

LEGEND FOR PROJECT - AVERAGE RESULTS OF TESTS - 536 SAMPLES TESTED

DESCRIPTION	ODOT CLASS	% AGG.	% C.SAND	% F.SAND	% SILT VISUAL	% CLAY CLASSIFICATION	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a(0)									
GRAVEL WITH SAND	A-1-b(0)	39	27	23	10	12	NP	NP	8	23
FINE SAND	A-3(0)	6	20	69	3	2	NP	NP	11	7
COARSE AND FINE SAND	A-3a(0)	12	24	44	13	7	16	1	7	20
GRAVEL WITH SAND AND SILT	A-2-4(0)	37	17	16	24	7	21	1	12	18
GRAVEL W/ SAND, SILT AND CLAY	A-2-6(4)									
SANDY SILT	A-4a(4)	14	12	20	38	16	24	5	15	90
SILT	A-4b(8)	1	3	9	63	23	27	6	23	157
SILT AND CLAY	A-6a(8)	2	3	6	49	40	33	13	22	109
SILTY CLAY	A-6b(10)	2	2	4	43	48	37	17	21	49
ELASTIC CLAY	A-7-5(18)	0	1	3	38	58	58	11	24	1
CLAY	A-7-6(19)	1	2	3	34	31	44	21	24	62
SANDSTONE	---									
SHALE	---									
SILTSTONE	---									
COAL	---									
LIMESTONE	---									
CLAYSTONE	---									
WEATHERED SANDSTONE	---									
WEATHERED SHALE	---									
WEATHERED SILTSTONE	---									
WEATHERED CLAYSTONE	---									
TOPSOIL	---									
AGGREGATE BASE/BERM MATERIAL	---									

NOTE. BEDROCK THAT IS INTERBEDDED IS SHOWN AS A COMBINATION OF TWO OF THE ABOVE ROCK PATTERNS.

TR TOP OF ROCK

AUGER BORING - PLAN VIEW

DRIVE SAMPLE AND/OR CORE BORING - PROFILE VIEW

FREE WATER

STATIC WATER LEVEL

STATIC WATER LEVEL (INCLUDES DRILLING WATER)

WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT

INDICATES A NON PLASTIC MATERIAL WITH A HIGH WATER CONTENT

W/X/Y/Z NUMBER OF BLOWS FOR "STANDARD PENETRATION" TEST
 W-NUMBER OF BLOWS FOR FIRST 6 INCHES
 X-NUMBER OF BLOWS FOR SECOND 6 INCHES
 Y-NUMBER OF BLOWS FOR THIRD 6 INCHES
 Z-NUMBER OF BLOWS FOR FOURTH 6 INCHES, IF APPLICABLE

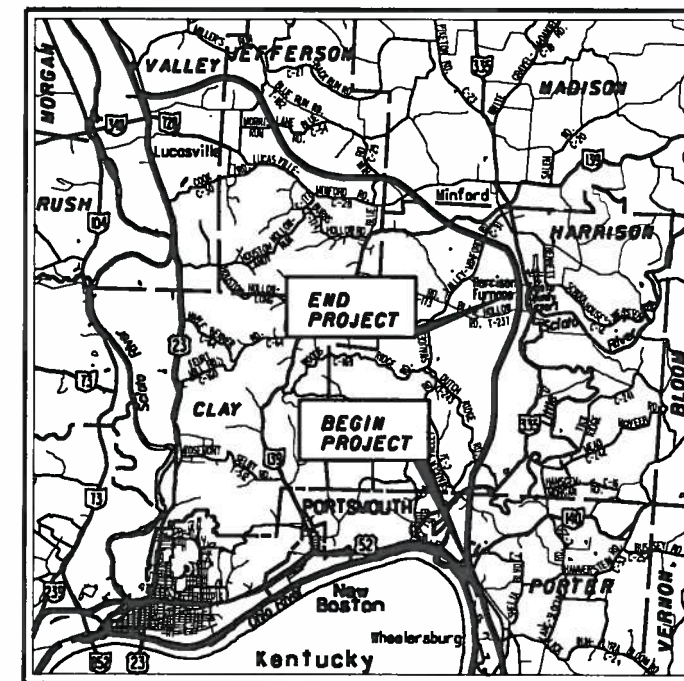
50(n) INDICATED NUMBER OF BLOWS (50) TO DRIVE A SPLIT-BARREL SAMPLER A DEPTH OF (n) INCHES OTHER THAN THE NORMAL 6-INCH INCREMENT.

WGH WEIGHT OF HAMMER

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15

NOTES

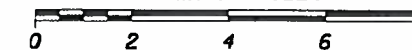
ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS, SOIL TESTS, AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET, COLUMBUS, OH 43223 OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223. THIS WORK WAS PERFORMED UNDER THE SPECIFICATIONS FOR SUBSURFACE INVESTIGATIONS, SEPTEMBER 16, 1996.



LOCATION MAP

LATITUDE: N 38°44'49" LONGITUDE: W 82°52'19"

SCALE IN MILES



PORTION TO BE IMPROVED

Recon - A.M.J - 9/27/2004 to 5/26/2006
 Drilling - K.C., D.W., R.B. - 8/4/2004 TO 8/2/2007
 Drafting - R.L.S, R.K.L. - 11/16/2007

GENERAL INFORMATION

INTRODUCTION

THIS REPORT CONSISTS OF THE SOILS INVESTIGATION FOR THE SOUTHERN PORTION (PHASE 3) OF THE PROPOSED STATE ROUTE 823 ROADWAY. PHASE 3 BEGINS AT U.S.ROUTE 52 NEAR TOWNSHIP ROAD 256 IN WHEELERSBURG AND ENDS APPROXIMATELY 2400 FEET SOUTH OF EXISTING SHUMWAY HOLLOW ROAD (TOWNSHIP ROAD 234) IN SCIOTO COUNTY, OHIO. INTERCHANGES ARE PLANNED AT U.S.ROUTE 52 AND STATE ROUTE 140 (WEBSTER STREET) AND SIX BRIDGES ARE INCLUDED IN PHASE 3. APPROXIMATELY 5.7 MILES OF NEW ROADWAY AND 3.2 MILES OF NEW RAMPS ARE PLANNED AND 0.5 MILES OF EXISTING ROADWAY WILL BE IMPROVED AS PART OF THE PROJECT.

TWO PRELIMINARY SUBSURFACE EXPLORATIONS WERE PERFORMED IN 2001 THROUGH 2003 TO EVALUATE THE SUBSURFACE CONDITIONS FOR POTENTIAL ALIGNMENTS. A TOTAL OF 46 BORINGS WERE DRILLED AT THAT TIME. HOWEVER, ONLY FOUR OF THOSE BORINGS, PB-17, PB-29, PB-30, AND PB-31, WERE LOCATED WITHIN 600 FEET OF THE PROPOSED SR 823 ALIGNMENT. THESE FOUR BORINGS ARE INCLUDED IN THE SOIL SUMMARY, BUT THE REMAINING BORINGS FROM THE PRELIMINARY EXPLORATIONS ARE NOT INCLUDED IN THIS REPORT.

THE PROJECT INDEX IS ON SHEET 6.

GEOLOGY AND OBSERVATIONS OF THE PROJECT

A. REGIONAL GEOLOGY

THE LITHOLOGY OF CENTRAL SCIOTO COUNTY IS PRIMARILY COMPOSED OF MISSISSIPPIAN AGED ROCKS INCLUDING SHALE, SILTSTONE, AND SANDSTONE. THE MIDDLE TO UPPER DEVONIAN AGED ROCKS OF THE OHIO SHALE AND OLENTANGY SHALE ARE FOUND WITHIN DEEPER PORTIONS OF THE SCIOTO RIVER VALLEY. THE UPPER DEVONIAN AGED ROCKS ARE UNDIVIDED FROM THE LOWER MISSISSIPPIAN AGED ROCKS IN PREVIOUS MAPPING EFFORTS WITHIN THE COUNTY. THE UNDIVIDED DEVONIAN AND MISSISSIPPIAN AGED ROCKS ARE LOCATED WITHIN PORTIONS OF THE OHIO RIVER VALLEY, SCIOTO RIVER VALLEY, AND SOME OF THE DEEPER TRIBUTARY VALLEYS OF THE MAJOR DRAINAGES. OVERLYING THE DEVONIAN AGED ROCKS, THE FULL MISSISSIPPIAN AGED STRATIGRAPHIC COLUMN IS PRESENT THROUGHOUT MUCH OF SCIOTO COUNTY. SOME OF THE BEST EXPOSURES OF THE MISSISSIPPIAN AGED LOGAN FORMATION ARE FOUND IN SCIOTO COUNTY. ALONG THE HIGHER RIDGELINES IN THE EASTERN AND EAST CENTRAL PORTIONS OF SCIOTO COUNTY, PENNSYLVANIAN AGED ROCKS CAP THE HIGHER HILLTOPS WITH RESIDUAL SOILS OVERLYING THE ROCK.

THE GEOLOGY IS AFFECTED BY BOTH REGIONAL AND LOCAL BEDROCK STRUCTURAL FEATURES. THE CONTROLLING REGIONAL FEATURE IS THE CINCINNATI ARCH, WHICH IS LOCATED TO THE WEST OF THE PROPOSED ALIGNMENT. GENERALLY, THE ROCK STRATA OF THE REGION VARY IN THICKNESS TOWARDS THE ARCH AND THE BEDS APPEAR AT INCREASINGLY HIGHER ELEVATIONS. THERE ARE TWO LOCAL STRUCTURAL FEATURES EVIDENT THAT AFFECT THE BEDROCK SEEN NEAR THE PROPOSED ALIGNMENT, A LOW DOME AND A MONOCLINAL ARCH. THE LOW DOME IS LOCATED WEST OF SCIOTOVILLE ON THE NORTH BANK OF THE OHIO RIVER, RESULTING IN A REVERSAL OF THE LOCAL DIP SEEN IN THE BEDROCK ADJACENT TO THE DOME. THE LOW MONOCLINAL ARCH IS LOCATED IN THE WESTERN PORTION OF THE COUNTY TRENDING NORTH-NORTHEAST AND CROSSING SCIOTO BRUSH CREEK NEAR OTWAY. THIS STRUCTURAL FEATURE MAY INCREASE THE DIP OF THE BEDROCK IN AND ADJACENT TO THE NORTHERN PORTION OF THE PROPOSED ALIGNMENT. THE REGIONAL DIP OF THE BEDDING WITHIN SCIOTO COUNTY RANGES BETWEEN 13 AND 43 FEET PER MILE TO THE EAST SOUTHEAST (APPROXIMATELY E 15@94S TO E 20@94S).

B. GEOLOGY ALONG PROPOSED SR 823 ALIGNMENT

THE FOLLOWING SECTIONS DESCRIBE THE GENERAL CHARACTERISTICS OF THE LITHOLOGY FOUND WITHIN THE PROPOSED LIMITS OF CONSTRUCTION. THE DESCRIPTIONS ARE ORGANIZED BY AGE OF FORMATION: PENNSYLVANIAN, UPPER MISSISSIPPIAN, AND LOWER MISSISSIPPIAN AND UPPER DEVONIAN-UNDIVIDED.

B.1. PENNSYLVANIAN ROCKS

PENNSYLVANIAN AGED ROCKS FROM THE POTTSVILLE GROUP ARE FOUND CAPPING THE HIGHER RIDGELINES SEEN THROUGHOUT THE PROPOSED ALIGNMENT, EXCEPT TO THE NORTH IN VALLEY TOWNSHIP. THIS UNIT IS MAPPED AS THE PENNSYLVANIAN BREATHITT FORMATION ON THE OPEN-FILE BEDROCK GEOLOGY MAPS COMPILED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES-DIVISION OF GEOLOGICAL SURVEY (ODNR-DGS). THIS NAME ORIGINATED FROM MAPPING EFFORTS OF THE PENNSYLVANIAN POTTSVILLE AND ALLEGHENY GROUPS IN KENTUCKY. THE POTTSVILLE GROUP MEMBERS FOUND WITHIN THE PROPOSED LIMITS OF CONSTRUCTION WILL BE REFERRED TO AS THE BREATHITT FORMATION IN THIS REPORT TO BE CONSISTENT WITH BEDROCK GEOLOGY MAPS PREPARED BY ODNR-DGS.

THE BREATHITT FORMATION IS FOUND AS THIN BANDS GENERALLY FOLLOWING THE TOPOGRAPHIC CONTOURS OF THE HIGHER RIDGELINES. DUE TO THE REGIONAL DIP, THE PENNSYLVANIAN BREATHITT FORMATION IS GENERALLY ABSENT OR FOUND ABOVE AN ELEVATION OF 1000 FEET WITHIN THE NORTHERN AND NORTH-WESTERN PORTION OF THE PROPOSED ALIGNMENT, ABOVE AN ELEVATION OF 850 FEET IN THE CENTRAL PORTION OF THE ALIGNMENT, AND ABOVE AN ELEVATION OF 850 FEET IN THE CENTRAL PORTION OF THE PROPOSED ALIGNMENT. THE TOP OF THE UNDERLYING MISSISSIPPIAN AGED MAXVILLE LIMESTONE IS ASSOCIATED WITH AN EROSIONAL UNCONFORMITY AND THE CONTACT IS PROBABLY UNDULATING AND NON-UNIFORM. THE BREATHITT FORMATION CONSISTS OF CONGLOMERATE, COAL, SHALE, THIN LIMESTONE, SANDSTONE, AND IRON ORES. GENERALLY, SHALE AND SANDSTONE ARE THE DOMINANT LITHOLOGIES WITH OCCASIONAL THIN, BONY COAL BEDS OR BLOSSOMS.

THE PREDOMINATE MARKER BEDS FOUND WITHIN THE BREATHITT FORMATION ARE THE HARRISON ORE, LOCATED IMMEDIATELY OVERLYING THE MISSISSIPPIAN AGED MAXVILLE LIMESTONE, THE SCIOTOVILLE CLAY, THE SHARON ORE, AND THE ANTHONY COAL. OF THESE MEMBERS, THE HARRISON ORE IS THE ONLY MARKER BED THAT IS RELATIVELY CONTINUOUS WITHIN PROPOSED LIMITS OF CONSTRUCTION. THE HARRISON ORE IS DESCRIBED AS BEING CLOSELY ASSOCIATED WITH THE UNDERLYING MISSISSIPPIAN AGED MAXVILLE LIMESTONE, SOMETIMES DESCRIBED AS BEING AN ALTERATION OF THE UNDERLYING LIMESTONE. EVEN WHEN THE MAXVILLE LIMESTONE IS ABSENT, THE HARRISON ORE IS GENERALLY FOUND. THE ORE IS OFTEN BRECCIATED OR CONGLOMERATIC AND IS DESCRIBED AS BEING SEDIMENTARY IN ORIGIN AS OPPOSED TO AN ALTERATION PRODUCT. CONSEQUENTLY, THE MATERIAL COMPRISING THE HARRISON ORE VARIES GREATLY FROM PLACE TO PLACE, BUT IT IS COMMONLY INTERPRETED AS THE BASAL UNIT OF THE PENNSYLVANIAN ROCKS. THE SCIOTOVILLE CLAY IS RELATIVELY CONTINUOUS THROUGHOUT THE ALIGNMENT, WHEREAS THE SHARON ORE AND THE ANTHONY COAL ARE REPORTED WITHIN THE PROPOSED LIMITS OF CONSTRUCTION BUT NEITHER ARE CONTINUOUS OR WELL DEVELOPED.

B.2. UPPER MISSISSIPPIAN ROCKS

UPPER MISSISSIPPIAN AGED ROCKS FROM THE WAVERLY SERIES, CUYAHOGA AND LOGAN FORMATIONS COMPRISE THE MAJORITY OF THE ROCKS WITHIN THE PROPOSED LIMITS OF CONSTRUCTION. THESE TWO FORMATIONS ARE NOT DIVIDED ON THE BEDROCK GEOLOGY MAPS COMPILED BY ODNR-DGS. HOWEVER, FORMAL SUBDIVISIONS DO EXIST AND ARE USED IN THE FOLLOWING DESCRIPTIONS. THESE ROCKS REPRESENT THE MIDDLE AND UPPER PORTION OF THE MISSISSIPPIAN SYSTEM WITHIN THE REGION.

THE MAXVILLE LIMESTONE, OVERLYING THE LOGAN FORMATION, MARKS THE CONTACT WITH THE OVERLYING PENNSYLVANIAN AGED BREATHITT FORMATION. THE MAXVILLE LIMESTONE CONSISTS OF ISOLATED, DISCONTINUOUS POCKETS OF LIMESTONE THAT CAN RANGE FROM VERY PURE TO CHERTY AND IS DISCONTINUOUS DUE TO AN EROSIONAL UNCONFORMITY AT ITS UPPER SURFACE. WHERE THE MAXVILLE LIMESTONE IS ABSENT, THE LOGAN FORMATION MARKS THE UPPER CONTACT WITH THE OVERLYING PENNSYLVANIAN AGED BREATHITT FORMATION.

THE UNDERLYING LOGAN FORMATION VARIES IN THICKNESS IN PART DUE TO THE EROSIONAL UNCONFORMITY AT ITS UPPER BOUNDARY AND CONSISTS PRIMARILY OF GRAY TO BROWN FINE-GRAINED SANDSTONE, SILTSTONE, AND SANDY SHALE, BUT IS CHARACTERIZED BY THE DOMINANCE OF SANDSTONE. THREE MEMBERS OF THE LOGAN ARE IDENTIFIED WITHIN SCIOTO COUNTY. WORKING UP THE STRATIGRAPHIC COLUMN, THEY ARE THE BYER SANDSTONE, THE ALLENSVILLE CONGLOMERATE, AND THE VINTON SANDSTONE. OCCASIONAL IRON ORES ARE PRESENT WITHIN THE LOGAN FORMATION, BUT ARE USUALLY THIN, ISOLATED, AND NODULAR. GENERALLY, THE VINTON MEMBER IS A FINE-GRAINED SANDSTONE WHICH CAN BE FINELY INTERBEDDED WITH SANDY SHALE AND OFTEN CONTAINS ZONES OF FOSSILS AND IRONSTONE CONCRETIONS. THE ALLENSVILLE MEMBER IS A FINE-GRAINED SANDSTONE THAT CAN BE FINELY INTERBEDDED WITH SANDY SHALE WITH SMALL PEBBLES BEDS (1 TO 2 INCHES) THROUGHOUT. THIS MEMBER IS NOT EASILY DISTINGUISHABLE FROM THE BYER MEMBER AND IS OFTEN MISSING WITHIN THE SEQUENCE. THE BYER MEMBER IS GENERALLY A FINE GRAINED SANDSTONE WHICH CAN BE FINELY INTERBEDDED SANDSTONE AND SANDY SHALE OR MASSIVE SANDSTONE.

THE LOGAN FORMATION IS THE DOMINANT ROCK STRATA FOUND WITHIN THE PROPOSED LIMITS OF CONSTRUCTION. THE HILLSIDES IN THE SOUTHERN AND CENTRAL PORTION OF THE PROPOSED ALIGNMENT ARE COMPOSED OF SANDSTONES OF THE LOGAN FORMATION WITH THE EXCEPTION OF THE PENNSYLVANIAN BREATHITT FORMATION CAPPING THE HIGHER RIDGELINES. WITHIN THE NORTHERN PORTION OF THE PROPOSED ALIGNMENT, THE UPPER HALF TO ONE THIRD OF THE HILLSIDES ARE COMPOSED OF THE LOGAN FORMATION. THE LOGAN FORMATION GRADUALLY DESCENDS EASTWARD UNTIL IT PASSES UNDER COVER AT THE APPROXIMATE EASTERN BOUNDARIES OF PORTER, HARRISON, AND MADISON TOWNSHIPS TO THE EAST OF THE PROPOSED ALIGNMENT. EXAMPLES OF THE ROCK STRATA CAN BE SEEN WITHIN SEVERAL ROCK CUTS THROUGHOUT THE AREA ALONG THE OHIO RIVER AND THE LOWER LITTLE SCIOTO RIVER, IN WHICH THE CUTS ARE COMPOSED ENTIRELY OF THE LOGAN FORMATION. FIELD OBSERVATIONS OF ROAD CUTS WITHIN THE LOGAN FORMATION INDICATE THAT TWO REGIONAL JOINT SET ORIENTATIONS ARE FOUND WITHIN THE PROPOSED LIMITS OF CONSTRUCTION. THE MAIN JOINT SET IS NEAR VERTICAL AND TRENDS EAST-WEST. A SECONDARY JOINT SET IS NEAR VERTICAL AND TRENDS NORTH-SOUTH.

THE CUYAHOGA FORMATION, UNDERLYING THE LOGAN FORMATION, CONTAINS GRAY TO BROWN SHALE INTERBEDDED WITH MINOR AMOUNTS OF SANDSTONE AND SILTSTONE WITH OCCASIONAL MASSIVE SANDSTONE BEDS. TWO SANDSTONE MEMBERS OF THE CUYAHOGA FORMATION ARE REPORTED ON THE CURRENT STRATIGRAPHIC COLUMN AS THE BLACK HAND SANDSTONE AND BUENA VISTA SANDSTONE. THE CUYAHOGA FORMATION, HOWEVER, IS CHARACTERIZED BY THE DOMINANCE OF SHALE. STOUT REPORTED THREE MEMBERS WITHIN SCIOTO COUNTY. WORKING UP THE STRATIGRAPHIC COLUMN, THE MEMBERS ARE THE HENLY SILICEOUS SHALE, BUENA VISTA SANDSTONE MEMBER, AND THE



PORTSMOUTH SHALE. THE BUENA VISTA SANDSTONE MEMBER DIPS BELOW COVER JUST EAST OF THE SCIOTO RIVER AND ALMOST THE ENTIRE VISIBLE PORTION OF THE CUYAHOGA NEAR THE PROPOSED ALIGNMENT IS COMPOSED OF PORTSMOUTH SHALE. THE PORTSMOUTH SHALE MEMBER OF THE CUYAHOGA FORMATION IS GENERALLY COMPOSED OF BLUE TO GRAY SANDY SHALE WITH OCCASIONAL THIN SANDSTONES OR LAYERS OF CONCRETIONARY IRONSTONE, SELDOM OVER AN INCH OR TWO IN THICKNESS. THE SHALE READILY WEATHERS TO BUFF COLORED FLAKY FRAGMENTS AND SUBSEQUENTLY TO CLAY. AREAS WITHIN THE NORTHWESTERN PORTION OF THE PROPOSED ALIGNMENT UNDERLAIN BY THE PORTSMOUTH SHALE OF THE CUYAHOGA FORMATION EXHIBIT UNDULATING, HUMMOCKY TERRAIN, INDICATIVE OF LANDSLIDES AND EARTH FLOW DUE TO THE HIGH CLAY CONTENT OF THE WEATHERED SHALE. THE CONTACT BETWEEN THE LOGAN AND CUYAHOGA FORMATIONS IS GENERALLY TRANSITIONAL AND MAY BE UP TO 25 FEET IN THICKNESS. THE CUYAHOGA FORMATION GRADUALLY DESCENDS EASTWARD FROM THE SCIOTO RIVER, AND IS ESTIMATED TO PASS UNDER COVER APPROXIMATELY ONE MILE WEST OF CLARKTOWN IN THE CENTRAL PART OF THE COUNTY AND AT SCIOTOVILLE IN THE SOUTH.

B.3. LOWER MISSISSIPPIAN AND UPPER DEVONIAN ROCKS - UNDIVIDED

ALONG PORTIONS OF THE OHIO RIVER AND SCIOTO RIVER VALLEY THE LOWER MISSISSIPPIAN AND UPPER DEVONIAN ROCKS HAVE NOT BEEN DIVIDED IN PREVIOUS MAPPING EFFORTS. PREVIOUS MAPPING EFFORTS COMBINE THE MISSISSIPPIAN AGED SUNBURY SHALE, BEREA SANDSTONE, AND BEDFORD SHALE WITH THE UPPER DEVONIAN AGED ROCKS. HOWEVER, FORMAL SUB-DIVISIONS DO EXIST AND ARE USED IN THE FOLLOWING DESCRIPTIONS. THESE ROCKS ARE POORLY EXPOSED AT THE GROUND SURFACE DUE PRIMARILY TO BURIAL BY GLACIAL OUTWASH, LACUSTRINE SOILS, AND ALLUVIAL DEPOSITS. THE SUNBURY SHALE MAY BE EXPOSED IN THE LOWER SLOPES OF THE HILLS IMMEDIATELY EAST OF THE SCIOTO RIVER, BUT IS UNDER COVER THROUGHOUT THE REST OF THE ALIGNMENT.

GENERALLY, OUTCROPS OF THESE ROCKS ARE NOT SEEN WITHIN OR NEAR THE LIMITS OF CONSTRUCTION AND ARE PRIMARILY FOUND BENEATH THE OVERBURDEN OF THE LARGER STREAM CHANNELS. THE MISSISSIPPIAN AGED SUNBURY SHALE IS LOCATED AT THE CONTACT WITH THE OVERLYING MISSISSIPPIAN CUYAHOGA FORMATION. GENERALLY, THE SUNBURY IS A BROWN TO BLACK CARBONACEOUS SHALE THAT IS THIN, FISSILE, AND PLANAR, OFTEN CONTAINING SMALL PYRITIC CONCRETIONS. THE SUNBURY RANGES IN THICKNESS FROM 10 TO 50 FEET. UNDERLYING THE SUNBURY SHALE, THE MISSISSIPPIAN BEREA SANDSTONE CONSISTS OF GRAY SANDSTONE AND MINOR SHALE AND RANGES IN THICKNESS FROM 10 TO 50 FEET WITH THIN TO THICK BEDDING. THE BOTTOM OF THE GROUP IS COMPOSED OF THE MISSISSIPPIAN AND DEVONIAN AGED BEDFORD SHALE. THE BEDFORD CONTAINS GRAY TO BROWN SHALE WITH INTERBEDDED SANDSTONE BEDS UP TO TWO TO THREE FEET IN THICKNESS. THE SANDSTONE BEDS CONSIST OF THIN PLATY SANDSTONES SELDOM OVER A FRACTION OF AN INCH THICK AND SEPARATED BY THINNER SHALE PARTINGS. THE BEDFORD SHALE OVERLIES THE DEVONIAN AGED OHIO SHALE.

C. QUATERNARY GEOLOGY

SOILS FOUND WITHIN THE LIMITS OF CONSTRUCTION CAN BE DIVIDED INTO THREE GROUPS. FIRST, RESIDUAL AND COLLUVIAL SOILS DERIVED FROM WEATHERING OF UNDER-LYING ROCK AND DOWNSLOPE TRANSPORT. SECOND, THERE ARE LACUSTRINE AND OUTWASH DEPOSITS OF GLACIAL ORIGIN AND FINALLY SOILS CONSISTING OF RECENT ALLUVIAL DEPOSITS. THE RESIDUAL AND COLLUVIAL SOILS ARE FOUND ALONG THE RIDGE TOPS AND HILLSIDES, GLACIAL SOILS ARE TYPICALLY FOUND WITHIN THE MAJOR STREAM VALLEY AND THEIR TRIBUTARIES, AND RECENT ALLUVIAL DEPOSITS ARE FOUND ALONG AND WITHIN STREAM CHANNELS AND VALLEYS.

C.1. RESIDUAL AND COLLUVIAL SOIL

RESIDUAL AND COLLUVIAL SOILS ARE FOUND ON THE RIDGETOPS AND THE HILLSIDES WITHIN THE PROPOSED LIMITS OF CONSTRUCTION. ALONG THE PROPOSED ALIGNMENT, RESIDUAL AND COLLUVIAL SOILS ARE GENERALLY THIN TO MODERATELY DEEP, COVERING MODERATE TO VERY STEEP SLOPES. RESIDUAL AND COLLUVIAL SOILS ON THE HILLSIDES ARE PRONE TO LANDSLIDES.

FOUR SOIL COMPLEXES ARE REPORTED ALONG THE HILLSIDES, CONSISTING OF: SHELOCTA-BROWNSVILLE, SHELOCTA-WHARTON-LATHAM, LATHAM-WHARTON-SHELOCTA, AND SHELOCTA-STEINBURG-LATHAM. THESE COMPLEXES COMBINED MAKE UP APPROXIMATELY 80 PERCENT OF THE SOILS FOUND WITHIN THE COUNTY HAVING SLOPES RANGING FROM 8 TO 70 PERCENT AND ARE COMPOSED OF RESIDUUM AND COLLUVIUM DERIVED FROM SHALE, SILTSTONE, AND SANDSTONE.

C.2. LACUSTRINE SOILS AND GLACIAL OUTWASH

THE TWO TYPES OF GLACIAL SOILS ENCOUNTERED WITHIN THE PROPOSED LIMITS OF CONSTRUCTION ARE LACUSTRINE DEPOSITS AND GLACIAL OUTWASH DEPOSITS.

THE LACUSTRINE SOILS ARE COMMONLY KNOWN AS THE "MINFORD SILTS" OR THE MINFORD COMPLEX. THE SOILS WITHIN THIS GROUP WILL BE REFERRED TO AS THE MINFORD COMPLEX IN THIS REPORT. THESE DEPOSITS ARE PRIMARILY FOUND WITHIN THE LITTLE SCIOTO RIVER VALLEY AND ITS TRIBUTARIES IN THE CENTRAL AND SOUTHERN PORTIONS OF THE PROPOSED ALIGNMENT. THE MINFORD COMPLEX SOILS ARE GENERALLY FOUND BETWEEN ELEVATIONS OF 650 TO 780 FEET. THESE DEPOSITS WERE FORMED DURING THE EARLY TO MIDDLE PLEISTOCENE AGED WHEN THE NORTHWARD FLOWING TEAYS RIVER SYSTEM WAS BLOCKED BY THE SOUTHWARD ADVANCE OF THE KANSAN AGED ICE SHEETS. AS THE GLACIERS ADVANCED, THE COURSE OF THE TEAYS RIVER WAS BLOCKED SOUTH OF CHILLICOTHE AND A LARGE LAKE WAS FORMED FROM THE IMPOUNDMENT OF THE WATERWAYS. AS A RESULT OF THE IMPOUNDMENT, VAST QUANTITIES OF SEDIMENTS WERE DEPOSITED RANGING FROM 10 TO 80 FEET IN THICKNESS, THINNING TOWARDS THE MARGINS.

THE DEPOSITS RANGE FROM A BASAL LAG DEPOSIT, CONSISTING OF SANDS WITH PEBBLES AND COBBLES, TO VERY PLASTIC CLAYS THAT USUALLY HAVE A HIGH WATER CONTENT. THE MINFORD COMPLEX SOILS VARY CONSIDERABLY THROUGHOUT THE AREA OF THE PROPOSED ALIGNMENT, PARTIALLY DUE TO ORIGINAL DEPOSITION AND CHANGE SINCE THE TIME OF FORMATION. WHEN PRESENT, THESE MATERIALS LIE ON OR NEAR BEDROCK. THE MINFORD COMPLEX SOILS HAVE NO REGULAR SUCCESSION, BUT TYPICALLY SANDS AND SANDY SILTS ARE FOUND NEAR THE BEDROCK AND FINE LAMINATED SILTS AND CLAYS ARE FOUND AT THE HIGHER LEVELS OF THE SEQUENCE. OCCASIONALLY, THE MINFORD COMPLEX CONTAINS SANDSTONE COBBLES AND BOULDERS AND QUARTZ PEBBLES IN THE LOWER PARTS OF THE SEQUENCE. THESE COBBLES, BOULDERS, AND PEBBLES WITHIN THE SEQUENCE ARE BELIEVED TO BE OF LOCAL ORIGIN. HOWEVER, THE SILT AND CLAY DEPOSITS ARE PECULIAR FOR OHIO IN THAT THEY TYPICALLY CONTAIN UP TO 50 PERCENT SERICITIC MICA, INDICATING THAT THEY ARE PROBABLY DERIVED FROM A METAMORPHIC SCHIST TERRANE SUCH AS THE PIEDMONT PROVINCE WITHIN THE APPALACHIAN MOUNTAINS. MOST LACUSTRINE DEPOSITS WITHIN OHIO ARE GLACIAL, CONSISTING OF $\frac{1}{2}$ ROCK FLOUR $\frac{1}{2}$ DERIVED FROM THE MOVEMENT OF GLACIERS OR ARE COMPOSED OF MATERIALS DERIVED FROM WEATHERED SANDSTONES, SHALES, AND CALCAREOUS ROCKS WHICH DOMINATE THE LITHOLOGY OF THE ROCKS WITHIN OHIO. THIN ALLUVIAL AND/OR GLACIAL OUTWASH DEPOSITS ARE FREQUENTLY FOUND OVERLYING THE MINFORD COMPLEX SOILS. THE TYPE SECTION FOR THE MINFORD COMPLEX SOILS IS LOCATED IN A RAIL CUT ON THE OUTSKIRTS OF THE VILLAGE OF MINFORD, OHIO.

GLACIAL OUTWASH DEPOSITS ARE FOUND ALONG THE SCIOTO RIVER VALLEY OCCUPYING THE VALLEY OF THE PREGLACIAL TEAYS-AGED PORTSMOUTH RIVER AND WITHIN THE OHIO RIVER VALLEY. THE GLACIAL DEPOSITS ARE LATE WISCONSINAN IN AGE AND CONSIST OF SAND AND GRAVEL DEPOSITS WITH SMALL ISOLATED PEAT DEPOSITS. GENERALLY, THESE DEPOSITS ARE SATURATED AT SHALLOW DEPTHS WITH HIGH RECHARGE RATES. SEVERAL SAND AND GRAVEL PITS CAN BE SEEN ALONG EXISTING US 23, WHERE THESE SAND AND GRAVEL DEPOSITS HAVE BEEN OR ARE CURRENTLY BEING EXTRACTED.

FOUR SOIL COMPLEXES ARE REPORTED ALONG THE PREGLACIAL VALLEYS AND ON FLOOD PLAINS, TERRACES, AND FANS CONSISTING OF OMULGA-MONONGAHELA-HAYMOND, WEINBACH-WHEELING-ELKINSVILLE, NOLIN-SHELOCTA-OMULGA, AND TIOGA-SARDINIA-FITCHVILLE. THESE COMPLEXES COMBINE TO MAKE UP APPROXIMATELY 15 PERCENT OF THE SOILS FOUND WITHIN THE COUNTY HAVING SLOPES RANGING FROM 0 TO 40 PERCENT (MAJORITY ARE BETWEEN 0 AND 15 PERCENT) AND ARE FORMED IN COLLUVIUM, LACUSTRINE SEDIMENTS, FLOOD PLAINS, FANS, AND IN PREGLACIAL VALLEYS.

C.3. ALLUVIAL SOILS

GENERALLY, THE LARGEST DEPOSITS OF ALLUVIAL SOILS ARE FOUND ALONG THE LITTLE SCIOTO RIVER AND THE OHIO RIVER. THESE DEPOSITS ARE USUALLY GRANULAR WITH HIGH FINES (CLAY AND SILT) CONTENT. ALLUVIAL SOILS, TO SOME EXTENT, ARE FOUND ALONG ALL OF THE CREEKS AND RIVERS WITHIN THE PROPOSED LIMITS OF CONSTRUCTION. GENERALLY ALLUVIAL DEPOSITS RANGE FROM SILTY CLAY TO COARSE SAND. WHERE BEDROCK IS SHALLOW, ALLUVIAL DEPOSITS MAY CONTAIN COARSE SAND, GRAVEL, AND COBBLES.

TWO SOIL COMPLEXES ARE REPORTED ALONG THE FLOOD PLAINS CONSISTING OF NOLIN-GENESSEE AND STENDAL-CUBA-TIOGA. THESE COMPLEXES COMBINE TO MAKE UP APPROXIMATELY 5 PERCENT OF THE SOILS FOUND WITHIN THE COUNTY HAVING SLOPES RANGING FROM 0 TO 3 PERCENT AND ARE FORMED IN ALLUVIUM WITHIN THE FLOOD PLAINS.

D. OBSERVATIONS AND LAND USAGE

ONE AREA WITHIN THE SHUMWAY HOLLOW INTERCHANGE AREA SHOWED RECENT SIGNS OF SIGNIFICANT INSTABILITY NEAR OR WITHIN THE LIMITS OF CONSTRUCTION. SLOPE INSTABILITY WAS CHARACTERIZED AS EITHER AN ACTIVE LANDSLIDE OR SOIL CREEP. ACTIVE LANDSLIDES WERE CHARACTERIZED AS MOVEMENTS OF OVERBURDEN THICKNESSES OF TWO FEET OR MORE DOWN SLOPE AND SHOWED INDICATIONS OF RECENT ACTIVITY. SLOPE INSTABILITY AND MOVEMENT IN AREAS WITH AN OVERBURDEN THICKNESS OF LESS THAN TWO FEET IS CHARACTERIZED AS SOIL CREEP. IN THE STEEP TERRAIN OF SCIOTO COUNTY, SOIL CREEP IS COMMON. LANDSLIDES AND SOIL CREEP WERE FIRST IDENTIFIED USING AERIAL PHOTOGRAPHY AND THEN VERIFIED DURING THE FIELDWORK. ALL SLOPE INSTABILITY APPEARED TO BE RELATIVELY SHALLOW AND CONTAINED WITHIN THE OVERBURDEN.

THE AERIAL PHOTOGRAPHY SHOWED HUMMOCKY TERRAIN FROM STATION 352+00 CONTINUING TO STATION 356+00. THIS AREA EXHIBITED SIGNS OF RECENT INSTABILITY. THIS IS MOST LIKELY DUE TO EROSION AND SHALLOW SOIL CREEP ALONG THE STEEP DRAINAGE CHANNELS OF INTERMITTENT STREAMS IN THE AREA.

LAND USE ALONG THE PROJECT VARIES FROM MANAGED FORESTS AND WOODED AREAS, TO AGRICULTURAL AND RESIDENTIAL USAGE. GENERALLY, ROAD ACCESS AND TOPOGRAPHY DETERMINE THE USE, WITH THE STEEPER, MORE REMOTE TERRAIN FORESTED OR USED AS PASTURE. ALONG THE ROADS, THE VALLEY AND LOW RELIEF LOWLANDS ARE MAINTAINED AS RESIDENTIAL AREAS OR UTILIZED AS CULTIVATED FIELDS.



EXPLORATION

A. SR 823 MAINLINE

THE SUBSURFACE INVESTIGATION FOR THE PHASE 3 MAINLINE CONSISTED OF DRILLING A TOTAL OF 244 BORINGS. THE BORINGS WERE DRILLED BETWEEN JULY 9, 2004 AND JULY 3, 2007. THE BORINGS WERE EXTENDED TO DEPTHS OF 7.0 TO 215.0 FEET AND WERE DRILLED WITH BOTH ATV-MOUNTED AND TRUCK-MOUNTED DRILL RIGS. IN ADDITION TO THE BORINGS, SEVEN TEST PITS WERE EXCAVATED BETWEEN JANUARY 12, 2004 AND NOVEMBER 17, 2005.

BORINGS R-37, R-94, R-110, R-111, AND R-112 WERE REDRILLED TO GREATER DEPTHS OF 80.0 TO 112.5 FEET BETWEEN JANUARY 16 AND JANUARY 24, 2006 DUE TO A CHANGE IN THE PROFILE GRADE. THESE BORINGS WERE REDESIGNATED R-2037, R-2094, R-2110, R-2111, AND R-2112, RESPECTIVELY.

B. U.S. ROUTE 52 INTERCHANGE

THE SUBSURFACE INVESTIGATION FOR THE U.S. ROUTE 52 INTERCHANGE CONSISTED OF 49 BORINGS DRILLED BETWEEN THE DATES OF MARCH 18, 2005 AND MAY 29, 2007. THE BORINGS WERE EXTENDED TO DEPTHS OF 10.0 TO 80.4 FEET AND WERE DRILLED WITH BOTH ATV-MOUNTED AND TRUCK-MOUNTED DRILL RIGS.

C. STATE ROUTE 140 INTERCHANGE (WEBSTER STREET)

THE SUBSURFACE INVESTIGATION FOR THE STATE ROUTE 140 INTERCHANGE (STATE ROUTE 823 STATIONS 61+00 TO 83+00) CONSISTED OF DRILLING 15 BORINGS BETWEEN THE DATES OF FEBRUARY 2, 2005 AND SEPTEMBER 20, 2006. THE BORINGS WERE EXTENDED TO DEPTHS BETWEEN 6.0 AND 110.5 FEET AND WERE DRILLED WITH BOTH ATV-MOUNTED AND TRUCK-MOUNTED DRILL RIGS.

INVESTIGATIONAL FINDINGS

A. SR 823 MAINLINE

AT THE SURFACE, THE BORINGS ENCOUNTERED TOPSOIL RANGING IN THICKNESS FROM 1 TO 12 INCHES.

BENEATH THE TOPSOIL LAYERS, BORINGS LOCATED ON THE SLOPES AND DRILLED FOR THE ROADWAY ENCOUNTERED PRIMARILY STIFF TO HARD SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) WITH LESSER AMOUNTS OF LOOSE TO DENSE GRAVEL WITH SAND (A-1-b), GRAVEL WITH SAND AND SILT (A-2-4), SANDY SILT (A-4a), AND SILT (A-4b) AND VERY STIFF TO HARD CLAY (A-7-6) TO DEPTHS OF 2.0 TO 36.0 FEET BELOW THE GROUND SURFACE TO THE TOP OF SEVERELY WEATHERED BEDROCK. SOILS ENCOUNTERED IN EACH OF THE PHASE 3 FILL SECTIONS ARE DESCRIBED BELOW.

FOR THE SECTION BETWEEN STATIONS 63+00 AND 75+00, THE BORINGS GENERALLY ENCOUNTERED STIFF TO VERY STIFF SANDY SILT (A-4a), SILT (A-4b), AND SILT AND CLAY (A-6a) TO DEPTHS RANGING FROM 11.5 TO 21.0 FEET BELOW THE GROUND SURFACE. LAYERS OF VERY STIFF CLAY (A-7-6) AND LOOSE TO MEDIUM DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND SANDY SILT (A-4a) WERE ALSO ENCOUNTERED. A 1.0 TO 5.0-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS, GENERALLY BELOW A DEPTH OF 11.0 FEET

FOR THE SECTION BETWEEN STATIONS 166+50 AND 168+50, THE BORINGS GENERALLY ENCOUNTERED A 1.6 TO 1.7-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE BELOW THE TOPSOIL. BORING R-90 ENCOUNTERED A HARD SANDY SILT (A-4a) TO A DEPTH OF 3.5 FEET BELOW THE GROUND SURFACE.

FOR THE SECTION BETWEEN STATIONS 173+50 AND 188+00, THE BORINGS GENERALLY ENCOUNTERED STIFF TO HARD SANDY SILT (A-4a), SILT (A-4b), AND SILT AND CLAY (A-6a) TO DEPTHS RANGING FROM 13.5 TO 37.5 FEET BELOW THE GROUND SURFACE. THE SOIL LAYERS WERE 5.0 FEET THICK OR LESS IN BORINGS R-99, R-101, AND R-105. LAYERS OF MEDIUM STIFF TO HARD CLAY (A-7-6) AND LOOSE TO MEDIUM DENSE SANDY SILT (A-4a) AND SILT (A-4b) AND VERY DENSE GRAVEL (A-1-a) AND WERE ALSO ENCOUNTERED. A 0.5 TO 5.3 FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS, GENERALLY BELOW A DEPTH OF 13.5 FEET.

FOR THE SECTION BETWEEN STATIONS 188+00 AND 197+50, THE BORINGS GENERALLY ENCOUNTERED MEDIUM STIFF TO HARD SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) TO DEPTHS RANGING FROM 8.0 TO 15.0 FEET BELOW THE GROUND SURFACE. LAYERS OF MEDIUM DENSE SANDY SILT (A-4a) WERE ALSO ENCOUNTERED. A 2.0-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS IN BORINGS R-106 AND R-107.

FOR THE SECTION BETWEEN STATIONS 207+00 TO 212+50, THE BORINGS GENERALLY ENCOUNTERED STIFF TO HARD SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) TO DEPTHS RANGING FROM 5.5 TO 19.4 FEET BELOW THE GROUND SURFACE. LAYERS OF LOOSE TO DENSE GRAVEL WITH SAND AND SILT (A-2-4), SANDY SILT (A-4a), AND SILT (A-4b) WERE ALSO ENCOUNTERED. A 1.0 TO 3.5-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS.

FOR THE SECTION BETWEEN STATIONS 227+00 AND 257+75, THE BORINGS GENERALLY ENCOUNTERED VERY STIFF TO HARD SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) AND LOOSE TO MEDIUM DENSE SANDY SILT (A-4a) TO DEPTHS RANGING FROM 2.0 TO 8.0 FEET BELOW THE GROUND SURFACE. LAYERS OF HARD SILT (A-4b) AND MEDIUM DENSE TO DENSE COARSE AND FINE SAND (A-3a) AND GRAVEL WITH SAND AND SILT (A-2-4) WERE ALSO ENCOUNTERED IN BORING C-119. A 1.0 TO 4.0-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE OR CLAYSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS. THE SEVERELY WEATHERED SANDSTONE WAS 11.5 FEET THICK IN BORING R-143.

FOR THE SECTION BETWEEN STATIONS 268+00 AND 273+00, THE BORINGS ENCOUNTERED HARD SILT AND CLAY (A-6a) AND CLAY (A-7-6) TO DEPTHS RANGING FROM 7.5 TO 24.5 FEET BELOW THE GROUND SURFACE. A LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW A DEPTH OF 5.0 FEET IN BORING R-149.

FOR THE SECTION BETWEEN STATIONS 289+00 AND 306+50, THE BORINGS GENERALLY ENCOUNTERED LOOSE TO MEDIUM DENSE GRAVEL WITH SAND (A-1-b), GRAVEL WITH SAND AND SILT (A-2-4), AND SILT (A-4b) TO DEPTHS RANGING FROM 13.0 TO 20.5 FEET BELOW THE GROUND SURFACE. HOWEVER, IN BORINGS R 158, R-161, R-165, R-166, AND R-2168, THE SOILS EXTENDED ONLY TO DEPTHS OF 6.0 FEET OR LESS. A 1.0 TO 7.8-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS. THE SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED DIRECTLY BELOW THE TOPSOIL IN BORINGS R-2154 AND R-2160.

FOR THE SECTION BETWEEN STATIONS 308+50 AND 324+00, THE BORINGS GENERALLY ENCOUNTERED VERY STIFF TO HARD SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) AND LOOSE DENSE GRAVEL WITH SAND AND SILT (A-2-4), SANDY SILT (A-4a), AND SILT (A-4b) TO DEPTHS RANGING FROM 2.5 TO 14.0 FEET BELOW THE GROUND SURFACE. LAYERS OF HARD SILT (A-4b) AND CLAY (A-7-6) WERE ALSO ENCOUNTERED. A 1.0 TO 6.0-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS. THE SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED DIRECTLY BELOW THE TOPSOIL IN BORING R-171.

FOR THE SECTION BETWEEN STATIONS 328+00 TO 330+00, THE BORINGS GENERALLY ENCOUNTERED VERY STIFF TO HARD SANDY SILT (A-4a) AND MEDIUM DENSE SANDY SILT (A-4a) AND SILT (A-4b) TO DEPTHS RANGING FROM 3.0 TO 5.0 FEET BELOW THE GROUND SURFACE. A 2.0 TO 8.5-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS.

FOR THE SECTION BETWEEN STATIONS 343+50 TO 348+00, THE BORINGS GENERALLY ENCOUNTERED HARD SANDY SILT (A-4a) AND SILT AND CLAY (A-6a) AND VERY LOOSE GRAVEL WITH SAND AND SILT (A-2-4) TO DEPTHS RANGING FROM 3.0 TO 8.1 FEET BELOW THE GROUND SURFACE. A 1.0-FOOT THICK LAYER OF SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED BELOW THE SOIL LAYERS IN BORING C-99. THE SEVERELY WEATHERED SANDSTONE WAS ENCOUNTERED DIRECTLY BELOW THE TOPSOIL IN BORING R-205 TO A DEPTH OF 4.5 FEET.

BEDROCK WAS ENCOUNTERED IN MOST OF THE BORINGS AND WAS CONFIRMED BY CORING A MINIMUM OF FIVE FEET OF BEDROCK. BEDROCK ENCOUNTERED IN THE BORINGS CORRESPONDS WITH THE AVAILABLE GEOLOGIC REFERENCES. THE CORES OBTAINED CONSIST PRIMARILY OF MEDIUM HARD TO HARD SANDSTONE OR SANDSTONE INTERBEDDED WITH SHALE OR SILTSTONE WITH OCCASIONAL LAYERS OF SILTSTONE, CLAYSTONE, SHALE, LIMESTONE, AND COAL. A LAYER OF SEVERELY WEATHERED TO DECOMPOSED BEDROCK WAS GENERALLY ENCOUNTERED IMMEDIATELY ABOVE THE HIGHER QUALITY ROCK ENCOUNTERED IN THE ROCK CORES. THE LAYER OF SEVERELY WEATHERED ROCK GENERALLY RANGED IN THICKNESS FROM 0.5 TO 6.0 FEET BUT WAS AS THICK AS 17.0 FEET.

SEEPAGE WAS OBSERVED IN APPROXIMATELY ONE-THIRD OF THE BORINGS AT DEPTHS RANGING FROM 1.0 TO 68.5 FEET BELOW THE GROUND SURFACE. IN GENERAL, GROUNDWATER WAS NOT ENCOUNTERED PRIOR TO ROCK CORING. FINAL WATER LEVELS, WHICH INCLUDED DRILLING WATER, WERE ENCOUNTERED AT DEPTHS FROM 0.0 TO 46.3 FEET BELOW THE GROUND SURFACE.

GROUNDWATER LEVELS MAY FLUCTUATE WITH SEASONAL VARIATIONS AND FOLLOWING PERIODS OF HEAVY OR PROLONGED PRECIPITATION, AND THEREFORE, THE READINGS INDICATED ON THE BORING LOGS MAY NOT BE REPRESENTATIVE OF THE LONG-TERM GROUNDWATER LEVELS.

B. U.S. ROUTE 52

BORINGS DRILLED IN THE TRAVEL LANES OF U.S. ROUTE 52 ENCOUNTERED 5 TO 12 INCHES OF ASPHALT CONCRETE OVER 1 TO 15 INCHES OF AGGREGATE BASE OR 3 TO 9 INCHES OF PORTLAND CEMENT CONCRETE. BORINGS DRILLED OFF OF THE ROAD ENCOUNTERED ONE TO SEVEN INCHES OF TOPSOIL. BELOW THE TOPSOIL AND PAVEMENT LAYERS, THE BORINGS ENCOUNTERED PRIMARILY STIFF TO HARD SANDY SILT (A-4a), SILT (A-4b), SILT AND CLAY (A-6a), AND SILTY CLAY (A-6b) AND LOOSE TO VERY DENSE GRAVEL WITH SAND (A-1-b), COARSE AND FINE SAND (A-3a), AND GRAVEL WITH SAND AND SILT (A-2-4). LAYERS OF LOOSE TO MEDIUM DENSE FINE SAND (A-3), SANDY SILT (A-4a), AND SILT (A-4b) WERE ALSO ENCOUNTERED.

BEDROCK WAS ENCOUNTERED IN ALL THE BORINGS DRILLED FOR THE BRIDGES AND APPROXIMATELY ONE HALF OF THE BORINGS DRILLED ALONG THE RAMP ALIGNMENTS AT THE INTERCHANGE. A SEVERELY WEATHERED ARGILLACEOUS SANDSTONE WAS GENERALLY ENCOUNTERED ABOVE THE MORE COMPETENT BEDROCK. THE BEDROCK GENERALLY CONSISTED OF SOFT TO HARD, SLIGHTLY TO HIGHLY WEATHERED, ARGILLACEOUS SANDSTONE. THE AMOUNT OF ROCK RECOVERED IN EACH CORE RUN VARIED BETWEEN 85 AND 100 PERCENT. THE ROCK QUALITY DESIGNATION (ROD) OF THE BEDROCK RANGED BETWEEN 0 AND 100 PERCENT WITH AN AVERAGE OF 57 PERCENT, INDICATING FAIR ROCK QUALITY.

SEEPAGE WAS ENCOUNTERED IN APPROXIMATELY ONE HALF OF THE BORINGS DRILLED AT THE U.S. 52 INTERCHANGE, AT DEPTHS BETWEEN 1.0 AND 53.5 FEET BELOW THE GROUND SURFACE. PRIOR TO ROCK CORING OR ADDING WATER TO WASH OUT HEAVING SAND, GROUNDWATER LEVELS WERE OBSERVED AT DEPTHS BETWEEN 8.1 AND 65.5 FEET. WATER LEVELS AT THE COMPLETION OF DRILLING, WHICH INCLUDED DRILLING WATER, WERE AT DEPTHS BETWEEN 1.2 AND 53.5 FEET.

GROUNDWATER LEVELS MAY FLUCTUATE WITH SEASONAL VARIATIONS AND FOLLOWING PERIODS OF HEAVY OR PROLONGED PRECIPITATION, AND THEREFORE, THE READINGS INDICATED ON THE BORING LOGS MAY NOT BE REPRESENTATIVE OF THE LONG-TERM GROUNDWATER CONDITIONS.

C. STATE ROUTE 140 INTERCHANGE (WEBSTER STREET)

BORINGS DRILLED IN THE TRAVEL LANES OF STATE ROUTE 140 ENCOUNTERED 4 TO 14 INCHES OF ASPHALT CONCRETE OVER 9 INCHES OF PORTLAND CEMENT CONCRETE OR 4 TO 6 INCHES OF AGGREGATE BASE. TWO BORINGS, B-1403A AND B-1405A, ENCOUNTERED SIX INCHES OF BRICK PAVEMENT BELOW THE ASPHALT CONCRETE. BORINGS DRILLED OFF OF THE ROAD ENCOUNTERED TWO TO FIVE INCHES OF TOPSOIL. BELOW THE TOPSOIL AND PAVEMENT LAYERS, THE BORINGS ENCOUNTERED PRIMARILY STIFF TO HARD SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b), AND CLAY (A-7-6) AND LOOSE TO DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND SANDY SILT (A-4a)

BEDROCK WAS ENCOUNTERED IN ALL BORINGS EXCEPT FOR THREE OF THE BORINGS DRILLED ALONG STATE ROUTE 140: B-1401, B-1402, B-1403A, AND B-1404. THE BEDROCK CONSISTED OF SOFT TO HARD, SLIGHTLY WEATHERED TO DECOMPOSED, SLIGHTLY TO HIGHLY FRACTURED SANDSTONE. SEVERELY DECOMPOSED SILTSTONE WAS ENCOUNTERED IN BORING B-15 ABOVE THE SANDSTONE. THE AMOUNT OF ROCK RECOVERED IN EACH CORE RUN VARIED BETWEEN 97 AND 100 PERCENT. THE ROCK QUALITY DESIGNATION (ROQ) OF THE BEDROCK RANGED BETWEEN 23 AND 100 PERCENT WITH AN AVERAGE OF 75 PERCENT INDICATING FAIR TO GOOD ROCK.

SEEPAGE WAS ENCOUNTERED ONLY IN THREE BORINGS DRILLED ALONG STATE ROUTE 140, B-1401, B-1403A, AND B-1405A, AT DEPTHS BETWEEN 4.0 AND 7.0 FEET BELOW THE GROUND SURFACE. FINAL WATER LEVELS AT THE COMPLETION OF DRILLING WERE OBSERVED IN BORINGS THAT HAD ROCK CORED AND RANGED BETWEEN 17.0 AND 54.0 FEET BELOW THE GROUND SURFACE. THESE WATER LEVELS INCLUDE WATER ADDED DURING ROCK CORING AND THEREFORE MAY NOT BE REPRESENTATIVE OF ACTUAL GROUNDWATER CONDITIONS.

SOIL PROFILE

SCI-823-0.00



PROJECT INDEX

STATION		PLAN SHEET	PROFILE SHEET	CUT MAX.	FILL EMB. MAX.
FROM	TO				
S. R. 823					
50 + 23	75 + 00	42	43	138.0	38.0
75 + 00	100 + 00	45	46	119.0	--
100 + 00	125 + 00	48	49	114.3	99.9
125 + 00	150 + 00	51	52	186.3	114.0
150 + 00	175 + 00	54	55	184.8	40.0
175 + 00	200 + 00	58	59	66.1	68.7
200 + 00	225 + 00	61	62	88.5	80.1
225 + 00	250 + 00	64	65	38.4	195.3
250 + 00	275 + 00	67	68	37.5	133.1
275 + 00	300 + 00	70	71	76.4	219.4
300 + 00	325 + 00	73	74	39.1	208.9
325 + 00	350 + 00	76	77	114.4	83.6
350 + 00	352 + 00	79	80	29.4	--
U. S. 52 INTERCHANGE					
5 + 00	30 + 00	147	--	--	--
30 + 00	54 + 11.25	148	--	--	--
U. S. 52 (LEFT)					
0 + 00	25 + 00	--	149	--	--
U. S. 52 (RIGHT)					
0 + 00	25 + 00	--	151	--	--
25 + 00	47 + 36.28	--	153	--	--
U. S. 52 RAMP A					
24 + 95.53	41 + 00	--	154	--	34.0
41 + 00	54 + 11.25	--	155	108.4	14.0
U. S. 52 RAMP B					
16 + 44.85	41 + 00	--	156	--	30.5
41 + 00	54 + 11.25	--	158	127.4	32.0
S. R. 140 (WEBSTER ST.)					
3 + 00	17 + 91.74	161	162	--	0.9
S. R. 140 RAMP A					
62 + 98.90	78 + 21.61	161	163	62.0	19.0
S. R. 140 RAMP B					
60 + 25.43	82 + 92.08	161	164	71.0	11.0
PERSHING AVE. SOUTH					
13 + 82.19	20 + 00	166	167	1.1	6.7
PERSHING AVE. NORTH					
30 + 00	32 + 79.57	166	168	--	1.7

SOIL PROFILE

SCI-823-0.00



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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class							
			SCI-823													SCI-823														
R-2016	50+85.9 181.6 ft. LT	0.0 - 0.3	TOPSOIL										R-23	58+17.3	0.0 - 0.3	TOPSOIL														
		0.3 - 3.5	LIGHT BROWN SILT (A-4b)											191.2 ft. RT	0.3 - 1.0	BROWN SILT (A-4b)														
		3.5 - 5.0	0	0	2	75	23	29	8	9					1.0 - 2.5	0	3	10	68	19	22	3	19	A-4b						
		5.0 - 8.5	LIGHT BROWN SILT (A-4b)												2.5 - 8.5	BROWN SILT (A-4b)														
		8.5 - 10.0	5	6	4	59	26	25	6	13					8.5 - 10.0	0	6	20	54	20	21	4	14	A-4b						
		10.0 - 10.5	LIGHT BROWN SILT (A-4b)												10.0 - 12.5	BROWN SILT (A-4b)														
		10.5 - 11.0	BROWN AND GRAY SILT AND CLAY (A-6a)												12.5 - 15.0	SEVERELY WEATHERED SANDSTONE														
		11.0 - 12.5	7	11	6	49	27	33	13	13					15.0 - 33.2	BROWN SANDSTONE														
		12.5 - 16.0	BROWN AND GRAY SILT AND CLAY (A-6a)												33.2 - 100.0	GRAY SANDSTONE														
		16.0 - 17.5	SEVERELY WEATHERED BROWN SANDSTONE																											
		17.5 - 21.6	BROWN SANDSTONE																											
		21.6 - 160.0	GRAY SANDSTONE																											
R-15	51+17.4 25.9 ft. LT	0.0 - 0.7	TOPSOIL												0.0 - 0.2	TOPSOIL														
		0.7 - 3.5	BROWN SILT AND CLAY (A-6a)												0.2 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE														
		3.5 - 5.0	5	5	7	51	32	30	12	16					5.0 - 22.6	BROWN SANDSTONE														
		5.0 - 8.0	BROWN SILT AND CLAY (A-6a)												22.6 - 30.0	GRAY SANDSTONE INTERBEDDED WITH SHALE														
		8.0 - 11.0	BROWN SILT (A-4b)												30.0 - 33.5	BROWN SANDSTONE														
		11.0 - 12.5	0	5	8	56	31	28	10	15					33.5 - 47.7	GRAY SANDSTONE														
		12.5 - 19.0	BROWN SILT (A-4b)												47.7 - 75.0	GRAY AND BROWN SANDSTONE														
		19.0 - 22.0	SEVERELY WEATHERED BROWN SANDSTONE																											
		22.0 - 28.7	BROWN AND GRAY SANDSTONE																											
		28.7 - 33.4	BROWNISH GRAY SANDSTONE																											
		33.4 - 63.8	GRAY SANDSTONE																											
		63.8 - 72.9	GRAY SILTSTONE INTERBEDDED WITH SANDSTONE																											
		72.9 - 120.0	GRAY SANDSTONE																											
R-17	51+67.2 292.1 ft. RT	0.0 - 0.4	TOPSOIL												0.0 - 0.1	TOPSOIL														
		0.4 - 3.5	BROWN SILT AND CLAY (A-6a)												0.1 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE														
		3.5 - 5.0	12	5	20	39	24	25	11	14					5.0 - 15.4	BROWNISH GRAY SANDSTONE														
		5.0 - 8.0	BROWN SILT AND CLAY (A-6a)												15.4 - 25.0	GRAY SANDSTONE														
		8.0 - 10.0	BROWN FINE SAND (A-3)																											
		10.0 - 12.0	SEVERELY WEATHERED BROWN SANDSTONE																											
		12.0 - 32.0	GRAY SANDSTONE																											
		32.0 - 38.4	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE																											
		38.4 - 95.0	GRAY SANDSTONE																											
R-18	53+91.6 108.0 ft. LT	0.0 - 0.5	TOPSOIL												0.0 - 1.0	AGGREGATE BASE														
		0.5 - 3.5	BROWN SANDY SILT (A-4a)												1.0 - 3.0	BROWN SANDY SILT (A-4a)														
		3.5 - 7.0	SEVERELY WEATHERED BROWN SANDSTONE												3.0 - 13.0	GRAY SANDSTONE														
		7.0 - 32.0	BROWN SANDSTONE																											
		32.0 - 175.0	GRAY SANDSTONE																											
R-20	54+41.5 230.4 ft. RT	0.0 - 0.3	TOPSOIL												0.0 - 1.0	ASPHALT CONCRETE														
		0.3 - 1.0	BROWN SILT (A-4b)												1.0 - 2.5	1	2	6	62	29	25	8	17							
		1.0 - 2.5	1	6	12	66	15	27	4	13					2.5 - 3.0	BROWN AND GRAY SILT (A-4b)														
		2.5 - 3.0	BROWN SILT (A-4b)												3.0 - 3.5	BROWN SANDY SILT (A-4a)														
		3.0 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE												3.5 - 5.0	22	12	12	44	10	26	4	21							
		5.0 - 14.3	YELLOWISH BROWN SANDSTONE												5.0 - 5.5	BROWN SANDY SILT (A-4a)														
		14.3 - 22.9	GRAY SANDSTONE INTERBEDDED WITH SHALE												5.5 - 6.0	BROWN AND GRAY SILT AND CLAY (A-6a)														
		22.9 - 70.0	GRAY SANDSTONE												6.0 - 7.5	0	3	6	61	30	31	11	24							
														7.5 - 8.0	BROWN AND GRAY SILT AND CLAY (A-6a)															
														8.0 - 8.5	SEVERELY WEATHERED BROWN SANDSTONE															
														8.5 - 9.5	0	1	6	70	23	28	8	11								
														9.5 - 11.0	SEVERELY WEATHERED BROWN SANDSTONE															
														11.0 - 30.0	GRAY SANDSTONE															

SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
B-16	62+54.1 26.5 ft. LT	0.0 - 1.0	PORTLAND CEMENT CONCRETE, AGGREGATE BASE										R-24	66+18.9 77.5 ft. LT	0.0 - 0.3	TOPSOIL													
		1.0 - 2.5	4	1	6	65	24	31	12	18	A-6a			0.3 - 3.5	POSSIBLE FILL: DARK BROWN SILT (A-4b)														
		2.5 - 3.0	BROWN SILT AND CLAY (A-6a)												3.5 - 5.0	0	1	4	62	13	35	9	34	A-4b					
		3.0 - 3.5	BROWN SILT (A-4b)												5.0 - 6.0	POSSIBLE FILL: DARK BROWN SILT (A-4b)													
		3.5 - 5.0	0	1	7	73	19	25	5	20	A-4b			6.0 - 8.5	BROWN SILT AND CLAY (A-6a)														
		5.0 - 5.5	BROWN SILT (A-4b)												8.5 - 10.0	0	0	4	63	33	31	13	24	A-6a					
		5.5 - 6.0	MOTTLED BROWN AND GRAY CLAY (A-7-6)												10.0 - 13.5	BROWN SILT AND CLAY (A-6a)													
		6.0 - 7.5	1	0	1	34	64	44	18	25	A-7-6			13.5 - 16.7	BROWN SANDY SILT (A-4a)														
		7.5 - 10.5	MOTTLED BROWN AND GRAY CLAY (A-7-6)												16.7 - 18.5	GRAY SILT AND CLAY (A-6a)													
		10.5 - 12.0	SEVERELY WEATHERED BROWN SANDSTONE												18.5 - 21.0	SEVERELY WEATHERED GRAY SANDSTONE													
		12.0 - 14.4	BROWN SANDSTONE												21.0 - 26.5	GRAY SANDSTONE													
		14.4 - 22.0	GRAY SANDSTONE																										
B-17	62+86.7 45.9 ft. RT	0.0 - 0.4	TOPSOIL										C-89	68+17.2 43.6 ft. LT	0.0 - 0.7	TOPSOIL													
		0.4 - 1.0	BROWN SILT (A-4b)												0.7 - 3.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)													
		1.0 - 2.5	4	1	4	63	28	29	10	21	A-4b			3.0 - 3.5	BROWNISH GRAY SILT AND CLAY (A-6a)														
		2.5 - 3.0	BROWN SILT (A-4b)												3.5 - 5.0	0	1	1	69	29	33	12	27	A-6a					
		3.0 - 3.5	BROWN SANDY SILT (A-4a)												5.0 - 5.5	BROWNISH GRAY SILT AND CLAY (A-6a)													
		3.5 - 5.0	18	12	12	45	13	22	4	15	A-4a			5.5 - 6.0	BROWN CLAY (A-7-6)														
		5.0 - 7.0	BROWN SANDY SILT (A-4a)												6.0 - 7.5	0	1	1	26	72	50	24	28	A-7-6					
		7.0 - 8.5	BROWN SILT (A-4b)												7.5 - 8.0	BROWN CLAY (A-7-6)													
		8.5 - 10.0	10	10	9	52	19	27	8	13	A-4b			8.0 - 11.0	BROWN SILT AND CLAY (A-6a)														
		10.0 - 11.5	BROWN SANDSTONE INTERBEDDED WITH SILTSTONE												11.0 - 12.0	SEVERELY WEATHERED GRAY SANDSTONE													
		11.5 - 16.0	GRAY SANDSTONE												12.0 - 19.5	GRAY SILTSTONE													
		16.0 - 20.0	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE												19.5 - 32.0	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE													
TR-43	63+08.6 2.9 ft. RT	0.0 - 0.3	TOPSOIL										C-90	69+29.2 163.6 ft. RT	0.0 - 0.8	TOPSOIL													
		0.3 - 5.5	BROWN SILT AND CLAY (A-6a)												0.8 - 3.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)													
		5.5 - 11.6	BROWN AND GRAY SILTY CLAY (A-6b)												3.0 - 8.0	BROWN AND GRAY SILT (A-4b)													
		11.6 - 15.0	SEVERELY WEATHERED BROWN SANDSTONE												8.0 - 12.1	BROWN GRAVEL WITH SAND, SILT, AND CLAY (A-2-6)													
		15.0 - 35.0	GRAY SANDSTONE												12.1 - 17.1	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE													
R-25	66+16.7 28.5 ft. LT	0.0 - 0.2	TOPSOIL										R-26	69+91.6 42.4 ft. RT	0.0 - 0.3	TOPSOIL													
		0.2 - 3.5	BROWN SILT AND CLAY (A-6a)												0.3 - 1.0	BROWN SANDY SILT (A-4a)													
		3.5 - 5.0	0	3	3	69	25	33	13	25	A-6a			1.0 - 2.5	10	22	11	46	11	NP	NP	12	A-4a						
		5.0 - 5.5	BROWN SILT AND CLAY (A-6a)												2.5 - 8.0	BROWN SANDY SILT (A-4a)													
		5.5 - 11.0	BROWN AND GRAY SILT (A-4b)												8.0 - 8.5	GRAY AND BROWN SILT (A-4b)													
		11.0 - 12.5	0	1	2	74	23	29	7	26	A-4b			8.5 - 10.0	0	1	14	63	22	28	6	21	A-4b						
		12.5 - 18.5	BROWN AND GRAY SILT (A-4b)												10.0 - 13.5	GRAY AND BROWN SILT (A-4b)													
		18.5 - 21.0	BROWN SANDY SILT (A-4a)												13.5 - 17.0	SEVERELY WEATHERED GRAY SANDSTONE													
		21.0 - 23.5	SEVERELY WEATHERED GRAY SANDSTONE												17.0 - 22.0	GRAY SANDSTONE													
		23.5 - 29.3	GRAY SANDSTONE																										
												R-27	74+12.9 22.6 ft. RT	0.0 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE														
														5.0 - 11.4	BROWNISH GRAY SANDSTONE INTERBEDDED WITH SILTSTONE														
														11.4 - 22.0	GRAY SANDSTONE														
												R-28	75+23.5 28.0 ft. LT	0.0 - 0.4	TOPSOIL														
														0.4 - 1.0	BROWN SILT (A-4b)														
														1.0 - 2.5	1	9	10	57	23	29	9	23	A-4b						
														2.5 - 3.5	BROWN SILT (A-4b)														
														3.5 - 5.0	8	8	18	48	18	24	6	14	A-4a*						
														5.0 - 15.0	BROWN SANDY SILT (A-4a)														
														15.0 - 16.1	BROWN SANDSTONE														
														16.1 - 25.0	GRAY SANDSTONE														

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
R-29	75+30.1 115.9 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL	R-37	84+54.5 169.3 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL		
		0.3 - 1.0	BROWN SILT (A-4b)										VISUAL			0.3 - 3.5	BROWN AND GRAY SILT AND CLAY (A-6a)										VISUAL		
		1.0 - 2.5	10	11	7	52	20	24	4	19	A-4b				3.5 - 4.5	BROWN SANDY SILT (A-4a)										VISUAL			
		2.5 - 6.0	BROWN SILT (A-4b)										VISUAL			4.5 - 6.0	27	15	12	33	13	22	8	7	A-4a				
		6.0 - 10.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL			6.0 - 9.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL		
		10.0 - 15.4	BROWN SANDSTONE										VISUAL			9.0 - 27.0	BROWN SANDSTONE INTERBEDDED WITH SILTSTONE										VISUAL		
		15.4 - 20.0	GRAY SANDSTONE INTERBEDDED WITH SHALE										VISUAL			27.0 - 36.7	GRAY SHALE INTERBEDDED WITH SANDSTONE										VISUAL		
															36.7 - 80.5	GRAY SANDSTONE										VISUAL			
R-31	76+08.3 123.6 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL			0.0 - 0.1	TOPSOIL										VISUAL		
		0.3 - 3.5	BROWN SILT (A-4b)										VISUAL	R-2037	84+54.5 169.3 ft. RT	0.1 - 5.5	GRAY AND BROWN COARSE AND FINE SAND (A-3a)										VISUAL		
		3.5 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL			5.5 - 10.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL		
		5.0 - 18.0	BROWN SANDSTONE										VISUAL			10.0 - 13.6	BROWN SANDSTONE										VISUAL		
		18.0 - 50.0	GRAY SANDSTONE										VISUAL			13.6 - 32.4	LIGHT BROWN SANDSTONE										VISUAL		
R-30	76+18.6 34.4 ft. LT	0.0 - 0.3	TOPSOIL										VISUAL			32.4 - 35.1	GRAY AND BROWN SHALE INTERBEDDED WITH SANDSTONE										VISUAL		
		0.3 - 1.0	GRAYISH BROWN SILT (A-4b)										VISUAL			35.1 - 41.4	GRAY TO DARK GRAY SHALE										VISUAL		
		1.0 - 2.5	8	10	8	56	18	NP	NP	25	A-4b			41.4 - 112.5	GRAY SANDSTONE										VISUAL				
		2.5 - 3.5	GRAYISH BROWN SILT (A-4b)										VISUAL																
		3.5 - 5.0	12	15	12	44	17	27	7	16	A-4a																		
		5.0 - 8.5	BROWN SANDY SILT (A-4a)										VISUAL	R-38	88+08.9 35.1 ft. LT	0.0 - 0.3	TOPSOIL										VISUAL		
		8.5 - 10.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL			0.3 - 1.0	BROWN SANDY SILT (A-4a)										VISUAL		
		10.0 - 13.2	BROWN SHALE										VISUAL			1.0 - 2.5	0	2	26	46	26	20	7	15	A-4a				
		13.2 - 25.0	GRAY SANDSTONE										VISUAL*			2.5 - 5.5	BROWN SANDY SILT (A-4a)										VISUAL		
															5.5 - 10.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL			
															10.0 - 22.0	BROWN SANDSTONE INTERBEDDED WITH SHALE										VISUAL			
R-32	80+19.3 34.5 ft. LT	0.0 - 0.4	TOPSOIL										VISUAL			22.0 - 24.7	GRAY SHALE										VISUAL		
		0.4 - 1.0	BROWN SILT (A-4b)										VISUAL			24.7 - 80.0	GRAY SANDSTONE										VISUAL*		
		1.0 - 2.5	9	4	12	59	16	NP	NP	21	A-4b																		
		2.5 - 3.0	BROWN SILT (A-4b)										VISUAL																
		3.0 - 6.0	BROWN SANDY SILT (A-4a)										VISUAL	R-40	88+41.6 204.8 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL		
		6.0 - 7.5	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL			0.3 - 3.5	BROWN AND REDDISH BROWN SILTY CLAY (A-6b)										VISUAL		
		7.5 - 15.7	BROWN SANDSTONE										VISUAL			3.5 - 5.0	5	3	2	38	52	35	17	14	A-6b				
		15.7 - 50.0	GRAY SANDSTONE										VISUAL*			5.0 - 6.0	BROWN AND REDDISH BROWN SILTY CLAY (A-6b)										VISUAL		
															6.0 - 12.5	SEVERELY WEATHERED BROWN AND DARK GRAY SHALE										VISUAL			
															12.5 - 21.1	BROWN SHALE										VISUAL			
															21.1 - 32.5	GRAY SHALE										VISUAL			
R-34	80+35.5 180.0 ft. RT	0.0 - 0.4	TOPSOIL										VISUAL																
		0.4 - 1.0	BROWN SANDY SILT (A-4a)										VISUAL																
		1.0 - 2.5	18	7	8	45	22	29	10	14	A-4a																		
		2.5 - 3.5	BROWN SANDY SILT (A-4a)										VISUAL	R-41	92+20.4 115.9 ft. LT	0.0 - 0.2	TOPSOIL										VISUAL		
		3.5 - 7.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE										VISUAL			0.2 - 1.0	BROWN SILT AND CLAY (A-6a)										VISUAL		
		7.0 - 25.3	BROWN SANDSTONE INTERBEDDED WITH SILTSTONE										VISUAL			1.0 - 2.5	24	7	13	33	23	30	11	17	A-6a				
		25.3 - 30.0	GRAYISH BROWN SHALE INTERBEDDED WITH SANDSTONE										VISUAL			2.5 - 6.0	BROWN SILT AND CLAY (A-6a)										VISUAL		
		30.0 - 105.0	GRAY SANDSTONE										VISUAL			6.0 - 10.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL		
															10.0 - 23.0	BROWN SANDSTONE										VISUAL			
															23.0 - 41.9	BROWNISH GRAY SANDSTONE INTERBEDDED WITH SILTSTONE										VISUAL			
R-35	84+27.1 49.2 ft. LT	0.0 - 0.3	TOPSOIL										VISUAL			41.9 - 48.8	GRAY SHALE INTERBEDDED WITH SANDSTONE										VISUAL		
		0.3 - 1.0	BROWN SILT (A-4b)										VISUAL			48.8 - 100.0	GRAY SANDSTONE										VISUAL		
		1.0 - 2.5	5	6	15	52	22	21	6	18	A-4b																		
		2.5 - 4.1	BROWN SILT (A-4b)										VISUAL																
		4.1 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL																
		5.0 - 10.8	BROWN SANDSTONE										VISUAL																
		10.8 - 65.0	GRAY SANDSTONE										VISUAL*																

SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class							
			SCI-823													SCI-823														
R-43	92+21.9 189.4 ft. RT	0.0 - 0.4 0.4 - 3.5 3.5 - 5.0 5.0 - 10.0 10.0 - 13.0 13.0 - 24.7 24.7 - 59.4 59.4 - 77.6 77.6 - 130.0	TOPSOIL LIGHT REDDISH BROWN SILTY CLAY (A-6b) LIGHT REDDISH BROWN SILTY CLAY (A-6b) SEVERELY WEATHERED BROWNISH GRAY SHALE GRAYISH BROWN SHALE GRAY SANDSTONE GRAY SHALE INTERBEDDED WITH SANDSTONE GRAY SANDSTONE									16 13					R-50	104+14.4 202.2 ft. LT	0.0 - 0.5 0.5 - 3.5 3.5 - 10.0 10.0 - 15.6 15.6 - 26.6 26.6 - 36.0 36.0 - 70.9 70.9 - 80.4 80.4 - 161.0	TOPSOIL LIGHT REDDISH BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED GRAY SANDSTONE GRAY AND LIGHT BROWN SANDSTONE LIGHT GRAY AND LIGHT BROWN SANDSTONE GRAY SANDSTONE INTERBEDDED WITH SHALE LIGHT GRAY SANDSTONE SHALE GRAY SANDSTONE										
R-46	96+23.1 84.5 ft. RT	0.0 - 0.7 0.7 - 6.0 6.0 - 10.0 10.0 - 18.1 18.1 - 50.5 50.5 - 55.7 55.7 - 100.0	TOPSOIL LIGHT BROWN SILTY CLAY (A-6b) SEVERELY WEATHERED GRAY SANDSTONE BROWNISH GRAY SANDSTONE GRAY SANDSTONE GRAY SANDSTONE INTERBEDDED WITH SHALE GRAY SANDSTONE														R-52	104+28.8 67.4 ft. RT	0.0 - 0.5 0.5 - 3.5 3.5 - 5.0 5.0 - 8.5 8.5 - 13.0 13.0 - 24.9 24.9 - 65.0	TOPSOIL BROWN SANDY SILT (A-4a) 41 13 8 26 12 24 7 8 BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE BROWN SANDSTONE GRAY SANDSTONE										
R-44	96+33.4 121.5 ft. LT	0.0 - 0.2 0.2 - 1.0 1.0 - 2.5 2.5 - 3.5 3.5 - 10.5 10.5 - 18.5 18.5 - 20.0 20.0 - 68.0 68.0 - 81.3 81.3 - 135.0	TOPSOIL BROWN SILTY CLAY (A-6b) BROWN SILTY CLAY (A-6b) GRAYISH BROWN SILTY CLAY (A-6b) SEVERELY WEATHERED BROWNISH GRAY SHALE SEVERELY WEATHERED BROWNISH GRAY SANDSTONE GRAY SANDSTONE SANDSTONE GRAY SANDSTONE									36 46 36 18 21					R-55	106+05.7 188.4 ft. RT	0.0 - 6.0 6.0 - 11.0	SEVERELY WEATHERED BROWN SANDSTONE GRAY SANDSTONE										
R-47	100+19.8 176.4 ft. LT	0.0 - 0.3 0.3 - 4.0 4.0 - 5.0 5.0 - 10.0 10.0 - 42.7 42.7 - 53.4 53.4 - 82.5 82.5 - 180.0	TOPSOIL BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN SANDSTONE REDDISH BROWN SANDSTONE BROWN SANDSTONE DARK GRAY SHALE LIGHT GRAY SANDSTONE GRAY SANDSTONE														R-53	106+21.7 95.2 ft. LT	0.0 - 0.4 0.4 - 3.5 3.5 - 10.0 10.0 - 19.0 19.0 - 33.2 33.2 - 40.3 40.3 - 45.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE INTERBEDDED WITH SILTSTOI GRAY AND BROWN SANDSTONE SANDSTONE INTERBEDDED WITH SHALE GRAY SANDSTONE										
R-49	100+31.5 65.8 ft. RT	0.0 - 0.3 0.3 - 1.0 1.0 - 2.5 2.5 - 6.0 6.0 - 15.5 15.5 - 130.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE GRAY SANDSTONE									20 23 7 16					R-56	107+04.9 43.4 ft. RT	0.0 - 3.5 3.5 - 13.0 13.0 - 21.0	BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE GRAY SANDSTONE										
																R-57	109+17.2 12.6 ft. RT	0.0 - 0.8 0.8 - 13.5 13.5 - 15.0 15.0 - 30.0 30.0 - 43.5 43.5 - 45.0 45.0 - 52.5 52.5 - 77.5 77.5 - 90.0 90.0 - 93.0 93.0 - 98.6	TOPSOIL BROWN SILT AND CLAY (A-6a) 0 0 0 40 60 39 15 25 BROWN SILT AND CLAY (A-6a) GRAY SILTY CLAY (A-6b) 0 0 1 33 66 40 18 23 GRAY SILTY CLAY (A-6b) GRAY SILT AND CLAY (A-6a) BROWN SANDY SILT (A-4a) SEVERELY WEATHERED SANDSTONE GRAY SANDSTONE											



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
C-92	109+52.0 343.4 ft. RT	0.0 - 0.3	TOPSOIL										R-58	111+48.8 10.3 ft. RT	0.0 - 0.2	TOPSOIL													
		0.3 - 3.5	BROWN SILT AND CLAY (A-6a)												0.2 - 16.0	BROWN CLAY (A-7-6)													
		3.5 - 5.0	0	1	4	54	41	35	13	31	A-6a			16.0 - 17.5	0	0	1	30	69	41	19	25	A-7-6						
		5.0 - 10.0	BROWN SILT AND CLAY (A-6a)												17.5 - 23.5	BROWN CLAY (A-7-6)													
		10.0 - 12.0	0	0	2	40	58	35	14	23	A-6a			23.5 - 25.0	BROWN SILT (A-4b)														
		12.0 - 16.0	BROWN SILT AND CLAY (A-6a)												25.0 - 28.0	0	0	0	64	36	31	8	29	A-4b					
		16.0 - 23.5	BROWN SANDY SILT (A-4a)												28.0 - 28.5	BROWN SILTY CLAY (A-6b)													
		23.5 - 26.0	BROWN SILT AND CLAY (A-6a)												28.5 - 30.0	0	0	2	45	53	38	16	26	A-6b					
		26.0 - 28.0	0	0	1	63	36	35	13	25	A-6a			30.0 - 48.5	BROWN SILT AND CLAY (A-6a)														
		28.0 - 33.5	BROWN SILT AND CLAY (A-6a)												48.5 - 50.0	0	0	1	33	66	38	15	23	A-6a					
		33.5 - 48.0	GRAY SILT (A-4b)												50.0 - 60.0	BROWN SILT AND CLAY (A-6a)													
		48.0 - 50.0	0	0	2	54	44	30	9	27	A-4b			60.0 - 68.5	GRAY SILT (A-4b)														
		50.0 - 58.5	GRAY SILT (A-4b)												68.5 - 70.0	0	1	10	57	32	31	10	28	A-4b					
		58.5 - 63.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												70.0 - 78.5	GRAY SILT (A-4b)													
		63.5 - 68.5	GRAYISH BROWN SANDY SILT (A-4a)												78.5 - 82.0	BROWN AND GRAY COARSE AND FINE SAND (A-3a)													
		68.5 - 79.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												82.0 - 90.0	GRAY SANDY SILT (A-4a)													
		79.0 - 84.0	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE												90.0 - 97.0	BROWN GRAVEL WITH SAND (A-1-b)													
														97.0 - 98.6	SEVERELY WEATHERED GRAY SANDSTONE														
														98.6 - 103.6	GRAY TO DARK GRAY SANDSTONE														
C-91	109+83.2 212.7 ft. LT	0.0 - 0.4	TOPSOIL												0.0 - 0.3	TOPSOIL													
		0.4 - 3.5	BROWN SILT AND CLAY (A-6a)												0.3 - 3.0	BROWN SANDY SILT (A-4a)													
		3.5 - 5.0	BROWN CLAY (A-7-6)												3.0 - 3.5	BROWN SILT AND CLAY (A-6a)													
		5.0 - 6.0	0	1	3	41	55	45	24	25	A-7-6	B-37	112+40.5 50.1 ft. LT	3.5 - 5.0	0	2	5	55	38	34	14	26	A-6a						
		6.0 - 8.5	BROWN SANDY SILT (A-4a)												5.0 - 8.0	BROWN SILT AND CLAY (A-6a)													
		8.5 - 10.0	BROWN CLAY (A-7-6)												8.0 - 10.0	0	1	2	32	65	36	14	26	A-6a					
		10.0 - 12.0	0	0	1	33	66	42	19	26	A-7-6			10.0 - 11.0	BROWN SILT AND CLAY (A-6a)														
		12.0 - 26.0	BROWN CLAY (A-7-6)												11.0 - 12.5	0	0	1	52	47	33	11	24	A-6a					
		26.0 - 28.0	0	0	1	44	55	38	16	25	A-6b			12.5 - 18.0	BROWN SILT AND CLAY (A-6a)														
		28.0 - 45.0	BROWN SILTY CLAY (A-6b)												18.0 - 20.0	0	0	1	61	38	29	7	26	A-4b					
		45.0 - 47.0	0	0	1	22	77	40	17	23	A-6b			20.0 - 21.0	BROWN SILT (A-4b)														
		47.0 - 63.5	BROWN SILTY CLAY (A-6b)												21.0 - 22.5	0	0	1	56	43	32	12	26	A-6a					
		63.5 - 88.5	GRAYISH BROWN SANDY SILT (A-4a)												22.5 - 26.0	BROWN SILT AND CLAY (A-6a)													
		88.5 - 103.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												26.0 - 27.5	0	0	2	44	54	34	13	23	A-6a					
		103.0 - 103.2	SEVERELY WEATHERED GRAY SILTSTONE												27.5 - 28.5	BROWN SILT AND CLAY (A-6a)													
		103.2 - 108.2	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE												28.5 - 30.0	0	0	1	36	63	36	14	25	A-6a					
														30.0 - 38.5	BROWN SILT AND CLAY (A-6a)														
														38.5 - 40.0	0	0	1	43	56	37	15	26	A-6a						
														40.0 - 43.5	BROWN SILT AND CLAY (A-6a)														
														43.5 - 45.5	0	0	3	47	50	29	9	24	A-4a						
														45.5 - 52.0	GRAY SANDY SILT (A-4a)														
														52.0 - 53.5	GRAY SILT AND CLAY (A-6a)														
														53.5 - 55.0	0	0	3	58	39	34	12	31	A-6a						
														55.0 - 57.0	GRAY SILT AND CLAY (A-6a)														
														57.0 - 59.5	BROWN FINE SAND (A-3)														
														59.5 - 67.0	GRAY SILT (A-4b)														
														67.0 - 84.0	BROWN SANDY SILT (A-4a)														
														84.0 - 85.0	SEVERELY WEATHERED SANDSTONE														
														85.0 - 90.3	GRAY SANDSTONE														

SOIL PROFILE

SCI - 823 - 0.00



11/28/2007
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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class		
			SCI-823												SCI-823										
TR-42	113+51.7 30.3 ft. RT	0.0 - 0.4	TOPSOIL									TR-41	113+84.4 12.6 ft. LT	0.0 - 0.8	TOPSOIL										
		0.4 - 1.5	DARK BROWN SILTY CLAY (A-6b)											0.8 - 7.5	BROWN CLAY (A-7-6)										
		1.5 - 3.0	0	1	3	51	45	39	18	25	A-6b			7.5 - 9.0	0	0	1	42	57	43	22	28	A-7-6		
		3.0 - 3.5	DARK BROWN SILTY CLAY (A-6b)											9.0 - 21.0	BROWN CLAY (A-7-6)										
		3.5 - 4.0	BROWN CLAY (A-7-6)											21.0 - 24.0	BROWN SILT (A-4b)										
		4.0 - 5.5	0	0	1	44	55	43	19	26	A-7-6			24.0 - 25.5	0	1	4	55	40	31	10	24	A-4b		
		5.5 - 13.5	BROWN CLAY (A-7-6)											25.5 - 30.0	BROWN SILT (A-4b)										
		13.5 - 16.5	BROWN SILTY CLAY (A-6b)											30.0 - 49.0	GRAY SILT (A-4b)										
		16.5 - 18.0	0	0	1	35	64	40	18	23	A-6b			49.0 - 50.5	0	0	2	63	35	28	8	25	A-4b		
		18.0 - 37.0	BROWN SILTY CLAY (A-6b)											50.5 - 68.0	GRAY SILT (A-4b)										
		37.0 - 39.0	GRAY SILT (A-4b)											68.0 - 70.0	BROWNISH GRAY FINE SAND (A-3)										
		39.0 - 40.5	0	0	0	53	47	31	9	25	A-4b			70.0 - 74.0	GRAY SILT AND CLAY (A-6a)										
		40.5 - 64.0	GRAY SILT (A-4b)											74.0 - 75.5	0	1	4	55	40	35	15	21	A-6a		
		64.0 - 65.5	0	0	0	74	26	27	4	26	A-4b			75.5 - 83.0	GRAY SILT AND CLAY (A-6a)										
		65.5 - 67.0	GRAY SILT (A-4b)											83.0 - 84.0	GRAY SANDY SILT (A-4a)										
		67.0 - 69.0	BROWN SANDY SILT (A-4a)											84.0 - 85.5	7	7	27	48	11	NP	NP	19	A-4a		
		69.0 - 70.5	3	11	50	36		NP	NP	24	A-4a			85.5 - 87.0	GRAY SANDY SILT (A-4a)										
		70.5 - 72.0	BROWN SANDY SILT (A-4a)											87.0 - 89.0	SEVERELY WEATHERED BROWN SANDSTONE										
		72.0 - 74.0	BROWNISH GRAY SILT AND CLAY (A-6a)											89.0 - 90.5	36	9	35	16	4	NP	NP	14	A-2-4		
		74.0 - 75.5	0	0	8	57	35	29	11	19	A-6a			90.5 - 93.0	SEVERELY WEATHERED BROWN SANDSTONE										
		75.5 - 77.0	BROWNISH GRAY SILT AND CLAY (A-6a)											93.0 - 95.6	BROWN AND GRAY SANDSTONE										
		77.0 - 88.0	BROWNISH GRAY SILT (A-4b)											95.6 - 113.0	GRAY SANDSTONE										
		88.0 - 92.0	BROWN GRAVEL WITH SAND (A-1-b)																						
		92.0 - 112.0	GRAY SANDSTONE																						
PB-29	113+75.6 2.4 ft. RT	0.0 - 0.5	TOPSOIL									TR-40	116+55.2 36.5 ft. RT	0.0 - 0.5	TOPSOIL										
		0.5 - 2.5	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)											0.5 - 5.0	BROWN SILTY CLAY (A-6b)										
		2.5 - 5.0	BROWN SILT AND CLAY (A-6a)											5.0 - 6.5	0	0	1	48	51	40	18	28	A-6b		
		5.0 - 6.5	0	0	1	49	50	34	14	25	A-6a			6.5 - 17.0	BROWN SILTY CLAY (A-6b)										
		6.5 - 15.0	BROWN SILT AND CLAY (A-6a)											17.0 - 27.5	BROWN CLAY (A-7-6)										
		15.0 - 16.5	1	2	2	43	52	32	13	21	A-6a			27.5 - 29.0	0	0	2	56	42	30	9	25	A-4b		
		16.5 - 17.5	BROWN SILT AND CLAY (A-6a)											29.0 - 35.0	BROWN SILT (A-4b)										
		17.5 - 20.0	BROWN CLAY (A-7-6)											35.0 - 36.5	0	2	2	74	22	28	6	29	A-4b		
		20.0 - 21.5	0	0	1	27	72	43	20	26	A-7-6			36.5 - 50.0	BROWN SILT (A-4b)										
		21.5 - 27.0	BROWN CLAY (A-7-6)											50.0 - 51.5	1	1	4	56	38	28	9	26	A-4b		
		27.0 - 27.5	BROWN SILT (A-4b)											51.5 - 60.0	BROWN SILT (A-4b)										
		27.5 - 29.0	0	0	2	65	33	29	9	27	A-4b			60.0 - 78.0	GRAY CLAY (A-7-6)										
		29.0 - 30.0	BROWN SILT (A-4b)											78.0 - 80.0	GRAY AND BROWN SILT (A-4b)										
		30.0 - 31.5	0	0	1	53	46	28	7	28	A-4b			80.0 - 81.5	1	2	25	58	14	NP	NP	22	A-4b		
		31.5 - 37.0	BROWN SILT (A-4b)											81.5 - 88.0	GRAY AND BROWN SILT (A-4b)										
		37.0 - 48.5	GRAY SILT AND CLAY (A-6a)											88.0 - 95.0	GRAY COARSE AND FINE SAND (A-3a)										
		48.5 - 50.0	0	0	1	55	44	31	12	26	A-6a			95.0 - 115.0	GRAY SANDSTONE										
		50.0 - 57.5	GRAY SILT AND CLAY (A-6a)																						
		57.0 - 62.0	GRAY COARSE AND FINE SAND (A-3a)																						
		62.0 - 67.0	GRAY SILTY CLAY (A-6b)																						
		67.0 - 72.0	GRAY COARSE AND FINE SAND (A-3a)																						
		72.0 - 82.0	GRAY SILTY CLAY (A-6b)																						
		82.0 - 92.0	GRAY COARSE AND FINE SAND (A-3a)																						
		92.0 - 94.0	SEVERELY WEATHERED GRAY SANDSTONE																						
		94.0 - 109.7	GRAY SANDSTONE																						



