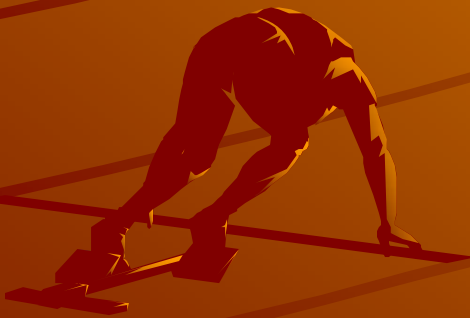



Striking a Balance Between Natural Resources & Development

October 25, 2012



Green Energy Metals Corp.



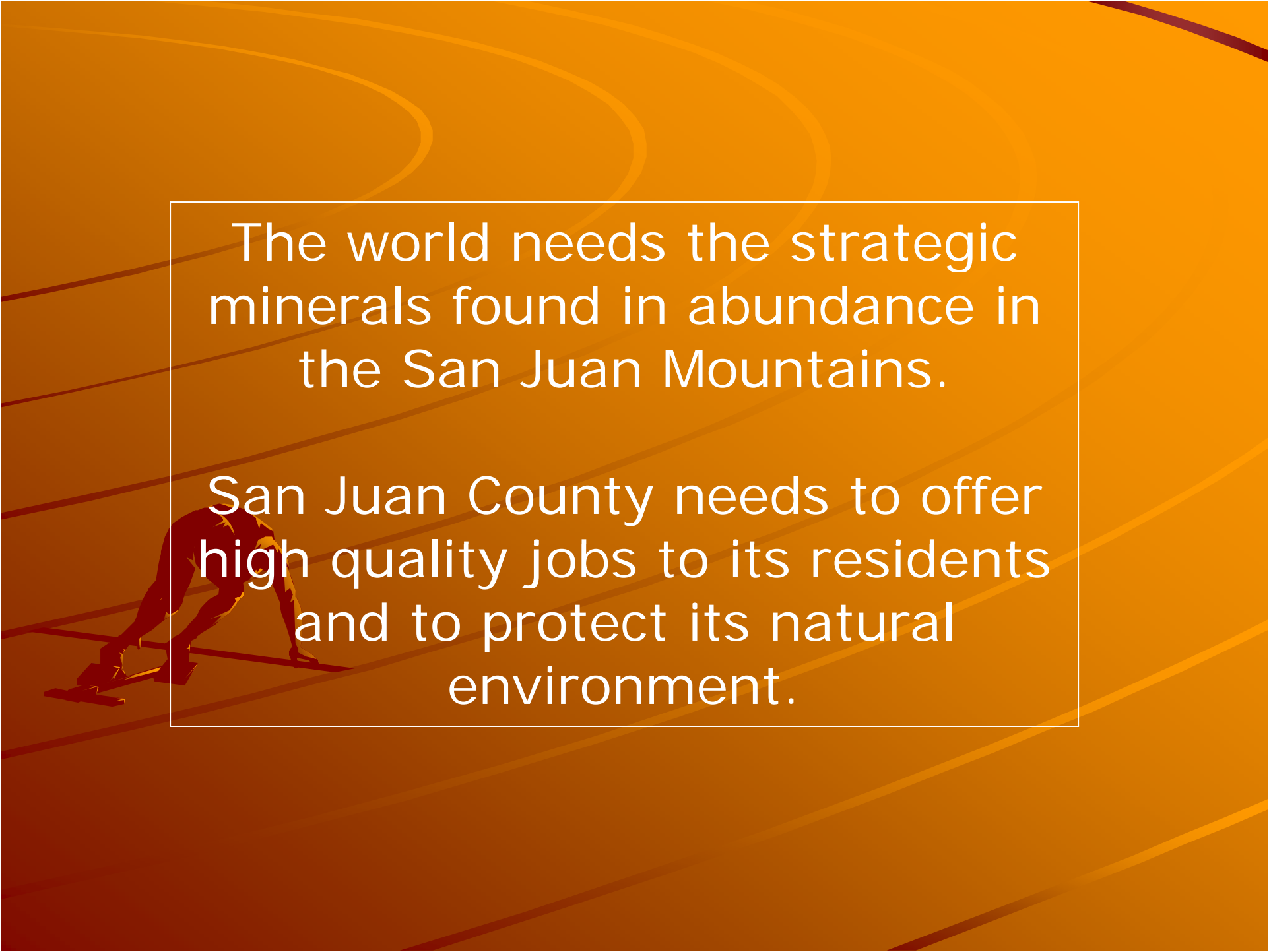
"The goal of the local Workgroup process is to engage a diversity of people in collaboratively striking a balance between the protection of natural resources and suitable water development."

