

Appendix A  
Soil Boring Logs



CH2M Hill

# BORING NUMBER SB-108D

PAGE 1 OF 2

**CLIENT** Modine Manufacturing Company

**PROJECT NUMBER** 681225

**DATE STARTED** 9/30/16      **COMPLETED** 9/30/16

**DRILLING CONTRACTOR** Mateco

**DRILLING METHOD** Rotosonic

**LOGGED BY** P. Ferringer/CLT      **CHECKED BY** \_\_\_\_\_

**NOTES** \_\_\_\_\_

**PROJECT NAME** 221 Sunset

**PROJECT LOCATION** Camdenton, MO

**GROUND ELEVATION** 951.979 ft      **HOLE SIZE** 6" inches

**GROUND WATER LEVELS:**

**AT TIME OF DRILLING** ---

**AT END OF DRILLING** ---

**AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0.3					ASPHALT.	951.7
2.0					CLAY; grey, moist, stiff, medium plasticity, trace very fine to fine sand, no odor.	950.0
2.7	UD SO1	100	CL		(CL) CLAY with SAND; reddish brown, dry, very stiff, very fine to coarse chert sand, no odor.	949.3
4.3					(SP) POORLY GRADED SAND; weathered limestone, reddish tan, dry, dense, rock fragments, very fine to fine sand, trace oxidation, no odor.	947.7
6.0					LIMESTONE; tan, fine grained, massive, fresh with some faint oxidation, dry, cherty.	946.0
8.8	UD SO2	40	SP		(SP) POORLY GRADED SAND; weathered limestone, reddish tan, dry, dense, rock fragments, very fine to fine sand, trace oxidation, no odor.	943.2
10					(CL) CLAY with SAND; dark red, dry, stiff, medium plasticity, very fine to coarse chert sand, no odor. Very stiff, <1% very fine to coarse chert sand, trace lamination, trace thin manganese veinlettes.	PID = 3.991
15	UD SO3	70	CL		CLAY with SAND; stiff, trace fine angular to sub-angular chert gravel, <15% very fine coarse chert sand. Very stiff, no fine gravel, <1% very fine to medium chert sand.	PID = 11.62 PID = 6.009
20					CLAY with SAND; dry to moist, stiff, <15% fine angular to sub-angular chert gravel and very fine to coarse sand.	PID = 13.06
25	UD SO4	100	SC		SANDY CLAY; reddish orange, wet, stiff, non-plastic, non-cohesive, fine angular to sub-angular chert gravel, very fine to coarse chert sand.	PID = 74.4
26.5					(SC) CLAYEY SAND; reddish orange, moist to wet, dense, non-cohesive, trace fine angular to sub-angular chert gravel, very fine to coarse chert sand, trace oxidation.	927.0 925.5
30					(CL) SANDY CLAY; reddish orange, wet, stiff, non-plastic, non-cohesive, fine angular to sub-angular chert gravel, very fine to coarse chert sand. CLAY; reddish brown, dry, very stiff, medium plasticity, trace very fine to medium chert sand, trace clay veinlettes, no odor.	PID = 25.1 PID = 25.3
35	UD SO5	100	CL		CLAY with SAND; brownish orange, moist to wet, medium stiff, non-plastic, fine angular to sub-angular chert gravel, very fine to coarse chert sand. CLAY; brownish orange, moist, stiff, low to medium plasticity, trace fine angular to sub-angular chert gravel, <10% very fine to coarse chert sand.	PID = 24.1
						917.6

(Continued Next Page)



CH2M Hill

# BORING NUMBER SB-108D

PAGE 2 OF 2

CLIENT Modine Manufacturing Company PROJECT NAME 221 Sunset

PROJECT NUMBER 681225 PROJECT LOCATION Camdenton, MO

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
35						
40	UD SO6	100	SC		<p>(SC) CLAYEY SAND; weathered limestone, tan, moist, dense, non-cohesive, very fine to fine sand, trace clay nodules &lt;3mm diameter, moderate oxidized mottling. <i>(continued)</i></p> <p>BEDROCK; limestone, light tan, fine grained, massive, fractured, trace oxidation, trace clay infilling. 0.5' thick unfractured limestone zone. Moderately decomposed, moderate oxidation.</p>	<p>PID = 13.9 PID = 15.4  PID = 6.1 PID = 4.4</p>

Bottom of borehole at 40.0 feet.



CH2M Hill

# BORING NUMBER SB-108S

PAGE 1 OF 1

**CLIENT** Modine Manufacturing Company      **PROJECT NAME** 221 Sunset  
**PROJECT NUMBER** 681225      **PROJECT LOCATION** Camdenton, MO  
**DATE STARTED** 9/30/16      **COMPLETED** 9/30/16      **GROUND ELEVATION** 951.506 ft      **HOLE SIZE** 6" inches  
**DRILLING CONTRACTOR** Mateco      **GROUND WATER LEVELS:**  
**DRILLING METHOD** Rotosonic      **AT TIME OF DRILLING** ---  
**LOGGED BY** P. Ferringer/CLT      **CHECKED BY** \_\_\_\_\_      **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_      **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0.3					ASPHALT.	
4.5	UD SO1	100	CL		(CL) CLAY with SAND; moist, stiff, medium plasticity, very fine to fine sand, no odor.	PID = 4.1
9.5	UD SO2	100	CL		(CL) CLAY with SAND; light brown, dry, stiff, low to medium plasticity, trace fine angular to sub-angular chert gravel, >15% very fine to coarse chert sand, trace lamination, no odor.  CLAY; very stiff, medium plasticity, very fine to fine chert sand.	PID = 1.1
15.5	UD SO3	100	CL		Very fine to fine sand, weathered limestone, trace <1cm diameter sand lenses.  0.5' thick weathered rock layer, very fine to medium sand, moderate oxidation. Moist, increasing fine angular to sub-angular chert gravel and very fine to coarse chert sand.	PID = 9.6
16.0					Bottom of borehole at 16.0 feet.	

951.2

947.0

935.5



CH2M Hill

# BORING NUMBER SB-109D

PAGE 1 OF 1

**CLIENT** Modine Manufacturing Company

**PROJECT NUMBER** 681225

**DATE STARTED** 10/1/16 **COMPLETED** 10/1/16

**DRILLING CONTRACTOR** Mateco

**DRILLING METHOD** Rotosonic

**LOGGED BY** P. Ferringer/CLT **CHECKED BY** \_\_\_\_\_

**NOTES** \_\_\_\_\_

**PROJECT NAME** 221 Sunset

**PROJECT LOCATION** Camdenton, MO

**GROUND ELEVATION** 955.688 ft **HOLE SIZE** 6" inches

**GROUND WATER LEVELS:**

**AT TIME OF DRILLING** ---

**AT END OF DRILLING** ---

**AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0 - 3.0	UD SO1	100	CL		(CL) FILL, SILTY CLAY; grey, moist, stiff, low plasticity, trace fine angular to sub-angular chert, trace very fine to fine sand, laminated, oxidized.	PID = 3.19 952.7
3.0 - 6.0			SM		(SM) SILTY WELL GRADED SAND; light reddish brown, dry, medium dense, non-cohesive, trace fine angular to sub-rounded gravel, very fine to coarse sand, trace oxidation, no odor.	PID = 10.14 949.7
6.0 - 10.0	UD SO2	100	CL		(CL) SANDY CLAY; yellowish brown, moist, medium, no to low plasticity, trace fine angular to sub-angular chert gravel, ~30% very fine to fine chert sand, no odor.  1' thick solid chert layer.	PID = 4.279 PID = 3.292
10.0 - 23.0	UD SO3	100	CL		CLAY; reddish brown, dry, very stiff, medium plasticity, <5% cobble sized chert, trace very fine to fine sand, trace fine lamination, trace oxidation.  1' thick layer <25% very fine to coarse chert sand with trace fine angular to sub-angular chert gravel. Stiff, no fine angular to sub-angular chert, trace very fine to coarse chert sand, more lamination.  0.8' thick very fine to medium weathered limestone layer.	PID = 3.081 PID = 3.404 PID = 27.27 932.7
23.0 - 26.0			SC		(SC) CLAYEY SAND; light yellowish brown, dry to moist, dense, non-cohesive, <5% fine angular to sub-angular chert gravel, very fine to coarse chert sand, clay infilling, no odor.	PID = 50.92 929.7
26.0 - 31.5	UD SO4	100	CL		(CL) CLAY with SAND; reddish brown, moist, medium plasticity, very fine to coarse chert sand, trace lamination, trace oxidation. SANDY CLAY; moist, <30% very fine to coarse chert sand. CLAY with SAND; reddish brown, moist, medium plasticity, trace fine angular to sub-angular chert gravel, very fine to coarse chert sand, trace lamination, trace oxidation.  Stiff, less lamination.	PID = 5.23 PID = 5.767 924.2
31.5 - 33.0			SW		(SW) WELL GRADED SAND; weathered limestone, tan, dry, medium dense, non-cohesive, trace rock fragments, very fine to medium sand, moderate oxidized mottling.	PID = 5.103 922.7
33.0 - 35.0					BEDROCK; limestone, white to tan, fine grained, massive, fractured, moderate decomposition and disintegration, dry.	920.7

Bottom of borehole at 35.0 feet.



