December 22, 2017 March 05, 2018 Job No. 16-027

# HUDSON MINOR SUBDIVISION ONSITE WASTEWATER TREATMENT SYSTEM REPORT

Hudson Minor Subdivision is a proposed 4 lot residential subdivision of a 38.02 acre parcel in Section 5, T11S, R65W, of the 6th P.M., in northeastern El Paso County. The property adjoins the west side of Black Forest Road approximately a quarter mile south of it's intersection with County Line Road. The street address is 20310 Black Forest Road and the tax assessor parcel number is 51000-00-323. A copy of the proposed minor subdivision plan is attached.

A small home was constructed on this site in 2004. This is served with an existing well and septic system. That Septic Permit number is ON0005337, dated September 15, 2004 and a copy of the Application and Permit is attached. The original soils testing is not currently available to the owner but will be on file at the Health Department associated with the above Permit number. This home lies on what is proposed to be Lot 3 with an area of 5.73 acres. The existing well, which lies on the proposed Lot 2, was completed in 1995 and is being re-permitted in accordance with the adjudication and Court approved augmentation plan completed for the proposed subdivision.

A short while ago the owners began construction of a new, larger home on the property which is approximately 150 to 200 feet east of the original one. The Septic Permit number for the new house is ON0049356 and test results are attached. The two existing leach fields are about 330 feet apart and the well is more than 500 feet from the nearest leach field. This new house lies on what is proposed to be the 6.25 acre Lot 4. The remaining proposed Lot 2 is 5.59 acres and Lot 1 is 18.14 acres. Ultimately, each of the four lots will have one home with an associated well and individual sewage disposal system.

According to the United States Department of Agriculture, Soil Conservation Service, Soil Survey of El Paso County Area, issued in June 1981, soils onsite are (#67) Peyton Sandy Loam, 5 to 9 percent slopes and (#69) Peyton-Pring Complex, 8 to 15 percent slopes. Perhaps 70 percent of the site is Peyton Sandy Loam. This is also the area within which the two homes lie and where the remaining two homes will be constructed. The Peyton series consist of deep, well drained soils that formed in arkosic alluvium and residuum. They are on uplands. A typical soil profile follows:

A- 0 to 12 inches: sandy loam
Bt- 12 to 25 inches: sandy clay loam
BC- 25 to 35 inches: sandy loam
C- 35 to 60 inches: sandy loam

These soils have good potential for homesites. The main limitation is a limited ability to support a load and potential frost action. The main limitation for septic tank absorption fields is a moderate one due to a slow percolation rate.

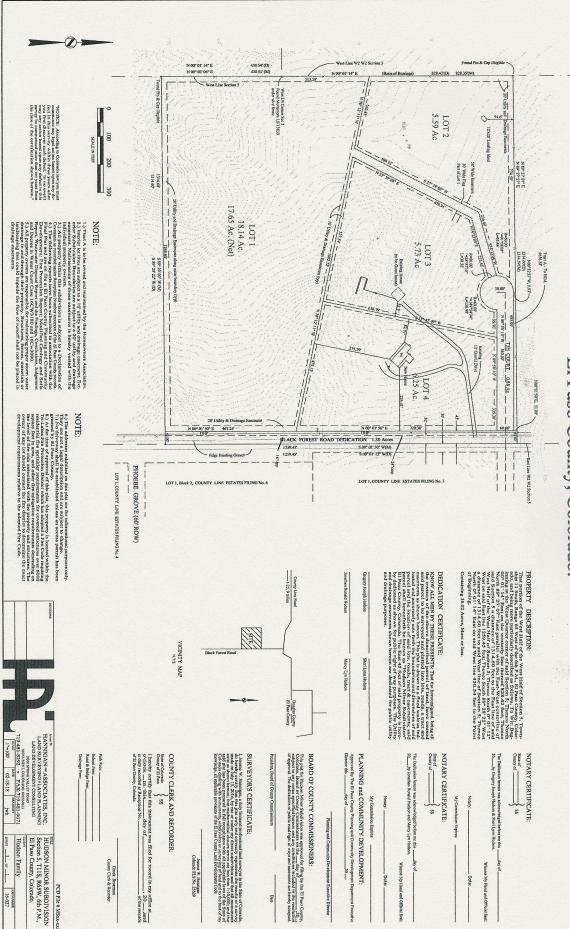
Two test holes and two tactile test pits were performed on the property by Geoquest on July 21, 2017. That report is attached. The location of those holes and pits is shown as are the results of the testing. Neither groundwater nor bedrock was encountered during those investigations. Pit #1 displayed soil type 4a in the 6" to 48" depth, with type 3 soil below. Test Pit #2 had soil type 3a in the 7" to 55" depth with type 2 below. Soil Types 1 through 3 are suitable for conventional systems while Soil Types 3A through 5 require designed systems. Due to encountering soil type 4a, the septic system had to be (and was) designed by an Colorado licensed engineer.

