

Secteur Énergie
Direction générale des hydrocarbures et des biocarburants

DEMANDE DES COMMISSAIRES DU BAPE

Tableau comparatif des règlements de l'Alberta, de la Colombie-Britannique et du Québec

Question soulevée le 6 octobre 2010 en soirée

Voici l'état d'avancement du document de travail de la Direction générale des hydrocarbures et des biocarburants concernant le comparatif réglementaire entre l'Alberta, la Colombie-Britannique et le Québec. Cette démarche est évolutive et des changements peuvent être apportés au document en tout temps par la DGHB durant l'étape de compilation.

Oil and Gas Conservation Règlement Alberta	Drilling and production Règlement B.-C.	Québec
<i>Partie 4 Drilling Spacing Units and Target Areas</i>	<i>Part 2 — Well Position, Spacing and Target Areas</i>	<i>position du puits</i>
2.110(1) No well shall be drilled at any point that is within (a) 100 metres of any surface improvement other than a surveyed roadway or road allowance, or (b) 40 metres of a surveyed roadway or road allowance unless there exist special circumstances which in the opinion of the Board justify the drilling of a well within a lesser distance	Position of wells 5 (1) A well must not be drilled within 80 m of (a) the right of way or easement of any road allowance or public utility, (b) a permanent building, installation or works, (c) a place of public concourse, or (d) a reservation for national defence, except only where special circumstances exist that, in the opinion of an authorized commission employee, justify the granting of written permission to drill a well at a specified position. (2) Repealed. [B.C. Reg. 390/2004, s. 4 (a).] (3) The holder of a well authorization must not drill a well within 100 m of the normal high water mark of a body of water or 200 m from a water well without the written approval of an authorized commission employee. (4) If a well or facility is (a) closer than 100 m to the normal high water mark of a body of water, or (b) 100 m or more from the normal high water mark of a body of water, but situated so that, given the topography or other relevant factors, an authorized commission	22 Le titulaire de permis de forage de puits ne peut forer un puits: 1° à moins de 100 m d'un chemin public au sens du Code de la sécurité routière (L.R.Q., c. C-24.2), d'un chemin de fer, d'un pipeline, d'une ligne électrique à haute tension de plus de 69 000 volts, de toute habitation ou édifice public; toutefois, pour les fins d'un réservoir souterrain artificiel ou d'un forage dont la profondeur n'excède pas 15 m sous la couche de sédiments non consolidés, la distance peut varier de 50 à 100 m; 2° à moins de 100 m des limites de la superficie de terrain visé par le permis de recherche ou le bail d'exploitation sur lequel s'effectue le forage d'un puits sauf s'il est détenteur d'un permis de recherche valide sur le terrain adjacent au terrain visé par le permis ou à moins de 400 m lorsque le puits est situé en territoire submergé; 3° sur terre, à moins de 100 m de la ligne des hautes eaux toutefois, pour les fins d'un réservoir souterrain artificiel ou d'un forage dont la profondeur n'excède pas

	<p>employee considers that it is likely that an uncontrolled flow of oil, gas, brine or another fluid may reach the water, the operator must do both of the following:</p> <p>(c) install equipment in the well to prevent the escape of fluids from the well;</p> <p>(d) construct surface facilities to contain escaping fluids</p>	<p>15 m sous la couche de sédiments non consolidés, la distance peut varier de 50 à 100 m;</p> <p>4° en territoire submergé, à moins de 1 000 m de la ligne des hautes eaux en milieu marin ou à moins de 400 m de la ligne des hautes eaux dans le fleuve Saint-Laurent;</p> <p>5° à moins de 1 000 m d'un aéroport;</p>
<p>2.090 A person proposing to drill a well within 5 kilometres of a lighted aerodrome, or within 1.6 kilometres of an unlighted aerodrome shall, before applying for a well licence, advise the Regional Manager, Air Navigation Requirements, Transport Canada, Edmonton, Alberta, of the proposed well site, the height of the derrick to be used and the approximate dates between which drilling operations are expected to take place</p>	<p>Drilling near mine workings and underground storage</p> <p>6 A well to be drilled within 3 km of any subsurface mine workings or underground storage facilities must not be commenced except with the approval of the commissioner or deputy commissioner and, if applicable, the Chief Inspector of Mines.</p>	<p>6° au sein de l'aire d'alimentation d'une installation de captage d'eau souterraine établie conformément à l'article 25 du Règlement sur le captage des eaux souterraines (D. 696-2002, 02-06-12) édicté en vertu de la Loi sur la qualité de l'environnement (L.R.Q., c. Q-2) et alimentant en eau potable un système d'aqueduc exploité par une municipalité;</p>
	<p>Position of test holes</p> <p>7 (1) A test hole must not be drilled within</p> <p>(a) 10 m of a survey monument,</p> <p>(b) 20 m of a driveway or gateway,</p> <p>(c) 80 m of a residence, school, church or other public building, or</p> <p>(d) 200 m of a water well.</p> <p>(2) If a test hole is drilled in the vicinity of any gas, oil or water pipeline, electric cable, transmission line or utility, every reasonable precaution must be taken to ensure that the pipeline, electric cable or transmission line or utility is</p>	<p>6.1° à moins de 200 m d'une <i>résidence ou d'une</i> installation de captage d'eau souterraine alimentant en eau potable un établissement d'enseignement, un établissement de santé et de services sociaux, un système d'aqueduc exploité par une municipalité ou un système d'aqueduc privé desservant en majorité des résidences privées;</p> <p>7° à moins de 1 600 m de tout réservoir souterrain existant à l'égard duquel il ne détient aucun droit.</p>

	not damaged or its use interrupted.	
Part 6 Drilling, Completing and Servicing	Part 4 — Well Operations	
6,010 Posting of Licence and Signs	Protection from hazards	
(1) During drilling operations, the licensee shall post and keep prominently displayed at the well site a duplicate of the licence for the well, together with a duplicate of any amendment thereof. (5) A licensee or operator shall maintain a sign that is erected pursuant to subsection (3) in a manner that is satisfactory to the Board.(6) An operator who operates more than one facility at one location may erect one sign to identify all of the facilities at that location.(7) A licensee who drills more than one well from one surface location shall identify the bottom hole location of each well on a sign affixed to the wellhead.(8) The licensee of a well or the operator of a facility shall post one of the following categories of warning symbol:(a) Category I: Flammable (gas or liquid); Class 3;(b) Category II: Poison Gas; Class 2.	33 (1) Until title to the petroleum and natural gas rights has been relinquished, or unless otherwise approved by an authorized commission employee, a permanently legible and conspicuous sign must be displayed and maintained at each drilling, producing, potential and abandoned well showing(a) the name of the licensee or operator,(b) the name and legal description of the site,(c) an appropriate warning symbol from Schedule 4 of this regulation, and(d) any other information specified by an authorized commission employee.(2) If a well may produce gas containing 0.1 moles per kilomole or greater of hydrogen sulphide, a poisonous gas symbol from Schedule 4 must be displayed.(3) No licensee or operator may post warning symbols where no hazard exists.	
Notification of Commencement of Drilling	Notification of commencement of drilling	
	19 The commission must be notified within 24 hours of the commencement of the drilling of a well.	
Deviation and Directional Surveys		Relevés de déviation
6.030(1) Unless the Board otherwise directs in writing, the licensee of a well shall make or cause to be made during drilling, tests, at depth intervals not exceeding 150 metres, for the purpose of ascertaining to what extent the well deviates from the vertical. (3) The licensee shall, immediately upon the making of a directional survey, send to the Board the report of the survey. (4) The Board may order the licensee to make such further		35. Le titulaire de permis de forage de puits doit, lors du forage d'un puits, effectuer des relevés de déviation du puits à des intervalles n'excédant pas 150 m. 36. Le titulaire de permis de forage de puits doit, durant et après le forage d'un puits, effectuer des relevés de déviation directionnels lorsque le puits atteint une déviation dans l'inclinaison ou l'orientation de plus de 10 degrés des prévisions du programme de forage exigé selon l'article 15.

<p>deviation or directional surveys as it deems necessary, and may give directions as to the manner in which such tests or surveys shall be made.</p>		
<p>Removal of Rig</p>		<p>Arrêt des travaux</p>
<p>6.040(1) The licensee shall not remove or cause or permit to be removed the rig, derrick or other equipment from a well without first obtaining written approval of the Board, unless he has (a) completed the well in accordance with the licence, or (b) suspended operations or abandoned the well in accordance with the approval of the Board pursuant to section 3.010. (2) The Board may first give orally an approval required by this section</p>		<p>44. Lors de l'arrêt temporaire ou définitif du forage, le titulaire de permis de forage de puits doit respecter les conditions de fermeture d'un puits prévues à la section IV.</p>
<p>Control of Fluids Encountered</p>	<p>Sealing off oil, gas or water</p>	<p>scellement des formations</p>
<p>6.050 The licensee of a well and the operator of equipment at a well shall, at all times during which the well is being drilled, tested, completed or reconditioned,(a) conduct operations, and(b) maintain casing and control equipment, so that any oil, gas or water encountered shall be effectively controlled.</p>	<p>40 (1) A well must not be drilled beyond any oil, gas or water stratum until the oil, gas or water in such stratum is controlled by drilling fluid, casing or cement unless approval has been obtained from an authorized commission employee.(2) If it appears to an authorized commission employee that a shut off of oil, gas or water in a well is not effective, he or she may order that tests be made and remedial measures taken.</p>	<p>24. Le titulaire de permis de forage de puits doit, lors des travaux de forage, s'assurer que les tubages et la cimentation de ceux-ci:1° isolent tous les horizons géologiques rencontrés contenant de l'eau, de l'huile ou du gaz; 2° préviennent la migration d'huile, de gaz ou d'eau d'un horizon géologique à un autre; 3° supportent les contraintes d'éclatement, d'écrasement, de tension et toutes autres contraintes physiques auxquelles ils peuvent être soumis.</p>
<p>Casing and Equipment at a Well</p>	<p>Tools, casing, equipment and materials</p>	<p>Outils, coffrages et équipements</p>

<p>6.060 The licensee shall comply with the specifications stipulated in the licence for a well and with such further equipment specifications as the Board, after consultation with the licensee, may from time to time stipulate.</p>	<p>34 (2) If it appears to an authorized commission employee that any tools, casing, equipment and materials used in the drilling or production of a well are inadequate, defective or hazardous, an authorized commission employee may require the replacement or reconditioning of the equipment, casing or tubing and may order orally, confirmed by a signed note on the daily report, that operations be discontinued in whole or in part until the required action is taken. (3) Unless exempted under section 2.1, the operator of a well must ensure that all production from or injection into the well is through tubing. (4) Prior to any injection of a fluid to a subsurface formation through tubing in a well, and unless otherwise approved by an authorized commission employee, the operator must (a) set a production packer in the well as near as is practical above the injection interval, (b) ensure the space between tubing and the outer steel casing is filled with a corrosion inhibiting fluid, and (c) obtain approval from an authorized commission employee for maximum wellhead injection pressure limitations.</p>	<p>23. Le titulaire de permis de forage de puits doit utiliser, pour le forage d'un puits, des tubages, tête de puits, système anti-éruption et autres équipements <i>adéquats pour résister aux pressions prévues au programme de forage exigé selon l'article 15.</i></p>
<p><i>surface caissing</i></p>	<p><i>Casing requirements</i></p>	<p><i>coffrage de surface</i></p>

<p>6.070 The licensee of a well shall case it in such manner as may be prescribed or approved by the Board, unless the Board in a particular circumstance is satisfied that casing is not required.</p> <p>(2) Surface casing shall be set for all wells in accordance with Directive 8 "Surface Casing Depth - Minimum Requirements" published by the Board.</p> <p>(3) Where surface casing is required to be set at a depth greater than 450 metres or where, in the opinion of the Board, hydrocarbon bearing formations may be encountered above the required surface casing setting depth, the licensee shall ensure that conductor pipe is first set at a depth not less than 20 metres and install thereon a diverter system as set out in Schedule 8, Class I of these Regulations</p> <p>(4) Where the required surface casing setting depth is less than (a) 180 metres, or (b) 25 metres below any aquifer which is a source of useable water the casing string next to the surface casing shall be cemented full length</p> <p>(5) Notwithstanding any other provision hereof, for any specific well or area, the Board may prescribe and require the licensee of the well to ensure that surface casing is installed at such greater or lesser depth as it considers appropriate in the circumstances.</p>	<p>35 (1) Unless exempted under section 2.1, and subject to subsection (2), the operator of a well must ensure that surface casing for a well conforms to the following requirements:</p> <p>(a) surface casing program design and setting depth must be based on relevant engineering and geologic factors;</p> <p>(b) surface casing must be set below the base of all strata known or reasonably expected to serve as a source of drinking water;</p> <p>(c) surface casing must be set at least 25 m into a competent formation in accordance with good oilfield practice at a depth sufficient to provide a competent anchor for blowout prevention equipment and to ensure control of anticipated well pressures;</p> <p>(d) the annulus must be filled with cement to the surface;</p> <p>(e) the surface casing program and rationale for the program must be recorded and made available on request to an authorized commission employee.</p>	<p>25. Le titulaire de permis de forage de puits doit fixer le coffrage de surface à une profondeur égale ou supérieure à 10 % de la profondeur maximale prévue au programme de forage.</p>
<p>(6) The licensee shall ensure that surface casing is cemented full length from the depth prescribed by the Board before any drilling is commenced more than 10 metres beyond the prescribed setting depth</p>	<p>(2) The operator of a well must ensure that surface casing cement is set under pressure and not drilled out until sufficient compressive strength has been reached to obtain a valid formation integrity test in accordance with good oilfield practice.</p>	<p>26. Le titulaire de permis de forage de puits doit effectuer la cimentation du tubage conformément à sa demande de permis de forage de puits.</p>

