

- 1 • Training for CalRecycle and its local enforcement agencies (“LEAs”) on LFG
- 2 issues
- 3 • Training for State solid waste agencies at national conferences
- 4 • Training for public/private landfill clients under private contract
- 5 • Training as an invited speaker at national conferences
- 6 • I am a member of the faculty of the SWANA LFG training program
- 7 6. I have substantial project experience related to LFG, including air quality and

8 greenhouse gas (“GHG”) issues as they relate to LFG emissions, such as:

- 9 • I am a national expert on LFG, GHG, and air quality issues for landfills
- 10 • I have participated in air quality and GHG projects at over 200 landfills
- 11 • I have participated in over 100 LFG investigation and engineering projects
- 12 • I have published over 75 technical papers on landfill air, GHG, and LFG, including
- 13 presentations at conferences and seminars
- 14 • I prepared a guidance document for CalRecycle on best management practice for
- 15 controlling methane emissions from LFG

16 7. SCS and I have had involvement at the Geer Road Landfill since 1996. This

17 involvement has included engineering, construction, and operations and maintenance of the LFG

18 collection and control system as well as groundwater consulting services. Because of this work

19 and history, I have intimate knowledge of the LFG system and its performance.

20 8. Unless otherwise stated, all matters stated herein are based upon my personal

21 knowledge, and if called upon, I could and would testify competently as to their veracity. Those

22 matters stated to be based upon my information and beliefs are believed by me to be true.

23 9. I participated in meetings with the Central Valley Regional Water Quality Control

24 Board (“RWQCB”) staff on January 13 and 18, 2011, in order to discuss the technical aspects of

25 the draft Cease and Desist Order (“C&DO”). My focus at these meetings pertained to the LFG

26 elements of the draft C&DO.

27 10. I have reviewed a draft version of deposition transcript of Wendy Wyels of the

28 RWQCB, taken on February 8, 2011, in this matter. In her deposition, Ms. Wyels makes several

1 statements regarding information on LFG issues that she apparently derived from her discussions
2 with me and other staff at SCS. I do not believe Ms. Wyels' testimony accurately portrayed the
3 information that was told to her.

4 11. Ms. Wyels appears to have confused my attempts to define the term "continuous
5 negative pressure" in the C&DO to allow operational flexibility with an inability to prevent
6 migration of LFG to groundwater or to apply vacuum throughout the waste mass. The discussions
7 I had with Ms. Wyels were intended to explain the need for provisions in the C&DO to allow
8 individual LFG extraction wells off-line under certain circumstances and to have adequate time to
9 resolve zero or positive pressure events at individual wells. Those are contingencies only. The
10 reality is we may never take wells off-line, and in fact, the SCS field personnel responsible for
11 operating the Geer Road LFG system have indicated to me that they have not taken wells off-line
12 in over five years. Furthermore, I expect we will be able to correct most, if not all, zero or positive
13 pressure readings at individual wells immediately upon discovery, but we still need the C&DO to
14 allow us the contingency for additional time to make such corrections. Ms. Wyels has mistakenly
15 suggested that the above requests for allowances for operational flexibility in the C&DO mean that
16 LFG will escape the landfill and impact groundwater each time a well is off-line or not under a
17 vacuum. I did not make such a statement to Ms. Wyels, nor has anyone else at SCS made such a
18 statement, to my knowledge. In fact, the opposite was stated to Ms. Wyels. I was very clear in
19 our meetings that the limited amount of time wells are at zero or positive pressure or off-line does
20 not affect our ability to prevent LFG from migrating to groundwater. In an LFG system, the
21 wells act in concert to control the entire landfill, such that the system can overcome individual
22 wells that are positive or off-line and prevent migration of LFG.

23 12. I clearly stated in our meetings with RWQCB staff, including Ms. Wyels, that I
24 believe that the current LFG system is preventing further impacts to groundwater from LFG, the
25 system could be optimized or expanded if necessary, and that we can keep the entire refuse mass
26 under vacuum despite the fact that certain wells may go to a zero or positive pressure at different
27 times. I did indicate that it is difficult to accurately measure the radii of influence of individual
28 extractions wells and that such radii can vary over time; however, I clearly stated that we can

1 demonstrate the well spacing is adequate through an engineering analysis.

2 13. Ms. Wyels indicated in her deposition testimony that all LFG cannot be recovered
3 through a LFG collection system and thus any gas not collected would impact groundwater. I
4 never made such a statement, and again, stated the opposite. While it is true that no LFG system
5 can collect 100% of the LFGs generated; this does not mean that LFG migration cannot be
6 controlled. As long as enough gas is collected, this will reduce the pressure gradient within the
7 landfill and prevent any uncollected gas from migrating outside of the refuse mass. I told Ms.
8 Wyels and the other RWQCB staff that the cumulative effect of all of the wells operating at once
9 creates a pressure gradient back to the landfill (thus preventing the escape of LFG) and that even if
10 individual wells are under zero or positive pressure or off-line, such a gradient could prevent gas
11 from escaping the refuse mass.

12 14. Ms. Wyels also incorrectly stated that the LFG system at Geer Road is primarily
13 operated to prevent subsurface landfill fires. This is simply not true and was never stated as such.
14 While subsurface fires are a concern, the LFG system at Geer Road is operated with the primary
15 purpose and function to control the emissions and migration of LFG. The subsurface fire issue is
16 a secondary concern that operators must pay attention to but it does not affect the overall function
17 of the LFG system for controlling migration. Ms. Wyels also incorrectly stated that LFG
18 extraction wells are shut down for weeks at a time simply because we find oxygen in a well. This
19 again is not true and was not stated to her. Wells are not taken off-line for oxygen readings as a
20 regular course of business, and such an act would only occur if the levels of oxygen and other
21 parameters (such as increased temperature, presence or carbon monoxide, etc.), indicated a
22 possible subsurface fire. The LFG wells are balanced through valve adjustments to limit oxygen
23 intrusion and prevent subsurface fires but this does not entail taking wells off-line for extended
24 periods of time and does not impact the ability of the overall LFG system to continuously control
25 migration.

26 15. In summary, I believe that the current LFG system at Geer Road is controlling LFG
27 migration and preventing further impacts to groundwater. Furthermore, the technical reports on
28 the Geer Road Landfill and the oral statements SCS has made to RWQCB staff all support our

1 position that an LFG collection and control system at the site can be optimized and/or expanded so
2 that an expanded groundwater extraction system may be unnecessary to achieve compliance with
3 Title 27. SCS statements, in reports and otherwise, indicate LFG recovery along with
4 optimization of the existing groundwater extraction and treatment system is the appropriate
5 remedy for the Geer Road Landfill and that we should be allowed to implement this remedy and
6 track its progress over time.

7 I declare under penalty of perjury under the laws of the State of California that the
8 foregoing is true and correct. Executed on February 14, 2011.

Patrick S. Sullivan

Patrick S. Sullivan

9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

1590152.1