Because of the variability of the soils within the Peyton Series that may be encountered on either of the two remaining lots, it is possible that conventional systems may be suitable. It is anticipated, however, that percolation rates exceeding 60 minutes per inch will be encountered which will require designed systems. Both vacant lots are along a ridge and bedrock may be closer to the surface in these areas.

Based on the testing done for the two existing systems, it is reasonable to conclude the remaining two lots will be suitable for individual onsite wastewater treatment systems (OWTS) and that contamination of surface or subsurface water resources should not occur provided that the OWTS sites are evaluated, installed and maintained according to El Paso County Health Department and State guidelines. Individual site evaluations are required for the two remaining lots. Septic absorption fields must be located at least 100 feet from any well including those offsite. They must also be located at least 50 feet from any drainages, floodplains or ponded areas and 25 feet from dry gulches.

# DSC

A 4 Lot Minor Subdivision of a Part of Section 05, T El Paso County, Colorado S, R 65 W, 6th P.M.,



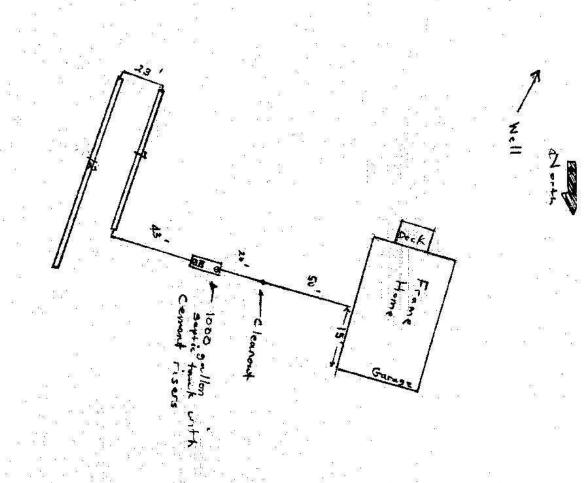
## EL PASO COUNTY ENVIRONMENTAL HEALTH SERVICES

361 South Union Boulevard • Colorado Springs, CO • 80910-3123 • (719) 578-3125 • Fax: (719) 578-3188

APPLICATION FOR AN ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT
NEW CONSTRUCTION DMINOR REPAIR DMAJOR REPAIR/ADD
Owner Deff Hovekin Daytime Phone 719-481-4560
Address of Property 20310 Black Forest Rd. City & Zip Cola Sps. G 8090
Legal Description TRACT   Sec 5, TIIS, R 65W of the 64PM.
Owner's MAILING Address 18190 Forest Orive East City, State & Zip Morument 8013
Lot Size Tax Schedule # 5/000 - 00 - 32-3
Type of Building: Drame OModular OMobile OCommercial OManufactured Oother
Water Suingle: Zwell or Spring Cistern Public Inside City Limits: No Yes-City
MAIL PERMIT OR PICK UP PERMIT OTHERE IS AN ADDITIONAL RESIDENCE ON THIS PROPERTY
MAXIMUM POTENTIAL NUMBER OF BEDROOMS  Percolation Test Attached N Basement Y N Garbage Disposal Y N Clothes Washer N
I have supplied a plot plan as described on the back of this form. I acknowledge the completeness of the application is conditional upon such flittler mandatory and additional tests and reports as may be required by the Department to be made and furnished by an applicant for purposes of evaluating the application, and issuance of the permit is subject to such terms and conditions as deemed necessary to ensure compliance with rules and regulations adopted pursuant to C.R.S. 25-10-107 et; seq. I hereby certify all represented to be true and correct to the best of my knowledge and belief, and are designed to be relied on by the El Paso County Department of Health and Environment in evaluating the same for purposes of issuing the permit applied for herein. I further understand any falsification or misrepresentation may result in the denial of the application or revocation of any permit granted based upon said application and in legal action for perjury as provided by law.  