<p>6.081 The licensee of a well shall not drill beyond a depth of 3600 metres without first setting intermediate casing unless the Board is satisfied that such casing is not required.</p>	<p>(3) If a float collar or shoe is used, pressure at the surface may be released immediately on completion of the cement job.</p> <p>(4) Unless exempted under section 2.1, the operator of a well must ensure that</p> <p>(a) intermediate and production casing for the well is cemented through all porous zones, to a minimum of 150 m above the casing shoe, and tested in accordance with good oilfield practice, and</p> <p>(b) the cement is not drilled out until sufficient compressive strength has been reached in accordance with good oilfield practice.</p> <p>(5) Conductor casing must be set and cemented at a depth of not less than 30 m below the mudline of the body of water during drilling operations in areas permanently covered by water.</p> <p>(6) If there is any reason to doubt the effectiveness of casing cementation, a survey must be made to determine the top of the cement in the annulus and remedial measures must be taken if necessary.</p> <p>(8) The surface and intermediate casing annulus must be vented by a line which, subject to such other specifications that may be specified by an authorized commission employee for a particular case, must</p> <p>(b) extend at least 60 cm above ground level,</p> <p>(c) terminate so that any flow is directed either in a downward direction or parallel to the ground, and</p> <p>(d) contain an open valve.</p>	<p>27. Le titulaire de permis de forage de puits doit cimenter le tubage par la méthode de la pompe et du bouchon. Une partie du ciment coulé doit refaire surface par l'espace annulaire. À défaut, une vérification de la mise en place du coffrage doit être effectuée par la diagraphie du lien du ciment sur la paroi interne du trou pour déterminer la position exacte du ciment. Sauf dans les cas prévus au troisième alinéa, chaque coffrage doit être cimenté jusqu'à la surface. Lorsque le coffrage n'a pu être cimenté jusqu'à la surface ou, dans le cas d'un coffrage intermédiaire, lorsque les conditions techniques ne le permettent pas, la cimentation doit être complétée par la méthode de perforation ou d'injection dans l'espace annulaire afin de respecter les conditions suivantes:</p> <p>1° dans le cas d'une cimentation du coffrage de surface:</p> <p>a) la colonne de ciment au-dessus du sabot doit être d'au moins 50% de la longueur du coffrage;</p> <p>b) la colonne de ciment jusqu'à la surface du sol doit être au moins 5 m sous le niveau du sol ou, lorsque le puits traverse un aquifère d'eau potable, au moins 25 m sous l'aquifère d'eau potable;</p> <p>2° dans le cas d'une cimentation d'un coffrage subséquent, qu'il soit intermédiaire ou de production:</p> <p>a) la colonne de ciment au-dessus du sabot doit être d'au moins 150 m;</p> <p>b) la colonne de ciment doit être présente au niveau de toute zone poreuse et perméable ainsi qu'au niveau des 100 m au-dessus de cette zone;</p> <p>c) la colonne de ciment dans l'espace annulaire au-dessus du sabot du coffrage précédent doit être d'au moins 50 m.</p>
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<p>6.090 The Licensee shall cement casing as prescribed by the Board's Directive 9, Casing Cementing - Minimum Requirements, as amended from time to time, unless the Board,</p> <p>(a) exempts the Licensee from the requirements, or</p> <p>(b) prescribes another method for cementing the casing for a particular well or area.</p>		
<p>6.100(1) The licensee of a well completed to produce oil or gas or to inject any fluid shall leave the annulus between the second casing string and the surface casing open to the atmosphere in the manner described in subsection (2).</p> <p>(2) The licensee shall vent the annulus by a line which, subject to such other specifications as the Board may prescribe in a particular case, shall</p> <p>(a) have a minimum diameter of 50 millimetres,</p> <p>(b) extend at least 60 centimetres above ground level,</p> <p>(c) terminate so that any flow is directed either in a downward direction or parallel to the ground, and</p> <p>(d) be equipped with a valve where the hydrogen sulphide concentration in a representative sample of gas from the well is found to exceed 50 moles per kilomole.</p> <p>(3) The working pressure rating in kilopascals of all parts of the surface casing vent shall be at least 25 times the numerical equivalent of the surface casing depth in metres required.</p> <p>(4) The Board may exempt a well from the requirements of this section if the well pressures are such that annulus vents are not necessary, or if special circumstances require the vents to remain closed except when checking for pressure in the surface casing.</p>		

<p>6.110 No casing recovered from a well shall be run as intermediate or production casing unless it has been tested in a manner satisfactory to the Board and shown to meet the Board's requirements.</p>		<p>32. Le titulaire de permis de forage de puits doit effectuer un essai de pression sur la formation avant de forer à plus de 60 m au-dessous de tout tubage autre que le tubage initial, sauf dans le cas d'une complétion à trou ouvert ayant déjà été prévue au programme de forage exigé selon l'article 15.</p>
<p>6.120 (1) Before any fluid other than potable water is injected to a subsurface formation through a well, the licensee shall (a) set a production packer in the well as closely above the injection interval as is practicable, and (b) fill the space between the tubing and outer steel casing with a non-corrosive, corrosion inhibited liquid, but the Board, upon application and in writing, may relieve the licensee from any requirement of this section. (2) Where a well is equipped with a production packer as required by subsection (1), the licensee of the well shall, not later than September 1, of each year, submit to the appropriate area office of the Board, (a) evidence to show, to the satisfaction of the Board, that the liquid between the tubing and the casing is isolated from the fluid being injected, and (b) the data which substantiates isolation.</p>		
<p>6.130 (1) The surface and subsurface equipment of a completed oil or gas well shall be of such nature and so arranged as to permit the ready measurement of the tubing pressure, production casing pressure, surface casing pressure and bottom hole pressure, and to permit any reasonable test required by the Board except insofar as a completion technique approved by the Board precludes such measurement or test.</p>	<p>Surface and subsurface equipment 36 (1) Unless exempted under section 2.1, the operator of a completed oil or gas well must ensure that the surface and subsurface equipment of the well is arranged to permit (a) the ready measurement of the tubing pressure, production casing pressure and surface casing pressure, and (b) any other reasonable test required by an authorized commission employee.</p>	

<p>(2) The surface equipment shall include such valve connections as are necessary to sample the oil, gas or water produced.</p>	<p>(2) The operator of a completed well must ensure that the surface equipment at the well site includes (a) the valve connections necessary to sample the oil, gas or water produced, and (b) in the case of a gas well, facilities for determining the wellhead fluid temperature.</p>	
<p>(3) The licensee of an oil or gas well, on completion of the well and on any subsequent alteration, shall keep and make readily available to the Board an accurate and detailed description of all subsurface equipment in the well and its location therein.</p>	<p>(3) The operator of a well must (a) keep a detailed record of all subsurface equipment in the well at all times prior to abandonment, and (b) make the record available to an authorized commission employee on request.</p>	<p>45. Le titulaire de permis de forage de puits doit tenir et conserver sur le site des travaux de forage un rapport journalier de ces travaux.</p>
<p>Common Flow Lines</p>	<p>Multi-zone or commingled wells</p>	
<p>7.020 Where production from more than one well is received at a battery, the production from each well or each zone in each well, as the case may be, shall be carried to the battery in a separate flow line unless a test measurement of the oil, gas and water production can be made at any time without separate flow lines.</p>	<p>41 (1) An operator of a well must not (a) complete a well, or (b) allow a well to be completed, for commingled production from more than one pool or zone unless the operator first applies for and receives permission in writing from an authorized commission employee.</p>	
<p>7.025 (1) A licensee shall not produce gas from coal unless the Board has designated (a) a control well that is within 3 kilometres of the producing gas well, to measure pressure and production in each coal zone, and (b) a control well that is within 5 kilometres of the producing gas well, for desorption testing.</p>	<p>(2) An authorized commission employee may approve 2 or more zones or pools in a field as zones or pools in which a multi-zone well may be completed for commingled production and operated without further approval.</p>	
<p>(2) A licensee shall not produce gas from shale unless the Board has designated (a) a control well that is within 5 kilometres of the producing gas well, to measure pressure and production in each shale zone, and (b) a control well that is within 30 kilometres of the producing gas well, for desorption testing.</p>	<p>(3) An application for permission to complete a well as a commingled well must include information in accordance with guidelines issued by the commission.</p>	

<p>(2.1) Notwithstanding subsections (1) and (2), the Board may, on application by a licensee of a well, grant a deferral or relief from any or all of the requirements set out in this section.</p> <p>(3) A licensee shall submit an application for the designation of control wells or for the deferral of, or relief from, control well requirements in accordance with Directive 062, "Coalbed Methane (CBM) Control Well Requirements and Related Matters".</p> <p>(4) A licensee shall provide information relating to a designated control well to the Board in accordance with section 11.145.</p>	<p>(4) Unless exempted under section 2.1, an operator of a multi-zone well who has not received permission under subsection (1) must</p> <p>(a) conduct annual tests to confirm that segregation has been established both in and behind the well casing, and</p> <p>(b) within 30 days after completion, submit in duplicate to the commission an analysis and interpretation of the tests conducted.</p>	
<p>Testing of Wells in a Battery</p>	<p>Alterations of wells and test holes</p>	<p>complétion (ou achèvement) de puits</p>
<p>7.030 (1) Unless the Board stipulates otherwise, where the production of wells is commingled before measurement, the operator of the battery shall test each well in accordance with this section and Schedule 16.</p>	<p>42 (1) Until an application to alter a well or test hole, in the form and including the information required by the commission, has been approved by an authorized commission employee, the operator of the well or test hole must not deepen or re-enter the well or test hole.</p>	<p>41. Dans le cas d'un puits en territoire submergé, le titulaire de permis de forage de puits ne peut effectuer d'essai d'écoulement que dans un puits tubé sur toute la section faisant l'objet de l'essai.</p>
<p>(3) The well test production shall be determined within the measurement guidelines listed in Schedule 9.</p>	<p>(1.1) Until an application to alter a well, in the form and including the information required by the commission, has been approved by an authorized commission employee, the operator of the well must not</p> <p>(a) re-complete the well in order to produce oil or gas from any formation other than the formation or formations from which production is being taken or has been taken, or</p> <p>(b) perform a workover on the well.</p>	<p>51. Le titulaire de permis de complétion de puits doit, lorsque les différences de pression de deux zones nuisent à la récupération des substances minérales ou à l'utilisation du réservoir souterrain à cause de l'absence de séparation entre les zones, compléter le puits soit comme zone unique ou soit comme puits à zones multiples séparées.</p>
<p>(5) An application to reduce the test frequency of a well or wells must set out the reasons why a lesser standard should be accepted.</p>	<p>(3) A program of operations of the nature described in subsection (1) must not be commenced unless the commission has been notified and has approved the program in writing; however, the approval may first be given orally and an Application to Alter a Well must then be submitted</p>	<p>53. Lors de la complétion d'un puits, le titulaire de permis de complétion de puits doit équiper ce puits d'un tube de production et d'une tête de puits permettant d'en assurer le contrôle en tout temps.</p>

	without delay.	
	(4) If drilling operations at a well have been suspended with the approval of an authorized commission employee and are not resumed within the time set out in the approval, application may be made to the commission for an extension of the time of suspension, giving the reasons for it, and the commission may refuse the application or grant it in whole or part.	54. Lors des traitements de stimulation de la production, le titulaire de permis de complétion de puits ne doit pas soumettre le tubage à une pression supérieure de 75% de sa résistance nominale à l'éclatement.
	(5) In the absence of an application for an extension of time of suspension or if, in the opinion of an authorized commission employee, suspension of normal drilling operations has occurred without approval, an authorized commission employee may direct that the well be abandoned or operations resumed in accordance with further instructions.	55. Le titulaire de permis de complétion de puits doit, lors d'un arrêt temporaire ou définitif des travaux de complétion, respecter les conditions de fermeture d'un puits prévues à la section IV.
	(6) An authorized commission employee may, at any time, vary an approved program to alter a condition specified in an approval granted under subsection (1).	
	(7) Despite subsection (1), if a well is used only for a unitized operation or if an authorized commission employee is satisfied that a well is produced only to supply a seasonal market, the normal producing or injecting operations at the well may cease for any period without first obtaining approval of an authorized commission employee under this section.	
Protection de l'Environnement		
<i>Air Pollution Control</i>	<i>Air pollution control</i>	<i>contrôle de la pollution de l'air</i>

<p>7.040 (1) No person shall burn, and no licensee of a well or operator of a facility shall cause or permit to be burned, any oil, gas, oily waste or other material produced or used at a well or in the operation of a scheme, except under conditions of controlled combustion where there is no significant or visible emission of smoke.</p> <p>(1.1) Subsection (1) does not apply where the Board or its authorized representative approves the burning.</p> <p>(2) Notwithstanding subsection (1), burning of effluent from a well or facility is permissible under emergency conditions and due to equipment failure, but such burning shall be immediately reported to the Board.</p>	<p>58 (1) If operations are being carried out at a well or production facility and the hydrogen sulphide content of the gas exceeds 10 moles per kilomole, or if the Emergency Planning Zone for a well or production facility includes in whole or in part an occupied dwelling, rural school, picnic ground or other populated area, the operator of the well or production facility must comply with the following conditions, unless otherwise approved by an authorized commission employee:</p> <ul style="list-style-type: none"> (a) post suitable signs on or near the well or production facility warning of the presence of poisonous gas; (c) equip and operate the well or production facility so that the maximum operating flow line gauge pressure cannot exceed 1 400 kPa, unless a valve is installed at the wellhead or production facility which closes automatically in the event of an uncontrolled flow of oil or gas; (d) if a well or production facility is located within 800 m of an occupied dwelling, rural school, picnic ground or other populated area, construct and maintain an adequate fence and locking gate to prevent unauthorized access; (e) submit to and have approved by the commission an outline of emergency procedures to ensure public safety which will be followed by the operator in the event of an uncontrolled emission of oil or gas, if <ul style="list-style-type: none"> (i) a well or production facility is located within 800 m of an occupied dwelling, rural school, picnic ground or other populated area, or (ii) requested by an authorized commission employee. <p>(2) If operations are being carried out at a well or production facility and the hydrogen sulphide content of the gas exceeds 50 moles per kilomole, or if the Emergency Planning Zone for a well or</p>	
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	<p>production facility includes in whole or in part an occupied dwelling, rural school, picnic ground or other populated area, in addition to the provisions of subsection (1) the operator of the well or production facility must comply with the following conditions, unless otherwise approved by an authorized commission employee:</p> <p>(a) for a well not produced by artificial lift,</p> <ul style="list-style-type: none">(i) equip the well with 2 master valves,(ii) install a production packer set as closely above the producing formation as is practicable, with the annular space between the tubing and production casing filled with a suitable corrosion inhibiting liquid,(iii) install wellhead equipment for which the working pressure rating is not less than the bottom-hole pressure of the producing formation, but with a minimum rating of 14 000 kPa,(iv) if a hot oil circulating string is used inside the production casing of a well, install a check valve in the injection line and automatic shutoff valve on the return line, and(vi) if a well is equipped with a production packer as required under subparagraph (ii), conduct annual segregation tests by a method approved by an authorized commission employee to confirm that the corrosion inhibiting liquid in the annular space between the tubing and production casing is isolated from the production fluid in the tubing, and notify the commission at least 3 days in advance of any segregation test at a well; <p>(b) for a well produced by artificial lift,</p> <ul style="list-style-type: none">(i) install on the stuffing box an automatic shutdown device that will shut down the pumping unit in the event of a stuffing box failure and effectively seal off the well in	
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	<p>the event of a polish rod failure, and</p> <p>(ii) install an automatic vibration shutdown system that will safely shut down the pumping unit;</p> <p>(c) install at all wells and production facilities a surface valve which closes automatically to shut off an uncontrolled flow of gas or oil from the wells or production facilities in the event of a failure of the wellhead, surface facilities or gathering line;</p> <p>(d) for a flowing well that is located within 800 m of an occupied dwelling or within 8 km of the limits of a city, town or village and that has the potential to produce more than 30 000 m³ of gas per day,</p> <p>(i) install a surface hydrogen sulphide gas detection and alarm system,</p> <p>(ii) install a downhole safety valve in the tubing at least 30 m below the surface, and</p> <p>(iii) ensure that the downhole safety valve closes automatically in the event of an uncontrolled flow of oil or gas or in the event of a failure in the system which operates the valve;</p>	
<p>7.050(1) This section applies to a well at which the hydrogen sulphide concentration in a representative sample of gas from the well is found to exceed 50 moles per kilomole, or such higher or lower ratio as the Board may, by order, stipulate with respect to any well or group of wells in a battery, pool or area, having regard to pressures, nature of production, remoteness of the area and other circumstances.</p> <p>(3) Unless the well is produced by artificial lift, the licensee shall equip the well with</p> <p>(a) two master valves,</p> <p>(b) a production packer set as closely above the producing formation as is practicable,</p>	<p>(e) for a production facility that is located within 800 m of an occupied dwelling or within 8 km of the limits of a city, town or village and that has the potential to produce more than 30 000 m³ of gas per day,</p> <p>(i) install a hydrogen sulphide gas detection and alarm system, and</p> <p>(ii) install an automatic shutdown system directly connected to the detection system so that in the event of an uncontrolled flow of oil or gas, the production facility automatically shuts down.</p> <p>(3) The operator of a well or production facility must not, without the approval of an authorized commission employee, permit discharge to the atmosphere of any gas produced, including stock</p>	

