COMMUNITY MONITOR COMMITTEE
Altamont Landfill Settlement Agreement

*** The Public is Welcome to Attend***

AGENDA

DATE: **Wednesday, April 11, 2018**
TIME: **4:00 p.m.**
PLACE: City of Livermore
Maintenance Services Center
3500 Robertson Park Road

1. Call to Order
2. Introductions
3. Roll Call
4. Approval of Minutes (From January 17, 2018)
5. Open Forum — This is an opportunity for members of the audience to comment on a subject not listed on the agenda. No action may be taken on these items.
6. Matters for Consideration

   6.1 Responses to Committee Member Questions:
   - **Mitigation Land Proximity to ALRRF**
   - **Description of Buttonwillow Facility**
   - **Hazardous Waste Facility Locations**

   6.2 Status of Wetland Mitigation
   6.3 Five-Year Permit Review
   6.4 Review of Reports Provided by ALRRF
   6.5 Review of Documents on GeoTracker web site
   6.6 Reports from Community Monitor
   6.7 2017 Draft Annual Report
   6.8 Altamontcmc.org Web Site Ease of Use
   6.9 Announcements (Committee Members)

7. Agenda Building

   This is an opportunity for the Community Monitor Committee Members to place items on future agendas.

8. Adjournment

   The next regular Community Monitor Committee meeting is scheduled to take place at 4:00 p.m. on **July 11, 2018** at 3500 Robertson Park Road, Livermore.

Informational Materials:

- Community Monitor Roles and Responsibilities
- List of Acronyms
- Draft Minutes of January 17, 2018
- Reports from ESA and subcontractors

www.altamontcmc.org

VOTING MEMBERS

Robert Carling
City of Livermore

Jerry Pentin
City of Pleasanton

Donna Cabanne
Sierra Club

David Tam
Northern California Recycling Association

NON-VOTING MEMBERS

Audrey Lundin
Waste Management Altamont Landfill and Resource Recovery Facility

Arthur Surdilla / Wing Suen
Alameda County

Robert Cooper
Altamont Landowners Against Rural Mismanagement (ALARM)

STAFF

Judy Erlandson
City of Livermore
Public Works Manager

City of Livermore
TDD (Telecommunications for the Deaf)
(925) 960-4104

PURSUANT TO TITLE II OF THE AMERICANS WITH DISABILITIES ACT (CODIFIED AT 42 UNITED STATES CODE SECTION 12101 AND28 CODE OF FEDERAL REGULATIONS PART 35), AND SECTION 504 OF THE REHABILITATION ACT OF 1973, THE CITY OF LIVERMORE DOES NOT DISCRIMINATE ON THE BASIS OF RACE, COLOR, RELIGION, NATIONAL ORIGIN, ANCESTRY, SEX, DISABILITY, AGE OR SEXUAL ORIENTATION IN THE PROVISION OF ANY SERVICES, PROGRAMS, OR ACTIVITIES. TO ARRANGE AN ACCOMMODATION IN ORDER TO PARTICIPATE IN THIS PUBLIC MEETING, PLEASE CALL (925) 960-4586/4582 (VOICE) OR (925) 960-4104 (TDD) AT LEAST 72 HOURS IN ADVANCE OF THE MEETING.

The Community Monitor Committee Agenda and Agenda Reports are prepared by City staff and are available for public review on the Thursday prior to the Community Monitor Committee meeting at the Maintenance Service Center, located at 3500 Robertson Park Road, Livermore. The Community Monitor Committee Agenda is available for public review at the Maintenance Service Center, 3500 Robertson Park Road, Livermore, and on the Community Monitor Committee web site, http://www.altamontcmc.org.

Under Government Code §54957.5, any supplemental material distributed to the members of the Community Monitor Committee after the posting of this Agenda will be available for public review upon request at 3500 Robertson Park Road., Livermore or by contacting us at 925-960-8000.

If supplemental materials are made available to the members of the Community Monitor Committee at the meeting, a copy will be available for public review at the Maintenance Service Center, at 3500 Robertson Park Road, Livermore.

Community Monitor Committee Roles and Responsibilities

Below is a summary of the duties and responsibilities of the Community Monitor Committee and related parties as defined by the Settlement Agreement between the County of Alameda, the City of Livermore, the City of Pleasanton, Sierra Club, Northern California Recycling Association, Altamont Landowners Against Rural Mismanagement, and Waste Management of Alameda County, Inc. The purpose of this document is to aid in determining if discussion items are within the scope of the Community Monitor Committee.

Community Monitor Committee's Responsibilities
Under Settlement Agreement section 5.1.2, the CMC is responsible for supervising and evaluating the performance of the Community Monitor as follows:

A. Interviewing, retaining, supervising, overseeing the payment of, and terminating the contract with the Community Monitor;

B. Reviewing all reports and written information prepared by the Community Monitor; and

C. Conferring with the Community Monitor and participating in the Five Year Compliance Reviews (next due in 2015) and the Mid-Capacity Compliance Review (due when the new cell is constructed and capacity is close to 50%, unlikely to occur before 2028) (Condition number 6 of Exhibit A of the Agreement).

Community Monitor's Responsibilities
The Community Monitor supplements and confirms the enforcement efforts of the County Local Enforcement Agency. The Community Monitor is primarily responsible for:

A. Reviewing any relevant reports and environmental compliance documents submitted to any regulatory agency (sections 5.7.1, 5.7.2, and 5.7.3);

B. Advising the public and the Cities of Livermore and Pleasanton about environmental and technical issues relating to the operation of the Altamont Landfill via the CMC (section 5.7.4);

C. Presenting an annual written report summarizing the Altamont Landfill's compliance record for the year to the CMC and submitting the report to Alameda County and the Cities of Livermore and Pleasanton (section 5.7.5);

D. Notifying the County Local Enforcement Agency and Waste Management of Alameda County of any substantial noncompliance findings or environmental risk (section 5.7.6);

E. Monitoring and accessing the Altamont Landfill site and conducting inspections (section 5.7.7);

F. Counting trucks arriving at the Altamont Landfill (section 5.7.8); and

G. Reviewing waste testing data and source information (section 5.7.9).

Waste Management of Alameda County's Responsibilities
Per the settlement agreement, Waste Management is responsible for:

A. Paying for the services of the Community Monitor, based on an annual cost estimate (section 5.3.3).

B. Paying an additional 20% over the annual cost estimate if warranted based on "credible evidence" (section 5.3.3).

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List of Acronyms

Below is a list of acronyms that may be used in discussion of waste disposal facilities. These have been posted on the CMC web site, together with a link to the CIWMB acronyms page: http://www.ciwmb.ca.gov/LEACentral/Acronyms/default.htm. [1]

Updates will be provided as needed. This list was last revised on April 4, 2017.

Agencies
ACWMA – Alameda County Waste Management Authority
ANSI – American National Standards Institute
ARB or CARB – California Air Resources Board
ASTM – American Society for Testing and Materials
BAAQMD – Bay Area Air Quality Management District
CDFG or DFG – California Department of Fish and Game
CDRRR – California Department of Resources Recycling and Recovery, or CalRecycle
CIWMB – California Integrated Waste Management Board (predecessor to CDRRR – see above)
CMC – Community Monitor Committee
DWR – Department of Water Resources
LEA – Local Enforcement Agency (i.e., County Environmental Health)
CVRWQCB, RWQCB or Water Board – Central Valley Regional Water Quality Control Board, unless otherwise noted.
SWRCB – State Water Resources Control Board

Waste Categories
C&D – construction and demolition
CDI – Construction, demolition and inert debris
FIT – Fine materials delivered to the ALRRF, measured by the ton.
GSET – Green waste and other fine materials originating at the Davis Street Transfer Station, for solidification, externally processed.
GWRGCT – Green waste that is ground on site and used for solidification or cover (discontinued January 2010)
GWSA – Green waste slope amendment (used on outside slopes of the facility)
MSW – Municipal solid waste
RDW – Redirected wastes (received at ALRRF, then sent to another facility)
RGC – Revenue generating cover

Water Quality Terminology
IDL – Instrument Detection Limit – The smallest concentration of a specific chemical, in reagent grade water, that can be detected, with 99% confidence, with the detection instrument (e.g. the mass spectrometer).
MCL – Maximum Contaminant Level – The legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act.
MDL – Method Detection Limit – The smallest concentration of a specific chemical, in a sample that contains other non-interfering chemicals, that can be detected by the prescribed method, including preparatory steps such as dilution, filtration, digestion, etc.
RL – reporting limit: in groundwater analysis, for a given substance and laboratory, the concentration above which there is a less than 1% likelihood of a false-negative measurement.

Substances or Pollutants
ACM – asbestos-containing material
ACW – asbestos-containing waste
ADC – Alternative Daily Cover. For more information: http://www.ciwmb.ca.gov/lgcentral/basics/adcbasic.htm[1]
BTEX – benzene, toluene, ethylbenzene, and xylene (used in reference to testing for contamination)
CH4 – methane
CO2 – carbon dioxide
DO – dissolved oxygen
HHW – household hazardous waste

[1] This link may need to be typed into your search bar to work correctly.

LFG – landfill gas
LNG – liquefied natural gas
MEK – methyl ethyl ketone
MIBK – methyl isobutyl ketone
MTBE – methyl tertiary butyl ether, a gasoline additive
NMOC – Non-methane organic compounds
NTU – nephelometric turbidity units, a measure of the cloudiness of water
TCE - Trichloroethylene
TDS – total dissolved solids
TKN – total Kjeldahl nitrogen
TSS – Total Suspended Solids
VOC – volatile organic compounds

Documents
CCR – California Code of Regulations (includes Title 14 and Title 27)
CoIWMP – County Integrated Waste Management Plan
CUP – Conditional Use Permit
JTD – Joint Technical Document (contains detailed descriptions of permitted landfill operations)
MMRP – Mitigation Monitoring and Reporting Program
RDSI – Report of Disposal Site Information
RWD – Report of Waste Discharge
SRRE – Source Reduction and Recycling Element (part of CoIWMP)
SWPPP – Stormwater Pollution Prevention Plan
WDR – Waste Discharge Requirements (Water Board permit)

General Terms
ALRRF – Altamont Landfill and Resource Recovery Facility
ASP – Aerated Static Pile composting, which involves forming a pile of compostable materials and causing air to move through the pile so that the materials decompose aerobically.
BGS – below ground surface
BMP – Best Management Practice
CASP – Same as ASP, above; but the “C” denotes that the pile is covered.
CEQA – California Environmental Quality Act
CQA – Construction Quality Assurance (relates to initial construction, and closure, of landfill Units)
CY – cubic yards
GCL – geosynthetic clay liner
GPS – Global Positioning System
IC engine – Internal combustion engine
LCRS – leachate collection and removal system
LEL – lower explosive limit
mg/L – milligrams per liter, or (approximately) parts per million
µg/L – micrograms per liter, or parts per billion
PPE – personal protective equipment
ppm, ppb, ppt – parts per million, parts per billion, parts per trillion
RAC – Reclaimable Anaerobic Composter – a method developed by Waste Management, Inc., to place organic materials in an impervious containment, allow them to decompose anaerobically, and extract methane during this decomposition.
SCF – Standard cubic foot, a quantity of gas that would occupy one cubic foot if at a temperature of 60°F and a pressure of one atmosphere
SCFM – standard cubic feet per minute, the rate at which gas flows past a designated point or surface
STLC – Soluble Threshold Limit Concentration, a regulatory limit for the concentrations of certain pollutants in groundwater
TTLC – Total Threshold Limit Concentration, similar to STLC but determined using a different method of analysis
TPD, TPM, TPY – Tons per day, month, year
WMAC – Waste Management of Alameda County

COMMUNITY MONITOR COMMITTEE
Altamont Landfill Settlement Agreement
Minutes of January 17, 2018

DRAFT

1. Call to Order
The meeting was called to order at 4:00 p.m.

2. Roll Call

Members Present:	Jerry Pentin; Robert Carling; Arthur Surdilla; David Tam; Marcus Nettz II, ALRRF
Absent:	Donna Cabanne, Sierra Club; Robert Cooper, Altamont Landowners Against Rural Mismanagement
Staff:	Judy Erlandson, City of Livermore Public Works Department; Kelly Runyon, Community Monitor
Others:	Marisa Gan, City of Livermore

3. Introductions
Those in attendance introduced themselves.

4. Approval of Minutes
Approval of the October 2017 minutes was moved by Mr. Tam and seconded by Mr. Carling. The minutes were approved by all voting members present (3-0).

5. Open Forum
There was no Open Forum discussion.

6. Matters for Consideration

6.1 Responses to Committee Member Questions
Mitigation Land Proximity to ALRRF: Mr. Runyon explained that the proximity requirement recalled by Ms. Cabanne would be triggered if the US Fish and Wildlife Service were to require off-site habitat mitigation, but the USFWS has not done so.
Possible Causes for Occurrence of Naphthalene: Mr. Runyon gave several examples of agricultural uses of naphthalene that could result in naphthalene being present in soil near a monitoring well at the ALRRF.
Description of Buttonwillow Facility: Mr. Runyon summarized the location, recent history and permit status of this permitted hazardous waste facility. In discussion, Mr. Tam asked about the relative locations of the Buttonwillow, Coalinga and Kettleman Hills facilities.

Chairperson Pentin asked that the first and third items above be continued to the next Committee meeting, so that Ms. Cabanne could discuss them if desired.

6.2 Reporting Requirements for Wetland Mitigation

Mr. Runyon gave a verbal summary of the wetland mitigation requirements, pointing out that two types of mitigations are required: (1) a replacement wetland and (2) channel enhancement to increase habitat value. Mr. Carling asked how the rebuilt pond would be protected from the siltation problems that affected the pond previously. In response, Mr. Nettz stated that to address this concern, the landfill used a group of consultants with stormwater system experience to redesign the pond and the upstream channels. Mr. Pentin asked if the five-year reporting "clock" would restart when the pond is rebuilt. Mr. Runyon stated that it would restart when the pond is rebuilt and is functioning as intended. He also noted that the County CUP conditions differ from the Federal and State agency requirements, possibly because the County had not updated their conditions to match. He asked if Waste Management staff could explain the difference. Mr. Nettz replied that the conditions developed with State Fish and Wildlife are governing the current process. Mr. Tam stated that he was impressed by the ALRRF's willingness to revisit their design and take further steps to comply.

6.3 Status of Five-Year Permit

Mr. Surdilla stated that his colleague, Wing Suen, is continuing to work on finalizing the LEA's permit document and is expecting to reach a conclusion soon, possibly before the mid-April Committee meeting.

6.4 Review of Reports Provided by ALRRF

Mr. Runyon discussed the one report received in the last quarter, which was the hydroseeding specifications for the Evapotranspirative (ET) Cover test area. He noted that appropriate native species are listed, and he stated that although the Community Monitor's role is not to evaluate the design, he made note of several concerns while reviewing information regarding this design, due to issues that had arisen in other ET cover projects. Mr. Tam asked if ALRRF staff would like to discuss these, at this or future meetings. Mr. Nettz replied that the ET cover design team had put considerable thought into the project, and he was not in a position to speak for them. Mr. Runyon stated that he had stated his concerns in the interest of helping the project to succeed, not to be critical of the design. Mr. Carling expressed some concern about the difficulty of monitoring for weed growth. Mr. Nettz responded that the ET Cover system is a major investment for the ALRRF, with a significant potential economic savings, so the company intends to take the necessary steps to manage the test area for weed control.