OWNER'S SIGNATURE  You will be positified by telephone when your permit is ready for pick up. Please allow a minimum of 10 days for new septics.
DEPARTMENT OF HEALTH USE ONLY
Minimum Tank Capacity Minimum Absorption Area Date of Site Inspection
REMARKS 6PS OF Prof. 12 [N 3907, 365' W1040 41.810]
Install beach Freld in area of pare Testo Leach Field
must have a minimum of 18, 6'x3' Chambers, if Those are
used. Leach Field cannot be installed desper than
Leach Field must be kept at heast 25' from day Gulch
To the course
EHS INSPECTOR DATE 12-5-03 (APPROVED) DENIED
FEES AS OF 11/1/02:
NEW CONSTRUCTION \$432.00 + Planning Department Surcharge of \$30. = \$462.00
MAJOR EPAIR/ADDITION \$342.00 MINOR REPAIR/ADDITION \$162.00  DATE TO PLANNING / WASTEWATER: 10/11/13
DATE TO FLOODPLAIN/ENUMERATIONS
PLEASE COMPLETE THE BACK OF THIS FORM

EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT Permit # 0N 900 5337 INDIVIDUAL SEWAGE DISPOSAL SYSTEM INSPECTION FORM Date 9-15-04 Sid Dardon Sid Dardon 10-08-04 Janet C. APPROVED: Yes No Environmental Health Specialist: J.Christenses Address 20310 Black Forest Rd. 80
Legal Description Tract 1 in Sec 5 TS 11 S R65 W 80908 Owner Jeff Houchin TAX# 51000-00-323 Residence # Bedrooms 2 Commercial System Installer Owner SEPTIC TANK: Commercial V Noncommercial Construction Material Concrete Capacity Gallon 1000 DISPOSAL FIELD: Trench: Depth (Range) Width \_\_\_ Total Length \_\_\_\_ Sa. Ft. Depth (Range) Length Width Type of cover on Rock Sq. Ft. Depth of Rock \_\_\_\_ Under PVC \_\_\_\_\_ Type of cover on Rock
S \_\_\_\_ Rings (Pit 1) \_\_\_\_ Rings (Pit 2) \_\_\_\_ Working Depth #1 \_\_\_ #2 \_\_\_ DRYWELLS: # of Pits Size (L x W) #1 \_\_\_\_\_ Total Sq. Ft. \_ ROCKLESS SYSTEMS: Standard Chamber: Type B: od. Ff. #Chambers 19 Sq. Ft./Chamber 15.5 Bed High Profile Units: Type Chamber #Chambers Sq. Ft./Chamber Reduction Allowed 40 % Sq. Ft. Required 399 Depth (Range) 2 Sq. Ft. Installed 294.5 Equivalent Sq. Ft. Installed with Reduction 491
Engineer Design: Y N Engineering Firm N/A Approval letter provided? Y 600 ft to the west Approval letter provided? Y N)

Well installed at time of septic system inspection? Y N Public Water? \*Approval will be revoked if in the future the well is found to be within 50 feet of the septic tank and/or 100 feet of the disposal field. NOTES: 4"SDR 35



