



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 HAWTHORNE STREET
SAN FRANCISCO, CALIFORNIA 94105**

ENFORCEMENT AND COMPLIANCE
ASSURANCE DIVISION

DATE: January 30, 2024

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Waste Connections Chiquita Canyon Landfill, Castaic, CA

FROM: Scott Connolly, Environmental Engineer
Air Section, Air, Waste & Chemicals Branch,
Enforcement and Compliance Assurance Division

THRU: Roshni Brahmbhatt, Manager
Air Section, Air, Waste & Chemicals Branch,
Enforcement and Compliance Assurance Division

TO: File

BASIC INFORMATION

Facility Name: Waste Connections Chiquita Canyon Landfill

Facility Location: 29201 Henry Mayo Dr, Castaic, CA

Dates of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024

EPA Inspectors:

Day 1: November 2, 2023

1. Scott Connolly, Environmental Engineer
2. Gem Guzman, Air Enforcement Inspector

Day 2: November 8, 2023

1. Scott Connolly, Environmental Engineer
2. Gem Guzman, Air Enforcement Inspector
3. Andrew Chew, Environmental Engineer

Day 3: January 9, 2024

1. Scott Connolly, Environmental Engineer
2. Gem Guzman, Air Enforcement Inspector
3. Daniel Heins, Environmental Scientist
4. Steve Rapp, Environmental Engineer

Day 4: January 18, 2024

1. Scott Connolly, Environmental Engineer
2. Thanne Berg, Attorney Advisor
3. Allison Watanabe, Senior Policy Advisor

Other Attendees

Day 1: November 2, 2023

1. Steve Cassulo, District Manager, Waste Connections
2. Nicole Ward, Assistant District Manager, Waste Connections
3. John Perkey, Vice President, Deputy General Counsel- Compliance and Government Affairs, Waste Connections
4. Zana Zmily, Senior Environmental Scientist, California Department of Toxic Substances Control (DTSC)
5. Terrence Mann, Deputy Executive Officer, South Coast Air Quality Management District (South Coast AQMD)
6. Laurence Israel, Supervising Air Quality Inspector, South Coast AQMD
7. Christina Ojeda, Air Quality Inspector, South Coast AQMD
8. Gerardo Vergara, Air Quality Inspector, South Coast AQMD
9. Todd Thalhamer, Senior Waste Management Engineer, CalRecycle
10. Karen Gork, LA County Local Enforcement Agency
11. Douglass Cross, Los Angeles Regional Water Quality Control Board

Day 2: November 8, 2023

1. Nicole Ward, Assistant District Manager, Waste Connections
2. Steve Cassulo, District Manager, Waste Connections
3. Laurence Israel, Supervising Air Quality Inspector, South Coast AQMD
4. Christina Ojeda, Air Quality Inspector, South Coast AQMD
5. Gerardo Vergara, Air Quality Inspector, South Coast AQMD

Day 3: January 9, 2024

1. Nicole Ward, Assistant District Manager, Waste Connections
2. Amanda Froman, Compliance Manager, Western Region, Waste Connections
3. Cage Johnson, Lead Technician, SCS Engineers

Day 4: January 18, 2024

1. Terrence Mann, Deputy Executive Officer, South Coast AQMD

2. Christina Ojeda, Air Quality Inspector, South Coast AQMD
3. Nicole Ward, Assistant District Manager, Waste Connections
4. Amanda Froman, Compliance Manager – Western Region, Waste Connections
5. John Perkey, Vice President, Deputy General Counsel – Compliance and Government Affairs, Waste Connections
6. Steve Cassulo, District Manager, Waste Connections
7. Mike Calleja, Director of Landfill Operations, Waste Connections
8. Kurt Shaner, Vice President – Engineering and Sustainability, Waste Connections
9. Dave Matthews, Operations Specialist, Waste Connections

Contact Email Address: nicole.ward@wasteconnections.com

Purpose of Inspection: To observe the landfill reaction causing odor complaints and determine compliance with the Clean Air Act.

Facility Type: Municipal Solid Waste Landfill

Regulations Central to Inspection: 40 C.F.R. Part 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, 40 C.F.R. Part 60 New Source Performance Standards Subparts WWW and XXX and the federally enforceable State Plan Implemented under 40 C.F.R. Part 60, Subpart Cf, the Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Day 1: November 02, 2023

Arrival Time: 10:00 AM

Departure Time: 01:30 PM

Day 2: November 08, 2023

Arrival Time: 08:30 AM

Departure Time: 02:00 PM

Day 3: January 9, 2024

Arrival Time: 08:30 AM

Departure Time: 04:00 PM

Day 4: January 18, 2024

Arrival Time: 10:30 AM

Departure Time: 1:45 PM

Inspection Type:

- Announced Inspections – November 2, 2023, January 18, 2024
- Unannounced Inspections – November 8, 2023, January 9, 2024

OPENING CONFERENCE

- Credentials Presented
- Confidential Business Information (CBI) notice to facility provided

The following information was obtained verbally from Waste Connection Inspection attendees unless otherwise noted.

Facility and Process Description:

Chiquita Canyon Landfill (CCL) operates a municipal solid waste landfill that services Los Angeles County and has a 60 million tons permitted capacity. Waste Connections took over operations of the landfill from Republic Services, Inc. in 2009. CCL operates a gas collection system that consists of approximately 500 wells. Collected gas is treated by four hydrogen sulfide units and two main flares, and a third flare was being installed and tested during the time of the inspection. The facility is also operating two temporary thermal oxidizers on the landfill surface to control vapors from the reaction area. The new thermal oxidizers include one 4700 scfm unit located on the top of the landfill and one 1200 scfm unit on the north side of the landfill.

The tank farm was installed between Day 1 and Day 4 of the inspection and currently consists of 50 tanks, that are gravity fed leachate from 36 pneumatic pumps, both in wells and sumps. The tank farm currently only receives leachate from pumps installed at the landfill since the beginning of the reaction and has increased from 10 pumps in August 2023. The tank farm supplements the six original tanks that collected leachate prior to the reaction event. The tank farm has two inlet tanks that receives leachate from the landfill and gravity settles sediment before pumping leachate to tanks in groups of 10 tanks. Each tank has a rated capacity of 20,000 gallons and the tank farm has a total capacity of one million gallons. All tanks are connected to the gas collection system and routes collected landfill gases to the existing flares.

