

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 15, 2014

Mr. Roberto Puga, P.G.
Trustee, Texas Custodial Trust
Project Navigator, Ltd.
One Pointe Drive, Suite 320
Brea, CA 92821

RE: TCEQ/EPA Review of *Response to EPA Comments on Category I Landfill, Cell 4 Final Cover Design*, dated June 24, 2014
Former ASARCO Smelter site, El Paso, Texas
TCEQ SWR No. 31235; EPA ID No. TXD990757668; Customer No. CN603597782; Regulated Entity No. RN100219021

Dear Mr. Puga:

The Texas Commission on Environmental Quality (TCEQ) and the US Environmental Protection Agency (USEPA) acknowledges receipt and has reviewed the above referenced submittal dated June 24, 2014, providing a response to EPA comments dated February 21, 2012 on the Category I Landfill, Cell 4 Final Cover Design for the above referenced facility. Based on our review, the TCEQ and EPA have additional comments related to technical review of the June 24, 2014 submittal that will require the submittal of a response. Please provide a written response addressing the enclosed comments to the TCEQ and EPA within sixty (60) days of the date of this letter.

An original and one copy of the written response to these comments must be submitted to the TCEQ Remediation Division at the letterhead address using mail code number MC-127. Additional copies should be submitted to the TCEQ Region 6 Office in El Paso and EPA Region VI Office in Dallas. *Your response must be received within sixty (60)*

Mr. Roberto Puga, P.G.
Page 2
August 15, 2014
TCEQ SWR No. 31235

days of the date of this letter. Please call me at (512) 239-6542 if you need additional information or wish to discuss these comments or the due date. Thank you for your cooperation in this matter.

Sincerely,



Eleanor T. Wehner, P.G.
Project Manager
VCP-CA Section
Remediation Division
Texas Commission on Environmental Quality
ETW/jdm

Enclosure: *Comments to Response to EPA Comments on Category I Landfill, Cell 4 Final Cover Design*, dated June 24, 2014, prepared by Malcolm Pirnie

cc: Mr. Scott M. Brown, P.E., Project Manager, Malcolm Pirnie, Inc., 410 N. 44th Street, Suite 1000, Phoenix, AZ 85008
Mr. Charles Fisher, Superfund Division, U.S. EPA Region 6 (Mail Code 6SF-RA), 1445 Ross Ave, Dallas, TX 75202 Dallas
Ms. Lorinda Gardner, Regional Director, TCEQ Region 6 Office, El Paso

Comments to *Response to EPA Comments on Category I Landfill, Cell 4 Final Cover Design*, dated June 24, 2014, prepared by Malcolm Pirnie

1. Provide the initial and boundary conditions that were applied in solving the 1-D unsaturated unsteady-state mathematical model to model the moisture mass balance in the Landfill. Indicate what form of Richard's equation, or any form of equation that is being used as the 1-D model.
2. Provide the Soil Moisture Capacity Curve for the geologic soil layer being modeled at the landfill cover.
3. Provide justifiable reason(s) for using 1-D model to model a 3D un-saturated geo-space.
4. Please provide reason for not coupling heat to mass (Diffusional & Convective) transport for the un-saturated flow analysis provided.
5. Please provide the conceptual model for the 1-D space model and justify its use.
6. Please provide a calculation for hydraulic energy balance and momentum balance at the point where the hydraulic jump occurs. Provide the critical hydraulic head/depth of flow and water velocity in the chute bottom at that point. Calculate Froude's number at that bottom chute point where slope transition occurs.
7. Support the statement that no energy dissipater(s) is required by using actual calculations not just mentioning velocity.
8. Show that the hydraulic jump will act as a sufficient energy dissipater that justify no need for rock riprap across the apron at the axis of the chute at the apron boundary.
9. Show depth of water on the hydraulic channel profiles in the Arroyo Channel and the Landfill down drop Chute channel profile in Figures 1-A, 1-B, and Drawing 15 of 15.
10. Provide the design and operational depth of leachate (leachate permit head) on Drawing 7 of 15, 8 of 15 and 11 of 15.