

Manual 002: Drilling Waste Inspections

December 20, 2012

Effective June 17, 2013, the Energy Resources Conservation Board (ERCB) has been succeeded by the Alberta Energy Regulator (AER).

As part of this succession, the title pages of all existing ERCB directives now carry the new AER logo. However, no other changes have been made to the directives, and they continue to have references to the ERCB. As new editions of the directives are issued, these references will be changed.

Some phone numbers in the directives may no longer be valid. Contact AER Inquiries at 1-855-297-8311 or inquiries@aer.ca.

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December 20, 2012

Drilling Waste Inspections

This manual is effective January 1, 2013.

<Original signed by>

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Contents

Introduction	2
Inspector Safety and Conduct	2
Industry Compliance	3
How to Use This Manual	3
Inspection Results	4
1. Notifications and Approvals	4
1.1 ERCB Notification and Records	4
1.2 Landowner/Department Agency	4
1.3 ERCB Approval	4
2. Storage	5
2.1 General	5
2.2 Signs and Security	5
2.3 Spacing	5
2.4 Above Ground Storage Tanks	5
2.5 Sump	6
2.6 Earthen-berm	6
2.7 Reuse of Storage System	6
2.8 Hydrocarbons	6
2.9 Specifics for Pipeline Drilling Waste Storage	7
3. Cement Returns	7
3.1 General	7
3.2 Aboveground Synthetically Lined Walled Storage System	7
3.3 Aboveground Portable Rigid Structure	7
3.4 Cement Pit	8
4. Sampling and Analysis	8
4.1 General	8

4.2	Drilling Waste Sampling.....	8
4.3	Pre-Disposal Soil Sampling.....	9
4.4	Post-Disposal Soil Sampling	9
5.	Disposal.....	10
5.1	Spacing.....	10
5.2	Specifics for Pipeline Drilling Waste Disposal.....	10
5.3	Landspray	10
5.4	Landspray-While-Drilling	11
5.5	Disposal onto Forested Public Lands.....	12
5.6	Pump-off.....	13
5.7	Mix-Bury-Cover.....	13
5.8	Landspreading.....	14
5.9	Transfer to Waste Management Facilities.....	14
5.10	Remixing	15
6.	Treatment.....	15
6.1	Biodegradation	15
6.2	Mobile Thermal Treatment Units.....	16
99	Other Requirements	17
99.1	Other ERCB Requirements	17
Appendix 1	Acronyms/Abbreviations.....	18
Appendix 2	References	19
Appendix 3	Contacts	20

Introduction

Manual 002: Drilling Waste Inspections (Manual 002) is a resource document for ERCB personnel. Its purpose is to ensure that drilling waste operations are inspected in a consistent manner throughout Alberta.

This manual is designed to highlight the most prevalent noncompliances encountered during routine surveillance and provide references to the ERCB requirements for the identified deficiencies. Industry may also use this manual to become familiar with ERCB inspections and as a guide for their own compliance management systems.

Manual 002 will replace the 2002 edition of *Directive 070: Drilling Waste Disposal Inspection Manual*, which has been rescinded. References to new and updated regulatory requirements since 2002 have been incorporated into this document.

The ERCB is committed to continuous improvement. Accordingly, the Field Surveillance and Operations Branch (FSOB) will update this manual as needed to ensure that it continues to reflect the current regulatory requirements.

Inspector Safety and Conduct

Safety is of paramount concern to the ERCB. Field operations staff will conduct their work in accordance with *Internal Guide 8: Occupational Health and Safety Program Manual* and the FSOB *Safe Work Practices and Procedures Manual*. Field operations staff are to be aware of industry safety requirements, and any unsafe operating conditions and practices should be pointed out to the licensee. If necessary, the inspector should also advise Alberta Workplace Health and Safety.

Field centre inspectors represent the ERCB and must display a positive and cooperative attitude and maintain fairness to all stakeholders.

At their discretion, inspectors may notify company personnel prior to conducting an inspection and, where appropriate, should follow company policies that require company notification prior to lease entry.

Inspectors may request the operator's presence during an inspection and/or have a brief discussion with the licensee's on-site personnel. This is an opportunity to establish and enhance relations, exchange information about the site and its operations, educate industry on ERCB requirements and processes, and ensure remedial or follow-up work is conducted.

Inspectors should have a copy of this manual and relevant ERCB regulatory documents on hand when conducting an inspection.

Industry Compliance

Inspectors monitor industry for compliance with ERCB rules, regulations, and conditions of approval. Inspectors use education, prevention, and enforcement activities when dealing with industry compliance issues.

How to Use This Manual

Each section contains a listing of inspection items encountered during routine field inspections for the compliance category and is structured as follows:

Manual #	Risk rating	Description
X.X.X.X	High Risk	Noncompliance statement. [<i>Directive 050 (X.X(X))</i>]

- The **Manual #** is the number used by the Field Surveillance Inspection System (FIS) and the Digital Data Submission (DDS) system to identify inspection items in the database. (This number does not refer to sections in ERCB directives or regulations.)
- The **Risk rating** is the predetermined risk rating associated with the noncompliance based on health and safety, environmental impact, conservation, and stakeholder confidence in the regulatory process.
- The **Description** is the noncompliance statement identifying references to the relevant regulatory documents.

Inspection Results

1. Notifications and Approvals

1.1 ERCB Notification and Records

Manual #	Risk rating	Description
1.1.1.1	Low Risk	Required notification information not submitted through the ERCB Digital Data Submission System. [<i>Directive 050</i> (21.3(3))]
1.1.2.1	Low Risk	Failure to notify field centre at least 48 hours before beginning operations. [<i>Directive 050</i> (18.2(8), (20.3(4))]
1.1.3.1	Low Risk	Detailed map of the disposal area not documented as required. [<i>Directive 050</i> (21.2(1)(d)(iii))]
1.1.4.1	Low Risk	Failure to document and maintain information required in <i>Directive 050</i> for drilling waste generated from directional drilling activities. [<i>Directive 050</i> (8.2(6))]
1.1.5.1	Low Risk	Failure to have documentation in well file stating drilling waste radioactive isotope concentrations, including conversion factors. [<i>Directive 050</i> (4.5(28)(a))]

