CalRecycle
Solid Waste Enforcement Section
Alternative Daily Cover
2014 Investigation

Summary

At CalRecycle's December 17, 2013 Monthly Meeting information was presented regarding the amounts of Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC) reported through the Disposal Reporting System (DRS). The information was presented on a facility basis and included ratios of the amount of ADC material used at facilities and the amount of waste disposed at facilities in 2012. The ratios ranged between 0.1% to 494% (ADC reported as used / waste disposed). The overall state average ratio was 18%.

Waste Permitting, Compliance and Mitigation Division, Solid Waste Enforcement Section (SWES) staff were asked to investigate the wide range in ratios to determine if the higher ratios might indicate potential overuse of ADC.

Staff selected a sample of fifteen (15) facilities to investigate. The investigations started in February 2014 and concluded in June 2014. Staff review focused on ADC use during 2012. Staff also reviewed onsite records for 2013 to assist in assessing compliance on the day of the inspection as well as identifying trends and anomalies. Of the facilities in the sample only two was found to have overused ADC during 2012.

In the course of their investigations into overuse, staff identified record keeping errors and misreporting issues that may have contributed to the reported high ratios.

Background

Public Resources Code (PRC) Section 41781.3 established that ADC and other waste materials beneficially used at landfills constitute diversion through recycling. Title 27 Section 20690(a)(7) states that "Waste derived materials used as alternative daily cover shall be restricted to quantities no more than necessary to meet the performance requirements…". Section 20690(b)(1)-(11) specifies conditions for use and application of the eleven ADC materials, including in many cases the maximum, minimum, and average thickness of applied ADC materials. All requests to use ADC or AIC must be reviewed and approved by the Local Enforcement Agency prior to being implemented. Prior to requesting approval to use types of ADC not defined in regulation, as well as all types of AIC, require the successful completion and approval of a site-specific demonstration project by the Local Enforcement Agency and CalRecycle. All solid waste facility operators are required to report, under Title 14 California Code of Regulations (CCR) § 18810.9, the total tons of each type of ADC, AIC, and materials used at their facilities from the jurisdiction(s) that generated the material being used.

Investigation Methodology

SWES staff selected 15 facilities to investigate. The investigation included 13 facilities with the highest ratios of ADC used to waste disposed and two (2) facilities that had ratios in the "expected range" to help ensure the evaluation methodology was standardized. Staff used the "expected range" of *soil* cover to waste ratios recommended by the Solid Waste Association of North America, Inc. (SWANA). SWANA's technical policy T- 9.2 2013 recommends a 20%-25% *soil* cover to waste ratio. The majority of the sites in the sample reported higher than an expected range of ADC used to waste disposed, the 15 facilities had ratios of ADC used to waste disposal from 494% to 16.7%.

The table below shows the 15 facilities selected for investigation and their percentages of reported total ADC used as well as processed green material ADC used in relation to the total waste disposed in 2012

Ratio of ADC Used to Waste Disposed, DRS Report 2012

Destination Facility	Disposal Tons	ADC Total	Total ADC % of Disposal	Processed Green Material ADC % of Disposal
Zanker Material Processing Facility (43-AN-0001)	3,827.00	18,921.34	494.4%	0.0%
Walker Landfill (26-AA-0001)	69.00	274.23	397.4%	363.9%
Azusa Land Reclamation Co. Landfill (19-AA-0013)	89,142.00	94,997.56	106.6%	0.0%
L and D Landfill (34-AA-0020)	96,362.87	67,660.55	70.2%	34.8%
Potrero Hills Landfill (48-AA-0075)	392,982.00	242,663.32	61.7%	4.9%
City Of Watsonville Landfill (44-AA-0002)	30,343.00	16,885.00	55.6%	0.0%
Rock Creek Landfill (05-AA-0023)	31,100.00	15,946.00	51.3%	34.4%
Vasco Road Sanitary Landfill (01-AA-0010)	229,323.00	110,988.79	48.4%	0.0%
Scholl Canyon Landfill (19-AA-0012)	210,512.00	91,551.19	43.5%	43.5%
Simi Valley Landfill & Recycling Center (56-AA-0007)	662,618.00	280,207.14	42.3%	0.0%
Clover Flat Landfill (28-AA-0002)	26,688.00	8,736.85	32.7%	0.0%
Pebbly Beach (Avalon) Disposal Site (19-AA-0061)	2,909.00	852.76	29.3%	22.7%
Calabasas Sanitary Landfill (19-AA-0056)	197,403.00	56,526.51	28.6%	28.6%
Pumice Valley Landfill (26-AA-0003)	1,010.00	286.88	28.4%	23.5%
Olinda Alpha Sanitary Landfill (30-AB-0035)	1,551,026.00	259,409.36	16.7%	16.7%