6.5 Review of Documents on GeoTracker Web Site

Mr, Runyon provided brief descriptions of each of the 11 topics currently being tracked, and he described new developments in those topics. Regarding the VOC's found in a new monitoring well, Mr. Carling expressed concern about the apparent contamination of some groundwater samples during sampling or analysis, and about the quality of the analytical lab. Regarding the soil gas monitoring requirements, Mr. Tam expressed interest in whether the ALRRF is being examined more closely than other disposal sites. Mr. Nettz responded that due to the size of the ALRRF and some of its innovative features, his opinion is that the ALRRF does receive special attention from regulators. Mr. Carling asked why there is concern that a soil gas probe could affect water quality. Mr. Runyon responded that if the gas probe contacted groundwater, it could conduct contaminants to the groundwater. Regarding the use of underdrain water as compost quench water, Mr. Nettz stated that due to the Water Board's very labor-intensive requirement to submit a separate Report of Waste Discharge for this use, the ALRRF is not pursuing it at this time. Also, Mr. Runyon provided a finding from the Local Enforcement Agency to the effect that the LEA and CalRecycle do not have regulations that bear on this issue. Regarding contamination at monitoring well MW-4, Mr. Runyon mentioned that he had recently heard from ALRRF that the concentrations of VOC's have been diminishing there. Mr. Carling asked for more detail about this issue. Mr. Nettz replied that the ALRRF has a good idea of the cause and is working with the Water Board to convey both the suspected cause and the appropriate course of action.

6.6 Reports from Community Monitor

Mr. Runyon summarized inspection results from October – December, and monthly tonnage data received for September – November. He pointed out that volumes of revenue generating cover, especially Class 2 cover soil, were very high during this period. Mr. Nettz then explained that as parts of Fill Area 1 are reaching final grade, the landfill needs large quantities of soil that is free of rocks; but the native soil at the landfill is very rocky. He stated that these high delivered volumes are likely to continue, in order to meet this need. Mr. Runyon also mentioned the large number of birds in the CASP curing area, and Mr. Nettz explained that the curing area will cease to attract birds when CASP operations begin. Mr. Runyon then noted the high number of dump truck overturns at the beginning of this quarter, and he described measures taken by the landfill to reduce this risk. Mr. Nettz provided additional information on the problems sometimes caused by these trucks.

Mr. Runyon also noted the decline in soil deliveries in November, and Mr. Nettz mentioned that this was in part due to a lack of large dump trucks, which were instead removing debris from the Sonoma / Napa October wildfire areas.

In discussing the graphs of tonnage provided in this item, Mr. Runyon pointed out that there had been a surge in disposed tonnage from the city of Newark in August, September and October, which was reflected in the monthly total tonnage from Newark and the monthly tonnage of special wastes disposed. Mr. Nettz explained that these tons came from a large construction project that needed to dispose of contaminated soil, but it was not from the salt pond restoration work also taking place in Newark.

6.7 Draft Annual Report

Mr. Tam noted, for future reference, that mention of the single-use plastic bag ban would be a relevant addition to sections 1.3 and/or 1.5.1.5 of the report.

Mr. Carling expressed interest in the long-term effects of China's recently enacted policies to reduce contamination in recyclables. He also pointed out that in Oregon, state regulators are relaxing some prohibitions against the landfilling of potential recyclables.[1]

Mr. Runyon stated that he could take further comments on the Annual Report after the meeting if they are routed through Ms. Erlandson.

6.8 Meeting Times and Dates

After some discussion, the date of the April meeting was left at April 11, provided a quorum is available then. As a fallback, April 25 was suggested as an alternative. Subsequent 2018 meeting dates were also left unchanged.

6.9 Announcements

No announcements were made.

7. Agenda Building

No additional items were suggested.

8. Adjournment

The meeting was adjourned at 5:19 p.m.

[1] For further information, Committee members can visit this web page: http://www.oregon.gov/deq/mm/Pages/Recycling-Markets.aspx#item2 and click "How is this ban affecting Oregon…?"

memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.1 - Responses to Committee Members' Questions

Mitigation Land Proximity to ALRRF

At the October 11, 2017 Community Monitor Committee meeting, in discussion of the possible need to provide wetland mitigation off site, Ms. Cabanne recalled that the Settlement Agreement contained a condition requiring the use of lands on or near the ALRRF site for mitigation, and she asked that this condition be identified.

Condition #16 in the ALRRF's Conditional Use Permit C-5512, adopted in 2000, contains the language in question. It begins:

> The operator shall set aside a total of 750 acres for biological habitat mitigation and buffer area…
>
> Land Dedication for Habitat Preserve. To the extent that off-site habitat mitigation is required by the United States Fish and Wildlife Service ("FWS"), the operator will enter into a Conservation Agreement with FWS and the Livermore Area Recreation Park District and/or the East Bay Regional Park District regarding the acquisition, operation and maintenance of a Habitat Preserve (the "Preserve") <u>in the Altamont or other suitable area in eastern Alameda County</u>. The operator's requirement for multi-species off-site mitigation acreage shall be met by the operator by the dedication of public open space <u>in the Altamont or other suitable area in eastern Alameda County</u>…
>
> (emphasis added)

This condition is triggered if "off-site habitat mitigation is required" by the FWS. The permit documents that we have reviewed, including the 82-page Biological Opinion from the FWS, do not contain such a requirement. All of the relevant Federal and State regulatory agencies accepted the use of the 991.6 acre Conservation Plan Area as adequate for mitigation purposes, without requiring mitigation off site. Moreover, the California Department of Fish and Wildlife has approved the use of the Cosumnes Floodplain Mitigation Bank for channel mitigation and has informed the Army Corps and FWS of its approval, in a December 6, 2017 email.

Description of Buttonwillow Facility

At the October 11, 2017 Committee meeting, when it was reported that hazardous material removed from the ALRRF was delivered to the "Buttonwillow facility", Ms. Cabanne asked for a description of this facility.

The Clean Harbors Buttonwillow hazardous waste disposal facility is a 320-acre site about 8 miles west of the town of Buttonwillow, in western Kern County. It is permitted to receive, store, treat and dispose (by landfilling) various types of hazardous wastes. It was first permitted as a Class II oily waste disposal site in 1982. After several changes in ownership and owner names, it was upgraded to a hazardous waste disposal facility in 1994 operated by Safety-Kleen, Inc. In 2002, it was acquired by Clean Harbors Buttonwillow LLC, an affiliate of the hazardous waste disposal company Clean Harbors, Inc., which has operations across the US, including over 50 hazardous waste management facilities.

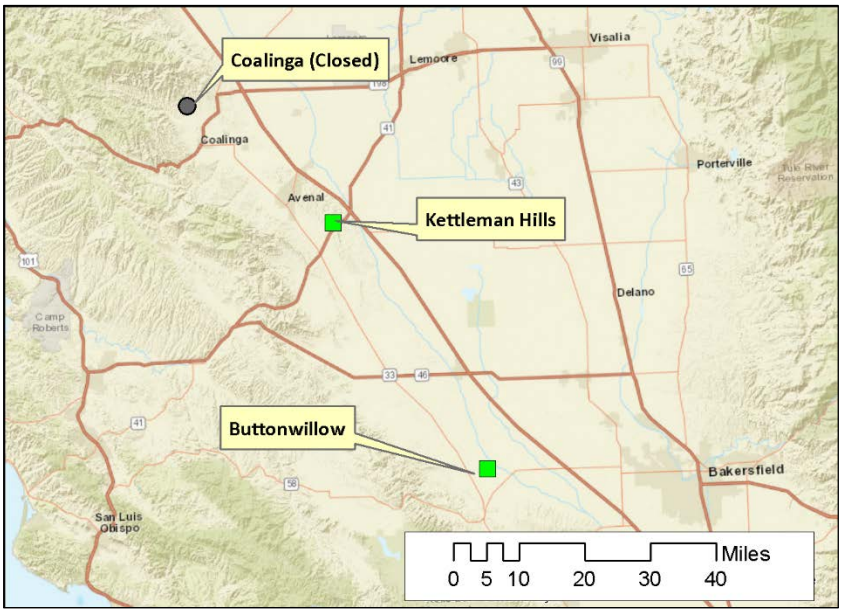
Because it is a disposal site in an area zoned for agriculture, it has a Conditional Use Permit from Kern County, and CEQA documents were prepared describing potential impacts and mitigations.

In December 2014, the facility obtained a modification to its Conditional Use Permit from the Kern County Board of Supervisors to construct and operate a new hazardous/ nonhazardous landfill unit at the site, and to accept and transfer a wider range of wastes. An addendum to its EIR was prepared at that time.

Since then, monthly inspections by the LEA and 18-month inspections by CalRecycle have found no violations or areas of concern. Documents posted by the Regional Water Board indicate that other than a minor exceedance of arsenic levels above background in the fourth quarter of 2016, there have been no groundwater quality issues since at least 2005.

Locations of Buttonwillow and Other Hazardous Waste Facilities

At the January 17, 2018 Committee meeting, in discussion of the Buttonwillow facility, Mr. Tam inquired about the locations of other hazardous waste facilities in the region, specifically, Coalinga and Kettleman Hills. The map below shows all three facilities. The Coalinga facility ceased operations in 1984 and was formally closed in 2007; it is in Fresno County. The Kettleman Hills facility continues to operate and is in Kings County. The Buttonwillow facility also continues to operate and is in Kern County.



memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.2 - Status of Wetland Mitigation

In February, construction work to rebuild the mitigation pond and its upstream channel was suspended until April due to wet conditions. Also, the projected time frame for the first placement of refuse in Fill Area 2 was postponed from mid 2018 to 2019.

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memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.3 - Five-Year Permit Review

As of March 28, the LEA is working to complete the review of the Joint Technical Document and related material applicable to the Five Year Permit Review of the ALRRF Solid Waste Facility Permit. The LEA is completing the directives for ALRRF as a result of the Five Year Permit Review.

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memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon, Michael Burns

subject CMC Meeting of 4/11/18 - Agenda Item 6.4 - Review of Reports Provided by ALRRF

Conservation Management Area Monitoring

No new reports on this topic have been provided since the status report from the lead environmental consulting team (Dudek) to ALRRF staff, dated August 9, 2017. That status report was reviewed in the Committee's October 2017 meeting.

Air Emissions Report

The most recent Semi-Annual Report to the Bay Area Air Quality Management District (BAAQMD) covers the period from June 1, 2017 through November 30, 2017. The key points from this document are:

- New gas wells brought on line – Seven new vertical gas wells, #734 - #740, were installed in the fall of 2017. By November 30, two of them (#734 and #735) were on line and producing gas.

- High Temperature wells – Several of the high-temperature wells noted in the prior report have cooled, and only one of the existing wells has increased in temperature to the point where it exceeds the 131F threshold. There is no indication of a subsurface fire.

- Recent gas well decommissions – During the reporting period, a total of 27 gas wells were decommissioned, i.e., shut down and disconnected from the gas extraction system. These wells had "aged out" and were not very productive; also, most of them were in areas that had a high concentration of productive wells.

- Surface emissions monitoring for the second quarter of 2017 took place in June; for the third quarter, it took place in late August and early September. In the second quarter, there were 14 exceedances of the 500 ppmv methane threshold; in the third quarter, that number rose to 74. It is common for the yearly maximum to occur in late summer or early fall, when the landfill surface has been dry for several months, and cracks form in the cover soil, allowing gas to escape. All of the corrective actions to block these emissions were successful and passed their 10-day and 30-day follow-up tests.

- Emission Control Devices Pass Source Tests – As noted in the previous report, all of the gas combustion devices (two internal-combustion engines, two turbines, and two flares) were source-tested in February, March and May for compliance with emission limits; all passed.

- Gas Extraction near Well E-20B - Throughout this monitoring period, the two small, shallow landfill gas wells near groundwater monitoring well E-20B were operated at a fairly high vacuum level, recovering low concentrations of methane but apparently not pulling in air from above the ground surface.

Figure 6.4-1 shows the amounts of landfill gas consumed by each of the gas-consuming devices at the ALRRF. As shown in the figure, the gas system was subjected to a number of unique incidents in this six-month period. These included:

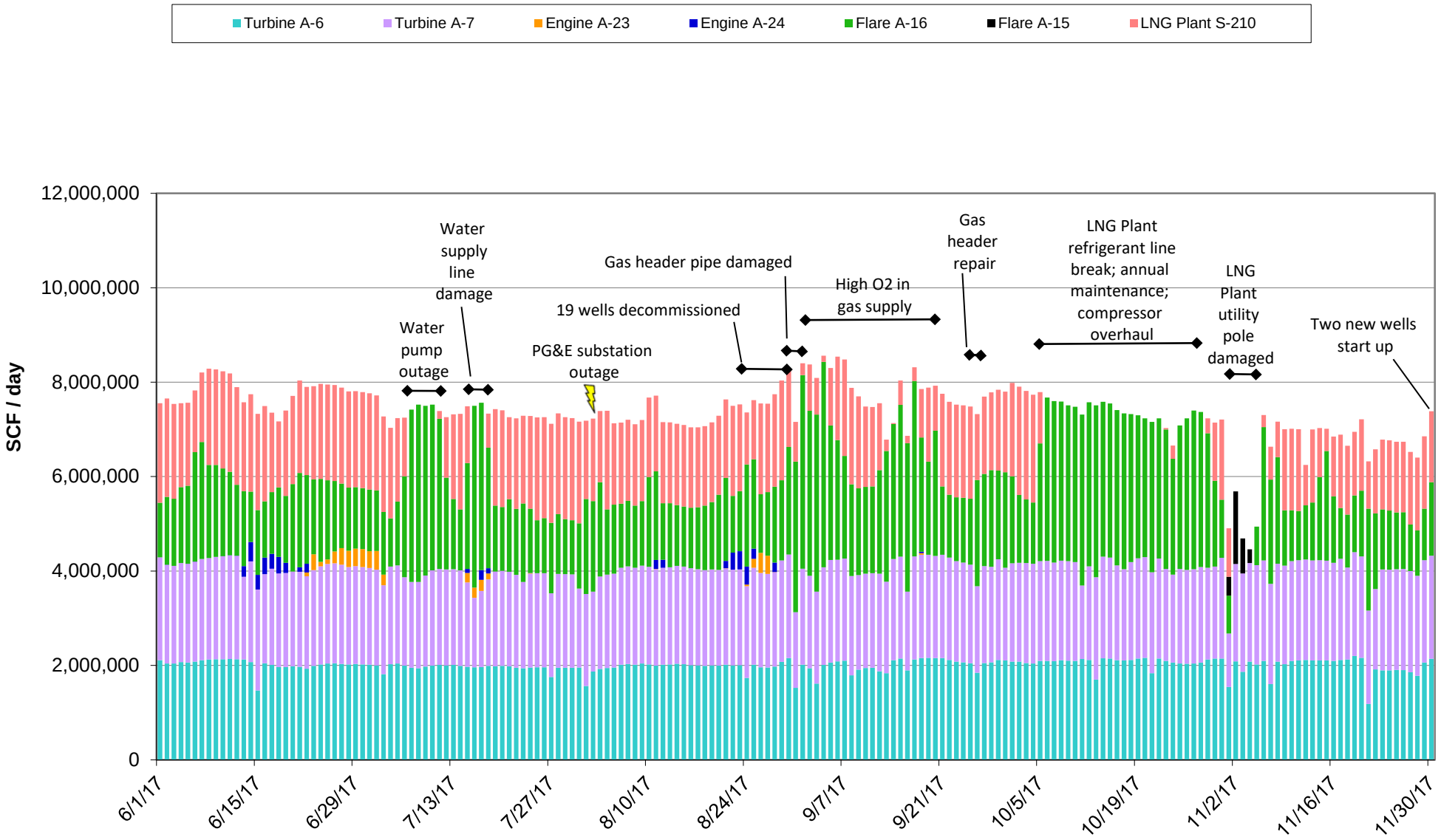
- A water pump outage that shut down the LNG plant for several days.
- A water supply line problem, causing a multi-day LNG outage, less than a week later.
- Damage to a large "header pipe" carrying landfill gas to the LNG plant. This interrupted the gas supply intermittently, and it apparently allowed some air to enter the gas stream, creating problems in extracting methane from the landfill gas.
- A break in a refrigerant line within the LNG plant.
- An oil leak in a compressor that required the compressor to be overhauled.
- Damage to a utility pole serving the LNG plant. This forced the shutdown of the LNG plant and the adjacent primary flare, for several consecutive days. During that time, efforts were made to use backup flare A-15 to consume gas, but various problems with that device limited its operation.