1.2 Landowner/Department Agency

Manual #	Risk rating	Description
1.2.1.1	High Risk	Failure to obtain a written consent / written agreement from landowner or department agency when required. [<i>Directive 050</i> (6.4(13)), (7.2(1)(c)(i)), (8.2(4)), (8.2(5)(a)), (9.2(4)), (10.2(4)), (11.2(2)), (12.2(4)), (15.2(4))]
1.2.2.1	Low Risk	Failure to communicate to landowner/department/agency about compaction and access impact (rutting) prior to disposal. [<i>Directive 050</i> (9.3(14))]
1.2.3.1	High Risk	Notification for landowners and residents within 1.5 km radius not conducted 30 days before beginning thermal treatment operations. [<i>Directive 050</i> (18.2(7))]
1.2.4.1	High Risk	Failure to disclose to landowners that drilling waste contains radioactive isotopes. [<i>Directive 050</i> (4.5(28)(b))]
1.2.5.1	High Risk	Mobile treatment unit does not have an approval or registration from ESRD. [<i>Directive 050</i> (18.2(2))]
1.2.6.1	High Risk	Failure to obtain ESRD agreement for remix on public lands. [<i>Directive 050</i> (20.2(1)(i))]

1.3 ERCB Approval

Manual #	Risk rating	Description
1.3.1.1	High Risk	Failure to obtain ERCB approval where required. [<i>Directive 050</i> (6.2(3)), (6.6(23)(note)), (7.2(1)(e)), (9.3(10)), (10.3(11)), (11.3(14)), (12.3(8)), (13.3(12)(b)), (14.3(14)(b)), (15.1(1)), (15.2(11)), (15.3.2(24)), (15.4.1(25)), (15.4.3(30)(d)(e)), (16.2(1)), (16.2(2)), (16.2(3)), (19.2(2))]
1.3.2.1	High Risk	Failure to follow approval requirements [OGCR 8.151(1)(4)(c), <i>Directive 050</i> (18.2(4)), Specific Approval]

2. Storage

2.1 General

Manual #	Risk rating	Description
2.1.1.1	High Risk	Failure to store drilling waste in an appropriate storage system. [OGCR 8.030(1), 8.152, <i>Directive 050</i> (6.2(2)), <i>Directive 055</i> (3.5)]
2.1.2.1	High Risk	More than one licensee contributing drilling waste to a remote drilling waste storage system. [<i>Directive 050</i> (6.4(12)), (8.2(5)(b))]
2.1.3.1	High Risk	Camp sewage or other oilfield wastes in the drilling waste storage system. [<i>Directive 050</i> (4.2(12)), (6.2(1)), (6.2(2)), (8.2(5)(b))]
2.1.4.1	Low Risk	Storage system does not prevent the entrance of surface run-on/run-off waters. [OGCR 8.151(2)(a), <i>Directive 050</i> (6.2(4)), (8.2(5)(b))]
2.1.5.1	Low Risk	Failure to maintain a minimum freeboard of 0.5 metres. [<i>Directive 050</i> (6.2(6)), (8.2(5)(b))]
2.1.6.1	Low Risk	Facility not maintained in a clean condition. [OGCR 8.150(4)]
2.1.7.1	High Risk	Storage system not physically closed within 18 months of rig release of first well that contributed drilling waste. [<i>Directive 050</i> (6.2(8)(a)(b))]

2.2 Signs and Security

Manual #	Risk rating	Description
2.2.1.1	Low Risk	Remote storage site does not have signage identifying location, licensee, linked well licence, and 24-hour emergency phone number. [<i>Directive 050</i> (6.4(14)), (8.2(5)(b))]
2.2.2.1	High Risk	Failure to ensure that a call to the licensee 24-hour emergency telephone number initiates immediate action. [<i>Directive 071</i> (2.1(3))]
2.2.3.1	Low Risk	Drilling waste storage system is not secured to prevent public or wildlife from entering it. [<i>Directive 050</i> (6.2(7)), (6.4(14)), (8.2(5)(b))]

2.3 Spacing

Manual #	Risk rating	Description
2.3.1.1	High Risk	Exterior walls of drilling waste storage system within 100 metres of a water body. [OGCR 2.120(1)(b), <i>Directive 050</i> (6.2(5)(c)), (8.2(5)(b))]
2.3.2.1	High Risk	Exterior walls of drilling waste storage system within 50 metres of a water body, where the water body is up-gradient or the landscape creates a physical barrier. [<i>Directive 050</i> (6.2(5)(c)(note)), (8.2(5)(b))]
2.3.3.1	High Risk	Exterior walls of drilling waste storage system within 50 metres of an off-site water well. [<i>Directive 050</i> (6.2(5)(b)), (6.5(19)), (8.2(5)(b))]
2.3.4.1	High Risk	Exterior walls of drilling waste storage system within 20 metres of an on-site rig water well. [<i>Directive 050</i> (6.2(5)(a)), (6.5(19)), (8.2(5)(b))]

2.4 Above Ground Storage Tanks

Manual #	Risk rating	Description
2.4.1.1	Low Risk	Aboveground storage tank(s) not constructed or operated appropriately. [OGCR 8.030(1), <i>Directive 055</i> (5.1), (5.3)]
2.4.2.1	High Risk	Temporary storage of recycle/reuse drilling waste stored in single-walled aboveground tank not diked where required. [OGCR 8.030(2), <i>Directive</i>

		050 (6.4)(note), <i>Directive 055</i> (3.5), <i>Directive 055-Addendum 2011-10-11</i> (4)]
2.4.3.1	Low Risk	Temporary storage of recycle/reuse drilling waste in single-walled aboveground tank(s) where diking is optional and where the tank has been in use for a period exceeding 3 months. [OGCR 8.030(2), <i>Directive 050</i> (6.4)(note), <i>Directive 055</i> (3.5), <i>Directive 055-Addendum 2011-10-11</i> (4)]
2.4.4.1	Low Risk	Temporary storage of recycle/reuse drilling waste in single-walled aboveground storage tanks with a dike and where the tank has been in use for a period greater than 1 year. [OGCR 8.030(2), <i>Directive 050</i> (6.4)(note), <i>Directive 055</i> (3.3), (3.5), <i>Directive 055-Addendum 2011-10-11</i> (4)]

2.5 Sump

Manual #	Risk rating	Description
2.5.1.1	High Risk	Sump contains hydraulic defects such as gravel lenses, silt lenses, sand lenses, cracks, fissures, or root channels. [OGCR 8.151(2)(b), <i>Directive 050</i> (6.3(9)), (8.2(5)(b))]
2.5.2.1	High Risk	Sump site investigation not conducted properly or results did not confirm minimum in situ clayey deposit requirements. [<i>Directive 050</i> (6.3(10)(a) - (c)), (8.2(5)(b))]