Staff Interview:

CCL is experiencing a subsurface reaction event caused by oxygen intrusion beneath the landfill cover. Facility staff stated that the reaction is causing elevated subsurface temperatures and increased leachate production. Waste Connections stated that normal waste settlement is six inches to one foot per year, but that during the reaction event settling greater than 1 foot per month is occurring. Landfill settling caused the western slope of the landfill to slide down over the perimeter road at the base of the landfill. Facility staff stated that 20 million pounds of material that included trash, soil and leachate, was removed from the area and relocated to the working face. The reaction event is causing the excess landfill odors in the form of excess leachate, dimethyl sulfide (DMS), and odors created from the excavation of an old fill during efforts to contain the reaction. Waste Connections stated the odor is coming from two different areas but mostly the west and north side of the landfill, where the majority of leachate is seeping out of the cover. Facility staff stated that an odor suppression system is operated 24/7, except during periods of high wind. Leachate produced onsite is being pumped into vacuum trucks and taken to Avalon and Patriot facilities in Orange County, CA. Steve Cassulo stated that

no solid materials are coming back from Avalon and Patriot after treatment. The facility has 18 to 28 5000-gallon trucks a day transporting the leachate.

On January 15th, 2024, the landfill reported smoldering and visible emissions, prompting emergency response from fire and Hazmat personnel. The location of the smoldering was an out of service carbon canister in the hydrogen sulfide treatment system. The carbon in the vessel was recently replaced and was not hooked up to the gas collection system at the time of the incident.

TOUR INFORMATION

EPA toured the facility: Yes

EPA conducted inspections on four separate days and EPA conducted surface emissions monitoring on Day 2 and 3. On all days of the inspection EPA was accompanied by CCL personnel and on Day 2 and 3 CCL's surface monitoring contractor SCS Engineers also accompanied EPA inspectors.

Inspection Day 1 consisted of opening remarks and a tour of the reaction area, including visual observations of newly constructed wells, French drain construction and landfill settling. DTSC conducted infrared monitoring of well surface temperatures and EPA conducted gas imaging and infrared monitoring of well heads.

Inspection Day 2 consisted of leak detection at the flare station, surface emissions monitoring of wells in the reaction area on the west side, a tour of the north side of the landfill and observations of the leachate check dams and drainage pumping area.

Inspection Day 3 consisted of surface emissions monitoring of wells and the landfill surface on the west side and south side of the top of the landfill as depicted in Figures 1 and 2 in Appendix B.

Inspection Day 4 consisted of a tour of the landfill reaction area on the north and west side of the landfill, the base of the French drain and installed scrim area, and the leachate tank farm.

The following are observations EPA made during those inspection days.

Observations:

On all days of the inspection, inspectors observed sour odors throughout the reaction area and a settlement of the landfill surface of approximate 20 to 30 feet below the previous grade. CCL has created a soil dam in the concrete drainage channel to prevent leachate from flowing offsite. Facility staff stated that the dams are a temporary fix to prevent leachate from leaving the facility while a new French drain is constructed. On Day 1 and 2 of the inspection, EPA observed leachate flowing out of the base of the landfill on the northwestern side and

contained in more than three soil dams. The first of the soil dams was overflowing. There was only a small amount of leachate past the second soil dam. On Day 4 of the inspection, no leachate was observed in the concrete drainage channel, and there were 4 soil check dams in place (Photos 152 & 153). Only on Day 2, EPA observed leachate bubbling out of the north side base of the landfill next to the perimeter road and a pool of leachate was contained by facility excavators. (Photos 83 and 84). On Day 4, EPA observed leachate seeping out of the north side of the landfill about two hundred meters from the leachate seep observed on Day 2.

On Day 1 and 2, EPA observed excavation of soil and exposed waste during the construction of the French drain. On Day 2, EPA observed a landfill well geyser at well CV-2303 as a result of high subsurface temperature and repairs occurring on the well water pump. (Photos 38 and 39 and Videos 9 and 10) On Day 3, EPA observed Well CV-2303 dripping leachate from the flange on the top of the well. On Day 3 and 4, EPA observed rain ruts creating areas of exposed trash and elevated surface emissions monitoring near well CV2353 and facility staff stated that it would not be fixed until regrading of the area on January 19, 2024. On Day 4, at the western slope of the reaction area at the perimeter of the landfill and adjacent to the road, EPA observed standing liquid above the scrim. The liquid appeared dark and small, discrete bubbling occurred sporadically. Inspectors also observed air pockets or ballooning under the scrim. (Photos 146-148 and Video 13)

Digital Images: were taken during the inspection.

A digital image log is in Appendix A.

Data Collected and Field Measurements:

On Day 2 and Day 3 of the inspection, EPA inspectors conducted surface emission monitoring using a Toxic Vapor Analyzer (TVA) and infrared portable methane detector (IRwin). No surface emission monitoring was conducted on Day 1 and Day 4. On Day 2 and Day 3, EPA conducted surface emission monitoring on the west side of the landfill in the reaction area and, on Day 3, on the southern aspect of the peak of the landfill, between the current working face and the wet weather deck. EPA and South Coast Air Quality Management District (South Coast AQMD) inspectors conducted modified EPA Method 21 surface emission monitoring as required by the regulations central to this inspection. Waste Connections' surface emissions monitoring consultant accompanied EPA on Day 2 and 3 and confirmed EPA's surface emissions readings.

On Day 2, EPA conducted surface emissions monitoring at 30 wells and detected concentrations above 500 ppm at 13 wells. On Day 3, EPA conducted surface emissions monitoring on the west side of the landfill and on the south side of the top of the landfill and detected concentrations above 500 ppm at 50 unique locations.

After EPA detected emissions concentrations at Well G-1, CCL turned up the vacuum to attempt repair, and on Well G-3, the technician observed positive pressure after monitoring.

A log of TVA measurements and IRwin monitoring data is in located in Appendix B.

CLOSING CONFERENCE

Requested documents:

- A design plan that includes the facility's compliance with federal regulations
- Well head temperature monitoring data from 2022 and 2023
- Surface Emission Monitoring data from 2022 and 2023
- Master Schedule of Planned construction work to respond to the reaction event

Concerns: Surface emissions exceedances were observed both inside and outside the reaction area. Multiple areas of exposed leachate were observed, and odors were detected in multiple areas of the landfill.

