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AGENDA

SPECIAL MEETING

SANTA FE SOLID WASTE MANAGEMENT AGENCY
JOINT POWERS BOARD

DECEMBER 13, 2012
5:00 P.M.
CITY COUNCIL CHAMBERS
CITY HALL
200 LINCOLN AVENUE
SANTA FE, NM

CITY CLERK RECORDED 12/13/2012

I. Call to Order

II. Roll Call

III. Approval of Agenda

IV. Approval of Minutes for Regular Meeting - November 15, 2012

V. Matters from the Executive Director

(A) Discussion with Possible Action on Options for the Vertical and Lateral Expansion Components of the Caja del Rio Landfill as Part of the Permit Renewal and Modification.

(1) Presentation from Executive Director and CDM Smith Regarding Options for the Vertical and Lateral Expansion Components of the Caja del Rio Landfill as Part of the Permit Renewal and Modification.

(2) Public Comments.

(3) Discussion and Possible Action to Select Option for the Vertical and Lateral Expansion Components of the Caja del Rio Landfill as Part of the Permit Renewal and Modification.

VI. Adjournment

Anyone needing further information or requiring special needs for the disabled should contact Sally Padilla at (505) 424-1850, extension 150.

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SOLID WASTE MANAGEMENT AGENCY
JOINT POWERS BOARD MEETING
Legal Conference Room
Santa Fe County Courthouse
December 13, 2012

I. CALL TO ORDER

A meeting of the City and County of Santa Fe Solid Waste Management Agency Joint Powers Board (SWMA) was called to order by Commissioner Virginia Vigil, Chair, on Thursday, December 13, 2012, at approximately 5:15 p.m., in the City Council Chambers Santa Fe County Courthouse, 102 Grant Avenue, Santa Fe, New Mexico.

II. ROLL CALL

MEMBERS PRESENT:
Commissioner Kathy Holian
Councilor Peter N. Ives
Councilor Christopher M. Rivera
Commissioner Virginia Vigil

MEMBERS EXCUSED:
Councilor Bill Dimas
Commissioner Daniel Mayfield

STAFF PRESENT:
Randall Kippenbrock, Executive Director – SWMA
Angelica Salazar, SWMA
Justin Miller, Legal Counsel
Melessia Helberg, Stenographer

There was a quorum of the membership in attendance..

III. APPROVAL OF THE AGENDA

MOTION: Commissioner Holian moved, seconded by Councilor Rivera, to approve the Agenda as presented.

VOTE: The motion was approved unanimously on a voice vote.

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IV. APPROVAL OF THE MINUTES FOR REGULAR MEETING – NOVEMBER 15, 2012

MOTION: Commissioner Holian moved, seconded by Councilor Ives, to approve the minutes of the regular meeting of November 15, 2012, as presented.

VOTE: The motion was approved on a voice vote with Councilor Rivera abstaining [3-0-1].

V. MATTERS FROM THE EXECUTIVE DIRECTOR

(A) DISCUSSION WITH POSSIBLE ACTION ON OPTIONS FOR THE VERTICAL AND LATERAL EXPANSION COMPONENTS OF THE CAJA DEL RIO LANDFILL AS PART OF THE PERMIT RENEWAL AND MODIFICATION.

(1) PRESENTATION FROM EXECUTIVE DIRECTOR AND CDM SMITH REGARDING OPTIONS FOR THE VERTICAL AND LATERAL EXPANSION COMPONENTS OF THE CAJA DEL RIO LANDFILL AS PART OF THE PERMIT RENEWAL AND MODIFICATION.

A Memorandum dated December 6, 2012, with attachments, including a Memorandum of December 4, 2012, from CDM Smith, to the SFSWMA Joint Powers Board, from Randall Kippenbrock, Executive Director, is incorporated herewith to these minutes as Exhibit "1."

A copy of a power point presentation *Options for the Vertical and Lateral Expansion Components of the Caja del Rio Landfill as Part of the Permit Renewal and Modification*, presented by Santa Fe Solid Waste Management Agency and CDM Smith, Inc., is incorporated herewith to these minutes as Exhibit "2."

Mr. Kippenbrock introduced Danita Boettner and Kelly Collins of CDM Smith.

Mr. Kippenbrock gave a brief background on landfills. In the late 1970's, the EPA came out with the Resources [Conservation] Recovery Act, and it talked about managing hazardous materials. In 1993, they added a Subtitle D section to that which included managing hazardous waste at a municipal landfill. At that time, the City and the County of Santa Fe recognized that it was coming forth and in 1993, they collaborated to develop a regional landfill which would meet those requirements. By 1995, they formulated the Joint Powers Board through a JPA, and received a permit from the State Environment Department for the Caja del Rio Landfill. In May 1997, the facility was opened.

Mr. Kippenbrock said he arrived in 2004, and in 2006, they took over the Buckman Road Recycling and Transfer Station, from that we diverted all the small vehicles which made the landfill more efficient and reduced the vehicle traffic using that facility. In 2005, we recognized that the basalt at the landfill is a challenge or concern. In one of the Joint Powers Meetings we recognized we needed to deal with the basalt by continuing to blast and excavate the material. Several years later, we were able to do a marketing thing through Delhur, noting we entered into an 8-year construction contract with Delhur in 2006, which will expire in 2014.

Mr. Kippenbrock said in 2007, we identified land which is east of the existing landfill, and determined through geo-technical evaluation that there is no basalt to at least 90 feet. In 2008, we got the BLM to give us the approval to change the land use of the BLM from non-disposal activity to disposal activities. He said with the NMED regulation in New Mexico, the size of the facility can be no greater than 500 acres. He said we currently own 430 acres, noting overall we have 630 acres, but we use only 430 acres.

Mr. Kippenbrock continued, saying in the presentation when you see the words permit renewal, that is another unique thing about New Mexico which requires a municipal-owned landfill to renew its permit every 20 years, noting we got our permit in 1995. He said the renewal is coming up in 2015, and generally it is desirable to start this process 2-3 years ahead of time. He said modification is another matter, and deals with expanding the capacity of the landfill, such as going laterally, making it wider or vertical, making it deeper and higher.

Mr. Kippenbrock said earlier this year SWMA entered into an agreement with CDM Smith to help us out with the permitting application and renewal.

Mr. Kippenbrock and Kelly Collins, CDM Smith presented information via power point. Please see Exhibits "1" and "2" for specifics of this presentation.

Ms. Kelly said to be able to forestall having to look for another landfill site, and use the current site for the maximum amount of time, the overall recommendations are:

1. Maximize landfill area with the expansion with the expansion onto the BLM land – this results in an increase of 42% in the area for waste disposal and the addition of 25 to 32 years of landfill life.

2. Maximize landfill volume by increasing the depth and height of disposal areas to the greatest extent – extend the useful life of the facility from 72 to 92 years.

3. Work with the public to alleviate concerns to the extent possible before submitting the permit renewal application. A Community meeting has been scheduled tentatively for January 10, 2012, to go over this same information.

The Board commented and asked questions as follows:

- Councilor Ives said Ms. Collins said we know the depth of the existing landfill, but he noted in one of the attachments there was a lack of clarity on page 2 of the Memo from CDM Smith to Mr. Kippenbrock. He said #7 says, "The cell boundaries and base grades in the Cells 1 through 6 area have been approximated using permit and construction drawings, not as built information." He asked the reason we don't have as-built information, and what is the margin of potential error in understanding what the depth is.

Ms. Collins said they do have the as-built information now, which has been provided by the surveyor since the Memo was written, so they will be correcting differences between what is shown there and what is not. She said, "To clarify what I said, or what I intended to say, it is not necessary that we know the depth, but we can't change the depth of the current landfill because it's filled with waste."

- Councilor Ives said in #2 there is reference to 20% of the air space, which is the volumetric measurement of empty space into which material is put. It says, "20% of the airspace is occupied by daily soil cover." He asked if this is the 6 inches of dirt to which she was referring.

  Ms. Collins said, "Yes, that is put on every day, and so that is included in the calculation of how much waste, or how long it takes to fill that up."

- Councilor Ives noted #4 says, "The calculated ratio of waste volume to total volume is 83%," so if you have waste of 83% plus 20% dirt, it seems to add up to 103%. He asked where his math is off – what he isn't understanding.

  Danita Boettner, Project Engineer, CDM Smith, said, "In the method that we used in calculating this, we assumed 20% of the volume of waste coming in the facility, as opposed to 20% of the whole volume. So, that's where this ratio gets a little skewed. It's really just a margin of error."

- Councilor Ives said at one point, Ms. Collins mentioned that 60 feet was the deepest, but on page 2, it says..."Depth of the Current Landfill area varies between 30 and 70 feet." He said he is just trying to reconcile figures.

  Ms. Collins said that has to do with the shape of the BLM area which is much narrower than the current landfill error. In order to maintain a slope that can be worked on, that trucks can drive on, with the width that you have you can only go down 60 feet and still have a floor to work on at that particular location.

- Councilor Ives said there is another calculation that 10 feet adds an additional year. He said if this is done again, he would ask that the power point slides be one per page so they are legible. He said he looked at the figure in the Vertical Expansion Landfill Depth BLM area, and it talked about the 3 depths proposed. He commenting he is trying to understand the 10 foot reference. He asked if we are talking about the whole 42 acres, and Ms. Collins said yes.

- Councilor Ives said, so basically we put in 10 feet of fill every year across 42 acres.

  Ms. Collins said this is correct, so you see in the table, the difference in the 3 different depths is at best a year, and in some cases it's less than a year.

- Councilor Ives said at times it seems, again, the numbers going across were the same in certain years and then different in some years, so he was just trying to reconcile the stated algorithms for how you calculate this. He said he imagines each landfill is different in this regard.

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- Councilor Ives said Ms. Collins mentioned at one point in time that something was engineered to the height of the basalt pile, as it is what was there, and he missed the point she was making, and asked her to clarify that remark.

  Ms. Collins said when they were looking at what the maximum height that might be acceptable in the surrounding viewshed, considering what was already there, the existing basalt pile has been accepted. And so if we didn't build anything higher than that, then that probably would be accepted too. So, the maximum height that we analyzed, the H3 for the current landfill, is approximately the same height as the basalt pile that is there at the landfill now.

- Councilor Ives said, "Certainly from the distances the photographs were taken, and I presume this was probably a 55 or 50 mm lens."

  Ms. Collins said it was basically to present the photo as if you were standing there, not zooming in on it to make it bigger than it appears to be.

- Councilor Ives said 55 mm is pretty much human eye optics. He said the pictures don't suggest any significant viewshed disruption against the background of the mountains, so he is unsure if the basalt reference level was necessarily germane. He said the heights that have been allowed by the EID on those other landfills are much more interesting. He would be curious to understand more why EID is allowing some landfills up to 220 feet, the height to which the Rio Rancho Landfill was permitted, which is fairly significant. He realizes it's above ground level. He said, "Part of the question was does the height variance depend on how low the sort of beginning point is if you're beginning from ground level, and how that plays out in this calculation from EID's perspective."

  Ms. Collins said she went to ED and looked through all of the permits to gather those numbers. And the way she developed them was by looking at where the ground level was and then measuring how, in their permit, it was above that. She said it wasn't from the lowest point and it wasn't from the highest point, it was from a point that was in between the highest and the lowest.

- Councilor Ives asked if they are doing the landfill at a bottom of a depression in the ground in terms of visibility above viewshed level, and it might not rise to that level, as opposed to beginning on the viewshed level and moving upwards. He was trying to get a sense of where those numbers played in against that type of circumstance.

  Ms. Collins said she has never been to the Rio Rancho landfill.

  Mr. Kippenbrock said he has visited to the Rio Rancho landfill and you can see it from I-25 with a trained eye. He said it is close to 200 feet on one side on the landfill. However, on the back side of the landfill, there is a hill, and it is less obvious on the back side from the County Road going through there. He said it is possible that some of the landfills may be correlated. He said in Clovis it's pretty flat there. He said Sandoval County, just north of the Rio Rancho landfill is not as high, it is only 110 ft, and it is not very obvious with a trained eye when you are looking for a landfill a few miles apart.

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- Councilor Ives asked if there are photos from the nearest residence, in terms of these photographs.

  Mr. Kippenbrock said, "Yes. In my opinion, this would be considered the nearest residence. I, along with CDM picked these points where I feel it's the most obvious for the people who live in the area. The first one, obviously from the State Archaeological building, where you can see the landfill immediately, or at least the basalt pile, as you come along the Caja del Rio Landfill, just past the Marty Sanchez Golf Course, beyond the ridgetop. It is near the [inaudible] neighborhood, the subdivision, so we picked this point. And again, this particular point is only for a short distance, maybe 200 feet and then it disappears. If you look more to your right or to your left, you can't see anything. So there's a low area that you can actually see down toward the landfill. This is at a high point that you're looking down at the landfill."

- Councilor Ives said Ms. Collins mentioned a peak rate of 200,000 tons projected, presumably on the basis of some discrete period of time, extrapolated out over a year. He asked Ms. Collins or Mr. Kippenbrock to tell more about the experience associated with that peak rate – how long was that period, what materials were being brought, and why did that anomaly occur, because that's clearly 33 1/3% more than on an annualized basis, we're generally getting at the 150,000 tons.

  Mr. Kippenbrock said prior to 2007, we were at 200,000 tons per year. However, since the recession it has declined to 150,000 tons per year, and currently are somewhat stabilized mas o menos at 150,000 tons per year. Typically solid waste will grow with the growth of Santa Fe. He said a 1% growth of Santa Fe would be a 2% growth in garbage. He said the 200,000 tons also potentially could include out-of-county waste, such as from Los Alamos County and Rio Arriba County as well as San Miguel County, if it wants to bring was to us. That is a combination of 50,000 tons. He said the calculations were made on today's values – 150,000 tons, no increase over time, same compaction rate of 1,400 pounds, the same amount of daily cover, etc.

  Mr. Kippenbrock continued, saying he feels personally that we may be between 150,000 and 200,000 over a given time. However, at the same time, SWMA along with SWAC will be committed to the continuation of waste diversion and increased recycling. It conceivably could be less than 150,000 tons, going toward 100,000 tons. He said in 10-15 years, new technology may be available to convert waste to energy which is acceptable to the community. He said instead of 100% of the waste going to the landfill, now there is only 10% ash.

- Councilor Ives said he heard recently there is a new facility in Albuquerque potentially coming on line which might be diverting a not insignificant amount of waste, and said he is unsure if that goes into any of the calculations to cover some of the scenarios.

  Mr. Kippenbrock said, "No. It has not. We'd much rather be conservative and look at the worst-case scenario."

- Councilor Ives asked Ms. Collins to talk to the marginal cost per foot of height, either as a depth or height matter, in terms of maintaining and populating the landfill. "If you going up 110 feet, does

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the marginal cost of going that last 10 feet more than the prior 10 feet, and if so, by how much." He said he is trying to get a sense of the comparative cost-benefit evaluation between different heights and depths, if Ms. Collins knows.

Mr. Kippenbrock said they did that calculation. It's not in the paperwork, but they have it separately, but in general terms, the more waste you put over the same lined area that's already been developed and constructed, the lower your cost per ton is. He said when they passed the Subtitle D deregulation in 1993, everybody was scrambling to build Subtitle D landfills in 1995-1998. By then they recognized they were using the typical above ground landfill, 40-50 feet and they realized it was too expensive and nobody could stay in the business. So what engineers have done was to go back and recalculated that we could put more mass, more waste over the same footprint to reduce the development cost or cost per ton. So that is the reason you're seeing us coming back to the same picture 20 years later, instead of 40 feet, we could go an extra 20-40 feet, depending which way the Board wants to go. He said Ms. Boettner has some numbers, and she speak in terms of cost what it is for H1 versus H2 and H3, in general.

- Councilor Ives said he would like to get more of the actual work that you have done in starting to do the permit renewal process.

Ms. Boettner said, "When we look at the current landfill, and we are going up from H-1, H-2 to H-3. H-1, we'll just use these numbers, you can look at in terms of percent and reduction, we came up with $1.66 per ton. When you go to H-2 it gets down to $1.31. When we go to H-3, it goes to $1.13. So it reduces, essential 53¢ from H-1 to H-3, which is one-third reduction in the total cost."

- Councilor Ives said basically that 53¢ per 20 feet, you are reducing it. The H-3, which is 60 feet, ends up being $1.13. He said if we went up to 110, we'd be down under 50¢.

Ms. Boettner said if you get higher you get more.

- Councilor Ives imagines there is a bottom-out feature there at some point.

Ms. Boettner said, "Yes, Mt. Kilimanjaro."

- Councilor Ives asked if there is an analysis on whether or not there are any greater or lesser potential health impacts associated with above ground versus below ground, versus what's in our landfill, anything along those lines, and how much of the permitting process is updating the EIS for those types of parameters.

Ms. Boettner said, "Basically, what the permitting process will do, is we will be updating a groundwater monitoring system plan. For anything that's in the ground, and all that, we'll be updating that, and it's basically for monitoring. At this facility, we don't see any issues with groundwater. And the lining of the facility, I'll say, curbs any issues. If it was an unlined facility, that's where the material really becomes important, as to what's being exposed. And I know from my experience, an unlined facility, the records weren't kept back in the 1930's or whatever, and so

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who knows what was really installed in those old landfills. In this landfill, we have a record as to what type of waste, and whether it's MSW, whether it's C & D, whether it's sludge, those are the only things that have been accepted at this landfill."

- Councilor Ives said it would be helpful for him to get copies of those records, noting he hasn't made that effort yet. He said as we start considering this permit renewal process he wants to be sure he is more educated on that.

- Councilor Ives said the H-3 final cap was 60 feet above ground level.

  Ms. Boettner said it is for the BLM landfill. She said for the current landfill, it would be 40 feet above H-1. So it would be an additional 40 feet above the existing height right now.

- Councilor Ives said it might be interesting to look at that 110 feet, if we think that might be where we're going on permitting, and certainly if we're having a public meeting and that's a possibility. He said, " I think it probably behooves us from a responsible presentation to make sure we can show that anticipated viewshed impact as well." He doesn't want to rule out going as high as possible, given the marginal costs of height and the extension of the time frames involved. He said he assumes all the year calculations in terms of continuing use of the landfill also are based on the H-3 60-foot height as opposed to 110 foot height, and Ms. Boettner said this is correct.

- Councilor Ives asked, "If we went to 110 feet, how many more years would that add. Well, you have 60 plus 40, so it's maybe another two-thirds, so perhaps out to about 150 years of potential use at 150."

  Ms. Collins said, "I'd like to go back to your question about the environmental risk that stacking the landfill higher represents. It's actually a minimization of risk, the risk of the landfill, generally speaking is to the groundwater, to affecting groundwater. So when you concentrate it in a smaller lined area, a smaller footprint, rather than spreading it out over a larger area, you're actually decreasing the potential for groundwater contamination."

- Councilor Ives said, "Agreed."

  Mr. Kippenbrock said, "I'd like to add on to something about your concern about the more mass you have over a lined area. You can do a couple of things. You can have all the engineering in the world to meet the requirement on paper. You can construct it properly, and then the third component is who's operating the landfill, obviously the agency is doing that. So as long as you have maintained good operation, then everything should be fine, particularly leachate [re]circulation, keeping the leachate off the lined area, by regulation required to be less than one foot over a given area. And, also when you first place over a new area, you do what you call a fluff layer, just MSW, wet waste, no C & D, so you don't have any puncturing to the liner – everything you can do to protect that. Then, eventually, as you are building up, not only do you put down daily cover, but intermediate cover to keep rainwater off as well. So those all help out as well."

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- Councilor Ives said it would helpful for him to look at the EIS to understand whatever the hydrologic connections are, just as a matter of putting his own mind at rest on these types of issues.

- Commissioner Holian said if the Board were to decide to go for a permit for a 60 foot height, could we later on modify that at some point in the future to ask for a higher amount.

  Ms. Collins said, "Yes. Because the permit period is 20 years, so you will be renewing your permit long before you get to any of those heights."

- Commissioner Holian said then we don't have to make a decision on that right now. We could go with the 60 foot height and say we'll put off the decision to some point in the future to ask for a higher amount.

- Ms. Collins said, "Yes you could do that."

- Commissioner Holian asked what is the current estimated life of the landfill.

  Mr. Kippenbrock said there are two parts to the answer. The permit expires in 2015 in the existing footprint going up to the existing height of the landfill, he would say approximately 10 years. So, below the area of 5-B/6-B, "this area here" that we're looking at, has approximately 7 years, and this area that we're currently on is about 24 months or two years. So combined, about 10 years, more or less, give and take, depending on how it is further developed out, designed, etc. So, right now we have about 2 years to a permit that will expire, unless renewed, in this area going to the existing landfill, it's about 10 years. However, as we mentioned, way back in "this corner here" we need to modify this landfill because it's too flat and doesn't meet the requirements to have surface rainwater runoff properly. *[Remarks here are inaudible, because Mr. Kippenbrock was away from the microphone.*] In this case, you want it at 5%. Some landfills are able to get down to 3%.