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
TR-39	116+63.5 22.4 ft. LT	0.0 - 0.3	TOPSOIL										B-38	117+97.8 45.2 ft. RT	0.0 - 0.8	TOPSOIL													
		0.3 - 3.5	BROWN SILTY CLAY (A-6b)												0.8 - 3.0	BROWN CLAY (A-7-6)													
		3.5 - 5.0	0	0	1	47	52	40	17	25	A-6b			3.0 - 4.5	0	0	1	40	59	42	20	21	A-7-6						
		5.0 - 5.5	BROWN SILTY CLAY (A-6b)												4.5 - 5.5	BROWN CLAY (A-7-6)													
		5.5 - 13.5	BROWN SILT AND CLAY (A-6a)												5.5 - 6.0	BROWN SILT (A-4b)													
		13.5 - 15.0	0	0	1	53	46	33	12	26	A-6a			6.0 - 7.5	0	0	1	52	47	29	7	27	A-4b						
		15.0 - 21.0	BROWN SILT AND CLAY (A-6a)												7.5 - 8.0	BROWN SILT (A-4b)													
		21.0 - 22.5	0	0	1	59	40	32	11	25	A-6a			8.0 - 9.5	BROWN SILT AND CLAY (A-6a)														
		22.5 - 26.0	BROWN SILT AND CLAY (A-6a)												9.5 - 10.0	0	0	8	35	57	29	11	26	A-6a					
		26.0 - 27.5	0	0	1	46	53	35	13	25	A-6a			10.0 - 12.0	0	0	9	41	50	27	11	26	A-6a						
		27.5 - 28.0	BROWN SILT AND CLAY (A-6a)												12.0 - 13.5	0	0	2	28	70	39	17	30	A-6b					
		28.0 - 33.5	BROWN SILTY CLAY (A-6b)												13.5 - 15.0	0	0	2	39	59	34	17	24	A-6b					
		33.5 - 35.0	0	0	1	80	19	37	17	30	A-6b			15.0 - 17.5	BROWN SILTY CLAY (A-6b)														
		35.0 - 37.0	BROWN SILTY CLAY (A-6b)												17.5 - 19.0	0	0	1	54	45	31	10	28	A-4b					
		37.0 - 38.5	GRAY SILT (A-4b)												19.0 - 21.0	0	0	1	50	49	33	12	26	A-6a					
		38.5 - 40.0	0	0	1	81	18	NP	NP	28	A-4b			21.0 - 28.5	BROWN SILT AND CLAY (A-6a)														
		40.0 - 47.0	GRAY SILT (A-4b)												28.5 - 30.0	1	3	3	39	54	33	13	26	A-6a					
		47.0 - 48.5	GRAY SILT AND CLAY (A-6a)												30.0 - 32.0	BROWN SILT AND CLAY (A-6a)													
		48.5 - 50.0	0	0	1	57	42	32	13	27	A-6a			32.0 - 33.5	GRAY SILT (A-4b)														
		50.0 - 57.0	GRAY SILT AND CLAY (A-6a)												33.5 - 35.0	0	0	1	69	30	25	3	28	A-4b					
		57.0 - 63.5	BROWNISH GRAY CLAY (A-7-6)												35.0 - 36.5	0	0	0	78	22	27	6	29	A-4b					
		63.5 - 65.0	0	0	3	32	65	41	18	25	A-7-6			36.5 - 37.0	GRAY SILT (A-4b)														
		65.0 - 72.0	BROWNISH GRAY CLAY (A-7-6)												37.0 - 39.0	0	0	2	73	25	NP	NP	28	A-4b					
		72.0 - 73.5	GRAY SILT (A-4b)												39.0 - 46.5	GRAY SILT (A-4b)													
		73.5 - 75.0	0	0	9	60	31	27	10	20	A-4b			46.5 - 53.5	GRAY SILT AND CLAY (A-6a)														
		75.0 - 77.0	GRAY SILT (A-4b)												53.5 - 55.0	0	0	1	30	69	36	14	27	A-6a					
		77.0 - 78.5	BROWN SANDY SILT (A-4a)												55.0 - 63.5	GRAY SILT AND CLAY (A-6a)													
		78.5 - 80.0	0	3	38	48	11	NP	NP	21	A-4a			63.5 - 65.0	0	0	4	32	64	34	15	24	A-6a						
		80.0 - 82.0	BROWN SANDY SILT (A-4a)												65.0 - 72.0	GRAY SILT AND CLAY (A-6a)													
		82.0 - 87.0	GRAY FINE SAND (A-3)												72.0 - 78.5	GRAY SANDY SILT (A-4a)													
		87.0 - 88.5	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE												78.5 - 80.0	0	2	42	45	11	NP	NP	23	A-4a					
		88.5 - 90.0	41	11	13	27	8	NP	NP	13	A-2-4			80.0 - 85.5	GRAY SANDY SILT (A-4a)														
		90.0 - 92.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE												85.5 - 90.5	GRAY SANDSTONE													
		92.0 - 112.0	GRAY SANDSTONE																										

SOIL PROFILE

SCI-823-0.00



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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
			SCI-823									
R-61	119+53.0 41.9 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 6.0	BROWN CLAY (A-7-6)									VISUAL
		6.0 - 8.0	0	0	2	28	70	49	26	27	A-7-6	
		8.0 - 8.5	BROWN CLAY (A-7-6)									VISUAL
		8.5 - 15.5	BROWN SILT (A-4b)									VISUAL
		15.5 - 16.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		16.0 - 17.5	0	0	1	58	41	34	12	30	A-6a	
		17.5 - 18.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		18.0 - 20.0	BROWN SILT (A-4b)									VISUAL
		20.0 - 20.5	0	0	1	72	27	24	3	27	A-4b	
		20.5 - 21.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		21.0 - 22.5	0	0	1	50	49	35	14	27	A-6a	
		22.5 - 30.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		30.0 - 33.5	GRAY SILT (A-4b)									VISUAL
		33.5 - 35.5	0	0	1	62	37	29	10	25	A-4b	
		35.5 - 42.0	GRAY SILT (A-4b)									VISUAL
		42.0 - 43.5	GRAY SILT AND CLAY (A-6a)									VISUAL
		43.5 - 45.0	3	1	8	32	56	36	15	24	A-6a	
		45.0 - 67.0	GRAY SILT AND CLAY (A-6a)									VISUAL
		67.0 - 77.0	GRAY SANDY SILT (A-4a)									VISUAL
		77.0 - 82.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		82.0 - 83.7	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL
		83.7 - 90.2	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
			SCI-823									
TR-38A	120+14.5 4.7 ft. RT	0.0 - 0.8	TOPSOIL									VISUAL
		0.8 - 1.0	MOTTLED BROWN AND GRAY CLAY (A-7-6)									VISUAL
		1.0 - 2.5	0	0	4	43	53	41	22	21	A-7-6	
		2.5 - 5.0	MOTTLED BROWN AND GRAY CLAY (A-7-6)									VISUAL
		5.0 - 7.0	0	0	4	47	49	35	13	29	A-6a	
		7.0 - 7.5	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		7.5 - 8.5	BROWN CLAY (A-7-6)									VISUAL
		8.5 - 10.0	0	0	1	27	72	43	19	24	A-7-6	
		10.0 - 10.5	BROWN CLAY (A-7-6)									VISUAL
		10.5 - 11.0	BROWN SILT (A-4b)									VISUAL
		11.0 - 12.5	0	0	3	54	43	32	10	26	A-4b	
		12.5 - 13.0	BROWN SILT (A-4b)									VISUAL
		13.0 - 13.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		13.5 - 15.0	0	0	1	48	51	37	14	27	A-6a	
		15.0 - 15.7	0	0	1	44	55	38	16	26	A-6b	
		15.7 - 17.0	0	0	1	74	25	30	8	26	A-4b	
		17.0 - 20.0	BROWN SILT (A-4b)									VISUAL
		20.0 - 22.0	0	7	4	53	36	34	11	28	A-6a	
		22.0 - 25.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		25.5 - 26.0	BROWN SILT (A-4b)									VISUAL
		26.0 - 27.5	0	0	0	82	18	26	4	30	A-4b	
		27.5 - 33.5	BROWN SILT (A-4b)									VISUAL
		33.5 - 35.0	0	0	0	69	31	27	6	31	A-4b	
		35.0 - 42.0	BROWN SILT (A-4b)									VISUAL
		42.0 - 44.5	BROWN FINE SAND (A-3)									VISUAL
		44.5 - 45.0	0	0	3	24	73	37	15	26	A-6a	
		45.0 - 45.8	0	0	91		9	NP	NP	23	A-3	
		45.8 - 47.0	0	0	1	31	68	38	15	23	A-6a	
		47.0 - 57.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		57.0 - 58.5	DARK BROWN CLAY (A-7-6)									VISUAL
		58.5 - 60.0	0	0	1	23	76	43	19	30	A-7-6	
		60.0 - 62.0	DARK BROWN CLAY (A-7-6)									VISUAL
		62.0 - 63.5	GRAY SANDY SILT (A-4a)									VISUAL
		63.5 - 65.0	0	0	29	48	23	23	5	24	A-4a	
		65.0 - 67.0	GRAY SANDY SILT (A-4a)									VISUAL
		67.0 - 72.0	GRAY SILT (A-4b)									VISUAL
		72.0 - 77.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		77.0 - 81.0	GRAY SILT AND CLAY (A-6a)									VISUAL
		81.0 - 86.0	GRAY SANDSTONE									VISUAL

DRWN
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SOIL PROFILE

SCI-823-0.00



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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
TR-38	121+30.1 51.7 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 5.0	CLAY (A-7-6)									VISUAL
		5.0 - 6.5	0	0	1	29	70	44	19	26	A-7-6	
		6.5 - 10.0	CLAY (A-7-6)									VISUAL
		10.0 - 15.0	BROWN SILT (A-4b)									VISUAL
		15.0 - 16.5	0	1	1	63	35	32	10	28	A-4b	
		16.5 - 22.5	BROWN SILT (A-4b)									VISUAL
		22.5 - 24.0	0	0	1	72	27	30	8	26	A-4b	
		24.0 - 30.0	BROWN SILT (A-4b)									VISUAL
		30.0 - 31.5	0	0	5	59	36	32	11	29	A-6a	
		31.5 - 33.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		33.0 - 35.0	GRAY COARSE AND FINE SAND (A-3a)									VISUAL
		35.0 - 36.5	0	21	49	20	10	NP	NP	22	A-3a	
		36.5 - 38.0	GRAY COARSE AND FINE SAND (A-3a)									VISUAL
		38.0 - 45.0	GRAY SILTY CLAY (A-6b)									VISUAL
		45.0 - 46.5	0	0	1	31	68	39	16	27	A-6b	
		46.5 - 55.0	GRAY SILTY CLAY (A-6b)									VISUAL
		55.0 - 60.0	GRAY SILT (A-4b)									VISUAL
		60.0 - 68.0	GRAY COARSE AND FINE SAND (A-3a)									VISUAL
		68.0 - 70.0	GRAY SANDY SILT (A-4a)									VISUAL
		70.0 - 71.5	0	1	54	45	NP	NP	23		A-4a	
		71.5 - 73.0	GRAY SANDY SILT (A-4a)									VISUAL
		73.0 - 75.0	GRAY GRAVEL WITH SAND (A-1-b)									VISUAL
		75.0 - 76.5	50	19	12	19	NP	NP	12		A-1-b	
		76.5 - 80.0	GRAY GRAVEL WITH SAND (A-1-b)									VISUAL
		80.0 - 100.0	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
TR-37	122+47.3 23.9 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 1.0	BROWN CLAY (A-7-6)									VISUAL
		1.0 - 2.5	0	1	4	41	54	45	21	28	A-7-6	
		2.5 - 5.5	BROWN CLAY (A-7-6)									VISUAL
		5.5 - 6.0	BROWN SILTY CLAY (A-6b)									VISUAL
		6.0 - 7.5	0	1	6	38	55	38	17	26	A-6b	
		7.5 - 10.5	BROWN SILTY CLAY (A-6b)									VISUAL
		10.5 - 13.5	BROWN SILT (A-4b)									VISUAL
		13.5 - 15.0	0	0	1	61	38	34	10	28	A-4b	
		15.0 - 25.5	BROWN SILT (A-4b)									VISUAL
		25.5 - 26.0	BROWN SILT (A-4b)									VISUAL
		26.0 - 27.5	0	0	0	79	21	27	5	31	A-4b	
		27.5 - 28.5	BROWN SILT (A-4b)									VISUAL
		28.5 - 30.0	0	0	2	77	21	28	7	30	A-4b	
		30.0 - 32.0	BROWN SILT (A-4b)									VISUAL
		32.0 - 38.5	BROWNISH GRAY SILTY CLAY (A-6b)									VISUAL
		38.5 - 40.0	0	0	1	38	61	40	19	25	A-6b	
		40.0 - 42.0	BROWNISH GRAY SILTY CLAY (A-6b)									VISUAL
		42.0 - 58.5	GRAY CLAY (A-7-6)									VISUAL
		58.5 - 60.0	0	0	0	21	79	44	22	25	A-7-6	
		60.0 - 62.0	GRAY CLAY (A-7-6)									VISUAL
		62.0 - 68.5	LIGHT GRAY SILT (A-4b)									VISUAL
		68.5 - 70.0	1	2	30	57	10	NP	NP	24	A-4b	
		70.0 - 72.0	LIGHT GRAY SILT (A-4b)									VISUAL
		72.0 - 73.5	GRAY COARSE AND FINE SAND (A-3a)									VISUAL
		73.5 - 75.0	17	3	53	21	6	NP	NP	23	A-3a	
		75.0 - 77.0	GRAY COARSE AND FINE SAND (A-3a)									VISUAL
		77.0 - 79.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL
		79.0 - 99.0	GRAY SANDSTONE									VISUAL

B-32	122+95.383 21.281 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 3.0	BROWN SILTY CLAY (A-6b)									VISUAL
		3.0 - 3.5	BROWN CLAY (A-7-6)									VISUAL
		3.5 - 5.0	0	0	1	29	70	41	15	26	A-7-6	
		5.0 - 8.0	BROWN CLAY (A-7-6)									VISUAL
		8.0 - 10.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		10.0 - 12.0	0	0	2	53	45	33	13	24	A-6a	
		12.0 - 12.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		12.5 - 15.0	BROWN SILT (A-4b)									VISUAL
		15.0 - 17.0	0	1	1	58	40	30	8	29	A-4b	
		17.0 - 21.0	BROWN SILT (A-4b)									VISUAL
		21.0 - 22.5	0	0	1	60	19	26	4	28	A-4b	
		22.5 - 26.0	BROWN SILT (A-4b)									VISUAL
		26.0 - 27.5	0	0	1	68	31	28	7	29	A-4b	
		27.5 - 30.0	BROWN SILT (A-4b)									VISUAL
		30.0 - 42.0	GRAY SILTY CLAY (A-6b)									VISUAL
		42.0 - 60.0	GRAY CLAY (A-7-6)									VISUAL
		60.0 - 78.5	GRAY COARSE AND FINE SAND (A-3a)									VISUAL
		78.5 - 84.0	GRAY SANDSTONE INTERBEDDED WITH SHALE									VISUAL

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SOIL PROFILE

SCI-823-0.00



DRAWN
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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
TR-36	123+62.2 70.4 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 3.5	BROWN AND GRAY CLAY (A-7-6)									VISUAL
		3.5 - 5.0	0	0	1	31	68	44	21	26	A-7-6	
		5.0 - 5.5	BROWN AND GRAY CLAY (A-7-6)									VISUAL
		5.5 - 8.5	BROWN CLAY (A-7-6)									VISUAL
		8.5 - 10.0	0	0	1	38	61	42	19	27	A-7-6	
		10.0 - 20.5	BROWN CLAY (A-7-6)									VISUAL
		20.5 - 21.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		21.0 - 22.5	0	0	1	65	34	32	11	26	A-6a	
		22.5 - 26.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		26.0 - 27.5	BROWN SILT (A-4b)									VISUAL
		27.5 - 28.5	0	0	2	67	31	32	10	28	A-4b	
		28.5 - 38.5	GRAY CLAY (A-7-6)									VISUAL
		38.5 - 40.0	0	0	0	33	67	44	21	25	A-7-6	
		40.0 - 57.0	GRAY CLAY (A-7-6)									VISUAL
		57.0 - 58.5	GRAY SILT (A-4b)									VISUAL
		58.5 - 60.0	0	1	9	53	37	26	10	14	A-4b	
		60.0 - 62.0	GRAY SILT (A-4b)									VISUAL
		62.0 - 68.5	GRAY SANDY SILT (A-4a)									VISUAL
		68.5 - 70.0	0	1	60	31	8	NP	NP	24	A-4a	
70.0 - 72.0	GRAY SANDY SILT (A-4a)									VISUAL		
72.0 - 74.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL		
74.0 - 94.0	LIGHT GRAY SANDSTONE									VISUAL		
B-31	124+68.1 74.1 ft. LT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 5.5	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		5.5 - 6.0	BROWN AND GRAY CLAY (A-7-6)									VISUAL
		6.0 - 7.5	0	0	6	29	65	43	22	25	A-7-6	
		7.5 - 8.0	BROWN AND GRAY CLAY (A-7-6)									VISUAL
		8.0 - 10.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL
		10.0 - 12.0	0	1	6	37	56	37	16	25	A-6b	
		12.0 - 13.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL
		13.0 - 15.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		15.0 - 17.0	0	0	2	53	45	34	13	24	A-6a	
		17.0 - 21.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		21.0 - 22.5	0	2	2	31	65	37	15	29	A-6a	
		22.5 - 25.5	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		25.5 - 26.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		26.0 - 27.5	0	0	6	65	29	27	8	26	A-4b	
		27.5 - 28.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		28.0 - 32.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		32.0 - 33.5	GRAY SILT AND CLAY (A-6a)									VISUAL
		33.5 - 35.0	0	0	3	47	50	31	14	28	A-6a	
		35.0 - 48.5	GRAY SILT AND CLAY (A-6a)									VISUAL
48.5 - 50.0	0	2	7	34	57	30	12	22	A-6a			
50.0 - 67.0	GRAY SILT AND CLAY (A-6a)									VISUAL		
67.0 - 79.0	GRAY COARSE AND FINE SAND (A-3a)									VISUAL		
79.0 - 84.3	GRAY SILTSTONE									VISUAL		

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class			
SCI-823														
R-64	126+88.7 16.0 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL		
		0.3 - 18.0	BROWN SILT AND CLAY (A-6a)									VISUAL		
		18.0 - 20.0	0	5	2	51	42	34	12	28	A-6a			
		20.0 - 23.0	BROWN SILT AND CLAY (A-6a)									VISUAL		
		23.5 - 30.0	BROWN AND GRAY SILT (A-4b)									VISUAL		
		30.0 - 38.5	GRAY CLAY (A-7-6)									VISUAL		
		38.5 - 40.0	0	0	0	23	77	46	23	24	A-7-6			
		40.0 - 57.0	GRAY CLAY (A-7-6)									VISUAL		
		57.0 - 60.0	GRAY SILTY CLAY (A-6b)									VISUAL		
		60.0 - 73.5	GRAY COARSE AND FINE SAND (A-3a)									VISUAL		
		73.5 - 75.5	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL		
		75.5 - 80.9	GRAY TO DARK GRAY SANDSTONE									VISUAL		
		R-64A	127+46.6 51.6 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
				0.3 - 1.0	BROWN SILTY CLAY (A-6b)									VISUAL
				1.0 - 2.5	0	1	5	43	51	39	17	23	A-6b	
2.5 - 5.0	BROWN SILTY CLAY (A-6b)									VISUAL				
5.0 - 5.9	0			1	2	49	48	45	23	23	A-7-6			
5.9 - 6.4	0			1	1	48	50	35	12	23	A-6a			
6.4 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL				
8.5 - 10.0	0			0	1	47	52	33	11	25	A-6a			
10.0 - 15.0	BROWN SILT AND CLAY (A-6a)									VISUAL				
15.0 - 15.8	0			0	1	52	47	35	14	26	A-6a			
15.8 - 16.7	0			0	2	67	31	29	8	26	A-4b			
16.7 - 18.5	BROWN SILT (A-4b)									VISUAL				
18.5 - 20.0	0			0	1	70	29	29	7	29	A-4b			
20.0 - 21.0	BROWN SILT (A-4b)									VISUAL				
21.0 - 22.5	0			0	1	81	18	14	3	28	A-4b			
22.5 - 23.0	BROWN SILT (A-4b)									VISUAL				
23.0 - 23.5	BROWNISH GRAY CLAY (A-7-6)									VISUAL				
23.5 - 25.0	0			1	2	43	54	41	18	29	A-7-6			
25.0 - 28.5	BROWNISH GRAY CLAY (A-7-6)									VISUAL				
28.5 - 30.0	0			1	1	17	82	47	23	27	A-7-6			
30.0 - 37.0	GRAY CLAY (A-7-6)									VISUAL				
37.0 - 40.0	GRAY SILTY CLAY (A-6b)									VISUAL				
40.0 - 42.0	0	0	1	26	73	39	17	23	A-6b					
42.0 - 57.0	GRAY SILTY CLAY (A-6b)									VISUAL				
57.0 - 58.5	GRAY SILT (A-4b)									VISUAL				
58.5 - 60.0	0	1	14	58	27	23	7	9	A-4b					
60.0 - 67.0	GRAY SILT (A-4b)									VISUAL				
67.0 - 68.5	GRAY SANDY SILT (A-4a)									VISUAL				
68.5 - 70.0	1	6	53	31	19	NP	NP	20	A-4a					
70.0 - 72.0	GRAY SANDY SILT (A-4a)									VISUAL				
72.0 - 75.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL				
75.0 - 80.0	GRAY SANDSTONE									VISUAL				

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class							
			SCI-823													SCI-823														
R-68	128+49.3 75.5 ft. LT	0.0 - 0.2	TOPSOIL											C-93	129+16.0 272.6 ft. LT	0.0 - 0.5	TOPSOIL													
		0.2 - 3.0	BROWN SILT AND CLAY (A-6a)													0.5 - 3.0	DARK GRAY TO BLACK SILTY CLAY (A-6b)													
		3.0 - 6.0	BROWN CLAY (A-7-6)													3.0 - 3.5	GRAY AND BROWN SILTY CLAY (A-6b)													
		6.0 - 7.5	0	0	4	35	61	42	20	25	A-7-6				3.5 - 5.0	0	0	2	33	65	39	19	28	A-6b						
		7.5 - 11.0	BROWN CLAY (A-7-6)													5.0 - 8.0	GRAY AND BROWN SILTY CLAY (A-6b)													
		11.0 - 13.5	BROWN SILT (A-4b)													8.0 - 10.0	BROWN CLAY (A-7-6)													
		13.5 - 15.0	0	2	1	65	32	31	10	27	A-4b				10.0 - 12.0	0	3	3	26	68	45	21	28	A-7-6						
		15.0 - 26.0	BROWN SILT (A-4b)													12.0 - 20.5	BROWN CLAY (A-7-6)													
		26.0 - 27.5	0	0	1	26	73	44	20	25	A-7-6				20.5 - 24.0	GRAY SILT (A-4b)														
		27.5 - 48.5	GRAY CLAY (A-7-6)													24.0 - 26.0	0	2	13	56	29	25	8	18	A-4b					
		48.5 - 50.0	0	0	0	29	71	42	19	24	A-7-6				26.0 - 38.5	GRAY SILT (A-4b)														
		50.0 - 57.0	GRAY CLAY (A-7-6)													38.5 - 40.5	SEVERELY WEATHERED GRAY SANDSTONE													
		57.0 - 60.0	GRAY SILTY CLAY (A-6b)													40.5 - 45.5	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE													
		60.0 - 63.5	GRAY SANDY SILT (A-4a)																											
		63.5 - 65.0	0	1	44	46	9	NP	NP	27	A-4a		PB-30	130+01.5 182.8 ft. RT	0.0 - 0.7	TOPSOIL														
		65.0 - 70.0	GRAY SANDY SILT (A-4a)													0.7 - 5.5	MOTTLED BROWN AND GRAY SILTY CLAY (A-6b)													
		70.0 - 73.6	SEVERELY WEATHERED GRAY SANDSTONE													5.5 - 6.0	BROWN SILT (A-4b)													
		73.6 - 79.1	GRAY SANDSTONE													6.0 - 7.5	0	0	2	58	41	32	9	27	A-4b					
C-95	128+50.5 235.5 ft. RT	0.0 - 0.5	TOPSOIL													7.5 - 10.5	BROWN SILT (A-4b)													
		0.5 - 3.0	GRAYISH BROWN SANDY SILT (A-4a)													10.5 - 11.0	BROWN SILT (A-4b)													
		3.0 - 3.5	GRAY CLAY (A-7-6)													11.0 - 12.5	0	0	1	83	16	NP	NP	29	A-4b					
		3.5 - 5.0	0	5	8	37	50	44	21	30	A-7-6				12.5 - 15.5	BROWN SILT (A-4b)														
		5.0 - 6.0	GRAY CLAY (A-7-6)													15.5 - 18.0	BROWN SILT (A-4b)													
		6.0 - 10.0	GRAY SILTY CLAY (A-6b)													18.0 - 21.0	BROWN SILT AND CLAY (A-6a)													
		10.0 - 12.0	0	0	4	68	28	37	17	22	A-6b				21.0 - 22.0	0	0	0	46	54	32	12	30	A-6a						
		12.0 - 13.5	GRAY SILTY CLAY (A-6b)													22.0 - 22.5	0	0	0	61	39	30	9	29	A-4b					
		13.5 - 24.0	BROWNISH GRAY CLAY (A-7-6)													22.5 - 26.0	BROWN SILT (A-4b)													
		24.0 - 26.0	0	0	0	25	75	42	22	28	A-7-6				26.0 - 27.0	0	0	3	70	27	NP	NP	30	A-4b						
		26.0 - 30.0	BROWNISH GRAY CLAY (A-7-6)													27.0 - 43.5	BROWN SILTY CLAY (A-6b)													
		30.0 - 37.0	DARK GRAY TO BLACK CLAY (A-7-6)													43.5 - 45.0	0	0	2	37	61	34	25	25	A-6b					
		37.0 - 42.0	GRAY GRAVEL WITH SAND (A-1-b)													45.0 - 57.0	BROWN SILTY CLAY (A-6b)													
		42.0 - 48.5	BROWNISH GRAY COARSE AND FINE SAND (A-3a)													57.0 - 58.5	BLACK SILT AND CLAY (A-6a)													
		48.5 - 49.5	SEVERELY WEATHERED GRAY SANDSTONE													58.5 - 60.0	0	5	9	54	32	35	15	25	A-6a					
		49.5 - 54.5	GRAY SANDSTONE													60.0 - 62.0	BLACK SILT AND CLAY (A-6a)													
C-94	128+79.3 83.9 ft. RT	0.0 - 0.7	TOPSOIL													62.0 - 78.0	BROWN COARSE AND FINE SAND (A-3a)													
		0.7 - 11.0	BROWN SILT AND CLAY (A-6a)													78.0 - 79.0	SEVERELY WEATHERED GRAY SILTSTONE													
		11.0 - 12.5	1	2	2	57	38	33	12	28	A-6a				79.0 - 95.3	GRAY TO LIGHT GRAY SILTSTONE														
		12.5 - 13.0	BROWN SILT AND CLAY (A-6a)																											
		13.0 - 13.5	BROWN SILT (A-4b)																											
		13.5 - 15.0	0	0	1	84	15	26	6	28	A-4b																			
		15.0 - 20.5	BROWN SILT (A-4b)																											
		20.5 - 23.0	BROWN FINE SAND (A-3)																											
		23.0 - 35.0	GRAY CLAY (A-7-6)																											

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SOIL PROFILE

SCI-823-0.00



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
TR-35A	131+29.4 14.1 ft. RT	0.0 - 0.3	LIMESTONE GRAVEL									VISUAL
		0.3 - 1.0	YELLOWISH BROWN CLAY (A-7-6)									VISUAL
		1.0 - 2.5	0	0	2	32	66	46	19	27		A-7-6
		2.5 - 5.0	YELLOWISH BROWN CLAY (A-7-6)									VISUAL
		5.0 - 7.0	0	0	4	63	33	27	8	23		A-4b
		7.0 - 8.5	BROWN SILT (A-4b)									VISUAL
		8.5 - 10.0	0	0	1	71	28	31	6	29		A-4b
		10.0 - 11.0	BROWN SILT (A-4b)									VISUAL
		11.0 - 12.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		12.0 - 12.4	0	1	1	51	47	33	12	27		A-6a
		12.4 - 14.0	0	2	2	66	30	27	5	28		A-4b
		14.0 - 20.5	BROWN SILT (A-4b)									VISUAL
		20.5 - 23.5	GRAY CLAY (A-7-6)									VISUAL
		23.5 - 25.0	0	0	0	75	25	NP	NP	29		A-4b
		25.0 - 27.0	GRAY SILT (A-4b)									VISUAL
		27.0 - 29.0	0	0	1	77	22	NP	NP	28		A-4b
		29.0 - 32.0	GRAY SILT (A-4b)									VISUAL
		32.0 - 38.5	GRAYISH BROWN CLAY (A-7-6)									VISUAL
		38.5 - 40.0	0	0	1	20	79	43	17	25		A-7-6
		40.0 - 62.0	GRAYISH BROWN CLAY (A-7-6)									VISUAL
		62.0 - 63.5	MOTTLED DARK BROWN AND BLACK SILT (A-4b)									VISUAL
		63.5 - 65.0	1	2	2	66	29	NP	NP	42		A-4b
		65.0 - 65.5	MOTTLED DARK BROWN AND BLACK SILT (A-4b)									VISUAL
		65.5 - 66.0	DARK BROWN CLAY (A-7-6)									VISUAL
		66.0 - 66.9	0	6	3	64	27	44	18	34		A-7-6
		66.9 - 68.0	0	1	20	63	16	NP	NP	19		A-4b
68.0 - 72.0	GRAY SILT (A-4b)									VISUAL		
72.0 - 77.0	GRAY FINE SAND (A-3)									VISUAL		
77.0 - 81.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL		
81.0 - 86.0	GRAY SANDSTONE									VISUAL		
TR-35	132+52.2 31.5 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 2.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		2.5 - 4.0	0	0	1	70	29	33	12	28		A-6a
		4.0 - 17.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		17.5 - 19.0	0	2	5	58	35	31	11	28		A-6a
		19.0 - 22.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		22.0 - 25.0	GRAY CLAY (A-7-6)									VISUAL
		25.0 - 26.5	0	0	1	26	73	44	21	24		A-7-6
		26.5 - 55.0	GRAY CLAY (A-7-6)									VISUAL
		55.0 - 56.5	0	0	1	27	72	41	18	27		A-7-6
		56.5 - 63.0	GRAY CLAY (A-7-6)									VISUAL
		63.0 - 65.0	GRAY SILT (A-4b)									VISUAL
		65.0 - 66.5	0	1	21	59	19	NP	NP	22		A-4b
		66.5 - 73.0	GRAY SILT (A-4b)									VISUAL
		73.0 - 75.0	GRAY SANDY SILT (A-4a)									VISUAL
		75.0 - 76.5	6	26	24	37	7	NP	NP	14		A-4a
		76.5 - 80.0	GRAY SANDY SILT (A-4a)									VISUAL
		80.0 - 100.5	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
TR-34	133+61.1 2.0 ft. LT	0.0 - 0.6	TOPSOIL									VISUAL
		0.6 - 2.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		2.0 - 2.5	BROWN CLAY (A-7-6)									VISUAL
		2.5 - 4.0	0	0	1	21	78	44	21	25		A-7-6
		4.0 - 15.0	BROWN CLAY (A-7-6)									VISUAL
		15.0 - 16.5	0	0	1	22	77	46	23	25		A-7-6
		16.5 - 26.0	BROWN CLAY (A-7-6)									VISUAL
		26.0 - 27.5	0	1	4	56	39	43	22	31		A-7-6
		27.5 - 30.0	BROWN CLAY (A-7-6)									VISUAL
		30.0 - 35.0	GRAY SILT (A-4b)									VISUAL
		35.0 - 36.5	0	0	31	60	9	NP	NP	23		A-4b
		36.5 - 38.0	GRAY SILT (A-4b)									VISUAL
		38.0 - 40.0	GRAY GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		40.0 - 41.5	23	26	19	27	5	NP	NP	13		A-2-4
		41.5 - 42.0	GRAY GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
42.0 - 62.0	GRAY SANDSTONE									VISUAL		
B-39	134+39.9 34.2 ft. RT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 3.5	BROWN SILTY CLAY (A-6b)									VISUAL
		3.5 - 5.0	0	0	2	67	31	35	18	28		A-6b
		5.0 - 5.5	BROWN SILTY CLAY (A-6b)									VISUAL
		5.5 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		8.5 - 10.0	0	0	8	55	37	32	12	26		A-6a
		10.0 - 12.0	0	0	11	57	32	29	10	28		A-4b
		12.0 - 13.0	BROWN SILT (A-4b)									VISUAL
		13.0 - 13.5	BROWN SANDY SILT (A-4a)									VISUAL
		13.5 - 15.0	0	0	39	40	21	22	5	28		A-4a
		15.0 - 18.0	BROWN SANDY SILT (A-4a)									VISUAL
		18.0 - 19.5	MOTTLED BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL
		19.5 - 21.0	GRAY SILT (A-4b)									VISUAL
		21.0 - 22.5	0	2	20	58	20	NP	NP	19		A-4b
		22.5 - 26.0	GRAY SILT (A-4b)									VISUAL
26.0 - 27.5	0	0	37	53	10	NP	NP	27		A-4b		
27.5 - 30.0	GRAY SILT (A-4b)									VISUAL		
30.0 - 33.7	BROWN SILT (A-4b)									VISUAL		
33.7 - 54.3	GRAY SANDSTONE									VISUAL		

SOIL PROFILE

SCI-823-0.00



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class			
			SCI-823												SCI-823											
TR-33	134+67.6 60.6 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL	B-40	136+89.0 33.6 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL	
		0.4 - 1.5	BROWN SILT (A-4b)									VISUAL			0.4 - 3.0	BROWN SANDY SILT (A-4a)									VISUAL	
		1.5 - 3.0	0	0	18	62	20	29	8	30	A-4b			3.0 - 3.5	BROWN SILTY CLAY (A-6b)									VISUAL		
		3.0 - 4.0	BROWN SANDY SILT (A-4a)									VISUAL			3.5 - 5.0	0	1	2	54	43	37	16	23	A-6b		
		4.0 - 5.5	0	1	32	47	20	23	5	26	A-4a			5.0 - 7.5	BROWN SILTY CLAY (A-6b)									VISUAL		
		5.5 - 6.5	BROWN SILT (A-4b)									VISUAL			7.5 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL	
		6.5 - 8.0	0	0	17	60	23	25	6	27	A-4b			8.5 - 10.0	0	1	2	65	32	32	11	24	A-6a			
		8.0 - 9.0	BROWN SILT (A-4b)									VISUAL			10.0 - 12.0	BROWN SILT AND CLAY (A-6a)									VISUAL	
		9.0 - 10.5	0	0	16	66	18	NP	NP	32	A-4b			12.0 - 13.5	BROWN AND GRAY SILT (A-4b)									VISUAL		
		10.5 - 11.5	BROWN SILT (A-4b)									VISUAL			13.5 - 15.0	0	0	16	64	20	NP	NP	25	A-4b		
		11.5 - 13.0	0	0	14	59	27	28	8	33	A-4b			15.0 - 18.5	GRAY SILT (A-4b)									VISUAL		
		13.0 - 14.0	BROWN SILT (A-4b)									VISUAL			18.5 - 20.0	0	0	8	70	22	30	10	25	A-4b		
		14.0 - 15.5	0	0	4	73	23	28	7	34	A-4b			20.0 - 22.0	0	1	3	77	19	25	5	22	A-4b			
		15.5 - 16.5	BROWN SILT (A-4b)									VISUAL			22.0 - 26.0	GRAY SILT (A-4b)									VISUAL	
		16.5 - 18.0	0	0	32	51	17	20	2	29	A-4b			26.0 - 27.5	2	15	11	55	17	21	4	15	A-4b			
		18.0 - 19.0	BROWN SILT (A-4b)									VISUAL			27.5 - 30.0	GRAY SILT (A-4b)									VISUAL	
		19.0 - 20.5	0	0	36	50	14	NP	NP	28	A-4b			30.0 - 36.5	GRAY SANDY SILT (A-4a)									VISUAL		
		20.5 - 21.0	BROWN SILT (A-4b)									VISUAL			36.5 - 40.0	7	20	12	47	13	23	4	15	A-4a		
		21.0 - 21.5	GRAY COARSE AND FINE SAND (A-3a)									VISUAL			40.0 - 42.5	GRAY SANDY SILT (A-4a)									VISUAL	
		21.5 - 23.0	8	10	54	22	6	NP	NP	22	A-3a			42.5 - 46.5	GRAY AND BROWN FINE SAND (A-3)									VISUAL		
		23.0 - 23.5	GRAY COARSE AND FINE SAND (A-3a)									VISUAL			46.5 - 49.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL	
		23.5 - 26.5	GRAY FINE SAND (A-3)									VISUAL			49.0 - 69.0	LIGHT GRAY SANDSTONE									VISUAL	
		26.5 - 34.1	GRAY SANDY SILT (A-4a)									VISUAL														
		34.1 - 54.1	GRAY SANDSTONE									VISUAL	B-41	136+99.7 37.2 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL	
TR-32	136+60.6 10.4 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL			0.3 - 3.5	BROWN SILT (A-4b)									VISUAL	
		0.3 - 5.0	BROWN SILT (A-4b)									VISUAL			3.5 - 5.0	0	0	4	62	34	31	10	24	A-4b		
		5.0 - 6.5	0	0	26	58	16	23	4	24	A-4b			5.0 - 8.5	BROWN SILT (A-4b)									VISUAL		
		6.5 - 7.5	BROWN SILT (A-4b)									VISUAL			8.5 - 10.0	0	0	15	68	17	25	4	24	A-4b		
		7.5 - 9.0	0	0	15	69	16	24	5	25	A-4b			10.0 - 13.5	BROWN SILT (A-4b)									VISUAL		
		9.0 - 10.0	BROWN SILT (A-4b)									VISUAL			13.5 - 15.0	0	1	18	63	18	25	5	24	A-4b		
		10.0 - 11.5	1	5	24	58	12	NP	NP	17	A-4b			15.0 - 18.5	BROWN SILT (A-4b)									VISUAL		
		11.5 - 12.5	BROWN SILT (A-4b)									VISUAL			18.5 - 20.0	2	10	19	51	18	20	3	16	A-4b		
		12.5 - 14.0	GRAY SILT AND CLAY (A-6a)									VISUAL			20.0 - 20.5	BROWN SILT (A-4b)									VISUAL	
		14.0 - 15.0	0	3	15	49	33	30	13	22	A-6a			20.5 - 23.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL		
		15.0 - 16.5	GRAY SILT (A-4b)									VISUAL			23.5 - 26.0	GRAY SILT (A-4b)									VISUAL	
		16.5 - 17.5	0	1	8	66	25	27	10	21	A-4b			26.0 - 30.0	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL		
		17.5 - 19.0	0	1	11	63	25	26	8	22	A-4b			30.0 - 40.0	GRAY SILT (A-4b)									VISUAL		
		19.0 - 20.0	GRAY SILT (A-4b)									VISUAL			40.0 - 42.9	GRAY SANDSTONE									VISUAL	
		20.0 - 21.5	0	0	8	67	25	27	7	26	A-4b			42.9 - 46.4	GRAY SHALE INTERBEDDED WITH SANDSTONE									VISUAL		
		21.5 - 22.5	GRAY SILT (A-4b)									VISUAL			46.4 - 60.0	GRAY SANDSTONE									VISUAL	
		22.5 - 24.0	2	2	18	55	23	25	7	20	A-4b	TR-31	138+68.7 106.5 ft. LT	0.0 - 0.5	TOPSOIL									VISUAL		
		24.0 - 25.0	GRAY SILT (A-4b)									VISUAL			0.5 - 7.9	BROWN SANDSTONE									VISUAL	
		25.0 - 26.5	7	9	14	58	12	NP	NP	16	A-4b			7.9 - 20.0	GRAY SANDSTONE									VISUAL		
		26.5 - 27.5	GRAY SILT (A-4b)									VISUAL														
		27.5 - 29.0	0	1	33	55	11	NP	NP	24	A-4b															
		29.0 - 30.0	GRAY SILT (A-4b)									VISUAL	B-42	138+99.0 32.7 ft. LT	0.0 - 0.5	TOPSOIL (VISUAL)									VISUAL	
		30.0 - 31.5	0	1	31	56	12	NP	NP	25	A-4b			0.5 - 2.0	BROWN SANDY SILT (A-4a)									VISUAL		
		31.5 - 33.0	GRAY SILT (A-4b)									VISUAL			2.0 - 25.6	BROWN SANDSTONE									VISUAL	
		33.0 - 35.0	GRAY SANDY SILT (A-4a)									VISUAL			25.6 - 44.5	BROWNISH GRAY SANDSTONE									VISUAL	
		35.0 - 36.5	3	3	51	36	7	NP	NP	25	A-4a															
		36.5 - 39.0	GRAY SANDY SILT (A-4a)									VISUAL														
		39.0 - 59.0	GRAY SANDSTONE									VISUAL														

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class					
			SCI-823													SCI-823												
B-43	139+00.9 43.0 ft. RT	0.0 - 0.4 0.4 - 8.0 8.0 - 10.5 10.5 - 25.5 25.5 - 40.5	TOPSOIL (VISUAL) BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWNISH GRAY SANDSTONE BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL	R-73	147+21.6 50.4 ft. LT	0.0 - 0.3 0.3 - 3.5 3.5 - 5.5 5.5 - 23.2 23.2 - 24.1 24.1 - 35.3 35.3 - 41.1 41.1 - 42.3 42.3 - 43.0 43.0 - 56.1 56.1 - 60.8 60.8 - 64.3 64.3 - 90.0 90.0 - 92.1 92.1 - 195.0	TOPSOIL REDDISH BROWN AND GRAY SANDY SILT (A-4a) SEVERELY WEATHERED SANDSTONE LIGHT BROWN SANDSTONE BROWNISH GRAY SILTSTONE DARK GRAY TO BLACK SHALE LIGHT GRAY SHALE GRAY SILTSTONE LIGHT GRAY SHALE LIGHT GRAY SANDSTONE DARK GRAY SHALE GRAYISH BROWN SILTSTONE GRAY SANDSTONE GRAY SILTSTONE INTERBEDDED WITH SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
TR-30	139+35.0 52.3 ft. LT	0.0 - 0.4 0.4 - 7.5 7.5 - 20.0	TOPSOIL GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL	R-74	148+91.8 66.8 ft. RT	0.0 - 0.3 0.3 - 3.5 3.5 - 6.5 6.5 - 18.2 18.2 - 40.0 40.0 - 52.7 52.7 - 59.4 59.4 - 63.3 63.3 - 80.7 80.7 - 86.3 86.3 - 205.0	ASHALT CONCRETE PAVEMENT LIGHT BROWN SILT AND CLAY (A-6a) LIGHT BROWN COARSE AND FINE SAND (A-3a) BROWN SANDSTONE BROWN AND GRAY SANDSTONE INTERBEDDED WITH SHALE GRAY SHALE DARK GRAY SANDSTONE GRAY SILTSTONE GRAY SANDSTONE GRAY SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
R-69	140+14.7 249.2 ft. LT	0.0 - 3.5 3.5 - 7.0 7.0 - 18.1 18.1 - 155.0	BROWN AND ORANGE SANDY SILT (A-4a) GRAY SILTY CLAY (A-6b) BROWNISH GRAY SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL	R-78	152+94.6 60.7 ft. LT	0.0 - 0.2 0.2 - 3.0 3.0 - 10.0 10.0 - 21.9 21.9 - 40.3 40.3 - 49.5 49.5 - 50.3 50.3 - 54.8	TOPSOIL BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED SANDSTONE BROWN SANDSTONE GRAY SHALE INTERBEDDED WITH SANDSTONE GRAY SANDSTONE COAL GRAY SHALE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
B-44	140+14.9 37.8 ft. RT	0.0 - 1.0 1.0 - 23.5 23.5 - 24.0 24.0 - 28.0 28.0 - 64.0	TOPSOIL (VISUAL) BROWN SANDY SILT (A-4a) SEVERELY WEATHERED SANDSTONE BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL	R-81	156+89.8 36.4 ft. LT	0.0 - 0.3 0.3 - 3.0 3.0 - 11.5 11.5 - 26.5 26.5 - 30.0 30.0 - 43.7 43.7 - 44.2 44.2 - 50.3 50.3 - 180.0	TOPSOIL BROWN SILT AND CLAY (A-6a) BROWN COARSE AND FINE SAND (A-3a) SEVERELY WEATHERED SANDSTONE GRAY SANDSTONE GRAY AND BROWN SANDSTONE BLACK COAL GRAY AND RED SILTSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL*			
TR-29	140+26.7 84.5 ft. LT	0.0 - 0.4 0.4 - 9.5 9.5 - 26.5 26.5 - 85.0	TOPSOIL (VISUAL) GRAY SANDSTONE BROWN AND GRAY SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL	R-80	156+98.7 222.0 ft. LT	0.0 - 0.3 0.3 - 4.0 4.0 - 6.5 6.5 - 13.6 13.6 - 120.0	TOPSOIL LIGHT BROWN SANDY SILT (A-4a) SEVERELY WEATHERED SANDSTONE BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL			
R-70	143+03.0 247.2 ft. LT	0.0 - 0.6 0.6 - 9.0 9.0 - 11.5 11.5 - 23.6 23.6 - 150.0	TOPSOIL BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED SANDSTONE BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL																
R-72	143+31.6 71.5 ft. RT	0.0 - 0.3 0.3 - 3.0 3.0 - 10.0 10.0 - 11.0 11.0 - 12.5 12.5 - 25.0 25.0 - 37.1 37.1 - 39.1 39.1 - 55.0	1	14	38	25	22	18	6	8	A-4a																	

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SOIL PROFILE

SCI - 823 - 0.00



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
PB-31	161+54.3 163.1 ft. LT	0.0 - 0.4 0.4 - 35.2 35.2 - 45.0 45.0 - 54.3 54.3 - 57.4 57.4 - 58.5 58.5 - 69.0 69.0 - 72.5 72.5 - 129.7 129.7 - 136.2 136.2 - 191.5	TOPSOIL LIGHT BROWN, BROWN AND LIGHT GRAY SANDSTONE GRAY SHALE INTERBEDDED GRAY SHALE AND SANDSTONE DARK GRAY TO BLACK SHALE GRAY AND BROWN SANDSTONE DARK GRAY TO BLACK SHALE LIGHT GRAY LIMESTONE LIGHT GRAY SANDSTONE INTERBEDDED SHALE, SILTSTONE, SANDSTONE GRAY SANDSTONE								VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL	R-88	166+92.7 51.3 ft. LT	0.0 - 0.3 0.3 - 2.0 2.0 - 25.0	TOPSOIL SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE									VISUAL VISUAL VISUAL					
												TP-R-093	167+98.2 101.5 ft. RT	0.0 - 1.0 1.0 - 3.0 3.0 - 5.0 5.0 - 5.5 5.5 - 8.0	TOPSOIL FILL: ROCK FRAGMENTS / TRASH DEBRIS BROWN SILT AND CLAY (A-6a) BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE										VISUAL VISUAL VISUAL VISUAL VISUAL				
R-84	162+46.9 131.9 ft. RT	0.0 - 0.2 0.2 - 10.0 10.0 - 24.6 24.6 - 30.0 30.0 - 35.8 35.8 - 40.3 40.3 - 46.0 46.0 - 46.8 46.8 - 58.3 58.3 - 60.0 60.0 - 94.2 94.2 - 160.0	TOPSOIL BROWN COARSE AND FINE SAND (A-3a) BROWN SANDSTONE GRAY SHALE GRAY SANDSTONE INTERBEDDED WITH SHALE GRAY SHALE GRAY SANDSTONE BLACK COAL GRAY AND RED SILTSTONE INTERBEDDED WITH SHALE GRAY SANDSTONE INTERBEDDED WITH SILTSTONE LIGHT GRAY SANDSTONE GRAY SANDSTONE								VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL	R-90	168+20.2 110.2 ft. LT	0.0 - 0.5 0.5 - 4.0 4.0 - 5.5 5.5 - 17.5 17.5 - 24.6 24.6 - 35.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED SANDSTONE GRAY AND BROWN SILTSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE											VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
												R-92	168+46.5 79.3 ft. RT	0.0 - 0.4 0.4 - 2.0 2.0 - 8.1 8.1 - 30.0	TOPSOIL SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE											VISUAL VISUAL VISUAL VISUAL			
												R-91	168+47.7 on CL	0.0 - 0.3 0.3 - 2.0 2.0 - 13.3 13.3 - 25.0	TOPSOIL SEVERELY WEATHERED SANDSTONE BROWN AND GRAY SANDSTONE GRAY SANDSTONE											VISUAL VISUAL VISUAL*			
R-87	164+75.9 106.3 ft. RT	0.0 - 0.2 0.2 - 5.5 5.5 - 8.0 8.0 - 8.5 8.5 - 19.9 19.9 - 86.0	TOPSOIL REDDISH BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED CLAYSTONE SEVERELY WEATHERED SANDSTONE BROWN SANDSTONE GRAY SANDSTONE								VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL	R-94	169+98.5 139.6 ft. LT	0.0 - 0.3 0.3 - 2.0 2.0 - 7.0 7.0 - 48.7 48.7 - 80.5	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED SANDSTONE BROWN AND GRAY SANDSTONE GRAY SANDSTONE											VISUAL VISUAL VISUAL VISUAL VISUAL			
												REPLACED BY R-2094																	
R-85	164+83.3 62.1 ft. LT	0.0 - 0.3 0.3 - 3.5 3.5 - 5.0 5.0 - 8.0 8.0 - 11.0 11.0 - 12.0 12.0 - 14.5 14.5 - 21.7 21.7 - 39.5 39.5 - 65.5	TOPSOIL REDDISH BROWN SILTY CLAY (A-6b) 5 2 5 52 36 38 16 18 REDDISH BROWN SILTY CLAY (A-6b) BROWN AND GRAY SANDY SILT (A-4a) 38 12 14 36 14 NP NP 6 BROWN AND GRAY SANDY SILT (A-4a) GRAY AND BROWN SANDSTONE BROWN SANDSTONE GRAY SANDSTONE								VISUAL VISUAL A-6b VISUAL VISUAL A-4a VISUAL VISUAL VISUAL VISUAL	R-96	169.79.4 61.3 ft. RT	0.0 - 0.2 0.2 - 5.0 5.0 - 7.2 7.2 - 18.5 18.5 - 50.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN SANDSTONE BROWN AND GRAY SILTSTONE BROWN AND GRAY SANDSTONE												VISUAL VISUAL VISUAL VISUAL VISUAL		
												R-2094	170+05.3 135.6 ft. LT	0.0 - 0.2 0.2 - 1.0 1.0 - 2.5 2.5 - 3.0 3.0 - 11.5 11.5 - 100.0	TOPSOIL REDDISH BROWN CLAY (A-7-6) 6 3 3 29 59 44 22 23 REDDISH BROWN CLAY (A-7-6) SEVERELY WEATHERED BROWN SANDSTONE GRAY SANDSTONE												VISUAL VISUAL A-7-6 VISUAL VISUAL		
TP-R-089A	165+70.6 170.9 ft. LT	0.0 - 0.6 0.6 - 2.0 2.0 - 8.0 8.0 - 11.5	FILL: ORGANIC DEBRIS FILL: SAND AND GRAVEL FILL: BROWN SILT AND CLAY (A-6a) BROWN SANDY SILT (A-4a)								VISUAL VISUAL VISUAL VISUAL																		
TP-R-089	166+15.6 173.8 ft. LT	0.0 - 7.5 7.5 - 9.0 9.0 - 10.0 10.0 - 10.5	ORGANIC DEBRIS FILL: BROWN AND GRAY SANDY SILT (A-4a) FILL: BROWN SILT AND CLAY (A-6a) BROWN SANDY SILT (A-4a)								VISUAL VISUAL VISUAL VISUAL																		

SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
R-2098	172+57.4 85.5 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL	C-115	176+12.5	0.0 - 0.5	TOPSOIL										VISUAL		
		0.3 - 5.0	BROWN AND GRAY SILTY CLAY (A-6b)										VISUAL		286.9 ft. RT	0.5 - 3.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)										VISUAL		
		5.0 - 6.5	3	6	4	53	33	38	16	13	A-6b			3.5 - 5.0	6	19	19	39	17	19	3	13	A-4a						
		6.5 - 7.5	BROWN AND GRAY SILTY CLAY (A-6b)										VISUAL			5.0 - 8.5	BROWN AND GRAY SANDY SILT (A-4a)										VISUAL		
		7.5 - 9.0	7	1	3	58	31	40	20	10	A-6b			8.5 - 10.0	0	2	30	43	25	24	9	22	A-4a						
		9.0 - 10.0	BROWN AND GRAY SILTY CLAY (A-6b)										VISUAL			10.0 - 13.5	BROWN AND GRAY SANDY SILT (A-4a)										VISUAL		
		10.0 - 10.5	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL			13.5 - 17.5	SEVERELY WEATHERED GRAY SANDSTONE										VISUAL		
		10.5 - 60.5	GRAY SANDSTONE										VISUAL			17.5 - 22.5	GRAY SANDSTONE										VISUAL		
R-98	172+78.6 43.4 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL	R-100	176+77.5	0.0 - 0.2	TOPSOIL										VISUAL		
		0.3 - 3.0	BROWN SILT AND CLAY (A-6a)										VISUAL		310.0 ft. RT	0.2 - 20.5	DARK BROWN SANDY SILT (A-4a)										VISUAL		
		3.0 - 7.5	SEVERELY WEATHERED SANDSTONE										VISUAL			20.5 - 22.5	SEVERELY WEATHERED SANDSTONE										VISUAL		
		7.5 - 14.8	BROWN AND GRAY SANDSTONE										VISUAL			22.5 - 32.5	GRAY SANDSTONE										VISUAL		
		14.8 - 20.0	GRAY SANDSTONE										VISUAL																
R-2097	172+79.1 81.4 ft. LT	0.0 - 0.6	TOPSOIL										VISUAL	R-99	177+03.6	0.0 - 0.4	TOPSOIL (VISUAL)										VISUAL		
		0.6 - 1.0	BROWN SANDY SILT (A-4a)										VISUAL		0.9 ft. RT	0.4 - 3.0	BROWN SANDY SILT (A-4a)										VISUAL		
		1.0 - 2.5	10	14	14	48	14	25	5	15	A-4a			3.0 - 5.0	BROWN GRAVEL (A-1-a)										VISUAL				
		2.5 - 3.0	BROWN SANDY SILT (A-4a)										VISUAL			5.0 - 9.1	BROWN SHALE										VISUAL		
		3.0 - 3.5	GRAYISH BROWN SILT AND CLAY (A-6a)										VISUAL			9.1 - 20.0	BROWN SANDSTONE										VISUAL		
		3.5 - 5.0	3	15	7	47	28	35	14	10	A-6a																		
		5.0 - 10.5	GRAYISH BROWN SILT AND CLAY (A-6a)										VISUAL	R-101	180+90.9	0.0 - 0.2	TOPSOIL										VISUAL		
		10.5 - 13.5	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL		23.6 ft. LT	0.2 - 3.0	BROWN SANDY SILT (A-4a)										VISUAL		
		13.5 - 15.8	LIGHT BROWN SANDSTONE										VISUAL			3.0 - 20.0	SEVERELY WEATHERED BROWN SANDSTONE										VISUAL*		
		15.8 - 60.0	GRAY SANDSTONE										VISUAL			20.0 - 30.0	GRAY AND BROWN SANDSTONE										VISUAL		
R-97	172+81.7 5.1 ft. LT	0.0 - 0.3	TOPSOIL										VISUAL	R-102	181+02.4	0.0 - 0.2	TOPSOIL										VISUAL		
		0.3 - 5.5	BROWN SANDY SILT (A-4a)										VISUAL		182.6 ft. RT	0.2 - 8.0	BROWN SANDY SILT (A-4a)										VISUAL		
		5.5 - 10.0	GRAY SILT AND CLAY (A-6a)										VISUAL			8.0 - 10.5	GRAY AND BROWN SILT AND CLAY (A-6a)										VISUAL		
		10.0 - 16.4	GRAY AND BROWN SANDSTONE										VISUAL			10.5 - 11.0	GRAY SILT (A-4b)										VISUAL		
		16.4 - 20.0	GRAY SANDSTONE										VISUAL			11.0 - 13.0	0	0	5	70	25	29	10	28	A-4b				
C-114	175+15.1 195.2 ft. LT	0.0 - 0.4	TOPSOIL										VISUAL			13.0 - 16.0	GRAY AND BROWN SILT (A-4b)										VISUAL		
		0.4 - 8.5	BROWN SANDY SILT (A-4a)										VISUAL			16.0 - 17.5	5	6	21	56	12	NP	NP	21	A-4b				
		8.5 - 10.0	23	17	20	27	13	20	4	11	A-4a			17.5 - 20.5	GRAY AND BROWN SILT (A-4b)										VISUAL				
		10.0 - 13.5	BROWN SANDY SILT (A-4a)										VISUAL			20.5 - 23.0	GRAY AND LIGHT BROWN FINE SAND (A-3)										VISUAL		
		13.5 - 15.0	3	7	8	63	19	22	4	18	A-4b			23.0 - 36.0	GRAY SANDY SILT (A-4a)										VISUAL				
		15.0 - 23.5	BROWN SILT (A-4b)										VISUAL			36.0 - 39.0	SEVERELY WEATHERED GRAY SANDSTONE										VISUAL		
		23.5 - 28.8	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE										VISUAL			39.0 - 49.0	GRAY SANDSTONE										VISUAL		
		28.8 - 33.8	GRAY SANDSTONE										VISUAL	C-117	183+57.1	0.0 - 0.6	TOPSOIL										VISUAL		
R-99A	175+32.2 24.4 ft. RT	0.0 - 0.3	TOPSOIL										VISUAL		192.0 ft. RT	0.6 - 13.5	BROWN SILT AND CLAY (A-6a)										VISUAL		
		0.3 - 1.0	DARK BROWN SANDY SILT (A-4a)										VISUAL			13.5 - 15.0	23	13	9	33	22	29	11	16	A-6a				
		1.0 - 2.5	14	13	23	36	14	19	3	15	A-4a			15.0 - 18.5	BROWN SILT AND CLAY (A-6a)										VISUAL				
		2.5 - 23.0	DARK BROWN SANDY SILT (A-4a)										VISUAL			18.5 - 21.0	BROWN CLAY (A-7-6)										VISUAL		
		23.0 - 25.0	SEVERELY WEATHERED SANDSTONE										VISUAL			21.0 - 23.5	BROWN SILT AND CLAY (A-6a)										VISUAL		
		25.0 - 26.5	GRAY AND BROWN SANDSTONE										VISUAL			23.5 - 25.0	GRAY CLAY (A-7-6)										VISUAL		
		26.5 - 35.0	GRAY SANDSTONE										VISUAL			25.0 - 30.0	0	0	1	25	74	44	23	36	A-7-6				
														30.0 - 37.5	GRAY SILT AND CLAY (A-6a)										VISUAL				
														37.5 - 42.5	GRAY SANDSTONE										VISUAL				

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class					
			SCI-823													SCI-823												
R-104	184+80.6 37.3 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL	R-107	194+85.7 32.6 ft. RT	0.0 - 0.3	TOPSOIL (VISUAL)									VISUAL			
		0.3 - 13.5	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			0.3 - 1.0	BROWN SILT AND CLAY (A-6a)									VISUAL			
		13.5 - 15.0	20	5	11	44	20	33	12	22	A-6a			1.0 - 2.5	4	5	16	46	29	28	11	19	A-6a					
		15.0 - 18.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			2.5 - 13.0	BROWN SILT AND CLAY (A-6a)									VISUAL			
		18.0 - 20.0	0	2	9	31	58	48	26	27	A-7-6			13.0 - 15.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE									VISUAL				
		20.0 - 20.5	GRAY CLAY (A-7-6)									VISUAL			15.0 - 30.0	GRAY SANDSTONE									VISUAL			
		20.5 - 30.0	GRAY SANDY SILT (A-4a)									VISUAL																
		30.0 - 44.0	GRAY SANDSTONE									VISUAL	R-109	198+85.5 3.9 ft. RT	0.0 - 0.5	TOPSOIL									VISUAL			
C-116	184+99.6 172.0 ft. LT	0.0 - 8.5	BROWN SANDY SILT (A-4a)									VISUAL			0.5 - 6.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			
		8.5 - 10.0	10	13	11	48	18	28	8	15	A-4a			6.0 - 9.0	SEVERELY WEATHERED DARK BROWN SANDSTONE									VISUAL				
		10.0 - 23.5	BROWN SANDY SILT (A-4a)									VISUAL			9.0 - 11.7	BROWN SANDSTONE									VISUAL			
		23.5 - 25.0	11	12	10	49	19	25	5	18	A-4a			11.7 - 20.0	GRAY SANDSTONE									VISUAL				
		25.0 - 28.5	BROWN SANDY SILT (A-4a)									VISUAL	R-2110	198+94.2 150.5 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			
		28.5 - 29.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL			0.3 - 5.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			
		29.0 - 34.0	GRAY SANDSTONE									VISUAL			5.0 - 5.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			
R-105	185+04.3 215.9 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			5.5 - 16.0	BROWN SANDSTONE									VISUAL			
		0.3 - 1.0	BROWN SILT (A-4b)									VISUAL			16.0 - 21.7	BROWNISH GRAY SANDSTONE									VISUAL			
		1.0 - 2.5	9	16	10	54	11	NP	NP	11	A-4b			21.7 - 100.5	GRAY SANDSTONE									VISUAL				
		2.5 - 3.5	BROWN SILT (A-4b)									VISUAL	R-108	198+95.5 46.1 ft. LT	0.0 - 0.8	TOPSOIL									VISUAL			
		3.5 - 5.0	SEVERELY WEATHERED SANDSTONE									VISUAL			0.8 - 1.0	REDDISH BROWN SANDY SILT (A-4a)									VISUAL			
		5.0 - 12.8	GRAY AND BROWN SANDSTONE									VISUAL			1.0 - 2.5	18	7	16	38	21	26	8	14	A-4a				
		12.8 - 20.0	GRAY SANDSTONE									VISUAL			2.5 - 5.0	REDDISH BROWN SANDY SILT (A-4a)									VISUAL			
R-103	185+41.0 317.0 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL			5.0 - 6.3	BROWN SANDSTONE									VISUAL			
		0.3 - 6.0	BROWN SILT (A-4b)									VISUAL			6.3 - 30.0	GRAY SANDSTONE									VISUAL*			
		6.0 - 7.5	1	2	7	65	25	27	10	18	A-4b	R-110	199+04.6 141.4 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL				
		7.5 - 10.5	BROWN SILT (A-4b)									VISUAL			0.3 - 4.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			
		10.5 - 11.0	BROWN AND GRAY SILT (A-4b)									VISUAL			4.0 - 5.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			
		11.0 - 12.5	1	13	12	58	16	NP	NP	14	A-4b			5.5 - 6.6	GRAY AND BROWN SHALE									VISUAL				
		12.5 - 21.0	BROWN AND GRAY SILT (A-4b)									VISUAL			6.6 - 20.2	GRAY AND BROWN SANDSTONE									VISUAL			
		21.0 - 21.5	SEVERELY WEATHERED GRAYISH BROWN SANDSTONE									VISUAL			20.2 - 40.0	GRAY SANDSTONE									VISUAL			
		21.5 - 22.9	GRAY AND BROWN SANDSTONE									VISUAL																
		22.9 - 31.5	GRAY SANDSTONE									VISUAL	PB-17	200+66.8 375.8 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			
R-106	188+85.1 50.5 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			0.3 - 8.5	SEVERELY WEATHERED BROWN SHALE									VISUAL			
		0.3 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL			8.5 - 19.0	SEVERELY WEATHERED GRAY SHALE									VISUAL			
		5.5 - 6.0	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			19.0 - 21.6	GRAY TO DARK GRAY SHALE									VISUAL			
		6.0 - 7.5	9	4	8	55	24	32	14	20	A-6a			21.6 - 27.1	LIGHT GRAY SHALE									VISUAL				
		7.5 - 8.5	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			27.1 - 28.8	GRAY AND LIGHT GRAY SANDSTONE									VISUAL			
		8.5 - 10.0	0	4	9	64	23	31	12	20	A-6a			28.8 - 36.8	GRAY SHALE									VISUAL				
		10.0 - 10.5	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			36.8 - 48.0	GRAY TO DARK GRAY SHALE									VISUAL			
		10.5 - 15.0	BROWN SANDY SILT (A-4a)									VISUAL			48.0 - 50.6	LIGHT GRAY AND BROWN SILTSTONE									VISUAL			
		15.0 - 17.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			50.6 - 57.5	DARK GRAY TO BLACK SHALE									VISUAL			
		17.0 - 21.2	GRAY AND BROWN SANDSTONE									VISUAL			57.5 - 59.3	BLACK COAL									VISUAL			
		21.2 - 30.0	GRAY SANDSTONE									VISUAL			59.3 - 68.4	DARK GRAY SHALE									VISUAL			
R-106A	191+91.1 71.3 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			68.4 - 118.0	GRAY AND LIGHT GRAY SANDSTONE									VISUAL			
		0.3 - 8.0	BROWN SANDY SILT (A-4a)									VISUAL			118.0 - 269.3	LIGHT GRAY SANDSTONE									VISUAL			
		8.0 - 13.0	BROWN SANDSTONE									VISUAL																
		13.0 - 30.0	GRAY SANDSTONE									VISUAL																

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class		
			SCI-823												SCI-823										
R-2111	203+89.1 3.8 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL	C-96	209+28.6 43.6 ft. RT	0.0 - 0.5	TOPSOIL									VISUAL
		0.2 - 2.5	BROWN SILT AND CLAY (A-6a)									VISUAL			0.5 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL
		2.5 - 4.0	1	5	22	40	32	25	11	14	A-6a			3.5 - 5.0	27	17	19	25	12	23	4	12	A-4a		
		4.0 - 7.5	BROWN SILT AND CLAY (A-6a)									VISUAL			5.0 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL
		7.5 - 9.0	BROWN CLAY (A-7-6)									VISUAL			5.5 - 8.5	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		9.0 - 11.6	3	8	7	30	52	44	23	12	A-7-6			8.5 - 9.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL	
		11.6 - 13.8	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			9.5 - 13.2	BROWN SANDSTONE									VISUAL
		13.8 - 20.6	BROWN SANDSTONE									VISUAL			13.2 - 14.5	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE									VISUAL
		20.6 - 60.0	GRAY SANDSTONE									VISUAL													
		60.0 - 69.7	DARK GRAY SANDSTONE									VISUAL													
		69.7 - 100.6	GRAY SANDSTONE									VISUAL*	R-116	209+68.7 41.2 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
R-111	204+01.7 5.7 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			0.3 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL
		0.3 - 1.0	BROWN SILT AND CLAY (A-6a)									VISUAL			3.5 - 5.0	7	21	29	30	13	NP	NP	14	A-4a	
		1.0 - 2.5	5	6	13	47	29	31	14	18	A-6a			5.0 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL	
		2.5 - 3.0	BROWN SILT AND CLAY (A-6a)									VISUAL			5.5 - 13.0	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		3.0 - 6.0	LIGHT BROWN CLAY (A-7-6)									VISUAL			13.0 - 15.5	GRAY SANDSTONE									VISUAL
		6.0 - 7.5	1	3	3	23	70	53	30	19	A-7-6			15.5 - 20.0	GRAY AND BROWN SANDSTONE									VISUAL	
		7.5 - 9.0	LIGHT BROWN CLAY (A-7-6)									VISUAL			20.0 - 30.0	GRAY SANDSTONE									VISUAL
		9.0 - 12.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL													
		12.5 - 13.8	BROWN SANDSTONE									VISUAL	R-117	209+68.8 304.6 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		13.8 - 60.5	GRAY SANDSTONE									VISUAL			0.3 - 5.5	DARK BROWN SANDY SILT (A-4a)									VISUAL
R-114	205+82.1 62.6 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			5.5 - 9.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		0.3 - 1.0	DARK BROWN SILT (A-4b)									VISUAL			9.0 - 12.1	BROWN AND GRAY SANDSTONE									VISUAL
		1.0 - 2.5	8	8	7	54	23	26	6	23	A-4b			12.1 - 30.5	GRAY SANDSTONE									VISUAL	
		2.5 - 6.0	DARK BROWN SILT (A-4b)									VISUAL													
		6.0 - 7.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL													
		7.5 - 12.5	BROWN SANDSTONE									VISUAL													
		12.5 - 25.0	GRAY SANDSTONE									VISUAL	C-97	210+04.6 252.0 ft. RT	0.0 - 0.6	TOPSOIL									VISUAL
R-112	205+84.3 118.9 ft. LT	0.0 - 0.3	TOPSOIL (VISUAL)									VISUAL			0.6 - 3.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		0.3 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL			3.5 - 5.0	35	16	14	24	11	22	3	11	A-2-4	
		3.5 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			5.0 - 5.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		5.0 - 20.0	BROWN AND GRAY SANDSTONE									VISUAL			5.5 - 15.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
														15.5 - 19.4	GRAY SILT (A-4b)									VISUAL	
														19.4 - 24.4	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE									VISUAL	
R-2112	205+94.6 125.6 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL	R-2116	212+46.0 174.8 ft. LT	0.0 - 0.9	TOPSOIL									VISUAL
		0.3 - 4.0	BROWN SILT AND CLAY (A-6a)									VISUAL			0.9 - 5.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		4.0 - 5.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			5.0 - 6.0	29	13	7	39	12	25	6	12	A-4a	
		5.5 - 16.3	BROWN SANDSTONE									VISUAL			5.5 - 6.7	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL
		16.3 - 80.0	GRAY SANDSTONE									VISUAL			6.7 - 15.5	GRAY SANDSTONE									VISUAL
R-115	208+61.9 255.4 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL	R-120	212+84.2 38.7 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 10.5	ORANGE SANDY SILT (A-4a)									VISUAL			0.3 - 5.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		10.5 - 13.0	GRAY SILT AND CLAY (A-6a)									VISUAL			5.5 - 15.0	BROWN SANDSTONE									VISUAL*
		13.0 - 15.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL													
		15.0 - 20.3	GRAY SANDSTONE									VISUAL	R-121	216+91.4 28.0 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
														0.2 - 3.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL	
														3.0 - 5.5	SEVERELY WEATHERED GRAY AND LIGHT BROWN SANDSTONE									VISUAL	
														5.5 - 26.5	GRAY AND RED SILTSTONE INTERBEDDED WITH SANDSTONE									VISUAL	
														26.5 - 50.0	GRAY SANDSTONE									VISUAL*	

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class					
			SCI-823													SCI-823												
R-121A	219+91.4 61.4 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL	R-127	230+97.3 92.5 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL			
		0.3 - 3.0	BROWN SILT AND CLAY (A-6a)									VISUAL			0.3 - 6.0	BROWN SANDY SILT (A-4a)									VISUAL			
		3.0 - 13.0	BROWN SANDSTONE									VISUAL			6.0 - 10.0	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE									VISUAL			
		13.0 - 15.4	DARK GRAY CLAYSTONE									VISUAL			10.0 - 13.1	GRAY AND BROWN SANDSTONE									VISUAL			
		15.4 - 23.0	BROWN AND GRAY SANDSTONE INTERBEDDED WITH SHALE									VISUAL			13.1 - 20.0	GRAY SANDSTONE									VISUAL			
		23.0 - 29.0	DARK GRAY SHALE									VISUAL	R-131	235+49.3 230.1 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			
		29.0 - 33.0	GRAY SANDSTONE									VISUAL			0.3 - 3.0	BROWN SANDY SILT (A-4a)									VISUAL			
		33.0 - 41.4	GRAY SHALE									VISUAL			3.0 - 5.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			
		41.4 - 60.0	GRAY SILTSTONE									VISUAL			5.5 - 16.5	BROWN SANDSTONE									VISUAL			
		60.0 - 61.9	GRAY AND BROWN SILTSTONE									VISUAL			16.5 - 20.0	GRAY SANDSTONE									VISUAL			
		61.9 - 90.0	GRAY SANDSTONE									VISUAL																
R-122	222+99.5 9.0 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL	R-130	235+85.6 7.1 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			
		0.2 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL			0.3 - 5.0	SEVERELY WEATHERED BROWN SILTSTONE									VISUAL			
		3.5 - 7.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			5.0 - 13.2	GRAY AND BROWN SANDSTONE									VISUAL			
		7.5 - 13.0	BROWN AND GRAY SANDSTONE									VISUAL			13.2 - 20.0	GRAY SANDSTONE									VISUAL			
		13.0 - 27.9	DARK GRAY SHALE									VISUAL	R-129	236+03.9 104.6 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL			
		27.9 - 30.0	BROWN SANDSTONE INTERBEDDED WITH SHAL									VISUAL			0.2 - 3.0	BROWN SANDY SILT (A-4a)									VISUAL			
		30.0 - 34.0	BROWN SANDSTONE									VISUAL			3.0 - 7.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			
		34.0 - 58.7	DARK GRAY SHALE									VISUAL			7.0 - 11.2	GRAY AND BROWN SANDSTONE									VISUAL			
		58.7 - 81.2	GRAY AND RED SILTSTONE									VISUAL*			11.2 - 21.5	GRAY SANDSTONE									VISUAL			
		81.2 - 120.0	GRAY SANDSTONE									VISUAL																
R-123	226+93.5 68.4 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL	C-119	238+19.5 467.4 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			
		0.3 - 3.0	BROWN SILT (A-4b)									VISUAL			0.3 - 6.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL			
		3.0 - 6.0	BROWN SILTY CLAY (A-6b)									VISUAL			6.0 - 7.3	BROWN SILT (A-4b)									VISUAL			
		6.0 - 7.5	14	3	13	42	28	35	18	12	A-6b			7.3 - 12.3	BROWN SANDSTONE									VISUAL				
		7.5 - 10.5	BROWN SILTY CLAY (A-6b)									VISUAL	R-134	239+34.2 343.6 ft. RT	0.0 - 1.0	TOPSOIL									VISUAL			
		10.5 - 16.0	SEVERELY WEATHERED BROWN AND GRAY SHALE									VISUAL			1.0 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL			
		16.0 - 26.0	GRAY AND BROWN SANDSTONE									VISUAL			5.5 - 6.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			
														6.5 - 8.6	GRAY AND BROWN SANDSTONE									VISUAL				
														8.6 - 30.0	GRAY SANDSTONE									VISUAL				
R-125	226+94.5 105.0 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL	C-118	239+61.2 433.1 ft. LT	0.0 - 1.0	SAND AND GRAVEL									VISUAL			
		0.3 - 8.0	BROWN SILTY CLAY (A-6b)									VISUAL			1.0 - 2.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			
		8.0 - 19.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			2.0 - 7.0	GRAY SANDSTONE									VISUAL			
		19.0 - 19.6	BROWN AND GRAY SANDSTONE									VISUAL	R-132	239+86.4 314.0 ft. LT	0.0 - 0.2	TOPSOIL									VISUAL			
		19.6 - 21.2	BROWN AND RED SILTSTONE									VISUAL			0.2 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL			
		21.2 - 55.0	GRAY SANDSTONE									VISUAL			5.5 - 8.5	GRAY AND BROWN SANDSTONE									VISUAL			
														8.5 - 30.0	GRAY SANDSTONE									VISUAL				
R-126	230+51.4 286.0 ft. LT	0.0 - 0.2	TOPSOIL									VISUAL	R-133	239+96.6 1.5 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL			
		0.2 - 5.0	BROWN SANDY SILT (A-4a)									VISUAL			0.2 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL			
		5.0 - 6.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			5.5 - 7.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE									VISUAL			
		6.5 - 15.0	GRAY SANDSTONE INTERBEDDED WITH SHALE									VISUAL			7.0 - 8.3	GRAY AND BROWN SANDSTONE									VISUAL			
		15.0 - 20.0	GRAY SANDSTONE									VISUAL			8.3 - 30.0	GRAY SANDSTONE									VISUAL			
R-128	230+74.1 130.6 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL																
		0.2 - 3.0	BROWN SILT AND CLAY (A-6a)									VISUAL																
		3.0 - 5.0	SEVERELY WEATHERED BROWN AND GRAY CLAYSTONE									VISUAL																
		5.0 - 14.1	BROWN SANDSTONE									VISUAL																
		14.1 - 25.0	GRAY SANDSTONE									VISUAL																

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class					
			SCI-823													SCI-823												
R-135	243+71.4 216.6 ft. LT	0.0 - 0.3 0.3 - 3.0 3.0 - 5.5 5.5 - 14.7 14.7 - 20.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE BROWN SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL	R-144	259+85.0 148.2 ft. LT	0.0 - 3.0 3.0 - 7.0 7.0 - 18.8 18.8 - 23.6 23.6 - 25.2 25.2 - 30.0 30.0 - 35.3 35.3 - 80.0	BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN AND GRAY SANDSTONE BROWN SANDSTONE GRAY SANDSTONE DARK GRAY AND BLACK CLAYSTONE GRAY AND BLACK SHALE GRAY SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
R-137	243+94.3 103.9 ft. RT	0.0 - 0.3 0.3 - 5.0 5.0 - 7.5 7.5 - 16.8 16.8 - 20.0	TOPSOIL BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL	R-145	260+14.3 158.4 ft. RT	0.0 - 5.5 5.5 - 6.0 6.0 - 7.5 7.5 - 8.0 8.0 - 8.5 8.5 - 10.0 10.0 - 13.0 13.0 - 13.5 13.5 - 60.0	DARK BROWN SANDY SILT (A-4a) DARK BROWN CLAY (A-7-6) 1 8 28 29 34 56 32 19 DARK BROWN CLAY (A-7-6) BROWN AND GRAY SILTY CLAY (A-6b) 0 5 7 27 61 36 19 19 BROWN AND GRAY SILTY CLAY (A-6b) SEVERELY WEATHERED GRAY SANDSTONE GRAY SANDSTONE									VISUAL VISUAL A-7-6 VISUAL VISUAL A-6b VISUAL VISUAL VISUAL			
R-136	243+98.7 76.5 ft. LT	0.0 - 0.3 0.3 - 5.0 5.0 - 6.3 6.3 - 20.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN SANDSTONE BROWN AND GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL	R-145A	263+43.1 175.4 ft. LT	0.0 - 0.3 0.3 - 3.0 3.0 - 6.0 6.0 - 7.5 7.5 - 8.0 8.0 - 8.5 8.5 - 10.0 10.0 - 12.5 12.5 - 23.7 23.7 - 41.4 41.4 - 43.4 43.4 - 52.9 52.9 - 64.1 64.1 - 72.3 72.3 - 115.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN SILTY CLAY (A-6b) 0 7 6 52 35 37 16 12 BROWN SILTY CLAY (A-6b) GRAY SILT AND CLAY (A-6a) 1 11 7 51 30 31 12 11 SEVERELY WEATHERED GRAY SHALE GRAY AND BROWN SHALE GRAY SHALE GRAY SANDSTONE BROWN SANDSTONE GRAY SHALE DARK GRAY TO BLACK SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL A-6b VISUAL VISUAL A-6a VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
R-138	247+87.7 10.4 ft. RT	0.0 - 2.0 2.0 - 5.5 5.5 - 12.4 12.4 - 20.0	BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL	R-147	266+41.3 183.1 ft. RT	0.0 - 5.0 5.0 - 7.5 7.5 - 19.9 19.9 - 28.5 28.5 - 32.3 32.3 - 48.2 48.2 - 90.0	BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN SHALE BROWN SHALE GRAY SHALE GRAY SANDSTONE, INTERBEDDED WITH SHALE GRAY TO BLACK SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
R-140	251+91.3 92.5 ft. RT	0.0 - 0.6 0.6 - 3.0 3.0 - 4.0 4.0 - 9.6 9.6 - 40.0	TOPSOIL BROWN AND GRAY SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL	R-146	266+62.3 205.4 ft. LT	0.0 - 5.0 5.0 - 7.5 7.5 - 13.0 13.0 - 20.4 20.4 - 55.1 55.1 - 62.3 62.3 - 68.3 68.3 - 115.0	BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED GRAY AND BROWN SHALE BROWN SANDSTONE INTERBEDDED WITH SHALE GRAY SANDSTONE INTERBEDDED WITH SHALE GRAY SANDSTONE BROWN SANDSTONE VERY WEATHERED BLACK SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL			
R-139	251+91.9 143.0 ft. LT	0.0 - 0.2 0.2 - 2.5 2.5 - 5.0 5.0 - 21.7 21.7 - 23.6 23.6 - 27.4 27.4 - 30.0 30.0 - 50.0	TOPSOIL BROWN SANDY SILT (A-4a) GRAY SANDSTONE GRAY AND BROWN SANDSTONE SHALE GRAY SANDSTONE BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL																
R-141	255+69.2 122.9 ft. LT	0.0 - 5.5 5.5 - 24.9 24.9 - 55.0	BROWN SANDY SILT (A-4a) BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL																
R-143	256+05.6 189.8 ft. RT	0.0 - 0.4 0.4 - 8.0 8.0 - 19.5 19.5 - 28.3 28.3 - 28.9 28.9 - 48.4 48.4 - 100.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN AND GRAY COARSE AND FINE SAND (A-3a) BROWN SANDSTONE BROWN SHALE GRAY TO BLACK SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL																

SOIL PROFILE

SCI-823-0.00



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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
R-148	270+53.0 112.3 ft. LT	0.0 - 0.3 0.3 - 8.0 8.0 - 24.5 24.5 - 65.0	TOPSOIL BROWN SILT AND CLAY (A-6a) BROWN AND GRAY CLAY (A-7-6) GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL	R-156	285+89.0 293.9 ft. RT	0.0 - 0.3 0.3 - 1.0 1.0 - 2.5 2.5 - 3.5 3.5 - 5.0 5.0 - 5.5 5.5 - 6.0 6.0 - 7.5 7.5 - 13.5 13.5 - 17.0 17.0 - 20.0 20.0 - 30.0 30.0 - 38.5 38.5 - 64.5 64.5 - 74.2 74.2 - 120.0	TOPSOIL REDDISH BROWN CLAY (A-7-6) 0 4 5 37 54 54 31 20 REDDISH BROWN CLAY (A-7-6) 2 8 7 41 42 43 21 21 REDDISH BROWN CLAY (A-7-6) BROWN SILT AND CLAY (A-6a) 3 7 6 49 35 34 14 14 BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED DARK BROWN SANDSTONE SEV. WEATHERED GRAY SANDSTONE INTERB. WITH SHALE TAN SANDSTONE LIGHT GRAY SANDSTONE DARK GRAY TO BLACK SHALE LIGHT GRAY SILTSTONE LIGHT AND DARK GRAY SANDSTONE									VISUAL VISUAL A-7-6 VISUAL A-7-6 VISUAL VISUAL A-6a VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL				
R-149	270+86.6 45.0 ft. RT	0.0 - 0.2 0.2 - 7.5 7.5 - 18.2 18.2 - 20.0	TOPSOIL BROWN AND GRAY SILT AND CLAY (A-6a) GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL	R-2154	286+03.1 117.5 ft. LT	0.0 - 0.8 0.8 - 5.0 5.0 - 17.5 17.5 - 27.1 27.1 - 30.0 30.0 - 45.0	TOPSOIL SEVERELY WEATHERED BROWN SANDSTONE GRAYISH BROWN SANDSTONE GRAY SANDSTONE BROWN AND GRAY SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL				
R-152	274+93.1 175.7 ft. RT	0.0 - 0.3 0.3 - 3.5 3.5 - 7.5 7.5 - 11.9 11.9 - 14.8 14.8 - 35.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE BROWN SHALE GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL	R-154	286+20.8 25.0 ft. RT	0.0 - 0.3 0.3 - 8.0 8.0 - 17.5 17.5 - 20.6 20.6 - 75.0	TOPSOIL BROWN AND GRAY SILTY CLAY (A-6b) SEVERELY WEATHERED GRAY AND BROWN SHALE GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL*				
R-150	274+98.0 115.8 ft. LT	0.0 - 0.2 0.2 - 5.5 5.5 - 8.0 8.0 - 10.5 10.5 - 16.3 16.3 - 23.5 23.5 - 40.3 40.3 - 85.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN AND GRAY CLAY (A-7-6) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE BROWN SANDSTONE BLACK AND GRAY SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL	C-25	288+76.4 421.8 ft. LT	0.0 - 1.0 1.0 - 2.5 2.5 - 3.5 3.5 - 5.0 5.0 - 5.5 5.5 - 8.5 8.5 - 10.0 10.0 - 13.0 13.0 - 16.5 16.5 - 36.5	BROWN SANDY SILT (A-4a) 37 13 13 26 11 25 6 12 BROWN SANDY SILT (A-4a) 3 12 9 61 15 25 4 17 BROWN SILT (A-4b) GRAYISH BROWN GRAVEL WITH SAND (A-1-b) 62 10 9 19 NP NP 17 GRAYISH BROWN GRAVEL WITH SAND (A-1-b) SEVERELY WEATHERED BROWN SANDSTONE GRAY SANDSTONE									VISUAL A-4a VISUAL A-4b VISUAL A-1-b VISUAL VISUAL VISUAL VISUAL				
R-152A	278+68.2 19.5 ft. LT	0.0 - 0.3 0.3 - 5.5 5.5 - 7.5 7.5 - 20.5 20.5 - 48.4 48.4 - 63.0 63.0 - 100.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE BROWN SHALE BROWN SANDSTONE DARK GRAY SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL*	R-159	291+62.5 220.4 ft. RT	0.0 - 0.6 0.6 - 12.5 12.5 - 17.6 17.6 - 22.5	TOPSOIL BROWN SANDY SILT (A-4a) GRAY AND BROWN SANDSTONE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL				
R-153	282+05.8 76.5 ft. RT	0.0 - 8.0 8.0 - 11.5 11.5 - 13.0 13.0 - 41.9 41.9 - 43.5 43.5 - 44.8 44.8 - 45.7 45.7 - 57.0 57.0 - 63.0 63.0 - 74.9 74.9 - 85.1 85.1 - 93.8 93.8 - 95.0 95.0 - 125.0	BROWN AND GRAY SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN AND GRAY SHALE BROWN AND GRAY SHALE BLACK AND BROWN SHALE BROWN SANDSTONE GRAY SHALE BROWN SANDSTONE GRAY SANDSTONE BLACK SHALE DARK GRAY TO BLACK SHALE GRAY SHALE GRAY SANDSTONE SHALE GRAY SANDSTONE									VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL	R-158	291+67.6 16.2 ft. RT	0.0 - 0.3 0.3 - 5.5 5.5 - 10.0 10.0 - 20.0	TOPSOIL (VISUAL) BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE									VISUAL VISUAL VISUAL VISUAL				

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SOIL PROFILE

SCI-823-0.00

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
 * DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class		
			SCI-823													SCI-823									
R-2157	291+72.6 439.2 ft. LT	0.0 - 0.1	TOPSOIL										C-27	298+04.2 472.7 ft. LT	0.0 - 1.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									
		0.1 - 6.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												1.0 - 2.5	20	28	17	30	5	NP	NP	12	A-2-4	
		6.0 - 7.5	23	31	14	23	9	NP	NP	11	A-2-4			2.5 - 3.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)										
		7.5 - 8.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												3.5 - 6.0	BROWN SANDY SILT (A-4a)									
		8.0 - 8.5	GRAYISH BROWN SANDY SILT (A-4a)												6.0 - 7.5	9	26	16	42	7	NP	NP	12	A-4a	
		8.5 - 10.0	9	16	19	45	11	21	2	18	A-4a			7.5 - 11.0	BROWN SANDY SILT (A-4a)										
		10.0 - 11.0	GRAYISH BROWN SANDY SILT (A-4a)												11.0 - 12.5	BROWN SANDY SILT (A-4a)									
		11.0 - 12.5	16	32	13	31	8	NP	NP	12	A-4a			12.5 - 13.0	21	20	11	40	8	23	3	13	A-4a		
		12.5 - 13.0	GRAYISH BROWN SANDY SILT (A-4a)												13.0 - 14.5	SEVERELY WEATHERED DARK GRAY SANDSTONE									
		13.0 - 18.0	GRAYISH BROWN GRAVEL WITH SAND AND SILT (A-2-4)												14.5 - 34.5	GRAY SANDSTONE									
		18.0 - 19.0	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE																						
		19.0 - 29.0	GRAY SANDSTONE										R-163	299+65.8 177.9 ft. LT	0.0 - 0.3	TOPSOIL									
R-157	292+37.8 273.7 ft. LT	0.0 - 0.3	TOPSOIL												0.3 - 8.5	BROWN AND GRAY SANDY SILT (A-4a)									
		0.3 - 8.5	BROWN GRAVEL WITH SAND (A-1-b)												8.5 - 10.0	12	19	26	34	9	NP	NP	13	A-4a	
		8.5 - 10.0	60	7	10	23	NP	NP	9	A-1-b			10.0 - 18.5	BROWN AND GRAY SANDY SILT (A-4a)											
		10.0 - 10.5	BROWN GRAVEL WITH SAND (A-1-b)												18.5 - 20.5	SEVERELY WEATHERED GRAY SANDSTONE									
		10.5 - 13.0	BROWN SILT (A-4b)												20.5 - 30.5	GRAY SANDSTONE									
		13.0 - 15.5	BROWN SANDY SILT (A-4a)										R-2165	299+76.9 350.2 ft. LT	0.0 - 0.3	TOPSOIL									
		15.5 - 17.5	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE												0.3 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									
		17.5 - 19.0	BROWN AND GRAY SANDSTONE												5.0 - 11.1	BROWN SANDSTONE									
		19.0 - 22.5	GRAY SANDSTONE												11.1 - 20.0	GRAY SANDSTONE									
R-162	295+52.6 311.8 ft. RT	0.0 - 4.0	BROWN SILT (A-4b)										R-165	299+84.7 435.6 ft. RT	0.0 - 0.3	TOPSOIL									
		4.0 - 7.0	SEVERELY WEATHERED BROWN SANDSTONE												0.3 - 3.0	BROWN SANDY SILT (A-4a)									
		7.0 - 24.0	BROWN SANDSTONE												3.0 - 11.3	SEVERELY WEATHERED GRAYISH BROWN SANDSTONE									
		24.0 - 33.6	DARK GRAY SANDSTONE												11.3 - 16.6	GRAY AND BROWN SANDSTONE									
		33.6 - 38.2	GRAY SHALE												16.6 - 20.0	GRAY SANDSTONE									
		38.2 - 55.0	GRAY AND BROWN SANDSTONE																						
R-2160	295+62.8 372.4 ft. LT	0.0 - 0.2	TOPSOIL										R-164	300+08.2 146.8 ft. RT	0.0 - 1.0	TOPSOIL									
		0.2 - 8.0	SEVERELY WEATHERED BROWN SANDSTONE												1.0 - 10.5	BROWN SANDY SILT (A-4a)									
		8.0 - 20.0	VERY WEATHERED GRAY SANDSTONE												10.5 - 13.0	GRAY SILTY CLAY (A-6b)									
R-161	295+68.4 122.1 ft. RT	0.0 - 0.3	TOPSOIL												13.0 - 13.5	BROWN AND GRAY SANDY SILT (A-4a)									
		0.3 - 5.5	BROWN AND GRAY SILT AND CLAY (A-6a)												13.5 - 15.0	3	15	28	45	9	NP	NP	14	A-4a	
		5.5 - 10.0	SEVERELY WEATHERED BROWN SANDSTONE												15.0 - 19.0	BROWN AND GRAY SANDY SILT (A-4a)									
		10.0 - 15.0	GRAY AND BROWN SANDSTONE												19.0 - 20.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE									
		15.0 - 20.0	GRAY SANDSTONE												20.0 - 21.3	BROWN SANDSTONE									
															21.3 - 30.0	GRAY SANDSTONE									
R-160	295+71.6 121.5 ft. LT	0.0 - 0.2	TOPSOIL										C-28	301+22.3 9.5 ft. RT	0.0 - 0.2	TOPSOIL									
		0.2 - 6.0	BROWN SANDY SILT (A-4a)												0.2 - 1.0	BROWN GRAVEL WITH SAND (A-1-b)									
		6.0 - 7.5	11	21	26	30	12	NP	NP	9	A-4a			1.0 - 2.5	54	11	14	21	NP	NP	12	A-1-b			
		7.5 - 13.0	BROWN SANDY SILT (A-4a)												2.5 - 5.5	BROWN GRAVEL WITH SAND (A-1-b)									
		13.0 - 13.5	GRAY GRAVEL WITH SAND (A-1-b)												5.5 - 6.0	GRAYISH BROWN SILT (A-4b)									
		13.5 - 15.0	54	12	13	21	NP	NP	12	A-1-b			6.0 - 7.5	0	2	20	64	14	23	3	21	A-4b			
		15.0 - 18.0	GRAY GRAVEL WITH SAND (A-1-b)												7.5 - 15.5	GRAYISH BROWN SILT (A-4b)									
		18.0 - 20.5	GRAY SILT AND CLAY (A-6a)												15.5 - 35.5	GRAY SANDSTONE									
		20.5 - 30.0	GRAY SANDSTONE										R-2168	302+46.9 253.1 ft. LT	0.0 - 0.2	TOPSOIL									
															0.2 - 1.0	BROWN SANDY SILT (A-4a)									
															1.0 - 2.5	35	17	7	33	8	22	4	12	A-4a	
															2.5 - 5.0	BROWN SANDY SILT (A-4a)									
															5.0 - 20.0	BROWN SANDSTONE									



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
			SCI-823									
R-167	302+63.9 232.4 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL
		5.5 - 6.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		6.0 - 7.5	0	1	9	71	20	28	8	21	A-4b	
		7.5 - 8.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		8.0 - 13.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		13.0 - 13.5	GRAY SILT (A-4b)									VISUAL
		13.5 - 15.0	9	7	9	61	14	22	1	19	A-4b	
		15.0 - 15.5	GRAY SILT (A-4b)									VISUAL
		15.5 - 20.5	BROWN SANDY SILT (A-4a)									VISUAL
		20.5 - 22.6	GRAY TO BROWN SANDSTONE									VISUAL
		22.6 - 30.0	GRAY SANDSTONE									VISUAL
R-168	302+66.0 615.4 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 5.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		5.5 - 13.0	BROWN SANDY SILT (A-4a)									VISUAL
		13.0 - 20.5	GRAY SILT (A-4b)									VISUAL
		20.5 - 21.5	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL
		21.5 - 30.5	GRAY SANDSTONE									VISUAL
R-166	302+85.4 47.1 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		6.0 - 7.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		7.0 - 10.7	GRAY AND BROWN SANDSTONE									VISUAL
		10.7 - 30.0	GRAY SANDSTONE									VISUAL
C-29	304+68.4 482.5 ft. RT	0.0 - 1.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		1.0 - 2.5	32	17	22	24	5	NP	NP	12	A-2-4	
		2.5 - 5.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		5.5 - 6.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		6.0 - 7.5	4	3	6	67	20	22	4	19	A-4b	
		7.5 - 8.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		8.0 - 13.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		13.0 - 33.0	GRAY SANDSTONE									VISUAL
R-172	306+32.2 647.2 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 1.0	BROWN SANDY SILT (A-4a)									VISUAL
		1.0 - 2.5	26	11	7	40	16	27	7	13	A-4a	
		2.5 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL
		5.5 - 7.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE									VISUAL
		7.0 - 13.0	BROWN SANDSTONE									VISUAL
		13.0 - 20.0	GRAY SANDSTONE									VISUAL
R-171	306+41.8 398.7 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 18.0	BROWN AND GRAY SANDSTONE									VISUAL
		18.0 - 20.0	GRAY SANDSTONE									VISUAL
R-169	306+94.8 116.0 ft. RT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 5.5	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		5.5 - 7.0	BROWN GRAY AND BLACK SILTY CLAY (A-6b)									VISUAL
		7.0 - 16.2	BROWN AND GRAY SANDSTONE									VISUAL
		16.2 - 40.0	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
			SCI-823									
R-2169	307+10.1 146.4 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 3.0	GRAY SILT (A-4b)									VISUAL
		3.0 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 7.5	LIGHT BROWN SANDSTONE									VISUAL
		7.5 - 24.0	LIGHT BROWN TO GRAY SANDSTONE									VISUAL
		24.0 - 27.9	BROWN TO GRAY SANDSTONE									VISUAL
		27.9 - 80.0	GRAY SANDSTONE									VISUAL
R-2174	308+355.4 167.2 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 5.0	WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 13.4	GRAY SANDSTONE									VISUAL
		13.4 - 25.0	BROWN AND GRAY SANDSTONE									VISUAL
		25.0 - 70.0	GRAY SANDSTONE									VISUAL
R-175	308+55.3 525.3 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 6.0	BROWN SANDY SILT (A-4a)									VISUAL
		6.0 - 8.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		8.0 - 17.3	BROWN SANDSTONE									VISUAL
		17.3 - 20.0	GRAY SANDSTONE									VISUAL
R-174	308+61.6 410.4 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 8.0	BROWN SANDY SILT (A-4a)									VISUAL
		8.0 - 17.5	SEVERELY WEATHERED GRAYISH BROWN SANDSTONE									VISUAL
		17.5 - 23.9	BROWN SANDSTONE									VISUAL
		23.9 - 27.5	GRAY SANDSTONE									VISUAL
R-173	308+74.9 173.1 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 6.0	BROWN SANDY SILT (A-4a)									VISUAL
		6.0 - 11.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		11.0 - 21.0	GRAY AND BROWN SANDSTONE									VISUAL
R-178	310+11.3 568.7 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 3.0	BROWN SANDY SILT (A-4a)									VISUAL
		3.0 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 7.1	GRAY AND BROWN SANDSTONE									VISUAL
		7.1 - 20.0	GRAY SANDSTONE									VISUAL
C-30	310+59.3 433.3 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 1.0	BROWN SANDY SILT (A-4a)									VISUAL
		1.0 - 2.5	16	15	15	42	12	NP	NP	1	A-4a	
		2.5 - 4.0	BROWN SANDY SILT (A-4a)									VISUAL
		4.0 - 24.0	GRAY SANDSTONE									VISUAL
R-177	310+79.1 269.6 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 8.5	BROWN SANDY SILT (A-4a)									VISUAL
		8.5 - 11.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		11.0 - 12.5	2	11	23	51	13	NP	NP	11	A-4b	
		12.5 - 14.0	BROWN AND GRAY SILT (A-4b)									VISUAL
		14.0 - 20.0	GRAY AND BROWN SANDSTONE									VISUAL