SIGNATURES

Report Author:

Section Manager:

Facility Name: Waste Connections Chiquita Canyon Landfill

Facility Location: 29201 Henry Mayo Dr, Castaic, CA

Date of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024

APPENDICES AND ATTACHMENTS

1. Appendix A – Digital Image Log
2. Appendix B – Field Measurement Data

Facility Name: Waste Connections Chiquita Canyon Landfill

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Date of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024

APPENDIX A: DIGITAL IMAGE LOG

1. Photographer Name: Gem Guzman (#1-90) Daniel Heins (#91-121) Scott Connolly (#122-153)	2. Dates of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024
3. Company/Facility Name: Waste Connections Chiquita Canyon Landfill	4. Street Address, City, State: 29201 Henry Mayo Dr, Castaic, CA
5. Number of Images: 90	6. Archival Record Location: EPA SharePoint

Digital Camera Log

Image Number	File Name	Date	Latitude and Longitude	Description of Image
1	PB030092.JPG	2023:11:02 10:11:31	No Data Available	Main canyon landfill top bridge
2	PB030093.JPG	2023:11:02 10:11:34	No Data Available	Main canyon landfill top bridge
3	PB030094.JPG	2023:11:02 10:19:41	No Data Available	Main canyon landfill top bridge
4	PB030095.JPG	2023:11:02 10:19:47	No Data Available	Main canyon landfill top bridge
5	PB030096.JPG	2023:11:02 10:24:59	No Data Available	Main canyon landfill top bridge
6	PB030097.JPG	2023:11:02 10:25:12	No Data Available	Main canyon landfill top bridge
7	PB030098.JPG	2023:11:02 10:25:15	No Data Available	Main canyon landfill top bridge
8	PB030099.JPG	2023:11:02 10:33:15	No Data Available	Solar panel on main canyon landfill top bridge
9	PB030100.JPG	2023:11:02 10:33:22	No Data Available	Well and hoses near reaction area
10	PB030101.JPG	2023:11:02 10:37:38	No Data Available	Main canyon landfill top bridge
11	PB030102.JPG	2023:11:02 10:37:44	No Data Available	Main canyon landfill top bridge
12	PB030103.JPG	2023:11:02 10:42:22	No Data Available	Main canyon landfill top bridge
13	PB030104.JPG	2023:11:02 10:53:53	No Data Available	Leaking well
14	PB030105.JPG	2023:11:02 11:15:12	No Data Available	Seeping leachate channel
15	PB030106.JPG	2023:11:02 11:15:14	No Data Available	Seeping leachate channel
16	PB030107.JPG	2023:11:02 11:15:17	No Data Available	Seeping leachate channel
17	PB030108.JPG	2023:11:02 11:16:50	No Data Available	Seeping leachate channel
18	PB030109.JPG	2023:11:02 11:16:55	No Data Available	Seeping leachate channel
19	PB030110.JPG	2023:11:02 11:17:21	No Data Available	Seeping leachate channel
20	PB030111.JPG	2023:11:02 11:19:30	No Data Available	Seeping leachate channel
21	PB030112.JPG	2023:11:02 11:19:32	No Data Available	Seeping leachate channel
22	PB030113.JPG	2023:11:02 11:20:54	No Data Available	Seeping leachate channel
23	PB030114.JPG	2023:11:02 11:20:58	No Data Available	Seeping leachate channel
24	PB030115.JPG	2023:11:02 11:21:00	No Data Available	Seeping leachate channel
25	PB030116.JPG	2023:11:02 11:31:55	No Data Available	Foamy Well

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26	PB090119.JPG	2023:11:08 09:35:31	No Data Available	Flare station control panel screen
27	PB090120.JPG	2023:11:08 09:35:35	No Data Available	Flare station control panel screen
28	PB090121.JPG	2023:11:08 09:35:51	No Data Available	Flare station control panel screen
29	PB090122.JPG	2023:11:08 09:35:53	No Data Available	Flare station control panel screen
30	PB090123.JPG	2023:11:08 09:48:56	No Data Available	Flare station side 1
31	PB090124.JPG	2023:11:08 09:49:09	No Data Available	Flare station side 2
32	PB090125.JPG	2023:11:08 10:01:45	No Data Available	Well #CV-2303
33	PB090126.JPG	2023:11:08 10:01:50	No Data Available	Well #CV-2303
34	PB090127.JPG	2023:11:08 10:03:53	No Data Available	Well #CV-2303 (point of highest reading)
35	PB090128.JPG	2023:11:08 10:07:48	No Data Available	Well #H-1769-A
36	PB090129.JPG	2023:11:08 10:08:03	No Data Available	Well #H-17
37	PB090130.JPG	2023:11:08 10:08:04	No Data Available	Well #H-17
38	PB090131.JPG	2023:11:08 10:10:02	No Data Available	Steaming geyser
39	PB090132.JPG	2023:11:08 10:10:05	No Data Available	Steaming geyser
40	PB090133.JPG	2023:11:08 10:42	No Data Available	Well #H-1964C
41	PB090134.JPG	2023:11:08 10:17:50	No Data Available	Well #TC-2385N
42	PB090135.JPG	2023:11:08 10:20:38	No Data Available	Well #H-1754N
43	PB090136.JPG	2023:11:08 10:22:14	No Data Available	Well #H-67
44	PB090137.JPG	2023:11:08 10:25:06	No Data Available	Duct tape covered pipe
45	PB090138.JPG	2023:11:08 10:25:25	No Data Available	Duct tape covered pipe
46	PB090139.JPG	2023:11:08 10:25:28	No Data Available	Duct tape covered pipe
47	PB090140.JPG	2023:11:08 10:26:58	No Data Available	Well #CV-2304
48	PB090141.JPG	2023:11:08 10:30:21	No Data Available	Well #CV-2302
49	PB090142.JPG	2023:11:08 10:30:26	No Data Available	Well #CV-2302
50	PB090143.JPG	2023:11:08 10:31:41	No Data Available	Well #CV-100
51	PB090144.JPG	2023:11:08 10:31:46	No Data Available	Well #CV-100
52	PB090145.JPG	2023:11:08 10:33:54	No Data Available	Well #H-1753S
53	PB090146.JPG	2023:11:08 10:34:03	No Data Available	Well #H-1753S
54	PB090147.JPG	2023:11:08 10:37:51	No Data Available	Well #H-1758N
55	PB090148.JPG	2023:11:08 10:40:48	No Data Available	Well #H-1563N
56	PB090149.JPG	2023:11:08 10:44:19	No Data Available	Well #H-1562S
57	PB090150.JPG	2023:11:08 10:45:12	No Data Available	Well #2341, With total depth (TD) of 92 ft and water level (L) of 65 ft
58	PB090151.JPG	2023:11:08 10:48:33	No Data Available	Well #H-1757N
59	PB090152.JPG	2023:11:08 10:50:02	No Data Available	Well #2340, TD-52' L-31'
60	PB090153.JPG	2023:11:08 10:53:19	No Data Available	Well #2339
61	PB090154.JPG	2023:11:08 10:56:56	No Data Available	Well #H-1562N
62	PB090155.JPG	2023:11:08 10:58:49	No Data Available	Well #H-1756N
63	PB090156.JPG	2023:11:08 10:59:37	No Data Available	Well #CV-1532A