  Mr. Kippenbrock continued, "So if you look at this 'here,' this is the current, about 40 feet above grade, you can imagine another 20 feet or another 40 feet over this. 'This' 40 feet right now, imagine adding another pancake 40 feet high over this. That's what you could do. One consideration, if you go with H-3, which is 40 feet over the current landfill. And the reason why BLM is 60 feet is because of the natural terrain that would allow us to go a little bit higher, with the exception of one photo that I showed you from the nearest neighbor, and of course the Golf Course, that could see that, but it's well hidden."

  Mr. Kippenbrock continued, "if you go with H-3, as I mentioned, over there in the active area in B5/B6, it takes about 10 years. Then the next 20 foot, the estimated, I forgot how many years per 10 feet or whatever it is, so it is potentially, just in the current area, we have a number of years. I'm not going to say whether it's 30 years, 25 years, etc., but it's quite a bit."

Mr. Kippenbrock continued, "One thing you have to keep in mind, all this is being developed underneath. We have the liner system set for 5B/6B in this area where it needs to be constructed. We're looking at approximately $4.5 million to blast, remove the rock and put in the liner system and a few years later, add more lining systems, about another $1.5 million. One we get that built, then the overall cost per ton up to H-2 or H-3, will be reduced significantly. When you've got H-2 or H-3, it's going to allow us to develop the BLM area. We need time to excavate the soil. Normally you borrow soil from a future area to cover the current area."

- Commissioner Holian said it sounds like in the permitting process, that public input is required, and you mentioned the January 10th meeting. She asked if that is the only public input which is required, and what is the overall anticipated process for that.

Ms. Boettner said, basically through the permitting process, there is a community impact assessment requirement if you are in a vulnerable area. We are not in a vulnerable area, therefore community impact assessments aren't required at this facility per regulations. She said, however, they are doing a community meeting to gain that public input, to try to curb the public stopping the process at the end, and to try to accommodate the public concerns before submitting the application. She said at this point they are contracted for one meeting.

Ms. Collins said the permit will undergo a public hearing as well.

- Commissioner Holian said then this public meeting is to try to allay people's concerns before getting to that point.

Ms. Collins said yes, noting they will be showing the viewsheds, the posters in the back of the room, and the pictures we have, to demonstrate the relative lack of impact on the visual resources of the area.

- Commissioner Holian asked Mr. Kippenbrock what decision he would like this Board to make tonight.

- Mr. Kippenbrock said, "If possible, if you could select whether it's H-1, H-2, H-3, so we can take it to the community meeting on January 10, 2012, to explain that this is the potential height that we plan on going with. Obviously, I don't think anybody has any opposition to the lateral expansion, because it makes sense. It is a matter of questioning the height we want to go on both areas. It's not set in stone on your decision, it's to be able to take your decision, one of those 3 options, and get some feedback from the public, then report back to the Board in a condensed form what the outcome of the community meeting has been."

- Councilor Rivera said most of his questions have been answered. He asked how long it will take for the vegetation to start growing back on the pile of dirt so it starts to look somewhat like the natural landscape.

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Ms. Collins said part of the final cap will have vegetation on it, so it will begin to look like the surrounding area almost immediately.

- Councilor Rivera asked if it can be engineered so the parts most visible from the residences, have vegetation as the rest of it is being filled in.

  Mr. Kippenbrock said yes. He said they have considered that in doing the master planning – what type of final covering will make it less visible. He said CDM did the closure of Paseo de Vista landfill next to the transfer station, which is a good indication of how much vegetation will be on the landfill. He said one of CDM's ideas they would like to use is basalt rock which reduces the brownness of it and blends into the background.

- Chair Vigil said one of the concerns which has been brought to her attention by constituents is the accumulation of trash in the fencing area during the windy season . She said sometimes, because it is so windy, the trash blows away from the fencing. She said from 5-6 years ago to now, she doesn't see the trash when she hikes in the area, and asked if that problem has been alleviated, or if it is just that she isn't there during the windy season.

  Mr. Kippenbrock said it is both, depending on the location. If you are below ground there will be less windblown litter. He said it is an operational challenge, and once they are "on top of it, we stay on top of it." He said if there is not proper fencing or windscreen to keep the waste in place, those can be phased in to try to capture the windblown litter as much as possible. He said over the past few years when the wind exceeds 30 mph, then they close the landfill in the afternoon, but stay open for business. He said there will be hiccups as they develop going higher, and we will have more wind blown litter, but that can be addressed from an operational standpoint – how to keep it to a minimum.

- Chair Vigil asked if the permitting process makes recommendations as to how this should be handled.

  Ms. Collins said, "Yes it is described in parts of the permit, particularly, the operations plan about how litter and wind will be handled, and it will be described in the permit what is being done right now.'

- Chair Vigil said Ms. Collins said there would be only one event of blasting for 5B/6B.

  Mr. Kippenbrock said potentially they want to do one blasting in 2013 to accommodate 5B/6B.

- Chair Vigil asked how much basalt is there, are we estimating based on experience, or did we do underground studies with regard to the volume of basalt in both areas.

  Mr. Kippenbrock said they know how much basalt is in the current landfill, noting there is less because they removed the overburden. He said he is still waiting for survey information to know exactly how much rock needs to be removed, but he is estimating between 200,000 to 250,000

cubic yards of rock that needs to be removed, so we know that. In 2005/2006, Kleinfelder did geotechnical studies in the BLM land, consisting of 7-8 soil borings, plus geophysical work, seismic work, and they have not identified any basalt to 90 feet based on their studies. He feels comfortable with that, based on the existing soil boring we have along the existing landfill, which made us want to go east. He said the further east you go, the further away you are going from the Caja del Rio plateau, which is where the volcanic ash is, or basalt.

- Chair Vigil said, regarding the basalt, we entered into an agreement for the mineral rights, and asked if there is a termination on that agreement, or if it is in perpetuity so long as we own it.

  Mr. Kippenbrock said currently we are in a modified agreement with the BLM pending their full study of that area. He said they have been renewing the agreement every 50,000 tons or 2 years, whichever comes first. We just got an extension to 2015, as well as an additional 50,000 tons and he is working with BLM on this.

- Chair Vigil asked if it is possible that the cost of the basalt could increase to SWMA.

  Mr. Kippenbrock said the value of the rock currently is at 69 cents per ton. He said it is market-driven, and he doesn't see it changing that much. Currently, we receive $1.50 from the contractor, and of that 69 cents goes to BLM.

- Chair Vigil asked if a master plan has been filed for this with Santa Fe County, and Mr. Kippenbrock said no.

- Chair Vigil asked if there needs to be a master plan.

  Mr. Kippenbrock said he had a conversation with Mr. Ross, and he said they are working on zoning, and understands we will be grandfathered.

- Chair Vigil asked if the permitting process requires a master plan.

  Ms. Collins said no, but they have done master planning for this version of the permit and that will be available.

- Chair Vigil asked what happens if the landfill is converted into a regional landfill and there are other users, and asked how we deal with that.

  Mr. Kippenbrock said the landfill currently is at 150,000 tons per year. He doesn't anticipate coming back to the previous level of 200,000 tons.. He doesn't know what will happen with Los Alamos County and Rio Arriba County which has a two-year contract with Waste Management to take the waste to Rio Rancho or Valencia County near Los Lunas. It is still acceptable to them to continue to transport long haul with a lower disposal rate. His goal is to entertain opening the landfill geographically. He said the 200,000 tons per year reduces the life of the landfill at H-3, perhaps by 20 years, which is the worst case scenario. We aren't in the business to try to capture

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all of Northern New Mexico. He feels in 15-20 years, there will be more advanced technology to dispose of waste other than in a landfill.

- Councilor Ives asked about the economics of aggregate produced. He asked Mr. Kippenbrock to go to the overhead of the site, the 5th slide showing the exterior boundary. He asked who owns that acreage.

  Mr. Kippenbrock said that 630 acres is owned by the Agency. He said the original 430 acres was purchased by the County in the mid-1990s from the Montoya and Baca families. During the permit application, the County obtained a patent from BLM for 200 access, but they had to demonstrate that they could utilize it for landfill purpose. The regulations say a landfill can be no greater than 500 acres. So they shifted the 430 acres to the right, and this is the permit line right "here."

- Councilor Ives asked if SWMA, by virtue of the patent from BLM, owns the acreage, or if the patent comes with diversionary rights, or if it is owned outright, so when we refer to it as the BLM it is more a historical reference from whom we received the land as opposed to "has rights in it at this point in time."

  Mr. Kippenbrock said in 2007, he understood from BLM, it was given to the County, and the County transferred ownership to SWMA. He said, "In 2008, when we changed the land use, based on what made it clear verbally, that don't expect to have the land revert back to BLM, because it is going to be a disposal area."

- Councilor Ives said he would like to see a copy of the patents that conveyed the property, as a part of his education.

- Councilor Ives said Mr. Kippenbrock said the EID limits landfills of this type to 500 acres. SWMA has 430 acres within the permit area. He said, if we are using 76 currently and expanding to 42, that's a total of 118 out of the 430, which seems to leave a lot of potential future growth in the landfill. He asked if this is accurate, and if not accurate, why not.

  Mr. Kippenbrock said that is accurate, but is probably not a good assessment. The reason is that the further west and south you go the more basalt you will enter. He said there is also a chunk of land on this side, on the other side of the power line, which would be difficult to get to.

- Councilor Ives asked, regarding the economics of the aggregate which presumably is produced in large part by the blasting of the basalt, who owns the minerals rights on the 430 acres.

  Mr. Kippenbrock said on the original 430 acres, it is the BLM.

- Councilor Ives said, "Then as part of patent they retained all the mineral rights."

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Mr. Kippenbrock said, "No. They still maintain mineral rights. We can move it, we can blast it, move it, pile, whatever we want, we can use it internally, there is no cost to the Agency. But the moment you process and convert it to aggregate and go out the gate, what we call, that's when we need to pay the royalties."

– Councilor Ives said, "Interesting. And so, are we running an aggregate production facility out there, or is that leased out to some 3rd party."

Mr. Kippenbrock said, "The contractor is Delhur Industries. They have an agreement with us. It's good until 2014. They are currently processing rock as demand calls for it. The original assessment was to do... let me back it up. There was about 1 million tons of rock back in 2006, and they thought they could sell anywhere from 100,000 to 200,000 tons per year. With the recession, that has not happened. As a matter of fact, there were several years it was very slow. It has picked up, but nowhere near what we were anticipating. Because there is not a 10 year rock pile, it's going to be a much longer rock pile. And with the additional blasting at 5B/6B, the pile will be there longer. We will be anticipating that when we remove the rock from 5B/6B, it will not be as high as the existing rock pile, so it will be less visible from the surrounding areas."

– Councilor Ives asked, "When you say, when we remove the rock pile, are we doing all the blasting and then just giving the rock to them to process as aggregate and sell, or how does that relationship work out of curiosity."

Mr. Kippenbrock said, "What we do is we do the engineering work, and the specifications. This company here, CDM Smith will do it for us. And since we have a construction agreement with Delhur, they will give an estimate, CDM Smith will verify that the estimates are reasonable. Then we enter into a contract with them. Delhur will do the blasting, removal and stockpiling of it."

– Councilor Ives asked, "And they do that at their expense in consideration of receiving the aggregate."

Mr. Kippenbrock said, "No. It actually is a cost to us. What they do, they charge us for the cost of removing the rock and blasting. Just to put it in perspective, just kind of a simple number term, to excavate soils, about $2.50 per cubic yard, more or less, it could be cheaper, it could be more. To excavate to blast and remove rock it is about double by $5 per cubic yard. So the Agency pays for that, and one of the stipulations that the Delhur Industry does, if they're able to sell the rock, we get $1.50 in return. So it kind of offsets the cost. Over the long term, the rock that came out of 4B should generate $1 million in revenue to return back to us, to reduce that cost."

– Councilor Ives said he would like to take a closer look at the contract again, just to understand the economics better, as part of that whole picture for me."

Mr. Kippenbrock said, "When we went out for RFP in 2005, we actually invited all of the large companies, and Delhur Industries was the only one that responded accordingly. And they ascertained it was more like a turnkey. No only were they going to blast and remove the rock, but

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would also do the construction of the liners. LaFarge at one time proposed to charge $12 million just to blast and pile it, and that would not have been the answer. Staying above the rock would not have been an answer either, because you still had to develop the liner, but then you only have 30 ft. of waste as opposed to 70 plus, about 100 feet of waste over, which again, the cost per ton would be not feasible."

- Councilor Ives said, "And if you have that master planning, again, would love to take a look at that, and, I unfortunately, will not be anywhere near New Mexico on January 10th, but would love to make sure we have a transcript of that public input, so I can understand what folks are saying."

Mr. Kippenbrock said, "One thing that is in the master plan, that's one of the first things that we did with CDM, is to identify all the areas that are not going to be in the landfill area, what can we utilize for. Some is a better area for composting. We had an energy park, but it's going to be used for something else and so on. Anything we can utilize to make it fully operational."

(2) PUBLIC COMMENT

There was no public comment.

(3) DISCUSSION AND POSSIBLE ACTION TO SELECT OPTION FOR THE VERTICAL AND LATERAL EXPANSION COMPONENTS OF THE CAJA DEL RIO LANDFILL AS PART OF THE PERMIT RENEWAL AND MODIFICATION

Chair Vigil asked the pleasure of the Board.

MOTION: Commissioner Holian moved, seconded by Councilor Rivera, that the Board recommend that for the public meeting and for the permitting process, that SWMA consider the maximum height and lateral expansion – H-3 and D-3 the maximum depth.

VOTE: The motion was approved unanimously on a voice vote [4-0].

X. ADJOURNMENT

Mr. Mr. Kippenbrock thanked Chair Vigil for her service, noting this is her last meeting. He said Commissioner Vigil has served on the SWMA Board for 8 years. He said coincidentally, Commissioner Vigil's first meeting in 2005 was in this same room, and tonight is her last meeting in this same room. He said she is very pleasant to work with. He said she is fair and balanced. She has served at least 3 times as the Chair and twice as Vice-Chair, during the 8 years. He said Commissioner Vigil always wants to understand issues and to get a better feel so she can report back to her constituency. He said it is great that she responds to her constituents in District 2, which is tough because it is in the Caja del Rio landfill area. He said she was instrumental in many other areas, such as when we took over the Buckman Road

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Recycling and Transfer Station in 2006, opened the MuRF in 2007, and looked at getting the BLM land changed over for disposal purposes and so forth. Mr. Kippenbrock thanked Chair Vigil for all of her hard work over the past 8 years.

Chair Vigil said she would like to meet the "Virginia" to whom Mr. Kippenbrock referred. She said it has been a pleasure working with Mr. Kippenbrock, the staff and the Board.

Mr. Kippenbrock presented Chair Vigil with a pair of recycled glass earrings on behalf of the Board.

Councilor Ives said everybody on the Board knows that particular person, "Virginia" of which Mr. Kippenbrock speaks, and he would echo his remarks, and thanked her for undertaking service on SWMA.

There was no further business to come before the Board, and the meeting was adjourned at approximately 7:00 p.m.

APPROVED BY:

Peter N. Ives, Vice-Chair

ATTESTED TO:

CITY OF SANTA FE ORGANIZED JULY 13 1847 NEW MEXICO SEAL

Yolanda Y. Vigil, City Clerk

SUBMITTED BY:

Melessia Helberg, Board Stenographer

COUNTY CLERK GERALDINE SALAZAR SANTA FE COUNTY NEW MEXICO

COUNTY OF SANTA FE)
STATE OF NEW MEXICO) ss

SOLID WASTE MINUTES
PAGES: 61

I Hereby Certify That This Instrument Was Filed for Record On The 15TH Day Of February, 2013 at 10:47:45 AM And Was Duly Recorded as Instrument # 1696657 Of The Records Of Santa Fe County

Witness My Hand And Seal Of Office
Geraldine Salazar
Deputy _____ County Clerk, Santa Fe, NM

2013/02/15 10:47:45 AM GERALDINE SALAZAR SFC CLERK RECORDED

MEMORANDUM

To: SFSWMA Joint Powers Board
From: Randall Kippenbrock, P.E., Executive Director RLK
Date: December 6, 2012
Subject: Discussion with Possible Action on Options for the Vertical and Lateral Expansion Components of the Caja del Rio Landfill as Part of the Permit Renewal and Modification.

BACKGROUND AND SUMMARY:

A PowerPoint presentation will be provided by Agency staff and CDM Smith regarding possible options for the vertical and lateral expansion components of the Caja del Rio Landfill as part of the permit renewal and modification.

On November 15, 2012, the Board approved to hold a special meeting to discuss, and possibly take action, on options for the vertical and lateral expansion components of the landfill permit renewal and modification. The Board also requested to take input from public comments.

On February 23, 2012, the Board approved a Professional Services Agreement to CDM Smith of Albuquerque, NM, for the engineering design and permitting services for permit renewal, permit modification, landfill vertical and lateral expansion, and Cell 5B/6B design and construction quality assurance for the Caja del Rio Landfill in the amount of $590,455.00 (RFP No.'12/06/P).

CDM Smith has developed several height and depth options for the current landfill disposal area and the BLM tract of land as part of the vertical and lateral expansion components of the landfill permitting.

Attached is CDM Smith's technical memo regarding landfill life, economic sustainability, and public concerns. CDM Smith recommends the following options to be considered for the permit renewal and modification as well as development and operation of the Caja del Rio Landfill:

- Maximize the current landfill area with the lateral expansion onto BLM land - this results in an increase of 42% in the area for waste disposal and adds 25 to 32 years of landfill life.

- Maximize the current landfill volume via vertical expansion by increasing the depth and height of disposal areas to the greatest extent - the full utilization of the available

Exhibit "1"

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capacity would extend the useful life of the facility up to 92 years from 2012 at the current waste acceptance rate of 150,000 tons per year or 72 years at an acceptance rate of 200,000 tons per year. This will also provide the most favorable net revenue for the Agency, minimize rate increases, and maintain the economic sustainability of the Landfill and Buckman Road Recycling and Transfer Station.

- Work with the public to alleviate concerns to the extent possible before submitting the permit renewal application. Staff has received input from local citizens during the course of the landfill operation. Citizen comments indicate concerns regarding traffic and dust from daily operations as well as impact and noise from blasting activities. The Agency anticipates that when the height of the landfill is discussed this will present visual concerns to the public.

A community meeting is tentatively scheduled for January 10, 2013 from 5:30 p.m. to 8:30 p.m. at the Nancy Rodriguez Community Center on 1 Prairie Dog Loop, Santa Fe, NM to gather more input from public comments. A summary of public comments will be reported to the Board at the next regular meeting scheduled for January 24, 2013. Another meeting will be conducted by the New Mexico Environment Department (NMED) approximately 18 months after the permit application is deemed complete and before a decision is issued by NMED.

ACTION REQUESTED:

Staff is requesting the Board discuss the options and recommend the optimal one to take forward at the January 10th community meeting. Once a final option is approved by the Board at the regular meeting scheduled for January 24th, CDM Smith will continue with the permit drawings and engineering calculations as required for the permit application.

Attachments: CDM Smith Technical Memo, dated December 4, 2012
PowerPoint Presentation for December 13, 2012 Special Meeting

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CDM Smith

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Memorandum

To: *Randall Kippenbrock, PE, Executive Director, SFSWMA*

From: *Danita Boettner, PE*
Kelly Collins, PG, CHMM
Kerrie Greenfelder, PE

Date: *December 4, 2012*

Subject: *Options for the Vertical and Lateral Expansion Components of the Caja del Rio Landfill as Part of the Permit Renewal and Modification*

On behalf of the Santa Fe Solid Waste Management Agency (SFSWMA), CDM Smith Inc. (CDM Smith) is preparing the application to renew the operating permit for the Caja del Rio Landfill (Landfill). This memo provides recommendations on key aspects of the permit renewal application. One key aspect is the planned height, depth, side slope, and volume of the landfill (also known as airspace). These factors impact landfill life and become limitations on the amount of solid waste that can be disposed of over the life of the landfill. Maximizing the permitted airspace is also key to the landfill economic sustainability. In general, it is best practice to provide the maximum amount of airspace in order to delay the need for a new landfill site.

The landfill permitting process is intended to involve the public and solicit input regarding the permitting requirements for the Landfill. The public in the vicinity of the Caja del Rio Landfill have expressed some concerns about visual impacts, truck traffic, dust, and the basalt blasting activities.

