CON 12-15
Doc # 9648

Appendix A

Standard Operating Procedures
No. 9003

Title: Use and calibration of the OVM/DATALOGGER

Purpose: This SOP is designed to provide guidelines for the use and calibration of the OVM/DATALOGGER.

Necessary Equipment:

OVM
Operations Manual
Calibration Gas

Procedures:

Calibration:

1. Refer to the manufacturer's operation manual for instructions in calibrating and operating the organic vapor monitor (OVM). Don appropriate PPE, as prescribed in the Health and Safety Plan.

2. Turn the unit on by pressing the "ON/OFF" pad. If the lamp is lit, the LED will display PPM on the bottom line and the maximum reading on the top line.

3. Press the "MODE/STORE" pad. The LED will display LOG THIS VALUE?.

4. Press the "-/CRSR" pad. The LED will display the main menu which reads;
   R/COMM -/PARAM
   +/ACCESS S/CLOCK

5. Press the "-/CRSR" pad. The LED will display on the top line CONC.METER, and the bottom line will show RESET TO CHG. The bottom line will alternate every two seconds with MAX HOLD.

6. Press the "-/CRSR" pad, and the LED will display FREESPACE with a number amount.

7. Press the "-/CRSR" pad, and the LED will display RESET TO CALIBRATE.

8. Press the "RESET" pad. The LED will display RESTORE BACKUP + = YES. The previous calibration information may be restored by pressing the "+/INC" pad. The OVM will then return to the previous screen. If the backup is not desired, press the "-/INC" pad, and the calibration routine will continue. The LED will display ZERO GAS RESET WHEN READY.

9. Press "RESET" pad. The LED will display METER ZEROING.

10. Once the meter has completed zeroing, the LED will display CALIBRATE GAS RESET WHEN READY. Connect calibration gas to OVM with tubing and turn on gas cylinder. Press the "RESET" pad. The unit will calibrate. When finished, press "MODE/STORE" pad to return display to ppm readings.

OPERATIONS

1. Calibrate unit as outlined by manufacturer's operations manual.

2. Prepare samples to be field screened. If performing headspace analysis, prepare samples according to SOP No. 2702.

3. Insert nozzle into bag or along sample to be screened without inserting into soil or moisture.

4. Read values from LED display. To clear LED display, press the "RESET" pad.

5. To turn the unit off, press the "ON/OFF" pad.

Standard Operating Procedures
No. 7001

Title: Equipment Decontamination

Purpose: This SOP is designed to provide guidelines for the proper decontamination of field equipment used during assessment, sampling, construction, and remedial actions.

Necessary Equipment:

Steam Cleaner
Tap Water
Deionized/Distilled Water
Laboratory Grade Detergent
Buckets
Brushes
Paper Towels and Chem-Wipes
Trash Bags
Isopropyl Alcohol

Procedures for Drilling Equipment Decontamination:

1. Drilling equipment for subsurface investigations is steam-cleaned prior to arrival on the site. The steam-cleaned drilling equipment includes the auger and split-barrel samplers. No soaps or detergents are used in the cleaning procedure. The equipment is rinsed with tap water and is air dried.

2. Hand tools and augers are cleaned with laboratory soap solutions, rinsed with tap water and deionized water.

3. Equipment used on site that will be used for collecting more than one sample is cleaned with detergent solutions and brushes, rinsed with tap water, and rinsed with deionized water prior to each use. The equipment includes split-barrel samplers, spoons, spatulas, bowls, and hand augers, etc. Following collection of sample with oily residue, isopropyl alcohol will be used prior to detergent solution in decontamination process.

4. All drilling equipment should be steam cleaned between uses on the site or prior to leaving the site.

Procedures for Sampling Equipment Decontamination:

All nondisposable equipment used for the collection, preparation, preservation, and storage of the environmental samples must be cleaned prior to use and after each subsequent use. Unless the equipment and materials being used are disposable or of sufficient number so as not to be reused during any one sampling period, decontamination will have to be performed in the field. If possible, attempts should be made to minimize field decontamination by using dedicated or disposable equipment.

