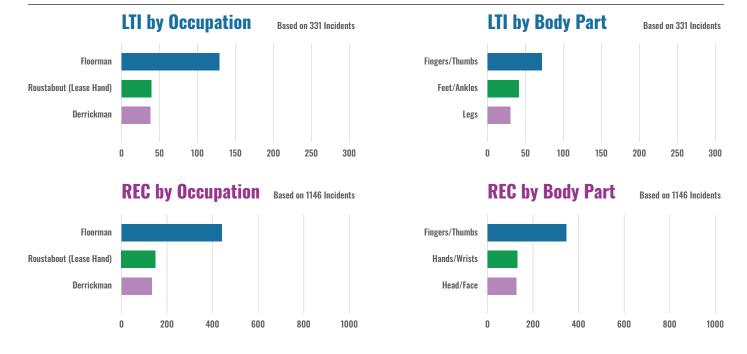


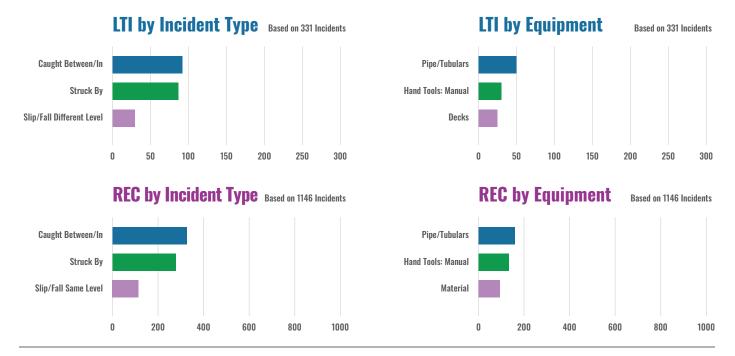
15.9 million man-hours and no fatalities. The Middle East region accounted for 129 million man-hours with two (2) fatalities. The Land division had 85 million man-hours and two (2) fatalities while there were 44.4 million man-hours and no fatalities for the offshore division. Asia Pacific accounted for 44.8 million man-hours and zero (0) fatalities. Water had 35 million man-hours and no fatalities while the Land Division had 9.7 million man-hours with no fatalities. South America made up 20.9 million man-hours with no fatalities. Land had 11 million man-hours and no fatalities while Water had 9.7 million man-hours and no fatalities. Australasia made up 4.4 million manhours with no fatalities. Land had 2.1 million manhours with no fatalities while offshore had 2.2 million man-hours with no fatalities.

Lost Time and Recordable Incidents by Region

Lost time incidents among US Offshore workers worsened 14% from 0.07 in 2018 to 0.08 in 2019. The Total Recordable Incidence Rate worsened 11.9% from 0.42 in 2018 to 0.47 in 2019. US Land LTI Incidence rate worsened 5.88% from 0.51 in 2018 to 0.48 in 2019 and Recordable Incidence Rate improved 6.21% from 1.61 in 2018 to 1.51 in 2019. European Land workers saw their LTI rate improve 41% from 0.39 for 2018 to 0.23 for 2018. The Recordable Incidence Rate worsened 22% from 0.48 in 2018 to 0.59 in 2019. European Offshore workers LTI rate worsened 81% from 0.11 in 2018 to 0.20 in 2019 while the Recordable Incidence rate worsened 2% from 0.50 in 2018 to 0.51 in 2019. Canada Land had a 2018 LTI rate of 0.27 which worsened 51% to 0.41 for 2019, while their Recordable Incidence worsened 45% from 0.91 in 2018 to 1.32 for 2019. Canada Offshore workers

saw their 2018 LTI rate of 0.00 increase to 0.69 for 2019. The Recordable Incidence rate of 0.42 for 2018 improved 33% to 0.28 for 2019. Central America and Caribbean Land 2018 LTI rate of 1.25 decreased to 0.25 for 2019 which is an 80% improvement. Their 2018 Recordable Incidence rate of 2.93 decreased to 1.25 for 2019. Central America and Caribbean Water 2018 LTI Rate of 0.23 improved 73% to 0.06 in 2019. The Recordable rate of 0.91 for 2018 improved 48% to 0.47 for 2019. Africa Land LTI rate decreased from 0.57 in 2018 to 0.44 in 2019. The Recordable Incidence rate decreased from 1.67 in 2018 to 1.55 in 2019. Africa Water LTI rate remained the same at 0.06 and their Recordable Incidence rate improved 30% from 0.43 in 2018 to 0.30 in 2019. In 2018, Middle East Land had a LTI rate of 0.07 which remained the same in 2019. Their 2018 Recordable Incidence rate of 0.28 worsened 17% to 0.33 in 2019. Middle East Water LTI rate of 0.06 for 2018 decreased to 0.05 for 2019 and their Recordable Incidence rate worsened 17% from 0.28 in 2018 to 0.33 in 2019. Asia Pacific Land 2018 LTI rate was 0.04 and worsened to 0.08 in 2019. while their Recordable Incidence rate improved 45% from 0.22 in 2018 to 0.12 in 2019. Asia Pacific Water 2018 LTI rate of 0.06 worsened 183% to 0.17 for 2019 and their Recordable Incidence rate for 2018 was 0.22, which increased to 0.28 for 2019. In 2018, South America Land had an LTI rate of 0.25 which decreased to 0.16 in 2019 and a 2018 Recordable rate of 0.54 which worsened 46% to 0.79 in 2019. South America Water 2018 LTI rate was 0.14 which remained the same in 2019 and a 2018 Recordable rate of 0.30 that worsened 10% to 0.33 in 2019. Australasia Land had a 2018 LTI rate of 0.52 which decreased to 0.00 for 2019 and Recordable incident rate of 1.31 for 2018





which decreased to 0.65 for 2019. Australasia Water had a 2018 LTI rate of 0.31 which improved 42% to 0.18 for 2019 and a 2018 Recordable incident rate of 0.47 which improved 12% to 0.53 for 2019.

Greatest Risks

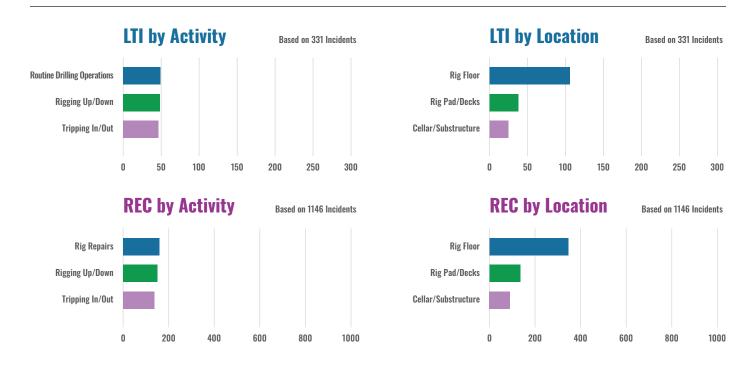
Incidents occur in many places around the rig and to all crewmembers. Many types of equipment and rig operations are involved in incidents and all parts of the body are at risk. Incident data are analyzed by occupation, body part, incident type, equipment type, operation, location time in service and time of day the incident occurred.

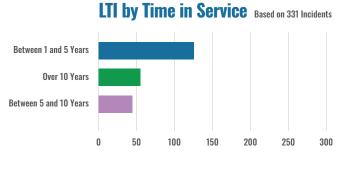
Data from the IADC ISP show that of all the categories, as with previous years, the Floorman position suffers the largest percentage of Lost Time and Recordable injuries.

