

**INSTRUCTIONS FOR
UNIFORM STATE OF ARIZONA SITE INVESTIGATION REPORT
(A.A.C. R18-9-A310)**



ADEQ
Arizona Department
of Environmental Quality

Instructions

The applicant for an onsite wastewater treatment facility pursuant to 18 A.A.C. 9, Article 3 shall ensure that a qualified investigator conducts the site investigation consisting of surface and subsurface characterizations, and submit the results with a Notice of Intent to Discharge pursuant to A.A.C. R18-9-A309(B). The results of the site investigation shall be submitted in a format prescribed by the Arizona Department of Environmental Quality. This form and Attachments is the format prescribed by the Arizona Department of Environmental Quality.

NOTE: BEFORE COMPLETING THIS FORM, THE INVESTIGATOR SHALL DOWNLOAD THE LATEST UPDATE OF THIS FORM FROM THE ADEQ WEBSITE AT <http://www.azdeq.gov/environ/water/permits/download/investigation.pdf>

An investigator that meets the qualifications of A.A.C. R18-9-A310(H) shall perform the site investigation in conformance with A.A.C. R18-9-A310. The site investigator shall utilize ADEQ GWS Form 423, and Attachments 1, 2, 3, and 4 as appropriate. Space is provided for an Arizona-Registered Professional Engineer, Geologist or Sanitarian to seal their work products.

Site Investigation Report, Item 1: The affidavit shall be completed by the appropriate person before the field investigation begins.

Site Investigation Report, Items 2 – 10: To be completed by the qualified investigator.

Site Investigation Report Attachments 1, 2, 3, and 4: The qualified investigator shall complete all necessary Attachments to report findings for the site investigation report which is to be submitted pursuant to R18-9-A309(B)(1). **The investigator shall use the appropriate continuation page for any Attachment requiring more than 1 page. The inspector shall add the page number in the blank spaces at the bottom of each continuation page used. The inspector shall include the page totals in the Item 9 on page 3 of the report form.**

Please use page ii of these instructions for the soil codes for ASTM Method 5921.

Instructions for Uniform Site Investigation Report Form (A.A.C. R18-9-A310) for State of Arizona

