

## Analysis of the Management Situation

It is important to note that none of the properties discussed above are on National Forest Lands, any longer. All properties are within the gross boundaries of the Forest, however. Likewise in figure IV-47, none of the properties listed with production over 700 lbs. of copper, except for the Harry Moore mine, are on National Forest Lands. All of the historically productive copper operations have been conveyed out of National Forest ownership, or patented. (Huber, 1998)

Figure IV-47: Copper deposits with production records from Chugach National Forest, Alaska (Jansons, U., and others, 1984).

| Mine/Property                          | Production<br>(pounds of<br>copper) | Percent of<br>total |
|--|-------------------------------------|---------------------|
| Beatson Copper Co.                     | 182,600,000                         | 87.5                |
| Ellamar Mining Co.                     | 15,761,337*                         | 7.6                 |
| Schlosser Mine                         | 4,160,820*                          | 2.0                 |
| Midas Mine                             | 3,385,680*                          | 1.6                 |
| Threeman Mine                          | 1,159,660*                          | <1.0                |
| Blackbird Properties                   |                                     |                     |
| Latouche Mining Co.                    | 52,000*                             | <1.0                |
| Blackbird Mine,                        | 547,118*                            | <1.0                |
| Girdwood, Barrack                      | 72,510*                             | <1.0                |
| Fidalgo Copper Co.                     | 360,376                             | <1.0                |
| Reynolds-Alaska (Boulder Bay)          | 215,000                             | <1.0                |
| Standard Copper Mines Co.              | 32,000                              | <1.0                |
| Dickey Copper Co. (Irish Cove)         | 29,346                              | <1.0                |
| Duchess Claim Reynolds - Alaska        | 215,000                             | <1.0                |
| South Landlocked Bay Mining Co.        | 74,240                              | <1.0                |
| Harry Moore Mine                       | 1,452                               | <1.0                |
| Alaska-Pioneer Sourdough               | 720                                 | <1.0                |
| Knight Island Copper Mining Co.        | 240                                 |                     |
| Hogan Bay Properties                   |                                     |                     |
| Patten Cooperating Co.                 | 57                                  |                     |
| Happy Jack Mining and Devel.           | +                                   |                     |
| Copper Queen Mine                      | +                                   |                     |
| Alaska Commercial Co.                  | 70                                  |                     |
| Pandora Claim                          | +                                   |                     |
| Latouche Island Copper Mining Co. Ltd. | +                                   |                     |
| Knight Island Consolidated Copper Co.  | +                                   |                     |
| Copper Coin (Russell Ball Copper Co.)  | +                                   |                     |
| Chisna Consolidated                    | +                                   |                     |
| Duke Claim                             | +                                   |                     |
| <b>Total</b>                           | <b>208,667,556</b>                  |                     |

\*Estimated

+Indicated in publications as having shipped some ore.

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**Base Metal Production** Copper was produced continuously from three localities (Latouche Island, Ellamar, and Port Fidalgo) and sporadically from other prospects. All but the Beatson and nearby mines on Latouche Island produced direct shipping ore. About 208,667,556 pounds of copper was recovered from 6,416,580.8 tons of ore. Zinc and minor amounts of lead are reported with copper ore, but production of these was not recorded. Silver and gold by-products were recovered at the smelter. None of the mines, including the Beatson, on Latouche Island are on National Forest lands. Pandora has the largest reserve base (Figure IV-48) on the Forest, at 85,000 tons of ore. All of the other mines with large reserve bases, have been conveyed out of National Forest ownership or patented.

Figure IV-48 shows copper deposits that contain in excess of 1,000 tons of inferred reserve base. The minimum inferred reserve base estimate of 22 copper deposits is 7,246,000 tons. An additional unknown but probably large reserve base may be present at the Beatson Mine.

