

Extended Outline of Mineral Resource Assessment Process

1. INTRODUCTION

In the Yukon Protected Areas Strategy, the Yukon Government committed to:

- avoid areas of high mineral potential and development activity where options exist;
- carry out Mineral Resource Assessment at a reasonable level of detail, and within a prudent time frame;
- carry out Mineral Resource Assessments at regional (YPAS step 1) and detailed (YPAS steps 3 and 5) scales

2. METHODOLOGY

Yukon Government Mineral Resources Branch carries out Mineral Resource Assessment at two scales:

-Regional MRA

- carried out in support of YPAS step 1 (identifying areas of interest)
- methodology identical to that developed by USGS, and refined by BCGS to best fit geology and mineral deposits of the Canadian Cordillera
- used extensively for land use planning in BC and Alaska (similar geological environments to Yukon)
- makes use of currently existing and public data only
- Figure 1: existing and outstanding Regional Mineral Potential Maps**

-Detailed/site-specific MRA

- carried out in support of YPAS step 3 (identifying study areas) and step 5 (identifying final boundaries)
- follow the methodology developed by GSC (MERA Process) for creation of National Parks
- same methodology adopted by NWT (suitable for frontier lands, with vast areas of poorly defined geology and wide ranges of mineral deposit types)
- methodology has been used in Yukon since 1995??? for areas withdrawn from exploration due to land claim negotiations
- may require field data collection
- Figure 2: completed site-specific Mineral Assessments**

3. STEPS INVOLVED IN MINERAL RESOURCE ASSESSMENTS

-Regional Mineral Potential Maps

- digital compilation of existing data (4 months)
- sub-division of the area into large tracts of approximately equal areas
- assessment panel (4 to 6 days)
- computer statistical simulation (1 month)
- relative ranking
- products: Regional Mineral Potential Map and accompanying report
- reviews of existing Regional Mineral Potential Maps may be triggered by advances in the knowledge of geology and mineral deposit types applicable to the Yukon

-Detailed/site-specific Mineral Assessments

- digital compilation of existing exploration and geological data (2 months)
- data collection to fill major gaps in the geoscientific database (1-2 field seasons)
- sub-division of the area into small tracts
- assessment panel (1-2 days)

- relative ranking by consensus
- annotated mineral potential map (1 month)

4. INFORMATION, TIME, AND COST REQUIREMENTS

-Regional Mineral Potential Maps

- All publicly available data is used for regional MRA
 - updated MINFILE (mineral occurrences database)
 - RGS or till geochemical surveys
 - 1:250,000 and 1:50,000 scale geological maps
 - regional geophysical surveys
- Figure 3: 1:250,000 and 1:50,000 scale maps available, and dates**
- Assessment panel convened for four to six days, with best expertise from industry or academia
- Areas lacking RGS surveys are consistently assessed as having unknown mineral potential
- Time frame: 6 winter months per large area (two outstanding)
- Costs: \$ 16-30k for each 4-6 day assessment panel

-Detailed/Site-specific Mineral Assessments

- Mandatory information
 - RGS coverage
 - reasonably accurate 1:250,000 scale geological mapping
 - digital compilation of all exploration data (may include confidential data from exploration assessment reports)
 - field work to fill major data gaps (up to two field seasons)
- Desired information
 - airborne magnetic survey
 - 1:50,000 scale geological mapping of critical areas
 - till geochemical surveys for areas covered by thick glacial veneer
 - Figure 4: areas with airborne magnetics cover, and spacings**
- Assessment panel convened for one to two days, with best expertise from industry or academia
- Time frame:
 - minimum 7 months (May through November) if RGS data exists
 - minimum 20 months (May through November of following year) if RGS data lacking
- Costs:
 - \$8-10k for a one to two day assessment panel
 - \$ 150k/camp for a full season of field work
 - up to \$750k for RGS surveys carried out in remote areas
 - cost of RGS in Arctic Dempster area was ?????
 - RGS survey costs can be substantially reduced if Yukon Government engages in partnerships with Federal Government (e.g. RGS over La Biche River map sheet could cost \$ 75 k)
- Figure 5: Areas with RGS cover, and areas of thick glacial till cover (where RGS inappropriate)**

5. SUMMARY

- YTG Mineral Resources Branch makes use of the sound, scientifically rigorous and most reproducible methodology for regional and site-specific MRAs.
 - methodology applicable to frontier lands

