

PHASE 4A ACTIVITIES

PHASE 4A ENLARGED PLAN (120 DAYS)






PHASE 4B ACTIVITIES

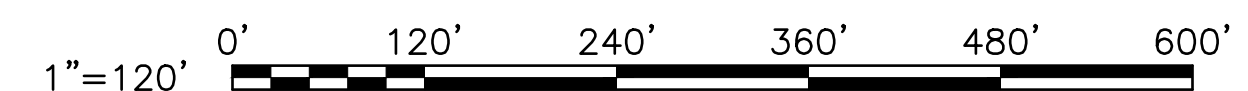
PHASE 4B ENLARGED PLAN (30 DAYS)

- CLOSE TAXIWAY 120 DAYS TOTAL FOR PHASE 4A AND 4B, INSTALL LOW PROFILE BARRICADES AND ORANGE SAFETY FENCE.
- MOVE SECTION OF TEMPORARY FENCE TO ACCESS WORK AREA ADJACENT TO TAXIWAY BY THE GATE.
- DEMOLISH PAVEMENT FOR TAXIWAY CONNECTOR UP TO EDGE OF EXISTING SHOULDER.
- GRADING FOR TAXIWAY SECTIONS.
- REMOVE EXISTING STORM SEWER PIPE AND REPLACE PER THIS PLAN.
- PAVE SECTION OF TAXIWAY. (COORDINATE WITH PHASE 4B PHASING)
- STRIPING, SEEDING, ALL CLEANUP WORK WITHIN 125-FT OF TW E/F.
- COMPELETE FOD CHECK AND INSPECTION BY 89 OSS AND COR PRIOR TO REOPENING TAXIWAYS FOR TRAFFIC. ALL AIRFIELD PAVEMENTS TO BE OPEN TO AIRCRAFT TRAFFIC BY NOV 5TH AND NOT CLOSED UNTIL AFTER MARCH 1ST.
- PROVIDE FULL TIME ACTIVE STREET SWEEPER/VACUUM TRUCK ON EXISTING AIRFIELD TO CONTROL FOD. NO CONSTRUCTION VEHICLES ON THE EXISTING AIRFIELD PAVEMENTS.

- CLOSE TAXIWAY TO ALL AIRCRAFT OPERATIONS.
- MOVE LOW PROFILE BARRICADES AND ORANGE SAFETY FENCE.
- DEMOLISH TAXIWAY AND SHOULDER PAVEMENT.
- REGRADE SUBGRADE, PAVE TAXIWAY CONCRETE AND ASPHALT.
- INSTALL STRIPING, EDGE LIGHTS, AND OTHER ITEMS WITHIN AREA.
- COMPELETE FOD CHECK AFTER MOVING BARRICADES PRIOR TO REOPENING TAXIWAY FOR F-16 OPERATIONS.

LEGEND

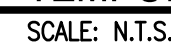
- | | | |
|---|---------------------------------|---------------------|
|  | TEMPORARY CONSTRUCTION FENCE | $\frac{C1}{GI-501}$ |
|  | ORANGE SAFETY FENCE | $\frac{C4}{GI-502}$ |
|  | SECURITY GUARD (SEE NOTE 8) | |
|  | TEMPORARY CONSTRUCTION ENTRANCE | $\frac{A4}{GI-501}$ |
|  | LOW PROFILE BARRICADES | $\frac{C1}{GI-502}$ |

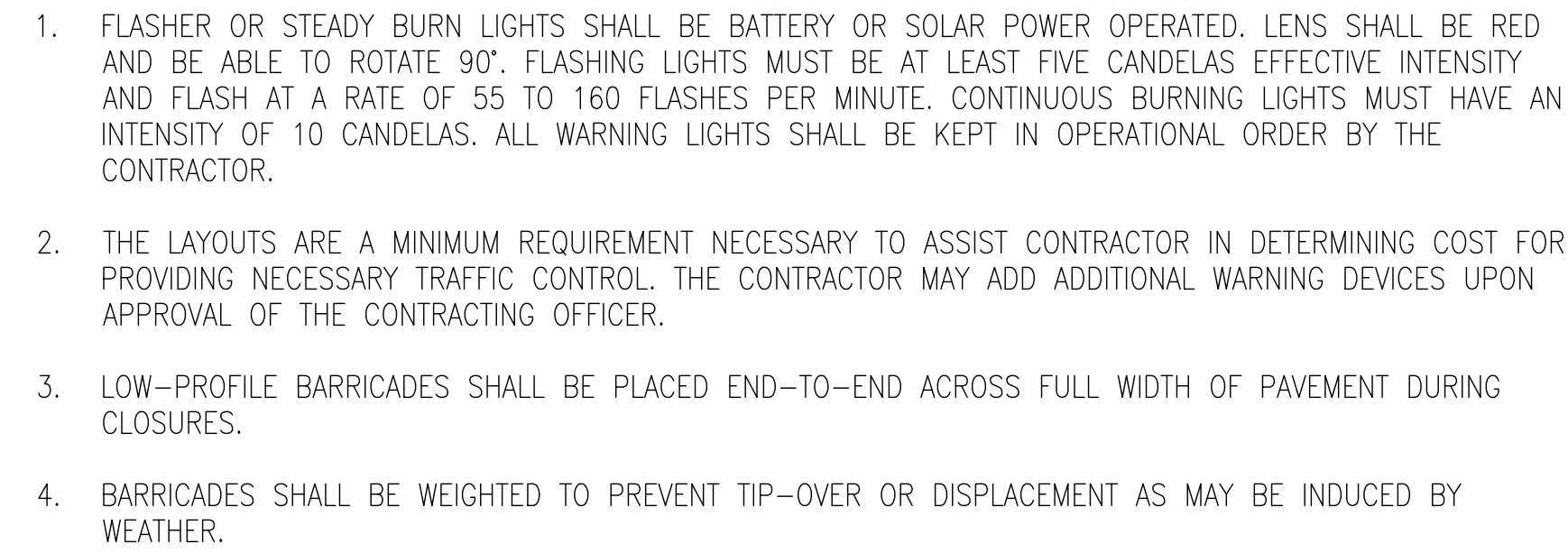


DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON, DC JOINT BASE ANDREWS NAVAL AIR FACILITY CAMP SPRINGS, MD P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE CONSTRUCTION PHASING PLAN - PHASE 4A & 4B		SCALE: AS NOTED EPROJECT NO.: 1306650 CONSTR CONTR NO: N40080-22-R-8580 NAVFAC DRAWINGS NO: 13140288 SHEET 18 OF 229		GI-115	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON, DC JOINT BASE ANDREWS NAVAL AIR FACILITY CAMP SPRINGS, MD P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE CONSTRUCTION PHASING PLAN - PHASE 4A & 4B		SCALE: AS NOTED EPROJECT NO.: 1306650 CONSTR CONTR NO: N40080-22-R-8580 NAVFAC DRAWINGS NO: 13140288 SHEET 18 OF 229		GI-115	



SCALE: N.T.S.





A diagram of a square tiled with smaller squares. The overall square has a side length of 36 inches, indicated by a vertical dimension line on the left and a horizontal dimension line at the bottom. The side length 36" is labeled twice. The square is divided into a 3x3 grid of smaller squares. Each smaller square has a side length of 12 inches, indicated by a vertical dimension line on the left and a horizontal dimension line at the bottom, both labeled 12". The central square in the grid is shaded black, while the eight surrounding squares are white.

1. PLACE WARNING SIGNS EVERY 500' ALONG TEMPORARY FENCE.
2. SPACING BETWEEN POSTS SHALL NOT EXCEED 6.00' FOR FENCE SECTIONS WITH WARNING SIGNS.
3. FENCE IS FOR UNPAVED AREAS. PAVED AREAS ON THE AIRFIELD SHALL USE LOW PROFILE BARRICADES PER DETAIL C1 ON GC502.

1. SIGN REQUIRED ON CONSTRUCTION SIDE OF TEMPORARY FENCE ONLY. SIGNS ARE NOT REQUIRED ON FENCES SURROUNDING STAGING AREAS.
2. SIGN MATERIAL MUST BE WEATHERPROOF AND CAPABLE OF BEING AFFIXED TO THE TEMPORARY FENCE.

[illegible]

D

Subsurface Investigation Procedures

1. Test Borings – Hollow Stem Augers
The borings are advanced by turning an auger with a center opening of 3-¼ inches. A plug device blocks off the center opening while augers are advanced. Cuttings are brought to the surface by the auger flights. Sampling is performed through the center opening in the hollow stem auger, by standard methods, after removal of the plug. Usually, no water is introduced into the boring using this procedure.

2. Standard Penetration Tests
Standard penetration tests are performed by driving a 2-inch O.D., 1-½ inch I.D. sampling spoon with a 140-pound hammer falling 30 inches, according to ASTM D1586. After an initial 6 inches penetration to assure the sampling spoon is in undisturbed material, the number of blows required to drive the sampler an additional 12 inches is generally taken as the N value. In the event 30 or more blows are required to drive the sampling spoon the initial 6-inch interval, the sampling spoon is driven to a total penetration resistance of 100 blows or 18 inches, whichever occurs first.

3. Undisturbed Tube Samples
Undisturbed tube sampling is accomplished by inserting 3-inch I.D. thin walled steel tubes into the soil through the hollow stem of the augers with hydraulically actuated rams.

4. Test Boring Stakeout
The test boring stakeout was provided by the project civil engineer, christopher consultants.

Identification of Soil

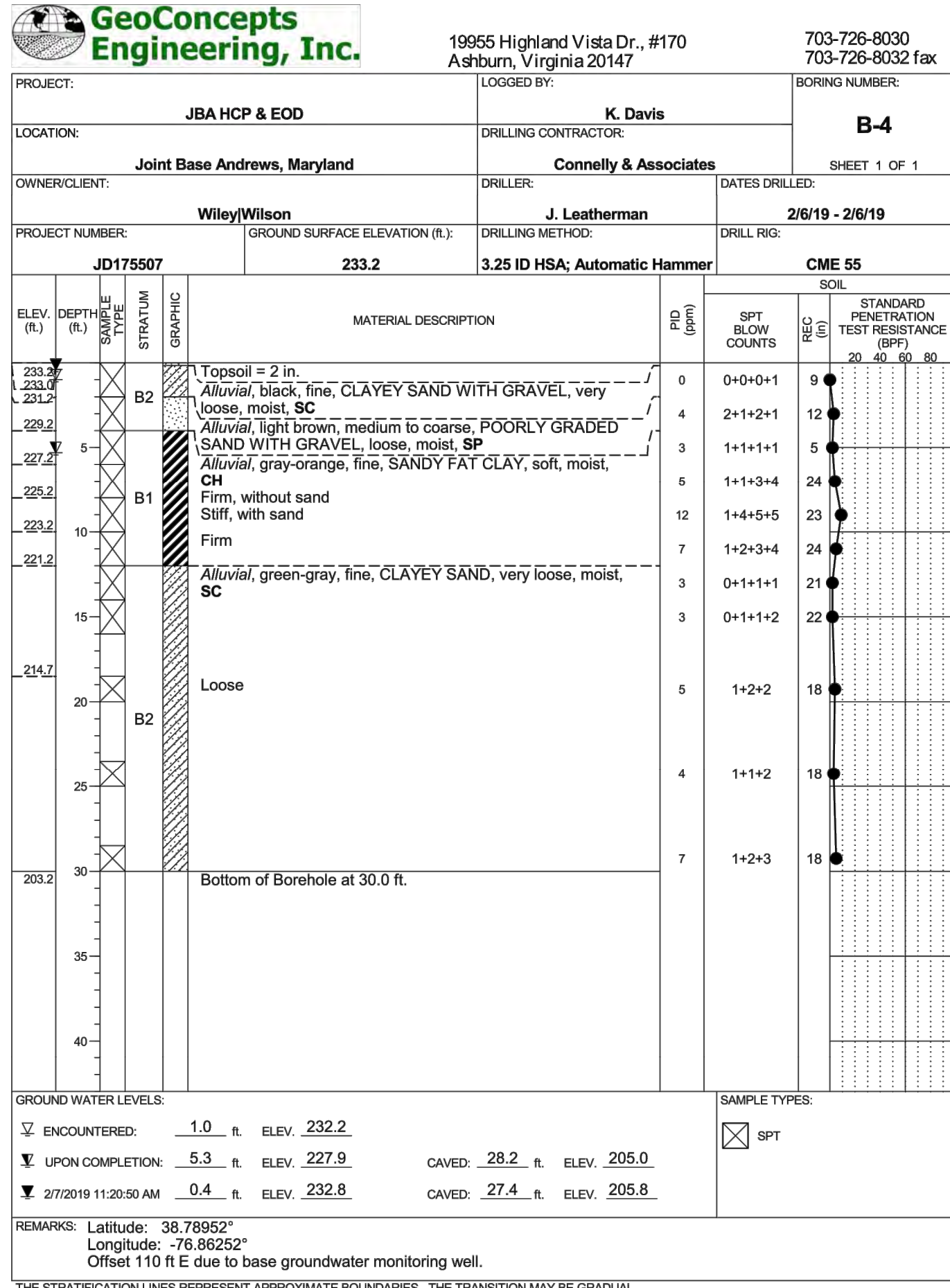
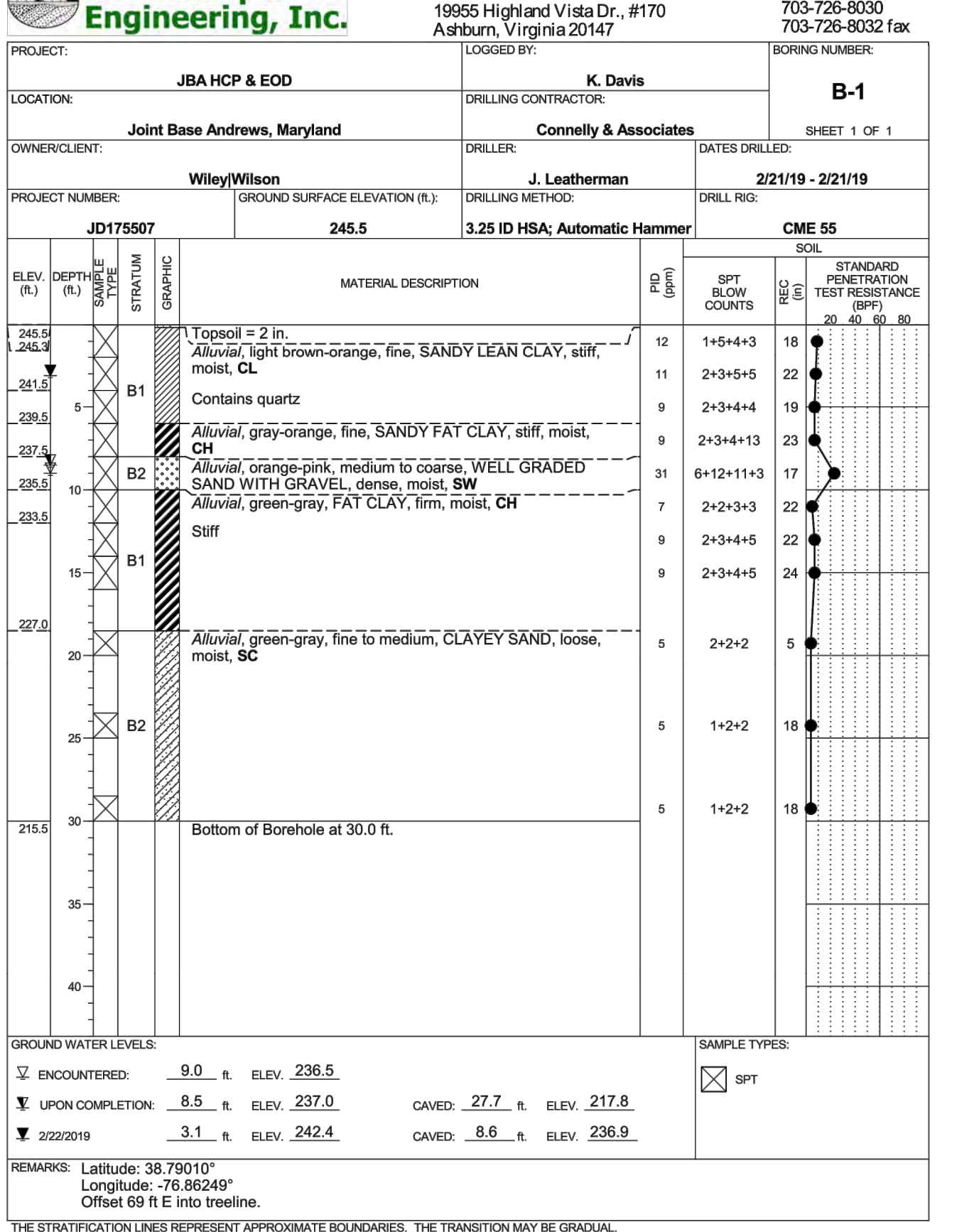
I. DEFINITION OF SOIL GROUP NAMES	ASTM D2487	Symbol	Group Name
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	GW GP	WELL GRADED GRAVEL POORLY GRADED GRAVEL
	Sands 50% or more of coarse fraction passes No. 4 sieve	GM GC	SILTY GRAVEL CLAYEY GRAVEL
	Sands 50% or more of coarse fraction passes No. 4 sieve	SW SP	WELL GRADED SAND POORLY GRADED SAND
	Sands 50% or more of coarse fraction passes No. 4 sieve	SM SC	SILTY SAND CLAYEY SAND
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid Limit less than 50	CL ML	LEAN CLAY SILT
	Silts and Clays Liquid Limit less than 50	OL	ORGANIC CLAY ORGANIC SILT
	Silts and Clays Liquid Limit 50 or more	CH MH	FAT CLAY ELASTIC SILT
	Silts and Clays Liquid Limit 50 or more	OH	ORGANIC CLAY ORGANIC SILT
Highly Organic Soils	Primarily organic matter, dark in color, and organic odor	PT	PEAT

- II. DEFINITION OF MINOR COMPONENT PROPORTIONS**
- Minor Component: Gravelly, Sandy (adjective)
Sand, Gravel
Silt, Clay
- Approximate Percentage of Fraction by Weight
30% or more coarse grained
15% to 29% coarse grained
5% to 12% fine grained
- III. GLOSSARY OF MISCELLANEOUS TERMS**
- SYMBOLS**
Unified Soil Classification Symbols are shown above as group symbols. Use "A" Line Chart for laboratory identification. Dual symbols are used for borderline classification.
- BOULDERS & COBBLES**
WEATHERED ROCK
Boulders are considered pieces of rock larger than 12 inches, while cobbles range from 3 to 12 inches. Residual rock material with a standard penetration test (SPT) resistance of at least 50 blows per 6 inches.
- ROCK/SPOON REFUSAL**
ROCK FRAGMENTS
Rock material with a standard penetration test (SPT) resistance of 50 blows for 1 inch.
- QUARTZ**
CEMENTED SAND
A hard silicate mineral often found in residual soils. Only used when describing residual soils. Usually localized rock-like deposits within a soil stratum composed of sand grains cemented by calcium carbonate, iron oxide, or other minerals. Commonly encountered in Coastal Plain sediments, primarily in the Potomac Group sands (Kps).
- MICACEOUS**
ORGANIC MATERIALS (Excluding Peat)
FILL
CONTAINS WITH
PROBABLE FILL
LAYERS
COLOR
MOISTURE CONDITIONS
GRAIN SIZE
A term used to describe soil that "glitters" or is shiny. Most commonly encountered in fine-grained soils.
- TOPSOIL**
Surface soils that support plant life and contain organic matter.
- UIGNITE**
Hard, brittle decomposed organic matter with low fixed carbon content (a low grade of coal). Man-made deposit containing soil, rock, and other foreign matter.
- THIS IS USED WHEN A SOIL CONTAINS A SECONDARY COMPONENT THAT DOES NOT APPLY TO A USCS CLASSIFICATION.**
This is used when a residual soil contains a secondary component that is included in the USCS classification.
- SOILS WHICH CONTAIN NO VISUALLY DETECTED FOREIGN MATTER BUT WHICH ARE SUSPECT WITH REGARD TO ORIGIN.**
½ to 12 inch seam of minor soil component.
- TWO MOST PREDOMINANT COLORS PRESENT SHOULD BE DESCRIBED.**
Wet, moist, or dry to indicate visual appearance of specimen.
- FINE-MEDIUM-COARSE**


- Test Boring Notes**
- Classification of soil is by visual inspection and is in accordance with the Unified Soil Classification System.
 - Estimated groundwater levels are indicated on the logs. These are only estimates from available data and may vary with precipitation, porosity of soil, site topography, etc.
 - Sampling data presents standard penetrations for 6-inch intervals or as indicated with graphic representations adjacent to the sampling data. Where undisturbed tube samples are taken, they are designated "Shelby Tube" on the test boring log.
 - The energy applied to the split-spoon sampler using the automatic hammer is about 33 percent greater than the applied energy using the standard safety hammer. The hammer blows shown on the boring logs are uncorrected for the higher energy.
 - The logs and related information depict subsurface conditions at the specific locations and at the particular time when drilled. Soil conditions at other locations may differ from conditions occurring at the test locations. Also, the passage of time may result in a change in the subsurface conditions at the test locations.
 - The stratification lines represent the approximate boundary between soil types as determined in the sampling operation. Some variation may be expected vertically between samples taken. The soil profile, groundwater level observations and penetration resistances presented on the logs have been made with reasonable care and accuracy and must be considered only an approximate representation of subsurface conditions to be encountered at the particular location.

A


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GeoConcepts Engineering, Inc.				19955 Highland Vista Dr., #170 Ashburn, Virginia 20147				703-726-8030 703-726-8032 fax																																																																																																																																																																															
				PROJECT: JBA HCP & EOD				LOGGED BY: K. Davis				BORING NUMBER: B-9																																																																																																																																																																											
LOCATION: Joint Base Andrews, Maryland				DRILLING CONTRACTOR: Connolly & Associates				SHEET 1 OF 1																																																																																																																																																																															
OWNER/CLIENT: Wiley/Wilson				DRILLER: J. Leatherman				DATES DRILLED: 2/4/19 - 2/4/19																																																																																																																																																																															
PROJECT NUMBER: JD175507				GROUND SURFACE ELEVATION (ft.): 258.5				DRILLING METHOD: 3.25 ID HSA; Automatic Hammer				DRILL RIG: CME 55																																																																																																																																																																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">ELEV. (ft.)</th> <th rowspan="2">DEPTH (ft.)</th> <th rowspan="2">SOIL TYPE</th> <th rowspan="2">STRATUM</th> <th rowspan="2">GRAPHIC</th> <th rowspan="2">MATERIAL DESCRIPTION</th> <th rowspan="2">PID (ft/min)</th> <th rowspan="2">SPT BLOW COUNTS</th> <th colspan="2">SOIL</th> </tr> <tr> <th>REC (ft)</th> <th>STANDARD PENETRATION TEST RESISTANCE (BPF)</th> </tr> </thead> <tbody> <tr> <td>258.5</td> <td></td> <td></td> <td></td> <td></td> <td>Topsoil = 2 in.</td> <td>8</td> <td>1+3+3+7</td> <td>18</td> <td>20</td> </tr> <tr> <td>258.3</td> <td></td> <td></td> <td></td> <td></td> <td><i>Alluvial</i>, light brown, LEAN CLAY, firm, moist, CL</td> <td>21</td> <td>5+7+9+13</td> <td>24</td> <td>40</td> </tr> <tr> <td>258.5</td> <td></td> <td></td> <td></td> <td></td> <td>Very stiff, with sand</td> <td>25</td> <td>4+8+11+13</td> <td>24</td> <td>60</td> </tr> <tr> <td>252.5</td> <td>5</td> <td></td> <td>B1</td> <td></td> <td>Light brown-pink, fine, moist</td> <td>25</td> <td>4+8+11+13</td> <td>24</td> <td>60</td> </tr> <tr> <td>250.5</td> <td></td> <td></td> <td></td> <td></td> <td><i>Alluvial</i>, brown-pink, medium, POORLY GRADED SAND,</td> <td>40</td> <td>7+11+19+25</td> <td>24</td> <td>80</td> </tr> <tr> <td>248.5</td> <td></td> <td></td> <td></td> <td></td> <td>dense, moist, SP</td> <td>95</td> <td>7+26+45+50/3</td> <td>19</td> <td></td> </tr> <tr> <td>246.5</td> <td>10</td> <td></td> <td></td> <td></td> <td>Brown-orange, very dense, with gravel</td> <td>112</td> <td>5+48+36+20</td> <td>19</td> <td></td> </tr> <tr> <td>244.5</td> <td></td> <td></td> <td></td> <td></td> <td>Brown-pink</td> <td>25</td> <td>3+9+10+9</td> <td>21</td> <td></td> </tr> <tr> <td>240.0</td> <td>15</td> <td></td> <td>B2</td> <td></td> <td>Medium dense, without gravel</td> <td>27</td> <td>4+10+10+10</td> <td>22</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>With gravel</td> <td>4</td> <td>1+2+1</td> <td>12</td> <td></td> </tr> <tr> <td>235.0</td> <td>20</td> <td></td> <td></td> <td></td> <td>Fine, loose, without gravel</td> <td>4</td> <td>0+1+2</td> <td>18</td> <td></td> </tr> <tr> <td>230.0</td> <td>25</td> <td></td> <td>B1</td> <td></td> <td><i>Alluvial</i>, light brown-orange, fine, SANDY FAT CLAY, soft,</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>228.5</td> <td>30</td> <td></td> <td>B2</td> <td></td> <td>moist, CH</td> <td>3</td> <td>1+1+1</td> <td>18</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td><i>Alluvial</i>, green-gray, fine, CLAYEY SAND, very loose, moist,</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>SC</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Bottom of Borehole at 30.0 ft.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												ELEV. (ft.)	DEPTH (ft.)	SOIL TYPE	STRATUM	GRAPHIC	MATERIAL DESCRIPTION	PID (ft/min)	SPT BLOW COUNTS	SOIL		REC (ft)	STANDARD PENETRATION TEST RESISTANCE (BPF)	258.5					Topsoil = 2 in.	8	1+3+3+7	18	20	258.3					<i>Alluvial</i> , light brown, LEAN CLAY, firm, moist, CL	21	5+7+9+13	24	40	258.5					Very stiff, with sand	25	4+8+11+13	24	60	252.5	5		B1		Light brown-pink, fine, moist	25	4+8+11+13	24	60	250.5					<i>Alluvial</i> , brown-pink, medium, POORLY GRADED SAND,	40	7+11+19+25	24	80	248.5					dense, moist, SP	95	7+26+45+50/3	19		246.5	10				Brown-orange, very dense, with gravel	112	5+48+36+20	19		244.5					Brown-pink	25	3+9+10+9	21		240.0	15		B2		Medium dense, without gravel	27	4+10+10+10	22							With gravel	4	1+2+1	12		235.0	20				Fine, loose, without gravel	4	0+1+2	18		230.0	25		B1		<i>Alluvial</i> , light brown-orange, fine, SANDY FAT CLAY, soft,					228.5	30		B2		moist, CH	3	1+1+1	18							<i>Alluvial</i> , green-gray, fine, CLAYEY SAND, very loose, moist,										SC										Bottom of Borehole at 30.0 ft.				
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REMARKS: Latitude: 38.78914° Longitude: -76.85933°																																																																																																																																																																																							

 GeoConcepts Engineering, Inc.		19955 Hillside Vista Dr., #170 Ashburn, Virginia 20147		703-726-8030 703-726-8032 fax						
THE STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES. THE TRANSITION MAY BE GRADUAL										
PROJECT:		LOGGED BY:		BORING NUMBER:						
JBA HCP & EOD		K. Davis		BC-3						
LOCATION:		DRILLING CONTRACTOR:		SHEET 1 OF 1						
Joint Base Andrews, Maryland		Connelly & Associates								
OWNER/CLIENT:		DRILLER:		DATES DRILLED:						
Wiley/Wilson		J. Leatherman		2/19 - 2/19						
PROJECT NUMBER:		GROUND SURFACE ELEVATION (ft.):		DRILL RIG:						
JD175507		260.3		CME 55						
3.25 ID HSA; Automatic Hammer										
		SOIL								
ELEV. (ft.)	DEPTH (ft.)	SAMPLE TYPE	STRATUM GRAPHIC	MATERIAL DESCRIPTION	P.D. (gpm)	SPT BLOW COUNTS	REC LOG	STANDARD PENETRATION TEST RESISTANCE (BPF)	20 40 60 80	
260.3			B1	Topsoil = 5 in.	4	0+1+2+3	21			
259.9				Alluvial, light brown, fine, FAT CLAY WITH SAND, soft, moist, CH	17	2+6+7+9	20			
254.3	5			Alluvial, light brown, LEAN CLAY, very stiff, moist, CL	29	7+9+13+15	19			
252.3				Alluvial, brown-orange and pink, medium, POORLY GRADED SAND, medium dense, moist, SP	25	3+7+12+15	19			
250.3	10			Light brown-white, fine to medium, dense, with gravel	47	5+11+24+30	23			
248.3				Very dense	93	11+30+40+36	22			
				Brown-orange, medium	88	6+30+36+32	22			
	15				67	14+26+21+21	9			
241.7	20			B2	Coarse, medium dense, without gravel	24	4+8+10	13		
						3	0+1+1	18		
236.8	25		Alluvial, brown-orange and white, fine, CLAYEY SAND, very loose, moist, SC		0	0+0+0	18			
230.3	30			Bottom of Borehole at 30.0 ft.						
	35									
	40									
GROUND WATER LEVELS:						SAMPLE TYPES:				
<input checked="" type="checkbox"/> ENCOUNTERED: <u>18.0</u> ft. ELEV. <u>242.3</u>						<input checked="" type="checkbox"/> SPT				
<input checked="" type="checkbox"/> UPON COMPLETION: <u>16.6</u> ft. ELEV. <u>243.7</u>						CAVED: <u>16.6</u> ft. ELEV. <u>243.7</u>				
<input checked="" type="checkbox"/> 2/5/2019 10:33:12 AM <u>16.4</u> ft. ELEV. <u>243.9</u>						CAVED: <u>16.9</u> ft. ELEV. <u>243.4</u>				
REMARKS: Latitude: 38.78910° Longitude: -76.85869° Offset 21 ft NE to avoid perimeter fence.										

[illegible]



GeoConcepts

Engineering, Inc.

19955 Highland Vista Dr., #170

Ashburn, Virginia 20147

703-726-8030

703-726-8032 fax

PROJECT:

JBA HCP & EOD

LOGGED BY:

K. Davis

BORING NUMBER:

EOD-2

LOCATION:

Joint Base Andrews, Maryland

DRILLING CONTRACTOR:

Connelly & Associates

SHEET 1 OF 1

OWNER/CLIENT:

Wiley/Wilson

DRILLER:

J. Leatherman

DATES DRILLED:

2/8/19

PROJECT NUMBER:

JD175507

GROUND SURFACE ELEVATION (ft.):

256.4

DRILLING METHOD:

3.25 ID HSA; Automatic Hammer

DRILL RIG:

CME 55

ELEV. (ft.)	DEPTH (ft.)	SAMPLE TYPE	STRATUM	GRAPHIC	MATERIAL DESCRIPTION	PID (ft)	SPT BLOW COUNTS	SOIL		MC (%)	
								REC (in)	STANDARD PENETRATION TEST RESISTANCE (BPF)		
								20	40	60	80
256.4			B1		Topsoil = 3 in.	1	0+0+1+2	20			
256.2		Alluvial, light brown, SANDY LEAN CLAY, very soft, moist, CL			17	2+6+7+9	20				
254.6		Very stiff									
252.4		Alluvial, brown-gray and pink, fine, CLAYEY SAND WITH GRAVEL, medium dense, moist, SC			25	4+8+11+14	22				
250.4	5	Dense			33	8+11+14+16	21				
248.4	10			Alluvial, brown-gray, fine to coarse, POORLY GRADED SAND WITH GRAVEL, dense, moist, SP	36	3+11+16+20	22				
					40	6+11+19+25	16				
242.4	15		B2		Alluvial, light brown, fine to coarse, POORLY GRADED GRAVEL, very dense, moist, GP	47	2+16+19+18	19			
					53	6+20+20+18	13				
237.9	20				Alluvial, light brown-gray and orange, fine, SILTY SAND, loose, moist, SM	4	1+2+1	14		32.0	
232.9	25		B1		Alluvial, orange-gray, SANDY FAT CLAY, soft, moist, CH	3	0+1+1	18			
227.9	30						Green-gray				
226.4	30						Bottom of Borehole at 30.0 ft.	3	0+1+1	18	

GROUND WATER LEVELS:

ENCOUNTERED: 18.0 ft. ELEV. 238.4

UPON COMPLETION: 16.8 ft. ELEV. 239.6

2/13/2019 12:15:53 PM 14.3 ft. ELEV. 242.1

REMARKS:


Latitude: 38.79046°

Longitude: -76.85973°

Offset 4 ft SE due to soft ground and debris.

