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Oil and Gas Commission

IMPORTANT INFORMATION

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Oil and Gas Activities Act

Geophysical Exploration Regulation

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Interpretation

1 In this regulation, unless the context otherwise requires:

"Act" means the *Oil and Gas Activities Act*;

"artificial water hole" means an artificial opening in the ground made for the purpose of

- (a) exploring for, or extracting and using, ground water,
- (b) testing or measuring ground water,
- (c) recharging or dewatering an aquifer,
- (d) ground water remediation, or
- (e) use as a monitoring well;

"cutline" means a cutline made by hand or machine in the course of geophysical exploration;

"date of commencement" means, in relation to a project, the date on which the geophysical permit holder

- (a) disturbs the ground or vegetation to establish access, the shot points or the receiver points to be used in a cutline, or
- (b) mobilizes personnel or equipment on the project site,

whichever happens first;

"date of completion" means, in relation to a project, the date on which

(a) the acquisition of geophysical data is completed, or

(b) the permit for the project expires,

whichever happens first;

"developed spring" means a local groundwater discharge that, as a result of human intervention, is usable for long-term domestic or non-domestic purposes;

"geophysical permit" means a permit that includes permission to carry out geophysical exploration;

"geophysical permit holder" means a permit holder of a geophysical permit;

"misfired charge" means explosive material that fails, on initiation, to completely detonate or to function in accordance with the manufacturer's specifications;

"monitoring well" means a well that

(a) is used or intended to be used for the purpose of ongoing monitoring, observing, testing, measuring or assessing

(i) the level, quantity or quality of ground water, or

(ii) subsurface conditions, including geophysical conditions, and

(b) is not used or intended to be used for the purpose of

(i) exploring for or extracting ground water for use, or

(ii) injecting water or any other substance into ground water on an ongoing basis;

"monument" means

(a) any coordinate control monument or original monument, as defined in section 11 of the *Land Survey Act*, or

(b) any geodetic control monument, as defined in the Association of British Columbia Land Surveyors' General Survey Instruction Rules, as amended from time to time,

together with any ancillary reference mark such as an azimuth bar, bearing tree, cairn, mound, pit, trench, tripod or tower, which has been established to mark the boundary of a parcel of land, right of way, well, triangulation station or boundary of British Columbia;

"project" means a program of geophysical exploration for which a geophysical permit has been issued under the Act;

"project number" means the number assigned to each project by the commission for identification purposes;

"residence" means a structure used as a permanent or temporary dwelling, and includes a cabin but does not include a tent or other mobile structures;

"shot hole" means a hole drilled for the purpose of inserting an explosive charge to be used as an energy source in geophysical operations;

"shot point" means the location of the energy source used in geophysical operations.

Reports

2 (1) A geophysical permit holder must submit a geophysical project report

(a) at weekly intervals on each Monday following the date of commencement while the project is in progress, and

(b) on the date of completion.

(2) A geophysical project report must include all of the following information:

(a) contact information for the project field manager;

(b) the current location of the headquarters of the crew conducting operations;

(c) details of the progress of the project, including details with respect to access and cutline construction operations, drilling operations and data-acquisition operations;

(d) the date of an intended shutdown and the date operations will resume, if the shutdown is to be for a duration longer than 5 days;

(e) if the project involves the drilling of holes, the location of any holes that released any gas or water and a description of the actions taken to stop the release and remedy any damage caused by the release;

(f) if the project involves the use of explosive charges, the location of any misfired charges and a description of action taken to deal with the misfire in accordance with section 7.

(3) An official may grant to a geophysical permit holder a written exemption from all or part of subsection (2) if the official is satisfied the project does not involve

(a) the drilling of holes and the use of explosive charges, or

(b) the construction of new access or new cutlines.

(4) A geophysical permit holder must file a final plan with the commission within 60 days after the date of completion.

(5) An official may grant to a geophysical permit holder a written exemption from subsection (4) if the official is satisfied that the project does not involve

(a) the drilling of holes and the use of explosive charges, or

(b) the construction of new access or new cutlines.