CH2M Hill

# BORING NUMBER SB-109S

PAGE 1 OF 1

CLIENT Modine Manufacturing Company

PROJECT NUMBER 681225

DATE STARTED 10/1/16 COMPLETED 10/1/16

DRILLING CONTRACTOR Mateco

DRILLING METHOD Rotosonic

LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_

NOTES \_\_\_\_\_

PROJECT NAME 221 Sunset

PROJECT LOCATION Camdenton, MO

GROUND ELEVATION 955.394 ft HOLE SIZE 6" inches

GROUND WATER LEVELS:

AT TIME OF DRILLING ---

AT END OF DRILLING ---

AFTER DRILLING ---

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DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
3.3	UD SO1	100	CL		(CL) SILTY CLAY; grey, moist, stiff, low plasticity, trace fine angular to sub-angular chert gravel, trace very fine to fine sand, trace lamination and oxidation.	952.1
6.5			SM		(SM) SILTY WELL GRADED SAND; dry, trace rock fragments, very fine coarse sand, moderate oxidation.	948.9
11.0	UD SO2	100	CL		(CL) SANDY CLAY; yellowish brown, moist, medium, low plasticity, trace fine angular and sub-angular chert gravel, <30% very fine to fine sand.  ~1' thick chert layer, trace fractures.	PID = 5.6
11.0					Reddish brown, very stiff, trace gravel and sand.	944.4

Bottom of borehole at 11.0 feet.



CH2M Hill

# BORING NUMBER SB-110D

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CLIENT Modine Manufacturing Company  
 PROJECT NUMBER 681225  
 DATE STARTED 10/2/16 COMPLETED 10/2/16  
 DRILLING CONTRACTOR Mateco  
 DRILLING METHOD Rotosonic  
 LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_  
 NOTES \_\_\_\_\_

PROJECT NAME 221 Sunset  
 PROJECT LOCATION Camdenton, MO  
 GROUND ELEVATION 958.022 ft HOLE SIZE 6" inches  
 GROUND WATER LEVELS:  
 AT TIME OF DRILLING ---  
 AT END OF DRILLING ---  
 AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\PF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
1.0			CL		(CL) FILL, SILTY CLAY, grey, moist, stiff, no odor.	957.0
4.0	UD SO1	40	CL		(CL) CLAY with SAND; reddish brown, dry, stiff, low plasticity, trace fine angular to sub-angular chert gravel, <25% very fine to coarse chert sand, trace fine lamination and oxidation, no odor.	PID = 5.194
5.0			CL		Very stiff, trace very fine to coarse chert sand, trace oxidized nodules.	PID = 12.28
8.5			SM		(SM) SILTY WELL GRADED SAND with CLAY; yellowish brown, dry, dense, non-cohesive, some fine angular to sub-angular chert gravel, very fine to coarse chert sand, no odor.	949.5
10.0	UD SO2	100	CL		(CL) CLAY; reddish brown, moist, very stiff, medium plasticity, <5% very fine to coarse chert sand, trace faint lamination and oxidized nodules.	948.0
15.0					0.2' thick very fine to medium sand layer.	PID = 11.79
15.2			SC		(SC) CLAYEY SAND; light reddish brown, wet, medium dense, non-cohesive, very fine to medium sand, oxidized, grey mottling.	942.8
16.0	UD SO3	100	SW		(SW) WELL GRADED SAND; weathered limestone, tan - white, dry, dense, coarse rock fragments and angular to sub-angular chert, very fine to medium sand.	942.0
18.5			SC		(SC) CLAYEY SAND; reddish tan, moist to wet, dense, non-cohesive, some limestone fragments and fine angular to sub-angular chert, very fine to coarse chert sand, oxidized.	939.5
21.0	UD SO4	100			BEDROCK; limestone, white, fine grained, massive, fresh, unfractured, competent.	937.0
24.0						934.0

Bottom of borehole at 24.0 feet.



CH2M Hill

# BORING NUMBER SB-110S

PAGE 1 OF 1

CLIENT Modine Manufacturing Company PROJECT NAME 221 Sunset

PROJECT NUMBER 681225 PROJECT LOCATION Camdenton, MO

DATE STARTED 10/2/16 COMPLETED 10/2/16 GROUND ELEVATION 957.992 ft HOLE SIZE 6" inches

DRILLING CONTRACTOR Mateco GROUND WATER LEVELS:

DRILLING METHOD Rotosonic AT TIME OF DRILLING ---

LOGGED BY P. Ferringer/CLT CHECKED BY --- AT END OF DRILLING ---

NOTES --- AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
1.0	UD SO1	100	CL		(CL) FILL, SILTY CLAY; grey, moist, stiff, no odor.	957.0
5.0			CL		(CL) CLAY with SAND; reddish brown, dry, stiff, low plasticity, trace fine angular to sub-angular chert gravel, <25% very fine to coarse chert sand, trace thin lamination and oxidation.  Very stiff, trace chert, trace thin lamination.	PID = 4.187
8.0	UD SO2	100	SM		(SM) SILTY WELL GRADED SAND with CLAY; yellowish brown, dry, dense, non-cohesive, trace fine angular to sub-angular chert gravel, very fine to coarse chert sand, no odor.	950.0
9.6			CL		(CL) CLAY with SAND; reddish brown, moist, very stiff, medium plasticity, trace chert.	948.4
11.0					Bottom of borehole at 11.0 feet.	947.0

PID = 30.01



CH2M Hill

# BORING NUMBER SB-111D

PAGE 1 OF 1

**CLIENT** Modine Manufacturing Company      **PROJECT NAME** 221 Sunset  
**PROJECT NUMBER** 681225      **PROJECT LOCATION** Camdenton, MO  
**DATE STARTED** 10/3/16      **COMPLETED** 10/3/16      **GROUND ELEVATION** 966.125 ft      **HOLE SIZE** 6" inches  
**DRILLING CONTRACTOR** Mateco      **GROUND WATER LEVELS:**  
**DRILLING METHOD** Rotosonic      **AT TIME OF DRILLING** ---  
**LOGGED BY** P. Ferringer/CLT      **CHECKED BY** \_\_\_\_\_      **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_      **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\PIF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA			
0									
1.0	UD SO1	100	CL		(CL) SILTY CLAY; greyish brown, moist, stiff, massive, trace very fine to coarse sand, no odor. 965.1	PID = 3.637			
3.0			SC		(SC) CLAYEY SAND; yellowish brown, dry, dense, non-cohesive, very fine to coarse sand, trace chert fragments, no odor. 963.1				
5	UD SO2	70	CL		(CL) CLAY with SAND; reddish brown, dry, stiff, low plasticity, trace fine angular to sub-rounded chert gravel, very fine to coarse sand and chert, trace oxidation. Very stiff, trace very fine to medium chert, trace oxidized nodules. Trace very fine to medium sand layers <2 mm thick. Poor recovery to 8' bgs. Moist, non-plastic, <20% very fine to coarse chert. Yellowish brown, trace fine sub-rounded to rounded limestone gravel, increasing sand, trace oxidized clay veins. SANDY CLAY; <30% very fine to medium sand. CLAY; reddish brown, dry, very stiff, trace very fine to coarse chert, trace thin lamination and oxidation, no odor. Stiff, trace fine angular to sub-angular chert gravel, 15-25% very fine to coarse chert. 950.1	PID = 3.352			
10									PID = 3.815
15									
20	UD SO3	100	SP		(SP) WELL GRADED SAND with CLAY; weathered rock, greyish tan, dry, medium dense, fine round rock fragments, very fine to fine sand, clay veins, oxidized mottling. Less rock fragments, decreasing oxidation. Dense, trace rock fragments, some clay lenses, trace faint mottling. Increasing rock fragments. 942.1	PID = 373.84 PID = 55.91 PID = 25.09			
24.0									
25.0					BEDROCK; limestone, tan - white, fine, massive, fresh, competent. 941.1	PID = 17.22			

Bottom of borehole at 25.0 feet.



