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**Texas Commission on Environmental Quality**

**CHECKLIST WORKSHEET**

IHW RCRA PERMITTED FACILITY CME GROUNDWATER CHECKLIST 4

Reg Ent Name:

Date:

Add ID:

Investigator Name:

Item No	Description	Answer	Citations	Notes
	GROUNDWATER MONITORING SYSTEM (Permitted)			
	SECTION A: INTRODUCTION			
1	RCRA Ground-Water Monitoring Status: Complete the table for each RCRA Waste Management Unit (WMU) (Attachment #).			
2	Do the locations of the monitoring wells on the site diagram(s) of the WMUs (Attachment #) compare with the locations of the wells spot-checked in the field?			
3	Site Location Map - (Attachment #)(indicate site location directly on map or reproduction).			
	SECTION B: MONITOR WELL SYSTEM REVIEW			
1	Changes to the RCRA Monitor Well System:			
1A	Have any monitor wells been installed or replaced?			
1B	Have any monitor wells been designated as inactive since the last CME/O&M (still in place but not being used)?			
1A1	If wells have been installed or replaced has a copy of the well installation diagram including lithologic logs for each new well been submitted to the TCEQ? If not, copies of these are included as Attachment #.			
1B	Have any monitor wells been designated as inactive since the last CME/O&M (still in place but not being used)?			
1B1	If YES, list:			
1C	Have any monitor wells been removed/plugged?			
1C1	If YES, has the plugging report been submitted to the TCEQ?			
1C2	If YES, list and describe abandonment procedures:			
2	Field Observation of Monitor Wells:		264.97(c) 264.97(a) 264.97(a)(1)	
2A	General condition around monitor wells:			
2A1	Is access to the wells maintained?			
2A2	Are there any indications of herbicide, pesticide, or other chemical use near the well that could influence the quality of samples?			
2A3	Are there "bumper poles/protector pipes" around the well to prevent collision damage where necessary?			
2B	Is the monitor well identification number clearly visible?			
2C	Is the monitor well equipped with a cap capable of being locked?			
2C1	If not, are there other provisions for security of well?			
2C2	If applicable, describe:			
2D	Monitor Well Casing:			
2D1	Is there an outer protective casing?			
2D2	Is the casing in good condition?			

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**IHW RCRA PERMITTED FACILITY CME GROUNDWATER CHECKLIST 4 (C**

2E	Monitor Well Surface Pad:			
2E1	Does the monitor well have a surface pad?			
2E2	Are there indications of surface water infiltration down the borehole annulus?			
2E3	If YES, describe the Company's actions to correct this condition:(If applicable, document indications of damage to surface seal with photographs.)			
2F	Are water level measuring points permanently marked on each RCRA well?			
2G	Have water level measuring points been surveyed?			
2G1	Date of most recent survey:			
2H	Complete the Well Dimension Table for wells observed during this investigation (Attachment #).			
3	Verification of Groundwater flow directions and well placement.			
3A	Examine operator's records to make the following determinations:			
3A1	For units in permitted status detection or compliance monitoring, does the operator evaluate the Ground-Water flow direction in the uppermost aquifer on at least an annual basis to verify well placement?		335.165(5) 264.99(e) 264.98(e)	
3B	Are the monitor wells of the well system properly designated as to upgradient (or background) or downgradient/point of compliance relative to Ground-Water flow direction?			
3C	Describe operator's actions to address apparent well location errors in response to 40 CFR 264.98(h), or 40 CFR 264.99(j) or permit or compliance plan provisions as applicable.			
	<b>SECTION C: MONITORING SYSTEM COMPLIANCE WITH RULES AND PERMIT/ COMPLIANCE PLAN PROVISIONS</b>			
1	Does the site have Permitted Status Detection, Compliance, or Corrective Action Monitoring?			
1A	Does the ground-water monitoring system consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that represent the quality of background water that has not been affected by leakage from a regulated unit?		335.163(1)(A)(ii) 264.97(a)(1) 335.163(1)(A) 335.163	
1B	Represent the quality of ground-water passing the point of compliance?		335.163(1)(B) 264.97(a)	
1C	Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management unit to the uppermost aquifer?		335.163(1)(C) 264.97(a)	
1D	Are all monitoring wells cased in a manner that maintains the integrity of the monitoring well borehole?		264.97(c) 335.163(3)	
1E	Does the ground-water monitoring system satisfy the requirements specified in the permit/compliance plan?			
1F	Have any changes in ground-water flow direction occurred which would warrant a permit or compliance plan amendment to require additional point of compliance or background wells?		264.98(h) 335.164(8)	
2	Has an enforcement order been issued to the facility that contains provisions or technical recommendations (TR) that address groundwater or groundwater monitoring?			
2A	Is the facility compliant with all provisions of the enforcement order concerning ground-water monitoring, assessment and corrective action?			

