ASSOCIATION OF CANADA LANDS SURVEYORS

BOARD OF EXAMINERS

SCHEDULE III / ITEM 1
ACTS AND REGULATIONS RELATING TO SURVEYS OF CANADA LANDS

September 2002
(March 18, 1999 Regulations)

This examination consists of 6 questions on 3 pages

Q. No Time: 3 hours **Marks** Value Earned

1. a) What are Commissioner's lands? 2
   b) Who appoints the Commissioners for the three northern territories? 2
   c) Which government department administers oil and gas and minerals in the offshore north of the 60th parallel and the north shores of Hudson Bay and Hudson Strait? 2
   d) In addition to public lands used to carry out the programs of Parks Canada, the Department of Canadian Heritage/Parks Canada administers three other classes of lands. Name them. 3
   e) In (d) above, name two specific types of the noted "program lands". 2
   f) Name the official who causes a special survey to be made when requested to do so by the Minister of Indian Affairs and Northern Development or the Commissioner. 2
   g) Name the official who may authorize surveys, subdivisions and construction of roads on Indian reserves. 2
   h) To whom must an absolute surrender of lands in an Indian reserve be made? 2
   i) Which official on behalf of the Government of Canada authorizes and directs the survey of a base line of any creek or river pursuant to the *Yukon Placer Mining Act*? 2
   j) Name the official in the Northwest Territories who may require an owner wishing to transfer or otherwise deal with land under the *Land Titles Act* to provide an appropriate map or plan certified by a Canada Lands Surveyor. 2

2. Under instructions from the Surveyor General, a Canada Lands Surveyor makes a survey of a remote polygon shaped parcel under the *Territorial Lands Act* to be developed as a federal forestry test plot. The parcel has rectilinear boundaries of approximately equal length totaling 9.75 km and has 16 monumented angles.
   a) What is the maximum allowable angular misclosure for the boundary traverse? 4
   b) What is the semi-major axis of the 95% confidence region error ellipse for the closed survey of the parcel? 4
   c) Describe three methods of making the required connection for the survey. 3

3. The Ramsill Tidaw exploratory well in the Northwest Territories is situated in Unit P, Section 11, Grid Area 69°20', 133°30' as prescribed in the Canada Oil and Gas Land Regulations. The 1927 NAD UTM coordinates of the Grid Area corners are as follows:

	Northings (m)	Eastings (m)
NE	7 692 076.67	559 079.39
NW	7 691 855.57	549 234.12
SE	7 673 496.18	559 534.38
SW	7 673 273.62	549 613.28

   a) Calculate the grid bearings and lengths of the boundaries of Unit P, Section 11. 15
   b) What type of monumentation would you establish on the bottom-mounted fixed development platform at this wellsite? 2

4. John Haas, a retired resident and citizen of the United States, visits the Yukon Territory for a vacation. On July 2, 2000 he accompanies his friend William Ash, a Yukon resident prospector and Canadian citizen on a prospecting trip. Ash, an experienced professional geologist, takes them to an area in south central Yukon which has had some recent exploration activity as a result of information released under a government targeted geoscience program.

   After several days of examining outcrops, Ash concludes that there is sufficiently good mineral showing in one particular area to warrant the locating of lode claims which will provide him with an exclusive right to conduct further detailed exploration work.

   On July 11, 2000 Ash locates a block of 24 contiguous claims, LUCKY 1 to 24, using two parallel ranks of co-linear location lines and extensions which were staked in a northerly direction. The resulting claim block is 4 claims east-west by 6 claims north-south.

   Haas is quite intrigued by the venture and on their return to Whitehorse, he researches further information available on mineral occurrences in the area. Haas decides to locate a placer mining claim on Belle Creek which has seen some previous placer claim and mining activity. Belle Creek flows in a northeasterly direction along a general line from the southwest corner to the northwest corner of the LUCKY lode claims located earlier by Ash. Haas stakes the JOKER creek claim of the full size northeasterly along Belle Creek from a commencement point which turns out to be just inside the southwesterly corner of LUCKY 1, the most southwesterly claim. He stakes it on July 16, 2000 and records the claim on his return to Whitehorse on July 17, 2000, noting also at the mining recorder's office that Ash has still not recorded his LUCKY group of claims.

