

CHAPTER 28

STANDARDS FOR ISSUING PERMITS FOR COMMERCIAL OILFIELD WASTE DISPOSAL FACILITIES

Section 1. Authority.

This rule is promulgated pursuant to the Wyoming Environmental Quality Act, Wyoming Statutes (W.S.) § 35-11-101 through § 35-11-2005, specifically W.S. § 35-11-301(a) (i), W.S. § 35-11-301(a)(iii), W.S. § 35-11-302(a)(iii), W.S. § 35-11-306, and W.S. § 35-11-307.

Section 2. Applicability.

(a) This Chapter contains the minimum standards for the design and construction of commercial oilfield waste disposal facilities that are required to obtain a permit under W.S. § 35-11-301(a)(iii), W.S. § 35-11-306, and Water Quality Rules and Regulations Chapter 3. In addition, this Chapter contains operation, monitoring, and reporting requirements for commercial oilfield waste disposal facilities.

(i) All applicants for a Water Quality Rules and Regulations Chapter 3 permit to construct, install, modify, or operate a commercial oilfield waste disposal facility shall meet all minimum standards of this Chapter.

(ii) No permit to construct, install, modify, or operate a commercial oilfield waste disposal facility shall be issued to a facility that does not meet the minimum standards of this Chapter.

(iii) All commercial oilfield waste disposal facilities shall be constructed, installed, and operated in accordance with permits issued pursuant to this Chapter.

(b) The installation of any component of a commercial oilfield waste disposal facility requires a permit to construct.

(c) Commercial oilfield waste disposal facilities are authorized to accept exempt exploration and production (E&P) wastes.

(i) Non-exempt, non-hazardous waste may be approved on a case-by-case basis, at the permittee's request.

(ii) The Division requires hazardous waste characteristic analysis of all non-exempt wastes proposed to be disposed of at a commercial oilfield waste disposal facility.

42 Additional sampling may be required by the Division based on the type of waste to be disposed.
43 If any of the hazardous waste regulatory levels are exceeded, the wastes shall be disposed at a
44 facility approved to accept hazardous wastes.
45

46 (d) Pursuant to the provisions of W.S. § 35-11-109 (a)(ii) and W.S. § 35-11-
47 1104(a)(iii), while subject to the requirements of the Wyoming Environmental Quality Act,
48 noncommercial oilfield waste disposal facilities permitted by the Wyoming Oil and Gas
49 Conservation Commission, are exempt from the requirements of this Chapter.
50

51 **Section 3. Timing of Compliance with These Regulations.**

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53 Any facility covered by an individual permit issued pursuant to Water Quality Rules and
54 Regulations, Chapter 3, prior to the effective date of this chapter shall remain covered under that
55 permit. New construction or modification of existing permitted facilities must obtain
56 authorization under a new permit, in accordance with Water Quality Rules and Regulations
57 Chapter 3, Section 9(a)(iii), subject to the requirements of this Chapter.
58

59 **Section 4. Definitions**

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61 (a) The definitions in this Section supplement those definitions contained in W.S. §
62 35-11-103 of the Wyoming Environmental Quality Act.
63

64 (b) “Commercial oilfield waste disposal facility” (COWDF) means a facility that:
65

66 (i) Receives or has received produced water, exempt exploration and
67 production waste, or non-hazardous non-exempt wastes approved by the Department, for
68 treatment, storage, or disposal in pits, evaporation ponds, or surface impoundments; and
69

70 (ii) Receives or has received produced water, exploration and production
71 waste, or other approved wastes from persons other than the owners and operators of the facility.
72

73 (c) “Exempt exploration and production (E&P) waste(s)” means drilling fluids,
74 produced waters, and other wastewater associated with the exploration, development, or
75 production of crude oil, natural gas or geothermal energy that are solid wastes but that are not
76 identified as hazardous wastes under 40 CFR § 261.4(b)(5).
77

78 (d) “Groundwater” means subsurface water that fills available openings in rock or
79 soil materials such that they may be considered water saturated under hydrostatic pressure.
80

81 **Section 5. Facilities and Systems not Specifically Covered by these Standards.**

82

83 (a) Each application for a permit to construct a facility under this section shall be
84 evaluated on a case-by-case basis using the best available technology. The Water Quality
85 Division (Division) may approve applications demonstrating the constructed facility can meet
86 the purpose of the Act and this Chapter.

87
88 (b) The following information shall be included with the application for a permit to
89 construct, install, modify, or operate a commercial oilfield waste disposal facility not specifically
90 covered by these standards:

91
92 (i) Data obtained from a full scale, comparable installation that demonstrates
93 the acceptability of the design; or

94
95 (ii) Data obtained from a pilot plant operated under the design condition for a
96 sufficient length of time to demonstrate the acceptability of the design; or

97
98 (iii) Data obtained from a theoretical evaluation of the design demonstrates a
99 reasonable probability that the facility will meet the design objectives.

100
101 (iv) An evaluation of the flexibility of making corrective changes to the
102 constructed facility in the event it does not function as planned.

103
104 (c) If an applicant wishes to construct a pilot plant to provide the data necessary to
105 meet the requirements of this Section, then the applicant must obtain a permit to construct.

106
107 **Section 6. Site Suitability.**

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109 (a) The applicant shall demonstrate that the proposed facility location complies with
110 W.S. § 35-11-306(a)(i)-(ii).

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112 (b) Additionally, the applicant shall demonstrate that the proposed facility location:

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114 (i) Is positioned so that the depth to highest seasonal groundwater is at least
115 five (5) feet below the secondary liner;

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117 (ii) Is outside of the 100-year floodplain of surface waters of the State; and

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119 (iii) Is not within ephemeral drainages into which natural runoff may flow or
120 enter.