SAMPLE TYPES:

☒ SPT

 GeoConcepts Engineering, Inc.		THE STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES. THE TRANSITION MAY BE GRADUAL.	
19955 Highland Vista Dr., #170 Ashburn, Virginia 20147		703-726-8030 703-726-8032 fax	
PROJECT: JBA HCP & EOD		LOGGED BY: K. Davis	BORING NUMBER: HCP-1
LOCATION: Joint Base Andrews, Maryland		DRILLING CONTRACTOR: Connelly & Associates	SHEET 1 OF 2
OWNER/CLIENT: Wiley/Wilson		DRILLER: J. Leatherman	DATES DRILLED: 1/23/19 - 1/23/19
PROJECT NUMBER: JD175507	GROUND SURFACE ELEVATION (ft.): 252.8	DRILLING METHOD: 3.25 ID HSA; Automatic Hammer	DRILL RIG: CME 55

ELEV. (ft.)	DEPTH (ft.)	SAMPLE TYPE	STRATUM GRAPHIC	MATERIAL DESCRIPTION	Pig (gpm)	SOIL					
						SPT BLOW COUNTS	STANDARD PENETRATION TEST RESISTANCE (BPF)				
								20	40	60	80
252.8	0			Topsoil is 5 in.	4	1+1+2+2	23				
252.2	0.6			Alluvial, light brown-orange, fine, SANDY LEAN CLAY, soft, moist, CL	23	2+6+11+11	17				
248.8	4.0			Alluvial, brown-orange, medium, CLAYEY SAND, medium dense, moist, contains quartz, SC	32	8+12+12+11	16				
246.8	6.0			Alluvial, brown-orange, medium to coarse, POORLY GRADED SAND, dense, moist, contains quartz, SP	20	3+7+8+10	19				
				Medium dense	21	4+8+8+8	11				
242.8	10.0		B2	Wet, with gravel	28	4+10+11+14	16				
240.8	12.0			Dense	36	4+13+14+15	10				
238.8	14.0			Medium dense	15	2+5+6+3	10				
234.3	18.5				3	1+1+1	18				
				Alluvial, brown-orange, fine, SANDY FAT CLAY, soft, moist, CH							
229.3	23.5			Green-gray	4	1+1+2	18				
			B1		4	1+1+2	18				
				Contains organics	4	1+1+2	18				
219.3	33.5										
214.3	38.5			Alluvial, green-gray, fine, SANDY SILT, firm, moist, ML	8	1+3+3	18				

GROUND WATER LEVELS:		SAMPLE TYPES:	
∇ ENCOUNTERED: <u>5.5</u> ft. ELEV. <u>247.3</u> ∇ UPON COMPLETION: <u>4.0</u> ft. ELEV. <u>248.8</u> 1/25/2019 11:19:58 AM <u>3.1</u> ft. ELEV. <u>249.7</u>	<input checked="" type="checkbox"/> SPT		
CAVED: <u>8.3</u> ft. ELEV. <u>244.5</u> CAVED: <u>7.7</u> ft. ELEV. <u>245.1</u>			

REMARKS: Latitude: 38.79261°
 Longitude: -76.85947°

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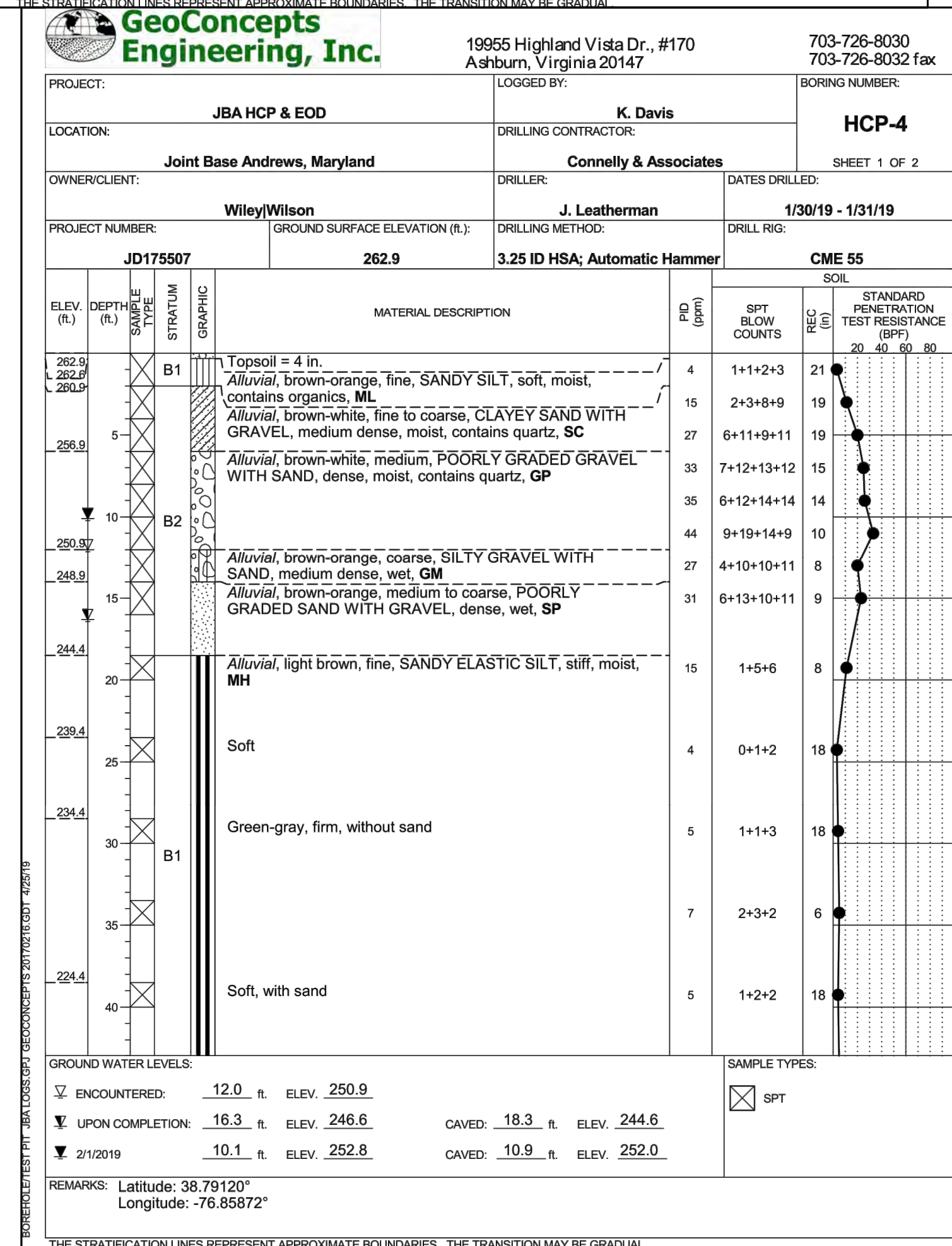
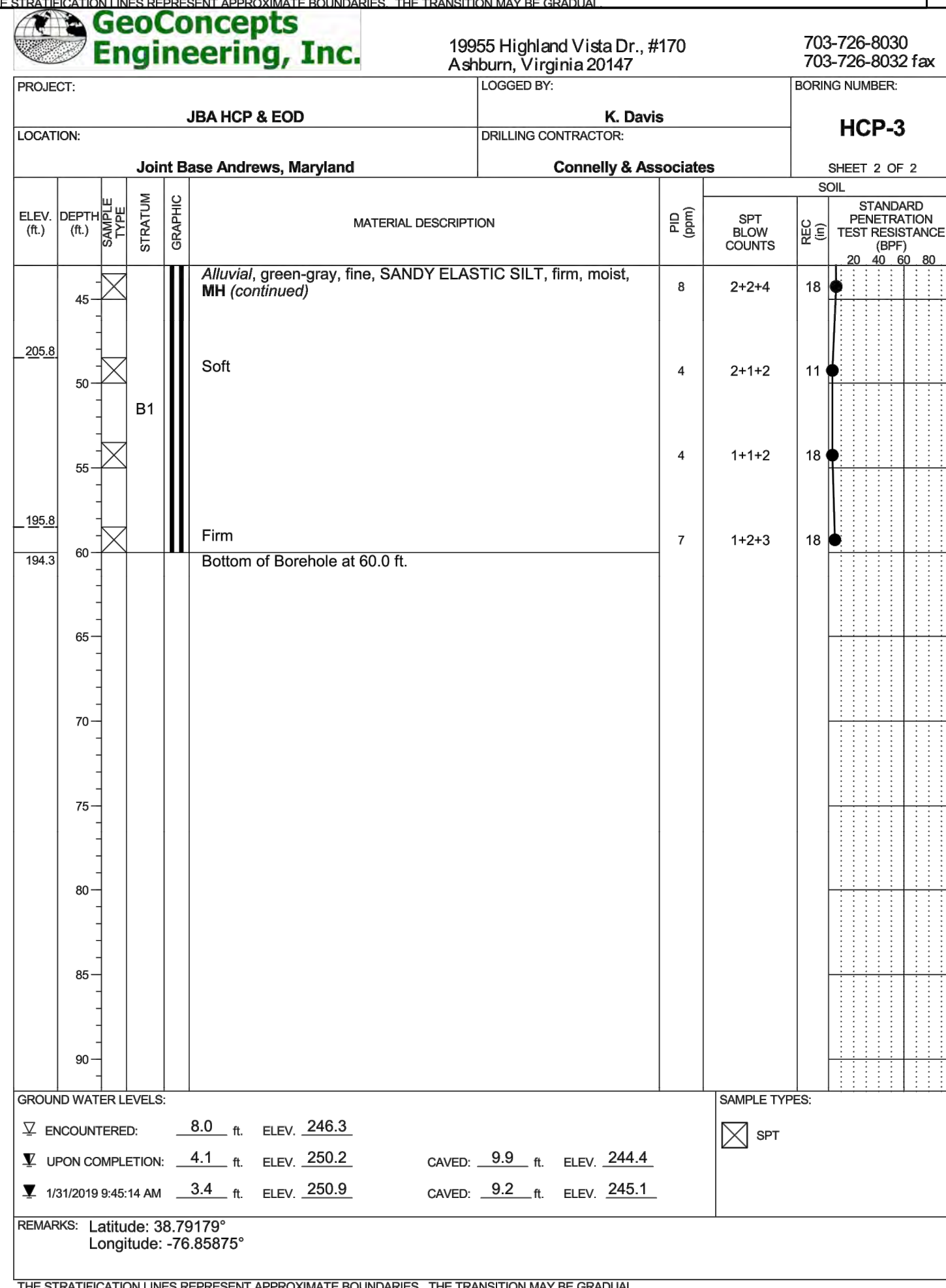
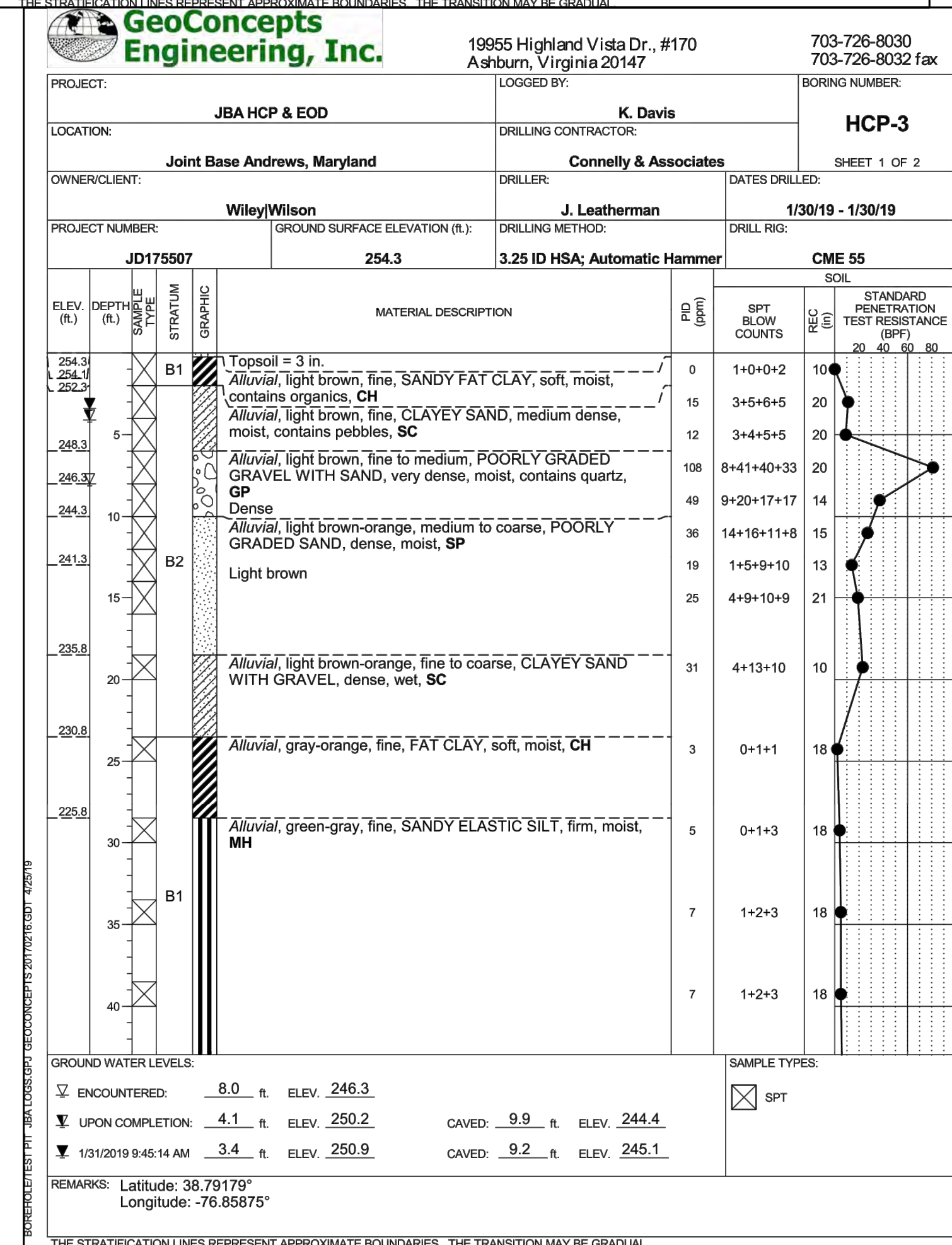
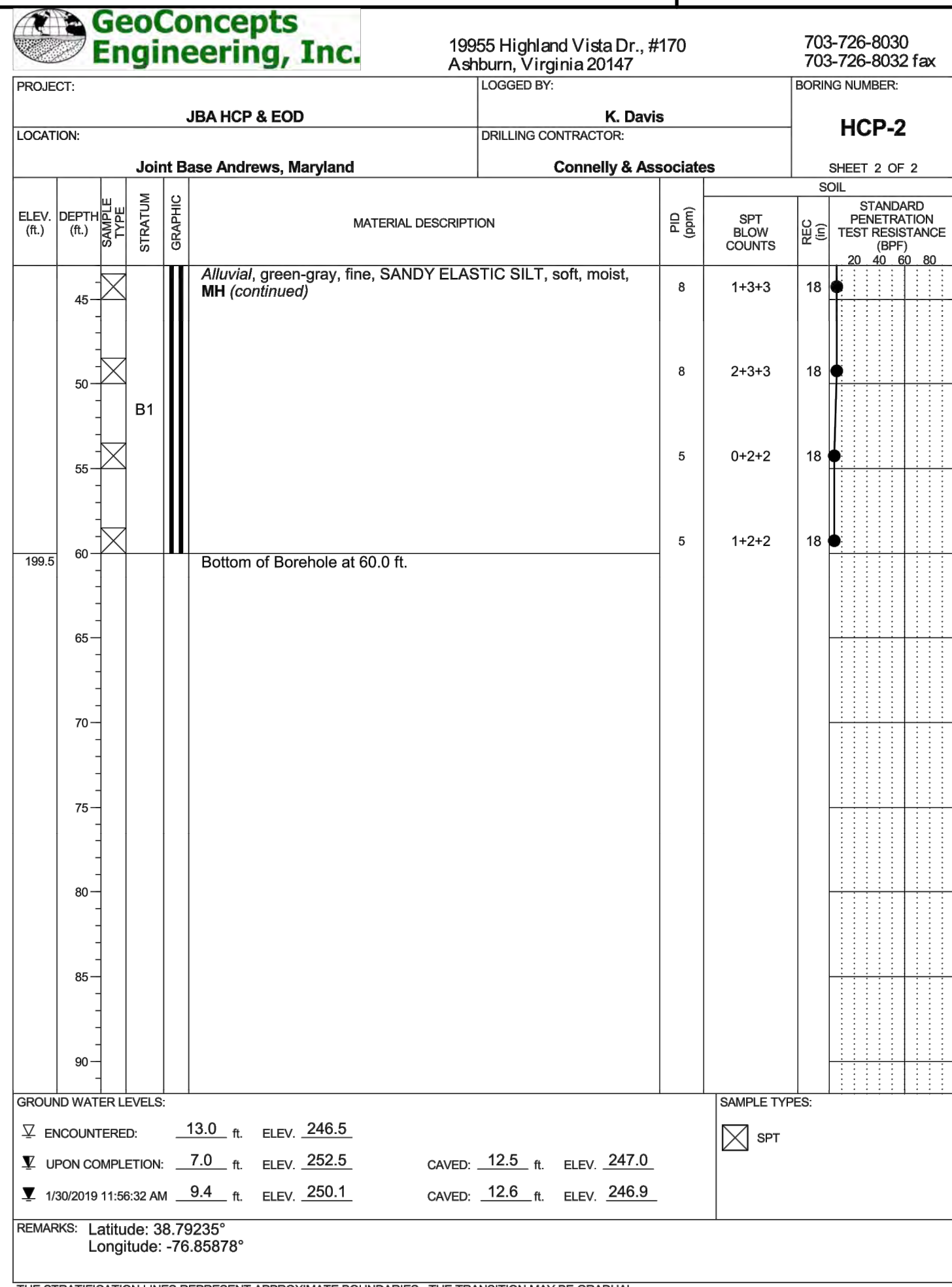
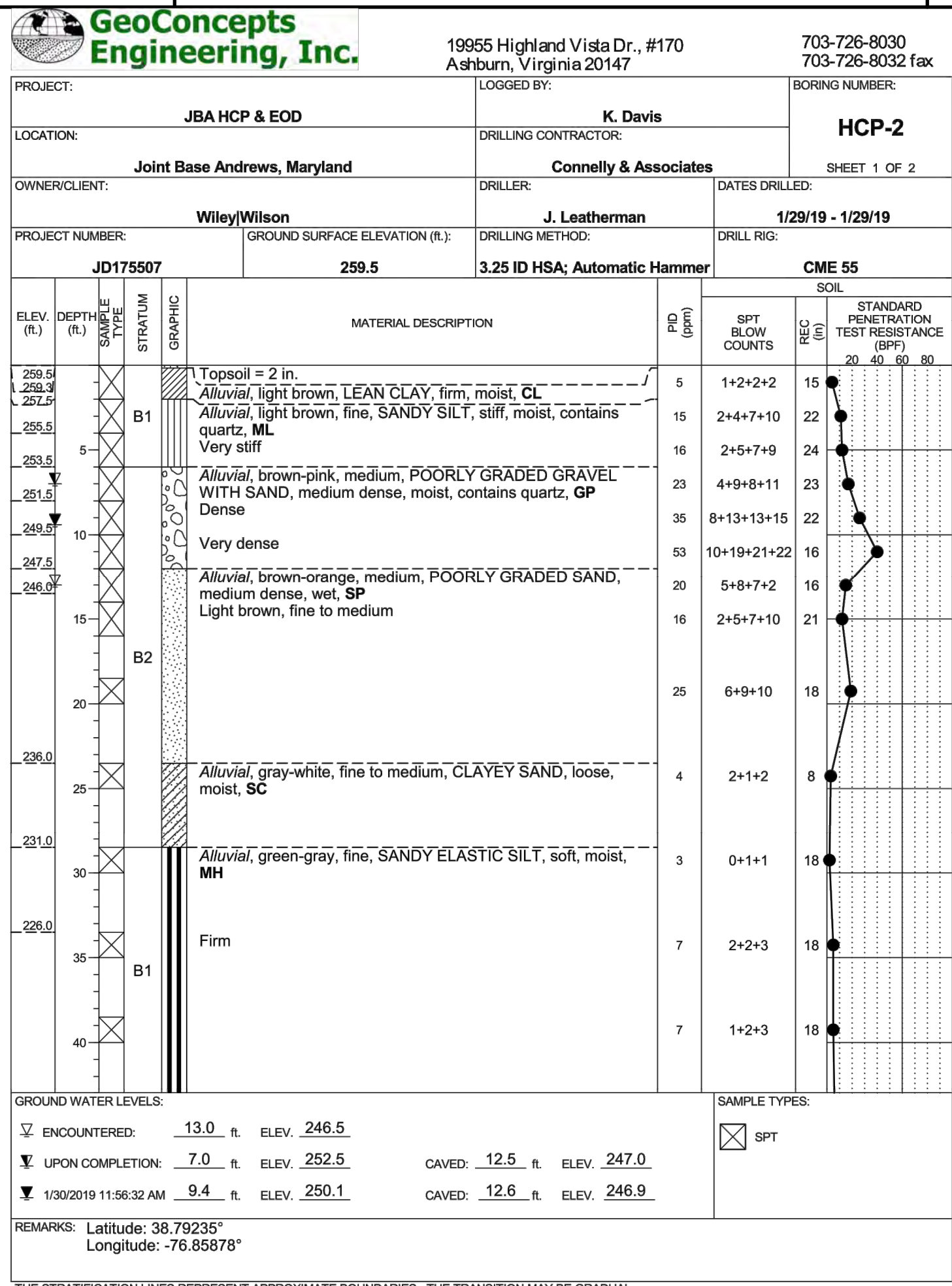
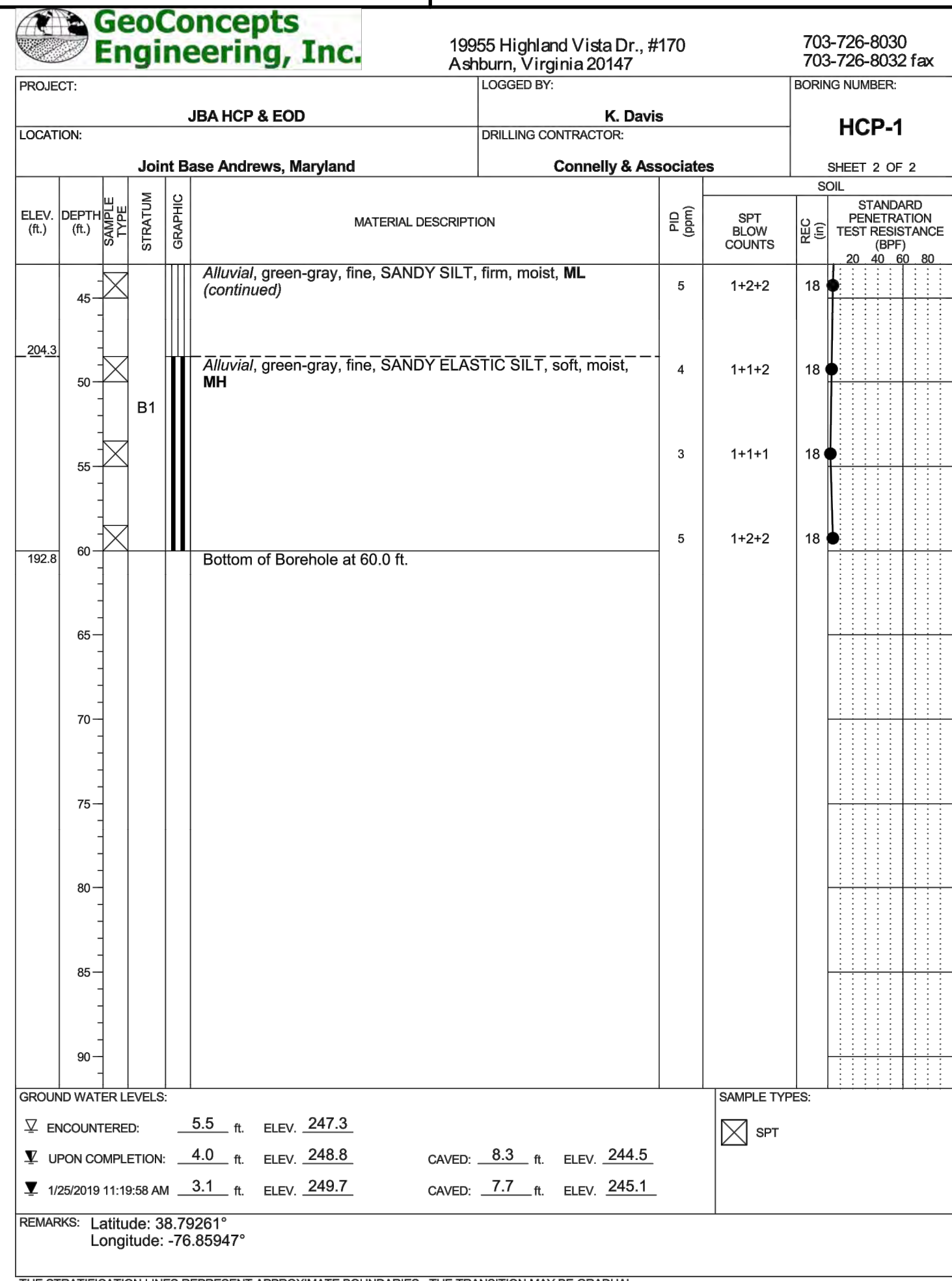
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APPROVED	DATE	APPR
	09/26/2022	
ISSUE FOR CONSTRUCTION	SYM	DESCRIPTION
0		

NAVAC

JOINT VENTURE

Wiley/Wilson
BURNS
MCDONNELL

APPROVED

Jennifer Bless

FOR COMMANDER NAVAC

ACTIVITY

SATISFACTORY TO DATE

DES

PRM

BRANCH MANAGER

CHIEF ENGINEER

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON DC
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON DC
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE
BORING LOGS

SCALE: AS NOTED

PROJECT NO.: 1396550

CONSTR. CONTR. NO. N40080-15-D-0452

NAVAC DRAWING NO. 13140295

SHEET 25 OF 229

B-604

DRAWING REVISION: 06 APRIL 2017

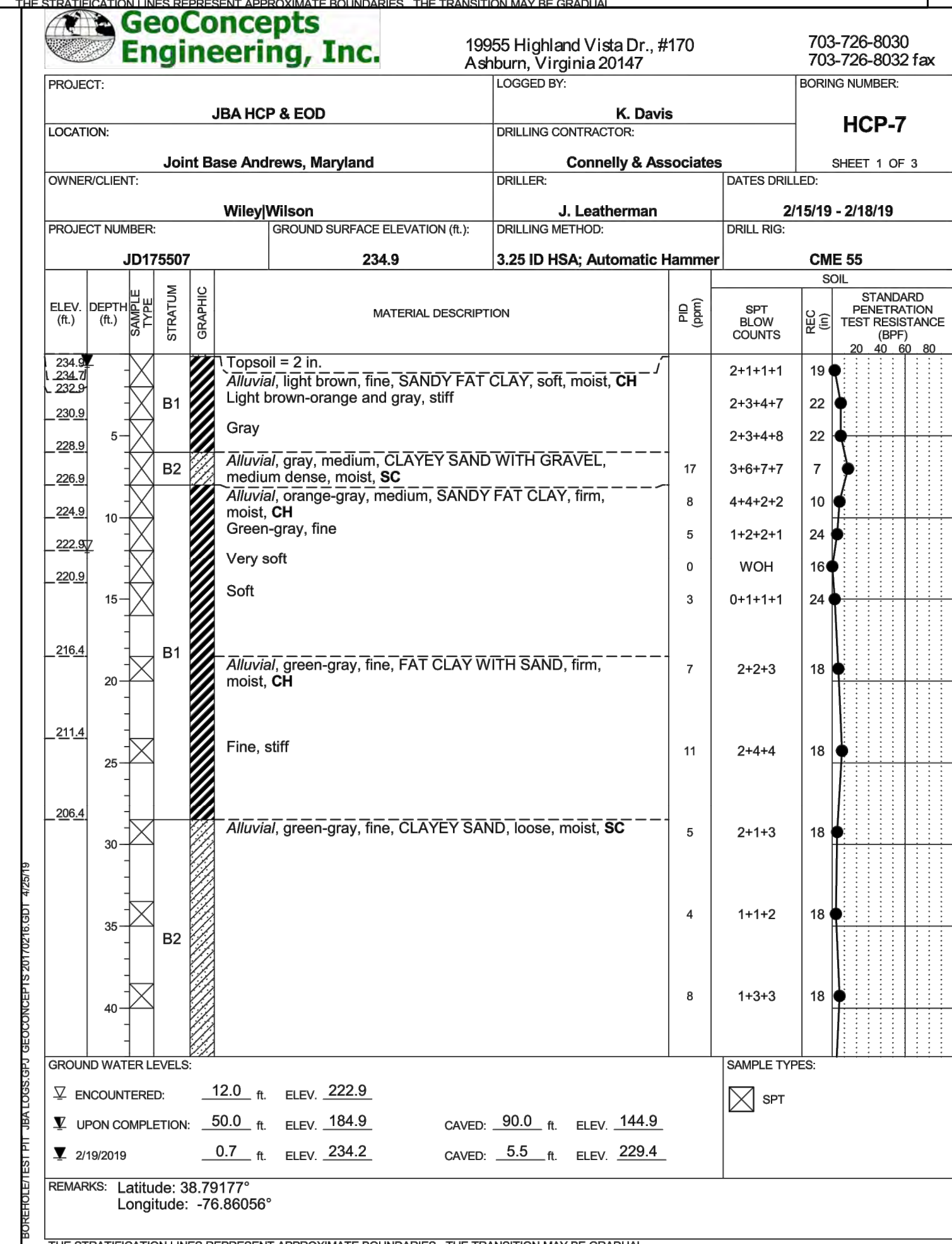
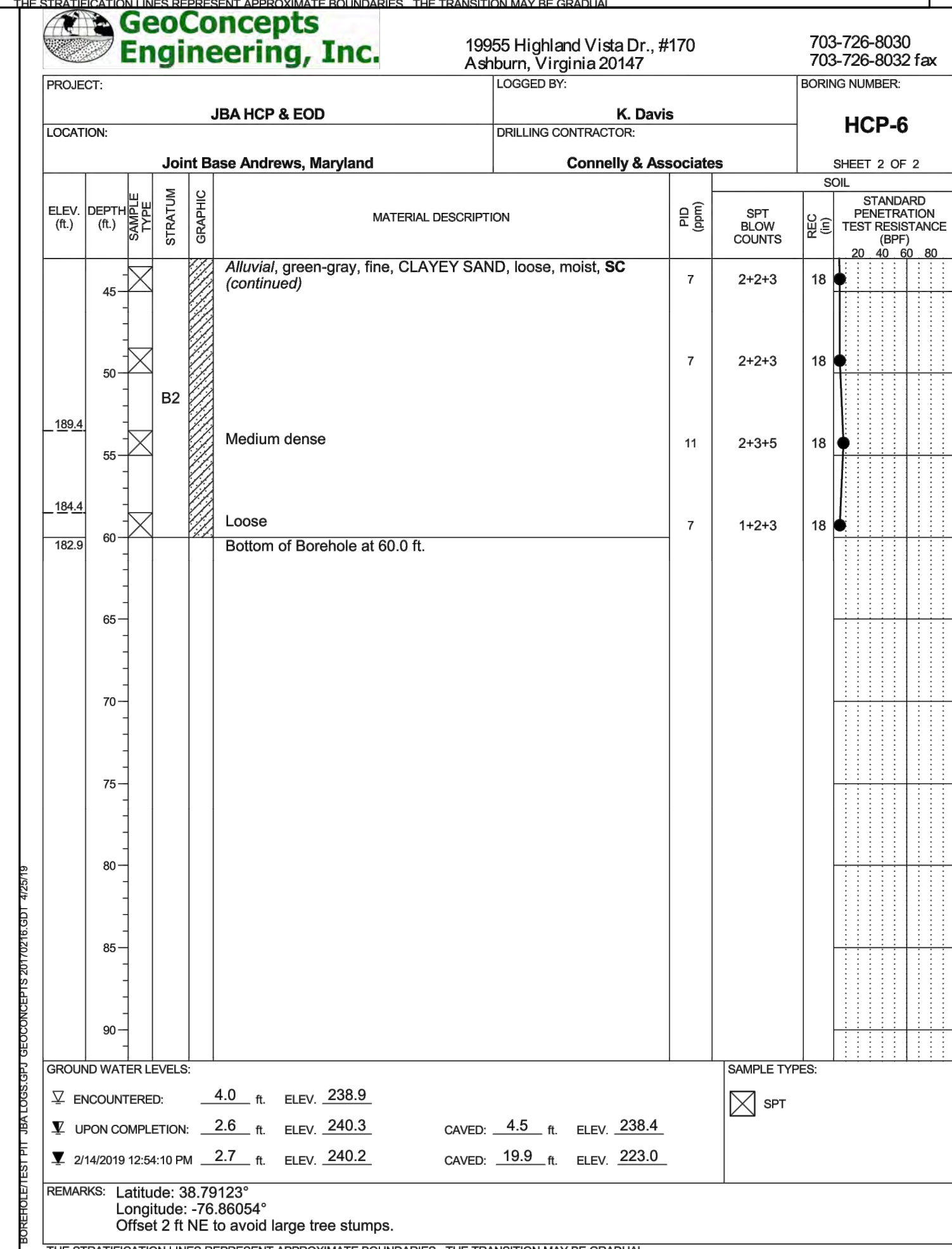
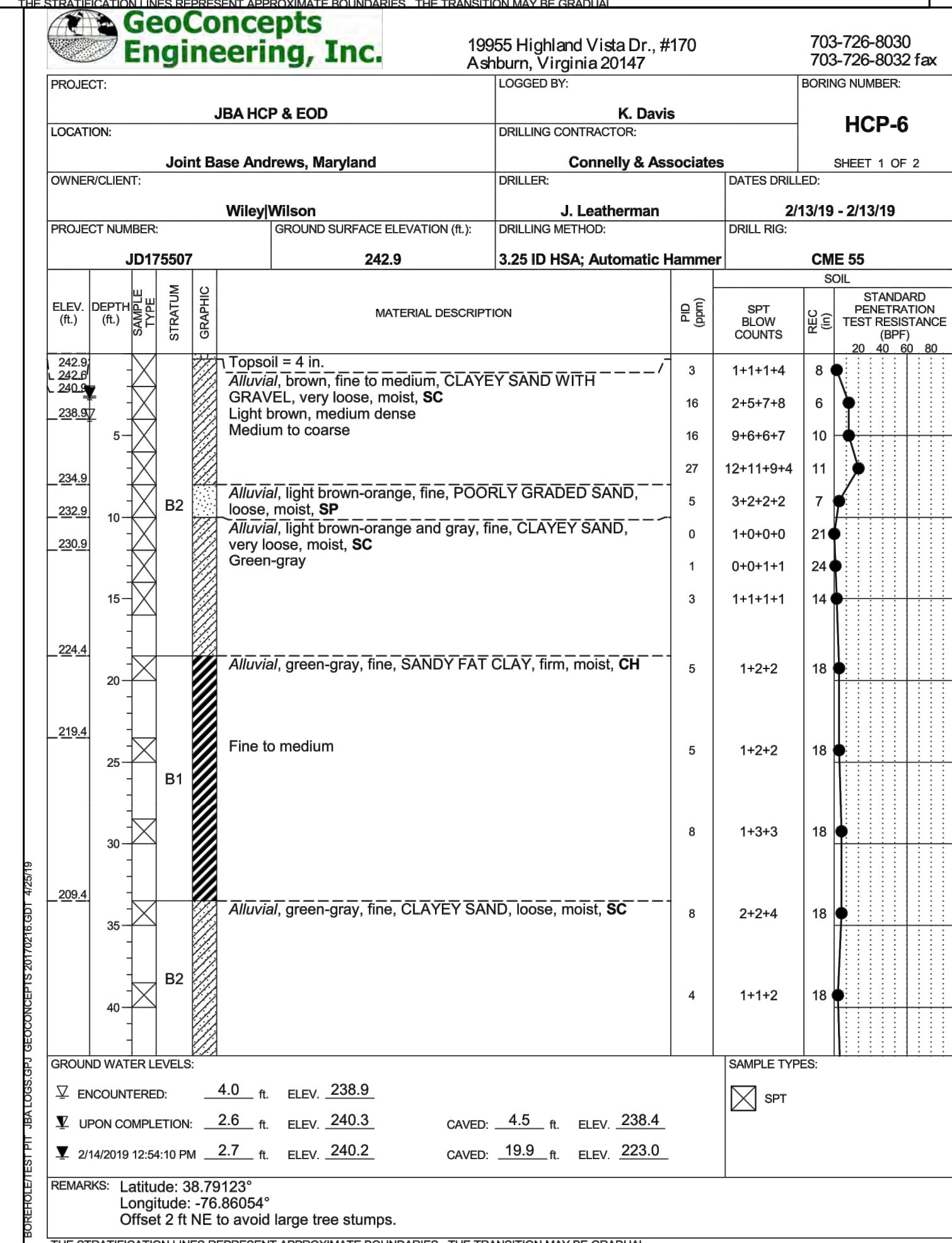
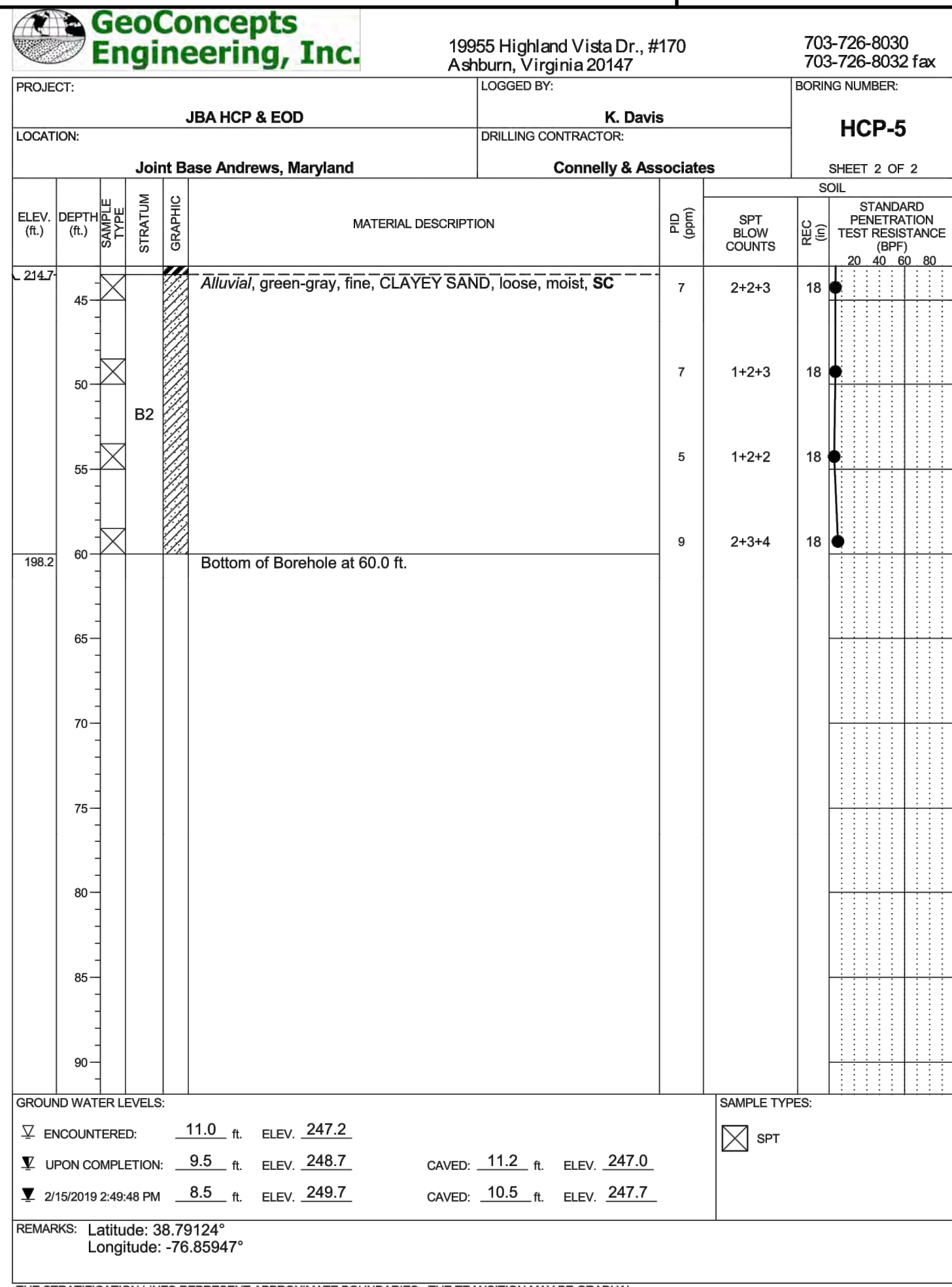
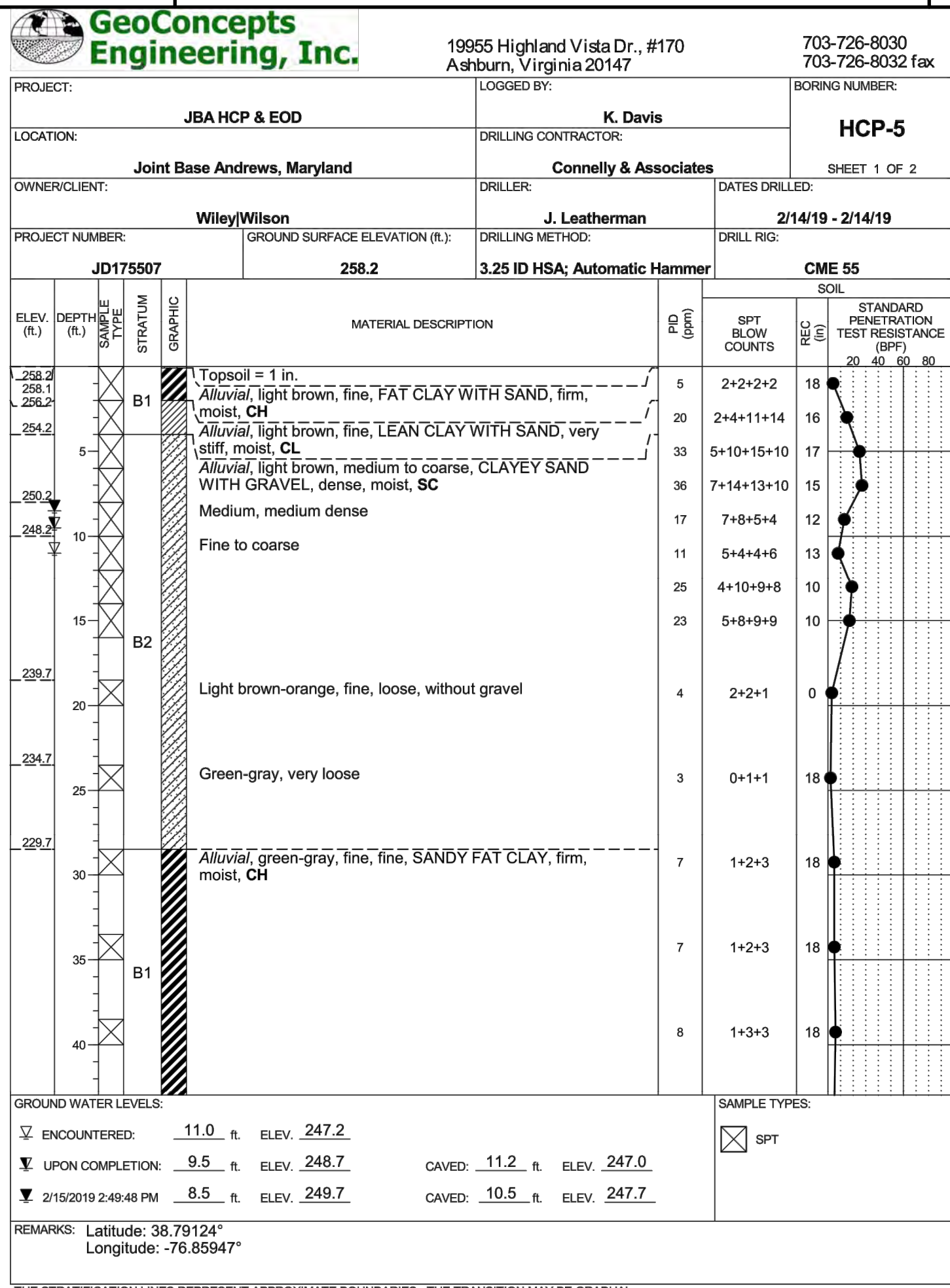
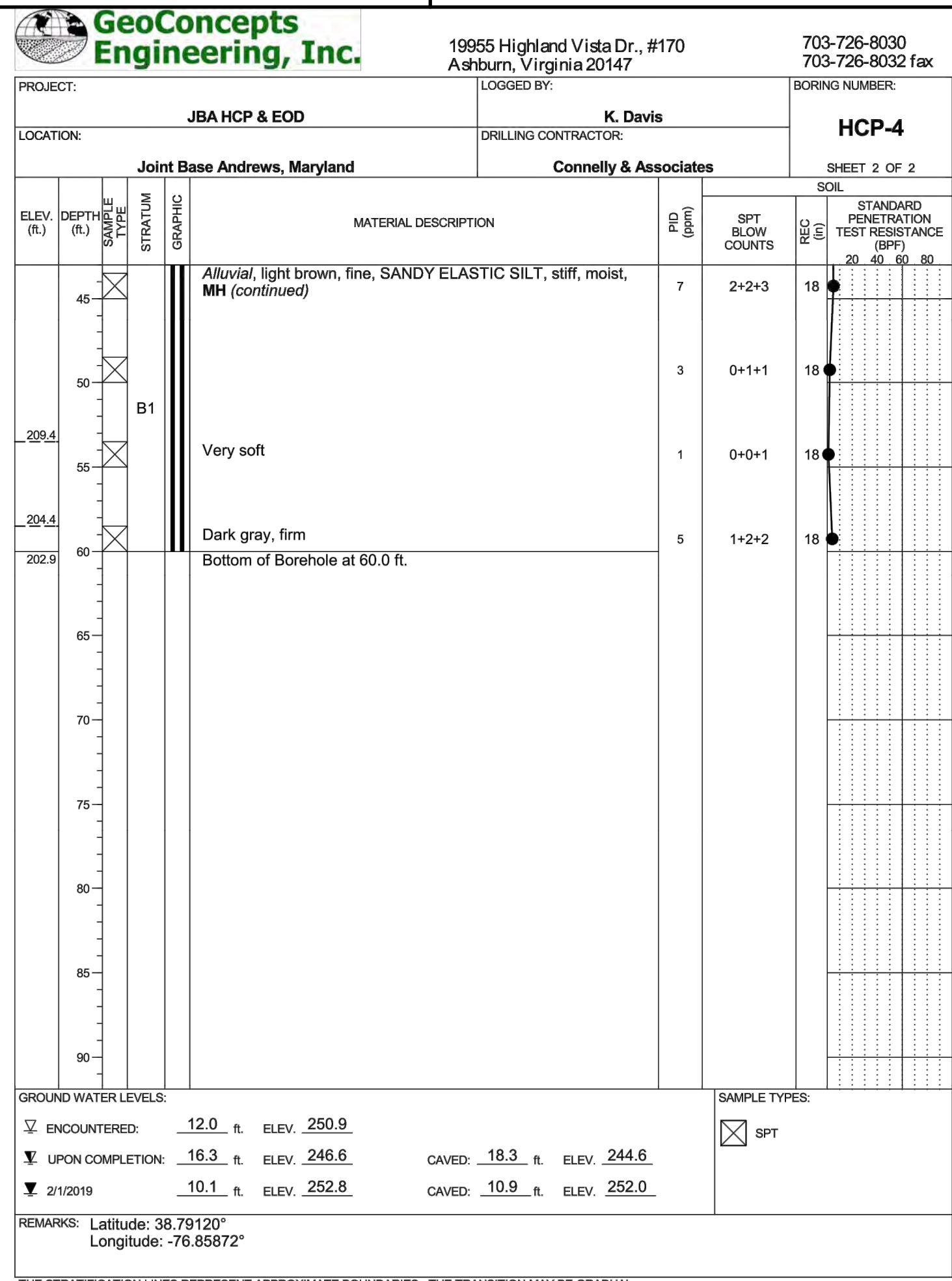
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DATE	29/06/2022	APPR
DATE	0	ISSUE FOR CONSTRUCTION
DATE	0	SYM DESCRIPTION