TEXTURE		STRUCTURE				
Loamy Sand – (LS)	GRADE					
Sandy Loam – (SL)	Structureless	(0)	No aggregation			
Silt Loam – (SiL)	Weak	(1)	Barely observable			
Loam – (L)	Moderate	(2)	Distinct peds			
Sandy Clay Loam – (SCL)	Strong	(3)	Durable peds			
Silty Clay Loam – (SiCL)				Angular.		
Clay Loam – (CL)	SIZE		Granular. Platy	Subangular.	Blocky	
Sandy Clay – (SC)	Very Fine	(VF)	<1 mm	<5 mm	<10 mm	
Silty Clay – (SiC)	Fine	(F)	1-2	5-10	10-20	
Clay – (C)	Medium	(M)	2-5	10-20	20-50	
	Coarse	(C)	5-10	20-50	50-100	
	Very Coarse	(VC)	>10	>50	>100	
					Prismatic. Columnar	
SAND SIZES	SHAPE					
Coarse – (Co)	Platy	(PL)	Flat, plate-like			
Medium – (M)	Prismatic	(PR)	Taller than wide			
Fine – (F)	--Columnar	(CPR)	Rounded tops			
Very Fine – (VF)	Blocky	(BK)	Cubical			
	--Angular	(ABK)	Sharp edges			
	--Subangular	(SBK)	Rounded edges			
	Granular	(GR)	Spherical			
	No Structure					
	--Single Grain	(SG)	Sandy texture			
	--Massive	(M)	Finer textures			
ROCK FRAGMENTS		MOTTLES	BOUNDARY	CONSISTENCY		SAR (gpd/ft ²)
				DRY	MOIST	
ROUNDED.	TYPE OF ROCK	QUANTITY	DISTINCTNESS	L = Loose	L = Loose	See Arizona Administrative Code(A.A.C.) R18-9-A312(D) for SAR value.
SUBROUNDED	Basalt – (BAS)	Few (F) -<2%	Abrupt (A) – Less than 2 cm	S = Soft	VFR = Very Friable	
ANGULAR.	Cinders – (CIND)	Common (C) - 2-20%	Clear (C) – 2 to 5 cm	SH = Slightly Hard	FR = Friable	
IRREGULAR	Sandstone – (SST)	Many (M) - >20%	Gradual (G) – 5 to 15 cm	MH = Moderately Hard	FI = Firm	
Gravel – (GR) 2-75 mm	Limestone – (LST)	SIZE	Diffuse (D) – More than 15 cm	VH = Very Hard	VFI = Very Firm	
Fine – (FGR) 2-5 mm		Fine (1) - <5 mm		H = Hard	EFI = Extremely Firm	
Medium – (MGR) 5-20 mm	TERMS OF SOIL/ROCK	Medium (2) - 5 -15 mm	TOPOGRAPHY	R = Rigid	SR = Slightly Rigid	
Coarse – (CGR) 20-75 mm	Cemented – (CEM)	Coarse (3) - >15 mm	Smooth (S) – A plane with few or no irregularities	VR = Very Rigid	R = Rigid	
Pebbles – (PB) 2-75 mm	Ice or Frozen – (ICE)	CONTRAST	Wavy (W) – Waves wider than deep		VR = Very Rigid	
Fine – (FPB) 2-5 mm	Weathered – (WEA)	Faint – (F)	Irregular (I) – Waves deeper than wide			
Medium – (MPB) 5-20 mm	Unweathered – (UNWEA)	Distinct – (D)	Broken (B) – discontinuous and interrupted			
Coarse – (CPB) 20-75 mm	Fractured – (FRA)	Prominent – (P)				
Cobbles – (CB) 75-250 mm	Decomposed – (DEC)	NOTE: Report Soil Color in “Comments” when Mottles are Common or Many.				
Stones – (S) 250-600 mm	Stratified – (ST)					
Boulders – (B) ≥600 mm						
FLAT						
Channers – (CH) 2-150 mm						
Flagstones – (FL) 150-380 mm						
Stones – (ST) 380-600 mm						
Boulders – (BO) ≥600 mm						



UNIFORM STATE OF ARIZONA
SITE INVESTIGATION REPORT FORM [A.A.C. R18-9-A310(B)]

1 Affidavit of Person Authorizing This Site Investigation

I certify that I am (check one) [] the Owner, [] the Authorized Representative or [] an Other Person and have authority to grant the investigator access to the property for this site investigation and authorize the work certified in this site assessment.

Name & Address (Printed) _____

Signature _____

2 Project Identification

Project Name (If available) _____

3 Site Information [A.A.C. R18-9-A309(B)(2)(a)]

Address _____ City _____

Parcel Number _____ Lot Number _____

Township _____ Range _____ Section _____

Latitude _____ ° _____ ' _____ " N _____ Longitude _____ ° _____ ' _____ " W

4 Investigator Information [A.A.C. R18-9-A310(H)]

Name _____ Phone _____

Title _____ Firm Name _____

Mailing Address _____ City _____ State _____

Zip _____ E-Mail _____

5 Surface Characterization [A.A.C. R18-9-A310(C)]

Identify the presence or absence of all of the following possible limiting conditions in the intended location of the treatment works and the primary and reserve areas of the on-site wastewater treatment facility:

A) The surface slope is greater than 15 % at the intended location of the on-site wastewater facility [] YES [] No

B) Setback distances do NOT meet all the minimum values specified in R18-9-A312(C) [] YES [] No

NOTE: Check YES if the location or size of the dwelling or other improvements, or the bedroom count or the fixture unit count is UNKNOWN to the site investigator.

C) Surface drainage characteristics could adversely affect the ability of the facility to function properly [] YES [] No NOTE: If YES, please describe in Attachment 4.