CH2M Hill

# BORING NUMBER SB-111S

**CLIENT** Modine Manufacturing Company      **PROJECT NAME** 221 Sunset  
**PROJECT NUMBER** 681225      **PROJECT LOCATION** Camdenton, MO  
**DATE STARTED** 10/3/16      **COMPLETED** 10/3/16      **GROUND ELEVATION** 965.402 ft      **HOLE SIZE** 6" inches  
**DRILLING CONTRACTOR** Mateco      **GROUND WATER LEVELS:**  
**DRILLING METHOD** Rotosonic      **AT TIME OF DRILLING** ---  
**LOGGED BY** P. Ferringer/CLT      **CHECKED BY** \_\_\_\_\_      **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_      **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	
0							
1.0	UD SO1	100	CL		(CL) CLAY with SILT; reddish brown, dry, stiff, massive, trace very fine to coarse chert, no odor. 964.4	PID = 6.514	
3.0			SC		(SC) CLAYEY SAND; yellowish brown, dry, dense, non-cohesive, very fine to coarse sand, trace chert fragments, no odor. 962.4		
7.5	UD SO2	100	CL		(CL) CLAY with SAND; reddish brown, dry, stiff, low plasticity, trace fine angular to sub-angular chert gravel, very fine to coarse chert, trace oxidized sand nodules. Trace thin layers of very fine to medium sand, very stiff. 957.9		PID = 40.01
13.0	UD SO3	100	SC		(SC) SANDY CLAY; light yellowish brown, dry, medium dense, very fine to medium sand, trace rock fragments, trace faint oxidation. 952.4		

Bottom of borehole at 13.0 feet.



CH2M Hill

# BORING NUMBER SB-112D

PAGE 1 OF 2

CLIENT Modine Manufacturing Company

PROJECT NAME 221 Sunset

PROJECT NUMBER 681225

PROJECT LOCATION Camdenton, MO

DATE STARTED 10/4/16 COMPLETED 10/4/16

GROUND ELEVATION 966.389 ft HOLE SIZE 6" inches

DRILLING CONTRACTOR Mateco

GROUND WATER LEVELS:

DRILLING METHOD Rotosonic

AT TIME OF DRILLING ---

LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_

AT END OF DRILLING ---

NOTES \_\_\_\_\_

AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0 - 5	UD SO1	100			(CL) SILTY CLAY; light olive brown, dry to moist, stiff, massive, low plasticity, trace very fine to fine sand, trace organics.  Reddish brown, dry, very stiff, medium plasticity, trace very fine to coarse chert, trace sand nodules, trace fine manganese lamination and veinlettes.  Increasing sand, <5-10%.	PID = 7.568 PID = 7.907
5 - 10			CL		Less sand.  Trace weathered limestone sand nodules, very fine to medium sand with oxidation and manganese veinlettes.	PID = 8.056 PID = 13.56
10 - 15	UD SO2	100			Increasing very fine to coarse chert flakes.	PID = 15.9
13.5 - 15.0			SC		13.5 952.9 15.0 951.4 (SC) CLAYEY SAND with SILT; light reddish brown, dry, dense, fine angular to sub-angular chert gravel, very fine to medium sand, very fine to coarse chert, chert pucks, no odor. Moist, dense, no chert gravel, less very fine to fine chert, increasing clay, clay stringers. NO RECOVERY.	PID = 5.493
18.0 - 20.0			SC		18.0 948.4 20.0 946.4 (SC) CLAYEY SAND with SILT; light reddish brown, moist, dense, very fine to medium sand, some medium to coarse chert.	PID = 17.92
20.0 - 25.0	UD SO3	70			(CL) CLAY with SILT; reddish brown, dry, very stiff, medium plasticity, trace very fine to coarse chert, trace thin lamination.  0.5' thick well graded sand layer with silt, dry, very fine to coarse sand with fine angular to sub-angular chert and chert pucks. SANDY CLAY; dark reddish brown, moist, medium to stiff, non-plastic, very fine to coarse chert.	PID = 7.097 PID = 12.55
26.0 - 29.5			SC		26.0 940.4 29.5 936.9 (SC) CLAYEY SAND; weathered limestone, poor recovery, dry to moist, medium dense, non-cohesive, very fine to medium sand with limestone and chert fragments, moderate oxidation.  Oxidized sand nodules <5 mm diameter.	PID = 55.44 PID = 34.99
29.5 - 33.0	UD SO4	70			LIMESTONE; white, fine grained, massive, fresh, highly fractured.	
33.0 - 35.0			CL		33.0 933.4 35.0 931.4 (CL) CLAY; reddish brown, moist, stiff, trace very fine to coarse chert, trace fine lamination.	PID = 37.74

(Continued Next Page)



CH2M Hill

# BORING NUMBER SB-112D

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CLIENT Modine Manufacturing Company PROJECT NAME 221 Sunset

PROJECT NUMBER 681225 PROJECT LOCATION Camdenton, MO

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	
35							
	UD SO5	100	SW		(SW) WELL GRADED SAND with CLAY; weathered rock, dry, medium dense, some fine chert fragments and trace rock fragments, trace oxidation.	PID = 11.47	
					37.0		929.4
40					LIMESTONE; white, fine grained, massive, fresh, highly fractured, cherty.		
					0.1' thick chert layer.		
					40.0	926.4	

Bottom of borehole at 40.0 feet.

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ



CH2M Hill

# BORING NUMBER SB-112S

**CLIENT** Modine Manufacturing Company      **PROJECT NAME** 221 Sunset  
**PROJECT NUMBER** 681225      **PROJECT LOCATION** Camdenton, MO  
**DATE STARTED** 10/4/16      **COMPLETED** 10/4/16      **GROUND ELEVATION** 966.728 ft      **HOLE SIZE** 6" inches  
**DRILLING CONTRACTOR** Mateco      **GROUND WATER LEVELS:**  
**DRILLING METHOD** Rotosonic      **AT TIME OF DRILLING** ---  
**LOGGED BY** P. Ferringer/CLT      **CHECKED BY** \_\_\_\_\_      **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_      **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0 - 5	UD SO1	100	CL		(CL) SILTY CLAY; light olivebrown, moist, stiff, low plasticity, trace very fine to fine sand, trace organics.  Reddish brown, dry, very stiff, trace very fine to coarse chert, trace sand nodules, trace manganese lamination.	PID = 4.911
5 - 10	UD SO2	100			Less sand.  <5mm thick sand layers, moderate oxidation.  Increasing sand.	PID = 7.092
10 - 12.0					12.0	954.7

Bottom of borehole at 12.0 feet.



CH2M Hill

# BORING NUMBER SB-113D

PAGE 1 OF 1

<b>CLIENT</b> <u>Modine Manufacturing Company</u>	<b>PROJECT NAME</b> <u>221 Sunset</u>
<b>PROJECT NUMBER</b> <u>681225</u>	<b>PROJECT LOCATION</b> <u>Camdenton, MO</u>
<b>DATE STARTED</b> <u>9/27/16</u> <b>COMPLETED</b> <u>9/27/16</u>	<b>GROUND ELEVATION</b> <u>962.287 ft</u> <b>HOLE SIZE</b> <u>6" inches</u>
<b>DRILLING CONTRACTOR</b> <u>Mateco</u>	<b>GROUND WATER LEVELS:</b>
<b>DRILLING METHOD</b> <u>Rotosonic</u>	<b>AT TIME OF DRILLING</b> <u>---</u>
<b>LOGGED BY</b> <u>P. Ferringer/CLT</u> <b>CHECKED BY</b> _____	<b>AT END OF DRILLING</b> <u>---</u>
<b>NOTES</b> _____	<b>AFTER DRILLING</b> <u>---</u>

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
2.0	UD SO1	100	CL		(CL) CLAY with SILT; dark reddish brown, dry, very stiff, medium plasticity, trace fine to coarse chert sand. Brown, less silt.	PID = 0.615
4.9			ML		(ML) SILT with LEAN CLAY; brown to light brown, dry, stiff, no to low plasticity, <15% fine angular to sub-angular chert gravel, trace very fine chert sand, trace oxidized mottling.	PID = 0.597
11.0	UD SO2	40			NO RECOVERY.	PID = 1.248
18.0			CL		(CL) CLAY with SAND and SILT; light olive brown, dry, very stiff, medium plasticity, fine to coarse angular to sub-angular chert gravel, very fine to coarse chert sand, trace lamination.  Dark reddish brown, more chert gravel, less sand.  SANDY CLAY; moist, stiff, trace chert gravel, very fine to coarse chert sand.	PID = 1.397  PID = 5.16
22.0	UD SO3	100	SC		(SC) CLAYEY SAND; weathered limestone, light tan, moist, loose, non-cohesive, very fine to medium sand, few clay lenses, moderate oxidation.	PID = 20.75
25.0					BEDROCK; limestone with chert, fine grained, massive, fresh, competent, unfractured.	PID = 3.597 PID = 3.476

Bottom of borehole at 25.0 feet.