<p>with the annular space between the tubing and production casing filled with a suitable non-corrosive, corrosion inhibited liquid, and</p> <p>(c) a well head whose working pressure rating is not less than the bottom hole pressure of the producing formation, but the surface casing vent may be in accordance with section 6.100, subsection (3).</p> <p>(3.1) Where a well is equipped with a production packer, as required by subsection (3), clause (b), the licensee of the well shall, not later than September 1 of each year, submit to the appropriate area office of the Board,</p> <p>(a) evidence to show, to the satisfaction of the Board, that the liquid between the tubing and the casing is isolated from the fluid being produced or injected, and</p> <p>(b) the data which substantiates isolation.</p> <p>(4) If a hot oil circulating string is used inside the production casing of a well, the licensee shall install a check valve in the injection line and an automatic shut-off valve on the return line.</p> <p>(5) Stimulation treatments employing maximum pressures in excess of 75 per cent of the minimum internal yield pressure of the production casing shall be carried out through the tubing and below a packer seated as near to the production formation as is practicable.</p> <p>(7) Where a well that is not on pump and</p> <p>(a) is located within 800 metres of an occupied dwelling or within 8 kilometres of the limits of a city, town or village and has, in the opinion of the Board, the potential to produce more than 140 thousand cubic metres of gas per day, or</p> <p>(b) the Board so directs, the licensee shall install in the tubing of the well, at a minimum depth of 30 metres below the surface, or such</p>	<p>tank vapours, unless burned in accordance with subsection (4).</p> <p>(4) Unless exempted under section 2.1, the operator of a well must ensure</p> <p>(a) that any gas to be burned through a flare line is discharged from a flare line that</p> <p>(i) terminates with a vertical riser of at least 12 m in height,</p> <p>(ii) is adequately anchored, and</p> <p>(iii) is equipped, if the gas flow is intermittent, with an ignition device to ensure continuous ignition of any gases,</p> <p>(b) that all gas to be burned is incinerated in a mechanical device, and</p> <p>(c) if the gas flow is intermittent, the flare line must be provided with an ignition device to ensure continuous ignition of any gases.</p> <p>(5) The operator of a well or production facility must, if requested by an authorized commission employee,</p> <p>(a) install and maintain monitoring stations that measure ambient air quality,</p> <p>(b) record and provide data on hydrogen sulphide concentration in flared gas with flaring rates and times, and</p> <p>(c) make available to the commission all information with or derived from these measurements.</p>	
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other depth as the Board may prescribe, a valve that may be controlled from the surface and which will close automatically in the event of an uncontrolled flow of oil or gas or a failure in the system which operates the valve.

(7.1) The licensee of a well shall ensure that the wellhead is conspicuously marked or fenced in a manner that makes it visible in all seasons.

(7.2) The licensee and operator of a well shall ensure that no vehicles operate within a 3-metre radius of the wellhead, except vehicles that are specifically required to do so as part of an operation being performed on a well.

(7.3) A licensee of a pumping well that has the potential to flow to atmosphere at sustained rates of at least 8 m³ per day of liquids and has a hydrogen sulphide content of 10 moles per kilomole or greater in the gas phase shall ensure that the well is equipped with a full opening master valve, a hydraulic rod blowout preventer and an environmental blowout preventer.

(7.4) The licensee of a pumping well referred to in subsection (7.3) that was completed before March 1, 1998 shall ensure that the well is brought into compliance with that subsection at the first workover during which the Christmas tree is removed and that occurs after the coming into force of this subsection.

(9) The Board may, upon application, exempt from any provision of this section a well or group of wells in a battery, pool or area where, in the opinion of the Board, the pressures, nature of production, remoteness of the area or other circumstances warrant the exemption.

<p>7.055(1) Where gas(a) from a well producing gas containing more than 50 moles per kilomole of hydrogen sulphide, or any higher or lower ratio stipulated by the Board, or(b) produced from a well designated as a critical sour well is flared during any test, during any period of cleaning out the well or during well servicing operations, the licensee shall obtain approval from the Board of the method, stack height and equipment to be used to flare the gas.(2) An application submitted under subsection (1) must be in accordance with Directive 60 “Upstream Petroleum Flaring”.</p>		
<p><i>Part 8 Emergency Preparedness and Response</i></p>		
<p>8.002(1) A licensee of a well or facility shall prepare a corporate ERP in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board. (2) A licensee referred to in subsection (1) shall on request file its corporate ERP with the Board for review by the Board.</p>		
<p>8.003(1) A licensee of a sour well shall prepare a specific ERP for each sour well in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board. (2) A licensee referred to in subsection (1) shall submit a specific ERP for each sour well to the Board for approval as required by Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board.</p>		

<p>8.004(1) A licensee of a sour production facility and associated gathering system shall prepare a specific ERP for each sour production facility and associated gathering system in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board. (2) A licensee referred to in subsection (1) shall submit a specific ERP for each sour production facility to the Board for approval as required by Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board.</p>		
<p>8.005 A licensee of a cavern shall prepare a specific ERP for the cavern in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board. (2) A licensee referred to in subsection (1) shall submit a specific ERP for a cavern to the Board for approval as required by Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board.</p>		
<p>8.006 A licensee referred to in section 8.002, 8.003, 8.004 or 8.005 shall (a) update the ERP and undertake training exercises, in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board, and (b) in case of an emergency, report the emergency to the</p>		

<p>Board and implement the ERP, in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board.</p>		
<p>Storage</p>		
<p>8.010 Earthen structures or excavations shall not be used as receptacles for crude bitumen, liquid hydrocarbon, process chemicals, produced water, process water or oilfield wastes (other than drilling wastes) produced from a well or facility, either by design or normal operating practice, without the written approval of the Board.</p>		
<p>8.030(1) Materials that are used, produced or generated at a well site or facility, other than fresh water and inert solids, shall be stored in accordance with the requirements of Directive 55, "Storage Requirements for the Upstream Petroleum Industry".(2) Aboveground tanks, underground tanks, containers, lined earthen excavations and bulk pads shall meet the requirements for integrity verification, secondary containment, leak detection and weather protection that are set out in Directive 55, "Storage Requirements for the Upstream Petroleum Industry".(3) The Board on application may approve storage methods, systems or devices alternative to those set out in Directive 55, "Storage Requirements for the Upstream Petroleum Industry" if in the Board's opinion the level of environmental protection provided is at least equal to that outlined in Directive 55.(4) Tanks or batteries of tanks containing fluids other than fresh water at a well or facility shall be located so that the distance from the outer perimeter of the dike to any surface improvement other</p>		

<p>than a public roadway is not less than 60 metres or a lesser distance permitted by the Board.</p>		
<p>8.031 Notwithstanding section 7.060(3.1), where a pressure relief valve, rupture disk or burst plate is installed on a separator, treater or other pressure vessel which receives production from an oil well, the licensee shall connect the valve, rupture disk or burst plate fitting by suitable piping to an open tank, but the Board, upon application, may allow a licensee to use a system of automatic controls or other method of avoiding oil spills if it is satisfied that the degree of protection provided is equivalent to or better than the venting of relief devices to an open tank.</p>		
<p>Waste Management at Well and Facility Site</p>	<p>Storage and disposal of wastes</p>	<p>disposition des résidus</p>
<p>8.150(1) In this section, "oilfield waste" does not include drilling mud and cuttings. 8.151(1) In this section, "drilling waste" means the mud and cuttings generated from drilling a well. (2) A licensee of a well shall ensure that an earthen excavation at a well site used to store drilling waste (a) is so located and constructed that it will not collect natural run-off water, and (b) is so located and constructed that it will not allow contaminants from the drilling waste to migrate beyond the pit walls and bottom.</p>	<p>72 (1) Before any earthen pit may be used to store liquid waste from a drilling or well servicing operation, the pit must (a) be constructed of clay or other suitable impermeable material with the bottom of the pit above ground water level, (b) be located or ditched so that it will not collect natural run-off water, (c) be filled to not more than one metre below the point of overflow at any given time, and (d) be completely emptied and all excavations filled within one month of rig release date unless otherwise approved by an authorized commission employee.</p>	<p>48.1. Le titulaire de permis de forage doit, pendant le forage, déposer les boues de forage dans une structure étanche conçue selon les règles de l'art. À la fin du forage, la structure étanche doit être enlevée ou démantelée complètement, et les boues de forage doivent être valorisées ou éliminées en conformité avec les dispositions de la Loi sur la qualité de l'environnement (L.R.Q., c. Q-2) et de ses règlements.</p>

<p>(3) Where the surface topography or soil conditions are such that a satisfactory storage pit of sufficient design and capacity cannot be constructed, the licensee of the well shall contain drilling waste in tanks and shall dispose of the waste without undue delay.</p> <p>(4) All drilling waste shall be treated and disposed of in accordance with</p> <p>(a) the requirements in Directive 50, "Drilling Waste Management",</p> <p>(b) the requirements in Directive 58, "Oilfield Waste Management Requirements for the Upstream Petroleum Industry", or</p> <p>(c) other requirements approved by the Board.</p>	<p>(2) Before the disposal of any liquid waste from a drilling or well servicing operation, the operator must</p> <p>(a) obtain water and sludge samples as directed by an authorized commission employee,</p> <p>(b) conduct a standard analysis of the samples referred to in paragraph (a) and, when requested by an authorized commission employee, a special analysis as specified by the Ministry of Environment,</p> <p>(c) submit a copy of the analysis to the commission, and</p> <p>(d) obtain approval from an authorized commission employee for the disposal of the fluid waste and closure of the pit.</p>	
<p>8.152 The Board may, on application, approve alternative storage, treatment and disposal methods to those prescribed in sections 8.150 and 8.151 if the Board is satisfied that those alternative methods will not adversely affect air, soil, surface water or groundwater.</p>	<p>(3) Formation water, oil, drilling fluid, waste, chemical substances or refuse from a well, tank or other facility must not be permitted to</p> <p>(a) create a hazard to public health or safety,</p> <p>(b) run into or contaminate any fresh water stratum or body of water or to remain in a place from which it might contaminate any fresh water or body of water,</p> <p>(c) run over or damage any land, highway or public road,</p> <p>(d) pass into any body of water frequented by fish or that flows into such water, nor on ice over either such waters, except that water base drilling fluids may be discharged into the ocean from offshore drilling operations, or</p> <p>(e) pass into any body of water frequented by migratory waterfowl or that flows into such water, nor on ice over either such waters.</p>	
<p><i>Water Disposal</i></p>	<p><i>Disposal of water production</i></p>	

<p>8.040 All water produced at a well or facility shall be disposed of in accordance with a scheme approved by the Board pursuant to section 39 of the Act.</p>	<p>94 (1) All water produced at a facility or well must be disposed of (a) to an underground formation in accordance with a scheme approved under section 100 (1) (d) of the Act, or (b) by a method acceptable to an authorized commission employee. (2) Earthen pits may be used to contain produced salt water on an emergency basis in areas approved by an authorized commission employee, provided such earthen pits are limited to one for each well, production facility or gas processing plant, are no larger than 600 square metres in area and are constructed and maintained in a condition acceptable to an authorized commission employee. (3) The contents of each earthen pit must be disposed of in accordance with subsection (1) within 48 hours after an emergency requiring the use of the pit has occurred, unless otherwise approved by an authorized commission employee. (5) If water is disposed of to an underground formation, a Monthly Injection/Disposal Statement, on the form provided, must be submitted to the commission not later than 25 days after the end of the month reported.</p>	
<p>Control of spills 8.050(1) When oil, water or unrefined product is spilled or released from a break or leak in a wellhead, tank, separator, treater or process vessel, the licensee of the well or operator of the facility from which the spill or release occurred shall immediately take reasonable steps to contain and clean up the spill or release and shall ensure that the spilled or released material is processed in the operator's facilities, if appropriate, or is treated or disposed of, or both, in accordance with Directive 58, "Oilfield Waste Management Requirements for the</p>	<p>Prevention of losses 71 (0.1) An operator must ensure that the requirements of this section are met in relation to a well, facility or plant for which the operator is responsible. (1) Every reasonable precaution must be taken to stop and prevent loss or waste of oil, gas or water in drilling, producing and processing operations in accordance with good conservation practice and, in storing, piping or distributing, oil or gas must not be used wastefully or allowed to leak or escape from natural reservoirs, wells, tanks, containers or pipes.</p>	

