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Urgent, please hand deliver

For Review / Comment

Please Reply

TO:	CHRIS HENSLEY	DATE:	5/18/05
FIRM:	TVA	SUBJECT:	Field Birds Logs NB-73W, NB-81, NB-84
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# MACTEC SOIL TEST BORING FIELD REPORT

BORING NO. NR-73W PG. 1 OF 1

RIG TYPE ATV HAMMER TYPE Auto

JOB NO. 2043651021 DRILLER C. AKINS HOURS DRILLING \_\_\_\_\_ GROUND SURFACE ELEV. \_\_\_\_\_

JOB NAME TVA K. INDIAN LOGGED BY T. Justice HOURS MOVING \_\_\_\_\_ DATE: 5/18 WEATHER: Sunny

SAMPLING		DEPTH		SOIL CLASSIFICATION		REMARKS
NO	DEPTH	NO	DEPTH	NO	DEPTH	
<u>Rock Core Description</u>						
Slightly to completely weathered, brownish gray to light gray, fine grained, fractured core is hard siliceous cherty. Ductility - Residual core is highly fractured.						
1	12-13.5	3	3	5	1.5	Firm Yellowish Brown (mottled) slightly moist to moist very silty clay - Possible Alluvium/Residual
Drilling 15 FT.						
2	32-33.5	2	3	3	1.5	Firm Yellowish Brown to Brown wet sandy clayey silt to clayey sandy silt with an occasional chert fragment - Possible Alluvium/Residual
3	42-43.5	2	2	2	1.5	Soft " SAME AS ABOVE "
4	47.5-47.5	-	-	-	0	Auger Refusal @ 47.5 FT
<div style="border: 1px solid black; padding: 5px; display: inline-block;">             Encountered top of weathered bedrock @ about 46.0 FT           </div>						
BEGAN NR CORING @ 47.3 FT Run # 1   47.3 FT TO 49.8 FT Run = 2.5 FT Rec = 0.6 FT (24%) RRD = 0%						
Partially clay Cauchy: 48.2 TO 48.6' " Cauchy: 49.0 TO 49.6'						
<u>Rock Core Description</u> ABOVE						

\*STANDARD PENETRATOR RESISTANCE IS SUM OF BLOWS FOR 2ND & 3RD AND 3RD 6" TO DRIVE 1-3/8" I.D. 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES.

BORING-TERMINATED: 49.8 FT  
 BORING REFUSAL: 47.5 FT  
 WATER TOB DEPTH @ time of drilling = 15 FT  
 WATER 24 HR.: DEPTH \_\_\_\_\_  
 WATER LOSSES 100%  
 CAVE-IN DEPTHS \_\_\_\_\_  
 CASING: SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_  
 STANDBY TIME \_\_\_\_\_ BORING LAYOUT \_\_\_\_\_

METHOD OF ADVANCING BORING		DEPTH
POWER AUGER	3 1/4"	0 TO 47.5 FT
HAND SHOP: WMUD: WWATER		TO _____
ROTARY DRILL: WMUD: WWATER		TO _____
DIAMOND CORE		TO _____
CORE SIZE <u>ND</u>		47.3 TO 49.8
UNDISTURBED SAMPLES	NO <u>3</u> SIZE <u>3"</u>	
BAG SAMPLES	NO <u>-</u>	



# MACTEC SOIL TEST BORING FIELD REPORT

BORING NO. 1VB 81 PG. 2 OF 2

RIG TYPE CME HAMMER TYPE \_\_\_\_\_

JOB NO. 3043051021 DRILLER G. AKINS HOURS DRILLING \_\_\_\_\_ GROUND SURFACE ELEV. \_\_\_\_\_

DB NAME TVA KINGSTON LOGGED BY T. Justice HOURS MOVING \_\_\_\_\_ DATE: 5/16/05 WEATHER: Sunny

No. Depth	Scale	Color	Moisture	Remarks

BEGAN HQ CORING @ 31.1 FT

Run #1 ; 31.1 FT to 40.4 FT

(1) (Avg. <sup>penetration</sup> ~~penetration~~) = 33.5 FT to 38.3 FT Pen = 9.3 FT

(2) (Avg. <sup>penetration</sup> ~~penetration~~) = 39.3 FT to 41.0 FT Pen = 2.0 FT (22%)

POD = 135/9.3 = (15%)