As part of the investigation staff reviewed DRS records, the solid waste facility permit, previous inspection reports, applicable sections of the Report of Disposal Site Information (RDSI), and other relevant documents (such as ADC demonstration project reports).

Staff inspected facilities to determine the size of the working face, how ADC was applied, how ADC materials were stockpiled. When appropriate, test holes were dug to determine the depth of ADC.

Information was collected regarding the average size of the working face, on variations of how ADC is applied, the blending of materials, and the use of more than one ADC at a time.

During each inspection, staff conducted a detailed review of the operating records including the following: The types and amounts of ADC and AIC material accepted at the site; waste disposal tonnages; and ADC/AIC/beneficial reuse records. Records on site were compared with information provided in the 2012 DRS Report.

Four sites were not inspected by SWES for this investigation. Information for these sites were taken from past inspections and through interviews with the Local Enforcement Agency and the site operators. Site records for these sites were obtained from the operator and the Local Enforcement Agency.

As needed, follow-up interviews were conducted with the operators and/or the Local Enforcement Agencies in order to acquire additional records, and to better understand identified discrepancies in the records. Staff compared facility landfill records with records that had been provided for DRS reports. At each landfill, SWES staff reviewed tonnage records for waste disposed, ADC/AIC, material beneficially reused, clean soil, contaminated soil, and the amount of material recycled and removed from the site. The type of ADC used at each facility and the regulatory application thickness is listed below.

Types of ADC used at each Landfill in 2012 and Regulatory Limits

	Processed Green Material	Treated Auto Shredder Waste	Processed C&D Waste	Sludge	Shredded Tires	Ash & Cement Kiln Dust	Compost Materials
Regulatory minimum and average thickness listed in inches per CCR 20690	6 min. 12 avg.	6 min. 24 avg.	6 min. 18 avg.	6 min. 12 avg.		6 min. 12 avg.	6 min. 12 avg.
Landfill (LF)--SWIS#							
Azusa (19-AA-0013)			X				
Calabasas (19-AA-0056)	X						
Watsonville (44-AA-0002)			X				
L and D (34-AA-0020)	X		X	X	X		
Potrero Hills (48-AA-0075)	X	X	X	X			
Pumice Valley (26-AA-0003)	X		X				
Rock Creek (05-AA-0023)	X				X	X	
Scholl Canyon (19-AA-0012)	X						
Simi Valley (56-AA-0007)		X	X				
Vasco Road (01-AA-0001)		X	X	X		X	
Walker (26-AA-0001)	X		X				
Zanker Material (43-AN-0001)			X				
Clover Flat (28-AA-0002)				X			
Olinda Alpha (30-AB-0035)	X						
Pebbly Beach (19-AA-0061)							x

Findings

General

SWES staff determined two facilities overused ADC in 2012, two facilities reported to DRS incorrectly but also had unclear practices around beneficial reuse and/or unapproved cover, six facilities were found to have problems with onsite site record keeping and tracking of materials and/or had made DRS reporting errors, and the remaining five facilities were not found to have any record keeping or reporting errors.

