BORING NO. B-2 Sta. 118+30 Offset 20' Lt. of Survey (Drilled May 19, 2015)

## BORING NO. B-1 Sta. 117+95 Offset 47' Lt. of Survey (Drilled May 17, 2015)

1050								1050
1045								1045
1040								1040
1035	Surface Elevation 1035.50							1035
1030	TOPSOIL with Grass	1032.00	SS; N= 2, 1, 3; MC= 18.1%;	Surface Elevation	1032.10 -	1032.10		1030
1025	1034.50 J Lean to Fat CLAY with Sand (CL-CH):	⊻ ¥ −1027.00		TOPSOIL with Grass	1031.10 -	-1028.60 👳	SS; N= 1, 2, 3; MC= 19.8%; LL= 35 PI= 19; #200= 89%; RECOVERY= 18"	1025
	dark brown to reddish brown 1032.00 Lean CLAY with Sand (CL): red, moist,		LL= 28 PI= 13; #200= 71%; RECOVERY= 18" SS; N= 3, 5, 6; MC= 16.5%;	Lean CLAY (CL): reddish brown, moist, soft		-1023.60 ¥	SS; N=2, 3, 4; MC=15.1%; LL=40 PI=23; #200= 86%; RECOVERY=18"	
1020	very soft to firm		LL= 42 PI= 24; #200= 79%; RECOVERY= 18"		1018.60 -	-1018.60	SS; N= 2, 2, 4; MC= 15.8%;	1020
1015	Sandy Lean CLAY (CL): red, moist, firm	-1017.00	SS; N= 3, 5, 7; MC= 15.8%; LL= 40 PI= 22; #200= 70%; RECOVERY= 18"	Sandy Lean CLAY (CL): red, moist	1013.10 -	-1013.60	LL= 38 PI= 22; #200= 59%; RECOVERY= 18" SS; N= 4, 11, 21; MC= 16.0%;	1015
1010	1011.00 · Weathered SHALE: red, dry to moist, moderately hard	1012.00 1009.50	SS; N= 9, 17, 31; MC= 11.6%; LL= 36 PI= 17; #200= 57%; RECOVERY= 16" SS; N= 15, 29, 39; MC= 8.4%;	Sandy Silty CLAY (CL-ML): white and gray, moist, hard		-1008.60	LL= 19 PI= 5; #200= 60%; RECOVERY= 18" SS; N= 13, 15, 32; RECOVERY= 13"	1010
1005	1005.00 · SHALE: red, moderately hard, with gray	1008.00	LL= 36 PI= 18; #200= 86%; RECOVERY= 17" SS; N= 16, 37, 50/5.5; MC= 8.6%; LL= 36 PI= 20; #200= 78%	**Weathered SHALE: red, hard		-1005.60 -1004.10	SS; N= 26, 47, 50/3.5 TCP= 50/5.25, 50/5.75	1005
1000	single. red, moderately hard, with gray sandstone inclusions 999.50	4006.50 -1006.00 -1004.50	TCP= 40/6 SS; N= 15, 36, 50/4.75 TCP= 50/4.5. 50/3.5	** <b>SHALE</b> : red, soft, with hard interbedded	1004.60 -	-999.10	TCP= 50/1.5, 50/1.5	1000
995		-999.50 -994.50	TCP= 50/2.5, 50/2.75 TCP= 50/1.25, 50/0.88	layers		-994.10	TCP= 50/5.88, 50/4.63	995
990		- 989.50	TCP= 50/2.5, 50/2.25		000.40			990
985	SHALE: red, moderately hard to hard	-984.50		**SHALE with Sandstone: gray, hard	989.10 - 987.60	-989.10	TCP= 50/1.38, 50/1.25	985
980			TCP= 50/1.5, 50/1.38	**SANDSTONE: gray, well cemented	987.10 -	-984.10	TCP= 50/1.0, 50/1.13	980
975		-979.50	TCP= 50/1.25, 50/0.63	**SHALE: reddish brown, hard to very hard		-979.10	TCP= 50/0.75, 50/0.44	975
970	974.50 SHALE: red, soft	-974.50	TCP= 50/5.25, 50/4.0	Bottom of Boring	972.90 -	974.10	TCP= 50/0.69, 50/0.38	970
965	SHALE: red, very hard 969.50 Bottom of Boring 968.30	969.50	TCP= 50/0.81, 50/0.44					965
960								960

## SITE GEOLOGY

ACCORDING TO THE "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS - DIVISION SEVEN" FROM THE OKLAHOMA HIGHWAY DEPARTMENT, 1968, THE BRIDGE LOCATION APPEARS TO BE LOCATED IN AN AREA OF ALLUVIUM (QAS), UNDERLAIN BY THE HENNESSEY UNIT (PHY), DESCRIBED AS FOLLOWS

ALLUVIUM (QAS): THESE ARE DEPOSITS OF SAND, SILT, CLAY, GRAVEL, AND/OR COMBINATIONS OF MATERIALS. ALLUVIUM IS FOUND ALONG THE FLOOD PLAINS (BOTTOM LAND) OF STREAMS AND IS NORMALLY PRESENT AT PLACES ALONG ALL STREAMS.