The minimum procedure to be used to decontaminate nondisposable sampling equipment is described below:

1. Be aware of Safety. Don appropriate PPE, as prescribed by the Health and Safety Plan.

2. Manually scrub the equipment with laboratory grade detergent using a bucket, tap water and detergent.

3. Rinse the equipment with tap water. Unless otherwise specified by the Work Plan, rinse water should be containerized.

4. Rinse the equipment with distilled water.

5. Air dry.

6. Containerize the waste decontamination solutions and store for future disposal, unless otherwise specified in the work plan.

Procedures for Decontaminating Water Level Probe:

1. Wipe along the length of the probe with the laboratory-grade detergent and perform a final rinse with distilled water.

2. Rinse the rewound spool of the probe with the laboratory-grade detergent and perform a final rinse with distilled/deionized water.

3. Allow the probe to air dry.

4. Place the probe in a clean container.

5. Containerize the waste decontamination solutions as outlined in the work plan and store for future disposal.

Procedures for Decontaminating Pumps and Lines:

1. Assuming pump does not come in contact with product, decontamination of pump and lines is as follows:

   a. Submerge pump and lines in laboratory-grade solution. Purge pump and lines of potable water. Containerize rinsate, unless otherwise specified in work plan.

   b. Triple rinse pump and submerged part of lines with potable water. Containerize rinsate unless otherwise specified in work plan.

   c. Purge pump and lines of potable water. Containerize rinsate unless otherwise specified in work plan.

2. The pump and discharge line will be allowed to air dry before placing the pump into a clean container.

Standard Operating Procedures
No. 5300

Title: Direct-Push Soil Sampling

Purpose: This SOP is designed to provide guidelines for the general use of direct push soil sampling equipment.

Necessary Equipment:

Hydraulic Direct-Push Soil Sampling Rig and Associated Equipment
Shovel
Bentonite

Procedures:

1. Don appropriate PPE, as prescribed by the Health and Safety Plan.

2. Prior to sampling, identify and mark the locations of underground utilities. This includes contacting the joint utility one-call service for public utilities and obtaining information from the property owner and/or client regarding private utilities.

3. Prior to sampling, all downhole equipment should be decontaminated.

4. During the first 5 to 7 feet of sampling, the sampling tool is advanced at a slow rate as an extra precaution so that any possible contact with underground utilities will be less damaging.

5. Direct push sampling tools are 2-4 feet in length, therefore advancement is temporarily halted so that additional probe rods can be attached.

6. A soil sampling device is opened to collect samples in a plastic sleeve from the desired depth. Sampling occurs in the undisturbed region of soil immediately beneath the sampling device.

7. Waste soils are placed in a storage container for storage until waste characterization analysis is complete.

8. After advancement and sampling to the depth desired, the probe rods can be removed, thereby allowing temporary well casing to be installed if collection of a groundwater sample is desired.

9. The bore hole will be abandoned by backfilling with granular bentonite.

10. Upon removal of the probe rods and other downhole equipment, all of the equipment should be decontaminated according to the procedures outlined in SOP No. 7001.

Standard Operating Procedures
No. 3200

Title: Chain of Custody

Purpose: This SOP is designed to provide guidelines for proper chain-of-custody procedures for handling samples to be submitted for chemical analysis.

Necessary Equipment:

Chain-of-Custody Record (laboratory supplied)
Custody Tape or Seals

Procedures:

1. This procedure governs the handling of all chemical samples from the time of sampling to the time of submittal to the analytical laboratory. (Chain-of-custody procedures will be continued by the laboratory. See the Braun Intertec Laboratory QA/QC Plan for details.)

2. All samples will be accompanied by a chain-of-custody record from the time of sampling through sample analysis. The original chain-of-custody record will be attached to the final laboratory report.