### **EL PASO COUNTY**

### DEPARTMENT OF HEALTH AND ENVIRONMENT

301 S Union Blvd, Colorade Springs, Colorado 719-575-8636

INDIVIDUAL SEWAGE DISPUSAL SYSTEM	W PERWIT
OWNER NAME: JEFF HOUCHIN	PERMIT NUMBER: ON0005337
ADDRESS: 20310 BLACK FOREST RD	DATE PERMITTED: 12/8/2003
CITY, STATE, ZIP: COLORADO SPRINGS CO 80908	
INSTALLED BY:	PHONE NUMBER: 7194814560
This permit is issued in accordance with 25-10-107 Colorado Revised Statues. PERMIT EXPIRES upon community from date of issue-whichever occurs first-(unless work is in progress). If both a building construction has not commenced prior to the expiration date of the building permit, the ISDS permit shall expressed if all stated requirements are not met.  Sewage disposal system to be installed by an El Paso County Licensed System Contractor or the property own	and an ISDS permit are issued for the same property and ire at the same time as the building permit. This permit is
THIS PERMIT DOES NOT DENOTE APPROVAL OF ZONING AND ACR	EAGE REQUIREMENTS.
	C. Bakes Martin
DIRECTOR, EL PASO COUNTY DEPARTM	HENT OF HEALTH AND ENVIRONMENT
	11/11/
PERMIT EXPIRATION DATE:	Willes 578-3127
Expires twelve months from date of issue ENVIRONM	ENTALIST / PHONE NUMBER*
* MOTE: FOR INSPECTIONS CALL 575-8699 BEFORE 8:30 A.M. OF TO	UP TAY BY THOUPFEND
(MEEKENDS & HOLIDAYS EXCLUEND)	on tol 10 by installar.
LEAVE THE ESTIRE SEWAGE DISPOSAL SYSTEM UNCOVERED FOR	PINAL INSPECTION.
WATER SOURCE: WELL	
AND THE PROPERTY AND ADDRESS A	WEIGND A BUY DECAMENDED
MINIMUM SEPTIC TANK SIZE: 1,000 GALLONS MINIMUM ABSOR	PTIONAREA REQUIRED 399 SQ FT
PLANNING DEPARTMENT ENUMERATION FLOOD PLAIN	WASTEWATER
COMMENTS:	
INSTALL LEACH FIELD IN AREA OF PERCOLATION TEST. LEACH FIELD	MUST HAVE A MINIMUM OF 18, 104 6
FOOT BY 3 FOOT CHAMBERS IF THOSE ARE USED. LEACH FIELD CANNO	OT BE INSTALLED DEEPER THAN 3 FEET
BELOW NATIVE GROUND SURFACE ACCORDING TO ENGINEER. LEACH	FIELD MUST BE KEPT AT LEAST 25
FEET FROM DRY GULCH TO THE SOUTH.	

The Health Office shall assume no responsibility in case of failure or inadequacy of a sewage-disposal system, beyond consulting in good faith with the property owner or representative. Free access to the property shall be authorized at reasonable time for the purpose of making such inspections as are necessary to determine compliance with requirements of this law.

		FOR ADMINISTRATIVE USE ONLY	14 1 July	18
Permit Ready:	_ Called   2   10   63 Maile	d	10/3/04/00	¥ 8 8
	circulary		2/4/04 8:40	ter en j
Final Inspection Requested:		Date Called In: _		a 10 17
la e se s	Phone # 491-4	Septic Site will b	ne ready:	a, de *
				5000 S



6825 Silver Ponds Heights #101 Colorado Springs, CO 80908 (719) 481-4560

### PROFILE PIT EVALUATION

FOR

GREGORY HUDSON

JOB #17-0658

20310 Black Forest Road, El Paso County, Colorado

Respectfully submitted,

Charles E. Mil. Civil Engineer



### PROFILE PIT FINDINGS

Enclosed are the results of the profile pit for the septic system to be installed at 20310 Black Forest Road, El Paso County, Colorado. The location of the test pit was determined by Gregory Hudson. The residence will not be on a public water system. The number of bedrooms in the design for the residence is unknown. Due to the natural slope of the property, the entire system will feed to the east at approximately 6% at least 20 feet. All applicable portions of the El Paso County Health Department Onsite Wastewater Treatment System Regulations (OWTS) must be complied with for the installation of the treatment system.

The inspection was performed on July 21, 2017, in accordance with Table 10-1 of the E.P.C.P.H. OWTS Regulations.