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122 **Section 7. Permits, Permit Application, and Recordkeeping Requirements.**

124 (a) Applications for a permit to construct, install, modify, or operate a commercial
125 oilfield waste disposal facility shall meet the requirements of Water Quality Rules and
126 Regulations Chapter 3, Section 6.

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128 (b) The application shall:

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130 (i) Include signatures of:

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132 (A) The surface estate owner of record or legal designee authorizing
133 legal access, or documentation of right of way in cases of state or federal land ownership; and

134

135 (B) The operator.

136

137 (ii) Include the following components:

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139 (A) An engineering design report that meets the requirements of
140 Section 9 of this Chapter;

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142 (B) A construction plan that meets the requirements of Section 10 of
143 this Chapter;

144

145 (C) Monitoring and reporting that meet the requirements of Section 11
146 of this Chapter;

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148 (D) An operation and maintenance plan that meets the requirements of
149 Section 12 of this Chapter; and

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151 (E) Closure and post-closure plans that meet the requirements of Water
152 Quality Rules and Regulations Chapter 14, Section 3 and a corrective action plan that meets the
153 requirements of Water Quality Rules and Regulations Chapter 14, Section 4.

154

155 (iii) Be submitted to the Division in a format required by the Administrator,
156 including plans, specifications, design data, or other pertinent information covering the project,
157 and any additional information required by the Administrator.

158

159 (iv) Include certification under penalty of perjury that the applicant has
160 secured and will maintain permission for Department personnel and their invitees to access the
161 facility, including permission to:

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163 (A) Access the land where the facility is located;

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(B) Collect resource data as defined by W. S. § 6-3-414; and

(C) Enter and cross all properties necessary to access the facility if the facility cannot be directly accessed from a public road.

Section 8. Annual Reporting Requirements

(a) The permittee shall submit to the Division by April 1 of each year an annual report that includes:

(i) The name of the facility, the Division issued COWDF identification number, the name of the owner, the reporting contact, and permit numbers for the facility;

(ii) Description of any modification and operation details of the facility from the previous year, any anticipated construction, modification, or operational changes for the upcoming year;

(iii) A discussion and analysis of the groundwater monitoring results, including a graph of the last five (5) years of data in a format approved by the Administrator;

(iv) A discussion and analysis of the leak detection monitoring results and any corrective actions taken;

(v) Annual sampling results of evaporation ponds;

(vi) The annual revised cost estimates for closure, post-closure, and corrective action, and the financial assurance instruments that are required in Water Quality Rules and Regulations Chapter 14, Sections 3 and 4; and

(vii) Wastewater transfer records, as required by Section 11(g) of this Chapter.

(b) Reporting requirements are subject to modification by the Administrator.

Section 9. Engineering Design Report.

(a) An engineering design report is required for each permit application and shall include:

(i) A description of the facility site and location including:

- 205 (A) The legal description of the present and projected facility property
- 206 boundary, including existing and proposed buildings and facilities; and
- 207
- 208 (B) The surface and mineral owner(s) of record.
- 209
- 210 (ii) A geotechnical report for the proposed site that includes:
- 211
- 212 (A) Groundwater information, including the depth to groundwater;
- 213
- 214 (B) A summary of all subsurface investigations;
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- 216 (C) A subsurface soil profile;
- 217
- 218 (D) Exploration logs;
- 219
- 220 (E) Laboratory or in-situ test results;
- 221
- 222 (F) Interpretation and analysis of subsurface investigations;
- 223
- 224 (G) Specific engineering recommendations for design; and
- 225
- 226 (H) Solutions or discussion of anticipated problems.
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- 228 (iii) A detailed description of the types of waste(s) to be accepted at the facility
- 229 that includes, but is not limited to, the following:
- 230
- 231 (A) Produced water;
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- 233 (B) Well completion and stimulation products;
- 234
- 235 (C) Wastes from production separators;
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- 237 (D) Gas plant dehydration wastes;
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- 239 (E) Gas plant sweetening wastes; and
- 240
- 241 (F) A list of anticipated generators of the waste(s);
- 242
- 243 (iv) A description of design conditions that includes:
- 244
- 245 (A) Identification of required performance characteristics of all
- 246 construction materials;
- 247
- 248 (B) The type, size, strength, operating characteristics, rating or
- 249 requirements for all:
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- 251 (I) Mechanical and electrical equipment;
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- 253 (II) Laboratory fixtures and equipment;
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- 255 (III) Operating tools; and
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- 257 (IV) Chemicals (where used).
- 258
- 259 (C) Construction and installation procedures;
- 260
- 261 (D) Testing requirements to ensure materials and equipment meet
- 262 design standards;
- 263
- 264 (E) Waste treatment, storage, and disposal methods; and
- 265
- 266 (F) Summary of operation procedures.
- 267
- 268 (v) A geologic report, signed and sealed by a Wyoming Professional
- 269 Geologist in accordance with W.S. § 33-41-115(c), that includes:
- 270
- 271 (A) A stratigraphic column that illustrates the thickness and geologic
- 272 names of alluvial materials and geologic formations that comprise the unsaturated, or vadose,
- 273 zone;
- 274
- 275 (B) A description of the lithology and hydraulic conductivity of
- 276 materials and geologic formations comprising the unsaturated zone, the first encountered
- 277 groundwater, and the uppermost aquifer underlying the proposed facility;
- 278
- 279 (C) A potentiometric map of the uppermost water bearing zone
- 280 beneath the facility that:
- 281
- 282 (I) Illustrates the locations and use of all wells within one (1)
- 283 mile of the proposed facility, clearly identifying those wells producing in whole, or in part, from
- 284 the uppermost water bearing zone, and including project borings or wells; and
- 285
- 286 (II) Includes a description of the uppermost aquifer in terms of
- 287 its relative confinement, permeability, and porosity.
- 288
- 289 (vi) Documentation that the proposed facility will comply with Water Quality
- 290 Rules and Regulations Chapter 3, Section 18;
- 291
- 292 (vii) A sampling and analysis plan that satisfies the monitoring requirements of
- 293 Section 11 of this Chapter; and
- 294
- 295 (viii) Details of the leak detection system that satisfies the requirements of
- 296 Section 11 of this Chapter.

