

Geological Evaluation of Proposed Sand and Gravel Mining Site Burroughs Materials Co. Springfield Township, Michigan

BACKGROUND

The objective of this geological evaluation is to determine if the sand and gravel deposit at the proposed mining site (the Site) in Springfield Township are of sufficient quality and quantity to support a commercial aggregates mining operation. Burroughs Materials Co., a subsidiary of the Edw. C. Levy Co. (Levy), owns the Site and desires to mine it to produce construction aggregates for commercial consumption.

The Site consists of approximately 482 acres of land located at 6651 Ormond Rd., Springfield Township, Oakland County, Michigan. Approximately 422 acres are located in Springfield Township and 60 acres are in Rose Township. The proposed mining plan includes 213 acres of land within Springfield Township. The remaining 209 acres within Springfield Township are within preservation areas or setbacks and will not be a source of sand and gravel. Refer to Figure 1: Proposed Mining Site Location.

SITE GEOLOGY

The 1998 Quaternary Geology Map of Michigan depicts the proposed mining site in Springfield Township to be situated in a coarse-textured glacial till deposit. "Coarse-textured" glacial till implies that larger, more coarse sediments were deposited across the Site and in the immediate area as the glacier retreated to the north. These coarser sediments typically consist of sand and gravel, as opposed to silt and clay. This makes the Site and the immediately surrounding area an optimal location to search for a sand and gravel deposit of sufficient quality, quantity and geographic size to support a commercial construction aggregates mine.

In 1974, an initial round of (22) exploratory soil borings were completed across the Site by Holly Sand & Gravel, a subsidiary of Levy. The depths of these soil borings ranged from 28 to 73 feet below ground surface (BGS), and most were terminated at or above the ground water table. Detailed geologic logs were completed to the termination depth for each boring to classify the soils encountered. This data was used to determine the volume, spatial consistency and encumbrance of the sand and gravel deposit. In addition, samples were collected from each boring in five-foot increments to submit for laboratory analysis of sand size gradation, loss-by-wash and percentage of gravel. The gradation testing was used to determine if the encountered geological resource could produce a viable source of construction grade aggregates that meet the specifications for quality as established by the Michigan Department of Transportation (MDOT) or other entities. Geologic Logs are included in Attachment A.

Based upon the results of the 1974 geological assessment, Levy purchased the Site in 1989. In 2001, Levy completed (36) additional exploratory soil borings on the Site to further define the lateral and vertical extent and quality of the sand and gravel reserves. Ten additional soil borings were completed by Levy in 2002-2003 for this same purpose. The depths of these borings ranged from 20 to 120 feet BGS. Sieve analysis gradation testing, including calculation of fineness modulus (FM), loss-by-wash, and percentage of gravel was completed for each of the borings.

In 2022-2023, Levy completed (29) additional soil borings and collected soil samples from the borings for gradation testing as described above. The depths of these soil borings ranged from 25 to 78 feet BGS, with an average depth of 55-60 feet.

Levy has utilized the geological data collected to estimate the potential volume of available sand and gravel reserves at the Site. Levy estimates that approximately 18-21 million tons of combined dry and wet sand and gravel reserves could be economically extracted from the Site.

I have reviewed the geologic logs discussed above, attached Figure 2 illustrating the results from this geological evaluation, and laboratory data. Based upon my review, I conclude that the sand and gravel deposit on the Site has the quality and quantity to produce over 20 million tons of commercial sand and gravel products, consistent with the Levy estimate.

My conclusion is also partially based upon our direct oversight of the (20) ground water observation wells installed across the Site in 2016-2017. During the installation of these wells, geologic logs were completed to the termination depth at each soil boring location. Refer to the Site Hydrogeology section below for additional information. The results from our soil classification for these (20) borings is consistent with the Levy exploratory soil borings. Well Log/Well Construction Details are included in Attachment B.

Through my review of the laboratory results for samples collected from the exploratory soil borings completed by Levy, I have concluded that the sand and gravel deposit on the Site consists of medium to coarse-grained sand with an average FM of 2.75, loss-by-wash of 5.7% and percent gravel of 9%.

The sand and gravel deposit at the Site has the quality to produce a large number of commercial aggregate products, including the following:

- Concrete sand (MDOT 2NS): Concrete sand is a critical component of concrete. It is combined with gravel and Portland cement to produce concrete. This washed sand product is sourced from sand and gravel mining operations and is the highest volume natural aggregate product utilized in Southern Michigan.
- 6A Gravel: 6A Gravel is a versatile construction material with excellent drainage and compaction properties. Uses include septic systems, drainage and base material for roads, driveways and patios.
- 6AC Gravel: 6AC Gravel is used as the coarse aggregate component of concrete in applications not exposed to the weather, such as footings and basement walls. 6AC gravel is also used extensively in septic fields.
- Pea Stone (34R): Pea Stone is washed construction aggregate used in applications that require excellent drainage, like within landfill cells, pipe bedding and septic fields. Due to its round shape, it is often used where comfort underfoot is required, like parks and patios.
- Road and Shoulder Gravel (23A): MDOT 23A is a construction aggregate that is commonly used in constructing and maintaining road shoulders, driveways and gravel roads. Due to its higher clay content, it compacts well.
- Crushed Stone, also known as "asphalt splits": Crushed stone has fractured faces that produce excellent frictional properties. It is utilized to meet demanding MDOT specifications for asphalt products.
- MDOT Class II Fill Sand: Class II fill sand is a high-performance sand used primarily for road base, concrete preparation, driveways and compacted surfaces. It is valued due to its excellent compaction and drainage characteristics.
- MDOT Class III Fill Sand: Class III sand is finer than Class II sand. It's primary use is as a general fill material for construction sites.

SITE HYDROGEOLOGY

In 2016, Levy requested that Hydro-Logic Associates, Inc. (Hydro-Logic) complete a hydrogeological investigation at the Site. Between November 2016 and January 2017, Hydro-Logic directed the placement, boring, and construction of (20) observation wells across the Site. These wells were completed to define the ground water table, identify and measure ground water elevations, determine the direction of ground water flow, and collect ground water samples to evaluate ground water quality across the Site and within the immediate local area. These activities were undertaken to evaluate, understand, and establish a hydrogeological baseline for the ground water and surface water resources encountered both on-Site and immediately off-Site. The results of this investigation will be used to ensure that the ground water and surface water resources at the Site are adequately monitored and protected during the proposed mining operation.

MINE SITE CONSIDERATIONS

Several key considerations when evaluating the feasibility of a mining operation include the following:

1. **Proximity to Market Demand**
A significant factor in the cost of construction aggregates is transportation, which is directly related to the distance between the resource and their market. The proposed mining Site is located within the southeastern Michigan metro area, near a suitable roadway network. The proposed mining Site is well situated to serve a market with a strong demand for construction aggregates.
2. **Direct Access to the Regional Transportation System**
The proposed mining Site will have direct access to Ormond Road, which connects to Oakland County roads that are designated for heavy truck traffic and to M-59, a state multi-lane highway that traverses the local market area.
3. **Quality and Quantity of Aggregate Materials Available**
Geological investigations have confirmed that the quality and quantity of sand and gravel reserves at the proposed mining Site are significant and of excellent quality, as previously discussed.
4. **Site Logistics**
A parcel of land must have a size and configuration that is suitable for the efficient extraction of sand and gravel from the ground, both in terms of the property dimensions, depth of the deposit and the depth of any overburden. The proposed Site has dimensions, over 422 acres, that allows for proper setback distances from roads and adjacent properties. The deposit has an average thickness of over 60 feet, which will allow efficient mining. Overburden, clay lying over the reserves, is only an average of 8 feet in depth, so access to the sand and gravel deposit will be cost effective. The overburden on the Site is of a volume that will be beneficial for both mine start up and reclamation. This clay material may be used at start up to construct screening berms and then during reclamation to shape the property for its next useful life.
5. **Low Density of Development of the Project Site and its Surroundings**
Given the agricultural, recreational, and rural residential use of the area, the proposed mining Site offers the opportunity to extract aggregates near market demand while limiting impact to the surrounding community.
6. **Reserves are Unencumbered**
The proposed 213-acre mining area is not encumbered with regulated natural features, like wetlands or wildlife (Threatened or Endangered) habitat. Since the property has been historically and is currently used for farming, there isn't any high quality wildlife habitat and there are very few trees that require removal. In addition, there are no regulated wetlands within the 213-acre mining area.
7. **Availability of Land**
Levy has owned the proposed mining Site for over 35 years.

The proposed mining Site meets all of the above criteria. Due to urban sprawl and other factors, there are a very limited number of properties in southeast Michigan that meet the above criteria to establish an efficient mining operation.

SUMMARY and CONCLUSIONS

Levy and its affiliated companies have been profitably operating sand and gravel mining operations in the southeast Michigan market in a responsible manner for over 50 years. I personally have continuous geological and/or hydrogeological experience on several of the Levy sand and gravel operations spanning from 20 to over 30 years. This includes establishing a pre-mining baseline for many of their mining

properties and providing on-going ground water monitoring to ensure compliance with environmental permits and to guarantee that there are no impacts on the regional aquifer.

Since 1974, a total of (97) soil borings have been completed across the Site, with geological and hydrogeological information collected to investigate and better understand the quality and quantity of the sand and gravel reserves. Sieve analysis gradation testing has been completed on aggregate samples collected from all (97) of these soil borings and evaluated. This data confirms that the sand and gravel deposit on the Site has the necessary coarseness and range of particle size to meet the MDOT specification for numerous commercial aggregate products.

In addition, we conclude that the proposed Springfield Township Site is well suited to host a sand and gravel mining operation for the following reasons:

- The quantity of sand and gravel reserves on the Site are substantial. There are an estimated 18-21 million tons of sand and gravel reserves that can be successfully extracted from the Site. The sand and gravel deposit encompasses approximately 213 mineable acres with an average depth of reserves of 60 feet.
- The quality of the sand and gravel reserves on the Site is excellent. The sand and gravel deposit consists of medium to coarse-grained sand with an average FM of 2.75, loss-by-wash of 5.7% and percent gravel of 9%. This deposit will produce multiple construction aggregate products that meet MDOT specifications that are in high demand, like concrete sand, road and shoulder gravel, fill sand, septic stone, "asphalt splits", and similar construction materials.
- The Site meets all the intangible requirements to successfully extract the sand and gravel reserves. For example, the reserves are not encumbered by residential development, wetlands, woodlands or animal habitat. The property has been historically and is currently used for farming, so there are no high-quality wildlife habitat and very few trees that require removal. There are no regulated wetlands within the 213-acre mine site. The Site is also located near a very strong market for quality sand and gravel products, with access to a regional transportation system. Finally, the Site is large enough to facilitate efficient sand and gravel mining, allowing for proper setbacks from roads and adjacent property.
- The Site is located in a region with a long history of successful sand and gravel mining operations. In fact, Levy currently operates 4 mining sites within this region. All four have a long history of producing high quality construction aggregates, but each are nearing the end of their useful life as mining operations. According to Levy, the estimated life of each of these mining operations is listed in the table below.

Table 1. Estimated remaining life of Levy's other mines located in this market

Location	Remaining Permitted Reserves (Tons)	Estimated Years Remaining
Grange Hall Rd	~1,000,000	4-5
Groveland	~70,000	1-2
Highland	~3,500,000	3-5
Holly	~2,140,000	3-5

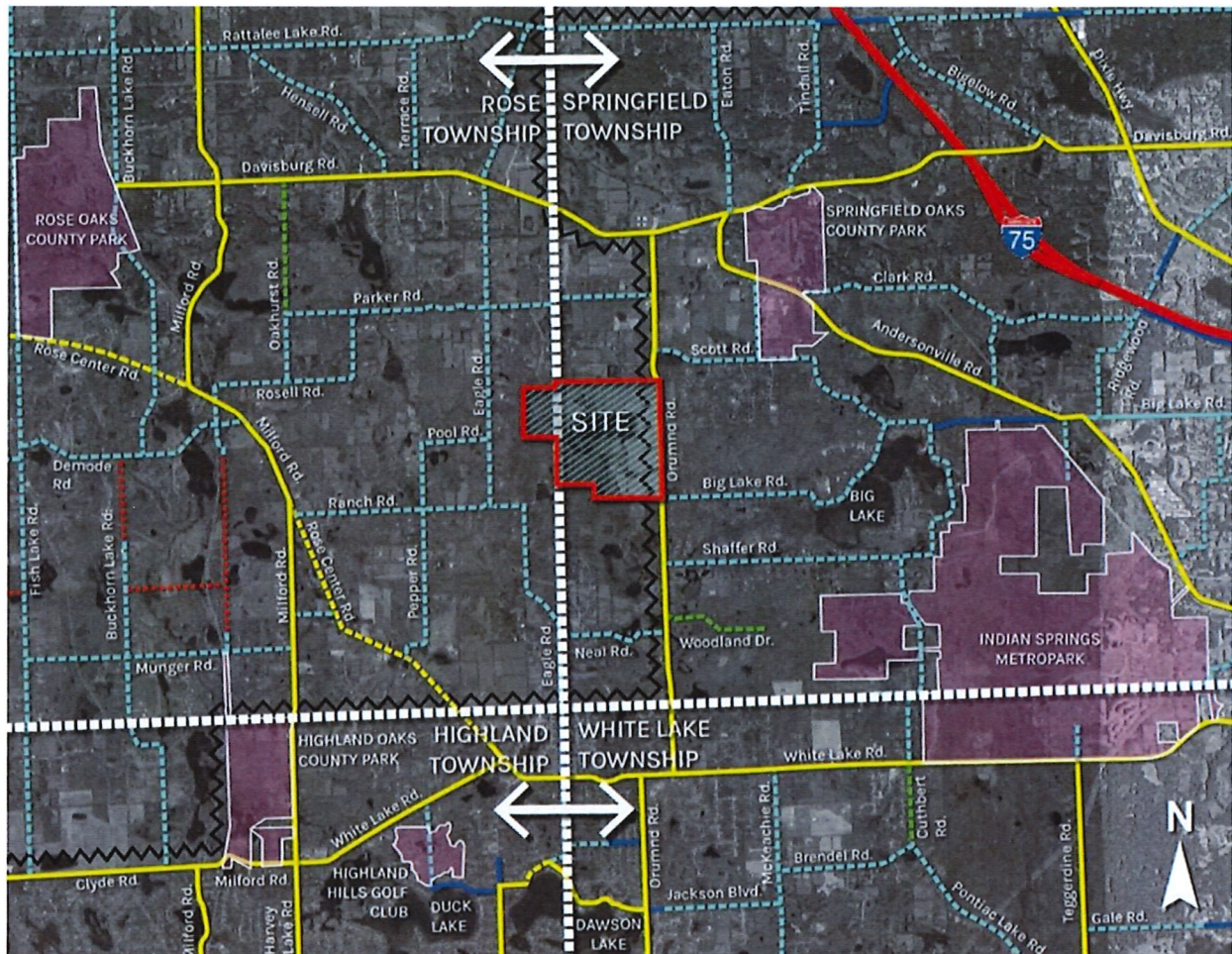


Figure 1: Proposed Mining Site Location - 6651 Ormond Rd., Springfield Township, Oakland County, Michigan

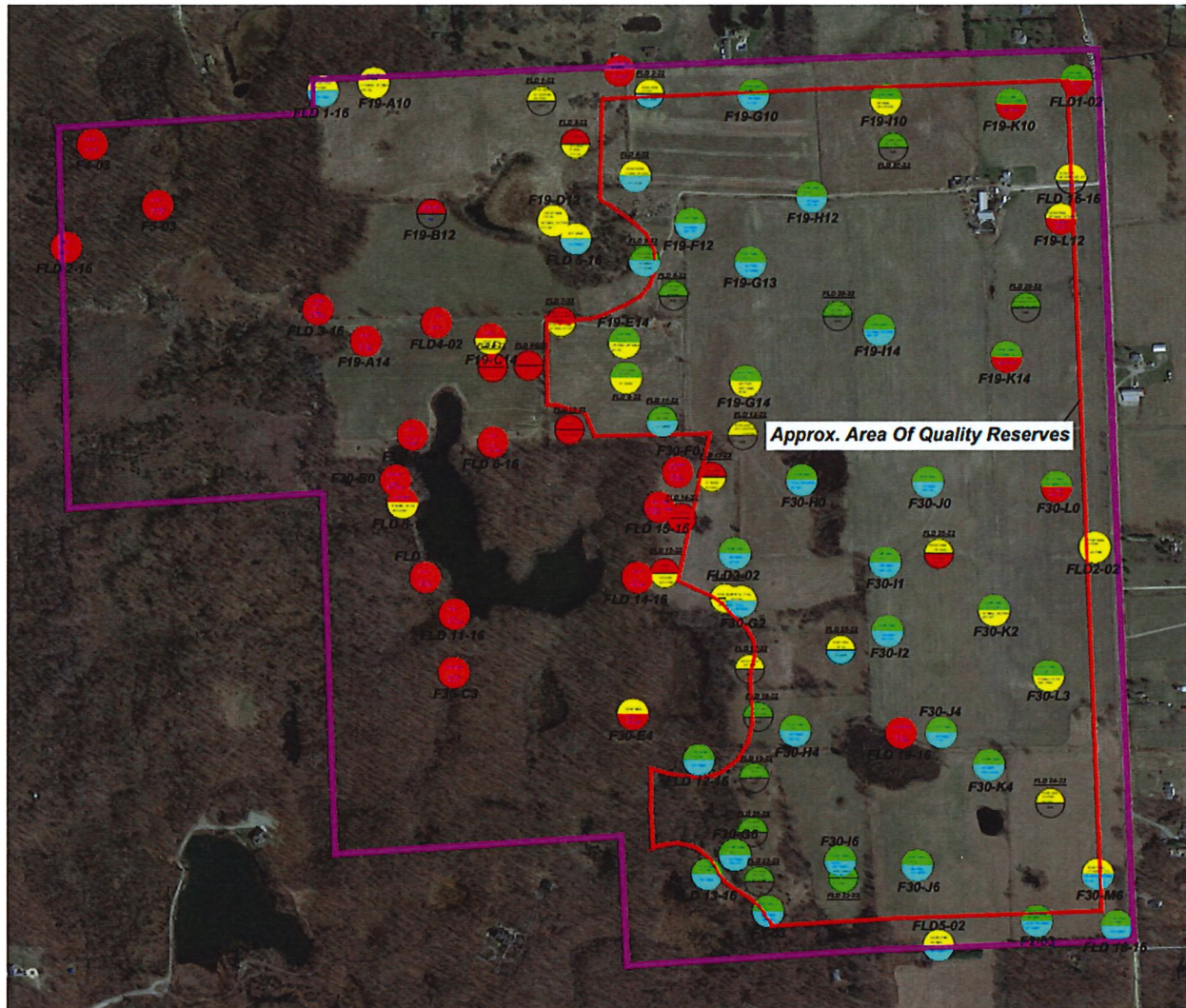


Figure 2: Exploratory Geological Results - 6651 Ormond Rd., Springfield Township, Oakland County, Michigan

Drilling from 1974

A1

A6

B3

B5

C1

C6

D3

D5

D7

F3

F5

F7

H3

H5

H7

H9

I11

J1

J4

J6

J9

L6

DAVID FIELD ~440 ACRES
Sterling Drilling Co.

6236 West Grand River - Brighton, Michigan 48116

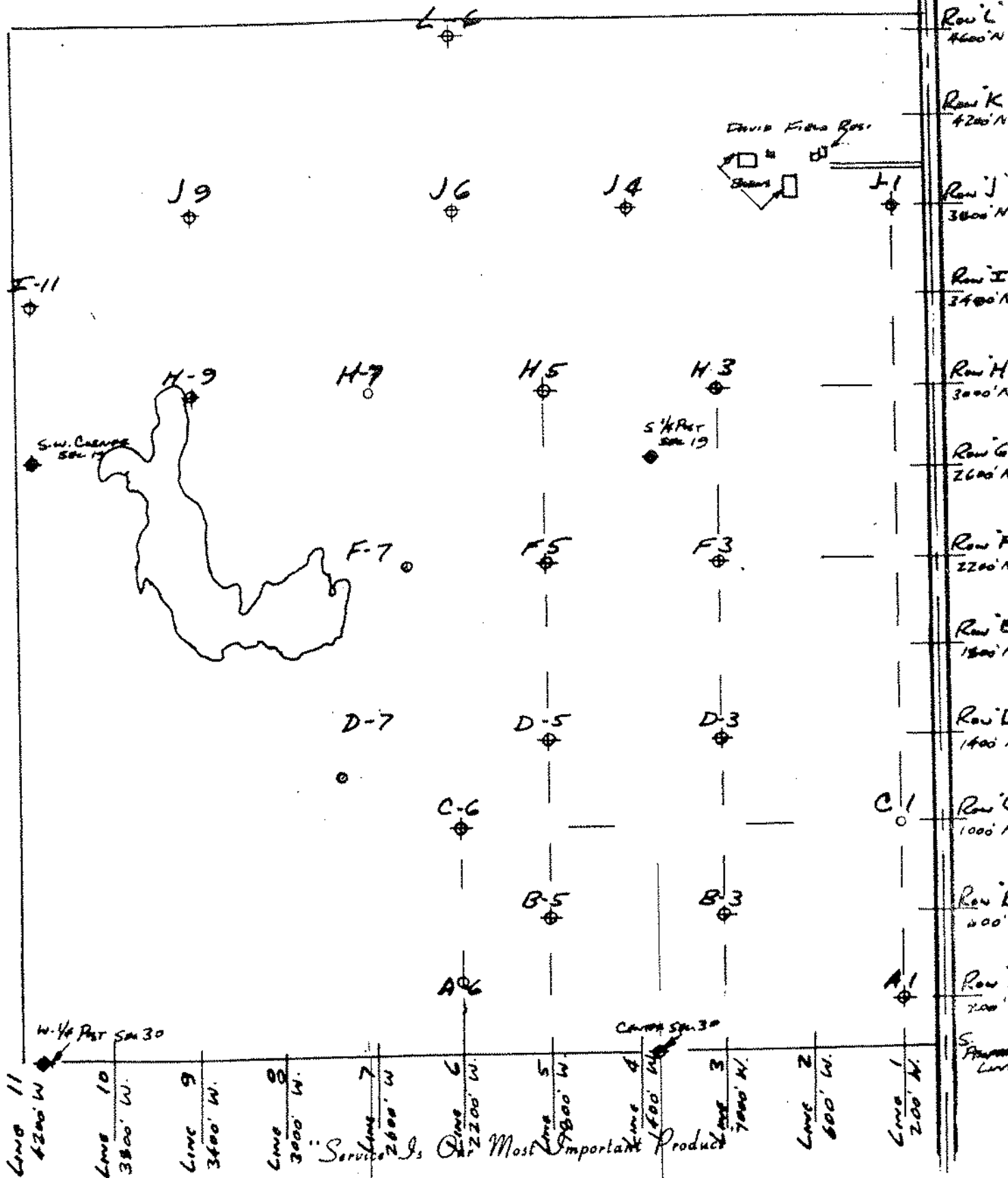
(517) 546-3981

N
1" = 600'

1/2 mi. to Township Res.

Olivero Lane

23 FEB 74



STERLING DRILLING CO.

22 Drill Test Holes

6250 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-A1 Pg. 1 of 1

PROJECT _____

LOCATION 200' W. of Ormond Road

200' N. of S. property line

DATE 5 Feb. 74

SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	30	4 N/4	8 E/4
Sample Depth	Legend	SOIL DESCRIPTION			
6 OB		Dk. Tan Silty, Clayey, Sand topsoil			
42 S/G		Variegated Tan & Dk. Tan 10% Silty, 25% Clayey, 65% Sand			
17 FS		Orangish Tan 10% Silty, 30% Clayey, 60% Sand			
7+ S/G		Tan 10% Silty, 30% Sandy, 60% Clay			
		Lt. Tan 10% Silty, 30% Clayey, 50% Sand with gravel			
		5% 1/8-3/8"			
		5% 3/8-1 1/2"			
		72 - 50			
		5 1/2 x 3/8			
		5 + 3/8			
		Tan 5% Clayey, 5% Silty, Sand & Gravel			
		10% 1/8-3/8"			
		10% 3/8-1 1/2"			
		5% 1 1/2-2"			
		Tan Fine-Coarse Sand & Gravel - Clean			
		5% 1/8-3/8"			
		10% 3/8-1"			
		10% 1 1/2-2"			
		28' - 41'			
		17 - 28'			

Hole stayed open 45'

W.L. 60'-

STEERING DRILLING CO.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-A1 Pg. 2 of 4

PROJECT _____

LOCATION 200' W. of Ormond Road

200' N. of S. property line

DATE 5 Feb. 74

SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	30	4 N/S	8 E

Sample Depth	Legend	SOIL DESCRIPTION
0	0	
1	0	
2	0	
3	0	
4	0	
5	0	
6	0	
7	0	
8	0	
9	0	
10	0	
11	0	
12	0	
13	0	
14	0	
15	0	
16	0	
17	0	
18	0	
19	0	
20	0	
21	0	
22	0	
23	0	
24	0	
25	0	
26	0	
27	0	
28	0	
29	0	
30	0	
31	0	
32	0	
33	0	
34	0	
35	0	
36	0	
37	0	
38	0	
39	0	
40	0	

Tan Fine-Coarse Sand & Gravel - Clean
 5% $1/8$ - $3/8$ "
 10% $3/8$ -1"
 10% $1\frac{1}{2}$ -2" - 38'-41'

W-0
 SD-75
 $1/2 \times 3/8$ -5
 +3/8-20

Hole stayed open 45'

W.L. 60'-

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. Al- Pg. 3 of 4

PROJECT _____

LOCATION 200' W. of C/L Ormond Road

200' N. of S. property line

DATE 5 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 SW 1/4	30	4 NXX	8 E/X
Sample Depth	Legend	SOIL DESCRIPTION			
41	0 0	Tan Fine-Coarse Sand & Gravel - Clean 5% 1/8-3/8" W-0 10% 3/8-1" SA-75 10% 1 1/2-2 1/2" - 38'-41' 1/2 x 3/8 - 5 } -80 + 3/8 - 20			
42	0 0				
43	0 0				
44	0 0				
45	0 0	Tan Fine-Med Sand & Gravel 5% 3/8-1 1/2" SL-95 + 3/8 - 5			
46	0 0				
47	0 0				
48	0 0				
49	0 0	Yellowish Tan Fine Sand - Clean			
50	0 0				
51	0 0				
52	0 0				
53	0 0				
54	0 0				
55	0 0				
56	0 0				
57	0 0				
58	0 0				
59	0 0	Tan Fine Sand - Moist 65'			
60	0 0				

Hole stayed open 45'

W.L. 60'-

Sterling Drilling Co.

6250 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6631 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-41 Pg. 4 of 4

PROJECT _____

LOCATION 200' W. of C/L Ormond Rd.

200' N. of S. property line

DATE 5 Feb. 74 SURFACE ELEV. _____

County Oakland	Township Name Springfield	Fraction SW 1/4 NE 1/4 1/4	Section Number 30	Town Number 4 N.E.	Range Number 8 E.S.W.
		Sample Depth	Legend	SOIL DESCRIPTION	
		61		Tan Fine Sand - Moist 65'	
		62			
		63			
		64			
		65		Grayish Tan Fine-Med-Coarse Sand - Clean Water bearing	
		66			
		67			
		68			
		69		Grayish Tan Fine-Coarse Sand & Fine Gravel 20% 1/8-3/8" 10% 3/8-1"	
		70			
		71			
		72			
		73			
		4			
		5			
		6			
		7			
		8			
		9			
		0			

Hole stayed open 45'

W.L. 60'-

Sterling Drilling Co.

6230 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-A6 Pg. 1 of

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

230' N. of S. property line

DATE 11 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 N 1/2 E	8 E 1/2
		Sample Depth	Legend	SOIL DESCRIPTION	
		3"		Tan Silty, Sandy, Clay Topsoil	
		1		Yellowish Tan 10% Silty, 30% Sandy, 60% Clay	
		2			
		3			
		4		Yellowish Tan 20% Silty, 40% Sandy, 40% Clay	
		5			
		6			
		7		Tan 5% Silty, Sand & Gravel 10% 1/8-3/8" 10% 3/8-1"	
		8			
		9			
		10			
		11			
		12			
		13			
		14			
		15			
		16			
		17			
		18		Tan 5% Silty, Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 10% 1-1 1/2" 5% 1 1/2-2 1/2"	
		19			
		20			

Hole stayed open 36'

W.L. 44'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-A6 Pg. 2 of 2

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

230' N. of S. property line

DATE 11 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4 1/4	30	4 N/X	8 E/X
		Sample Depth	Legend	SOIL DESCRIPTION	
		21		Tan 5% Silty, Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 10% 1-1 1/2" 5% 1 1/2-2 1/2"	
		22			
		23			
		24			
		25			
		26			
		27			
		28			
		29			
		30			
		31		Yellowish Tan 5% Silty, Clayey, Very fine-fine Sand	
		32			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40			
		38		Yellow 30% Clayey, 30% Sandy, 40% Silt	
		39			
		40		Tan Med-Coarse water bearing Sand - Clean	

Hole stayed open 36'

W.L. 44'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-A6 Pg. 3 of 3

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

230' N. of S. Property line

DATE 11 Feb. 74 SURFACE ELEV. _____

County Oakland	Township Name Springfield	Fraction SE 1/4 NW 1/4	Section Number 30	Town Number 4 NXX	Range Number 8 EXX
		Sample Depth	Legend	SOIL DESCRIPTION	
		41		Tan Med-Coarse Water bearing Sand - Clean	
		42			
		43			
		44			
		45			
		46			
		47			
		48			
		9			
		0			
		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		0			

Hole stayed open 36'

W.L. 44'

Sterling Drilling Co.

6250 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-B3 Pg. 1 of

PROJECT _____

LOCATION 1000' W. of Ormond Road

600' N. of S. property line

DATE 6 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4 1/4	30	4 N/4	8 E/4
		Sample Depth	Legend	SOIL DESCRIPTION	
				Tan Silty, Sandy, Clay Topsoil	
		1		Yellow 15% Silty, 40% Sandy, 45% Clay	
		2			
		3		Reddish Tan 30% Silty, 30% Sandy, 10% Gravelly, 30% Clay	
		4			
		5		Cobbles 9-13'	
		6			
		7			
		8		Yellowish Tan 10% Silty, 20% Gravelly, 70% Clay	
		9			
		10			
		11			
		12			
		13			
		14			
		15		Tan 5% Silty, -Clayey, 65% Sand & Gravel	
		16		20% 1/8-3/8"	
		17		5% 3/8-3/4"	
		18		5% 3/4-1 1/2"	
		19			
		20			

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-B3 Pg. 2 of 4

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

600' N. of S. property line

DATE 6 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4	30	4 N 1/4	8 E 22X

Sample Depth	Legend	SOIL DESCRIPTION
0		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

Tan 5% Silty, Clayey, 65% Sand & Gravel 20% 1/8-3/8" 5% 3/8-3/4" 5% 3/4-1 1/2"
Tan Fine-20% Coarse Sand - Clean
Tan 5% Silty, Sand & Fine Gravel 1/8-3/8" - 2.5 FMC 10% 3/8-3/4" 5% 3/4-1 1/2"

Hole stayed open 45'

W.L. 56'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-B3 Pg. 3 of 4

PROJECT _____

LOCATION 1000' W. of Ormond Road

600' N. of S. property line

DATE 6 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4 1/4	30	4 N/W	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
41		Tan 5% Silty, Sand & Fine Gravel 1/8-3/8" 10% 3/8-3/4" 5% 3/4-1 1/2"			
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56		Tan 5% Silty, Clayey, Fine-Med-30% Coarse Sand 5% 1/8-3/8" 5% 3/8-3/4"			
57					
58					
59		Yellowish Tan 10% Silty, 10% Clayey, 50% Very fine & fine Sand 5% 1/8-3/8"			
60					

Hole stayed open 45'

W.L. 56'

Sterling Drilling Co.

8200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 4-B3 Pg. 4 of 4

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

600' N. of S. property line

DATE 6 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4 1/4	30	4 N/X	8 E/X
		Sample Depth	SOIL DESCRIPTION		
		0	Yellowish Tan 10% Silty, 10% Clayey, 50% Very fine & fine Sand 5% 1/8-3/8"		
		1	Grayish Tan 10% Silty, Fine-Coarse Sand & Fine gravel 20% 1/8-3/8"		
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		0			
		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		0			

Hole stayed open 45'

W.L. 56'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-B5 Pg. 1 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

600' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 N/2	8 E/2X
		Sample Depth	Legend	SOIL DESCRIPTION	
		1		Brown Silty, Clayey, Sand Topsoil	
		2		Variegated Lt. Tan & Reddish Tan 20% Silty, 40% Clayey, 40% Sand	
		3		Tan 10% Silty, 40% Sandy, 10% Gravelly, 40% Clay	
		4			
		5			
		6			
		7			
		8			
		9			
		10		Tan 10% Silty, 30% Clayey, 60% Sand	
		11			
		12			
		13			
		14		Tan 5% Clayey, 5% Silty, 60% Sand & Gravel	
		15		10% 1/8-3/8"	
		16		10% 3/8-3/4"	
		17		5% 3/4-1 1/2"	
		18		5% 1 1/2-2 1/2"	
		19			
		20			

Hole stayed open 37'

W.L. 49'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-B5 Pg. 2 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

600' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 N 4 E	8 E 4 N
		Sample Depth	Legend	SOIL DESCRIPTION	
		21		Tan 5% Clayey, 5% Silty, 60% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 5% 3/4-1 1/2" 5% 1 1/2-2 1/2"	
		22			
		23			
		24			
		25			
		26			
		27			
		28			
		29			
		30			
		31			
		32			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40		Tan 5% Clayey, 5% Silty, Sand & Gravel 10% 1/8-3/8" 5% 3/8-1 1/2" 10% 1 1/2-3"	

Hole stayed open 37'

W.L. 49'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-B5 Pg. 3 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

600' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE ¼ NW ¼ ¼	30	4N/4	8 E/W

Sample Depth	Legend	SOIL DESCRIPTION
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		
76		
77		
78		
79		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
100		

Hole stayed open 37'

W.L. 49'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-C1 Pg. 1 of 4

PROJECT _____

LOCATION 200' W. of Ormond Road

940' N. of S. property line

DATE 5 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4 1/4	30	4N/5E	8 E/W
		Sample Depth	Legend	SOIL DESCRIPTION	
				Brown Silty, Clayey, Sand Topsoil	
		1		Tan 10% Silty, 15% Clayey, 75% Fine Sand	
		2		Yellowish Tan 5% Clayey, 10% Silty, 85% Fine Sand	
		3			
		4			
		5		Tan 20% Silty, 80% Clayey, 50% Very fine Sand	
		6			
		7			
		8			
		9			
		10			
		11		Tan Fine-med Sand - Clean	
		12			
		13			
		14		Pale Yellow fine Sand	
		15			
		16		Tan Fine Sand - Clean	
		17			
		18		Cobble 20'	
		19			
		20			

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-C1 Pg. 2 of 4

PROJECT _____

LOCATION 200' W. of Ormond Rd.

940' N. of S. property line

DATE 5 Feb. 74

SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Corningfield	SW 1/4 NE 1/4	30	4N/3E	8 EXX

Sample Depth	Legend	SOIL DESCRIPTION
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

Tan 5% Clayey, Silty, Sand & Gravel 1/8-3/8"
10% 3/8-1"
5% 1-1 1/2"
occasionally 1 1/2-2 1/2"

Sterling Drilling Co.

6250 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-C1 Pg. 3 of 4

PROJECT _____

LOCATION 200' W. of Ormond Rd.

940' N. of S. property line

DATE 5 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4	30	4N 15E	8 EMT.

Sample Depth	Legend	SOIL DESCRIPTION
41		Tan 5% Silty, Clayey, Sand & Gravel 1/8-3/8" 10% 3/8-1" 5% 1-1 1/2" Occasionally 1 1/2-2 1/2"
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-C1 Pg. 4 of 4

PROJECT _____

LOCATION 200' W. of Ormond Rd.

940' N. of S. property line

DATE 5 Feb. 74

SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 NE 1/4 1/4	30	4 N/5	8 E/W

Sample Depth	Legend	SOIL DESCRIPTION
61		Tan 5% Clayey, Silty, Sand & Gravel 1/8-3/8", 10% 3/8-1", 5% 1-1 1/2", Occasionally 1 1/2-2 1/2"
62		Yellowish Tan 10% Clayey, Very Fine Sand Wet 56'
63		
64		Grayish Tan Med-Coarse Sand & Fine Gravel 20% 1/8-3/8" 5% 3/8-3/4"
65		
66		
67		
68		
9		
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
0		

Sterling Drilling Co.

6230 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-05-80-1 of 3

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

1000' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 N/2	8 E/2
		Sample Depth	Legend	SOIL DESCRIPTION	
				Brown Clayey, Silty, Sand Topsoil	
		1		Tan 5% Clayey, 10% Silty, 85% Fine Sand	
		2		Reddish Tan 10% Silty, 30% Sandy, 10% Fine gravelly, 50% Clay	
		3			
		4		Tan 10% Silty, 30% Clayey, gravelly, 40% Sand	
		5		10% 1/8-3/8" 5% 3/8-1 1/2", 5% 1 1/2-3"	
		6		Tan 10% Clayey, 10% Silty, 70% Sand w/very fine gravel	
		7		10% 1/8-3/8"	
		8		Tan 5% Clayey, 5% Silty, 40% Sand & Gravel	
		9		10% 1/8-3/8"	
		10		10% 3/8-3/4"	
		11		10% 3/4-1"	
		12		10% 1-1 1/2"	
		13		10% 1 1/2-2 1/2"	
		14			
		15			
		16			
		17			
		18			
		19			
		20			

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-C6 Pg. 2 of

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

1000' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 ~~XXX~~	8 E/N
SOIL DESCRIPTION					
		Sample Depth	Legend		
		1		Tan 5% Clayey, 5% Silty, 40% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 10% 1-1 1/2" 10% 1 1/2-2 1/2"	
		2			
		3			
		4			
		5			
		6		Tan 5% Clayey, 5% Silty, 50% Sand & Gravel 20% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2"	
		7			
		8			
		9			
		10			
		11		Tan 5% Clayey, 5% Silty, 60% Sand & Gravel 15% 1/8-3/8" 5% 3/8-3/4" 10% 3/4-1 1/2"	
		12			
		13			
		14			
		15			
		16			
		17			
		18			
		19			
		20			

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO74-C6 Pg. 3 of 3

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

1000' n. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 N 1/2 E	8 E 1/2
		Sample Depth	Legend	SOIL DESCRIPTION	
		4		Tan 5% Clayey, 5% Silty, 60% Sand & Gravel 15% 1/8-3/8" 5% 3/8-3/4" 10% 3/4-1 1/2"	
		4			
		4			
		4			
		4			
		4		Yellowish Tan 10% Clayey, 10% Silty, 40% Very fine -40% Fine Sand	
		4			
		4		Tan 5% Clayey, 10% Silty, 15% Fine-30% Med-40% Coarse Sand & Fine gravel 10% 1/8-3/8"	
		4			
		4			
		5		Yellowish Tan 10% Clayey, 10% Silty, 60% Fine-20% Med. Sand	
		5			
		5		Tan Med. Sand - Clean - Water bearing	
		5			
		4			
		5			
		6			
		7			
		8			
		9			
		0			

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/Davis Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-D3 Pr. 1 of 3

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

1400' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Davis Field	NW 1/4 NE 1/4 1/4	30	4 N/SC	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
		Brown Silty, Sandy, Clay Topsoil			
1		Yellowish Tan 20% Silty, 40% Sand, 40% Clay			
2					
3					
4		Tan 20% Silty, 40% Sandy, 40% Clay			
5					
6					
7		Tan 5% Clayey, 5% Silty, 65% Sand & Gravel 10% 1/8-3/8" 5% 3/8-1" 10% 1-1 1/2"			
8					
9					
10					
11					
12					
13					
14					
15					
16					
17		Tan 5% Clayey, 5% Silty, 30% Sand & Gravel 10% 1/8-3/8", 10% 3/8-1 1/2", 20% 1 1/2-2 1/2", 20% 2 1/2-4"			
18					
19					
20		Cobbles 9', 13', 17', 20-21', 23-25'			

Hole stayed open 23'

W.L. 38'

Sterling Drilling Co.

6000 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6631 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-D3 Fz. 2 of

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

1400' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

DATE 7 Feb. 74		SURFACE ELEV.			
County	Township Home	Fraction	Section Number	Town Number	Range Number
Oakland	Spaulding	NW 1/4 NE 1/4 1/4	30	4 N 45 E	8 E/W
	Sample Depth	Legend	SOIL DESCRIPTION		
	0	0	Tan 5% Clayey, 5% Silty, 30% Sand & Gravel 10% 1/8-3/8" 10% 3/8-1 1/2" 20% 1 1/2-2 1/2" 20% 2 1/2-4"		
	1	0			
	2	0			
	3	0			
	4	0			
	5	0			
	6	0			
	7	0			
	8	0			
	9	0			
	10	0	Cobbles 9', 13', 17', 20-21', 23-25'		
	11	0			
	12	0			
	13	0			
	14	0			
	15	0			
	16	0			
	17	0			
	18	0			
	19	0			
	20	0	Tan 5% Clayey, 5% Silty, 50% Sand & Gravel 15% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2" 5% 1 1/2-2 1/2"		
	21	0			
	22	0			
	23	0			
	24	0			
	25	0			
	26	0			
	27	0			
	28	0			
	29	0			
	30	0			

Tan 5% Clayey, 5% Silty, 30% Sand & Gravel
10% 1/8-3/8"
10% 3/8-1 1/2"
20% 1 1/2-2 1/2"
20% 2 1/2-4"

Cobbles 9', 13', 17', 20-21', 23-25'

Tan 5% Clayey, 5% Silty, 50% Sand & Gravel
15% 1/8-3/8"
10% 3/8-1"
10% 1-1 1/2"
5% 1 1/2-2 1/2"

Hole stayed open 23'

W.L. 58'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 76-03 Page 3 of 3

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

1400' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Detroit	NW 1/4 NE 1/4	30	4 NXS	8 EXW
Sample Depth	Legend	SOIL DESCRIPTION			
1		Tan 5% Clayey, 5% Silty, 50% Sand & Gravel 15% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2" 5% 1 1/2-2 1/2"			
2					
3					
4					
5					
6					
7					
8					
9					
10					
11		Tan 5% Clayey, 5% Silty, 25% Sand & Gravel 25% 1/8-3/8", 10% 3/8-3/4", 10% 3/4-1", 10% 1-1 1/2" 10% 1 1/2-2 1/2"			
12					
13		Grayish Tan 20% Fines-60% Med-20% Coarse Sand - Clean Water bearing			
14					
15					
16					
17					
18					
19					
20					

Hole stayed open 23'

W.L. 58'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-D5 Pg. 1 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

1400' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 NW 1/4	30	4 N/SX	8E/WX
Sample Depth	Legend	SOIL DESCRIPTION			
		Tan Silty, Sandy, Clay Topsoil			
1		Yellowish Tan 10% Silty, 45% Sandy, 45% Clay			
2					
3		Variegated lt. tan & reddish tan 10% Silty, 45% sandy, 45% Clay			
4					
5					
6					
7		Tan 10% Silty, 30% Sandy, 60% Clay			
8					
9					
10					
11					
12		Tan 10% Silty, 10% Gravelly, 30% Sandy, 50% Clay			
13					
14		Tan 5% Clayey, 5% Silty, 30% Sandy, gravel			
15		10% 1/8-3/8"			
16		10% 3/8-3/4"			
17		10% 3/4-1"			
18		15% 1-1 1/2"			
19		5% 1 1/2-2 1/2"			
20					

Hole stayed open 20'

W.L. 43'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-D5 Pg. 2 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

1400' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 NW 1/4 1/4	30	4 N 1/2	8 E 1/2
		Sample Depth	Legend	SOIL DESCRIPTION	
		21		Tan 5% Clayey, 5% Silty, 30% Sandy, Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 15% 1-1 1/2" 5% 1 1/2-2 1/2"	
		22			
		23			
		24			
		25			
		26			
		27			
		28			
		29			
		30			
		31			
		32			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40			

Hole stayed open 20'

W.L. 43'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-D5 Pg. 3 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

1400' N. of S. property line

DATE 9 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE NW ¼ ¼	30	4 N/X	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
41		Tan 5% Clayey, 5% Silty, 30% Sand, Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 15% 1-1 1/2" 5% 1 1/2-2 1/2"			
42					
43					
44					
45					
46					
47					
48					
49					
50		Lt. Tan 5% Silty, 10% Clayey, 45% Fine-40% Med Sand			
51					
52					
53					
4					
5					
6					
7					
8					
9					
0					

Hole stayed open 20'

W.L. 43'

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Road
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO. 74-D7 Pg. 1 of 3

PROJECT _____

LOCATION 2730' W. of Ormond Road

1240' N. of S. property line

DATE 20 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 NW 1/4	30	4 N 1/2 E	8 E 1/2 N
		Sample Depth	Legend	SOIL DESCRIPTION	
		1		Tan Clayey, Silty, Sand	
		2		Yellow 10% Clayey, 10% Silty, 5% Gravelly, 3/8-1", Fine Sand	
		3		Variegated tan & Yellow 10% Clayey, 10% Silty, Sand w/ 15% 1-1 1/2" ? Gravel	
		4			
		5			
		6		Tan 10% Silty, 5% Gravelly 3/8-1 1/2", 30% Clayey, 55% Sand	
		7			
		8			
		9		Yellowish Tan 5% Silty, 80% Sand & Gravel	
		10		5% 1/8-3/8"	
		11		5% 3/8-3/4"	
		12		5% 3/4-1 1/2"	
		13		trace 6-6" Cobbles	
		14		Cobbles 8', 9', 14'	
		15			
		16			
		17			
		18			
		19			
		20			

Hole stayed open 17'

W.L. 30'±

sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Road
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO 74-D7 Pg. 2 of 3

PROJECT _____

LOCATION 2730' W. of Ormond Rd.

1240' N. of S. property line

DATE 20 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE NW ¼ ¼	30	4 NXX	8 E/XX
		Sample Depth	Legend	SOIL DESCRIPTION	
		21		Yellowish Tan 5% Silty, 80% Sand & Gravel 5% 1/8-3/8" 5% 3/8-3/4" 5% 3/4-1 1/2" Cobble 6', 9', 14'	
		22			
		23			
		24			
		25			
		26		Yellowish Tan 5% Clayey, 10% Silty, 5% Fine Gravelly 1/8-3/8", 80% Sand	
		27			
		28			
		29			
		30			
		31		Yellow 20% Silty, 30% Clayey, Very fine 50% Sand- Soft & flowing	
		32			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40			

Hole stayed open 17'

W.L. 3

sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116
Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Rd.
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO. 74-D7 Pg. 3 of 3

PROJECT _____

LOCATION 2830' W. of Ormond Rd.

1240' N. of S. property line

DATE 20 Feb. 74 SURFACE ELEV. _____

County Oakland	Township Name Springfield	Fraction SE 1/4 NW 1/4	Section Number 30	Town Number 4 N 1/2 E	Range Number 8 E 1/2 N
		Sample Depth	Legend	SOIL DESCRIPTION	
		4 ₁		Gray 50% Silty, 50% Clay	
		4 ₂			
		4 ₃			
		4			
		5			
		6			
		7			
		8			
		9			
		0			
		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		0			

Hole stayed open 17'

W.L. 30'+

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-E3 P. 1 of 3

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

2200' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NW 1/4 NE 1/4 1/4	30	4 N 1/2 E	8 E 1/2
		Sample Depth	Legend	SOIL DESCRIPTION	
		1	W.M.	Brown Silty, Clayey, Sand Topsoil	
		2	W.M.	Yellowish Tan 20% Clayey, 20% Silty, Very fine & Fine Sand-60%	
		3	W.M.		
		4	W.M.		
		5	W.M.	Tan 5% Clayey, 75% Sand & Fine Gravel 10% 1/8-3/8" 10% 3/8-3/4"	
		6	W.M.		
		7	W.M.		
		8	W.M.		
		9	W.M.		
		10	W.M.		
		11	W.M.		
		12	W.M.		
		13	W.M.		
		14	W.M.		
		15	W.M.		
		16	W.M.		
		17	W.M.		
		18	W.M.		
		19	W.M.		
		20	W.M.		

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-F3 Pg. 2 of 3

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

2200' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NW 1/4 NE 1/4 1/4	30	4 N/4	8 E/4
		Sample Depth	Legend	SOIL DESCRIPTION	
		21	0	Tan 5% Clayey, 75% Sand & Fine Gravel 10% 1/8-3/8" 10% 3/8-3/4"	
		22	0		
		23	0		
		24	0		
		25	0		
		26	0		
		27	0	Tan 5% Clayey, 5% Silty, Sand & Gravel 1/8-3/8" 10% 3/8-3/4" 10% 1 1/2-3"	
		28	0		
		29	0		
		30	0	Tan 5% Clayey, 5% Silty, 35% Sand & Gravel 10% 1/8-3/8" 5% 3/8-3/4" 10% 3/4-1" 10% 1-1 1/2" 10% 1 1/2-2 1/2" 20% 2 1/2-4"	
		31	0		
		32	0		
		33	0		
		34	0		
		35	0		
		36	0		
		37	0		
		38	0		
		39	0		
		40	0		

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-22 Pg. 3 of 3

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

W 2200' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NW 1/4 NE 1/4 1/4	30	4 N/S	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
41	0 0 0	Tan 5% Clayey, 5% Silty, 50% Sand & Gravel 5% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1 1/2" 15% 1 1/2-2 1/2"			
42	0 0 0				
43	0 0 0				
44	0 0 0				
45	0 0 0				
46	0 0 0	Pale Yellow Fine Sand - Clean			
47	0 0 0				
48	0 0 0				
49	0 0 0				
50	0 0 0				
51	0 0 0	Tan 5% Silty, 60% Sand & Gravel 30% 1/8-3/8" 5% 3/8-1"			
52	0 0 0				
53	0 0 0				
54	0 0 0				
55	0 0 0				
56	0 0 0	Yellowish Tan 10% Clayey, 30% Very fine Sand 60% Silt			
57	0 0 0				
58	0 0 0	Tan 10% Silty, 70% Sand & Fine Gravel 15% 1/8-3/8" 5% 3/8-1 1/2"			
59	0 0 0				
60	0 0 0				

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-P5 Pg. 1 of 3

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

2200' N. of S. property line

DATE 8 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 1/4	30	4 N2S	8 E/W2
Sample Depth	Legend	SOIL DESCRIPTION			
		Brown Silty, Sandy, Clay Topsoil			
1		Reddish Tan 10% Silty, 30% Sandy, 60% Clay			
2					
3					
4		Tan 10% Silty, 45% Sandy, 45% Clay			
5					
6		Lt. Tan 10% Sandy, 20% Silty, 70% Clay			
7					
8					
9		Tan 5% Clayey, 5% Silty, 30% Sand & Gravel			
10		10% 1/8-3/8"			
11		10% 3/8-3/4"			
12		10% 3/4-1"			
13		15% 1-1 1/2"			
14		15% 1 1/2-3"			
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
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91					
92					
93					
94					
95					
96					
97					
98					
99					
100					

Cobbles 18', 20', 29-30', 34-35', 37-40', 41', 42'

Hole stayed open 13'

W.L. 58'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6631 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-F5 Pg. 2 of

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

2200' N. of S. property line

DATE 8 Feb, 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 NW 1/4	30	4N/5E	8 E/4

Sample Depth	Legend	SOIL DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

Tan 5% Clayey, 5% Silty, 30% Sand & Gravel
 10% 1/8-3/8"
 10% 3/8-3/4"
 10% 3/4-1"
 15% 1-1 1/2"
 15% 1 1/2-3"

Cobbles 18', 20', 29-30', 34-35', 37-40', 41', 42'

Hole stayed open 13'

W.L. 58'

Sterling Drilling Co.

1200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/Tan Ld Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-55 Pg. 2 of 2

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

2200' W. of S. property line

DATE 3 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	3rd Field	NE 1/4 NW 1/4	30	4 NASS	8 E&N

Sample Depth	Legend	SOIL DESCRIPTION
1		Tan 5% Clayey, 5% Silty, 30% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 15% 1-1 1/2" 15% 1 1/2-3"
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		Cobbles 18', 20', 29-30', 34-35', 37-40', 41', 42'
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		Sand 7* * Could not pull auger straight out of hole because of cobbles, & hole drifting 100° to N.E.
22		
23		
24		
25		
26		
27		
28		
29		
30		

Hole stayed open 13'

W.L. 38'

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116
Telephone (517) 546-3981

JOB NO. _____ LOG OF SOIL BORING NO. 74-F7 Pg. 1 of

PROJECT _____

LOCATION 2425' W. of Ormond Rd.

2200' N. of S. property line

Holly Sand & Gravel
16240 Tindall Rd.
Davisburg, Mich.

David Field property

DATE 20 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 NW 1/4 1/4	30	4 N/2	8 E/2
SOIL DESCRIPTION					
Sample Depth	Legend				
		Brown Silty, Sandy, Clay Topsoil			
1		Pale Yellow 15% Silty, 30% Fine Sandy, 55% Clay			
2					
3		Yellowish Tan 15% Silty, 30% Fine Sandy, 55% Clay			
4					
5		Tan 5% Silty, Fine -20% Coarse 5% Fine Gravel 1/8-3/8			
6		Sand			
7					
8					
9					
10		Tan 15% Silty, Fine 5% Gravelly, 30% Sandy, 50% Clay			
11					
12					
13		Tan 5% Silty, Gravelly, Fine-med 75% Sand			
14		5% 1/8-3/8"			
15		10% 2/8-3/4"			
16		5% 3/4-1 1/2"			
17		Cobbles 16', 18', 25'			
18					
19					
20					

Hole stayed open 19'

W.L. 22'

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Rd.
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO. 74-F7 Pg. 2 of 3

PROJECT _____

LOCATION 2425' W. of Ormond Rd.

2200' N. of S. property line

DATE 20 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4	30	4 N 1/2	8 E 1/2
Sample Depth	Legend	SOIL DESCRIPTION			
21		Tan 5% Silty, Gravelly, Fine-Med 75% Sand 5% 1/8-3/8" 10% 3/8-3/4" 5% 3/4-1 1/2" Cobbles 16', 18', 25'			
22					
23					
24					
25					
26		Tan 5% Clayey, 10% Silty, 55% Sand & Gravel - Wet 23 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4--1 1/2" trace 1 1/2-2 1/2"			
27					
28					
29					
30					
31		Lt. Tan 5% Silty, 10% Clayey, Fine Sand			
32					
33					
34					
35					
36					
37					
38					
39					
40					

Hole stayed open 19'

W.L. 22'

sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Rd.
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO. 74-F7 Pg. 3 of 3

PROJECT _____

LOCATION 2425' W. of Ormond Rd.

2200' N. of S. property line

DATE 20 Feb. 74 SURFACE ELEV. _____

County Oakland	Township Name Springfield	Fraction NE 1/4 NW 1/4	Section Number 30	Town Number 4 N/SE	Range Number 8 E/WCX
		Sample Depth	Legend	SOIL DESCRIPTION	
		41		yellow 40% Clayey, 60% Silt	
		42		Blue 40% Silty, 60% Clay	
		43			
		44			
		45			
		46			
		47		Gray 10% Clayey, Very Fine Sand	
		48			
		9			
		0			
		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		0			

Mole stayed open 19'

Sterling Drilling Co.

6225 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

H-3

Holly Sand & Gravel Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-42 20 1 054

PROJECT _____

LOCATION 3000' W. of Ormond Rd.

3000' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland		SW 1/4	19	4 N/2	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
		Brown Silty, Sandy, Clay Topsoil			
1		Variegated Lt. Tan & Reddish Tan 10% Silty, 20% Sandy, 70% Clay			
2					
3		Tan 10% Silty, 30% Sandy, 60% Clay			
4					
5					
6		Variegated Lt. gray & Tan 10% Silty, 30% Sandy, 60% Clay			
7					
8		Tan 10% Silty, 30% Sandy, 60% Clay			
9					
10					
11		Tan Fine Sand - Clean			
12					
13		Cobbles 13', 18', 25', 30'			
14		Tan Sand & Gravel - Clean			
15		5% 1/8-3/8"			
16		5% 3/8-1"			
17		Occasional cobble			
18					
19					
20					

Hole stayed open 26 1/2'

W.L. 35'±?

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field.
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H3 Pg. 2 of 4

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

3000' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4 1/4	19	4 N 1/2	8 E 1/2
	Sample Depth	Legend	SOIL DESCRIPTION		
	21		Tan Sand & Gravel - Clean 5% 1/8-3/8" 5% 3/8-1" Occasional cobble		
	22				
	23				
	24				
	25				
	26				
	27				
	28				
	29		Tan 5% Clayey, silty, Sand & Gravel 5% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2"		
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
	38				
	39				
	40				

Hole stayed open 26 1/2'

W.L. 55'±7

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H3 Pg. 3 of 4

PROJECT _____

LOCATION 1000' W. of Ormond Rd.

3000' N. of S. property line

DATE 7 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4 1/4	19	4 N 1/2 E	8 E 1/2 W
		Sample Depth	Legend	SOIL DESCRIPTION	
		1		Tan 5% Clayey, Silty, Sand & Gravel 5% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2"	
		2			
		3			
		4			
		5		Tan 5% Clayey, 5% Silty, 35% Sand & Gravel 5% 1/8-3/8" 10% 3/8-3/4" 10% 2/3-1 1/2" 15% 1 1/2-2 1/2" 15% 2 1/2-4"	
		6			
		7			
		8			
		9			
		10			
		11			
		12			
		13			
		14			
		15			
		16			
		17			
		18			
		19			
		20			
		21			
		22			
		23			
		24			
		25			
		26			
		27			
		28			
		29			
		30			

Hole stayed open 26 1/2'

W.L. 55 1/2'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H3 Pg. 4 of 4

PROJECT _____

LOCATION 1000' W. of Ormond

3000' N. of S. property line

DATE 7 Feb. 74

SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4	19	4N/4E	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
61		Tan 5% Clayey, 5% Silty, 35% Sand & Gravel			
62		5% 1/8-3/8"			
63		10% 3/8-3/4"			
64		10% 3/4-1 1/2"			
65		15% 1 1/2-2 1/2"			
66		15% 2 1/2-4"			
67		Pale Yellow fine Sand - Clean			
68		5% Clayey, 5% Silty, 75% Sand & Fine gravel			
69		10% 1/8-3/8"			
70		5% 3/8-3/4"			
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					

Hole stayed open 26 1/2'

W.L. 35'±?

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H5 Pg. 1 of 1

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

3000' N. of S. property line

DATE 8 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 SW 1/4 1/4	19	4N23E	8 E23E
		Sample Depth	Legend	SOIL DESCRIPTION	
		1		Dk. Tan Silty, Sandy, Clay Topsoil	
		2		8" Boulder @ 9"-16"	
		3		Variegated reddish tan & tan 10% Silty, 30% Sandy, 60% Clay	
		4			
		5		Reddish Tan 10% Silty, 30% Sandy, 60% Clay	
		6			
		7			
		8			
		9			
		10			
		11		Dk. reddish tan 10% Silty, 30% Sandy, 60% Clay	
		12			
		13		Yellow 5% Silty, 95% Fine Sand	
		14			
		15			
		16			
		17			
		18			
		19			
		20			

Hole stayed open 43'

W.L. 57'

Sterling Drilling Co.

6255 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H5 Pg. 2 of 4

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

3000' N. of S. property line

DATE 8 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 SW 1/4	19	4 N/2E	8 E/W
		Sample Depth	Legend	SOIL DESCRIPTION	
		21		Yellow 5% Silty, 95% Fine Sand	
		22			
		23			
		24			
		25			
		26			
		27			
		28			
		29			
		30			
		31		Tan 5% Clayey, 5% Silty, 55% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1 1/2" 5% 1 1/2-2 1/2"	
		32			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40			

Hole stayed open 43'

W.L. 57'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H5 Pr. 3 of 2

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

3000' N. of S. property line

DATE 8 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 SW 1/4 1/4	19	4 N 1/2 E	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
41		Tan 5% Clayey, 5% Silty, 55% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1 1/2" 5% 1 1/2-2 1/2"			
42					
43					
44					
45					
46					
47					
48		Yellowish Tan 10% Clayey, 10% Silty, 40% Very fine 40% Sand			
49					
50					
51		Tan ~~XXX~~ Fine-Coarse 85% Sand & Fine Gravel 10% 1/8-3/8" 5% 3/8-1 1/2" Clean			
52					
53					
54					
55					
56					
57					
58					
59					
60					

ZHole stayed open 43'

W.L. 57'

Sterling Drilling Co.

622 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H5 Pz. 4 of 4

PROJECT _____

LOCATION 1800' W. of Ormond Rd.

3000' N. of S. property line

DATE 8 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Saginaw	SE 1/4 SW 1/4	19	4 N 42 E	8 E 1/2
Sample Depth	Legend	SOIL DESCRIPTION			
		Tan Fine-Coarse 85% Sand & Fine gravel - Clean			
		10% 1/8-3/8", 5% 3/8-1 1/2"			
61		Tan Med. Sand - Clean			
62					
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					

Hole stayed open 43'

W.L. 57'

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Road
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO. 74-H7 Pg. 1 of 3

PROJECT _____

LOCATION 2600' W. of Ormond Rd.

3000' N. of S. property line

DATE 21 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 SW 1/4	19	4 N/5XX	8 E/XX
Sample Depth	Legend	SOIL DESCRIPTION			
		Brown Silty, Sandy, Clay Topsoil			
1		Tan 10% Silty, 40% Sandy, 50% Clay			
2		Orangish Tan 10% Silty, 30% Sandy, 5% Gravelly, 45% Clay 10% 3/8-1 1/2" 5% 1 1/2-3"			
3					
4					
5		Tan 10% Silty, 10% Gravelly, 30% Sandy, 50% Clay			
6					
7					
8		Tan 5% Silty, Sand & Gravel 10% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2" 5% 1 1/2-3" Cobble 19', 42-44'			
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-H7 Pg. 2 of 3

PROJECT _____

David Field property

LOCATION 2600' W. of Ormond Rd.

3000' N. of S. property line

DATE 21 Feb. 74 SURFACE ELEV. _____

County Oakland	Township Range Springfield	Fraction SE 1/4 SW 1/4 1/4	Section Number 19	Town Number 4 N/SOX	Range Number 8 E/SOX	
		Sample Depth	Legend			
			SOIL DESCRIPTION			
		21	Tan 5% Silty, Sand & Gravel 10% 1/8-3/8" 10% 3/8-1" 10% 1-1 1/2" 5% 1 1/2-3"			
		22				
		23				
		24				
		25				
		26				
		27				
		28				
		29				
		30				
		31	Cobbles 19', 42-46'			
		32				
		33				
		34				
		35				
		36				
		37				
		38				
		39				
		40				

Hole stayed open 33'

W.L. 37'

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel
16240 Tindall Rd.
Davisburg, Mich.

David Field property

JOB NO. _____ LOG OF SOIL BORING NO. 74-H7 Pz. 3 of 3

PROJECT _____

LOCATION 2600' W. of Ormond Rd.

3000' N. of S. property line

DATE 21 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE 1/4 SW 1/4	19	4 N/XX	8 E/XX
Sample Depth	Legend	SOIL DESCRIPTION			
1		Tan 5% Silty, Sand & Gravel			
2		10% 1/8-3/8", 10% 3/8-1", 10% 1-1 1/2", 5% 1 1/2-3"			
42		Cobble 19', 42-46'			
48		Tan 5% Clayey, 5% Silty, Sand & Gravel			
49		1/8-3/8",			
50		10% 3/8-3/4"			
51		10% 3/4-1 1/2"			
52		10% 1 1/2-3"			
53		Tan 10% Clayey, 10% Silty, Sand			
54					
55					
56		Tannish Gray 10% Clayey, 10% Silty			
57		Gray 50% Silty, 50% Clay			
58					
59					
60					

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-H9 Pg. 1 of 2

PROJECT _____

LOCATION 3400' W. of Ormond Rd.

3000' N. of S. property line

DATE 12 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SW 1/4 1/4	19	4 N/4	8 E/4
Sample Depth	Legend	SOIL DESCRIPTION			
		Tan Silty Clayey, Sand Topsoil			
1		Yellowish Tan 10% Silty, 30% Clayey, 60% Sand			
2		Reddish Tan 10% Silty, 15% Clayey, 75% Sand			
3		Yellow 5% Clayey, Sand			
4		Variegated Yellow & Tan 4'-5' Tan 10% Silty, 30% Clayey, 60% Sand Wet @ 10'			
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15		Yellowish Tan 10% Silty, 30% Clayey, Sand & Gravel 1/8-3/8", 10% 3/8-3/4" 10% 3/4-1"			
16		Gray 5% Silty, 5% Clayey, Sand - Water bearing			
17					
18					
19					
20					

W.L. 10'

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-M9 Pg. 2 of 2

PROJECT _____

LOCATION 3400' W. of Ormond Rd.

3000' N. of S. property line

DATE 12 Feb. 74 SURFACE ELEV. _____

County Oakland	Township Name Springfield	Fraction SW 1/4 SW 1/4 1/4	Section Number 19	Town Number 4 N 1/2	Range Number 8 E 1/2
		Sample Depth	Legend		
		21	Gray 20% Silty, 30% Sandy, 50% Clay		
		22			
		23			
		24			
		25			
		26			
		27			
		28			
		29			
		30			
		31			
		32 +			
		33			
		34			
		35			
		36			
		37			
		38			
		39			
		40			

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

I-11

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

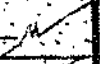
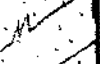
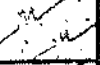
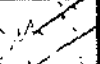
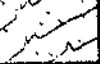
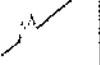
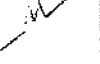
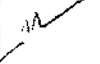
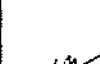
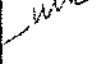
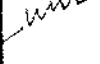
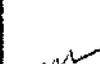
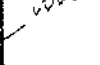
JOB NO. _____ LOG OF SOIL BORING NO. 74-111

PROJECT _____

LOCATION 4140' W. of Ormond Rd.

3400' N. of S. property line

DATE 12 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SW 1/4 1/4	19	4 N/2	8 E/2
		Sample Depth	Legend	SOIL DESCRIPTION	
		1		Brown Silty, Sandy, Clay Topsoil	
		2		Variegated Yellow, orangish tan & tan 10% Silty, 30% Sandy, 60% Clay	
		3			
		4			
		5		Gray 10% Silty, 40% Sandy, 50% Clay	
		6			
		7		Variegated Yellow & gray 50% Silty, 50% Clay	
		8			
		9		Gray 50% Silty, 50% Clay	
		10			
		11			
		12			
		13			
		14			
		15			
		16			
		17			
		18			
		19		23'+ Gray Sand - Water Bearing	
		20			

Sterling Drilling Co.

62 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

J-1

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-11 Pg. 1 of 2

PROJECT _____

LOCATION 200' W. of Ormond Rd.

3800' N. of S. Property line

DATE 6 Feb. 74 SURFACE ELEV. _____

County	Township	Range	Section	Range	Section
Oakland	Springfield	SW 1/4	SE 1/4	19	4 N 1/2
Sample Depth	Legend	SOIL DESCRIPTION			
		Tan Silty, Clayey, Sand Topsoil			
1		Yellowish Tan 10% Silty, 20% Clayey, Fine Sand			
2		Variegated Reddish tan & lt. Tan 10% Silty, 30% Clay Fine Sand			
3					
4					
5		Dk. Tan 100% Clay			
6					
7		Yellowish Tan 10% Clayey, Fine Sand			
8					
9					
10		Tan 15% Silty, 30% Sandy, 55% Clay			
11					
12		Gray 15% Silty, 40% Clayey, 45% Sand			
13					
14		Tan 10% Silty, 15% Clayey, Fine Sand			
15					
16					
17					
18					
19					
20					

Sterling Drilling Co.

600 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-J1 Pg. 2 of

PROJECT _____

LOCATION 200' W. of Ormond Rd.

3800' N. of S. property line

DATE 6 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4	19	4 NX	8 EXXX
Sample Depth	Legend	SOIL DESCRIPTION			
21		Tan 10% Silty, 15% Clayey, Fine Sand			
22					
23					
24					
25					
26					
27					
28					
29		Yellowish Tan 5% Clayey, 5% Silty, Fine Sand			
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40 - 58'					

Sterling Drilling Co.

1000 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich/

JOB NO. _____ LOG OF SOIL BORING NO. 74-1/4 Pg. 1 of 4

PROJECT _____

LOCATION 1400' N. of Ormond Rd.

3800' N. of S. property line

DATE 11 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4 1/4	19	4 N/4	8 E/4
Sample Depth	Legend	SOIL DESCRIPTION			
		Tan Silty, Clayey, Fine Sand Topsoil			
1		Yellowish Tan 10% Silty, 40% Clayey, 50% Fine Sand			
2					
3					
4		Tan 20% Silty, 30% Clayey, 20% Very fine-30% Fine Sand			
5					
6					
7					
8					
9					
10		Yellowish Tan 70% Fine-30% Med Sand - Clean			
11					
12					
13		Tan 5% Clayey, 5% Silty, 45% Sand & Gravel			
14		10% 1/8-3/8"			
15		10% 3/8-3/4"			
16		5% 3/4-1"			
17		10% 1-1 1/2"			
18		10% 1 1/2-3"			
19					
20		Cobbles 25'			

Hole stayed open 21'

W.L. 61

Sterling Drilling Co.