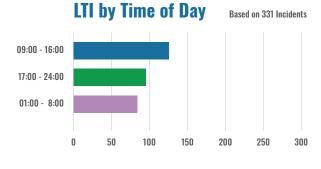
Fingers remained the most vulnerable part of the body.

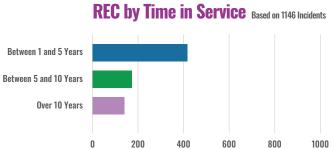
Caught Between accounted for the most Lost Time Injuries and accounted for most Total Recordable injuries.

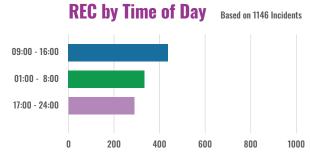
Pipe/Tubulars is the equipment responsible for the most Lost Time and Recordable incidents.











"Routine Drilling Operations" accounted for the most LTI. The most recordable incidents occurred during "Rig or Equipment Repairs".

The most Lost Time and Recordable injuries in drilling operations occurred on the rig floor.

Lost Time and Recordable injuries based on Time in Service were led by employees with between one to five years of service.

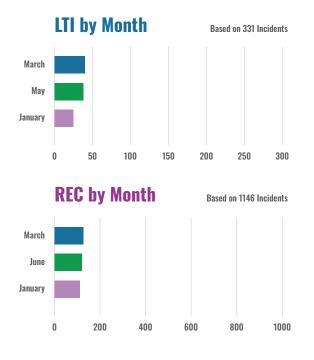
The Most LTI and Recordable incidents occurred between 09:00-16:00 hours.

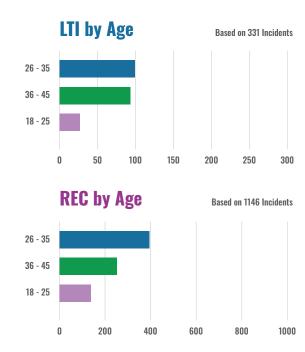
March and May accounted for the most Lost Time and June accounted for the most Recordable incidents.

26 – 35 age range accounted for the most Lost Time and Recordable incidents.

Conclusion

Activity in most sectors of the industry decreased in 2019. Overall, Lost Time incidents rates and Recordable incident rates increased slightly in 2019 as compared to 2018, an increase attributable to regions which experienced an uptick in rig activity. The industry also saw the number of fatalities decrease by 5.





2019 ISP Program Industry Totals

2019 Final Report (Table 1)

January – December (Note: Figures are unaudited)

CATEGORY	TOTAL MAN-HOURS	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	57,759,233.00	168	127	137	3	435	0.48	2.42	0.92	4.62	1.51	7.53
US - Water	20,418,649.00	13	27	8	0	48	0.08	0.39	0.34	1.71	0.47	2.35
Canada - Land	4,383,926.00	15	5	8	1	29	0.41	2.05	0.64	3.19	1.32	6.62
Canada - Water	1,452,776.00	1	0	1	0	2	0.14	0.69	0.14	0.69	0.28	1.38
Central America & Caribbean - Land	799,722.00	4	0	1	0	5	0.25	1.25	0.25	1.25	1.25	6.25
Central America & Caribbean - Water	3,427,657.00	0	7	1	0	8	0.06	0.29	0.47	2.33	0.47	2.33
European - Land	7,739,259.00	7	7	9	0	23	0.23	1.16	0.41	2.07	0.59	2.97
European - Water	28,460,706.00	28	17	28	0	73	0.2	0.98	0.32	1.58	0.51	2.56
Africa - Land	20,188,962.00	31	81	42	2	156	0.44	2.18	1.24	6.19	1.55	7.73
Africa - Water	15,965,386.00	10	9	5	0	24	0.06	0.31	0.18	0.88	0.3	1.5
Middle East - Land	85,323,727.00	57	54	27	2	140	0.07	0.34	0.19	0.97	0.33	1.64
Middle East - Water	44,452,742.00	25	37	12	0	74	0.05	0.27	0.22	1.1	0.33	1.66
Asia Pacific - Land	9,757,591.00	2	0	4	0	6	0.08	0.41	0.08	0.41	0.12	0.61
Asia Pacific - Water	35,133,883.00	12	8	30	0	50	0.17	0.85	0.22	1.08	0.28	1.42
South America Land	11,202,139.00	14	21	9	0	44	0.16	0.8	0.54	2.68	0.79	3.93
South America Water	9,722,023.00	6	3	7	0	16	0.14	0.72	0.21	1.03	0.33	1.65
Australasia – Land	2,153,142.00	3	4	0	0	7	0	0	0.37	1.86	0.65	3.25
Australasia – Water	2,285,103.00	3	1	2	0	6	0.18	0.88	0.26	1.31	0.53	2.63
US Combined	78,177,882.00	181	154	145	3	483	0.38	1.89	0.77	3.86	1.24	6.18
Canada Combined	5,836,702.00	16	5	9	1	31	0.34	1.71	0.51	2.57	1.06	5.31
Central America & Caribbean Com.	4,227,379.00	4	7	2	0	13	0.09	0.47	0.43	2.13	0.62	3.08
European Combined	36,199,965.00	35	24	37	0	96	0.2	1.02	0.34	1.69	0.53	2.65
Africa Combined	36,154,348.00	41	90	47	2	180	0.27	1.36	0.77	3.84	1	4.98
Middle East Combined	129,776,469.00	82	91	39	2	214	0.06	0.32	0.2	1.02	0.33	1.65
Asia Pacific Combined	44,891,474.00	14	8	34	0	56	0.15	0.76	0.19	0.94	0.25	1.25
South America Combined	20,924,162.00	20	24	16	0	60	0.15	0.76	0.38	1.91	0.57	2.87
Australasia Combined	4,438,245.00	6	5	2	0	13	0.09	0.45	0.32	1.58	0.59	2.93
INDUSTRY TOTAL	360,626,626.00	399	408	331	8	1,146	0.19	0.94	0.41	2.0714	0.64	3.18