CH2M Hill

# BORING NUMBER SB-113S

PAGE 1 OF 1

**CLIENT** Modine Manufacturing Company      **PROJECT NAME** 221 Sunset  
**PROJECT NUMBER** 681225      **PROJECT LOCATION** Camdenton, MO  
**DATE STARTED** 9/28/16      **COMPLETED** 9/28/16      **GROUND ELEVATION** 962.048 ft      **HOLE SIZE** 6" inches  
**DRILLING CONTRACTOR** Mateco      **GROUND WATER LEVELS:**  
**DRILLING METHOD** Rotosonic      **AT TIME OF DRILLING** ---  
**LOGGED BY** P. Ferringer/CLT      **CHECKED BY** \_\_\_\_\_      **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_      **AFTER DRILLING** ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
2.0	UD SO1	100	CL		(CL) CLAY with SILT; reddish brown, dry, very stiff, medium plasticity, trace fine angular to sub-angular chert gravel, massive, no odor.	960.0
6.5			ML		(ML) SILT with LEAN CLAY; light brown, dry, stiff, low plasticity, ~15% fine angular to sub-angular chert gravel, trace very fine sand, trace oxidized mottling.	955.5
13.0	UD SO2	100	SC		(SC) CLAYEY SAND; brownish tan, dry, dense, non-cohesive, clay as stiff lenses, trace faint oxidation, no odor.	949.0

Bottom of borehole at 13.0 feet.

PID = 4.57  
PID = 3.81



CH2M Hill

# BORING NUMBER SB-114D

PAGE 1 OF 2

CLIENT Modine Manufacturing Company

PROJECT NAME 221 Sunset

PROJECT NUMBER 681225

PROJECT LOCATION Camdenton, MO

DATE STARTED 9/28/16 COMPLETED 9/29/16

GROUND ELEVATION 955.642 ft HOLE SIZE 6" inches

DRILLING CONTRACTOR Mateco

GROUND WATER LEVELS:

DRILLING METHOD Rotosonic

AT TIME OF DRILLING ---

LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_

AT END OF DRILLING ---

NOTES \_\_\_\_\_

AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\PF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
2.5	UD SO1	100	ML		(ML) CLAYEY SILT; brown, dry, stiff, no to low plasticity, trace chert, organic rich, no odor.	PID = 1.316
5			CL		(CL) CLAY with SILT and SAND; dark reddish brown, dry, very stiff, medium plasticity, <15% fine to coarse chert sand, trace lamination, no odor.  Increasing fine angular to sub-angular chert gravel and fine to coarse chert sand.	PID = 2.546
8.5			CH		(CH) FAT CLAY; very dark reddish brown, moist, stiff, medium plasticity, trace fine to medium sand, trace manganese veinlettes, no odor.	PID = 6.536
10.7	UD SO2	100	CL		(CL) CLAY; very dark reddish brown, dry, very stiff, medium to high plasticity, trace very fine sand and silt, trace manganese lenses.  SANDY CLAY; reddish brown, moist, stiff, fine to coarse angular to sub-angular chert gravel, very fine to coarse chert sand, trace very stiff clay layers.	PID = 97.46
19.0	UD SO3	100	CH		(CH) SANDY FAT CLAY; reddish brown, moist, low plasticity, trace fine angular to sub-angular chert gravel, no odor. Less gravel and sand.	PID = 13.26
23.0			SP		(SP) POORLY GRADED SAND; weathered limestone, light tan, dry, dense, non-cohesive, massive, fine to coarse chert gravel, very fine to fine chert sand, no odor.	PID = 6.46
25.5			CH		(CH) FAT CLAY; reddish brown, moist, low plasticity, fine angular to sub-angular chert gravel, no odor.  Stiff clay layers <0.5' thick to 29.5' bgs.	PID = 11.26
34.0	UD SO3	100	CH		Weathered rock fragments.	PID = 4.788
35.0					BEDROCK; limestone, light tan, fine grained, massive, moderate to strong, fresh with trace	PID = 17.97
						PID = 932.6
						PID = 930.1
						PID = 921.6
						PID = 920.6

(Continued Next Page)



CH2M Hill

# BORING NUMBER SB-114D

PAGE 2 OF 2

CLIENT Modine Manufacturing Company PROJECT NAME 221 Sunset  
 PROJECT NUMBER 681225 PROJECT LOCATION Camdenton, MO

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
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oxidation, competent, cherty.

Bottom of borehole at 35.0 feet.



CH2M Hill

# BORING NUMBER SB-114S

PAGE 1 OF 1

<b>CLIENT</b> <u>Modine Manufacturing Company</u>	<b>PROJECT NAME</b> <u>221 Sunset</u>
<b>PROJECT NUMBER</b> <u>681225</u>	<b>PROJECT LOCATION</b> <u>Camdenton, MO</u>
<b>DATE STARTED</b> <u>9/29/16</u> <b>COMPLETED</b> <u>9/29/16</u>	<b>GROUND ELEVATION</b> <u>955.422 ft</u> <b>HOLE SIZE</b> <u>6" inches</u>
<b>DRILLING CONTRACTOR</b> <u>Mateco</u>	<b>GROUND WATER LEVELS:</b>
<b>DRILLING METHOD</b> <u>Rotosonic</u>	<b>AT TIME OF DRILLING</b> <u>---</u>
<b>LOGGED BY</b> <u>P. Ferringer/CLT</u> <b>CHECKED BY</b> _____	<b>AT END OF DRILLING</b> <u>---</u>
<b>NOTES</b> _____	<b>AFTER DRILLING</b> <u>---</u>

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
2.5	UD SO1	100	ML		(ML) CLAYEY SILT; brown, dry, stiff, no to low plasticity, trace fine chert, trace organics, no odor. CLAYEY SILT with SAND.	PID = 1.271 952.9
8.5			CL		(CL) CLAY with SILT and SAND; reddish brown, dry, very stiff, medium plasticity, <5% fine to coarse chert, trace lamination, no odor.  Increasing fine angular to sub-angular chert gravel and very fine to coarse chert sand. Fine to coarse angular to sub-angular chert gravel. Less chert gravel.	PID = 2.774 946.9
10.7	UD SO2	100	CH		(CH) FAT CLAY; dark reddish brown, moist, stiff, medium plasticity, trace very fine sand, trace silt, trace manganese veinlettes.	944.7
19.0	UD SO3	100	CL		Increasing very fine to medium sand. (CL) CLAY; very dark reddish brown, dry, very stiff, non-plastic, trace very fine sand, trace silt. SANDY CLAY; moist, stiff, brown, no plasticity, fine to coarse angular to sub-angular chert gravel, very fine to coarse chert sand.  CLAY with SAND; reddish brown, very stiff, dry, trace fine angular to sub-angular chert gravel, very fine to coarse chert sand, trace moist fat clay layers, thin lamination, trace oxidation.	PID = 5.261 936.4

Bottom of borehole at 19.0 feet.



CH2M Hill

# BORING NUMBER SB-115D

PAGE 1 OF 2

CLIENT Modine Manufacturing Company  
 PROJECT NUMBER 681225  
 DATE STARTED 10/11/16 COMPLETED 10/12/16  
 DRILLING CONTRACTOR Mateco  
 DRILLING METHOD Rotosonic  
 LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_  
 NOTES \_\_\_\_\_

