STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	TOTAL SHEETS
N.C.	R-2915C	34518.1.4	1	210

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
	STP-0221(41)	P.E.
		R/W & UTIL.

ID: R-2915C

CONTRACT: 34518.1.4

NOTE: SEE SHEET 1A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. R-2915C 34518.1.4 F.A. PROJ. STP-0221(41)

COUNTY ASHE

PROJECT DESCRIPTION US 221 FROM NORTH OF THE SOUTH FORK OF THE NEW RIVER TO SOUTH OF NC 194

INVENTORY

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

PERSONNEL

ICA CONSULTANTS

ROBBIE DeLOST

SUMMIT ENGINEERING

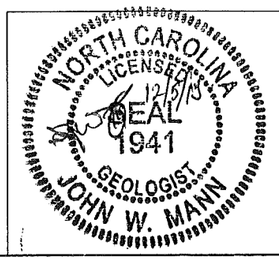
BRETT SMITH

INVESTIGATED BY JW MANN

CHECKED BY JC KUHNE

SUBMITTED BY JC KUHNE

DATE 12/6/13



DRAWN BY: JW MANN

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

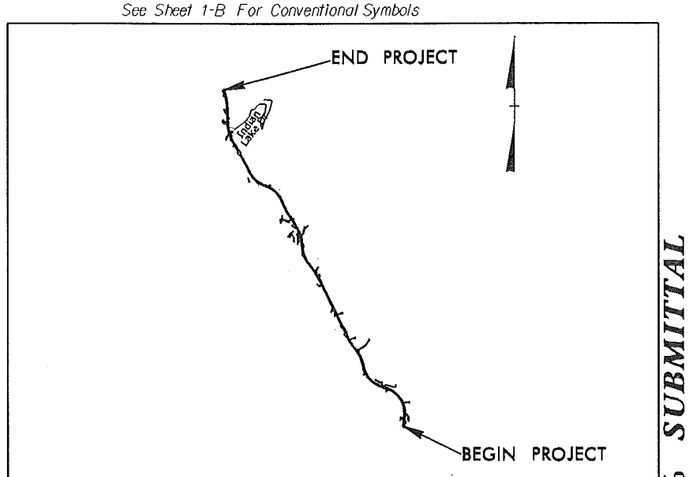
NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

09/08/14

TIP PROJECT: R-2915C

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP FOR STATE PROJECT R-2915C

25% SUBMITTAL

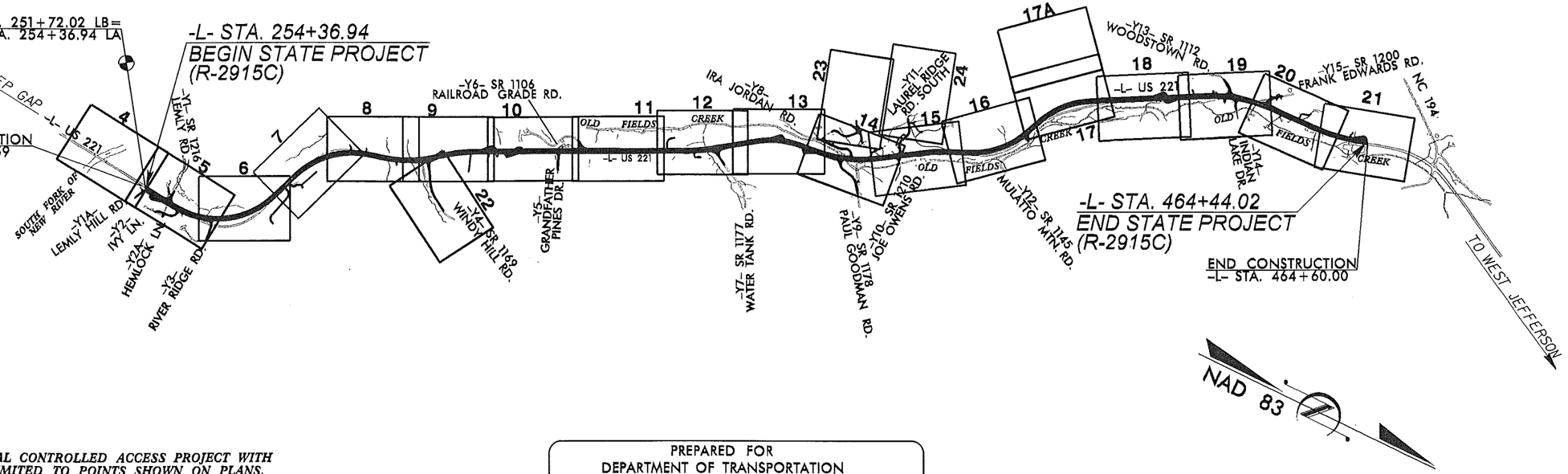
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2915C	1A	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
34518.1.4	STP-0221(41)	P.E.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

LOCATION: US 221 FROM NORTH OF SOUTH FORK NEW RIVER TO SOUTH OF NC 194.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERTS



THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS SHOWN ON PLANS.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
DESIGN EXCEPTION IS REQUIRED FOR 8% GRADE ALONG -L- STATION 254+36.94 TO -L- STATION 276+95.00.

PREPARED FOR
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, NC
PLANS COORDINATED BY:
Brenda L. Moore, PE – Project Engineer (NCDOT)

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS: 50' 25' 0 50' 100'
PROFILE (HORIZONTAL): 50' 25' 0 50' 100'
PROFILE (VERTICAL): 10' 5' 0 10' 20'

DESIGN DATA

ADT 2017 = 12,743
ADT 2037 = 21,029
DHV = 9 %
D = 60 %
T = 9 % *
V = 60 MPH
* TTST = 2% DUAL 7%
FUNC CLASS =
RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2915C = 3.979 Miles
TOTAL LENGTH TIP PROJECT R-2915C = 3.979 Miles

Prepared In the Office of:
LOCHNER
H. W. LOCHNER, INC.
2840 PLAZA PLACE SUITE 202
RALEIGH, NC 27612
NC License Number F-0287
HNTB
NC License Number C-1554

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: April 18, 2014

LETTING DATE: February 21, 2017

Stephen C. Browde, PE
PROJECT ENGINEER

Bill Bollman
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

05-DEC-2013 16:06
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jwmann
AT GEA2660033

PROJECT REFERENCE NO.	SHEET NO.
R-2915C 34518.1.4	2 OF 210

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:

VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10	50 MX											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
#40	30 MX	50 MX	51 MN											
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN			
LIQUID LIMIT	6 MX		NP	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PLASTIC INDEX				10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	No MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS A SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	<4	N/A
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	>50	
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	<2	<0.25
	SOFT	2 TO 4	0.25 TO 0.50
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	>30	>4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL — SHRINKAGE LIMIT		
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NONPLASTIC	0-5	VERY LOW
LOW PLASTICITY	6-15	SLIGHT
MED. PLASTICITY	16-25	MEDIUM
HIGH PLASTICITY	26 OR MORE	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LIQUID LIMIT LESS THAN 31
MODERATELY COMPRESSIBLE	LIQUID LIMIT EQUAL TO 31-50
HIGHLY COMPRESSIBLE	LIQUID LIMIT GREATER THAN 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%
MODERATELY ORGANIC	5 - 10%	12 - 20%
HIGHLY ORGANIC	>10%	>20%

OTHER MATERIAL	
TRACE	1 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SOUNDING ROD
- SPT, CPT, DPT, DMT, VST, PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- SPT N-VALUE
- REF — SPT REFUSAL

SAMPLE DESIGNATIONS

- S - BULK SAMPLE
- SS - SPLIT SPOON SAMPLE
- ST - SHELBY TUBE SAMPLE
- RS - ROCK SAMPLE
- AT - RECOMPACTED TRIAXIAL SAMPLE
- CBR - CALIFORNIA BEARING RATIO SAMPLE

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] MOBILE B-___
- [ ] BK-51
- [X] CME-45C
- [ ] CME-550
- [ ] PORTABLE HOIST
- [X] CME-850
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [ ] 8" HOLLOW AUGERS
- [X] HARD FACED FINGER BITS
- [X] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [ ] CORE BIT
- [X] 3.5" HOLLOW AUGERS

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B_____
- [ ] -N_____
- [ ] -H_____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.
ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. *IF TESTED, YIELDS SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, YIELDS SPT N VALUES < 100 BPF*
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FEET
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	> 4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK:

ELEVATION: FT.

NOTES:

REVISED 02/23/06

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PATRICK L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

November 21, 2013

STATE PROJECT: 34518.1.4 (R-2519C)
COUNTY: Ashe
DESCRIPTION: US 221 from North of South Fork New River to South of NC 194

SUBJECT: Geotechnical Report – Inventory

Project Description

Proposed construction on this project consists of widening the existing two-lane to a four-lane facility with minor horizontal alignment changes along existing -L-. Cuts along the proposed centerline will approach fifty feet with much higher side slopes. The total length of the project is 3.98 miles and the following lines were investigated.

-L- Stations:	254+37 – 464+44
-Y8- Stations:	10+20 – 16+72
-Y9- Stations:	10+00 – 17+00
-Y11- Stations:	12+00 – 17+64

The field investigation was conducted in August and September of 2013. Borings were advanced with the following drill machines all equipped with automatic drive hammers: a CME-45C, a CME-450, and a CME-850.

Standard Penetration Tests were performed utilizing Hollow Stem Augers with carbide insert teeth in the head stem.

Areas of Special Geotechnical Interest

Crystalline Rock

Weathered to crystalline rock should be expected within 6 feet of grade in the following Station intervals:

-L- Stations:	257+00 – 258+00
	277+30 – 281+25
	289+00 – 295+00
	310+00 – 312+00
	314+00 – 314+50
	330+00 – 331+00
	335+00 – 338+00
	339+50 – 345+00
	353+50 – 356+50
	364+00 – 375+00
	376+00 – 379+00
	385+25 – 410+50
	412+50 – 434+00
	443+00 – 445+00
	458+00 – 459+00
-Y8- Stations:	15+00 – 15+50
-Y9- Stations:	10+50 – 16+00
-Y11- Station:	15+50

Soil and Rock Properties

Soils encountered in the borings on this project are predominantly residual saprolitic silts and sands with varying amounts of mica and manganese oxide. These soils are derived from rock units of the Ashe Metamorphic Suite and Tallulah Falls Formation identified as Muscovite-Biotite Gneiss (Zatm) and Amphibolite (Zata) on the 1985 North Carolina Geologic Map. The contact with the amphibolite unit is near the northern terminus of the project. Weathered and crystalline rock may require blasting and is unlikely to produce durable stone for use on the project. Thus, durable rock for use in embankments, etc. may have to be quarried.

Respectfully submitted,

John W. Mann, P.G.
Project Geological Engineer

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-707-6850
Fax: 919-250-4237

www.ncdot.gov/doh/preconstruct/highway/geotech

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	4/210

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

15-OCT-2013 14:58
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lwmann AT GEA27660393

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	5/210

RW SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

15-OCT-2013 15:09
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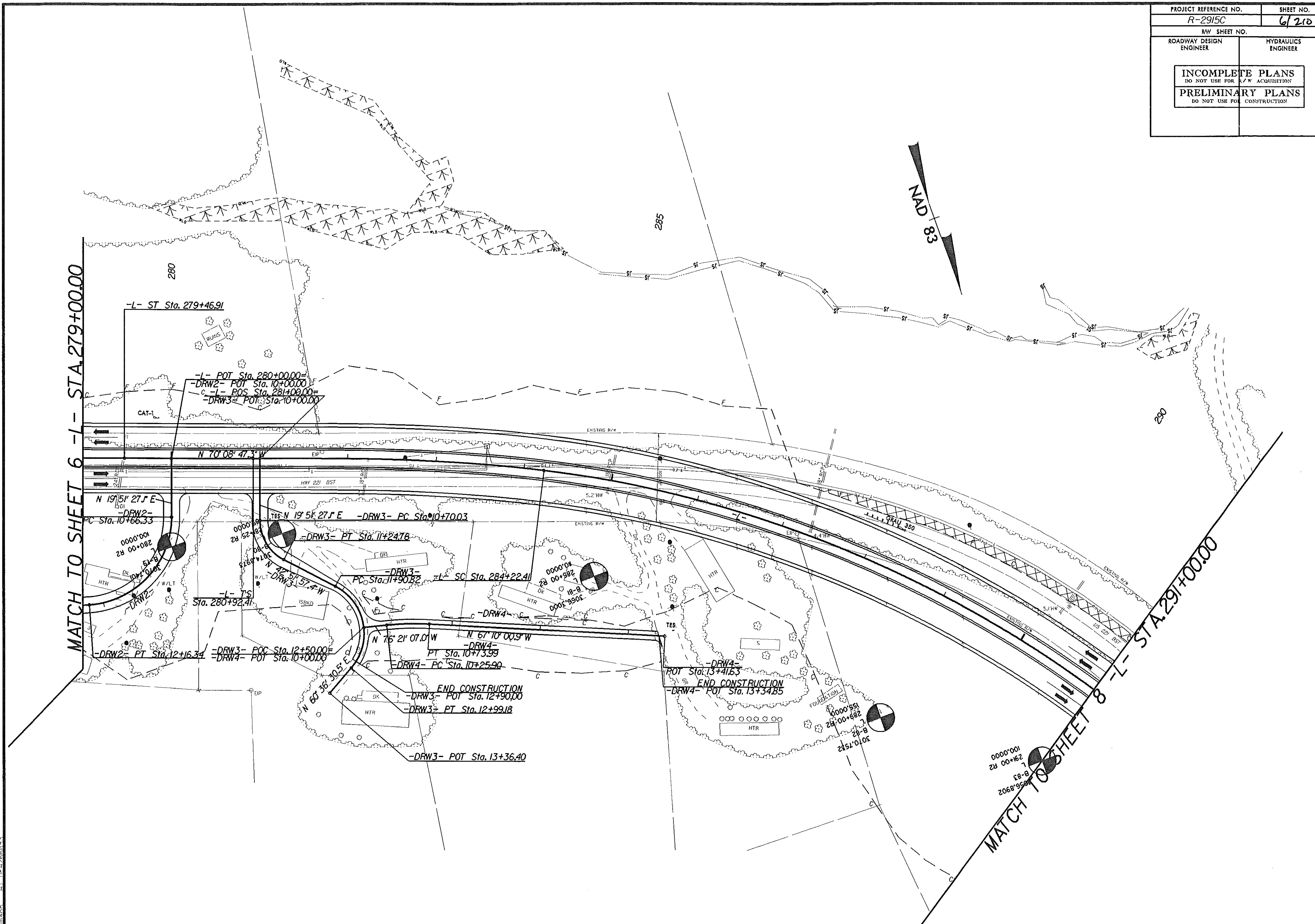
PROJECT REFERENCE NO.	SHEET NO.
R-2915C	6/210
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION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280
285
290
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-L- POT Sta. 280+00.00=
-DRW2- POT Sta. 10+00.00
-L- POS Sta. 281+00.00=
-DRW3- POT Sta. 10+00.00
N 70° 08' 47.3" W
N 19° 51' 27.5" E
-DRW2-
PC Sta. 10+66.33
N 19° 51' 27.5" E -DRW3- PC Sta. 10+70.03
-DRW3- PT Sta. 11+24.76
-DRW3-
PC Sta. 11+90.82
-L- SC Sta. 284+22.41
-L- TS
Sta. 280+92.41
-DRW2- PT Sta. 12+16.34
-DRW3- POC Sta. 12+50.00=
-DRW4- POT Sta. 10+00.00
N 76° 21' 07.0" W
N 67° 10' 00.9" W
-DRW4-
PT Sta. 10+73.99
-DRW4- PC Sta. 10+25.90
END CONSTRUCTION
-DRW3- POT Sta. 12+90.00
-DRW3- PT Sta. 12+99.18
-DRW3- POT Sta. 13+36.40
-DRW4-
POT Sta. 13+41.63
END CONSTRUCTION
-DRW4- POT Sta. 13+34.85
HWY 221 BST
US 221 BST
EXISTING R/W
HTR
DK
RUINS
FOUNDATION
CAT-1
TES
EIP
B-81
B-82
B-83

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	7 / 210
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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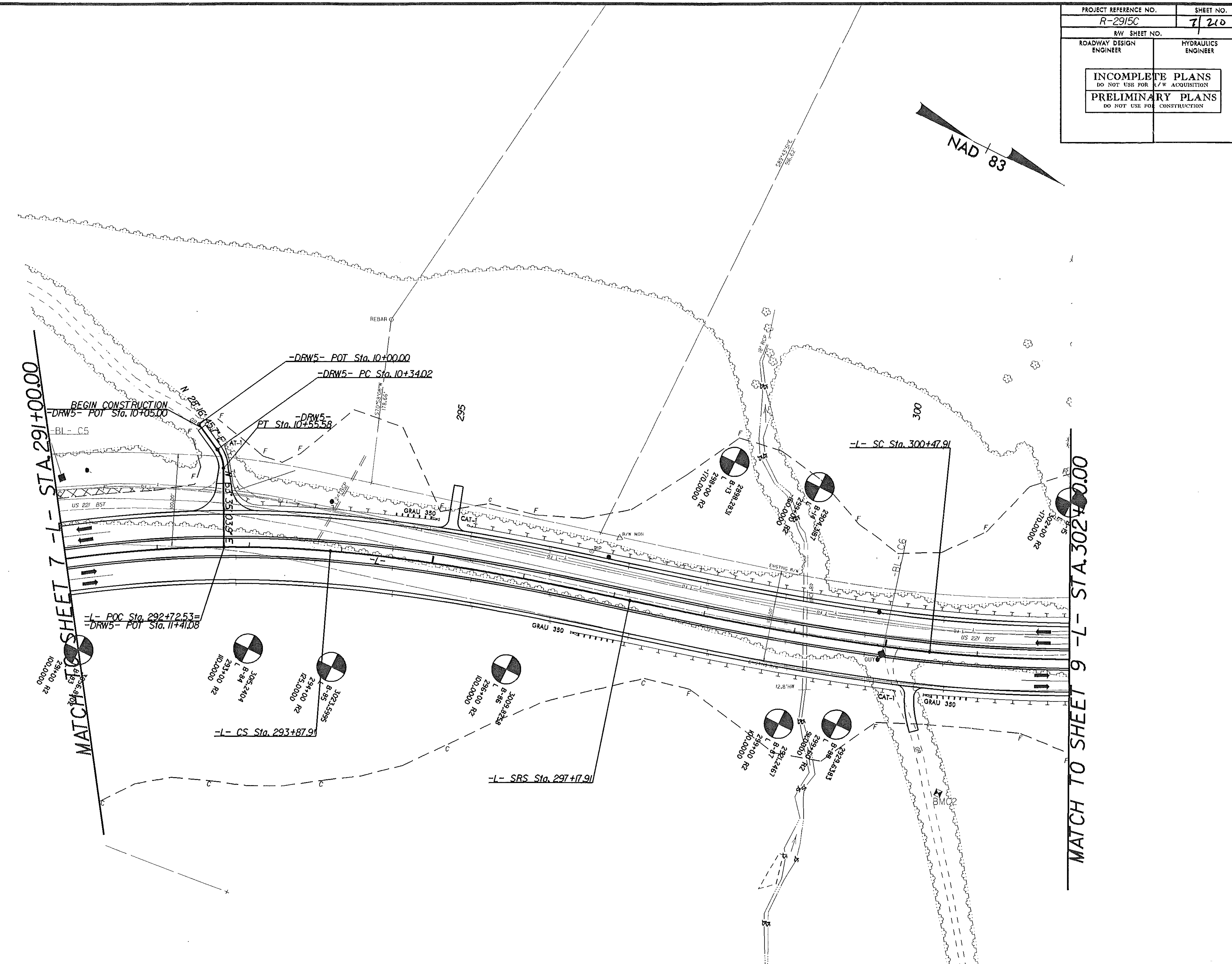
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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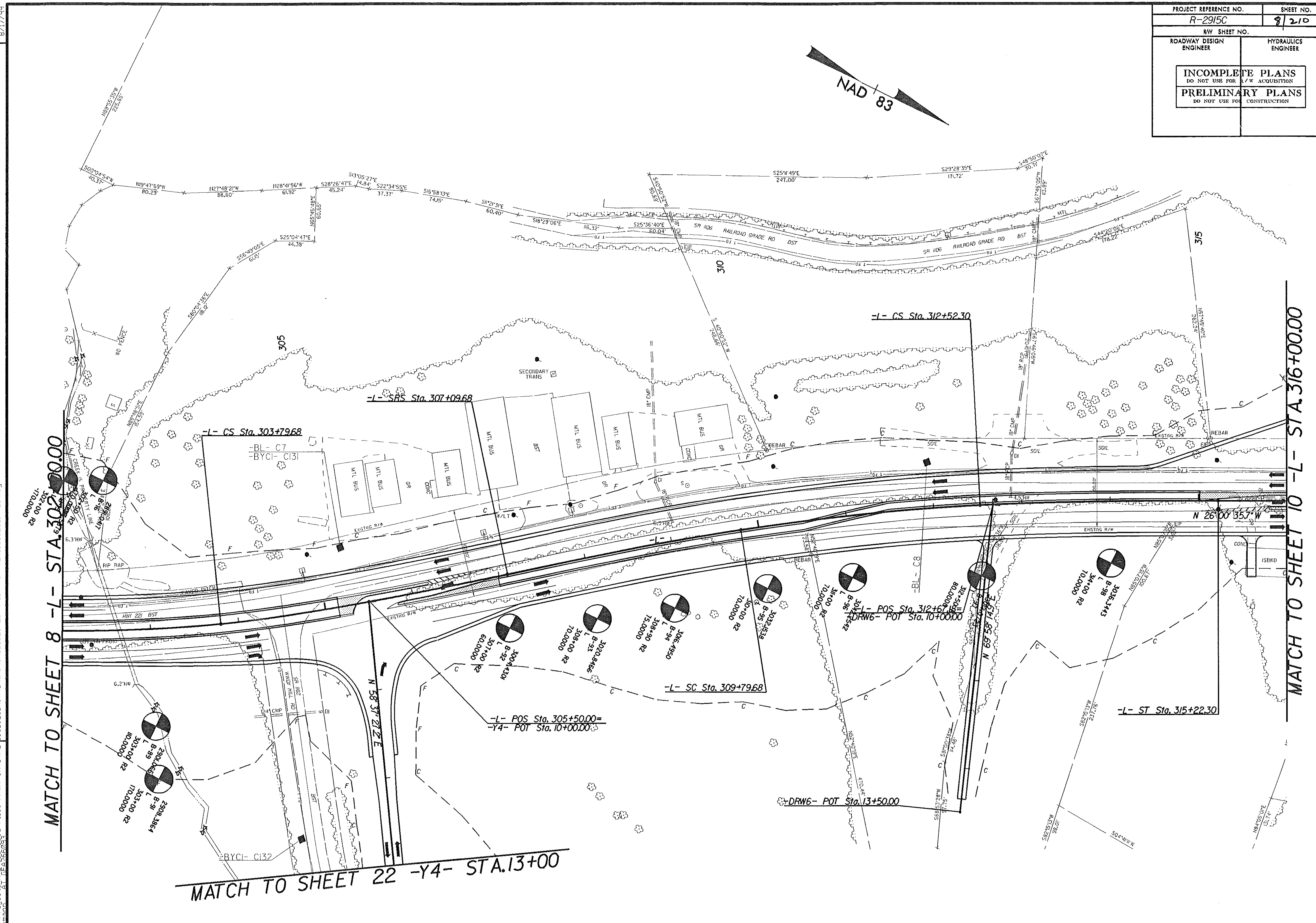
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R-2915C
SHEET NO.
8/210
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
REVISIONS
8/17/99
-L- CS Sta. 303+79.68
-L- SRS Sta. 307+09.68
-L- CS Sta. 312+52.30
-L- SC Sta. 309+79.68
-L- POS Sta. 305+50.00=
-Y4- POT Sta. 10+00.00
-L- POS Sta. 312+67.85=
-DRW6- POT Sta. 10+00.00
-DRW6- POT Sta. 13+50.00
-L- ST Sta. 315+22.30
N 26°00' 35.7" W
N 58°31' 21.2" E
SR 1106 RAILROAD GRADE RD
SECONDARY TRANS
MTL BUS
-BL- C7
-BYCI- C131
-BYCI- C132
-BL- C8
MATCH TO SHEET 8 -L- STA. 302+00.00
MATCH TO SHEET 10 -L- STA. 316+00.00
MATCH TO SHEET 22 -Y4- STA. 13+00

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	9/210
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

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lwmann AT GFA266093

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	10/210
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

REVISIONS

8/17/99

-L- STA. 330+00.00

MATCH TO SHEET 10 -L-

BEGIN CONSTRUCTION
-Y6- POC Sta. 13+95.00

-Y6- PT Sta. 15+08.57

-L- POT Sta. 331+10.00=
-Y6- POT Sta. 15+99.61

-BL- C11

-BYC2- C240

-BL- C12

-BL- C13

OLD FIELD CREEK

HWY 221 BST

ROCK

ISBKBUS

GRAU 350

EXISTING R/W

N 26° 00' 35.7" W

N 49° 23' 41" E

REBAR

-L-

-L- STA. 344+00.00

MATCH TO SHEET 12 -L-

17-OCT-2013 14:20
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jmarlow

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	11/210
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

15-OCT-2013 16:07
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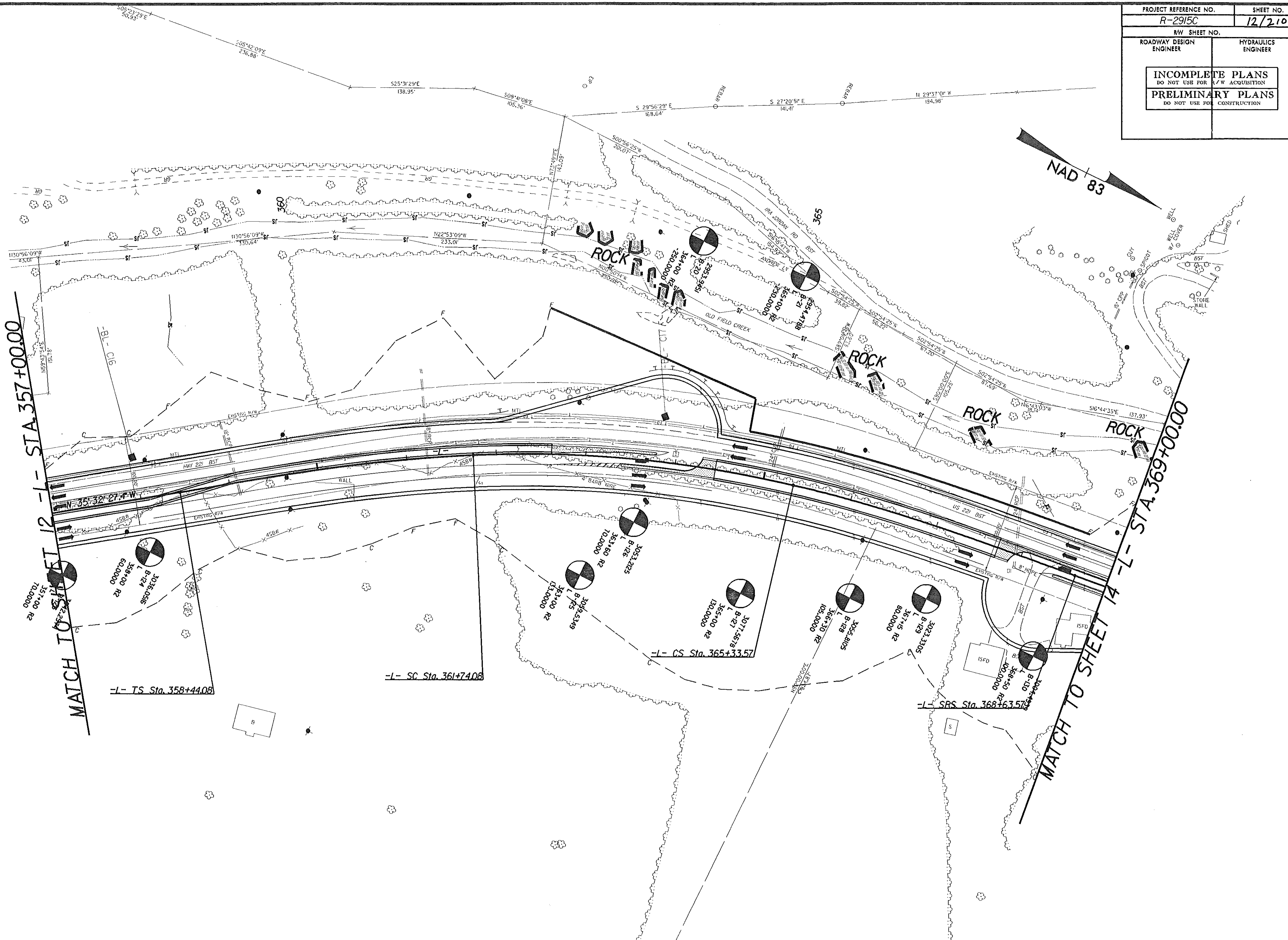
PROJECT REFERENCE NO.	SHEET NO.
R-2915C	12/210
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	13/210

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

04-NOV-2013 14:45
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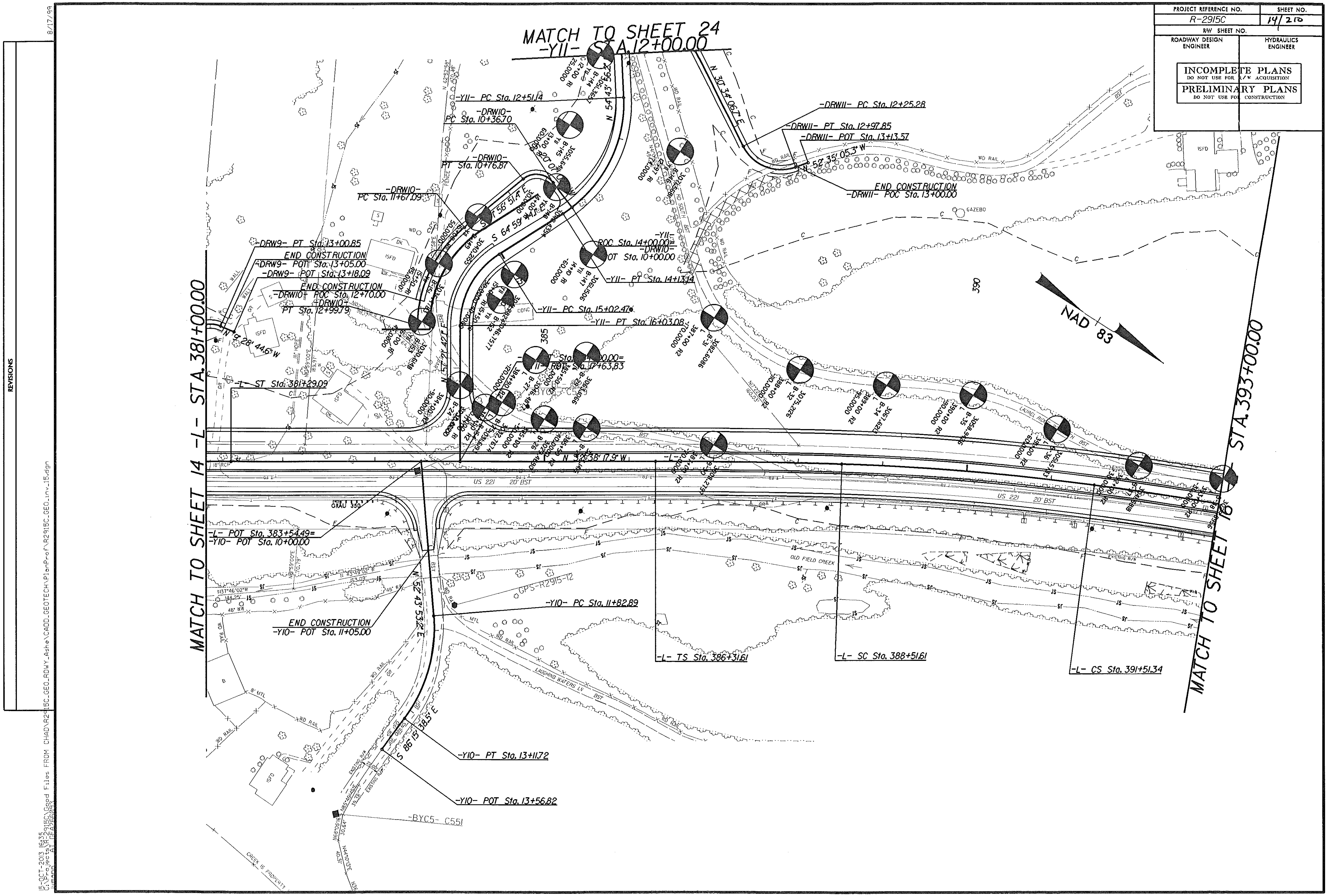
lwmann AT GFA266093



PROJECT REFERENCE NO.
R-2915C
SHEET NO.
14/210
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
REVISIONS
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-Y11- STA.12+00.00
MATCH TO SHEET 14 -L- STA.381+00.00
MATCH TO SHEET 16 -L- STA.393+00.00
NAD 83
-Y11- PC Sta. 12+51.14
-DRW10- PC Sta. 10+36.70
-DRW10- PT Sta. 10+76.87
-DRW10- PC Sta. 11+67.09
-DRW9- PT Sta. 13+00.85
END CONSTRUCTION
-DRW9- POT Sta. 13+05.00
-DRW9- POT Sta. 13+18.09
END CONSTRUCTION
-DRW10- POC Sta. 12+70.00
-DRW10- PT Sta. 12+99.79
-L- ST Sta. 381+29.09
-DRW11- PC Sta. 12+25.28
-DRW11- PT Sta. 12+97.85
-DRW11- POT Sta. 13+13.57
END CONSTRUCTION
-DRW11- POC Sta. 13+00.00
-Y11- POC Sta. 14+00.00=
-DRW10- POT Sta. 10+00.00
-Y11- PT Sta. 14+13.14
-Y11- PC Sta. 15+02.47
-Y11- PT Sta. 16+03.08
-L- POT Sta. 383+54.49=
-Y10- POT Sta. 10+00.00
-Y10- PC Sta. 11+82.89
END CONSTRUCTION
-Y10- POT Sta. 11+05.00
-L- TS Sta. 386+31.61
-L- SC Sta. 388+51.61
-L- CS Sta. 391+51.34
-Y10- PT Sta. 13+11.72
-Y10- POT Sta. 13+56.82
-BYC5- C551
GPS-R2915-12
US 221 20' BST
OLD FIELD CREEK
LAUGHING WATERS LN BST
GAZEBO
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	15/210

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

15-OCT-2013 16:53
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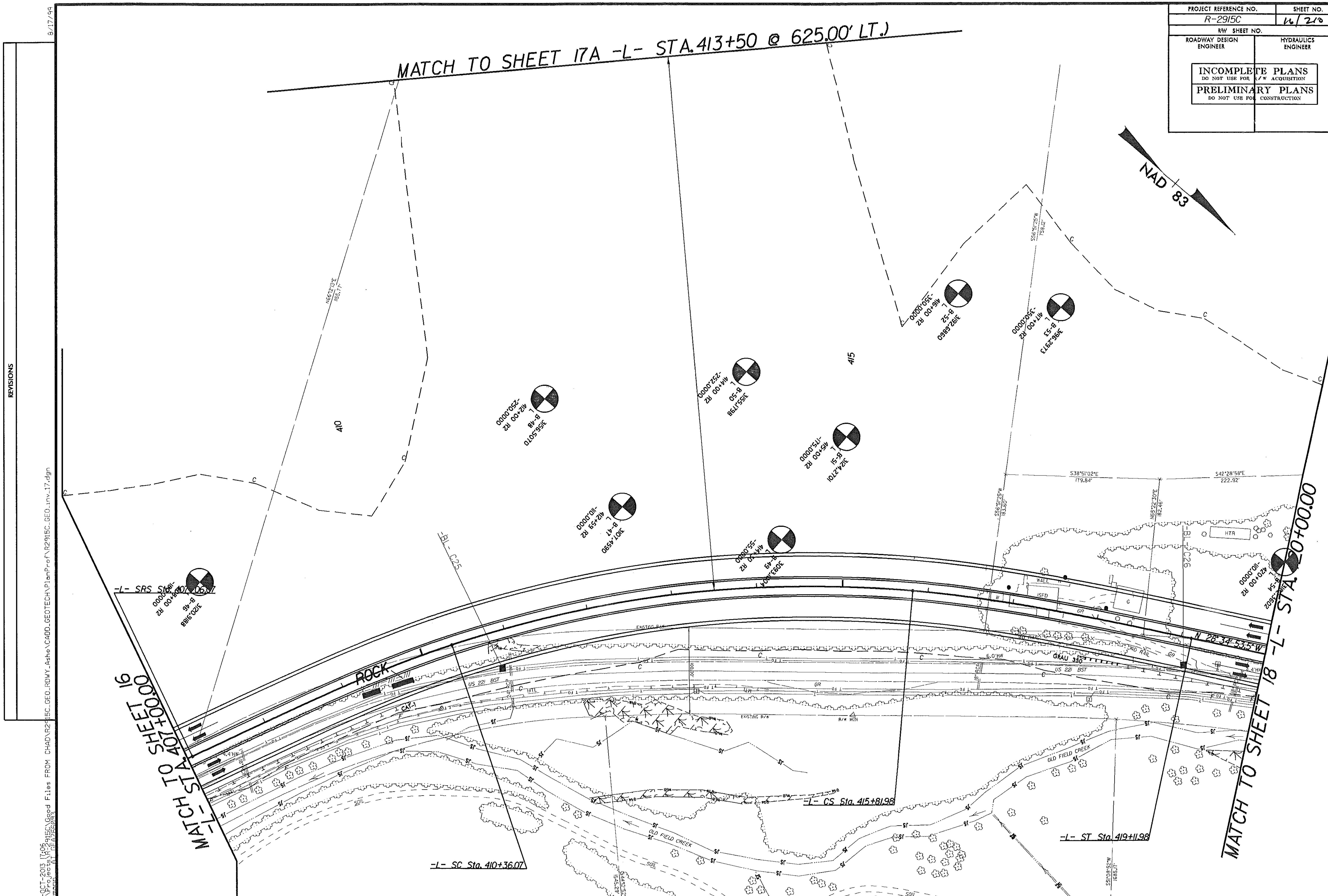

PROJECT REFERENCE NO.
R-2915C
SHEET NO.
16/210
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
MATCH TO SHEET 17A -L- STA. 413+50 @ 625.00' LT.)
NAD 83
MATCH TO SHEET 16 -L- STA. 407+00.00
MATCH TO SHEET 18 -L- STA. 420+00.00
-L- SRS Sta. 407+06.07
-L- SC Sta. 410+36.07
-L- CS Sta. 415+81.98
-L- ST Sta. 419+11.98
N 28°34'53.5" W
ROCK
US 221 BST
OLD FIELD CREEK
410
415
B-46
B-47
B-48
B-49
B-50
B-51
B-52
B-53
B-54
REVISIONS
8/17/99

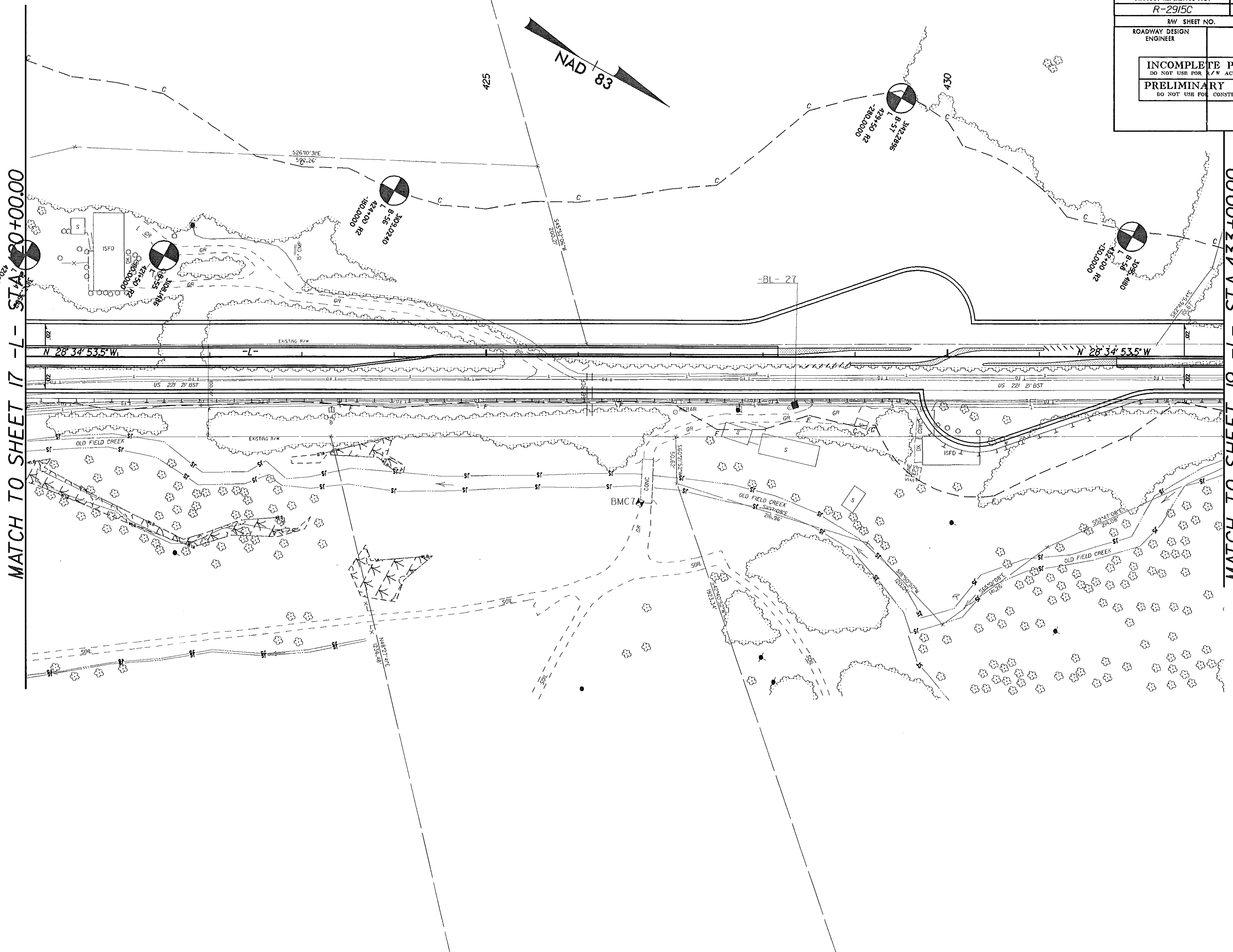
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2915C	17/210
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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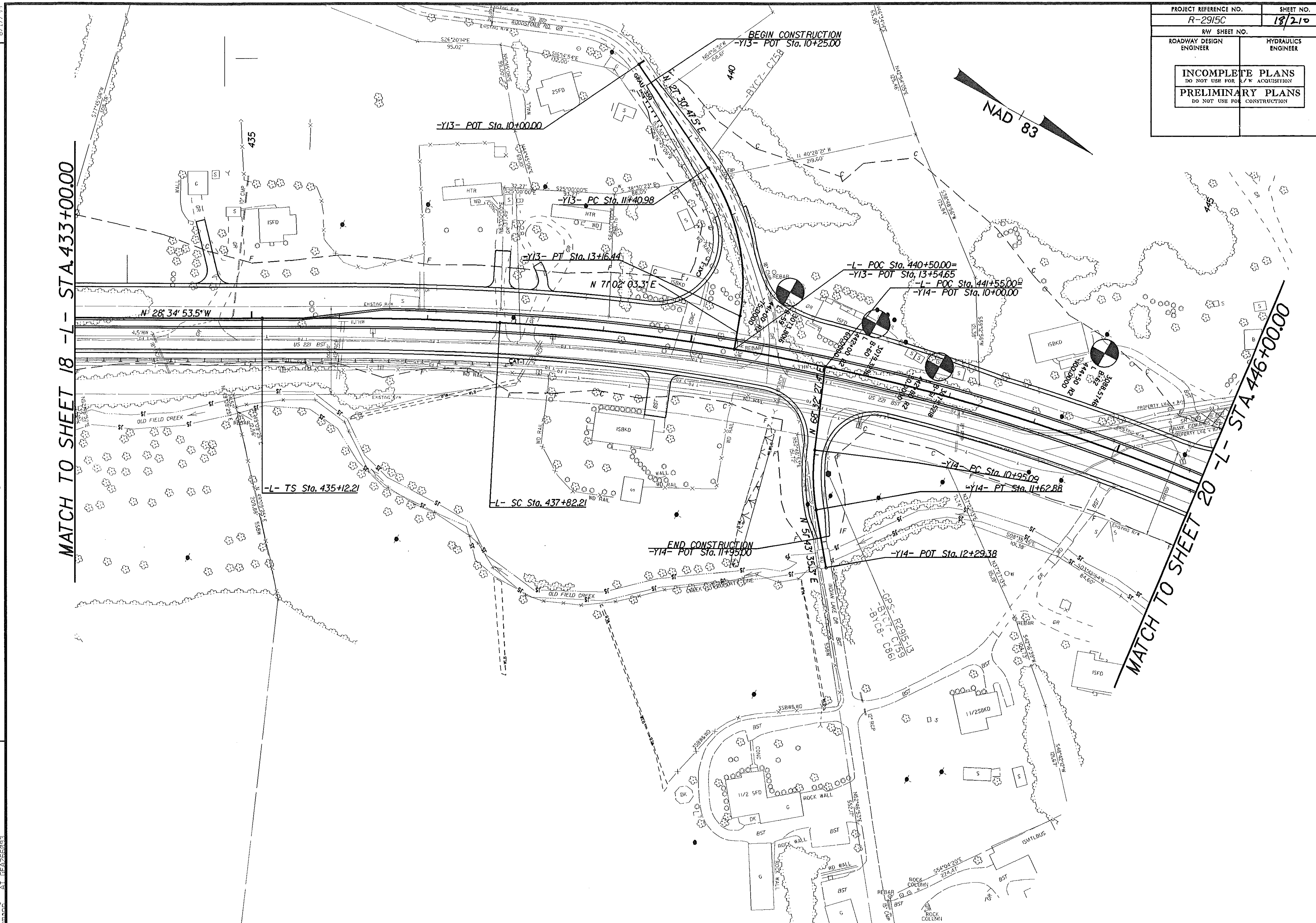
PROJECT REFERENCE NO.
R-2915C
SHEET NO.
18/210
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
MATCH TO SHEET 18 -L- STA. 433+00.00
MATCH TO SHEET 20 -L- STA. 446+00.00
BEGIN CONSTRUCTION
-Y13- POT Sta. 10+25.00
-Y13- POT Sta. 10+00.00
-Y13- PC Sta. 11+40.98
-Y13- PT Sta. 13+16.44
-L- POC Sta. 440+50.00=
-Y13- POT Sta. 13+54.65
-L- POC Sta. 441+55.00=
-Y14- POT Sta. 10+00.00
N 71° 02' 03.3" E
N 28° 34' 53.5" W
-L- TS Sta. 435+12.21
-L- SC Sta. 437+82.21
-Y14- PC Sta. 10+95.09
-Y14- PT Sta. 11+62.88
END CONSTRUCTION
-Y14- POT Sta. 11+95.00
-Y14- POT Sta. 12+29.38
US 221 BST
OLD FIELD CREEK
INDIAN LAKE DR
FRANK EDWARDS RD
-GPS- R2915-13
-BYC7- C759
-BYC8- C861
-BYC7- C758
435
440
445
ISBKD
ISFD
2SFD
11/2 SFD
11/2SBKD
ROCK WALL
WD RAIL
HTR

8/17/99

REVISIONS

15-OCT-2013 17:22
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PROJECT REFERENCE NO.	SHEET NO.
R-2915C	19/21D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

BEGIN CONSTRUCTION
-Y15- POT Sta. 12+00.00

-Y15-
PC Sta. 13+50.81

-Y15- PT Sta. 14+55.89

-L- POS Sta. 446+50.00=
-Y15- POT Sta. 15+48.61

-L- CS Sta. 446+28.50

-L- ST Sta. 448+98.50

-Y15- POT Sta. 10+00.00

-DRW12- POT Sta. 12+95.38

-DRW12- PT Sta. 12+66.45

-DRW12- PC Sta. 12+32.17

-DRW12- PT Sta. 11+44.72

-DRW12- PC Sta. 10+90.82

-L- POT Sta. 452+49.30=
-DRW12- POT Sta. 10+00.00

END CONSTRUCTION
-DRW12- POT Sta. 12+80.00

-L- SC Sta. 456+70.83

-L- TS Sta. 453+95.83

HISTORIC PROPERTY

BETHANY CEMETERY

MATCH TO SHEET 19 -L- STA. 446+00.00

MATCH TO SHEET 21 -L- STA. 458+00.00

REVISIONS

8/17/99

15-OCT-2013 17:38
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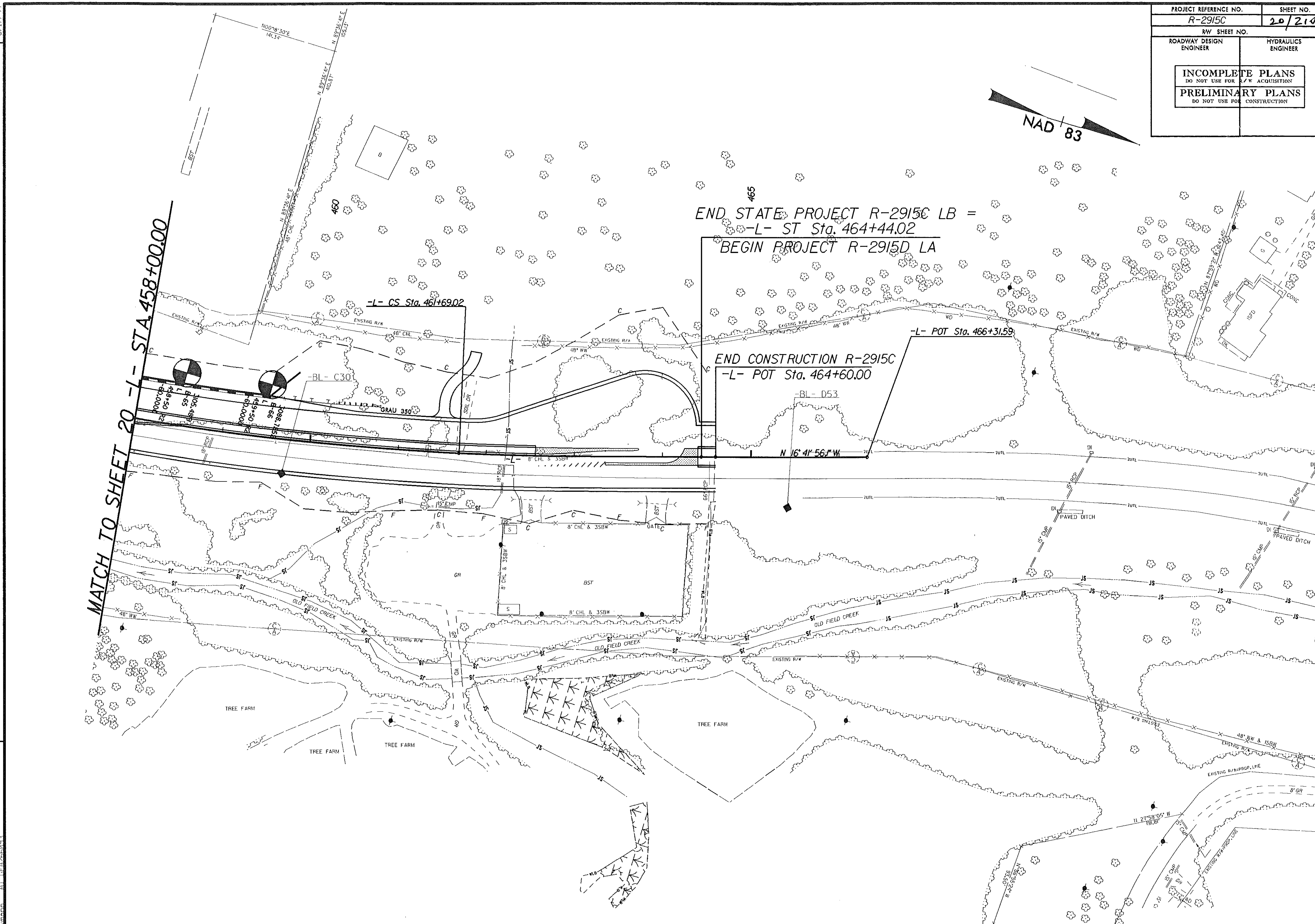
PROJECT REFERENCE NO.	SHEET NO.
R-2915C	20/21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