Figure IV-48 *Inferred copper reserve base at major copper deposits, Chugach National Forest, Alaska (Jansons, U., and others, 1984).*

| Mine Name                          | Reserve Base<br>(tons of ore)              |
|------------------------------------|--|
| Threeman                           | 1,900,000                                  |
| Rua Cove                           | 1,320,000                                  |
| Pandora                            | 85,000                                     |
| Fidalgo Mining Co                  | 45,000                                     |
| Cordova Copper Co.                 | 18,000                                     |
| Hemple                             | 6,300                                      |
| Copper Coin                        | 5,900                                      |
| Galena Bay                         | 5,800                                      |
| Standard Copper                    | 4,300                                      |
| Ibeck                              | 3,800                                      |
| Reynolds-Alaska,<br>Landlocked Bay | 3,000                                      |
| Seattle-Alaska                     | 2,900                                      |
| Jonesy                             | 1,300                                      |
| Chisna                             | 1,200                                      |
| Beatson                            | Probably Large<br>(no data to<br>estimate) |
| Duchess                            | 2,700,000                                  |
| Ellamar                            | 536,000                                    |
| Duke                               | 269,000                                    |
| Schlosser                          | 224,000                                    |
| Midas                              | 62,000                                     |
| Four-in-One                        | 33,500                                     |
| Scott Glacier                      | 19,000                                     |
| <b>Total</b>                       | <b>&gt;7,246,000</b>                       |

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Figure IV-49: Summary of Base Metal (copper) Potential

| Potential            | Land Status (acres)                    |                          |  |   |                                   |
|----------------------|--|--------------------------|--|---|-----------------------------------|
|                      | National Forest Surface and Subsurface | Acquired National Forest | National Forest Surface, Reserved Minerals | ANILCA Copper River Addition (acquired) | Private Surface, Private Minerals |
| <b>Base Metal</b>    |  |                          |  |   |                                   |
| Most Favorable       | 14,700                                 | 0                        | 2,900                                      | 0                                       | 28,100                            |
| Moderately Favorable | 228,400                                | 0                        | 1,000                                      | 189,500                                 | 153,500                           |
| Least Favorable      | 59,500                                 | 0                        | 0  | 0                                       | 58,200                            |
| Un-rated Potential   | 318,500                                | 0                        | 0  | 0                                       | 20,400                            |
| No Potential         | 3,924,300                              | 0                        | 44,200                                     | 612,100                                 | 604,500                           |
| <b>Total</b>         | <b>4,545,400</b>                       | <b>0</b>                 | <b>48,100</b>                              | <b>801,600</b>                          | <b>864,700</b>                    |

The overall mineral resource potential of the Chugach National Forest was rated by the U. S. Geological Survey and the U. S. Bureau of Mines. A summary of the acres of land with potential for volcanic massive sulfide copper deposits is shown in Figure IV-49.

### Other metallic resources

Other metallic resources occur within the Forest but at a lower resource potential than those previously discussed. Molybdenum, nickel, chromium, antimony, barium, cobalt, tungsten, and manganese occurrences are present, but the Forest is considered to have a low potential for these resources due to lack of favorable geologic conditions and small size and low grade of the known occurrences. (Roe C. H. and others, 1994).

### Leasable Minerals.

The Department of the Interior has the major role in issuing and supervising operations on mineral licenses, permits, and leases. The Forest Service cooperates with the Interior agencies to ensure that management goals and objectives are achieved, that impacts upon surface resources are mitigated to the maximum degree possible, and that the land affected is rehabilitated.

Leasable minerals include coal, oil, gas, phosphate, sodium, potassium, oil shale, and geothermal steam. Mineral commodities such as gold, silver, and copper which are traditionally available under the 1872 Mining Law, are available in the Copper River ANILCA addition and other acquired lands, under the Mineral Leasing Act. Which mineral leasing act applies depends on the type of lands and minerals involved. There are three basic categories of lands and mineral deposits subject to the leasing acts:

1. Leasable minerals (as defined in the 1920 act) with public domain status: National Forest System lands on the Kenai Peninsula and lands in Prince William Sound, and Copper River Delta are open for application under the Mineral Leasing Acts. This is approximately 4,601,800 acres. Currently there are twelve pending lease applications on the Forest.
2. Leasable minerals (as defined in the 1947 act) with acquired status: There are approximately 500 acres of acquired lands on the Kenai Peninsula.
3. Hard-rock minerals which have been acquired (as defined in the 1946 President's Reorganization Plan 3):