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The Annual Report of the Inspector of Mines



Photo by Paul Pluskwik

2018

Steve Manninen Mine Inspector St. Louis County 307 South First Street Virginia, MN 55792 218-742-9840 Joseph Austin Safety & Risk Mgmt. Director St. Louis County 2503 Rice Lake Road Duluth, MN 55811 218-726-2139

The ANNUAL REPORT of the INSPECTOR OF MINES St. Louis County, Minnesota

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INSPECTOR OF MINES

Steve Manninen 4502 Cedar Island Drive Eveleth, MN 55734 OFFICE PHONE: 218-742-9840 OFFICE PHONE: 218-726-2139 CELL PHONE: 218-742-2919 E-MAIL: manninens@stlouiscountymn.gov E-MAIL: austinj@stlouiscountymn.gov FAX: 218-471-7270

ASSISTANT MINE INSPECTOR David Hamalainen

620 Bourgin Road Virginia, MN 55792 CELL PHONE: 218-290-8855 OFFICE PHONE: 218-742-9843

SAFETY & RISK MGT. DIRECTOR Joseph J. Austin 5888 Sunny Lane Caribou Lake, MN 55811 CELL PHONE: 218-348-0355 FAX: 218-722-8860

ASSISTANT MINE INSPECTOR Derek Harbin 16079 Goss St., P.O. Box 241 Pengilly, MN 55775 CELL PHONE: 218-910-4753 OFFICE PHONE: 218-742-9841

OFFICE AT NORTHLAND OFFICE BUILDING 307 South First Street, Virginia, Minnesota 55792 PHONE: 218-742-9841

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THE ST. LOUIS COUNTY BOARD OF COMMISSIONERS

| District 1 | Frank Jewell, Duluth, Minnesota |
|------------|-------------------------------------|
| District 2 | Patrick Boyle, Duluth, Minnesota |
| District 3 | Beth Olson, Duluth, Minnesota |
| District 4 | Tom Rukavina, Elv, Minnesota |
| District 5 | Pete Stauber, Hermantown, Minnesota |
| District 6 | |
| District 7 | Mike Jugovich, Chisholm, Minnesota |

THE ITASCA COUNTY BOARD OF COMMISSIONERS

| District 1 | Davin Tinquist |
|------------|--|
| District 2 | |
| District 3 | Leo Trunt |
| District 4 | Burl Ives |
| District 5 | Ben DeNucci |
| | Itasca County Auditor Itasca County Sheriff, Itasca County Mine Inspector |

February 26, 2019

THE HONORABLE BOARDS OF COMMISSIONERS

ST. LOUIS COUNTY COURT HOUSE DULUTH, MN 55802-1202 ITASCA COUNTY COURT HOUSE GRAND RAPIDS, MN 55744

Dear Chairs Boyle, Tinquist and Commissioners:

The Annual Report of the Inspector of Mines for 2018 is herewith submitted.

Mining activity for 2018 showed a strong and steady production schedule for both St. Louis and Itasca counties. A total of 40,986,054 tons of taconite were shipped from area operations compared to 39,485,849 in 2017. Mining related employment also increased and was reported at 3,954, which was an increase of 10 individuals compared to 2017. These positive numbers mark two years of steady production and a significant improvement compared to the two consecutive years of reduced production and mining related employment in the area reported for 2015 and 2016. The total work hours reported for area mining operations was 8,415,781 for the year.

The number of active mining operations in the area during 2018 remained at six, these include: ArcelorMittal Minorca, Hibbing Taconite, Keetac, Minntac, Northshore, and United Taconite. All six of these facilities reported 12 months in operation during the year.

Progress continues to be made by several area operations toward the objective of growth during the coming years. These include PolyMet who has now been issued the majority of necessary mine permits associated with the NorthMet project (copper/nickel/precious metal mining) and Twin Metals who continues to move forward with efforts directed at their semi-precious metal mining project near Ely.

On the regulatory front, positive revisions to MS 180 (the law governing the mine inspection function) were made in St. Paul. The revisions further enhance the statute by establishing a mechanism for exemption to enable beneficial reuse of land formerly used for mining, while at the same time maintaining the inspection, investigation and reporting requirements associated with the office that has served to promote Mine Safety since the law

(Continued on page 3)

was originally promulgated in 1905. Many stakeholders, including Mine/ Mine Safety representatives, Union officials, Mine Safety Committee representatives, the Iron Mining Association, the St. Louis County Board and County Administration, worked collaboratively to assure that the changes made sense and to get them passed into law. Special thanks to Senator David Tomassoni and Representative Jason Metsa for their efforts in St. Paul during the session to get the changes passed into law. It is clear that without the collaborative effort put forward, the law would not have been updated.

During 2018, area mining operations reported a total of 14 lost time or serious accidents. This is a decrease in comparison to the 18 experienced in 2017. Zero fatalities were reported in 2018. The continued commitment to the safety of all those who work in the mining industry is our shared goal.

St. Louis County Mine Inspectors successfully completed all required inspections of area operations mandated by Minnesota State Law Chapter 180, Section 180.03 during 2018.

Acknowledgement and appreciation is extended to both Labor and Management for their continued interest, efforts and cooperation in the field of Safety and Health throughout the mines and plants in St. Louis and Itasca counties.

Respectfully submitted,

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Joseph J. Austin MS, MIS, CHMM Inspector of Mines - Interim Director, Safety and Risk Management St. Louis County

Excerpts from the Law On

INSPECTOR OF MINES

CHAPTER 180

MINNESOTA STATUTES

SECTION 180.03

DUTIES

Subdivision 1

INSPECTIONS

The duties of the inspector of mines shall be to visit all mining operations for which a permit to mine has been obtained from the commissioner of natural resources in the inspector's county at least once every 90 days and more often if requested so to do as hereinafter provided, and closely inspect the mines so visited and condemn all such places where the employees are in danger from any cause. In the event that the inspector of mines finds that a place is dangerous from any cause, it shall be the inspector's duty immediately to order those engaged in the work at that place to cease work, and notify the superintendent, agent, or person in charge to secure the place from the existing danger, which notification or order shall be in writing, clearly define the limits of the dangerous place, and specify the work to be done or change to be made to render the same secure, ordinary mine risks excepted. It shall be the duty of the inspector of mines to order the person, persons, or corporation working any mine, or the agent, superintendent, lead supervisor, or other person having immediate charge of the working of any mine, to mitigate the identified hazard.