Facility Name: Waste Connections Chiquita Canyon Landfill

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64	PB090157.JPG	2023:11:08 11:03:29	No Data Available	Well #CV-1532
65	PB090158.JPG	2023:11:08 11:06:18	No Data Available	Well #H-1751S
66	PB090159.JPG	2023:11:08 11:07:02	No Data Available	Well #CV-1534A
67	PB090160.JPG	2023:11:08 11:10:54	No Data Available	Well #H-1561C
68	PB090161.JPG	2023:11:08 11:13:44	No Data Available	Well #CV-1534
69	PB090162.JPG	2023:11:08 11:13:51	No Data Available	Well #CV-1534
70	PB090163.JPG	2023:11:08 11:14:05	No Data Available	Well #H-1755N
71	PB090164.JPG	2023:11:08 11:17:07	No Data Available	Well #CV-2354
72	PB090165.JPG	2023:11:08 11:21:28	No Data Available	Well #TC-2382W
73	PB090166.JPG	2023:11:08 11:24:39	No Data Available	Leachate
74	PB090167.JPG	2023:11:08 11:24:46	No Data Available	Leachate
75	PB090168.JPG	2023:11:08 11:26:50	No Data Available	Steaming by leachate
76	PB090169.JPG	2023:11:08 11:26:58	No Data Available	Steaming by leachate
77	PB090170.JPG	2023:11:08 11:27:01	No Data Available	Steaming by leachate
78	PB090172.JPG	2023:11:08 11:31:35	No Data Available	Well #CV-2351, TD-39' L-7'
79	PB090173.JPG	2023:11:08 11:34:34	No Data Available	Well #CV-2352, TD-45' L-10' with hose out
80	PB090174.JPG	2023:11:08 11:37:06	No Data Available	Well #CV-2353
81	PB090175.JPG	2023:11:08 11:39:42	No Data Available	Well #CV-2342A
82	PB090176.JPG	2023:11:08 11:54:20	No Data Available	Bubbling leachate
83	PB090177.JPG	2023:11:08 11:54:31	No Data Available	Bubbling leachate
84	PB090179.JPG	2023:11:08 11:54:47	No Data Available	Bubbling leachate area
85	PB090180.JPG	2023:11:08 11:57:01	No Data Available	Seeping leachate channel
86	PB090181.JPG	2023:11:08 12:15:42	No Data Available	Leachate dam
87	PB090182.JPG	2023:11:08 12:19:10	No Data Available	Leachate dam
88	PB090183.JPG	2023:11:08 12:21:37	No Data Available	Trucks transporting leachate
89	P1090008.JPG	2024:01:09 10:20:35	34.434418, -118.649593	Erosion, exposed waste
90	P1090009.JPG	2024:01:09 10:38:32	34.433873, -118.649995	Deep erosion (Measurement Number A4)
91	P1090010.JPG	2024:01:09 10:40:40	34.433795, -118.650407	Exposed waste - tire (Measurement Number A5)
92	P1090011.JPG	2024:01:09 10:40:45	34.433795, -118.650407	Erosion rill (Measurement Number A5)
93	P1090012.JPG	2024:01:09 10:49:07	34.434587, -118.650988	Erosion (Measurement Number A11)
94	P1090013.JPG	2024:01:09 10:49:14	34.434587, -118.650988	Erosion (Measurement Number A11)
95	P1090014.JPG	2024:01:09 10:54:11	34.434268, -118.650613	Erosion with exposed waste (Measurement Number A7)

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96	P1090015.JPG	2024:01:09 11:00:58	34.434442, -118.65077	Erosion
97	P1090016.JPG	2024:01:09 11:01:02	34.434442, -118.65077	Erosion
98	P1090017.JPG	2024:01:09 11:15:26	34.435702, -118.651675	Depression above CV2351 (Measurement Number D3)
99	P1090018.JPG	2024:01:09 11:22:21	34.43471, -118.651238	Well #CV24143 (Measurement Number D4)
100	P1090019.JPG	2024:01:09 11:22:24	34.43471, -118.651238	Well #CV24143 (Measurement Number D4)
101	P1090020.JPG	2024:01:09 11:22:28	34.43471, -118.651238	Well #CV24143 (Measurement Number D4)
102	P1090021.JPG	2024:01:09 11:25:37	34.434717, -118.651037	Discolored soil at base of well CV24140 (Measurement Number D5)
103	P1090022.JPG	2024:01:09 11:25:42	34.434717, -118.651037	Well label for above CV24140
104	P1090023.JPG	2024:01:09 13:49:53	34.432382, -118.646658	Well #H-1568S (Measurement Number S1)
105	P1090024.JPG	2024:01:09 13:54:50	34.43221, -118.646967	Erosion rills with exposed waste
106	P1090025.JPG	2024:01:09 14:03:39	34.432212, -118.64641	Exposed waste - carpet (Measurement Number S2)
107	P1090026.JPG	2024:01:09 14:09:59	34.43204, -118.646167	Erosion rill (Measurement Number S3)
108	P1090027.JPG	2024:01:09 14:15:39	34.43191, -118.646482	Erosion and waste under pipe (Measurement Number S4)
109	P1090028.JPG	2024:01:09 14:27:57	No Data Available	Well #H-1571S (Measurement Number S6)
110	P1090029.JPG	2024:01:09 14:30:13	34.432157, -118.64506	Well CV1604 with nearby exposed waste (Measurement Number S7)
111	P1090030.JPG	2024:01:09 14:34:09	34.432208, -118.644782	Well #H1572S (Measurement Number S8)
112	P1090031.JPG	2024:01:09 14:50:48	34.431302, 118.647638	Abandoned wells CV1602S (Measurement Number S9)
113	P1090032.JPG	2024:01:09 14:56:55	34.431287, -118.647648	Pipe w/ gully (Measurement Number S10)
114	P1090033.JPG	2024:01:09 15:08:55	34.431927, -118.649208	Deep erosion gully with exposed waste in and around (Measurement Number S11)
115	P1090034.JPG	2024:01:09 15:12:23	34.43217, -118.649572	Pipe sunk into ground with exposed waste, by CV2348 (Measurement Number S12)

