Comments on "Response to Public Comments" Filed by the Bureau of Land Management and the County of Imperial Planning & Building Department for the Proposed Mesquite Regional Landfill EIS/EIR Dated June 1995

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On June 7, 1994 the commentor (Dr. G. Fred Lee) submitted a detailed set of comments on the failure of the draft EIS/EIR for the proposed Mesquite Regional Landfill to comply with CEQA requirements for full disclosure of the potential environmental impacts of this proposed landfill. In June 1995 the Bureau of Land Management and the County of Imperial Planning and Building Department provided responses to Dr. Lee's comments in a Final EIS/EIR for this proposed project. Presented below is a set of comments on many of the significant deficiencies of the Final EIS/EIR to provide full disclosure for public health and environmental issues on the development of the proposed Mesquite Regional Landfill.

On page 177, Comment No. 232, the first comment made by Dr. Lee was that the description of the proposed liner system provided in the draft EIR was inaccurate. The response indicates that Dr. Lee's assessment of this situation was correct. The Bureau of Land Management, the County of Imperial and the landfill applicant had incorrectly described the liner system proposed for this landfill.

Dr. Lee's second comment (No. 233) in which he pointed out that the statements made regarding the adverse impact of the landfill were inaccurate due to the inability of the liner system to collect leachate that would be generated in the landfill, was responded to by reference to the response to Comment No. 110 which begins on page 96 and continues through 113. A discussion of the inaccuracies and deficiencies in Response to Comment No. 110 is presented below.

On page 97, first column, is a self-serving statement which is made on behalf of the landfill applicant where it states that the information provided in the draft EIS/EIR was sufficient to evaluate the potential impacts in accord with CEQA and NEPA. This statement is false. The initial draft EIS/EIR not only did not provide adequate information, it provided highly unreliable information on the ability of the proposed landfill design, operation and closure procedures to conform with California Chapter 15 requirements of protecting groundwater from impaired use for as long as the wastes in the landfill would be a threat. This issue was not only not adequately addressed, but obvious, unreliable information was provided in the draft EIS/EIR on this issue.

A review of the Response to Comment No. 110 on page 97, second column, under the section which is titled, "Basic Design Philosophy," shows that those responsible for

responding to the comments are still providing highly unreliable information to the public concerning the impacts of the proposed landfill. The authors of the FEIS/EIR still have not conformed to the basic CEQA requirements of full disclosure on the potential impacts of this landfill. Based on the Response to Comment No. 110 alone, this FEIS/EIR cannot be certified as a credible discussion of these issues.

On page 97, in the second column, first paragraph, under the Response to Comment No. 110, it is stated that this site has significant natural attributes and continues on to state,

"For example, these natural conditions are preferable to a site located immediately above a permeable aquifer, where contamination would quickly occur as the result of a gas or leachate leakage."

This is highly misleading information. The state of California regulations (Chapter 15) require protection of groundwater from impaired use for as long as the wastes represent a threat. The wastes in the proposed Mesquite Regional Landfill will be threat forever. Therefore, the length of time to when pollution occurs is not necessarily an attribute and, in fact, may be a detriment. If pollution occurs quickly at an inappropriately designed and sited landfill, such as the Mesquite Regional Landfill, then those who generate the wastes that are placed in the landfill would be responsible for having to pay for clean-up of the pollution. If pollution occurs slowly, as is claimed by the authors of the FEIS/EIR, then this burden to pay for groundwater pollution clean-up is passed on to future generations. There are many, including the commentor, who feel that the burden for the cost of managing solid waste should be borne by those who generate the wastes that are placed in the landfill and not passed on to future generations.

Another deficiency in the Response to Comment No. 110 is the discussion in the second column, second paragraph, on page 97 regarding the highly deficient monitoring program for detecting leakage from the landfill. This is demonstrated by the statement that,

"For example, no ground water monitoring wells are proposed for areas directly beneath the landfill, where they could provide a potential pathway for gas or leachate directly to the saturated zone."

It is well-known by those familiar with the topic area that there is no need to place groundwater monitoring wells beneath the landfill to detect pollution by landfill leachate. A proper discussion of this issue would have included the fact that there are a number of states, at this time about half a dozen, which use double composite lined landfills, such as in the state of Michigan under Rule 641, where the lower composite liner is not a containment liner but part of the leak detection system for the upper composite liner. Using this approach, it is possible to determine before the unsaturated zone or saturated zone pollution occurs that the upper composite liner (Subtitle D liner) has failed.