SUMMARY OF STATISTICS

2018

| Number of Mining Companies | |
|--|-------------|
| Number of Mines in Operation | |
| Number of Plants in Operation | 6 |
| Number of Wash Plants | 0 |
| Number of Mines Inactive | 285 |
| Number of Abandoned Mine Shafts Inspected | |
| Total Number of Mines and Plants | 294 |
| Total Taconite Products Shipped | 40,986,054 |
| Total Ore Shipped | |
| Taconite Mined | 136,996,909 |
| Stripping and Waste Removal, Tons | 138,050,822 |
| Total Material Moved, Tons Estimate | 275,047,731 |
| Total People Employed | |
| Number of Fatal Accidents, Open Pit | 0 |
| Number of Fatal Accidents, Plant | 0 |
| Total Number of Fatal Accidents | 0 |
| Fatalities per 1,000 People Employed | 0 |
| Number of Lost-time and Time Charged Accidents | |
| Total Number of Man-hours Worked | 8,415,781 |
| Number of Investigations and Inspections | 465 |
| | |

2018 WAGE RATES INCENTIVE INCLUDED

| Labor | Wage |
|-------|---------|
| Grade | Rate |
| 1 | \$25.05 |
| 2 | \$27.42 |
| 3 | \$30.15 |
| 4 | \$31.73 |
| 5 | \$33.70 |

Due to contractual changes the wage structure from mine to mine has changed significantly in recent years resulting in differing methods of payment. This results in different pay scales and different average daily wages from mine to mine. This is an example of what the rates are for the mines in St. Louis and Itasca counties.

| <u></u> | | | Q | | | | |
|--------------|-----------|--------------------------|----------------|---------|---------|--------------|----------------|
| | 10 | TONS SHIPPED | EMPLOYED | INJURED | rs L | FAT/1000 | ល |
| AR | MINES | SN BP | 4 | UL L | FATALS | 1/1 | WAGES |
| YEAR | MIN | TO SH | EM | N | FΑ | FA | M |
| 1905-10 | (Averag | e per year) | 13,320 | | 73 | 5.44 | 2.110 |
| 1910-11 | (, | e per year) | 19,918 | | 78 | 3.91 | 2.640 |
| 1911-12 | | | 15,286 | | 51 | 3.31 | 2.575 |
| 1912-13 | | | 16,048 | | 44 | 2.74 | 2.705 |
| 1913-14 | | | 16,000 | | 43 | 2.59 | 2.310 |
| 1914-15 | | | 11,430 | | 24 | 2.10 | 2.421 |
| 1915-16 | | | 14,639 | | 34 | 2.32 | 2.923 |
| 1916-17 | | | 14,779 | | 22 | 1.51 | 3.391 |
| 1917-18 | (Silver C | Cave Disaster) | 15,307 | | 60 | 3.92 | 4.347 |
| 1918-19 | | | 14,212 | | 33 | 2.32 | 5.645 |
| 1919-20 | 114 | 25,349,924 | 14,121 | | 36 | 2.55 | 6.010 |
| 1920-21 | 102 | 27,165,386 | 12,043 | | 26 | 2.16 | 6.037 |
| 1921-22 | 84 | 13,398,525 | 9,688 | | 24 | 3.48 | 4.062 |
| 1923 | 90 | 33,147,517 | 11,896 | | 27 | 2.27 | 5.076 |
| 1924 | 75 | 22,808,875 | 11,538 | | 21 | 1.82 | 5.144 |
| 1925 | 76 | 29,077,679 | 10,180 | | 18 | 1.77 | 5.126 |
| 1926 | 66 | 32,583,943 | 9,225 | | 15 | 1.63 | 5.283 |
| 1927 | 70 | 28,052,363 | 9,038 | | 22 | 2.43 | 5.305 |
| 1928 | 59 | 29,704,774 | 8,022 | | 9 | 1.12 | 5.230 |
| 1929 | 57 | 35,680,720 | 8,008 | | 17 | 2.12 | 5.340 |
| 1930 | 50 | 25,196,155 | 7,752 | | 13 | 1.68 | 5.280 |
| 1931 | 32 | 12,270,886 | 4,824 | | 4 | 0.83 | 5.260 |
| 1932 | 30 | 1,773,750 | 2,243 | | 2 | 0.89 | 4.308 |
| 1933 | 35 | 10,809,167 | 2,843 | | 1 | 0.35 | 4.433 |
| 1934 | 42 | 11,781,226 | 4,272 | | 2 | 0.47 | 4.830 |
| 1935 | 40 | 13,703,715 | 4,079 | | 6 | 1.47 | 5.060 |
| 1936 | 42 | 23,322,975 | 4,694 | | 6 5 | 1.28 | 4.800 |
| 1937 | 52 | 36,536,326 | 6,356 | | | 0.79 1.06 | 6.200 5.816 |
| 1938 | 38 43 | 10,976,760 | 3,773 | | 3 | 0.65 | 6.080 |
| 1939 | 43 47 | 24,156,258 36,493,781 | 4,589 5,547 | | 1 | 0.03 | 6.400 |
| 1940 1941 | 63 | 45,874,218 | 5,547 7,097 | 60 | 5 | 0.10 | 6.820 |
| 1941 | 60 | 53,923,635 | 8,101 | 107 | 14 | 1.70 | 7.030 |
| 1942 | 62 | 51,753,320 | 9,597 | 156 | 7 | 0.73 | 7.440 |
| 1944 | 66 | 50,532,679 | 9,390 | 247 | 6 | 0.64 | 7.750 |
| 1945 | 56 | 47,544,509 | 8,495 | 175 | 12 | 1.41 | 7.720 |
| 1946 | 60 | 38,380,361 | 7,100 | 167 | 6 | 0.84 | 7.720 |
| 1947 | 79 | 47,293,918 | 8,715 | 153 | 9 | 1.03 | 8.720 |
| 1948 | 80 | 52,020,563 | 10,286 | 178 | 5 | 0.49 | 9.480 |
| 1949 | 94 | 42,406,528 | 9,680 | 187 | 7 | 0.72 | 9.480 |
| 1950 | 109 | 48,671,966 | 10,257 | 159 | 4 | 0.38 | 10.480 |
| 1951 | 116 | 60,249,538 | 11,884 | 188 | 8 | 0.66 | 10.480 |
| 1952 | 122 | 48,192,132 | 10,838 | 160 | 2 | 0.18 | 11.480 |
| 1953 | 122 | 60,776,174 | 12,079 | 215 | 4 | 0.33 | 12.160 |
| 1954 | 121 | 49,845,118 | 9,925 | 157 | 4 | 0.40 | 12.560 |
| 1955 | 127 | 36,137,304 | 10,381 | 151 | 2 | 0.19 | 14.850 |
| 1956 | 127 | 44,493,944 | 11,017 | 134 | 6 | 0.54 | 17.560 |
| | | | | | | | |