JOINT VENTURE

APPROVED: Jennifer Bless

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES: [] DRW: [] CHK: []

PHOTO

BRANCH MANAGER

CHIEF ENGINEER

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON DC
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

SCALE: AS NOTED

PROJECT NO.: 1396650

CONSTR. CONTR. NO. N40080-15-D-0452

NAVFAC DRAWING NO. 13140296

SHEET 26 OF 229

B-605

DRAWING REVISION: 06 APRIL 2017

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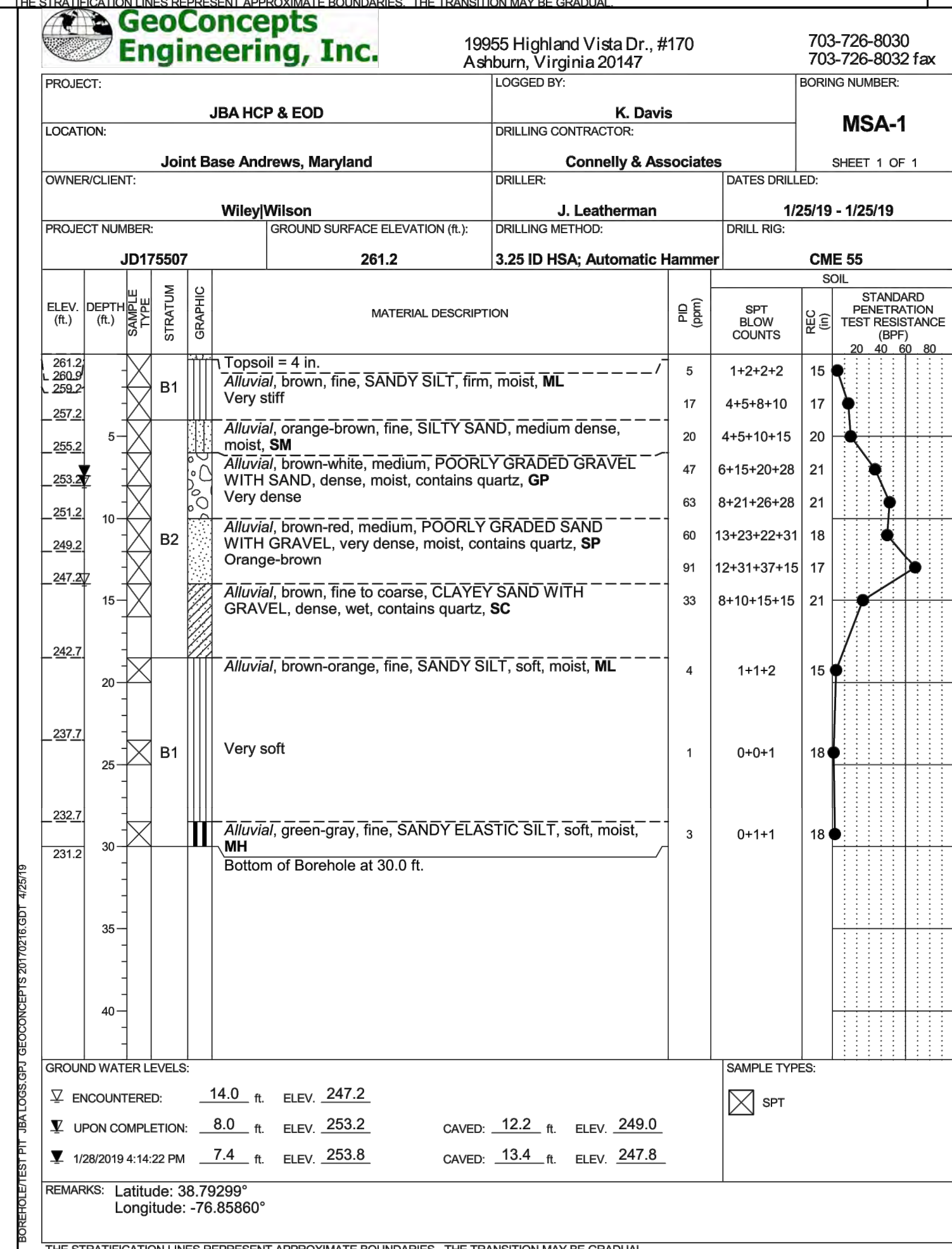
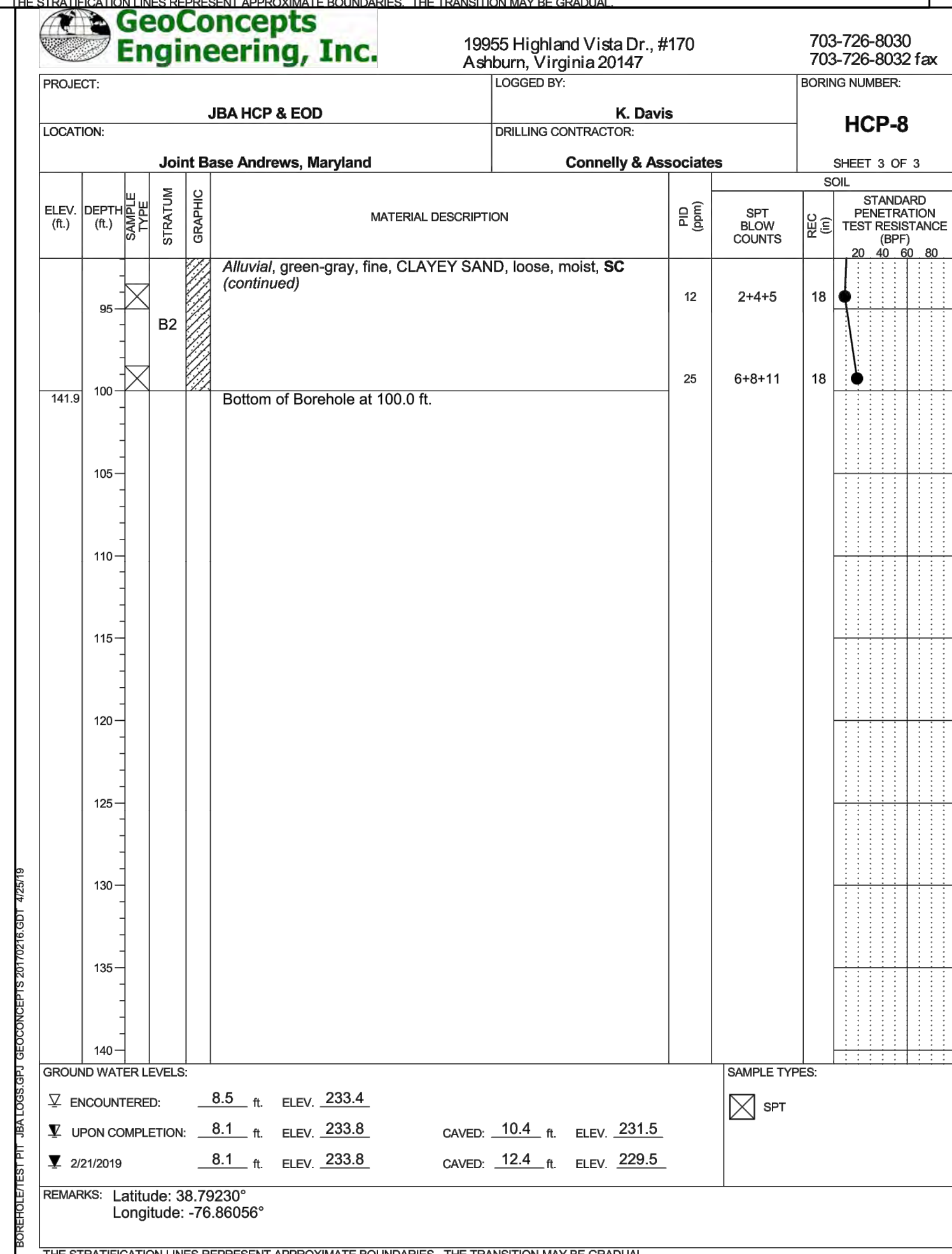
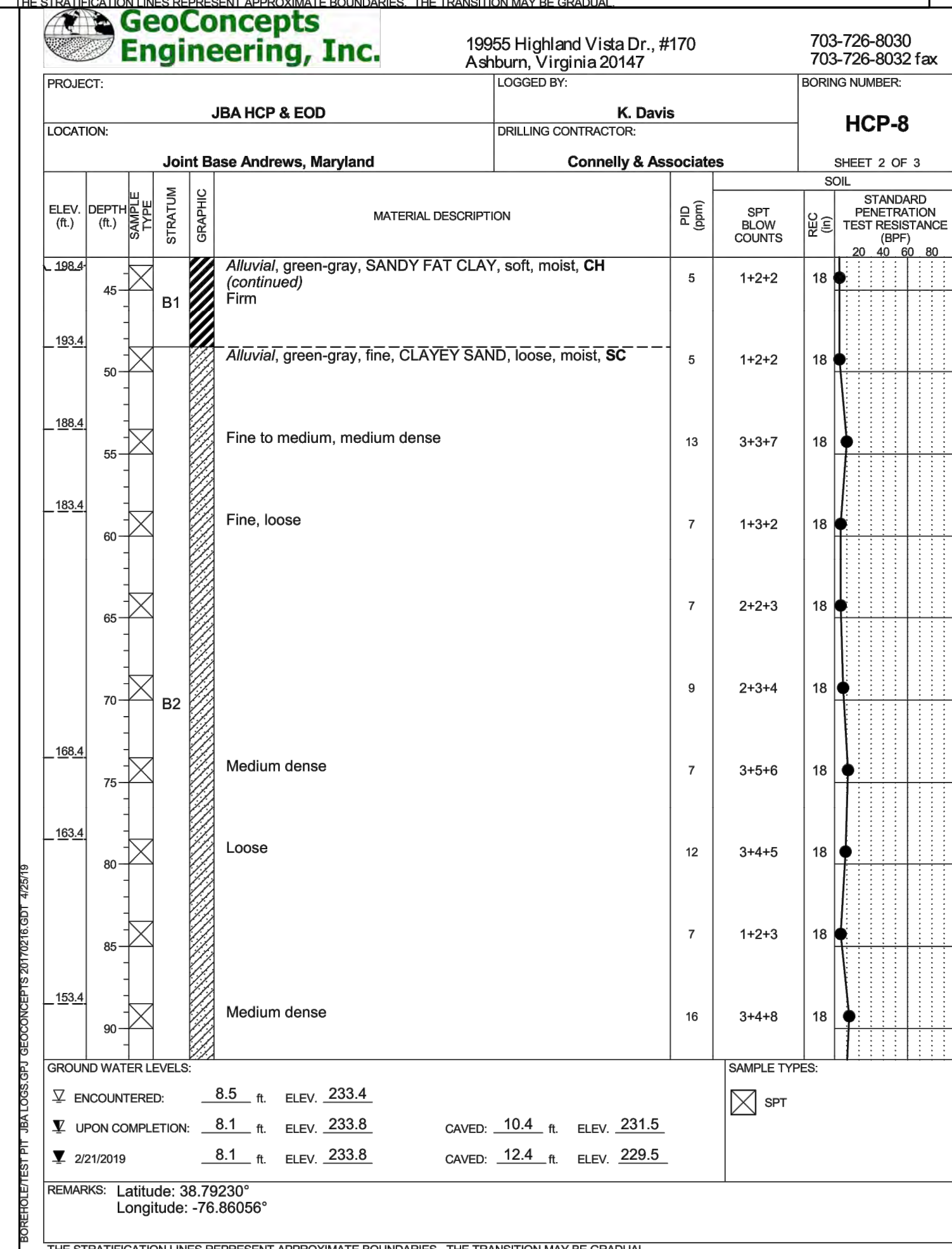
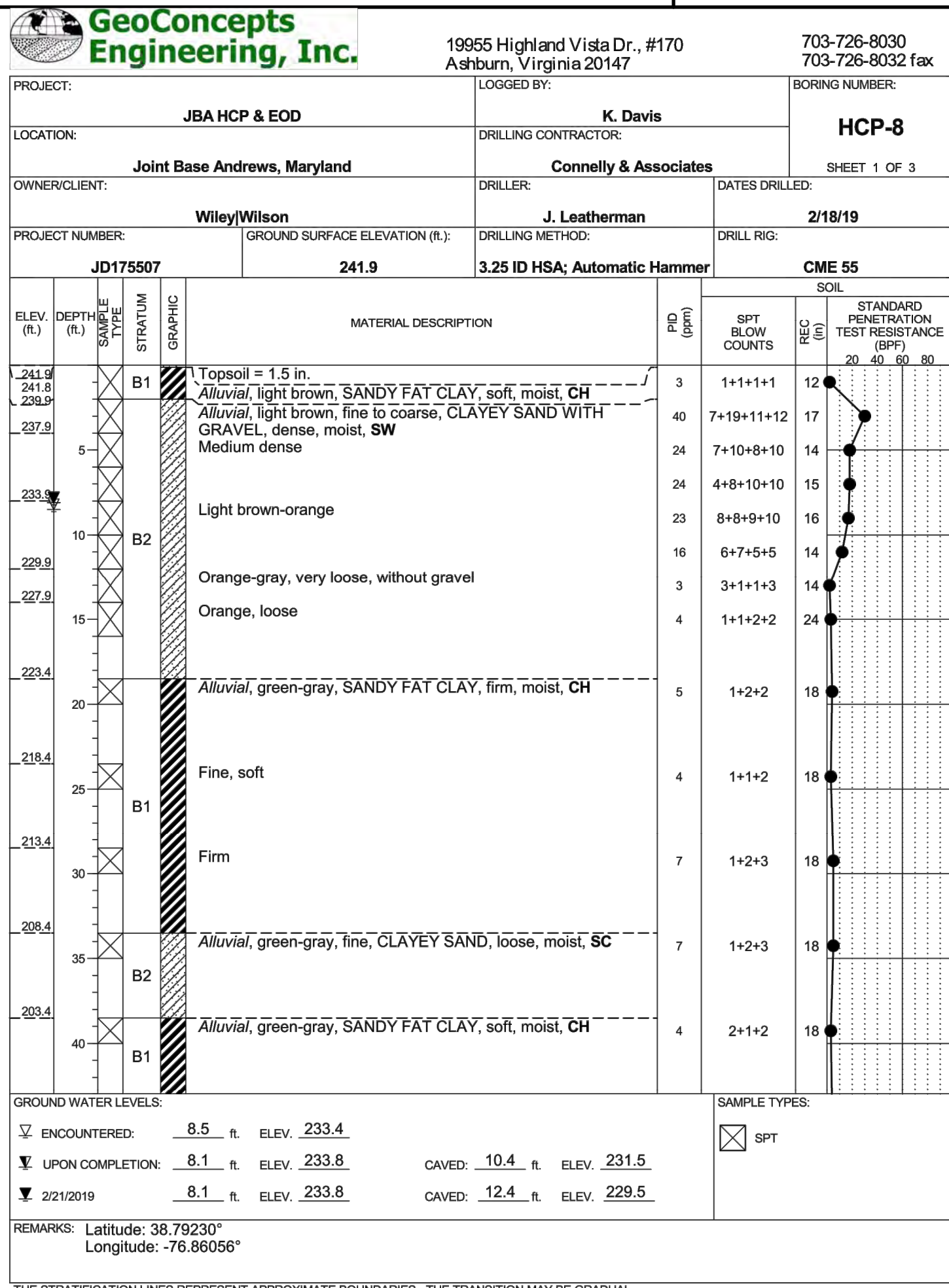
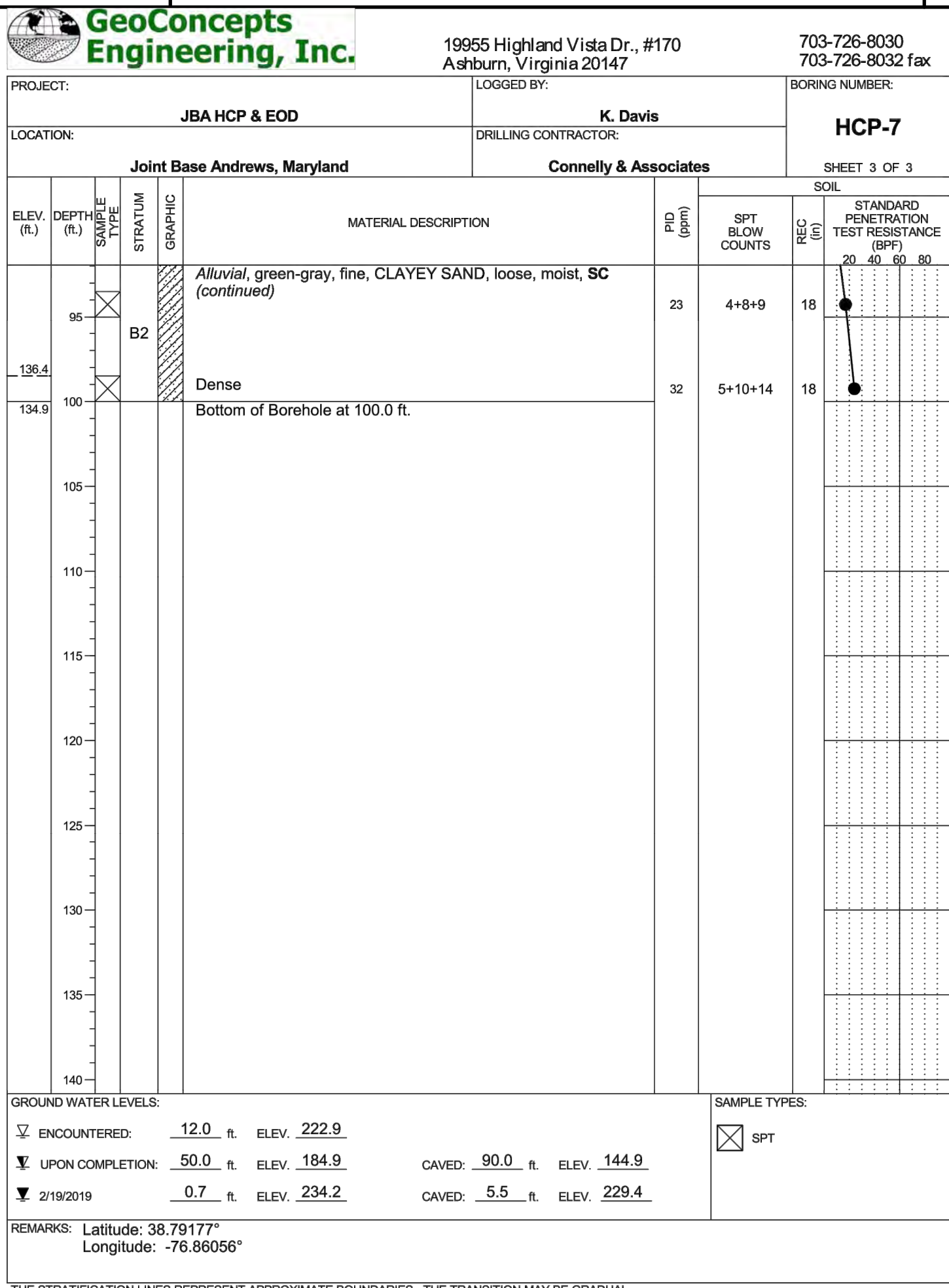
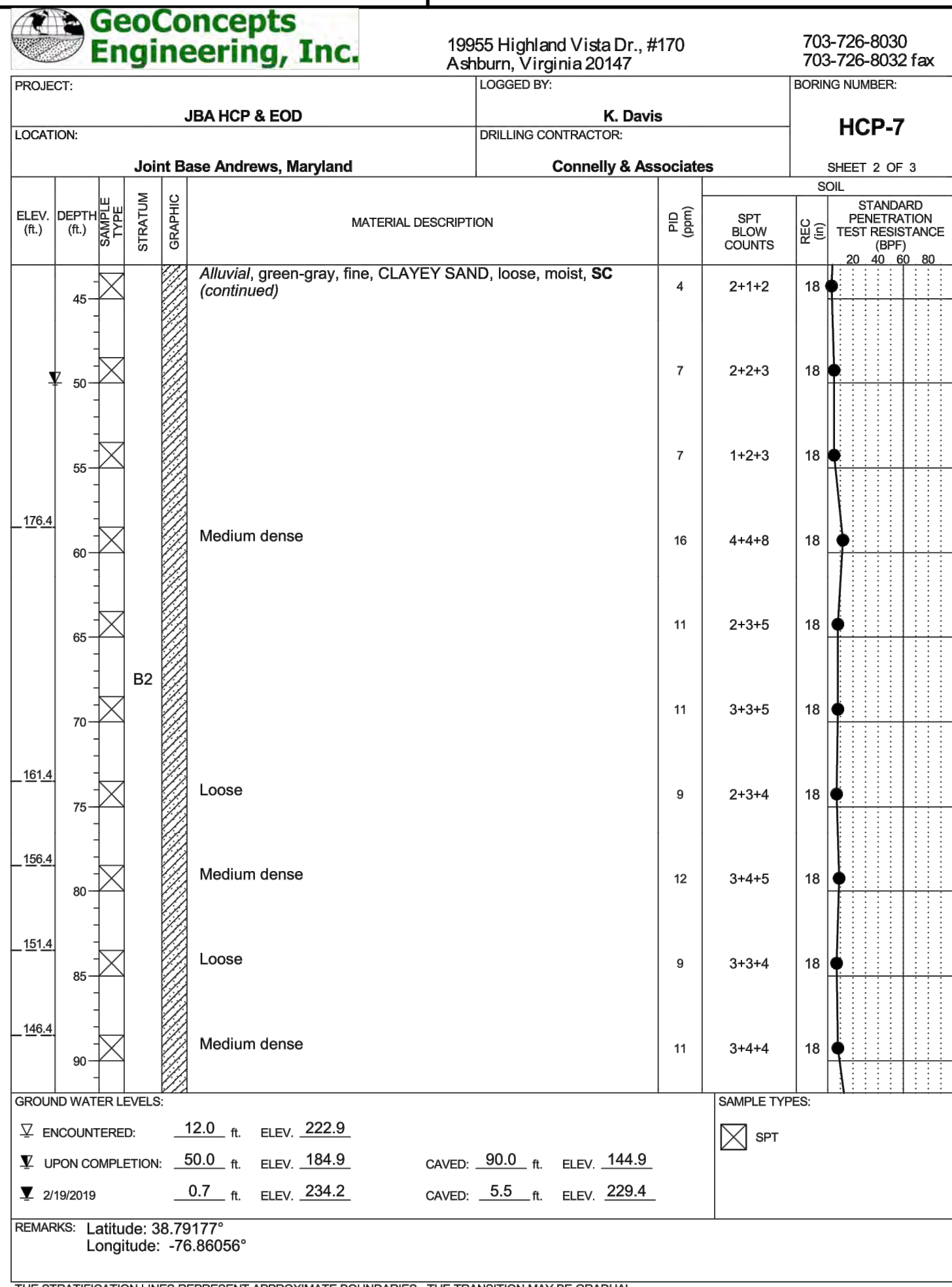
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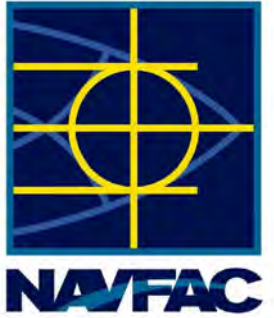
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DATE	ISSUE FOR CONSTRUCTION	SYNOPSIS	DESCRIPTION	APPROVED
29/06/2022	0			



JOINT VENTURE

APPROVED: Jennifer Bless

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DESIGN: [] DRAW: [] CHK: []

PHOTO

BRANCH MANAGER

CHIEF ENGINEER

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON DC
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

SCALE: AS NOTED
PROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13140297
SHEET 27 OF 229
B-606