2.6 Earthen-berm

Manual #	Risk rating	Description
2.6.1.1	High Risk	No berm, or berm does not meet requirements. [<i>Directive 050</i> (6.5(18))]
2.6.2.1	High Risk	Earthen-bermed storage system not on well site or remote drilling waste storage site. [<i>Directive 050</i> (6.5(16)(b))]
2.6.3.1	High Risk	Earthen-bermed storage system used to store waste other than nonhydrocarbon-based drilling waste solids intended for landspreading or managed at an approved waste management facility. [<i>Directive 050</i> (6.5(16)(a))]
2.6.4.1	High Risk	Shallow subsoils assessment for earthen-bermed storage system not conducted properly or results did not confirm minimum limited permeability requirements. [<i>Directive 050</i> (6.5(17)(a)(i)(ii))]

2.7 Reuse of Storage System

Manual #	Risk rating	Description
2.7.1.1	High Risk	Reuse of an earthen-bermed storage system. [<i>Directive 050</i> (6.6(20))]
2.7.2.1	High Risk	Failure to verify integrity of drilling waste storage system prior to reuse. [<i>Directive 050</i> (6.6(21))]

2.8 Hydrocarbons

Manual #	Risk rating	Description
2.8.1.1	High Risk	Hydrocarbon-based drilling fluids not stored in tank(s). [<i>Directive 050</i> (6.7(24))]
2.8.2.1	High Risk	Hydrocarbon-based drilling solids stored directly on the ground. [OGCR 8.030(1), <i>Directive 050</i> (6.7(24)(a)(b)), <i>Directive 055</i> (3.5)]

2.9 Specifics for Pipeline Drilling Waste Storage

Manual #	Risk rating	Description
2.9.1.1	High Risk	Failure to appropriately store drilling muds and wastes at the entry and exit points of the drilling activity. [<i>Directive 050</i> (8.2(3))]
2.9.2.1	High Risk	Failure to remove the drilling waste from pits immediately upon completion of drilling and then backfill/reclaim the pits. [<i>Directive 050</i> (8.2(4))]
2.9.3.1	High Risk	Failure to remove the drilling waste and physically close the remote storage system within one year of the first receipt of drilling waste into the storage system. [<i>Directive 050</i> (8.2(5)(d))]

3. Cement Returns

3.1 General

Manual #	Risk rating	Description
3.1.1.1	High Risk	Failure to dispose of cement returns as outlined in <i>Directive 050</i> . [<i>Directive 050</i> (7.2(1)), (7.2(1)(a)(vii)), (7.2(1)(b)(iii)), (7.2(1)(c)), (7.2(1)(d))]
3.1.2.1	High Risk	Cement returns sent to waste management facility not authorized to accept it. [<i>Directive 050</i> (7.2(1)(d)), (17.2(1)), <i>Directive 058</i> (2.1(1))]

3.2 Aboveground Synthetically Lined Walled Storage System

Manual #	Risk rating	Description
3.2.1.1	Low Risk	AWSS capacity exceeds 50 m ³ . [<i>Directive 050</i> (7.2(1)(a)(i))]
3.2.2.1	High Risk	AWSS is not engineered to withstand the hydraulic pressure of the stored contents at full capacity. [<i>Directive 050</i> (7.2(1)(a)(iii))]
3.2.3.1	Low Risk	AWSS liner does not meet requirements. [<i>Directive 050</i> (7.2(1)(a)(ii)), (7.2(1)(a)(iv)), (7.2(1)(a)(v))]
3.2.4.1	Low Risk	AWSS liner used for the storage of cement returns was reused. [<i>Directive 050</i> (7.2(1)(a)(viii))]
3.2.5.1	High Risk	AWSS used to store cement returns for greater than one year. [<i>Directive 050</i> (7.2(1)(a)(vi))]
3.2.6.1	High Risk	Hardened cement returns not broken into pieces 0.5 m ³ or less for disposal in pit(s) or landfill. [<i>Directive 050</i> (7.2(1)(a)(vii)), (7.2(1)(b)(iii)), (7.2(1)(c))]

3.3 Aboveground Portable Rigid Structure

Manual #	Risk rating	Description
3.3.1.1	High Risk	Structure not able to withstand the hydraulic pressure of the stored contents at full capacity. [<i>Directive 050</i> (7.2(1)(b)(i))]
3.3.2.1	High Risk	Storage duration in portable structure exceeds one year. [<i>Directive 050</i> (7.2(1)(b)(ii))]
3.3.3.1	High Risk	Hardened cement returns not broken into pieces 0.5 m ³ or less for disposal in pit(s) or landfill. [<i>Directive 050</i> (7.2(1)(a)(vii)), (7.2(1)(b)(iii)), (7.2(1)(c))]

3.4 Cement Pit

Manual #	Risk rating	Description
3.4.1.1	High Risk	Pit(s) area for cement returns exceeds 100 m ² (not part of oil sands development) or 900 m ² (if part of oil sands development on Public Lands). [<i>Directive 050</i> (7.2(1)(c)(iii)(iv))]
3.4.2.1	High Risk	Pit(s) for cement returns constructed in the water table or interfering with subsurface water flow. [<i>Directive 050</i> (7.2(1)(c)(ii)(vi))]
3.4.3.1	Low Risk	Pit(s) for cement returns does not have measures to prevent public or wildlife from entering it. [<i>Directive 050</i> (7.2(1)(c)(v))]
3.4.4.1	High Risk	Hardened cement returns not broken into pieces 0.5 m ³ or less for disposal in pit(s) or landfill. [<i>Directive 050</i> (7.2(1)(a)(vii)), (7.2(1)(b)(iii)), (7.2(1)(c))]
3.4.5.1	High Risk	Pit(s) for cement returns not covered with at least 1 metre of clean fill. [<i>Directive 050</i> (7.2(1)(c))]

4. Sampling and Analysis

4.1 General

Manual #	Risk rating	Description
4.1.1.1	High Risk	Failure to follow sample collection criteria for assessing pre- and/or post-disposal soil conditions as per <i>Directive 050</i> requirements. [<i>Directive 050</i> (3.2(2)), (3.2(3)), (9.2(2)), (10.2(2)), (11.2(5)), (12.2(2)), (13.2(2)), (14.2(2)), Table 3.1]
4.1.2.1	High Risk	Failure to adequately determine background soil conditions for remix or biodegradation. [<i>Directive 050</i> (15.2(5)), (20.2(1)(b)(c))]
4.1.3.1	High Risk	Field screening test methods not limited to assessments outlined in <i>Directive 050</i> . [<i>Directive 050</i> (3.5(9)(a)), (5.2(3)), (5.2(4))]
4.1.4.1	Low Risk	Failure to ensure field screening program is supported by an ongoing quality assurance/quality control program. [<i>Directive 050</i> (3.5(8)), (5.2(6))]