Since submitting the original set of comments in June 1994, Dr. Lee and his associates have published a paper, "A Groundwater Protection Strategy for Lined Landfills," in a national refereed journal dealing with this topic area. Appended to this response to

comments is a copy of this paper which specifically discusses alternative approaches for monitoring of pollution. The same information was provided in the response to comments in June 1994. At that time, the paper had not been published, but was included in preprint form. It has now been published after extensive peer review.

Further, Dr. Lee and his associates have been asked to develop a paper for the American Society of Civil Engineers national meeting that will be held in San Diego in October 1995 dealing with landfill closure issues. Enclosed is a preprint of that paper, "Overview of Landfill Post Closure Issues," which discusses many of the key issues that should have been discussed in the FEIS/EIR in response to comments made by Dr. Lee and others on the deficiencies in the draft EIS/EIR.

On page 97, second column, third paragraph, it claims as a natural site attribute the fact that on an annual basis evaporation exceeds rainfall. As discussed previously, however, there are times, even in a desert climate such as that where the Mesquite Regional Landfill would be located where evaporation does not exceed rainfall, with the result that there is recharge of groundwater in the region. There is no question about the fact that leachate will be generated at this landfill and that this leachate will eventually pollute groundwaters of the region. This Response to Comment is significantly deficient since it still provides unreliable, inaccurate and inadequate information on these issues.

On page 98, first column, first paragraph, it states that,

"That data showed the existing soil moisture content is below the field moisture capacity. This condition indicates that there presently is insufficient moisture in the vadose zone materials to cause downward migration of water."

It is clear that the authors of this FEIS/EIR still do not understand the basic fluid flow issues associated with vadose zone transport. Vadose zone transport of water and leachate occurs under conditions where the field capacity is not exceeded. This is another of the fundamental errors that occurs in this document that shows that the authors do not understand the topic on which they are writing. Basically, those responsible for this section are technically incompetent in the topic of vadose zone transport.

On page 98, the remainder of the first column and through the second column, there is discussion presented on why the development of monitoring systems for individual waste management modules (sections of the landfill) is protective. That statement is not true. Individual monitoring systems as well as the overall monitoring system are not adequate to provide for Chapter 15, Article 5 requirements of detecting leachate pollution of the groundwater system in the unsaturated zone and in the saturated zone at the point of compliance before widespread pollution occurs. This issue was discussed in detail in the draft EIS/EIR comments by the commentor (Dr. Lee) and still has not been addressed by the applicant.

The statement on page 98, second column, second paragraph about once the final cover is put in place that there will be

"...almost no infiltration would occur through daily and intermediate cover materials placed at 10-foot-vertical intervals as the height is raised.
** * **
These same studies also show that the potential for infiltration after the final cover is installed is essentially zero."

The referred to studies are fundamentally flawed in providing reliable information on the potential for moisture to enter the landfill and generate leachate through the daily and intermediate cover as well as through the final cover for as long as the wastes represent a threat. Wastes will be a threat forever. The final cover has to perform perfectly forever to exclude moisture from entering the landfill if the performance that the authors of the FEIS/EIR claim will be achieved is, in fact, to be achieved. No one who is technically competent in the field of landfill containment systems can claim that the proposed design coupled with the proposed maintenance system as described in the draft EIS/EIR and in the FEIS/EIR could be expected to function properly forever to exclude moisture from entering the landfill. This issue is discussed in the enclosed paper on landfill closure issues that is incorporated into these comments.

The statement on page 98, second column, end of the second paragraph, *"As a result, the potential for long-term leachate flow in any particular area (or segment) is also essentially zero."* is not reliable; it is inaccurate. The author(s) of this section have not provided reliable information on the potential for leachate generation in this landfill. They evidently do not understand and certainly have not reliably reported on the processes in a landfill that lead to leachate generation and landfill gas formation. These processes were discussed in the papers that were provided as enclosures in the draft EIS/EIR comments provided by Dr. Lee. These papers and those comments are incorporated as part of the materials that support this set of comments. While this paper is a new summary of key issues, the same information was presented in the original comments and appendices on the draft EIS/EIR. The facts are, both landfill gas and leachate will at times be generated in this landfill for as long as the wastes in the landfill represent a threat, i.e. forever. This landfill gas and leachate will, in turn, pollute groundwaters in the vicinity of the landfill, violating the state of California Chapter 15 regulations. Any EIS/EIR that tries to portray the system otherwise is misrepresenting the facts concerning what will occur at this landfill under its current design.

