Plume Management Zone	RACR Worksheet 2.0 Page 1 of 2	
	ID No. SWR No. 31235	Report Date: March 2017

Complete this worksheet when a PMZ was used as part of the response action. Include in Attachment 2A a map of the PMZ with alternate POE(s) and attenuation monitoring points identified and the current groundwater PCLE zone (if applicable). If a PMZ was not used, do not submit this worksheet.

Groundwater-bearing unit Mesilla Bolson
Repeat this worksheet for each groundwater-bearing unit for which a PMZ was used.
Groundwater classification X 2 ___ 3

Is/was NAPL present? ___ Yes X No
If so, describe how the response action achieved the performance criteria in §350.33(f)(4)(E).

Not applicable.

If this is a Class 2 groundwater, explain how the response action ensured that leachate from the surface soil and subsurface soil PCLE zones did not increase concentration of COCs greater than the measured concentrations at time of RAP submittal. (§350.33(a)(2))

The soil response action minimized cross-media transport of COCs from soil to groundwater. The $^{SW-GW}$Soil pathway was addressed by construction of the approved plant cover system (TCEQ approval letters included in **Attachment 1C.4.5a** and **Attachment 1C.4.5b**). For the Plant Site, groundwater protection is achieved by the overall reduction of the surface infiltration rate provided by the plant cover system compared to the prior condition of the property. The infiltration rates for each cover system (e.g., asphalt covers, ET soil covers, and low permeability covers) are described in the 2015 Geosyntec memorandum attached to the Plant Site cover system design (see RAP Appendix 3.7). The Plant Site cover system addresses the entire extent of the Plant Site pad except the storage yard adjacent to the former Antimony Processing Building as illustrated on RAP Figure 3. This area has been delineated to $^{SW-GW}$Soil PCLs. Minor exceedances of PCLs in surface soil have been excavated, as summarized in **Worksheet 1.0**. The response action at the storage yard is further described in **Attachments 1C.5**.

An evaluation of the Plant Site cover system design was performed by modeling the overall surface infiltration rate for the entire Plant Site pad under both existing conditions and following construction of the Plant Site cover system, as described in Site Cover Modeling Report by Geosyntec (RAP Appendix 3.7). The Geosyntec report demonstrated that asphalt covers have an anticipated infiltration rate of 0.1 cm/yr, while the ET and the low permeability covers have an anticipated infiltration rate of 0.19 cm/yr. Compacted soil was estimated to have an infiltration rate of 3.35 cm/yr. Based on these infiltration rate estimates, the overall groundwater flux for each of the Plant Site AAs was estimated for pre-cover conditions and following construction of the Plant Site cover system. The approach, assumptions, and results of the groundwater flux evaluations were presented in RAP Appendix 3.6. The groundwater monitoring program for the Site outlined in RAP Worksheet 3.1 included collecting groundwater samples from wells within the covered areas to confirm that covers are providing effective protection. The constructed ET cover systems all meet approved specifications.

Provide documentation that the COCs did not migrate beyond the downgradient boundary of the PMZ at concentrations above the critical PCL. Include supporting documentation in Attachments 1A, 1B, and 2A.

The downgradient edge of the proposed PMZ extends along the eastern bank of the Rio Grande as illustrated in **Attachment 2A**, and groundwater with COC concentrations above the PCL is currently discharging to the Rio Grande because the response action has not been fully implemented at this time. Migration of groundwater with COC concentrations above the PCLs beyond the Plant Site and the PBA will be controlled through groundwater treatment in the PRBs in the PBA AA, and through groundwater gradient control using both the GHB extraction well and covers installed at the Site to limit infiltration. The control of groundwater flux from the Plant Site will limit downgradient impact to the Floodplain AA and ultimately to the Rio Grande. Control of both gradient and water quality in groundwater discharge from the PBA will protect against future migration of COCs in groundwater from the Plant Site to the Floodplain.

The current groundwater PCLE zone and the proposed limits of the PMZ extend to the Rio Grande.

Consistent with the RAP, monitored natural attenuation will be used as a decontamination process to ultimately achieve PCLs at the surface water discharge points of exposure.

List the attenuation action level determined for each attenuation monitoring point. Illustrate the attenuation monitoring points, initial, maximum, and final groundwater PCLE zones (or groundwater concentrations if less than the critical PCL) on the map in Attachment 2A.

COC	Attenuation Monitoring Point (well number)	Attenuation Action Level (mg/L)	Maximum concentration measured at the attenuation monitoring point (mg/L)
Please see note below.			

Note:

TCT presented attenuation action levels for each attenuation monitoring point in RAP Worksheet 2.1 (Arcadis 2016e). TCT is currently implementing the groundwater response action. TCT will illustrate the attenuation monitoring points, initial, maximum, and final groundwater PCLE zones (or groundwater concentrations if less than the critical PCL) as appropriate in the Groundwater RACR.