DRAWING REVISION: 06 APRIL 2017

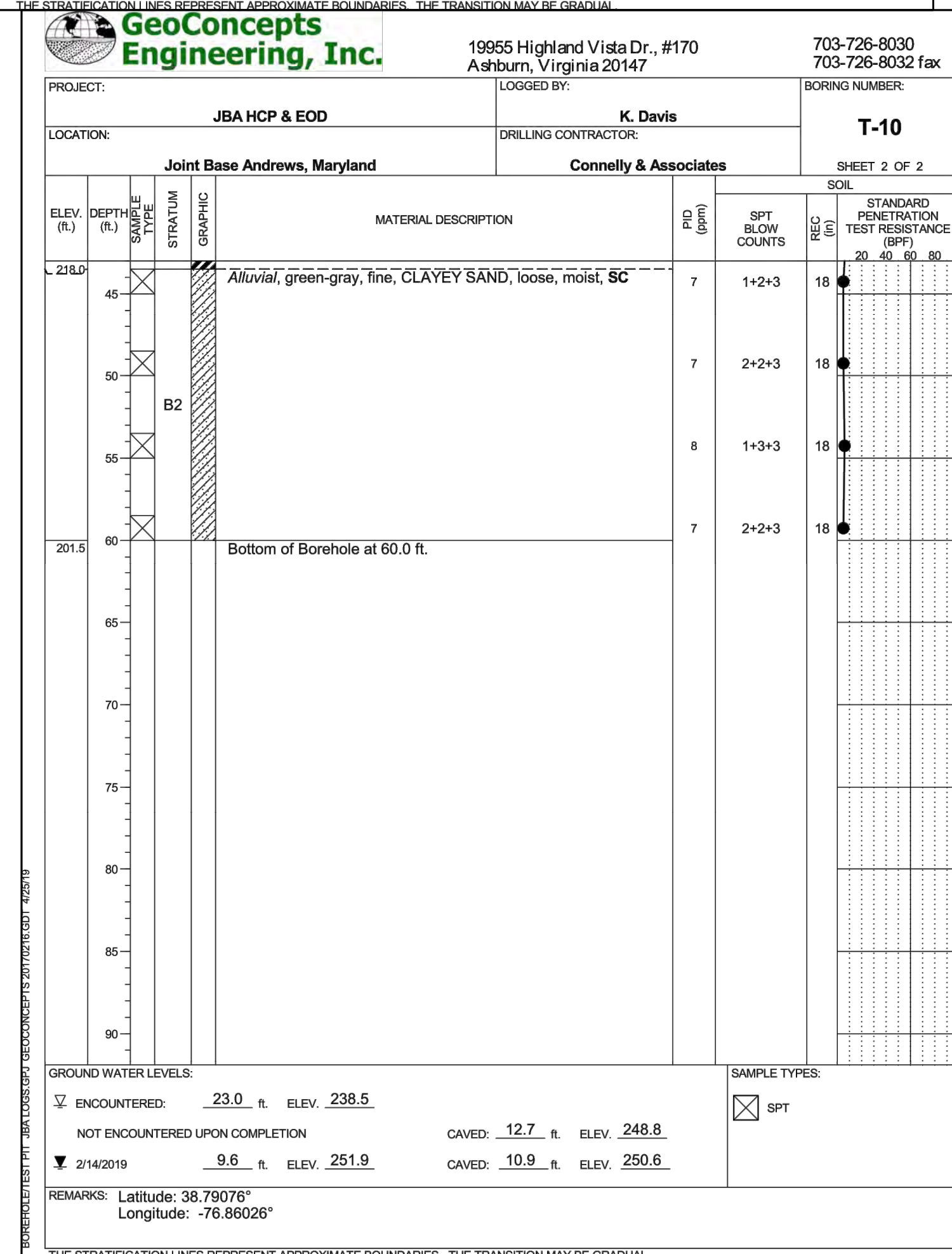
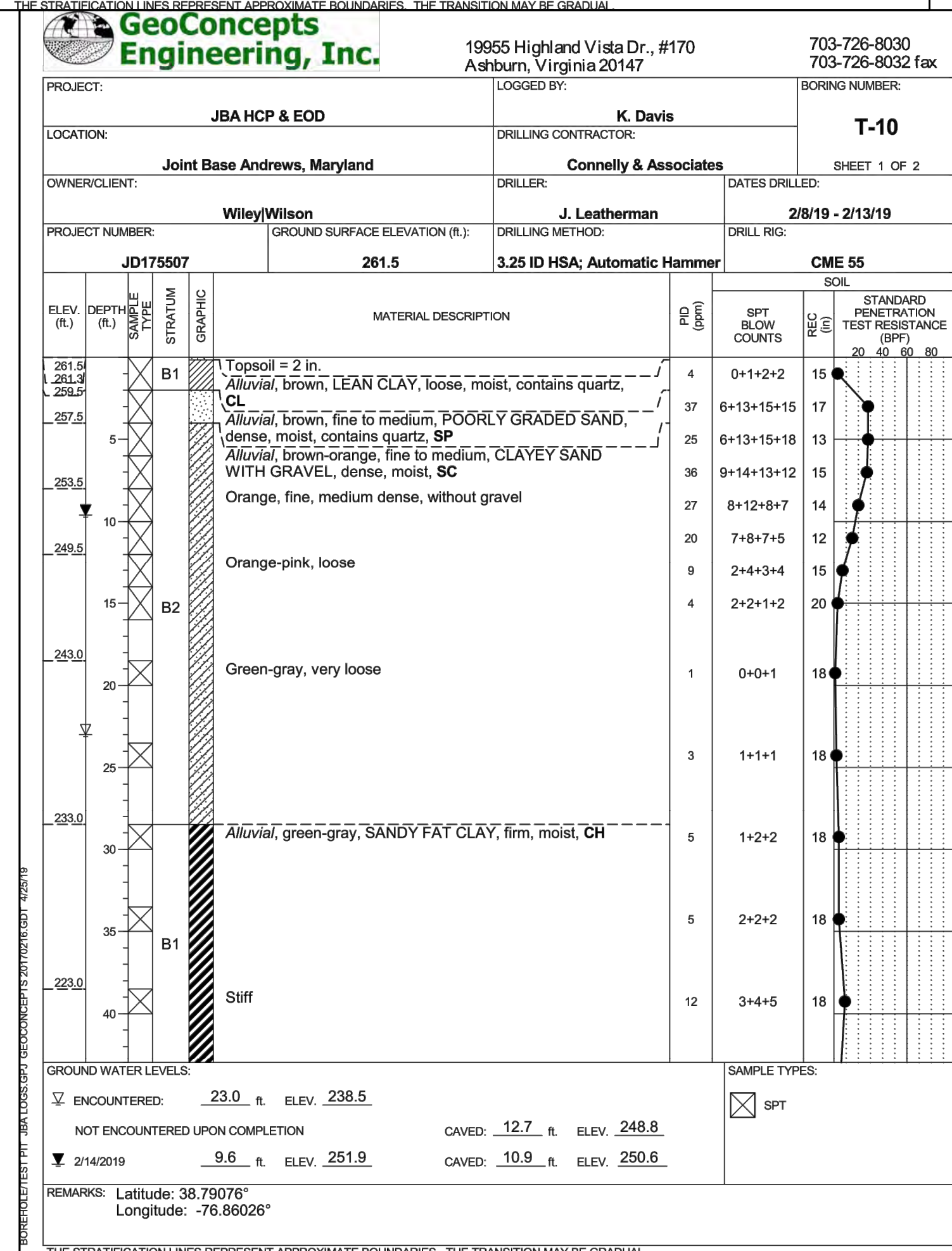
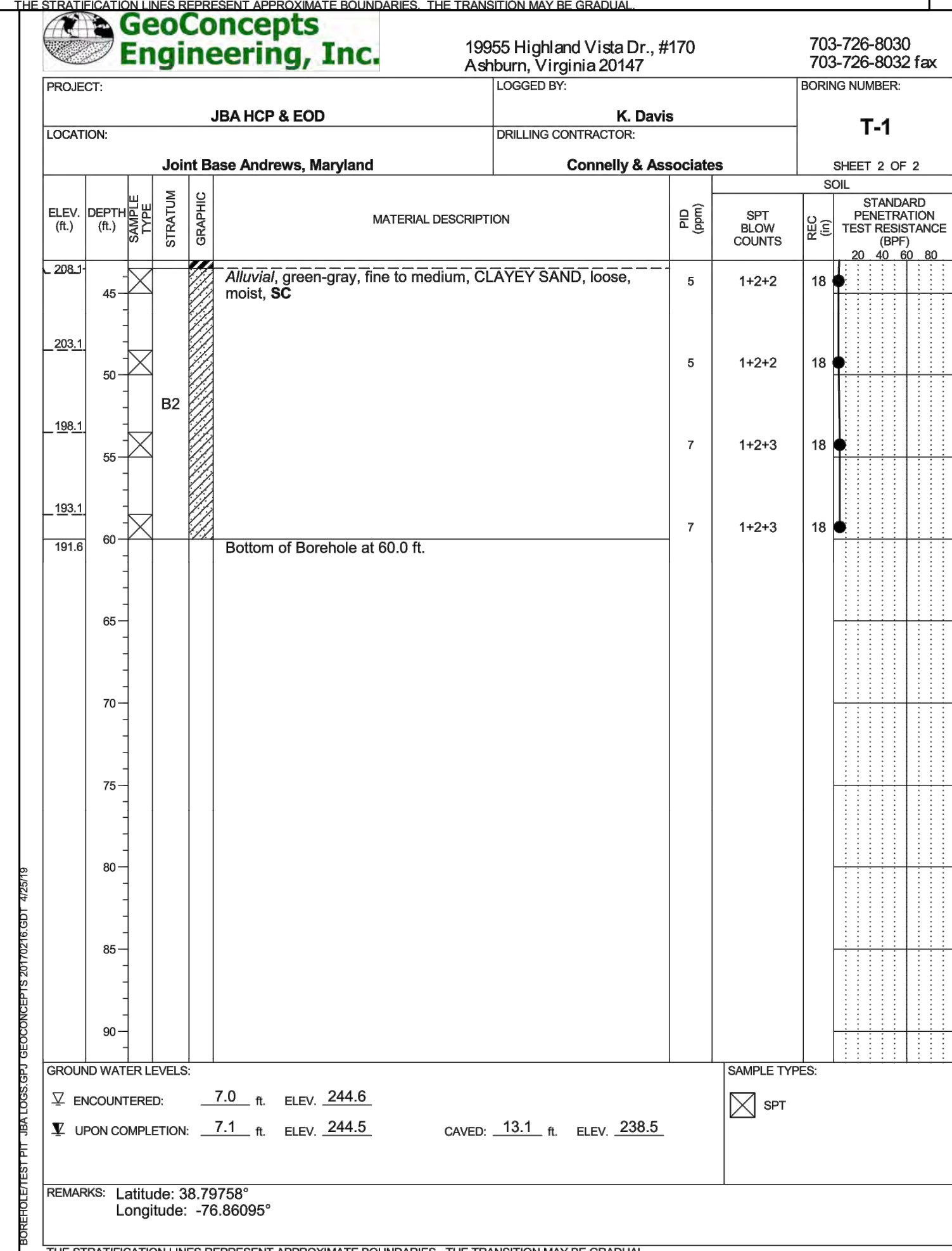
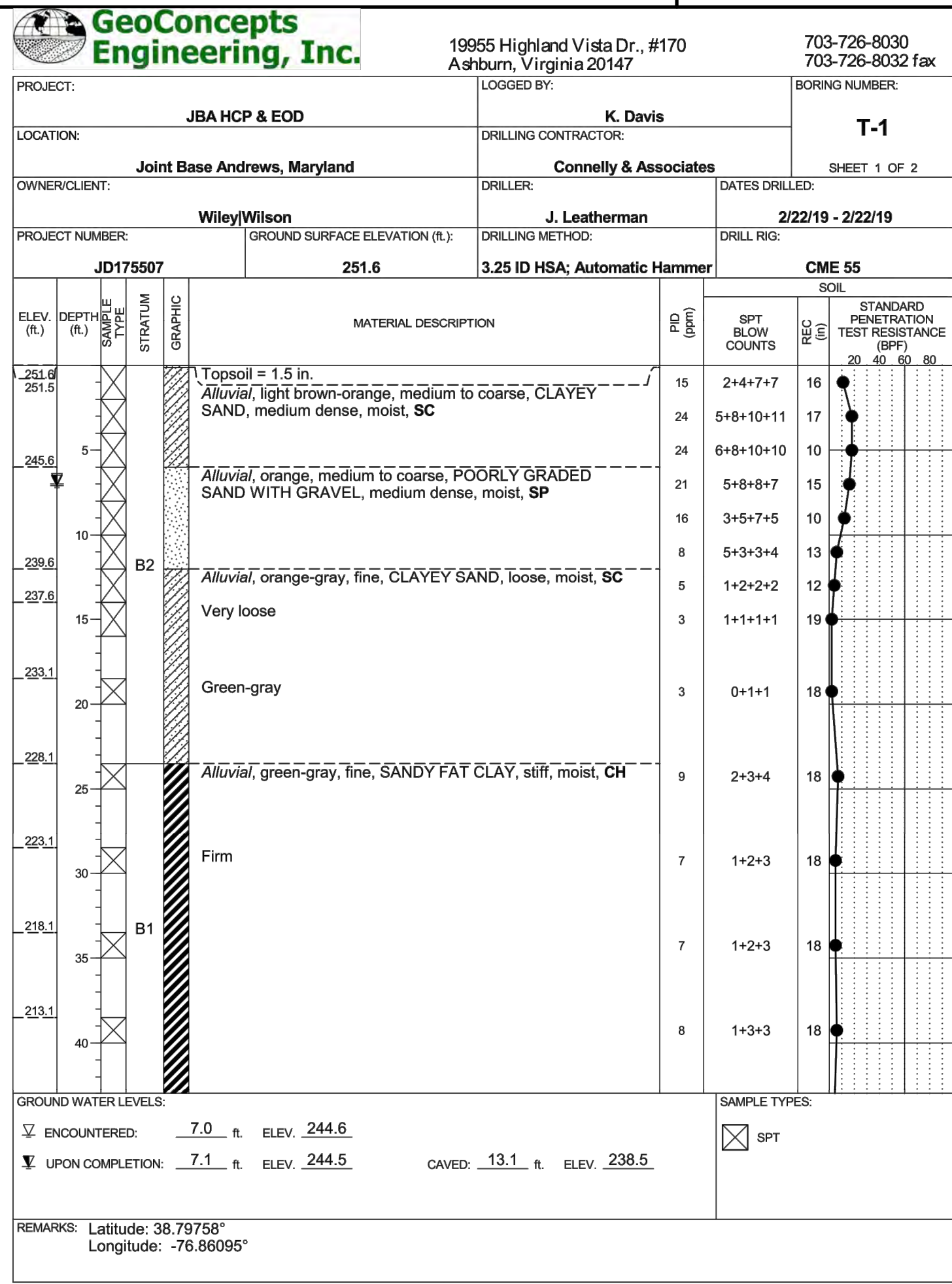
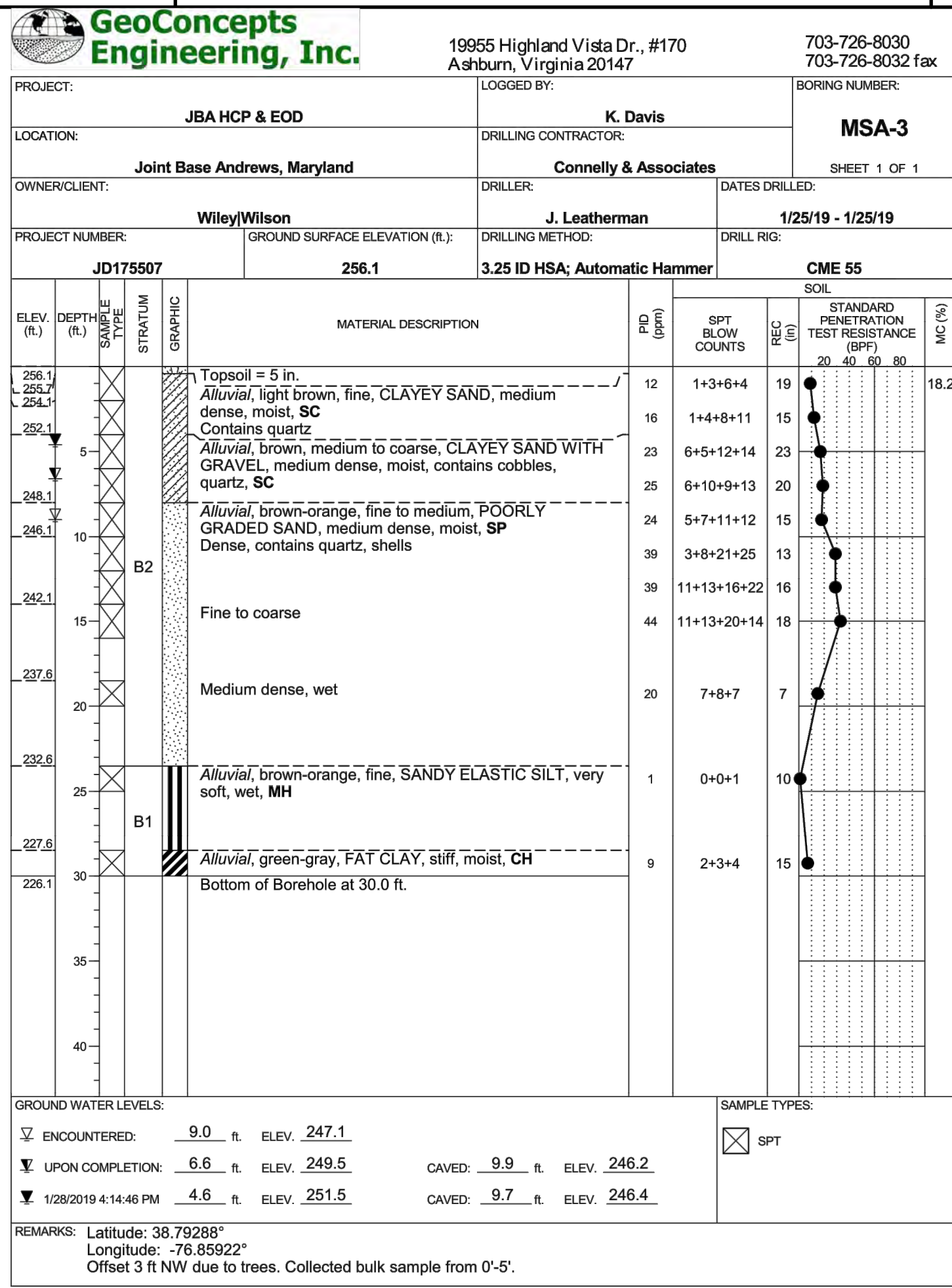
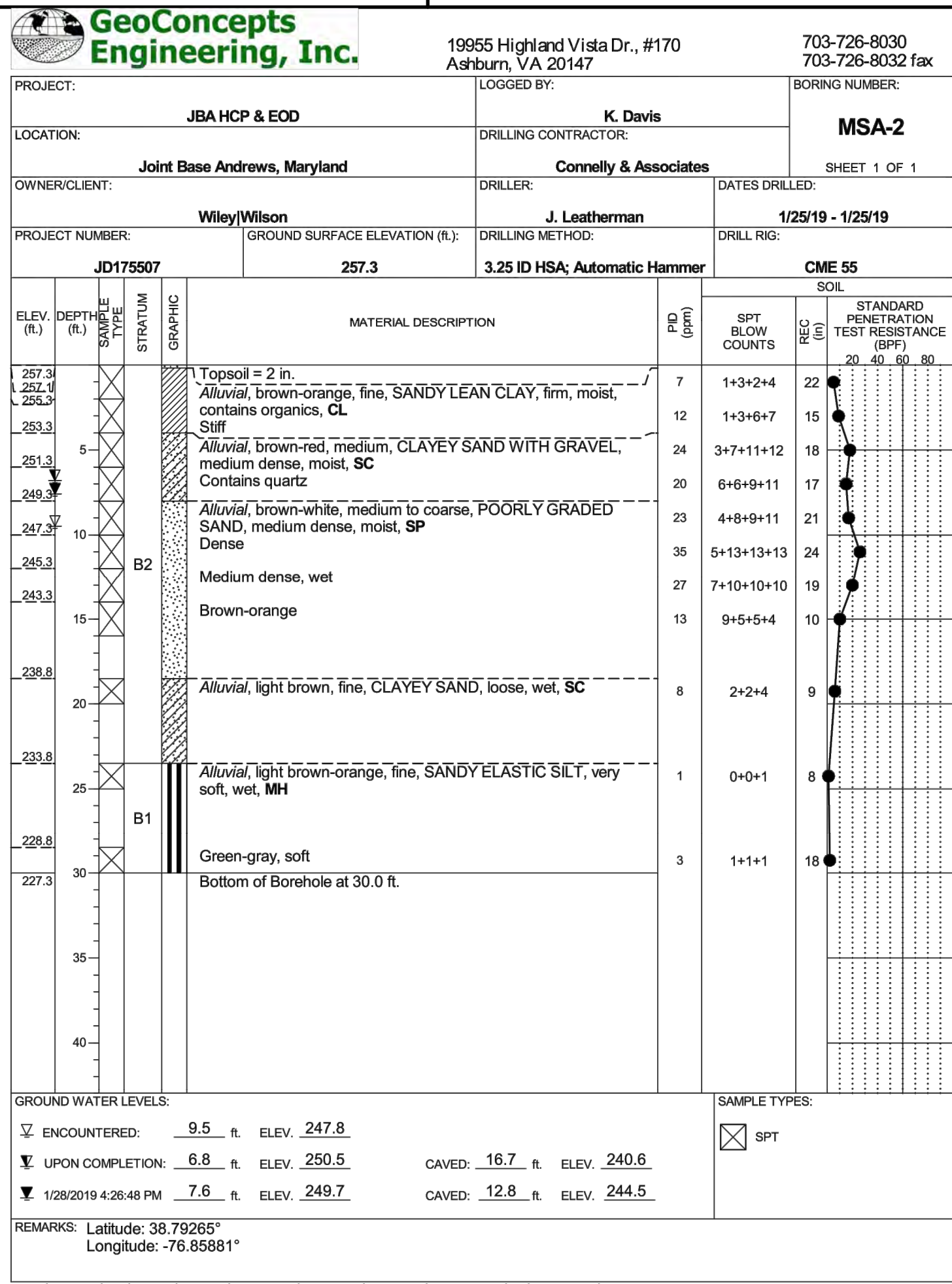
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DATE	APPR
09/26/2022	

DATE	SYN	DESCRIPTION
0		ISSUE FOR CONSTRUCTION



JOINT VENTURE
Wiley/Wilson
BURNS
MCDONNELL

APPROVED
Jennifer Bless
FOR COMMANDER NAVFAC

SATISFACTORY TO DATE
DES
DRAW
CHK

BRANCH MANAGER
CHIEF ENGINEER
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON DC
NAVAL BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE
BORING LOGS

SCALE: AS NOTED
PROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13140298
SHEET 28 OF 229
B-607

DRAWING REVISION: 06 APRIL 2017

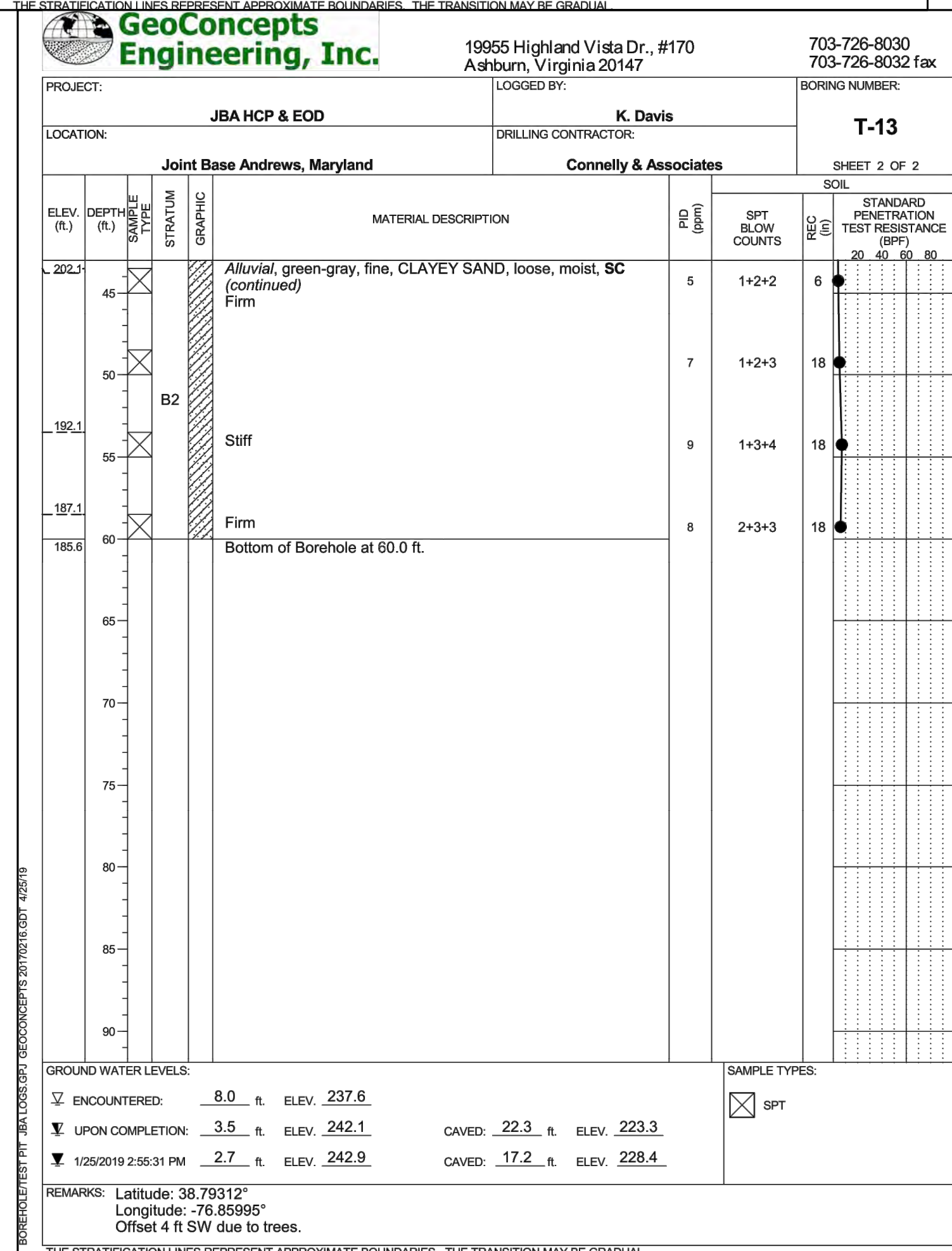
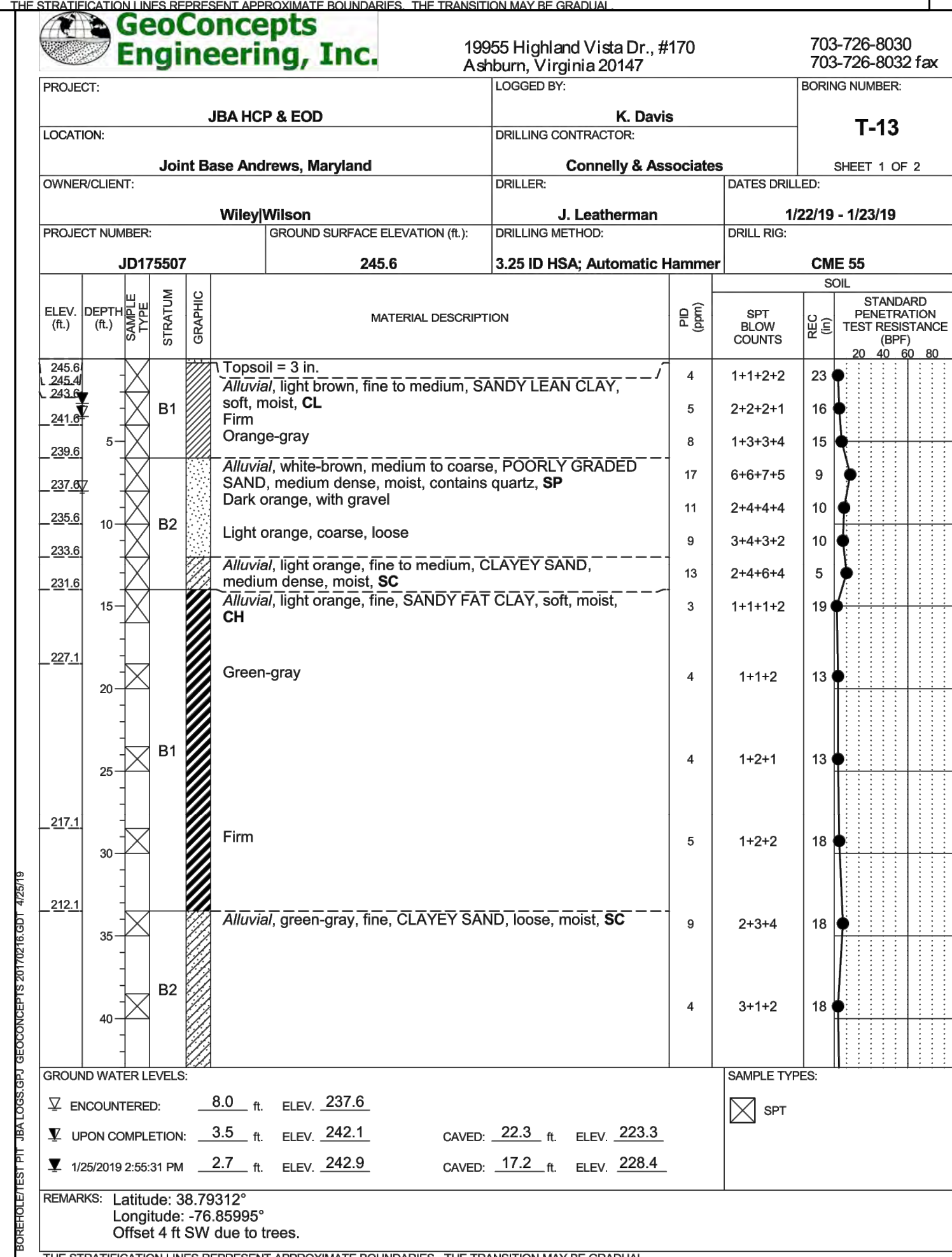
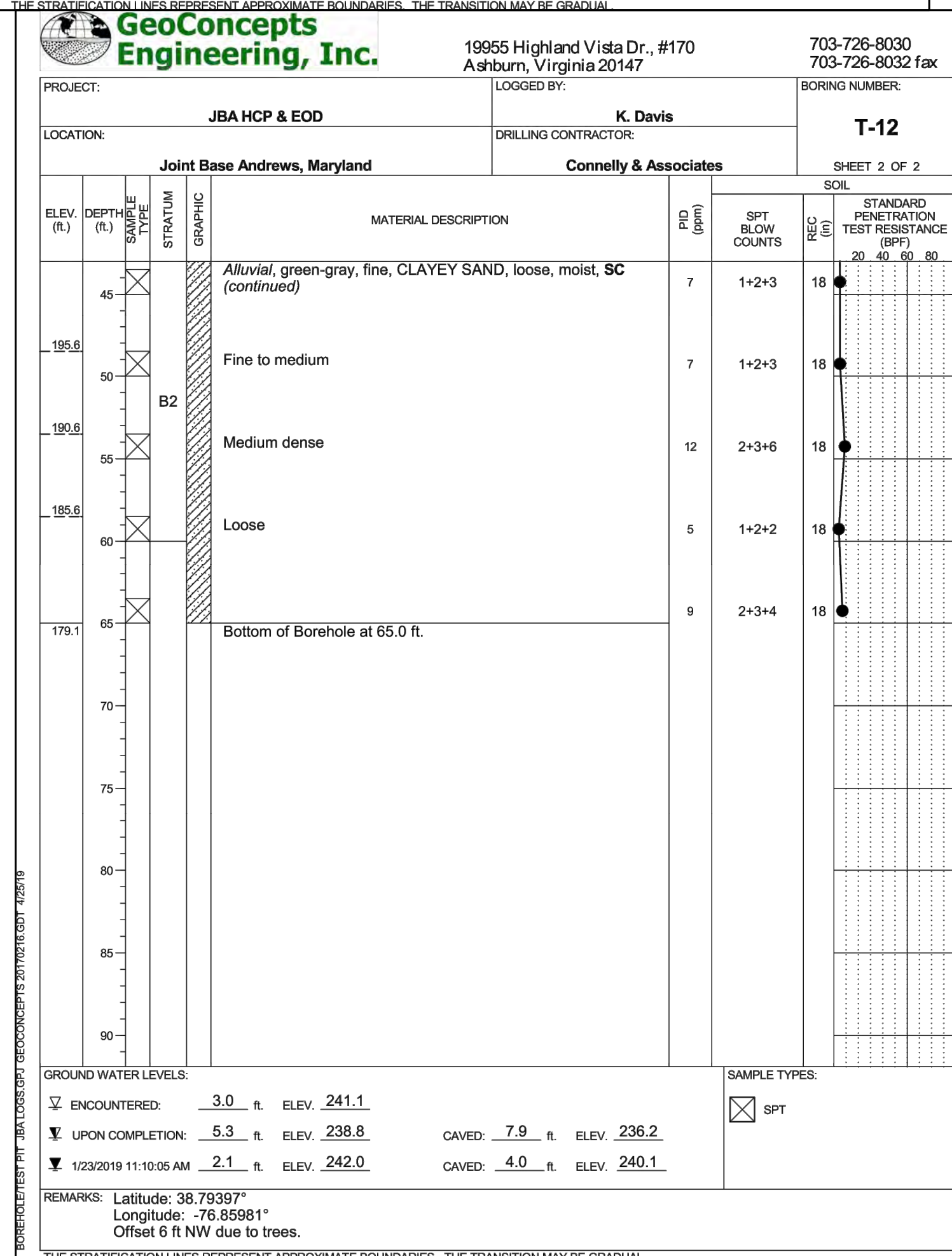
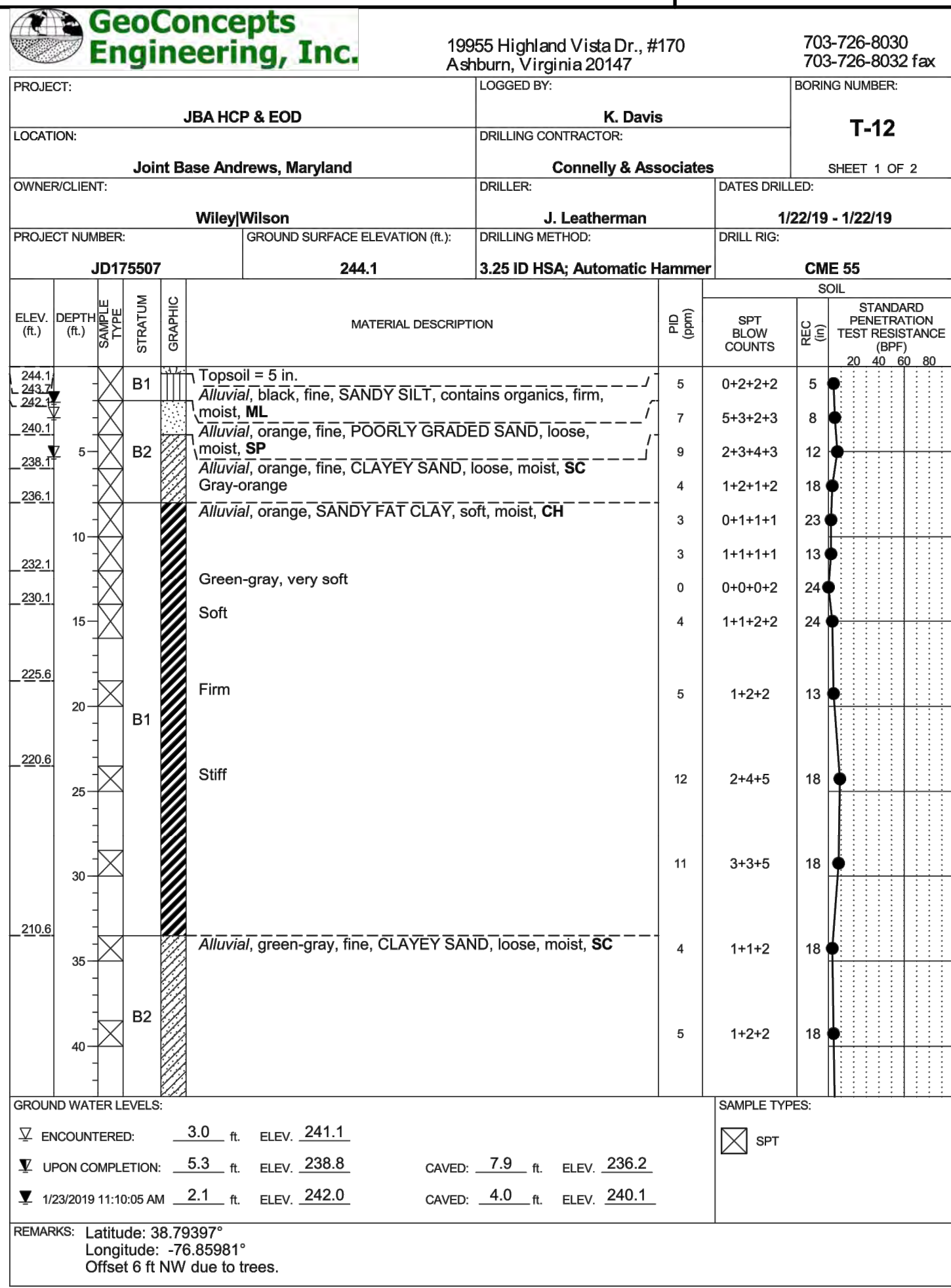
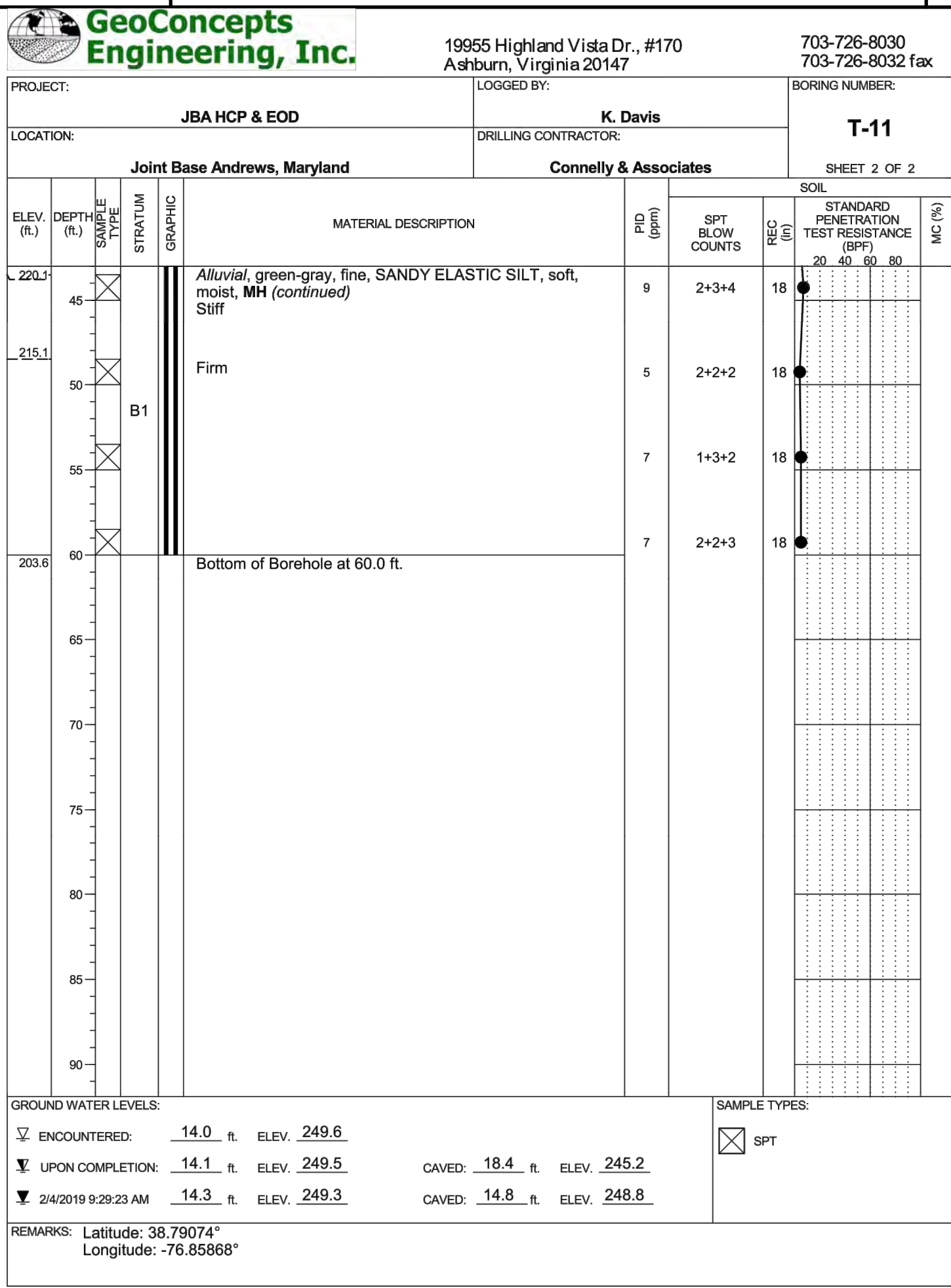
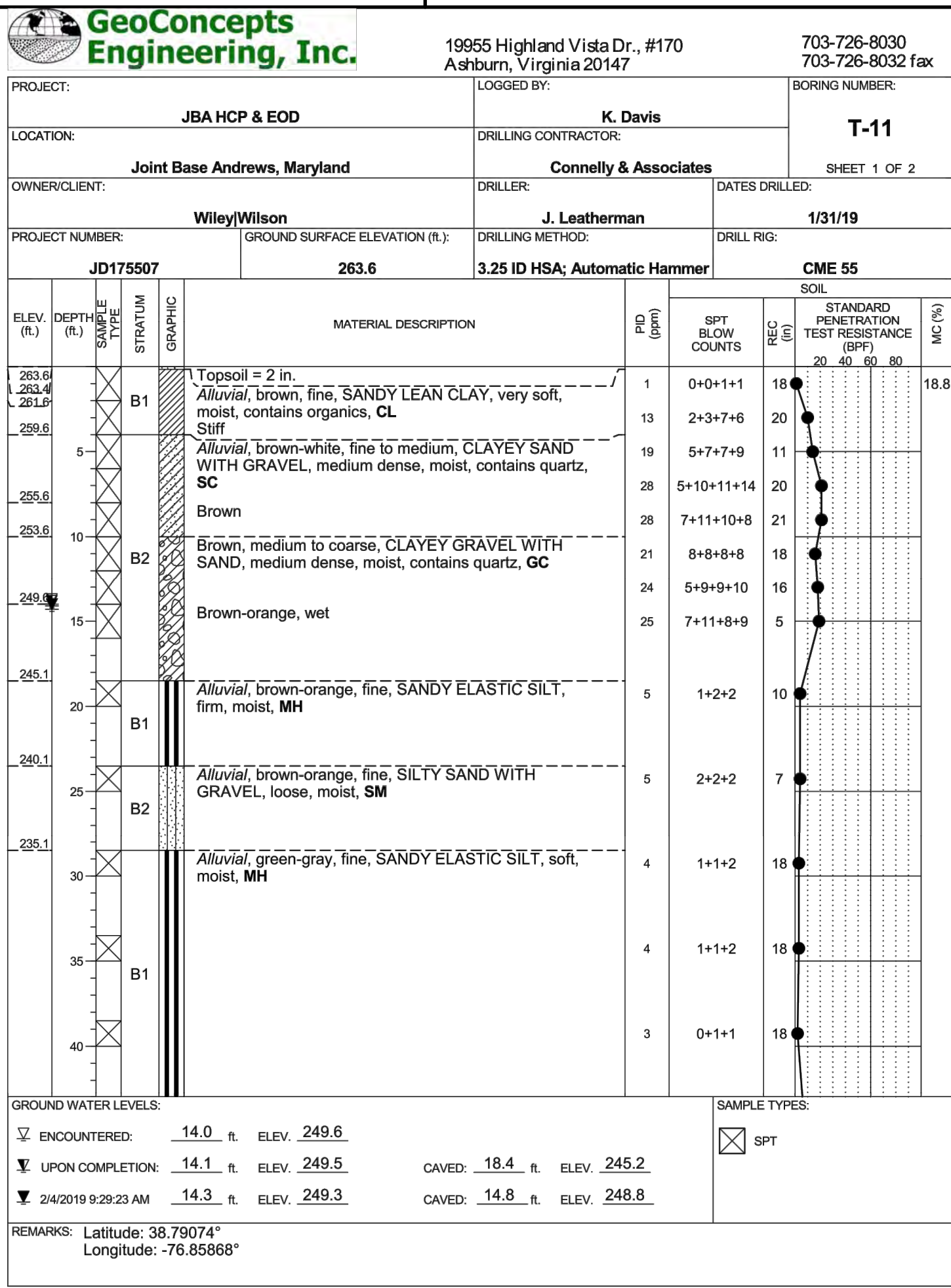
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DATE	ISSUE FOR CONSTRUCTION	SYMBOL	DESCRIPTION
09/26/2022	0		