(Source: River Protection Workgroup website)

This presentation relates to “suitable water development”, specifically:

- The Upper Animas River basin’s World class mineral resources
- The crisis of supply of these minerals around the World and in the United States
- The importance of these minerals to U.S. National Defense and Green Technology
- The economic challenges faced by residents of San Juan County
- The economic benefits of mining to the local community
- The opportunity to successfully strike a balance between environmentally responsible mining and tourism





The world needs the strategic minerals found in abundance in the San Juan Mountains.

San Juan County needs to offer high quality jobs to its residents and to protect its natural environment.

The world economy needs raw minerals that are in short supply

“Raw materials are an essential part of both high tech products and every-day consumer products, such as mobile phones, thin layer photovoltaics, Lithium-ion batteries, fibre optic cable, synthetic fuels, among others. But their **availability is increasingly under pressure** according to a report published today by an expert group chaired by the European Commission. In this first ever overview on the state of access to raw materials in the EU, the **experts label a selection of 14 raw materials as “critical”** out of 41 minerals and metals analysed. The growing demand for raw materials is driven by the growth of developing economies and new emerging technologies. ”

Source: European Union Press Release. The list was established in the framework of the 2008 EU Raw Materials Initiative¹ in close cooperation with Member States and stakeholders. The results of the report will be used for the drafting of a forthcoming communication on strategies to ensure access to raw materials which the Commission will publish in autumn 2010.

The world economy needs raw minerals that are in short supply

“Modern cars, flat-screen televisions, mobile phones, and countless other tools based on technological developments of the past couple of decades rely on a basket of metals and other raw materials. In many cases, the quantity required for each product is tiny, but with **a mobile phone made up of around 40 high-tech metals such as lithium, tantalum, cobalt and antimony** - it is a major challenge and cost for any manufacturer to ensure they have supplies of all of them. Television sets, computers and other information and communications technology products all rely on a similar mix of such metals. **The same group of high-tech metals are also fundamental in new environmentally friendly products**, with electric cars requiring lithium, hydrogen cars platinum, and new fuel-efficient aircraft reliant on rhenium alloys.”

Source: European Union Press Release. The list was established in the framework of the 2008 EU Raw Materials Initiative¹ in close cooperation with Member States and stakeholders. The results of the report will be used for the drafting of a forthcoming communication on strategies to ensure access to raw materials which the Commission will publish in autumn 2010.

The U.S. needs raw minerals too and relies heavily on imports, e.g.

- ◆ **Antimony:** U.S. imports 100%, 67% from China
- ◆ **Bismuth:** U.S imports 100%, 26% from China
- ◆ **Indium:** U.S. imports 100%
- ◆ **Manganese:** U.S. imports 100%, mostly from Africa
- ◆ **Rare Earths:** US imports 100%, 97% of total world supply comes from China
- ◆ **Tellurium:** U.S. relies heavily on imports, including 43% from China
- ◆ **Tungsten:** only 1 U.S mine in production, 43% supply coming from China

The Western San Juan Mountains have a long history of producing large quantities of raw minerals

- ◆ 44 million tons of ore

- ◆ \$16.5 billion in gold

- ◆ \$5.4 billion in silver

- ◆ \$1.2 billion in copper

- ◆ \$1.7 billion in lead

- ◆ \$1.2 billion in zinc



How much is a Billion?