The purpose of this memo is to provide:

- A Caja del Rio Landfill airspace analysis based on various landfill factors, including: area, depth below the ground surface, height above the ground surface, and side slope configuration; and
- Recommendations for lateral and vertical expansion to be included in the permit renewal and modification application.

Landfill Area – Current Landfill and BLM Areas

For this analysis, the calculation of landfill life is based on expansion of the Landfill from the current footprint (Cells 1 through 6 of the Current Landfill) to include a final wedge area to the south of Cell 6 and to an additional area to the east of and separate from the Current Landfill. The proposed lateral expansion area is within the Landfill permit boundary, on land that was originally approved

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by the Bureau of Land Management (BLM) for landfill administrative use (i.e., non-disposal activities) such as administration offices, scale house, effluent pond, soil stockpile areas, maintenance shop, composting, equipment wash-out pond, etc.). In September 2008, the BLM approved a change of use to allow landfill disposal activities. This area is referred to as the "BLM area." The landfill layout of the Current Landfill and proposed BLM area is shown in Figure 1. The Current Landfill occupies an area of approximately 76 acres. The BLM area would add approximately 55 acres of disposal area, a 42-percent increase in landfill area, providing a total of 131 acres available for waste disposal.

Landfill Depth – BLM Area Only

The landfill depth of Cells 1 through 6 of the Current Landfill was established when the area was filled with waste. Depth of the Current Landfill area varies between 30 and 70 feet.

The excavation in the BLM area has not commenced; therefore, the depth of this area can be selected to best meet the needs of SFSWMA. In estimating the Caja del Rio Landfill life, three depths (D) were considered (Figure 2):

- D1: Approximately 40 feet below ground surface
- D2: 50 feet below ground surface
- D3: 60 feet below ground surface

As Table 1 illustrates, for every ten foot increase in depth, there is approximately a one year increase in landfill life. In support of these approximations, the following assumptions were used to develop the landfill life estimates shown in Tables 1, 2, and 3:

1. The calculations are based on conceptual base grade drawings, not on final design plans;
2. 20-percent of the airspace is occupied by daily soil cover;
3. Waste compaction density is 1,400 pounds per cubic yard;
4. The calculated ratio of waste volume to total volume is 83 percent;
5. The final grading used for the evaluation (height 1; H1) was modified to accommodate overfilling in Cells 1, 2A, and 3A;
6. The volume calculations are based upon landfill side slopes of 4:1 (horizontal:vertical).
7. The cell boundaries and base grades in the Cells 1 through 6 area have been approximated using permit and construction drawings, not as-built information; and

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8. The existing grade data are from a May 4, 2012 aerial survey of the site.

9. The BLM area slopes up from south to north, so the depth of the landfill varies by 10 ft. from the southern end to the northern end.

Table 1. Estimated BLM Area Landfill Life Associated with Three Depths.

Waste Disposal Rate	D1 Estimated Landfill Life (years)	D2 Estimated Landfill Life (years)	D3 Estimated Landfill Life (years)
150,000 tons/year	25	26	26
175,000 tons/year	22	22	23
200,000 tons/year	19	20	20

Landfill Height – Current Landfill and BLM Areas

The height of the Landfill above the ground surface offers the easiest way for SFSWMA to increase the life of a landfill and bring the development costs into a more typical range similar to the BLM area. The height of a landfill has the most salient effect on the visual impact of the landfill. At the Caja del Rio Landfill, the height can be varied in both the Current Landfill area, as well as the BLM area. Both landfill areas were evaluated for three different height (H) increases surrounding ground level (Figures 3 and 4):

Current Landfill:

H1: Existing height

H2: 20 foot increase in height

H3: 40 foot increase in height

BLM Area:

H1: Match the Current Landfill height

H2: 30-foot increase in height

H3: 60 -foot increase in height

For each of the heights described, the impact of the life of the landfill was estimated. Table 2 shows that in the Current Landfill area, each 20-foot increase in height provides between five and nine additional years of total landfill life, respectively.

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Table 2. Estimated Current Landfill Life Associated with Three Heights.

Waste Disposal Rate	H1 Estimated Landfill Life (years)	H2 Estimated Landfill Life (years)	H3 Estimated Landfill Life (years)
150,000 tons/year	46	55	60
175,000 tons/year	40	47	52
200,000 tons/year	35	42	47

Table 3 summarizes landfill life estimates for the BLM Area utilizing the three different combinations of depth and height. Increases in height and depth result in five to seven years of additional total landfill life.

Table 3. Estimated BLM Landfill Life Associated with Different Depths and Heights.

Waste Disposal Rate	D1/H1Estimated Landfill Life (years)	H2/D2 Estimated Landfill Life (years)	H3/D3 Estimated Landfill Life (years)
150,000 tons/year	25	30	32
175,000 tons/year	22	26	28
200,000 tons/year	19	23	25

Table 4 illustrates that the estimated landfill life for the combined Current Landfill and BLM Area is between 54 and 92 years. This is also shown graphically on Figure 5.

Table 4. Estimated Landfill Life of Current Landfill and BLM Area Combined.

Waste Disposal Rate	D1/H1Estimated Landfill Life (years)	H2/D2 Estimated Landfill Life (years)	H3/D3 Estimated Landfill Life (years)
150,000 tons/year	71	85	92
175,000 tons/year	62	73	80
200,000 tons/year	54	65	72

Visual Impact

The visual impact of the varying heights described above can be seen in viewshed renderings from the following four local perspectives (Figure 6):

1. State Archeology Building (looking north towards the Landfill) - Figure 7;

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2. Caja del Rio Road, just north of County Road 62 (looking west towards the Landfill) - Figure 8;

3. Las Campanas from north of the wastewater treatment plant (looking south towards the landfill) - Figure 9; and

4. Marty Sanchez Links de Santa Fe Golf Course looking northwest from Hole No. 3 Tee Box - Figure 10.

Figures 7 through 10 depict what the Landfill may look like at the heights of H1, H2, and H3 from each of the different viewpoints. Note that based on the landfill life estimates, the buildup of the Landfill to the highest heights would occur over a period of 70 to 90 years.

A survey of selected permitted landfill heights in New Mexico was conducted to gauge the regulatory and public acceptance of landfill heights. The selected landfills are from larger urban areas in New Mexico and were selected such that they roughly approximate the conditions at the Caja del Rio Landfill. Table 5 summarizes the survey results and indicates that the maximum height increases analyzed for the Caja del Rio Landfill (H3) are well within the realm of regulatory and public acceptance in New Mexico since 1995.

Table 5. Summary of Permitted Landfill Heights in New Mexico.

Landfill	Maximum Permitted Height (feet)	Permit Issued
Caja del Rio Landfill, Santa Fe	40	1995
Cerro Colorado, Albuquerque	200	1999
Clovis Regional Solid Waste Facility	121	1998
Corralitos Regional Landfill, Las Cruces	115	1995
Rio Rancho Landfill	220	2008
Sandoval County Landfill	110	2004
City of Socorro Landfill	95	2012
Caja del Rio Landfill, Santa Fe Proposed Maximum Height	110	--

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Landfill Economic Sustainability

The sustainability of a landfill increases as the airspace is increased. As such, the landfill development costs are defrayed by the higher volume of waste placed in each acre of landfill. Landfill development costs include engineering/design, excavation, and drainage layer, leachate, and liner system materials. The overall base development costs are estimated to be $5.5M for the remaining Current Landfill area and $8.0M for the BLM area. While the BLM area appears to have a higher development cost than the Current Landfill, in reality, the cost per acre being developed for the BLM area is lower than the Current Landfill. This is due to the large area being developed and BLM area does not require the blasting activities that are necessary for the two undeveloped cells remaining in the Current Landfill area.

By increasing the overall height of a landfill, the footprint required for waste disposal over the life of the landfill is minimized. This in turn, minimizes the impacts to the natural surroundings and neighboring lands. Increasing the height of the landfill also delays the need for siting a new landfill, which may be placed in another part of Santa Fe County and/or requiring transfer of waste to distant landfills. As a general note, transfer of waste can be a more costly endeavor than what is currently incurred as it is dependent upon the proximity of a community to a regional landfill and the vitality of the recycling market.

The cost of development used here is within a range of development costs experienced at other landfills in the region. As a benchmarking exercise, the estimated costs of cell development for the BLM area of the Caja del Rio and other New Mexico landfills were compared and are summarized below:

- Caja del Rio Landfill, Cells 5B and 6B (DelHur Industries, 2011) - $136,240 per acre (estimate excludes blasting)
- Clovis Regional Solid Waste Facility, Cell 4 (CDM Smith, 2007) - $154,990 per acre
- Corralitos Regional Landfill, Cell 3B (CDM Smith, 2012) - $95,708 per acre

In addition, the economic viability of SFSWMA becomes more economically sustainable with higher waste volumes. For example, revenues are collected each year based upon the current tipping fee ($40 per year) and the collected revenue will be greater at higher volumes (200,000 tons per year) as opposed to the current rate (approximately 150,000 tons per year). The increased revenue, which equates to approximately $2M per year, will allow SFSWMA to minimize future rate increases and to attain economies of scale for its Landfill operations. The increased revenue can also be used to further support recycling/waste diversion programs at the Buckman Road Recycling and Transfer Station (BuRRT).

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Public Concerns

During operation of the Caja del Rio Landfill, input from local citizens has been received by SFSWMA staff. Citizen comments indicate concerns about traffic, dust, and noise from the blasting activities. Additionally, when the question of the height of the landfill is raised, it is anticipated that there will be concerns about the visual impact of the Landfill.

Traffic

In FY-12 an average of 101 vehicles per day entered the landfill Monday through Friday. An average of 23 vehicles entered the landfill on Saturdays. Additionally, an average of 10 trucks per day, Monday through Friday, entered the landfill for basalt rock.

To address the concern about traffic, SFSWMA should note that the amount of truck traffic is related directly to the rate of waste disposal. Tables 1, 2 and 3 consider waste disposal rates of 150,000, 175,000, and 200,000 tons per year. The number of vehicles per day that would be required to deliver these volumes of waste is estimated to be:

- 150,000 tons per year: 88 vehicles per day (daily average for Monday through Saturday)
- 175,000 tons per year: 93 vehicles per day
- 200,000 tons per year: 98 vehicles per day

The estimated maximum increase in traffic based upon the increase in tonnage is 10 transfer trailers per day (an increase of approximately 10% in vehicles per day).

Dust

Addressing issues regarding dust falls within the purview of SFSWMA operational practices to minimize the area of disturbed soils exposed to wind. Additional dust suppression techniques could be explored for their efficacy in reducing dust blowing out from the Landfill. Further, the final vegetated cap on the future "closed" landfill areas will serve to reduce the source of dust from the Landfill, as each portion of the Landfill is filled and closed.

Complaints have also been received related to dust from the basalt crushing operations. SFSWMA could discuss additional dust suppression techniques and/or alternate operational practices with the private company to minimize dust blowing from the crushing activities.

Blasting

Complaints have been received about the noise associated with blasting of the basalt in the Current Landfill area. The last three blasting activities occurred in 2004, 2006 and 2008. When the two undeveloped cells (Cells 5B and 6B) are constructed in 2013/2014, no further blasting is anticipated. As such, this concern is self-limiting and will be addressed by the completion of the cells that necessitate blasting activities.

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Visual Impacts

The visual impacts of the landfill at different heights are shown in Figures 7 through 10. These types of renderings will be made available to the public to alleviate concerns about the visual impact of increasing the height of the Landfill.

Recommendations

The information presented in this memo regarding landfill life, economic sustainability, and public concerns were evaluated to develop the following recommendation for SFSWMA for the development and operation of the Caja del Rio Landfill:

1. Maximize the Landfill area with the lateral expansion onto the BLM land – this results in an increase of 42% in the area for waste disposal and the addition of 25 to 32 years of landfill life.

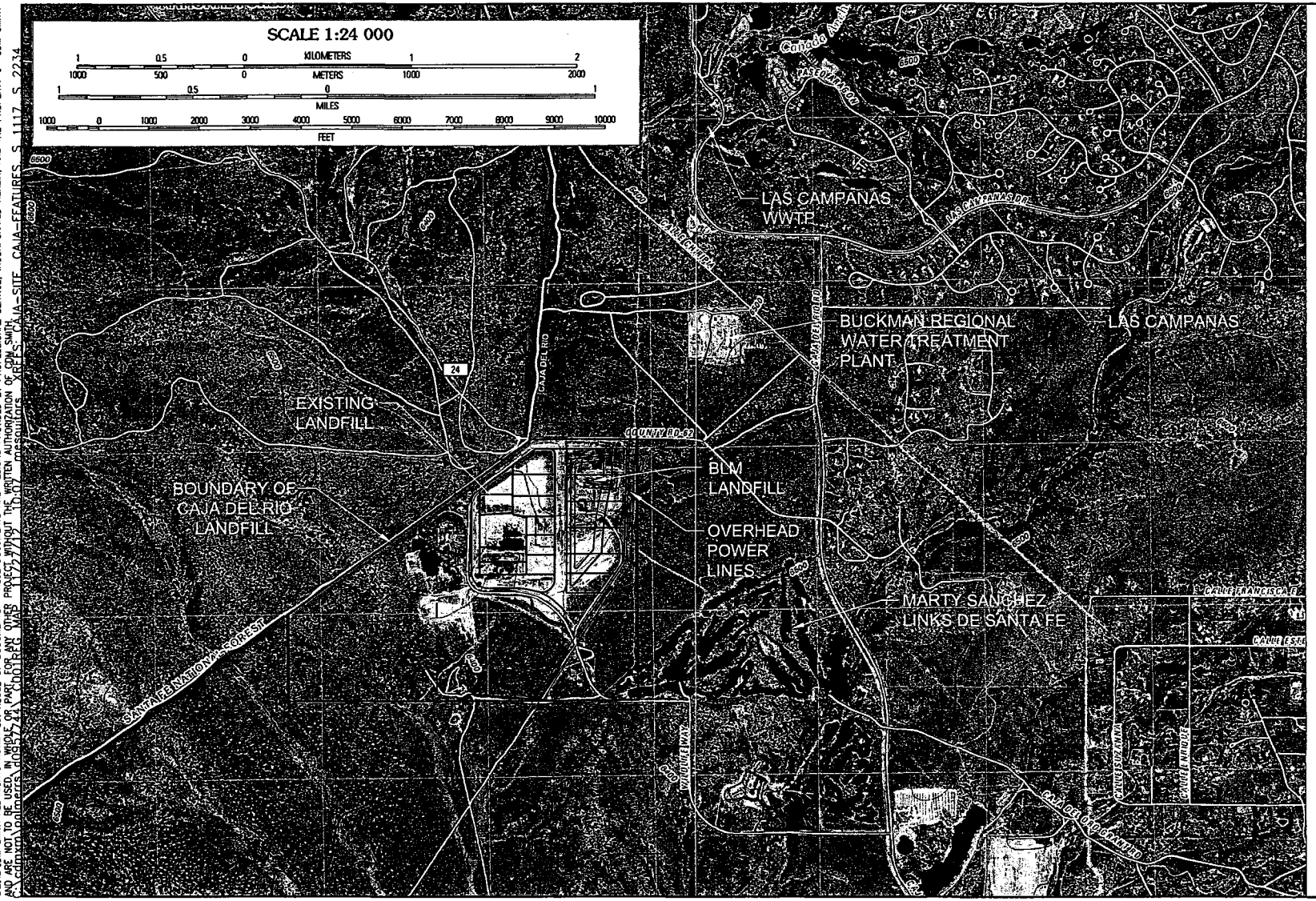
2. Maximize the Landfill volume via vertical expansion by increasing the depth and height of disposal areas to the greatest extent – the full utilization of the available capacity would extend the useful life of the facility up to 92 years from 2012 at the current waste acceptance rate of 150,000 tons per year and 72 years at an acceptance rate of 200,000 tons per year. This will also provide the most favorable net revenue for SFSWMA, minimize rate increases, and maintain the economic sustainability of the Landfill and BuRRT.

3. Work with the public to alleviate concerns to the extent possible before submitting the permit renewal application.

The Landfill permit renewal and modification application is currently under development. The engineering drawings and plans will be developed based on the landfill area, depth, and height that are approved by SFSWMA. Pending the height and depth decisions made at the special meeting (anticipated for December 13, 2012), the application is on track for the scheduled submittal to the New Mexico Environment Department in July 2013.

cc: File

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Reference: USGS 7.5 Minute series (topographic) Agua Fria, New Mexico (2011)

Figure No. 1
Regional Map
November 2012

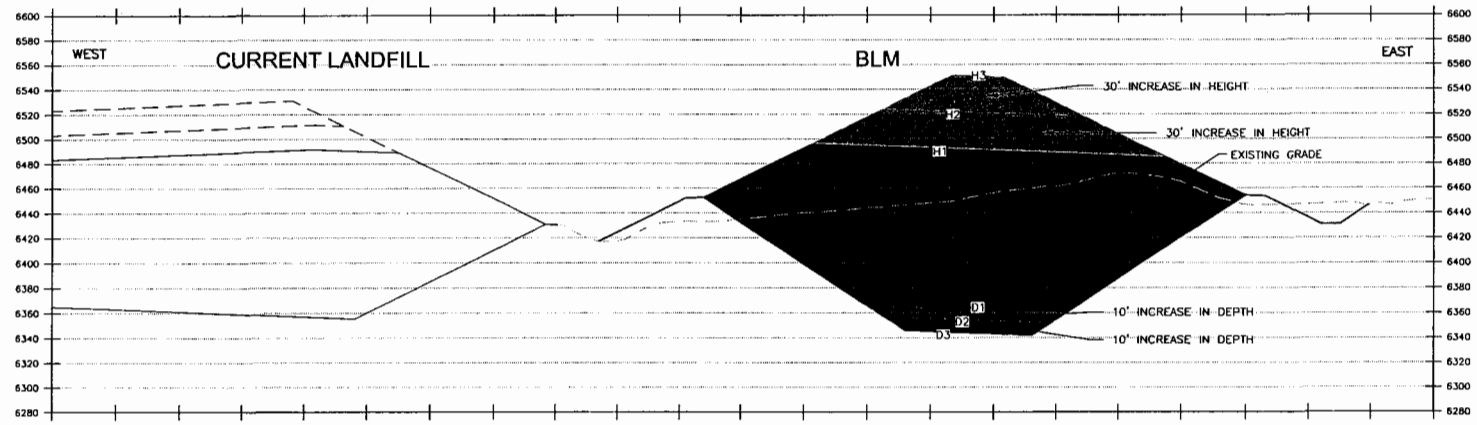
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Santa Fe Solid Waste Management Agency (SFSWMA)
Caja Del Rio Landfill
Santa Fe, New Mexico

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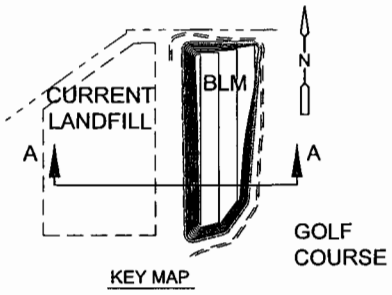
HEIGHT	OEPTH	VOLUME (CY)	MSW TONNAGE	DEVELOPMENT COST/TON	TOTAL REVENUE	LANOFILL LIFE (YEARS)		
						150,000 TONS/YR	175,000 TONS/YR	200,000 TONS/YR
H1	D1	7,390,749	4,294,025	$1.86	$172 M	25	22	19
H2	D1	8,751,288	5,084,498	$1.57	$203 M	29	25	22
H3	D1	9,416,011	5,470,702	$1.46	$219 M	31	27	24
H1	D2	7,628,644	4,432,242	$1.80	$177 M	26	22	20
H1	D3	7,816,583	4,541,435	$1.75	$182 M	26	23	20
H2	D2	8,989,183	5,222,715	$1.53	$209 M	30	26	23
H3	D2	9,653,906	5,608,919	$1.42	$224 M	32	28	24
H2	D3	9,177,122	5,331,908	$1.49	$213 M	30	26	23
H3	D3	9,841,845	5,718,112	$1.39	$229 M	32	28	25



SECTION A-A

HOR 1" = 100'
VERT 1" = 50'
(WHEN PLOTTED FULL-SIZE)