A comparison of on-site landfill records with the 2012 DRS reports noted several types of record keeping and/or reporting problems. These problems include:

- Facilities report to DRS the material *received* for ADC. There were facilities that were found not to use all of this material received as ADC, some examples include:
    - Material received and reported as ADC was processed onsite to remove material for recycling and not tracked or subtracted from the incoming ADC total, resulting in incorrect reporting,
    - Material reported as ADC was used for erosion control, or beneficial reuse,
    - Material reported as ADC in one reporting period was not used until the following reporting period giving the impression that a larger amount of ADC was used in the first reporting period;

- Facilities found to not to be using a correct conversion factor from cubic yards to tons when calculating the amount of ADC used;

- Facilities applying unapproved ADC. ADC can only be used if approved for use at a facility. Material used as cover that is not approved for use at a facility is considered disposed and should not be reported as ADC;

- Facilities were found to be including clean soil mixed with ADC as part of the total amount of ADC reported as received.

The requirements for the use of ADC set specific minimum, maximum, and average thickness for many of the materials types. The requirements do not set limits on the annual ratio of ADC used to waste disposed. There are a number factors that can affect the ratio of ADC used to waste disposed from site to site. These factors include: the allowed maximum thickness varies from 12 inches to 24 inches; the density of the ADC material; the frequency of use; amount of waste disposed; the area of the working face; and the waste in place density.

Facility Details

The following includes specific information for each facility included in the investigation. Staff findings from a comparison of 12 landfill onsite records with the 2012 DRS are summarized below. Records from 3 sites were not readily available at the time of the investigation (Clover Flat Landfill, Pebbly Beach (Avalon) Disposal Site, and Olinda Alpha Sanitary Landfill).

2012 landfill onsite records and percentage difference from DRS records

Landfill (LF)--SWIS#	2012 Disposal (tons)				2012 ADC (tons)			
	LF Records	DRS Records	Tonnage Difference	Percentage Difference	LF Records	DRS Records	Tonnage Difference	Percent Difference
Zanker (43-AN-0001)	4,149.66	3,827.00	322.66	8%	19,541.77	18,921.34	620.43	**3%**
Walker (26-AA-0001)	69	69	0	0%	273	274	1	**0%**
Azusa (19-AA-0013)	103,134.57	89,142.00	13,992.57	15%	0	94,997.56	94,997.56	**100%**
L and D (34-AA-0020)	96,362.98	96,362.87	.11	0%	67,710.75	67,660.55	50.2	**0%**
Potrero Hills (48-AA-0075)	395,919.50	392,982.00	2,937.50	0%	242,664.37	242,663.32	1.5	**0%**
Watsonville (44-AA-0002)	30,343	30,343	0	0%	5,242	16,885	11,636	**69%**
Rock Creek (05-AA-0023)	31,100.35	31,100.00	.35	0%	14,232.21	15,946.00	1713.79	**10%**
Vasco Road l (01-AA-0010)	221,178.76	229,323.00	8,144.24	3%	107,242.75	110,998.79	3,756.04	**3%**
Scholl Canyon (19-AA-0012)	213,180.02	210,512.06	2,667.96	1%	89,736.06	91,551.19	1815.13	**1%**
Simi Valley (56-AA-0007)	662,618.16	662,618.00	0.16	0%	150,778.04	280,207.14	129,429.1	**46%**
Calabasas (19-AA-0056)	197,404.00	197,404.00	0	0%	56,517.56	56,524.00	6.44	**0%**
Pumice (26-AA-0003)	1,129	1,129	0	0%	287	287	0	**0%**

Pebbly Beach (Avalon) Disposal Site (SWIS #19-AA-0061)

The Pebbly Beach Landfill is located in Avalon, CA in Los Angeles County. The facility is permitted to receive a maximum 49 tons of waste per day. The facility typically uses tarps, compost, and sludge as ADC. ADC to waste disposed in 2012 was reported to be a total of 29.3%. Processed green material as ADC to waste disposed in 2012 was 22.7%.

However, the facility misreported the ADC as processed green material instead of compost. The facility records noted and the operator confirmed that all green waste is composted on site and all material composted onsite is used as ADC. Since compost and sludge makes up the majority of the ADC cover, the facility appears to be potentially over the 25% limits as per PRC Section 42245. As per PRC Section 42245, "…The 25 percent limit shall apply on a quarterly basis to the total daily and intermediate cover or cover extender use. For the purposes of the section, landfill cover extenders shall mean compost, co-compost, or chemically fixed sewage sludge blended or mixed with soil." Since the facility uses tarps as ADC, additional inspection is needed to determine if the use of tarps and compost adequately reflect compliance of the regulations.

