

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

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

**Examination Results for Candidate No.:**

**March 2005**  
**(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 e-Edition of the Manual of Instructions on which this examination is based, the present three statutes of Canada appearing in Edition 3 of 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 5 questions on 4 pages

**Marks**

**Q. No**

**Time: 3 hours**

**Value Earned**

1	Provide <u>only</u> the numerical value requested for each of the following statements		
	(a) the maximum number of acres which may be granted by the Minister under the <i>Yukon Quartz Mining Act</i> .	2	
	(b) the number of legal posts required to locate a single unit mineral claim in the Northwest Territories.	2	
	(c) the preferred number of bearing trees to be established to reference a monument placed in a location which is forested	2	
	(d) the number of Sections in Grid Area 80°00', 124°00' in accordance with the Canada Oil and Gas Land Regulations.	2	
	(e) the number of Units in Section 21, Grid Area 75°10', 135°00' in accordance with the Canada Oil and Gas Land Regulations.	2	
	(f) the plotting accuracy, in millimetres, for natural boundaries shown on an official plan.	2	
	(g) the number of geometric elements of a tangential circular curve boundary on official field notes.	2	
	(h) the width, in degrees of longitude, of a Universal Transverse Mercator Zone.2	2	
	(i) the minimum number of angles contained in a control traverse between lines of bearing control where a bearing misclosure of 0°01'40" is acceptable.	2	
	(j) the number of days which a locator of a creek claim pursuant to the <i>Yukon Placer Mining Act</i> has to make application for his claim if it is located 94 miles from the office of the mining recorder for the district in which the claim is situated.	2	
	(k) the number of legal posts required to be established for a full size mineral claim pursuant to the <i>Yukon Quartz Mining Act</i> where its location line would cross a navigable lake 1,300 feet in width on that alignment.	2	
	(l) the maximum width, in metres, of a new line which may be cleared through timber by a permittee under the Territorial Land Use Regulations, unless expressly authorized otherwise in the permit.	2	
	(m) the number of adjoining claims which may be grouped together in a grouping certificate for the performance of work by the owner(s) pursuant to the <i>Yukon Placer Mining Act</i> .	2	
	(n) the maximum distance interval, in metres, between monuments being established on a straight line boundary in the conduct of an official survey.	2	

	(o) the minimum width, expressed in inches, of each squared face of a legal post made from a standing tree for a mineral claim located pursuant to the <i>Canada Mining Regulations</i> .	2	
	(p) the accuracy, expressed in metres, to which the elevation of the ground floor of a two-storey condominium building in Yellowknife, Northwest Territories must be shown with respect to mean sea level datum on a condominium plan prepared in accordance with the <i>Manual of Instructions</i> .	2	
	(q) the limit of the territorial sea, expressed in nautical miles, measured seaward from the baselines established under the <i>Territorial Sea and Fishing Zones Act</i> .	2	
2	Give the full name of the federal department or ministry of the federal minister required to act or having jurisdiction in each of the following.		
	(a) publishing in the <i>Canada Gazette</i> a copy of a regulation that the Governor in Council proposes to make prescribing a date beyond which the use of a particular unit of measurement is not approved.	2	
	(b) the administration, management and control of National Parks.	2	
	(c) sending to the registrar of land titles for the Yukon land registration district a copy of a plan of special survey of territorial lands, confirmed by the Surveyor General, along with other documentation.	2	
	(d) management or sale of absolutely surrendered lands as prescribed in the <i>Indian Act</i> .	2	
	(e) request of a special survey of territorial lands in a remote part of the Northwest Territories.	2	
	(f) requesting the Attorney General of Canada to register a notice of intention to expropriate an interest in land required by the Crown for a public purpose.	2	
	(g) sharing responsibility with the Governor in Council for giving instructions to the Commissioner of the Northwest Territories from time to time for his or her administration of the Territories.	2	

