

Mineral Industry Surveys

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VANADIUM IN OCTOBER 2009

Reported domestic consumption of vanadium in October 2009 was up 4% from that of the previous month, and was about 7% more than that of October 2008, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 308 metric tons (t) at the beginning of 2009 and 266 t at the end of October.

According to Ryan's Notes (2009), U.S. ferrovanadium (FeV) prices ranged from \$11.278 to \$12.056 per pound of vanadium content in October, as compared with \$12.611 to \$13.083 in September. European FeV prices ranged from \$25.111 to \$26.222 per kilogram in October, as compared with \$30.944 to \$31.944 in September. Vanadium pentoxide (V₂O₅) prices ranged from \$6.056 to \$6.556 per pound in October, as compared with \$6.583 to \$7.139 in September.

Apella Resources Inc. announced that it has commenced the next phase of exploration on its 100% owned Iron-T Iron-Vanadium-Titanium project. The new phase of exploration was expected to include a 10-hole diamond drill program and detailed mapping of the property, located in the Bell River Complex near Matagami, Quebec, Canada (Apella Resources Inc., 2009).

References Cited

- Apella Resources Inc., 2009, Iron-T Iron-Vanadium-Titanium project diamond drilling to commence: Vancouver, British Columbia, Canada, Apella Resources Inc., October 5. (Accessed January 6, 2010, at <http://www.apellaresources.com/news/archive/200910>.)
Ryan's Notes, 2009, [untitled]: Ryan's Notes, v. 15, no. 44, November 2, p. 12.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM¹

(Kilograms, contained vanadium)

| | 2008 | | 2009 | | | | | |
|---------------------------|-------------|---------|-------------|---------|-------------|---------|-----------------|---------|
| | Consumption | Stocks | September | | October | | January-October | |
| | | | Consumption | Stocks | Consumption | Stocks | Consumption | Stocks |
| Ferrovandium ² | 4,030,000 | 231,000 | 332,000 | 214,000 | 342,000 | 217,000 | 3,350,000 | 217,000 |
| Vanadium-aluminum alloy | W | W | W | W | W | W | W | W |
| Other ³ | 817,000 | 76,400 | 54,300 | 51,900 | 61,400 | 49,400 | 586,000 | 49,400 |
| Total | 4,850,000 | 308,000 | 387,000 | 266,000 | 404,000 | 266,000 | 3,940,000 | 266,000 |

W Withheld to avoid disclosing company proprietary data; included with "Other."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

³Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE¹

(Kilograms, contained vanadium)

| | 2008 | 2009 | | |
|--|-----------|-----------|---------|-----------------|
| | | September | October | January-October |
| Steel: | | | | |
| Carbon | 760,000 | 52,500 | 58,900 | 495,000 |
| High-strength low-alloy | 1,540,000 | 128,000 | 128,000 | 1,290,000 |
| Stainless and heat-resisting | 116,000 | 5,110 | 10,600 | 109,000 |
| Full alloy | 2,000,000 | 157,000 | 155,000 | 1,570,000 |
| Tool | 151,000 | 34,700 | 34,700 | 347,000 |
| Total steel | 4,570,000 | 377,000 | 387,000 | 3,800,000 |
| Superalloys | 2,490 | 130 | 181 | 2,120 |
| Miscellaneous and unspecified ² | 275,000 | 9,150 | 16,300 | 135,000 |
| Total consumption | 4,850,000 | 387,000 | 404,000 | 3,940,000 |

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND VANADIUM
METAL, INCLUDING WASTE AND SCRAP¹

(Kilograms, gross weight)

| | Aluminum-vanadium master alloy | | Vanadium metal, including waste and scrap | |
|--------------------------|-----------------------------------|--------------------------|--|-----------|
| | Quantity | Value | Quantity | Value |
| Imports for consumption: | | | | |
| 2008 | 618,000 ^r | \$2,760,000 ^r | 3,620 | \$198,000 |
| 2009: | | | | |
| August | -- | -- | 2 | 2,300 |
| September, Netherlands | 4,280 | 16,200 | -- | -- |
| Year to date | 261,000 | 888,000 | 2,770 | 317,000 |
| Exports: | | | | |
| 2008 | 21,900,000 | 76,200,000 | 57,100 | 3,740,000 |
| 2009: | | | | |
| August | 862,000 | 2,070,000 | 602 | 33,400 |
| September: | | | | |
| Canada | 260,000 | 803,000 | -- | -- |
| France | 1,270 | 16,500 | -- | -- |
| Kuwait | -- | -- | 241 | 17,400 |
| Mexico | 1,140,000 | 2,560,000 | -- | -- |
| Total | 1,400,000 | 3,380,000 | 241 | 17,400 |
| Year to date | 8,800,000 | 21,300,000 | 22,000 | 984,000 |