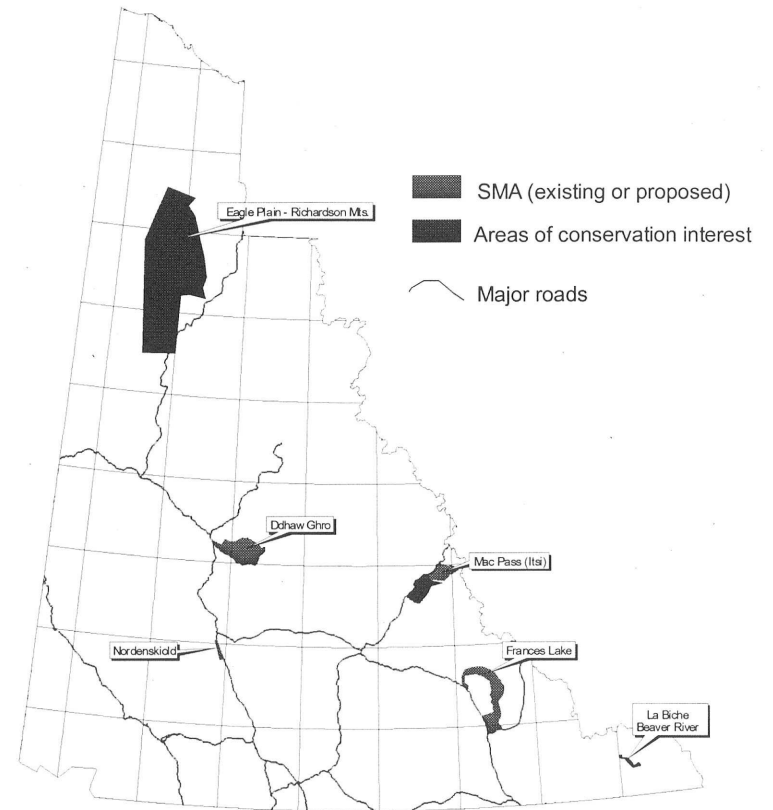
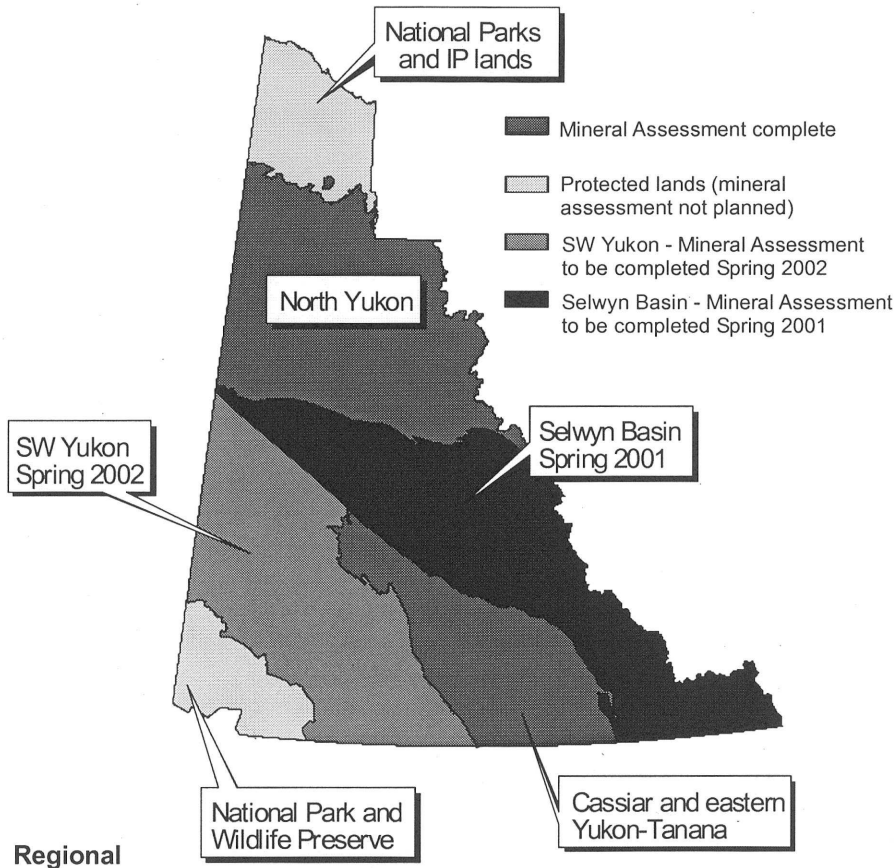
- methodology used in BC, Alaska, NWT, and by our Federal Government
- buy-in from industry

