



REGION 9

SAN FRANCISCO, CA 94105

May 14, 2025

VIA ELECTRONIC MAIL
DELIVERY RECEIPT REQUESTED

Julia Arambula
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Senior Vice President of Operations, Republic
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David Vossmer
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Republic Services
Apex Regional Landfill
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Re: Finding of Violation
Apex Regional Landfill
Apex, Nevada

Dear Julia Arambula and David Vossmer:

The U.S. Environmental Protection Agency ("EPA") is issuing the enclosed Finding of Violation ("FOV") to Republic Services, Inc., an operator of the Apex Regional Landfill ("Landfill") and Republic Dumpco, Inc. d/b/a Republic Services, an owner and operator of the Landfill (collectively, "Apex") under section 113(a) of the Clean Air Act ("CAA"), 42 U.S.C. § 7413(a). We find that Apex is violating the National Emission Standards for Hazardous Air Pollutants for municipal solid waste landfills, the Federal Plan for Municipal Solid Waste Landfills, and conditions in a Title V permit issued by the Clark County Department of Environment and Sustainability for the Landfill near Las Vegas, Nevada.

Sections 113(a), 113(b), and 113(d) of the CAA authorize EPA to issue an order requiring compliance with the requirements of the CAA, issue an administrative penalty order, or commence a civil action seeking an injunction and/or civil penalty. *See* 42 U.S.C. §§ 7413(a), 7413(b), 7413(d). Further, section 113(c) of the CAA provides for criminal penalties in certain cases. *See* 42 U.S.C. § 7413(c).

Apex may, upon request, confer with EPA. Apex may request a conference with EPA within ten (10) working days of the receipt of this FOV. The conference will afford Apex an opportunity to present information on the specific findings of violation, the nature of the violations, any efforts Apex may have taken to comply, and the steps Apex will take to prevent future violations. In addition, in order to make the conference more productive, we encourage Apex to submit to EPA information responsive to the FOV prior to the conference date. Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

If you have any questions pertaining to this FOV, please contact Scott Connolly of the Enforcement and Compliance Assurance Division at (213) 523-9585 or connolly.scott@epa.gov, or have your attorney contact Brian Riedel of the Office of Regional Counsel at 415-972-3924 or riedel.brian@epa.gov. You may call or email them to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

AMY MILLER-
BOWEN

Digitally signed by
AMY MILLER-BOWEN
Date: 2025.05.14
11:27:13 -07'00'

Amy C. Miller-Bowen
Division Director
Enforcement and Compliance Assurance Division
US EPA Region 9

cc: Shibi Paul, Clark County Department of Environment and Sustainability
Greg Rosenburg, P.E., Nevada Division of Environmental Protection

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 9

	)	
	)	
In the Matter of:	)	Docket No. R9-CAA-25-1023
	)	
Republic Services, Inc.	)	
and Republic Dumpco, Inc. d/b/a	)	
Republic Services Apex Landfill	)	Finding of Violation
	)	
	)	

The U.S. Environmental Protection Agency ("EPA") finds that Republic Services, Inc. and its subsidiary, Republic Dumpco, Inc. d/b/a Republic Services Apex Landfill (collectively, "Apex") are violating section 112, 42 U.S.C. § 7412, of the Clean Air Act, 42 U.S.C. §§ 7401, et seq. ("CAA" or "Act") at Apex Regional Landfill ("Landfill") located at 13550 N Las Vegas Blvd, Las Vegas, Nevada. Specifically, Apex has violated and is violating the National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills at 40 C.F.R. Part 63, Subpart AAAA ("Landfill NESHAP"); the Federal Plan for Municipal Solid Waste Landfills at 40 C.F.R. Part 62 Subpart OOO ("Federal Plan"); and/or the Title V Air Quality Operating Permit, issued July 12, 2018, and revised January 25, 2022 ("Title V Permit") for the Landfill, as follows:

I. STATUTORY AND REGULATORY BACKGROUND

A. New Source Performance Standards (NSPS) General Provisions and Subpart WWW

1. Section 111(b) of the Clean Air Act (CAA), 42 U.S.C. § 7411(b), requires EPA to promulgate standards of performance for new stationary sources, which reflect the degree of emission limitation achievable through the application of the best system of emission reduction for each source category.
2. Pursuant to Section 111(b) of the CAA, 42 U.S.C. § 7411(b), EPA promulgated the NSPS General Provisions, at 40 C.F.R. Part 60, Subpart A, which apply to owners or operators of any stationary source that contains an affected facility, the construction or modification of which is commenced after the date of publication of any NSPS standard applicable to the facility.
3. The NSPS General Provisions were first promulgated on December 28, 1971, at 36 Fed. Reg. 24877, and have been amended numerous times since then.

4. Pursuant to Section 111(b) of the CAA, 42 U.S.C. § 7411(b), on March 12, 1996, EPA promulgated the NSPS Subpart WWW at 40 C.F.R. Part 60, Subpart WWW. See 61 Fed. Reg. 9919, as amended.
5. The NSPS Subpart WWW applies to municipal solid waste (“MSW”) landfills that commenced construction, reconstruction, or modification on or after May 30, 1991, but before July 18, 2014. 40 C.F.R. § 60.750(a).
6. Section 60.752(b)(2) of the NSPS Subpart WWW provides, in pertinent part, that each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams (“Mg”) and 2.5 million cubic meters (“m³”), as well as a calculated nonmethane organic compound (“NMOC”) emission rate equal to or greater than 50 Mg per year, shall comply with 40 C.F.R. § 60.752(b)(2)(i)–(v).
7. Any source previously subject to NSPS Subpart WWW, by June 21, 2021, must either comply with the regulations at 40 C.F.R. Part 62, Subpart OOO, or comply with an EPA-approved state or tribal plan implementing 40 C.F.R. Part 60, Subpart Cf. See 40 C.F.R. § 62.16711; Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction on or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014, 86 Fed. Reg. 27,757 (May 21, 2021) (“Federal Plan”).