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

5 Year Summary Report (Table 2)

Lost Time and Total Recordable Incidence/Frequency Rate

CATEGORY	TVDE	20)19	20)18	20)17	20	16	20)15
CATEGORY	TYPE	INCD. RATE	FREQ.RATE	INCD.RATE	FREQ.RATE	INCD.RATE	FREQ.RATE	INCD. RATE	FREQ.RATE	INCD.RATE	FREQ.RATE
	LTI:	0.48	2.42	0.51	2.56	0.43	2.13	0.35	1.74	0.31	1.55
US Land	DART:	0.92	4.62	1.05	5.25	0.91	4.56	0.78	3.89	0.72	3.58
	RCRD:	1.51	7.53	1.61	8.03	1.5	7.52	1.2	5.98	1.22	6.1
	LTI:	0.08	0.39	0.07	0.37	0.11	0.53	0.09	0.43	0.12	0.61
US Water	DART:	0.34	1.71	0.26	1.28	0.25	1.27	0.3	1.48	0.35	1.77
	RCRD:	0.47	2.35	0.42	2.12	0.46	2.28	0.49	2.45	0.56	2.82
	LTI:	0.41	2.05	0.27	1.37	0.39	1.97	0.54	2.68	0.14	0.68
Canada Land	DART:	0.64	3.19	0.78	3.88	0.79	3.94	1.34	6.7	0.41	2.04
	RCRD:	1.32	6.62	0.91	4.57	1.18	5.91	1.34	6.7	1.36	6.79
	LTI:	0.14	0.69	0	0	0.16	0.78	0	0	0	0
Canada Water	DART:	0.14	0.69	0.42	2.12	0.47	2.34	0.26	1.29	0.53	2.67
	RCRD:	0.28	1.38	0.42	2.12	0.62	3.12	0.26	1.29	0.8	4.01
Control America	LTI:	0.25	1.25	1.25	6.27	0.5	2.5	0.55	2.73	0.98	4.92
Central America & Caribbean Land	DART:	0.25	1.25	2.09	10.45	0.5	2.5	1.09	5.46	1.09	5.47
a caribbean Lana	RCRD:	1.25	6.25	2.93	14.63	0.5	2.5	1.64	8.19	1.59	7.93
Central America	LTI:	0.06	0.29	0.23	1.13	0.37	1.84	0.11	0.55	0.18	0.9
& Caribbean	DART:	0.47	2.33	0.73	3.63	0.63	3.16	0.28	1.38	0.43	2.16
Water	RCRD:	0.47	2.33	0.91	4.54	1.05	5.27	0.33	1.65	0.61	3.05
C	LTI:	0.16	0.8	0.25	1.26	0.25	1.26	0.27	1.35	0.25	1.25
South America Land	DART:	0.54	2.68	0.41	2.06	0.59	2.94	0.59	2.94	0.55	2.73
Luna	RCRD:	0.79	3.93	0.54	2.69	0.84	4.2	0.71	3.53	0.72	3.62
0 11 4	LTI:	0.14	0.72	0.14	0.69	0.2	1.02	0.1	0.5	0.22	1.09
South America Water	DART:	0.21	1.03	0.25	1.26	0.2	1.02	0.2	1.01	0.4	1.98
Water	RCRD:	0.33	1.65	0.3	1.49	0.27	1.36	0.34	1.68	0.52	2.6
	LTI:	0.23	1.16	0.39	1.93	0.21	1.04	0.17	0.84	0.15	0.75
European Land	DART:	0.41	2.07	0.39	1.93	0.24	1.22	0.19	0.97	0.18	0.89
	RCRD:	0.59	2.97	0.48	2.42	0.29	1.45	0.23	1.14	0.23	1.14
	LTI:	0.2	0.98	0.11	0.56	0.15	0.74	0.12	0.6	0.19	0.93
European Water	DART:	0.32	1.58	0.31	1.53	0.26	1.32	0.25	1.26	0.4	2.02
	RCRD:	0.51	2.56	0.5	2.51	0.48	2.41	0.5	2.52	0.63	3.17
	LTI:	0.44	2.18	0.57	2.83	0.14	0.71	0.11	0.56	0.39	1.95
Africa Land	DART:	1.24	6.19	1.51	7.53	0.25	1.23	0.2	1.01	0.94	4.71
	RCRD:	1.55	7.73	1.67	8.34	0.52	2.59	0.39	1.96	1.16	5.78
	LTI:	0.06	0.31	0.06	0.31	0.06	0.29	0.01	0.05	0.09	0.47
Africa Water	DART:	0.18	0.88	0.32	1.62	0.16	0.79	0.11	0.55	0.22	1.11
	RCRD:	0.3	1.5	0.43	2.17	0.29	1.43	0.2	0.99	0.34	1.72
	LTI:	0.07	0.34	0.07	0.36	0.09	0.44	0.13	0.64	0.14	0.69
Middle East Land	DART:	0.19	0.97	0.19	0.96	0.23	1.13	0.24	1.2	0.32	1.59
	RCRD:	0.33	1.64	0.28	1.41	0.38	1.89	0.49	2.44	0.6	2.98
Middle East	LTI:	0.05	0.27	0.06	0.29	0.06	0.3	0.05	0.27	0.1	0.48
Water	DART:	0.22	1.1	0.19	0.96	0.22	1.08	0.18	0.91	0.22	1.12
	RCRD:	0.33	1.66	0.28	1.39	0.34	1.7	0.26	1.3	0.31	1.55
	LTI:	0.08	0.41	0.04	0.22	0.02	0.1	0.07	0.33	0.11	0.53
Asia Pacific Land	DART:	0.08	0.41	0.09	0.45	0.06	0.29	0.11	0.55	0.19	0.93
	RCRD:	0.12	0.61	0.22	1.12	0.14	0.68	0.18	0.89	0.34	1.69
Asia Pacific	LTI:	0.17	0.85	0.06	0.31	0.07	0.34	0.11	0.55	0.05	0.27
Water	DART:	0.22	1.08	0.13	0.63	0.15	0.76	0.18	0.9	0.12	0.61
	RCRD:	0.28	1.42	0.22	1.09	0.22	1.12	0.3	1.51	0.23	1.17
	LTI:	0	0	0.52	2.62	0.18	0.9	0	0	0.15	0.75
Australasia Land	DART:	0.37	1.86	0.84	4.2	0.36	1.8	0.48	2.4	0.23	1.13
	RCRD:	0.65	3.25	1.31	6.56	0.54	2.7	0.48	2.4	0.53	2.63
	LTI:	0.18	0.88	0.31	1.56	0.61	3.03	0	0 70	0.1	0.5
Australasia Water	DART:	0.26	1.31	0.47	2.35	0.91	4.55	0.16	0.79	0.45	2.25
	RCRD:	0.53	2.63	0.47	2.35	1.52	7.58	0.48	2.38	0.55	2.75
INDUSTRY	LTI:	0.18	0.92	0.21	1.04	0.16	0.81	0.13	0.66	0.18	0.88
TOTALS	DART:	0.41	2.07	0.49	2.43	0.33	1.67	0.28	1.39	0.38	1.92
	RCRD:	0.64	3.12	0.68	3.39	0.54	2.7	0.46	2.29	0.6	3.02

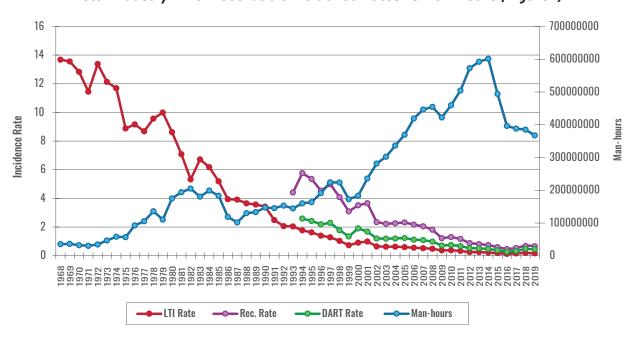
2019 - IADC Industry Totals (Table 3)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	199,307,701	161,318,925	360,626,626
TOTAL MEDICAL TREATMENT INCIDENTS	301	98	399
TOTAL RESTRICTED WORK INCIDENTS	299	109	408
TOTAL LOST TIME INCIDENTS	237	94	331
TOTAL FATALITIES	8	0	8
TOTAL RECORDABLES	845	301	1146
MTO INCIDENCE RATE	0.30	0.12	0.22
RWC INCIDENCE RATE	0.30	0.14	0.23
LTI INCIDENCE RATE	0.25	0.12	0.18
LTI FREQUENCY RATE	1.23	0.58	0.92
DART INCIDENCE RATE	0.55	0.25	0.41
DART FREQUENCY RATE	2.73	1.26	2.07
RECORDABLE INCIDENCE RATE	0.85	0.37	0.63
RECORDABLE FREQUENCY RATE	4.24	1.87	3.17