In addition, there was an unusually high number of interruptions to turbine operations, for maintenance needs and relatively minor problems that were quickly resolved.

A later section of this memo describes adjustments that were made to the gas collection system in an effort to reduce contaminants that have recently begun to appear in samples from groundwater monitoring well MW-4. This effort was not impacted by, nor did it cause, any of the problems described above.

In summary, the air emissions report indicates some unique difficulties in operating the landfill gas control systems, but these did not result in substantial new emissions or other environmental harm.

Figure 6.4-1 - ALRRF Daily LFG Flow
(values derived from Title V Report)



Second Semi-Annual / Annual 2017 Groundwater Monitoring Report

This report covers July through December of 2017. It identifies one new potential environmental risk, which is the occurrence of VOCs in repeated samples from groundwater monitoring well MW-4A, on the northeast side of the landfill. This issue, its suspected cause, and initial efforts to remediate it are discussed in the final section of this memorandum.

A technical review by Community Monitor team member *Langan Engineering and Environmental Services* is attached. It compares this Semi-Annual Report to prior reports and to the 2016 Waste Discharge Requirements for the site, to make note of any new developments or significant changes.

The Langan memo reviews recent data from wells where VOCs have been detected, and it discusses each of the three recent Notices of Violation from the Central Valley Regional Water Quality Control Board (Water Board):

- **19 October 2017: VOC detections in well MW-4.** Langan notes that shortly after the addition of new gas extraction wells at the edge of the landfill closest to MW-4, sampling in December 2017 found no VOCs in MW-4.

- **8 February 2018: Incompleteness of Jan – Jun 2017 Semiannual Report and concerns about purging techniques.** Langan notes that purging using slower flow rates, collecting purge data over longer intervals, and collecting depth measurements during purging would increase confidence that the samples accurately represent groundwater conditions at the wells in question.

- **16 February 2018: Disposal of load containing lead paint chips.** Langan took no position on this issue.

Langan's recommendation at the end of their review is:

> We recommend continuing review of groundwater, unsaturated zone, leachate, and stormwater data as it becomes available, and evaluating for trends in data, especially for groundwater monitoring wells where VOCs have previously been detected.

In addition, ESA staff carefully reviewed the trends in data from monitoring wells where VOCs have been detected, to evaluate the ALRRF's claim that VOC concentrations have been decreasing. A memo from Michael Burns of ESA is attached, discussing trends since 2005. It concludes as follows:

> In summary, the overall trends in VOC concentrations at groundwater monitoring wells E-07 and E-20B are decreasing to flat, with many detections at concentrations below the reporting limits. ALRRF's assertion that these concentrations are diminishing isn't entirely accurate, since the trend in several of the VOC concentrations has been essentially flat since 2011. However it appears that neither of these wells is indicating a new or worsening groundwater quality problem.

Possible Causes of Contamination at Well MW-4A

In addition to reviewing the semiannual reports described above, the ESA team has also conducted a limited independent review of the assertion, by the ALRRF and their consultant SCS Engineers, that landfill gas is causing

groundwater contamination by VOCs at wells E-20B and MW-4A. This review incorporates information from the groundwater and air quality reports discussed above. We have concluded that indeed, it is quite possible that the contaminants found in wells E-20B and MW-4 are attributable to landfill gas migration rather than contaminated groundwater.

The mechanism by which landfill gas might impact nearby groundwater has been studied scientifically by others, but reports in the open literature are few. Through internet-based searches, we have identified the following reports:

- Kerfoot, H.B. (1994) Landfill Gas Effects on Groundwater Samples at a Municipal Solid Waste Facility, Air & Waste, 44:11, 1293-1298, DOI: 10.1080/10473289.1994.10467323 https://doi.org/10.1080/10473289.1994.10467323
- Brady, W. (2007) Geochemical and Hydrologic Characterization to Identify the Source of Low Level Benzene in the Chicot Aquifer Groundwater, presented to the Baton Rouge Geological Society First Annual (2007) Louisiana Groundwater Symposium http://www.brgs-la.org/web-content/22EDD0.pdf
- Kerfoot, H.B., J. Baker and D. Burt (2004) Geochemical Changes in Ground Water Due to Landfill Gas Effects, Groundwater Monitoring and Remediation, 24:1, 60-65, https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1745-6592.2004.tb00705.x

These reports also cite prior research that provides a basic understanding of the effects of landfill gas on groundwater chemistry. We have applied the information within these documents, as well as our own experience with groundwater contamination issues, to consider the possible causes of VOC contamination in groundwater at well E-20B and, more recently, MW-4A.

Causes of VOCs in Groundwater

When previously-undetected VOCs occur in groundwater near a landfill, two probable causes are escaping landfill gas or escaping leachate. Each of these has a distinctive signature.

Fundamentally, leachate is water containing dissolved substances from within the landfill. The minerals dissolved in leachate typically are more concentrated than the same minerals in local groundwater. Leachate may also contain dissolved VOCs, but some VOCs are less water soluble than others.

Landfill gas (LFG) is a vapor that is primarily made up of methane, CO2 and water vapor. LFG also includes VOCs which are found within the landfill, derived either from materials deposited there (chemicals, oil, fuels, etc.) or from decomposition processes. LFG can contain VOCs that dissolve readily in water and some that do not. When LFG is extracted, its temperature at the well is typically between 100 and 130 degrees F. As it is piped from gas wells toward the turbines, engines and LNG plant at the ALRRF, it cools, and some of the vapors condense. This condensation concentrates many VOCs into a liquid that can be analyzed to identify which VOCs are present.

ALRRF Data

Monitoring data from the ALRRF provides examples of the VOCs found in leachate and in landfill gas condensate at the site. Table 6.4-1 below shows late-2017 data from a leachate collection system sump (LS-2), from the LFG condensate handling system, and from three groundwater monitoring wells at the site. Based on its history of very consistent data, well MW-11 data are provided to represent local background values. In contrast, wells E-20B and MW-4A are of concern because VOCs have been found in their samples.

Table 6.4-1 – Selected Constituents of Leachate, Landfill Gas Condensate and Groundwater Samples
(samples from end of 2017)

	Parameter	units	Leachate (Sump LS-2)	LFG Condensate	MW-11 (backg'd)	E-20B	MW-4A (Dec 7)
General Chemistry	pH		7.29	5.98	7.66	6.92	7.1
	Specific conductance	(micro-mhos/cm)	25,900	5,090	6070	1840	1700
	Bicarbonate Alkalinity	mg/l	2600	1400	530	780	550
	Chloride	mg/l	3500	640	480	340	140
	Magnesium	mg/l	1200	19	20	120	65
	Sodium	mg/l	2400	510	1600[1]	170	250
VOCs	Cis-1,2-Dichloroethene (DCE)	µg/l	<1	<150	<1	1.2	0.73
	1,4 Dichlorobenzene	µg/l	4.4	330	<1	0.17	<1
	MTBE	µg/l	<5	<250	<5	0.35	0.41
	Tert-butyl alcohol	µg/l	<5	28,000	<50	<50	<50
	Toluene	µg/l	2.2	180	<1	<1	<1

Examining the General Chemistry parameters in the top half of the table, it is evident that the monitoring well data are a better match for the LFG condensate than for the leachate. If leachate were reaching these monitoring wells, we could expect sharp rises in the dissolved minerals found in those samples. However, leachate plumes can contain VOCs that migrate more quickly than the bulk of the leachate, so that those VOCs are at the leading edge of the plume. In such a case, the water sample data would change over time, with faster-moving VOCs being detected first and other VOCs (typically with higher molecular weights) arriving months or years later. There is less than one year of data from MW-4, so it is too soon to know if this differential plume mechanism is occurring there. However, the data from E-20B extend back over 17 years, and those data do not indicate that "faster" VOCs arrived first at the well. In fact, one of the fastest-moving groundwater contaminants, MTBE, was not found at E-20B until eight years after sampling began to detect other VOCs.

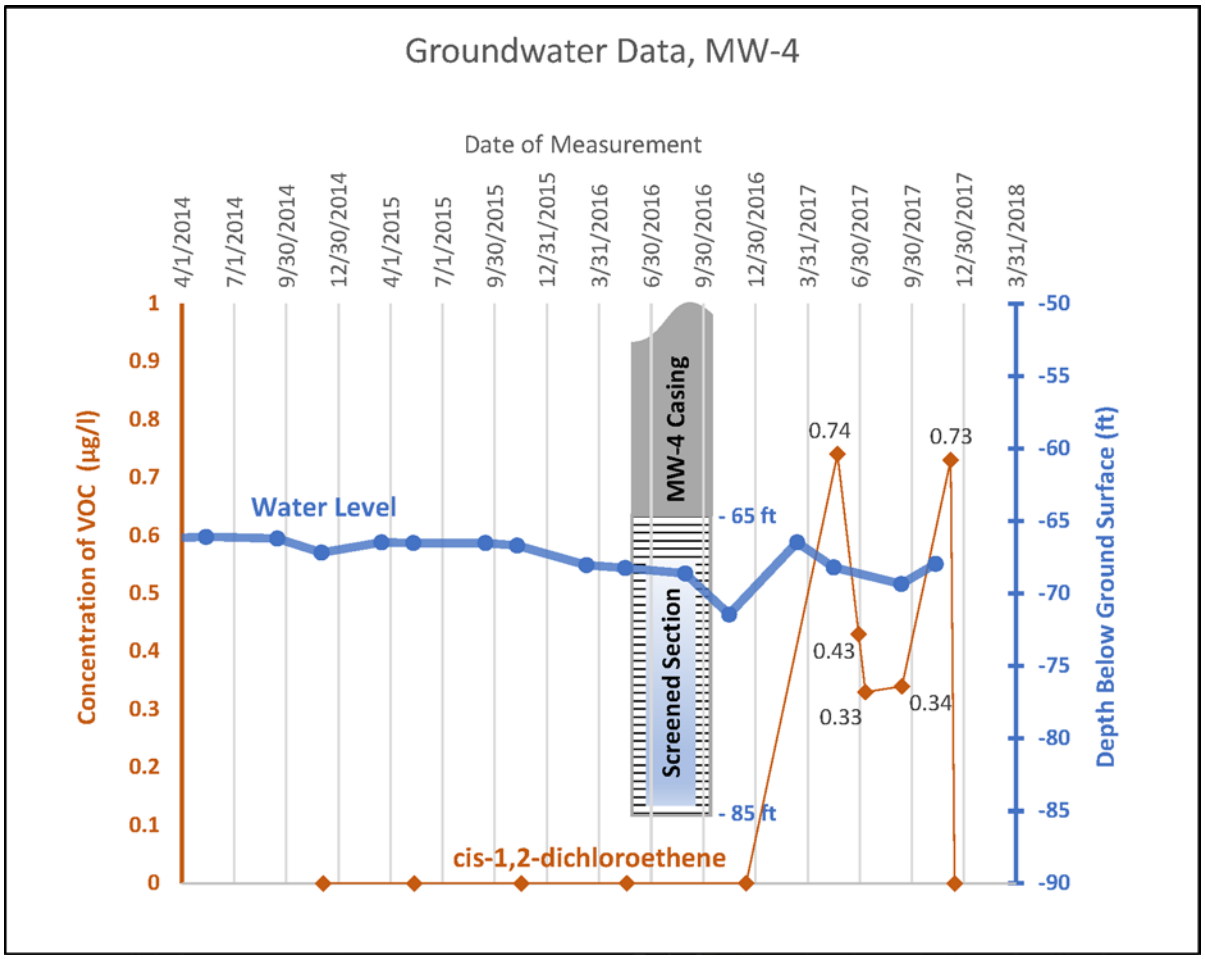
Changes in Groundwater Elevation a Possible Contributing Factor

There is also the timing of the MW-4 detections to consider. Why did they occur in 2017, after this well had been monitored, intermittently, since 2006? Kerfoot's 2004 paper, cited above, suggests an answer: if gas with VOCs were to enter the well, some of the VOCs would go into solution and would then be detected in a groundwater sample. As it happens, 2017 was an opportune year for that to occur, because in late 2016 groundwater levels were at historic lows, exposing much more of the screened section of the well – and the soil outside the well – to the empty space within the well. This could enable soil gas to diffuse into the well, and any entrained VOCs then could dissolve into the water within the well casing.

[1] This high value for sodium has been consistent at MW-11 since monitoring began in 2009.

Figure 6.4-2 below shows the concentrations of one of the VOC contaminants measured at MW-4. Also shown, on the same time scale, are the changes in groundwater elevation (using the right-hand axis), juxtaposed with a matching illustration of the screened section of the well.

Figure 6.4-2



Increasing Gas Extraction

The ALRRF has reported that it is addressing the contamination problem by increasing landfill gas withdrawal in the vicinity of MW-4. Gas well vacuum adjustment data show that gas well vacuums in that area have generally increased (shown by descending lines) through 2017 with significant increases occurring in April and October, as seen in Figure 6.4-3 below. The timing of the April and October vacuum increases coincides with two substantial drops in the concentration of cis-1,2-DCE as shown in Figure 6.4-2 above. Moreover, four additional LFG wells near MW-4 began operating in early December 2017, and the December MW-4 sample found no detectable VOCs. This indicates that improvements to the gas extraction system resulted in decreased VOC concentrations.