15-OCT-2013 14:47
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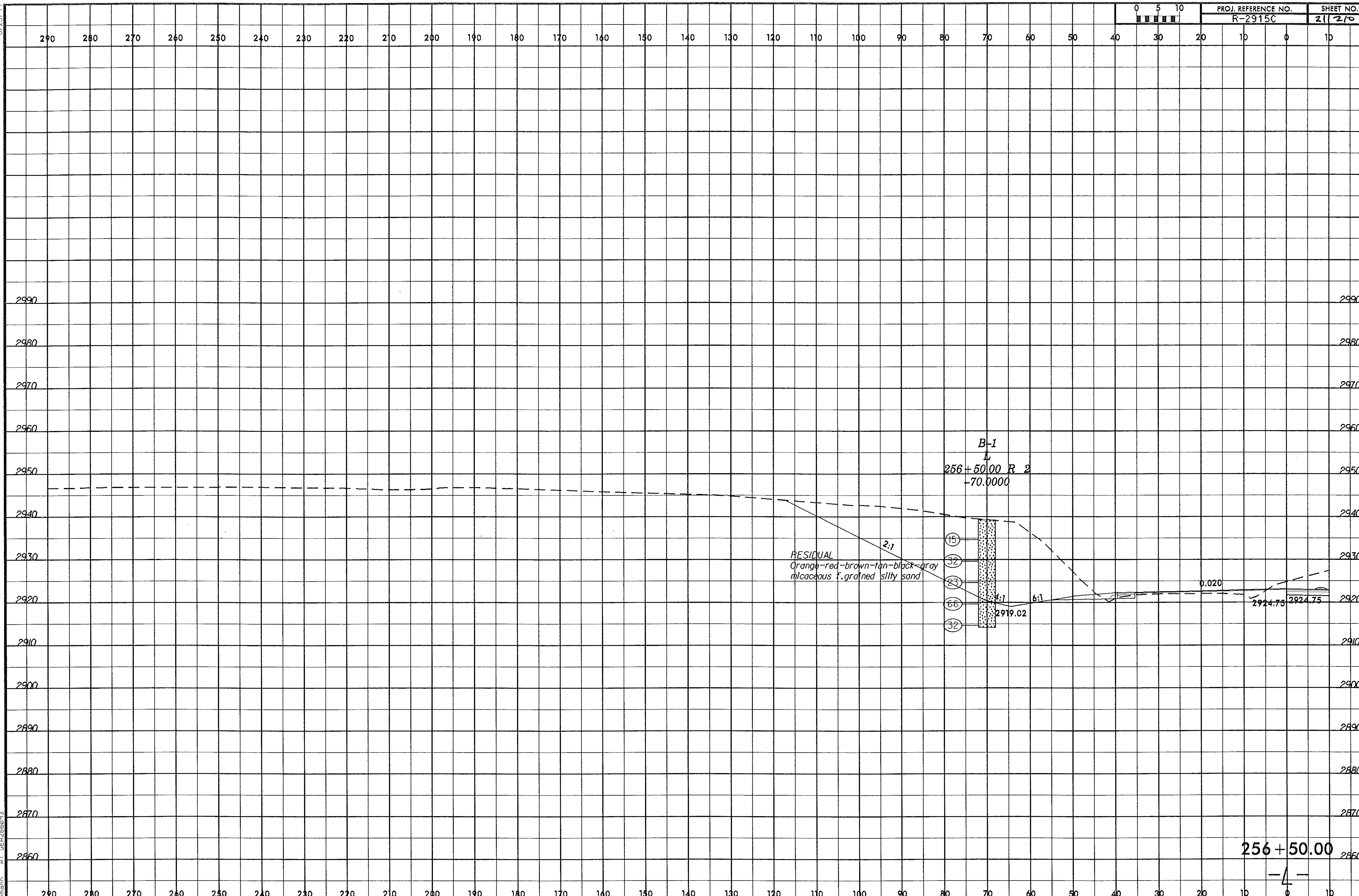
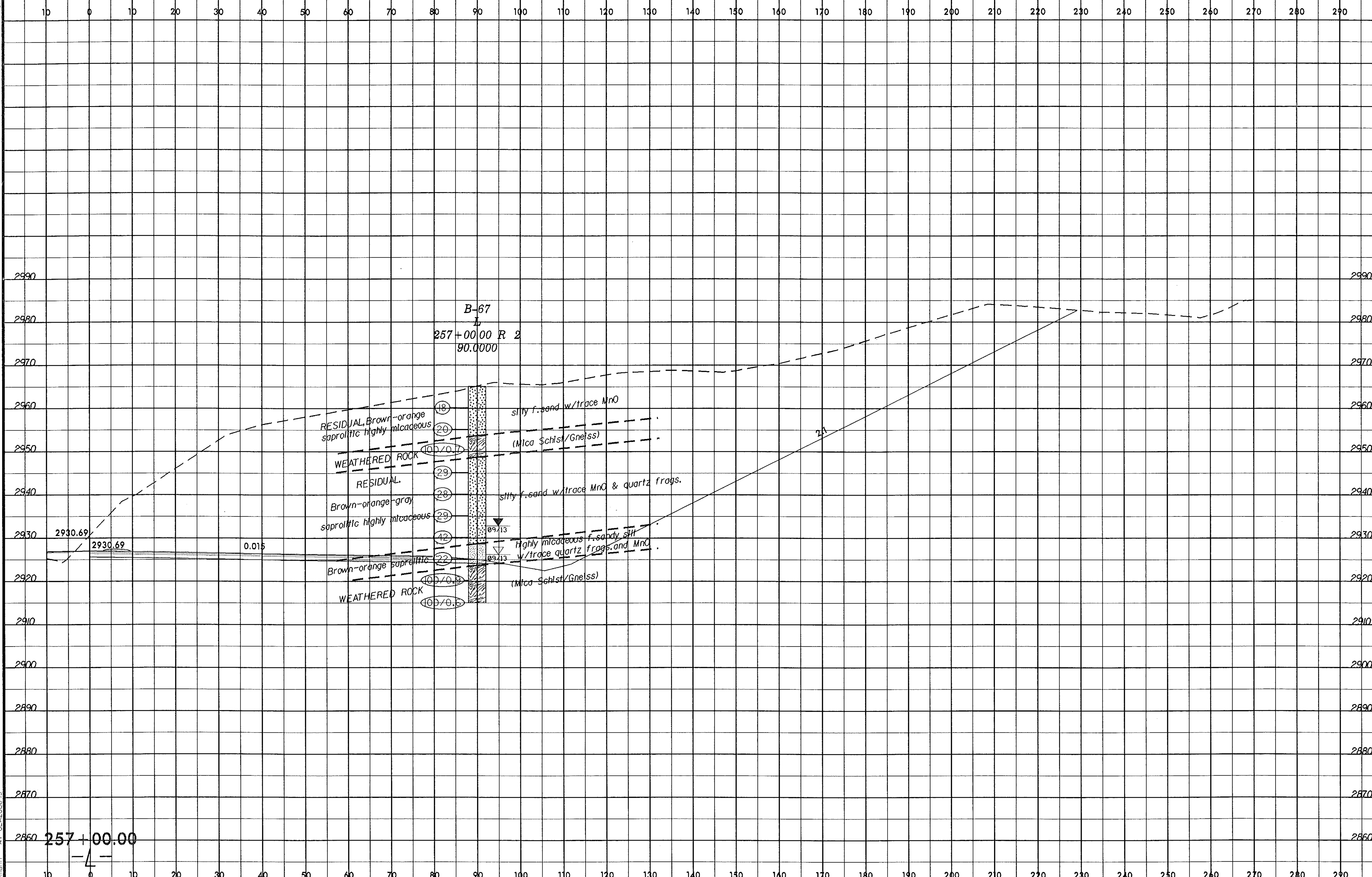


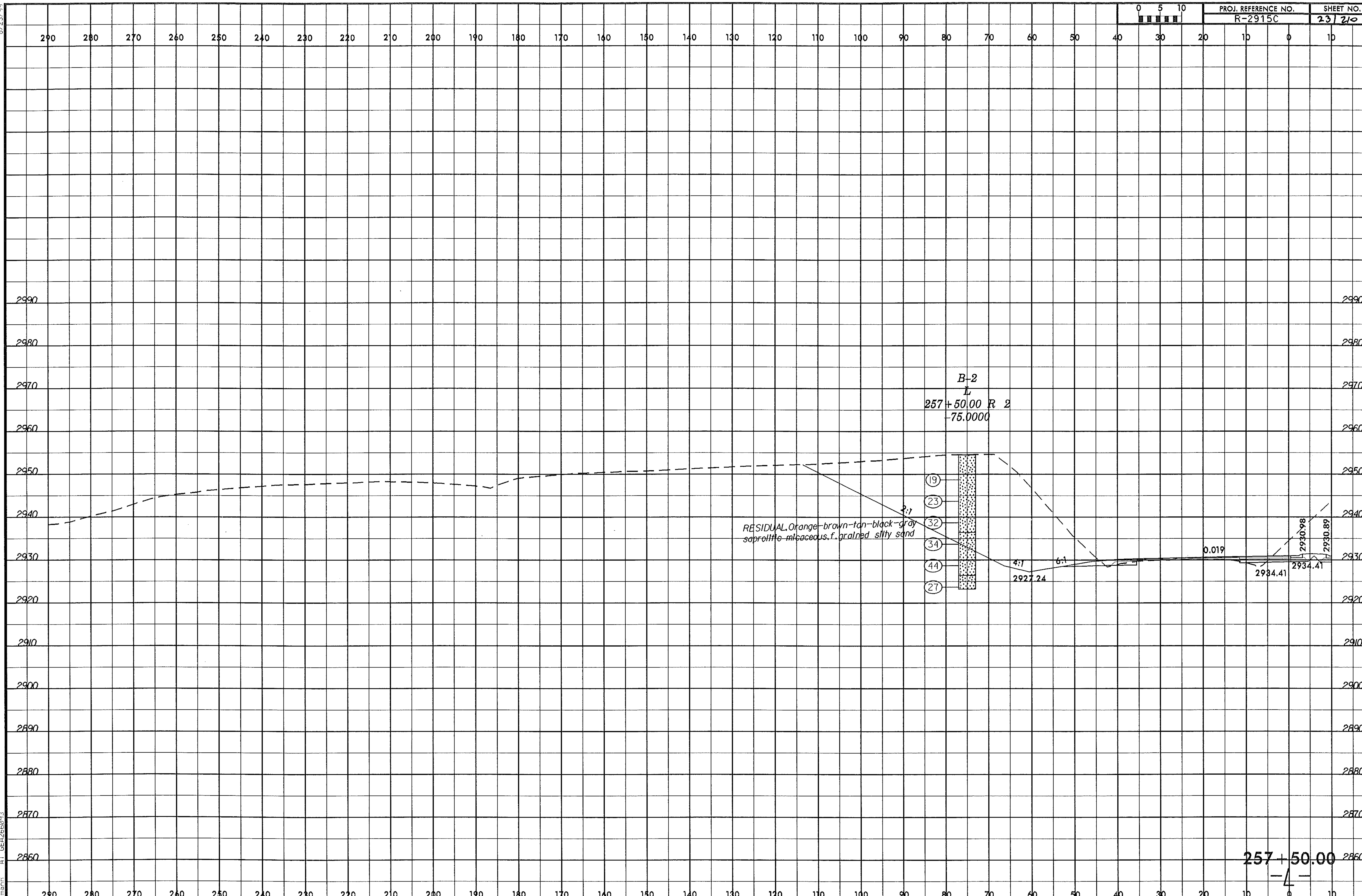
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
21/210
0 5 10
B-1
L
256+50.00 R 2
-70.0000
RESIDUAL
Orange-red-brown-tan-black-gray
micaceous f.grained silty sand
2:1
4:1
6:1
0.020
2919.02
2924.75
2924.75
15
32
23
66
32
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
2890
2880
2870
2860
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
256+50.00
-L-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	22/210



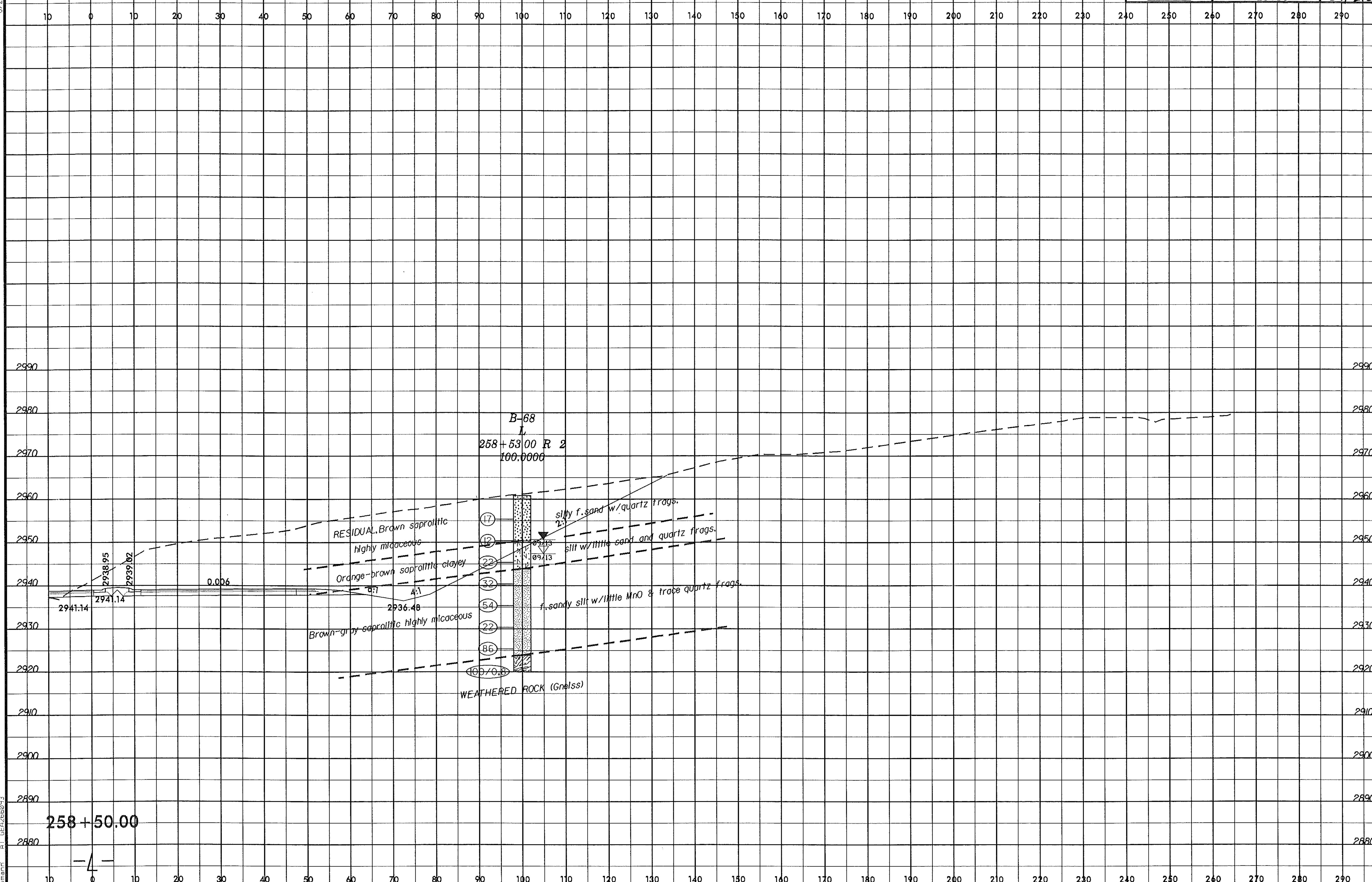
0 5 10
B-67
L
257+00.00 R 2
90.0000
RESIDUAL, Brown-orange
saprolitic highly micaceous
silty f.sand w/trace MnO
WEATHERED ROCK
(Mica Schist/Gneiss)
RESIDUAL.
Brown-orange-gray
saprolitic highly micaceous
silty f.sand w/trace MnO & quartz frags.
Brown-orange saprolitic
highly micaceous f.sandy silt
w/trace quartz frags.and MnO
WEATHERED ROCK
(Mica Schist/Gneiss)
18
20
100/0.7
29
28
29
42
22
100/0.9
100/0.6
09/13
09/13
2930.69
2930.69
0.015
2:1
257+00.00
-L-
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
2890
2880
2870
2860
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

19-NOV-2013 14:26
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn
lwmann AT GEA266093



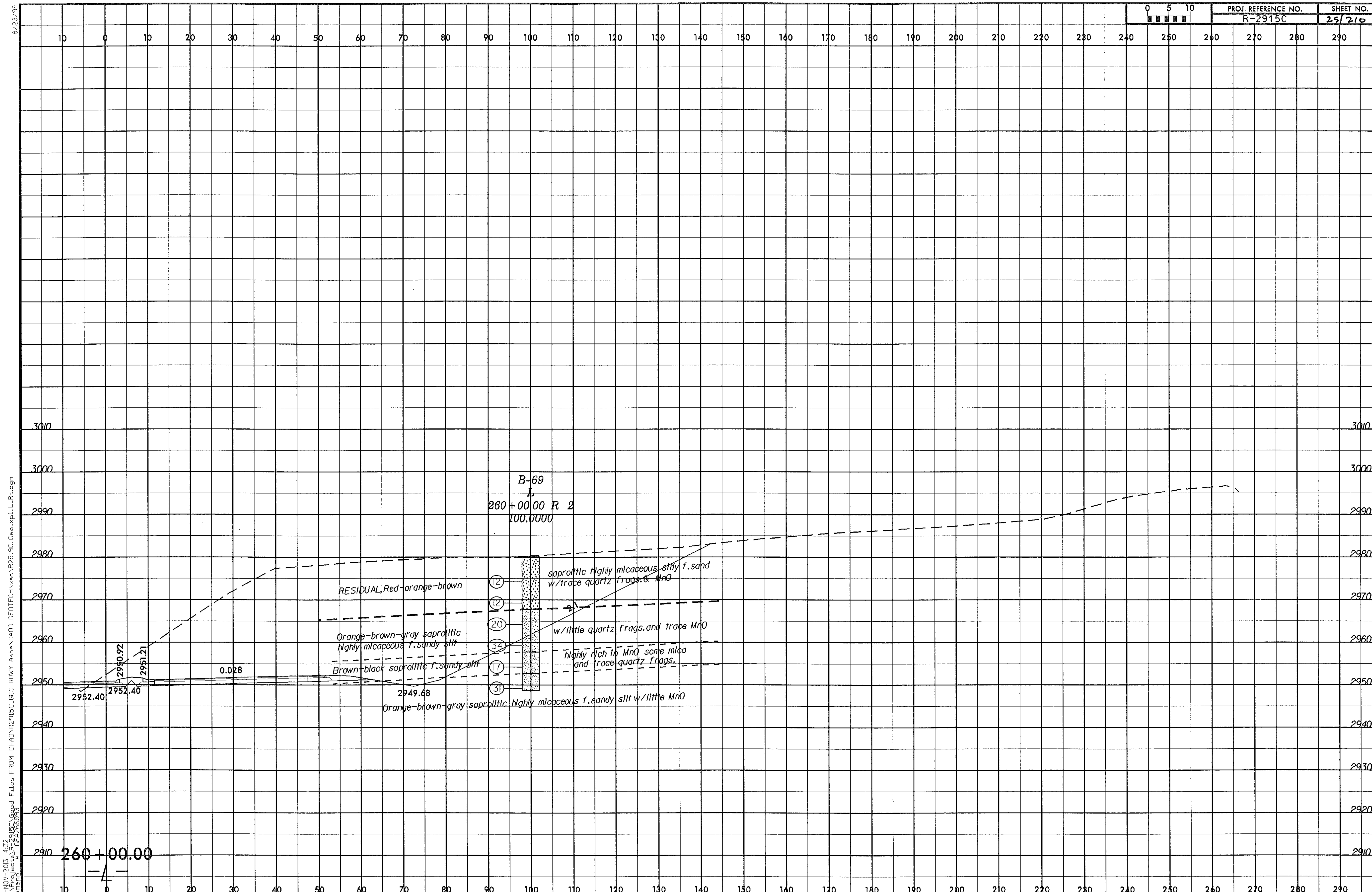
0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
23/210
8/23/99
B-2
L
257+50.00 R 2
-75.0000
RESIDUAL.Orange-brown-tan-black-gray saprolitic micaceous.f.grained silty sand
19
23
32
34
44
27
2:1
4:1
6:1
2927.24
0.019
2930.98
2930.89
2934.41
2934.41
257+50.00
-L-
13-NOV-2013 14:17
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	24/210



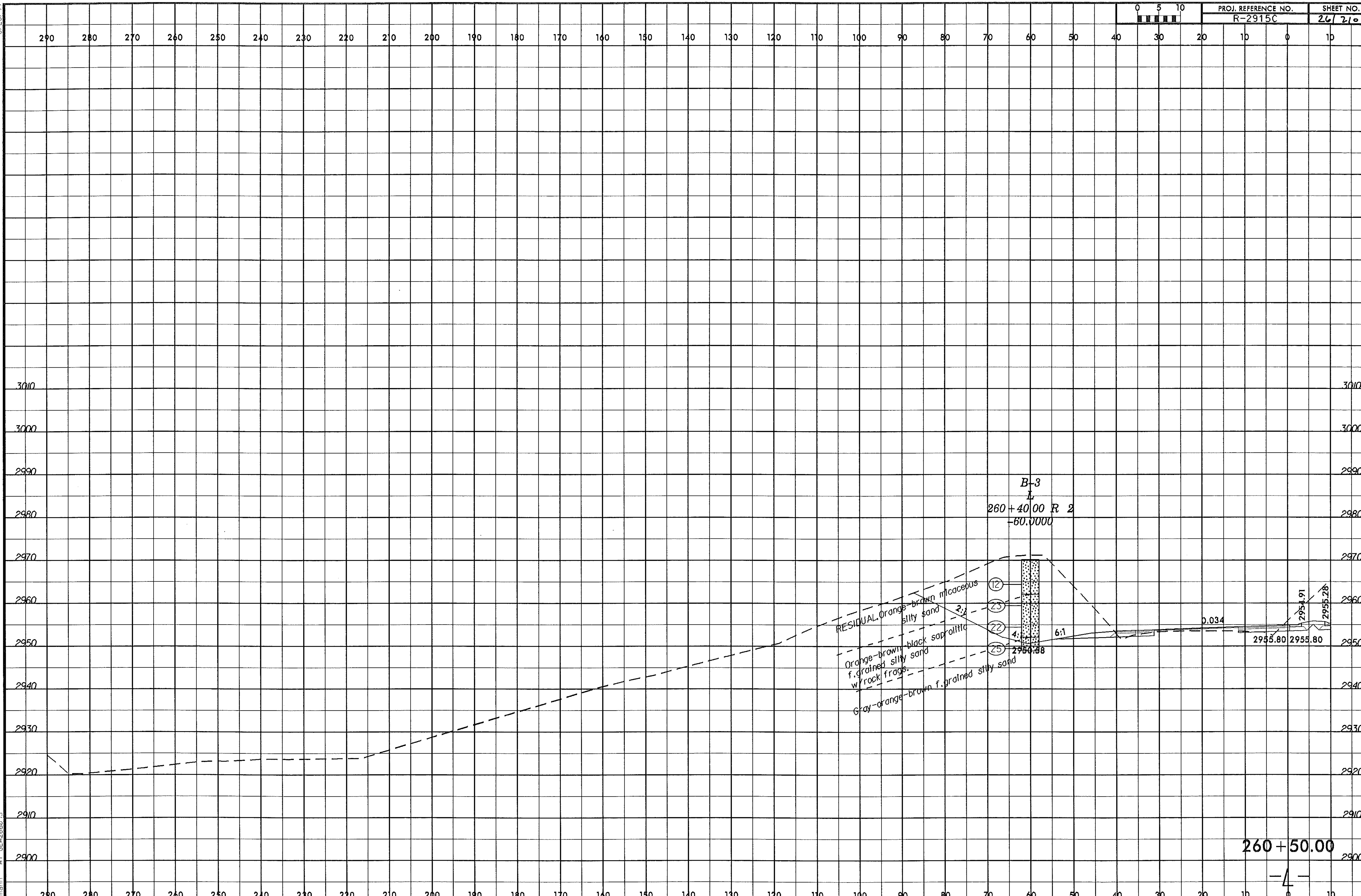
8/23/99

18-NOV-2013 14:30 G:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
25/210
0 5 10
B-69
L
260+00.00 R 2
100.0000
RESIDUAL, Red-orange-brown
saprolitic highly micaceous silty f.sand w/trace quartz frags.& MnO
w/little quartz frags.and trace MnO
highly rich in MnO some mica and trace quartz frags.
Orange-brown-gray saprolitic highly micaceous f.sandy silt
Brown-black saprolitic f.sandy silt
Orange-brown-gray saprolitic highly micaceous f.sandy silt w/little MnO
12
12
20
34
17
31
2:1
0.028
2950.92
2951.21
2952.40
2952.40
2949.68
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
260+00.00
-4-
8/23/99
19-NOV-2013 14:32

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	26/210

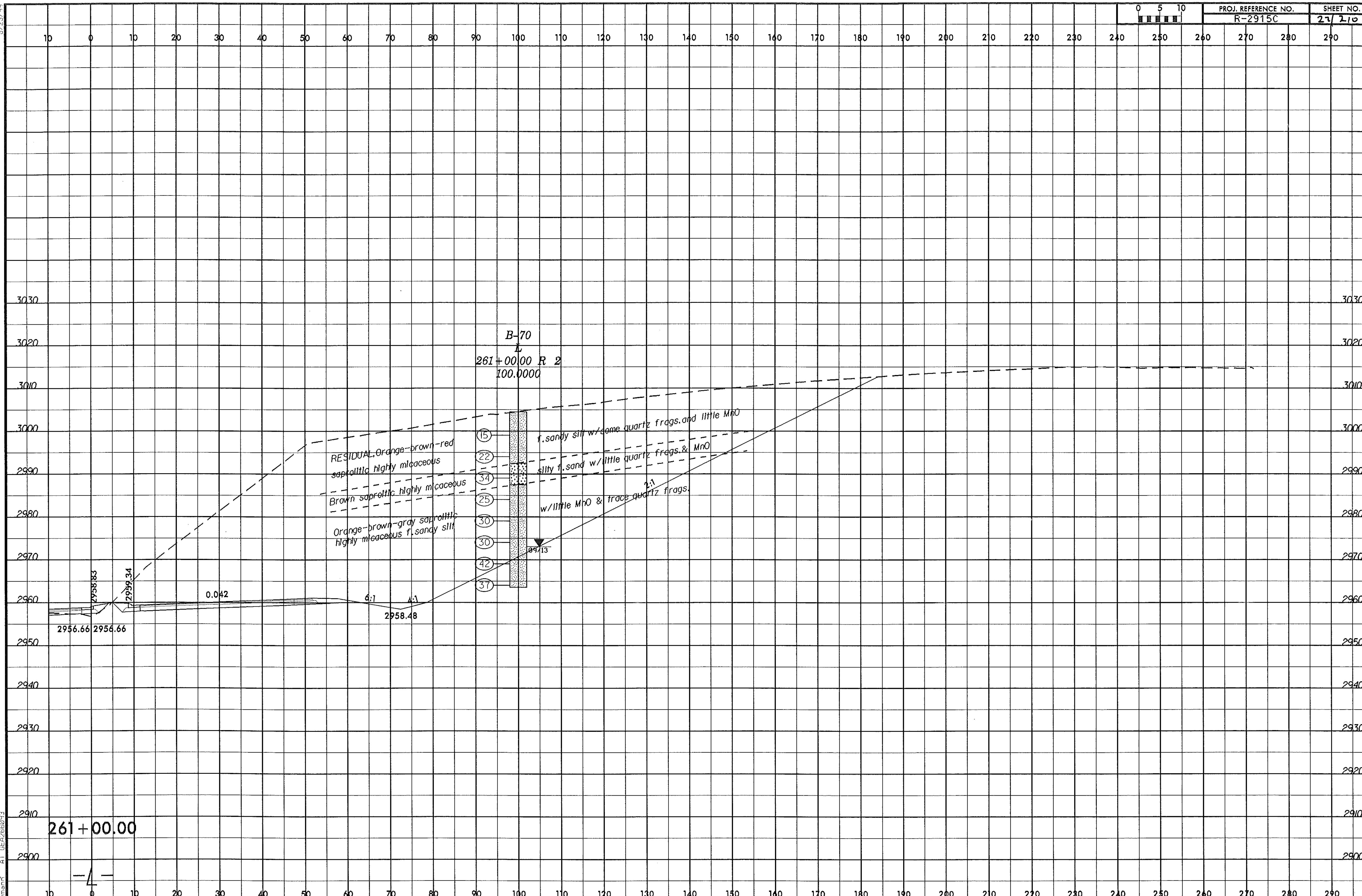


0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
B-3
L
260+40.00 R 2
-60.0000
RESIDUAL Orange-brown micaceous silty sand
Orange-brown-black saprolitic f.grained silty sand w/rock frags.
Gray-orange-brown f.grained silty sand
12
23
22
25
2950.58
2:1
4:1
6:1
0.034
2954.91
2955.28
2955.80
2955.80
260+50.00

8/23/99

13-NOV-2013 14:31
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	27/210

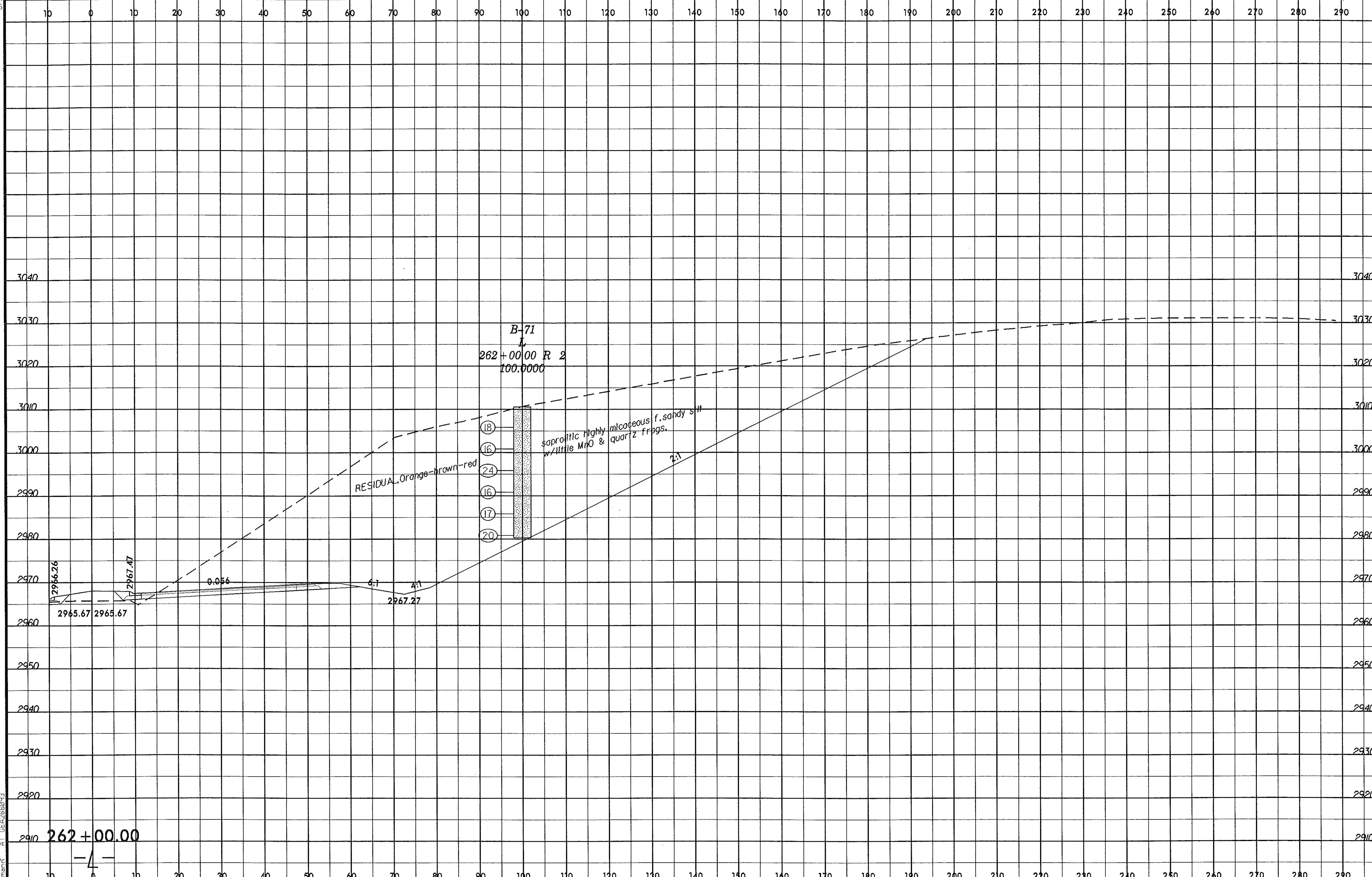


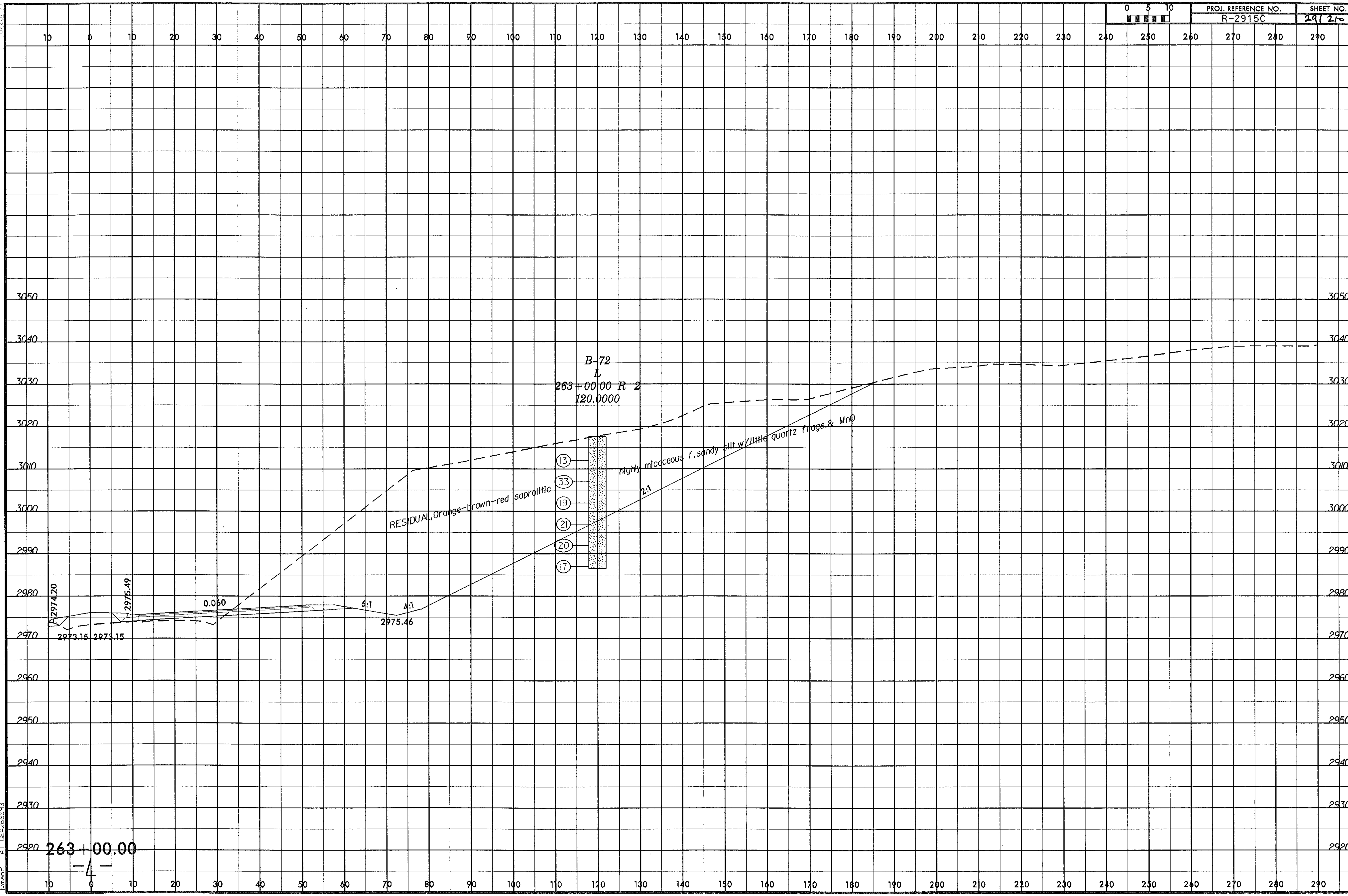
-4-

8/23/99

19-NOV-2013 14:34
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2515C_Geo_xpl_L_Rt.dgn
R2915C_Geo
jwmann AT GEA266093

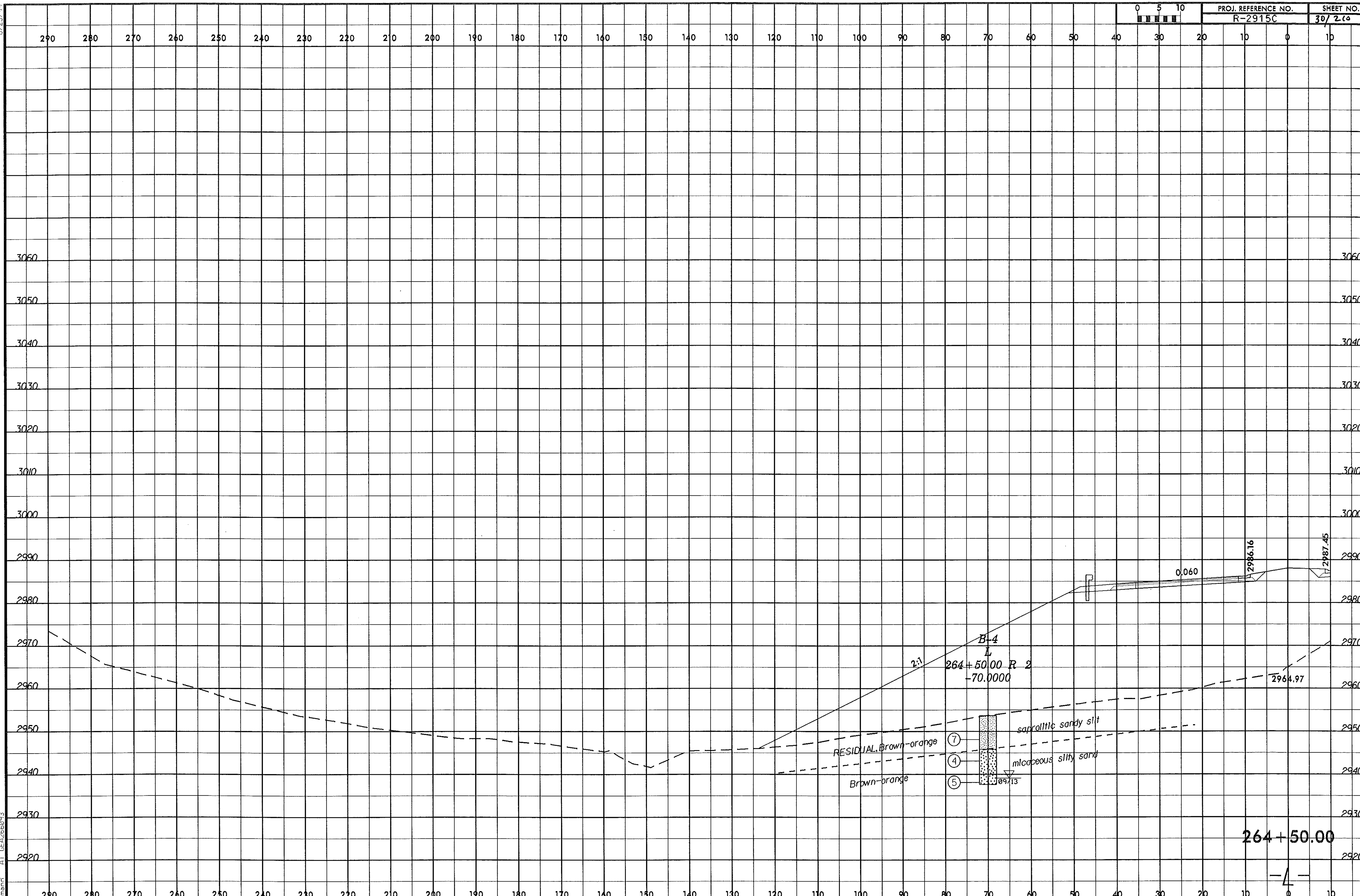
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	29/210





PROJ. REFERENCE NO.
R-2915C
SHEET NO.
29(210
0 5 10
B-72
L
263+00.00 R 2
120.0000
RESIDUAL, Orange-brown-red saprolitic
highly micaceous f. sandy silt w/little quartz frags.& MnO
2:1
6:1
4:1
0.050
2974.20
2975.49
2973.15
2973.15
2975.46
13
33
19
21
20
17
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
263+00.00
-4-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	30/260



8/23/99
13-NOV-2013 14:35
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

PROJ. REFERENCE NO. R-2915C

SHEET NO. 31 of 60

0 5 10

1.50:1

B-5
L
265+50.00 R 2
-70.0000

0.060

2994.14

2995.43

2968.56

RESIDUAL. Orange-brown-red-tan micaceous silty sand

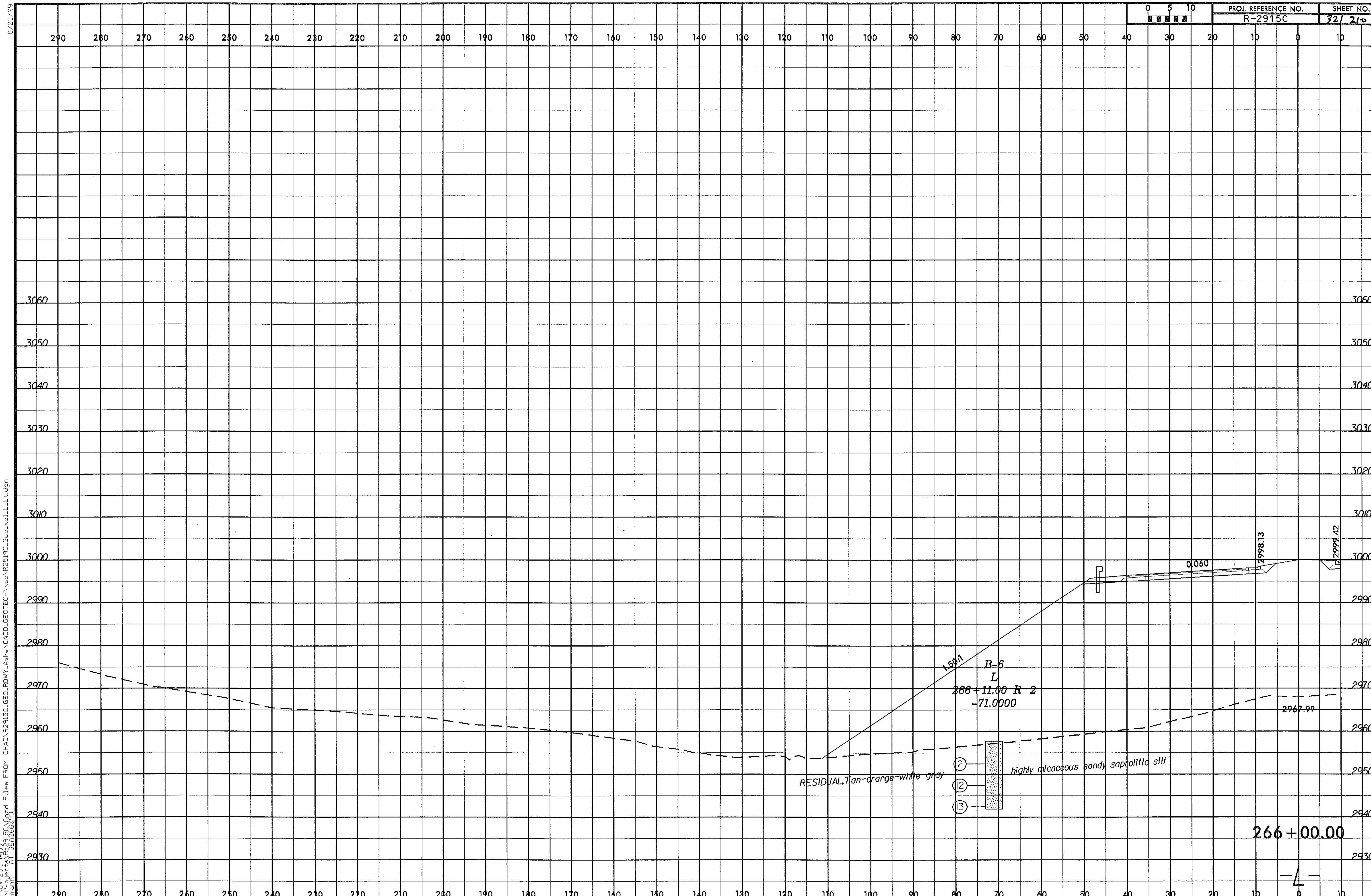
(1)
WOH
(6)

265+50.00
-L-

13-NOV-2013 14:37
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLLL+.dgn
Jument

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	32/ 210



13-NOV-2013 14:39
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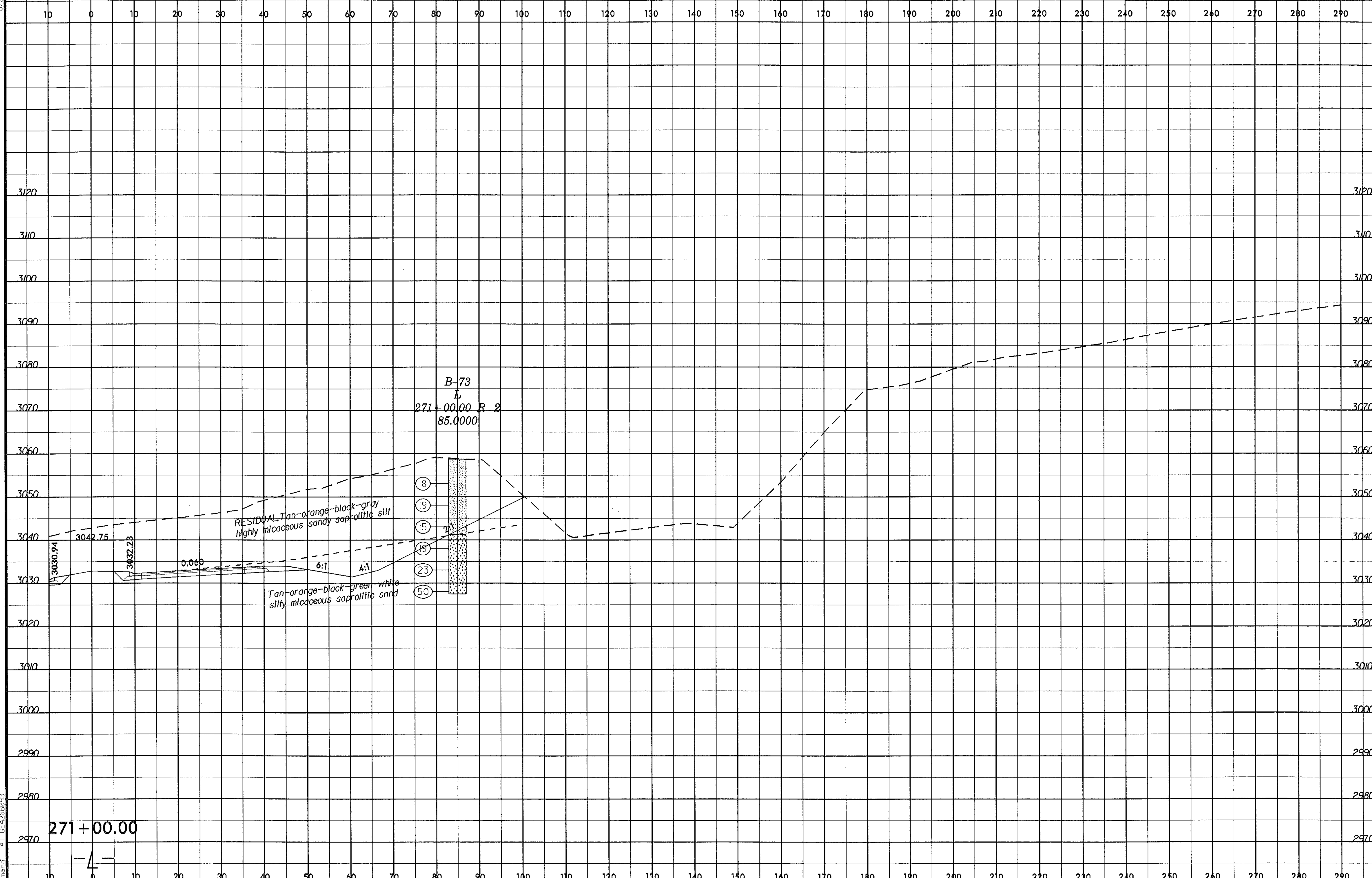
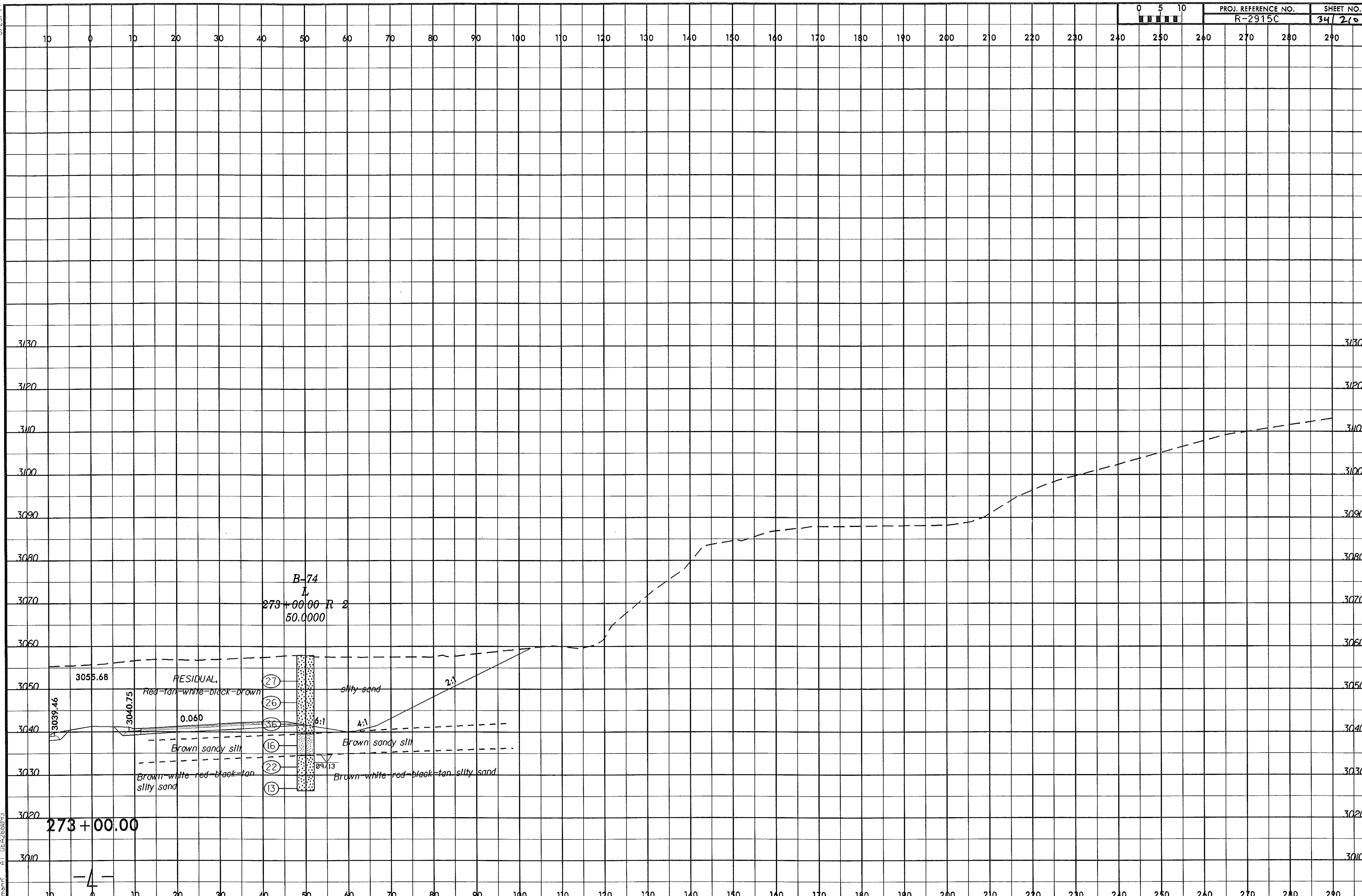
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	33/ 210



0 5 10
B-73
L
271+00.00 R 2
85.0000
RESIDUAL Tan-orange-black-gray
highly micaceous sandy saprolitic silt
Tan-orange-black-green-white
silty micaceous saprolitic sand
3042.75
3030.94
3032.23
0.060
6:1
4:1
2:1
18
19
15
19
23
50
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290
271+00.00
-L-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	34/210



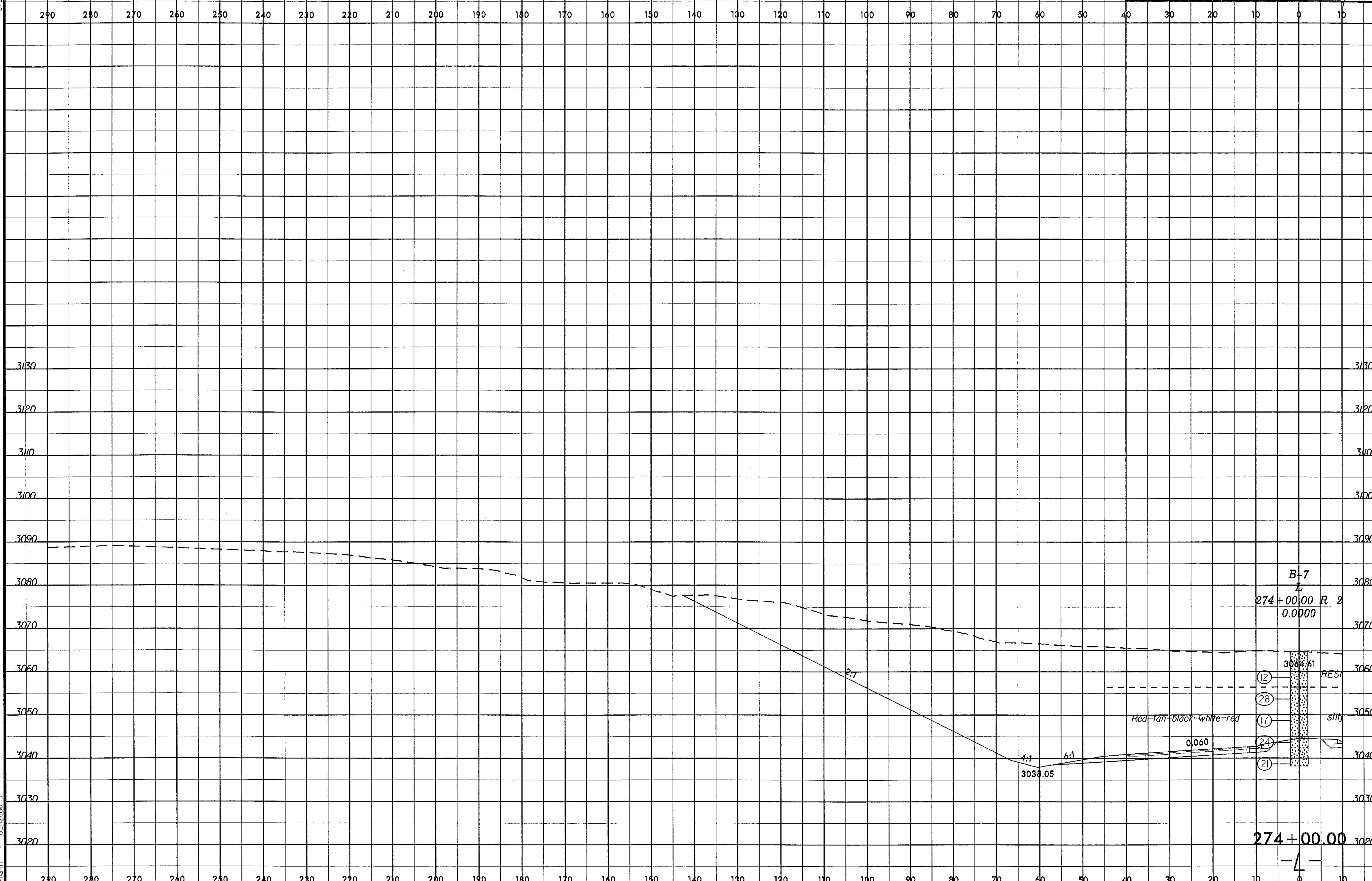
-4-

19-NOV-2013 14:42 C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn jwmann AT GEA266093

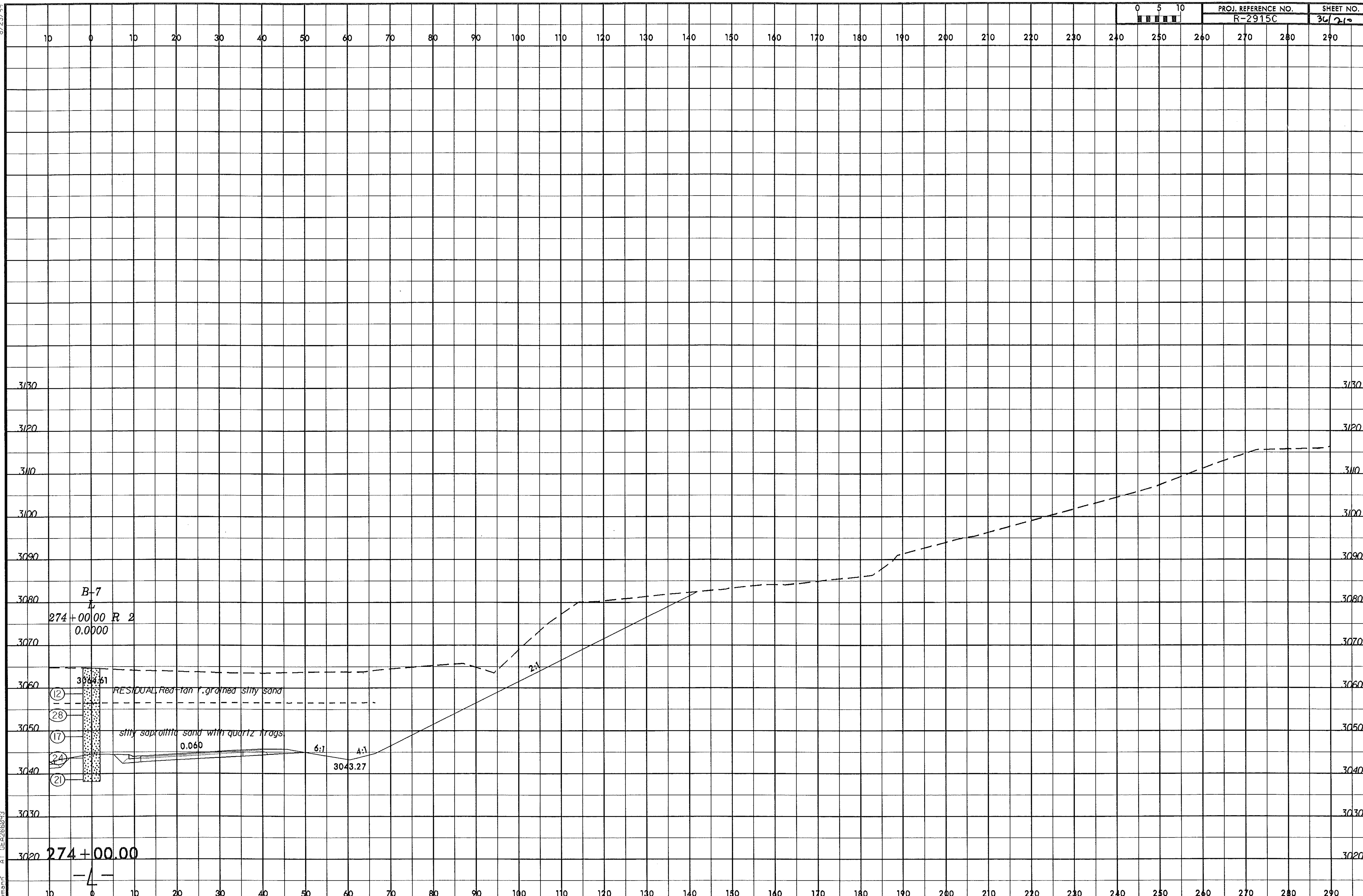
8/23/99

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	35/ 210



13-NOV-2013 14:44
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093



19-NOV-2013 14:44
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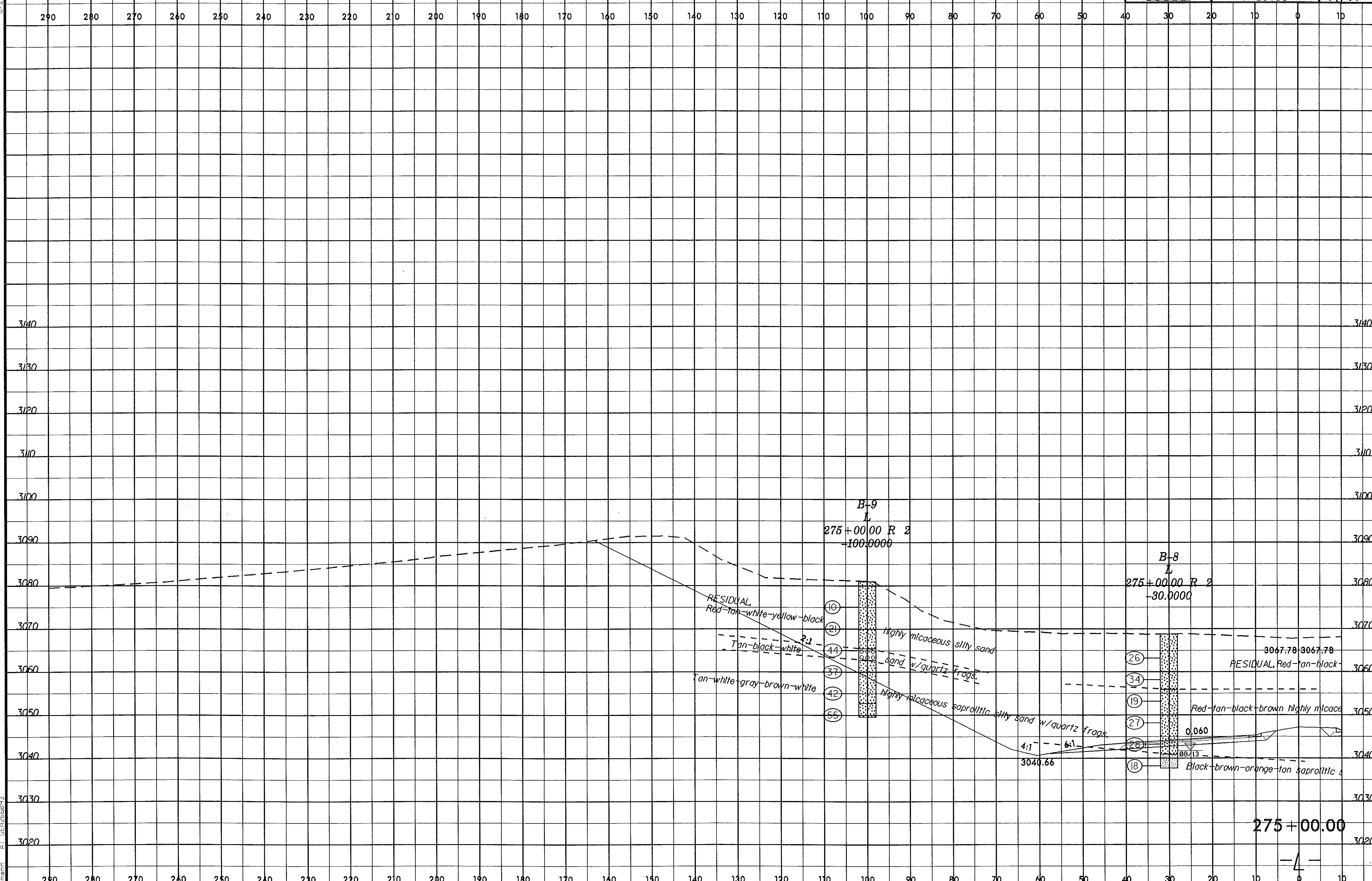
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	37/210


0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
B-9
L
275+00.00 R 2
-100.0000
RESIDUAL,
Red-tan-white-yellow-black
Tan-black-white
Tan-white-gray-brown-white
2:1
10
21
44
37
42
55
highly micaceous silty sand
sand w/quartz frags.
highly micaceous saprolitic silty sand w/quartz frags.
4:1
6:1
3040.66
B-8
L
275+00.00 R 2
-30.0000
26
34
19
27
28
18
3067.78 3067.78
RESIDUAL, Red-tan-black-
Red-tan-black-brown highly micace
0.060
08/13
Black-brown-orange-tan saprolitic s
275+00.00

8/23/99

13-NOV-2013 14:47
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

0 5 10

PROJ. REFERENCE NO. R-2915C

SHEET NO. 38/210

B-75
L
274+85.00 R
80.0000

2:1

3067.78 3067.78

UAL, Red-tan-black-brown-white silty sand with quartz frags.