3. The majority of the chain-of-custody form will be filled out by the individual conducting the sampling. This includes site identification, project number, sample identification, sample matrix (e.g., soil), collection date and time, name of project manager, name of sampler, analytical parameters and any pertinent notes.

4. When transferring samples, the individuals relinquishing and receiving will sign, date, and note the time on the chain-of-custody record. There should be no time gap between the relinquishing and receiving of samples.

5. When the samples will not be within eyesight of the individual currently having custody, they should placed in a locked room or vehicle.

6. If samples are to be shipped to the laboratory, the chain-of-custody record should be placed in a waterproof bag in the cooler and custody tape applied to seal the cooler. The shipping receipt should be retained and kept with the chain-of-custody record.

Standard Operating Procedures
No. 3100

Title: Field Notebook

Purpose: This SOP is designed to provide guidelines for proper field data documentation in dedicated field notebooks.

Necessary Equipment:

Bound Field Survey Book or Notebook
Waterproof Ink Pen

Procedures:

1. All entries will be made in ink.

2. Incorrect entries will be crossed out with a single line and initialed.

3. The following information shall be recorded on the cover and title page if project-specific, or each page if personal notebook.
   a. Project number
   b. Project name
   c. Time period during which field data was recorded in logbook

4. The following information shall be recorded each time a field visit is made.
   a. Date (month, date, year) and time arrived on site
   b. Personnel recording information
   c. Purpose of field visit
   d. Other company personnel on site
   e. Duties of company personnel on site
   f. Other site visitors and the purpose of their visit
   g. Weather conditions
   h. Site sketch of sampling/measurement points, excavation areas and other features as appropriate
   i. Reference to any photographs of field work
   j. Other general observations as appropriate

5. The following information shall be recorded for all samples collected and/or measurements made.
   a. Sampling/measurement point identification
      - Sampling/measurement point number or label
      - Description of sampling/measurement point, including depth if appropriate
   b. Sample/measurement identification number
   c. Sample type (soil, water or other)
   d. Field measurements (pH, groundwater levels, etc.)
   e. Equipment used to collect measurements and samples
   f. Time sample or measurement collected
   g. Sampler's name

6. As soon as possible, a photocopy will be made of the field notes and chain of custody(ies) taken for that day and given to the project manager. These copies will serve as a backup in the event the field notebook becomes lost or is destroyed.

Standard Operating Procedures
No. 1404

Title: Soil Sampling for GRO, VOC/PVOC, Total Solids

Purpose: This SOP provides guidelines for the collection of soil samples to be chemically analyzed for GRO, VOC, PVOCs and BETX.

Necessary Equipment:

60 ml amber glass bottles, laboratory preserved with methanol and pre-weighted (tared). 40 ml unpreserved vial will be provided for total solids. These bottles must be supplied by the laboratory that will be conducting the analysis.

- Soil scale
- Disposable gloves
- Cooler and ice
- Field notebook

Procedures:

1. Don appropriate PPE, as prescribed by the Health and Safety Plan. Caution - bottles with preservatives contain flammable methanol.

2. Depending on the amount of methanol in the sample bottle, place 25 to 35 grams of soil in sample bottle for GRO and/or VOCs/PVOCs being careful not to spill methanol. Samples must maintain a 1:1 ratio of milliliters (ml) of methanol to grams of soil sample. For total solids, pack vial full with soil.

