

**ASSOCIATION OF CANADA LANDS SURVEYORS
BOARD OF EXAMINERS**

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

March 2004
(March 18, 1999 Regulations)

Notice to Candidates:

On April 1, 2003 the Government of Yukon took over administration of all lands and mineral resources in Yukon. Legislation was created that mirrors the *Territorial Lands Act*, the *Yukon Placer Mining Act* and the *Yukon Quartz Mining Act*. As the new statutes are not yet accessible on the Internet and have not yet been issued as a revision insert to the Manual of Instructions, the present three statutes of Canada appearing in the Manual continue to apply for the purposes of this examination. Candidates who choose to answer questions based on the successor legislation must clearly state this fact in order for marks to be awarded on that basis.

This examination consists of 6 questions on 4 pages

Marks

Q. No

Time: 3 hours

Value Earned

- | | |
|---|---|
| 1. In the property rights systems for Canada Lands, certain officials are named in statutes and their regulations to perform specific functions. As an example, a mining recorder in Yukon is the official named to receive an application for a grant of a claim pursuant to the <i>Yukon Quartz Mining Act</i> . Give the title of the officials or entities having the following responsibilities or rights. | 2 |
| a. appointment of the Commissioner of the Northwest Territories | 2 |
| b. issuance of a subpoena for the attendance of a witness upon application of a surveyor pursuant to the <i>Canada Lands Surveys Act</i> | 2 |
| c. causing a special survey of territorial lands to be made pursuant to the <i>Canada Lands Surveys Act</i> | 2 |
| d. making an order pursuant to the <i>Land Titles Act (Yukon)</i> cancelling in whole or in part or amending or altering a plan of survey | 2 |
| e. granting of permission to place a new building within ten feet of the International boundary between Canada and the United States | 2 |
| f. receipt of an absolute surrender of all of the rights and interests of a band and its members in all or part of a reserve, pursuant to the <i>Indian Act</i> | 2 |
| g. issuance of an order prohibiting or restricting the entry on any land in the Yukon for the purpose of locating a claim or prospecting or mining for minerals | 2 |
| h. receiving notification of damage or destruction of a monument shown on a plan of legal survey as a result of operations of a permittee under the Canada Oil and Gas Land Regulations | 2 |
| i. certification of the substantial accuracy of conformance of construction to the structural plans for buildings shown on a plan prepared pursuant to the <i>Condominium Act (NWT)</i> | 2 |
| j. administration, management and control of National Parks | 2 |
| 2. Draw at a scale of your choice a neatly labelled and dimensioned sketch of a typical part of the Livingstone Creek baseline in the Whitehorse Mining District, which shows: | 3 |
| a. a discovery creek claim of maximum size | 3 |
| b. a creek claim of the ordinary size adjoining the downstream boundary of the discovery claim | 3 |
| c. a first tier left limit bench claim of ordinary size located in the same vicinity, | 3 |

all located pursuant to the *Yukon Placer Mining Act*.

3. As a Canada Lands Surveyor, you are engaged in 2003 by Castle Rock Resources Ltd. to make a location line survey of 128 BUFF mineral claims being optioned by the company near Mayo, Yukon. The claims were located by 16 locators over a three day period in 1996. The applications for eight claims of the standard size for each of the locators were received by the mining recorder and grants were issued to each of the locators, who subsequently transferred their respective entire interests in the claims to Magnum Exploration Inc. Castle Rock has now optioned them from Magnum to conduct an exploration program. The 128 claims shown on the common sketch used by the locators were staked in a northerly direction claiming each side of the four parallel location lines, each location line string having 32 claims established along it.

After receiving copies of all applications and locators sketches accompanying them, you commence your field survey in steep mountainous terrain. It becomes obvious that several of the legal post locations have been disturbed by snowslides or rockslides and no longer occupy their original positions. Others legal posts in more protected areas are found to be properly placed in rock mounds and are correctly marked. By measuring between the legal posts whose positions are accepted as original, it becomes clear that virtually every claim in the group has a location line approximately 120 feet in excess of the maximum length permitted under the legislation. You also find that the undisturbed legal posts all lie in almost a single straight line on each of the location line strings, and that the four location lines are almost exactly parallel. You conclude that given the challenging terrain, there were honest attempts by the original locators to comply with the provisions of the legislation and that any non-observance has not been of a character intended to mislead other persons who might have desired to locate claims in the vicinity.

You complete the survey of the legal posts found, monumenting each of the legal post locations, both original and displaced, in order to preserve the evidence you have found. It is clear from a preliminary plot of your survey that there is a gore of vacant ground between claims, measuring along the location lines. The claims established by the two interior location line strings are also separated by a gore of approximately 150 feet. The spacing of each interior location line string and its adjacent exterior location line string is slightly less than two claim widths so that no side gores are created.