<p>Upstream Petroleum Industry”.</p>	<p>(3) Every reasonable precaution must be taken to protect valves of wells, whether connected to flow lines or not, against interference from unauthorized persons.</p> <p>(4) Oil or gas produced from a well or facility for which the operator is responsible is not to be flared, except in amounts required because of drill stem testing, unless</p> <p>(a) permission in writing has been obtained from an authorized commission employee,</p> <p>(b) approval from an authorized commission employee is given orally and confirmed later in writing, or</p> <p>(c) written directions from the commission are complied with.</p> <p>(5) Approved gas flaring under subsection (4) must take place through a flare line in accordance with section 58 (3).</p>	
<p>(2) Where a spill or release referred to in subsection (1)</p> <p>(a) is not confined to the site of the well or facility from which the spill or release occurred,</p> <p>(b) is on-site and is in excess of 2 cubic metres, or</p> <p>(c) is on-site and of a size that may cause, is causing or has caused an adverse effect as defined in the Environmental Protection and Enhancement Act, the licensee or operator shall immediately orally report the size and location of the spill to the appropriate field centre of the Board.</p> <p>(3) When so directed by the Board, a report made pursuant to subsection (2) shall be confirmed in a written report to the Board and be supplemented with at least the following additional information:</p> <p>(a) the time the spill or release occurred;</p> <p>(b) a description of the circumstances leading to the spill or release;</p> <p>(c) a discussion of the spill or release containment and</p>	<p>(6) If an oil spill or salt water spill occurs at any well or facility, the operator must</p> <p>(a) immediately report the type, size and location of the spill to the commission by the quickest effective means if the oil or salt water spill is not confined to the site of the facility or is in excess of</p> <p>(i) 100 litres in the case of oil, or</p> <p>(ii) 2 cubic metres in the case of salt water,</p> <p>(b) make every attempt to recover completely any oil or salt water spilled, reprocess any oil recovered, and dispose of any recovered salt water in accordance with section 94,</p> <p>(c) obtain approval from an authorized commission employee before any oil spill is burned in any manner,</p> <p>(d) within a period of time approved by an authorized commission employee after the spill recovery, commence a rehabilitation program and continue with that program</p> <p>(i) until the spill site shows significant signs of recovery,</p>	

<p>recovery procedures; (d) a discussion of steps to be taken to prevent similar future spills or releases; (e) any other information that the Board may require.</p>	<p>or (ii) as directed by an authorized commission employee, and</p>	
<p>8.051 Where oil, water or unrefined product is spilled while being transported, otherwise than by pipeline, from a well, pipeline or other facility over which the Board has jurisdiction to any other like facility, the licensee of a well or pipeline or operator of the facility and the owner of the transportation facility shall immediately (a) report the spill to the appropriate field centre of the Board and to Alberta Environment, (b) take reasonable steps to contain and clean up the spill material, and (c) ensure that the spill material is treated or disposed of in accordance with Directive 58, "Oilfield Waste Management Requirements for the Upstream Petroleum Industry", unless otherwise approved by the Board.</p>	<p>(e) submit a written report within 2 weeks of the date of the spill containing at least the following information: (i) the date and time of the spill and its location; (ii) a description of the circumstances leading to the spill; (iii) a discussion of the spill containment and recovery procedures; (iv) a discussion of steps to be taken to prevent future spills; (v) an outline of the spill site rehabilitation program; (vi) names of other persons or agencies advised concerning the spill, and names of persons on the scene of the spill.</p>	
<p>8.052(1) A licensee of a well or facility shall prepare a spill response contingency plan when required by Directive 71 and in accordance with Directive 71, Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board.(2) A licensee referred to in subsection (1) shall conduct spill training exercises and complete a training exercise report, in accordance with Directive 71</p>		

<p>Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry, and any amendments to Directive 71, as published by the Board.(3) If in the opinion of the Board a well or facility is a risk to a water body due to its location near the water body, the Board may require the licensee of the well or facility to demonstrate that the licensee has the equipment and the ability to implement a spill response contingency plan.</p>		
<p>8.060 Where a well or facility is located closer than 100 metres to the normal high water mark of a body of water or permanent stream or is in a location such that in the opinion of the Board a spill or leak may reach the water, the licensee or operator shall</p> <p>(a) where a well is not on pump, install on the well head a valve which closes automatically to shut off an uncontrolled flow of effluent from the well in the event of a failure of the well head, surface facilities or gathering line,</p> <p>(b) at the direction of the Board, install in the well a packer and a subsurface valve to shut off automatically an uncontrolled flow of effluent from the well in the event of a failure of the well head or production casing,</p> <p>(c) construct pits, dikes, trenches or other structures or installations to contain effluent or spill material, and</p> <p>(d) submit, at the request of the Board, a plan to limit the spread of effluent or spill material and to recover effluent or spill material from the surface of the water in the event of a leak or spill, such plan to include details of procedures, materials and equipment proposed to be used.</p>		
<p>8.070 Where in the opinion of the Board, the location or condition of a well or facility is such that it may become a</p>		

<p>source of serious water pollution, the Board may require that the well or facility be abandoned.</p>		
<i>Burning Vented Gas</i>		
<p>8.080(1) The licensee of a well or the operator of a facility or oil sands scheme shall burn any significant volume of gas that is vented to the atmosphere.</p> <p>(2) Vented gas shall not be flared to an earthen pit at a well or facility that was constructed after July 1, 1996.</p> <p>(3) The licensee or operator shall</p> <p>(a) safeguard all flare pits constructed before July 1, 1996, and</p> <p>(b) construct and safeguard all ends of flare lines so that no hazard to public property or forest cover will be created and so that they are not located closer than 100 metres to a surface improvement, except a surveyed roadway, but the Board, where, in its opinion, special circumstances exist, may prescribe a greater or lesser distance.</p> <p>(4) The licensee of a well or operator of a facility that was constructed before July 1, 1996 and on which vented gas is flared to an earthen pit shall prevent produced liquids from entering the pit by installing appropriate flow shut-off and emergency containment devices.</p> <p>(5) No flare pit or open end of a flare line shall be located or remain within 50 metres of a well or oil storage tank, or within 25 metres of any oil or gas processing equipment, but the Board, having regard to the volume and nature of the gas and the flash point and other characteristics of the oil being produced, may suspend the application in a field or pool of the requirement of this subsection respecting the distance of a flare pit or open end of a flare line from a well, and in such case, notwithstanding subsection</p>	<p><i>Fire control</i></p> <p>62 Unless exempted under section 2.1, an operator must ensure that fire is controlled in the following manner:</p> <p>(a) fires are not located less than 50 m from any well, oil storage tank or other unprotected source of ignitable vapour;</p> <p>(b) all fires for any purpose are safeguarded by sufficient mechanical or other means so that no hazard to surrounding property is created;</p> <p>(c) flares, incinerators, and enclosed gas burners are located at least</p> <p>(i) 50 m from a well;</p> <p>(ii) 50 m from storage tanks containing flammable liquids;</p> <p>(iii) 25 m from any oil or gas processing equipment;</p> <p>(iv) 80 m from any right of way, easement of any road allowance, public utility, building, installation, works, place of public concourse or any reservation for national defence, except only where there may exist special circumstances that, in the opinion of an authorized commission employee, justify the position at a greater or lesser distance;</p>	

<p>(1), gas vented from the flare line shall not be burned.</p>		
<p>Fired Equipment and Engine Exhausts</p>	<p>Fire precautions</p>	
<p>8.090(1) In this section (a) "fire" means any unprotected flame or source of ignition; (b) "flame type equipment" means any electric or fired heating equipment using an open flame, electric arc or element and includes a space heater, torch, heated process vessel, boiler, electric arc or open flame welder, or an open element electric heater or appliance; (c) "process vessel" means a heater, dehydrator, separator, treater or any vessel used in the processing or treatment of produced gas or oil.</p>	<p>60 (1) If an internal combustion engine is located within 25 m of any well, separator, crude oil storage tank or other unprotected source of ignitable vapours, (a) its exhaust pipe must be insulated or sufficiently cooled, in a manner acceptable to an authorized commission employee, to prevent ignition of flammable material, and the end of the exhaust pipe must be directed away from the well head or source of ignitable vapours, and (b) its exhaust manifold must be shielded to prevent contact with liquids or gases which might otherwise fall on it.</p>	
<p>(2) No person shall create or cause to be created any fire within 50 metres of a well, oil storage tank or other source of ignitable vapour.(3) No oil storage tank shall be placed or remain within 50 metres of any well, but the Board may prescribe a distance of less than 50 metres but not less than 15 metres in any field or at any well, having regard to the products of the well.</p>	<p>(2) If a diesel engine is located within 25 m of a well, it must be provided with one of the following:(a) an air intake shut-off valve of a type approved by an authorized commission employee and equipped with a readily accessible remote control;(b) a system for injecting an inert gas into the engine's cylinders, equipped with a readily accessible remote control;(c) a suitable duct so that air for the engine is obtained at least 25 m from the well;(d) any other device or devices that may be</p>	

	<p>approved by an authorized commission employee.</p>	
<p>(4) No flame type equipment shall be placed or operated within 25 metres of a well, oil storage tank, or other source of ignitable vapour, except (a) where the well is (i) a water supply well, or (ii) a water injection well equipped with a suitable packer and with the surface casing annulus vented outside any building, or (b) that emergency work requiring the use of flame type equipment may be conducted within 25 metres of a well, if the wellhead valves and the blow out preventer, if one is installed, are closed, or (c) where extenuating circumstances exist, the Board suspends the application of this subsection in any field or area</p>	<p>(3) If a valve and remote control or an injection system and remote control have been installed in accordance with subsection (2) (a) or (b), the operator of the well referred to in subsection (2) must ensure that the stopping of the engine by the remote control is tested (a) before the cement plug at the shoe of the surface casing is drilled out, (b) before any well completion or servicing operations commence, and (c) at least once in each 7 day period during the drilling or servicing of the well.</p>	
<p>(5) No flame type equipment shall be placed or operated within 25 metres of any process vessels unless, where such is applicable, the flame type equipment is fitted with an adequate flame arrester.</p>	<p>(5) Except where gasoline or liquid fuel are held in fuel tanks actually connected to operating equipment, they must not be stored within 25 m of a well, and drainage of gasoline or liquid fuel from such places of storage must be in a direction away from the well location.</p>	
<p>8.100(1) The licensee of the well or a contractor who has contracted to perform any operation at the well shall provide any diesel engine within 25 metres of the well with (a) adequate air intake shut-off valves, equipped with a remote control readily accessible from the driller's station, or (b) a system for injecting an inert gas into the engine's cylinders, which system shall be equipped with a remote control readily accessible from the driller's station, or (c) a suitable duct so that air for the engine is obtained at</p>	<p>(d) all vent lines from oil storage tanks which are vented to flare pits or flare stacks are provided with flame arresters or other equivalent safety devices; (e) a flame type stove or heater, crude oil treater, glycol type dehydrator installation or other flame type equipment is not placed within 25 m of any well, separator, crude oil storage tank or other unprotected source of ignitable vapours, except where such flame type equipment is equipped with flame arresters adequate for the purpose for which they are used;</p>	

<p>least 25 metres from the well, or (d) another approved device. (2) Where an installation has been made in accordance with clause (a) or (b) of subsection (1), the licensee of the well and the operator shall test the stopping of the engine by remote control (a) before the cement plug at the shoe of the surface casing is drilled out, or (b) if the well has been completed, before any servicing operations commence, and thereafter, at least once in each seven-day period during the drilling or servicing of the well, shall test the installation to make sure the valve closes or inert gas is injected. (3) If upon testing pursuant to subsection (2) the equipment is found defective, it shall be made serviceable at once. (4) Each test pursuant to this section shall be reported with full particulars on the daily record of operations.</p>	<p>(f) boilers and steam generating equipment are located at a point not less than 25 m from any well, separator, crude oil storage tank or other unprotected source of ignitable vapours; (g) a crude oil treater is not placed or remain within 25 m, shell to shell, of any type of boiler or direct fired heater or be placed within 5 m, shell to shell, of any other direct fired crude oil treater or indirect fired heater; (h) a crude oil storage tank is not placed within 50 m of any well; (i) all facility piping is arranged and provided with control valves to permit the ready shut off of oil or gas in the event of fire at any facility installation;</p>	
<p>8.110(1) In this section a “high vapour pressure hydrocarbon” means any hydrocarbon and stabilized hydrocarbon mixture with a Reid vapour pressure greater than 14 kilopascals. (2) Where the licensee or operator of a well uses a high vapour pressure hydrocarbon in an operation at a well other than in the hydraulic fracturing of a formation, he shall observe the following rules: (a) no open tanks shall be used for storing or gauging or measuring the pumping rate; (b) a minimum distance of 50 metres shall be maintained between the wellhead and storage tank; (c) positive shut-off valves shall be installed between the tank and pump and between the pump and wellhead; (d) a check valve shall be installed between the pump and the well to prevent backflow from the well; (e) all surface lines</p>	<p>(j) a separator is not enclosed within the fire wall, dyke or ditch surrounding a storage tank installation; (k) all vessels and equipment from which ignitable vapours may issue are safely vented to the atmosphere; (m) explosives of every kind and description are stored only in properly constructed magazines, situated not less than 150 m from any place where any drilling, production or processing operation is being undertaken; (n) a sufficient area beneath the flare stack is free of combustible materials and vegetation.</p>	

<p>downstream from the pump shall be pressure tested to 10 000 kilopascals above anticipated maximum pressure to be encountered;</p> <p>(f) no significant wastage shall occur.</p> <p>(3) High vapour pressure hydrocarbons shall not be blended with propping agents for the purpose of hydraulically fracturing a formation, but the Board may, on application, approve a given fracturing program if conclusive evidence is submitted to show that there is not another carrying fluid available that will be similarly effective.</p>		
<p>Smoking</p>	<p>Smoking</p>	
<p>8.120(1) No person shall smoke within 25 metres of a well, separator, oil storage tank or other unprotected source of ignitable vapour or on a rig or derrick at a well site.</p> <p>(2) Each licensee of a well and each contractor who has contracted to manage or perform any operation at a well shall enforce the provisions of subsection (1) at the well.</p> <p>(3) Where a person contravenes subsection (1), the licensee and the contractor referred to in subsection (2) who is the employer of that person are in contravention of subsection (2) regardless of whether they had knowledge of the smoking or took steps to guard against the smoking.</p>	<p>59 A person must not smoke within 25 m of any well, production facility or gas processing plant.</p>	
<p>Forage, complétion, et abandon</p>		
<p>Blowout Prevention Requirements</p>	<p>Division 2 — Blowout Prevention During Drilling equipment</p>	<p> systèmes anti-éruption</p>

<p>8.129(1) The provisions of sections 8.130 to section 8.149, inclusive, apply to any well that is being drilled, tested, abandoned, completed, reconditioned or serviced.</p> <p>(2) Regulations 8.130 to 8.143, inclusive, shall be defined as the Drilling Blowout Prevention Requirements and shall be applied to any well where production casing has not been set and cemented.</p> <p>(3) Regulations 8.144 to 8.148, inclusive, shall be defined as the Servicing Blowout Prevention Requirements and shall be applied to any well where production casing has been set and cemented.</p> <p>(4) The Board may, upon its own motion or upon application, vary or specify the blowout prevention requirements which apply to any well or wells.</p> <p>(5) The Board may, upon its own motion or upon application, vary the classification set out in sections 8.131 and 8.144 for any well or wells in any pool, field or area.</p> <p>(6) The Board may, upon its own motion or upon application, vary the design or requirements for any classification set out in sections 8.131 and 8.144.</p> <p>(7) Prior to making application for a well licence, the licensee shall</p> <p>(a) research offset well records to determine maximum pore pressures and hole problems which may be encountered while drilling the proposed well, and</p> <p>(b) incorporate the information determined under clause (a) into the well design.</p> <p>(8) A licensee shall make the information determined under subsection (7)(a) available to the Board on request.</p> <p>(9) In subsection (10), “high hazard area” means the land located in Townships 19 to 24, in Ranges 5 to 10, West</p>	<p>20 (0.1) An operator must ensure that the requirements of this section are met in relation to a well for which the operator is responsible.</p>	<p>28. Le titulaire de permis de forage de puits doit munir d'un système anti-éruption tous les puits en cours de forage et en cours de travaux d'entretien.</p>
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of the 4th Meridian in Alberta.

