

Frequently Asked Questions

Subsurface Orders 1B, 3A, and 5

February 2021

General

Q1. What is a subsurface order?

A1. A subsurface order (the order) is issued pursuant to section 11.104 of the *Oil and Gas Conservation Rules (OGCR)* and specifies rules and requirements to better suit development, production, and data gathering for specific geological zones over a defined area.

Q2. How are areas for subsurface orders determined?

A2. The area subject to subsurface orders are based on geological parameters, engineering and reservoir characteristics, and also have regard for existing AER decisions and approvals and industry activity and forecasts.

Q3. Do I need to submit an application to develop and operate under the provisions specified in the order?

A3. The provisions and area defined in the order applies to oil and gas reservoirs for the specified zones only, and applications are not required to develop and operate under the provisions specified therein.

Q4. Do I need to submit an application to rescind currently approved spacing in order to operate under the provisions specified in the order?

A4. Yes. Applications to rescind AER-issued spacing approvals are required to develop and operate under the well spacing provisions specified in the order.

Q5. How can I operate under the well spacing provisions of the order if I have an approved special DSU or holding that cannot be rescinded due to pooling agreements or may create off-target issues?

A5. In unique circumstances, an operator may have holdings or special DSUs within the order's boundaries that are subject to corner target areas. To prevent potential noncompliance and to take advantage of the provisions of the order, an operator can apply to amend the current spacing to mirror the spacing provision of the order and request exemptions for wells that may be in the new buffer. Applications must be submitted to the AER as per *Directive 065*:

Resources Applications for Oil and Gas Reservoirs. The operator must complete the pre-application notification program set out in *Directive 065* and confirm that there are no related concerns from offsetting parties. Due to equity issues related to each owner having the opportunity to receive their share of production from a pool, well exemption requests should be withdrawn or may not be granted if there are concerns from offsetting parties.

Q6. Why have gas target areas increased from 150 metres to 100 metres from the boundaries of the one-section gas drilling spacing unit for zones specified in subsurface orders?

A6. The gas target area was harmonized with the standard 100-metre oil target area to address risks of off-target well placement due to well classification (i.e., oil well vs. gas well) when drilling in transitional areas of the specified resource. The harmonization of oil and gas target areas also supports orderly and efficient development and optimization of resource recovery. Having regard for the unconventional nature of oil and gas reservoirs within the area defined by the order, a 100-metre oil and gas target area was deemed appropriate to protect equity between different mineral owners. The harmonization of oil and gas target areas only applies to oil and gas development of the specified zones within the area defined by the order.

Q7. Do spacing provisions specified in the order apply to fractional tracts of land?

A7. Where a fractional tract of land is deemed a drilling spacing unit (DSU) in accordance with section 4.050 of the *OGCR*, the spacing provisions specified in the order apply. However, the spacing provisions in the order do not apply to special DSUs containing fractional tracts of land that have been approved under section 4.040 of the *OGCR*.

Q8. I have drilled an oil well in the area of a subsurface order that is not within a defined AER pool. Do I still need to file AER Form O-38 in order to obtain good production practice (GPP) approval?

A8. Yes. Only oil wells in defined pools for the zone specified in the order are subject to GPP approval. For an undefined oil well, *Form O-38: Application for a New Well Base Allowable or Base MRL* must be filed for the well to produce under the GPP provisions of the order.

Q9. If part of a horizontal well is located outside the AER pool order, does an O-38 need to be submitted?

A9. Yes, if any productive portion of a horizontal well is outside the AER pool order, an O-38 application is required.

Q10. I have a well that has an overproduction status in the month preceding the issuance of the order. Am I required to retire this overproduction?

A10. Yes. Any over production must be retired in accordance with *Directive 007-1: Allowable Handbook*.

Q11. I am in a pool that currently overlaps the boundary of the area defined by the order. Is the area of the pool that falls outside of the subsurface order area still subject to GPP? Do all of the provisions specified in the order apply to the pool?

A11. GPP is approved on a pool basis. Therefore, if a portion of a pool extends outside of the area defined by the order, the entire pool is still subject to GPP. The remaining provisions of the order do not apply to the portion of the pool that falls outside of the order boundary.

Q12. I am in a newly declared oil pool that is subject to MRL administration and is immediately adjacent to the boundary defined by the order. Upon further pool development, is GPP automatically granted to the pool if it extends into the area defined by the order?

A12. No. An oil pool defined outside of the area defined by the order that is subject to MRL administration that then expands into the order area will remain on MRL. If an operator wishes to operate under GPP, an application for GPP must be submitted in accordance with *Directive 065: Resources Applications for Oil and Gas Reservoirs*.

Q13. I have a well within the area defined by the order that is commingling production from the zone specified in the order and another zone. Do the provisions specified in the order also apply to the other commingled zones?