6230 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-34 Pg. 2 of

PROJECT _____

LOCATION 1400' W. of Ormond Rd.

3800' N. of S. property line

DATE 11 Feb. 74

SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4	19	4 N 35X	8 E 2W
Sample Depth	Legend	SOIL DESCRIPTION			
21	0 0	Tan 5% Clayey, 5% Silty, 45% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 5% 3/4-1" 10% 1-1 1/2" 10% 1 1/2-3"			
22	0 0				
23	0 0				
24	0 0				
25	0 0				
26	0 0				
27	0 0				
28	0 0				
29	0 0				
30	0 0				
31	0 0	Cobbles 25'			
32	0 0				
33	0 0				
34	0 0				
35	0 0				
36	0 0				
37	0 0				
38	0 0				
39	0 0				
40	0 0				

Hole stayed open 21'

W.L. 68'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Vield;
6651 Ormond Rd.
Eavisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-T4 Pg. 3 of 1

PROJECT _____

LOCATION 1400' W. of Ormond Rd.

3800' N. of S. property line

DATE 11 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SE 1/4	19	4 N46E	8 E/WCX
Sample Depth	Legend	SOIL DESCRIPTION			
0		Tan 5% Clayey, 5% Silty, 45% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 5% 3/4-1" 10% 1-1 1/2" 10% 1 1/2-3"			
1					
2					
3					
4					
5					
6					
7					
8					
9					
10		Cobbles 25'			
11					
12					
13					
14					
15					
16					
17					
18					
19					
20		Tan 5% Clayey, 5% Silty, 55% Sand & Gravel 10% 1/8-3/8", 10% 3/8-3/4", 5% 3/4-1", 10% 1-1 1/2"			
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-J4 Pg. 4 of

PROJECT _____

LOCATION 10 1400' W. of Ormond Rd.

3800' N. of S. property line

DATE 11 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW ¼ SE ¼ ¼	19	4 N/W	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
61	M M	Tan 5% Clayey, 5% Silty, 55% Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4" 5% 3/4-1" 10% 1-1 1/2"			
62					
63					
64					
65					
66	M M	Yellow 5% Clayey, 5% Silty, Very Fine-Fine Yellow Sand			
67					
68					
69					
70					
71	M M	Tan Med-Coarse Sand & Fine Gravel - W.B. 10% 1/8-3/8"			
72					
73+					
4					
5					
6	M M				
7					
8					
9					
0					

Hole stayed open 21'

W.L. 68'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-16 Pg. 1 of 1

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

3800' N. of S. property line

DATE 12 Jan. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE ¼ SW ¼ ¼	19	4 N/X	8 E/X
Sample Depth	Legend	SOIL DESCRIPTION			
1		Brown Silty, Sandy, Clay Topsoil			
2		Tan 10% Silty, 30% Sandy, 60% Clay			
3					
4					
5		Tan 5% Silty, Sand & Gravel 10% 1/8-3/8" 10% 3/8-3/4"			
6					
7					
8		Tan 10% Clayey, 45% Sand & Gravel 15% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1 1/2" 10% 1 1/2-4"			
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Hole stayed open 26'

W.L. 52'

Sterling Drilling Co.

6250 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO 74-J6 Pg. 2 of 3

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

3800' N. of S. property line

DATE 12 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SE ¼ SW ¼ ¼	19	4 N/S	8 E/W
		Sample Depth	Legend	SOIL DESCRIPTION	
		2	0	Tan 5% Clayey, 45% Sand & Gravel 15% 1/8-3/8" 10% 3/8-3/4" 10% 3/4-1" 10% 1-1½" 5% 1½-2½"	
		21	0		
		22	0		
		23	0		
		24	0		
		25	0		
		26	0		
		27	0		
		28	0		
		29	0		
		30	0		
		31	0		
		32	0		
		33	0		
		34	0		
		35	0		
		36	0		
		37	0		
		38	0		
		39	0		
		40	0		
				Tan Sand & Fine Gravel 5% 1/8-3/8", 5% 3/8-1", 5% 1-1½"	

Hole stayed open 26'

W.L. 52'

Sterling Drilling Co.

6200 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

JOB NO. _____ LOG OF SOIL BORING NO. _____

PROJECT _____ 74-16 Pg. 3 of 3

LOCATION _____

Holly Sand & Gravel/David Field
6651 Ormond Road
Davisburg, Mich.

2200' E. of Ormond Rd.

DATE _____ SURFACE ELEV. _____ 3800' N. of G. property line

County	Township Name	Fraction	Section Number	Town Number	Range Number
		1/4 1/4 1/4		N/S	E/W
Oakland					
	Sample Depth	Legend	SOIL DESCRIPTION		
	1		Tan Sand & Fine Gravel 5% 1/8-3/8" 5% 3/8-1" 5% 1-1 1/2"		
	2				
	3				
	4				
	5				
	6		Yellowish Tan 5% Clayey, Fine-Med. Sand - Water bearing		
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-J9 Pg. 1 of 1

PROJECT _____

LOCATION 3400' W. of Ormond Rd.

3800' N. of S. property line

DATE 12 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	SW 1/4 SW 1/4	19	4 N/X	8 E/X
		Sample Depth	Legend	SOIL DESCRIPTION	
				Brown Silty, Sandy, Clay Topsoil	
		1		Yellowish Tan 20% Silty, 40% Sandy, 40% Clay	
		2		Reddish Tan 10% Silty, 45% Sandy, 45% Clay	
		3			
		4		Tan 10% Silty, 10% Sandy, 45% Clay	
		5			
		6			
		7		Variegated lt. gray & reddish tan @ 6'	
		8		Tan 10% Silty, 30% Sandy, 60% Clay & Gravel	
				5% 1/8-3/8"	
				10% 3/8-1 1/2"	
		9			
		10			
		11		Tan 10% Silty, 45% Sandy,	
		12		45% Clay	
		13			
		14			
		15			
		16		Gray 10% Silty, 30% Sandy, 60% Clay	
		17			
		18			
		19		Tan 20% Silty, 40% Sandy, 40% Clay	
		20-23			

Sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6631 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-16 Pg. 1 of 2

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

4600' N. of S. property line

DATE Feb. 74 SURFACE ELEV. _____

County	Township Range	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE 1/4 SW 1/4	19	4 N/2	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
		Tan Silty, Sandy, Clay Topsoil			
1		Yellowish Tan 15% Silty, 40% Sandy, 45% Clay			
2					
3		Variegated gray, Dk. reddish tan, tan 15% Silty, 40% Sandy, 45% Clay			
4					
5		Tan fine 10% Gravelly, 15% Silty, 35% Sandy, 40% Clay			
6					
7					
8					
9					
10		Yellowish Tan 5% Silty, fine Sand			
11					
12		Cobbles 15', 18', 20'			
13					
14					
15					
16		Tan 5% Clayey, 80% Sand & Gravel			
17		5% 1/8-3/8"			
18		5% 3/8-1 1/2"			
19		5% 1 1/2-2 1/2"			
20					

sterling Drilling Co.

6236 W. GRAND RIVER - BRIGHTON, MICHIGAN 48116

Telephone (517) 546-3981

Holly Sand & Gravel/David Field
6651 Ormond Rd.
Davisburg, Mich.

JOB NO. _____ LOG OF SOIL BORING NO. 74-16 Pg. 2 of 2

PROJECT _____

LOCATION 2200' W. of Ormond Rd.

4600' N. of S. property line

DATE 12 Feb. 74 SURFACE ELEV. _____

County	Township Name	Fraction	Section Number	Town Number	Range Number
Oakland	Springfield	NE ¼ SW ¼	19	4 N/W	8 E/W
Sample Depth	Legend	SOIL DESCRIPTION			
21		Tan 5% Clayey, 80% Sand & Gravel 5% 1/8-3/8" 5% 3/8-1 1/2" 5% 1 1/2-2 1/2"			
22					
23					
24					
25		Lt. Tan Fine Sand - Clean			
26					
27					
28					
29					
30		Lt. Tan 15% Silty, 30% Very fine -35% Fine sand			
31					
32					
33					
34		Lt. Tan 5% Silty, 10% Very fine-85% Fine Sand			
35					
36					
37					
38					
39					
40					

Hole stayed open 26'

Dry

Comments:[illegible]

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-80			
Date	6/29/01	Parcel	F30	Sheet 2	2 Of	2		
Start Time	11:00 AM	Hole Location	NW	Surface Elev.				
Finish Time	2:45 PM	Logged By	M. Bendernagel	Water Depth	11.5			
otal Depth	73'	Drill Method	Auger					

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52										
54										
56										
58										
60										
62										
64		Fine gray sandy silt with no gravel present.	63	73	10	63 to 73	11.4	0.76	1.4	ST
66										
68										
70										
72										
74		T.D. 73'								
76										
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100										
		T.D. 103'								

Aggregate Analysis

Borehole No. F30-B0
Project FIELD
From: 7.0
To: 8.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	0.0	0.0	0.0	0.0	100.0
No.16	1.0	0.1	0.2	0.2	99.8
No.30	1.0	0.1	0.2	0.5	99.5
No.50	4.0	0.5	1.0	1.5	98.5
No.100	54.0	7.1	13.3	14.7	85.3
No.200	287.0	38.0	70.5	85.3	14.7
Pan	60.0	7.9	14.7	100.0	0.0
% sand retained		53.8			

Dry Wt. 756.0
Wash Wt. 407.0

L.B.W.% 46.2
FM 0.17
Gravel% 0.0

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-B0
 Project FIELD
 From: 8.0
 To: 11.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	38.0	3.3		3.3	96.7
0.375"	27.0	2.4		5.7	94.3
No.4	96.0	8.4		14.1	85.9
No.8	131.0	11.5	14.5	14.5	85.5
No.16	208.0	18.2	23.1	37.6	62.4
No.30	250.0	21.9	27.7	65.3	34.7
No.50	207.0	18.1	22.9	88.2	11.8
No.100	58.0	5.1	6.4	94.7	5.3
No.200	45.0	3.9	5.0	99.7	0.3
Pan	3.0	0.3	0.3	100.0	0.0
% sand retained		78.9			

Dry Wt. 1143.0
 Wash Wt. 1062.0

L.B.W.% 7.1
 FM 3.00
 Gravel% 14.1

Del.
 Lithologic unit 2NS

Aggregate Analysis

Borehole No. F30-B0
 Project FIELD
 From: 11.5
 To: 17.0

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	52.0	3.4		3.4	96.6
0.375"	42.0	2.7		6.1	93.9
No.4	124.0	8.0		14.1	85.9
No.8	128.0	8.3	10.4	10.4	89.6
No.16	198.0	12.7	16.0	26.4	73.6
No.30	415.0	26.9	33.8	60.3	39.7
No.50	383.0	24.9	31.2	91.5	8.5
No.100	74.0	4.8	6.0	97.6	2.4
No.200	27.0	1.8	2.2	99.8	0.2
Pan	3.0	0.2	0.2	100.0	0.0
% sand retained		79.6			

Dry Wt. 1541.0
 Wash Wt. 1443.0

L.B.W.% 6.4
 FM 2.86
 Gravel% 14.1

Del.
 Lithologic unit 2NS

Aggregate Analysis

Borehole No. F90-B0
 Project FIELD
 From: 17.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	1.0	0.1		0.1	99.9
No.8	6.0	0.4	3.1	3.1	96.9
No.16	14.0	0.8	7.2	10.3	89.7
No.30	31.0	1.8	16.0	26.3	73.7
No.50	31.0	1.8	16.0	42.3	57.7
No.100	20.0	1.2	10.3	52.6	47.4
No.200	79.0	4.7	40.7	93.3	6.7
Pan	13.0	0.8	6.7	100.0	0.0
% sand retained		11.5			

Dry Wt. 1682.0
 Wash Wt. 194.0

L.B.W.% 88.5
 FM 1.35
 Gravel% 0.1

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-B0
 Project FIELD
 From: 28.0
 To: 39.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	125.0	5.7		5.7	94.3
0.75"	93.0	4.2		9.9	90.1
0.5"	170.0	7.7		17.6	82.4
0.375"	76.0	3.5		21.1	78.9
No.4	258.0	11.6		32.7	67.3
No.8	180.0	8.2	20.2	20.2	79.8
No.16	162.0	7.4	18.2	38.3	61.7
No.30	126.0	5.7	14.1	52.5	47.5
No.50	124.0	5.6	13.9	66.4	33.6
No.100	152.0	6.9	17.0	83.4	16.6
No.200	126.0	5.7	14.1	97.5	2.5
Pan	22.0	1.0	2.5	100.0	0.0
% sand retained		40.5			

Dry Wt. 2202.0
 Wash Wt. 1612.0

L.B.W.% 26.8
 FM 2.61
 Gravel% 32.7

Def.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-B0
 Project FIELD
 From: 39.0
 To: ~~59.0~~ 63.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	46.0	2.3		2.3	97.7
0.375"	18.0	0.9		3.2	96.8
No.4	58.0	2.9		6.1	93.9
No.8	56.0	2.8	6.5	6.5	93.5
No.16	46.0	2.3	5.3	11.8	88.2
No.30	56.0	2.8	6.5	18.3	81.7
No.50	121.0	6.0	14.0	32.3	67.7
No.100	290.0	14.5	33.6	65.9	34.1
No.200	259.0	12.9	30.0	95.9	4.1
Pan	35.0	1.7	4.1	100.0	0.0
% sand retained		43.1			

Dry Wt. 2003.0
 Wash Wt. 986.0

L.B.W.% 50.8
 FM 1.35
 Gravel% 6.1

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-B0
Project FIELD
From: 63.0
To: 74.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	6.0	0.6		0.6	99.4
0.375"	5.0	0.5		1.1	98.9
No.4	3.0	0.3		1.4	98.6
No.8	5.0	0.5	0.6	0.6	99.4
No.16	6.0	0.6	0.7	1.2	98.8
No.30	10.0	1.0	1.1	2.3	97.7
No.50	47.0	4.6	5.2	7.6	92.4
No.100	513.0	49.8	57.1	64.6	35.4
No.200	299.0	29.0	33.3	97.9	2.1
Pan	19.0	1.8	2.1	100.0	0.0
% sand retained		87.2			

Dry Wt. 1031.0
Wash Wt. 913.0

L.B.W.% 11.4
FM 0.76
Gravel% 1.4

Del.
Lithologic unit SILT

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30 C2
Date	6/25/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	10:45 AM	Hole Location	SVW	Surface Elev.	
Finish Time		Logged By	M. Bendemagel	Water Depth	18'
Total Depth	78'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil going into a clay overburden with some gravel within.	Zero	7	7					
4										
6										
8		Moist brown fine sand with no gravel present.	7	11	4	7 to 11	5	1.33	1.6	ST
10										
12		Sugary tan fine sand with no gravel present. No moisture. Gets darker with some clay present at the bottom of the section.	11	17	6	11 to 17	4.2	1.23	0.8	ST
14										
16										
18		Clay seam. Brownish-gray in color.	17	18	1					
20		Wet clayey sand with a medium gravel. Max = 2", Avg = 1/4".	18	24	6	18 to 24	11.1	2.47	35.8	S&G
22										
24										
26		Brown clay with medium sized gravel.	24	26.5	2.5	24 to 26.5	47.3	2.14	11.9	CL
28		Blue to gray silty clay with some large gravel (till).	26.5	28	1.5	26.5 to 28	41.1	1.66	17.1	CL
30		Medium black-brown sand with little to no gravel. Max = 1", Avg = <3/8".	28	30	2	28 to 30	9.4	2.69	13.1	2NS
32		Gray fine silty sand with no gravel present. going into a brown fine sand then turning gray for the last 2'.	30	48	18	30 to 48	8.2	1.31	4.1	ST
34										
36										
38										
40										
42										
44										
46										
48										
50		Gray clayey silt with no gravel. Turning into a silty fine sand through the section.	48	60	12	48 to 60	19.2	0.61	0.8	ST

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	P30-C2
Date	6/25/01	Parcel	P30	Sheet 2	2 Of 2
Start Time	10:45 AM	Hole Location	SW	Surface Elev.	
Finish Time		Logged By	M. Bendemagel	Water Depth	18'
Total Depth	78'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis												
Depth	Litho.						L.B.W	FM	GR%	Note									
52			60	78	18	60 to 78	65.5	1.61	3	CL									
54																			
56																			
58																			
60																			
62																			
64		Gray till or clay with fine to medium gravel.	60	78	18	60 to 78	65.5	1.61	3	CL									
66																			
68																			
70																			
72																			
74																			
76																			
78																			
80											T.D. 78'	60	78	18	60 to 78	65.5	1.61	3	CL
82																			
84																			
86																			
88																			
90																			
92																			
94																			
96																			
98																			
100																			

Aggregate Analysis

Borehole No. F30-C2
Project FIELD
From: 7.0
To: 11.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	10.0	0.7		0.7	99.3
0.5"	3.0	0.2		0.9	99.1
0.375"	3.0	0.2		1.1	98.9
No.4	7.0	0.5		1.6	98.4
No.8	8.0	0.6	0.6	0.6	99.4
No.16	14.0	1.0	1.1	1.7	98.3
No.30	52.0	3.7	4.0	5.6	94.4
No.50	397.0	28.2	30.3	35.9	64.1
No.100	699.0	49.7	53.3	89.2	10.8
No.200	135.0	9.6	10.3	99.5	0.5
Pan	6.0	0.4	0.5	100.0	0.0
% sand retained		93.2			

Dry Wt. 1406.0
Wash Wt. 1335.0

L.B.W.% 5.0
FM 1.33
Gravel% 1.6

Del.
Lithologic unit ST

Aggregate Analysis

Borehole No. F30-C2
 Project FIELD
 From: 11.0
 To: 17.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	8.0	0.6		0.6	99.4
No.4	3.0	0.2		0.8	99.2
No.8	5.0	0.4	0.4	0.4	99.6
No.16	12.0	0.9	1.0	1.3	98.7
No.30	46.0	3.5	3.6	5.0	95.0
No.50	330.0	24.8	26.1	31.1	68.9
No.100	683.0	51.4	54.1	85.2	14.8
No.200	180.0	13.5	14.3	99.4	0.6
Pan	7.0	0.5	0.6	100.0	0.0
% sand retained		95.0			

Dry Wt. 1329.0
 Wash Wt. 1273.0

L.B.W.% 4.2
 FM 1.23
 Gravel% 0.8

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-C2
Project FIELD
From: 18.0
To: 24.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	137.0	5.4		5.4	94.6
0.75"	165.0	6.6		12.0	88.0
0.5"	204.0	8.1		20.1	79.9
0.375"	121.0	4.8		24.9	75.1
No.4	275.0	10.9		35.8	64.2
No.8	202.0	8.0	15.1	15.1	84.9
No.16	183.0	7.3	13.7	28.8	71.2
No.30	181.0	7.2	13.5	42.3	57.7
No.50	350.0	13.9	26.2	68.5	31.5
No.100	322.0	12.8	24.1	92.5	7.5
No.200	93.0	3.7	7.0	99.5	0.5
Pan	7.0	0.3	0.5	100.0	0.0
% sand retained		53.1			

Dry Wt. 2518.0
Wash Wt. 2239.0

L.B.W.% 11.1
FM 2.47
Gravel% 35.8

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-C2
Project FIELD
From: 24.0
To: 26.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	63.0	3.0		3.0	97.0
0.75"	32.0	1.5		4.6	95.4
0.5"	29.0	1.4		6.0	94.0
0.375"	29.0	1.4		7.4	92.6
No.4	93.0	4.5		11.9	88.1
No.8	106.0	5.1	12.6	12.6	87.4
No.16	97.0	4.7	11.5	24.1	75.9
No.30	94.0	4.5	11.1	35.2	64.8
No.50	182.0	8.8	21.6	56.8	43.2
No.100	240.0	11.6	28.4	85.2	14.8
No.200	113.0	5.5	13.4	98.6	1.4
Pan	12.0	0.6	1.4	100.0	0.0
% sand retained		40.8			

Dry Wt. 2069.0
Wash Wt. 1090.0

L.B.W.% 47.3
FM 2.14
Gravel% 11.9

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-C2
 Project FIELD
 From: 26.5
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	166.0	9.5		9.5	90.5
0.75"	19.0	1.1		10.6	89.4
0.5"	38.0	2.2		12.8	87.2
0.375"	18.0	1.0		13.9	86.1
No.4	57.0	3.3		17.1	82.9
No.8	57.0	3.3	7.8	7.8	92.2
No.16	53.0	3.0	7.3	15.1	84.9
No.30	61.0	3.5	8.4	23.5	76.5
No.50	152.0	8.7	20.9	44.4	55.6
No.100	221.0	12.7	30.4	74.8	25.2
No.200	161.0	9.3	22.1	97.0	3.0
Pan	22.0	1.3	3.0	100.0	0.0
% sand retained		41.8			

Dry Wt. 1739.0
 Wash Wt. 1024.0

L.B.W.% 41.1
 FM 1.66
 Gravel% 17.1

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-C2
 Project FIELD
 From: 28.0
 To: 30.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	26.0	1.7		1.7	98.3
0.75"	25.0	1.7		3.4	96.6
0.5"	38.0	2.5		5.9	94.1
0.375"	24.0	1.6		7.5	92.5
No.4	84.0	5.6		13.1	86.9
No.8	156.0	10.4	13.4	13.4	86.6
No.16	213.0	14.2	18.3	31.6	68.4
No.30	242.0	16.1	20.7	52.4	47.6
No.50	288.0	19.1	24.7	77.0	23.0
No.100	201.0	13.4	17.2	94.3	5.7
No.200	64.0	4.3	5.5	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		77.5			

Dry Wt. 1505.0
 Wash Wt. 1363.0

L.B.W.% 9.4
 FM 2.69
 Gravel% 13.1

Del.
 Lithologic unit 2NS

Aggregate Analysis

Borehole No. F30-C2
Project FIELD
From: 30.0
To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	13.0	0.8		0.8	99.2
0.5"	16.0	1.0		1.8	98.2
0.375"	12.0	0.8		2.6	97.4
No.4	24.0	1.5		4.1	95.9
No.8	22.0	1.4	1.6	1.6	98.4
No.16	29.0	1.8	2.1	3.7	96.3
No.30	58.0	3.7	4.2	7.9	92.1
No.50	333.0	21.1	24.0	31.9	68.1
No.100	754.0	47.8	54.4	86.2	13.8
No.200	183.0	11.6	13.2	99.4	0.6
Pan	8.0	0.5	0.6	100.0	0.0
% sand retained		87.8			

Dry Wt. 1579.0
Wash Wt. 1449.0

L.B.W.% 8.2
FM 1.31
Gravel% 4.1

Del.
Lithologic unit ST

Aggregate Analysis

Borehole No. F30-C2
Project FIELD
From: 48.0
To: 60.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	5.0	0.3		0.3	99.7
0.375"	2.0	0.1		0.5	99.5
No.4	5.0	0.3		0.8	99.2
No.8	10.0	0.7	0.8	0.8	99.2
No.16	11.0	0.7	0.9	1.8	98.2
No.30	16.0	1.1	1.4	3.1	96.9
No.50	48.0	3.3	4.1	7.2	92.8
No.100	476.0	32.2	40.4	47.6	52.4
No.200	555.0	37.6	47.1	94.7	5.3
Pan	63.0	4.3	5.3	100.0	0.0
% sand retained		79.9			

Dry Wt. 1476.0
Wash Wt. 1192.0

L.B.W.% 19.2
FM 0.61
Gravel% 0.8

Del.
Lithologic unit ST

Aggregate Analysis

Borehole No. F30-C2
Project FIELD
From: 60.0
To: 78.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	10.0	0.6		0.6	99.4
0.375"	16.0	0.9		1.4	98.6
No.4	28.0	1.5		3.0	97.0
No.8	39.0	2.1	6.8	6.8	93.2
No.16	45.0	2.5	7.8	14.6	85.4
No.30	49.0	2.7	8.5	23.2	76.8
No.50	106.0	5.8	18.5	41.6	58.4
No.100	188.0	10.3	32.8	74.4	25.6
No.200	139.0	7.6	24.2	98.6	1.4
Pan	8.0	0.4	1.4	100.0	0.0
% sand retained		31.6			

Dry Wt. 1818.0
Wash Wt. 628.0

L.B.W.% 65.5
FM 1.61
Gravel% 3.0

Det.
Lithologic unit CLAY

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30 C3
Date	7/19/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	8:45 AM	Hole Location	~~W-1~~ SW	Surface Elev.	
Finish Time	11:15 AM	Logged By	M. Bendermagel	Water Depth	20'
Total Depth	73'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Overburden, brown silt going into a brown clay with little gravel.	Zero	15	15					
4										
6										
8										
10										
12										
14										
16										
18										
20										
22										
24										
26										
28										
16		Medium to coarse brown sand with coarse gravel. Gravel at 40%. Very dirty.	15	19	4	15 to 19	11.1	3.21	39.7	S&G
18										
20		Brown medium sand with silt present. Fine gravel at 10%.	19	25	6	19 to 25	5.1	2.36	15.3	MSD
22										
24										
26		Brown silty fine sand with little to no gravel present.	25	29	4	25 to 29	11.1	1.06	2.5	ST
28										
30		Brown medium sand with fine gravel at about 20%. Very soupy.	29	36	7	29 to 36	4.5	2.84	23.2	S&G
32										
34										
36										
38		Gray fine sand with little to no gravel present. Some silt seams.	36	49	13	36 to 49	4.5	1.47	3.8	ST
40										
42										
44										
46										
48										
50		Gray clay with no gravel present.	49	68	19	49 to 68	62.4	1.95	6.3	CL

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-B12			
Date	7/19/01	Parcel	F19	Sheet 2		2 Of		2
Start Time	8:45 AM	Hole Location	SW	Surface Elev.				
Finish Time	11:15 AM	Logged By	M. Bendernagel	Water Depth		20'		
Total Depth	73'	Drill Method	Auger					

Comments:

[illegible]

Aggregate Analysis

Borehole No. F30-C3
Project FIELD
From: 15.0
To: 19.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	37.0	2.3		2.3	97.7
0.75"	140.0	8.8		11.1	88.9
0.5"	152.0	9.6		20.7	79.3
0.375"	104.0	6.5		27.3	72.7
No.4	197.0	12.4		39.7	60.3
No.8	181.0	11.4	23.2	23.2	76.8
No.16	182.0	11.5	23.4	46.6	53.4
No.30	160.0	10.1	20.5	67.1	32.9
No.50	161.0	10.1	20.7	87.8	12.2
No.100	66.0	4.2	8.5	96.3	3.7
No.200	27.0	1.7	3.5	99.7	0.3
Pan	2.0	0.1	0.3	100.0	0.0
% sand retained		49.1			

Dry Wt. 1588.0
Wash Wt. 1412.0

L.B.W.% 11.1
FM 3.21
Gravel% 39.7

Def.
Lithologic unit ~~CSD~~ S+G

Aggregate Analysis

Borehole No. F30-C3
 Project FIELD
 From: 19.0
 To: 25.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	26.0	2.1		2.1	97.9
0.5"	26.0	2.1		4.2	95.8
0.375"	41.0	3.3		7.4	92.6
No.4	98.0	7.8		15.3	84.7
No.8	103.0	8.2	10.3	10.3	89.7
No.16	129.0	10.3	12.9	23.3	76.7
No.30	184.0	14.7	18.5	41.7	58.3
No.50	275.0	22.0	27.6	69.3	30.7
No.100	222.0	17.7	22.3	91.6	8.4
No.200	82.0	6.5	8.2	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% sand retained		79.6			

Dry Wt. 1252.0
 Wash Wt. 1188.0

L.B.W.% 5.1
 FM 2.36
 Gravel% 15.3

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-C3
 Project FIELD
 From: 25.0
 To: 29.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	5.0	0.6		0.6	99.4
0.375"	6.0	0.7		1.3	98.7
No.4	11.0	1.3		2.5	97.5
No.8	14.0	1.6	1.9	1.9	98.1
No.16	17.0	2.0	2.3	4.1	95.9
No.30	23.0	2.6	3.1	7.2	92.8
No.50	54.0	6.2	7.2	14.4	85.6
No.100	478.0	54.9	63.6	78.0	22.0
No.200	158.0	18.2	21.0	99.1	0.9
Pan	7.0	0.8	0.9	100.0	0.0
% sand retained		86.3			

Dry Wt. 870.0
 Wash Wt. 773.0

L.B.W.% 11.1
 FM 1.06
 Gravel% 2.5

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-C3
Project FIELD
From: 29.0
To: 36.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	31.0	2.7		2.7	97.3
0.75"	0.0	0.0		2.7	97.3
0.5"	43.0	3.8		6.5	93.5
0.375"	37.0	3.2		9.7	90.3
No.4	155.0	13.5		23.2	76.8
No.8	172.0	15.0	17.4	17.4	82.6
No.16	226.0	19.7	22.9	40.4	59.6
No.30	191.0	16.7	19.4	59.7	40.3
No.50	139.0	12.1	14.1	73.8	26.2
No.100	184.0	16.1	18.7	92.5	7.5
No.200	73.0	6.4	7.4	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		86.0			

Dry Wt. 1146.0
Wash Wt. 1094.0

L.B.W.% 4.5
FM 2.84
Gravel% 23.2

Del.
Lithologic unit ~~ZNS~~ S+G

Aggregate Analysis

Borehole No. F30-C3
 Project FIELD
 From: 35.0
 To: 49.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	27.0	2.4		2.4	97.6
0.5"	0.0	0.0		2.4	97.6
0.375"	2.0	0.2		2.5	97.5
No.4	15.0	1.3		3.8	96.2
No.8	8.0	0.7	0.8	0.8	99.2
No.16	12.0	1.0	1.1	1.9	98.1
No.30	47.0	4.1	4.5	6.4	93.6
No.50	373.0	32.5	35.7	42.1	57.9
No.100	562.0	49.0	53.7	95.8	4.2
No.200	43.0	3.8	4.1	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		91.3			

Dry Wt. 1146.0
 Wash Wt. 1094.0

L.B.W.% 4.5
 FM 1.47
 Gravel% 3.8

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-C3
 Project FIELD
 From: 49.0
 To: ~~72.0~~ 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	21.0	1.4		1.4	98.6
0.5"	12.0	0.8		2.2	97.8
0.375"	13.0	0.9		3.1	96.9
No.4	48.0	3.2		6.3	93.7
No.8	42.0	2.8	9.0	9.0	91.0
No.16	44.0	2.9	9.4	18.4	81.6
No.30	49.0	3.3	10.5	28.8	71.2
No.50	116.0	7.8	24.8	53.6	46.4
No.100	146.0	9.8	31.2	84.8	15.2
No.200	89.0	4.6	14.7	99.6	0.4
Pan	2.0	0.1	0.4	100.0	0.0
% sand retained		31.3			

Dry Wt. 1496.0
 Wash Wt. 563.0

L.B.W.% 62.4
 FM 1.95
 Gravel% 6.3

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-C3
 Project FIELD
 From: 68.0
 To: 73.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	13.0	1.0		1.0	99.0
0.5"	49.0	3.6		4.6	95.4
0.375"	55.0	4.1		8.7	91.3
No.4	122.0	9.1		17.8	82.2
No.8	115.0	8.5	13.9	13.9	86.1
No.16	84.0	6.2	10.2	24.1	75.9
No.30	90.0	6.7	10.9	35.0	65.0
No.50	215.0	16.0	26.0	61.0	39.0
No.100	254.0	18.9	30.8	91.8	8.2
No.200	65.0	4.8	7.9	99.6	0.4
Pan	3.0	0.2	0.4	100.0	0.0
% sand retained		61.4			

Dry Wt. 1346.0
 Wash Wt. 1066.0

L.B.W.% 20.8
 FM 2.26
 Gravel% 17.8

Del.
 Lithologic unit CLAY

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-E4		
Date	6/28/01	Parcel	F30	Sheet 1	1 Of	2	
Start Time	11:30 AM	Hole Location	SW	Surface Elev.			
Finish Time		Logged By	M. Bendernagel	Water Depth	21'		
Total Depth	103'	Drill Method	Auger				

Comments:

[illegible]

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-G6
Date	6/26/01	Parcel	F30	Sheet 2	2 Of 2
Start Time	9:00 AM	Hole Location	SW	Surface Elev.	
Finish Time	2:15 PM	Logged By	M. Bendernagel	Water Depth	48'
Total Depth	93'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52										
54										
56										
58										
60										
62										
64										
66										
68										
70										
72										
74		Gray fine to medium sand with gravel at about 20-25%.	72	92	20	72 to 92	7.4	2.26	7.2	MSD
76										
78										
80										
82										
84										
86										
88										
90										
92										
94		Fine gray sandy silt. No gravel present. Not a good sample.	92	103	11	92 to 103	11.1	1.43	1.6	ST
96										
98										
100										
		T.D. 103'								

Aggregate Analysis

Borehole No. F30-E4
 Project FIELD
 From: 3.0
 To: 12.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	8.0	0.6		0.6	99.4
0.375"	8.0	0.4		1.0	99.0
No.4	10.0	0.7		1.7	98.3
No.8	18.0	1.3	1.3	1.3	98.7
No.16	38.0	2.7	2.7	4.0	96.0
No.30	84.0	5.9	6.0	10.0	90.0
No.50	328.0	23.1	23.5	33.6	66.4
No.100	590.0	41.6	42.3	75.9	24.1
No.200	190.0	13.4	13.6	89.5	10.5
Pan	146.0	10.3	10.5	100.0	0.0
% sand retained		98.3			

Dry Wt. 1418.0
 Wash Wt. 1290.0

L.B.W.% 9.0
 FM 1.25
 Gravel% 1.7

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-E4
 Project FIELD
 From: 12.0
 To: 21.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	224.0	10.1		10.1	89.9
0.75"	40.0	1.8		12.0	88.0
0.5"	110.0	5.0		16.9	83.1
0.375"	42.0	1.9		18.8	81.2
No.4	158.0	7.2		26.0	74.0
No.8	144.0	6.5	8.8	8.8	91.2
No.16	250.0	11.3	15.3	24.1	75.9
No.30	286.0	13.0	17.5	41.6	58.4
No.50	504.0	22.8	30.8	72.5	27.5
No.100	250.0	11.3	15.3	87.8	12.2
No.200	74.0	3.4	4.5	92.3	7.7
Pan	126.0	5.7	7.7	100.0	0.0
% sand retained		74.0			

Dry Wt. 2208.0
 Wash Wt. 2086.0

L.B.W.% 5.5
 FM 2.35
 Gravel% 26.0

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-E4
Project FIELD
From: 21.0
To: 22.5

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	50.0	3.4		3.4	96.6
0.75"	42.0	2.8		6.2	93.8
0.5"	144.0	9.7		15.9	84.1
0.375"	60.0	4.0		19.9	80.1
No.4	134.0	9.0		29.0	71.0
No.8	98.0	6.6	9.3	9.3	90.7
No.16	120.0	8.1	11.4	20.7	79.3
No.30	136.0	9.2	12.9	33.6	66.4
No.50	358.0	24.1	34.0	67.6	32.4
No.100	190.0	12.8	18.0	85.6	14.4
No.200	46.0	3.2	4.6	90.1	9.9
Pan	104.0	7.0	9.9	100.0	0.0
% sand retained		71.0			
Dry Wt.	1484.0				
Wash Wt.	1164.0				
L.B.W.%	21.6				
FM	2.17				
Gravel%	29.0				
Del.					
Lithologic unit	CL				

Aggregate Analysis

Borehole No. F30-E4
 Project FIELD
 From: 22.5
 To: 26.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	44.0	2.2		2.2	97.8
0.375"	22.0	1.1		3.3	96.7
No.4	82.0	4.1		7.4	92.6
No.8	86.0	4.3	4.6	4.6	95.4
No.16	82.0	4.1	4.4	9.0	91.0
No.30	102.0	5.1	5.5	14.5	85.5
No.50	454.0	22.6	24.4	38.9	61.1
No.100	688.0	34.3	37.0	75.9	24.1
No.200	176.0	8.8	9.5	85.4	14.6
Pan	272.0	13.5	14.6	100.0	0.0
% sand retained		92.6			

Dry Wt. 2008.0
 Wash Wt. 1752.0

L.B.W.% 12.7
 FM 1.43
 Gravel% 7.4

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-E4
 Project FIELD
 From: 26.5
 To: 30.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	28.0	1.8		1.8	98.2
0.75"	8.0	0.5		2.3	97.7
0.5"	30.0	1.9		4.2	95.8
0.375"	16.0	1.0		5.2	94.8
No.4	34.0	2.2		7.4	92.6
No.8	38.0	2.4	2.6	2.6	97.4
No.16	40.0	2.6	2.8	5.4	94.6
No.30	60.0	3.8	4.1	9.5	90.5
No.50	194.0	12.4	13.4	22.9	77.1
No.100	264.0	16.8	18.2	41.0	59.0
No.200	106.0	6.8	7.3	48.3	51.7
Pan	750.0	47.8	51.7	100.0	0.0
% sand retained		92.6			

Dry Wt. 1568.0
 Wash Wt. 830.0

L.B.W.% 47.1
 FM 0.81
 Gravel% 7.4

Del.
 Lithologic unit CL

Aggregate Analysis

Borehole No. F30-E4
Project FIELD
From: 30.0
To: 35.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	18.0	1.0		1.0	99.0
No.4	18.0	1.0		2.1	97.9
No.8	10.0	0.6	0.6	0.6	99.4
No.16	14.0	0.8	0.8	1.4	98.6
No.30	20.0	1.2	1.2	2.6	97.4
No.50	66.0	3.8	3.9	6.5	93.5
No.100	250.0	14.5	14.8	21.3	78.7
No.200	486.0	28.1	28.7	50.0	50.0
Pan	846.0	49.0	50.0	100.0	0.0
% sand retained		97.9			

Dry Wt. 1728.0
Wash Wt. 1024.0

L.B.W.% 40.7
FM 0.32
Gravel% 2.1

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-E4
Project FIELD
From: 35.0
To: 43.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	10.0	0.5		0.5	99.5
No.4	20.0	1.0		1.5	98.5
No.8	18.0	0.9	0.9	0.9	99.1
No.16	18.0	0.9	0.9	1.9	98.1
No.30	22.0	1.1	1.1	3.0	97.0
No.50	110.0	5.7	5.7	8.8	91.2
No.100	624.0	32.1	32.6	41.4	58.6
No.200	272.0	14.0	14.2	55.6	44.4
Pan	850.0	43.7	44.4	100.0	0.0
% sand retained		98.5			

Dry Wt. 1944.0
Wash Wt. 1124.0

L.B.W.% 42.2
FM 0.56
Gravel% 1.5

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-E4
Project FIELD
From: 43.0
To: 46.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	16.0	1.2		1.2	98.8
No.4	70.0	5.4		6.6	93.4
No.8	54.0	4.1	4.4	4.4	95.6
No.16	50.0	3.8	4.1	8.5	91.5
No.30	50.0	3.8	4.1	12.6	87.4
No.50	118.0	8.9	9.5	22.1	77.9
No.100	132.0	10.1	10.8	33.0	67.0
No.200	40.0	3.1	3.3	36.2	63.8
Pan	778.0	59.6	63.8	100.0	0.0
% sand retained		93.4			
Dry Wt.	1306.0				
Wash Wt.	530.0				
L.B.W.%	59.4				
FM	0.81				
Gravel%	6.6				
Del.					
Lithologic unit	CLAY				

Aggregate Analysis

Borehole No. F30-E4
Project FIELD
From: 47.0
To: 72.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	81.0	5.6		5.6	94.4
0.375"	44.0	3.0		8.6	91.4
No.4	92.0	6.3		14.9	85.1
No.8	89.0	6.1	8.1	8.1	91.9
No.16	111.0	7.6	10.1	18.2	81.8
No.30	170.0	11.7	15.5	33.8	66.2
No.50	345.0	23.7	31.5	65.2	34.8
No.100	289.0	19.8	26.4	91.6	8.4
No.200	87.0	6.0	7.9	99.5	0.5
Pan	5.0	0.3	0.5	100.0	0.0
% sand retained		75.2			

Dry Wt. 1457.0
Wash Wt. 1311.0

L.B.W.% 10.0
FM 2.17
Gravel% 14.9

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-E4
 Project FIELD
 From: 72.0
 To: 92.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	30.0	2.3		2.3	97.7
0.375"	19.0	1.4		3.7	96.3
No.4	46.0	3.5		7.2	92.8
No.8	60.0	4.6	5.4	5.4	94.6
No.16	93.0	7.1	8.3	13.7	86.3
No.30	216.0	16.5	19.4	33.1	66.9
No.50	499.0	38.0	44.8	77.8	22.2
No.100	199.0	15.2	17.8	95.7	4.3
No.200	45.0	3.4	4.0	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		85.0			

Dry Wt. 1312.0
 Wash Wt. 1215.0

L.B.W.% 7.4
 FM 2.26
 Gravel% 7.2

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-E4
Project FIELD
From: 92.0
To: 103.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	10.0	0.8		0.8	99.2
0.375"	0.0	0.0		0.8	99.2
No.4	9.0	0.7		1.6	98.4
No.8	11.0	0.9	1.0	1.0	99.0
No.16	19.0	1.6	1.8	2.8	97.2
No.30	53.0	4.3	5.0	7.8	92.2
No.50	317.0	26.0	29.7	37.5	62.5
No.100	608.0	49.6	56.8	94.3	5.7
No.200	58.0	4.8	5.4	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		87.4			

Dry Wt. 1221.0
Wash Wt. 1085.0

L.B.W.% 11.1
FM 1.43
Gravel% 1.6

Del.
Lithologic unit SILT

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-F0
Date	7/2/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	8:05 AM	Hole Location	NW	Surface Elev.	
Finish Time	12:25 PM	Logged By	M. Bendernagel	Water Depth	33'
Total Depth	83'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil and overburden.	Zero	2	2					
4		Tan fine sand with no gravel present.	2	3	1	2 to 3	16.3	0.92	zero	ST
6		Tan to brown clay with some fine gravel present.	3	6	3					
8		Reddish brown fine sand with some silt and clay seams within. Gravel is fine and at about 10%.	6	12	6	6 to 12	20.4	1.15	3.7	CL
10										
12		Alternating bands of fine sands and fine to medium sand with gravel. Gravel overall is at about 10% fine gravel. Clay seams present.	12	21	9	12 to 21	7.5	1.93	18.3	FSD
14										
16										
18										
20										
22		Primarily powdery or sugary fine tan sand with fine gravel. Clay seam about 1' thick at 25'. Clay seam from 31-33'.	21	33	12	21 to 33	26.8	0.92	1.5	CL
24										
26										
28										
30										
32										
34		Fine brown sand with no gravel. Bands of silt throughout. Last 2' were a stiff silt.	33	45	12	33 to 45	11.3	1.16	1.5	ST
36										
38										
40										
42										
44										
46		Stiff blue-gray clay going into a sandy brown clay with no gravel present.	45	47	2	45 to 47	62.1	0.36	0.3	CL
48		Fine silty brown sand with a little bit of clay	47	51	4	47 to 51	16	1.25	5.3	ST
50		Some fine gravel present.								

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-B0		
Date	7/2/01	Parcel	F30	Sheet 2	2 Of	2	
Start Time	8:05 AM	Hole Location	NW	Surface Elev.			
Finish Time	12:25 PM	Logged By	M. Bendernagel	Water Depth	33'		
Total Depth	83'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Coarse brown sand with coarse gravel. Occasional small fine sand seam with gravel at 35-40%. Max=3", Avg=1/2".	51	67	16	51 to 67	3.8	2.76	31.8	S&G
54										
56										
58										
60										
62										
64		Gray sandy clay with a good amount of gravel (till). Sand very prominent.	67	77	10	67 to 77	20.7	1.42	30.5	CL
66										
68										
70										
72										
74										
76		Very sandy gray silt with some clay as well. Still till.	77	83	6	77 to 83	17.8	1.78	22.3	S&G
78										
80										
82		T.D. 83'								
84										
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Analysis

Borehole No. F30-F0
 Project FIELD
 From: 2.0
 To: 3.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	2.0	0.2	0.2	0.2	99.8
No.16	4.0	0.4	0.4	0.5	99.5
No.30	18.0	1.6	1.6	2.1	97.9
No.50	218.0	19.3	19.3	21.4	78.6
No.100	520.0	46.0	46.0	67.4	32.6
No.200	164.0	14.5	14.5	81.9	18.1
Pan	204.0	18.1	18.1	100.0	0.0
% sand retained		100.0			

Dry Wt. 1130.0
 Wash Wt. 946.0

L.B.W.% 16.3
 FM 0.92
 Gravel% 0.0

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-F0
 Project FIELD
 From: 6.0
 To: 12.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	4.0	0.3		0.3	99.7
0.375"	14.0	0.9		1.1	98.9
No.4	40.0	2.5		3.7	96.3
No.8	36.0	2.3	2.4	2.4	97.6
No.16	44.0	2.8	2.9	5.2	94.8
No.30	82.0	5.2	5.4	10.6	89.4
No.50	328.0	20.7	21.5	32.1	67.9
No.100	504.0	31.8	33.0	65.1	34.9
No.200	194.0	12.2	12.7	77.7	22.3
Pan	340.0	21.4	22.3	100.0	0.0
% sand retained		96.3			

Dry Wt. 1586.0
 Wash Wt. 1262.0

L.B.W.% 20.4
 FM 1.15
 Gravel% 3.7

Del.
 Lithologic unit CL

Aggregate Analysis

Borehole No. F30-F0
Project FIELD
From: 12.0
To: 21.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	128.0	7.0		7.0	93.0
0.75"	14.0	0.8		7.8	92.2
0.5"	34.0	1.9		9.6	90.4
0.375"	28.0	1.5		11.1	88.9
No.4	130.0	7.1		18.3	81.7
No.8	132.0	7.2	8.8	8.8	91.2
No.16	122.0	6.7	8.2	17.0	83.0
No.30	156.0	8.5	10.4	27.4	72.6
No.50	434.0	23.7	29.0	56.4	43.6
No.100	410.0	22.4	27.4	83.8	16.2
No.200	98.0	5.4	6.6	90.4	9.6
Pan	144.0	7.9	9.6	100.0	0.0
% sand retained		81.7			

Dry Wt. 1830.0
Wash Wt. 1892.0

L.B.W.% 7.5
FM 1.93
Gravel% 18.3

Del.
Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-F0
Project FIELD
From: 21.0
To: 33.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	4.0	0.2		0.2	99.8
0.375"	4.0	0.2		0.4	99.6
No.4	18.0	1.0		1.5	98.5
No.8	26.0	1.5	1.5	1.5	98.5
No.16	38.0	2.1	2.2	3.6	96.4
No.30	58.0	3.2	3.3	6.9	93.1
No.50	272.0	15.2	15.4	22.3	77.7
No.100	618.0	34.5	35.0	57.3	42.7
No.200	224.0	12.5	12.7	70.0	30.0
Pan	536.0	29.6	30.0	100.0	0.0
% sand retained		98.5			

Dry Wt. 1792.0
Wash Wt. 1312.0

L.B.W.% 26.8
FM 0.92
Gravel% 1.5

Del.
Lithologic unit CL

Aggregate Analysis

Borehole No. F30-F0
 Project FIELD
 From: 33.0
 To: 45.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	10.0	0.6		0.6	99.4
No.4	18.0	1.0		1.5	98.5
No.8	16.0	1.0	1.0	1.0	99.0
No.16	18.0	1.1	1.1	2.1	97.9
No.30	76.0	4.5	4.6	6.7	93.3
No.50	422.0	25.1	25.5	32.2	67.8
No.100	690.0	41.1	41.8	74.0	26.0
No.200	216.0	12.9	13.1	87.0	13.0
Pan	214.0	12.8	13.0	100.0	0.0
% sand retained		98.5			
Dry Wt.	1678.0				
Wash Wt.	1488.0				
L.B.W.%	11.3				
FM	1.16				
Gravel%	1.5				
Del.					
Lithologic unit	SILT				

Aggregate Analysis

Borehole No. F30-F0
 Project FIELD
 From: 45.0
 To: 47.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	4.0	0.3		0.3	99.7
No.8	4.0	0.3	0.3	0.3	99.7
No.16	4.0	0.3	0.3	0.6	99.4
No.30	14.0	1.0	1.0	1.6	98.4
No.50	86.0	6.4	6.4	8.0	92.0
No.100	228.0	16.9	17.0	25.0	75.0
No.200	148.0	11.0	11.0	36.1	63.9
Pan	858.0	63.7	63.9	100.0	0.0
% sand retained		99.7			

Dry Wt. 1348.0
 Wash Wt. 510.0

L.B.W.% 62.1
 FM 0.36
 Gravel% 0.3

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-F0
Project FIELD
From: 47.0
To: 51.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	24.0	1.5		1.5	98.5
0.5"	6.0	0.4		1.9	98.1
0.375"	12.0	0.8		2.6	97.4
No.4	42.0	2.6		5.3	94.7
No.8	44.0	2.8	2.9	2.9	97.1
No.16	52.0	3.3	3.4	6.4	93.6
No.30	104.0	6.5	6.9	13.3	86.7
No.50	328.0	20.6	21.8	35.0	65.0
No.100	492.0	30.9	32.6	67.6	32.4
No.200	208.0	13.1	13.8	81.4	18.6
Pan	280.0	17.6	18.6	100.0	0.0
% sand retained		94.7			

Dry Wt. 1592.0
Wash Wt. 1338.0

L.B.W.% 16.0
FM 1.25
Gravel% 5.3

Del.
Lithologic unit ST

Aggregate Analysis

Borehole No. F30-F0
 Project FIELD
 From: 51.0
 To: 67.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	164.0	4.8		4.8	95.2
0.75"	76.0	2.2		7.0	93.0
0.5"	222.0	6.4		13.4	86.6
0.375"	190.0	5.5		18.9	81.1
No.4	444.0	12.9		31.8	68.2
No.8	394.0	11.4	16.8	16.8	83.2
No.16	410.0	11.9	17.5	34.3	65.7
No.30	458.0	13.3	19.5	53.8	46.2
No.50	622.0	18.1	26.5	80.3	19.7
No.100	248.0	7.2	10.6	90.9	9.1
No.200	76.0	2.2	3.2	94.1	5.9
Pan	138.0	4.0	5.9	100.0	0.0
% sand retained		68.2			

Dry Wt. 3442.0
 Wash Wt. 3310.0

L.B.W.% 3.8
 FM 2.76
 Gravel% 31.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-F0
 Project FIELD
 From: 67.0
 To: 77.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	354.0	11.5		11.5	88.5
0.75"	162.0	5.2		16.7	83.3
0.5"	212.0	6.9		23.6	76.4
0.375"	58.0	1.9		25.4	74.6
No.4	156.0	5.0		30.5	69.5
No.8	140.0	4.5	6.5	6.5	93.5
No.16	148.0	4.8	6.9	13.4	86.6
No.30	182.0	5.9	8.5	21.9	78.1
No.50	382.0	12.4	17.8	39.7	60.3
No.100	442.0	14.3	20.6	60.2	39.8
No.200	202.0	6.5	9.4	69.6	30.4
Pan	652.0	21.1	30.4	100.0	0.0
% sand retained		69.5			

Dry Wt. 3090.0
 Wash Wt. 2450.0

L.B.W.% 20.7
 FM 1.42
 Gravel% 30.5

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-F0
Project FIELD
From: 77.0
To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	26.0	1.3		1.3	98.7
0.5"	106.0	5.3		6.6	93.4
0.375"	94.0	4.7		11.3	88.7
No.4	222.0	11.1		22.3	77.7
No.8	166.0	8.3	10.6	10.6	89.4
No.16	142.0	7.1	9.1	19.7	80.3
No.30	192.0	9.6	12.3	32.1	67.9
No.50	274.0	13.6	17.6	49.6	50.4
No.100	258.0	12.8	16.5	66.2	33.8
No.200	152.0	7.6	9.7	75.9	24.1
Pan	376.0	18.7	24.1	100.0	0.0
% sand retained		77.7			

Dry Wt. 2008.0
Wash Wt. 1650.0

L.B.W.% 17.8
FM 1.78
Gravel% 22.3

Del.
Lithologic unit S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-62		
Date	7/2/01	Parcel	F30	Sheet 1	1 Of	2	
Start Time	2:30 PM	Hole Location	North, Middle	Surface Elev.			
Finish Time	10:30 AM 7/3/01	Logged By	M. Bendernagel	Water Depth	28'		
total Depth	63'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		1-2' of black topsoil going into a sandy rusty clay	Zero	7	7					
4										
6										
8		Brown medium sand with coarse gravel at about 30%. Max=6", Avg=1/2".	7	13	6	7 to 13	4.7	2.61	55.6	G
10										
12										
14		Brown to tan clay with no gravel. Very silty in areas.	13	17	4	13 to 17	70	1.39	2.3	CL
16										
18		Brown to tan clayey silt with no gravel present.	17	20	3	17 to 20	38.8	0.89	5.7	CL
20										
22		Very fine silty sand. Brown in color and with very little fine gravel at about 5-10%.	20	28	8	20 to 28	10.8	1.95	9	FSD
24										
26										
28										
30		Interbedded layers of silt and clay. Brown in color. Some layers of sand within. No gravel.	28	33.5	5.5	28 to 33.5	38.3	0.81	0.6	CL
32										
34		Alternating bands of fine and medium brown sand with fine-medium gravel. Gravel content os about 20%. Max=2" Avg=1/4".	33.5	48	14.5	33.5 to 48	10.5	1.84	28.2	S&G
36										
38										
40										
42										
44										
46										
48										
50		Brown medium-coarse sand with coarse gravel at about 35%. Max=2", Avg=1/4".	48	51	3	48 to 51	2.4	2.51	33	S&G

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Alternating bands of fine and medium brown sand with fine to medium gravel throughout.	51	59	8	51 to 59	3.9	2.39	28.7	S&G
54										
56										
58										
60		Gray clay with no gravel present.	59	63	4	59 to 63	73.2	2.31	4.5	CL
62										
64		T.D. 63'								
66										
68										
70										
72										
74										
76										
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 7.0
 To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	897.0	34.6		34.6	65.4
0.75"	133.0	5.1		39.7	60.3
0.5"	134.0	5.2		44.9	55.1
0.375"	84.0	3.2		48.1	51.9
No.4	196.0	7.6		55.6	44.4
No.8	150.0	5.8	14.6	14.6	85.4
No.16	151.0	5.8	14.7	29.2	70.8
No.30	166.0	6.4	16.1	45.3	54.7
No.50	324.0	12.5	31.5	76.8	23.2
No.100	192.0	7.4	18.6	95.4	4.6
No.200	45.0	1.7	4.4	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		39.7			

Dry Wt. 2595.0
 Wash Wt. 2474.0

L.B.W.% 4.7
 FM 2.61
 Gravel% 55.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G2
Project FIELD
From: 13.0
To: 17.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	21.0	1.1		1.1	98.9
0.375"	6.0	0.3		1.4	98.6
No.4	17.0	0.9		2.3	97.7
No.8	28.0	1.4	5.2	5.2	94.8
No.16	31.0	1.6	5.7	10.9	89.1
No.30	38.0	2.0	7.0	18.0	82.0
No.50	101.0	5.2	18.7	36.7	63.3
No.100	173.0	8.9	32.0	68.7	31.3
No.200	151.0	7.8	28.0	96.7	3.3
Pan	18.0	0.9	3.3	100.0	0.0
% sand retained		27.7			

Dry Wt. 1946.0
Wash Wt. 584.0

L.B.W.% 70.0
FM 1.39
Gravel% 2.3

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-G2
Project FIELD
From: 17.0
To: 20.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	2.1		2.1	97.9
0.75"	0.0	0.0		2.1	97.9
0.5"	11.0	0.6		2.8	97.2
0.375"	13.0	0.8		3.5	96.5
No.4	37.0	2.2		5.7	94.3
No.8	39.0	2.3	4.2	4.2	95.8
No.16	32.0	1.9	3.4	7.6	92.4
No.30	30.0	1.8	3.2	10.8	89.2
No.50	75.0	4.4	8.0	18.7	81.3
No.100	274.0	16.2	29.2	47.9	52.1
No.200	430.0	25.4	45.8	93.7	6.3
Pan	59.0	3.5	6.3	100.0	0.0
% sand retained		55.4			

Dry Wt. 1694.0
Wash Wt. 1037.0

L.B.W.% 38.8
FM 0.89
Gravel% 5.7

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 20.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	11.0	0.7		0.7	99.3
0.5"	19.0	1.2		1.8	98.2
0.375"	28.0	1.7		3.6	96.4
No.4	89.0	5.5		9.0	91.0
No.8	107.0	6.6	8.3	8.3	91.7
No.16	107.0	6.6	8.3	16.6	83.4
No.30	104.0	6.4	8.1	24.7	75.3
No.50	384.0	23.5	29.8	54.5	45.5
No.100	472.0	28.9	36.6	91.1	8.9
No.200	111.0	6.8	8.6	99.7	0.3
Pan	4.0	0.2	0.3	100.0	0.0
% sand retained		78.9			

Dry Wt. 1633.0
 Wash Wt. 1457.0

L.B.W.% 10.8
 FM 1.95
 Gravel% 9.0

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 28.0
 To: 33.5

W2

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	9.0	0.6		0.6	99.4
No.8	12.0	0.8	1.3	1.3	98.7
No.16	16.0	1.0	1.7	3.0	97.0
No.30	23.0	1.5	2.5	5.4	94.6
No.50	77.0	5.0	8.2	13.7	86.3
No.100	411.0	26.8	43.9	57.5	42.5
No.200	361.0	23.5	38.5	96.1	3.9
Pan	37.0	2.4	3.9	100.0	0.0
% sand retained		61.1			
Dry Wt.	1533.0				
Wash Wt.	946.0				
L.B.W.%	38.3				
FM	0.81				
Gravel%	0.6				
Del.					
Lithologic unit	CLAY				

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 33.5
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	397.0	18.4		18.4	81.6
0.75"	42.0	1.9		20.3	79.7
0.5"	55.0	2.5		22.8	77.2
0.375"	44.0	2.0		24.9	75.1
No.4	72.0	3.3		28.2	71.8
No.8	67.0	3.1	5.1	5.1	94.9
No.16	73.0	3.4	5.5	10.6	89.4
No.30	119.0	5.5	9.0	19.6	80.4
No.50	522.0	24.1	39.4	59.0	41.0
No.100	411.0	19.0	31.0	90.0	10.0
No.200	128.0	5.8	9.5	99.5	0.5
Pan	8.0	0.3	0.5	100.0	0.0
% sand retained		61.2			

Dry Wt. 2162.0
 Wash Wt. 1934.0

L.B.W.% 10.5
 FM 1.84
 Gravel% 28.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 48.0
 To: 51.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	80.0	4.0		4.0	96.0
0.5"	111.0	5.5		9.5	90.5
0.375"	136.0	6.8		16.2	83.8
No.4	338.0	16.8		33.0	67.0
No.8	213.0	10.6	16.4	16.4	83.6
No.16	143.0	7.1	11.0	27.4	72.6
No.30	137.0	6.8	10.5	37.9	62.1
No.50	454.0	22.5	34.9	72.8	27.2
No.100	306.0	15.2	23.5	96.3	3.7
No.200	46.0	2.3	3.5	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		64.6			

Dry Wt. 2014.0
 Wash Wt. 1965.0

L.B.W.% 2.4
 FM 2.51
 Gravel% 33.0

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 51.0
 To: 59.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	43.0	2.3		2.3	97.7
0.75"	114.0	6.0		8.3	91.7
0.5"	92.0	4.9		13.1	86.9
0.375"	75.0	4.0		17.1	82.9
No.4	220.0	11.6		28.7	71.3
No.8	215.0	11.3	16.8	16.8	83.2
No.16	142.0	7.5	11.1	27.9	72.1
No.30	125.0	6.6	9.8	37.7	62.3
No.50	316.0	16.7	24.7	62.4	37.6
No.100	401.0	21.2	31.4	93.7	6.3
No.200	77.0	4.1	6.0	99.8	0.2
Pan	3.0	0.2	0.2	100.0	0.0
% sand retained		67.5			

Dry Wt. 1895.0
 Wash Wt. 1822.0

L.B.W.% 3.9
 FM 2.39
 Gravel% 28.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G2
 Project FIELD
 From: 59.0
 To: 63.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	16.0	0.8		0.8	99.2
0.375"	22.0	1.1		1.9	98.1
No.4	51.0	2.6		4.5	95.5
No.8	61.0	3.1	14.0	14.0	86.0
No.16	55.0	2.8	12.6	26.6	73.4
No.30	42.0	2.1	9.6	36.2	63.8
No.50	123.0	6.3	28.2	64.4	35.6
No.100	110.0	5.6	25.2	89.7	10.3
No.200	38.0	1.9	8.7	98.4	1.6
Pan	7.0	0.4	1.6	100.0	0.0
% sand retained		22.3			

Dry Wt. 1967.0
 Wash Wt. 524.0

L.B.W.% 73.2
 FM 2.31
 Gravel% 4.5

Del.
 Lithologic unit CLAY

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis												
Depth	Litho.						L.B.W	FM	GR%	Note									
2		Black topsoil going onto a rusty brown clay with some large gravel within.	Zero	10	10														
4																			
6																			
8																			
10																			
12		Rusty brown medium sand with some clay seams within. Medium gravel present at about 25%.	10	13	3	10 to 13	9.7	2.48	16.8	2NS									
14		Medium brown sand with fine sand seams within. Gravel is medium at about 25-30%. Max=3", Avg=1/4"	13	38	25	13 to 38	5.2	2.49	27.6	S&G									
16																			
18																			
20																			
22																			
24																			
26																			
28																			
30																			
32																			
34																			
36																			
38																			
40											Light brown fine sand with little to no gravel present. Small silt bands within.	38	43	5	38 to 43	7	1.71	5.6	FSD
42											Alternating bands of brown silt and clay. Primarily clay.	43	45	2	43 to 45	64.7	0.46	0.7	CL
44																			
46		Medium brown sand with 25-30% of medium gravel.	45	48	3	45 to 48	8.9	2.91	34.5	S&G									
48		Grayish-brown coarse sand with a medium gravel. Max=2", Avg=1/4".	48	58	10	48 to 58	7.2	3.23	23.7	S&G									
50																			

Comments:[illegible]

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 10.0
 To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	21.0	2.3		2.3	97.7
0.5"	29.0	3.2		5.6	94.4
0.375"	22.0	2.5		8.0	92.0
No.4	79.0	8.8		16.8	83.2
No.8	78.0	8.7	11.8	11.8	88.2
No.16	89.0	9.9	13.5	25.3	74.7
No.30	111.0	12.4	16.8	42.1	57.9
No.50	219.0	24.4	33.1	75.2	24.8
No.100	124.0	13.8	18.8	93.9	6.1
No.200	37.0	4.1	5.6	99.5	0.5
Pan	3.0	0.3	0.5	100.0	0.0
% sand retained		73.7			

Dry Wt. 897.0
 Wash Wt. 810.0

L.B.W.% 9.7
 FM 2.48
 Gravel% 16.8

Del.
 Lithologic unit 2NS

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 13.0
 To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	97.0	5.3		5.3	94.7
0.75"	50.0	2.7		8.1	91.9
0.5"	79.0	4.3		12.4	87.6
0.375"	89.0	4.9		17.3	82.7
No.4	189.0	10.4		27.6	72.4
No.8	173.0	9.5	14.1	14.1	85.9
No.16	165.0	9.0	13.5	27.6	72.4
No.30	177.0	9.7	14.4	42.0	58.0
No.50	361.0	19.8	29.5	71.5	28.5
No.100	274.0	15.0	22.4	93.9	6.1
No.200	71.0	3.9	5.8	99.7	0.3
Pan	4.0	0.2	0.3	100.0	0.0
% sand retained		67.1			

Dry Wt. 1825.0
 Wash Wt. 1730.0

L.B.W.% 5.2
 FM 2.49
 Gravel% 27.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 98.0
 To: 43.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	14.0	1.0		1.0	99.0
0.5"	7.0	0.5		1.4	98.6
0.375"	12.0	0.8		2.3	97.7
No.4	49.0	3.4		5.6	94.4
No.8	55.0	3.8	4.3	4.3	95.7
No.16	75.0	5.1	5.9	10.2	89.8
No.30	113.0	7.7	8.8	19.0	81.0
No.50	347.0	23.8	27.2	46.2	53.8
No.100	575.0	39.4	45.0	91.2	8.8
No.200	109.0	7.5	8.5	99.7	0.3
Pan	4.0	0.3	0.3	100.0	0.0
% sand retained		87.5			

Dry Wt. 1461.0
 Wash Wt. 1358.0

L.B.W.% 7.0
 FM 1.71
 Gravel% 5.6

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-G6
Project FIELD
From: 43.0
To: 45.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	5.0	0.4		0.4	99.6
0.375"	0.0	0.0		0.4	99.6
No.4	4.0	0.3		0.7	99.3
No.8	5.0	0.4	1.1	1.1	98.9
No.16	4.0	0.3	0.9	1.9	98.1
No.30	6.0	0.4	1.3	3.2	96.8
No.50	19.0	1.4	4.1	7.3	92.7
No.100	116.0	8.6	24.8	32.1	67.9
No.200	261.0	19.4	55.9	88.0	12.0
Pan	56.0	4.2	12.0	100.0	0.0
% sand retained		34.7			

Dry Wt. 1345.0
Wash Wt. 475.0

L.B.W.% 64.7
FM 0.46
Gravel% 0.7

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 45.0
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	33.0	3.4		3.4	96.6
0.5"	99.0	10.3		13.7	86.3
0.375"	62.0	6.5		20.2	79.8
No.4	138.0	14.4		34.5	65.5
No.8	99.0	10.3	18.2	18.2	81.8
No.16	100.0	10.4	18.3	36.5	63.5
No.30	130.0	13.5	23.9	60.4	39.6
No.50	128.0	13.3	23.5	83.9	16.1
No.100	46.0	4.8	8.4	92.3	7.7
No.200	40.0	4.2	7.3	99.6	0.4
Pan	2.0	0.2	0.4	100.0	0.0
% sand retained		56.7			

Dry Wt. 961.0
 Wash Wt. 875.0

L.B.W.% 8.9
 FM 2.91
 Gravel% 34.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 48.0
 To: S&G ~~66.0~~ ~~66.0~~

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	89.0	4.9		4.9	95.1
0.75"	17.0	0.9		5.8	94.2
0.5"	39.0	2.1		8.0	92.0
0.375"	69.0	3.8		11.8	88.2
No.4	217.0	11.9		23.7	76.3
No.8	285.0	15.7	22.7	22.7	77.3
No.16	312.0	17.2	24.8	47.5	52.5
No.30	276.0	15.2	22.0	69.5	30.5
No.50	220.0	12.1	17.5	87.0	13.0
No.100	114.0	6.3	9.1	96.1	3.9
No.200	47.0	2.6	3.7	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		69.1			
Dry Wt.	1818.0				
Wash Wt.	1688.0				
L.B.W.%	7.2				
FM	3.23				
Gravel%	23.7				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 58.0
 To: 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	1.3		1.3	98.7
0.5"	47.0	3.7		4.9	95.1
0.375"	34.0	2.7		7.6	92.4
No.4	176.0	13.8		21.4	78.6
No.8	237.0	18.5	25.0	25.0	75.0
No.16	230.0	18.0	24.3	49.3	50.7
No.30	179.0	14.0	18.9	68.1	31.9
No.50	160.0	12.5	16.9	85.0	15.0
No.100	108.0	8.5	11.4	96.4	3.6
No.200	33.0	2.6	3.5	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		74.2			

Dry Wt. 1278.0
 Wash Wt. 1225.0

L.B.W.% 4.1
 FM 3.24
 Gravel% 21.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 68.0
 To: 75.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	64.0	5.0		5.0	95.0
0.5"	58.0	4.5		9.5	90.5
0.375"	147.0	11.4		21.0	79.0
No.4	170.0	13.2		34.2	65.8
No.8	169.0	13.2	21.5	21.5	78.5
No.16	151.0	11.8	19.2	40.7	59.3
No.30	239.0	18.6	30.4	71.0	29.0
No.50	171.0	13.3	21.7	92.8	7.2
No.100	52.0	4.0	6.6	99.4	0.6
No.200	2.0	0.2	0.3	99.6	0.4
Pan	3.0	0.2	0.4	100.0	0.0
% sand retained		61.3			

Dry Wt. 1284.0
 Wash Wt. 1224.0

L.B.W.% 4.7
 FM 3.25
 Gravel% 34.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-G6
 Project FIELD
 From: 75.0
 To: 93.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	5.0	0.3		0.3	99.7
No.4	22.0	1.5		1.8	98.2
No.8	13.0	0.9	1.0	1.0	99.0
No.16	12.0	0.8	0.9	2.0	98.0
No.30	9.0	0.6	0.7	2.7	97.3
No.50	64.0	4.4	5.0	7.7	92.3
No.100	848.0	58.0	66.5	74.1	25.9
No.200	313.0	21.4	24.5	98.7	1.3
Pan	17.0	1.2	1.3	100.0	0.0
% sand retained		87.3			

Dry Wt. 1461.0
 Wash Wt. 1302.0

L.B.W.% 10.9
 FM 0.87
 Gravel% 1.8

Del.
 Lithologic unit SILT

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Brown and gray layered sandy firm clay with occasional gravel and thin bands of black organics.	Zero	11	11					
4										
6										
8										
10										
12		Brown medium sand with 40% gravel. Maximum size 2", avg. 1/2".	11	14	3	11 to 14	9.4	2.29	38.4	S&G
14										
16		Light brown fine to medium sand with occasional fine gravel.	14	23	9	14 to 23	4.6	2.12	11.2	MSD
18										
20										
22										
24										
26		Light brown to yellow medium to coarse sand with 35% gravel. Maximum size 1.5" avg. 1/2".	23	52	29	23 to 52	4.3	2.66	38.6	S&G
28										
30										
32										
34										
36										
38										
40										
42										
44										
46										
48										
50										