NAVAC

JOINT VENTURE

Wiley/Wilson **BURNS & MCDONNELL**

APPROVED
JENNIFER BLAESS
FOR COMMANDER NAVAC

SATISFACTORY TO DATE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD
JOINT BASE ANDREWS NAVAL AIR FACILITY
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE
BORING LOGS

SCALE: AS NOTED
PROJECT NO.: 1396650
CONSTR. CONTR. NO.: N40080-15-D-0452
NAVAC DRAWING NO.: 13140299
SHEET 29 OF 229
B-608

DRAWING REVISION: 06 APRIL 2017

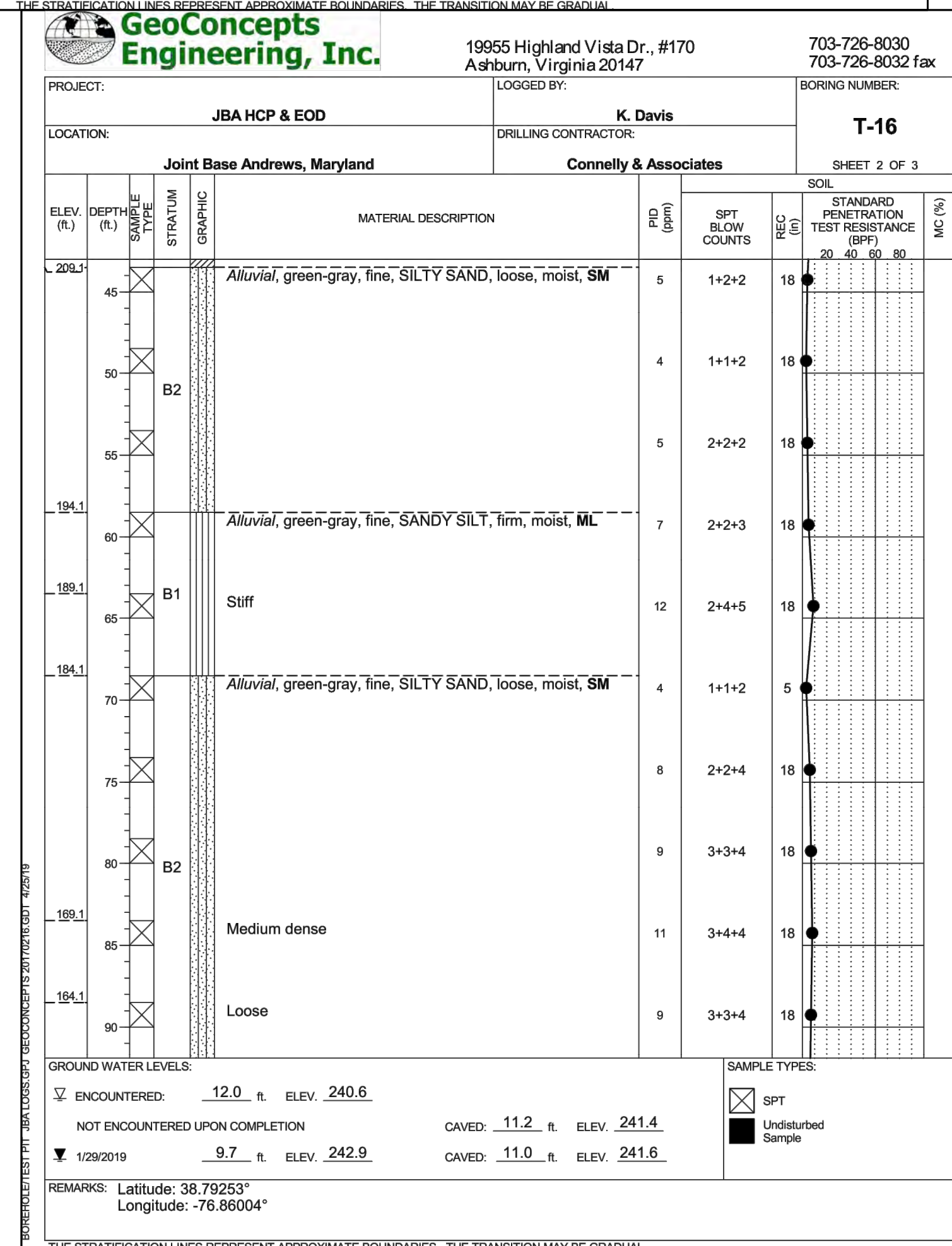
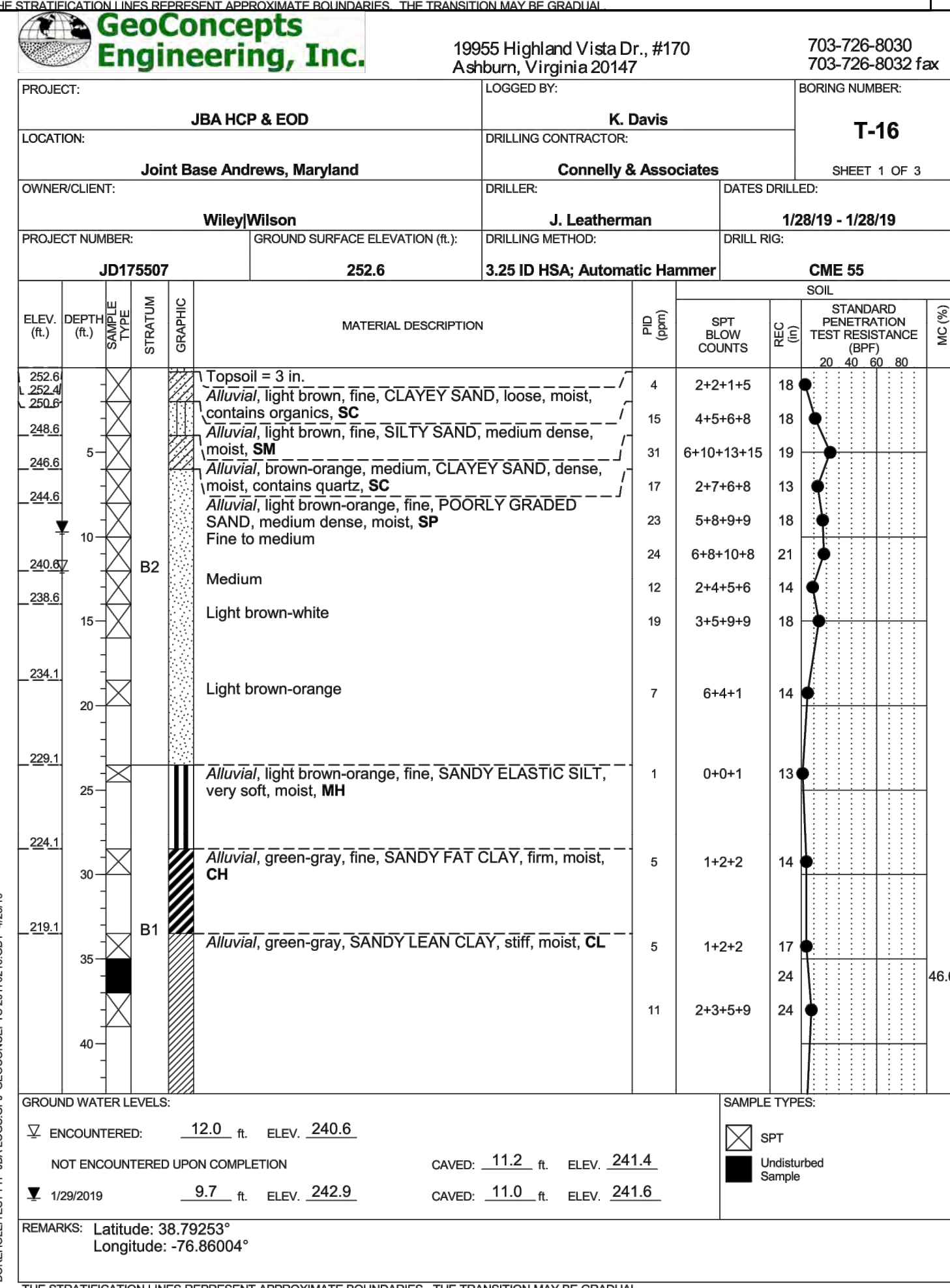
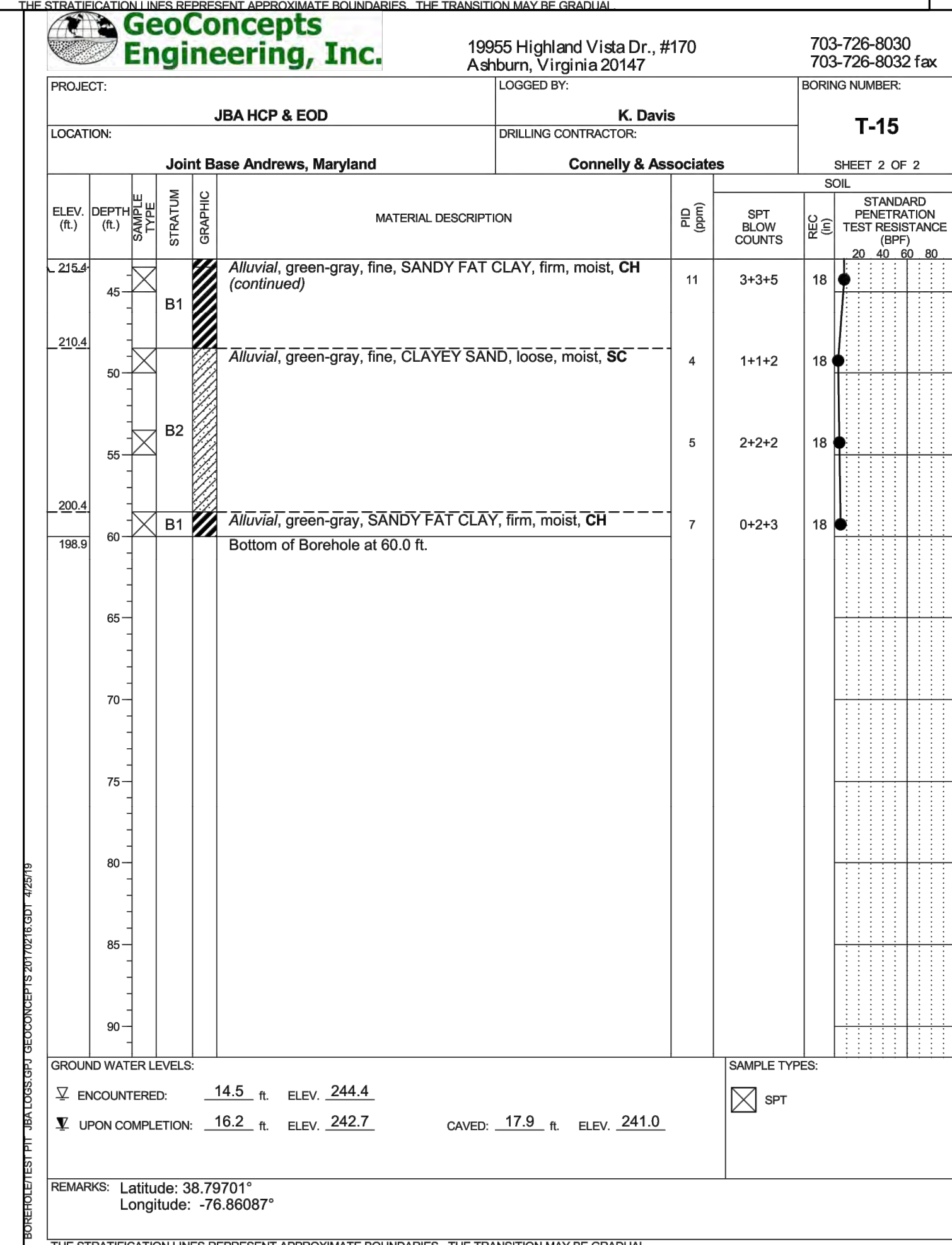
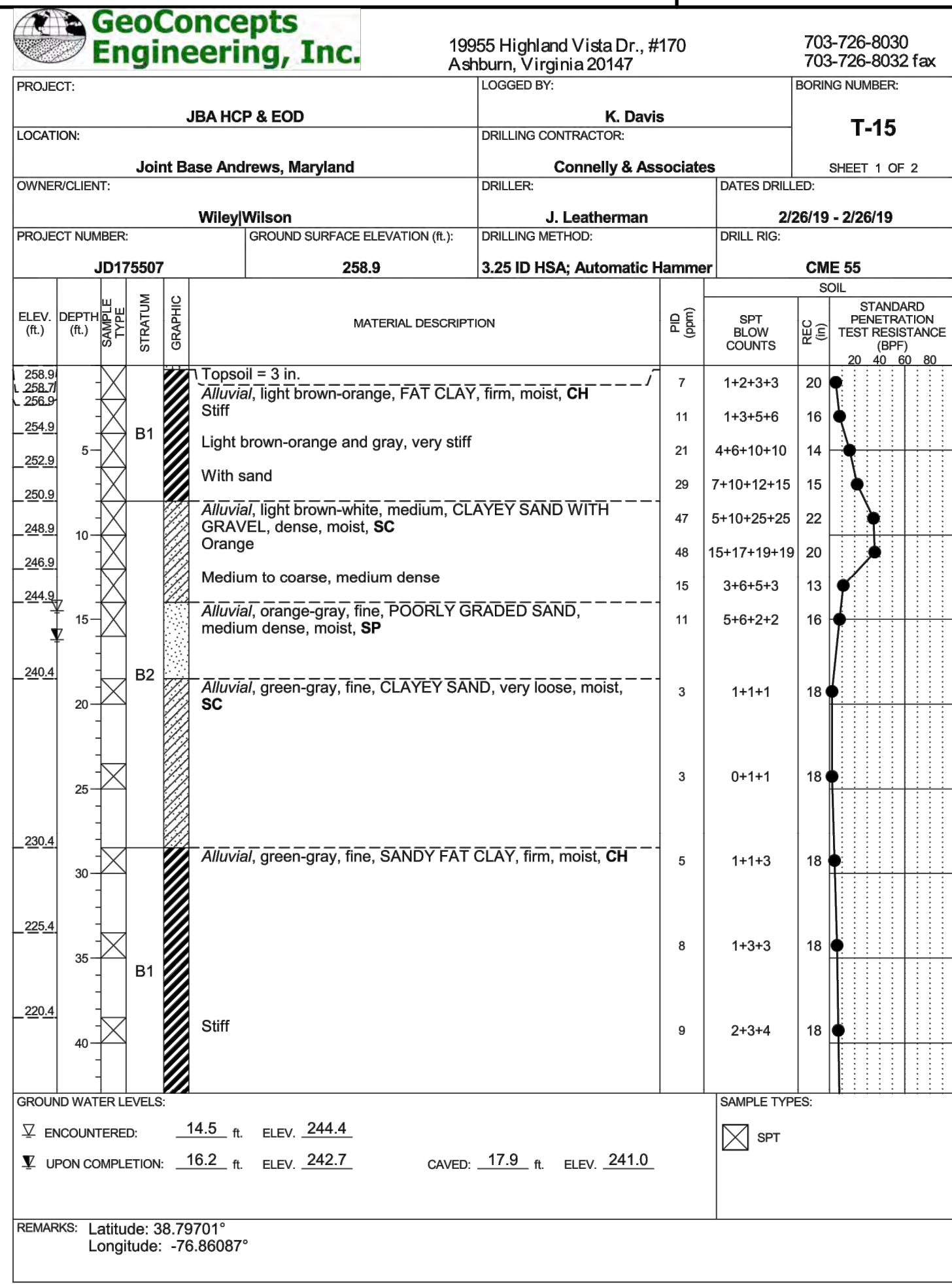
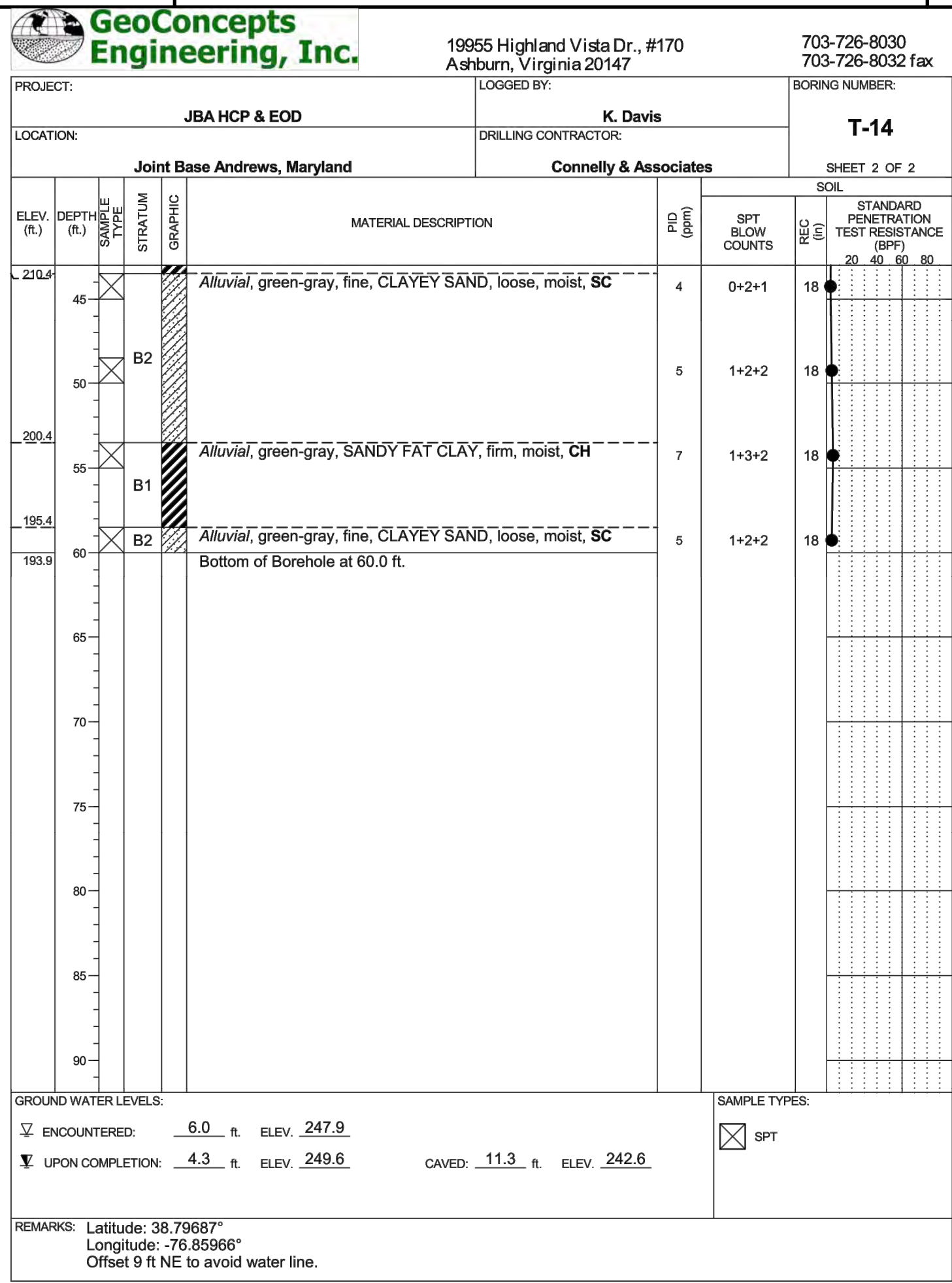
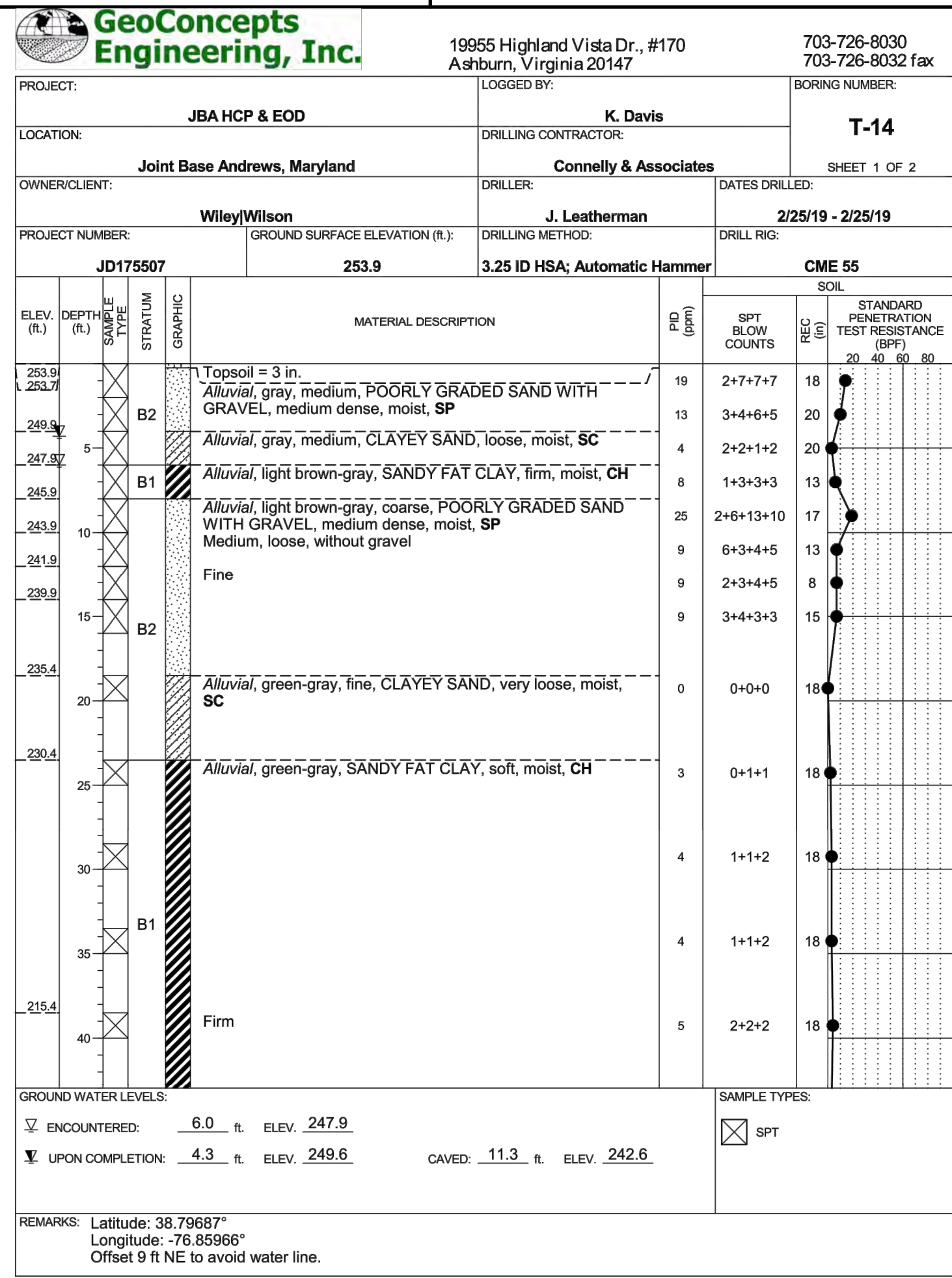
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DATE	30/06/2022	APPR
ISSUE FOR CONSTRUCTION	0	SM DESCRIPTION
		
		
JOINT VENTURE Wiley/Wilson BURNS MCDONNELL		
APPROVED Jennifer Bless FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO DATE		
DES	DRAW	CHK
BRANCH MANAGER		
CHIEF ENGINEER		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON DC JOINT BASE ANDREWS NAVAL AIR FACILITY CAMP SPRINGS, MD P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE		
SCALE: AS NOTED		
PROJECT NO.: 1396650		
CONSTR. CONTR. NO. N40080-15-D-0452		
NAVFAC DRAWING NO. 13140300		
SHEET	30	OF 229
B-609		