1" = 100'
50 0 100



KEY MAP

LEGEND

HEIGHT AND DEPTH CHANGES TO PROPOSED GRADES

PROPOSED CELL

H1/D1 – BASE CASE

H2 – 30' INCREASE IN HEIGHT

H3 – 60' INCREASE IN HEIGHT

D2 – 10' INCREASE IN DEPTH

D3 – 20' INCREASE IN DEPTH

Figure No. 2
BLM Area Volume Analysis

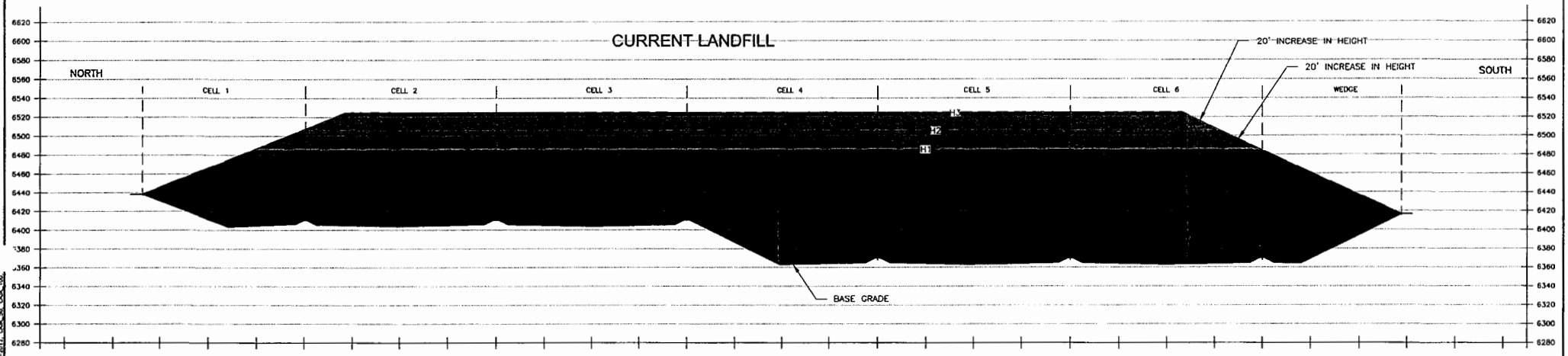
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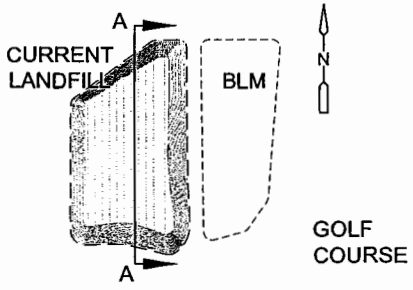
HEIGHT	VOLUME (CY)	MSW TONNAGE	REMAINING DEVELOPMENT COST/TON	TOTAL REVENUE	LANDFILL LIFE (YEARS)		
					150,000 TONS/YR	175,000 TONS/YR	200,000 TONS/YR
H1	5,733,682	3,331,269	$1.66	$133 M	20	17	15
H2	7,729,691	4,229,500	$1.31	$169 M	25	21	19
H3	8,447,075	4,907,751	$1.13	$196 M	28	24	22



SECTION A-A

HOR 1" = 100'
VERT 1" = 50'
(WHEN PLOTTED FULL-SIZE)

1" = 100'
50 0 100



KEY MAP

LEGEND

- HEIGHT CHANGES TO PROPOSED GRADES
- REVISED PERMITTED FINAL GRADE TO ADDRESS OVERFILL OF CELLS 1-3
- BASE GRADE
- H1 - BASE CASE
- H2 - 20' INCREASE
- H3 - 40' INCREASE

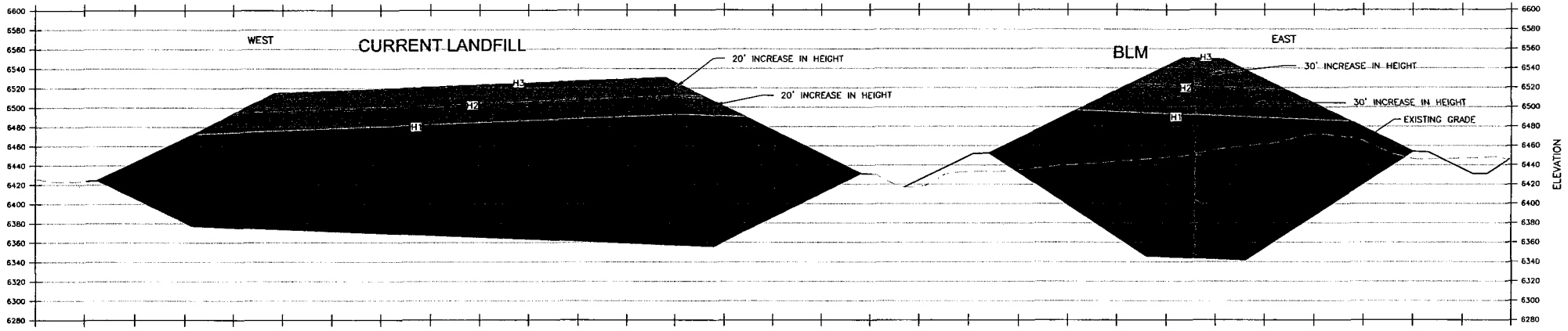
Figure No. 3
Current Landfill
Volume Analysis

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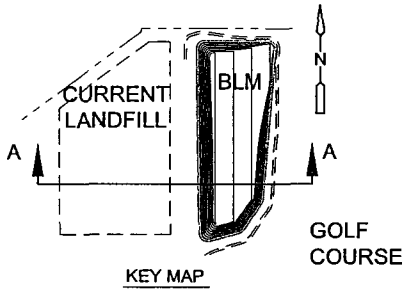
HEIGHT	VOLUME (CY)	MSW TONNAGE	DEVELOPMENT COST/TON	TOTAL REVENUE	LANDFILL LIFE (YEARS)		
					150,000 TONS/YR	175,000 TONS/YR	200,000 TONS/YR
H1	13,550,265	7,872,704	$1.78	$315 M	46	40	35
H2	16,456,813	9,561,408	$1.46	$382 M	55	47	42
H3	18,288,920	10,625,863	$1.32	$425 M	60	52	47



SECTION A-A

HOR 1" = 100'
VERT 1" = 50'
(WHEN PLOTTED FULL-SIZE)

1" = 100'
50 0 100



KEY MAP

LEGEND

- HEIGHT CHANGES TO PROPOSED GRADES
- PROPOSED CELL
- EXISTING GRADE
- H1/D1 – BASE CASE
- H2 – INCREASE IN HEIGHT
- H3 – INCREASE IN HEIGHT

Figure No. 4
Current Landfill and BLM Area
Combined Volume Analysis

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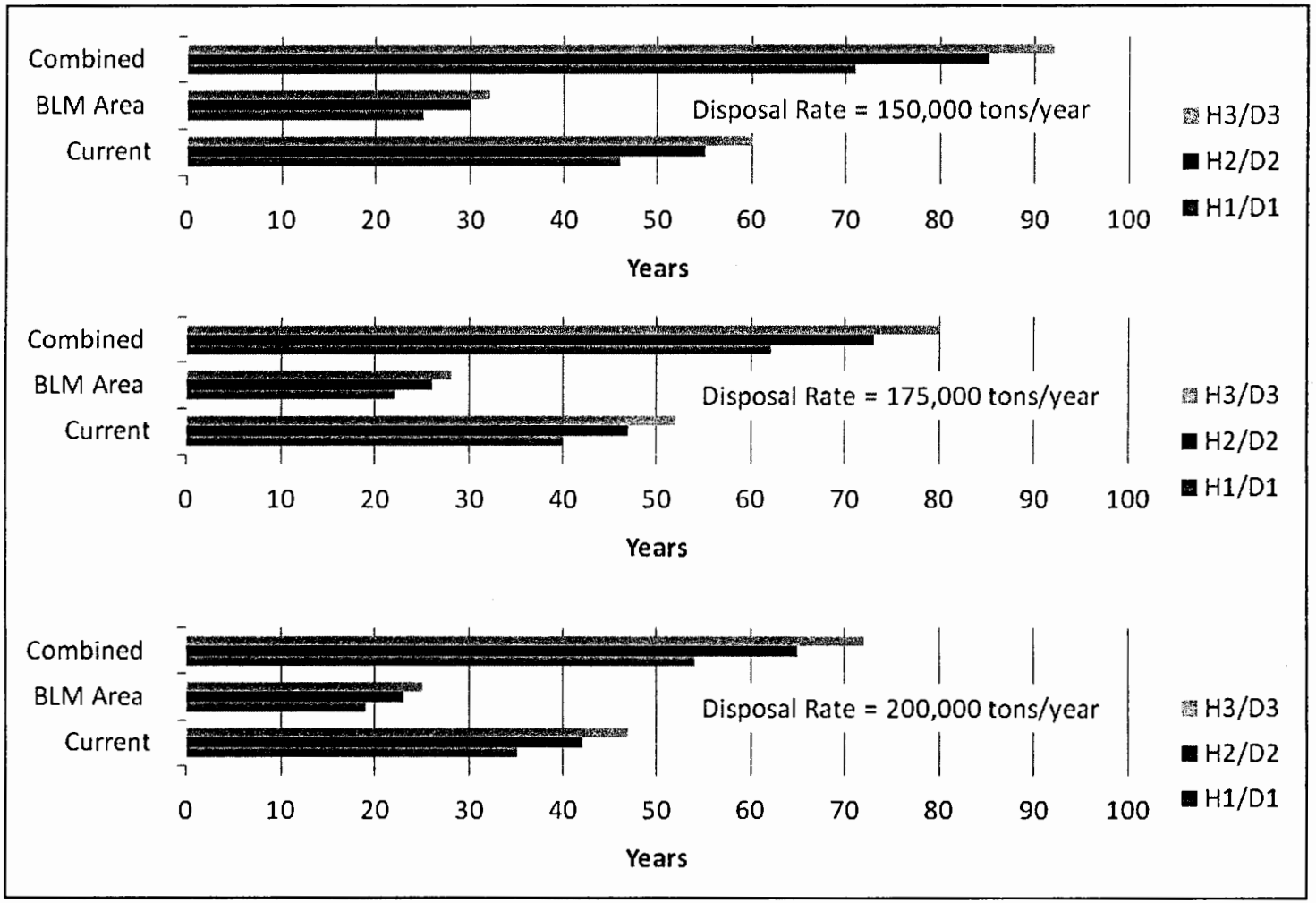
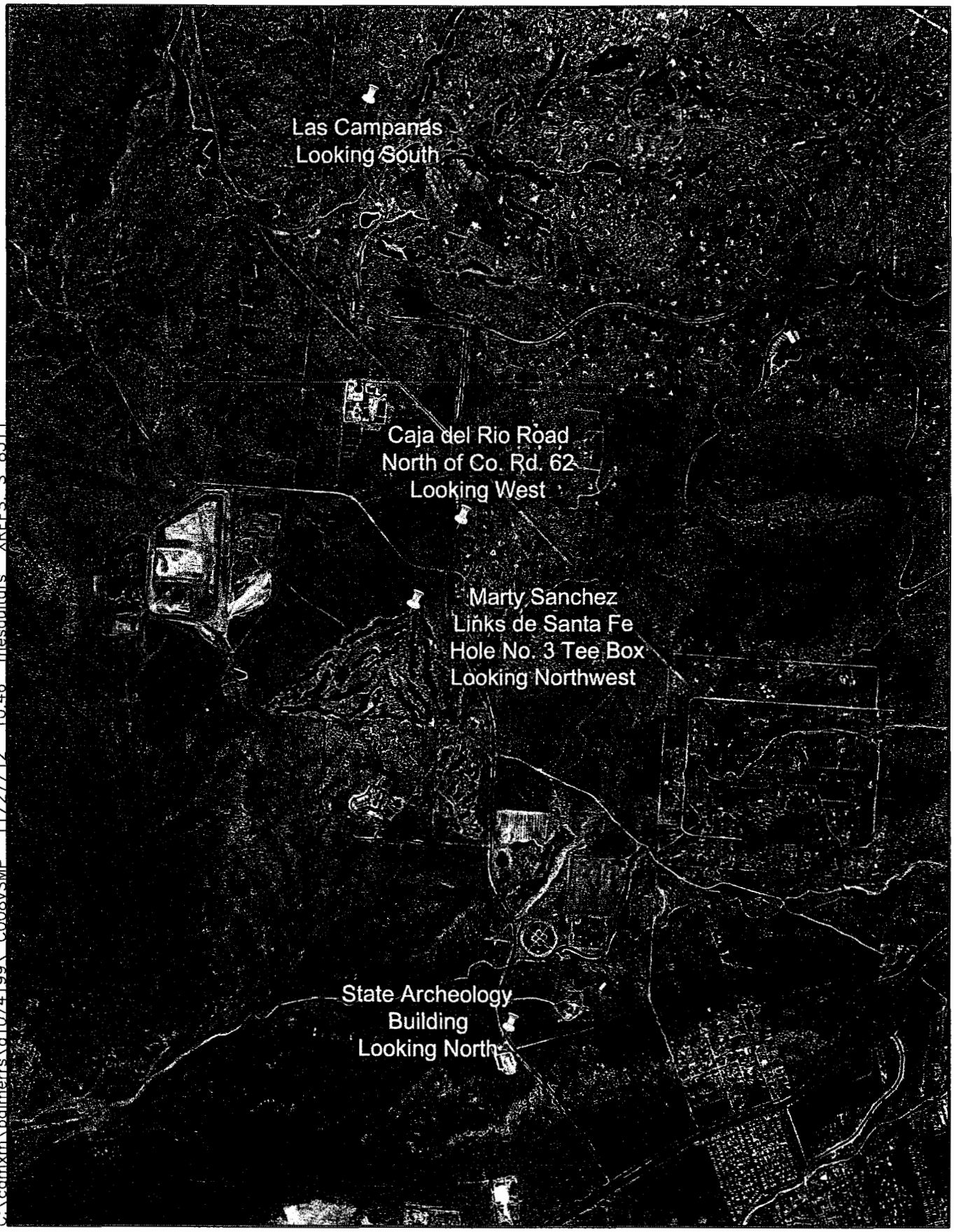


Figure 5. Estimated Landfill Life.

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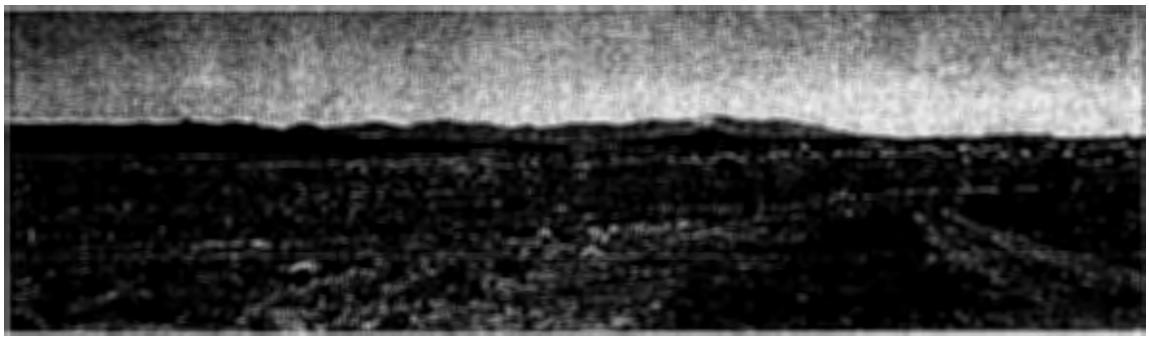
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Santa Fe Solid Waste Management Agency (SFSWMA)
Caja Del Rio Landfill
Santa Fe, New Mexico

Figure No.6
Viewshed Location Map
November 2012

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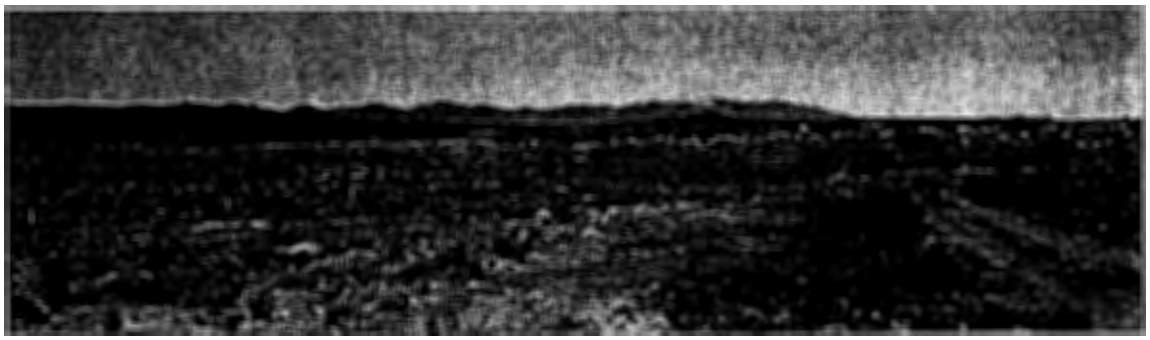
Figure 7: Viewshed from State Archeology Building (Looking North Towards the Landfill)



H1: Existing landfill; BLM area



H2: Existing landfill 20-ft increase; BLM area 30-ft increase

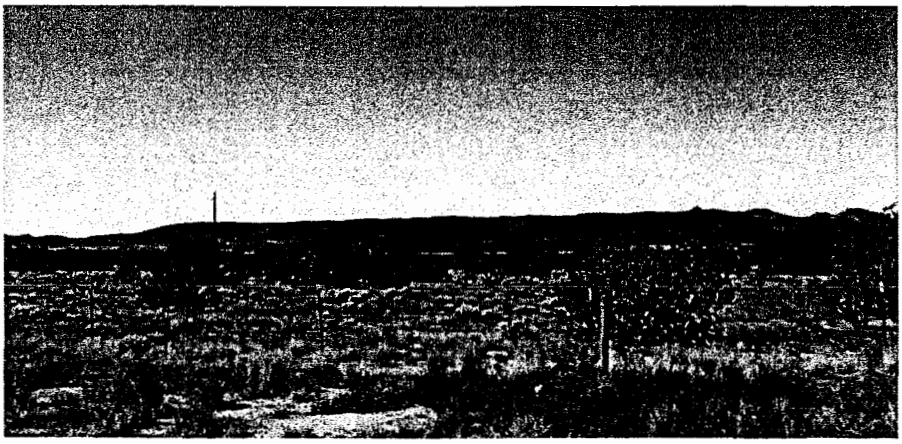


H3: Existing landfill 40-ft increase; BLM area 60-ft increase

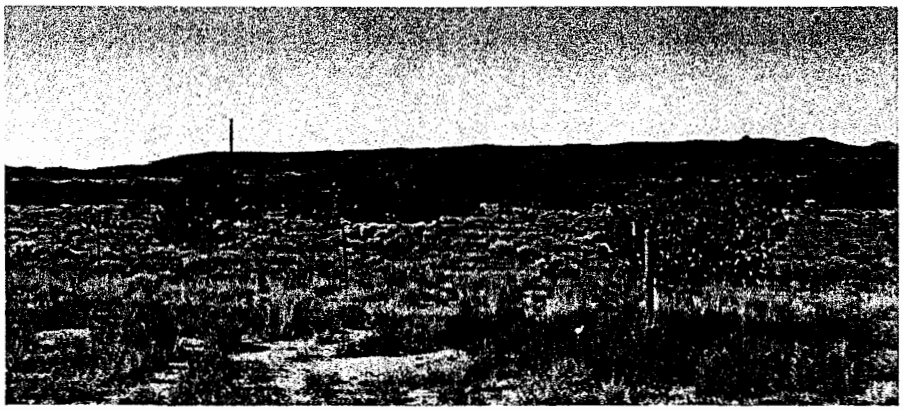
CDM Smith

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Figure 8: Viewshed from Caja del Rio Road
(Just North of County Road 62 Intersection)



H1: Existing landfill; BLM area



H2: Existing landfill 20-ft increase; BLM area 30-ft increase



H3: Existing landfill 40-ft increase; BLM area 60-ft increase

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Figure 9: Viewshed from Las Campanas
(From North of the Wastewater Treatment Plant; Looking South Towards the Landfill)



H1: Existing landfill; BLM area



H2: Existing landfill 20-ft increase; BLM area 30-ft increase



H3: Existing landfill 40-ft increase; BLM area 60-ft increase

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Figure 10: Viewshed from Marty Sanchez Golf Course
(From Tee Box #3 looking Northwest)



