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KHALIL M. GHARIOS, P.E., DIV. MANAGER
1149 SOUTH BROADWAY, 8TH FLOOR
LOS ANGELES, CA 90015
TEL: (213) 485-3002
FAX: (213) 485-2959

HAND DELIVERED

July 11, 2011

Dr. Wen Yang, C.H.G., C.E.G
Groundwater Permitting and Landfills Unit
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

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LOPEZ CANYON SANITARY LANDFILL (File No. 69-068, Order No. B4-2004-0176, CI 5636) - CERTIFICATION OF FINAL CLOSURE AND CONSTRUCTION QUALITY ASSURANCE (CQA) REPORTS FOR DISPOSAL AREAS B, AB+, AND C

Dear Dr. Yang.:

The City of Los Angeles Bureau of Sanitation (BOS) and GeoSyntec Consultants (GeoSyntec) hereby submit the following final three outstanding Construction Quality Assurance (CQA) reports for disposal areas B, AB+, C and a Certification of Final Closure Report. Upon your approval of these and previously submitted CQA reports the Lopez Canyon Landfill shall be considered closed and in post closure maintenance. The implementation of the post closure will be in accordance with the Post Closure Maintenance Plan as approved for the Lopez Canyon Sanitary Landfill.

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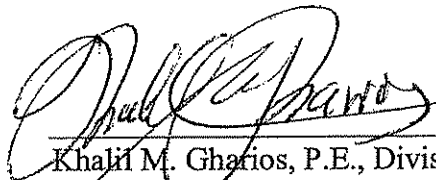
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If you have any questions or comments, please contact John Hamilton of my staff at (818) 834-5111.

Respectfully,



Khalil M. Gharios, P.E., Division Manager
Solid Resources Processing and Construction Division

Attachments and Submittals:

1. Final Cover Construction Deck of Disposal Area B
2. Final Cover Construction Slopes of Disposal Area AB+
3. Existing Cover Performance Analysis and Construction Quality Assurance Report for Disposal Area "C"
4. Certification of Closure Report

cc: David Thompson, Los Angeles Environmental Affair Department, (LEA)
Peter Jan, Department of Resources Recycling and Recovery, (CalRecycle)
John Hamilton, Bureau of Sanitation City of Los Angeles
Jonathan Zari, Bureau of Sanitation City of Los Angeles
Timmie DeRamos, Bureau of Sanitation City of Los Angeles
Jeff Dobrowolski, Geosyntec Consultants

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2:30 pm
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Carpenter

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July 11, 2011

David L. Thompson, Environmental Supervisor II
Department of Building and Safety/Local Enforcement Agency
3550 Wilshire Blvd, 18th Floor
Los Angeles, CA 90010

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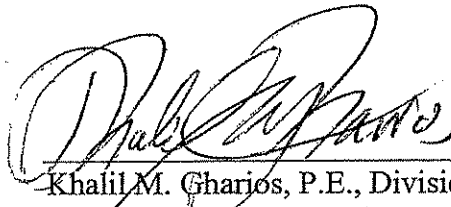
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Solid Resources Processing and Construction Division

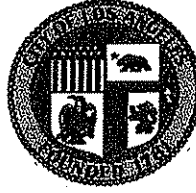
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July 11, 2011

Peter Jan, Waste Management Engineer
P.O. Box 4025, Mail Stop 10A-18
Sacramento, CA 95812

LOPEZ CANYON SANITARY LANDFILL - CERTIFICATION OF FINAL CLOSURE AND CONSTRUCTION QUALITY ASSURANCE (CQA) REPORTS FOR DISPOSAL AREAS B, AB+, AND C

Dear Mr. Jan:

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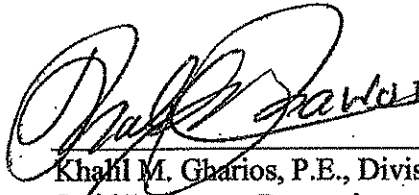


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Respectfully,



Khalil M. Gharib, P.E., Division Manager
Solid Resources Processing and Construction Division

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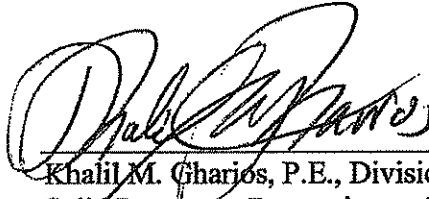


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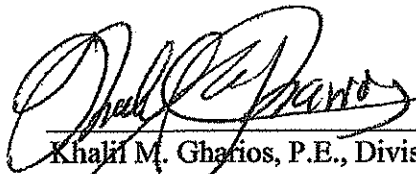