Comments:[illegible]

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 11.0
 To: 14.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	42.0	1.7		1.7	98.3
0.75"	283.0	11.2		12.8	87.2
0.5"	158.0	6.2		19.0	81.0
0.375"	161.0	6.3		25.4	74.6
No.4	329.0	13.0		38.4	61.6
No.8	221.0	8.7	14.1	14.1	85.9
No.16	226.0	9.0	14.6	28.7	71.3
No.30	253.0	10.0	16.2	44.9	55.1
No.50	291.0	11.5	18.6	63.5	36.5
No.100	224.0	8.8	14.3	77.8	22.2
No.200	91.0	3.6	5.8	83.6	16.4
Pan	256.0	10.1	16.4	100.0	0.0
% sand retained		61.6			

Dry Wt. 2537.0
 Wash Wt. 2298.0

L.B.W.% 9.4
 FM 2.29
 Gravel% 38.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 14.0
 To: 23.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	1.8		1.8	98.2
0.75"	0.0	0.0		1.8	98.2
0.5"	51.0	2.6		4.4	95.6
0.375"	38.0	1.9		6.3	93.7
No.4	96.0	4.9		11.2	88.8
No.8	96.0	4.9	5.5	5.5	94.5
No.16	140.0	7.1	8.0	13.5	86.5
No.30	252.0	12.8	14.4	27.8	72.2
No.50	763.0	38.6	43.5	71.3	28.7
No.100	403.0	20.4	23.0	94.3	5.7
No.200	56.0	2.9	3.3	97.6	2.4
Pan	42.0	2.1	2.4	100.0	0.0
% sand retained		88.8			

Dry Wt. 1975.0
 Wash Wt. 1884.0

L.B.W.% 4.6
 FM 2.12
 Gravel% 11.2

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 23.0
 To: 52.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	340.0	10.2		10.2	89.8
0.75"	148.0	4.5		14.7	85.3
0.5"	260.0	7.8		22.5	77.5
0.375"	160.0	4.8		27.3	72.7
No.4	372.0	11.2		38.6	61.4
No.8	330.0	9.9	16.2	16.2	83.8
No.16	340.0	10.2	16.7	32.8	67.2
No.30	368.0	11.1	18.0	50.9	49.1
No.50	522.0	15.7	25.6	76.5	23.5
No.100	274.0	8.3	13.4	89.9	10.1
No.200	60.0	1.8	2.9	92.8	7.2
Pan	146.0	4.4	7.2	100.0	0.0
% sand retained		61.4			

Dry Wt. 3320.0
 Wash Wt. 3178.0

L.B.W.% 4.3
 FM 2.66
 Gravel% 38.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 52.0
 To: 60.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	26.0	1.8		1.8	98.2
0.75"	0.0	0.0		1.8	98.2
0.5"	116.0	7.9		9.6	90.4
0.375"	40.0	2.7		12.4	87.6
No.4	88.0	6.0		18.3	81.7
No.8	74.0	5.0	6.2	6.2	93.8
No.16	82.0	5.6	6.8	13.0	87.0
No.30	134.0	9.1	11.1	24.1	75.9
No.50	420.0	28.5	34.9	59.1	40.9
No.100	346.0	23.5	28.8	87.9	12.1
No.200	48.0	3.3	4.0	91.8	8.2
Pan	98.0	6.7	8.2	100.0	0.0
% sand retained		81.7			

Dry Wt. 1472.0
 Wash Wt. 1374.0

L.B.W.% 6.7
 FM 1.90
 Gravel% 18.3

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 60.0
 To: 64.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	6.0	0.4		0.4	99.6
0.375"	0.0	0.0		0.4	99.6
No.4	10.0	0.7		1.1	98.9
No.8	9.0	0.6	0.6	0.6	99.4
No.16	10.0	0.7	0.7	1.3	98.7
No.30	14.0	1.0	1.0	2.3	97.7
No.50	55.0	3.8	3.8	6.1	93.9
No.100	298.0	20.6	20.8	26.9	73.1
No.200	463.0	31.9	32.3	59.2	40.8
Pan	585.0	40.3	40.8	100.0	0.0
% sand retained		98.9			

Dry Wt. 1450.0
 Wash Wt. 925.0

L.B.W.% 36.2
 FM 0.37
 Gravel% 1.1

Del.
 Lithologic unit CL

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 64.0
 To: 74.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	46.0	2.5		2.5	97.5
0.375"	54.0	3.0		5.5	94.5
No.4	150.0	8.2		13.7	86.3
No.8	210.0	11.5	13.4	13.4	86.6
No.16	250.0	13.7	15.9	29.3	70.7
No.30	334.0	18.4	21.3	50.6	49.4
No.50	440.0	24.2	28.0	78.6	21.4
No.100	182.0	10.0	11.6	90.2	9.8
No.200	50.0	2.7	3.2	93.4	6.6
Pan	104.0	5.7	6.6	100.0	0.0
% sand retained		86.3			
Dry Wt.	1820.0				
Wash Wt.	1720.0				
L.B.W.%	5.5				
FM	2.02				
Gravel%	13.7				
Del.					
Lithologic unit	2NS				

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 74.0
 To: 81.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	20.0	0.9		0.9	99.1
0.75"	0.0	0.0		0.9	99.1
0.5"	24.0	1.0		1.9	98.1
0.375"	31.0	1.3		3.2	96.8
No.4	89.0	3.8		7.0	93.0
No.8	92.0	3.9	4.2	4.2	95.8
No.16	100.0	4.3	4.6	8.8	91.2
No.30	152.0	6.5	7.0	15.8	84.2
No.50	1099.0	47.0	50.6	66.4	33.6
No.100	455.0	19.5	20.9	87.4	12.6
No.200	83.0	3.6	3.8	91.2	8.8
Pan	191.0	8.2	8.8	100.0	0.0
% sand retained		93.0			

Dry Wt. 2336.0
 Wash Wt. 2153.0

L.B.W.% 7.8
 FM 1.83
 Gravel% 7.0

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 81.5
 To: 88.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	136.0	6.0		6.0	94.0
0.75"	39.0	1.7		7.7	92.3
0.5"	63.0	2.8		10.5	89.5
0.375"	47.0	2.1		12.6	87.4
No.4	117.0	5.2		17.8	82.2
No.8	135.0	6.0	7.3	7.3	92.7
No.16	183.0	8.1	9.8	17.1	82.9
No.30	384.0	17.0	20.6	37.7	62.3
No.50	634.0	28.0	34.1	71.8	28.2
No.100	935.0	14.8	18.0	89.8	10.2
No.200	65.0	2.9	3.5	93.3	6.7
Pan	124.0	5.5	6.7	100.0	0.0
% sand retained		82.2			

Dry Wt. 2262.0
 Wash Wt. 2144.0

L.B.W.% 5.2
 FM 2.24
 Gravel% 17.8

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 88.5
 To: 93.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	58.0	3.2		3.2	96.8
0.5"	26.0	1.4		4.6	95.4
0.375"	8.0	0.4		5.0	95.0
No.4	54.0	2.9		7.9	92.1
No.8	82.0	4.5	4.8	4.8	95.2
No.16	96.0	5.2	5.7	10.5	89.5
No.30	172.0	9.3	10.2	20.7	79.3
No.50	508.0	27.6	30.0	50.6	49.4
No.100	590.0	32.1	34.8	85.5	14.5
No.200	86.0	4.7	5.1	90.6	9.4
Pan	160.0	8.7	9.4	100.0	0.0
% sand retained		92.1			

Dry Wt. 1840.0
 Wash Wt. 1684.0

L.B.W.% 8.5
 FM 1.72
 Gravel% 7.9

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-H0
 Project FIELD
 From: 93.0
 To: 96.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	12.0	0.8		0.8	99.2
0.375"	18.0	1.2		2.0	98.0
No.4	38.0	2.5		4.5	95.5
No.8	50.0	3.3	3.4	3.4	96.6
No.16	52.0	3.4	3.6	7.0	93.0
No.30	70.0	4.6	4.8	11.8	88.2
No.50	188.0	12.4	12.9	24.8	75.2
No.100	436.0	28.7	30.0	54.8	45.2
No.200	378.0	24.9	26.0	80.9	19.1
Pan	278.0	18.3	19.1	100.0	0.0
% sand retained		95.5			

Dry Wt. 1520.0
 Wash Wt. 1276.0

L.B.W.% 16.1
 FM 1.02
 Gravel% 4.5

Del.
 Lithologic unit ST

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-H4
Date	6/8/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	10:15 AM	Hole Location	Middle, West	Surface Elev.	
Finish Time	3:15 PM 6/8/01	Logged By	M. Bendermager	Water Depth	54'
Total Depth	82'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
2		Topsoil going into brown clay with some sand and silt seams within.	Zero	7	7					
4										
6										
8										
8		Fine silty sand. Brown to tan in color. Some clay clumps within.	7	9	2	7 to 9	20.7	1.37	9.4	CL
10		Gray till or clay. Some small gravel within.	9	13	4					
12										
14		Fine to medium brownish-red sand with 20% fine gravel. Avg = #4, Max = 3/4.	13	21	8	13 to 21	9.6	2.24	34.2	S&G
16										
18										
20										
22		Fine light tan sand on top going into reddish-brown medium sand with coarse gravel.	21	40.5	19.5	21 to 40.5	5.9	2.39	37.8	S&G
24										
26										
28										
30										
32										
34										
36										
38										
40										
42										
44										
44		Very fine, light tan, sugary sand with little to no gravel. Some light brown seams of silt interbedded.	40.5	54	13.5	40.5 to 54	11.7	1.3	9.8	ST
46										
48										
50										

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
52		Water begins. Brown to gray coarse sand with fine gravel that gets finer through the section.	54	63	9	54 to 63	7.9	2.92	30.8	S&G
54										
56										
58										
60										
62		Alternating bands of fine-medium and medium-coarse sand with fine gravel. Gravel at about 30%. Max = 1", Avg = <1/4	63	75	12	63 to 75	5.9	2.36	25.1	S&G
64										
66										
68										
70										
72		Gray gravelly till. Clay within a medium gravel. Very sticky at top and get stiffer through the section.	75	83	8	75 to 83	31.2	1.25	12.1	CL
74										
76										
78										
80										
82		T.D. 83'								
84										
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Analysis

Borehole No. F30-H4
 Project FIELD
 From: 7.0
 To: 9.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	40.0	2.5		2.5	97.5
0.375"	16.0	1.0		3.5	96.5
No.4	96.0	5.9		9.4	90.6
No.8	94.0	5.8	6.4	6.4	93.6
No.16	92.0	5.7	6.3	12.7	87.3
No.30	94.0	5.8	6.4	19.1	80.9
No.50	242.0	15.0	16.5	35.7	64.3
No.100	406.0	25.1	27.7	63.4	36.6
No.200	182.0	11.3	12.4	75.8	24.2
Pan	354.0	21.9	24.2	100.0	0.0
% sand retained		90.6			

Dry Wt. 1616.0
 Wash Wt. 1282.0

L.B.W.% 20.7
 FM 1.37
 Gravel% 9.4

Det.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-H4
 Project FIELD
 From: 13.0
 To: 21.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	140.0	6.9		6.9	93.1
0.75"	139.0	6.8		13.6	86.4
0.5"	136.0	6.7		20.3	79.7
0.375"	94.0	4.6		24.9	75.1
No.4	190.0	9.3		34.2	65.8
No.8	168.0	8.2	12.5	12.5	87.5
No.16	186.0	9.1	13.9	26.4	73.6
No.30	194.0	9.5	14.5	40.8	59.2
No.50	308.0	15.1	23.0	63.8	36.2
No.100	218.0	10.7	16.2	80.0	20.0
No.200	68.0	3.3	5.1	85.1	14.9
Pan	200.0	9.8	14.9	100.0	0.0
% sand retained		65.8			

Dry Wt. 2040.0
 Wash Wt. 1844.0

L.B.W.% 9.6
 FM 2.24
 Gravel% 34.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H4
 Project FIELD
 From: 21.0
 To: 40.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	196.0	5.8		5.8	94.2
0.75"	280.0	8.3		14.1	85.9
0.5"	300.0	8.9		23.1	76.9
0.375"	152.0	4.5		27.6	72.4
No.4	342.0	10.2		37.8	62.2
No.8	294.0	8.7	14.0	14.0	86.0
No.16	282.0	8.4	13.5	27.5	72.5
No.30	294.0	8.7	14.0	41.5	58.5
No.50	592.0	17.6	28.3	69.8	30.2
No.100	344.0	10.2	16.4	86.2	13.8
No.200	80.0	2.4	3.8	90.1	9.9
Pan	208.0	6.2	9.9	100.0	0.0
% sand retained		62.2			

Dry Wt. 3364.0
 Wash Wt. 3164.0

L.B.W.% 5.9
 FM 2.39
 Gravel% 37.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H4
 Project FIELD
 From: 40.5
 To: 54.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	0.9		0.9	99.1
0.5"	68.0	3.7		4.6	95.4
0.375"	38.0	2.1		6.7	93.3
No.4	58.0	3.2		9.8	90.2
No.8	46.0	2.5	2.8	2.8	97.2
No.16	54.0	3.0	3.3	6.1	93.9
No.30	76.0	4.2	4.6	10.7	89.3
No.50	436.0	23.8	26.4	37.1	62.9
No.100	600.0	32.8	36.4	73.5	26.5
No.200	208.0	11.4	12.6	86.1	13.9
Pan	230.0	12.6	13.9	100.0	0.0
% sand retained		90.2			

Dry Wt. 1830.0
 Wash Wt. 1616.0

L.B.W.% 11.7
 FM 1.30
 Gravel% 9.8

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-H4
Project FIELD
From: 54.0
To: 63.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	280.0	9.5		9.5	90.5
0.75"	60.0	2.0		11.5	88.5
0.5"	84.0	2.8		14.4	85.6
0.375"	104.0	3.5		17.9	82.1
No.4	380.0	12.9		30.8	69.2
No.8	460.0	15.6	22.5	22.5	77.5
No.16	508.0	17.2	24.9	47.5	52.5
No.30	332.0	11.3	16.3	63.7	36.3
No.50	228.0	7.7	11.2	74.9	25.1
No.100	166.0	5.6	8.1	83.0	17.0
No.200	100.0	3.4	4.9	87.9	12.1
Pan	246.0	8.3	12.1	100.0	0.0
% sand retained		69.2			

Dry Wt. 2948.0
Wash Wt. 2714.0

L.B.W.% 7.9
FM 2.92
Gravel% 30.8

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H4
 Project FIELD
 From: 63.0
 To: 75.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	1.8		1.8	98.2
0.75"	16.0	0.8		2.7	97.3
0.5"	116.0	5.9		8.6	91.4
0.375"	78.0	4.0		12.5	87.5
No.4	246.0	12.5		25.1	74.9
No.8	214.0	10.9	14.6	14.6	85.4
No.16	204.0	10.4	13.9	28.4	71.6
No.30	214.0	10.9	14.6	43.0	57.0
No.50	314.0	16.0	21.4	64.4	35.6
No.100	320.0	16.3	21.8	86.1	13.9
No.200	84.0	4.3	5.7	91.8	8.2
Pan	120.0	6.1	8.2	100.0	0.0
% sand retained		74.9			

Dry Wt. 1962.0
 Wash Wt. 1846.0

L.B.W.% 5.9
 FM 2.36
 Gravel% 25.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H4
Project FIELD
From: 75.0
To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	42.0	2.9		2.9	97.1
0.5"	10.0	0.7		3.5	96.5
0.375"	46.0	3.1		6.7	93.3
No.4	80.0	5.4		12.1	87.9
No.8	72.0	4.9	5.6	5.6	94.4
No.16	76.0	5.3	6.0	11.6	88.4
No.30	62.0	5.6	6.3	18.0	82.0
No.50	210.0	14.3	16.3	34.2	65.8
No.100	280.0	19.0	21.7	55.9	44.1
No.200	108.0	7.3	8.4	64.2	35.8
Pan	462.0	31.4	35.8	100.0	0.0
% sand retained		87.9			

Dry Wt. 1470.0
Wash Wt. 1012.0

L.B.W.% 31.2
FM 1.25
Gravel% 12.1

Del.
Lithologic unit CLAY

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Brown, orange, and gray layered sandy clay with abundant gravel.	Zero	6.5	6.5					
4										
6										
8										
10										
12										
14		Reddish brown coarse sand with 45% gravel. Maximum size 3", avg. 1/2".	6.5	28	21.5	6.5 to 28	5.7	2.5	48.9	S&G
16										
18										
20										
22										
24										
26										
28										
30										
32										
34										
36										
38										
40										
42		Reddish brown coarse to very coarse sand with 40% gravel. Maximum size 2", avg. size 1/2".	28	38	10	28 to 38	4.9	2.88	37.2	S&G
44										
46										
48										
50										
		Reddish brown to gray medium to coarse sand with 20% fine gravel.	38	45	7	38 to 45	5.8	2.66	21.8	S&G
		Yellow very silty and sandy soft clay.	45	49	4	45 to 49	47.7	0.93	6.8	CL

Drilling Co.	ECL	Property	Field	Hole #	F30-11		
Date	4/3/01	Parcel	F30	Sheet 2		Of	2
Start Time	9:30 AM	Hole Location	Center Of Site	Surface Elev.	1062'		
Finish Time	3:15 PM	Logged By	Tim Higbee	Water Depth	49'		
Total Depth	98'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Gray very coarse sand with 40% gravel. Maximum size 2", avg. 1/2".	49	53	4	49 to 53	13.2	3.07	31.6	S&G
54		Brown to yellow medium sand with 10% fine gravel.	53	59	6	53 to 59	9	2.07	11.3	MSD
56										
58										
60		Yellow coarse sand with 35% gravel. Maximum size 1.5", avg. 1/4".	59	72.5	13.5	59 to 72.5	3	2.76	40.2	S&G
62										
64										
66										
68										
72		Gray coarse to very coarse sand with 40% fine gravel.	72.5	78	5.5	72.5 to 78	6.1	2.85	32.1	S&G
74										
76										
78										
80		Gray very silty soft clay with occasional fine gravel.	78	98	20					
82										
84										
86										
88										
90										
92										
94										
96										
98										
100		T.D. 98'								

Aggregate Analysis

Borehole No. F30-11
 Project ~~OPAL~~ FIELD
 From: 6.5
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	768.0	18.9		18.9	81.1
0.75"	200.0	4.9		23.9	76.1
0.5"	380.0	8.9		32.7	67.3
0.375"	204.0	5.0		37.8	62.2
No.4	452.0	11.1		48.9	51.1
No.8	342.0	8.4	16.5	16.5	83.5
No.16	306.0	7.5	14.8	31.3	68.7
No.30	328.0	8.0	15.7	47.0	53.0
No.50	506.0	12.5	24.4	71.4	28.6
No.100	264.0	6.5	12.7	84.2	15.8
No.200	82.0	2.0	4.0	88.1	11.9
Pan	246.0	6.1	11.9	100.0	0.0
% sand retained		51.1			

Dry Wt. 4056.0
 Wash Wt. 3824.0

L.B.W.% 5.7
 FM 2.50
 Gravel% 48.9

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-11
 Project FIELD
 From: 28.0
 To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	111.0	6.4		6.4	93.6
0.75"	58.0	3.3		9.7	90.3
0.5"	182.0	10.4		20.1	79.9
0.375"	89.0	5.1		25.2	74.8
No.4	209.0	12.0		37.2	62.8
No.8	156.0	8.9	15.4	15.4	84.6
No.16	222.0	12.7	21.9	37.4	62.6
No.30	167.0	10.7	18.5	55.8	44.2
No.50	274.0	15.7	27.1	82.9	17.1
No.100	133.0	7.6	13.1	96.0	4.0
No.200	38.0	2.2	3.8	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		58.0			

Dry Wt. 1745.0
 Wash Wt. 1659.0

L.B.W.% 4.9
 FM 2.88
 Gravel% 37.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-11
 Project FIELD
 From: 38.0
 To: 45.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	40.0	2.1		2.1	97.9
0.75"	35.0	1.8		3.9	96.1
0.5"	97.0	5.0		8.9	91.1
0.375"	75.0	3.9		12.8	87.2
No.4	175.0	9.0		21.8	78.2
No.8	195.0	10.1	12.9	12.9	87.1
No.16	249.0	12.9	16.5	29.4	70.6
No.30	376.0	19.4	24.9	54.2	45.8
No.50	383.0	19.8	25.3	79.6	20.4
No.100	154.0	8.0	10.2	89.7	10.3
No.200	38.0	2.0	2.5	92.3	7.7
Pan	117.0	6.0	7.7	100.0	0.0
% sand retained		78.2			

Dry Wt. 1934.0
 Wash Wt. 1821.0

L.B.W.% 5.8
 FM 2.66
 Gravel% 21.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-11
 Project FIELD
 From: 45.0
 To: 49.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	23.0	1.9		1.9	98.1
0.375"	4.0	0.3		2.2	97.8
No.4	56.0	4.6		6.8	93.2
No.8	68.0	5.6	6.0	6.0	94.0
No.16	72.0	5.9	6.3	12.3	87.7
No.30	81.0	6.6	7.1	19.4	80.6
No.50	65.0	5.3	5.7	25.0	75.0
No.100	58.0	4.7	5.1	30.1	69.9
No.200	144.0	11.8	12.6	42.7	57.3
Pan	654.0	53.4	57.3	100.0	0.0
% sand retained		93.2			
Dry Wt.	1225.0				
Wash Wt.	641.0				
L.B.W.%	47.7				
FM	0.93				
Gravel%	8.8				
Del.					
Lithologic unit	CL				

Aggregate Analysis

Borehole No. F30-11
 Project FIELD
 From: 49.0
 To: 53.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	52.0	3.5		3.5	96.5
0.75"	49.0	3.3		6.9	93.1
0.5"	105.0	7.1		14.0	86.0
0.375"	73.0	5.0		18.9	81.1
No.4	186.0	12.6		31.6	68.4
No.8	169.0	11.5	20.8	20.8	79.2
No.16	175.0	11.9	21.5	42.3	57.7
No.30	187.0	12.7	23.0	65.3	34.7
No.50	158.0	10.7	19.4	84.7	15.3
No.100	73.0	5.0	9.0	93.7	6.3
No.200	47.0	3.2	5.8	99.5	0.5
Pan	4.0	0.3	0.5	100.0	0.0
% sand retained		55.2			

Dry Wt. 1473.0
 Wash Wt. 1279.0

L.B.W.% 13.2
 FM 3.07
 Gravel% 34.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-11
 Project FIELD
 From: 53.0
 To: 59.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	49.0	3.7		3.7	96.3
0.375"	32.0	2.4		6.1	93.9
No.4	69.0	5.2		11.3	88.7
No.8	33.0	2.5	3.1	3.1	96.9
No.16	65.0	4.9	6.1	9.3	90.7
No.30	151.0	11.4	14.3	23.5	76.5
No.50	542.0	40.8	51.2	74.7	25.3
No.100	235.0	17.7	22.2	96.9	3.1
No.200	32.0	2.4	3.0	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		79.7			

Dry Wt. 1328.0
 Wash Wt. 1209.0

L.B.W.% 9.0
 FM 2.07
 Gravel% 11.3

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-11
 Project FIELD
 From: 59.0
 To: 72.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	96.0	5.2		5.2	94.8
0.75"	40.0	2.2		7.4	92.6
0.5"	172.0	9.4		16.8	83.2
0.375"	121.0	6.6		23.3	76.7
No.4	309.0	16.8		40.2	59.8
No.8	200.0	10.9	19.1	19.1	80.9
No.16	149.0	8.1	14.3	33.4	66.6
No.30	147.0	8.0	14.1	47.5	52.5
No.50	331.0	18.0	31.7	79.1	20.9
No.100	164.0	10.0	17.6	96.7	3.3
No.200	32.0	1.7	3.1	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		56.9			

Dry Wt. 1538.0
 Wash Wt. 1783.0

L.B.W.% 3.0
 FM 2.76
 Gravel% 40.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-H
 Project FIELD
 From: 72.5
 To: 78.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	28.0	1.7		1.7	98.3
0.5"	107.0	6.6		8.3	91.7
0.375"	117.0	7.2		15.5	84.5
No.4	271.0	16.6		32.1	67.9
No.8	237.0	14.6	23.6	23.6	76.4
No.16	163.0	10.0	16.3	39.9	60.1
No.30	132.0	8.1	13.2	53.0	47.0
No.50	220.0	13.5	21.9	75.0	25.0
No.100	184.0	11.3	18.3	93.3	6.7
No.200	62.0	3.8	6.2	99.5	0.5
Pan	5.0	0.3	0.5	100.0	0.0
% sand retained		61.6			

Dry Wt. 1628.0
 Wash Wt. 1528.0

L.B.W.% 6.1
 FM 2.85
 Gravel% 32.1

Del.
 Lithologic unit S&G

F 30 - I 1

78 - 98

ALL CLAY
NOT RUN!

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil going into a clay overburden that is brownish-tan in color.	Zero	9	9					
4										
6										
8										
10		Brown medium sand with medium-coarse gravel. Occasional fine sand seam. Largest was 15-16.5'. Gravel at about 30-35%. Max=3", Avg=1/4".	9	28	19	9 to 28	4.5	2.33	25.9	S&G
12										
14										
16										
18										
20										
22										
24										
26										
28										
30		Brown medium sand with occasional fine sand seam. Gravel prominent throughout at about 30%. Max=3-4", Avg=1/2-1/4".	28	39	11	28 to 39	3.1	2.67	47.9	S&G
32										
34										
36										
38										
40										
42										
44										
46		Brown medium coarse sand with coarse gravel. Gravel at about 40%. Max=4", Avg=1/2.	39	55	16	39 to 55	3.7	2.7	45.4	S&G
48										
50										

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-12		
Date	7/3/01	Parcel	F30	Sheet 2	2 Of	2	
Start Time	1:40 PM	Hole Location	N	Surface Elev.			
Finish Time	2:15 PM 7/12/01	Logged By	M. Bendemagel	Water Depth	55'		
otal Depth	98'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52										
54										
56		Fine to medium brownish-gray sand with occasional gravel.	55	68	13	55 to 68	5.4	2.12	17.6	MSD
58										
60										
62										
64										
66										
68		Brown medium to coarse sand with fine gravel. Avg=1/4, Max=1". Gravel at about 30%.	68	74	6	68 to 74				
70										
72										
74										
76		Stiff gray till or clay. Some large gravel present.	74	78	4	74 to 78	50.5	0.41	21.9	CL
78										
80		Fine gray silty sand with occasional fine gravel. Gravel at less than 10%.	78	88	10	78 to 88	8.1	1.46	13.5	ST
82										
84										
86										
88										
90		Gray clayey silt with no gravel.	88	98	10	88 to 98	32.3	0.53	0.3	CL
92										
94										
96										
98										
100		T.D. 98'								

Aggregate Analysis

Borehole No. F30-12
 Project FIELD
 From: 9.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	182.0	5.7		5.7	94.3
0.75"	100.0	3.1		8.8	91.2
0.5"	180.0	5.6		14.4	85.6
0.375"	92.0	2.9		17.3	82.7
No.4	276.0	8.6		25.9	74.1
No.8	282.0	8.8	12.4	12.4	87.6
No.16	304.0	9.5	13.3	25.7	74.3
No.30	344.0	10.7	15.1	40.8	59.2
No.50	578.0	18.0	25.4	66.2	33.8
No.100	502.0	15.6	22.0	88.2	11.8
No.200	118.0	3.7	5.2	93.4	6.6
Pan	150.0	4.7	6.6	100.0	0.0
% sand retained		71.0			

Dry Wt. 3206.0
 Wash Wt. 3064.0

L.B.W.% 4.5
 FM 2.33
 Gravel% 25.9

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-12
 Project FIELD
 From: 28.0
 To: 39.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	814.0	22.5		22.5	77.5
0.75"	142.0	5.2		27.7	72.3
0.5"	162.0	5.9		33.6	66.4
0.375"	116.0	4.2		37.8	62.2
No.4	274.0	10.0		47.9	52.1
No.8	252.0	9.2	17.7	17.7	82.3
No.16	234.0	8.6	16.4	34.1	65.9
No.30	236.0	8.6	16.6	50.7	49.3
No.50	338.0	12.4	23.7	74.4	25.6
No.100	224.0	8.2	15.7	90.2	9.8
No.200	52.0	1.9	3.7	93.8	6.2
Pan	88.0	3.2	6.2	100.0	0.0
% sand retained		52.1			

Dry Wt. 2732.0
 Wash Wt. 2646.0

L.B.W.% 3.1
 FM 2.67
 Gravel% 47.9

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-12
Project FIELD
From: 39.0
To: 55.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	526.0	19.3		19.3	80.7
0.75"	46.0	1.7		21.0	79.0
0.5"	244.0	9.0		30.0	70.0
0.375"	112.0	4.1		34.1	65.9
No.4	308.0	11.3		45.4	54.6
No.8	268.0	9.8	18.0	18.0	82.0
No.16	250.0	9.2	16.8	34.8	65.2
No.30	248.0	9.1	16.7	51.5	48.5
No.50	358.0	13.1	24.1	75.5	24.5
No.100	216.0	7.9	14.5	90.1	9.9
No.200	46.0	1.7	3.1	93.1	6.9
Pan	102.0	3.7	6.9	100.0	0.0
% sand retained		54.6			

Dry Wt. 2724.0
Wash Wt. 2624.0

L.B.W.% 3.7
FM 2.70
Gravel% 45.4

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-12
Project FIELD
From: 55.0
To: ~~68.0~~ 68.0 Net

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	178.0	6.4		6.4	93.6
0.75"	0.0	0.0		6.4	93.6
0.5"	92.0	3.3		9.8	90.2
0.375"	48.0	1.7		11.5	88.5
No.4	176.0	6.4		17.8	82.2
No.8	164.0	5.9	7.2	7.2	92.8
No.16	156.0	5.6	6.9	14.1	85.9
No.30	290.0	10.5	12.8	26.8	73.2
No.50	1042.0	37.6	45.8	72.6	27.4
No.100	414.0	15.0	18.2	90.9	9.1
No.200	56.0	2.0	2.5	93.3	6.7
Pan	152.0	5.5	6.7	100.0	0.0
% sand retained		82.2			

Dry Wt. 2768.0
Wash Wt. 2619.0

L.B.W.% 5.4
FM 2.12
Gravel% 17.8

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-12
Project FIELD
From: 74.0
To: 78.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	258.0	12.7		12.7	87.3
0.75"	32.0	1.6		14.3	85.7
0.5"	74.0	3.7		17.9	82.1
0.375"	34.0	1.7		19.6	80.4
No.4	46.0	2.3		21.9	78.1
No.8	32.0	1.6	2.0	2.0	98.0
No.16	20.0	1.0	1.3	3.3	96.7
No.30	32.0	1.6	2.0	5.3	94.7
No.50	112.0	5.6	7.1	12.4	87.6
No.100	84.0	4.2	5.3	17.8	82.2
No.200	212.0	10.5	13.5	31.2	68.8
Pan	1084.0	53.7	68.8	100.0	0.0
% sand retained		78.1			

Dry Wt. 2018.0
Wash Wt. 998.0

L.B.W.% 50.5
FM 0.41
Gravel% 21.9

Del.
Lithologic unit CL

Aggregate Analysis

Borehole No. F30-12
 Project FIELD
 From: 78.0
 To: 88.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	82.0	4.2		4.2	95.8
0.75"	86.0	4.4		8.6	91.4
0.5"	34.0	1.7		10.4	89.6
0.375"	20.0	1.0		11.4	88.6
No.4	40.0	2.1		13.5	86.5
No.8	24.0	1.2	1.4	1.4	98.6
No.16	28.0	1.4	1.7	3.1	96.9
No.30	50.0	2.6	3.0	6.1	93.9
No.50	770.0	39.6	45.7	51.8	48.2
No.100	540.0	27.7	32.1	83.8	16.2
No.200	104.0	5.3	6.2	90.0	10.0
Pan	168.0	8.6	10.0	100.0	0.0
% sand retained		86.5			

Dry Wt. 1946.0
 Wash Wt. 1768.0

L.B.W.% 8.1
 FM 1.46
 Gravel% 13.5

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-12
Project FIELD
From: 88.0
To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	2.0	0.1		0.1	99.9
No.4	2.0	0.1		0.3	99.7
No.8	2.0	0.1	0.1	0.1	99.9
No.16	2.0	0.1	0.1	0.3	99.7
No.30	6.0	0.4	0.4	0.7	99.3
No.50	96.0	6.7	6.7	7.4	92.6
No.100	532.0	37.1	37.2	44.6	55.4
No.200	284.0	19.8	19.9	64.5	35.5
Pan	508.0	35.4	35.5	100.0	0.0
% sand retained		99.7			

Dry Wt. 1434.0
Wash Wt. 972.0

L.B.W.% 32.2
FM 0.53
Gravel% 0.3

Del.
Lithologic unit CL

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Overburden, clay with some large gravel present. Silt very prominent as well.	Zero	12	12					
4										
6										
8										
10										
12										
14		Brown fine to medium sand with a medium gravel. Gravel at about 30%. Occasional band of fine sand.	12	34	22	12 to 34	7.5	2.17	26.4	S&G
16										
18										
20										
22										
24										
26										
28										
30										
32										
34										
36										
38										
40										
42										
44										
46										
48		Fine to medium brown sand with little to no gravel present.	45	48	3	48 to 48	5.9	2.43	14	2NS
50										
		Brownish tan silty clay with very little fine gravel.	48	52	4	48 to 52	37	0.87	4.1	CL

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-16		
Date	7/18/01	Parcel	F30	Sheet 2	2 Of	2	
Start Time	9:15 AM	Hole Location	S	Surface Elev.			
Finish Time	2:20 PM	Logged By	M. Bendemagel	Water Depth	45'		
Total Depth	98'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Brown medium to coarse sand with about 20% fine gravel. Avg=#4.	52	63	11	52 to 63	5.3	2.38	29.4	S&G
54										
56										
58										
60										
62		Brown coarse sand with a fine gravel at about 25%. Avg=1/4"	63	76	13	73 to 76	4	3.04	22.2	S&G
64										
66										
68										
70										
72		Gray stiff silty clay with no gravel.	76	80	4	76 to 80	27.6	1.36	12.1	CL
74										
76										
78										
80										
82		Gray gravelly clay with sand prominent. Gravel may not be in place.	80	83	3	80 to 83	12.3	2.2	34.1	S&G
84										
86		Gray stiff clay with occasional fine gravel.	83	95	12	83 to 95	3.6	2.04	28.1	S&G
88										
90										
92										
94										
96		Gray clayey sand with fine gravel present.	95	98	3	95 to 98	9.4	2.2	25.5	S&G
98										
100		T.D. 98'								

Aggregate Analysis

Borehole No. F30-16
 Project FIELD
 From: 12.0
 To: 34.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	98.0	4.9		4.9	95.1
0.75"	56.0	2.8		7.7	92.3
0.5"	114.0	5.7		13.3	86.7
0.375"	68.0	3.4		16.7	83.3
No.4	194.0	9.7		26.4	73.6
No.8	166.0	8.3	11.2	11.2	88.8
No.16	170.0	8.5	11.5	22.7	77.3
No.30	202.0	10.0	13.6	36.4	63.6
No.50	380.0	18.9	25.7	62.0	38.0
No.100	336.0	16.7	22.7	84.7	15.3
No.200	74.0	3.7	5.0	89.7	10.3
Pan	152.0	7.6	10.3	100.0	0.0
% sand retained		73.6			

Dry Wt. 2010.0
 Wash Wt. 1860.0

L.B.W.% 7.5
 FM 2.17
 Gravel% 26.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-16
 Project FIELD
 From: 34.0
 To: 45.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	192.0	9.4		9.4	90.6
0.75"	114.0	5.6		15.0	85.0
0.5"	90.0	4.4		19.4	80.6
0.375"	76.0	3.7		23.2	76.8
No.4	218.0	10.7		33.9	66.1
No.8	166.0	8.2	12.3	12.3	87.7
No.16	162.0	8.0	12.0	24.4	75.6
No.30	198.0	9.7	14.7	39.1	60.9
No.50	318.0	15.6	23.6	62.7	37.3
No.100	246.0	12.1	18.3	81.0	19.0
No.200	90.0	4.4	6.7	87.7	12.3
Pan	166.0	8.2	12.3	100.0	0.0
% sand retained		66.1			

Dry Wt. 2036.0
 Wash Wt. 1878.0

L.B.W.% 7.8
 FM 2.19
 Gravel% 33.9

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-16
Project FIELD
From: 45.0
To: 48.0

wat

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	68.0	3.2		3.2	96.8
0.5"	42.0	2.0		5.1	94.9
0.375"	40.0	1.9		7.0	93.0
No.4	152.0	7.1		14.0	86.0
No.8	172.0	8.0	9.3	9.3	90.7
No.16	224.0	10.4	12.1	21.4	78.6
No.30	422.0	19.6	22.8	44.2	55.8
No.50	616.0	28.6	33.3	77.5	22.5
No.100	238.0	11.1	12.9	90.4	9.6
No.200	50.0	2.3	2.7	93.1	6.9
Pan	128.0	5.9	6.9	100.0	0.0
% sand retained		86.0			

Dry Wt. 2152.0
Wash Wt. 2026.0

L.B.W.% 5.9
FM 2.43
Gravel% 14.0

Del.
Lithologic unit 2NS

Aggregate Analysis

Borehole No. F30-10
 Project FIELD
 From: 48.0
 To: 52.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	20.0	1.1		1.1	98.9
0.375"	10.0	0.6		1.7	98.3
No.4	42.0	2.4		4.1	95.9
No.8	38.0	2.2	2.3	2.3	97.7
No.16	48.0	2.7	2.9	5.1	94.9
No.30	140.0	8.0	8.3	13.5	86.5
No.50	212.0	12.1	12.6	26.1	73.9
No.100	238.0	13.6	14.2	40.3	59.7
No.200	294.0	16.8	17.5	57.8	42.2
Pan	708.0	40.5	42.2	100.0	0.0
% sand retained		95.9			

Dry Wt. 1750.0
 Wash Wt. 1102.0

L.B.W.% 37.0
 FM 0.87
 Gravel% 4.1

Del.
 Lithologic unit CL

Aggregate Analysis

Borehole No. F30-16
 Project FIELD
 From: 52.5
 To: 63.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	118.0	4.1		4.1	95.9
0.75"	78.0	2.7		6.7	93.3
0.5"	190.0	6.5		13.3	86.7
0.375"	132.0	4.5		17.8	82.2
No.4	336.0	11.6		29.4	70.6
No.8	268.0	9.2	13.1	13.1	86.9
No.16	252.0	8.7	12.3	25.4	74.6
No.30	332.0	11.4	16.2	41.6	58.4
No.50	608.0	20.9	29.7	71.2	28.8
No.100	318.0	11.0	15.5	86.7	13.3
No.200	110.0	3.8	5.4	92.1	7.9
Pan	162.0	5.6	7.9	100.0	0.0
% sand retained		70.6			

Dry Wt. 2904.0
 Wash Wt. 2750.0

L.B.W.% 5.3
 FM 2.38
 Gravel% 29.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-16
 Project FIELD
 From: 63.0
 To: 76.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	20.0	0.8		0.8	99.2
0.5"	100.0	4.1		4.9	95.1
0.375"	94.0	3.8		8.7	91.3
No.4	330.0	13.5		22.2	77.8
No.8	434.0	17.7	22.8	22.8	77.2
No.16	428.0	17.5	22.5	45.3	54.7
No.30	382.0	15.6	20.1	65.3	34.7
No.50	274.0	11.2	14.4	79.7	20.3
No.100	204.0	8.3	10.7	90.4	9.6
No.200	80.0	3.3	4.2	94.6	5.4
Pan	102.0	4.2	5.4	100.0	0.0
% sand retained		77.8			

Dry Wt. 2448.0
 Wash Wt. 2350.0

L.B.W.% 4.0
 FM 3.04
 Gravel% 22.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No.	F30-16				
Project	FIELD				
From:	76.0				
To:	80.0				
Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	18.0	1.9		1.9	98.1
0.5"	16.0	1.7		3.6	96.4
0.375"	16.0	1.7		5.3	94.7
No.4	64.0	6.8		12.1	87.9
No.8	80.0	6.4	7.2	7.2	92.8
No.16	54.0	5.7	6.5	13.8	86.2
No.30	56.0	5.9	6.8	20.5	79.5
No.50	128.0	13.6	15.5	36.0	64.0
No.100	186.0	19.7	22.5	58.5	41.5
No.200	78.0	8.3	9.4	67.9	32.1
Pan	266.0	28.2	32.1	100.0	0.0
% sand retained		87.9			
Dry Wt.	942.0				
Wash Wt.	682.0				
L.B.W.%	27.6				
FM	1.36				
Gravel%	12.1				
Del.					
Lithologic unit	CL				

Aggregate Analysis

Borehole No. F30-16
Project FIELD
From: 80.0
To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	220.0	9.5		9.5	90.5
0.75"	66.0	2.8		12.3	87.7
0.5"	96.0	4.1		16.5	83.5
0.375"	66.0	3.7		20.2	79.8
No.4	324.0	14.0		34.1	65.9
No.8	270.0	11.6	17.7	17.7	82.3
No.16	198.0	8.5	13.0	30.6	69.4
No.30	156.0	6.7	10.2	40.8	59.2
No.50	240.0	10.3	15.7	56.5	43.5
No.100	274.0	11.8	17.9	74.5	25.5
No.200	98.0	4.2	6.4	80.9	19.1
Pan	292.0	12.6	19.1	100.0	0.0
% sand retained		65.9			
Dry Wt.	2320.0				
Wash Wt.	2034.0				
L.B.W.%	12.3				
FM	2.20				
Gravel%	34.1				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-16
 Project FIELD
 From: 83.0
 To: 95.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	72.0	5.0		5.0	95.0
0.5"	108.0	7.6		12.6	87.4
0.375"	56.0	3.9		16.5	83.5
No.4	164.0	11.5		28.1	71.9
No.8	126.0	8.8	12.3	12.3	87.7
No.16	106.0	7.4	10.3	22.6	77.4
No.30	112.0	7.9	10.9	33.5	66.5
No.50	214.0	15.0	20.9	54.4	45.6
No.100	278.0	19.5	27.1	81.5	18.5
No.200	134.0	9.4	13.1	94.5	5.5
Pan	56.0	3.9	5.5	100.0	0.0
% sand retained		71.9			

Dry Wt. 1426.0
 Wash Wt. 1374.0

L.B.W.% 3.6
 FM 2.04
 Gravel% 28.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-16
 Project FIELD
 From: 95.0
 To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	52.0	3.6		3.6	96.4
0.5"	62.0	4.3		7.9	92.1
0.375"	60.0	4.1		12.0	88.0
No.4	196.0	13.5		25.5	74.5
No.8	170.0	11.7	15.7	15.7	84.3
No.16	142.0	9.8	13.1	28.8	71.2
No.30	124.0	8.5	11.5	40.3	59.7
No.50	176.0	12.1	16.3	56.6	43.4
No.100	238.0	16.4	22.0	78.6	21.4
No.200	92.0	6.3	8.5	87.1	12.9
Pan	140.0	9.6	12.9	100.0	0.0
% sand retained		74.5			
Dry Wt.	1452.0				
Wash Wt.	1316.0				
L.B.W.%	9.4				
FM	2.20				
Gravel%	25.5				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-I10
Project FIELD
From: 8.0
To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	526.0	22.5		22.5	77.5
0.75"	96.0	4.1		26.6	73.4
0.5"	120.0	5.1		31.7	68.3
0.375"	64.0	2.7		34.5	65.5
No.4	178.0	7.6		42.1	57.9
No.8	144.0	6.2	10.6	10.6	89.4
No.16	140.0	6.0	10.3	21.0	79.0
No.30	154.0	6.6	11.4	32.3	67.7
No.50	384.0	16.4	28.4	60.7	39.3
No.100	334.0	14.3	24.7	85.4	14.6
No.200	74.0	3.2	5.5	90.8	9.2
Pan	124.0	5.3	9.2	100.0	0.0
% sand retained		57.9			
Dry Wt.	2338.0				
Wash Wt.	2216.0				
L.B.W.%	5.2				
FM	2.10				
Gravel%	42.1				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-I10
 Project FIELD
 From: 13.0
 To: 15.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	2.0	0.1	0.1	0.1	99.9
No.16	6.0	0.4	0.4	0.5	99.5
No.30	20.0	1.4	1.4	1.9	98.1
No.50	256.0	17.6	17.6	19.5	80.5
No.100	946.0	64.9	64.9	84.4	15.6
No.200	142.0	9.7	9.7	94.1	5.9
Pan	86.0	5.9	5.9	100.0	0.0
% sand retained		100.0			

Dry Wt. 1458.0
 Wash Wt. 1382.0

L.B.W.% 5.2
 FM 1.06
 Gravel% 0.0

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-110
Project FIELD
From: 15.0
To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	448.0	17.2		17.2	82.8
0.75"	138.0	5.3		22.5	77.5
0.5"	210.0	8.1		30.5	69.5
0.375"	126.0	4.8		35.4	64.6
No.4	284.0	10.9		46.2	53.8
No.8	210.0	8.1	15.0	15.0	85.0
No.16	224.0	8.6	16.0	31.0	69.0
No.30	232.0	8.9	16.5	47.5	52.5
No.50	322.0	12.3	23.0	70.5	29.5
No.100	200.0	7.7	14.3	84.7	15.3
No.200	52.0	2.0	3.7	88.4	11.6
Pan	162.0	6.2	11.6	100.0	0.0
% sand retained		53.8			

Dry Wt. 2608.0
Wash Wt. 2448.0

L.B.W.% 6.1
FM 2.49
Gravel% 46.2

Def.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-I10
Project FIELD
From: 28.0
To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	280.0	11.9		11.9	88.1
0.75"	132.0	5.6		17.5	82.5
0.5"	164.0	7.0		24.5	75.5
0.375"	104.0	4.4		28.9	71.1
No.4	222.0	9.4		38.4	61.6
No.8	190.0	8.1	13.1	13.1	86.9
No.16	178.0	7.6	12.3	25.4	74.6
No.30	202.0	8.6	14.0	39.4	60.6
No.50	358.0	15.2	24.7	64.1	35.9
No.100	300.0	12.8	20.7	84.8	15.2
No.200	78.0	3.3	5.4	90.2	9.8
Pan	142.0	6.0	9.8	100.0	0.0
% sand retained		61.6			
Dry Wt.	2350.0				
Wash Wt.	2212.0				
L.B.W.%	5.9				
FM	2.27				
Gravel%	38.4				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-I10
Project FIELD
From: 38.0
To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	38.0	1.3		1.3	98.7
0.75"	28.0	1.0		2.3	97.7
0.5"	188.0	6.6		8.9	91.1
0.375"	144.0	5.0		13.9	86.1
No.4	314.0	11.0		24.9	75.1
No.8	268.0	9.4	12.5	12.5	87.5
No.16	270.0	9.5	12.6	25.1	74.9
No.30	362.0	12.7	16.9	42.0	58.0
No.50	722.0	25.3	33.7	75.7	24.3
No.100	328.0	11.5	15.3	91.0	9.0
No.200	66.0	2.3	3.1	94.0	6.0
Pan	128.0	4.5	6.0	100.0	0.0
% sand retained		75.1			
Dry Wt.	2856.0				
Wash Wt.	2726.0				
L.B.W.%	4.6				
FM	2.46				
Gravel%	24.9				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-I10
 Project FIELD
 From: 48.0
 To: 51.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	0.9		0.9	99.1
0.5"	6.0	0.3		1.2	98.8
0.375"	14.0	0.8		2.0	98.0
No.4	50.0	2.8		4.8	95.2
No.8	42.0	2.3	2.5	2.5	97.5
No.16	34.0	1.9	2.0	4.5	95.5
No.30	72.0	4.0	4.2	8.7	91.3
No.50	620.0	34.6	36.4	45.1	54.9
No.100	620.0	34.6	36.4	81.5	18.5
No.200	94.0	5.3	5.5	87.0	13.0
Pan	222.0	12.4	13.0	100.0	0.0
% sand retained		95.2			

Dry Wt. 1790.0
 Wash Wt. 1578.0

L.B.W.% 11.8
 FM 1.42
 Gravel% 4.8

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-10
 Project FIELD
 From: 71.0
 To: 84.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	30.0	1.4		1.4	98.6
0.75"	60.0	2.7		4.1	95.9
0.5"	70.0	3.2		7.2	92.8
0.375"	48.0	2.2		9.4	90.6
No.4	76.0	3.4		12.8	87.2
No.8	54.0	2.4	2.8	2.8	97.2
No.16	62.0	2.8	3.2	6.0	94.0
No.30	82.0	3.7	4.2	10.3	89.7
No.50	124.0	5.6	6.4	16.7	83.3
No.100	124.0	5.6	6.4	23.1	76.9
No.200	316.0	14.3	16.4	39.5	60.5
Pan	1168.0	52.8	60.5	100.0	0.0
% sand retained		87.2			

Dry Wt. 2214.0
 Wash Wt. 1152.0

L.B.W.% 48.0
 FM 0.59
 Gravel% 12.8

Del.
 Lithologic unit CL

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	P30-30
Date	7/12/01	Parcel	P30	Sheet 1	1 Of 2
Start Time	2:35 PM	Hole Location	N	Surface Elev.	
Finish Time	11:25 AM 7/13/01	Logged By	M. Bendernagel	Water Depth	61'
otal Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Tan clay overburden. Some large gravel within. Very silty.	Zero	8	8					
4										
6										
8										
10										
12										
14										
16										
28		Brown tan medium sand with medium gravel. Max=3-4", Avg=1/4". Gravel at about 25-30%.	8	28	20	8 to 28	7.1	2.19	34.8	S&G
30										
32										
34										
36										
38										
40										
42										
48		Brown medium to coarse sand with coarse gravel at about 35-40%. Max=5", Avg=1/2"	28	48	20	28 to 48	2.4	2.59	49.5	S&G
50										
52										
54										
56										
58										
60										
62										
61			48	61	13	48 to 61	4.1	2.38	34.3	S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-J0
Date	7/12/01	Parcel	F30	Sheet 2	2 Of 2
Start Time	2:35 PM	Hole Location	N	Surface Elev.	
Finish Time	11:25 AM 7/13/01	Logged By	M. Bendernagel	Water Depth	61'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Brown medium sand with fine gravel. Max 1", Avg=1/4". Sand has occasional fine seam. Gets coarser as we go through the section.	48	61	13	48 to 61	4.1	2.38	34.3	S&G
54										
56										
58										
60										
62		Medium to coarse brown sand with medium gravel at about 40%. Small silt seam at 61-62'.	61	73	12	61 to 73	4.8	2.47	33	S&G
64										
66										
68										
70										
72		Clayey and sandy brown to gray silt with some large gravel within.	73	77	4	73 to 77	25.1	1.44	26.3	CL
74										
76										
78		Gray clayey silt with little to no gravel	77	84	7	77 to 84				
80										
82										
84										
86										
88		Gray clay with occasional sand and silt seam interbedded. Little to no gravel present.	84	98	14	84 to 98	54.9	0.73	12.3	CL
90										
92										
94										
96										
98		T.D. 98'								
100										

Aggregate Analysis

Borehole No. F30-J0
 Project FIELD
 From: 8.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	446.0	17.9		17.9	82.1
0.75"	28.0	1.1		19.0	81.0
0.5"	118.0	4.7		23.7	76.3
0.375"	88.0	3.5		27.2	72.8
No.4	188.0	7.5		34.8	65.2
No.8	182.0	7.3	11.2	11.2	88.8
No.16	172.0	6.9	10.6	21.7	78.3
No.30	218.0	8.7	13.4	35.1	64.9
No.50	500.0	20.0	30.7	65.8	34.2
No.100	318.0	12.7	19.5	85.4	14.6
No.200	58.0	2.3	3.6	88.9	11.1
Pan	180.0	7.2	11.1	100.0	0.0
% sand retained		65.2			

Dry Wt. 2496.0
 Wash Wt. 2320.0

L.B.W.% 7.1
 FM 2.19
 Gravel% 34.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J0
 Project FIELD
 From: 28.0
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	484.0	17.1		17.1	82.9
0.75"	272.0	9.6		26.8	73.2
0.5"	242.0	8.6		35.3	64.7
0.375"	108.0	3.8		39.2	60.8
No.4	292.0	10.3		49.5	50.5
No.8	236.0	8.4	16.5	16.5	83.5
No.16	200.0	7.1	14.0	30.6	69.4
No.30	216.0	7.6	15.1	45.7	54.3
No.50	404.0	14.3	28.3	74.1	25.9
No.100	256.0	9.1	18.0	92.0	8.0
No.200	46.0	1.6	3.2	95.2	4.8
Pan	68.0	2.4	4.8	100.0	0.0
% sand retained		50.5			

Dry Wt. 2824.0
 Wash Wt. 2756.0

L.B.W.% 2.4
 FM 2.59
 Gravel% 49.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J0
 Project FIELD
 From: 48.0
 To: 61.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	212.0	10.1		10.1	89.9
0.75"	96.0	4.6		14.7	85.3
0.5"	120.0	5.7		20.4	79.6
0.375"	58.0	2.8		23.2	76.8
No.4	234.0	11.2		34.3	65.7
No.8	170.0	8.1	12.3	12.3	87.7
No.16	172.0	8.2	12.5	24.8	75.2
No.30	216.0	10.4	15.8	40.6	59.4
No.50	410.0	19.5	29.8	70.4	29.6
No.100	272.0	13.0	19.7	90.1	9.9
No.200	48.0	2.3	3.5	93.6	6.4
Pan	88.0	4.2	6.4	100.0	0.0
% sand retained		65.7			

Dry Wt. 2098.0
 Wash Wt. 2012.0

L.B.W.% 4.1
 FM 2.38
 Gravel% 34.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J0
 Project FIELD
 From: 61.0
 To: 73.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	118.0	4.1		4.1	95.9
0.75"	158.0	5.5		9.5	90.5
0.5"	240.0	8.3		17.8	82.2
0.375"	102.0	3.5		21.3	78.7
No.4	338.0	11.7		33.0	67.0
No.8	272.0	9.4	14.0	14.0	86.0
No.16	266.0	9.2	13.7	27.7	72.3
No.30	328.0	11.3	16.9	44.6	55.4
No.50	526.0	18.2	27.1	71.7	28.3
No.100	328.0	11.3	16.9	88.6	11.4
No.200	76.0	2.6	3.9	92.5	7.5
Pan	146.0	5.0	7.5	100.0	0.0
% sand retained		67.0			

Dry Wt. 2898.0
 Wash Wt. 2758.0

L.B.W.% 4.8
 FM 2.47
 Gravel% 33.0

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J0
 Project FIELD
 From: 73.0
 To: 77.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	254.0	9.4		9.4	90.6
0.75"	154.0	5.7		15.1	84.9
0.5"	50.0	1.8		16.9	83.1
0.375"	146.0	5.4		22.3	77.7
No.4	108.0	4.0		26.3	73.7
No.8	104.0	3.8	5.2	5.2	94.8
No.16	124.0	4.6	6.2	11.4	88.6
No.30	244.0	9.0	12.2	23.7	76.3
No.50	356.0	13.2	18.0	41.6	58.4
No.100	414.0	15.3	20.8	62.4	37.6
No.200	70.0	2.6	3.5	65.9	34.1
Pan	680.0	25.1	34.1	100.0	0.0
% sand retained		73.7			

Dry Wt. 2706.0
 Wash Wt. 2028.0

L.B.W.% 25.1
 FM 1.44
 Gravel% 26.3

Del.
 Lithologic unit CL

Aggregate Analysis

Borehole No. F30-J0
Project FIELD
From: 84.0
To: 98.0

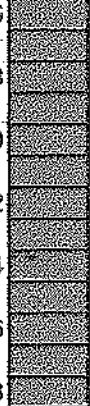
Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	14.0	0.7		0.7	99.3
0.5"	96.0	5.0		5.8	94.2
0.375"	52.0	2.7		8.5	91.5
No.4	74.0	3.9		12.3	87.7
No.8	62.0	3.2	3.7	3.7	96.3
No.16	62.0	3.2	3.7	7.4	92.6
No.30	86.0	4.5	5.1	12.5	87.5
No.50	144.0	7.5	8.6	21.1	78.9
No.100	120.0	6.3	7.2	28.3	71.7
No.200	124.0	6.5	7.4	35.7	64.3
Pan	1078.0	56.4	64.3	100.0	0.0
% sand retained		87.7			

Dry Wt. 1912.0
Wash Wt. 862.0

L.B.W.% 54.9
FM 0.73
Gravel% 12.3

Del.
Lithologic unit CL

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
2		Overburden, black topsoil going into a reddish brown clay with some gravel.	Zero	12	12					
4										
6										
8										
10										
12		Brown medium sand with a coarse gravel at about 20%. Avg = 1/4', Max = 2".	12	15.5	3.5	12 to 15.5	8.5	1.84	26.8	S&G
14										
16		Brown medium to coarse sand with a coarse gravel at 30%. Max = 4", Avg = 1/4".	15.5	28	12.5	15.5 to 28	4.8	2.68	35.3	S&G
18										
20										
22										
24										
26										
28										
30		Brown medium sand with a medium gravel at about 25-30%. Dome fine sand seams within. Avg = 1/4", Max = 2"	28	49	21	28 to 49	4.8	2.66	34.2	S&G
32										
34										
36										
38										
40										
42										
44										
46										
48										
50			49	60	11	49 to 60	4.2	2.91	30.2	S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 12.0
 To: 15.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	52.0	2.7		2.7	97.3
0.75"	58.0	3.0		5.6	94.4
0.5"	188.0	9.7		15.3	84.7
0.375"	78.0	4.0		19.3	80.7
No.4	146.0	7.5		26.8	73.2
No.8	120.0	6.2	8.4	8.4	91.6
No.16	118.0	6.1	8.3	16.7	83.3
No.30	130.0	6.7	9.1	25.8	74.2
No.50	362.0	18.6	25.4	51.2	48.8
No.100	444.0	22.8	31.1	82.3	17.7
No.200	78.0	4.0	5.5	87.8	12.2
Pan	174.0	8.9	12.2	100.0	0.0
% sand retained		73.2			

Dry Wt. 1948.0
 Wash Wt. 1782.0

L.B.W.% 8.5
 FM 1.84
 Gravel% 26.8

Def.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 15.5
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	194.0	7.1		7.1	92.9
0.75"	70.0	2.6		9.6	90.4
0.5"	174.0	6.3		16.0	84.0
0.375"	130.0	4.7		20.7	79.3
No.4	400.0	14.6		35.3	64.7
No.8	318.0	11.6	17.9	17.9	82.1
No.16	306.0	11.2	17.2	35.2	64.8
No.30	292.0	10.6	16.5	51.6	48.4
No.50	412.0	15.0	23.2	74.9	25.1
No.100	246.0	9.0	13.9	88.7	11.3
No.200	62.0	2.3	3.5	92.2	7.8
Pan	138.0	5.0	7.8	100.0	0.0
% sand retained		64.7			

Dry Wt. 2742.0
 Wash Wt. 2610.0

L.B.W.% 4.8
 FM 2.68
 Gravel% 35.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 28.0
 To: 49.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	184.0	7.5		7.5	92.5
0.75"	64.0	2.6		10.2	89.8
0.5"	166.0	6.8		17.0	83.0
0.375"	116.0	4.8		21.7	78.3
No.4	304.0	12.4		34.2	65.8
No.8	260.0	10.6	16.2	16.2	83.8
No.16	278.0	11.4	17.3	33.5	66.5
No.30	290.0	11.9	18.0	51.5	48.5
No.50	392.0	16.1	24.4	75.9	24.1
No.100	208.0	8.5	12.9	88.8	11.2
No.200	58.0	2.4	3.6	92.4	7.6
Pan	122.0	5.0	7.6	100.0	0.0
% sand retained		65.8			

Dry Wt. 2442.0
 Wash Wt. 2324.0

L.B.W.% 4.8
 FM 2.66
 Gravel% 34.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 49.0
 To: 60.0

wet

Sieve Size	Weight	% Retained	% sand retained	Acc. Retained	Acc. Passing
1.0"	34.0	2.0		2.0	98.0
0.75"	44.0	2.6		4.6	95.4
0.5"	96.0	5.6		10.2	89.8
0.375"	100.0	5.9		16.1	83.9
No.4	242.0	14.2		30.2	69.8
No.8	246.0	14.4	20.7	20.7	79.3
No.16	230.0	13.5	19.3	40.0	60.0
No.30	218.0	12.8	18.3	58.3	41.7
No.50	268.0	15.7	22.5	80.8	19.2
No.100	126.0	7.4	10.6	91.4	8.6
No.200	30.0	1.8	2.5	93.9	6.1
Pan	72.0	4.2	6.1	100.0	0.0
% sand retained		69.8			

Dry Wt. 1706.0
 Wash Wt. 1634.0

L.B.W.% 4.2
 FM 2.91
 Gravel% 30.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 60.0
 To: 64.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	28.0	2.0		2.0	98.0
0.375"	14.0	1.0		3.0	97.0
No.4	60.0	4.2		7.2	92.8
No.8	42.0	3.0	3.2	3.2	96.8
No.16	46.0	3.3	3.5	6.7	93.3
No.30	50.0	3.5	3.8	10.5	89.5
No.50	200.0	14.2	15.3	25.8	74.2
No.100	618.0	43.8	47.2	73.0	27.0
No.200	202.0	14.3	15.4	88.4	11.6
Pan	152.0	10.8	11.6	100.0	0.0
% sand retained		92.8			

Dry Wt. 1412.0
 Wash Wt. 1278.0

L.B.W.% 9.5
 FM 1.19
 Gravel% 7.2

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 64.0
 To: 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	84.0	3.6		3.6	96.4
0.375"	110.0	4.6		8.2	91.8
No.4	342.0	14.5		22.7	77.3
No.8	310.0	13.1	16.9	16.9	83.1
No.16	276.0	11.7	15.1	32.0	68.0
No.30	386.0	16.3	21.1	53.1	46.9
No.50	394.0	16.7	21.5	74.6	25.4
No.100	256.0	10.8	14.0	88.6	11.4
No.200	68.0	2.9	3.7	92.3	7.7
Pan	140.0	5.9	7.7	100.0	0.0
% sand retained		77.3			

Dry Wt. 2366.0
 Wash Wt. 2230.0

L.B.W.% 5.7
 FM 2.65
 Gravel% 22.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 68.0
 To: 71.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	35.0	2.6		2.6	97.4
0.75"	50.0	3.7		6.2	93.8
0.5"	76.0	5.6		11.8	88.2
0.375"	26.0	1.9		13.7	86.3
No.4	78.0	5.7		19.4	80.6
No.8	44.0	3.2	4.0	4.0	96.0
No.16	34.0	2.5	3.1	7.1	92.9
No.30	38.0	2.8	3.5	10.6	89.4
No.50	68.0	5.0	6.2	16.8	83.2
No.100	56.0	4.1	5.1	21.9	78.1
No.200	212.0	15.5	19.3	41.2	58.8
Pan	646.0	47.3	58.8	100.0	0.0
% sand retained		80.4			

Dry Wt. 1366.0
 Wash Wt. 754.0

L.B.W.% 44.8
 FM 0.60
 Gravel% 19.4

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 71.0
 To: 81.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	30.0	1.6		1.6	98.4
0.5"	50.0	2.6		4.2	95.8
0.375"	90.0	4.7		8.9	91.1
No.4	286.0	14.9		23.8	76.2
No.8	292.0	15.2	20.0	20.0	80.0
No.16	230.0	12.0	15.8	35.8	64.2
No.30	174.0	9.1	11.9	47.7	52.3
No.50	262.0	13.7	17.9	65.6	34.4
No.100	330.0	17.2	22.6	88.2	11.8
No.200	64.0	3.3	4.4	92.6	7.4
Pan	108.0	5.6	7.4	100.0	0.0
% sand retained		76.2			

Dry Wt. 1916.0
 Wash Wt. 1816.0

L.B.W.% 5.2
 FM 2.57
 Gravel% 23.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J4
 Project FIELD
 From: 81.0
 To: 93.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	46.0	2.1		2.1	97.9
0.75"	0.0	0.0		2.1	97.9
0.5"	82.0	3.8		5.9	94.1
0.375"	56.0	2.6		8.5	91.5
No.4	180.0	8.3		16.8	83.2
No.8	112.0	5.2	6.2	6.2	93.8
No.16	100.0	4.6	5.5	11.7	88.3
No.30	84.0	3.9	4.6	16.4	83.6
No.50	562.0	25.9	31.1	47.5	52.5
No.100	700.0	32.2	38.7	86.2	13.8
No.200	88.0	4.1	4.9	91.0	9.0
Pan	162.0	7.5	9.0	100.0	0.0
% sand retained		83.2			

Dry Wt. 2172.0
 Wash Wt. 2020.0

L.B.W.% 7.0
 FM 1.68
 Gravel% 16.8

Del.
 Lithologic unit FSD

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-J6
Date	6/5/01	Parcel	F30	Sheet 2	2 Of 2
Start Time	8:45 AM	Hole Location	South, Middle	Surface Elev.	
Finish Time	3:15 PM	Logged By	M. Bendernagel	Water Depth	53'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Brown fine to medium sand with some clay nodules. Gravel at about 15-20%.	49	53	4	49 to 53	14.3	2.24	24.3	S&G
54		Brown medium to coarse sand with 20% fine gravel.	53	68	15	53 to 68	4.4	2.96	22.9	S&G
56										
58										
60										
62										
64										
66										
68										
70		Brown medium to coarse sand with more of a tanner color. Gravel medium. Max = 2", Avg. = 1/4".	68	81	13	68 to 81	3.2	2.92	25.4	S&G
72										
74										
76										
78										
80										
82		Medium gray sand with 20% gravel. Max = 1/2", Avg = 1/4".	81	83	2	81 to 83	3.7	2.31	15.7	MSD
84		Alternating bands of fine-medium and medium-coarse sand. Gray in color. Fine gravel at about 20-25%.	83	98	15	83 to 98	6.5	2.1	15.6	MSD
86										
88										
90										
92										
94										
96										
98										
100		T.D. = 98'								

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 8.0
 To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	66.0	5.2		5.2	94.8
0.5"	52.0	4.1		9.3	90.7
0.375"	43.0	3.4		12.7	87.3
No.4	109.0	8.6		21.3	78.7
No.8	110.0	8.7	13.7	13.7	86.3
No.16	100.0	7.9	12.5	26.2	73.8
No.30	102.0	8.1	12.7	38.9	61.1
No.50	180.0	14.2	22.4	61.3	38.7
No.100	207.0	16.4	25.8	87.0	13.0
No.200	99.0	7.8	12.3	99.4	0.6
Pan	5.0	0.4	0.6	100.0	0.0
% sand retained		63.4			

Dry Wt. 1266.0
 Wash Wt. 1071.0

L.B.W.% 15.4
 FM 2.27
 Gravel% 21.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 18.0
 To: 25.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	90.0	3.6		3.6	96.4
0.75"	166.0	6.6		10.2	89.8
0.5"	132.0	5.2		15.4	84.6
0.375"	106.0	4.2		19.6	80.4
No.4	292.0	11.6		31.2	68.8
No.8	222.0	8.8	12.8	12.8	87.2
No.16	218.0	8.6	12.6	25.3	74.7
No.30	236.0	9.4	13.6	38.9	61.1
No.50	486.0	19.3	28.0	66.9	33.1
No.100	372.0	14.8	21.4	88.4	11.6
No.200	78.0	3.1	4.5	92.9	7.1
Pan	124.0	4.9	7.1	100.0	0.0
% sand retained		68.8			

Dry Wt. 2522.0
 Wash Wt. 2402.0

L.B.W.% 4.8
 FM 2.32
 Gravel% 31.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
Project FIELD
From: 25.0
To: 32.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	78.0	4.4		4.4	95.6
0.5"	94.0	5.4		9.8	90.2
0.375"	48.0	2.7		12.5	87.5
No.4	112.0	6.4		18.9	81.1
No.8	82.0	4.7	5.8	5.8	94.2
No.16	76.0	4.3	5.3	11.1	88.9
No.30	74.0	4.2	5.2	16.3	83.7
No.50	362.0	20.6	25.5	41.8	58.2
No.100	578.0	33.0	40.6	82.4	17.6
No.200	134.0	7.6	9.4	91.8	8.2
Pan	116.0	6.6	8.2	100.0	0.0
% sand retained		81.1			

Dry Wt. 1754.0
Wash Wt. 1644.0

L.B.W.% 6.3
FM 1.57
Gravel% 18.9

Del.
Lithologic unit ST

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 32.0
 To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	220.0	10.7		10.7	89.3
0.75"	80.0	3.9		14.6	85.4
0.5"	108.0	5.3		19.9	80.1
0.375"	76.0	3.7		23.6	76.4
No.4	226.0	11.0		34.6	65.4
No.8	174.0	8.5	13.0	13.0	87.0
No.16	154.0	7.5	11.5	24.5	75.5
No.30	196.0	9.6	14.6	39.1	60.9
No.50	398.0	19.4	29.7	68.8	31.2
No.100	278.0	13.6	20.7	89.6	10.4
No.200	54.0	2.6	4.0	93.6	6.4
Pan	86.0	4.2	6.4	100.0	0.0
% sand retained		65.4			