(10) The licensee of a well being drilled to the Mannville Formation or deeper in the high hazard area shall comply with the following requirements, in addition to the requirements of sections 8.130 and 8.143:

(a) surface casing shall be run to a minimum depth of 180 m;

(b) where fluid turns or high-pressure flexible hose exists in the section of choke line between the blowout preventer stack and the choke manifold, an extra flare line for emergency purposes shall be installed;

(c) the line referred to in clause (b) shall be installed upstream of the first fluid turn or high-pressure flexible hose and shall extend directly to the flare pit or tank as set out in Schedule 8;

(d) the line referred to in clause (b) shall

(i) up to and including the last valve in the line, consist of an arrangement of valves and steel line that has a working pressure equal to the working pressure of the blowout preventer stack,

(ii) be equal in diameter to the main flareline extending from the choke manifold,

(iii) contain only straight pipe or 1.57 radian (90-degree) bends constructed of tees and crosses blocked on fluid turns, and

(iv) be securely tied down;

(e) after penetration of the Mannville Formation, the drilling fluid density shall be adequate to exert a minimum overbalance pressure of 1400 kilopascals at the Mannville Formation prior to tripping pipe out of the hole.

<p><i>Drilling Blowout Prevention Requirements</i></p> <p>8.130(1) The licensee of a well shall ensure that the well has installed thereon and maintained at all times blowout prevention equipment that is</p> <p>(a) adequate to shut off any flow at the well head whether or not any type of tool or equipment is being used in the hole, and</p> <p>(b) in accordance with the well classification set out in section 8.131 and with the specifications set out in Schedule 8.</p> <p>(2) Drilling-through components installed between the top flange of the uppermost blowout preventer element and the rotary table shall be constructed so as to permit their removal while drill pipe or other equipment is in the drilled hole.</p> <p>(3) Subsection (2) does not apply to Class I, Class IA or Class II wells as defined in section 8.131 or to drilling operations utilizing a rotating head.</p>		<p>31. Le titulaire de permis de forage de puits doit s'assurer que le système anti-éruption prévu au programme de forage de puits pour les opérations au-dessous du tubage de surface a une pression nominale de marche égale ou supérieure à la pression de formation maximale prévue au programme. Lorsque la pression de formation maximale ne peut être prévue, elle est présumée égale ou supérieure à 11 kPa par mètre de profondeur du puits.</p>
<p>8.131 For the purpose of the drilling blowout prevention requirements, and the blowout prevention equipment required in Schedule 8, wells are classified as set out below:</p> <p>(a) Class I: a well in which no surface casing is set,</p> <p>(a.1) Class IA: a well that will produce crude oil or crude bitumen with a density of 920 kg/m³ or greater and in respect of which a reduction in conventional surface casing depth could be or has been approved by the Board,</p> <p>(b) Class II: a well in which the depth is less than or equal to 750 metres,</p> <p>(c) Class III: a well in which the depth is greater than 750 metres and less than or equal to 1800 metres,</p> <p>(d) Class IV: a well in which the depth is greater than 1800 metres and less than or equal to 3600 metres,</p> <p>(e) Class V: a well in which</p>	<p>(1) Blowout prevention equipment is classified as follows:</p> <p>(a) Class A equipment is equipment to be used from the depth of the surface casing to 1 850 m;</p> <p>(b) Class B equipment is equipment to be used from a depth of 1 850 m to 3 000 m;</p> <p>(c) Class C equipment is equipment to be used from a depth of 3 000 m to 5 500 m;</p> <p>(d) Class D equipment is equipment to be used from a depth of 5 500 m and greater.</p> <p>(2) The minimum pressure rating of blowout prevention equipment must be:</p> <p>(a) for Class A equipment, 14 000 kPa;</p> <p>(b) for Class B equipment, 21 000 kPa;</p> <p>(c) for Class C equipment, 34 000 kPa;</p> <p>(d) for Class D equipment, 70 000 kPa.</p>	

<p>the depth is greater than 3600 metres and less than or equal to 6000 metres, (f) Class VI: a well in which the depth is greater than 6000 metres.</p>		
<p>8.132(1) The casing bowl shall have (a) the flange as an integral part of the casing bowl, (b) at least one side outlet which shall be flanged or studded for wells in Classes V and VI, and (c) at least one valve except where a drilling spool has been installed between the casing bowl and the lower ram type blowout preventer.</p>	<p>(3) When a well is being drilled, blowout prevention equipment must be continuously maintained so that the equipment (a) consists of a minimum of one annular preventer and 2 or more ram preventers, the latter to be comprised of a blank ram and one or more rams to close off around drill pipe, tubing or casing being used in the well, and (b) is connected to a casing bowl that is equipped with (i) an upper flange that is an integral part of the casing bowl, (ii) at least one side outlet that is flanged or studded for wells in Classes B, C and D, and (iii) at least one valve. (4) The blowout prevention equipment must (a) include steel lines or approved high pressure hoses connected to the blowout preventer assembly, one or more for bleeding off pressure and one or more for killing the well, (b) consist of components having a working pressure equal to that of the blowout preventers, except that part of the bleed off line or lines located downstream from the last control valve on the choke manifold, (c) have the valve hand wheel assembly in place and securely attached to the valve stem on all valves in the blowout prevention system, and (d) conform to the specifications set out in the</p>	

	handbook.	
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Accumulateur		
<p>8.133(1) All blowout preventers shall be hydraulically operated, and except for wells in Class I and Class IA, shall be connected to an accumulator system.(2) The accumulator system required by subsection (1) shall be(a) capable of providing without recharging, fluid of sufficient volume and pressure to open the hydraulically operated valve on the bleed-off line, to effect full closure of the annular preventer and to retain a pressure of 8400 kilopascals on the accumulator system,(b) installed and operated in accordance with the manufacturer's specifications,(c) connected to the blowout preventers and the hydraulically operated valve on the bleed-off line with lines of working pressure equal to the working pressure of the accumulator, and where lines are located under the substructure, be of steel construction unless completely sheathed with adequate fire resistant sleeving,(d) recharged by an automatic, pressure controlled pump capable of recovering within 5 minutes the accumulator pressure drop resulting from the operation of the hydraulically operated valve and the full closure of</p>	<p>22 (1) If hydraulically operated blowout preventers are installed, a clearly marked operating control indicating direction of closure for the annular blowout preventer must be located at least 15 m from the well.(2) The control valve regulating the closure of the annular preventer under subsection (1) must be free of any valve locking device.(3) All manual controls for locking of manual ram type blowout preventers must be installed or readily accessible in the immediate area.(4) If ram type blowout preventers are used at a cased well, the controls must be attached and be at least 5 m from the well.(5) All blowout preventers must be hydraulically operated and connected to an accumulator system.(6) The accumulator system required by subsection (5) must be(a) installed and operated in accordance with the manufacturer's specifications,(b) connected to the blowout preventers with lines of equivalent working pressure to the system, and within 5 m of the well the lines must be of steel construction unless completely sheathed with adequate fire resistant sleeving,(c) capable of providing, without recharging,</p>	

<p>the annular preventer,(e) capable of closing any ram type blowout preventer within 30 seconds using only the accumulator,(f) capable of closing any annular type blowout preventer of a size up to an including 350 millimetres bore diameter within 60 seconds,(g) capable of closing any annular type blowout preventer of a size greater than 350 millimetres bore diameter within 90 seconds, and(h) equipped with readily accessible fittings and gauge to determine the precharge pressure.</p>	<p>fluid of sufficient volume and pressure to close the annular preventer, close a ram preventer, open the hydraulically operated valve and retain a pressure of 8 400 kPa on the accumulator system,(d) recharged by a pressure controlled pump capable of recovering within 5 minutes the accumulator pressure drop resulting from the operation in paragraph (c),(e) capable of closing any ram type preventer within 30 seconds,(f) capable of closing the annular preventer within 60 seconds, and(g) equipped with readily accessible fittings and gauge to determine the precharge pressure of each nitrogen container.</p>	
<p>(3) The accumulator system shall be connected to a nitrogen supply capable of opening the hydraulically operated valve and capable of closing the annular blowout preventer and one ram type preventer. (4) The nitrogen supply required pursuant to subsection (3) shall (a) be under a pressure of not less than 12 500 kilopascals, and (b) have a gauge installed, or readily available for installation, to determine the pressure of each nitrogen container. (5) Ram type blowout preventers which are not equipped with automatic ram locking devices shall have hand wheels either installed or readily accessible for installation.</p>	<p>(7) If nitrogen cylinders are used as an emergency pressure source, sufficient usable nitrogen must be available at a minimum pressure of 8 400 kPa to fully close the annular preventer and pipe rams and open the hydraulically operated valve.</p>	
<p>Contrôles (commandes)</p>		
<p>(6) The blowout prevention system shall include (a) operating controls for each blowout preventer and the hydraulically operated valve on the bleed-off line, located near the driller's position so that access to them is not restricted, and (b) an additional set of operating controls that are (i) capable of closing each</p>		

<p>blowout preventer and opening the hydraulically operated valve on the bleed-off line, (ii) located at least 15 metres from the well, and (iii) readily accessible and shielded or housed to protect the operator from the flow from the well.</p>		
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Système de pompage

<p>8.134(1) The blowout prevention system shall, except for wells in Class I and Class IA, include a kill system for the purpose of pumping fluid into the well.(2) The kill system required by subsection (1) shall(a) consist of an arrangement of valves and steel lines which have a working pressure equal to that of the blowout prevention system specified in Schedule 8 for the applicable class of well,(b) have a kill line connecting the mud line to the drilling spool,(c) for wells in Classes V and VI, have the kill line connected to each drilling spool so that fluid may be pumped through either or both spools,(d) be valved to isolate the kill line from the stand pipe,(e) have two flanged valves installed on each drilling spool, and(f) have lines of at least 50 millimetre nominal diameter, except for wells in Classes V and VI which shall be 75 millimetres.(3) A flexible hose may be installed in place of the steel kill line provided that the hose(a) has a pressure rating equal to that of the blowout preventer system,(b) has the same internal diameter as the steel line,(c) has factory installed connections,(d) is sheathed to provide an adequate fire resistant rating,(e) is marked so that its manufacturer can be readily identified,(f) does not contain bends with a radius less than the manufacturer's specified minimum bending radius,(g) is secured to prevent stresses on connecting valves and piping, and is protected from</p>		
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<p>mechanical damage, and (h) is shop serviced and shop tested to its working pressure at least once every three years and the test data and maintenance performed shall be recorded and made available to the Board upon request.</p>		
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Conduites d'évacuation de la pression

<p>8,135 (1) The blowout prevention system shall include a bleed-off system for the purpose of bleeding off well pressure. (2) An accurate pressure gauge and other necessary equipment must be installed or readily accessible for installation on the stand pipe or other suitable connection to provide the drill pipe pressure at the choke control location. (3) The bleed-off system required by subsection (1) shall (a) consist of an arrangement of valves, chokes and steel lines which have a working pressure equal to that of the blowout prevention system specified in Schedule 8 for the applicable class of well, except that part of the bleed-off line downstream from the last valve on the bleed-off manifold, and (b) contain only straight pipe or 1.57 radian bends constructed of tees and crosses blocked on fluid turns, and (c) be securely tied down. (4) The bleed-off system for wells in Class I shall consist of</p>	<p>21 (1) The bleed off lines referred to in section 20 (4) must be (a) a minimum nominal 76 mm diameter of uniform bore, (b) connected only by weld neck flanges that are perpendicular to the line to which they are attached, (c) equipped with a gauge connection where well pressures may be measured, (d) connected to (i) a choke manifold, and (ii) a mud tank through a mud gas separator, and (e) if the lines are downstream of the choke manifold, securely held down and terminated in a slightly downward direction into an earthen pit. (c) all choke manifold and bleed off lines must (i) be securely tied down, and (ii) contain only pipe that is straight or with 1.57 radian bends (90°) and which is constructed of flanged, studded or welded tees, blank flanged or bull plugged on fluid turns</p>	<p>33. Le titulaire de permis de forage de puits doit inclure un réseau de conduites au système anti-éruption. Ce réseau de conduites comprend 2 tuyaux d'acier, l'un servant au retour du fluide de forage et l'autre à la détente de la pression. 34. Les tuyaux d'acier doivent être: 1° situés au-dessous d'un obturateur du système anti-éruption; 2° munis d'une vanne de contrôle; 3° d'un diamètre supérieur à 50 mm et capables de supporter une pression continue égale à celle du système anti-éruption.</p>
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<p>(a) a line having a minimum nominal diameter of 75 millimetres, containing a quick opening valve and terminating in an earthen pit at least 50 metres from the well when drilling with mud, or</p> <p>(b) a line having a minimum nominal diameter of 100 millimetres and terminating in an earthen pit at least 50 metres from the well when drilling with air.</p> <p>(4.1) The bleed-off system for wells in Class IA shall consist of</p> <p>(a) a minimum 152 mm full opening remotely activated valve, and</p> <p>(b) a 152 mm bleed-off line.</p> <p>(4.2) If the bleed-off line referred to in subsection (4.1) terminates in a flare tank, the Board may on application reduce the length of the line from 50 m to 25 m</p>		
<p>(5) The section of bleed-off line connecting the drilling spool to the choke manifold shall</p> <p>(a) have a nominal diameter of at least 75 millimetres,</p> <p>(b) be connected by flanges and conform to the requirements specified in subsection (3),</p> <p>(c) be connected to both spools for wells in Classes V and VI,</p> <p>(d) contain 2 flanged valves installed on the drilling spool, one of which must be hydraulically operated, and where 2 spools are installed the hydraulically operated valve shall be connected to the upper spool, and</p> <p>(e) for wells in Classes V and VI contain a valved outlet on the line from the lower spool for the purpose of installing an auxiliary bleed-off line directly to the flare pit.</p> <p>(6) A flexible hose may be installed in the section of bleed-off line connecting the drilling spool to the choke manifold provided the hose conforms to the requirements specified in section 8.134, subsection (3).</p>		
<p>Contrôle d'étranglement</p>		