(6) The final plan must include all of the following:

(a) a base map that has a scale of 1:50 000, clearly identifies the survey system as the National Topographic Series or Township and Range and shows all of the following information:

(i) the location of roads, trails and cutlines that were used to gain access;

(ii) the location of existing cutlines that were used to acquire data;

(iii) the location of new cutlines that were cut to acquire data;

(iv) the location of detours constructed for exploration equipment, and the length and width of the detours, in metres;

(v) the location and size of campsites, helipads and landing strips constructed or used;

(vi) the location of stream crossings;

(vii) the location of each misfired charge and each hole that flowed gas or water;

(viii) the total length in kilometres of all existing cutlines that were used to acquire data;

(ix) the total length in kilometres and width in metres of all new cutlines that were cut to acquire data;

(x) the total length in kilometres and width in metres of all new cutlines that were cut to gain access;

(b) a final plan cover sheet.

(7) If an official considers it appropriate in the circumstances, the official may grant to a geophysical permit holder a

written exemption from one or more of subparagraphs (i) to (x) of subsection (6) (a).

(8) If the project involves the drilling of shot holes, the permit holder must maintain a map showing the location and identifying number of each shot hole and, when requested by an official, submit the map to the commission.

Survey monuments

3 (1) A geophysical permit holder must not deface, alter, disturb or damage a monument.

(2) A geophysical permit holder who has destroyed, moved or damaged a monument must

(a) immediately make a full report to the Surveyor General,

(b) ensure that the monument is restored by a British Columbia Land Surveyor, and

(c) bear the full costs of the restoration.

Geophysical exploration near pipeline, utility, residence, etc.

4 (1) Subject to subsections (2) and (3), if a geophysical permit holder conducts geophysical exploration in the vicinity of any gas, oil or water pipeline or well, electric cable, transmission line, utility, residence or other improvement, the geophysical permit holder must not damage or interrupt the use of the pipeline, well, electric cable, transmission line, utility, residence or other improvement.

(2) Subject to subsection (3), the use of an explosive or non-explosive energy source to carry out geophysical exploration in relation to a structure described in column 1 of Schedule 1 must not be conducted at a distance less than the minimum distance shown in column 2 or 3.

(3) An explosive or non-explosive energy source may be used to carry out geophysical exploration in relation to a structure described in column 1 of Schedule 2 at a distance not less than the minimum distance shown in column 2 or 3 if the geophysical permit holder has the prior written consent of the owner of the structure.

Hole plugging

5 (1) Immediately after drilling a shot hole, a geophysical permit holder must plug the shot hole as follows:

(a) the drill cuttings or other material from the hole must be returned to fill the hole;

(b) a plug of a diameter not less than that of the hole must be placed into the hole to a depth of not less than one meter below the surface;

(c) the section above the plug must be filled with a suitable material and firmly tamped to effect a permanent seal;

(d) any surplus soil or other material removed in the drilling of any hole must be spread so as to avoid interference with drainage, and ground contours must be restored as nearly as possible to their original condition.

(2) Despite subsection (1), a geophysical permit holder may use a temporary plug for a hole that has been drilled but into which an explosive has not been placed if the temporary plug prevents the flow of water or gas to the surface and prevents the hole from becoming a hazard to animals or people.

Marking shot holes

6 (1) If practicable, a geophysical permit holder, before or immediately after drilling a shot hole, must mark the shot hole with a metal tag that is

(a) of a minimum size of 5 centimetres by 7 centimetres,

(b) inscribed with the project number, outline number and shot point number in such a manner that the information does not become illegible or obliterated, and

(c) affixed to a post or tree and not more than 10 metres from the shot hole or shot point, and, if the shot hole or shot point

is on a road allowance or highway right of way, the tag must be on the same side of the road allowance or highway.

- (2) A geophysical permit holder must not use a nail to affix, for the purposes of subsection (1) (c), a metal tag to a tree.
- (3) If an official considers it appropriate in the circumstances, the official may grant to a geophysical permit holder a written exemption from subsection (1).

Misfired charges

- 7 (1) If an explosive charge fails to detonate, a geophysical permit holder must immediately
- (a) detonate the explosive charge by another charge, or
 - (b) bury the charge and any wires remaining attached to the charge in the hole, fill the hole with earth and plug it in accordance with section 5 (1).
- (2) A geophysical permit holder must take all necessary actions to ensure that a charge that failed to detonate does not present a hazard to persons or property.