B. Federal Plan, 40 C.F.R Part 62, Subpart OOO

8. Section 111(d) of the CAA, 42 U.S.C. § 7411(d) and 40 C.F.R. Part 60, Subpart B, requires the EPA to establish a procedure under which states must submit to the EPA a plan to control existing sources that emit any pollutant subject to the NSPS under CAA section 111(b) for that source category. 42 U.S.C. § 7411(d)(1). An “existing source” is defined as “any stationary source other than a new source.” Id. at § 7411(a)(6). The EPA issues emissions guidelines pursuant to CAA section 111(d). 40 C.F.R. § 60.22(a). The Emissions Guidelines for MSW Landfills were most recently updated August 29, 2016, at 40 C.F.R. Part 60, Subpart Cf., 81 Fed. Reg. 59,276, 59,313 (Aug. 29, 2016).
9. Section 111(d)(2) of the CAA, 42 U.S.C. § 7411(d)(2), authorizes and 40 C.F.R. § 60.27(c) and (d) require, the EPA to develop, implement, and enforce a Federal plan for existing MSW Landfills located in any state (i.e., state, territory, or protectorate) or Indian country that does not have an approved state plan.
10. The EPA promulgated the MSW Landfills Federal Plan at 40 C.F.R. Part 62, Subpart OOO to implement 40 C.F.R. Part 60, Subpart Cf. 86 Fed. Reg. 27,756 at 27769; 40 C.F.R. § 62.13(j).
11. MSW Landfills are subject to Federal Plan Subpart OOO if the landfill commenced construction, reconstruction, or modification on or before July 17, 2014, and have accepted waste at any time since November 8, 1987, or have capacity for future waste

deposition, and are not regulated by an EPA-approved state or tribal plan implementing 40 C.F.R. Part 60, Subpart Cf. 40 C.F.R. § 62.16711. An MSW Landfill is not subject to the Landfills Federal Plan if the landfill is located in a state that submitted a letter declaring that there are either no existing MSW Landfills in the state or no existing landfills that must install a collection and control system in accordance with 40 C.F.R. Part 60, Subpart Cf, unless certain conditions apply. *Id.*

12. The EPA found that the State of Nevada was among 42 states and territories that did not submit a state plan in accordance with the 2016 MSW Landfills Emissions Guidelines, 40 C.F.R. Part 60, Subpart Cf. *See* 45 Fed. Reg. 14474, 14476 Table 2 (March 12, 2020).
13. Effective September 21, 2021, MSW Landfills subject to the Federal Plan Subpart OOO may opt-in to the analogous major compliance provisions of the Landfill NESHAP. *See* 59 Fed Reg 17244, 17248 (March 26, 2020); and 86 Fed Reg 27756, 27764 (May 21, 2021).

C. National Emission Standards for Hazardous Air Pollutants (NESHAP) General Provisions and Subpart AAAA

14. Section 112(d) of the CAA, 42 U.S.C. § 7412(d), requires EPA to promulgate emission standards for sources of hazardous air pollutants (“HAPs”) to achieve the maximum emission reduction of HAPs achievable for each source category.
15. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA first promulgated the NESHAP General Provisions, at 40 C.F.R. Part 63, Subpart A, on March 16, 1994, at 59 Fed. Reg. 12430. They have been amended numerous times since then and apply as specified in the relevant NESHAP, 40 C.F.R. § 63.1(a)(4)(i).
16. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), on January 16, 2003, EPA promulgated the Landfill NESHAP at 40 C.F.R. Part 63, Subpart AAAA. *See* 68 Fed. Reg. 2227 (Jan. 16, 2003).
17. The HAPs emitted by MSW landfills include, but are not limited to, vinyl chloride, ethyl benzene, toluene, and benzene. Each of the HAPs emitted from MSW landfills can cause adverse health effects. *See* 68 Fed. Reg. 2227.
18. EPA promulgated amendments to the Landfill NESHAP at 40 C.F.R. Part 63, Subpart AAAA on March 26, 2020. *See* 85 Fed. Reg. 17,244.
19. Section 63.1935(a)(3) of the Landfill NESHAP provides, in pertinent part, that an owner or operator of an MSW landfill that has accepted waste since November 8, 1987, is subject to the Landfill NESHAP if the landfill has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and has estimated uncontrolled emissions equal to or greater than 50 Mg per year of NMOC.

20. Section 63.1930(b) of the Landfill NESHAP provides, in pertinent part, that beginning no later than September 27, 2021, MSW landfills subject to the Landfill NESHAP must meet the requirements of Subpart AAAA.

D. Title V Permit

21. Pursuant to section 502(a) of the CAA, 42 U.S.C. § 7661a(a), it is unlawful to violate any requirement of a Title V permit issued by a permit authority with a program approved under Title V of the CAA.
22. Effective November 30, 2001, EPA issued final full approval of the Clark County Department of Environment and Sustainability ("Clark County") Part 70 operating permit program. Revisions to the program were approved and effective on October 1, 2004. See 40 C.F.R. Part 70, Appendix A.
23. On July 12, 2018, Clark County issued a Part 70 Operating Permit for the Landfill ("Title V Permit") containing approval for the landfill to operate, and on January 25, 2022, Clark County issued a revision to the Landfill's Title V Permit. Apex has submitted a timely renewal of the permit on January 9, 2023, and is permitted to operate under the July 12, 2018 Title V Permit until Clark County issues a revised permit.

II. Findings of Fact and Violations

A. General Findings – Applicability

24. Republic Dumpco, Inc. d/b/a Republic Services Apex Regional Landfill owns and operates the Landfill located in Apex, Nevada, specifically, east of interstate 15/US 93 Junction and containing portions of T18S, R64E, Section 18, 19 and 20 and T18S, R63E, Section 13 and 24 in Garnet Valley, Clark County, Apex, Nevada.
25. Republic Dumpco Inc. d/b/a Republic Services Apex Regional Landfill is a wholly owned subsidiary of Republic Services, Inc.
26. Republic Services, Inc., is an operator of the Landfill.
27. The Landfill serves as the primary municipal solid waste landfill for Clark County since October of 1993. It commenced construction, reconstruction, or modification on or after May 30, 1991, but before July 18, 2014.
28. At all times relevant to this FOV, the Landfill was a "stationary source" as that term is defined in Section 111(a)(3) of the CAA, 42 U.S.C. § 7411(a)(3), because it is a facility that emits air pollutants. Under CAA section 112, the term stationary source has the same meaning that it has under CAA section 111(a)(3).