3. Remove any soil particles from threads of sample bottle so cap will seal tightly.

4. Place sample bottle in cooler and store at 4°C.

5. Transport to laboratory under refrigerated conditions using proper chain-of-custody procedures.

Appendix B

BRAUN
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LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-1**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: 8/9/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		*4 inches concrete at surface*		
	2.0	SM	SAND, fine to medium grained, dark brown to black, moist.		PID: 7.8 ppm
	4.0	SM	SAND, fine to medium grained, dark brown to black, moist.		PID: 6.4 ppm
	6.0	SM	SAND, fine to medium grained, dark brown to black, moist.		PID: 6.0 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist		PID: 6.0 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist		PID: 6.4 ppm
	12.0	CL	SILTY CLAY, brown, wet		PID: 6.9 ppm
	14.0	CL	SILTY CLAY, brown, wet		PID: 7.2 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, wet		PID: 6.6 ppm
	18.0	SP/SM	SAND, fine to medium grained, brown, saturated		
	20.0	SP/SM	SAND, fine to medium grained, brown, saturated		
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
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LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-2**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: **8/9/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 3 inches of sand		
	2.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 9.3 ppm
	4.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 6.8 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 6.9 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 6.6 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 6.4 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 6.9 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 7.1 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, wet at 15 feet.		PID: 7.4 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
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LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-3**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: **8/9/2005** | SCALE: **1" = 4 '**

(See Descriptive Terminology sheet for explanation of abbreviations)

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 4 inches of sand		
	2.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 9.0 ppm
	4.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 10.8 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 10.4 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 9.6 ppm
	10.0	CL	SILTY CLAY, fine to medium grained, brown, moist.		PID: 9.2 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 9.8 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 10.0 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, wet.		PID: 10.3 ppm
			END OF BORING		

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-4**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: **8/9/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 4 inches of sand		
	2.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 14.0 ppm
	4.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 14.2 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 13.3 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 12.8 ppm
	10.0	SM	SAND, fine to medium grained, brown, moist.		PID: 13.2 ppm
	12.0	SM	SAND, fine to medium grained, brown, moist.		PID: 13.8 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 12.6 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, wet at 15 feet.		PID: 11.0 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-5**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: 8/9/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0				
	2.0	SM	4 inches concrete at surface 6 inches of sand 4 inches concrete 2 inches of sand SAND, fine to medium grained, dark brown, moist.		PID: 16.5 ppm
	4.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 13.2 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 13.5 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 13.4 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 13.2 ppm
	12.0	SM	SAND, fine to medium grained, dark brown, wet.		PID: 12.8 ppm
	14.0	SM	SAND, fine to medium grained, dark brown, wet.		PID: 13.4 ppm
	16.0	SM	SAND, fine to medium grained, gray, waterbearing.		PID: 13.6 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-6**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: 8/9/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 6 inches of sand 4 inches concrete 2 inches of sand SAND, fine to medium grained, dark brown, moist.		PID: 15.0 ppm
	2.0	SM			
	4.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 15.4 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 19.2 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 16.8 ppm
	10.0	CL	SILTY CLAY, fine to medium grained, brown, moist.		PID: 15.6 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, moist.		PID: 15.2 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, moist.		PID: 14.4 ppm
	16.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 12.6 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-7**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: 8/9/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 6 inches of aggregate		
	2.0	SM	SAND, fine to medium grained, brown, moist.		PID: 11.2 ppm
	4.0	SM	2-3.5 feet, Sand, fine to medium grained, brown, moist. 3.5-4 feet, Sand, fine to medium grained, dark brown, moist.		PID: 12.4 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 15.4 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 15.0 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 14.6 ppm
	12.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 14.7 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 14.9 ppm
	16.0	SP/SM	SAND, fine to medium grained, gray, wet.		PID: 15.2 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
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LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-8**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: 8/9/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 6 inches of aggregate		
	2.0	SM	SAND, fine to medium grained, brown, moist.		PID: 18.0 ppm
	4.0	SM	2-3.5 feet, Sand, fine to medium grained, brown, moist. 3.5-4 feet, Sand, fine to medium grained, dark brown, moist.		PID: 13.8 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 14.4 ppm
	8.0	SM	SAND, fine to medium grained, brown, moist.		PID: 14.0 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 13.6 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, moist.		PID: 13.4 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 12.4 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, wet.		PID: 12.9 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
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LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-9**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: **8/9/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		4 inches concrete at surface 6 inches of aggregate		
	2.0	SM	SAND, fine to medium grained, brown, moist.		PID: 16.4 ppm
	4.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 20.2 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 16.2 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 17.6 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 16.8 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 16.2 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 17.4 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, wet.		PID: 16.6 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-10**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: **8/9/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		2 inches of organics		
	2.0	SM	SAND, fine to medium grained, brown, moist.		PID: 3.2 ppm
	4.0	SM	2-3.5 feet, Sand, fine to medium grained, brown, moist. 3.5-4 feet, Sand, fine to medium grained, dark brown, moist.		PID: 3.0 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 3.3 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 3.2 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 3.0 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 2.8 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 2.6 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, waterbearing.		PID: 2.4 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846A
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-11**
LOCATION: See attached sketch

