



August 9, 2006

Russellville Industrial Development Board
c/o Franklin County Development Authority
Post Office Box 124
Russellville, Alabama 35653

Attention: Mitchell B. Mays, Executive Director
Franklin County Development Authority

Preliminary Test Pit Exploration
Russellville Industrial Park No. 2
City of Russellville, Alabama
Gallet Project No. 06NARUS0701G

Dear Mr. Mays:

Gallet & Associates, Inc. (Gallet) is pleased to present this letter documenting the preliminary test pit exploration performed for Russellville Industrial Park No. 2.

The property consists of approximately 170 acres of land to the southeast of the city of Russellville, between Highway 243 and County Road 44. The property is mostly undeveloped land, but is partially developed and partially wooded.

Test Pit Exploration

Test pit excavation was performed on July 10th, using a New Holland backhoe owned and operated by the City of Russellville Street Department. Gallet engineer Frank Whitman directed the excavation of the test pits and logged the encountered soils. Ten test pits were excavated at the locations shown on the attached Test Pit Location Sketch.

"Our Client's Success is Our Success"

Gallet Project No. 06NARUS0701G
Environmental • Geotechnical • Construction
Materials Testing • Construction Financial Services

According to the Soil Conservation Service publication *Soil Survey of Franklin County, Alabama*, Russellville Industrial Park No. 2 is underlain by Talbot, Rockland, Hollywood, Colbert, Melvin, and Decatur soils. The test pit locations were chosen so that at least one pit was excavated within each type of soil.

Talbot Soils

Test Pits One and Two were performed within the Talbot soils (see the attached Test Pit Location Sketch). Talbot soils are generally moderate-plasticity, lean clays containing prevalent limestone boulders and cobbles.

Both of the test pits encountered about 6 inches of topsoil, and then medium-brown, stiff, lean clays. Test Pit One was extended to a depth of 6 feet, while Test Pit Two encountered hard limestone at a depth of only 2 feet. Some additional pits were attempted in the area of Test Pit Two, but these pits continued to encounter rock at only 2 feet.

Rockland Areas

Rockland is the designation given to areas consisting mostly of limestone outcrops and boulders, with high-plasticity “fat” clays in the spaces in between the rock formations.

Test Pit Three was performed within a Rockland area, and it encountered about 8 inches of topsoil on top of limestone boulders. A second excavation was offset about 20 feet to the east, and it encountered about 2½ feet of topsoil, and then stiff, high-plasticity “fat” clay between two boulders. This excavation was extended to a depth of 5 feet.

Hollywood and Colbert Soils

Test Pits Four, Five, Six, and Eight were performed within the Hollywood and Colbert soils. The Hollywood and Colbert soils are generally high-plasticity “fat” clays with low strength and high shrink/swell potential.

These test pits encountered about 6 to 12 inches of topsoil, and then stiff, high-plasticity “fat” clays. Boulders were encountered at all of these test pits except for Test Pit Eight. These test pits were terminated at depths of 6 to 7½ feet.

Melvin Soils

Test Pit Seven was performed within the Melvin soils. The Melvin soils are generally present within ditchlines, drainage swales, or other low areas. These soils usually have low strength and are often wet.

Test Pit Seven encountered about 8 inches of topsoil, then medium-stiff, silty clay to a depth of 2 feet, and then stiff, sandy fat clay to a depth of 4 feet. Hard limestone was encountered at 4 feet.

Decatur Soils

Test Pits Nine and Ten were performed within the Decatur soils. The Decatur soils are generally high-plasticity “fat” clays with low strength and high shrink/swell potential.

Test Pits Nine and Ten encountered about 5 to 7 inches of topsoil, and then moderate-plasticity, lean clays to a depth of about 2 to 2½ feet. Below the lean clays were high-plasticity “fat” clays until rock was encountered at a depth of about 7 to 7½ feet.

Local Geologic Conditions

According to the Geological Survey of Alabama publication *Geologic Map of Franklin County, Alabama*, the industrial park is underlain by Bangor Limestone. This geologic formation consists of medium-gray limestone containing some mudstone interbeds.

As with any property underlain by a carbonate bedrock formation such as limestone, there is always the risk of sinkhole development. During the test pit exploration, a small sinkhole was noted in Tract 1, southeast of Pit Two.