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Prepared by the City of Los Angeles/Bureau of Sanitation
Solid Resource Processing and Construction Division
Lopez Canyon Sanitary Landfill
11950 Lopez Canyon Road
Lake View Terrace, CA 91342

Certification of Final Closure Report
Lopez Canyon Sanitary Landfill

Table of Contents

Summary of Closure Construction at the Lopez Landfill.....	Section 1
Landfill As-Built Closure Cost.....	Section 2
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1. SUMMARY OF CLOSURE CONSTRUCTION AT LOPEZ LANDFILL

The landfill was open from 1975 to July 1996 where 19.2 million tons of municipal refuse were placed in four canyon fills. These canyons are designated as A-Canyon, B-Canyon, AB+-Canyon, and C-Canyon. Each canyon fill has a sloped area and a deck area that were individually closed with final cover from 1995 to present. A concrete drainage structure was installed at the bottom of A Canyon in 1995 and construction on the final cover began in B Canyon in 1996. The total project duration was 14.9 years [from the start to end of cover placement construction]. Closure construction of the landfill was intermittently suspended due to construction resources split between other landfill closure projects, landfill maintenance, other work around the City, and due to causes beyond the Bureau of Sanitation's control. We experienced long delays in locating and procuring the soil for the approved monolithic cover and additional delays in the procurement of other materials in general.

The total cover placed at the landfill was approximately 166 acres of deck and sloped area. The relatively slow placement rate of roughly 11 acres/yr was largely due to limited resource availability and other delays specified above. This was advantageous for the cover quality because settlement was given more time to de-accelerate before the cover was placed. This should reduce cracking, grade changes, and other detrimental occurrences due to settlement. An average of about 3 years was spent on each canyon to cover the slopes and deck.

A summary of the Lopez Canyon Landfill Construction Quality Assurance (CQA) reports submitted for closure and the dates that they were submitted (and subsequently approved) is shown below for all areas of the landfill:

Summary of CQA for Total Landfill Area

Landfill Area	Report Name	Submittal Date
B Slopes	Final Report of Construction Quality Assurance Monitoring, Final Cover Construction, Disposal Area B (Vol 1-3)	8/2000
AB+ Deck	Final Report of CQA Monitoring Final Cover Construction Disposal Area AB+ Deck (Vol 1 & 2)	9/7/2004
A Slopes	Final Report of CQA Monitoring Final Cover Construction for the Slopes and Benches of Disposal Area A	11/2/2004
A Deck	CQA Final Cover Construction – Deck of Disposal Area "A"	8/2/2010
AB+ Slopes	Final Cover Construction Slopes of Disposal Area AB+	Submitted with this report
C Deck and Slopes	Existing Cover Performance Analysis and Construction Quality Assurance Report for Disposal Area "C"	Submitted with this report
B Deck	Construction Quality Assurance Report for Deck of Disposal Area "B"	Submitted with this report

Upon approval of the last three CQA reports for the B Deck, AB+ Slopes and C Deck/Slopes, previously submitted reports and re-vegetation of the C slopes all areas of the landfill will have been closed in accordance with the approved final closure plan.

2. LANDFILL AS-BUILT CLOSURE COST

The As-Built Closure Cost report will be submitted as a separate report at a later time. We are currently working on this report and expect it to be completed by the end of 2011.

3. POST CLOSURE MAINTENANCE

On the day that the certification of closure is approved, the Lopez Canyon Sanitary Landfill shall be considered closed, although several previously closed units have been maintained in accordance with the approved Post Closure Maintenance Plan, the thirty (30) year maintenance and monitoring period shall commence upon your approval. The major environmental elements of the landfill are the surface water management system, gas collection system, groundwater monitoring system, and perimeter gas monitoring system and the leachate management system. These systems are discussed in detail in the approved Post Closure Maintenance Plan dated July 3, 1996 and briefly summarized in this report.

3.1. Surface Water Management System

The drainage system is designed to meet a 24-hour 100 year storm. Surface runoff is contained using a system of terrace drains, bench down drains, and debris basins. See attached site drainage map.

3.2. Landfill Gas Collection System

The LFG collection system consists of vertical and horizontal gas wells, collection headers, centrifugal blowers, and flares. The majority of the LFG is used for gas-to-energy operations by Fortistar Methane Group and LA Department of Water and Power. See attached gas collection system map.