<p>(7) The choke manifold shall(a) be constructed in conformance with the requirements of subsection (3),(b) have flanged connections for wells in Classes IV, V and VI,(c) permit the flow from the well to be diverted(i) to the flare pit through a 75 millimetre minimum nominal diameter line, and(ii) to a mud system line and a flare pit line through either of two 50 millimetre minimum nominal diameter choke lines, 75 millimetre minimum for wells in Classes V and VI,(d) contain two adjustable chokes, one in each choke line, valves to isolate each choke, and for wells in Classes V and VI one choke must be remotely operated,(e) be constructed with a valved outlet located so that regardless of which line is in use, the casing pressure can be monitored by an accurate pressure gauge which shall be either installed or readily accessible for installation,(f) be equipped so as to provide the casing pressure at the choke control where a remotely operated choke is installed,(g) be constructed to provide the flow paths illustrated in Schedule 8, although not necessarily conforming to the exact configurations there shown,(h) be located outside the substructure, readily accessible and heated to protect the manifold from freezing.</p>	<p>(2) The choke manifold referred to in subsection (1) (d) (i) must be(a) located(i) a minimum distance of 20 m from the well bore, or(ii) in a satisfactory position outside the substructure, isolated from the mud tank,(b) designed(i) to conform with Class A, B, C or D equipment, and(ii) to permit the flow to be directed through a full opening line or through either of the 2 lines each containing an adjustable choke,(c) equipped with accurate metric pressure gauges to provide drill pipe and casing pressures at the choke manifold once the surface casing is cemented in place, and(d) enclosed by a suitable housing, with adequate heat to prevent freezing.</p>	
<p>8.139 The licensee shall maintain on the drilling rig in a readily accessible location a full opening drill string safety valve in the open position and a device capable of stopping back-flow, both of which can be stripped into the well when installed in the drill pipe or drill collars.</p>	<p>(5) At all times when a well is being drilled (a) a valve must be installed in the kelly assembly, (b) a full opening stabbing valve that can be connected to the drill pipe, drill collars or tubing in the well and a device capable of stopping any back flow up the drill string must be provided, and . (6) The full opening stabbing valve referred to in subsection (5) (b) must (a) be provided with</p>	

	<p>removable handles to facilitate handling by 2 persons, (b) be stored in the control centre (dog house) or other satisfactory location so as to be readily available for use with the valve in the open position, and (c) have the valve closing handle attached to the valve holding stand.</p>	
<p>(8) A line from the manifold to the mud system shall (a) be connected to each choke line, (b) be at least the same nominal diameter as the choke lines, and (c) direct the flow to a mud tank through a mud-gas separator except where the pump suction is taking fluid from earthen pits. (9) The section of bleed-off line downstream from the last valve on the choke manifold to the flare pit shall (a) have a nominal diameter of at least 75 millimetres, (b) extend at least 50 metres from the well and be securely tied down, and (c) terminate in a slightly downward direction into an earthen pit which shall (i) be excavated to a depth of not less than 2 metres, (ii) have side and back walls rising not less than 2 metres above ground level, (iii) be constructed to resist the erosion of a high pressure flow of gas or liquid, and (iv) be shaped to contain the liquid. (10) Auxiliary bleed-off lines, where installed, shall be at least the same nominal diameter as the lines being extended and conform to the requirements of subsection (9).</p>		
Dégazeur		

	<p>(3) The mud gas separator referred to in subsection (1) (d) (ii) must</p> <p>(a) be of a design to ensure personnel safety and adequate mud gas separation, and</p> <p>(b) be connected to a securely fastened inlet line and outlet line, and the outlet line must</p> <p>(i) be at least one size larger than the inlet line, and</p> <p>(ii) terminate in an earthen pit, or flare pit, 50 m from the well.</p> <p>(4) The earthen pit referred to in subsection (1) (e) must</p> <p>(a) be excavated to a depth of not less than 2 m,</p> <p>(b) have side and back walls rising not less than 2 m above ground level,</p> <p>(c) be constructed to resist the erosion of a high pressure flow of gas or liquid, and</p> <p>(d) be shaped to contain any liquids.</p>	
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Opérations par temps froids

<p>8.138 During cold weather operations, the licensee shall ensure that(a) sufficient heat is provided to the blowout preventer stack and associated valves, kill system, and accumulator system and choke manifold to maintain their effectiveness, and(b) all lines in the bleed-off system, including those sections between the blowout preventers and the choke manifold, are(i) empty,(ii) filled with a non-freezing fluid that is miscible with water, or(iii) heated.</p>		
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Forage à l'air

<p>8.140 Where a well is being drilled with air, the licensee shall install and maintain</p> <p>(a) in addition to the blowout prevention equipment required in Schedule 8, a rotating head that diverts the flow during the period the well will be drilled with air,</p> <p>(b) a diverter line not less than 50 metres in length,</p> <p>(c) a reserve volume of drilling fluid equal to at least 1.5 times the capacity of the hole,</p> <p>(d) when drilling formations</p>		
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<p>that may contain hydrogen sulphide, a continuous hydrogen sulphide monitor on the diverter line, and (e) a continuous ignition device at the end of the diverter line.</p>		
<p>Inspection et vérification des systèmes anti-éruption</p>		
<p>(7) At least once every three years all blowout preventers shall be shop serviced and shop tested to their working pressure and the test data and maintenance performed shall be recorded and made available to the Board upon request.</p>	<p>Testing of blowout prevention equipment 23 (1) Blowout equipment must be shop serviced and shop tested to its working pressure at least once every 3 years and the test data and maintenance performed must be recorded and made available on request to an authorized commission employee.</p>	
<p>8.141(1) The licensee of a well shall ensure that a ten minute pressure test is conducted on the casing and (a) each ram type blowout preventer prior to drilling the cement out of the surface, intermediate and production casing, to 1400 kilopascals with a low viscosity fluid, and the test shall be conducted prior to each ram type test described in clauses (b) and (c), (b) each ram type and annular blowout preventer and the bleed-off manifold prior to drilling the cement out of the surface casing, to 7000 kilopascals or to a pressure numerically equivalent in kilopascals to 50 times the setting depth in metres of the surface casing, whichever is the lesser, (c) each ram type blowout preventer and the bleed-off manifold prior to drilling the cement out of the intermediate and production casing to a pressure equivalent to the working pressure of the ram type preventer, except that, where the pressure at the casing shoe would exceed 67 per cent of the casing burst pressure, the casing shall be excluded from the test by using a casing hanger plug,</p>	<p>(2) Prior to drilling out cement from any string of casing, each unit of the blowout prevention equipment must be pressure tested, first to a pressure of 1 000 kPa and then to at least 7 000 kPa, each for a period of 10 minutes, and until the equipment passes the test, further drilling must not proceed.</p>	<p>29. Le titulaire de permis de forage de puits doit, lors de la mise en place du système anti-éruption, du tubage ou de l'équipement de surface nécessaire aux essais d'écoulement du puits, effectuer la vérification sous pression de leur étanchéité. Dans le cas de la mise en place du tubage, cette vérification doit être effectuée avant le forage du sabot.</p>

<p>and (d) each annular preventer, prior to drilling the cement out of the intermediate and production casing, to a pressure equivalent to one-half its working pressure. (2) The licensee shall not proceed with any operation at a well until the tests required in subsection (1) have been satisfactorily completed.</p>		
<p>Vérifications du coffrage</p>		
		<p>32. Le titulaire de permis de forage de puits doit effectuer un essai de pression sur la formation avant de forer à plus de 60 m au-dessous de tout tubage autre que le tubage initial, sauf dans le cas d'une complétion à trou ouvert ayant déjà été prévue au programme de forage exigé selon l'article 15.</p>
<p>(3) Casing exposed to drill pipe wear shall be tested every 30 days to determine its adequacy for pressure control by either (a) running a casing inspection log to determine casing wear, or (b) pressure testing to a pressure not greater than 50 per cent of the burst pressure of the weakest section of the casing, or to the working pressure of the blowout preventers, whichever is lesser.</p>	<p>(3) Casing exposed to drill pipe wear must be tested every 30 days to determine its adequacy for pressure control by either (a) running a casing inspection log to determine casing wear, or (b) pressure testing to a pressure not greater than 50% of the burst pressure of the weakest section of the casing, or to the working pressure of the blowout preventers, whichever is less.</p>	

<p>(4) The licensee of a well shall ensure that the appropriate blowout prevention equipment is mechanically tested at least daily and any equipment found defective shall be made serviceable before operations are resumed.(5) For any annular type blowout preventer, all mechanical and pressure tests required by this section shall be conducted with pipe in the hole.(5.1) In the case of a Class IA well,(a) a daily function test must be conducted on the annular preventer,(b) the full-opening valve on each well must be function tested at least once, and(c) pressure tests under this section are not required.(6) All tests shall be reported in the drilling log book, and in the case of a pressure test, the report shall show the blowout preventer tested, the test duration and the test pressures observed at the start and finish of each test.(8) Prior to assembly, all connections between the choke manifold and mud gas separator and between the choke manifold and the end of the flare line shall be visually inspected.(9) After assembly of the connections, an inspection shall be conducted to ensure proper make-up.(10) The results of the inspections under subsections (8) and (9) shall be recorded in the drilling log book.</p>	<p>(4) While a well is being drilled or tested during drilling operations(a) the appropriate blowout prevention equipment must be operated daily and if found to be defective it must be made serviceable before operations are resumed,(e) the Canadian Association of Oilwell Drilling Contractors (C.A.O.D.C.) placard or the operator's Well Control Procedures placard must be prominently displayed in the control centre (dog house) and must be maintained to be legible at all times, and(6) Full particulars of all tests must be reported in the daily report, and in the case of a pressure test the pressure applied and the duration of the test must be recorded.</p>	<p>30. L'état de fonctionnement du système anti-éruption doit être vérifié toutes les 24 heures.</p>
	<p>(f) a diagram of the trip tank and the trip tank volume indicator must be prominently displayed in the control centre (dog house). (5) The trip tank volume indicator referred to in subsection (4) (f) must specify the trip tank volume and each volume graduation on the scale.</p>	
<p>8.136 Where a mud tank is in service, the licensee shall install and maintain a mud-gas separator connected to a separate flare line with a diameter at least 25 millimetres larger than the</p>		

inlet line and terminating in an earthen pit 50 metres from the well.		
Réservoir de fluide de forage		
<p>8.137(1) Where a <i>mud tank</i> is in use, a device shall be installed and maintained to provide warning at the driller's position of a change of the level of fluid in the mud tank or of an imbalance in the volume of fluids entering and returning from the well, and for wells in Classes V and VI, the device shall be either electrically, pneumatically or hydraulically operated.</p> <p>(2) The drilling mud system shall be equipped with a device to accurately measure the volume of drilling fluid required to fill the hole while pulling pipe from the well.</p> <p>(3) The licensee, while pulling pipe from a well, shall ensure that</p> <p>(a) the hole is filled with drilling fluid at sufficiently frequent intervals so that the fluid level in the wellbore does not fall below a depth of 30 metres or such greater depth as the Board may approve, and</p> <p>(b) the volume of fluid is recorded each time the hole is filled.</p> <p>(4) If a potential hydrocarbon bearing zone has been penetrated, either a bottoms-up circulation shall be conducted or a weighted tripping pill shall be pumped prior to pulling pipe from the well.</p>	<p>(4) Subject to subsection (5),</p> <p>(a) if a mud tank is in use, a device must be installed and maintained visible to the driller's position warning of a change of the fluid level in the mud tank or of an imbalance in the fluids entering and returning from the well, and the device must be either electrically, pneumatically, hydraulically or mechanically operated and maintained in working order at all times,</p> <p>(b) the drilling mud system must be equipped with a trip tank with a volume of approximately 5 m³ to accurately measure the fluid required to fill the hole while pulling pipe from the well, and the trip tank must</p> <p>(i) be constructed so that the cumulative volume can be reliably and repeatedly read to an accuracy of 0.15 m³ (150 litre) from the driller's position,</p> <p>(ii) be tied into the mud return line,</p> <p>(iii) be equipped so that drilling fluid can be transferred into and out of the trip tank, and</p> <p>(iv) be located in or within 10 m of the shale shaker end of the mud tank and be readily accessible to afford visual observance of the fluid level, and</p> <p>(c) the operator, while pulling pipe from a well, must ensure that</p> <p>(i) the hole is filled with drilling fluid at such frequency as required so that the fluid level in the well bore does not fall below a depth of 30 m, and</p> <p>(ii) a permanent record of volumes that are required to fill the hole is retained and submitted as part of the daily drilling reports.</p>	
Test d'écoulement		

<p>(5) A 5-minute flow check shall be conducted and recorded in the drilling log book at the following stages during trips:(a) during a trip-out, (i) after pulling the first 5% of the drill pipe from the hole,(ii) at the mid-point depth of the well bore,(iii) prior to pulling the first stand of drill collars from the hole, and(iv) after all of the drill string is pulled out of the hole;(b) during a trip-in,(i) on reaching the surface casing shoe with the drill string, and(ii) at the mid-point depth of the wellbore(6) In the case of Class III wells, the trip tank design must be such that a change in level of 25 mm equals a volume change of not more than 0.075 m³, equating to a maximum surface area of 3.0 m².(7) Notwithstanding subsection (6), a trip tank with larger surface areas is permitted if equipped with an electronic trip tank monitoring device capable of showing volume changes of 0.03 m³ or less, in the oversized tank.(8) Unless an electronic pit volume totalizer is installed and operating, the driller shall at all times know the normal fluid level in the mud tanks as indicated by the pit level indicator.</p>	<p>5) If it is impracticable or unsafe to follow a procedure or precaution required by subsection (4), an equivalent procedure or precaution may be adopted to ensure safe operation.</p>	
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Qualifications et entraînement du personnel