29. At all times relevant to this FOV, the Landfill was an "affected source" as defined in 40 C.F.R. § 63.2 because it is a collection of equipment and activity within a single contiguous area under common control that is subject to a standard under CAA section 112.
30. The Landfill has a design capacity which is greater than 2.5 million Mg and 2.5 million m³, as well as a calculated NMOC emission rate equal to or greater than 50 Mg per year.
31. At all times relevant to the violations alleged herein, the Landfill operated a Gas Collection and Control System ("GCCS") that included gas collection wells, a blower that directs landfill gas to a third-party gas to an energy plant, and a flare system.
32. The Landfill was subject to the NSPS General Provisions and NSPS Subpart WWW before June 21, 2021, and subject to the Federal Plan until September 21, 2021 when it became subject to the Landfill NESHAP. Apex has opted to comply with the major compliance provisions of the Landfill NESHAP in order to demonstrate compliance with the analogous provisions of the Federal Plan, as documented in the Landfill Semi-Annual report dated July 29, 2022. Therefore, beginning September 27, 2021, the Landfill is subject to the requirements of the Landfill NESHAP as set out in section 63.1930(b) for all dates applicable to this FOV.
33. EPA conducted on-site inspections of the Landfill on March 26 and 27, 2024 ("March 2024 Inspection") and December 10, 2024. As part of the March 2024 Inspection, EPA conducted a partial surface emission monitoring ("SEM") survey of the Landfill that included landfill surface penetrations and landfill surfaces, including, slopes, but did not include areas near active waste deposition areas.
34. EPA prepared Inspection Reports for each of the inspections, and provided copies to Jessica Preston and Lauren Nelson, respectively, on May 31, 2024 for the March 2024 Inspection and February 3, 2025 for the December 10, 2024 Inspection. (the "March 2024 Inspection Report" and "December 2025 Inspection Report").
35. Apex uses SCS Engineers to perform various work at the Landfill including but not limited to, quarterly surface emissions monitoring, GCCS monitoring, and corrective actions pursuant to the Title V Permit.
36. As part of the March 2024 Inspection, EPA requested documents ("Information Request") including but not limited to, Landfill NSPS/NESHAP/Title V semi-annual reports ("Semi-Annual Reports"), surface emissions and down-well monitoring results, flare emissions test reports, GCCS Design plan and landfill well maps. Apex provided responses to the Information Request on various dates between April 23, 2024 and February 3, 2025.

37. EPA requested additional information regarding individual well downtime on June 25, 2024. (Together with the Information Request above, collectively the "Follow-up Information Requests").
38. Apex submitted its response to the Follow-up Information Requests on August 30, 2024.
39. As part of Apex's response to the Information Request, Apex provided a copy of the Landfill's Gas Collection and Control System Design Plan titled "GCCS Design Plan WWW_AAAA-Apex, 6-17-22" ("the GCCS Plan").
40. As part of Apex's response to the Information Request, Apex provided copies of the Landfill's Semi-Annual Reports for 2022 and the first half of 2023.
41. EPA obtained the Landfill's Semi-Annual Reports for the second half of 2023 and 2024 from routine email submissions to EPA from Kim James, SCS Engineers.

B. Failure to Conduct Surface Emissions Monitoring and Re-Monitoring

42. The Landfill NESHAP, and Title V Permit require the owner or operator of an MSW landfill with a GCCS to operate the collection system so that the methane concentration is less than 500 parts per million ("ppm") above background at the surface of the landfill. To determine if the methane concentration is less than 500 ppm above background, the owner or operator must conduct surface emission monitoring ("SEM") around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation, cracks, and or seeps in the cover. 40 C.F.R § 63.1958(d). Surface emission monitoring must be performed in accordance with Section 8.3.1 of EPA Method 21, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. 40 C.F.R. § 63.1960(c)(3) and Title V Permit Condition III.B.3.bb and III.C.33.
43. The Landfill NESHAP requires that surface testing must comply with the instrumentation specifications and procedures provided in section 63.1960(d), including using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in section 63.1960(d).
44. The Landfill NESHAP requires that, pursuant to section 63.1958(d)(2)(ii), surface testing must include all cover penetrations, which is defined in section 63.1990 of the Landfill NESHAP as "a wellhead, a part of a landfill gas collection or operations system, and/or any other object that completely passes through the landfill cover."
45. The Landfill NESHAP states that any reading of 500 ppm or more above background at any location must be recorded as a monitored exceedance and the actions specified in sections 63.1960(c)(4)(i) through (v) must be taken. As long as the specified actions are

taken, the exceedance is not a violation of the operational requirements of section 63.1958(d). These actions include additional monitoring and escalating corrective actions: The location and concentration of the monitored exceedance must be marked. Cover maintenance or adjustments to the vacuum of adjacent wells must be made and the location must be monitored again within ten (10) days of detecting the exceedance. If the re-monitoring of the location shows a second exceedance, additional corrective actions must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location within a quarterly period, a new well or other collection device must be installed within one hundred and twenty (120) days of the initial exceedance although an alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval. 40 C.F.R. § 63.1960(c)(4). The corresponding requirements in the Title V Permit are found at Condition III.C.34.

Failure to Conduct Surface Emissions Monitoring on the entirety of the surface of the Landfill

46. To determine compliance with the surface methane operational standard, the owner or operator must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the entire surface of the landfill at 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an appropriate detection device meeting the specifications provided in section 63.1960(d). 40 C.F.R. § 63.1960(c)(1). This includes where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. 40 C.F.R. § 63.1960(d)(1). The owner or operator must also conduct surface testing at all cover penetrations. 40 C.F.R. § 63.1958(d)(2)(ii). The corresponding requirement in the Title V Permit is found at Condition III.C.31.
47. The GCCS Plan indicated that the SEM monitoring path excluded all non-road slopes on the landfill surface in Appendix B Section B.1 and on the "SURFACE EMISSION MONITORING MAP" (page 74), including, but not limited to the north slope between the north perimeter and first bench.
48. The Surface Emissions Monitoring Plan in Appendix B of the GCCS Plan states at B.1, "Prior to each monitoring event, route planning will be completed where excluded areas will be delineated and any modifications to the route will be recorded. Any deviations to the proposed route will be recorded and included in the final SEM report for that quarter."
49. As part of Apex's response to the Information Request, Apex provided a copy of the 2024 Q1 Surface Emissions Monitoring Report titled "Apex 2024 Q1 SEM Report Final" ("the 2024 Q1 SEM Report"). This report shows the SEM monitoring path on page 12. The path excludes non-road slopes of the landfill from the 30-meter interval path and excludes

surface penetrations located on the slopes of the landfill, including the north slope between the north perimeter and first bench. This report does not document any areas of the Landfill excluded due to presenting a safety risk to the monitoring technician.