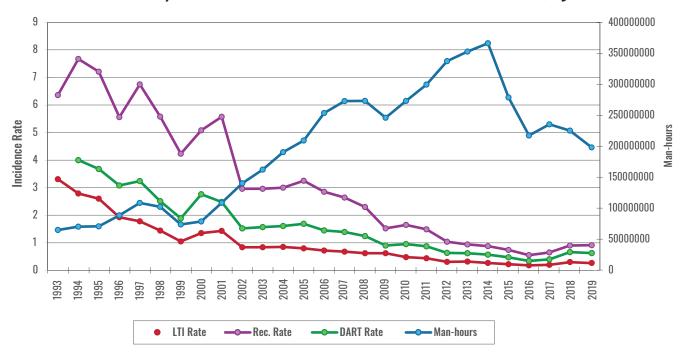
MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLS) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLS) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Number of participating companies: 104 - Total; 57 - Land; 47 - Water

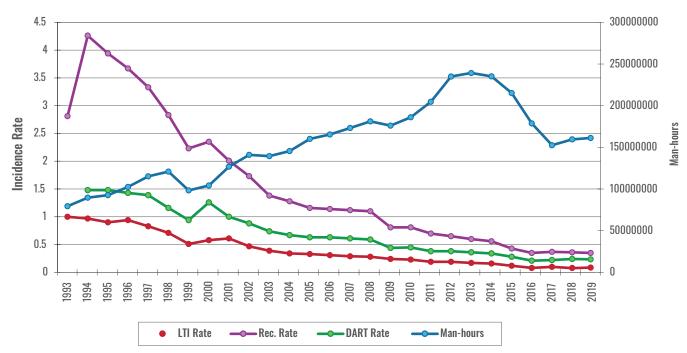
Total Industry LTI & Recordable Incidence Rates vs Man-hours (Figure 1)



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



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

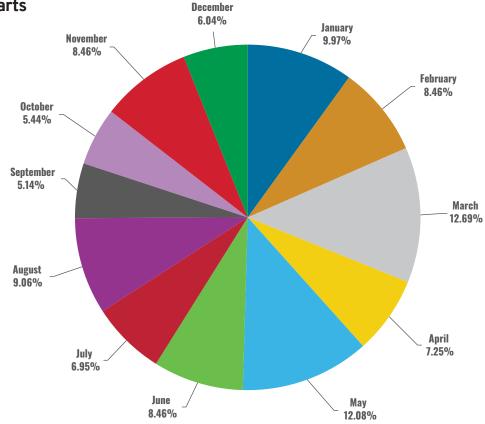


IADC 2019 Total Industry Charts

Total Industry Lost Time Incidents by Month (Chart 1)

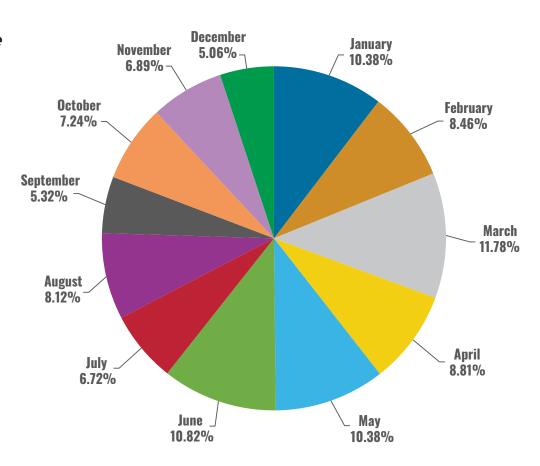
Based on 331 Incidents

Note: Some pie charts may not appear to show all the slices due to the small percentage the slice represents.



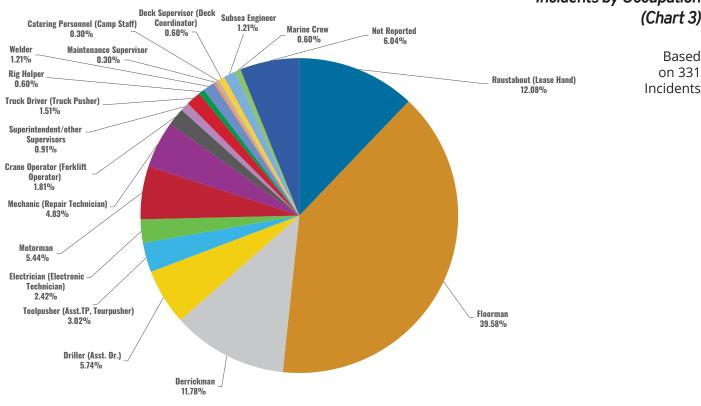
Total Industry Recordable Incidents by Month (Chart 2)

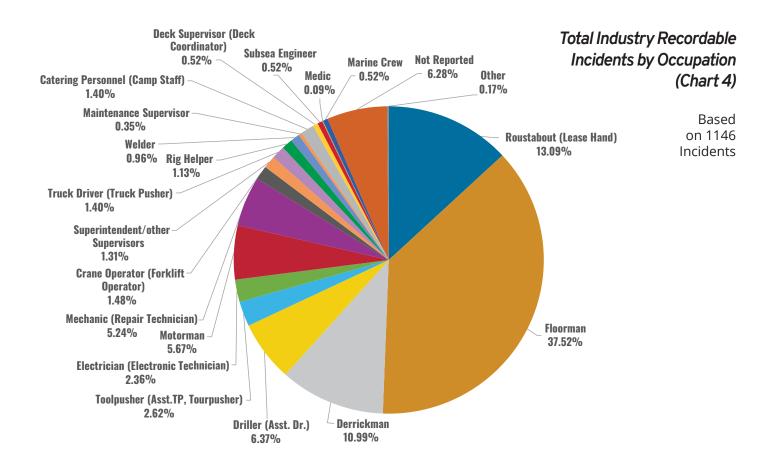
Based on 1146 Incidents



Total Industry Lost Time Incidents by Occupation (Chart 3)

Based

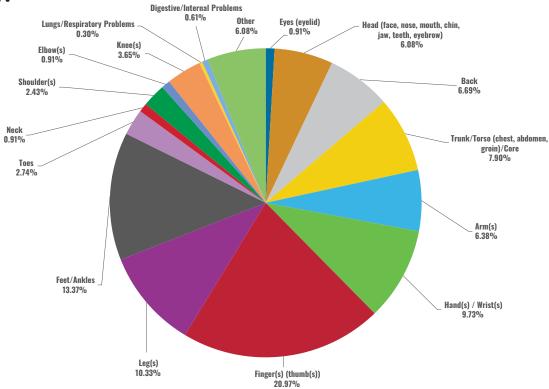




Total Industry Lost Time Incidents by Body Part

(Chart 5)

