

State of New Mexico  
Energy Minerals and Natural Resources  
Department Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505  
https://www.emnrd.nm.gov/ocd/ocd-e-permitting/

Form C-147  
Revised October 11, 2022

### Recycling Facility and/or Recycling Containment

- Type of Facility:  Recycling Facility  Recycling Containment\*
- Type of action:  Permit  Registration  
 Modification  Extension  
 Closure  Other (explain) extension of cessation of operation request from September 2023 to February 2024

\* At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.

Be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
Operator: Solaris Water Midstream (For multiple operators attach page with information) OGRID #: 371643  
Address: 9811 Katy Freeway, Suite 700, Houston TX, 77024  
Facility or well name (include API# if associated with a well): Gamma Ridge Containment #1 and #2  
OCD Permit Number: 1RF-447 (For new facilities the permit number will be assigned by the district office)  
U/L or Qtr/Qtr C,D Section 14 Township 24S Range 34E County: Lea  
Surface Owner:  Federal  State  Private  Tribal Trust or Indian Allotment

2.  
 **Recycling Facility:**  
Location of recycling facility (if applicable): Latitude 32.222431° Longitude -103.443621° NAD83  
Proposed Use:  Drilling\*  Completion\*  Production\*  Plugging \*  
*\*The re-use of produced water may NOT be used until fresh water zones are cased and cemented*  
 Other, requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.  
 Fluid Storage  
 Above ground tanks  Recycling containment  Activity permitted under 19.15.17 NMAC explain type \_\_\_\_\_  
 Activity permitted under 19.15.36 NMAC explain type: \_\_\_\_\_  Other explain \_\_\_\_\_  
 For multiple or additional recycling containments, attach design and location information of each containment  
 **Closure Report (required within 60 days of closure completion):**  Recycling Facility Closure Completion Date: \_\_\_\_\_

3.  
 **Recycling Containment:**  
 Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)  
Center of Recycling Containment (if applicable): Latitude 32.220786° Longitude -103.443714° NAD83  
 For multiple or additional recycling containments, attach design and location information of each containment  
 Lined  Liner type: Thickness 60 mil  LLDPE  HDPE  PVC  Other secondary 40 mil HDPE liner  
 String-Reinforced  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L 428 x W 340 x D 18ft  
 Recycling Containment Closure Completion Date: \_\_\_\_\_

4. **Bonding:**

Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC (These containments are limited to only the wells owned or operated by the owners of the containment.)

Bonding in accordance with 19.15.34.15(A)(1). Amount of bond \$ \_\_\_\_\_ (work on these facilities cannot commence until bonding amounts are approved)

Attach closure cost estimate and documentation on how the closure cost was calculated.

5. **Fencing:**

Four foot height, four strands of barbed wire evenly spaced between one and four feet

Alternate. Please specify 8ft game fence with 1 strand of barbed wire at the top

6. **Signs:**

12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

Signed in compliance with 19.15.16.8 NMAC

7. **Variances:**

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

**Check the below box only if a variance is requested:**

Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

**If a Variance is requested, it must be approved prior to implementation.**

8. **Siting Criteria for Recycling Containment**

*Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.*

<u>General siting</u>	
<b>Ground water is less than 50 feet below the bottom of the Recycling Containment.</b> NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; aerial photo; satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; topographic map; visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

9.

**Recycling Facility and/or Containment Checklist:**

*Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.*

- Design Plan - based upon the appropriate requirements.
- Operating and Maintenance Plan - based upon the appropriate requirements.
- Closure Plan - based upon the appropriate requirements.
- Site Specific Groundwater Data -
- Siting Criteria Compliance Demonstrations -
- Certify that notice of the C-147 (only) has been sent to the surface owner(s)

10.

**Operator Application Certification:**

I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): Chad Gallagher

Title: Permitting Agent

Signature: *Chad Gallagher*

Date: 8/02/2023

e-mail address: chad.gallagher@ariswater.com

Telephone: (575)444-9786

11.

OCD Representative Signature: Victoria Venegas

Approval Date: 09/24/2023

Title: Environmental Specialist

OCD Permit Number: 1RF-447

OCD Conditions

Additional OCD Conditions on Attachment



August 4, 2023

## Statement Explaining Why the Applicant Seeks a Variance

The prescriptive mandates of the Rule that are the subject of this variance request are:

19.15.34.13.C A recycling containment shall be deemed to have ceased operations if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use. The operator must report cessation of operations to the appropriate division district office. The appropriate division district office may grant an extension to this determination of cessation of operations not to exceed six months

The Gamma Ridge Containments #1, #2 and AST receives treated produced water via pipeline when hydraulic stimulation of oil wells occurs in the area. Thus, the use of the Gamma Ridge Containments is 100% dependent upon the drilling schedule of wells in the vicinity. The Gamma Ridge Containments received treated produced and transferred 548,131 bbls for use at the Franklin Mountain Energy Tatanka Well. This use of the Gamma Ridge Containments ceased on February 2023.