PROJECT NAME 221 Sunset  
 PROJECT LOCATION Camdenton, MO  
 GROUND ELEVATION 944.777 ft HOLE SIZE 6" inches  
 GROUND WATER LEVELS:  
 AT TIME OF DRILLING ---  
 AT END OF DRILLING ---  
 AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0.2			SC		ASPHALT.	944.6
0.8					(SC) FILL, CLAYEY SAND; tan, moist, fine angular to sub-angular gravel, very fine to coarse sand.	PID = 10.07
5.0	UD SO1	100	CL		(CL) SILTY CLAY with SAND; brownish grey, dry to moist, stiff, non-plastic, trace fine angular to sub-angular chert gravel, very fine to coarse sand, no odor. CLAY with SAND; reddish brown, dry, stiff, non-plastic, fine angular to sub-angular chert gravel, <20% very fine to coarse chert sand, trace oxidized nodules, no odor.	944.0 939.8
8.0					Poor recovery, chert fragments, very fine to coarse chert sand.	PID = 12.34 PID = 12.76
10.0	UD SO2	70			(CL) CLAY with SAND; brown, dry, stiff, non-plastic, fine angular to sub-angular chert gravel, <20% very fine to coarse chert sand, trace oxidized nodules, no odor.	936.8
15.0					2' thick cherty layer with fine angular to sub-angular gravel, <35% very fine to coarse sand. 1' thick cherty layer with fine angular to sub-angular gravel, <35% very fine to coarse sand.	PID = 23.19 PID = 15.4 PID = 14.6
20.0	UD SO3	80	CL		CLAY; reddish brown, dry, very stiff, trace lamination, trace thin oxidized veinlettes. Poor recovery to 17' bgs. Trace fine angular to sub-angular chert gravel, trace very fine to coarse chert. No chert, manganese and oxidized lamination. Moist.	PID = 16.07 PID = 16.04
25.0					Fine angular to sub-angular chert gravel, 5-15% very fine to coarse. <0.1' thick interlayered limestone and chert.	PID = 20.34 PID = 15.33
30.0	UD SO4	100			SANDY CLAY; moist, stiff, trace fine angular to sub-angular gravel, 25-35% very fine to coarse chert sand, no odor. Yellowish brown, increasing chert.	PID = 43.78 PID = 47.75
34.5					CLAY; reddish brown, dry, very stiff, trace very fine to coarse chert, trace lamination. Yellowish brown, moist, stiff.	
35.0			SW		SANDY CLAY; yellowish brown, moist, stiff, trace fine angular to sub-angular chert, 25-35% very fine to coarse chert with very fine to medium sand.	910.3 909.8

(Continued Next Page)



CH2M Hill

# BORING NUMBER SB-115D

PAGE 2 OF 2

CLIENT Modine Manufacturing Company

PROJECT NAME 221 Sunset

PROJECT NUMBER 681225

PROJECT LOCATION Camdenton, MO

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
35						
	UD SO5	0			(SW) WELL GRADED SAND; weathered limestone, greyish tan, dry, dense, trace rock and chert fragments, very fine to medium sand. NO RECOVERY.	PID = 49.02
40						904.8
	UD SO6	100	CL		(CL) SANDY CLAY; yellowish brown, moist, stiff, trace fine angular to sub-angular chert gravel, 25-35% very fine to coarse sand, no odor.  CLAY; reddish brown, dry, very stiff, trace very fine to coarse chert, trace lamination.  SANDY CLAY; yellowish brown, moist, stiff, trace fine angular to sub-angular chert gravel, 30-40% very fine to coarse sand, no odor.	PID = 22.05 PID = 22.13
44.4						900.4
45			SW		(SW) WELL GRADED SAND; weathered limestone, tan, dry, medium dense, fine angular to sub-angular chert gravel, <10% very fine to medium chert sand, no odor.	PID = 21.93
46.0						898.8
47.0			SC		(SC) CLAYEY SAND; yellowish brown, dry to moist, medium dense, trace fine angular to sub-angular chert gravel, very fine to coarse chert sand, moderate oxidation.	PID = 29.84
48.0			CL		(CL) CLAY with SAND; yellowish brown, moist, stiff, low plasticity, <10% very fine to coarse chert sand.	897.8
49.0			SC		(SC) CLAYEY SAND; yellowish brown, dry to moist, medium dense, very fine to medium chert sand, moderate oxidation.	896.8
50	UD SO7	100	CL		(CL) CLAY with SAND; yellowish brown, dry, stiff, trace fine angular to sub-angular gravel, <25% very fine to coarse chert sand, moderate oxidized mottling, no odor.	PID = 23.38
53.0						895.8
55			SW		(SW) WELL GRADED SAND; weathered limestone, tan, dry, trace fine angular to sub-angular chert gravel, coarse chert, very fine to medium sand, trace oxidation. 0.3' thick fat clay layer. Dry, increasing clay, moderate oxidation.	891.8
55.5						889.3
60	UD SO8	100	SC		(SC) CLAYEY SAND; yellowish brown, moist, medium dense, some fine angular to sub-angular chert gravel, very fine to coarse chert sand. 1' thick layer of weathered limestone with chert. Increasing clay, heavily oxidized.	
61.0						883.8
65					BEDROCK; limestone, tan - white, fine grained, fresh, highly fractured, trace very fine to coarse chert.	879.8

Bottom of borehole at 65.0 feet.



CH2M Hill

# BORING NUMBER SB-116D

CLIENT Modine Manufacturing Company PROJECT NAME 221 Sunset  
 PROJECT NUMBER 681225 PROJECT LOCATION Camdenton, MO  
 DATE STARTED 10/11/16 COMPLETED 10/11/16 GROUND ELEVATION 968.043 ft HOLE SIZE 6" inches  
 DRILLING CONTRACTOR Mateco GROUND WATER LEVELS:  
 DRILLING METHOD Rotosonic AT TIME OF DRILLING ---  
 LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_ AT END OF DRILLING ---  
 NOTES \_\_\_\_\_ AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0 - 5	UD SO1	100			(CL) SANDY CLAY; greyish brown, moist, stiff, non-plastic, very fine to medium chert sand, no odor.  LEAN CLAY with SAND; dry, medium, trace fine angular to sub-angular chert gravel, very fine to fine chert sand. CLAY with SAND; reddish brown, dry to moist, stiff, low to medium plasticity, <10% very fine to coarse chert sand, trace fine lamination, no odor.  Very stiff, <1% chert. Medium to high plasticity, no chert, intense black lamination.	PID = 2.445
5 - 10	UD SO2	100	CL		0.1' thick very fine to medium sand layer.	PID = 7.373 PID = 7.127 PID = 9.074
10 - 15					SANDY CLAY; yellowish brown with reddish brown, dry, trace fine sub-angular to sub-rounded  CLAY; reddish brown, dry, very stiff, <1% chert, black lamination.	PID = 4.504 PID = 13.01 PID = 11.81
15 - 20	UD SO3	100			Orange brown, moist, stiff, low plasticity, increasing very fine to medium sand, trace thin sand lenses.  0.1' thick layer of very fine to medium sand.	PID = 11 PID = 12.52
20 - 23.0					0.4' thick cemented chert layer, very fine to coarse chert with trace fine angular to sub-angular gravel, oxidized. Increasing sand and oxidation.	PID = 10.97
23.0 - 25						945.0
25 - 29.0	UD S)4	100	SP		(SP) POORLY GRADED SAND with CLAY; weathered limestone, brownish grey, dry, medium dense, very fine to fine sand, clay as lenses, trace faint oxidation. Grey, no oxidation. Trace clay lenses, increasing oxidation.	PID = 13.64 PID = 26.81
29.0 - 30.0					Cherty, chert fragments <1", chert core pucks. Trace very fine to coarse chert, moderate oxidized mottling.	PID = 20.69
30.0					LIMESTONE; fine grained, highly fractured with some oxidation, trace clay infilling.	PID = 2.33
Bottom of borehole at 30.0 feet.						



CH2M Hill

# BORING NUMBER SB-116S

PAGE 1 OF 1

<b>CLIENT</b> <u>Modine Manufacturing Company</u>	<b>PROJECT NAME</b> <u>221 Sunset</u>
<b>PROJECT NUMBER</b> <u>681225</u>	<b>PROJECT LOCATION</b> <u>Camdenton, MO</u>
<b>DATE STARTED</b> <u>10/11/16</u> <b>COMPLETED</b> <u>10/11/16</u>	<b>GROUND ELEVATION</b> <u>966.975 ft</u> <b>HOLE SIZE</b> <u>6" inches</u>
<b>DRILLING CONTRACTOR</b> <u>Mateco</u>	<b>GROUND WATER LEVELS:</b>
<b>DRILLING METHOD</b> <u>Rotosonic</u>	<b>AT TIME OF DRILLING</b> <u>---</u>
<b>LOGGED BY</b> <u>P. Ferringer/CLT</u> <b>CHECKED BY</b> _____	<b>AT END OF DRILLING</b> <u>---</u>
<b>NOTES</b> _____	<b>AFTER DRILLING</b> <u>---</u>

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
5	UD SO1	100			(CL) SANDY CLAY; greyish brown, moist, stiff, non-plastic, very fine to medium chert, organic rich, no odor. LEAN CLAY with SAND; very fine to fine chert, trace fine angular to sub-angular chert gravel. CLAY with SAND; reddish brown, dry to moist, low plasticity, trace very fine to coarse chert, some fine lamination.  Very stiff, medium plasticity, no chert, intense lamination.	PID = 2.445
10	UD SO2	100	CL		Trace thin sand lenses.	PID = 7.127
15					SANDY CLAY; yellowish brown with reddish brown, dry, trace fine sub-angular to sub-rounded chert gravel, very fine to medium sand.  CLAY; reddish brown, very stiff, <1% chert sand, laminated.	PID = 13.01
16.0					Orange brown, moist, low plasticity, increasing sand as thin lenses.	951.0

Bottom of borehole at 16.0 feet.



