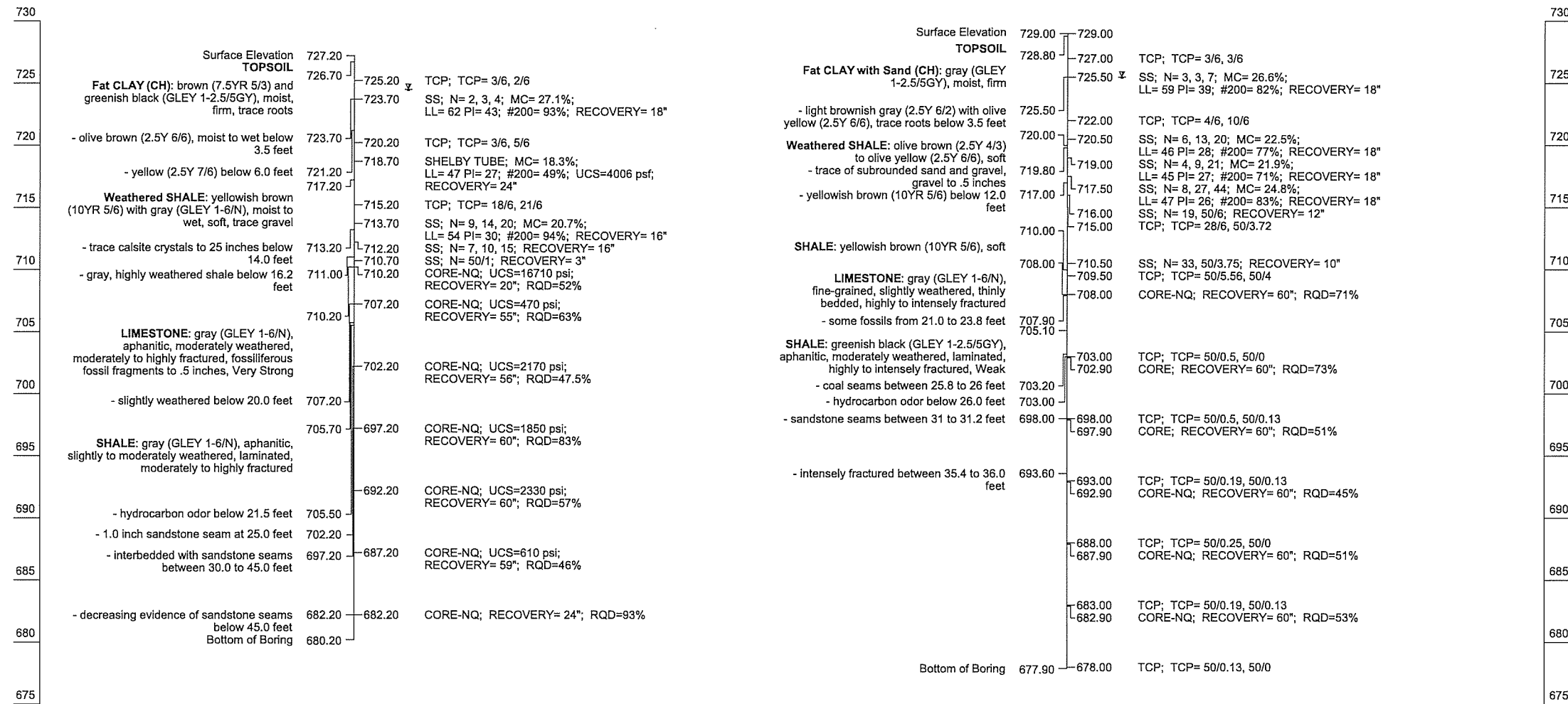


REV. NO.	DESCRIPTION	REVISIONS	DATE

**BORING NO. B-3C**  
Sta. 116+56 Offset 74' Lt.  
(Drilled October 02, 2015)

**BORING NO. B-4**  
Sta. 118+74 Offset 32' Lt.  
(Drilled September 29, 2015)



**SITE GEOLOGY**

ACCORDING TO THE "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS - DIVISION EIGHT" FROM THE OKLAHOMA HIGHWAY DEPARTMENT, 1969, THE ALIGNMENT APPEARS TO BE LOCATED WITHIN THE TERRACE DEPOSITS (QTS) UNDERLAIN BY COFFEYVILLE UNIT (PCF) AND CHECKERBOARD UNIT (PCB).

TERRACE DEPOSITS (QTS): THIS UNIT CONSISTS OF DEPOSITS OF SAND, SILT, CLAY, GRAVEL, AND/OR MIXTURES OF THESE MATERIALS. TERRACE MATERIALS OCCUR ADJACENT TO OR NEAR STREAMS AT HIGHER ELEVATION THAN THE FLOOD PLAIN (BOTTOM LAND).

COFFEYVILLE UNIT (PCF): THIS UNIT CONSISTS PREDOMINANTLY OF SILTY TO SANDY SHALE WITH MANY THICK ZONES OF TAN SANDSTONE. THE SANDSTONE GENERALLY IS THIN-BEDDED AND MODERATELY HARD TO SOFT. LOCALLY, AT THE BASE OF THE UNIT, BLACK FISSILE SHALE ABOUT 15 FEET THICK IS PRESENT. THE SANDSTONE ZONES ARE GENERALLY ABOUT 15 TO 40 FEET THICK. THE TOTAL THICKNESS RANGES FROM 175 FEET IN NORTHERN DIVISION 8 TO ABOUT 500 FEET IN THE SOUTH.

THE COFFEYVILLE UNIT OUTCROPS IN CREEK, NOWATA, ROGERS, TULSA, AND WASHINGTON COUNTIES OF DIVISION 8. IN TULSA AND CREEK COUNTIES, THE THICK SANDSTONE ZONES CAP PROMINENT SCARPS.

CHECKERBOARD UNIT (PCB): THIS UNIT CONSISTS MOSTLY OF GRAYISH-MASSIVE BEDDED LIMESTONE AND SHALE. THROUGHOUT CREEK AND TULSA COUNTIES, IT CONSISTS OF A SINGLE BED OF HARD BLUE-GRAY LIMESTONE APPROXIMATELY 2.5 FEET THICK. IN NOWATA COUNTY, IT GENERALLY CONSISTS OF 2 OR 3 LIMESTONE BEDS LESS THAN 1 FOOT THICK WITH A GRAY CALCAREOUS SHALE AND A TOTAL THICKNESS OF ABOUT 10 FEET OR LESS. THE CHECKERBOARD UNIT IS ABOUT 3 FEET THICK IN SOUTHERN TULSA COUNTY AND FRACTURES EASILY. THE CHECKERBOARD UNIT USUALLY DOES NOT STAND OUT IN RELIEF AND IS THEREFORE DIFFICULT TO OBSERVE. IN MOST AREAS, THE OUTCROP IS COVERED. IT IS EXPOSED IN CREEK, NOWATA, OSAGE, ROGERS, TULSA, AND WASHINGTON COUNTIES OF DIVISION 8.

**LEGEND**

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

US 75A OVER BNSF RR BRIDGE 'A'	CREEK COUNTY	Design	N/A	N/A
FOUNDATION REPORT SHEET 3 OF 4		Detail	RWM	11/15
		Check	KMS	12/15
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	JOB PIECE NO. 27075(04)	
		Engr.	MAYFIELD ELYAZGI	SHEET NO. 49