Page 99, first column, second paragraph, states,

"These designed control systems would be assisted by natural degradation factors that would result in the earliest decline of LFG generation rates in the bottom areas of each segment."

It is clear that the author(s) of this section do not understand and/or have not reliably reported on the landfill gas generation issues associated with this proposed landfill. Those familiar with the topic area of landfill gas generation in a landfill of this type know that in a wet climate where there are 30 to 40 inches of rain per year entering the landfill that on a surface of a permeable cover for a landfill where most of it enters the landfill, that

landfill gas production occurs over a 40 to 50 year period. In a dry climate, the landfill gas production period is considerably extended because of the slow rate at which gas production occurs under low moisture. Even in a wet climate, however, the degradation that occurs in a 10-year period under normal moisture conditions is still not sufficient to be able to claim that so-called natural degradation is playing a significant role in preventing groundwater pollution by landfill gas.

In a dry climate where the gas production rates are less and the time of production, therefore, is extended, contrary to the statement made, the natural degradation will not be a significant factor in influencing the pollution of groundwaters by landfill gas that will be developed in the proposed Mesquite Regional Landfill. This is another of the inaccurate, unreliable and non-factual statements that prevailed through the draft EIS/EIR and now prevail through the Response to Comments in the proposed FEIS/EIR which make the FEIS/EIR non-certifiable under NEPA and CEQA.

The Response Figure 5 presented on page 100 which is supposed to portray landfill gas production in the proposed Mesquite Regional Landfill has no technical validity. The amount of landfill gas produced in this landfill will not be anything like that proposed in this figure. The author(s) of this section have not properly evaluated the effect of moisture content on landfill gas production rates and duration. Information was provided in the previously submitted references by the commentor (Dr. Lee) which discussed this issue of how landfill gas production is influenced by moisture content of the waste. The authors of the FEIS/EIR have chosen to ignore the materials provided by Dr. Lee and are perpetuating highly unreliable information on landfill gas production rates and duration in the FEIS/EIR.

On page 99, bottom of the first column, a statement is made to the effect that all Subtitle D landfills will eventually pollute groundwater. The statement, however, about not being able to address this problem in Subtitle D landfills is highly unreliable. It is possible, as discussed in the materials that were provided in the comments on the draft EIS/EIR and in the enclosed paper on landfill closure issues, to construct Subtitle D landfills which will, in fact, protect groundwater quality from impaired use in accord with state of California regulations set forth in Chapter 15. Therefore, the statement that the Mesquite Regional Landfill will follow the same approach as other Subtitle D landfills of eventually polluting groundwater is no justification for allowing the Mesquite Regional Landfill to be constructed as proposed. This landfill could be designed, operated, closed and maintained to conform to Chapter 15 requirements. The authors of the FEIS/EIR have again misrepresented the situation at the Mesquite Regional Landfill.

Page 99, second column, onto page 101, first column, discusses the so-called redundancy that is built into the design of the Mesquite Regional Landfill to prevent leachate from passing out of the landfill into the underlying aquifer. Page 101, first column presents the results of a so-called modeling effort of two defects in the FML's being lined up which is supposed to support the notion of the low probability of leakage through the so-called three- component composite liner. In the draft EIS/EIR several investigators, including the commentor, pointed out that the authors of the draft EIS/EIR did not even know the

terminology that is used in the field to describe composite liners. At least the author(s) of this section now have learned the terminology that is used in the field with respect to composite liners.

The authors of the FEIS/EIR, however, have shown their lack of understanding of the processes that occur within liners associated with leakage by developing a model that assumes that the only way that leachate can get through the liners is through defects in the FML's being lined up, where the hole in the upper FML is lined up with the hole in the lower FML. Those who understand the elements of these issues know that assuming that only leakage can occur when the defects are lined up is highly inaccurate, inappropriate and technically invalid. Why cannot leachate pass through the upper FML down to the lower FML and move laterally down the FML toward the sump where it encounters a hole, rip or tear and then passes through the FML into the underlying groundwater system? There is no need for the holes in the FML's to be lined up for this proposed liner to leak. The author(s) of this section have again provided highly unreliable, technically invalid information which causes this proposed FEIS/EIR to be non-certifiable and, for that matter, not even a credible, technical document for the issues discussed.

Page 101, Response Table 9, lists the so-called redundancy and complementary factors that have been designed into this landfill containment system. This table is highly misleading and fails to discuss the true characteristics of the various components of this so-called redundancy. A brief summary of some of the deficiencies in some of the material presented in Table 9 is presented below.