Dry Wt. 2050.0
 Wash Wt. 1966.0

L.B.W.% 4.1
 FM 2.35
 Gravel% 34.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 38.0
 To: 43.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	46.0	2.2		2.2	97.8
0.5"	112.0	5.3		7.5	92.5
0.375"	104.0	4.9		12.4	87.6
No.4	234.0	11.1		23.5	76.5
No.8	250.0	11.8	15.5	15.5	84.5
No.16	280.0	13.3	17.3	32.8	67.2
No.30	314.0	14.9	19.4	52.2	47.8
No.50	376.0	17.8	23.3	75.5	24.5
No.100	202.0	9.6	12.5	88.0	12.0
No.200	46.0	2.2	2.8	90.8	9.2
Pan	148.0	7.0	9.2	100.0	0.0
% sand retained		76.5			

Dry Wt. 2112.0
 Wash Wt. 1966.0

L.B.W.% 6.9
 FM 2.64
 Gravel% 23.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 43.0
 To: 47.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	10.0	0.6		0.6	99.4
0.5"	28.0	1.7		2.2	97.8
0.375"	22.0	1.3		3.6	96.4
No.4	48.0	2.8		6.4	93.6
No.8	50.0	3.0	3.2	3.2	96.8
No.16	72.0	4.3	4.6	7.7	92.3
No.30	120.0	7.1	7.6	15.3	84.7
No.50	610.0	36.1	38.6	53.9	46.1
No.100	576.0	34.1	36.4	90.3	9.7
No.200	52.0	3.1	3.3	93.6	6.4
Pan	102.0	6.0	6.4	100.0	0.0
% sand retained		93.6			

Dry Wt. 1690.0
 Wash Wt. 1592.0

L.B.W.% 5.8
 FM 1.70
 Gravel% 6.4

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 47.0
 To: 49.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	18.0	1.8		1.8	98.2
0.5"	16.0	1.6		3.4	96.6
0.375"	4.0	0.4		3.8	96.2
No.4	12.0	1.2		5.1	94.9
No.8	8.0	0.8	0.9	0.9	99.1
No.16	8.0	0.8	0.9	1.7	98.3
No.30	16.0	1.6	1.7	3.4	96.6
No.50	52.0	5.3	5.5	8.9	91.1
No.100	74.0	7.5	7.9	16.8	83.2
No.200	26.0	2.6	2.8	19.6	80.4
Pan	756.0	76.4	80.4	100.0	0.0
% sand retained		94.9			
Dry Wt.	990.0				
Wash Wt.	236.0				
L.B.W.%	76.2				
FM	0.32				
Gravel%	5.1				
Del.					
Lithologic unit	CL				

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 49.0
 To: 53.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	58.0	4.5		4.5	95.5
0.5"	52.0	4.2		8.7	91.3
0.375"	58.0	4.7		13.4	86.6
No.4	136.0	11.0		24.3	75.7
No.8	134.0	10.8	14.3	14.3	85.7
No.16	138.0	11.1	14.7	28.9	71.1
No.30	122.0	9.8	13.0	41.9	58.1
No.50	180.0	14.5	19.1	61.1	38.9
No.100	154.0	12.4	16.4	77.4	22.6
No.200	32.0	2.6	3.4	80.9	19.1
Pan	180.0	14.5	19.1	100.0	0.0
% sand retained		75.7			

Dry Wt. 1242.0
 Wash Wt. 1064.0

L.B.W.% 14.3
 FM 2.24
 Gravel% 24.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
Project FIELD
From: 53.0
To: 68.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	26.0	1.3		1.3	98.7
0.5"	82.0	4.1		5.4	94.6
0.375"	82.0	4.1		9.5	90.5
No.4	270.0	13.5		22.9	77.1
No.8	328.0	16.4	21.2	21.2	78.8
No.16	316.0	15.8	20.4	41.7	58.3
No.30	316.0	15.8	20.4	62.1	37.9
No.50	274.0	13.7	17.7	79.8	20.2
No.100	176.0	8.8	11.4	91.2	8.8
No.200	46.0	2.3	3.0	94.2	5.8
Pan	90.0	4.5	5.8	100.0	0.0
% sand retained		77.1			

Dry Wt. 2006.0
Wash Wt. 1918.0

L.B.W.% 4.4
FM 2.96
Gravel% 22.9

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 68.0
 To: 81.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	122.0	5.9		5.9	94.1
0.5"	48.0	2.3		8.2	91.8
0.375"	74.0	3.6		11.8	88.2
No.4	282.0	13.6		25.4	74.6
No.8	372.0	18.0	24.1	24.1	75.9
No.16	288.0	13.9	18.6	42.7	57.3
No.30	220.0	10.6	14.2	56.9	43.1
No.50	294.0	14.2	19.0	75.9	24.1
No.100	258.0	12.5	16.7	92.6	7.4
No.200	46.0	2.2	3.0	95.6	4.4
Pan	68.0	3.3	4.4	100.0	0.0
% sand retained		74.6			

Dry Wt. 2072.0
 Wash Wt. 2006.0

L.B.W.% 3.2
 FM 2.92
 Gravel% 25.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 81.0
 To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	48.0	3.7		3.7	96.3
0.375"	40.0	3.1		6.7	93.3
No.4	118.0	9.0		15.7	84.3
No.8	138.0	10.5	12.5	12.5	87.5
No.16	154.0	11.8	13.9	26.4	73.6
No.30	136.0	10.4	12.3	38.8	61.2
No.50	264.0	20.2	23.9	62.7	37.3
No.100	312.0	23.8	28.3	90.9	9.1
No.200	50.0	3.8	4.5	95.5	4.5
Pan	50.0	3.8	4.5	100.0	0.0
% sand retained		84.3			

Dry Wt. 1310.0
 Wash Wt. 1262.0

L.B.W.% 3.7
 FM 2.31
 Gravel% 15.7

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-J6
 Project FIELD
 From: 83.0
 To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	22.0	1.2		1.2	98.8
0.5"	82.0	4.5		5.8	94.2
0.375"	42.0	2.3		8.1	91.9
No.4	136.0	7.5		15.6	84.4
No.8	122.0	6.7	8.0	8.0	92.0
No.16	136.0	7.5	8.9	16.9	83.1
No.30	224.0	12.4	14.7	31.6	68.4
No.50	506.0	28.0	33.2	64.7	35.3
No.100	366.0	20.2	24.0	88.7	11.3
No.200	52.0	2.9	3.4	92.1	7.9
Pan	120.0	6.6	7.9	100.0	0.0
% sand retained		84.4			

Dry Wt. 1808.0
 Wash Wt. 1690.0

L.B.W.% 6.5
 FM 2.10
 Gravel% 15.6

Del.
 Lithologic unit MSD

Comments:

[illegible]

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-K2
Date	9/6/01	Parcel	F30	Sheet 2	2 Of 3
Start Time	11:25 AM	Hole Location	NE	Surface Elev.	
Finish Time	4:10 PM	Logged By	M. Bendermagel	Water Depth	48'
Total Depth	118'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis												
Depth	Litho.						LBW	FM	GR%	Note									
52		Tan fine sand to silt with little gravel at 10%.	51	54	3	51 to 54	18.5	0.88	9.4	ST									
54																			
56		A light brown to tan sticky clay with some fine gravel.	54	58	4	54 to 58	66.3	0.41	4	CL									
58																			
60		Dark brown medium to coarse sand with medium to coarse gravel at about 30-35%. Max = 2", Avg = 1/2.	58	70	12	58 to 70	8.7	2.49	29.1	S&G									
62																			
64																			
66																			
68																			
70																			
72		Gray fine to medium sand with fine gravel at about 5-10%.	70	95	25	70 to 95	9.9	1.6	6.2	FSD									
74																			
76																			
78																			
80																			
82																			
84																			
86																			
88																			
90																			
92																			
94																			
96											Gray silty fine sand with no gravel.	95	104	9	95 to 104	9.2	1.5	1.3	ST
98																			
100																			

Drilling Co.	Edward C. Levy	Property	Field	Hole #	F30-K2
Date	6/6/01	Parcel	F30	Sheet 1	3 Of 3
Start Time	11:25 AM	Hole Location	NE	Surface Elev.	
Finish Time	4:10 PM	Logged By	M. Bendemagel	Water Depth	58'
Total Depth	118'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
102		A gray silt with no gravel. Gets harder and finer through the section.	104	118	14	104 to 108	18.9	0.67	0.2	ST
104										
106										
108										
110										
112										
114										
116										
118										
	T.D. 118'									
120										
122										
124										
126										
128										
130										
132										
134										
136										
138										
140										
142										
144										
146										
148										
150										

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 1.5
 To: 3.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	64.0	3.2		3.2	96.8
0.5"	54.0	2.7		5.8	94.2
0.375"	46.0	2.3		8.1	91.9
No.4	76.0	3.7		11.8	88.2
No.8	88.0	4.3	4.9	4.9	95.1
No.16	100.0	4.9	5.6	10.5	89.5
No.30	126.0	6.2	7.0	17.5	82.5
No.50	350.0	17.2	19.6	37.1	62.9
No.100	548.0	27.0	30.6	67.7	32.3
No.200	242.0	11.9	13.5	81.2	18.8
Pan	336.0	16.6	18.8	100.0	0.0
% sand retained		88.2			

Dry Wt. 2030.0
 Wash Wt. 1732.0

L.B.W.% 14.7
 FM 1.38
 Gravel% 11.8

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 9.0
 To: 14.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	104.0	3.9		3.9	96.1
0.75"	98.0	3.7		7.6	92.4
0.5"	254.0	9.6		17.2	82.8
0.375"	116.0	4.4		21.6	78.4
No.4	202.0	7.6		29.2	70.8
No.8	142.0	5.4	7.6	7.6	92.4
No.16	118.0	4.5	6.3	13.9	86.1
No.30	154.0	5.8	8.2	22.1	77.9
No.50	592.0	22.3	31.6	53.6	46.4
No.100	532.0	20.1	28.4	82.0	18.0
No.200	110.0	4.2	5.9	87.8	12.2
Pan	228.0	8.6	12.2	100.0	0.0
% sand retained		70.8			

Dry Wt. 2650.0
 Wash Wt. 2436.0

L.B.W.% 8.1
 FM 1.79
 Gravel% 29.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 14.0
 To: 32.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	238.0	7.8		7.8	92.2
0.75"	126.0	4.1		12.0	88.0
0.5"	284.0	8.7		20.7	79.3
0.375"	128.0	4.2		24.9	75.1
No.4	374.0	12.3		37.2	62.8
No.8	246.0	8.1	12.9	12.9	87.1
No.16	278.0	9.1	14.6	27.4	72.6
No.30	264.0	8.7	13.8	41.3	58.7
No.50	454.0	14.9	23.8	65.0	35.0
No.100	342.0	11.3	17.9	82.9	17.1
No.200	116.0	3.8	6.1	89.0	11.0
Pan	210.0	6.9	11.0	100.0	0.0
% sand retained		62.8			

Dry Wt. 3040.0
 Wash Wt. 2844.0

L.B.W.% 6.4
 FM 2.30
 Gravel% 37.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 32.0
 To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	36.0	2.6		2.6	97.4
0.5"	26.0	1.9		4.5	95.5
0.375"	22.0	1.6		6.1	93.9
No.4	44.0	3.2		9.2	90.8
No.8	30.0	2.2	2.4	2.4	97.6
No.16	46.0	3.3	3.7	6.0	94.0
No.30	86.0	6.2	6.8	12.9	87.1
No.50	394.0	28.4	31.3	44.1	55.9
No.100	488.0	35.2	38.7	82.9	17.1
No.200	88.0	6.3	7.0	89.8	10.2
Pan	128.0	9.2	10.2	100.0	0.0
% sand retained		90.8			

Dry Wt. 1388.0
 Wash Wt. 1264.0

L.B.W.% 8.9
 FM 1.48
 Gravel% 9.2

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-K2
Project FIELD
From: 38.0
To: 51.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	50.0	2.4		2.4	97.6
0.5"	150.0	7.2		9.6	90.4
0.375"	88.0	4.2		13.8	86.2
No.4	286.0	13.7		27.4	72.6
No.8	238.0	11.4	15.7	15.7	84.3
No.16	280.0	13.4	18.4	34.1	65.9
No.30	344.0	16.4	22.7	56.8	43.2
No.50	308.0	14.7	20.3	77.1	22.9
No.100	138.0	6.6	9.1	86.2	13.8
No.200	56.0	2.7	3.7	89.9	10.1
Pan	154.0	7.4	10.1	100.0	0.0
% sand retained		72.6			

Dry Wt. 2092.0
Wash Wt. 1940.0

L.B.W.% 7.3
FM 2.70
Gravel% 27.4

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 51.0
 To: 54.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	28.0	1.9		1.9	98.1
0.75"	28.0	1.9		3.8	96.2
0.5"	46.0	3.1		6.9	93.1
0.375"	16.0	1.1		8.0	92.0
No.4	20.0	1.4		9.4	90.6
No.8	28.0	1.9	2.1	2.1	97.9
No.16	34.0	2.3	2.5	4.6	95.4
No.30	38.0	2.6	2.8	7.5	92.5
No.50	94.0	6.4	7.0	14.5	85.5
No.100	596.0	40.5	44.7	59.2	40.8
No.200	248.0	16.8	18.6	77.8	22.2
Pan	296.0	20.1	22.2	100.0	0.0
% sand retained		90.6			

Dry Wt. 1472.0
 Wash Wt. 1206.0

L.B.W.% 18.5
 FM 0.88
 Gravel% 9.4

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 54.0
 To: 58.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	14.0	0.8		0.8	99.2
0.5"	18.0	1.1		1.9	98.1
0.375"	8.0	0.5		2.4	97.6
No.4	26.0	1.6		4.0	96.0
No.8	24.0	1.5	1.5	1.5	98.5
No.16	40.0	2.4	2.5	4.0	96.0
No.30	50.0	3.0	3.2	7.2	92.8
No.50	66.0	4.0	4.2	11.4	88.6
No.100	84.0	5.1	5.3	16.7	83.3
No.200	170.0	10.3	10.7	27.4	72.6
Pan	1150.0	69.7	72.6	100.0	0.0
% sand retained		96.0			

Dry Wt. 1650.0
 Wash Wt. 556.0

L.B.W.% 66.3
 FM 0.41
 Gravel% 4.0

Del.
 Lithologic unit CL

Aggregate Analysis

Borehole No. F30-K2
Project FIELD
From: 58.0
To: 70.0

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	146.0	4.3		4.3	95.7
0.75"	58.0	2.6		6.9	93.1
0.5"	198.0	5.9		12.8	87.2
0.375"	126.0	3.7		16.5	83.5
No.4	428.0	12.6		29.1	70.9
No.8	410.0	12.1	17.1	17.1	82.9
No.16	414.0	12.2	17.3	34.4	65.6
No.30	372.0	11.0	15.5	49.9	50.1
No.50	380.0	11.2	15.8	65.7	34.3
No.100	390.0	11.5	16.3	82.0	18.0
No.200	122.0	3.6	5.1	87.1	12.9
Pan	310.0	9.2	12.9	100.0	0.0
% sand retained		70.9			
Dry Wt.	3384.0				
Wash Wt.	3090.0				
L.B.W.%	8.7				
FM	2.49				
Gravel%	29.1				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-K2
Project FIELD
From: 70.0
To: 95.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	12.0	0.5		0.5	99.5
0.5"	58.0	2.3		2.8	97.2
0.375"	26.0	1.0		3.8	96.2
No.4	58.0	2.3		6.2	93.8
No.8	36.0	1.4	1.5	1.5	98.5
No.16	44.0	1.8	1.9	3.4	96.6
No.30	136.0	5.5	5.8	9.2	90.8
No.50	1224.0	49.1	52.3	61.5	38.5
No.100	532.0	21.3	22.7	84.3	15.7
No.200	108.0	4.3	4.6	88.9	11.1
Pan	260.0	10.4	11.1	100.0	0.0
% sand retained		93.8			

Dry Wt. 2494.0
Wash Wt. 2248.0

L.B.W.% 9.9
FM 1.60
Gravel% 6.2

Del.
Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 95.0
 To: 104.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	10.0	0.7		0.7	99.3
0.375"	4.0	0.3		0.9	99.1
No.4	6.0	0.4		1.3	98.7
No.8	10.0	0.7	0.7	0.7	99.3
No.16	14.0	0.9	0.9	1.6	98.4
No.30	82.0	5.5	5.5	7.2	92.8
No.50	722.0	48.2	48.8	56.0	44.0
No.100	420.0	28.0	28.4	84.4	15.6
No.200	88.0	5.9	6.0	90.4	9.6
Pan	142.0	9.5	9.6	100.0	0.0
% sand retained		98.7			

Dry Wt. 1498.0
 Wash Wt. 1360.0

L.B.W.% 9.2
 FM 1.50
 Gravel% 1.3

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-K2
 Project FIELD
 From: 104.0
 To: 118.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	4.0	0.2		0.2	99.8
No.4	0.0	0.0		0.2	99.8
No.8	2.0	0.1	0.1	0.1	99.9
No.16	4.0	0.2	0.2	0.4	99.6
No.30	12.0	0.7	0.7	1.1	98.9
No.50	136.0	8.1	8.1	9.2	90.8
No.100	790.0	47.1	47.2	56.5	43.5
No.200	346.0	20.6	20.7	77.2	22.8
Pan	382.0	22.8	22.8	100.0	0.0
% sand retained		99.8			

Dry Wt. 1676.0
 Wash Wt. 1360.0

L.B.W.% 18.9
 FM 0.67
 Gravel% 0.2

Del.
 Lithologic unit SILT

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-K4
Date	5/30/01	Parcel	F30	Sheet 1	1 Of 2
Start Time		Hole Location	SE	Surface Elev.	
Finish Time		Logged By	M. Bendernagel	Water Depth	48'
Total Depth	93ft	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Overburden, topsoil and clay.	Zero	10	10					
4										
6										
8										
10										
12		Brown medium sand with about 30% gravel Max = 4"+.	10	18	8	10 to 18	7	2.54	41.6	S&G
14										
16										
18										
20										
22		Brown fine to medium sand with 15-25% gravel. Max = 2".	18	38	20	18 to 38	5.4	2.37	31.2	S&G
24										
26										
28										
30										
32										
34										
36										
38										
40										
42		Brown fine to medium sand with 15-25% gravel. Max = 2".	38	44.5	6.5	38 to 44.5	4.7	2.56	33.8	S&G
44										
46										
48		Brown fine to medium sand with 20% fine gravel. Max = 1".	44.5	48	3.5	44.5 to 48	6.6	2.72	33.7	S&G
50										
50		Brown fine to medium sand with fine gravel at about 10-15%.	48	59	11	48 to 59	4.7	2.53	24.9	S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30 K4
Date	5/30/01	Parcel	F30	Sheet 2	2 Of 2
Start Time		Hole Location	SE	Surface Elev.	
Finish Time		Logged By	M. Bendernagel	Water Depth	48'
Total Depth	93'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Brown fine to medium sand with light gravel at 10-15%.	48	59	11	48 to 59	4.7	2.53	24.9	S&G
54										
56										
58										
60		Brown medium sand with fine gravel at 5-10%.	59	68	9	59 to 68	7.1	1.95	21.1	S&G
62										
64										
66										
68		Brown medium to coarse sand with little to no gravel.	68	71	3	68 to 71	4.6	2.12	7.9	MSD
70										
72										
74		Gray coarse sand with medium gravel at about 25-30%. Max = 3".	71	78	7	71 to 78	2.8	2.52	35.1	S&G
76										
78										
80										
82		Gray, fine well sorted sand with no gravel coarser towards the bottom.	78	83.5	5.5	78 to 83.5	7.7	1.23	4	ST
84										
86		Hard gray clay with fine gravel (fill). Worked way into soft gray clay with no gravel.	83.5	93	9.5	83.5 to 93	65.6	0.79	2.4	CL
88										
90										
92										
94										
96										
98										
100										
		T.D. = 93'								

Aggregate Analysis

Borehole No. F30-K4
Project FIELD
From: 10.0
To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	244.0	11.4		11.4	88.6
0.75"	154.0	7.2		18.6	81.4
0.5"	146.0	6.8		25.4	74.6
0.375"	106.0	5.0		30.4	69.6
No.4	240.0	11.2		41.6	58.4
No.8	214.0	10.0	17.1	17.1	82.9
No.16	198.0	9.3	15.8	33.0	67.0
No.30	202.0	9.4	16.2	49.1	50.9
No.50	270.0	12.6	21.6	70.7	29.3
No.100	164.0	7.7	13.1	83.8	16.2
No.200	48.0	2.2	3.8	87.7	12.3
Pan	154.0	7.2	12.3	100.0	0.0
% sand retained		58.4			

Dry Wt. 2140.0
Wash Wt. 1990.0

L.B.W.% 7.0
FM 2.54
Gravel% 41.6

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K4
Project FIELD
From: 18.0
To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	176.0	5.7		5.7	94.3
0.75"	134.0	4.4		10.1	89.9
0.5"	232.0	7.6		17.7	82.3
0.375"	122.0	4.0		21.6	78.4
No.4	294.0	9.6		31.2	68.8
No.8	286.0	9.3	13.6	13.6	86.4
No.16	262.0	8.5	12.4	26.0	74.0
No.30	290.0	9.5	13.7	39.7	60.3
No.50	630.0	20.5	29.9	69.6	30.4
No.100	396.0	12.9	18.8	88.3	11.7
No.200	74.0	2.4	3.5	91.8	8.2
Pan	172.0	5.6	8.2	100.0	0.0
% sand retained		68.8			

Dry Wt. 3068.0
Wash Wt. 2902.0

L.B.W.% 5.4
FM 2.37
Gravel% 31.2

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 38.0
 To: 44.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	124.0	5.5		5.5	94.5
0.75"	120.0	5.3		10.8	89.2
0.5"	132.0	5.8		16.6	83.4
0.375"	104.0	4.6		21.2	78.8
No.4	286.0	12.6		33.8	66.2
No.8	256.0	11.3	17.1	17.1	82.9
No.16	210.0	9.3	14.0	31.1	68.9
No.30	218.0	9.6	14.5	45.6	54.4
No.50	408.0	18.0	27.2	72.8	27.2
No.100	250.0	11.0	16.7	89.5	10.5
No.200	52.0	2.3	3.5	92.9	7.1
Pan	106.0	4.7	7.1	100.0	0.0
% sand retained		66.2			

Dry Wt. 2266.0
 Wash Wt. 2160.0

L.B.W.% 4.7
 FM 2.56
 Gravel% 33.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 44.5
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	38.0	2.1		2.1	97.9
0.75"	40.0	2.2		4.3	95.7
0.5"	124.0	6.9		11.3	88.7
0.375"	110.0	6.1		17.4	82.6
No.4	292.0	16.3		33.7	66.3
No.8	252.0	14.0	21.2	21.2	78.8
No.16	200.0	11.1	16.8	38.0	62.0
No.30	178.0	9.9	15.0	52.9	47.1
No.50	250.0	13.9	21.0	73.9	26.1
No.100	146.0	8.1	12.3	86.2	13.8
No.200	44.0	2.5	3.7	89.9	10.1
Pan	120.0	6.7	10.1	100.0	0.0
% sand retained		66.3			

Dry Wt. 1794.0
 Wash Wt. 1676.0

L.B.W.% 6.6
 FM 2.72
 Gravel% 33.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K4
Project FIELD
From: 48.0
To: 59.0

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	32.0	1.5		1.5	98.5
0.75"	84.0	4.0		5.5	94.5
0.5"	134.0	6.4		11.9	88.1
0.375"	68.0	3.2		15.1	84.9
No.4	206.0	9.8		24.9	75.1
No.8	174.0	8.3	11.0	11.0	89.0
No.16	226.0	10.7	14.3	25.3	74.7
No.30	350.0	16.6	22.1	47.3	52.7
No.50	494.0	23.4	31.2	78.5	21.5
No.100	192.0	9.1	12.1	90.7	9.3
No.200	46.0	2.2	2.9	93.6	6.4
Pan	102.0	4.8	6.4	100.0	0.0
% sand retained		75.1			
Dry Wt.	2108.0				
Wash Wt.	2008.0				
L.B.W.%	4.7				
FM	2.53				
Gravel%	24.9				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 59.0
 To: 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	138.0	8.1		8.1	91.9
0.5"	64.0	4.9		13.0	87.0
0.375"	42.0	2.5		15.4	84.6
No.4	98.0	5.7		21.1	78.9
No.8	94.0	5.5	7.0	7.0	93.0
No.16	102.0	6.0	7.6	14.5	85.5
No.30	142.0	8.3	10.5	25.0	75.0
No.50	462.0	28.2	35.7	60.7	39.3
No.100	358.0	20.9	26.5	87.3	12.7
No.200	48.0	2.8	3.6	90.8	9.2
Pan	124.0	7.2	9.2	100.0	0.0
% sand retained		78.9			

Dry Wt. 1712.0
 Wash Wt. 1590.0

L.B.W.% 7.1
 FM 1.95
 Gravel% 21.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 68.0
 To: 71.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	36.0	1.7		1.7	98.3
0.375"	40.0	1.9		3.6	96.4
No.4	90.0	4.3		7.9	92.1
No.8	100.0	4.7	5.1	5.1	94.9
No.16	124.0	5.9	6.4	11.5	88.5
No.30	268.0	12.7	13.8	25.3	74.7
No.50	1008.0	47.7	51.7	77.0	23.0
No.100	308.0	14.6	15.8	92.8	7.2
No.200	38.0	1.8	2.0	94.8	5.2
Pan	102.0	4.8	5.2	100.0	0.0
% sand retained		92.1			

Dry Wt. 2114.0
 Wash Wt. 2016.0

L.B.W.% 4.6
 FM 2.12
 Gravel% 7.9

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 71.0
 To: 78.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	28.0	1.5		1.5	98.5
0.75"	70.0	3.9		5.4	94.6
0.5"	178.0	9.8		15.2	84.8
0.375"	112.0	6.2		21.4	78.6
No.4	248.0	13.7		35.1	64.9
No.8	188.0	10.4	16.0	16.0	84.0
No.16	134.0	7.4	11.4	27.4	72.6
No.30	130.0	7.2	11.1	38.5	61.5
No.50	452.0	25.0	38.5	77.0	23.0
No.100	188.0	10.4	16.0	93.0	7.0
No.200	28.0	1.5	2.4	95.4	4.6
Pan	54.0	3.0	4.6	100.0	0.0
% sand retained		64.9			

Dry Wt. 1810.0
 Wash Wt. 1760.0

L.B.W.% 2.8
 FM 2.52
 Gravel% 35.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 78.0
 To: 83.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	12.0	0.9		0.9	99.1
0.5"	6.0	0.4		1.3	98.7
0.375"	16.0	1.1		2.4	97.6
No.4	22.0	1.6		4.0	96.0
No.8	26.0	1.9	1.9	1.9	98.1
No.16	42.0	3.0	3.1	5.1	94.9
No.30	52.0	3.7	3.9	8.9	91.1
No.50	192.0	13.7	14.3	23.2	76.8
No.100	812.0	58.1	60.5	83.8	16.2
No.200	106.0	7.6	7.9	91.7	8.3
Pan	112.0	8.0	8.3	100.0	0.0
% sand retained		96.0			

Dry Wt. 1398.0
 Wash Wt. 1290.0

L.B.W.% 7.7
 FM 1.23
 Gravel% 4.0

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F30-K4
 Project FIELD
 From: 83.5
 To: 93.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	14.0	0.7		0.7	99.3
No.4	38.0	1.8		2.4	97.6
No.8	70.0	3.3	3.4	3.4	96.6
No.16	124.0	5.8	6.0	9.4	90.6
No.30	122.0	5.7	5.9	15.2	84.8
No.50	134.0	6.3	6.5	21.7	78.3
No.100	168.0	7.9	8.1	29.8	70.2
No.200	58.0	2.7	2.8	32.6	67.4
Pan	1398.0	65.8	67.4	100.0	0.0
% sand retained		97.6			

Dry Wt. 2126.0
 Wash Wt. 732.0

L.B.W.% 65.6
 FM 0.79
 Gravel% 2.4

Det.
 Lithologic unit CL

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-K6
Date	5/31/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	9:35 AM	Hole Location	SE	Surface Elev.	
Finish Time	3:00 PM	Logged By	M. Bendernagel	Water Depth	48'
Total Depth	95'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
2		Overburden. Brown clayey soil with some large gravel.	Zero	3.5	3.5					
4		Brown medium sand with large gravel (30-40%). Max = 3".	3.5	18	14.5	3.5 to 18				
6										
8										
10										
12										
14										
16										
18										
20		Brown medium sand with 30-40% gravel. Some alternating bands of fine sand and medium to coarse sand.	18	33	15	18 to 33	4.4	2.34	34.7	S&G
22										
24										
26										
28										
30										
32										
34		Tannish-brown fine to medium sand with fine gravel (15-25%). Max gravel is 2".	33	45	12	33 to 45	3.9	2.75	19.3	2NS
36										
38										
40										
42										
44										
46		Fine brown sugary sand with no gravel.	45	48	3	45 to 48	4.6	1.89	6.3	FSD
48										
50		Brown soft clay with some fine sand and gravel. Water begins.	48	51	3	48 to 51	46.2	1.07	5.8	CL

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-K8
Date	5/30/01	Parcel	F30	Sheet 2	2 Of 2
Start Time	9:35 AM	Hole Location	SE	Surface Elev.	
Finish Time	3:00 PM 5/8/00	Logged By	M. Benlennagel	Water Depth	48'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
52		Brown medium to coarse sand with 20-30% gravel. Max = 2". Seams of fine sand within.	51	73	22	51 to 73	4.7	2.71	30.3	S&G
54										
56										
58										
60										
62										
64										
66										
68										
70										
72										
74		Gray medium to coarse sand with about 20% gravel. Clay lenses at about 79' and about 1' thick. Also fine gray sand seams within.	73	85	12	73 to 85	8.1	2.16	23.2	S&G
76										
78										
80										
82										
84										
86										
88		Fine sandy silt, gray in color. No gravel present	85	93	8	85 to 93	41.6	0.37	4.4	CL
90										
92										
94										
96										
98										
100		T.D. = 98'								



Aggregate Analysis

Borehole No. F30-K6
Project FIELD
From: 18.0
To: 33.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	256.0	15.5		15.5	84.5
0.75"	74.0	4.5		20.0	80.0
0.5"	52.0	3.2		23.2	76.8
0.375"	57.0	3.5		26.6	73.4
No.4	133.0	8.1		34.7	65.3
No.8	121.0	7.3	12.1	12.1	87.9
No.16	112.0	6.8	11.2	23.2	76.8
No.30	132.0	8.0	13.2	36.4	63.6
No.50	315.0	19.1	31.4	67.8	32.2
No.100	267.0	16.2	26.6	94.4	5.6
No.200	54.0	3.3	5.4	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		60.9			

Dry Wt. 1648.0
Wash Wt. 1575.0

L.B.W.% 4.4
FM 2.34
Gravel% 34.7

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K6
Project FIELD
From: 33.0
To: 45.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	84.0	5.9		5.9	94.1
0.375"	44.0	3.1		9.0	91.0
No.4	147.0	10.3		19.3	80.7
No.8	109.0	7.7	10.0	10.0	90.0
No.16	179.0	12.6	16.4	26.4	73.6
No.30	290.0	20.4	26.6	52.9	47.1
No.50	386.0	27.1	35.3	88.3	11.7
No.100	100.0	7.0	9.2	97.4	2.6
No.200	27.0	1.9	2.5	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		76.7			

Dry Wt. 1423.0
Wash Wt. 1367.0

L.B.W.% 3.9
FM 2.75
Gravel% 19.3

Del.
Lithologic unit 2NS



Aggregate Analysis

Borehole No. F30-K6
Project FIELD
From: 45.0
To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	14.0	1.0		1.0	99.0
0.375"	24.0	1.7		2.7	97.3
No.4	50.0	3.6		6.3	93.7
No.8	40.0	2.9	3.1	3.1	96.9
No.16	56.0	4.0	4.3	7.4	92.6
No.30	166.0	12.0	12.8	20.2	79.8
No.50	594.0	42.8	45.7	65.8	34.2
No.100	348.0	25.1	26.8	92.6	7.4
No.200	30.0	2.2	2.3	94.9	5.1
Pan	66.0	4.8	5.1	100.0	0.0
% sand retained		93.7			
Dry Wt.	1388.0				
Wash Wt.	1324.0				
L.B.W.%	4.6				
FM	1.89				
Gravel%	6.3				
Del.					
Lithologic unit	FSD				



Aggregate Analysis

Borehole No. F30-K6
Project FIELD
From: 48.0
To: 51.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	4.0	0.3		0.3	99.7
0.375"	20.0	1.5		1.7	98.3
No.4	56.0	4.1		5.8	94.2
No.8	58.0	4.2	4.5	4.5	95.5
No.16	80.0	5.8	6.2	10.6	89.4
No.30	130.0	9.4	10.0	20.6	79.4
No.50	148.0	10.7	11.4	32.0	68.0
No.100	98.0	6.4	6.8	38.8	61.2
No.200	148.0	10.7	11.4	50.2	49.8
Pan	646.0	46.9	49.8	100.0	0.0
% sand retained		94.2			
Dry Wt.	1378.0				
Wash Wt.	742.0				
L.B.W.%	46.2				
FM	1.07				
Gravel%	5.8				
Del.					
Lithologic unit	CL				

Aggregate Analysis

Borehole No. F30-K8
 Project FIELD
 From: 51.0
 To: 73.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	204.0	6.6		6.6	93.4
0.75"	118.0	3.8		10.4	89.6
0.5"	196.0	6.3		16.7	83.3
0.375"	88.0	2.8		19.6	80.4
No.4	332.0	10.7		30.3	69.7
No.8	380.0	12.3	17.6	17.6	82.4
No.16	376.0	12.1	17.4	35.0	65.0
No.30	390.0	12.6	18.1	53.1	46.9
No.50	496.0	16.0	23.0	76.1	23.9
No.100	272.0	8.8	12.6	88.7	11.3
No.200	92.0	3.0	4.3	93.0	7.0
Pan	152.0	4.9	7.0	100.0	0.0
% sand retained		69.7			

Dry Wt. 3096.0
 Wash Wt. 2952.0

L.B.W.% 4.7
 FM 2.71
 Gravel% 30.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-K6
 Project FIELD
 From: 73.0
 To: 85.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	110.0	4.5		4.5	95.5
0.75"	18.0	0.7		5.2	94.8
0.5"	116.0	4.7		10.0	90.0
0.375"	100.0	4.1		14.1	85.9
No.4	224.0	9.2		23.2	76.8
No.8	234.0	9.6	12.5	12.5	87.5
No.16	212.0	8.7	11.3	23.8	76.2
No.30	228.0	9.3	12.2	35.9	64.1
No.50	480.0	19.6	25.6	61.5	38.5
No.100	394.0	16.1	21.0	82.5	17.5
No.200	124.0	5.1	6.6	89.1	10.9
Pan	204.0	8.3	10.9	100.0	0.0
% sand retained		76.8			

Dry Wt. 2444.0
 Wash Wt. 2246.0

L.B.W.% 8.1
 FM 2.16
 Gravel% 23.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-K6
Project FIELD
From: 85.0
To: 93.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	18.0	1.3		1.3	98.7
0.375"	16.0	1.1		2.4	97.6
No.4	28.0	2.0		4.4	95.6
No.8	24.0	1.7	1.8	1.8	98.2
No.16	24.0	1.7	1.8	3.6	96.4
No.30	26.0	1.8	1.9	5.5	94.5
No.50	54.0	3.8	4.0	9.5	90.5
No.100	94.0	6.7	7.0	16.5	83.5
No.200	452.0	32.1	33.5	50.0	50.0
Pan	674.0	47.8	50.0	100.0	0.0
% sand retained		95.6			

Dry Wt. 1410.0
Wash Wt. 824.0

L.B.W.% 41.6
FM 0.37
Gravel% 4.4

Def.
Lithologic unit CL

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-L0
Date	7/3/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	11:00 AM	Hole Location	NE	Surface Elev.	
Finish Time		Logged By	M. Bendernagel	Water Depth	63'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil going into a dark brown then a light tan clay. Little fine gravel present.	Zero	12	12					
4										
6										
8										
10										
12		Alternating bands of fine and medium brown sand. Gravel prominent throughout at about 25-30%. Max=2.5", Avg=1/4".	12	26	14	12 to 26	6.6	2.4	14.1	2NS
14										
16										
18										
20										
22										
24										
26										
28		Brown medium sand with very coarse gravel at about 40%. Max=4", Avg=1/2".	26	40	14	26 to 40	5.4	2.46	27.6	S&G
30										
32										
34										
36										
38										
40										
42										
44		Fine brown silty sand with medium gravel at about 20%. Max=1", Avg=1/4".	40	43	3	40 to 43	13.1	1.4	17.6	ST
46										
48		Brown medium sand with about 40% medium to coarse gravel. Max=2", Avg=3/8".	43	48	5	43 to 48	6.7	2.55	28.4	S&G
50										
50		Dark brown medium to coarse sand with about 35% fine to medium gravel.	48	57	9	48 to 57	7.3	2.97	22.5	S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-L0			
Date	7/3/01	Parcel	F30	Sheet 2		2 Of		2
Start Time	11:00 AM	Hole Location	NE	Surface Elev.				
Finish Time		Logged By	M. Bendernagel	Water Depth		63'		
Total Depth	98'	Drill Method	Auger					

Comments:

[illegible]

Aggregate Analysis

Borehole No. F30-L0
 Project FIELD
 From: 12.0
 To: 26.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	61.0	4.7		4.7	95.3
0.375"	22.0	1.7		6.3	93.7
No.4	101.0	7.7		14.1	85.9
No.8	108.0	8.3	10.4	10.4	89.6
No.16	117.0	8.9	11.3	21.7	78.3
No.30	163.0	12.5	15.7	37.3	62.7
No.50	392.0	29.9	37.7	75.1	24.9
No.100	216.0	16.5	20.8	95.9	4.1
No.200	41.0	3.1	3.9	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% sand retained		79.4			

Dry Wt. 1309.0
 Wash Wt. 1222.0

L.B.W.% 6.6
 FM 2.40
 Gravel% 14.1

Del.
 Lithologic unit 2NS

Aggregate Analysis

Borehole No. F30-L0
Project FIELD
From: 26.0
To: 40.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	114.0	6.8		6.8	93.2
0.75"	64.0	3.8		10.6	89.4
0.5"	76.0	4.5		15.2	84.8
0.375"	32.0	1.9		17.1	82.9
No.4	177.0	10.6		27.6	72.4
No.8	150.0	9.0	13.4	13.4	86.6
No.16	147.0	8.8	13.1	26.5	73.5
No.30	164.0	9.8	14.6	41.1	58.9
No.50	338.0	20.2	30.1	71.2	28.8
No.100	256.0	15.3	22.8	94.0	6.0
No.200	63.0	3.8	5.6	99.6	0.4
Pan	4.0	0.2	0.4	100.0	0.0
% sand retained		67.0			

Dry Wt. 1675.0
Wash Wt. 1584.0

L.B.W.% 5.4
FM 2.46
Gravel% 27.6

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-L0
 Project FIELD
 From: 40.0
 To: 43.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	29.0	2.5		2.5	97.5
0.75"	55.0	4.7		7.2	92.8
0.5"	48.0	4.1		11.3	88.7
0.375"	21.0	1.8		13.2	86.8
No.4	52.0	4.5		17.6	82.4
No.8	43.0	3.7	5.3	5.3	94.7
No.16	46.0	4.0	5.7	11.0	89.0
No.30	55.0	4.7	6.8	17.9	82.1
No.50	123.0	10.6	15.3	33.1	66.9
No.100	322.0	27.7	40.0	73.1	26.9
No.200	210.0	18.1	26.1	99.1	0.9
Pan	7.0	0.6	0.9	100.0	0.0
% sand retained		69.3			

Dry Wt. 1163.0
 Wash Wt. 1011.0

L.B.W.% 13.1
 FM 1.40
 Gravel% 17.6

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-L0
 Project FIELD
 From: 43.0
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	1.9		1.9	98.1
0.75"	98.0	5.1		7.0	93.0
0.5"	145.0	7.5		14.5	85.5
0.375"	91.0	4.7		19.2	80.8
No.4	178.0	9.2		28.4	71.6
No.8	185.0	9.6	14.8	14.8	85.2
No.16	185.0	9.6	14.8	29.6	70.4
No.30	210.0	10.9	16.8	46.4	53.6
No.50	323.0	16.8	25.8	72.2	27.8
No.100	249.0	12.9	19.9	92.1	7.9
No.200	94.0	4.9	7.5	99.6	0.4
Pan	5.0	0.3	0.4	100.0	0.0
% sand retained		64.9			

Dry Wt. 1927.0
 Wash Wt. 1798.0

L.B.W.% 6.7
 FM 2.55
 Gravel% 28.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-L0
 Project FIELD
 From: 48.0
 To: 57.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	27.0	1.5		1.5	98.5
0.75"	23.0	1.3		2.7	97.3
0.5"	74.0	4.0		6.8	93.2
0.375"	92.0	5.0		11.8	88.2
No.4	198.0	10.7		22.5	77.5
No.8	206.0	11.3	16.0	16.0	84.0
No.16	282.0	15.4	22.0	38.0	62.0
No.30	301.0	16.4	23.4	61.4	38.6
No.50	307.0	16.8	23.9	85.4	14.6
No.100	136.0	7.4	10.6	96.0	4.0
No.200	49.0	2.7	3.8	99.8	0.2
Pan	3.0	0.2	0.2	100.0	0.0
% sand retained		70.2			

Dry Wt. 1830.0
 Wash Wt. 1697.0

L.B.W.% 7.3
 FM 2.97
 Gravel% 22.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-L0
 Project FIELD
 From: 57.5
 To: 67.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	2.3		2.3	97.7
0.75"	24.0	1.5		3.8	96.2
0.5"	18.0	1.1		4.9	95.1
0.375"	13.0	0.8		5.7	94.3
No.4	24.0	1.5		7.2	92.8
No.8	19.0	1.2	2.9	2.9	97.1
No.16	29.0	1.8	4.4	7.3	92.7
No.30	38.0	2.4	5.7	13.0	87.0
No.50	53.0	3.3	8.0	21.0	79.0
No.100	43.0	2.7	6.5	27.5	72.5
No.200	357.0	22.4	53.9	81.4	18.6
Pan	123.0	7.7	18.6	100.0	0.0
% sand retained		41.5			

Dry Wt. 1596.0
 Wash Wt. 778.0

L.B.W.% 51.3
 FM 0.72
 Gravel% 7.2

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-L0
Project FIELD
From: 67.0
To: 78.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	5.0	0.3		0.3	99.7
0.375"	2.0	0.1		0.5	99.5
No.4	16.0	1.0		1.5	98.5
No.8	12.0	0.8	0.9	0.9	99.1
No.16	22.0	1.4	1.6	2.5	97.5
No.30	99.0	6.4	7.3	9.8	90.2
No.50	768.0	50.0	56.3	66.1	33.9
No.100	375.0	24.4	27.5	93.5	6.5
No.200	81.0	5.3	5.9	99.5	0.5
Pan	7.0	0.5	0.5	100.0	0.0
% sand retained		88.9			

Dry Wt. 1535.0
Wash Wt. 1387.0

L.B.W.% 9.6
FM 1.73
Gravel% 1.5

Del.
Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-L0
 Project FIELD
 From: 78.0
 To: 92.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	1.0	0.1		0.1	99.9
No.8	2.0	0.1	0.1	0.1	99.9
No.16	5.0	0.3	0.4	0.5	99.5
No.30	83.0	5.3	5.8	6.3	93.7
No.50	577.0	36.6	40.6	47.0	53.0
No.100	584.0	37.0	41.1	88.1	11.9
No.200	161.0	10.2	11.3	99.4	0.6
Pan	8.0	0.5	0.6	100.0	0.0
% sand retained		90.0			

Dry Wt. 1577.0
 Wash Wt. 1420.0

L.B.W.% 10.0
 FM 1.42
 Gravel% 0.1

Def.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-L0

Project FIELD

From: ~~12.0~~ 92

To: ~~00.0~~ 48 98

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	1.0	0.1		0.1	99.9
No.8	2.0	0.1	0.2	0.2	99.8
No.16	3.0	0.2	0.2	0.4	99.6
No.30	13.0	1.0	1.1	1.5	98.5
No.50	397.0	29.1	32.1	33.6	66.4
No.100	659.0	48.3	53.3	86.9	13.1
No.200	157.0	11.5	12.7	99.6	0.4
Pan	5.0	0.4	0.4	100.0	0.0
% sand retained		90.7			
Dry Wt.	1363.0				
Wash Wt.	1236.0				
L.B.W.%	9.3				
FM	1.22				
Gravel%	0.1				
Del.					
Lithologic unit	SILT				

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-L3
Date	7/9/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	9:30 AM	Hole Location	E	Surface Elev.	
Finish Time	3:15 PM	Logged By	M. Bendernagel	Water Depth	59'
Total Depth	103'	Drill Method	Auger		

Comments:

[illegible]

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-L3
Date	7/9/01	Parcel	F30	Sheet 2	2 Of 2
Start Time	9:30 AM	Hole Location	E	Surface Elev.	
Finish Time	3:15 PM	Logged By	M. Bendermager	Water Depth	59'
Total Depth	103'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52										
54										
56		Tan silty medium sand with medium gravel at about 25%. Finer sand as one goes through the section. Max=1.5", Avg=1/4.	54	59	5	54 to 59	20.7	1.66	14.7	CL
58										
60		Medium and fine sand alternating. Gravel at about 30%.	59	66	7	59 to 66	6	2.35	27.9	S&G
62										
64										
66										
68		Brown-tan clay with little gravel	66	68	2	66 to 68	62.3	1.53	3.6	CL
70		Fine grayish brown sand with little gravel present at about 10%.	68	79	11	68 to 79	8.1	1.52	4	ST
72										
74										
76										
78										
80		Tan fine silty sand with little to no gravel.	79	95	16	79 to 95	10.7	1.67	1.1	FSD
82										
84										
86										
88										
90										
92										
94										
96		Fine to medium silty sand with no gravel.	95	103	8	95 to 103	10.4	1.73	0.8	FSD
98										
100		T.D. 103'								

Aggregate Analysis

Borehole No. F30-L3
Project FIELD
From: 8.0
To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	15.0	0.9		0.9	99.1
0.5"	105.0	6.5		7.5	92.5
0.375"	91.0	5.7		13.1	86.9
No.4	185.0	11.5		24.6	75.4
No.8	166.0	10.3	15.2	15.2	84.8
No.16	147.0	9.1	13.4	28.6	71.4
No.30	157.0	9.8	14.3	42.9	57.1
No.50	335.0	20.8	30.6	73.5	26.5
No.100	231.0	14.3	21.1	94.6	5.4
No.200	56.0	3.5	5.1	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		68.0			
Dry Wt.	1610.0				
Wash Wt.	1490.0				
L.B.W.%	7.5				
FM	2.55				
Gravel%	24.6				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 13.0
 To: 17.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	28.0	2.1		2.1	97.9
0.375"	9.0	0.7		2.8	97.2
No.4	28.0	2.1		4.8	95.2
No.8	30.0	2.2	2.4	2.4	97.6
No.16	43.0	3.2	3.5	5.9	94.1
No.30	98.0	7.3	8.0	13.9	86.1
No.50	491.0	36.6	39.9	53.8	46.2
No.100	509.0	37.9	41.4	95.2	4.8
No.200	58.0	4.3	4.7	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		91.7			

Dry Wt. 1342.0
 Wash Wt. 1295.0

L.B.W.% 3.5
 FM 1.71
 Gravel% 4.8

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 17.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	24.0	1.7		1.7	98.3
0.5"	40.0	2.8		4.5	95.5
0.375"	47.0	3.3		7.8	92.2
No.4	87.0	6.1		13.9	86.1
No.8	69.0	4.9	6.1	6.1	93.9
No.16	78.0	5.5	6.9	13.0	87.0
No.30	106.0	7.5	9.4	22.3	77.7
No.50	344.0	24.2	30.4	52.7	47.3
No.100	448.0	31.5	39.6	92.3	7.7
No.200	84.0	5.9	7.4	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		79.6			
Dry Wt.	1422.0				
Wash Wt.	1333.0				
L.B.W.%	6.3				
FM	1.86				
Gravel%	13.9				
Del.					
Lithologic unit	FSD				

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 28.0
 To: 34.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	68.0	4.0		4.0	96.0
0.75"	82.0	4.8		8.8	91.2
0.5"	149.0	8.7		17.5	82.5
0.375"	109.0	6.4		23.9	76.1
No.4	186.0	10.9		34.8	65.2
No.8	154.0	9.0	15.2	15.2	84.8
No.16	131.0	7.7	12.9	28.1	71.9
No.30	137.0	8.0	13.5	41.6	58.4
No.50	248.0	14.4	24.2	65.8	34.2
No.100	261.0	15.3	25.7	91.5	8.5
No.200	83.0	4.9	8.2	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		59.4			

Dry Wt. 1708.0
 Wash Wt. 1608.0

L.B.W.% 5.9
 FM 2.42
 Gravel% 34.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 34.0
 To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	37.0	3.1		3.1	96.9
0.375"	16.0	1.3		4.4	95.6
No.4	26.0	2.3		6.7	93.3
No.8	25.0	2.1	2.3	2.3	97.7
No.16	22.0	1.8	2.0	4.4	95.6
No.30	26.0	2.1	2.4	6.8	93.2
No.50	124.0	10.2	11.5	18.2	81.8
No.100	735.0	60.6	68.1	86.3	13.7
No.200	145.0	12.0	13.4	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		89.1			

Dry Wt. 1212.0
 Wash Wt. 1162.0

L.B.W.% 4.1
 FM 1.18
 Gravel% 6.7

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-L3
Project FIELD
From: 38.0
To: 54.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	81.0	5.2		5.2	94.8
0.5"	85.0	5.5		10.7	89.3
0.375"	100.0	6.4		17.1	82.9
No.4	223.0	14.3		31.4	68.6
No.8	187.0	12.0	19.1	19.1	80.9
No.16	204.0	13.1	20.8	39.9	60.1
No.30	208.0	13.4	21.2	61.1	38.9
No.50	224.0	14.4	22.9	84.0	16.0
No.100	110.0	7.1	11.2	95.2	4.8
No.200	45.0	2.9	4.6	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		62.9			
Dry Wt.	1558.0				
Wash Wt.	1469.0				
L.B.W.%	5.7				
FM	2.99				
Gravel%	31.4				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 54.0
 To: 59.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	30.0	1.8		1.8	98.2
0.75"	47.0	2.9		4.7	95.3
0.5"	35.0	2.1		6.9	93.1
0.375"	53.0	3.2		10.1	89.9
No.4	75.0	4.6		14.7	85.3
No.8	77.0	4.7	7.3	7.3	92.7
No.16	73.0	4.5	6.9	14.2	85.8
No.30	86.0	5.3	8.1	22.3	77.7
No.50	201.0	12.3	19.0	41.3	58.7
No.100	415.0	25.4	39.3	80.6	19.4
No.200	197.0	12.0	18.6	99.2	0.8
Pan	8.0	0.5	0.8	100.0	0.0
% sand retained		64.6			

Dry Wt. 1635.0
 Wash Wt. 1296.0

L.B.W.% 20.7
 FM 1.66
 Gravel% 14.7

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-L3

Project FIELD

From: 59.0

To: 66.0 *wet*

Sieve Size	Weight	% Retained	% sand retained	Acc. Retained	Acc. Passing
1.0"	78.0	3.7		3.7	96.3
0.75"	153.0	7.3		10.9	89.1
0.5"	93.0	4.4		15.4	84.6
0.375"	82.0	3.9		19.2	80.8
No.4	182.0	8.6		27.9	72.1
No.8	161.0	7.6	11.5	11.5	88.5
No.16	173.0	8.2	12.4	24.0	76.0
No.30	194.0	9.2	13.9	37.9	62.1
No.50	432.0	20.5	31.0	68.9	31.1
No.100	330.0	15.6	23.7	92.5	7.5
No.200	99.0	4.7	7.1	99.6	0.4
Pan	5.0	0.2	0.4	100.0	0.0
% sand retained		66.1			

Dry Wt. 2110.0

Wash Wt. 1984.0

L.B.W.% 6.0

FM 2.35

Gravel% 27.9

Del.

Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 66.0
 To: 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	15.0	1.2		1.2	98.8
0.375"	11.0	0.9		2.1	97.9
No.4	17.0	1.4		3.6	96.4
No.8	23.0	1.9	5.5	5.5	94.5
No.16	23.0	1.9	5.5	11.1	88.9
No.30	32.0	2.6	7.7	18.8	81.2
No.50	99.0	8.2	23.9	42.7	57.3
No.100	132.0	10.9	31.8	74.5	25.5
No.200	96.0	7.9	23.1	97.6	2.4
Pan	10.0	0.8	2.4	100.0	0.0
% sand retained		34.3			

Dry Wt. 1211.0
 Wash Wt. 456.0

L.B.W.% 62.3
 FM 1.53
 Gravel% 3.6

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-~~22~~ L3
 Project FIELD
 From: ~~68.0~~ 67 68.0
 To: ~~79.0~~ 78 79.0

Sieve Size	Weight	% Retained	% sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	15.0	0.9		0.9	99.1
0.5"	18.0	1.1		2.0	98.0
0.375"	6.0	0.4		2.3	97.7
No.4	27.0	1.6		4.0	96.0
No.8	22.0	1.3	1.5	1.5	98.5
No.16	27.0	1.6	1.8	3.4	96.6
No.30	45.0	2.7	3.1	6.4	93.6
No.50	605.0	36.4	41.4	47.9	52.1
No.100	663.0	39.9	45.4	93.3	6.7
No.200	94.0	5.7	6.4	99.7	0.3
Pan	4.0	0.2	0.3	100.0	0.0
% sand retained		87.9			

Dry Wt. 1661.0
 Wash Wt. 1526.0

L.B.W.% 8.1
 FM 1.52
 Gravel% 4.0

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-1.3
Project FIELD
From: 79.0
To: 95.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	3.0	0.2		0.2	99.8
0.375"	8.0	0.5		0.7	99.3
No.4	6.0	0.4		1.1	98.9
No.8	11.0	0.7	0.8	0.8	99.2
No.16	19.0	1.2	1.4	2.2	97.8
No.30	89.0	5.7	6.4	8.6	91.4
No.50	737.0	46.9	53.1	61.7	38.3
No.100	448.0	28.5	32.3	94.0	6.0
No.200	80.0	5.1	5.8	99.8	0.2
Pan	3.0	0.2	0.2	100.0	0.0
% sand retained		88.2			

Dry Wt. 1572.0
Wash Wt. 1404.0

L.B.W.% 10.7
FM 1.67
Gravel% 1.1

Del.
Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-L3
 Project FIELD
 From: 95.0
 To: 103.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	7.0	0.4		0.4	99.6
0.375"	0.0	0.0		0.4	99.6
No.4	5.0	0.3		0.8	99.2
No.8	11.0	0.7	0.8	0.8	99.2
No.16	21.0	1.3	1.5	2.3	97.7
No.30	128.0	8.0	9.0	11.3	88.7
No.50	766.0	48.2	54.2	65.5	34.5
No.100	392.0	24.6	27.7	93.2	6.8
No.200	89.0	5.6	6.3	99.5	0.5
Pan	7.0	0.4	0.5	100.0	0.0
% sand retained		88.8			

Dry Wt. 1594.0
 Wash Wt. 1428.0

L.B.W.% 10.4
 FM 1.73
 Gravel% 0.8

Del.
 Lithologic unit FSD

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F30-M6
Date	6/20/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	12:45 PM	Hole Location	SE	Surface Elev.	
Finish Time	4:15 PM	Logged By	M. Bendernagel	Water Depth	48-53'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil going into a rusty clay with about 30% gravel.	Zero	6	6					
4										
6										
8		Fine rusty brown sand with about 20% fine gravel.	6	10	4	6 to 10	18.3	1.62	7.1	FSD
10										
12										
14		Tan silty clay with little gravel.	10	11.5	1.5	11.5 to 30	5.5	1.89	9.8	FSD
16										
18										
20		Fine rusty brown sand with little interbedded seams of fine sand with gravel. Color gets more brown through the section.	11.5	30	18.5					
22										
24										
26										
28										
30										
32		Dark brown medium sand with medium gravel at about 25%. Avg = 1/4", Max = 2".	30	41	11	30 to 41	10.8	2.76	23.3	S&G
34										
36										
38										
40										
42										
44		Brown fine-medium sand with some fine gravel at about 10%.	41	48	7	41 to 48	35.5	1.77	6.5	CL
46										
48										
50		Fine brown silty sand with no gravel within.	48	53.5	5.5	48 to 53.5	7.8	1.07	0.7	ST

Aggregate Analysis

Borehole No. F30-M6
 Project FIELD
 From: 6.0
 To: 10.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	22.0	2.2		2.2	97.8
0.375"	16.0	1.6		3.8	96.2
No.4	33.0	3.3		7.1	92.9
No.8	32.0	3.2	4.3	4.3	95.7
No.16	45.0	4.5	6.1	10.4	89.6
No.30	64.0	6.4	8.6	19.1	80.9
No.50	196.0	19.7	26.5	45.5	54.5
No.100	274.0	27.6	37.0	82.6	17.4
No.200	124.0	12.5	16.8	99.3	0.7
Pan	5.0	0.5	0.7	100.0	0.0
% sand retained		74.4			

Dry Wt. 994.0
 Wash Wt. 812.0

L.B.W.% 18.3
 FM 1.62
 Gravel% 7.1

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-M6
 Project FIELD
 From: 11.5
 To: 30.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	1.3		1.3	98.7
0.5"	25.0	2.1		3.5	96.5
0.375"	14.0	1.2		4.6	95.4
No.4	61.0	5.1		9.8	90.2
No.8	59.0	5.0	5.9	5.9	94.1
No.16	62.0	5.2	6.2	12.1	87.9
No.30	110.0	9.3	11.0	23.0	77.0
No.50	311.0	26.2	31.0	54.0	46.0
No.100	406.0	34.2	40.4	94.4	5.6
No.200	55.0	4.6	5.5	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		84.5			

Dry Wt. 1188.0
 Wash Wt. 1123.0

L.B.W.% 5.5
 FM 1.89
 Gravel% 9.8

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F30-M6
Project FIELD
From: 30.0
To: 41.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	23.0	1.7		1.7	98.3
0.5"	93.0	6.8		8.4	91.6
0.375"	66.0	4.8		13.2	86.8
No.4	139.0	10.1		23.3	76.7
No.8	133.0	9.7	14.7	14.7	85.3
No.16	143.0	10.4	15.8	30.5	69.5
No.30	182.0	13.2	20.1	50.7	49.3
No.50	294.0	21.4	32.5	83.2	16.8
No.100	124.0	9.0	13.7	96.9	3.1
No.200	26.0	1.9	2.9	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		65.7			

Dry Wt. 1375.0
Wash Wt. 1227.0

L.B.W.% 10.8
FM 2.76
Gravel% 23.3

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F30-M6
Project FIELD
From: 41.0
To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	14.0	1.1		1.1	98.9
0.5"	14.0	1.1		2.1	97.9
0.375"	15.0	1.2		3.3	96.7
No.4	42.0	3.2		6.5	93.5
No.8	56.0	4.3	7.4	7.4	92.6
No.16	61.0	4.7	8.1	15.5	84.5
No.30	75.0	5.8	9.9	25.4	74.6
No.50	178.0	13.7	23.5	48.9	51.1
No.100	233.0	17.9	30.8	79.7	20.3
No.200	136.0	10.4	18.0	97.6	2.4
Pan	18.0	1.4	2.4	100.0	0.0
% sand retained		58.1			

Dry Wt. 1303.0
Wash Wt. 841.0

L.B.W.% 35.5
FM 1.77
Gravel% 6.5

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F30-M6
Project FIELD
From: 48.0
To: 53.5

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	5.0	0.4		0.4	99.6
No.4	3.0	0.3		0.7	99.3
No.8	2.0	0.2	0.2	0.2	99.8
No.16	2.0	0.2	0.2	0.4	99.6
No.30	5.0	0.4	0.5	0.9	99.1
No.50	168.0	15.0	16.4	17.3	82.7
No.100	727.0	65.1	71.1	88.5	11.5
No.200	115.0	10.3	11.3	99.7	0.3
Pan	3.0	0.3	0.3	100.0	0.0
% sand retained		91.5			

Dry Wt. 1117.0
Wash Wt. 1030.0

L.B.W.% 7.8
FM 1.07
Gravel% 0.7

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F30-M6
Project FIELD
From: 53.5
To: 57.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	6.0	0.5		0.5	99.5
No.8	11.0	0.9	1.0	1.0	99.0
No.16	139.0	11.4	13.3	14.3	85.7
No.30	316.0	26.0	30.2	44.5	55.5
No.50	341.0	28.1	32.5	77.0	23.0
No.100	178.0	14.7	17.0	94.0	6.0
No.200	61.0	5.0	5.8	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% sand retained		86.3			

Dry Wt. 1215.0
Wash Wt. 1072.0

L.B.W.% 11.8
FM 2.31
Gravel% 0.5

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F30-M6
 Project FIELD
 From: 57.0
 To: 66.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	73.0	4.4		4.4	95.6
0.5"	71.0	4.3		8.8	91.2
0.375"	35.0	2.1		10.9	89.1
No.4	141.0	8.6		19.5	80.5
No.8	179.0	10.9	15.4	15.4	84.6
No.16	206.0	12.5	17.7	33.0	67.0
No.30	198.0	12.0	17.0	50.0	50.0
No.50	305.0	18.5	26.2	76.2	23.8
No.100	207.0	12.6	17.8	94.0	6.0
No.200	66.0	4.0	5.7	99.7	0.3
Pan	4.0	0.2	0.3	100.0	0.0
% sand retained		70.8			

Dry Wt. 1645.0
 Wash Wt. 1487.0

L.B.W.% 9.6
 FM 2.69
 Gravel% 19.5

Del.
 Lithologic unit 2NS

F04-P11

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	Woods #2
Date	7/19/01	Parcel	F30	Sheet 1	1 Of 2
Start Time	12:30 PM	Hole Location	NW	Surface Elev.	
Finish Time	3:20 PM	Logged By	M. Bender-nagel	Water Depth	33'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Silty clay overburden.	Zero	2	2					
2		clay with little gravel.								
4		Fine to medium sand with a medium to coarse gravel. Gravel at about 30%.	2	8	6	2 to 8	6	3.24	35.5	S&G
6										
8										
10		Sugary brown sand with no gravel.	8	13	5	8 to 13	4.7	1.89	1.5	FSD
12										
14		Brown medium sand with coarse gravel at about 35%. Max=4", Avg=1/2".	13	33	20	13 to 33	5.2	2.89	41.2	S&G
16										
18										
20										
22										
24										
26										
28										
30										
32										
34		Brown coarse sand with a medium gravel at about 40%. Max=2", Avg=#4.	33	53	20	33 to 53	5.2	2.89	40.	S+G
36										
38										
40										
42										
44										
46										
48										
50										

F04-P11

Aggregate Analysis

Borehole No. WOODS #2
 Project FIELD
 From: 2.0
 To: 8.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	3.5		3.5	96.5
0.75"	32.0	3.1		6.6	93.4
0.5"	73.0	7.1		13.8	86.2
0.375"	49.0	4.8		18.5	81.5
No.4	174.0	17.0		35.5	64.5
No.8	156.0	15.2	26.1	26.1	73.9
No.16	143.0	14.0	24.0	50.1	49.9
No.30	104.0	10.1	17.4	67.5	32.5
No.50	104.0	10.1	17.4	84.9	15.1
No.100	65.0	6.3	10.9	95.8	4.2
No.200	23.0	2.2	3.9	99.7	0.3
Pan	2.0	0.2	0.3	100.0	0.0
% sand retained		58.2			

Dry Wt. 1025.0
 Wash Wt. 963.0

L.B.W.% 6.0
 FM 3.24
 Gravel% 35.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. WOODS #2
Project FIELD
From: 8.0
To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	5.0	0.5		0.5	99.5
No.4	9.0	1.0		1.5	98.5
No.8	17.0	1.8	1.9	1.9	98.1
No.16	29.0	3.1	3.3	5.2	94.8
No.30	77.0	8.2	8.8	14.0	86.0
No.50	499.0	53.3	56.8	70.8	29.2
No.100	229.0	24.4	26.1	96.9	3.1
No.200	26.0	2.8	3.0	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		93.7			

Dry Wt. 937.0
Wash Wt. 893.0

L.B.W.% 4.7
FM 1.89
Gravel% 1.5

Del.
Lithologic unit FSD

Aggregate Analysis

Borehole No. WOOD #2
Project FIELD
From: 13.0
To: 33.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	243.0	12.4		12.4	87.6
0.75"	109.0	5.6		18.0	82.0
0.5"	140.0	7.1		25.1	74.9
0.375"	78.0	4.0		29.1	70.9
No.4	236.0	12.1		41.2	58.8
No.8	197.0	10.0	18.7	18.7	81.3
No.16	184.0	9.4	17.5	36.2	63.8
No.30	192.0	9.8	18.3	54.5	45.5
No.50	305.0	15.6	29.0	83.5	16.5
No.100	134.0	6.8	12.7	96.2	3.8
No.200	39.0	2.0	3.7	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		53.6			

Dry Wt. 1961.0
Wash Wt. 1859.0

L.B.W.% 5.2
FM 2.89
Gravel% 41.2

Def.
Lithologic unit S&G

Aggregate Analysis

Borehole No. WOODS #2
 Project FIELD
 From: ~~75.0~~ 78.0
 To: 85.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	32.0	2.5		2.5	97.5
0.5"	63.0	4.9		7.4	92.6
0.375"	78.0	6.1		13.5	86.5
No.4	227.0	17.7		31.2	68.8
No.8	249.0	19.4	29.8	29.8	70.2
No.16	181.0	14.1	21.7	51.5	48.5
No.30	140.0	10.9	16.8	68.3	31.7
No.50	161.0	12.6	19.3	87.5	12.5
No.100	81.0	6.3	9.7	97.2	2.8
No.200	22.0	1.7	2.6	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		65.2			

Dry Wt. 1281.0
 Wash Wt. 1235.0

L.B.W.% 3.6
 FM 3.34
 Gravel% 31.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. WOODS #2
 Project FIELD
 From: 85.0
 To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	9.0	0.7		0.7	99.3
0.375"	36.0	3.0		3.7	96.3
No.4	204.0	16.9		20.7	79.3
No.8	235.0	19.5	26.9	26.9	73.1
No.16	172.0	14.3	19.7	46.5	53.5
No.30	128.0	10.6	14.6	61.1	38.9
No.50	155.0	12.9	17.7	78.9	21.1
No.100	130.0	10.8	14.9	93.7	6.3
No.200	55.0	4.6	6.3	100.0	0.0
Pan	0.0	0.0	0.0	100.0	0.0
% sand retained		72.6			

Dry Wt. 1205.0
 Wash Wt. 1129.0

L.B.W.% 6.3
 FM 3.07
 Gravel% 20.7

Del.
 Lithologic unit S&G

Comments:[illegible]

Comments:[illegible]

Aggregate Analysis

Borehole No. F19-A10
Project FIELD
From: 2.0
To: 7.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	72.0	5.1		5.1	94.9
0.75"	0.0	0.0		5.1	94.9
0.5"	77.0	5.4		10.5	89.5
0.375"	42.0	2.9		13.4	86.6
No.4	143.0	10.0		23.4	76.6
No.8	97.0	6.8	9.5	9.5	90.5
No.16	150.0	10.5	14.7	24.3	75.7
No.30	145.0	10.2	14.3	38.5	61.5
No.50	320.0	22.5	31.4	70.0	30.0
No.100	242.0	17.0	23.8	93.8	6.2
No.200	60.0	4.2	5.9	99.7	0.3
Pan	3.5	0.2	0.3	100.0	0.0
% sand retained		71.4			

Dry Wt. 1429.0
Wash Wt. 1354.0

L.B.W.% 5.0
FM 2.36
Gravel% 23.4

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-A10
 Project FIELD
 From: 7.0
 To: 14.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	14.0	1.3		1.3	98.7
No.4	0.0	0.0		1.3	98.7
No.8	16.0	1.5	1.8	1.8	98.2
No.16	18.0	1.6	2.0	3.7	96.3
No.30	21.0	1.9	2.3	6.0	94.0
No.50	192.0	17.5	21.1	27.1	72.9
No.100	397.0	36.3	43.6	70.7	29.3
No.200	251.0	22.9	27.6	98.2	1.8
Pan	16.0	1.5	1.8	100.0	0.0
% sand retained		83.2			

Dry Wt. 1095.0
 Wash Wt. 979.0

L.B.W.% 10.6
 FM 1.09
 Gravel% 1.3

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-A10
Project FIELD
From: 14.0
To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	29.0	1.5		1.5	98.5
0.75"	30.0	1.6		3.1	96.9
0.5"	113.0	5.9		9.1	90.9
0.375"	116.0	6.1		15.2	84.8
No.4	373.0	19.6		34.8	65.2
No.8	224.0	11.8	19.5	19.5	80.5
No.16	167.0	8.8	14.5	34.1	65.9
No.30	100.0	5.3	8.7	42.8	57.2
No.50	284.0	14.9	24.7	67.5	32.5
No.100	277.0	14.6	24.1	91.6	8.4
No.200	90.0	4.7	7.8	99.5	0.5
Pan	6.0	0.3	0.5	100.0	0.0
% sand retained		60.4			