Prediction of future sinkhole occurrence is very difficult and even an extensive subsurface exploration would not rule out the possibility of future sinkhole activity. However, the industrial park property is at no greater risk of sinkhole development than the general surrounding area.

Recommendations

The tracts at Industrial Park No. 2 can be suitably prepared for the use of shallow, soil-supported foundations for most building and equipment loads. Heavier loads requiring deep foundations could be supported by piles or drilled piers extending to limestone bedrock.

Nearly all of the tracts would require about 1 to 3 feet of new fill within building and pavement areas, due to the near-surface presence of high-plasticity “fat” clays. Fat clays exhibit relatively large changes in volume in response to changes in moisture content, a behavior called “shrink” and “swell”. This shrink and swell activity can cause severe damage to foundations, slabs, and pavements.

New fills would put the fat clays at depths where changes in moisture and volume are less likely. In general, fat clays should be no shallower than 3 feet below finish subgrade elevations in building areas, and 2 feet below finish subgrade elevations in pavement areas. New fill soils should be obtained from an off-site borrow source.

From a geotechnical standpoint, the preferred tracts are those in which Talbot and Decatur soils are prevalent, as less fill will generally be required to develop these locations. Talbot and Decatur soils were most prevalent at Tracts 1, 8, 9, 10, 11, and 18 (see the table on the following page).

The less favorable tracts are those in which Rockland or Melvin soils are prevalent. The Rockland areas would generally require the most fill, in order to avoid rock excavation in foundations and utility trenches. Rockland areas were most prevalent at Tracts 2, 3, 12, 16, and 17.

The Melvin soils are likely to require undercut and replacement of the upper two to three feet of existing soil. Melvin soils were most prevalent at Tracts 7 and 14.

The table on the following page lists only the most prevalent soils within each tract. Please note that each tract will also contain other soil types. In particular, some Melvin soils are present in most of the tracts, generally within ditches, drainage swales, or other low areas.

Tract Number	Prevalent Soils
1	Talbot
2	Rockland
3	Rockland and Hollywood
4	Hollywood
5	Colbert and Hollywood
6	Colbert and Talbot
7	Decatur and Melvin
8	Decatur
9	Decatur
10	Decatur
11	Decatur
12	Rockland
13	Colbert and Decatur
14	Colbert and Melvin
15	Colbert and Hollywood
16	Rockland
17	Rockland
18	Talbot

Table 1: Prevalent Soils by Tract Number

Closing

The purpose of this preliminary test pit exploration was to assist the City of Russellville in considering future development of Industrial Park No. 2.

This preliminary test pit exploration does not constitute a complete geotechnical exploration of the property. Once a site plan has been developed for any individual tract, Standard Penetration Test (SPT) borings should be performed within the planned building and pavement areas prior to construction, so that more specific geotechnical recommendations for site development can be provided.

Thank you very much for this opportunity to serve you. Please contact Gallet's North Alabama office at (256) 736-2515 if you should have any questions about this report, or if Gallet can be of any further service.