The locations of these gas wells relative to groundwater well MW-4 are shown in Figure 6.4-4 below. This map was clipped from the gas system map in the mid-2017 Title V report. Colored boxes added to the map match the colors of the vacuum graph lines in Figure 6.4-3. The green dots indicate where three of the four additional wells were installed in late 2017.

Figure 6.4-3

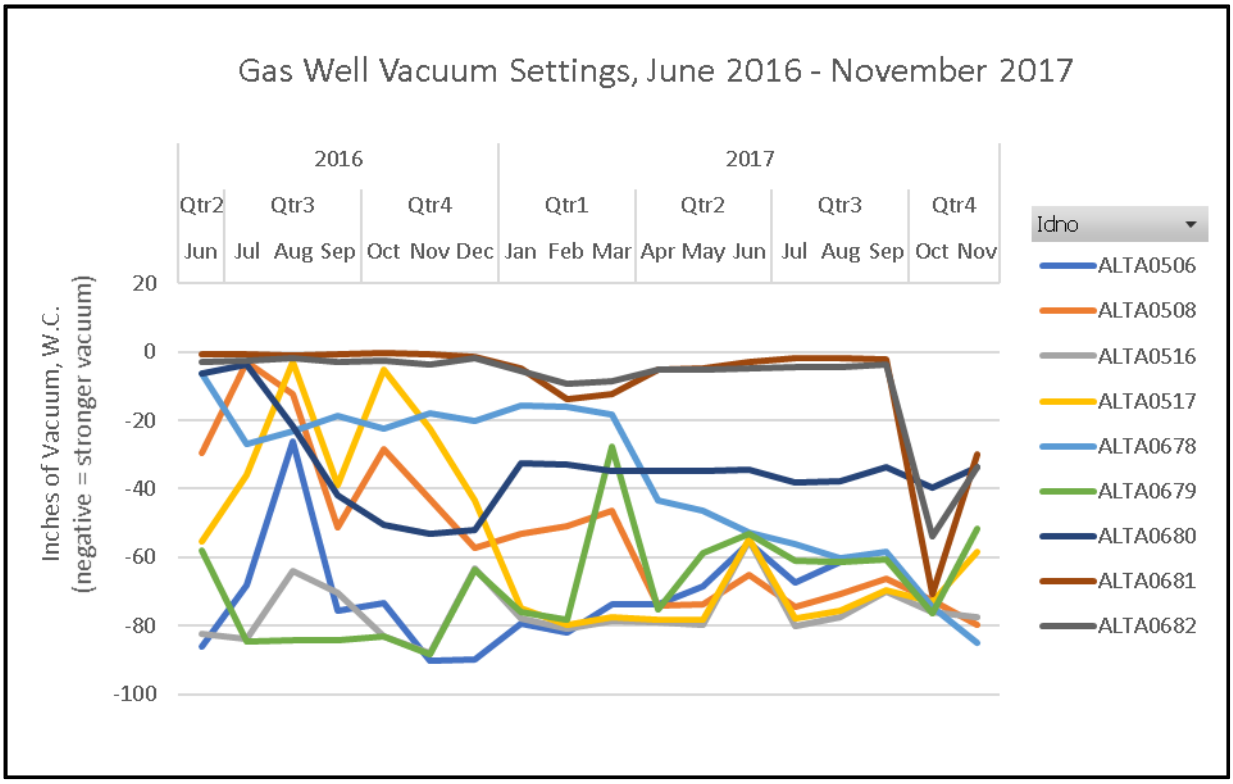
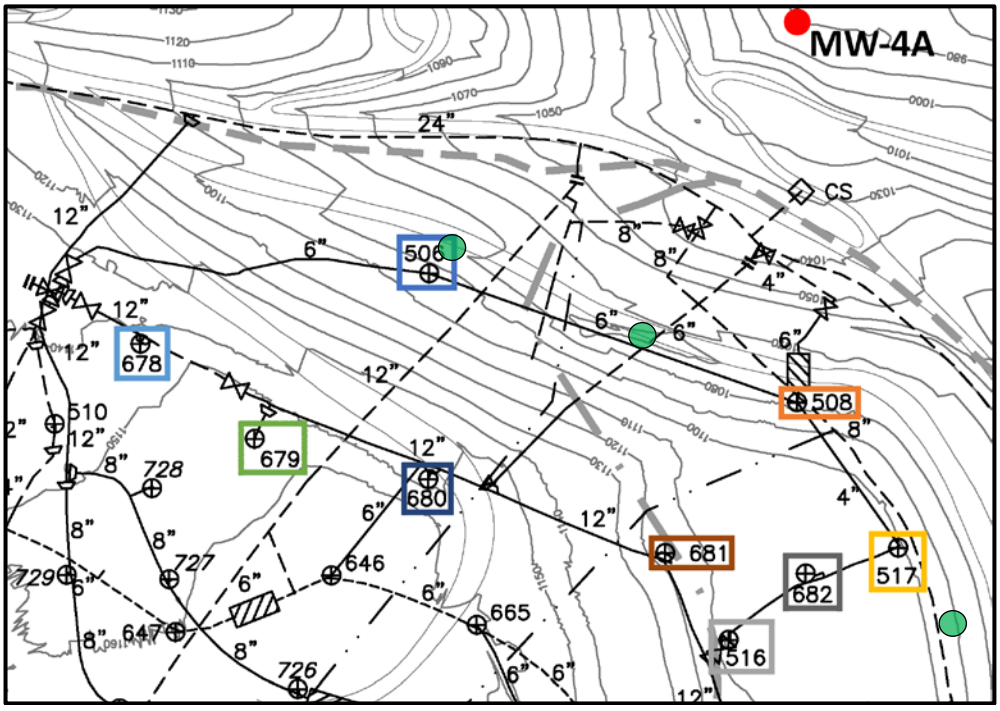


Figure 6.4-4
Groundwater Well MW-4A and Nearby Gas Well Locations



Conclusion

Although the source of VOCs in MW-4 has not been confirmed yet, it is quite possible that the contaminants found in wells E-20B and MW-4 are attributable to landfill gas migration rather than contaminated groundwater. However, providing satisfactory proof to the Water Board presents its own set of challenges. One way to address the question would be to sample and analyze both the water *and the gases above the water* in the wells or in surrounding soil. Within the well, if the concentrations of VOCs above the water are higher than the equilibrium value for the concentrations found in the groundwater, then this suggests that the VOCs in the water are being introduced at the well by soil gases entering through the well screen. However, this also suggests that landfill gas is moving beyond the perimeter of the active area at the landfill, and this could raise concern at other regulatory agencies. Moreover, vapor or soil gas sampling and analysis at very low concentrations is a highly technical and costly exercise with numerous potential causes of error or uncertainty. If adjustments to the gas system can eliminate this source of contaminants, such testing should not be needed.

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LANGAN

Memorandum

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TO: Kelly Runyon
Michael Burns, ESA

FROM: Mukta Patil, PE, Project Engineer
Dorinda Shipman, PG, CHG, Principal

DATE: 29 March 2018

PROJECT: Altamont Landfill and Resource Recovery Facility (ALRRF)
Livermore, California
Langan Project: 750477407

SUBJECT: Groundwater and Storm Water Analysis for Community Monitor Progress Report #21

Langan Engineering and Environmental Services (Langan) has reviewed hydrogeologic data for the Altamont Landfill and Resource Recovery Facility (ALRRF) located near Livermore, California. The work and resulting data was conducted by SCS Engineers, and presented in the following report:

- SCS Engineers, Second Semiannual-Annual 2017 Groundwater Monitoring Report, Altamont Landfill and Resource Recovery Facility (WDR Order Nos. R5-2016-0042 and R5-2016-0042-1), Long Beach, California dated 1 February 2018.

The report addresses the monitoring and reporting requirements of the Central Valley Regional Water Quality Control Board (Water Board) Waste Discharge Requirements (WDR) Order No. R5-2016-0042 and Monitoring and Reporting Program (MRP), adopted on 27 October 2016 issued for the ALRRF, which is owned and operated by Waste Management of Alameda County, Inc. This memorandum describes the results of the above effort and provides Langan's opinions and recommendations for the Community Monitor Committee (CMC). The report was reviewed for issues described in previous CMC meeting minutes and for potential trends in groundwater analytical data over recent years.

No waste has been placed in Fill Area 2 and ALRRF anticipates Phase I of Fill Area 2 may begin receiving wastes in 2019. The second semiannual 2017 groundwater sampling activities for Fill Area 1 and Fill Area 2 were conducted September - December 2017. Wells associated with future Fill Area 2 are monitored on a semiannual basis to establish baseline conditions. Wells and monitoring points were generally found to be in compliance during the Second Semiannual 2017 sampling event.

Second Semiannual 2017 Groundwater Sampling Results

Detection and Corrective Action Well Inorganic and Volatile Organic Compound Concentrations

The 2016 MRP identifies two sets of corrective action wells: 1) well E-20B along the east side of Fill Area 1 and downgradient (detection) well MW-12, and 2) wells E-05 and E-07 in the main canyon south of Fill Area 1 and their downgradient (detection) well E-03A. Based on the analytical results of the second semiannual monitoring event, detected concentrations of inorganic compounds remain stable in the detection and corrective action wells sampled. Volatile organic compounds (VOCs) not attributable to laboratory cross contamination were detected in five wells, as indicated in the table below. At these well locations, the VOCs detected and the respective concentrations were similar to historical data.

	Acetone	2-Butanone	Chlorobenzene	1,4-Dichlorobenzene	Cis-1,2-dichloroethene	1,1,-Dichloroethane	1,1,-Dichloroethene	1,2,-Dichloropropane	Dichlorodi-fluoromethane	Dichloro-flouromethane	Diethyl ether	Methylene Chloride	Methyl tert-butyl ether (MTBE)	Tert-Butyl Alcohol	Tetrachloroethene	Tetrahydrofuran	Trichloroethene	Vinyl chloride	**Comments**
E-03A																			No VOCs detected
E-05	X			X							X		X	X		X			Matches historical data
E-07					X	X			X	X	X		X		X	X	X		Matches historical data
E-17																			No VOCs detected
E-20B		X[4]		X[2]	X[2]	X[2]		X[1]		X[1]	X[1]		X[1]			X[1]			Matches historical data
E-23																			No VOCs detected
MW-2A																			No VOCs detected
MW-5A																			No VOCs detected
MW-6																			No VOCs detected
MW-7																			No VOCs detected
MW-11																			No VOCs detected
MW-12						X													Matches historical data
MW-20[3]	X					X					X								Historical data not available
PC-1B																			No VOCs detected
PC-1C																			No VOCs detected

[1] Detected in the primary sample only

[2] Detected in both primary and duplicate samples

[3] MW-20 was sampled in October 2017 for the first time and December 2017 for the second time. The results noted in the table are from the December sampling event. The October sample had detections of methylene chloride, diethyl ether, cis-1,2-DCE, 1,1-DCA and chloromethane

[4] The only other time 2-Butanone was detected in E-20B was in 2001.

In monitoring well E-20B, cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethane (1,1-DCA) and dichlorofluoromethane, were detected at concentrations above reporting limit (RL). These VOCs have been detected in E-20B since 1999. Several other VOCs have also been detected at lower concentrations. Below RL concentrations of 2-butanone, 1,2-dichloropropane (1,2-DCP), diethyl ether, MTBE, and tetrahydrofuran were also detected in E-20B during the second semiannual 2017 monitoring event. 2-Butanone, and 1,2-DCP were not detected in the duplicate sample collected from E-20B. The Updated Engineering Feasibility Study (EFS), completed by SCS Engineers (November 2004, Revised March 2005), and the Revised E-20B Corrective Action Plan (CAP), dated 13 August 2014, prepared by Waste Management of Alameda County, Inc. (WMAC) concluded that the VOC detections at E-20B do not appear to be indicative of leachate impacts. Furthermore, the source of vinyl chloride has been attributed to landfill gas. However, in a letter dated 23 May 2014, the Central Valley Regional Water Quality Control Board (Water Board) remarked about its reservations regarding this conclusion. As

discussed below, the area surrounding E-20B is currently undergoing corrective action, including landfill gas control; and E-20B is also sampled for natural attenuation parameters to monitor conditions favorable for VOC degradation. Well MW-12, located 650 feet downgradient of E-20B, had a below RL concentration of 1,1-DCA and no other VOCs.

Corrective action well E-07 had detections of nine VOCs; 1,1-DCA and dichlorofluoromethane were detected above RL and the remaining seven VOCs were detected at concentrations below their reporting limits. The corrective action well E-05 had above reporting limit concentrations of diethyl ether and tetrahydrofuran, and below reporting limit concentrations of four additional VOCs. With the exception of tetrahydrofuran in E-05, which was detected at a slightly higher level than in the past, all other VOC concentrations in these two wells were within the historical range.

Well E-20B CAP Revision

Upon review of the First Semiannual 2013 Groundwater Monitoring Report, the Water Board identified issues related to the monitoring and corrective action program. One of the requests from the Water Board was for the re-evaluation of the monitoring program for monitoring well E-20B and preparation of a plan to address the continuing detections of VOCs in E-20B. The Revised CAP, prepared by WMAC, discussed the installation of a new monitoring well and two to three new landfill gas (LFG) extraction wells, to improve monitoring effectiveness and to address the source of the impacts detected in E-20B. In a letter dated 10 October 2014, the Water Board approved the installation of the new groundwater monitoring well.

Well installation activities were performed by ALRRF's consultant, Geosyntec, in September 2014. The well installation report, dated 16 December 2014, documented the installation and sampling of monitoring well MW-12, located 650 feet downgradient of E-20B. Monitoring well MW-12 was sampled monthly from September 2014 to March 2015 and quarterly from May 2015 to November 2015. Based on a Water Board letter dated 22 January 2016, MW-12 is now being monitored on a semiannual basis to track the effectiveness of enhancements made to the LFG collection system in January 2015.

Starting in December 2014, VOCs such as diethyl ether, cis-1,2-DCE, and 1,1-DCA have been detected in samples from MW-12. SCS Engineers have previously stated that the low concentrations of VOCs detected in MW-12 establish the downgradient extent of groundwater impacts noted in E-20B. In January 2015, two new LFG extraction wells, designated as 687 and 688, were installed in the vicinity of E-20B. Over the next few months, WMAC planned to evaluate the wells in context of overall LFG collection and control system. Langan evaluated the potential effect of gas extraction wells 687 and 688 on the VOC concentrations at Well E-20B and documented our assessment in a separate memorandum titled *Effect of Gas Extraction Wells 687 and 688 on Well E-20B* dated 17 March 2016. Our assessment concluded that if VOCs are partitioning from vapor at gas extraction wells 687 and 688 into groundwater that is migrating downgradient to E-20B, it would take a year or longer to see a reduction in VOC concentrations at E-20B as a result of landfill gas extraction at wells 687 and 688. MW-12 has been sampled since September 2014. Starting December 2014, VOCs diethyl ether, cis-1,2-DCE, and 1,1-DCA were detected occasionally in MW-12. To-date, a decrease in VOC concentrations has not been noted in MW-12. During December 2017, a below detection limit of 1,1-DCA was detected in this well.