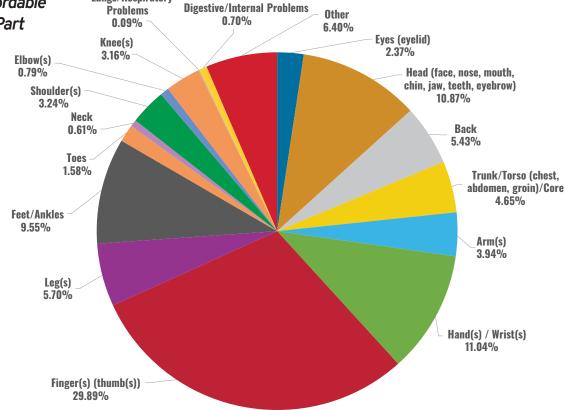
Based on 329 Incidents

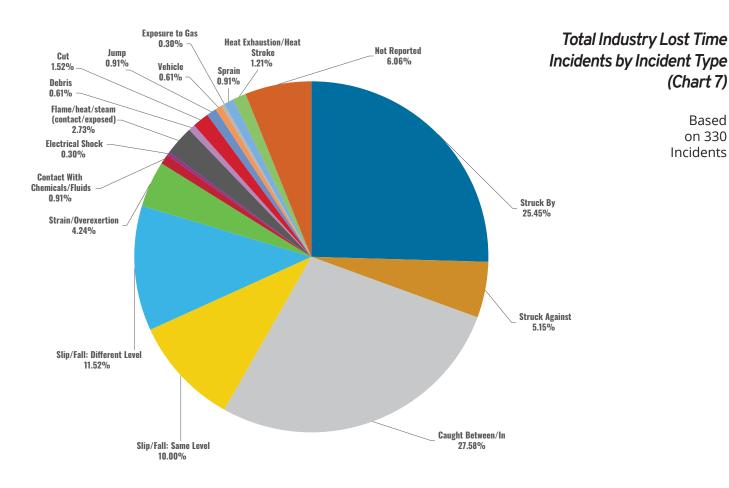


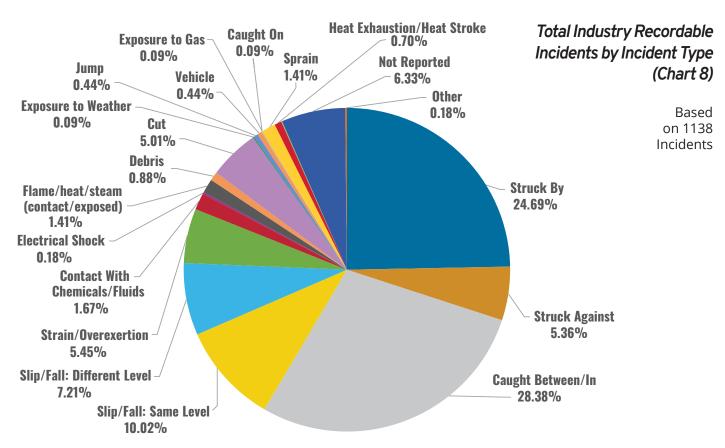


Lungs/Respiratory

Based on 1141 Incidents







(Chart 7)

Based

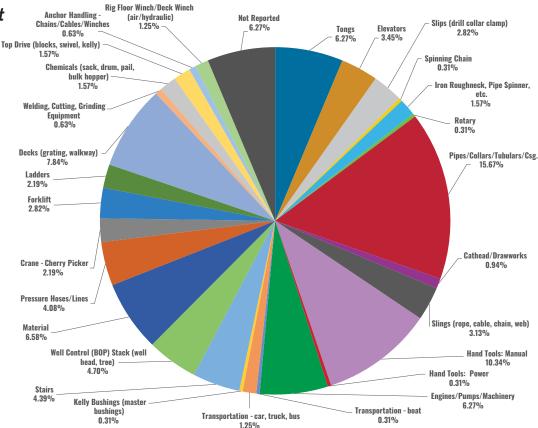
on 330

Incidents

Total Industry Lost Time Incidents by Equipment (Chart 9)

(Criai t))

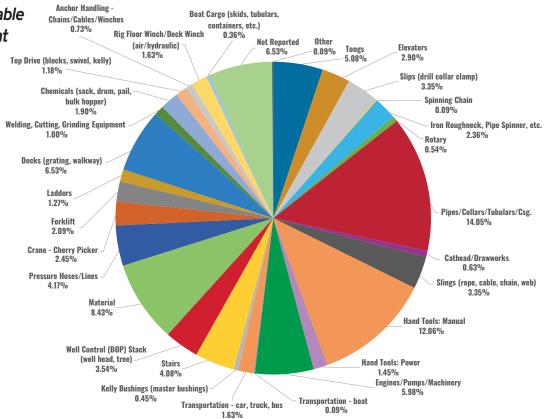
Based on 319 Incidents

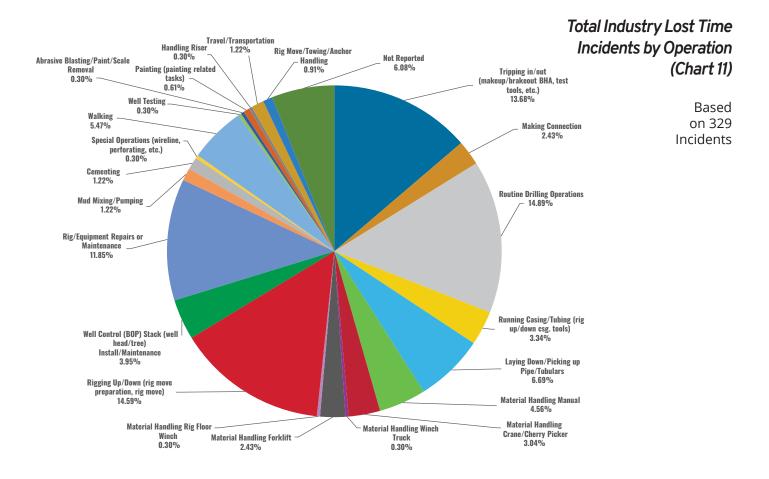


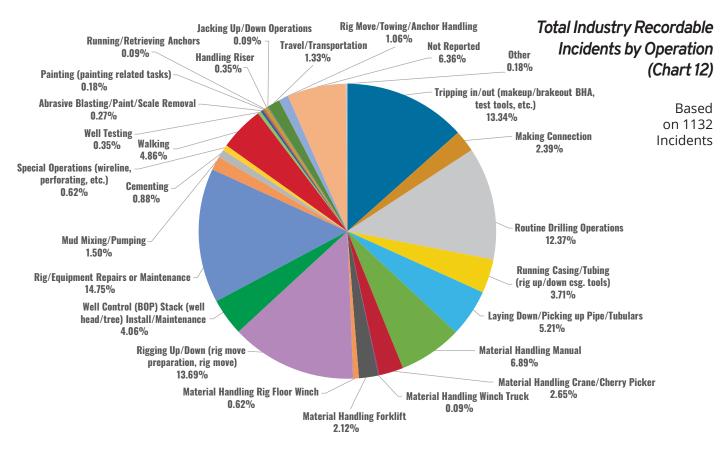
Total Industry Recordable Incidents by Equipment

(Chart 10)

Based on 1103 Incidents

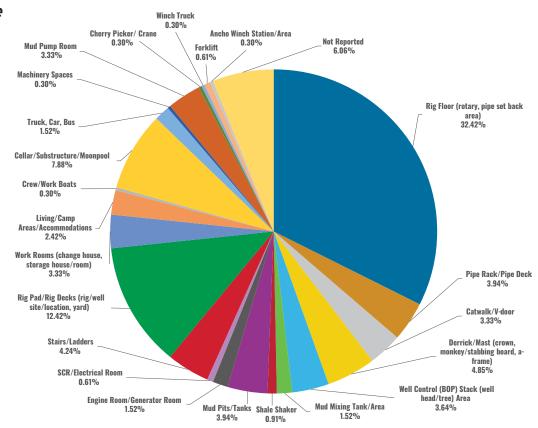






Total Industry Lost Time Incidents by Location (Chart 13)