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class						
			SCI-823													SCI-823													
TP-R-176	311+22.0 18.3 ft. RT	0.0 - 0.4 0.4 - 4.0 4.0 - 11.0 11.0 - 12.0	TOPSOIL BROWN GRAVEL WITH SAND AND SILT (A-2-4) BROWN SANDSTONE BROWN SANDSTONE										VISUAL VISUAL VISUAL VISUAL	R-2184	318+74.1 247.4 ft. LT	0.0 - 0.2 0.2 - 1.0 1.0 - 2.5 2.5 - 3.5 3.5 - 5.0 5.0 - 12.5 12.5 - 22.5	TOPSOIL BROWN CLAY (A-7-6) 1 1 6 28 64 47 25 23 BROWN CLAY (A-7-6) 7 15 33 29 16 24 8 9 BROWN SANDY SILT (A-4a) GRAY SANDSTONE										VISUAL VISUAL A-7-6 VISUAL A-4a VISUAL VISUAL		
R-2176	311+92.6 5.1 ft. LT	0.0 - 0.3 0.3 - 3.5 3.5 - 6.0 6.0 - 7.5 7.5 - 11.5 11.5 - 14.0 14.0 - 24.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN SILT AND CLAY (A-6a) 2 5 22 53 18 27 5 24 BROWN SILT (A-4b) SEVERELY WEATHERED GRAY SANDSTONE GRAY SANDSTONE										VISUAL VISUAL VISUAL A-4b VISUAL VISUAL VISUAL	R-182	319+23.5 118.7 ft. RT	0.0 - 1.0 1.0 - 3.5 3.5 - 5.0 5.0 - 8.0 8.0 - 14.0 14.0 - 20.0	TOPSOIL BROWN AND GRAY GRAVEL WITH SAND AND SILT (A-2-4) 63 2 6 19 10 NP NP 14 BROWN AND GRAY GRAVEL WITH SAND AND SILT (A-2-4) SEVERELY WEATHERED BROWN SANDSTONE BROWN AND GRAY SANDSTONE										VISUAL VISUAL A-2-4 VISUAL VISUAL VISUAL		
C-31	313+03.2 361.3 ft. LT	0.0 - 0.1 0.1 - 1.6 1.6 - 3.0 3.0 - 6.0 6.0 - 7.5 7.5 - 13.0 13.0 - 14.0 14.0 - 34.0	TOPSOIL 14 8 19 53 6 NP NP 24 GRAY SILT (A-4b) BROWN SANDY SILT (A-4a) 16 14 15 44 11 NP NP 16 BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWNISH GRAY SANDSTONE GRAY SANDSTONE										VISUAL A-4b VISUAL VISUAL A-4a VISUAL VISUAL VISUAL	R-184	319+26.4 357.1 ft. RT	0.0 - 1.0 1.0 - 5.5 5.5 - 7.0 7.0 - 18.4 18.4 - 45.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE BROWN SANDSTONE GRAY SANDSTONE										VISUAL VISUAL VISUAL VISUAL VISUAL		
R-179	313+45.2 377.7 ft. RT	0.0 - 0.4 0.4 - 2.5 2.5 - 13.1 13.1 - 60.0	TOPSOIL BROWN SANDY SILT (A-4a) GRAY AND BROWN SANDSTONE GRAY SANDSTONE										VISUAL VISUAL VISUAL VISUAL	R-2183	321+48.0 1.1 ft. RT	0.0 - 0.2 0.2 - 3.0 3.0 - 3.5 3.5 - 5.0 5.0 - 11.0 11.0 - 12.0 12.0 - 22.0	TOPSOIL BROWN SANDY SILT (A-4a) BROWN SILT AND CLAY (A-6a) 2 4 23 39 32 29 14 14 BROWN SILT AND CLAY (A-6a) 2 4 29 42 23 25 10 17 BROWN AND GRAY SANDSTONE										VISUAL VISUAL VISUAL A-6a VISUAL A-4a VISUAL		
R-2180	315+05.5 121.1 ft. LT	0.0 - 0.2 0.2 - 4.5 4.5 - 6.3 6.3 - 20.0	TOPSOIL BROWN SANDY SILT (A-4a) SEVERELY WEATHERED BROWN SANDSTONE BROWN SANDSTONE										VISUAL VISUAL VISUAL VISUAL	R-185	322+09.9 269.8 ft. RT	0.0 - 0.3 0.3 - 3.0 3.0 - 7.5 7.5 - 20.0	TOPSOIL BROWN SILT AND CLAY (A-6a) BROWN SANDY SILT (A-4a) GRAY SANDSTONE										VISUAL VISUAL VISUAL VISUAL		
R-181	315+09.2 403.8 ft. RT	0.0 - 1.0 1.0 - 2.5 2.5 - 8.5 8.5 - 10.0 10.0 - 13.0 13.0 - 17.0 17.0 - 34.0 34.0 - 105.0	TOPSOIL 4 4 7 30 55 48 27 21 BROWN AND GRAY CLAY (A-7-6) 4 5 8 31 52 41 23 12 BROWN AND GRAY CLAY (A-7-6) SEVERELY WEATHERED BROWN AND GRAY SHALE BROWN AND GRAY SANDSTONE GRAY SANDSTONE										VISUAL A-7-6 VISUAL A-7-6 VISUAL VISUAL VISUAL VISUAL	R-2186	324+28.8 133.1 ft. LT	0.0 - 1.0 1.0 - 2.5 2.5 - 3.5 3.5 - 5.0 5.0 - 8.0 8.0 - 10.0 10.0 - 17.1 17.1 - 30.0 30.0 - 70.0	BROWN SILTY CLAY (A-6b) 10 7 5 38 40 36 17 20 BROWN SILTY CLAY (A-6b) 8 6 6 43 37 39 18 17 BROWN SILTY CLAY (A-6b) SEVERELY WEATHERED DARK BROWN SANDSTONE BROWN SANDSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE										VISUAL A-6b VISUAL A-6b VISUAL VISUAL VISUAL VISUAL VISUAL		
R-180	315+33.5 92.5 ft. RT	0.0 - 0.2 0.2 - 3.0 3.0 - 3.5 3.5 - 5.0 5.0 - 8.5 8.5 - 10.5 10.5 - 75.0	TOPSOIL BROWN SILT AND CLAY (A-6a) BROWN AND GRAY CLAY (A-7-6) 3 5 5 46 41 43 20 15 BROWN AND GRAY CLAY (A-7-6) SEVERELY WEATHERED DARK BROWN SANDSTONE BROWNISH GRAY SANDSTONE										VISUAL VISUAL VISUAL A-7-6 VISUAL VISUAL VISUAL	R-186	324+37.9 54.6 ft. RT	0.0 - 0.3 0.3 - 2.5 2.5 - 5.0 5.0 - 16.5 16.5 - 30.0 30.0 - 40.0	TOPSOIL LIGHT BROWN SILT AND CLAY (A-6a) SEVERELY WEATHERED BROWN SANDSTONE GRAY AND BROWN SANDSTONE GRAY SANDSTONE INTERBEDDED WITH SILTSTONE GRAY AND BROWN SANDSTONE										VISUAL VISUAL VISUAL VISUAL VISUAL VISUAL		

SOIL PROFILE

SCI-823-0.00



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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
R-188	324+74.3 265.2 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 1.0	REDDISH BROWN SILT (A-4b)									VISUAL
		1.0 - 2.5	1	9	9	62	19	26	5	12	A-4b	
		2.5 - 3.0	REDDISH BROWN SILT (A-4b)									VISUAL
		3.0 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		6.0 - 7.5	3	4	4	62	27	33	15	18	A-6a	
		7.5 - 13.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		13.0 - 15.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		15.0 - 21.0	GRAY AND BROWN SANDSTONE									VISUAL
R-2187	326+69.3 125.1 ft. LT	0.0 - 1.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		1.0 - 2.5	6	4	4	52	34	28	11	18	A-6a	
		2.5 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		8.5 - 10.0	0	2	6	58	34	33	14	12	A-6a	
		10.0 - 15.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		15.0 - 26.0	BROWN SANDSTONE									VISUAL
		26.0 - 70.0	GRAY SANDSTONE									VISUAL
R-189	326+76.5 9.4 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 4.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		4.0 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 28.1	BROWN AND GRAY SANDSTONE									VISUAL
		28.1 - 75.0	GRAY SANDSTONE									VISUAL*
R-191	326+88.4 236.5 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 10.7	BROWN SANDSTONE									VISUAL
		10.7 - 17.3	BROWN SANDSTONE INTERBEDDED WITH SHALE									VISUAL
		17.3 - 40.0	BROWN AND GRAY SANDSTONE									VISUAL
C-34	328+37.0 148.1 ft. LT	0.0 - 0.7	TOPSOIL									VISUAL
		0.7 - 5.0	BROWN SANDY SILT (A-4a)									VISUAL
		5.0 - 13.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		13.5 - 15.0	BROWN SANDSTONE									VISUAL
		15.0 - 34.0	GRAY SANDSTONE									VISUAL
R-192	328+77.3 131.7 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 3.0	BROWN SILT (A-4b)									VISUAL
		3.0 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		5.0 - 12.3	BROWN SANDSTONE									VISUAL
R-193	329+27.5 337.2 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 3.0	BROWN SANDY SILT (A-4a)									VISUAL
		3.0 - 5.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL
		5.0 - 20.0	GRAY SANDSTONE									VISUAL
C-35	329+55.7 223.5 ft. RT	0.0 - 0.5	TOPSOIL									VISUAL
		0.5 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL
		3.5 - 4.0	25	19	9	36	11	23	5	11	A-4a	
		4.0 - 4.5	BROWN SANDY SILT (A-4a)									VISUAL
		4.5 - 24.8	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
SCI-823												
R-2194	331+97.8 163.1 ft. LT	0.0 - 1.0	BROWN SILT (A-4b)									VISUAL
		1.0 - 2.5	4	2	10	61	23	29	9	13	A-4b	
		2.5 - 3.0	BROWN SILT (A-4b)									VISUAL
		3.0 - 8.0	SEVERELY WEATHERED BROWN AND GRAY SILTSTONE									VISUAL
		8.0 - 10.0	SEVERELY WEATHERED BROWN AND GRAY SHALE									VISUAL
		10.0 - 21.7	BROWN AND GRAY SHALE INTERBEDDED WITH SANDSTONE									VISUAL
		21.7 - 90.0	GRAY SANDSTONE									VISUAL
R-194	332+21.8 8.6 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 6.0	SEVERELY WEATHERED ORANGISH BROWN SANDSTONE									VISUAL
		6.0 - 13.1	GRAY TO BROWN SANDSTONE									VISUAL
		13.1 - 60.0	GRAY SANDSTONE									VISUAL*
R-195	332+24.3 245.1 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 3.0	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		3.0 - 9.0	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE									VISUAL
		9.0 - 39.5	GRAY TO BROWN SANDSTONE									VISUAL
		39.5 - 60.5	GRAY SANDSTONE									VISUAL
R-2196	333+85.2 168.7 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 5.0	BROWN SANDY SILT (A-4a)									VISUAL
		5.0 - 15.0	BROWN SANDSTONE									VISUAL
		15.0 - 65.0	GRAY SANDSTONE									VISUAL
TP-R-197	333+92.8 133.1 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL
		0.2 - 1.0	BROWN SILTY SAND AND GRAVEL (VISUAL)									VISUAL
		1.0 - 1.5	SANDSTONE									VISUAL
R-196	333+98.8 17.6 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL
		5.5 - 11.5	BROWN SANDSTONE									VISUAL
		11.5 - 50.1	GRAY SANDSTONE									VISUAL*
		50.1 - 55.0	GRAY SHALE INTERBEDDED WITH SANDSTONE									VISUAL
TP-R-198	334+23.8 172.6 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 3.0	DECOMPOSED SANDSTONE									VISUAL
		3.0 - 3.5	GRAY SANDSTONE									VISUAL

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SOIL PROFILE

SCI-823-0.00

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class				
			SCI-823													SCI-823											
R-199	338+25.8 111.0 ft. LT	0.0 - 0.5	TOPSOIL									VISUAL	R-207	349+57.4 156.5 ft. RT	0.0 - 3.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL		
		0.5 - 3.5	BROWN CLAY (A-7-6)									VISUAL			3.5 - 5.0	3	7	43	25	23	24	10	11		A-4a		
		3.5 - 5.0	0	11	7	37	45	46	24	10	A-7-6			5.0 - 8.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL			
		5.0 - 10.5	BROWN CLAY (A-7-6)									VISUAL			8.5 - 10.0	12	15	24	31	18	33	14	22		A-6a		
		10.5 - 11.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL			10.0 - 11.5	GRAY SILT AND CLAY (A-6a)									VISUAL		
		11.0 - 12.5	4	12	14	36	34	32	16	10	A-6b			11.5 - 15.5	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL			
		12.5 - 18.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL			15.5 - 25.5	GRAY SANDSTONE									VISUAL		
		18.0 - 23.5	BROWN CLAY (A-7-6)									VISUAL															
		23.5 - 25.0	6	4	10	33	47	46	25	12	A-7-6	R-206	349+77.5 31.4 ft. LT	0.0 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL			
		25.0 - 25.5	BROWN CLAY (A-7-6)									VISUAL			3.5 - 5.0	0	0	11	61	28	33	13	22		A-6a		
		25.5 - 41.0	SEVERELY WEATHERED GRAY SHALE									VISUAL			5.0 - 8.0	BROWN SILT AND CLAY (A-6a)									VISUAL		
		41.0 - 43.5	GRAY SHALE INTERBEDDED WITH SANDSTONE									VISUAL			8.0 - 8.5	LIGHT BROWN AND GRAY CLAY (A-7-6)									VISUAL		
		43.5 - 58.6	GRAY TO BROWN SANDSTONE									VISUAL			8.5 - 10.0	0	1	6	53	40	42	20	22		A-7-6		
		58.6 - 59.5	GRAY SILTSTONE									VISUAL			10.0 - 13.0	LIGHT BROWN AND GRAY CLAY (A-7-6)									VISUAL		
		59.5 - 137.5	GRAY SANDSTONE									VISUAL			13.0 - 15.5	LIGHT GRAY SILT (A-4b)									VISUAL		
		137.5 - 140.0	GRAY SHALE INTERBEDDED WITH SANDSTONE									VISUAL			15.5 - 21.0	BROWN SANDY SILT (A-4a)									VISUAL		
														21.0 - 22.5	5	10	40	29	16	22	8	13		A-4a			
R-201	338+44.5 150.8 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			22.5 - 23.5	BROWN SANDY SILT (A-4a)									VISUAL		
		0.3 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL			23.5 - 26.1	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL		
		3.5 - 5.0	15	4	14	47	20	31	12	9	A-6a			26.1 - 36.1	GRAY SANDSTONE									VISUAL*			
		5.0 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL															
		6.0 - 20.2	GRAY AND BROWN SANDSTONE									VISUAL															
		20.2 - 70.0	GRAY SANDSTONE									VISUAL															
TP-R-202	342+19.0 72.3 ft. RT	0.0 - 0.1	TOPSOIL									VISUAL	B-1519	5+67.1 28.7 ft. RT	0.0 - 1.2	ASPHALT CONCRETE, PORTLAND CEMENT CONCRETE									VISUAL		
		0.1 - 1.5	BROWN SILT AND SAND									VISUAL			1.2 - 2.0	BROWN SANDY SILT (A-4a)									VISUAL*		
		1.5 - 5.5	SEVERELY WEATHERED BROWN AND GRAY SANDSTONE									VISUAL			2.0 - 4.0	13	19	29	31	8	21	8	8				A-4a
														4.0 - 6.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
														6.0 - 7.5	12	31	42	10	5	NP	NP	11		A-3a			
														7.5 - 11.0	BROWN CLAY (A-7-6)									VISUAL			
R-2202	342+27.0 64.3 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL			11.0 - 12.5	0	1	3	39	57	42	22	20		A-7-6		
		0.3 - 5.5	WEATHERED BROWN SANDSTONE									VISUAL			12.5 - 16.0	BROWN CLAY (A-7-6)									VISUAL		
		5.5 - 15.1	BROWN SANDSTONE									VISUAL			16.0 - 18.5	BROWN SILT (A-4b)									VISUAL		
		15.1 - 70.0	GRAY SANDSTONE									VISUAL			18.5 - 20.0	0	1	30	50	19	23	7	18		A-4b		
														20.0 - 23.5	BROWN SILT (A-4b)									VISUAL			
														23.5 - 26.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL			
C-99	344+78.7 268.3 ft. RT	0.0 - 0.9	TOPSOIL									VISUAL			26.0 - 27.5	2	49	46	2	1	NP	NP	3		A-1-b		
		0.9 - 3.0	BROWN AND GRAY GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL			27.5 - 33.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL		
		3.0 - 4.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL			33.5 - 35.0	31	35	15		19	NP	NP	0		A-1-b		
		4.0 - 9.0	GRAY SANDSTONE INTERBEDDED WITH SILTSTONE									VISUAL			35.0 - 37.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL		
														37.0 - 43.5	BROWN FINE SAND (A-3)									VISUAL			
														43.5 - 45.0	0	4	93	3	0	NP	NP	4		A-3			
														45.0 - 52.0	BROWN FINE SAND (A-3)									VISUAL			
														52.0 - 53.5	3	30	55	8	4	NP	NP	22		A-3a			
R-203	345+21.9 234.9 ft. LT	0.0 - 5.5	BROWN SANDY SILT (A-4a)									VISUAL			53.5 - 75.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL		
		5.5 - 8.1	GRAY SILT AND CLAY (A-6a)									VISUAL			75.0 - 80.4	GRAY SANDSTONE									VISUAL		
		8.1 - 25.0	GRAY AND BROWN SANDSTONE									VISUAL															
R-205	345+24.0 332.6 ft. RT	0.0 - 0.2	TOPSOIL									VISUAL	B-1532	5+85.5 26.3 ft. LT	0.0 - 1.2	ASPHALT, PORTLAND CEMENT CONCRETE, ASPHALT									VISUAL		
		0.2 - 4.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			1.2 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*		
		4.5 - 25.0	GRAY SANDSTONE									VISUAL			8.5 - 26.0	BROWN SILT AND CLAY (A-6a)									VISUAL		
														26.0 - 33.5	BROWN SILT AND CLAY (A-6a)									VISUAL			
														33.5 - 74.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
														74.5 - 76.0	SEVERELY WEATHERED GRAY SHALE									VISUAL			
														76.0 - 86.0	GRAY SANDSTONE									VISUAL			

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class					
			U.S. 52													U.S. 52												
B-1518	7+14.9 36.9 ft. RT	0.0 - 1.3	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL	B-1530	8+95.4	0.0 - 1.2	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL			
		1.3 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*		33.9 ft. LT	1.2 - 4.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*			
		8.5 - 21.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			4.0 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL			
		21.0 - 26.0	BROWN SANDY SILT (A-4a)									VISUAL			6.0 - 7.5	16	26	45	13	NP	NP	7			A-3a			
		26.0 - 33.5	BROWN FINE SAND (A-3)									VISUAL			7.5 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
		33.5 - 48.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			8.5 - 11.0	BROWN SILTY CLAY (A-6b)									VISUAL			
		48.5 - 74.5	BROWN FINE SAND (A-3)									VISUAL			11.0 - 12.5	6	7	32	32	23	25	10	16			A-4a		
		74.5 - 75.0	SEVERELY WEATHERED GRAY SHALE									VISUAL			12.5 - 13.5	BROWN SANDY SILT (A-4a)									VISUAL			
B-1531	7+30.5 32.2 ft. LT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL			13.5 - 16.0	BROWN SILTY CLAY (A-6b)									VISUAL			
		1.0 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*			16.0 - 17.5	8	0	3	45	44	37	16	22			A-6b		
		8.5 - 18.5	BROWN SILT AND CLAY (A-6a)									VISUAL			17.5 - 18.5	BROWN SILTY CLAY (A-6b)									VISUAL			
		18.5 - 38.5	BROWN FINE SAND (A-3)									VISUAL			18.5 - 21.0	BROWN SILT AND CLAY (A-6a)									VISUAL			
		38.5 - 40.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			21.0 - 23.5	BROWN SANDY SILT (A-4a)									VISUAL			
		40.0 - 78.5	BROWN FINE SAND (A-3)									VISUAL			23.5 - 25.0	5	5	46	29	15	NP	NP	16			A-4a		
		78.5 - 81.0	SEVERELY WEATHERED GRAY SHALE									VISUAL			25.0 - 27.0	BROWN SANDY SILT (A-4a)									VISUAL			
		81.0 - 91.0	GRAY SANDSTONE									VISUAL			27.0 - 30.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
B-1517	8+62.5 37.8 ft. RT	0.0 - 1.3	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL			30.0 - 33.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL			
		1.3 - 3.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*			33.5 - 35.0	25	55	16	4	NP	NP	6			A-1-b			
		3.5 - 4.0	9	27	51	8	5	NP	NP	12			35.0 - 47.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL					
		4.0 - 5.0	12	14	19	33	22	29	13	13			47.0 - 48.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL					
		5.0 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL			48.5 - 50.0	2	45	50	3	NP	NP	4			A-3a			
		6.0 - 7.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			50.0 - 73.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
		7.5 - 8.5	12	23	40	17	8	15	3	8			73.5 - 75.0	14	16	57	13	NP	NP	16			A-3a					
		8.5 - 10.0	BROWN SILTY CLAY (A-6b)									VISUAL			77.0 - 78.7	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL			
		10.0 - 16.0	1	2	14	41	42	35	16	20			B-1535	9+66.6	0.0 - 1.2	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL			
		16.0 - 21.0	BROWN SILT AND CLAY (A-6a)									VISUAL		29.2 ft. RT	1.2 - 3.0	17	26	39	10	8	NP	NP	6			A-3a*		
		21.0 - 22.5	0	1	12	62	25	29	11	20					3.0 - 5.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
		22.5 - 23.0	BROWN SILT AND CLAY (A-6a)									VISUAL			5.0 - 7.0	10	19	32	23	16	19	8	10			A-4a		
		23.0 - 23.5	BROWN SILT (A-4b)									VISUAL			7.0 - 7.5	BROWN SANDY SILT (A-4a)									VISUAL			
		23.5 - 25.0	0	1	5	71	23	27	10	23					7.5 - 9.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL			
		25.0 - 28.5	BROWN SILT (A-4b)									VISUAL			9.0 - 10.0	BROWN SILTY CLAY (A-6b)									VISUAL			
		28.5 - 38.5	BROWN FINE SAND (A-3)									VISUAL			B-1533	9+66.2	0.0 - 1.3	ASPHALT CONCRETE, PORTLAND CEMENT CONCRETE									VISUAL	
		38.5 - 40.0	3	22	72	3	NP	NP	5				28.4 ft. LT	1.3 - 1.5	FILL: BROWN SILT AND CLAY (A-6a)									VISUAL*				
		40.0 - 63.5	BROWN FINE SAND (A-3)									VISUAL			1.5 - 2.8	8	14	22	28	28	27	11	13			A-6a		
		63.5 - 65.0	7	27	63	3	NP	NP	27					2.8 - 3.0	13	28	53	6	NP	NP	3			A-3				
		65.0 - 67.0	BROWN FINE SAND (A-3)									VISUAL			3.0 - 4.5	27	30	34	6	3	NP	NP	6			A-1-b		
		67.0 - 68.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL			4.5 - 6.0	25	23	35	11	6	NP	NP	8			A-3a		
		68.5 - 70.0	38	43	8	9	2	NP	NP	15				6.0 - 7.5	36	31	26	7	NP	NP	5			A-1-b				
		70.0 - 73.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL			7.5 - 8.5	FILL: BROWN GRAVEL WITH SAND (A-1-b)									VISUAL			
		73.5 - 76.0	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL			8.5 - 9.5	POSSIBLE FILL: BROWN COARSE AND FINE SAND (A-3a)									VISUAL			
		76.0 - 86.0	GRAY SANDSTONE									VISUAL			9.5 - 10.0	POSSIBLE FILL: BROWN SILT AND CLAY (A-6a)									VISUAL			

SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class		
			U.S. 52													U.S. 52									
B-1516	10+14.5 36.8 ft. RT	0.0 - 1.3	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL	B-1528	11+77.5 35.5 ft. LT	0.0 - 1.5	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.3 - 2.0	DARK BROWN COARSE AND FINE SAND (A-3a)									VISUAL*			1.5 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL*
		2.0 - 3.0	6	10	15	35	34	29	11	18	A-6a			3.5 - 13.5	BROWN FINE SAND (A-3)									VISUAL	
		3.0 - 6.0	BROWN FINE SAND (A-3)									VISUAL			13.5 - 23.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		6.0 - 7.5	7	29	57	7		NP	NP	14	A-3			23.5 - 28.5	BROWN AND GRAY CLAY (A-7-6)									VISUAL	
		7.5 - 9.5	BROWN FINE SAND (A-3)									VISUAL			28.5 - 30.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		9.5 - 10.0	3	20	44	17	16	17	4	11	A-3a			30.0 - 69.0	BROWN FINE SAND (A-3)									VISUAL	
		10.0 - 10.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			69.0 - 73.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		10.5 - 11.0	BROWN CLAY (A-7-6)									VISUAL			73.5 - 73.7	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL
		11.0 - 12.5	0	7	10	33	50	42	19	23	A-7-6														
		12.5 - 16.0	BROWN CLAY (A-7-6)									VISUAL	B-1514	13+03.6 38.2 ft. RT	0.0 - 1.0	ASPHALT CONCRETE									VISUAL
		16.0 - 21.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL			1.0 - 2.0	FILL: BROWN AND GRAY COARSE AND FINE SAND (A-3a)									VISUAL*
		21.0 - 22.5	1	1	3	46	49	36	16	21	A-6b			2.0 - 5.0	BROWN SILT AND CLAY (A-6a)									VISUAL	
		22.5 - 23.0	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL			5.0 - 13.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		23.0 - 23.5	BROWN SILT AND CLAY (A-6a)									VISUAL			13.5 - 21.0	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		23.5 - 25.0	0	4	5	59	32	31	11	23	A-6a			21.0 - 33.5	BROWN FINE SAND (A-3)									VISUAL	
		25.0 - 28.0	BROWN SILT AND CLAY (A-6a)									VISUAL			33.5 - 53.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		28.0 - 28.5	BROWN AND GRAY SILT (A-4b)									VISUAL			53.5 - 58.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		28.5 - 30.0	1	0	22	54	23	25	9	18	A-4b			58.5 - 59.0	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL	
		30.0 - 69.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL	B-1527	13+26.9 36.5 ft. LT	0.0 - 1.2	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		69.5 - 70.0	0	1	30	61	8	NP	NP	29	A-4b			1.2 - 1.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*	
		70.0 - 72.0	GRAY SILT (A-4b)									VISUAL			1.5 - 3.5	BROWN SILTY CLAY (A-6b)									VISUAL
		72.0 - 73.9	SEVERELY WEATHERED GRAY SHALE									VISUAL			3.5 - 16.0	BROWN FINE SAND (A-3)									VISUAL
B-1529	10+35.5 35.3 ft. LT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL			16.0 - 18.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		1.0 - 2.0	POSSIBLE FILL: BROWN FINE SAND (A-3)									VISUAL*			18.5 - 28.5	BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL
		2.0 - 3.5	BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			28.5 - 30.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		3.5 - 7.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			30.0 - 38.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		7.0 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL			38.5 - 68.5	BROWN FINE SAND (A-3)									VISUAL
		8.5 - 11.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			68.5 - 78.5	GRAY SANDSTONE									VISUAL
		11.5 - 15.5	BROWN SILTY CLAY (A-6b)									VISUAL	B-1536	13+75.3 29.3 ft. RT	0.0 - 1.3	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		15.5 - 16.5	BROWN SANDY SILT (A-4a)									VISUAL			1.3 - 1.5	DARK BROWN SANDY SILT (A-4a)									VISUAL*
		16.5 - 21.0	BROWN CLAY (A-7-6)									VISUAL			1.5 - 3.0	21	20	21	20	18	21	7	11	A-4a	
		21.0 - 28.5	BROWN SILT AND CLAY (A-6a)									VISUAL			3.0 - 5.0	3	6	9	43	39	34	14	20	A-6a	
		28.5 - 67.0	BROWN FINE SAND (A-3)									VISUAL			5.0 - 7.0	12	27	51	4	6	NP	NP	3	A-3a	
		67.0 - 73.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			7.0 - 7.5	BROWN FINE SAND (A-3)									VISUAL
		73.5 - 75.0	GRAY SILT AND CLAY (A-6a)									VISUAL			7.5 - 10.0	BROWN SILTY CLAY (A-6b)									VISUAL
		75.0 - 85.0	GRAY SANDSTONE									VISUAL													
B-1515	11+67.8 39.3 ft. RT	0.0 - 1.5	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL	B-1534	13+90.5 27.2 ft. LT	1.0 - 1.1	ASPHALT CONCRETE, PORTLAND CEMENT CONCRETE									VISUAL
		1.5 - 11.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL*			1.1 - 1.3	34	38	25	3	NP	NP			A-1-b*	
		11.0 - 33.5	BROWN SILT AND CLAY (A-6a)									VISUAL			1.3 - 2.5	11	14	23	28	24	25	10	11	A-4a	
		33.5 - 53.5	BROWN FINE SAND (A-3)									VISUAL			2.5 - 3.5	2	2	3	48	45	34	16	21	A-6b	
		53.5 - 63.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			3.5 - 4.0	13	26	55	6	NP	NP	4	A-3		
		63.5 - 64.0	SEVERELY WEATHERED GRAY SHALE									VISUAL			4.0 - 5.5	21	40	33	6	NP	NP	6	A-1-b		
		64.0 - 74.0	GRAY SANDSTONE									VISUAL			5.5 - 7.0	20	36	37	7	NP	NP	8	A-1-b		
														7.0 - 8.5	FILL: BROWN GRAVEL WITH SAND (A-1-b)									VISUAL	
														8.5 - 9.5	POSSIBLE FILL: BROWN SILT AND CLAY (A-6a)									VISUAL	
														9.5 - 10.0	POSSIBLE FILL: BROWN COARSE AND FINE SAND (A-3a)									VISUAL	

SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	U.S. 52							ODOT Class		Boring	Station & Offset	Depth From To	U.S. 52							ODOT Class			
			% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI						% W.C.	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL		PI	% W.C.	
B-1513	14+62.9 39.4 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL		B-1537	17+59.1 29.5 ft. RT	0.0 - 1.1	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL			
		1.0 - 4.0	BROWN GRAVEL WITH SAND (A-1-b)							VISUAL*				1.1 - 3.0	1	8	7	40	44	36	16	19	A-6b*		
		4.0 - 6.0	18	32	43	7		NP	NP	5	A-3a				3.0 - 5.0	18	26	32	14	10	15	5	9	A-3a	
		6.0 - 7.5	26	29	38	7		NP	NP	6	A-1-b				5.0 - 7.0	3	9	10	38	40	32	13	23	A-6a	
		10.5 - 13.5	BROWN AND GRAY SILTY CLAY (A-6b)							VISUAL				7.0 - 7.5	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL			
		13.5 - 15.0	9	1	2	35	53	39	17	26	A-6b				7.5 - 10.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)							VISUAL		
		15.0 - 18.0	BROWN AND GRAY SILTY CLAY (A-6b)							VISUAL				B-1511	17+75.3 38.9 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL	
		18.0 - 18.5	BROWN AND GRAY SILT (A-4b)							VISUAL						1.0 - 2.0	BROWN COARSE AND FINE SAND (A-3a)							VISUAL*	
		18.5 - 20.0	9	2	2	64	23	30	10	24	A-4b						2.0 - 9.5	BROWN SILT AND CLAY (A-6a)							VISUAL
		20.0 - 20.5	BROWN AND GRAY SILT (A-4b)							VISUAL						9.5 - 10.0	BLACK AND GRAY COARSE AND FINE SAND (A-3a)							VISUAL	
		20.5 - 21.0	BROWN AND GRAY SILTY CLAY (A-6b)							VISUAL						10.0 - 15.5	GRAY SILT AND CLAY (A-6a)							VISUAL	
		21.0 - 22.5	20	0	1	29	50	40	18	25	A-6b						15.5 - 16.0	BROWN AND GRAY SILT (A-4b)							VISUAL
		22.5 - 30.0	BROWN AND GRAY SILTY CLAY (A-6b)							VISUAL						16.0 - 17.5	0	1	3	78	18	24	2	19	A-4b
		30.0 - 33.5	GRAY AND BROWN SILT (A-4b)							VISUAL						17.5 - 18.5	BROWN AND GRAY SILT (A-4b)							VISUAL	
		33.5 - 35.0	2	2	11	64	21	27	8	28	A-4b						18.5 - 21.0	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL
35.0 - 36.5	GRAY AND BROWN SILT (A-4b)							VISUAL		21.0 - 23.5	BROWN SILT (A-4b)							VISUAL							
36.5 - 38.5	BROWN AND GRAY GRAVEL WITH SAND (A-1-b)							VISUAL		23.5 - 26.0	BROWN AND GRAY CLAY (A-7-6)							VISUAL							
38.5 - 40.0	46	25	25	4		NP	NP	5	A-1-b		26.0 - 27.5	0	2			3	60	35	36	15	28	A-6a			
40.0 - 52.0	BROWN AND GRAY GRAVEL WITH SAND (A-1-b)							VISUAL		27.5 - 33.5	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL							
52.0 - 56.0	SEVERELY WEATHERED GRAY SANDSTONE							VISUAL		33.5 - 35.0	GRAY GRAVEL WITH SAND AND SILT (A-2-4)							VISUAL							
56.0 - 66.0	GRAY SANDSTONE							VISUAL		35.0 - 35.5	35	16	22			22	5	NP	NP	13	A-2-4				
											35.5 - 45.5	GRAY SANDSTONE							VISUAL						
B-1526	14+86.7 36.9 ft. LT	0.0 - 2.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL		B-1524	17+90.5 35.9 ft. LT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL			
		2.0 - 3.0	BROWN SILTY CLAY (A-6b)							VISUAL*				1.0 - 1.5	POSSIBLE FILL: BROWN FINE SAND (A-3)							VISUAL			
		3.0 - 11.5	BROWN FINE SAND (A-3)							VISUAL				1.5 - 8.0	BROWN SILT AND CLAY (A-6a)							VISUAL			
		11.5 - 16.0	BROWN SILTY AND CLAY (A-6a)							VISUAL				8.0 - 9.0	BROWN FINE SAND (A-3)							VISUAL			
		16.0 - 18.5	GRAY SILTY CLAY (A-6b)							VISUAL				9.0 - 11.3	BROWN SILTY CLAY (A-6b)							VISUAL			
		18.5 - 28.5	BROWN SANDY SILT (A-4a)							VISUAL				11.3 - 13.5	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL			
		28.5 - 52.0	BROWN FINE SAND (A-3)							VISUAL				13.5 - 23.5	GRAY SILT (A-4b)							VISUAL			
		52.0 - 58.5	BROWN GRAVEL WITH SAND (A-1-b)							VISUAL				23.5 - 28.0	GRAY SILT AND CLAY (A-6a)							VISUAL			
		58.5 - 58.7	SEVERELY WEATHERED GRAY SILTSTONE							VISUAL				28.0 - 30.0	BROWN COARSE AND FINE SAND (A-3a)							VISUAL			
															30.0 - 34.2	GRAY SILT AND CLAY (A-6a)							VISUAL		
B-1512	16+15.9 39.1 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL		B-1510	19+13.0 37.0 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL			
		1.0 - 11.0	BROWN COARSE AND FINE SAND (A-3a)							VISUAL*				1.0 - 2.0	BROWN COARSE AND FINE SAND (A-3a)							VISUAL*			
		11.0 - 34.0	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL				2.0 - 6.5	BROWN SILT AND CLAY (A-6a)							VISUAL			
		34.0 - 48.5	BROWN COARSE AND FINE SAND (A-3a)							VISUAL				6.5 - 11.0	BROWN COARSE AND FINE SAND (A-3a)							VISUAL			
		48.5 - 49.0	SEVERELY WEATHERED GRAY SHALE							VISUAL				11.0 - 33.5	BROWN SILT AND CLAY (A-6a)							VISUAL			
B-1525	16+39.4 37.2 ft. LT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE							VISUAL				33.5 - 33.8	SEVERELY WEATHERED GRAY SHALE							VISUAL			
		1.0 - 3.5	BROWN SANDY SILT (A-4a)							VISUAL															
		3.5 - 4.7	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL															
		4.7 - 11.0	BROWN FINE SAND (A-3)							VISUAL															
		11.0 - 16.0	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL															
		16.0 - 18.5	BROWN SILT (A-4b)							VISUAL															
		18.5 - 23.5	BROWN AND GRAY SILT AND CLAY (A-6a)							VISUAL															
		23.5 - 28.5	GRAY SANDY SILT (A-4a)							VISUAL															
		28.5 - 42.0	BROWN FINE SAND (A-3)							VISUAL															
		42.0 - 53.5	BROWN COARSE AND FINE SAND (A-3a)							VISUAL															
		53.5 - 55.0	SEVERELY WEATHERED GRAY SILTSTONE							VISUAL															
		55.0 - 65.0	GRAY SANDSTONE							VISUAL															

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
U.S. 52												
B-1509	20+59.5 36.8 ft. RT	0.0 - 0.9	ASPHALT CONCRETE									VISUAL
		0.9 - 3.5	GRAY COARSE AND FINE SAND (A-3a)									VISUAL*
		3.5 - 6.0	BROWN SILTY CLAY (A-6b)									VISUAL
		6.0 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		8.5 - 10.0	8	8	15	41	28	29	12	16		A-6a
		10.0 - 11.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		11.0 - 13.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		13.5 - 15.0	22	24	28	18	8	17	4	7		A-3a
		15.0 - 18.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		18.5 - 20.0	3	21	50	15	11	16	3	11		A-3a
		20.0 - 23.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		23.5 - 25.0	BROWN SANDY SILT (A-4a)									VISUAL
		25.0 - 28.5	28	14	9	42	7	23	4	15		A-4a
		28.5 - 30.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		30.0 - 38.5	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		38.5 - 40.0	33	17	30	17	3	NP	NP	12		A-1-b
		40.0 - 47.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
47.0 - 48.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL		
48.5 - 50.0	46	17	11	23	3	NP	NP	9		A-2-4		
50.0 - 59.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL		
59.5 - 69.5	GRAY SANDSTONE									VISUAL		
B-1538	21+65.7 29.8 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.0 - 3.0	40	27	31	2	NP	NP	6		A-1-b*	
		3.0 - 5.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		5.0 - 7.0	0	2	13	48	37	34	16	20		A-6b
		7.0 - 7.5	BROWN SILTY CLAY (A-6b)									VISUAL
		7.5 - 10.0	BROWN GRAVEL WITH SAND, SILT, AND CLAY (A-2-6)									VISUAL
B-1508	22+13.3 38.5 ft. RT	0.0 - 1.0	ASPHALT CONCRETE									VISUAL
		1.0 - 8.0	REDDISH BROWN SILT AND CLAY (A-6a)									VISUAL*
		8.0 - 10.5	BROWN GRAVEL WITH SAND, SILT, AND CLAY (A-2-6)									VISUAL
		10.5 - 20.5	GRAY SILTSTONE									VISUAL
		20.5 - 23.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		23.0 - 25.5	BROWN FINE SAND (A-3)									VISUAL
		25.5 - 28.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
		28.0 - 33.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		33.0 - 44.0	GRAY SILT (A-4b)									VISUAL
		44.0 - 53.0	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
B-1507	23+61.5 36.8 ft. RT	0.0 - 1.2	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.2 - 5.5	BROWN SILT AND CLAY (A-6a)									VISUAL*
		5.5 - 8.5	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL
		8.5 - 10.5	BROWN GRAVEL WITH SAND, SILT, AND CLAY (A-2-6)									VISUAL
		10.5 - 13.0	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL
		13.0 - 22.0	BROWN FINE SAND (A-3)									VISUAL
22.0 - 25.0	GRAY SANDSTONE									VISUAL		
B-1506	25+05.3 37.8 ft. RT	0.0 - 0.8	ASPHALT CONCRETE									VISUAL
		0.8 - 11.0	BROWN SILT AND CLAY (A-6a)									VISUAL*
		11.0 - 13.5	BROWN FINE SAND (A-3)									VISUAL
		13.5 - 16.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		16.0 - 18.3	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
U.S. 52												
B-1539	25+57.1 29.2 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.0 - 3.0	29	34	33	4	NP	NP	6		A-1-b*	
		1.0 - 3.0	0	3	9	49	39	31	10	21		A-4a
		5.0 - 7.0	0	3	9	54	34	33	11	23		A-6a
		7.0 - 8.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		8.0 - 10.0	BROWN SANDY SILT (A-4a)									VISUAL
		U.S. 52 RAMP A										
B-1505	25+07.1 6.4 ft. LT	0.0 - 0.8	ASPHALT CONCRETE									VISUAL
		0.8 - 8.5	GRAY SILT AND CLAY (A-6a)									VISUAL*
		8.5 - 13.5	BROWN GRAVEL WITH SAND, SILT, AND CLAY (A-2-6)									VISUAL
		13.5 - 16.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		16.0 - 19.0	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL
		19.0 - 29.0	GRAY SANDSTONE									VISUAL
B-1504	26+57.8 10.4 ft. LT	0.0 - 0.8	ASPHALT CONCRETE									VISUAL
		0.8 - 3.5	FILL: GRAY SILT AND CLAY (A-6a)									VISUAL
		3.5 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		6.0 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		8.5 - 11.0	BROWN SANDY SILT (A-4a)									VISUAL
		11.0 - 13.5	BROWN GRAVEL WITH SAND, SILT, AND CLAY (A-2-6)									VISUAL
B-1503	28+02.2 10.3 ft. LT	0.0 - 0.5	TOPSOIL									VISUAL
		0.5 - 7.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		7.0 - 14.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		14.0 - 16.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		16.5 - 26.5	BROWN AND GRAY SANDSTONE									VISUAL
		26.5 - 31.5	GRAY SANDSTONE									VISUAL
B-1540	28+02.3 22.6 ft. LT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.0 - 3.0	6	6	9	53	27	27	9	20		A-4b
		3.0 - 5.0	1	2	8	63	26	29	9	21		A-4b
		5.0 - 8.0	GRAY SILT (A-4b)									VISUAL
		8.0 - 10.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
B-1502	29+49.3 14.2 ft. LT	0.0 - 0.6	TOPSOIL									VISUAL
		0.6 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		3.5 - 6.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		6.0 - 7.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		7.5 - 11.4	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
B-1501	32+00.5 7.8 ft. LT	0.0 - 0.5	TOPSOIL									VISUAL
		0.5 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		3.5 - 5.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		5.0 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		8.5 - 10.0	0	0	4	78	18	27	7	27		A-4b
		10.0 - 13.5	BROWN SILT (A-4b)									VISUAL
		13.5 - 14.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		14.0 - 24.0	BROWN SANDSTONE									VISUAL

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class			
			U.S. 52 RAMP A													U.S. 52 RAMP A										
B-1541	35+01.5 4.1 ft. LT	0.0 - 2.0	FILL: BROWN SILT (A-4b)									VISUAL	B-35	40+29.1	0.0 - 0.4	TOPSOIL									VISUAL	
		2.0 - 4.0	0	2	4	61	33	31	12	22	A-6a		28.3 ft. RT	0.4 - 2.0	GRAY GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL		
		4.0 - 8.5	FILL: BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL			2.0 - 2.5	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL	
		8.5 - 10.0	0	0	3	72	25	24	6	26	A-4b			2.5 - 12.5	GRAY SANDSTONE									VISUAL		
		10.0 - 13.5	BROWN SILT (A-4b)									VISUAL	B-36	41+53.2	0.0 - 0.3	TOPSOIL (VISUAL)									VISUAL	
		13.5 - 16.2	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL		8.2 ft. LT	0.3 - 3.0	GRAY SANDY SILT (A-4a)									VISUAL	
TR-75	37+08.4 6.8 ft. LT	0.0 - 0.1	TOPSOIL									VISUAL			3.0 - 13.0	GRAY SANDSTONE									VISUAL	
		0.1 - 3.0	FILL: BROWN SILT AND CLAY (A-6a)									VISUAL				U.S.52 RAMP B										
		3.0 - 8.0	BROWN SILT AND CLAY (A-6a)									VISUAL	B-1523	18+98.8	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL	
		8.0 - 8.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL		22.7 ft. RT	1.0 - 1.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL	
		8.5 - 10.0	13	26	30	24	7	NP	NP	12	A-3a			1.5 - 8.5	BROWN SILTY CLAY (A-6b)									VISUAL		
		10.0 - 15.0	BROWN COARSE AND FINE SAND (A-3a)									VISUAL			8.5 - 23.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL	
		15.0 - 25.0	BROWN SANDSTONE									VISUAL			23.5 - 28.5	GRAY SANDY SILT (A-4a)									VISUAL	
TR-76	38+59.2 27.1 ft. LT	0.0 - 0.2	TOPSOIL									VISUAL	B-1522	22+02.7	0.0 - 1.0	TOPSOIL									VISUAL	
		0.2 - 3.0	BROWN SILT AND CLAY (A-6a)									VISUAL		8.2 ft. RT	1.0 - 3.5	BROWN SILT (A-4b)									VISUAL	
		3.0 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL			3.5 - 6.0	BROWN SILT AND CLAY (A-6a)									VISUAL	
		3.5 - 5.0	15	10	11	47	17	27	8	15	A-4a			6.0 - 7.5	0	1	10	64	25	33	14	17	A-6a			
		5.0 - 6.0	BROWN SANDY SILT (A-4a)									VISUAL			7.5 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL	
		6.0 - 7.5	16	23	21	30	10	23	3	12	A-4a			8.5 - 10.0	0	2	8	60	30	30	12	21	A-6a			
		7.5 - 8.0	BROWN SANDY SILT (A-4a)									VISUAL			10.0 - 11.0	BROWN SILT AND CLAY (A-6a)									VISUAL	
		8.0 - 14.5	BROWN SANDY SILT (A-4a)									VISUAL			11.0 - 12.5	41	29	25	5	NP	NP	10		A-1-b		
		14.5 - 15.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL			12.5 - 13.5	GRAY GRAVEL WITH SAND (A-1-b)									VISUAL	
		15.0 - 25.0	BROWN SANDSTONE									VISUAL			13.5 - 14.0	SEVERELY WEATHERED GRAY SANDSTONE									VISUAL	
B-33	39+14.0 11.2 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL	B-1521	24+76.9	0.0 - 0.8	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL	
		0.4 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL		16.8 ft. LT	0.8 - 8.5	BROWN SILT AND CLAY (A-6a)									VISUAL	
		3.5 - 5.0	13	12	10	48	17	28	9	18	A-4a			8.5 - 18.5	BROWN SILT AND CLAY (A-6a)									VISUAL		
		5.0 - 8.0	BROWN SANDY SILT (A-4a)									VISUAL			18.5 - 20.0	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL	
		8.0 - 8.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL			20.0 - 25.9	LIGHT BROWN AND GRAY SANDSTONE									VISUAL	
		8.5 - 10.0	26	26	17	26	5	22	3	12	A-2-4			25.9 - 30.0	GRAY SANDSTONE									VISUAL		
		10.0 - 11.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL														
		11.0 - 14.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL														
		14.5 - 20.0	BROWN AND GRAY SANDSTONE									VISUAL														
		20.0 - 24.5	GRAY SANDSTONE									VISUAL														
B-34	40+27.4 49.7 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL	B-1520	27+68.3	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL	
		0.4 - 3.5	BROWN SILT (A-4b)									VISUAL		25.8 ft. LT	1.0 - 13.5	GRAY SILT AND CLAY (A-6a)									VISUAL	
		3.5 - 5.0	6	12	12	54	16	28	9	18	A-4b			13.5 - 15.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL		
		5.0 - 5.5	BROWN SILT (A-4b)									VISUAL			15.0 - 19.6	BROWN SANDSTONE									VISUAL	
		5.5 - 8.5	BROWN SANDY SILT (A-4a)									VISUAL			19.6 - 25.0	GRAY SANDSTONE									VISUAL	
		8.5 - 10.0	13	23	21	36	7	23	4	11	A-4a															
		10.0 - 13.0	BROWN SANDY SILT (A-4a)									VISUAL														
		13.0 - 14.0	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE									VISUAL														
		14.0 - 19.7	BROWN AND GRAY SANDSTONE									VISUAL														
		19.7 - 24.0	GRAY SANDSTONE									VISUAL														
B-34A	40+27.4 49.7 ft. LT	0.0 - 14.0	AUGERED WITHOUT SAMPLING TO 14.0									-														
		14.0 - 18.0	BROWN SANDSTONE									VISUAL														
		18.0 - 39.0	GRAY SANDSTONE									VISUAL														

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
			U.S.52 RAMP B									
TR-68A	30+53.6 14.9 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 1.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		1.0 - 2.5	2	7	12	55	24	30	11	14	A-6a	
		2.5 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		3.5 - 5.0	5	5	10	43	37	39	20	18	A-6b	
		5.0 - 6.0	BROWN SILTY CLAY (A-6b)									VISUAL
		6.0 - 7.5	0	2	6	60	32	35	16	20	A-6b	
		7.5 - 8.0	BROWN SILTY CLAY (A-6b)									VISUAL
		8.0 - 8.5	BROWN SILT (A-4b)									VISUAL
		8.5 - 10.0	0	4	13	66	17	26	7	20	A-4b	
		10.0 - 11.0	BROWN SILT (A-4b)									VISUAL
		11.0 - 15.0	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE									VISUAL
		15.0 - 19.4	BROWN SANDSTONE									VISUAL
		19.4 - 27.3	GRAY SANDSTONE									VISUAL
TR-69A	32+03.9 12.7 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 1.0	BROWN SILTY CLAY (A-6b)									VISUAL
		1.0 - 2.5	0	2	6	53	39	37	18	18	A-6b	
		2.5 - 8.5	BROWN SILTY CLAY (A-6b)									VISUAL
		8.5 - 10.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		10.0 - 11.0	58	11	16	15	16	NP	NP	8	A-1-b	
		11.0 - 12.5	23	8	17	41	11	23	6	15	A-4a	
		12.5 - 13.5	BROWN SANDY SILT (A-4a)									VISUAL
		13.5 - 14.5	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		14.5 - 17.4	BROWN SANDSTONE									VISUAL
		17.4 - 27.5	GRAY SANDSTONE									VISUAL
TR-70A	33+52.3 5.3 ft. LT	0.0 - 0.8	TOPSOIL									VISUAL
		0.8 - 3.5	BROWN SILT AND CLAY (A-6a)									VISUAL
		3.5 - 5.0	2	4	14	57	23	29	11	22	A-6a	
		5.0 - 8.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		8.0 - 8.5	BROWN SANDY SILT (A-4a)									VISUAL
		8.5 - 10.0	6	1	23	58	12	21	1	24	A-4b	
		10.0 - 13.5	BROWN SANDY SILT (A-4a)									VISUAL
		13.5 - 14.5	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE									VISUAL
		14.5 - 20.9	BROWN SANDSTONE									VISUAL
		20.9 - 24.5	GRAY SANDSTONE									VISUAL
TR-71A	35+09.8 9.1 ft. LT	0.0 - 0.5	TOPSOIL									VISUAL
		0.5 - 3.5	BROWN SANDY SILT (A-4a)									VISUAL
		3.5 - 5.0	0	1	8	91		30	10	18	A-4a	
		5.0 - 8.5	BROWN SANDY SILT (A-4a)									VISUAL
		8.5 - 10.0	14	8	23	42	13	24	8	17	A-4a	
		10.0 - 13.5	BROWN SANDY SILT (A-4a)									VISUAL
		13.5 - 13.9	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		13.9 - 19.8	BROWN SANDSTONE									VISUAL
		19.8 - 23.9	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
			U.S.52 RAMP B									
TR-73A	36+42.9 16.2 ft. LT	0.0 - 0.5	TOPSOIL									VISUAL
		0.5 - 1.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		1.0 - 2.5	1	1	4	61	33	36	15	21	A-6a	
		2.5 - 3.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		3.0 - 3.5	BROWN SILT (A-4b)									VISUAL
		3.5 - 5.0	1	1	7	67	24	28	9	23	A-4b	
		5.0 - 10.5	BROWN SILT (A-4b)									VISUAL
		10.5 - 11.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		11.0 - 12.5	28	15	27	22	8	18	4	13	A-2-4	
		12.5 - 13.9	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		13.9 - 19.2	BROWN SANDSTONE									VISUAL
		19.2 - 23.9	GRAY SANDSTONE									VISUAL
B-48	36+82.8 27.7 ft. LT	0.0 - 0.1	TOPSOIL									VISUAL
		0.1 - 3.0	POSSIBLE FILL: BROWN AND BLACK SANDY SILT (A-4a)									VISUAL
		3.0 - 3.5	POSSIBLE FILL: BROWN SILT (A-4b)									VISUAL
		3.5 - 5.0	7	3	5	68	18	23	4	24	A-4b	
		5.0 - 6.0	POSSIBLE FILL: BROWN SILT (A-4b)									VISUAL
		6.0 - 7.0	1	7	8	63	21	27	8	21	A-4b	
		7.0 - 8.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		8.5 - 10.0	57	10	7	26	NP	NP	NP	15	A-2-4	
		10.0 - 11.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)									VISUAL
		11.0 - 11.5	SEVERELY WEATHERED GRAY SILTSTONE									VISUAL
		11.5 - 14.1	BROWN SANDSTONE									VISUAL
		14.1 - 15.4	GRAY SANDSTONE									VISUAL
		15.4 - 16.8	BROWN SANDSTONE									VISUAL
		16.8 - 29.0	GRAY SANDSTONE									VISUAL
B-48A	36+82.8 27.7 ft. LT	0.0 - 14.0	AUGERED WITHOUT SAMPLING TO 14.0									-
		14.0 - 30.0	BROWN AND GRAY SANDSTONE									VISUAL
		30.0 - 39.0	GRAY SANDSTONE									VISUAL
B-49	36+88.1 27.3 ft. RT	0.0 - 1.3	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.3 - 2.0	POSSIBLE FILL: BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		2.0 - 3.5	POSSIBLE FILL: GRAY SANDY SILT (A-4a)									VISUAL
		3.5 - 5.0	3	3	27	44	23	24	4	16	A-4a	
		5.0 - 6.0	POSSIBLE FILL: GRAY SANDY SILT (A-4a)									VISUAL
		6.0 - 8.0	POSSIBLE FILL: GRAY SILT (A-4b)									VISUAL
		8.0 - 8.5	4	7	9	64	16	25	3	19	A-4b	
		8.5 - 13.5	BROWN AND GRAY SILT (A-4b)									VISUAL
		13.5 - 14.5	BROWN COARSE AND FINE SAND (A-3a)									VISUAL
		14.5 - 15.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		15.0 - 19.9	BROWN SANDSTONE									VISUAL
		19.9 - 30.0	GRAY SANDSTONE									VISUAL

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SOIL PROFILE

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class				
			U.S.52 RAMP B													U.S.52 RAMP B											
TR-66	37+84.0 9.7 ft. RT	0.0 - 0.8	ASPHALT CONCRETE PAVEMENT										TR-64	40+21.8	0.0 - 0.1	TOPSOIL											
		0.8 - 1.0	GRAY GRAVEL WITH SAND (A-1-b)											25.3 ft. LT	0.1 - 6.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)											
		1.0 - 1.3	44	28	19	9			NP	NP	10			6.0 - 7.5	21	19	25	28	7	NP	NP	12	A-2-4				
		1.3 - 2.5	19	27	27	21	6		NP	NP	10			7.5 - 10.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												
		2.5 - 3.0	BROWN COARSE AND FINE SAND (A-3a)												10.5 - 11.5	SEVERELY WEATHERED BROWN SANDSTONE											
		3.0 - 3.5	BROWN SILT AND CLAY (A-6a)												11.5 - 21.5	BROWN AND GRAY SANDSTONE											
		3.5 - 5.0	0	1	12	57	30	32			11	20															
		5.0 - 5.5	BROWN SILT AND CLAY (A-6a)										B-53	41+35.4	0.0 - 1.0	FILL AGGREGATE BASE (VISUAL)											
		5.5 - 11.0	BROWN SILT (A-4b)											15.5 ft. RT	1.0 - 3.5	FILL: BROWN GRAVEL WITH SAND AND SILT (A-2-4)											
		11.0 - 12.5	0	1	19	64	16	24			5	23			3.5 - 5.0	SEVERELY WEATHERED BROWN SANDSTONE											
		12.5 - 17.0	BROWN SILT (A-4b)												5.0 - 9.9	BROWN SANDSTONE											
		17.0 - 17.5	SEVERELY WEATHERED BROWN SANDSTONE												9.9 - 20.3	GRAY SANDSTONE											
		17.5 - 27.5	BROWN SANDSTONE																								
B-51	38+43.3 38.7 ft. RT	0.0 - 0.3	TOPSOIL										TR-62	42+78.1	0.0 - 0.5	AGGREGATE BASE											
		0.3 - 3.0	BROWN SANDY SILT (A-4a)											6.5 ft. LT	0.5 - 1.0	GRAY SANDY SILT (A-4a)											
		3.0 - 3.5	BROWN SILT AND CLAY (A-6a)												1.0 - 2.5	17	15	6	46	16	28	8		10	A-4a		
		3.5 - 5.0	0	0	3	70	27	32			13	24			2.5 - 3.5	GRAY SANDY SILT (A-4a)											
		5.0 - 6.0	BROWN SILT AND CLAY (A-6a)												3.5 - 6.0	SEVERELY WEATHERED GRAY SANDSTONE											
		6.0 - 8.0	0	0	8	76	16	26			5	26			6.0 - 16.0	GRAY SANDSTONE											
		8.0 - 10.5	BROWN GRAVEL WITH SAND AND SILT (A-2-4)										R-2014	46+43.1	0.0 - 0.3	TOPSOIL											
		10.5 - 12.0	SEVERELY WEATHERED BROWN SANDSTONE											25.4 ft. LT	0.3 - 5.5	GRAY SANDY SILT (A-4a)											
		12.0 - 15.6	BROWN SANDSTONE												5.5 - 6.0	BROWN SILT (A-4b)											
		15.6 - 27.0	GRAY SANDSTONE												6.0 - 7.5	9	16	9	51	15	28	7		11	A-4b		
B-51A	38+43.3 38.7 ft. RT	0.0 - 11.0	AUGERED WITHOUT SAMPLING TO 11.0												7.5 - 16.0	BROWN SILT (A-4b)											
		11.0 - 15.7	BROWN SANDSTONE												16.0 - 17.5	1	2	8	73	16	30	10		12	A-4b		
		15.7 - 36.0	GRAY SANDSTONE												17.5 - 35.5	LIGHT BROWN SANDSTONE											
B-50	38+53.3 13.5 ft. LT	0.0 - 1.4	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE												35.5 - 43.3	GRAY SANDSTONE INTERBEDDED WITH SHALE											
		1.4 - 2.0	POSSIBLE FILL: BROWN COARSE AND FINE SAND (A-3a)												43.3 - 100.0	GRAY SANDSTONE											
		2.0 - 3.5	POSSIBLE FILL: MOTTLED BROWN AND GRAY SANDY SILT (A-4)										R-2015	49+12.5	0.0 - 0.2	TOPSOIL											
		3.5 - 5.0	9	17	10	43	21	27			9	15			0.2 - 3.0	GRAY SANDY SILT (A-4a)											
		5.0 - 8.5	POSSIBLE FILL: MOTTLED BROWN AND GRAY SANDY SILT (A-4)											1.8 ft. LT	3.0 - 3.5	GRAY GRAVEL WITH SAND AND SILT (A-2-4)											
		8.5 - 10.0	BROWN GRAVEL WITH SAND AND SILT (A-2-4)												3.5 - 5.0	40	19	7	28	6	NP	NP		10	A-2-4		
		10.0 - 11.7	BROWN SILT (A-4b)												5.0 - 8.0	GRAY GRAVEL WITH SAND AND SILT (A-2-4)											
		11.7 - 13.0	0	4	29	51	16	21			5	19			8.0 - 8.5	BROWN AND GRAY SILT AND CLAY (A-6a)											
		13.0 - 14.7	BROWN COARSE AND FINE SAND (A-3a)												8.5 - 10.0	20	11	7	42	20	31		11	16	A-6a		
		14.7 - 15.0	SEVERELY WEATHERED BROWN SANDSTONE												10.0 - 13.0	BROWN AND GRAY SILT AND CLAY (A-6a)											
		15.0 - 18.5	BROWN SANDSTONE												13.0 - 13.5	REDDISH BROWN SILT AND CLAY (A-6a)											
		18.5 - 30.0	GRAY SANDSTONE												13.5 - 15.0	7	12	9	47	25	30		12	16	A-6a		
B-52	39+90.5 5.0 ft. RT	0.0 - 0.3	TOPSOIL												15.0 - 17.0	REDDISH BROWN SILT AND CLAY (A-6a)											
		0.3 - 3.0	BROWN SANDY SILT (A-4a)												17.0 - 18.0	SEVERELY WEATHERED LIGHT BROWN AND GRAY SANDSTONE											
		3.0 - 3.5	BROWN SILT AND CLAY (A-6a)												18.0 - 32.3	LIGHT BROWN SANDSTONE											
		3.5 - 5.0	0	1	4	62	34	31			12	22			32.3 - 48.6	DARK GRAY SANDSTONE											
		5.0 - 5.5	BROWN SILT AND CLAY (A-6a)												48.6 - 100.0	GRAY SANDSTONE											
		5.5 - 8.5	BROWN GRAVEL WITH SAND (A-1-b)																								
		8.5 - 10.0	57	12	18	14			NP	NP	10																
		10.0 - 13.0	BROWN GRAVEL WITH SAND (A-1-b)																								
		13.0 - 14.0	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE																								
		14.0 - 17.9	BROWN SANDSTONE																								
		17.9 - 29.0	GRAY SANDSTONE																								



SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.

* DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
S.R. 140												
B-1401	4+42.9 6.0 ft. LT	0.0 - 1.1	ASPHALT CONC., PORTLAND CEMENT CONCRETE									VISUAL
		1.1 - 3.0	40	12	6	32	10	28	10	8	A-4a*	
		3.0 - 5.0	48	11	6	26	9	28	10	11	A-4a	
		5.0 - 7.0	9	9	17	53	12	23	6	12	A-4b	
		7.0 - 9.0	4	10	12	60	14	NP	NP	15	A-4b	
		9.0 - 11.0	BROWN SILT (A-4b)									VISUAL
B-1402	6+87.0 7.3 ft. RT	0.0 - 1.1	ASPHALT CONCRETE, PORTLAND CEMENT CONCRETE									VISUAL
		1.1 - 2.0	25	13	10	37	15	25	9	14	A-4a*	
		2.0 - 4.0	20	22	16	33	9	23	2	12	A-4a	
		4.0 - 5.0	POSSIBLE FILL: GRAYISH BROWN SANDY SILT (A-4a)									VISUAL
		5.0 - 6.0	0	2	4	63	31	31	10	25	A-4b	
		6.0 - 9.0	MOTTLED BROWN AND GRAY SILT (A-4b)									VISUAL
		9.0 - 10.0	BROWN SANDY SILT (A-4a)									VISUAL
B-1403A	10+14.1 17.4 ft. RT	0.0 - 1.8	ASPHALT CONCRETE PAVEMENT, BRICK, AGGREGATE BASE									VISUAL
		1.8 - 3.0	32	21	19	22	6	NP	NP	6	A-2-4*	
		3.0 - 4.5	0	0	17	72	11	NP	NP	28	A-4b	
		4.5 - 6.0	13	20	16	41	10	24	4	15	A-4a	
		6.0 - 7.5	0	0	3	76	21	27	7	26	A-4b	
		7.5 - 8.5	MOTTLED BROWN AND GRAY SILT (A-4b)									VISUAL
		8.5 - 10.0	BROWN GRAVEL WITH SAND (A-1-b)									VISUAL
B-1404	13+01.1 27.2 ft. RT	0.0 - 0.9	ASHPALT CONCRETE PAVEMENT									VISUAL
		0.9 - 1.0	POSSIBLE FILL: BROWN SANDY SILT (A-4a)									VISUAL*
		1.0 - 2.0	20	18	19	35	9	NP	NP	15	A-4a	
		2.0 - 4.0	18	12	12	40	18	24	9	19	A-4a	
		4.0 - 5.0	44	10	10	26	11	24	7	15	A-4a	
		5.0 - 6.0	POSSIBLE FILL: BROWN SANDY SILT (A-4a)									VISUAL
		6.0 - 7.0	11	16	17	39	17	26	8	18	A-4a	
		7.0 - 9.0	MOTTLED BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		9.0 - 10.0	BROWN SANDY SILT (A-4a)									VISUAL
B-1405A	13+91.7 0.5 ft. RT	0.0 - 2.0	ASPHALT CONC. PAVEMENT, BRICK, AGGR. BASE									VISUAL
		2.0 - 4.0	11	12	13	52	12	22	3	16	A-4b*	
		4.0 - 5.0	19	17	13	40	11	22	3	15	A-4a	
		5.0 - 5.3	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
S.R. 140 RAMP A												
B-1409	65+47.3 37.2 ft. RT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 4.5	BROWN SILT (A-4b)									VISUAL
		4.5 - 5.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		5.0 - 6.5	5	1	3	47	44	32	14	16	A-6a	
		6.5 - 10.0	BROWN SILT AND CLAY (A-6a)									VISUAL
		10.0 - 11.0	SEVERELY WEATHERED BROWN SANDSTONE									VISUAL
		11.0 - 21.0	BROWN SANDSTONE									VISUAL
		21.0 - 61.0	GRAY SANDSTONE									VISUAL

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
S.R. 140 RAMP B												
B-1406	65+47.9 207.9 ft. LT	0.0 - 4.0	BROWN WEATHERED SANDSTONE									VISUAL
		4.0 - 20.5	LIGHT BROWN SANDSTONE									VISUAL
		20.5 - 110.5	GRAY SANDSTONE									VISUAL
B-1407	67+98.8 5.4 ft. LT	0.0 - 0.4	TOPSOIL									VISUAL
		0.4 - 2.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		2.5 - 4.0	23	13	8	42	14	21	2	14	A-4a	
		4.0 - 7.5	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		7.5 - 9.0	32	15	10	34	9	29	7	13	A-4a	
		9.0 - 10.0	BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		10.0 - 20.0	GRAY SANDSTONE									VISUAL
B-1408	71+61.3 52.4 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 5.0	BROWN SANDY SILT (A-4a)									VISUAL
		5.0 - 6.5	27	21	12	28	12	29	5	10	A-4a	
		6.5 - 12.0	BROWN SANDY SILT (A-4a)									VISUAL
		12.0 - 12.5	BROWN SILTY CLAY (A-6b)									VISUAL
		12.5 - 14.0	2	6	7	56	29	34	16	13	A-6b	
		14.0 - 14.5	BROWN SILTY CLAY (A-6b)									VISUAL
		14.5 - 16.0	SEVERELY WEATHERED BROWNISH GRAY SANDSTONE									VISUAL
		16.0 - 21.6	BROWN SANDSTONE									VISUAL
		21.6 - 61.3	BROWN AND GRAY SANDSTONE									VISUAL
PERSHING AVENUE SOUTH												
B-1601	12+53.2 4.9 ft. LT	0.0 - 0.9	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		0.9 - 1.5	0	2	5	51	42	31	10	20	A-4b	
		1.5 - 2.0	BROWN SILT (A-4b)									VISUAL
		2.0 - 4.0	0	0	2	37	61	44	21	25	A-7-6	
		4.0 - 5.0	BROWN CLAY (A-7-6)									VISUAL
		5.0 - 6.0	0	0	3	55	42	33	12	23	A-6a	
		6.0 - 7.5	0	0	1	47	52	35	13	24	A-6a	
		7.5 - 10.0	BROWN SILT AND CLAY (A-6a)									VISUAL
B-1602	17+00.5 14.8 ft. LT	0.0 - 0.3	TOPSOIL									VISUAL
		0.3 - 1.5	1	2	9	52	36	31	9	25	A-4b	
		1.5 - 3.0	0	1	7	49	43	30	10	26	A-4a	
		3.0 - 4.5	0	0	2	54	44	42	19	24	A-7-6	
		4.5 - 6.0	BROWN CLAY (A-7-6)									VISUAL
B-1605	20+05.8 88.5 ft. RT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.0 - 2.0	0	1	5	48	46	38	15	23	A-6a	
		2.0 - 4.0	0	0	3	40	57	34	14	25	A-6a	
		4.0 - 5.0	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
		5.0 - 6.0	0	0	7	46	47	43	19	23	A-7-6	
		6.0 - 10.0	MOTTLED BROWN AND GRAY CLAY (A-7-6)									VISUAL

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SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC.
 * DENOTES SAMPLE TAKEN AT OR NEAR GRADE

Boring	Station & Offset	Depth From To	% Agg	% C.S.	% F.S.	% Silt	% Clay	LL	PI	% W.C.	ODOT Class	
PERSHING AVENUE NORTH												
B-1606	30+06.0 55.1 ft. RT	0.0 - 1.6	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.6 - 2.0	0	3	7	46	44	30	10	22	A-4a	
		2.0 - 3.0	MOTTLED BROWN AND GRAY SANDY SILT (A-4a)									VISUAL
		3.0 - 4.0	0	0	4	44	52	38	16	23	A-6b	
		4.0 - 5.0	MOTTLED BROWN AND GRAY SILTY CLAY (A-6b)									VISUAL
		5.0 - 6.0	0	0	6	43	51	34	13	25	A-6a	
		6.0 - 10.0	MOTTLED BROWN AND GRAY SILT AND CLAY (A-6a)									VISUAL
B-1604	33+30.3 5.2 ft. LT	0.0 - 1.0	ASPHALT CONCRETE PAVEMENT, AGGREGATE BASE									VISUAL
		1.0 - 2.0	0	1	4	38	57	45	21	24	A-7-6	
		2.0 - 3.0	BROWN CLAY (A-7-6)									VISUAL
		3.0 - 4.0	0	1	3	38	58	58	11	24	A-7-5	
		4.0 - 5.0	BROWN ELASTIC CLAY (A-7-5)									VISUAL
		5.0 - 6.0	0	0	2	44	54	40	17	24	A-6b	
		6.0 - 10.0	BROWN SILTY CLAY (A-6b)									VISUAL

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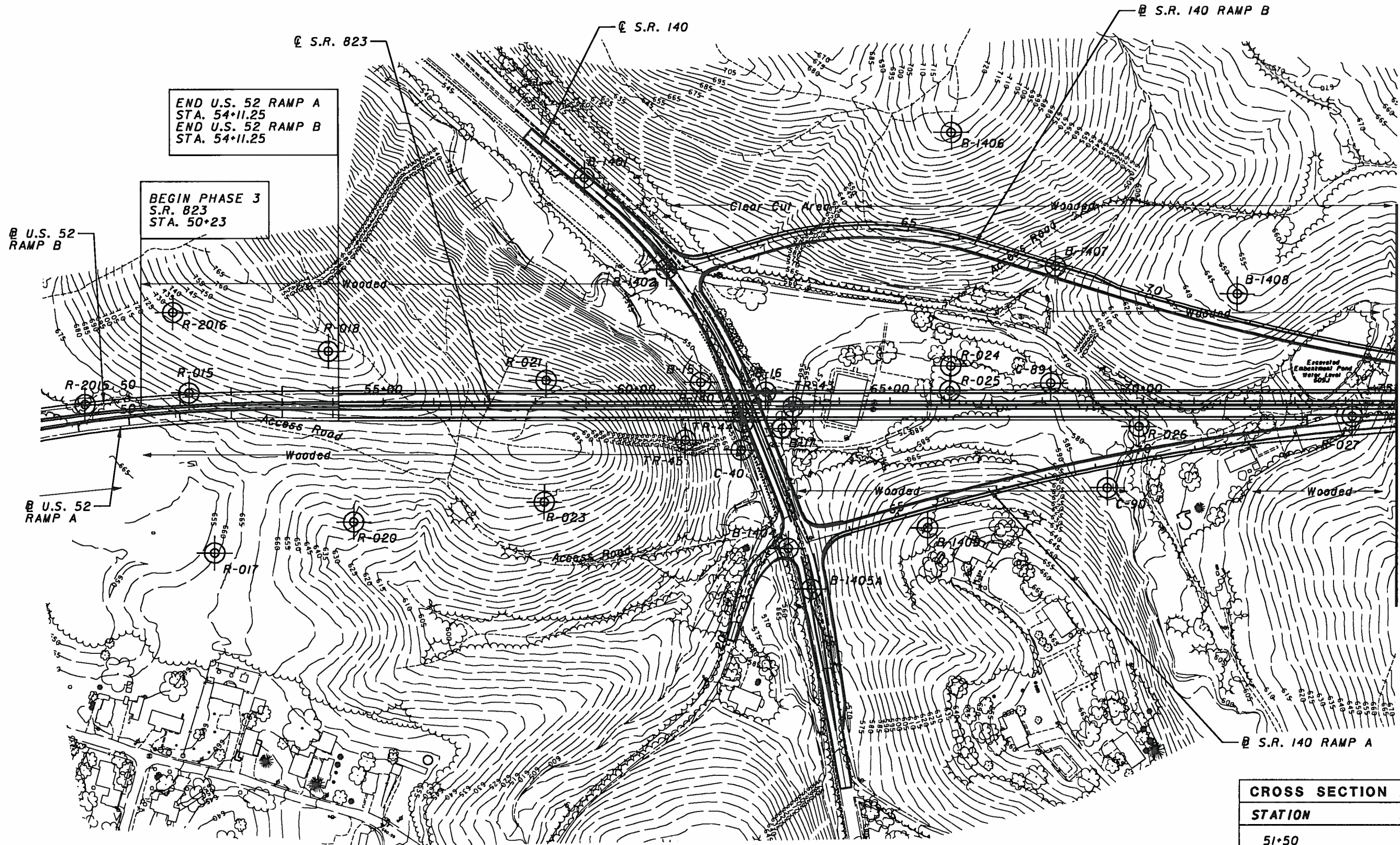
SOIL PROFILE

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NOTE:
 BORINGS B-1401, B-1402, B-1403A, B-1404, 1405A, AND C-40 SHOWN ON S.R. 140 PROFILE, SHEET 162
 BORINGS B-1409 AND C-90 SHOWN ON S.R. 140 RAMP A PROFILE, SHEET 163.
 BORINGS B-1406, B-1407, AND B-1408 SHOWN ON S.R. 140 RAMP B PROFILE, SHEET 164.
 BORING R-2015 SHOWN ON U.S. 52 RAMP B PROFILE, SHEET 158.
 BORINGS TR-43, TR-44, TR-45, B-15, B-16, AND B-17 SHOWN ON STRUCTURE FOUNDATION INVESTIGATION SHEETS.



END U.S. 52 RAMP A
 STA. 54+11.25
 END U.S. 52 RAMP B
 STA. 54+11.25

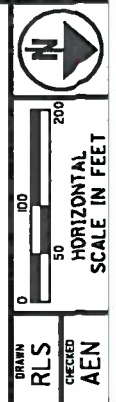
BEGIN PHASE 3
 S.R. 823
 STA. 50+23

U.S. 52
 RAMP B

U.S. 52
 RAMP A

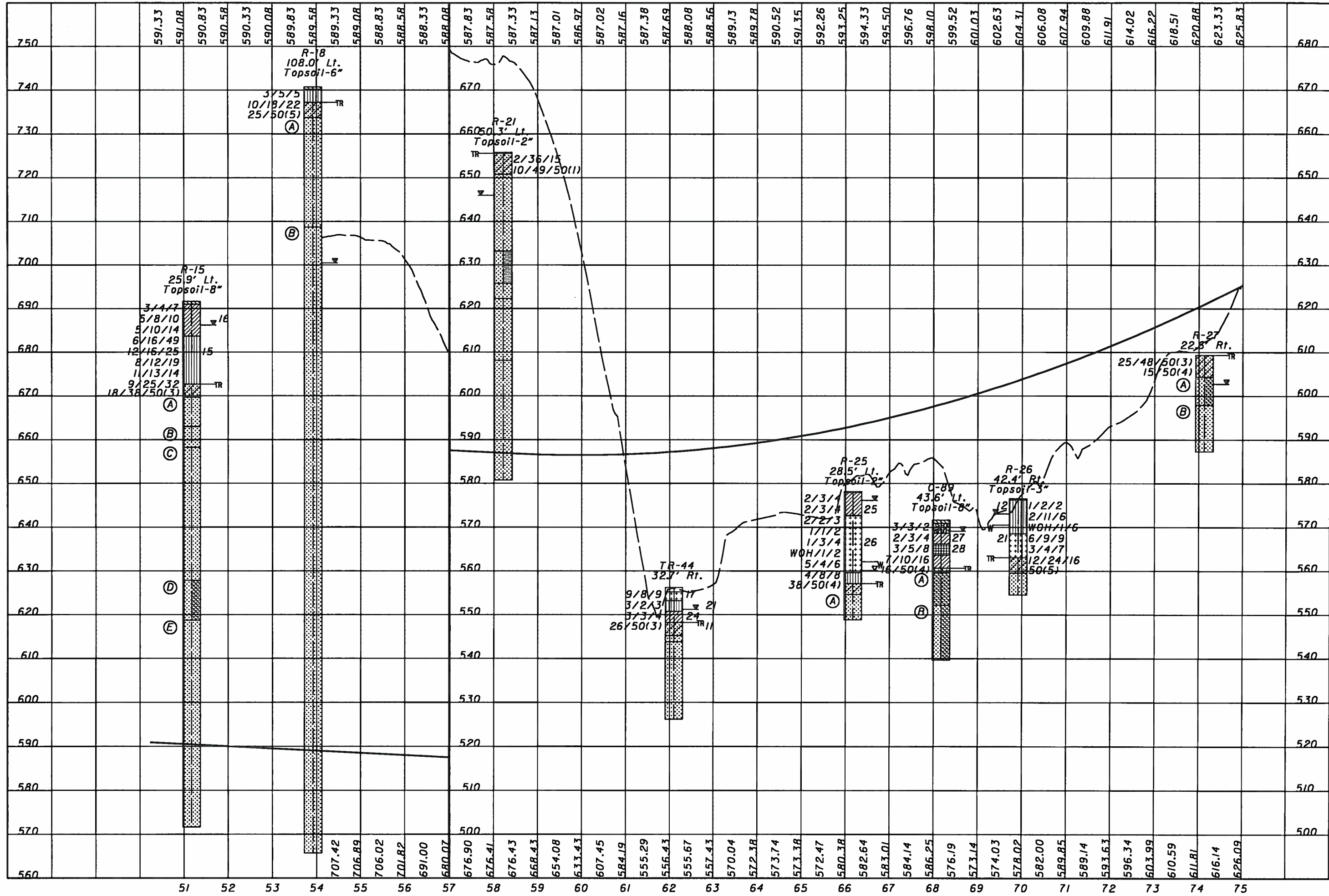
MATCHLINE STA. 75+00 SHEET 45

CROSS SECTION INDEX	
STATION	SHEET
51+50	159
54+00	160
58+00	81
66+00	82
75+00	83



SOIL PROFILE
 S.R. 823 STA. 50+23 TO STA. 75+00

SCI-823-0.00



R-18

- R-1 Core Loss - 17%, RQD - 33%
- (A) Medium hard to hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle iron stained fractures.
- R-2 No Core Loss, RQD - 29%
- R-3 No Core Loss, RQD - 48%
- R-4 Core Loss - 1%, RQD - 98%
- (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured to unfractured; contains few argillaceous laminations in lenses or inclusions.
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 100%
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%
- R-11 No Core Loss, RQD - 100%
- R-12 No Core Loss, RQD - 100%
- R-13 No Core Loss, RQD - 100%
- R-14 Core Loss - 3%, RQD - 95%
- R-15 No Core Loss, RQD - 100%
- R-16 Core Loss - 2%, RQD - 98%
- R-17 No Core Loss, RQD - 100%
- R-18 No Core Loss, RQD - 100%

Severely weathered brown SANDSTONE argillaceous, micaceous.
Medium hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, massive, highly fractured, with typical low angle rust stained fractures.
Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured.

R-15

- R-1 No Core Loss, RQD - 74%
- (A) Soft to medium hard brown and gray SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured to broken, with typical low angle iron stained fractures.
- (B) Soft to medium hard brownish gray SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, RQD - 93%
- (C) Medium hard to hard gray SANDSTONE; very fine to fine grained, micaceous, argillaceous, thinly bedded to thickly bedded, highly to moderately fractured, with typical low angle clay filled fractures; contains few to moderate argillaceous laminations in lenses.
- R-3 No Core Loss, RQD - 88%
- R-4 No Core Loss, RQD - 88%
- R-5 No Core Loss, RQD - 91%
- (D) Hard gray SILTSTONE interbedded with SANDSTONE; slightly weathered, argillaceous, micaceous, thinly laminated to thinly bedded, moderately fractured, with typical low angle clay filled fractures, friable.
- R-6 No Core Loss, RQD - 100%
- (E) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 100%
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%

C-89

- R-1 No Core Loss, RQD - 77%
- (A) Soft to medium hard gray SILTSTONE; very fine grained, highly weathered, arenaceous, micaceous, thickly bedded to massive, moderately fractured.
- (B) Medium hard gray SANDSTONE interbedded with SILTSTONE; fine grained, slightly weathered, argillaceous, micaceous, medium bedded, slightly to moderately fractured.
- R-2 No Core Loss, RQD - 96%

R-26

- R-1 Core Loss - 3%, RQD - 77%
- (A) Medium hard to hard gray SANDSTONE; very fine grained, highly to moderately weathered, argillaceous, micaceous, thinly bedded to medium bedded, moderately fractured.

R-21

- R-1 No Core Loss, RQD - 73%
- (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, decomposed to highly weathered, argillaceous, highly fractured to broken; contains moderate argillaceous laminations.
- R-2 No Core Loss, RQD - 51%
- R-3 No Core Loss, RQD - 66%
- (B) Medium hard gray SANDSTONE very fine to fine grained, interbedded with SHALE, highly weathered, micaceous, highly fractured, poorly laminated.
- (C) Soft to medium hard brown SANDSTONE; fine grained, highly weathered, argillaceous, highly fractured.
- R-4 No Core Loss, RQD - 70%
- (D) Medium hard gray SANDSTONE; fine grained, moderately to highly weathered, micaceous, argillaceous, moderately fractured; contains turbidity bedding, few to moderate argillaceous laminations.
- R-5 No Core Loss, RQD - 84%
- (E) Hard gray and brown SANDSTONE, very fine to fine grained, moderate to highly weathered, micaceous, argillaceous, pyritic, unfractured to moderately fractured.
- R-6 No Core Loss, RQD - 80%
- R-7 No Core Loss, RQD - 95%
- R-8 No Core Loss, RQD - 100%

R-27

- R-1 No Core Loss, RQD - 88%
- (A) Soft to medium hard brownish gray SANDSTONE interbedded with SILTSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle iron stained fractures.
- (B) Hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle iron stained fractures.
- R-2 No Core Loss, RQD - 92%

R-25

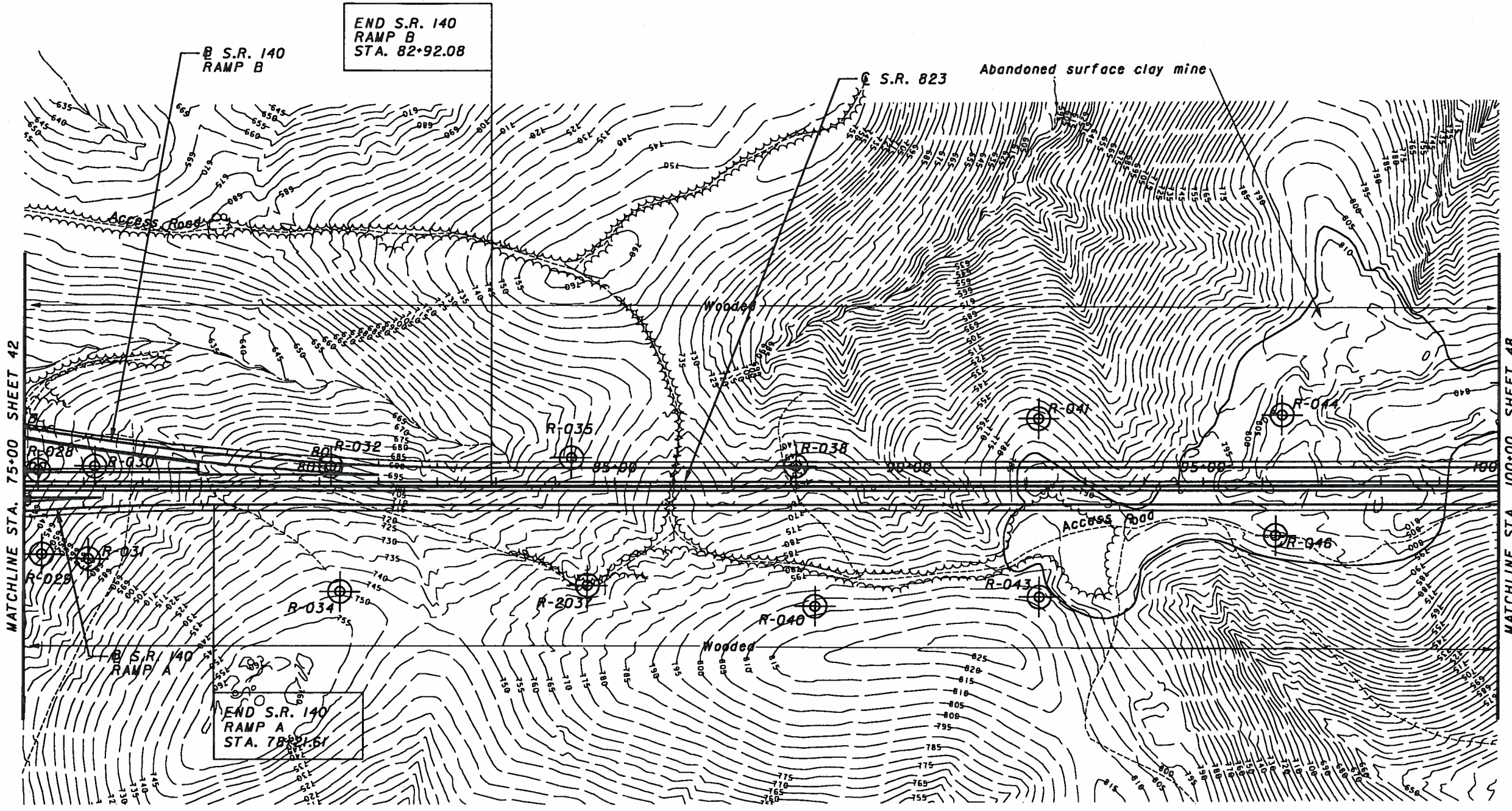
- R-1 Core Loss - 9%, RQD - 83%
- (A) Medium hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, medium bedded, moderately to highly fractured with clay infilling.



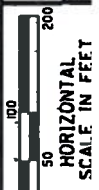
END S.R. 140
RAMP B
STA. 82+92.08

B S.R. 140
RAMP B

C S.R. 823 Abandoned surface clay mine



CROSS SECTION INDEX	
STATION	SHEET
75+00	83
76+00	84
80+50	85
84+50	86
88+00	87
92+00	88
96+50	89
100+00	90



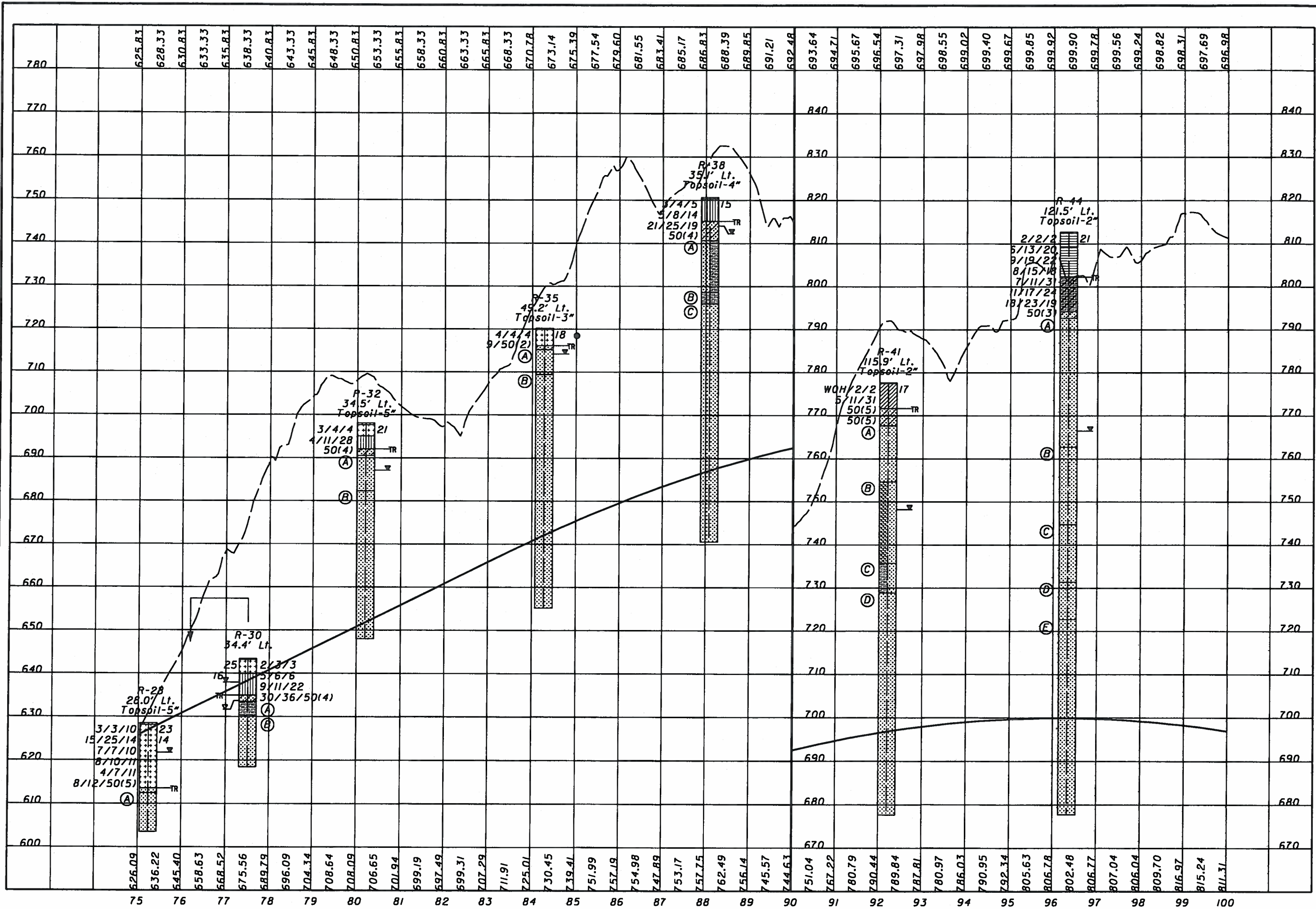
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SOIL PROFILE
S.R. 823 STA. 75+00 TO STA. 100+00

SCI-823-0.00



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SOIL PROFILE
 S.R. 823 STA. 75+00 TO STA. 100+00

SCI-823-0.00

R-35

- R-1 No Core Loss, RQD - 64%
- Ⓐ Medium hard brown SANDSTONE; fine grained, highly weathered, highly fractured.
- Ⓑ Medium hard to hard gray SANDSTONE; fine grained, moderately weathered, micaceous, moderately fractured.
- R-2 No Core Loss, RQD - 93%
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 92%
- R-5 No Core Loss, RQD - 99%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%

R-32

- R-1 No Core Loss, RQD - 65%
- Ⓐ Soft brown SANDSTONE; fine grained, highly weathered, micaceous, highly fractured.
- R-2 No Core Loss, RQD - 57%
- Ⓑ Medium hard gray SANDSTONE; fine grained, moderately weathered, micaceous, highly fractured, contains clay filled fractures.
- R-3 No Core Loss, RQD - 88%
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%

R-28

- R-1 No Core Loss, RQD - 93%
- Ⓐ Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly bedded to thickly bedded, slightly fractured.
- Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, pyritic, thinly bedded to thickly bedded, slightly fractured.