As a consequence of VOCs in MW-12 groundwater and at the request of the Water Board, another well, MW-20, was installed downgradient of E-20B in September 2017. Below RL concentrations of five VOCs were detected in the initial sample collected from MW-20 in October 2017. Two of the five VOCs, 1,1-DCA and diethyl ether were detected in the subsequent sampling conducted in December 2017, confirming the initial sampling results.

Detection wells PC-1B and PC-1C are also used to monitor for potential migration of VOCs further downgradient of E-20B. Wells PC-1B and PC-1C, located approximately 2,000 feet from E-20B and approximately 1,500 feet downgradient of MW-12 have not had any VOC detections since the start of monitoring in 2006 until May 2016, with the exception of those attributable to laboratory cross contamination (acetone and methylene chloride). According to the 2016 MRP, PC-1B and PC-1C do not require semi-annual sampling until Fill Area 2 receives waste. VOCs that are consistently detected in E-20B also have not been detected in the deeper groundwater zone monitoring wells MW-3B and MW-3C during the First or Second Semiannual 2017 monitoring events. Those wells had high concentrations of total dissolved solids, but this can be interpreted as high mineral content due to the age and depth of the groundwater at this location.

Fill Area 2

Waste placement in Fill Area 2 is currently due to begin in First Quarter 2019. According to the 2016 MRP, Fill Area 2 wells MW-8A, MW-8B, MW-9, MW-10, MW-13B, MW-14, PC-1B, PC-1C, PC-2A, and WM-2 will be assessed when filling begins. However, for background water quality data, most of these and several other Fill Area 2 wells have been sampled since 2014. During the Second Semiannual 2017 period, no VOCs were detected in samples from monitoring wells MW-8A, and MW-13B. Except below RL concentrations of acetone, no VOCs were detected in samples from MW-4B, MW-14, MW-14R, MW-15B, MW-16, MW-18, MW-19, MW-21, and PC-6B[R]. Acetone, a common laboratory contaminant, was also detected in one or more trip, field, equipment or method blanks.

Violations

During the Second Semiannual 2017 monitoring period, and more recently, three notices of violation (NOV) were issued by the Water Board and are discussed below:

1. NOV dated 19 October 2017: The first NOV was regarding detections in well MW-04A. Trace levels of VOCs and bicarbonate alkalinity above the concentration limit at MW-04A were first observed during the 23 May 2017 semi-annual sampling event. Subsequent sampling on 29 June and 11 July 2017, confirmed the detections of VOCs and bicarbonate alkalinity. In a NOV letter dated 19 October 2017, Water Board required an evaluation monitoring plan (EMP) to evaluate the detections of VOCs and exceedance of bicarbonate alkalinity limit in MW-04A. Waste Management made adjustments to the gas collection and control system (GCCS) by installing four new gas extraction wells (GW-27, GW-31, GW-33, and GW-34) to supplement the existing GCCS network. The new gas extraction wells started operation late November and early December of 2017. It is important to note that during the recent, December 2017 sampling event; VOCs were not detected in MW-04A. The bicarbonate alkalinity concentrations in the December samples were 550 mg/l and 520 mg/l, respectively, at concentrations less than the May 2017 sample result (600 mg/L) but above the concentration limit of 480 mg/L.

2. NOV dated 8 February 2018: This NOV was provided for incompleteness of the First Semiannual 2017 Monitoring Report. The NOV noted that purge logs for PC-1A and MW-17 were not provided even though groundwater was measured in both wells in March and May of 2017. The Semiannual Report stated that 'sampling was attempted at PC-1A and MW-17, but the wells went dry during purging and did not recharge within 24 hours'. The NOV states that since water was encountered in both wells, purge logs are to be furnished, even if samples are not retrieved from the wells. The NOV further states that an alternative method for collecting samples from MW-15A, PC-1A, and MW-17 should be provided in the event the monitoring wells are dry or do not recover. The NOV also notes that maps documenting the ponding observed in Fill Area 1 in the 17 March and 23 March 17 standard observations logs were not included for Water Board's review. The Water Board expresses concerns about the purging techniques used for the groundwater sampling event. The NOV states that "with the exception of E-05, each site well was purged for only 8 minutes, during which only 2.7 gallons of water was purged. While the amount of water purged is greater than one system volume, it is far less than would be extracted following EPA's Low Flow Guidance. The Low Flow Guidance states 'during well purging, monitor indicator field parameters (turbidity, temperature, specific conductance, pH, ORP, DO) at a frequency of five minute intervals or greater'."

   Langan performed a detailed review of the purge logs for both semiannual sampling events in 2017. The most concerning issues noted are the total elapsed time, the recording interval of stabilization data, and the flow rates. Dedicated bladder pumps were used at each location which resulted in decreased total purge volumes and purge/sample times. However, the following items were noted which could improve purging technique and sample collection:

- Barring a few exceptions, at all sample points during first and semiannual monitoring events, parameters stabilized within four readings and sampling was complete between four to 16 minutes.
    - Exceptions include E05 (May 2017) which took four readings (16 minutes) to stabilize, MW14R (December 2017) took three readings (4 minutes) to stabilize, and MW19 (November 2017) took seven readings (4 minutes) to stabilize.
    - Also, there is a discrepancy between the purge start time for MW19 during semiannual monitoring in November 2017. The purge start time began at approximately 2pm, and a sample was collected at approximately 10am.
- The volume of the flow-through-cell utilized at all sample points was 175 milliliter (mL). The EPA recommends that for low-flow sampling, the flow-through-cell must be able to "turn-over" at least one cell volume between measurements (for a 250 mL cell with a flow rate of 50 milliliter per minute [mL/min], the parameter monitoring frequency would be every 5 minutes). Similarly, a 175mL flow-through-cell with flow-rate of 500 mL/min would turn-over at a faster rate, approximately 2.9 times per minute (5.7 times per minute with 1 liter per minute [L/min] flow rate), which would require parameter readings at least every 21 seconds. Parameter readings were collected at particularly short intervals (every 1 to 4

minutes) considering the high flow rates and small flow cell volume. This may have influenced fairly quick parameter stabilization.

- Particularly fast flow rates (1 L/min) were recorded during first semiannual monitoring event while purging, and slower rates (500 mL/min) were recorded during sampling. During the second semiannual monitoring, the flow rate during purging was decreased to 500 mL/min and remained constant during sampling. Langan believes purging using slower flow rates and collecting parameter readings across longer intervals (typically 100 to 500mL/min and 3 to 5 minutes between readings) is preferred for low flow sampling.

- During both the first and second semiannual monitoring event, depth to water measurements were collected prior to purging, and immediately following sample collection. Langan believes that depth to water measurements collected at more frequent intervals throughout purging is beneficial to measure the drawdown rate of the well. The flow rate can then be adjusted accordingly.

3. NOV dated 16 February 2018: On 6 February 2018, Waste Management verbally notified the Water Board that a load of waste containing paint chips with hazardous levels of lead had been disposed at the landfill. A follow-up letter dated 13 February 2018 was submitted to the Water Board, which stated that about 750 grams (1.65 lb) of lead based paint chips were mistakenly packaged into a 6,720 lb load of non-friable asbestos waste was disposed in Fill Area 1, Unit 2. The letter stated that hazardous waste was unintentionally combined with non-hazardous waste and that due to the small amount of paint chips disposed, it would be difficult to excavate, identify, and remove the chips, resulting in potential harm to both the environment and site operations, in addition to extreme cost for such an effort. Waste Management respectfully requested that the hazardous waste paint chips be left in place. Upon review of the letter, the Water Board provided an NOV for acceptance of hazardous waste and noted that this is the fourth NOV for similar waste acceptance compliance issues since February 2014.

Unsaturated Zone Inorganic and VOC Concentrations

The 2016 WDR/MRP specifies VZM-A[1], VD[2], and VD2[3] in Fill Area 1 and UD-1[4], LD-1[5], SI-1[6], and VZM-B[7] in Fill Area 2 be monitored monthly for presence of liquid. If liquid is present in any monitoring point,

[1] VZM-A is a monitoring location in the vadose zone (unsaturated zone below the landfill liner, and above the groundwater table).

[2] VD is the monitoring location for the valley drain system beneath the clay liner at Fill Area 1 Unit 1. This drain system is designed to collect and drain groundwater that accumulates beneath the liner, or any liquids that seep below the liner at Unit 1.

[3] VD2 is the monitoring location for the subdrain beneath the engineered liner at Fill Area 1 Unit 2. This drain system is designed to collect and drain groundwater that accumulates beneath the liner, or any liquids that seep below the liner at Unit 2.

[4] Phase I Unsaturated zone Underdrain

[5] Leak Detection

[6] Surface Impoundment

samples are to be collected on a semi-annual basis. Fill Area 1 and 2 monitoring points were checked monthly for the presence of liquid and field measurements between July and December 2017. Fill Area 1 locations VD, VD2, and VZM-A and Fill Area 2 location VZM-B contained liquids during the monthly visits. Fill Area 2 locations UD-1 and LD-1 were dry during all visits between July and December 2017.

In November and December 2017, samples were collected from VZM-A, VD, VD2, and VZM-B. Five VOCs were detected above RLs in samples from VZM-A, VD, and/or VD2. The 2016 MRP requires sampling of VD for acetophenone on a semiannual basis and VD, VD2, and VZM-A for dinoseb on an annual basis. Acetophenone was not detected in the December 2017 sampling event from VD. Dinoseb was not detected in the December 2017 samples from VZM-A, VD, and VD2.

In the Second Semiannual 2017, detected concentrations of inorganics and VOCs at VZM-A, VD, and VD2 were consistent with historical concentrations and appeared to be stable, i.e. concentrations have not shown an increasing trend. The VOC detections at VZM-A, VD, and VD2, have been attributed to landfill gas. Detected concentrations of VOCs and inorganics in unsaturated zone monitoring points will be evaluated in subsequent monitoring reports for potential increasing trends.

Leachate Inorganic and VOC Concentrations

The leachate monitoring network in the 2016 MRP includes Fill Area 1 Unit 1 Leachate Sump (LS), Fill Area 1 Unit 2 Leachate Sump (LS-2), and Fill Area 2 Surface Impoundment SI-1 Leachate Sump (LS-3). The 2016 MRP requires semi-annual sampling of the leachate sumps. Ten VOCs were detected above the RL concentrations in the leachate monitoring points, LS and LS2. In LS3, other than acetone, no other VOCs were detected. The 2016 MRP requires sampling of LS for acetophenone on a semiannual basis and LS, LS-2 sampling for dinoseb on an annual basis. Acetophenone and dinoseb were not detected during the December 2017 sampling event.

Inorganics and VOCs at leachate monitoring point LS, LS2 and LS3 during December 2017 were similar to historical values.

Stormwater Sedimentation Basins

In accordance with the 2016 MRP/WDR, water inside sedimentation basins is to be sampled on a semiannual basis. During the first semiannual period of each year, samples are to be collected between January and May and for the second semiannual period the samples are to be collected in October and December. Due to recent dredging of the basins in preparation for the 2017-2018 wet season, low water volume and no significant precipitation, samples were not collected from water inside Basins A, B, and C, for the Second Semiannual 2017 period. Sample collection will resume during the First Semiannual 2018 period.

[7] Vadose zone monitoring sump

Recommendation

We recommend continuing review of groundwater, unsaturated zone, leachate, and stormwater data as it becomes available, and evaluating for trends in data, especially for groundwater monitoring wells where VOCs have previously been detected.

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ESA

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memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Michael Burns

subject VOC Trends in ALRRF Groundwater Monitoring Wells (for April 11 Meeting, Item 6.4)

As part of ESA's review of the Semiannual Groundwater Monitoring Report, the concentrations of VOCs in Corrective Action Wells E-20B, E-07, E-03A, MW-20, and MW-12 were reviewed for trends. In the discussion below, it is important to understand the terms "reporting limit" and "method detection limit." For a given substance and test method, the reporting limit is the lowest concentration for which the analysis provides high confidence in the chemical identity and concentration. The method detection limit, a lower value, is the lowest concentration for which the analysis can provide high confidence in the chemical identity but only an estimated concentration. The reporting limit for most chemicals is 1 to 2 µg/L (micrograms per liter, or parts per billion).

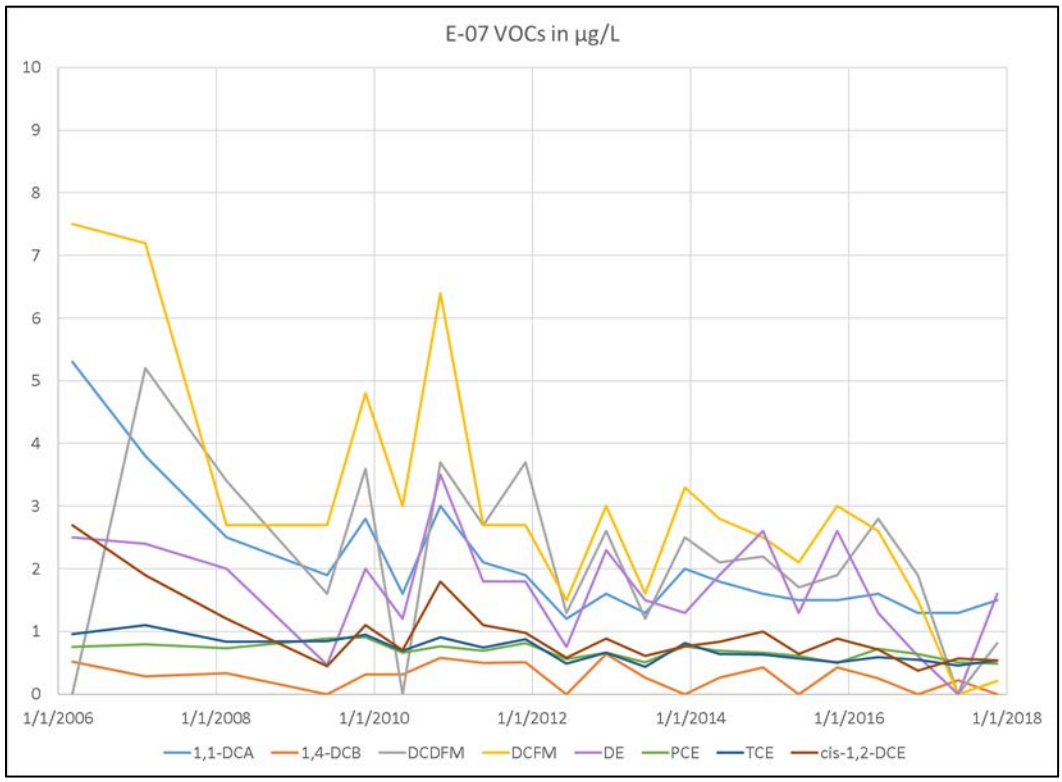
For ease of reading, on the following pages each discussion of the data from a particular monitoring well is paired with a graph of that data. The remainder of this page is intentionally blank.

South of Fill Area 1

Wells E-07 and E-03A are located just south of Fill Area 1, with E-07 being the closest and E-03A farther south, next to Basin A. The direction of groundwater flow in this area is to the south (from Fill Area 1 to E-07 to E-03A). VOCs are often detected close to Fill Area 1 in Well E-07 but not in the further downgradient Well E-03A (1,1-DCA was detected below the reporting limit until 2009 but none since then). As shown below, Well E-07 has been sampled since 2005 and the overall trend of VOCs is decreasing or flat with time.