50. During the March 2024 Inspection, EPA conducted a partial SEM survey that included surface and cover penetration monitoring on the North, East, and South slopes of the landfill, as documented by the March 2024 Inspection Report, including the north slope between the north perimeter and first bench. Apex operators accompanied EPA during this event, and did not restrict, mark, or in any way, delineate or inform EPA inspectors that the North, East, or South slopes as unsafe. The only area restricted for safety reasons, that contained waste, was the active face, where waste was being deposited.
51. During the March 2024 Inspection, EPA detected one-hundred-and-one (101) exceedances of the 500 ppm standard. EPA documented these findings in the March 2024 Inspection Report. Twenty-nine (29) of the detected exceedances were on non-road slopes that Apex did not monitor. See Paragraphs 47-49, above. One example of these exceedances occurred the north slope between the north perimeter and first bench, where EPA identified exceedances ranging from 500 to 120,000 ppm, at multiple points on the slope. These include exceedances 8 through 12 in Table 5 of Appendix B of the March 2024 Inspection Report.
52. At least 80 cover penetrations, consisting of gas collection wellheads and leachate infrastructure, are located on the North, East, and South slopes of Apex Landfill. These cover penetrations are not covered by the proposed SEM monitoring path in Appendix A and B of the GCCS Plan. These cover penetrations are located in areas that Apex did not monitor as documented in the 2024 Q1 SEM Report. A majority of the cover penetrations are not directly accessible by the bench roads that are included in the proposed SEM monitoring path, including cover penetrations EPA monitored on the north slope between the north perimeter and first bench, including but not limited to EW23-66, EW23-70, LITN2, and other surface penetrations in the area.
53. During all SEM monitoring events between Quarter 1 2022 to Quarter 1 2024, SCS Engineers discovered between 0 and 53 exceedances of the 500 ppm standard, averaging 22 exceedances per each quarterly SEM monitoring event. The 101 unique exceedances of the 500 ppm standard detected during the March 2024 Inspection, is five times more than the average SCS Engineers detected over the January 1, 2022 to January 1, 2024 time period and twenty times more than the relevant quarter. The locations of the exceedances are documented in the March 2024 Inspection Report and a summary of the exceedance totals are found below:

Monitoring Event	Exceedances reported by Landfill	Exceedances identified by EPA during partial survey
2022 Q1	14	--
2022 Q2	0	--
2022 Q3	14	--
2022 Q4	53	--
2023 Q1	23	--
2023 Q2	16	--
2023 Q3	51	--
2023 Q4	9	--
2024 Q1	5	101
2024 Q2	35	--
2024 Q3	28	--

54. The significant discrepancy between the number of surface-methane exceedances and values of direct measurements discovered by EPA in March 2024 compared to Apex's 2023 Quarter 4 SEM and 2024 Quarter 1 SEM recordings, demonstrates that Apex failed to conduct proper surface emissions monitoring on the entirety of the surface of the landfill and also failed to conduct surface emissions monitoring at all cover penetrations.
55. From January 1, 2022 to December 31, 2024, in all quarters from 2022 Quarter 1 to 2024 Quarter 4, Apex failed to conduct surface emissions monitoring on the entirety of the surface of the landfill and also failed to conduct proper surface emissions monitoring on the entirety of the surface of the landfill, including at all cover penetrations by excluding slope surfaces and cover penetrations on slopes, in violation of 40 C.F.R. §§ 63.1960(c)(1), 63.1958(d)(1), and 63.1958(d)(2)(ii) and Condition III.C.31 of the Title V Permit.

Failure to Perform Surface Emissions Re-Monitoring as Required

56. The locations below were monitored on March 11-12, 2024 during Apex's 2024 Quarter 1 SEM and on March 26, 2024 during EPA's inspection. During the 2024 Quarter 1 SEM SCS Engineers recorded surface exceedances at the locations below. On March 17, 2024, Apex completed remediation at all 3 locations that SCS Engineers recorded as "earthwork and compaction." When re-monitoring was conducted on March 21, 2024, SCS Engineers recorded a surface emissions readings of less than 100 ppm. Five days later, during EPA's March 26, 2024, inspection, EPA inspectors measured the same locations and measured exceedances greater than both the re-monitoring and initial measurements made by SCS Engineers.

Location	Emissions recorded in ppm during Apex SEM conducted on March 11-12, 2024:	March 17, 2024: Apex completed remediation as follows:	Emissions recorded in ppm during Apex March 21, 2024 re-monitoring:	Emissions recorded in ppm by EPA on March 26, 2024:
W1733R	1,261.7	Earthwork and compaction	58.49	48,833
W1703R	1,071.65	Adding soil and compacted	35.9	1,995
Surface near a leachate riser penetration located at the coordinates: 36.3773 -114.8646	676	Adding soil and compacted	31.35	2,200

57. By failing to detect surface emissions at surface penetrations W1733R, W1703R and the surface near a leachate riser penetration during the 10-day monitoring event on March 21, 2024, Apex failed to properly conduct the actions specified in 40 C.F.R. § 63.1960(c)(4), in violation of 40 C.F.R. § 63.1960(c)(4), and the corresponding requirement in Condition III.C.34 of the Title V Permit.

C. Failure to Operate in a Manner Consistent with Safety and Good Air Pollution Control Practices on The Landfill Surface and at Collection Devices

58. The Landfill NESHAP and Title V Permit requires that at all times, beginning no later than September 27, 2021, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. 40 C.F.R. § 63.1955(c) and Title V Permit Condition III.B.3.ss.
59. The International Organization for Standardization (ISO) using ISO 10156 classifies the lower explosive limit (LEL) for methane as 5% by volume or approximately 50,000 ppm.
60. The National Institute for Occupational Safety and Health (NIOSH) has adopted for gases and vapors, a threshold of 10% of the LEL (or 0.5% or 5,000 ppm for methane) as a default basis for the derivation of immediately dangerous to life and health values based on explosivity concerns. See NIOSH Current Intelligence Bulletin 66: Derivation of

Immediately Dangerous to Life or Health (IDLH) values, available at:
<https://www.cdc.gov/niosh/docs/2014-100/pdfs/2014-100.pdf>.

61. During the March 2024 inspection, EPA identified VOC emissions via Method 21 at concentrations greater than 50,000 ppm (5%) at the following locations and concentrations:

Date/Time	Description	Coordinates	Concentration
3/26/2024 14:36	Base of Toe Drain near MA10	36.37705, -114.85671	> 100,000 ppm
3/27/2024 10:18	Grit chamber header under pipe on north side	36.37002, -114.86909	> 50,000 ppm
3/26/2024 14:19	Offline well W2366 cap	36.376381, -114.861202	119,245 ppm
3/27/2024 11:16	Middle (of 5) Lateral markers between SLIT 1 and 4	36.37093, -114.860693	83,254 ppm
3/27/2024 11:27	Middle (of 3) Lateral markers east of W1905	36.371481, -114.860629	54,269 ppm
3/26/2024 15:28	W1703R "Scarecrow" outlet	36.373974, -114.866087	> 80,000 ppm

62. By failing to operate the Landfill's GCCS at the locations identified in Paragraph 61 without leaks above the lower explosive limit for methane, Apex failed to maintain and operate air pollution control equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions in violation of 40 C.F.R. § 63.1955(c) and Condition III.B.3.ff of the Title V Permit.