R-41

- R-1 No Core Loss, RQD - 63%
- Ⓐ Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle iron stained fractures.
- R-2 No Core Loss, RQD - 68%
- Ⓑ Medium hard to hard brownish gray SANDSTONE interbedded with SILTSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, contains few argillaceous laminations.
- R-3 Core Loss - 15%, RQD - 80%
- R-4 No Core Loss, RQD - 91%
- Ⓒ Medium hard to hard gray SHALE interbedded with very fine grained SANDSTONE; highly weathered, micaceous, thinly laminated to thinly bedded.
- Ⓓ Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thickly bedded to massive, slightly fractured to unfractured.
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 100%
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%

R-30

- R-1 No Core Loss, RQD - 21%
- Ⓐ Soft brown SHALE; highly weathered to decomposed, arenaceous, fractured.
- R-2 No Core Loss, RQD - 80%
- Ⓑ Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly bedded to thickly bedded, slightly fractured.
- R-3 No Core Loss, RQD - 61%

R-44

- R-1 No Core Loss, RQD - 96%
- Ⓐ Medium hard to hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-2 No Core Loss, RQD - 96%
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 100%
- Ⓑ Hard gray very fine to fine grained SANDSTONE, moderately to slightly weathered, argillaceous, micaceous, massively bedded, slightly fractured, contains few argillaceous laminations.
- R-5 No Core Loss, RQD - 100%
- Ⓒ Medium hard very fine grained SANDSTONE; argillaceous, micaceous, thinly bedded to massive, slightly fractured; contains few argillaceous laminations.
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- Ⓓ Hard gray very fine to fine grained SANDSTONE; moderately weathered to slightly weathered, argillaceous, micaceous, massive, slightly to unfractured.
- R-8 No Core Loss, RQD - 100%
- Ⓔ Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, pyritic, thinly bedded to thickly bedded.
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%
- R-11 No Core Loss, RQD - 100%
- R-12 No Core Loss, RQD - 100%

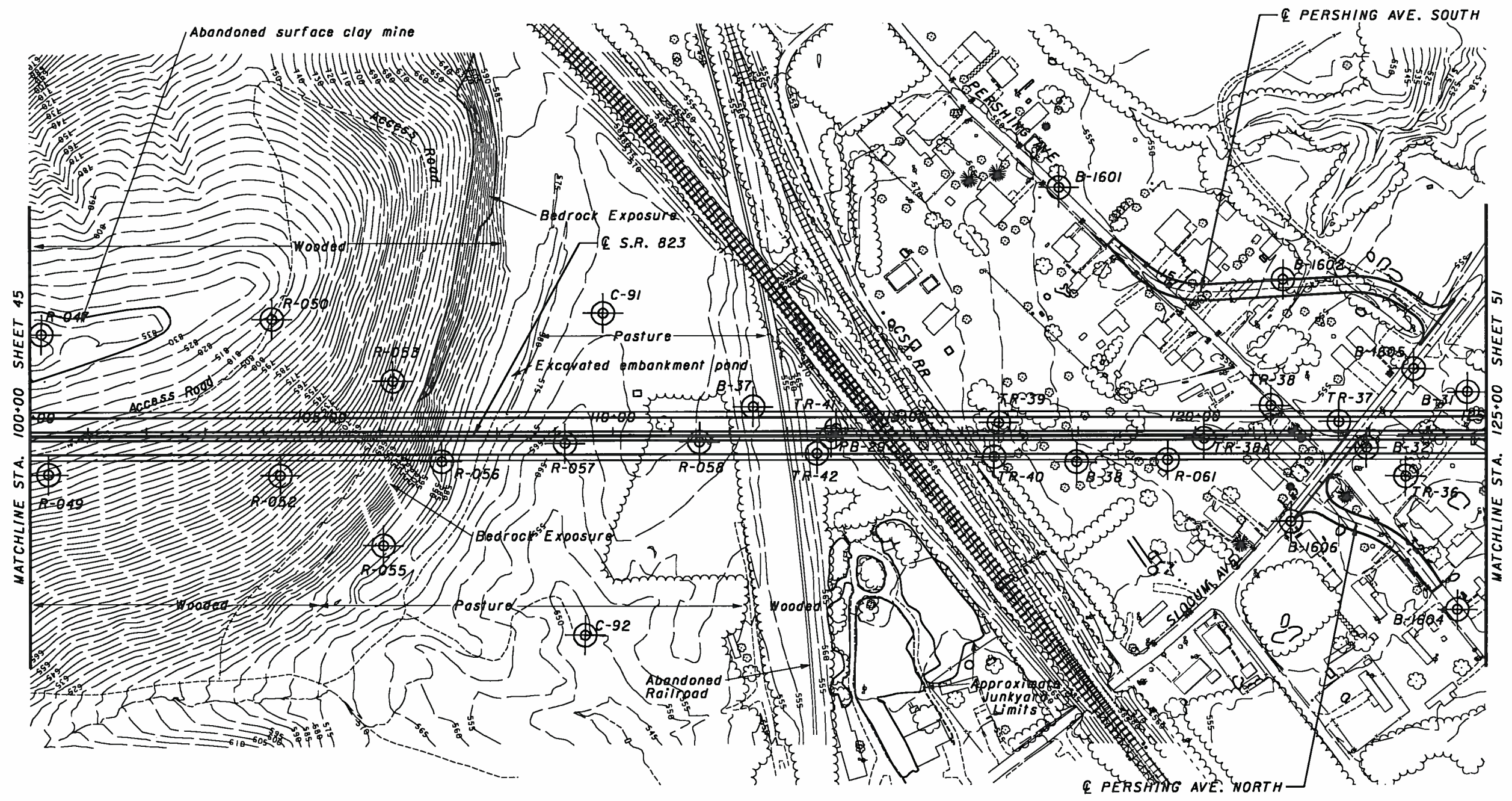
R-38

- R-1 No Core Loss, RQD - 63%
- Ⓐ Soft brown SANDSTONE interbedded with SHALE; very fine grained to fine grained, highly weathered to decomposed, argillaceous, micaceous, highly fractured.
- R-2 Core Loss - 3%, RQD - 46%
- R-3 No Core Loss, RQD - 93%
- Ⓑ Soft to medium hard gray SHALE; arenaceous, highly weathered, highly fractured.
- Ⓒ Medium hard to hard gray SANDSTONE; very fine to fine grained, highly to moderately weathered, micaceous, moderately fractured.
- R-4 No Core Loss, RQD - 98%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 100%

SOIL PROFILE
S.R. 823 STA. 75+00 TO STA. 100+00

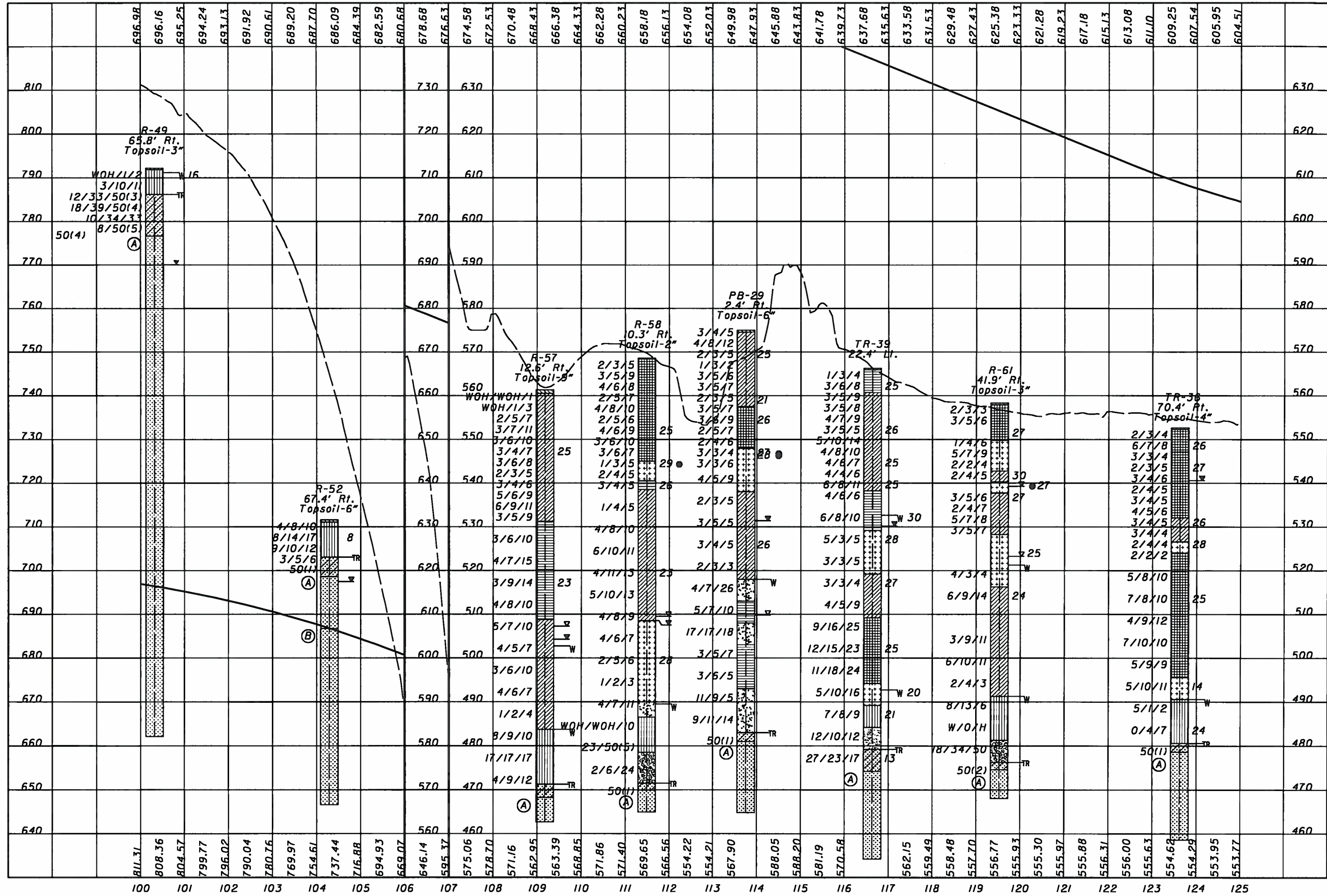
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NOTE:
 BORINGS B-1601, B-1602, AND B-1605 SHOWN ON PERSHING AVE. SOUTH PROFILE, SHEET 167.
 BORINGS B-1604 AND B-1606 SHOWN ON PERSHING AVE. NORTH PROFILE, SHEET 168.
 BORINGS TR-36 TO TR-42, B-31, B-32, B-37, AND B-38 SHOWN ON STRUCTURE
 FOUNDATION INVESTIGATION SHEETS.

CROSS SECTION INDEX	
STATION	SHEET
100+00	90
104+00	91
106+50	92
110+00	93



SOIL PROFILE
S.R. 823 STA. 100+00 TO STA. 125+00

SCI-823-0.00

R-52

- R-1 Core Loss - 21%, RQD - 51%
 - (A) Medium hard brown SANDSTONE; fine grained, moderately to highly weathered, micaceous, highly fractured.
- R-2 Core Loss - 5%, RQD - 79%
 - (B) Medium hard to hard gray SANDSTONE; fine grained, moderately weathered, micaceous, moderately to highly fractured.
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%

R-49

- R-1 Core Loss - 3%, RQD - 67%
 - (A) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to medium bedded, moderately fractured.
- R-2 No Core Loss, RQD - 96%
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 98%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 98%
- R-9 No Core Loss, RQD - 96%
- R-10 No Core Loss, RQD - 100%
- R-11 No Core Loss, RQD - 100%
- R-12 No Core Loss, RQD - 100%

R-57

- R-1 No Core Loss, RQD - 79%
 - (A) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, medium bedded, slightly to moderately fractured, clay infilling along bedding planes.

R-58

- R-1 No Core Loss, RQD - 100%
 - (A) Medium hard gray to dark gray SANDSTONE; very fine grained, slightly weathered, argillaceous, micaceous, thickly bedded, slightly fractured, contains moderate argillaceous laminations.

PB-29

- R-1 No Core Loss, RQD - 72%
 - (A) Medium hard gray SANDSTONE; fine grained, slightly weathered, thickly bedded to laminated.
- R-2 No Core Loss, RQD - 94%

TR-39

- R-1 No Core Loss, RQD - 90%
 - (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, thinly bedded to massive, slightly fractured, contains few argillaceous laminations.
- R-2 Core Loss - 7%, RQD - 93%
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 100%

R-61

- R-1 No Core Loss, RQD - 88%
 - (A) Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly to medium bedded, slightly fractured, iron stains; contains argillaceous laminations.

TR-36

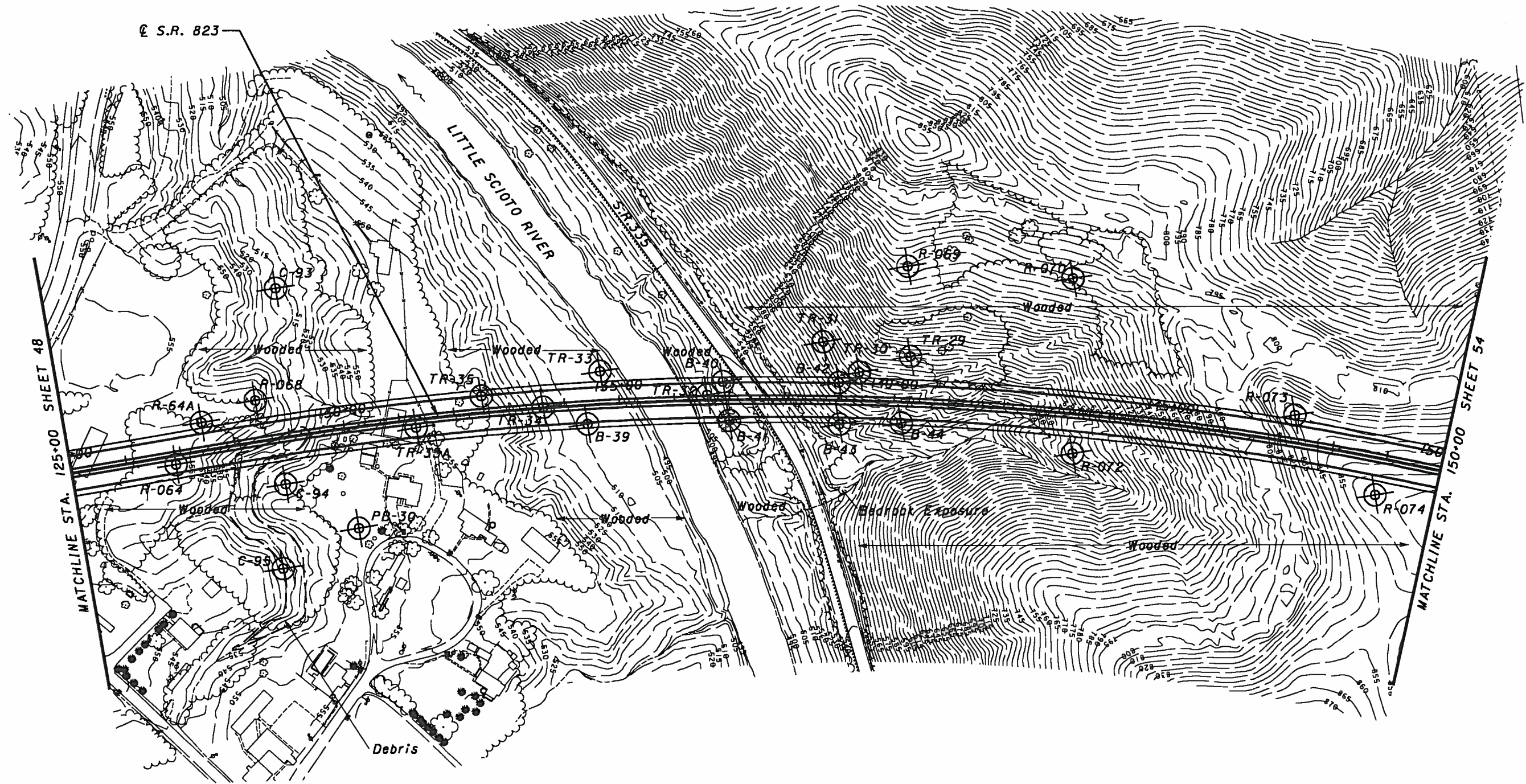
- R-1 Core Loss - 3%, RQD - 70%
 - (A) Hard light gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, massive, slightly fractured.
- R-2 Core Loss - 1%, RQD - 93%

SOIL PROFILE
S.R. 823 STA. 100+00 TO STA. 125+00

SCI-823-0.00

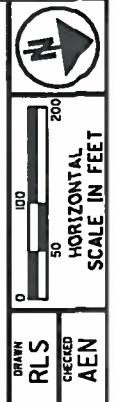


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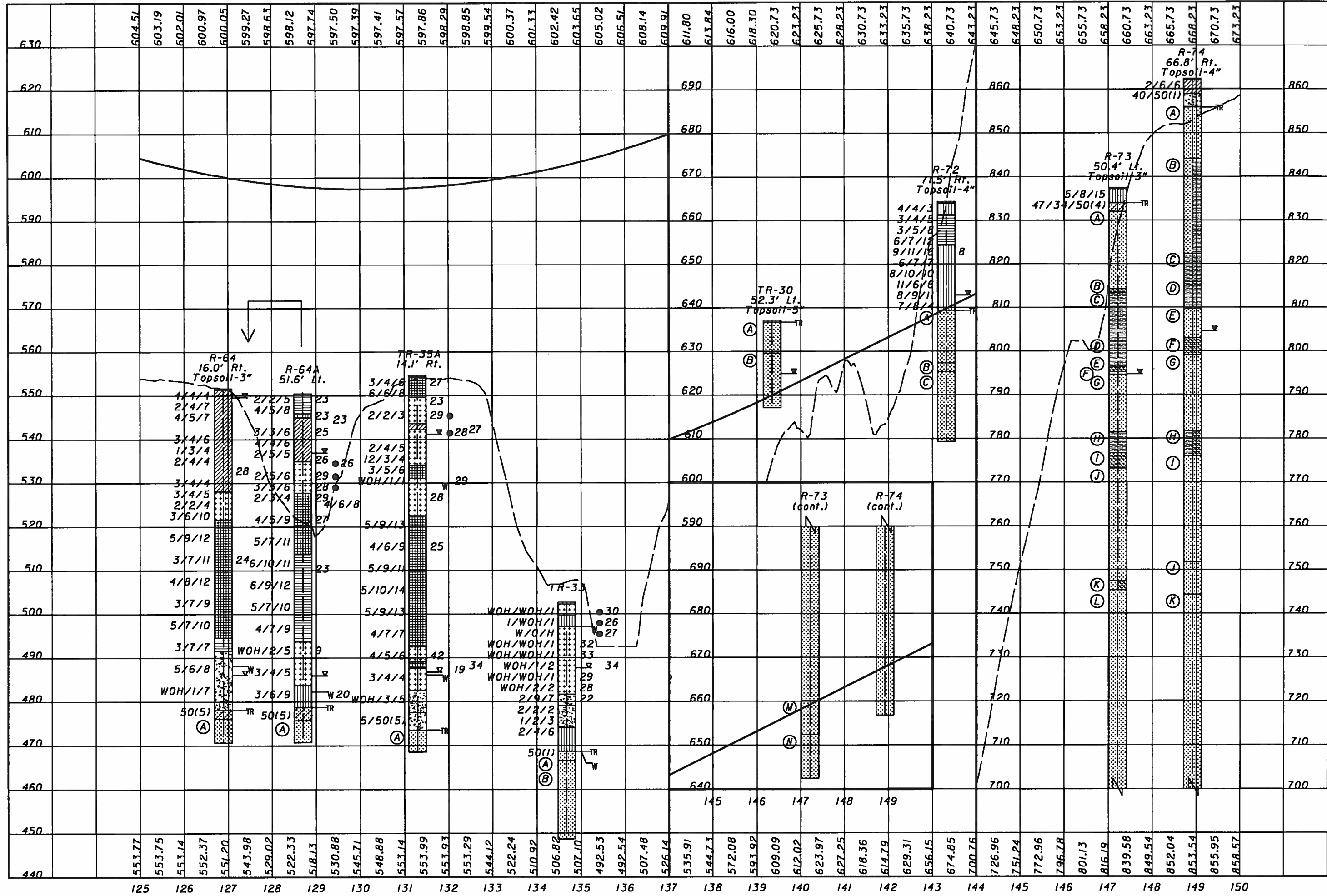
NOTE:
 BORINGS TR-29 TO TR-35A AND B-39 TO B-44 SHOWN ON
 STRUCTURE FOUNDATION INVESTIGATION SHEETS.

CROSS SECTION INDEX	
STATION	SHEET
128+50	94
129+50	95
140+00	96
143+00	97



SOIL PROFILE
 S.R. 823 STA. 125+00 TO STA. 150+00

SCI-823-0.00



R-73

R-74

R-64

TR-35A

TR-30

R-64A

TR-33

R-72

- R-1 No Core Loss, ROD - 41%
 (A) Soft to medium hard light brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, broken to highly fractured with typical low angle fracture.
- R-2 No Core Loss, ROD - 38%
 R-3 No Core Loss, ROD - 100%
- (B) Soft brownish gray SILTSTONE; decomposed.
 (C) Soft dark gray to black SHALE; highly weathered to decomposed, arenaceous, carbonaceous, highly fractured.
- R-4 No Core Loss, ROD - 84%
 (D) Soft light gray SHALE; highly weathered to decomposed, arenaceous, highly fractured.
 (E) Medium hard gray SILTSTONE; highly weathered, arenaceous, highly fractured.
 (F) Soft light gray SHALE; highly weathered to decomposed, arenaceous, highly fractured.
- R-5 No Core Loss, ROD - 92%
 (G) Medium hard light gray SANDSTONE; medium to fine grained, highly weathered, moderately to highly fractured.
- R-6 No Core Loss, ROD - 100%
 (H) Soft dark gray SHALE; decomposed to highly weathered, carbonaceous, highly fractured.
 (I) Soft grayish brown SILTSTONE; highly weathered, argillaceous, contains moderate to abundant argillaceous laminations.
- R-7 No Core Loss, ROD - 100%
 (J) Hard gray SANDSTONE; argillaceous, moderately to highly weathered, contains turbidity bedding, slightly fractured, contains few argillaceous interbedded.
- R-8 No Core Loss, ROD - 100%
 R-9 No Core Loss, ROD - 95%
 (K) Medium hard to hard gray SILTSTONE interbedded with very fine grain SANDSTONE; highly weathered, highly fractured.
- (L) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, contains few argillaceous laminations, slightly fractured to unfractured.
- R-10 No Core Loss, ROD - 100%
 R-11 No Core Loss, ROD - 100%
 R-12 No Core Loss, ROD - 100%
 R-13 No Core Loss, ROD - 100%
 R-14 No Core Loss, ROD - 100%
 R-15 No Core Loss, ROD - 100%
 R-16 No Core Loss, ROD - 100%
 R-17 No Core Loss, ROD - 100%
 R-18 No Core Loss, ROD - 100%
- (M) Hard gray SANDSTONE; argillaceous, micaceous, slightly fractured, contains turbidity bedding, moderate argillaceous interbedding.
- R-19 No Core Loss, ROD - 100%
 (N) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-20 No Core Loss, ROD - 100%

- R-1 Core Loss - 36%, ROD - 0%
 (A) Soft to medium hard brown SANDSTONE; fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle rust stained fractures.
- R-2 Core Loss - 39%, ROD - 28%
 (B) Soft to medium hard brown and gray SANDSTONE interbedded with SHALE; very fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typically low angle clay filled fractures.
- R-3 No Core Loss, ROD - 39%
 R-4 No Core Loss, ROD - 53%
 R-5 No Core Loss, ROD - 80%
 (C) Soft to medium hard gray SHALE; highly weathered to decomposed, argillaceous.
 (D) Medium hard gray SHALE; moderately to highly weathered, micaceous, carbonaceous, thinly laminated to thinly bedded.
- R-6 Core Loss - 12%, ROD - 76%
 (E) Medium hard dark gray SANDSTONE; very fine to fine grained, moderately weathered, micaceous, argillaceous, thinly bedded to thickly bedded, contains abundant argillaceous laminations.
 (F) Soft to medium hard gray SILTSTONE; highly weathered to decomposed, argillaceous.
- R-7 No Core Loss, ROD - 53%
 (G) Medium hard gray SANDSTONE; fine grained, moderately weathered, argillaceous, thinly bedded to thickly bedded, occasional COAL stringers.
- R-8 No Core Loss, ROD - 59%
 R-9 Core Loss - 8%, ROD - 71%
 (H) Soft gray SHALE and SILTSTONE; decomposed, argillaceous, carbonaceous.
 (I) Hard gray SANDSTONE; very fine to fine grained, highly to moderately weathered, micaceous, argillaceous, thinly to thickly bedded, moderately to slightly fractured.
- R-10 No Core Loss, ROD - 88%
 R-11 No Core Loss, ROD - 100%
 R-12 No Core Loss, ROD - 85%
 (J) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, micaceous, argillaceous, thinly laminated to thinly bedded, moderately fractured, with typically low angle clay filled fractures, contains moderate argillaceous laminations.
- (K) Hard gray SANDSTONE, very fine to fine grained, slightly weathered, micaceous, argillaceous, thickly bedded to massive, slightly fractured to unfractured.
- R-13 No Core Loss, ROD - 94%
 R-14 No Core Loss, ROD - 100%
 R-15 No Core Loss, ROD - 100%
 R-16 No Core Loss, ROD - 98%
 R-17 No Core Loss, ROD - 100%
 R-18 No Core Loss, ROD - 100%
 R-19 No Core Loss, ROD - 100%
 R-20 No Core Loss, ROD - 100%
 R-21 No Core Loss, ROD - 100%
 R-22 No Core Loss, ROD - 100%

- R-1 No Core Loss, ROD - 83%
 (A) Medium hard to hard gray to dark gray SANDSTONE; fine grained, slightly weathered, argillaceous, thickly bedded, highly fractured.
- R-1 No Core Loss, ROD - 62%
 (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly to thickly bedded, moderately fractured.
 (B) Medium hard gray very fine grained SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly to thickly bedded, slightly fractured.
- R-2 No Core Loss, ROD - 100%

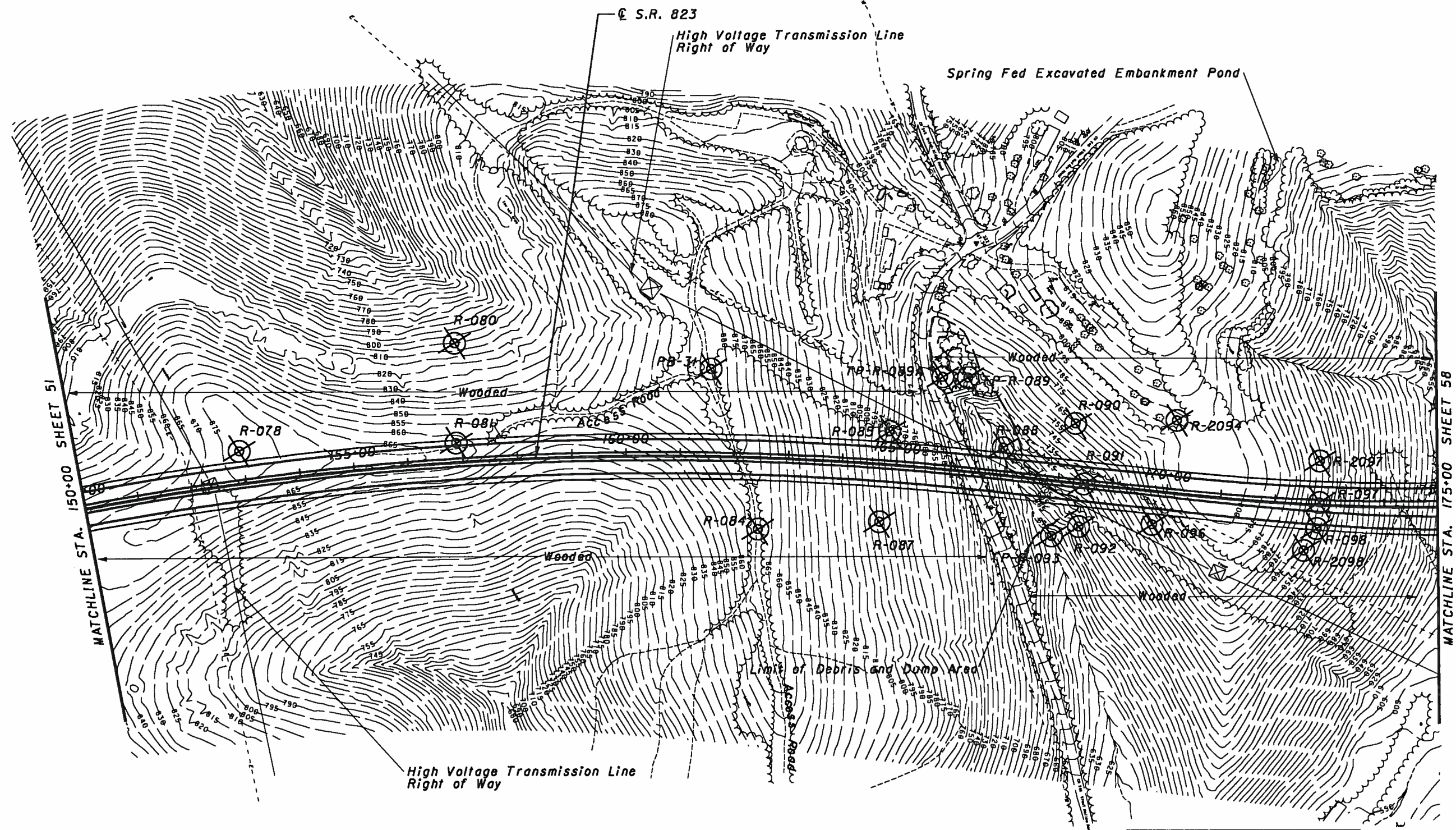
- R-1 No Core Loss, ROD - 71%
 (A) Medium hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, medium to thickly bedded, moderately fractured.
- R-1 No Core Loss, ROD - 100%
 (A) Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thickly bedded, slightly fractured.
- R-1 Core Loss - 70%, ROD - 21%
 (A) Soft to medium hard brownish gray SANDSTONE; very fine to fine grained, decomposed, argillaceous, thinly bedded, broken, contains clay filled fractures.
- R-2 Core Loss - 34%, ROD - 27%
 (B) Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, highly fractured, with low angle clay filled fractures.
 (C) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-3 No Core Loss, ROD - 98%
 R-4 No Core Loss, ROD - 100%

DRAWN
RLSCHECKED
AENSOIL PROFILE
S.R. 823 STA. 125+00 TO STA. 150+00

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53/168

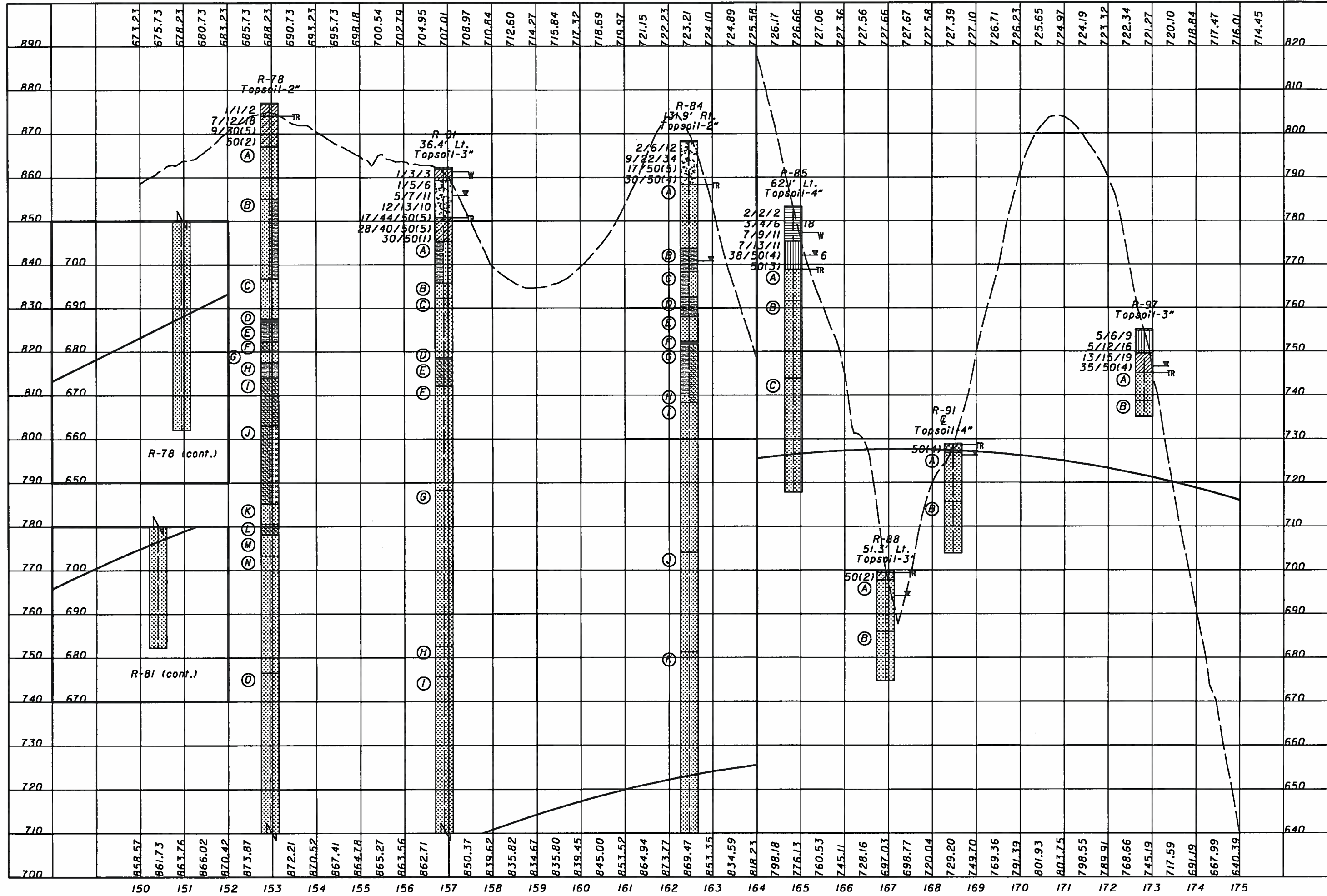




CROSS SECTION INDEX	
STATION	SHEET
157+00	98
162+00	100
165+00	102
166+50	103
168+50	104
170+00	105
173+00	106

MATCHLINE STA. 150+00 SHEET 51

MATCHLINE STA. 175+00 SHEET 58



S.R. 823 STA. 150+00 TO STA. 175+00

SCI-823-0.00

R-78

- R-1 Core Loss - 8%, RQD - 78%
- (A) Medium hard brown SANDSTONE; fine to coarse grained, highly weathered, poorly cemented, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typically low angle rust stained fractures.
- R-2 No Core Loss, RQD - 85%
- (B) Soft to medium hard gray SHALE interbedded with SANDSTONE; very fine to fine grained, highly weathered, mostly weathered SHALE turbidity interbedded, argillaceous, thinly bedded, moderately fractured, with typically low angle clay filled fractures.
- R-3 No Core Loss, RQD - 59%
- R-4 No Core Loss, RQD - 95%
- (C) Soft to medium hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly bedded, moderately fractured, with typically low angle clay filled fractures.
- (D) COAL
- R-5 No Core Loss, RQD - 74%
- (E) Soft to medium hard gray SHALE; highly weathered to decomposed, argillaceous, highly fractured, with typically low angle clay filled fractures.
- (F) Medium hard gray SANDSTONE interbedded with SILTSTONE; very fine to medium grained, moderately to highly weathered, argillaceous, thinly bedded, moderately fractured, with typically low angle fractures.
- (G) Medium hard gray to reddish gray SANDSTONE; fine grained, highly weathered, argillaceous, thickly bedded.
- (H) Medium hard to hard dark gray to black SHALE; very fine to fine grained, moderately weathered, argillaceous, carbonaceous, thinly laminated.
- R-6 Core Loss - 9%, RQD - 58%
- (I) Soft to medium hard gray and red SILTSTONE; moderately to highly weathered, argillaceous, contains slickensides in high angle fractures.
- R-7 No Core Loss, RQD - 91%
- (J) Medium hard red and gray SILTSTONE interbedded with CLAYSTONE; moderately to highly weathered, very arenaceous, turbid, with slicken sides on high angle fractures.
- R-8 No Core Loss, RQD - 94%
- R-9 No Core Loss, RQD - 94%
- (K) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded.
- (L) Medium hard red SILTSTONE; highly weathered, arenaceous, slickensides.
- (M) Medium hard gray SANDSTONE; fine to medium grained, highly weathered, highly argillaceous, calcareous, thinly bedded to massive, highly fractured, poorly cemented, with typical low angle fractures.
- R-10 No Core Loss, RQD - 87%
- (N) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded.

R-78 (cont.)

- R-11 No Core Loss, RQD - 100%
- R-12 No Core Loss, RQD - 100%
- R-13 No Core Loss, RQD - 100%
- (O) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive to thickly bedded, slightly fractured to unfractured, contains few argillaceous laminations.
- R-14 No Core Loss, RQD - 100%
- R-15 No Core Loss, RQD - 100%
- R-16 No Core Loss, RQD - 100%
- R-17 No Core Loss, RQD - 100%
- R-18 No Core Loss, RQD - 100%
- R-19 No Core Loss, RQD - 100%
- R-20 No Core Loss, RQD - 100%
- R-21 No Core Loss, RQD - 100%

R-85

- R-1 No Core Loss, RQD - 90%
- (A) Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thickly bedded, highly fractured, with typical low angle fractures.
- R-2 No Core Loss, RQD - 79%
- (B) Medium hard brown SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle fractures.
- R-3 No Core Loss, RQD - 73%
- R-4 Core Loss - 3%, RQD - 96%
- (C) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured to unfractured, contains few argillaceous laminations.
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%

R-97

- R-1 No Core Loss, RQD - 85%
- (A) Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thickly bedded, highly fractured, with typical low angle clay filled fractures.
- (B) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thickly bedded weathered.

R-91

- R-1 No Core Loss, RQD - 70%
- (A) Hard to very hard brown and gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured with typically low angle clay filled fractures.
- R-2 No Core Loss, RQD - 92%
- (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded.
- R-3 No Core Loss, RQD - 100%

R-88

- R-1 Core Loss - 53%, RQD - 0%
- (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, broken, contains large filled fractures.
- R-2 No Core Loss, RQD - 78%
- (B) Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typically low angle fractures, contains few argillaceous laminations.
- R-3 No Core Loss, RQD - 100%



R-81

- R-1 No Core Loss, RQD = 42%
 - (A) Soft to medium hard gray SHALE interbedded with SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures, turbidity interbedded with silt and clay size grains, poorly cemented orange/grey.
- R-2 No Core Loss, RQD = 57%
 - (B) Hard gray SANDSTONE; fine to medium grained, highly weathered, argillaceous, medium bedded, highly fractured to broken, turbidity bedding.
- R-3 No Core Loss, RQD = 54%
 - (C) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typically low angle clay filled fractures, turbidity interbedded with argillaceous laminations, poorly cemented SILT.
- R-4 No Core Loss, RQD = 30%
 - (D) Medium hard black COAL; highly weathered, thinly bedded.
 - (E) Soft to medium hard gray and red SILTSTONE; highly weathered to decomposed, argillaceous, shaley zones laminated to thinly bedded.
- R-5 No Core Loss, RQD = 93%
 - (F) Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded.
- R-6 No Core Loss, RQD = 97%
- R-7 No Core Loss, RQD = 100%
 - (G) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-8 No Core Loss, RQD = 100%
- R-9 No Core Loss, RQD = 100%
- R-10 No Core Loss, RQD = 100%
 - (H) Hard gray SANDSTONE; very fine grained, slightly weathered, argillaceous, micaceous, thinly laminated to thinly bedded, slightly fractured.
- R-11 No Core Loss, RQD = 100%
 - (I) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thickly bedded to massive, slightly fractured, contains few argillaceous laminations.
- R-12 No Core Loss, RQD = 53%
- R-13 No Core Loss, RQD = 100%
- R-14 No Core Loss, RQD = 100%
- R-15 No Core Loss, RQD = 100%
- R-16 No Core Loss, RQD = 100%
- R-17 No Core Loss, RQD = 100%

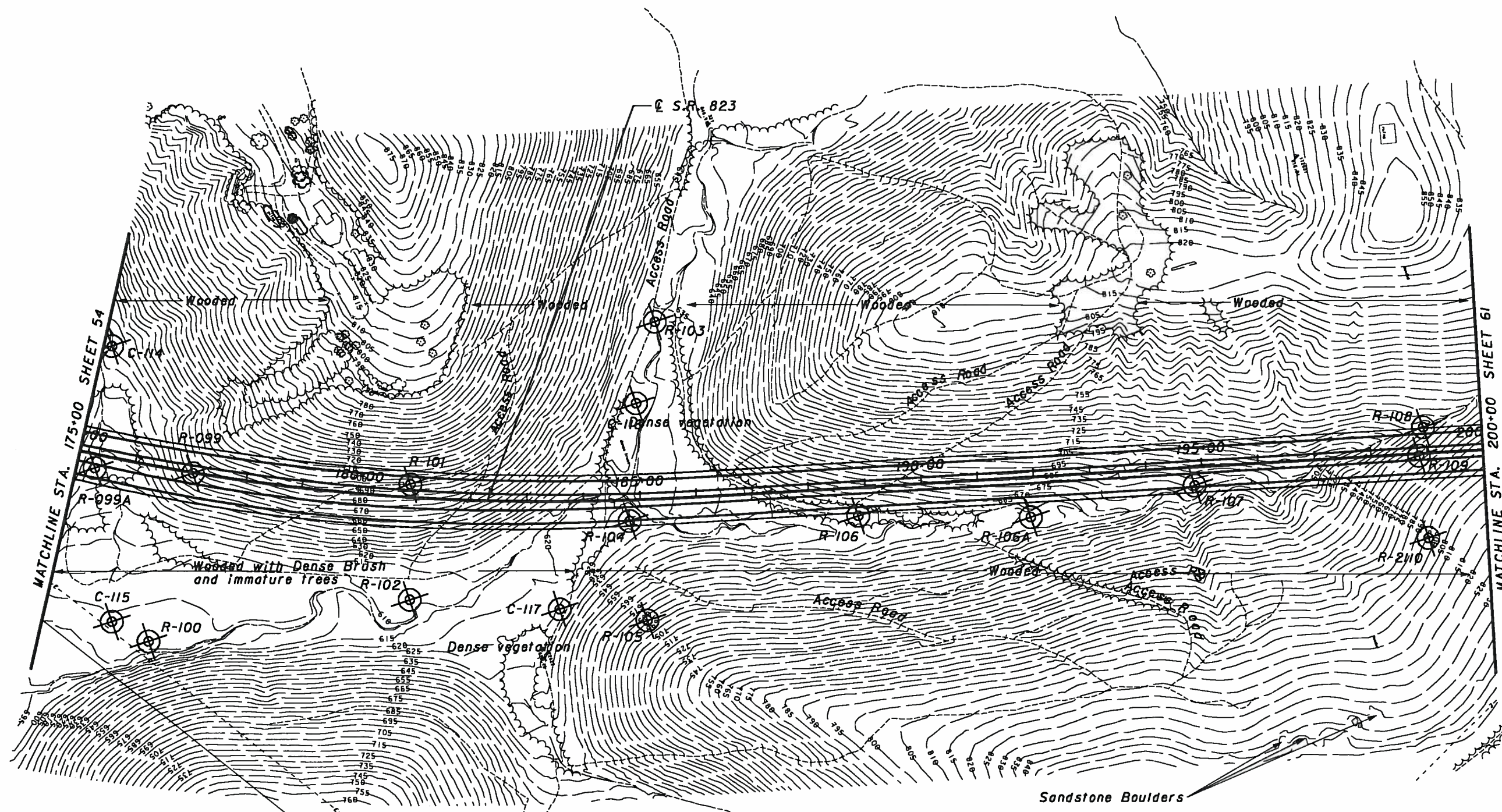
R-84

- R-1 Core Loss = 39%, ROD = 40%
 - (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle rust stained fractures.
- R-2 Core Loss = 25%, RQD = 46%
 - (B) Medium hard gray SHALE; highly to moderately weathered, arenaceous, micaceous, thinly to thickly bedded, moderately fractured, contains abundant arenaceous laminations.
- R-3 No Core Loss, RQD = 100%
- R-4 No Core Loss, RQD = 90%
 - (C) Medium hard gray SANDSTONE interbedded with SHALE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typically low angle fractures.
 - (D) Soft to medium hard gray SHALE; highly weathered to decomposed, argillaceous, carbonaceous, bedding weathered out.
- R-5 No Core Loss, RQD = 86%
 - (E) Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, contains coal stringers.
 - (F) Medium hard black COAL; slightly weathered, thinly bedded.
 - (G) Soft to medium hard gray and red SILTSTONE interbedded with SHALE; highly weathered, argillaceous, thinly bedded, moderately fractured, with typically high angle slickensided fractures.
- R-6 No Core Loss, RQD = 85%
 - (H) Medium hard gray SANDSTONE interbedded with SILTSTONE.
- R-7 No Core Loss, RQD = 100%
 - (I) Medium hard light gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured, contains few argillaceous laminations and medium grained iron stained sandstone.
- R-8 No Core Loss, RQD = 98%
- R-9 No Core Loss, RQD = 100%
- R-10 No Core Loss, RQD = 100%
 - (J) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured.
- R-11 No Core Loss, RQD = 100%
- R-12 No Core Loss, RQD = 100%
 - (K) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly laminated to thinly bedded, unfractured to slightly fractured.
- R-13 No Core Loss, RQD = 100%
- R-14 No Core Loss, RQD = 100%
- R-15 No Core Loss, RQD = 100%
- R-16 No Core Loss, RQD = 100%

SOIL PROFILE
S.R. 823 STA. 150+00 TO STA. 175+00

SCI-823-0.00





MATCHLINE STA. 175+00 SHEET 54

MATCHLINE STA. 200+00 SHEET 61

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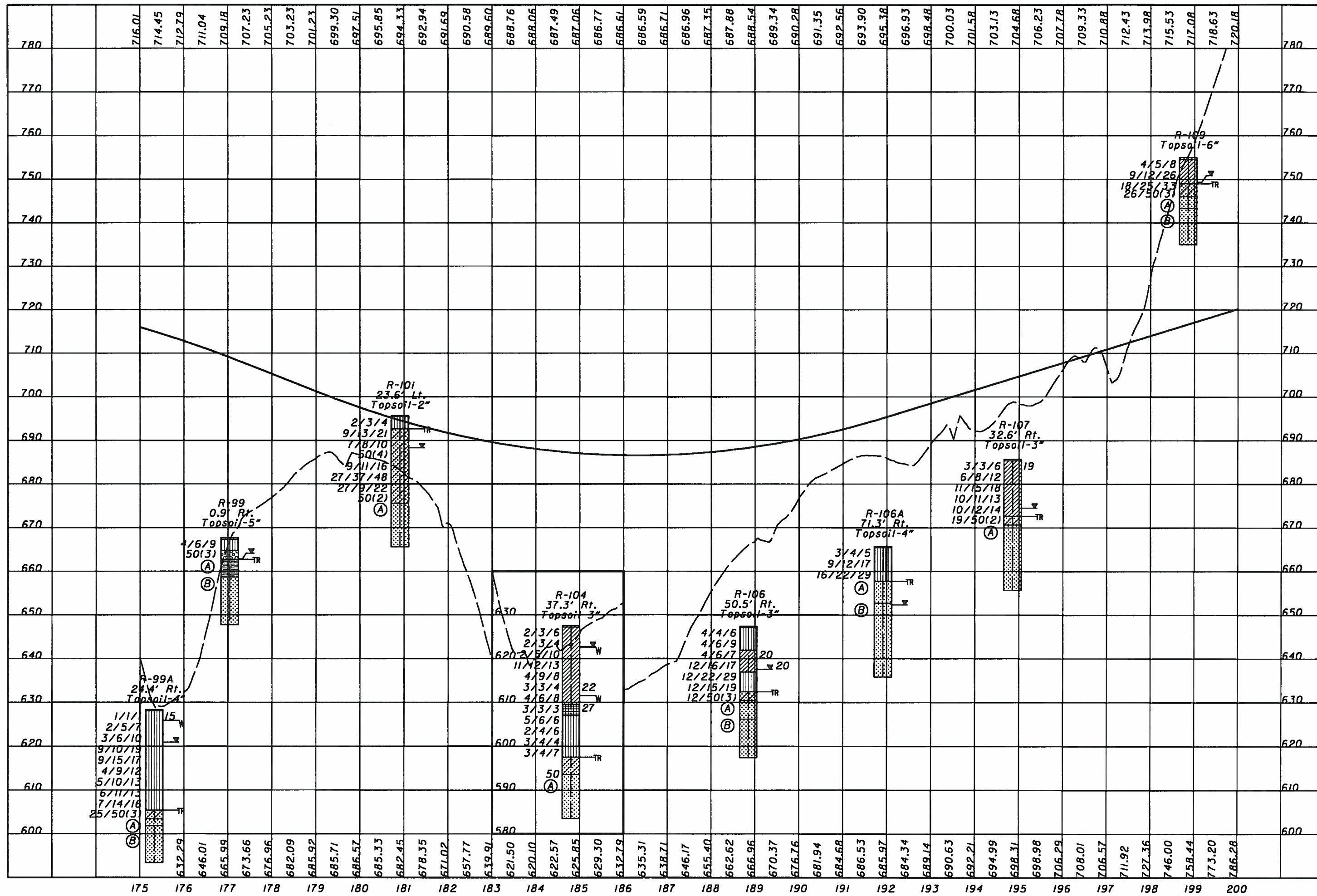
SOIL PROFILE
 S.R. 823 STA. 175+00 TO STA. 200+00

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R-101

R-1 No Core Loss, ROD = 33%

- (A) Medium hard to hard gray and brown SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly to thickly bedded, highly fractured, with typical high angle rust stained fractures.

R-104

R-1 No Core Loss, ROD = 79%

- (A) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly to thickly bedded, slightly to moderately fractured.

R-109

R-1 No Core Loss, ROD = 79%

- (A) Medium hard to hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures, contains moderate argillaceous laminations.
- (B) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly to thickly bedded, slightly to moderately fractured, with typical high angle rust stained fractures, contains few argillaceous laminations.

R-2 No Core Loss, ROD = 88%

R-99

R-1 No Core Loss, ROD = 63%

- (A) Soft brown SHALE; highly weathered to decomposed, moderately fractured with typical low angle clay filled fractures; contains moderate arenaceous laminations.

R-2 No Core Loss, ROD = 73%

- (B) Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle clay filled fractures.

R-106

R-1 No Core Loss, ROD = 22%

- (A) Soft gray and brown SANDSTONE; very fine to fine grained, decomposed to highly weathered, argillaceous, thinly to thickly bedded, highly fractured to broken, with typical low angle fractures.

- (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, pyritic, thickly bedded, moderately to highly fractured.

R-2 No Core Loss, ROD = 100%

R-107

R-1 No Core Loss, ROD = 76%

- (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly laminated to thickly bedded, slightly to highly fractured, with typically low angle fractures; contains few argillaceous laminations.

R-2 No Core Loss, ROD = 80%

R-99A

R-1 No Core Loss, ROD = 53%

- (A) Medium hard to hard gray and brown SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded.

- (B) Hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly to thickly bedded, moderately to highly fractured, with typical low angle clay filled fractures, bedded.

R-106A

R-1 Core Loss = 47%, ROD = 0%

- (A) Very soft to soft brown SANDSTONE; very fine to fine grained, decomposed, argillaceous, broken; contains gravel and other residual soil like materials.

R-2 No Core Loss, ROD = 84%

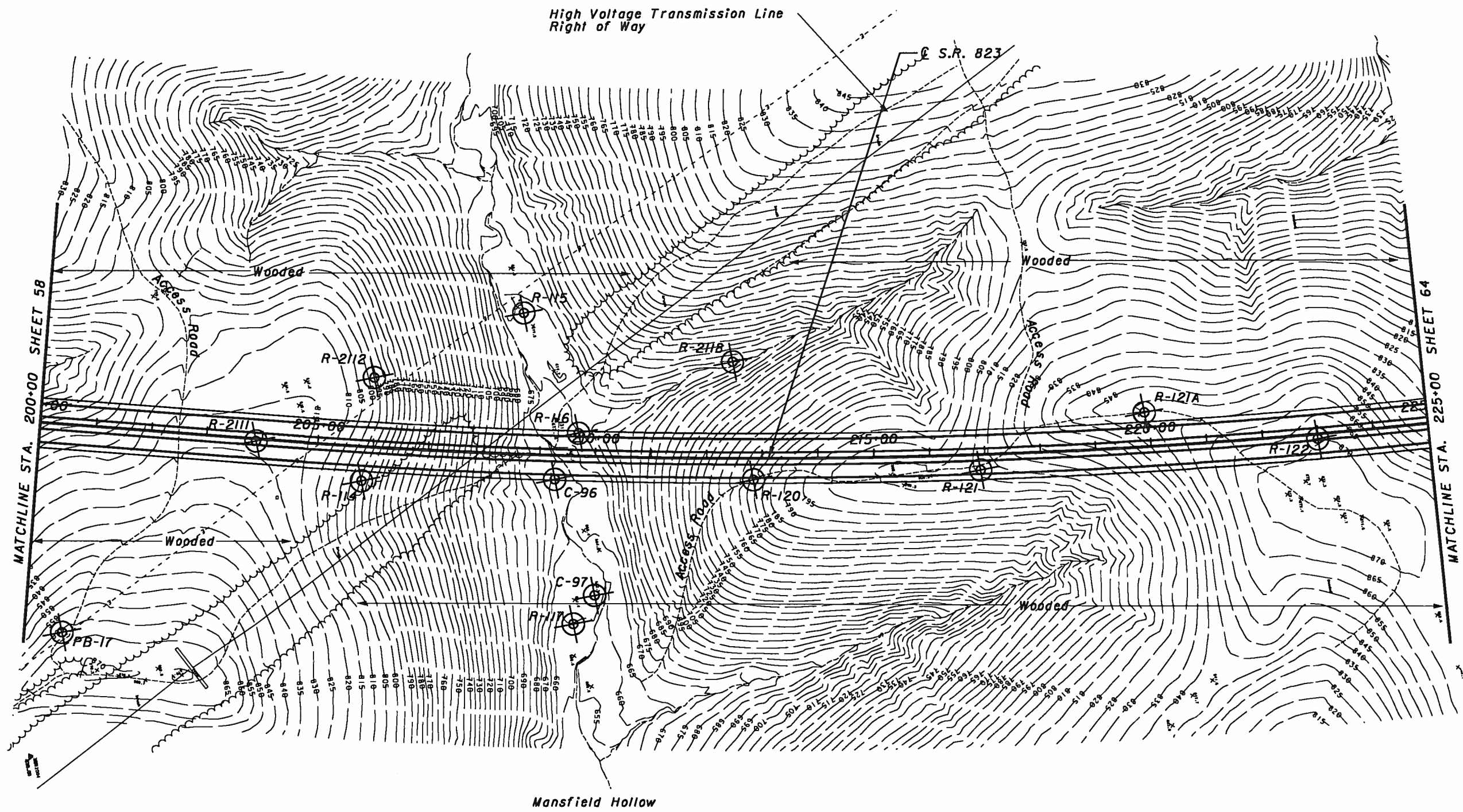
- (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly to thickly bedded, slightly to moderately fractured, with typical low angle fractures.

R-3 No Core Loss, ROD = 100%



SOIL PROFILE
S.R. 823 STA. 175+00 TO STA. 200+00

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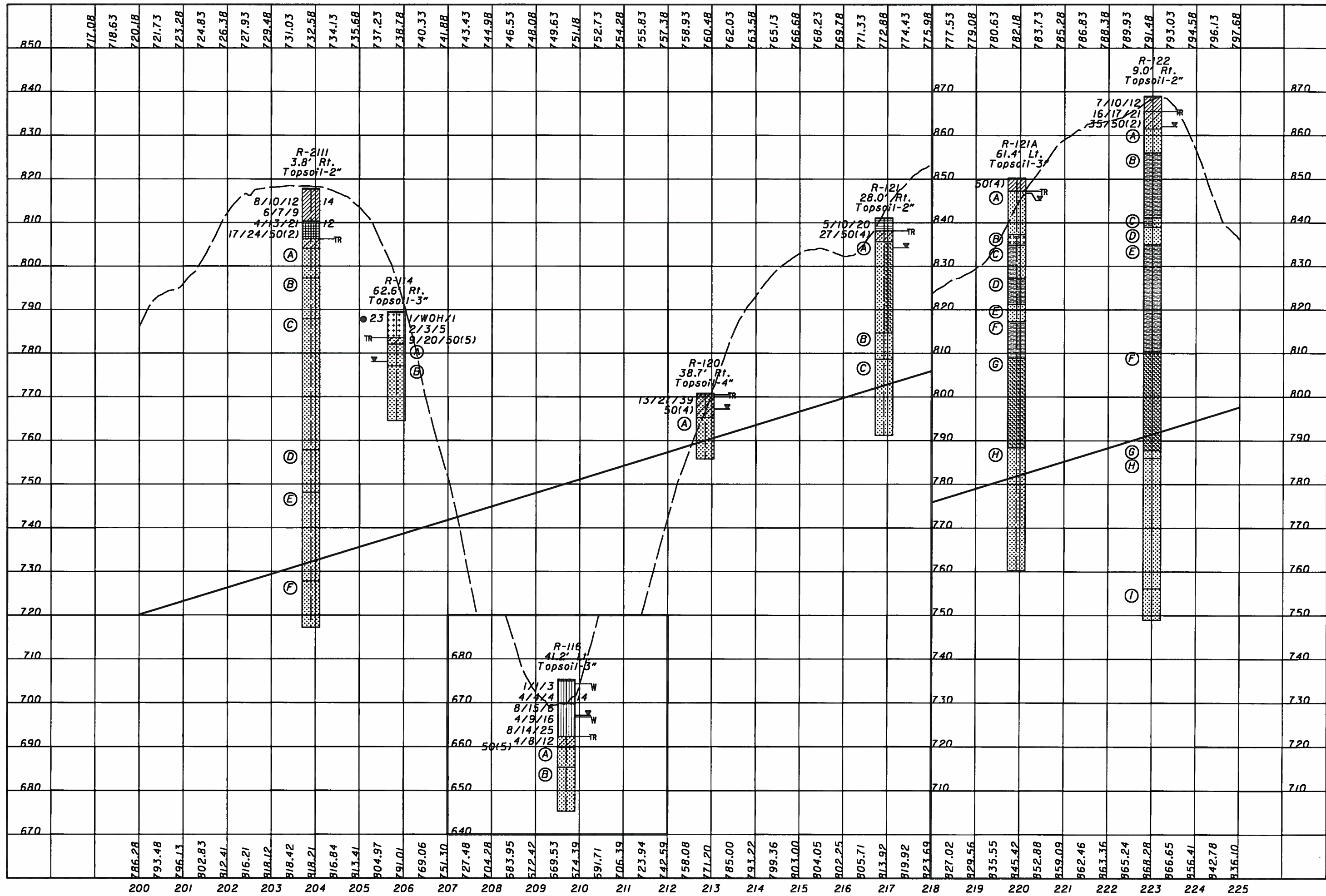


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206+00	113
209+50	114
212+50	115



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SOIL PROFILE
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SOIL PROFILE
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R-121A

- R-1 No Core Loss, ROD - 30%
 - (A) Soft to medium hard brown SANDSTONE; fine grained, broken to highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, contains clay filled fractures.
- R-2 Core Loss - 19%, ROD - 37%
 - (B) Soft to medium hard dark gray CLAYSTONE; highly weathered to decomposed, argillaceous, carbonaceous, thinly bedded, moderately fractured, with typically low angle fractures.
 - (C) Medium hard to hard brown and gray SANDSTONE interbedded with SHALE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures.
- R-3 No Core Loss, ROD - 73%
 - (D) Soft to medium hard dark gray SHALE; highly weathered to decomposed, argillaceous, carbonaceous, thinly laminated to thinly bedded, moderately fractured.
 - (E) Soft to medium hard gray SANDSTONE. very fine to fine grained, highly weathered, argillaceous, thinly bedded, moderately fractured.
- R-4 No Core Loss, ROD - 90%
 - (F) Soft to medium hard gray SHALE; decomposed.
 - (G) Medium hard gray SILTSTONE; highly weathered to decomposed, arenaceous, moderately fractured.
- R-5 No Core Loss, ROD - 100%
- R-6 No Core Loss, ROD - 93%
 - (H) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured contains moderate argillaceous laminations.
- R-7 No Core Loss, ROD - 100%
- R-8 No Core Loss, ROD - 96%
- R-9 No Core Loss, ROD - 100%

R-114

- R-1 No Core Loss, ROD - 73%
 - (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded, highly fractured, with typical low angle fractures.
 - (B) Medium hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thickly bedded, moderately fractured, with typical low angle fractures.
- R-2 Core Loss - 4%, ROD - 92%

R-122

- R-1 No Core Loss, ROD - 41%
 - (A) Soft to medium hard brown and gray SANDSTONE; fine to medium grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, ROD - 61%
 - (B) Soft to medium hard dark gray SHALE; decomposed to highly weathered, arenaceous, carbonaceous, thinly laminated, highly fractured, with typical high angle clay filled fractures.
- R-3 No Core Loss, ROD - 60%
 - (C) Medium hard brown SANDSTONE interbedded with SHALE.
 - (D) Medium hard brown SANDSTONE; fine grained, highly weathered, argillaceous, micaceous, thinly bedded, highly fractured.
- R-4 No Core Loss, ROD - 88%
 - (E) Soft to medium hard dark gray SHALE; highly weathered to decomposed, arenaceous, carbonaceous, moderately fractured.
- R-5 No Core Loss, ROD - 97%
- R-6 No Core Loss, ROD - 100%
 - (F) Medium hard gray and red SILTSTONE; moderately to highly weathered, arenaceous, moderately fractured, contains few sandstone interbeds.
- R-7 No Core Loss, ROD - 88%
- R-8 No Core Loss, ROD - 95%
 - (G) Medium hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded, contains abundant to moderate argillaceous laminations.
- R-9 No Core Loss, ROD - 98%
 - (H) Medium hard to very hard SANDSTONE; fine grained, moderately weathered, argillaceous, massive, slightly fractured.
- R-10 No Core Loss, ROD - 100%
- R-11 No Core Loss, ROD - 96%
 - (I) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to laminated, contains moderate argillaceous laminations.
- R-12 No Core Loss, ROD - 100%

R-116

- R-1 Core Loss - 13%, ROD - 59%
 - (A) Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly to thickly bedded, moderately fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, ROD - 75%
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly to thickly bedded, slightly fractured, with typical low angle clay filled fractures; contains few argillaceous laminations.

R-2111

- R-1 Core Loss - 3%, ROD - 62%
 - (A) Medium hard to hard brown SANDSTONE; fine grained, highly weathered, argillaceous, micaceous, laminated to medium bedded, broken.
- R-2 No Core Loss, ROD - 100%
 - (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, laminated to massive, moderately fractured, contains few to moderate argillaceous laminations.
 - (C) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, massive, slightly fractured.
- R-3 Core Loss - 2%, ROD - 98%
- R-4 No Core Loss, ROD - 100%
- R-5 No Core Loss, ROD - 100%
 - (D) Hard dark gray SANDSTONE; very fine grained, slightly weathered, argillaceous, massive, slightly fractured, with few argillaceous laminations, turbidity burrows.
- R-6 No Core Loss, ROD - 100%
 - (E) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured, turbidity.
- R-7 Core Loss - 1%, ROD - 99%
- R-8 No Core Loss, ROD - 100%
 - (F) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured, turbidity.
- R-9 No Core Loss, ROD - 100%

R-121

- R-1 No Core Loss, ROD - 84%
 - (A) Soft to medium hard gray and red SILTSTONE interbedded with SANDSTONE; highly weathered to decomposed, argillaceous, highly fractured.
- R-2 No Core Loss, ROD - 44%
- R-3 No Core Loss, ROD - 84%
 - (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, thinly to thickly bedded, moderately fractured.
 - (C) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately to slightly fractured.
- R-4 No Core Loss, ROD - 88%
- R-5 Core Loss - 7%, ROD - 89%

R-120

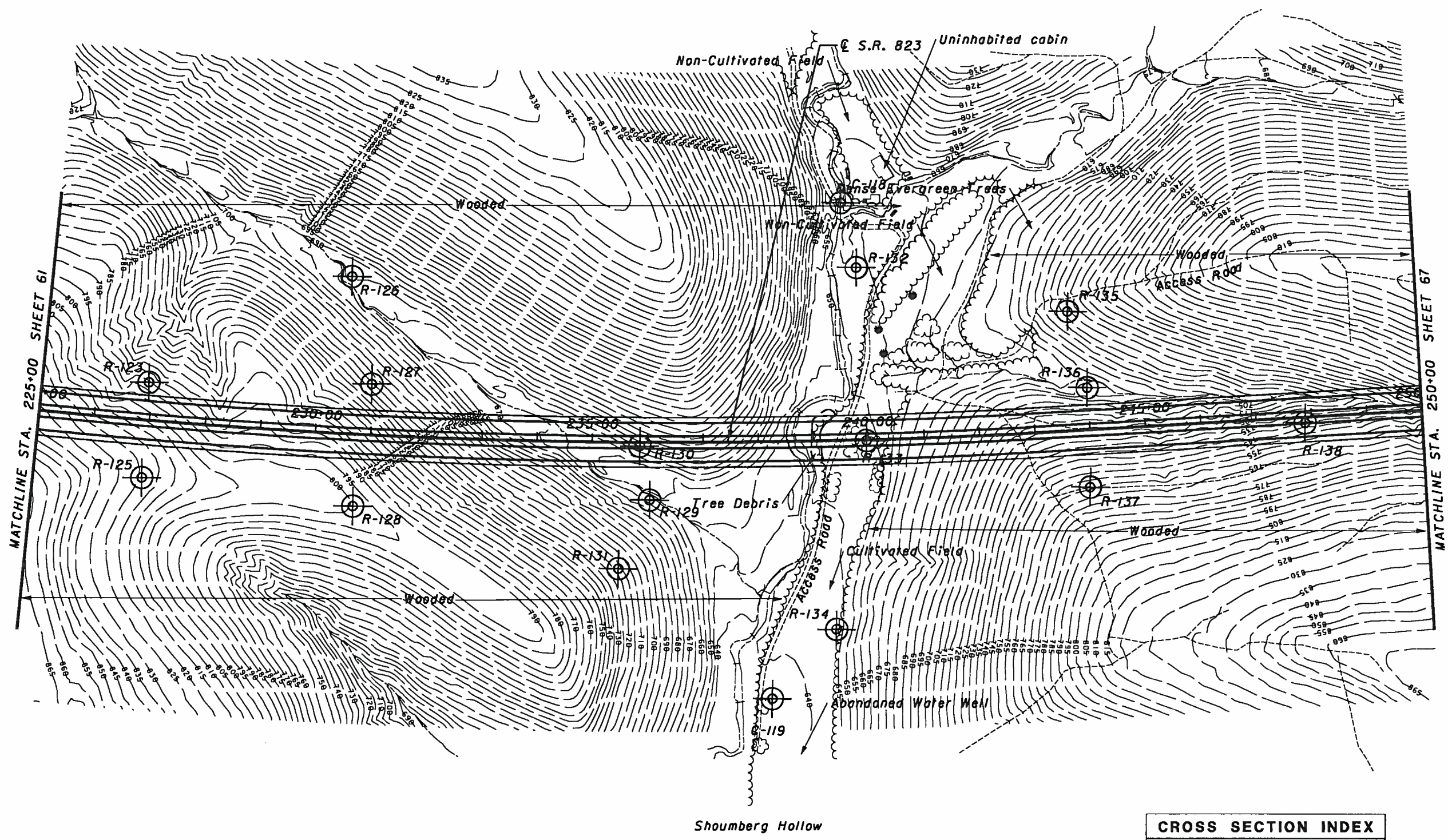
- R-1 Core Loss - 5%, ROD - 58%
 - (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly to thickly bedded, highly fractured, with typical low angle clay filled fractures.

SOIL PROFILE
S.R. 823 STA. 200+00 TO STA. 225+00

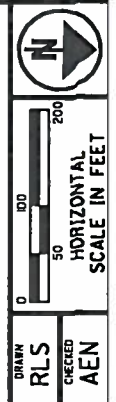
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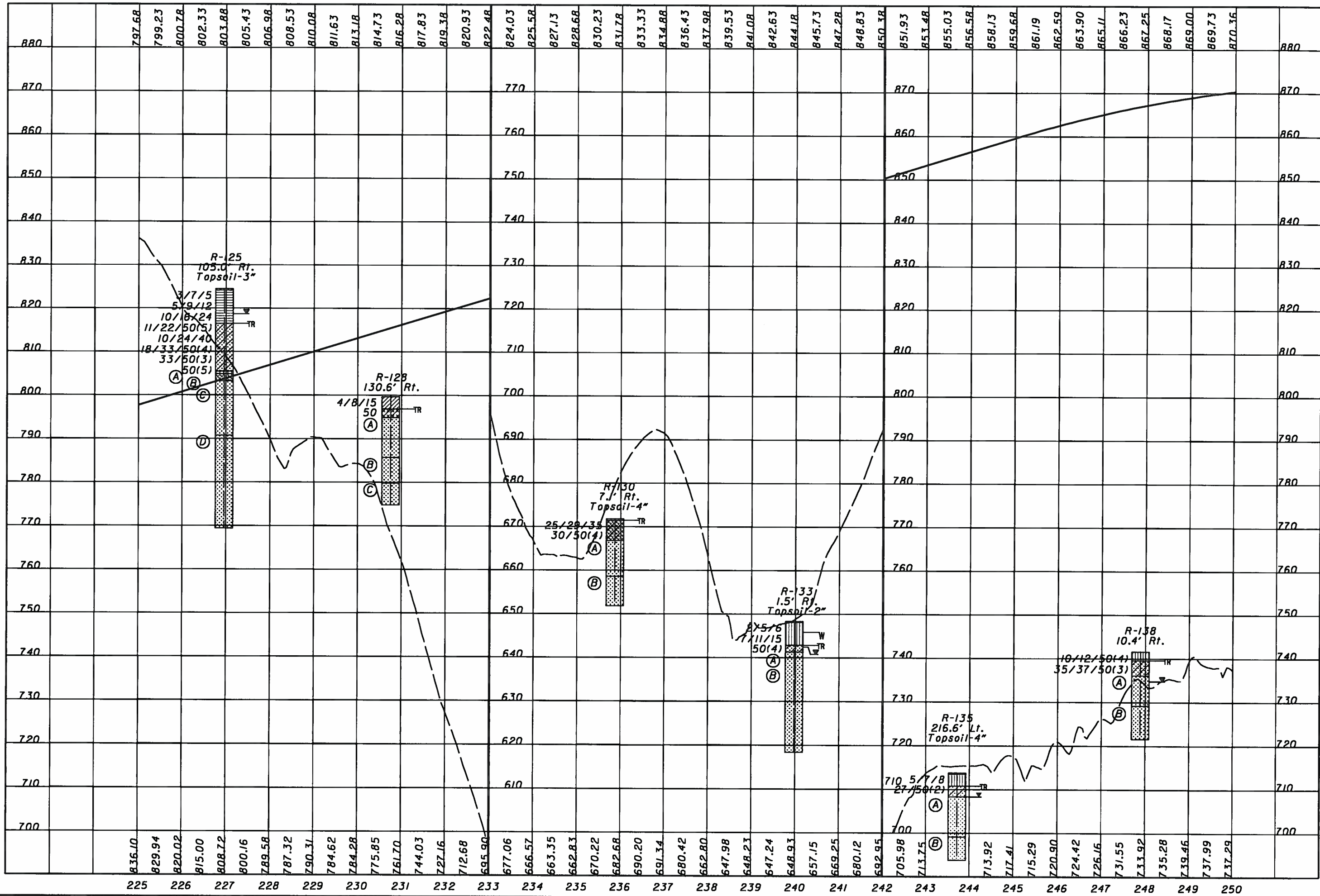
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R-125

- R-1 Core Loss - 7%, RQD - 55%
- (A) Medium hard brown and gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded, broken, with typical high angle rust stained fractures.
 - (B) Medium hard brown and red SILTSTONE; highly weathered to decomposed, micaceous, highly fractured, with typical high angle fractures.
 - (C) Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, thinly bedded, moderately fractured, with typical low angle fractures, contains abundant to moderate argillaceous laminations.
- R-2 No Core Loss, RQD - 90%
- (D) Medium hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded.
- R-3 No Core Loss, RQD - 98%
- R-4 No Core Loss, RQD - 100%

R-130

- R-1 No Core Loss, RQD - 49%
- (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures.
- R-2 No Core Loss, RQD - 96%
- (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle clay filled fractures.

R-128

- R-1 No Core Loss, RQD - 18%
- (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, broken to highly fractured.
 - (B) Medium hard gray SANDSTONE; very fine to fine grained, decomposed to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle clay filled fractures, contains moderate argillaceous laminations.
- R-2 No Core Loss, RQD - 63%
- (C) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured.

R-133

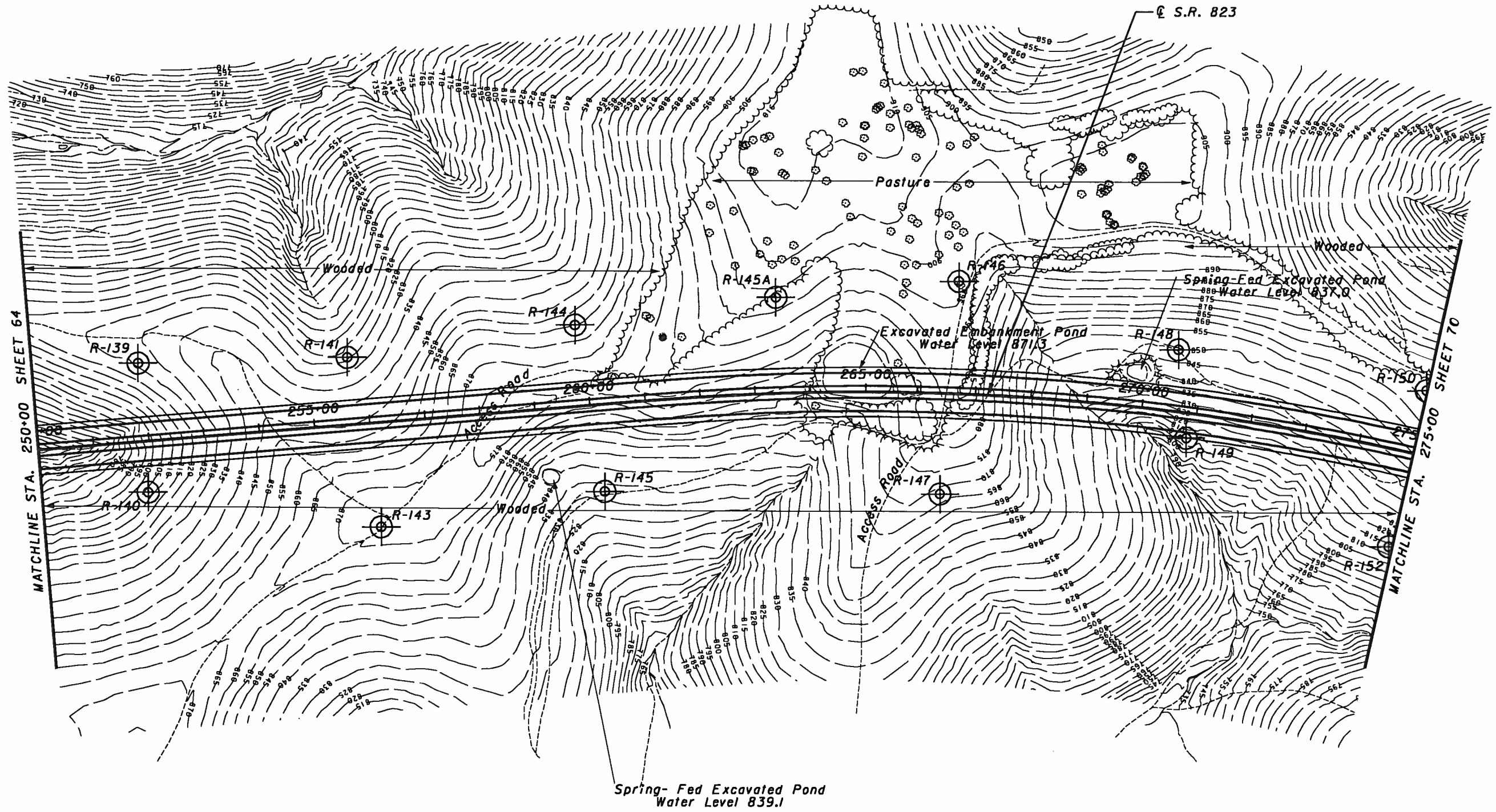
- R-1 Core Loss - 8%, RQD - 69%
- (A) Medium hard to hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures.
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, pyritic, thickly bedded, slightly fractured to unfractured.
- R-2 No Core Loss, RQD - 92%
- R-3 No Core Loss, RQD - 100%

R-138

- R-1 Core Loss - 7%, RQD - 61%
- (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thickly bedded, highly fractured, with typical high angle rust stained fractures.
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, pyritic, thickly bedded, moderately to slightly fractured.
- R-2 No Core Loss, RQD - 100%

R-135

- R-1 No Core Loss, RQD - 63%
- (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, micaceous, argillaceous, thinly laminated to thinly bedded, highly fractured, with typical low angle clay filled fractures; contains few to moderate argillaceous laminations, poorly cemented.
- R-2 No Core Loss, RQD - 86%
- (B) Medium hard to hard brown SANDSTONE, very fine to fine grained, highly weathered, micaceous, argillaceous, thickly bedded, moderately fractured; contains few argillaceous laminations.



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266+50	124
271+00	125

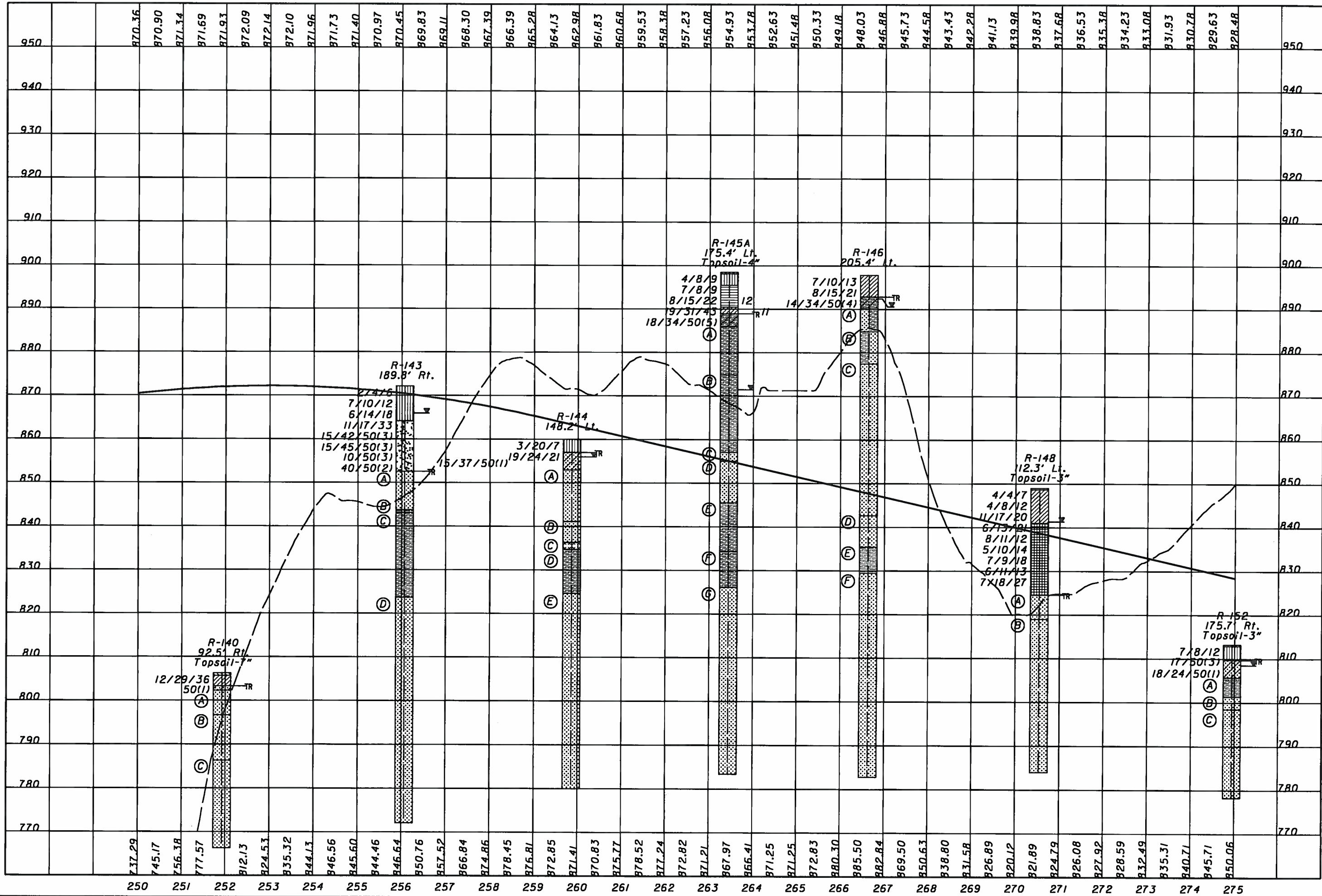


DRINK
 RLS
 CHECKED
 AEN

SOIL PROFILE
 S.R. 823 STA. 250+00 TO STA. 275+00

SCI-823-0.00





R-143

- R-1 No Core Loss, RQD - 33%
- (A) Medium hard brown SANDSTONE; fine grained, moderately to highly weathered, thinly bedded to thickly bedded, highly fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, RQD - 30%
- (B) Soft brown SHALE, decomposed.
- (C) Soft to medium hard gray to black SHALE; highly weathered to decomposed, moderately to highly fractured, thinly laminated, carbonaceous, typical low angle fractures.
- R-3 No Core Loss, RQD - 86%
- R-4 No Core Loss, RQD - 63%
- (D) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, moderately fractured.
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 92%
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 88%
- R-9 No Core Loss, RQD - 100%

R-140

- R-1 No Core Loss, RQD - 67%
- (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, micaceous, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures.
- (B) Soft to medium hard gray SANDSTONE; very fine to fine grained, highly to moderately weathered, micaceous, argillaceous, thinly bedded to thickly bedded, broken to highly fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, RQD - 71%
- (C) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, thinly bedded to thickly bedded.
- R-3 No Core Loss, RQD - 84%
- R-4 No Core Loss, RQD - 95%

R-144

- R-1 No Core Loss, RQD - 100%
- (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded, broken to highly fractured, with typical low angle clay filled fractures, contains moderate argillaceous laminations.
- R-2 Core Loss - 67%, RQD - 6%
- (B) Medium hard gray SANDSTONE, fine grained, highly weathered, argillaceous, micaceous, carbonaceous, contains carbonized plants.
- R-3 Core Loss - 23%, RQD - 53%
- (C) Soft to medium hard dark gray and black CLAYSTONE; decomposed to highly weathered to decomposed, argillaceous, carbonaceous.
- (D) Soft to medium hard gray and black SHALE; moderately weathered, carbonaceous, thinly laminated to thinly bedded.
- R-4 No Core Loss, RQD - 76%
- (E) Hard to medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly to slightly fractured, contains moderate to few argillaceous laminations.
- R-5 No Core Loss, RQD - 92%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 96%
- R-8 Core Loss - 10%, RQD - 87%

R-152

- R-1 No Core Loss, RQD - 83%
- (A) Medium hard to soft lt. brown SHALE, decomposed to highly weathered, arenaceous, highly fractured, thinly laminated to thinly bedded.
- (B) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle clay filled fractures, contains few argillaceous laminations.
- R-2 No Core Loss, RQD - 84%
- (C) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, micaceous, argillaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle fractures.
- R-3 No Core Loss, RQD - 87%
- R-4 No Core Loss, RQD - 100%

R-145A

- R-1 No Core Loss, RQD - 91%
- (A) Soft to medium hard gray and brown SHALE; highly weathered to decomposed, micaceous, arenaceous, thinly laminated to thinly bedded, highly fractured, with typical low angle rust stained fractures.
- R-2 No Core Loss, RQD - 29%
- (B) Soft to medium hard gray SHALE; highly weathered to decomposed, arenaceous, thinly laminated to thinly bedded, highly fractured, with typical low angle clay filled fractures.
- R-3 No Core Loss, RQD - 22%
- (C) Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, micaceous, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle clay filled fractures, contains moderate to few argillaceous laminations.
- R-4 Core Loss - 66%, RQD - 4%
- (D) Medium hard brown SANDSTONE; fine to medium grained, highly weathered, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures moderately to poorly cemented.
- R-5 No Core Loss, RQD - 61%
- (E) Soft to medium hard gray SHALE; highly weathered to decomposed, thinly laminated to thinly bedded.
- R-6 Core Loss - 7%, RQD - 56%
- (F) Soft to medium hard dark gray to black SHALE; highly weathered to decomposed, arenaceous, carbonaceous, thinly laminated to thinly bedded, highly fractured, with typical low angle clay filled fractures.
- R-7 No Core Loss, RQD - 82%
- (G) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle clay filled fractures.
- R-8 Core Loss - 3%, RQD - 56%

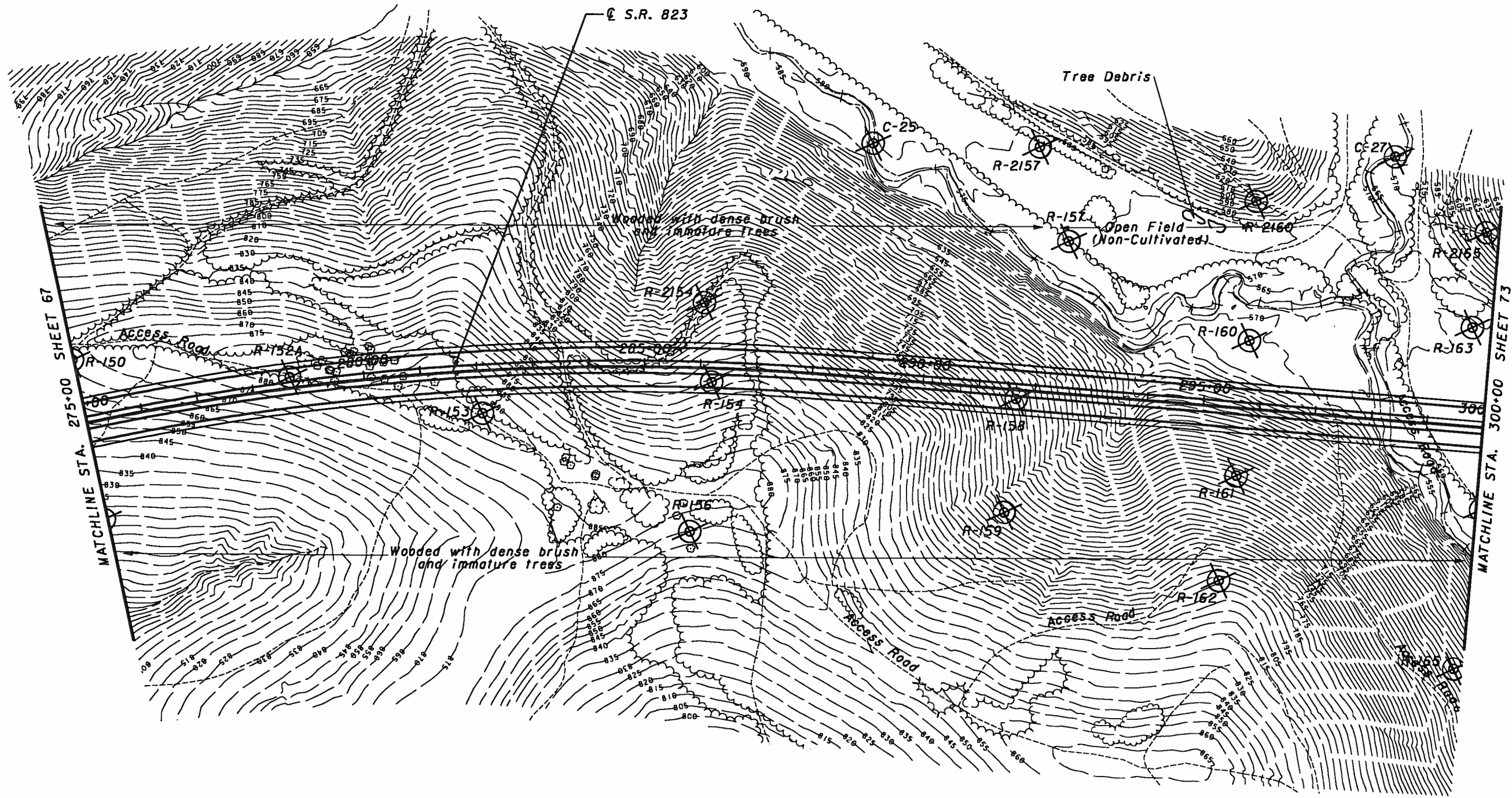
R-148

- R-1 No Core Loss, RQD - 88%
- (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, RQD - 88%
- (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to massive, moderately fractured, with typical low angle clay filled fractures.
- R-3 No Core Loss, RQD - 92%
- R-4 No Core Loss, RQD - 97%
- R-5 No Core Loss, RQD - 90%

R-146

- R-1 No Core Loss, RQD - 79%
- (A) Soft to medium hard brown SANDSTONE interbedded with SHALE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures.
- R-2 No Core Loss, RQD - 73%
- (B) Soft to medium hard gray SANDSTONE interbedded with SHALE, very fine to fine grained, decomposed to highly weathered, argillaceous, carbonaceous, thinly laminated to thinly bedded, turbidity bedded, poorly cemented, contains rust colored weathered zones.
- (C) Medium hard to hard gray SANDSTONE, very fine to fine grained, highly weathered, argillaceous, carbonaceous, thinly laminated to thinly bedded, poorly cemented, contains abundant to moderate argillaceous laminations, contains interbedded zones.
- R-3 No Core Loss, RQD - 95%
- R-4 No Core Loss, RQD - 91%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 72%
- (D) Medium hard brown SANDSTONE; fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical high angle rust stained fractures, contains poorly cemented zone.
- (E) Very soft to soft black SHALE, decomposed, arenaceous, carbonaceous, thinly laminated to thinly bedded, broken to highly fractured, contains few arenaceous laminations.
- R-7 No Core Loss, RQD - 68%
- (F) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured to slightly fractured.
- R-8 No Core Loss, RQD - 100%
- R-9 No Core Loss, RQD - 98%
- R-10 No Core Loss, RQD - 100%
- R-11 No Core Loss, RQD - 100%
- R-12 No Core Loss, RQD - 100%

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MATCHLINE STA. 275+00 SHEET 67

MATCHLINE STA. 300+00 SHEET 73

CROSS SECTION INDEX	
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291+50	127
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299+50	129, 130



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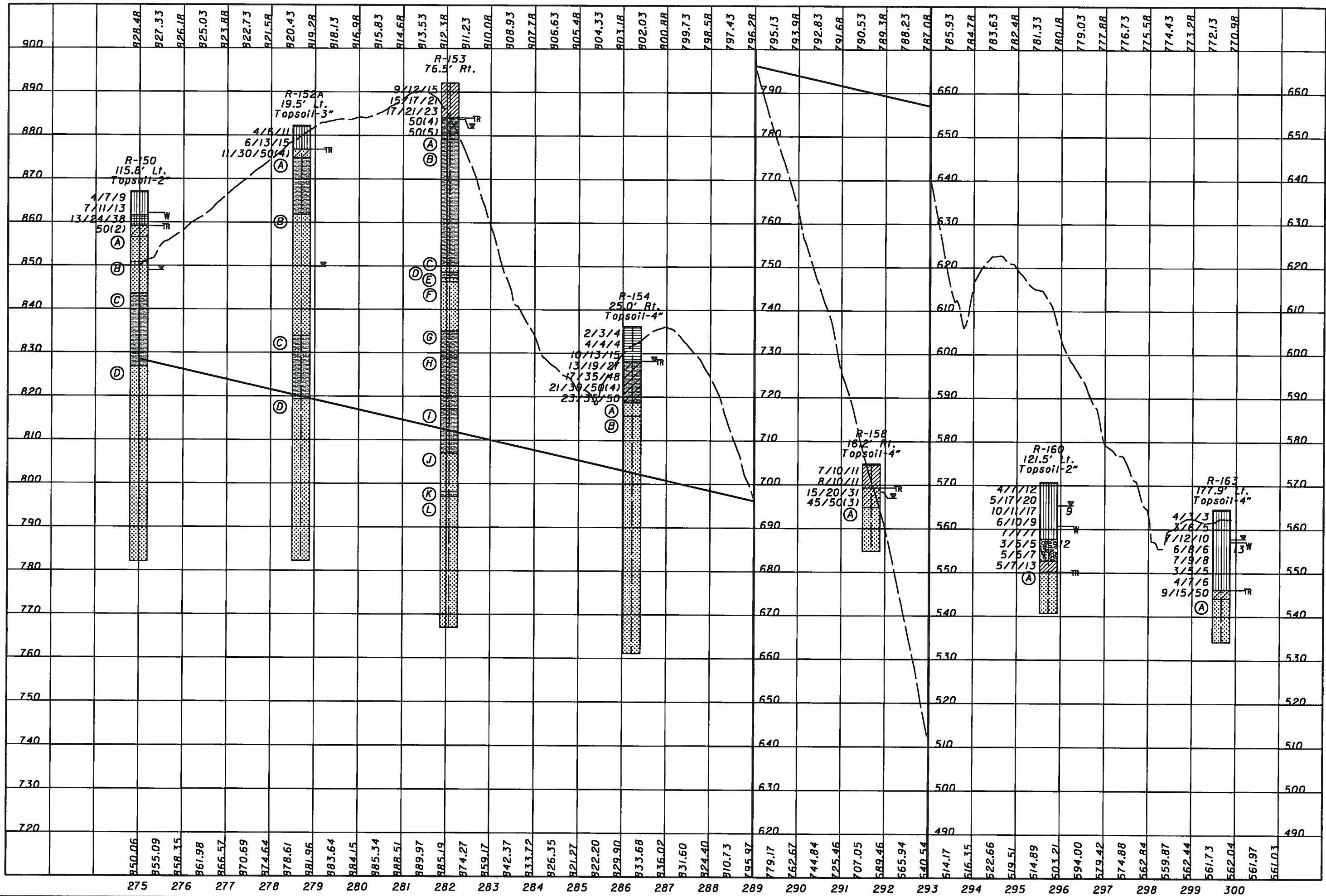
SOIL PROFILE
 S.R. 823 STA. 275+00 TO STA. 300+00

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70/168



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R-153

- R-1 No Core Loss, RQD = 100%
 (A) Soft to medium hard brown and gray SHALE; highly weathered to decomposed, arenaceous.
- R-2 No Core Loss, RQD = 92%
 (B) Soft to medium hard gray, black and brown SHALE; highly weathered to decomposed, micaceous, arenaceous, highly to moderately fractured, with typical low angle clay filled fractures, contains abundant to moderate arenaceous laminations.
- R-3 No Core Loss, RQD = 93%
- R-4 No Core Loss, RQD = 69%
 (C) Medium hard brown SANDSTONE; fine to medium grained, highly weathered, thinly bedded to thickly bedded, highly fractured, with typical low angle clay filled fractures.
- R-5 No Core Loss, RQD = 89%
 (D) Soft gray SHALE; decomposed.
 (E) Medium hard white and brown SANDSTONE; fine to medium grained, highly weathered, thinly bedded to thickly bedded, poorly cemented.
 (F) Medium hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle clay filled fractures, contains few argillaceous laminations.
- R-6 No Core Loss, RQD = 81%
 (G) Soft to medium hard black SHALE; highly weathered to decomposed, arenaceous, carbonaceous.
- R-7 No Core Loss, RQD = 100%
 (H) Medium hard to hard dark gray to black SHALE; moderately weathered, arenaceous, carbonaceous, thinly bedded to thinly laminated, slightly fractured, with typical low angle clay filled fractures, contains moderate to few arenaceous laminations.
- R-8 No Core Loss, RQD = 73%
 (I) Soft to medium hard gray SHALE; highly weathered to decomposed.
- R-9 No Core Loss, RQD = 91%
 (J) Hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, moderately fractured.
- R-10 No Core Loss, RQD = 96%
 (K) Hard to medium hard SHALE, highly weathered, arenaceous, contains few arenaceous laminations.
 (L) Hard to medium hard, gray fine to very fine grained SANDSTONE, highly weathered, argillaceous, thickly to thinly bedded, slightly fractured.
- R-11 No Core Loss, RQD = 91%
- R-12 No Core Loss, RQD = 100%
- R-13 No Core Loss, RQD = 100%

R-152A

- R-1 No Core Loss, RQD = 85%
 (A) Soft brown SHALE; very fine to fine grained, highly weathered, argillaceous, thinly laminated to thinly bedded, decomposed to highly fractured, with typical low angle clay filled fractures, contains moderate to few argillaceous laminations.
- R-2 No Core Loss, RQD = 53%
- R-3 No Core Loss, RQD = 16%
 (B) Medium hard brown SANDSTONE; fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded.
- R-4 No Core Loss, RQD = 73%
- R-5 No Core Loss, RQD = 93%
 (C) Medium hard dark gray SHALE; highly weathered, carbonaceous, thinly laminated to thinly laminated to thinly bedded, moderately fractured.
- R-6 Core Loss = 10%, RQD = 27%
- R-7 No Core Loss, RQD = 97%
 (D) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately to slightly fractured.
- R-8 No Core Loss, RQD = 100%
- R-9 No Core Loss, RQD = 100%
- R-10 No Core Loss, RQD = 100%

R-154

- R-1 No Core Loss, RQD = 67%
 (A) Soft to medium hard gray and brown SANDSTONE; fine grained, decomposed to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures contains coarse grained sand, BRECCIA, CONGLOMERATE and decomposed shale lenses.
- R-2 No Core Loss, RQD = 93%
 (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, highly fractured.
- R-3 No Core Loss, RQD = 85%
- R-4 No Core Loss, RQD = 84%
- R-5 No Core Loss, RQD = 98%
- R-6 No Core Loss, RQD = 100%
- R-7 No Core Loss, RQD = 100%

R-150

- R-1 No Core Loss, RQD = 58%
 (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures, contains moderate argillaceous laminations.
- R-2 No Core Loss, RQD = 58%
 (B) Medium hard brown SANDSTONE; fine grained, highly weathered, argillaceous, micaceous, moderately to thinly bedded.
 (C) Medium hard to very soft brown, black and gray SHALE; decomposed, arenaceous, carbonaceous, thinly laminated to thinly bedded, contains few arenaceous laminations.
- R-3 No Core Loss, RQD = 67%
- R-4 No Core Loss, RQD = 79%
 (D) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately to slightly fractured.
- R-5 No Core Loss, RQD = 88%
- R-6 No Core Loss, RQD = 94%
- R-7 No Core Loss, RQD = 98%
- R-8 No Core Loss, RQD = 100%

R-160

- R-1 No Core Loss, RQD = 96%
 (A) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.