DRILLER: Thein Well | METHOD: Direct Push | DATE: **8/9/2005** | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0		3 inches of organics		
	2.0	SM	SAND, fine to medium grained, brown, moist.		PID: 3.8 ppm
	4.0	SM	SAND, fine to medium grained, brown, moist.		PID: 3.2 ppm
	6.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 4.2 ppm
	8.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 3.6 ppm
	10.0	SM	SAND, fine to medium grained, dark brown, moist.		PID: 3.3 ppm
	12.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 3.4 ppm
	14.0	CL	SILTY CLAY, fine to medium grained, brown, wet.		PID: 3.7 ppm
	16.0	SP/SM	SAND, fine to medium grained, brown, waterbearing.		PID: 3.2 ppm
			END OF BORING		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-12**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0		4 inches of concrete			
		SM	SAND, fine to medium grained, brown, moist.			PID: 9.2 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-13**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 2.4 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-14**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: 12/13/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 3.0 ppm
	2.0					
			END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-15**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: 12/13/2005 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 2.1 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-17**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0		4 inches of concrete			
		SM	RUBBLE, brick, concrete, gravel.			PID: 3.1 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-18**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 2.1 ppm
	2.0					
			END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-19**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: **1" = 4 '**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 8.2 ppm
	2.0					
			END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-20**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 2.8 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-21**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: 1" = 4'

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 1.3 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846C
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **GP-22**
LOCATION: See attached sketch

DRILLER: Barker Lemar | METHOD: Direct Push | DATE: **12/13/2005** | SCALE: **1" = 4'**

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
		SM	4 inches of concrete SAND, fine to medium grained, brown, moist.			PID: 1.3 ppm
	2.0		END OF BORING			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-1**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

(See Descriptive Terminology sheet for explanation of abbreviations)

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
	1.0	CL	CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

BRAUN INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-2**

LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4'

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-3**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
	1.0	CL	CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-4**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-5**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0				
	1.0	CL	CLAY, black, moist		PID: 0.0 ppm
			END OF BORING = 1.0 feet		
			Samples collected at 1.0 feet		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-6**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	WL	Tests or Notes
	0.0				
	1.0	CL	CLAY, black, moist		PID: 0.0 ppm
			END OF BORING = 1.0 feet		
			Samples collected at 1.0 feet		

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-7**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	0.0					
	1.0	SP/ GP	SAND/gravel, brown, dry			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-8**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4'

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	Silty CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-9**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	Silty CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-10**

LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	Silty CLAY, black, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN
INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-11**
LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	Silty CLAY, brown, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)

BRAUN INTERTEC

LOG OF BORING

Braun Project SP-04-07846D
Proposed Wal-Mart Supercenter
538 South Duff Avenue
Ames, Iowa

BORING: **SS-12**

LOCATION: See attached sketch

DRILLER: David Bradshaw | METHOD: Hand Auger | DATE: 5/19/2006 | SCALE: 1" = 4 '

Elev. feet	Depth feet 0.0	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)		WL	Tests or Notes
	1.0	CL	Silty CLAY, brown, moist			PID: 0.0 ppm
			END OF BORING = 1.0 feet			
			Samples collected at 1.0 feet			

(See Descriptive Terminology sheet for explanation of abbreviations)