Run #2 ; 40.4 FT to 50.2 FT

Pen = 9.8 FT

Pen = 8.8 FT (90%)

POD = 2.2/9.8 = (23%)

Run #3 ; 50.2 FT to 60.0 FT

Pen = 9.8 FT

Pen = 9.8 (100%)

POD = 2.4/9.8 = (24.5%)

Run #4 60.0 FT to 61.1 FT

Pen = 1.1 FT

Pen = 0.7 (64%)

POD = 0.5/1.1 = (45%)

to completely

slightly weathered, closely jointed,  
Brownish Gray to Light Gray, fine grained  
Very Strong (hard) Siliceous dolomite,  
Bedding is at an apparent dip of 45 to 50°.  
Orthogonal and high angle joints observed  
throughout. Bedding plane fractures and a few  
joints exhibit some iron staining. Occasional  
cherty areas observed.

STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND & 3RD 6" AND 3RD 6" TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES.

BORING TERMINATED: 61.1 FT  
 BORING REFUSAL: 30.5 ft (slingshot)  
 WATER TOB DEPTH 21.3 FT (at Auger refusal)  
 WATER 24 HR. DEPTH \_\_\_\_\_  
 WATER LOSSES 100%  
 CAVE-IN DEPTHS \_\_\_\_\_  
 CASING: SIZE 4 1/2" LENGTH 31.1 FT  
 STANDBY TIME 2 hrs BORING LAYOUT \_\_\_\_\_

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER 3 1/4" HSA	0 TO 30.5 FT
HAND SHOP: WMUD: WWATER	TO _____
ROTARY DRILL: WMUD: WWATER	TO _____
DIAMOND CORE	TO _____
CORE SIZE <u>HB</u>	31.1' TO 61.1'
UNDISTURBED SAMPLES NO _____ SIZE _____	
BAG SAMPLES NO _____	



SOIL TEST BORING FIELD REPORT

JOB NO. 3043051021 DRILLER M. Burnett BORING NO. NB-84 PG. 1 OF 3  
 JOB NAME IVA MINE STATION LOGGED BY J. Mason HOURS DRILLING \_\_\_\_\_ GROUND SURFACE ELEV. \_\_\_\_\_  
 HOURS MOVING \_\_\_\_\_ DATE: 5/13/05 WEATHER: \_\_\_\_\_

No.	Depth	SAMPLING			SCALE	UD	REC	SOIL CLASSIFICATION	REMARKS
		1' 6"	2' 8"	3' 0"					
1	9.5 09:28	3	2	4	0	1.3	0.0 - 0.6 ft.: Topsoil 0.6 - 1.3 ft.: Firm, 5YR 4/6 yellow- ish red, clayey SILT. Dry to slightly moist.		
2	15.5 09:34	4	8	10	5	1.5	Very stiff 5YR 5/6 yellowish red, very silty CLAY. Dry to slightly moist.		
3	18.5/10 09:43	5	8	11	0	1.5	Very stiff mottled (5YR 5/6 yellowish red and 10YR 7/8 yellow) sandy (very fine, confined to yellow areas), very silty CLAY. Dry to slightly moist.		
					3	<del>UB</del> 2.2'			
4	14/15.5 10:01	7	9	10	0	0.3	Very stiff 10YR 7/8 yellow with some 10YR 2/1 black mottling, very silty CLAY. Sample has been "ribbed and" has a 4-cm pink sandstone fragment. Dry.		
5	18.3/20 10:22	5	6	10	5	1.5	Very stiff, 10YR 6/6 brownish yellow (with minor grey & yellowish red mottling), silty CLAY. Flat subroun- ded chert fragment at 19.0 ft. Dry to slightly moist.		
					0	<del>UB</del> 20/22 7.5'	1.0' seam		
6	22/25.5 10:44	3	5	8	5	1.1	Stiff, 5Y 5/4 light olive brown with some 10YR 5/3 brown mottling, slightly clayey SILT. Dry.		
					0	<del>UB</del> 27.5/29.5 3	1.8		

\*STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND 6" AND 3RD 6" TO DRIVE 1-38" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES.