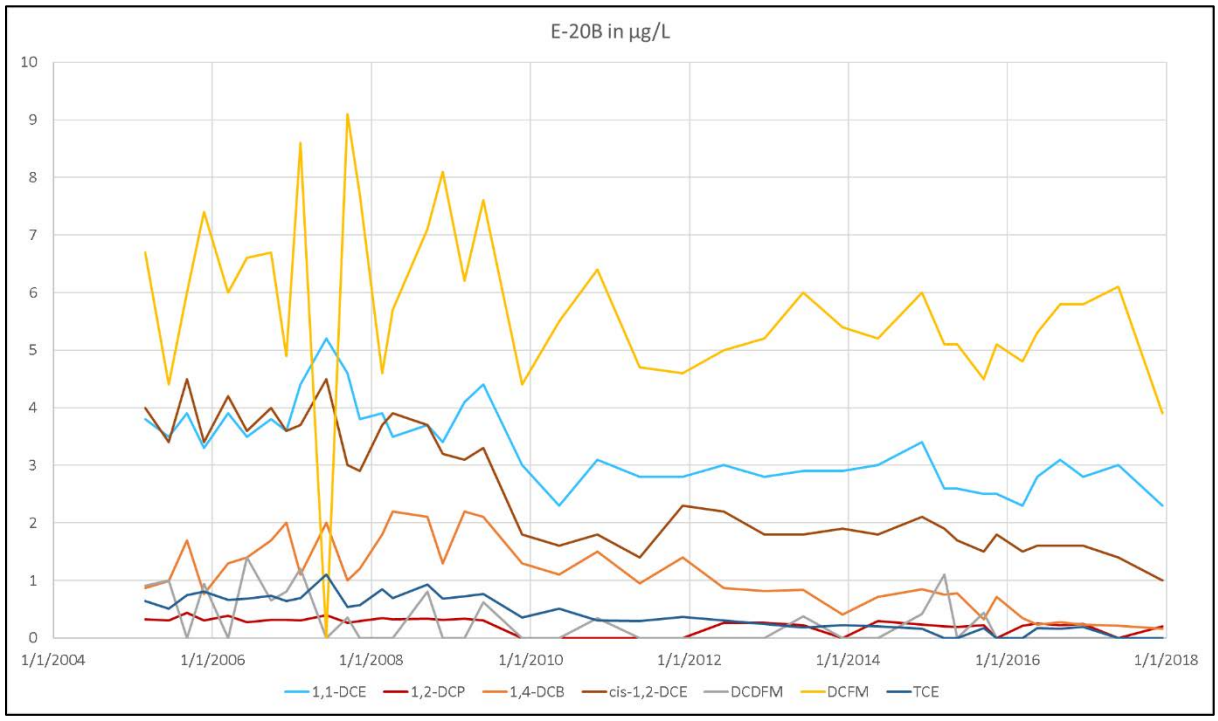
Three VOCs were not detected in E-07 during the May 2017 sampling event, resulting in a downward spike to zero, even though the other 5 VOC concentrations were consistent with their historical trends. For the subsequent November 2017 sampling event, the concentrations of those 3 undetected chemicals returned to values lower than earlier sampling results, further suggesting that the three non-detect results from May could be anomalous. The cause of only 3 of the 8 chemicals being non-detect is unknown but seems peculiar. It may relate to the fact that at room temperature, the three undetected chemicals are vapors, and all of the others are liquids. Dilution from rain events would be expected to affect all chemicals, as occurred in early 2010 and early 2012.

Other than the previously noted detections of 1,1-DCA prior to 2010, Well E-03A does not have detections of VOCs, indicating that in this region, the effect on groundwater is limited to the area immediately adjacent to the landfill.

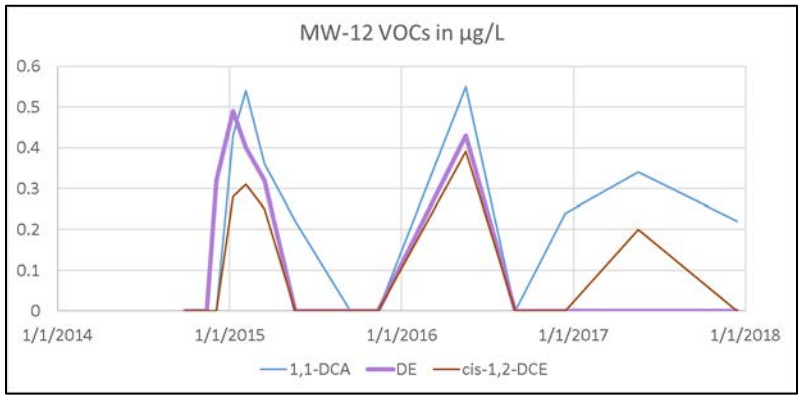


East of Fill Area 1

Wells E-20B, MW-12, and MW-20 are located along the east side of Fill Area 1, in between Fill Areas 1 and 2, with E-20B being the closest and MW-12 next to Basin B and MW-20 south of Basin B. The direction of groundwater flow in this area is to the east (from Fill Area 1 to E-20B to MW-12 and MW 20). VOCs are detected close to Fill Area 1 in Well E-20B but with much lower frequency and concentrations in the further downgradient Wells MW-12 and MW-20. Well E-20B has been sampled since 2005 and the overall trend of all VOCs is decreasing or flat with time. Many of the detections are below the reporting limit but above the method detection limit.



Well MW-12 was installed in 2014. The sampling results are shown below. Only three VOCs have been detected, all at concentrations below the reporting limit. Compared to Well E-20B, these are far fewer VOCs, at lower concentrations.



Well MW-20 was completed less than a year ago and only has the two sampling events listed below. The same three VOCs found in MW-12 have also been detected in MW-20. Two of the VOCs were detected at concentrations below the reporting limit (J-flagged concentrations). All 3 of the detected VOC concentrations decreased with the second sampling event. Note that many fewer VOCs were detected and those detected were at lower concentrations than Well E-20B.

Chemical	**Oct 2017**	**Dec 2017**
Cis-1,2-DCE	0.26 J	nd
1,1-DCA	0.56 J	0.33 J
DE	0.45	0.28
All other VOCs excluding common lab contaminants	nd	nd

In summary, the overall trends in VOC concentrations at groundwater monitoring wells E-07 and E-20B are decreasing to flat, with many detections at concentrations below the reporting limits. ALRRF's assertion that these concentrations are diminishing isn't entirely accurate, since the trend in several of the VOC concentrations has been essentially flat since 2011. However it appears that neither of these wells is indicating a new or worsening groundwater quality problem.

Abbreviations

1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,2-DCP	1,2-dichloropropane
1,4-DCB	1,4-dichlorobenzene
DCDFM	dichlorodifluoromethane
DCFM	dichlorofluoromethane
DE	diethyl ether
PCE	tetrachloroethene
TCE	trichloroethene
Cis-1,2-DCE	cis-1,2-dichloroethene
nd	not detected (below both the reporting limit and the method detection limit)
J	detected above the method detection limit but below the reporting limit, meaning a high confidence in the chemical identity but only an estimated concentration

memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.5 - Review of Documents on GeoTracker Web Site

Reports from the ALRRF to the Central Valley Regional Water Quality Control Board (Water Board), Water Board responses and other Water Board notices have been reviewed as they have been posted on the Water Board's GeoTracker website. In some cases, a single topic is addressed by several documents in succession. Below, for ongoing topics, new information is summarized in underlined additions to summaries provided for previous Community Monitor Committee meetings. The Ongoing Topics are followed by New Topics, which are summarized in plain text.

Ongoing Topics

Identifying Sources of VOC's in Storm Water

A December 1, 2016 letter from SCS Engineers (on behalf of ALRRF) to Central Valley Regional Water Board staff addresses that Water Board's requirement for a Work Plan to identify and evaluate potential sources of VOCs that may have impacted stormwater at the facility. A September 13, 2017 letter from Water Board staff requires that "a report documenting the results of the investigation … be submitted by 30 June 2018." No further documents or correspondence on this subject have been made available to date.

Additional Monitoring Well Installed; VOC's Found, but Resampling Is Needed to Confirm

A December 15, 2016 report by Geosyntec addresses requirements in the 2016 WDRs to evaluate the adequacy of the current groundwater monitoring system and propose additional wells to adequately monitor Fill Area 2 throughout its development. Subsequently, a May 23, 2017 Monitoring Well Installation Report by Geosyntec was submitted, documenting installation of one upgradient well (MW-19) and two downgradient wells (MW-14R, MW-21) adjacent to the Phase 1 portion of Fill Area 2. It also proposed locations for additional wells MW-20 and MW-22 to monitor the Phase 2 and Phase 3 areas, respectively. A report from Geosyntec Consultants, dated November 17, 2017, described the installation of monitoring well MW-20 and reported that the initial sampling from that well (October 20, 2017) detected low levels of five VOC's. In a January 17, 2018 letter, Water Board staff advised the ALRRF that per the Waste Discharge Requirements, "routine monitoring and sampling of well MW-20 will be required." In the February 1, 2018 Groundwater Monitoring Report, SCS Engineers include data from October 20 and December 7. In the December 7 sample, acetone, a common laboratory contaminant, was the only VOC detected.

Soil Gas Monitoring Locations

A February 28, 2017 report by Geosyntec on behalf of the ALRRF proposed soil gas monitoring locations to satisfy the soil gas monitoring conditions in the current Waste Discharge Requirements. In an April 25 letter, Water Board staff call for a "detailed rationale for the spatial distribution selected for the unsaturated zone monitoring devices proposed around the entire outside perimeter of each waste management unit" by May 31. An Addendum dated May 30, 2017, prepared by Geosyntec Consultants, responds to the Water Board by describing the existing soil gas probe system, noting where shallow groundwater constrains the installation of additional probes; the Addendum also described the groundwater protection and leak detection systems designed for Fill Area 2 in detail. The Water Board's response was included in a letter to ALRRF dated November 9. In that letter, Water Board staff (a) rejected the ALRRF's plan to use existing gas probes, (b) required probes to be installed at the edge of each Phase of Fill Area 2, (c)stated that more than (the proposed) one new probe UGP-1 at the downslope edge of Phase 1 will be needed to assure early detection of a release, and (d) rejected the ALRRF's assertion that shallow groundwater near the downslope edge of Phase 1 would cause gas probes there to violate regulations and potentially impact groundwater quality. The Water Board also required the ALRRF to carry out its proposed gas monitoring plan ***and*** submit a revised work plan to install several additional gas probes that meet certain criteria. In a January 19, 2018 letter, Geosyntec (on behalf of ALRRF) reports depths to groundwater, on the downslope edge of Phase 1, of 3.17 and 4.79 feet below ground surface, with moist or wet soil and rock reaching the ground surface. Geosyntec states that a gas probe installed there would violate regulations by connecting from the surface to groundwater and/or by having a seal that is too thin (less than 5 feet). The letter also includes an attachment proposing two additional probes, along the north and east sides of Phases 1 and 2.

ET Cover Planning, Design and Installation

An April 14 letter from Waste Management to the Water Board transmitted an Evapotranspirative Cover Work Plan prepared by Geosyntec. This is in response to an October 19, 2016 letter from Water Board staff which outlined the needed content for the Work Plan. The April 14 Work Plan shows 3 feet of vegetative cover to be placed in the test area over 1 foot of existing intermediate cover, with the top 2 feet lightly compacted to 90 percent relative compaction prior to planting. The report also indicates that a full design package with construction drawings, specifications and a Construction Quality Assurance Plan will be prepared. A September 25, 2017 letter from Waste Management informed the Water Board that due to differential settlement of recently-placed waste in the ET Cover test area, the area will need to be regraded before completing the cover soil installation; thus, the ET Cover test will need to be postponed one year, until the latter part of 2018. To date, no further information from ALRRF or the Water Board has been made available on GeoTracker.

Leak from Leachate Pipe

An April 14 letter from Waste Management to Water Board staff reported a leak from a leachate pipe on ALRRF property immediately adjacent to Fill Area 1. The leachate plus rainwater, approximately 500 gallons in all, was captured using a vacuum truck and deposited in the solidification basin. Subsequently, the Water Board issued a Notice of Violation for having put the leachate in the solidification basin. This is expressly prohibited in Discharge Specification B1 of the current Waste Discharge Requirements. The NOV requires by 30 May 2017, a report prepared as an operation manual, outlining how accumulated liquid from any and all future leachate and/or condensate leaks will be contained, extracted, transported, and properly disposed. In the Community Monitor Committee meeting of January 17, 2018, ALRRF General Manager Marcus Nettz II verbally described how this requirement had been satisfied.

Fill Area 1 Leachate and Underdrain Liquids Management; Use of Underdrain Liquid in Compost

On June 30, 2017, the ALRRF submitted a Work Plan for Fill Area 1, Leachate and Non-Leachate Liquids Management to the Water Board, as required by the 2016 Waste Discharge Requirements. This report describes several modifications to the existing system, to better isolate leachate from non-leachate liquids and, potentially, make good-quality non-leachate available for uses such as maintaining moisture levels in organics that are being composted. Water Board staff responded August 13, 2017, stating several requirements to better protect water quality. They also explicitly required an acknowledgement of these requirements (by 15 Oct 2017) and a copy of the final plans and specifications for the liquids management system improvements (by April 27, 2018) prior to implementing the work plan, as required, by 1 July 2018. In their acknowledgement dated October 13, 2017, Waste Management stated that "Based on test results and if determined to be suitable, WMAC plans to use these non-leachate liquids as quench water in composting operations and/or for dust control within or outside of the landfill." In a response dated November 2, Water Board staff stated that the proposed use would require separate Waste Discharge Requirements, preceded by submittal of a Report of Waste Discharge from ALRRF to the Water Board (in essence, a permit application). In a response dated November 21, cited in the Water Board's letter of January 17, 2018 (but not provided on GeoTracker), the ALRRF apparently stated that they would continue to work on the liquids-separation project, as required; but they would also continue to use combined leachate and groundwater as they have historically, for dust control and reinjection. In their January 17, 2018 reply, Water Board staff point out that this is a violation of California regulations, but the WDRs allow time to correct it. Moreover, they expect (a) submittal of construction plans by April 27, 2018, and (b) full compliance with the liquids separation requirement by February 1, 2019.

Spring Survey Report and Water Board Response

Geosyntec Consultants submitted a required Spring Survey Report, dated August 29, 2017, to fulfill a permit requirement to identify all springs within a 1-mile radius of the footprint of disposed waste at the ALRRF. They identified three springs near Fill Area 2. They concluded that sampling at the springs is not recommended, based on the springs' location in relation to the existing groundwater monitoring network. The Water Board responded as part of a letter dated November 2, 2017, requiring sampling of the active springs because they are downgradient of impacted wells E-20B and MW-12, and because the nearby well cluster is not routinely sampled. This topic is addressed further under the new topic "Notice of Violation – Incomplete Report" below.