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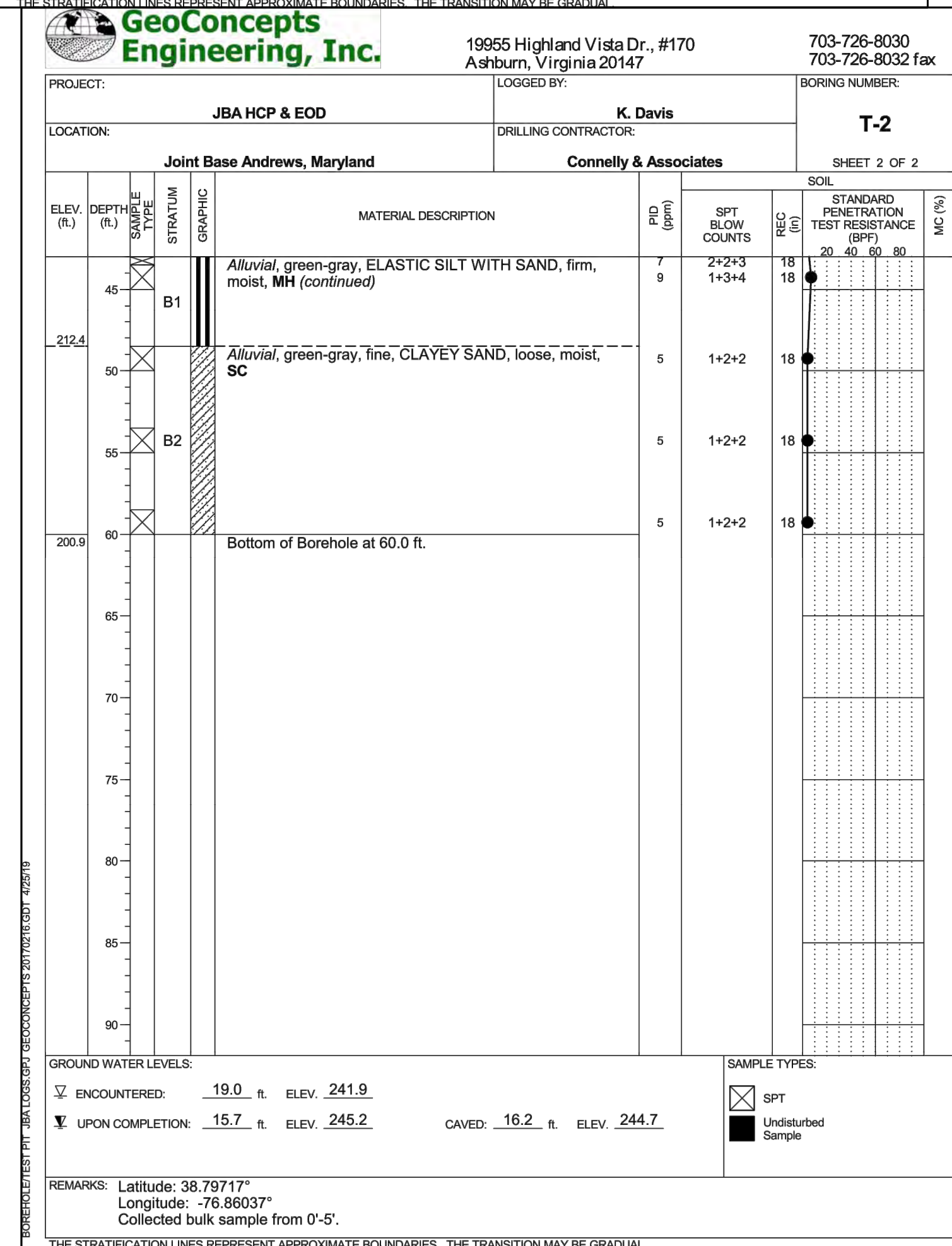
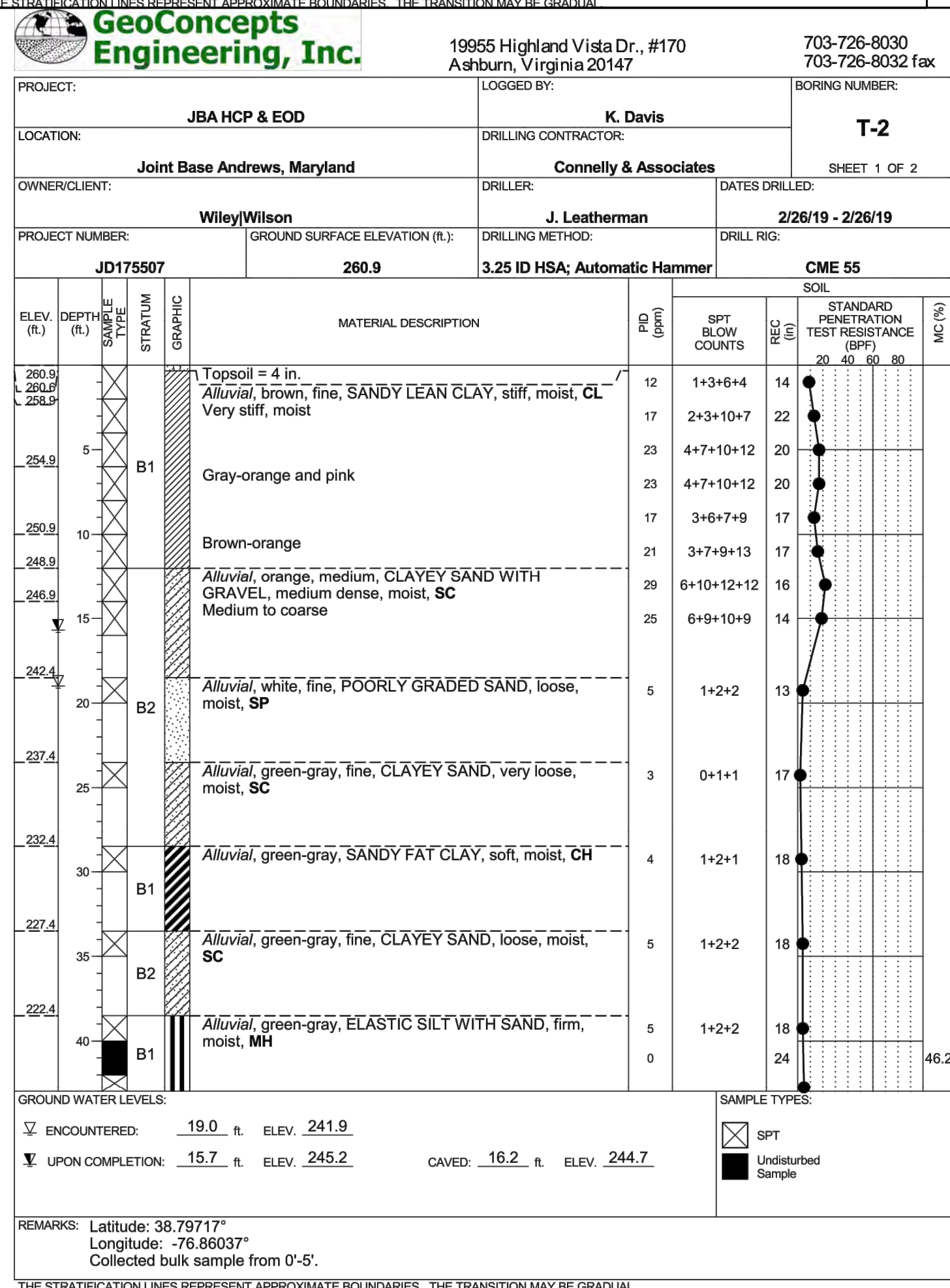
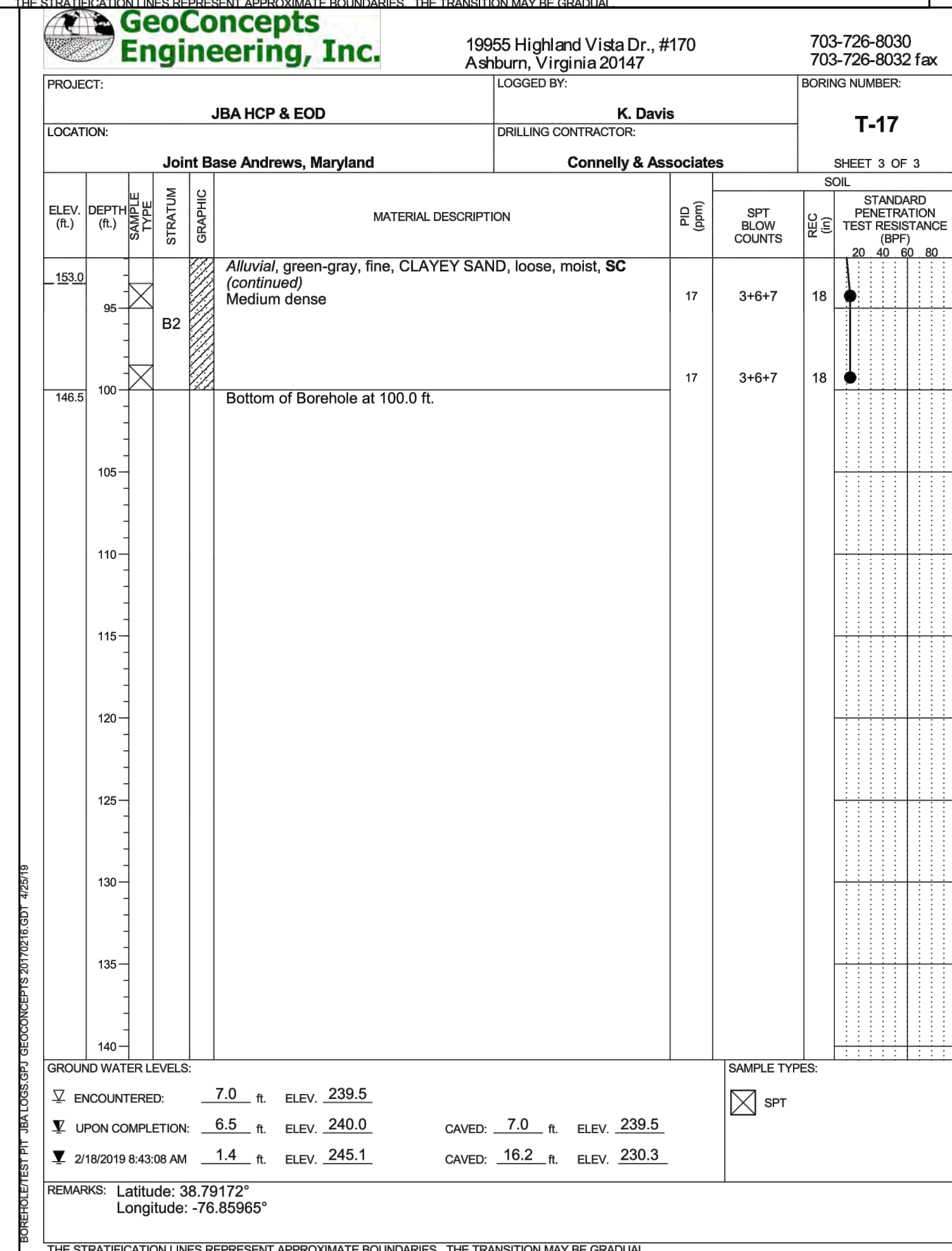
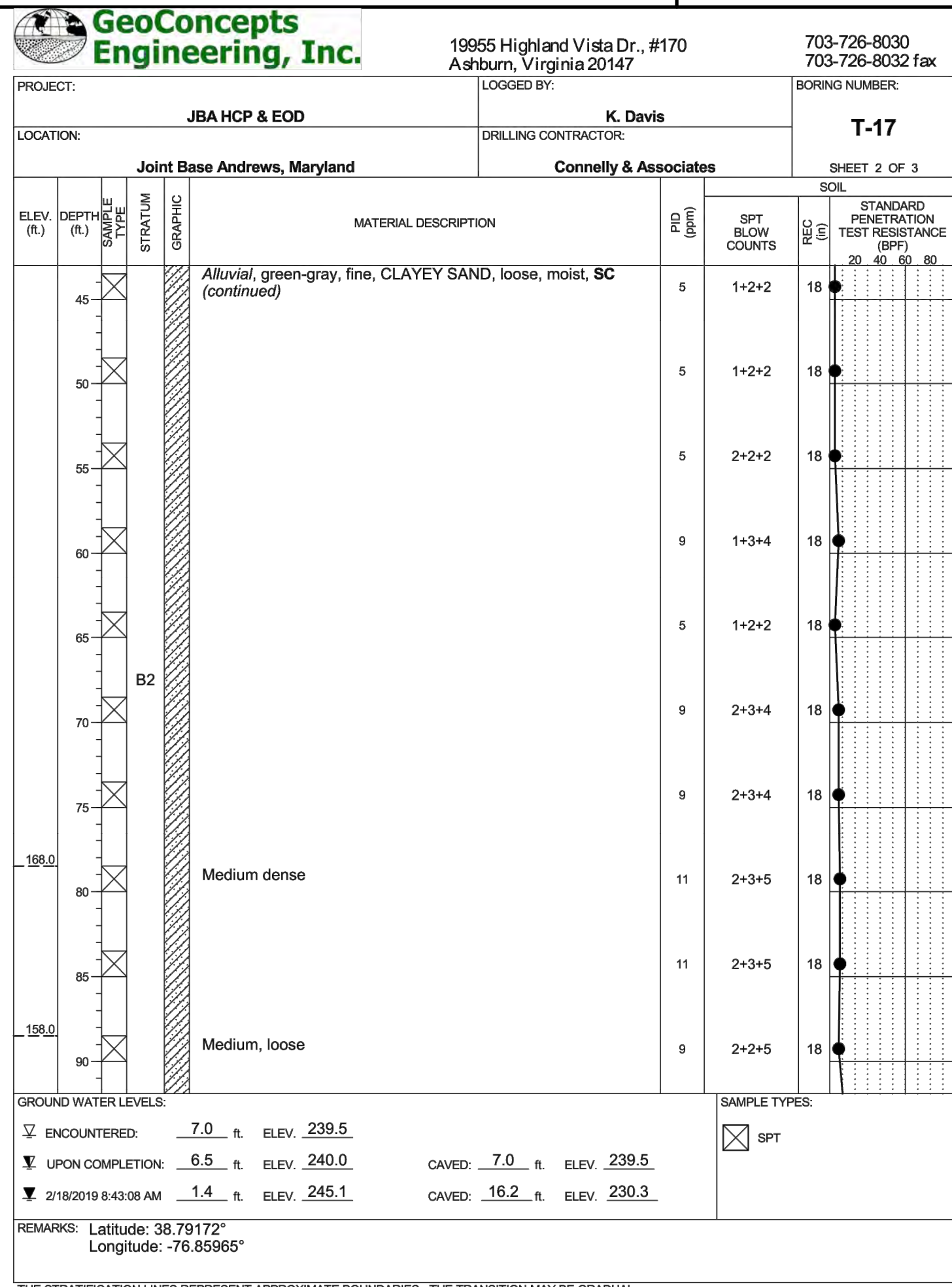
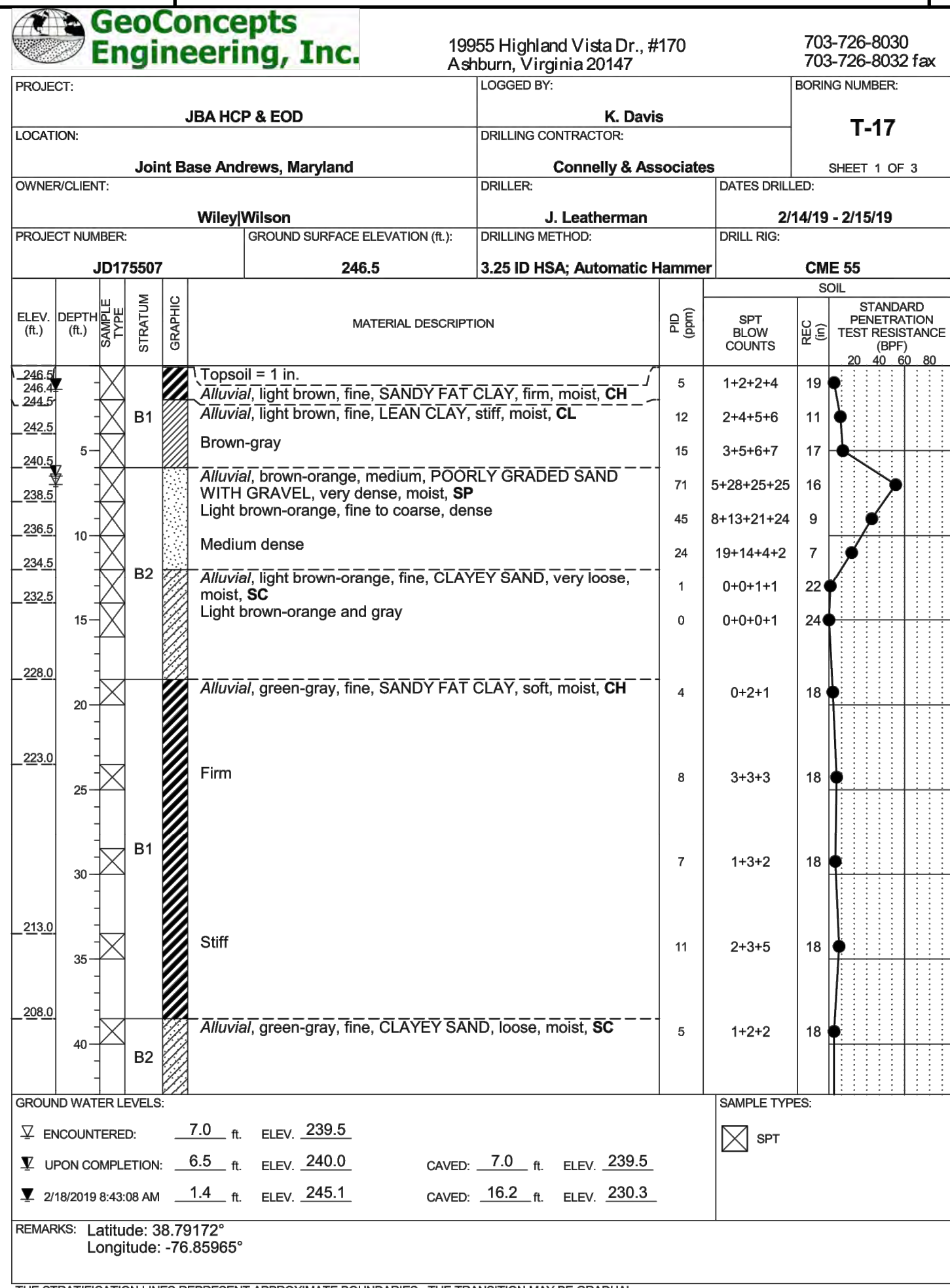
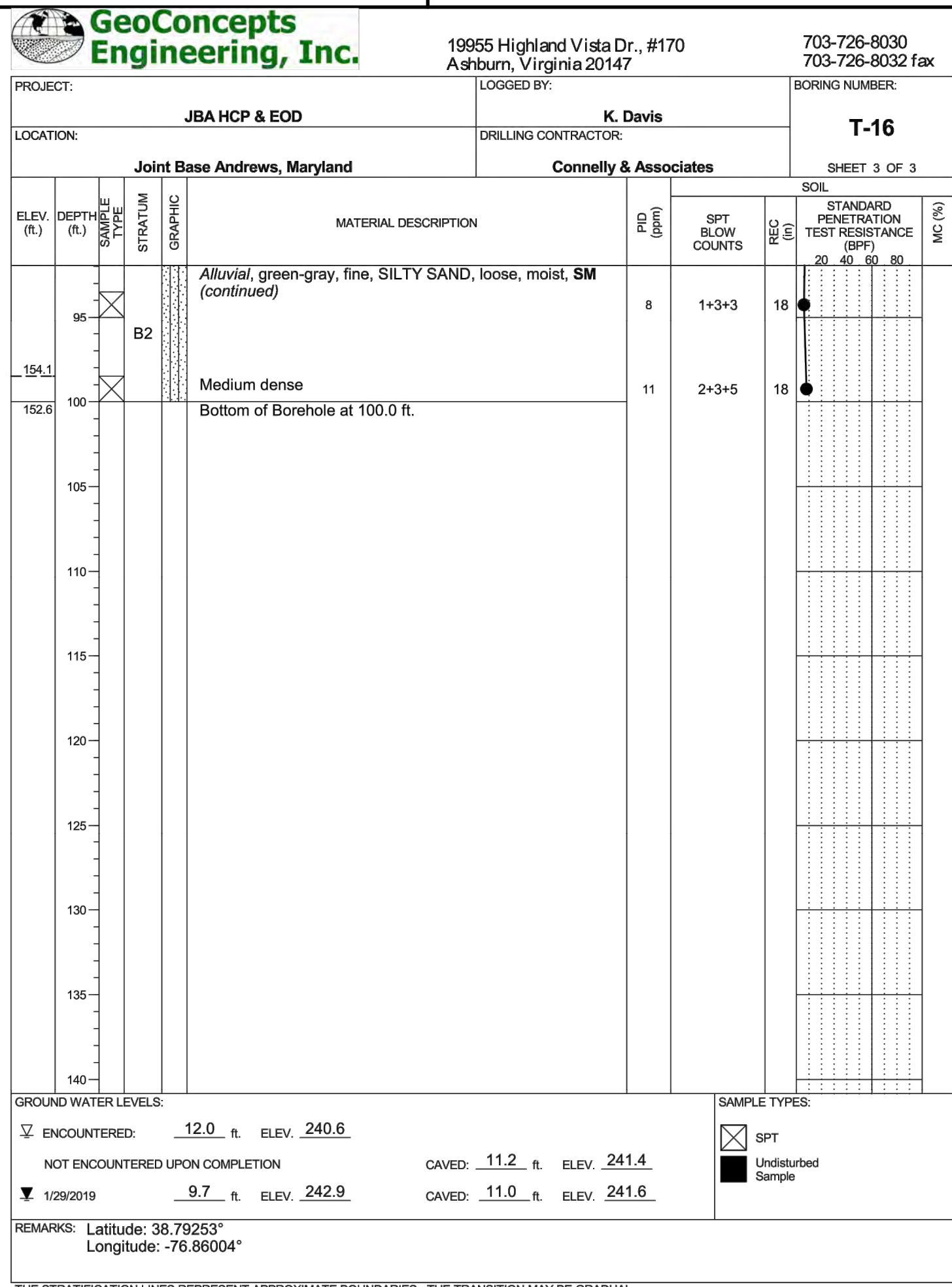
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DATE	APPR
30/06/2022	
ISSUE FOR CONSTRUCTION	SYM DESCRIPTION
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JOINT VENTURE
WileyWilson
BURNS MEDONNELL

APPROVED
Jennifer Bless
FOR COMMANDER NAVFAC

SATISFACTORY TO DATE

DES: []
DRAW: []
CHK: []

PHD/M: []
BRANCH MANAGER: []
CHIEF ENGINEER: []
FREE PROTECTION: []

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

SCALE: AS NOTED
PROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13140301
SHEET 31 OF 229
B-610

DRAWING REVISION: 06 APRIL 2017

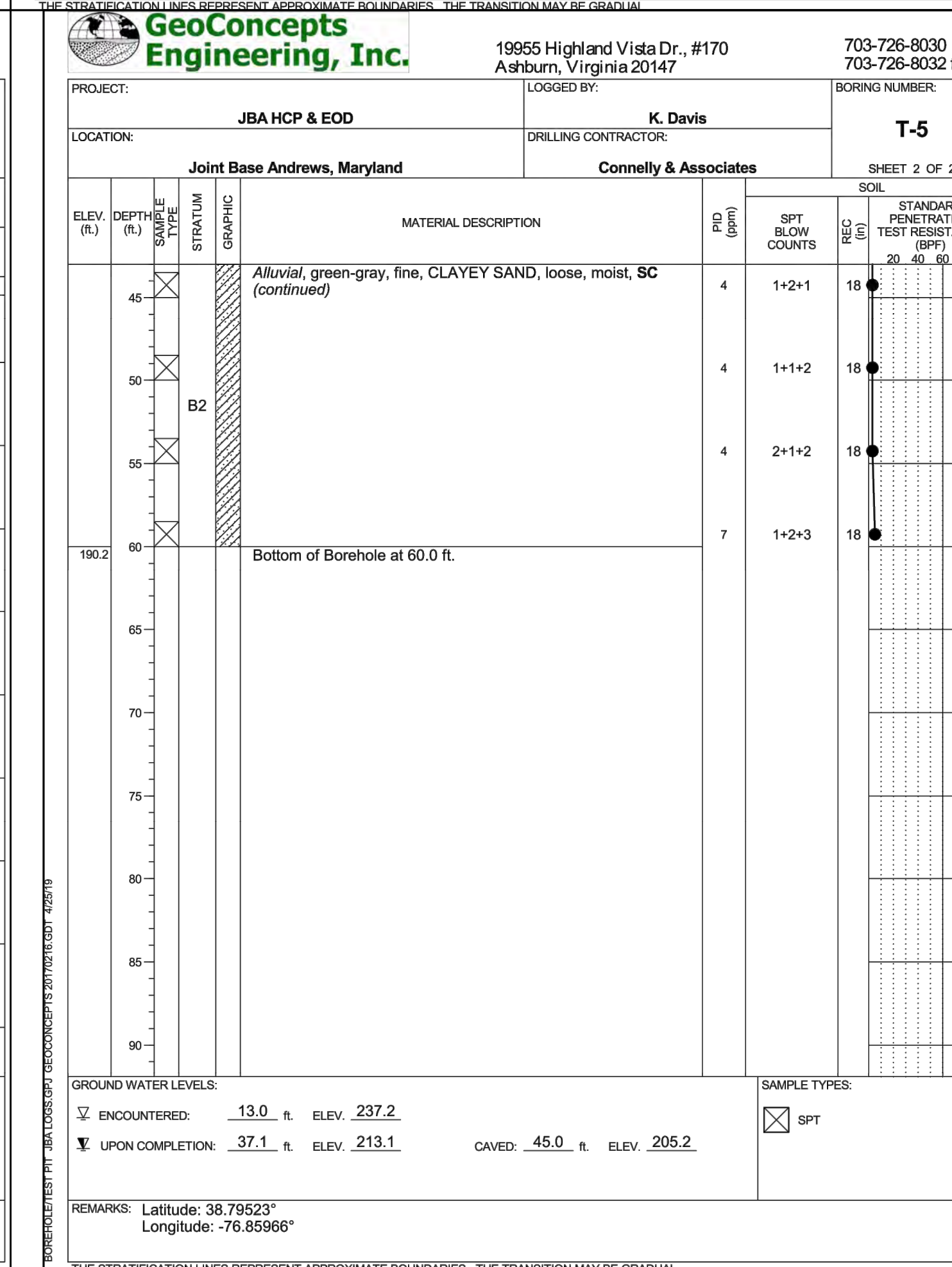
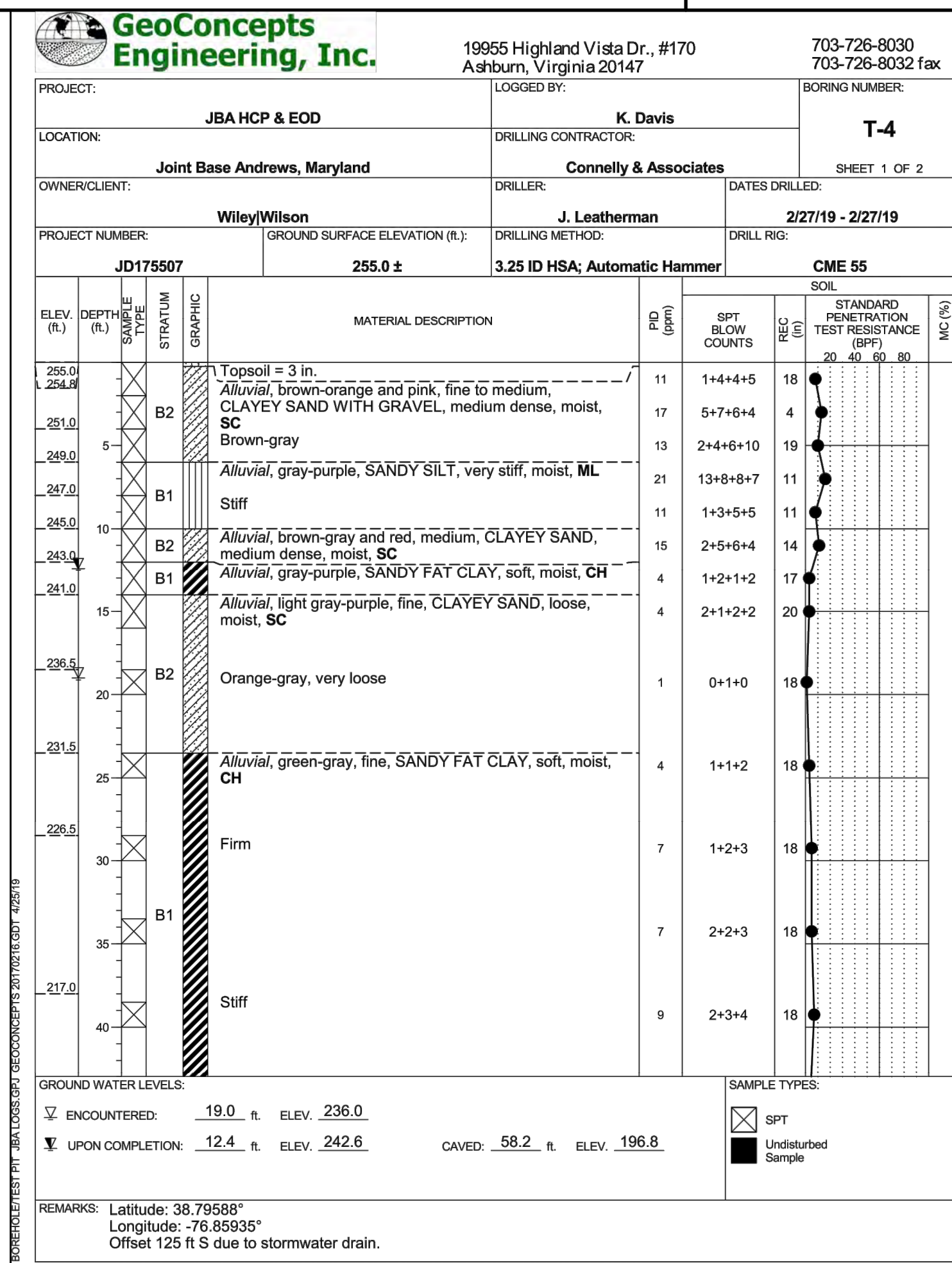
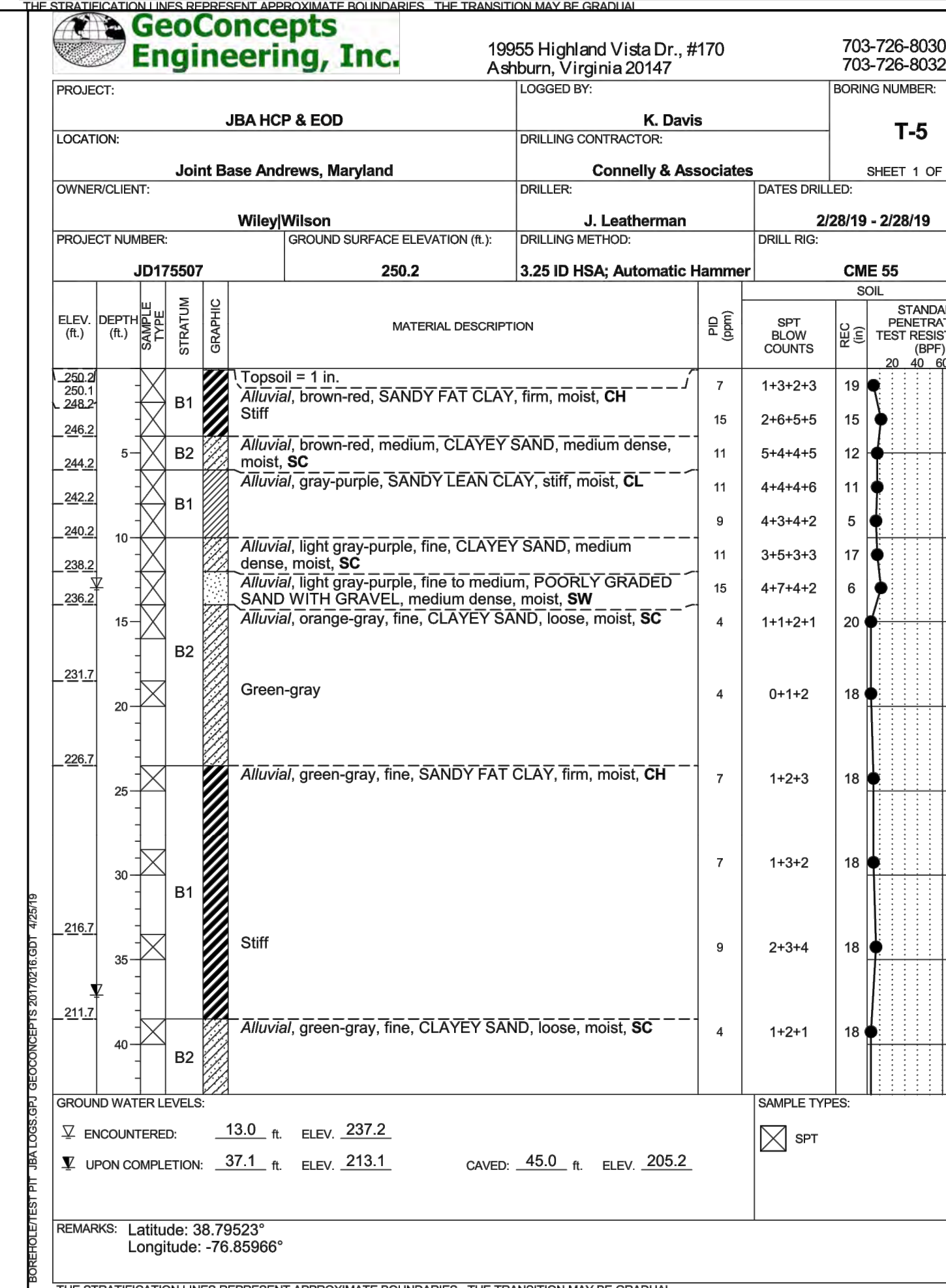
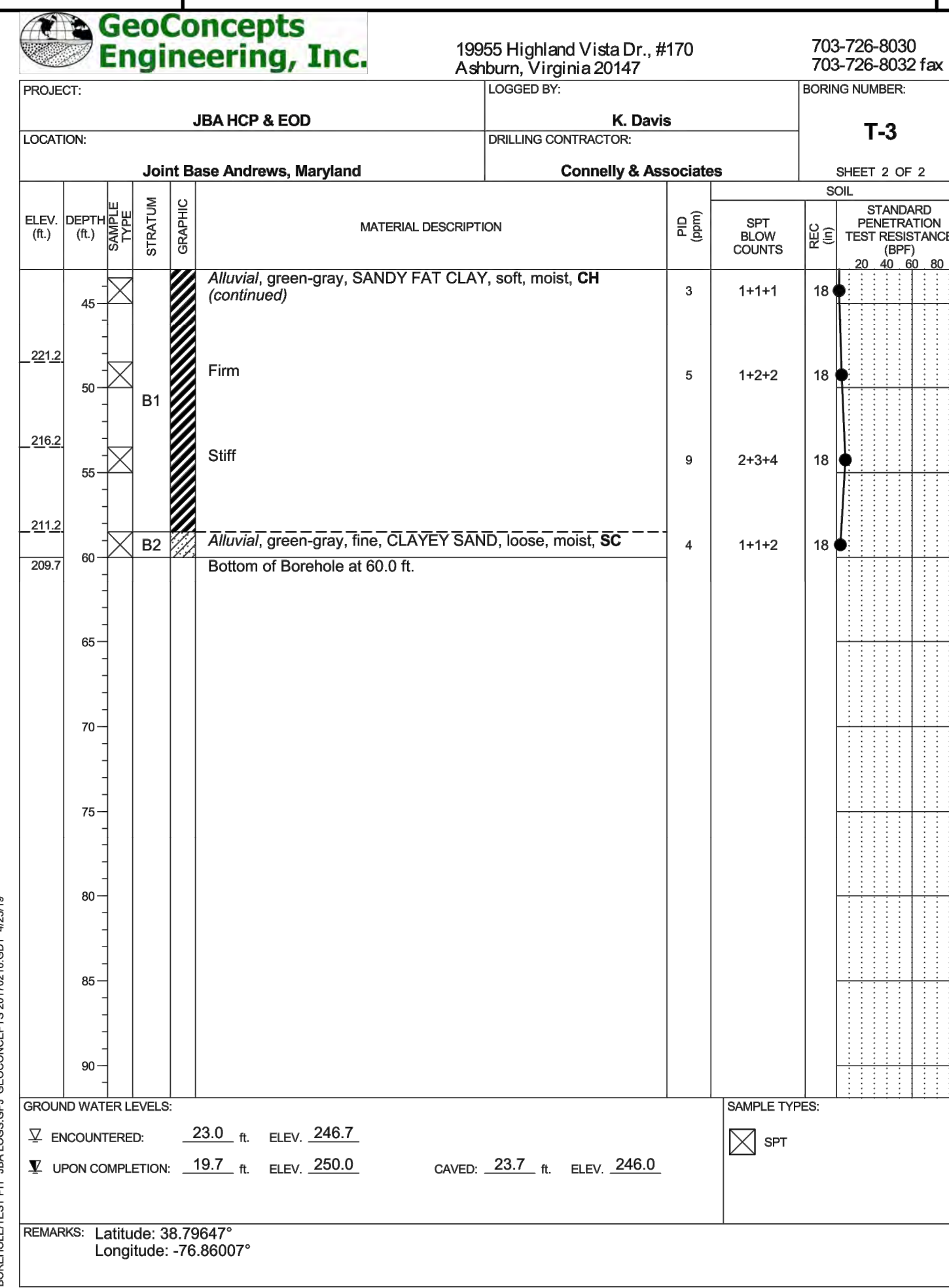
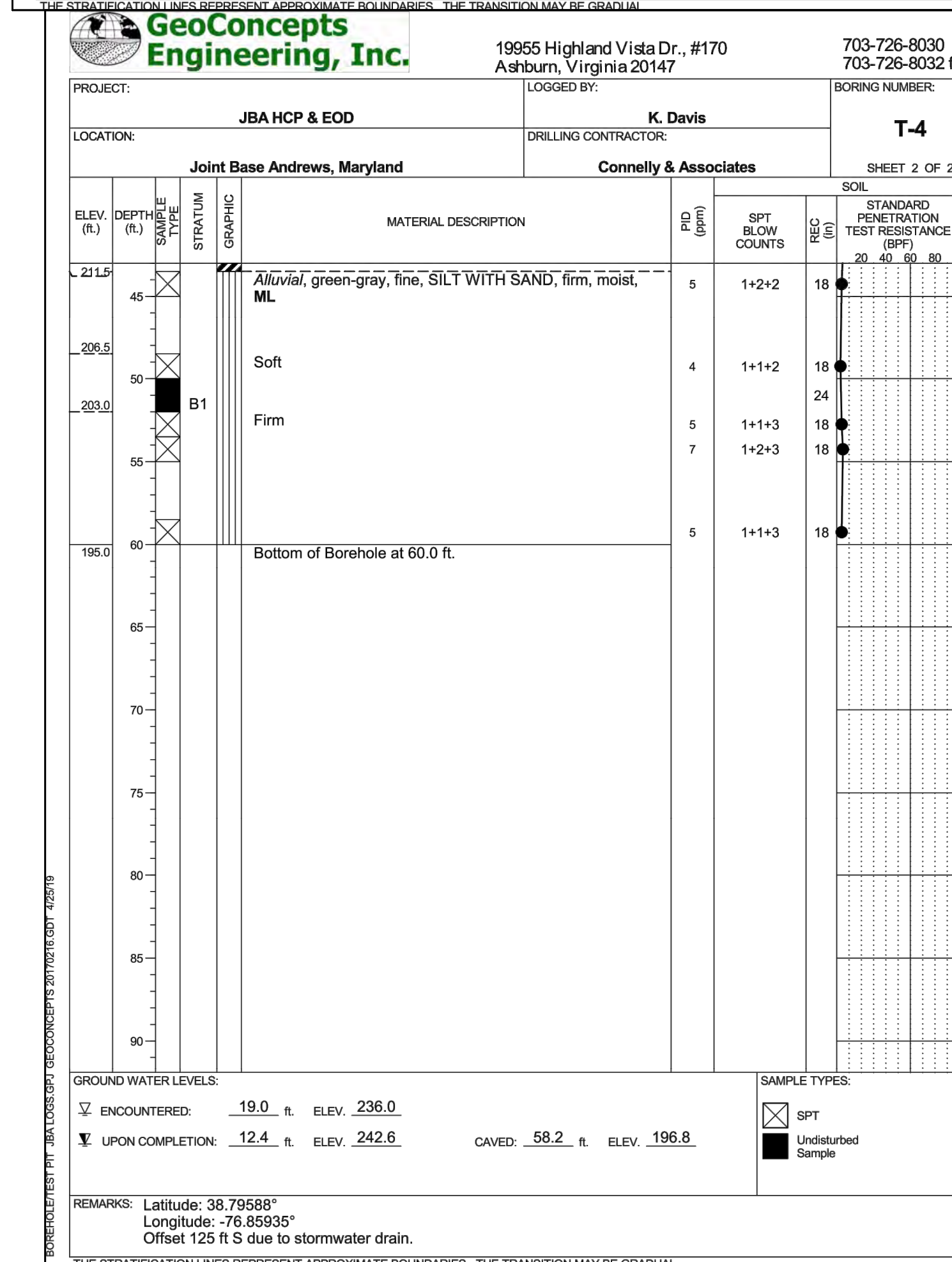
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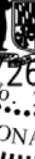