A13. No. The provisions of the order only apply to the zone specified.

Q14. Initial deliverability tests and annual pressure surveys are required for off-target gas wells and for an annual gas allowable. Do I still need to conduct these types of tests?

A14. Notwithstanding the exemption to deliverability and annual pressure testing approved in the order, data requirements related to other regulatory applications and approvals are not varied (e.g., off-target penalty request, gas allowable applications, etc.).

Q15. For wells within the area defined by the order, can a pressure test from a well where only a portion of the wellbore falls within the 9-section block area be used to meet the initial pressure test requirement?

A15. A pressure test from a well can be used to meet the initial pressure requirement in the order for a subject well as long as any portion of the well that has a pressure test falls within the square nine-section block area.

Q16. For initial pressure tests for wells within the area and zone defined by the order, can a test be used from a different defined pool?

A16. A pressure test can be used to meet the initial pressure requirement in the order for a subject well if it is from the specified zone, irrespective of what defined pool it is from.

Q17. How can I know if pressure tests have been taken that could be used to fulfil the initial pressure testing requirements?

A17. Well test information can be requested through Order Fulfillment on the AER's website www.aer.ca.

Q18. Are wells within an enhanced oil recovery (EOR) scheme exempt from annual pressure survey requirements?

A18. Exemption from annual pressure testing, as specified in clause 2(e) of Subsurface Orders 1B, 3A, and 5, does not apply to EOR schemes that are on the annual pressure survey schedule. To have the annual pressure survey testing requirements relaxed or waived, an operator of an EOR scheme must submit a waiver application with supporting documentation in accordance with *Directive 040: Pressure and Deliverability Testing Oil and Gas Wells*.

Q19. Do I still need to take drill cuttings in zones other than the zone specified in the order?

A19. Yes. The drill cuttings clause only affects the frequency of cutting samples taken within the zone specified in the order. All other standard drill cuttings requirements as prescribed in section 11.010 of the *OGCR* and *Directive 056: Energy Development Applications and Schedules* remain in effect and must be adhered to.

Q20. Does the order require us to take drill cuttings at every well?

A20. Where required, the order allows the interval frequency of drill cuttings samples to be taken at the interval frequency specified but does not modify if samples must be taken or not. Drill cuttings sampling requirements are still determined as per the well licence Lahee classification, as detailed in *Directive 056: Energy Development Applications and Schedules*. Licensees are reminded to review *Directive 056*, figure 7.3 and table 7.4, for drill cuttings sample requirements, and table 7.2 for descriptions of Lahee classifications.

Q21. I have licensed a well before the effective date of the order. Can I obtain drill cuttings at the interval frequency specified in the order?

A21. Yes. A well licensed before the effective date of the order may obtain drill cuttings at the interval frequency specified in the order.

Q22. I have a well that was spud before the effective date of the order. Can I obtain drill cuttings at the interval frequency specified in the order?

A22. No. A well that has a spud date before the effective date of the order, must adhere to the standard drill cuttings requirements as prescribed in section 11.010 of the *OGCR* and *Directive 056: Energy Development Applications and Schedules*.

Q23. Will the provisions or area defined by the order change?

A23. The AER will conduct ongoing assessments of performance and operations within the area defined by the order to ensure that specified provisions are still appropriate, wasteful operations as defined in section 1(1)(ddd) of the *Oil and Gas Conservation Act* are avoided, and existing rules and requirements not specified in the order are being adhered to. Operators affected by the order may be called upon by the AER at any time to provide data, interpretations, or performance reports. As part of the AER's assessment process, necessary changes and amendments to the order may occur.

Q24. How do the orders relate to surface activity?