Based on the site inspection and DRS record review, staff found that during the 2012 reporting period, ADC had been applied in a manner inconsistent with regulations with regards to compost and sludge that potentially resulted in overuse of ADC. Direct observation by staff found that ADC depth was in compliance.

Clover Flat Landfill (SWIS# 28-AA-0002)
Clover Flat Landfill is located in Napa County on Silverado Trail Road in Calistoga. The facility is permitted for a maximum of 600 tons per day. The facility primarily uses tarps but also uses sludge as ADC. ADC to waste disposed in 2012 was reported to be 32.7%. Staff found that sheet rock received at the landfill was included in the amounts reported as ADC, but not used as ADC. The sheet rock was sent off site for recycling and reuse.

Based on the site inspection and record review, errors in reporting were found but no indication of overuse was found.

Olinda Alpha Sanitary Landfill (SWIS# 30-AB-0035)
Olinda Alpha Sanitary Landfill is located in Orange County on North Valencia Avenue in Brea. The facility is permitted for a maximum of 8,000 tons of waste per day. The facility typically uses tarps and processed green material as ADC. ADC to waste disposed in 2012 was reported to be 16.7%. All of the reported ADC was processed green material.

Based on record review, past inspection reports, and interviews with the Local Enforcement Agency, no indication of overuse was found.

City of Watsonville Landfill (SWIS# 44-AA-0002)
The City of Watsonville Landfill is located on San Andreas Road in south Santa Cruz County. The facility is permitted for a maximum of 275 tons of waste per day. The site typically uses tarps or processed construction and demolition wastes and material as ADC. ADC to waste disposed in 2012 was reported to be 55.6%.

The record review found that the facility accepted 50,000 cubic yards of clean soil from a dredging project in 2012 and reported the soil as ADC. The soil was used as cover and stockpiled as material for use on site and not disposed.

Based on the site inspection and record review, errors in reporting were found, but no indication of overuse was found.

Azusa Land Reclamation County Landfill (SWIS # 19-AA-0013)
The Azusa Land Reclamation County Landfill is located in Los Angeles County on West Gladstone Avenue, in Azusa. The facility is permitted for a maximum of 6,500 tons of waste per day. ADC to waste disposed in 2012 was reported to be 106.6%.

The facility reported 94,997 tons of construction and demolition waste and material used as ADC for the first quarter of 2012. A review of onsite records showed that no ADC was used at the facility for the same period. Onsite records indicate that the construction and demolition material

received at the site may have been used on site but not as cover. Staff, could not determine the amount or type of cover used on site. The Local Enforcement Agency is working with the operator on a revision to the permit that will address issues with record keeping.

Based on the current records, CalRecycle cannot make a finding relative to ADC use at the site.

Simi Valley Landfill & Recycling Center (SWIS# 56-AA-0007)

Simi Valley Landfill and Recycling Center is located in Ventura County on Madera Road, in Simi Valley. The facility is permitted for a maximum of 9,250 tons of waste per day. The site typically uses either tarps, construction and demolition waste and material, or treated auto shredder waste. ADC to waste disposed in 2012 was reported to be 42.3%.

Simi Valley reported contaminated sediment as ADC in 2012. The material received at the site was not contaminated sediment but was (non-hazardous) contaminated soil. Contaminated sediments as defined in Title 27 CCR Section 20690(7) can be considered ADC. Pursuant to Title 27 CCR Section 20680, (non-hazardous) contaminated soil is a type of earthen material. As an earthen material, contaminated soil can be used as cover but is not considered an ADC.

Based on staff record review, past inspection reports, and interviews with the Local Enforcement Agency errors in reporting were found, but no indication of overuse was found.

Walker Landfill (SWIS# 26-AA-0001)

The Walker Landfill is located in Mono County on Offal Road in Walker, CA. The facility is permitted for a maximum of 500 tons of waste per year, not to exceed 80 tons per day. The facility typically uses processed green material mixed with soil and construction and demolition waste and material as ADC. The facility has been approved to implement an alternative cover frequency. The facility must cover all waste at least once every 90 days. ADC to waste disposed in 2012 was reported to be 397% total, all but 33.1% was processed green material.