4.2 Drilling Waste Sampling

Manual #	Risk rating	Description
4.2.1.1	High Risk	Failure to ensure drilling waste pH is between 6 and 10.5. [<i>Directive 050</i> (9.3(9)(a)), (10.3(9)(a)), (11.3(11)(a)), (14.3(7))]
4.2.2.1	High Risk	Failure to ensure clear liquids pH is between 6 and 8.5. [<i>Directive 050</i> (12.3(6)(a))]
4.2.3.1	High Risk	Treated waste is not resampled and reanalyzed to determine the applicability of disposal option. [<i>Directive 050</i> (4.2(13)), (4.3(21)), (9.3(9)(b)), (9.3(11)), (11.3(15)), (12.3(6)(a)(c)), (12.3(9)), (13.3(11)), (14.3(6)(e)), (14.3(13))]
4.2.4.1	High Risk	Failure to follow sample collection criteria for assessing drilling waste as per <i>Directive 050</i> requirements. [<i>Directive 050</i> (4.2(1)), (4.2(2)), (4.2(3)), (4.2(6)), (4.2(7)), (4.2(8)), (4.2(9))]
4.2.5.1	High Risk	Failure to sample and analyze the drilling waste for pH, EC, SAR, Na, and/or N, as required by <i>Directive 050</i> . [<i>Directive 050</i> (4.2(10)), (4.2(11)), (4.2(13)), (9.3(8)), (10.3(8)), (11.3(10)), (11.3(12)), (12.3(6)), (13.3(6)(a)(b)), (14.3(6)(a)(b)), (15.2(2))]

Manual #	Risk rating	Description
4.2.6.1	High Risk	Failure to take samples to determine disposal method for fluids and/or solids phase as required. [<i>Directive 050</i> (4.2(5)), (9.3(7)), (13.3(5)), (14.3(5))]
4.2.7.1	High Risk	Failure to test drilling waste for metals, toxicity (luminescent bacteria), and/or salinity as per <i>Directive 050</i> . [<i>Directive 050</i> (4.2(13)), (4.3(16)), (4.3(17)), (4.3(18)), (4.3(19)), (4.3(20)), (8.2(1)), (9.3(8)), (10.3(9)(c)-(e)), (11.3(11)(c)-(e)), (11.3(12)), (12.3(6)(c)), (13.3(6)(c) - (e)), (14.3(6)(c) - (e))]
4.2.8.1	High Risk	Failure to develop a generic mud system and use results as per <i>Directive 050</i> . [<i>Directive 050</i> (4.4.(22)(a)), (8.2(2)(a)), 10.3(9)(note)), (11.3(12)(note)]
4.2.9.1	High Risk	Failure to test mud system for metals, toxicity (luminescent bacteria), and/or salinity as per <i>Directive 050</i> . [<i>Directive 050</i> (4.4(22)(b)), (8.2(2)(b))]
4.2.10.1	High Risk	Failure to ensure mud system passed appropriate testing for the disposal option as required in <i>Directive 050</i> . [<i>Directive 050</i> (4.4(23))]
4.2.11.1	High Risk	Failure to re-evaluate disposal method knowing changes to the drilling mud/waste system had occurred. [<i>Directive 050</i> (4.4(24))]
4.2.12.1	High Risk	Failure to determine spread rates for receiving soil as set out in <i>Directive 050</i> . [<i>Directive 050</i> (9.3(8)), (11.3(10)), (11.3(12))]

4.3 Pre-Disposal Soil Sampling

Manual #	Risk rating	Description
4.3.1.1	High Risk	Sampling sites for receiving soil conditions are not representative of the most sensitive parts of the landscape. [<i>Directive 050</i> (3.5(7)(a))]
4.3.2.1	High Risk	Sampling sites for receiving soil conditions are not representative of any previous drilling waste disposals within the disposal area. [<i>Directive 050</i> (3.5(7)(b))]
4.3.3.1	High Risk	Failure to analyze receiving soil sample to verify that electrical conductivity and sodium adsorption ratio values are within the initial criteria specified in <i>Directive 050</i> . [<i>Directive 050</i> (3.2(2)), (9.2(3)), (10.2(3)), (11.2(6)), (12.2(3)), (13.2(3)), (14.2(3)), Table 3.1]
4.3.4.1	High Risk	Receiving soil exceeds initial limiting criteria outlined in <i>Directive 050</i> . [<i>Directive 050</i> (3.2), (9.2(3)), (10.2(3)), (11.2(6)), (12.2(3)), (13.2(3)), (14.2(3)), Table 3.1]

4.4 Post-Disposal Soil Sampling

Manual #	Risk rating	Description
4.4.1.1	High Risk	Failure to conduct post-disposal sampling as required in <i>Directive 050</i> . [<i>Directive 050</i> (3.5(9)), (4.4(26)), (9.4(15)), (10.4(14)), (11.4(17)), (12.4(10)), (13.4(13)), (14.4(15))]
4.4.2.1	High Risk	Failure to ensure drilling waste disposal does not exceed the maximum EC and/or SAR requirements specified in <i>Directive 050</i> . [<i>Directive 050</i> (3.1(1)), (3.2(3)), (15.3.2(20)(b)), Table 3.1]
4.4.3.1	High Risk	Failure to ensure drilling waste disposal does not exceed the maximum sodium and/or nitrogen loading rates specified in <i>Directive 050</i> . [<i>Directive 050</i> (3.1(1)), (3.2(4)), (12.3(6)(d)), (13.3(8)), Table 3.1]
4.4.4.1	High Risk	Failure to prevent soils that receive drilling wastes from exceeding the hydrocarbon endpoints set out in <i>Directive 050</i> . [<i>Directive 050</i> (3.1(1)), (3.3(5)), (15.3.2(20)(c)), Table 3.2]

Manual #	Risk rating	Description
4.4.5.1	High Risk	Failure to prevent soils that receive drilling wastes from exceeding the metal endpoints set out in <i>Directive 050</i> for the appropriate land use. [<i>Directive 050</i> (3.1(1)), (3.4(6)), (15.3.2(20)(a)), Table 3.4]

5. Disposal

5.1 Spacing

Manual #	Risk rating	Description
5.1.1.1	High Risk	Disposal is conducted within 100 metres of a water body. [<i>Directive 050</i> (9.2(1)(c)), (10.2(1)(c)), (11.2(4)(d)), (12.2(1)(c))]
5.1.2.1	High Risk	Disposal is conducted within 50 metres of a water body where the water body is up-gradient or the landscape creates a physical barrier. [<i>Directive 050</i> (9.2(1)(note)), (10.2(1)(note)), (11.2(4)(note)), (12.2(1)(note))]
5.1.3.1	High Risk	Disposal is conducted within 50 metres of a water well. [<i>Directive 050</i> (9.2(1)(d)), (10.2(1)(d)), (11.2(4)(d)), (12.2(1)(d))]
5.1.4.1	High Risk	Landspread or MBC within 10 metres of a rig water well. [<i>Directive 050</i> (13.3(10)), (14.3(12))]
5.1.5.1	Low Risk	Disposal is conducted within 10 metres of a road ditch or property line. [<i>Directive 050</i> (9.2(1)(b)), (10.2(1)(b)), (11.2(4)(d)), (12.2(1)(b))]