- 297
298 (b) Engineering design drawings are required for each permit application and shall
299 include:
300
301 (i) On each page:
302
303 (A) A suitable title block that includes the applicant's name, facility
304 name, and Division assigned COWDF identification number, and the revision date and number;
305 and
306
307 (B) The seal and signature of the Wyoming Professional Engineer.
308
309 (ii) A plan set that includes:
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311 (A) A scaled site plan; and
312
313 (B) A cover sheet with an index as the first page of each plan set.
314
315 (iii) The following components:
316
317 (A) North arrow and drawing scale;
318
319 (B) Legend;
320
321 (C) Fencing and security;
322
323 (D) Topographic features and contours with indicated datum;
324
325 (E) Soil and subsurface geological characteristics;
326
327 (F) Location of soil borings, bedrock elevations, and seasonal high
328 groundwater elevations;
329
330 (G) Locations and dimensions of piping, including those in and under
331 buildings;
332
333 (H) The location of all cross-sections and profiles, which shall be
334 identified in the plan views;
335
336 (I) Locations of buildings, evaporation ponds, pits, tanks, utilities, and
337 roads;
338
339 (J) Scaled geologic cross-sections with the evaporation ponds'
340 geometry, monitoring wells, borings, and groundwater observations (if present) superimposed on
341 the geologic cross-sections;
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343 (K) Present and proposed access, including a map of the access
344 route(s) to the facility from the nearest public road;

345
346 (L) The distances to occupied dwelling buildings or school buildings;
347 and

348
349 (M) Prevailing wind direction.
350

351 **Section 10. Minimum Design and Construction Standards.**
352

353 (a) Receiving facility and phase separation facility designs shall meet the following
354 standards:

355
356 (i) Liquid hydrocarbons shall be removed from wastewater before it is
357 discharged to the evaporation ponds.
358

359 (ii) All open-topped tanks in the receiving facility and the phase separation
360 facility shall be covered with netting, screen, or other approved method to prevent the entry of
361 birds and other wildlife.
362

363 (A) The netting, screen, or approved covering shall be constructed to
364 remain intact and above the surface of the liquid in the tank even during winds up to eighty (80)
365 mph, or when weighted with snow, ice, or rain.
366

367 (b) To protect birds and other wildlife, evaporation ponds shall be kept virtually oil
368 free at all times or shall be completely netted or screened to the standards required for open-
369 topped tanks.
370

371 (i) Hydrocarbon sheen on any part of the evaporation ponds shall be removed
372 immediately.
373

374 (c) The facility design shall meet the following earthwork standards:
375

376 (i) For evaporation ponds specified to be lined with a geomembrane liner:
377

378 (A) Rocks larger than six (6) inches in length shall not be placed within
379 five (5) feet of the interior slope of any evaporation pond embankment. All rocks and other
380 material that could damage the geomembrane shall be removed from the surface to be covered
381 with the geomembrane;
382

383 (B) Material containing by volume less than twenty-five (25%) percent
384 of rock larger than six (6) inches and less than twelve (12) inches in length may be placed in the
385 remainder of the embankment.

386
387 (ii) Outer dike slopes shall not be steeper than a ratio of one (1) vertical to
388 three (3) horizontal in order to prevent surface runoff from entering the evaporation ponds. The
389 Administrator may require flatter slopes to maintain slope stability.

390
391 (iii) Inner dike slopes shall be between a ratio of one (1) vertical to four (4)
392 horizontal and one (1) vertical to three (3) horizontal.

393
394 (iv) The minimum top dike width shall be twelve (12) feet to allow access to
395 maintenance vehicles. Top dikes wider than twelve (12) feet shall be required when necessary to
396 ensure structural stability.

397
398 (v) Freeboard design shall comply with the following requirements:

399
400 (A) The minimum freeboard at the maximum operating level shall be
401 three (3) feet.

402
403 (B) In order to prevent unauthorized discharges to the air, land or
404 Waters of the State, the Administrator may require increased freeboard, on a case-by-case basis,
405 in order to compensate for wave action due to evaporation pond design, meteorological, or
406 topographic conditions that may exceed the proposed freeboard.

407
408 (d) The facility design shall meet the following liner base, primary and secondary
409 liner, and leak detection system standards:

410
411 (i) All evaporation ponds shall be constructed with a compacted clay
412 secondary liner base or a geosynthetic clay secondary liner base that is contoured to include
413 individual sub-cells that can be isolated if a leak is detected, as required in Section
414 10(d)(iv)(C)(I).

415
416 (A) Compacted clay secondary liner bases shall be a minimum of one
417 (1) foot thick with a maximum permeability of 1×10^{-5} cm/sec and shall be constructed with
418 maximum compacted lifts of one-half (1/2) foot.