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116	P1090035.JPG	2024:01:09 15:19:45	No data available	Well 2345 (Measurement Number S13)
117	P1090036.JPG	2024:01:09 15:26:01	34.433142, -118.65017	Erosion gully (Measurement Number S14)
118	P1090037.JPG	2024:01:09 15:27:57	34.433163, -118.650172	Well #H-17705 (Measurement Number S15)
119	P1090038.JPG	2024:01:09 15:54:32	No data available	AED IRwin serial number
120	IMG_0847.jpg	1/11/2024 10:01	34.43553, -118.64967	Well CV-2303, location of excess emissions
121	IMG_0848.jpg	1/11/2024 10:01	34.43565, -118.64963	Well CV-2303, location of excess emissions
122	IMG_0849.jpg	1/11/2024 10:07	34.43500, -118.64928	Well CV-2203 dripping leachate
123	IMG_0850.jpg	1/11/2024 10:08	34.43502, -118.64928	Well CV-2203 dripping leachate
124	IMG_0851.jpg	1/11/2024 10:28	34.43410, -118.65011	Pipes used to support temporary header line, that remained after header was moved
125	IMG_0852.jpg	1/11/2024 11:01	34.43444, -118.65082	Header between CV-2353 and CV-2342A with reading above 500 ppm
126	IMG_0853.jpg	1/11/2024 11:08	34.444517, -118.65808	Area near well CV-2352 (monitoring location A-9)
127	IMG_0854.jpg	1/11/2024 11:18	34.43518, -118.65128	New French drain after tarp covering and gas collection installed
128	IMG_0855.jpg	1/11/2024 11:34	34.443454, -118.65118	Area near Well CV-24142 with leak at 1200 ppm
129	IMG_0856.jpg	1/11/2024 11:41	34.44470, -118.65778	Area near Well CV-24142 with leak at 1400 ppm
130	IMG_0857.jpg	1/11/2024 13:58	34.443260, -118.64666	Area gas leak at 1400 ppm near well H2274B (monitoring location G-1)
131	IMG_0858.jpg	1/11/2024 14:06	34.43235, -118.64621	Well H-2275E leaking at 4500 ppm
132	IMG_0859.jpg	1/11/2024 14:14	34.43238, -118.64610	Area between wells H-2275E and H-1763E at 800 ppm
133	IMG_0860.jpg	1/11/2024 14:51	34.43140, -118.64750	Well H-1408 leaking at 3094 ppm at the base of the well
134	IMG_0861.jpg	1/11/2024 14:58	34.43162, -118.64762	Well H-2272C leaking at 2500 ppm (SC-3)
135	IMG_0862.jpg	1/11/2024 15:09	34.43224, -118.64879	Well H-2274B leaking at 1100 ppm
136	IMG_0863.jpg	1/11/2024 15:20	34.43270, -118.64972	Rut with exposed trash between well H-17575 and H-14850 with above 500 ppm

Facility Name: Waste Connections Chiquita Canyon Landfill

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137	IMG_0904.jpg	1/18/2024 10:42	34.44484, - 118.65785	Well drilling rig on the northside of the landfill near temporary thermal oxidizer
138	IMG_0905.jpg	1/18/2024 10:43	34.43543, - 118.64981	Two other drilling rigs on the top of the landfill
139	IMG_0906.jpg	1/18/2024 10:57	34.43495, - 118.64931	Well CV2303 well after repairs to gasket seal and leachate on ground
140	IMG_0907.jpg	1/18/2024 11:04	34.43504, - 118.64998	Rain ruts on west side of landfill near well CV 2338 where exceedances were found on Day 3.
141	IMG_0908.jpg	1/18/2024 11:04	34.43494, - 118.65005	Rain ruts on west side of landfill near well CV 2338 where exceedances were found on Day 3.
142	IMG_0909.jpg	1/18/2024 11:17	34.43712, - 118.64823	Leachate seep on the northside of the landfill
143	IMG_0910.jpg	1/18/2024 11:17	34.43701, - 118.64826	Leachate seep on the northside of the landfill
144	IMG_0911.jpg	1/18/2024 11:29	34.43689, - 118.64819	Newly drilled well and uncapped pipe
145	IMG_0912.jpg	1/18/2024 11:29	34.43682, - 118.64816	Well CV2424
146	IMG_0913.jpg	1/18/2024 11:43	34.43305, - 118.65199	Water on top of scrim tarp and gas pillows
147	IMG_0914.jpg	1/18/2024 11:46	34.43305, - 118.65199	Water on top of scrim tarp and gas pillows
148	IMG_0915.jpg	1/18/2024 11:47	34.43305, - 118.65199	Water on top of scrim tarp and gas pillows
149	IMG_0917.jpg	1/18/2024 12:17	34.42954 - 118.64848	Some of the tank farm tanks
150	IMG_0918.jpg	1/18/2024 13:03	34.44484, - 118.65785	Atomos leachate treatment system
151	IMG_0919.jpg	1/18/2024 13:10	34.42782, - 118.64973	Gas collection system on tank farm
152	IMG_0920.jpg	1/18/2024 13:25	34.42941, - 118.65140	Check soil check dams on west side of landfill after leachate removed
153	IMG_0921.jpg	1/18/2024 13:25	34.42941, - 118.65140	Check soil check dams on west side of landfill after leachate removed