   The field staking by both Ash and Haas is in full technical compliance with the relevant legislation. The property is located 76 miles from the office of the mining recorder for the Whitehorse mining district.

   a) Will the mining recorder issue a grant for the placer mining claim to Haas? Why or why not? 3
   b) Assuming she does issue a grant to him, what is the earliest date this will occur? 2
   c) What is the latest possible date for Ash to record the LUCKY claims? 2
   d) Name the legislation pursuant to which the LUCKY and JOKER claims are located. 2
   e) What markings will Haas have placed on the downstream post for his JOKER claim? 3
   f) Draw a neat and clearly labeled sketch to proportional scale showing the LUCKY claim block, the JOKER claim and Belle Creek. Indicate the positions for the legal posts established by Ash and Haas for their respective claims. 5
   g) Draw an enlargement sketch of the southwest corner of the LUCKY claim block showing the approximate relationship of the JOKER claim. 3
   h) Grants were eventually issued to Ash for the LUCKY 1 to 24 claims. In 2001, after some detailed geochemical and geophysical work on the claims, Ash raises money for a small drilling program on the LUCKY 1 claim. The total cost of his exploration work and drill program completed on June 16, 2001 is $24,000. Ash wishes to apply this work performed on the LUCKY 1 claim to the remaining claims in the 24 claim block.
      i) What amount of expenditure is required on each claim to keep that claim in good standing for a further year? 2
      ii) By what date must a detailed statement of work be filed with the mining recorder to effect renewal of the claims for a further year? 2
      iii) Describe the procedure by which work performed on the LUCKY 1 claim can be applied to the remaining LUCKY claims. 3
   i) [Assume for this part that the mining recorder <u>does</u> issue a grant to Haas for the JOKER claim.] On the basis of his exploration work, Ash decides in 2002 to obtain a mineral lease

for the contiguous LUCKY 1 to 4 claims, being the four claims in the southwest corner of the LUCKY claim block. He engages a Canada Lands Surveyor who makes the survey, taking into account the existence of the JOKER placer claim still held by Haas.

Draw a neatly labeled sketch showing the boundaries of the four claims which will be established in the survey. Indicate the monuments which will be placed and identify by a coloured line the perimeter of the four claims. Assume that there are no internal fractions separating the four claims to be surveyed. Explain your rationale for the configuration. 5

5. The Northwest Territories Power Corporation, a territorial public utility, requires the permanent use of a portion of Lot 12, Block 6, Hay River Industrial Subdivision, Northwest Territories, Plan 50045 CLSR, 42555 LTO for an underground electrical vault. Lot 12 is approximately in the middle of the block of 20 by 40 metre rectangular lots which front on Passage Drive adjoining the lots on the south and aligned in an east-west direction. The easement required is for a square 5 metres by 5 metres at the southeast corner of Lot 12. The parcel is under certificate of title to a private corporation which has entered into an easement agreement to be registered based on an explanatory plan.

   Compile a neat and complete explanatory plan suitable for approval by the Surveyor General and filing in the Land Titles Office. Assume any missing information needed to complete the plan. 10

6. Canada Lands Surveyor A makes a resurvey of Lots 4 and 5 in a rectangular Block 12, the west side of which is the west boundary of an original townsite Group lot which has now been fully subdivided. The original survey showed even lots of 50.00 foot frontage, except for the westernmost lots in each of the blocks covered by the plan have what appear to be “remainder” dimensions, varying from 48.20 feet at the south boundary of the most southwesterly block to 50.60 feet at the north boundary of the most northwesterly block. CLS A re-establishes and monuments the two plots assigning 50.00 feet to each lot in the block in a westerly direction from the east end of the block which is well defined. His assignment of full plan distance to each of these lots results in the end lot measuring 1.20 feet shorter than the end lot distance shown on the official plan.

   CLS B is engaged to resurvey adjacent Lot 6, immediately west of Lot 5. He measures the entire block, noting the recent monumentation established by CLS A, and essentially agrees with A’s overall block dimensions. B is inclined to re-establish the individual lots by proportionate distribution of the block shortage to each and every lot in the block. Measurement of the location of structures and old residential fence lines produces no conclusive evidence in favour of one analysis or the other.
   The resurveys and repostings are ordered by the owners as each is commencing design and construction of a commercial building built to the property line.

   a) As CLS B, describe the steps you would take in completing the survey for your client. 6
   b) Describe the types of monumentation you would establish, accounting for excavation to the sidelines and fronting sidewalk. 3

Total Marks: 100