-brown highly micaceous silty f. grain sand

0.060

6:1

4:1

3045.88

09/13

RESIDUAL,
Red-white-brown-black-gray-orange silty sand

16
22
25
17
13
10

nge-tan saprolitic silt

275+00.00

-L-

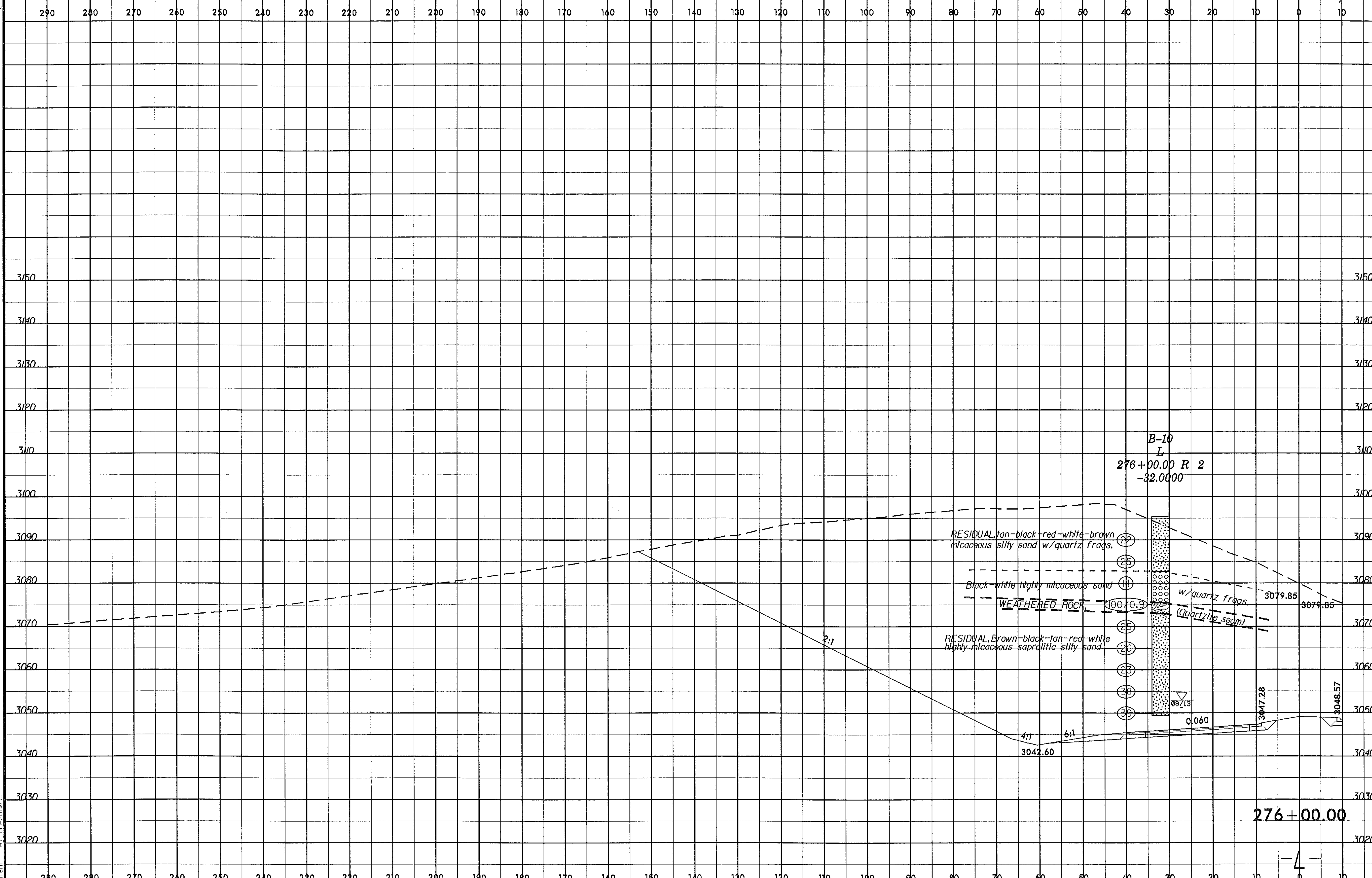
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

19-NOV-2013 14:45
C:\Projects\R-2915C\Road Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLL_Rt.dgn
kwmann
41
0E2E2B8B3

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	39/210



13-NOV-2013 14:57
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lwmann AT GEA266093

8/23/99

0 5 10

PROJ. REFERENCE NO. R-2915C

SHEET NO. 40/210

B-76
L
276+00.00 R 2
110.0000

ARTIFICIAL FILL.

Red saprolitic silty sand w/rock frags.

RESIDUAL Red-yellow saprolitic silty sand

14 13 19 29 16 16 26 35

3079.85 3079.85

3047.28 3048.57 0.060 6:1 4:1 3047.82

2:1

0.013 0.013 4.32:1 1.50:1

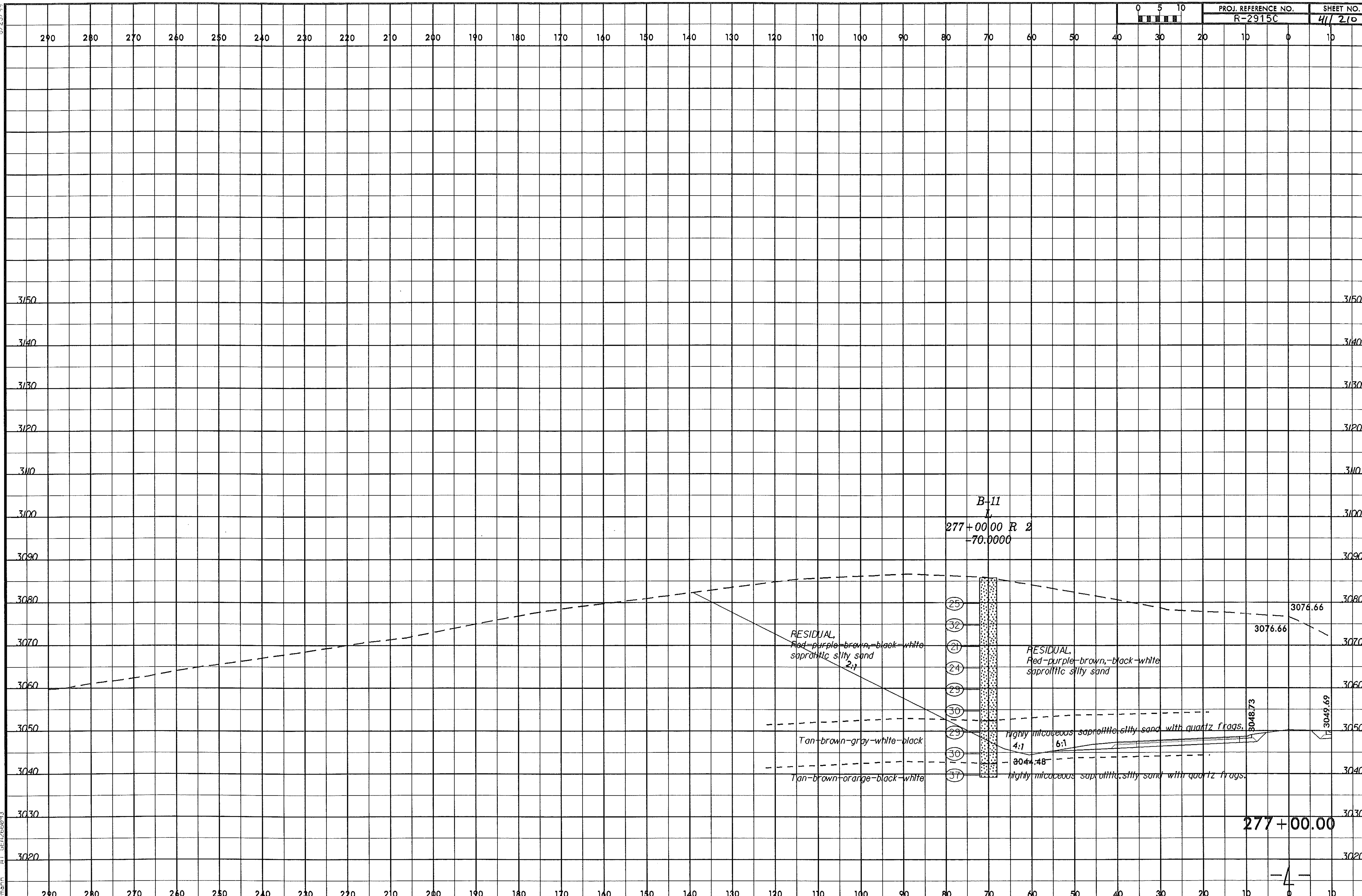
3108.50

DRW2
154+51.37

276+00.00

-4-

19-NOV-2013 14:46
C:\PROJECTS\R-2915C\Road Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsec\R2915C_Geo_xpl_L_Rt.dgn
smashn At GEN26b(PS)


0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
41/210
8/23/99
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
B-11
L
277+00.00 R 2
-70.0000
25
32
21
24
29
30
29
30
37
RESIDUAL,
Red-purple-brown,-black-white
saprolitic silty sand
2:1
RESIDUAL,
Red-purple-brown,-black-white
saprolitic silty sand
3076.66
3076.66
3048.73
3049.69
Tan-brown-gray-white-black
highly micaceous saprolitic silty sand with quartz frags.
4:1
6:1
3044.48
Tan-brown-orange-black-white
highly micaceous saprolitic silty sand with quartz frags.
277+00.00
-L-
14-NOV-2013 09:30
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
AT GEA26093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	42/210

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

3150 3140 3130 3120 3110 3100 3090 3080 3070 3060 3050 3040 3030 3020

B-77
L
277+00.00 R 2
110.0000

DRW2
1436.86

3076.66
3076.66

3048.73

3049.69

0.045

6:1

4:1

3048.42

RESIDUAL

Red-tan-brown

2:1 Red-tan-brown saprolitic silty sand

highly micaceous f.grained silty sand

9
19
19
45
25
54

0.019 0.019

4.37:1

3100.82

1.48:1

277+00.00

-L-

19-NOV-2013 14:48
C:\Projects\R-2915C\Grad Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
jwilson

8/23/99

0 5 10

PROJ. REFERENCE NO. R-2915C

SHEET NO. 43/210

B-78
L
277+40.00 R 2
85.0000

12
31
35
43
100/.
60/0.1

RESIDUAL, Red-tan-brown silty sand

RESIDUAL, Red-tan-brown silty sand

2:1

2.76:1

0.023

0.023

4.43:1

1.46:1

3091.16

DRW2
13+81.75

3069.67 3069.67

3049.22

3049.99

WEATHERED ROCK, (Schist)

6:1

3048.40

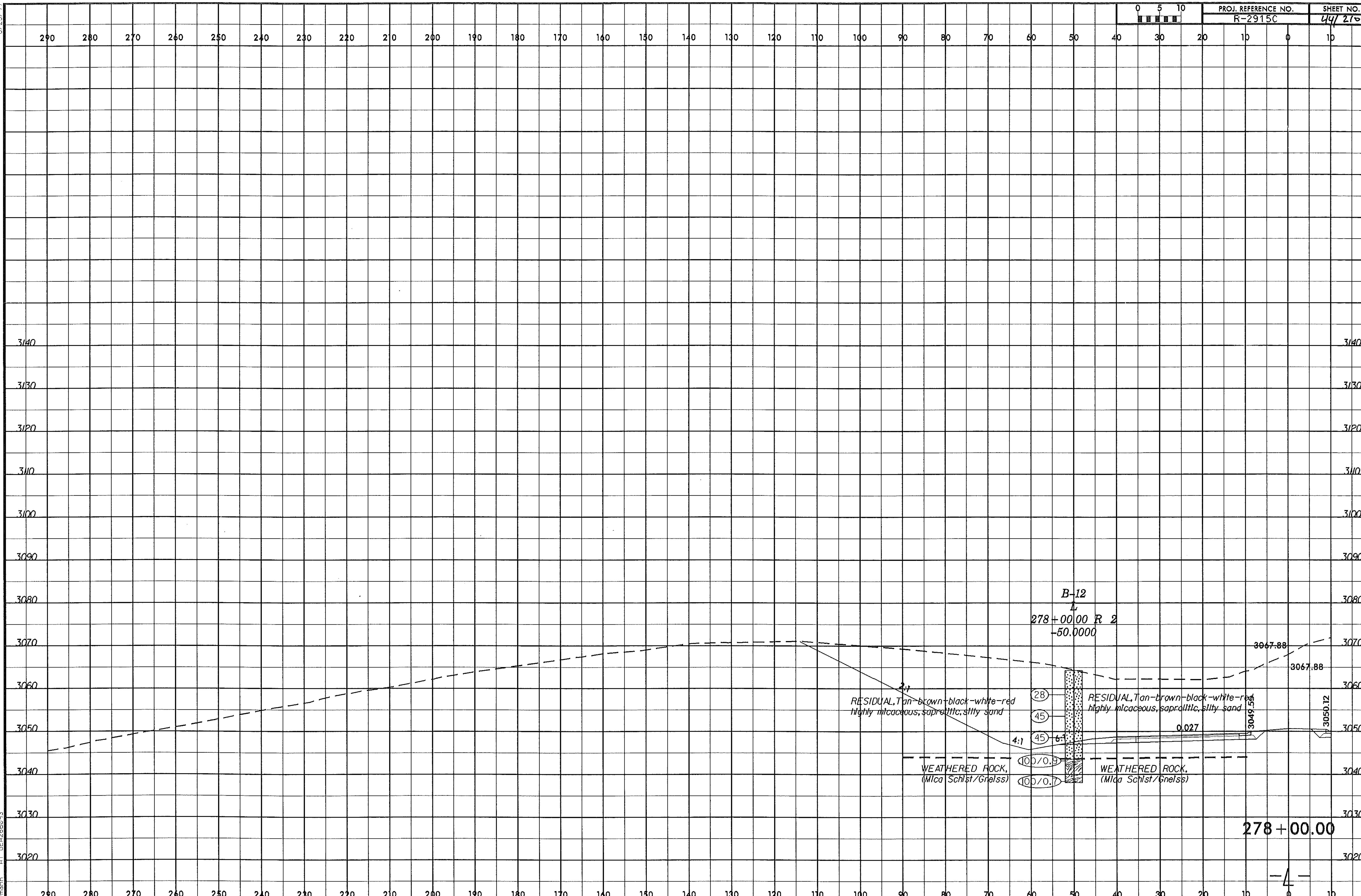
CRYSTALLINE ROCK, (Schist)

WEATHERED ROCK, (Schist)

277+50.00
-L-

19-NOV-2013 14:50
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsa\R2915C_Geo_xpl_L_Rt.dgn
jwhatley

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	44/ 216



0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
B-12
L
278+00.00 R 2
-50.0000
3067.88
3067.88
2:1
RESIDUAL,Tan-brown-black-white-red highly micaceous,saprolitic,silty sand
RESIDUAL,Tan-brown-black-white-red highly micaceous,saprolitic,silty sand
28
45
45
4:1
6:1
0.027
3049.59
3050.12
100/0.9
100/0.7
WEATHERED ROCK, (Mica Schist/Gneiss)
WEATHERED ROCK, (Mica Schist/Gneiss)
278+00.00
-L-

8/23/99

14-NOV-2013 09:32
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	45/210

B-79
L
280+00.00 R 2
100.0000

3064.25
3064.25
3048.92
3049.00
0.010
6:1
4:1
3045.83

RESIDUAL, Brown-tan-gray-orange micaceous silty sand

RESIDUAL, Brown-tan-gray-orange micaceous silty sand

30
28
30
12
74
60/0.1
09.13

CRYSTALLINE ROCK, (Schist)

280+00.00
-L-

19-NOV-2013 14:52
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn
umann
Default DGN2600.3

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	46/217

B-80
L
281+25.00 R 2
85.0000

RESIDUAL, tan-brown-orange-brown silty sand w/rock frags.

WEATHERED ROCK, (Schist)

WEATHERED ROCK, (Schist)

CRYSTALLINE ROCK, (Schist)

3060.65 3060.65

3047.76

3047.53

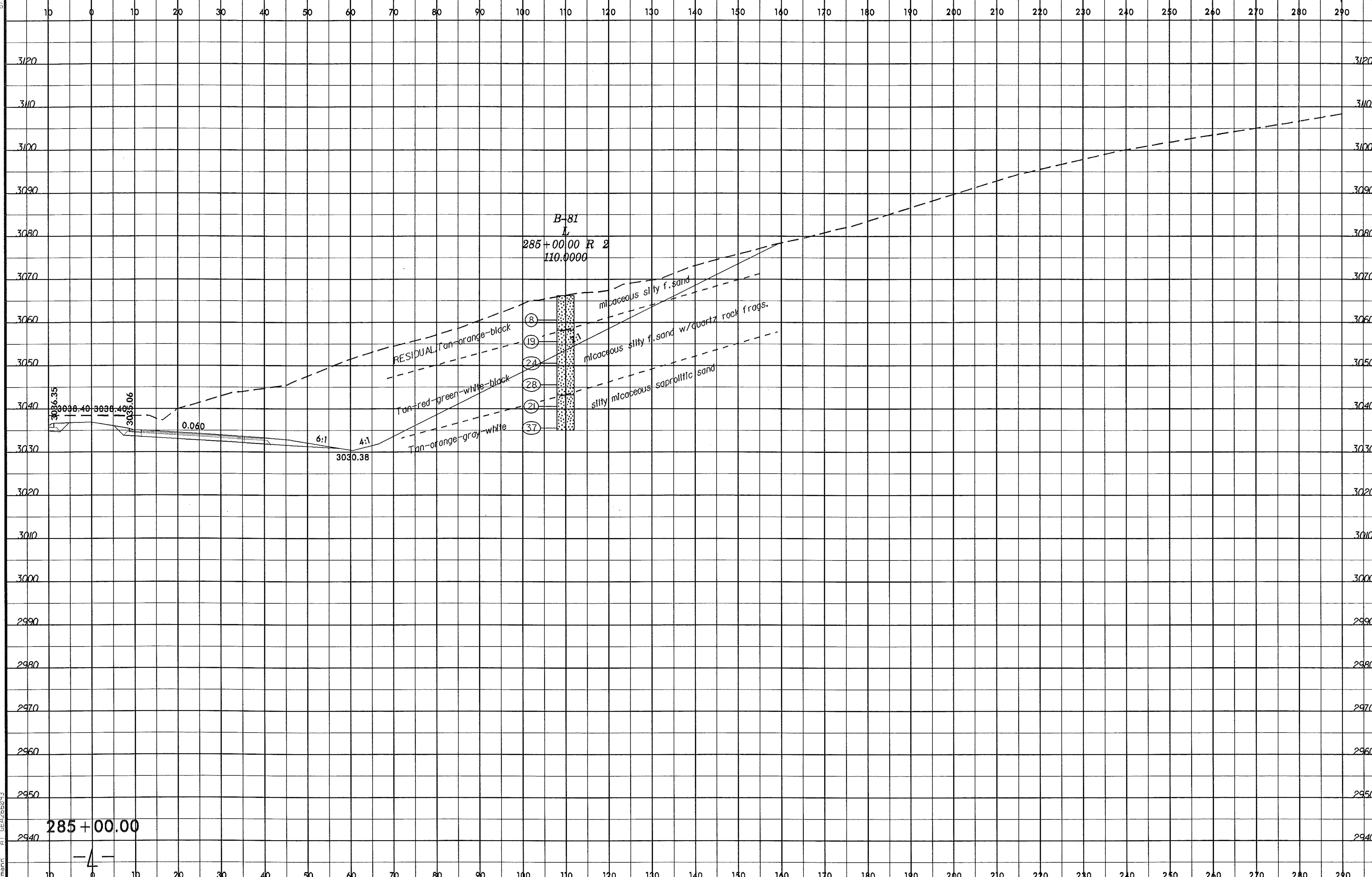
3044.00

281+00.00

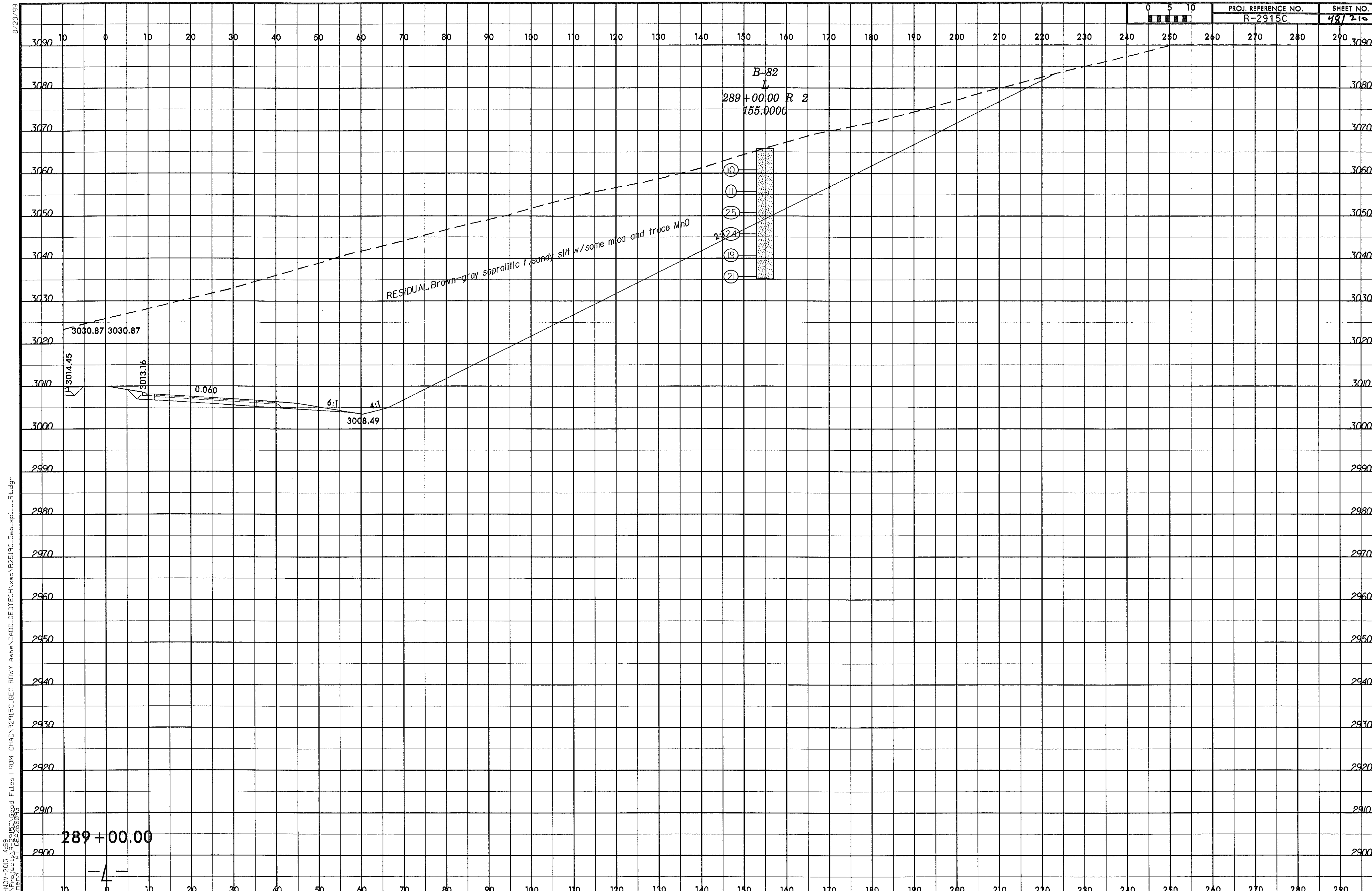
-L-

19-NOV-2013 14:53
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
wmsmith

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	47/210



19-NOV-2013 14:56 G:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn kwmann AT GEA28093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
48/210
B-82
L
289+00.00 R 2
155.0000
RESIDUAL,Brown-gray saprolitic f.sandy silt w/some mica and trace MnO
3030.87 3030.87
3014.45
3013.16
0.060
6:1
4:1
3008.49
289+00.00
-4-
8/23/99

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	49/210

B-83
L
291+00.00 R 2
100.0000

RESIDUAL, Brown saprolitic highly micaceous f.sandy silt w/trace quartz frags.

RESIDUAL, Brown saprolitic highly micaceous f.sandy silt w/trace quartz frags.

f.sand w/some mica

Brown-gray, saprolitic silty

WEATHERED ROCK.

RESIDUAL, Brown, saprolitic highly micaceous f.sandy silt w/trace MnO

RESIDUAL, Brown saprolitic highly micaceous f.sandy silt w/trace MnO

(Mica Schist/Gneiss)

WEATHERED ROCK, (Mica Schist/Gneiss)

CRYSTALLINE ROCK, (Mica Schist/Gneiss)

20	
23	
26	
53	
100/0.5	
56	09/13
65	
60/0.0	

3031.13 3031.13

3022.45

3001.16

0.060

WEATHERED ROCK, (Mica Schist/Gneiss)

6:1

4:1

2996.49

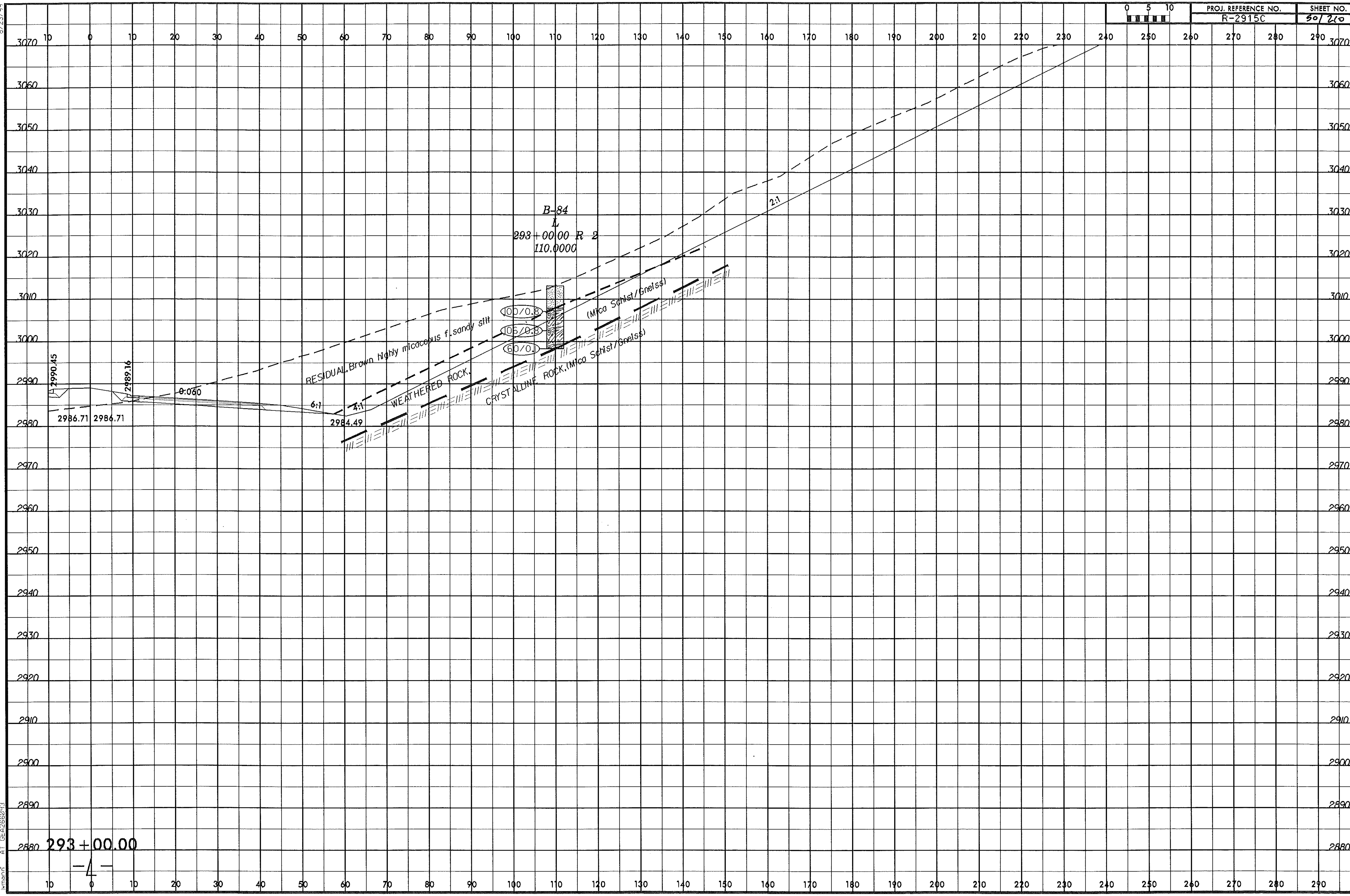
2:1

291+00.00

-L-

19-NOV-2013 15:00
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsec\R2519C_Geo_xpl_L_Rt.dgn
wmann AT GEA2680943

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	50/210



PROJ. REFERENCE NO.	SHEET NO.
R-2915C	51 210

0 5 10

B-85
L
294+00.00 R 2
125.0000

13
15
18
20
60/0"

RESIDUAL, Brown saprolitic highly micaceous f. sandy silt w/ trace MnO

2:1

WEATHERED ROCK, (Mica Schist/Gneiss)

CRYSTALLINE ROCK, (Mica Schist/Gneiss)

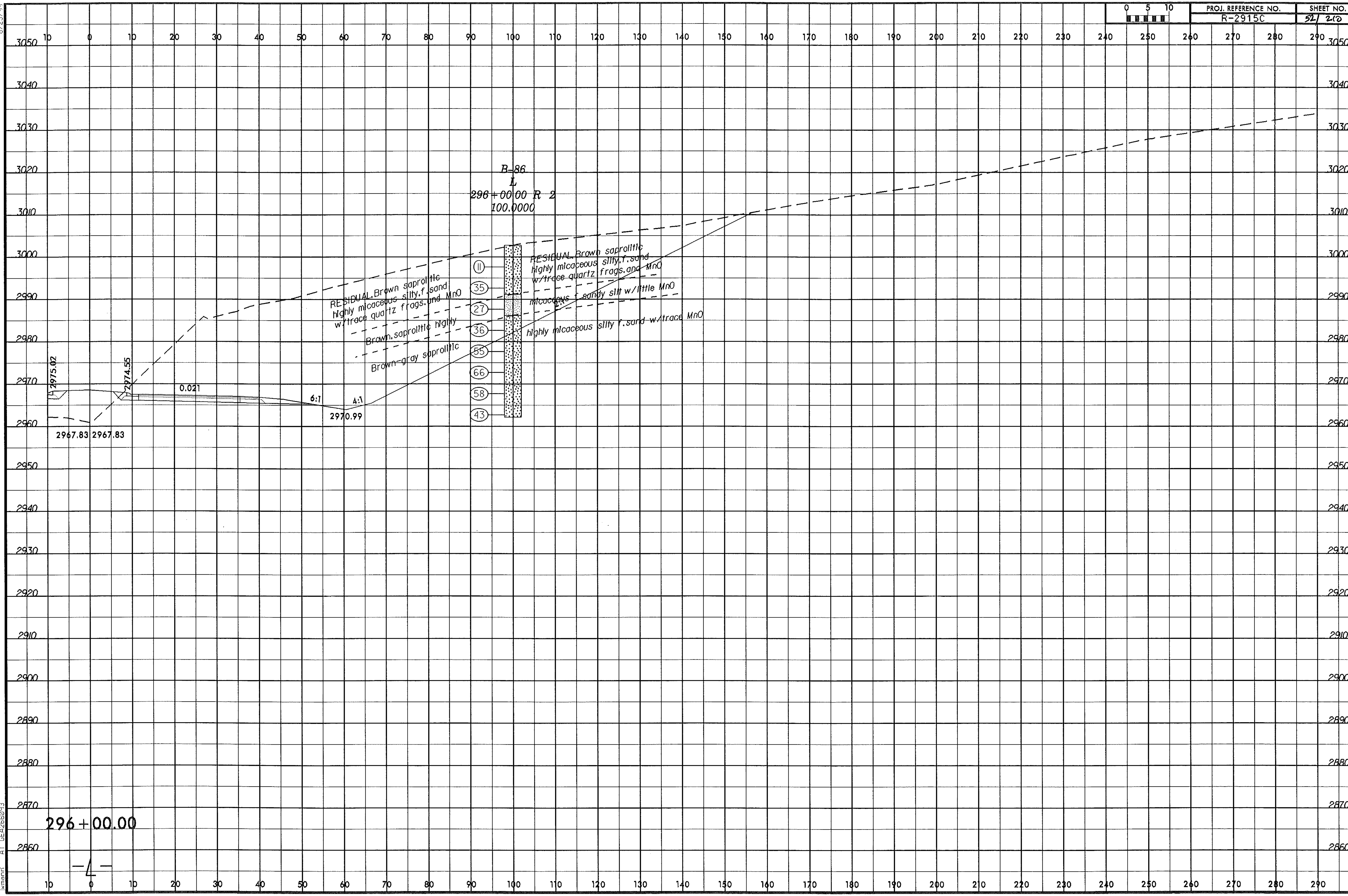
2984.69
2983.45
0.058
6:1
4:1
2978.84
2979.13 2979.13

294+00.00
-L-

8/23/99

19-NOV-2013 15:03
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2515C_Geo_xpi_L_Rt.dgn
jmsmith

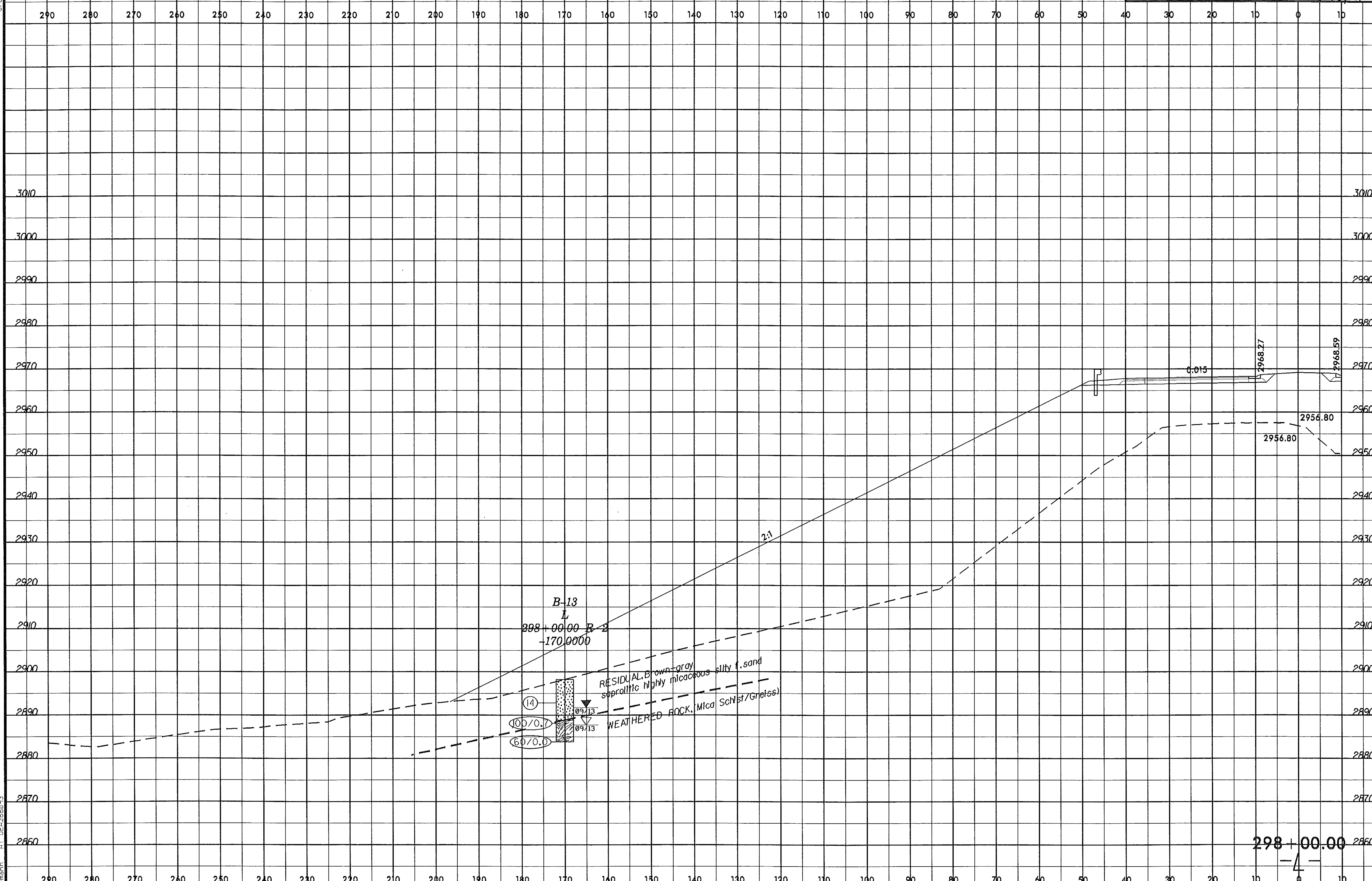
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	52/210



8/23/99

19-NOV-2013 15:04
G:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
kwmann AT GEA266093

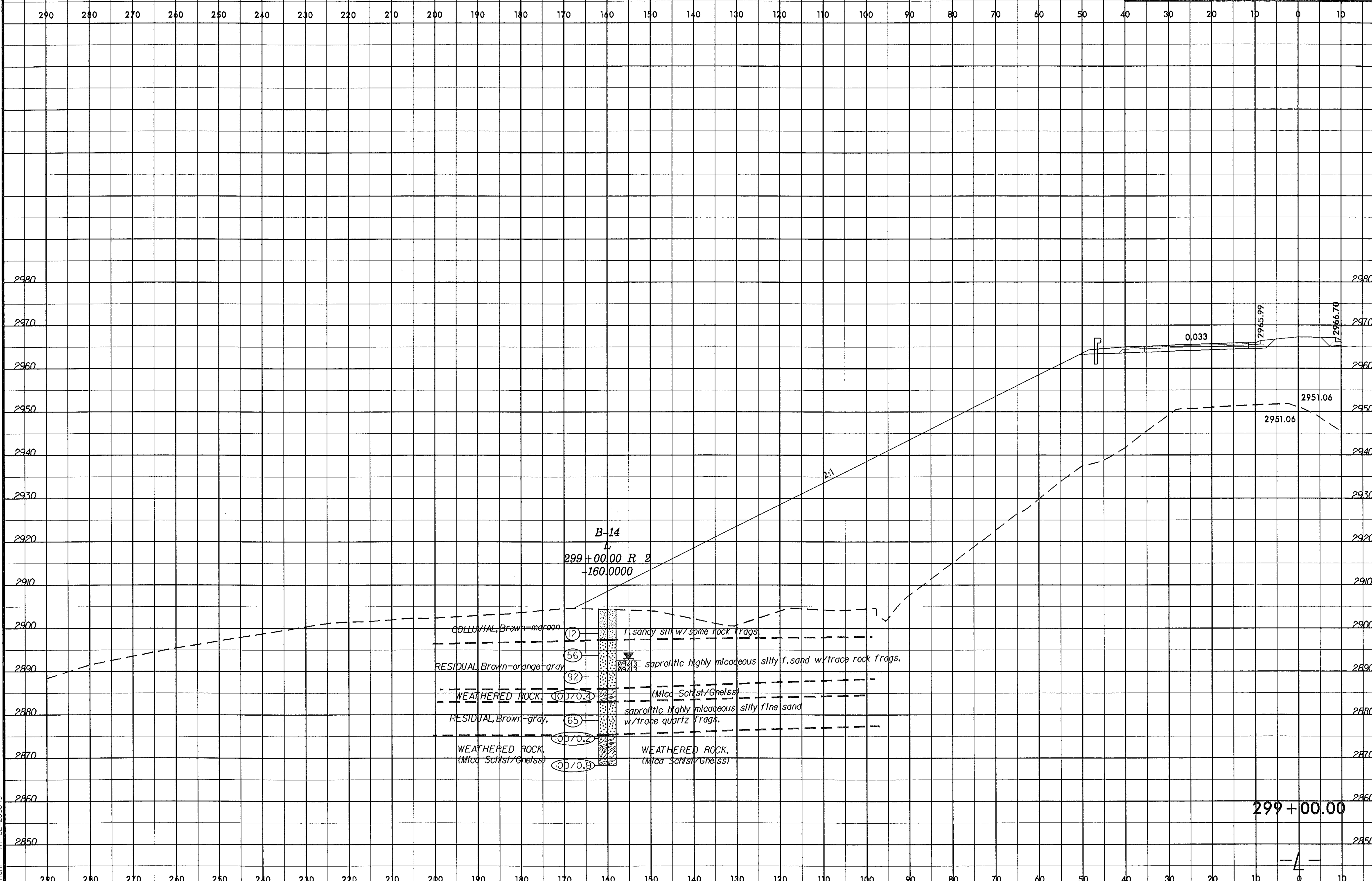
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	53/210



0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
2890
2880
2870
2860
0.015
2968.27
2968.59
2956.80
2956.80
2:1
B-13
L
298+00.00 R 2
-170.0000
RESIDUAL.Brown-gray saprolitic highly micaceous silty f.sand
WEATHERED ROCK.(Mica Schist/Gneiss)
14
100/0.7
60/0.0
09/13
09/13
298+00.00
-L-

14-NOV-2013 09:36
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

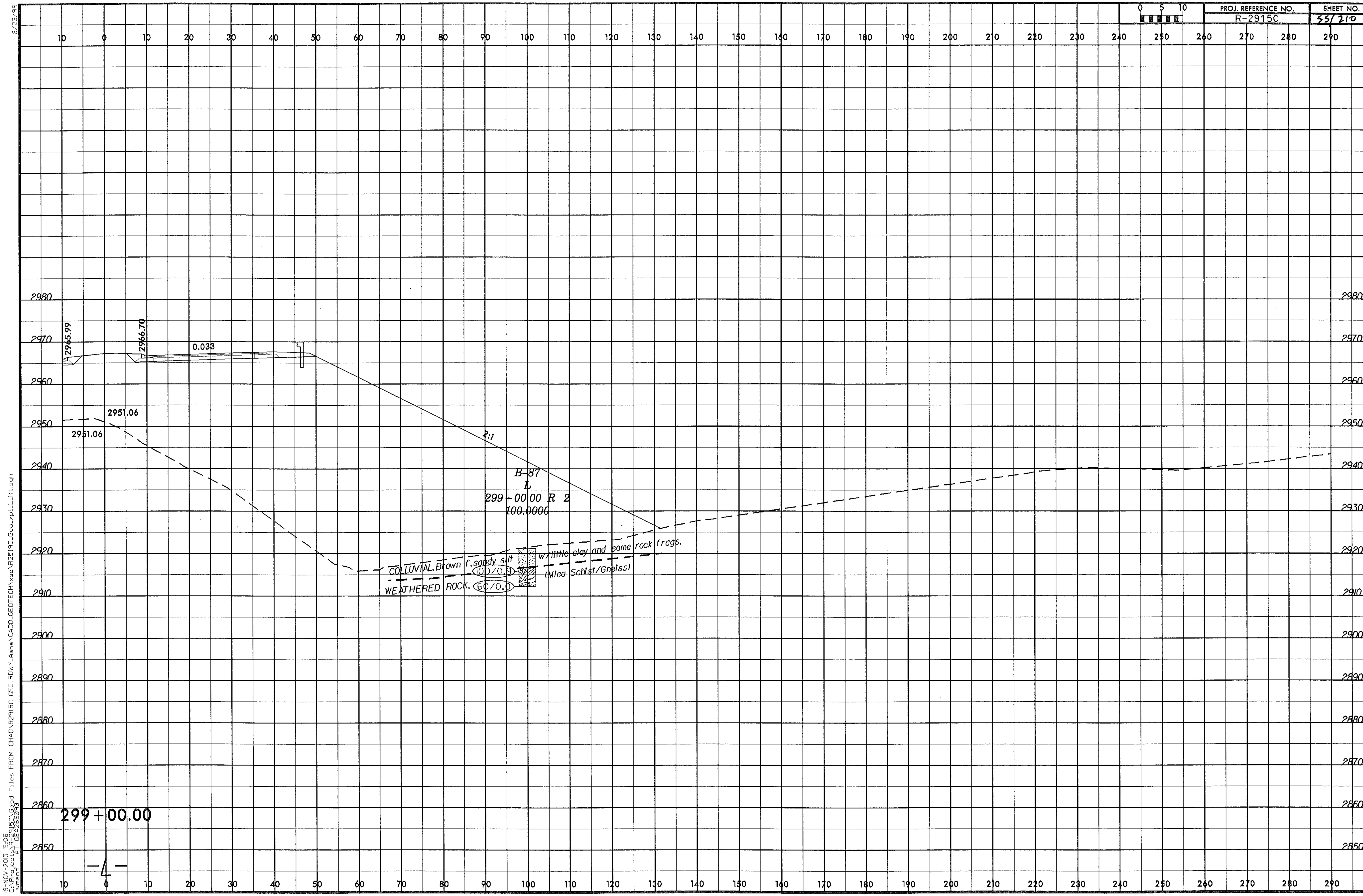
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	54/210



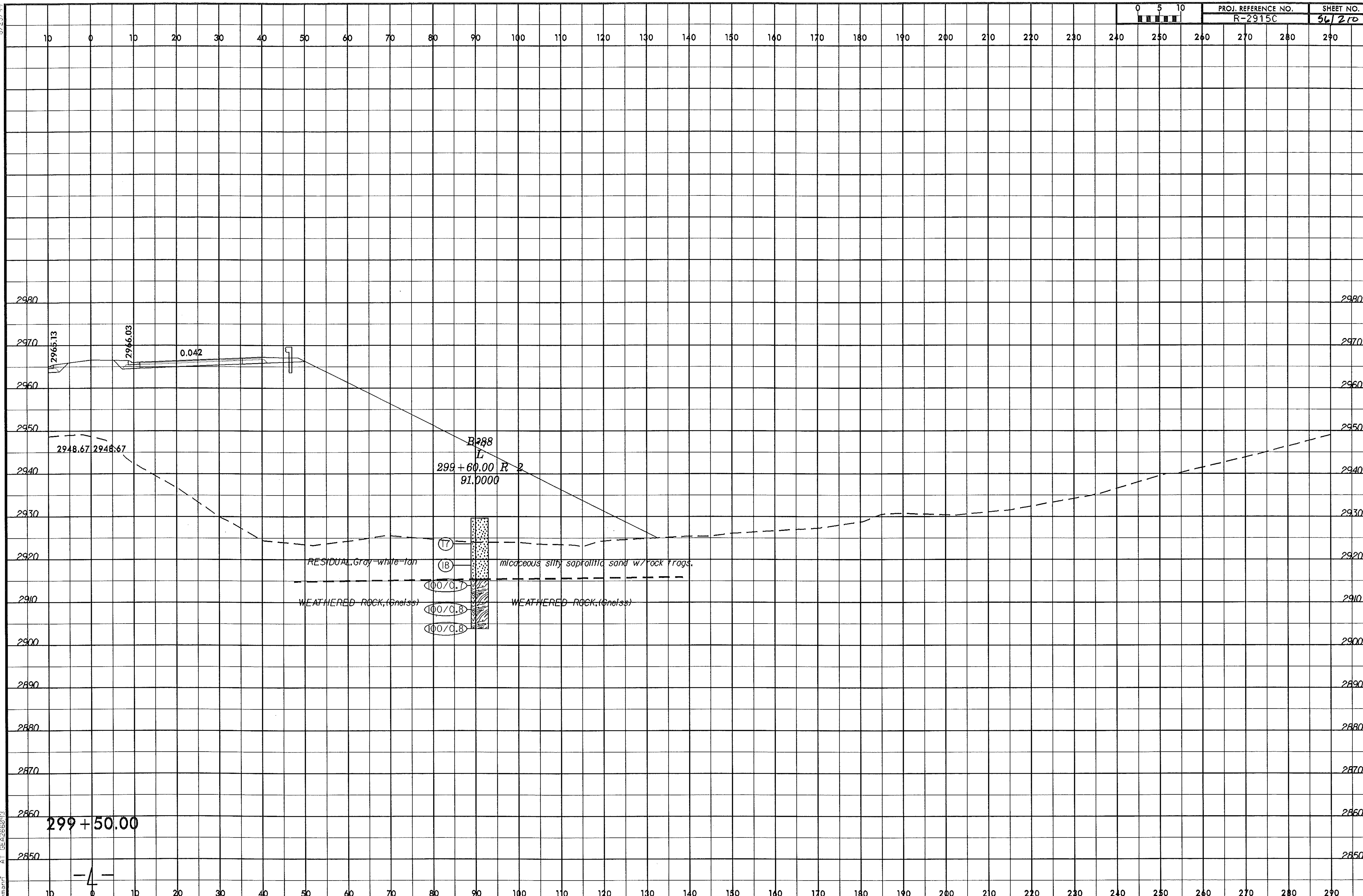
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
2980
2970
2960
2950
2940
2930
2920
2910
2900
2890
2880
2870
2860
2850
0.033
2965.99
2966.70
2951.06
2951.06
2:1
B-14
L
299+00.00 R 2
-160.0000
COLLUVIAL, Brown-maroon
12
f. sandy silt w/some rock frags.
56
RESIDUAL Brown-orange-gray
09/13
09/13
saprolitic highly micaceous silty f. sand w/trace rock frags.
92
WEATHERED ROCK.
100/0.4
(Mica Schist/Gneiss)
saprolitic highly micaceous silty fine sand
w/trace quartz frags.
RESIDUAL, Brown-gray.
65
100/0.2
WEATHERED ROCK.
(Mica Schist/Gneiss)
100/0.9
WEATHERED ROCK.
(Mica Schist/Gneiss)
299+00.00