- At \$50,000 per year, a billion dollars equals 20,000 person years of work

- A billion minutes ago it was 1 A.D.

- A billion hours ago our ancestors lived in the Stone Age

San Juan County needs high quality jobs

- Median household income is 30% below median household income in the State of Colorado (San Juan Development Association)
- A large number of students in the Silverton School district are “in need or some form of need” (an Administrator in the District)
- San Juan County and the Town of Silverton have struggled for twenty years to fund essential services...ever since the last mine shut down.
- Tourism and recreation have allowed us to survive, but barely.

The economics of local business opportunities vary significantly

- ✿ Whitewater rafting the Upper Animas can be estimated to contribute \$378,000/yr to Silverton
 - Customers pay about \$240 each per day
 - About 1200 user days in 2011 on the Upper Animas were recorded
 - Estimate assumes each rafter spends an additional \$150 a day
- ✿ Historic area mine production is \$26 billion which equals 68,783 rafting years
- ✿ San Juan County needs both

Mining creates lots of good jobs

- 👤 2011 average mining job in Colorado: paid \$70,000 / yr (1)
- 👤 2011 average coal miner in Colorado: \$107,000 (2)
- 👤 A medium sized mining operation in Silverton would generate 200 to 400 incremental jobs
 - 100 to 200 mining employees (\$7,000,000 to \$14,000,000 in wages and benefits)
 - local businesses will also grow to supply these employees with food, shelter, clothing, services, etc.
 - 200 to 400 jobs total

👤 PLUS, you can have mining, rafting, tourism and jeeping all together. They are not mutually exclusive!

1. Wages & Benefits. Includes lower paid quarry and office staff
2. Wages & Benefits

Mining in Colorado can and must be environmentally responsible

- Colorado has some of the most strict mining regulations in the world
- In fact, most mining companies avoid Colorado, because they consider the regulations to be too strict
- For years now, there have been technologies proven to remove heavy metals out of mine drainage
- Tourism is an important part of San Juan County's history too



List of Critical Raw Materials determined by European Union

- 
- ◆ Antimony
 - ◆ Beryllium
 - ◆ Cobalt
 - ◆ Fluorspar
 - ◆ Gallium
 - ◆ Germanium
 - ◆ Graphite
 - ◆ Indium
 - ◆ Magnesium
 - ◆ Niobium
 - ◆ Platinum Group
 - ◆ Rare Earths
 - ◆ Tantalum
 - ◆ Tungsten