| YEAR | MINES | TONS SHIPPED | EMPLOYED | INJURED | FATALS | FAT/1000 | WAGES |
|--------------|--------|--------------------------|----------------|----------|--------|--------------|----------------|
| 1957 | 124 | 50,093,275 | 12,804 | 144 | 6 | 0.47 | 17.560 |
| 1958 | 90 | 30,495,093 | 10,250 | 83 | 0 | 0.00 | 18.400 |
| 1959 | 89 | 16,055,353 | 9,256 | 93 | 4 | 0.43 | 22.480 |
| 1960 | 95 | 39,526,879 | 11,797 | 132 | 2 | 0.16 | 22.430 |
| 1961 | 85 | 33,169,291 | 9,200 | 51 | 4 | 0.43 | 22.430 |
| 1962 | 46 | 23,269,349 | 8,676 | 57 | 1 | 0.11 | 22.430 |
| 1963 | 61 | 35,255,178 | 7,671 | 30 | 2 | 0.26 | 22.430 |
| 1964 | 42 | 39,115,088 | 8,102 | 26 | 1 | 0.12 | 22.430 |
| 1965 | 54 | 40,891,345 | 8,305 | 53 | 0 | 0.00 | 22.430 |
| 1966 | 49 | 44,412,473 | 9,445 | 56 | 4 | 0.43 | 22.430 |
| 1967 | 51 | 41,216,870 | 8,825 | 52 | 4 | 0.44 | 23.760 |
| 1968 | 53 | 43,078,879 | 9,125 | 55 | 2 | 0.22 | 25.640 |
| 1969 | 51 | 34,628,234 | 9,394 | 58 | 0 | 0.00 | 27.430 |
| 1970 | 49 | 33,648,268 | 9,631 | 71 | 5 | 0.52 | 28.520 |
| 1971 | 50 | 32,687,511 | 9,441 | 58 | 0 | 0.00 | 32.480 |
| 1972 | 46 | 35,100,156 | 9,431 | 63 | 0 | 0.00 | 34.096 |
| 1973 | 47 | 46,076,814 | 10,131 | 58 | 4 | 0.40 | 35.352 |
| 1974 | 49 | 51,745,763 | 10,667 | 60 | 1 | 0.09 | 44.360 |
| 1975 | 51 | 45,394,814 | 10,864 | 71 | 0 | 0.00 | 45.842 |
| 1976 | 52 | 41,425,833 | 11,514 | 77 | 1 | 0.09 | 47.368 |
| 1977 | 24 | 26,556,566 | 10,840 | 82 | 2 | 0.19 | 56.682 |
| 1978 | 26 | 50,806,547 | 13,056 | 138 | 1 | 0.08 | 64.344 |
| 1979 | 26 | 54,530,338 | 13,267 | 164 | 0 | 0.00 | 70.832 |
| 1980 | 18 | 42,076,497 | 11,441 | 107 | 1 | 0.09 | 80.112 |
| 1981 | 12 | 47,300,056 | 11,630 | 96 | 0 | 0.00 | 89.472 |
| 1982 | 11 | 22,335,570 | 7,626 | 44 | 0 | 0.00 | 94.192 |
| 1983 | 9 | 26,843,983 | 5,935 | 50 | 2 0 | 0.34 | 84.19 |
| 1984 | 9 | 30,463,941 | 6,305 | 55 29 | 0 | 0.00 | 87.39 |
| 1985 | 9 | 31,948,722 | 5,539 5,250 | | 0 | 0.00 | 90.60 |
| 1986 | 9 9 | 26,608,769 | 5,250 4,857 | 33 26 | 1 | 0.00 0.21 | 94.19 94.19 |
| 1987 | 9 9 | 30,063,909 37,250,243 | 4,837 4,546 | 41 | 1 | 0.21 | 94.19 94.19 |
| 1988 1989 | 9 | 38,421,803 | 4,540 5,664 | 55 | 2 | 0.35 | 94.19 94.19 |
| 1989 | 9 | 41,441,888 | 6,379 | 40 | 1 | 0.35 | 94.19 |
| 1991 | 10 | 38,420,014 | 6,468 | 49 | ò | 0.00 | 94.19 |
| 1992 | 10 | 37,684,439 | 6,325 | 110 | 0 0 | 0.00 | 106.94 |
| 1993 | 9 | 39,338,920 | 5,953 | 133 | ŏ | 0.00 | 106.94 |
| 1994 | 9 | 43,976,323 | 6,051 | 97 | 1 | 0.17 | 93.936 |
| 1995 | 9 | 47,030,820 | 6,005 | 87 | ò | 0.00 | 97.936 |
| 1996 | 8 | 46,144,621 | 6,032 | 96 | ŏ | 0.00 | 101.936 |
| 1997 | 8 | 46,978,014 | 6,129 | 84 | Ő | 0.00 | 103.616 |
| 1998 | 8 | 46,862,734 | 5,962 | 114 | 1 | 0.17 | 105.936 |
| 1999 | 9 | 43,136,042 | 5,633 | 99 | ò | 0.00 | 105.936 |
| 2000 | 9 | 44,806,128 | 5,611 | 77 | 1 | 0.18 | 109.936 |
| 2001 | 8 | 34,144,559 | 4,212 | 60 | O | 0.00 | 113.936 |
| 2002 | 8 | 39,087,907 | 4,036 | 60 | õ | 0.00 | 113.936 |
| | - | , , | ., | | - | | |