<p>8.142(1) The licensee of a well shall at all times ensure that (a) the rig crew is trained in the operation of the blowout prevention equipment, (b) the driller has a “First Line Supervisor” certificate issued within the previous three years by the Petroleum Industry Training Service in blowout prevention and kick control procedures, (c) a Licensee Wellsite Representative and a Rig Manager (Tool Push) possess a “Second Line Supervisor’s” certificate in well control procedures, issued within the previous 2 years by the Petroleum Industry Training</p>	<p>24 (1) The rig crew must have an adequate understanding of, and be able to operate, the blowout prevention equipment and the contractor or rig crew must Personnel qualifications 29 (1) The following requirements must be complied with at all times while a well is being completed, serviced or reconditioned: (a) the following people must possess a Well Service Blowout Prevention Certificate issued within the last 5 years by the Petroleum Industry Training Service: (i) the driller on tour; (ii) the rig manager (tool</p>	
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<p>Service, and that a Licensee Wellsite Representative or a Rig Manager (Tool Push), or both, are readily available at all times, (c.1) except for wells in Class I, Class IA and Class II, if hydrocarbon-bearing zones have been penetrated, either the Rig Manager or the Licensee Wellsite Representative</p> <p>(i) shall be on site during tripping in or out of the well, and</p> <p>(ii) shall possess a valid "Second Line Supervisor's" well control certificate,</p>	<p>push);</p> <p>(iii) the operator's representative;</p> <p>(a) test the operation and effectiveness of the blowout prevention equipment when requested by an authorized commission employee, and</p> <p>(b) record drills performed in accordance with paragraph (a) in the daily drilling reports.</p>	
	<p>(b) at least one person must be on tour at the well site who</p> <p>(i) is trained in blowout prevention, and</p> <p>(ii) has a first line supervisor certificate issued within the past 3 years by the Petroleum Industry Training Service, and evidence of his or her qualifications must be made available to an authorized commission employee on request,</p> <p>(c) the rig manager (tool push) and the operator's representative at the well site must</p> <p>(i) be trained in blowout prevention, and</p> <p>(ii) possess a second line supervisor certificate issued within the past 2 years by the Petroleum Industry Training Service, and a copy of their qualifications must be made available to an authorized commission employee on request,</p> <p>(d) the operator's representative must confirm with the commission that he or she possesses a valid second line supervisor certificate by a visit to the office or by phone prior to assuming first responsibility at a well site in British Columbia, or as soon as possible thereafter,</p>	

<p>(d) blowout prevention drills are performed prior to drilling out the surface casing shoe,</p> <p>(e) blowout prevention drills are performed by each drilling crew every seven days,</p> <p>(f) drills performed in accordance with clauses (d) and (e) are recorded in the drilling log book, and</p> <p>(g) the procedures, calculations, formulas and current data needed to control a kick at a well are posted at the rig in a form acceptable to the Board.</p> <p>(1.1) Notwithstanding subsection (1)(c.1)(i), if it is necessary to make an unscheduled trip when neither of the persons referred to in subsection (1)(c.1) is present, the trip may commence immediately after contacting one of those persons and, in that case, the person shall return to the wellsite immediately on being contacted.</p> <p>(2) The licensee shall make available to the Board upon request evidence of the qualifications of any person referred to in subsection (1)(b), (c) and (c.1).</p>	<p>(2) Each rig crew must perform a blowout prevention drill every 7 days, or as conditions permit in accordance with the Well Control Procedure placard issued by the Canadian Association of Oilwell Drilling Contractors or as outlined by the Petroleum Industry Training Service, Blowout Prevention Manual.</p> <p>(3) Blowout prevention equipment must be maintained so that its operation will not be impaired by adverse weather conditions.</p> <p>(b) blowout prevention drills must be performed by each rig crew every 7 days or once per well, whichever is more frequent;</p> <p>(c) drills performed in accordance with paragraph (b) must be recorded in the servicing log book.</p> <p>(2) Evidence of the qualifications of any person referred to in subsection (1) (a) (i) or (iii) must be made available to an authorized commission employee on request.</p> <p>(3) The rig crew must have an adequate understanding of, and be able to operate, the blowout prevention equipment and, when requested by an authorized commission employee, the contractor or rig crew must</p> <p>(a) test the operation and effectiveness of the blowout prevention equipment, and</p> <p>(b) perform a blowout prevention drill in accordance with the Well Control Procedure placard issued by the Canadian Association of Oil Well Drilling Contractors or as outlined by the Petroleum Industry Training Service, Blowout Prevention Manual.</p>	
<p>essai aux tiges</p>	<p>Drill stem test recovery</p>	<p>Essai aux tiges</p>

<p>8.143 When a drill stem test is conducted on a well, the licensee shall ensure that there is (a) a device installed above the down-hole test equipment to allow circulation of fluids through the drill string, and (b) a remote controlled master valve installed on the testing head.</p>	<p>61 (1) If oil or gas has been recovered during a drill stem test, the drill pipe must not be pulled during hours of darkness, unless positive steps have been taken to ensure that there is no possibility of oil or gas being present in the drill pipe. (2) Gas produced to the atmosphere for a period exceeding 10 minutes during a drill stem test must be burned through a flare line in accordance with section 58 (3).</p>	<p>42. Au cours d'un essai aux tiges, lorsque de l'huile ou du gaz est récupéré, le titulaire de permis de forage de puits doit installer une valve contrôlée à distance permettant de fermer la circulation de gaz et il ne peut retirer les tiges du puits pendant la nuit que si l'appareil de forage est muni d'un système d'éclairage permanent permettant d'éclairer toutes les opérations s'effectuant sous la tour de forage. 43. Au cours d'un essai aux tiges, lorsque du gaz, de l'huile ou de l'eau est récupéré, le titulaire de permis de forage de puits doit, le jour même, en aviser le ministre par écrit, prélever des échantillons du gaz, de l'huile ou de l'eau récupéré et lui remettre les résultats d'analyses de ces prélèvements au plus tard 1 mois après la fin du forage.</p>
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Opérations de production (voir autre fichier)

<i>Fencing</i>	<i>Other requirements</i>	<i>complétion de puits</i>
<p>8.170 (1) At each battery at which the hydrogen sulphide concentration in a representative sample of the gas from any well producing to the battery is found to exceed 10 moles per kilomole, or such higher or lower ratio as the Board may by order stipulate in a particular case, the licensee shall construct and maintain an adequate fence around the battery, but the Board, on application, may exempt a battery from the provisions of this section where it is of the opinion that the pressures, nature of production, remoteness of area or other circumstances warrant the exemption.</p>	<p>30 The operator of a well must ensure that (a) the location of the equipment used at the well site is spaced at the minimum distance specified in the handbook, and (b) a service rig used at the well site has an operable horn on the drilling control panel for sounding alerts.</p>	<p>Le programme de complétion visé au paragraphe 1 du deuxième alinéa doit démontrer que les travaux seront réalisés conformément aux règles de l'art de manière à assurer la sécurité des personnes, des biens et de l'environnement ainsi que la pérennité de la ressource. Dans le cas d'une complétion de puits effectuée pour la recherche ou l'exploitation de réservoir souterrain, les exigences du deuxième alinéa de l'article 115 doivent être respectées, en tenant compte des adaptations nécessaires</p>
<p>(2) For the purpose of subsection (1) a fence shall be considered adequate if, (a) where a battery is within 800 metres of an occupied dwelling, rural school, picnic grounds or the like, it is at least 2 metres high, small mesh industrial type, completely enclosing the</p>		<p>51. Le titulaire de permis de complétion de puits doit, lorsque les différences de pression de 2 zones nuisent à la récupération des substances minérales ou à l'utilisation du réservoir souterrain à cause de l'absence de séparation entre les zones, compléter le puits</p>

<p>battery, and equipped with a gate that is locked when the battery is unattended, or (b) where a battery is located elsewhere, it is a cattle type fence with a minimum of four strand barbed wire and either a gate or cattle guard.</p>		<p>soit comme zone unique ou soit comme puits à zones multiples séparées.</p>
<p>8.171 If the Board considers that a facility, other than a battery, may, due to its location or nature, constitute a serious hazard to the general public, the Board may require that the facility be fenced in accordance with section 8.170(2).</p>		<p>52. Le titulaire de permis de complétion de puits doit remettre au ministre, au moins 15 jours à l'avance, un avis écrit l'informant de la date prévue pour l'exécution des travaux d'entretien d'un puits et de la nature de ces travaux.</p>
<p>8.180 (1) The licensee of a well that is equipped with a pumping unit and located in or within 800 metres of the boundaries of a city, town, new town, village, summer village, hamlet or other incorporated centre, unrestricted country development, public facility, picnic area or campground shall enclose the well and pumping unit with a fence suitable for preventing access to or tampering with the well and pumping unit. (2) A fence required by subsection (1) shall be (a) of steel mesh, with the mesh not greater than 130 square centimetres, (b) not less than 2 metres high, (c) placed around the entire pumping unit, well head and cellar, and (d) equipped with a gate that is locked when the well is unattended. (3) If, in the opinion of the Board, the location of a well that is equipped with a pumping unit is such that it is or may become a serious hazard to the general public, the Board may require that the well be fenced in accordance with subsection (2). (4) The Board may, on application, exempt the licensee from or vary any of the requirements of this section if, in the opinion of the Board, circumstances warrant</p>		<p>53. Lors de la complétion d'un puits, le titulaire de permis de complétion de puits doit équiper ce puits d'un tube de production et d'une tête de puits permettant d'en assurer le contrôle en tout temps. 54. Lors des traitements de stimulation de la production, le titulaire de permis de complétion de puits ne doit pas soumettre le tubage à une pression supérieure de 75% de sa résistance nominale à l'éclatement</p> <p>4° dans le cas d'un puits sur terre, la tête de puits doit être indiquée et protégée par une clôture ou un abri;</p>

<p>the exemption or variation.</p>		
<p>General</p>	<p>Good engineering practice</p>	
<p>8.190(1) The licensee or operator of a well shall not permit a well to flow uncontrolled.(2) The licensee shall(a) record in the drilling log book, any uncontrolled flow of gas or liquid from the well, and(b) record the remedial measures taken to control the flow.(3) The licensee shall advise the appropriate area office of the Board immediately by the quickest, most effective means, of any well flowing uncontrolled.(4) Within 30 days after a well flowing uncontrolled is controlled, the licensee shall submit to the Board a detailed written report of the reasons for the uncontrolled flow and the operations undertaken to control the well.</p>	<p>101 (1) On application from an owner or owners, an authorized commission employee may approve the operation of a well or group of wells in a specified area under GEP if (a) the applicant has demonstrated to the satisfaction of an authorized commission employee that reduction in ultimate recovery will not result from the proposed scheme, (b) letters from owners of spacing areas within the area of the proposed scheme, indicating their reaction to the proposed scheme, have been filed with the commission, (c) a sufficient level of technical information has been filed in accordance with guidelines specified by the commission, and (d) other information considered appropriate by an authorized commission employee has been filed. (2) On approval of a scheme under subsection (1), an authorized commission employee may (a) establish or remove a daily oil or gas allowable or oil and gas allowable for the GEP area, subject to section 73 (8) or 88 (7), and (b) grant to the owner or owners referred to in subsection (1) an exemption in writing from the application of sections 9 and 10, subject to any conditions that the authorized commission employee considers prudent</p>	

	<p>or necessary.</p>	
<p>8.191 The licensee shall, upon request from the Board or its representative, determine the formation fracture pressure at the casing shoe.</p>		
<p>Class C special sour wells 31 (1) Blowout preventers used on Class C special sour wells must conform to the following requirements: (a) all internal metallic blowout preventer components which may be exposed to sour effluent must be certified as being manufactured from materials meeting the requirements of the National Association of Corrosion Engineers; (b) the pressure rating of each blowout preventer must be equal to or greater than that of the production casing flange or the formation pressure, whichever is the lesser; (c) on special sour wells, blowout preventers must not be used for any other function except well control; (d) blowout preventer equipment must be fully assembled and tested prior to installation on the well; (e) all blowout preventer components must be pressure tested to 1 000 kPa and to a minimum of 1.2 times the well's shut-in tubing pressure for 10 minutes each and must perform without leakage;</p>	<p>7.060(1) This section applies to any well which produces gas containing more than 10 moles per kilomole hydrogen sulphide, or such higher or lower ratio as the Board may stipulate with respect to any well, pool or area, having regard to pressures, nature of production, remoteness of the area and other circumstances. (1.5) Where no gas analysis has been taken from the well within the preceding 12-month period, gas from the formation produced at the well shall be tested at the commencement of flaring to determine the hydrogen sulphide content. (2) Where a flare line is installed at a gas well for burning gas produced during normal depressurizing operations or other routine flaring, the licensee shall provide a flare stack constructed in accordance with the specifications for a flare line set out in subsection (4). (3) Where a pressure relief valve, rupture disk or burst plate is installed on a separator, dehydrator or other pressure vessel which receives production from a</p>	