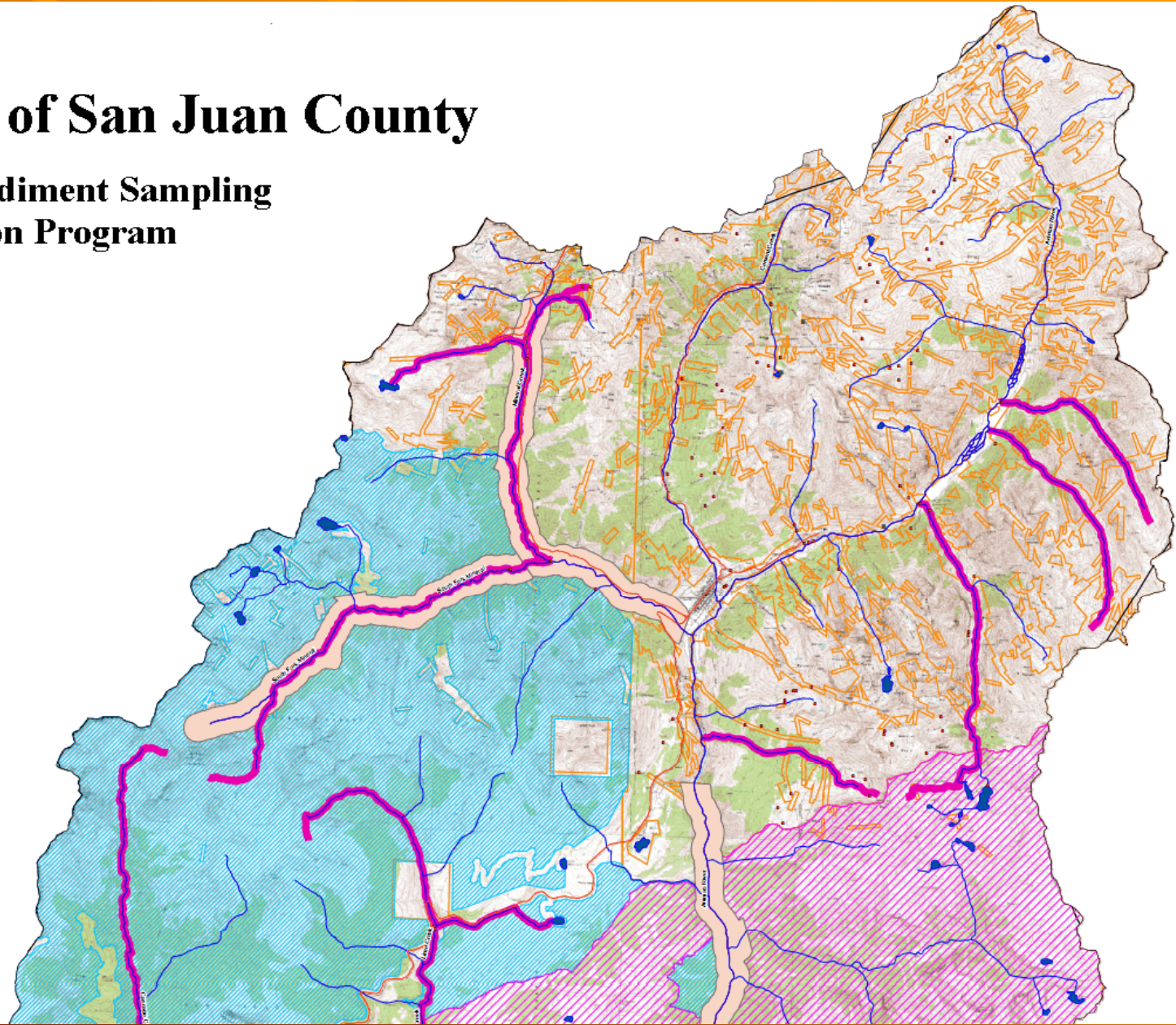
San Juan County contains minerals critical to green technology, U.S. national defense, and the U.S. economy.

Today, the U.S. relies heavily on imports to support these needs, particularly from China and politically unstable regions such as Africa.

China is using their position as a diplomatic and economic weapon.