D. Failure to Operate an Active Collection System with Negative Pressure and Minimize Downtime

63. The Landfill NESHAP and Title V Permit require that each subject owner or operator of an MSW landfill that has a GCCS with an active collection system used to comply with applicable provisions must use the active collection system to collect gas from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for five or more years if the landfill is active or two years or more if closed or at final grade. 40 C.F.R. §§ 63.1958(a), 63.1959(b)(2)(ii)(B)(2) and Title V Permit Condition III.B.3.y.
64. The Landfill NESHAP requires that each subject owner or operator of an MSW landfill with a GCCS with an active collection system used to comply with the applicable provisions must use the active collection system to collect gas at a sufficient extraction rate. 40 C.F.R. § 63.1959(b)(2)(ii)(B)(3).

65. The Landfill NESHAP defines “sufficient extraction rate,” as “a rate sufficient to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions, for the life of the blower.” 40 C.F.R. §§ 62.16730 and 63.1990.
66. The Federal Plan, Landfill NESHAP, and Title V Permit require each owner or operator of an MSW landfill with a GCCS used to comply with applicable provisions to operate the collection system with negative pressure at each wellhead except during a fire or elevated temperature, during the use of a geomembrane or synthetic cover, or on a decommissioned well. 40 C.F.R. §§ 62.16716(b), 63.1958(b), and Title V Permit Condition III.B.3.z.
67. The Landfill NESHAP requires, after September 27, 2021, each owner or operator of an MSW landfill to comply with the applicable provisions in this subpart at all times, including periods of startup, shutdown, and malfunction. 40 C.F.R §§ 63.1960(e)(2) and 63.1964(b).
68. The Title V permit requires the Permittee to not cap or remove the collection and control system until closure criteria are met. Title V Permit Condition III.B.3. ee.

Failure to Route Gasses Collected in APENLIT7 to Control Device

69. As documented in the March 2024 Inspection Report, EPA inspectors observed and recorded that the NE sump riser was emitting landfill gas collected within the sump from the landfill waste mass to the atmosphere. The March Inspection Report lists emissions from this unlabeled pipe as an area of concern, and labels this pipe the “M10 Sump 24-inch pipe.” On June 7, 2024, as part of Apex’s response to the Information Request, Lauren Nelson via email stated that “The NE leachate sump [the “M10 Sump 24-inch pipe”] was installed September 9, 2022”.
70. On February 3, 2025, Lauren Nelson stated via email that “For request 5 – ‘Date and time 24 inch NE riser [the “M10 Sump 24-inch pipe”] was tied into gas collection system’ – the well is identified as APENLIT7 and was connected to the gas collection system on August 12, 2024 at 8:56AM PST.”
71. Between its installation on September 9, 2022, and connection to vacuum on August 12, 2024, APENLIT7 was not under negative pressure and emissions collected by the sump were not routed to the control device for seven-hundred and three (703) days.
72. From September 9, 2022 to August 12, 2024, Apex failed to route the collected gasses in APENLIT7 to the control device in violation of 40 C.F.R. §§ 63.1959(b)(2)(ii)(B)(2-3), 63.1955(c) and Condition III.B.3. ff of the Title V Permit.

Failure to Operate Wells with Negative Pressure

73. As part of Apex's response to the Information Request, Apex provided an excel spreadsheet "Apex Well Downtime and Expansion Log" ("Downtime Log"). The Downtime log lists wells shutdown, start up, justification or reason for downtime, and information regarding any replacement wells. Downtime refers to when a well is closed or otherwise not hooked up to vacuum and therefore does not have negative pressure and is not collecting landfill gas.
74. The Semi-Annual Reports and downtime log indicate that between December 28, 2021 and June 3, 2024, at least thirty-eight (38) wells were offline or not replaced for less than or equal to one-hundred and twenty (120) days for non-filling related reasons, for a cumulative downtime of about two-thousand five-hundred and seventy-eight (2,578) days. For the downtime of these wells, Apex either did not provide a justification or provided an inadequate justification for the downtime. The well identification numbers for these wells are listed in the "Well ID" column of Table 1 and the downtime duration is tabulated the "Downtime Duration" column of Table 1 in Appendix A to this Finding of Violation.
75. The Semi-Annual Reports and downtime log indicate that between July 7, 2020 and July 2, 2024 sixty (60) wells were offline or not replaced for greater than one-hundred and twenty (120) days for a cumulative downtime of approximately twenty-seven thousand fourteen (27,014) days. The well identification numbers for these wells are listed in the "Well ID" column of Table 2 and the downtime duration is tabulated the "Downtime Duration" column of Table 2 in Appendix A to this Finding of Violation.
76. The Semi-Annual Reports and downtime log indicate that starting March 3, 2021, forty-four (44) wells were offline or not replaced for greater than one-hundred twenty (120) days and that downtime is ongoing for at least thirty-thousand eighty (30,080) days as of December 31, 2024. The well identification numbers for these wells are listed in the "Well ID" column of Table 3 in Appendix A to this Finding of Violation.
77. Wells listed multiple times in Tables 1, 2 and 3 in Appendix A of the Finding of Violation had multiple timespans of downtime in those respective categories.
78. For the various periods between July 7, 2020, and December 31, 2024, Apex failed to operate the Landfill's active collection system at gas collection wells identified in Tables 1, 2 and 3 in Appendix A of the Finding of Violation with negative pressure, in violation of 40 C.F.R. §§ 62.16716(b), 63.1957(a), 63.1958(a-b), 63.1959(b)(2)(ii)(B)(2) and Conditions III.B.3.y-z of the Title V Permit; and such that they collect gas at a sufficient extraction rate, in violation of 40 C.F.R. § 63.1959(b)(2)(ii)(B)(3).

Failure to Minimize Downtime

- 79. The Landfill NESHAP requires each owner or operator of an MSW landfill with a GCCS used to comply with applicable provisions to, in the event the collection or control system is not operating, repair and return the collection and control system to operation in a manner such that downtime is kept to a minimum. 40 CFR § 63.1958(e)(1)(ii).
- 80. For various periods between September 27, 2021, and December 31, 2024, Apex failed to return the Landfill's gas collection wells identified in Tables 1, 2 and 3 in Appendix A of the Finding of Violation and at APENLIT7 to operation in a manner that minimizes downtime, in violation of 40 CFR § 63.1958(e)(1)(ii).
- 81. By failing to continuously operate the Landfill's GCCS at the Landfill's gas collection wells identified in Tables 1, 2 and 3 in Appendix A of the Finding of Violation and at APENLIT7 without minimizing downtime between September 27, 2021, and December 31, 2024, Apex failed to maintain and operate air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions, in violation of 40 C.F.R. § 63.1955(c) and Condition III.B.3.ss of the Title V Permit.