H1: Existing landfill; BLM area



H2: Existing landfill 20-ft increase; BLM area 30-ft increase

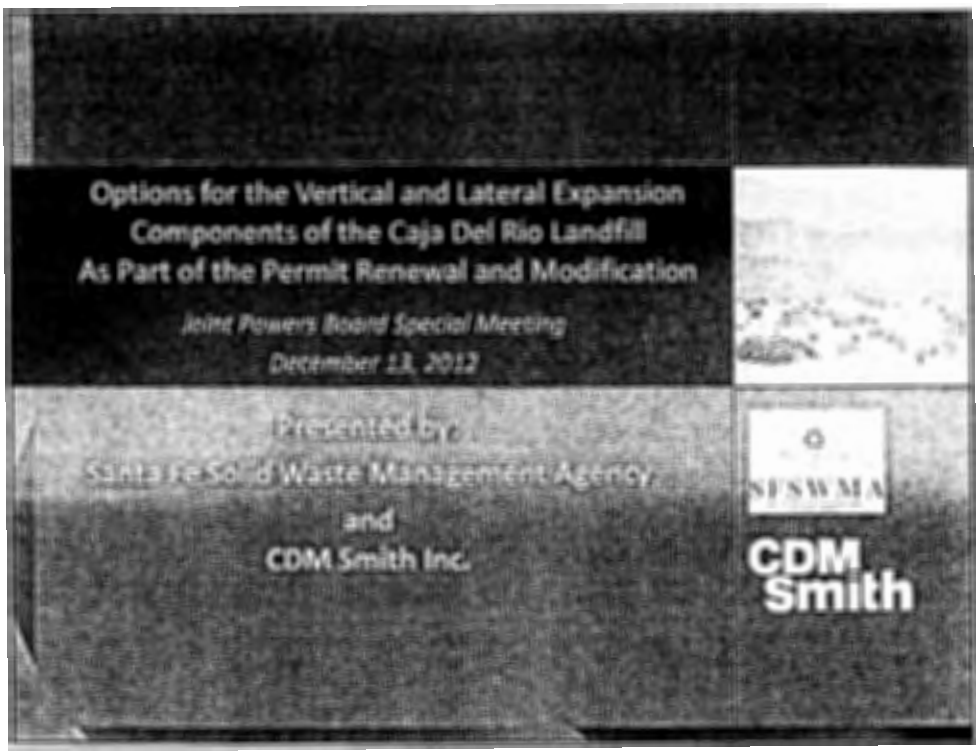


H3: Existing landfill 40-ft increase; BLM area 60-ft increase

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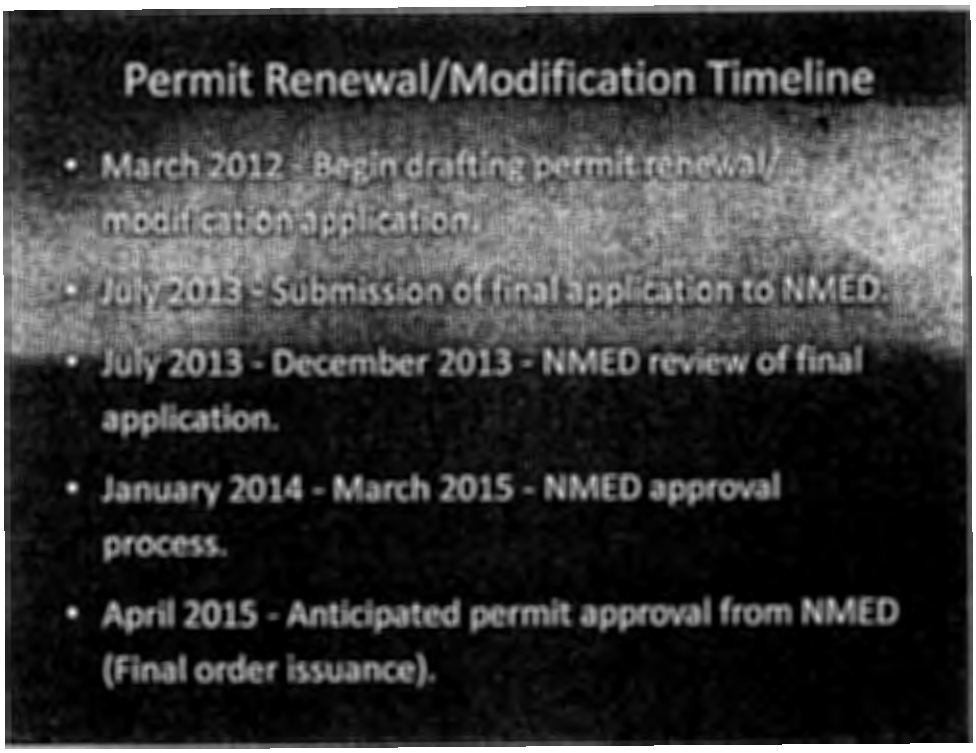


Exhibit "2"

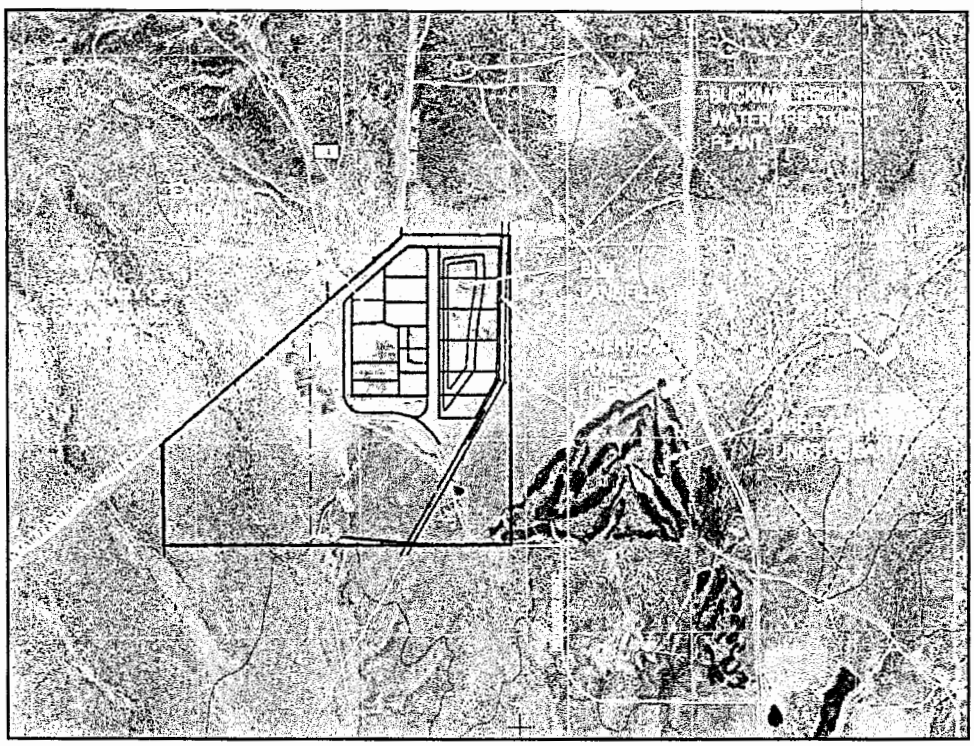
Permit Application Decision Points

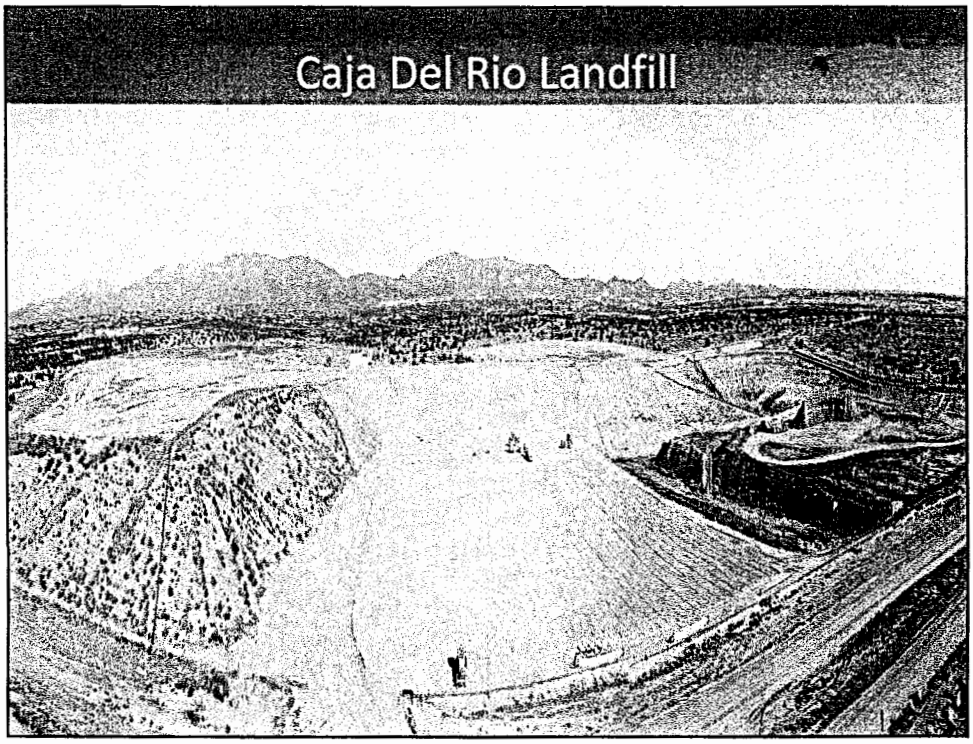
- Landfill lateral expansion
- Landfill vertical expansion
  - Landfill depth
  - Landfill height
- Public involvement

Lateral Expansion

- The area of the Current Landfill (Cells 1 – 6) is 76 acres.
- The proposed expansion area is within the current Landfill permit boundary, on land that was originally approved by the Bureau of Land Management (BLM) for landfill administrative use.
- In September 2008 the BLM approved a change of use to Landfill to allow waste disposal activities.
- BLM area would add approximately 55 acres of lined area, a 42% increase in Landfill area.
- The life estimate for both areas is 72 to 92 years, depending on waste disposal rate.

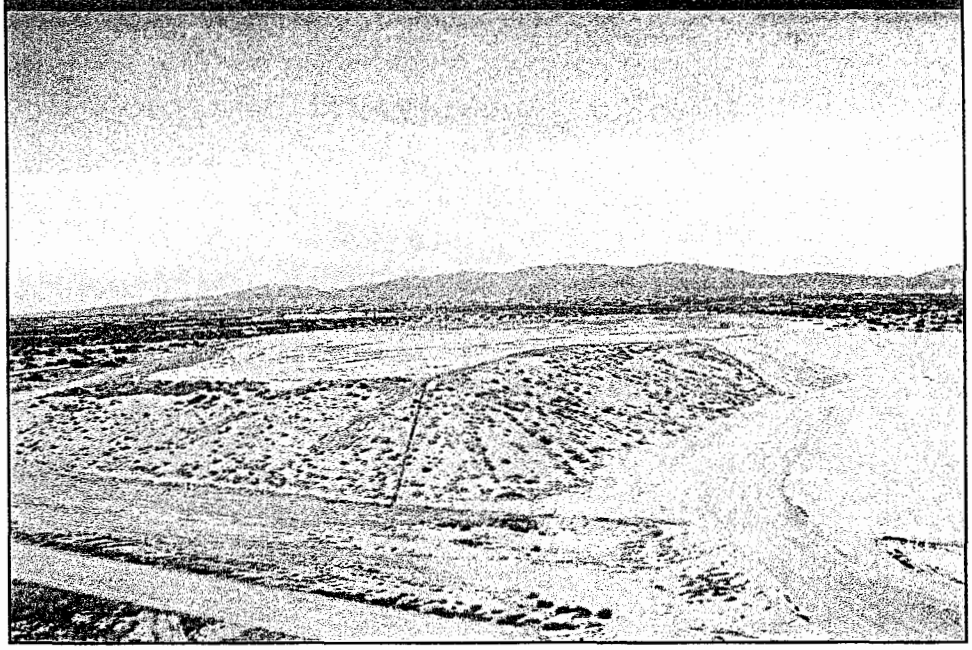
SAN DIEGO COUNTY RECORDS 02/15/2013



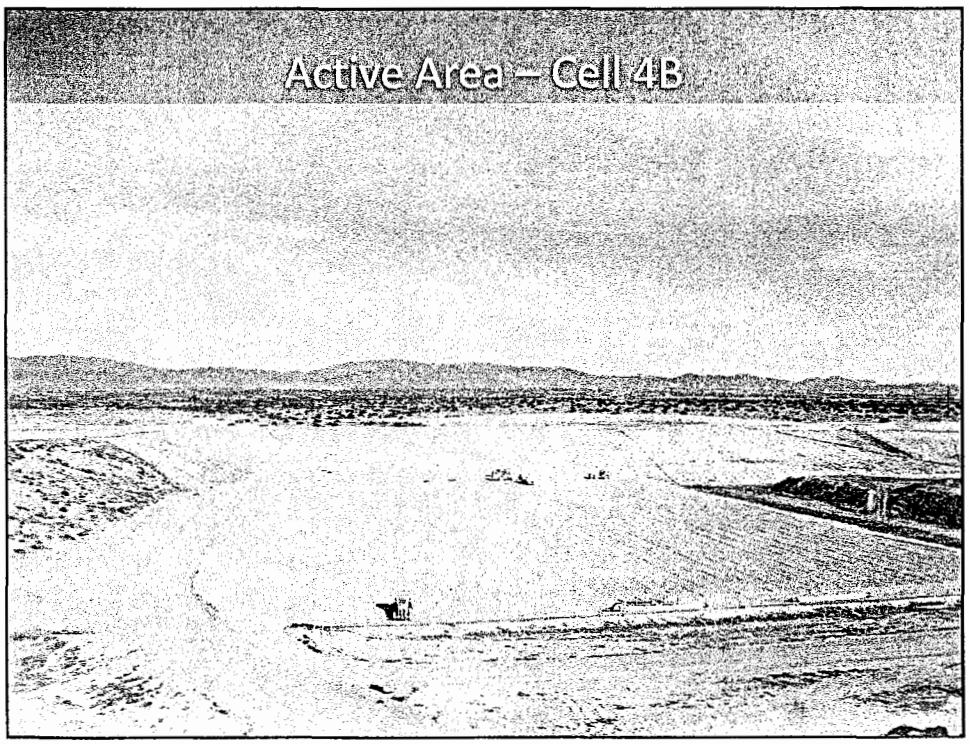


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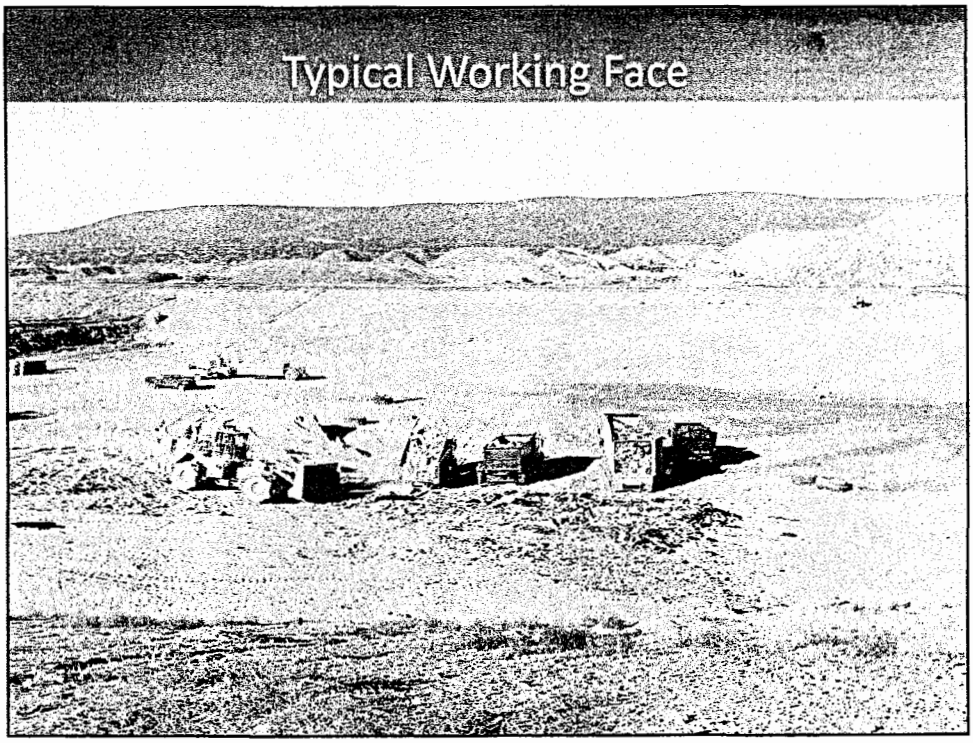
Inactive Area

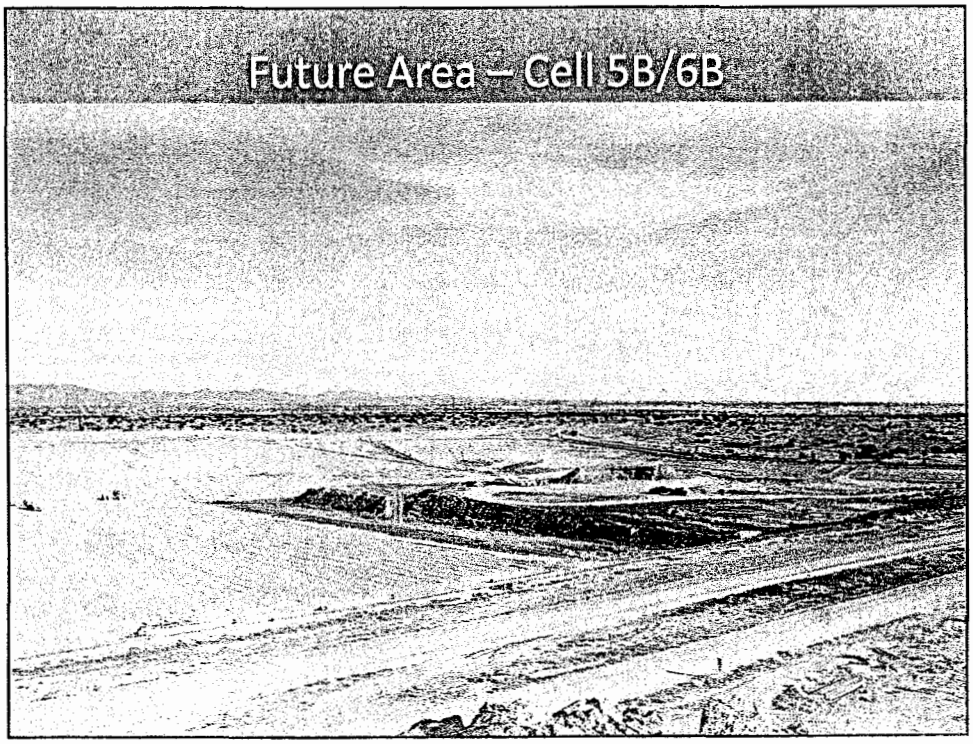


Active Area – Cell 4B



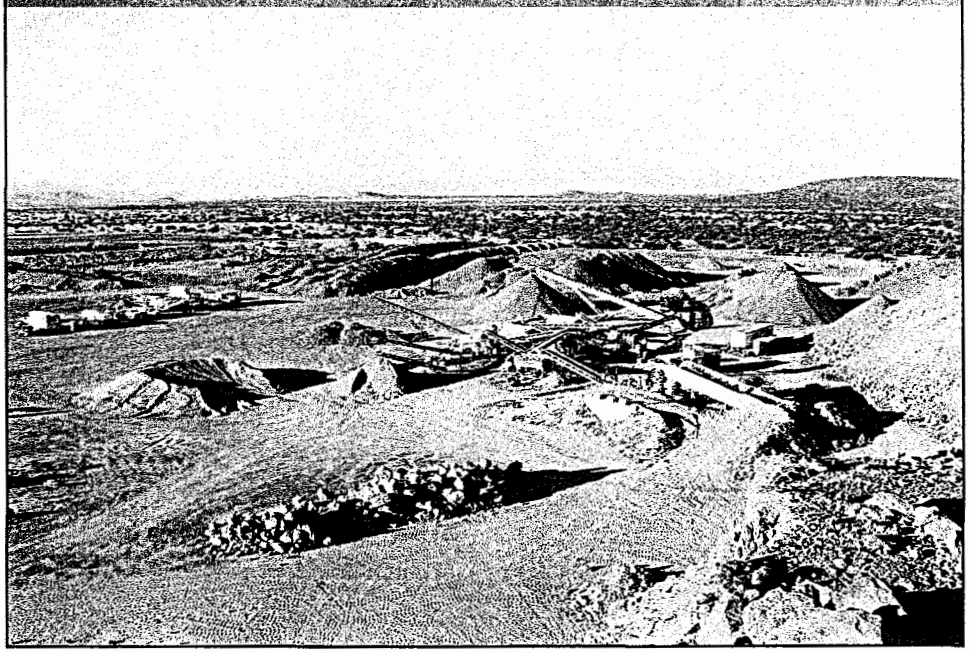
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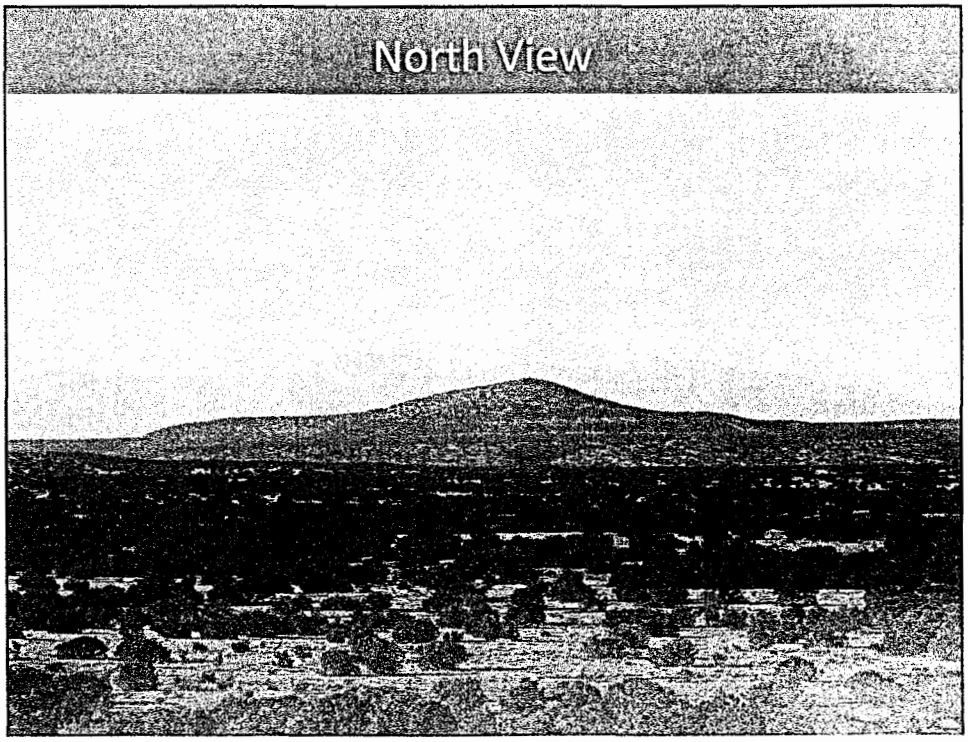