Dry Wt. 1900.0
Wash Wt. 1810.0

L.B.W.% 4.7
FM 2.55
Gravel% 34.8

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-A10
 Project FIELD
 From: 18.0
 To: 21.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	4.0	0.4		0.4	99.6
0.375"	13.0	1.2		1.6	98.4
No.4	30.0	2.8		4.3	95.7
No.8	29.0	2.7	3.3	3.3	96.7
No.16	18.0	1.7	2.1	5.4	94.6
No.30	13.0	1.2	1.5	6.9	93.1
No.50	72.0	6.6	8.3	15.2	84.8
No.100	434.0	40.0	49.9	65.1	34.9
No.200	285.0	26.3	32.8	97.8	2.2
Pan	19.0	1.8	2.2	100.0	0.0
% sand retained		80.2			

Dry Wt. 1085.0
 Wash Wt. 918.0

L.B.W.% 15.4
 FM 0.96
 Gravel% 4.3

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-A10
 Project FIELD
 From: 21.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	19.0	1.5		1.5	98.5
0.5"	17.0	1.3		2.9	97.1
0.375"	11.0	0.9		3.7	96.3
No.4	30.0	2.4		6.1	93.9
No.8	50.0	4.0	4.6	4.6	95.4
No.16	54.0	4.3	5.0	9.6	90.4
No.30	89.0	7.1	8.2	17.8	82.2
No.50	268.0	21.3	24.8	42.6	57.4
No.100	436.0	34.6	40.3	82.9	17.1
No.200	176.0	14.0	16.3	99.2	0.8
Pan	9.0	0.7	0.8	100.0	0.0
% sand retained		85.9			

Dry Wt. 1260.0
 Wash Wt. 1158.0

L.B.W.% 8.1
 FM 1.58
 Gravel% 6.1

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-A10
Project FIELD
From: 28.0
To: 32.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	28.0	1.8		1.8	98.2
0.375"	13.0	0.8		2.6	97.4
No.4	78.0	4.9		7.5	92.5
No.8	128.0	8.1	9.6	9.6	90.4
No.16	176.0	11.1	13.3	22.9	77.1
No.30	182.0	11.5	13.7	36.6	63.4
No.50	426.0	26.9	32.1	68.7	31.3
No.100	342.0	21.6	25.8	94.4	5.6
No.200	70.0	4.4	5.3	99.7	0.3
Pan	4.0	0.3	0.3	100.0	0.0
% sand retained		84.0			

Dry Wt. 1581.0
Wash Wt. 1448.0

L.B.W.% 8.4
FM 2.32
Gravel% 7.5

Del.
Lithologic unit MSD 11.0-1

Aggregate Analysis					
Borehole No.	F19-A10				
Project	FIELD				
From:	32.0				
To:	39.5				
Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	9.0	0.5		0.5	99.5
0.5"	5.0	0.3		0.8	99.2
0.375"	13.0	0.7		1.6	98.4
No.4	94.0	5.4		7.0	93.0
No.8	124.0	7.1	8.4	8.4	91.6
No.16	145.0	8.4	9.8	18.2	81.8
No.30	183.0	10.5	12.3	30.5	69.5
No.50	562.0	32.4	37.9	68.4	31.6
No.100	386.0	22.2	26.0	94.5	5.5
No.200	79.0	4.6	5.3	99.8	0.2
Pan	3.0	0.2	0.2	100.0	0.0
% sand retained		85.4			
Dry Wt.	1736.0				
Wash Wt.	1605.0				
L.B.W.%	7.5				
FM	2.20				
Gravel%	7.0				
Del.					
Lithologic unit	MSD				



Aggregate Analysis

Borehole No. F19-A10
Project FIELD
From: 39.5
To: 53.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	71.0	3.3		3.3	96.7
0.75"	73.0	3.4		6.7	93.3
0.5"	232.0	10.8		17.5	82.5
0.375"	148.0	6.9		24.4	75.6
No.4	414.0	19.3		43.7	56.3
No.8	402.0	18.7	35.2	35.2	64.8
No.16	184.0	8.6	16.1	51.3	48.7
No.30	84.0	3.9	7.3	58.6	41.4
No.50	207.0	9.6	18.1	76.7	23.3
No.100	211.0	9.8	18.5	95.2	4.8
No.200	52.0	2.4	4.5	99.7	0.3
Pan	3.0	0.1	0.3	100.0	0.0
% sand retained		53.3			

Dry Wt. 2146.0
Wash Wt. 2085.0

L.B.W.% 2.8
FM 3.17
Gravel% 43.7

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-A10
Project FIELD
From: 53.0
To: 57.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	32.0	2.2		2.2	97.8
0.75"	21.0	1.4		3.6	96.4
0.5"	40.0	2.7		6.3	93.7
0.375"	47.0	3.2		9.5	90.5
No.4	134.0	9.1		18.5	81.5
No.8	118.0	8.0	14.2	14.2	85.8
No.16	102.0	6.9	12.3	26.5	73.5
No.30	97.0	6.6	11.7	38.2	61.8
No.50	199.0	13.5	24.0	62.2	37.8
No.100	204.0	13.8	24.6	86.7	13.3
No.200	89.0	6.0	10.7	97.5	2.5
Pan	21.0	1.4	2.5	100.0	0.0
% sand retained		56.1			

Dry Wt. 1479.0
Wash Wt. 1107.0

L.B.W.% 25.2
FM 2.28
Gravel% 18.5

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-A10
 Project FIELD
 From: 57.0
 To: 59.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	21.0	1.5		1.5	98.5
0.75"	60.0	4.4		6.0	94.0
0.5"	104.0	7.7		13.7	86.3
0.375"	89.0	6.6		20.2	79.8
No.4	187.0	13.8		34.0	66.0
No.8	113.0	8.3	15.5	15.5	84.5
No.16	112.0	8.3	15.4	30.9	69.1
No.30	74.0	5.5	10.2	41.1	58.9
No.50	148.0	10.9	20.3	61.4	38.6
No.100	181.0	13.4	24.9	86.3	13.7
No.200	88.0	6.5	12.1	98.4	1.6
Pan	12.0	0.9	1.6	100.0	0.0
% sand retained		53.7			

Dry Wt. 1355.0
 Wash Wt. 1189.0

L.B.W.% 12.3
 FM 2.35
 Gravel% 34.0

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-A10
 Project FIELD
 From: 59.0
 To: 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	17.0	1.1		1.1	98.9
0.5"	30.0	1.9		3.0	97.0
0.375"	15.0	0.9		3.9	96.1
No.4	32.0	2.0		5.9	94.1
No.8	21.0	1.3	2.1	2.1	97.9
No.16	14.0	0.9	1.4	3.5	96.5
No.30	10.0	0.6	1.0	4.5	95.5
No.50	25.0	1.6	2.5	7.0	93.0
No.100	326.0	20.5	32.8	39.8	60.2
No.200	544.0	34.2	54.7	94.6	5.4
Pan	54.0	3.4	5.4	100.0	0.0
% sand retained		62.5			

Dry Wt. 1590.0
 Wash Wt. 1089.0

L.B.W.% 31.5
 FM 0.57
 Gravel% 5.9

Del.
 Lithologic unit CLAY

Comments:[illegible]

Drilling Co.	ECL	Property	Field	Hole #	F19-A14
Date	5/18/01	Parcel	F19	Sheet 2	Of 2
Start Time	1:00 PM	Hole Location	Western Section	Surface Elev.	1000'
Finish Time	2:45 PM	Logged By	Tim Higbee	Water Depth	10'
Total Depth	53'	Drill Method	Auger		Perched at 7'

Comments:

[illegible]

Aggregate Analysis

Borehole No. F19-~~448~~ A14
 Project FIELD
 From: 51.0
 To: 53.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	60.0	2.9		2.9	97.1
0.75"	106.0	5.0		7.9	92.1
0.5"	250.0	12.2		20.1	79.9
0.375"	127.0	6.0		26.1	73.9
No.4	280.0	13.3		39.5	60.5
No.8	133.0	6.3	11.6	11.6	88.4
No.16	208.0	9.9	18.1	29.7	70.3
No.30	243.0	11.6	21.1	50.8	49.2
No.50	384.0	18.3	33.4	84.2	15.8
No.100	133.0	6.3	11.6	95.8	4.2
No.200	45.0	2.1	3.9	99.7	0.3
Pan	3.0	0.1	0.3	100.0	0.0
% sand retained		54.7			

Dry Wt. 2100.0
 Wash Wt. 1978.0

L.B.W.% 5.8
 FM 2.72
 Gravel% 39.5

Del.
 Lithologic unit S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19 B12
Date	7/17/01	Parcel	F19	Sheet 1	1 Of 2
Start Time	12:50 PM	Hole Location	W	Surface Elev.	
Finish Time	3:15 PM	Logged By	M. Bendernagel	Water Depth	
Total Depth	68'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis				
Depth	Litho.						LBW	FM	GR%	Note	
2		Starts as silty clay for the first 3'. Then into dark brown clayey gravel for the next 3-4'. Solid clayey preceded. Brown-tan clay going into a gray clay. Moderate gravel.	Zero	26	26						
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26		Brown coarse sand with a medium gravel at about 30%. Max=2", Avg=1/4"	26	41	15	26 to 41	6.8	2.64	27.2	S&G	
28											
30											
32											
34											
36											
38											
40											
42			Gray clay with little to no gravel. Very stiff.	41	47	6	41 to 47	62.8	1.81	4.9	CL
44											
46											
48			Not very good return but seems to be a silty and clayey fine sand. Gravel may be high in tests results.	47	59	12	47 to 59	20.4	1.96	20.6	CL
50											

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-B12
Date	7/17/01	Parcel	F19	Sheet 2	2 Of 2
Start Time	12:50 PM	Hole Location	W	Surface Elev.	
Finish Time	3:15 PM	Logged By	M. Bendernagel	Water Depth	
Total Depth	63'	Drill Method	Auger		

Comments:

[illegible]

Aggregate Analysis

Borehole No. F19-B12
Project FIELD
From: 26.0
To: 41.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	106.0	6.1		6.1	93.9
0.75"	45.0	2.6		8.7	91.3
0.5"	69.0	4.0		12.6	87.4
0.375"	68.0	3.9		16.5	83.5
No.4	186.0	10.7		27.2	72.8
No.8	171.0	9.8	14.8	14.8	85.2
No.16	186.0	10.7	16.1	31.0	69.0
No.30	187.0	10.7	16.2	47.2	52.8
No.50	337.0	19.3	29.3	76.5	23.5
No.100	210.0	12.0	18.2	94.7	5.3
No.200	58.0	3.3	5.0	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% sand retained		66.0			

Dry Wt. 1745.0
Wash Wt. 1627.0

L.B.W.% 6.8
FM 2.64
Gravel% 27.2

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-B12
Project FIELD
From: 41.0
To: 47.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	14.0	0.7		0.7	99.3
0.375"	14.0	0.7		1.4	98.6
No.4	66.0	3.4		4.9	95.1
No.8	64.0	3.3	10.2	10.2	89.8
No.16	55.0	2.8	8.8	19.0	81.0
No.30	58.0	3.0	9.3	28.2	71.8
No.50	125.0	6.4	19.9	48.2	51.8
No.100	172.0	8.9	27.4	75.6	24.4
No.200	132.0	6.8	21.1	96.7	3.3
Pan	21.0	1.1	3.3	100.0	0.0
% sand retained		32.4			
Dry Wt.	1938.0				
Wash Wt.	720.0				
L.B.W.%	62.8				
FM	1.81				
Gravel%	4.9				
Del.					
Lithologic unit	CLAY				

Aggregate Analysis

Borehole No. F19-B12
 Project FIELD
 From: 47.0
 To: 59.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	29.0	1.6		1.6	98.4
0.75"	47.0	2.7		4.3	95.7
0.5"	112.0	6.4		10.7	89.3
0.375"	48.0	2.7		13.4	86.6
No.4	127.0	7.2		20.6	79.4
No.8	100.0	5.7	9.6	9.6	90.4
No.16	91.0	5.2	8.8	18.4	81.6
No.30	101.0	5.7	9.7	28.1	71.9
No.50	257.0	14.6	24.7	52.8	47.2
No.100	356.0	20.2	34.2	87.0	13.0
No.200	127.0	7.2	12.2	99.2	0.8
Pan	8.0	0.5	0.8	100.0	0.0
% sand retained		59.0			

Dry Wt. 1762.0
 Wash Wt. 1403.0

L.B.W.% 20.4
 FM 1.96
 Gravel% 20.6

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-B12
 Project FIELD
 From: 59.0
 To: 68.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"		#DIV/0!		#DIV/0!	#DIV/0!
0.75"		#DIV/0!		#DIV/0!	#DIV/0!
0.5"		#DIV/0!		#DIV/0!	#DIV/0!
0.375"		#DIV/0!		#DIV/0!	#DIV/0!
No.4		#DIV/0!		#DIV/0!	#DIV/0!
No.8		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
No.16		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
No.30		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
No.50		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
No.100		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
No.200		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Pan		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
% sand retained		#DIV/0!			

Dry Wt.
 Wash Wt.

L.B.W.% #DIV/0!
 FM #DIV/0!
 Gravel% #DIV/0!

Del.
 Lithologic unit CLAY

Comments:

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Drilling Co.	ECL	Property	Field	Hole #	F19-C10		
Date	7/24/01	Parcel	F19	Sheet 2		Of	2
Start Time	9:30 AM 7/23/01	Hole Location	Northern Portion	Surface Elev.	1050'		
Finish Time	11:15 AM	Logged By	Tim Higbee	Water Depth	28'		
total Depth	63'	Drill Method	Auger				

Comments:

[illegible]

Aggregate Analysis

Borehole No. F19-C10
Project FIELD
From: 6.0
To: 9.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	15.0	1.3		1.3	98.7
No.8	25.0	2.1	2.2	2.2	97.8
No.16	30.0	2.5	2.7	4.9	95.1
No.30	49.0	4.1	4.4	9.4	90.6
No.50	357.0	29.8	32.1	41.5	58.5
No.100	542.0	45.2	48.7	90.2	9.8
No.200	103.0	8.6	9.3	99.5	0.5
Pan	6.0	0.5	0.5	100.0	0.0
% sand retained		92.7			

Dry Wt. 1199.0
Wash Wt. 1127.0

L.B.W.% 6.0
FM 1.48
Gravel% 1.3

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-C10
 Project FIELD
 From: ~~4.0~~ 9.0
 To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	10.0	1.0		1.0	99.0
No.4	41.0	4.2		5.2	94.8
No.8	48.0	4.9	5.4	5.4	94.6
No.16	60.0	6.1	6.8	12.2	87.8
No.30	88.0	9.0	9.9	22.1	77.9
No.50	302.0	30.8	34.0	56.1	43.9
No.100	328.0	33.4	36.9	93.0	7.0
No.200	60.0	6.1	6.8	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% sand retained		90.5			

Dry Wt. 981.0
 Wash Wt. 938.0

L.B.W.% 4.4
 FM 1.69
 Gravel% 5.2

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-C10
Project FIELD
From: 13.0
To: 20.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	2.0	0.2		0.2	99.8
No.4	5.0	0.5		0.7	99.3
No.8	6.0	0.6	0.7	0.7	99.3
No.16	9.0	0.9	1.0	1.6	98.4
No.30	20.0	2.0	2.2	3.8	96.2
No.50	189.0	19.0	20.7	24.6	75.4
No.100	542.0	54.5	59.4	84.0	16.0
No.200	142.0	14.3	15.6	99.6	0.4
Pan	4.0	0.4	0.4	100.0	0.0
% sand retained		91.8			

Dry Wt. 994.0
Wash Wt. 919.0

L.B.W.% 7.5
FM 1.15
Gravel% 0.7

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-C10
 Project FIELD
 From: 20.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	3.0	0.3		0.3	99.7
No.4	22.0	2.1		2.4	97.6
No.8	45.0	4.2	4.5	4.5	95.5
No.16	69.0	6.5	7.0	11.5	88.5
No.30	84.0	7.9	8.5	20.0	80.0
No.50	264.0	24.9	26.7	46.7	53.3
No.100	428.0	40.4	43.2	89.9	10.1
No.200	96.0	9.1	9.7	99.6	0.4
Pan	4.0	0.4	0.4	100.0	0.0
% sand retained		93.5			

Dry Wt. 1059.0
 Wash Wt. 1014.0

L.B.W.% 4.2
 FM 1.73
 Gravel% 2.4

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-C10
 Project FIELD
 From: 33.0 28.0
 To: 36.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	6.0	0.4		0.4	99.6
No.4	49.0	3.6		4.0	96.0
No.8	107.0	7.8	9.0	9.0	91.0
No.16	121.0	8.8	10.2	19.2	80.8
No.30	156.0	11.3	13.2	32.4	67.6
No.50	463.0	33.6	39.1	71.5	28.5
No.100	279.0	20.2	23.5	95.0	5.0
No.200	57.0	4.1	4.8	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		85.9			

Dry Wt. 1379.0
 Wash Wt. 1244.0

L.B.W.% 9.8
 FM 2.27
 Gravel% 4.0

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-C10
 Project FIELD
 From: 41.0
 To: 45.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	17.0	1.3		1.3	98.7
0.5"	28.0	2.1		3.4	96.6
0.375"	19.0	1.4		4.8	95.2
No.4	72.0	5.4		10.2	89.8
No.8	73.0	5.5	6.6	6.6	93.4
No.16	63.0	4.7	5.7	12.3	87.7
No.30	77.0	5.8	6.9	19.2	80.8
No.50	245.0	18.3	22.1	41.3	58.7
No.100	479.0	35.8	43.2	84.6	15.4
No.200	165.0	12.3	14.9	99.5	0.5
Pan	6.0	0.4	0.5	100.0	0.0
% sand retained		82.7			
Dry Wt.	1339.0				
Wash Wt.	1243.0				
L.B.W.%	7.2				
FM	1.64				
Gravel%	10.2				
Del.					
Lithologic unit	FSD				

Aggregate Analysis

Borehole No. F19-C10
Project FIELD
From: 45.5
To: 49.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	37.0	2.5		2.5	97.5
0.75"	37.0	2.5		5.0	95.0
0.5"	52.0	3.5		8.4	91.6
0.375"	42.0	2.8		11.3	88.7
No.4	178.0	11.9		23.2	76.8
No.8	169.0	11.3	16.3	16.3	83.7
No.16	234.0	15.7	22.5	38.8	61.2
No.30	267.0	17.9	25.7	64.5	35.5
No.50	175.0	11.7	16.8	81.3	18.7
No.100	140.0	9.4	13.5	94.8	5.2
No.200	52.0	3.5	5.0	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		69.6			

Dry Wt. 1493.0
Wash Wt. 1386.0

L.B.W.% 7.2
FM 2.96
Gravel% 23.2

Del.
Lithologic unit S&G

Comments:

[illegible]

Aggregate Analysis

Borehole No. F19-C14
 Project FIELD
 From: 8.0
 To: 15.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	296.0	11.3		11.3	88.7
0.75"	36.0	1.4		12.7	87.3
0.5"	120.0	4.6		17.3	82.7
0.375"	98.0	3.7		21.0	79.0
No.4	194.0	7.4		28.5	71.5
No.8	176.0	6.7	9.4	9.4	90.6
No.16	180.0	6.9	9.6	19.0	81.0
No.30	208.0	8.0	11.1	30.2	69.8
No.50	418.0	16.0	22.4	52.5	47.5
No.100	346.0	13.2	18.5	71.0	29.0
No.200	162.0	6.2	8.7	79.7	20.3
Pan	380.0	14.5	20.3	100.0	0.0
% sand retained		71.5			

Dry Wt. 2614.0
 Wash Wt. 2252.0

L.B.W.% 13.8
 FM 1.82
 Gravel% 28.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-C14
Project FIELD
From: 15.0
To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	56.0	3.3		3.3	96.7
0.75"	0.0	0.0		3.3	96.7
0.5"	72.0	4.2		7.5	92.5
0.375"	42.0	2.4		9.9	90.1
No.4	124.0	7.2		17.1	82.9
No.8	78.0	4.5	5.5	5.5	94.5
No.16	118.0	6.9	8.3	13.8	86.2
No.30	150.0	8.7	10.5	24.3	75.7
No.50	320.0	18.6	22.5	46.8	53.2
No.100	306.0	17.8	21.5	68.3	31.7
No.200	112.0	6.5	7.9	76.1	23.9
Pan	340.0	19.8	23.9	100.0	0.0
% sand retained		82.9			

Dry Wt. 1718.0
Wash Wt. 1390.0

L.B.W.% 19.1
FM 1.59
Gravel% 17.1

Def.
Lithologic unit ST

Aggregate Analysis

Borehole No. F19-C14
Project FIELD
From: 26.0
To: 33.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	8.0	0.4		0.4	99.6
0.375"	6.0	0.3		0.7	99.3
No.4	22.0	1.0		1.7	98.3
No.8	22.0	1.0	1.0	1.0	99.0
No.16	68.0	3.2	3.2	4.3	95.7
No.30	302.0	14.2	14.4	18.7	81.3
No.50	1032.0	48.4	49.2	67.9	32.1
No.100	180.0	8.4	8.6	76.5	23.5
No.200	54.0	2.5	2.6	79.0	21.0
Pan	440.0	20.6	21.0	100.0	0.0
% sand retained		98.3			

Dry Wt. 2134.0
Wash Wt. 1700.0

L.B.W.% 20.3
FM 1.68
Gravel% 1.7

Del.
Lithologic unit CL

Aggregate Analysis

Borehole No. F19-C17
Project FIELD
From: 15.0
To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	56.0	3.3		3.3	96.7
0.75"	0.0	0.0		3.3	96.7
0.5"	72.0	4.2		7.5	92.5
0.375"	42.0	2.4		9.9	90.1
No.4	124.0	7.2		17.1	82.9
No.8	78.0	4.5	5.5	5.5	94.5
No.16	118.0	6.9	8.3	13.8	86.2
No.30	150.0	8.7	10.5	24.3	75.7
No.50	320.0	18.6	22.5	46.8	53.2
No.100	306.0	17.8	21.5	68.3	31.7
No.200	112.0	6.5	7.9	76.1	23.9
Pan	340.0	19.8	23.9	100.0	0.0
% sand retained		82.9			
Dry Wt.	1718.0				
Wash Wt.	1390.0				
L.B.W.%	19.1				
FM	1.59				
Gravel%	17.1				
Del.					
Lithologic unit	ST				

F19-C17

18-26

ALL CLAY

Aggregate Analysis

Borehole No. F19-C17
Project FIELD
From: 26.0
To: 33.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	8.0	0.4		0.4	99.6
0.375"	6.0	0.3		0.7	99.3
No.4	22.0	1.0		1.7	98.3
No.8	22.0	1.0	1.0	1.0	99.0
No.16	68.0	3.2	3.2	4.3	95.7
No.30	302.0	14.2	14.4	18.7	81.3
No.50	1032.0	48.4	49.2	67.9	32.1
No.100	180.0	8.4	8.6	76.5	23.5
No.200	54.0	2.5	2.6	79.0	21.0
Pan	440.0	20.6	21.0	100.0	0.0
% sand retained		98.3			

Dry Wt. 2134.0
Wash Wt. 1700.0

L.B.W.% 20.3
FM 1.68
Gravel% 1.7

Del.
Lithologic unit CLAY

F19 - C17

33.5-42

ALL CLAY

F19-C17 42-48

ALL DAY

[illegible]

Comments:

[illegible]

Aggregate Analysis

Borehole No. F19-D12
Project FIELD
From: 13.0
To: 25.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	121.0	5.9		5.9	94.1
0.75"	39.0	1.9		7.8	92.2
0.5"	71.0	3.5		11.3	88.7
0.375"	93.0	4.6		15.9	84.1
No.4	271.0	13.3		29.2	70.8
No.8	270.0	13.2	22.8	22.8	77.2
No.16	235.0	11.5	19.8	42.7	57.3
No.30	173.0	8.5	14.6	57.3	42.7
No.50	200.0	9.8	16.9	74.2	25.8
No.100	194.0	9.5	16.4	90.5	9.5
No.200	106.0	5.2	9.0	99.5	0.5
Pan	6.0	0.3	0.5	100.0	0.0
% sand retained		58.0			

Dry Wt. 2040.0
Wash Wt. 1779.0

L.B.W.% 12.8
FM 2.87
Gravel% 29.2

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-D12
 Project FIELD
 From: 25.0
 To: 27.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	31.0	2.6		2.6	97.4
0.5"	80.0	6.8		9.5	90.5
0.375"	31.0	2.6		12.1	87.9
No.4	78.0	6.7		18.8	81.2
No.8	83.0	7.1	11.3	11.3	88.7
No.16	97.0	8.3	13.2	24.5	75.5
No.30	97.0	8.3	13.2	37.6	62.4
No.50	121.0	10.3	16.4	54.1	45.9
No.100	197.0	16.8	26.8	80.8	19.2
No.200	134.0	11.4	18.2	99.0	1.0
Pan	7.0	0.6	1.0	100.0	0.0
% sand retained		62.9			

Dry Wt. 1171.0
 Wash Wt. 956.0

L.B.W.% 18.4
 FM 2.06
 Gravel% 18.8

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-D12
Project FIELD
From: 27.0
To: 30.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	55.0	2.7		2.7	97.3
0.75"	15.0	0.7		3.5	96.5
0.5"	27.0	1.3		4.8	95.2
0.375"	46.0	2.3		7.1	92.9
No.4	99.0	4.9		12.0	88.0
No.8	104.0	5.2	13.1	13.1	86.9
No.16	100.0	5.0	12.6	25.8	74.2
No.30	82.0	4.1	10.5	36.2	63.8
No.50	127.0	6.3	16.0	52.3	47.7
No.100	198.0	9.8	25.0	77.3	22.7
No.200	175.0	8.7	22.1	99.4	0.6
Pan	5.0	0.2	0.6	100.0	0.0
% sand retained		39.3			

Dry Wt. 2016.0
Wash Wt. 1033.0

L.B.W.% 48.8
FM 2.05
Gravel% 12.0

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-D12
 Project FIELD
 From: 30.0
 To: 33.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	4.0		4.0	96.0
0.5"	6.0	1.5		5.5	94.5
0.375"	8.0	2.0		7.5	92.5
No.4	26.0	6.5		14.1	85.9
No.8	22.0	5.5	6.4	6.4	93.6
No.16	26.0	6.5	7.6	14.0	86.0
No.30	28.0	7.0	8.2	22.2	77.8
No.50	66.0	16.6	19.3	41.5	58.5
No.100	86.0	21.6	25.1	66.7	33.3
No.200	40.0	10.1	11.7	78.4	21.6
Pan	74.0	18.6	21.6	100.0	0.0
% sand retained		85.9			

Dry Wt. 398.0
 Wash Wt. 326.0

L.B.W.% 18.1
 FM 1.51
 Gravel% 14.1

Del.
 Lithologic unit ST

F19 - D12

33 - 39

ALL CLAY

Aggregate Analysis

Borehole No. F19-D12
 Project FIELD
 From: 39.0
 To: ~~50.0~~ 68.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	72.0	3.3		3.3	96.7
0.5"	127.0	5.9		9.2	90.8
0.375"	124.0	5.7		14.9	85.1
No.4	256.0	11.8		26.8	73.2
No.8	190.0	8.8	14.2	14.2	85.8
No.16	210.0	9.7	15.7	29.9	70.1
No.30	173.0	8.0	12.9	42.8	57.2
No.50	313.0	14.5	23.4	66.1	33.9
No.100	323.0	14.9	24.1	90.2	9.8
No.200	121.0	5.6	9.0	99.3	0.7
Pan	10.0	0.5	0.7	100.0	0.0
% sand retained		61.9			

Dry Wt. 2164.0
 Wash Wt. 1917.0

L.B.W.% 11.4
 FM 2.43
 Gravel% 26.8

Det.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-D12
 Project FIELD
 From: 68.0
 To: 77.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	22.0	1.5		1.5	98.5
0.375"	48.0	3.2		4.7	95.3
No.4	147.0	9.9		14.7	85.3
No.8	145.0	9.8	13.2	13.2	86.8
No.16	100.0	6.8	9.1	22.3	77.7
No.30	86.0	5.8	7.8	30.2	69.8
No.50	218.0	14.7	19.9	50.0	50.0
No.100	361.0	24.4	32.9	83.0	17.0
No.200	177.0	12.0	16.1	99.1	0.9
Pan	10.0	0.7	0.9	100.0	0.0
% sand retained		74.2			

Dry Wt. 1479.0
 Wash Wt. 1313.0

L.B.W.% 11.2
 FM 1.99
 Gravel% 14.7

Del.
 Lithologic unit FSD

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-E10
Date	7/17/01	Parcel	F19	Sheet 1	1 Of 2
Start Time	9:00 AM	Hole Location	N	Surface Elev.	
Finish Time		Logged By	M. Benbernagel	Water Depth	17'
Total Depth	68'	Drill Method	Auger		

Comments:

[illegible]

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-E10
Date	7/17/01	Parcel	F19	Sheet 2	2 Of 2
Start Time	9:00 AM	Hole Location	N	Surface Elev.	
Finish Time		Logged By	M. Bendermager	Water Depth	17'
Total Depth	68'	Drill Method	Auger		

Comments:

[illegible]

Aggregate Analysis

Borehole No. F19-E10
 Project FIELD
 From: 3.0
 To: 8.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	495.0	26.3		26.3	73.7
0.75"	58.0	3.1		29.3	70.7
0.5"	136.0	7.2		36.6	63.4
0.375"	83.0	4.4		41.0	59.0
No.4	180.0	9.5		50.5	49.5
No.8	126.0	6.7	16.0	16.0	84.0
No.16	106.0	5.6	13.5	29.5	70.5
No.30	107.0	5.7	13.6	43.1	56.9
No.50	214.0	11.4	27.2	70.4	29.6
No.100	168.0	8.9	21.4	91.7	8.3
No.200	57.0	3.0	7.3	99.0	1.0
Pan	8.0	0.4	1.0	100.0	0.0
% sand retained		41.7			

Dry Wt. 1885.0
 Wash Wt. 1742.0

L.B.W.% 7.6
 FM 2.51
 Gravel% 50.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-E10
 Project FIELD
 From: 8.0
 To: 17.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	23.0	2.4		2.4	97.6
0.5"	16.0	1.7		4.0	96.0
0.375"	18.0	1.9		5.9	94.1
No.4	51.0	5.3		11.2	88.8
No.8	45.0	4.7	5.6	5.6	94.4
No.16	39.0	4.0	4.9	10.5	89.5
No.30	74.0	7.7	9.3	19.8	80.2
No.50	301.0	31.3	37.8	57.6	42.4
No.100	279.0	29.0	35.0	92.6	7.4
No.200	56.0	5.8	7.0	99.6	0.4
Pan	3.0	0.3	0.4	100.0	0.0
% sand retained		82.8			

Dry Wt. 963.0
 Wash Wt. 904.0

L.B.W.% 6.1
 FM 1.86
 Gravel% 11.2

Det.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-E10
Project FIELD
From: 17.0
To: 25.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	1.0	0.1		0.1	99.9
No.4	1.0	0.1		0.2	99.8
No.8	1.0	0.1	0.1	0.1	99.9
No.16	2.0	0.2	0.3	0.4	99.6
No.30	13.0	1.6	1.9	2.3	97.7
No.50	155.0	19.2	22.3	24.6	75.4
No.100	382.0	47.4	54.9	79.5	20.5
No.200	134.0	16.6	19.3	98.7	1.3
Pan	9.0	1.1	1.3	100.0	0.0
% sand retained		86.4			

Dry Wt. 806.0
Wash Wt. 698.0

L.B.W.% 13.4
FM 1.07
Gravel% 0.2

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-ETZ E10
 Project FIELD
 From: 25.0
 To: 27.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	4.0	0.3		0.3	99.7
0.375"	9.0	0.6		0.8	99.2
No.4	16.0	1.0		1.9	98.1
No.8	33.0	2.1	6.4	6.4	93.6
No.16	41.0	2.6	7.9	14.3	85.7
No.30	43.0	2.8	8.3	22.6	77.4
No.50	103.0	6.6	19.9	42.5	57.5
No.100	184.0	11.9	35.5	78.0	22.0
No.200	98.0	6.3	18.9	96.9	3.1
Pan	16.0	1.0	3.1	100.0	0.0
% sand retained		33.4			

Dry Wt. 1551.0
 Wash Wt. 546.0

L.B.W.% 64.8
 FM 1.64
 Gravel% 1.9

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-E10
 Project FIELD
 From: 27.0
 To: 34.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	0.0	0.0	0.0	0.0	100.0
No.16	3.0	0.3	0.3	0.3	99.7
No.30	10.0	0.9	1.2	1.5	98.5
No.50	85.0	7.8	9.8	11.3	88.7
No.100	450.0	41.2	52.0	63.3	36.7
No.200	301.0	27.6	34.8	98.0	2.0
Pan	17.0	1.6	2.0	100.0	0.0
% sand retained		79.3			

Dry Wt. 1092.0
 Wash Wt. 871.0

L.B.W.% 20.2
 FM 0.76
 Gravel% 0.0

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-E10
 Project FIELD
 From: 34.0
 To: 42.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	13.0	0.9		0.9	99.1
0.5"	20.0	1.4		2.3	97.7
0.375"	13.0	0.9		3.2	96.8
No.4	33.0	2.3		5.5	94.5
No.8	41.0	2.9	3.3	3.3	96.7
No.16	51.0	3.6	4.1	7.5	92.5
No.30	120.0	8.4	9.7	17.2	82.8
No.50	489.0	34.2	39.7	56.9	43.1
No.100	423.0	29.6	34.3	91.2	8.8
No.200	104.0	7.3	8.4	99.7	0.3
Pan	4.0	0.3	0.3	100.0	0.0
% sand retained		86.2			

Dry Wt. 1430.0
 Wash Wt. 1310.0

L.B.W.% 8.4
 FM 1.76
 Gravel% 5.5

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-E10
 Project FIELD
 From: 42.0
 To: 52.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	3.0	0.3		0.3	99.7
No.4	6.0	0.6		1.0	99.0
No.8	6.0	0.6	0.7	0.7	99.3
No.16	9.0	1.0	1.1	1.8	98.2
No.30	56.0	5.9	6.6	8.3	91.7
No.50	485.0	51.4	56.9	65.3	34.7
No.100	258.0	27.3	30.3	95.5	4.5
No.200	36.0	3.8	4.2	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% sand retained		90.3			

Dry Wt. 944.0
 Wash Wt. 860.0

L.B.W.% 8.9
 FM 1.72
 Gravel% 1.0

Del.
 Lithologic unit FSD

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-E14
Date	6/14/01	Parcel	F19	Sheet 1	1 Of 2
Start Time	1:10 PM	Hole Location	SW	Surface Elev.	
Finish Time	10:05 AM	Logged By	M. Bendernagel	Water Depth	29'
Total Depth	53'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
2		Topsoil and clay overburden. Black topsoil going into a tannish brown clay.	Zero	4	4					
4		Brown sand and gravel. Sand medium to coarse with gravel at about 40-45%. Max = 4"+, Avg = 1/4.	4	18	14	4 to 18	4.5	3.01	52	G
6										
8										
10										
12										
14										
16										
18		Alternating bands of fine light brown sand and a tannish silt. Little to no gravel.	18	23	5	18 to 23	28.1	1.07	4.8	CL
20										
22										
24		Light brown fine to medium sand with fine gravel. Avg = 3/8, Max = <1". Gravel at about 20%.	23	29	6	23 to 29	8.2	1.95	28.7	S&G
26										
28										
30		Alternating bands of medium tan sand and dark tan silt. Gravel layer at 36' about 1' thick then back into medium sand.	29	46.5	17.5	29 to 46.5	10.8	1.66	17.7	FSD
32										
34										
36										
38										
40										
42										
44										
46										
48										
50		Brown medium sand with a coarse gravel. Gravel at about 30%. Avg = 1/2", Max = 3"	46.5	58	11.5	46.5 to 58	3.9	2.02	40.8	S&G

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						LBW	FM	GR%	Note
52		Gray coarse sand with fine gravel. Gravel at about 30%. Max = 2", Avg = <1/4. Some small silt layers within.	58	75	17	58 to 75	4.8	2.47	27.4	S&G
54										
56										
58										
60										
62										
64										
66										
68		Gray silt with little to gravel.	75	78	3	75 to 78	15.4	0.86	9.4	ST
70										
72										
74										
76										
78										
80										
82										
84	T.D. 83'									
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Analysis

Borehole No. F19-E14
 Project FIELD
 From: 4.0
 To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	622.0	19.0		19.0	81.0
0.75"	106.0	3.2		22.3	77.7
0.5"	316.0	9.7		31.9	68.1
0.375"	192.0	5.9		37.8	62.2
No.4	464.0	14.2		52.0	48.0
No.8	400.0	12.2	25.5	25.5	74.5
No.16	326.0	10.0	20.8	46.3	53.7
No.30	260.0	8.0	16.6	62.9	37.1
No.50	250.0	7.6	15.9	78.8	21.2
No.100	138.0	4.2	8.8	87.6	12.4
No.200	46.0	1.4	2.9	90.6	9.4
Pan	148.0	4.5	9.4	100.0	0.0
% sand retained		48.0			

Dry Wt. 3268.0
 Wash Wt. 3122.0

L.B.W.% 4.5
 FM 3.01
 Gravel% 52.0

Del.
 Lithologic unit G

Aggregate Analysis

Borehole No. F19-E14
 Project FIELD
 From: 18.0
 To: 23.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	22.0	1.4		1.4	98.6
0.375"	16.0	1.0		2.5	97.5
No.4	30.0	2.4		4.8	95.2
No.8	30.0	2.0	2.1	2.1	97.9
No.16	42.0	2.7	2.9	5.0	95.0
No.30	86.0	5.6	5.9	10.9	89.1
No.50	296.0	19.4	20.4	31.2	68.8
No.100	384.0	25.1	26.4	57.6	42.4
No.200	152.0	9.9	10.5	68.1	31.9
Pan	464.0	30.4	31.9	100.0	0.0
% sand retained		95.2			

Dry Wt. 1528.0
 Wash Wt. 1098.0

L.B.W.% 28.1
 FM 1.07
 Gravel% 4.8

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-E14
Project FIELD
From: 23.0
To: 29.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	58.0	2.6		2.6	97.4
0.75"	130.0	5.9		8.6	91.4
0.5"	150.0	6.8		15.4	84.6
0.375"	72.0	3.3		18.7	81.3
No.4	218.0	10.0		28.7	71.3
No.8	154.0	7.0	9.9	9.9	90.1
No.16	160.0	7.3	10.2	20.1	79.9
No.30	162.0	7.4	10.4	30.5	69.5
No.50	378.0	17.3	24.2	54.7	45.3
No.100	396.0	18.1	25.4	80.0	20.0
No.200	124.0	5.7	7.9	88.0	12.0
Pan	188.0	8.6	12.0	100.0	0.0
% sand retained		71.3			

Dry Wt. 2190.0
Wash Wt. 2010.0

L.B.W.% 8.2
FM 1.95
Gravel% 28.7

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-E14
 Project FIELD
 From: 28.0
 To: 46.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	130.0	6.3		6.3	93.7
0.75"	42.0	2.0		8.3	91.7
0.5"	20.0	1.0		9.3	90.7
0.375"	36.0	1.7		11.1	88.9
No.4	138.0	6.7		17.7	82.3
No.8	128.0	6.2	7.5	7.5	92.5
No.16	142.0	6.9	8.4	15.9	84.1
No.30	142.0	6.9	8.4	24.3	75.7
No.50	358.0	17.4	21.1	45.4	54.6
No.100	468.0	22.7	27.6	73.0	27.0
No.200	216.0	10.5	12.7	85.7	14.3
Pan	242.0	11.7	14.3	100.0	0.0
% sand retained		82.3			

Dry Wt. 2062.0
 Wash Wt. 1840.0

L.B.W.% 10.8
 FM 1.66
 Gravel% 17.7

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-E14
Project FIELD
From: 46.5
To: 58.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	292.0	9.6		9.6	90.4
0.75"	130.0	4.3		13.9	86.1
0.5"	254.0	8.4		22.3	77.7
0.375"	168.0	6.2		28.5	71.5
No.4	372.0	12.3		40.8	59.2
No.8	220.0	7.3	12.3	12.3	87.7
No.16	150.0	5.0	8.4	20.6	79.4
No.30	162.0	5.3	9.0	29.7	70.3
No.50	450.0	14.9	25.1	54.7	45.3
No.100	532.0	17.6	29.7	84.4	15.6
No.200	146.0	4.8	8.1	92.5	7.5
Pan	134.0	4.4	7.5	100.0	0.0
% sand retained		59.2			

Dry Wt. 3030.0
Wash Wt. 2912.0

L.B.W.% 3.9
FM 2.02
Gravel% 40.8

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-E14
 Project FIELD
 From: 58.0
 To: 75.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	38.0	1.5		1.5	98.5
0.75"	36.0	1.4		3.0	97.0
0.5"	128.0	5.1		8.1	91.9
0.375"	126.0	5.1		13.2	86.8
No.4	354.0	14.2		27.4	72.6
No.8	312.0	12.6	17.3	17.3	82.7
No.16	248.0	10.0	13.7	31.0	69.0
No.30	234.0	9.4	13.0	44.0	56.0
No.50	422.0	17.0	23.4	67.4	32.6
No.100	352.0	14.2	19.5	86.9	13.1
No.200	108.0	4.3	6.0	92.9	7.1
Pan	128.0	5.1	7.1	100.0	0.0
% sand retained		72.6			

Dry Wt. 2486.0
 Wash Wt. 2366.0

L.B.W.% 4.8
 FM 2.47
 Gravel% 27.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-E14
 Project FIELD
 From: 75.0
 To: 78.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	36.0	2.5		2.5	97.5
0.5"	42.0	2.9		5.4	94.6
0.375"	8.0	0.6		6.0	94.0
No.4	50.0	3.5		9.4	90.6
No.8	48.0	3.2	3.5	3.5	96.5
No.16	58.0	4.0	4.4	8.0	92.0
No.30	54.0	3.7	4.1	12.1	87.9
No.50	62.0	4.3	4.7	16.8	83.2
No.100	374.0	25.9	28.6	45.5	54.5
No.200	430.0	29.8	32.9	78.4	21.6
Pan	282.0	19.6	21.6	100.0	0.0
% sand retained		90.6			

Dry Wt. 1442.0
 Wash Wt. 1220.0

L.B.W.% 15.4
 FM 0.86
 Gravel% 9.4

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-E14
Project FIELD
From: 78.0
To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	26.0	1.9		1.9	98.1
0.5"	94.0	6.9		8.8	91.2
0.375"	38.0	2.8		11.6	88.4
No.4	56.0	4.1		15.7	84.3
No.8	42.0	3.1	3.7	3.7	96.3
No.16	30.0	2.2	2.6	6.3	93.7
No.30	26.0	1.9	2.3	8.5	91.5
No.50	46.0	3.4	4.0	12.5	87.5
No.100	72.0	5.3	6.3	18.8	81.2
No.200	162.0	11.9	14.1	32.9	67.1
Pan	772.0	56.6	67.1	100.0	0.0
% sand retained		84.3			

Dry Wt. 1364.0
Wash Wt. 662.0

L.B.W.% 51.5
FM 0.50
Gravel% 15.7

Del.
Lithologic unit CLAY

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-F12
Date	6/4/01	Parcel	F19	Sheet 1	1 Of 3
Start Time	8:30 AM	Hole Location	North, Middle	Surface Elev.	
Finish Time	4:00 PM	Logged By	M. Bendemagel	Water Depth	52'
Total Depth	113 ft	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
0		Overburden, topsoil, black in color.	Zero	1	1					
2		Rusty brown clay sand with some large gravel at about 30%. Max = 5"+	1	4	3	1 to 4	10	2.43	34.5	S&G
4		Brown sand and gravel with very coarse gravel. Some large boulders. Gravel at 35-40%. Sand medium to coarse.	4	12	8	4 to 12	5.1	2.68	56.5	G
6										
8										
10										
12		Brown medium sand with medium to coarse gravel at 25-30%. Max = 4"+.	12	34	22	12 to 34	5.3	3.03	38.7	S&G
14										
16										
18										
20										
22										
24										
26										
28										
30										
32										
34										
36		Tannish-brown fine to medium sand with some fine gravel at about 20%.	34	37	3	34 to 37	3.4	2.63	36.2	S&G
38		Tan fine sand with fine gravel at about 10%. Occasional seams of silt that were 2-4" thick.	37	43	6	37 to 43	12.5	1.24	13.7	ST
40										
42										
44										
46		Brown medium sand with some fine gravel at 20-25%.	43	48	5	43 to 48	4.7	2.6	37.8	S&G
48										
50		Tannish-brown fine sand with fine gravel and small clay lenses. Gravel about 10%.	48	52	4	48 to 52	13.9	1.67	17	FSD

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Brown to gray, fine to medium sand with black organics in last 7ft. Fine gravel at about 10%.	52	71.5	19.5	51 to 71.5	10.5	2.32	12.8	MSD
54										
56										
58										
60										
62										
64										
66										
68		Fine brown sand with less than 5% gravel. Small silt lenses interbedded.	71.5	78	6.5	71.5 to 78				
70										
72										
74										
76		Fine brown sand. A little coarser than the previous sample. No gravel present.	78	98	20	78 to 98	2.3	1.45	2.8	ST
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100		Fine to medium brown sand. Fine gravel present at 15-20%.	98	101	3	98 to 101	2.8	2.58	20.7	S&G

Drilling Co.	Edward C. Levy	Property	Field	Hole #	F19-F12
Date	6/4/01	Parcel	F19	Sheet 1	3 Of 3
Start Time	8:30 AM	Hole Location	North, Middle	Surface Elev.	
Finish Time	4:00 PM	Logged By	M Bendernagel	Water Depth	52'
Total Depth	113'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
102		Medium brown sand with about 20-25% gravel.	101	104	3	101 to 104	3.1	1.75	8.7	FSD
104										
106		Gray silty fine sand with little to no gravel. Some silt seams within.	104	113	9	104 to 113	5.4	1.36	1.9	ST
108										
110		T.D. 113'								
112										
114										
116										
118										
120										
122										
124										
126										
128										
130										
132										
134										
136										
138										
140										
142										
144										
146										
148										
150										

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 1.0
 To: 4.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	145.0	10.5		10.5	89.5
0.75"	120.0	8.7		19.3	80.7
0.5"	80.0	5.8		25.1	74.9
0.375"	51.0	3.7		28.8	71.2
No.4	78.0	5.7		34.5	65.5
No.8	76.0	5.5	10.0	10.0	90.0
No.16	105.0	7.6	13.8	23.8	76.2
No.30	157.0	11.4	20.6	44.4	55.6
No.50	228.0	16.6	29.9	74.3	25.7
No.100	123.0	8.9	16.1	90.4	9.6
No.200	55.0	4.0	7.2	97.6	2.4
Pan	18.0	1.3	2.4	100.0	0.0
% sand retained		55.4			

Dry Wt. 1375.0
 Wash Wt. 1237.0

L.B.W.% 10.0
 FM 2.43
 Gravel% 34.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 4.0
 To: 12.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	528.0	22.3		22.3	77.7
0.75"	150.0	6.3		28.7	71.3
0.5"	232.0	9.8		38.5	61.5
0.375"	144.0	6.1		44.6	55.4
No.4	282.0	11.9		56.5	43.5
No.8	202.0	8.5	19.6	19.6	80.4
No.16	184.0	7.8	17.9	37.5	62.5
No.30	176.0	7.4	17.1	54.7	45.3
No.50	186.0	7.9	18.1	72.8	27.2
No.100	106.0	4.5	10.3	83.1	16.9
No.200	48.0	2.0	4.7	87.7	12.3
Pan	126.0	5.3	12.3	100.0	0.0
% sand retained		43.5			

Dry Wt. 2364.0
 Wash Wt. 2244.0

L.B.W.% 5.1
 FM 2.68
 Gravel% 56.5

Det.
 Lithologic unit G

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 12.0
 To: 34.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	107.0	6.2		6.2	93.8
0.75"	97.0	5.6		11.8	88.2
0.5"	99.0	5.7		17.6	82.4
0.375"	130.0	7.5		25.1	74.9
No.4	235.0	13.6		38.7	61.3
No.8	224.0	13.0	23.2	23.2	76.8
No.16	191.0	11.1	19.8	43.0	57.0
No.30	166.0	9.6	17.2	60.1	39.9
No.50	206.0	11.9	21.3	81.5	18.5
No.100	137.0	7.9	14.2	95.7	4.3
No.200	40.0	2.3	4.1	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		56.0			

Dry Wt. 1726.0
 Wash Wt. 1634.0

L.B.W.% 5.3
 FM 3.03
 Gravel% 38.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 34.0
 To: 37.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	64.0	4.9		4.9	95.1
0.75"	60.0	4.6		9.6	90.4
0.5"	106.0	8.2		17.7	82.3
0.375"	68.0	5.2		23.0	77.0
No.4	172.0	13.3		36.2	63.8
No.8	116.0	8.9	14.0	14.0	86.0
No.16	118.0	9.1	14.3	28.3	71.7
No.30	186.0	14.3	22.5	50.7	49.3
No.50	238.0	18.3	28.7	79.5	20.5
No.100	94.0	7.2	11.4	90.8	9.2
No.200	30.0	2.3	3.6	94.4	5.6
Pan	46.0	3.5	5.6	100.0	0.0
% sand retained		63.8			

Dry Wt. 1298.0
 Wash Wt. 1254.0

L.B.W.% 3.4
 FM 2.63
 Gravel% 36.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 37.0
 To: 43.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	50.0	4.4		4.4	95.6
0.375"	40.0	3.5		7.9	92.1
No.4	66.0	5.8		13.7	86.3
No.8	40.0	3.5	4.1	4.1	95.9
No.16	46.0	4.0	4.7	8.7	91.3
No.30	70.0	6.1	7.1	15.9	84.1
No.50	158.0	13.9	16.1	31.9	68.1
No.100	310.0	27.2	31.5	63.4	36.6
No.200	198.0	17.4	20.1	83.5	16.5
Pan	162.0	14.2	16.5	100.0	0.0
% sand retained		86.3			

Dry Wt. 1140.0
 Wash Wt. 998.0

L.B.W.% 12.5
 FM 1.24
 Gravel% 13.7

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 43.0
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	136.0	5.8		5.8	94.2
0.75"	180.0	7.7		13.5	86.5
0.5"	182.0	7.8		21.3	78.7
0.375"	106.0	4.5		25.9	74.1
No.4	278.0	11.9		37.8	62.2
No.8	242.0	10.4	16.7	16.7	83.3
No.16	238.0	10.2	16.4	33.1	66.9
No.30	242.0	10.4	16.7	49.7	50.3
No.50	340.0	14.6	23.4	73.1	26.9
No.100	210.0	9.0	14.5	87.6	12.4
No.200	66.0	2.8	4.5	92.1	7.9
Pan	114.0	4.9	7.9	100.0	0.0
% sand retained		62.2			

Dry Wt. 2334.0
 Wash Wt. 2224.0

L.B.W.% 4.7
 FM 2.60
 Gravel% 37.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 48.0
 To: 52.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	58.0	3.2		3.2	96.8
0.5"	80.0	4.4		7.5	92.5
0.375"	46.0	2.5		10.0	90.0
No.4	128.0	7.0		17.0	83.0
No.8	104.0	5.7	6.8	6.8	93.2
No.16	94.0	5.1	6.2	13.0	87.0
No.30	120.0	6.5	7.9	20.9	79.1
No.50	450.0	24.5	29.5	50.4	49.6
No.100	396.0	21.6	26.0	76.4	23.6
No.200	90.0	4.9	5.9	82.3	17.7
Pan	270.0	14.7	17.7	100.0	0.0
% sand retained		83.0			

Dry Wt. 1836.0
 Wash Wt. 1580.0

L.B.W.% 13.9
 FM 1.67
 Gravel% 17.0

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-F12
Project FIELD
From: 52.0
To: 71.5

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	44.0	2.6		2.6	97.4
0.75"	10.0	0.6		3.1	96.9
0.5"	36.0	2.1		5.2	94.8
0.375"	20.0	1.2		6.4	93.6
No.4	110.0	6.4		12.8	87.2
No.8	148.0	8.6	9.9	9.9	90.1
No.16	158.0	9.2	10.5	20.4	79.6
No.30	234.0	13.6	15.6	36.0	64.0
No.50	558.0	32.5	37.2	73.3	26.7
No.100	278.0	16.2	18.6	91.9	8.1
No.200	40.0	2.3	2.7	94.5	5.5
Pan	82.0	4.8	5.5	100.0	0.0
% sand retained		87.2			

Dry Wt. 1718.0
Wash Wt. 1538.0

L.B.W.% 10.5
FM 2.32
Gravel% 12.8

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 78.0
 To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	16.0	1.2		1.2	98.8
0.375"	6.0	0.5		1.7	98.3
No.4	15.0	1.1		2.8	97.2
No.8	10.0	0.8	0.8	0.8	99.2
No.16	15.0	1.1	1.2	2.0	98.0
No.30	38.0	3.0	3.1	5.1	94.9
No.50	441.0	33.7	35.5	40.6	59.4
No.100	691.0	52.8	55.6	96.2	3.8
No.200	46.0	3.5	3.7	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		95.0			

Dry Wt. 1309.0
 Wash Wt. 1279.0

L.B.W.% 2.3
 FM 1.45
 Gravel% 2.8

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 98.0
 To: 101.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	42.0	2.5		2.5	97.5
0.375"	70.0	4.1		6.6	93.4
No.4	238.0	14.0		20.7	79.3
No.8	264.0	15.6	19.6	19.6	80.4
No.16	186.0	11.0	13.8	33.5	66.5
No.30	148.0	8.7	11.0	44.5	55.5
No.50	316.0	18.7	23.5	68.0	32.0
No.100	334.0	19.7	24.9	92.9	7.1
No.200	46.0	2.7	3.4	96.3	3.7
Pan	50.0	3.0	3.7	100.0	0.0
% sand retained		79.3			

Dry Wt. 1694.0
 Wash Wt. 1646.0

L.B.W.% 2.8
 FM 2.58
 Gravel% 20.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-F12
 Project FIELD
 From: 101.0
 To: 104.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	30.0	1.4		1.4	98.6
0.75"	12.0	0.6		1.9	98.1
0.5"	38.0	1.8		3.7	96.3
0.375"	24.0	1.1		4.8	95.2
No.4	84.0	3.9		8.7	91.3
No.8	62.0	2.9	3.1	3.1	96.9
No.16	106.0	4.9	5.4	8.5	91.5
No.30	308.0	14.2	15.6	24.0	76.0
No.50	532.0	24.5	26.9	50.9	49.1
No.100	740.0	34.1	37.4	88.3	11.7
No.200	156.0	7.2	7.9	96.2	3.8
Pan	76.0	3.5	3.8	100.0	0.0
% sand retained		91.3			

Dry Wt. 2188.0
 Wash Wt. 2100.0

L.B.W.% 3.1
 FM 1.75
 Gravel% 8.7

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-F12
Project FIELD
From: 104.0
To: 113.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	10.0	0.8		0.8	99.2
No.4	14.0	1.1		1.9	98.1
No.8	10.0	0.8	0.8	0.8	99.2
No.16	20.0	1.6	1.6	2.4	97.6
No.30	80.0	6.4	6.5	8.9	91.1
No.50	378.0	30.0	30.6	39.5	60.5
No.100	554.0	44.0	44.9	84.4	15.6
No.200	120.0	9.5	9.7	94.2	5.8
Pan	72.0	5.7	5.8	100.0	0.0
% sand retained		98.1			

Dry Wt. 1258.0
Wash Wt. 1190.0

L.B.W.% 5.4
FM 1.36
Gravel% 1.9

Del.
Lithologic unit ST

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR %	NOTE
52		Brown medium sand with alternating bands of gravel zones. Gravel at about 20%. Max=1.5", Avg=1/4".	52	63	11	52 to 63	9.4	1.79	12.7	FSD
54										
56										
58										
60										
62		Coarse brown sand with fine gravel at about 15-20%. Max = 1", Avg = <1/4"	63	69	6	63 to 69	3.5	2.88	28.9	S&G
64										
66										
68										
70										
72		Gray till with some fine gravel. Some sand in it but very little.	69	73	4	69 to 73				
74										
76		T.D. 73'								
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Analysis

Borehole No. F19-G10
 Project FIELD
 From: 3.0
 To: 4.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	26.0	1.4		1.4	98.6
0.75"	46.0	2.4		3.8	96.2
0.5"	64.0	3.4		7.2	92.8
0.375"	82.0	4.3		11.5	88.5
No.4	188.0	9.9		21.4	78.6
No.8	166.0	8.8	11.1	11.1	88.9
No.16	188.0	9.9	12.6	23.8	76.2
No.30	224.0	11.8	15.0	38.8	61.2
No.50	328.0	17.3	22.0	60.8	39.2
No.100	300.0	15.8	20.1	80.9	19.1
No.200	130.0	6.9	8.7	89.7	10.3
Pan	154.0	8.1	10.3	100.0	0.0
% sand retained		78.6			

Dry Wt. 1896.0
 Wash Wt. 1754.0

L.B.W.% 7.5
 FM 2.15
 Gravel% 21.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G10
 Project FIELD
 From: 4.5
 To: 8.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	6.0	0.5		0.5	99.5
0.375"	4.0	0.4		0.9	99.1
No.4	12.0	1.1		1.9	98.1
No.8	22.0	1.9	2.0	2.0	98.0
No.16	32.0	2.8	2.9	4.9	95.1
No.30	62.0	5.5	5.6	10.5	89.5
No.50	198.0	17.5	17.8	28.3	71.7
No.100	394.0	34.8	35.5	63.8	36.2
No.200	222.0	19.6	20.0	83.8	16.2
Pan	180.0	15.9	16.2	100.0	0.0
% sand retained		98.1			

Dry Wt. 1132.0
 Wash Wt. 978.0

L.B.W.% 13.6
 FM 1.09
 Gravel% 1.9

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-G10
 Project FIELD
 From: 8.0
 To: 23.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	60.0	2.4		2.4	97.6
0.75"	38.0	1.5		3.9	96.1
0.5"	178.0	7.1		11.0	89.0
0.375"	130.0	5.2		16.1	83.9
No.4	440.0	17.5		33.7	66.3
No.8	440.0	17.7	26.7	26.7	73.3
No.16	346.0	13.8	20.7	47.5	52.5
No.30	228.0	9.1	13.7	61.2	38.8
No.50	272.0	10.8	16.3	77.5	22.5
No.100	184.0	7.3	11.0	88.5	11.5
No.200	70.0	2.8	4.2	92.7	7.3
Pan	122.0	4.9	7.3	100.0	0.0
% sand retained		66.3			

Dry Wt. 2614.0
 Wash Wt. 2394.0

L.B.W.% 4.8
 FM 3.01
 Gravel% 33.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G10
 Project FIELD
 From: 23.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	2.0	0.2		0.2	99.8
No.4	4.0	0.3		0.5	99.5
No.8	4.0	0.3	0.3	0.3	99.7
No.16	8.0	0.7	0.7	1.0	99.0
No.30	12.0	1.0	1.0	2.1	97.9
No.50	184.0	15.8	15.9	18.0	82.0
No.100	488.0	42.0	42.2	60.2	39.8
No.200	206.0	17.7	17.8	78.0	22.0
Pan	254.0	21.9	22.0	100.0	0.0
% sand retained		99.5			

Dry Wt. 1162.0
 Wash Wt. 932.0

L.B.W.% 19.8
 FM 0.82
 Gravel% 0.5

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-G10
Project FIELD
From: 28.0
To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	176.0	7.3		7.3	92.7
0.75"	94.0	3.9		11.2	88.8
0.5"	132.0	5.5		16.7	83.3
0.375"	90.0	3.7		20.5	79.5
No.4	288.0	12.0		32.4	67.6
No.8	208.0	8.7	12.8	12.8	87.2
No.16	162.0	6.7	10.0	22.8	77.2
No.30	156.0	6.5	9.6	32.4	67.6
No.50	388.0	16.1	23.9	56.3	43.7
No.100	412.0	17.1	25.4	81.7	18.3
No.200	104.0	4.3	6.4	88.1	11.9
Pan	194.0	8.1	11.9	100.0	0.0
% sand retained		67.6			

Dry Wt. 2404.0
Wash Wt. 2214.0

L.B.W.% 7.9
FM 2.06
Gravel% 32.4

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G10
Project FIELD
From: 38.0
To: 52.0

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	74.0	2.8		2.8	97.2
0.75"	54.0	2.0		4.8	95.2
0.5"	136.0	5.1		9.9	90.1
0.375"	84.0	3.1		13.0	87.0
No.4	304.0	11.4		24.3	75.7
No.8	344.0	12.8	17.0	17.0	83.0
No.16	392.0	14.6	19.3	36.3	63.7
No.30	370.0	13.8	18.3	54.6	45.4
No.50	456.0	17.0	22.5	77.1	22.9
No.100	248.0	9.3	12.2	89.3	10.7
No.200	78.0	2.9	3.8	93.2	6.8
Pan	138.0	5.2	6.8	100.0	0.0
% sand retained		75.7			

Dry Wt. 2878.0
Wash Wt. 2548.0

L.B.W.% 4.9
FM 2.74
Gravel% 24.3

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G10
 Project FIELD
 From: 52.0
 To: 63.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	34.0	1.6		1.6	98.4
0.75"	56.0	2.6		4.2	95.8
0.5"	90.0	4.2		8.3	91.7
0.375"	20.0	0.9		9.2	90.8
No.4	76.0	3.5		12.7	87.3
No.8	84.0	3.9	4.4	4.4	95.6
No.16	94.0	4.3	5.0	9.4	90.6
No.30	196.0	9.0	10.4	19.8	80.2
No.50	778.0	35.9	41.2	61.0	39.0
No.100	450.0	20.8	23.8	84.8	15.2
No.200	80.0	3.7	4.2	89.0	11.0
Pan	208.0	9.6	11.0	100.0	0.0
% sand retained		87.3			

Dry Wt. 2166.0
 Wash Wt. 1962.0

L.B.W.% 9.4
 FM 1.79
 Gravel% 12.7

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-G10
 Project FIELD
 From: 63.0
 To: 69.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	84.0	3.4		3.4	96.6
0.75"	52.0	2.1		5.5	94.5
0.5"	116.0	4.7		10.2	89.8
0.375"	124.0	5.0		15.2	84.8
No.4	340.0	13.7		28.9	71.1
No.8	344.0	13.9	19.5	19.5	80.5
No.16	340.0	13.7	19.3	38.8	61.2
No.30	330.0	13.3	18.7	57.5	42.5
No.50	414.0	16.7	23.5	81.0	19.0
No.100	188.0	7.6	10.7	91.6	8.4
No.200	62.0	2.5	3.5	95.1	4.9
Pan	86.0	3.5	4.9	100.0	0.0
% sand retained		71.1			

Dry Wt. 2480.0
 Wash Wt. 2394.0

L.B.W.% 3.5
 FM 2.88
 Gravel% 28.9

Del.
 Lithologic unit S&G

F19-G10

69-~~75~~ 73 ALL CLAY

Comments:[illegible]

Aggregate Analysis

Borehole No. F19-G13
 Project ~~CHASFIELD~~
 From: 0.0
 To: 17.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	500.0	15.8		15.8	84.2
0.75"	234.0	7.4		23.2	76.8
0.5"	308.0	9.7		33.0	67.0
0.375"	130.0	4.1		37.1	62.9
No.4	324.0	10.3		47.3	52.7
No.8	246.0	7.8	14.8	14.8	85.2
No.16	200.0	6.5	12.4	27.2	72.8
No.30	258.0	8.2	15.5	42.7	57.3
No.50	406.0	12.8	24.4	67.1	32.9
No.100	260.0	8.2	15.6	82.7	17.3
No.200	102.0	3.2	6.1	88.8	11.2
Pan	186.0	5.9	11.2	100.0	0.0
% sand retained		52.7			
Dry Wt.	3160.0				
Wash Wt.	2980.0				
L.B.W.%	5.5				
FM	2.34				
Gravel%	47.3				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F19-G13
 Project ~~FIELD~~
 From: 17.0
 To: 27.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	132.0	6.0		6.0	94.0
0.75"	80.0	3.6		9.6	90.4
0.5"	200.0	9.1		18.7	81.3
0.375"	118.0	5.4		24.0	76.0
No.4	310.0	14.1		38.1	61.9
No.8	240.0	10.9	17.6	17.6	82.4
No.16	228.0	10.3	16.7	34.3	65.7
No.30	224.0	10.2	16.4	50.7	49.3
No.50	352.0	16.0	25.8	76.5	23.5
No.100	150.0	6.8	11.0	87.5	12.5
No.200	52.0	2.4	3.8	91.3	8.7
Pan	118.0	5.4	8.7	100.0	0.0
% sand retained		61.9			
Dry Wt.	2204.0				
Wash Wt.	2092.0				
L.B.W.%	5.1				
FM	2.67				
Gravel%	38.1				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F19-G13
 Project ~~SP-1~~ FIELD
 From: 27.0
 To: 29.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	18.0	1.4		1.4	98.6
0.5"	44.0	3.5		4.9	95.1
0.375"	16.0	1.3		6.2	93.8
No.4	60.0	4.8		11.0	89.0
No.8	50.0	4.0	4.5	4.5	95.5
No.16	52.0	4.1	4.6	9.1	90.9
No.30	108.0	8.6	9.6	18.8	81.3
No.50	456.0	36.2	40.7	59.5	40.5
No.100	316.0	25.1	28.2	87.7	12.3
No.200	62.0	4.9	5.5	93.2	6.8
Pan	76.0	6.0	6.8	100.0	0.0
% sand retained		89.0			
Dry Wt.	1258.0				
Wash Wt.	1188.0				
L.B.W.%	5.6				
FM	1.79				
Gravel%	11.0				
Del.					
Lithologic unit	FSD				

Aggregate Analysis

Borehole No. F19-G13
 Project ~~FIELD~~
 From: 29.0
 To: 34.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	38.0	2.0		2.0	98.0
0.75"	108.0	5.5		7.5	92.5
0.5"	192.0	10.1		17.6	82.4
0.375"	110.0	5.8		23.4	76.6
No.4	394.0	20.6		44.0	56.0
No.8	208.0	10.8	19.3	19.3	80.7
No.16	150.0	7.9	14.0	33.3	66.7
No.30	154.0	8.1	14.4	47.7	52.3
No.50	300.0	15.7	28.0	75.7	24.3
No.100	196.0	10.3	18.3	94.0	6.0
No.200	52.0	2.7	4.9	98.9	1.1
Pan	12.0	0.6	1.1	100.0	0.0
% sand retained		56.0			

Dry Wt. 1910.0
 Wash Wt. 1802.0

L.B.W.% 5.7
 FM 2.70
 Gravel% 44.0

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G13
 Project ~~FIELD~~
 From: 24.0
 To: 37.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	40.0	3.0		3.0	97.0
0.75"	56.0	4.1		7.1	92.9
0.5"	32.0	2.4		9.5	90.5
0.375"	30.0	2.2		11.7	88.3
No.4	72.0	5.3		17.0	83.0
No.8	52.0	3.8	4.6	4.6	95.4
No.16	46.0	3.4	4.1	8.7	91.3
No.30	30.0	2.2	2.7	11.4	88.6
No.50	256.0	18.9	22.8	34.2	65.8
No.100	460.0	34.0	40.9	75.1	24.9
No.200	166.0	12.3	14.8	89.9	10.1
Pan	114.0	8.4	10.1	100.0	0.0
% sand retained		83.0			

Dry Wt. 1354.0
 Wash Wt. 1258.0

L.B.W.% 7.1
 FM 1.34
 Gravel% 17.0

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-G13
 Project ~~GRAND~~ FIELD
 From: 37.0
 To: 42.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	148.0	8.1		8.1	91.9
0.75"	48.0	2.6		10.8	89.2
0.5"	142.0	7.8		18.6	81.4
0.375"	42.0	2.3		20.9	79.1
No.4	134.0	7.4		28.2	71.8
No.8	138.0	7.6	10.6	10.6	89.4
No.16	188.0	10.3	14.4	25.0	75.0
No.30	248.0	13.6	19.0	44.0	56.0
No.50	326.0	17.9	25.0	68.9	31.1
No.100	228.0	12.5	17.5	86.4	13.6
No.200	62.0	3.4	4.7	91.1	8.9
Pan	116.0	6.4	8.9	100.0	0.0
% sand retained		71.8			

Dry Wt. 1820.0
 Wash Wt. 1712.0

L.B.W.% 5.9
 FM 2.35
 Gravel% 28.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G13
 Project ~~SE~~ FIELD
 From: 42.5
 To: 52.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	51.0	2.3		2.3	97.7
0.5"	28.0	1.2		3.5	96.5
0.375"	7.0	0.3		3.8	96.2
No.4	38.0	1.7		5.5	94.5
No.8	22.0	1.0	1.0	1.0	99.0
No.16	25.0	1.1	1.2	2.2	97.8
No.30	75.0	3.3	3.5	5.7	94.3
No.50	560.0	24.8	26.3	32.0	68.0
No.100	859.0	38.1	40.3	72.2	27.8
No.200	258.0	11.4	12.1	84.3	15.7
Pan	334.0	14.8	15.7	100.0	0.0
% sand retained		94.5			