<p>(f) all tests must be documented, recorded and filed for future reference;</p> <p>(g) assembly on site must be supervised by qualified personnel with advice, if required, solicited from the component supplier;</p> <p>(h) all blowout preventer tests must be witnessed by the operator and contractor representatives;</p> <p>(i) if any component of the blowout preventer is disassembled (e.g. opening of ram gates), a full blowout preventer test is required;</p> <p>(j) following initial inspection, blowout preventer components are to be pressure tested weekly to a maximum anticipated working pressure if operations permit;</p> <p>(k) the primary well control components, with the exception of the shear ram, must be operated daily, provided it is operationally safe to do so and all operating tests and blowout preventer drills must be recorded on the tour sheet;</p> <p>(l) blowout preventer systems must be shop serviced and overhauled every 3 years</p> <p>(2) All contractors supplying blowout preventer equipment must maintain documentation pertaining to equipment material certification, testing, repair and maintenance, and this data must be available at the operating location for review by the operating company and an authorized commission employee.</p> <p>(3) If the records required under subsection (2) are not available for the equipment, the equipment must be recertified prior to use, and the recertification must be acceptable to the operating company and an authorized commission employee.</p> <p>(4) Shear rams are required if</p> <p>(a) operations complexity and residential density indicate a high level risk factor during a completion or workover, or</p> <p>(b) ordered by an authorized commission employee.</p>	<p>gas well, the valve, rupture disk or burst plate fitting shall be connected to the flare stack required by subsection (2).</p> <p>(3.1) Where a pressure relief valve, rupture disk or burst plate is installed on a separator, treater or other pressure vessel that receives production from an oil well, the vessel shall be equipped with pressure and liquid level sensors that cause a valve installed on the inlet to close and isolate the vessel from the flow stream.</p> <p>(3.2) The Board may, on application, exempt an operator from the requirements of subsection (3.1) and permit the use of a tank referred to in section 8.031 where, in the opinion of the Board, the nature of the production, the remoteness of the area or any other circumstance warrants the exemption.</p> <p>(4) Where gas is produced from any well to the atmosphere for a period exceeding 10 minutes during a drill stem test, the licensee shall burn the gas through a flare line which shall</p> <p>(a) terminate with a vertical riser of at least 12 metres or such greater or lesser height as the Board directs in a particular case,</p> <p>(b) be provided with a suitable guard to prevent the wind from extinguishing the flame,</p> <p>(c) if the gas flow may be intermittent, be provided with a sweet gas pilot or ignition device to ensure continuous ignition of any vented gas, and</p> <p>(d) be provided with a suitable vessel to separate and collect any liquids to prevent the liquids from reaching the flame.</p> <p>(7) Where liquids are produced from a well during any test, during any period of cleaning out the well or during well servicing operations, the liquids shall be separated and piped to a storage tank and all</p>	
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<p>(5) If under subsection (4) shear rams are required, they must be arranged as outlined in the handbook.</p> <p>(6) Alternatively, a shear/blind ram, as shown in the handbook, may be used in place of a conventional blind ram and, when used, a ram blanking tool must be available to provide a back up to the sealing capabilities of the blind ram.</p> <p>(7) If a shear ram is used (in addition to a Class B blowout preventer), the accumulator must be sized to either operate the Class B blowout preventer in accordance with section 29 or shear the completion string without recharge, whichever is the greater volume.</p> <p>(8) If a shear/blind ram is used (in addition to a Class B blowout preventer), the accumulator must be sized to operate the Class B blowout preventer in accordance with section 29 and must be sized to provide sufficient power fluid to shear the completion string without recharge.</p> <p>(9) The nitrogen supply or the system back up must be capable of closing all blowout preventers including the shear/blind ram and shear pipe in use.</p> <p>(10) If a shear ram is used (in addition to a full Class B blowout preventer), the control should be solely at the master (accumulator) panel to avoid accidental shear ram closure and, if the shear ram replaces the blind ram, the remote panel must operate the ram.</p> <p>(11) In addition to the standard well control procedures which may be posted in the dog house, the details of shear ram operation must be posted where shear rams are used.</p> <p>(12) Flanged blowout preventer working spools with 2 flanged side outlets are required on critical sour wells.</p> <p>(13) Working spools must include</p>	<p>gas shall be discharged to a flare stack that meets the requirements of subsection (4)(a), (b) and (c).</p> <p>(8) Unless the licensee of a well equips and operates the well so that the maximum operating flow line gauge pressure cannot exceed 1400 kilopascals, the licensee shall install on the wellhead a mechanism that halts the flow of oil or gas in the event of an uncontrolled drop in pressure or an equipment failure.</p> <p>(9) The licensee of the well shall, when requested to do so by the Board, file with the Board an outline of emergency procedures to ensure public safety that will be followed by the licensee in the event of an uncontrolled emission of oil or gas.</p> <p>(9.5) At least 24 hours in advance of any flaring operations, notice shall be given</p> <p>(a) to the Board field office,</p> <p>(b) for oil wells, to all rural residents and administrators of any incorporated centres or hamlets within a 1.5-kilometre radius of the well, and</p> <p>(c) for gas wells, to all rural residents and administrators of any incorporated centres or hamlets within a 3-kilometre radius of the well.</p> <p>(10) The Board may by order and upon application exempt a well, pool or field from any provision of this section where, in the opinion of the Board, the pressure, nature of production, remoteness of area or other circumstances warrant the exemption.</p>	
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<p>(a) outlets with full opening gate valves to serve as primary control,</p> <p>(b) a kill side with a primary valve and a check valve, while the bleed off line must have a primary and a secondary (backup) valve, and</p> <p>(c) valves with a working pressure rating equal to or greater than the blowout preventer.</p> <p>(14) The stabbing valve must conform to the following requirements:</p> <p>(a) it must be a National Association of Corrosion Engineers full opening valve with the proper threads to mate to the completion string thread in use;</p> <p>(b) the valve must have a pressure rating equal to or greater than the blowout preventer pressure rating;</p> <p>(c) extended bales must be used to allow string weight to be borne by the tubing, rather than the stabbing valve;</p> <p>(d) the valve must not be used as a working valve;</p> <p>(e) the stabbing valve must be stored in an area immediately accessible to the wellbore, left in the open position, and kept clean, properly maintained, ice free and ready for use.</p> <p>(15) The service rig pump must not be used as a well control manifold.</p> <p>(16) A sour service separator/flare stack system, including appropriate manifolding, must be used to process sour well effluent.</p> <p>(17) The heat source must be suitable for the electrical area classification in which it is used.</p> <p>(18) Lighting must be adequate to ensure complete visibility of the well control system.</p>		
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<p>Personnel at special sour wells</p> <p>32 (1) Repealed. [B.C. Reg. 390/2004, s. 10.]</p> <p>(2) Every representative, rig manager and driller must have the following qualifications:</p> <p>(a) H₂S rescue training;</p> <p>(b) well service blowout prevention certification.</p> <p>(3) While servicing operations are in progress, the representative must be at the work site and, in the case of 24 hour operations, there must be 2 representatives available for work.</p> <p>(4) Every crew member must be trained in H₂S safety.</p>	<p>7,070 (1) This section applies to any facility that receives gas containing more than 10 moles per kilomole of hydrogen sulphide or a higher or lower ratio as the Board may by order stipulate having regard to the nature of production, the remoteness of the area and other circumstances.</p> <p>(3) The licensee of a well or the operator of a facility shall not discharge or permit to be discharged to the atmosphere stock tank vapours or any other gas produced from the well, unless they are burned so that essentially all sulphur compounds are converted to sulphur dioxide, but the Board on written application may approve another method of disposal.</p> <p>(4) Gas burned or disposed of by a method approved under subsection (3) shall be burned or disposed of so as to ensure that the concentrations of hydrogen sulphide and sulphur dioxide do not exceed</p> <p>(a) the maximum permissible concentrations set out in the Alberta Ambient Air Quality Guidelines as established and amended from time to time by the Department of Environment,</p> <p>(b) standards to which the facility is subject under the Environmental Protection and Enhancement Act, and</p> <p>(c) standards specified by the Board.</p> <p>(5) Gas that is required under subsection (3) to be burned shall be discharged from a flare line that is in accordance with the specifications outlined in section 7.060(4).</p> <p>(6) The Board may, on application, exempt a facility from any provision of this section where, in the opinion of the Board, the nature of production, the remoteness of the area or any other circumstance warrants the exemption.</p>	
<p>Abandoned Wells</p>	<p>Part 5 — Well Abandonment</p>	<p>Fermeture de puit</p>

<p>3.012 A licensee shall abandon a well or facility (a) on the termination of the mineral lease, surface lease or right of entry, (b) where the licensee fails to obtain the necessary approval for the intended purpose of the well, if the licensee does not hold the right to drill for and produce oil or gas from the well, (c) if the licensee has contravened an Act, a regulation or an order or direction of the Board and the Board has suspended or cancelled the licence, (d) if the Board notifies the licensee that in the opinion of the Board the well or facility may constitute an environmental or a safety hazard, (e) if the licensee is not or ceases to be (i) a working interest participant in the well or facility, or (ii) resident in Alberta and has not appointed an agent in accordance with the Act, (f) if the licensee is (i) a corporation registered, incorporated or continued under the <i>Business Corporations Act</i> whose status is not active or has been dissolved or if the corporate registry status of the corporation is struck or rendered liable to be struck under any legislation governing corporations, or (ii) an individual who is deceased, (g) if the licensee has suspended the well in contravention of the requirements established by the Board under section 3.020, or (h) where otherwise ordered to do so by the Board.</p>	<p>No well or test hole unplugged 44 (1) A well or test hole must not be left unplugged or uncased after it is no longer used for the purpose for which it was drilled or converted. (2) The commissioner or deputy commissioner may order an owner or operator of a well, or other person who in the opinion of the commissioner or deputy commissioner has an interest in the well, including a trustee in bankruptcy, a receiver or a receiver-manager, to abandon, plug or restore a well. Plugging requirements for wells and test holes</p>	<p>60. Le titulaire de permis de recherche de pétrole, de gaz naturel et de réservoir souterrain ou de bail d'exploitation relatif au pétrole et au gaz naturel ou à un réservoir souterrain doit, lors d'une fermeture temporaire des travaux de forage, de complétion ou de modification d'un puits, respecter les conditions de fermeture suivantes: 1° lorsqu'il s'agit d'un puits qui n'est pas isolé par tubage, le puits doit être cimenté; 2° lorsqu'il s'agit d'un puits isolé par tubage non perforé, le puits doit être muni d'une tête de puits ou d'une plaque d'acier d'au moins 1 cm d'épaisseur fixée hermétiquement sur la bride d'accouplement; 3° lorsqu'il s'agit d'un puits isolé par coffrage perforé, le puits doit être rempli d'un liquide dont la densité permettra de créer une pression supérieure à la pression de formation et être muni d'une tête de puits; 4° dans le cas d'un puits sur terre, la tête de puits doit être indiquée et protégée par une clôture ou un abri; 5° dans le cas d'un puits en territoire submergé, la tête de puits doit être équipée d'un dispositif permettant de la localiser facilement; 6° le puits fermé temporairement doit être laissé dans un état qui empêche l'écoulement des liquides ou des gaz hors du puits; 7° la fermeture de puits doit être effectuée selon les règles de l'art de manière à assurer la sécurité des personnes, des biens et de l'environnement ainsi que la pérennité de la ressource. Dans le cas d'une fermeture de puits effectué pour la recherche ou l'exploitation de réservoir souterrain, les exigences prévues au deuxième alinéa de l'article 115 doivent être respectées, compte tenu des adaptations nécessaires; 8° lorsqu'un puits est fermé temporairement, une</p>
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<p><i>Abandonment Operations</i> 3.013 Abandonment operations, including well abandonment, casing removal, zone abandonments and plug backs, shall be conducted in accordance with the current edition of Directive 20, "Well Abandonment", published by the Board. Suspended Wells</p>	<p>45 (1) Before abandoning a cased well or a cased test hole the operator of the well must (a) submit to the commission an application to abandon a well, in the form and including the information required by the commission, and (b) obtain the approval of an authorized commission employee to an abandonment program for the well, which approval may be given orally and confirmed later in writing. (2) Unless exempted under section 2.1, the operator of a well must ensure that (a) all permeable formations are isolated with cement, (b) cement plugs set in open hole are of a minimum length of 30 m, (c) a cement plug of a minimum length of 30 m is centered across the shoe of the surface casing or is of a sufficient length to completely cement off any aquifer beneath the surface casing shoe, (d) all casing is cut off a minimum of 1 m below ground level and capped with a 3 m cement plug and a welded plate, (e) subject to paragraphs (f) and (g), the top of all plugs, except the plug placed at the bottom of the well or test hole, is confirmed and the particulars are recorded in the daily report, (f) if the cement top is greater than 7 m from the depth specified in the designed plugging program, additional cement is used to bring the plug top to the depth as designed, (g) if there is only a bottom hole plug and one</p>	<p>61. Le titulaire de permis de recherche de pétrole, de gaz naturel et de réservoir souterrain ou de bail d'exploitation relatif au pétrole et au gaz naturel ou à un réservoir souterrain doit, lors d'une fermeture définitive des travaux de forage, de complétion ou de modification d'un puits, respecter les conditions de fermeture suivantes:</p> <ul style="list-style-type: none"> 1° un bouchon de ciment d'une longueur minimale de 30 m doit être placé au fond du puits; 2° chaque zone perméable du puits doit être isolée au moyen d'un bouchon de ciment, lequel ne doit pas être inférieur à 30 m de longueur lorsqu'il est placé dans une partie du puits non protégée par un coffrage, ou inférieur à 10 m de longueur lorsqu'il est placé dans une partie du puits protégée par un coffrage; 3° un bouchon de ciment d'une longueur minimale de 30 m doit être placé à travers le sabot du tubage de surface lorsque ce tubage représente la plus profonde colonne de tubage dans le puits;

	<p>other plug in the well or test hole, the top of the plug placed at the bottom of the well is confirmed and the particulars are recorded in the daily report, and (h) a 1.5 m signpost is welded onto the stub of a plugged well or test hole on Crown land.</p> <p>(3) Cased holes may be abandoned by placing a bridge plug above the top of perforations capped with an 8 m cement plug.</p>	
<p>3.020(1) A licensee shall suspend a well, in accordance with the requirements established by the Board, within 12 months after the last producing or injection operations have occurred unless (a) the well is produced only to supply a seasonal market, or (b) the well is classed as an observation well.</p>	<p>Pulling casing 47 (1) The operator of a well must ensure that casing or other equipment is not removed from the well if it is essential to the proper control of the well. (2) The operator of a well must ensure that casing or other equipment is not removed from the well if it is essential to the prevention of inter-zonal communication. [en. B.C. Reg. 390/2004, s. 19.]</p>	<p>4° dans le cas d'un puits sur terre, chaque tubage doit être sectionné à 2 m au-dessous de la surface du sol, un bouchon de ciment doit remplir les 10 derniers mètres du tubage interne, et une plaque d'acier d'une épaisseur d'au moins cm doit être soudée sur l'orifice du tubage extérieur;</p>
	<p>Surface restoration of wells and facilities 48 (1) On completion or final abandonment of any well, test hole or facility and as soon as weather and ground conditions permit, the operator must ensure that the surface is returned, as nearly as is reasonable, to the surface condition as it was when the operations were commenced. (2) An Application for Certificate of Restoration, on the form provided, must be submitted to the commission after the restoration of the surface of any abandoned well, test hole, production facility or gas processing plant in accordance with the requirements of subsection (1). (3) Subsection (1) (d) and (e) do not apply if an Application for Certificate of Restoration is accompanied by the written consent of the surface owner.</p>	<p>5° dans le cas d'un puits en territoire submergé, chaque tubage doit être sectionné à au moins 2 m sous la surface des fonds marins, un bouchon mécanique de retenue doit être placé dans le tubage interne à 150 m au-dessous des fonds marins, et un bouchon de ciment doit remplir ces 150 m;</p> <p>6° la position exacte du sommet de tout bouchon de ciment doit être vérifiée à l'aide du train de tiges au moins 12 heures après sa mise en place, s'il est situé:</p> <ul style="list-style-type: none"> a) au niveau de la colonne du sabot du tubage la plus profonde; b) au-dessus d'une zone de pression anormale; c) au-dessus d'une zone renfermant des hydrocarbures; <p>7° le puits en milieu terrestre doit être signalé au moyen d'une plaque d'acier de 15 cm de largeur et de 30 cm de hauteur indiquant en relief le nom du puits et ses coordonnées géographiques. Cette plaque</p>

		<p>doit être fixée à 1,5 m au-dessus de la surface du sol au moyen d'une tige d'acier. Lorsque la tige d'acier n'est pas soudée sur le coffrage extérieur, la plaque doit également indiquer en quelle direction et à quelle distance est situé le puits;</p> <p>8° le puits doit être laissé dans un état qui empêche l'écoulement des liquides ou des gaz hors du puits.</p>
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Ministère des ressources Naturelles et de la Faune
Direction générale des hydrocarbures et des biocarburants
Date : 7 octobre 2010

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