Interviews with the operator indicated that some of the material reported as ADC in 2012 was used on site as beneficial reuse or was transferred off site to be recycled. The material which was not used as ADC, and was used on site or sent off site, was not subtracted from the amount of material reported as used as ADC. This could not be verified through a review of the onsite records.

Based on staff record review, past inspection reports, and interviews with the operator, errors in reporting were found, but no indication of overuse was found.

Pumice Valley Landfill (SWIS # 26-AA-0003)
The Pumice Valley Landfill is located in Mono County on Dross Road in Lee Vining, CA. The facility is permitted for a maximum of 4 tons of waste per day. The facility typically uses processed green material mixed with soil and construction and demolition waste and material as ADC. The facility has been approved to implement an alternative cover frequency. The facility must cover all waste at least once every 90 days. ADC to waste disposed in 2012 was reported to be 28.4% total. Processed green material received as ADC to waste disposed in 2012 was 23.5%.

Interviews with the operator indicated that some of the material reported as ADC in 2012 was used on site as beneficial reuse or was transferred off site to be recycled. The material which was not used as ADC and was used on site or sent off site, was not subtracted from the amount of material reported as used as ADC. This could not be verified through a review of the onsite records.

Based on staff record review, past inspection reports, and interviews with the operator, errors in reporting were found, but no indication of overuse was found.

L and D Landfill (SWIS # 34-AA-0020)
The L and D Landfill is located on Fruitridge Road in Sacramento. The facility is permitted for a maximum of 4,125 tons of waste per day. The facility typically uses processed green material, construction and demolition waste and material as ADC. ADC to waste disposed in 2012 was reported to be 70.2% total, approximately half was processed green material.

Record review and site inspections found that 4,711 tons of the amount of ADC reported for 2012 was used on site but not as ADC. Some of the material received and reported as ADC in 2012 was stockpiled and was applied as ADC after 2012. Some of the stockpiled material is to be used as alternative intermediate cover and as a foundation layer for final cover.

Based on the site inspection and record review, errors in reporting were found, but no indication of overuse was found.

Calabasas Sanitary Landfill (SWIS #19-AA-0056)
Calabasas Sanitary Landfill is located in Los Angeles County on Lost Hills Road in Agoura, CA. The facility is permitted for a maximum of 3,500 tons of waste per day. The site typically uses processed green material for ADC. ADC to waste disposed in 2012 was reported to be 28.6%, all of which was processed green material.

To monitor for compliance with ADC requirements, the operator periodically performs “pothole” testing to check the thickness of applied processed green material. Records of these tests were reviewed by staff, and the average depth of the applied processed green material was found to be in compliance. Staff also checked the depth of the applied ADC during their investigation and found that the depth was in compliance.

Based on the site inspection, that included direct measurement of the depth of ADC used, and record review no indication of overuse was found.

Scholl Canyon Landfill (SWIS #19-AA-0012)

Scholl Canyon Landfill is located in Los Angeles County on Scholl Canyon Road in Glendale, CA. The facility is permitted for a maximum of 3,400 tons of waste per day. The site typically uses processed green material for ADC. ADC to waste disposed in 2012 was reported to be 43.5%, all of which was processed green material.

To monitor for compliance with ADC requirements, the operator periodically performs "pothole" testing to check the thickness of applied processed green material. Records of these tests were reviewed by staff, and the average depth of the applied processed green material was found to be in compliance.

Based on the site inspection, and record review no indication of overuse was found.

Potrero Hills Landfill (SWIS #48-AA-0075)

Potrero Hills Landfill is located in Solano County on Potrero Hills Lane in Fairfield. The facility is permitted for a maximum of 4,330 tons of waste per day. The site typically uses either treated auto shredder waste, construction and demolition waste and material, processed green waste, or sludge for alternative daily cover. ADC to waste disposed in 2012 was reported to be 61.7%. Processed green material received as ADC to waste disposed in 2012 was 4.9%. CalRecycle could not make a finding as to why the percentage of ADC use was high as compared to waste disposed.