5.2 Specifics for Pipeline Drilling Waste Disposal

Manual #	Risk rating	Description
5.2.1.1	High Risk	Failure to dispose of pipeline drilling waste in accordance with disposal method as set out in <i>Directive 050</i> . [<i>Directive 050</i> (8.2(4))]
5.2.2.1	High Risk	Mix-bury-cover or landspreading disposal method used on an area of a pipeline ROW that does not have a disturbed surface. [<i>Directive 050</i> (8.2(4)(note))]
5.2.3.1	High Risk	Disposing of drilling wastes, on a pipeline ROW, generated from activities other than the construction of that pipeline ROW. [<i>Directive 050</i> (8.2(4)(note))]

5.3 Landspray

Manual #	Risk rating	Description
5.3.1.1	High Risk	Disposal on a slope greater than 5 per cent during summer operations or greater than 3 per cent during winter operations. [<i>Directive 050</i> (9.2(1)(a))]
5.3.2.1	High Risk	Drilling waste spread rate exceeded 40 m ³ /ha during summer operations. [<i>Directive 050</i> (9.3(9)(d))]
5.3.3.1	High Risk	Drilling waste spread rate exceeded 20 m ³ /ha during winter operations. [<i>Directive 050</i> (9.3(9)(e))]
5.3.4.1	High Risk	Drilling waste spread rate is less than 10 m ³ /ha. [<i>Directive 050</i> (9.3(9)(c))]
5.3.5.1	High Risk	Solids application rate exceeded 6 tonne/ha when sprayed onto vegetated land and/or the disposal smothered or stressed the vegetation. [<i>Directive 050</i> (9.3(9)(i))]

Manual #	Risk rating	Description
5.3.6.1	High Risk	Sodium application rate exceeded 250 kg/m ³ and/or nitrogen application rate exceeded 25 kg/ha. [<i>Directive 050</i> (9.3(9)(h))]
5.3.7.1	High Risk	Failure to determine spread rates using the calculations for “no soil incorporation” where required. [<i>Directive 050</i> (9.3(13))]
5.3.8.1	High Risk	Landspray results in clumping or pooling of waste on the land, causes migration off the disposal area, or causes land erosion. [<i>Directive 050</i> (9.3(9)(g))]
5.3.9.1	High Risk	Failure to segregate cement returns from the drilling waste. [<i>Directive 050</i> (9.3(5))]
5.3.10.1	High Risk	Using landspray disposal method for hydrocarbon-based drilling wastes. [<i>Directive 050</i> (9.1)]
5.3.11.1	High Risk	Using landspray to dispose of separated solids and cuttings. [<i>Directive 050</i> (9.3(6))]
5.3.12.1	Low Risk	Failure to prepare snow-covered surface area during winter operations. [<i>Directive 050</i> (9.3(9)(f))]
5.3.13.1	High Risk	Failure to incorporate drilling waste into the receiving soil to a maximum depth of 15 cm within 60 days of disposal. [<i>Directive 050</i> (9.3(12))]

5.4 Landspray-While-Drilling

Manual #	Risk rating	Description
5.4.1.1	High Risk	Disposal on a slope greater than 5 per cent during summer operations or greater than 3 per cent during winter operations. [<i>Directive 050</i> (10.2(1)(a))]
5.4.2.1	High Risk	Drilling waste spread rate exceeded 40 m ³ /ha during summer operations. [<i>Directive 050</i> (10.3(10)(b))]
5.4.3.1	High Risk	Drilling waste spread rate exceeded 20 m ³ /ha during winter operations. [<i>Directive 050</i> (10.3(10)(c))]
5.4.4.1	High Risk	Drilling waste spread rate is less than 10 m ³ /ha. [<i>Directive 050</i> (10.3(10)(a))]
5.4.5.1	High Risk	Solids application rate exceeded 6 tonne/ha when sprayed onto vegetated land and/or the disposal smothered or stressed the vegetation. [<i>Directive 050</i> (10.3(10)(h))]
5.4.6.1	High Risk	Sodium application rate exceeded 250 kg/m ³ and/or nitrogen application rate exceeded 25 kg/ha. [<i>Directive 050</i> (10.3(10)(g))]
5.4.7.1	High Risk	Failure to determine spread rates using the calculations for “no soil incorporation” where required. [<i>Directive 050</i> (10.3(10)(d))]
5.4.8.1	High Risk	LWD results in clumping or pooling of waste on the land, causes migration off the disposal area, or causes land erosion. [<i>Directive 050</i> (10.3(10)(f))]
5.4.9.1	High Risk	Failure to segregate cement returns from the drilling waste. [<i>Directive 050</i> (10.3(5))]
5.4.10.1	High Risk	Using LWD to dispose of drilling waste not suited for this disposal option. [<i>Directive 050</i> (10.3(9))]
5.4.11.1	High Risk	Using LWD to dispose of drilling wastes where the drillstem test fluids and hydrocarbon-contaminated mud have not been isolated. [<i>Directive 050</i> (10.3(6))]

Manual #	Risk rating	Description
5.4.12.1	High Risk	Using LWD to dispose of separated solids and cuttings. [<i>Directive 050</i> (10.3(7))]
5.4.13.1	High Risk	Failure to separate and handle drilling wastes from different sections of the well, if required in <i>Directive 050</i> . [<i>Directive 050</i> (10.3(12))]
5.4.14.1	Low Risk	Failure to prepare snow-covered surface area during winter operations. [<i>Directive 050</i> (10.3(10)(e))]
5.4.15.1	Low Risk	Failure to ensure LWD disposal operations occur within 48 hours of rig release. [<i>Directive 050</i> (10.3(13))]
5.4.16.1	Low Risk	Failure to retest drilling waste when LWD operations are being conducted between 48 hours and 96 hours after rig release. [<i>Directive 050</i> (10.3(13))]

