How to use ADEM's Natural Attenuation Monitoring Report Forms (NAMR forms)

This Excel Workbook contains the 9 sections of the Natural Attenuation Monitoring Report (NAMR) forms. Nine (9) sections are contained in eight (8) forms. Sections two (2) and three (3) are included on the same form. Sections containing tables may be copied as needed for additional space to enter the required information.

Section 1 - Site Summary

Section 2 - Site Maps

Section 3 - Well Inventory Table

Section 4 - History of Sampling

Section 5 - Sampling Methodology

Section 6 - Historical Monitoring Well Chemicals of concern Data

Section 7 - Historical Monitoring Well Intrinsic Groundwater Data

Section 8 - Groundwater Elevation Data

Section 9 - Monitoring Costs v. Time

Instructions On Completing the Sections

Section 1 - Site Summary

Indicate the purpose of the monitoring activities and the site status with respect to the stage of assessment and/or corrective action activities. Indicate the number and type of both groundwater monitoring wells and other water supply wells. The status of purge water generated from monitoring activities should be documented. Disposal documentation should be attached. Attach a brief summary of the ARBCA evaluation including a table summarizing the SSTL's developed for the site.

Section 2 - Site Maps

Attach site maps showing all well locations, location of former and/or current UST system(s), receptors, utilities, current and future land use of site and adjacent area within a 500-foot radius, adjacent properties, buildings, point of exposure and point of compliance, north arrow, etc.

Section 3 - Well Inventory Table

Provide a complete listing of all wells at the site. Groundwater monitoring and water supply well information including installation date, diameter, and screened interval (e.g. 15 feet to 25 feet) should be included. Use of any water supply wells should also be indicated. The table should be duplicated if there is insufficient space for the existing wells.

Section 4 - History of Sampling

This section should indicate the parameters which have been sampled historically at the site. Check appropriate boxes indicating sampling parameters for the date sampled. The person(s) collecting the samples, their title and company name should be included. This form should reflect the history of sampling of the site.

Section 5 - Sampling Methodology

The sampling methodology is presented in this section. Analytical method numbers for laboratory methods should be entered in the appropriate boxes. Where field methods are used, 'field' should be entered under the parameter box. Additional pages describing the field methods in detail should be attached. Person(s) sampling, their title and company should also be included. Attachments to this section include Chain of Custody's and original laboratory data sheets for the current event.

Section 6 - Historical Monitoring Well Chemicals of Concern Data

Historical results from groundwater monitoring events should be provided in tabular and graphic form. This section should be duplicated for each monitoring well. This section is only for chemical of concern data. As many as nine (9) individual chemicals of concern may be summarized for a single well. The form is preformatted to graph the data. Replace the sample data with actual site data and the graph will automatically be modified. Attachments should include site maps illustrating the distribution of all groundwater chemical of concern data. Maps for the most recent three (3) monitoring events should be included.

Section 7 - Historical Monitoring Well Intrinsic Groundwater Data

Historical intrinsic groundwater data should be provided here. The section should be duplicated for each monitoring well. Only intrinsic groundwater data should be reported in this section. The form is preformatted to graph the data, however, only parameters with the same units have been preformatted including dissolved oxygen, nitrate, iron 2+ and sulfate. Graphical presentation of the intrinsic data is not required, but graphs illustrating relevant trends in intrinsic data may be helpful in data interpretation. Site maps illustrating the distribution of all relevant intrinsic groundwater data for the last three (3) monitoring events should be included.

Section 8 - Groundwater Elevation Data

Groundwater elevation data for all wells should be compiled in this section. The form has been preformatted to automatically graph the data. Replace the sample data with actual site data. When graphing, do not place so many wells on the graph that it becomes illegible. Additional graphs may be established for sites with more than an average number of wells. Attach the three (3) most recent groundwater elevation maps indicating the direction of groundwater flow. Groundwater elevation data must be corrected for free product if necessary. Attach a table including the surveyed top of casing, depth to water and depth to free product.

Section 9 - Monitoring Costs v. Time

This section is only required for sites eligible for Alabama Tank Trust Fund coverage. All site cost data may be included with an indication when the monitoring costs began to be incurred. A table and graph of the cost over time should be presented.