Facility Name: Waste Connections Chiquita Canyon Landfill

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Video Log

	File Name	Date and Time	Latitude and Longitude	Description of Image
1	MOV_0435.mp4	11/2/2023 13:19	No Data Available	FLIR Camera of emissions from hole in the ground near the top of where the scrim was placed and Well C-23823
2	MOV_0436.mp4	11/2/2023 13:34	No Data Available	FLIR camera video of emission at well foam sprayed will with obscured identifiers.
3	MOV_0439.mp4	11/8/2023 10:54	No Data Available	Error Video
4	MOV_0430.mp4	11/8/2023 11:04	No Data Available	Well CV 1523A FLIR Video
5	MOV_0441.mp4	11/8/2023 11:08	No Data Available	Well CV-1534A FLIR Video
6	PB090171.MOV	11/8/2023 11:28	No Data Available	Steaming by leachate
7	PB090178.MOV	11/8/2023 11:54	No Data Available	Bubbling leachate
8	IMG_825.mov	11/28/2023 11:28	34.43450, -118.65120	Vapors being emitting to the atmosphere from the side of tarp on the west side of the landfill
9	IMG_1164.mov	11/28/2023 10:09	34.43450, -118.64940	Geyser-ing well # near the start of the geyser event
10	IMG_1172.mov	11/28/2023 10:12	34.43520, -118.64910	Geyser-ing well # during the end of the geyser event
11	IMG_1184.mov	11/28/2023 12:17	34.43060, -118.65080	Leachate drainage creek in upstream of the soil dams
12	IMG_1209.mov	11/28/2023 11:20	34.43450, -118.65120	Vapors being emitting to the atmosphere from the side of tarp on the west side of the landfill
13	IMG_0916.mov	1/18/2024	34.43300, -118.65200	Landfill gas bubbling in leachate pond on top of the scrim tarp on top of the French drain on the west side of the landfill

APPENDIX B: FIELD MEASUREMENT DATA

EPA and South Coast AQMD inspectors conducted EPA Method 21 monitoring on Day 2 and Day 3 of the inspection.

Facility Name: Waste Connections Chiquita Canyon Landfill

Facility Location: 29201 Henry Mayo Dr, Castaic, CA

Date of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024

On November 8, 2023, EPA and South Coast AQMD inspectors calibrated the TVA prior to arrival at the facility using a demand regulator and methane calibration gases at 0 ppm, 500 ppm, and 1% (10,000 ppm). The following tables summarize the Day 2 calibrations:

Day 2: TVA Calibration Log	
Calibration Gas	TVA S72389 Reading
Zero Air	0.0 ppm
500 ppm	489 ppm
10,000 ppm	1.00 %

On Day 2, EPA inspectors operated an EPA owned FLIR to document emission from leaking components and emissions from components that were not able to be measured.

On January 9, 2024, EPA inspectors calibrated the methane monitoring equipment, including the TVA 2020, EPA serial number S72389 and EPA serial number S72354, and two IRwin devices numbers 438 (AED) and 439 (R9), at 8:45 am using a demand regulator and methane calibration gases at 0 ppm, 500 ppm, and 1% (10,000 ppm). The following tables summarize the Day 3 calibrations:

Day 3: TVA Calibration Log		
Calibration Gas	TVA S72389	TVA S72354
Zero Air	-2.5 ppm	1.7 ppm
500 ppm	490 ppm	513 ppm
10,000 ppm	1.00 %	1.03%

Day 3: IRwin Calibration Log				
	AED IRwin		R9 IRwin	
Calibration Gas Concentration	IRwin Reading	Response time	IRwin Reading	Response time
500 ppm	495 ppm	6 seconds	494 ppm	7 seconds
500 ppm	495 ppm	7 seconds	495 ppm	5 seconds
500 ppm	495 ppm	5 seconds	494 ppm	5 seconds
End of day bump check conducted at 4:05 pm with 500 ppm	480 ppm	N/A	470 ppm	N/A

- EPA measured background concentrations upwind on the east of the landfill at 0 ppm and downwind, west of the landfill at 3 ppm.

TVA Field Measurement Data

Location	Date	TVA Measurement
CV-2303	November 8, 2023	3100 ppm
H1769A H-17	November 8, 2023	672 ppm
H1964C	November 8, 2023	1216 ppm
TC-2385N	November 8, 2023	No reading above background

Facility Name: Waste Connections Chiquita Canyon Landfill

Facility Location: 29201 Henry Mayo Dr, Castaic, CA

Date of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024

H1754N	November 8, 2023	No reading above background
H-67	November 8, 2023	No reading above background
CV-2304	November 8, 2023	No reading above background
CV-2302	November 8, 2023	No reading above background
CV-100	November 8, 2023	No reading above background
H-1753S	November 8, 2023	300 ppm
H-1758N	November 8, 2023	No reading above background
H-1563N	November 8, 2023	No reading above background
H1962S TD-92' L-65'	November 8, 2023	No reading above background
W1757N	November 8, 2023	No reading above background
CV2340 TD-52' L-31'	November 8, 2023	No reading above background
CV2339	November 8, 2023	1900 ppm
H-1562N	November 8, 2023	No reading above background
H1756N	November 8, 2023	No reading above background
CV1532A	November 8, 2023	34,400 ppm
CV1532	November 8, 2023	2200 ppm
H1751S	November 8, 2023	No reading above background
CV1534A	November 8, 2023	9600 ppm
H1561C	November 8, 2023	No reading above background
CV1534	November 8, 2023	812 ppm
H1755N	November 8, 2023	No reading above background
CV2354 TD-50' L-7'	November 8, 2023	1136 ppm
TC-2382W	November 8, 2023	84000 ppm *flame out*
CV2352 TD-45' L-10'	November 8, 2023	No reading
CV2353	November 8, 2023	1200 ppm
CV2342A	November 8, 2023	669 ppm

TVA/IRwin Field Measurement Data

Flag	Time	EPA Reading	EPA Inspector	SCS Reading	Location Description	LAT	LON
1	11/8/23	3100 ppm	SC	N/A	CV-2303	Data Not Available	
2	11/8/23	672 ppm	SC	N/A	H1769A H-17	Data Not Available	
3	11/8/23	1216 ppm	SC	N/A	H1964C	Data Not Available	
4	11/8/23	No reading	SC	N/A	TC-2385N	Data Not Available	
5	11/8/23	No reading	SC	N/A	H1754N	Data Not Available	