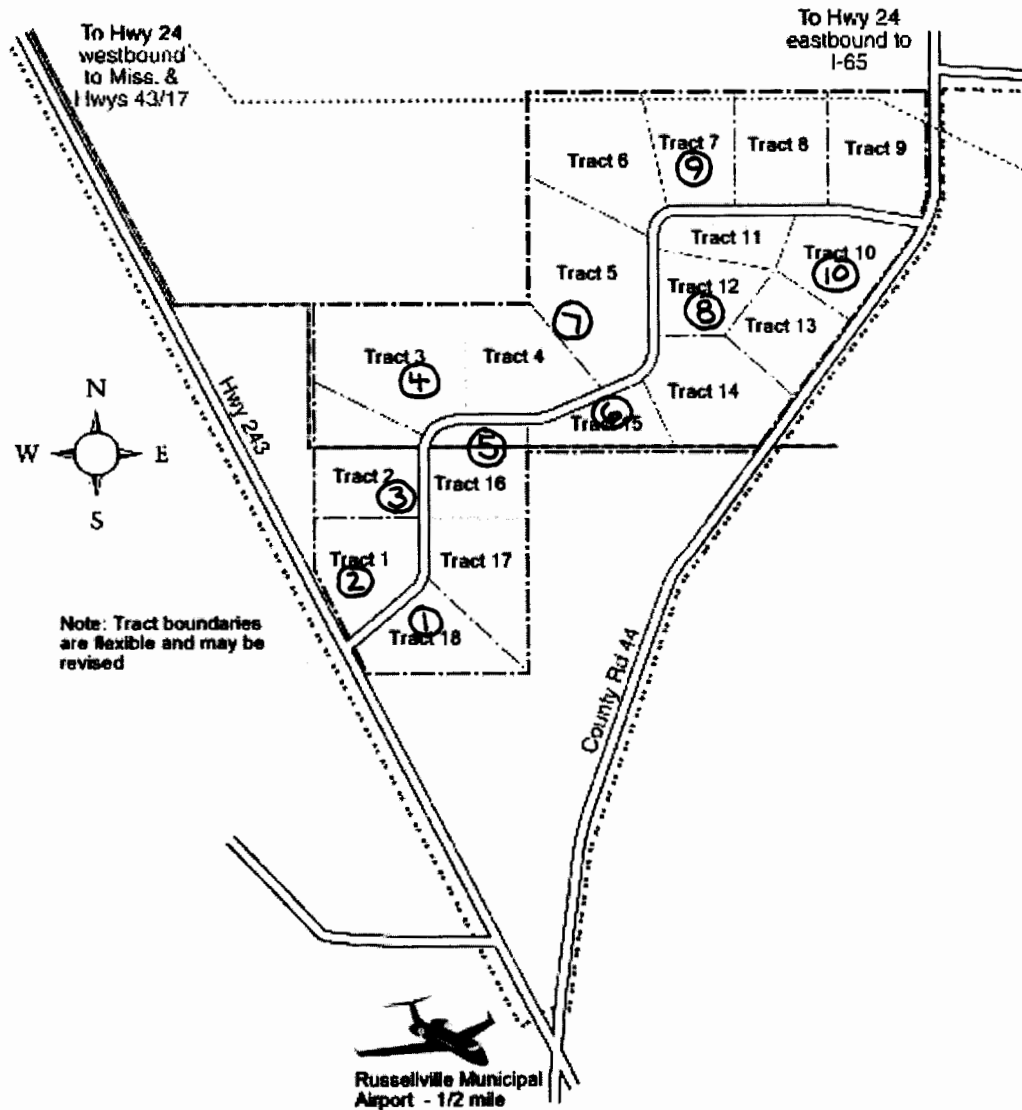
Sincerely,
GALLET & ASSOCIATES, INC.



Frank Whitman, P.E.
Manager, North Alabama Office
Alabama Registration No. 23152



Attachments: Test Pit Location Sketch (1 page)
Test Pit Logs (10 pages)



TEST PIT LOCATION SKETCH
 Russellville Industrial Park No. 2
 Gallet Project No. 06NARUS0701G



Test Pit One

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Gallet Project No. 06NARUS0701G

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (6 inches)				
1			LEAN CLAY WITH LIMESTONE BOULDERS (TALBOT SOIL) medium brown, moist, stiff				
2							
3							
4							
5							
6							
			EXCAVATION TERMINATED AT 6 FEET				
7							
8							
9							
10							
11							



Test Pit Two

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Russellville Industrial Park No. 2
 City of Russellville, Alabama
 Gallet Project No. 06NARUS0701G

Date of Excavation : July 2006
 Excavation Method : New Holland Backhoe
 Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (6 inches)				
1			LEAN CLAY (TALBOT SOIL) medium brown, moist, stiff				
2			EXCAVATION REFUSAL AT 2 FEET ON LIMESTONE				
3			two offset borings also refused at 2 feet				
4							
5							
6							
7							
8							
9							
10							
11							



Test Pit Three

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Gallet Project No. 06NARUS0701G

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (24 inches)				
1			INITIAL EXCAVATION REFUSAL ON LIMESTONE AT 8 INCHES -- MOVED PIT ABOUT 20 FEET EAST				
2			FAT CLAY WITH SAND AND LIMESTONE BOULDERS (ROCKLAND AREA)				
3			medium brown, moist, medium stiff				
4							
5							
			EXCAVATION TERMINATED AT 5 FEET				
6							
7							
8							
9							
10							
11							