5.5 Disposal onto Forested Public Lands

Manual #	Risk rating	Description
5.5.1.1	High Risk	Disposal site has a slope greater than 5 per cent. [<i>Directive 050</i> (11.2(4)(b))]
5.5.2.1	High Risk	Drilling waste spread rate exceeded 80 m ³ /ha. [<i>Directive 050</i> (11.3(13)(b))]
5.5.3.1	High Risk	Drilling waste spread rate is less than 10 m ³ /ha. [<i>Directive 050</i> (11.3(13)(a))]
5.5.4.1	High Risk	Solids application rate exceeded 6 tonne/ha when sprayed onto vegetated land and/or the disposal smothered or stressed the vegetation. [<i>Directive 050</i> (11.3(13)(e))]
5.5.5.1	High Risk	The sodium application rate exceeds 250 kg/ha and/or the nitrogen application rate exceeds 25 kg/ha. [<i>Directive 050</i> (11.3(13)(d))]
5.5.6.1	High Risk	DFPL results in clumping or pooling of waste on the land, causes migration off the disposal area, or causes land erosion. [<i>Directive 050</i> (11.2(4)(c)), (11.3(13)(c))]
5.5.7.1	High Risk	Vegetative indicators (e.g., tamarack) indicate unsuitable soil conditions for DFPL, such as muskeg, and/or mineral soil horizon greater than 30 cm. [<i>Directive 050</i> (11.2(4)(e))]
5.5.8.1	High Risk	Failure to segregate cement returns from the drilling waste. [<i>Directive 050</i> (11.3(7))]
5.5.9.1	High Risk	Using DFPL to dispose of drilling wastes where the drillstem test fluids and hydrocarbon-contaminated mud have not been isolated. [<i>Directive 050</i> (11.3(8))]
5.5.10.1	High Risk	Using DFPL to dispose of separated solids and cuttings. [<i>Directive 050</i> (11.3(9))]
5.5.11.1	High Risk	Using DFPL to dispose of drilling waste not suited for this disposal option. [<i>Directive 050</i> (11.3(11))]
5.5.12.1	Low Risk	Failure to mark all stop and start points of the spray area prior to and during disposal. [<i>Directive 050</i> (11.3(16))]
5.5.13.1	High Risk	Failure to conduct DFPL on lands where ESRD has issued an MSL or LOC. [<i>Directive 050</i> (11.2(1)), (11.2(4)(a))]

Manual #	Risk rating	Description
5.5.14.1	High Risk	Drilling waste disposal is conducted in ditches. [<i>Directive 050</i> (11.2(3)), (11.2(4)(c))]
5.5.15.1	High Risk	Failure to dispose of drilling waste in a cleared area during a MGD operation as identified by ESRD. [<i>Directive 050</i> (11.2(3))]
5.5.16.1	High Risk	Failure to follow required disposal methods under summer MGD conditions on an LOC designated area. [<i>Directive 050</i> (11.2(3)(a))]
5.5.17.1	High Risk	Failure to follow required disposal methods under winter MGD conditions on an LOC designated area. [<i>Directive 050</i> (11.2(3)(b))]
5.5.18.1	High Risk	Proceeding with DFPL without storing, sampling, and testing drilling waste if any of the identified scenarios outlined in <i>Directive 050</i> occur. [<i>Directive 050</i> (11.3(12)(a) - (c))]

5.6 Pump-off

Manual #	Risk rating	Description
5.6.1.1	High Risk	Land selected by licensee is not free of unique features, leading to pooling, erosion, or migration of the drilling waste. [<i>Directive 050</i> (12.2(1)(a))]
5.6.2.1	High Risk	Pump-off disposal method used when water-based drilling waste does not qualify as a clear liquid as per <i>Directive 050</i> . [<i>Directive 050</i> (12.3(5)), (12.3(6)(b))]
5.6.3.1	High Risk	Actual application rate of 1000 m ³ /ha exceeded. [<i>Directive 050</i> (12.3(7))]

5.7 Mix-Bury-Cover

Manual #	Risk rating	Description
5.7.1.1	High Risk	Failure to conduct MBC on the well site, pipeline ROW, or remote drilling waste storage site. [<i>Directive 050</i> (13.2(1))]
5.7.2.1	High Risk	MBC disposal not conducted within deeper subsoils. [<i>Directive 050</i> (13.2(1))]
5.7.3.1	High Risk	Hydrocarbon-based mud system that has not undergone biodegradation being managed by MBC. [<i>Directive 050</i> (13.3(4))]
5.7.4.1	High Risk	Failure to mix at a ratio of at least three parts subsoil to one part waste. [<i>Directive 050</i> (13.3(7))]
5.7.5.1	High Risk	Conducting MBC operations when predictive/calculated mix ratio exceeds seven parts subsoil to one part waste. [<i>Directive 050</i> (13.3(7)(b))]
5.7.6.1	High Risk	Failure to use predictive lab mixes to determine the soil/waste mix ratio where required. [<i>Directive 050</i> (13.3(7)(a))]
5.7.7.1	High Risk	MBC disposal on an area of the site previously used for drilling waste disposal. [<i>Directive 050</i> (13.3(12)(a))]
5.7.8.1	High Risk	Failure to cover subsoil/waste mixture with a minimum of 1 metre of clean fill that meets ESRD <i>Tier 1 Soil and Groundwater Remediation Guidelines</i> as outlined in <i>Directive 050</i> . [<i>Directive 050</i> (13.3(9))]

5.8 Landspreading

Manual #	Risk rating	Description
5.8.1.1	High Risk	Failure to conduct landspreading on wellsite, pipeline ROW, or remote drilling waste storage site. [<i>Directive 050</i> (14.2(1))]
5.8.2.1	High Risk	Landspreading not conducted within shallow soils with a maximum depth profile of 1 metre. [<i>Directive 050</i> (14.2(1))]
5.8.3.1	High Risk	Landspreading drilling waste from hydrocarbon-based mud systems that have not undergone biodegradation. [<i>Directive 050</i> (14.3(4))]
5.8.4.1	High Risk	Waste application rate exceeds 1000 m ³ /ha, or waste exceeds a thickness of 10 cm. [<i>Directive 050</i> (14.3(9))]
5.8.5.1	High Risk	The sodium application rate and/or the nitrogen application rate exceeds maximum allowable outlined in <i>Directive 050</i> . [<i>Directive 050</i> (14.3(10)), (14.3(11))]
5.8.6.1	High Risk	Failure to mix subsoil and drilling waste at a ratio of at least three parts subsoil to one part drilling waste. [<i>Directive 050</i> (14.3(8))]
5.8.7.1	High Risk	Landspreading conducted when predicted lab or calculated mix ratios exceed seven parts soil to one part waste. [<i>Directive 050</i> (14.3(8)(b))]
5.8.8.1	High Risk	Failure to use predictive lab mixes to determine the soil/waste mix ratio where required. [<i>Directive 050</i> (14.3(8)(a))]
5.8.9.1	High Risk	Landspreading on an area of the site previously used for drilling waste disposal. [<i>Directive 050</i> (14.3(14)(a))]