8/23/99

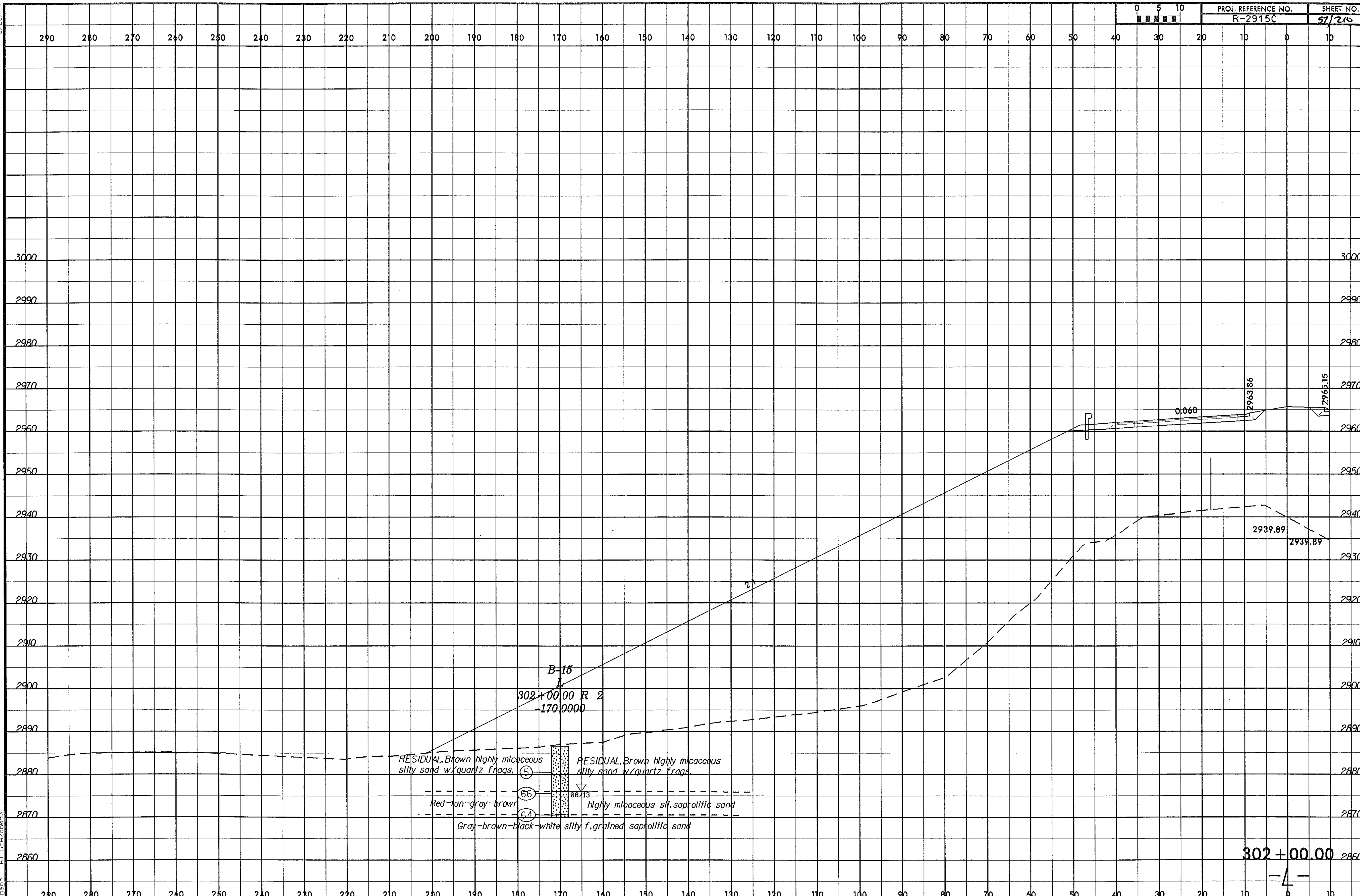
14-NOV-2013 09:37
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093



19-NOV-2013 15:06
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
Wmann AT GEA286093
8/23/99

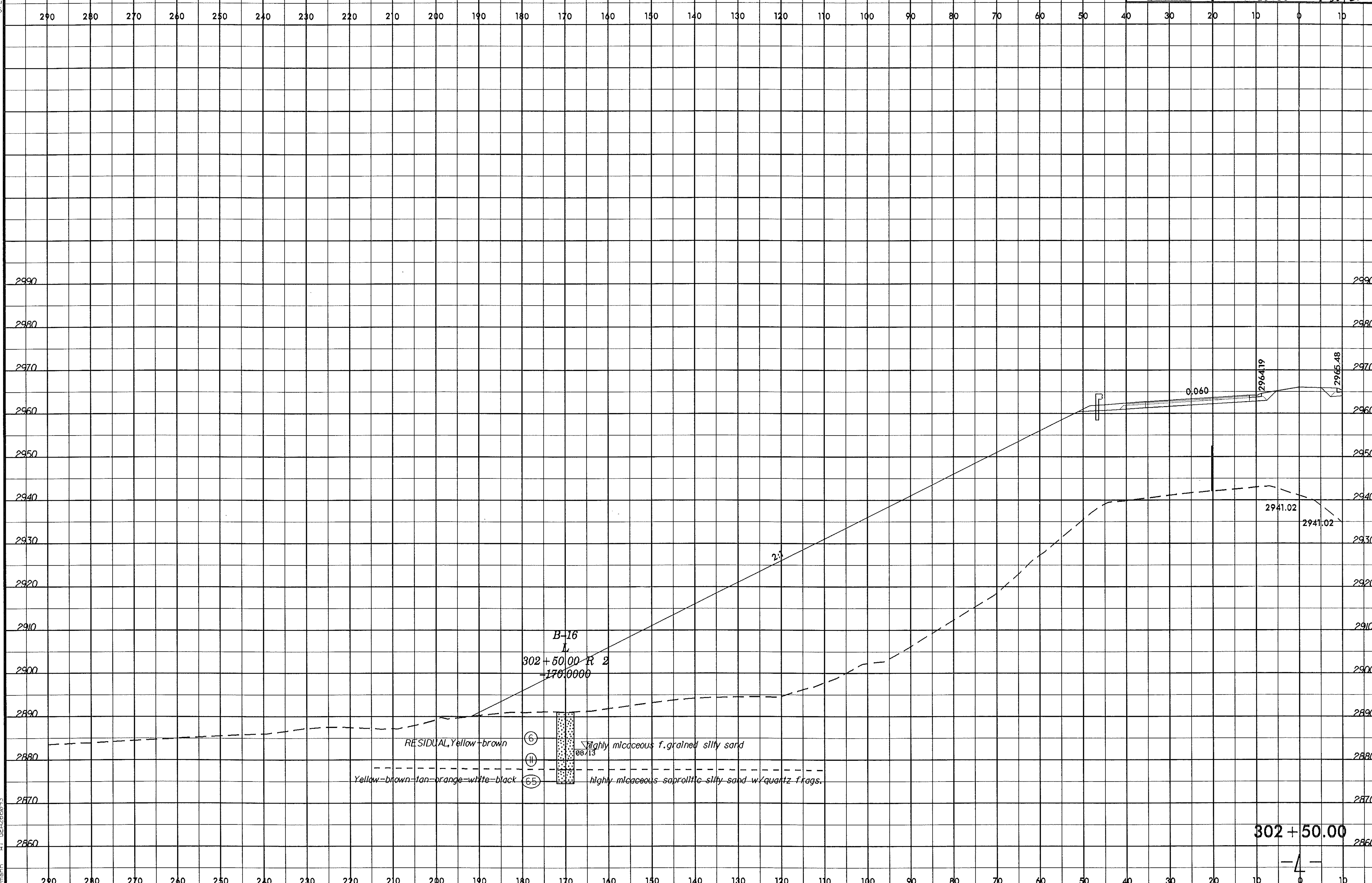

PROJ. REFERENCE NO.
R-2915C
SHEET NO.
56/210
0 5 10
2965.13
2966.03
0.042
2948.67 2948.67
B-88
L
299+60.00 R 2
91.0000
17
18
RESIDUAL,Gray-white-tan micaceous silty saprolitic sand w/rock frags.
100/0.7
100/0.8
100/0.8
WEATHERED ROCK,(Gneiss)
WEATHERED ROCK,(Gneiss)
299+50.00
-4-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	57/210



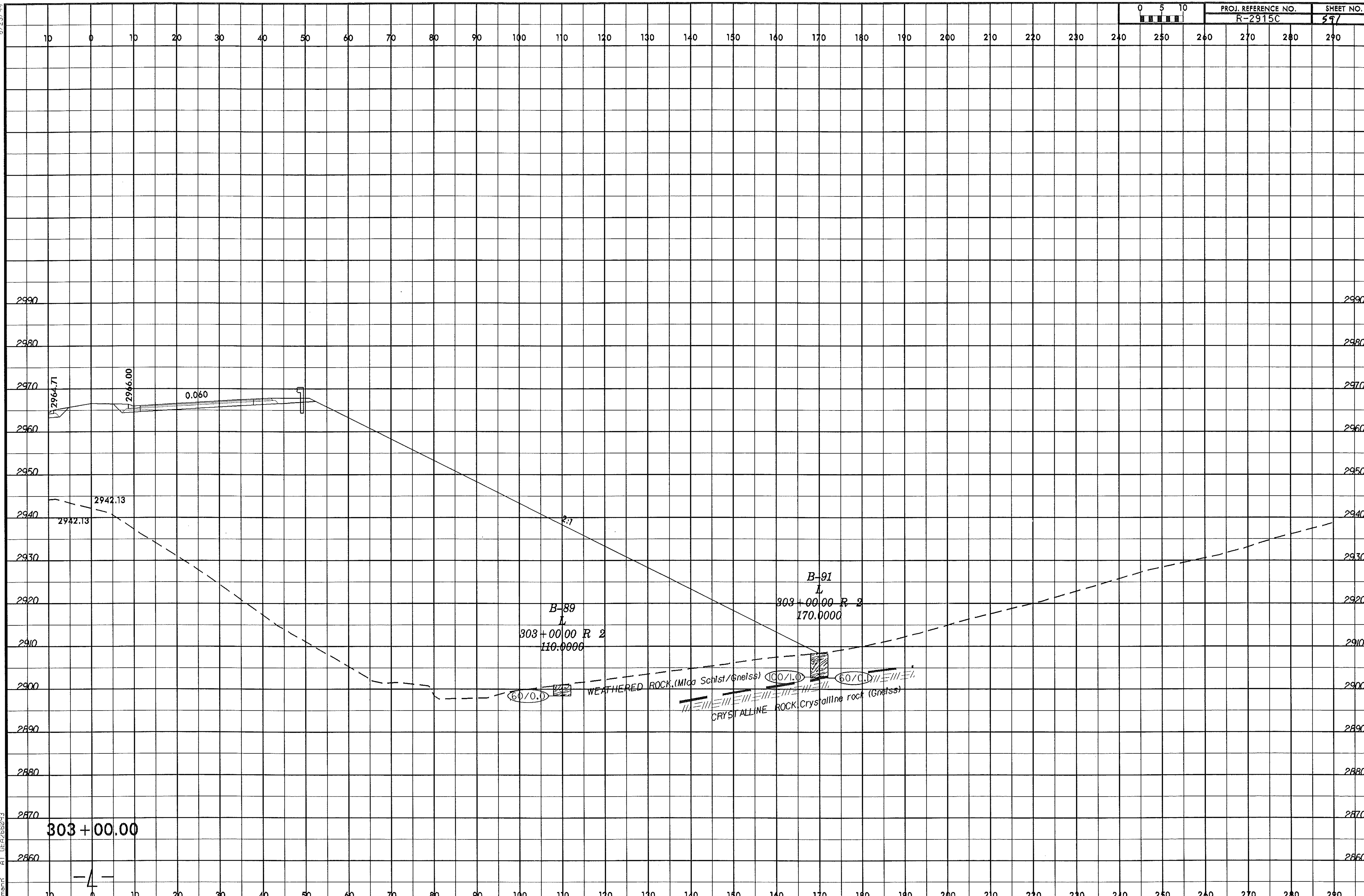
14-NOV-2013 09:40
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	58/210



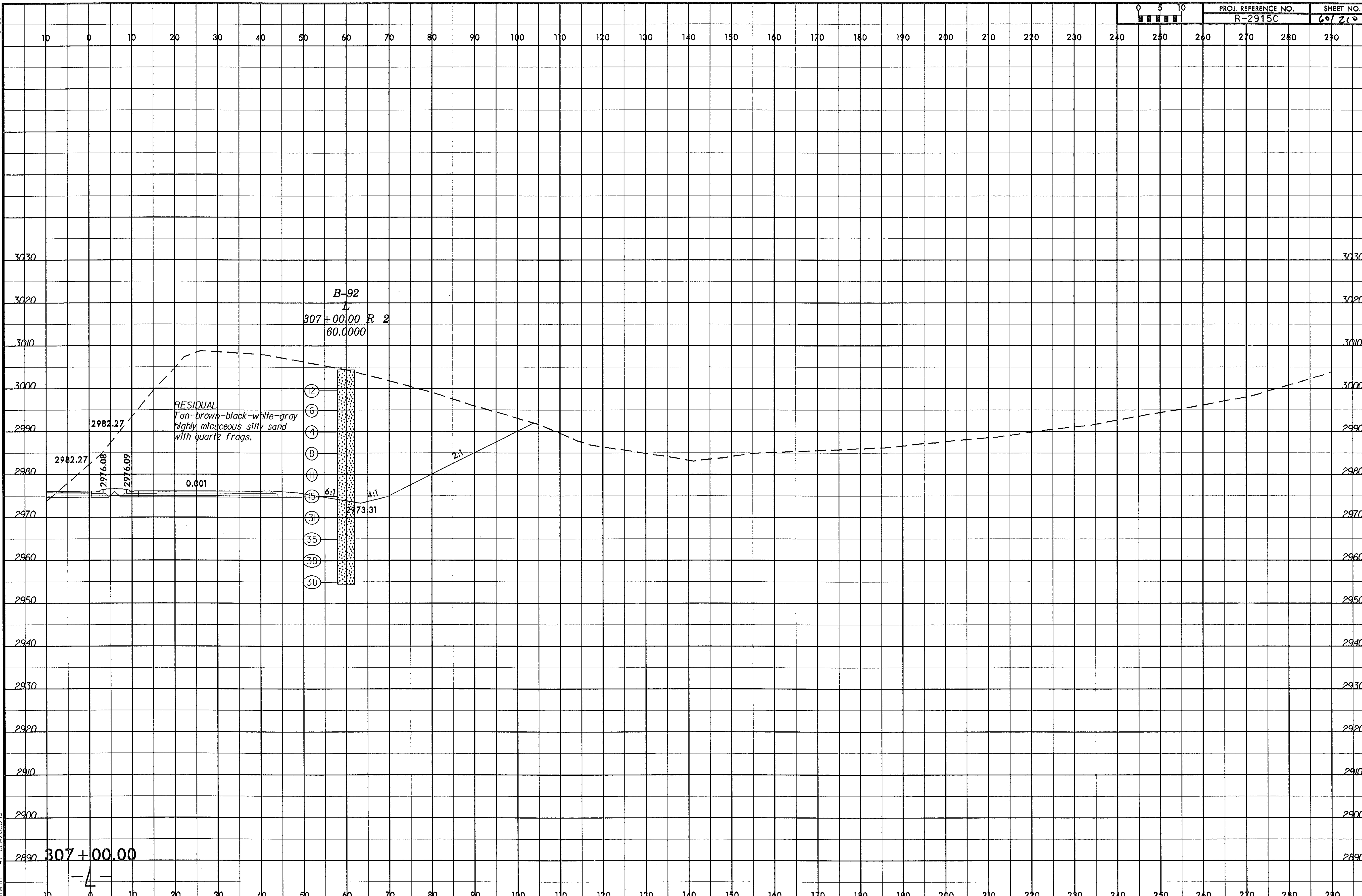
8/23/99

14-NOV-2013 09:42
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093



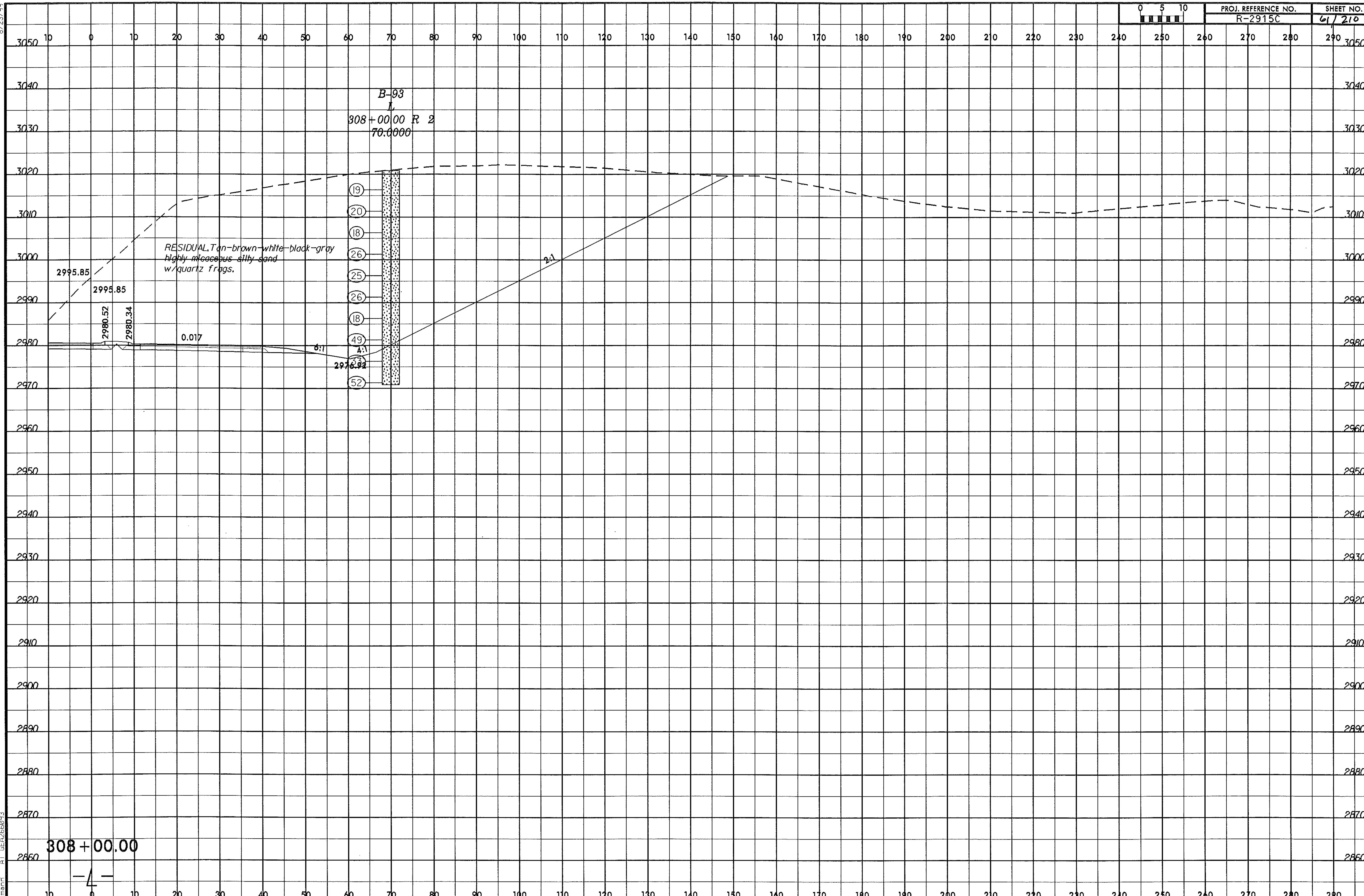
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
0 5 10
8/23/99
2964.71
2966.00
0.060
2942.13
2942.13
2:1
B-89
L
303+00.00 R 2
110.0000
B-91
L
303+00.00 R 2
170.0000
60/0.0
WEATHERED ROCK (Mica Schist/Gneiss)
100/1.0
60/0.0
CRYSTALLINE ROCK Crystalline rock (Gneiss)
303+00.00
-4-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	60/210



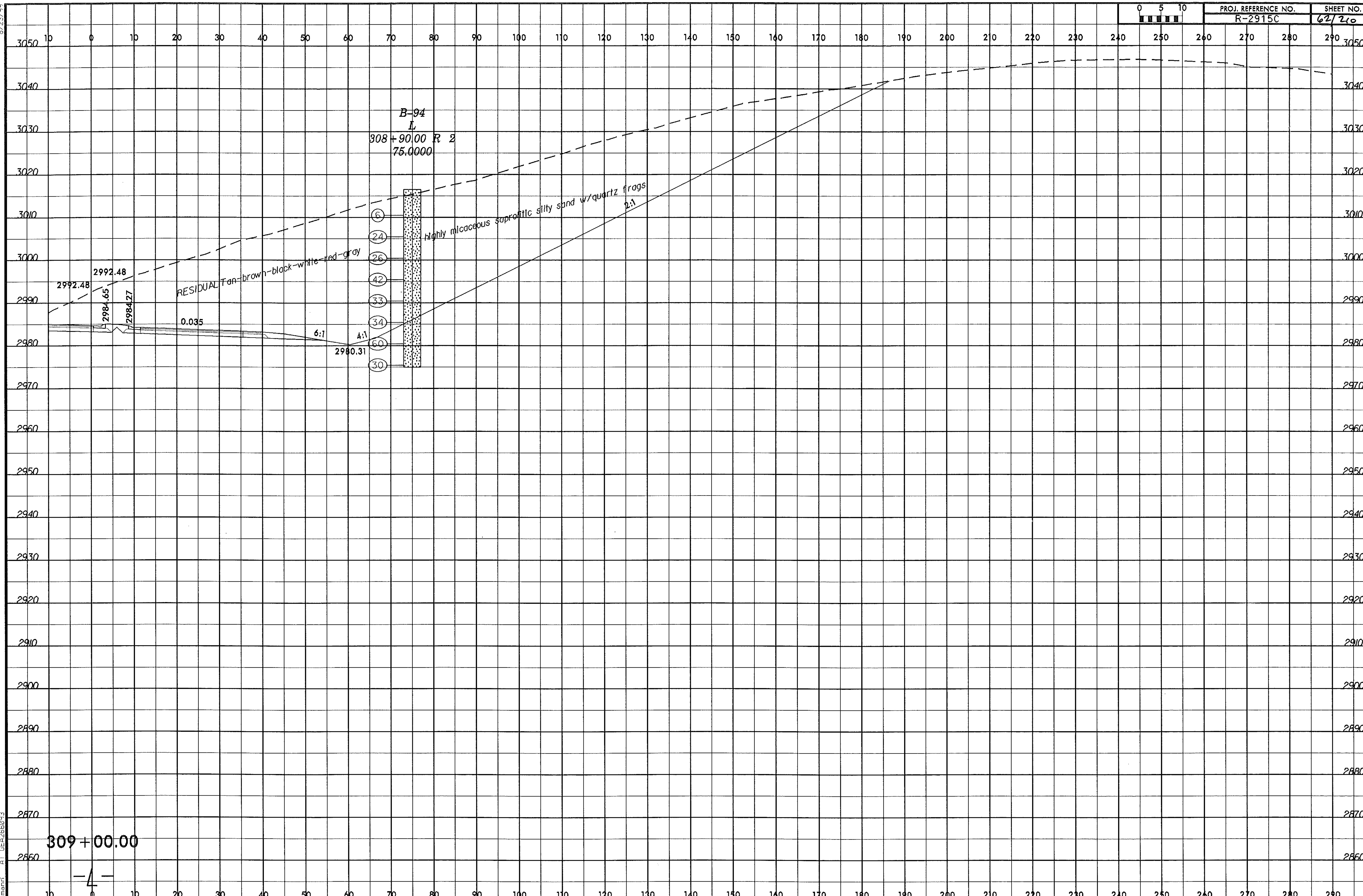
8/23/99

19-NOV-2013 15:23 ... Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn

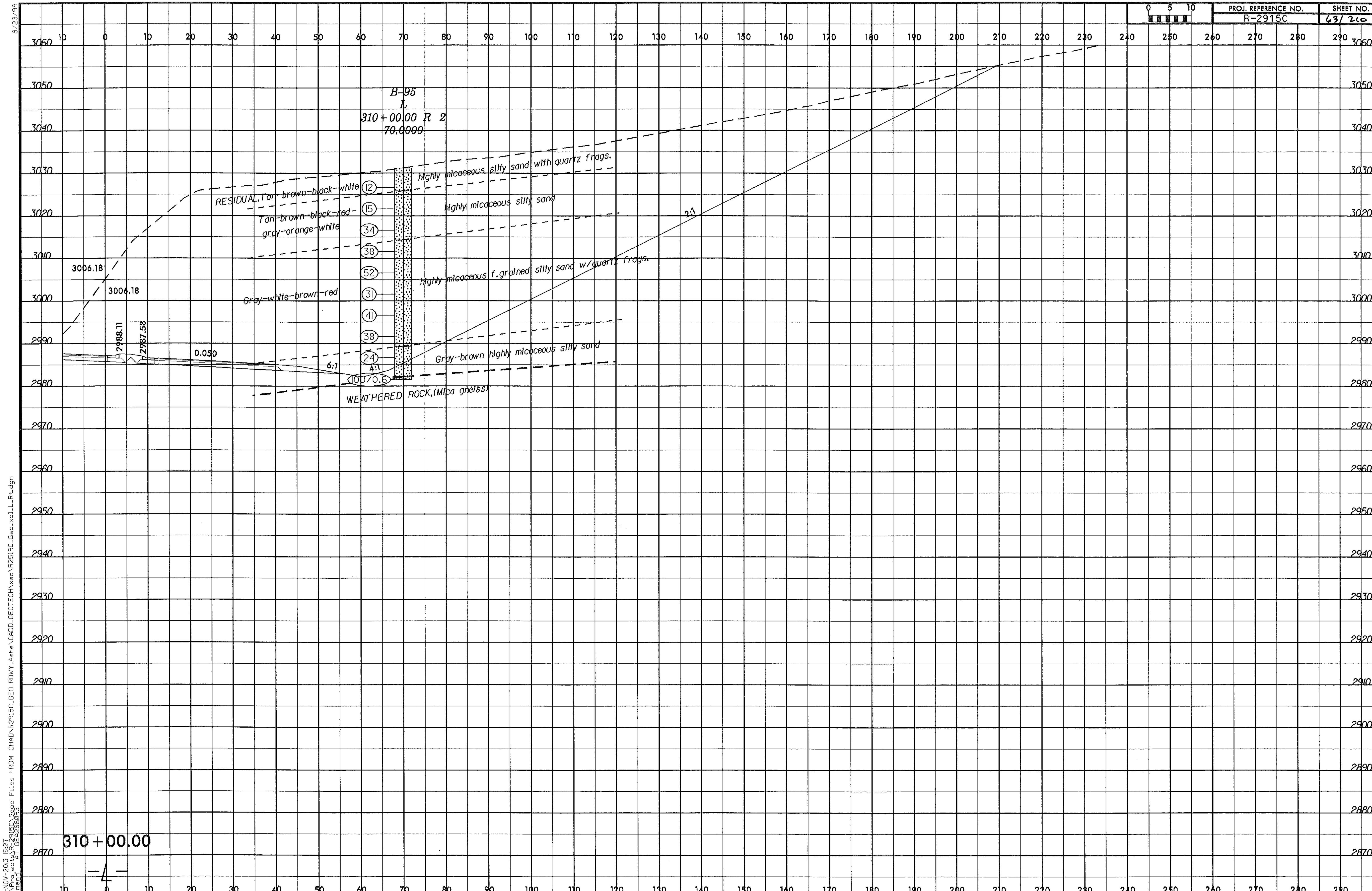


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
61/210
0 5 10
B-93
L
308+00.00 R 2
70.0000
RESIDUAL,Tan-brown-white-black-gray highly micaceous silty sand w/quartz frags.
2995.85
2995.85
2980.52
2980.34
0.017
6:1
4:1
2976.92
2:1
19
20
18
26
25
26
18
49
23
52
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
2890
2880
2870
2860
10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
308+00.00
-L-
8/23/99
19-NOV-2013 15:25
G:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
lwmann AT GEA286093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	62/210



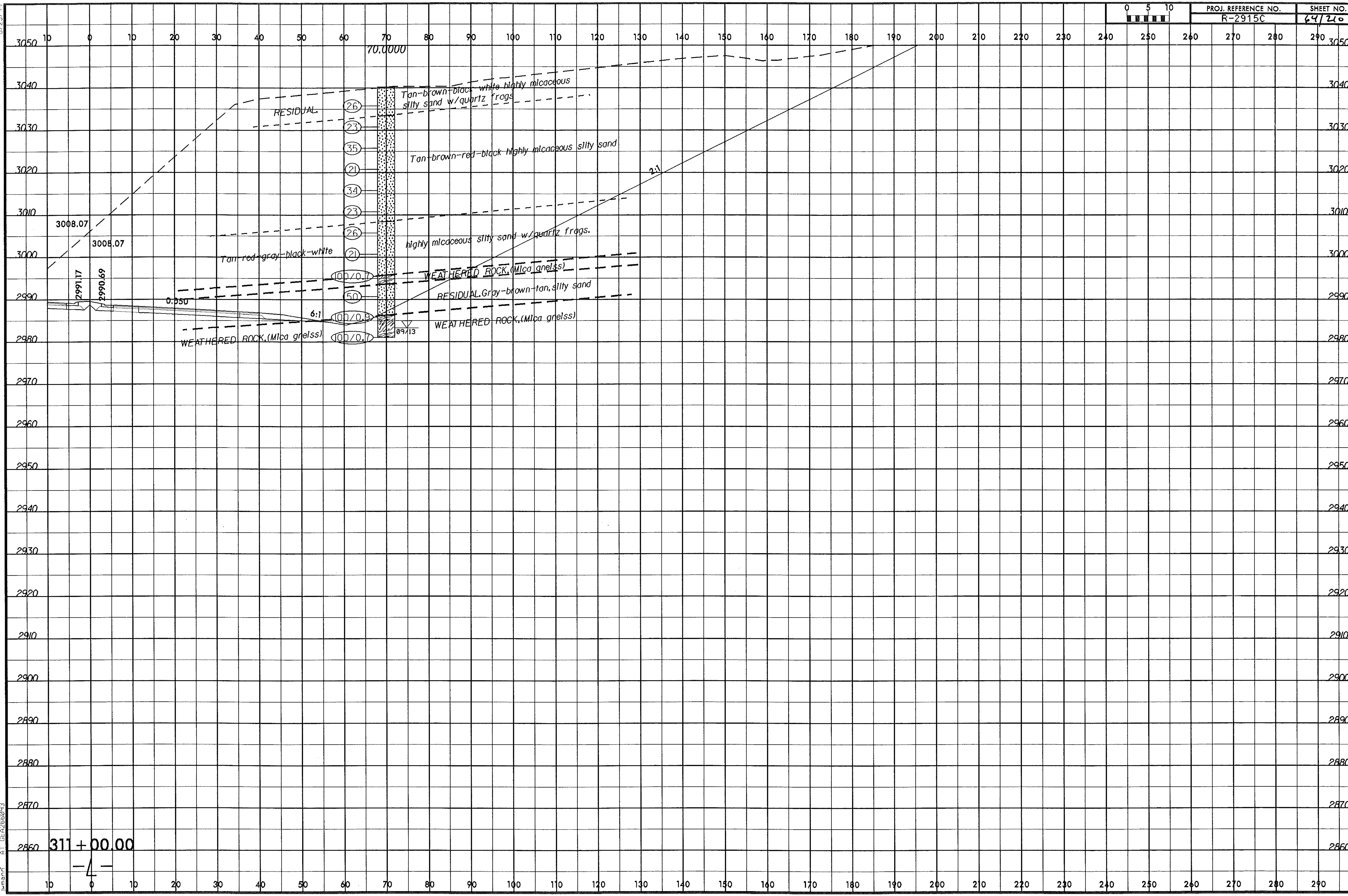
19-NOV-2013 15:26
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn
lwmann AT GEA266093



0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
63/210
B-95
L
310+00.00 R 2
70.0000
RESIDUAL.Tan-brown-black-white
highly micaceous silty sand with quartz frags.
Tan-brown-black-red-
gray-orange-white
highly micaceous silty sand
3006.18
3006.18
Gray-white-brown-red
highly micaceous f.grained silty sand w/quartz frags.
2988.11
2987.58
0.050
6:1
4:1
2:1
Gray-brown highly micaceous silty sand
100/0.6
WEATHERED ROCK.(Mica gneiss)
12
15
34
38
52
31
41
38
24
310+00.00
-L-

8/23/99

19-NOV-2013 15:27
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
wmann AT GEA286093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
64/210
0 5 10
70.0000
Tan-brown-black-white highly micaceous silty sand w/quartz frags
RESIDUAL
Tan-brown-red-black highly micaceous silty sand
Tan-red-gray-black-white highly micaceous silty sand w/quartz frags.
WEATHERED ROCK (Mica gneiss)
RESIDUAL, Gray-brown-tan, silty sand
WEATHERED ROCK (Mica gneiss)
WEATHERED ROCK (Mica gneiss)
26
23
35
21
34
23
26
21
100/0.7
50
100/0.3
100/0.7
09/13
2:1
6:1
0.050
3008.07
3008.07
2991.17
2990.69
311 + 00.00
-4-

8/23/99

19-NOV-2013 15:29
C:\Projects\R-2915C_Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
hwmann AT GEA286093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	65/210

B-97
L
312+50.00 R 2
80.0000

ARTIFICIAL FILL, Red-tan f. grained silty sand

RESIDUAL. Red-tan-gray-brown-black-white gold highly micaceous silty sand w/quartz frags.

3 9 23 11 40 60/0.1

3000.29

2994.44

2993.91

3000.29

0.04ft

6:1

4:1

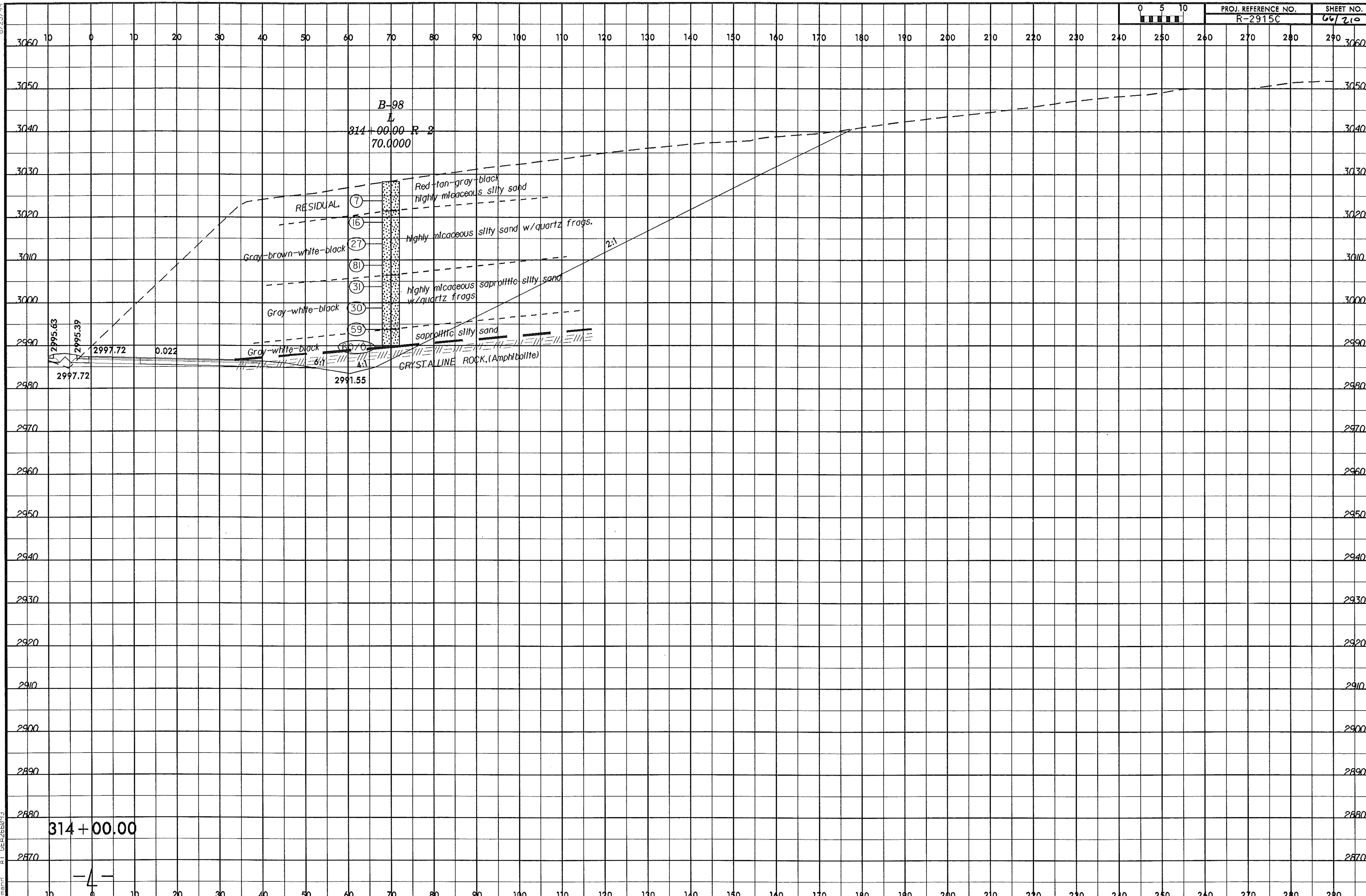
2988.98

CRYSTALLINE ROCK, (Amphibolite)

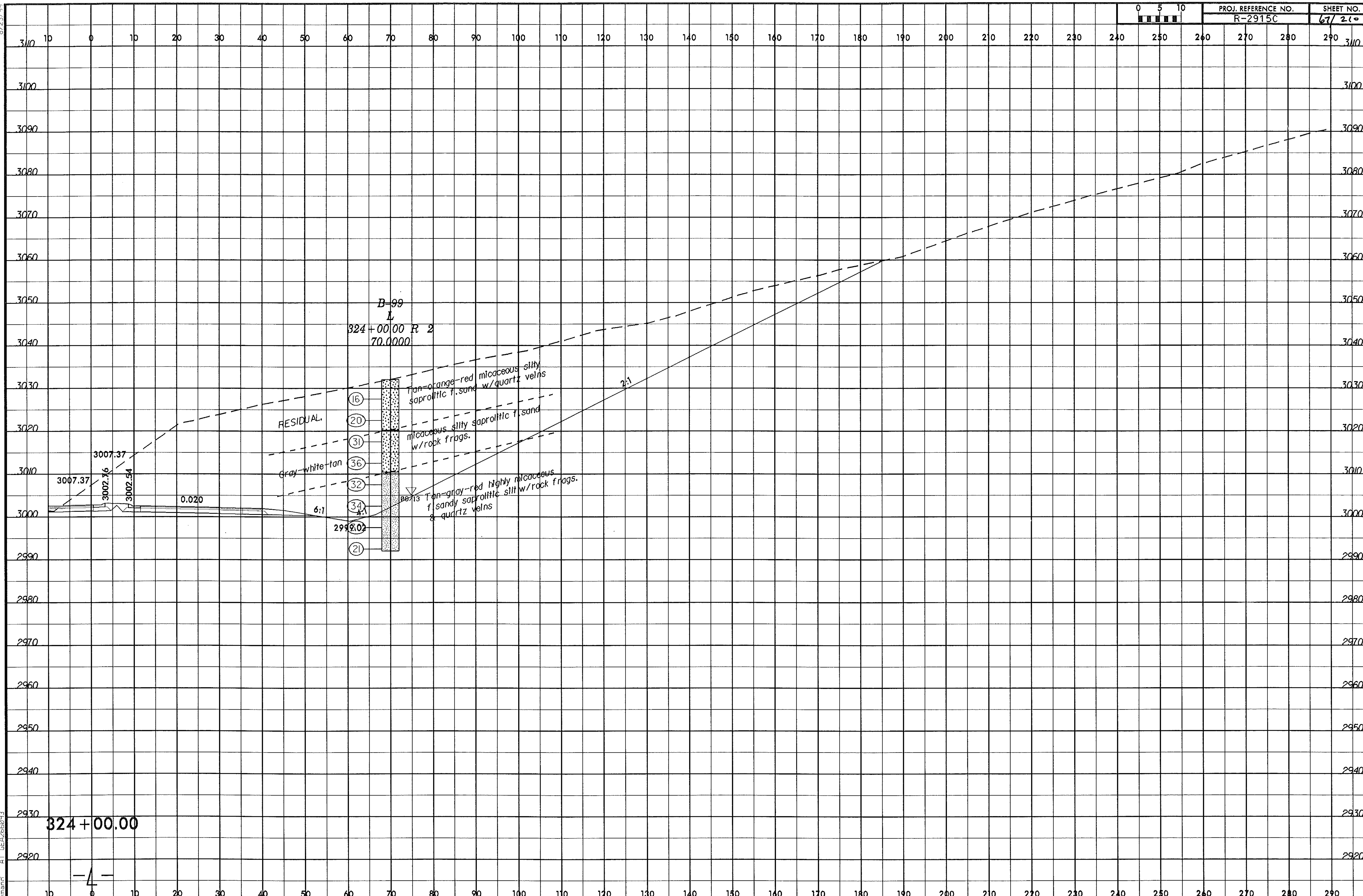
312+50.00

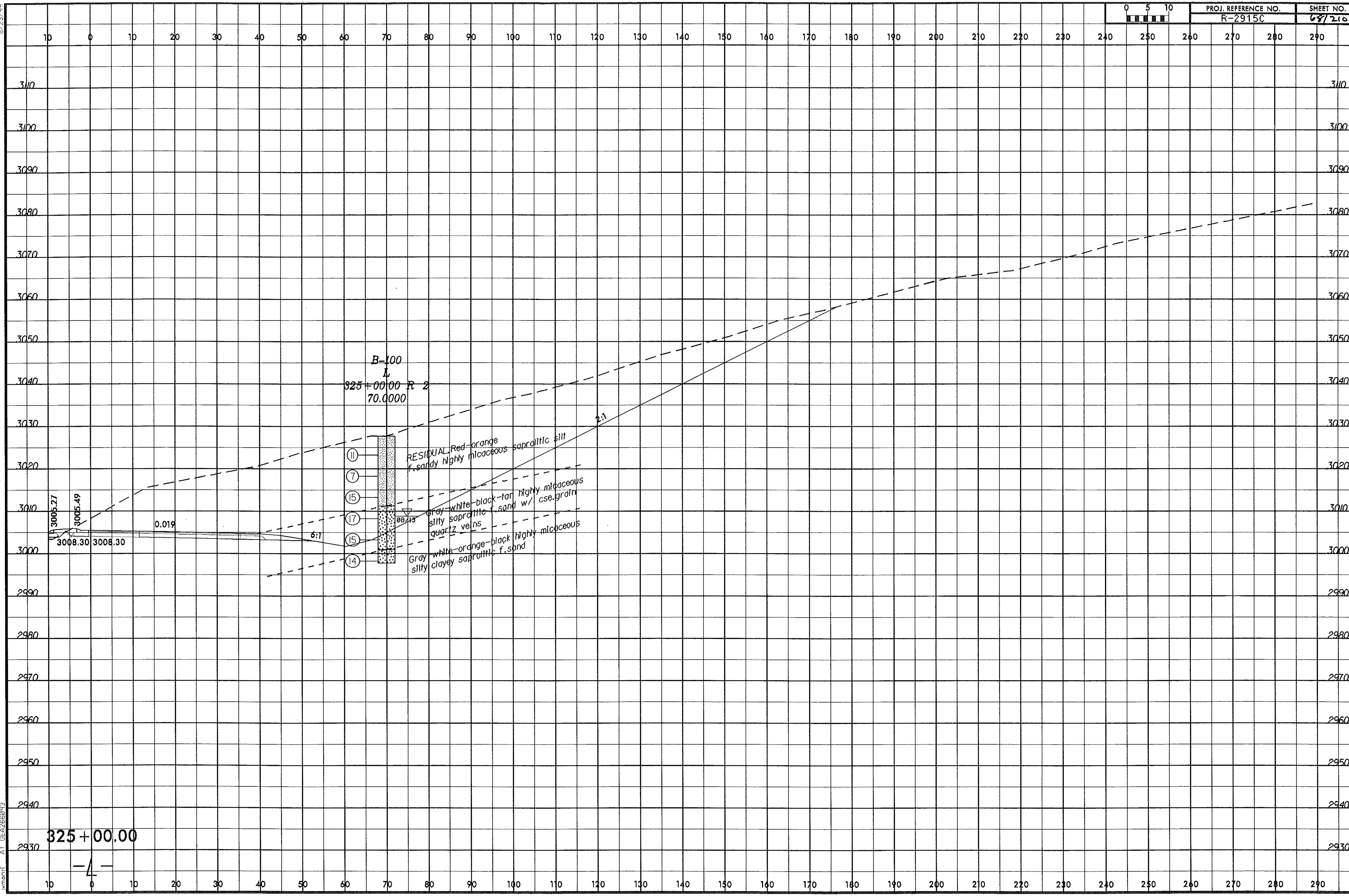
-4-

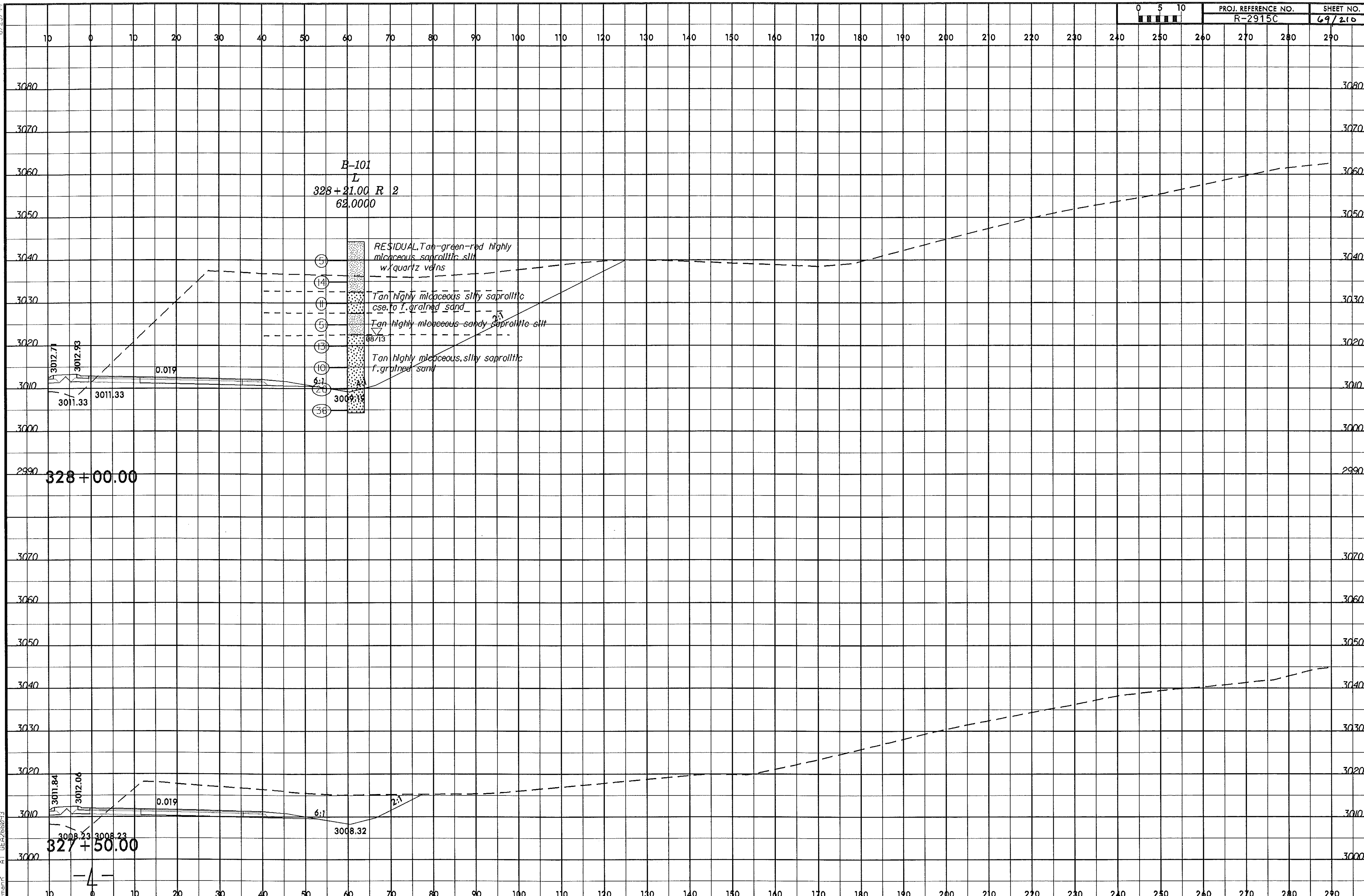
19-NOV-2013 15:30
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\DADD_GEOTECH\xsc\R2915C_Geo_xpLL_Rt.dgn
kmann
41 GE2280913



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
66/210
0 5 10
B-98
L
314+00.00 R 2
70.0000
Red-tan-gray-black
highly micaceous silty sand
RESIDUAL
highly micaceous silty sand w/quartz frags.
Gray-brown-white-black
highly micaceous saprolitic silty sand
w/quartz frags
Gray-white-black
saprolitic silty sand
Gray-white-black
CRYSTALINE ROCK.(Amphibolite)
7
16
27
81
31
30
59
60/0
2:1
6:1
4:1
2995.63
2995.39
2997.72
0.022
2997.72
2991.55
314+00.00
-4-

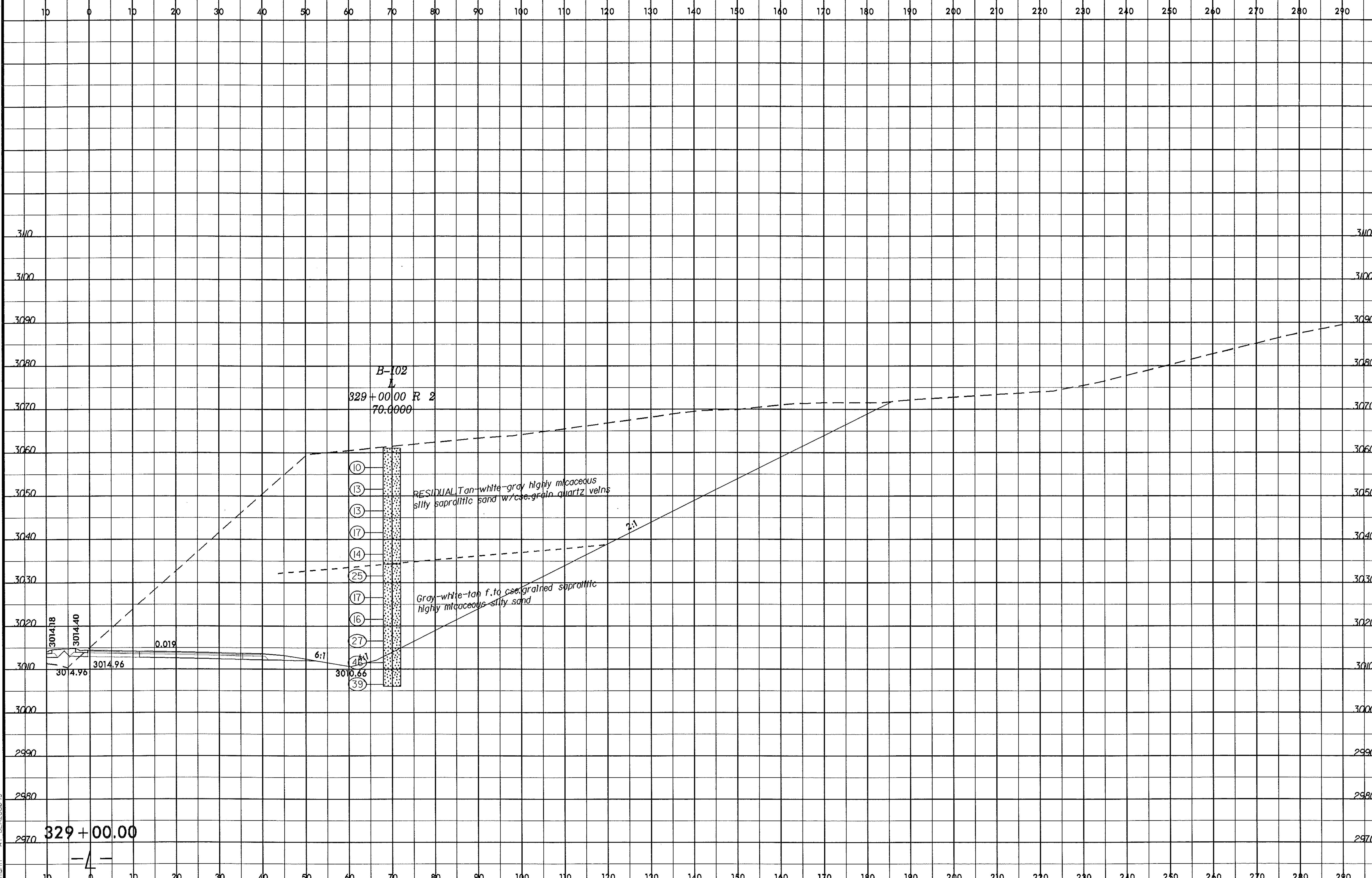

PROJ. REFERENCE NO.
R-2915C
SHEET NO.
67/210
B-99
L
324+00.00 R 2
70.0000
Tan-orange-red micaceous silty saprolitic f.sand w/quartz veins
RESIDUAL
micaceous silty saprolitic f.sand w/rock frags.
Gray-white-tan
Tan-gray-red highly micaceous f.sandy saprolitic silt w/rock frags. & quartz veins
3007.37
3002.76
3002.54
0.020
6:1
2999.02
2:1
324+00.00
-4-