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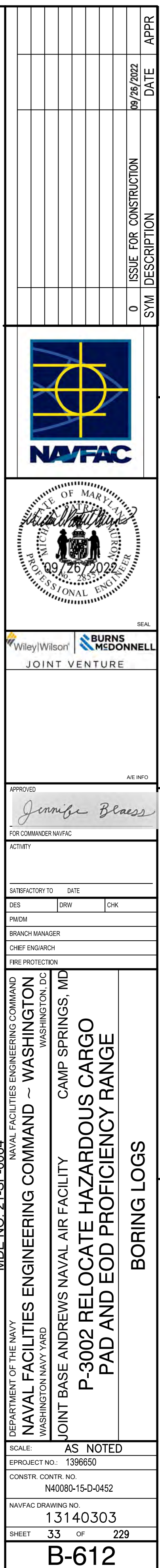
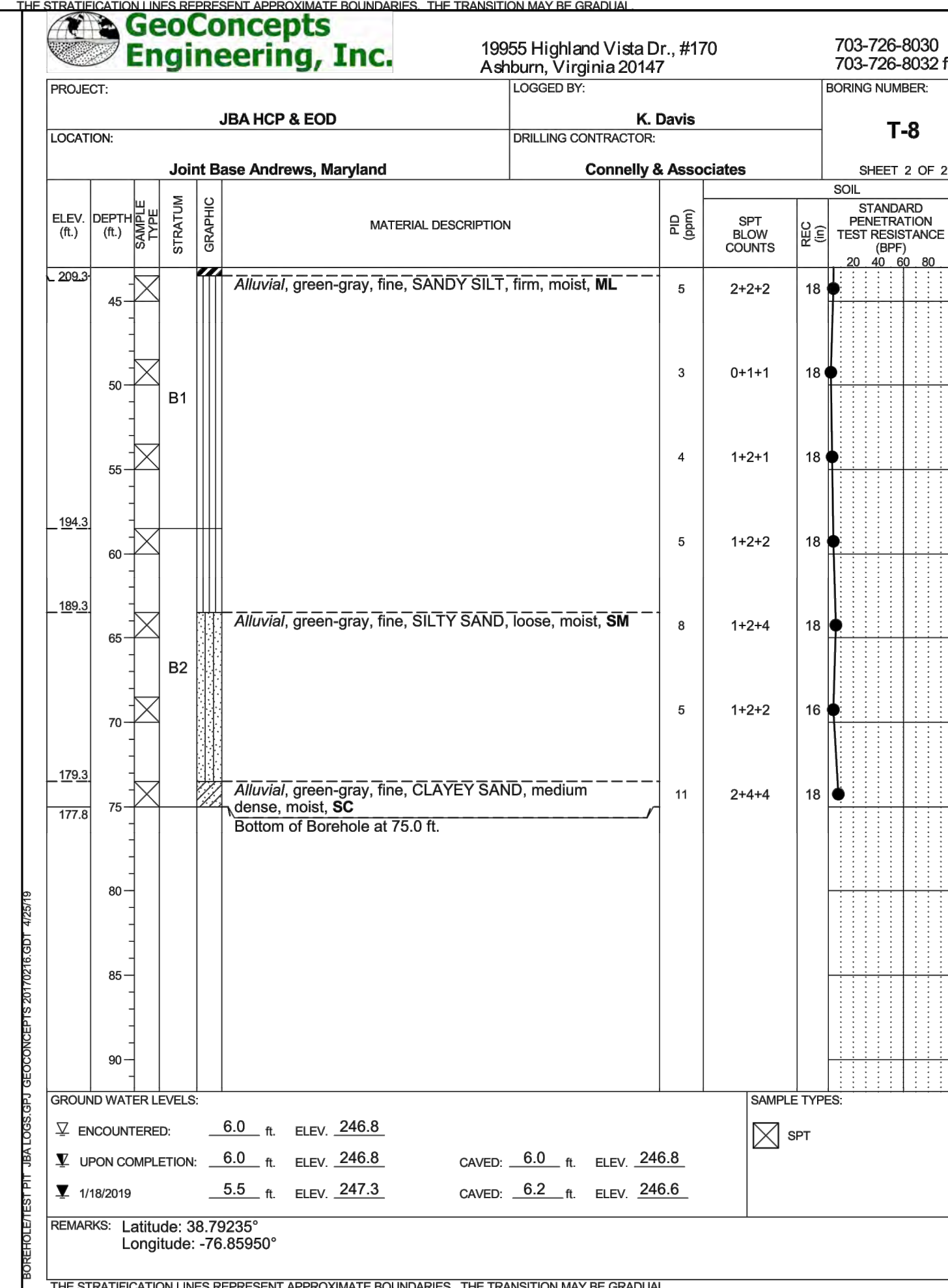
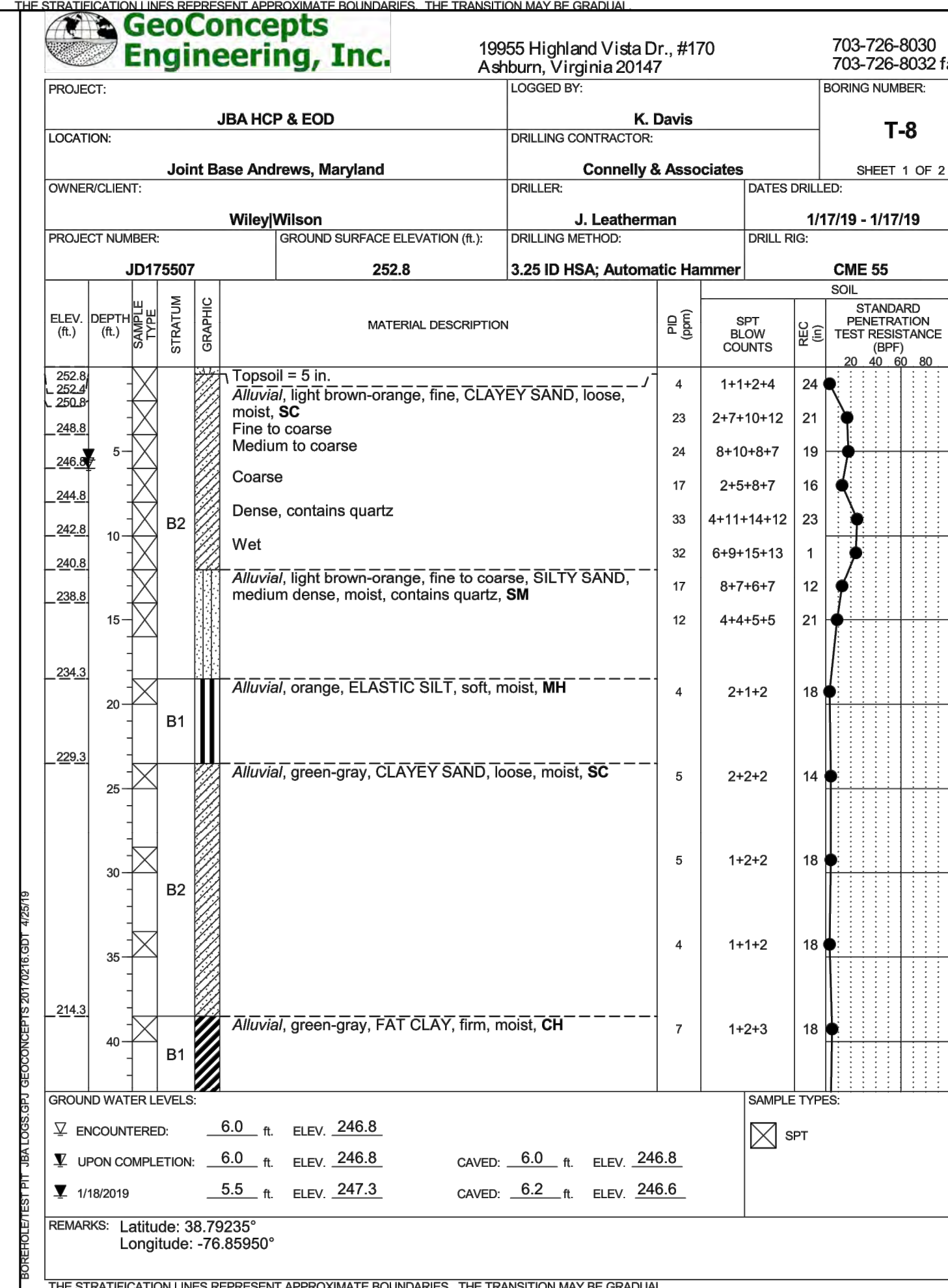
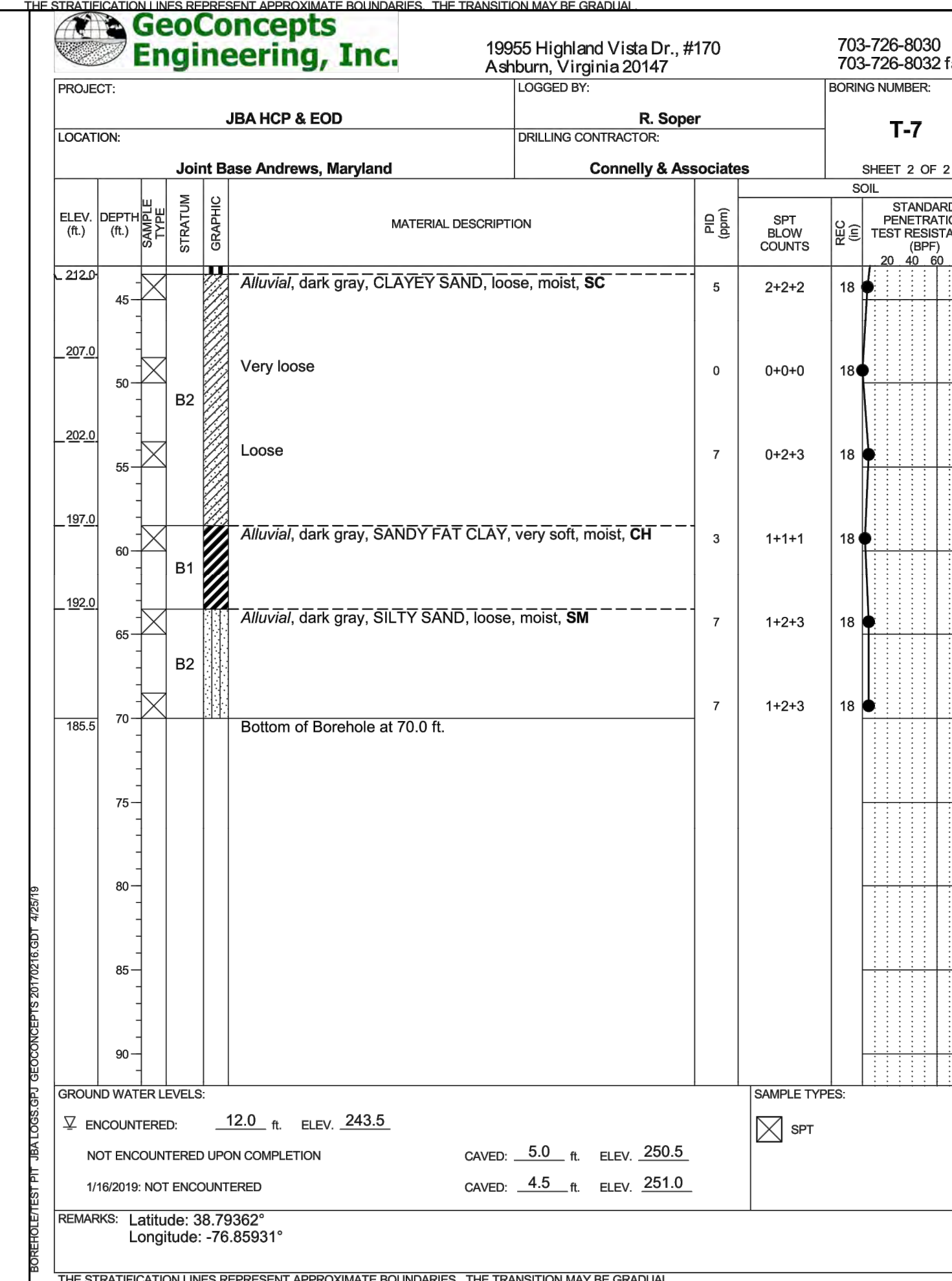
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DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON NAVY YARD	NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON WASHINGTON, DC	JOINT BASE ANDREWS NAVAL AIR FACILITY CAMP SPRINGS, MD P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE	BORING LOGS	SCALE: AS NOTED EPROJECT NO.: 1396650 CONSTR. CONTR. NO. N40080-15-D-0452 NAVFAC DRAWING NO. 13140302 SHEET 32 OF 229	B-611	MDE NO. 21-SF-0064
						APPR DATE 09/26/2022
JOINT VENTURE		APPROVED 		ISSUE FOR CONSTRUCTION SYM DESCRIPTION		
FOR COMMANDER NAVFAC		ACTIVITY		SATISFACTORY TO DATE		0
DES		DRAW		CHK		
PWDM		BRANCH MANAGER		CHIEF ENGINEER		0
FIRE PROTECTION		FIRE PROTECTION		FIRE PROTECTION		



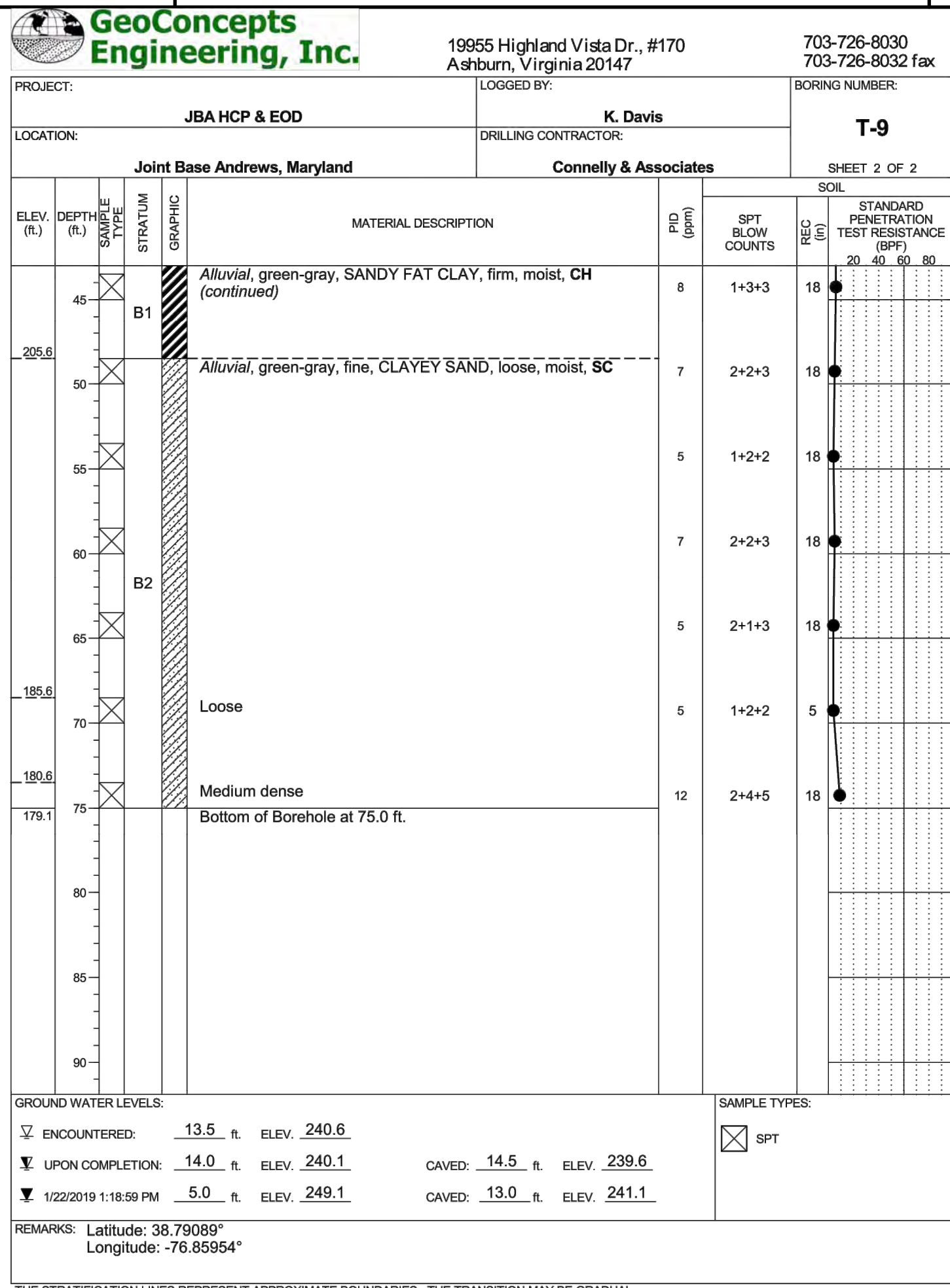
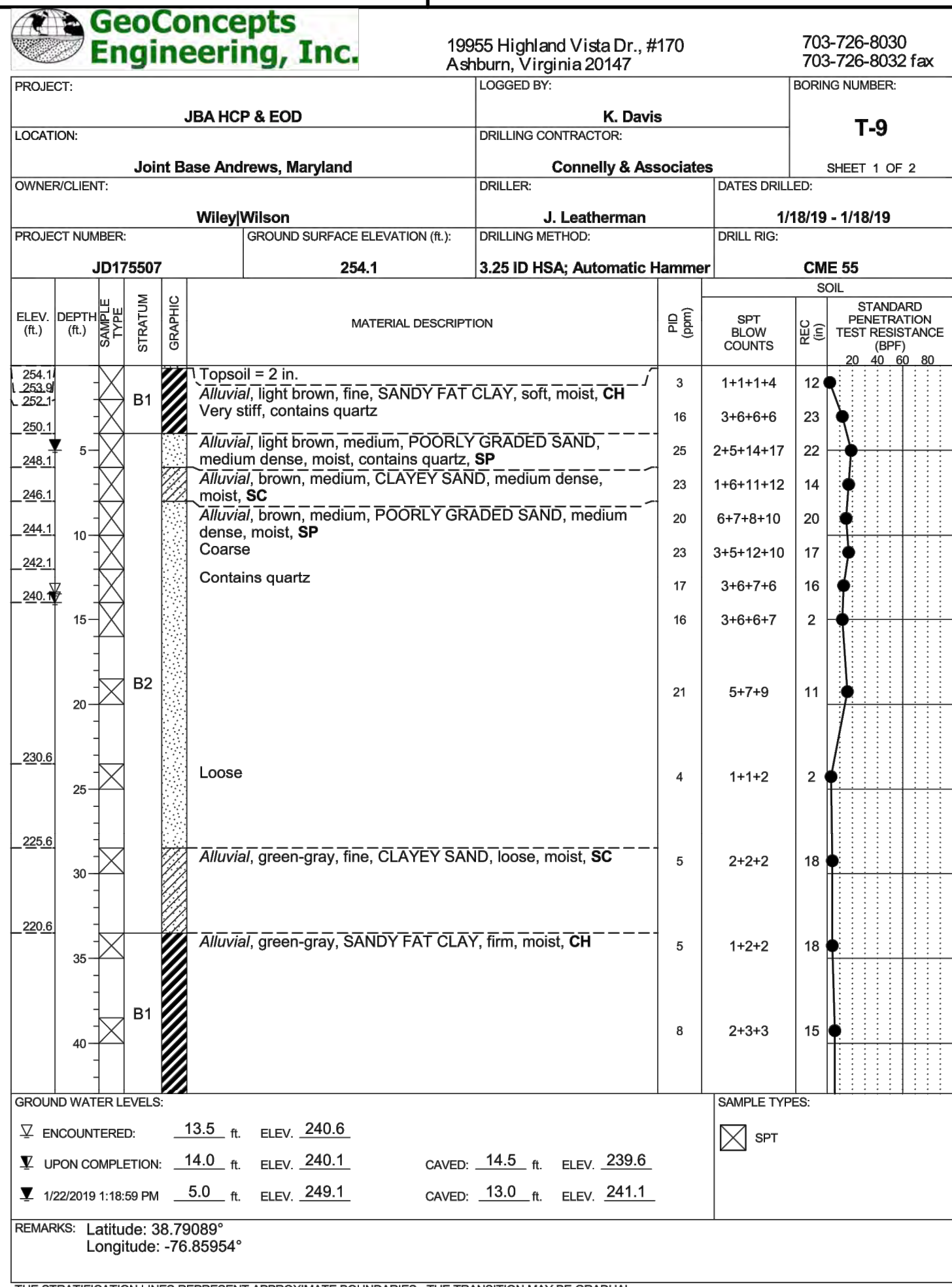
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GeoConcepts

Engineering, Inc.

19955 Highland Vista Dr #170

Ashburn, Virginia 20147

(703) 726-8030

(703) 726-8032 fax

PROJECT:

JBA HCP & EOD

LOGGED BY:

R. Soper

BORING NUMBER:

MCR-7

LOCATION:

Joint Base Andrews, Maryland

DRILLING CONTRACTOR:

Terracon

OWNER/CLIENT:

Wiley/Wilson

DRILLER:

J. Labas

DATES DRILLED:

6/2/20

PROJECT NUMBER:

JD175507

GROUND SURFACE ELEVATION (ft.):

252.3

DRILLING METHOD:

3.25 ID HSA; Automatic Hammer

DRILL RIG:

D 50

SOIL

ELEV. (ft.)

DEPTH (ft.)

SOIL SAMPLE

STRATUM

GRAPHIC

252.3

252.2

250.3

248.3

244.3

242.3

15

20

25

30

35

40

Topsoil = 1 in.

Alluvial, orange-brown, LEAN CLAY, soft, moist, CL

With sand

Orange-brown with gray, without sand

With gravel sized quartz fragments

Bottom of Borehole at 10.0 ft.

SPT BLOW COUNTS

REC. (ft.)

STANDARD PENETRATION TEST RESISTANCE (BPF)

2+2+2+2

5+6+7+9

5+5+7+7

5+6+9+11

8+18+2+15

12

16

17

13

20

GROUND WATER LEVELS:

NOT ENCOUNTERED DURING DRILLING

NOT ENCOUNTERED UPON COMPLETION

CAVED:

9.5

ft.

ELEV.

242.8

SAMPLE TYPES:

☒ SPT

REMARKS:

THE STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES. THE TRANSITION MAY BE GRADUAL.

GeoNeeds Engineering, Inc.				19955 Highland Vista Dr #170 Ashburn, Virginia 20147				(703) 726-8030 (703) 726-8032 fax			
PROJECT: JBA HCP & EOD				LOGGED BY: R. Soper				BORING NUMBER: MCR-10			
LOCATION: Joint Base Andrews, Maryland				DRILLING CONTRACTOR: Terracon				SHEET 1 OF 1			
OWNER/CLIENT: Wiley/Wilson				DRILLER: J. Labas				DATES DRILLED: 5/27/20 - 5/27/20			
PROJECT NUMBER: JD175507				GROUND SURFACE ELEVATION (ft.): 238.7				DRILLING METHOD: 3.25 ID HSA; Automatic Hammer			
								D 50 SOIL			
ELEV. (ft.)	DEPTH (ft.)	SOIL TYPE	STRATUM	GRAPHIC	MATERIAL DESCRIPTION				SPT BLOW COUNTS	REC	STANDARD PENETRATION TEST RESISTANCE (SPT)
238.7	0				Topsoil = 3 in.				2+5+11+13	24	
238.6	1				Alluvial, orange-brown with gray, fine to medium, SANDY LEAN CLAY WITH GRAVEL, very stiff, moist, contains gravel sized quartz fragments, CL				24+32+26+17	24	
232.7	5				Alluvial, orange-brown, medium to coarse, SILTY SAND WITH GRAVEL, medium dense to very dense, moist, contains gravel sized quartz fragments, SM				9+8+7+8	6	
230.7	10				Alluvial, orange-brown, fine, SANDY FAT CLAY, medium stiff, moist, CH				5+3+3+3	24	
228.7	10				Dark gray, moist, without sand Bottom of Borehole at 10.0 ft.				2+2+2+2	12	
	15										
	20										
	25										
	30										
	35										
	40										
GROUND WATER LEVELS:								SAMPLE TYPES:			
<input checked="" type="checkbox"/> ENCOUNTERED: <u>6.0</u> ft. ELEV. <u>232.7</u>								<input type="checkbox"/> SPT			
<input checked="" type="checkbox"/> UPON COMPLETION: <u>6.0</u> ft. ELEV. <u>232.7</u>								CAVED: <u>7.0</u> ft. ELEV. <u>231.7</u>			
<input checked="" type="checkbox"/> 6/2/2020 <u>2.0</u> ft. ELEV. <u>236.7</u>								CAVED: <u>2.5</u> ft. ELEV. <u>236.2</u>			
REMARKS:											

MDE NO. 21-SF-0064		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON, DC		NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON WASHINGTON NAVY YARD		JOINT BASE ANDREWS NAVAL AIR FACILITY CAMP SPRINGS, MD		P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE		BORING LOGS	
SCALE: AS NOTED		EPROJECT NO.: 1396650		CONSTR. CONTR. NO.: N40080-15-D-0452		NAVFAC DRAWING NO. 13140305		SHEET 35 OF 229		B-614	

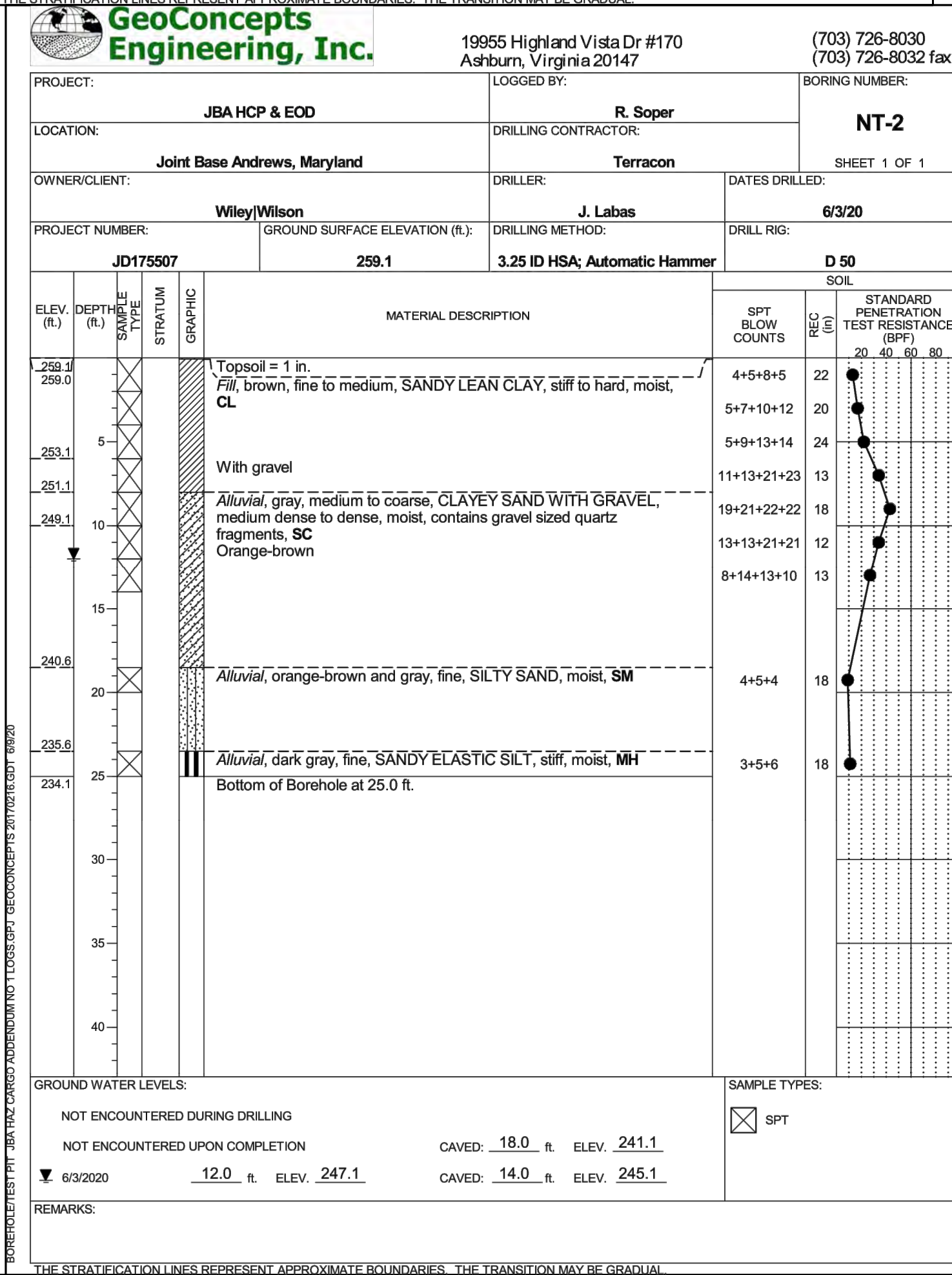
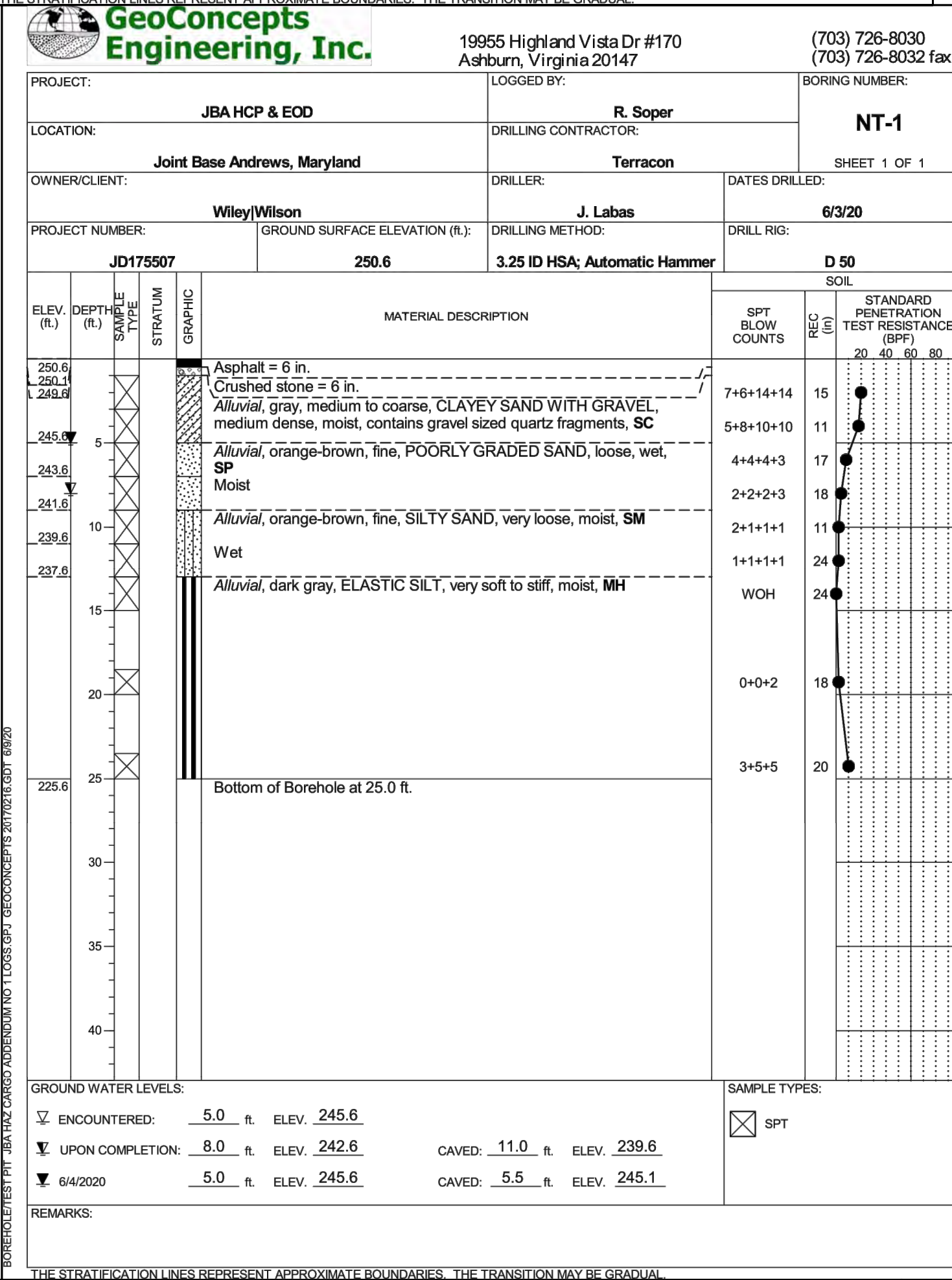
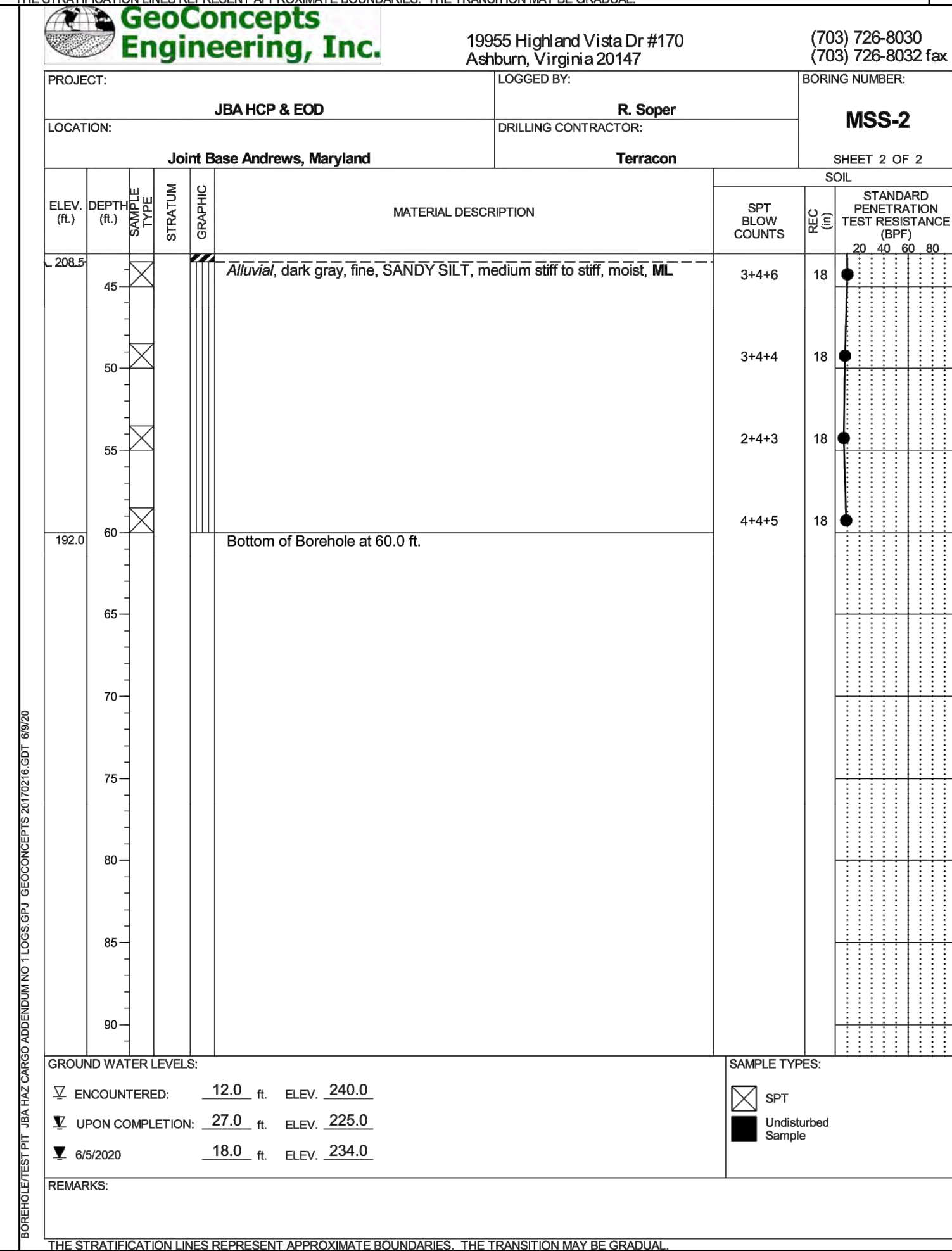
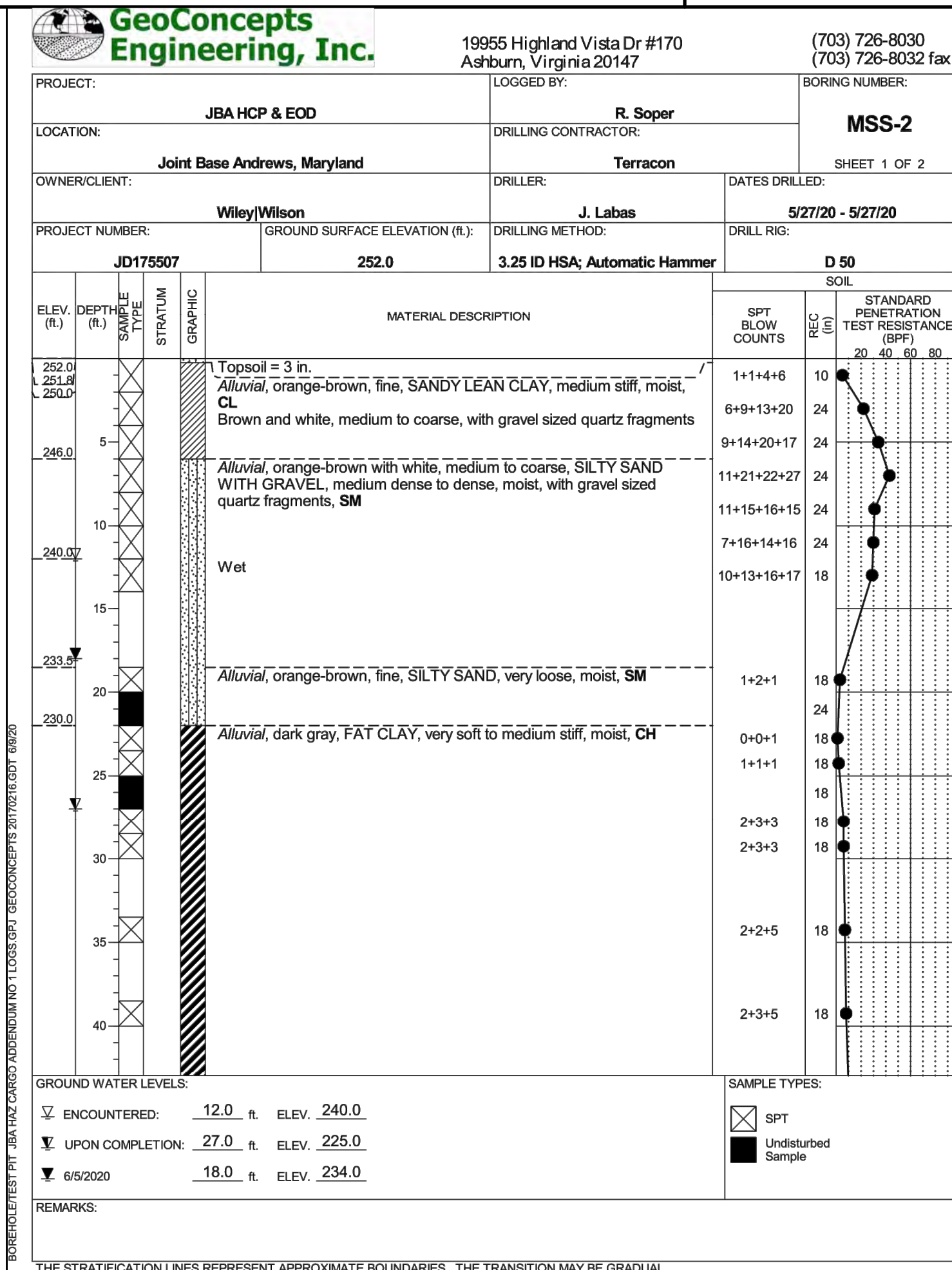
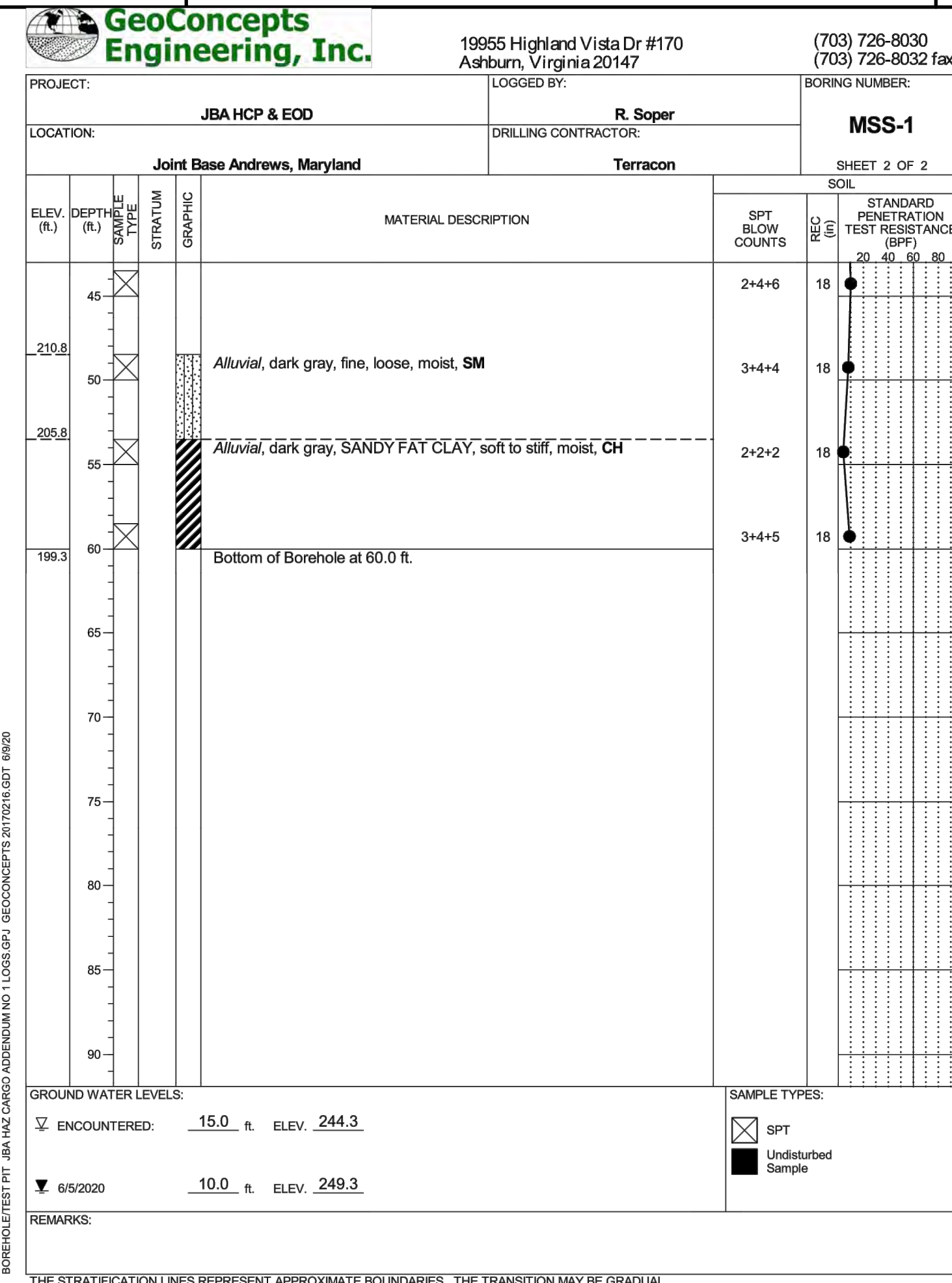
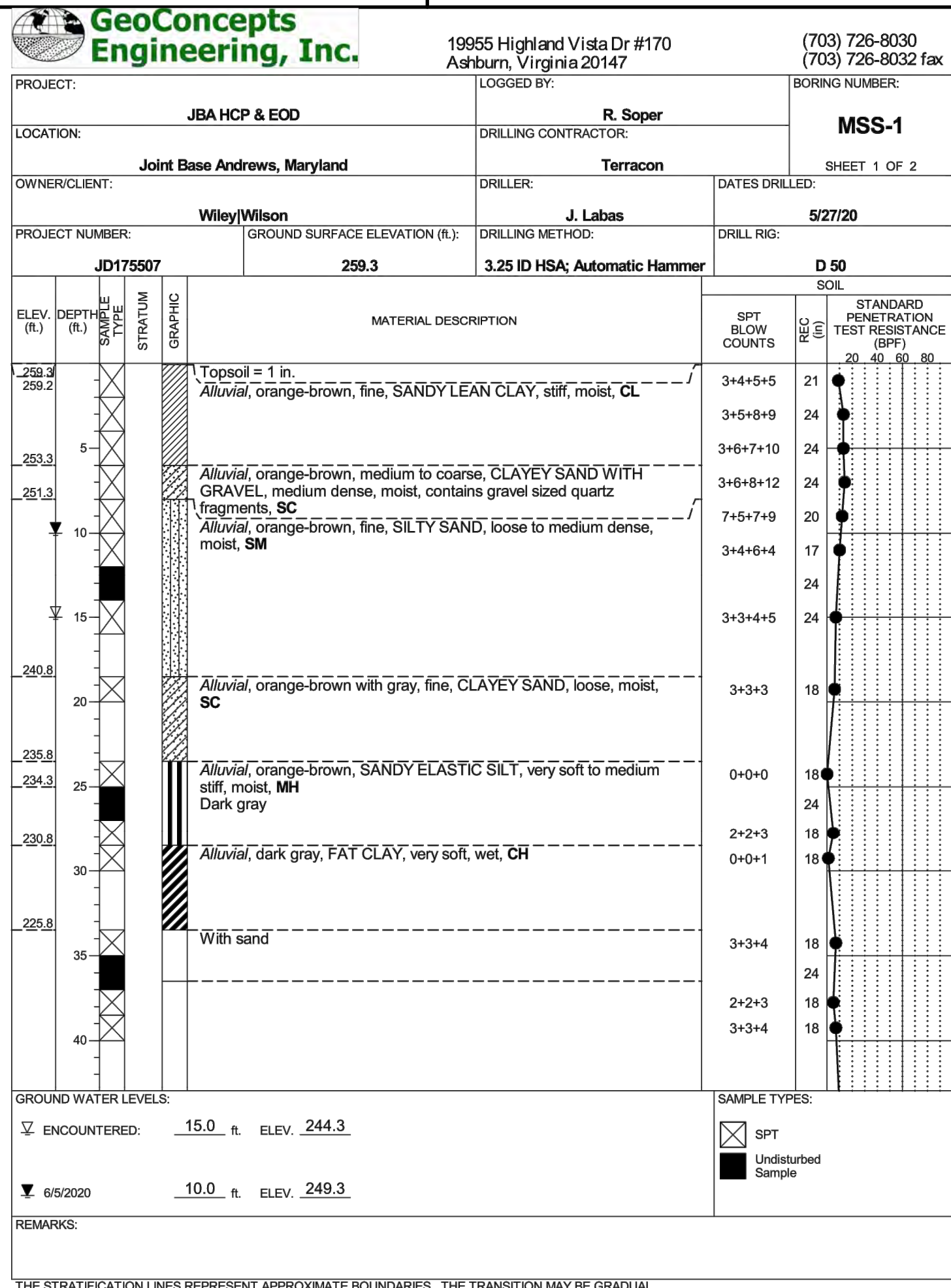
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APPROVED	DATE	APPR
Jennifer Bless	09/26/2022	
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO DATE		
DES	DRW	CHK
PHOTO		
BRANCH MANAGER		
CHIEF ENGINEER		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY		
NAVAL FACILITIES ENGINEERING COMMAND		
WASHINGTON NAVY YARD		
JOINT BASE ANDREWS NAVAL AIR FACILITY		
CAMP SPRINGS, MD		
P-3002 RELOCATE HAZARDOUS CARGO		
PAD AND EOD PROFICIENCY RANGE		
BORING LOGS		
SCALE: AS NOTED		
PROJECT NO.: 1396650		
CONSTR. CONTR. NO. N40080-15-D-0452		
NAVFAC DRAWING NO. 13140306		
SHEET 36 OF 229		
B-615		