HENNESSEY UNIT (PHY): THIS UNIT CONSISTS DOMINANTLY OF REDDISH-BROWN PLATY TO BLOCKY CLAY SHALES AND MUDSTONE WITH MINOR AMOUNTS OF SANDSTONE. MUCH OF THE SHALE IS MASSIVE AND BREAKS WITH SHARP-EDGED CONCHOIDAL FRACTURES. THE RED CLAY SHALE OF THE HENNESSEY UNIT IS CHARACTERIZED BY NUMEROUS BANDS OR STREAKS OF WHITE OR LIGHT GREEN COLOR RANGING FROM A FEW INCHES TO FOUR FEET IN THICKNESS. SMALL SPHERES OF LIGHT GREEN COLOR UP TO ID INCHES IN DIAMETER ALSO OCCUR. LOCALLY, IN STEPHENS COUNTY, THE SHALES ARE MORE GRAY THAN RED. SOFT BUFF MASSIVE SANDSTONES ARE PROMINENT NEAR THE BASE OF THE UNIT IN CARTER AND STEPHENS COUNTES. COUNTIES.

THE TOTAL THICKNESS OF THE UNIT THICKENS BOTH WESTWARD AND NORTHEASTWARD FROM A MINIMUM OF 130 FEET IN CENTRAL STEPHENS COUNTY. IT IS 200 FEET THICK IN THE WESTERN PART OF CADDO COUNTY AND ABOUT 400 FEET THICK IN NORTHEASTERN STEPHENS COUNTY.

IN DIVISION 7, THE HENNESSEY UNIT OUTCROPS IN AN IRREGULAR 3 TO 10 MILE WIDE BAND AROUND THE NOSE OF THE ANADARKO BASIN AND IS ESSENTIALLY PARALLEL TO THE EL RENO UNIT ACROSS STEPHENS COUNTY; THIS UNIT ALSO COVERS SEVERAL SQUARE MILES SURROUNDING THE WICHITA MOUNTAINS IN COMANCHE AND WESTERN CADDO COUNTES. WITHIN TEN MILES OF THE WICHITA MOUNTAINS, THE STRATA OF THE HENRESSEY AND ADDINGTON UNITS ARE GRADATIONAL INTO THE CONGLOMERATES OF THE POST OAK UNIT. TOPOGRAPHICALLY, THE UNIT IS NEAR LEVEL TO GENTLY ROLLING PRAIRIES.

- LEGEND

- LEGEIND = SPLIT SPOON SAMPLER = NUMBER OF BLOWS PER 12 INCHES = MOISTURE CONTENT = LIQUID LIMIT (NV=NO VALUE) = PLASTICITY INDEX (NP=NO PLASTICITY) = PERCENT PASSING #200 SIEVE = UNCONFINED COMPRESSIVE STRENGTH = TEXAS CONE PENETROMETER = WET CAVE IN
- SS N MC LL PI #200 UCS TCP WCI VCI = WET CAVE IN
- WATER LEVEL WHILE DRILLING OR SAMPLING
  WATER LEVEL AFTER DRILLING
  WATER LEVEL 24 HOURS AFTER DRILLING ₹

NOTE: WATER LEVEL ELEVATIONS SHOWN WERE OBTAINED AT TIME OF THE BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

NOTE: SS DENOTES STANDARD PENETRATION TEST, AASHTO D1586-84 TCP DENOTES TEXAS CONE PENETRATION TEST.

TO OBTAIN THE COMPLETE GEOTECHNICAL REPORT CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT (405) 521-2606

DESCRIPTION

REVISIONS

BRIDGE "B" U.S27	IE COUNTY	Design	_	_		
SNAKE CREEK		Deloì	-	_		
FOU	Check	_	-			
(3	Squad: _					
	Eng					
ST <b>A</b> TE <b>O</b> F Oklahom <b>a</b>	DEPARTME	NT OF	TRANS	POR	TAT	<b>ION</b>
OKLAHOMA	JOB PIECE NO. 27968	(04)			SHEET NO.	B009