D) A 100-year flood hazard zone, as indicated on the applicable flood insurance rate map, is located within the property on which the on-site wastewater treatment facility will be installed [] YES [] No NOTE: If YES, please specify the FEMA Flood Insurance Map Number or Other Source _____

E) An outcropping of rock that cannot be excavated is present and could impair the function of soil receiving the discharge [] YES [] No

F) Fill material deposits are present [] YES [] No

If the answer is YES to any of the above potential surface limiting conditions, please show location and note the condition type on Site Investigation Map (Item 7).

6 Subsurface Characterization Method [A.A.C. R18-9-A310(D)]

Check method used to perform subsurface characterization per A.A.C. R18-9-A310(D)(1) and (3)

A) ASTM D5921 used? [] Yes [] No (if Yes, please enclose Attachment 1)

B) Percolation test method used? [] Yes [] No (if Yes, please enclose Attachment 2)

C) Seepage performance test method used? [] Yes [] No (if Yes, please enclose Attachment 3)

D) Other ADEQ approved method? [] Yes [] No (if Yes, please provide in Attachment 4 the method and data)

8 Subsurface Limiting Conditions [A.A.C. R18-9-A310(D)(2)]

Identify the presence or absence of all of the following possible limiting conditions in the intended location of the primary and reserve disposal areas of the on-site wastewater treatment facility to a depth of at least 12 feet below land surface or to an impervious soil or rock layer if encountered at a shallower depth:

- A) The soil absorption rate determined under A.A.C. R18-9-A312(D)(2) is:
 - 1. More than 1.20 gallons per day per square foot? Yes No
 - 2. Less than 0.20 gallons per day per square foot? Yes No
 - 3. A **site-specific soil absorption rate (SAR)** is required per A.A.C. R18-9-A312 (D)(2)(b)? Yes No
- B) The vertical separation distance from the bottom of the lowest point of the disposal works to the seasonal high water table is less than the minimum vertical separation specified in A.A.C. R18-9-A312(E)(1)? Yes No
- C) Does seasonal saturation occur within surface soils that could affect the performance of the on-site wastewater treatment facility? Yes No If Yes, describe evidence: _____
- D) Do any of the following subsurface limiting conditions that may cause or contribute to surfacing of wastewater occur within 12 feet of the land surface:
 - 1. An impervious soil or rock layer? Yes No
 - 2. A zone of saturation that substantially limits downward percolation from the disposal works? Yes No
 - 3. Soil with more than 50 percent rock fragments? Yes No
- E) Do any of the following subsurface limiting conditions that may promote accelerated downward movement of insufficiently treated wastewater occur within 12 feet of the land surface:
 - 1. Fractures or joints in rock that are open, continuous, or interconnected? Yes No
 - 2. Karst voids or channels? Yes No
 - 3. Highly permeable materials such as deposits of cobbles or boulders? Yes No
- F) Does subsurface conditions exist that may convey wastewater to a Water of the State and cause or contribute to an exceedance of a water quality standard established in 18 A.A.C. 11, Articles 1 and 4? Yes No
- G) Depth to groundwater below land surface _____ feet as determined by Trench or boring, Subdivision report, Published groundwater data or Relevant well data.

If the answer is Yes to any of the above subsurface limiting conditions, please show location and note the associated limiting condition type on Site Investigation Map (Item 7).

9 Site Investigation Attachments

#	Attachment Description	Attached?
		<input type="checkbox"/> Yes, total of _____ pages.
		<input type="checkbox"/> Yes, total of _____ pages.
		<input type="checkbox"/> Yes, total of _____ pages.

10 Investigator Certification

- A) Arizona-registered Professional engineer Certification Number: _____ Expiration Date: _____
- B) Arizona-registered Professional geologist Certification Number: _____ Expiration Date: _____
- C) Arizona-registered Sanitarian Registration Number: _____ Expiration Date: _____
- D) A certificate of training from a course recognized by ADEQ
 Course Name: _____ Completion Date: _____

E) Qualifies under another category designated in writing by ADEQ. **Please use Attachment 4 to provide approved Qualification Category & Date Approved.**

Professional Seal

By signing this section, I certify that I am qualified to conduct this investigation as specified in R18-9-A310(H) and have inspected the property identified in Item 3 for purposes of performing a site investigation. I have performed this site investigation in accordance with R18-9-A310 and have completed this investigation to the best of my knowledge.