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
68/210
0 5 10
B-100
L
325+00.00 R 2
70.0000
RESIDUAL Red-orange
f.sandy highly micaceous saprolitic silt
Gray-white-black-tan highly micaceous
silty saprolitic f.sand w/ cse.grain
quartz veins
Gray white-orange-black highly micaceous
silty clayey saprolitic f.sand
11
7
15
17
15
14
08/13
2:1
6:1
0.019
3005.27
3005.49
3008.30 3008.30
325+00.00
-4-



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
69/210
0 5 10
B-101
L
328+21.00 R 2
62.0000
RESIDUAL,Tan-green-red highly micaceous saprolitic silt w/quartz veins
Tan highly micaceous silty saprolitic cse.to f.grained sand
Tan highly micaceous sandy saprolitic silt
Tan highly micaceous,silty saprolitic f.grained sand
08/13
5
14
11
5
13
10
26
36
2:1
6:1
0.019
3012.71
3012.93
3011.33
3011.33
3009.19
328+00.00
3011.84
3012.06
3008.23
3008.23
3008.32
327+50.00
-4-
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	70/210



0 5 10
B-102
L
329+00.00 R 2
70.0000
RESIDUAL Tan-white-gray highly micaceous
silty saprolitic sand w/cse.grain quartz veins
Gray-white-tan f.to cse.grained saprolitic
highly micaceous silty sand
2:1
6:1
4:1
0.019
3014.18
3014.40
3014.96
3014.96
3010.66
10
13
13
17
14
25
17
16
27
46
39
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290
329+00.00
-L-

8/23/99

19-NOV-2013 15:41
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn
lwmann AT GEA266093

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	7/210

B-103
L
330+00.00 R 2
70.0000

10	RESIDUAL. Tan-white-gray highly micaceous f.grained sandy saprolitic silt
9	
11	
11	
19	White-gray-tan highly micaceous silty f.grained saprolitic sand
30	
39	08/13
24	
18	White-gray-tan black highly micaceous sandy saprolitic silt
10 9 7 0.5	WEATHERED ROCK (Schist seam)
67	RESIDUAL. Tan-black-white highly micaceous cse.to f.grained sandy saprolitic silt

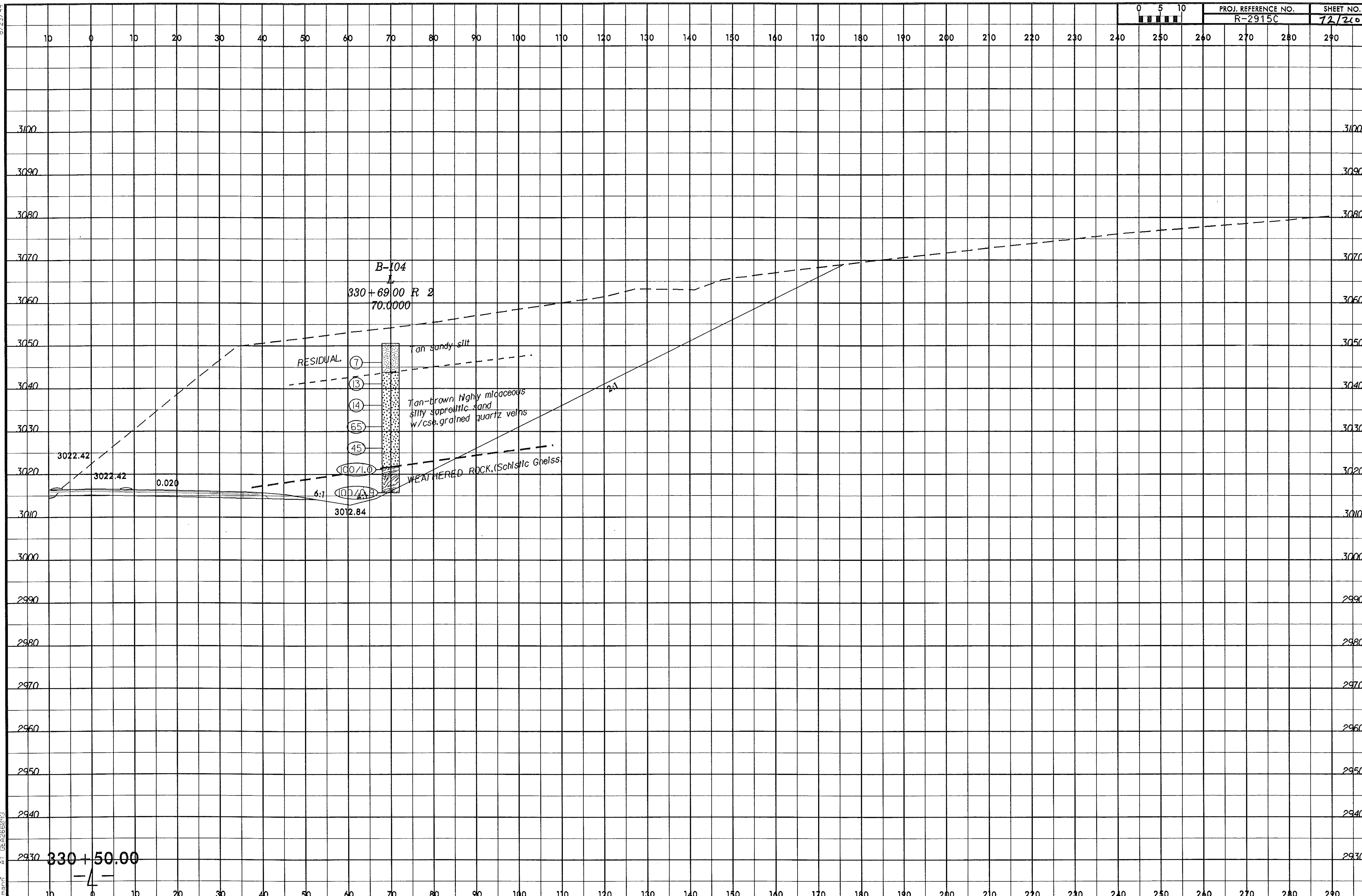
3016.61 0.020 3016.61

6:1 4:1 2:1

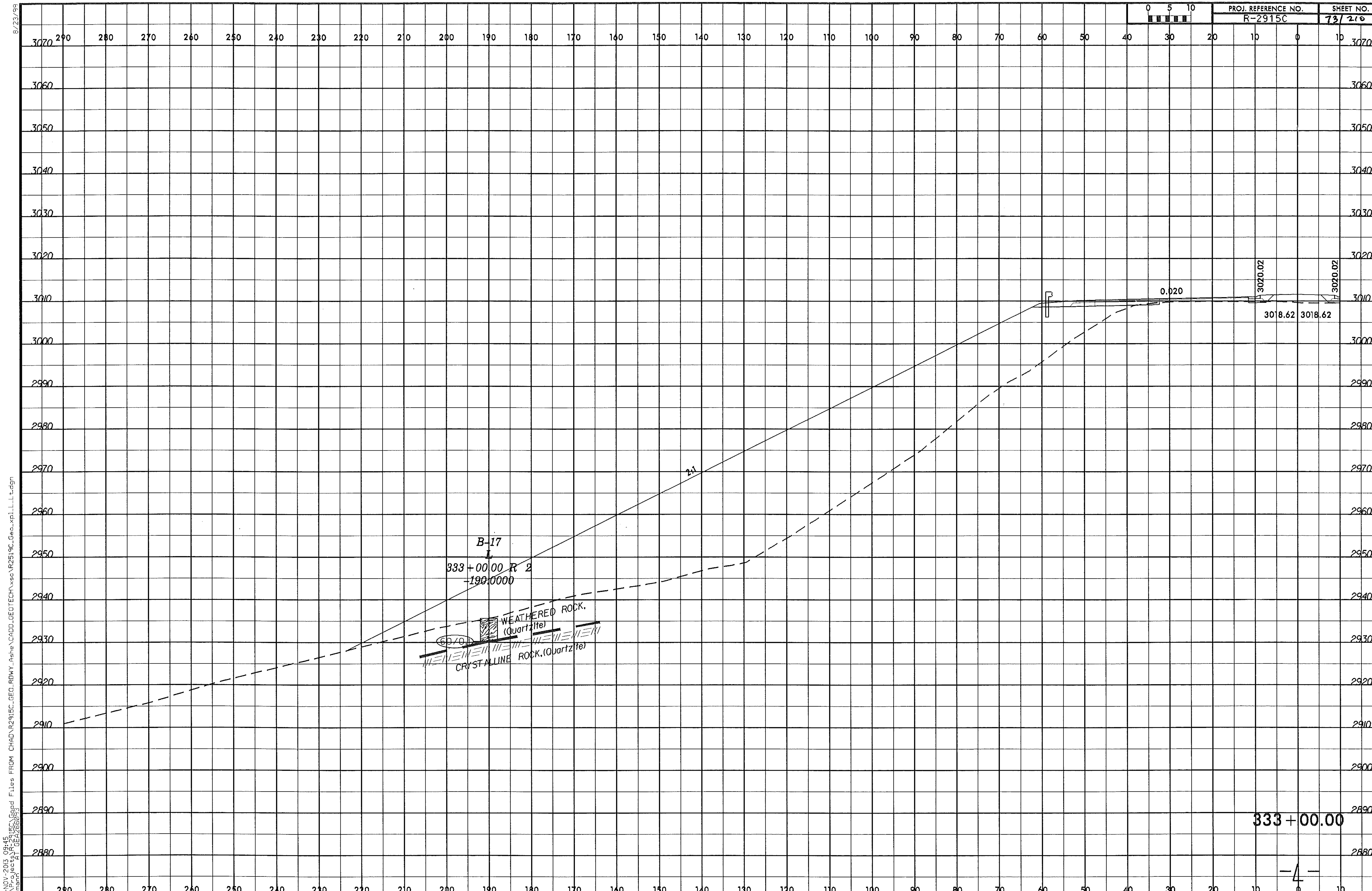
330+00.00

-4-

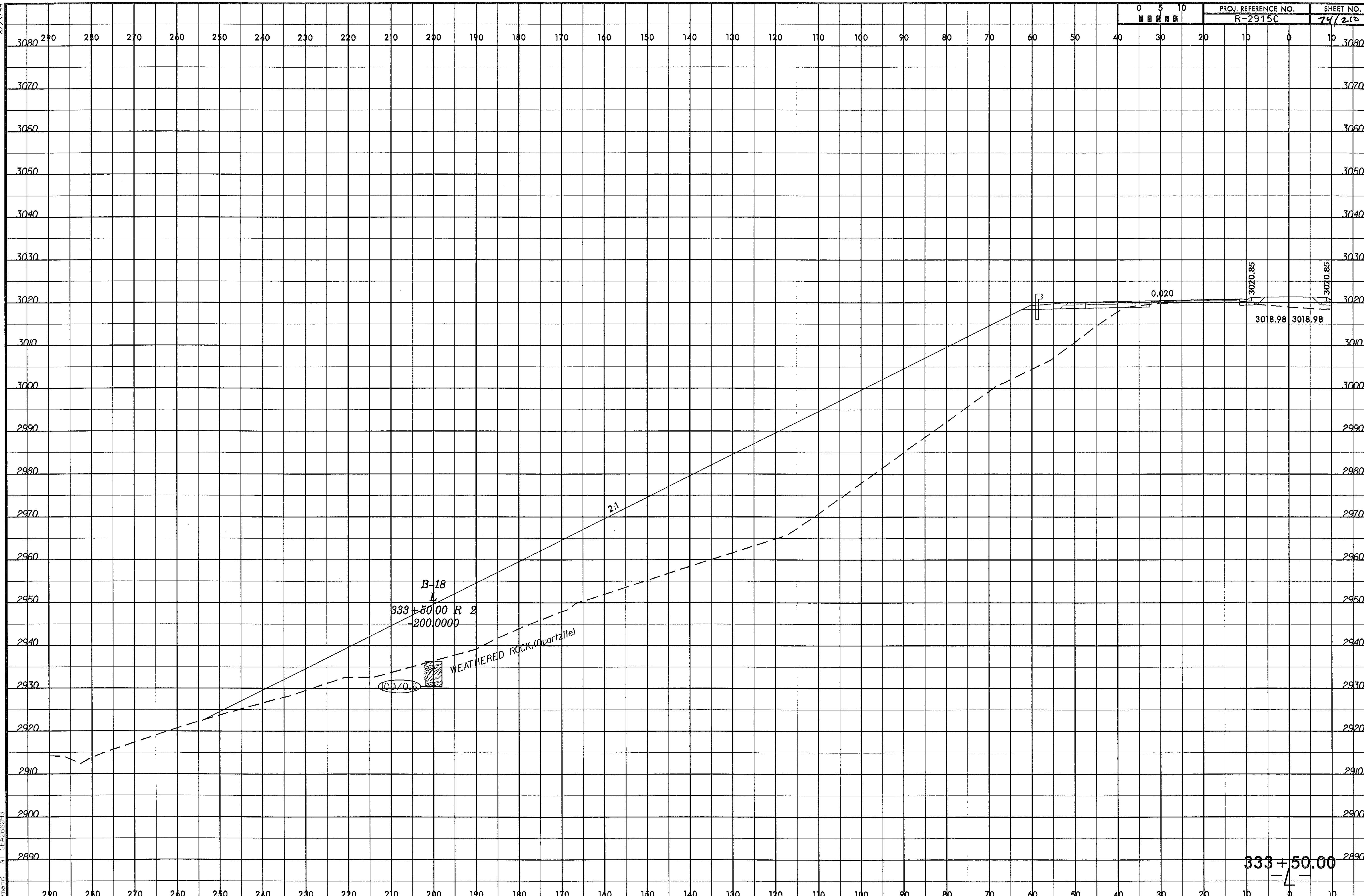
19-NOV-2013 15:43
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLL_Rt.dgn
lwsam
DEFAULT



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
72/210
B-104
L
330+69.00 R 2
70.0000
Tan sandy silt
RESIDUAL
Tan-brown highly micaceous silty saprolitic sand w/cse. grained quartz veins
WEATHERED ROCK (Schistic Gneiss)
7
13
14
65
45
100/1.0
100/0.9
3022.42
3022.42
0.020
6:1
2:1
3012.84
330+50.00
-L-

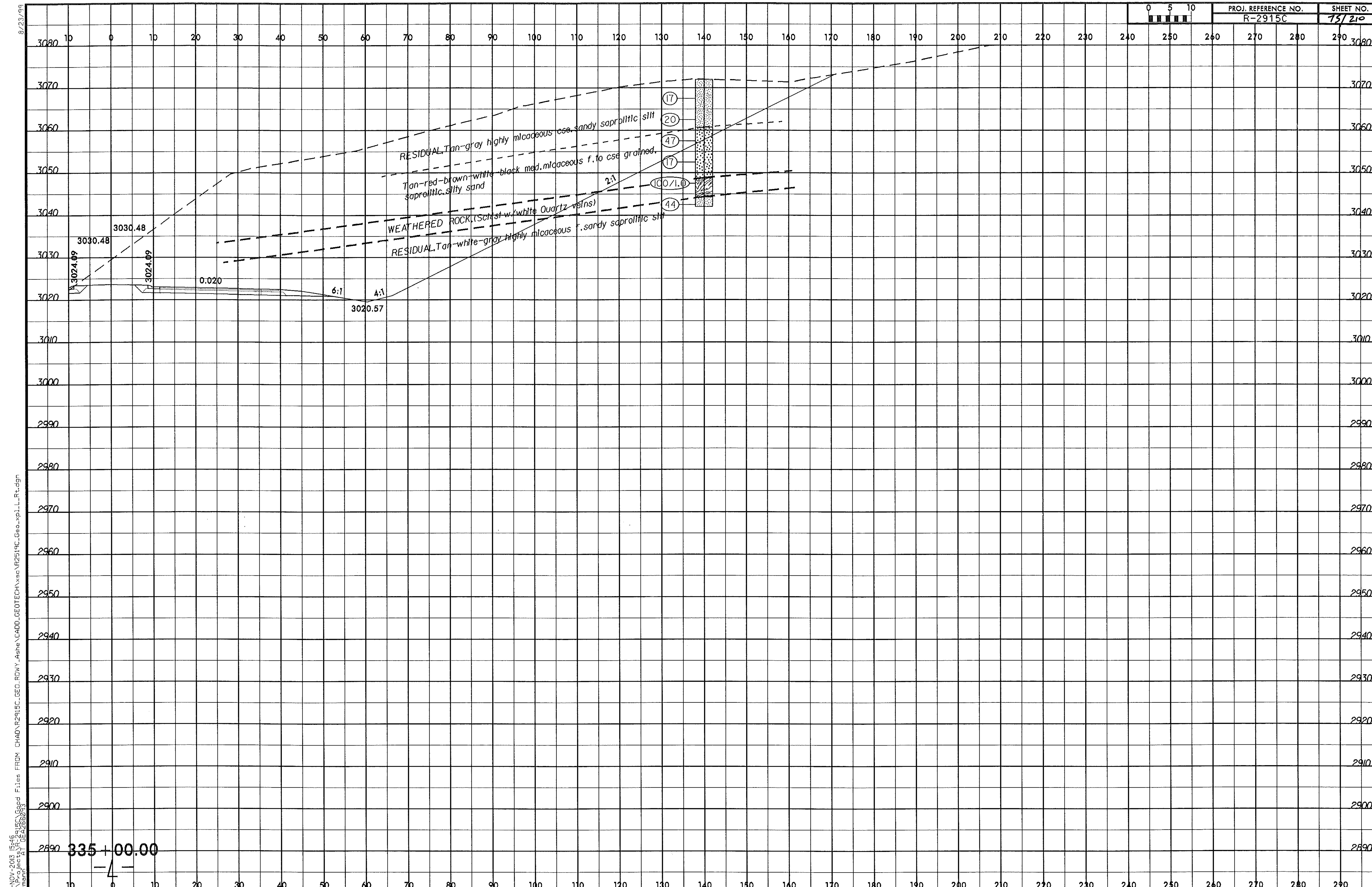


0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
73/210
8/23/99
B-17
L
333+00.00 R 2
-190.0000
WEATHERED ROCK.
(Quartzite)
60/0.1
CRYSTALLINE ROCK.(Quartzite)
2:1
0.020
3020.02
3020.02
3018.62
3018.62
333+00.00
-4-
14-NOV-2013 09:45
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn



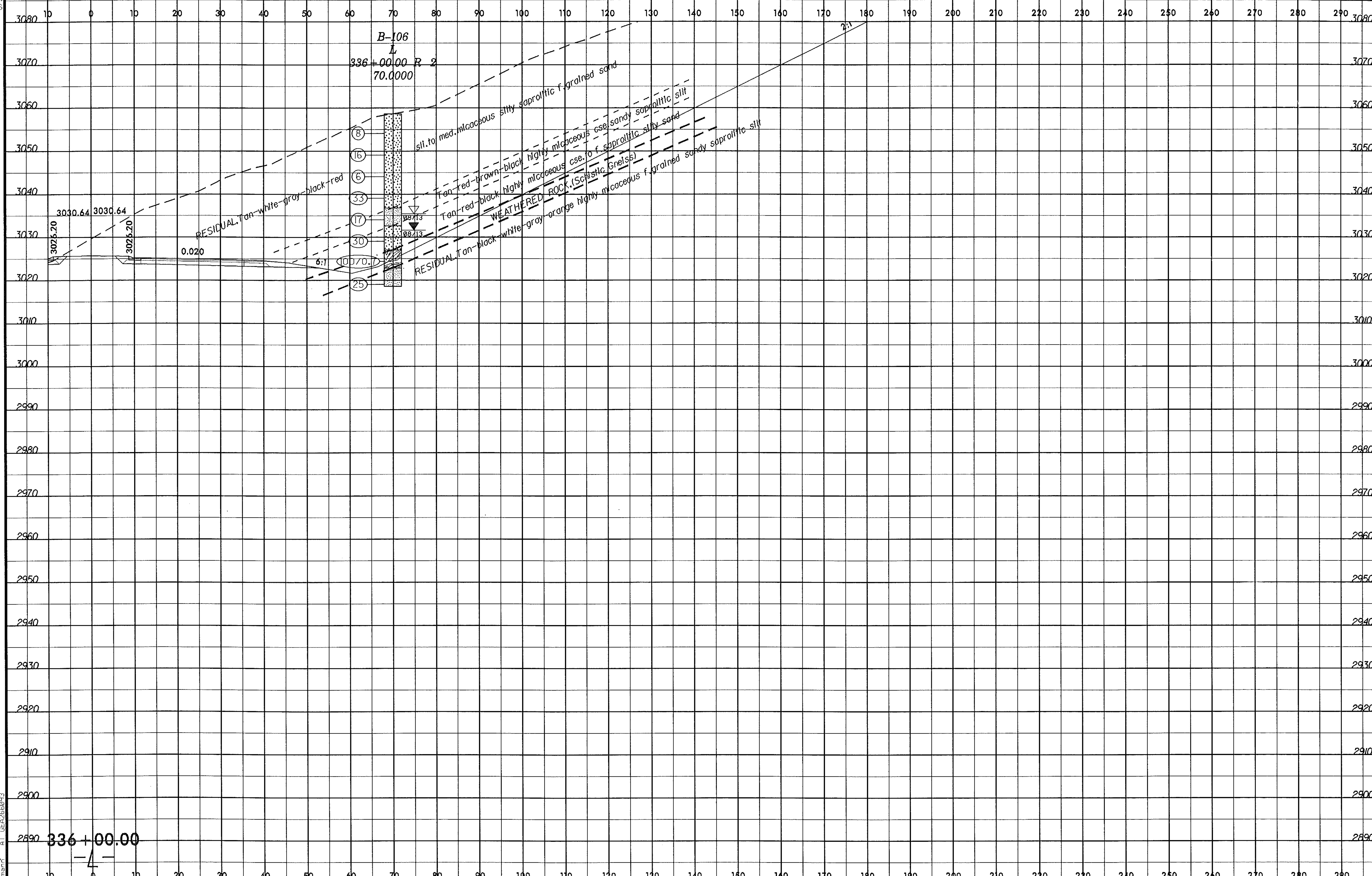
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
74/210
0 5 10
8/23/99
B-18
L
333+50.00 R 2
-200.0000
WEATHERED ROCK,(Quartzite)
100/0.6
2:1
0.020
3020.85
3020.85
3018.98
3018.98
333+50.00
-L-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	75/210

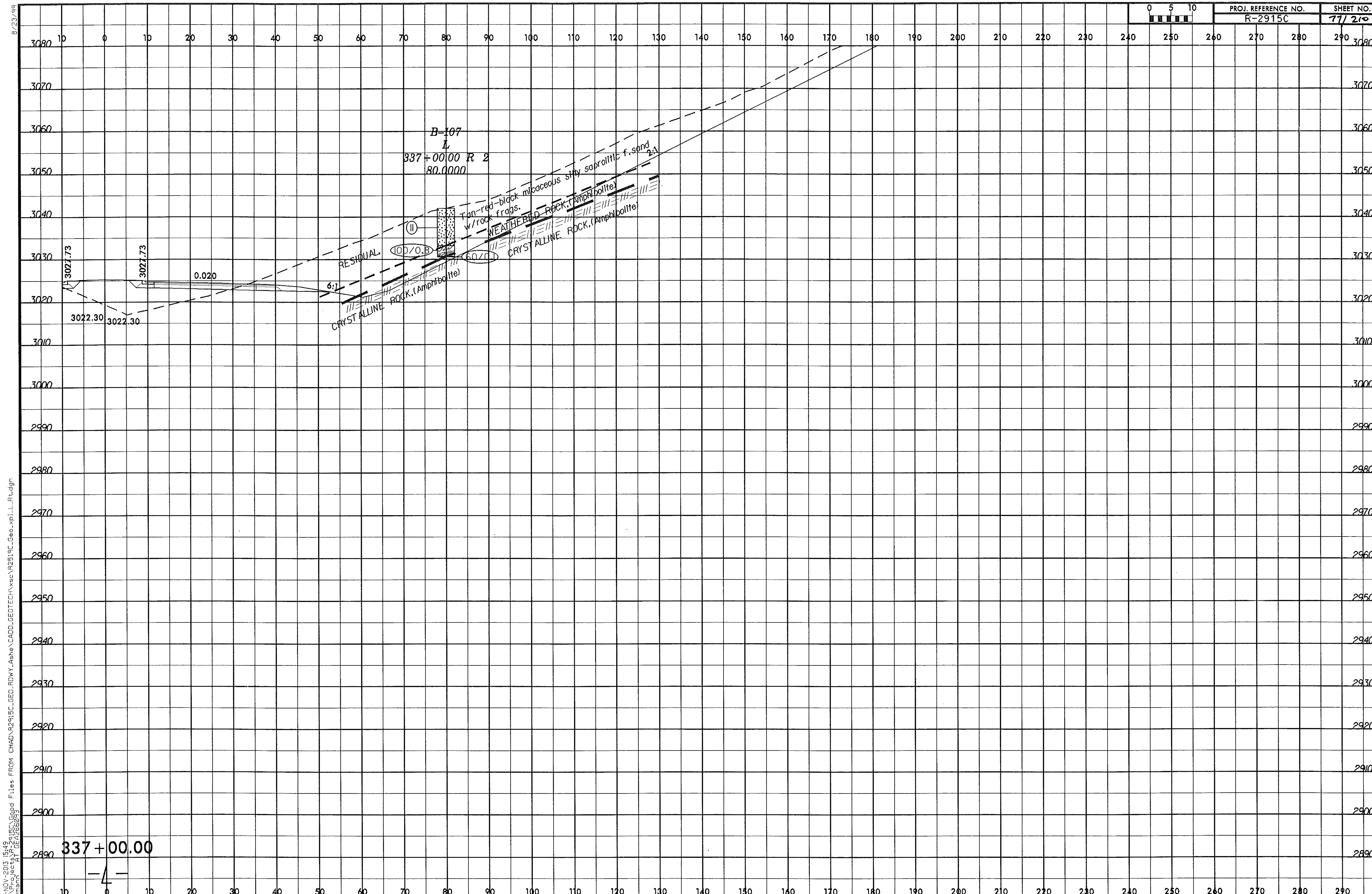


8/23/99
RESIDUAL,Tan-gray highly micaceous cse.sandy saprolitic silt
Tan-red-brown-white-black med.micaceous f.to cse grained, saprolitic,silty sand
WEATHERED ROCK,(Schist w/white Quartz veins)
RESIDUAL,Tan-white-gray highly micaceous f.sandy saprolitic silt
17
20
47
17
100/1.0
44
2:1
6:1
4:1
0.020
3030.48
3030.48
3024.09
3024.09
3020.57
335+00.00
-L-
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900
2890
10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290
19-NOV-2013 15:46
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
lwmann AT GEA26093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	76/210



19-NOV-2013 15:48
R:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
77/210
0 5 10
B-107
L
337+00.00 R 2
80.0000
Tan-red-black micaceous silty saprolitic f. sand w/rock frags.
RESIDUAL
WEATHERED ROCK,(Amphibolite)
CRYSTALLINE ROCK,(Amphibolite)
CRYSTALLINE ROCK,(Amphibolite)
100/0.8
60/0.1
11
6:1
2:1
0.020
3027.73
3027.73
3022.30
3022.30
337+00.00
-L-

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	18/20

B-108
L
338+00.00 R 2
65.0000

RESIDUAL Tan-red-orange

Dark red-tan-orange

Highly micaceous silty saprolitic f.sand w/rock frags.

Highly micaceous sandy saprolitic silt

Dark red-tan-orange-white-gray slt to highly micaceous silty saprolitic f.sand

med.micaceous f.sandy saprolitic silt w/cse.quartz veins

Tan-orange-white-gray

White-gray-tan-black med.micaceous silty saprolitic f.sand w/WR seams

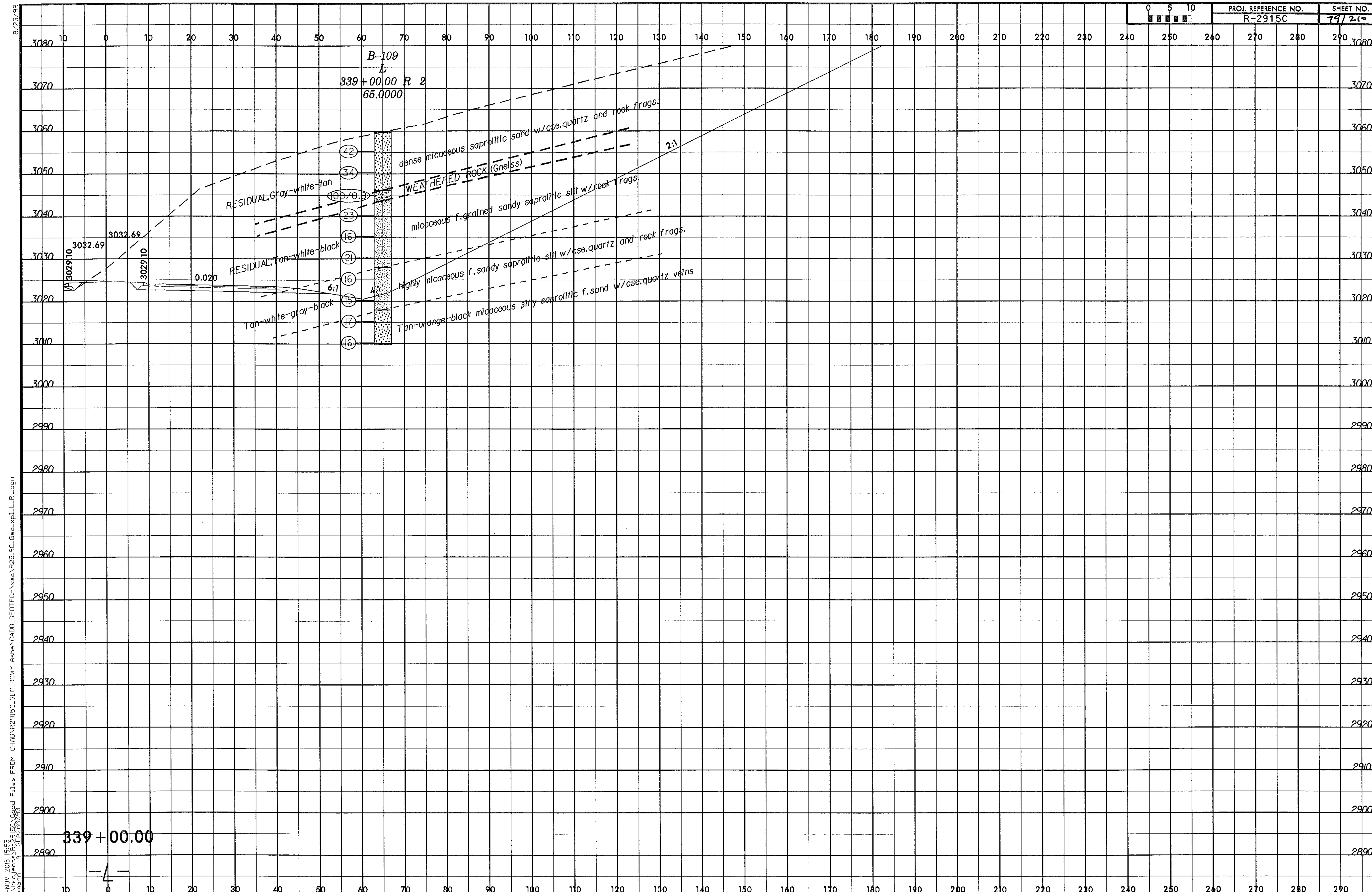
16
25
8
35
34
41
46
37
56

3032.47
3032.47
3028.70
3028.70
0.020
6:1
2:1

338+00.00

-4-

19-NOV-2013 15:51
C:\Projects\R2915C_GEO_Good Files FROM CHAD\R2915C_GEO_RDWY_Asha\CADD_GEOTECH\xsec\R2519C_Geo_xpl_L_Rt.dgn
kmarsh



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
79/210
B-109
L
339+00.00 R 2
65.0000
dense micaceous saprolitic sand w/cse.quartz and rock frags.
WEATHERED ROCK (Gneiss)
RESIDUAL,Gray-white-tan
micaceous f.grained sandy saprolitic silt w/rock frags.
RESIDUAL,Tan-white-black
highly micaceous f.sandy saprolitic silt w/cse.quartz and rock frags.
Tan-white-gray-black
Tan-orange-black micaceous silty saprolitic f.sand w/cse.quartz veins
3032.69
3032.69
3029.10
3029.10
0.020
6:1
4:1
2:1
339+00.00
8/23/99
19-NOV-2013 15:53

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	20/20

B-110
L
340+00.00 R 2
70.0000

RESIDUAL
Red-orange-white-gray

Red-orange-white-gray-black

Highly micaceous f. sandy saprolitic silt

Highly micaceous silty saprolitic f. sand

WEATHERED ROCK (Mica Schist)

CRYSTALLINE ROCK (Mica Schist)

10 11 100/0.6 50/0.0

3028.92 3028.92

3029.43 3029.43

0.020

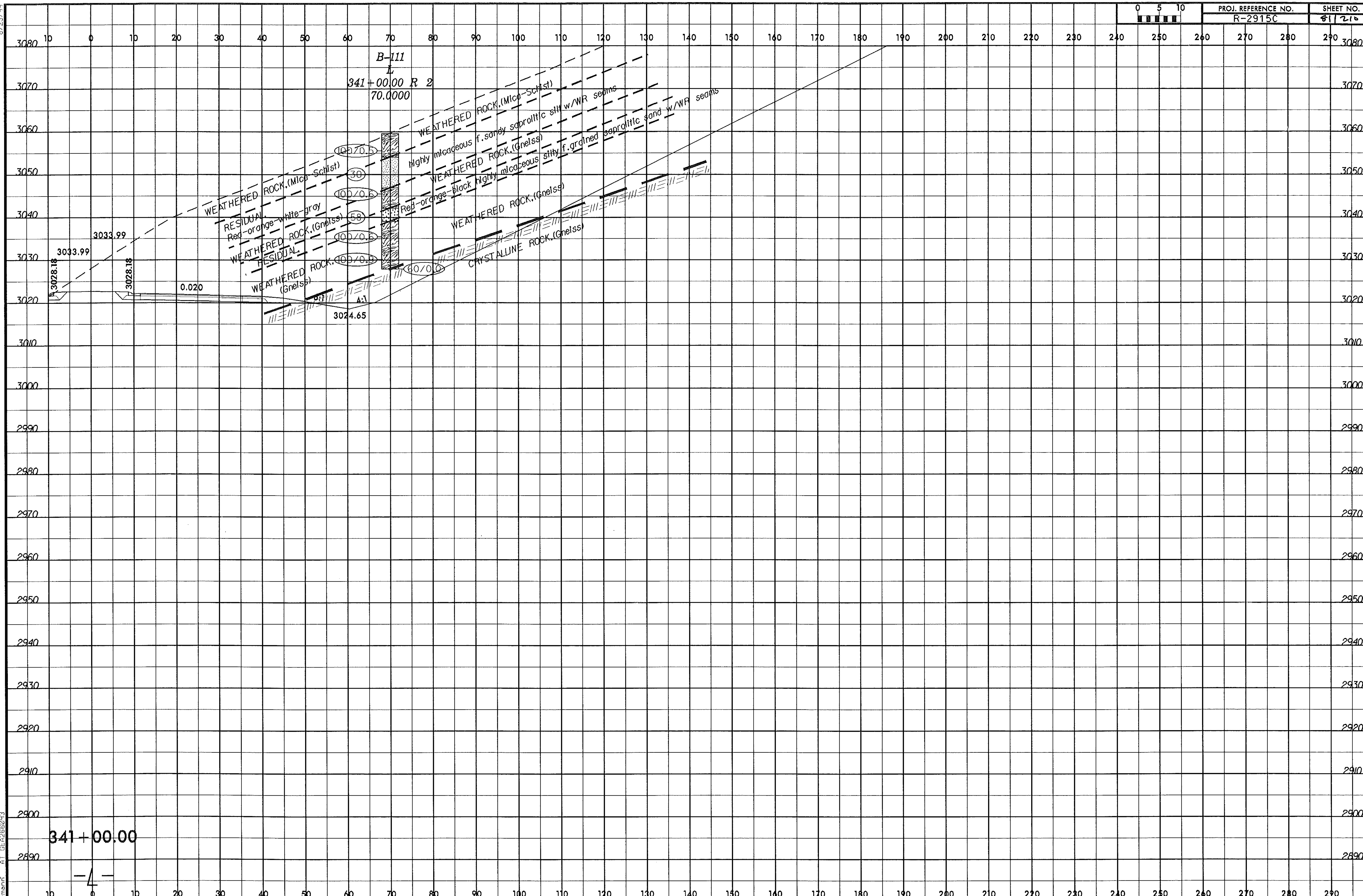
6:1 4:1

3025.40

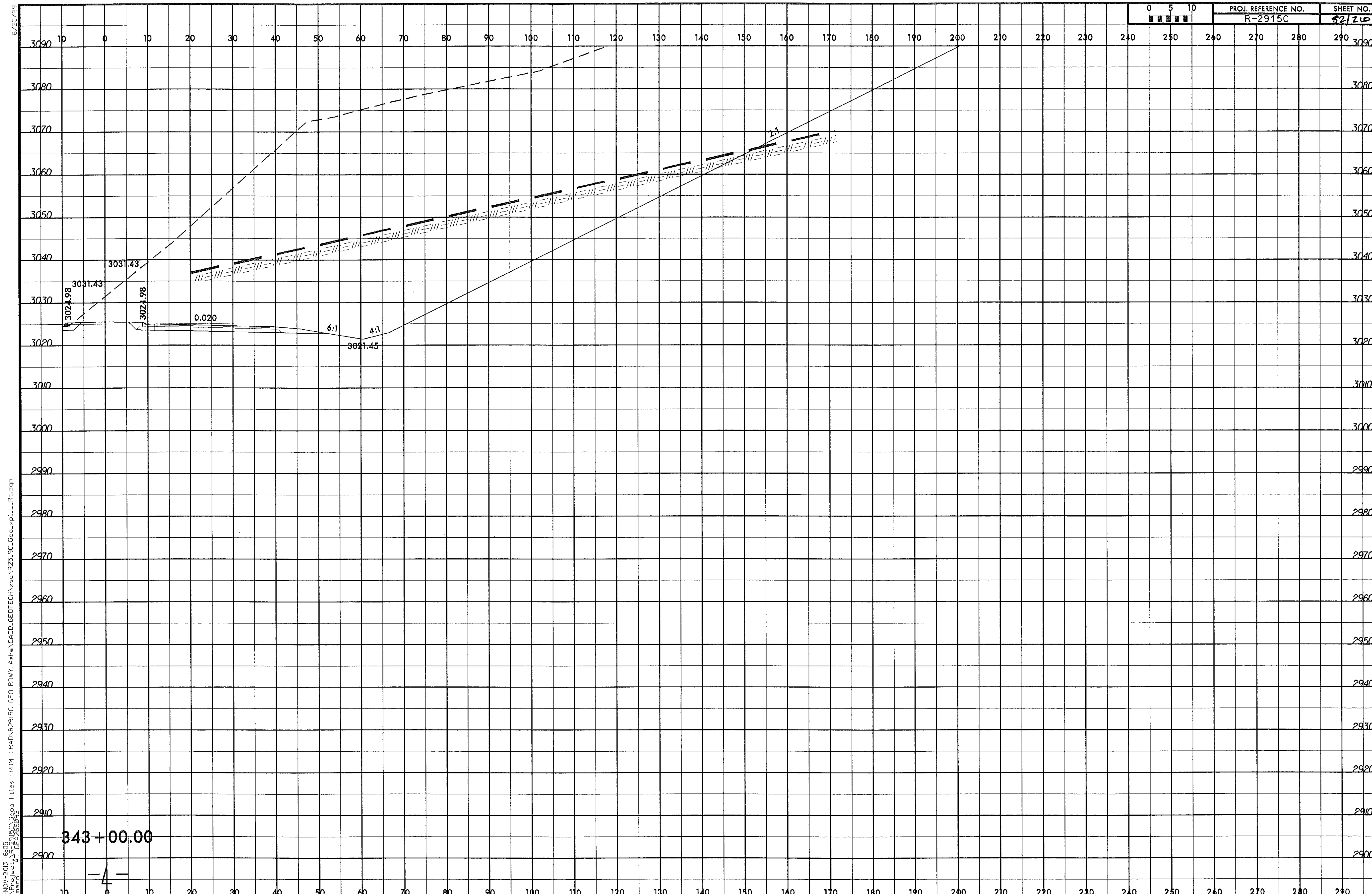
340+00.00

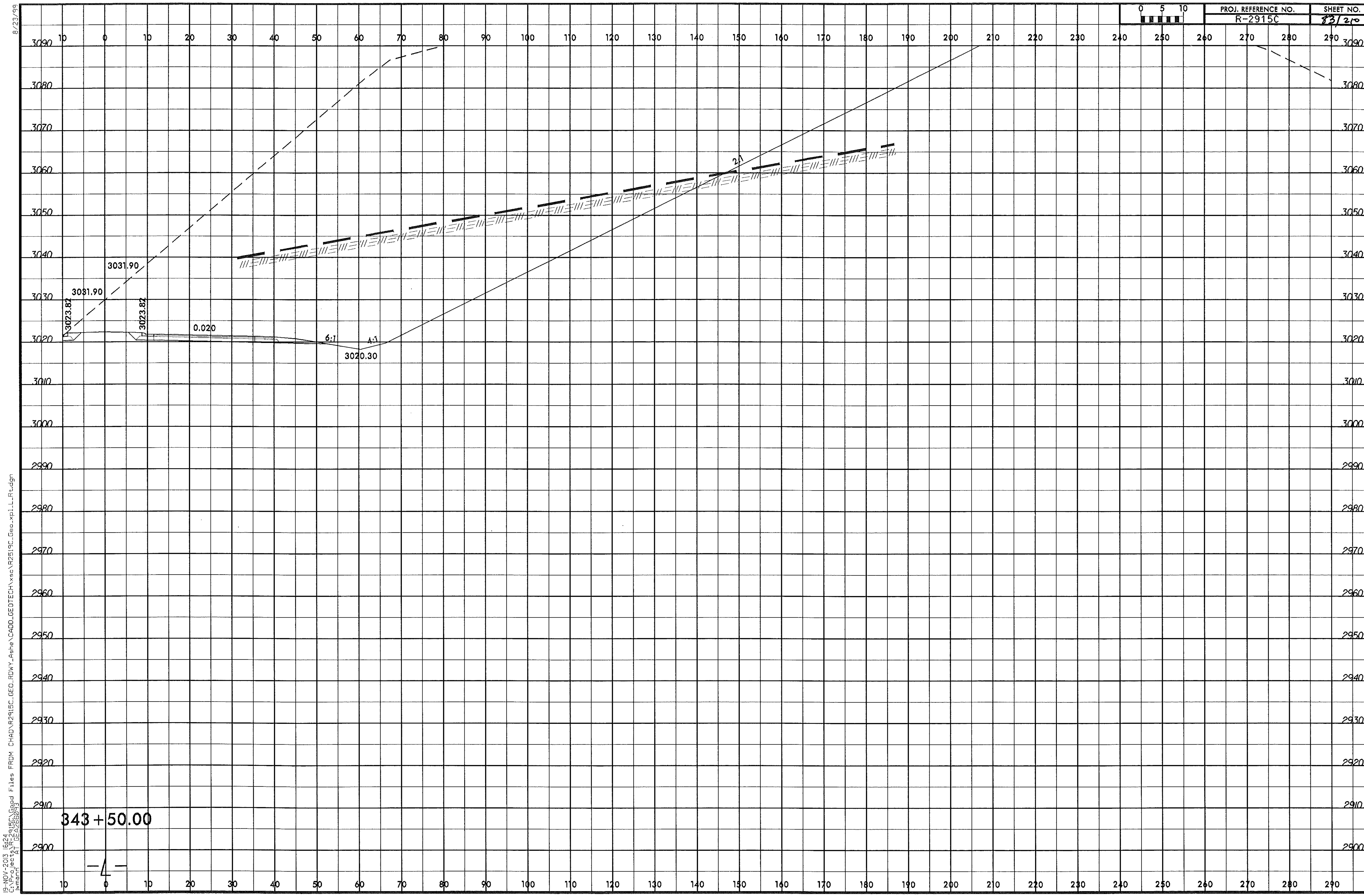
-4-

19-NOV-2013 15:54
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2819C_Geo_xpl_L_Rt.dgn
wmsmith AI GEA28803

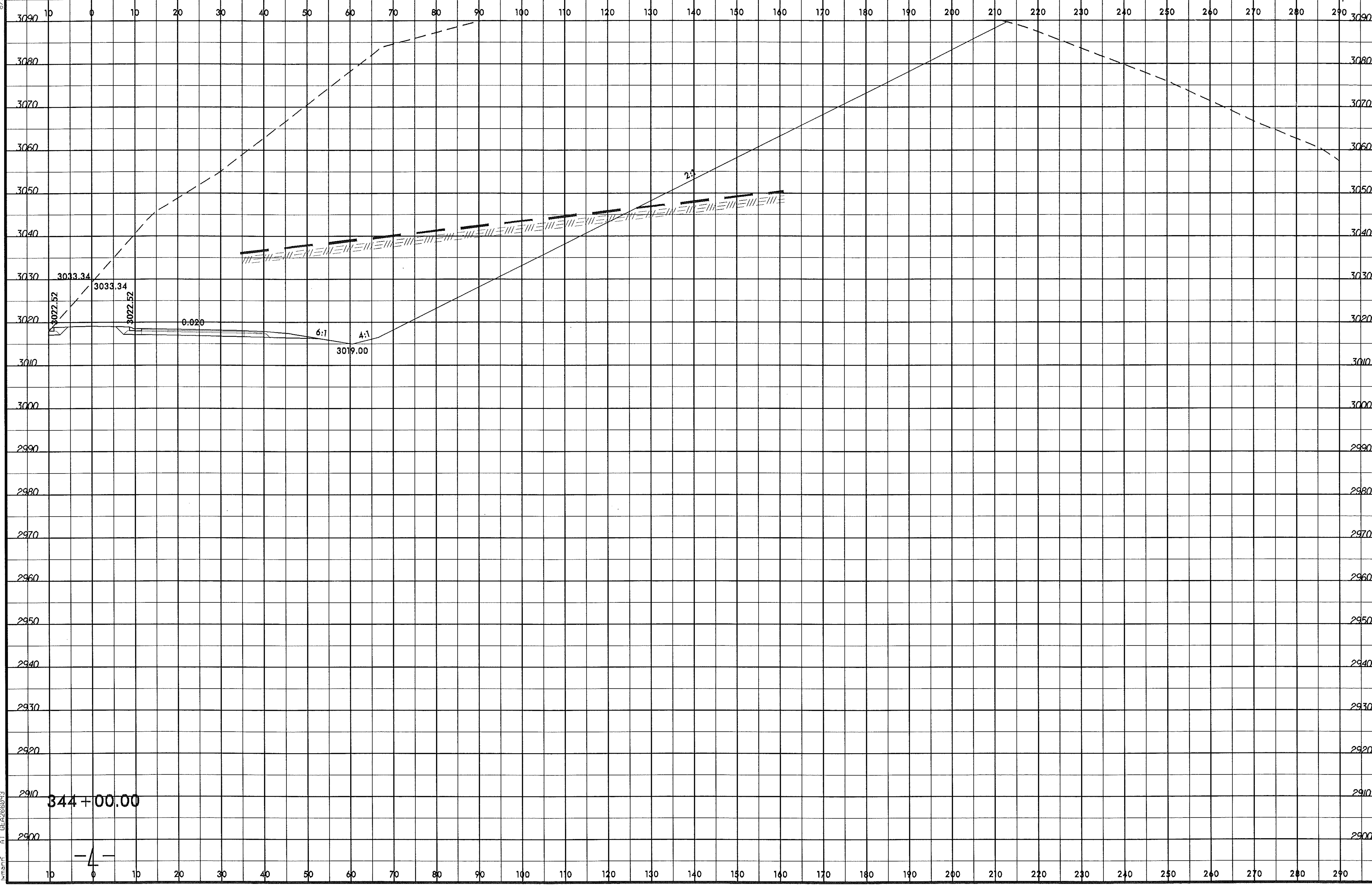

PROJ. REFERENCE NO.
R-2915C
SHEET NO.
81/210
0 5 10
B-111
L
341+00.00 R 2
70.0000
WEATHERED ROCK,(Mica-Schist)
highly micaceous f.sandy saprolitic silt w/WR seams
WEATHERED ROCK,(Gneiss)
Red-orange-black highly micaceous silty f.grained saprolitic sand w/WR seams
WEATHERED ROCK,(Mica-Schist)
RESIDUAL
Red-orange-white-gray
WEATHERED ROCK,(Gneiss)
RESIDUAL
WEATHERED ROCK,(Gneiss)
WEATHERED ROCK,(Gneiss)
CRYSTALLINE ROCK,(Gneiss)
100/0.5
30
100/0.6
58
100/0.6
100/0.9
60/0.0
3033.99
3033.99
3028.18
3028.18
0.020
4:1
3024.65
341+00.00
-4-
8/23/99
18-NOV-2013 15:58
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
lwmann AT GEA26093

PROJ. REFERENCE NO. R-2915C | SHEET NO. 82/200




PROJ. REFERENCE NO.
R-2915C
SHEET NO.
83/210
0 5 10
3031.90
3031.90
3023.82
3023.82
0.020
6:1
4:1
3020.30
2:1
343+50.00
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	84/260



8/23/99

19-NOV-2013 16:25
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lwmann AT GEA266093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	85/210

B-115
L
348+00.00 R 2
40.0000

3011.50

3012.29

0.037

(21)

micaceous silty,f to cse,grained saprolitic sand

3010.91 3010.91 RESIDUAL,
Gray-tan-white-red

(32)

100/1.0

WEATHERED ROCK,(Gneiss)

100/0.9

Red-tan-white-black
sandy micaceous saprolitic sil

RESIDUAL

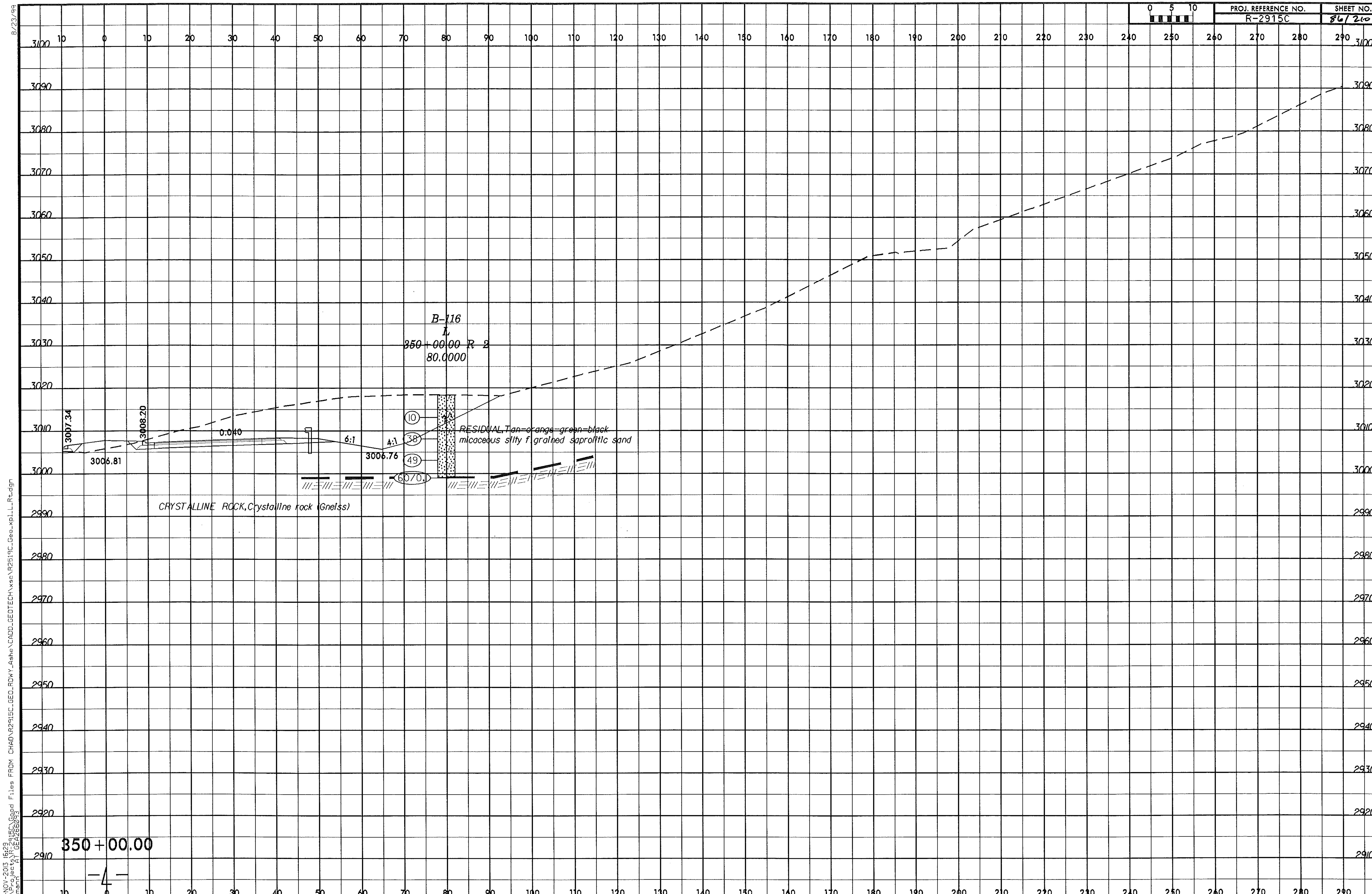
(59)