| YEAR | MINES | TONS SHIPPED | EMPLOYED | INJURED | FATALS | FAT/1000 | WAGES |
|------|-------|-----------------|----------|---------|--------|----------|---------|
| 2003 | 8 | 35,282,267 | 4,177 | 35 | 0 | 0.00 | 121.936 |
| 2004 | 8 | 42,059,597 | 3,444 | 24 | 0 | 0.00 | 145.384 |
| 2005 | 8 | 40,464,089 | 3,568 | 29 | 0 | 0.00 | 178.40 |
| 2006 | 7 | 39,617,873 | 3,714 | 14 | 1 | 0.27 | 178.40 |
| 2007 | 7 | 38,041,616 | 3,724 | 13 | 2 | 0.54 | 187.848 |
| 2008 | 7 | 40,599,311 | 3,732 | 26 | 0 | 0.00 | 182.40 |
| 2009 | 7 | 18,025,710 | 2,687 | 39 | 0 | 0.00 | 201.44 |
| 2010 | 7 | 37,996,765 | 3,761 | 27 | 0 | 0.00 | 238.44 |
| 2011 | 7 | 40,395,202 | 4,215 | 24 | 0 | 0.00 | 188.40 |
| 2012 | 9 | 41,099,022 | 4,441 | 17 | 0 | 0.00 | 221.85 |
| 2013 | 9 | 40,221,204 | 4,371 | 29 | 0 | 0.00 | 226.24 |
| 2014 | 9 | 41,301,098 | 4,387 | 29 | 0 | 0.00 | 226.24 |
| 2015 | 10 | 34,683,076 | 4,047 | 19 | 0 | 0.00 | 231.92 |
| 2016 | 7 | 28,970,579 | 3,621 | 22 | 0 | 0.00 | 231.92 |
| 2017 | 7 | 39,485,849 | 3,944 | 18 | 0 | 0.00 | 231.92 |
| 2018 | 6 | 40,986,054 | 3,954 | 14 | 0 | 0.00 | 241.20 |

| REPORT OF THE COUNTY INSPECTOR OF MINES — PER MS 180.11 OPERATIONAL SUMMARY YEAR ENDING DECEMBER 31, 2018 | | | | | | | |
|---|-----------------------------|--|----------------------------|---|--|--------------|------------------|
| MINES | | TONS OF TACONITE PRODUCTS SHIPPED | TOTAL TACONITE MINED | TONS STRIPPING WASTE (ROCK & OVERBURDEN) | AVERAGE NUMBER PEOPLE EMPLOYED PLANTS / PITS | MAN HOURS | MONTHS WORKED |
| ARCELORMITTAL MINORCA MINE, INC. | Pellets - Pellet Chips - | 2,765,816 23,558 | 8,509,156 | 7,807,011 | 354 | 769,677 | 12 |
| HIBBING TACONITE CO. | | 7,799,330 | 28,881,084 | 35,881,773 | 735 | 1,536,910 | 12 |
| NORTH SHORE MINING CO. BABBITT AND SILVER BAY | | 5,674,198 | 15,538,157 | 8,021,964 | 562 | 1,142,975 | 12 |
| UNITED TACONITE LLC | | 5,218,678 | 14,543,077 | 16,633,146 | 515 | 1,086,691 | 12 |
| | | | | | | | |
| | | | | | | | |

REPORT OF THE COUNTY INSPECTOR OF MINES --- PER MS 180.11 OPERATIONAL SUMMARY YEAR ENDING DECEMBER 31, 2018

| TONS OF TACONITE PRODUCTS SHIPPED | TOTAL TACONITE MINED | TONS STRIPPING WASTE (ROCK & OVERBURDEN) | AVERAGE NUMBER PEOPLE EMPLOYED PLANTS / PITS | MAN | MONTHS |
|--|---------------------------------------|---|---|---|---|
| | | | | HOURS | WORKED |
| 5,619,563 | 18,993,997 | 17,792,966 | 399 | 881,893 | 12 |
| 13,884,911 | 50,531,438 | 51,913,962 | 1,389 | 2,997,635 | 12 |
| 35,366,491 | 118,002,912 | 120,257,856 | 3,555 | 7,533,888 | |
| 5,619,563 | 18,993,997 | 17,792,966 | 399 | 881,893 | |
| 40,986,054 | 136,996,909 | 138,050,822 | 3,954 | 8,415,781 | |
| | 13,884,911 35,366,491 5,619,563 | 13,884,911 50,531,438 35,366,491 118,002,912 5,619,563 18,993,997 | 13,884,911 50,531,438 51,913,962 35,366,491 118,002,912 120,257,856 5,619,563 18,993,997 17,792,966 | 13,884,911 50,531,438 51,913,962 1,389 35,366,491 118,002,912 120,257,856 3,555 5,619,563 18,993,997 17,792,966 399 | 13,884,911 50,531,438 51,913,962 1,389 2,997,635 35,366,491 118,002,912 120,257,856 3,555 7,533,888 5,619,563 18,993,997 17,792,966 399 881,893 |

MINING COMPANIES, MINE OPERATIONS, SAFETY PERSONNEL AND OTHER AGENCIES

UNITED STATES STEEL CORPORATION

Minnesota Ore Operations KEEWATIN TACONITE P.O. Box 217 Keewatin, Minnesota 55753 Phone: 218-778-8798

| Lawrence Sutherland | General Manager |
|--|-------------------------|
| Travis Kolari | Plant Manager |
| Cory Hertling Area Manager - Electrica | al & Mine Maintenance |
| John Kingston Area Manager - Mine | Operations & Crusher |
| John Minor Area Manager - Plant Oper | rations & Maintenance |
| Susan Wiire Interim Manager | - Employee Relations |
| Kent Swanson Manager - Safel | ty & Industrial Hygiene |
| Jerry Orrell Safety & Indust | rial Hygiene Specialist |

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UNITED STATES STEEL CORPORATION

Minnesota Ore Operations MINNTAC P.O. Box 417 Mt. Iron, MN 55768 Phone: 218-749-7299

| Lawrence Sutherland | General Manager |
|---------------------|--|
| Tim Kalisch Div | vision Manager - Plant & Plant Maintenance |
| Susan Wiire | Interim Manager - Employee Relations |
| Kent Swanson | Manager - Safety & Industrial Hygiene |
| Mike Levar | Safety & IH Specialist |
| Jerry Orrell | Safety & IH Specialist |
| Jeffrey Tomsich | IH Specialist |
| Christie Dixon | Safety & IH Specialist |