419
420 (I) Tests for water content and density shall be taken during
421 the placement of each lift of the liner base.

422

423 1. Either permeability testing of undisturbed core
424 samples from the in-place seal or detailed tests such as particle size distribution and Atterberg
425 limits shall be conducted.

426
427 2. Detailed tests shall confirm that the soil specified
428 was used for liner construction. One (1) test shall be conducted per acre per lift. For core
429 sampling of the in-place liner, one (1) core of the completed liner shall be tested per acre.

430
431 3. The permittee shall provide the Division a written
432 certification by a Wyoming Professional Engineer that the base was constructed according to the
433 permit and that final testing indicated results within the allowable limits established by the
434 permit.

435
436 (II) For compacted clay secondary liner bases, a method of
437 maintaining the seal at or above optimum moisture conditions is required.

438
439 (B) Geosynthetic clay secondary liner bases installed according to the
440 manufacturer's instructions are acceptable, provided that:

441
442 (I) Geosynthetic clay liner bases shall have a maximum
443 hydraulic conductivity of 1×10^{-8} cm/sec;

444
445 (II) The manufacturer of the geosynthetic clay liner base shall
446 have more than ten million square feet of their product installed;

447
448 (III) The geosynthetic clay liner base installation contractor
449 shall be approved by the manufacturer; and

450
451 (IV) Geosynthetic clay liners that are used as secondary liner
452 bases require surface erosion and abrasion protection and shall be protected during installation
453 consistent with the manufacturer's requirements. If interior pond slopes steeper than 3:1
454 horizontal to vertical are proposed, the factor of safety for slope failure on the composite liner
455 shall be shown to be at least 1.5:1.

456
457 (C) Handling, installation, and testing of geosynthetic clay liners shall
458 be in accordance with the following specifications:

459
460 (I) ASTM D5887/D5887M-16;

461
462 (II) ASTM D5888-19;

- 463
- 464 (III) ASTM D5889/D5889M-18;
- 465
- 466 (IV) ASTM D5890-19;
- 467
- 468 (V) ASTM D5891/D5891M-19;
- 469
- 470 (VI) ASTM D5993-18;
- 471
- 472 (VII) ASTM D6072/D6072M-19;
- 473
- 474 (VIII) ASTM D6102-15;
- 475
- 476 (IX) ASTM D6243/D6243M-16;
- 477
- 478 (X) ASTM D6788-02(2017);
- 479
- 480 (XI) ASTM D6495/D6495M-18;
- 481
- 482 (XII) ASTM D6768/D6768M-19;
- 483
- 484 (XIII) ASTM D6496/D6496M-19;
- 485
- 486 (XIV) ASTM D6243; and
- 487
- 488 (XV) GRI GCL3.
- 489

490 (ii) All evaporation ponds shall be constructed with a high-density
491 polyethylene (HDPE) geomembrane secondary liner that shall have a minimum thickness of 40
492 mils.

493

494 (A) HDPE geomembrane liners that conform to Geosynthetic
495 Research Institute Standard Specification GRI-GM13, are acceptable.

496

497 (B) Handling, installation, and testing of HDPE liners shall be in
498 accordance with the following specifications:

- 499
- 500 (I) GRI GM13;
- 501
- 502 (II) GRI GM9;

- 503
- 504 (III) ASTM D751-19;
- 505
- 506 (IV) ASTM D792-13;
- 507
- 508 (V) ASTM D814-95(2020);
- 509
- 510 (VI) ASTM D882-18;
- 511
- 512 (VII) ASTM D1004-13;
- 513
- 514 (VIII) ASTM D1203-16;
- 515
- 516 (IX) ASTM D1204-14;
- 517
- 518 (X) ASTM D1505-18;
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- 520 (XI) ASTM D1593-19;
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- 522 (XII) ASTM D1603-14;
- 523
- 524 (XIII) ASTM D1790-14;
- 525
- 526 (XIV) ASTM D3895-19;
- 527
- 528 (XV) ASTM D4218-15;
- 529
- 530 (XVI) ASTM D4833/D4833M-07(2013);
- 531
- 532 (XVII) ASTM D5199-12(2019);
- 533
- 534 (XVIII) ASTM D5321/D5321M-20;
- 535
- 536 (XIX) ASTM D5397-19a;
- 537
- 538 (XX) ASTM D5596-03(2016);
- 539
- 540 (XXI) ASTM D5721-08(2018);
- 541
- 542 (XXII) ASTM D5885/D5885M-17;

- 543
- 544 (XXIII) ASTM D5994/D5994M-10(2015)e1;
- 545
- 546 (XXIV) ASTM D6392-12(2018);
- 547
- 548 (XXV) ASTM D6497/D6497M-02(2015)e1;
- 549
- 550 (XXVI) ASTM D6693/D6693M-04(2015)e1;
- 551
- 552 (XXVII) ASTM D7466/D7466M-10(2015)e1; and
- 553
- 554 (XXVIII) ASTM D7238-06(2017)07/01/2017.
- 555
- 556 (C) The liner manufacturer shall have more than ten million square feet
- 557 of their product installed.
- 558
- 559 (D) Geomembrane liners installed and operated according to this
- 560 Section shall not allow a discharge to groundwater by direct or indirect discharge, percolation or
- 561 infiltration.
- 562
- 563 (iii) All evaporation ponds shall be constructed with a leak detection system
- 564 that when installed, shall allow monitoring as required in Section 11(b) of this Chapter.
- 565
- 566 (iv) The leak detection system shall include drainage layers between the
- 567 primary and secondary liners that shall have a minimum hydraulic transmissivity of one (1)
- 568 gpm/foot.
- 569
- 570 (A) Synthetic drainage media may be used.
- 571
- 572 (B) The drainage layer shall have a minimum grade of four-tenths of
- 573 one percent (0.4 %).
- 574
- 575 (C) Perforated or slotted collection lines shall be installed in the
- 576 drainage layer arranged to create sub-cells with a maximum area of two (2) acres or less.
- 577
- 578 (I) Collection lines shall be configured to isolate sub-cells in
- 579 the collection system for the purpose of locating leaks.
- 580
- 581 (II) No portion of the drainage layer shall be more than 140 feet
- 582 from a collection line.