Based on the site inspection, that included direct measurement of the depth of ADC used, and record review, no indication of overuse was found.

Rock Creek Landfill (SWIS #05-AA-0023)

Rock Creek Landfill is located in Calaveras County on Hunt Road in Milton, CA. The facility is permitted for a maximum of 500 tons of per day. The site typically uses processed green material and ash material as ADC. ADC to waste disposed in 2012 was reported to be 51.3% all but 19.9% was processed green material.

Staff's investigation found that processed green material is weighed when received. The operator measures the volume of ADC used each day. The conversion factor used to determine the tons of ADC used was not correctly calibrated resulting in an over estimate of approximately 25% for the amount of processed green material applied and reported as ADC.

Additionally, processed wood waste and ash were layered as ADC. The layering of the materials had not been previously approved by the Local Enforcement Agency. The facility was also using ash material as alternative intermediate cover without previous approval from the Local

Enforcement Agency. Material used as cover that is not approved for use at a facility is considered disposed and should not be reported as ADC.

Based on the site inspection and record review, errors in reporting, and use of unapproved ADC, CalRecycle cannot make a finding relative to ADC use at the site. Staff did evaluate the depth of ADC on the date of the inspection and found that the depth and use of ADC was in compliance.

Vasco Road Sanitary Landfill (SWIS #01-AA-0001)
Vasco Road Sanitary Landfill is located in Alameda County on North Vasco Road in Livermore. The facility is permitted for a maximum of 2,250 tons of waste per day. The site typically uses treated auto shredder waste mixed with sludge as ADC. ADC to waste disposed in 2012 was reported to be 48.4%.

The separated materials used as ADC are weighed when received. The operator measures the volume of the mixture of ADC materials used each day. It could not be determined during the investigation if the conversion factors used were appropriate.

Based on the site inspection, that included direct measurement of the depth of ADC used, and record review, no indication of overuse was found.

Zanker Material Processing Facility (SWIS #43-AN-0001)
Zanker Material Processing Facility is located in Santa Clara County on Los Esteros Road, San Jose. The facility is permitted for a maximum of 350 tons of waste per day. The site typically uses processed construction and demolition waste and material for ADC. ADC to waste disposed in 2012 was reported to be 494.4%.

According to the record review and interviews with the operator, staff determined that for a period of time in 2012, ADC was applied on days when no waste had been received and disposed.

Based on the site inspection and record review, staff found that during a period of time in 2012 ADC had been applied in a manner inconsistent with regulations that resulted in an overuse of ADC. Staff did evaluate the depth of ADC on the day of the inspection and found that the depth and use of ADC was in compliance.

Conclusions

Staff's investigation did not find evidence of pervasive overuse of ADC. The investigation did find a number of issues with record keeping and reporting. The issues associated with record keeping and reporting resulted in incorrect amounts of reported ADC used in 2012. These errors were primarily due to failure to adequately track ADC material. In most cases, the misreporting accounted for the extremely high percentages of ADC to disposal ratios. Staff believe that the

primary reasons for the issues with record keeping and reporting are due to misunderstandings or misinterpretations of requirements.

For the facilities that showed higher than expected ratios which could not be attributed to recording keeping or reporting errors, the high ratios may be a result of factors such as high ADC density, low waste disposed tonnages, as well as inefficient waste compaction.

Next Steps

- CalRecycle staff will develop educational outreach materials directed toward facility operators, and Local Enforcement Agencies to address misunderstanding and misinterpretations of record keeping and reporting requirements.
- CalRecycle will develop new reports and tools for internal use and on the web site to better track and display ADC patterns and usage.
- The next State Minimum Standards Training for Local Enforcement Agencies and solid waste facility operators scheduled for Fall 2014 will include training on record keeping requirements as well as operational requirements for the use of ADC. The training will utilize the methods and information generated from the ADC investigations.
- SWES staff will enhance their focus on the evaluation of ADC use and record keeping during CalRecycle's future 18-month landfill inspections, and may conduct audits of randomly selected landfills for focused ADC investigations, if warranted.