ARCELORMITTAL MINORCA MINE, INC. Company Officers and Staff

Minnesota Address

5950 Old U.S. Highway 53 North P.O. Box 1 Virginia, MN 55792

Main Telephone

(218) 749-5910 (218) 749-3420 Fax E-mail: robb.peterson@arcelormittal.com

Officers

| John Brett | President and CEO |
|--------------------|---|
| Keith Howell | Chief Operating Officer |
| Daniel Mull | Executive Vice President, Sales & Marketing |
| Paul Liebenson | General Counsel & Secretary |
| Michael Chimitris | Assistant Secretary |
| Therese Vande Hey | Assistant Secretary |
| Neil Kohlberg | Vice President, Finance & Procurement |
| | Controller |
| Pat Parker | Vice President, Labor Relations |
| Wendell Carter | Vice President, General Manager |
| Robb Peterson | Operations Manager |
| Daniel Wallden | |
| | Assistant Treasurer |
| Christine F. Fleps | Assistant Treasurer |
| Joseph P. Wallace | Assistant Treasurer |
| | Assistant Treasurer |
| | |

Managers

| Robb A. Peterson Operations Man | ager - ArcelorMittal Minorca Mine |
|---------------------------------|-----------------------------------|
| Steven I. Mekkes | Manager - Operating Technology |
| Scott W. Harrison | Manager - Pit |
| Adam R. Sersha | Manager - Plant |
| Daniel G. Vidmar Manager - Hu | man Resources/Labor Relations |
| Mark H. Anderson | Manager - Safety |
| Thomas R. Cossalter | Manager - Purchasing |
| Ross A. Phenning | Manager - Electrical/Systems |

HIBBING TACONITE COMPANY

P.O. Box 589 Hibbing, Minnesota 55746 Phone: 218-262-5950

| Ed Latendresse | General Manager |
|-----------------|---------------------------------|
| Joe Marturano | Manager - Asset Management |
| Todd Nelson | Manager - Financial Control |
| Rally Hess | Manager - Mining |
| Rally Hess | Manager - Plants |
| Michael P. Kern | Manager - Human Resources |
| Andrea J. Bakk | Manager - Safety & Loss Control |
| Julie C. Lucas | Manager - Environmental |
| Tim Angelo | Manager - Procurement |

* * * * * *

UNITED TACONITE LLC

P.O. Box 180 Eveleth, MN 55734 Phone: 218-744-7800

| Chad Asgaard | General Manager |
|-----------------|----------------------------------|
| Ryan Korpela | Area Manager - Plant |
| Jared Lubben | Area Manager - Mine |
| Nick Beukema | Area Manager - Maintenance |
| Todd Nelson | Area Manager - Finance |
| Joseph Mattson | . Area Manager - Human Resources |
| Bryan Baird | Area Manager - Safety |
| Candice Maxwell | Section Manager - Environmental |
| Jon Lamusga | Section Manager - Materials |

NORTHSHORE MINING COMPANY

10 Outer Drive Silver Bay, Minnesota 55614 Phone: 218-226-4125 Fax: 218-226-6037

NORTHSHORE MINING BABBITT MINE BABBITT, MINNESOTA 55706 Phone: 218-827-2101

| Paul Carlson | General Manager |
|----------------|-----------------------------|
| Ron Holm | Plant Manager |
| Conor McCue | Mine Manager |
| Bryan Rusco | Railroad Manager |
| Scott Blood | Safety Manager |
| Andrea Hayden | Environmental Manager |
| Bill Bundschuh | Silver Bay Power Manager |
| Ken Stocco | Reliability Manager |
| Carl Kerschen | Human Resource Manager |
| Chris Tokvam | Purchasing Manager |
| Nolan Koskela | ÷ - |
| Luke Thun | |
| Jake Baxter | Plant Safety Representative |
| Maria Strand | |
| Rod Lampton | |

ERP INTERNATIONAL

28754 County Highway 61 Grand Rapids, MN 55744

Rob Bigelow Managing Director

* * * * * *

POLYMET MINING

P.O. Box 475 6500 County Road 666 Hoyt Lakes, MN 55750 Phone: 218-471-2150

| Jon Cherry | President and Chief Executive Officer | |
|--|--|--|
| LaTisha Gietzen | Director of Public and Community Relations | |
| James Tieberg | Division Manager - Mining | |
| Kevin Pylka Manager of Environmental Permitting & Compliance | | |
| Christine Kearney | Environmental Site Director | |

PIONEER FOUNDERS, LLC

306 W. Superior Street, Suite 1605 Duluth, Minnesota 55802-1816 Phone: 218-722-0816

Nicholas B. Alworth Managing Director

* * * * * *

CONGDON MINERAL MANAGEMENT INC.

1035 7th Ave. E. Hibbing, Minnesota 55746-3675 Phone: 218-262-0799 Fax: 206-203-0098

| David C. Adams | President |
|------------------|-------------------------------------|
| David G. Meineke | Vice President |
| Ann L. Albrecht | . Assistant Secretary and Treasurer |

* * * * * *

EVELETH FEE OFFICE, INC.

301 McKinley Avenue P.O. Box 521 Eveleth, Minnesota 55734-0521 Phone: 218-744-4646 Fax: 218-744-2149

| Daniel L. England | President |
|---------------------|---------------------------------|
| Thomas J. Malkovich | Vice President/Manager of Mines |
| Lisa A. Williams | Administrative Assistant |

GLACIER PARK IRON ORE PROPERTIES, LLC

CORPORATE OFFICE

755 E. Mulberry Ave., Suite 600 San Antonio, TX 78212 Phone: 210-821-6523

| Mr. David Schlagel | President |
|--------------------|-----------|
| Matt Gonzales A | ccountant |

HIBBING OFFICE

801 E. Howard Street PO Box 429 Hibbing, MN 55746 Phone: 218-262-3886

| Jeff Tromp | Chief Mining Engineer |
|--------------|--------------------------------------|
| • | Senior Land / Mining Inspector |
| Ben Gardeski | . Senior Mining Engineer / Inspector |
| Austin Dusek | Geologist / GIS Specialist |
| | Mining Engineer / Inspector |