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6	11/8/23	No reading	SC	N/A	H-67	Data Not Available	
7	11/8/23	No reading	SC	N/A	CV-2304	Data Not Available	
8	11/8/23	No reading	SC	N/A	CV-2302	Data Not Available	
9	11/8/23	No reading	SC	N/A	CV-100	Data Not Available	
10	11/8/23	300 ppm	SC	N/A	H-1753S	Data Not Available	
11	11/8/23	No reading	SC	N/A	H-1758N	Data Not Available	
12	11/8/23	No reading	SC	N/A	H-1563N	Data Not Available	
13	11/8/23	No reading	SC	N/A	H1962S TD-92' L-65'	Data Not Available	
14	11/8/23	No reading	SC	N/A	W1757N	Data Not Available	
15	11/8/23	No reading	SC	N/A	CV2340 TD-52' L-31'	Data Not Available	
16	11/8/23	1900 ppm	SC	N/A	CV2339	Data Not Available	
17	11/8/23	No reading	SC	N/A	H-1562N	Data Not Available	
18	11/8/23	No reading	SC	N/A	H1756N	Data Not Available	
19	11/8/23	34,400 ppm	SC	N/A	CV1532A	Data Not Available	
20	11/8/23	2200 ppm	SC	N/A	CV1532	Data Not Available	
21	11/8/23	No reading	SC	N/A	H1751S	Data Not Available	
22	11/8/23	9600 ppm	SC	N/A	CV1534A	Data Not Available	
23	11/8/23	No reading	SC	N/A	H1561C	Data Not Available	
24	11/8/23	812 ppm	SC	N/A	CV1534	Data Not Available	
25	11/8/23	No reading	SC	N/A	H1755N	Data Not Available	
26	11/8/23	1136 ppm	SC	N/A	CV2354 TD-50' L-7'	Data Not Available	
27	11/8/23	84000 ppm *flame out*	SC	N/A	TC-2382W	Data Not Available	

Facility Name: Waste Connections Chiquita Canyon Landfill

Facility Location: 29201 Henry Mayo Dr, Castaic, CA

Date of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024

28	11/8/23	No reading	SC	N/A	CV2352 TD-45' L-10'	Data Not Available	
29	11/8/23	1200 ppm	SC	N/A	CV2353	Data Not Available	
30	11/8/23	669 ppm	SC	N/A	CV2342A	Data Not Available	
A1	1/9/24 10:00	2200	GG	530	CV2303	34.43553	-118.64967
A2	1/9/24 10:24	789	GG	569		Data Not Available	
A3	1/9/24 10:31	2200	GG	640	CV2303	34.43553	-118.64967
A3	1/9/24 10:33	881	DJH	N/A	CV2303	34.434027	-118.65023
A4	1/9/24 10:36	1165	DJH	N/A		34.433835	-118.650126
A4	1/9/24 10:38	1100	GG	800		34.433835	-118.650126
A5	1/9/24 10:44	590	GG	620		34.433863	-118.650474
A5	1/9/24 10:44	439	DJH	N/A		34.433863	-118.650474
A6	1/9/24 10:50	1100	GG	1300	CV2342A	Data Not Available	
A7	1/9/24 10:51	653	DJH	1500	Near CV2353	34.434294	-118.650563
A7	1/9/24 10:51	507	SC	N/A		34.434067	-118.65014
A8	1/9/24 10:57	731	GG	1000	CV2353 along pipe	Data Not Available	
A8	1/9/24 10:58	741	SC	N/A	Header pipe between CV2353 and CV2342	34.434452	-118.650754
D1	1/9/24 10:58	1038	SC	3800	Up and down pipe	34.434435	-118.650422
A8	1/9/24 10:59	1083	SC	N/A	Header pipe between CV2353 and CV2342	34.434448	-118.650555
A8	1/9/24 11:06	863	SC	N/A	Header pipe between CV2353 and CV2342	34.43488	-118.650925
A9	1/9/24 11:09	840	GG	820	CV2352 whole area	34.444517	-118.65808
D2	1/9/24 11:09	1144	DJH	4000	Erosion area	34.435104	-118.650971
A9	1/9/24 11:13	1225	SC	N/A	Area near well CV2352	34.435187	-118.651085
D3	1/9/24 11:13	1999	DJH	940	Depression above CV2351	34.435216	-118.650984

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A10	1/9/24 11:15	8000	GG	1800	CV24141 whole area	Data Not Available	
D4	1/9/224 11:19	12206	DJH	2%	CV24143	34.435061	-118.651087
D4	1/9/24 11:20	7920	SC	N/A	CV24143	34.43501	-118.651158
D5	1/9/24 11:25	670	SC	N/A	CV24140	34.434693	-118.65104
D5	1/9/24 11:27	700	DJH	800	CV24140	34.434741	-118.650999
A11	1/9/24 11:31	773	GG	600	CV24139	34.434525	-118.650954
D6	1/9/24 11:31	703	SC	N/A	Area gas leak between CV2352 and CV24142	34.434409	-118.651155
D6	1/9/24 11:34	863	SC	N/A	Area gas leak between CV2352 and CV24142	34.434449	-118.65105
D8	1/9/24 11:36	1268	SC	N/A	Area gas leak near well H-2275B	34.434141	-118.651264
D8	1/9/24 11:38	1235	SC	N/A	Area gas leak near well H-2275B	34.434173	-118.651222
A12	1/9/24 11:40	1356	GG	1000	CV24138	Data Not Available	
D9	1/9/24 11:46	1715	SC	N/A		34.43388	-118.650871
D7	1/9/24 11:47	1993	DJH	800	CV1534A	34.433699	-118.650707
A13	1/9/24 11:48	7000	GG	7000	Flameout at H1751S	Data Not Available	
D10	1/9/24 11:50	674	SC	N/A		34.433735	-118.65071
S1	1/9/24 13:48	3000	DJH	1500	H-1568S	34.432465	-118.646927
G13	1/9/24 13:50	1456	GG	650	Base of Well H-2274B	34.432498	-118.646535
S2	1/9/24 13:59	610	DJH	550	Exposed waste	34.432302	-118.646464
G14	1/9/24 14:04	4500	GG	4600	Base of Well H-2275E	34.432406	-118.646236
S3	1/9/24 14:06	723	SR	800	Mulch, exposed waste, broader area (flags S3 and S5 consolidated here)	34.432045	-118.646187
G15	1/9/24 14:11	874	GG	520	Base of Well H17635	34.432408	-118.646087