R-163

- R-1 No Core Loss, RQD = 84%
 (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, medium bedded to thickly bedded, moderately fractured.

R-158

- R-1 No Core Loss, RQD = 61%
 (A) Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typically low angle rust stained fractures.

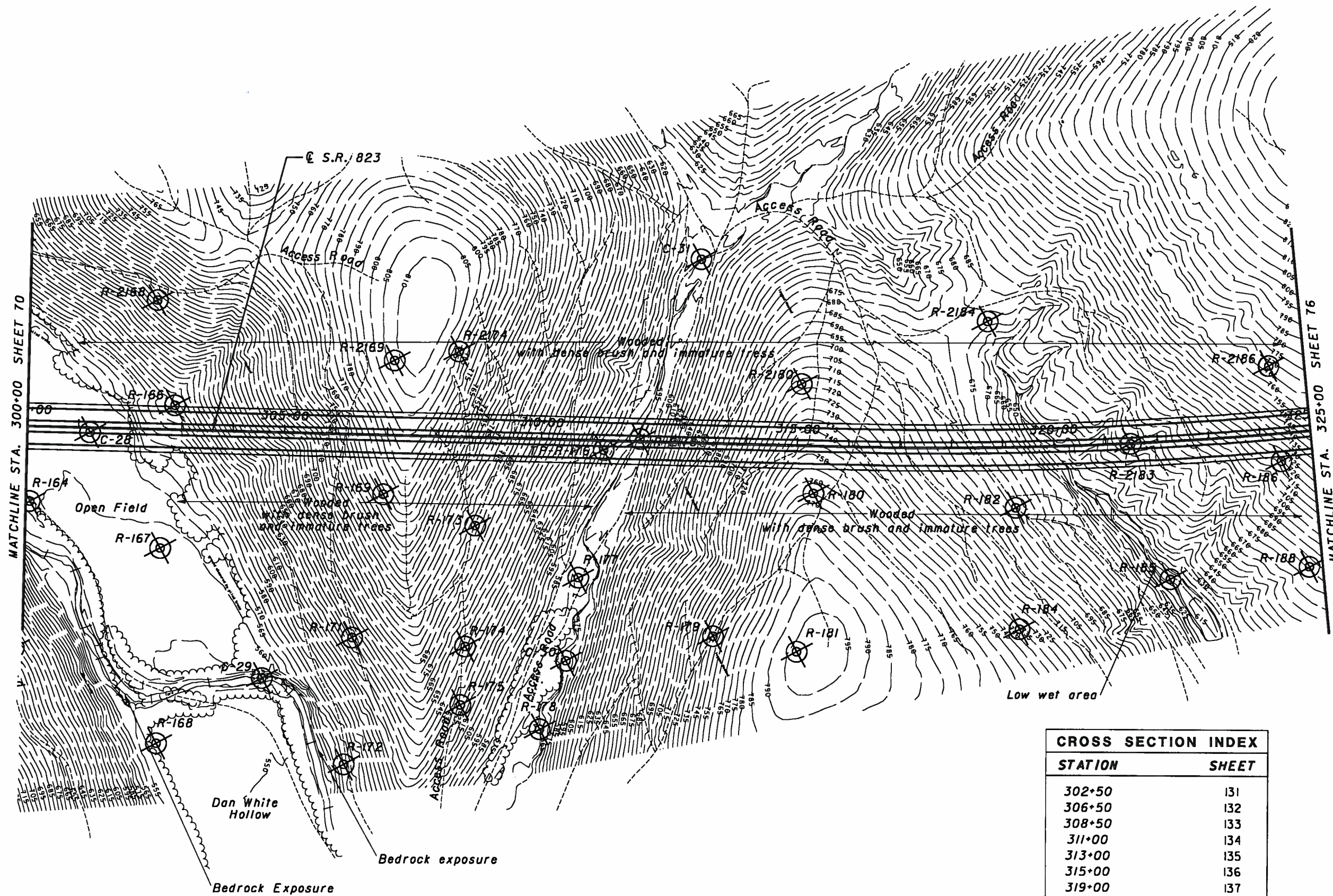
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MATCHLINE STA. 300+00 SHEET 70

MATCHLINE STA. 325+00 SHEET 76

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313+00	135
315+00	136
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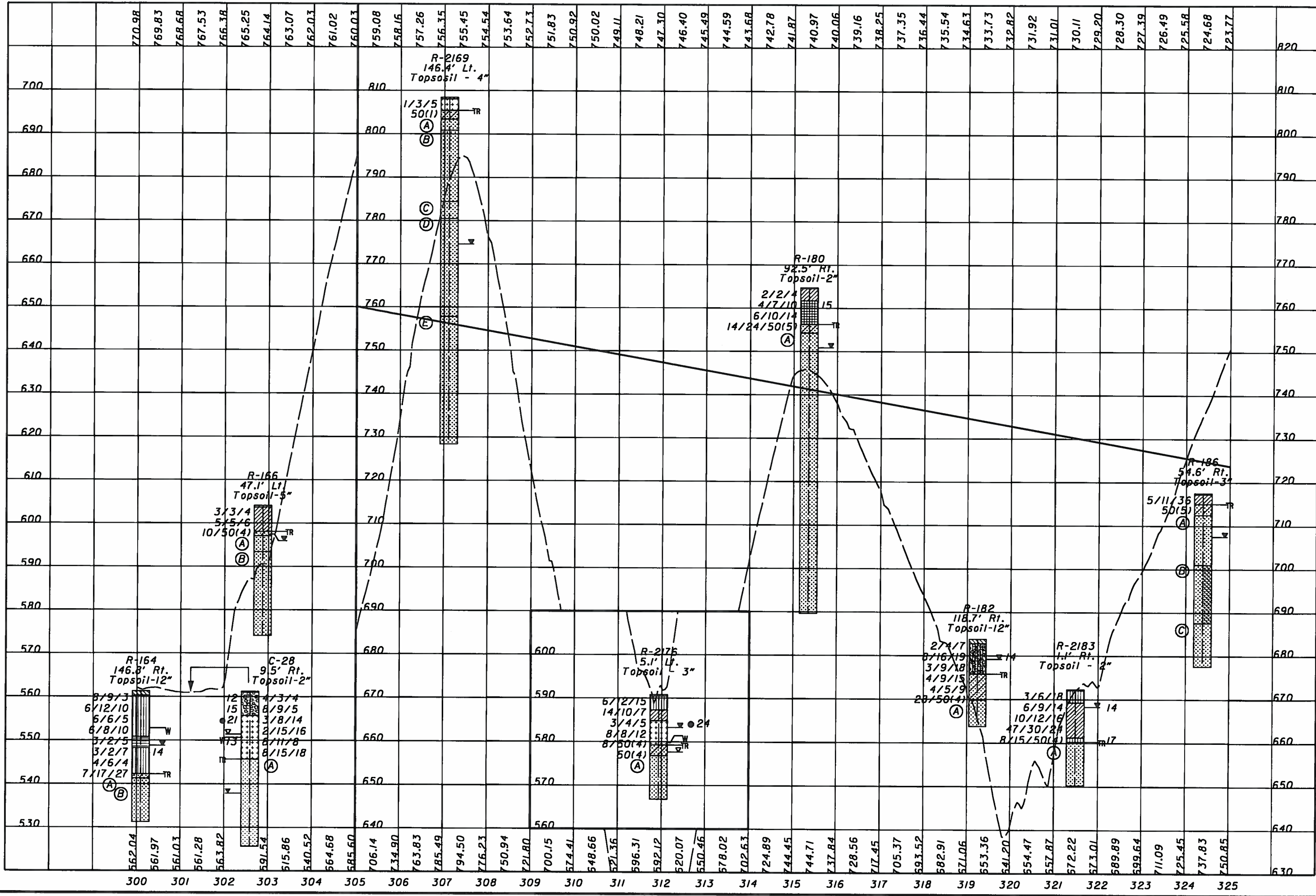


SOIL PROFILE
 S.R. 823 STA. 300+00 TO STA. 325+00

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R-2169

- R-1 No Core Loss, RQD - 100%
 - (A) Medium hard light brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, laminated to thickly bedded, highly fractured, decomposed zones at fractures.
 - (B) Hard light brown to gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, massive, moderately to highly fractured.
- R-2 No Core Loss, RQD - 100%
- R-3 No Core Loss, RQD - 100%
 - (C) Hard to very hard brown to gray SANDSTONE; fine to medium grained, moderately weathered, carbonaceous, argillaceous.
 - (D) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured, contains few argillaceous laminations.
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%
 - (E) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured.
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- R-8 No Core Loss, RQD - 100%

R-164

- R-1 No Core Loss, RQD - 84%
 - (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, highly fractured to broken, with typical low angle clay filled fractures.
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly to moderately fractured; contains few argillaceous laminations.

R-166

- R-1 No Core Loss, RQD - 85%
 - (A) Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thickly bedded, moderately to highly fractured.
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured to unfractured.
- R-2 No Core Loss, RQD - 100%
- R-3 No Core Loss, RQD - 100%

R-186

- R-1 No Core Loss, RQD - 52%
 - (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly to moderately fractured, with typically low angle fractures.
- R-2 Core Loss - 2%, RQD - 61%
 - (B) Soft to medium hard gray SANDSTONE interbedded with SILTSTONE, very fine grain to fine grain, highly weathered, micaceous, thinly bedded to very thinly bedded, broken.
- R-3 No Core Loss, RQD - 29%
 - (C) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle fractures.
- R-4 Core Loss - 3%, RQD - 36%

R-180

- R-1 No Core Loss, RQD - 51%
 - (A) Medium hard to hard brownish gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, broken to highly fractured, contains few argillaceous laminations.
- R-2 No Core Loss, RQD - 67%
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%

C-28

- R-1 No Core Loss, RQD - 78%
 - (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, slightly fractured, massive.
- R-2 No Core Loss, RQD - 100%

R-2176

- R-1 Core Loss - 35, RQD - 92%
 - (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, unweathered, argillaceous, calcareous, massive, slightly to moderately fractured.

R-2183

- R-1 Core Loss - 1%, RQD - 79%
 - (A) Medium hard to hard brown and gray SANDSTONE; fine grained, highly to moderately weathered, argillaceous, micaceous, massive, highly to slightly fractured.

R-182

- R-1 Core Loss - 8%, RQD - 28%
 - (A) Soft to medium hard brown and gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, moderately fractured, contains moderate argillaceous laminations.

SOIL PROFILE
S.R. 823 STA. 300+00 TO STA. 325+00

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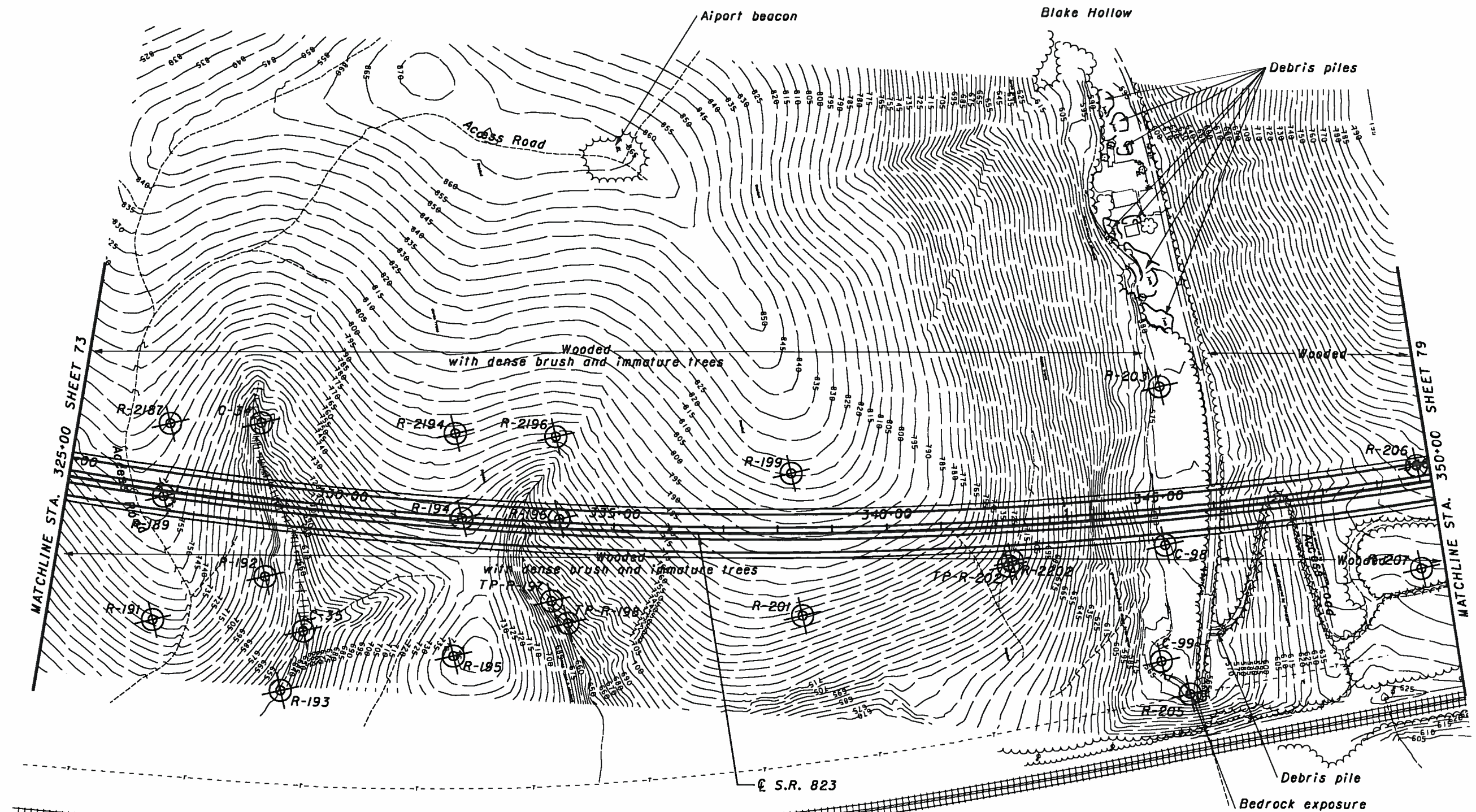




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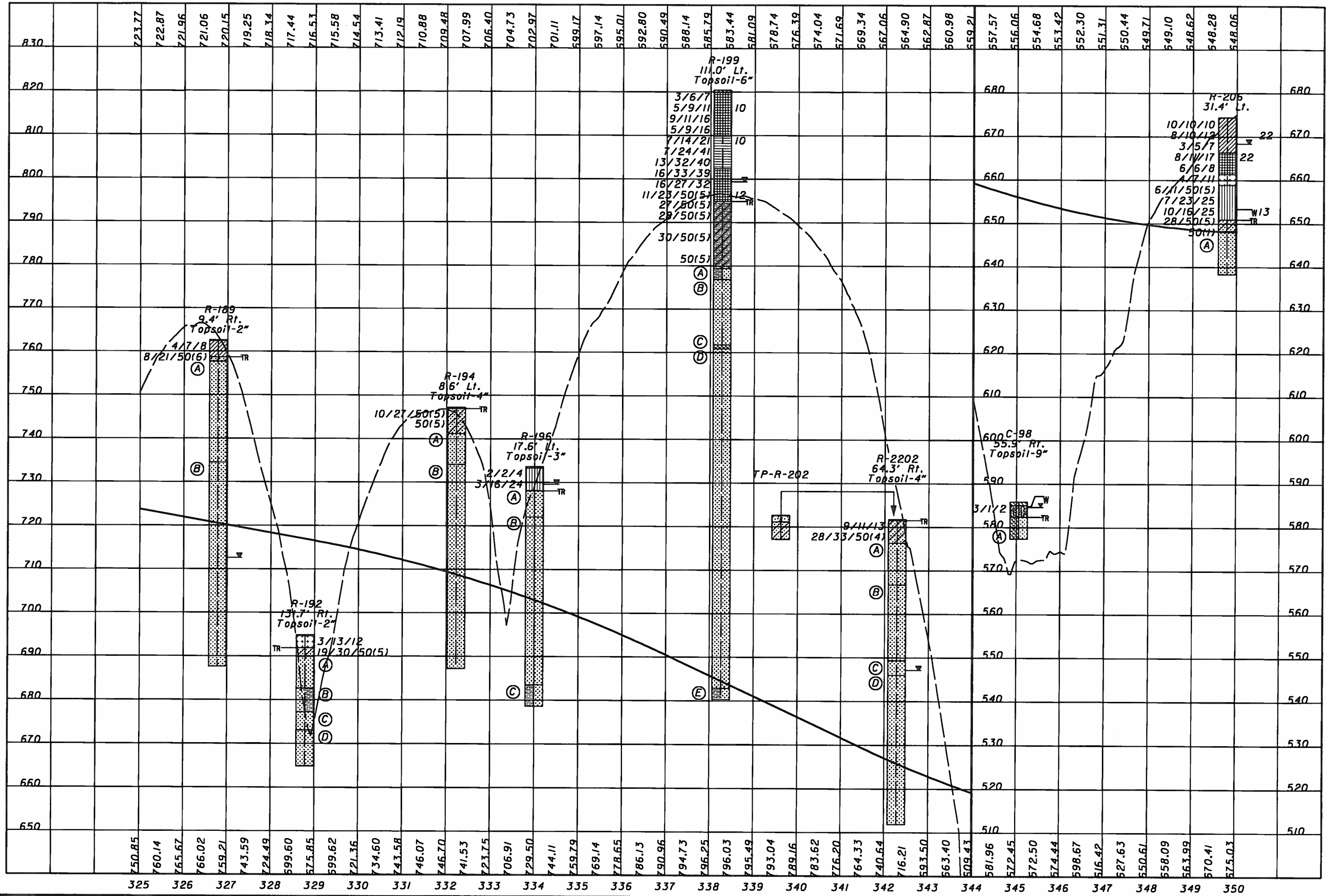
SOIL PROFILE
S.R. 823 STA. 325+00 TO STA. 350+00

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CROSS SECTION INDEX	
STATION	SHEET
327+00	140
329+00	141
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334+00	143
338+50	144
345+00	145
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SOIL PROFILE
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77/168

R-189

- R-1 Core Loss - 2%, RQD - 32%
 - (A) Soft to medium hard brown and gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to massive, highly fractured, with typical low angle rust stained fractures, contains moderate to abundant argillaceous laminations.
- R-2 Core Loss - 2%, RQD - 41%
- R-3 Core Loss - 3%, RQD - 70%
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to massive, moderately fractured, with typical low angle clay filled fractures, contains few argillaceous laminations.
- R-4 Core Loss - 2%, RQD - 75%
- R-5 No Core Loss, RQD - 75%
- R-6 No Core Loss, RQD - 61%
- R-7 No Core Loss, RQD - 57%

R-192

- R-1 Core Loss - 30%, RQD - 0%
 - (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, broken with typical low angle rust stained fractures; contains moderate to abundant argillaceous laminations.
- R-2 No Core Loss, RQD - 43%
 - (B) Soft to medium hard gray SANDSTONE interbedded with SHALE, very fine to fine grained, decomposed to highly weathered, highly fractured.
 - (C) Medium hard brown and gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, medium bedded to thickly bedded.
- R-3 No Core Loss, RQD - 30%
 - (D) Medium hard to hard gray and brown SANDSTONE; very fine to fine grained, moderately to highly weathered, broken, argillaceous, micaceous, thinly bedded to massive; contains few argillaceous laminations.

C-98

- R-1 No Core Loss, RQD - 100%
 - (A) Hard gray SANDSTONE interbedded with SILTSTONE; fine grained, unweathered, argillaceous, micaceous, calcareous, thickly bedded, slightly fractured.

R-196

- R-1 No Core Loss, RQD - 63%
 - (A) Medium hard to hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, broken to highly fractured.
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to massive, slightly fractured.
- R-2 No Core Loss, RQD - 100%
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%
 - (C) Medium hard to hard gray SHALE interbedded with SANDSTONE; slightly to moderately weathered, micaceous, thinly bedded.

R-194

- R-1 No Core Loss, RQD - 81%
 - (A) Medium hard to hard gray to brown SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to massive, highly fractured.
- R-2 No Core Loss, RQD - 100%
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to massive, slightly fractured.
- R-3 No Core Loss, RQD - 100%
- R-4 Core Loss - 2%, RQD - 98%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%

R-206

- R-1 No Core Loss, RQD - 91%
 - (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to massive, moderately fractured.

R-199

- R-1 No Core Loss, RQD - 0%
 - (A) Soft to medium hard gray SHALE interbedded with SANDSTONE; highly weathered, micaceous, thinly bedded, broken, with typically low angle clay filled fractures.
 - (B) Soft to medium hard gray to brown SANDSTONE; medium to coarse grained, decomposed to highly weathered, massive, broken to highly fractured, with typically low angle clay filled fractures, poorly cemented; contains moderate argillaceous laminations.
- R-2 No Core Loss, RQD - 36%
 - (C) Medium hard gray SILTSTONE.
 - (D) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to massive, slightly fractured.
- R-3 No Core Loss, RQD - 83%
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%
- R-6 Core Loss - 2%, RQD - 98%
- R-7 Core Loss - 3%, RQD - 96%
- R-8 No Core Loss, RQD - 100%
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%
 - (E) Medium hard gray SHALE interbedded with SANDSTONE; slightly weathered, micaceous, thinly bedded.

R-2202

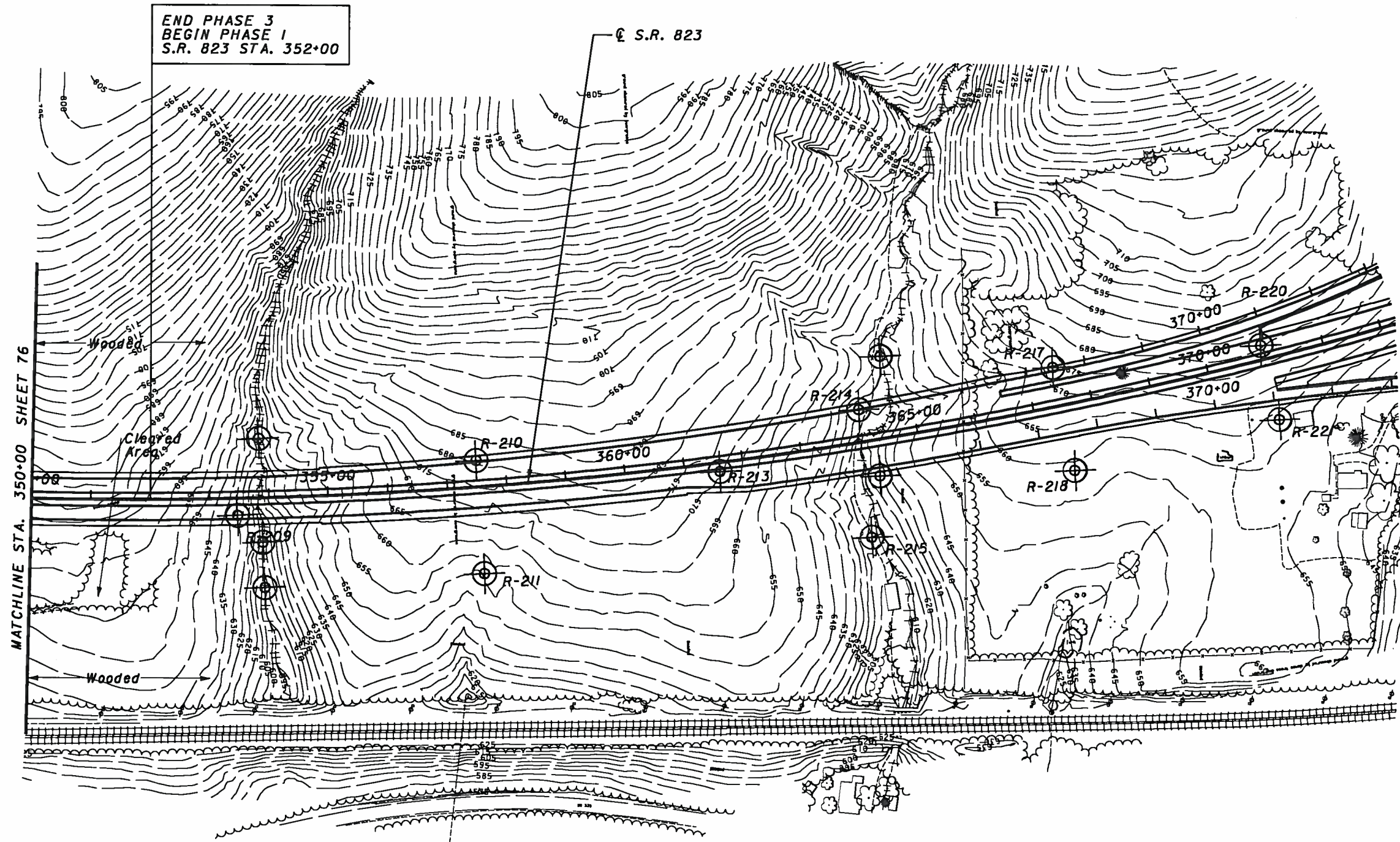
- R-1 No Core Loss, RQD - 70%
 - (A) Medium hard to hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, massive, moderately to highly fractured.
- R-2 No Core Loss, RQD - 93%
 - (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, slightly to moderately fractured.
- R-3 No Core Loss, RQD - 85%
 - (C) Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, laminated to thinly bedded, slightly fractured.
- R-4 No Core Loss, RQD - 84%
 - (D) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, slightly fractured.
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%

SOIL PROFILE
S.R. 823 STA. 325+00 TO STA. 350+00

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NOTE:
BORINGS R-209 THROUGH R-221 SHOWN
ON PHASE I SOIL PROFILE.

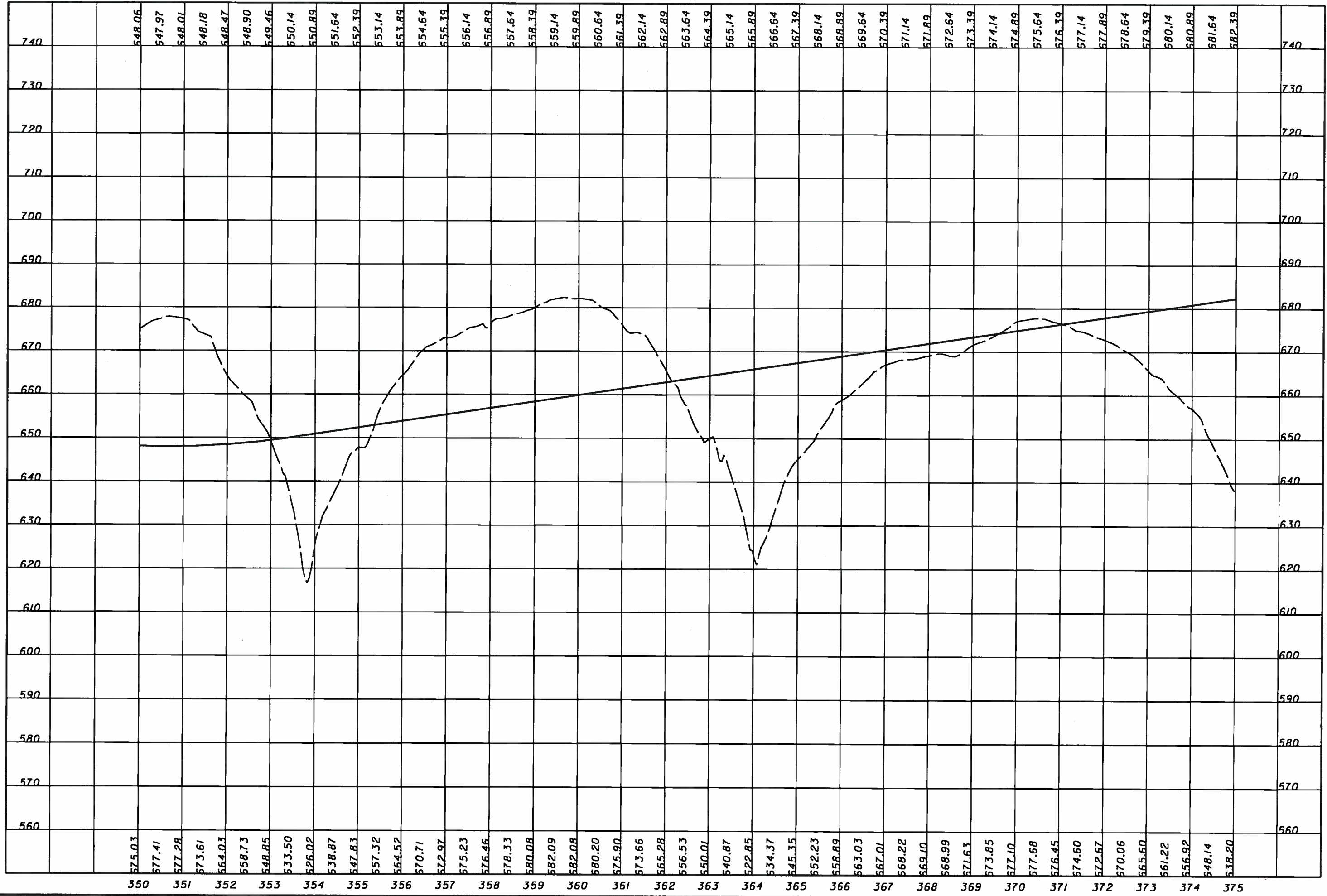
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END PHASE 3
BEGIN PHASE I
S.R. 823 STA. 352+00

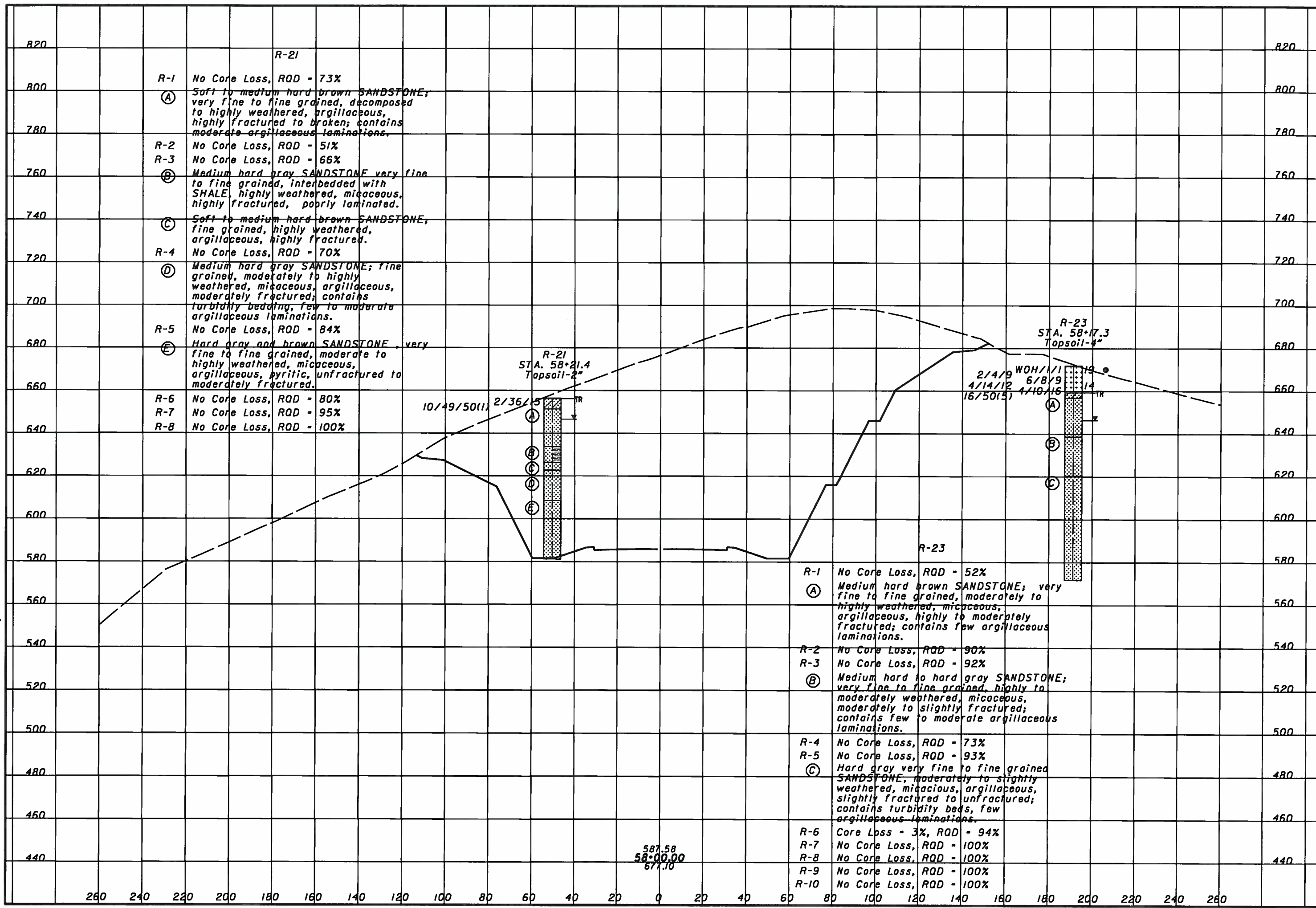
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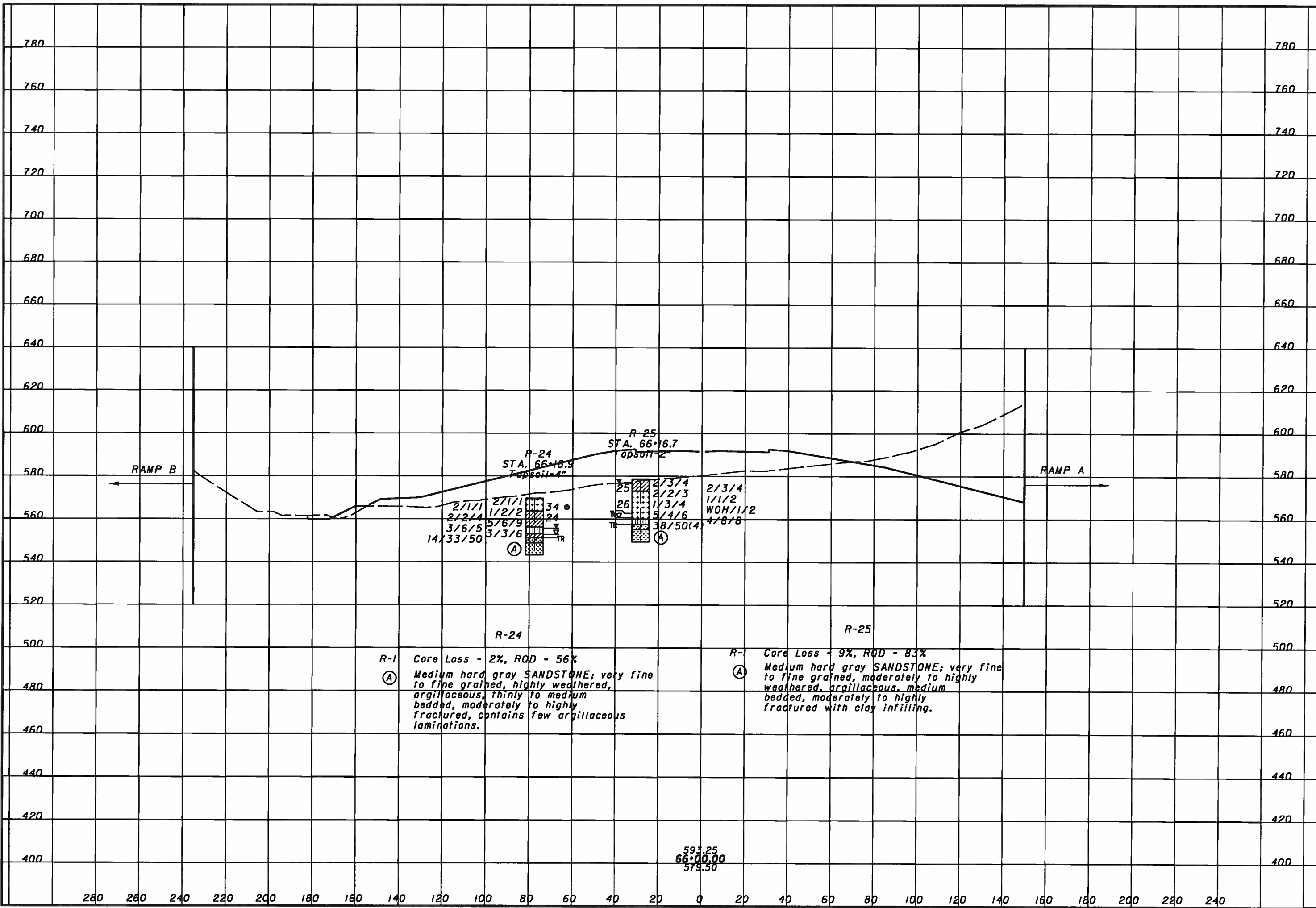


R-21
 R-1 No Core Loss, ROD - 73%
 (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, decomposed to highly weathered, argillaceous, highly fractured to broken; contains moderate argillaceous laminations.
 R-2 No Core Loss, ROD - 51%
 R-3 No Core Loss, ROD - 66%
 (B) Medium hard gray SANDSTONE very fine to fine grained, interbedded with SHALE, highly weathered, micaceous, highly fractured, poorly laminated.
 (C) Soft to medium hard brown SANDSTONE, fine grained, highly weathered, argillaceous, highly fractured.
 R-4 No Core Loss, ROD - 70%
 (D) Medium hard gray SANDSTONE; fine grained, moderately to highly weathered, micaceous, argillaceous, moderately fractured; contains turbidity bedding, few to moderate argillaceous laminations.
 R-5 No Core Loss, ROD - 84%
 (E) Hard gray and brown SANDSTONE, very fine to fine grained, moderate to highly weathered, micaceous, argillaceous, pyritic, unfractured to moderately fractured.
 R-6 No Core Loss, ROD - 80%
 R-7 No Core Loss, ROD - 95%
 R-8 No Core Loss, ROD - 100%

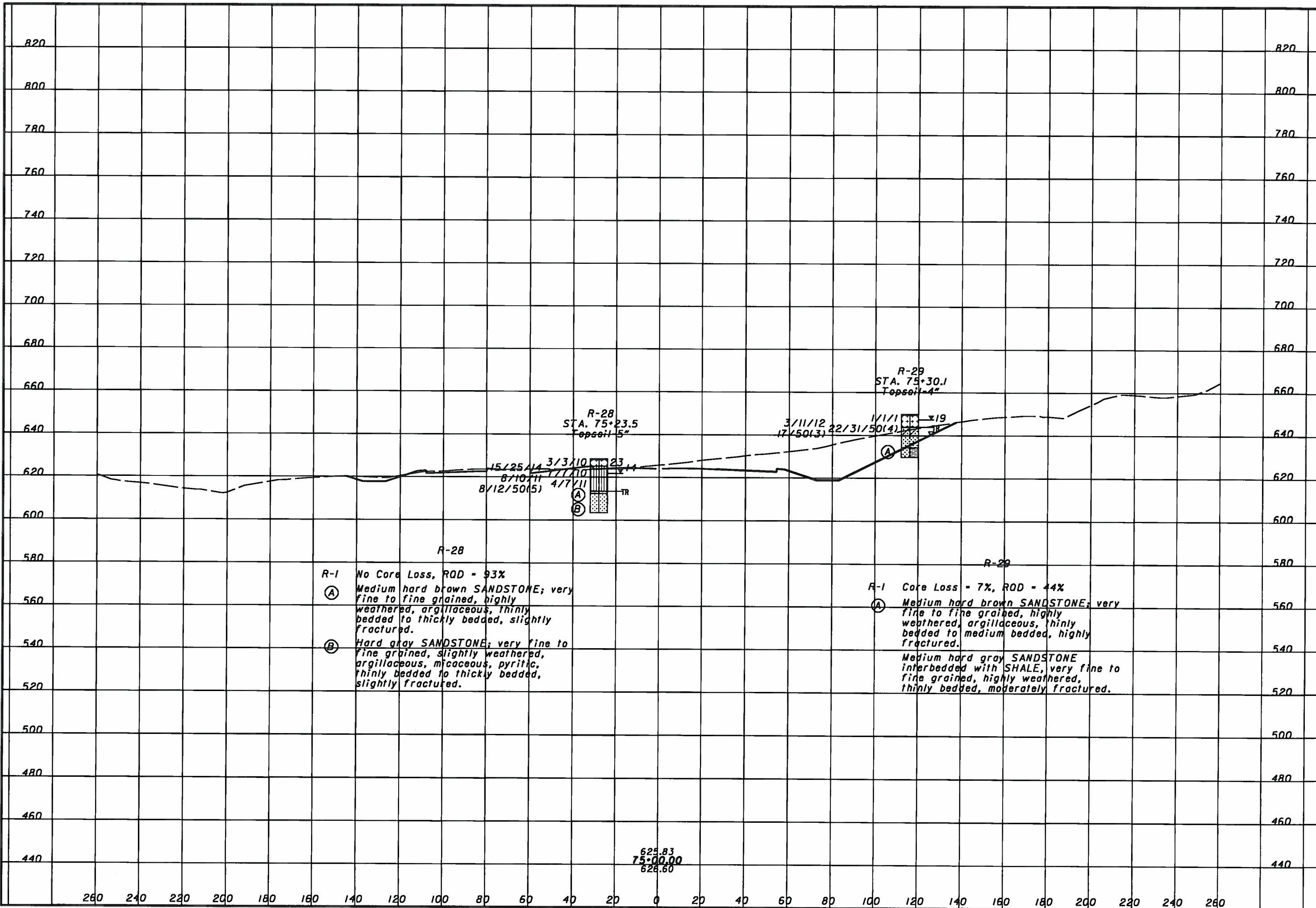
R-23
 R-1 No Core Loss, ROD - 52%
 (A) Medium hard brown SANDSTONE; very fine to fine grained, moderately to highly weathered, micaceous, argillaceous, highly to moderately fractured; contains few argillaceous laminations.
 R-2 No Core Loss, ROD - 90%
 R-3 No Core Loss, ROD - 92%
 (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, highly to moderately weathered, micaceous, moderately to slightly fractured; contains few to moderate argillaceous laminations.
 R-4 No Core Loss, ROD - 73%
 R-5 No Core Loss, ROD - 93%
 (C) Hard gray very fine to fine grained SANDSTONE, moderately to slightly weathered, micaceous, argillaceous, slightly fractured to unfractured; contains turbidity beds, few argillaceous laminations.
 R-6 Core Loss - 3%, ROD - 94%
 R-7 No Core Loss, ROD - 100%
 R-8 No Core Loss, ROD - 100%
 R-9 No Core Loss, ROD - 100%
 R-10 No Core Loss, ROD - 100%

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 SOIL PROFILE
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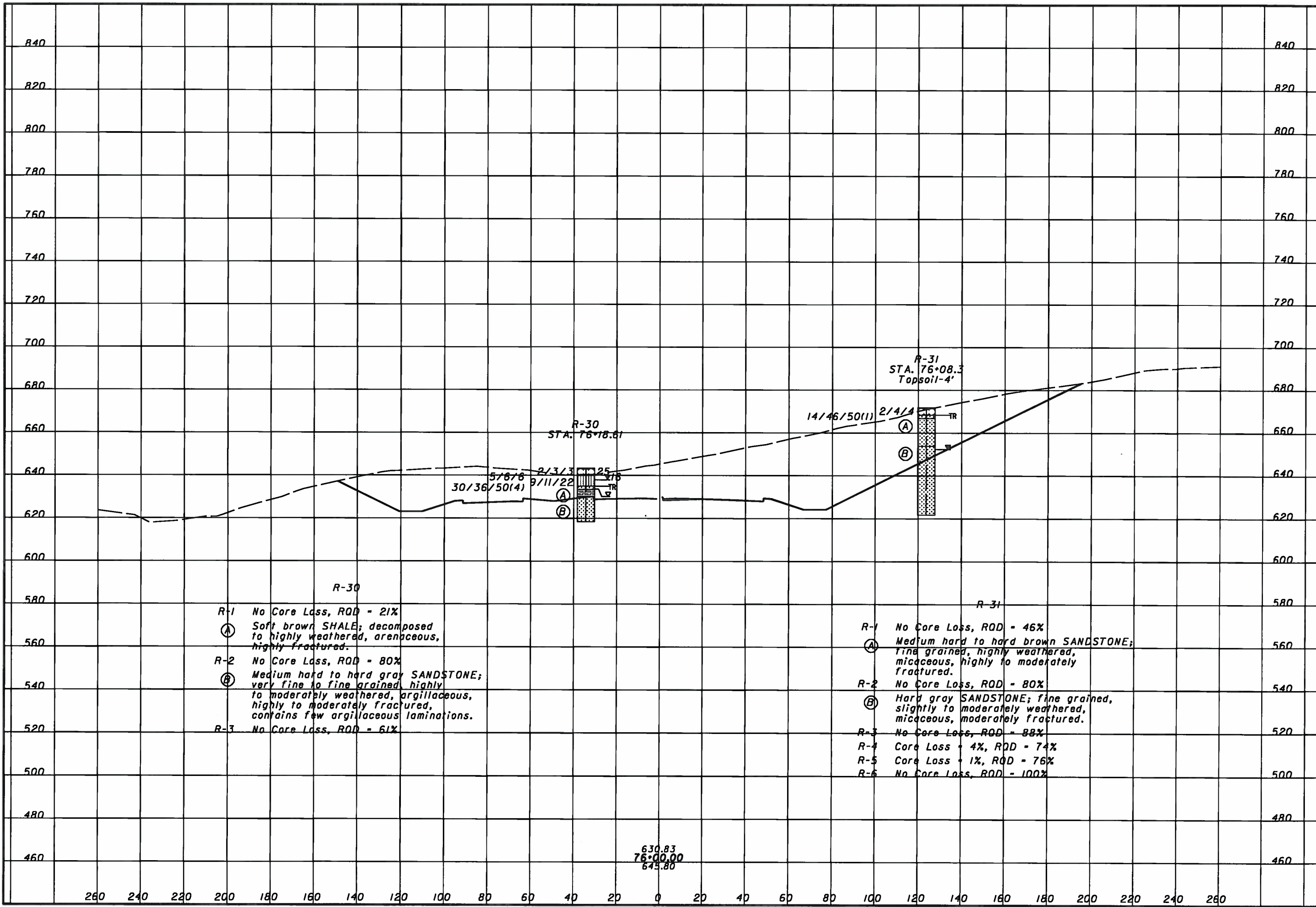


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R-30

R-1 No Core Loss, RQD = 21%
 (A) Soft brown SHALE; decomposed to highly weathered, arenaceous, highly fractured.

R-2 No Core Loss, RQD = 80%
 (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, highly to moderately weathered, argillaceous, highly to moderately fractured, contains few argillaceous laminations.

R-3 No Core Loss, RQD = 61%

R-31

R-1 No Core Loss, RQD = 46%
 (A) Medium hard to hard brown SANDSTONE; fine grained, highly weathered, micaceous, highly to moderately fractured.

R-2 No Core Loss, RQD = 80%
 (B) Hard gray SANDSTONE; fine grained, slightly to moderately weathered, micaceous, moderately fractured.

R-3 No Core Loss, RQD = 88%

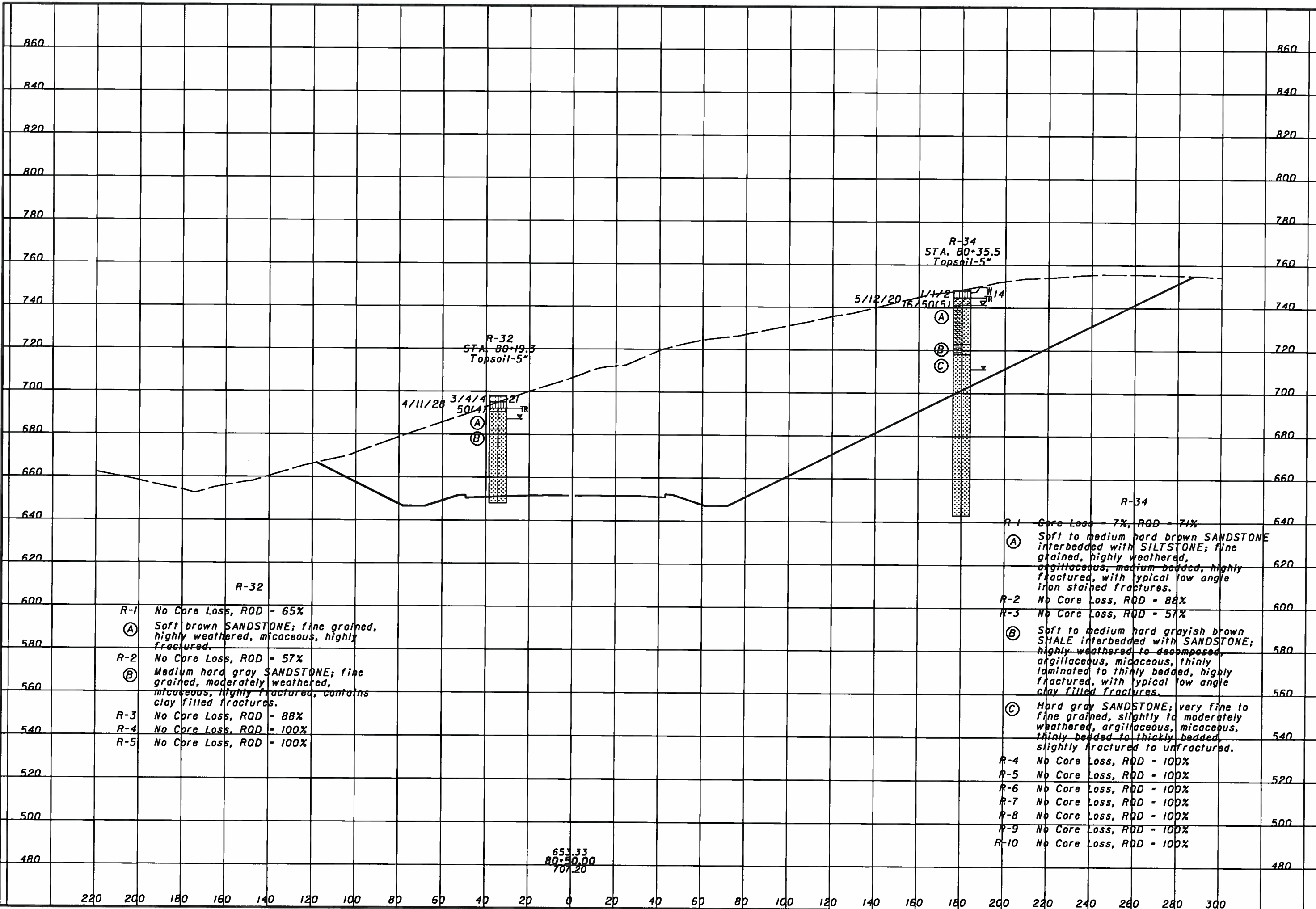
R-4 Core Loss = 4%, RQD = 74%

R-5 Core Loss = 1%, RQD = 76%

R-6 No Core Loss, RQD = 100%

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R-32

R-1 No Core Loss, RQD = 65%
 (A) Soft brown SANDSTONE; fine grained, highly weathered, micaceous, highly fractured.

R-2 No Core Loss, RQD = 57%
 (B) Medium hard gray SANDSTONE; fine grained, moderately weathered, micaceous, highly fractured, contains clay filled fractures.

R-3 No Core Loss, RQD = 88%

R-4 No Core Loss, RQD = 100%

R-5 No Core Loss, RQD = 100%

R-34

R-1 Core Loss = 7%, RQD = 71%
 (A) Soft to medium hard brown SANDSTONE interbedded with SILTSTONE; fine grained, highly weathered, argillaceous, medium bedded, highly fractured, with typical low angle iron stained fractures.

R-2 No Core Loss, RQD = 88%

R-3 No Core Loss, RQD = 57%
 (B) Soft to medium hard grayish brown SHALE interbedded with SANDSTONE; highly weathered to decomposed, argillaceous, micaceous, thinly laminated to thinly bedded, highly fractured, with typical low angle clay filled fractures.

(C) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured to unfractured.

R-4 No Core Loss, RQD = 100%

R-5 No Core Loss, RQD = 100%

R-6 No Core Loss, RQD = 100%

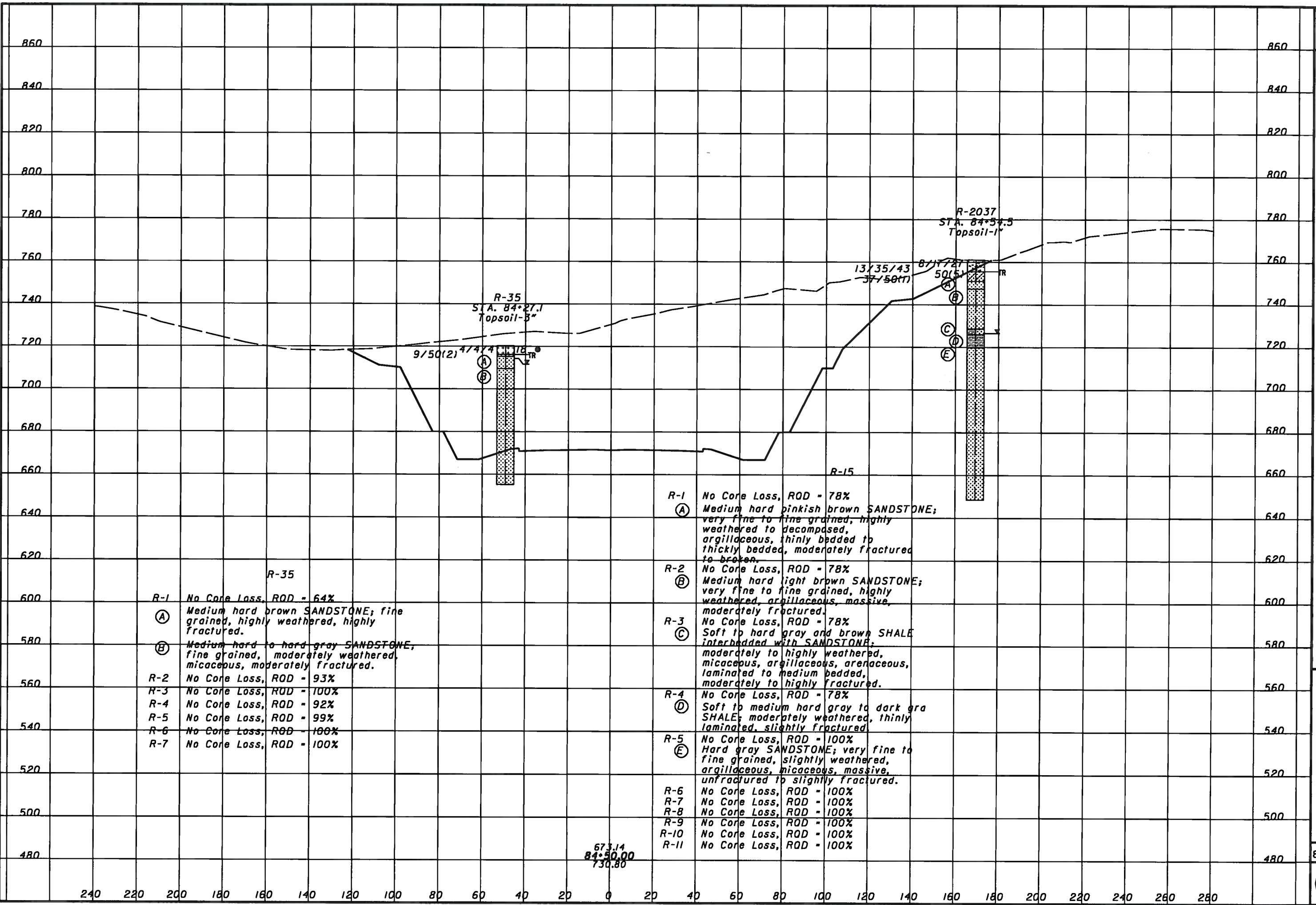
R-7 No Core Loss, RQD = 100%

R-8 No Core Loss, RQD = 100%

R-9 No Core Loss, RQD = 100%

R-10 No Core Loss, RQD = 100%

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R-35

R-1 No Core Loss, RQD = 64%
 (A) Medium hard brown SANDSTONE; fine grained, highly weathered, highly fractured.

(B) Medium hard to hard gray SANDSTONE; fine grained, moderately weathered, micaceous, moderately fractured.

R-2 No Core Loss, RQD = 93%

R-3 No Core Loss, RQD = 100%

R-4 No Core Loss, RQD = 92%

R-5 No Core Loss, RQD = 99%

R-6 No Core Loss, RQD = 100%

R-7 No Core Loss, RQD = 100%

R-15

R-1 No Core Loss, RQD = 78%
 (A) Medium hard pinkish brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, moderately fractured to broken.

R-2 No Core Loss, RQD = 78%
 (B) Medium hard light brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, massive, moderately fractured.

R-3 No Core Loss, RQD = 78%
 (C) Soft to hard gray and brown SHALE interbedded with SANDSTONE; moderately to highly weathered, micaceous, argillaceous, arenaceous, laminated to medium bedded, moderately to highly fractured.

R-4 No Core Loss, RQD = 78%
 (D) Soft to medium hard gray to dark gray SHALE; moderately weathered, thinly laminated, slightly fractured.

R-5 No Core Loss, RQD = 100%
 (E) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured.

R-6 No Core Loss, RQD = 100%

R-7 No Core Loss, RQD = 100%

R-8 No Core Loss, RQD = 100%

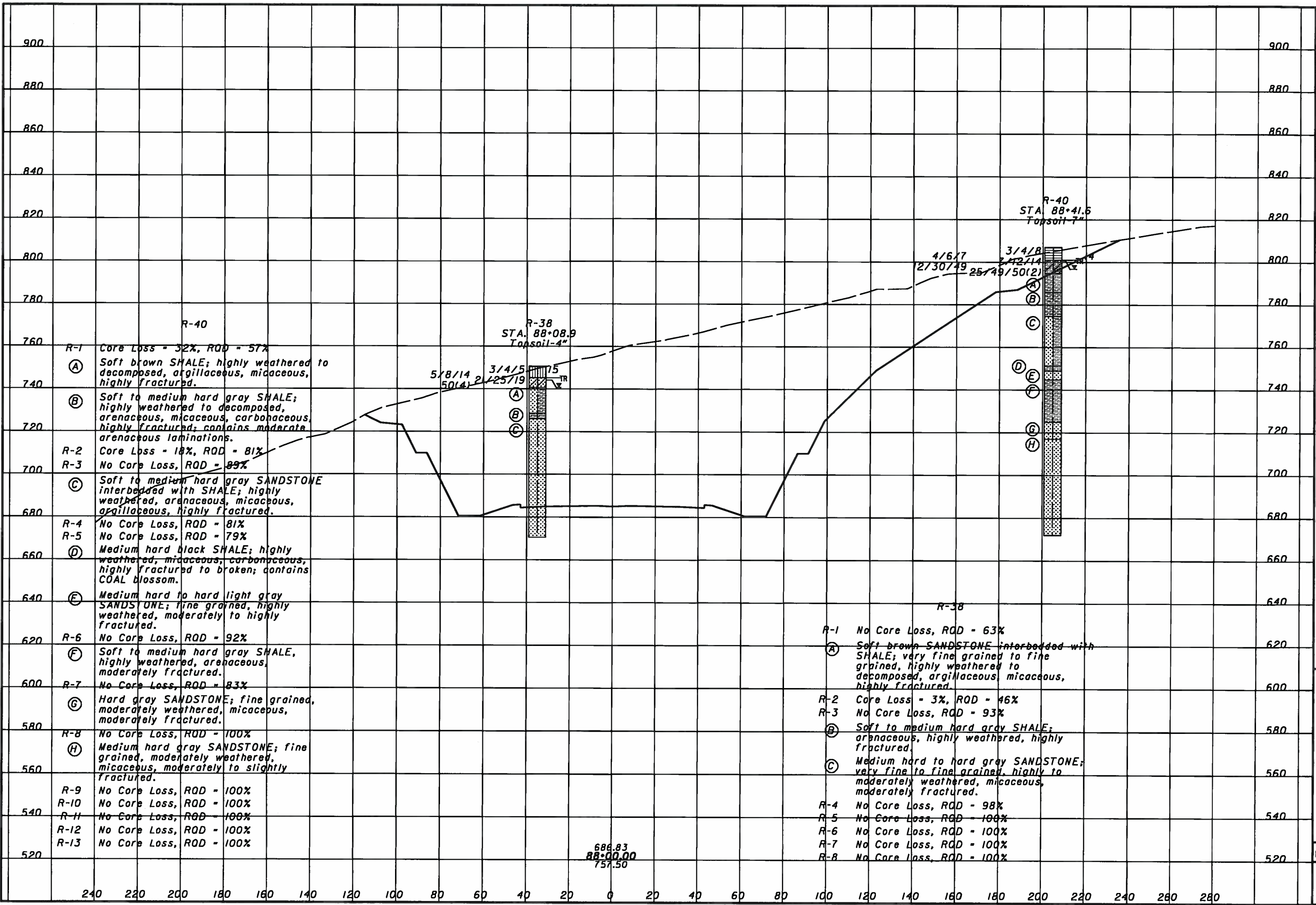
R-9 No Core Loss, RQD = 100%

R-10 No Core Loss, RQD = 100%

R-11 No Core Loss, RQD = 100%

673.14
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R-40

R-1 Core Loss = 32%, RQD = 57%
 (A) Soft brown SHALE; highly weathered to decomposed, argillaceous, micaceous, highly fractured.

(B) Soft to medium hard gray SHALE; highly weathered to decomposed, arenaceous, micaceous, carbonaceous, highly fractured; contains moderate arenaceous laminations.

R-2 Core Loss = 18%, RQD = 81%
 R-3 No Core Loss, RQD = 89%

(C) Soft to medium hard gray SANDSTONE interbedded with SHALE; highly weathered, arenaceous, micaceous, argillaceous, highly fractured.

R-4 No Core Loss, RQD = 81%
 R-5 No Core Loss, RQD = 79%

(D) Medium hard black SHALE; highly weathered, micaceous, carbonaceous, highly fractured to broken; contains COAL blossom.

(E) Medium hard to hard light gray SANDSTONE; fine grained, highly weathered, moderately to highly fractured.

R-6 No Core Loss, RQD = 92%

(F) Soft to medium hard gray SHALE, highly weathered, arenaceous, moderately fractured.

R-7 No Core Loss, RQD = 83%

(G) Hard gray SANDSTONE; fine grained, moderately weathered, micaceous, moderately fractured.

R-8 No Core Loss, RQD = 100%
 (H) Medium hard gray SANDSTONE; fine grained, moderately weathered, micaceous, moderately to slightly fractured.

R-9 No Core Loss, RQD = 100%
 R-10 No Core Loss, RQD = 100%
 R-11 No Core Loss, RQD = 100%
 R-12 No Core Loss, RQD = 100%
 R-13 No Core Loss, RQD = 100%

R-38

R-1 No Core Loss, RQD = 63%
 (A) Soft brown SANDSTONE interbedded with SHALE; very fine grained to fine grained, highly weathered to decomposed, argillaceous, micaceous, highly fractured.

R-2 Core Loss = 3%, RQD = 46%
 R-3 No Core Loss, RQD = 93%

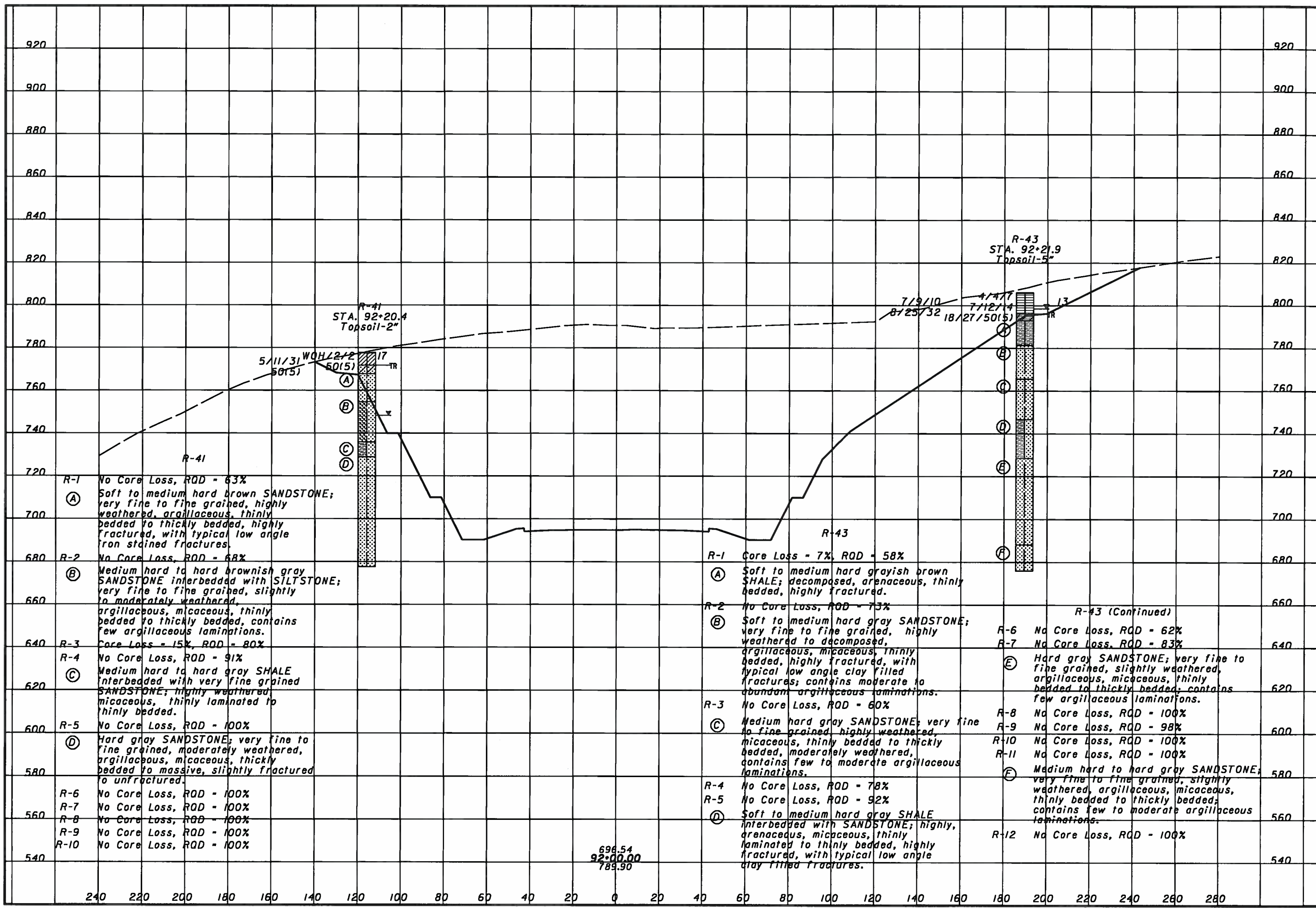
(B) Soft to medium hard gray SHALE; arenaceous, highly weathered, highly fractured.

(C) Medium hard to hard gray SANDSTONE; very fine to fine grained, highly to moderately weathered, micaceous, moderately fractured.

R-4 No Core Loss, RQD = 98%
 R-5 No Core Loss, RQD = 100%
 R-6 No Core Loss, RQD = 100%
 R-7 No Core Loss, RQD = 100%
 R-8 No Core Loss, RQD = 100%

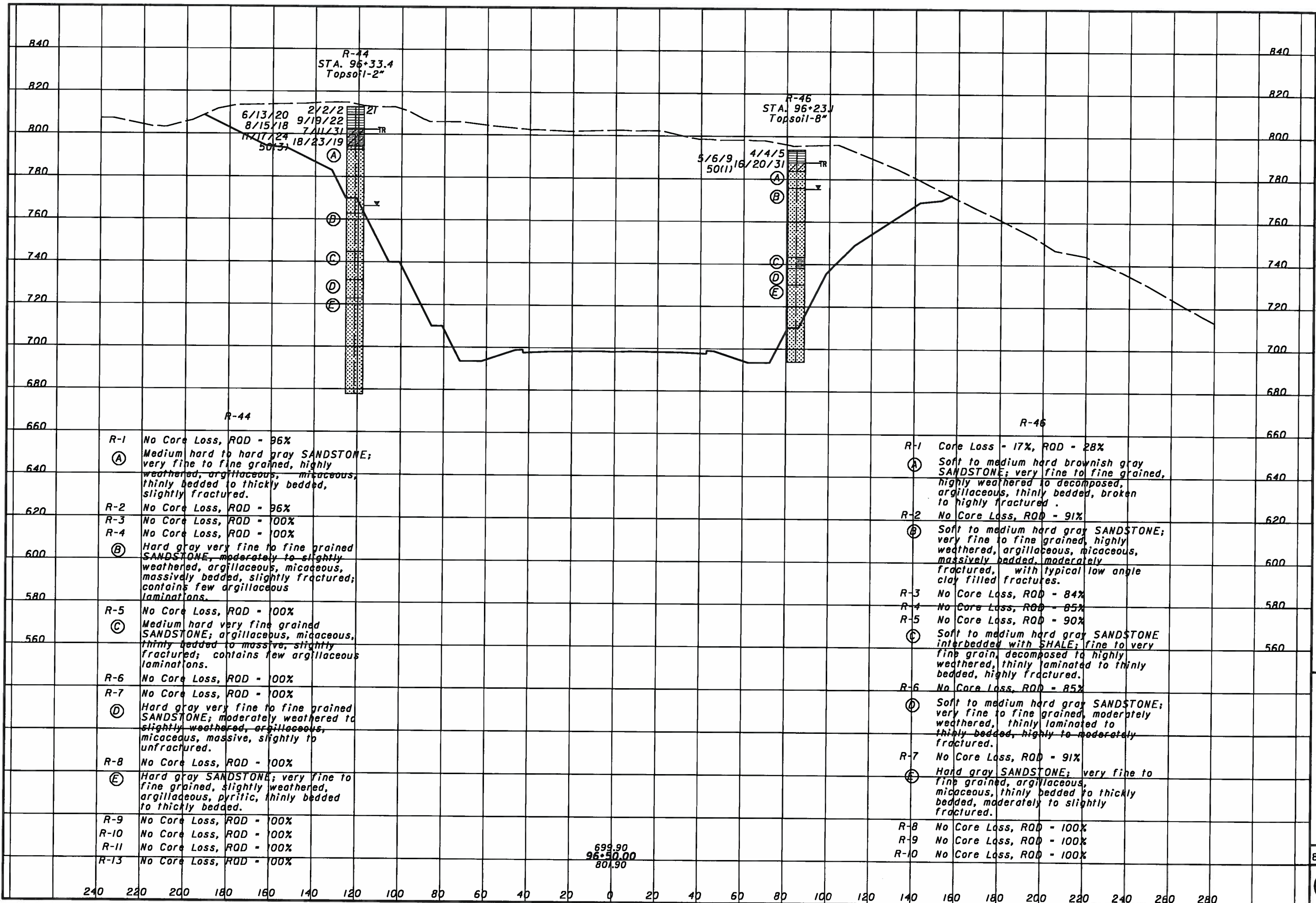
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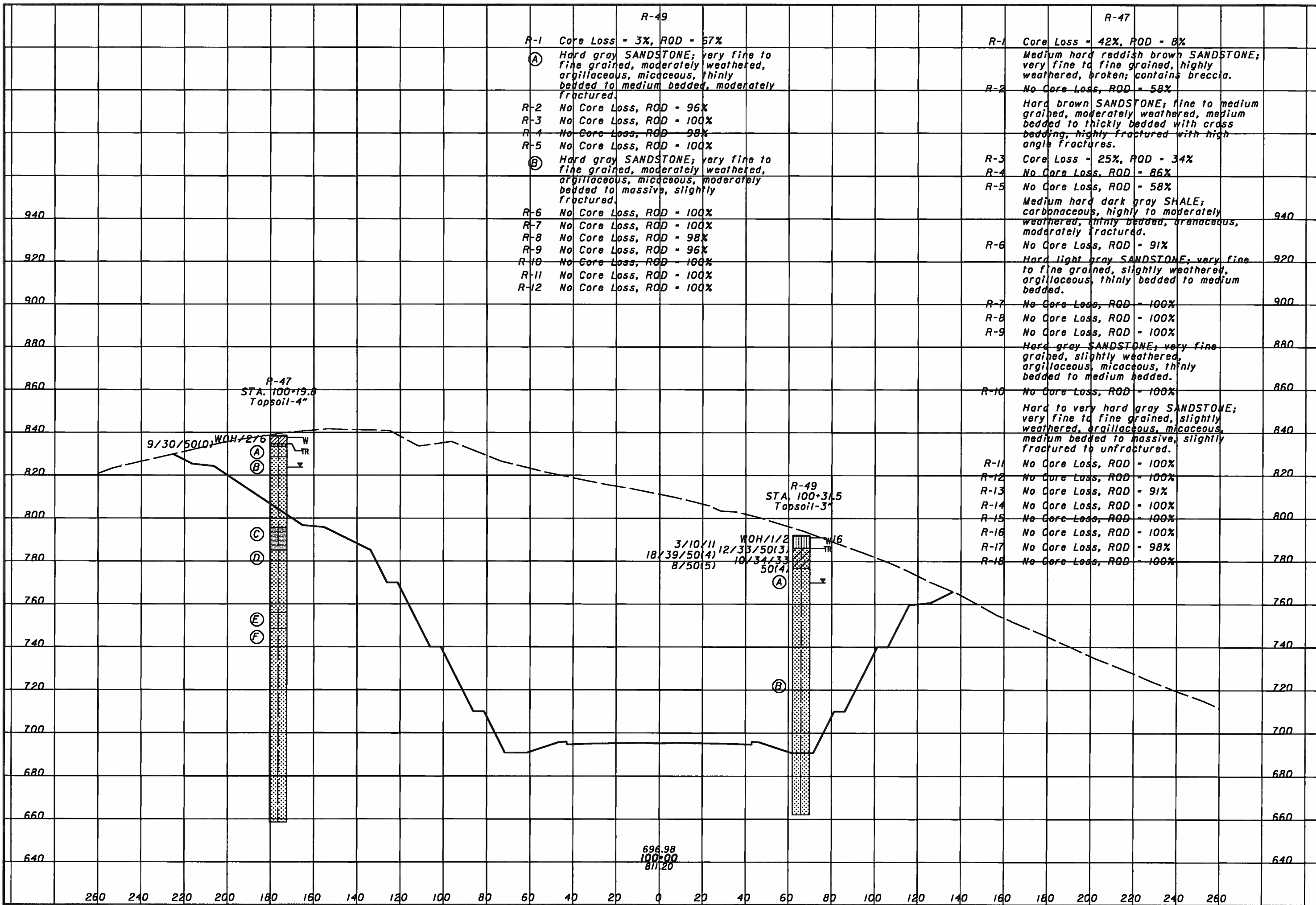
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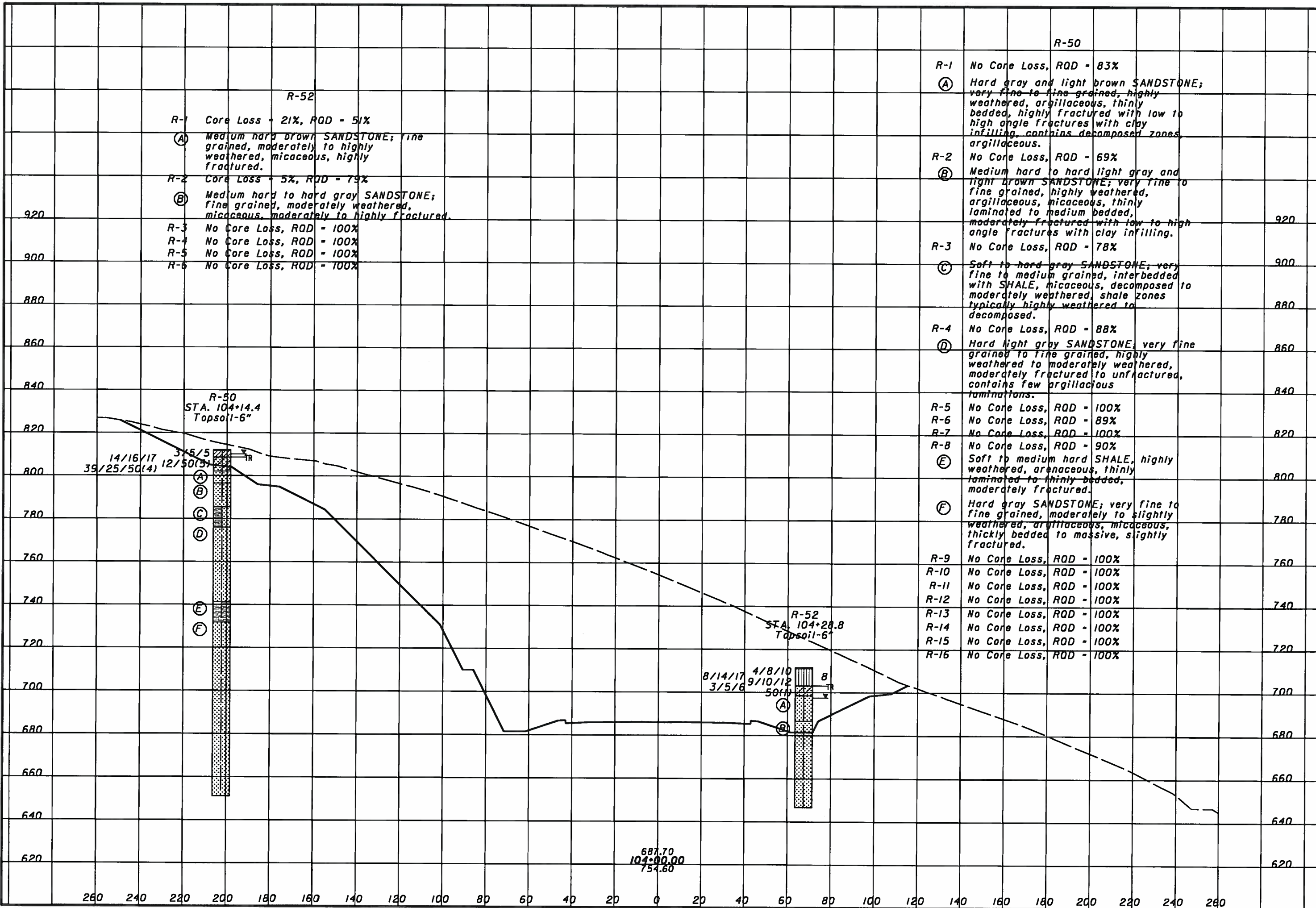
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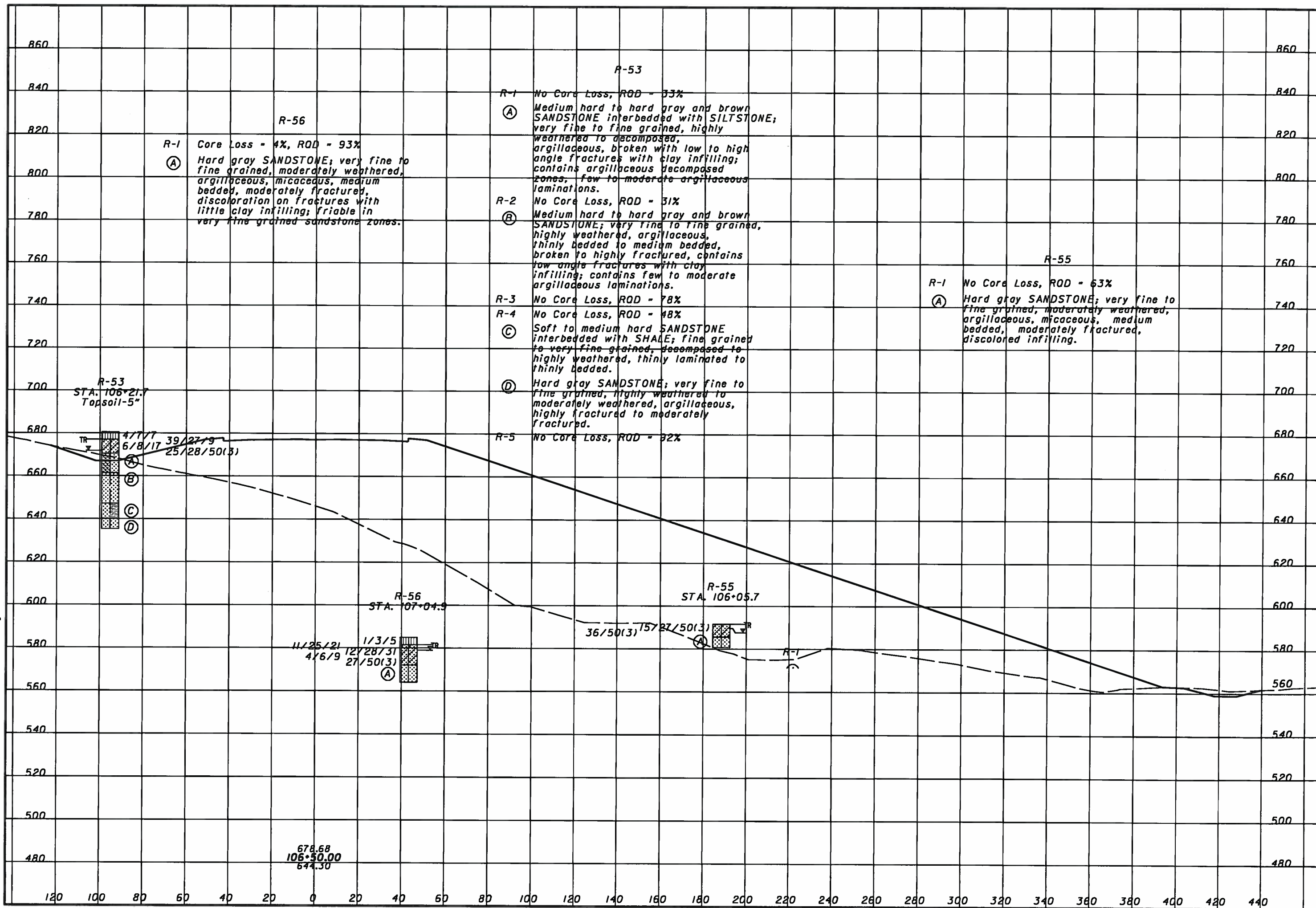


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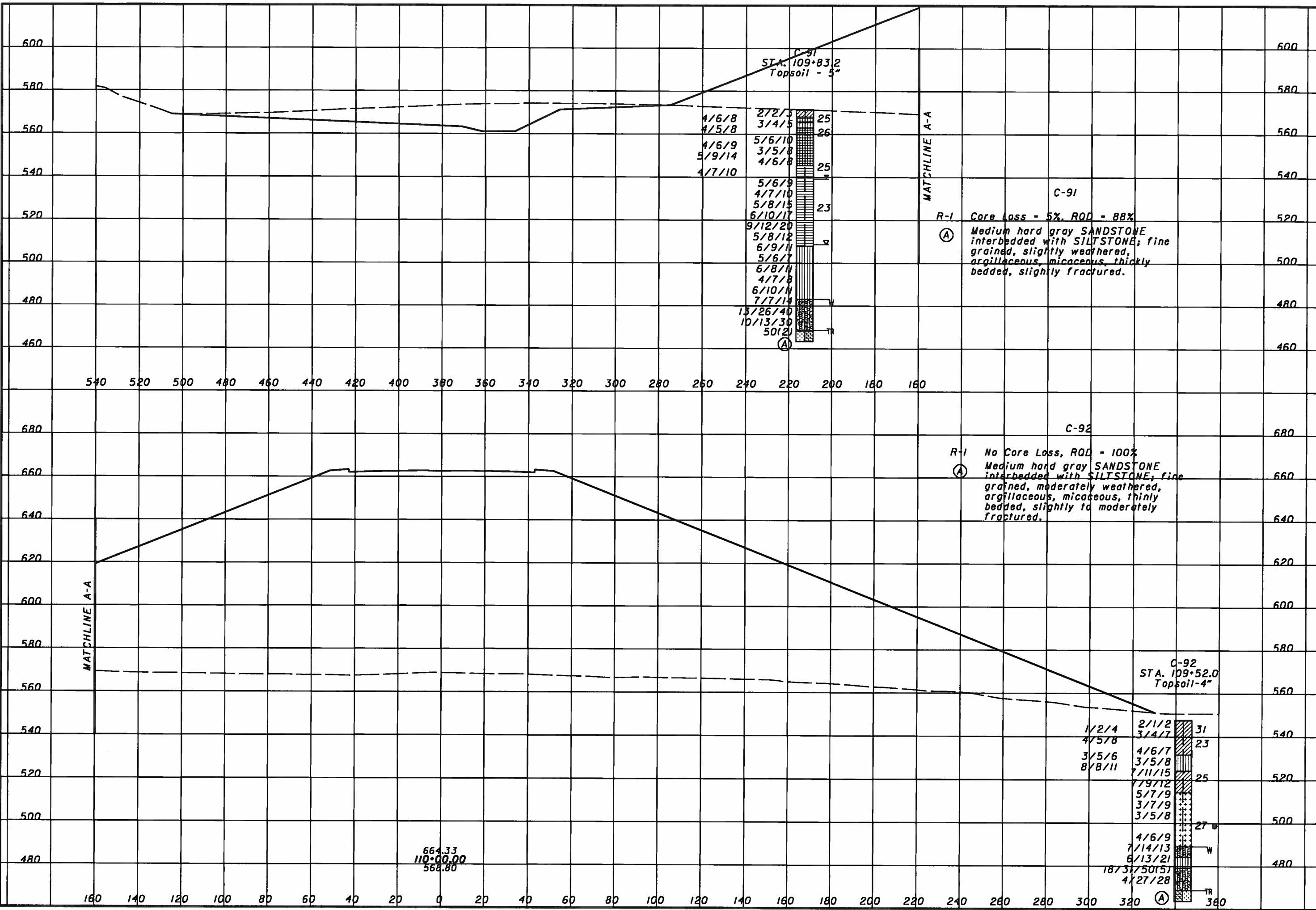
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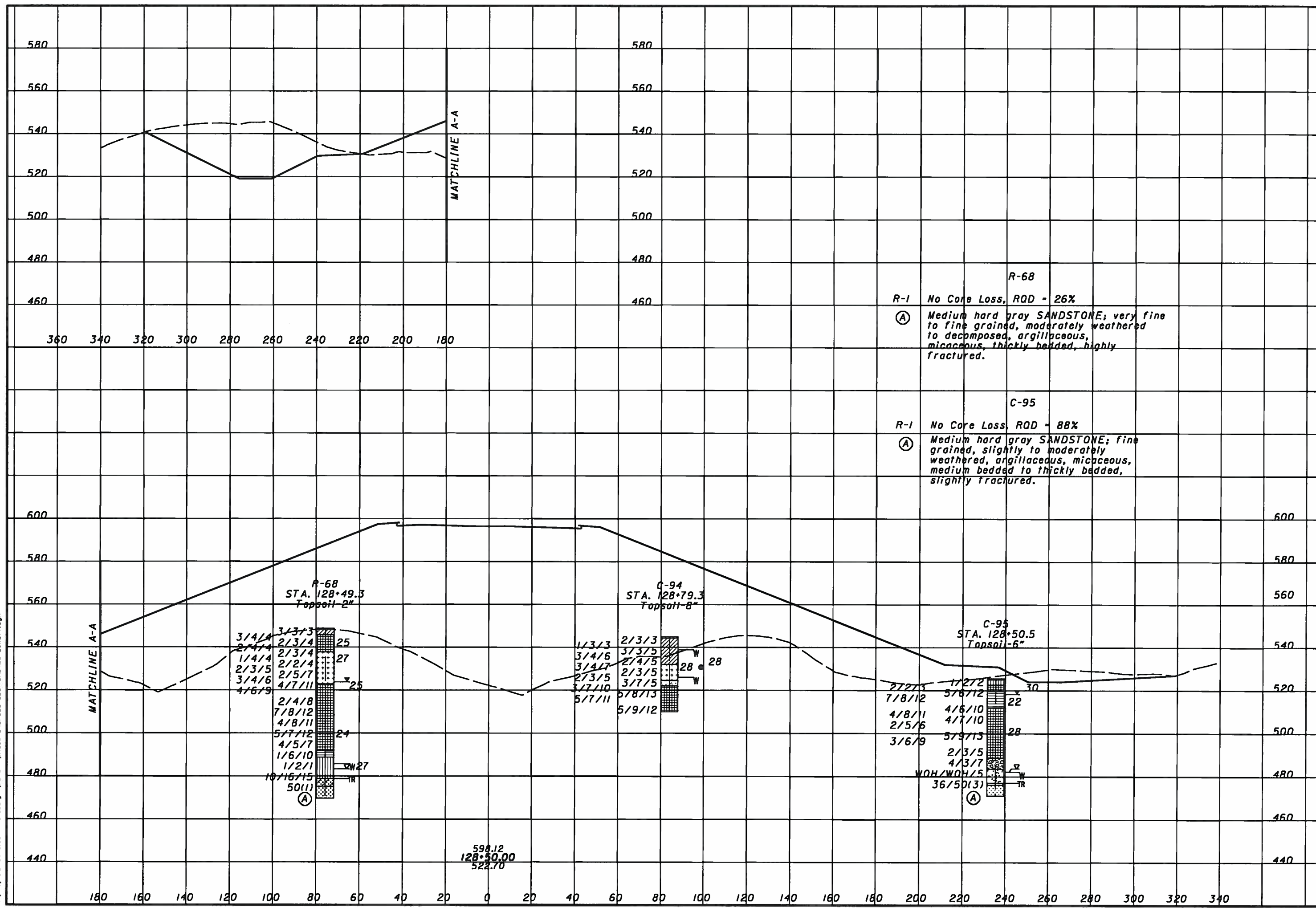
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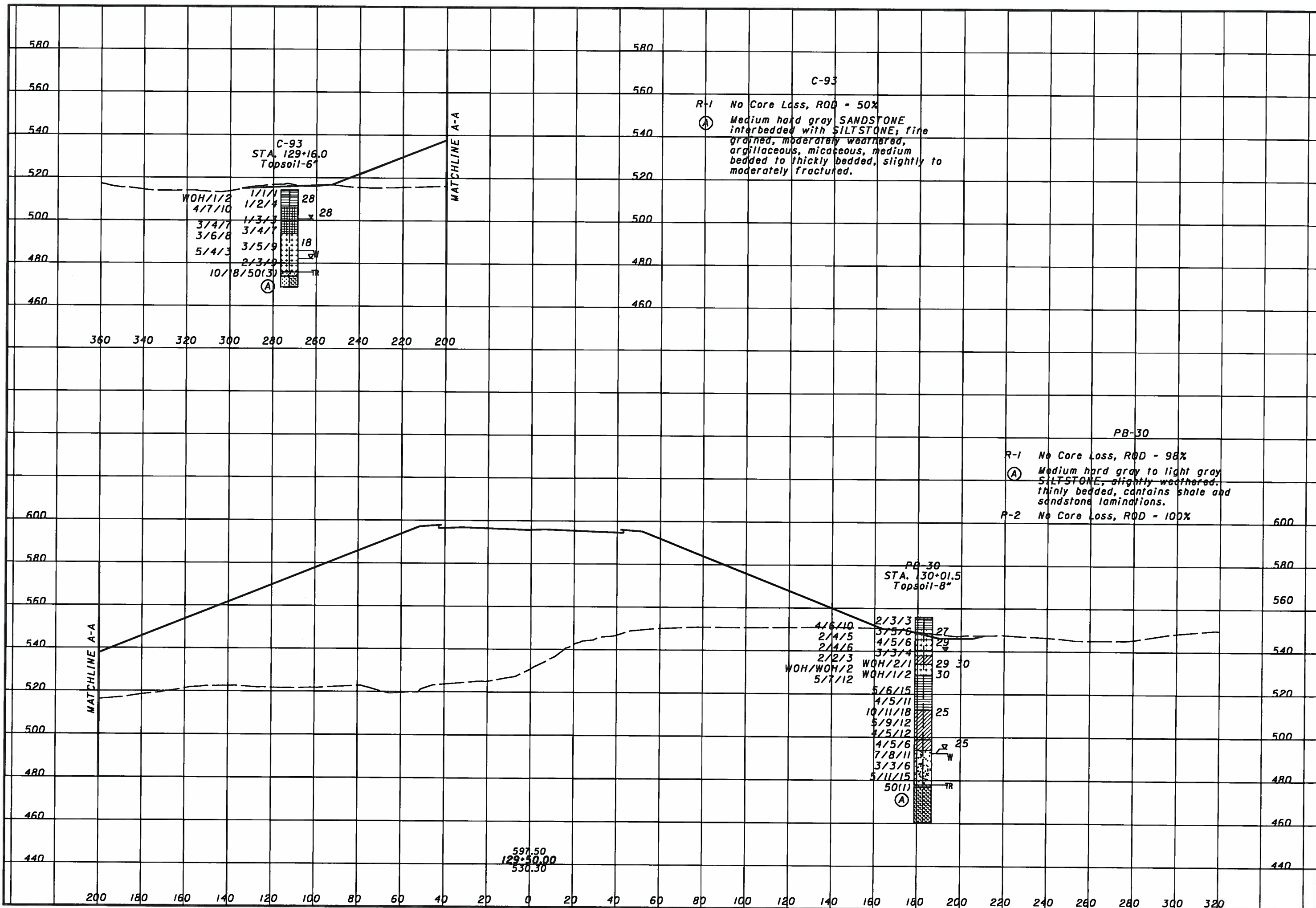
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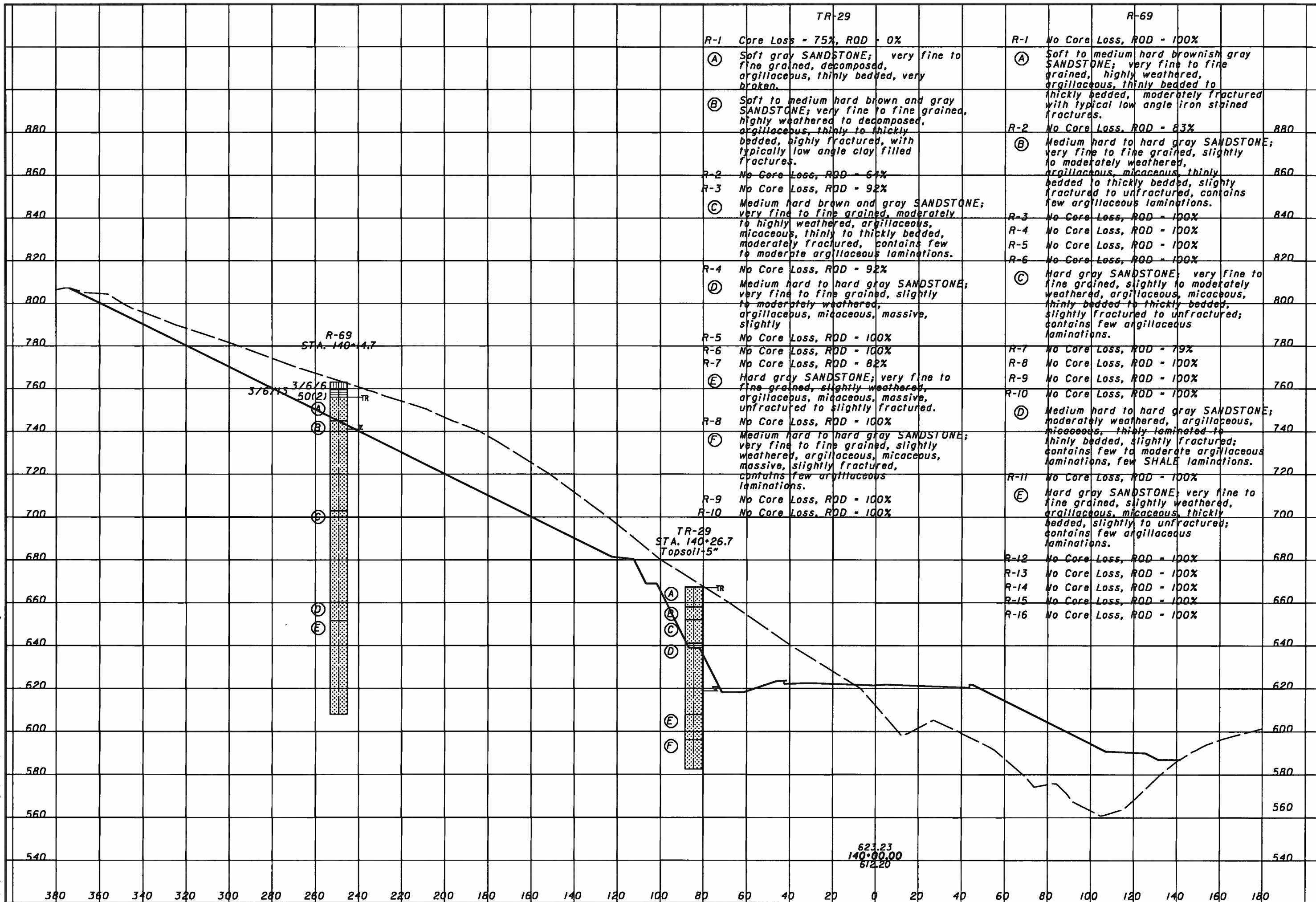