### Soil Profile #1:

- 0 to 6" Topsoil- loam, organic composition.
- 6" to 48" USDA soil texture sandy clay, soil type 4A, structure shape none, structure grade massive, non-cemented, LTAR 0.15, reddish yellow in color, 7.5YR 6/6.
- 48" to 8' USDA soil texture sandy clay loam, soil type 3, structure shape granular, structure grade 2, non-cemented, LTAR 0.35, brown in color, 7.5YR 4/3.

### Soil Profile #2:

- 0 to 7" Topsoil- loam, organic composition.
- 7" to 55" USDA soil texture sandy clay loam, soil type 3A, structure shape none, structure grade massive, non-cemented, LTAR 0.60, strong brown in color, 7.5YR 4/6.
- 55" to 8' USDA soil texture sandy loam, soil type 2, structure shape granular, structure grade 2, non-cemented, LTAR 0.60, very pale brown in color, 10YR 7/4.

No water was encountered during the inspection. Bedrock was not encountered during the inspection. No known wells were observed within 100 feet of the proposed system. All setbacks shall conform to county regulations.

Due to encountering USDA soil type 4A, the septic system to be installed on this site shall be designed by a Colorado Licensed Engineer. Based on the observed conditions, we feel a design based on an LTAR of 0.15, GPD/SF (USDA 4A, treatment soil, treatment level 1) is reasonable. Maximum depth of the installation shall be not deeper than 4 feet below existing grade.

If during construction of the field itself, subsurface conditions change considerably or if the location of the proposed field changes, this office shall be notified to determine whether the conditions are adequate for the system as designed or whether a new system needs to be designed.

Weather conditions at the time of the test consisted of partly cloudy skies with hot temperatures.

JOB#: 17-0658 DATE EVALUATED: 21 Jul 2017 EQUIPMENT USED: MINI-EXCA		DEPTH (in ft.)	SYMBOL	SAMPLES	WATER %	SOIL TYPE
0"-6" TOPSOIL  Loam  Organic Composition 6"-48" Clay		2 -				44
6"- 48" Clay Fine-coarse Grained Moderate-high Density Moderate-high Moisture Content High Clay Content High Cohesion High Plasticity Reddish Yellow Color 7.5YR 6/6	USDA Soil Texture: Sandy Clay USDA Soil Type: 4A USDA Structure Shape: None USDA Structure Grade: Massive Cementation Class: Non-Cemented Long Term Acceptance Rate (LTAR, Treatment Level 1): 0.15	6 - 8 -				3
48"- 8' Clayey Sand Fine-coarse Grained High Density Low-moderate Moisture Content Moderate Clay Content Moderate Cohesion Moderate Plasticity Brown Color 7.5YR 4/3	USDA Soil Texture: Sandy Clay Loam USDA Soil Type: 3 USDA Structure Shape: Granular USDA Structure Grade: 2 Cementation Class: Non-Cemented Long Term Acceptance Rate (LTAR, Treatment Level 1):0.35	12-114-				

LTAR to be Used for OWTS Sizing: 0.15GPD/SF (USDA Type 4A, Treatment soil, Treatment Level 1)

Depth to Groundwater (Permanent or Seasonal): Not Encountered

Depth to Bedrock and Type: Not Encountered

Depth to Proposed Infiltrative Surface from Ground Surface: Unknown (Maximum 4 ft Below Existing Ground Surface)

Soil Treatment Area Slope and Direction: East @ 6%

Note: See El Paso County Board of Health Regulation Chapter 8: On-Site Wastewater Treaments Systems (OWTS) Regulations for Additional Information. Refer to Table 10-1 for Corresponding LTAR if Treatment Level 2, 2N, 3, or 3N will be Implemented in the Design of the OWTS. System Sizing Depends on a Number of Factors (i.e. LTAR, # of Bedrooms, Type of Soil Treament Area (STA), Method of Transfer to the STA (Gravity, Dosed, or Pressure Dosed), and Type of Storage / Distribution Media Used in the STA)

Project: 17-0658	Project Name and Address
Sheet: 1 of 2	Fillect Name and Address
Date: 04 Aug 2017	Greg Hudson
	20310 Black Forest Rd
Scale: 1/4" = 1"	Sch. No. 5100000323 El Paso County, Colorado
Drawn by: mtj	TO SEAMSON AND STOCK STATE
Checked by: cem	