* * * * * *

HARTLEY OFFICE

740 East Superior Street Duluth, Minnesota 55802 Phone: 218-723-8060

Patrick Flattery Trust Manager

IRON MINING ASSOCIATION OF MINNESOTA

324 West Superior Street Suite 502 Duluth, Minnesota 55802 Phone: 218-722-7724 Fax: 218-720-6707 www.taconite.org

2018 IMA Staff

| Kelsey Johnson | President |
|----------------|------------------------|
| Katy Lofquist | Director of Operations |

2018 IMA Board of Directors

| | INA DUALU OF DIRECTORS |
|------------------|--|
| Marci Knight | American Bank of the North |
| | ArcelorMittal Minorca Mine |
| Robb Peterson | ArcelorMittal Minorca Mine |
| | Cleveland Cliffs Inc. |
| | Cleveland Cliffs Inc. |
| Ed LaTendresse | Cleveland Cliffs Inc Hibbing Taconite - |
| | (Board Chair) |
| | Cleveland Cliffs Inc Northshore Mining Co. |
| | Cleveland Cliffs Inc United Taconite |
| | Cleveland Cliffs Inc United Taconite |
| | Conveyor Belt Services |
| | Furin & Shea Welding & Fabricating Inc. |
| | Industrial Weldors & Machinists |
| | Komatsu Mining Corp. |
| Nels Ojard | Krech Ojard & Associates |
| Brian Maki | Lakehead Constructors |
| Art Lind | Lind Industrial Supplies |
| | RMS Equipment |
| David Bednarz | Steel Dynamics |
| | Steel Dynamics |
| | TKDA |
| | Thibodeau, Johnson & Feriancek PLLP |
| | U.S. Steel Minnesota Ore Operations |
| Tim Kalisch | U.S. Steel Minnesota Ore Operations |
| | U.S. Steel Minnesota Ore Operations |
| Larry Sutherland | U.S. Steel Minnesota Ore Operations |

ONONDAGA IRON, LLC

740 East Superior Street Duluth, MN 55802 Phone: 218-723-8060

David Adams Chief Executive Officer Jane Kingston Chief Financial Officer

MINING MINNESOTA

P.O. Box 16666 Duluth, Minnesota 55816 Phone: 218-393-2301 E-Mail: fongaro@miningminnesota.com

Frank Ongaro Executive Director

MERIDEN ENGINEERING, LLC

A Wholly-Owned Subsidiary of Superior Mineral Resources LLC 1910 East 8th Avenue P.O. Box 650 Hibbing, Minnesota 55746 Phone: 218-262-6127

Greg D. Lindahl President

SUPERIOR MINERALS RESOURCES, LLC

1910 East 8th Avenue P.O. Box 650 Hibbing, Minnesota 55746 Phone: 218-262-6127 www.superiormineral.com

Greg D. Lindahl President and Chief Executive Officer

MESABI MINERAL ASSOCIATION

1605 Alworth Building 306 W. Superior Street Duluth, Minnesota 55802 Phone: 218-722-0816

Nicholas B. Alworth Managing Director

GLOBAL MINERALS ENGINEERING, LLC

1035 7th Ave. E. Hibbing, Minnesota 55746-3675 Phone: 218-262-0799 Fax: 206-203-0098

David G. Meineke President & CEO Dorothy M. Meineke CFO

* * * * * *

MINNESOTA DEPARTMENT OF NATURAL RESOURCES 500 Lafayette Road St. Paul, Minnesota 55155 (651) 259-5959 FAX (651) 296-5939

| Tom Landwehr | Commissioner |
|-------------------------|--------------------------------------|
| David Schad | Deputy Commissioner |
| | Assistant Commissioner |
| Jess Richards Director, | Division of Lands and Minerals (LAM) |

Division of Lands and Minerals 1525 Third Avenue E. Hibbing, Minnesota 55746 (218) 231-8443 FAX (218) 262-7328

Peter Clevenstine Asst. Director, Division of Lands and Minerals

* * * * * *

STATE OF MINNESOTA DEPARTMENT OF IRON RANGE RESOURCES & REHABILITATION MINELAND RECLAMATION 1003 Discovery Drive Chisholm, Minnesota 55719 Phone: (218) 274-7000 Fax: (218) 274-7002

Linda Johnson Mining and Reclamation Programs Supervisor Shelley Sallee Office & Administration Specialist, Sr. James B. Plummer.. Laurentian Vision and Real Property Coordinator Tom Schmelzler...... Building and Grounds Supervisor

DEPARTMENT OF IRON RANGE RESOURCES & REHABILITATION 4261 HIGHWAY 53 SOUTH P.O. BOX 441 EVELETH, MN 55734 Phone: (218) 735-3000 or 800-765-5043

| Mark Phillips | Commissioner |
|-----------------|-------------------------------------|
| Mary Finnegan | Deputy Commissioner |
| Matt Sjoberg | . Executive Director of Development |
| Marianne Bouska | Chief Operating Officer |
| Brian Hiti | Senior Policy Advisor - New Mining |

* * * * * *

RGGS Lands & Minerals LTD., L.P. P.O. Box 1266 Virginia, MN 57792 Phone: (218) 749-1291 Fax: (218) 749-1294

ST. LOUIS COUNTY SAFETY AND RISK MANAGEMENT 2503 RICE LAKE ROAD DULUTH MN 55811-4819 PHONE: 218-726-2139

Joseph J. Austin Director

NORTHLAND OFFICE BUILDING 307 South First Street Virginia MN 55792 Phone: 218-742-9841

| Steve Manninen | Inspector of Mines |
|------------------|--------------------------|
| David Hamalainen | Assistant Mine Inspector |
| Derek Harbin | Assistant Mine Inspector |

ST. LOUIS COUNTY LAND AND MINERALS GOVERNMENT SERVICE BUILDING 320 West 2nd Street Duluth MN 55802

Mark Weber Director

HIBBING ANNEX 1814 14th Avenue East Phone: 218-262-8000

Julie Marinucci Mineral Development Specialist

UNITED STATES DEPARTMENT OF LABOR MINE SAFETY AND HEALTH ADMINISTRATION

515 W. First Street, Room 323 Duluth, MN 55802-1302 Phone: 218-720-5448 Fax: 218-720-5650

DISTRICT OFFICE

| Christopher A. Hensler | District Manager |
|--------------------------|--------------------------------------|
| Gerald D. Holeman | Assistant Manager |
| Scott K. Johnson | Assistant Manager |
| Wilbert W. Koskiniemi Jr | |
| George F. Schorr | Conference Litigation Representative |
| Daniel J. Goyen | Conference Litigation Representative |
| Stephen D. Cotie | Health Specialist |