Dry Wt. 2257.0
 Wash Wt. 1962.0

L.B.W.% 13.1
 FM 1.13
 Gravel% 5.5

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-G13
 Project ~~SE~~ FIELD
 From: 52.0
 To: 61.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	226.0	7.8		7.8	92.2
0.75"	46.0	1.6		9.3	90.7
0.5"	129.0	4.4		13.8	86.2
0.375"	121.0	4.2		17.9	82.1
No.4	371.0	12.7		30.6	69.4
No.8	381.0	13.1	18.8	18.8	81.2
No.16	299.0	10.3	14.8	33.6	66.4
No.30	266.0	9.1	13.2	46.8	53.2
No.50	481.0	16.5	23.8	70.6	29.4
No.100	324.0	11.1	16.0	86.6	13.4
No.200	97.0	3.3	4.8	91.4	8.6
Pan	174.0	6.0	8.6	100.0	0.0
% sand retained		69.4			

Dry Wt. 2915.0
 Wash Wt. 2754.0

L.B.W.% 5.5
 FM 2.56
 Gravel% 30.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G13
 Project ~~SHS~~ FIELD
 From: 61.5
 To: 64.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	24.0	1.1		1.1	98.9
0.75"	0.0	0.0		1.1	98.9
0.5"	10.0	0.5		1.5	98.5
0.375"	2.0	0.1		1.6	98.4
No.4	100.0	4.5		6.1	93.9
No.8	183.0	8.2	8.8	8.8	91.2
No.16	245.0	11.0	11.8	20.5	79.5
No.30	379.0	17.1	18.2	38.7	61.3
No.50	710.0	32.0	34.1	72.8	27.2
No.100	356.0	16.0	17.1	89.8	10.2
No.200	82.0	3.7	3.9	93.8	6.2
Pan	130.0	5.9	6.2	100.0	0.0
% sand retained		93.9			

Dry Wt. 2221.0
 Wash Wt. 2100.0

L.B.W.% 5.4
 FM 2.31
 Gravel% 6.1

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-G13
 Project ~~SP-13~~ FIELD
 From: 64.0
 To: 72.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	32.0	0.7		0.7	99.3
0.75"	69.0	1.5		2.3	97.7
0.5"	130.0	2.9		5.2	94.8
0.375"	172.0	3.9		9.0	91.0
No.4	633.0	14.2		23.2	76.8
No.8	728.0	16.3	21.3	21.3	78.7
No.16	673.0	15.1	19.7	40.9	59.1
No.30	636.0	14.3	18.6	59.5	40.5
No.50	796.0	17.9	23.3	82.8	17.2
No.100	329.0	7.4	9.6	92.4	7.6
No.200	100.0	2.2	2.9	95.3	4.7
Pan	160.0	3.6	4.7	100.0	0.0
% sand retained		76.8			

Dry Wt. 4458.0
 Wash Wt. 4308.0

L.B.W.% 3.4
 FM 2.97
 Gravel% 23.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G13
 Project ~~SEASIDE~~ FIELD
 From: 72.0
 To: 84.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	37.0	1.8		1.8	98.2
0.75"	0.0	0.0		1.8	98.2
0.5"	51.0	2.5		4.4	95.6
0.375"	13.0	0.6		5.0	95.0
No.4	57.0	2.8		7.9	92.1
No.8	71.0	3.5	3.8	3.8	96.2
No.16	105.0	5.2	5.7	9.5	90.5
No.30	193.0	9.6	10.4	19.9	80.1
No.50	897.0	44.7	48.5	68.4	31.6
No.100	345.0	17.2	18.6	87.1	12.9
No.200	67.0	3.3	3.6	90.7	9.3
Pan	172.0	8.6	9.3	100.0	0.0
% sand retained		92.1			

Dry Wt. 2008.0
 Wash Wt. 1846.0

L.B.W.% 8.1
 FM 1.89
 Gravel% 7.9

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-G13
 Project ~~FIELD~~ FIELD
 From: 84.0
 To: 97.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	42.0	1.5		1.5	98.5
0.5"	84.0	3.0		4.4	95.6
0.375"	87.0	3.1		7.5	92.5
No.4	396.0	14.0		21.5	78.5
No.8	443.0	15.6	19.9	19.9	80.1
No.16	350.0	12.4	15.7	35.7	64.3
No.30	344.0	12.1	15.5	51.1	48.9
No.50	615.0	21.7	27.7	78.8	21.2
No.100	273.0	9.6	12.3	91.1	8.9
No.200	66.0	2.3	3.0	94.1	5.9
Pan	132.0	4.7	5.9	100.0	0.0
% sand retained		78.5			

Dry Wt. 2832.0
 Wash Wt. 2706.0

L.B.W.% 4.4
 FM 2.77
 Gravel% 21.5

Del.
 Lithologic unit S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-G14
Date	7/16/01	Parcel	F19	Sheet 1	1 Of 3
Start Time	9:30 AM	Hole Location	S	Surface Elev.	
Finish Time		Logged By	M. Bendernagel	Water Depth	63'
Total Depth	113'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Tannish brown clay overburden with some large gravel and silt within.	Zero	8	8					
4										
6										
8										
10		Very coarse gravel with a medium sand Gravel up to 6-8". Avg=1/2". Some fine sand seams within. Gravel at about 40-50%.	8	26	18	8 to 26	6.5	2.75	39.5	S&G
12										
14										
16										
18										
20										
22										
24										
26		Brown medium to fine sand with medium gravel. Max=1", Avg=1/4".	26	29.5	3.5	26 to 29.5	4.9	2.59	27.5	S&G
28										
30		Coarse brown sand and gravel. Max=4", Avg=1/2". Gravel at about 40%.	29.5	48.5	19	29.5 to 48.5	5.7	2.79	25.9	S&G
32										
34										
36										
38										
40										
42										
44										
46										
48										
50		Fine silty tan sand with little to no gravel.	48.5	54	5.5	48.5 to 54	18.1	1.04	5.2	ST

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-G14		
Date	7/16/01	Parcel	F19	Sheet 2	2 Of	3	
Start Time	9:30 AM	Hole Location	S	Surface Elev.			
Finish Time		Logged By	M. Bendernagel	Water Depth	63'		
Total Depth	113'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52										
54										
56		Fine brown sand with fine gravel. Gravel at 20%. Avg=#4.	54	58	4	54 to 58	7.6	2.31	29.7	S&G
58										
60		Very fine sugary sand silty sand with little to no gravel present.	58	63	5	58 to 63	10.4	1.09	4.6	ST
62										
64		Brown medium to fine sand with very little gravel. Gravel at < 5%.	63	78	15	63 to 78				
66										
68										
70										
72										
74										
76										
78										
80		Brown medium sand with with little to no gravel.	78	85	7	78 to 85	8.1	1.65	1	FSD
82										
84										
86		Brown medium sand with medium to coarse gravel. Gravel at about 35-40%. Small gravel bands within.	85	98	13	85 to 98	3.4	2.97	26.3	S&G
88										
90										
92										
94										
96										
98										
100		Gray silt with a good amount of gravel. at about 15-20%.	98	101	3	98 to 101	27.5	2.21	16.1	CL

Comments:[illegible]

Aggregate Analysis

Borehole No. F19-G14
 Project FIELD
 From: 8.0
 To: 26.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	261.0	11.8		11.8	88.2
0.75"	78.0	3.5		15.3	84.7
0.5"	115.0	5.2		20.5	79.5
0.375"	138.0	6.2		26.7	73.3
No.4	282.0	12.7		39.5	60.5
No.8	214.0	9.7	17.9	17.9	82.1
No.16	198.0	8.9	16.5	34.4	65.6
No.30	196.0	8.9	16.5	50.9	49.1
No.50	316.0	14.3	26.4	77.3	22.7
No.100	206.0	9.3	17.2	94.5	5.5
No.200	64.0	2.9	5.3	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		54.1			

Dry Wt. 2214.0
 Wash Wt. 2069.0

L.B.W.% 6.5
 FM 2.75
 Gravel% 39.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G14
 Project FIELD
 From: 26.0
 To: ~~28.5~~ 29.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	114.0	6.6		6.6	93.4
0.5"	121.0	7.0		13.6	86.4
0.375"	71.0	4.1		17.7	82.3
No.4	168.0	9.7		27.5	72.5
No.8	152.0	8.8	13.0	13.0	87.0
No.16	175.0	10.1	15.0	28.0	72.0
No.30	218.0	12.6	18.6	46.6	53.4
No.50	357.0	20.7	30.5	77.2	22.8
No.100	203.0	11.8	17.4	94.5	5.5
No.200	62.0	3.6	5.3	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		67.8			

Dry Wt. 1725.0
 Wash Wt. 1640.0

L.B.W.% 4.9
 FM 2.59
 Gravel% 27.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 29.5
To: 48.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	82.0	7.8		7.8	92.2
0.375"	56.0	5.3		13.0	87.0
No.4	136.0	12.9		25.9	74.1
No.8	127.0	12.0	17.5	17.5	82.5
No.16	121.0	11.4	16.7	34.2	65.8
No.30	127.0	12.0	17.5	51.7	48.3
No.50	207.0	19.6	28.6	80.3	19.7
No.100	112.0	10.6	15.4	95.7	4.3
No.200	30.0	2.8	4.1	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		68.5			

Dry Wt. 1052.0
Wash Wt. 998.0

L.B.W.% 5.7
FM 2.79
Gravel% 25.9

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 48.5
To: 54.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	36.0	3.2		3.2	96.8
No.4	23.0	2.0		5.2	94.8
No.8	20.0	1.8	2.3	2.3	97.7
No.16	17.0	1.5	2.0	4.3	95.7
No.30	23.0	2.0	2.7	6.9	93.1
No.50	117.0	10.3	13.5	20.4	79.6
No.100	427.0	37.7	49.3	69.7	30.3
No.200	246.0	21.7	28.4	98.0	2.0
Pan	17.0	1.5	2.0	100.0	0.0
% sand retained		76.6			

Dry Wt. 1132.0
Wash Wt. 927.0

L.B.W.% 18.1
FM 1.04
Gravel% 5.2

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-G14
 Project FIELD
 From: 54.0
 To: 58.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	47.0	5.1		5.1	94.9
0.5"	82.0	8.9		14.0	86.0
0.375"	43.0	4.7		18.6	81.4
No.4	102.0	11.0		29.7	70.3
No.8	81.0	8.8	13.9	13.9	86.1
No.16	61.0	6.6	10.5	24.4	75.6
No.30	65.0	7.0	11.2	35.6	64.4
No.50	170.0	18.4	29.3	64.9	35.1
No.100	156.0	16.9	26.9	91.7	8.3
No.200	45.0	4.9	7.7	99.5	0.5
Pan	3.0	0.3	0.5	100.0	0.0
% sand retained		62.9			

Dry Wt. 924.0
 Wash Wt. 854.0

L.B.W.% 7.6
 FM 2.31
 Gravel% 29.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 58.0
To: 63.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	26.0	2.3		2.3	97.7
0.375"	8.0	0.7		3.0	97.0
No.4	19.0	1.7		4.6	95.4
No.8	15.0	1.3	1.5	1.5	98.5
No.16	13.0	1.1	1.3	2.9	97.1
No.30	18.0	1.6	1.8	4.7	95.3
No.50	165.0	14.4	16.9	21.6	78.4
No.100	548.0	47.7	56.2	77.8	22.2
No.200	197.0	17.1	20.2	98.1	1.9
Pan	19.0	1.7	1.9	100.0	0.0
% sand retained		84.9			

Dry Wt. 1149.0
Wash Wt. 1029.0

L.B.W.% 10.4
FM 1.09
Gravel% 4.6

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 78.0
To: 85.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	2.0	0.2		0.2	99.8
No.4	10.0	0.9		1.0	99.0
No.8	23.0	2.0	1.7	1.7	98.3
No.16	32.0	2.7	2.3	4.0	96.0
No.30	199.0	17.0	14.6	18.6	81.4
No.50	649.0	55.4	47.5	66.1	33.9
No.100	122.0	10.4	8.9	75.0	25.0
No.200	340.0	29.0	24.9	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		116.6			

Dry Wt. 1172.0
Wash Wt. 1077.0

L.B.W.% 8.1
FM 1.65
Gravel% 1.0

Del.
Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 85.0
To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	14.0	1.1		1.1	98.9
0.5"	61.0	4.9		6.0	94.0
0.375"	49.0	3.9		9.9	90.1
No.4	206.0	16.4		26.3	73.7
No.8	225.0	17.9	25.5	25.5	74.5
No.16	133.0	10.6	15.1	40.6	59.4
No.30	107.0	8.5	12.1	52.8	47.2
No.50	252.0	20.1	28.6	81.4	18.6
No.100	132.0	10.5	15.0	96.4	3.6
No.200	31.0	2.5	3.5	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		70.1			

Dry Wt. 1256.0
Wash Wt. 1213.0

L.B.W.% 3.4
FM 2.97
Gravel% 26.3

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 98.0
To: 101.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	42.0	3.0		3.0	97.0
0.375"	51.0	3.6		6.6	93.4
No.4	140.0	10.0		16.6	83.4
No.8	136.0	9.7	17.3	17.3	82.7
No.16	115.0	8.2	14.6	31.9	68.1
No.30	77.0	5.5	9.8	41.7	58.3
No.50	125.0	8.9	15.9	57.6	42.4
No.100	116.0	8.3	14.8	72.4	27.6
No.200	170.0	12.1	21.6	94.0	6.0
Pan	47.0	3.3	6.0	100.0	0.0
% sand retained		55.9			

Dry Wt. 1405.0
Wash Wt. 1018.0

L.B.W.% 27.5
FM 2.21
Gravel% 16.6

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-G14
Project FIELD
From: 101.0
To: 106.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	36.0	2.0		2.0	98.0
0.75"	0.0	0.0		2.0	98.0
0.5"	0.0	0.0		2.0	98.0
0.375"	2.0	0.1		2.1	97.9
No.4	22.0	1.2		3.3	96.7
No.8	25.0	1.4	6.8	6.8	93.2
No.16	25.0	1.4	6.8	13.7	86.3
No.30	32.0	1.7	8.8	22.5	77.5
No.50	87.0	4.7	23.8	46.3	53.7
No.100	92.0	5.0	25.2	71.5	28.5
No.200	68.0	3.7	18.6	90.1	9.9
Pan	36.0	2.0	9.9	100.0	0.0
% sand retained		19.8			

Dry Wt. 1844.0
Wash Wt. 424.0

L.B.W.% 77.0
FM 1.61
Gravel% 3.3

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-G14
 Project FIELD
 From: 106.0
 To: 113.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	58.0	2.8		2.8	97.2
0.75"	81.0	3.9		6.8	93.2
0.5"	174.0	8.5		15.3	84.7
0.375"	91.0	4.4		19.7	80.3
No.4	285.0	12.9		32.6	67.4
No.8	225.0	11.0	20.1	20.1	79.9
No.16	178.0	8.7	15.9	36.1	63.9
No.30	122.0	5.9	10.9	47.0	53.0
No.50	265.0	12.9	23.7	70.7	29.3
No.100	236.0	11.5	21.1	91.9	8.1
No.200	80.0	3.9	7.2	99.0	1.0
Pan	11.0	0.5	1.0	100.0	0.0
% sand retained		54.5			

Dry Wt. 2051.0
 Wash Wt. 1781.0

L.B.W.% 13.2
 FM 2.66
 Gravel% 32.6

Del.
 Lithologic unit S&G

Drilling Co.	ECL	Property	Field	Hole #	F19-H12
Date	4/4/01	Parcel	F19	Sheet 1	Of 2
Start Time	8:45 AM	Hole Location	Northern Portion	Surface Elev.	1080'
Finish Time	1:30 PM	Logged By	Tim Higbee	Water Depth	64'
Total Depth	93'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Yellowish brown sandy firm clay with occasional gravel.	Zero	4	4					
4										
6		Reddish brown very fine sandy to silt.	4	6	2	4 to 6				
8										
10		Yellow medium to coarse sand with 40% gravel. Maximum size 2", avg. 1/2".	6	18	12	6 to 12	3.4	2.47	45.6	S&G
12										
14										
16										
18										
20		Yellow coarse to very coarse sand with 50% gravel. Maximum size 2", avg. 1/2".	18	38	20	18 to 38	1.8	2.96	55.7	G
22										
24										
26										
28										
30										
32										
34										
36										
38										
40		Yellowish brown fine to medium sand with 30% fine gravel.	38	42.5	4.5	38 to 42.5	6.8	2.21	34.8	S&G
42										
44		Yellow medium to coarse sand with 45% gravel. Maximum size 2", avg. 1/4".	42.5	48	5.5	42.5 to 48	2.3	2.62	47.8	S&G
46										
48										
50		Light yellow very fine sand to silt with occasional fine gravel.	48	56	8	48 to 56	15	1.13	6.3	ST

Comments:[illegible]

Aggregate Analysis

Borehole No. F19-H12
 Project ~~2-11~~ FIELD
 From: 4.0
 To: 6.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	26.0	1.8		1.8	98.2
0.75"	0.0	0.0		1.8	98.2
0.5"	28.0	2.0		3.8	96.2
0.375"	20.0	1.4		5.2	94.8
No.4	40.0	2.8		8.1	91.9
No.8	40.0	2.8	3.1	3.1	96.9
No.16	48.0	3.4	3.7	6.8	93.2
No.30	84.0	5.9	6.5	13.2	86.8
No.50	278.0	19.7	21.4	34.6	65.4
No.100	560.0	39.6	43.1	77.7	22.3
No.200	92.0	6.5	7.1	84.8	15.2
Pan	198.0	14.0	15.2	100.0	0.0
% sand retained		91.9			

Dry Wt. 1414.0
 Wash Wt. 1222.0

L.B.W.% 13.6
 FM 1.35
 Gravel% 8.1

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-H12
 Project ~~FIELD~~
 From: 6.0
 To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	736.0	29.5		29.5	70.5
0.75"	74.0	3.0		32.5	67.5
0.5"	76.0	3.0		35.6	64.4
0.375"	80.0	3.2		38.8	61.2
No.4	170.0	6.8		45.6	54.4
No.8	162.0	6.5	11.9	11.9	88.1
No.16	196.0	7.9	14.5	26.4	73.6
No.30	242.0	9.7	17.8	44.2	55.8
No.50	402.0	16.1	29.6	73.9	26.1
No.100	226.0	9.1	16.7	90.6	9.4
No.200	42.0	1.7	3.1	93.7	6.3
Pan	86.0	3.5	6.3	100.0	0.0
% sand retained		54.4			

Dry Wt. 2492.0
 Wash Wt. 2408.0

L.B.W.% 3.4
 FM 2.47
 Gravel% 45.6

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-H12
 Project ~~000000~~ FIELD
 From: 18.0
 To: 38.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	664.0	22.5		22.5	77.5
0.75"	184.0	6.2		28.8	71.2
0.5"	296.0	10.0		38.8	61.2
0.375"	146.0	5.0		43.8	56.2
No.4	350.0	11.9		55.7	44.3
No.8	283.0	9.8	22.1	22.1	77.9
No.16	242.0	8.2	18.5	40.6	59.4
No.30	286.0	9.7	21.9	62.5	37.5
No.50	210.0	7.1	16.1	78.6	21.4
No.100	174.0	5.9	13.3	91.9	8.1
No.200	50.0	1.7	3.8	95.7	4.3
Pan	56.0	1.9	4.3	100.0	0.0
% sand retained		44.3			
Dry Wt.	2946.0				
Wash Wt.	2892.0				
L.B.W.%	1.8				
FM	2.96				
Gravel%	55.7				
Del.					
Lithologic unit	G				

Aggregate Analysis

Borehole No. F19-H12
 Project ~~S&G~~ SPIELD
 From: 38.0
 To: 42.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	212.0	9.1		9.1	90.9
0.75"	48.0	2.1		11.2	88.8
0.5"	176.0	7.6		18.8	81.2
0.375"	106.0	4.6		23.4	76.6
No.4	264.0	11.4		34.8	65.2
No.8	198.0	8.5	13.1	13.1	86.9
No.16	170.0	7.3	11.2	24.3	75.7
No.30	194.0	8.4	12.8	37.2	62.8
No.50	398.0	17.2	26.3	63.5	36.5
No.100	300.0	12.9	19.8	83.3	16.7
No.200	84.0	3.6	5.6	88.9	11.1
Pan	168.0	7.2	11.1	100.0	0.0
% sand retained		65.2			

Dry Wt. 2318.0
 Wash Wt. 2160.0

L.B.W.% 6.8
 FM 2.21
 Gravel% 34.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-H12
 Project ~~XXXX~~ FIELD
 From: 42.5
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	398.0	17.1		17.1	82.9
0.75"	220.0	9.4		26.5	73.5
0.5"	148.0	6.3		32.8	67.2
0.375"	98.0	4.2		37.0	63.0
No.4	252.0	10.8		47.8	52.2
No.8	196.0	8.4	16.1	16.1	83.9
No.16	190.0	8.1	15.6	31.7	68.3
No.30	192.0	8.2	15.8	47.5	52.5
No.50	328.0	14.1	26.9	74.4	25.6
No.100	216.0	9.3	17.7	92.1	7.9
No.200	40.0	1.7	3.3	95.4	4.6
Pan	56.0	2.4	4.6	100.0	0.0
% sand retained		52.2			

Dry Wt. 2334.0
 Wash Wt. 2280.0

L.B.W.% 2.3
 FM 2.62
 Gravel% 47.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-M12
 Project ~~FIELD~~
 From: 48.0
 To: 56.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	26.0	1.8		1.8	98.2
0.5"	12.0	0.8		2.6	97.4
0.375"	16.0	1.1		3.8	96.3
No.4	36.0	2.5		6.3	93.8
No.8	26.0	1.8	1.9	1.9	98.1
No.16	20.0	1.4	1.5	3.4	96.6
No.30	36.0	2.6	2.8	6.2	93.8
No.50	336.0	23.5	25.0	31.3	68.7
No.100	528.0	36.7	39.1	70.4	29.6
No.200	166.0	11.5	12.3	82.7	17.3
Pan	234.0	16.3	17.3	100.0	0.0
% sand retained		93.8			

Dry Wt. 1440.0
 Wash Wt. 1224.0

L.B.W.% 15.0
 FM 1.13
 Gravel% 6.3

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-H12
 Project ~~FIELD~~
 From: 56.0
 To: 64.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	88.0	4.7		4.7	95.3
0.75"	108.0	5.8		10.5	89.5
0.5"	142.0	7.6		18.1	81.9
0.375"	88.0	4.7		22.8	77.2
No.4	210.0	11.2		34.0	66.0
No.8	172.0	9.2	13.9	13.9	86.1
No.16	156.0	8.3	12.6	26.5	73.5
No.30	154.0	8.2	12.5	39.0	61.0
No.50	278.0	14.9	22.5	61.5	38.5
No.100	290.0	15.5	23.5	85.0	15.0
No.200	74.0	4.0	6.0	90.9	9.1
Pan	112.0	6.0	9.1	100.0	0.0
% sand retained		66.0			

Dry Wt. 1872.0
 Wash Wt. 1766.0

L.B.W.% 5.7
 FM 2.26
 Gravel% 34.0

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-H12
 Project ~~XXXX~~ FIELD
 From: 64.0
 To: 80.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	84.0	4.1		4.1	95.9
0.75"	38.0	1.8		5.9	94.1
0.5"	60.0	2.9		8.8	91.2
0.375"	110.0	5.3		14.2	85.8
No.4	248.0	12.1		26.2	73.8
No.8	250.0	12.1	16.5	16.5	83.5
No.16	306.0	14.9	20.2	36.6	63.4
No.30	320.0	15.5	21.1	57.7	42.3
No.50	384.0	18.7	25.3	83.0	17.0
No.100	170.0	8.3	11.2	94.2	5.8
No.200	40.0	1.9	2.6	96.8	3.2
Pan	48.0	2.3	3.2	100.0	0.0
% sand retained		73.8			

Dry Wt. 2058.0
 Wash Wt. 2014.0

L.B.W.% 2.1
 FM 2.88
 Gravel% 26.2

Del.
 Lithologic unit S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-110
Date	7/13/01	Parcel	F19	Sheet 1	1 Of 2
Start Time	1:15 PM	Hole Location	N	Surface Elev.	
Finish Time	3:15 AM	Logged By	M. Bendernagel	Water Depth	38'
Total Depth	58'	Drill Method	Auger		

Comments:

Graphical log Depth/Litho.	Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
						L.B.W	FM	GR%	Note
2	Tannish brown clay overburden with some large gravel and silt within.	Zero	8	8					
4									
6									
8									
10	Fine to medium tan sand with some medium to coarse gravel. Gravel at about 30%. Max=3", Avg=1/4-1/2".	8	13	5	8 to 13	5.2	2.1	42.1	S&G
12									
14	Fine tan silty sand with no gravel present.	13	15	2	13 to 15	5.2	1.06	zero	ST
16	Coarse gravel layer for the first foot then goes into medium-coarse sand with 40% medium gravel.	15	28	13	15 to 28	6.1	2.49	46.2	S&G
18									
20									
22									
24									
26									
28									
30									
32	Brown medium sand with 30-35% gravel with Avg=1/4", Max=2".	28	38	10	28 to 38				
34									
36									
38									
40	Coarse brown sand with fine gravel at about 20-25%. Avg=1/4", Max=1/2"	38	48	10	38 to 48	4.6	2.46	24.9	S&G
42									
44									
46									
48									
50									
50	Brownish gray fine sand with little to no gravel present. Some small silt bands within	48	51	3	48 to 51	11.8	1.42	4.8	ST

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Stiff gray clay with small sand lenses on top. Get stiff and more clayey as one goes through the section.	51	58	7	51 to 58	32	1.15	10.9	CL
54										
56										
58										
60		T.D. 58'								
62										
64										
66										
68										
70										
72										
74										
76										
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Analysis

Borehole No. ~~580-110~~ F19
 Project FIELD
 From: 8.0
 To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	526.0	22.5		22.5	77.5
0.75"	96.0	4.1		26.6	73.4
0.5"	120.0	5.1		31.7	68.3
0.375"	64.0	2.7		34.5	65.5
No.4	178.0	7.6		42.1	57.9
No.8	144.0	6.2	10.6	10.6	89.4
No.16	140.0	6.0	10.3	21.0	79.0
No.30	154.0	6.6	11.4	32.3	67.7
No.50	384.0	16.4	28.4	60.7	39.3
No.100	334.0	14.3	24.7	85.4	14.6
No.200	74.0	3.2	5.5	90.8	9.2
Pan	124.0	5.3	9.2	100.0	0.0
% sand retained		57.9			

Dry Wt. 2338.0
 Wash Wt. 2216.0

L.B.W.% 5.2
 FM 2.10
 Gravel% 42.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Aggregate Analysis					
Borehole No.	F19 ES0-110				
Project	FIELD				
From:	13.0				
To:	15.0				
Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	2.0	0.1	0.1	0.1	99.9
No.16	6.0	0.4	0.4	0.5	99.5
No.30	20.0	1.4	1.4	1.9	98.1
No.50	256.0	17.6	17.6	19.5	80.5
No.100	946.0	64.9	64.9	84.4	15.6
No.200	142.0	9.7	9.7	94.1	5.9
Pan	66.0	5.9	5.9	100.0	0.0
% sand retained		100.0			
Dry Wt.	1458.0				
Wash Wt.	1382.0				
L.B.W.%	5.2				
FM	1.06				
Gravel%	0.0				
Del.					
Lithologic unit	ST				

Aggregate Analysis

Borehole No. ~~E20-110~~
 Project FIELD
 From: 15.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	448.0	17.2		17.2	82.8
0.75"	138.0	5.3		22.5	77.5
0.5"	210.0	8.1		30.5	69.5
0.375"	126.0	4.8		35.4	64.6
No.4	284.0	10.9		46.2	53.8
No.8	210.0	8.1	15.0	15.0	85.0
No.16	224.0	8.6	16.0	31.0	69.0
No.30	232.0	8.9	16.5	47.5	52.5
No.50	322.0	12.3	23.0	70.5	29.5
No.100	200.0	7.7	14.3	84.7	15.3
No.200	52.0	2.0	3.7	88.4	11.6
Pan	162.0	6.2	11.6	100.0	0.0
% sand retained		53.8			

Dry Wt. 2608.0
 Wash Wt. 2448.0

L.B.W.% 6.1
 FM 2.49
 Gravel% 46.2

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. ~~E20-110~~ ^{F19}
 Project FIELD
 From: 38.0
 To: 48.0 wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	38.0	1.3		1.3	98.7
0.75"	28.0	1.0		2.3	97.7
0.5"	188.0	6.6		8.9	91.1
0.375"	144.0	5.0		13.9	86.1
No.4	314.0	11.0		24.9	75.1
No.8	268.0	9.4	12.5	12.5	87.5
No.16	270.0	9.5	12.6	25.1	74.9
No.30	362.0	12.7	16.9	42.0	58.0
No.50	722.0	25.3	33.7	75.7	24.3
No.100	328.0	11.5	15.3	91.0	9.0
No.200	66.0	2.3	3.1	94.0	6.0
Pan	128.0	4.5	6.0	100.0	0.0
% sand retained		75.1			
Dry Wt.	2856.0				
Wash Wt.	2726.0				
L.B.W.%	4.6				
FM	2.46				
Gravel%	24.9				
Del.					
Lithologic unit	S&G				

Aggregate Analysis

Borehole No. F19
 Project F20-110
 From: 48.0
 To: 51.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	0.9		0.9	99.1
0.5"	6.0	0.3		1.2	98.8
0.375"	14.0	0.8		2.0	98.0
No.4	50.0	2.8		4.8	95.2
No.8	42.0	2.3	2.5	2.5	97.5
No.16	34.0	1.9	2.0	4.5	95.5
No.30	72.0	4.0	4.2	8.7	91.3
No.50	620.0	34.6	36.4	45.1	54.9
No.100	620.0	34.6	36.4	81.5	18.5
No.200	94.0	5.3	5.5	87.0	13.0
Pan	222.0	12.4	13.0	100.0	0.0
% sand retained		95.2			

Dry Wt. 1790.0
 Wash Wt. 1578.0

L.B.W.% 11.8
 FM 1.42
 Gravel% 4.8

Del.
 Lithologic unit ST

Aggregate Analysis

Borehole No. F19-110
 Project FIELD
 From: 51.0
 To: 58.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	56.0	3.1		3.1	96.9
0.5"	32.0	1.8		4.9	95.1
0.375"	32.0	1.8		6.7	93.3
No.4	76.0	4.2		10.9	89.1
No.8	56.0	3.1	3.5	3.5	96.5
No.16	52.0	2.9	3.3	6.8	93.2
No.30	94.0	5.3	5.9	12.7	87.3
No.50	354.0	19.8	22.2	34.9	65.1
No.100	354.0	19.8	22.2	57.1	42.9
No.200	110.0	6.1	6.9	64.0	36.0
Pan	574.0	32.1	36.0	100.0	0.0
% sand retained		89.1			

Dry Wt. 1790.0
 Wash Wt. 1218.0

L.B.W.% 32.0
 FM 1.15
 Gravel% 10.9

Del.
 Lithologic unit CL

Drilling Co.	ECL	Property	Field	Hole #	F19-114
Date	4/5/01	Parcel	F19	Sheet 2	Of 3
Start Time	11:00 AM	Hole Location	Northern Portion	Surface Elev.	1088'
Finish Time	3:30 PM	Logged By	Tim Higbee	Water Depth	69'
Total Depth	113'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Yellow medium to coarse sand with 40% gravel. Maximum size 1.5", avg. 1/2".	48	65	17	48 to 69	7.1	2.51	34.7	S&G
54										
56										
58										
60										
62										
64										
66		Brown very clayey coarse sand with 40% gravel. Maximum size 1.5", avg. 1/4".	65	69	4					
68										
70		Gray coarse sand with 45% gravel. Maximum size 1.5", avg. 3/8".	69	73	4	69 to 73	4.9	2.74	38.5	S&G
72										
74		Gray coarse sand with 25% fine gravel.	73	83	10	73 to 83	3.3	2.68	26.3	S&G
76										
78										
80										
82										
84		Greenish gray very fine sand to silt with occasional fine gravel.	83	87.5	4.5	83 to 87.5	9.7	1.09	3.5	ST
86										
88		Gray coarse sand with 15% fine gravel.	87.5	98	10.5	87.5 to 98	5.7	2.54	18.1	2NS
90										
92										
94										
96										
98										
100		Gray very fine sand to silt with a trace of fine gravel.	98	113	15	98 to 113	13	0.92	0.5	ST

Aggregate Analysis

Borehole No. F19-I14
Project FIELD
From: 7.5
To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	804.0	22.6		22.6	77.4
0.75"	130.0	3.6		26.2	73.8
0.5"	123.0	3.5		29.7	70.3
0.375"	101.0	2.8		32.5	67.5
No.4	252.0	7.1		39.6	60.4
No.8	219.0	6.1	10.2	10.2	89.8
No.16	206.0	5.8	9.6	19.7	80.3
No.30	248.0	7.0	11.5	31.2	68.8
No.50	601.0	16.9	27.9	59.1	40.9
No.100	446.0	12.5	20.7	79.9	20.1
No.200	99.0	2.8	4.6	84.4	15.6
Pan	335.0	9.4	15.6	100.0	0.0
% sand retained		60.4			

Dry Wt. 3564.0
Wash Wt. 3241.0

L.B.W.% 9.1
FM 2.00
Gravel% 39.6

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-H4
 Project FIELD
 From: 18.0
 To: 27.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	27.0	1.0		1.0	99.0
0.75"	59.0	2.2		3.2	96.8
0.5"	74.0	2.7		5.9	94.1
0.375"	66.0	2.4		8.4	91.6
No.4	176.0	6.5		14.9	85.1
No.8	151.0	5.6	6.6	6.6	93.4
No.16	168.0	6.2	7.3	13.9	86.1
No.30	297.0	11.0	12.9	26.8	73.2
No.50	1094.0	40.5	47.5	74.3	25.7
No.100	347.0	12.8	15.1	89.4	10.6
No.200	70.0	2.6	3.0	92.4	7.6
Pan	175.0	6.5	7.6	100.0	0.0
% sand retained		85.1			

Dry Wt. 2704.0
 Wash Wt. 2536.0

L.B.W.% 6.2
 FM 2.11
 Gravel% 14.9

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-114
 Project FIELD
 From: 27.5
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	607.0	14.5		14.5	85.5
0.75"	276.0	6.6		21.1	78.9
0.5"	322.0	7.7		28.8	71.2
0.375"	163.0	3.9		32.7	67.3
No.4	464.0	11.1		43.8	56.2
No.8	401.0	9.6	17.1	17.1	82.9
No.16	370.0	8.9	15.8	32.9	67.1
No.30	367.0	8.8	15.6	48.5	51.5
No.50	562.0	13.4	23.9	72.4	27.6
No.100	330.0	7.9	14.1	86.5	13.5
No.200	82.0	2.0	3.5	90.0	10.0
Pan	235.0	5.6	10.0	100.0	0.0
% sand retained		56.2			

Dry Wt. 4179.0
 Wash Wt. 3953.0

L.B.W.% 5.4
 FM 2.57
 Gravel% 43.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-114
 Project FIELD
 From: 48.0
 To: 69.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	287.0	8.6		8.6	91.4
0.75"	104.0	3.1		11.7	88.3
0.5"	212.0	6.3		18.0	82.0
0.375"	123.0	3.7		21.7	78.3
No.4	436.0	13.0		34.7	65.3
No.8	354.0	10.6	16.2	16.2	83.8
No.16	335.0	10.0	15.3	31.5	68.5
No.30	348.0	10.4	15.9	47.4	52.6
No.50	514.0	15.3	23.5	70.8	29.2
No.100	314.0	9.4	14.3	85.2	14.8
No.200	76.0	2.3	3.5	88.6	11.4
Pan	249.0	7.4	11.4	100.0	0.0
% sand retained		65.3			

Dry Wt. 3352.0
 Wash Wt. 3114.0

L.B.W.% 7.1
 FM 2.51
 Gravel% 34.7

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-114
 Project FIELD
 From: 69.0
 To: 73.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	83.0	2.8		2.8	97.2
0.75"	151.0	5.2		8.0	92.0
0.5"	241.0	8.2		16.2	83.8
0.375"	186.0	6.4		22.6	77.4
No.4	466.0	15.9		38.5	61.5
No.8	396.0	13.5	22.0	22.0	78.0
No.16	301.0	10.3	16.8	38.8	61.2
No.30	251.0	8.6	14.0	52.8	47.2
No.50	365.0	12.5	20.3	73.1	26.9
No.100	256.0	8.8	14.2	87.3	12.7
No.200	73.0	2.5	4.1	91.4	8.6
Pan	155.0	5.3	8.6	100.0	0.0
% sand retained		61.5			

Dry Wt. 2924.0
 Wash Wt. 2781.0

L.B.W.% 4.9
 FM 2.74
 Gravel% 38.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-114
Project FIELD
From: 73.0
To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	48.0	1.7		1.7	98.3
0.5"	113.0	4.0		5.7	94.3
0.375"	106.0	3.7		9.4	90.6
No.4	479.0	16.9		26.3	73.7
No.8	463.0	16.3	22.1	22.1	77.9
No.16	347.0	12.2	16.6	38.7	61.3
No.30	253.0	8.9	12.1	50.8	49.2
No.50	326.0	11.5	15.6	66.4	33.6
No.100	495.0	17.4	23.7	90.1	9.9
No.200	105.0	3.7	5.0	95.1	4.9
Pan	102.0	3.6	4.9	100.0	0.0
% sand retained		73.7			

Dry Wt. 2837.0
Wash Wt. 2744.0

L.B.W.% 3.3
FM 2.68
Gravel% 26.3

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-114
Project FIELD
From: 83.0
To: 87.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	22.0	1.3		1.3	98.7
0.375"	15.0	0.9		2.1	97.9
No.4	24.0	1.4		3.5	96.5
No.8	12.0	0.7	0.7	0.7	99.3
No.16	12.0	0.7	0.7	1.4	98.6
No.30	22.0	1.3	1.3	2.7	97.3
No.50	349.0	19.9	20.6	23.3	76.7
No.100	979.0	55.8	57.8	81.1	18.9
No.200	136.0	7.7	8.0	89.1	10.9
Pan	184.0	10.5	10.9	100.0	0.0
% sand retained		96.5			

Dry Wt. 1755.0
Wash Wt. 1585.0

L.B.W.% 9.7
FM 1.09
Gravel% 3.5

Del.
Lithologic unit ST

Aggregate Analysis

Borehole No. F19-114
 Project FIELD
 From: 87.5
 To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	44.0	1.9		1.9	98.1
0.5"	33.0	1.4		3.3	96.7
0.375"	52.0	2.2		5.6	94.4
No.4	291.0	12.5		18.1	81.9
No.8	355.0	15.3	18.6	18.6	81.4
No.16	264.0	11.4	13.9	32.5	67.5
No.30	209.0	9.0	11.0	43.5	56.5
No.50	503.0	21.6	26.4	69.9	30.1
No.100	369.0	15.9	19.4	89.3	10.7
No.200	66.0	2.8	3.5	92.8	7.2
Pan	138.0	5.9	7.2	100.0	0.0
% sand retained		81.9			

Dry Wt. 2324.0
 Wash Wt. 2192.0

L.B.W.% 5.7
 FM 2.54
 Gravel% 18.1

Del.
 Lithologic unit 2NS

Aggregate Analysis

Borehole No. F19-114
 Project FIELD
 From: 98.0
 To: 113.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	4.0	0.2		0.2	99.8
0.375"	1.0	0.1		0.3	99.7
No.4	3.0	0.2		0.5	99.5
No.8	8.0	0.5	0.5	0.5	99.5
No.16	6.0	0.3	0.3	0.8	99.2
No.30	8.0	0.5	0.5	1.3	98.7
No.50	214.0	12.1	12.2	13.4	86.6
No.100	1094.0	62.0	62.3	75.7	24.3
No.200	180.0	10.2	10.3	86.0	14.0
Pan	240.0	13.9	14.0	100.0	0.0
% sand retained		99.5			

Dry Wt. 1764.0
 Wash Wt. 1535.0

L.B.W.% 13.0
 FM 0.92
 Gravel% 0.5

Del.
 Lithologic unit ST

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Reddish brown and gray layered sandy firm clay with some gravel.	Zero	9	9					
4										
6										
8										
10		Yellow medium sand with 10% fine gravel.	9	13	4	9 to 13	6.2	2.07	8.5	MSD
12										
14										
16										
14		Yellow medium sand with 20% gravel. Maximum size 2", avg. 3/8".	13	27.5	14.5	13 to 27.5	5.9	2.36	29.0	S&G
16										
18										
20										
22		Yellow medium sand with 15% gravel. Maximum size 1.5", avg. 3/8".	27.5	39	11.5	27.5 to 39	6.2	2.25	17.9	MSD
24										
26										
28										
30		Gray medium to coarse sand with 35% gravel. Maximum size 2.5", avg. 1/2".	39	43	4	39 to 43	5.3	2.71	32.4	S&G
32										
34										
36										
38		Light gray and yellow layered coarse sand with 40% gravel. Maximum size 2", avg. size 1/2".	43	56.5	13.5	43 to 56.5	4.1	2.68	32.2	S&G
40										
42										
44										
46		Light gray and yellow layered coarse sand with 40% gravel. Maximum size 2", avg. size 1/2".	43	56.5	13.5	43 to 56.5	4.1	2.68	32.2	S&G
48										
50										
52										

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Light gray and yellow layered coarse sand with 40% gravel. Maximum size 2", avg. size 1/2".	43	56.5	13.5	43 to 56.5	4.1	2.68	32.2	S&G
54										
56										
58										
58		Yellow and light gray layered fine sand.	56.5	68.5	12	56.5 to 68.5	10.7	1.77	0.9	FSD
60										
62										
64										
66										
68										
70		Gray fine sand with occasional thin bands of medium sand	68.5	72.5	4	68.5 to 72.5	9.4	1.81	Zero	FSD
72										
74		Yellow very fine sand to silt.	72.5	78	5.5	72.5 to 78	26.6	0.78	Zero	CL
76										
78										
80										
80		Gray very silty clay with a trace of fine gravel.	78	88	10	78 to 88	17.8	0.49	0.1	CL
82										
84										
86										
88										
90										
90		Gray silt with occasional thin bands of gray firm clay.	88	98	10	88 to 98				
92										
94										
96										
98										
100										
100		Gray sandy firm clay with occasional fine gravel. "Glacial Till"	98	103	5					

Aggregate Analysis

Borehole No. F19-J12
Project FIELD
From: 9.0
To: 13.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	54.0	4.9		4.9	95.1
0.5"	4.0	0.4		5.3	94.7
0.375"	9.0	0.8		6.1	93.9
No.4	26.0	2.4		8.5	91.5
No.8	32.0	2.9	3.4	3.4	96.6
No.16	60.0	5.5	6.5	9.9	90.1
No.30	151.0	13.8	16.3	26.2	73.8
No.50	423.0	38.7	45.5	71.7	28.3
No.100	224.0	20.5	24.1	95.8	4.2
No.200	37.0	3.4	4.0	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% sand retained		85.1			

Dry Wt. 1092.0
Wash Wt. 1024.0

L.B.W.% 6.2
FM 2.07
Gravel% 8.5

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-J12
Project FIELD
From: 13.0
To: 27.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	409.0	4.3		4.3	95.7
0.75"	469.0	4.9		9.2	90.8
0.5"	475.0	5.0		14.2	85.8
0.375"	474.0	5.0		19.1	80.9
No.4	947.0	9.9		29.0	71.0
No.8	987.0	9.3	13.1	13.1	86.9
No.16	878.0	9.2	12.9	26.0	74.0
No.30	947.0	9.9	14.0	40.0	60.0
No.50	2062.0	21.6	30.4	70.4	29.6
No.100	1091.0	11.4	16.1	86.5	13.5
No.200	343.0	3.6	5.1	91.5	8.5
Pan	575.0	6.0	8.5	100.0	0.0
% sand retained		71.0			

Dry Wt. 9557.0
Wash Wt. 8995.0

L.E.W.% 5.9
FM 2.36
Gravel% 29.0

Del.
Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-J12
Project FIELD
From: 27.5
To: 39.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	68.0	4.3		4.3	95.7
0.75"	14.0	0.9		5.2	94.8
0.5"	22.0	1.4		6.6	93.4
0.375"	58.0	3.7		10.3	89.7
No.4	119.0	7.6		17.9	82.1
No.8	122.0	7.8	10.3	10.3	89.7
No.16	123.0	7.8	10.3	20.6	79.4
No.30	158.0	10.1	13.3	33.9	66.1
No.50	387.0	24.7	32.5	66.4	33.6
No.100	323.0	20.6	27.1	93.5	6.5
No.200	75.0	4.8	6.3	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		75.8			

Dry Wt. 1569.0
Wash Wt. 1472.0

L.B.W.% 6.2
FM 2.25
Gravel% 17.9

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-J12
 Project FIELD
 From: 39.0
 To: 43.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	94.0	5.9		5.9	94.1
0.75"	55.0	3.5		9.4	90.6
0.5"	87.0	5.5		14.8	85.2
0.375"	93.0	5.8		20.7	79.3
No.4	187.0	11.7		32.4	67.6
No.8	172.0	10.8	17.4	17.4	82.6
No.16	155.0	9.7	15.7	33.0	67.0
No.30	157.0	9.9	15.9	48.9	51.1
No.50	272.0	17.1	27.5	76.4	23.6
No.100	186.0	11.7	18.8	95.2	4.8
No.200	46.0	2.9	4.6	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		62.1			

Dry Wt. 1593.0
 Wash Wt. 1508.0

L.B.W.% 5.3
 FM 2.71
 Gravel% 32.4

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-J12

Project FIELD

From: 43.0

To: ~~40.5~~ 56.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	74.0	5.4		5.4	94.6
0.5"	76.0	5.6		11.0	89.0
0.375"	84.0	6.2		17.2	82.8
No.4	204.0	15.0		32.2	67.8
No.8	162.0	11.9	18.6	18.6	81.4
No.16	135.0	9.9	15.5	34.1	65.9
No.30	114.0	8.4	13.1	47.2	52.8
No.50	228.0	16.6	26.0	73.2	26.8
No.100	185.0	13.6	21.3	94.5	5.5
No.200	46.0	3.4	5.3	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% sand retained		63.9			

Dry Wt. 1362.0

Wash Wt. 1306.0

L.B.W.% 4.1

FM 2.68

Gravel% 32.2

Del.

Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-J12
 Project FIELD
 From: 56.5
 To: 68.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	5.0	0.5		0.5	99.5
No.4	4.0	0.4		0.9	99.1
No.8	5.0	0.5	0.6	0.6	99.4
No.16	10.0	1.6	1.8	2.4	97.6
No.30	143.0	14.5	16.4	18.8	81.2
No.50	390.0	39.4	44.6	63.4	36.6
No.100	248.0	25.1	28.4	91.8	8.2
No.200	69.0	7.0	7.9	99.7	0.3
Pan	3.0	0.3	0.3	100.0	0.0
% sand retained		88.4			

Dry Wt. 989.0
 Wash Wt. 883.0

L.B.W.% 10.7
 FM 1.77
 Gravel% 0.9

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-J12
 Project FIELD
 From: 68.5
 To: 72.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	1.0	0.1	0.1	0.1	99.9
No.16	16.0	1.4	1.6	1.7	98.3
No.30	167.0	14.7	16.2	17.9	82.1
No.50	508.0	44.8	49.4	67.3	32.7
No.100	271.0	23.9	26.4	93.7	6.3
No.200	62.0	5.5	6.0	99.7	0.3
Pan	3.0	0.3	0.3	100.0	0.0
% sand retained		90.7			

Dry Wt. 1134.0
 Wash Wt. 1027.0

L.B.W.% 9.4
 FM 1.81
 Gravel% 0.0

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-J12
Project FIELD
From: 72.5
To: 78.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	0.0	0.0	0.0	0.0	100.0
No.16	1.0	0.1	0.1	0.1	99.9
No.30	6.0	0.5	0.7	0.8	99.2
No.50	94.0	8.4	11.4	12.2	87.8
No.100	435.0	38.7	52.7	65.0	35.0
No.200	263.0	23.4	31.9	96.8	3.2
Pan	26.0	2.3	3.2	100.0	0.0
% sand retained		73.3			

Dry Wt. 1125.0
Wash Wt. 826.0

L.B.W.% 26.8
FM 0.78
Gravel% 0.0

Del.
Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-J12
 Project FIELD
 From: 78.0
 To: 88.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	1.0	0.1		0.1	99.9
No.8	1.0	0.1	0.1	0.1	99.9
No.16	1.0	0.1	0.1	0.2	99.8
No.30	3.0	0.3	0.4	0.6	99.4
No.50	16.0	1.6	2.0	2.6	97.4
No.100	354.0	35.6	43.3	45.8	54.2
No.200	407.0	40.9	49.8	95.6	4.4
Pan	36.0	3.6	4.4	100.0	0.0
% sand retained		82.2			

Dry Wt. 995.0
 Wash Wt. 818.0

L.B.W.% 17.8
 FM 0.49
 Gravel% 0.1

Def.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-J12
 Project FIELD
 From: 88.0
 To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	3.0	0.2	0.5	0.5	99.5
No.16	3.0	0.2	0.5	1.0	99.0
No.30	5.0	0.4	0.9	1.9	98.1
No.50	14.0	1.1	2.4	4.3	95.7
No.100	159.0	12.8	27.3	31.6	68.4
No.200	347.0	28.0	59.6	91.2	8.8
Pan	51.0	4.1	8.8	100.0	0.0
% sand retained		47.0			

Dry Wt. 1239.0
 Wash Wt. 593.0

L.B.W.% 52.9
 FM 0.39
 Gravel% 0.0

Del.
 Lithologic unit CLAY

Comments:[illegible]

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-K10
Date	6/19/01	Parcel	F19	Sheet 2	2 Of 2
Start Time	10:10 AM	Hole Location	SE	Surface Elev.	
Finish Time	2:30 PM	Logged By	M. Bendernagel	Water Depth	64.5'
otal Depth	103'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52										
54										
56										
58										
60										
62										
64										
66		Fine brown sand with no gravel and water begins. Very consistent through section.	64.5	83	18.5	64.5 to 83	8.5	1.21	0.7	ST
68										
70										
72										
74										
76										
78										
80										
82										
84		Very fine gray sandy silt. No gravel present.	83	90	7	83 to 90	22.7	0.56	Zero	CL
86										
88										
90										
92		Starts as a gray sandy clay and works into a stiff gray clay with occasional gravel.	90	103	13	90 to 103				
94										
96										
98										
100		T.D. 103'								

Aggregate Analysis

Borehole No. F19-K10
 Project FIELD
 From: 8.0
 To: 29.0

Sieve Size	Weight	% Retained	% sand retained	Acc. Retained	Acc. Passing
1.0"	222.0	10.1		10.1	89.9
0.75"	88.0	4.0		14.1	85.9
0.5"	62.0	2.8		16.9	83.1
0.375"	38.0	1.7		18.7	81.3
No.4	146.0	6.6		25.3	74.7
No.8	130.0	5.9	7.9	7.9	92.1
No.16	220.0	10.0	13.4	21.3	78.7
No.30	282.0	12.8	17.2	38.5	61.5
No.50	462.0	21.0	28.2	66.7	33.3
No.100	316.0	14.4	19.3	86.0	14.0
No.200	88.0	4.0	5.4	91.3	8.7
Pan	142.0	6.5	8.7	100.0	0.0
% sand retained		74.7			

Dry Wt. 2196.0
 Wash Wt. 2060.0

L.B.W.% 6.2
 FM 2.20
 Gravel% 25.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-K10
 Project FIELD
 From: 29.0
 To: 34.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	2.0	0.2	0.2	0.2	99.8
No.16	2.0	0.2	0.2	0.3	99.7
No.30	6.0	0.5	0.5	0.9	99.1
No.50	12.0	1.0	1.0	1.9	98.1
No.100	30.0	2.6	2.6	4.5	95.5
No.200	196.0	17.0	17.0	21.5	78.5
Pan	906.0	78.5	78.5	100.0	0.0
% sand retained		100.0			

Dry Wt. 1154.0
 Wash Wt. 348.0

L.B.W.% 69.8
 FM 0.08
 Gravel% 0.0

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-K10
 Project FIELD
 From: 34.0
 To: 64.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	14.0	0.7		0.7	99.3
0.5"	6.0	0.3		1.0	99.0
0.375"	16.0	0.8		1.8	98.2
No.4	22.0	1.1		2.9	97.1
No.8	24.0	1.2	1.3	1.3	98.7
No.16	140.0	7.1	7.3	8.6	91.4
No.30	428.0	21.7	22.3	30.9	69.1
No.50	554.0	28.0	28.9	59.7	40.3
No.100	380.0	19.2	19.8	79.6	20.4
No.200	128.0	6.5	6.7	86.2	13.8
Pan	264.0	13.4	13.8	100.0	0.0
% sand retained		97.1			

Dry Wt. 1976.0
 Wash Wt. 1724.0

L.B.W.% 12.8
 FM 1.80
 Gravel% 2.9

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-K10
Project FIELD
From: 64.5
To: 83.0

Wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	10.0	0.7		0.7	99.3
0.375"	0.0	0.0		0.7	99.3
No.4	0.0	0.0		0.7	99.3
No.8	0.0	0.0	0.0	0.0	100.0
No.16	4.0	0.3	0.3	0.3	99.7
No.30	40.0	2.7	2.7	3.0	97.0
No.50	500.0	33.6	33.8	36.8	63.2
No.100	654.0	44.0	44.2	81.1	18.9
No.200	140.0	9.4	9.5	90.5	9.5
Pan	140.0	9.4	9.5	100.0	0.0
% sand retained		99.3			

Dry Wt. 1488.0
Wash Wt. 1362.0

L.B.W.% 8.5
FM 1.21
Gravel% 0.7

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-K10
 Project FIELD
 From: 83.0
 To: 90.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	0.0	0.0	0.0	0.0	100.0
No.16	0.0	0.0	0.0	0.0	100.0
No.30	4.0	0.3	0.3	0.3	99.7
No.50	40.0	3.0	3.0	3.3	96.7
No.100	642.0	48.6	48.6	51.9	48.1
No.200	292.0	22.1	22.1	74.0	26.0
Pan	344.0	26.0	26.0	100.0	0.0
% sand retained		100.0			

Dry Wt. 1322.0
 Wash Wt. 1022.0

L.B.W.% 22.7
 FM 0.56
 Gravel% 0.0

Del.
 Lithologic unit CLAY

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil going into a dark brown clay with some large gravel.	Zero	8	8					
4										
6										
8										
10		Medium rusty reddish brown sand with some large gravel. Max=4", Avg=1/4". Gravel at about 30-35%.	8	28	20	8 to 28	6.5	2.22	36.5	S&G
12										
14										
16										
18										
20										
22										
24										
26										
28										
30		Continuation of previous sample. Medium sand that is more brown than rusty. Gravel is a bit finer.	28	48	20	28 to 48	4.8	2.53	39.8	S&G
32										
34										
36										
38										
40										
42										
44										
46										
48										
50		Medium brown sand with medium gravel at about 35%. Avg = 1/2", Max = 2"	48	58	10	48 to 58	5.4	2.7	39.1	S&G

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-K14
Date	6/19/01	Parcel	F19	Sheet 2	2 Of 2
Start Time	1:08 PM	Hole Location	SE	Surface Elev.	
Finish Time	11:15 AM 6/20/01	Logged By	M. Bendernagel	Water Depth	67'
Total Depth	123'	Drill Method	Auger		

Comments:

[illegible]

Drilling Co.	Edward C. Levy	Property	Field	Hole #	F19-K14		
Date	6/19/01	Parcel	F19	Sheet 1	3 Of	3	
Start Time	1:08 PM	Hole Location	SE	Surface Elev.			
Finish Time	11:15 AM 6/20/01	Logged By	M. Bendemagel	Water Depth	67'		
Total Depth	123'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
102		Fine gray silt with no gravel present	100	121.5	121.5	100 to 121.5	22.4	0.68	0.1	CL
104										
106										
108										
110										
112										
114										
116										
118										
120										
122		Stiff gray clay with no gravel present.	121.5	123	1.5	121.5 to 123	80.6	1.13	2.6	CL
124	T.D. 123'									
126										
128										
130										
132										
134										
136										
138										
140										
142										
144										
146										
148										
150										

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 8.0
 To: 28.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	576.0	17.0		17.0	83.0
0.75"	88.0	2.5		19.5	80.5
0.5"	152.0	4.5		24.0	76.0
0.375"	124.0	3.7		27.7	72.3
No.4	300.0	8.9		36.5	63.5
No.8	218.0	6.4	10.1	10.1	89.9
No.16	252.0	7.4	11.7	21.9	78.1
No.30	316.0	9.3	14.7	36.6	63.4
No.50	668.0	19.7	31.1	67.6	32.4
No.100	394.0	11.6	18.3	86.0	14.0
No.200	78.0	2.3	3.6	89.6	10.4
Pan	224.0	6.6	10.4	100.0	0.0
% sand retained		63.5			

Dry Wt. 3388.0
 Wash Wt. 3168.0

L.B.W.% 6.5
 FM 2.22
 Gravel% 36.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 28.0
 To: 48.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	278.0	9.2		9.2	90.8
0.75"	150.0	5.0		14.2	85.8
0.5"	268.0	8.9		23.1	76.9
0.375"	156.0	5.2		28.3	71.7
No.4	348.0	11.6		39.8	60.2
No.8	286.0	9.5	15.8	15.8	84.2
No.16	284.0	9.4	15.7	31.5	68.5
No.30	284.0	9.4	15.7	47.1	52.9
No.50	448.0	14.9	24.7	71.9	28.1
No.100	268.0	8.9	14.8	86.6	13.4
No.200	90.0	3.0	5.0	91.6	8.4
Pan	152.0	5.0	8.4	100.0	0.0
% sand retained		60.2			

Dry Wt. 3012.0
 Wash Wt. 2866.0

L.B.W.% 4.8
 FM 2.53
 Gravel% 39.8

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 48.0
 To: 58.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	110.0	7.9		7.9	92.1
0.75"	121.0	8.7		16.6	83.4
0.5"	108.0	7.7		24.3	75.7
0.375"	72.0	5.2		29.5	70.5
No.4	134.0	9.6		39.1	60.9
No.8	107.0	7.7	13.8	13.8	86.2
No.16	121.0	8.7	15.7	29.5	70.5
No.30	159.0	11.4	20.6	50.1	49.9
No.50	237.0	17.0	30.7	80.7	19.3
No.100	120.0	8.6	15.5	96.2	3.8
No.200	28.0	2.0	3.6	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		55.4			

Dry Wt. 1395.0
 Wash Wt. 1320.0

L.B.W.% 5.4
 FM 2.70
 Gravel% 39.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 58.0
 To: 64.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	22.0	1.5		1.5	98.5
0.75"	24.0	1.6		3.0	97.0
0.5"	68.0	4.5		7.6	92.4
0.375"	73.0	4.8		12.4	87.6
No.4	163.0	12.1		24.5	75.5
No.8	205.0	13.6	19.7	19.7	80.3
No.16	213.0	14.1	20.5	40.2	59.8
No.30	211.0	14.0	20.3	60.4	39.6
No.50	253.0	16.8	24.3	84.7	15.3
No.100	124.0	8.2	11.9	96.6	3.4
No.200	34.0	2.3	3.3	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		69.0			

Dry Wt. 1509.0
 Wash Wt. 1410.0

L.B.W.% 6.6
 FM 3.02
 Gravel% 24.5

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 64.0
 To: 67.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	16.0	1.0		1.0	99.0
0.375"	15.0	1.0		2.0	98.0
No.4	42.0	2.7		4.6	95.4
No.8	49.0	3.1	3.6	3.6	96.4
No.16	50.0	3.2	3.7	7.3	92.7
No.30	202.0	12.9	14.8	22.1	77.9
No.50	747.0	47.6	54.8	76.9	23.1
No.100	273.0	17.4	20.0	96.9	3.1
No.200	41.0	2.6	3.0	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% sand retained		86.8			

Dry Wt. 1570.0
 Wash Wt. 1435.0

L.B.W.% 8.6
 FM 2.07
 Gravel% 4.6

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 67.0
 To: 79.0

wat

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	5.0	0.4		0.4	99.6
No.8	9.0	0.8	0.9	0.9	99.1
No.16	19.0	1.6	1.8	2.7	97.3
No.30	73.0	6.1	7.0	9.7	90.3
No.50	391.0	32.9	37.4	47.0	53.0
No.100	400.0	33.7	38.2	85.3	14.7
No.200	149.0	12.6	14.2	99.5	0.5
Pan	5.0	0.4	0.5	100.0	0.0
% sand retained		88.1			

Dry Wt. 1187.0
 Wash Wt. 1052.0

L.B.W.% 11.4
 FM 1.46
 Gravel% 0.4

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 79.0
 To: 83.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	3.0	0.3		0.3	99.7
No.8	2.0	0.2	0.2	0.2	99.8
No.16	3.0	0.3	0.4	0.6	99.4
No.30	8.0	0.7	1.0	1.6	98.4
No.50	84.0	7.6	10.0	11.6	88.4
No.100	331.0	29.8	39.5	51.1	48.9
No.200	371.0	33.4	44.3	95.5	4.5
Pan	38.0	3.4	4.5	100.0	0.0
% sand retained		75.3			

Dry Wt. 1112.0
 Wash Wt. 842.0

L.B.W.% 24.3
 FM 0.65
 Gravel% 0.3

Del.
 Lithologic unit CLAY

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 83.0
 To: 100.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	1.0	0.1		0.1	99.9
No.8	2.0	0.2	0.2	0.2	99.8
No.16	2.0	0.2	0.2	0.4	99.6
No.30	20.0	1.7	1.8	2.2	97.8
No.50	362.0	31.1	33.0	35.2	64.8
No.100	590.0	50.7	53.7	88.9	11.1
No.200	117.0	10.1	10.7	99.5	0.5
Pan	5.0	0.4	0.5	100.0	0.0
% sand retained		94.3			
Dry Wt.	1164.0				
Wash Wt.	1099.0				
L.B.W.%	5.6				
FM	1.27				
Gravel%	0.1				
Del.					
Lithologic unit	SILT				

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 100.0
 To: 121.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	1.0	0.1		0.1	99.9
No.8	2.0	0.2	0.2	0.2	99.8
No.16	2.0	0.2	0.2	0.4	99.6
No.30	5.0	0.4	0.5	0.9	99.1
No.50	77.0	6.0	7.7	8.6	91.4
No.100	494.0	38.2	49.3	57.9	42.1
No.200	389.0	30.1	38.8	96.7	3.3
Pan	33.0	2.6	3.3	100.0	0.0
% sand retained		77.5			
Dry Wt.	1293.0				
Wash Wt.	1003.0				
L.B.W.%	22.4				
FM	0.68				
Gravel%	0.1				
Del.					
Lithologic unit	CLAY				

Aggregate Analysis

Borehole No. F19-K14
 Project FIELD
 From: 121.5
 To: 123.0

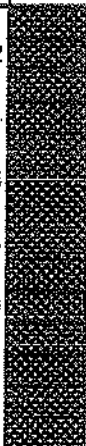
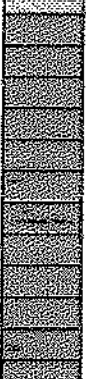
Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	22.0	2.5		2.5	97.5
0.5"	0.0	0.0		2.5	97.5
0.375"	0.0	0.0		2.5	97.5
No.4	1.0	0.1		2.6	97.4
No.8	2.0	0.2	1.3	1.3	98.7
No.16	4.0	0.4	2.6	4.0	96.0
No.30	6.0	0.7	4.0	7.9	92.1
No.50	35.0	3.9	23.2	31.1	68.9
No.100	57.0	6.4	37.7	68.9	31.1
No.200	26.0	2.9	17.2	86.1	13.9
Pan	21.0	2.4	13.9	100.0	0.0
% sand retained		17.0			

Dry Wt. 890.0
 Wash Wt. 173.0

L.B.W.% 80.6
 FM 1.13
 Gravel% 2.6

Del.
 Lithologic unit CLAY

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
2		Black topsoil overburden.	Zero	2	2					
4		Brown sandy clay. Gravel at about 20%.	2	14	12					
6										
8										
10										
12										
14										
16		Fine rusty-brown sand with little gravel at about 5-10%.	14	18	4	14 to 18	10.7	1.6	5.9	FSD
18										
20		Brown fine-medium sand with about 20-25 percent gravel. Avg = 1/4, Max = 3". Seams of silty fine sand with fine gravel within.	18	30.5	12.5	18 to 30.5	7.9	2.28	35.1	S&G
22										
24										
26										
28										
30										
32		Fine tan sand with silt seams within. Seams only 2-4" thick. Little to no gravel present.	30.5	41	10.5	30.5 to 41	12.7	1.62	5.3	FSD
34										
36										
38										
40										
42		Medium brown sand with about 30% gravel. Avg. = 1/4", Max = 3". Some small seams of fine sand within.	41	54	13	41 to 54	7.6	3.1	30.3	S&G
44										
46										
48										
50										

Drilling Co.	Edw. C. Levy	Property	Field	Hole #	F19-L12
Date	6/21/01	Parcel	F19	Sheet 2	2 Of 2
Start Time	10:15 AM	Hole Location	NE	Surface Elev.	
Finish Time	2:35 PM	Logged By	M. Bendemagel	Water Depth	73'
Total Depth	98'	Drill Method	Auger		

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Analysis			
Depth	Litho.						L.B.W	FM	GR%	Note
52		Brown fine sand with some fine gravel at about 5-10%. Max = 1/2".	54	73	19	54 to 73	12.4	2.31	6	MSD
54										
56										
58										
60										
62										
64										
66										
68										
70										
72		Medium brown sand with silt bands within. No gravel present.	73	79	6	73 to 79	14.5	2.28	0.4	MSD
74										
76										
78										
80		Brown fine silty sand with no gravel present	79	84	5	79 to 84	14	1.31	0.2	ST
82		Brownish gray fine sand with some silt bands. No gravel present.	84	93	9	84 to 93	13	1.52	0.4	ST
84										
86										
88										
90										
92										
94		Fine gray silt with no gravel. Some clay seams within.	93	98	5	93 to 98	17.1	1.01	Zero	ST
96		T.D. 98'								
98										
100										

Aggregate Analysis

Borehole No. F19-L12
 Project FIELD
 From: 14.0
 To: 18.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	13.0	1.2		1.2	98.8
0.5"	24.0	2.1		3.3	96.7
0.375"	6.0	0.5		3.8	96.2
No.4	23.0	2.0		5.9	94.1
No.8	21.0	1.9	2.2	2.2	97.8
No.16	32.0	2.8	3.3	5.5	94.5
No.30	72.0	6.4	7.4	12.9	87.1
No.50	335.0	29.8	34.5	47.4	52.6
No.100	436.0	38.7	44.9	92.4	7.6
No.200	68.0	6.0	7.0	99.4	0.6
Pan	6.0	0.5	0.6	100.0	0.0
% sand retained		86.1			

Dry Wt. 1126.0
 Wash Wt. 1006.0

L.B.W.% 10.7
 FM 1.60
 Gravel% 5.9

Del.
 Lithologic unit FSD

Aggregate Analysis

Borehole No. F19-L12
 Project FIELD
 From: 18.0
 To: 30.5

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	168.0	13.8		13.8	86.2
0.75"	65.0	5.4		19.2	80.8
0.5"	71.0	5.9		25.1	74.9
0.375"	35.0	2.9		27.9	72.1
No.4	87.0	7.2		35.1	64.9
No.8	80.0	6.6	11.5	11.5	88.5
No.16	84.0	6.9	12.1	23.7	76.3
No.30	94.0	7.7	13.6	37.2	62.8
No.50	189.0	15.6	27.3	64.5	35.5
No.100	103.0	15.1	26.4	90.9	9.1
No.200	60.0	4.9	8.7	99.6	0.4
Pan	3.0	0.2	0.4	100.0	0.0
% sand retained		57.1			

Dry Wt. 1213.0
 Wash Wt. 1117.0

L.B.W.% 7.9
 FM 2.28
 Gravel% 35.1

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-L12
 Project FIELD
 From: 30.5
 To: 41.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	21.0	1.9		1.9	98.1
0.375"	8.0	0.7		2.7	97.3
No.4	29.0	2.7		5.3	94.7
No.8	36.0	3.3	4.0	4.0	96.0
No.16	49.0	4.5	5.5	9.6	90.4
No.30	75.0	6.9	8.4	18.0	82.0
No.50	224.0	20.6	25.2	43.2	56.8
No.100	392.0	36.1	44.1	87.3	12.7
No.200	110.0	10.1	12.4	99.7	0.3
Pan	3.0	0.3	0.3	100.0	0.0
% sand retained		81.9			
Dry Wt.	1086.0				
Wash Wt.	948.0				
L.B.W.%	12.7				
FM	1.62				
Gravel%	5.3				
Del.					
Lithologic unit	FSD				

Aggregate Analysis

Borehole No. F19-L12
 Project FIELD
 From: 41.0
 To: 54.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	167.0	14.9		14.9	85.1
0.75"	0.0	0.0		14.9	85.1
0.5"	32.0	2.8		17.7	82.3
0.375"	24.0	2.1		19.8	80.2
No.4	118.0	10.5		30.3	69.7
No.8	145.0	12.9	20.8	20.8	79.2
No.16	164.0	14.6	23.5	44.3	55.7
No.30	143.0	12.7	20.5	64.8	35.2
No.50	139.0	12.4	19.9	84.7	15.3
No.100	78.0	6.9	11.2	95.8	4.2
No.200	27.0	2.4	3.9	99.7	0.3
Pan	2.0	0.2	0.3	100.0	0.0
% sand retained		62.1			

