

GAINES SOIL CONSULTING

8611 Wieseman Road
Worden, Illinois 62097
618/459-8619 or 636/947-1221
Email: doug@gainessoil.com

SOIL EVALUATION REPORT SIMPLE LOT SPLIT

Client: Eric Merchant
15480 Clayton Road
Ballwin, Missouri 63011
314/541-1218

Report: October 10, 2022
Site: Grapenthin Farm Lot 1A & 1B
Highway Z @ Point Prairie
County: St. Charles
Date: 06-09-22 & 10-06-22
Job N^o: G222012

Sample Locations: see site sketch

Detailed Soil Description¹ / Interpretations – Lot 1A (22.00 acres)

| Depth (in) | Matrix Color ² | Texture | Mottles ² | Structure | Consistence | Coatings ² | Notes | Permeability & Loading Rate ³ in (G/D/Ft. ²) |
|------------|---------------------------|-----------------------------------|---|---|----------------|--------------------------------|-------------------------------------|---|
| 0 - 7 | 10YR 3/3 | Silty Clay Loam ~27 - 30% Clay | -- | Moderate Coarse Subangular Blocky | Very Hard | -- | -- | 0.45 Group 3 |
| 7 - 17 | 10YR 5/4 | Silty Clay Loam ~30 - 35% Clay | Common Fine Distinct 10YR 6/1 Common Fine Prominent 5YR 4/4 | Moderate Coarse Prismatic / Moderate Medium Subangular Blocky | Very Hard | Very Few Prominent 10YR 3/2 | Common Medium Fe & Mn Accumulations | 0.4 Group 3 |
| 17 - 25 | 10YR 5/4 | Silty Clay Loam ~35 - 40% Clay | Common Medium Distinct 10YR 6/1 Common Fine Prominent 7.5YR 4/4 | Moderate Very Coarse Prismatic / Moderate Coarse Subangular Blocky | Extremely Hard | Very Few Distinct 10YR 3/2 | Common Medium Fe & Mn Accumulations | 0.2 Group 4 |
| 25 - 34 | 2.5Y 5/4 | Silty Clay Loam ~30 - 35% Clay | Common Coarse Distinct 2.5Y 6/1 | Moderate Very Coarse Prismatic / Moderate Coarse Subangular Blocky | Firm | Very Few Faint 10YR 3/2 | Common Coarse Fe & Mn Accumulations | 0.35 Group 3 |
| 34 - 43 | 2.5Y 6/1 | Silty Clay / Clay >40% Clay | Common Coarse Distinct 2.5Y 5/6 Common Coarse Prominent 10YR 5/6 | Moderate Very Coarse Prismatic / Moderate Coarse Subangular Blocky | Extremely Firm | -- | Common Coarse Fe & Mn Accumulations | Not Suitable Group 4b |
| 43 - 60 | 2.5Y 6/1 | Silty Clay Loam ~27 - 30% Clay | Common Coarse Distinct 2.5Y 5/6 Common Coarse Prominent 10YR 5/6 | Moderate Very Coarse Prismatic / Moderate Coarse Subangular Blocky | Friable | -- | Common Coarse Fe & Mn Accumulations | 0.4 Group 3 |

Soil profile was a somewhat poorly drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater level (seasonal saturation) was 7 inches. General landscape was of rolling topography. Soil pit site was a convex slope of 4% southeast. Bedrock greater than 72 inches.

Detailed Soil Description¹ / Interpretations – Lot 1B (17.22 acres)

| Depth (in) | Matrix Color ² | Texture | Mottles ² | Structure | Consistence | Coatings ² | Notes | Permeability & Loading Rate ³ in (G/D/Ft. ²) |
|------------|---------------------------|-----------------------------------|--|--------------------------------------|----------------|-----------------------|-------------------------------------|---|
| 0 - 8 | 10YR 3/2 | Silt Loam ~15 - 25% Clay | -- | Moderate Very Fine Subangular Blocky | Friable | -- | -- | 0.5 Group 3 |
| 8 - 15 | 10YR 4/6 | Silty Clay Loam ~27 - 30% Clay | Many Coarse Distinct 10YR 3/2 | Moderate Fine Angular Blocky | Friable | -- | -- | |
| 15 - 26 | 10YR 4/6 | Silty Clay Loam ~30 - 35% Clay | Common Fine Distinct 10YR 5/2 Common Fine Prominent 7.5YR 5/6 | Moderate Medium Subangular Blocky | Firm | -- | -- | 0.4 Group 3 |
| 26 - 40 | 10YR 6/2 | Silty Clay / Clay >40% Clay | Common Coarse Distinct 10YR 4/6 Common Fine Distinct 10YR 5/4 | Moderate Medium Subangular Blocky | Extremely Firm | -- | Common Coarse Fe & Mn Accumulations | Not Suitable Group 4b |
| 40 - 60 | 10YR 6/1 | Silty Clay / Clay >40% Clay | Common Coarse Distinct 10YR 4/6 Common Fine Distinct 10YR 5/4 | Moderate Medium Subangular Blocky | Extremely Firm | -- | Common Coarse Fe & Mn Accumulations | |

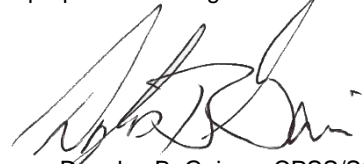
Soil profile was a somewhat poorly drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater level (seasonal saturation) was 15 inches. General landscape was of rolling topography. Soil pit site was a convex slope of 4% with runoff entering from the north. Bedrock greater than 72 inches.

Remarks:

Requirements for county approval for simple lot split.

NOTE: For best results Do Not disturb, pasture, or drive heavy machinery on lateral field area at any time. The suitability of the soils will be affected and the inspector may not approve area if it has been disturbed prior to construction. Proposed drain field area should be fenced off to help prevent any disturbance.

GAINES SOIL CONSULTING does not represent nor warrant the operation or proper functioning of installed septic system for any period of time.



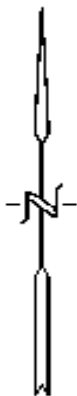
Douglas B. Gaines, CPSS/SC
Principal

¹ USDA Soil Survey Manual, Ag Handbook N° 18, (1993)

² Soil color designations, Munsell Soil Color Charts, (2009).

³ Missouri Laws accompanied by Department of Health Rules Governing On-Site Sewage Systems (October 1995). Table 13 – Conventional; Table 14 – Alternative (use half of above listed loading rate)

* Loading Rate Estimated due to no listing in the Missouri Laws



GRAPENTHIN FARM LOT 1A & 1B

Highway Z at Point Prairie
St. Charles County, Missouri

G222012

June 2022

GAINES SOIL CONSULTING