Printed Investigator Name/ _____
 Date of Investigation: _____
Investigator Signature/ _____
Date Signed _____

ATTACHMENT 1 – ASTM 5921 METHOD FOR SUBSURFACE SOIL CHARACTERIZATION

Facility Address: _____

Parcel Number: _____

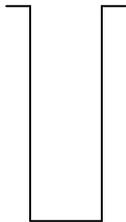
Tested by: _____

Depth to Groundwater: **PLEASE REPORT IN ITEM 8.G**

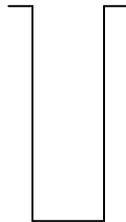
Date Test Completed: _____

Test Hole #	Depth Interval Below Land Surface (Inches)	Texture	Structure	Rock Fragments %	Mottles %	Boundary	Dry Consistency	Moist Consistency	SAR

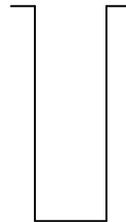
Comments:



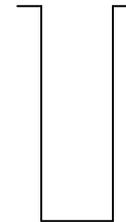
Test ____



Test ____



Test ____



Test ____

ATTACHMENT 1, CONTINUED – ASTM 5921 METHOD FOR SUBSURFACE SOIL CHARACTERIZATION

Facility Address: _____

Parcel Number: _____

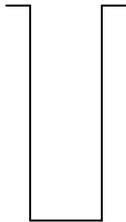
Tested by: _____

Depth to Groundwater: **PLEASE REPORT IN ITEM 8.G ON PAGE 3 OF FORM**

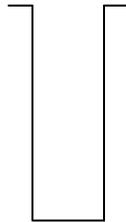
Date Test Completed: _____

Test Hole #	Depth Interval Below Land Surface (Inches)	Texture	Structure	Rock Fragments %	Mottles %	Boundary	Dry Consistency	Moist Consistency	SAR

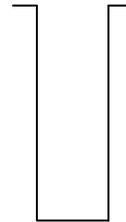
Comments: _____



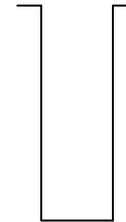
Test ____



Test ____



Test ____



Test ____

ATTACHMENT 2 – PERCOLATION TEST DATASHEET

Facility Address: _____	Parcel Number: _____
Test Hole Number/Location: _____	Depth of Test Hole Bottom Below Land Surface (inches): _____
Date Test Complete: _____	Test Hole Cross-section: Please check a box and indicate size <input type="checkbox"/> Diameter _____ inches <input type="checkbox"/> Square _____ inches

Describe the land surface at the top of the Test Hole is (please check one):
 Undisturbed Native Soil Cut Surface Fill Surface Other (describe) _____

SOIL DATA FROM TEST HOLE:

Depth (inches)	Soil Texture	Soil Structure	Soil Consistence	Mottles	% Rock

TEST HOLE PRESOAKING:

Run #	Start Date (M:D:Y)	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time (min)	Initial Depth (inches)

TEST HOLE PERCOLATION TEST:

Run #	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time, T _i (min)	Measured Water Drop (inches)	Percolation Rate, P _i (min/in.)	(T _i + T _{i+1})/2 ΔT(min)	P _{i+1} - P _i ΔP	ΔP/ ΔT
						N/A	N/A	N/A

Depth to groundwater (feet bls): PLEASE REPORT IN ITEM 8.G ON PAGE 3 OF FORM

Stabilized Percolation Rate (from Graph) _____ minutes per inch

PERSON WHO PERFORMED THE TEST:

Name: _____
 Company: _____
 Address: _____
 Phone: _____ Fax: _____
 Email: _____