Dry Wt. 1124.0
 Wash Wt. 1039.0

L.B.W.% 7.6
 FM 3.10
 Gravel% 30.3

Del.
 Lithologic unit S&G

Aggregate Analysis

Borehole No. F19-L12
 Project FIELD
 From: 54.0
 To: 73.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	16.0	1.7		1.7	98.3
0.5"	4.0	0.4		2.1	97.9
0.375"	5.0	0.5		2.7	97.3
No.4	31.0	3.3		6.0	94.0
No.8	27.0	2.9	3.8	3.8	96.2
No.16	43.0	4.6	6.0	9.8	90.2
No.30	255.0	27.2	35.8	45.6	54.4
No.50	231.0	24.7	32.4	78.0	22.0
No.100	115.0	12.3	16.1	94.1	5.9
No.200	40.0	4.3	5.6	99.7	0.3
Pan	2.0	0.2	0.3	100.0	0.0
% sand retained		76.2			

Dry Wt. 936.0
 Wash Wt. 820.0

L.B.W.% 12.4
 FM 2.31
 Gravel% 6.0

Del.
 Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-L12
Project FIELD
From: 73.0
To: 79.0

wet

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	6.0	0.4		0.4	99.6
No.8	11.0	0.7	0.8	0.8	99.2
No.16	159.0	9.9	11.6	12.4	87.6
No.30	437.0	27.2	32.0	44.4	55.6
No.50	444.0	27.7	32.5	76.9	23.1
No.100	230.0	14.3	16.8	93.8	6.2
No.200	78.0	4.9	5.7	99.5	0.5
Pan	7.0	0.4	0.5	100.0	0.0
% sand retained		85.1			

Dry Wt. 1605.0
Wash Wt. 1372.0

L.B.W.% 14.5
FM 2.28
Gravel% 0.4

Del.
Lithologic unit MSD

Aggregate Analysis

Borehole No. F19-L12
 Project FIELD
 From: 79.0
 To: 84.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	4.0	0.2		0.2	99.8
No.8	4.0	0.2	0.2	0.2	99.8
No.16	26.0	1.6	1.6	1.8	98.2
No.30	78.0	4.7	4.7	6.5	93.5
No.50	626.0	37.4	37.5	44.0	56.0
No.100	578.0	34.6	34.7	78.7	21.3
No.200	110.0	6.6	6.6	85.3	14.7
Pan	246.0	14.7	14.7	100.0	0.0
% sand retained		99.8			

Dry Wt. 1672.0
 Wash Wt. 1438.0

L.B.W.% 14.0
 FM 1.31
 Gravel% 0.2

Del.
 Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-L12
Project FIELD
From: 84.0
To: 93.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	2.0	0.1		0.1	99.9
No.4	4.0	0.3		0.4	99.6
No.8	2.0	0.1	0.1	0.1	99.9
No.16	36.0	2.6	2.6	2.8	97.2
No.30	134.0	9.8	9.8	12.6	87.4
No.50	590.0	43.1	43.3	55.9	44.1
No.100	344.0	25.1	25.2	81.1	18.9
No.200	74.0	5.4	5.4	86.5	13.5
Pan	184.0	13.4	13.5	100.0	0.0
% sand retained		99.6			

Dry Wt. 1370.0
Wash Wt. 1192.0

L.B.W.% 13.0
FM 1.52
Gravel% 0.4

Del.
Lithologic unit SILT

Aggregate Analysis

Borehole No. F19-L12
Project FIELD
From: 93.0
To: 98.0

Sieve Size	Weight	% Retained	%sand retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0		0.0	100.0
0.75"	0.0	0.0		0.0	100.0
0.5"	0.0	0.0		0.0	100.0
0.375"	0.0	0.0		0.0	100.0
No.4	0.0	0.0		0.0	100.0
No.8	1.0	0.1	0.1	0.1	99.9
No.16	4.0	0.4	0.5	0.6	99.4
No.30	28.0	2.9	3.5	4.2	95.8
No.50	138.0	14.1	17.4	21.6	78.4
No.100	418.0	42.6	52.7	74.3	25.7
No.200	193.0	19.7	24.3	98.6	1.4
Pan	11.0	1.1	1.4	100.0	0.0
% sand retained		80.8			
Dry Wt.	981.0				
Wash Wt.	813.0				
L.B.W.%	17.1				
FM	1.01				
Gravel%	0.0				
Del.					
Lithologic unit	SILT				

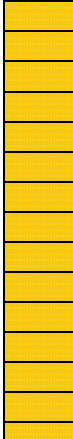
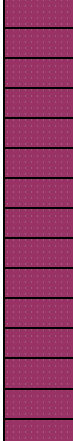
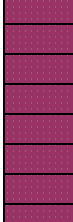
Drilling Co.	Prosonic	Property	Field	Hole #	FLD1-02
Date	8/23/02	Parcel	Main Farm	Sheet 1	Of 3
Start Time	10:30 AM	Hole Location	North Section	Surface Elev.	1104.93
Finish Time	2:15 PM	Logged By	Tim Higbee	Water Depth	92.5'
Total Depth	105'	Drill Method	Sonic		

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Yellowish gray silty and sandy soft clay. "Topsoil"	Zero	1.5	1.5					
4		Yellow to light gray fine to medium sand with occasional fine gravel and thin bands of coarse sand with fine gravel.	1.5	31	29.5	1.5 to 31	4.8	2.65	9.8	2NS
6										
8										
10										
12										
14										
16										
18										
20										
22										
24										
26										
28										
30										
32		Yellow silt to yellow very silty soft clay.	31	32.5	1.5	31 to 32.5	57.1	0.14	2.2	CL
34		Yellow very fine sand to silt with a 6" silty clay band at the bottom of section.	32.5	42	9.5	32.5 to 42	29.9	1.1	1.7	CL
36										
38										
40										
42										
44										
46		Light gray very fine sand with a trace of fine gravel.	42	47	5	42 to 47				
48										
50		Yellow very fine sand to silt with occasional thin bands of clay.	47	52.5	5.5	47 to 52.5	25.3	0.67	0.2	CL

Drilling Co.	Pronsonic	Property	Field	Hole #	FLD1-02		
Date	8/23/02	Parcel	Main Farm	Sheet	2	Of	3
Start Time	10:30 AM	Hole Location	North Section	Surface Elev.	1104.93		
Finish Time	2:15 PM	Logged By	Tim Higbee	Water Depth	92.5'		
Total Depth	105'	Drill Method	Sonic				

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis													
Depth	Litho.						LBW	FM	%Gr.	Note										
52		Yellow very fine sand to silt with occasional thin bands of clay.	47	52.5	52.5	47 to 52.5	22.2	0.58	Zero	CL										
54		Light gray to yellow very fine sand to silt.	52.5	58	5.5	52.5 to 58														
56		Yellow very silty soft clay.	58	59	1	59 to 62.5	31.4	1.06	1.7	CL										
58																				
60											Yellow very fine sand to silt.	59	62.5	3.5						
62		Brown medium to fine sand with occasional fine gravel.	62.5	77.5	15	62.5 to 77.5														
64																				
66																				
68																				
70																				
72																				
74																				
76																				
78																				
80																				
82		Yellow very fine to fine sand.	77.5	92.5	15	77.5 to 92.5	8.2	1.51	0.3	ST										
84																				
86																				
88																				
90																				
92																				
94												Yellow very fine sand to silt with occasional thin bands of clay.	92.5	104.5	12	92.5 to 104.5	11.9	0.91	Zero	ST
96																				
98																				
100																				

Drilling Co.	Pronsonic	Property	Field	Hole #	FLD1-02		
Date	8/23/02	Parcel	Main Farm	Sheet	3	Of	3
Start Time	10:30 AM	Hole Location	North Section	Surface Elev.	1104.93		
Finish Time	2:15 PM	Logged By	Tim Higbee	Water Depth	92.5'		
Total Depth	105'	Drill Method	Sonic				

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
102		Yellow very fine sand to silt with occasional thin bands of clay.	92.5	104.5	104.5	92.5 to 104.5				
104										
		Gray silty soft clay. T.D. 105'	104.5	105	0.5					
106										
108										
110										
112										
114										
116										
118										
120										
122										
124										
126										
128										
130										
132										
134										
136										
138										
140										
142										
144										
146										
148										
150										

Comments:

Drilling Static Water Level: 92.5' Below ground level
24 Hour Static Water Level: 87.29

Type of backfill In-situ sands

- Riser Pipe:

Diameter	2 inch
Material	PVC
Joint Type	Threaded Flush

- **Type Of Grout Around Riser** Bentonite, Portland, Sand Slurry, 150 gallons

- **Type of Seal:** Bentonite
Thickness 5 feet, 50lbs bag

- Screen:

Diameter	2 inch
Length	10 feet
Slot Size or Gauge	.010 Slot

-Filter Sand:

Depth to top of sand 94 feet

Depth to bottom of Screen: 105 feet

T.D. of Hole: 105 feet

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **1.5**
 Depth: TO **31.0**
 Thickness **29.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	16.0	1.2	NA	1.2	98.8
0.5"	20.0	1.5	NA	2.7	97.3
0.375"	30.0	2.3	NA	5.0	95.0
No.4	64.0	4.8	5.3	5.3	94.7
No.8	79.0	5.9	6.6	11.9	88.1
No.16	166.0	12.5	13.8	25.7	74.3
No.30	320.0	24.0	26.6	52.4	47.6
No.50	445.0	33.4	37.1	89.4	10.6
No.100	102.0	7.7	8.5	97.9	2.1
No.200	21.0	1.6	1.7	99.7	0.3
Pan	4.0	0.3	0.3	100.0	0.0
% Sand Retained		90.2			

Dry Wt.	1331.0
Wash Wt.	1267.0

L.B.W. %	4.8
FM	2.83
Gravel %	5.0

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **31.0**
 Depth: TO **32.5**
 Thickness **1.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	11.0	1.7	NA	1.7	98.3
No.4	3.0	0.5	1.1	1.1	98.9
No.8	2.0	0.3	0.8	1.9	98.1
No.16	2.0	0.3	0.8	2.6	97.4
No.30	3.0	0.5	1.1	3.8	96.2
No.50	3.0	0.5	1.1	4.9	95.1
No.100	4.0	0.6	1.5	6.4	93.6
No.200	128.0	20.1	48.3	54.7	45.3
Pan	120.0	18.9	45.3	100.0	0.0
% Sand Retained		41.7			

Dry Wt.	636.0
Wash Wt.	273.0

L.B.W. %	57.1
FM	0.21
Gravel %	1.7

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **32.5**
 Depth: TO **42.0**
 Thickness **9.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	0.0	0.0	NA	0.0	100.0
No.4	15.0	1.7	2.4	2.4	97.6
No.8	16.0	1.8	2.5	4.9	95.1
No.16	29.0	3.2	4.6	9.5	90.5
No.30	55.0	6.1	8.7	18.2	81.8
No.50	68.0	7.6	10.8	29.0	71.0
No.100	180.0	20.0	28.5	57.5	42.5
No.200	209.0	23.2	33.1	90.6	9.4
Pan	59.0	6.6	9.4	100.0	0.0
% Sand Retained		70.1			

Dry Wt.	900.0
Wash Wt.	631.0

L.B.W. %	29.9
FM	1.22
Gravel %	0.0

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **47.0**
 Depth: TO **52.0**
 Thickness **5.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	0.0	0.0	NA	0.0	100.0
No.4	1.0	0.2	0.2	0.2	99.8
No.8	3.0	0.5	0.7	0.9	99.1
No.16	5.0	0.8	1.1	2.0	98.0
No.30	16.0	2.6	3.5	5.5	94.5
No.50	40.0	6.5	8.7	14.2	85.8
No.100	143.0	23.3	31.2	45.4	54.6
No.200	206.0	33.6	45.0	90.4	9.6
Pan	44.0	7.2	9.6	100.0	0.0
% Sand Retained		74.7			

Dry Wt.	613.0
Wash Wt.	458.0

L.B.W. %	25.3
FM	0.68
Gravel %	0.0

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **52.5**
 Depth: TO **58.0**
 Thickness **5.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	0.0	0.0	NA	0.0	100.0
No.4	0.0	0.0	0.0	0.0	100.0
No.8	1.0	0.2	0.2	0.2	99.8
No.16	1.0	0.2	0.2	0.4	99.6
No.30	3.0	0.5	0.6	1.0	99.0
No.50	27.0	4.3	5.6	6.6	93.4
No.100	208.0	33.5	43.1	49.7	50.3
No.200	201.0	32.4	41.6	91.3	8.7
Pan	42.0	6.8	8.7	100.0	0.0
% Sand Retained		77.8			

Dry Wt.	621.0
Wash Wt.	483.0

L.B.W. %	22.2
FM	0.58
Gravel %	0.0

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **59.0**
 Depth: TO **62.5**
 Thickness **3.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	9.0	1.4	NA	1.4	98.6
0.375"	1.0	0.2	NA	1.6	98.4
No.4	1.0	0.2	0.2	0.2	99.8
No.8	1.0	0.2	0.2	0.3	99.7
No.16	2.0	0.3	0.3	0.6	99.4
No.30	22.0	3.5	3.5	4.2	95.8
No.50	209.0	33.2	33.7	37.9	62.1
No.100	160.0	25.4	25.8	63.7	36.3
No.200	27.0	4.3	4.4	68.1	31.9
Pan	198.0	31.4	31.9	100.0	0.0
% Sand Retained		98.4			

Dry Wt.	630.0
Wash Wt.	432.0

L.B.W. %	31.4
FM	1.07
Gravel %	1.6

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **77.5**
 Depth: TO **92.5**
 Thickness **15.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	0.0	0.0	NA	0.0	100.0
No.4	2.0	0.3	0.3	0.3	99.7
No.8	3.0	0.5	0.5	0.8	99.2
No.16	8.0	1.2	1.3	2.2	97.8
No.30	36.0	5.5	6.0	8.2	91.8
No.50	243.0	37.4	40.8	49.0	51.0
No.100	256.0	39.4	43.0	91.9	8.1
No.200	39.0	6.0	6.5	98.5	1.5
Pan	9.0	1.4	1.5	100.0	0.0
% Sand Retained		91.8			

Dry Wt.	649.0
Wash Wt.	596.0

L.B.W. %	8.2
FM	1.53
Gravel %	0.0

Delterious.	
Lithology Unit	ST

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD1-02**
 Project/Site **FIELD**
 Depth: FROM **92.5**
 Depth: TO **104.5**
 Thickness **12.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	0.0	0.0	NA	0.0	100.0
No.4	0.0	0.0	0.0	0.0	100.0
No.8	1.0	0.1	0.1	0.1	99.9
No.16	2.0	0.3	0.3	0.4	99.6
No.30	9.0	1.1	1.3	1.7	98.3
No.50	106.0	13.3	15.0	16.7	83.3
No.100	393.0	49.1	55.7	72.5	27.5
No.200	171.0	21.4	24.3	96.7	3.3
Pan	23.0	2.9	3.3	100.0	0.0
% Sand Retained		88.1			

Dry Wt.	800.0
Wash Wt.	705.0

L.B.W. %	11.9
FM	0.91
Gravel %	0.0

Delterious.	
Lithology Unit	ST

Drilling Co.	Prosonic	Property	Field	Hole #	FLD2-02		
Date	8/22/02	Parcel	Main Farm	Sheet 1		Of	2
Start Time	1:30 PM	Hole Location	East side	Surface Elev.	1082.20		
Finish Time	4:45 PM	Logged By	Tim Higbee	Water Depth	63.5'		
Total Depth	85'	Drill Method	Sonic				

Comments: Water Monitoring well.

[illegible]

Drilling Co.	Pronsonic	Property	Field	Hole #	FLD2-02		
Date	8/22/02	Parcel	Main Farm	Sheet	2	Of	2
Start Time	1:30 PM	Hole Location	East side	Surface Elev.	1082.20		
Finish Time	4:45 PM	Logged By	Tim Higbee	Water Depth	63.5'		
Total Depth	85'	Drill Method	Sonic				

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Yellow and brown layered fine to medium sand with 10% fine gravel.	51	63.5	12.5	51 to 63.5				
54										
56										
58										
60										
62										
64		Yellow and gray layered fine to medium sand with a trace of fine gravel.	63.5	85	21.5	63.5 to 85	7.7	1.92	1.9	FSD
66										
68										
70										
72										
74										
76										
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100										

Project: Field Property
Geologist: T. Higbee
Date: 8/22/02
Driller: Prosonic
Method: Sonic

Well Number: FLD2-02
Elevations:
Top of Riser 1085.065
Ground Level 1082.203
Drilling Static Water Level: 63.5 feet
24 Hour Static Water Level: 65.24

Comments:

Hole Diameter: 6 inch
Type of Seal: Bentonite Grout
Thickness 5 feet, 50lbs bag

Type of backfill In-situ sand

Protective Casing:
Material
Diameter
Total Length
Length above ground
Riser Pipe:
Diameter 2 inch
Material PVC
Joint Type Threaded Flush

Type Of Grout Around Riser Bentonite, Portland, Sand Slurry

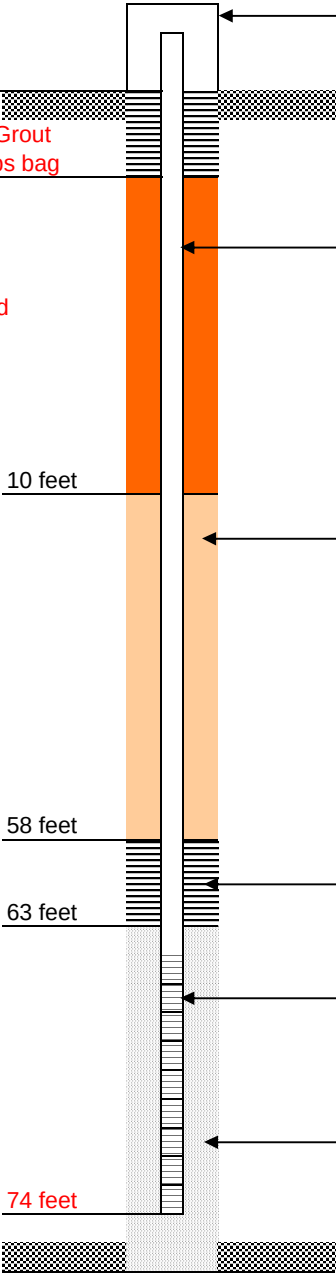
Type of Seal: Bentonite
Thickness 5 feet, 50lbs. Bag

Screen:
Diameter 2 inch
Length 10 feet
Slot Size or Gauge .010 Slot

Filter Sand:
Depth to top of sand 63 feet

Depth to bottom of Screen: 74 feet

T.D. of Hole: 85 feet



Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD2-02**
 Project/Site **FIELD**
 Depth: FROM **15.0**
 Depth: TO **26.5**
 Thickness **11.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	54.0	4.9	NA	4.9	95.1
0.75"	39.0	3.5	NA	8.4	91.6
0.5"	37.0	3.3	NA	11.7	88.3
0.375"	37.0	3.3	NA	15.0	85.0
No.4	81.0	7.3	9.4	9.4	90.6
No.8	69.0	6.2	8.0	17.4	82.6
No.16	67.0	6.0	7.8	25.1	74.9
No.30	91.0	8.2	10.5	35.6	64.4
No.50	273.0	24.5	31.6	67.2	32.8
No.100	230.0	20.7	26.6	93.9	6.1
No.200	49.0	4.4	5.7	99.5	0.5
Pan	4.0	0.4	0.5	100.0	0.0
% Sand Retained		77.6			

Dry Wt.	1113.0
Wash Wt.	1031.0

L.B.W. %	7.4
FM	2.49
Gravel %	15.0

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD2-02**
 Project/Site **FIELD**
 Depth: FROM **26.5**
 Depth: TO **40.0**
 Thickness **13.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	163.0	13.0	NA	13.0	87.0
0.75"	33.0	2.6	NA	15.6	84.4
0.5"	122.0	9.7	NA	25.4	74.6
0.375"	57.0	4.5	NA	29.9	70.1
No.4	106.0	8.5	13.0	13.0	87.0
No.8	97.0	7.7	11.9	24.9	75.1
No.16	111.0	8.9	13.6	38.5	61.5
No.30	110.0	8.8	13.5	52.0	48.0
No.50	230.0	18.4	28.2	80.1	19.9
No.100	131.0	10.5	16.1	96.2	3.8
No.200	28.0	2.2	3.4	99.6	0.4
Pan	3.0	0.2	0.4	100.0	0.0
% Sand Retained		65.1			

Dry Wt.	1253.0
Wash Wt.	1191.0

L.B.W. %	4.9
FM	3.05
Gravel %	29.9

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD2-02**
 Project/Site **FIELD**
 Depth: FROM **41.0**
 Depth: TO **51.0**
 Thickness **10.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	67.0	5.8	NA	5.8	94.2
0.75"	57.0	5.0	NA	10.8	89.2
0.5"	88.0	7.7	NA	18.5	81.5
0.375"	41.0	3.6	NA	22.0	78.0
No.4	131.0	11.4	17.2	17.2	82.8
No.8	98.0	8.5	12.9	30.1	69.9
No.16	106.0	9.2	13.9	44.0	56.0
No.30	101.0	8.8	13.3	57.3	42.7
No.50	171.0	14.9	22.5	79.8	20.2
No.100	110.0	9.6	14.5	94.2	5.8
No.200	38.0	3.3	5.0	99.2	0.8
Pan	6.0	0.5	0.8	100.0	0.0
% Sand Retained		66.2			

Dry Wt.	1149.0
Wash Wt.	1014.0

L.B.W. %	11.7
FM	3.23
Gravel %	22.0

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD2-02**
 Project/Site **FIELD**
 Depth: FROM **63.5**
 Depth: TO **85.0**
 Thickness **21.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	8.0	0.7	NA	0.7	99.3
0.375"	4.0	0.4	NA	1.1	98.9
No.4	9.0	0.8	0.9	0.9	99.1
No.8	12.0	1.1	1.2	2.1	97.9
No.16	52.0	4.7	5.2	7.3	92.7
No.30	190.0	17.3	19.0	26.3	73.7
No.50	397.0	36.2	39.7	65.9	34.1
No.100	276.0	25.1	27.6	93.5	6.5
No.200	62.0	5.6	6.2	99.7	0.3
Pan	3.0	0.3	0.3	100.0	0.0
% Sand Retained		91.2			

Dry Wt.	1098.0
Wash Wt.	1013.0

L.B.W. %	7.7
FM	1.96
Gravel %	1.1

Delterious.	
Lithology Unit	FSD

Drilling Co.	Prosonic	Property	Field	Hole #	FLD3-02	
Date	8/22/02	Parcel	Main Farm	Sheet 1	Of	2
Start Time	8:15 AM	Hole Location	Center of Site	Surface Elev.	1069.73	
Finish Time	10:45 AM	Logged By	Tim Higbee	Water Depth	64'	
Total Depth	87'	Drill Method	Sonic			

Comments: Water Monitoring well.

[illegible]

Drilling Co.	Pronsonic	Property	Field	Hole #	FLD3-02		
Date	8/22/02	Parcel	Main Farm	Sheet	2	Of	2
Start Time	8:15 AM	Hole Location	Center of Site	Surface Elev.	1069.73		
Finish Time	10:45 AM	Logged By	Tim Higbee	Water Depth	64'		
Total Depth	87'	Drill Method	Sonic				

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Yellowish brown coarse sand with 40% gravel. Maximum size 4", avg. 1/2".	47	64	64	47 to 64	11.7	2.28	38.3	S&G
54										
56										
58										
60										
62										
64										
66		Brown fine to medium sand.	64	65	1	64 to 81	3.9	2.65	39	S&G
68		Yellow coarse to very coarse sand with 45% gravel. Maximum size 1.5", avg. size 1/2".	65	81	16					
70										
72										
74										
76										
78										
80										
82										
84			81	82	1	81 to 85	1.7	1.98	46.5	S&G
86			82	85	3					
88										
90										
92										
94										
96										
98										
100										
		Gray fine sand with occasional fine gravel.	81	82	1	81 to 85	1.7	1.98	46.5	S&G
		Gray coarse to very coarse sand with 50% gravel. Maximum size 2", avg. 1/2".	82	85	3					
		Gray silty soft clay.	85	87	2					
		T.D. 87'								

Project: Field Property
Geologist: T. Higbee
Date: 8/22/02
Driller: Prosonic
Method: Sonic

Well Number: FLD3-02
Elevations:
Top of Riser
Ground Level 1069.73
Drilling Static Water Level: 64 feet
24 Hour Static Water Level: 53.82

Comments:

Hole Diameter: 6 inch
Type of Seal: Bentonite Grout
Thickness 5 feet, 50lbs bag

Type of backfill In-situ sand

Protective Casing:
Material
Diameter
Total Length
Length above ground
Riser Pipe:
Diameter 2 inch
Material PVC
Joint Type Threaded Flush

Type Of Grout Around Riser Bentonite, Portland, Sand Slurry

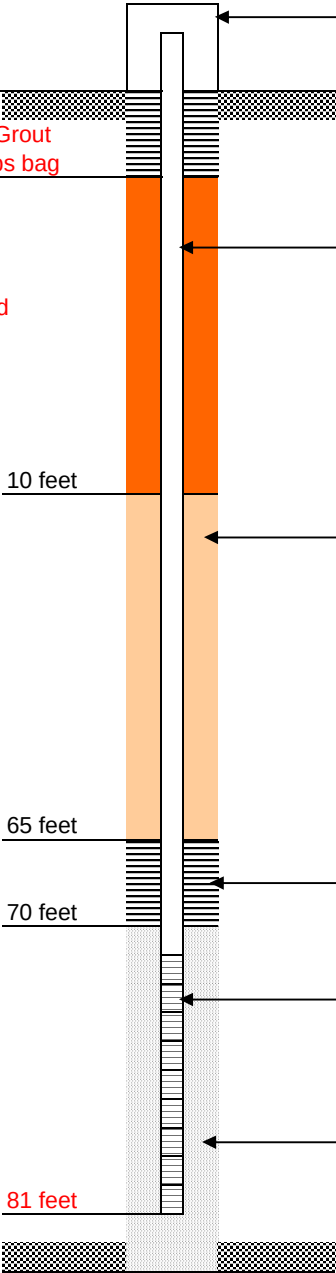
Type of Seal: Bentonite
Thickness 5 feet, 50lbs. Bag

Screen:
Diameter 2 inch
Length 10 feet
Slot Size or Gauge .010 Slot

Filter Sand:
Depth to top of sand 70 feet

Depth to bottom of Screen: 81 feet

T.D. of Hole: 87 feet



Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD3-02**
 Project/Site **FIELD**
 Depth: FROM **31.5**
 Depth: TO **32.0**
 Thickness **0.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	30.0	2.1	NA	2.1	97.9
0.5"	44.0	3.1	NA	5.2	94.8
0.375"	21.0	1.5	NA	6.7	93.3
No.4	76.0	5.3	7.8	7.8	92.2
No.8	85.0	6.0	8.8	16.6	83.4
No.16	107.0	7.5	11.0	27.6	72.4
No.30	140.0	9.8	14.4	42.0	58.0
No.50	249.0	17.5	25.6	67.7	32.3
No.100	186.0	13.1	19.2	86.8	13.2
No.200	105.0	7.4	10.8	97.6	2.4
Pan	23.0	1.6	2.4	100.0	0.0
% Sand Retained		68.1			

Dry Wt.	1425.0
Wash Wt.	1066.0

L.B.W. %	25.2
FM	2.49
Gravel %	6.7

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD3-02**
 Project/Site **FIELD**
 Depth: FROM **32.0**
 Depth: TO **46.0**
 Thickness **14.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	316.0	20.1	NA	20.1	79.9
0.75"	137.0	8.7	NA	28.8	71.2
0.5"	90.0	5.7	NA	34.5	65.5
0.375"	61.0	3.9	NA	38.4	61.6
No.4	118.0	7.5	14.3	14.3	85.7
No.8	130.0	8.3	15.7	30.0	70.0
No.16	135.0	8.6	16.3	46.3	53.7
No.30	113.0	7.2	13.7	60.0	40.0
No.50	153.0	9.7	18.5	78.5	21.5
No.100	120.0	7.6	14.5	93.0	7.0
No.200	50.0	3.2	6.0	99.0	1.0
Pan	8.0	0.5	1.0	100.0	0.0
% Sand Retained		52.5			

Dry Wt.	1574.0
Wash Wt.	1431.0

L.B.W. %	9.1
FM	3.22
Gravel %	38.4

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD3-02**
 Project/Site **FIELD**
 Depth: FROM **46.0**
 Depth: TO **47.0**
 Thickness **1.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	35.0	3.2	NA	3.2	96.8
0.5"	20.0	1.9	NA	5.1	94.9
0.375"	15.0	1.4	NA	6.5	93.5
No.4	21.0	1.9	2.3	2.3	97.7
No.8	42.0	3.9	4.5	6.8	93.2
No.16	64.0	5.9	6.9	13.7	86.3
No.30	105.0	9.7	11.3	24.9	75.1
No.50	355.0	32.9	38.2	63.1	36.9
No.100	283.0	26.2	30.4	93.5	6.5
No.200	58.0	5.4	6.2	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% Sand Retained		86.2			

Dry Wt.	1079.0
Wash Wt.	1000.0

L.B.W. %	7.3
FM	2.04
Gravel %	6.5

Delterious.	
Lithology Unit	MSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD3-02**
 Project/Site **FIELD**
 Depth: FROM **47.0**
 Depth: TO **64.0**
 Thickness **17.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	259.0	17.3	NA	17.3	82.7
0.75"	81.0	5.4	NA	22.7	77.3
0.5"	79.0	5.3	NA	27.9	72.1
0.375"	68.0	4.5	NA	32.4	67.6
No.4	88.0	5.9	10.4	10.4	89.6
No.8	84.0	5.6	9.9	20.3	79.7
No.16	103.0	6.9	12.1	32.4	67.6
No.30	102.0	6.8	12.0	44.4	55.6
No.50	218.0	14.5	25.7	70.1	29.9
No.100	163.0	10.9	19.2	89.3	10.7
No.200	84.0	5.6	9.9	99.2	0.8
Pan	7.0	0.5	0.8	100.0	0.0
% Sand Retained		56.6			

Dry Wt.	1501.0
Wash Wt.	1326.0

L.B.W. %	11.7
FM	2.67
Gravel %	32.4

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD3-02**
 Project/Site **FIELD**
 Depth: FROM **64.0**
 Depth: TO **81.0**
 Thickness **17.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	98.0	7.7	NA	7.7	92.3
0.75"	102.0	8.0	NA	15.8	84.2
0.5"	76.0	6.0	NA	21.8	78.2
0.375"	73.0	5.8	NA	27.5	72.5
No.4	195.0	15.4	19.7	19.7	80.3
No.8	161.0	12.7	16.2	35.9	64.1
No.16	118.0	9.3	11.9	47.8	52.2
No.30	67.0	5.3	6.8	54.5	45.5
No.50	217.0	17.1	21.9	76.4	23.6
No.100	202.0	15.9	20.4	96.8	3.2
No.200	30.0	2.4	3.0	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% Sand Retained		78.2			

Dry Wt.	1268.0
Wash Wt.	1247.0

L.B.W. %	1.7
FM	3.31
Gravel %	27.5

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD3-02**
 Project/Site **FIELD**
 Depth: FROM **81.0**
 Depth: TO **85.0**
 Thickness **4.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	185.0	14.6	NA	14.6	85.4
0.75"	51.0	4.0	NA	18.6	81.4
0.5"	118.0	9.3	NA	27.9	72.1
0.375"	95.0	7.5	NA	35.4	64.6
No.4	140.0	11.0	17.5	17.5	82.5
No.8	71.0	5.6	8.9	26.4	73.6
No.16	53.0	4.2	6.6	33.1	66.9
No.30	36.0	2.8	4.5	37.6	62.4
No.50	166.0	13.1	20.8	58.4	41.6
No.100	299.0	23.6	37.5	95.9	4.1
No.200	31.0	2.4	3.9	99.7	0.3
Pan	2.0	0.2	0.3	100.0	0.0
% Sand Retained		62.9			

Dry Wt.	1268.0
Wash Wt.	1247.0

L.B.W. %	1.7
FM	2.69
Gravel %	35.4

Delterious.	
Lithology Unit	S&G

Drilling Co.	Prosonic	Property	Field	Hole #	FLD4-02		
Date	8/23/02	Parcel	Main Farm	Sheet 1		Of	1
Start Time	3:45 PM	Hole Location	Northwest section	Surface Elev.	1017.09		
Finish Time	4:30 PM	Logged By	Tim Higbee	Water Depth	?		
Total Depth	27'	Drill Method	Sonic		Perched at 7'		

Comments: Water Monitoring well.

[illegible]

Project: Field Property
Geologist: T. Higbee
Date: 8/23/02
Driller: Prosonic
Method: Sonic

Well Number: FLD4-02
Elevations:
Top of Riser
Ground Level 1017.09
Drilling Static Water Level: 7.00 above ground level
24 Hour Static Water Level: 8.42

Comments:

Hole Diameter: 6 inch

Type of Seal: Bentonite Grout
Thickness 0.5 feet, 5lbs

Type of backfill None

Protective Casing:
Material
Diameter
Total Length
Length above ground

Riser Pipe:
Diameter 2 inch
Material PVC
Joint Type Threaded Flush

Type Of Grout Around Riser Bentonite, Portland, Sand
Slurry, to within 1/2 foot of surface.

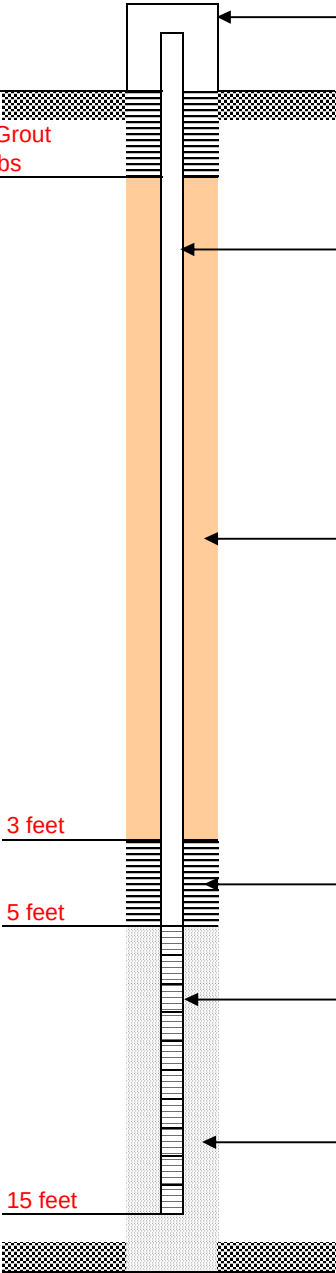
Type of Seal: Bentonite
Thickness 2 feet, 25lbs.

Screen:
Diameter 2 inch
Length 10 feet
Slot Size or Gauge .010 Slot

Filter Sand:
Type
Depth to top of sand 5 feet

Depth to bottom of Screen: 15 feet

T.D. of Hole: 27 feet



Drilling Co.	Prosonic	Property	Field	Hole #	FLD5-02		
Date	8/23/02	Parcel	Main Farm	Sheet 1	Of		2
Start Time	6:45 AM	Hole Location	South section	Surface Elev.	1067.73		
Finish Time	9:00 AM	Logged By	Tim Higbee	Water Depth	56'		
Total Depth	77'	Drill Method	Sonic				

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis												
Depth	Litho.						LBW	FM	%Gr.	Note									
		Dark brown silty soft clay. "Topsoil"	Zero	1	1														
2		Yellow and brown layered sandy firm clay with abundant gravel and thin bands of reddish brown sand and gravel.	1	12	11														
4																			
6																			
8																			
10																			
12																			
14		Yellow, brown, and gray layered fine to medium sand with 15% gravel. Maximum size 3", avg. 3/8". Also an occasional thin band of coarse sand and gravel.	12	38	26	12 to 38													
16																			
18																			
20																			
22																			
24																			
26																			
28																			
30																			
32																			
34																			
36																			
38																			
40											Yellowish brown fine to medium sand with 20% fine gravel.	38	56	18	38 to 56	10.2	2.26	36.2	S&G
42																			
44																			
46																			
48																			
50																			

Drilling Co.	Pronsonic	Property	Field	Hole #	FLD5-02		
Date	8/23/02	Parcel	Main Farm	Sheet	2	Of	2
Start Time	6:45 AM	Hole Location	South Section	Surface Elev.	1067.73		
Finish Time	9:00 AM	Logged By	Tim Higbee	Water Depth	56'		
Total Depth	77'	Drill Method	Sonic				

Comments: Water Monitoring well.

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis											
Depth	Litho.						LBW	FM	%Gr.	Note								
52		Yellowish brown fine to medium sand with 20% fine gravel.	38	56	56	38 to 56												
54																		
56																		
58																		
58		Yellow coarse to very coarse sand with 35% gravel. Maximum size 1.5", avg. size 1/2".	56	65	9	56 to 65	5.9	3.68	33.1	S&G								
60																		
62																		
64																		
66																		
68																		
66		Gray coarse to very coarse sand with 20% gravel. Maximum size 3", avg. 3/8". Very little return from 67' to 77'! Material seems to be clean and not staying in corebarrel.	65	77	12	65 to 77	4.5	3.32	26.6	S&G								
68																		
70																		
72																		
74																		
76																		
76											T.D. 77'							
78																		
80																		
82																		
84																		
86																		
88																		
90																		
92																		
94																		
96																		
98																		
100																		

Project: Field Property
Geologist: T. Higbee
Date: 8/23/02
Driller: Prosonic
Method: Sonic

Well Number: FLD5-02
Elevations:
Top of Riser 1070.463
Ground Level 1067.728

Drilling Static Water Level: 56 feet
24 Hour Static Water Level: 50.03

Comments:

Hole Diameter: 6 inch
Type of Seal: Bentonite Grout
Thickness 5 feet, 50lbs bag

Type of backfill In-situ sands

Protective Casing:
Material
Diameter
Total Length
Length above ground
Riser Pipe:
Diameter 2 inch
Material PVC
Joint Type Threaded Flush

Type Of Grout Around Riser Bentonite, Portland, Sand Slurry

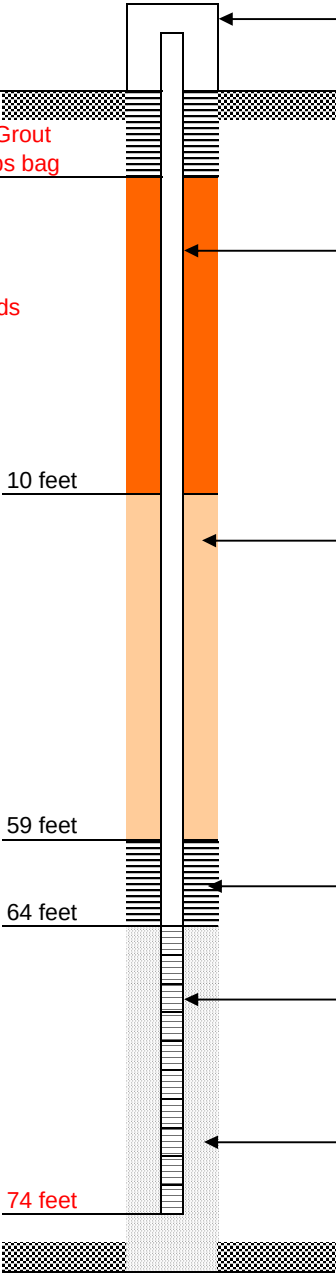
Type of Seal: Bentonite
Thickness 5 feet, 50lbs bag

Screen:
Diameter 2 inch
Length 10 feet
Slot Size or Gauge .010 Slot

Filter Sand:
Depth to top of sand 64 feet

Depth to bottom of Screen: 74 feet

T.D. of Hole: 77 feet



Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD5-02**
 Project/Site **FIELD**
 Depth: FROM **12.0**
 Depth: TO **38.0**
 Thickness **26.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	333.0	19.4	NA	19.4	80.6
0.75"	31.0	1.8	NA	21.2	78.8
0.5"	117.0	6.8	NA	28.0	72.0
0.375"	58.0	3.4	NA	31.4	68.6
No.4	108.0	6.3	9.8	9.8	90.2
No.8	91.0	5.3	8.3	18.1	81.9
No.16	90.0	5.2	8.2	26.3	73.7
No.30	127.0	7.4	11.6	37.9	62.1
No.50	315.0	18.3	28.7	66.5	33.5
No.100	297.0	17.3	27.0	93.5	6.5
No.200	69.0	4.0	6.3	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% Sand Retained		64.0			

Dry Wt.	1717.0
Wash Wt.	1638.0

L.B.W. %	4.6
FM	2.52
Gravel %	31.4

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD5-02**
 Project/Site **FIELD**
 Depth: FROM **38.0**
 Depth: TO **56.0**
 Thickness **18.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	380.0	23.1	NA	23.1	76.9
0.75"	30.0	1.8	NA	25.0	75.0
0.5"	48.0	2.9	NA	27.9	72.1
0.375"	35.0	2.1	NA	30.0	70.0
No.4	102.0	6.2	10.4	10.4	89.6
No.8	96.0	5.8	9.8	20.2	79.8
No.16	96.0	5.8	9.8	30.0	70.0
No.30	123.0	7.5	12.5	42.5	57.5
No.50	257.0	15.7	26.2	68.7	31.3
No.100	236.0	14.4	24.1	92.8	7.2
No.200	65.0	4.0	6.6	99.4	0.6
Pan	6.0	0.4	0.6	100.0	0.0
% Sand Retained		59.7			

Dry Wt.	1642.0
Wash Wt.	1474.0

L.B.W. %	10.2
FM	2.65
Gravel %	30.0

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD5-02**
 Project/Site **FIELD**
 Depth: FROM **56.0**
 Depth: TO **65.0**
 Thickness **9.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	22.0	1.7	NA	1.7	98.3
0.5"	83.0	6.4	NA	8.1	91.9
0.375"	92.0	7.1	NA	15.2	84.8
No.4	232.0	17.9	22.7	22.7	77.3
No.8	262.0	20.2	25.6	48.3	51.7
No.16	255.0	19.7	24.9	73.2	26.8
No.30	130.0	10.0	12.7	85.9	14.1
No.50	74.0	5.7	7.2	93.2	6.8
No.100	44.0	3.4	4.3	97.5	2.5
No.200	23.0	1.8	2.2	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% Sand Retained		78.9			

Dry Wt.	1297.0
Wash Wt.	1220.0

L.B.W. %	5.9
FM	4.21
Gravel %	15.2

Delterious.	
Lithology Unit	CSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **FLD5-02**
 Project/Site **FIELD**
 Depth: FROM **65.0**
 Depth: TO **77.0**
 Thickness **12.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	16.0	1.4	NA	1.4	98.6
0.5"	72.0	6.2	NA	7.6	92.4
0.375"	60.0	5.2	NA	12.8	87.2
No.4	161.0	13.9	16.8	16.8	83.2
No.8	174.0	15.0	18.1	34.9	65.1
No.16	225.0	19.4	23.4	58.3	41.7
No.30	192.0	16.6	20.0	78.3	21.7
No.50	119.0	10.3	12.4	90.7	9.3
No.100	71.0	6.1	7.4	98.1	1.9
No.200	17.0	1.5	1.8	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% Sand Retained		82.8			

Dry Wt.	1160.0
Wash Wt.	1108.0

L.B.W. %	4.5
FM	3.77
Gravel %	12.8

Delterious.	
Lithology Unit	CSD

Drilling Co.	ECL	Property	Field	Hole #	F1-03	
Date	2/18/03	Parcel	Main Farm	Sheet 1	Of	2
Start Time	2:00 PM	Hole Location	Southwest	Surface Elev.	1065'	
Finish Time	9:30 AM	Logged By	Tim Higbee	Water Depth	53'	
Total Depth	98'	Drill Method	Auger			

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Yellowish brown and orange layered silty firm clay with some gravel.	Zero	5	5					
4										
6										
8										
10		Yellow medium sand with 30% gravel. Maximum size 3", avg. 3/8".	5	18	13	5 to 13	13.8	2.49	22.8	S&G
12										
14										
16										
18										
20										
22		Yellow and gray layered fine sand with abundant bands of coarse sand with 25% fine gravel.	18	28.5	10.5	18 to 28.5	4.5	2.41	21.8	S&G
24										
26										
28										
30										
32										
34										
36										
38										
40										
42		Yellow and gray layered medium sand with 20% fine gravel.	28.5	39	10.5	28.5 to 39	4.5	2.31	22.1	S&G
44										
46										
48										
50										
52										
54		Yellow fine sand with 10% fine gravel.	39	45	6	39 to 45	6	1.97	6.9	FSD
56										
58										
60										
62		Yellow very silty soft clay.	45	48	3					
64										
66		Gray coarse sand with 40% gravel. Maximum size 2", avg. 1/2".	48	53	5	48 to 53	7.7	3.09	36.7	S&G
68										

Drilling Co.	ECL	Property	Field	Hole #	F1-03		
Date	2/18/03	Parcel	Main Farm	Sheet	2	Of	2
Start Time	2:00 PM	Hole Location	Southwest	Surface Elev.	1065'		
Finish Time	9:30 AM 2/19/03	Logged By	Tim Higbee	Water Depth	53'		
Total Depth	98'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Gray coarse sand with 40% gravel. Maximum size 2", avg. 1/2".	48	53	5	48 to 53	7.7	3.09	36.7	S&G
54		Yellowish green to gray coarse to very coarse sand with 20% fine gravel.	53	82	29	53 to 82	6.6	3.19	24	S&G
56										
58										
60										
62										
64										
66										
68										
70										
72										
74										
76										
78										
80										
82										
84		Gray silty soft clay.	82	84	2					
86		Gray very fine sand to silt.	84	98	14	84 to 98	13.3	0.66	2.5	ST
88										
90										
92										
94										
96										
98										
100		T.D. 98'								

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **5.0**
 Depth: TO **18.0**
 Thickness **13.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	69.0	4.7	NA	4.7	95.3
0.75"	12.0	0.8	NA	5.5	94.5
0.5"	60.0	4.1	NA	9.6	90.4
0.375"	68.0	4.6	NA	14.2	85.8
No.4	127.0	8.6	12.0	12.0	88.0
No.8	134.0	9.1	12.6	24.6	75.4
No.16	132.0	8.9	12.4	37.0	63.0
No.30	119.0	8.1	11.2	48.2	51.8
No.50	280.0	19.0	26.4	74.6	25.4
No.100	209.0	14.2	19.7	94.3	5.7
No.200	55.0	3.7	5.2	99.4	0.6
Pan	6.0	0.4	0.6	100.0	0.0
% Sand Retained		72.0			

Dry Wt.	1475.0
Wash Wt.	1271.0

L.B.W. %	13.8
FM	2.91
Gravel %	14.2

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **18.0**
 Depth: TO **28.5**
 Thickness **10.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	34.0	2.2	NA	2.2	97.8
0.5"	62.0	3.9	NA	6.1	93.9
0.375"	62.0	3.9	NA	10.0	90.0
No.4	187.0	11.8	13.8	13.8	86.2
No.8	162.0	10.3	12.0	25.8	74.2
No.16	151.0	9.6	11.2	37.0	63.0
No.30	145.0	9.2	10.7	47.7	52.3
No.50	320.0	20.3	23.7	71.4	28.6
No.100	319.0	20.2	23.6	95.0	5.0
No.200	60.0	3.8	4.4	99.5	0.5
Pan	7.0	0.4	0.5	100.0	0.0
% Sand Retained		85.5			

Dry Wt.	1580.0
Wash Wt.	1509.0

L.B.W. %	4.5
FM	2.91
Gravel %	10.0

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **28.5**
 Depth: TO **39.0**
 Thickness **10.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	61.0	5.2	NA	5.2	94.8
0.75"	27.0	2.3	NA	7.5	92.5
0.5"	39.0	3.3	NA	10.8	89.2
0.375"	42.0	3.6	NA	14.4	85.6
No.4	91.0	7.7	9.5	9.5	90.5
No.8	94.0	8.0	9.8	19.4	80.6
No.16	96.0	8.2	10.1	29.4	70.6
No.30	130.0	11.0	13.6	43.0	57.0
No.50	253.0	21.5	26.5	69.5	30.5
No.100	246.0	20.9	25.8	95.3	4.7
No.200	43.0	3.7	4.5	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% Sand Retained		81.1			

Dry Wt.	1177.0
Wash Wt.	1124.0

L.B.W. %	4.5
FM	2.66
Gravel %	14.4

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **39.0**
 Depth: TO **45.0**
 Thickness **6.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	21.0	1.9	NA	1.9	98.1
0.5"	4.0	0.4	NA	2.2	97.8
0.375"	10.0	0.9	NA	3.1	96.9
No.4	43.0	3.8	4.2	4.2	95.8
No.8	40.0	3.5	3.9	8.1	91.9
No.16	55.0	4.9	5.3	13.4	86.6
No.30	142.0	12.5	13.8	27.2	72.8
No.50	407.0	35.9	39.5	66.7	33.3
No.100	283.0	25.0	27.5	94.2	5.8
No.200	54.0	4.8	5.2	99.4	0.6
Pan	6.0	0.5	0.6	100.0	0.0
% Sand Retained		90.9			

Dry Wt.	1133.0
Wash Wt.	1065.0

L.B.W. %	6.0
FM	2.14
Gravel %	3.1

Delterious.	
Lithology Unit	MSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **48.0**
 Depth: TO **53.0**
 Thickness **5.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	31.0	2.1	NA	2.1	97.9
0.75"	69.0	4.6	NA	6.7	93.3
0.5"	133.0	9.0	NA	15.7	84.3
0.375"	87.0	5.9	NA	21.6	78.4
No.4	224.0	15.1	21.3	21.3	78.7
No.8	195.0	13.1	18.6	39.9	60.1
No.16	173.0	11.7	16.5	56.4	43.6
No.30	151.0	10.2	14.4	70.8	29.2
No.50	172.0	11.6	16.4	87.1	12.9
No.100	90.0	6.1	8.6	95.7	4.3
No.200	31.0	2.1	3.0	98.7	1.3
Pan	14.0	0.9	1.3	100.0	0.0
% Sand Retained		70.8			

Dry Wt.	1484.0
Wash Wt.	1370.0

L.B.W. %	7.7
FM	3.71
Gravel %	21.6

Delterious.	
Lithology Unit	S&G

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **53.0**
 Depth: TO **82.0**
 Thickness **29.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	27.0	1.6	NA	1.6	98.4
0.75"	54.0	3.1	NA	4.7	95.3
0.5"	40.0	2.3	NA	7.0	93.0
0.375"	59.0	3.4	NA	10.4	89.6
No.4	237.0	13.6	16.4	16.4	83.6
No.8	309.0	17.8	21.4	37.9	62.1
No.16	294.0	16.9	20.4	58.3	41.7
No.30	202.0	11.6	14.0	72.3	27.7
No.50	179.0	10.3	12.4	84.7	15.3
No.100	164.0	9.4	11.4	96.0	4.0
No.200	52.0	3.0	3.6	99.7	0.3
Pan	5.0	0.3	0.3	100.0	0.0
% Sand Retained		83.0			

Dry Wt.	1737.0
Wash Wt.	1622.0

L.B.W. %	6.6
FM	3.66
Gravel %	10.4

Delterious.	
Lithology Unit	CSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **F1-03**
 Project/Site **Field**
 Depth: FROM **84.0**
 Depth: TO **98.0**
 Thickness **14.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	9.0	0.7	NA	0.7	99.3
No.4	22.0	1.8	2.0	2.0	98.0
No.8	11.0	0.9	1.0	3.1	96.9
No.16	8.0	0.6	0.7	3.8	96.2
No.30	6.0	0.5	0.6	4.4	95.6
No.50	58.0	4.6	5.4	9.7	90.3
No.100	480.0	38.3	44.6	54.3	45.7
No.200	432.0	34.5	40.1	94.4	5.6
Pan	60.0	4.8	5.6	100.0	0.0
% Sand Retained		86.0			

Dry Wt.	1253.0
Wash Wt.	1086.0

L.B.W. %	13.3
FM	0.77
Gravel %	0.7

Delterious.	
Lithology Unit	ST

Drilling Co.	ECL	Property	Field	Hole #	F2-03		
Date	2/19/03	Parcel	Main Farm	Sheet	2	Of	2
Start Time	10:00 AM	Hole Location	Southeast	Surface Elev.	1075'		
Finish Time	2:30 PM	Logged By	Tim Higbee	Water Depth	53'		
Total Depth	98'	Drill Method	Auger				

Comments:

[illegible]

Aggregate Sieve & Mechanical Analysis

Borehole Name **F2-03**
 Project/Site **Field**
 Depth: FROM **9.5**
 Depth: TO **25.0**
 Thickness **15.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	37.0	2.6	NA	2.6	97.4
0.5"	92.0	6.4	NA	9.0	91.0
0.375"	71.0	4.9	NA	13.9	86.1
No.4	113.0	7.9	9.5	9.5	90.5
No.8	136.0	9.5	11.4	20.9	79.1
No.16	140.0	9.7	11.7	32.6	67.4
No.30	158.0	11.0	13.2	45.8	54.2
No.50	141.0	9.8	11.8	57.6	42.4
No.100	250.0	17.4	20.9	78.6	21.4
No.200	253.0	17.6	21.2	99.7	0.3
Pan	3.0	0.2	0.3	100.0	0.0
% Sand Retained		83.1			

Dry Wt.	1436.0
Wash Wt.	1394.0

L.B.W. %	2.9
FM	2.45
Gravel %	13.9

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **F2-03**
 Project/Site **Field**
 Depth: FROM **25.0**
 Depth: TO **53.0**
 Thickness **28.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	83.0	5.8	NA	5.8	94.2
0.375"	48.0	3.4	NA	9.2	90.8
No.4	98.0	6.9	7.9	7.9	92.1
No.8	93.0	6.5	7.5	15.5	84.5
No.16	121.0	8.5	9.8	25.3	74.7
No.30	188.0	13.1	15.2	40.5	59.5
No.50	391.0	27.3	31.7	72.1	27.9
No.100	292.0	20.4	23.6	95.8	4.2
No.200	50.0	3.5	4.0	99.8	0.2
Pan	2.0	0.1	0.2	100.0	0.0
% Sand Retained		86.4			

Dry Wt.	1430.0
Wash Wt.	1366.0

L.B.W. %	4.5
FM	2.57
Gravel %	9.2

Delterious.	
Lithology Unit	2NS

Aggregate Sieve & Mechanical Analysis

Borehole Name **F2-03**
 Project/Site **Field**
 Depth: FROM **53.0**
 Depth: TO **58.0**
 Thickness **5.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	28.0	2.9	NA	2.9	97.1
0.75"	29.0	3.0	NA	5.9	94.1
0.5"	0.0	0.0	NA	5.9	94.1
0.375"	2.0	0.2	NA	6.1	93.9
No.4	6.0	0.6	0.7	0.7	99.3
No.8	5.0	0.5	0.6	1.3	98.7
No.16	4.0	0.4	0.5	1.8	98.2
No.30	9.0	0.9	1.1	2.8	97.2
No.50	293.0	30.2	34.7	37.5	62.5
No.100	443.0	45.6	52.4	89.9	10.1
No.200	81.0	8.3	9.6	99.5	0.5
Pan	4.0	0.4	0.5	100.0	0.0
% Sand Retained		87.0			

Dry Wt.	971.0
Wash Wt.	904.0

L.B.W. %	6.9
FM	1.34
Gravel %	6.1

Delterious.	
Lithology Unit	ST

Aggregate Sieve & Mechanical Analysis

Borehole Name **F2-03**
 Project/Site **Field**
 Depth: FROM **59.5**
 Depth: TO **92.0**
 Thickness **32.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	42.0	2.8	NA	2.8	97.2
0.75"	39.0	2.6	NA	5.4	94.6
0.5"	59.0	4.0	NA	9.4	90.6
0.375"	93.0	6.2	NA	15.6	84.4
No.4	218.0	14.6	17.7	17.7	82.3
No.8	192.0	12.9	15.6	33.3	66.7
No.16	169.0	11.3	13.7	47.0	53.0
No.30	148.0	9.9	12.0	59.0	41.0
No.50	258.0	17.3	20.9	79.9	20.1
No.100	219.0	14.7	17.8	97.6	2.4
No.200	28.0	1.9	2.3	99.9	0.1
Pan	1.0	0.1	0.1	100.0	0.0
% Sand Retained		82.6			

Dry Wt.	1493.0
Wash Wt.	1466.0

L.B.W. %	1.8
FM	3.34
Gravel %	15.6

Delterious.	
Lithology Unit	CSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **F2-03**
 Project/Site **Field**
 Depth: FROM **92.0**
 Depth: TO **98.0**
 Thickness **6.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	19.0	2.1	NA	2.1	97.9
0.375"	42.0	4.7	NA	6.8	93.2
No.4	49.0	5.5	6.0	6.0	94.0
No.8	38.0	4.2	4.7	10.7	89.3
No.16	33.0	3.7	4.1	14.7	85.3
No.30	70.0	7.8	8.6	23.3	76.7
No.50	422.0	47.2	51.8	75.2	24.8
No.100	189.0	21.1	23.2	98.4	1.6
No.200	11.0	1.2	1.4	99.8	0.2
Pan	2.0	0.2	0.2	100.0	0.0
% Sand Retained		90.9			

Dry Wt.	895.0
Wash Wt.	875.0

L.B.W. %	2.2
FM	2.28
Gravel %	6.8

Delterious.	
Lithology Unit	MSD

Drilling Co.	ECL	Property	Field	Hole #	F3-03		
Date	2/20/03	Parcel	Rose Twp.	Sheet 1		Of	1
Start Time	8:30 AM	Hole Location	West Section	Surface Elev.	1002'		
Finish Time	10:00 AM	Logged By	Tim Higbee	Water Depth	22'		
Total Depth	47'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Light yellow very silty firm clay with abundant gravel. "Cobbles"	Zero	12	12					
4										
6										
8										
10										
12		Bluish gray firm clay with occasional gravel. "Glacial Till"	12	22	10					
14										
16										
18										
20										
22		Bluish gray sandy soft clay with abundant thin bands of very fine sand.	22	26	4					
24										
26										
28		Gray coarse sand and gravel. Very little return! No sample.	26	30	4					
30										
32										
34		Gray sandy firm clay with abundant thin bands of sand and gravel.	30	37	7					
36										
38										
40										
42		Gray to dark gray firm clay.	37	47	10					
44										
46										
48										
50										
		T.D. 47'								

Drilling Co.	ECL	Property	Field	Hole #	F4-03		
Date	2/20/03	Parcel	Rose Twp.	Sheet 1		Of	1
Start Time	10:15 AM	Hole Location	West Section	Surface Elev.	995'		
Finish Time	11:30 AM	Logged By	Tim Higbee	Water Depth	8'		
Total Depth	48'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Yellowish orange very silty and soft clay with some cobbles scattered throughout.	Zero	5	5					
4										
6		Yellow and orange layered very fine sand to silt.	5	8	3	5 to 8	13.4	1.21	2	ST
8										
10		Gray silt to very silty soft clay.	8	12	4	8 to 12	35.2	0.48	0.3	CL
12										
14		Bluish gray silty soft clay.	12	16	4					
16										
18		Gray very fine sand to silt.	16	20	4					
20										
22		Gray sandy soft clay.	20	26	6					
24										
26		Gray medium sand with some fine gravel. Very little return! No sample.	26	30	4					
28										
30		Gray sandy firm clay with some gravel and thin bands of gray very fine sand.	30	48	18					
32										
34										
36										
38										
40										
42										
44										
46										
48										
50		T.D. 48'								

Aggregate Sieve & Mechanical Analysis

Borehole Name **F4-03**
 Project/Site **Field**
 Depth: FROM **5.0**
 Depth: TO **8.0**
 Thickness **3.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	5.0	0.7	NA	0.7	99.3
No.4	10.0	1.4	1.6	1.6	98.4
No.8	12.0	1.6	1.9	3.5	96.5
No.16	18.0	2.4	2.8	6.3	93.7
No.30	28.0	3.8	4.4	10.7	89.3
No.50	117.0	15.9	18.5	29.2	70.8
No.100	304.0	41.2	47.9	77.1	22.9
No.200	134.0	18.2	21.1	98.3	1.7
Pan	11.0	1.5	1.7	100.0	0.0
% Sand Retained		85.9			

Dry Wt.	738.0
Wash Wt.	639.0

L.B.W. %	13.4
FM	1.28
Gravel %	0.7

Delterious.	
Lithology Unit	ST

Aggregate Sieve & Mechanical Analysis

Borehole Name **F4-03**
 Project/Site **Field**
 Depth: FROM **8.0**
 Depth: TO **12.0**
 Thickness **4.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	0.0	0.0	NA	0.0	100.0
No.4	3.0	0.3	0.5	0.5	99.5
No.8	1.0	0.1	0.2	0.7	99.3
No.16	2.0	0.2	0.3	1.0	99.0
No.30	2.0	0.2	0.3	1.4	98.6
No.50	11.0	1.2	1.9	3.2	96.8
No.100	239.0	26.2	40.5	43.7	56.3
No.200	284.0	31.2	48.1	91.9	8.1
Pan	48.0	5.3	8.1	100.0	0.0
% Sand Retained		64.8			

Dry Wt.	911.0
Wash Wt.	590.0

L.B.W. %	35.2
FM	0.51
Gravel %	0.0

Delterious.	
Lithology Unit	CL

Drilling Co.	ECL	Property	Field	Hole #	F5-03	
Date	2/20/03	Parcel	Rose Twp.	Sheet 1	Of	2
Start Time	11:15 AM	Hole Location	Center Area	Surface Elev.	1010'	
Finish Time	3:00 PM	Logged By	Tim Higbee	Water Depth	13'	
Total Depth	53'	Drill Method	Auger			

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
2		Yellow and orange layered very silty firm clay with abundant gravel some cobble size.	Zero	10.5	10.5					
4										
6										
8										
10		Light yellow very fine sand to silt.	10.5	13	2.5					
12										
14		Yellow medium sand with a trace of fine gravel.	13	20	7	13 to 20	7.3	2.11	3.2	MSD
16										
18										
20										
22		Yellow very fine sand to silt with occasional thin bands of yellow clay.	20	25.5	5.5	20 to 25.5	42.8	1.16	1	CL
24										
26		Yellow fine to medium sand with a trace of fine gravel.	25.5	32	6.5	25.5 to 32	9	2.04	4.5	MSD
28										
30										
32										
34		Yellow medium sand with occasional fine gravel.	32	42	10	32 to 42	8	2.18	9.9	MSD
36										
38										
40										
42										
44										
46										
48										
50		Gray sandy firm to hard clay with abundant gravel and thin bands of black organics toward top of section.	42	53	11					

Drilling Co.	ECL	Property	Field	Hole #	F5-03		
Date	2/20/03	Parcel	Rose Twp.	Sheet	2	Of	2
Start Time	11:15 AM	Hole Location	Center Area	Surface Elev.	1010'		
Finish Time	3:00 PM	Logged By	Tim Higbee	Water Depth	13'		
Total Depth	53'	Drill Method	Auger				

Comments:

Graphical log		Description	From (feet)	To (feet)	Interval Thickness	Sample Interval	Lab Analysis			
Depth	Litho.						LBW	FM	%Gr.	Note
52		Gray sandy firm to hard clay with abundant gravel and thin bands of black organics toward top of section. T.D. 53'	42	53	11					
54										
56										
58										
60										
62										
64										
66										
68										
70										
72										
74										
76										
78										
80										
82										
84										
86										
88										
90										
92										
94										
96										
98										
100										

Aggregate Sieve & Mechanical Analysis

Borehole Name **F5-03**
 Project/Site **Field**
 Depth: FROM **10.5**
 Depth: TO **13.0**
 Thickness **2.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	5.0	0.4	NA	0.4	99.6
0.375"	6.0	0.5	NA	0.9	99.1
No.4	11.0	0.9	1.0	1.0	99.0
No.8	33.0	2.8	3.0	4.0	96.0
No.16	50.0	4.2	4.5	8.5	91.5
No.30	143.0	12.0	13.0	21.5	78.5
No.50	419.0	35.1	38.1	59.6	40.4
No.100	337.0	28.2	30.6	90.2	9.8
No.200	96.0	8.0	8.7	98.9	1.1
Pan	12.0	1.0	1.1	100.0	0.0
% Sand Retained		92.3			

Dry Wt.	1193.0
Wash Wt.	1112.0

L.B.W. %	6.8
FM	1.85
Gravel %	0.9

Delterious.	
Lithology Unit	FSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **F5-03**
 Project/Site **Field**
 Depth: FROM **13.0**
 Depth: TO **20.0**
 Thickness **7.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	0.0	0.0	NA	0.0	100.0
0.375"	6.0	0.4	NA	0.4	99.6
No.4	37.0	2.7	3.0	3.0	97.0
No.8	80.0	5.9	6.4	9.4	90.6
No.16	105.0	7.8	8.4	17.8	82.2
No.30	174.0	12.9	14.0	31.8	68.2
No.50	457.0	33.8	36.7	68.5	31.5
No.100	300.0	22.2	24.1	92.5	7.5
No.200	76.0	5.6	6.1	98.6	1.4
Pan	17.0	1.3	1.4	100.0	0.0
% Sand Retained		92.2			

Dry Wt.	1351.0
Wash Wt.	1252.0

L.B.W. %	7.3
FM	2.23
Gravel %	0.4

Delterious.	
Lithology Unit	MSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **F5-03**
 Project/Site **Field**
 Depth: FROM **20.0**
 Depth: TO **25.5**
 Thickness **5.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	5.0	0.5	NA	0.5	99.5
0.375"	0.0	0.0	NA	0.5	99.5
No.4	6.0	0.5	1.0	1.0	99.0
No.8	14.0	1.3	2.3	3.2	96.8
No.16	22.0	2.0	3.5	6.8	93.2
No.30	40.0	3.7	6.5	13.2	86.8
No.50	112.0	10.2	18.1	31.3	68.7
No.100	209.0	19.1	33.7	65.0	35.0
No.200	183.0	16.7	29.5	94.5	5.5
Pan	34.0	3.1	5.5	100.0	0.0
% Sand Retained		56.7			

Dry Wt.	1093.0
Wash Wt.	625.0

L.B.W. %	42.8
FM	1.20
Gravel %	0.5

Delterious.	
Lithology Unit	CL

Aggregate Sieve & Mechanical Analysis

Borehole Name **F5-03**
 Project/Site **Field**
 Depth: FROM **25.5**
 Depth: TO **32.0**
 Thickness **6.5**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	0.0	0.0	NA	0.0	100.0
0.5"	13.0	1.1	NA	1.1	98.9
0.375"	8.0	0.7	NA	1.8	98.2
No.4	32.0	2.7	3.1	3.1	96.9
No.8	59.0	5.0	5.6	8.7	91.3
No.16	89.0	7.6	8.5	17.2	82.8
No.30	140.0	11.9	13.4	30.6	69.4
No.50	360.0	30.7	34.4	65.1	34.9
No.100	280.0	23.9	26.8	91.9	8.1
No.200	70.0	6.0	6.7	98.6	1.4
Pan	15.0	1.3	1.4	100.0	0.0
% Sand Retained		89.2			

Dry Wt.	1172.0
Wash Wt.	1066.0

L.B.W. %	9.0
FM	2.17
Gravel %	1.8

Delterious.	
Lithology Unit	MSD

Aggregate Sieve & Mechanical Analysis

Borehole Name **F5-03**
 Project/Site **Field**
 Depth: FROM **34.0**
 Depth: TO **42.0**
 Thickness **8.0**

Sieve Size	Weight	% Retained	% Sand Retained	Acc. Retained	Acc. Passing
1.0"	0.0	0.0	NA	0.0	100.0
0.75"	11.0	0.8	NA	0.8	99.2
0.5"	46.0	3.5	NA	4.4	95.6
0.375"	6.0	0.5	NA	4.8	95.2
No.4	66.0	5.1	5.8	5.8	94.2
No.8	78.0	6.0	6.9	12.7	87.3
No.16	117.0	9.0	10.3	23.0	77.0
No.30	177.0	13.6	15.6	38.5	61.5
No.50	323.0	24.8	28.4	66.9	33.1
No.100	301.0	23.1	26.5	93.4	6.6
No.200	70.0	5.4	6.2	99.6	0.4
Pan	5.0	0.4	0.4	100.0	0.0
% Sand Retained		87.1			

Dry Wt.	1305.0
Wash Wt.	1200.0

L.B.W. %	8.0
FM	2.40
Gravel %	4.8

Delterious.	
Lithology Unit	MSD

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
25 mm (1 in.)	69.0	4.7	4.7	95.3		
19 mm (3/4 in.)	12.0	0.8	5.5	94.5		
12.5 mm (1/2 in.)	60.0	4.1	9.6	90.4		
9.5 mm (3/8 in.)	68.0	4.6	14.2	85.8		
4.75 mm (#4)	127.0	8.6	22.8	77.2		
2.36 mm (#8)	134.0	9.1	31.9	68.1		
1.18 mm (#16)	132.0	8.9	40.8	59.2		
600 µm (#30)	119.0	8.1	48.9	51.1		
300 µm (#50)	280.0	19.0	67.9	32.1		
150 µm (#100)	209.0	14.2	82.0	18.0		
75 µm (#200)	55.0	3.7	85.8	14.2		
Passing	6.0	0.4	86.2	13.8		
Loss By Wash	204.0	13.8	100.0	0.0		
Total	1,475.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,475.0	Jigged	
Washed Weight	1,271.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	13.8	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	3.14	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks	Miscellaneous Measurements
f1-03 5-18'	