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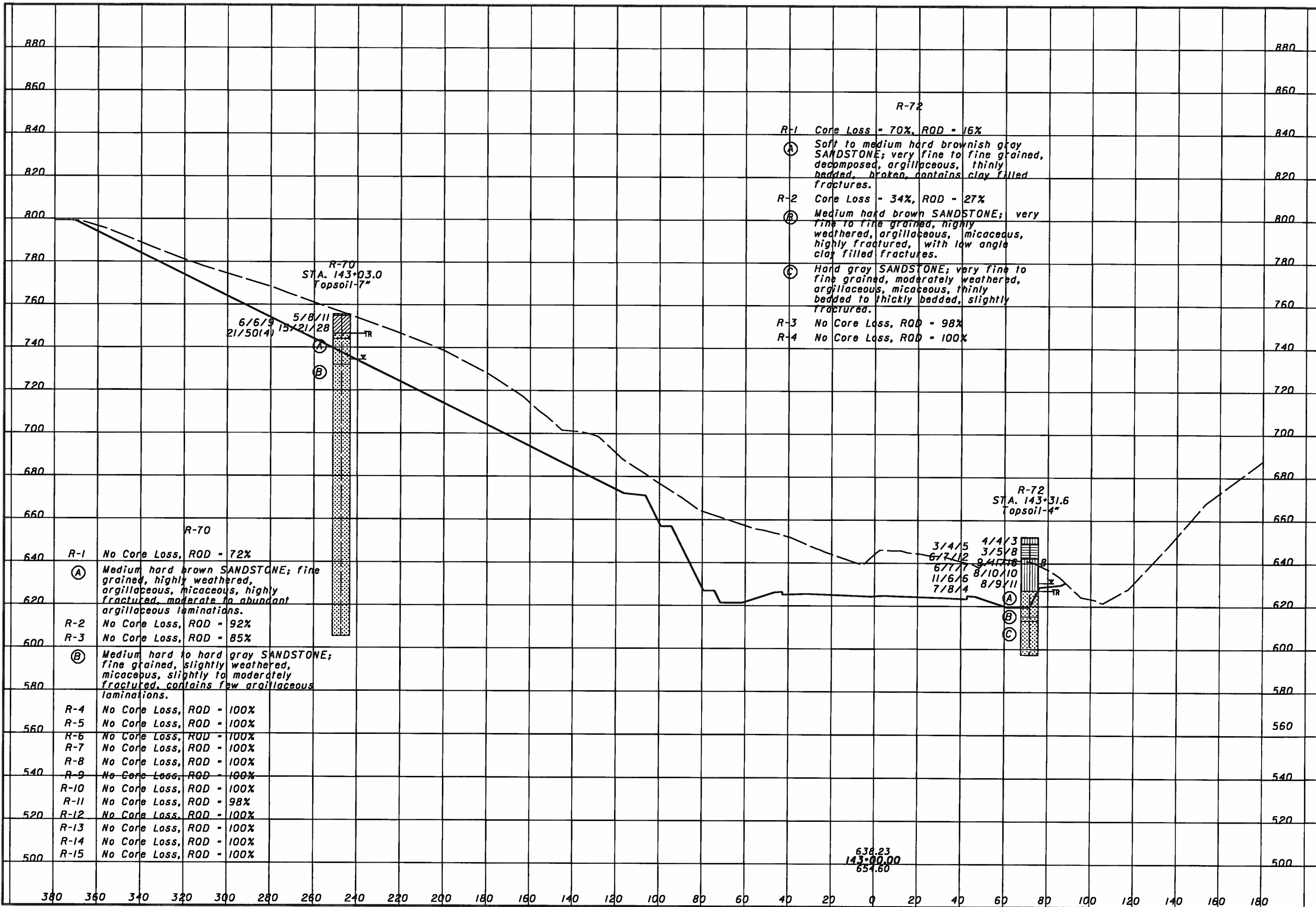


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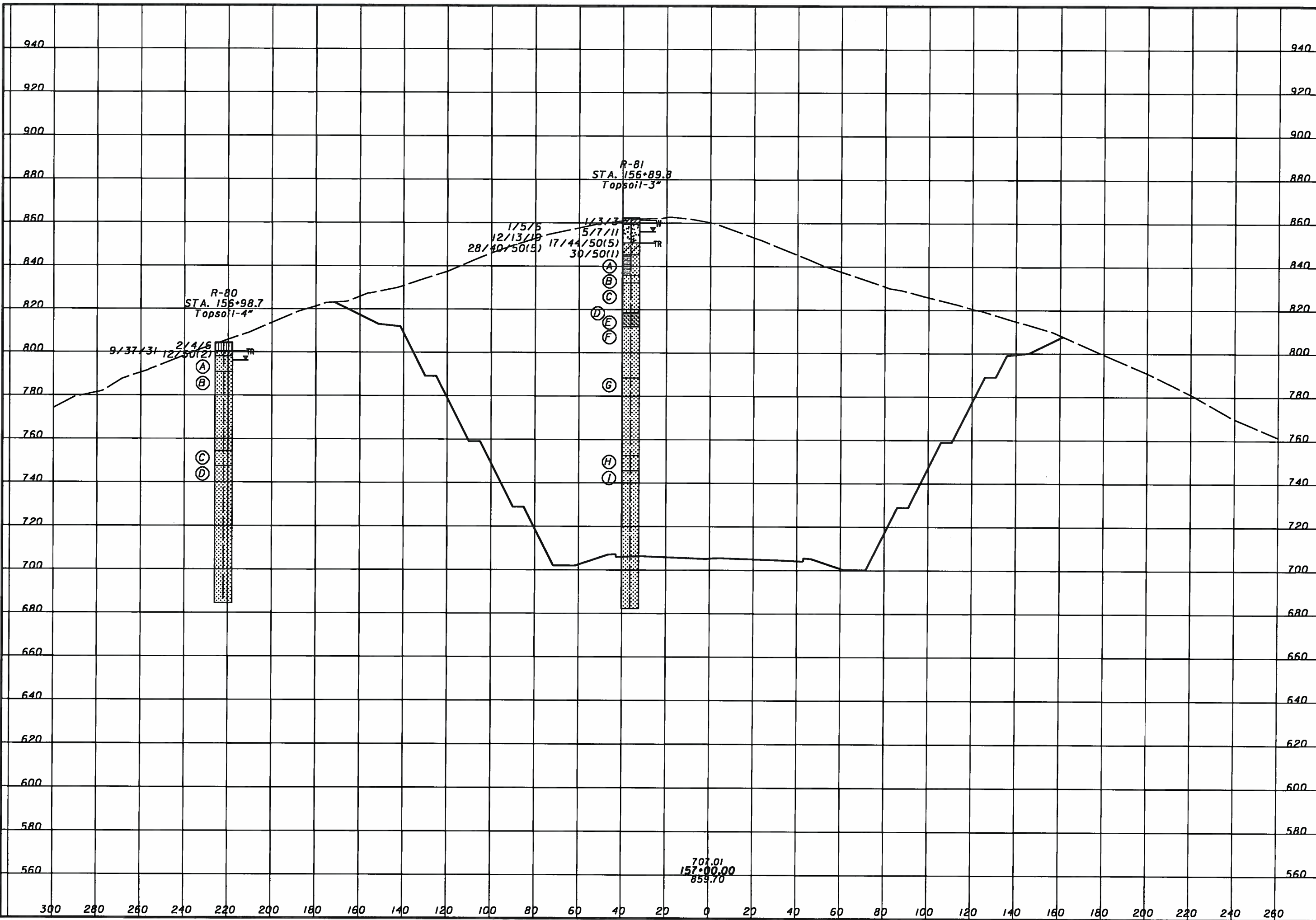
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R-80

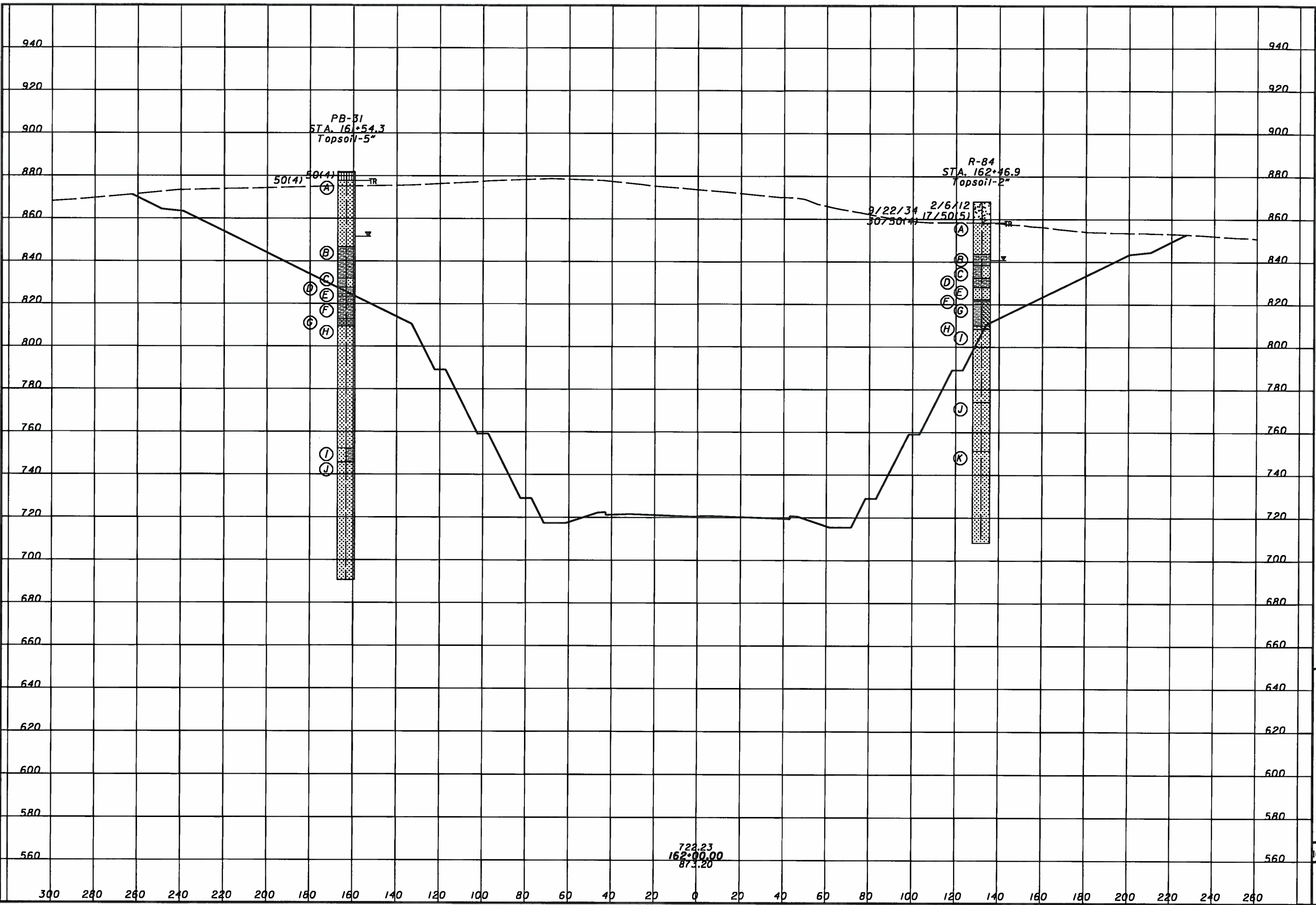
- R-1 No Core Loss, RQD = 69%
 - Ⓐ Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle rust stained fractures.
- R-2 No Core Loss, RQD = 87%
 - Ⓑ Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-3 No Core Loss, RQD = 100%
- R-4 No Core Loss, RQD = 100%
- R-6 No Core Loss, RQD = 100%
 - Ⓒ Hard gray SANDSTONE; very fine grained, slightly weathered, argillaceous, micaceous, thinly laminated to thinly bedded, slightly fractured, contains abundant to moderate argillaceous (SILTSTONE) laminations.
- R-7 No Core Loss, RQD = 100%
 - Ⓓ Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly to thickly bedded, slightly fractured.
- R-8 No Core Loss, RQD = 100%
- R-9 No Core Loss, RQD = 100%
- R-10 No Core Loss, RQD = 97%
- R-11 No Core Loss, RQD = 100%
- R-12 No Core Loss, RQD = 100%
- R-13 No Core Loss, RQD = 100%

R-81

- R-1 No Core Loss, RQD = 42%
 - Ⓐ Soft to medium hard gray SHALE interbedded with SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typical low angle clay filled fractures, turbidity interbedded with silt and clay size grains, poorly cemented orange/grey.
- R-2 No Core Loss, RQD = 57%
 - Ⓑ Hard gray SANDSTONE; fine to medium grained, highly weathered, argillaceous, medium bedded, highly fractured to broken, turbidity bedding.
- R-3 No Core Loss, RQD = 54%
 - Ⓒ Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded, highly fractured, with typically low angle clay filled fractures, turbidity interbedded with argillaceous laminations, poorly cemented SILT.
- R-4 No Core Loss, RQD = 30%
 - Ⓓ Medium hard black COAL; highly weathered, thinly bedded.
 - Ⓔ Soft to medium hard gray and red SILTSTONE; highly weathered to decomposed, argillaceous, shaley zones laminated to thinly bedded.
- R-5 No Core Loss, RQD = 93%
 - Ⓕ Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded.
- R-6 No Core Loss, RQD = 97%
- R-7 No Core Loss, RQD = 100%
 - Ⓖ Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured.
- R-8 No Core Loss, RQD = 100%
- R-9 No Core Loss, RQD = 100%
- R-10 No Core Loss, RQD = 100%
 - Ⓗ Hard gray SANDSTONE; very fine grained, slightly weathered, argillaceous, micaceous, thinly laminated to thinly bedded, slightly fractured.
- R-11 No Core Loss, RQD = 100%
 - Ⓘ Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thickly bedded to massive, slightly fractured, contains few argillaceous laminations.
- R-12 No Core Loss, RQD = 53%
- R-13 No Core Loss, RQD = 100%
- R-14 No Core Loss, RQD = 100%
- R-15 No Core Loss, RQD = 100%
- R-16 No Core Loss, RQD = 100%
- R-17 No Core Loss, RQD = 100%



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PB-31

- R-1 No Core Loss, RQD - 74%
 - (A) Soft to medium hard light brown, brown and light gray SANDSTONE; fine to coarse grained, thinly to medium bedded, poorly cemented, micaceous, moderately weathered, broken.
- R-2 Core Loss - 5%, RQD - 20%
- R-3 Core Loss - 8%, RQD - 88%
- R-4 Core Loss - 14%, RQD - 63%
 - (B) Medium hard gray SHALE; thinly bedded to laminated, micaceous, slightly to moderately weathered, contains thin sandstone
- R-5 No Core Loss, RQD - 100%
- R-6 Core Loss - 9%, RQD - 50%
 - (C) Medium hard gray interbedded SHALE and SANDSTONE; thinly bedded to laminated, micaceous, moderately weathered.
 - (D) Soft dark gray to black SHALE; very thinly bedded to laminated, carbonaceous, broken, moderately to severely weathered, contains smooth polished fractures.
 - (E) Medium hard to hard gray and brown SANDSTONE; fine grained, micaceous, moderately weathered.
 - (F) Soft dark gray to black SHALE, very thinly bedded to laminated, carbonaceous, broken, moderately to severely weathered, contains smooth polished fractures.
- R-7 Core Loss - 47%, RQD - 20%
- R-8 Core Loss - 50%, RQD - 0%
 - (G) Medium hard light gray LIMESTONE; thinly to thickly bedded, slightly leached, mechanically broken.
- R-9 Core Loss - 5%, RQD - 62%
 - (H) Hard to very hard light gray SANDSTONE; fine grained, thinly to thickly bedded, unweathered to slightly weathered, contains argillaceous layers.
- R-10 No Core Loss, RQD - 100%
- R-11 Core Loss - 3%, RQD - 97%
- R-12 No Core Loss, RQD - 100%
- R-13 Core Loss - 3%, RQD - 97%
- R-14 Core Loss - 2%, RQD - 88%
- R-15 No Core Loss, RQD - 100%
- R-16 No Core Loss, RQD - 100%
 - (I) Medium hard to hard interbedded SHALE, SILTSTONE and SANDSTONE, very thin to thinly bedded, slightly to moderately weathered.
 - (J) Hard gray SANDSTONE, fine grained, thinly to thickly bedded, unweathered to slightly weathered, contains occasional argillaceous clasts and laminations.
- R-17 No Core Loss, RQD - 100%
- R-18 No Core Loss, RQD - 100%
- R-19 No Core Loss, RQD - 100%
- R-20 No Core Loss, RQD - 100%
- R-21 No Core Loss, RQD - 100%
- R-22 No Core Loss, RQD - 100%

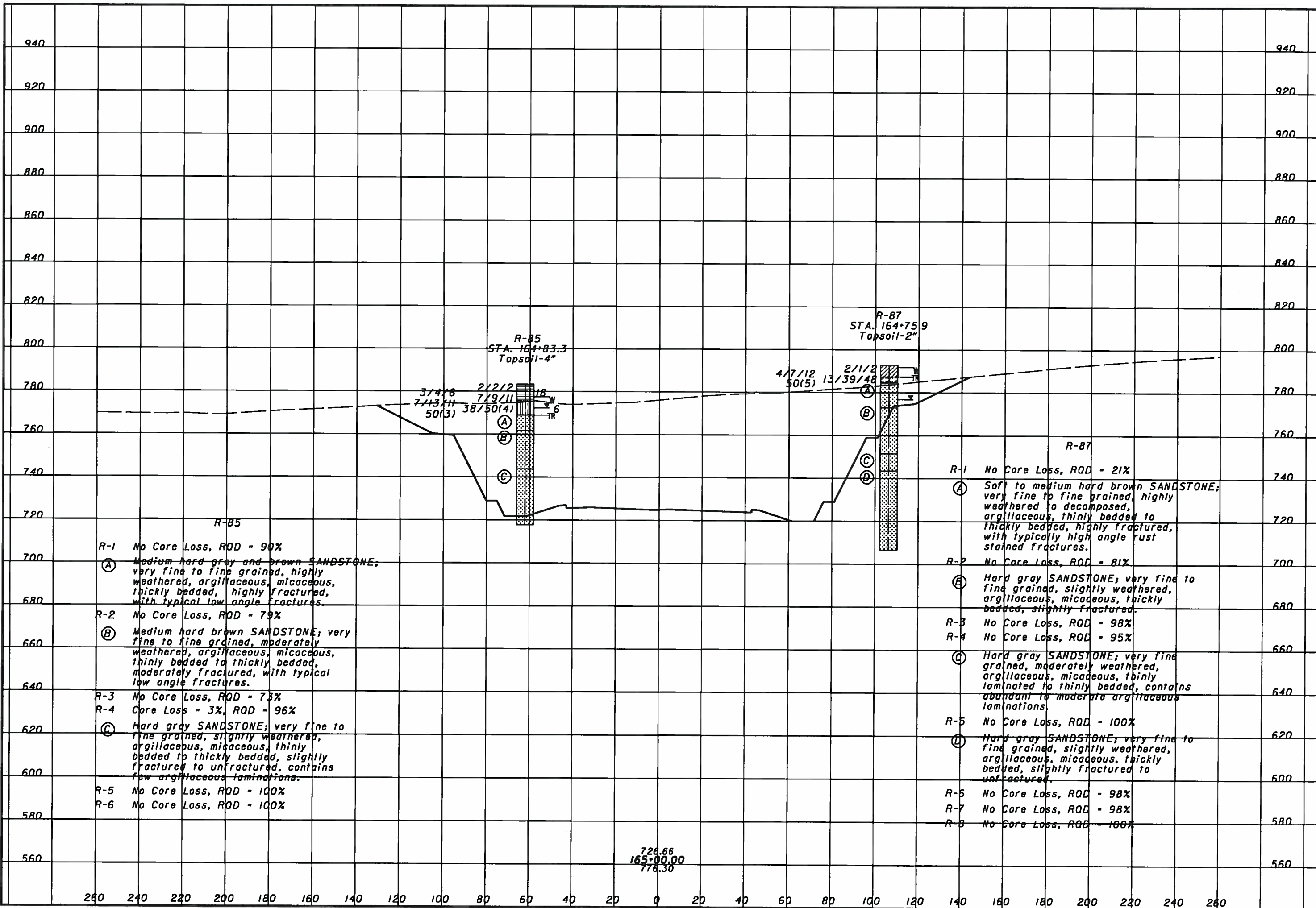
R-84

- R-1 Core Loss - 39%, RQD - 40%
 - (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle rust stained fractures.
- R-2 Core Loss - 25%, RQD - 46%
 - (B) Medium hard gray SHALE; highly to moderately weathered, arenaceous, micaceous, thinly to thickly bedded, moderately fractured, contains abundant arenaceous laminations.
- R-3 No Core Loss, RQD - 100%
- R-4 No Core Loss, RQD - 40%
 - (C) Medium hard gray SANDSTONE interbedded with SHALE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typically low angle fractures.
 - (D) Soft to medium hard gray SHALE; highly weathered to decomposed, argillaceous, carbonaceous, bedding weathered out.
- R-5 No Core Loss, RQD - 86%
 - (E) Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, contains coal stringers.
 - (F) Medium hard black COAL; slightly weathered, thinly bedded.
 - (G) Soft to medium hard gray and red SILTSTONE interbedded with SHALE; highly weathered, argillaceous, thinly bedded, moderately fractured, with typically high angle slickensided fractures.
- R-6 No Core Loss, RQD - 85%
 - (H) Medium hard gray SANDSTONE interbedded with SILTSTONE.
- R-7 No Core Loss, RQD - 100%
 - (I) Medium hard light gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured, contains few argillaceous laminations and medium grained iron stained sandstone.
- R-8 No Core Loss, RQD - 98%
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%
 - (J) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured.
- R-11 No Core Loss, RQD - 100%
- R-12 No Core Loss, RQD - 100%
 - (K) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly laminated to thinly bedded, unfractured to slightly fractured.
- R-13 No Core Loss, RQD - 100%
- R-14 No Core Loss, RQD - 100%
- R-15 No Core Loss, RQD - 100%
- R-16 No Core Loss, RQD - 100%

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SOIL PROFILE
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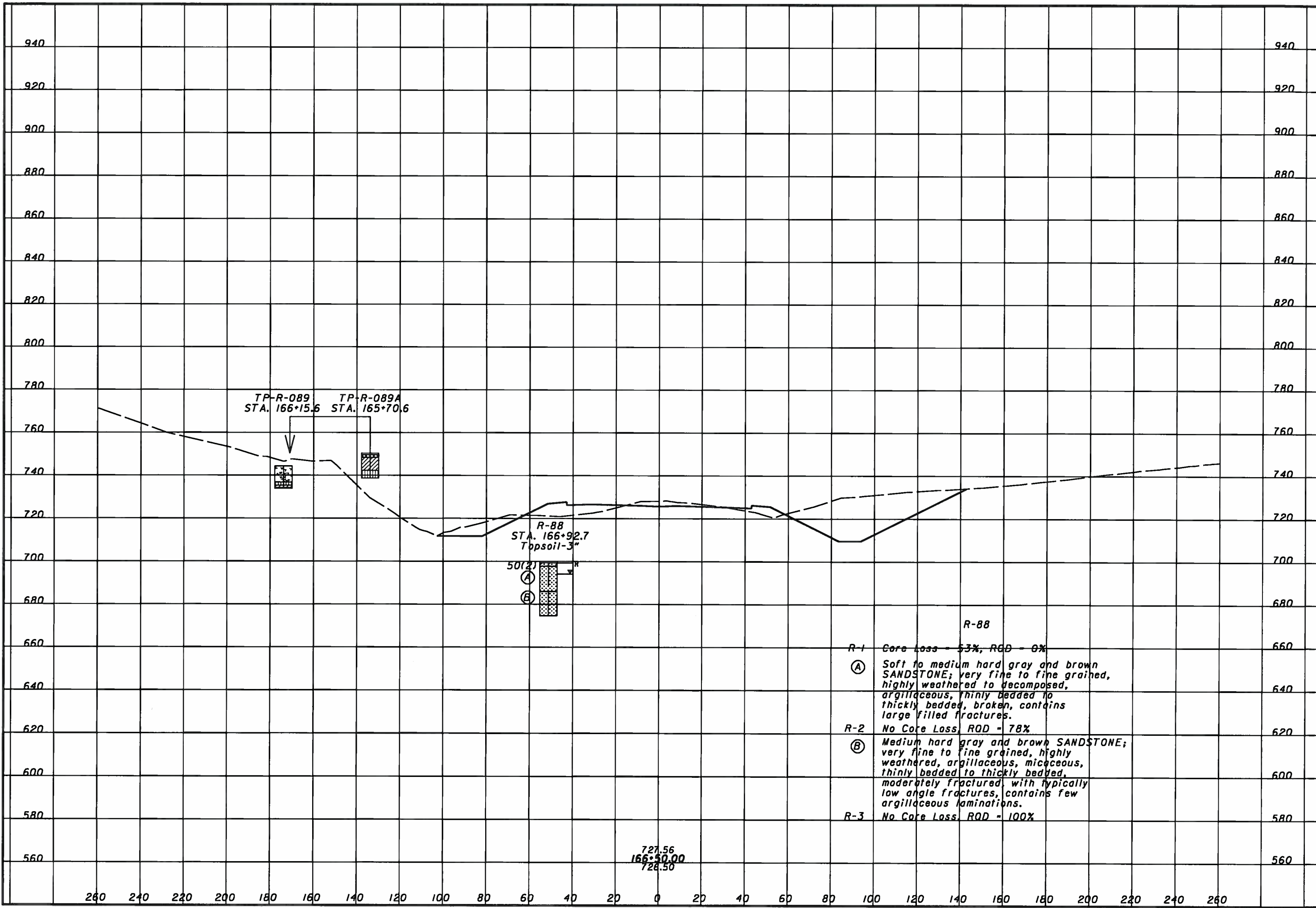
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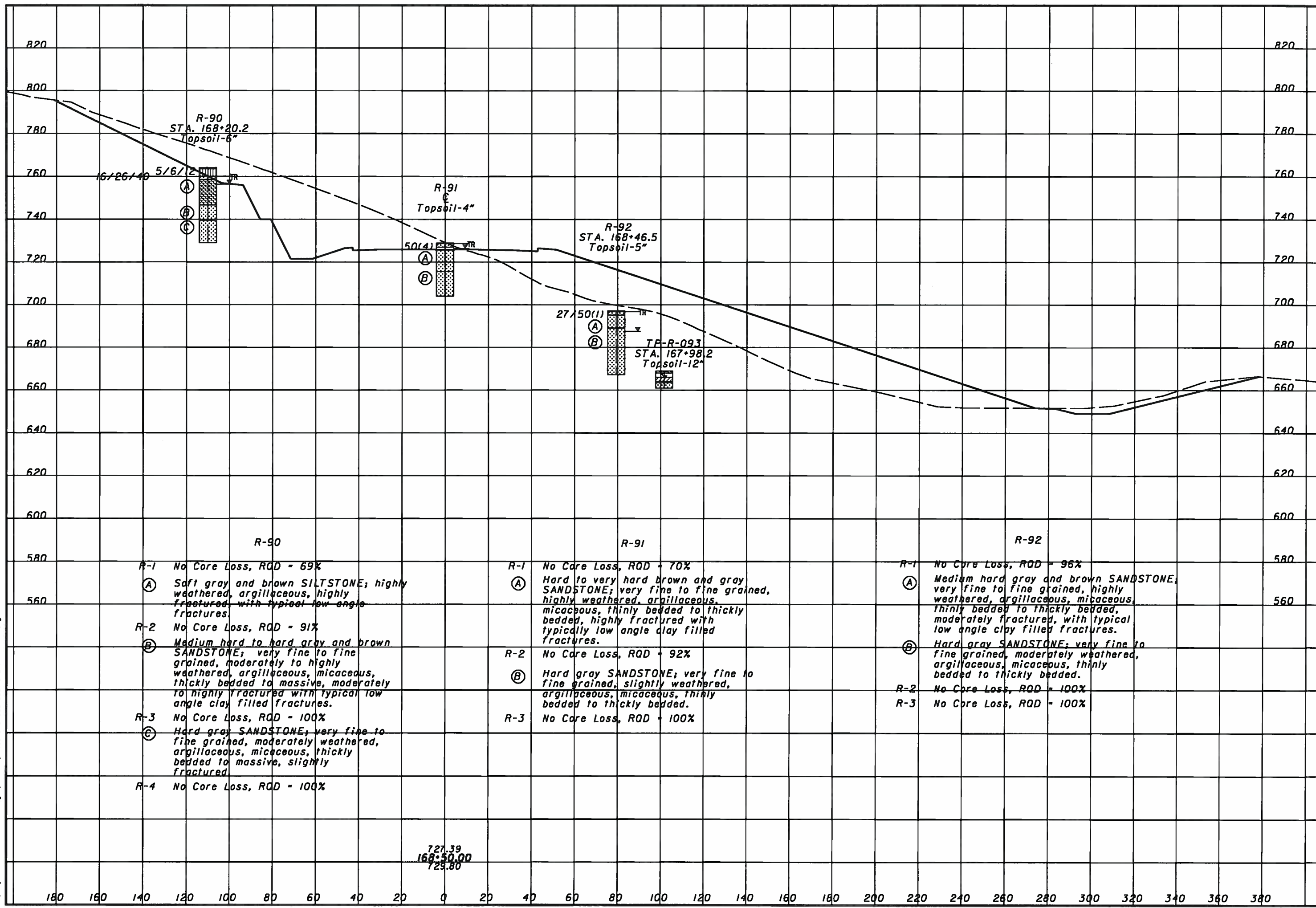


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- R-88
- R-1 Core Loss - 53%, RQD - 0%
 - Ⓐ Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, broken, contains large filled fractures.
 - R-2 No Core Loss, RQD - 78%
 - Ⓑ Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typically low angle fractures, contains few argillaceous laminations.
 - R-3 No Core Loss, RQD - 100%

727.56
 166+50.00
 728.50



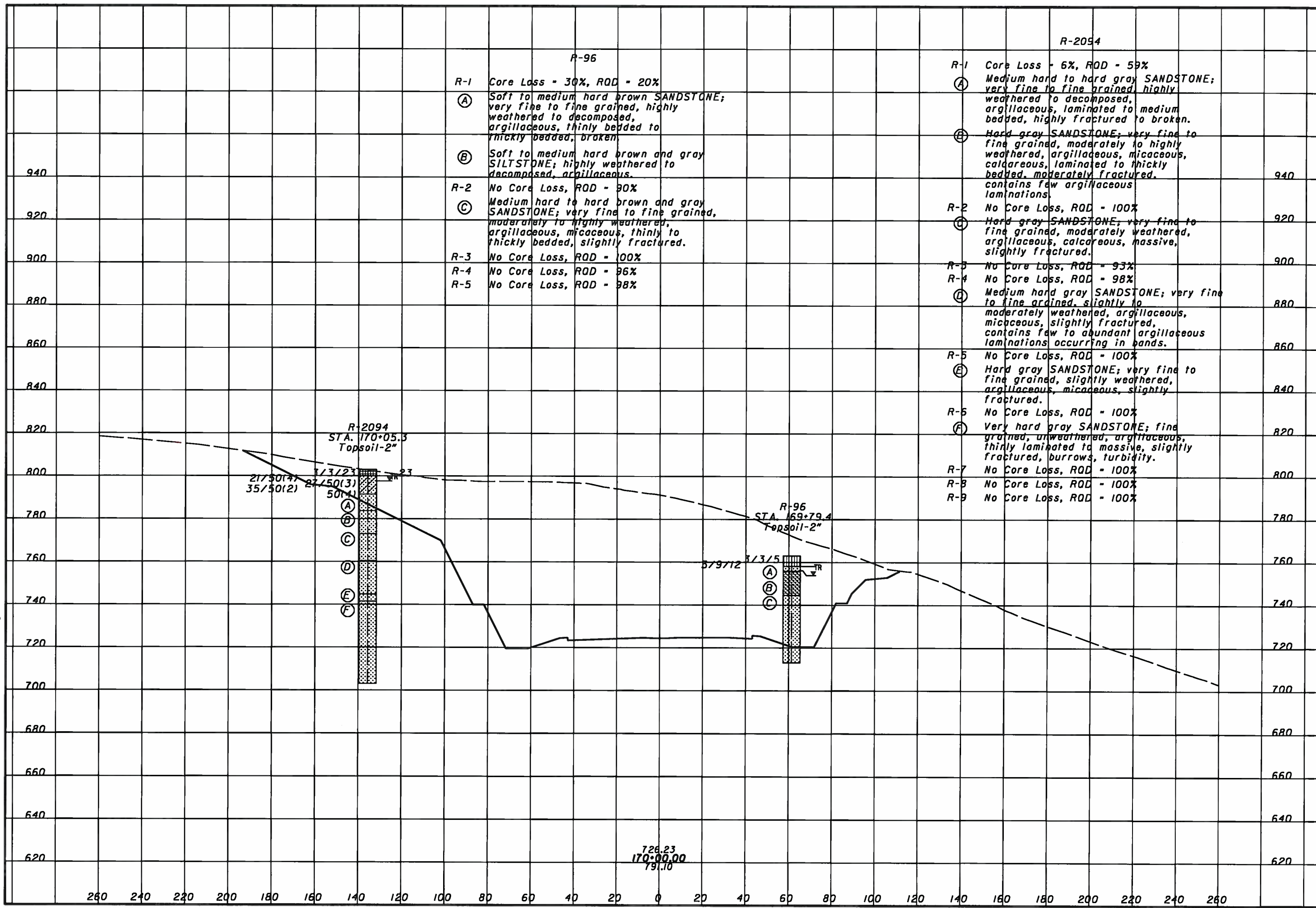
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R-2094

R-96

- R-1 Core Loss = 30%, RQD = 20%
 (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, broken
- (B) Soft to medium hard brown and gray SILTSTONE; highly weathered to decomposed, argillaceous.
- R-2 No Core Loss, RQD = 90%
 (C) Medium hard to hard brown and gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly to thickly bedded, slightly fractured.
- R-3 No Core Loss, RQD = 100%
- R-4 No Core Loss, RQD = 96%
- R-5 No Core Loss, RQD = 98%

- R-1 Core Loss = 6%, RQD = 59%
 (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, laminated to medium bedded, highly fractured to broken.
- (B) Hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, calcareous, laminated to thickly bedded, moderately fractured, contains few argillaceous laminations.
- R-2 No Core Loss, RQD = 100%
 (C) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, calcareous, massive, slightly fractured.
- R-3 No Core Loss, RQD = 93%
- R-4 No Core Loss, RQD = 98%
 (D) Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, slightly fractured, contains few to abundant argillaceous laminations occurring in bands.
- R-5 No Core Loss, RQD = 100%
 (E) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, slightly fractured.
- (F) Very hard gray SANDSTONE; fine grained, unweathered, argillaceous, thinly laminated to massive, slightly fractured, burrows, turbidity.
- R-7 No Core Loss, RQD = 100%
- R-8 No Core Loss, RQD = 100%
- R-9 No Core Loss, RQD = 100%



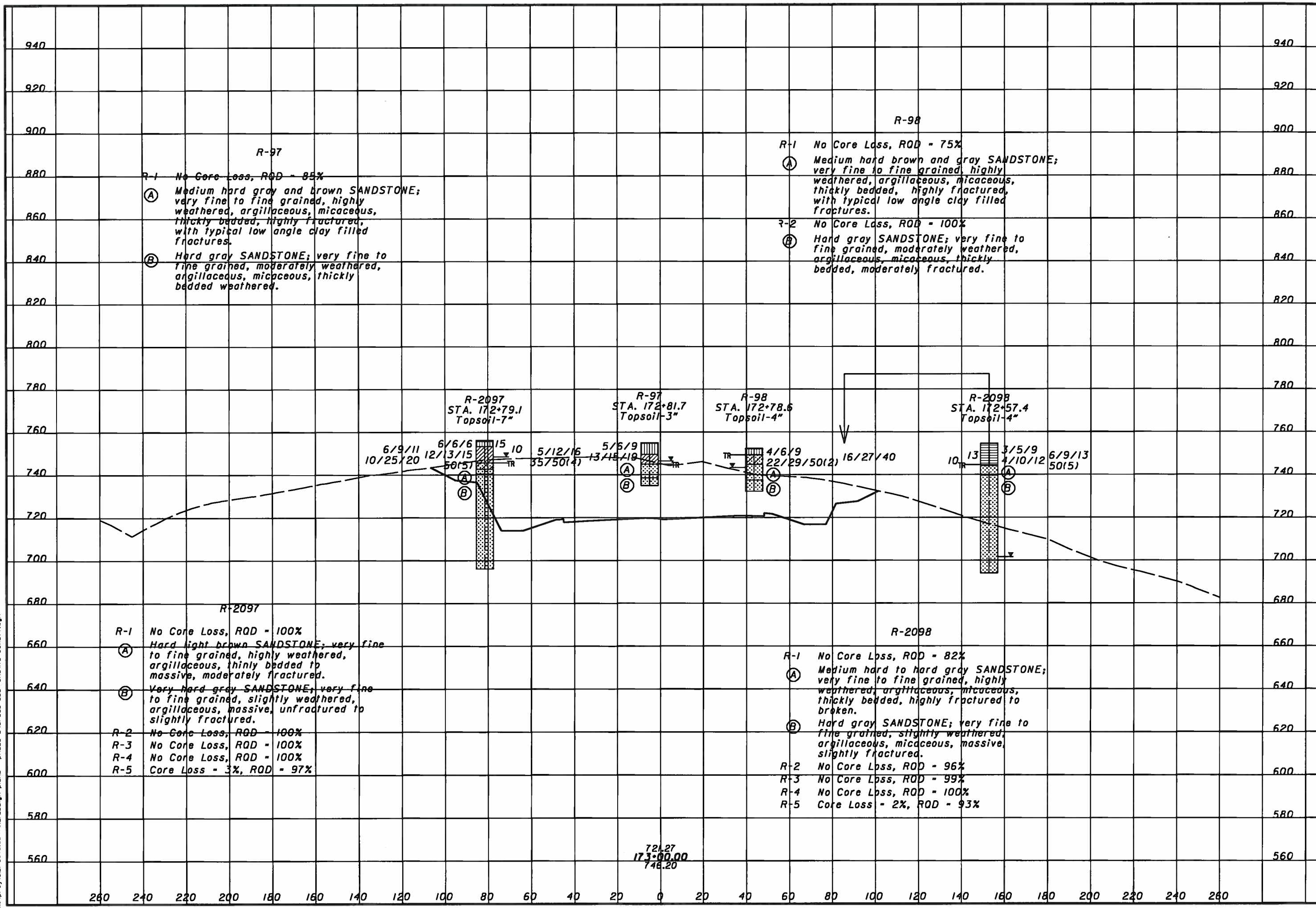
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105/168



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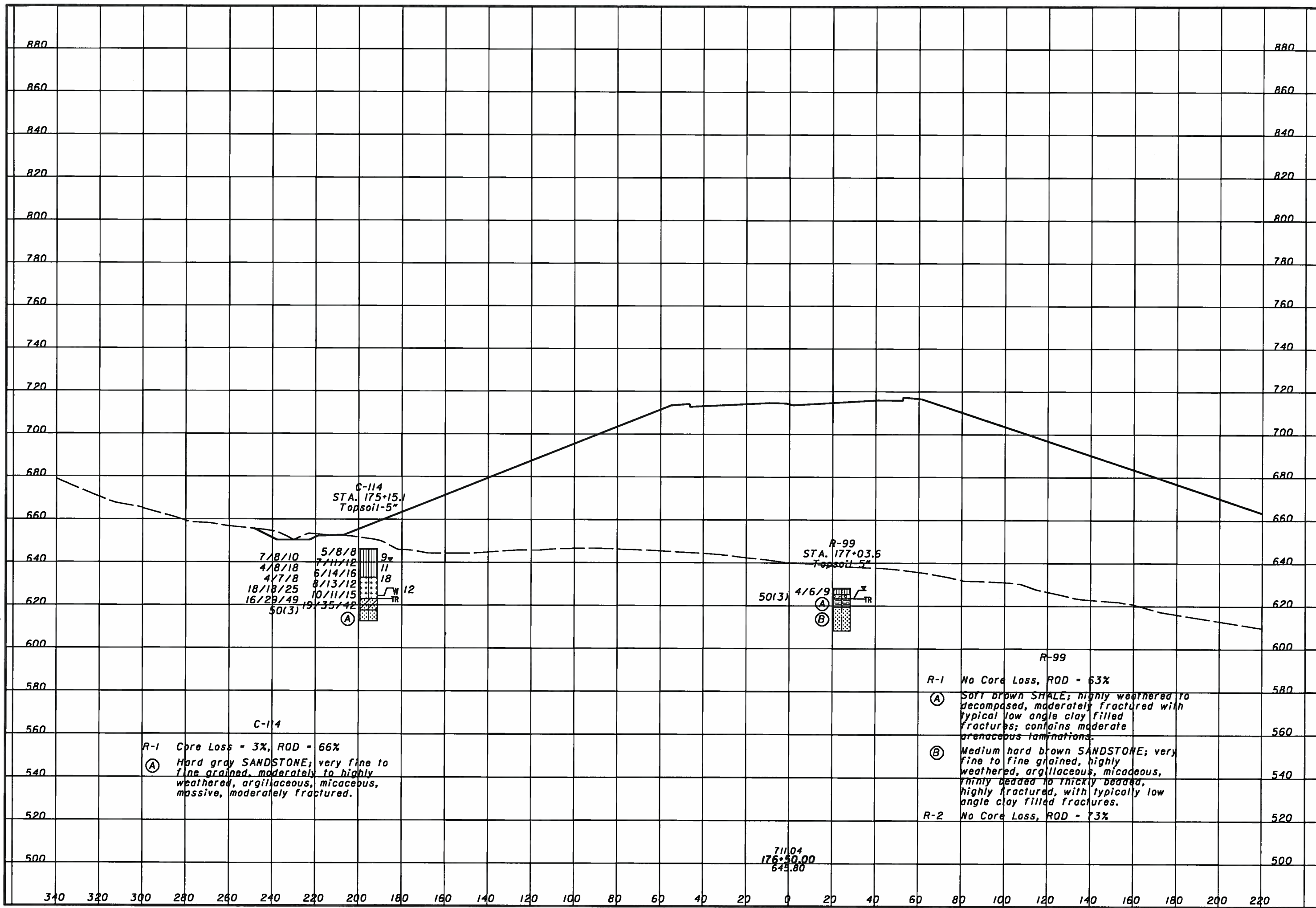
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SOIL PROFILE
CROSS SECTION - SR 823 STA. 176+50.00

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107/168



7/8/10 5/8/8
 4/8/18 7/11/12
 4/7/8 6/14/16
 18/18/25 8/13/12
 16/29/49 10/11/15
 50(3) 19/35/42

9'
 11'
 18'
 W 12'
 TR

(A)

50(3) 4/6/9
 (A)
 (B)

TR

C-114

R-1 Core Loss - 3%, ROD - 66%

(A) Hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, massive, moderately fractured.

R-99

R-1 No Core Loss, ROD - 63%

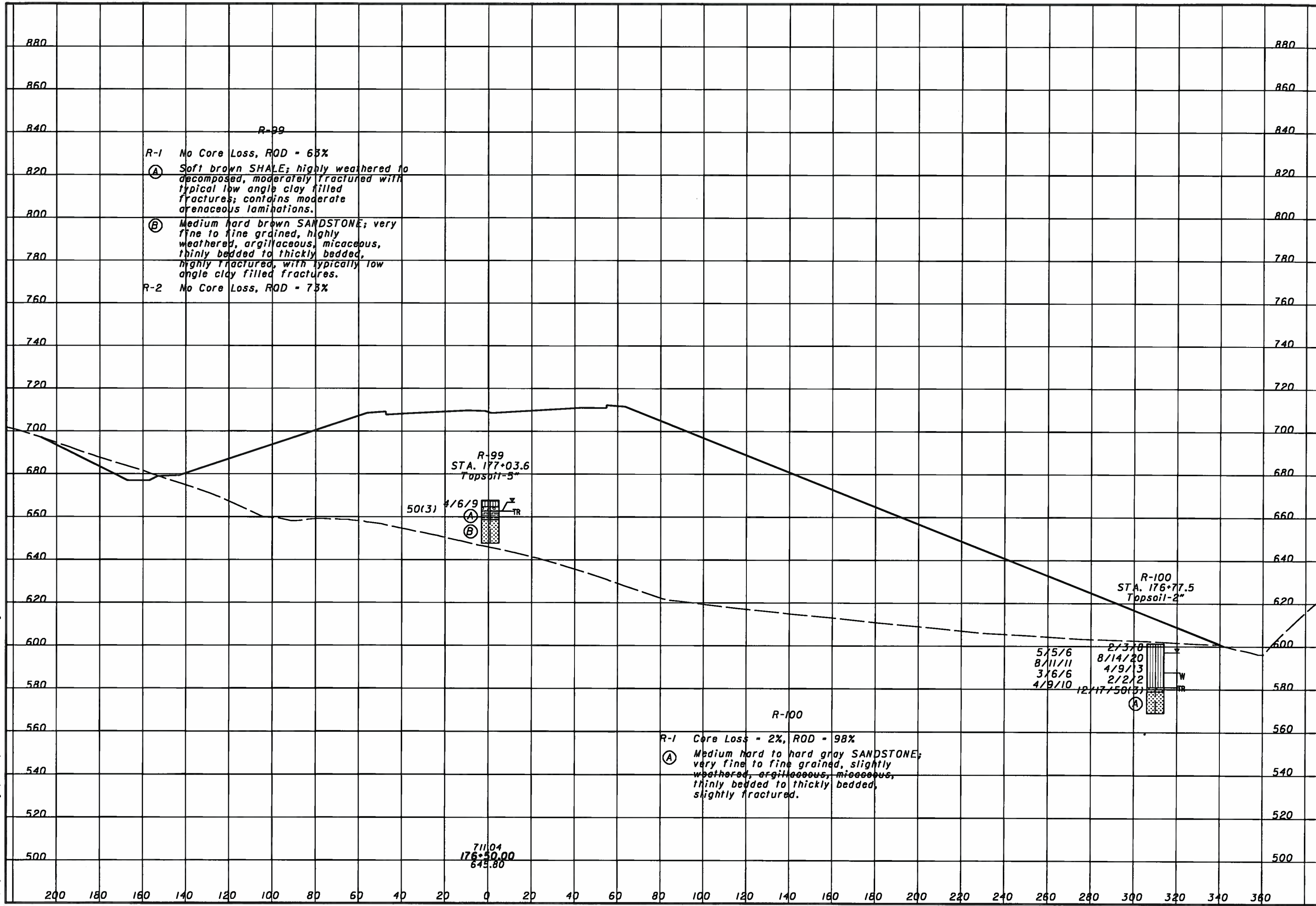
(A) Soft brown SHALE; highly weathered to decomposed, moderately fractured with typical low angle clay filled fractures; contains moderate arenaceous laminations.

(B) Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle clay filled fractures.

R-2 No Core Loss, ROD - 73%

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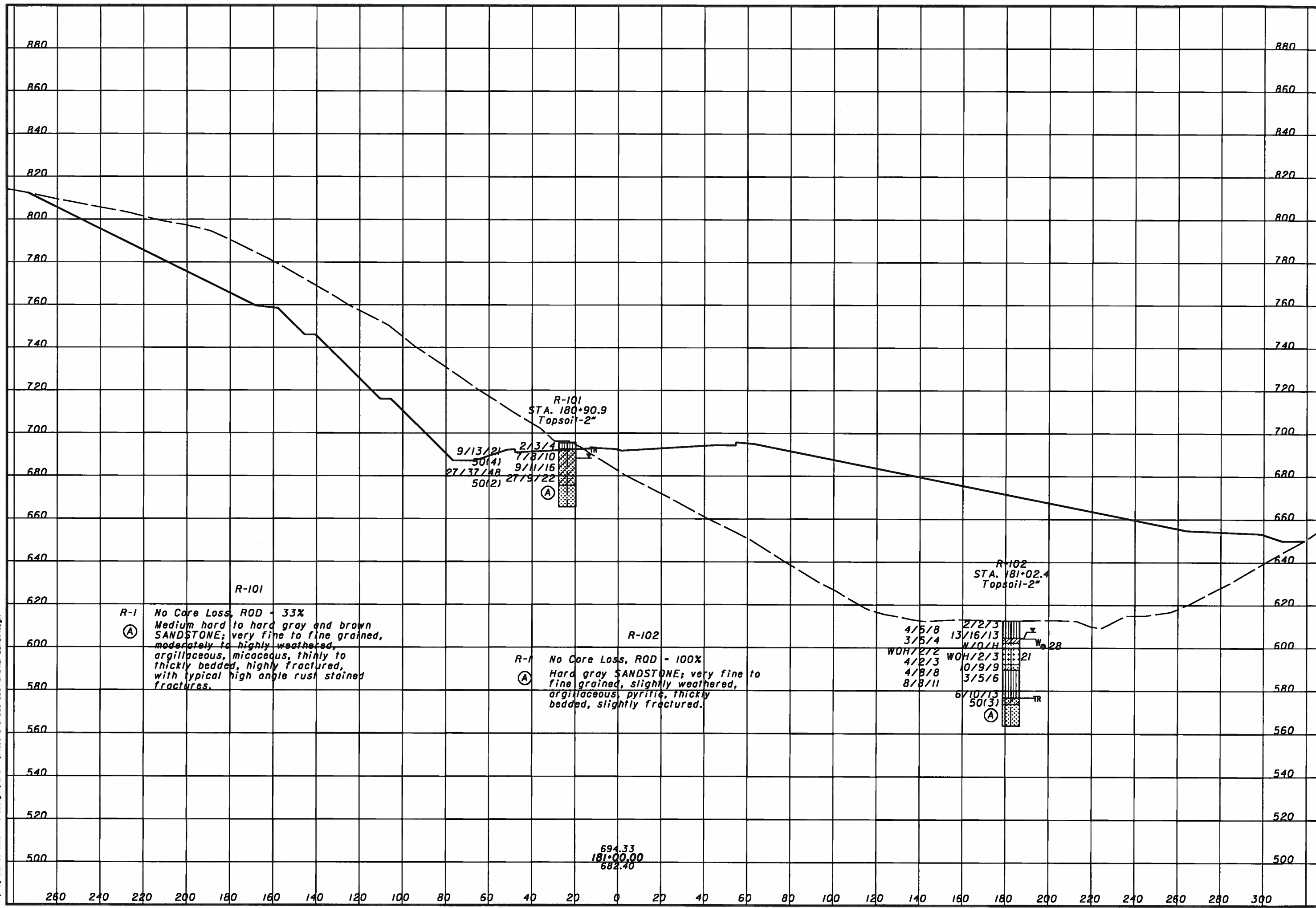
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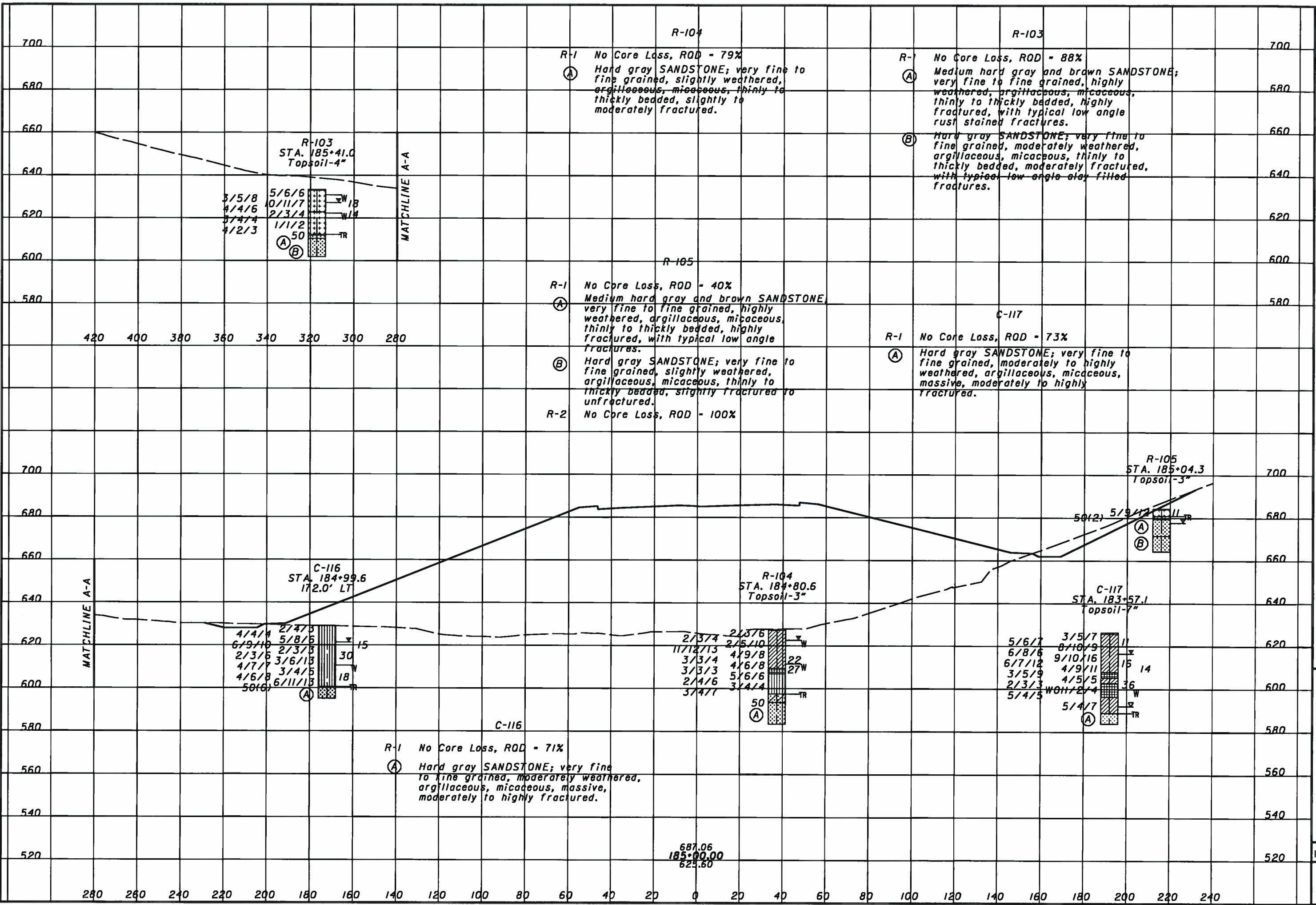
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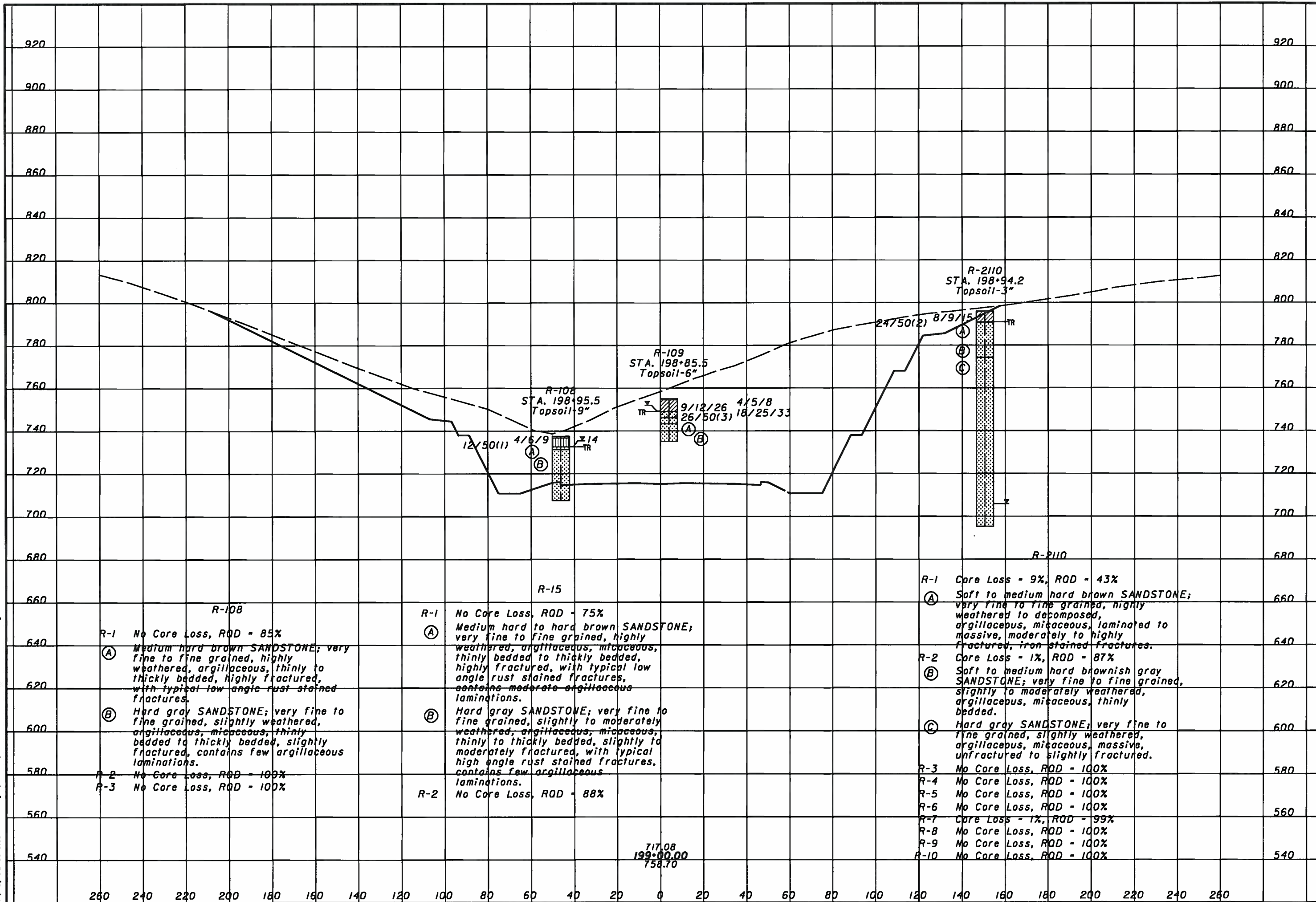


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717.08
199+00.00
758.70

260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260

R-108

R-1 No Core Loss, ROD - 85%

(A) Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly to thickly bedded, highly fractured, with typical low angle rust stained fractures.

(B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, slightly fractured, contains few argillaceous laminations.

R-2 No Core Loss, ROD - 100%

R-3 No Core Loss, ROD - 100%

R-15

R-1 No Core Loss, ROD - 75%

(A) Medium hard to hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle rust stained fractures, contains moderate argillaceous laminations.

(B) Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly to thickly bedded, slightly to moderately fractured, with typical high angle rust stained fractures, contains few argillaceous laminations.

R-2 No Core Loss, ROD - 88%

R-2110

R-1 Core Loss - 9%, ROD - 43%

(A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, laminated to massive, moderately to highly fractured, iron stained fractures.

R-2 Core Loss - 1%, ROD - 87%

(B) Soft to medium hard brownish gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded.

(C) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, unfractured to slightly fractured.

R-3 No Core Loss, ROD - 100%

R-4 No Core Loss, ROD - 100%

R-5 No Core Loss, ROD - 100%

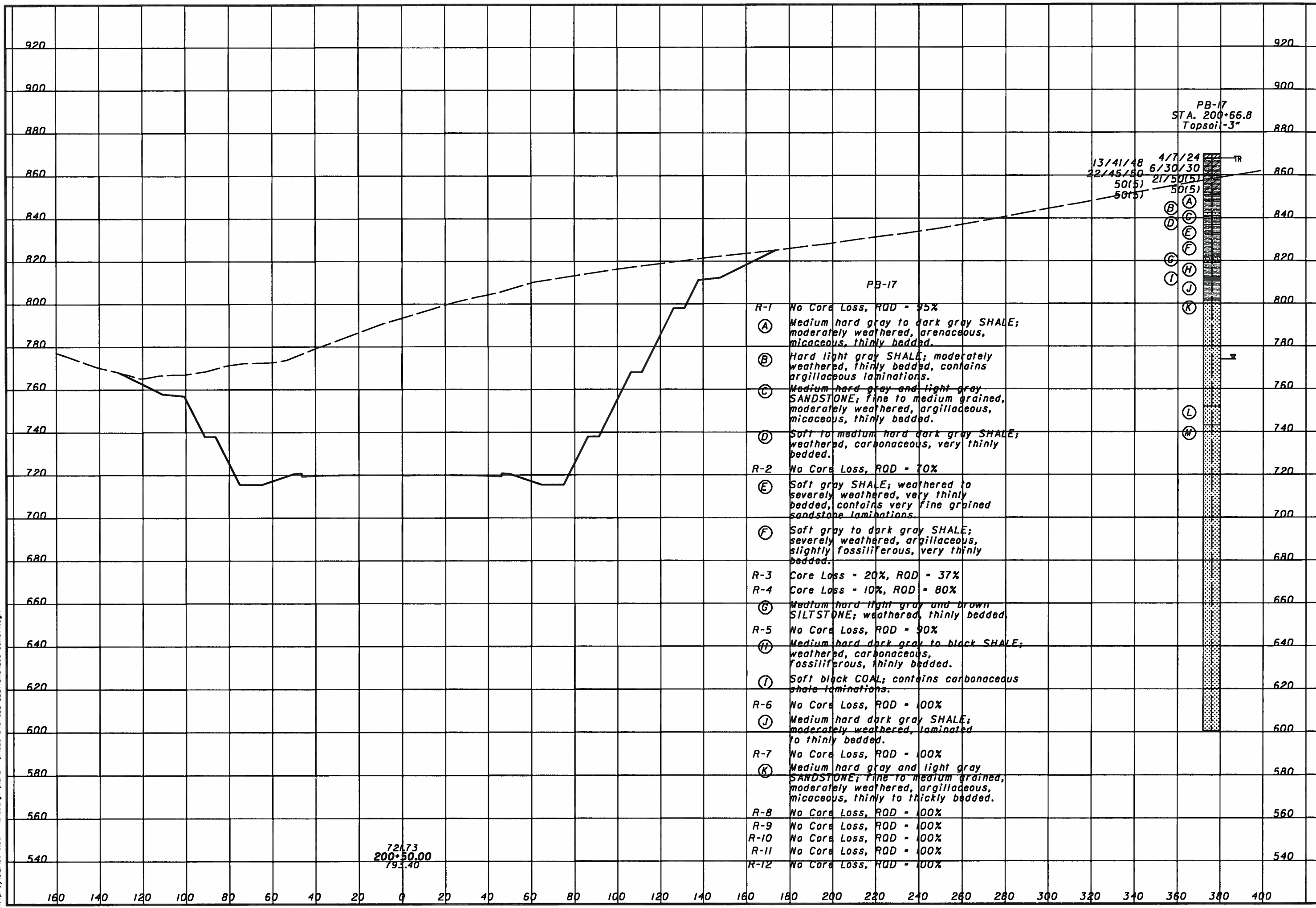
R-6 No Core Loss, ROD - 100%

R-7 Core Loss - 1%, ROD - 99%

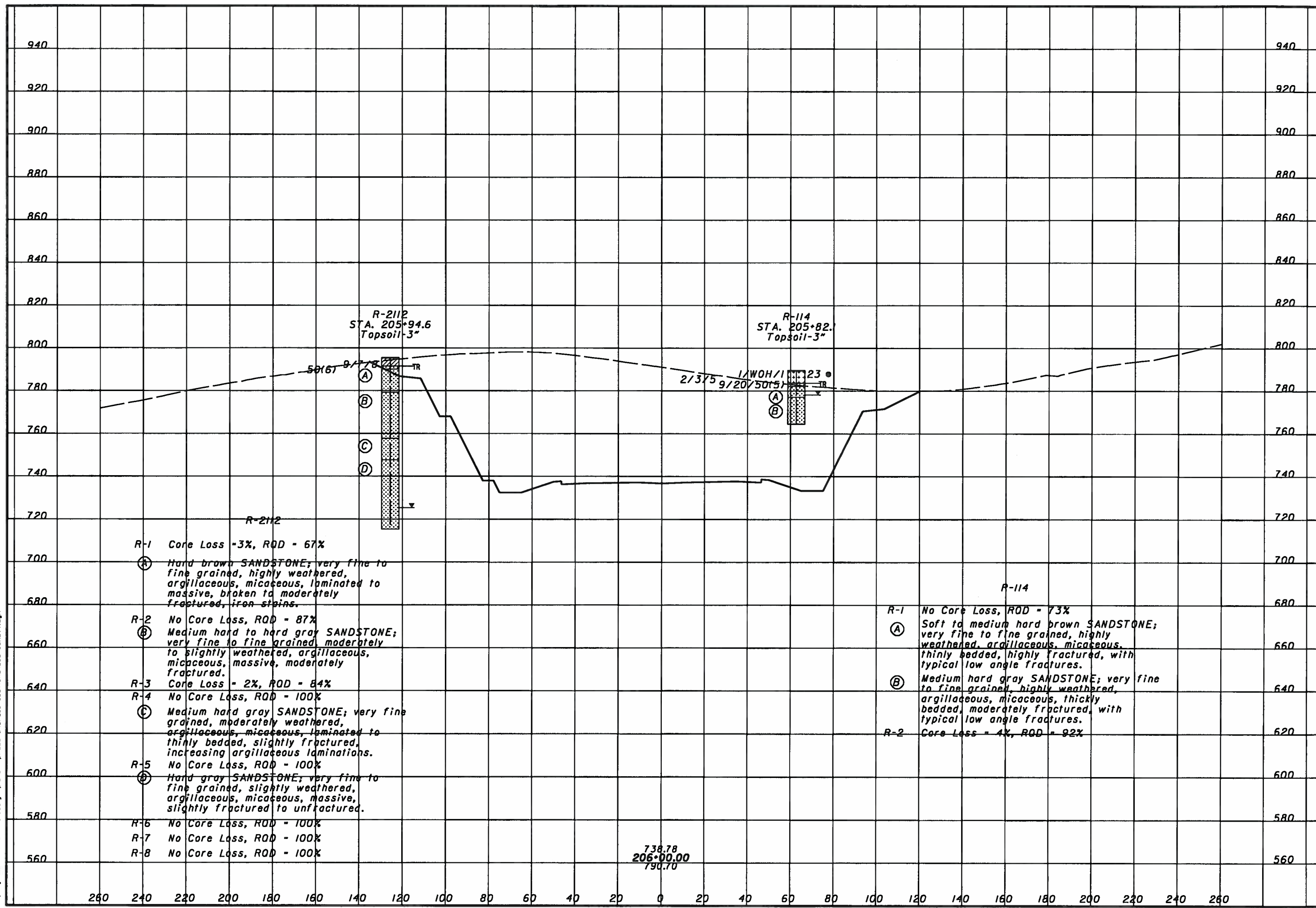
R-8 No Core Loss, ROD - 100%

R-9 No Core Loss, ROD - 100%

R-10 No Core Loss, ROD - 100%



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R-2112
STA. 205+94.6
Topsoil-3"

R-114
STA. 205+82.1
Topsoil-3"

50(6) 9/17/8 TR

2/3/5 1/WOH/1 23 •
9/20/50(5) TR

R-2112

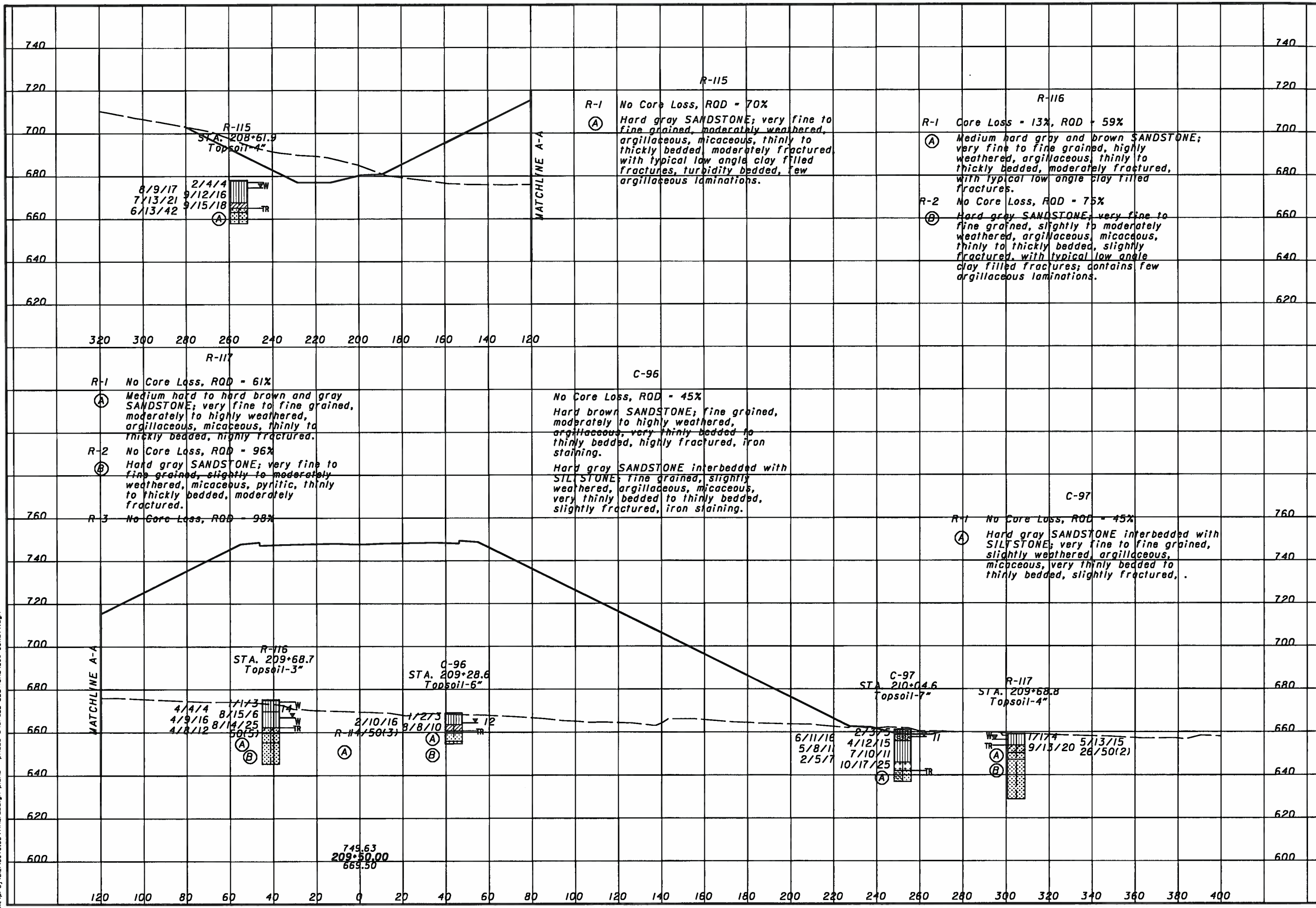
R-114

- R-1 Core Loss = 3%, RQD = 67%
Ⓐ Hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, laminated to massive, broken to moderately fractured, iron stains.
- R-2 No Core Loss, RQD = 87%
Ⓑ Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately to slightly weathered, argillaceous, micaceous, massive, moderately fractured.
- R-3 Core Loss = 2%, RQD = 84%
- R-4 No Core Loss, RQD = 100%
Ⓒ Medium hard gray SANDSTONE; very fine grained, moderately weathered, argillaceous, micaceous, laminated to thinly bedded, slightly fractured, increasing argillaceous laminations.
- R-5 No Core Loss, RQD = 100%
Ⓓ Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, slightly fractured to unfractured.
- R-6 No Core Loss, RQD = 100%
- R-7 No Core Loss, RQD = 100%
- R-8 No Core Loss, RQD = 100%

- R-1 No Core Loss, RQD = 73%
Ⓐ Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded, highly fractured, with typical low angle fractures.
- Ⓑ Medium hard gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thickly bedded, moderately fractured, with typical low angle fractures.
- R-2 Core Loss = 4%, RQD = 92%

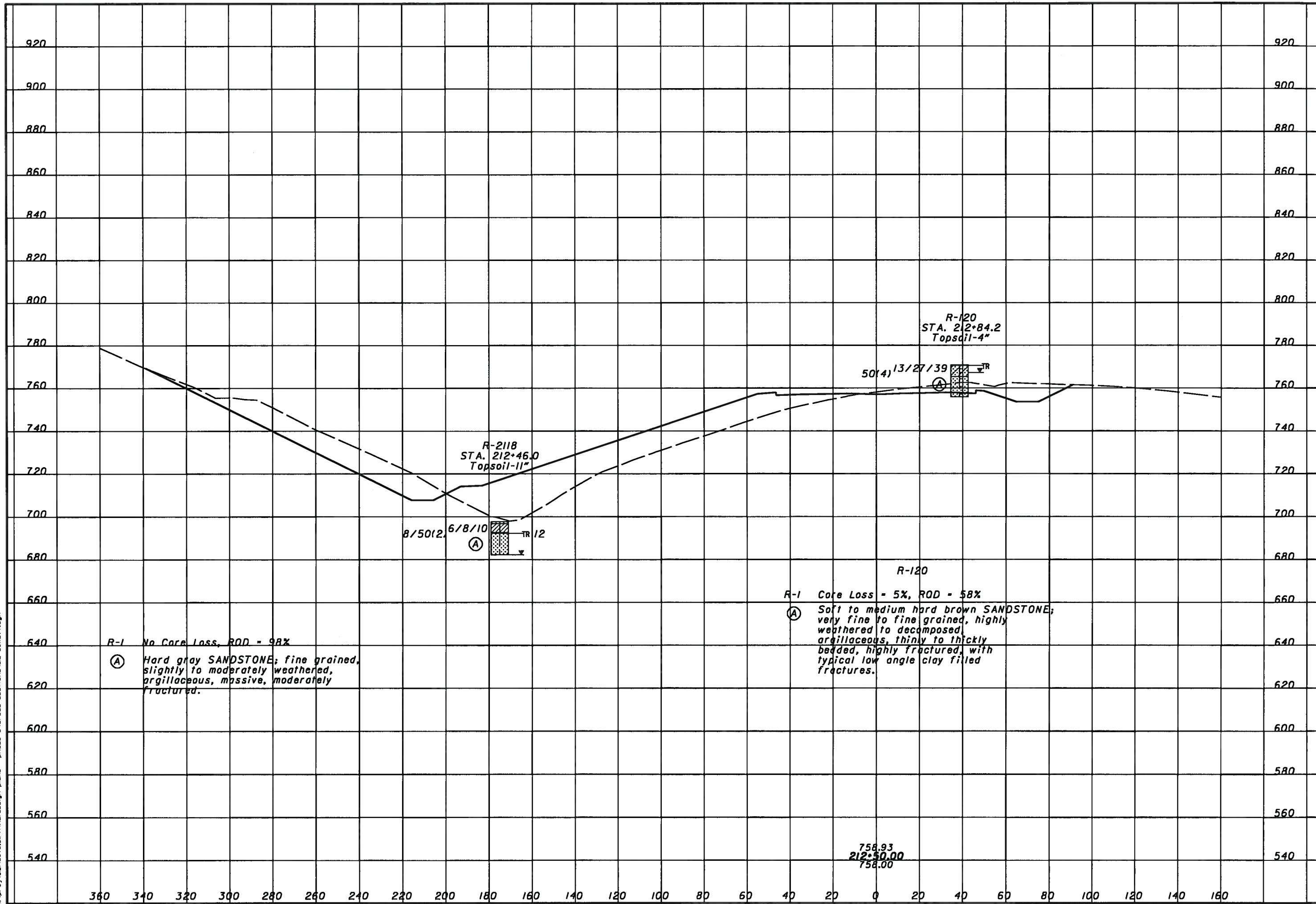
738.78
206+00.00
190.70

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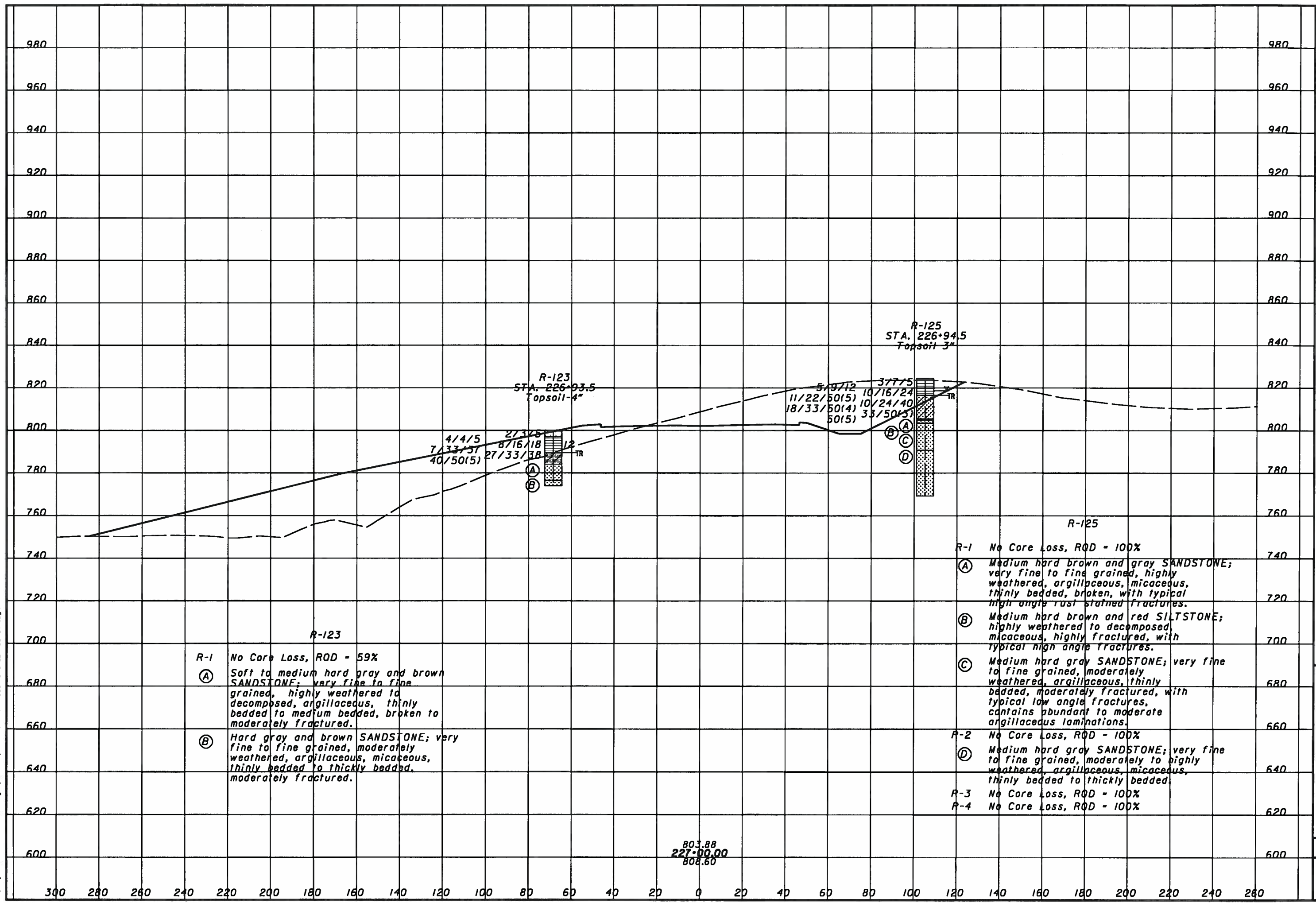
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SCI-823-0.00

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R-123

R-1 No Core Loss, ROD - 59%

(A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to medium bedded, broken to moderately fractured.

(B) Hard gray and brown SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured.

R-125

R-1 No Core Loss, ROD - 100%

(A) Medium hard brown and gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded, broken, with typical high angle rust stained fractures.

(B) Medium hard brown and red SILTSTONE; highly weathered to decomposed, micaceous, highly fractured, with typical high angle fractures.

(C) Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, thinly bedded, moderately fractured, with typical low angle fractures, contains abundant to moderate argillaceous laminations.

R-2 No Core Loss, ROD - 100%

(D) Medium hard gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded.