5.9 Transfer to Waste Management Facilities

Manual #	Risk rating	Description
5.9.1.1	High Risk	Failure to send drilling waste to an approved waste management facility. [<i>Directive 050</i> (7.2(1)(d)), (17.2(1)), <i>Directive 058</i> (2)]
5.9.2.1	High Risk	Drilling waste sent to facility not authorized to accept it. [<i>Directive 050</i> (17.2(1)), (17.2(4)), (17.2(8)(c)(d)(e)), <i>Directive 058</i> (2.1(1)), <i>Interim Directive (ID) 99-4</i>]
5.9.3.1	High Risk	Disposal of drilling waste into a registered landfill operating under Alberta Public Health permit. [<i>Directive 050</i> (17.2(8)(a)), <i>Interim Directive (ID) 2000-4</i>]
5.9.4.1	High Risk	Drilling waste was not disposed of in the appropriate class of disposal well. [<i>Directive 051</i> (2.3), (2.4), <i>Directive 058</i> (13.1), (13.4), <i>Interim Directive (ID) 99-4</i>]
5.9.5.1	High Risk	Failure to properly classify drilling waste as DOW or non-DOW. [<i>Directive 050</i> (17.2(3)), <i>Directive 058</i> (2),(4),(5), <i>Interim Directive (ID) 2000-3</i> , <i>Interim Directive (ID) 2000-4</i>]
5.9.6.1	Low Risk	Drilling waste generator (licensee/approval holder) has not implemented an oilfield waste tracking system. [<i>Directive 050</i> (17.2(6)), <i>Directive 058</i> (7), (9), <i>Interim Directive (ID) 2000-4</i>]
5.9.7.1	High Risk	Drilling waste was mixed with solids and/or liquids for the primary purpose of dilution. [<i>Directive 050</i> (17.2(7)), <i>Directive 058</i> (5.5), <i>Interim Directive (ID) 99-4</i>]
5.9.8.1	High Risk	Drilling waste sent to landfill did not pass the paint filter test. [<i>Directive 050</i> (17.2(8)(b)), <i>Interim Directive (ID) 99-4</i>]

Manual #	Risk rating	Description
5.9.9.1	High Risk	Failure to characterize and classify drilling waste prior to addition of adsorbents or bulking material. [<i>Directive 050</i> (17.2(8)(b)), <i>Directive 058</i> (2), (4), (5.5), <i>Interim Directive (ID) 99-4</i>]
5.9.10.1	Low Risk	Drilling waste was not properly identified. [<i>Directive 058</i> (9.2), Appendix 7, <i>Interim Directive (ID) 2000-4</i>]

5.10 Remixing

Manual #	Risk rating	Description
5.10.1.1	High Risk	Failure to conduct remix on a licensed well site or associated remote drilling waste storage site on which an original drilling waste disposal occurred. [<i>Directive 050</i> (20.2(1)(a))]
5.10.2.1	High Risk	Mix ratio for remix exceeds 3 parts subsoil to 1 part drilling waste. [<i>Directive 050</i> (20.2(1)(e))]
5.10.3.1	High Risk	Failure to use predictive lab mixes to determine the mix ratio where required. [<i>Directive 050</i> (20.2(1)(d))]
5.10.4.1	High Risk	Remix not conducted at soil horizon/depth as required in <i>Directive 050</i> . [<i>Directive 050</i> (20.2(1)(f))]

6. Treatment

6.1 Biodegradation

Manual #	Risk rating	Description
6.1.1.1	High Risk	Failure to ensure the biodegradation site is located so that drainage ways or areas subject to seasonal flooding are avoided. [<i>Directive 050</i> (15.2(3)(a))]
6.1.2.1	High Risk	Failure to ensure the containment system is located and constructed in accordance with <i>Directive 050</i> . [<i>Directive 050</i> (15.4.2(26)(b))]
6.1.3.1	High Risk	Failure to ensure the biodegradation site is located at least 100 metres from a water body. [<i>Directive 050</i> (15.2(3)(b))]
6.1.4.1	High Risk	Failure to ensure the biodegradation site is located at least 50 metres from a water well. [<i>Directive 050</i> (15.2(3)(b))]
6.1.5.1	High Risk	Failure to ensure the area used for biodegradation is at least 10 metres from an on-site rig water supply well. [<i>Directive 050</i> (15.2(3)(c))]
6.1.6.1	Low Risk	Remote biodegradation site does not have signage identifying location, licensee, linked well licence, and 24-hour emergency phone number. [<i>Directive 050</i> (15.2(4)(a))]
6.1.7.1	High Risk	Failure to ensure a call to the licensee 24-hour emergency telephone number initiates immediate action. [<i>Directive 071</i> (2.1(3))]
6.1.8.1	Low Risk	Remote biodegradation site is not secured to prevent public or wildlife from entering it. [<i>Directive 050</i> (15.2(4)(a))]
6.1.9.1	High Risk	Land treatment on a site with a slope greater than 3 per cent. [<i>Directive 050</i> (15.3.2(12))]
6.1.10.1	High Risk	Failure to limit the receiving soil for land treatment to shallow subsoils (to a maximum depth profile of 1 metre) that are in the good or fair soil rating category as set out in <i>Directive 050</i> . [<i>Directive 050</i> (15.3.2(13))]

Manual #	Risk rating	Description
6.1.11.1	High Risk	Failure to ensure the maximum depth of the land treatment zone is at least 1 metre above the saturated zone. [<i>Directive 050</i> (15.3.2(15)), (15.4.2(26)(d))]
6.1.12.1	High Risk	Failure to ensure the soil below the treatment zone meets <i>Directive 050</i> requirements. [<i>Directive 050</i> (15.3.2(14)), (15.3.2(16))]
6.1.13.1	High Risk	Failure to ensure the depth of waste incorporation into the receiving soil does not exceed that of normal cultivation equipment. [<i>Directive 050</i> (15.3.2(17))]
6.1.14.1	High Risk	Failure to mix receiving soil and drilling waste at a ratio of at least three parts subsoil to one part drilling waste. [<i>Directive 050</i> (15.3.2(18))]
6.1.15.1	High Risk	Failure to ensure the receiving soil for land treatment is not saturated with water, covered with ice or snow, or frozen when the drilling waste is being applied. [<i>Directive 050</i> (15.3.2(19))]
6.1.16.1	High Risk	No berm, or berm does not meet requirements. [<i>Directive 050</i> (15.3.2(22)), (15.3.2(23)), (15.4.2(26)(c)), (15.4.2(28))]
6.1.17.1	High Risk	Failure to manage collected leachate in accordance with <i>Directive 050</i> . [<i>Directive 050</i> (15.3.2(22)), (15.4.2(27))]
6.1.18.1	Low Risk	Failure to have effective surface water run-on controls that will prevent the flow of surface water into the containment system. [<i>Directive 050</i> (15.4.2(26)(a))]
6.1.19.1	High Risk	Failure to dismantle the containment system after the drilling waste is removed. [<i>Directive 050</i> (15.4.2(29))]
6.1.20.1	Low Risk	Failure to document the type of biodegradation. [<i>Directive 050</i> (15.5(32))]
6.1.21.1	High Risk	Failure to re-evaluate soil conditions of the biodegradation site upon closure. [<i>Directive 050</i> (15.2(6))]
6.1.22.1	High Risk	Failure to remediate and/or resample if contamination is found during soil re-evaluation upon closure of the biodegradation site. [<i>Directive 050</i> (15.2(6)(b))]
6.1.23.1	High Risk	Failure to ensure the predicted time to reduce the petroleum hydrocarbon content in the land treatment zone to meet closure criteria does not exceed five years. [<i>Directive 050</i> (15.3.2(21))]
6.1.24.1	High Risk	Failure to ensure the biodegradation site is closed within five years of the date that the biodegradation commenced. [<i>Directive 050</i> (15.2(7))]