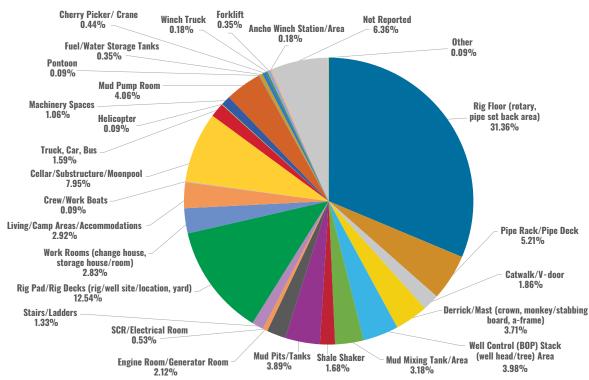
Based on 330 Incidents

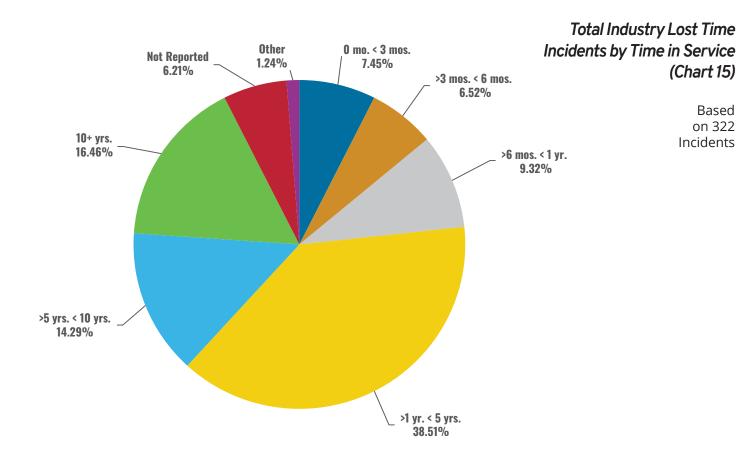


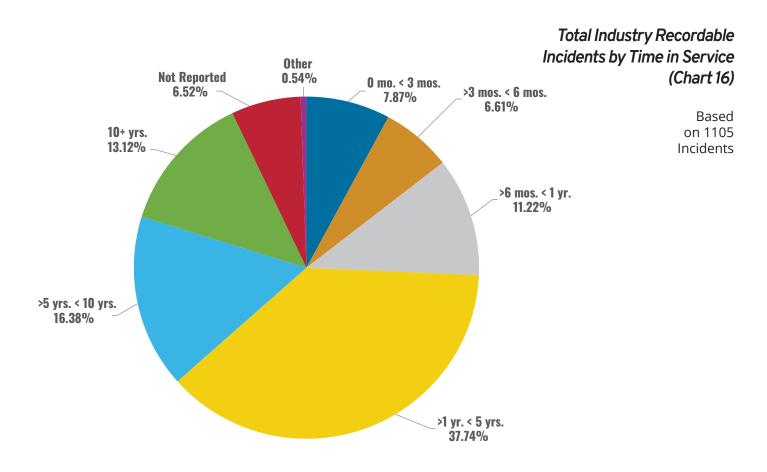
Total Industry Recordable Incidents by Location

Based on 1132 Incidents

(Chart 14)



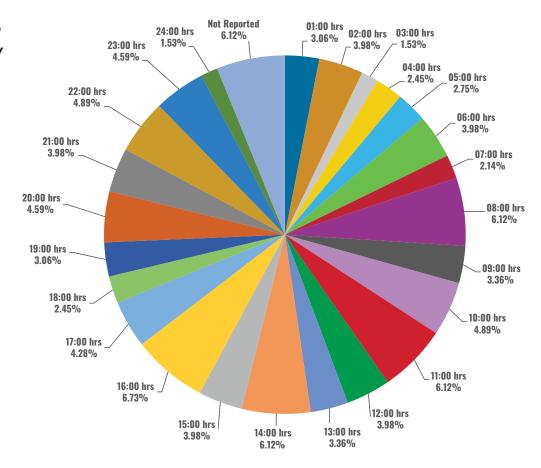




Based on 322

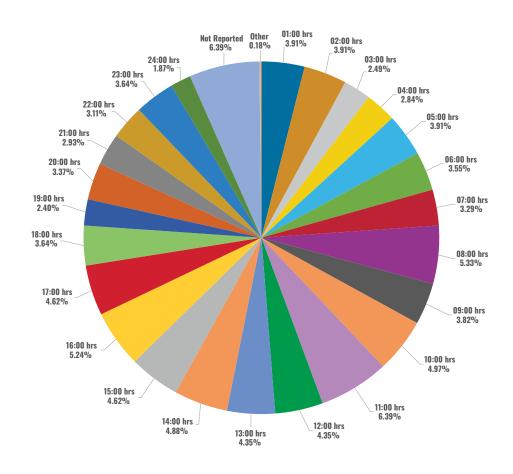
Total Industry Lost Time Incidents by Time of Day (Chart 17)

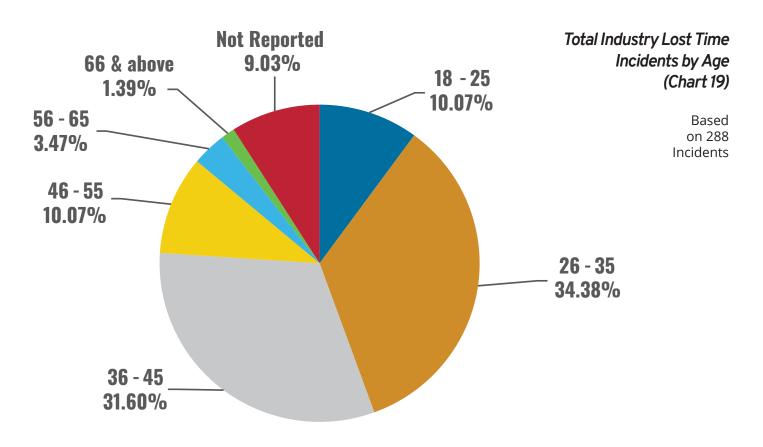
Based on 327 Incidents

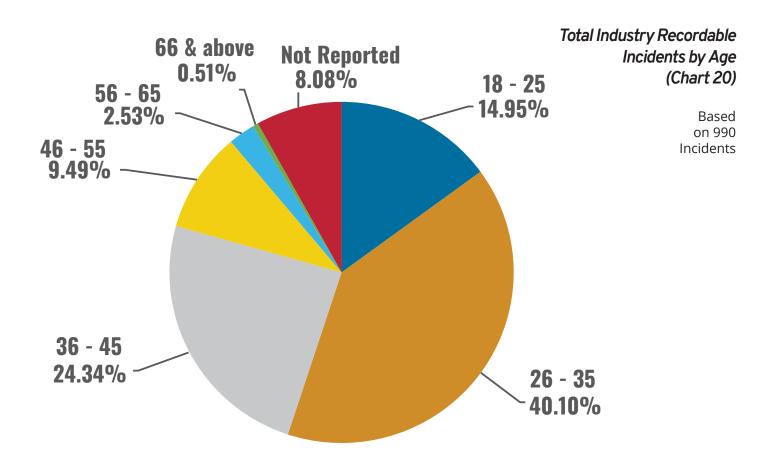


Total Industry Recordable Incidents by Time of Day (Chart 18)

Based on 1126 Incidents







2019 ISP Program Regional Totals

Combined Land & Water

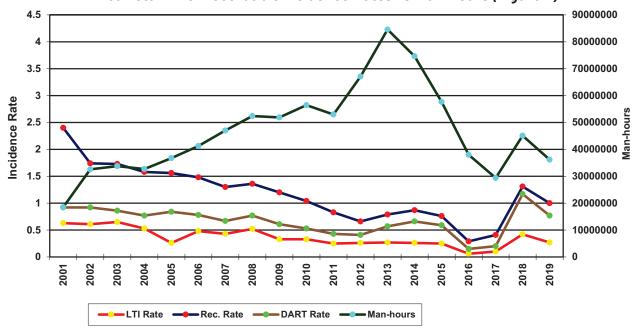
IADC 2019 Africa Totals (Table 4)