348+00.00

-4-

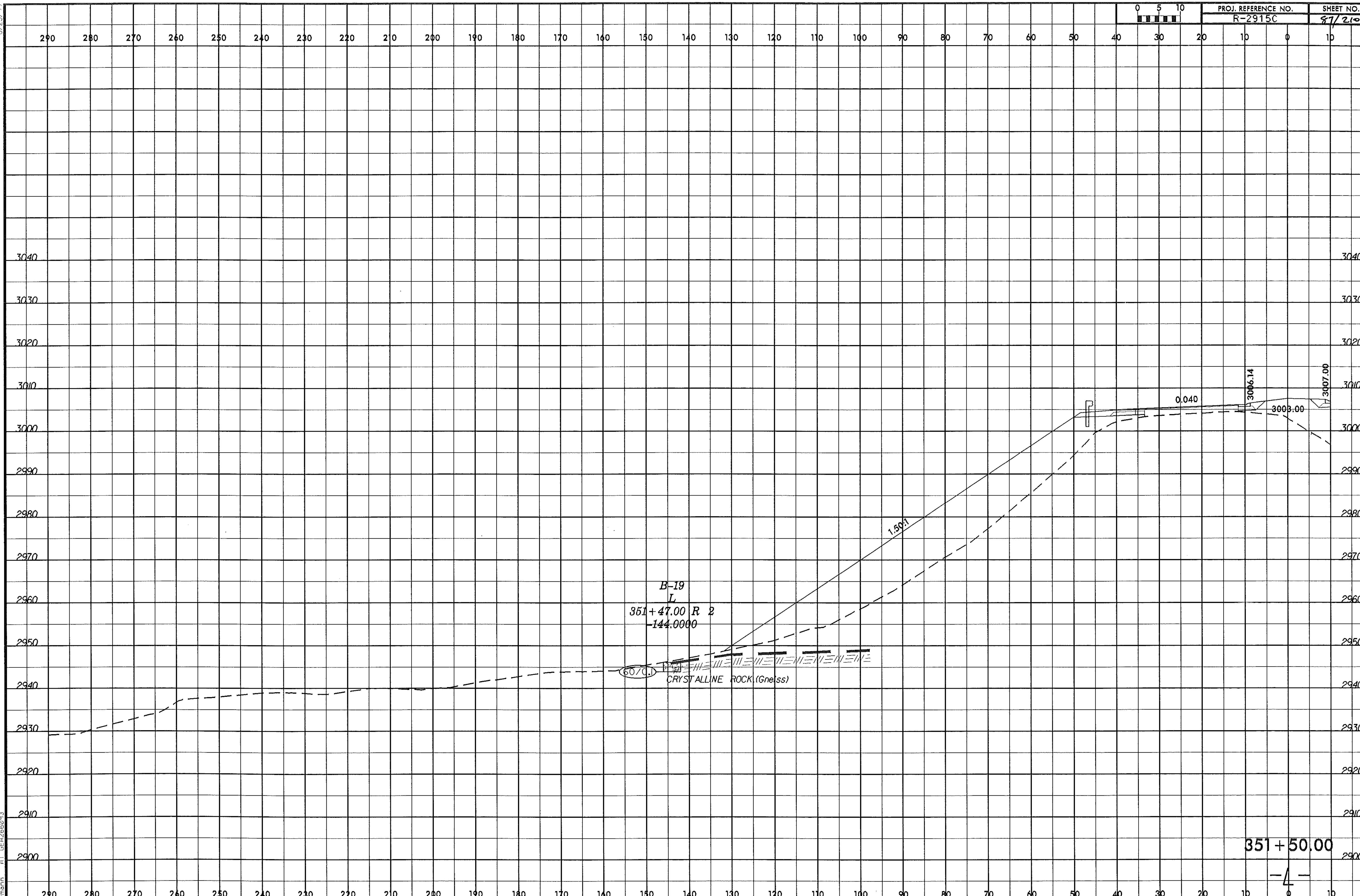
19-NOV-2013 16:27
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\rsc\R2519C_Geo_xpl_L_Rt.dgn
Jumann
AT GE=26.0073

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	86/200



19-NOV-2013 16:29 Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	87/210



8/23/99

14-NOV-2013 10:03
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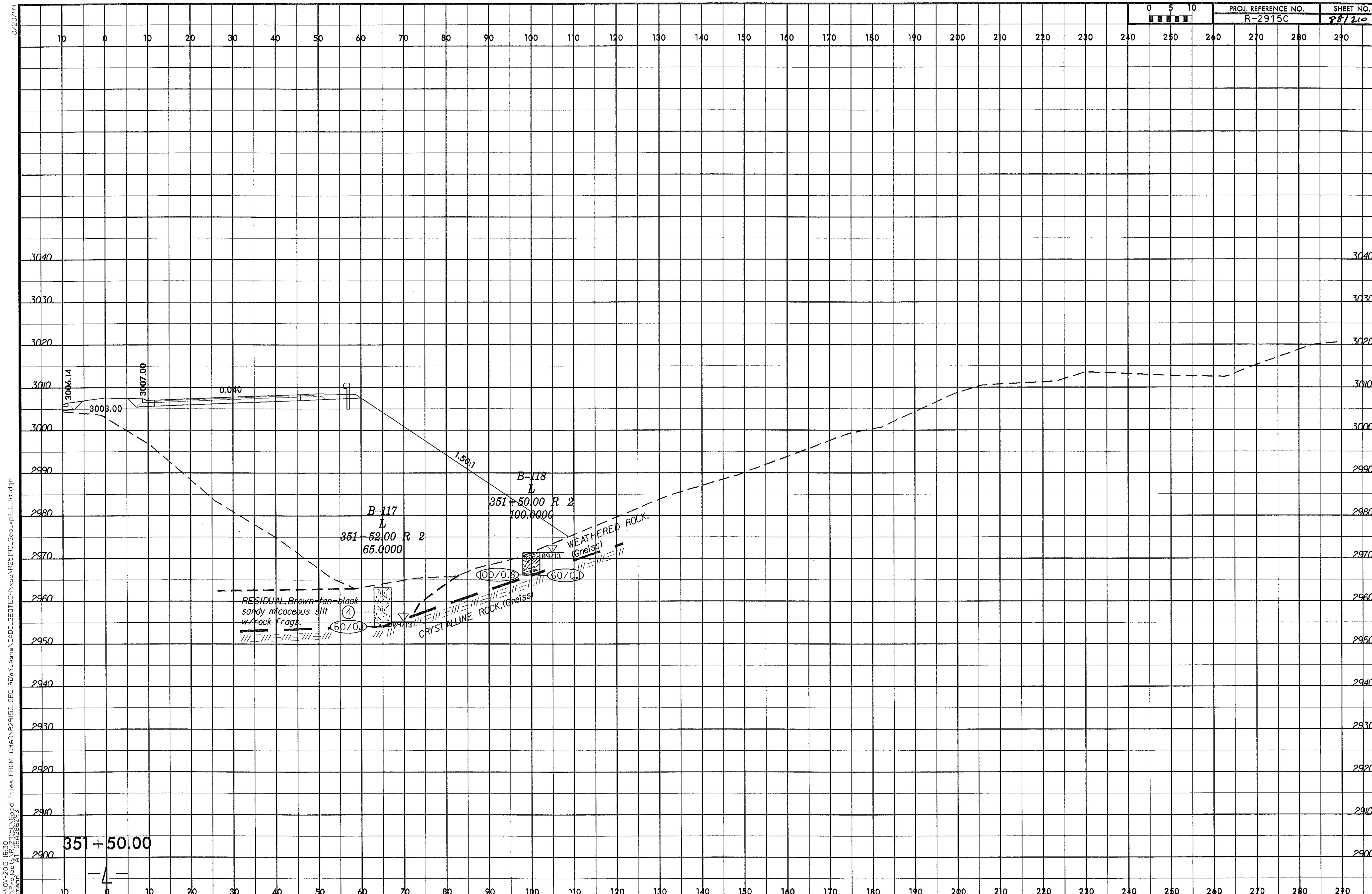
lwmann AT GEA286093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
88/210
0 5 10
B-117
L
351+52.00 R 2
65.0000
B-118
L
351+50.00 R 2
100.0000
RESIDUAL, Brown-tan-black sandy micaceous silt w/rock frags.
WEATHERED ROCK, (Gneiss)
CRYSTALLINE ROCK, (Gneiss)
100/0.8
60/0.1
60/0.1
1.50:1
0.040
3006.14
3007.00
3003.00
351+50.00
-L-
8/23/99

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	89/210

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

3020
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
2900

3006.14
3006.93
0.037
3004.12
1.50:1

B-119
L
352+00.00 R 2
60.0000

B-120
L
352+00.00 R 2
130.0000

RESIDUAL, sandy micaceous silt w/rock frags. (5)

WEATHERED ROCK, (Gneiss)

CRYSTALLINE ROCK, (Gneiss)

(60.70)

WEATHERED ROCK, (Gneiss)

CRYSTALLINE ROCK, (Gneiss)

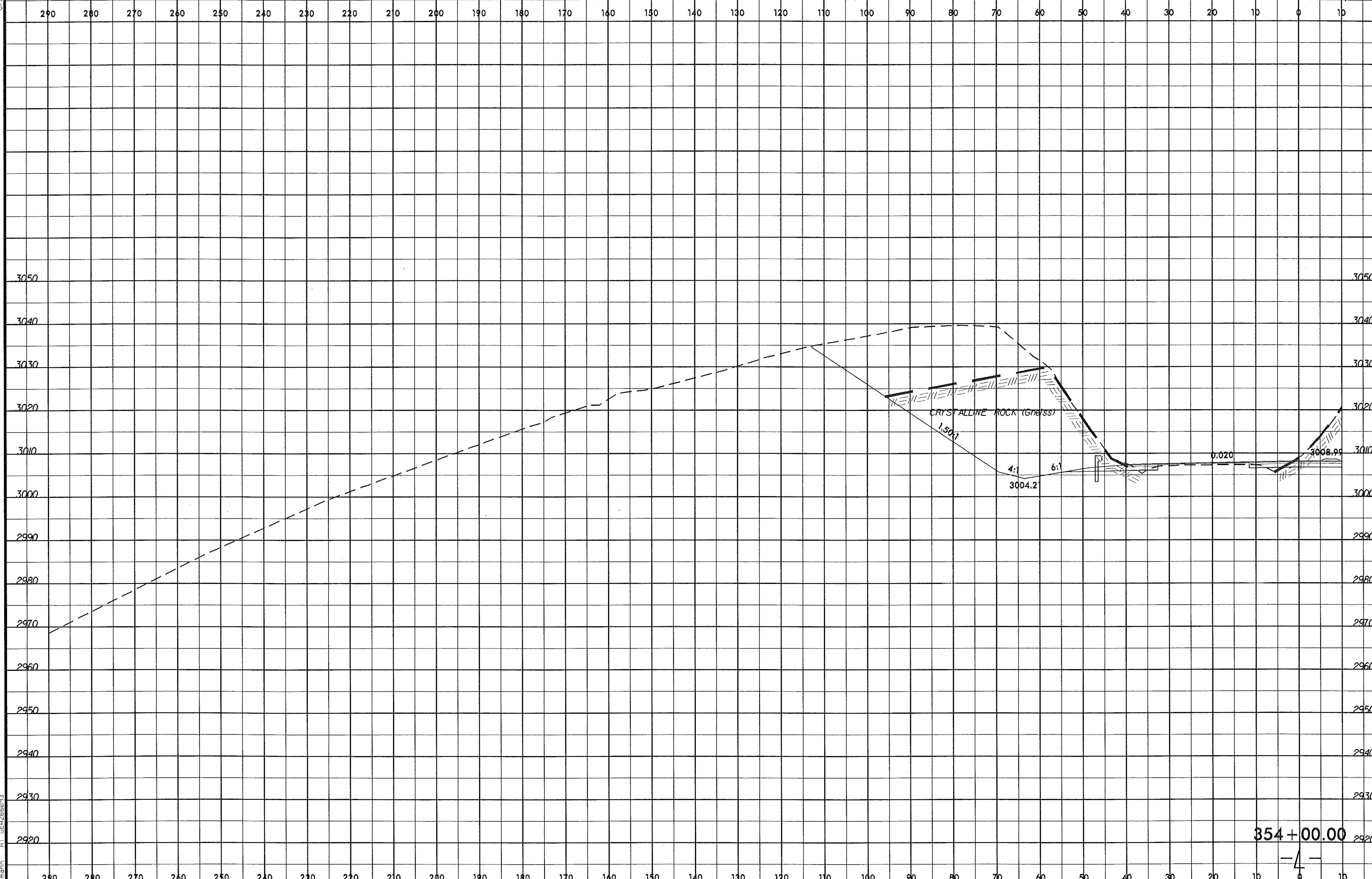
352+00.00

-4-

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

19-NOV-2013 16:32
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
lemsmith
GE42600823

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	90/210



8/23/99

14-NOV-2013 10:06
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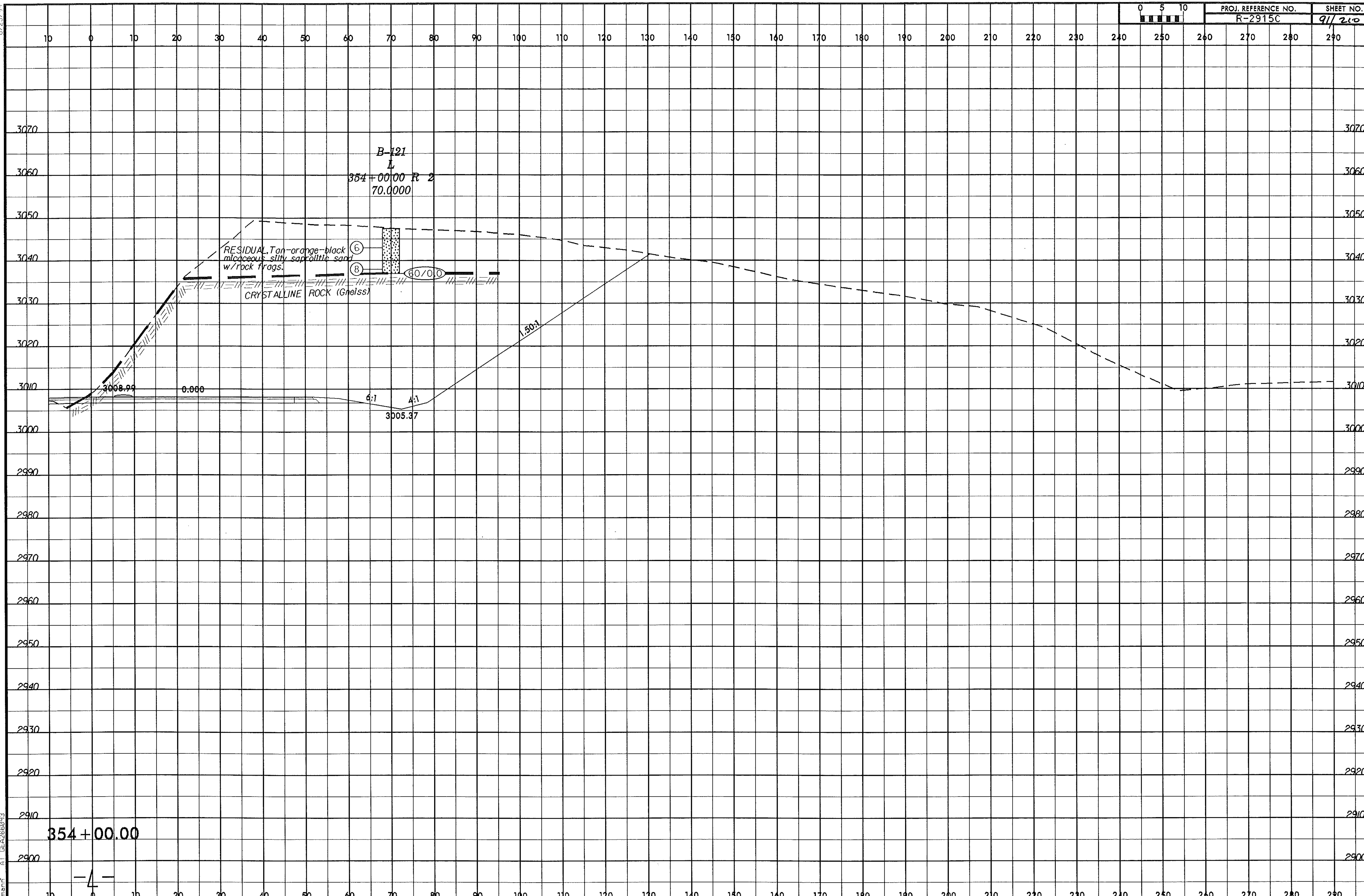
lwmann AT GEA266093



8/23/99
19-NOV-2013 16:34
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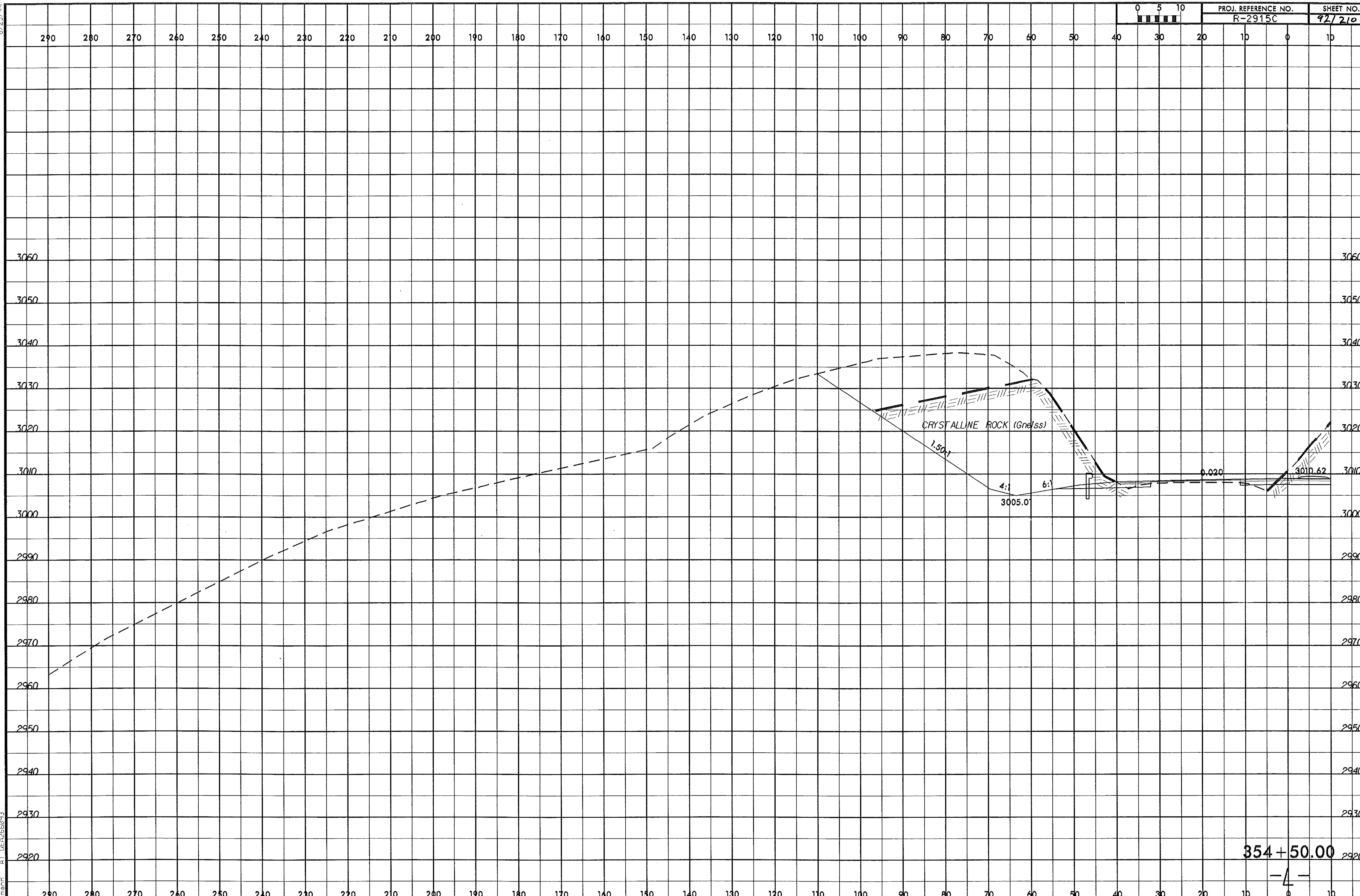
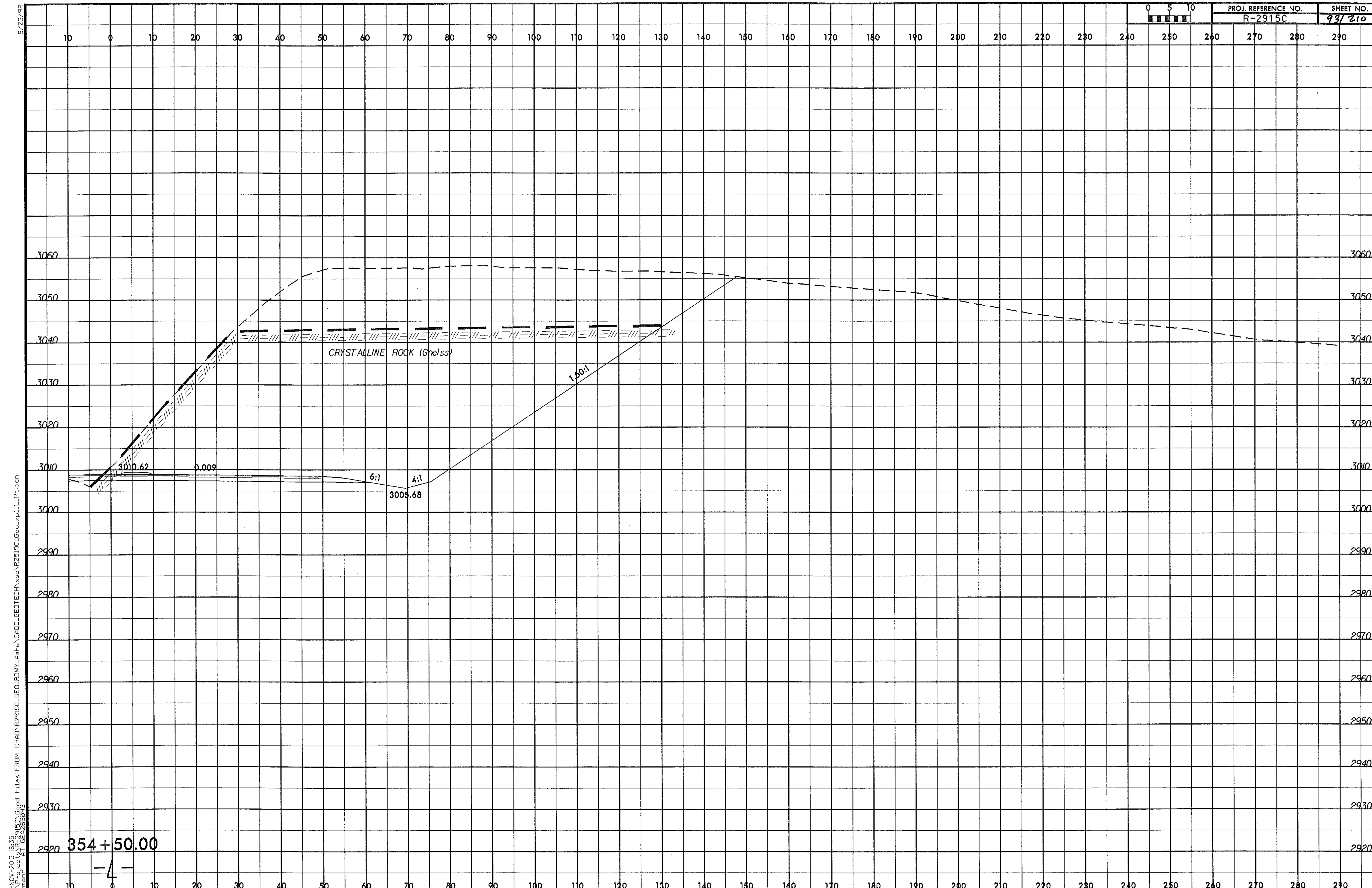
lwmann AT GEA26093



8/23/99

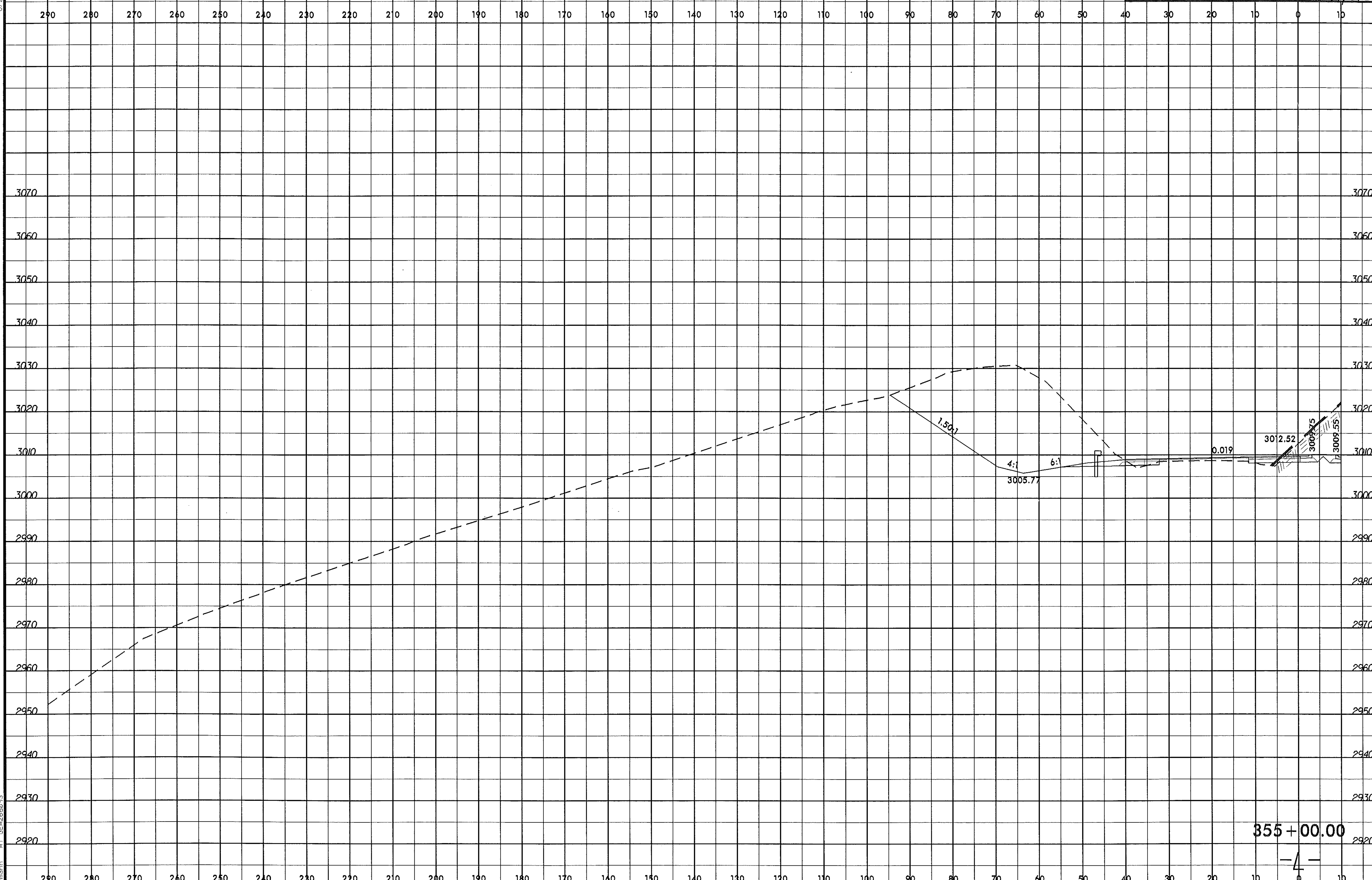
14-NOV-2013 10:08 C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn lwmann AT GEA26093



8/23/99
0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
93/210
CRYSTALLINE ROCK (Gneiss)
1.50:1
3010.62
0.009
6:1
4:1
3005.68
354+50.00
-L-

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	94/210



14-NOV-2013 10:10
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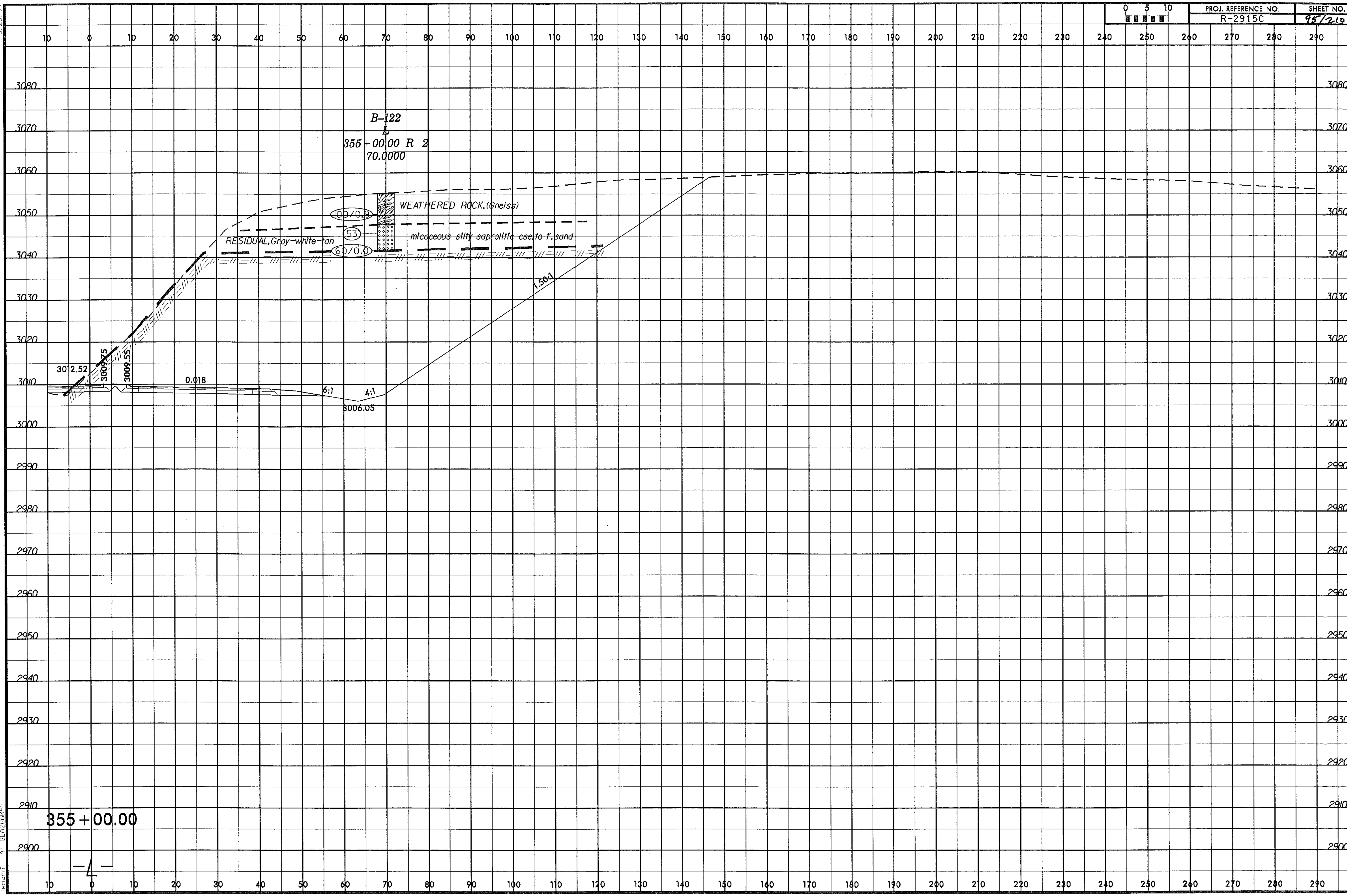
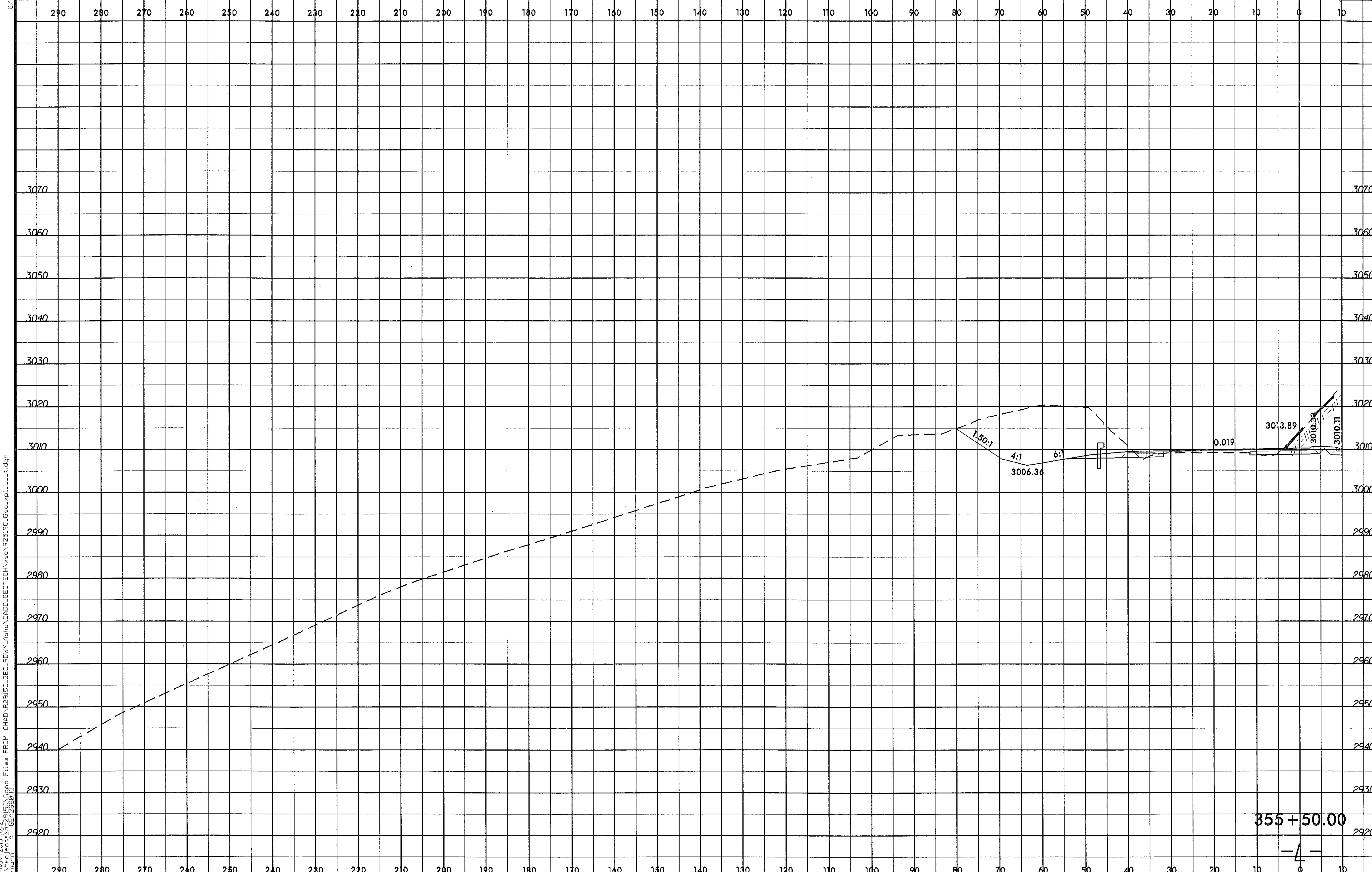
lwmann AT GEA26093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
95/210
B-122
L
355+00.00 R 2
70.0000
WEATHERED ROCK.(Gneiss)
RESIDUAL.Gray-white-tan
micaceous silty saprolitic cse.to f.sand
100/0.9
53
60/0.0
1.50:1
3012.52
3009.75
3009.55
0.018
6:1
4:1
3006.05
355+00.00
-4-

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	96/210



14-NOV-2013 10:12
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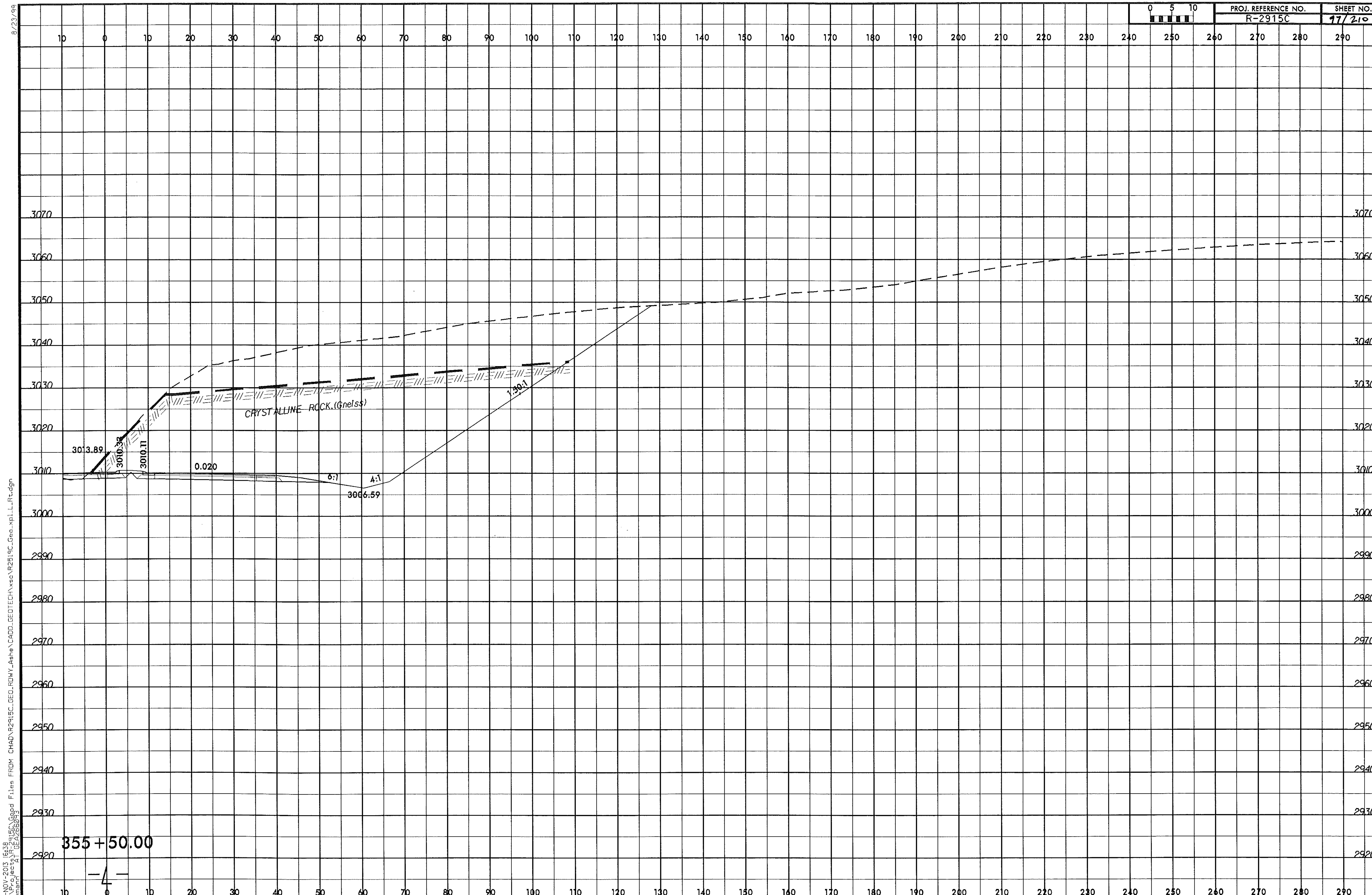
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	97/210



8/23/99
19-NOV-2013 16:38
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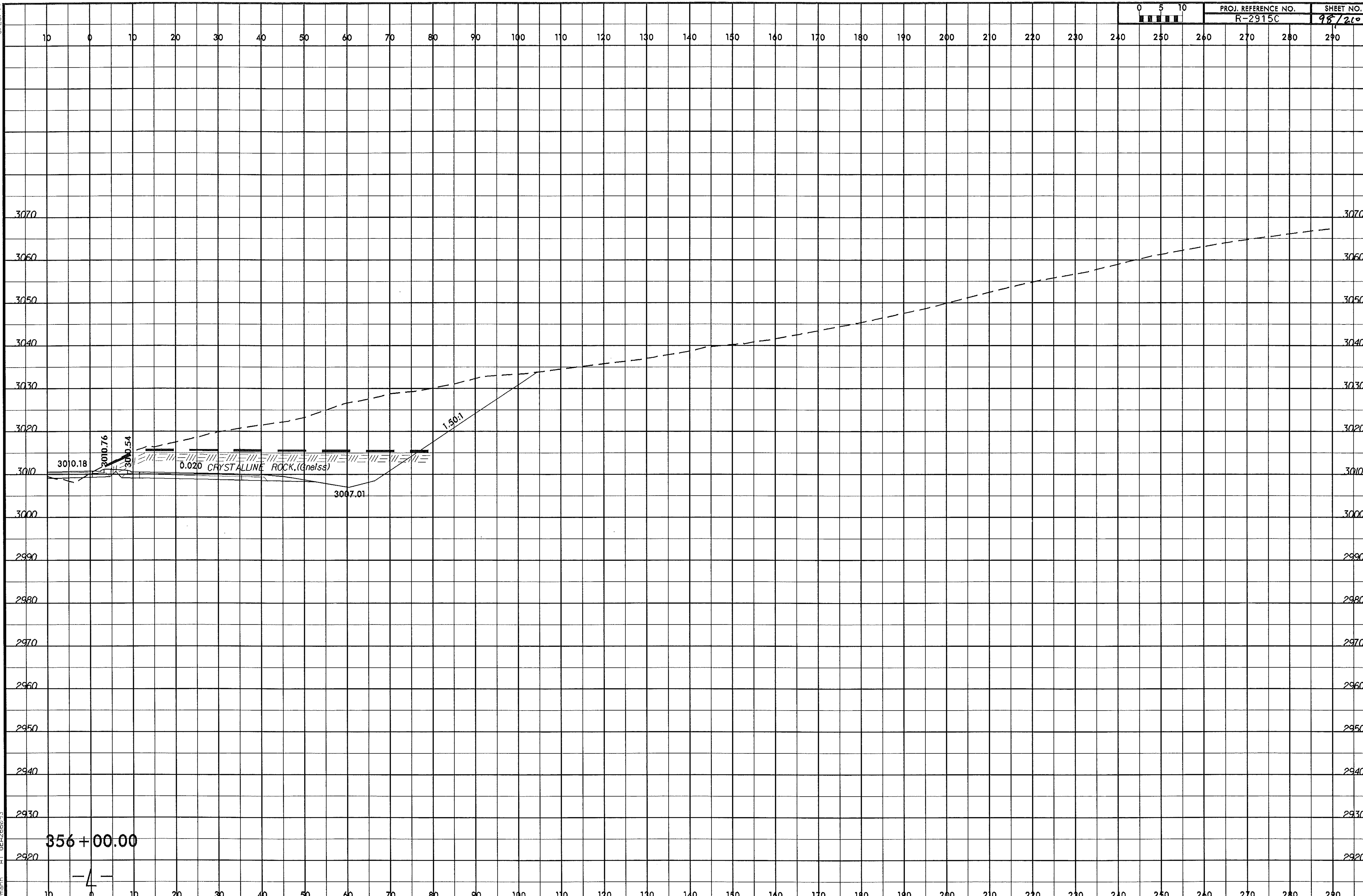
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	98/200



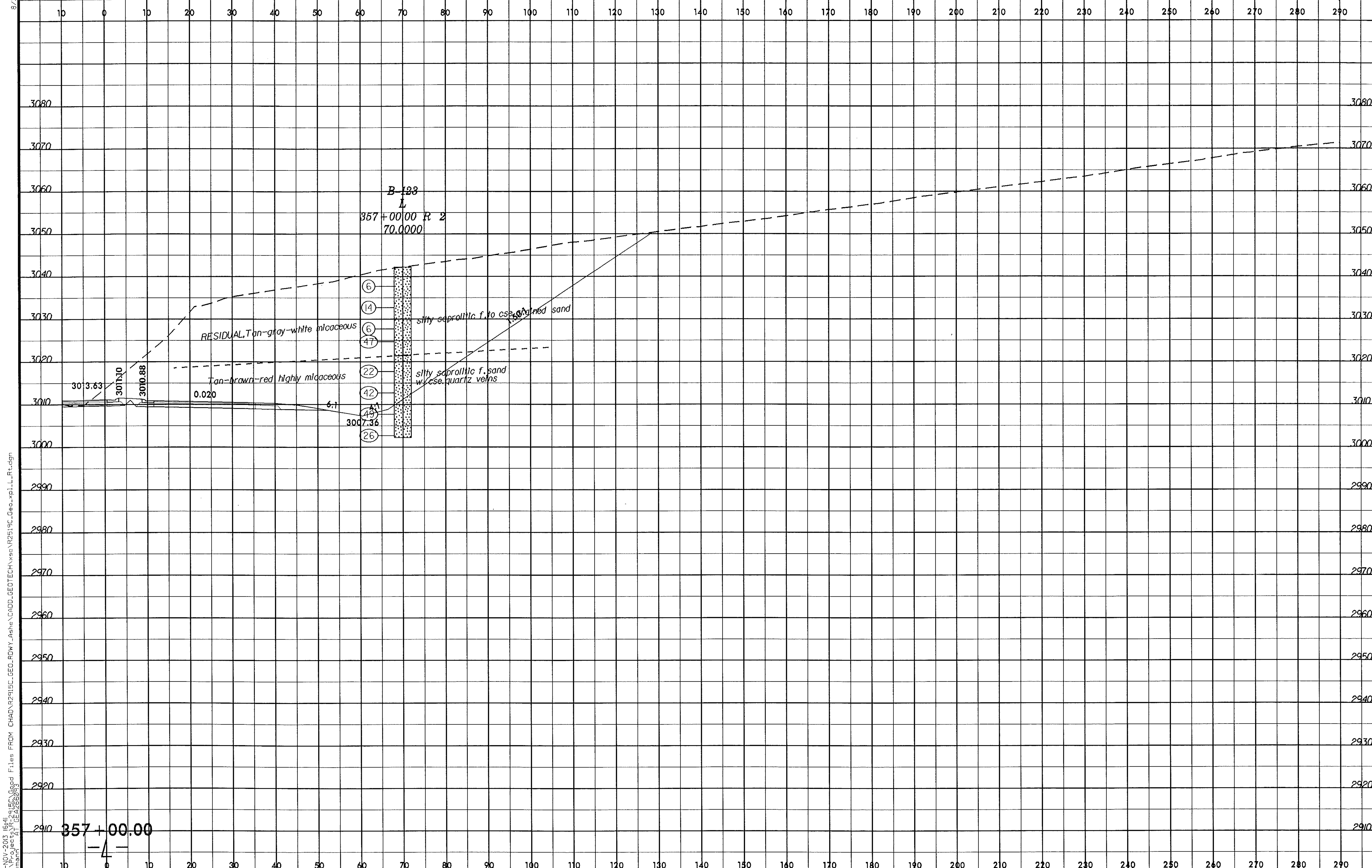
356+00.00

-4-

8/23/99

19-NOV-2013 16:39 C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	99/210

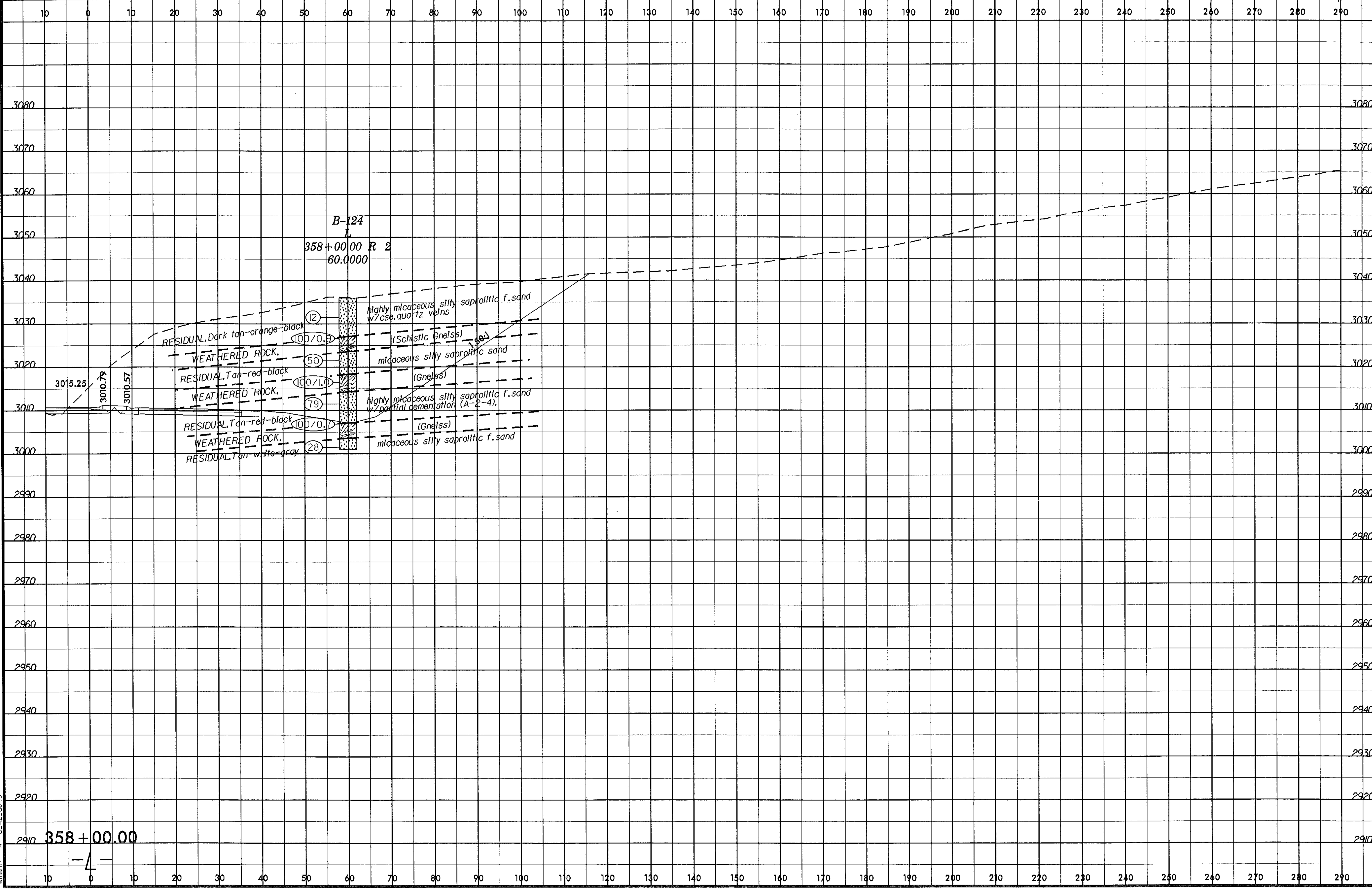


0 5 10
B-123
L
357+00.00 R 2
70.0000
RESIDUAL,Tan-gray-white micaceous
silty saprolitic f. to cse.grained sand
Tan-brown-red highly micaceous
silty saprolitic f. sand w/cse. quartz veins
3013.63
3011.10
3010.88
0.020
6:1
4:1
1.5:1
3007.36
6
14
6
47
22
42
49
26
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
2940
2930
2920
2910
10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
357+00.00
-L-

8/23/99

19-NOV-2013 16:41
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn

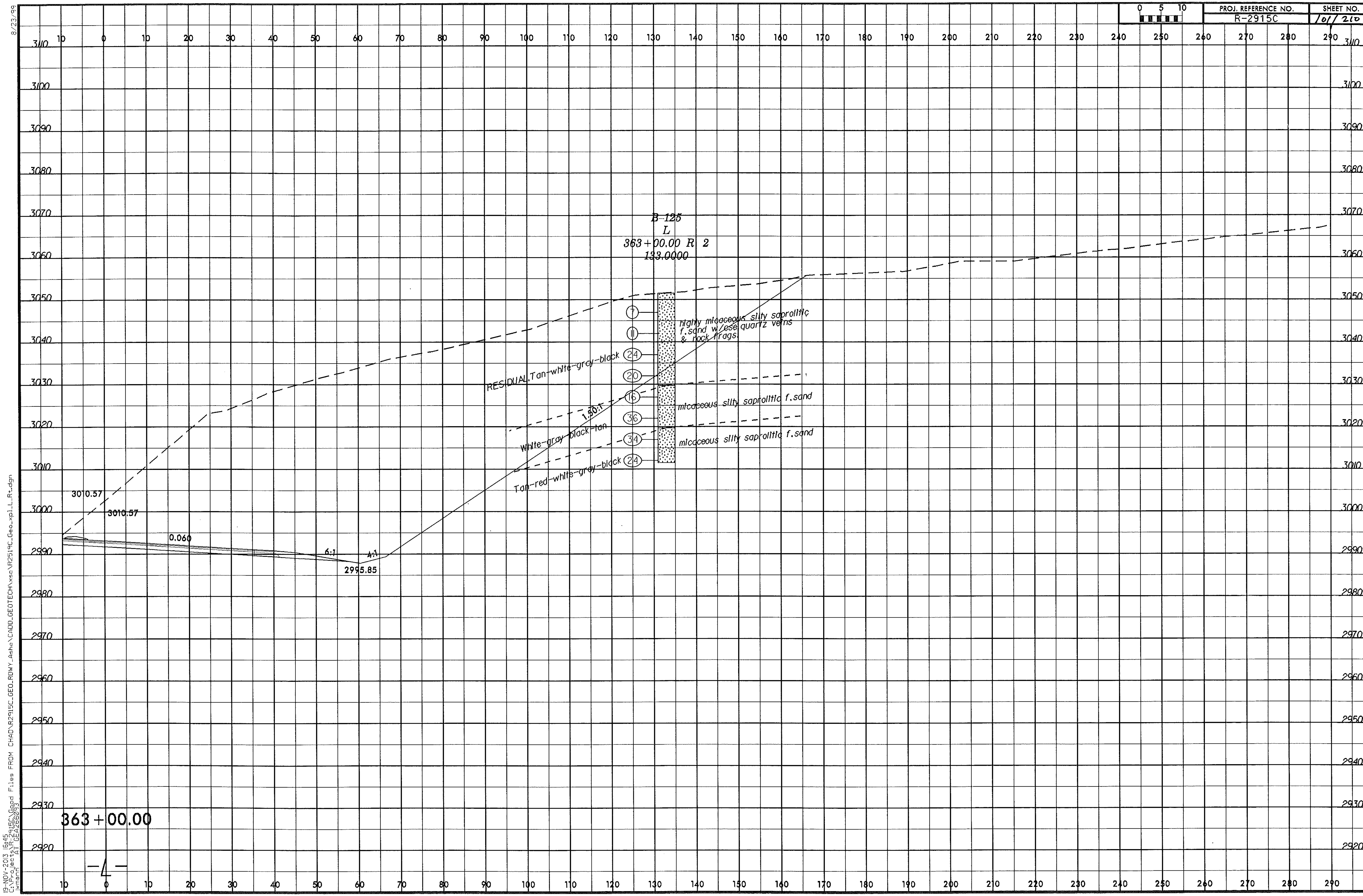
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	100/210



0 5 10
B-124
L
358+00.00 R 2
60.0000
3015.25
3010.79
3010.57
RESIDUAL.Dark tan-orange-black
WEATHERED ROCK.
RESIDUAL.Tan-red-black
WEATHERED ROCK.
RESIDUAL.Tan-red-black
WEATHERED ROCK.
RESIDUAL.Tan white-gray
12
100/0.9
50
100/1.0
79
100/0.7
28
highly micaceous silty saprolitic f.sand w/cse.quartz veins
(Schistic Gneiss)
micaceous silty saprolitic sand
(Gneiss)
highly micaceous silty saprolitic f.sand w/partial cementation (A-2-4).
(Gneiss)
micaceous silty saprolitic f.sand
1.5:1
358+00.00
-L-

8/23/99

19-NOV-2013 16:42
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn
lwmann AT GEA2660093



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
101/210
B-125
L
363+00.00 R 2
133.0000
highly micaceous silty saprolitic f.sand w/ese quartz veins & rock frags.
RESIDUAL Tan-white-grey-black
micaceous silty saprolitic f.sand
White-gray-black-tan
micaceous silty saprolitic f.sand
Tan-red-white-grey-black
1.50:1
3010.57
3010.57
0.060
6:1
4:1
2995.85
363+00.00
-4-