	20 NAS 200 NAS
GEOQUEST, LLC.	
6825 SILVER PONDS HEIGHTS SUITE 101	
COLORADO SPRINGS, CO 80908	
OFFICE: (719) 481-4560	
FAX: (719) 481-9204	

JOB#: 17-0658 DATE EVALUATED: 21 Jul 201 EQUIPMENT USED: MINI-EXC/	7	DEPTH (in ft.)	SYMBOL	SAMPLES WATER %	SOIL TYPE
D"-7" TOPSOIL Loam Organic Composition  7"- 55" Clayey Sand Fine-coarse Grained Moderate Density Moderate Moisture Content Moderate Clay Content Moderate Cohesion Moderate Plasticity Strong Brown Color 7.5YR 4/6	USDA Soil Texture: Sandy Clay Loam USDA Soil Type: 3A USDA Structure Shape: None USDA Structure Grade: Massive Cementation Class: Non-Cemented Long Term Acceptance Rate (LTAR, Treatment Level 1): 0.30	2			44
Fine-coarse Grained  Fine-coarse Grained  High Density  Low-moderate Moisture Content  Low Clay Content  Low Cohesion  Low Plasticity  Very Pale Brown Color  10YR 7/4	USDA Soil Texture: Sandy Loam USDA Soil Type: 2 USDA Structure Shape: Granular USDA Structure Grade: 2 Cementation Class: Non-Cemented Long Term Acceptance Rate (LTAR, Treatment Level 1):0.60	12-14-			

LTAR to be Used for OWTS Sizing: 0.15GPD/SF (USDA Type 4A, Treatment soil, Treatment Level 1)

Depth to Groundwater (Permanent or Seasonal): Not Encountered

Depth to Bedrock and Type: Not Encountered

Depth to Proposed Infiltrative Surface from Ground Surface: Unknown (Maximum 4 ft Below Existing Ground Surface)

Soil Treatment Area Slope and Direction: East @ 6%

Note: See El Paso County Board of Health Regulation Chapter 8: On-Site Wastewater Treaments Systems (OWTS)
Regulations for Additional Information. Refer to Table 10-1 for Corresponding LTAR if Treatment Level 2, 2N, 3, or 3N will be implemented in the Design of the OWTS. System Sizing Depends on a Number of Factors (i.e. LTAR, # of Bedrooms, Type of Soil Treament Area (STA), Method of Transfer to the STA (Gravity, Dosed, or Pressure Dosed), and Type of Storage / Distribution Media Used in the STA)

Project: 17-0658	Project Name and Address
Sheet: 2 of 2	1 TOJECE INAMIC GIVE 7 GGT OGE
Date: 04 Aug 2017	Greg Hudson
	20310 Black Forest Rd
Scale: 1/4" = 1"	Sch. No. 5100000323 El Paso County, Colorado
Drawn by: mtj	To what manufacture and the proper area to provide a control → in \$6400 of \$18 and \$100 of \$1
Checked by: cem	

GEOQUEST, LLC.	760 (AN) (AN) (AN) (AN) (AN) (AN) (AN) (AN)
6825 SILVER PONDS HEIGHTS SUITE 101 COLORADO SPRINGS, CO 80908	
OFFICE: (719) 481-4560 FAX: (719) 481-9204	

### GEOQUEST LLC SITE MAP

20310 Black Forest Rd El Paso County, Colorado, Job #17-0658

TH-1-0
TH-2-0
Profile Pit #1.0
Profile Pit #2

Location from Northeast Lot Corner to Profile Pit \$1: S. 25° W. - 558'

Location from Profile Pit \$1 to Profile Pit \$2: S. 69° E. - 69'

CPS Coordinates:

Pit 1; N. 39° 07' 22.21° W. 104' 41' 45.19°

Pit 2; N. 39° 07' 21.87° W. 104' 41' 44.20°



0 100 200 300 GRAPHIC SCALE IN FEET SCALE: 1" = 300'