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM¹

(Kilograms, contained vanadium)

| | Ferrovanadium | | Vanadium pentoxide (anhydride) ² | | Other oxides and hydroxides of vanadium | |
|---------------------------------|---------------|---------------|--|---------------|--|-------------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| Imports for consumption: | | | | | | |
| 2008 | 2,800,000 | \$159,000,000 | 3,700,000 | \$115,000,000 | 144,000 | \$4,320,000 |
| 2009: | | | | | | |
| August | 54,800 | 1,490,000 | 140,000 | 1,760,000 | -- | -- |
| September: | | | | | | |
| Canada | 20,800 | 434,000 | -- | -- | -- | -- |
| Germany | 362 | 15,400 | -- | -- | -- | -- |
| Russia | -- | -- | 56,700 | 632,000 | -- | -- |
| Total | 21,200 | 450,000 | 56,700 | 632,000 | -- | -- |
| Year to date | 272,000 | 10,500,000 | 872,000 | 13,000,000 | 16,800 | 320,000 |
| Exports: | | | | | | |
| 2008 | 281,000 | 12,600,000 | 249,000 | 5,650,000 | 1,040,000 | 11,300,000 |
| 2009: | | | | | | |
| August | 87,000 | 2,600,000 | 41,400 | 609,000 | 52,300 | 677,000 |
| September: | | | | | | |
| Brazil | 12,300 | 366,000 | -- | -- | -- | -- |
| Canada | 11,200 | 338,000 | -- | -- | 38,200 | 347,000 |
| Germany | -- | -- | 10,000 | 174,000 | -- | -- |
| India | -- | -- | -- | -- | 17,900 | 280,000 |
| Mexico | 416 | 27,600 | 595 | 12,700 | -- | -- |
| Netherlands | -- | -- | -- | -- | 20,000 | 349,000 |
| Saudi Arabia | -- | -- | 2,000 | 37,500 | -- | -- |
| Total | 23,900 | 732,000 | 12,600 | 224,000 | 76,100 | 976,000 |
| Year to date | 606,000 | 13,300,000 | 291,000 | 3,200,000 | 309,000 | 3,460,000 |

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG¹

(Kilograms, contained vanadium pentoxide)

| | Ash and residues | | Ash and residues (not from the manufacture of iron and steel) | |
|--------------|------------------|--------------|--|-----------|
| | Quantity | Value | Quantity | Value |
| 2008 | 1,040,000 | \$18,000,000 | 601,000 | \$795,000 |
| 2009: | | | | |
| August | 32,400 | 532,000 | 50,700 | 91,000 |
| September: | | | | |
| Canada | 2,250 | 4,850 | 75,300 | 161,000 |
| Mexico | 41,200 | 578,000 | -- | -- |
| Total | 43,400 | 583,000 | 75,300 | 161,000 |
| Year to date | 716,000 | 11,500,000 | 464,000 | 831,000 |

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS¹

(Kilograms, contained vanadium)

| | Sulfates | | Vanadates | |
|----------------|----------|-----------|-----------|-------------|
| | Quantity | Value | Quantity | Value |
| 2008 | 2,160 | \$119,000 | 187,000 | \$4,230,000 |
| 2009: | | | | |
| August | 4,930 | 61,800 | 11,100 | 118,000 |
| September: | | | | |
| China | 60 | 6,250 | -- | -- |
| Germany | -- | -- | 5,360 | 192,000 |
| South Africa | -- | -- | 22,200 | 106,000 |
| United Kingdom | -- | -- | 5,540 | 307,000 |
| Total | 60 | 6,250 | 33,100 | 605,000 |
| Year to date | 11,700 | 136,000 | 135,000 | 1,930,000 |

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.