R-3 No Core Loss, ROD - 100%

R-4 No Core Loss, ROD - 100%

803.88
227+00.00
808.60

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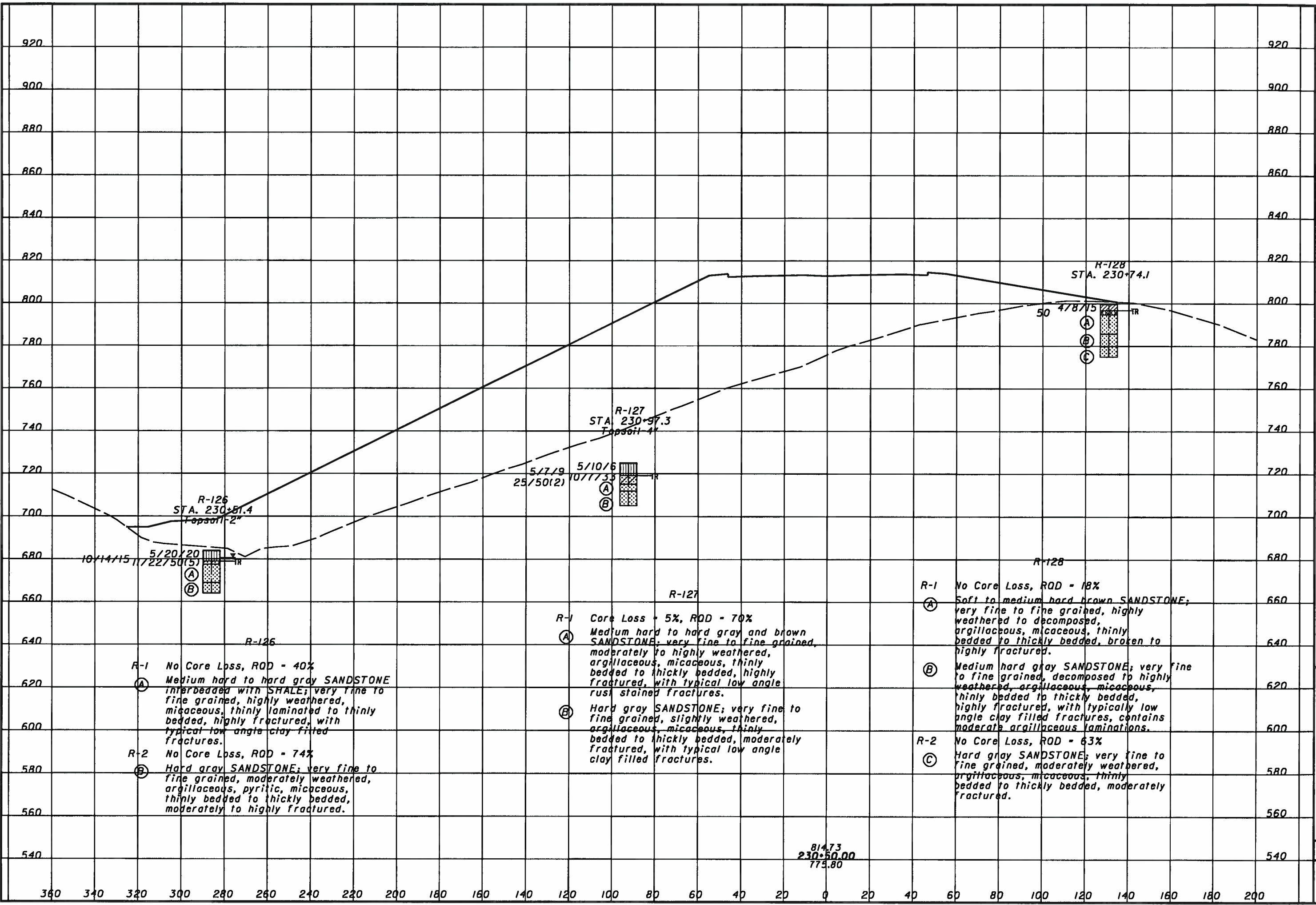
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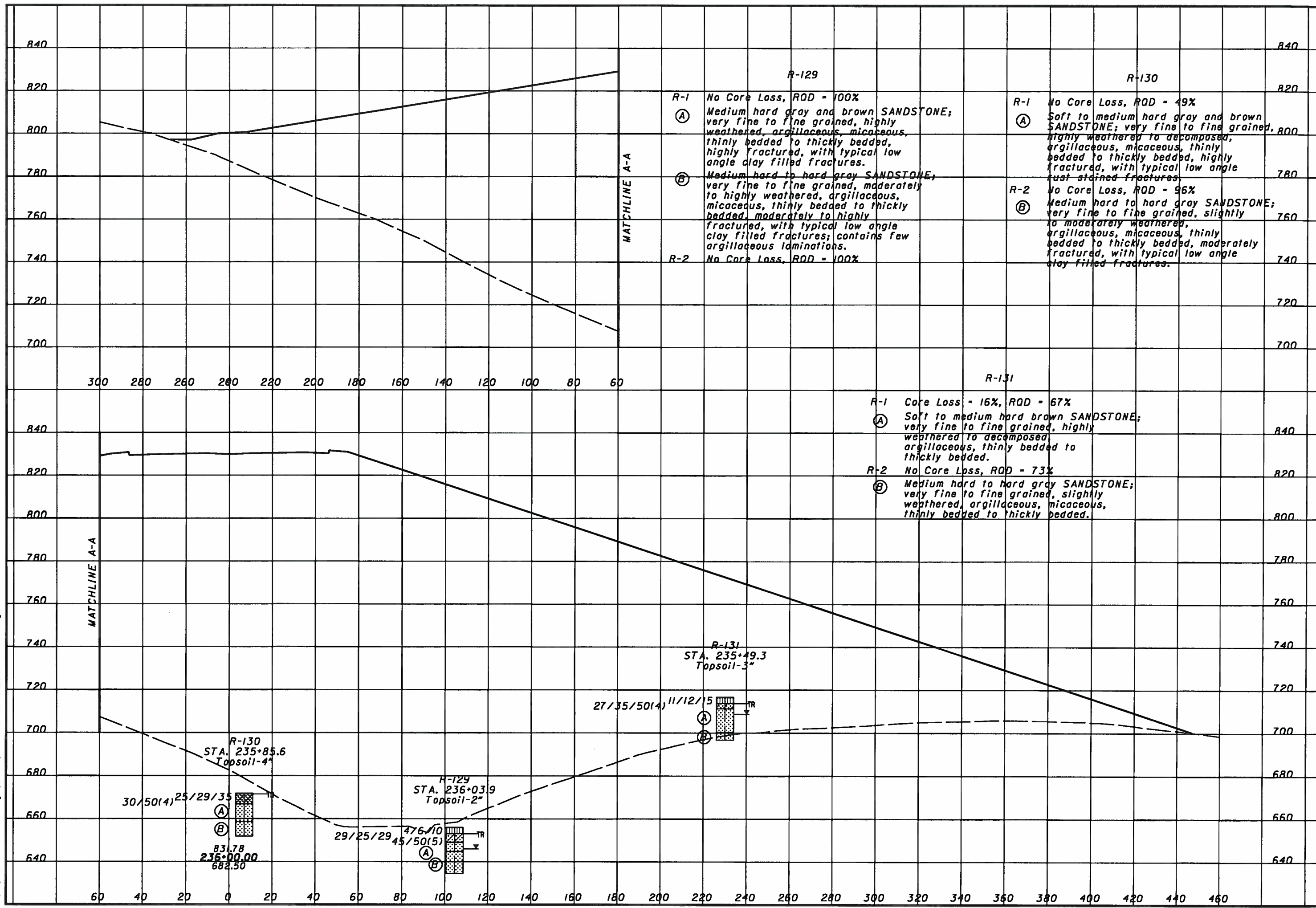
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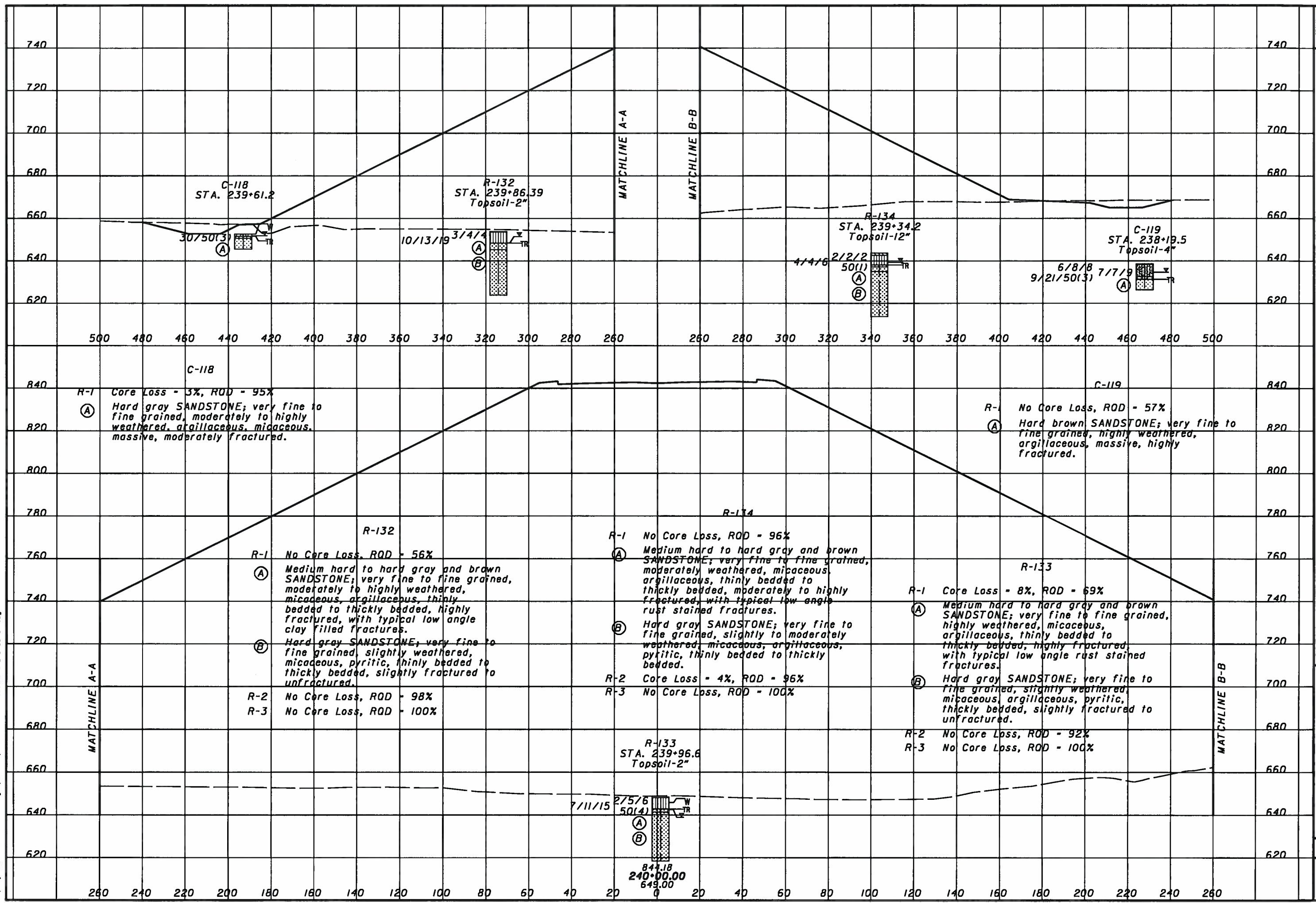


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 117 / 168



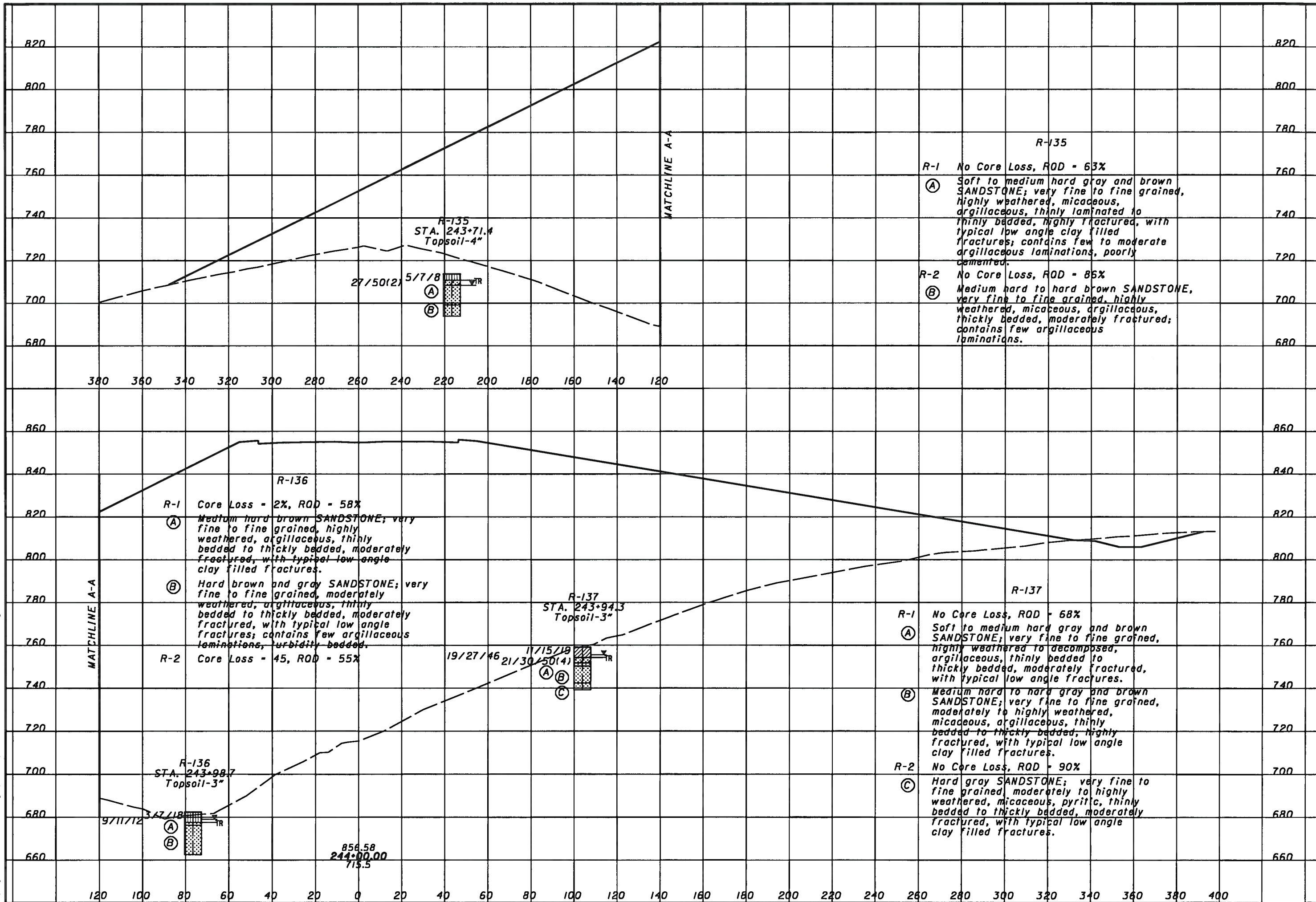
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 119 / 168
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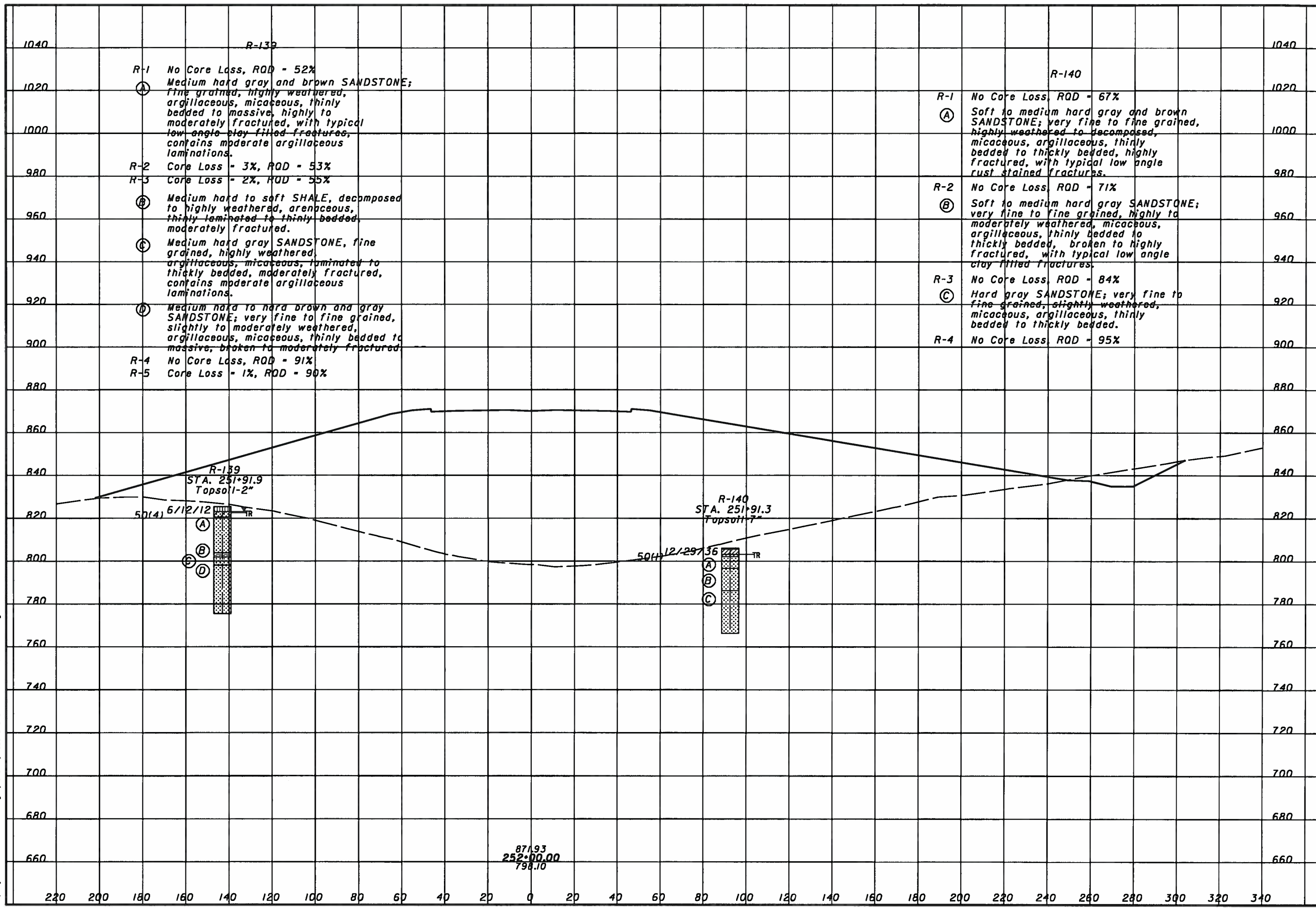


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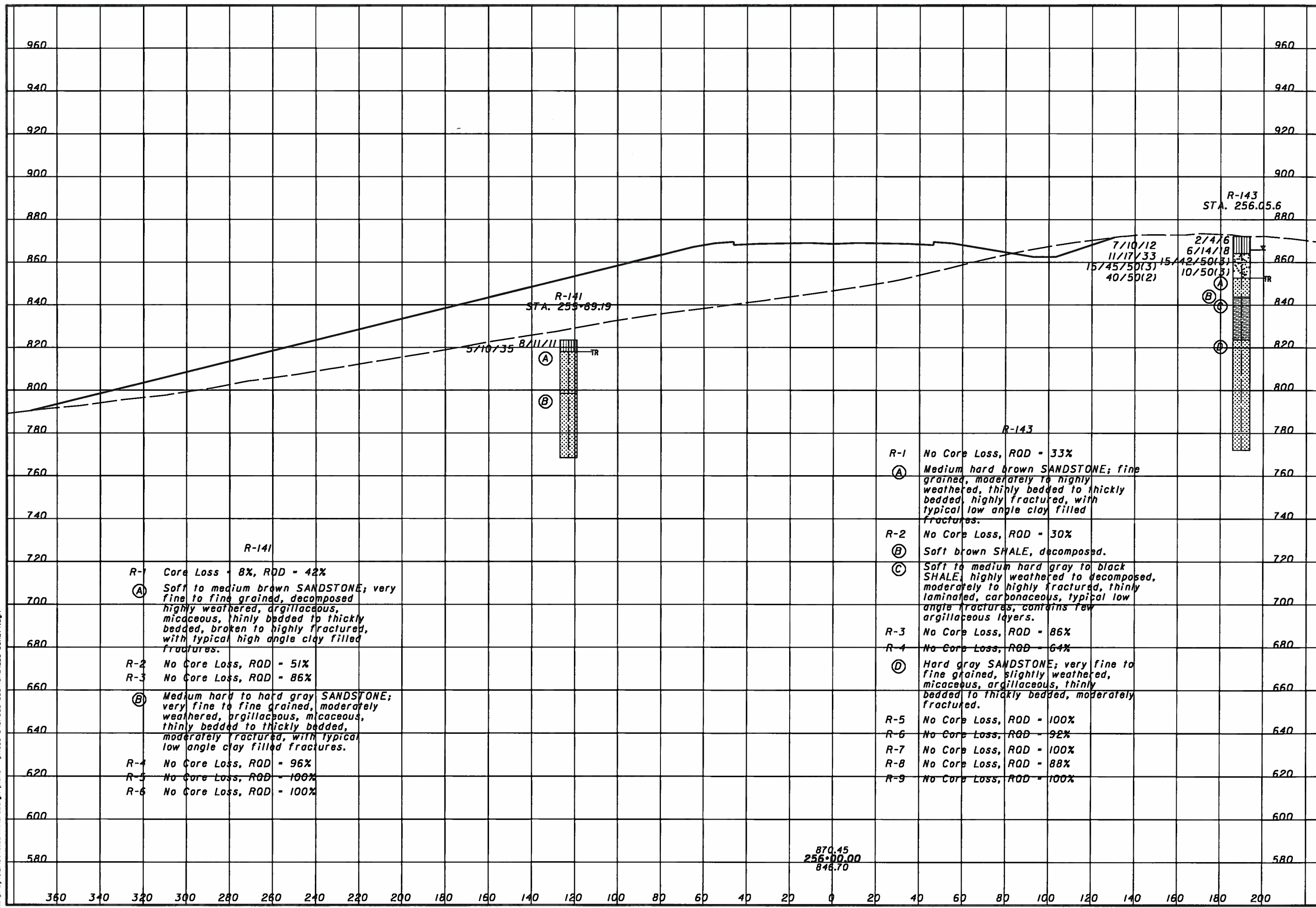
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R-1 Core Loss - 8%, RQD - 42%
 (A) Soft to medium brown SANDSTONE; very fine to fine grained, decomposed highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, broken to highly fractured, with typical high angle clay filled fractures.

R-2 No Core Loss, RQD - 51%
 R-3 No Core Loss, RQD - 86%

(B) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle clay filled fractures.

R-4 No Core Loss, RQD - 96%
 R-5 No Core Loss, RQD - 100%
 R-6 No Core Loss, RQD - 100%

R-1 No Core Loss, RQD - 33%
 (A) Medium hard brown SANDSTONE; fine grained, moderately to highly weathered, thinly bedded to thickly bedded, highly fractured, with typical low angle clay filled fractures.

R-2 No Core Loss, RQD - 30%
 (B) Soft brown SHALE, decomposed.

(C) Soft to medium hard gray to black SHALE, highly weathered to decomposed, moderately to highly fractured, thinly laminated, carbonaceous, typical low angle fractures, contains few argillaceous layers.

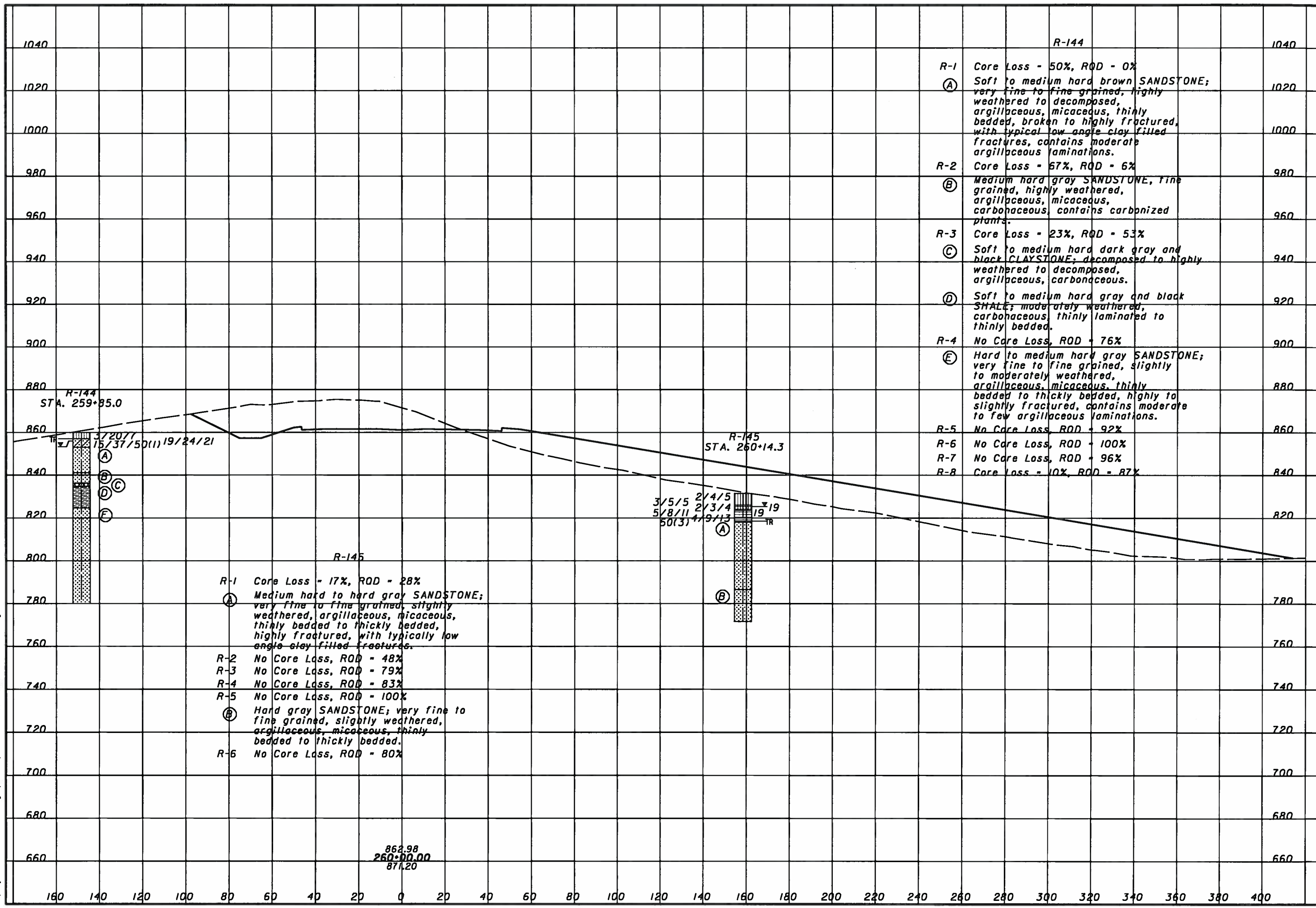
R-3 No Core Loss, RQD - 86%
 R-4 No Core Loss, RQD - 64%
 (D) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, micaceous, argillaceous, thinly bedded to thickly bedded, moderately fractured.

R-5 No Core Loss, RQD - 100%
 R-6 No Core Loss, RQD - 92%
 R-7 No Core Loss, RQD - 100%
 R-8 No Core Loss, RQD - 88%
 R-9 No Core Loss, RQD - 100%

870.45
 256+00.00
 848.70

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R-144

1040

1020

1000

980

960

940

920

900

880

860

840

820

800

780

760

740

720

700

680

660

R-1 Core Loss - 50%, ROD - 0%
 (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, micaceous, thinly bedded, broken to highly fractured, with typical low angle clay filled fractures, contains moderate argillaceous laminations.

R-2 Core Loss - 67%, ROD - 6%
 (B) Medium hard gray SANDSTONE, fine grained, highly weathered, argillaceous, micaceous, carbonaceous, contains carbonized plants.

R-3 Core Loss - 23%, ROD - 53%
 (C) Soft to medium hard dark gray and black CLAYSTONE; decomposed to highly weathered to decomposed, argillaceous, carbonaceous.

R-4 No Core Loss, ROD - 76%
 (E) Hard to medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly to slightly fractured, contains moderate to few argillaceous laminations.

R-5 No Core Loss, ROD - 92%

R-6 No Core Loss, ROD - 100%

R-7 No Core Loss, ROD - 96%

R-8 Core Loss - 10%, ROD - 87%

R-145

R-1 Core Loss - 17%, ROD - 28%
 (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, highly fractured, with typically low angle clay filled fractures.

R-2 No Core Loss, ROD - 48%

R-3 No Core Loss, ROD - 79%

R-4 No Core Loss, ROD - 83%

R-5 No Core Loss, ROD - 100%

(B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to thickly bedded.

R-6 No Core Loss, ROD - 80%

862.98
 260+00.00
 871.20

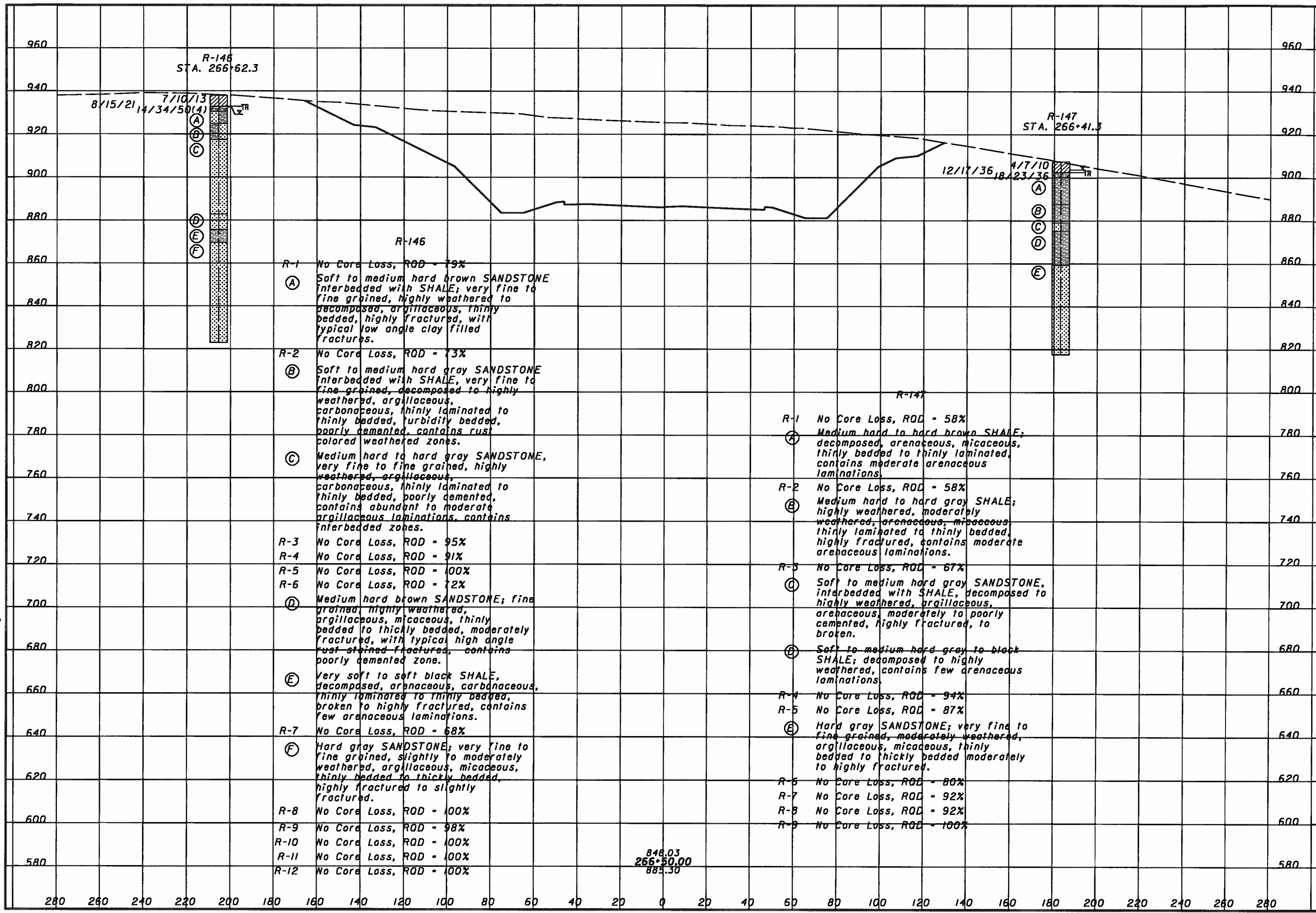
SOIL PROFILE

CROSS SECTION - SR 823 STA. 260+00.00

SCI-823-0.00

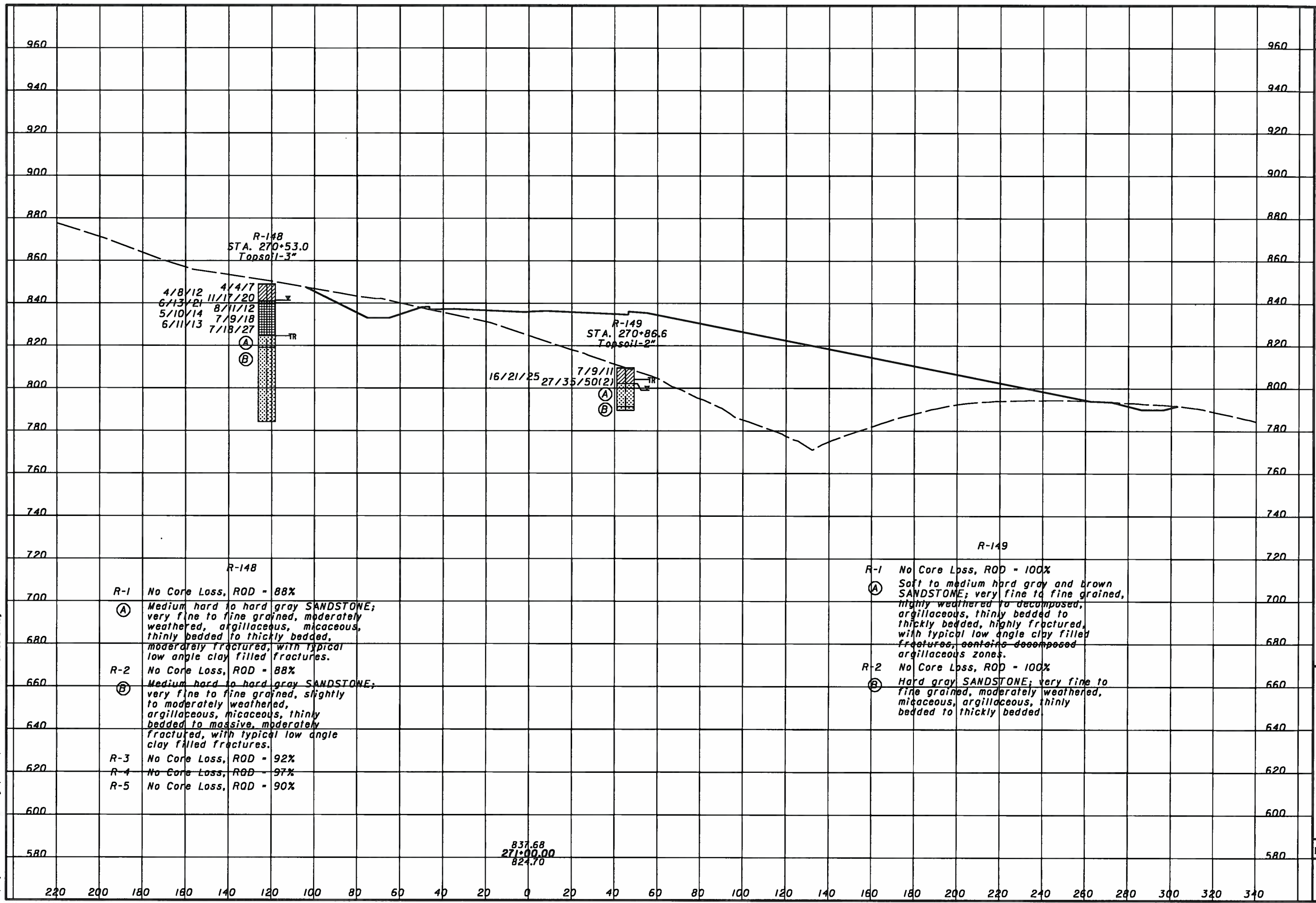
123/168

DRAWN
 RLS
 CHECKED
 AEN



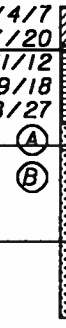
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11/28/2007 8:54:37 AM m:\proj\0213070.03\final design plans - phase 3\cross sections\271+00xv7.dgn



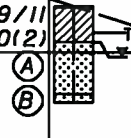
4/8/12
6/13/21
5/10/14
6/11/13

R-148
STA. 270+53.0
Topsoil-3"



16/21/25
27/35/50(2)

R-149
STA. 270+86.6
Topsoil-2"



R-148

R-1 No Core Loss, ROD - 88%
 (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thinly bedded to thickly bedded, moderately fractured, with typical low angle clay filled fractures.

R-2 No Core Loss, ROD - 88%
 (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to massive, moderately fractured, with typical low angle clay filled fractures.

R-3 No Core Loss, ROD - 92%

R-4 No Core Loss, ROD - 97%

R-5 No Core Loss, ROD - 90%

R-149

R-1 No Core Loss, ROD - 100%
 (A) Soft to medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, highly fractured, with typical low angle clay filled fractures, contains decomposed argillaceous zones.

R-2 No Core Loss, ROD - 100%
 (B) Hard gray SANDSTONE; very fine to fine grained, moderately weathered, micaceous, argillaceous, thinly bedded to thickly bedded.

837.68
271+00.00
824.70

DRAWN
RLS
CHECKED
AEN

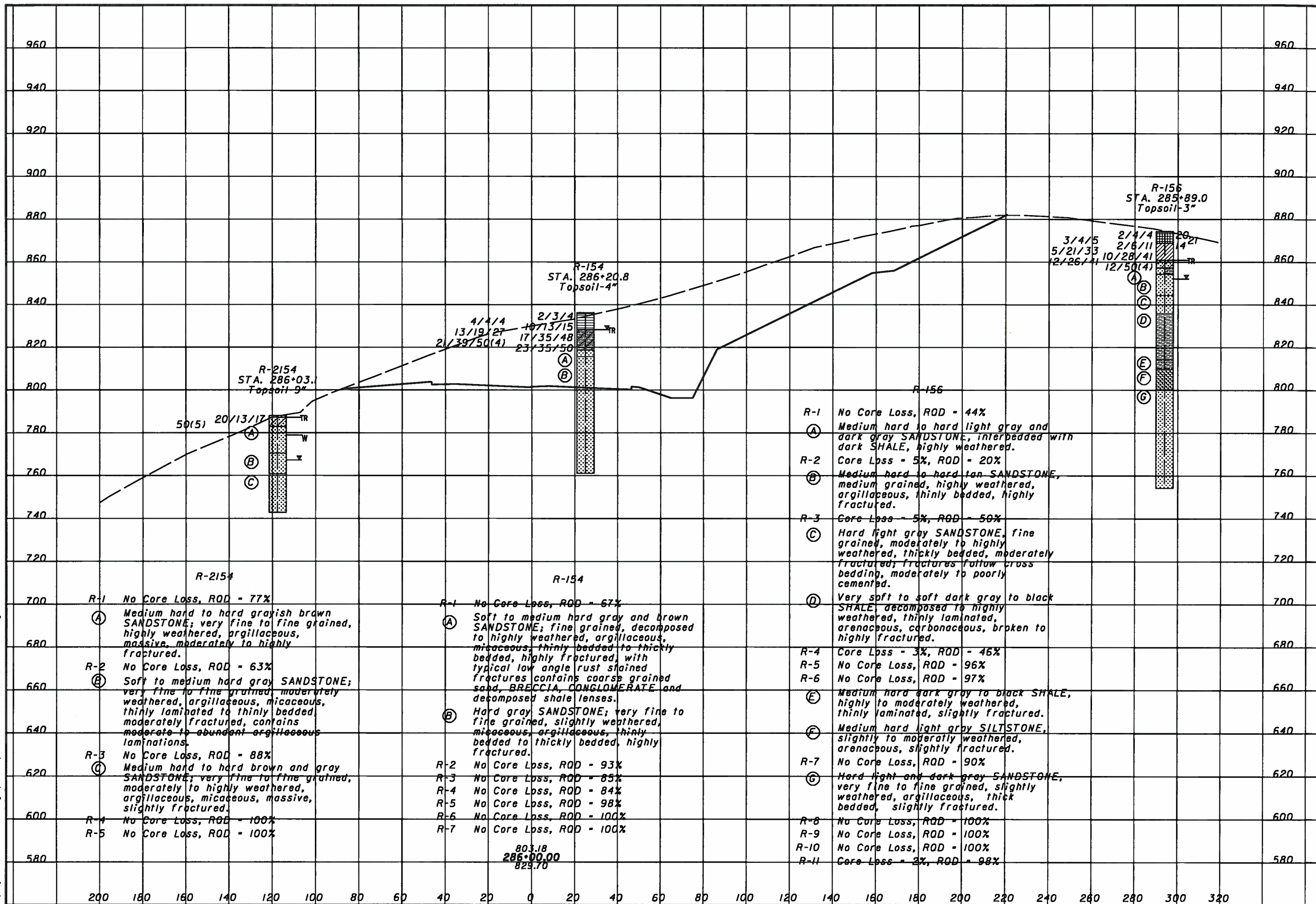
SOIL PROFILE
CROSS SECTION - SR 823 STA. 271+00.00

SCI-823-0.00

125/168

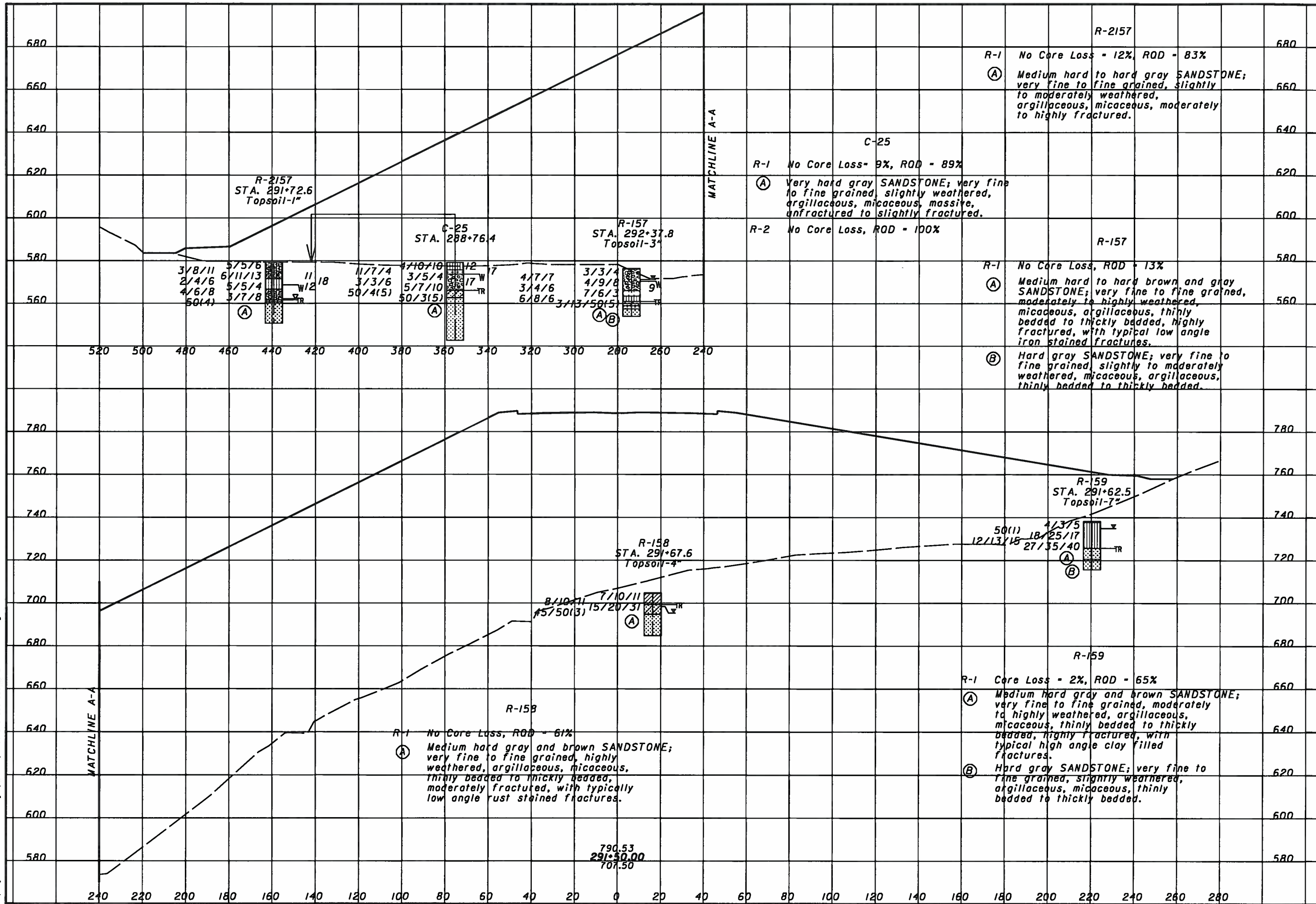


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SOIL PROFILE
 CROSS SECTION - SR 823 STA. 286+00.00
 SCI-823-0.00
 126/168
 DRINK
 RLS
 CHECKED
 AEN

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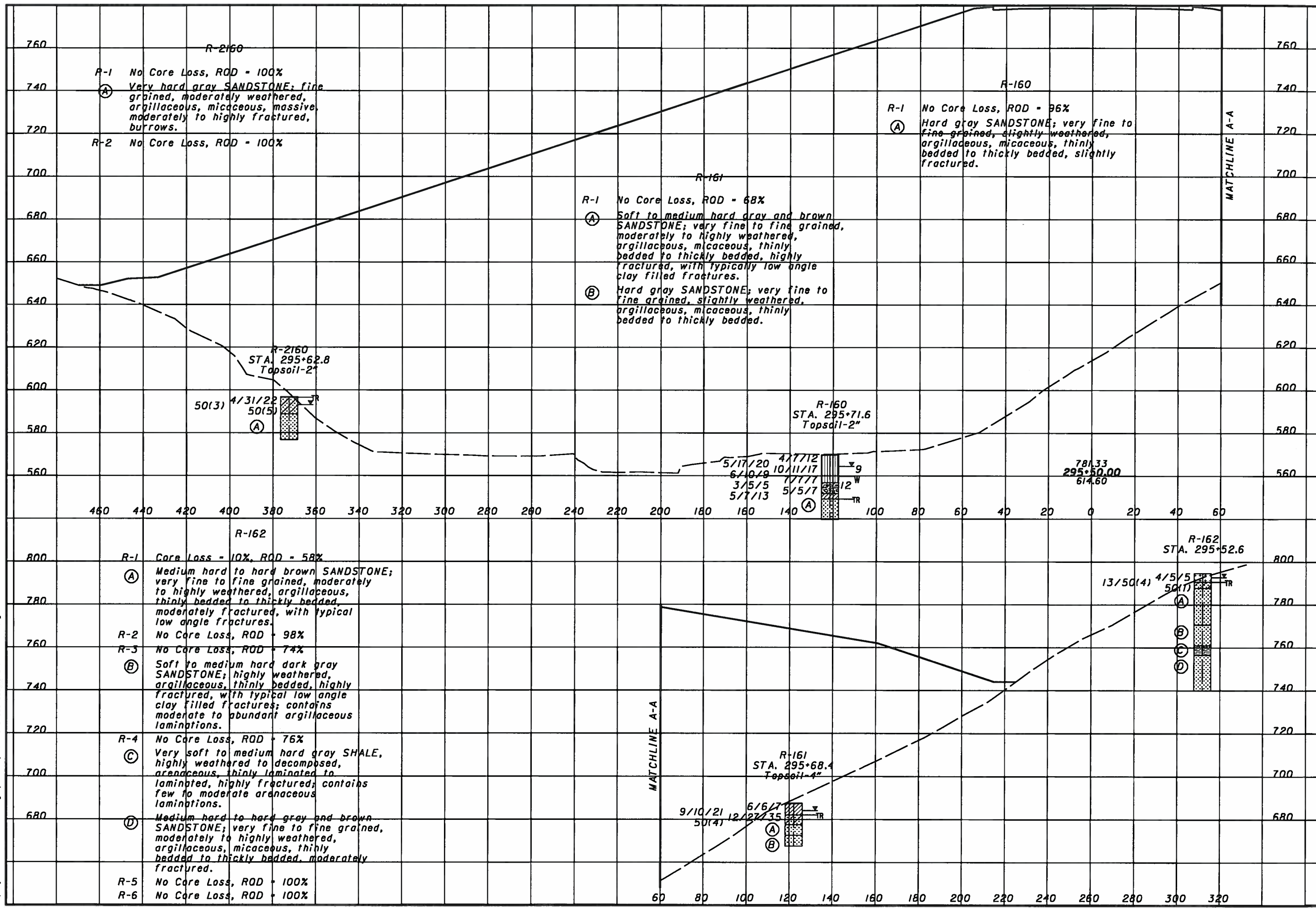


DRAIN RLS
 CHECKED AEN

SOIL PROFILE
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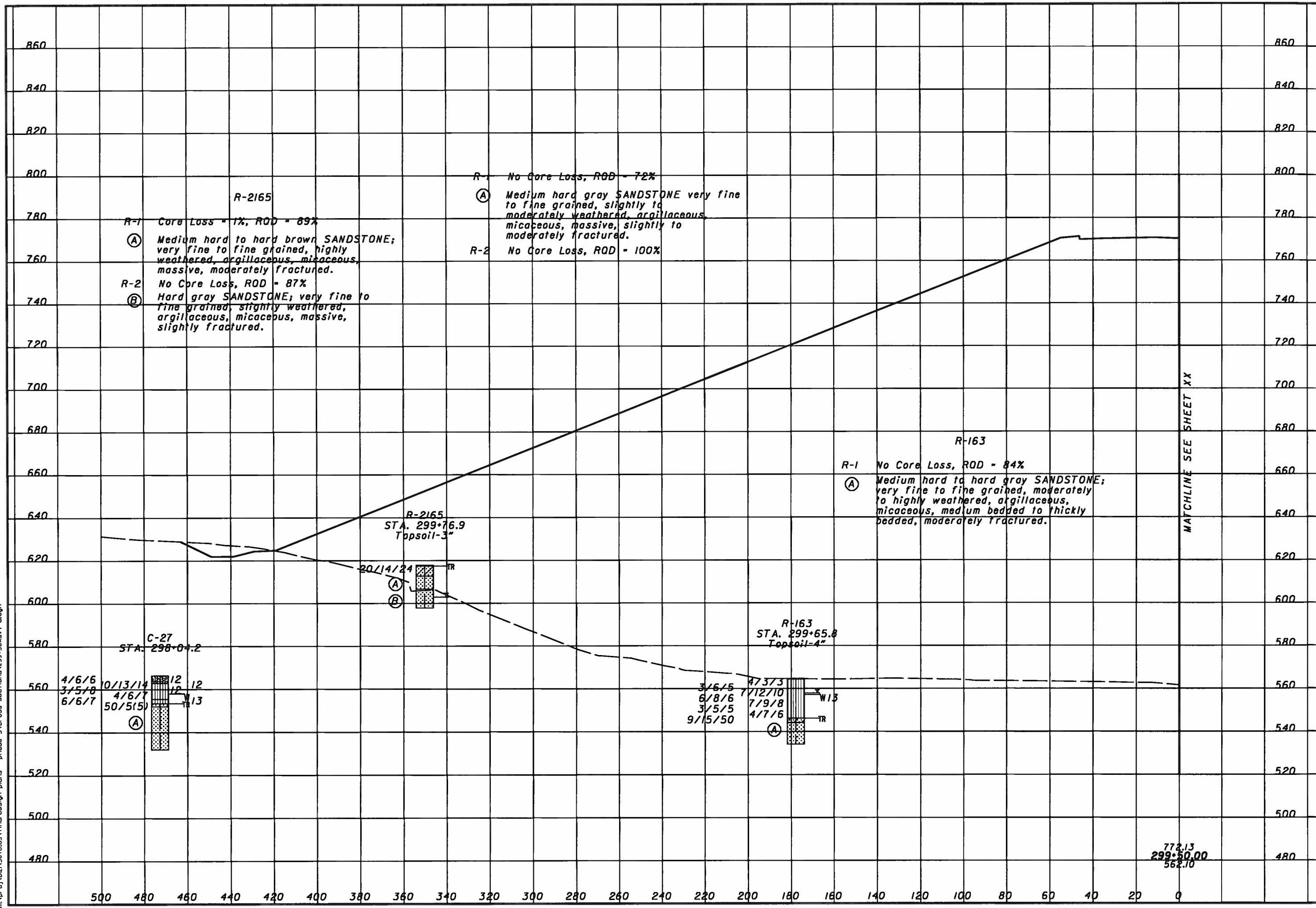
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127/168



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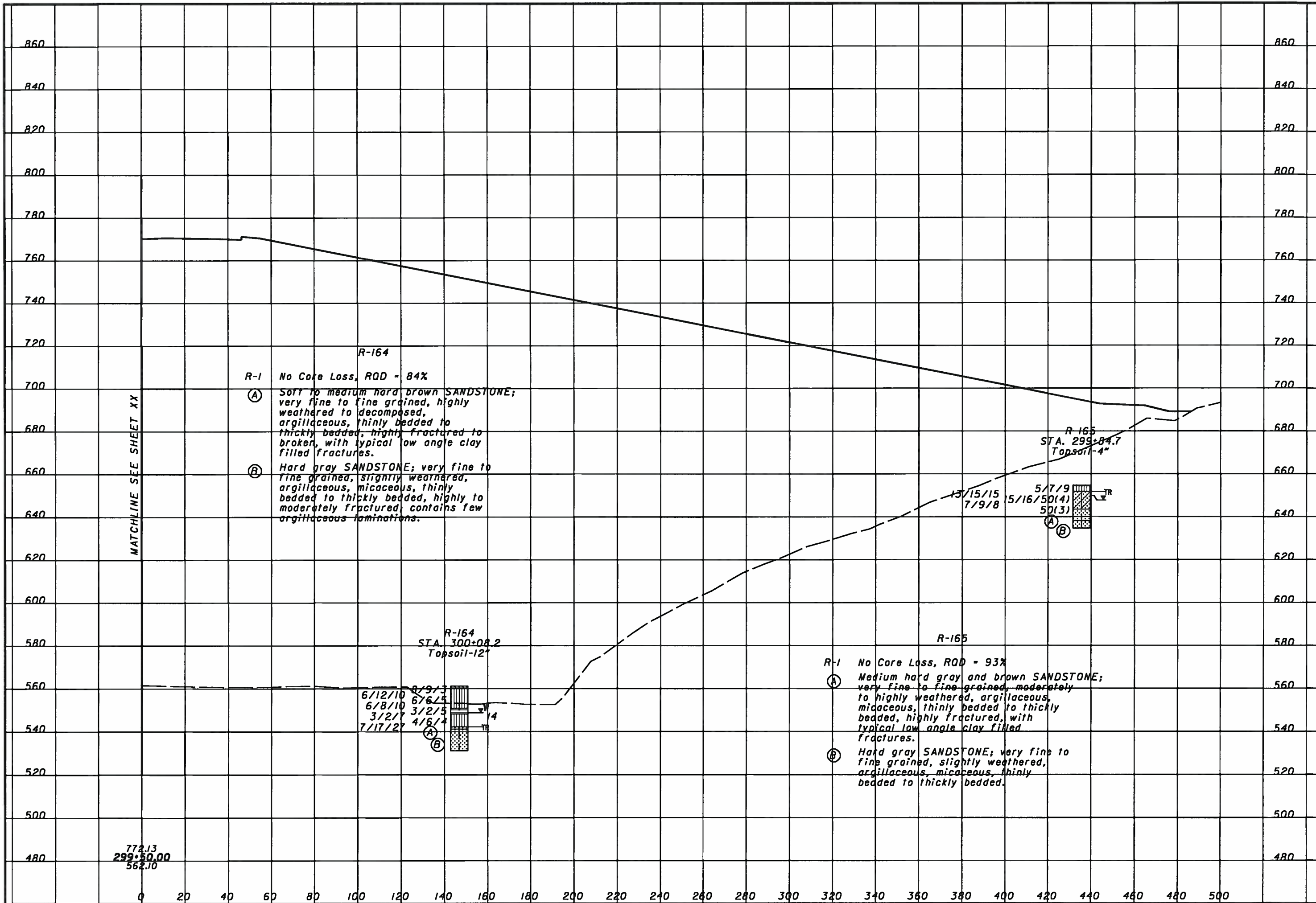


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772.13
299+50.00
562.10



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MATCHLINE SEE SHEET XX

772.13
299+50.00
562.10

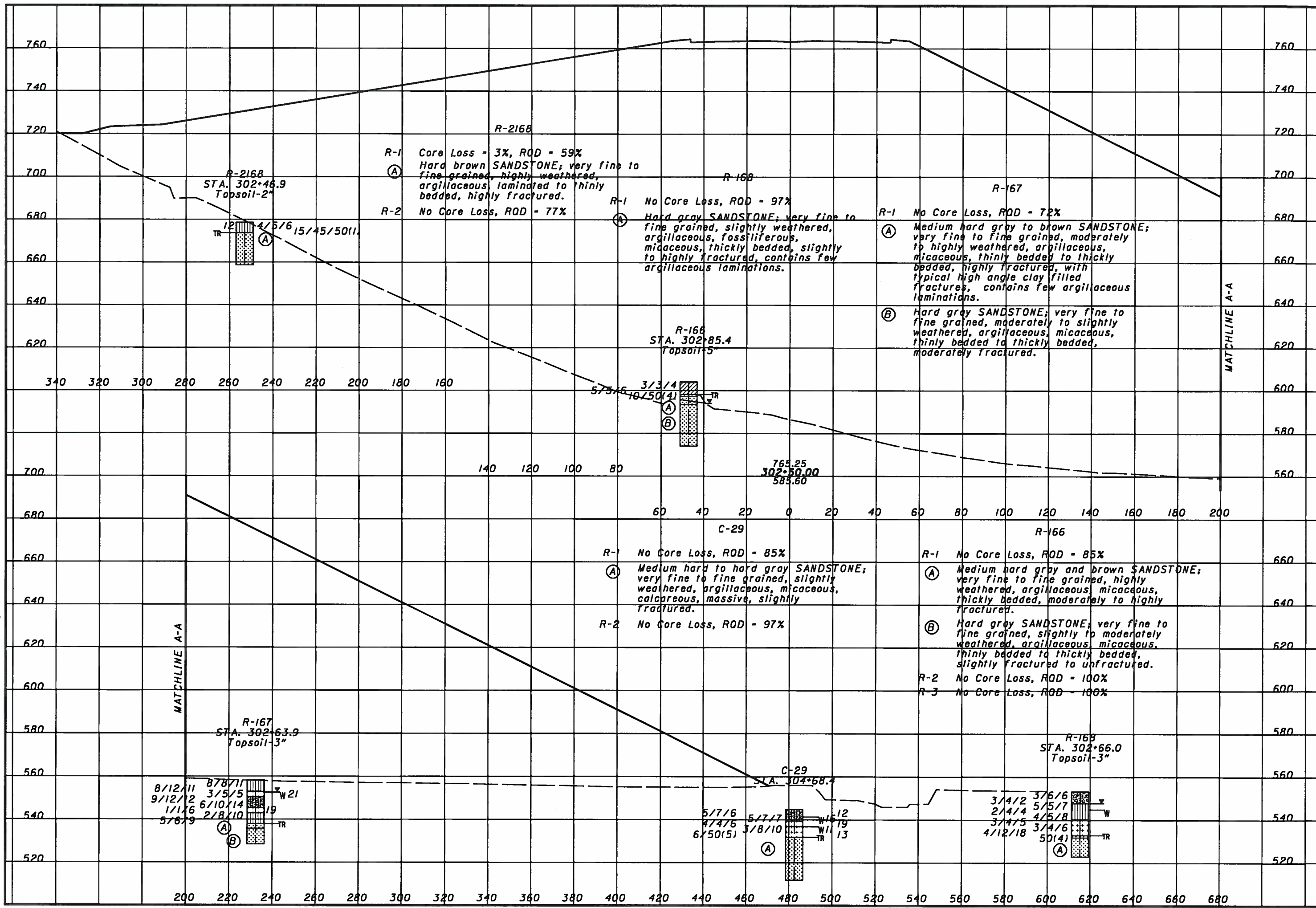
DRAWN
RLS
CHECKED
AEN

SOIL PROFILE
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SCI-823-0.00

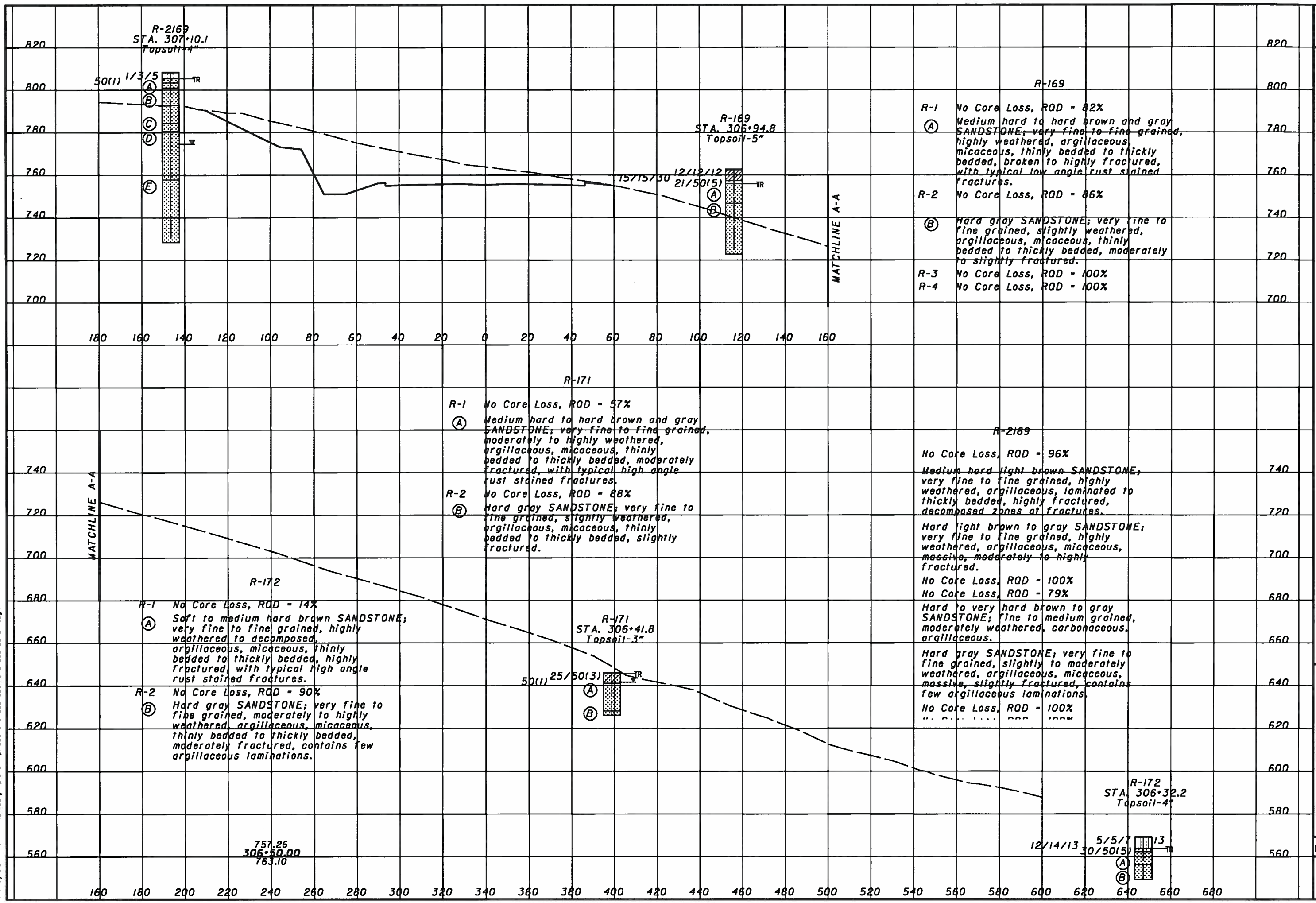
130/168



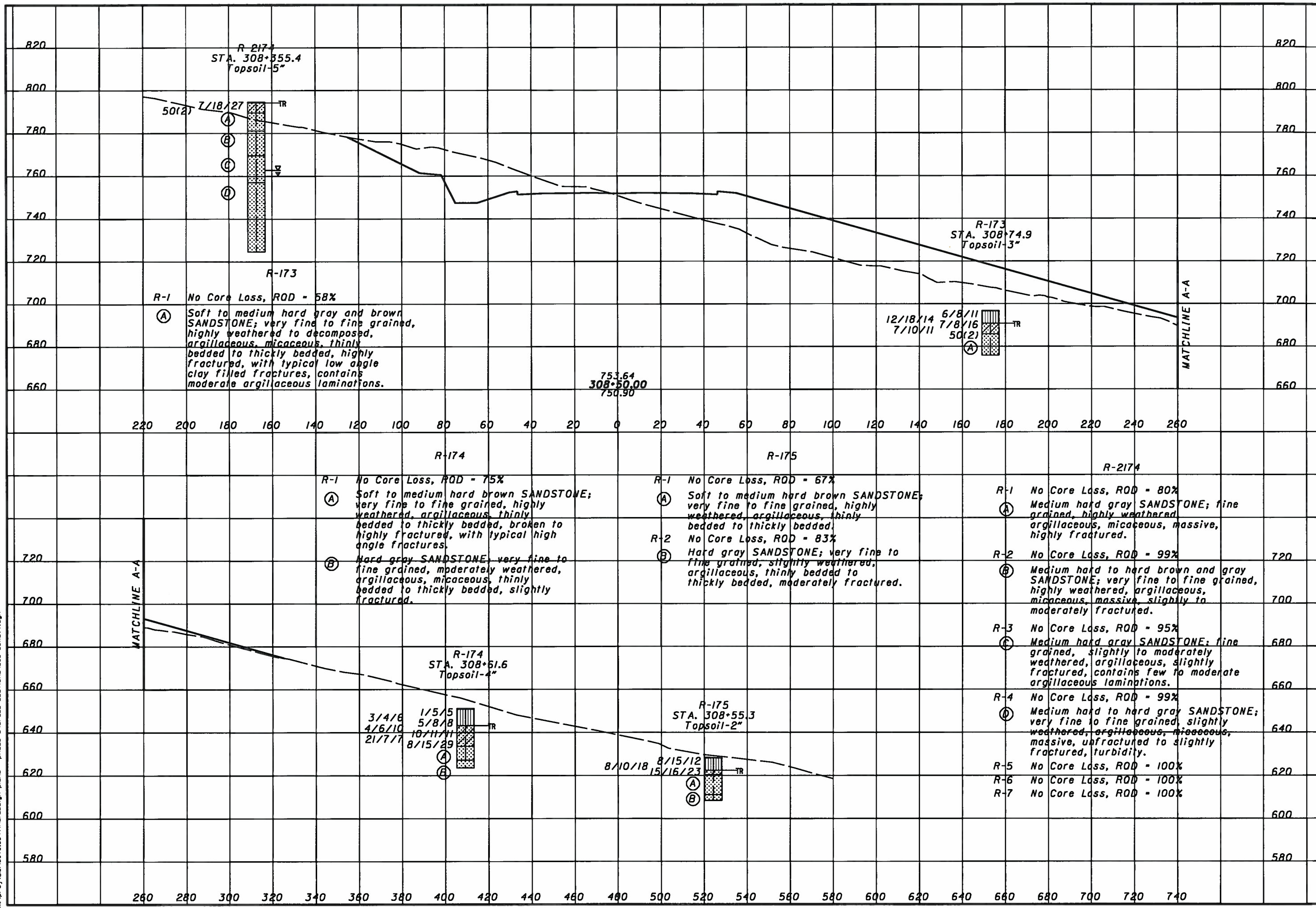


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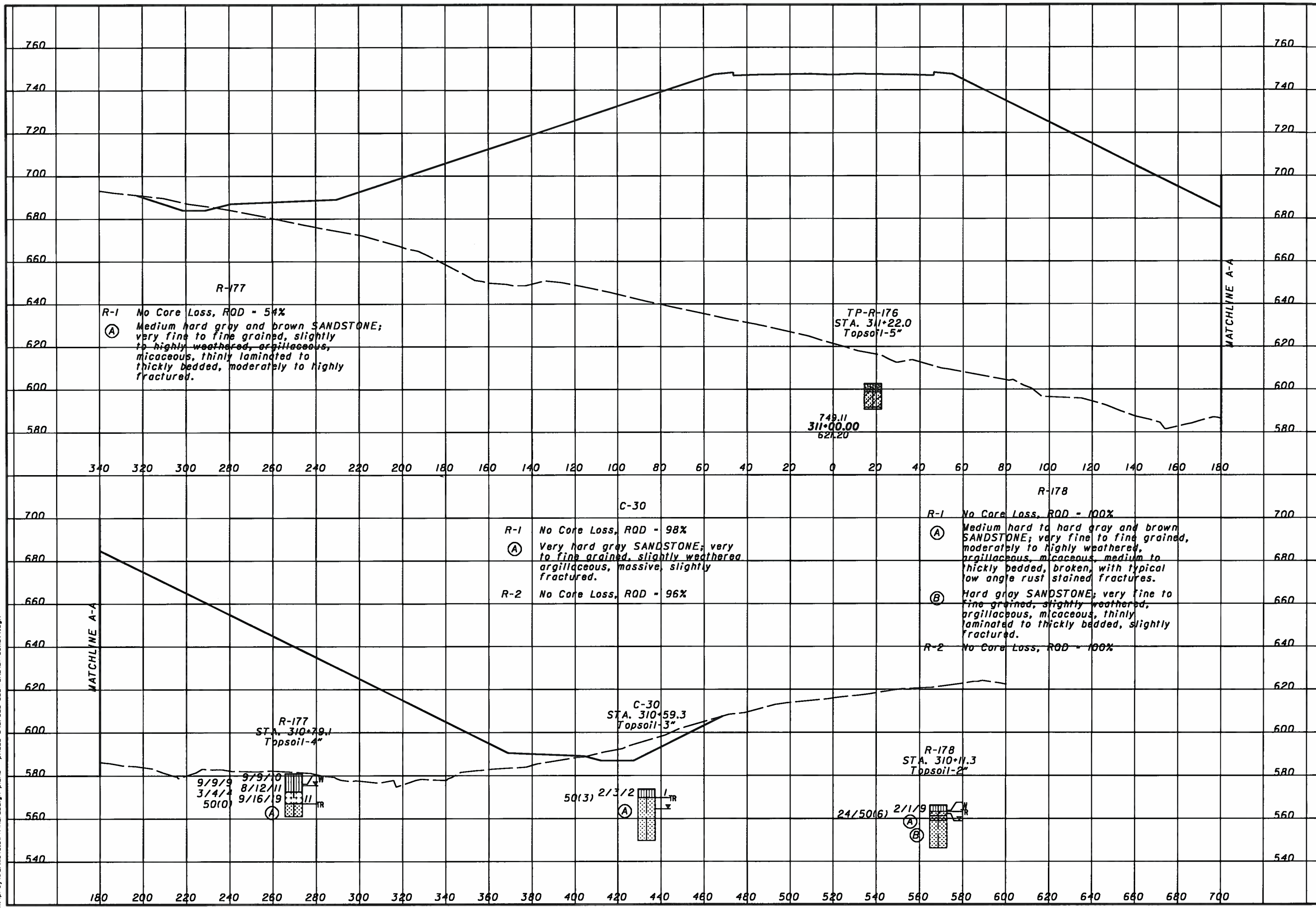
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DRAWN: RLS
 CHECKED: AEN
 SOIL PROFILE
 CROSS SECTION - SR 823 STA. 306+50.00
 SCI-823-0.00
 132/168



11/28/2007 8:54:47 AM m:\proj\021\3070.03\final\design plans - phase 3\cross sections\308+50xsv7.dgn



R-177

R-1 No Core Loss, RQD = 54%
 (A) Medium hard gray and brown SANDSTONE; very fine to fine grained, slightly to highly weathered, argillaceous, micaceous, thinly laminated to thickly bedded, moderately to highly fractured.

TP-R-176
 STA. 311+22.0
 Topsoil-5"

749.11
 311+00.00
 621.20

MATCHLINE A-A

C-30

R-1 No Core Loss, RQD = 98%
 (A) Very hard gray SANDSTONE; very to fine grained, slightly weathered argillaceous, massive, slightly fractured.
 R-2 No Core Loss, RQD = 96%

R-178

R-1 No Core Loss, RQD = 100%
 (A) Medium hard to hard gray and brown SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, medium to thickly bedded, broken, with typical low angle rust stained fractures.
 (B) Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly laminated to thickly bedded, slightly fractured.
 R-2 No Core Loss, RQD = 100%

MATCHLINE A-A

R-177
 STA. 310+79.1
 Topsoil-4"

C-30
 STA. 310+59.3
 Topsoil-3"

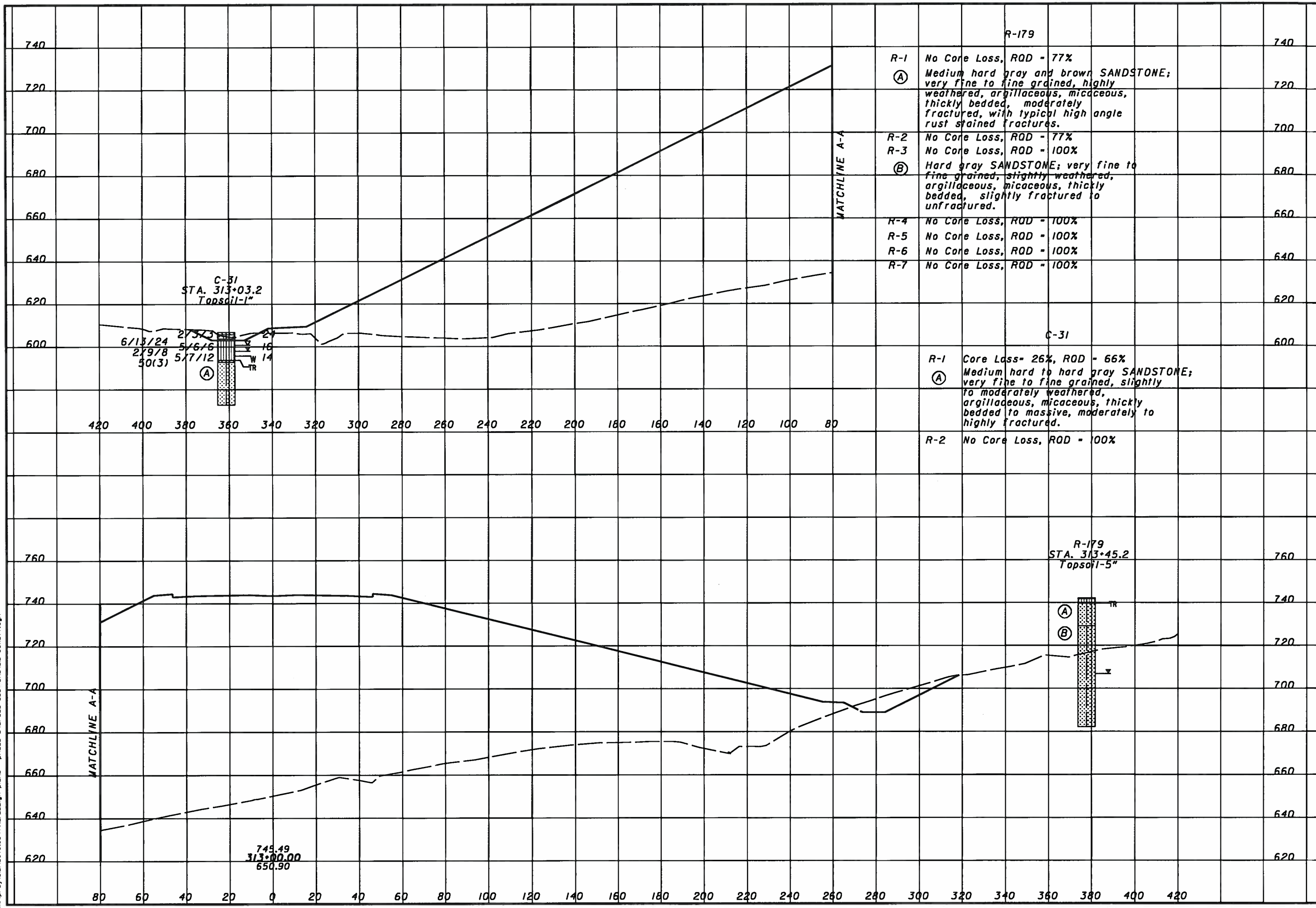
R-178
 STA. 310+11.3
 Topsoil-2"

9/9/9 9/9/10
 3/4/4 8/12/11
 50(0) 9/16/19

50(3) 2/3/2

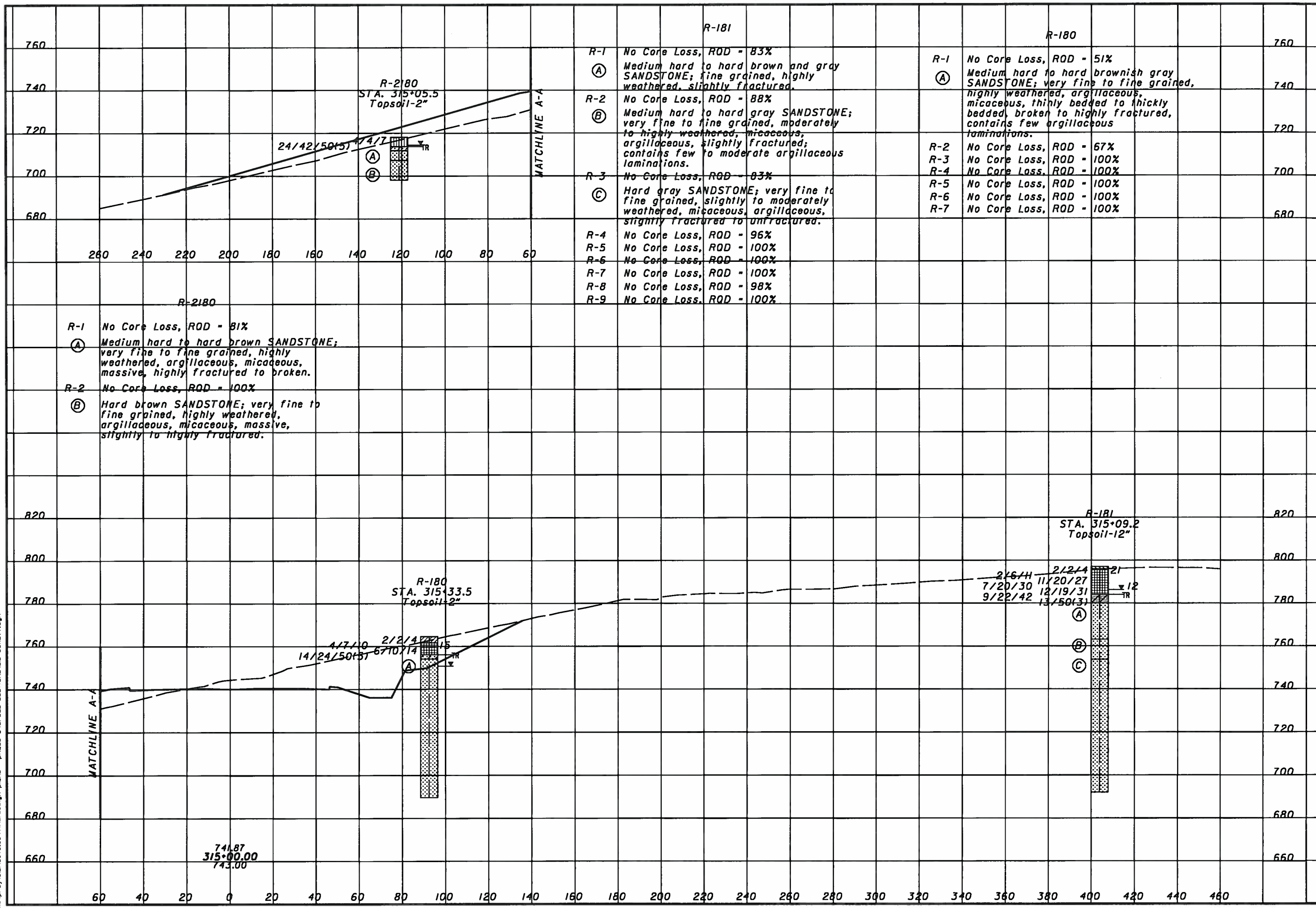
24/50(6) 2/1/9

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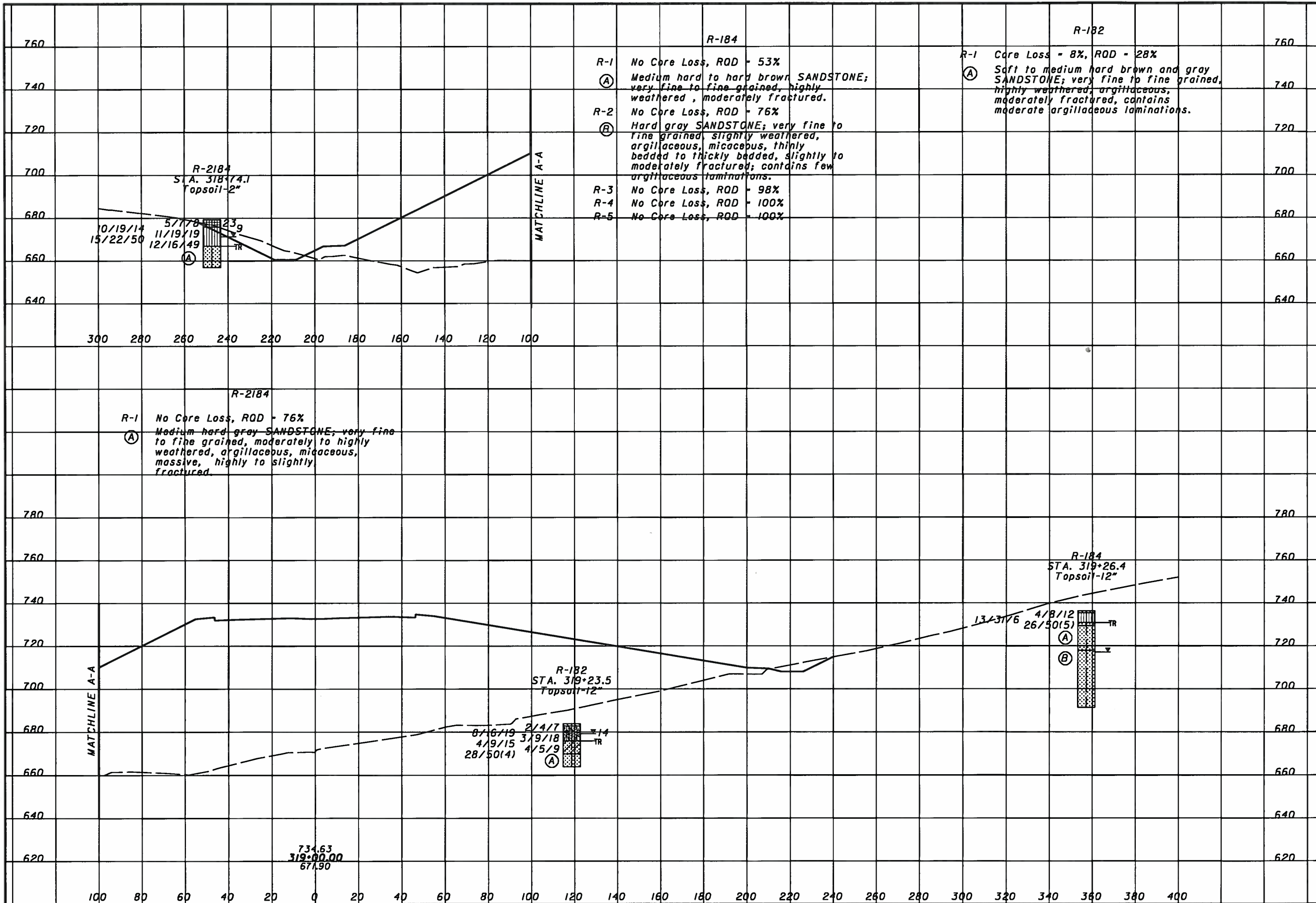
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745.49
313+00.00
650.90



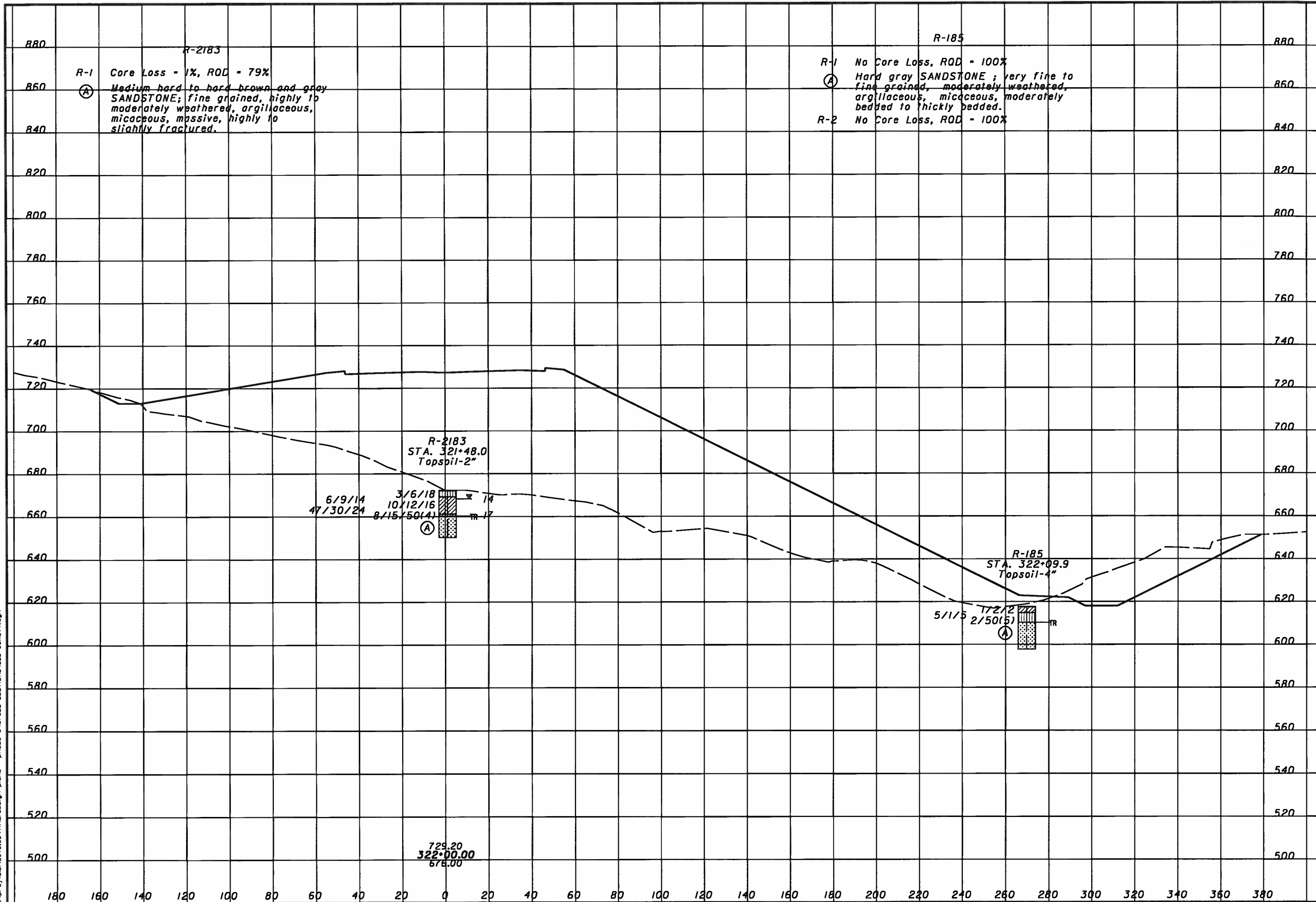
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DRAWN: RLS
 CHECKED: AEN
 SOIL PROFILE
 CROSS SECTION - SR 823 STA. 319+00.00
 SCI-823-0.00
 137/168

11/28/2007 8:54:52 AM
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R-1 Core Loss - 1%, RQD = 79%
Ⓐ Medium hard to hard brown and gray SANDSTONE; fine grained, highly to moderately weathered, argillaceous, micaceous, massive, highly to slightly fractured.

R-185
R-1 No Core Loss, RQD = 100%
Ⓐ Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, moderately bedded to thickly bedded.
R-2 No Core Loss, RQD = 100%

R-2183
STA. 321+48.0
Topsoil-2"

6/9/14 3/6/18
47/30/24 10/12/16
8/15/50(4)
Ⓐ TR 14
TR 17

R-185
STA. 322+09.9
Topsoil-4"

5/1/5 17/2/2
2/50(5)
Ⓐ TR

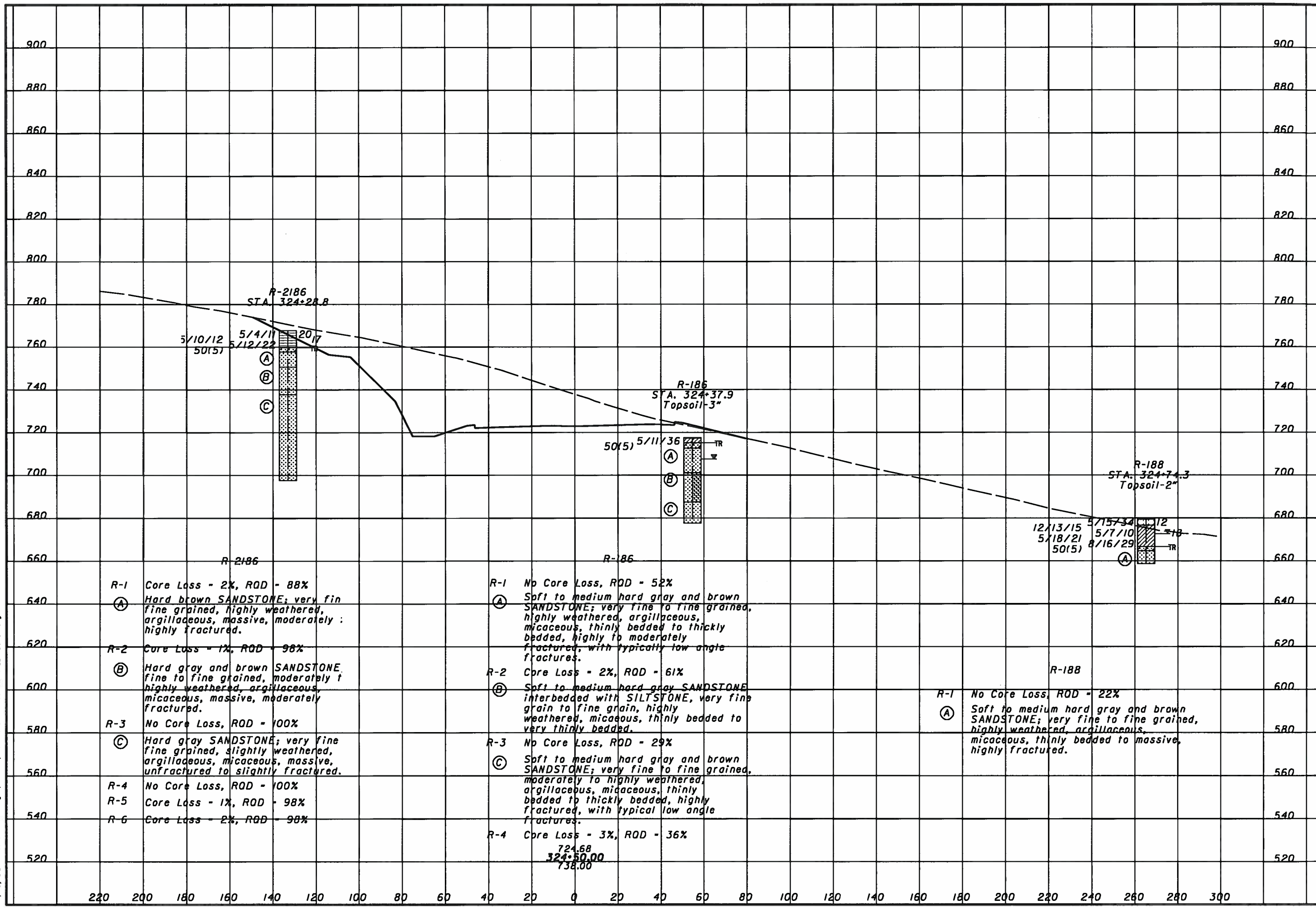
729.20
322+00.00
676.00

SOIL PROFILE
CROSS SECTION - SR 823 STA. 322+00.00

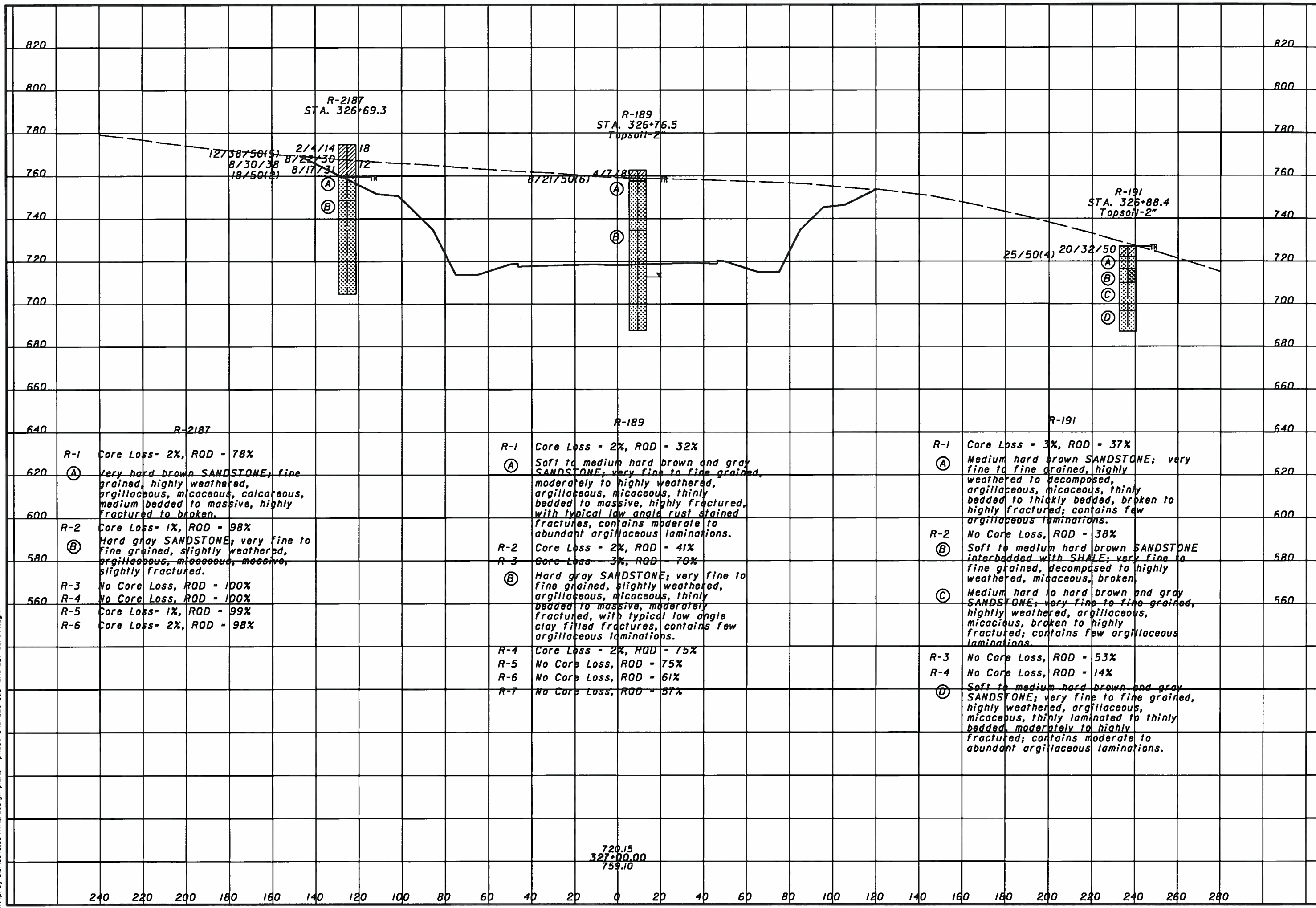
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138/168

DRAWN
RLS
CHECKED
AEN

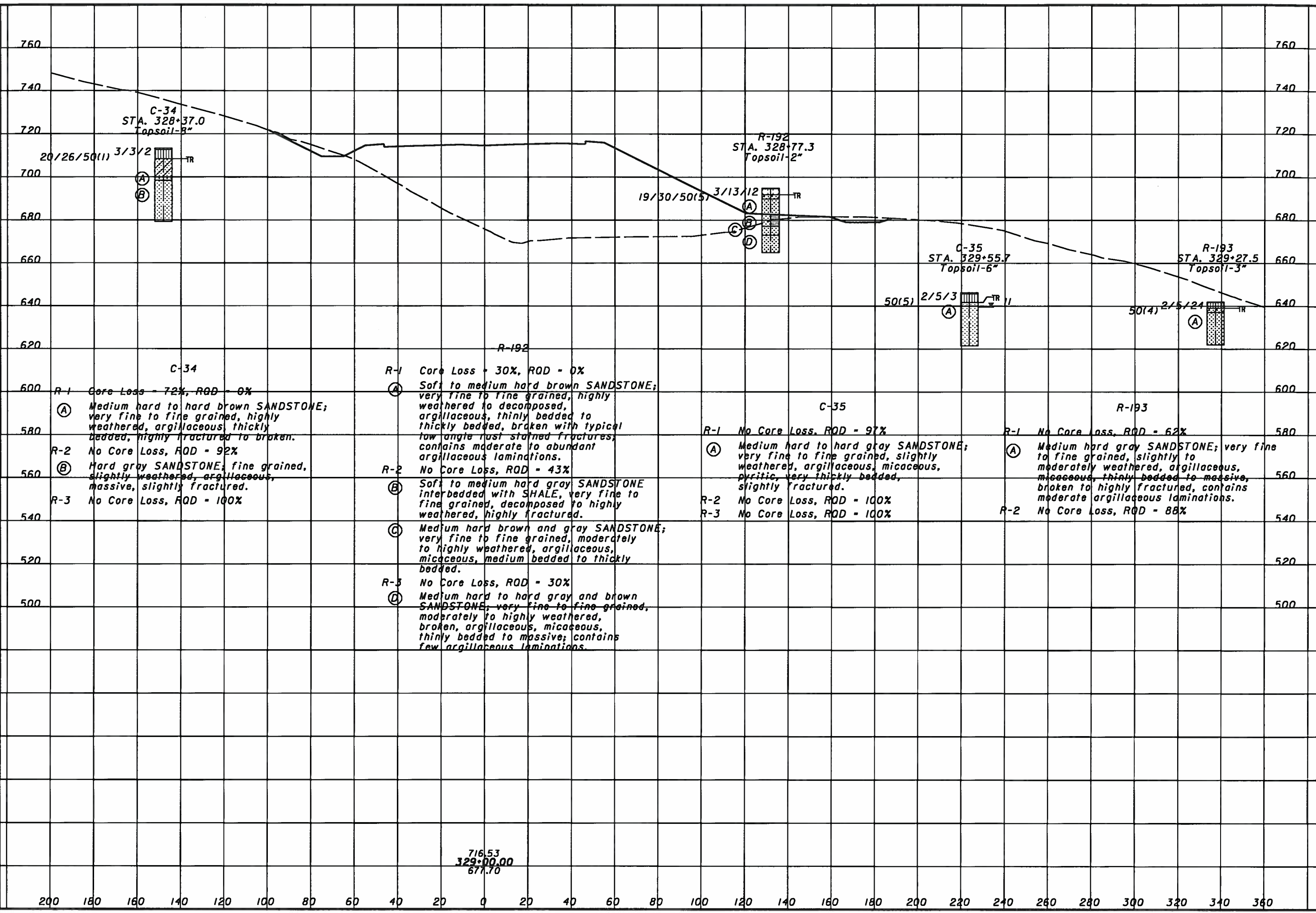


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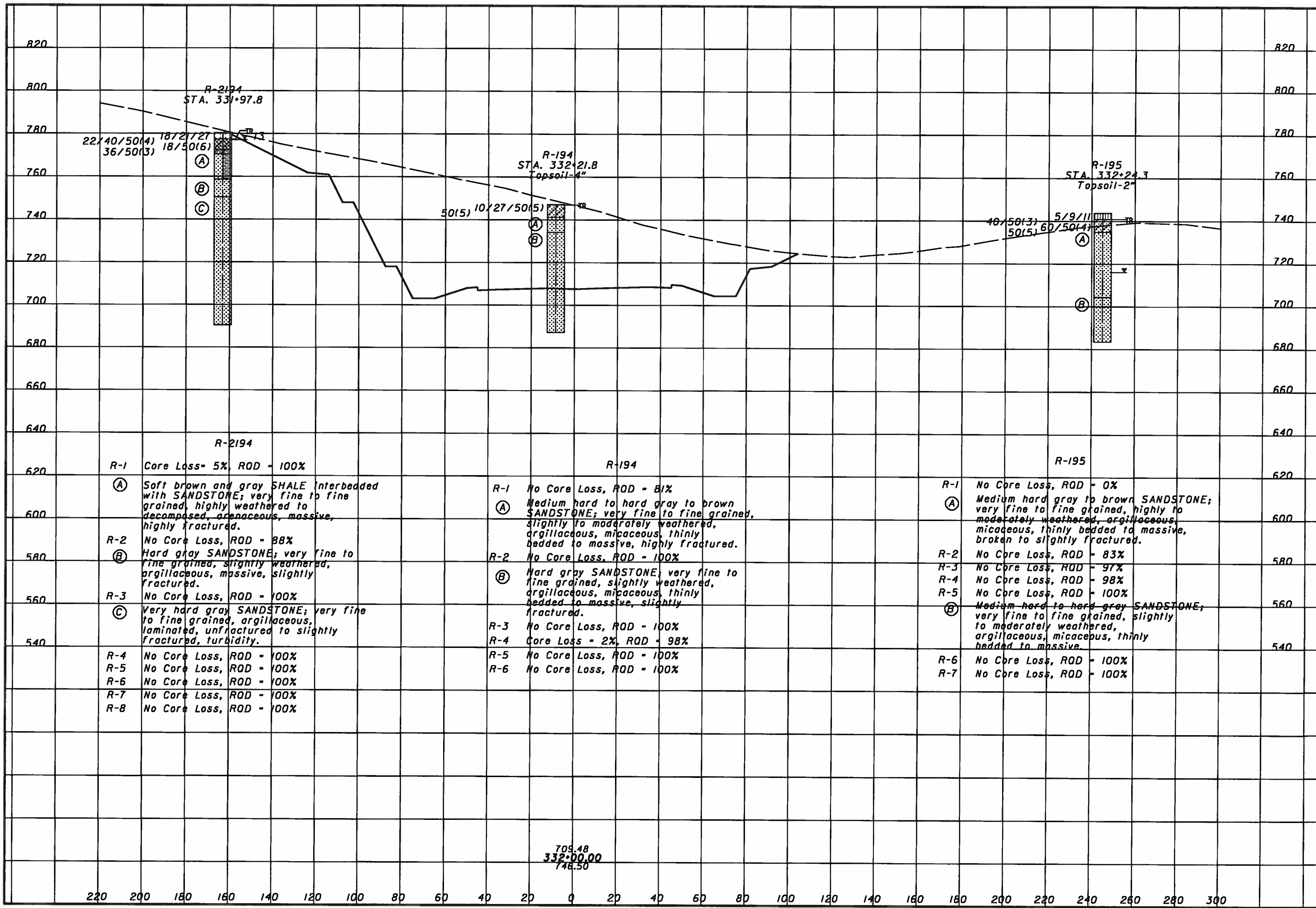
C-34
 R-1 Core Loss = 72%, ROD = 0%
 (A) Medium hard to hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thickly bedded, highly fractured to broken.
 R-2 No Core Loss, ROD = 92%
 (B) Hard gray SANDSTONE; fine grained, slightly weathered, argillaceous, massive, slightly fractured.
 R-3 No Core Loss, ROD = 100%

R-192
 R-1 Core Loss = 30%, ROD = 0%
 (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to thickly bedded, broken with typical low angle rust stained fractures, contains moderate to abundant argillaceous laminations.
 R-2 No Core Loss, ROD = 43%
 (B) Soft to medium hard gray SANDSTONE interbedded with SHALE, very fine to fine grained, decomposed to highly weathered, highly fractured.
 (C) Medium hard brown and gray SANDSTONE; very fine to fine grained, moderately to highly weathered, argillaceous, micaceous, medium bedded to thickly bedded.
 R-3 No Core Loss, ROD = 30%
 (D) Medium hard to hard gray and brown SANDSTONE, very fine to fine grained, moderately to highly weathered, broken, argillaceous, micaceous, thinly bedded to massive; contains few argillaceous laminations.