3	<p>After a number of years of basic prospecting in a particular valley in the Mayo mining district of the Yukon Territory, Arvin Spray identifies a very local and high grade lode gold deposit having a vein structure extending in a north-south direction. He locates four mineral claims of the full size to cover the anomaly "throwing" a claim each side of two location lines intended to be co-linear in a true north direction. He makes every attempt to comply with the provisions of the <i>Yukon Quartz Mining Act</i>, makes application for grants of the claims to the Mayo mining recorder and three weeks later receives the grants and tags for the four claims. He affixes the tags to the legal posts the following day.</p> <p>Unbeknownst to Spray, Global Metals Inc., an Alberta corporation, has been conducting a regional geological and geophysical precious metals exploration program by both airborne and non-intrusive ground methods during the time leading up to Spray's staking. It independently identifies the same geological anomaly and proceeds on the same day as Spray locates to blanket-stake the area with 64 mineral claims, using four parallel east-west location lines, each one being eight claims long, and having claims "thrown" both left and right (north and south) of the lines along which staking is done in an easterly direction. Global checked the appropriate claim sheet on the morning of the day on which it located the 64 claims and found no evidence of existing or former mineral claims within twenty five miles of the area which it intended to cover with claims. The company's four employees who staked the four location lines were not expecting to encounter any signs of staking in the area, and did not notice signs of Spray's blazed location lines when they crossed them in the sparse timber through the area.</p> <p>Global's employees visit the mining recorder's office several days following the issuance of Spray's grants and make application for their eight claims each, only to discover the new presence of Spray's four claims which they had missed in the field. The mining recorder accepts their applications, and dispatches a claims inspector to examine the staking, receiving a report back that all parties appear to have complied with the provisions of the <i>Act</i> with respect to their staking.</p> <p>Given the usual locational imprecision of staking, the mining recorder issues 16 grants to each of the four locators, noting that they are subject to the prior claims staked by Spray, and suggesting that the overlap be resolved by one or more official surveys. The four employees execute and file documents transferring 100% of each of their claims to their employer Global.</p> <p>Global contacts Spray and offers him \$1 million for a full interest in his four claims. Sensing that he has indeed struck it rich, Spray refuses the offer and approaches a number of major mining companies attempting to obtain a higher price and a net smelter return interest from any production which might occur from his claims. In the meantime, Global's exploration manager visits the site, takes GPS</p>							
	<p>measurements and concludes that both of Spray's location lines are about 1,630 feet long leaving a gore of open ground between the two pairs of claims. His measurements also indicate that there is a 25° easterly deflection of the northerly location line from the direction of the southerly one. Global approaches Spray with its findings, and suggests that as there is now found to be an open gore in his four claims, they are of less value and makes a second offer of \$100,000 to purchase his full interest.</p> <p>Spray engages a Canada Lands Surveyor to make a full legal survey of his MARIE 1 to 4 claims. The CLS determines the following information with respect to his two location lines:</p> <table border="0" data-bbox="511 1476 1230 1539"> <tr> <td>Location line MARIE 1 &amp; 2</td> <td>10°21'00"</td> <td>1,631.20 feet</td> </tr> <tr> <td>Location line MARIE 3 &amp; 4</td> <td>36°54'55"</td> <td>1,628.50 feet</td> </tr> </table> <p>He also determines that the "wedge" opened up between the adjacent end boundaries of the MARIE 1 &amp; 3 is covered by two of Global's claims, G25 and G26. Lots 1026 to 1029, Quad 116 B/6 have been issued by the Regional Surveyor for the survey.</p>	Location line MARIE 1 & 2	10°21'00"	1,631.20 feet	Location line MARIE 3 & 4	36°54'55"	1,628.50 feet	
Location line MARIE 1 & 2	10°21'00"	1,631.20 feet						
Location line MARIE 3 & 4	36°54'55"	1,628.50 feet						
	(a) Draw to an appropriate scale a neatly labeled sketch showing the configuration of the two groups of mineral claims, supplementing the information provided with any assumed information necessary. Do <u>not</u> dimension the sketch.	4						
	(b) Draw to an appropriate scale a larger scale sketch showing only the MARIE claims and their overlap with the G25 and G26 claims, again making any necessary assumptions to supplement the information given. Dimension the rectilinear boundaries of the MARIE claims. Do <u>not</u> calculate any non-rectilinear boundaries. [For plotting purposes $\tan 26^\circ 33' 55'' = 0.500$ ].	6						
	(c) On the sketch plotted in (b), indicate by solid dark circles where the CLS would place CLS77 monuments.	2						

	(d) Indicate by a solid colored line the outline of the area you will survey for the MARIE claims	3	
	(e) Give your reasoning and legal basis for your treatment of the gore of open ground inadvertently created by Spray's staking.	3	
	(f) Describe what survey returns you would submit to the Yukon Regional Surveyor's office for examination.	2	
	(g) Based on the information given, what type of ancillary monumentation should the CLS have used for the monuments placed in the survey?	2	
4	Indicate whether each of the following statements is TRUE or FALSE.		
	(a) A confirmed plan of survey becomes binding at the moment it is filed and registered in the NWT land titles office.	2	
	(b) Amendment or alteration of a plan of survey registered in the NWT land titles office may be made by the Surveyor General upon first giving 60 days written notice to the registrar.	2	
	(c) The Surveyor General has the authority to issue survey instructions to represent a height of land section of the Yukon - NWT boundary, as described in a Schedule to the <i>Yukon Act</i> , by a series of monumented straight lines closely approximating the height of land.	2	
	(d) A bearing for a survey of a remote recreational cabin lease in the Yukon Territory may be derived from Global Positioning System observations.	2	
	(e) Lands in a reserve may be sold by the Crown if they have first been transferred to the Minister of Indian Affairs and Northern Development by the band for whose use and benefit they were set apart.	2	
	(f) The Minister of Indian Affairs and Northern Development is also the superintendent general of Indian affairs.	2	
	(g) National Park Reserves are set aside for National Parks pending the completion of public consultation and the development of a park management plan.	2	
	(h) The Surveyor General of Canada is the International Boundary Commissioner for Canada.	2	
	(i) An explanatory plan of a utility easement on private land in the Northwest Territories can show the restoration of a disturbed official CLS monument for the affected parcel provided the resulting measurements to other official monuments of that parcel agree exactly with the official plan which resulted from their original placement.	2	

5	An original unsubdivided city block in the downtown Whitehorse townsite, Yukon Territory, is Canada lands under the administration of the Department of Public Works and Government Services Canada which is preparing tender documents for the construction of a new federal building on the site. The City has requested the dedication of a 10 foot wide strip along the length of one side of the block for additional on-street parking. PWGSC agrees and engages a CLS to make a resurvey of the parcel reflecting the 10 foot Road dedication.		
	(a) Draw a neat sketch showing only the body of the combined plan and field notes the CLS would prepare for the survey. Assume any necessary dimensions or information to complete the body to the level of detail required for survey returns.	5	
	(b) A pair of Coordinate Control Monuments for the Whitehorse Coordinated Survey Area lies to the northwest of the block, and a second pair lies to the southeast of the block. Describe the procedure you would use for determining the UTM coordinates for the four principal corners of the resurveyed block which will be tabulated on the plan and field notes. Use a schematic if necessary.	4	
	(c) Describe the monumentation you would establish as part of the survey, bearing in mind that the site will be heavily excavated for below ground parking.	3	
	<b>Total Marks</b>	<b>100</b>	