CH2M Hill

# BORING NUMBER SB-117S

PAGE 1 OF 1

CLIENT Modine Manufacturing Company

PROJECT NAME 221 Sunset

PROJECT NUMBER 681225

PROJECT LOCATION Camdenton, MO

DATE STARTED 10/15/16 COMPLETED 10/15/16

GROUND ELEVATION 960.407 ft HOLE SIZE 6" inches

DRILLING CONTRACTOR Mateco

GROUND WATER LEVELS:

DRILLING METHOD Rotosonic

AT TIME OF DRILLING ---

LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_

AT END OF DRILLING ---

NOTES \_\_\_\_\_

AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0.5					ASPHALT.	959.9
	UD SO1	100	CL		(CL) CLAY with SAND; reddish brown, dry, very stiff, trace very fine to coarse chert, trace thin lamination, no odor. 0.4' thick very fine to medium sand layer, oxidized mottling.	PID = 18.97
3.5			SC		SANDY CLAY; reddish brown, dry, stiff, very fine to medium sand, oxidized.	PID = 16.37
4.5					(SC) CLAYEY SAND; tan and grey, dry to moist, dense, massive, trace weathered limestone, very fine to medium sand, oxidized mottling.	956.9
	UD SO2	100	SW		(SW) WELL GRADED SAND; weathered limestone, dry, dense, trace rock fragments, very fine to medium sand, trace cemented sand lenses, trace oxidized mottling.  Increasing weathered rock fragments, trace clay veins.	PID = 19.82
8.5						
9.5					LIMESTONE; white, fine grained, fresh, partially weathered and fractured.	955.9
	UD SO3	100	SW		(SW) WELL GRADED SAND with CLAY; weathered limestone, tan, dry, medium dense, massive, trace rock fragments,  0.5' thick sandy clay layer.  Less oxidation.	PID = 14.07
16.0						
	UD SO4	100				PID = 17.4
						PID = 21.22
						PID = 18.31
						944.4

Bottom of borehole at 16.0 feet.



CH2M Hill

# BORING NUMBER SB-118S

PAGE 1 OF 1

<b>CLIENT</b> <u>Modine Manufacturing Company</u>	<b>PROJECT NAME</b> <u>221 Sunset</u>
<b>PROJECT NUMBER</b> <u>681225</u>	<b>PROJECT LOCATION</b> <u>Camdenton, MO</u>
<b>DATE STARTED</b> <u>10/16/16</u> <b>COMPLETED</b> <u>10/16/16</u>	<b>GROUND ELEVATION</b> <u>959.839 ft</u> <b>HOLE SIZE</b> <u>6" inches</u>
<b>DRILLING CONTRACTOR</b> <u>Mateco</u>	<b>GROUND WATER LEVELS:</b>
<b>DRILLING METHOD</b> <u>Rotosonic</u>	<b>AT TIME OF DRILLING</b> <u>---</u>
<b>LOGGED BY</b> <u>P. Ferringer/CLT</u> <b>CHECKED BY</b> _____	<b>AT END OF DRILLING</b> <u>---</u>
<b>NOTES</b> _____	<b>AFTER DRILLING</b> <u>---</u>

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
5	UD SO1	100	CL		(CL) SILTY CLAY; grey, dry, stiff, non-cohesive, trace very fine to fine sand, no odor. SANDY CLAY; reddish brown, dry to moist, stiff, non-plastic, very fine to coarse chert sand, trace lamination and manganese veinlettes.  CLAY; reddish brown, dry, very stiff, medium plasticity, trace very fine to medium sand, trace lamination and manganese veinlettes. 0.1' thick weathered limestone layer.	PID = 12.09  PID = 14.13
10	UD SO2	100	CL		SANDY CLAY; reddish brown, moist, stiff, low plasticity, very fine to coarse sand, trace sand lenses, trace oxidation.  CLAY with SAND; very stiff, <10% very fine to coarse sand.	PID = 17.84  PID = 29.01
11.0			SW		SANDY CLAY; yellowish brown, increasing sand, oxidized.	948.8
13.0					(SW) WELL GRADED SAND; weathered limestone, orange tan, dry, medium dense, massive, trace limestone fragments, very fine to medium sand, clay lenses, oxidized.	946.8
14.5					LIMESTONE; white, fine grained, fresh, trace chert, no oxidation.	945.3
15	UD SO3	100	CL		(CL) CLAY with SAND; reddish brown, dry, very stiff, medium plasticity, <20% fine and coarse chert gravel, trace manganese veinlettes.	PID = 17.81 PID = 50.07
16.0					Bottom of borehole at 16.0 feet.	943.8



CH2M Hill

# BORING NUMBER SB-119D

PAGE 1 OF 2

CLIENT Modine Manufacturing Company

PROJECT NUMBER 681225

DATE STARTED 10/15/16 COMPLETED 10/15/16

DRILLING CONTRACTOR Mateco

DRILLING METHOD Rotosonic

LOGGED BY P. Ferringer/CLT CHECKED BY \_\_\_\_\_

NOTES \_\_\_\_\_

PROJECT NAME 221 Sunset

PROJECT LOCATION Camdenton, MO

GROUND ELEVATION 941.456 ft HOLE SIZE 6" inches

GROUND WATER LEVELS:

AT TIME OF DRILLING ---

AT END OF DRILLING ---

AFTER DRILLING ---

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\PF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
0 - 5	UD SO1	100			(CL) SANDY CLAY with GRAVEL; olive brown, moist to wet, stiff, fine gravel and chert, very fine to coarse sand.  SILT CLAY; grey moist, stiff, trace very fine to fine sand, trace thin lamination, no odor.  CLAY; dark grey, trace black lamination and oxidized sand nodules.	PID = 30.73  PID = 27.81
5 - 10	UD SO2	100	CL		CLAY; dark grey, trace black lamination and oxidized sand nodules.  Olive grey, trace fine angular to sub-angular gravel, increasing very fine to coarse chert, no oxidation. SANDY CLAY; reddish brown, dry to moist, stiff, fine chert gravel, very fine to coarse sand. 0.5' thick layer of very fine to coarse sand with lean clay.	PID = 42.52  PID = 43.13
10 - 15					Wet, increasing clay.  CLAY; reddish brown, dry, very stiff, medium plasticity, trace fine angular to sub-angular chert gravel, no sand, trace lamination and manganese veinlettes.	PID = 47.34  PID = 17.93
15 - 20	UD SO3	70			<10% very fine to medium sand, increasing silt.  Very stiff, less sand, less silt.	PID = 219.3
20 - 21.0					SANDY CLAY; yellowish reddish brown, moist, stiff, non-plastic, fine chert gravel, <25% very fine to coarse sand.	PID = 195.5
21.0 - 24.5			SC		(SC) CLAYEY SAND; light reddish brown, moist to wet, medium dense, massive, fine angular to sub-angular gravel, very fine to coarse chert sand, some weathered limestone, trace oxidation.	920.5  PID = 29.87
24.5 - 32.0					(CL) SANDY CLAY; light reddish brown, moist, trace fine chert gravel, <30% very fine o coarse chert sand.  0.3' thick weathered limestone layer with chert.  Increasing fine chert gravel.	917.0  PID = 18.84  PID = 3.19
32.0 - 33.0					SILTY CLAY with SAND; trace fine gravel, 10-20% very fine to coarse chert, manganese and oxidation veinlettes.	PID = 3.01
33.0 - 34.2			SW		(SW) WELL GRADED SAND; weathered limestone, grey, wet, massive, very fine to medium sand with chert.	909.5 908.5 PID = 77.7
34.2 - 35			CL		(CL) CLAY; reddish brown, dry, very stiff, laminated, trace very fine to medium sand, manganese and oxidized veinlettes.	907.3 PID = 3.53

(Continued Next Page)



CH2M Hill

# BORING NUMBER SB-119D

PAGE 2 OF 2

CLIENT Modine Manufacturing Company PROJECT NAME 221 Sunset

PROJECT NUMBER 681225 PROJECT LOCATION Camdenton, MO

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
35						
	UD SO5	100	SW		(SW) WELL GRADED SAND; weathered limestone, grey, moist, massive, trace fine chert gravel, very fine to medium sand, trace silt. <i>(continued)</i> Increasing limestone fragments and chert.	PID = 13.25
40					BEDROCK; limestone, white, fine grained, fresh, slightly fractured, trace faint oxidation.	PID = 11.5
					Grey, trace chert, increasing fractures.	PID = 13.28
45						PID = 21.89

Bottom of borehole at 45.0 feet.