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Basalt Processing Area

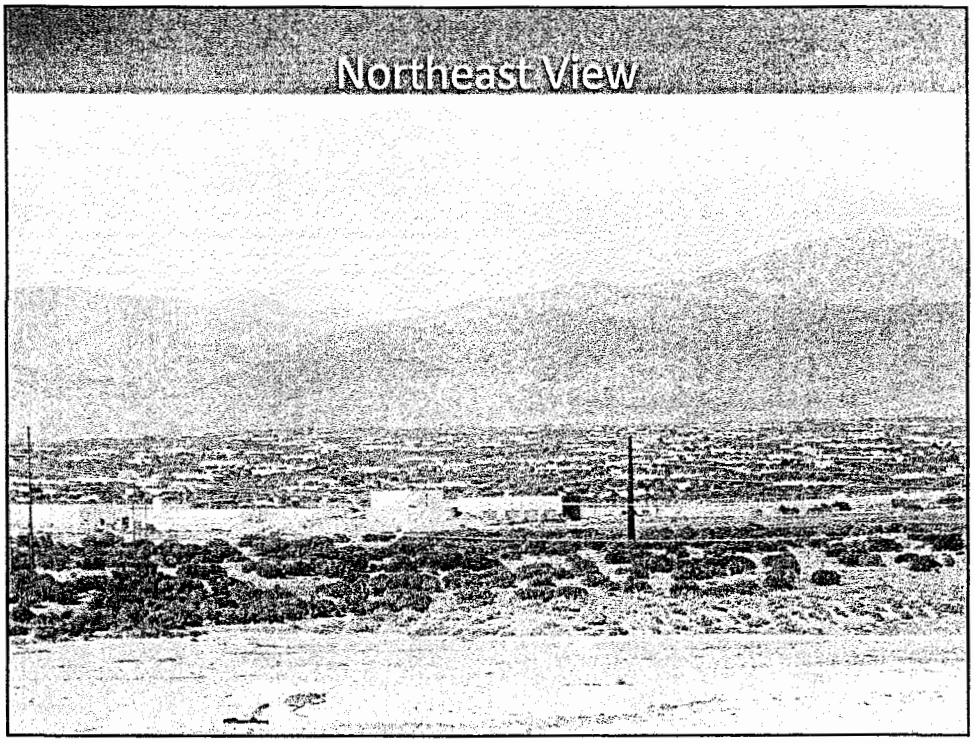


North View

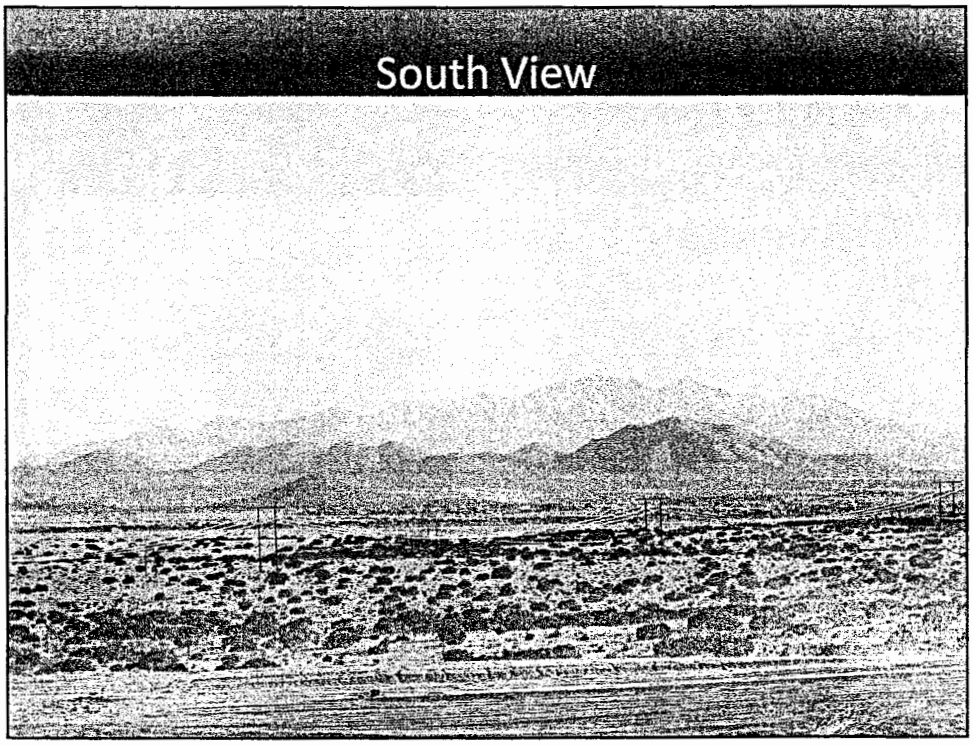


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Northeast View



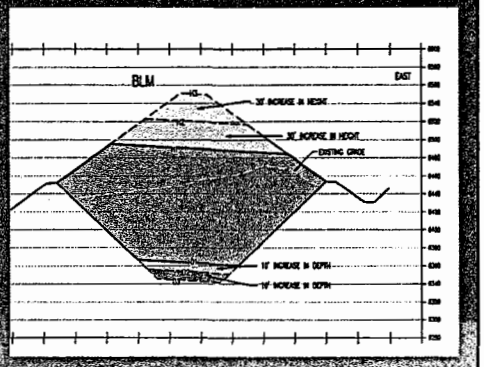
South View



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Vertical Expansion Landfill Depth: BLM Area

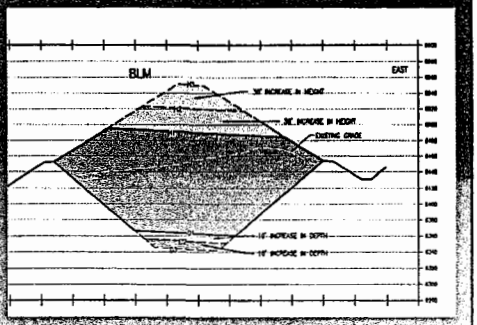
- Three depths proposed:
  - D1: 40 feet
  - D2: 50 feet
  - D3: 60 feet
- Landfill life estimates:



Disposal Rate (tons/yr)	D1 (yrs)	D2 (yrs)	D3 (yrs)
150,000	25	26	26
175,000	22	22	23
200,000	19	20	20

Vertical Expansion Landfill Height/Depth: BLM Area

- Three height proposals:
  - H1: Existing height
  - H2: 30 foot increase
  - H3: 60 foot increase
- Landfill life estimates:



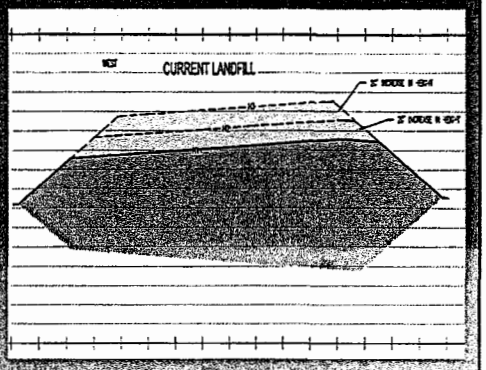
Disposal Rate (tons/yr)	H1 / D1 (yrs)	H2 / D2 (yrs)	H3 / D3 (yrs)
150,000	25	30	32
175,000	22	26	28
200,000	19	23	25

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Vertical Expansion Landfill Height: Current Landfill Area

- Three height proposals:
  - H1: Existing height
  - H2: 20 foot increase
  - H3: 40 foot increase
- Landfill life estimates:

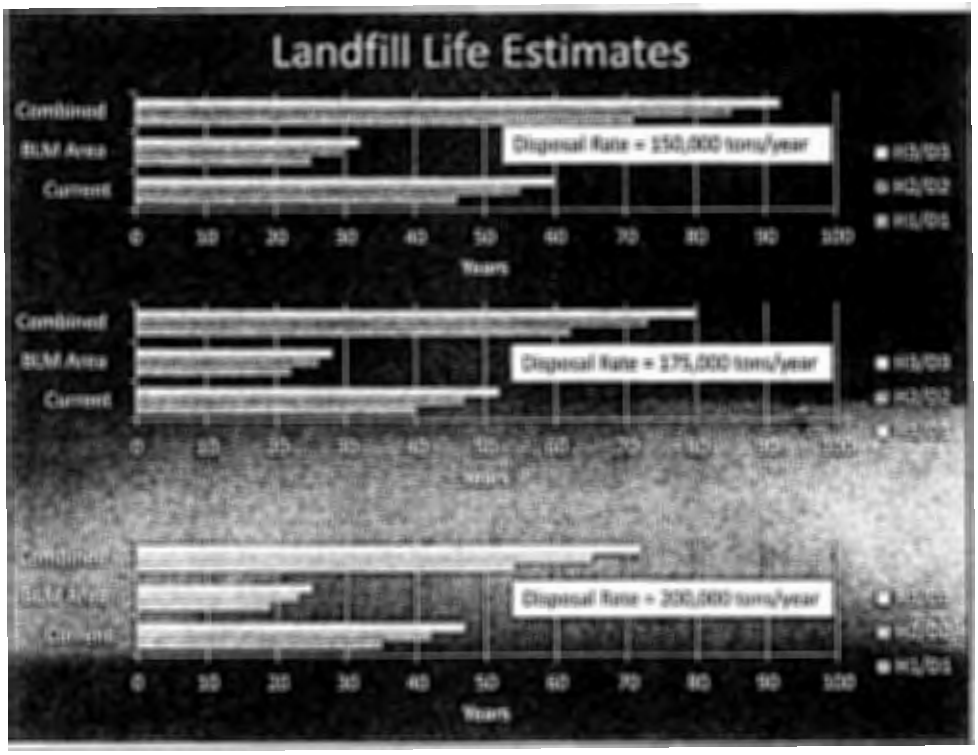
Disposal Rate (tons/yr)	H1 (Yrs)	H2 (Yrs)	H3 (Yrs)
150,000	46	55	60
175,000	40	47	52
200,000	35	42	47

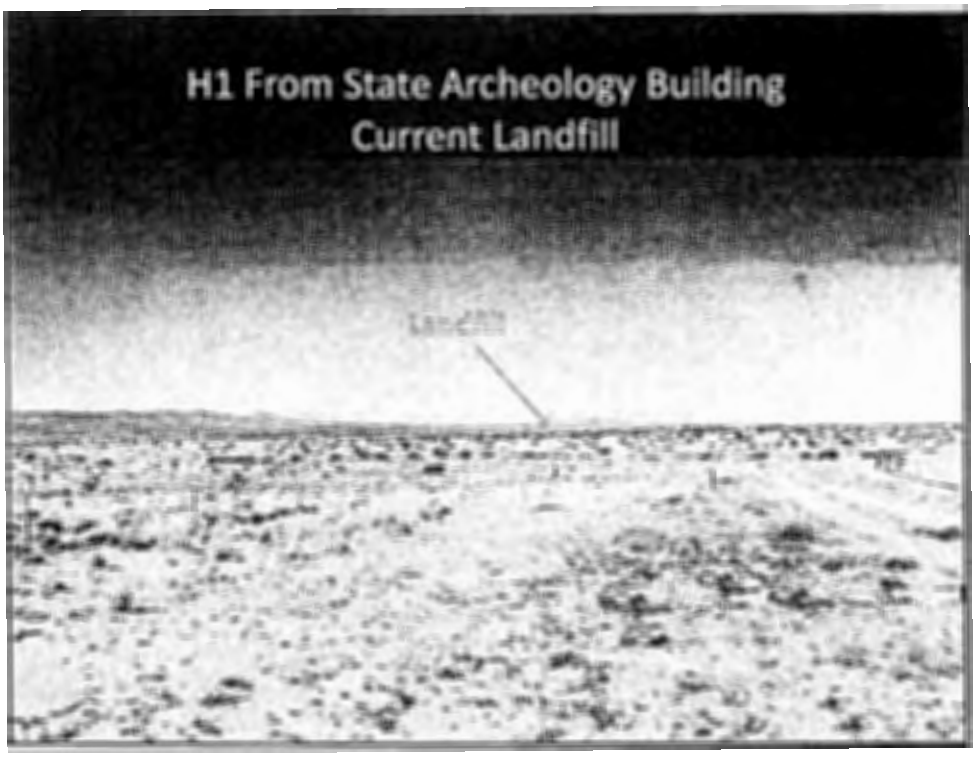


Landfill Life Estimates

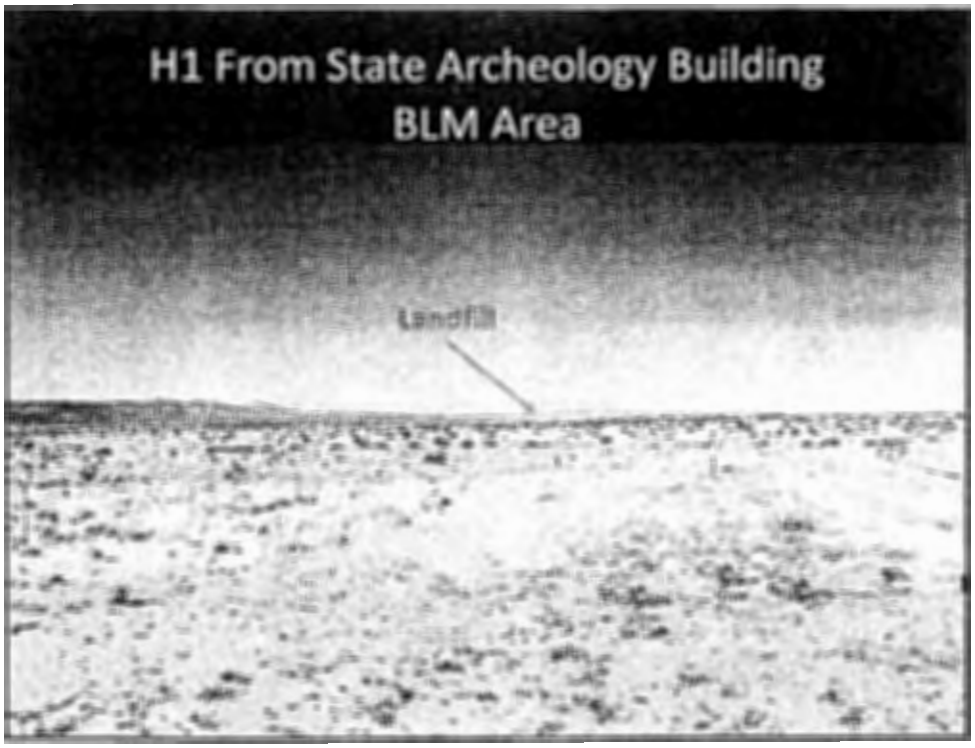
Disposal Rate (tons/year)	Height/ Depth	Current (years)	BLM Area (years)	Combined (years)
150,000	H1/D1	46	25	**71**
150,000	H2/D2	55	30	**85**
150,000	H3/D3	60	32	**92**
175,000	H1/D1	40	22	62
175,000	H2/D2	47	26	**73**
175,000	H3/D3	52	28	**80**
200,000	H1/D1	35	19	**54**
200,000	H2/D2	42	23	**65**
200,000	H3/D3	47	25	**72**

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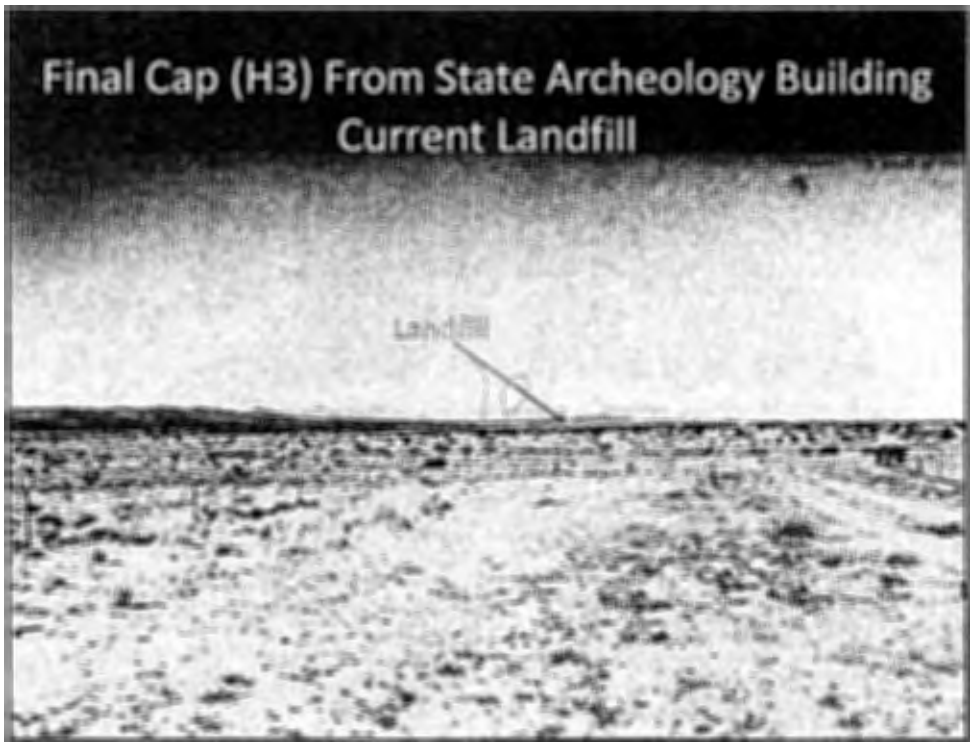
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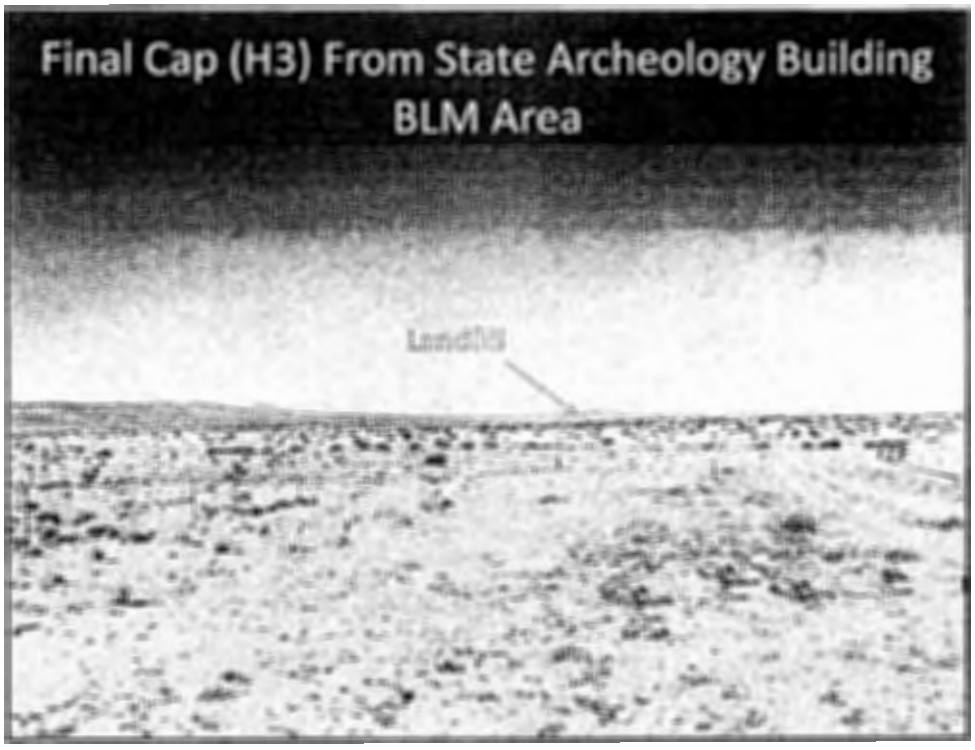


