

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



Instructions

The applicant for an onsite wastewater treatment facility pursuant to 18 A.A.C. 9, Article 3 shall ensure that an 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 AS NOTED AT THE BOTTOM OF THIS PAGE. THE FORM USED SHALL BE THE LATEST VERSION AS OF THE “DATE OF INVESTIGATION”.

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 authorization for site investigation 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). Attach only those with required information, as identified in Site Investigation Report Item 9. The investigator shall use the appropriate continuation page for any Attachment requiring more than 1 page. The investigator shall add the page number in the blank spaces at the bottom of each continuation page used. The investigator 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 in Attachment 1.

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	Angular,		
Silty Clay Loam – (SiCL)				Subangular,		
Clay Loam – (CL)	SIZE		Granular, Platy	Blocky	Prismatic, Columnar	
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	
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	Medium (2) - 5 -15 mm		R = Rigid	SR = Slightly Rigid	
Coarse – (CGR) 20-75 mm	SOIL/ROCK	Coarse (3) - >15 mm		VR = Very Rigid	R = Rigid	
Pebbles – (PB) 2-75 mm	Cemented – (CEM)	CONTRAST	TOPOGRAPHY		VR = Very Rigid	
Fine – (FPB) 2-5 mm	Ice or Frozen – (ICE)	Faint – (F)	Smooth (S) – A plane with few or no irregularities			
Medium – (MPB) 5-20 mm	Weathered – (WEA)	Distinct – (D)	Wavy (W) – Waves wider than deep			
Coarse – (CPB) 20-75 mm	Unweathered –	Prominent – (P)	Irregular (I) – Waves deeper than wide			
Cobbles – (CB) 75-250 mm	(UNWEA)		Broken (B) – discontinuous and interrupted			
Stones – (S) 250-600 mm	Fractured – (FRA)	NOTE: Report				
Boulders – (B) ≥600 mm	Decomposed – (DEC)	Soil Color in				
	Stratified – (ST)	“Comments”				
		when Mottles are				
		Common or				
		Many.				

1 Authorization For 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

Property Owner or Project Name _____

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)

7 Site Investigation Map Showing the Location of Limiting Conditions and Setbacks from Features and Improvements [A.A.C. R18-9-A309(B)(2)(a)]

A. CHECK below the features shown on the Site Investigation Map. **WRITE N/A** if item is **NOT PRESENT**. **RECORD** below the separation (feet) that will be maintained between the system and the checked feature.

☐ Water supply well ____ (ft)
☐ Water main or branch water line ____ (ft)
☐ Domestic service water line ____ (ft)
☐ Drinking water intake from
 a surface water source ____ (ft)
☐ Perennial or intermittent stream ____ (ft)
☐ Lake, reservoir, or canal ____ (ft)
☐ Pond or other water feature ____ (ft)
☐ Swimming pool ____ (ft)
☐ Planned building ____ (ft)
☐ Existing building ____ (ft)

☐ Boundary of 100-year flood hazard zone ____ (ft)
☐ Drainage easement or wash with
 drainage area more than twenty acres ____ (ft)
☐ Other Easement ____ (ft)
☐ Downslope cut banks and culvert or roadway ditches ____ (ft)
☐ Planned cut bank over 2 feet deep ____ (ft)
☐ Wall or planned wall over 2 feet high ____ (ft)
☐ Driveway or parking area ____ (ft)
☐ Storage Area ____ (ft) Earth fissure ____ (ft)
☐ Other ____ (ft) Describe: _____

Minimum setback distances are within the limits specified in R18-9-A312(C); ☐ Yes ☐ UNKNOWN ☐ No

B. Check UNKNOWN if the dwelling location or size (including building footprint, bedroom count & fixture unit count), or the location of other improvements is not known to the person performing the site investigation.

C.	Show all soil test locations. Show any condition or feature observed during the site investigation which may affect on-site system design & is located within the SITE INVESTIGATION AREA (defined as the planned excavation boundaries for the treatment works, primary disposal area and reserve disposal area plus the surrounding area out to 100 feet) including : (1) Show land surface contours at appropriate intervals when the elevations across the Site Investigation Area differ by more than 5 feet, and (2) Any other factor is observed that may affect system design regardless of property ownership (please include the Site Investigation Map with Attachment 4 if the information cannot be depicted on the below Grid).
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This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin gray lines. There are no margins, text, or other markings on the page.

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?
		☐ Yes, total of _____ pages.
		☐ Yes, total of _____ pages.
		☐ 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.**

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 _____

Professional Seal

ATTACHMENT 1 – ASTM 5921 METHOD FOR SUBSURFACE SOIL CHARACTERIZATION

Facility Address: _____

Parcel Number: _____

Tested by: _____

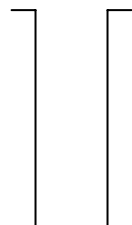
Depth to Groundwater: **PLEASE REPORT IN ITEM 8.G**

Date Test Completed: _____

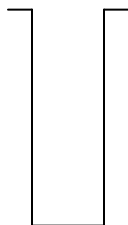
Test Hole #	Depth Interval Below Land Surface (Inches)	Texture	Structure	Rock Fragments %	Mottles %	Boundary	Dry Consistency	Moist Consistency	SAR

Comments:

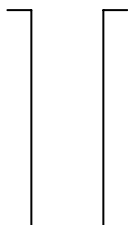
Professional Seal



Test ____



Test ____



Test ____



Test ____

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

Facility Address: _____

Parcel Number: _____

Tested by: _____

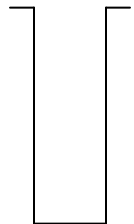
Depth to Groundwater: **PLEASE REPORT IN ITEM 8.G ON PAGE 3 OF FORM**

Date Test Completed: _____

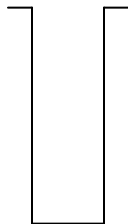
Test Hole #	Depth Interval Below Land Surface (Inches)	Texture	Structure	Rock Fragments %	Mottles %	Boundary	Dry Consistency	Moist Consistency	SAR

Comments:

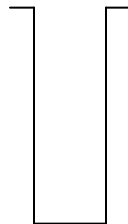
Professional Seal



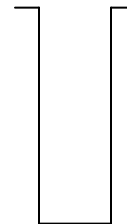
Test ____



Test ____



Test ____



Test ____

ATTACHMENT 2 – PERCOLATION TEST DATASHEET

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

ATTACHMENT 4 – OTHER INFORMATION

Facility Address: _____

Parcel Number:

Date Test Completed: _____

Other Information pertinent to this Site Investigation Report: Please specify the Report Item related to all Attachments or Other Information provided.

[illegible]

Prepared by (Please Print): _____

Date Report Completed:

ATTACHMENT 4, CONTINUED – OTHER INFORMATION

Facility Address: _____

Parcel Number:

Date Test Completed: _____

Other Information continued.This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.