- a. Draw a neatly labeled sketch showing the configuration of the BUFF 1 to 128 claims. Show the four location line strings by a heavy bold line or identifying colour. Assume for the purposes of the sketch that the disturbed legal posts were originally placed on the straight line between adjacent undisturbed legal posts with location lines approximately 120 feet overlength. 4
 - b. You have notified your client's field manager of the certain excess length of the claims. He asks for your recommendation on what to do about covering the excess length gores as well as the long north-south gore between the claims of the two interior location lines. State the recommendations you would make on how to best address the gores you have identified. Indicate your reasoning in each of the two situations, and describe the actions you would recommend taking. 6
 - c. In anticipation of favourable exploration results and the future requirement for a full legal survey of some or all of the claim block, you place CLS 77 monuments at each legal post location. Describe the marks you would place on a typical monument. 3
 - d. You decide to make a survey connection by Geodimeter measurement to three nearby geodetic stations in order to position the survey. Identify two other types of position determination which would have been acceptable for eventual use in a full legal survey. 2
 - e. Your client is interested in placing on official record the results of your survey, including the remedial actions you have taken with respect to the gores. What form of survey returns would you prepare for submission? 2
4. A city block in downtown Whitehorse, Yukon lies within the Whitehorse Coordinated Survey Area. There is a pair of Coordinated Control Monuments (CCMs) one block west of the northwest corner of the block and another pair of CCMs one block east of the southeast corner of the block. As a Canada Lands Surveyor, you have been retained to consolidate the twenty vacant lots and Lane in the block

into a single parcel of land. You are able to survey the exterior boundaries of the block directly and monument its four exterior corners.

- a. Draw a sketch of the block and the CCMs, assuming any reasonable scale and configuration. 4
- b. Describe the process you would use to field-coordinate your survey, and the process for coordinate adjustment for the official plan and field notes you will be filing. 6
- c. Describe the types of monuments and ancillary monumentation you would place, anticipating that a multi-storey building will be constructed on the site which could be built to one or more of the exterior boundaries of the block. 4
- d. After your plan and field notes have been approved and filed in the Land Titles Office, your client engages you to create a plan of easement for a future buried electrical cable which will require the most westerly 8.0 metres of the block. The building has been designed to accommodate the cable within the open outdoor plaza at the west end of the block.
Compile an explanatory plan of the easement, suitable for registration, assuming any necessary information. 10

5. The official plan of survey of Lot 5, Group 852, at Fox Lake, Yukon Territory, Plan 34566 CLSR, 28776 LTO shows an approximately square 3.0 acre parcel fronting on Fox Lake. The 1928 survey adopted the ordinary high water mark (OHWM) of Fox Lake as the west boundary of the parcel, and placed a line monument 20 feet landward of the OHWM on each of the intersecting side boundaries. The red or heavy outline on the plan is drawn along the three rectilinear boundaries and the OHWM.

As a Canada Lands Surveyor, you are engaged to make a subdivision survey of the parcel, creating three rectangular lots of roughly equal size. Approval has been obtained from the appropriate authority for the subdivision. In retracing the exterior boundaries of Lot 5, you find all four original monuments in undisturbed condition, but note that the line monuments on the side boundaries are now only 4 feet from the OHWM. The owner, whose family has resided on the lot since it was granted in 1929, informs you that westerly winds have created wave action over the years which has slowly eroded the original OHWM.

- a. Draw a sketch to some appropriate scale showing the configuration of the three new parcels you will create by your survey. Show the monuments you will place by solid dark circles. 6
 - b. Explain your reasoning for your configuration of the westernmost boundaries of the three new parcels. 4
 - c. Identify the official with responsibility for approval of the sketch plan of proposed subdivision. 2
 - d. Under what legislation would the original grant from the Crown have been made? 2
 - e. Under what legislation will your subdivision survey be made? 2
6. Complete the following sentences.
 - a. Under the Canada Oil and Gas Land Regulations, every grid area is referred to by the latitude and longitude of the _____ . 2
 - b. The complete Canada Oil and Gas Land Regulations designation for the unit immediately north of Unit N, Section 21, Grid Area 69°20', Longitude 133°30', Yukon Territory is _____ . 2
 - c. In a survey of territorial lands pursuant to the *Canada Lands Surveys Act*, the _____ of survey must be signed by the Canada Lands Surveyor. 2
 - d. The maximum allowable angular misclosure for a square parcel whose four corners are intervisible is _____ . 2
 - e. The maximum allowable linear misclosure in a survey of the square parcel described in d., having sides 100 metres long, is _____ . 4
 - f. The largest claim that may be located by a licensee pursuant to the Canada Mining Regulations is _____ acres in size. 2

Total Marks 100