E. Failure to Correct Temperature Exceedances, Submit Corrective Action Implementation Timelines, and Conduct Enhanced Monitoring

- 82. The Landfill NESHAP states that the temperature and nitrogen or oxygen operational standards in the introductory paragraph of section 63.1958(c) are specified in section 60.753(c), until the 145°F limit at section 63.1958(c)(1) applies, beginning no later than September 27, 2021. A higher operating value at a particular well may be approved if a demonstration with supporting data shows that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. 40 C.F.R. § 63.1958(c).
- 83. Pursuant to a February 20, 2013, authorization from Clark County and Title V Permit Condition III.B.3.aa, Apex has been operating under a higher operating temperature value of 160°F for all wells at the Landfill since February 20, 2013. Therefore, Condition III.B.3.aa of the Title V Permit requires Apex to operate each interior wellhead in the collection system with a landfill gas temperature less than 71°C (160°F) and with a nitrogen level less than 20 percent or an oxygen level less than 5 percent (hereinafter, the "HOV approval").
- 84. Thus, for the Landfill the applicable wellhead temperature standard is 160°F and the Landfill NESHAP requires Apex to operate each interior wellhead in the collection system with an operating temperature value no higher than 160°F to be in compliance with the operational standard for temperature in § 63.1958(c)(1).

Failure to Conduct Required Enhanced Monitoring

85. The Landfill NESHAP provides that where an owner or operator subject to the provisions of the Landfill NESHAP seeks to demonstrate compliance with the operational standard for temperature in section 63.1958(c)(1) the owner or operator must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than the applicable operating temperature value, which as noted above is 160°F for the Landfill. 40 C.F.R. § 63.1961(a)(5).
86. The Landfill NESHAP requires that enhanced monitoring described in section 63.1961(a)(5) must begin 7 calendar days after the first measurement of landfill gas temperature greater than 160°F. 40 C.F.R. § 63.1961(a)(5)(vii).
87. The Landfill NESHAP requires enhanced monitoring defined in section 63.1961(a)(5) be conducted on a weekly basis. 40 C.F.R. § 63.1961(a)(5)(viii).
88. The Semi-Annual Reports indicate that there were fifty (50) instances where eight (8) wells with wellhead temperature measurements above 160°F were not monitored weekly, according to the enhanced monitoring procedures in 40 C.F.R. § 63.1961(a)(5). Initial measurements of the temperature exceedances were on various times on and after May 24, 2022. The well identification numbers for these wells are: 1726R, 1733R+, 1741R, APEX2372, APEX2463, APEX2467, EW19-36+, and PW-21A.
89. Apex failed to conduct weekly enhanced monitoring at eight (8) wells with wellhead temperatures greater than 160°F, identified in Paragraph 88, a total of fifty (50) times, in violation of 40 C.F.R. § 63.1961(a)(5).
90. The Landfill NESHAP requires that the portion of enhanced monitoring that includes monitoring the landfill gas temperature every 10 vertical feet in the well must begin 7 calendar days after the first measurement of landfill gas temperature greater than 165°F and annually thereafter. 40 C.F.R. §§ 63.1961(a)(5)(iv), 63.1961(a)(5)(vii) and 63.1961(a)(6).
91. The Semi-Annual Reports indicate that there were six (6) wells with wellhead temperature measurements greater than 165°F where down-well monitoring was not conducted within seven (7) days. Initial measurements of the temperature exceedances were on various times on and after September 8, 2023. The well identification numbers for these wells are: EW19-36+, 1726R, APEX2372, PW-21A, 1741R, and APEX2467.
92. Apex failed to conduct down-well enhanced monitoring at six (6) wells identified in Paragraph 91 within 7 days of wellhead temperature measurement of greater than 165°F in violation of 40 C.F.R. §§ 63.1961(a)(5)(iv), 63.1961(a)(5)(vii), and 63.1961(a)(6).

Failure to Complete Corrective Actions for Wellhead Temperature Exceeding 160°F

93. The Landfill NESHAP states that if corrective actions are taken as specified in section 63.1960, the monitored exceedances demonstrating that the temperature operational requirement in section 63.1958(c) is not being met is not a deviation from the temperature operational requirement. 40 C.F.R. § 63.1958(g).
94. As modified by the HOV approval, the Landfill NESHAP requires that if a landfill gas temperature measurement below 160°F cannot be achieved within 15 days of the first measurement of landfill gas greater than 160°F, the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 160°F was first measured. 40 C.F.R. § 63.1960(a)(4)(i)(A).
95. As modified by the HOV approval, the Landfill NESHAP provides that if corrective action pursuant to section 63.1960(a)(4)(i)(A) cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 160°F. The owner or operator must submit the root cause analysis, corrective action analysis, and implementation schedule as part of the next semi-annual report. 40 C.F.R. §§ 63.1960(a)(4)(i)(B), 63.1981(j)(2).
96. The Landfill NESHAP states that the owner or operator must submit the items listed in section 63.1981(h)(7) as part of the next semi-annual report and keep records according to section 63.1983(e)(4). 40 C.F.R. § 1960(a)(4)(i)(B). Section 63.1981(h)(7) lists: a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. Section 63.1983(e)(4) requires a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
97. The Semi-Annual Reports indicate that there were six (6) wells where the wellhead temperature above 160°F were not corrected within 60 days of the initial measurement. Initial measurements of the temperature exceedances were on various times on and after September 8, 2023. The well identification numbers for those wells are: EW19-36+, 1726R, PW-21A, 1741R, APEX2372, and APEX2467.

98. The Semi-Annual reports indicate that in 2024 Apex created six (6) Temperature Exceedance Corrective Action Analysis and Implementation Schedule Reports for wells with temperature exceedances higher than 160°F for greater than 60 days. Wells included in these reports are listed in Paragraph 97. Findings from these reports include:
- a. Five (5) of the six (6) Corrective Action Analysis state that corrective actions are not expected to decrease temperatures, indicating insufficient corrective actions.
 - b. Three (3) of the six (6) Corrective Action Analysis did not contain any corrective actions to the wells to lower temperatures.
 - c. Five (5) of the six (6) Corrective Action Analysis and Implementation Schedules did not contain any implementation schedule; and
 - d. None of the reports contained an expected completion date.
99. Apex failed to report a schedule for implementation of corrective actions including proposed commencement and completion dates, as required by 40 C.F.R. §§ 63.1981(h)(7), 63.1983(e)(4), and 63.1981(j) and failed to take corrective actions as specified in § 63.1960(a)(3) to correct wellhead temperatures at six (6) wells, identified in Paragraph 97, where wellhead temperature exceeded 160°F for greater than 60 days, in violation of 40 C.F.R. § 63.1958(c), 63.1958(g), and 63.1960(a)(4)(i)(A-B).