**OXY plans drill and stimulate The Falcon wells sometime during Q3 2023. While schedules can change, the Gamma Ridge Containments are essential to allowing these scheduled wells to use treated produced water in lieu of fresh water.**

Closure of the Gamma Ridge Containments to maintain compliance with Rule 34 followed by reconstruction of the containment provides no environmental or financial benefit.

## Demonstration That the Variance Will Provide Equal or Better Protection of Fresh Water, Public Health and the Environment

Prior to introduction of produced water into the containment for the next stimulation event in Q3 or Q4 of 2023, Solaris will provide OCD with



During the first three weeks after the initial test described above, Solaris will monitor the leak detection system and provide OCD with the findings via email.

We contend that these actions provide equal protection of fresh water, public health and the environment when compared to closure of the containment and rebuilding.

Pond or AST	Date	Operator Name	Tear in Liner (Y/N)?	Break in Berms and run-on storm water (Y/N)?	Dead Wildlife (Y/N)?	Oil on fluid (Y/N)?	Leak Detection Working (Y/N)?	Freeboard Fluid Level (ft)	Pond Level (ft)
Bronco AST	7/30/2023	Samuel Cantu	FALSE	FALSE	FALSE	TRUE	TRUE	5.50	6.50
Bronco AST	7/23/2023	Samuel Cantu	FALSE	FALSE	FALSE	TRUE	TRUE	5.50	6.50
Bronco AST	7/16/2023	Samuel Cantu	FALSE	FALSE	FALSE	TRUE	TRUE	5.70	6.30
Bronco AST	7/9/2023	Samuel Cantu	FALSE	FALSE	FALSE	TRUE	TRUE	5.70	6.30
Bronco AST	7/2/2023	Samuel Cantu	FALSE	FALSE	FALSE	TRUE	TRUE	5.70	6.30
Bronco AST	6/30/2023	Jesus Tambunga	FALSE	FALSE	FALSE	FALSE	TRUE	5.00	7.00
Bronco AST	6/24/2023	Jesus Tambunga	FALSE	FALSE	FALSE	FALSE	TRUE	5.70	6.30
Bronco AST	6/11/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	5.70	6.30
Bronco AST	6/4/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	5.70	6.30
Bronco AST	6/2/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	5.70	6.30
Bronco AST	5/26/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	5.70	6.30
Bronco AST	5/19/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	6.00	6.00
Bronco AST	5/12/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	6.00	6.00
Bronco AST	5/5/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	6.00	6.00

Pond or AST	Date	Operator Name	Tear in Liner (Y/N)?	Break in Berms and run-on storm water (Y/N)?	Dead Wildlife (Y/N)?	Oil on fluid (Y/N)?	Leak Detection Working (Y/N)?	Freeboard Fluid Level (ft)	Pond Level (ft)
Gama Pond	7/30/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	7/23/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	7/15/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	7/8/2023	Jesus Tambunga	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	7/4/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	6/30/2023	Jesus Tambunga	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	6/22/2023	Jesus Tambunga	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	6/18/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	6/11/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	6/4/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	5/27/2023	Jesus Tambunga	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	5/26/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	8.00	2.00
Gama Pond	5/19/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	10.00	3.00
Gama Pond	5/12/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	10.00	3.00
Gama Pond	5/5/2023	Samuel Cantu	FALSE	FALSE	FALSE	FALSE	TRUE	10.00	3.00

**Venegas, Victoria, EMNRD**

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**From:** Venegas, Victoria, EMNRD  
**Sent:** Wednesday, September 27, 2023 2:16 PM  
**To:** 'Chad Gallagher'  
**Subject:** 1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fSL1933053629]  
**Attachments:** C-147 1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fSL1933053629].pdf

**1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fSL1933053629]**

Good afternoon Mr. Gallagher,

NMOCD has reviewed the cessation of operations extension request submitted by [371643] SOLARIS WATER MIDSTREAM, LLC, for 1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fSL1933053629] in Unit Letter F, Section 14, Township 24S, Range 34E, Lea County, New Mexico. The extension of the cessation of operations is approved with the following conditions of approval:

- 1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fSL1933053629] extension of cessation of operations is approved from September 30/2023 to March 31/2024. **However, if after this 6-month period, the containment was not utilized at a minimum of 20% fluid capacity, no additional extensions would be granted, and the operator would be directed to remove all fluids and proceed with the closure requirements.**
- [371643] SOLARIS WATER MIDSTREAM, LLC will maintain a liquid level in the containment that is at least equal to the weight of the liner plus 20%. [371643] SOLARIS WATER MIDSTREAM, LLC may maintain a higher liquid level if they choose.
- [371643] SOLARIS WATER MIDSTREAM, LLC will provide written notice to [OCD Online](#) at least 72 hours, but no more than one week, prior to the recommencement of operations. Recommencement of recycling operations means that the operator plans to resume moving fluids through the containment and discharging fluids from the containment.
  - At the resumption of recycling operations, [371643] SOLARIS WATER MIDSTREAM, LLC is required to perform an incremental fluid level test for containment liquid levels above the minimum liquid level.
  - [371643] SOLARIS WATER MIDSTREAM, LLC will fill the containment. [371643] SOLARIS WATER MIDSTREAM, LLC will pause filling operations at every 10% of total fluid capacity above the minimum level.
  - [371643] SOLARIS WATER MIDSTREAM, LLC will maintain the liquid level for each 10% volume increase for 24 hours and inspect and operate the leak detection system at the end of the 24-hour period.
  - If there are no liquids present in the leak detection system, [371643] SOLARIS WATER MIDSTREAM, LLC may proceed to fill the next 10% volume and repeat the process until the containment full design capacity minus the 3-feet of freeboard is reached.
  - If liquids are present, [371643] SOLARIS WATER MIDSTREAM, LLC should immediately cease the incremental fill test and perform a liner inspection. [371643] SOLARIS WATER MIDSTREAM, LLC should provide written notice of the fluid detection and liner inspection findings to OCD via [OCD Online](#) using a C-147 Long with the "Other" box checked and "Notice of fluid detection" written as the explanation of "Other."
  - If the detected fluid is confirmed to be condensation, the OCD will issue a written approval to proceed with the incremental fluid level test.
  - If the detected fluid is confirmed to be produced water, [371643] SOLARIS WATER MIDSTREAM, LLC must comply with 19.15.34.13 [371643] SOLARIS WATER MIDSTREAM, LLC must provide written notification to [OCD Online](#) on the actions taken to comply with 19.15.34.13 NMAC.
  - After fluid is detected in the leak detection system, the incremental fill test cannot continue until after a written approval to proceed is issued by the OCD.

- [371643] SOLARIS WATER MIDSTREAM, LLC must submit copies of the detailed containment inspection records for the prior three months and a report detailing the incremental fluid level test process and results through the [OCD Online](#) system using a C-147 (long form) with the “Other” box checked. “Recommendation of Operations - Incremental Fluid Level Test” should be written as the explanation of “Other.” Form C-147 must be completed and include information in sections 1 General Information, 2 Recycling Facility, 3 Recycling Containment, 4 Bonding, and 10 Operator Application Certification. Section 9 Recycling Facility and/or Containment Checklist may also need to be partially completed. Operators should verify that the resumption of operations notification does not result in any changes to the recycling containment operating and maintenance plan or the closure plan. If the recommencement of operations will affect the operating and maintenance plan or closure plan, operators should check those boxes in section 9 and provide updated plans or plan addendums as attachments to the C-147.
- [371643] SOLARIS WATER MIDSTREAM, LLC will continue to operate, maintain, and close 1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fsl1933053629] in compliance with 19.15.34 NMAC, to include but not limited detailed inspection records, removal of trash/oil from containment, and monthly C-148 reporting (even if there is zero activity).
- A minimum of 3-feet freeboard must always be maintained in the recycling containment during operations.

Please let me know if you have any additional questions.

Regards,

**Victoria Venegas** • Environmental Specialist  
Environmental Bureau  
EMNRD - Oil Conservation Division  
506 W. Texas Ave. Artesia, NM 88210  
(575) 909-0269 | [Victoria.Venegas@emnrd.nm.gov](mailto:Victoria.Venegas@emnrd.nm.gov)  
<https://www.emnrd.nm.gov/oecd/>



**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 268555

**CONDITIONS**

Operator: SOLARIS WATER MIDSTREAM, LLC 907 Tradewinds Blvd, Suite B Midland, TX 79706	OGRID: 371643
	Action Number: 268555
	Action Type: [C-147] Water Recycle Long (C-147L)

**CONDITIONS**

Created By	Condition	Condition Date
vvenegas	• 1RF-447 - GAMMA RIDGE CONTAINMENT #1 AND #2 FACILITY ID [fSL1933053629] extension of cessation of operations is approved from September 30/2023 to March 31/2024. However, if after this 6-month period, the containment was not utilized at a minimum of 20% fluid capacity, no additional extensions would be granted, and the operator would be directed to remove all fluids and proceed with the closure requirements.	9/27/2023