Streams of San Juan County

Stream Sediment Sampling Exploration Program

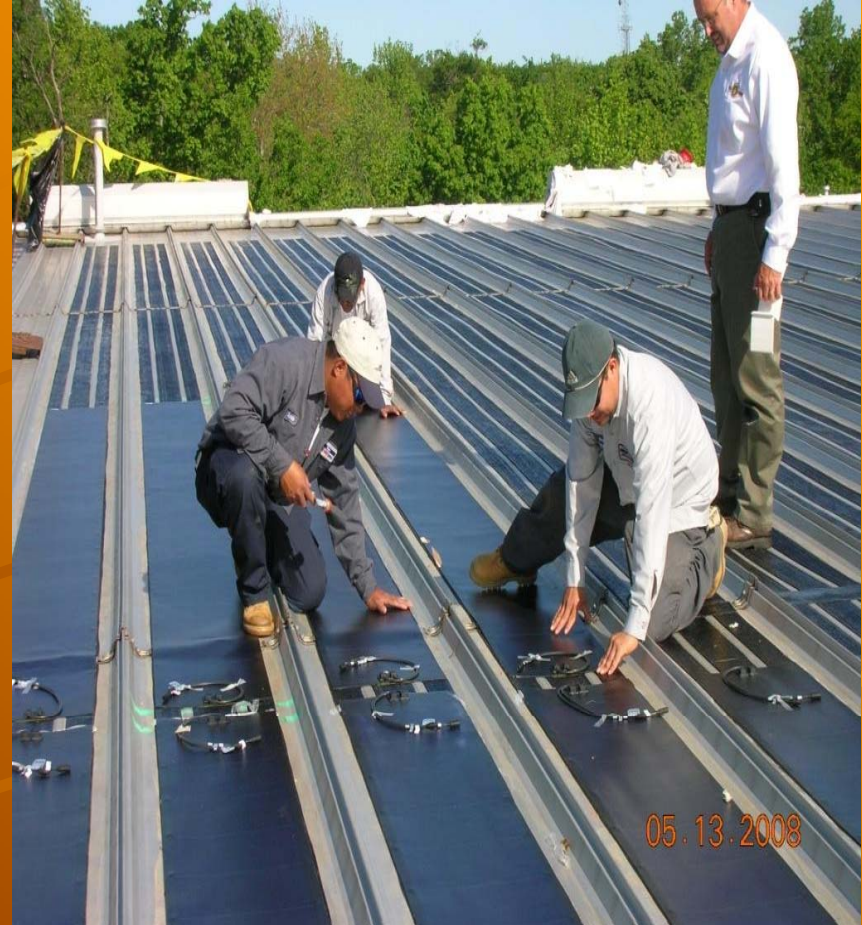


Source: River Protection Workgroup

Strategic minerals in San Juan County

Tellurium

- ✦ Fifth rarest metal in the world
- ✦ Needed for thin film solar panels
- ✦ One large China producer has 600+ tons resources
- ✦ Gold King Mine may have more than the large Chinese producer



Strategic minerals in San Juan County

Tungsten

- ✦ Rare metal
- ✦ Metal with highest melting point, and density of 19.3
- ✦ Used in superalloys, catalysts, electronics, and welding
- ✦ China supplies 83% of world output
- ✦ San Juan County mines supplied the U.S. in WWI and WWII



Strategic minerals in San Juan County

Bismuth

- ◆ Heaviest naturally occurring stable element
- ◆ Most diamagnetic
- ◆ 2nd lowest thermal conductivity
- ◆ Important in superconductivity
- ◆ China is a large supplier
- ◆ San Juan County has a number of occurrences



Strategic minerals in San Juan County

Molybdenum

- ✦ Sixth highest melting point of all elements
- ✦ Used in high strength steel alloys, catalysts, lubricants.
- ✦ China is a large producer
- ✦ Colorado supplied the Western World in both World Wars.
- ✦ San Juan County has many occurrences.



Strategic minerals in San Juan County

Indium

- ❖ Rare, soft metal
- ❖ Used in LCD and touch screen production- crucial high tech metal
- ❖ Used in copper-indium-gallium-selenium solar panels
- ❖ China is the largest producer
- ❖ San Juan County has highest documented ore grade in the world
- ❖ San Juan County has other occurrences.



Strategic minerals in San Juan County

Antimony

- ◆ Used in fire retardants and polymers
- ◆ Used in auto batteries
- ◆ Growing microelectronic uses
- ◆ China produces 84% of world output
- ◆ San Juan County mines supplied the U.S. in both World Wars
- ◆ San Juan County has other occurrences



Strategic minerals in San Juan County

Rare Earths

- ✦ 15 lanthanide elements
- ✦ Hundreds of high tech uses – most new
- ✦ Magnets, lasers, phosphors, etc
- ✦ China produces 97% of world supply
- ✦ China has used rare earth supply as diplomatic club
- ✦ China is restricting exports to force high tech manufacturing in China
- ✦ San Juan County has occurrences.