Failure To Complete Corrective Actions for Wellhead Temperature Exceeding 170°F And Carbon Monoxide Equaling or Exceeding 1,000 ppm

100. The Landfill NESHAP provides that if a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 170°F and the carbon monoxide concentration measured, according to the procedures in section 63.1961(a)(5)(vi) is greater than or equal to 1,000 ppm the corrective action(s) for the wellhead temperature standard (145°F) must be completed within 15 days. 40 C.F.R. § 63.1960(a)(4)(i)(D).
101. The Semi-Annual Reports indicate that Well APEX2467 wellhead temperature was above 170°F and the carbon monoxide concentration measured was greater than or equal to 1,000 ppm on October 19th, 2024, and corrective actions to return the well below 160°F had not been completed for greater than 15 days.
102. Apex failed to complete corrective actions for wellhead temperature at well APEX2467 following temperatures in the well or wellhead equaling or exceeding 170°F and carbon monoxide equaling or exceeding 1,000 ppm within 15 days, in violation of 40 C.F.R. § 63.1960(a)(4)(i)(D).

Failure To Correct Wellhead Temperatures in A Manner Consistent with Good Air Pollution Control Practice for Minimizing Emissions

103. By failing to correct wellhead temperatures at six (6) of the Landfill's gas collection wells identified in Paragraph 97 and well APEX2467, Apex failed to operate each interior wellhead in the collection system with a landfill gas temperature less than 160°F in violation of Title V Permit Condition III.B.3.aa, and failed to maintain and operate air pollution control equipment in a manner consistent with safety and good air pollution control practice for minimizing emissions, in violation of 40 C.F.R. § 63.1955(c) and Condition III.B.3.ss of the Title V Permit.

III. FINDING OF VIOLATION

104. Notice is given to Apex that the Administrator of the EPA, by authority duly delegated to the undersigned, finds that Apex violated 40 C.F.R. Part 63, Subpart AAAA and the Title V Permit as set forth in Section II of this FOV.

IV. ENFORCEMENT

105. Section 113(a)(3) of the Act provides that when any person has violated any requirement or prohibition of title I of the Act (including CAA sections 112 and 502), EPA may:
- issue an order requiring compliance with the requirement or prohibition;
 - issue an administrative penalty order pursuant to section 113(d) of the Act for civil administrative penalties; or
 - bring a civil action pursuant to section 113(b) of the Act for injunctive relief and/or civil penalties.
106. The amount of civil penalties that may be recovered for violations such as those discussed above of the CAA and its implementing regulations is set by statute. See 40 C.F.R. Part 19.
107. Furthermore, if a person knowingly violates any requirement or prohibition of sections 112 and 502 of the Act, section 113(c) of the Act provides for criminal penalties or imprisonment, or both. 42 U.S.C. § 7413(c). Under section 306(a) of the Act (42 U.S.C. § 7606(a)), the regulations promulgated thereunder (2 C.F.R. Part 1532), and Executive Order 11738, persons convicted of an offense under section 113(c) of the Act are disqualified from receiving federal contracts, grants, and loans.

V. PENALTY ASSESSMENT CRITERIA

108. Section 113(e)(1) of the Act states that, in determining the amount of any penalty to be assessed, the Administrator shall take into consideration (in addition to such other factors as justice may require) the size of the violator, the economic impact of the penalty on the

violator, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation.

109. Section 113(e)(2) of the Act allows the Administrator to assess a penalty for each day of violation. For the purposes of determining the number of days of violation, where EPA makes a prima facie showing that the conduct or events giving rise to this violation are likely to have continued or recurred past the date of this FOV, the days of violation shall be presumed to include the date of this FOV and each and every day thereafter until the violator establishes that continuous compliance has been achieved, except to the extent that the violator can prove by a preponderance of the evidence that there were intervening days during which no violation occurred or that the violation was not continuing in nature.

VI. OPPORTUNITY FOR CONFERENCE

110. Apex may, upon request, confer with the EPA. The conference will enable Apex to present evidence bearing on the finding of violation, on the nature of the violations, and on any effort, it may have taken or proposes to take to achieve compliance. Apex has the right to be represented by counsel. A request for a conference with the EPA must be made within ten (10) working days of receipt of this FOV, and the request for a conference or other inquiries concerning the FOV should be made in writing to:

Brian Riedel
Supervising Attorney
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
415-972-3924
riedel.brian@epa.gov

VII. ENVIRONMENTAL IMPACT OF VIOLATIONS

111. The violations described above have caused or can cause excess emissions of hydrogen sulfide, volatile hazardous air pollutants ("VHAPs"), and volatile organic compounds ("VOCs") including methane. The VHAPs emitted by MSW Landfills include, but are not limited to, vinyl chloride, benzene, toluene, ethyl benzene, and xylenes.

112. Hydrogen sulfide can lead to irritation, headaches, nausea, and respiratory stress. Hydrogen sulfide also significantly contributes to local odor nuisances reducing surrounding quality of life.
113. Vinyl Chloride can lead to central nervous system (“CNS”) affects, dizziness, drowsiness, headaches, and liver damage. EPA has concluded that vinyl chloride is carcinogenic to humans.
114. Benzene, toluene, ethyl benzene, and xylenes can cause CNS affects, drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, various disorders in the blood and kidneys, including reduced numbers of red blood cells and aplastic anemia, developmental effects in the children of pregnant women. EPA has classified benzene and toluene as known human carcinogens.
115. VOCs and methane contribute to ground-level ozone formation. Breathing ozone contributes to a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone can also reduce lung function and inflame lung tissue. Repeated exposure may permanently scar lung tissue.
116. Methane emissions can lead to fires or explosions as it accumulates on or off site.