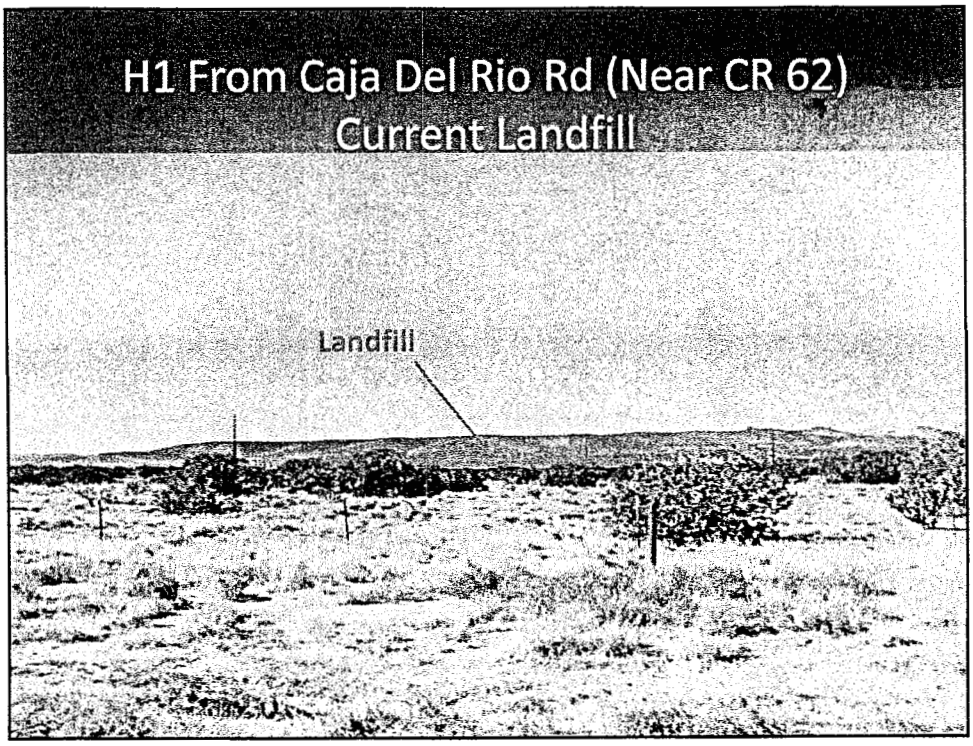
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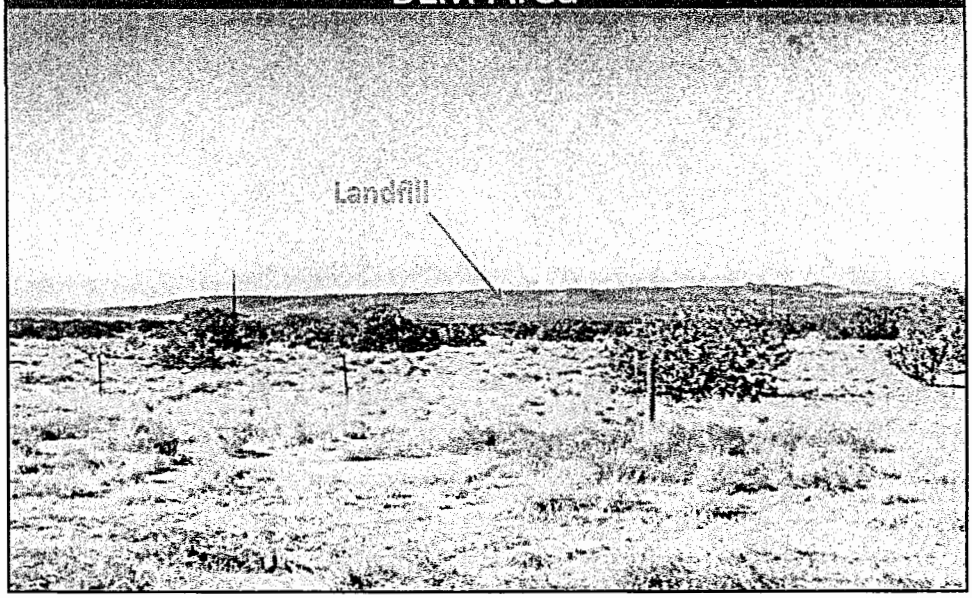
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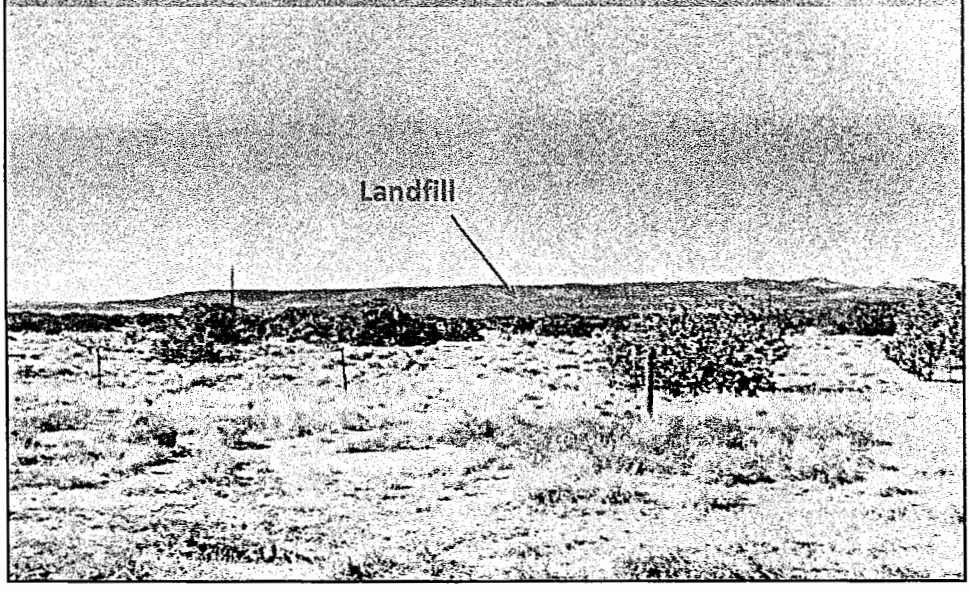


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H1 From Caja Del Rio Rd (Near CR 62) BLM Area

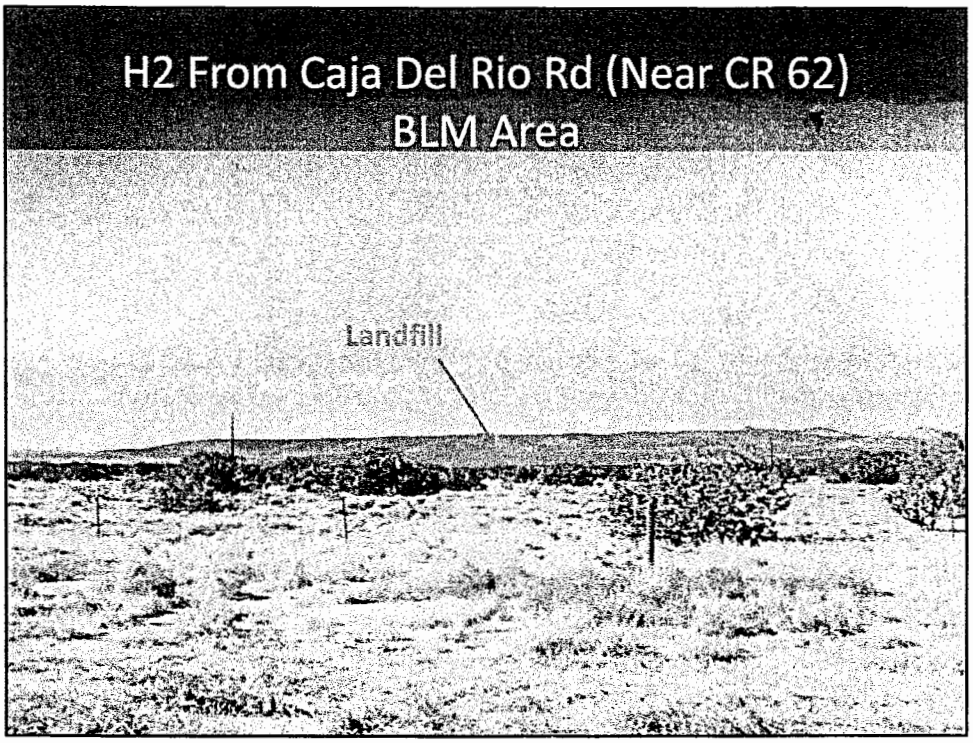


H2 From Caja Del Rio Rd (Near CR 62) Current Landfill

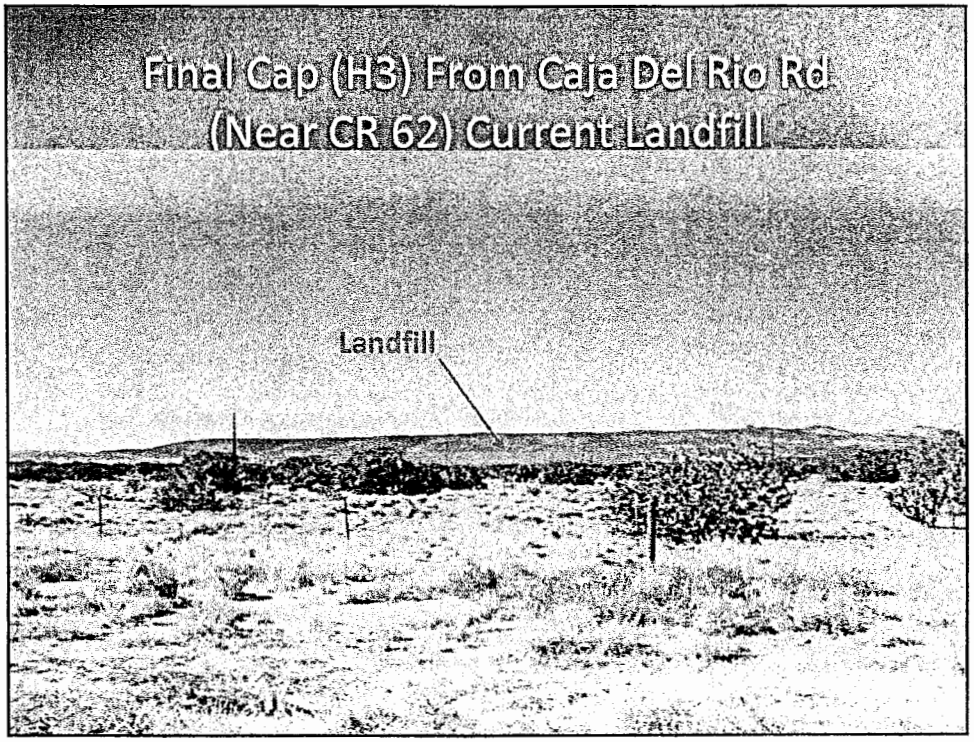


SFC CLERK RECORDED 02/15/2013

H2 From Caja Del Rio Rd (Near CR 62) BLM Area

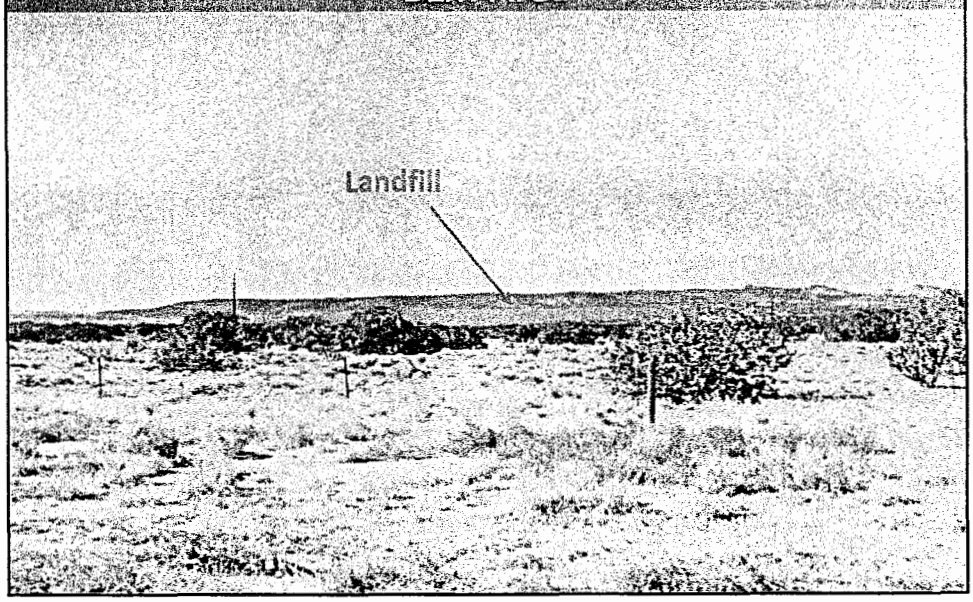


Final Cap (H3) From Caja Del Rio Rd (Near CR 62) Current Landfill

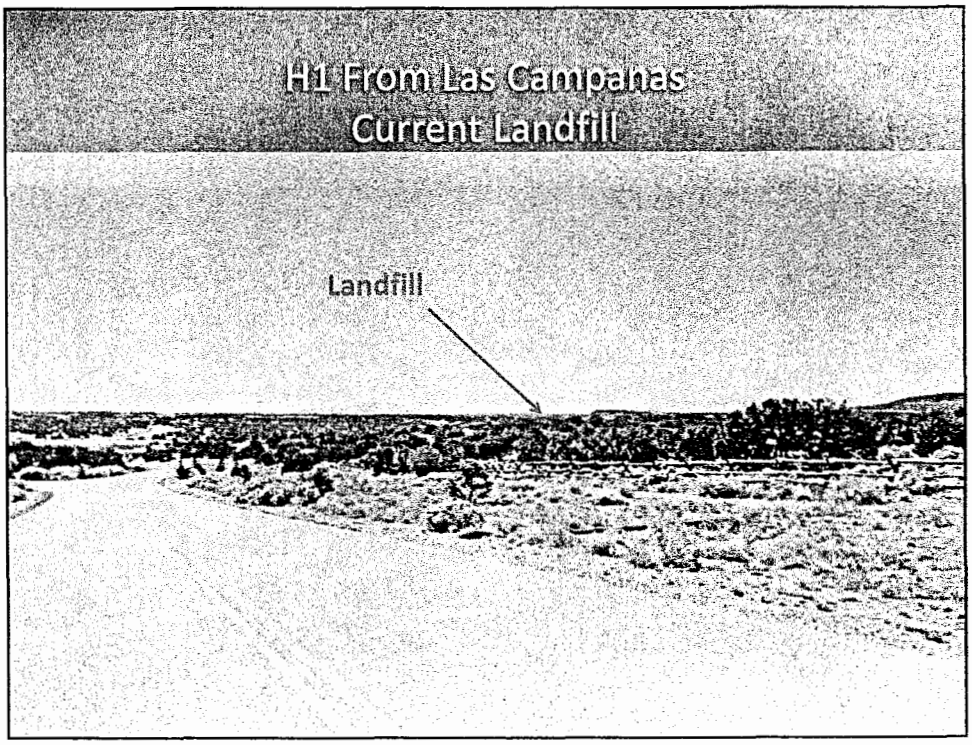


SFC CLERK RECORDED 02/15/2013

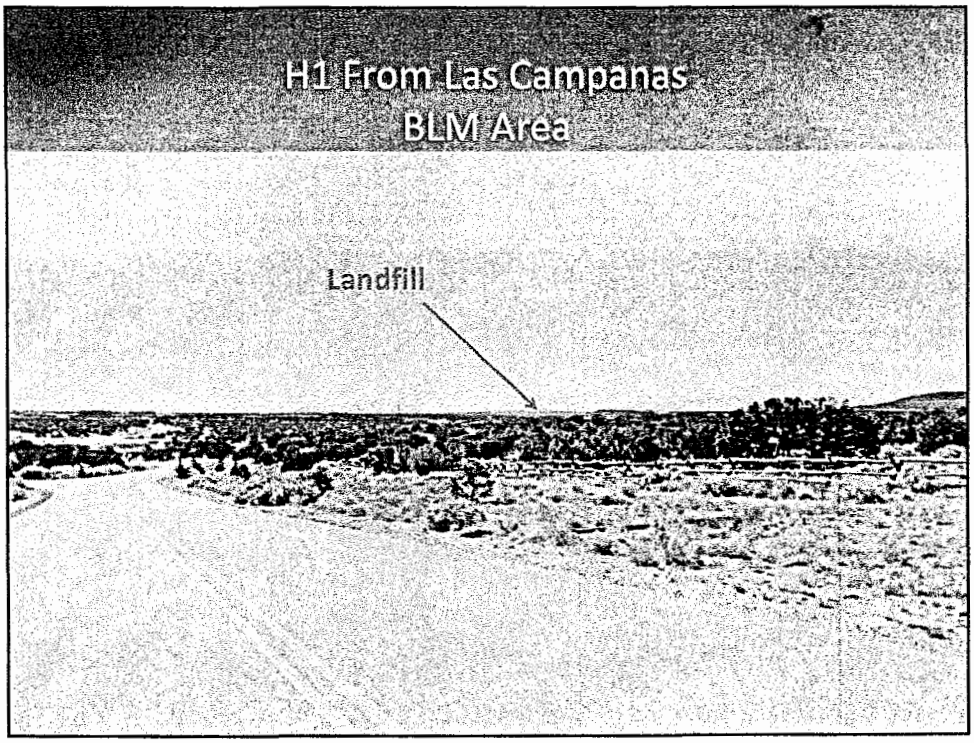
Final Cap (H3) From Caja Del Rio Rd (Near CR 62) BLM Area