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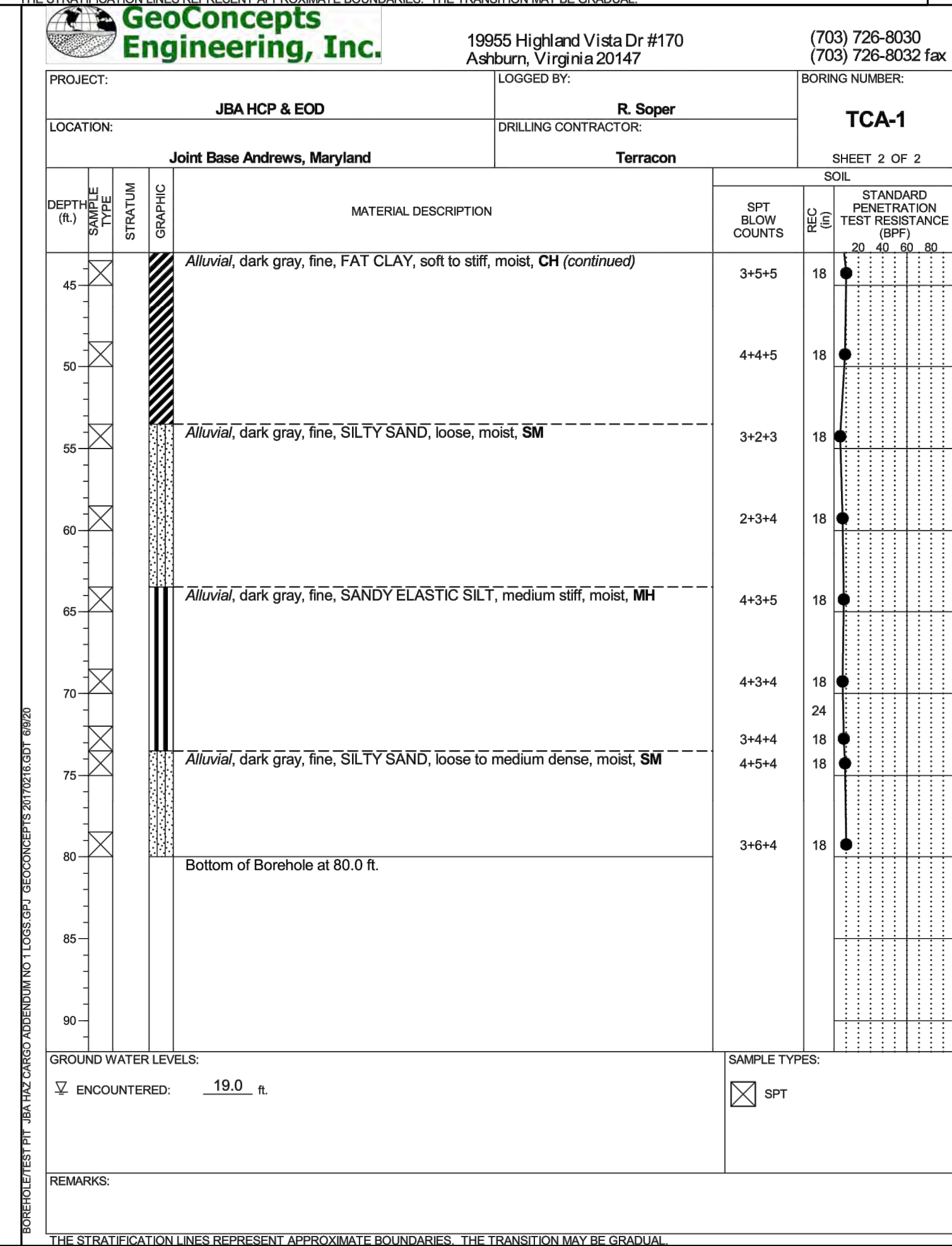
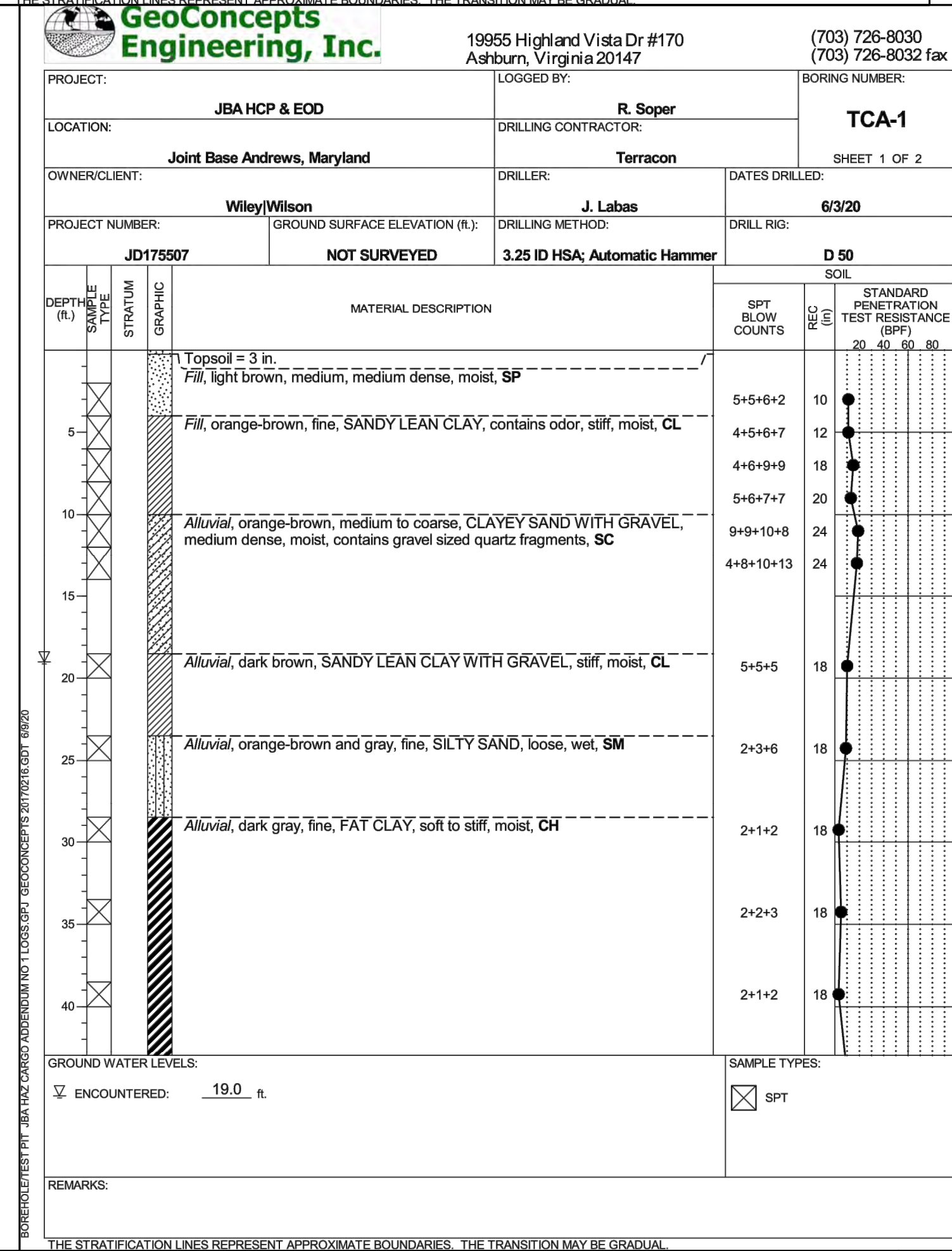
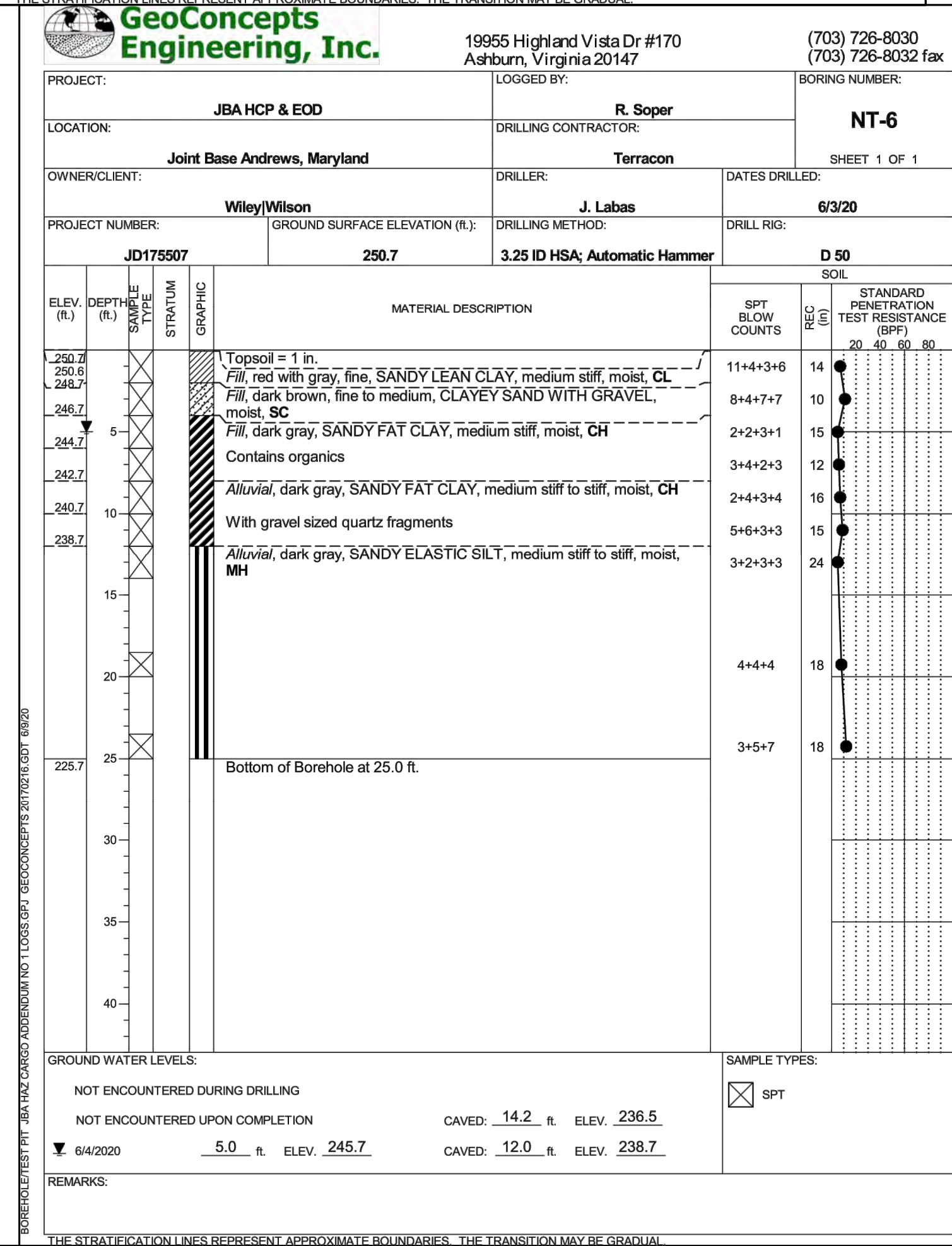
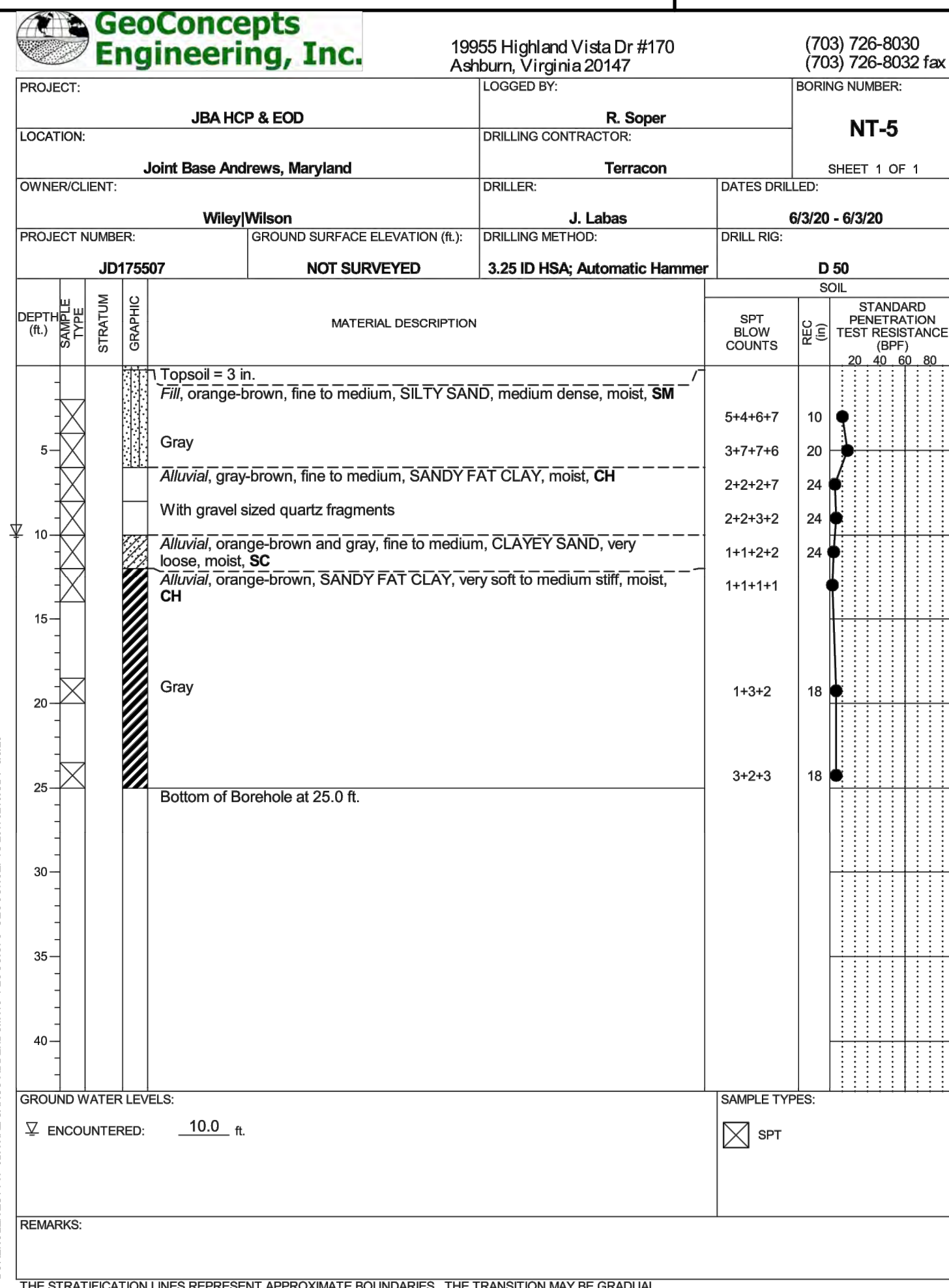
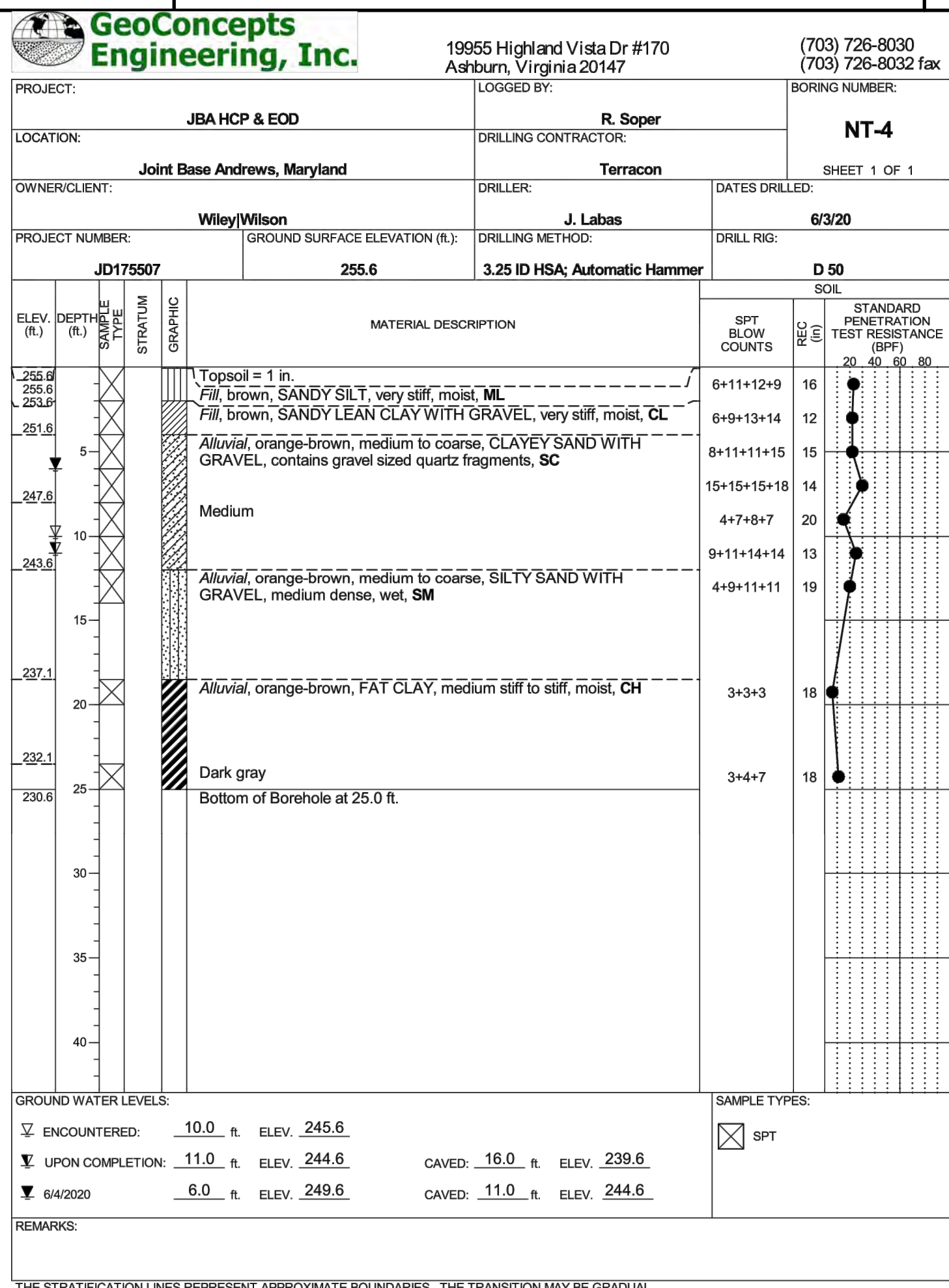
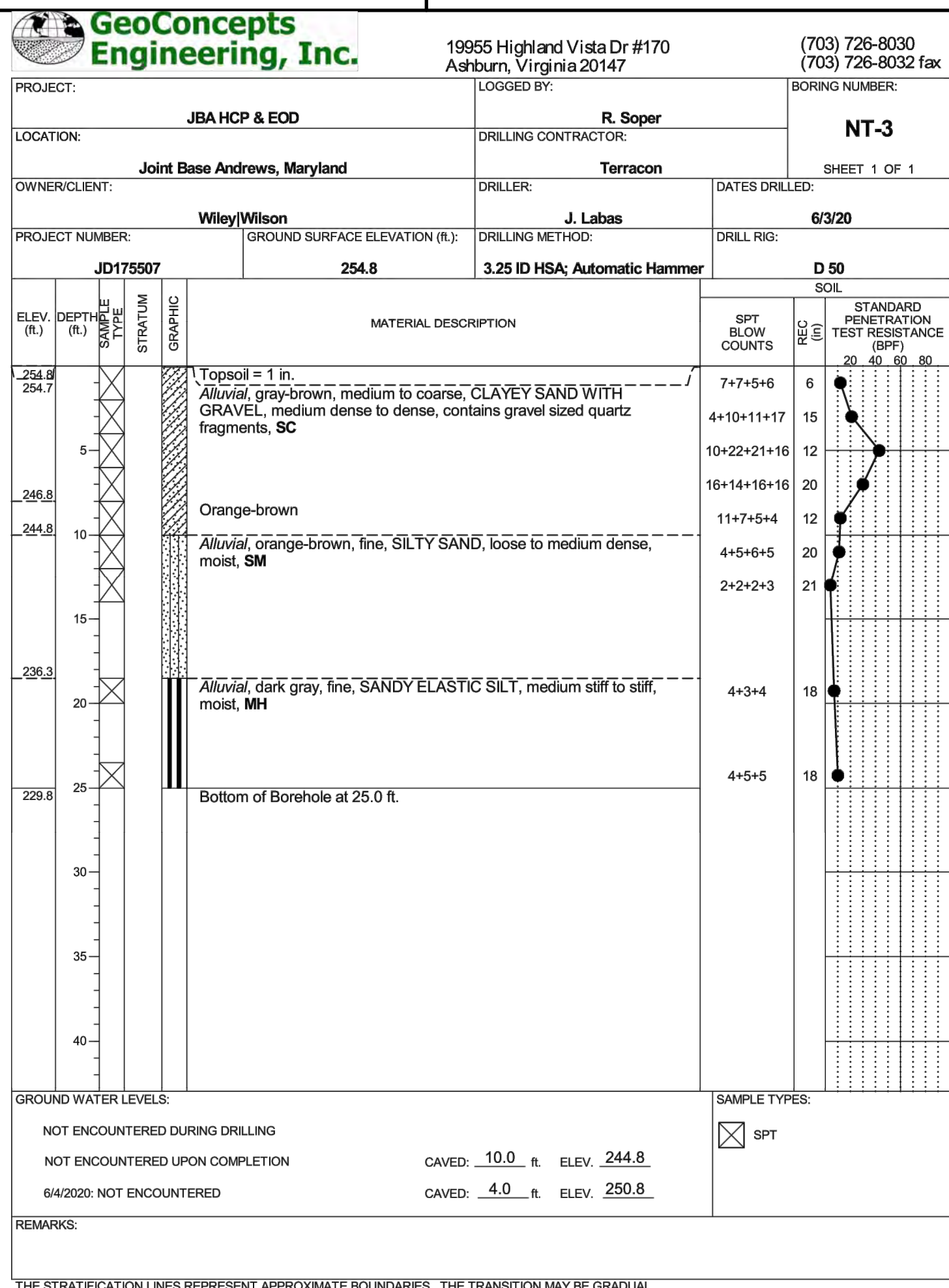
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DATE	30/06/2022	APPROVED	
SYMBOL	0	ISSUE FOR CONSTRUCTION	
DESCRIPTION			
			
			
JOINT VENTURE			
APPROVED: Jennifer Bless			
FOR COMMANDER NAVFAC			
ACTIVITY			
SATISFACTORY TO DATE			
DES	DRW	CHK	
BRANCH MANAGER			
CHIEF ENGINEER			
FIRE PROTECTION			
MDE NO. 21-SF-0064			
NAVAL FACILITIES ENGINEERING COMMAND			
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON			
WASHINGTON NAVY YARD			
JOINT BASE ANDREWS NAVAL AIR FACILITY			
CAMP SPRINGS, MD			
P-3002 RELOCATE HAZARDOUS CARGO			
PAD AND EOD PROFICIENCY RANGE			
BORING LOGS			
SCALE: AS NOTED			
PROJECT NO.: 1396650			
CONSTR. CONTR. NO. N40080-15-D-0452			
NAVFAC DRAWING NO. 13140307			
SHEET 37 OF 229			
B-616			
DRAWING REVISION: 06 APRIL 2017			

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GeoConcepts Engineering, Inc.		19955 Highland Vista Dr #170 Ashburn, Virginia 20147		(703) 726-8030 (703) 726-8032 fax	
		PROJECT: JBA HCP & EOD		LOGGED BY: R. Soper	
LOCATION: Joint Base Andrews, Maryland		DRILLING CONTRACTOR: Terracon		BORING NUMBER: TCA-3 SHEET 1 OF 2	
OWNER/CLIENT: Wiley/Wilson		DRILLER: J. Labas		DATES DRILLED: 5/26/20	
PROJECT NUMBER: JD175507		GROUND SURFACE ELEVATION (ft.): 256.1		DRILLING METHOD: 3.25 ID HSA; Automatic Hammer	
SOIL		D 50		STANDARD PENETRATION TEST RESISTANCE (BPF)	
ELEV. (ft.)	DEPTH (ft.)	SOIL TYPE	STRATUM	GRAPHIC	MATERIAL DESCRIPTION
256.1 1.254.9	5				Topsoil = 2 in. <i>Alluvial</i> , red-brown, fine, SANDY LEAN CLAY, moist, CL
250.1	10				Medium to coarse, with gravel sized quartz fragments <i>Alluvial</i> , orange-brown with white, medium to coarse, CLAYEY SAND WITH GRAVEL, contains gravel sized quartz fragments, SC
248.1	15				<i>Alluvial</i> , orange-brown, medium to coarse, POORLY GRADED SAND WITH GRAVEL, wet, SP
244.1	20				<i>Alluvial</i> , orange-brown, fine, SILTY SAND, wet, SM
237.6	25				<i>Alluvial</i> , orange-brown, ELASTIC SILT, moist, MH
232.6	30				Dark gray, with sand <i>Alluvial</i> , dark gray, FAT CLAY, moist, CH
229.1	35				
227.6	40				
GROUND WATER LEVELS: ▽ ENCOUNTERED: <u>13.0</u> ft. ELEV. <u>243.1</u> ▽ 5/25/2020 <u>17.0</u> ft. ELEV. <u>239.1</u> CAVED: <u>23.0</u> ft. ELEV. <u>233.1</u>					
SAMPLE TYPES: <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px;"></div> <div style="margin-right: 10px;">SPT</div> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; background-color: black;"></div> <div>Undisturbed Sample</div> </div>					

GeoConcepts Engineering, Inc.				19955 Highland Vista Dr #170 Ashburn, Virginia 20147				(703) 726-8030 (703) 726-8032 fax			
PROJECT: JBA HCP & EOD				LOGGED BY: R. Soper				BORING NUMBER:			
LOCATION: Joint Base Andrews, Maryland				DRILLING CONTRACTOR: Terracon				TCA-4			
								SHEET 2 OF 2			

				SOIL			
ELEV. (ft.)	DEPTH (ft.)	SAMPLE TYPE	STRATUM	GRAPHIC	MATERIAL DESCRIPTION	SPT BLOW COUNTS	STANDARD PENETRATION TEST RESISTANCE (BPF)
						10	20 40 60 80
210.9	45				<i>Alluvial</i> , dark gray, fine, SILTY SAND , moist, SM	1+2+2	18
205.9	50				<i>Alluvial</i> , dark gray, fine, SANDY ELASTIC SILT , moist, MH	4+4+4	18
	55					2+2+2	18
	60					6+5+6	24
	65					3+3+5	18
190.2	70				<i>Residual</i> , dark gray, fine, SILTY SAND , moist, SM	3+7+8	18
	75					2+4+5	18
	80					9+5+6	18
174.4	85				Bottom of Borehole at 80.0 ft.	5+7+8	18
	90						

GROUND WATER LEVELS:				SAMPLE TYPES:			
▽ ENCOUNTERED: <u>30.0</u> ft. ELEV. <u>224.4</u>				<input type="checkbox"/> SPT			
▼ 6/2/2020 <u>5.0</u> ft. ELEV. <u>249.4</u>				<input checked="" type="checkbox"/> Undisturbed Sample			
CAVED: <u>26.0</u> ft. ELEV. <u>228.4</u>							
REMARKS:							

[illegible]