Professional Seal

ATTACHMENT 2, CONTINUED – PERCOLATION TEST DATASHEET

Facility Address: _____	Parcel Number: _____
Test Hole Number/Location: _____	Depth of Test Hole Bottom Below Land Surface (inches): _____
Date Test Complete: _____	Test Hole Cross-section: Please check a box and indicate size <input type="checkbox"/> Diameter _____ inches <input type="checkbox"/> Square _____ inches

Describe the land surface at the top of the Test Hole is (please check one):
 Undisturbed Native Soil Cut Surface Fill Surface Other (describe) _____

SOIL DATA FROM TEST HOLE:

Depth (inches)	Soil Texture	Soil Structure	Soil Consistence	Mottles	% Rock

TEST HOLE PRESOAKING:

Run #	Start Date (M:D:Y)	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time (min)	Initial Depth (inches)

TEST HOLE PERCOLATION TEST:

Run #	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time, T _i (min)	Measured Water Drop (inches)	Percolation Rate, P _i (min/in.)	(T _i + T _{i+1})/2 ΔT(min)	P _{i+1} - P _i ΔP	ΔP/ ΔT
						N/A	N/A	N/A

Depth to groundwater (feet bls): PLEASE REPORT IN ITEM 8.G ON PAGE 3 OF FORM

Stabilized Percolation Rate (from Graph) _____ minutes per inch

PERSON WHO PERFORMED THE TEST:

Name: _____
 Company: _____
 Address: _____
 Phone: _____ Fax: _____
 Email: _____

Professional Seal

ATTACHMENT 3 – SEEPAGE PIT TEST DATASHEET

Facility Address: _____ Parcel Number: _____
 Test Hole Number _____ Depth of Hole Bottom _____
 /Location: _____ Below Land Surface (feet): _____
 Date Test Complete: _____ Test Hole Diameter (inches): _____

Depth to Groundwater below Pit Terminus (feet): PLEASE REPORT IN ITEM 8.G ON PAGE 3 OF FORM

SOIL DATA FROM TEST HOLE:

Depth (feet)	Soil Lithology

PRESOAKING:

Run #	Start Date (M:D:Y)	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time (min)	Initial Water Surface Depth Below Ground Surface (inches)

Total gallons of water added to the Test Hole for presoak _____ gallons.

SEEPAGE PIT TEST:

Run #	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time, T _i (min)	Measured Water Drop (inches)	Percolation Rate, P _i (min/in.)	(P _{i+1} - P _i)/P _i * 100%

Stabilized Percolation Rate (from Graph): _____ minutes per inches

PERSON WHO PERFORMED THE TEST:

Name: _____
 Company: _____
 Address: _____
 Phone: _____ Fax: _____
 Email: _____

Professional Seal

ATTACHMENT 3, CONTINUED – SEEPAGE PIT TEST DATASHEET

Facility Address: _____ Parcel Number: _____
 Test Hole Number _____ Depth of Hole Bottom _____
 /Location: _____ Below Land Surface (feet): _____
 Date Test Complete: _____ Test Hole Diameter (inches): _____

Depth to Groundwater below Pit Terminus (feet): PLEASE REPORT IN ITEM 8.G ON PAGE 3 OF FORM

SOIL DATA FROM TEST HOLE:

Depth (feet)	Soil Lithology

PRESOAKING:

Run #	Start Date (M:D:Y)	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time (min)	Initial Water Surface Depth Below Ground Surface (inches)

Total gallons of water added to the Test Hole for presoak _____ gallons.

SEEPAGE PIT TEST:

Run #	Start Time (H:M::S)	End Time (H:M::S)	Elapsed Time, T _i (min)	Measured Water Drop (inches)	Percolation Rate, P _i (min/in.)	(P _{i+1} - P _i)/P _i * 100%

Stabilized Percolation Rate (from Graph): _____ minutes per inches

PERSON WHO PERFORMED THE TEST:

Name: _____
 Company: _____
 Address: _____
 Phone: _____ Fax: _____
 Email: _____

Professional Seal