BORING TERMINATED: \_\_\_\_\_  
 BORING REFUSAL: 49.2'  
 WATER TOB DEPTH 34.5'  
 WATER 24 HR. DEPTH 18.6'  
 WATER LOSSES 100%  
 CAVE-IN DEPTHS \_\_\_\_\_  
 CASING: SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_  
 STANDBY TIME \_\_\_\_\_ BORING LAYOUT \_\_\_\_\_

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	TO _____
HAND SHOP: W/MUD: W/WATER	TO _____
ROTARY DRILL: W/MUD: W/WATER	TO _____
DIAMOND CORE	TO _____
CORE SIZE	TO _____
UNDISTURBED SAMPLES NO. _____ SIZE _____	
BAG SAMPLES NO. _____	



SOIL TEST BORING FIELD REPORT

JOB NO. 3043051021 DRILLER M. Burnett BORING NO. NB-84 PG. 2 OF 3  
 JOB NAME TVA KINGSTON LOGGED BY L. Mason HOURS DRILLING \_\_\_\_\_ GROUND SURFACE ELEV. \_\_\_\_\_  
 HOURS MOVING \_\_\_\_\_ DATE: 5/13/05 WEATHER: \_\_\_\_\_

No. Depth	SAMPLING			SCALE	UD	REC	SOIL CLASSIFICATION	REMARKS
	1st 5'	2nd 5'	3rd 5'					
7 11:53	4	11	14	0		1.2	Very stiff 10YR 5/6 brown (with near yellowish brown mottling) clayey SILT. Clay	
				5	<del>UD</del> 32.5 4	1.0		
8 12:18	6	11	11	0		1.5	Very stiff 10YR 2/4 dark yellowish brown (with 10YR 2/1 black mottling), silty CLAY, with occasional 1 to 3 cm angular gray to light gray, weathered chert fragments. Slightly moist	34.5' t.o.b.
9 12:36	2	6	5	5		1.5	Stiff 2.5Y 5/4 light olive brown silty CLAY, with occasional 1 to 3 cm, light gray, angular weathered chert fragments. Slightly moist to moist.	
10 12:47	3	16	1	0		0.3	Very soft 10YR 5/6 yellowish brown, silty CLAY, with angular weathered chert fragments. Wet.	
11 12:57	50/0.2'			5		0.1	Same as above. No rock fragments at bottom of sampler.	
Begin HQ coring through augers @ 49.15 ft.								
49.15 to 59.17 ft.: <b>DOLOMITE</b> . Fine grained, 5YR 6/1 light brownish gray to M4 medium dark gray, where more siliceous. Cherty; occasionally, chert occurs as discrete nodules a few centimeters in size but more commonly as beds 2 to 7 cm thick. Indurated. Bedding is thin to medium, and is at an apparent dip of about 50°. Weathering is slight to moderate, and may locally be moderately severe. Overall, this dolomite is hard. The dolomite is considerably fractured throughout with a set of fractures oriented orthogonally to bedding. These fractures have an average spacing of about 2 inches near the top of rock, and increase to very close spacing (0.25 to 0.5 inch) with depth. Joint abundance decreases with depth from 40° apparent dip to 20° apparent dip, and indicates an episode of faulting: joints at 52.1, 52.3, and								

STANDARD PENETRATION RESISTANCE IS SUM OF BLOWS FOR 2ND & 3RD AND 4TH & 5TH TO DRIVE 1-3/8" I.D., 2" O.D. SPLIT BARREL SAMPLER WITH 140 POUND HAMMER FALLING 30 INCHES.

BORING TERMINATED: \_\_\_\_\_  
 BORING REFUSAL: \_\_\_\_\_  
 WATER TOB DEPTH \_\_\_\_\_  
 WATER 24 HR.: DEPTH \_\_\_\_\_  
 WATER LOSSES \_\_\_\_\_  
 CAVE-IN DEPTHS \_\_\_\_\_  
 CASING: SIZE \_\_\_\_\_ LENGTH \_\_\_\_\_  
 STANDBY TIME \_\_\_\_\_ BORING LAYOUT \_\_\_\_\_

METHOD OF ADVANCING BORING	DEPTH
POWER AUGER	_____ TO _____
HAND SHOP: WMUD: WWATER	_____ TO _____
ROTARY DRILL: WMUD: WWATER	_____ TO _____
DIAMOND CORE	_____ TO _____
CORE SIZE	_____ TO _____
UNDISTURBED SAMPLES NO _____ SIZE _____	
BAG SAMPLES NO _____	