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
19 mm (3/4 in.)	34.0	2.2	2.2	97.8		
12.5 mm (1/2 in.)	62.0	3.9	6.1	93.9		
9.5 mm (3/8 in.)	62.0	3.9	10.0	90.0		
4.75 mm (#4)	187.0	11.8	21.8	78.2		
2.36 mm (#8)	162.0	10.3	32.1	67.9		
1.18 mm (#16)	151.0	9.6	41.6	58.4		
600 µm (#30)	145.0	9.2	50.8	49.2		
300 µm (#50)	320.0	20.3	71.1	28.9		
150 µm (#100)	319.0	20.2	91.3	8.7		
75 µm (#200)	60.0	3.8	95.1	4.9		
Passing	7.0	0.4	95.5	4.5		
Loss By Wash	71.0	4.5	100.0	0.0		
Total	1,580.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,580.0	Jigged	
Washed Weight	1,509.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	4.5	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	3.21	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks Miscellaneous Measurements

f1-03 18-28.5'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	61.0	5.2	5.2	94.8	
19 mm (3/4 in.)	27.0	2.3	7.5	92.5	
12.5 mm (1/2 in.)	39.0	3.3	10.8	89.2	
9.5 mm (3/8 in.)	42.0	3.6	14.4	85.6	
4.75 mm (#4)	91.0	7.7	22.1	77.9	
2.36 mm (#8)	94.0	8.0	30.1	69.9	
1.18 mm (#16)	96.0	8.2	38.2	61.8	
600 µm (#30)	130.0	11.0	49.3	50.7	
300 µm (#50)	253.0	21.5	70.8	29.2	
150 µm (#100)	246.0	20.9	91.7	8.3	
75 µm (#200)	43.0	3.7	95.3	4.7	
Passing	2.0	0.2	95.5	4.5	
Loss By Wash	53.0	4.5	100.0	0.0	
Total	1,177.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight		% Deleterious
Loss By Wash Spec.	Specific Gravity	
	SSD	
% Loss By Washing	BSG	
% Moisture	ASG	
	ABS	
Fineness Modulus	Expansions	
	One	
% Crushed	Two	
	Avg	

Remarks

Miscellaneous Measurements

F1-03 28 1/2 - 39'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
25 mm (1 in.)	0.0	0.0	0.0	100.0		
19 mm (3/4 in.)	21.0	1.9	1.9	98.1		
12.5 mm (1/2 in.)	4.0	0.4	2.2	97.8		
9.5 mm (3/8 in.)	10.0	0.9	3.1	96.9		
4.75 mm (#4)	43.0	3.8	6.9	93.1		
2.36 mm (#8)	40.0	3.5	10.4	89.6		
1.18 mm (#16)	55.0	4.9	15.3	84.7		
600 µm (#30)	142.0	12.5	27.8	72.2		
300 µm (#50)	407.0	35.9	63.7	36.3		
150 µm (#100)	283.0	25.0	88.7	11.3		
75 µm (#200)	54.0	4.8	93.5	6.5		
Passing	6.0	0.5	94.0	6.0		
Loss By Wash	68.0	6.0	100.0	0.0		
Total	1,133.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,133.0	Jigged	
Washed Weight	1,065.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	6.0	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	2.18	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks	Miscellaneous Measurements
f1-03 39-45'	

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
25 mm (1 in.)	31.0	2.1	2.1	97.9		
19 mm (3/4 in.)	69.0	4.6	6.7	93.3		
12.5 mm (1/2 in.)	133.0	9.0	15.7	84.3		
9.5 mm (3/8 in.)	87.0	5.9	21.6	78.4		
4.75 mm (#4)	224.0	15.1	36.7	63.3		
2.36 mm (#8)	195.0	13.1	49.8	50.2		
1.18 mm (#16)	173.0	11.7	61.5	38.5		
600 µm (#30)	151.0	10.2	71.6	28.4		
300 µm (#50)	172.0	11.6	83.2	16.8		
150 µm (#100)	90.0	6.1	89.3	10.7		
75 µm (#200)	31.0	2.1	91.4	8.6		
Passing	14.0	0.9	92.3	7.7		
Loss By Wash	114.0	7.7	100.0	0.0		
Total	1,484.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,484.0	Jigged	
Washed Weight	1,370.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	7.7	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	4.20	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks	Miscellaneous Measurements
f1-03 48-53'	

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	27.0	1.6	1.6	98.4	
19 mm (3/4 in.)	54.0	3.1	4.7	95.3	
12.5 mm (1/2 in.)	40.0	2.3	7.0	93.0	
9.5 mm (3/8 in.)	59.0	3.4	10.4	89.6	
4.75 mm (#4)	237.0	13.6	24.0	76.0	
2.36 mm (#8)	309.0	17.8	41.8	58.2	
1.18 mm (#16)	294.0	16.9	58.7	41.3	
600 µm (#30)	202.0	11.6	70.4	29.6	
300 µm (#50)	179.0	10.3	80.7	19.3	
150 µm (#100)	164.0	9.4	90.1	9.9	
75 µm (#200)	52.0	3.0	93.1	6.9	
Passing	5.0	0.3	93.4	6.6	
Loss By Wash	115.0	6.6	100.0	0.0	
Total	1,737.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight	1,737.0	% Deleterious
Loss By Wash Spec.	1,622.0	
% Loss By Washing	6.6	
% Moisture		
Fineness Modulus	3.81	
% Crushed		

Remarks Miscellaneous Measurements

F1-03 53 - 82'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
9.5 mm (3/8 in.)	9.0	0.7	0.7	99.3		
4.75 mm (#4)	22.0	1.8	2.5	97.5		
2.36 mm (#8)	11.0	0.9	3.4	96.6		
1.18 mm (#16)	8.0	0.6	4.0	96.0		
600 µm (#30)	6.0	0.5	4.5	95.5		
300 µm (#50)	58.0	4.6	9.1	90.9		
150 µm (#100)	480.0	38.3	47.4	52.6		
75 µm (#200)	432.0	34.5	81.9	18.1		
Passing	60.0	4.8	86.7	13.3		
Loss By Wash	167.0	13.3	100.0	0.0		
Total	1,253.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,253.0	Jigged	
Washed Weight	1,086.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	13.3	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	0.72	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks Miscellaneous Measurements

f1-03 84-98'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
19 mm (3/4 in.)	37.0	2.6	2.6	97.4		
12.5 mm (1/2 in.)	92.0	6.4	9.0	91.0		
9.5 mm (3/8 in.)	71.0	4.9	13.9	86.1		
4.75 mm (#4)	113.0	7.9	21.8	78.2		
2.36 mm (#8)	136.0	9.5	31.3	68.7		
1.18 mm (#16)	140.0	9.7	41.0	59.0		
600 µm (#30)	158.0	11.0	52.0	48.0		
300 µm (#50)	141.0	9.8	61.8	38.2		
150 µm (#100)	250.0	17.4	79.2	20.8		
75 µm (#200)	253.0	17.6	96.9	3.1		
Passing	3.0	0.2	97.1	2.9		
Loss By Wash	42.0	2.9	100.0	0.0		
Total	1,436.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,436.0	Jigged	
Washed Weight	1,394.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	2.9	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	3.04	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks	Miscellaneous Measurements
f2-03 9.5-25'	

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	0.0	0.0	0.0	100.0	
19 mm (3/4 in.)	0.0	0.0	0.0	100.0	
12.5 mm (1/2 in.)	83.0	5.8	5.8	94.2	
9.5 mm (3/8 in.)	48.0	3.4	9.2	90.8	
4.75 mm (#4)	98.0	6.9	16.0	84.0	
2.36 mm (#8)	93.0	6.6	22.5	77.5	
1.18 mm (#16)	121.0	8.5	31.0	69.0	
600 µm (#30)	188.0	13.1	44.1	55.9	
300 µm (#50)	391.0	27.3	71.5	28.5	
150 µm (#100)	292.0	20.4	91.9	8.1	
75 µm (#200)	50.0	3.5	95.4	4.6	
Passing	2.0	0.1	95.5	4.5	
Loss By Wash	64.0	4.5	100.0	0.0	
Total	1,430.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight	1,386.0	% Deleterious
Loss By Wash Spec.	-	
% Loss By Washing	4.5	
% Moisture		
Fineness Modulus	2.86	
% Crushed		
Remarks	Miscellaneous Measurements	
F2 - 03 25 - 53'		

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	28.0	2.9	2.9	97.1	
19 mm (3/4 in.)	29.0	3.0	5.9	94.1	
12.5 mm (1/2 in.)	0.0	0.0	5.9	94.1	
9.5 mm (3/8 in.)	2.0	0.2	6.1	93.9	
4.75 mm (#4)	6.0	0.6	6.7	93.3	
2.36 mm (#8)	5.0	0.5	7.2	92.8	
1.18 mm (#16)	4.0	0.4	7.6	92.4	
600 µm (#30)	9.0	0.9	8.5	91.5	
300 µm (#50)	293.0	30.2	38.7	61.3	
150 µm (#100)	443.0	45.6	84.3	15.7	
75 µm (#200)	81.0	8.3	92.7	7.3	
Passing	4.0	0.4	93.1	6.9	
Loss By Wash	67.0	6.9	100.0	0.0	
Total	971.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight		% Deleterious
Loss By Wash Spec.	Specific Gravity	
% Loss By Washing	SSD	
% Moisture	BSG	
	ASG	
	ABS	
Fineness Modulus	Expansions	
	One	
% Crushed	Two	
	Avg	
Remarks	Miscellaneous Measurements	
F2 -03 53 - 58'		

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	42.0	2.8	2.8	97.2	
19 mm (3/4 in.)	39.0	2.6	5.4	94.6	
12.5 mm (1/2 in.)	59.0	4.0	9.4	90.6	
9.5 mm (3/8 in.)	93.0	6.2	15.6	84.4	
4.75 mm (#4)	218.0	14.6	30.2	69.8	
2.36 mm (#8)	192.0	12.9	43.1	56.9	
1.18 mm (#16)	189.0	11.3	54.4	45.6	
600 µm (#30)	148.0	9.9	64.3	35.7	
300 µm (#50)	258.0	17.3	81.6	18.4	
150 µm (#100)	219.0	14.7	96.2	3.8	
75 µm (#200)	28.0	1.9	98.1	1.9	
Passing	1.0	0.1	98.2	1.8	
Loss By Wash	27.0	1.8	100.0	0.0	
Total	1,493.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight	Specific Gravity	% Deleterious
Loss By Wash Spec.	SSD	
% Loss By Washing	BSG	
% Moisture	ASG	
	ABS	
Fineness Modulus	Expansions	
	One	
% Crushed	Two	
	Avg	

Remarks	Miscellaneous Measurements
F2 - 03 59 1/2 - 92'	

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	0.0	0.0	0.0	100.0	
19 mm (3/4 in.)	0.0	0.0	0.0	100.0	
12.5 mm (1/2 in.)	19.0	2.1	2.1	97.9	
9.5 mm (3/8 in.)	42.0	4.7	6.8	93.2	
4.75 mm (#4)	49.0	5.5	12.3	87.7	
2.36 mm (#8)	38.0	4.2	16.5	83.5	
1.18 mm (#16)	33.0	3.7	20.2	79.8	
600 µm (#30)	70.0	7.8	28.0	72.0	
300 µm (#50)	422.0	47.2	75.2	24.8	
150 µm (#100)	189.0	21.1	96.3	3.7	
75 µm (#200)	11.0	1.2	97.5	2.5	
Passing	2.0	0.2	97.8	2.2	
Loss By Wash	20.0	2.2	100.0	0.0	
Total	895.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight		% Deleterious
Loss By Wash Spec.	Specific Gravity	
% Loss By Washing	SSD	
% Moisture	BSG	
	ASG	
	ABS	
Fineness Modulus	Expansions	
	One	
% Crushed	Two	
	Avg	
Remarks	Miscellaneous Measurements	
F2 -03 92 -98'		

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification: LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	0.0	0.0	0.0	100.0	
19 mm (3/4 in.)	0.0	0.0	0.0	100.0	
12.5 mm (1/2 in.)	0.0	0.0	0.0	100.0	
9.5 mm (3/8 in.)	5.0	0.7	0.7	99.3	
4.75 mm (#4)	10.0	1.4	2.0	98.0	
2.36 mm (#8)	12.0	1.6	3.7	96.3	
1.18 mm (#16)	18.0	2.4	6.1	93.9	
600 µm (#30)	28.0	3.8	9.9	90.1	
300 µm (#50)	117.0	15.9	25.7	74.3	
150 µm (#100)	304.0	41.2	66.9	33.1	
75 µm (#200)	134.0	18.2	85.1	14.9	
Passing	11.0	1.5	86.6	13.4	
Loss By Wash	99.0	13.4	100.0	0.0	
Total	738.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight	Specific Gravity	% Deleterious
Loss By Wash Spec.	SSD	
% Loss By Washing	BSG	
% Moisture	ASG	
	ABS	
Fineness Modulus	Expansions	
	One	
% Crushed	Two	
	Avg	

Remarks Miscellaneous Measurements

F4 - 03 5- 8'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	0.0	0.0	0.0	100.0	
19 mm (3/4 in.)	0.0	0.0	0.0	100.0	
12.5 mm (1/2 in.)	0.0	0.0	0.0	100.0	
9.5 mm (3/8 in.)	0.0	0.0	0.0	100.0	
4.75 mm (#4)	3.0	0.3	0.3	99.7	
2.36 mm (#8)	1.0	0.1	0.4	99.6	
1.18 mm (#16)	2.0	0.2	0.7	99.3	
600 µm (#30)	2.0	0.2	0.9	99.1	
300 µm (#50)	11.0	1.2	2.1	97.9	
150 µm (#100)	239.0	26.2	28.3	71.7	
75 µm (#200)	284.0	31.2	59.5	40.5	
Passing	48.0	5.3	64.8	35.2	
Loss By Wash	321.0	35.2	100.0	0.0	
Total	911.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight		% Deleterious
Loss By Wash Spec.	Specific Gravity	
% Loss By Washing	SSD	
% Moisture	BSG	
	ASG	
	ABS	
Fineness Modulus	Expansions	
% Crushed	One	
	Two	
	Avg	

Remarks Miscellaneous Measurements

F4-03 8-12'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
12.5 mm (1/2 in.)	5.0	0.4	0.4	99.6	
9.5 mm (3/8 in.)	6.0	0.5	0.9	99.1	
4.75 mm (#4)	11.0	0.9	1.8	98.2	
2.36 mm (#8)	33.0	2.8	4.6	95.4	
1.18 mm (#16)	50.0	4.2	8.8	91.2	
600 µm (#30)	143.0	12.0	20.8	79.2	
300 µm (#50)	419.0	35.1	55.9	44.1	
150 µm (#100)	337.0	28.2	84.2	15.8	
75 µm (#200)	96.0	8.0	92.2	7.8	
Passing	12.0	1.0	93.2	6.8	
Loss By Wash	81.0	6.8	100.0	0.0	
Total	1,193.0	100.0			

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,193.0	Jigged	
Washed Weight	1,112.0		% Deleterious
Loss By Wash Spec.	-	Specific Gravity	
% Loss By Washing	6.8	SSD	
% Moisture		BSG	
		ASG	
		ABS	
Fineness Modulus	1.77	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks Miscellaneous Measurements

fs-03 10.5-13'

FS-03

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
9.5 mm (3/8 in.)	6.0	0.4	0.4	99.6		
4.75 mm (#4)	37.0	2.7	3.2	96.8		
2.36 mm (#8)	80.0	5.9	9.1	90.9		
1.18 mm (#16)	105.0	7.8	16.9	83.1		
600 µm (#30)	174.0	12.9	29.8	70.2		
300 µm (#50)	457.0	33.8	63.6	36.4		
150 µm (#100)	300.0	22.2	85.8	14.2		
75 µm (#200)	76.0	5.6	91.4	8.6		
Passing	17.0	1.3	92.7	7.3		
Loss By Wash	99.0	7.3	100.0	0.0		
Total	1,351.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,351.0	Jigged	
Washed Weight	1,252.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	7.3	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	2.09	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks

Miscellaneous Measurements

fs-03 13-20'

fs-03

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	0.0	0.0	0.0	100.0	
19 mm (3/4 in.)	0.0	0.0	0.0	100.0	
12.5 mm (1/2 in.)	5.0	0.5	0.5	99.5	
9.5 mm (3/8 in.)	0.0	0.0	0.5	99.5	
4.75 mm (#4)	6.0	0.5	1.0	99.0	
2.36 mm (#8)	14.0	1.3	2.3	97.7	
1.18 mm (#16)	22.0	2.0	4.3	95.7	
600 µm (#30)	40.0	3.7	8.0	92.0	
300 µm (#50)	112.0	10.2	18.2	81.8	
150 µm (#100)	209.0	19.1	37.3	62.7	
75 µm (#200)	183.0	16.7	54.1	45.9	
Passing	34.0	3.1	57.2	42.8	
Loss By Wash	468.0	42.8	100.0	0.0	
Total	1,093.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight	1,093.0	625.0
Loss By Wash Spec.		Specific Gravity
% Loss By Washing	42.8	SSD
% Moisture		BSG
		ASG
		ABS
Fineness Modulus	0.72	Expansions
		One
% Crushed		Two
		Avg

Remarks Miscellaneous Measurements

F5 -03 20 - 25 1/2'

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/21/2003 1200
Source	American Aggregates of Mich. - Plant 01 High	Sampled By	K. K. - Kaye Kinkade
Sampled From		Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification	
					LL	UL
12.5 mm (1/2 in.)	13.0	1.1	1.1	98.9		
9.5 mm (3/8 in.)	8.0	0.7	1.8	98.2		
4.75 mm (#4)	32.0	2.7	4.5	95.5		
2.36 mm (#8)	59.0	5.0	9.6	90.4		
1.18 mm (#16)	89.0	7.6	17.2	82.8		
600 µm (#30)	140.0	11.9	29.1	70.9		
300 µm (#50)	360.0	30.7	59.8	40.2		
150 µm (#100)	280.0	23.9	83.7	16.3		
75 µm (#200)	70.0	6.0	89.7	10.3		
Passing	15.0	1.3	91.0	9.0		
Loss By Wash	106.0	9.0	100.0	0.0		
Total	1,172.0	100.0				

Standard Weights		Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight		Loose	Grading
Wet Weight		Rodded	Wear
Dry Weight	1,172.0	Jigged	
Washed Weight	1,066.0	Specific Gravity	% Deleterious
Loss By Wash Spec.	-	SSD	
% Loss By Washing	9.0	BSG	
% Moisture		ASG	
		ABS	
Fineness Modulus	2.06	Expansions	
		One	
% Crushed		Two	
		Avg	

Remarks

Miscellaneous Measurements

FS-03 25.5-32'

FS-03

RECEIVED FEB 24 2003

Edw. C. Levy Co.
Testing And Research Laboratory
Aggregate Analysis Report

Material	Bore Sample	Date/Time	2/27/2003 0800
Source	Milford Sand & Gravel - Plant 05 New Hudson	Sampled By	M. B. - Maryann Barger
Sampled From	Reference	Specifications	

Screen Analysis

Screen Size	Retained Weight	Fractional Percent	Percent Retained	Cumulative Passing	Specification LL UL
37.5 mm (1 1/2 in.)	0.0	0.0	0.0	100.0	
25 mm (1 in.)	0.0	0.0	0.0	100.0	
19 mm (3/4 in.)	11.0	0.8	0.8	99.2	
12.5 mm (1/2 in.)	46.0	3.5	4.4	95.6	
9.5 mm (3/8 in.)	6.0	0.5	4.8	95.2	
4.75 mm (#4)	66.0	5.1	9.9	90.1	
2.36 mm (#8)	78.0	6.0	15.9	84.1	
1.18 mm (#16)	117.0	9.0	24.8	75.2	
600 µm (#30)	177.0	13.6	38.4	61.6	
300 µm (#50)	323.0	24.8	63.1	36.9	
150 µm (#100)	301.0	23.1	86.2	13.8	
75 µm (#200)	70.0	5.4	91.6	8.4	
Passing	5.0	0.4	92.0	8.0	
Loss By Wash	105.0	8.0	100.0	0.0	
Total	1,305.0	100.0			

Standard Weights	Weight Per Cubic Foot	Los Angeles Abrasion
Tare Weight	Loose	Grading
Wet Weight	Rodded	Wear
Dry Weight	Jigged	
Washed Weight	Specific Gravity	% Deleterious
Loss By Wash Spec.	SSD	
% Loss By Washing	BSG	
% Moisture	ASG	
	ABS	
Fineness Modulus	Expansions	
	One	
% Crushed	Two	
	Avg	

Remarks Miscellaneous Measurements

F 5 - 03 34 - 42'

Hole Name	Depth From:	Depth To:	MATERIAL	L.B.W.	FM	%G	Description
Fld 3-22	0	2	CL				Not Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Well sorted. Contains organics. No Irregular Smell. Roots in top section
Fld 3-22	2	5	ST				Not Sampled. Medium to Coarse Sand. Slightly Dry. Brown Color. Little dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Not enough material to sample from auger.
Fld 3-22	5	11	ST	13.1%	1.3	2.1%	Sampled. Medium to Coarse Sand. Wet. Brown Color. Very dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Very silty
Fld 3-22	11	18	MSD	5.3%	2.2	1.2%	Sampled. Silt. Wet. Brown Color. Dirty. Soft/Silty. Low Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Turns gray at very tip of auger
Fld 3-22	18	35	2NS	9.5%	3	7.0%	Sampled. Medium to Coarse Sand. Wet. Gray Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 1-2 inch stones within. Turns to gray clay at bottom of last auger.
Fld 3-22	35	49	MSD	7.4%	2.3	11.9%	Sampled. Medium to Coarse Sand. Wet. Gray Color. Dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Mostly
Fld 3-22	49	58	CL				Not Sampled. Clay. Wet. Gray Color. Very dirty. Sticky. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Very Small bands of sand and gravel within. Seems like it fluctuates from straight clay to sand and gravel with small sections of clay.
Fld 1-22	0	2	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Poorly sorted. Contains organics. No Irregular Smell. 3 inch topsoil
Fld 1-22	2	17	2NS	12.4%	2.6	18.4%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Normal Texture. High Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large 1-3inch stones throughout.
Fld 1-22	17	38	ST	2.3%	1.6	0.2%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. No Stone/Gravel. Fine material. Well sorted. No organics/roots/peat. No Irregular Smell. Very fine clean sand

Fld 1-22	38	58	FSD	1.1%	1.9	0.0%	Sampled. Fine to Medium Sand. Slightly Wet. Brown Color. Clean. Normal Texture. No Stone/Gravel. Fine material. Well sorted. No organics/roots/peat. No Irregular Smell. Did not hit water, sand was slightly wet.
Fld 4-22	0	6	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Poorly sorted. Contains organics. No Irregular Smell. Small amount of 1-1.5 inch stones within. 3inch topsoil.
Fld 4-22	6	13	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Very Stiff. Low Stone/Gravel. 3 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Brown stiff clay with a few 2-3 inch stones within.
Fld 4-22	13	33	MSD	6.1%	2.2	8.6%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 3 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. 2-4 inch stones toward bottom of sample run.
Fld 4-22	33	40	2NS	4.0%	2.5	17.8%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Coarser toward bottom of sample run
Fld 4-22	40	58	CSD	2.0%	3.7	18.9%	Sampled. Sand & Gravel. Wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Sandier toward last 3ft from bottom of hole.
Fld 2-22	0	2	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Well sorted. Contains roots. No Irregular Smell. Fine to medium silty sand
Fld 2-22	2	5	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Normal Texture. Low Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Gets courser toward bottom section
Fld 2-22	5	29	2NS	6.6%	2.7	17.3%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Clean. Normal Texture. Moderate Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Fine to medium sand with 1-3 inch stones. Courser toward the last 20 ft of sample to depth of 29.
Fld 2-22	29	42	ST	6.0%	1.2	0.2%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Changed from fine to course between 40 and 45ft.
Fld 2-22	42	58	2NS	1.1%	2.6	0.4%	Sampled. Medium to Coarse Sand. Wet. Brown Color. Clean. Normal Texture. Moderate Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Turns wet around 43 ft.
Fld 5-22	0	9	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Normal Texture. High Stone/Gravel. 3 in or less. Poorly sorted. Contains roots. No Irregular Smell. Refusal at 10ft for first attempt, Refusal at 13ft for second. 3rd attempt 15 feet south at slightly lower elevation.

Fld 5-22	9	34	2NS	3.4%	2.7	14.4%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Moved 30 ft for 3rd attempt. Large 3-4 inch stones within the bottom 10 ft of sample.
Fld 5-22	34	38	MSD	3.9%	2.2	13.8%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Very clean fine sand with small stones less than 1inch.
Fld 5-22	38	51	2NS	2.8%	2.8	0.9%	Sampled. Medium to Coarse Sand. Slightly Wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Fine sand ended in between next auger run. Between 38-41
Fld 5-22	51	58	CSD	5.5%	3.7	2.1%	Sampled. Sand & Gravel. wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser sandier material on bottom 2 feet of sample.
Fld 6-22	0	2	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Poorly sorted. Contains roots. No Irregular Smell. 3 inch topsoil
Fld 6-22	2	5	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Getting less dirty further down
Fld 6-22	5	11	2NS	9.2%	2.6	2.6%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Low Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Getting finer
Fld 6-22	11	18	MSD	5.1%	2.3	0.4%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Small band of courser gravel at around 16ft.
Fld 6-22	18	37	2NS	9.4%	2.7	12.4%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 2-3 inch stones within. Stones are mostly pea stone size.
Fld 6-22	37	38	CSD	6.3%	3.6	4.4%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Clean. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Refusal at 39
Fld 7-22	0	1	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1/2 in or less. Poorly sorted. Contains roots. No Irregular Smell. About a foot of top soil. 1-2in stones. Top 3in was dark brown
Fld 7-22	1	2	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1/2 in or less. Poorly sorted. Contains roots. No Irregular Smell. Similar to above. Less stiff than above.

Fld 7-22	2	5	S&G	12.1%	2.8	25.3%	Sampled. Fine to Medium Sand. Dry. Brown Color. Dirty. Normal Texture. Moderate Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 1/2in to 2in stones. Dirty fine to medium sand. Might not have enough for a test.
Fld 7-22	5	22	CL				Not Sampled. Clay. Dry. Gray Color. Very dirty. Stiff. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Gray at 8ft.
Fld 7-22	22	31	ST	18.7%	0.9	2.4%	Sampled. Fine to Medium Sand. Wet. Brown Color. Very dirty. Soft/Silty. No Stone/Gravel. Fine material. Poorly sorted. No organics/roots/peat. No Irregular Smell. Fine sand to silt. Very dirty, wet. Felt start around 22ft under gray clay.
Fld 7-22	31	42	FSD	10.2%	1.9	1.7%	Sampled. Fine to Medium Sand. Wet. Brown Color. Dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Felt start around 30ft. Cleaner and coarser than above sample. Max 1in stones within.
Fld 7-22	42	56	2NS	5.3%	2.9	10.9%	Sampled. Medium to Coarse Sand. Slightly wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Coarser than above. Moderate gravel within, up to pea stone size within.
Fld 7-22	56	58	ST				Not Sampled. Silt. Wet. Gray Color. Little dirty. Normal Texture. No Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Didn't get much on augers. Suspect silt to clay. Gray. Lost most due to washing when pulling up through water.
Fld 8-22	0	5	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1 in or less. Poorly sorted. Contains roots. No Irregular Smell. 3 inch topsoil. Few 1inch stones within.
Fld 8-22	5	8	CL				Not Sampled. Clay. Slightly wet. Brown Color. Very dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Brown clay turning gray. Large stone obstruction around 10 ft.
Fld 8-22	8	25	CL				Not Sampled. Clay. Wet. Gray Color. Very dirty. Sticky. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Refusal at 25ft. Second attempt refusal at 33ft.
Fld 8-22B	0	7	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Normal Texture. Low Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Finer light brown sand band 5ft
Fld 8-22B	7	40	CL				Not Sampled. Clay. Wet. Gray Color. Very dirty. Sticky. Moderate Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 1-2 inch stones throughout below 18ft. Lost most sample due to water washout. Changes from gray clay to loose stone back to clay.

Fld 8-22B	40	58	ST	4.2%	1	0.8%	Sampled. Fine to Medium Sand. Wet. Gray Color. Very dirty. Soft/Silty. Low Stone/Gravel. 3 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. very silty sand. 10ft from bottom, large 2-3inch stones with silty sand.
Fld 9-22	0	4	CL				Not Sampled. Medium to Coarse Sand. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1.5 in or less. Poorly sorted. Contains roots. No Irregular Smell. 3 inch topsoil
Fld 9-22	4	21	S&G	8.1%	3.5	33.0%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. High Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Very large 3-4 inch stones within. Very course.
Fld 9-22	21	35	2NS	3.5%	2.9	12.0%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Medium course sand with large stones scattered within.
Fld 9-22	35	55	S&G	1.7%	3.2	22.0%	Sampled. Medium to Coarse Sand. Slightly Wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Brown course sand and gravel turning gray
Fld 9-22	55	58	MSD	7.4%	2.2	12.1%	Sampled. Fine to Medium Sand. Wet. Gray Color. Little dirty. Soft/Silty. Low Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Finer silty Medium sand
Fld 10-22	0	2	CL				Not Sampled. Fine to Medium Sand. Dry. Brown Color. Dirty. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. Contains organics. No Irregular Smell. Foot of topsoil. Next to wetland
Fld 10-22	2	7	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. 1in or less stones within.
Fld 10-22	7	16	CL				Not Sampled. Clay. Wet. Gray Color. very dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Gray clay with bands of course gravel mixed in toward the bottom 5 feet.
Fld 10-22	16	37	CL				Not Sampled. Clay. Wet. Gray Color. very dirty. Soft/Silty. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Gray Silty clay mixed with large 1-2inch stones
Fld 10-22	37	58	ST	5.2%	0.9	1.7%	Sampled. Fine to Medium Sand. Wet. Brown Color. Little dirty. Soft/Silty. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Very silty sand
Fld 11-22	0	2	CL				Not Sampled. Clay. Dry. Brown Color. very dirty. Normal Texture. Low Stone/Gravel. 1/2 in or less. Poorly sorted. Contains roots. No Irregular Smell. 2 inch topsoil.

Fld 11-22	2	3	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Lighter brown clay with small stones less than 1inch.
Fld 11-22	3	20	2NS	3.0%	2.7	13.8%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Clean. Normal Texture. Moderate Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large obstruction at around 15ft. Large 3-4 inch stones within
Fld 11-22	20	49	CSD	6.9%	3.2	18.8%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large stones scattered within.
Fld 11-22	49	58	MSD	3.1%	2.3	7.2%	Sampled. Fine to Medium Sand. Wet. Gray Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Slightly brown turning gray fine medium sand.
Fld 12-22	0	8	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 9inch topsoil. Small 1ft band of silty clay before stiff brown clay starts.
Fld 12-22	8	15	2NS	4.0%	2.9	2.2%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Gets finer toward the bottom of sample.
Fld 12-22	15	37	2NS	2.7%	2.6	6.1%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Finer sands, large stone obstructions around 20-35ft. 3-4 inch stones coming up from augers.
Fld 12-22	37	58	ST	10.8%	1.5	4.7%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Silty fine sand. Large stones coming up from layers above.
Fld 13-22	0	5	CL				Not Sampled. Medium to Coarse Sand. Dry. Brown Color. Very dirty. Stiff. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 4inch topsoil
Fld 13-22	5	10	0				Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 3 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Very large stone obstructions. 3-5 inch stones.
Fld 13-22	10	27	ST	13.9%	1.5	0.5%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Silty brown sand.
Fld 13-22	27	39	ST	4.2%	1.6	5.4%	Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Cleaner sand

Fld 13-22	39	50	MSD	4.2%	2.2	0.7%	Sampled. Medium to Coarse Sand. Wet. Brown Color. Clean. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Turns wet around 40ft
Fld 13-22	50	58	CSD	12.1%	3.6	8.0%	Sampled. Medium to Coarse Sand. Wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser with pea stone size material.
Fld 14-22	0	5	CL				Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1 in or less. Poorly sorted. Contains roots. No Irregular Smell. 6 inches of topsoil brownish orange clay
Fld 14-22	5	13	CL	24.9%	1.1	0.5%	Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Silty sand with small amount of stone throughout.
Fld 14-22	13	19	ST	0.0%	1.2	0.2%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Soft/Silty. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Silty cleaner sands. 2 inch stone obstructions throughout.
Fld 14-22	19	36	ST				Sampled. Fine to Medium Sand. Dry. Brown Color. Very dirty. Soft/Silty. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Silty sand with small amount of stone throughout.
Fld 14-22	36	38	2NS	13.7%	2.9	8.3%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Soft/Silty. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Silty cleaner sands. 2 inch stone obstructions throughout.
Fld 14-22	38	58	ST	18.7%	1.5	0.3%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large 2-4 inch stones coming up from augers. Courser fine medium sand less than 1inch stones.
Fld 15-22	0	7	0				Sampled. Medium to Coarse Sand. Slightly Wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser than above
Fld 15-22	7	0	ST				Sampled. Fine to Medium Sand. Wet. Brown Color. Little dirty. Soft/Silty. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Just hit silty gray clay on the last foot section of auger bit.
Fld 15-22	20	0	CSD				Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. Contains roots. No Irregular Smell. 1inch topsoil
Fld 15-22	34	0	FSD				Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Very clean fine sand Rocky drilling around 22ft

Fld 16-22	3	0	2NS				Sampled. Sand & Gravel. Wet. Brown Color. Little dirty. Normal Texture. High Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Grey clay present every couple of feet
Fld 16-22	22	40	ST	11.0%	1.6	1.0%	Sampled. Medium to Coarse Sand. Wet. Gray Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Starting to turn brown the last 2 ft. 1-2 inch stones throughout bottom 10 ft
Fld 16-22	40	58	2NS	4.0%	2.9	9.5%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. Contains roots. No Irregular Smell. First two feet of sample - 6 inch topsoil to brown clay to reddish brown sand and gravel. 1-2 inch stones within
FLD 28-22	0	5	0				Sampled. Fine to Medium Sand. Slightly Wet. Brown Color. Little dirty. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. *Last sample entered was for hole %2316* 1-2 inch stones within.
FLD 28-22	5	22	2NS	7.9%	3.2	19.4%	Sampled. Medium to Coarse Sand. Wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser than above.
FLD 28-22	22	40	2NS	4.9%	3.1	8.5%	Not Sampled. Clay. Dry. Brown Color. Very dirty. Very Stiff. Moderate Stone/Gravel. 1 in or less. Poorly sorted. Contains roots. No Irregular Smell. Brown very stiff clay. Some roots from grass and small trees. 1-2in stones in clay, larger laying on the ground.
FLD 28-22	40	55	CL	18.1%	0.6	1.0%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Clean. Normal Texture. High Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Larger stones within as well. Probably 4-5in. Medium to coarse sand with gravel
FLD 28-22	55	58	2NS	5.5%	2.9	7.2%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. High Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Medium to coarse sand and gravel. Similar to above, large stones within that didnt come up.
Fld 17-22	0	20	CL				Sampled. Silt. Dry. Brown Color. Very dirty. Normal Texture. No Stone/Gravel. Fine material. Well sorted. No organics/roots/peat. No Irregular Smell. First foot was a blend clean fine to medium sand. Not enough to sample.
Fld 17-22	20	34	CSD	3.9%	3.8	18.4%	Sampled. Medium to Coarse Sand. Wet. Gray Color. Clean. Normal Texture. Low Stone/Gravel. Fine material. Well sorted. No organics/roots/peat. No Irregular Smell. Clean medium to coarse Sand.

Fld 17-22	34	53	0				Not Sampled. Clay. Dry. Brown Color. Very dirty. Very Stiff. Low Stone/Gravel. 2 in or less. Well sorted. Contains roots. No Irregular Smell. 3 inch topsoil Brown clay until 20ft Lots of 1-2 inch stones within coming up from hole when drilling.
Fld 17-22	53	58	2NS	3.3%	3.2	3.9%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Very dirty sand and gravel mix. Large 1-4inch stones coming up from augers.
Fld 18-22	0	3	CL				Sampled. Medium to Coarse Sand. Slightly wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Slightly wet but not at water level yet.
Fld 18-22	3	45	2NS	9.5%	3.1	16.0%	Sampled. Medium to Coarse Sand. Slightly wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Finer sandier the last few feet of sample.
Fld 18-22	45	58	CSD	3.9%	3.6	8.8%	Not Sampled. Medium to Coarse Sand. Dry. Brown Color. Very dirty. Stiff. Moderate Stone/Gravel. 2 in or less. Poorly sorted. Contains roots. Irregular Smell. 6 inch topsoil. Sand and gravel starts at 3ft with small bands of brown clay. Strong organics smell. 4 inch stones throughout causing obstruction and loss of some sample pulling out.
Fld 19-22	0	2	CL				Sampled. Medium to Coarse Sand. Dry. Brown Color. Very dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 4 inch stones throughout causing obstruction and loss of some sample pulling out. Very dirty Gets finer between 45 and 50 ft
Fld 19-22	2	15	2NS	6.2%	3.1	3.9%	Sampled. Medium to Coarse Sand. Slightly wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Finer sand and gravel at 45ft and stops around 50ft. Not yet into water table.
Fld 19-22	15	19	2NS	3.3%	2.6	2.6%	Not Sampled. Clay. Dry. Brown Color. Very dirty. Very Stiff. Low Stone/Gravel. 1/2 in or less. Well sorted. Contains roots. Irregular Smell. Approx. Inch of topsoil. Strong organic smell. 2ft of stiff brown clay
Fld 19-22	19	49	2NS	5.7%	3.2	17.6%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. The last 2 ft of sample is less coarse
Fld 19-22	15	19	ST				Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Cleaner medium sand

Fld 19-22	19	49	CSD	6.2%	3.7	3.2%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large 2-4 inch stones coming up from augers.
Fld 19-22	49	55	CL				Not Sampled. Silt. Dry. Brown Color. Dirty. Normal Texture. No Stone/Gravel. Fine material. Well sorted. No organics/roots/peat. No Irregular Smell. Small 5t band of brown silt sand
Fld 19-22	55	58	0				Sampled. Sand & Gravel. Slightly Wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Clean sand and gravel around pea stone size and smaller.
Fld 21-22	0	2	2NS	6.2%	3	7.3%	Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 2 in or less. Well sorted. Contains roots. No Irregular Smell. 2 inch topsoil
Fld 21-22	2	11	S&G	4.1%	3.1	20.5%	Not Sampled. Medium to Coarse Sand. Dry. Brown Color. Dirty. Normal Texture. Low Stone/Gravel. 1/2 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Not enough for sample due to catching on rock coming up.
Fld 21-22	11	20	CSD	6.9%	3.4	9.3%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large 2-4 inch stones throughout.
Fld 21-22	20	38	CSD	3.4%	3.7	9.2%	Sampled. Sand & Gravel. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser than above
Fld 21-22	38	55	CL				Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. 1-3 inch stones throughout
Fld 21-22	55	58	MSD	8.5%	2.6	8.8%	Sampled. Medium to Coarse Sand. Slightly wet. Brown Color. Clean. Normal Texture. High Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Cleaner sand and gravel. Slightly wet but not into the water table yet.
Fld 22-22	0	3	S&G	2.7%	2.1	22.5%	Not Sampled. Clay. Dry. Brown Color. Very dirty. Very Stiff. Low Stone/Gravel. 2 in or less. Well sorted. Contains roots. No Irregular Smell. Brown clay turning sandy
Fld 22-22	3	9	2NS	1.8%	2.6	6.2%	Sampled. Medium to Coarse Sand. Dry. Brown Color. Dirty. Normal Texture. Moderate Stone/Gravel. 1.5 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Large 2-3 inch stones coming up from augers
Fld 22-22	9	18	2NS	2.9%	2.6	7.9%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Normal Texture. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Finer sand with low amount of pea stone size stones within.

Fld22-22	18	35	CSD	4.5%	3.4	11.1%	Sampled. Fine to Medium Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1/2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser than above
Fld 22-22	35	40	CL				Sampled. Fine to Medium Sand. Dry. Brown Color. Clean. Normal Texture. Low Stone/Gravel. 1 in or less. Well sorted. No organics/roots/peat. No Irregular Smell. Finer silty sands
Fld 22-22	40	58	2NS	5.8%	3.2	19.0%	Sampled. Medium to Coarse Sand. Slightly Wet. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 1 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Courser sand and gravel. Not yet at water table.
Fld 23-22	0	8	2NS	2.1%	3	7.3%	Not Sampled. Clay. Dry. Brown Color. Very dirty. Stiff. Low Stone/Gravel. 1 in or less. Well sorted. Contains roots. No Irregular Smell. No topsoil straight to brown clay.
Fld 23-22	8	17	CL				Sampled. Medium to Coarse Sand. Dry. Brown Color. Little dirty. Normal Texture. Moderate Stone/Gravel. 2 in or less. Poorly sorted. No organics/roots/peat. No Irregular Smell. Small clay band in upper 10 ft of sample. 2inch and under stones scattered throughout.

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-6 (FLD1-16)		PAGE 1 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/28/16		FINISH: 11/28/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E R	B C L O U M P W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1						1	0-6" TOPSOIL		1
						2	6"-18' MEDIUM GRAIN SAND		
						3			
						4			
						5			
						6			
						7			
						8			
						9			
						10			
						11			
						12			
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			
+/- 17.5-37.5' SCREENED						18	18-28' MEDIUM GRAIN SAND WITH SOME CLAY AND GRAVEL		
						19			
						20			
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-6 (FLD1-16)		PAGE 2 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/28/16		FINISH: 11/28/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OVM FIELD SCREEN UNITS: ppm
21							21	28-37.5' MEDIUM GRAIN SAND; WET @ 28'	21
							22		
							23		
							24		
25							25		25
							26		
							27		
							28		
							29		
30							30		30
							31		
							32		
							33		
							34		
35							35		35
							36		
							37		
							38		37.5' E.O.B.
							39		
40							40		40
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-7 (FLD2-16)		PAGE 1 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING		
					DRILLER: R. LUBERDA		METHOD: GEOPROBE		
PROJECT NUMBER: 04-201					START: 11/28/16		FINISH: 11/28/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S A Y M P L E	T A U M M P B L E R	B C L O U M W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	8-28' SCREENED					1	0-6" TOPSOIL		
						2	6"-3' COARSE GRAIN SAND AND GRAVEL	1	
						3			
						4	3-4' CLAY LOAM		
5						5	4-7' SILTY SAND AND GRAVEL		
						6			
						7			
						8	7-10' CLAY LOAM		
						9			
10						10	10-15' GRAY SILTY CLAY; WET		
						11			
						12			
						13			
						14			
15						15	15-20' GRAY SILT; WET		
						16			
						17			
						18			
20						20	20-30' SANDY CLAY; WET		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-7 (FLD2-16)		PAGE 2 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/28/16		FINISH: 11/28/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O W N P T L S	S I A N M T P L E (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVMSCREEN FIELD UNITS: ppm
21							21		
							22		
							23		
							24		
25							25		25
							26		
							27		
							28		
							29		
30							30	30' E.O.B.	30
							31		
							32		
							33		
							34		
35							35		35
							36		
							37		
							38		
							39		
40							40		40
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-8 (FLD3-16)		PAGE 1 OF 1		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/28/16		FINISH: 11/28/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S A Y M P L E	T A U M P B L E R	B C L O U M W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	2.5-17.5' SCREENED					1	0-6" TOPSOIL		
						2	6"-5' FINE GRAIN SAND	1	
						3			
						4			
5						5	5-7.5' CLAY LOAM		5
						6			
						7			
						8	7.5-9' FINE TO MEDIUM GRAIN SAND; WET		
						9			
10						10	9-12' FINE TO MEDIUM GRAIN SAND; WET		10
						11			
						12	12-16' GRAY SILTY SAND; WET		
						13			
						14			
15						15			15
						16	16-20' GRAY FINE GRAIN TO SILTY SAND; WET		
						17			
						18			
						19			
20						20	20' E.O.B.		20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 15 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-9 (FLD4-16)		PAGE 1 OF 2	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
						PROJECT NUMBER: 04-201		START: 11/28/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O U M W N P T L S	S I A N M T L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	5-25' SCREENED					1	0-6" TOPSOIL		1
						2	6"-10' CLAY LOAM		
						3			
						4			
5						5			5
						6			
						7			
						8			
						9			
10						10	10-13' MEDIUM GRAIN SAND; WET @ 13'		10
						11			
						12			
						13	13-15' GRAY CLAY LOAM		
						14			
15						15	15-17' MEDIUM GRAIN SAND; WET		15
						16			
						17	17-18' CLAY LOAM		
						18	18-25' MEDIUM GRAIN SAND		
						19			
20						20			20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-9 (FLD4-16)		PAGE 2 OF 2			
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE			
					DRILLER: R. LUBERDA		DRILL RIG: DT6620			
PROJECT NUMBER: 04-201					START: 11/28/16		FINISH: 11/28/16			
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS					
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OV M F I E L D S C R E E N U N I T S: p p m	
21							21		21	
							22			
							23			
							24			
25							25	25' E.O.B.	25	
							26			
							27			
							28			
							29			
30							30		30	
							31			
							32			
							33			
							34			
35							35		35	
							36			
							37			
							38			
							39			
40							40		40	
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-10 (FLD5-16)		PAGE 1 OF 1	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
						PROJECT NUMBER: 04-201		START: 11/29/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O U W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	3-18' SCREENED					1	0-6" TOPSOIL		1
						2	6"-6' SANDY CLAY LOAM		
						3			
						4			
5						5			5
						6			
						7	6-20' MEDIUM GRAIN SAND WITH GRAVEL		
						8			
						9	WET @ 8.5'		
10						10			10
						11			
						12			
						13			
						14			
15						15			15
						16			
						17			
						18			
						19			
20						20	20' E.O.B.		20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 15 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-11 (FLD6-16)		PAGE 1 OF 2	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
						PROJECT NUMBER: 04-201		START: 11/29/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O U W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	12-32' SCREENED					1	0-6" TOPSOIL		
						2	6"-3' MEDIUM GRAIN SAND WITH SOME GRAVEL	1	
						3			
						4	3-13' SILTY SANDY CLAY		
						5			
5						6			5
						7			
						8			
						9			
						10			10
						11			
						12			
						13	13-14' MEDIUM GRAIN SAND		
						14	14-20' SILTY SANDY CLAY		
15						15			15
						16			
						17	WET @ +/- 17'		
						18			
						19			
20						20			20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-11 (FLD6-16)		PAGE 2 OF 2			
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE			
					DRILLER: R. LUBERDA		DRILL RIG: DT6620			
PROJECT NUMBER: 04-201					START: 11/29/16		FINISH: 11/29/16			
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS					
WELL CONSTRUCTION DETAILS			S A M P L E	T Y P E	S N A U M M P B L E E R	B C L O O U W N T S	S I A N M P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OVM FIELD SCREEN UNITS: ppm
21								21	20-25' CLAY LOAM WITH SMALL AMOUNT OF GRAVEL	21
								22		
								23		
								24		
25								25	25-26.5' CLAYEY SILTY SAND	25
								26		
								27	26.5-29' CLAY LOAM	
								28		
								29	WET @ 29'	
30								30	29-40' GRAY COARSE GRAIN SAND AND GRAVEL; WET	30
								31		
								32		
								33		
								34		
35								35		35
								36		
								37		
								38		
								39		
40								40	@ 40' GRAVEL E.O.B.	40
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot					HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION					WELL NUMBER: OW-12 (FLD7-16)		PAGE 1 OF 2		
FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					CONTRACTOR:		DRILLING		
					ALLUVIAL EARTH		METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/29/16		FINISH: 11/29/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		STAMP	SN	BC	SI	D	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
		AY	NA	LO	IA	EP			
		PE	MM	WN	MT	TH			
		LE	ER	SE	(ft)	(ft)			
						0			
1	3.5-23.5' SCREENED					1	0-6" TOPSOIL		
						1	6"-17' SANDY CLAY LOAM TO CLAY LOAM	1	
						2			
						3			
						4			
5						5		5	
						6			
						7			
						8			
						9			
10						10		10	
						11			
						12			
						13			
						14			
15						15		15	
						16			
						17	17-18.5' SILTY SAND; WET		
						18			
						19	18.5-20' SILTY SAND TO CLAY LOAM		
20					20		20		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-12 (FLD7-16)		PAGE 2 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/29/16		FINISH: 11/29/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OV M F I E L D S C R E E N U N I T S: p p m
21							21	20-28.5' COARSE GRAIN SAND AND GRAVEL; WET	21
							22		
							23		
							24		
25							25		25
							26		
							27		
							28		
							29	28.5-30' CLAY LOAM	
30							30	30' E.O.B.	30
							31		
							32		
							33		
							34		
35							35		35
							36		
							37		
							38		
							39		
40							40		40
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION					WELL NUMBER: OW-13 (FLD8-16)		PAGE 1 OF 3		
FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					CONTRACTOR:		DRILLING		
					ALLUVIAL EARTH		METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/29/16		FINISH: 11/29/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		STAMP	SN	BC	SI	D	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1						1	0-6" TOPSOIL		
						2	6"-8" SILTY SAND		1
						3			
						4			
						5			
5						6			5
5-25' SCREENED						7			
						8			
						9	8-19' MEDIUM TO COARSE GRAIN SAND AND GRAVEL		
						10			10
						11			
						12			
						13			
						14			
						15			15
						16			
						17			
						18			
						19	WET @ 18'		
						20	19-27' GRAY CLAY LOAM		20
COMMENTS:		WELL DETAILS:							
E.O.B. = End of Boring		Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-13 (FLD8-16)		PAGE 2 OF 3		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/29/16		FINISH: 11/29/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U W N T L S E (ft)	S I A N M T P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
21						21		21	
						22			
						23			
						24			
25						25		25	
						26			
						27	27-29' GRAY FINE GRAIN SAND; WET		
						28			
						29	29-45' GRAY MEDIUM TO COARSE GRAIN SAND; WET		
30						30		30	
						31			
						32			
						33			
						34			
35						35		35	
						36			
						37			
						38			
						39			
40						40		40	
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot			HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-13 (FLD8-16)		PAGE 3 OF 3			
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE			
					DRILLER: R. LUBERDA		DRILL RIG: DT6620			
PROJECT NUMBER: 04-201					START: 11/29/16		FINISH: 11/29/16			
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS					
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OVM FIELD SCREEN UNITS: ppm	
41							41		41	
							42			
							43			
							44			
45							45	45' E.O.B.	45	
							46			
							47			
							48			
							49			
50							50		50	
							51			
							52			
							53			
							54			
55							55		55	
							56			
							57			
							58			
							59			
60							60		60	
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-14 (FLD10-16)		PAGE 1 OF 2	
						CONTRACTOR:		DRILLING	
						ALLUVIAL EARTH		METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
PROJECT NUMBER: 04-201						START: 11/29/16		FINISH: 11/29/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P E L E	S N A U M M P B L E E R	B C L O A N O U M T W N P T L S E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES			OVM FIELD SCREEN UNITS: ppm
					0				
1					1	0-6"	TOPSOIL		
					6"-9.5'	CLAY LOAM	1		
					2				
					3				
					4				
5					5			5	
					6				
					7				
					8				
					9				
10					10	9.5-17'	COARSE GRAIN SAND AND GRAVEL	10	
					11				
					12				
					13				
					14				
15					15			15	
					16				
					17				
					18				
					19				
20	20			20					
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 5 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-14 (FLD10-16)		PAGE 2 OF 2	
						CONTRACTOR:		DRILLING	
						ALLUVIAL EARTH		METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
PROJECT NUMBER: 04-201						START: 11/29/16		FINISH: 11/29/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS			S T A Y M P E L E	S N A U M M P B L E R	B C L O W N T S	S I A N P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OVM FIELD SCREEN UNITS: ppm
21							21	20-27' GRAY MEDIUM GRAIN SAND; WET	21
							22		
							23		
							24		
25							25		25
							26		
							27		
							28	27-30' GRAY CLAY LOAM	
							29		
30							30		30
							31	30-32' GRAY MEDIUM GRAIN SAND; WET	
							32		
							33	32-34.5' CLAY LOAM	
							34		
35							35	34.5-40' GRAY FINE GRAIN SAND; WET	35
	35-40' SCREENED						36		
							37		
							38		
							39		
40							40		40
								40' E.O.B.	
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 5 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-15 (FLD9-16)		PAGE 1 OF 1	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
						PROJECT NUMBER: 04-201		START: 11/29/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N P T S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	2-17' SCREENED					1	0-6" TOPSOIL		1
						1	6"-9.5' CLAY LOAM		
						2			
						3			
						4			
5						5			5
						6			
						7			
						8			
						9			
10						10	9.5-17' COARSE GRAIN SAND AND GRAVEL		10
						11			
						12			
						13			
						14			
15						15			15
						16			
						17	17-20' GRAY CLAY LOAM		
						18			
						19			
20					20	20' E.O.B.		20	
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 15 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-16 (FLD11-16)		PAGE 1 OF 2	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
PROJECT NUMBER: 04-201						START: 11/30/16		FINISH: 11/30/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U W N T S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	2-22' SCREENED					1	0-6" TOPSOIL		1
							6"-12' BROWN CLAY LOAM		
							2		
							3		
							4		
5							5		5
							6		
							7		
							8		
							9		
10							10		10
							11		
							12		
							13	12-25' BROWN FINE TO MEDIUM GRAIN SAND; WET	
							14		
15							15		15
							16		
							17		
							18		
							19		
20						20		20	
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-16 (FLD11-16)		PAGE 2 OF 2			
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE			
					DRILLER: R. LUBERDA		DRILL RIG: DT6620			
PROJECT NUMBER: 04-201					START: 11/30/16		FINISH: 11/30/16			
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS					
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES	OVM FIELD SCREEN UNITS: ppm	
21							21			
							22			
							23			
							24			
25							25	25-27.5' GRAY CLAY LOAM		25
							26			
							27			
							28	27.5-30' BROWN MEDIUM GRAIN SAND; WET		
							29			
30							30	30' E.O.B.		30
							31			
							32			
							33			
							34			
35							35			35
							36			
							37			
							38			
							39			
40							40			40
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-17 (FLD12-16)		PAGE 1 OF 3		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 11/30/16		FINISH: 11/30/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E R	B C L O U M P W N P T L S	S I A N M T L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1						1	0-6"	TOPSOIL	
						2	6"-25'	BROWN MEDIUM GRAIN SAND WITH GRAVEL	1
						3			
						4			
						5			
5						6			5
						7			
						8			
						9			
						10			
10						11			10
						12			
						13			
						14			
						15			
15						16			15
						17			
						18			
						19			
20						20			20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-17 (FLD12-16)		PAGE 2 OF 3	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
PROJECT NUMBER: 04-201						START: 11/30/16		FINISH: 11/30/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS			ST AY MP PE LE E	SN AU MM PB LE ER	BC LO OU WN TL SE (ft)	SI AN MP TL (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
21	28-48' SCREENED						21		21
							22		
							23		
							24		
25							25	25-30' BROWN FINE GRAIN TO SILTY SAND	25
							26		
							27		
							28		
							29		
30							30	30-32.5' FINE GRAIN SAND	30
							31		
							32		
							33	32.5-35' BROWN SILTY SAND; MOIST	
							34		
35							35	35-48' COARSE SAND AND GRAVEL	35
							36		
							37		
							38	WET @ 38'	
							39		
40							40		40
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-17 (FLD12-16)		PAGE 3 OF 3	
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
						DRILLER: R. LUBERDA		DRILL RIG: DT6620	
PROJECT NUMBER: 04-201						START: 11/30/16		FINISH: 11/30/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		ST AY MP PE LE E	SN AU MM PB LE ER	BC LO OU WN TL SE	SI AN MP TH (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES			OVM FIELD SCREEN UNITS: ppm
41						41	48' E.O.B.	41	
						42			
						43			
						44			
45						45		45	
						46			
						47			
						48			
						49			
50						50		50	
						51			
						52			
						53			
						54			
55						55		55	
						56			
						57			
						58			
						59			
60						60		60	
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-18 (FLD14-16)		PAGE 1 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P E L E E	S N A U M M P B L E E R	B C L O U M W N P T L S	S I A N M T L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1	8-28' SCREENED					1	0-6" TOPSOIL		
						2	6"-18' SILTY CLAYEY SANDY LOAM	1	
							3		
							4		
							5		
5							6		5
							7		
							8		
							9		
							10		
10							11		10
							12		
							13		
							14		
							15		
15							16		15
							17		
							18		
							19	18-22' MEDIUM TO COARSE GRAIN SAND WITH SMALL AMOUNT OF CLAY	
20							20		20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-18 (FLD14-16)		PAGE 2 OF 2		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E R	B C L O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
21						21	22-35' GRAY FINE GRAIN SAND; WET WET @ 23'	21	
						22			
						23			
						24			
25						25		25	
						26			
						27			
						28			
						29			
30						30		30	
						31			
						32			
						33			
						34			
35						35		35	
						36			
						37			
						38			
						39			
40						40		40	
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-19 (FLD13-16)		PAGE 1 OF 3		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1						1	0-6"	TOPSOIL	1
						2	6"-9"	SANDY CLAY LOAM	
						3			
						4			
5						5			5
						6			
						7			
						8			
						9			
10						10	9-27"	BROWN COARSE GRAIN SAND AND GRAVEL	10
						11			
						12			
						13			
						14			
15						15			15
						16			
						17			
						18			
						19			
20						20			20
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN							WELL NUMBER: OW-19 (FLD13-16)		PAGE 2 OF 3		
							CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
							DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201							START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.							LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			ST AY MP PE LE E	SN AU MM PB LE ER	BC LO OU WN TL SE (ft)	SI AN MP TH H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES			OVM FIELD SCREEN UNITS: ppm	
21	28-48' SCREENED						21	27-27.5' LAYER OF SILTY SAND 27.5-37' BROWN FINE TO MEDIUM GRAIN SAND	21		
							22				
							23				
							24				
25							25		25		
							26				
							27				
							28				
							29				
30							30		30		
							31				
							32				
							33				
							34				
35							35		35		
							36				
							37				
							38				
							39				
							40		40		
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN				

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-19 (FLD13-16)		PAGE 3 OF 3	
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE	
					DRILLER: R. LUBERDA		DRILL RIG: DT6620	
PROJECT NUMBER: 04-201					START: 12/01/16		FINISH: 12/01/16	
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S E (ft)	S I A N M P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
41						41	48' E.O.B.	41
						42		
						43		
						44		
45						45		45
						46		
						47		
						48		
						49		
50						50		50
						51		
						52		
						53		
						54		
55						55		55
						56		
						57		
						58		
						59		
60						60		60
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot			HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					WELL NUMBER: OW-20 (FLD15-16)		PAGE 1 OF 3		
					CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
					DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201					START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P E L E	S N A U M M P B L E E R	B C L O U M W N P T L S	S I A N M T L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
1						1	0-6" TOPSOIL	1	
						2	6"-13.5' FINE GRAIN SAND WITH SILT		
						3			
						4			
5						5		5	
						6			
						7			
						8			
						9			
10						10		10	
						11			
						12			
						13			
						14	13.5-17' FINE GRAIN SAND		
15						15		15	
						16			
						17	17-18' CLAY LOAM		
						18	18-19' FINE GRAIN SAND		
						19	19-20' CLAY LOAM		
20						20	20-24' FINE GRAIN SAND	20	
20-40' SCREENED									
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-20 (FLD15-16)		PAGE 2 OF 3		
						CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
						DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201						START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm	
21						21	24-31' MEDIUM GRAIN SAND	21		
						22				
						23				
						24				
25						25		25		
						26				
						27				
						28				
						29				
30						30		30		
						31		31-38' BROWN FINE GRAIN SAND WITH SILT; WET @ 31'		
						32				
						33				
						34				
35						35		35		
						36				
						37				
						38		38-45' BROWN SILTY SAND WITH LAYERS OF MEDIUM GRAIN SAND; WET		
						39				
40						40		40		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN				

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN							WELL NUMBER: OW-20 (FLD15-16)		PAGE 3 OF 3		
							CONTRACTOR: ALLUVIAL EARTH		DRILLING METHOD: GEOPROBE		
							DRILLER: R. LUBERDA		DRILL RIG: DT6620		
PROJECT NUMBER: 04-201							START: 12/01/16		FINISH: 12/01/16		
LAND OWNER: EDW. C. LEVY CO.							LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U M T W N P T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm	
41							41			41	
							42				
							43				
							44				
45							45	45'	E.O.B.	45	
							46				
							47				
							48				
							49				
50							50			50	
							51				
							52				
							53				
							54				
55							55			55	
							56				
							57				
							58				
							59				
60							60			60	
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 3 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot					HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION					WELL NUMBER: OW-21 (FLD16-16)		PAGE 1 OF 2		
FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN					CONTRACTOR:		DRILLING		
					CASCADE DRILLING		METHOD: SONIC		
PROJECT NUMBER: 04-201					DRILLER:		DRILL RIG:		
LAND OWNER: EDW. C. LEVY CO.					START: 12/13/16		FINISH: 12/13/16		
					LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS		STAMP	SN	BC	SI	DE	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
		AY	NA	LO	IA	EP			
		MP	MM	OU	MT	TH			
		PE	PB	WN	PL				
		LE	ER	ST	SE (ft)	(ft)			
						0			
5						5	0-6" TOPSOIL		
						5	6"-5' BROWN LOAMY SAND	5	
						10	5-15' CLAY LOAM		
						15			
						20	15-40' BROWN MEDIUM TO FINE GRAIN SAND WITH SMALL AMOUNT OF GRAVEL		
25						25		25	
						30			
						35			
						40			
						45	40-53' COARSE GRAIN SAND AND GRAVEL		
50						50		50	
						55	53-72' FINE TO MEDIUM GRAIN SAND		
						60			
						65			
						70			
75		+/- 71-81' GROUT				75	72-103' FINE GRAIN SAND	75	
		79-81' BENTONITE CHIPS; GRAVEL TO 81'				80			
		83-103' SCREENED				85			
						90			
						95	SLIGHTLY MOIST @ 92'		
100					100	@ +/- 100' GRAY FINE GRAY SAND	100		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot					HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN		

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-21 (FLD16-16)		PAGE 2 OF 2		
						CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC		
						DRILLER:		DRILL RIG:		
PROJECT NUMBER: 04-201						START: 12/13/16		FINISH: 12/13/16		
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			ST AY MP PE LE E	SN AU MM PB LE ER	BC LO OU WN TL S	SI AN MT PL E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
105							105	103-120' GRAY SILTY CLAY LOAM		105
							110			
							115			
							120			
125							125	120' E.O.B.		125
							130			
							135			
							140			
							145			
150							150			150
							155			
							160			
							165			
							170			
175							175			175
							180			
							185			
							190			
							195			
200							200			200
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-22 (FLD17-16)		PAGE 1 OF 2	
						CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC	
						DRILLER:		DRILL RIG:	
PROJECT NUMBER: 04-201						START: 12/14/16		FINISH: 12/14/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U W N T L S E	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
10	32-42' GROUT					5	0-6" TOPSOIL 6"-10' BROWN CLAY LOAM	10	
20						10-22' FINE TO MEDIUM GRAIN SAND WITH SMALL AMOUNT OF GRAVEL	20		
30						22-27' COARSE GRAIN SAND AND GRAVEL	30		
40						27-40' FINE TO MEDIUM GRAIN SAND WITH SMALL AMOUNT OF SILT AND GRAVEL	40		
50						40-70' FINE TO MEDIUM GRAIN SAND	50		
60						MOIST @ 58'	60		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN							WELL NUMBER: OW-22 (FLD17-16)		PAGE 2 OF 2		
							CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC		
							DRILLER:		DRILL RIG:		
PROJECT NUMBER: 04-201							START: 12/14/16		FINISH: 12/14/16		
LAND OWNER: EDW. C. LEVY CO.							LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm	
70							70	70'	E.O.B.	70	
90							75				
80							80			80	
							85				
90							90			90	
							95				
100							100			100	
							105				
110							110			110	
							115				
120							120			120	
							125				
130							130			130	
							135				
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot					HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-23 (FLD18-16)		PAGE 1 OF 1	
						CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC	
						DRILLER:		DRILL RIG:	
PROJECT NUMBER: 04-201						START: 12/14/16		FINISH: 12/14/16	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N T L S	S I A N M P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
							0-6" TOPSOIL		
							6"-8" CLAY LOAM		
						5			
10						10	8-52' MEDIUM TO COARSE GRAIN SAND WITH GRAVEL	10	
						15			
20						20		20	
						25			
30						30		30	
30-40' GROUT									
						35			
40						40		40	
39-40' BENTONITE CHIPS; GRAVEL TO 40' 41-61' SCREENED									
						45			
						50		50	
						55	52-60' FINE TO MEDIUM GRAIN SAND; WET @ 52-53'		
						60	@58' MOIST 60-65' MEDIUM GRAIN SAND WITH GRAVEL	60	
						65			
							65' E.O.B.		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-24 (FLD19-16)		PAGE 1 OF 2	
						CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC	
						DRILLER:		DRILL RIG:	
PROJECT NUMBER: 04-201						START: 01/04/17		FINISH: 01/04/17	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N T S	S I A N P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
							0-1.5' TOPSOIL 1.5-20' CLAY LOAM		
10						5			
						10			10
						15			
20						20			20
							20-28' SANDY CLAY LOAM		
						25			
30						30	28-30' BROWN LOAMY SAND; MOIST 30-31' SANDY CLAY LOAM 31-60' COARSE GRAIN SAND AND GRAVEL		30
						35			
36-46' GROUT									
						40			40
						45			
46-47' BENTONITE CHIPS; GRAVEL TO 47'									
50 48-68' SCREENED						50			50
						55			
60						60	60-68' FINE GRAIN SAND MOIST @ 61'		60
						65			
							68-70' SANDY CLAY LOAM		
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN							WELL NUMBER: OW-24 (FLD19-16)		PAGE 2 OF 2		
							CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC		
							DRILLER:		DRILL RIG:		
PROJECT NUMBER: 04-201							START: 01/04/17		FINISH: 01/04/17		
LAND OWNER: EDW. C. LEVY CO.							LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N T L S E	S I A N M T P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES			OVM FIELD SCREEN UNITS: ppm	
70						70	70-80' FINE GRAIN SAND; WET			70	
						75					
80						80	80' E.O.B.			80	
						85					
90						90				90	
						95					
100						100				100	
						105					
110						110				110	
						115					
120						120				120	
						125					
130						130				130	
						135					
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN				

ABOVE GROUND WELL LOG / WELL CONSTRUCTION DETAILS

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN						WELL NUMBER: OW-25 (FLD20-16)		PAGE 1 OF 2	
						CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC	
						DRILLER:		DRILL RIG:	
PROJECT NUMBER: 04-201						START: 01/05/17		FINISH: 01/05/17	
LAND OWNER: EDW. C. LEVY CO.						LOGGED BY: B. REYNOLDS			
WELL CONSTRUCTION DETAILS		S T A Y M P P E L E E	S N A U M M P B L E E R	B C L O O U W N T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm
						0			
							0-1' TOPSOIL		
							1-10' BROWN SANDY CLAY LOAM		
						5			
10						10			10
							10-14' BROWN FINE TO MEDIUM GRAIN SAND		
						15	14-62' COARSE GRAIN SAND AND GRAVEL		
20						20			20
						25			
30						30			30
						35			
40						40			40
						45			
50		47-57' GROUT				50			50
						55			
60		57-58' BENTONITE CHIPS; GRAVEL TO 58' 59-79' SCREENED				60			60
							62-80' COARSE TO MEDIUM GRAIN SAND		
						65			
COMMENTS: E.O.B. = End of Boring		WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN			

PROJECT NAME / LOCATION FIELD PROPERTY SPRINGFIELD TOWNSHIP, MICHIGAN							WELL NUMBER: OW-25 (FLD20-16)		PAGE 2 OF 2		
							CONTRACTOR: CASCADE DRILLING		DRILLING METHOD: SONIC		
							DRILLER:		DRILL RIG:		
PROJECT NUMBER: 04-201							START: 01/05/17		FINISH: 01/05/17		
LAND OWNER: EDW. C. LEVY CO.							LOGGED BY: B. REYNOLDS				
WELL CONSTRUCTION DETAILS			S T A Y M P P E L E	S N A U M M P B L E E R	B C L O O U W N T L S	S I A N M T P L E (ft)	D E P T H (ft)	GEOLOGIC DESCRIPTIONS, MATERIALS, CONDITIONS AND NOTES		OVM FIELD SCREEN UNITS: ppm	
70							70	MOIST @ 69'		70	
								75			
80								80	80' E.O.B.		80
								85			
90								90			90
								95			
100								100			100
								105			
110								110			110
						115					
120						120			120		
						125					
130						130			130		
						135					
COMMENTS: E.O.B. = End of Boring			WELL DETAILS: Well Diameter: 2 Inches Borehole Diameter: 4 Inches Well Material: PVC Screen Length: 20 Feet 10 Slot				HYDRO-LOGIC ASSOCIATES, INC. BRIGHTON, MICHIGAN				