C-35
 R-1 No Core Loss, ROD = 97%
 (A) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, pyritic, very thickly bedded, slightly fractured.
 R-2 No Core Loss, ROD = 100%
 R-3 No Core Loss, ROD = 100%

R-193
 R-1 No Core Loss, ROD = 62%
 (A) Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thinly bedded to massive, broken to highly fractured, contains moderate argillaceous laminations.
 R-2 No Core Loss, ROD = 88%

716.53
329+00.00
677.70

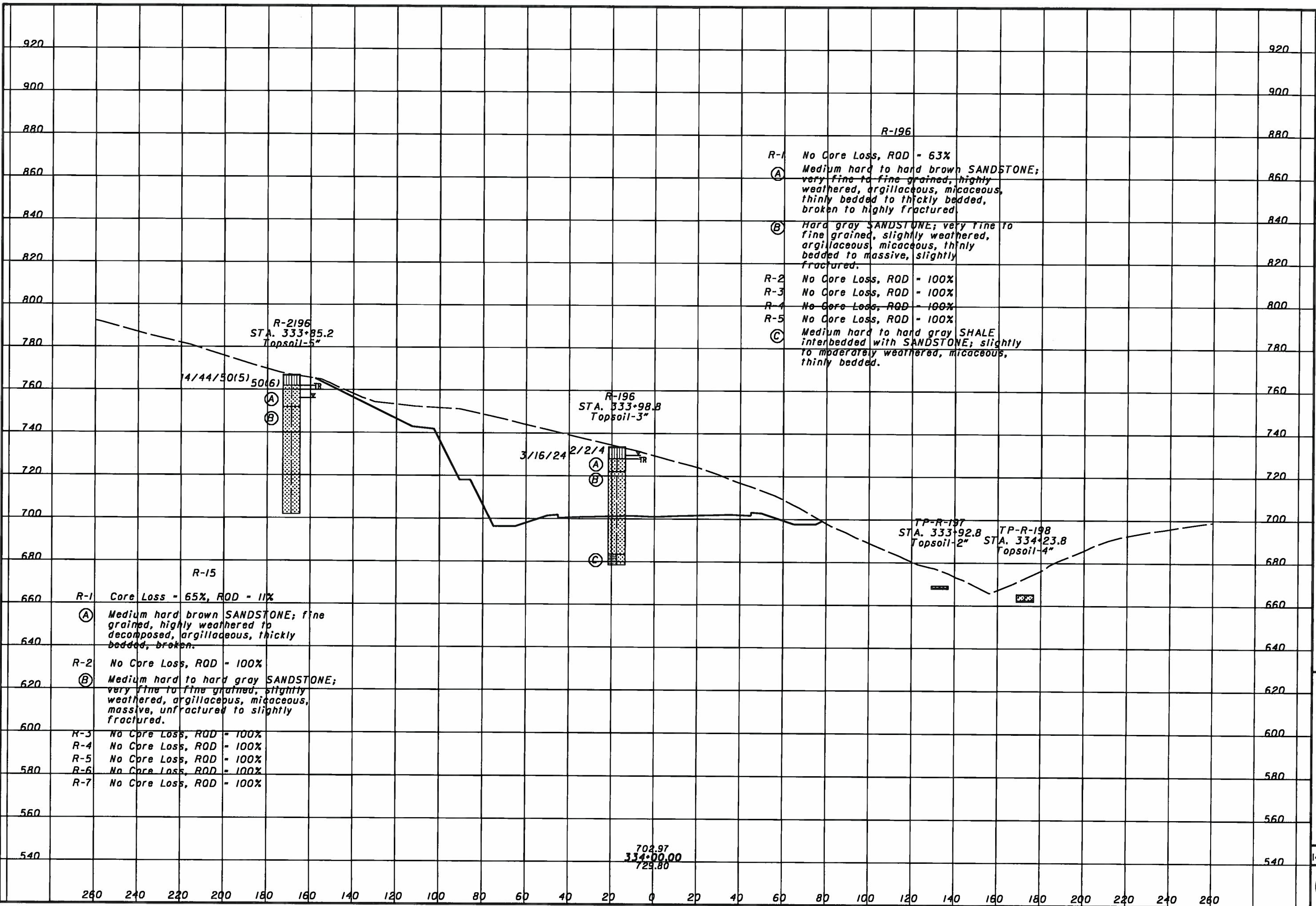


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8:45:56 AM
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709.48
332+00.00
748.50

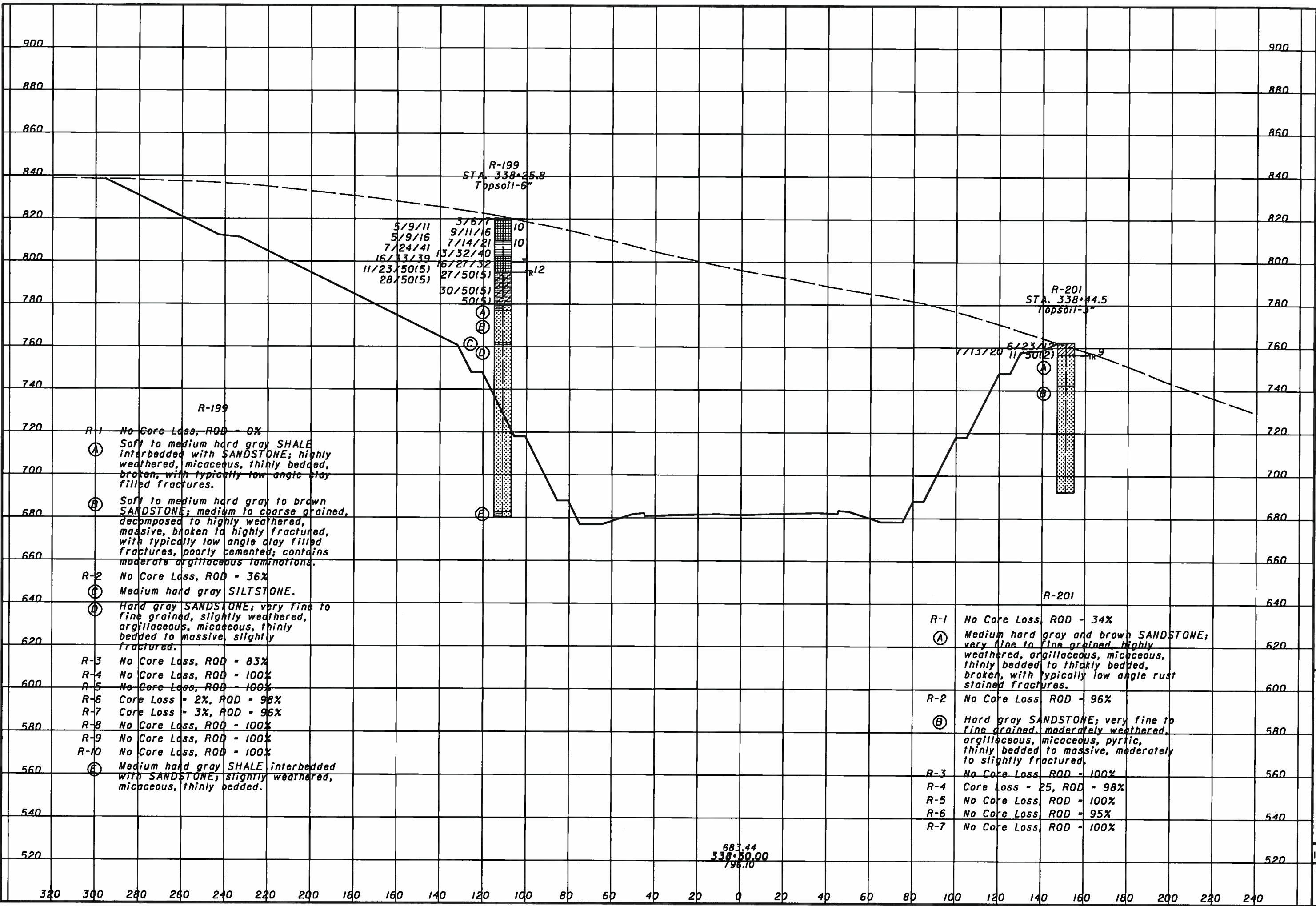


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 CHECKED: AEN
 SOIL PROFILE
 CROSS SECTION - SR 823 STA. 334+00.00
 SCI-823-0.00
 143/168

11/28/2007 8:54:58 AM m:\proj\02\3070\03\final\design\plans - phase 3\cross sections\338+50.xsv7.dgn



R-199
STA. 338+25.8
Topsoil-6"

5/9/11
5/9/16
7/24/41
16/13/39
11/23/50(5)
28/50(5)

3/6/17
9/11/16
7/14/21
13/32/40
16/27/52
27/50(5)
30/50(5)
50(5)

10
10
R12

R-201
STA. 338+44.5
Topsoil-3"

7/13/20
6/23/12
11/50(2)

R9

R-199

R-1 No Core Loss, RQD - 0%
A Soft to medium hard gray SHALE interbedded with SANDSTONE; highly weathered, micaceous, thinly bedded, broken, with typically low angle clay filled fractures.

B Soft to medium hard gray to brown SANDSTONE; medium to coarse grained, decomposed to highly weathered, massive, broken to highly fractured, with typically low angle clay filled fractures, poorly cemented; contains moderate argillaceous laminations.

R-2 No Core Loss, RQD - 36%
C Medium hard gray SILTSTONE.

D Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, thinly bedded to massive, slightly fractured.

R-3 No Core Loss, RQD - 83%

R-4 No Core Loss, RQD - 100%

R-5 No Core Loss, RQD - 100%

R-6 Core Loss - 2%, RQD - 98%

R-7 Core Loss - 3%, RQD - 96%

R-8 No Core Loss, RQD - 100%

R-9 No Core Loss, RQD - 100%

R-10 No Core Loss, RQD - 100%

E Medium hard gray SHALE interbedded with SANDSTONE; slightly weathered, micaceous, thinly bedded.

R-201

R-1 No Core Loss, RQD - 34%
A Medium hard gray and brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, thinly bedded to thickly bedded, broken, with typically low angle rust stained fractures.

R-2 No Core Loss, RQD - 96%
B Hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, pyritic, thinly bedded to massive, moderately to slightly fractured.

R-3 No Core Loss, RQD - 100%

R-4 Core Loss - 25, RQD - 98%

R-5 No Core Loss, RQD - 100%

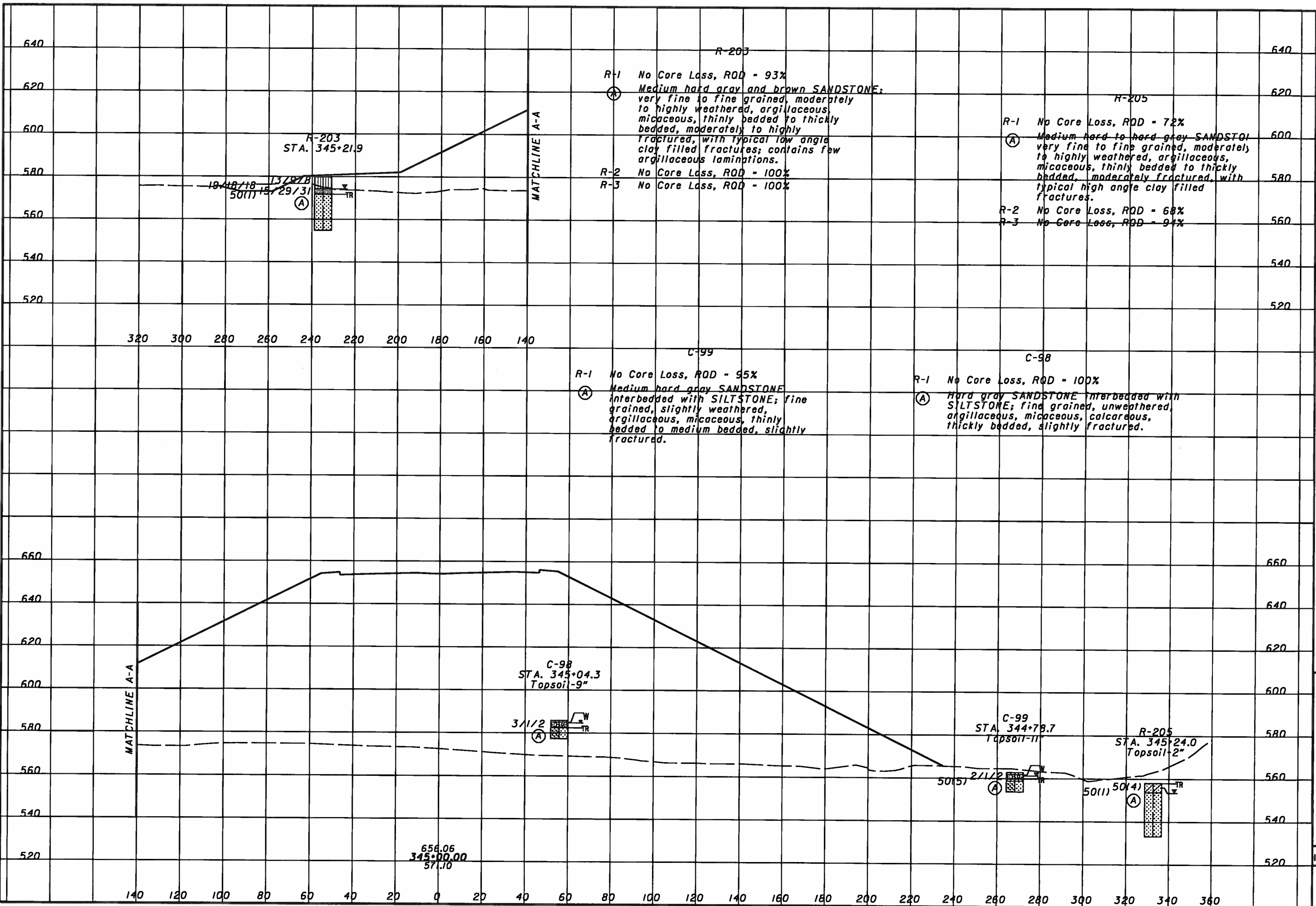
R-6 No Core Loss, RQD - 95%

R-7 No Core Loss, RQD - 100%

683.44
338+50.00
796.10

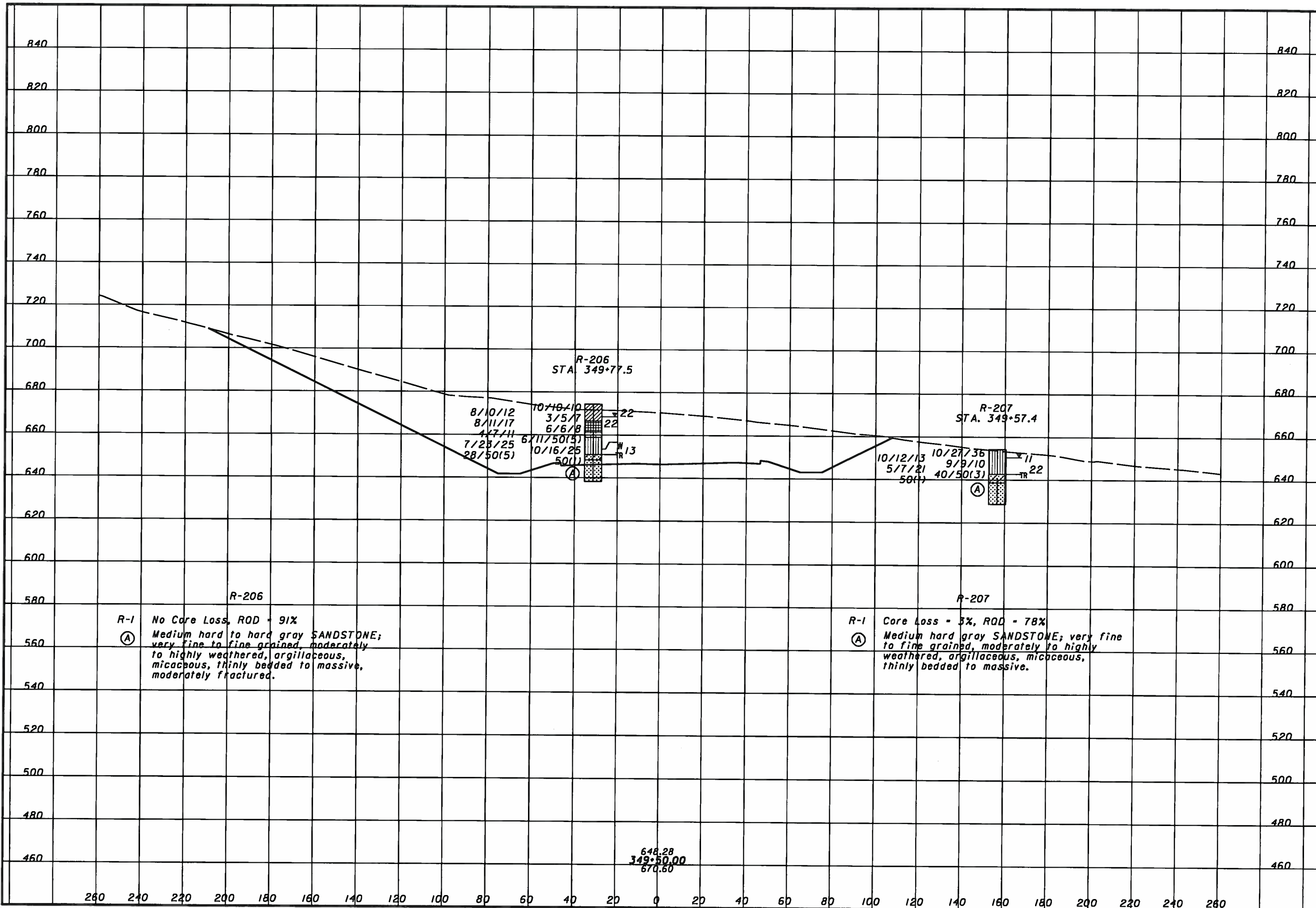
SOIL PROFILE
CROSS SECTION - SR 823 STA. 338+50.00
SCI-823-0.00
DRAWN RLS
CHECKED AEN
144/168

1/28/2007
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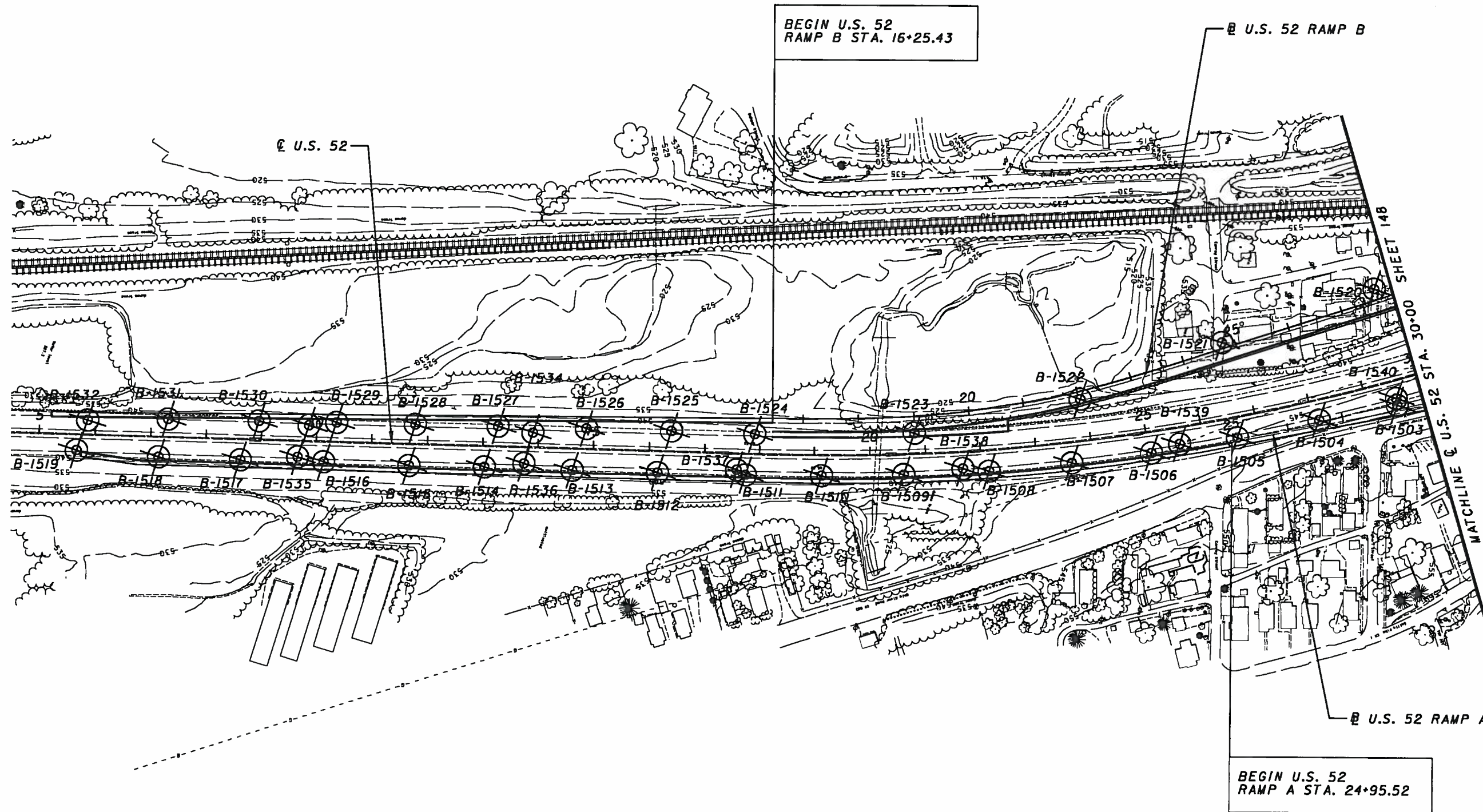
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 SCI-823-0.00
 145/168
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 CHECKED AEN
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 SCI-823-0.00
 146/168

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SCALE
0 50 100 200
HORIZONTAL
SCALE IN FEET

CHECKED	RLS
CHECKED	AEN

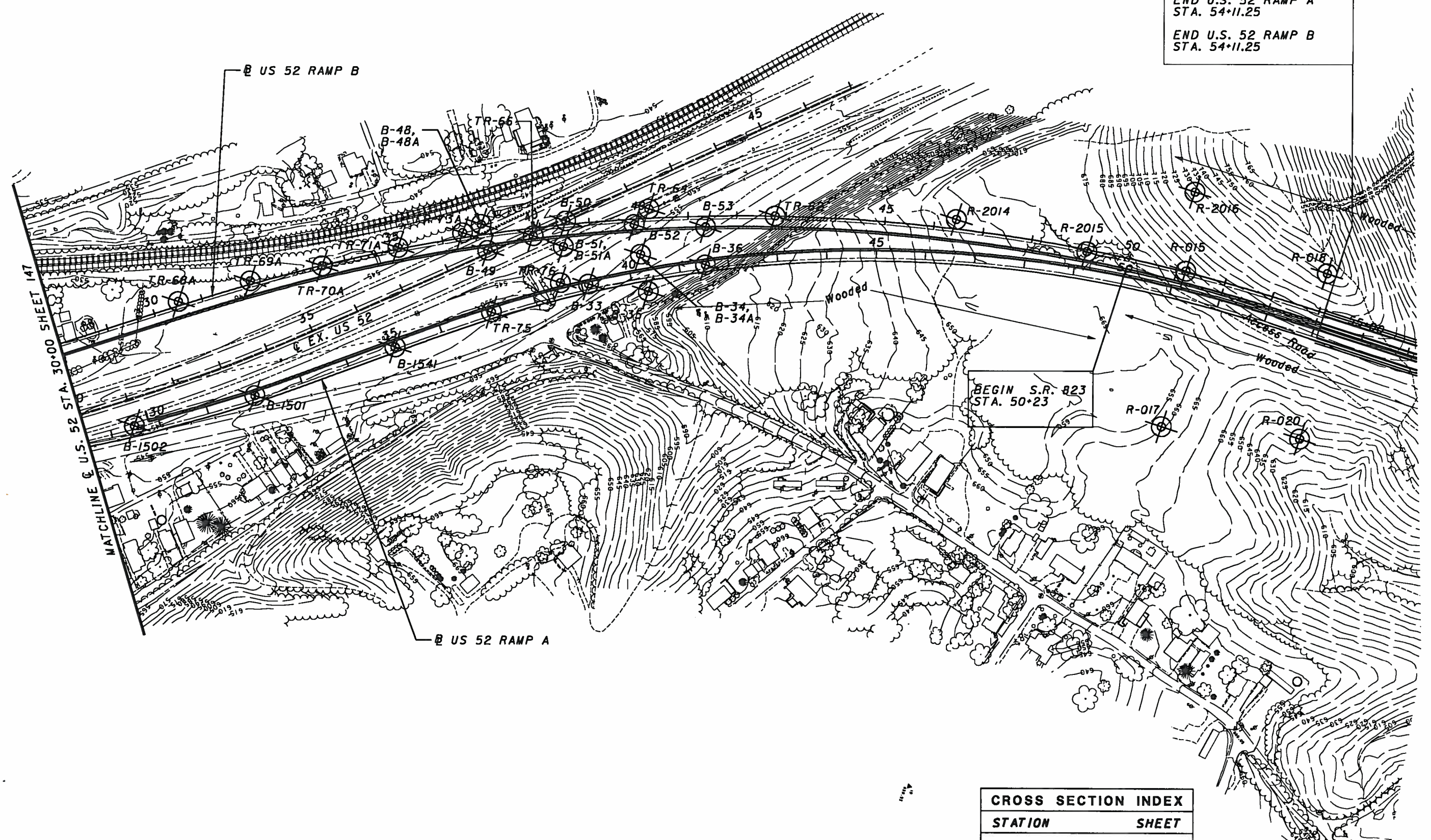
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U.S. 52 INTERCHANGE

SCI-823-0.00



END U.S. 52 RAMP A
 STA. 54+11.25

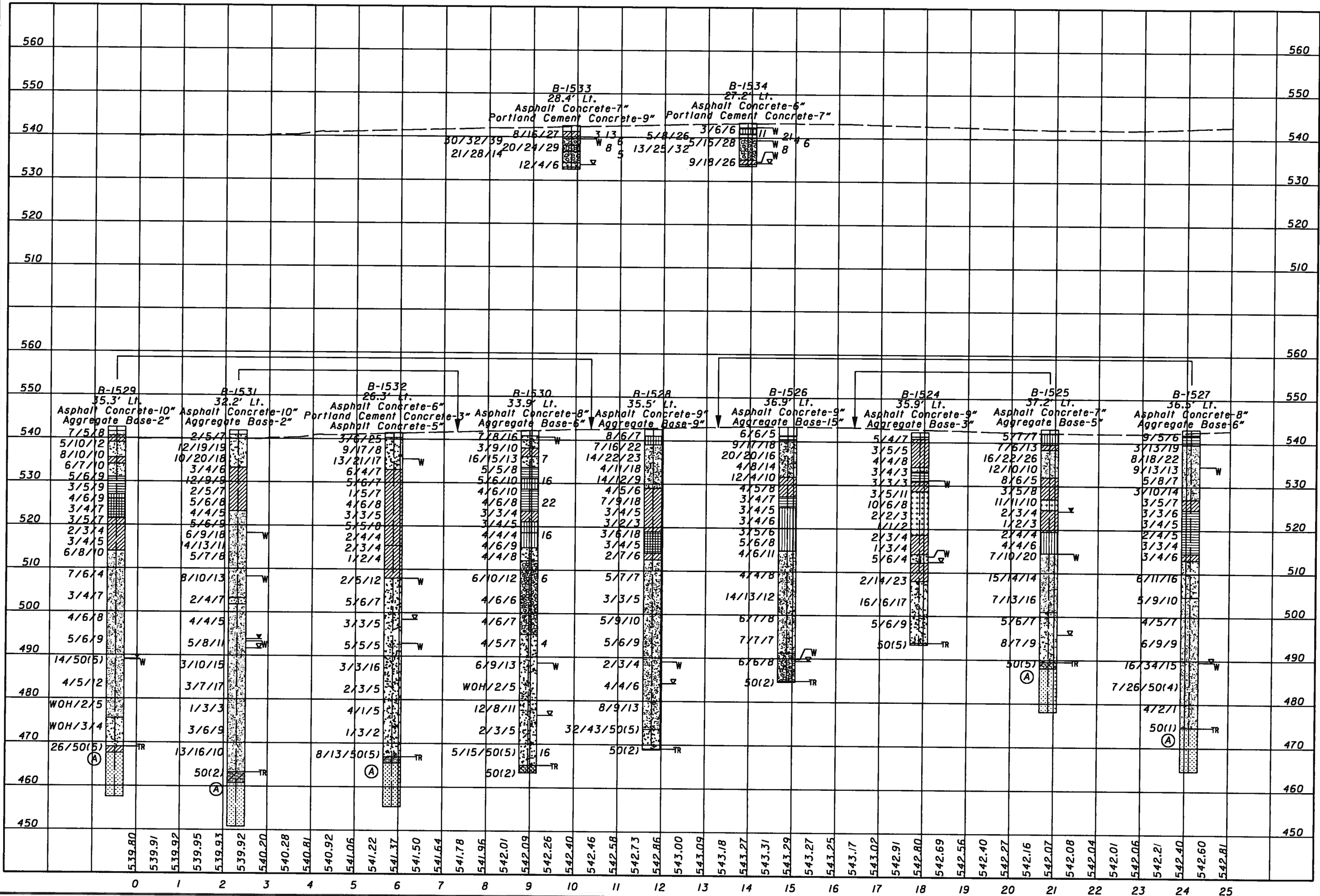
END U.S. 52 RAMP B
 STA. 54+11.25



CROSS SECTION INDEX	
STATION	SHEET
51+50	159
54+00	160

NOTE:
 BORINGS B-33 TO B-36, B-48 TO B-53, TR-62, TR-64, TR-66, TR-68A TO TR-71A, TR-73A, AND TR-76
 SHOWN ON STRUCTURE FOUNDATION INVESTIGATION SHEETS

1/28/2007
 BAE/ML
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DRAWN: RLS
 CHECKED: AEN
 SOIL PROFILE
 U.S. 52 STA. 0+00 TO STA. 25+00 (LEFT)
 SCI-823-0.00
 149/168

11/28/2007
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B-1532

R-1 No Core Loss, RQD - 84%

- Ⓐ Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thickly bedded to massive, slightly to moderately fractured.

B-1531

R-1 No Core Loss, RQD - 96%

- Ⓐ Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured.

B-1529

R-1 No Core Loss, RQD - 76%

- Ⓐ Hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured.

B-1527

R-1 No Core Loss, RQD - 93%

- Ⓐ Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, medium bedded, slightly fractured.

B-1525

R-1 No Core Loss, RQD - 89%

- Ⓐ Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, slightly to moderately fractured.

DRAWN
RLS
CHECKED
AEN

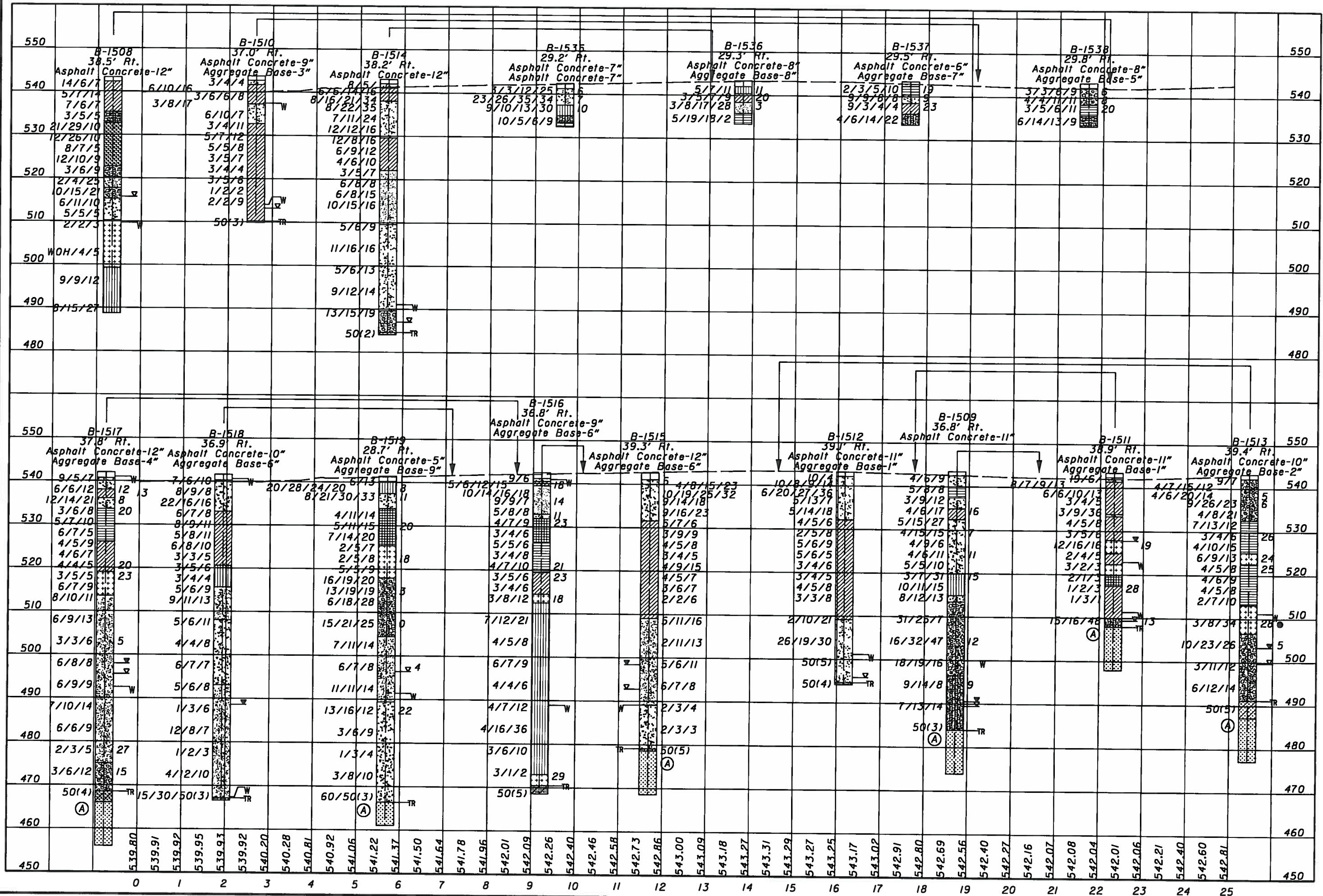
SOIL PROFILE
U.S. 52 STA. 0+00 TO STA. 25+00 (LEFT)

SCI-823-0.00

150/168



1/28/2001
 B5524
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11/28/2007
B-523.dwg
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B-1517

R-1 No Core Loss, RQD = 89%

- Ⓐ Medium hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, slightly fractured.

B-1515

R-1 Core Loss = 8%, RQD = 83%

- Ⓐ Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, massive, moderately fractured.

B-1519

R-1 No Core Loss, RQD = 58%

- Ⓐ Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, massive, slightly fractured, contains few to moderate argillaceous laminations.

B-1511

R-1 Core Loss = 7%, RQD = 93%

- Ⓐ Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, thickly bedded, moderately fractured.

B-1513

R-1 Core Loss = 18%, RQD = 74%

- Ⓐ Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, thickly bedded, slightly to moderately fractured.

B-1509

R-1 No Core Loss, RQD = 69%

- Ⓐ Medium hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured.

DRAWN
RLS
CHECKED
AEN

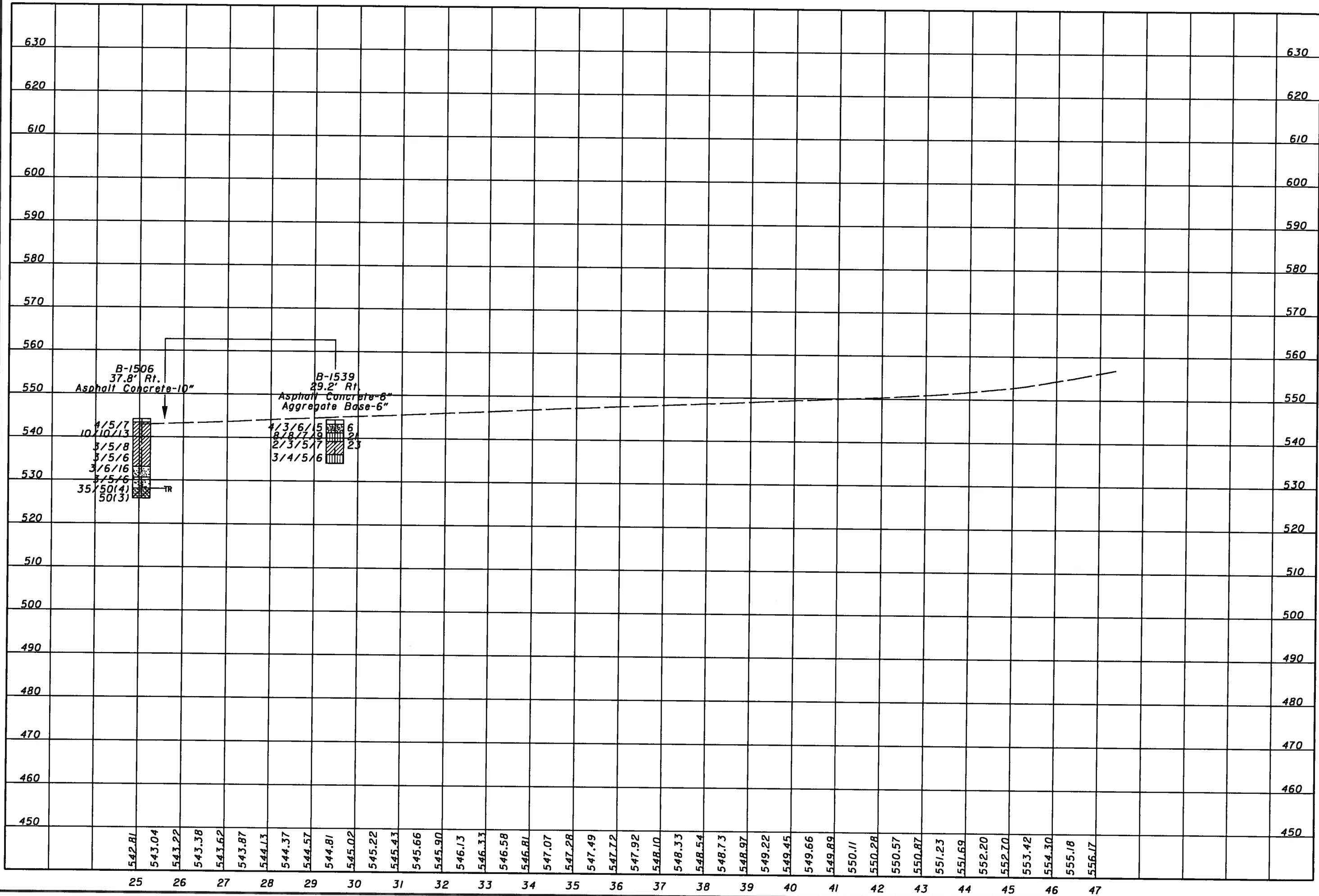
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U.S. 52 STA. 0+00 TO STA. 25+00 (RIGHT)

SCI-823-0.00

152/168



11/28/2007
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DRAWN
 RLS
 CHECKED
 AEN

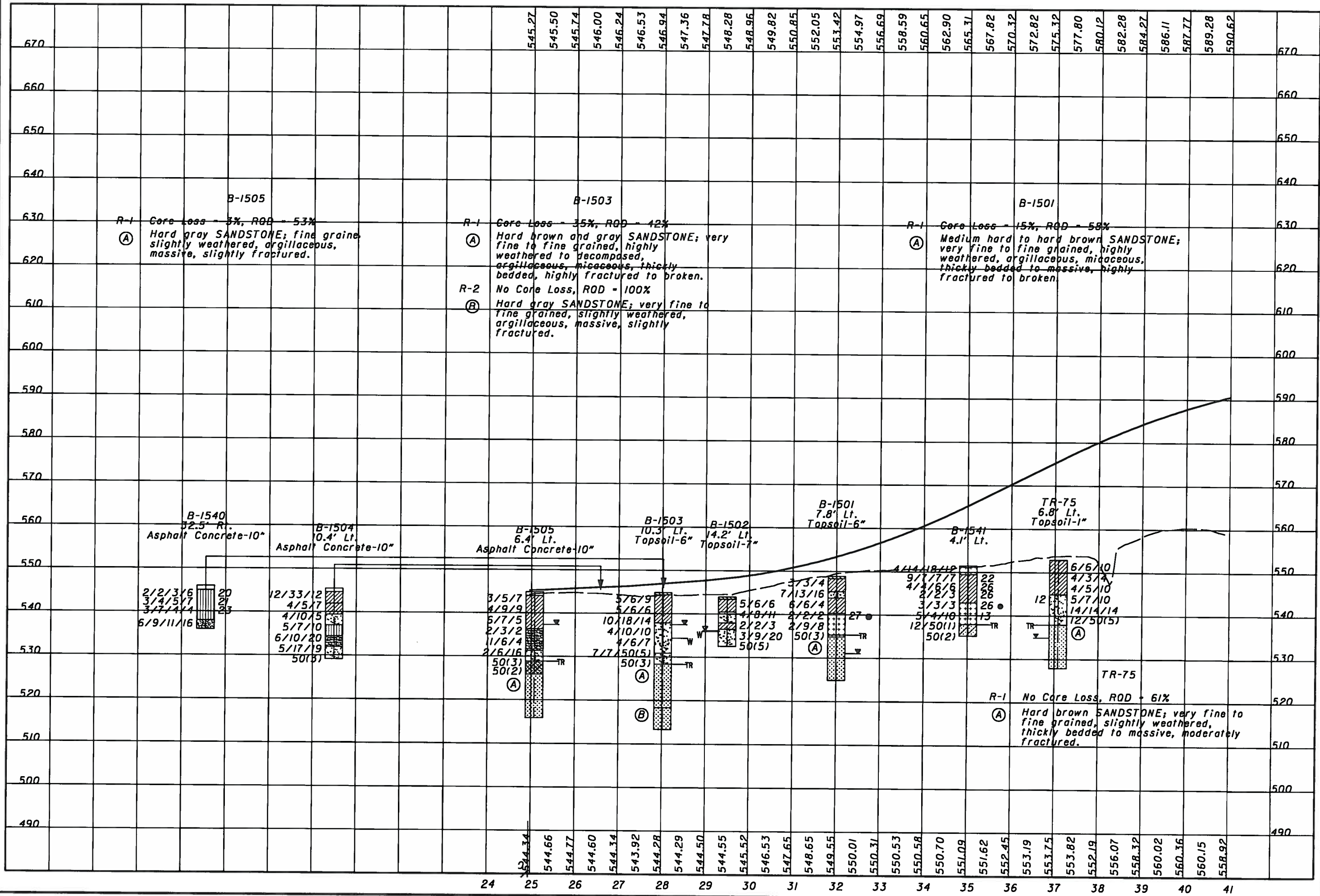
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 U.S. 52 STA. 25+00 TO STA. 47+36.28 (RIGHT)

SCI-823-0.00

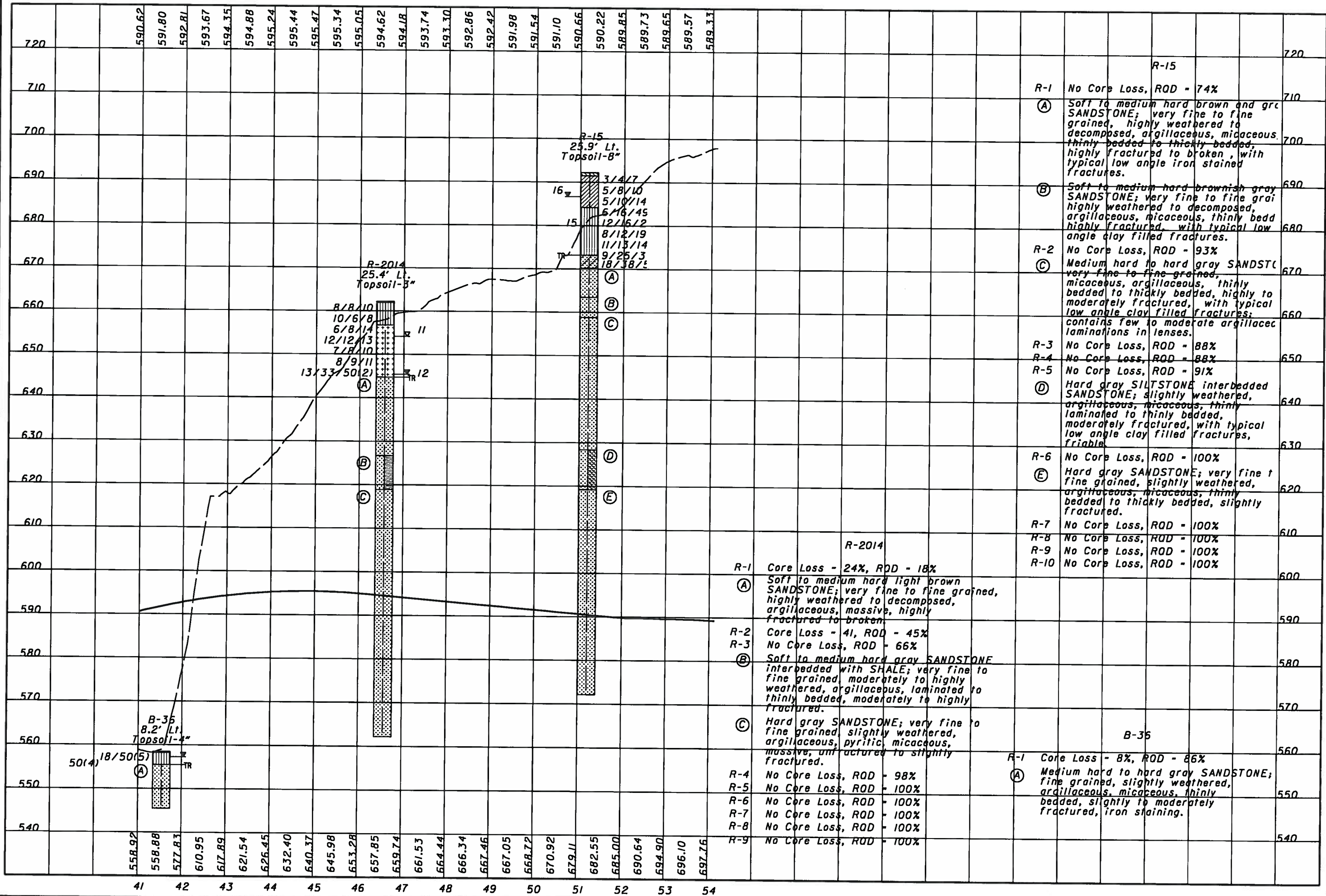
153/68



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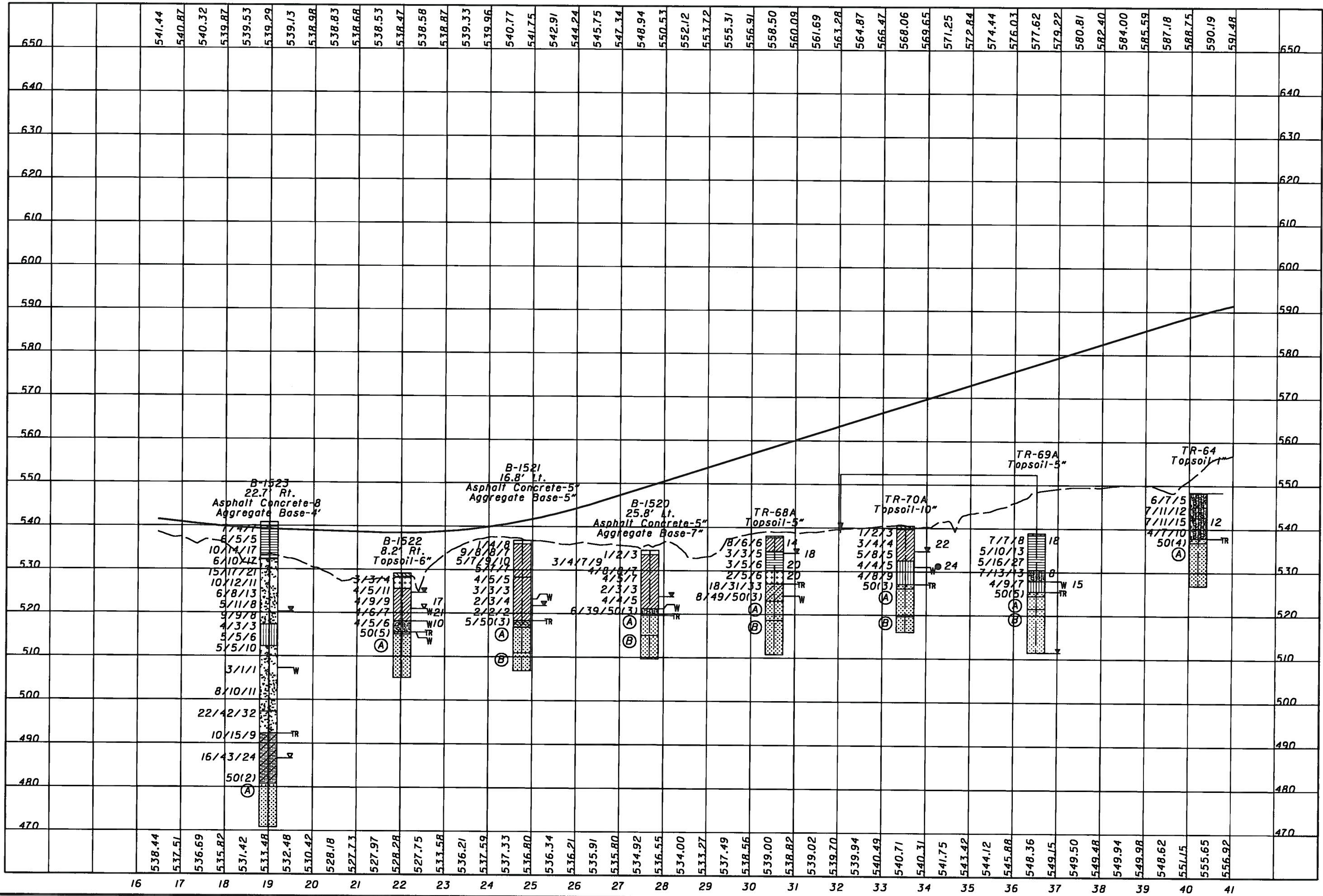


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 CHECKED: AEN
 SOIL PROFILE - US 52 RAMP A
 STA. 41+00.00 TO STA. 54+11.247
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 155/168

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TR-68A

- R-1 Core Loss - 4%, ROD - 0%
- Ⓐ Medium hard brown SANDSTONE; fine grained, highly weathered, micaceous, broken, clay filled fractures.
- R-2 No Core Loss, ROD - 46%
- Ⓑ Medium hard to hard gray SANDSTONE; fine to medium grained, moderately to highly weathered, micaceous, highly fractured.
- R-3 No Core Loss, ROD - 100%

B-1521

- R-1 No Core Loss, ROD - 45%
- Ⓐ Medium hard light brown and gray SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly bedded to massive, highly fractured to broken.
- Ⓑ Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, micaceous, slightly fractured, contains few argillaceous laminations.

TR-64

- R-1 Core Loss - 2%, ROD - 11%
- Ⓐ Hard brown and gray SANDSTONE; very fine to fine grained, moderately to highly weathered, thickly bedded to massive, highly fractured.

TR-70A

- R-1 Core Loss - 13%, ROD - 52%
- Ⓐ Medium hard brown SANDSTONE; fine grained, moderately to highly weathered, micaceous, highly fractured.
- Ⓑ Hard gray SANDSTONE; fine grained, slightly weathered, micaceous, moderately fractured.

B-1522

- R-1 No Core Loss, ROD - 67%
- Ⓐ Medium hard to hard gray SANDSTONE; fine grained, moderately to highly weathered, argillaceous, thickly bedded, moderately to highly fractured.

B-1523

- R-1 No Core Loss, ROD - 100%
- Ⓐ Hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, micaceous, massive, slightly fractured.

B-1520

- R-1 No Core Loss, ROD - 56%
- Ⓐ Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, micaceous, massive, highly fractured to broken.
- Ⓑ Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly to moderately weathered, argillaceous, micaceous, massive, slightly fractured to unfractured.

TR-69A

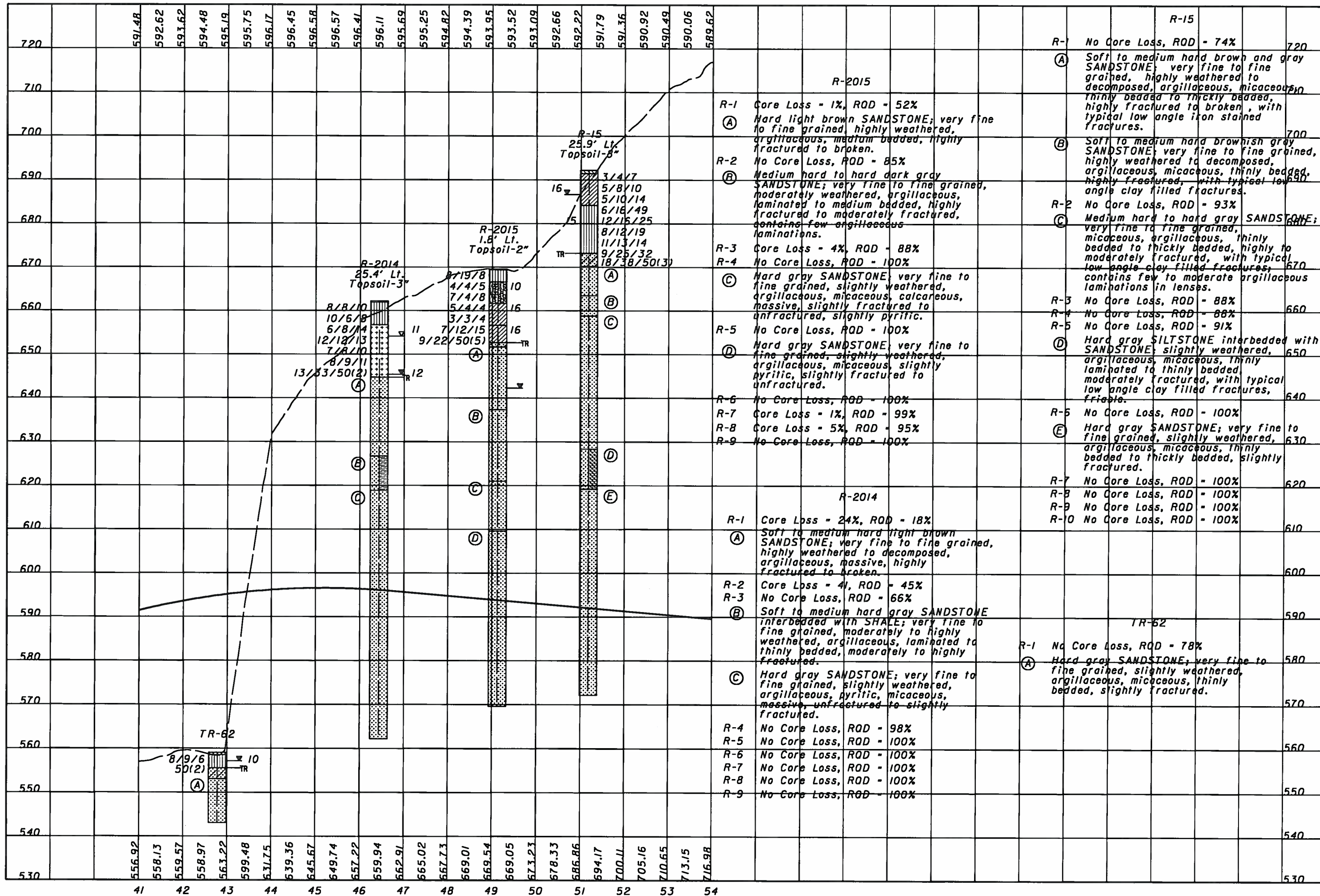
- R-1 No Core Loss, ROD - 100%
- Ⓐ Medium hard brown SANDSTONE; fine to medium grained, moderately to highly weathered, highly fractured to broken.
- Ⓑ Hard gray SANDSTONE; fine grained, slightly to moderately weathered, highly fractured.
- R-2 No Core Loss, ROD - 100%
- R-3 No Core Loss, ROD - 100%

SOIL PROFILE - US 52 RAMP B
STA. 16+44.851 TO STA. 41+00.000

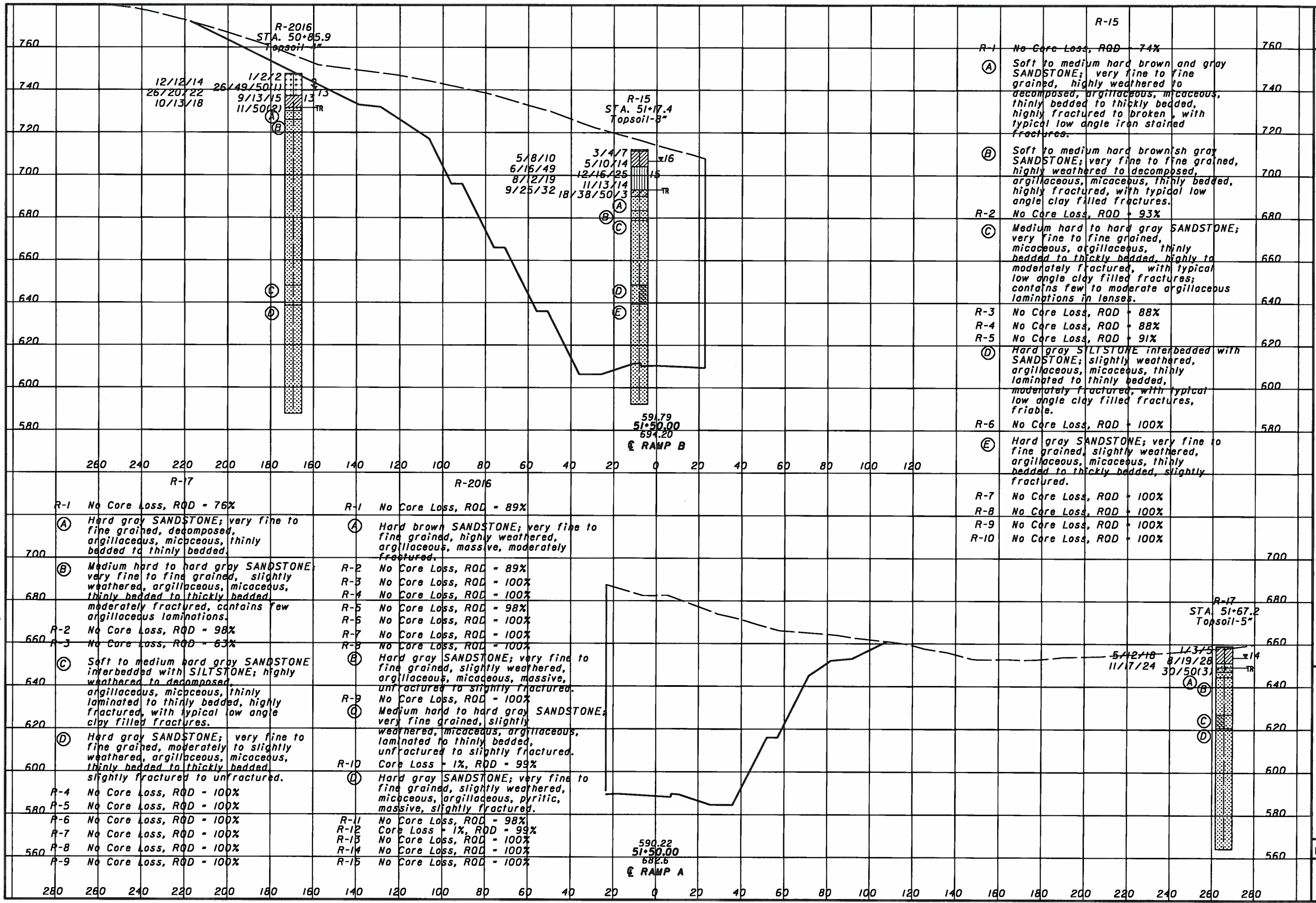
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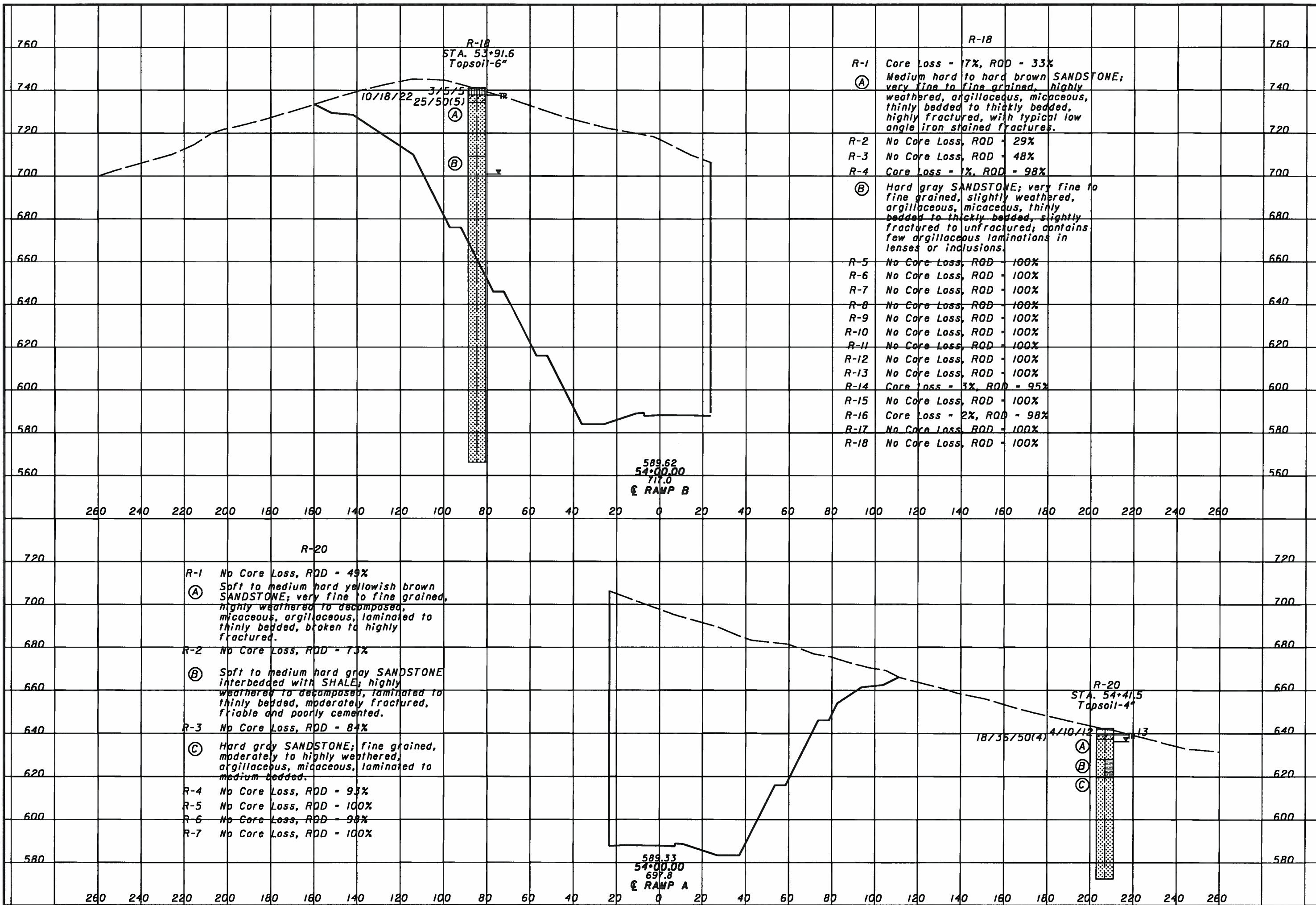


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SOIL PROFILE
 CROSS SECTION - US 52 RAMP A & RAMP B STA. 51+50.00
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 159/168
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 CHECKED AEN

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 160/168

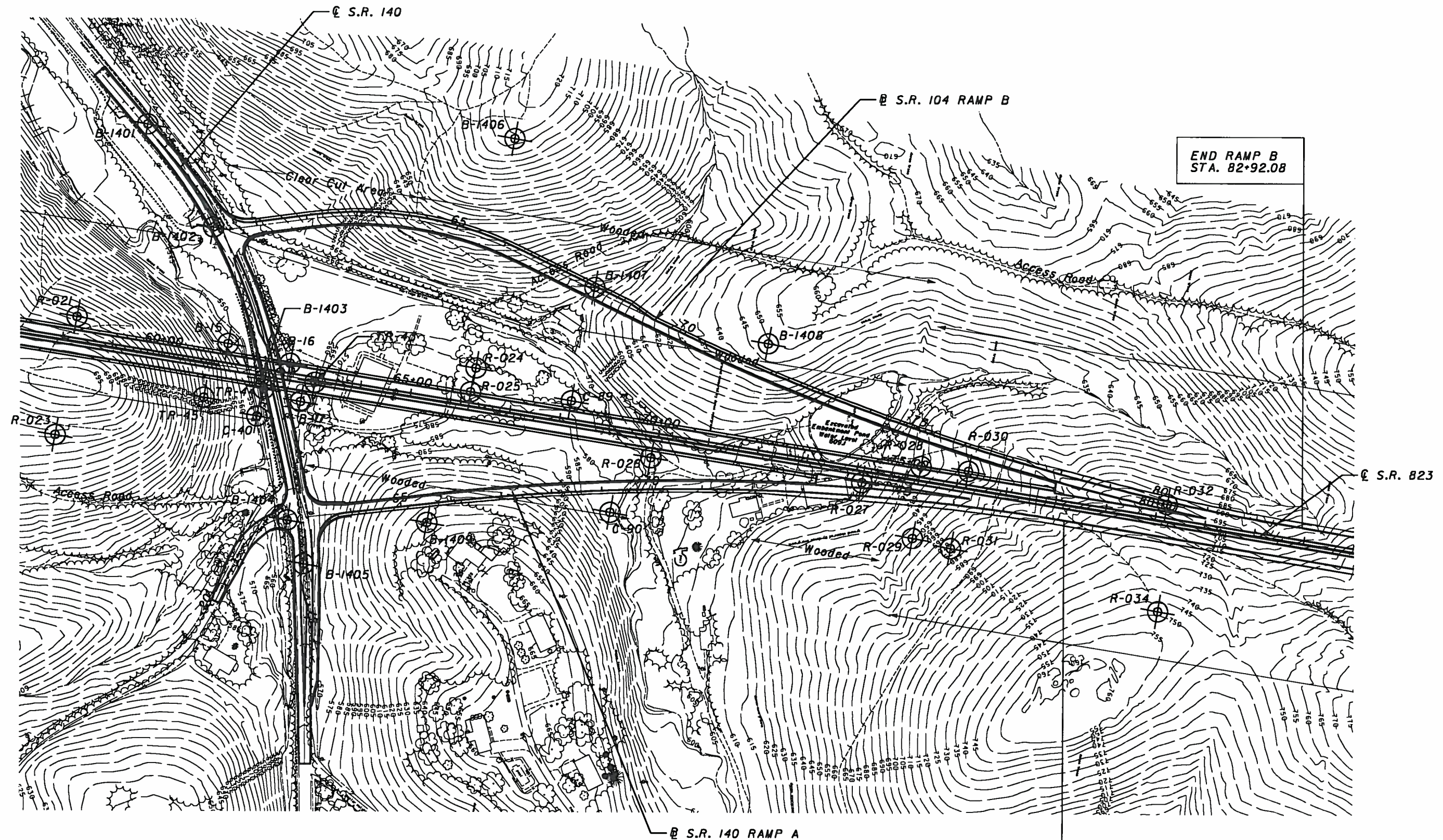


 0 50 100 HORIZONTAL SCALE IN FEET

CALCULATED BY: RLS
 CHECKED BY: AEN

SOIL PROFILE
S.R. 140 INTERCHANGE

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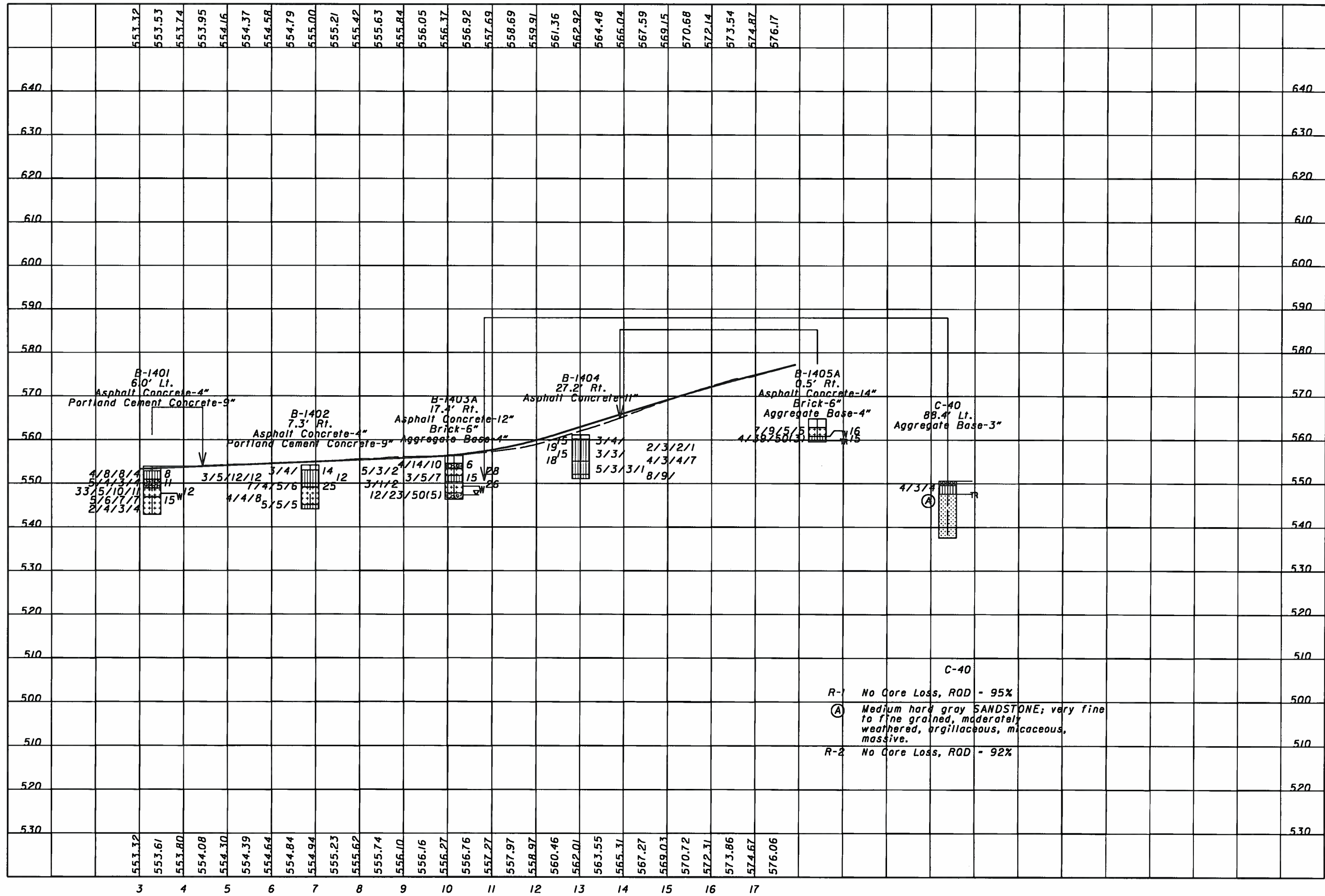
NOTE:
 BORINGS R-21 TO R-34 SHOWN ON S.R. 823 PROFILE, SHEETS 42 AND 45.
 BORINGS TR-43, TR-44, TR-45, B-15, B-16, AND B-17 SHOWN ON
 STRUCTURE FOUNDATION INVESTIGATION SHEETS.

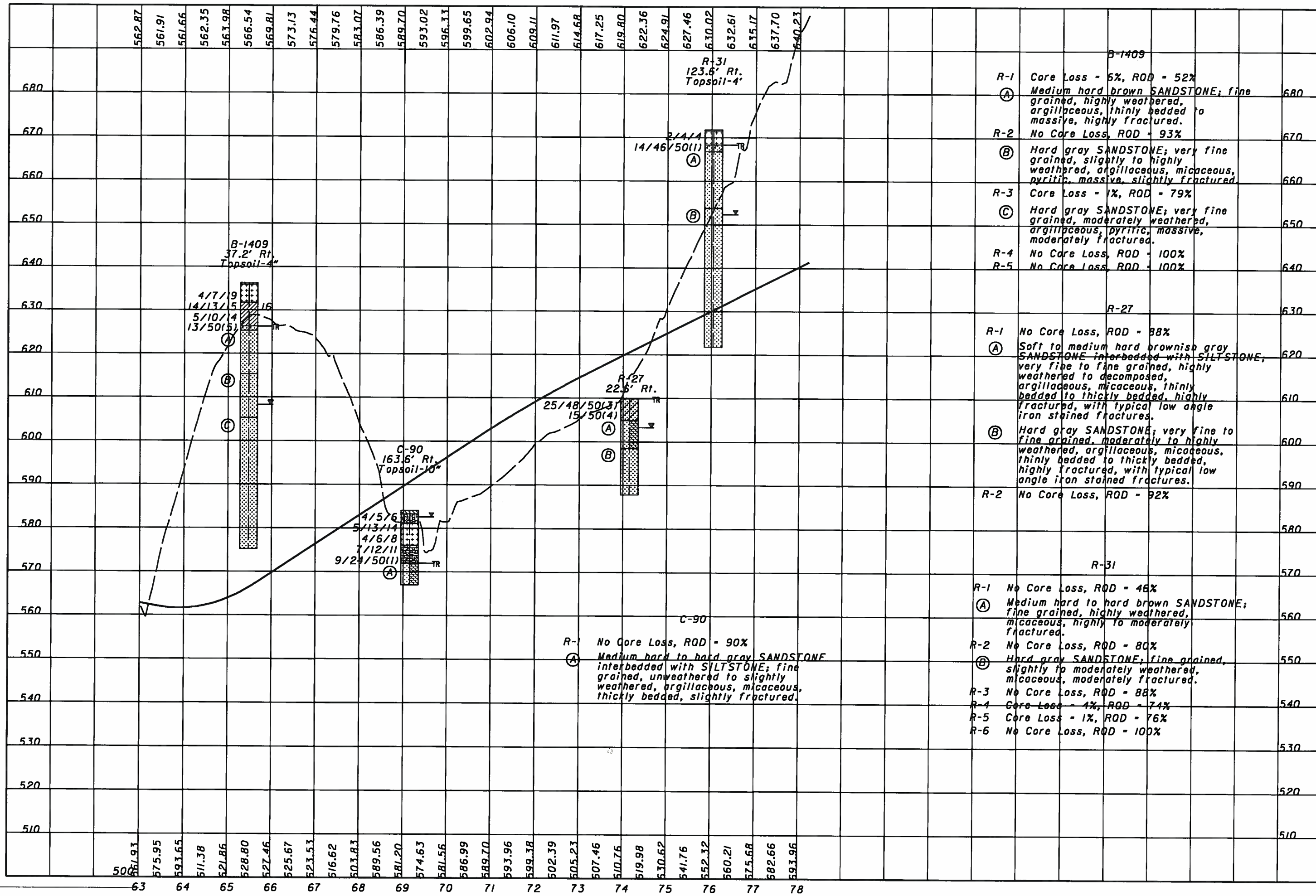
END RAMP A
 STA. 78+21.61

END RAMP B
 STA. 82+92.08

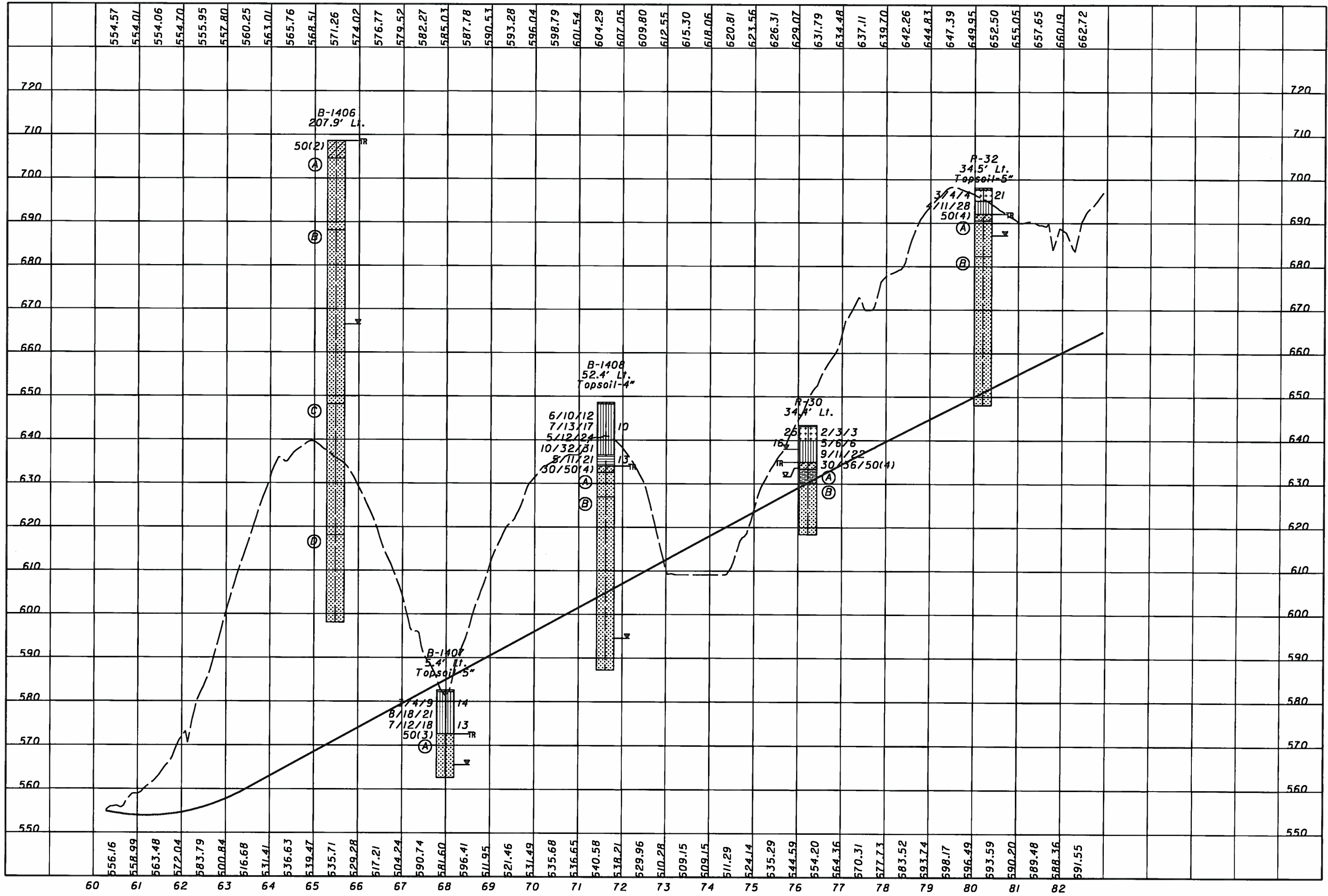
S.R. 140 - STA. 3+00 TO STA. 17+91.74

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B-1406

- R-1 No Core Loss, RQD - 72%
- (A) Medium hard to hard light brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, massive, highly to moderately fractured.
- R-2 No Core Loss, RQD - 93%
- R-3 No Core Loss, RQD - 83%
- (B) Medium hard to hard gray SANDSTONE; very fine to fine grained, moderately to slightly weathered, argillaceous, micaceous, massive, slightly fractured.
- R-4 No Core Loss, RQD - 98%
- R-5 No Core Loss, RQD - 100%
- R-6 No Core Loss, RQD - 100%
- R-7 No Core Loss, RQD - 100%
- (C) Very hard gray SANDSTONE; fine grained, slightly weathered, argillaceous, micaceous, massive, slightly fractured to unfractured, burrows.
- R-8 No Core Loss, RQD - 100%
- R-9 No Core Loss, RQD - 100%
- R-10 No Core Loss, RQD - 100%
- (D) Medium hard to hard gray SANDSTONE; very fine to fine grained, slightly weathered, argillaceous, slightly fractured to unfractured.
- R-11 Core Loss - 3%, RQD - 97%

B-1407

- R-1 Core Loss - 2%, RQD - 86%
- (A) Medium hard gray SANDSTONE; very fine to fine grained, moderately weathered, argillaceous, massive, moderately fractured.

B-1408

- R-1 Core Loss - 2%, RQD - 73%
- (A) Soft to medium hard brown SANDSTONE; very fine to fine grained, highly weathered to decomposed, argillaceous, thinly bedded to massive, highly fractured.
- (B) Medium hard to hard brown and gray SANDSTONE; slightly weathered, argillaceous, micaceous, pyritic, massive, slightly to moderately fractured.
- R-2 Core Loss - 1%, RQD - 88%
- R-3 No Core Loss, RQD - 91%
- R-4 Core Loss - 1%, RQD - 88%
- R-5 No Core Loss, RQD - 75%

R-32

- R-1 No Core Loss, RQD - 65%
- (A) Soft brown SANDSTONE; fine grained, highly weathered, micaceous, highly fractured.
- R-2 No Core Loss, RQD - 57%
- (B) Medium hard gray SANDSTONE; fine grained, moderately weathered, micaceous, highly fractured, contains clay filled fractures.
- R-3 No Core Loss, RQD - 88%
- R-4 No Core Loss, RQD - 100%
- R-5 No Core Loss, RQD - 100%

R-30

- R-1 No Core Loss, RQD - 21%
- (A) Soft brown SHALE; highly weathered to decomposed, arenaceous, fractured.
- R-2 No Core Loss, RQD - 80%
- (B) Medium hard brown SANDSTONE; very fine to fine grained, highly weathered, argillaceous, thinly bedded to thickly bedded, slightly fractured.
- R-3 No Core Loss, RQD - 61%

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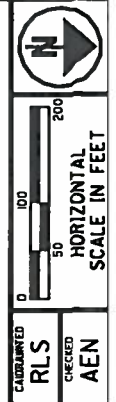
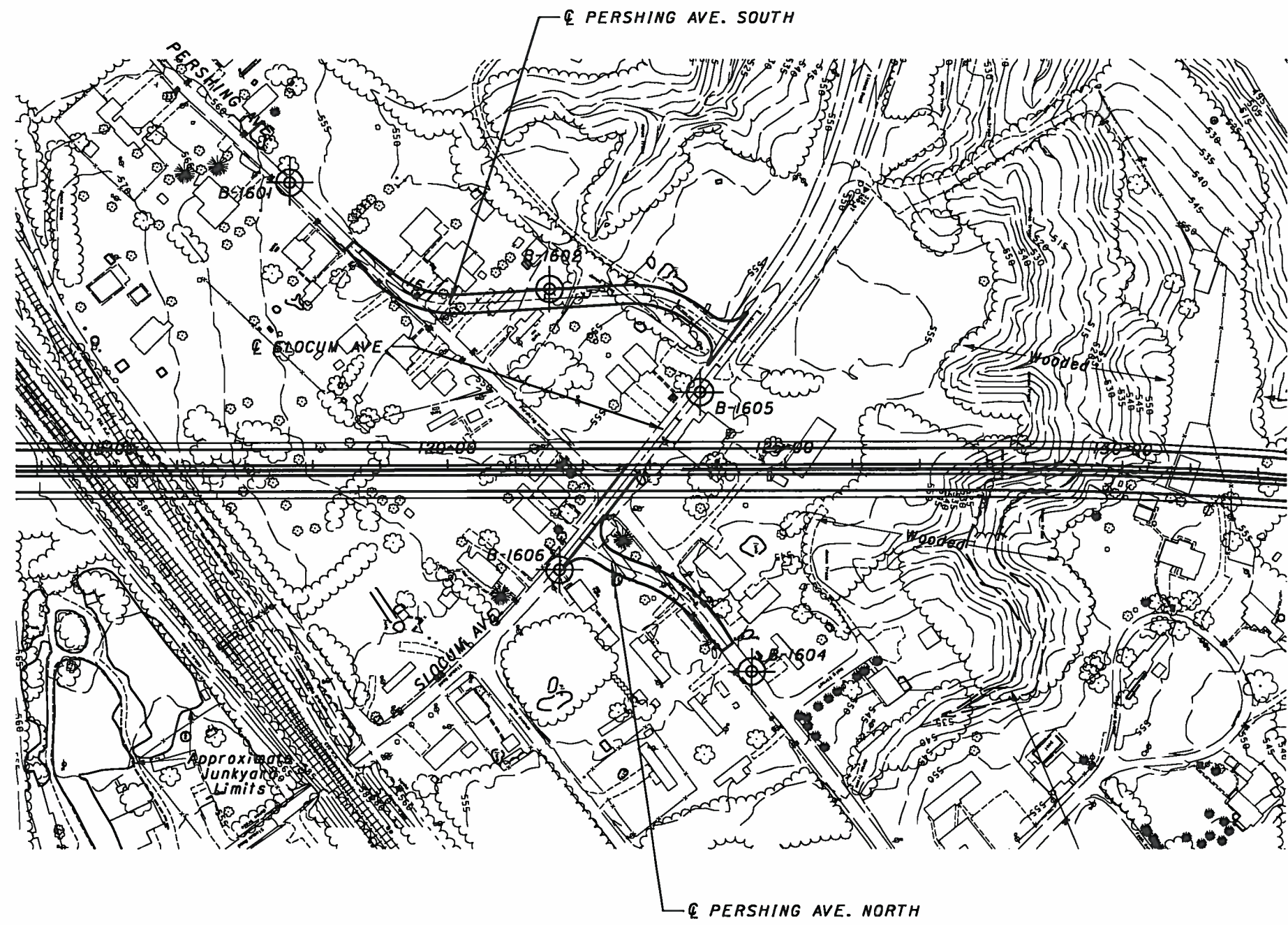
SOIL PROFILE
S.R. 140 RAMP B STA. 60+25.43 TO STA. 82+92.08

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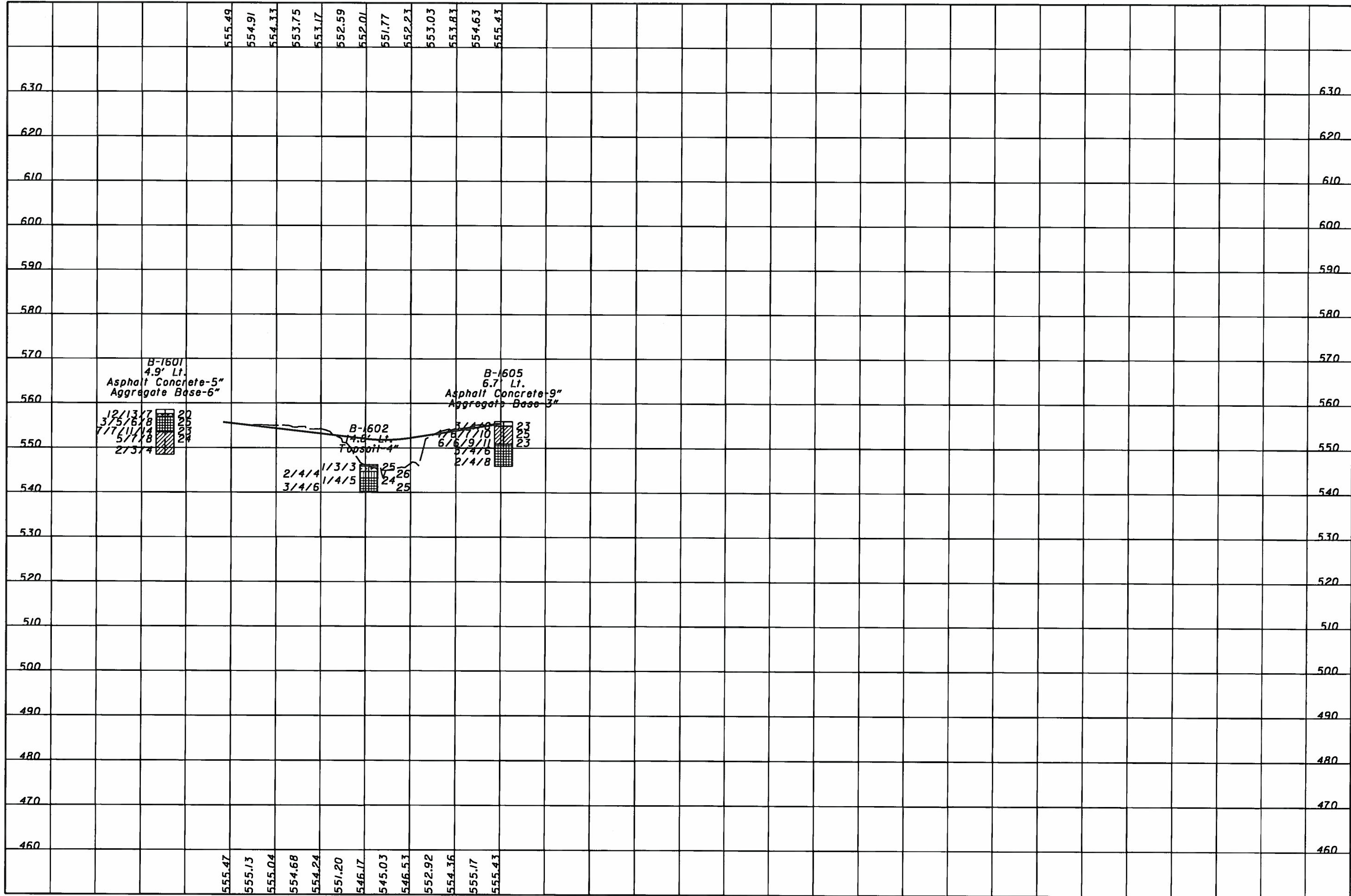
SOIL PROFILE
PERSHING AVE. NORTH & SOUTH

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PERSHING AVE. NORTH-STA. 30+00 TO STA. 32+79.57
PERSHING AVE. SOUTH-STA. 13+82.19 TO STA. 20+00

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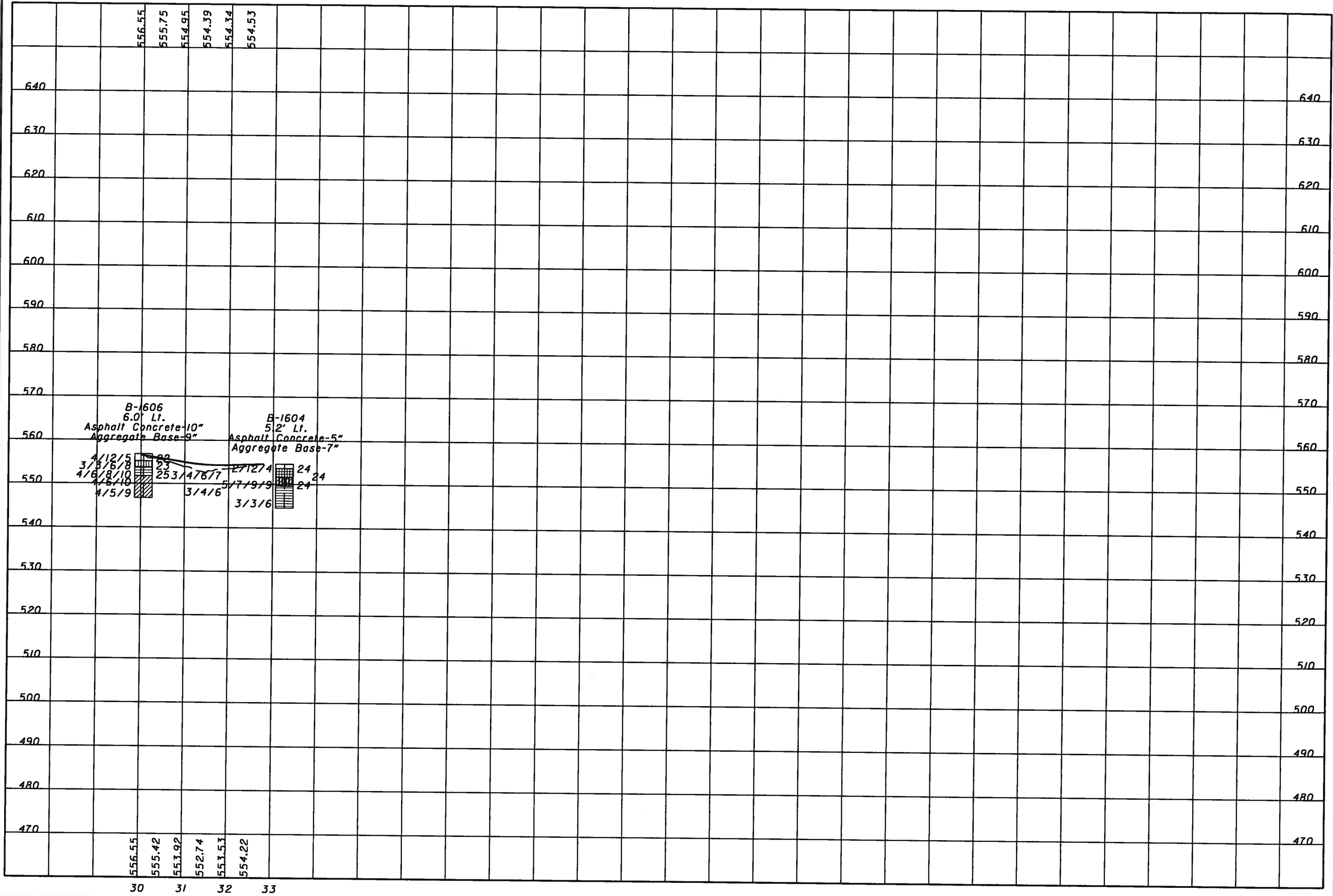
SOIL PROFILE
PERSHING AVE. SOUTH STA. 13+82.19 TO STA. 20+00.00

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167/168



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