Leachate Seep Notification and Water Board Response

An October 5, 2017 letter from the ALRRF provided formal notification to the Water Board about a leachate seep that occurred along the northern border of Fill Area 1 on September 29. The letter documents the extent of the seep and makes it clear that all escaped leachate (estimated to be approximately one gallon) was captured. Because the seep had flowed into a concrete lined drainage ditch, the ditch was isolated and rinsed, and the rinse water was also captured. The collected liquid was recirculated in the Class 2 portion of the landfill. The Water Board's response notes that "a March 2017 Google Earth photograph shows substantial ponding … just northeast of the … seep …". (In fact this was disposed biosolids, which contain enough moisture to have a wet surface, but this was not ponded water.) The letter also recommended that this area and the solidification basins be considered as possible sources for the leachate seep, and that the nearby area be regraded to prevent ponding. To date, no further information from ALRRF or the Water Board has been made available on GeoTracker.

Notice of Violation and Work Request

Samples from monitoring well MW-4A, which is outside the northeast edge of Fill Area 1, contained exceedances of certain inorganics and VOCs in May 2017. In resamples taken in June and July, high bicarbonate alkalinity, 1,1-DCA, cis-1,2-DCE, and MTBE were detected in all samples during that period. In the initial sample, calcium and two other VOCs had also been detected.

The Water Board Notice of Violation, dated October 19, 2017, states in part: "…now that a release is confirmed, the Discharger is required to establish an evaluation monitoring program" that meets certain specified requirements. The notice also points out that detection at this site is contrary to the landfill's hydrogeologic model, which states that groundwater flow generally follows topography and thus would not be migrating toward MW-4. The ALRRF responded by submitting an Amended Report of Waste Discharge/ Proposed Evaluation Monitoring Plan on December 21, 2017. It attributed the problem to landfill gas, not leachate, and it proposed to address the problem by intensifying the extraction of landfill gas near MW-4A, which it had already begun to do. It further proposed to sample the well monthly to track progress. If VOCs are detected in early 2018, the ALRRF would propose a plan that could include sampling the gases in the headspace above groundwater inside MW-4, as well as additional sampling of soil gas and groundwater nearby. On February 8, the Water Board issued a formal Order to the ALRRF, finding the proposed work plan to be "material deficient" and requiring a formal Evaluation Monitoring Program to sample groundwater along the northern boundary of Fill Area 1 and submit an amended Report of Waste Discharge after the extent of the release has been defined.

Winterization Plan

The ALRRF submitted its annual Winterization Plan, as required, showing photos of stormwater controls throughout the site. The controls include measures used in prior years, such as wattle, straw mat, silt removal from ditches and drains, etc. New this year: water bars have been installed on steep unpaved roads to prevent erosion, by diverting water into roadside ditches. In addition, sediment removal from Fill Area 1 stormwater basins B and C is shown in this document. The Water Board's January 17, 2018 letter to the ALRRF, reviewing multiple technical reports, stated that "Water Board staff considers this submittal complete."

New Topics

Leachate Line Discharge

On December 6, 2017, the ALRRF filed a written report with Water Board staff describing a minor leachate leak, from a broken pipe on the surface of the landfill, that was fully contained. The Water Board's January 17, 2018 letter to the ALRRF, reviewing multiple technical reports, stated that "Water Board staff consider this issue addressed."

Notice of Violation – Incomplete Report

In a letter dated February 8, 2018, Water Board staff issued a Notice of Violation because the First Semiannual 2017 groundwater report was missing (a) purge logs for two wells and (b) maps of reported ponded areas in March of 2017. The letter also expresses concern about:

- Possible ponding, infiltration, and leachate generation.
- The short duration of purging when sampling at many monitoring wells.
- The need for a procedure to deal with wells that stay dry after purging.

- The lack of analytical results for landfill gas probes AL-6 and UGP-1.
- The use of MRF fines as cover in wet weather, when runoff could drain outside the limits of the leachate collection system.
- The need to check for liquid in leak detection line LD-2 in Fill Area 2, to check for problems before Fill Area 2 comes into use.
- Recent VOC detections at MW-4, and ongoing VOCs at E-20B and MW-12. An evaluation monitoring program is required at MW-4, and for E-20B, the PC-1 well cluster and springs 1 and 2 should be incorporated into the Corrective Action Monitoring Program for Fill Area 1.

Water Board staff conclude by requiring a report that addresses these points, by March 9, 2018.

The ALRRF responded in a letter dated March 9, stating that:

- The missing purge logs were inadvertently omitted.
- The missing pond maps have not been located.
- They would like to discuss the options for "dry-after-purging" well sampling with Water Board staff.
- The appropriate interval for taking field parameters while purging depends in part on the equipment being used, and at ALRRF this differs from the equipment assumed by the USEPA's guidance document. ALRRF would like to discuss this with Water Board staff before adjusting the current methodology.
- The ALRRF will begin sampling at gas probes AL-6 and UGP-1. The ALRRF had understood that the procedures for these probes were still under review.
- MRF fines are used as cover on slopes that are well within the landfill, and that do not drain outside of the leachate collection system boundary.
- Leachate drain line LD-2 in Fill Area 2 will be periodically checked for the presence of water.
- The PC-1 cluster and Springs 1 and 2 will be incorporated into the corrective action monitoring program, as requested.
- A meeting with Water Board staff to review several of the above points would be welcome.

Notice of Violation – Disposal of lead Based Paint Chips

In a letter dated February 16, 2018, Water Board staff noted that on February 8, Waste Management gave verbal notice that a load containing paint chips with hazardous levels of lead had been disposed at the ALRRF. This was followed by a written notification dated February 13, in which, due to the difficulty of safely and effectively finding and removing this material, Waste Management "respectfully requested that the hazardous waste paint chips remain in place." The disposal of hazardous waste, as defined, is prohibited by the site's Waste Discharge Requirements; therefore, this Notice of Violation was issued. The letter also notes that this is the fourth such incident in the past four years, and the Water Board is "evaluating additional enforcement action."

If the Water Board grants this request, this incident may require data review by the Community Monitor as described in section 5.7.9 of the Settlement Agreement, regarding variances for acceptance of hazardous waste.

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memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.6 - Reports From Community Monitor

Attached are inspection reports for January through March of 2018.
The January inspection was announced and took place on January 15.
The February inspection was announced and took place on February 27, off-hours (after 4 PM).
The March inspection was unannounced and took place on March 28, with the LEA.

During these inspections, all landfill operating areas were observed. Recent LEA inspection reports were reviewed on-line.

Details about operations-related matters are provided in the attached reports. Issues that cause special concern are marked with yellow rectangles in the monthly inspection reports. (There were no such issues in the current quarter.)

Also attached are graphs showing monthly tonnages by type of material for the most recent 12-month period. Figure 6.6-1 shows the breakdown of materials that make up Revenue-Generating Cover. Figure 6.6-2 shows these same quantities, plus the Municipal Solid Waste (MSW) and Special Waste tonnage for each month.

ALRRF Community Monitor Monthly Report **January 2018**

Monthly Tonnage Report for December 2017, received January 15, 2018

Tonnage Summary:		tons	
	Disposed, By Source Location		
1.1	Tons Disposed from Within Alameda County	70,295.07	
1.2	Other Out of County Disposal Tons	1,566.69	
	subtotal Disposed	71,861.76	
	Disposed, By Source Type		
2.1	C&D	383.71	
2.2	MSW	68,247.98	
2.3	Special Wastes	3,188.05	
	subtotal Disposed	71,819.74	
	Correction to Sept 2017 erroneous coding for two loads.	-42.02	-0.06%
	Other Major Categories		
2.4	Re-Directed Wastes (Shipped Off Site or Beneficially Used)	100.70	
2.5	Revenue Generating Cover	45,967.95	
	Total, 2.1 - 2.5	117,888.39	
	Materials of Interest		
2.3.1	Friable Asbestos	699.24	
2.3.2	Class 2 Cover Soils	22,523.77	
2.5.1	Auto Shredder Fluff	13,181.82	
2.5.2	Processed Green Waste/MRF fines, Beneficial Use (GSET)	0.00	
2.5.3	MRF Fines for ADC	1,926.00	

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ALRRF Community Monitor Monthly Report **January 2018**

Site Inspection January 15, 2018, 10 - 11:45 AM

- Attended by K. Runyon, escorted by Audrey Lundin and Enrique Perez. Announced.
- Weather very foggy, cool, light wind.
- Refuse filling was occurring in the southeast portion of the site, using the wet-weather pad for tipping. Two tippers were available, and there was no queue. Much of the transfer truck traffic was from the "drop and hook" area where Waste Management leaves transfer trailers.
- ALRRF staff mentioned that with muddy conditions at the site, and no "drop and hook" option on weekends, transfer trucks have difficulty maintaining traction as they climb the unpaved roadway toward the tippers.
- One dozer and one compactor were spreading and compacting waste. The collection-truck unloading area was adjacent to the tippers. east. The general public unloading area was north and west of the tippers.
- The solidification pits were available but not active. Treated auto shredder fluff was stockpiled for use as an extender.
- The C&D bunker was 3/4 full; the plant debris bunker, roughly 200% full, but the pile was well defined.
- Several appliances were stockpiled near the C&D bunker for refrigerant removal and shipping.
- Due to fog, and high volumes of incoming soil, the landfill was controlling incoming soil loads very carefully. Trucks were being released from the scale in groups of 2 or 3, and traffic control staff in the unloading area maintained separation and directed them to stable unloading locations. Traffic control staff maintained contact with the scale house via radios.
- The gull population was substantial - several thousand birds near or on the working face. This is a normal level for winter. The bird cannon was not in use.
- The ET cover test area appeared unchanged from the previous site visit. No plants were germinating.
- The new leachate and underdrain ponds for Fill Area 1 contained a small amount of rain water.

Fill Area 2

- The area appeared to be undisturbed and in good condition, with some windblown litter visible, but a manageable amount.
- The repaired landslide area above the west side of FA2 was in good repair.
- At the mitigation pond, some excavation work was occurring but wet conditions were making it difficult.
- The channel upstream of the mitigation pond showed some erosion damage, but the pond did not appear to have been flooded with sediment.

ALRRF Community Monitor Monthly Report **January 2018**

Stormwater Controls and Best Management Practices

- Basin A excavation was complete. The water level was up to the base of the discharge riser, leaving several feet of freeboard before discharge would occur.
- Basin B, excavated a few months ago, was in good condition, with water up to the base of the discharge riser. No noticeable litter in the basin, but some windblown litter deposited at the outlet from the culvert that discharges into the basin.
- Basin C has some litter floating in its southeast corner. The water level was within 3 feet of discharge elevation. The water appeared turbid but there was no sheen on the surface. There was some erosion at the lower end of the main inlet pipe, possibly indicating a leak at a pipe joint.
- Ponding on the landfill (Fill Area 1) was minimal, but exposed soil was wet everywhere on site.

Evapotranspirative (ET) Cover Test Area

- No erosion damage. No plants were growing on the exposed base layer of soil.
- The soil preparation area, where ET cover soil is prepared and blended, was inactive. The soil stockpiles were not covered. No plants were growing on the stockpiles.

Leachate Leak Site

- The area where the pipe had broken appeared to be clean, with exposed soil where the cleanup had occurred.
- The replacement valve appears to be a butterfly valve. In the lengths of pipe near the valve, there are no bends that would flex when the pipe expands and contracts as the ambient temperature and exposure to sunlight change through the day. This may have put a strain on the prior (failed) valve.

Litter Control

- On site, litter is being kept under control, but as the litter collection crew cleans up one area, windblown litter builds up in other places.
- Off site, the roadsides are generally clean except where the wind can eddy, for example, at the end of a road cut .

ALRRF Community Monitor Monthly Report **February 2018**

Monthly Tonnage Report for January 2018, received February 16, 2018

Tonnage Summary:		tons	
	Disposed, By Source Location		
1.1	Tons Disposed from Within Alameda County	78,515.12	
1.2	Other Out of County Disposal Tons	3,690.36	
	subtotal Disposed	82,205.48	
	Disposed, By Source Type		
2.1	C&D	1,357.35	
2.2	MSW	73,742.53	
2.3	Special Wastes	7,105.60	
	subtotal Disposed	82,205.48	
		0.00	0.00%
	Other Major Categories		
2.4	Re-Directed Wastes (Shipped Off Site or Beneficially Used)	107.42	
2.5	Revenue Generating Cover	86,898.60	
	Total, 2.1 - 2.5	169,211.50	
	Materials of Interest		
2.3.1	Friable Asbestos	1,386.27	
2.3.2	Class 2 Cover Soils	61,873.27	
2.5.1	Auto Shredder Fluff	14,072.50	
2.5.2	Processed Green Waste/MRF fines, Beneficial Use (GSET)	0.00	
2.5.3	MRF Fines for ADC	1,889.71	

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ALRRF Community Monitor Monthly Report **February 2018**

Site Inspection February 27, 2018, 5:30 - 6:45 PM

- Attended by K. Runyon, accompanying LEA Arthur Surdilla. Escorted by Audrey Lundin and Enrique Perez. Announced.
- Primary filling activity was on the southeast side of Fill Area 1, in the Class 2 area. Compaction was taking place close to the tippers, with only one dozer, one compactor and one tipper operating.
- The active tippers were diesel fueled. The CNG tippers were stored at the wet weather pad where they could be brought on line if needed.
- The public disposal area was west of the tippers, a completely separate operation.
- Trucks were being brought to the tipper from the drop-and-hook area by on-site drivers ("hostelers") using semi-tractors designed to quickly connect and disconnect. One truck was being unloaded and two more were in line. Additional trucks from the Fremont transfer station were expected later in the evening, starting around 8 PM.
- Plant debris and C&D bunkers were both nearly 100% full. Several large appliances were stored alongside the bunkers.
- The solidification pits appeared normal. They were not operating but were in good condition.
- The area where lead paint chips were unloaded was fenced off in case excavation becomes necessary.
- No ponding, and no mud, was seen on the landfill surface. Conditions were somewhat dusty. ALRRF staff explained that in recent days, maintenance work at the raw water canal on the west side of the landfill property had limited the supply of water available for dust control. The operating areas that were observed had lights ready for use after sunset.
- At the end of the day, very few gulls were seen in the observed areas.

Fill Area 2

- We drove through the lower part of the Phase 1 portion of Fill Area 2, enroute to the mitigation pond.
- The unpaved roads in this area appeared to be in good condition, with no erosional damage and only minor rutting.
- There was minimal litter on the side slopes and bottom of the Fill Area 2 canyon, below the low end of Phase 1 of Fill Area 2.

ALRRF Community Monitor Monthly Report **February 2018**

Stormwater Controls and Best Management Practices

- Basin A excavation work had been cleaned up, with signage along the south side and no litter present.
- No erosional damage was seen anywhere on the property, other than the channel above the mitigation pond.
- Stormwater BMPs, including wattle, hay bales, mulched and track walked slopes, ditches and culvert inlets were in good condition.

Mitigation Pond Construction

- Due to recent rains, construction at the pond site was suspended. The photos below were taken from the same point along the north side of the pond, facing east (on the left) and southwest (on the right). ALRRF staff reported that soils were too soft to move excavating equipment into and out of the work area.