DULUTH FIELD OFFICE

| William H. Soderlind Supervisory | Mine Safety & Health Inspector |
|----------------------------------|----------------------------------|
| Mindy A. Meierbachtol | . Mine Safety & Health Inspector |
| Cory C. Niemi | Mine Safety & Health Inspector |
| Terrance J. Norman | . Mine Safety & Health Inspector |
| Jeffrey J. Rausch | Mine Safety & Health Inspector |
| Seth A. Sayles | Mine Safety & Health Inspector |
| Rufus L. Taylor | Mine Safety & Health Inspector |

HIBBING FIELD OFFICE

522 East Howard Street, Suite 201A Hibbing, MN 55746 Phone: 218-262-5205 Fax: 218-262-1296

| Richard V. Boeckermann | Supervisory Mine Safety & Health Inspector |
|------------------------|--|
| Jerome A. Cuffe | Mine Safety & Health Inspector |
| Luke E. Jarvi | Mine Safety & Health Inspector |
| Ryan D. Moberg | Mine Safety & Health Inspector |
| Kevin N. Ouke | Mine Safety & Health Inspector |
| Craig W. Rautiola | Mine Safety & Health Inspector |
| Scott E. Salo | Mine Safety & Health Inspector |
| Thaddeus J. Sichmeller | Mine Safety & Health Inspector |

MINNESOTA DEPARTMENT OF REVENUE 600 North Robert Street St. Paul, Minnesota 55101 Phone: (651) 556-6003 Fax: (651) 297-1939

| Cynthia Bauerly | Commissioner |
|-----------------|----------------------------------|
| Gina Amacher | Director, Special Taxes Division |
| Nick Norris | Occupation Tax |

Minerals Tax Office 230 1st St. S., Suite 102 Virginia, Minnesota 55792 Phone: (218) 744-7424 Fax: (218) 742-9153

Bob Wagstrom Production Tax Robert Pecchia Production Tax

* * * * * *

INTERNATIONAL UNION OF OPERATING ENGINEERS

Local No. 49 8381 Enterprise Drive N Virginia, MN 55792 Phone: 218-741-8190 - Virginia 2829 Anthony Lane South Minneapolis, Minnesota 55418-3285 Phone: 612-788-9441 - Minneapolis

| Jason George Business Manager, Financial Director, Minneapolis | | |
|--|--|--|
| Ryan Davies | Area Business Representative, Virginia | |
| Dan Snidarich | Area Business Representative, Virginia | |
| Taylor Bunes . | Area Business Representative, Virginia | |

UNITED STEEL WORKERS OF AMERICA DISTRICT 11

MINNEAPOLIS OFFICE

Phone: 612-623-8045

Emil Ramirez Director

EVELETH SUB-DISTRICT OFFICE

Phone: 218-744-2757 Fax: 218-744-7926

| John Rebrovich | Assistant Director |
|----------------|----------------------|
| Cathy Drummond | Staff Representative |
| Michael Woods | Staff Representative |
| Michele Fagre | Staff Representative |

UNITED STEEL WORKERS OF AMERICA LOCAL UNITS

LOCAL #6860 UNITED TACONITE LLC Phone: 218-744-4480

| Joe Fredrickson | President |
|-----------------|-----------------------|
| Dan Hill | Vice President |
| Candace Sprague | Recording Secretary |
| Kris Kuhlmey | Financial Secretary |
| Gary Butala | Treasurer |
| Larry Roberts | Safety Coordinator |
| Bryan Sandnas | Plant Safety Chairman |
| Gary Butala | Mine Safety Chairman |

LOCAL #2660

KEEWATIN TACONITE

Phone: 218-778-6909

| Cliff Tobey | President |
|-------------------|------------------------------------|
| David Mlakar | Safety Chair/Safety Representative |
| Joe Ferris | Safety Representative |
| Pat Savage | Area Chair, Concentrator |
| | Area Chair, Shop |
| Kelly Peterson | Area Chair, Pit |
| Lorne Middlestead | Area Chair, Pond |
| Tawnya Gustafson | Area Chair, Crusher |
| Carl Jeranek | Area Chair, Pellet Plant |
| Eric Staydohar | Area Chair, Electrical |
| Dan Pierce | Area Chain Shop |

LOCAL #2705 HIBBING TACONITE COMPANY

Phone: 218-254-2492 Fax: 218-254-7100 115 W. Lake Street, Chisholm, MN 55719

| Chris Johnson | President |
|----------------|-----------------------------|
| Steve Rancourt | Vice President |
| Mike Mandich | Financial Secretary |
| Bill Fredette | Recording Secretary |
| Wade Bexell | Treasurer |
| Jeff Walters | Union Safety Representative |
| Bill Fredette | Safety Chairman |

LOCAL #6115 ARCELORMITTAL MINORCA MINE INC. Phone: 218-741-3310

| Harold Anderson | President |
|-----------------|----------------------|
| Tom French | Safety Coordinator |
| Reed Milos | Sub Chair, Safety |
| Jim Kottke | Sub Chair, Safety |
| Kyle Lamppa | Training Coordinator |

LOCAL #1938 USS - MINNTAC MINE Phone: 218-741-0887

| John Arbogast | President |
|----------------|--|
| Steve Bonach | Vice President |
| Dave Chesser | Recording Secretary |
| Chad Daniels | Financial Secretary |
| Paul Centa | Treasurer |
| Mitch McDonald | Safety Committee Chairman |
| Mark Hagsten | Safety Committee Co-Chairman |
| Matt Robillard | Safety Coordinator - Minntac/Keetac |
| Steve Bonach | . Full-Time Safety Representative, Mine/Shops |
| Mike Hultman I | Full-Time Safety Representative, Concentrator/ |
| | Crushers |
| Paul Coombe | Full-Time Safety Representative, |
| | Agglomerators I, II, III |

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BUILDING AND CONSTRUCTION LABORERS LOCAL 1097

712 4th St. North Virginia, MN 55792 Phone: 218-741-3638

| Rick J. Cannata | President |
|----------------------|------------------------------------|
| Todd Payne | Vice President |
| Shawn Braford Bu | siness Manager/Financial Secretary |
| Donald Schmidt | "E" Board Member |
| Patrick D. O'Connell | "E" Board Member |
| Mark Towner | "E" Board Member |
| Michael G. Warner | Recording Secretary |
| Shelly A. Wiitanen | Office Manager, Sergeant at Arms |