GENERAL.BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ



CH2M Hill

# BORING NUMBER SB-119S

PAGE 1 OF 1

<b>CLIENT</b> <u>Modine Manufacturing Company</u>	<b>PROJECT NAME</b> <u>221 Sunset</u>
<b>PROJECT NUMBER</b> <u>681225</u>	<b>PROJECT LOCATION</b> <u>Camdenton, MO</u>
<b>DATE STARTED</b> <u>10/16/16</u> <b>COMPLETED</b> <u>10/16/16</u>	<b>GROUND ELEVATION</b> <u>941.448 ft</u> <b>HOLE SIZE</b> <u>6" inches</u>
<b>DRILLING CONTRACTOR</b> <u>Mateco</u>	<b>GROUND WATER LEVELS:</b>
<b>DRILLING METHOD</b> <u>Rotosonic</u>	<b>AT TIME OF DRILLING</b> <u>---</u>
<b>LOGGED BY</b> <u>P. Ferringer/CLT</u> <b>CHECKED BY</b> _____	<b>AT END OF DRILLING</b> <u>---</u>
<b>NOTES</b> _____	<b>AFTER DRILLING</b> <u>---</u>

GENERAL BH / TP / WELL - GINT STD US LAB.GDT - 1/18/17 14:18 - C:\USERS\IPF028698\DESKTOP\MODINEBORING LOGS\221 SUNSET FALL 2016.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA
0						
5	UD SO1	100			(CL) SANDY CLAY with GRAVEL; olive brown, moist to wet, stiff, fine chert gravel, very fine to coarse chert sand.  SILTY CLAY; grey, moist, stiff, trace sand, oxidized sand nodules.  Olive grey, increasing sand and chert.	PID = 65.49
10			CL		SANDY CLAY; reddish brown, dry, stiff, fine angular to sub-angular chert, very fine to coarse sand.  CLAY; reddish brown, stiff, dry, medium plasticity, trace fine angular to sub-angular chert, no sand, manganese lamination.	PID = 56.3
15	UD SO2	100			Increasing sand, some silt.  Less sand and silt.	PID = 178.41
20					SANDY CLAY; yellowish reddish brown, moist, stiff, non-plastic, fine chert gravel, <25% very fine to coarse sand.	
21.0					Bottom of borehole at 21.0 feet.	920.4

Appendix B  
Well Completion Diagrams



























PROJECT NUMBER 681225	WELL NUMBER MW-114D	SHEET 1	OF 1
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## WELL COMPLETION DIAGRAM

PROJECT : 221 Sunset Drive

LOCATION : Camdenton, Missouri

DRILLING CONTRACTOR : Mateco Drilling

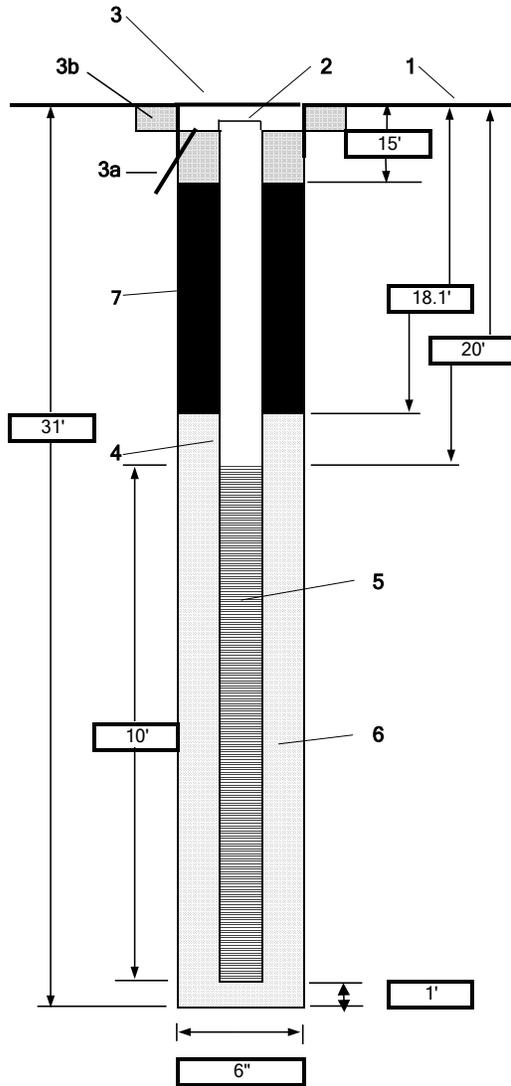
DRILLING METHOD AND EQUIPMENT USED : Geoprobe 8140DT Rig, 4"x6" Sonic Tooling

WATER LEVELS :

START : 9/28/2016

END : 9/29/2016

LOGGER : P. Ferringer



1- Ground elevation at well	956.005'
2- Top of casing elevation	955.642'
3- Wellhead protection cover type	8-inch dia traffic rated flush mount
a) drain tube?	No
b) concrete pad dimensions	2 feet x 2 feet
4- Dia./type of well riser	2-inch dia SCH40 PVC
5- Type/slot size of screen	2-inch dia SCH40 PVC, 0.020-inch slot
6- Type screen filter	20/40 Filter Sand
a) Quantity used	(4.5) 50 lbs. bags
7- Type of seal	Medium Bentonite Chips/Bentonite Slurry
a) Quantity used	(1) 50 lbs. bag of bentonite chips
Development method	None - dry well
Development time	n/a
Estimated purge volume	n/a
Comments	Bentonite chips hydrated in place using potable water.
	Flush threaded end cap.
	Bentonite backfill 31-35'.

















Appendix C  
Soil Vapor Sampling Details

**Table C-1. Soil Vapor Purging and Sampling Parameters***Phase 1 Sitewide Soil Vapor Investigation Report**221 Sunset Drive, Camdenton, Missouri*

Location ID	Date	Time	VOCs (ppm)	Methane (%)	CO2 (%)	O2 (%)	Balance (%)
MW-100	9/28/2016	12:53	1.0	0.2	-	20.6	79.4
	9/28/2016	14:15	0.3	-	-	21.6	78.4
MW-101	9/28/2016	14:19	0.3	-	-	21.5	78.5
	9/29/2016	13:25	3.8	-	5.8	15.0	79.2
	9/29/2016	13:28	3.7	-	5.9	14.9	79.2
MW-103	9/29/2016	13:30	3.6	-	5.8	14.9	79.3
	9/29/2016	15:38	0.8	-	4.5	17.8	77.7
MW-104	9/29/2016	15:42	0.8	-	2.8	19.4	77.8
	9/29/2016	11:14	94.7	-	9.0	6.5	84.5
	9/29/2016	11:20	180	-	9.4	6.9	83.1
MW-105	9/29/2016	11:22	227	-	9.7	7.8	82.4
	9/30/2016	9:18	0.2	-	0.1	20.8	79.1
	9/30/2016	9:21	0.3	-	3.0	18.9	78.1
	9/30/2016	9:23	0.5	-	4.4	17.8	77.9
	9/30/2016	9:25	0.6	-	5.3	16.9	77.8
MW-107	9/30/2016	9:28	1.2	-	6.1	15.9	77.8
	10/11/2016	15:00	7.6	0	7.6	13.5	78.9
	10/11/2016	15:05	6.6	0	6.4	14.4	79.2
	10/11/2016	15:08	6.6	0	6.0	14.6	79.4
MW-108S	10/11/2016	15:11	8.3	0	5.8	14.7	79.5
	10/5/2016	13:00	126	0	4.3	9.8	85.9
	10/5/2016	13:05	112	0	4.7	9.3	86
MW-108D	10/5/2016	13:10	16.5	0	5	9.1	85.9
	10/3/2016	12:33	18.2	0	3.5	15.2	81.2
	10/3/2016	12:37	13.7	0	1.4	18	80.6
	10/3/2016	12:41	11.6	0	1.1	18.5	80.5
MW-109S	10/3/2016	12:45	13.5	0	1.1	18.3	80.6
	10/3/2016	11:50	105	0	0.9	13.3	85.9
	10/3/2016	11:55	141	0	1	12.2	87
	10/3/2016	12:00	231	0	1.8	11.7	86.8
MW-109D	10/3/2016	12:05	235	0	2.5	11.2	86.3
	10/4/2016	16:24	60.1	0	3.1	11.8	85
	10/4/2016	16:28	65.7	0	3.7	11.3	85
	10/4/2016	16:32	68.9	0	10.3	10.8	84.7
MW-110S	10/4/2016	16:36	70.4	0	5.1	10.4	84.4
	10/4/2016	15:42	50	0	2.6	15.5	81.9
	10/4/2016	15:47	73.3	0	2.4	14.8	82.2
	10/4/2016	15:52	83.4	0	3.1	14.3	82.6
	10/4/2016	15:57	90.1	0	3.3	13.9	82.8
MW-110D	10/4/2016	16:02	97.6	0	3.7	13.3	83
	10/5/2016	8:20	9.8	0	7.1	11.5	81.4
	10/5/2016	8:24	9.9	0	8.6	10.2	81.2
	10/5/2016	8:28	9.1	0	9.7	9.4	81
MW-111S	10/5/2016	8:32	8.8	0	9.9	9.3	80.8
	10/5/2016	8:57	106	0	2.8	10.2	87
	10/5/2016	9:02	118	0	3.3	9.7	87
	10/5/2016	9:07	129	0	3.7	9.5	86.8
MW-111D	10/5/2016	9:12	131	0	1.3	9.3	86.5
	10/5/2016	14:37	10.2	0	2	17.8	80.3
	10/5/2016	14:41	8.5	0	1.7	18	80.1
	10/5/2016	14:45	8.1	0	1.5	18.1	80.4
MW-112S	10/5/2016	14:49	7.4	0	1.5	17.9	80.6
	10/5/2016	14:04	81	0	4.8	12	83.1
	10/5/2016	14:07	94.8	0	7	10.1	82.9