Under "Groundwater Protection Consideration" in the first column, the first item is: "Minimization of the Potential for Leachate." The bottom-line issue that should have been discussed is that while the various things that have been done minimize leachate development, they do not prevent it. Further, some of the components, such as a low permeability cover, will have low permeabilities for a short time after construction. However, over time the permeability of the cover will increase and eventually, unless large amounts of money are periodically spent replacing the cover, appreciable moisture will enter the landfill with rainfall events that can generate large amounts of leachate. It is for this reason, as discussed in the enclosed paper, that landfills of this type must be closed with leak-detectable covers which are now commercially available, and these covers must be operated and maintained for as long as the wastes in the landfill represent a threat.

The next so-called redundancy item is the "LCRS Function." The key to the performance of a leachate collection and removal system (LCRS) is the integrity of the flexible membrane liner (plastic sheeting) that is used. What is not discussed here is the fact that the flexible membrane liner systems that are used will deteriorate over time and eventually become non-functional - ineffective in collecting leachate. A specific quote was provided (see page 181, Comment No. 251) from US EPA documents in the June 1994 comments submitted by the commentor to this issue. The June 1995 "Response to Comments" did not address this issue other than referring to Response to Comment No.

110. However, review of Response to Comment No. 110 shows that this issue was not addressed in that response.

The authors of the FEIS/EIR have followed a typical project proponent ploy of claiming that they have addressed the issues raised by the commentors when, in fact, they failed to address key issues. This is exactly what happened with respect to the comments on the inevitable deterioration of the LCRS. Since this system is buried under garbage, it cannot be repaired. The subsurface migration potential does not state that the various factors that are discussed herein in this table only postpone when leachate pollutes the groundwaters of a region; they do not prevent it.

Under "Gas Control and Monitoring" the use of downgradient monitoring wells is mentioned. As discussed above and in the enclosed papers, such monitoring wells are highly ineffective in detecting leachate and gas at the point of compliance before widespread groundwater pollution occurs.

On page 102, second column, under "Low Permeability Liner," it is stated that,

"The liner system is designed to control any leachate that might develop. The liner system is also designed to prevent downward migration of LFG in the event the vacuum control system was not successful in maintaining a negative pressure at the base of the landfill."

This is highly unreliable reporting on the characteristics of the landfill liner system. While the system may be designed to achieve these objectives, the facts are that the materials that are used (plastic sheeting and compacted clay) can function effectively for a relatively short period of time in achieving these objectives, provided that high quality construction is achieved at the time of construction of the liner system. There is no question, however, as was quoted in the materials provided in the initial comments on this draft EIS/EIR that ultimately the liner system will deteriorate to the point where it will become ineffective in preventing leachate migration through the liner. This is what should have been discussed in a properly developed FEIS/EIR for this landfill that conforms to CEQA requirements for full disclosure.

With reference to the statement that the proposed liner exceeds minimum requirements set forth by the state of California and the US EPA, it should have been pointed out that minimum requirements are well-recognized not to be adequate at all sites to protect groundwater from pollution by landfill leachate. The issue that should have been discussed is will the liner system proposed prevent leachate from passing through it and polluting groundwaters for as long as the wastes in the landfill represent a threat. This was the issue raised by the commentor. The reason that this was not discussed by the applicant in the FEIS/EIR is that it is obvious that this liner system will not achieve this objective.

This report continues to provide technically invalid information on how leakage occurs through liners where on page 103, first column, under the second bulleted item, it is stated, *"The likelihood of this occurring is orders of magnitude less than the potential for*

a defect or weakness in any single liner component such as a clay layer." The weakness or defect issue discussed is that of defects in one layer lining up with the defects in the next layer. As discussed above, this is not a necessary requirement for leakage. Those who understand composite liners know that the true barrier is the flexible membrane liner. The underlying clay only slows down and limits the rate of leakage that occurs through holes in the FML. Leakage will occur through the compacted clay, even if it is perfectly in accord with design. The clay only slows down but does not prevent pollution. It is important to understand that the issue that should have been discussed herein is whether this liner system conforms to the Chapter 15 requirements of preventing the pollution of groundwaters for as long as the wastes in the landfill represent a threat. The author(s) of this section, wisely from the client's perspective, chose not to discuss this, since if they had discussed it truthfully, they would have had to admit that this liner system cannot perform to the requirements set forth in Chapter 15.