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	102/210

0 5 10

B-126
L
363+60.00 R 2
70.0000

RESIDUAL.Tan-orange-black micaceous silty saprolitic f.to cse.sand

Gray-white-tan-black micaceous silty saprolitic cse.sand

Tan-gray-white-black micaceous silty saprolitic f.to cse.sand

WEATHERED ROCK.(Gneiss)

RESIDUAL.Tan-gray-white-black micaceous silty saprolitic cse.sand

Tan-orange-white-gray-black highly micaceous silty saprolitic f.sand

17
48
73
91
39
100/0.6
100/0.4
17
25
68
58
77

08/13

1.5:1

3011.45

3011.45

0.060

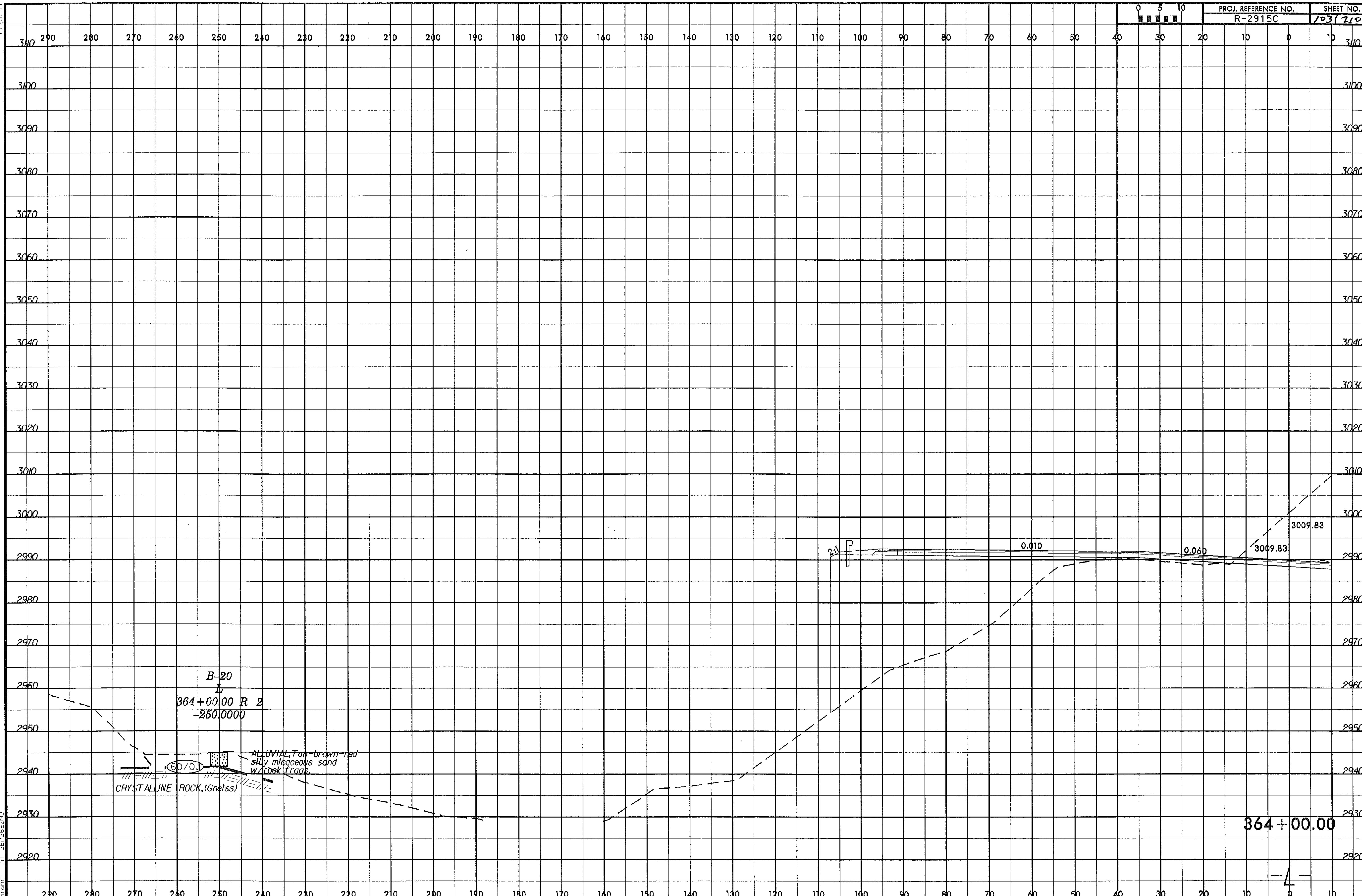
6:1

4:1

363+50.00

-4-

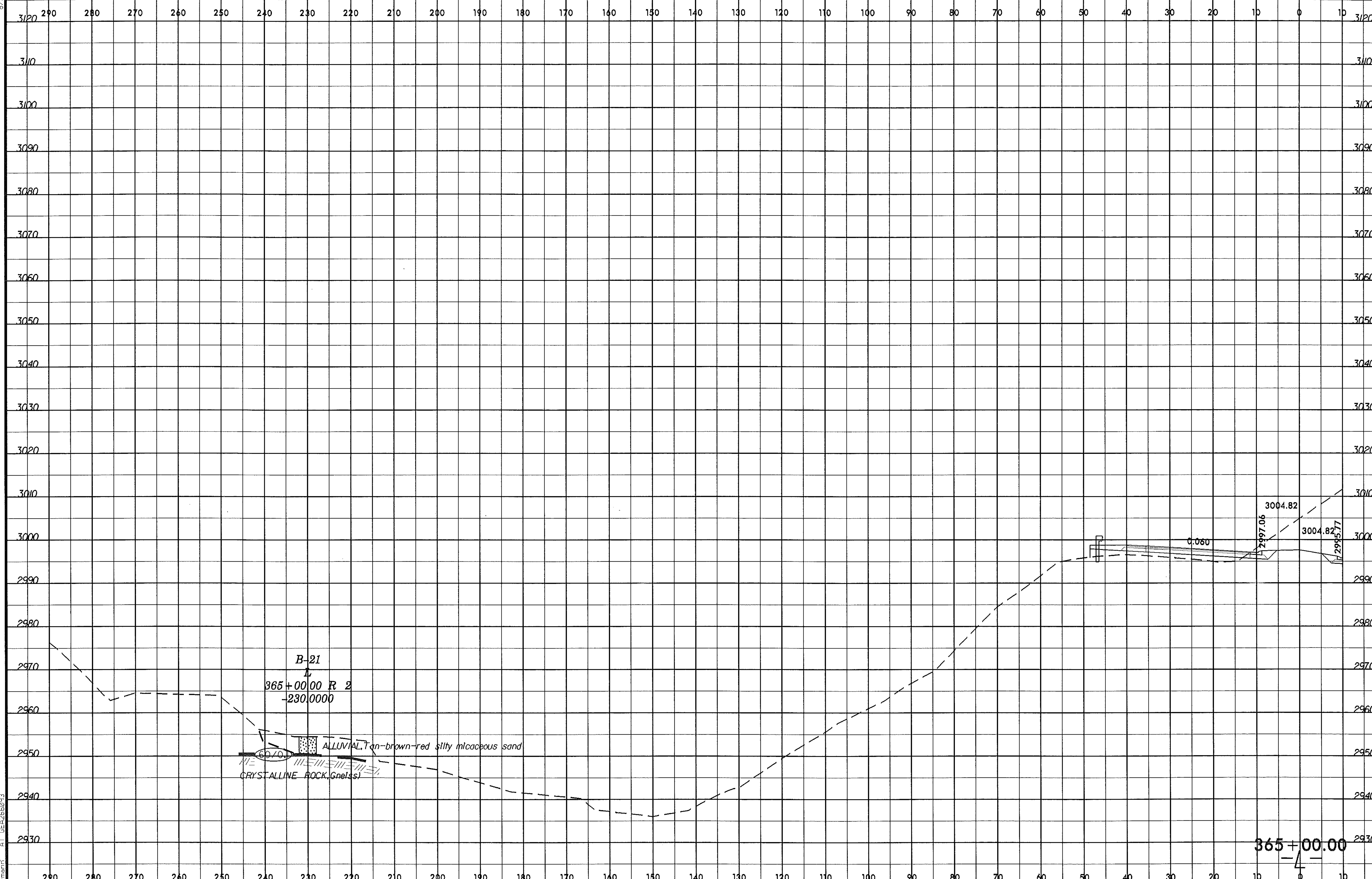
19-NOV-2013 16:56
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Rt.dgn
kwmann
ATTGE2260613



8/23/99

14-NOV-2013 10:15
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsec\R2915C_Geo_xpl_L_Lt.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	104/210



8/23/99

14-NOV-2013 10:17
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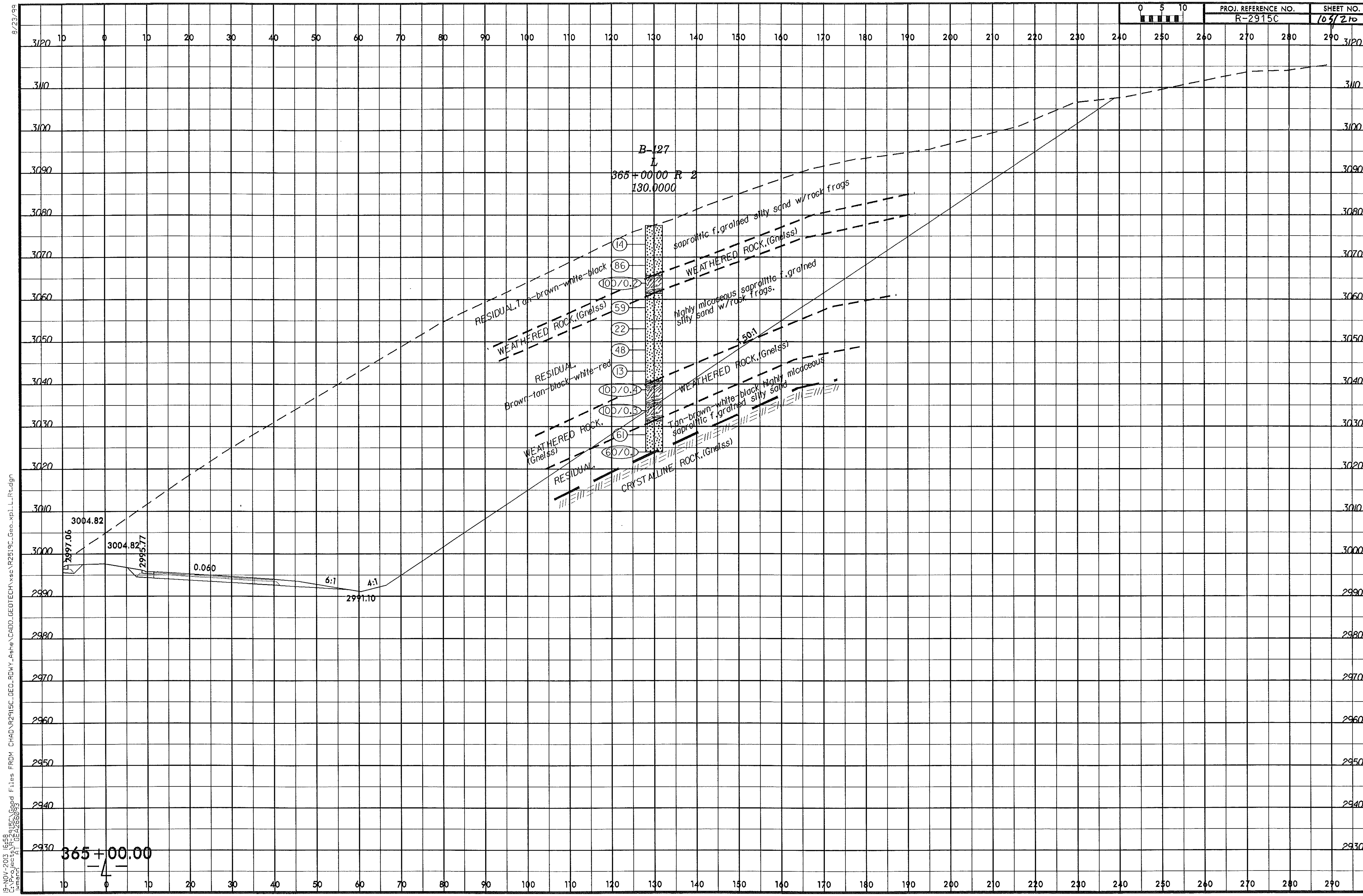
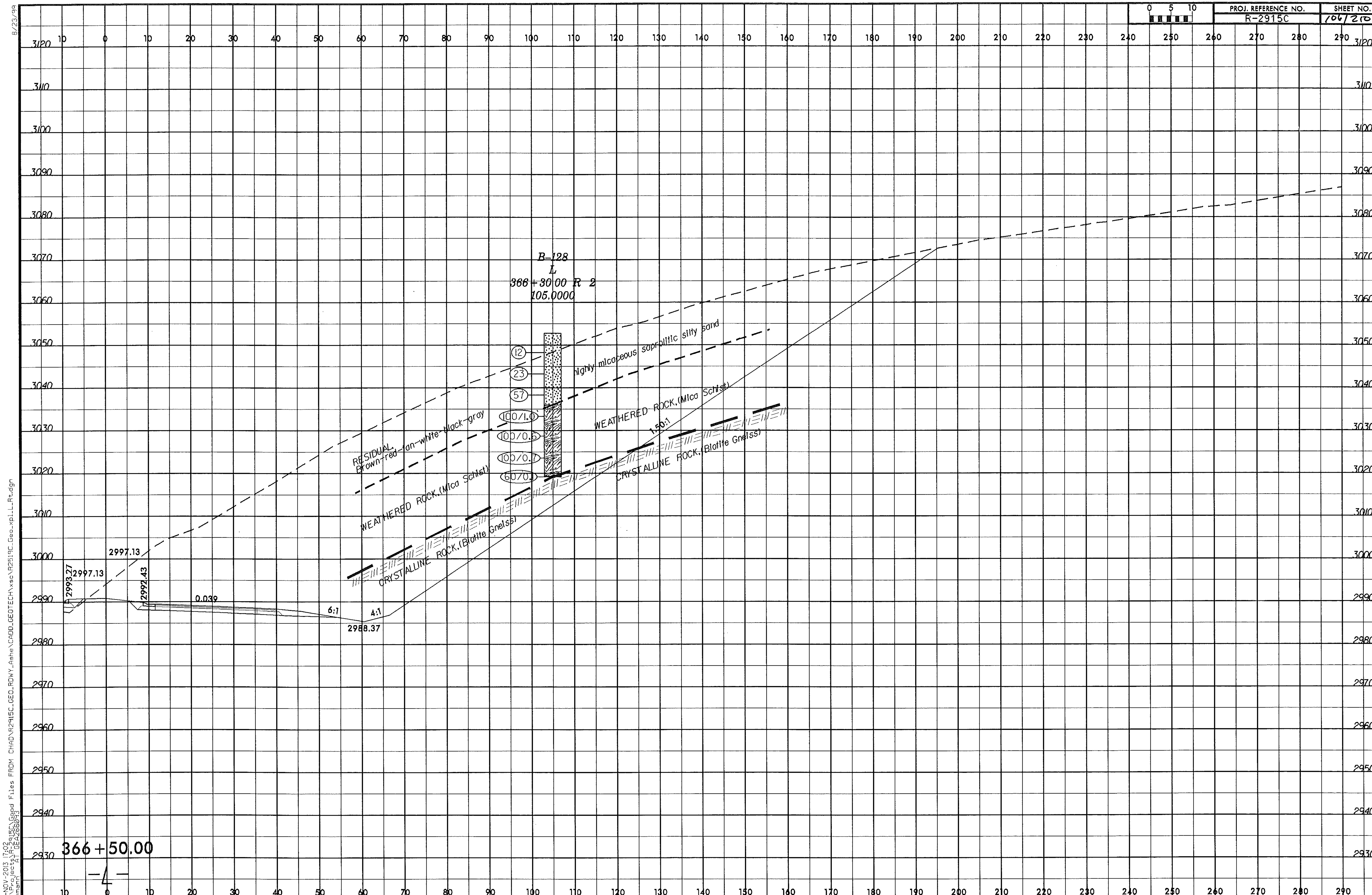
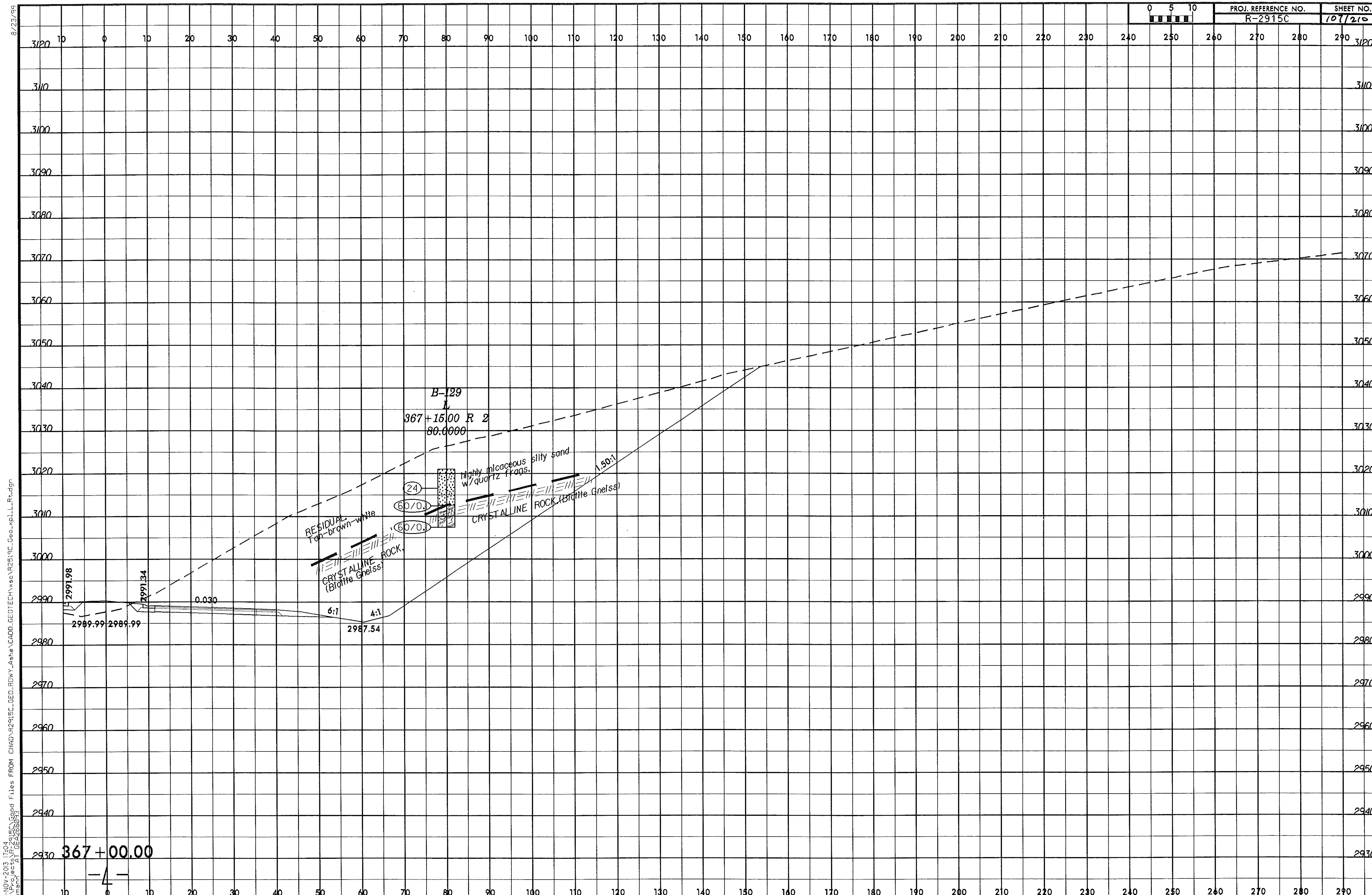
lwmann AT GEA266093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
105/210
B-127
L
365+00.00 R 2
130.0000
saprolitic f.grained silty sand w/rock frags
WEATHERED ROCK,(Gneiss)
highly micaceous saprolitic f.grained silty sand w/rock frags.
RESIDUAL,Tan-brown-white-black
WEATHERED ROCK,(Gneiss)
RESIDUAL,
Brown-tan-black-white-red
WEATHERED ROCK,(Gneiss)
Tan-brown-white-black highly micaceous saprolitic f.grained silty sand
WEATHERED ROCK,
(Gneiss)
RESIDUAL,
CRYSTALLINE ROCK,(Gneiss)
14
86
100/0.2
59
22
48
13
100/0.4
100/0.3
61
60/0.1
1.50:1
3004.82
2997.06
3004.82
2995.77
0.060
6:1
4:1
2991.10
365+00.00
-L-


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
106/210
0 5 10
B-128
L
366+30.00 R 2
105.0000
12
23
57
100/1.0
100/0.5
100/0.7
60/0.1
RESIDUAL,
Brown-red-tan-white-black-gray
highly micaceous saprolitic silty sand
WEATHERED ROCK,(Mica Schist)
CRYSTALLINE ROCK,(Biotite Gneiss)
1.50:1
2997.13
2993.27
2992.43
0.039
6:1
4:1
2988.37
366+50.00
-4-
8/23/99


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
107/210
8/23/99
B-129
L
367+15.00 R 2
80.0000
highly micaceous silty sand w/quartz frags.
24
60/0.
60/0.
RESIDUAL
Tan-brown-white
CRYSTALLINE ROCK (Biotite Gneiss)
CRYSTALLINE ROCK (Biotite Gneiss)
1.50:1
0.030
6:1
4:1
2991.98
2991.34
2989.99
2989.99
2987.54
367+00.00
-L-

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	109/210

B-130
L
368+50.00 R 2
100.0000

ARTIFICIAL FILL, sand

WEATHERED ROCK, (Biotite Gneiss)

100/0.8
100/0.3
100/0.0

0.002

6:1

2987.52 2987.52

2985.03

368+50.00

-4-

19-NOV-2013 17:06
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpLL_Rt.dgn
lwmann 41 GE2250943

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	109/210

0 5 10

B-132
L
370+00.00 R 2
165.0000

B-131
L
370+10.00 R 2
55.0000

15
17
32
60
41
36
100/0.4
60/0.1

15
15
100/0.1
60/0.0

Tan-white-black micaceous sandy saprolitic clayey silt

RESIDUAL Tan-orange-black-gray silty micaceous saprolitic sand

WEATHERED ROCK (Gneiss)

CRYSTALLINE ROCK (Gneiss)

2:1

6:1

4:1

0.025

2984.53

2984.79

2984.71

2984.71

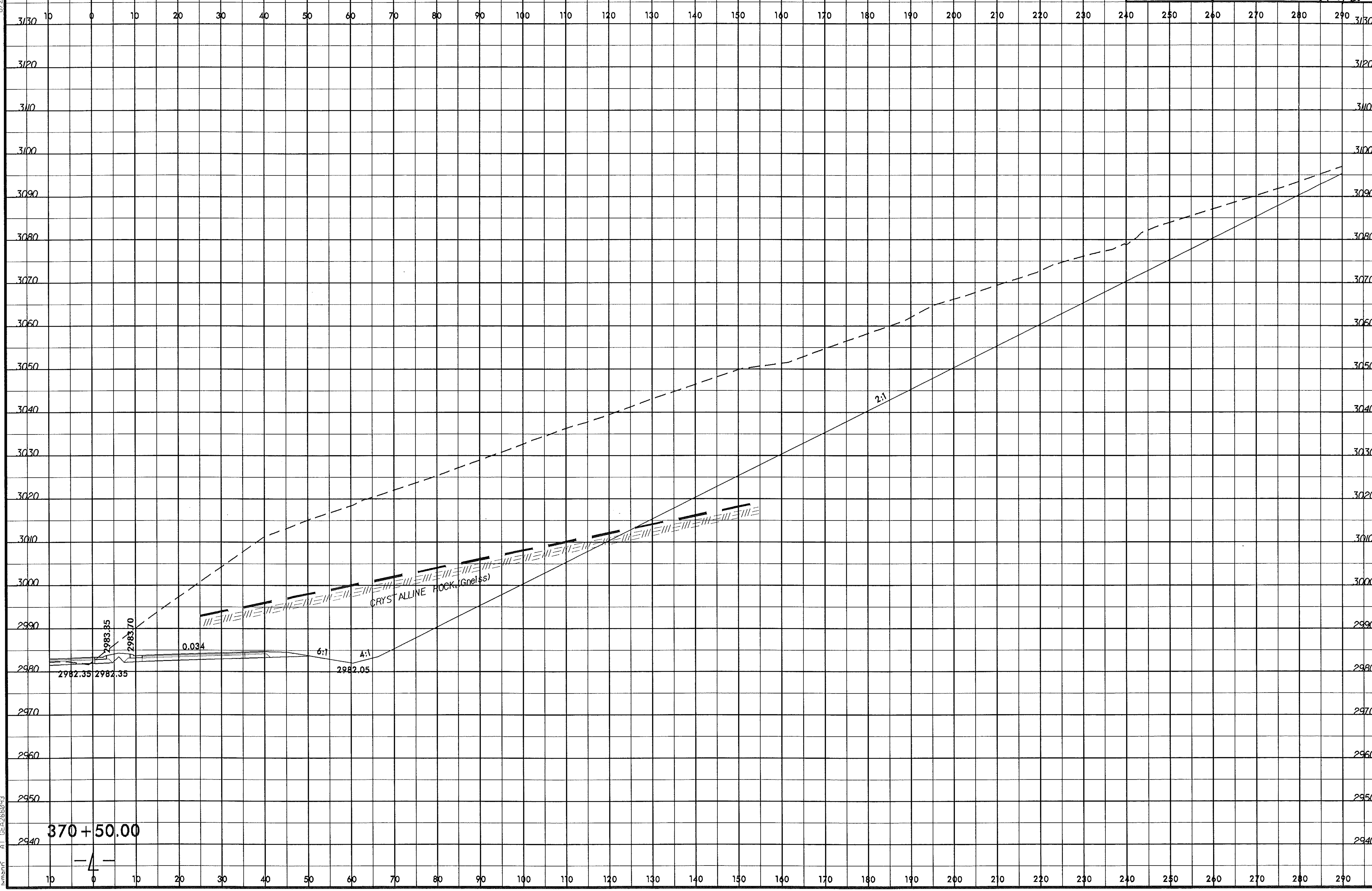
2982.94

370+00.00

-4-

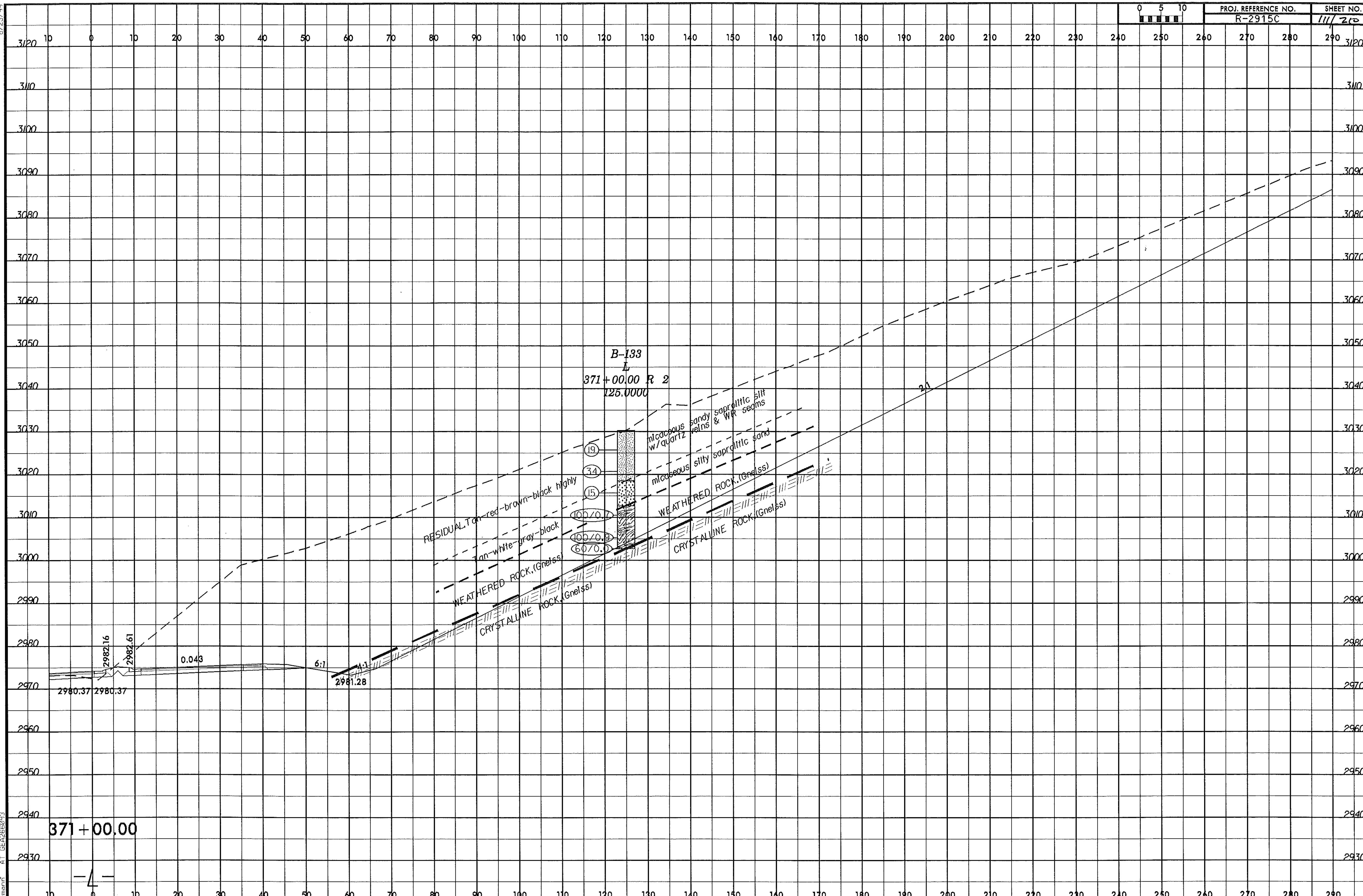
19-NOV-2013 17:07
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Rahe\CADD_GEOTECH\xsec\R2915C_Geo_xpi_L_Rt.dgn
lwmann
PT GEOLOGIS

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	110/210

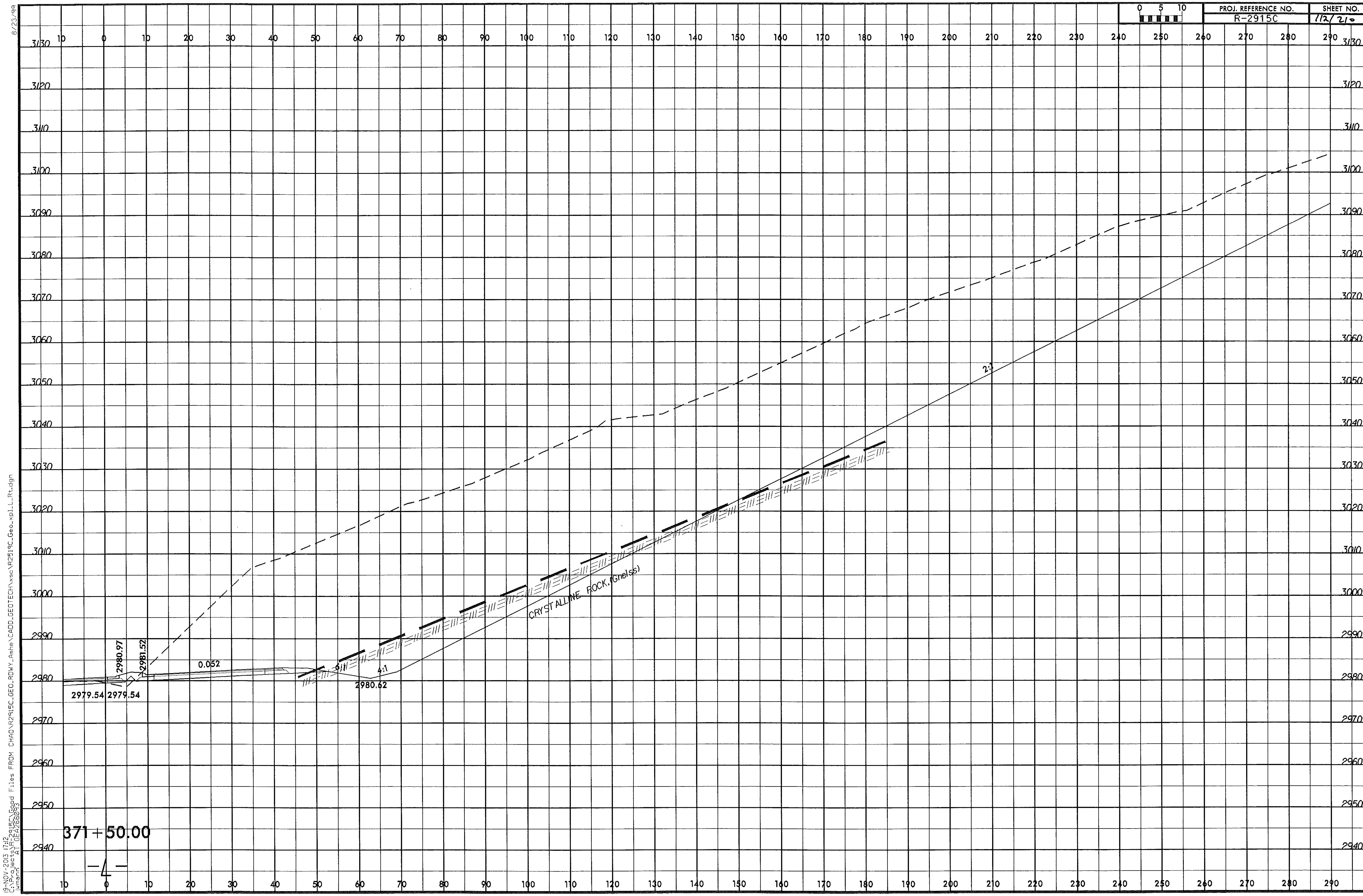


8/23/99

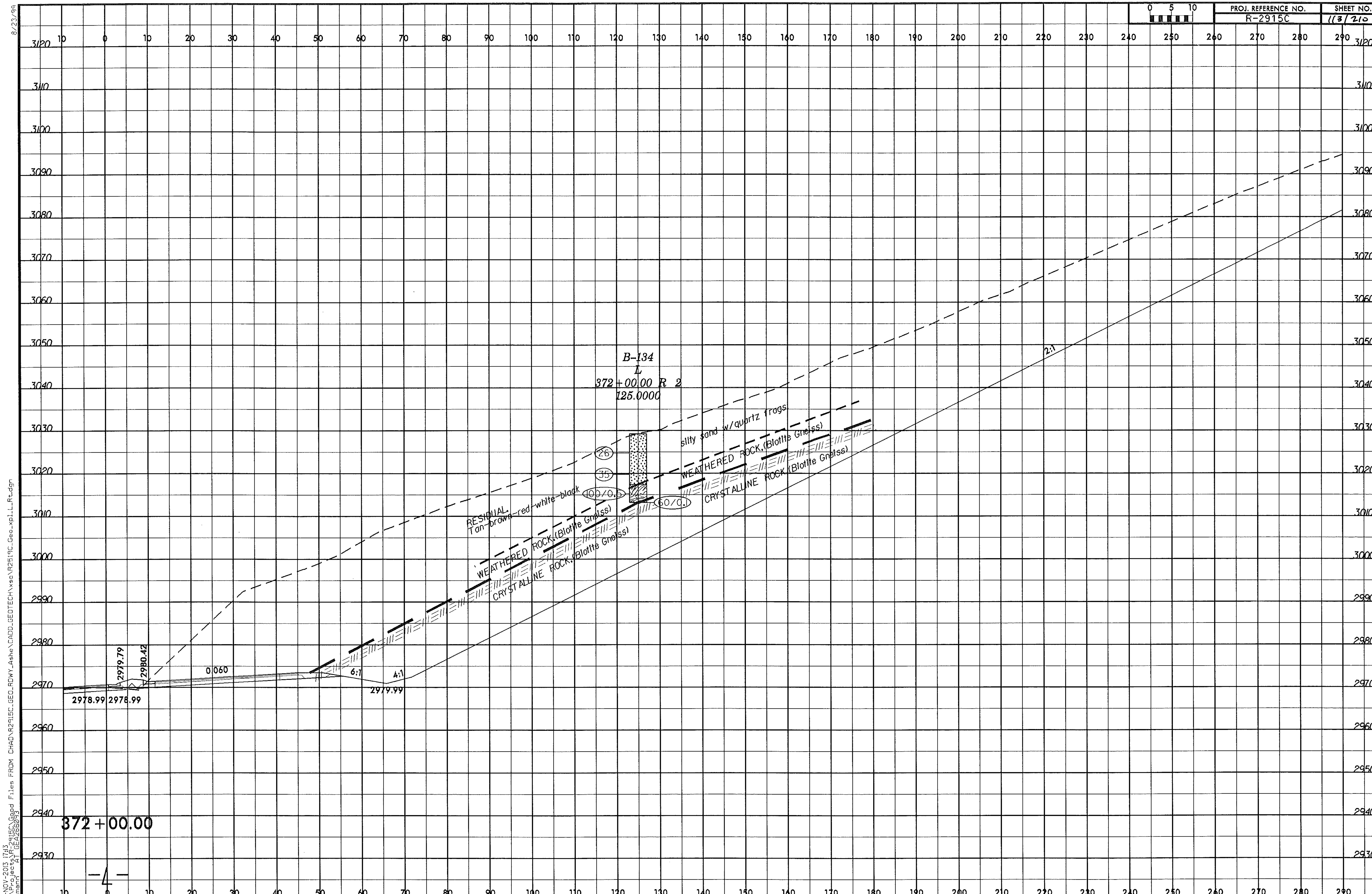
19-NOV-2013 17:09
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo.xpl_L_Rt.dgn
lwmann AT GEA286093



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
111/210
0 5 10
B-133
L
371+00.00 R 2
125.0000
RESIDUAL,Tan-red-brown-black highly micaceous sandy saprolitic silt w/quartz veins & WR seams
Tan-white-gray-black micaceous silty saprolitic sand
WEATHERED ROCK,(Gneiss)
CRYSTALLINE ROCK,(Gneiss)
19
34
15
100/0.7
100/0.9
60/0.1
2:1
6:1
4:1
0.043
2982.16
2982.61
2980.37
2980.37
2981.28
371+00.00


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
112/210
0 5 10
8/23/99
2:1
CRYSTALLINE ROCK (Gneiss)
2980.97
2981.52
0.052
9:1
4:1
2979.54
2979.54
2980.62
371+50.00

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	113/210



8/23/99

19-NOV-2013 17:13
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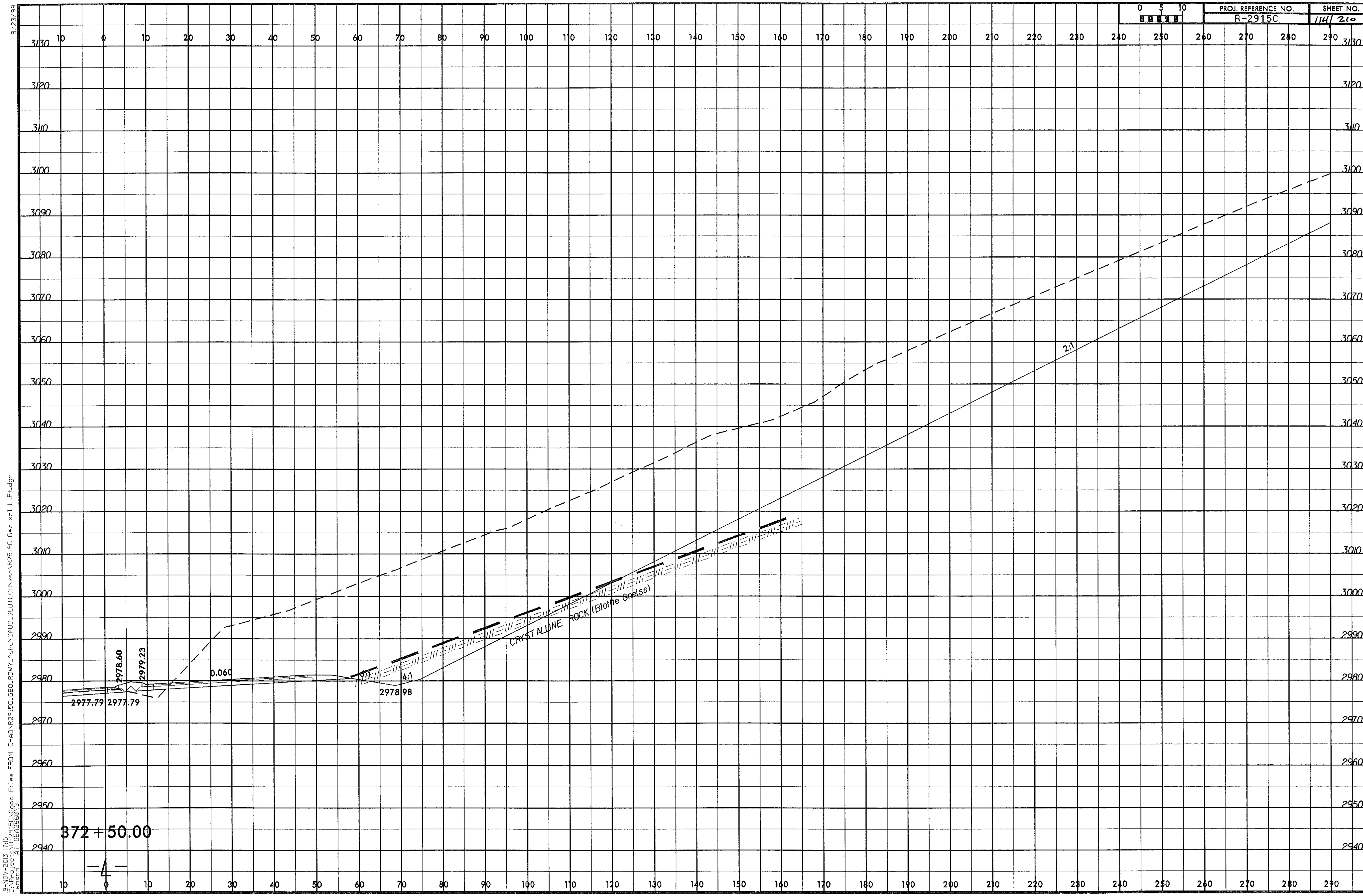
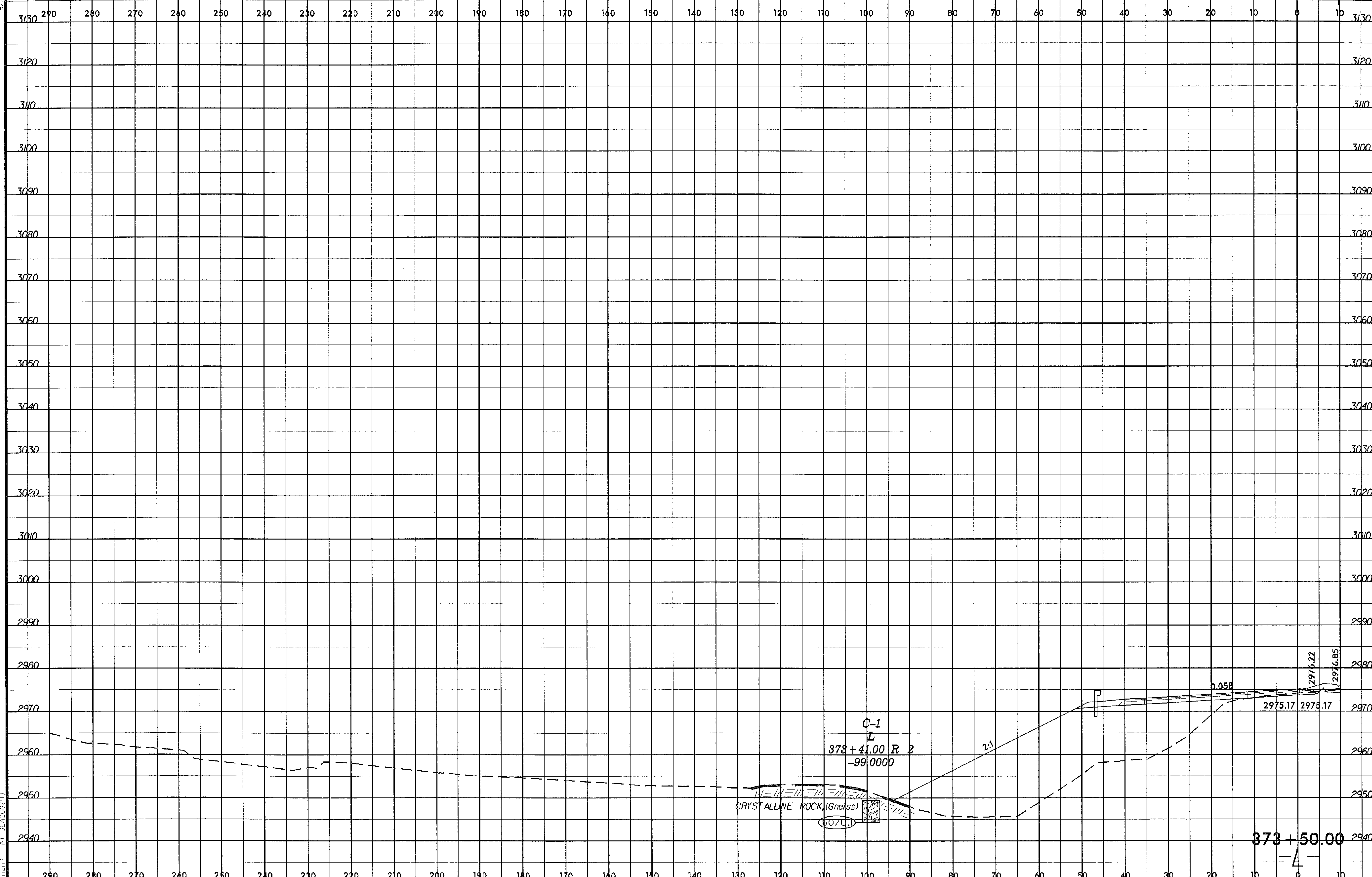
lwmann AT GEA266093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
114/210
0 5 10
CRYSTALLINE ROCK (Biotite Gneiss)
2:1
4:1
0.060
2978.60
2979.23
2977.79 2977.79
2978.98
372+50.00
-4-
8/23/99
19-NOV-2013 17:15
R:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Rt.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	115/ 210



8/23/99

14-NOV-2013 10:22
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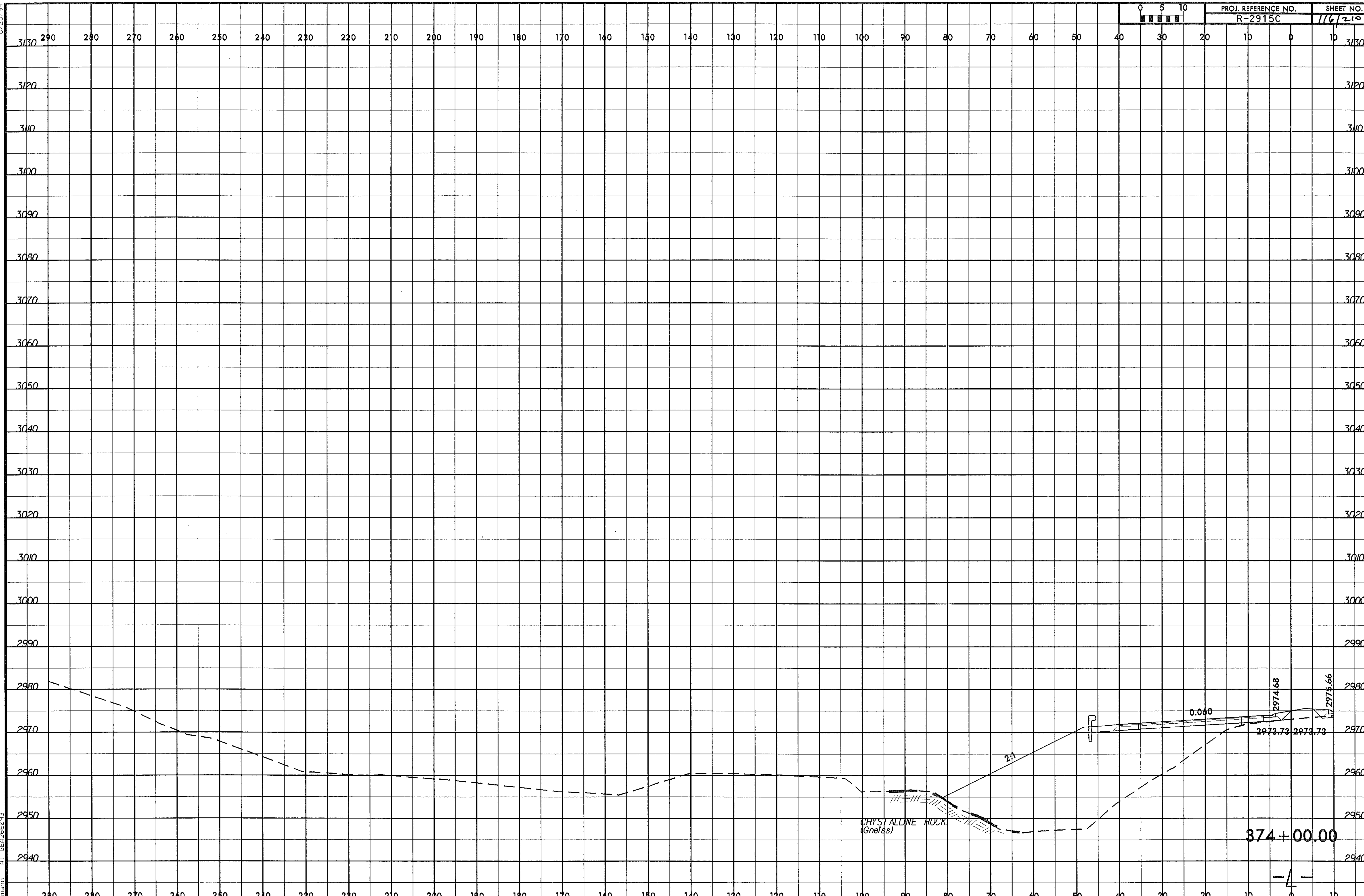
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	116/210



8/23/99

14-NOV-2013 10:24
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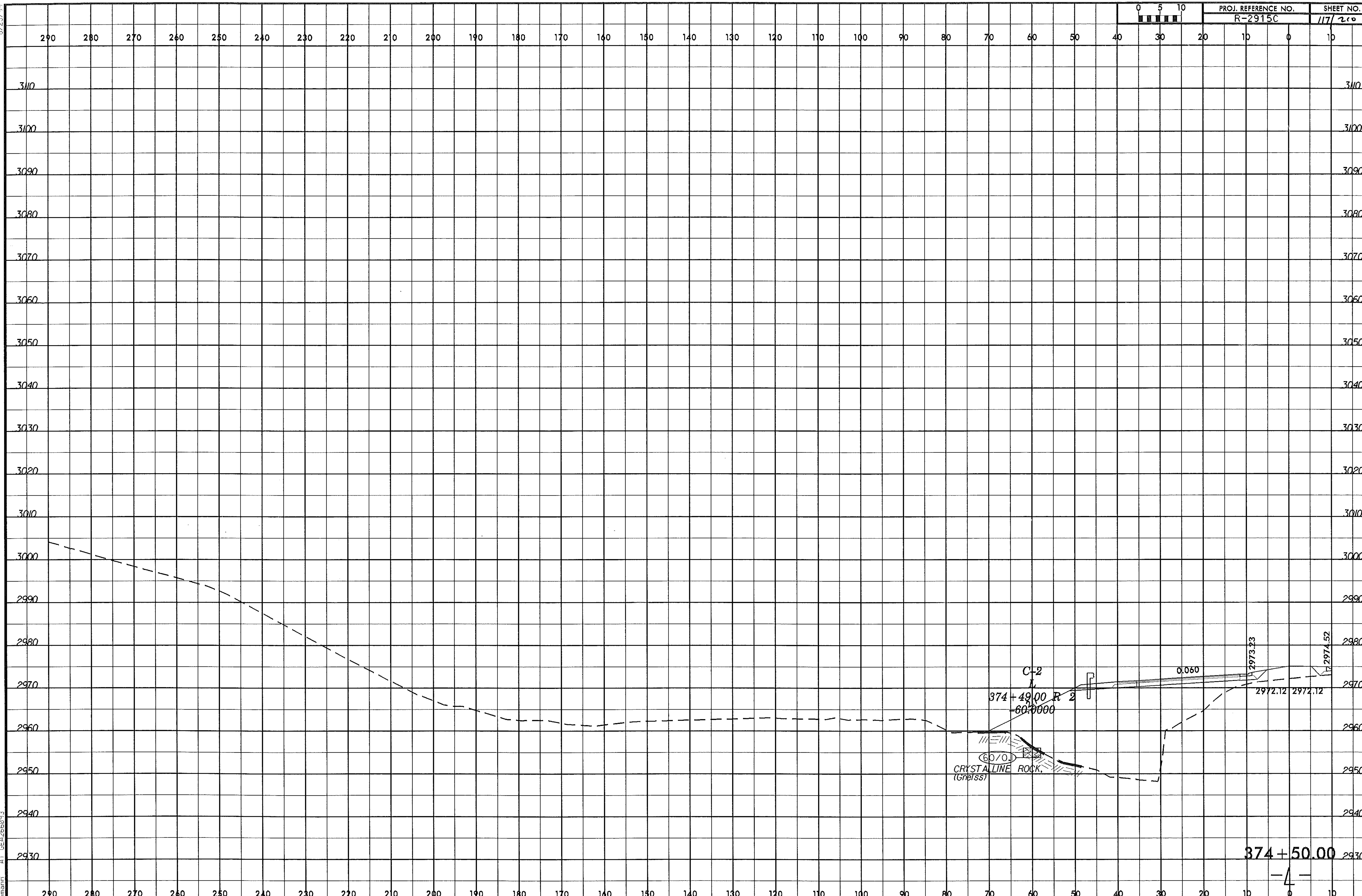
jwmann AT GEA266093



14-NOV-2013 10:26
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
lwmann AT GEA26893
8/23/99