ALRRF Community Monitor Monthly Report **March 2018**

Monthly Tonnage Report for February 2018, received March 13, 2018

Tonnage Summary:		tons	
	Disposed, By Source Location		
1.1	Tons Disposed from Within Alameda County	64,845.94	
1.2	Other Out of County Disposal Tons	2,192.53	
	subtotal Disposed	67,038.47	
	Disposed, By Source Type		
2.1	C&D	579.20	
2.2	MSW	63,014.31	
2.3	Special Wastes	3,444.96	
	subtotal Disposed	67,038.47	
		0.00	0.00%
	Other Major Categories		
2.4	Re-Directed Wastes (Shipped Off Site or Beneficially Used)	86.11	
2.5	Revenue Generating Cover	79,084.89	
	Total, 2.1 - 2.5	146,209.47	
	Materials of Interest		
2.3.1	Friable Asbestos	894.82	
2.3.2	Class 2 Cover Soils	51,385.15	
2.5.1	Auto Shredder Fluff	15,298.09	
2.5.2	Processed Green Waste/MRF fines, Beneficial Use (GSET)	0.00	
2.5.3	MRF Fines for ADC	1,975.73	

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ALRRF Community Monitor Monthly Report **March 2018**

Site Inspection March 28, 2018, 1:00 - 2:45 PM

- Attended by K. Runyon, accompanying LEA Arthur Surdilla. Escorted by Audrey Lundin and Enrique Perez. Announced.
- Primary filling activity was on the southeast side of Fill Area 1, in the Class 2 area. Compaction was taking place close to the tippers, with only one dozer, one compactor and one tipper operating.
- The active tippers were diesel fueled. The CNG tippers were stored at the wet weather pad where they could be brought on line if needed. The photo below is a view of the area from the south.

- The public disposal area was north of the tippers, where the tippers had been located until the previous day. Fill there was being compacted on an uphill slope. Cover material was being brought to the area and spread on the completed fill at the top of the slope. No bird cannon was operating in this area, but ALRRF staff explained that screamer munitions are used when supervisors observe.
- At the ET cover area, plants have begun to grow in the compacted base layer, sparsely (see photo). When the area is regraded, these plants will be buried. They include some native plants and some weedy species.

- A low-to-moderate number of gulls and other birds was seen near the active face. Prior to the site visit, many gulls (hundreds) were seen on the surface of the nearby reservoir. Bird cannon(s) were firing very frequently at the working face.
- Plant debris bunker was about 10% full. C&D bunker was about 50% full. No prohibited materials seen.
- The hazardous materials storage area was inspected. No discrepancies were noted.

ALRRF Community Monitor Monthly Report **March 2018**

Fill Area 2

- Area was in good shape, no erosion or earth movement. South of the constructed area, a groundwater seep, seen in prior years, has again become active (see photo). Wind-blown litter was also present in this area because it became too wet to access in recent rains. Cleanup is planned as soon as the area dries out.

Stormwater Controls and Best Management Practices

- No observed basins (A, B, SB-A, SB-1) were at discharge levels when observed.
- No erosion damage was seen. Due to recent wet weather, roads and traffic areas were in need of regrading. Minor ponding was noted near the former wastewater plant. No other issues noted.

Special Occurrences Log (last summarized early December 2017)

- Jan 3: End-dump truck had a coolant hose rupture just before the scale house. ALRRF provided absorbent which driver used to capture the material. Absorbent was then taken off site.
- Jan 5: End-dump truck overturned. No injuries. Truck was righted and towed. Accident was attributed to driver inexperience.
- Jan 11: The condensate tank was observed to be overflowing into its secondary containment area. Condensate flow was shut down and cleanup was initiated.
- Jan 17: End-dump truck overturned. No injuries. Truck was righted and towed. Accident was attributed to driver inexperience.
- Jan 18: End-dump truck overturned. No injuries. Truck was righted and towed. Accident was attributed to driver inexperience.
- Jan 18: In the Class 2 area, a dirt haul (end dump) truck had a major hydraulic leak while unloading. Soil was used to capture and clean up the oil. Soil was disposed on site.
- Jan 18: End-dump truck overturned. No injuries. Truck was righted and towed. Accident was attributed to incorrect backing by driver.
- Feb 8: A neighboring resident complained about litter in front of their property. The litter was collected by ALRRF staff.
- Feb 17: End-dump truck overturned. No injuries. Truck was righted and towed. Accident was attributed to driver inexperience and an unbalanced load.

Figure 6.6-1 Monthly Volumes of Revenue-Generating Cover

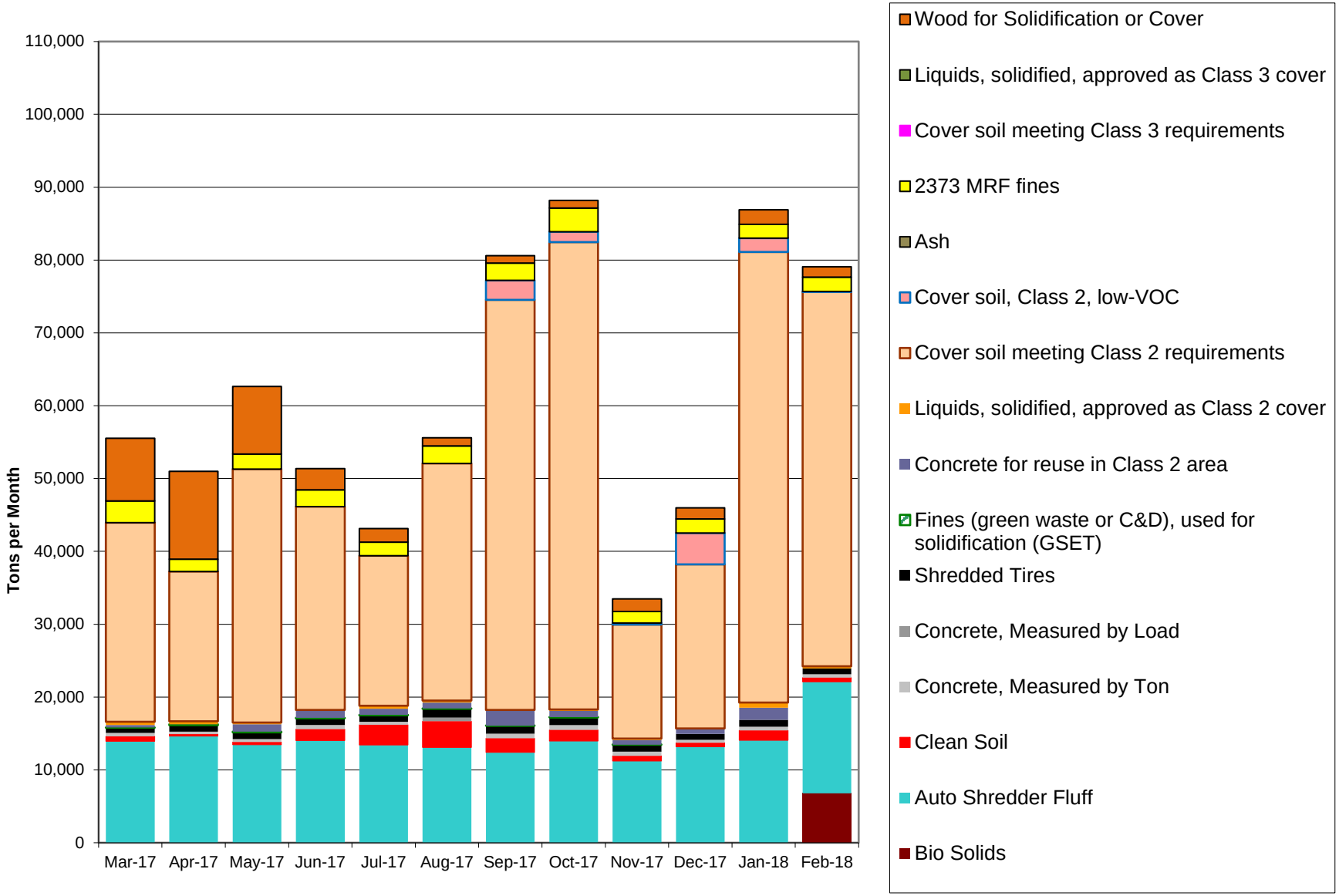
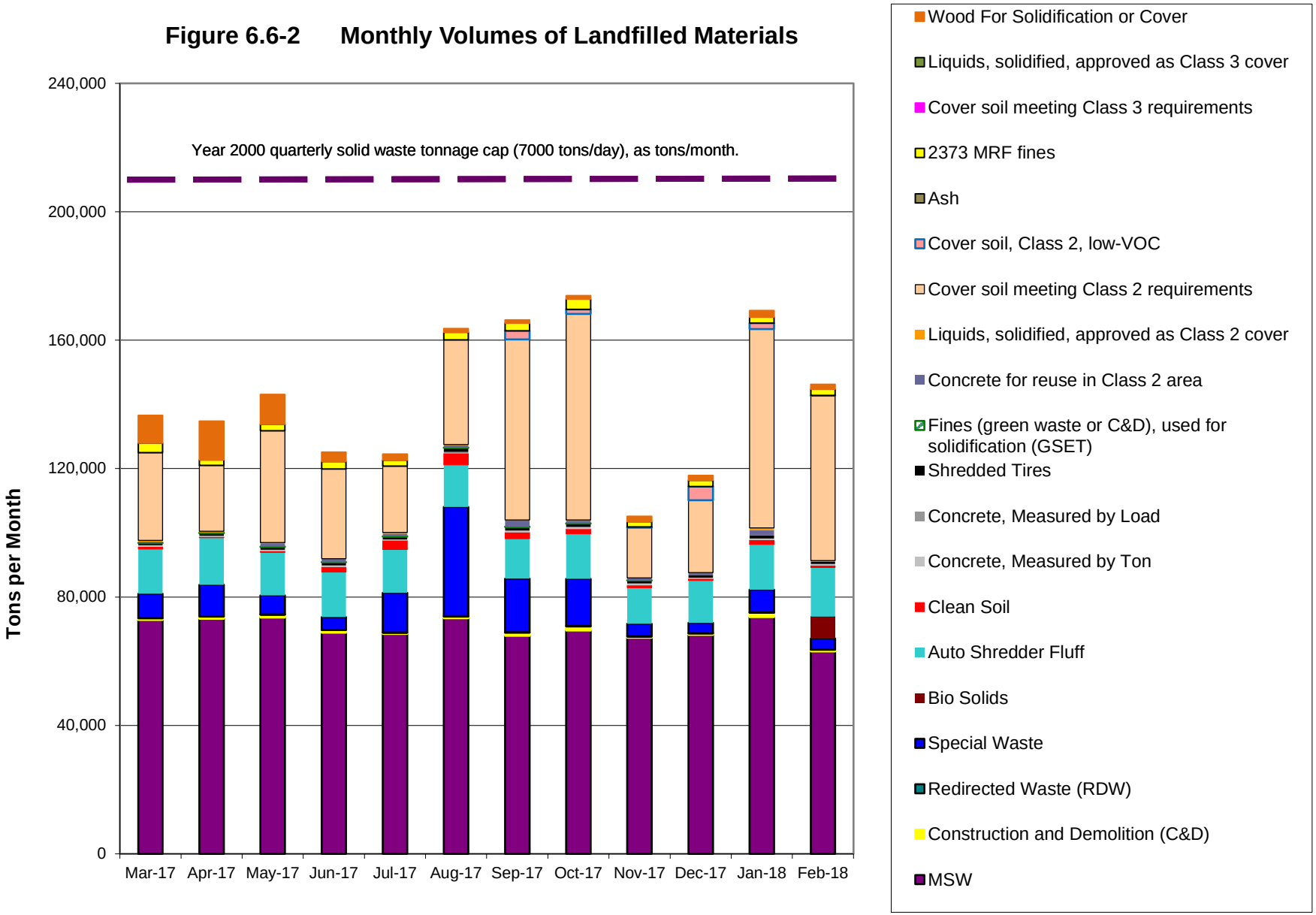


Figure 6.6-2 Monthly Volumes of Landfilled Materials



memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.7 - 2017 Draft Annual Report

One comment has been submitted regarding the draft Annual Report. Mr. Tom Padia of StopWaste has provided corrections and clarifications regarding StopWaste's role as described in section 1.5.1.5. They are shown in ~~strikeout~~ / underline format below. With the Committee's approval of this change, and no other revisions from Committee members, this Annual Report will be finalized and posted.

At the local level, the Alameda County Waste Management Authority and the Source Reduction and Recycling Board (StopWaste) waste-diversion goal is continuing to be pursued, most recently through the implementation of ~~(a)~~ mandatory recycling and composting at businesses and multi-family accounts ~~and (b) source separation of compostable materials in many Alameda County cities~~. These requirements are implemented at the local level, by each of StopWaste's member agencies (except Dublin, as of 12/31/17); ~~in most cases~~ StopWaste provides monitoring and enforcement. In addition, StopWaste has developed, and ~~most~~ all of its member agencies have adopted, a single-use bag ban ordinance; and ~~most~~ StopWaste ~~member agencies have~~ has adopted a countywide ban on the disposal of plant debris in local landfills.

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memorandum

date March 29, 2018

to ALRRF Community Monitor Committee

from Kelly Runyon

subject CMC Meeting of 4/11/18 - Agenda Item 6.8 - Altamontcmc.org Web Site Ease of Use

Earlier this year it became evident that the altamontcmc.org website has outgrown its original structure, with so many documents stored on so few pages that some users cannot see or retrieve those listed at the bottom of the page. Currently, the site consists of four pages, most of which provide links to individual documents:

- Home Page: Links to next agenda packet and the other three pages.
- Techlaw Work 2005 – 2006: Links to 19 documents created by the prior Community Monitor consultant.
- Agendas, Minutes, Memos: Links to 68 documents, most of which are agenda packets or portions thereof.
- Reference Library: Links to 49 documents, in chronological order as posted. Wetlands mitigation documents, documents provided by Committee members at meetings, permit documents, etc.

The following reorganization is proposed:

1. Home Page: no change.
2. Techlaw Work 2005 – 2006: No change.
3. Agendas, Minutes, Meetings: Consolidate fragmented packets. Split into three pages: 2008 – 2011; 2012 – 2015; and 2016 – 2019.
4. Annual Reports: New page containing final versions of all Annual Reports, in chronological order.
5. Reference Library: Split into two pages: Permits and Other Reference Materials
6. Administration: Contracts for Community Monitor services, and related documents.

No changes in style or color scheme are proposed. However, the web host (GoDaddy.com) has upgraded their "Site Builder" tools, and it is not clear if the current style will still be available. If it is not, changes in color scheme and graphical style will be kept to a minimum.

This proposal does not include the addition of tools such as a search function, email feedback, separate style for mobile devices, or other functional improvements. Work would be performed by Kelly Runyon and would require 12 to 16 hours, including testing on four popular browsers. This would not cause an exceedance of the current budget for Community Monitor work. A more limited effort, consisting of item 3 only, would solve the missing bottom-of-page problem and would require two to four hours including testing. With Committee approval of the full or limited proposed effort, the work will be performed in April.

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