Test Pit Four

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Gallet Project No. 06NARUS0701G

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (6 inches)				
1			SANDY FAT CLAY WITH LIMESTONE BOULDERS (HOLLYWOOD SOIL) medium brown, moist, stiff soil laboratory results: 49% coarse-grained (sand and gravel) 51% fines (clay and silt) liquid limit of 59, plasticity index of 34				
3			FAT CLAY (HOLLYWOOD SOIL) mottled gray and brown, moist, stiff, very high plasticity				
6			EXCAVATION TERMINATED AT 6 FEET				
7							
8							
9							
10							
11							



Test Pit Five

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Gallet Project No. 06NARUS0701G

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (10 inches)				
1			SANDY FAT CLAY (HOLLYWOOD SOIL) medium brown, moist, stiff				
2			FAT CLAY (HOLLYWOOD SOIL) mottled gray and brown, moist, stiff, very high plasticity				
3							
4							
5							
6			EXCAVATION TERMINATED AT 6 FEET				
7							
8							
9							
10							
11							



Test Pit Six

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Gallet Project No. 06NARUS0701G

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL AND SILT (12 inches)				
1			FAT CLAY (COLBERT SOIL) light brown mottled with gray, moist, stiff, very high plasticity				
2							
3							
4							
5							
6			EXCAVATION REFUSAL AT 6 FEET ON LIMESTONE				
7							
8							
9							
10							
11							



Test Pit Seven

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.









Gallet Project No. 06NARUS0701G

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (8 inches)				
1			SILTY CLAY (MELVIN SOIL) medium brown and light gray, moist, medium stiff				
2			SANDY FAT CLAY (MELVIN SOIL) light brown, very moist, stiff				
3							
4			EXCAVATION REFUSAL AT 4 FEET ON LIMESTONE				
5							
6							
7							
8							
9							
10							
11							

Russellville Industrial Park No. 2
 City of Russellville, Alabama

Gallet Project No. 06NARUS0701G


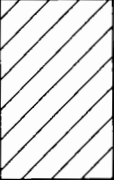
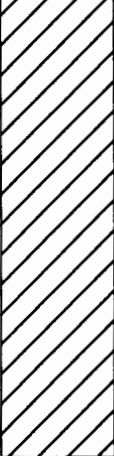
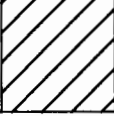
Date of Excavation : July 2006
 Excavation Method : New Holland Backhoe
 Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (8 inches)				
1			FAT CLAY (COLBERT SOIL) light brown moist, stiff				
2			FAT CLAY (COLBERT SOIL) light brown mottled with light gray, moist, stiff				
3							
4							
5							
6							
7							
8			EXCAVATION REFUSAL AT 7.5 FEET ON LIMESTONE				
9							
10							
11							

Russellville Industrial Park No. 2
City of Russellville, Alabama

Gallet Project No. 06NARUS0701G

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (5 inches)				
1			LEAN CLAY (DECATUR SOIL) medium brown, moist, stiff				
2			FAT CLAY (DECATUR SOIL) mottled light brown and gray, moist, stiff, very high plasticity				
3							
4							
5							
6			FAT CLAY light gray, moist, stiff				
7							
8			EXCAVATION REFUSAL AT 7 FEET ON LIMESTONE				
9							
10							
11							



Test Pit Ten

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Russellville Industrial Park No. 2
City of Russellville, Alabama

Date of Excavation : July 2006
Excavation Method : New Holland Backhoe
Geotechnical Engineer : Frank Whitman, Gallet & Associates, Inc.

Gallet Project No. 06NARUS0701G

Depth in	Water Levels	GRAPHIC	DESCRIPTION	Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index
0			TOPSOIL (7 inches)				
1			LEAN CLAY (DECATUR SOIL) medium brown, moist, stiff soil laboratory results: 24% coarse-grained (sand and gravel), 76% fine-grained (clay and silt), liquid limit of 45, plasticity index of 25				
2							
3			FAT CLAY WITH SAND (DECATUR SOIL) light brown and gray, moist, stiff				
4							
5							
6							
7							
8			EXCAVATION REFUSAL AT 7.5 FEET ON LIMESTONE				
9							
10							
11							