, ,	LAND	WATER	COMBINED
TOTAL MAN-HOURS	20,188,962	15,965,386	36,154,348
TOTAL MEDICAL TREATMENT INCIDENTS	31	10	41
TOTAL RESTRICTED WORK INCIDENTS	81	9	90
TOTAL LOST TIME INCIDENTS	42	5	47
TOTAL FATALITIES	2	0	2
TOTAL RECORDABLES	156	24	180
MTO INCIDENCE RATE	0.31	0.13	0.23
RWC INCIDENCE RATE	0.80	0.11	0.50
LTI INCIDENCE RATE	0.44	0.06	0.27
LTI FREQUENCY RATE	2.18	0.31	1.36
DART INCIDENCE RATE	1.24	0.18	0.77
DART FREQUENCY RATE	6.19	0.88	3.84
RECORDABLE INCIDENCE RATE	1.55	0.30	1
RECORDABLE FREQUENCY RATE	7.73	1.50	4.98

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE -(LTIS+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE =(LTIS+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 12 Water - 19

Africa Total LTI & Recordable Incidence Rates vs Man-hours (Figure 4)



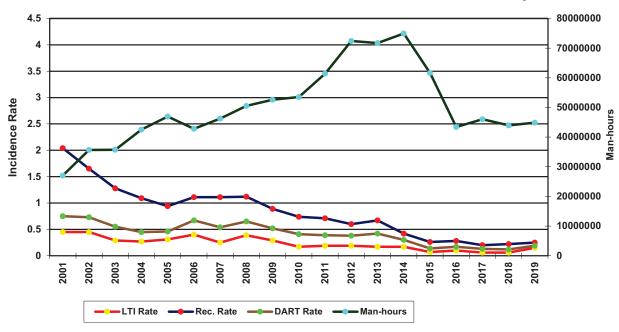
IADC 2019 Asia Pacific Totals (Table 5)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	9,757,591	35,133,883	44,891,474
TOTAL MEDICAL TREATMENT INCIDENTS	2	12	14
TOTAL RESTRICTED WORK INCIDENTS	0	8	8
TOTAL LOST TIME INCIDENTS	4	30	34
TOTAL FATALITIES	0	0	0
TOTAL RECORDABLES	6	50	56
MTO INCIDENCE RATE	0.04	0.07	0.06
RWC INCIDENCE RATE	0.00	0.05	0.50
LTI INCIDENCE RATE	0.08	0.17	0.15
LTI FREQUENCY RATE	0.41	0.85	0.76
DART INCIDENCE RATE	0.08	0.22	0.19
DART FREQUENCY RATE	0.41	1.08	0.94
RECORDABLE INCIDENCE RATE	0.12	0.28	0.25
RECORDABLE FREQUENCY RATE	0.61	1.42	1.25

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE -(LTIS+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE =(LTIS+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 10 Water - 27

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



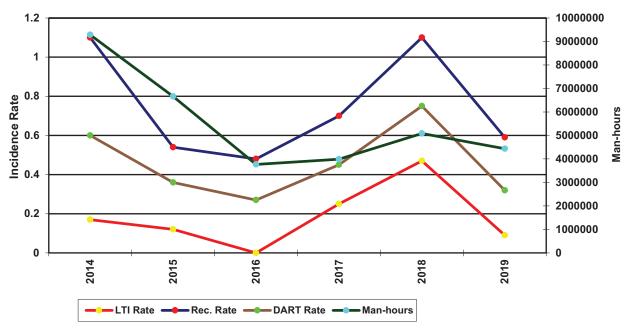
IADC 2019 Australasia Totals (Table 6)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	2,153,142	2,285,103	4,438,245
TOTAL MEDICAL TREATMENT INCIDENTS	3	3	6
TOTAL RESTRICTED WORK INCIDENTS	4	1	5
TOTAL LOST TIME INCIDENTS	0	2	2
TOTAL FATALITIES	0	0	0
TOTAL RECORDABLES	7	6	13
MTO INCIDENCE RATE	0.28	0.26	0.27
RWC INCIDENCE RATE	0.37	0.09	0.23
LTI INCIDENCE RATE	0.00	0.18	0.09
LTI FREQUENCY RATE	0.00	0.88	0.45
DART INCIDENCE RATE	0.37	0.26	0.32
DART FREQUENCY RATE	1.86	1.31	1.58
RECORDABLE INCIDENCE RATE	0.65	0.53	0.59
RECORDABLE FREQUENCY RATE	3.25	2.63	2.93

MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLS) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLS) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 4 Water - 6

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



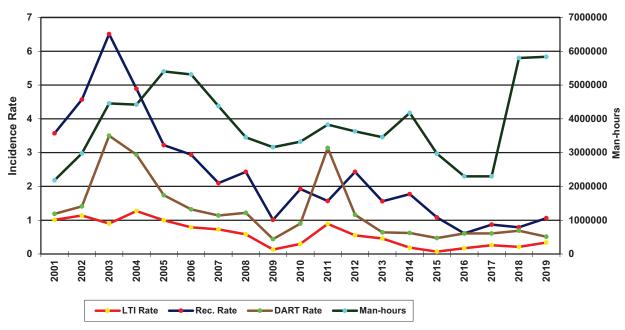
IADC 2019 Canada Totals (Table 7)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	4,383,926	1,452,776	5,836,702
TOTAL MEDICAL TREATMENT INCIDENTS	15	1	16
TOTAL RESTRICTED WORK INCIDENTS	5	0	5
TOTAL LOST TIME INCIDENTS	8	1	9
TOTAL FATALITIES	1	0	1
TOTAL RECORDABLES	29	2	31
MTO INCIDENCE RATE	0.68	0.14	0.55
RWC INCIDENCE RATE	0.23	0.00	0.17
LTI INCIDENCE RATE	0.41	0.14	0.34
LTI FREQUENCY RATE	2.05	0.69	1.71
DART INCIDENCE RATE	0.64	0.14	0.51
DART FREQUENCY RATE	3.19	0.69	2.57
RECORDABLE INCIDENCE RATE	1.32	0.28	1.06
RECORDABLE FREQUENCY RATE	6.62	1.38	5.31

MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLS) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLS) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 4 Water - 4

Canada Total LTI & Recordable Incidence Rates vs Man-hours (Figure 7)



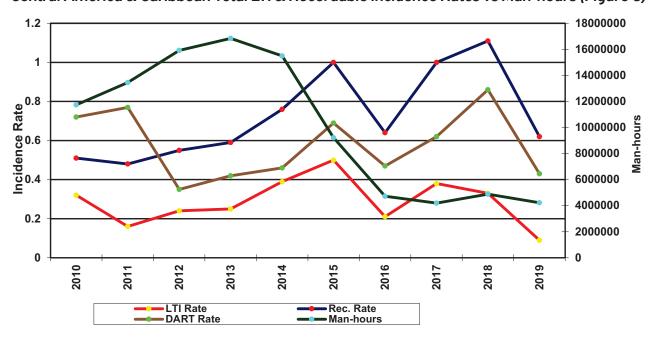
IADC 2019 Central America & Caribbean Totals (Table 8)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	799,722	3,427,657	4,227,379
TOTAL MEDICAL TREATMENT INCIDENTS	4	0	4
TOTAL RESTRICTED WORK INCIDENTS	0	7	7
TOTAL LOST TIME INCIDENTS	1	1	2
TOTAL FATALITIES	0	0	0
TOTAL RECORDABLES	5	8	13
MTO INCIDENCE RATE	1.00	0.00	0.19
RWC INCIDENCE RATE	0.00	0.41	0.33
LTI INCIDENCE RATE	0.25	0.06	0.09
LTI FREQUENCY RATE	1.25	0.29	0.47
DART INCIDENCE RATE	0.25	0.47	0.43
DART FREQUENCY RATE	1.25	2.33	2.13
RECORDABLE INCIDENCE RATE	1.25	0.47	0.62
RECORDABLE FREQUENCY RATE	6.25	2.33	3.08