Strategic minerals in San Juan County

Cadmium

- ✦ Largest use is in Ni-Cd rechargeable batteries
- ✦ Also used in electroplating, pigments and stabilizers in PVC
- ✦ Also used in CIGS solar panels
- ✦ China is the largest producer
- ✦ San Juan County has occurrences



Strategic minerals in San Juan County

Silver

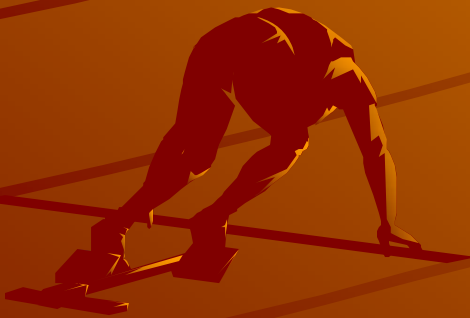
- ◆ Highest electrical conductivity element
- ◆ Highest thermal conductivity element
- ◆ Used largely in electronics as a conductor and solder
- ◆ Also used in catalysts, jewelry and medical applications
- ◆ Why do you think they call it Silverton?



Strategic minerals in San Juan County

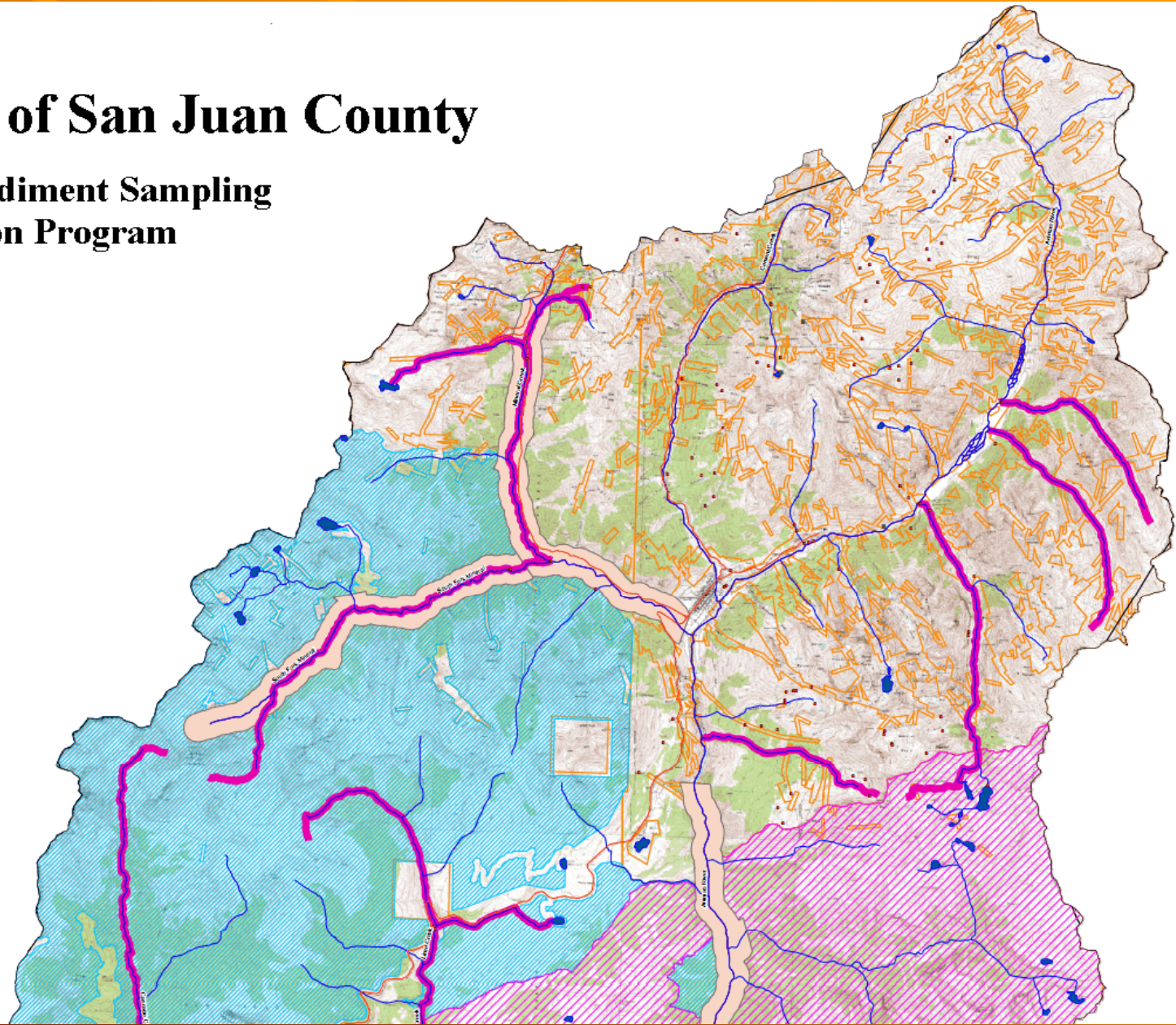
Gold

- ✦ Possibly the most strategic metal of all!



Streams of San Juan County

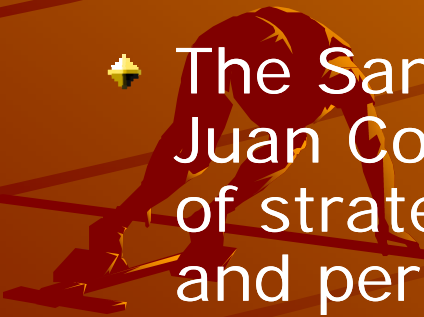
Stream Sediment Sampling Exploration Program



Source: River Protection Workgroup

Summary

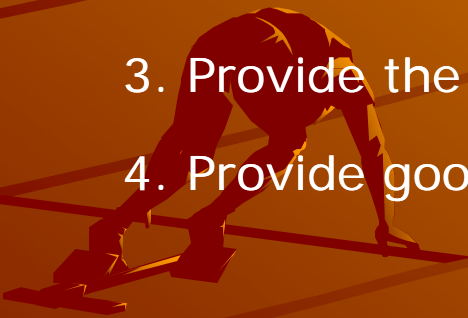
- ✦ Mining, tourism, jeeping and rafting can all coexist. There is no need for Wild and Scenic River designation
- ✦ Mining offers the best economic future for Silverton by far
- ✦ The San Juan Mountains (and especially San Juan County) have the highest concentration of strategic metals occurrences in the U.S. and perhaps the world



Summary

✦ San Juan County must remain open for mining for the good of the entire United States, and for our ability to:

1. Promote future U.S. economic growth
2. Provide the necessary metals for high tech & green industries
3. Provide the necessary metals for national defense
4. Provide good paying jobs that builds Silverton's community



Summary

- Any designation of a Wild and Scenic River or National Conservation Area is detrimental to the national good.
- Before any new Wilderness Area, National Conservation Area, BLM purchase, or any other withdrawal can be done, a complete inventory of strategic metals in the area should be done in an unbiased manner by the USGS. The stakes are just too large for the country to do otherwise.

Published References

- U.S. Geological Survey Professional Paper 535 "Geology and Ore Deposits of the Eureka and Adjoining Districts San Juan Mountains CO."
- U.S. Geological Survey Professional Paper 378-A "Geology and Ore deposits of the South Silverton Mining Area, San Juan County, CO"
- U.S. Bureau of Mines I.C. 7731 "Tungsten potential in the San Juan Area."
- U.S. Geological Survey Bulletin 182 "Economic Geology of the Silverton Quadrangle, CO"