Year:

Facility I. D. No.:	Quarter:
Incident No.:	Reporting Period:
Consulting Firm:	Project Manager:
Sec	ction 1 - Site Summary
Purpose of Monitoring:	Site Status:
Plume Characterization	Assessment Complete
Confirmation Monitoring	ARBCA Evaluation Conducted
Remediation by Natural Attenuation (Approved Corrective Action Plan)	Active UST's
	Site Classification
Number of Groundwater Monitoring Wells:	Free Product ever present
Number of Groundwater Mountoring Wens.	Number of Water Supply Wells:
Piezometers	
Type II	Public (within 1 mile radius of site)
Type III	Private (within 1000 foot radius of site)
Other	Other (Explain)
Status of Waste Water Disposal:	Quantity (gallons) Disposal Method
	Stored On-site Disposal Documentation
Comments:	

ATTACH A BRIEF SUMMARY OF THE ARBCA EVALUATION INCLUDING THE SSTLs DEVELOPED FOR THE SITE AND THE LOCATION OF THE POINT OF COMPLIANCE.

ADEM Form #478 8/02

Facility Name:

Facility I. D. No.:

Facility Name:	Year:
Facility I. D. No.:	Quarter:
Incident No.:	Reporting Period
Consulting Firm:	Project Manager:

Section 2 - Site Maps

Attach site map(s) illustrating all well locations, location of former and/or current UST system(s), utilities, adjacent properties, receptors, current and most likely future land use of site and adjacent properties, Point of Compliance, buildings and other pertinent features. All maps should contain a north arrow and should be to scale.

Section 3 - Well Inventory Tables

	Monitoring Wells														
Well ID	Date Installed	Diameter (inches)	Screened (feet	Interval bgs)	Depth to Water (feet bgs)										
		-													
					3										

-			Water Supply Wells														
Well ID	Date Installed	Diameter (inches)	Screened (feet		Depth to Water (feet bgs)	Well Use											

Facility Name:
Facility I. D. No.:
Incident No.:
Consulting Firm:

Year: Quarter: Reporting Period: Project Manager:

	T	T	1	Τ-	Т	1	ı	Т	_	_	Т	T	I	T -	1	1	_	_	1	T	T	T	T .	1
		Title																						
	Sampled By	Company																						
		Name																						
ling																								
Section 4 - History of Sampling																								
- Histor		Sulfate												,										
Section 4	s.	Fe ⁺²				,																		
	Sampling Parameters	Nitrate																						
	ampling l	D.O.		-																				
	S	Metals																						
		PAH																						
		MTBE					·							_										
		BTEX																						
	Date	Sampled																						

INDICATE SAMPLING PARAMETERS COLLECTED/MEASURED DURING EACH MONITORING EVENT. CHECK APPROPRIATE BOXES INDICATING SAMPLING PARAMETERS.

Facility Name: Facility I. D. No.: Incident No.: Consulting Firm:

Year: Quarter:

Reporting Period:

Project Manager:

	Ţ	T	Т	T	T	Т	1	T	Т	Γ.	i	Τ	Т	T	T	Т	Т	Т	Т	T	_	$\overline{}$	T
		Title																					
	Sampled By	Company																					
		Name																		-			
lology				,																			
Method																							
Section 5 - Sampling Methodology		Sulfate																					
ction 5 -		$\mathrm{Fe}^{^{+2}}$																					
Š	Analytical Methods	Nitrate																					
	Analytica	D.O.				-																	
		Metals																					
		PAH																					
		MTBE																					
		BTEX																					
	Date	Sampled	-																				

ATTACH CHAIN OF CUSTODY'S AND ORIGINAL LABORATORY SHEETS FOR THIS MONITORING EVENT. ENTER EPA METHOD NUMBER FOR LABORATORY METHODS. PROVIDE DETAILED SAMPLING METHODOLOGY FOR ALL FIELD ANALYTICAL METHODS. ATTACH ADDITIONAL PAGES AS NECESSARY TO DESCRIBE FIELD METHODS.

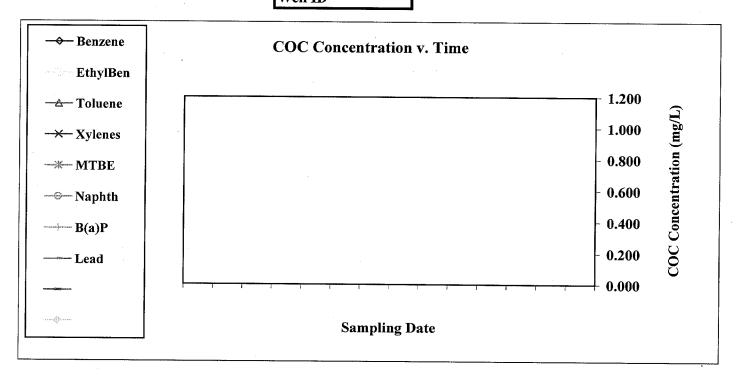
Facility Name: Facility I. D. No.: Incident No.:

Year: Quarter:

Reporting Period: Project Manager:

Consulting Firm:				

		Section 6 -	Historical	Monitorin	g Well Ch	emicals of C	Concern Da	ata (mg/L)						
				Well ID										
				Historic	Historical Chemicals of Concern Data									
DATE	Benzene	EthylBen	Toluene	Xylenes	MTBE	Naphth	B(a)P	Lead						
					<u>.</u>									
						•								
				Well ID						<u> </u>				



ATTACH SITE MAPS FOR THE THREE (3) MOST RECENT MONITORING EVENTS ILLUSTRATING THE DISTRIBUTION OF ALL GROUNDWATER COC DATA.

Facility Name: Facility I. D. No.: Incident No.:

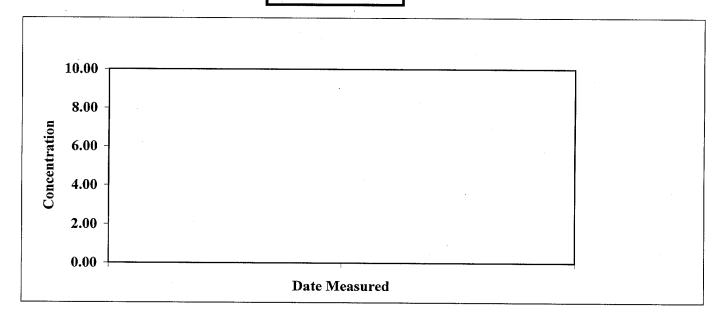
Year: Quarter:

Reporting Period: Project Manager:

Consulting Firm:		Project Manager:
Sec	tion 7 - Historical Monitoring Well	Intrinsic Groundwater Data
	Well ID	
	Historical Intrinsic	Groundwater Data

				Well ID					
				Histori	cal Intrinsic	Groundwa	ter Data		
DATE	Temp (°C)	pH (mv)	ORP (mv)	D.O. (mg/L)	Nitrate (mg/L)	Fe ⁺² (mg/L)	Sulfate (mg/L)	Methane	
,									
				Wall ID					

Well ID



ATTACH SITE MAPS FOR THE THREE (3) MOST RECENT MONITORING EVENTS ILLUSTRATING THE DISTRIBUTION OF ALL RELEVANT INTRINSIC GROUNDWATER DATA.

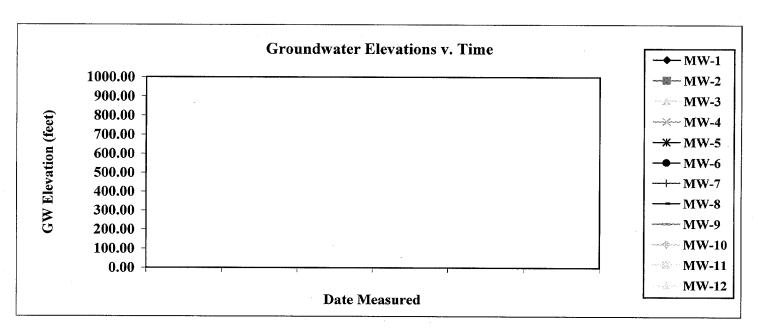
Facility Name: Facility I. D. No.: Incident No.:

Year: Quarter:

Consulting Firm:

Reporting Period: Project Manager:

				Sectio	n 8 - Gro	oundwate	r Elevati	on Data				
DATE				Wel	l ID/Corr	ected Gro	undwater	Elevation	(feet)			
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12
	,											
	4											
											-	



ATTACH THE THREE (3) MOST RECENT GROUNDWATER ELEVATION MAPS INDICATING THE DIRECTION OF GROUNDWATER FLOW. THE GROUNDWATER ELEVATION DATA MUST ALSO BE PRESENTED IN TABULAR FORM AND CORRECTED FOR FREE PRODUCT, IF PRESENT.

Facility Name: Facility I. D. No.: Incident No.: Year: Quarter:

Consulting Firm:

Reporting Period: Project Manager:

	Section 9 - Monitoring Costs v. Time													
Date														
O & M														
Cumulative	0	0	0	0	0	0	0	0	0	0				