3.3. Groundwater Monitoring System

The groundwater monitoring system consists of 11 groundwater monitoring wells. All sampling methodologies, data evaluation, data quality assurance and control and chemical analysis are required to be conducted in accordance with the current WDR Monitoring and Reporting Program (Order no R4-2004-0176) and the facility permit. See attached groundwater wells location map.

3.4. Perimeter Gas Monitoring System

The existing LFG monitoring system at LCSL consists of monitoring of the perimeter LFG migration probes and monitoring of the on-site LFG gas collection system. See attached perimeter probes map.

3.5. Leachate Management System

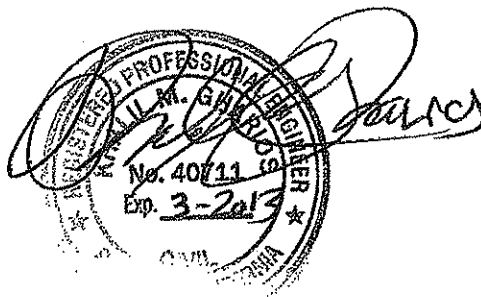
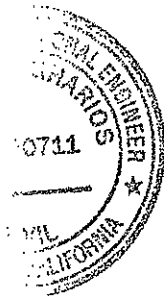
The leachate system will be maintained with inspections and pipe cleaning/routing when necessary. The system drains into the City of Los Angeles sewer collection system and is subsequently treated at a publically owned wastewater treatment plant.

3.6. Cover Maintenance and Protection

The landfill soil cover will be maintained as prescribed in the post closure maintenance plan. The surface water run-off velocities will be minimized by maintaining surface grading and patching erosion fissures directly after storms. A clay and soil stockpile will be maintained at the site to expedite repairs.

4. Certification

This certifies that the closure areas for the Lopez Canyon Landfill, with the exception of the Canyon C revegetation, were constructed in general accordance with the requirements contained in 27 CCR 21880. An amendment to this Closure Certification Report will be prepared and submitted commensurate with completion of the hydro-seeding in the C Canyon. The constructed closure systems presented in this report to the best of my knowledge are the as-built conditions of the completed closure of the Lopez Canyon Landfill. My Seal as a registered professional engineer licensed in the State of California is affixed below.



Khalil Gharios, P.E.

5. Attachments

- 1. Maps and Figures:**
 - a. Certification Letter**
 - b. Lopez Canyon Landfill Site Drainage Map**
 - c. Lopez Canyon Gas System Map**
 - d. Lopez Canyon Groundwater Wells Location Map**
 - e. Lopez Canyon Perimeter Probes Map**

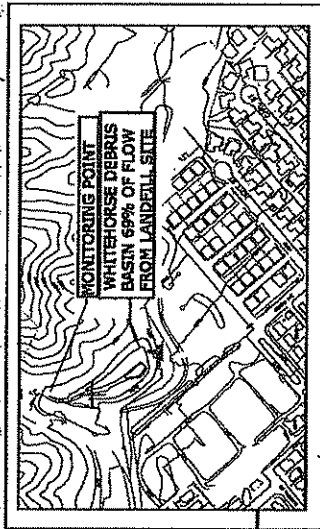
The map illustrates the Kangel Canyon Debris Basin, a complex system of disposal areas and debris basins. Key features include:

- Disposal Areas:**
 - Disposal Area B Deck:** Located in the upper left, featuring a concrete drainage channel and a refuse limit.
 - Disposal Area A Deck:** Located in the center, featuring a flare station, water tank, and helicopter pad.
 - Disposal Area C Deck:** Located in the lower right, featuring a clay stockpile and a dirt stockpile.
- Debris Basins:**
 - Lower Debris Basin:** Located in the upper right.
 - Upper Debris Basin:** Located in the center right.
- Monitoring Points:**
 - Monitoring Point:** Located in the upper right, near the debris basins.
 - Monitoring Point:** Located in the lower right, near the disposal areas.
- Other Features:**
 - Flow:** Indicated by arrows showing the direction of flow from the disposal areas into the debris basins.
 - Clay Stockpile:** Located near the disposal areas.
 - Dirt Stockpile:** Located near the disposal areas.
 - Fuel Tank:** Located near the disposal areas.
 - Flare Station:** Located near the disposal areas.
 - Water Tank:** Located near the disposal areas.
 - Helicopter Pad:** Located near the disposal areas.
 - Concrete Drainage Channel (Existing):** Located near the disposal areas.
 - Refuse Limit:** Located near the disposal areas.
 - Offices:** Located near the disposal areas.
 - Waterpump Area:** Located near the disposal areas.