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S4	1/9/24 14:13	1200	SR	555	Erosion under pipe	34.431949	-118.646484
G16	1/9/24 14:20	990	GG	900	Long 9 inch diameter pipe between wells H17635 and H17645	34.432388	-118.645875
G17	1/9/24 14:23	10810	GG	10000	Base of well H17645	34.43237	-118.645734
S6	1/9/24 14:26	1944	SR	1100	H-1571S	34.432138	-118.645254
S7	1/9/24 14:27	2000	DJH	1000	CV-1604	34.432161	-118.64505
G18	1/9/24 14:30	947	GG	974	Base of well H1764S and H19616	34.432147	-118.645386
S8	1/9/24 14:32	700	SR	1700	H1572S	34.432163	-118.644736
S9	1/9/24 14:49	2400	DJH	1400	CV1602S (abandoned well)	34.431302	-118.647638
G19	1/9/24 14:51	3094	GG	6800	Base of well H1408	34.431412	-118.647566
S10	1/9/24 14:55	800	DJH	600	Gully, broader area	34.431341	-118.648116
G20	1/9/24 15:00	900	GG	2200	Base of well H2272C	34.431622	-118.648375
G21	1/9/24 15:04	1000	GG	978	Base of well H216A	34.431806	-118.648648
S11	1/9/24 15:07	1500	DJH	900	Gully with exposed waste, exceedances up and down gully	34.432016	-118.649629
G22	1/9/24 15:09	1113	GG	1169	Base of well H2274B	34.432339	-118.648968
S12	1/9/24 15:11	899	SR	1160	Pipe sunk into ground with exposed waste, by CV2348	34.432166	-118.64956
G23	1/9/24 15:14	1235	GG	2700	Base of well H2275W	34.432233	-118.649368
S13	1/9/24 15:18	15246	SR	1%	Well 2345	34.432731	-118.650116
G24	1/9/24 15:21	4991	GG	5184	Between wells H1450 and H17575	34.432649	-118.649715
S14	1/9/24 15:24	1700	DJH	792	Gully, multiple in area	34.433104	-118.650216
S15	1/9/24 15:25	2365	SR	1500	H-1770S	34.43314	-118.650126

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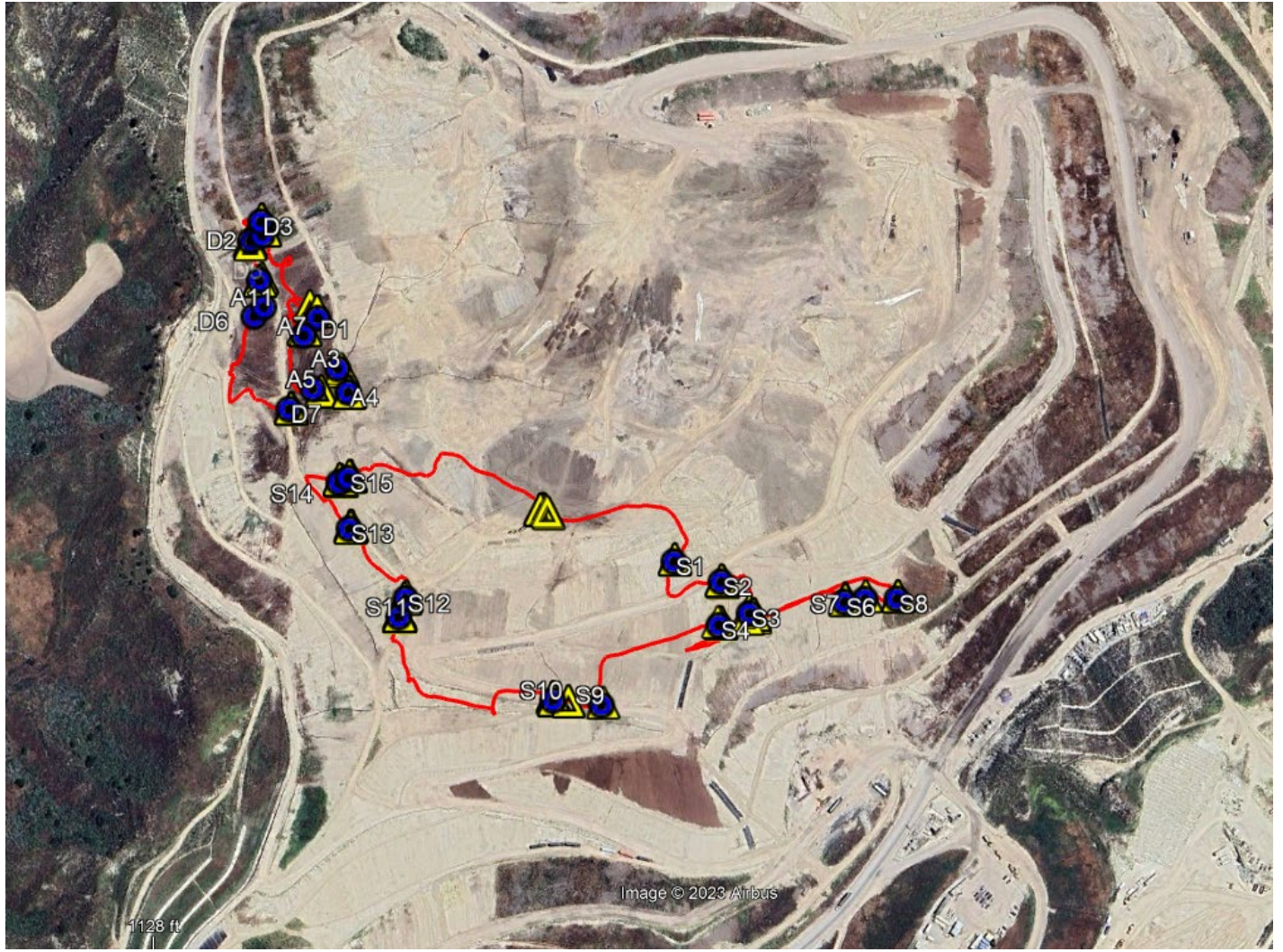


FIGURE 1: IRWIN 438: SURFACE EMISSIONS MONITORING PATH WITH MONITORED EXCEEDANCES AND IDENTIFIERS, 1/9/24

Facility Name: Waste Connections Chiquita Canyon Landfill

Facility Location: 29201 Henry Mayo Dr, Castaic, CA

Date of Inspection: November 2, 2023, November 8, 2023, January 9, 2024, and January 18, 2024



FIGURE 2: IRWIN 439: SURFACE EMISSIONS MONITORING PATH WITH MONITORED EXCEEDANCE CONCENTRATIONS, 1/9/24