583
584 (D) The collection lines shall drain to a sump contained by the
585 secondary liner.

586
587 (I) The sump shall be designed so that the maximum high
588 liquid level during operating conditions is below the invert of any collection line discharging to
589 the sump.

590
591 (II) The sump shall be large enough to allow a pump to be
592 installed to remove all fluid from the sump.

593
594 (v) All evaporation ponds shall be constructed with a primary liner that shall
595 be an HDPE geomembrane liner with a minimum thickness of sixty (60) mils.

596
597 (A) HDPE geomembrane liners shall conform to Geosynthetic
598 Research Institute Standard Specification GRI-GM13;

599
600 (B) Handling, installation, and testing of HDPE liners shall meet the
601 requirements of paragraph (d)(ii)(B) of this Section;

602
603 (C) The liner manufacturer shall have more than ten million square feet
604 of their product installed;

605
606 (D) Geomembrane liners installed and operated according to this
607 subparagraph shall not allow a discharge to groundwater by direct or indirect discharge,
608 percolation, or filtration.

609
610 **Section 11. Monitoring and Reporting Requirements.**

611
612 (a) All applications for a permit to construct shall include:

613
614 (i) Documentation that demonstrates the groundwater monitoring wells
615 comply with the construction standards of Water Quality Rules and Regulations Chapter 26;

616
617 (ii) Either the information required by Water Quality Rules and Regulations
618 Chapter 3, Section 17(a) or the information required by Water Quality Rules and Regulations
619 Chapter 3, Section 17(b)(ii) through (viii);

620
621 (iii) The ambient groundwater quality information for all monitoring wells for
622 the Department to use to determine the groundwater class of use;

623

624 (A) The monitoring wells shall be sampled and tested prior to any
625 wastewater disposal into the evaporation ponds; and

626
627 (B) The monitoring wells shall be sampled and tested one (1) time for
628 the parameters listed in Water Quality Rules and Regulations, Chapter 8, Table 1.

629
630 (iv) A groundwater monitoring program as required by Water Quality Rules
631 and Regulations Chapter 3, Section 17(d) and (e), and plans for record-keeping and reporting.

632
633 (v) The operational monitoring plan shall include a sampling and analysis
634 plan for each evaporation pond.

635
636 (A) The sampling and analysis plan shall identify the evaporation pond
637 locations and the methodology to be used to conduct monitoring at the evaporation ponds; and

638
639 (B) The analyte list and monitoring frequency are subject to revision as
640 required by the Administrator.

641
642 (b) After approval by the Administrator, the monitoring program shall be
643 incorporated as a permit condition to ensure compliance with Water Quality Rules and
644 Regulations Chapter 8, Section 4(d)(v)(A) and Section 4(d)(vi)(A).

645
646 (c) All monitoring shall be conducted in accordance with an Administrator-approved
647 sampling and analysis plan. The sampling and analysis plans shall be included as part of the
648 operation and maintenance (O&M) Plan.

649
650 (d) Leak detection system monitoring.

651
652 (i) The leak detection system's inspection pipes shall be inspected weekly for
653 the first month and monthly thereafter.

654
655 (ii) The permittee shall keep a log of the inspection results. If fluid is found:

656
657 (A) The permittee shall notify the Administrator within twenty-four
658 (24) hours of discovery.

659
660 (B) The operator shall obtain samples from the inspection pipes and
661 the evaporation cell(s) that have been tested, in accordance with US EPA SW-846, for total
662 petroleum hydrocarbons (TPH) (modified for gasoline and diesel range hydrocarbons), chlorides,
663 total dissolved solids (TDS) and sulfates.

664
665 (C) The permittee shall report the sample results to the Administrator
666 as soon as they are available.

667
668 (e) Within ten (10) days of discovering a leak or fluid in the leak detection system,
669 the permittee shall submit a plan and schedule to investigate the leak and repair the liner.

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(f) Facilities that transfer wastewater shall:

(i) Maintain written records of all wastewater transfers that include:

(A) The date(s) of transfer;

(B) The volume of wastewater to be transferred;

(C) A description of the method of transfer;

(D) A copy of the written agreement(s) between the facility and the receiving parties that will be accepting the wastewater for reuse that identifies:

(I) The name, address, legal description by latitude and longitude, and telephone number for the receiving party;

(II) The receiving party's intended use of the transferred wastewater; and

(III) The location(s) where the wastewater will be applied or reused.

(ii) Maintain onsite all records required in this section and make the records available to Division representatives upon request. All records shall be compiled in an approved format and shall be included in the annual report, as required by Section 8(a)(vii) of this Chapter;

Section 12. Operation and Maintenance Plan.