On page 103 at the bottom of the first column, top of the second, it again perpetuates the erroneous conclusion that any water that enters the landfill would be evaporated and that the leachate collection and removal system will function perfectly forever, i.e. as long as leachate could be generated in the wastes. This section is more of the propaganda that the applicant is putting forth which might convince those not familiar with the true properties of these systems that this landfill would protect groundwater in accord with state regulations. This is certainly not the case.

Over the next few pages the author(s) of this section have repeated the same errors that have been discussed elsewhere. Discussion of these points is not repeated here, but has been discussed in the original comments on the draft EIS/EIR as well as in other sections of the current comments.

On page 108 through part of 109 is a discussion of so-called liner material chemical performance and longevity. The propaganda presented in this section does not discuss the issue of whether the liner materials conform to the Water Resources Control Board's Chapter 15 requirements of preventing leachate migration through them that could result in groundwater pollution for as long as the wastes in the landfill represent a threat. This is the issue that should have been discussed. This was the issue that was raised by the commentor in previous comments. It was not discussed because obviously the wastes will be a threat forever and the liner materials have a finite period of time in which they could function effectively.

On page 111, second column, "Monitor System Spacing" is more of the highly inaccurate information provided by the author(s) of this section. It is stated that the radius of spreading from a leak in the liner system would be 45 degrees. Anyone who is familiar with the true radius of spreading from a leak through a liner knows that the lateral spread is very limited. This was described in the materials provided by the commentor originally by Dr. John Cherry who is the international authority on this topic from the University of Waterloo. It is also described in the extensively peer-reviewed paper that the commentor has published this past December in *Environmental Science and Technology.* A copy of this paper is enclosed. The author's statements about the spreading and therefore needing

only a few monitoring wells downgradient are erroneous. There is no question that leachate will pass through the liner system into the aquifer underlying the liners, pass by the monitoring wells and never be seen by these wells.

On page 112, first column, third paragraph, it mentions that the vadose zone monitoring would be spaced at 300-foot centers. Three hundred-foot centers is not adequate to detect gas migration.

Page 112, second column, third paragraph, discusses the use of the HELP model to predict leachate generation. The HELP model is only reliable at the time that the landfill is constructed; it cannot be reliably applied to older landfills since the appropriate coefficients needed for its use are unknown.

Overall, the Response to Comment No. 110 provides highly unreliable, inaccurate, deliberately misleading discussion of landfill containment system characteristics. This section is highly biased toward support of the applicant and fails to conform to CEQA requirements of providing full disclosure on issues that are pertinent to public health and the environment. The real performance that will be achieved by the landfill containment system and the monitoring system is that, at best, this system will only postpone when groundwater pollution occurs and that the monitoring system that has been selected by the applicant for this landfill will not detect groundwater pollution before widespread pollution occurs.

On page 178, in Response to Comments No. 235 and 236 made by the commentor (Dr. Lee), the applicant now admits that the landfill will contain hazardous wastes.

On page 178, Response to Comment No. 238 refers to Response to Comment No. 110. However, review of Response to Comment No. 110 shows that it does not address the issues raised in Comment No. 238 or at many other locations where the responders have used "See Response to Comment No. 110" in response to comments raised by the commentor.

On page 181, with reference to Comment No. 252, the statement made in the Response that dioxin generation occurs at higher temperatures than occur in landfill gas flares represents more of the erroneous material that is provided in the "Response to Comments." In the commentor's original comments, a specific reference was given to work by English engineers that show that landfill gas flares do, in fact, generate dioxin. This issue was not addressed in the "Response to Comments."

On page 186 in Response to Comment No. 270 it is stated that the FEIS/EIR is in full compliance with NEPA, CEQA and the attendant regulations. The responders did not address the primary issues raised by the commentor of full disclosure of issues of concern to decision makers and the public who could be impacted by this landfill, either directly through the pollution of their environment or the residents in Imperial County ultimately having to spend large amounts of money to clean up an improperly sited, designed, constructed, operated and closed landfill.

It is noted that the BLM and Imperial County representatives responsible for shepherding the development of this FEIS/EIR failed to include as part of the materials submitted a copy of the papers and reports which provide technical back-up to the comments made by the commentor (Dr. Lee) on the highly significant deficiencies in the draft EIS/EIR. This appears to be a deliberate attempt to mislead the decision makers and others who would review this into believing that the comments made by Dr. Lee are not based on a significant body of technical data which clearly demonstrates that Dr. Lee's comments are appropriate in describing this landfill as a landfill that will only postpone when groundwater pollution occurs. Therefore, it will not conform to the minimum performance standards set forth in Chapter 15 of preventing groundwater pollution by landfill-derived constituents (wastes) for as long as the wastes in the landfill represent a threat.