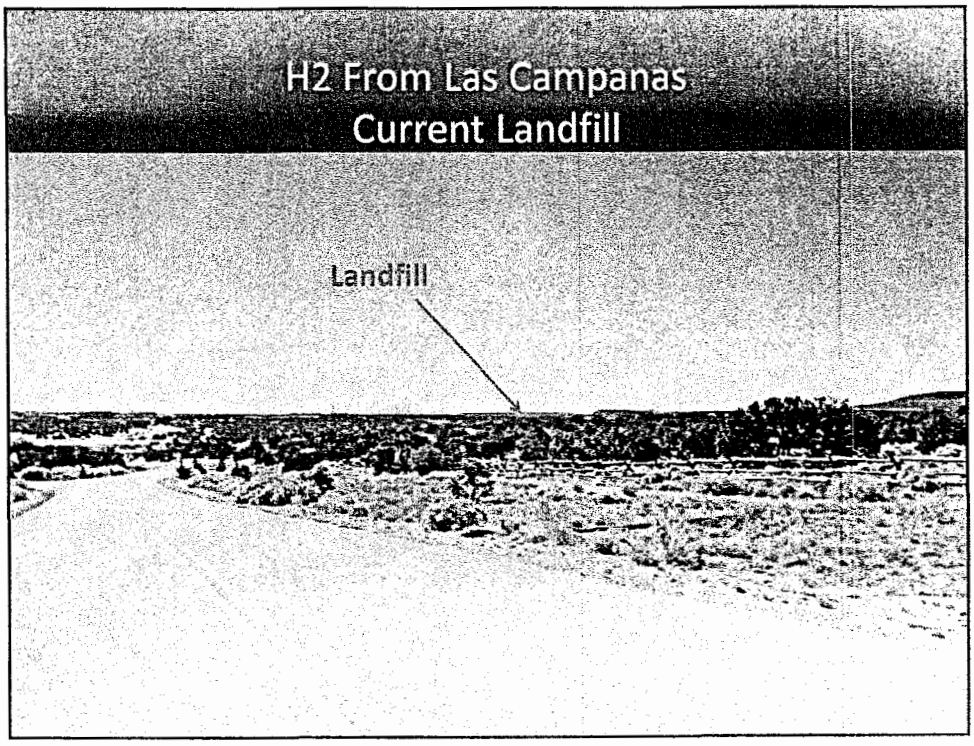


H1 From Las Campanas Current Landfill

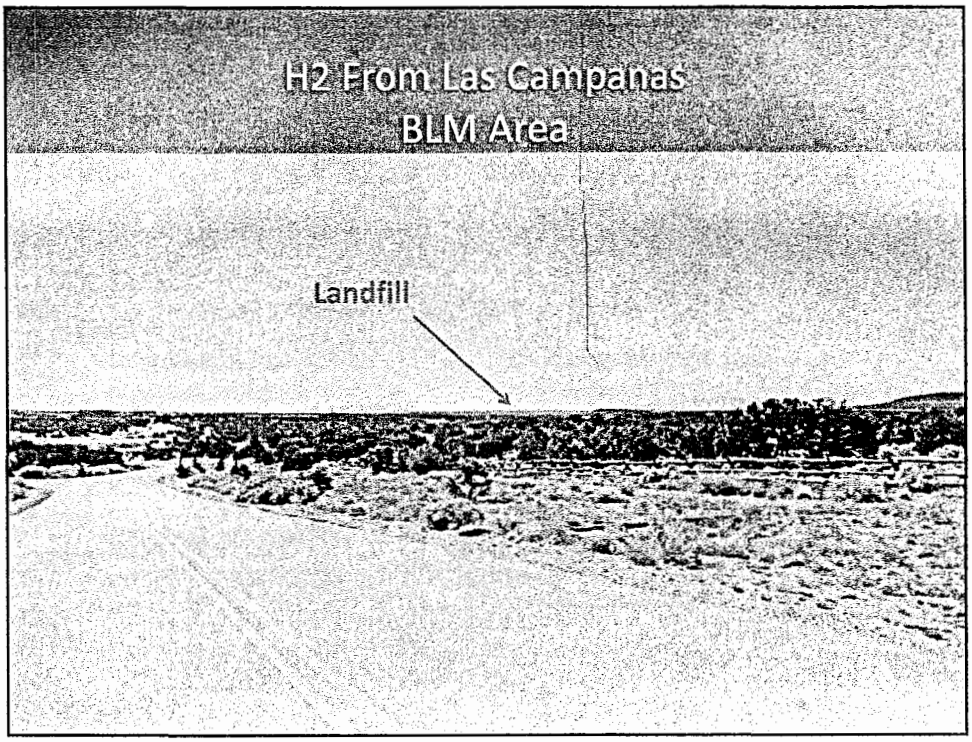


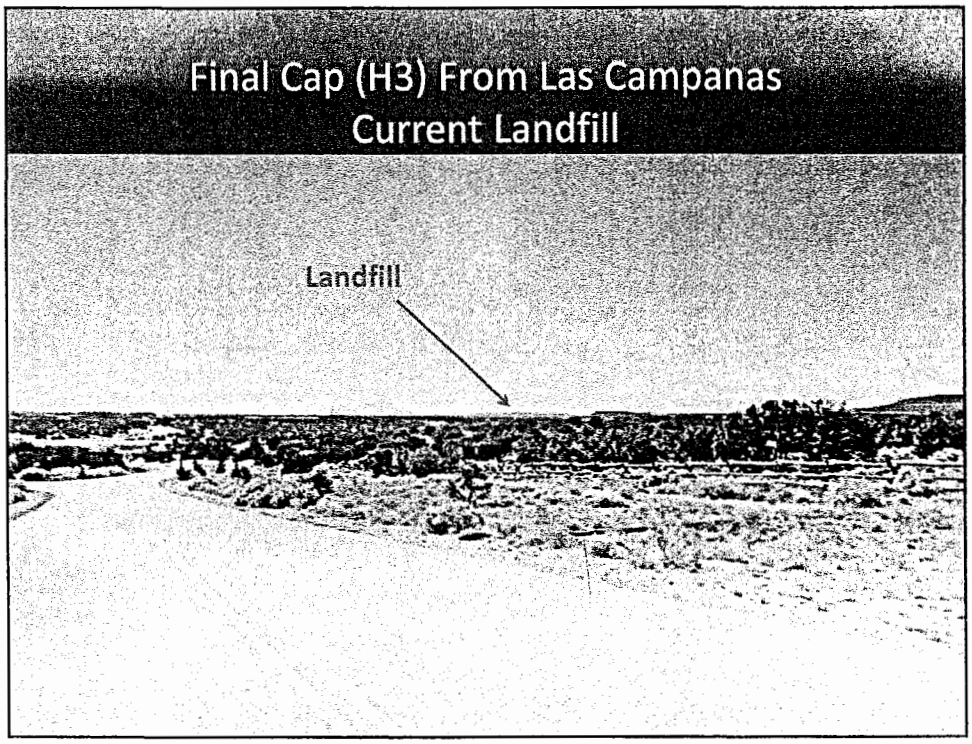
SFC CLERK RECORDED 02/15/2013



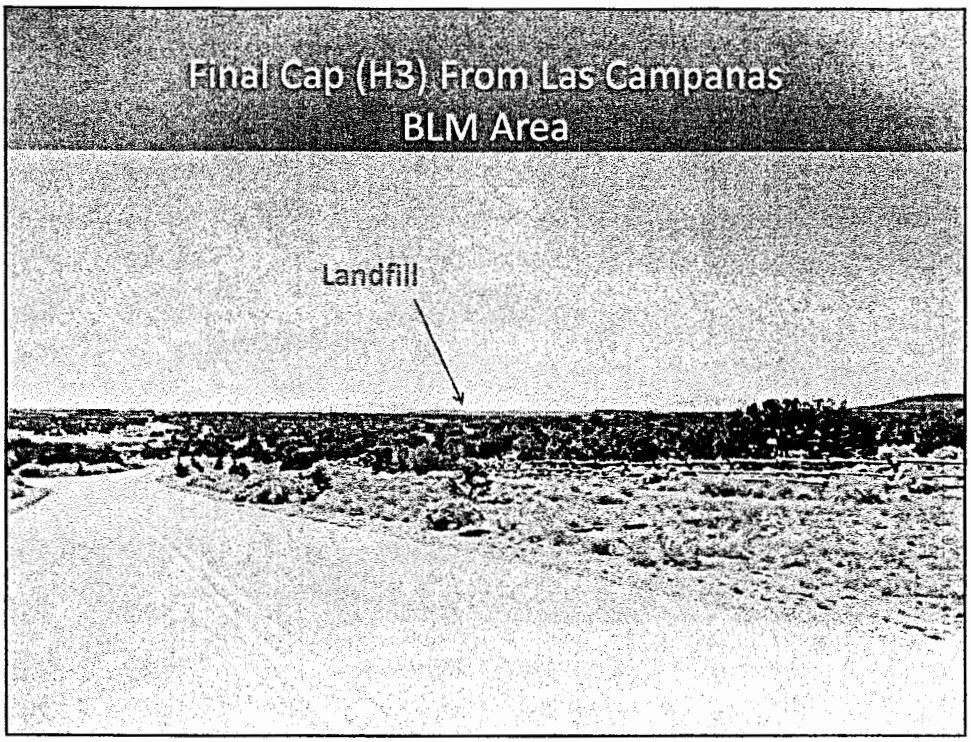


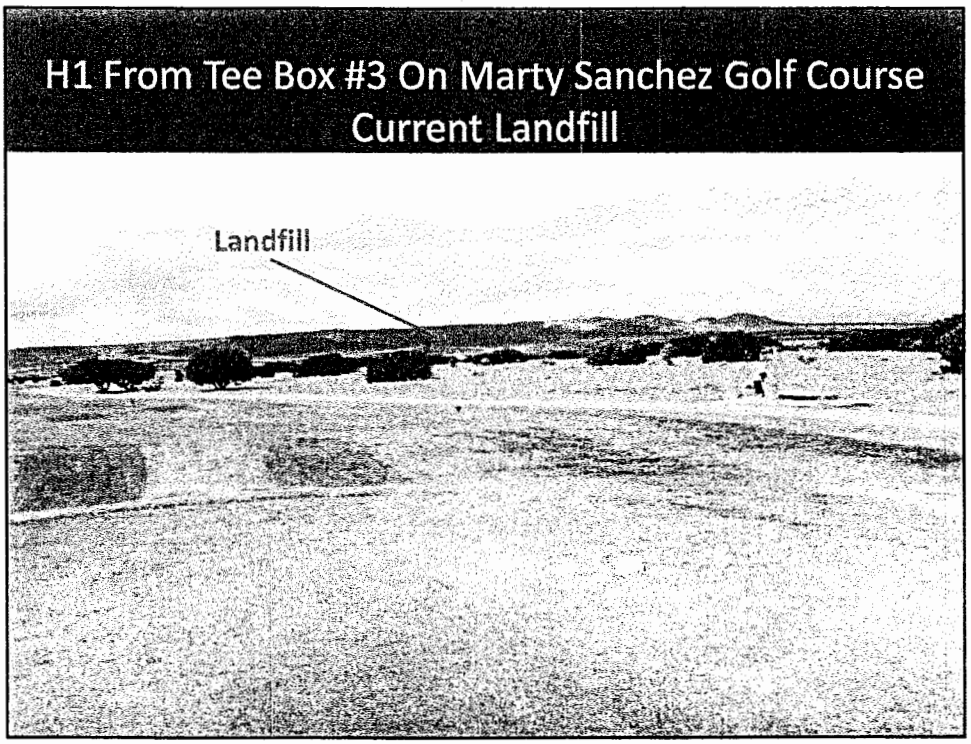
RECEIVED 12/12/2012 CLERK RECORDER





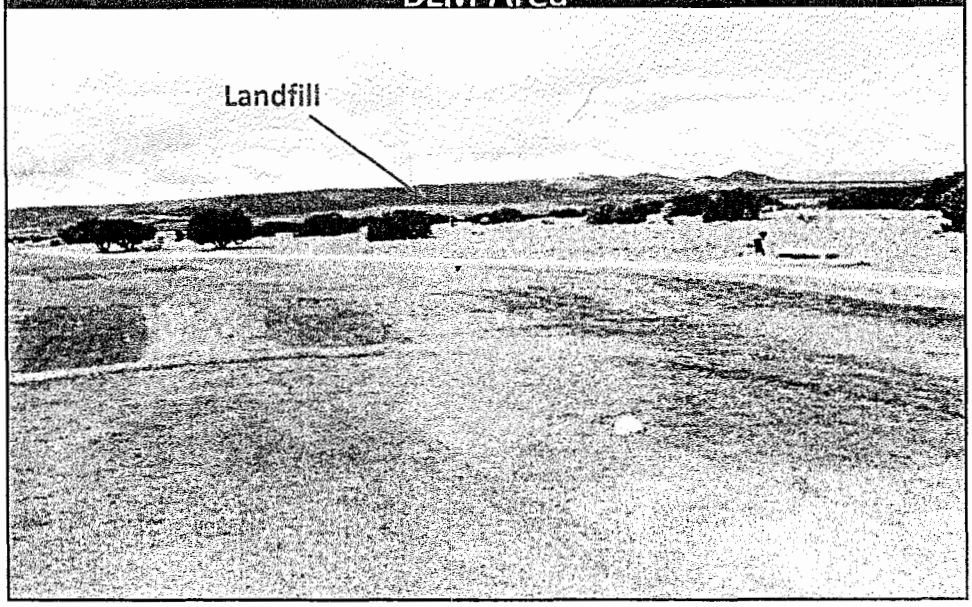
BEXAR COUNTY CLERK RECORDED 02/15/2013



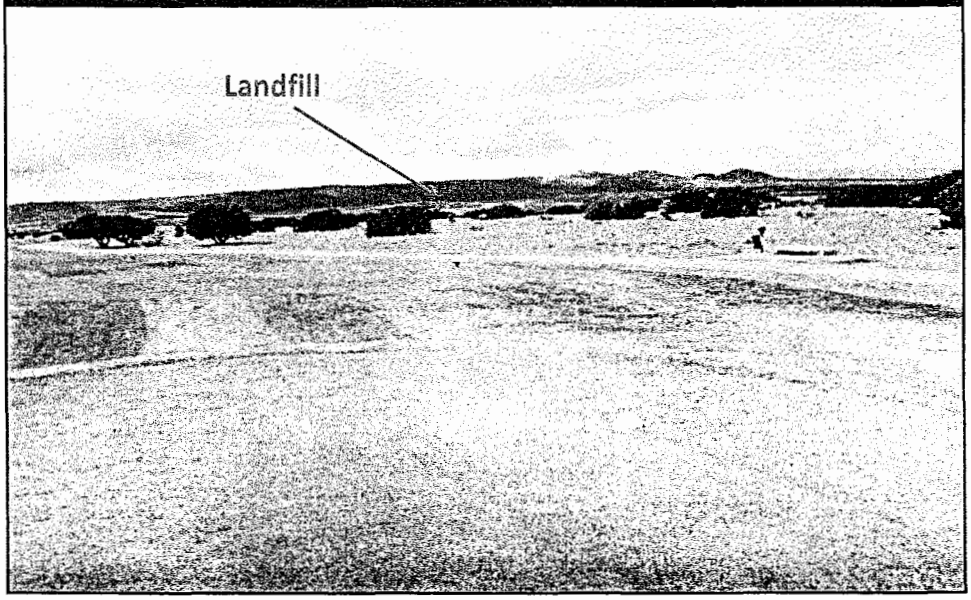


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H1 From Tee Box #3 On Marty Sanchez Golf Course BLM Area

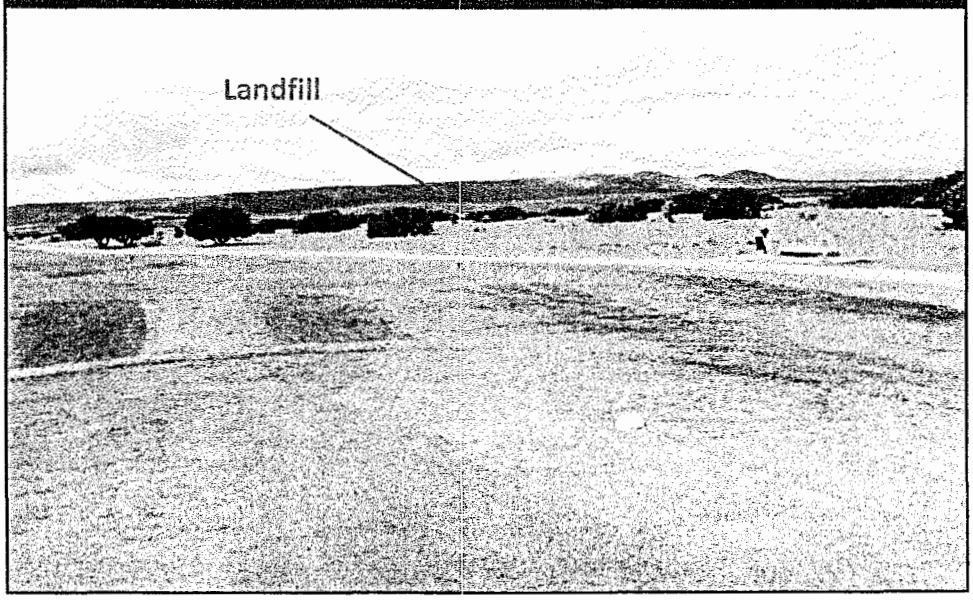


H2 From Tee Box #3 On Marty Sanchez Golf Course Current Landfill

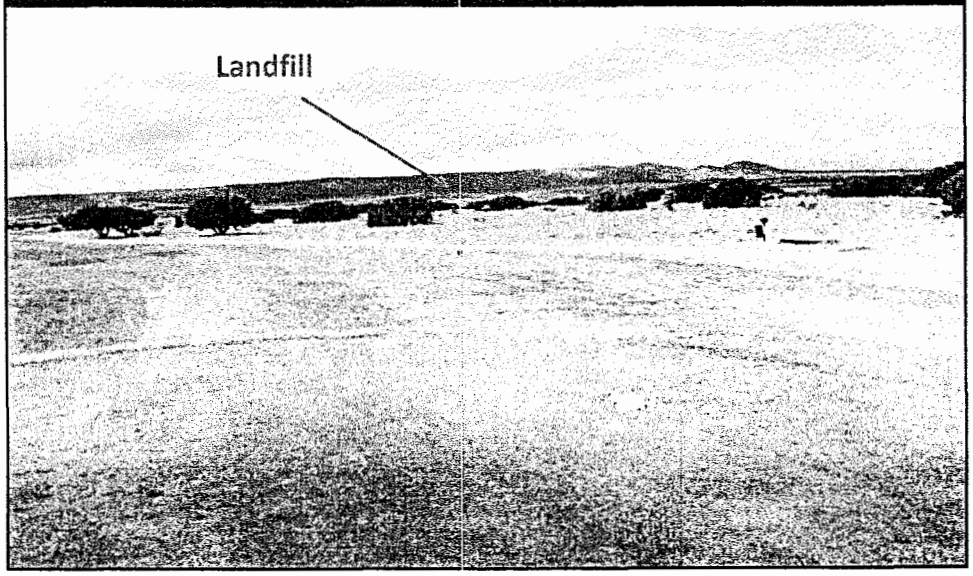


SEC CLERK RECORDED 02/15/2013

H2 From Tee Box #3 On Marty Sanchez Golf Course BLM Area

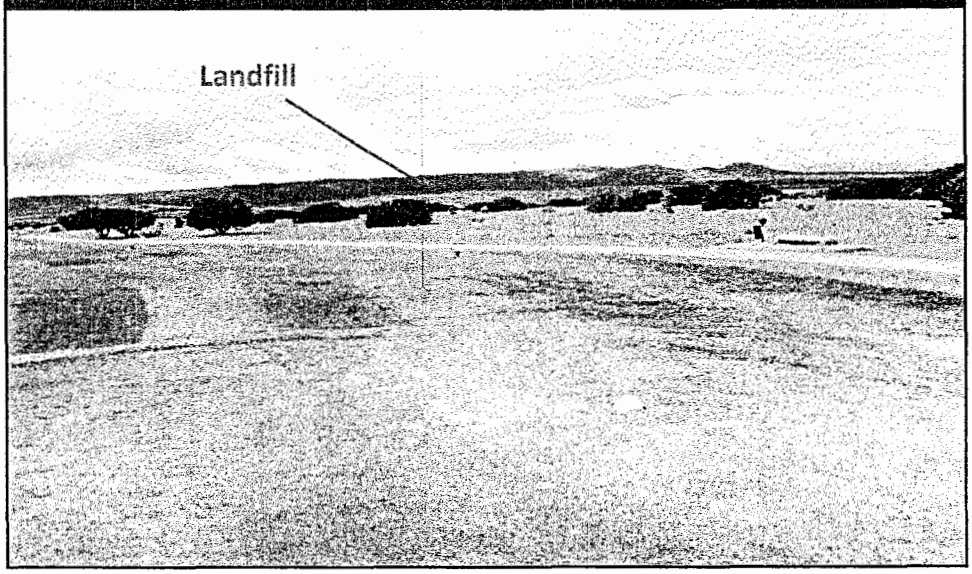


Final Cap (H3) From Tee Box #3 On Marty Sanchez Golf Course - Current Landfill



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Final Cap (H3) From Tee Box #3 On Marty Sanchez Golf Course - BLM Area



Height Comparison: New Mexico Landfills

Landfill	Max. Permitted Height (feet)	Permit Issued
Caja del Rio Landfill, Santa Fe	40	1995
Cerro Colorado, Albuquerque	200	1999
Clovis Regional Solid Waste Facility	121	1998
Corralitos Regional Landfill, Las Cruces	115	1995
Rio Rancho Landfill	220	2008
Sandoval County Landfill	110	2004
City of Socorro Landfill	95	2012
Caja del Rio Landfill, Santa Fe Proposed Maximum Height	110	--

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Public Concerns

- Traffic
  - 88 vehicles to deliver 150,000 tons/yr; 93 vehicles for 175,000 tons/yr and 98 vehicles for 200,000 tons/yr
  - Increase of 10 transfer trailers/day or about 10% increase in number of daily vehicle trips
- Noise
  - Associated with blasting in the Current Landfill area
- Dust
  - Blown from disturbed soil areas
  - Associated with crushing operations

Recommendations

- Maximize landfill area with the expansion onto the BLM land – this results in an increase of 42% in the area for waste disposal and the addition of 25 to 32 years of landfill life.
- Maximize landfill volume by increasing the depth and height of disposal areas to the greatest extent – extend the useful life of the facility from 72 to 92 years.
- Work with the public to alleviate concerns to the extent possible before submitting the permit renewal application.

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