**AMY MILLER-
BOWEN**

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Amy C. Miller-Bowen
Division Director
Enforcement and Compliance Assurance Division
US EPA Region 9

Appendix A: Well Downtime Tables

Table 1: Wells offline or not replaced for reasons unrelated to filling activities for less than or equal to one-hundred and twenty (120) days

Table 2: Wells offline or not replaced for greater than 120 days

Table 3: Wells offline or not replaced for greater than 120 days with ongoing downtime

Table 1

Well ID	Shutdown or Abandonment Date	Startup or Replacement Date	(If replaced) Replacement Well ID	Downtime Duration (days)
1722D	10/12/22	12/16/22	N/A	64
1722S	10/12/22	12/16/22	N/A	64
1741R	05/25/22	07/28/22		64
APE1816B	04/10/24	06/03/24		54
APESLIT1	10/10/23	11/27/23		48
APEX2351	02/23/24	05/29/24		96
CO50	05/15/22	06/29/22		45
EW17-23S	03/25/24	05/15/24		51
EW17-39+	07/07/23	10/25/23		110
EW17-39+	03/12/22	04/12/22		31
EW18-04A+	03/24/22	05/18/22		55
EW18-13	05/22/23	07/02/23	2316	41
EW18-13	02/13/23	05/13/23		89
EW18-14	01/09/24	02/20/24		42
EW18-16A	06/29/22	09/15/22		77
EW18-19	07/12/22	08/11/22		30
EW19-04	06/14/23	09/30/23		108
EW19-05	04/18/24	05/23/24		35
EW19-12	01/15/22	05/14/22		119
EW20-04+	03/10/22	05/18/22		69
H01A	12/28/21	01/29/22		32
H03B	05/04/23	06/27/23		54
H20205	11/21/23	01/09/24		49
H20205	09/12/23	10/30/23		48
H20205	01/13/23	05/13/23		120
P134A	12/28/21	02/15/22		49
P141	05/18/22	07/28/22		71
P147A	08/24/22	10/18/22		55
PW-01	02/22/24	03/26/24		33
PW-01	06/29/22	10/18/22		111
PW03	04/06/23	06/27/23		82
PW-143+	11/30/22	02/12/23		74
PW-143+	05/14/22	08/15/22		93
PW-39+	07/14/22	10/01/22		79
PW-45+	03/15/22	06/15/22		92
PW97R	08/29/22	11/29/22		92
W08R	02/22/24	04/10/24		48
W08R	09/29/23	01/09/24		102
Sum:				2,578

Table 2

Well ID	Shutdown / Abandonment Date	Startup / Replacement Startup Date	(If replaced) Replacement Well ID	Downtime Duration (days)
EW17-34S	07/07/20	05/25/22		687
EW20-02+	08/24/20	05/29/24		1,374
H49A+	09/01/20	11/18/23	23-32 and 23-33	1,173
EW20-01	10/19/20	05/29/24		1,318
EW17-22D+	01/20/21	12/16/22		694
PW31	02/03/21	12/14/23	2361	1,044
EW17-35D+	03/02/21	02/20/24		1,084
EW20-11	03/22/21	06/14/22		449
H04A	04/05/21	12/01/23		969
EW19-14	05/20/21	11/10/22		539
EW20-10	05/20/21	07/28/23	2010A	799
1725R	06/18/21	12/28/21		193
1704A	06/19/21	11/11/21		145
EW17-12D+	07/27/21	07/08/23	2323	711
EW17-18D+	08/14/21	01/29/23		533
DW03+	08/14/21	04/29/22		258
P114	08/25/21	12/14/23	23-60 and 23-61	841
PW-150+	08/26/21	08/05/23	P150A	708
PW-06+	09/14/21	11/18/23	2333	794
H111	09/15/21	02/07/23		510
EW17-44+	09/15/21	12/05/23	2328	811
EW20-17R+	09/29/21	12/14/22		441
PW-131	09/29/21	12/14/23	23-60 and 23-61	806
EW20-09+	09/30/21	08/11/22		315
PW-149	10/06/21	10/18/22		377
EW17-36S	10/19/21	07/02/24	2316	987
EW17-13A+	11/18/21	03/22/22		124
H04B	02/15/22	10/18/22		245
EW17-04A	03/15/22	08/30/22		168
EW17-19D	03/28/22	11/18/23	2327	599
EW18-16A	03/29/22	02/13/23		321
DW01	05/15/22	11/30/22		199
EW17-23D+	05/18/22	10/15/22		150
EW17-35S+	05/18/22	02/12/23		270
PW03	06/08/22	11/29/22		174
EW17-39+	06/08/22	12/14/22		189
EW18-21A	06/14/22	11/21/22		160
EW17-36D+	06/14/22	07/02/23	2316	383
EW19-15	06/15/22	11/09/22		147
PW75A	06/15/22	07/27/23		407
EW19-36+	06/15/22	07/06/23		386

P130	06/29/22	01/13/23		197
H48A	07/14/22	12/24/22		163
H47A	07/14/22	12/24/22		163
EW20-04+	08/11/22	01/18/23		160
EW17-22S	08/11/22	12/16/22		126
EW20-11	08/31/22	02/02/24	2348	519
EW19-06	09/27/22	04/07/23		192
EW18-04A+	09/29/22	06/29/23	1804B	273
EW18-19	10/25/22	01/04/24	1819A	436
EW18-12	10/31/22	07/02/23	2316	244
EW20-16+	12/15/22	10/10/23	2016A	299
DW02	12/29/22	07/31/23		214
APEELIT2	01/13/23	06/27/23		165
EW20-03+	02/18/23	05/29/24		467
EW20-04+	05/18/23	02/12/24		270
EW20-09+	07/06/23	02/03/24	2358	212
APESLIT2	10/10/23	02/22/24		136
PW03	01/05/24	06/24/24		171
APESLIT1	01/08/24	05/15/24		128
Sum:				27,014

Table 3

Well ID	Shutdown or Abandonment Date
1735S	12/26/23
17-39+	12/22/23
APEELIT1	01/13/23
APENLIT3	09/05/23
APESLIT2	01/08/24
APEWLIT1	10/12/23
APEWLIT2	03/25/24
APEX2312	01/09/24
APEX2338	12/05/23
APEX2366	05/29/24
APEX2370	06/12/24
APEX2377	06/20/24
APEXGB03	01/10/24
CO50	02/13/24
EW17-01D+	09/15/21
EW17-01S	09/15/21
EW17-09D	09/30/21
EW17-09S+	08/13/21
EW17-18D+	05/23/23
EW17-23S	05/29/24
EW17-27	02/18/23
EW17-34D+	02/28/22
EW17-6	05/25/21
EW18-23A	02/14/22
EW20-01	06/03/24
H111	03/03/23
H20202	03/12/22
H20203	08/29/21
H20204	06/11/21
H20205	01/30/24
H20206	11/18/21
P130	12/26/23
P141	11/18/22
P144	01/08/24
P147	01/26/23
P147A	01/17/23
P148	04/12/21
P1721D	03/10/21
PW-05	08/14/21
PW-07	05/14/21

PW-143+	01/30/24
PW-38	12/23/23
PW75A	01/08/24
TOEDRAIN 28	01/11/24