(a) An operation and maintenance (O&M) plan is required for each new or modified facility and shall include the following information:

(i) An introduction that includes an overview of the facility and operational processes;

(ii) Process flow diagram;

(iii) Wastewater receiving procedures, including procedures for refusing loads that may not conform to permit requirements or facility policies;

(iv) Copies of all state and federal permits associated with the facility;

(v) Record keeping and reporting procedures;

- 714 (vi) Planned work and facility operation schedules;
- 715
- 716 (vii) Staffing and management structure;
- 717
- 718 (viii) Maintenance and inspection procedures;
- 719
- 720 (ix) Sampling and analysis plans for groundwater monitoring, evaporation
- 721 pond monitoring, and leak detection system monitoring; and
- 722
- 723 (ix) A contingency plan that includes:
- 724
- 725 (A) A discussion of how hazards to human health and the environment
- 726 will be minimized in case of fires, explosions, or unplanned sudden or non-sudden release of
- 727 waste or waste constituents to soil, surface water, or groundwater;
- 728
- 729 (B) Procedures for notifying appropriate State or local agencies with
- 730 designated response roles; and
- 731
- 732 (C) Reporting thresholds, response procedures, and recordkeeping
- 733 requirements for spills, fires, explosions, and other possible failures.
- 734
- 735 (b) The O&M plan shall be submitted to the Division prior to fifty (50 %) percent
- 736 completion of construction. Administrator approval of the final O&M plan is required prior to
- 737 any water disposal into evaporation ponds.
- 738

739 **Section 13. Public Participation, Public Notice, and Public Hearing**
740 **Requirements.**

- 741
- 742 (a) The Administrator shall give public notice for any of the following actions:
- 743
- 744 (i) The Administrator has prepared a draft permit that is intended for
- 745 issuance.
- 746
- 747 (ii) The Administrator intends to modify a permit.
- 748
- 749 (iii) The Department intends to schedule a hearing.
- 750
- 751 (b) The Administrator shall include a thirty (30) day public comment period for any
- 752 action on items (a)(i), or (a)(ii) of this Section, and shall provide at least thirty (30) days' public
- 753 notice before any hearing held pursuant to paragraph (a)(iii) of this Section.
- 754

- 755 (c) Public notice shall be given by:
756
757 (i) Mailing a copy of the notice to the applicant, by certified or registered
758 mail.
759
760 (ii) Mailing a copy of the notice to the following:
761
762 (A) Bureau of Land Management;
763
764 (B) Wyoming Oil and Gas Conservation Commission;
765
766 (C) Wyoming Game and Fish Department;
767
768 (D) Wyoming State Engineer; and
769
770 (E) Any unit of local government having jurisdiction over the area
771 where the facility is proposed to be located.
772
773 (iii) Electronic notification of the notice to those individuals that subscribe to
774 the Division's electronic notification list;
775
776 (iv) Publication of the notice in a newspaper of general circulation in the
777 location of the facility or operation.
778
779 (d) All public notices issued under this Chapter shall contain the following minimum
780 information:
781
782 (i) Name and address of the Department;
783
784 (ii) Name and address of the permittee or permit applicant, and, if different, of
785 the facility or activity regulated by the permit;
786
787 (iii) A brief description of the business conducted at the facility or activity
788 described in the permit application or the draft permit;
789
790 (iv) Name, address and telephone number of a person from whom interested
791 persons may obtain further information, including, where applicable, copies of the draft permit,
792 statement of basis, fact sheet, and the application;
793
794 (v) A brief description of comment procedures, procedures to request a
795 hearing; and
796

797 (vi) Any additional information required by the Administrator.

798

799 (e) In addition to the information required in paragraph (d) of this Section, any notice
800 for a public hearing shall contain the following:

801

802 (i) Reference to the date of previous public notices relating to the permit;

803

804 (ii) Date, time and place of the hearing; and

805

806 (iii) A brief description of the nature and purpose of the hearing.

807

808 (f) The Department shall provide an opportunity for the applicant, permittee, or any
809 interested person to submit written comments regarding permit issuance, modification, or to
810 request a public hearing.

811

812 (g) During the public comment period, any interested person may submit written
813 comments on the draft permit and may request a public hearing, in writing to the Administrator
814 and shall state the reasons for the request.

815

816 (h) The Director shall render a decision on the draft permit within thirty (30) days
817 after completion of the comment period if no hearing is requested. If a hearing is held, the
818 Director shall make a decision on any Department hearing as soon as practicable after receipt of
819 the transcript or after the expiration of the time set to receive written comments.

820

821 (i) At the time a final decision is issued, the Department shall respond, in writing, to
822 those comments received during the public comment period and comments received during the
823 allotted time for a hearing held by the Department. This response shall:

824

825 (i) Specify any changes that have been made to the permit; and

826

827 (ii) Briefly describe and respond to all comments that express a regulatory
828 concern within the authority of the Department to regulate.

829

830 (j) The response to comments shall be available to the public.

831

832 **Section 14. Incorporation by Reference.**

833

834 (a) The following codes, standards, rules, and regulations referenced in this Chapter
835 are incorporated by reference:

836

- 837 (i) ASTM International Standard D1004-13, *Standard Test Method for Tear*
838 *Resistance (Graves Tear) of Plastic Film and Sheeting*, April 1, 2013, referred to as “ASTM
839 D1004-13”;
840
- 841 (ii) ASTM International Standard D1203-16, *Standard Test Methods for*
842 *Volatile Loss from Plastics Using Activated Carbon Methods*, April 1, 2016, referred to as
843 “ASTM D1203-16”;
844
- 845 (iii) ASTM International Standard D1204-14, *Standard Test Method for Linear*
846 *Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature*,
847 March 1, 2014, referred to as “ASTM 1204-14”;
848
- 849 (iv) ASTM International Standard D1505-18, *Standard Test Method for*
850 *Density of Plastics by the Density-Gradient Technique*, May 10, 2018, referred to as “ASTM
851 D1505-18”;
852
- 853 (v) ASTM International Standard D1593-19, *Standard Specification for*
854 *Nonrigid Vinyl Chloride Plastic Film and Sheeting*, December 11, 2019, referred to as “ASTM
855 D1593-19”;
856
- 857 (vi) ASTM International Standard D1603-14, *Standard Test Method for*
858 *Carbon Black Content in Olefin Plastics*, August 1, 2014, referred to as “ASTM D1603-14”;
859
- 860 (vii) ASTM International Standard D1790-14, *Standard Test Method for*
861 *Brittleness Temperature of Plastic Sheeting by Impact*, October 1, 2014, referred to as “ASTM
862 D1790-14”;
863
- 864 (viii) ASTM International Standard D3895-19, *Standard Test Method for*
865 *Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry*, June 25, 2019,
866 referred to as “ASTM D3895-19”;
867
- 868 (ix) ASTM International Standard D4218-15, *Standard Test Method for*
869 *Determination of Carbon Black Content in Polyethylene Compounds By the Muffle-Furnace*
870 *Technique*, December 1, 2015, referred to as “ASTM D4218-15”;
871
- 872 (x) ASTM International Standard D4833/D4833M-07(2013), *Standard Test*
873 *Method for Index Puncture Resistance of Geomembranes and Related Products*, May 1, 2013,
874 referred to as “ASTM D4833/D4833M-07(2013)”;
875

- 876 (xi) ASTM International Standard D5199-12(2019), *Standard Test Method for*
877 *Measuring the Nominal Thickness of Geosynthetics*, June 21, 2019, referred to as “ASTM
878 D5199-12(2019)”;
879
- 880 (xii) ASTM International Standard D5321/D5321M-20, *Standard Test Method*
881 *for Determining the Shear Strength of Soil-Geosynthetic and Geosynthetic-Geosynthetic*
882 *Interfaces by Direct Shear*, March 3, 2020, referred to as “ASTM D5321/D5321M-20”;
883
- 884 (xiii) ASTM International Standard D5397-19a, *Standard Test Method for*
885 *Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant*
886 *Tensile Load Test*, October 18, 2019, referred to as “ASTM D5397-19a”;
887
- 888 (xiv) ASTM International Standard D5596-03(2016), *Standard Test Method*
889 *For Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics*, June
890 1, 2016, referred to as “ASTM D5596-03(2016)”;
891
- 892 (xv) ASTM International Standard D5721-08(2018), *Standard Practice for Air-*
893 *Oven Aging of Polyolefin Geomembranes*, June 8, 2018, referred to as “ASTM D5721-
894 08(2018)”;
895
- 896 (xvi) ASTM International Standard D5885/D5885M-17, *Standard Test Method*
897 *for Oxidative Induction Time of Polyolefin Geosynthetics by High-Pressure Differential*
898 *Scanning Calorimetry*, June 1, 2017, referred to as “ASTM D5885/D5885M-17”;
899
- 900 (xvii) ASTM International Standard D5887/D5887M-16, *Standard Test Method*
901 *for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens Using a*
902 *Flexible Wall Permeameter*, September 1, 2016, referred to as “ASTM D5887/D5887M-16”;
903
- 904 (xviii) ASTM International Standard D5888-19, *Standard Guide for Storage and*
905 *Handling of Geosynthetic Clay Liners*, May 19, 2019, referred to as “ASTM D5888-19”;
906
- 907 (xix) ASTM International Standard D5889/D5889M-18, *Standard Practice for*
908 *Quality Control of Geosynthetic Clay Liners*, March 9, 2018, referred to as “ASTM
909 D5889/D5889M-18”;
910
- 911 (xx) ASTM International Standard D5890-19, *Standard Test Method for Swell*
912 *Index of Clay Mineral Component of Geosynthetic Clay Liners*, May 30, 2019, referred to as
913 “ASTM D5890-19”;
914

- 915 (xxi) ASTM International Standard D5891/D5891M-19, *Standard Test Method*
916 *for Fluid Loss of Clay Component of Geosynthetic Clay Liners*, August 23, 2019, referred to as
917 “ASTM D5891/D5891M-19”;
918
- 919 (xxii) ASTM International Standard D5993-18, *Standard Test Method for*
920 *Measuring Mass per Unit Area of Geosynthetic Clay Liners*, June 15, 2018, referred to as
921 “ASTM D5993-18”;
922
- 923 (xxiii) ASTM International Standard D5994/D5994M-10(2015)e1, *Standard Test*
924 *Method for Measuring Core Thickness of Textured Geomembranes*, May 1, 2015, referred to as
925 “ASTM D5994/D5994M-10(2015)e1”;
926
- 927 (xxiv) ASTM International Standard D6072/D6072M-19, *Standard Practice for*
928 *Obtaining Samples of Geosynthetic Clay Liners*, January 8, 2019, referred to as “ASTM
929 D6072/D6072M-19”;
930
- 931 (xxv) ASTM International Standard D6102-15, *Standard Guide for Installation*
932 *of Geosynthetic Clay Liners*, May 1, 2015, referred to as “ASTM D6102-15”;
933
- 934 (xxvi) ASTM International Standard D6243 Standard, *Test Method for*
935 *Determining the Internal and Interface Shear Strength of Geosynthetic Clay Liner by the Direct*
936 *Shear Method*, January 1, 2016, referred to as “ASTM D6243”;
937
- 938 (xxvii) ASTM International Standard D6243/D6243M-16, *Standard Test Method*
939 *for Determining the Internal and Interface Shear Strength of Geosynthetic Clay Liner by the*
940 *Direct Shear Method*, January 1, 2016, referred to as “ASTM D6243/D6243M-16”;
941
- 942 (xxviii) ASTM International Standard D6392-12(2018), *Standard Test Method for*
943 *Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-*
944 *Fusion Methods*, February 15, 2018, referred to as “ASTM D6392-12(2018)”;
945
- 946 (xxix) ASTM International Standard D6495/D6495M-18, *Standard Guide for*
947 *Acceptance Testing Requirements for Geosynthetic Clay Liners*, March 9, 2018, referred to as
948 “ASTM D6495/D6495M-18”;
949
- 950 (xxx) ASTM International Standard D6496/D6496M-19, *Standard Test Method*
951 *for Determining Average Bonding Peel Strength Between Top and Bottom Layers of Needle-*
952 *Punched Geosynthetic Clay Liners*, May 9, 2019, referred to as “ASTM D6496/D6496M-19”;
953