NON-FATAL LOST-TIME AND SERIOUS ACCIDENTS

ARCELORMITAL MINORCA MINE INC:

Crusher Welder, Date of Accident – July 30, 2018. Employee was fitting a wear ring on the head nut so it could be welded on. While adjusting the ring for final placement prior to welding, the wear ring slipped over the head nut due to excessive wear. It fell to the ground landing on the employee's right foot. The ring weighs approximately 375 lbs. The incident resulted in a fractured foot. Days Lost – 154 (in 2018)

HIBBING TACONITE:

Maintenance Mechanic, Date of Accident – January 23, 2018. Employee was working with 3 other mechanics changing idlers on a conveyor belt. Two mechanics working on the head of the belt set down a pry bar (lying flat on its side) at the top ramped walkway. Another mechanic employee was working at the tail end of the belt sitting down to change out a return idler. The bar slid down the ramped walkway striking the employee in the left glute causing a bruise. Days Lost -- 1

Tractor Operator, Date of Accident – January 24, 2018. A tractor operator was parking a pickup at the end of their shift. As the employee was exiting the cab their right foot became entangled in a loop of wire hanging down alongside the brake and gas pedal. When they tried to step out of the cab they fell to the ground landing on their lunch pail due to the cable wrapped around their foot. Incident resulted in fractured ribs and clavicle. Days Lost – 52

Welder, Date of Accident – March 6, 2018. A welder was repairing worn spots and adding material D-11 blade. While they were building up the blade with hard surfacing wire, a piece of molten metal fell on the top of their left boot. The molten metal burned through the synthetic tongue of the boot and sock into the top of their left foot and then rolled down inside the boot to the bottom of the employee's foot. Incident resulted in burns to the left foot. Days Lost – 19

Maintenance Mechanic, Date of Accident – April 24, 2018. Maintenance mechanic was working with two other mechanics to change two lip shrouds on a shovel bucket. A stuck shroud was not coming off so mechanic began pounding on it with a 10 lb. sledge hammer. After striking the shroud several times a small piece of metal broke off the shroud and entered into the mechanic's right leg by the shin causing a small cut. Employee had a fragment surgically removed from their right shin. Days Lost -5

HIBBING TACONITE COMPANY (cont)

Auto Mechanic, Date of Accident – April 24, 2018. Two truck shop mechanics were using a bar placed through the lifting eye of a box pin (~150 lbs.) to lift the pin. One auto mechanic reported they felt a strain in their lower back. Days Lost – 6

Equipment Operator, Date of Accident – May 17, 2018. An excavator operator was walking the excavator north of the hydro separator discharge pump house. While walking along the edge of a narrow embankment, the excavator's right track overhanging the narrow embankment slid off the edge and the excavator rolled over onto the non-cab side of the excavator. Employee was not wearing a seat belt. Employee sustained a chest contusion and laceration to the face resulting in lost time. Days Lost – 2

Auto Mechanic, Date of Accident – August 3, 2018. A truck shop auto mechanic was using a 1" impact gun to remove nuts holding the bucket segments on a loader. A welder had previously cut part of the nuts off to ease in removal of the nuts and bolts. The mechanic then placed their left hand underneath the bucket to push up the plough bolt and when they hit the trigger on the gun the bolt spun resulting in a cut to their left hand palm area. Days Lost – 53

Auto Mechanic, Date of Accident – November 28, 2018. An electrician was attempting to help the cable crew manually carry a section of electrical cable. Part of the cable they were carrying tightened and rapidly pulled them to the ground causing immediate pain to the employee's right knee. The employee sustained a torn meniscus. Days Lost – 23 (in 2018)

Maintenance Mechanic, Date of Accident – December 10, 2018. A mechanic was working with two other employees trying to lower a house fan in the shovel. The employee climbed up a 5 ft. fiberglass ladder and adjusted some come-a-longs that were being used to lower the house fan. As the employee was descending the ladder, they turned away from the ladder to view a come-a-long causing them to miss the last step of the ladder. This caused them to fall to the ground landing on their left ankle awkwardly. Employee sustained a sprained and fractured ankle. Days Lost – 15 (in 2018)

NORTHSHORE MINING COMPANY

Babbitt: None

Silver Bay: None

UNITED TACONITE:

Production Truck Operator, Date of Accident – March 31, 2018. Employee was driving a production truck, and reported a sore back from being shook while in the cab. Days Lost -2

USS CORPORATION, MINNESOTA ORE OPERATIONS

KEETAC:

None

MINNTAC:

Crusher MTM, Date of Accident – January 16, 2018. A Turn Bin MTM was exiting the lunch room returning to work in the Step III Turn Bin. The employee proceeded to descend the wooden steps with his right hand on the handrail. His boot slipped when it contacted the 2nd step from the top. The employee's boots continued slipping over the remaining 6 steps while his arm was strained holding the handrail all the way down. He regained a foot hold for a moment near the bottom, then slipped again on the rubber mat at the bottom of the stairs landing on his right hip. The incident resulted in a torn rotator cuff. Days Lost – 8

Concentrator MTM, Date of Accident – April 6, 2018. Employee was trying to free up a 143-15-1 pump barrel using a 24 inch pipe wrench. He was able to turn the impeller about 3 or 4 times using the wrench. While pulling the 5th time, the wrench slipped off the shaft and he fell backward. He put out his right hand and caught himself from hitting the floor. After which he felt pain in his right triceps. The incident resulted in a torn triceps tendon. Days Lost – 25

Crusher MTM, Date of Accident – May 1, 2018. A crusher MTM was in the process of pulling isolation channels out of the East Side of 061-03 pan feeder in the Crusher Turn Bin. The isolation channels were in place to allow maintenance to continue work inside of the pan feeder while the bin above was still taking material for production. The injured employee was standing on the 4th rung of an 8 ft step ladder, operating (2) 1,000 lb Pullzalls that were attached to the isolation channels in order to pull them out. While pressing the button to retract one Pullzall, the ladder tipped or moved causing the employee to lose his balance. His left foot was caught between the 4th and 5th rung as he fell down head first towards the ground, fracturing his left leg just above the ankle. Days Lost – 70