Flow of gas or water

- 8 If gas or water is released and flows to the surface during or after the drilling of a hole by a geophysical permit holder in an area, the geophysical permit holder must do all of the following:
- (a) immediately discontinue drilling;
 - (b) plug the hole in a manner that confines the gas or water to the originating stratum or aquifer and does not hinder future use of the surface for agriculture or other purposes;
 - (c) advise the land owner of the area
 - (i) of the location of the holes, and
 - (ii) of the actions taken to stop the release and to remedy any damage caused by the release.

Refuse removal

9 A geophysical permit holder, on completion of a project, must remove survey flagging, pin flags, any other temporary survey marker and all refuse resulting from the conduct of geophysical exploration.

Campsite cleanup and restoration

- 10 On completion of a project, a geophysical permit holder must do all of the following with respect to a campsite permitted by the project's permit:
- (a) in a manner that will not have an adverse effect on the environment,
 - (i) dispose of all refuse, liquid wastes and garbage, and
 - (ii) burn or otherwise dispose of all slash resulting from campsite construction;
 - (b) level and restore the campsite as nearly as possible to the conditions that prevailed when operations were commenced.

Repair of damage

- 11 If a geophysical permit holder's project causes damage to any land or property, the geophysical permit holder must
- (a) take immediate steps to prevent further damage, and
 - (b) repair the damage as soon as possible.

Obligations on cancellation or cessation of operations

12 The requirements set out in section 19 (1) (a) to (g) of the Environmental Protection and Management Regulation are prescribed with respect to a geophysical permit for the purposes of section 40 (e) of the Act.

Schedules

Schedule 1

Minimum Buffer Distances

[section 4 (2)]

1	2	3	
Structure	Non-explosive energy source (metres)	Explosive energy source	
		Charge weight (kg)	Distance (metres)
Building or structure with a concrete base, residence, barn, concrete irrigation structure, concrete lined irrigation canal and concrete water pipeline	50	all	180
Artificial water hole, developed spring or piezometer	100 (Vibroiseis) 50 (other than vibroseis)	all	180
Driveway, gateway or buried water pipeline (other than a concrete-lined pipeline)	5	all	10
Buried telephone or telecommunication line	2	all	2
Survey monument	2	all	2
Petroleum or natural gas pipeline (measured from the centre line of the pipeline) and a petroleum or natural gas well	15	> 0 ≤ 2 > 2 ≤ 4 >4 ≤6 >6 ≤8 >8 ≤10 >10 ≤20 >20 ≤40 >40 ≤100	32 45 55 64 72 101 143 226

Piping used to transmit, at less than 700 kPa, natural gas to consumers by a gas utility as defined in the <i>Gas Utility Act</i>	3	all	3
Dugout or other earthen excavation designed to collect runoff and store water for later use, measured from the inside edge of the high water mark	25	all	50
Irrigation canal (other than a concrete-lined canal)	10	all	10
Dam having a storage reservoir capacity of 30 000 cubic meters or more and that is 2.5 meters high or more when measured to the top of the barrier	50	all	180
Cemetery, measured to its surveyed boundary	50	all	100
Domestic septic tank below ground or septic storage device above ground	15	all	15

Schedule 2

Reduced Buffer Distances

[section 4 (3)]

1 Structure	2 Non- explosive energy source (metres)	3 Explosive energy source	
		Charge weight (kg)	Distance (metres)
Residence, barn, building or structure with a concrete base, concrete irrigation structure, concrete lined irrigation canal, concrete water pipeline, artificial water hole, developed spring or piezometer	50	>0 ≤2	64
		>2 ≤4	90
		>4 ≤6	110
		>6 ≤8	128
		>8 ≤10	142
		>10 ≤12	156

Note: this regulation replaces B.C. Reg. 361/98 made under the Petroleum and Natural Gas Act.

[Provisions relevant to the enactment of this regulation: *Oil and Gas Activities Act*, S.B.C. 2008, c. 36, sections 111 and 112]

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