It is important to note that the issue is not simply failing to provide attachments to comments in the responses since the FEIS/EIR does provide attachments for other commentors. It is that evidently the landfill applicant with the BLM and Imperial County staff do not want to have in the "Response to Comments" materials that could be readily reviewed by the public which were submitted by Dr. Lee on two different occasions to Mr. T. Zale which demonstrate that the comments made by the applicant and which are apparently supported by BLM are technically in error. This situation raises serious questions about the objectivity of BLM staff and Imperial County staff in conducting the FEIS/EIR. It is requested that the previous appendices submitted by the commentor as well as the enclosed appendices be part of the administrative record and be included in any printing of comments so that the public and decision makers can readily review this material and judge for themselves the appropriateness of the applicant's comments vs. those of Dr. Lee.

Based on Dr. Lee's past experience whenever someone submits appendices as technical support for statements made in order to save writing out the same materials again that are already published in the refereed literature directly in the comments, normally the applicant will at least acknowledge that the appendices were present and often will comment on them. The appendices are a key part of the comments and have to be commented on if the CEQA "Response to Comments" is valid. By ignoring the appendices, as has been done in this FEIS/EIR, the "Response to Comments" is significantly deficient and cannot be judged adequately.

If there are any questions about the technical validity of Dr. Lee's comments on the highly significant deficiencies in this FEIS/EIR in reliably describing the potential for the proposed Mesquite Regional Landfill to pollute groundwater and thereby be in violation of regulatory requirements, the commentor requests that those who claim that Dr. Lee's comments are invalid be required to put forth the basic reasoning for their claims with any supporting materials so that the issues can, in fact, be peer reviewed by knowledgeable individuals. Dr. Lee is confident that such a review will show that the applicant and their consultants' position on these issues is technically invalid and that Dr. Lee's comments on these issues are appropriate.

Overall, the "Response to Comments" falls far short of providing a credible CEQA and NEPA document. This FEIS/EIR must be determined to be inadequate and rejected because of its lack of technical validity and failure to provide full disclosure.

List of Enclosures

Lee, G.F and Jones-Lee, A., "A Groundwater Protection Strategy for Lined Landfills," Environ. Sci. Technol. 28(13):584-585 (1994).

Lee, G.F. and Jones-Lee, A., "Overview of Landfill Post Closure Issues," To be presented at American Society of Civil Engineers Convention session devoted to "Landfill Closures - Environmental Protection and Land Recovery," San Diego, CA, October (1995).

Lee, G.F. and Jones-Lee, A., "Landfilling of Solid & Hazardous Waste: Facing Long-Term Liability," IN: Proc. of the 1994 Federal Environmental Restoration III & Waste Minimization II Conference, Hazardous Materials Control Resources Institute, Rockville, MD, pp. 1610-1618, April (1994).

Lee, G.F. and Jones-Lee, A., "Wet Cell Versus Dry Tomb: Pay a Little Now or More Later," MSW Management 5(1):70,72 (1995).

Lee, G.F. and Jones-Lee, A., "Dry Tomb" Landfills: Not Even Mummies Stay Buried Forever," Submitted for publication, MSW Management July (1995).

Lee, G.F. and Jones-Lee, A., "Recommended Design, Operation, Closure and Post-Closure Approaches for Municipal Solid Waste and Hazardous Waste Landfills," Report of G. Fred Lee & Associates, El Macero, CA, 14pp, August (1995).

Municipal Solid Waste Landfills and Groundwater Quality Protection Issues--an updated listing of Dr. G.F. Lee's and Dr. A. Jones-Lee's publications devoted to landfills and solid waste issues

Summary of Biographical Data - G. Fred Lee, PhD, PE, DEE

Recent and Current Activities of G. Fred Lee, Ph.D., D.E.E. and Anne Jones-Lee, Ph.D. in the Area of Landfills and Groundwater Quality Protection Issues

Reference as: "Lee, G. F., 'Comments on 'Response to Public Comments' Filed by the Bureau of Land Management and the County of Imperial Planning & Building Department for the Proposed Mesquite Regional Landfill EIS/EIR Dated June 1995,' Report G. Fred Lee & Associates, El Macero, CA, August (1995)."