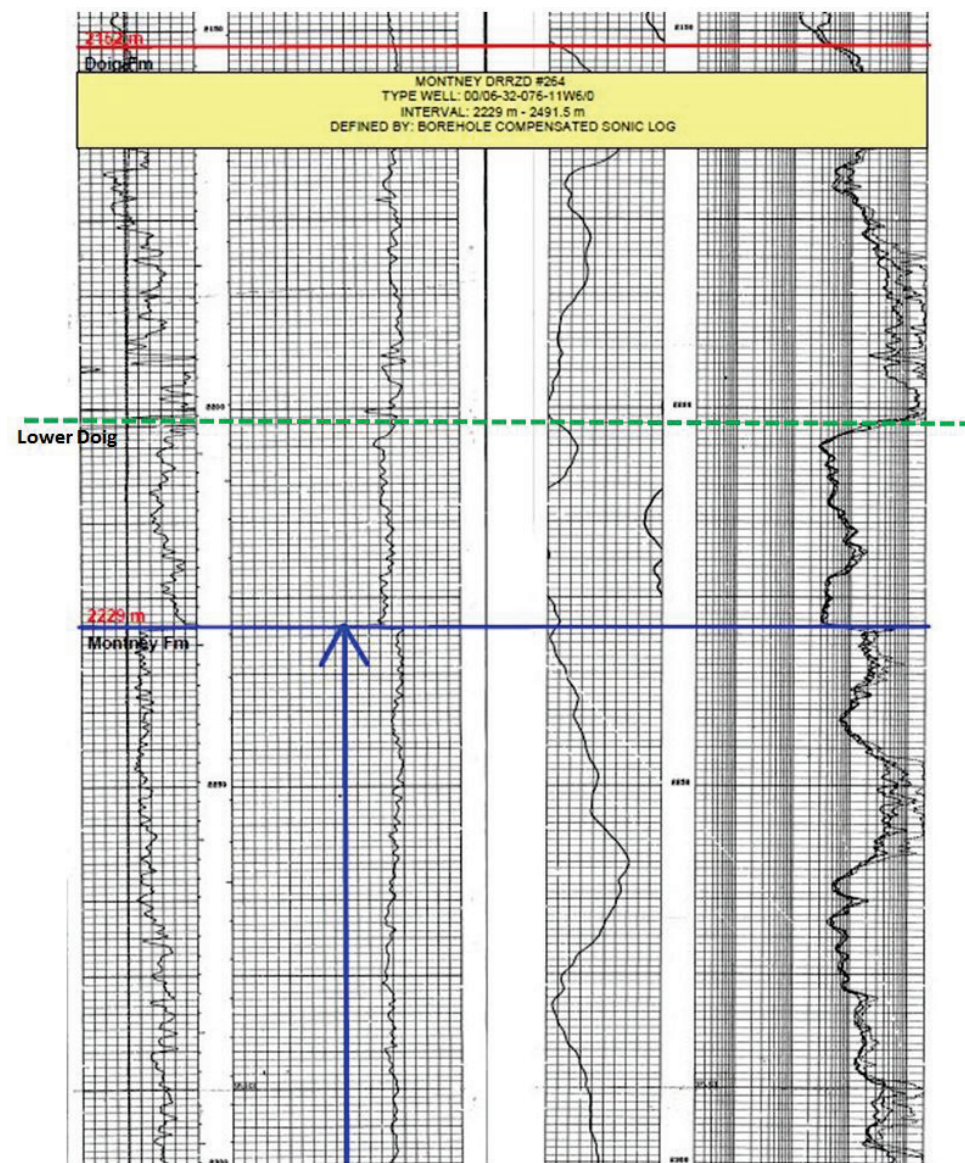
A24. As stated in the order, surface energy resource activities and related land access are regulated separately under Alberta legislation administered by the AER and other provincial departments and municipal governments and must comply with *Alberta Land Stewardship Act* regional plans.

Specific to Subsurface Order No. 1B**Q25. Do I need to submit a commingling application for a well that falls within the area defined by Subsurface Order No. 1B and is producing from the Montney and Lower Doig formations?**

A25. No. The Montney-Lower Doig zone code (5235) is available for operators where the completion of the Upper Montney may extend into the Lower Doig siltstone. This does not include the Doig Formation (5200), which is a separate zone. In order to produce from the Montney-Lower Doig zone, operators must ensure they have the mineral rights to both the Montney and Lower Doig.

Q26. How does the AER define the Lower Doig zone?

A26. The AER informally defines the Lower Doig as the zone below the Doig phosphate, also referred to as the Upper Montney in British Columbia. A type log is provided below. To be included in SO1B, wells landing in this zone should use the Lower Doig zone code (5215) or Montney-Lower Doig zone code (5235).



Q27. Why were drill cuttings sampling requirements in Subsurface Order No. 1A amended?

A27. Because of the geological variability within the area defined by Subsurface Order No. 1A, the sample interval frequency was increased from 10 metres to no more than 20 metres. In addition, the drill cuttings clause was amended to only apply to the specified zone of the order.

Specific to Subsurface Order No. 3A

Q28. Will increased induced seismicity be experienced in this area if more drilling using hydraulic fracturing results from the issuance of the order?

A28. Induced seismicity is dependent on a number of factors related to both natural conditions in the subsurface and changes to those conditions introduced by human activity. The same activity in one area of the Duvernay zone may not induce the same effect that it would in another area. Therefore, it is difficult to know how increased fracturing in the Duvernay zone will affect induced seismicity. The AER has recently introduced requirements (Subsurface Order No. 2) for companies conducting hydraulic fracturing in the Duvernay zone to assess the potential for induced seismicity, have a plan to monitor for and mitigate induced seismicity, and cease operations if a large-magnitude event occurs. The AER continues to monitor and analyze induced seismicity in the Duvernay zone and will make changes to existing requirements if additional study indicates that such is required to protect the public and the environment.