**Table C-1. Soil Vapor Purging and Sampling Parameters***Phase 1 Sitewide Soil Vapor Investigation Report**221 Sunset Drive, Camdenton, Missouri*

Location ID	Date	Time	VOCs (ppm)	Methane (%)	CO2 (%)	O2 (%)	Balance (%)
MW-112D	10/5/2016	14:14	97.4	0	8.4	8.8	82.8
	10/3/2016	10:52	39.7	0	5.7	15.2	79.6
	10/3/2016	10:57	48.9	0	5.8	17	78.6
	10/3/2016	11:02	54.8	0	6	13.8	88.2
MW-113S	10/3/2016	11:07	78.6	0	6.4	13.3	80.4
	10/1/2016	8:23	0.7	-	0.1	21.2	78.7
	10/1/2016	8:26	0.4	-	0.1	21.1	78.8
MW-113D	10/1/2016	8:30	18.9	-	0.3	20.8	78.8
	10/1/2016	8:32	52.3	-	0.8	20.6	78.7
	10/2/2016	15:42	10.6	0	11.3	5.3	83.4
	10/2/2016	15:47	11.6	0	11.2	5.3	83.4
MW-114S	10/2/2016	15:52	18.7	0	10.8	6	83.3
	10/2/2016	15:57	18.1	0	11	5.9	83.1
	10/2/2016	16:02	17.7	0	10.9	6.3	82.9
	10/2/2016	14:43	131	0	8.6	4.5	86.9
MW-114D	10/2/2016	14:48	131	0	8.9	4.7	86.4
	10/2/2016	14:53	129	0	9.2	5.9	85.5
	10/2/2016	14:58	121	0	9.5	4.7	85.8
MW-115D	10/13/2016	9:30	15.5	0	1.8	18.9	79.4
	10/13/2016	9:35	18.9	0	2.3	18.8	79.3
	10/13/2016	9:40	21.2	0	2.6	17.5	79
	10/12/2016	8:40	9.7	0	4.4	14.6	80.9
MW-116S	10/12/2016	8:44	7.4	0	5.1	13.9	81
	10/12/2016	8:48	10.4	0	5.9	13.3	80.8
	10/12/2016	8:52	10	0	7	12.6	80.4
	10/12/2016	8:05	35.4	0	6.7	12.7	80.7
MW-116D	10/12/2016	8:10	34.6	0	6.6	12.5	80.9
	10/12/2016	8:15	35.9	0	6.5	11.5	81.9
	10/12/2016	8:20	35.9	0	6.5	11.1	82.4
	10/16/2016	15:27	6	0	3.4	11.8	84.8
MW-117S	10/16/2016	15:32	5.8	0	3.9	11.6	84.5
	10/16/2016	15:37	5.3	0	4.2	11.6	84.1
	10/16/2016	15:42	5	0	4.4	11.7	83.9
	10/16/2016	18:15	105	0	1.8	19.2	79
MW-118S	10/16/2016	18:20	245	0	4.5	16.1	79.4
	10/16/2016	18:25	304	0	5.8	14.4	79.7
	10/16/2016	18:30	335	0	6.5	13.5	80
	10/12/2016	13:05	13.7	0	8.3	9.1	82.6
MW-119S	10/12/2016	13:10	13.5	0	8	9	83
	10/12/2016	13:15	13.2	0	7.8	9.1	83.1
	10/12/2016	13:20	12.3	0	7.6	9.3	83.1
	10/12/2016	11:45	22.9	0	9.8	7	85.1
MW-119D	10/12/2016	11:50	18.6	0	8.9	6.1	85
	10/12/2016	11:55	18.7	0	9.2	5.9	84.8
	10/12/2016	12:00	18.6	0	9.5	5.8	84.7

Notes:

VOCs = volatile organic compounds

ppm = parts per million

% = percent

- = parameter was not collected

**Table C-2. Soil Vapor Sampling Details**

Phase 1 Sitewide Soil Vapor Investigation Report

221 Sunset Drive, Camdenton, Missouri

Location ID	Date	Well Screen Interval			Analysis	Start Time	End Time	Initial Canister Pressure (inHg)	Final Canister Pressure (inHg)
		(feet bgs)							
MW-100	9/28/2016	6.3	-	16.3	TO-15 Scan	12:58	13:03	-28.93	-7.91
MW-101	9/28/2016	23.7	-	33.7	TO-15 Scan	14:31	14:36	-28.91	-5.44
MW-103	9/29/2016	3.7	-	8.7	TO-15 Scan	14:03	14:13	-29.22	-3.13
MW-104	9/29/2016	3.7	-	5.7	TO-15 Scan	16:39	16:44	-29.15	-5.31
MW-105	9/29/2016	10.7	-	20.7	TO-15 Scan	11:26	11:31	-29.03	-1.61
MW-107	9/30/2016	4.7	-	14.7	TO-15 Scan	9:31	9:36	-29.04	-5.71
MW-108D	10/5/2016	20	-	30	TO-15 Scan	13:10	13:15	-28.69	-5.24
MW-108S	10/11/2016	10	-	15	TO-15 Scan	15:11	15:16	-28.84	-5.58
MW-109D	10/3/2016	16	-	26	TO-15 Scan	12:05	12:10	-28.92	-5.94
MW-109S	10/3/2016	5	-	10	TO-15 Scan	12:45	12:50	-28.93	-6.14
MW-110D	10/4/2016	10	-	20	TO-15 Scan	16:02	16:08	-28.76	-6.48
MW-110S	10/4/2016	5	-	10	TO-15 Scan	16:36	16:41	-28.73	-6.07
MW-111D	10/5/2016	12	-	22	TO-15 Scan	9:12	9:17	-28.73	-5.39
MW-111S	10/5/2016	7	-	12	TO-15 Scan	8:32	8:37	-28.71	-4.55
MW-112D	10/5/2016	20	-	30	TO-15 Scan	14:14	14:19	-28.89	-4.12
MW-112S	10/5/2016	6	-	11	TO-15 Scan	14:49	14:54	-28.83	-7.01
MW-113D	10/1/2016	16	-	21	TO-15 Scan	8:35	8:40	-28.99	-3.77
MW-113S	10/3/2016	7	-	12	TO-15 Scan	11:07	11:12	-28.94	-3.72
MW-114D	10/2/2016	20	-	30	TO-15 Scan	14:58	15:03	-28.98	-7.97
MW-114S	10/2/2016	8	-	18	TO-15 Scan	16:02	16:07	-28.94	-3.52
MW-115D	10/13/2016	25	-	35	TO-15 Scan	9:45	9:50	-29.23	-6.83
MW-116D	10/12/2016	20	-	30	TO-15 Scan	8:20	8:25	-28.75	-5.91
MW-116S	10/12/2016	10	-	15	TO-15 Scan	8:52	8:57	-28.92	-4.72
MW-117S	10/16/2016	5	-	15	TO-15 Scan	15:42	15:47	-28.78	-5.81
MW-118S	10/16/2016	5	-	15	TO-15 Scan	18:30	18:35	-28.76	-6.57
MW-119D	10/17/2016	28	-	38	TO-15 Scan	12:45	12:50	-28.71	-6.2
MW-119S	10/17/2016	10	-	20	TO-15 Scan	13:20	13:25	-28.58	-7.53

Notes:

bgs = below ground surface

inHg = inches of mercury