Two inset maps provide additional context:

- Kangel Canyon Debris Basin 31% of flow from LANDFILL:** Shows the basin's location relative to the landfill.
- Whitehorse Debris Basin 69% of flow from LANDFILL SITE:** Shows the basin's location relative to the landfill site.

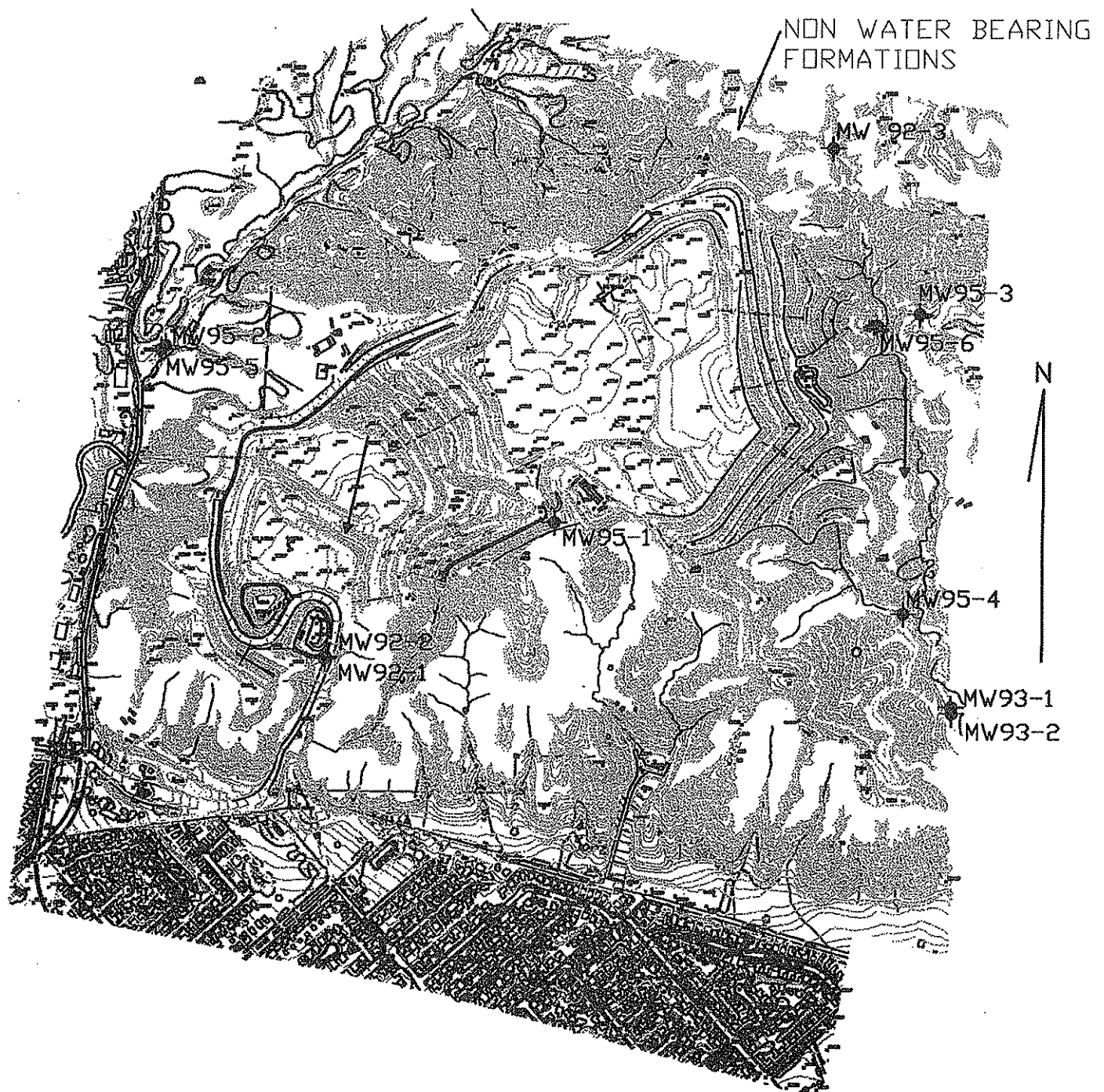
The map is oriented with North at the top and includes a scale bar.



LOPEZ CANYON LANDFILL GAS SYSTEM
(UPDATED 4/11/2011)



LOPEZ LANDFILL GROUNDWATER WELL LOCATIONS AND FLOW DIRECTIONS



LOPEZ CANYON SANITARY LANDFILL PERIMETER PROBES