-Appropriate time and budget allocation for MRAs are critical

-MRAs are an important step in YPAS

- promotes consensus between resource development and conservation interests
- necessary information for Multiple Accounts Analyses and Socio-Economic Analyses

Mineral Resource Assessments



Regional

Mineral Assessments are in the process of completing a Yukon Mineral Potential Map, which will be used to help identify areas of interest for the Protected Areas Strategy. The Yukon was divided into four areas:

1. North Yukon - mineral potential map completed March 2000
2. Cassiar/Yukon-Tanana - mineral potential map completed April 2000.
3. Selwyn Basin - compilation will begin this fall, with the workshop in 2001.
4. SW Yukon - compilation will begin in the fall 2001, with the workshop in 2002.

Site Specific

- Fieldwork (mapping and sampling) and regional Geochemical Surveys will be conducted in the NE Yukon during the summer 2000.
- Other areas of fieldwork intended to be done in the summer 2000 will possibly include La Biche (Beaver River), Dhaw Ghro (MacArthur Range), Nordenskiold, MacMillan Pass (Itsi Peak area), Wolf Lake (Logtung Deposit), and Frances Lake area.

MINERAL RESOURCE ASSESSMENT PROCESS

1. INTRODUCTION

- Commitments to resource assessments in YPAS.

2. METHODOLOGY

- Regional Mineral Potential Maps and Detailed Mineral Assessment
- Relationship with YPAS steps (Step 1, 3, 5 and 9)
- Comparison with other jurisdictions across Canada and Alaska
- Currently existing data and assessments (RGS, regional assessments, etc.)

3. INFORMATION REQUIREMENTS

a. Regional Mineral Potential Maps

- Mandatory Information: i.e. updated Minfile, RGS coverage, 1:250 000 geological mapping
- Desired Information:
- Time:
- Costs:

b. Detailed Mineral Assessment

- Mandatory Information:
- Desired Information:
- Time:
- Costs:

4. REGIONAL MINERAL POTENTIAL MAPS

- Compilation of existing data
- Filling data gaps (if needed)
- Geological tracts
- Assessment Panel
- Computer Simulation
- Relative Ranking
- Products – Mineral Potential Map, report

5. DETAILED MINERAL ASSESSMENT

- Compilation and gap analysis
- Filling data gaps (fieldwork)
- Assessment Panel
- Relative ranking
- Products - Annotated Mineral Potential map, report

6. SUMMARY

Resource Assessments

Mineral

- Mineral Assessments are in the process of completing a Yukon Mineral Potential Map, which will be used to help identify areas of interest for the Protected Areas Strategy. The Yukon has been divided into four different areas:
 1. North Yukon – the mineral potential map should be complete by mid March
 2. Cassiar/Yukon-Tanana – the mineral potential map in the spring of 2000
 3. Selwyn Basin - compilation will begin this fall with the workshop in 2001
 4. SW Yukon - 2002
- Fieldwork (mapping, sampling) & regional Geochemical Surveys will be conducted in the NE Yukon during the summer 2000

Oil and Gas

- **To support YPAS process and land claims** - Two priority areas are the Snake River area YPAS initiative in the Peel Plateau and, southeast Yukon land claim negotiations and/or La Biche River SMA (ie new geological data is available).
- **To support YTGs land sale efforts** - Economic Assessments are required in the Eagle Plain, Peel Plateau, and possibly the Liard Plateau (depending on whether we intend we proceed with a land sale in the southeast).
- **To complete resource assessments in Yukon's 8 oil and gas basins** - Two are remaining to be completed - the North Coast Basin and the Old Crow Basin.

- ① Are these still valid ?
- ② Have they been updated ?
- ③ Will check briefing book to see if info there unless you know that info is included there.

Thanks
Cheryl H

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Mineral Resource Assessments

Regional

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 1. North Yukon – the mineral potential map was completed in March 2000.
 2. Cassiar/Yukon-Tanana – the mineral potential map was completed in April 2000.
 3. Selwyn Basin – compilation will begin this fall with the workshop in 2001.
 4. SW Yukon – compilation will begin in 2002.

map

Site Specific

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- Other areas of fieldwork intended to be done in the summer of 2000 will possibly include LaBiche, Dhaw Grow in the MacArthur range, Nordinshiokd, MacMillan Pass, Wolf Lake and Frances Lake.

map