6.2 Mobile Thermal Treatment Units

Manual #	Risk rating	Description
6.2.1.1	High Risk	Thermal treatment operations being conducted on locations other than licensed well site or remote drilling waste storage or biodegradation site. [<i>Directive 050</i> (18.2(1))]
6.2.2.1	High Risk	Mobile thermal treatment unit used to treat drilling waste from inappropriate source. [<i>Directive 050</i> (18.2(1))]
6.2.3.1	High Risk	Drilling waste mixed with solids or liquids for the primary purpose of diluting it to avoid any Alberta regulatory requirement. [<i>Directive 050</i> (18.2(3)), <i>Directive 058</i> (5.5), <i>Interim Directive (ID) 99-4</i>]

99 Other Requirements

1.1 Other ERCB Requirements

Manual #	Risk rating	Description
99.1.1	Low Risk	Noncompliant with other low risk ERCB requirement(s). [Refer to the applicable ERCB requirement.]
99.1.2	High Risk	Noncompliant with other high risk ERCB requirement(s). [Refer to the applicable ERCB requirement.]

Appendix 1 Acronyms/Abbreviations

AWSS – Aboveground Synthetically Lined Walled Storage System
CAPP – Canadian Association of Petroleum Producers
cm – Centimetre
DBD – Dry Bulk Density
DDS – Digital Data Submission
DFPL – Disposal onto Forested Public Lands
DOW – Dangerous Oilfield Waste
EC – Electrical Conductivity
ERCB – Energy Resources Conservation Board
ESRD – Alberta Environment and Sustainable Resource Development
FIS – Field Surveillance Inspection System
ha – Hectare
kg – kilogram
LOC – Licence of Occupation
LWD – Landspray-While-Drilling
MBC – Mix-Bury-Cover
MGD – Minimum-Ground-Disturbance
MSL – Mineral Surface Lease
m² – Square Metre
m³ – Cubic Metre
N – Nitrogen
Na – Sodium
OGCA – Oil and Gas Conservation Act
OGCR – Oil and Gas Conservation Regulations
OWMF – Oilfield Waste Management Facility
pH – Power of Hydrogen
QA/QC – Quality Assurance/Quality Control
ROW – Right-of-way
SAR – Sodium Adsorption Ratio
WMF – Waste Management Facility

Appendix 2 References

ERCB Documents

Acts and Regulations

Occupational Health and Safety Regulation

Oil and Gas Conservation Act

Oil and Gas Conservation Regulations

Bulletins

Bulletin 2012-08: Revision of Directive 050: Drilling Waste Management

Directives

Directive 050: Drilling Waste Management

Directive 051: Injection and Disposal Wells - Well Classifications, Completions, Logging, and Testing Requirements

Directive 055: Storage Requirements for the Upstream Petroleum Industry

Directive 055—Addendum 2011-10-11: Interim Requirements for Aboveground Synthetically-Lined Wall Storage Systems, Updates to Liner Requirements, and Optional Diking Requirements for Single-Walled Aboveground Storage Tanks

Directive 058: Oilfield Waste Management Requirements for the Upstream Petroleum Industry

Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry

Interim Directives

ID 2000-04: An Update to the Requirements for the Appropriate Management of Oilfield Wastes

ID 2000-03: Harmonization of Waste Management

ID 99-04: Deposition of Oilfield Waste into Landfills

ID 96-03 Oilfield Waste Management Requirements for the Upstream Petroleum Industry

Information Letters

IL 98-01: A Memorandum of Understanding Between Alberta Environmental Protection and the Alberta Energy and Utilities Board

IL 98-02: Suspension, Abandonment, Decontamination, and Surface Land Reclamation of Upstream Oil and Gas Facilities

IL 94-02: Injection And Disposal Wells - Well Classifications Completion, Logging And Testing Requirements

Other Documents

CAPP Clubroot Disease Management Best Management Practice

CAPP Environmental Operating Practice for the Upstream Petroleum Industry - Alberta Operations

Appendix 3 Contacts

Applications Branch

Resources Applications Inquiries: 403-476-4967

ERCB Waste & Storage Section

Directive050@ercb.ca
Directive055@ercb.ca
Directive058@ercb.ca

FIS Administrator

403-297-4845 or FIS.Administrator@ercb.ca.

DDS Administrator

403-297-5802 or DDSAdministrator@ercb.ca

Customer Contact Centre

403-297-8311

Field Surveillance and Operations Branch

Liability Management: 403-297-3710
Technical Operations: 403-297-6179
Compliance Assurance Inquiries: 403-297-6179 or ComplianceCoordination@ercb.ca

Field Centres and Offices

Bonnyville: 780-826-5352
Drayton Valley: 780-542-5182
Fort McMurray Office: 780-743-7214
Grande Prairie: 780-538-5138
High Level: 780-926-5399
Medicine Hat: 403-527-3385
Midnapore: 403-297-8303
Red Deer: 403-340-5454
St. Albert: 780-460-3800
Wainwright: 780-842-7570

Information Collection and Dissemination

Production: 403-297-8952
Well Data Services: 403-297-8696
Information Services: 403-297-8190 (or 403-297-8311, select 2)

Geology and Reserves

Geology and Reserves: 403-297-8214

Other Contacts

Alberta Environment and Sustainable Resource Development: 1-800-222-6514
Alberta One Call: 1-800-242-3447
Alberta Utilities Commission Complaint Line: 780-427-4903
Workplace Health and Safety: 1-866-415-8690