- 954 (xxxix) ASTM International Standard D6497/D6497M-02(2015)e1, *Standard*
955 *Guide for Mechanical Attachment of Geomembrane to Penetrations or Structures*, May 1, 2015,
956 referred to as “ASTM D6497/D6497M-02(2015)e1”;
957
- 958 (xxxix) ASTM International Standard D6693/D6693M-04(2015)e1, *Standard Test*
959 *Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced*
960 *Flexible Polypropylene Geomembranes*, May 1, 2015, referred to as “ASTM D6693/D6693M-
961 04(2015)e1”;
962
- 963 (xxxix) ASTM International Standard D6768/D6768M-19, *Standard Test Method*
964 *for Tensile Strength of Geosynthetic Clay Liners*, May 9, 2019, referred to as “ASTM
965 D6768/D6768M-19”;
966
- 967 (xxxix) ASTM International Standard D6788-02(2017), *Standard Specification for*
968 *Repositionable Pressure-Sensitive Flags*, September 1, 2017, referred to as “ASTM D6788-
969 02(2017)”;
970
- 971 (xxxix) ASTM International Standard D7238-06(2017), *Standard Test Method for*
972 *Effect of Exposure of Unreinforced Polyolefin Geomembrane Using Fluorescent UV*
973 *Condensation Apparatus*, July 1, 2017, referred to as “ASTM D7238-06(2017)”;
974
- 975 (xxxix) ASTM International Standard D7466/D7466M-10(2015)e1, *Standard Test*
976 *Method for Measuring Asperity Height of Textured Geomembranes*, May 1, 2015, referred to as
977 “ASTM D7466/D7466M-10(2015)e1”;
978
- 979 (xxxix) ASTM International Standard D751-19, *Standard Test Methods for*
980 *Coated Fabrics*, May 22, 2019, referred to as “ASTM D751-19”;
981
- 982 (xxxix) ASTM International Standard D792-13, *Standard Test Methods for*
983 *Density and Specific Gravity (Relative Density) of Plastics by Displacement*, November 1, 2013,
984 referred to as “ASTM D792-13”;
985
- 986 (xxxix) ASTM International Standard D814-95(2020), *Standard Test Method for*
987 *Rubber Property-Vapor Transmission of Volatile Liquids*, February 26, 2020, referred to as
988 “ASTM D814-95(2020)”;
989
- 990 (xxxix) ASTM International Standard D882-18, *Standard Test Method for Tensile*
991 *Properties of Thin Plastic Sheeting*, August 16, 2018, referred to as “ASTM D882-18”;
992

993 (xxxxi) Code of Federal Regulations 40 CFR § 261.4(b)(5), in effect as of July 28,
994 1994, available at: <http://www.ecfr.gov>;

995

996 (xxxxii) Geosynthetic Research Institute Standard Specification GRI-
997 GCL3, Test Methods, Required Properties, and Testing Frequencies of Geosynthetic Clay Liners
998 (GCLs), as revised on July 26, 2010, referred to as “GRI-GCL3”;

999

1000 (xxxxiii) Geosynthetic Research Institute Standard Specification GRI-GM9,
1001 *Cold Weather Seaming of Geomembranes*, as revised on January 10, 2013, referred to as “GRI-
1002 GM9”;

1003

1004 (xxxxiv) Geosynthetic Research Institute Standard Specification GRI-
1005 GM13, *Test Methods, Test Properties and Testing Frequency for High Density Polyethylene*
1006 *(HDPE) Smooth and Textured Geomembranes*, as revised on January 6, 2016, referred to as
1007 “GRI-GM13”;

1008

1009 (xxxxv) *Test Methods for Evaluating Solid Waste: Physical/Chemical*
1010 *Methods Compendium (SW-846)*, published by the United States Environmental Protection
1011 Agency, as revised July 2014, referred to as “US EPA SW-846”.

1012

1013 (b) For these rules incorporated by reference:

1014

1015 (i) The Environmental Quality Council has determined that incorporation of
1016 the full text in these rules would be cumbersome or inefficient given the length or nature of the
1017 rules.

1018

1019 (ii) This Chapter does not incorporate later amendments or editions of
1020 incorporated codes, standards, rules, and regulations.

1021

1022 (iii) All incorporated codes, standards, rules, and regulations are available for
1023 public inspection at the Department’s Cheyenne office. Contact information for the Cheyenne
1024 office may be obtained at <http://deq.wyoming.gov> or from (307) 777-7937.