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE -(LTIS+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE =(LTIS+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 6 Water - 9

Central America & Caribbean Total LTI & Recordable Incidence Rates vs Man-hours (Figure 8)



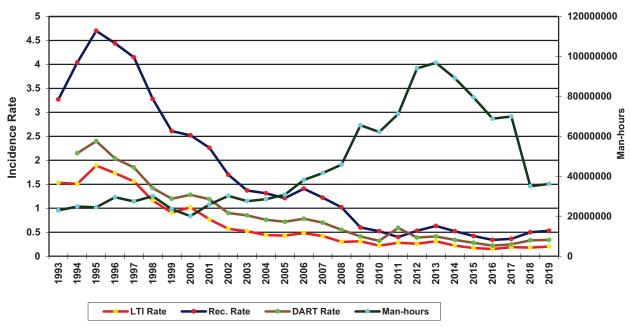
IADC 2019 European Totals (Table 9)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	7,739,259	28,460,706	36,199,965
TOTAL MEDICAL TREATMENT INCIDENTS	7	28	35
TOTAL RESTRICTED WORK INCIDENTS	7	17	24
TOTAL LOST TIME INCIDENTS	9	28	37
TOTAL FATALITIES	0	0	0
TOTAL RECORDABLES	23	73	96
MTO INCIDENCE RATE	0.18	0.20	0.19
RWC INCIDENCE RATE	0.18	0.12	0.13
LTI INCIDENCE RATE	0.23	0.20	0.20
LTI FREQUENCY RATE	1.16	0.98	1.02
DART INCIDENCE RATE	0.41	0.32	0.34
DART FREQUENCY RATE	2.07	1.58	1.69
RECORDABLE INCIDENCE RATE	0.59	0.51	0.53
RECORDABLE FREQUENCY RATE	2.97	2.56	2.65

MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 8 Water - 18

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



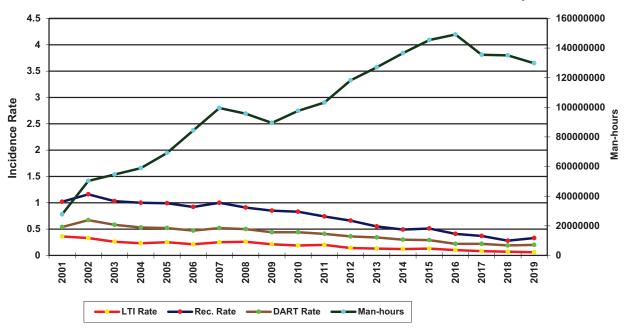
IADC 2019 Middle East Totals (Table 10)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	85,323,727	44,452,742	129,776,469
TOTAL MEDICAL TREATMENT INCIDENTS	57	25	82
TOTAL RESTRICTED WORK INCIDENTS	54	37	91
TOTAL LOST TIME INCIDENTS	27	12	39
TOTAL FATALITIES	2	0	2
TOTAL RECORDABLES	140	74	214
MTO INCIDENCE RATE	0.13	0.11	0.13
RWC INCIDENCE RATE	0.13	0.17	0.14
LTI INCIDENCE RATE	0.07	0.05	0.06
LTI FREQUENCY RATE	0.34	0.27	0.32
DART INCIDENCE RATE	0.19	0.22	0.2
DART FREQUENCY RATE	0.97	1.1	1.02
RECORDABLE INCIDENCE RATE	0.33	0.33	0.33
RECORDABLE FREQUENCY RATE	1.64	1.66	1.65

MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLS) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLS) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 16 Water - 19

Middle East Total LTI & Recordable Incidence Rates vs Man-hours (Figure 10)



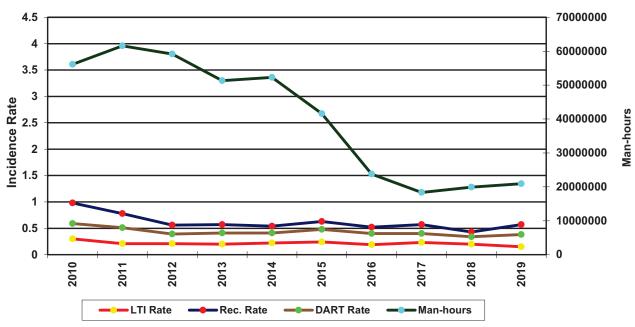
IADC 2019 South American Totals (Table 11)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	11,202,139	9,722,023	20,924,162
TOTAL MEDICAL TREATMENT INCIDENTS	14	6	20
TOTAL RESTRICTED WORK INCIDENTS	21	3	24
TOTAL LOST TIME INCIDENTS	9	7	16
TOTAL FATALITIES	0	0	0
TOTAL RECORDABLES	44	16	60
MTO INCIDENCE RATE	0.25	0.12	0.19
RWC INCIDENCE RATE	0.37	0.06	0.23
LTI INCIDENCE RATE	0.16	0.14	0.15
LTI FREQUENCY RATE	0.80	0.72	0.76
DART INCIDENCE RATE	0.54	0.21	0.38
DART FREQUENCY RATE	2.68	1.03	1.91
RECORDABLE INCIDENCE RATE	0.79	0.33	0.57
RECORDABLE FREQUENCY RATE	3.93	1.65	2.87

MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLs) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLs) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 9 Water - 10

South America Total LTI & Recordable Incidence Rates vs Man-hours (Figure 11)



IADC 2019 US Totals (Table 12)

	LAND	WATER	COMBINED
TOTAL MAN-HOURS	57,759,233	20,418,649	78,177,882
TOTAL MEDICAL TREATMENT INCIDENTS	168	13	181
TOTAL RESTRICTED WORK INCIDENTS	127	27	154
TOTAL LOST TIME INCIDENTS	137	8	145
TOTAL FATALITIES	3	0	3
TOTAL RECORDABLES	435	48	483
MTO INCIDENCE RATE	0.58	0.13	0.46
RWC INCIDENCE RATE	0.44	0.26	0.39
LTI INCIDENCE RATE	0.48	0.08	0.38
LTI FREQUENCY RATE	2.42	0.39	1.89
DART INCIDENCE RATE	0.92	0.34	0.77
DART FREQUENCY RATE	4.62	1.71	3.86
RECORDABLE INCIDENCE RATE	1.51	0.47	1.24
RECORDABLE FREQUENCY RATE	7.53	2.35	6.18

MEDICAL TREATMENT INCIDENCE RATE = MTOS X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIS NOT INCLUDED)
LOST TIME INCIDENCE RATE - (LTIS+FTLS) X 200,000 / MAN-HOURS
LOST TIME FREQUENCY RATE = (LTIS+FTLS) X 1,000,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 200,000 / MAN-HOURS
DART INCIDENCE RATE - (LTIS+FTLS+RWCs) X 1,000,000 / MAN-HOURS
RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS
RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land - 29 Water - 14

US Total LTI & Recordable Incidence Rates vs Man-hours (Figure 12)