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	118 220

B-135
L
375+00.00 R 2
80.0000

C-3
L
371+94.00 R 2
47.0000

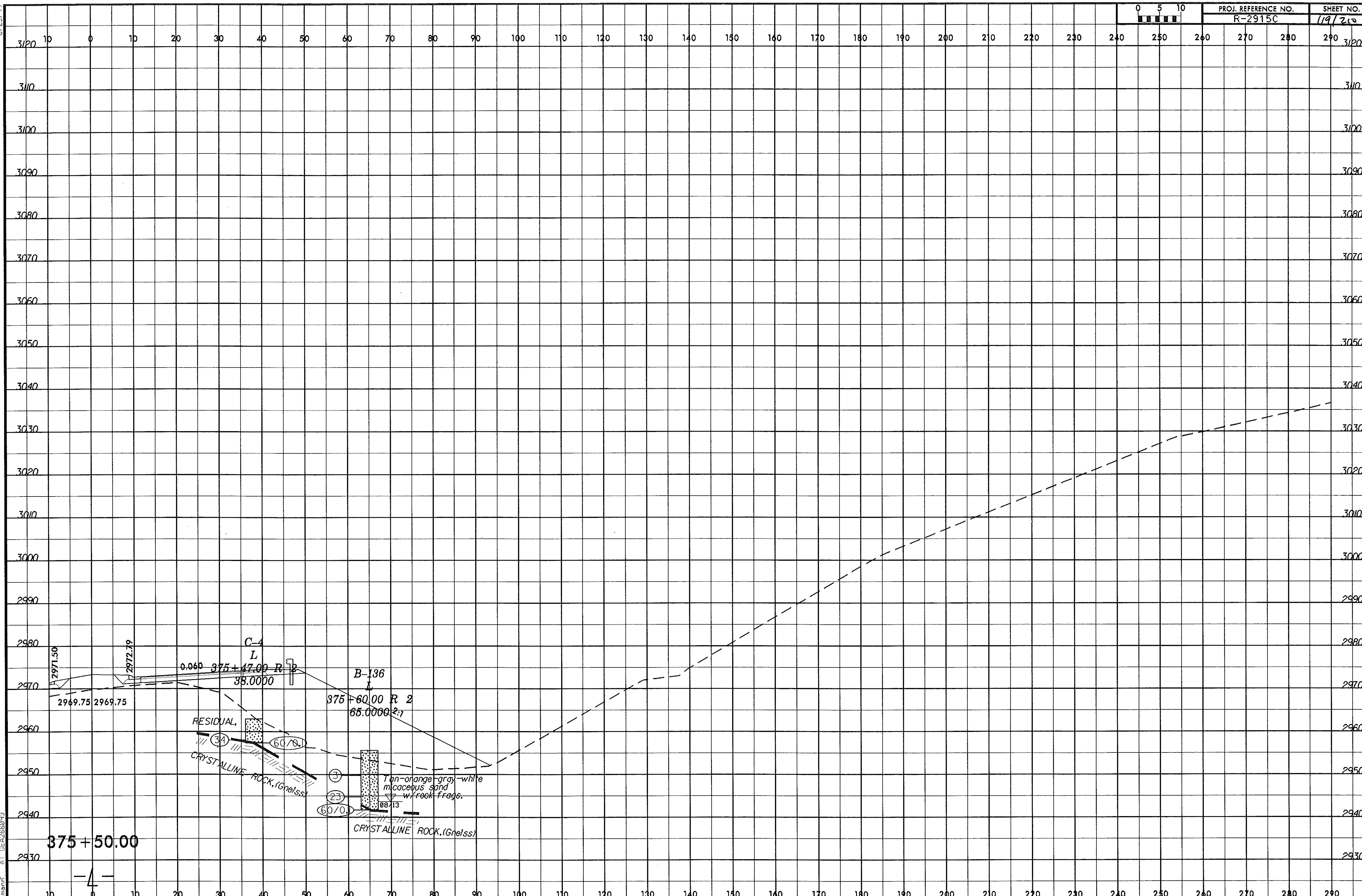
2972.28
2973.57
0.060
2970.89 2970.89
2:1
100/0.5
60/0.1
37
COLLUVIUM, Sand & Boulders
CRYSTALLINE ROCK, (Gneiss)

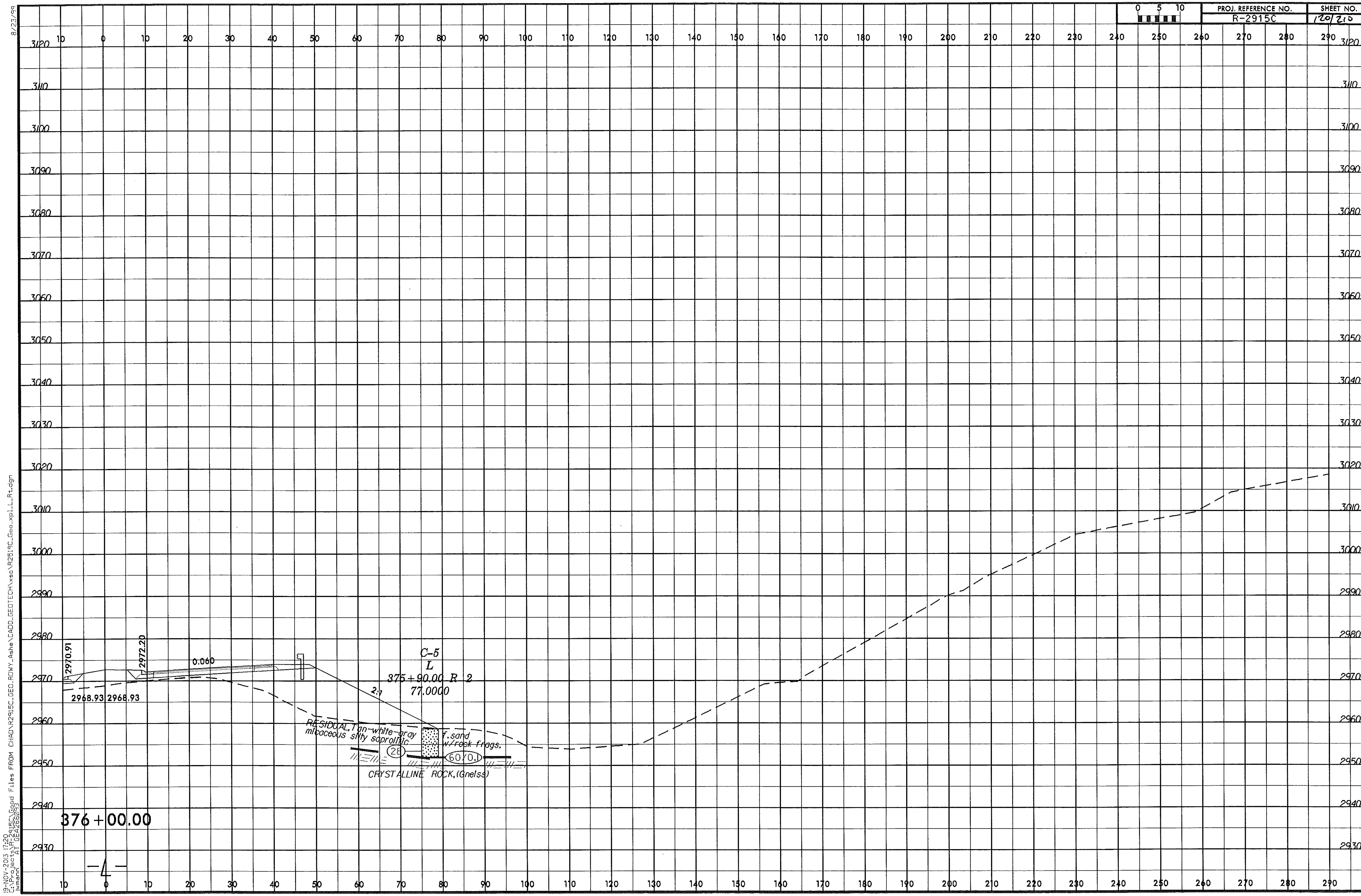
375+00.00

-L-

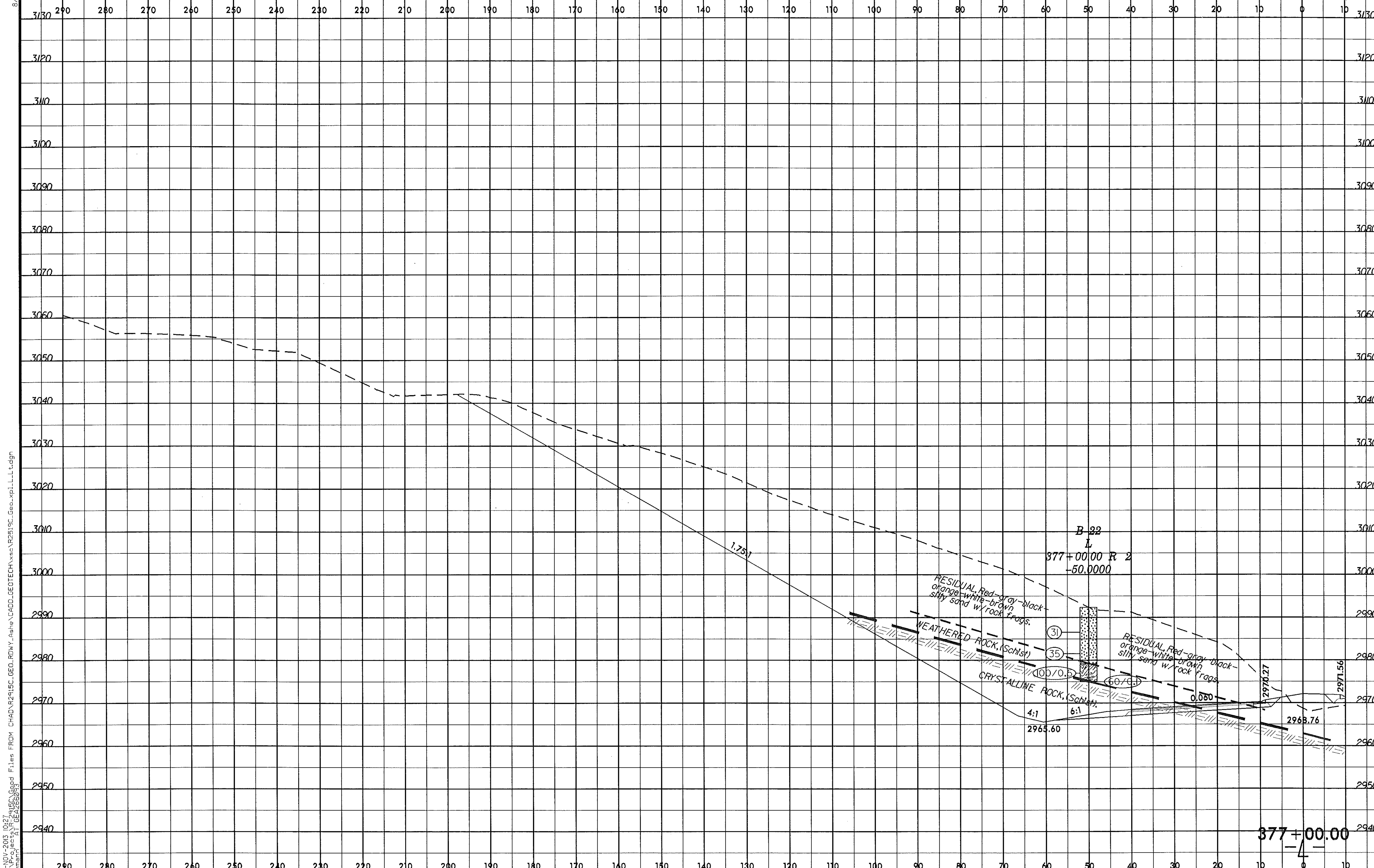
19-NOV-2013 17:17
C:\Projects\R-2915C\Road Files FROM CHAD\R2915C_GEO_RDWY_Asne\CADD_GEOTECH\xsc\R2915C_Geo_xpl-L_Rt.dgn
kmann
A1 GEH26803

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	119/210




PROJ. REFERENCE NO.
R-2915C
SHEET NO.
120/210
0 5 10
C-5
L
375+90.00 R 2
77.0000
2970.91
2972.20
0.060
2:1
2968.93 2968.93
RESIDUAL, Tan-white-gray micaceous silty saprolitic
f. sand w/rock frags.
28
60/0.1
CRYSTALLINE ROCK, (Gneiss)
376+00.00
8/23/99
19-NOV-2013 17:20
C:\Project\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl1_L_Rt.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	121/210



14-NOV-2013 10:27
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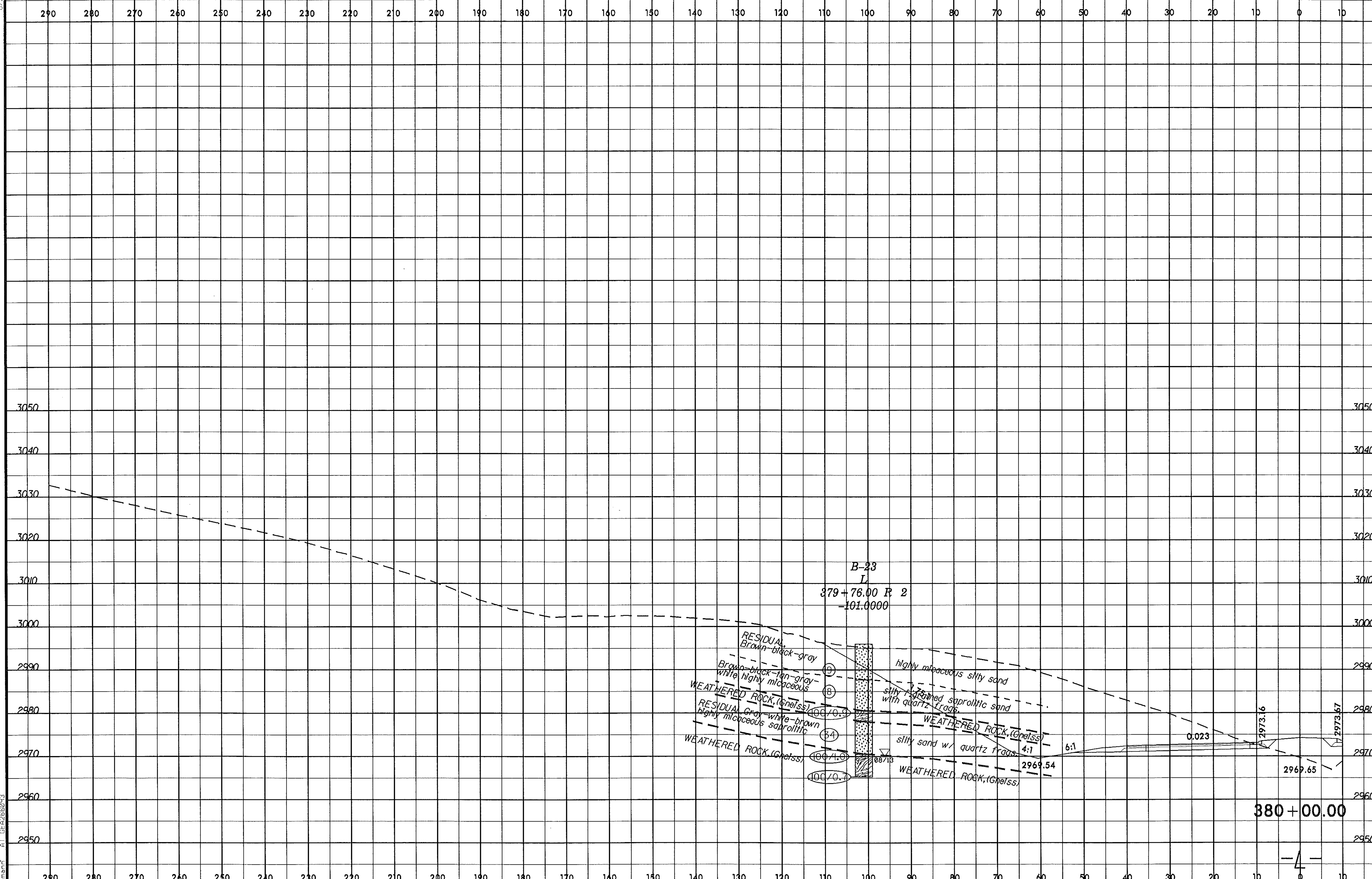
lwmann AT GEA266093
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	122/210



0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
B-23
L
379+76.00 R 2
-101.0000
RESIDUAL,
Brown-black-gray
highly micaceous silty sand
9
Brown-black-tan-gray-
white highly micaceous
8
silty f. grained saprolitic sand
with quartz frags.
WEATHERED ROCK,(Gneiss)
100/0.9
WEATHERED ROCK,(Gneiss)
RESIDUAL,Gray-white-brown
highly micaceous saprolitic
34
silty sand w/ quartz frags.
WEATHERED ROCK,(Gneiss)
100/1.0
08/13
100/0.7
WEATHERED ROCK,(Gneiss)
4:1
6:1
2969.54
0.023
2973.16
2973.67
2969.65
380+00.00
-L-

14-NOV-2013 10:36
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

8/23/99

0 5 10

PROJ. REFERENCE NO. R-2915C

SHEET NO. 123/210

B-24
L
384+00.00 R 2
-90.0000

ARTIFICIAL FILL, Red-gray-tan highly micaceous silty f. grained sand w/rock frags. in lower portion

RESIDUAL, Gray-white-tan-orange-black highly micaceous silty f. grained saprolitic sand

1.75:1

4:1

6:1

0.020

2991.39

2985.14

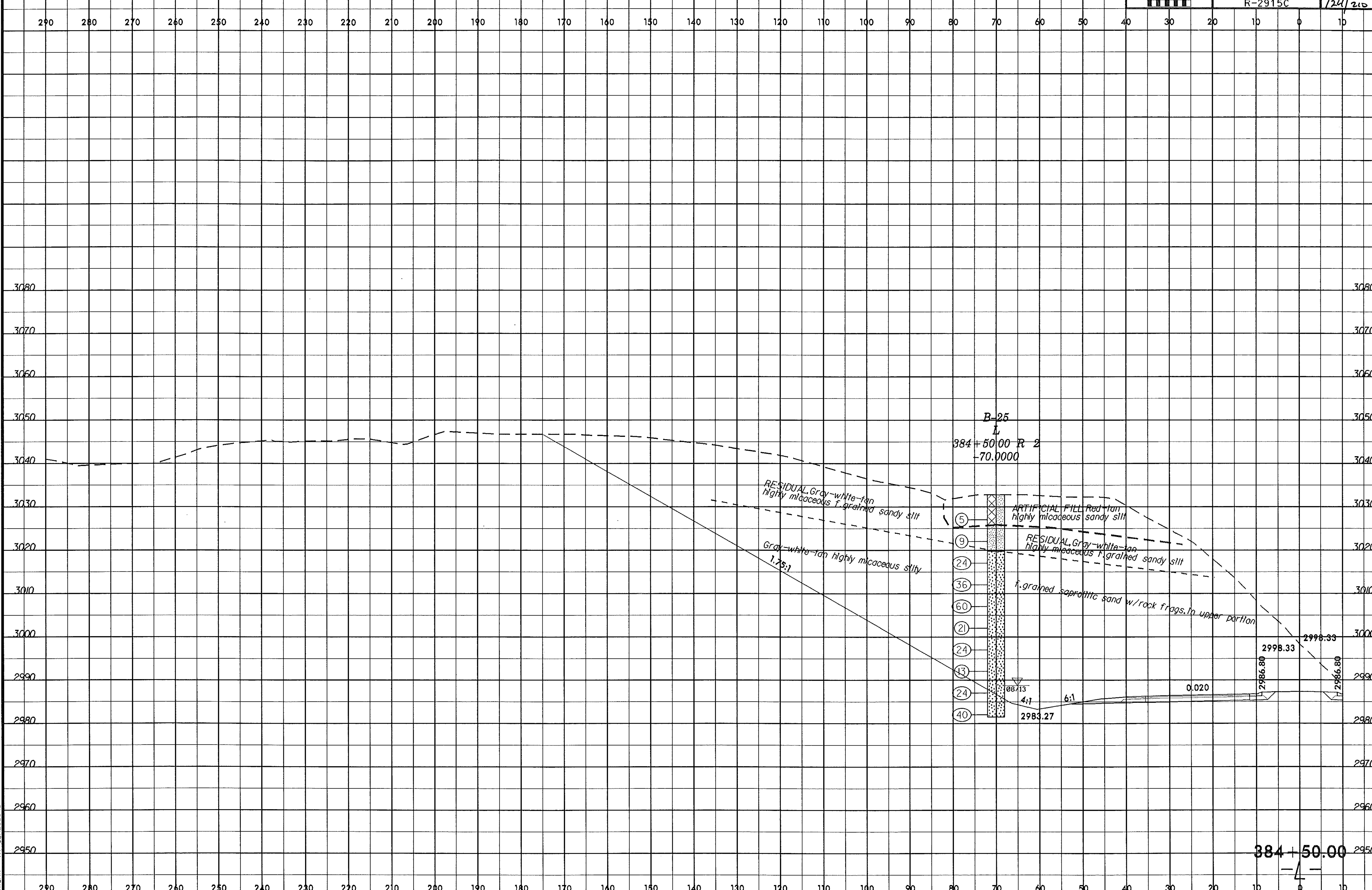
2981.62

08/13

384+00.00

14-NOV-2013 10:38
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLL_Lt.dgn
luhenry
ALT GEOPAK 32

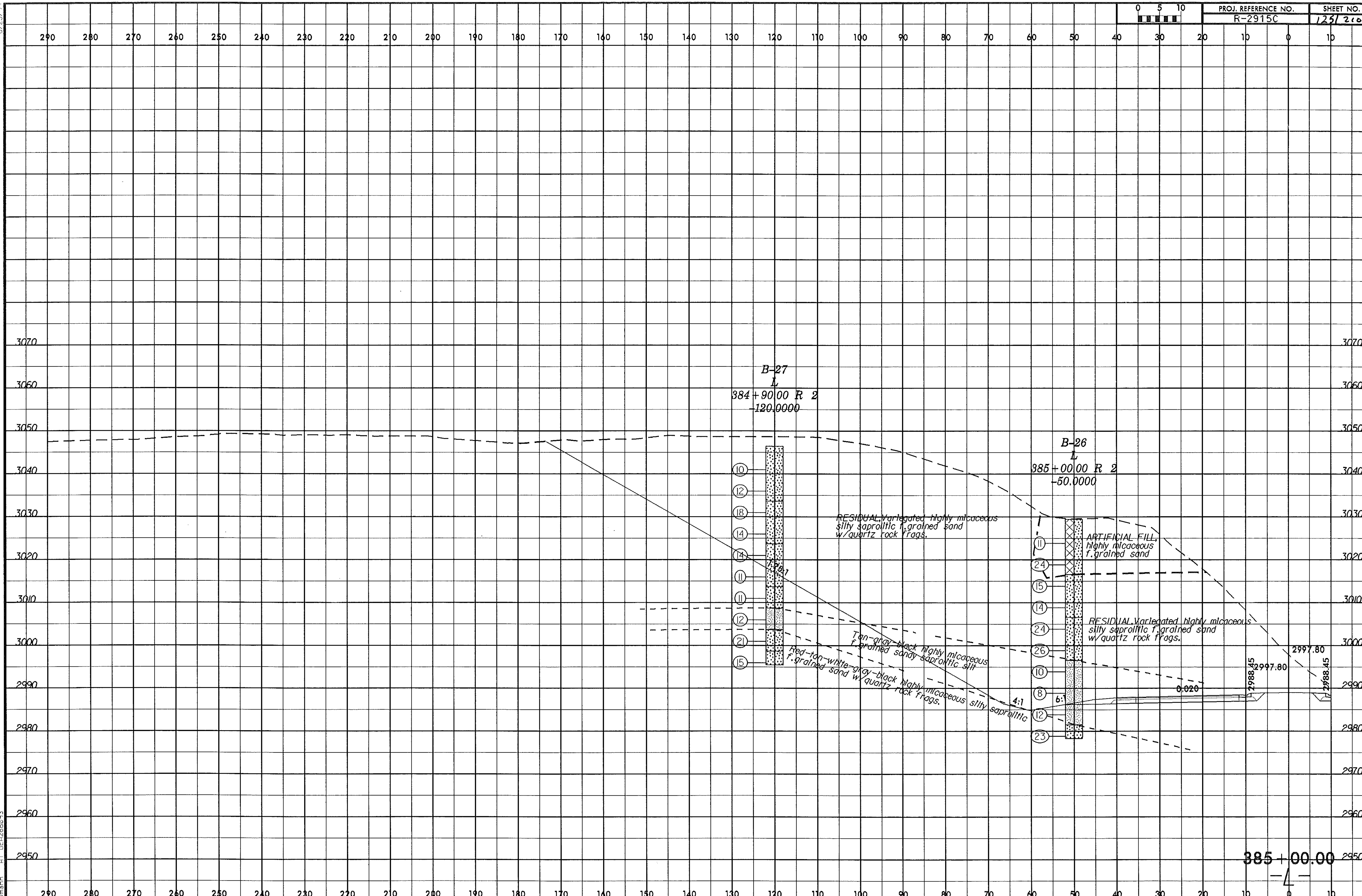
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	124/210


0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
B-25
L
384+50.00 R 2
-70.0000
RESIDUAL,Gray-white-tan
highly micaceous f.grained sandy silt
Gray-white-tan highly micaceous silty
1.75:1
ARTIFICIAL FILL Red-tan
highly micaceous sandy silt
RESIDUAL,Gray-white-tan
highly micaceous f.grained sandy silt
f.grained saprolitic sand w/rock frags.in upper portion
5
9
24
36
60
21
24
13
24
40
08/13
4:1
6:1
2983.27
0.020
2986.80
2998.33
2998.33
2986.80
384+50.00

8/23/99

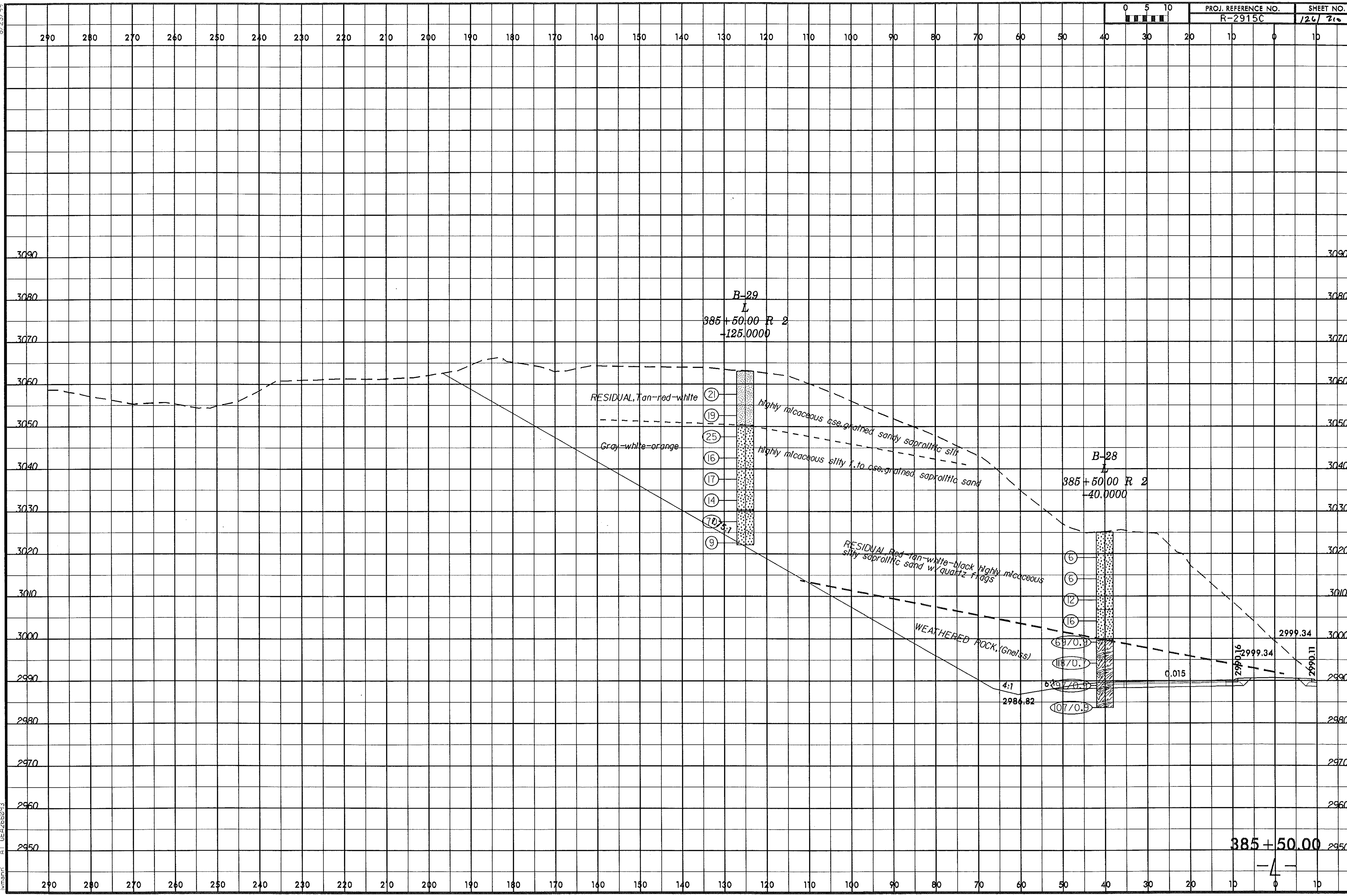
14-NOV-2013 10:40
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	125/210

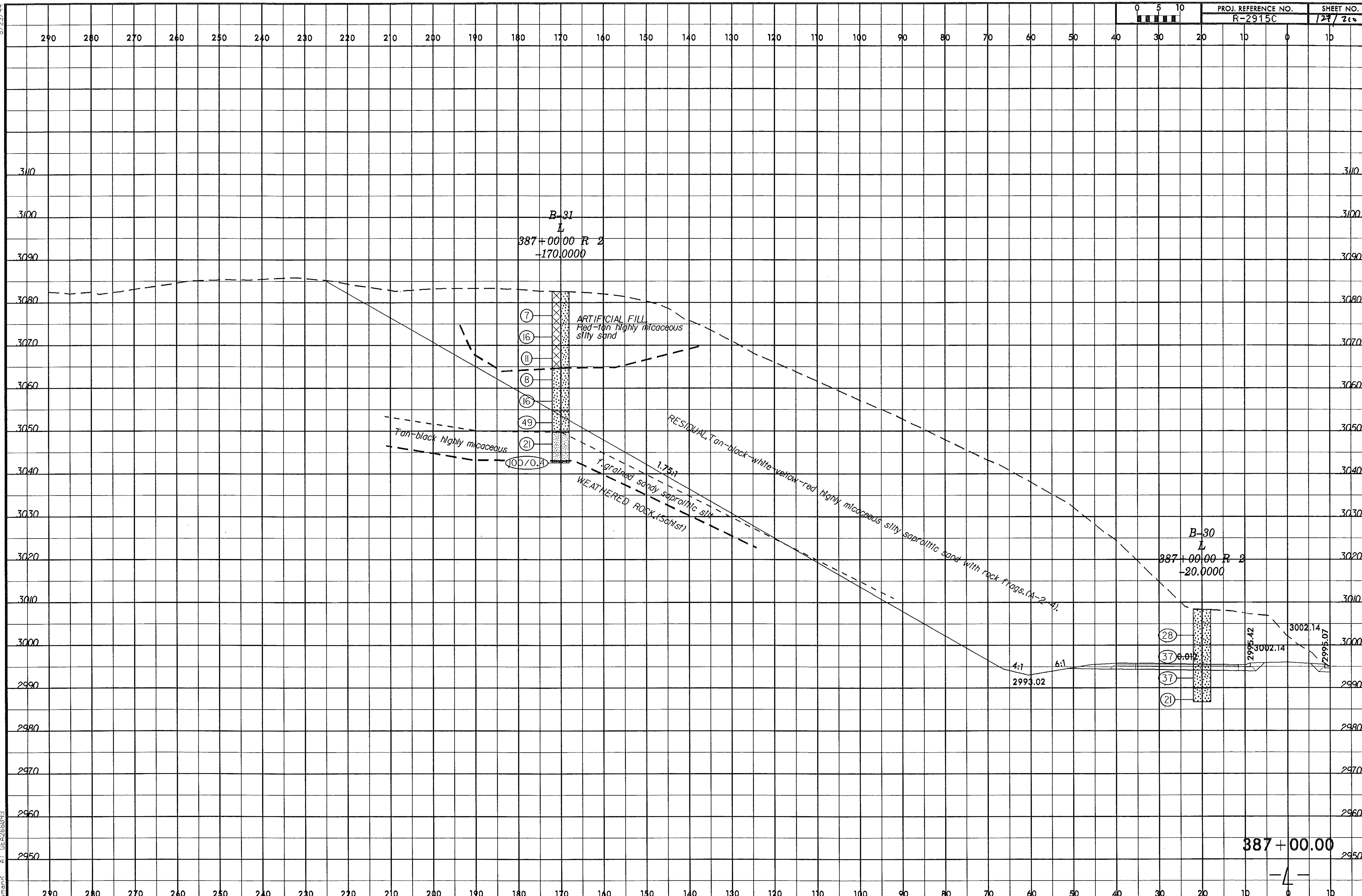


B-27
L
384+90.00 R 2
-120.0000
B-26
L
385+00.00 R 2
-50.0000
RESIDUAL.Variegated highly micaceous silty saprolitic f.grained sand w/quartz rock frags.
ARTIFICIAL FILL, highly micaceous f.grained sand
RESIDUAL.Variegated highly micaceous silty saprolitic f.grained sand w/quartz rock frags.
Tan-gray-black highly micaceous f.grained sandy saprolitic silt
Red-tan-white-gray-black highly micaceous silty saprolitic f.grained sand w/quartz rock frags.
1.75:1
4:1
6:1
0.020
2997.80
2988.45
385+00.00
-L-

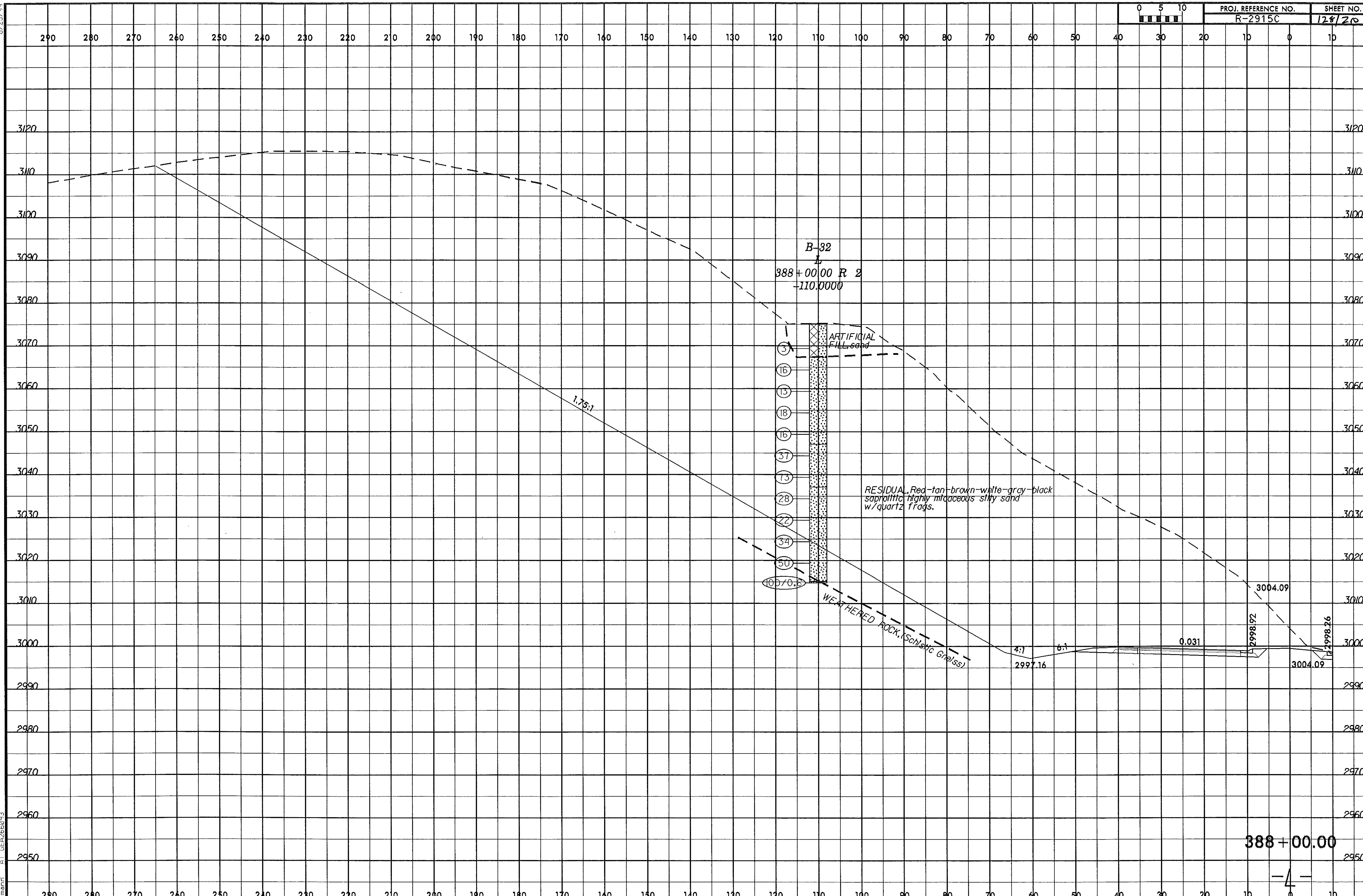
14-NOV-2013 10:41
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
lwmann AT GEA286093
8/23/99



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
126/210
0 5 10
B-29
L
385+50.00 R 2
-125.0000
RESIDUAL,Tan-red-white
highly micaceous cse.grained sandy saprolitic silt
Gray-white-orange
highly micaceous silty f.to cse.grained saprolitic sand
B-28
L
385+50.00 R 2
-40.0000
RESIDUAL,Red-tan-white-black highly micaceous silty saprolitic sand w/quartz frags
WEATHERED ROCK,(Gneiss)
2999.34
2990.16
2990.11
0.015
4:1
2986.82
1.5:1
385+50.00
-4-
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
8/23/99

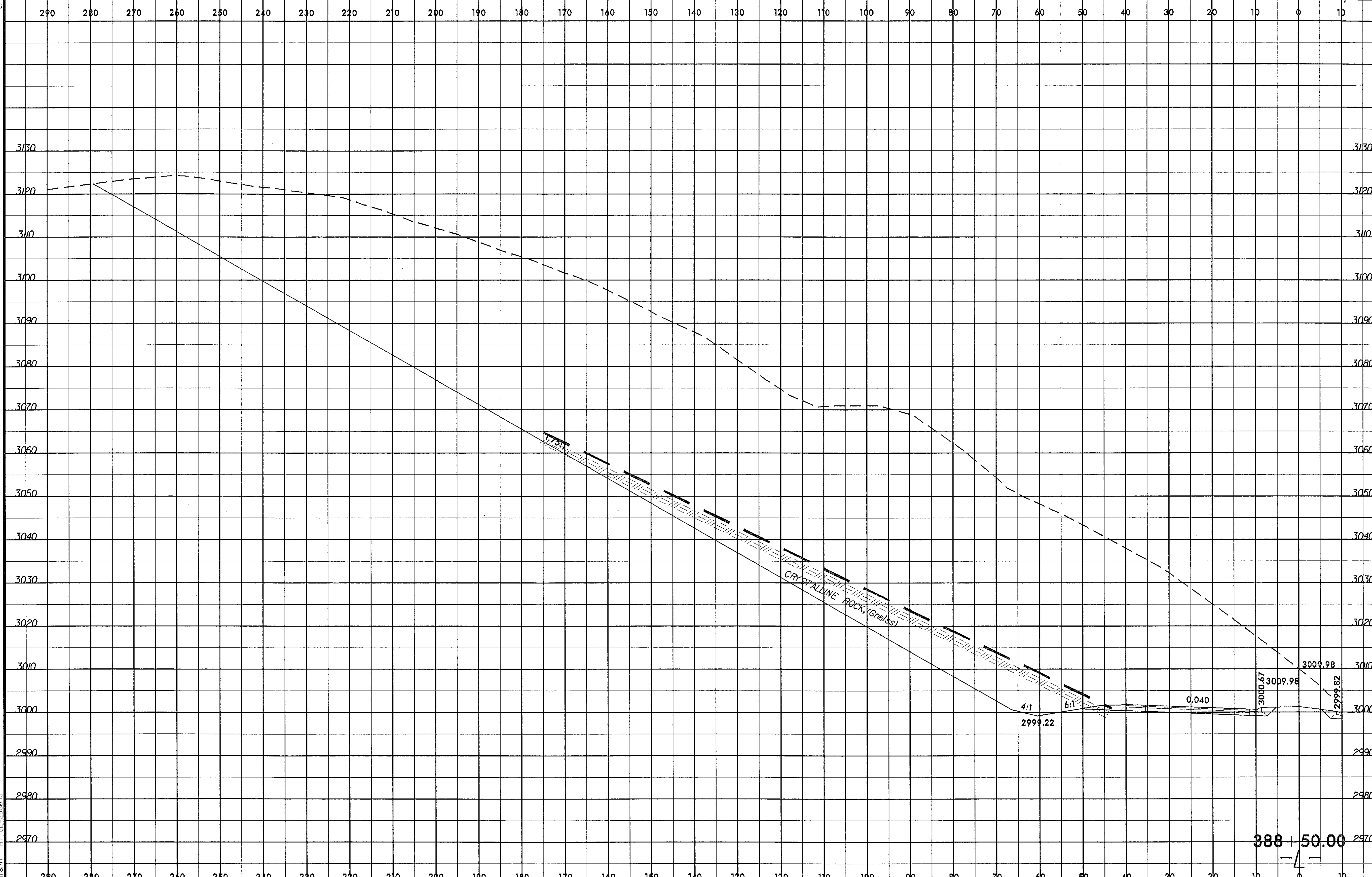


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
0 5 10
B-31
L
387+00.00 R 2
-170.0000
ARTIFICIAL FILL
Red-tan highly micaceous silty sand
Tan-black highly micaceous
100/0.4
f. grained sandy saprolitic silt
WEATHERED ROCK (Schist)
1.75:1
RESIDUAL, Tan-black-white-yellow-red highly micaceous silty saprolitic sand with rock frags. (A-2-4)
B-30
L
387+00.00 R 2
-20.0000
4:1
6:1
2993.02
2995.42
3002.14
3002.14
2995.07
387+00.00
-L-



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
128/210
B-32
L
388+00.00 R 2
-110.0000
ARTIFICIAL FILL, sand
RESIDUAL, Red-tan-brown-white-gray-black saprolitic highly micaceous silty sand w/quartz frags.
WEATHERED ROCK (Schistic Gneiss)
1.75:1
4:1
6:1
0.031
2997.16
3004.09
2998.92
2998.26
3004.09
388+00.00

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	129/ 200



8/23/99

14-NOV-2013 10:48
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	136) 210

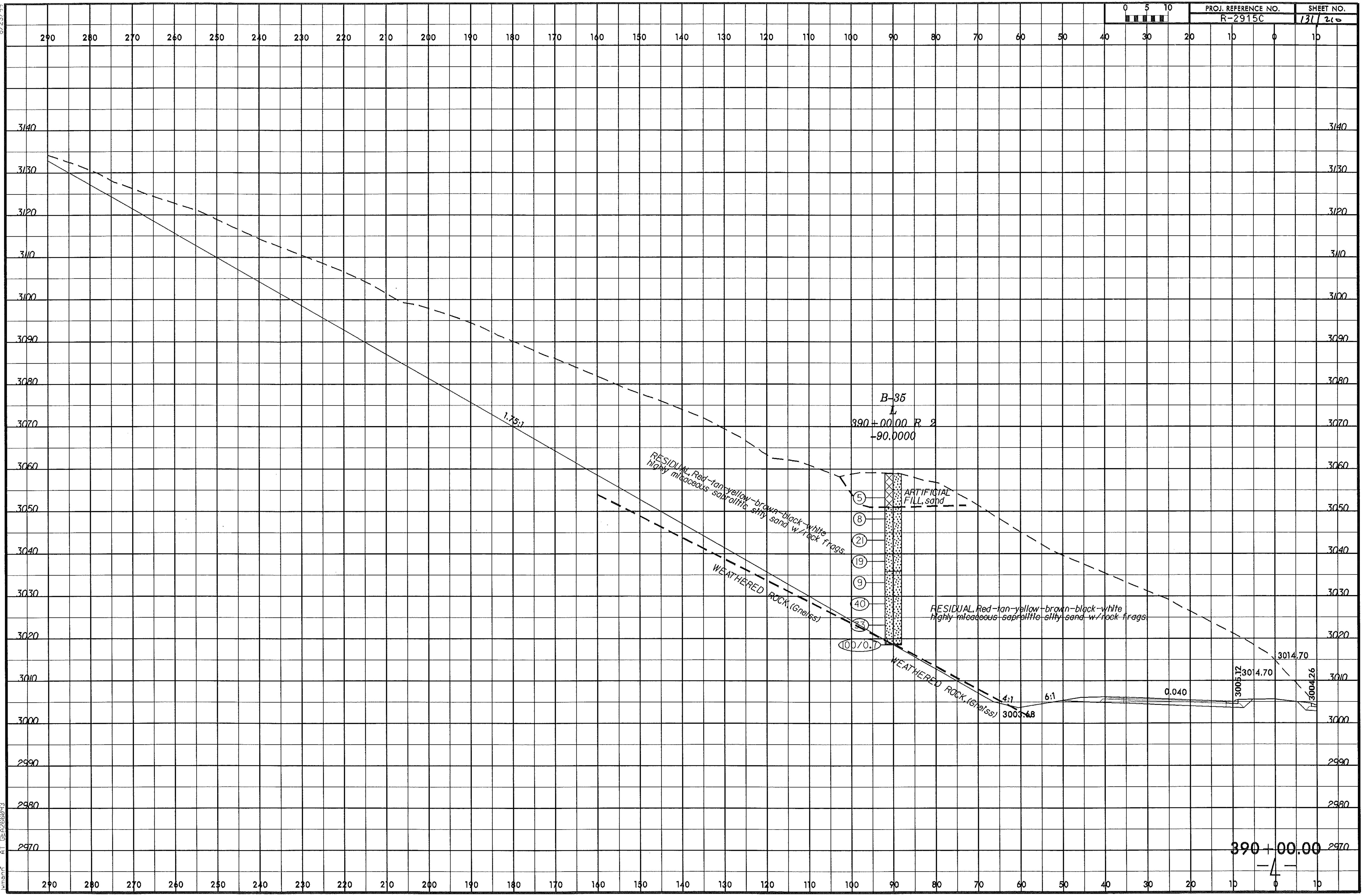
389+00.00

-4-

14-NOV-2013 10:50
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	131/210



0 5 10
B-35
L
390+00.00 R 2
-90.0000
1.75:1
RESIDUAL, Red-tan-yellow-brown-black-white highly micaceous saprolitic silty sand w/rock frags
ARTIFICIAL FILL, sand
5
8
21
19
9
40
33
100/0.7
WEATHERED ROCK (Gneiss)
RESIDUAL, Red-tan-yellow-brown-black-white highly micaceous saprolitic silty sand w/rock frags
WEATHERED ROCK (Gneiss)
4:1
6:1
3003.68
0.040
3005.12
3014.70
3014.70
3004.26
390+00.00
-4-

14-NOV-2013 10:51
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	132/210

B-36
L
391+00.00 R 2
-60.0000

RESIDUAL, Red-tan-brown highly micaceous sandy silt w/quartz frags.

Red-tan-gray-black-white highly micaceous silty sand w/quartz frags.

Tan-gray-black-orange-white highly

CRYSTALLINE ROCK, (Schist)

ARTIFICIAL FILL, silt

3 5 15 58 (50/0.4)

RESIDUAL, Red-tan-brown highly micaceous sandy silt w/quartz frags.

Red-tan-gray-black-white highly micaceous silty sand w/quartz frags.

micaceous silty saprolitic sand w/quartz frags.

CRYSTALLINE ROCK, (Schist)

1.75:1

4:1

6:1

0.040

3005.84

3007.28

3022.09

3022.09

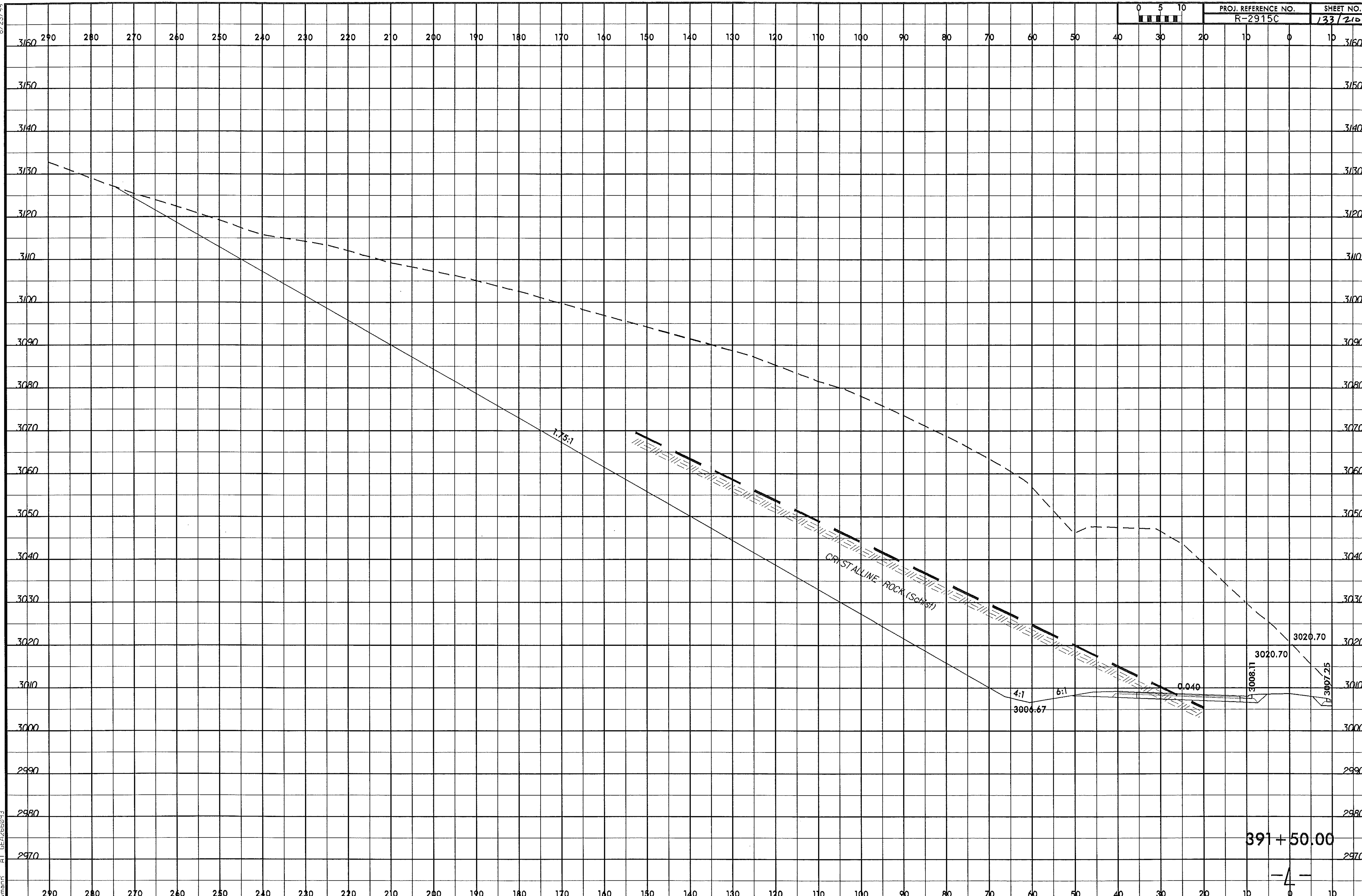
3006.42

391+00.00

-L-

14-NOV-2013 10:53
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLLLt.dgn
kwebert
ALT 1 GEOMOD2

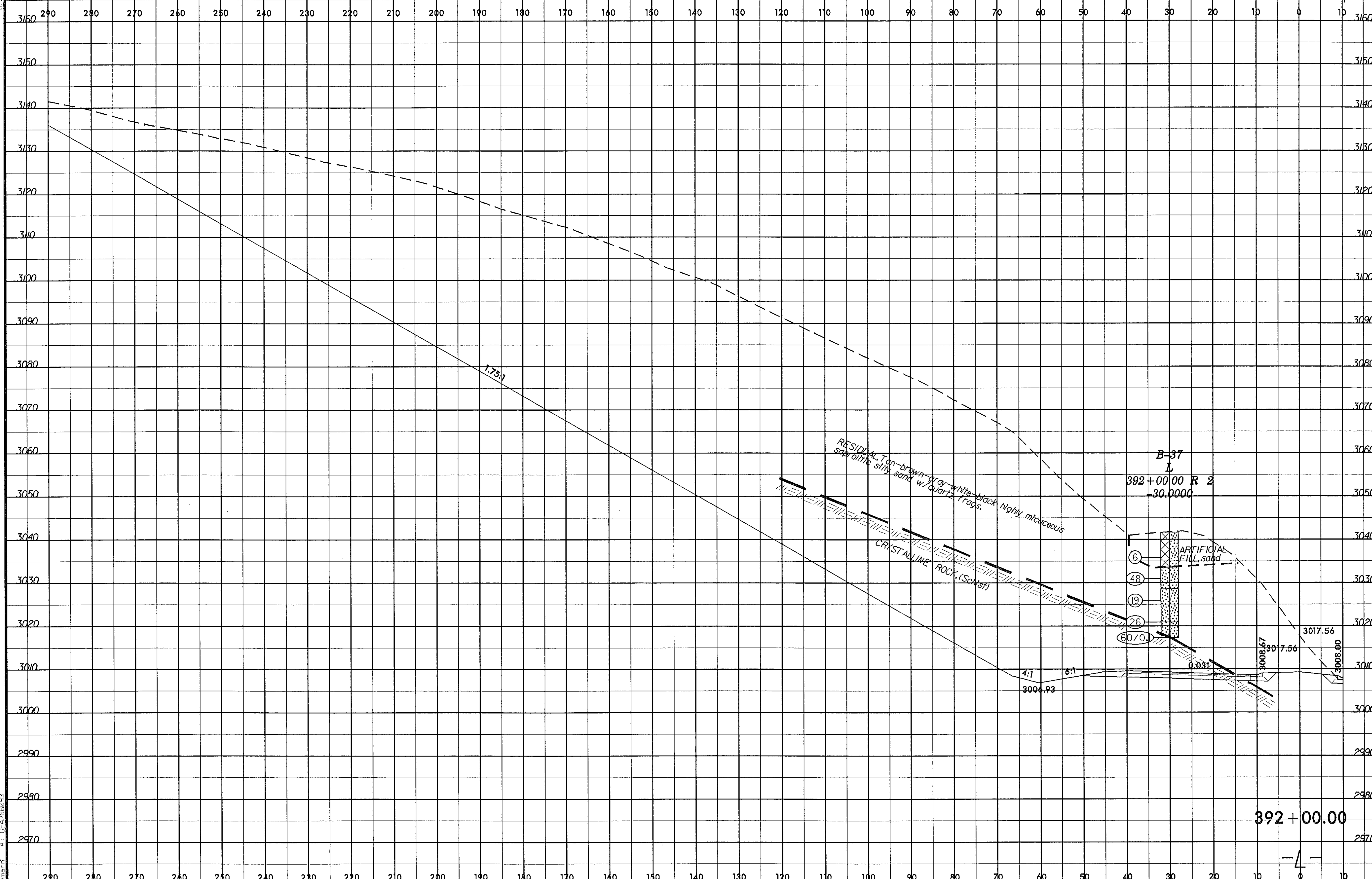
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	133/210



8/23/99

14-NOV-2013 10:55
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

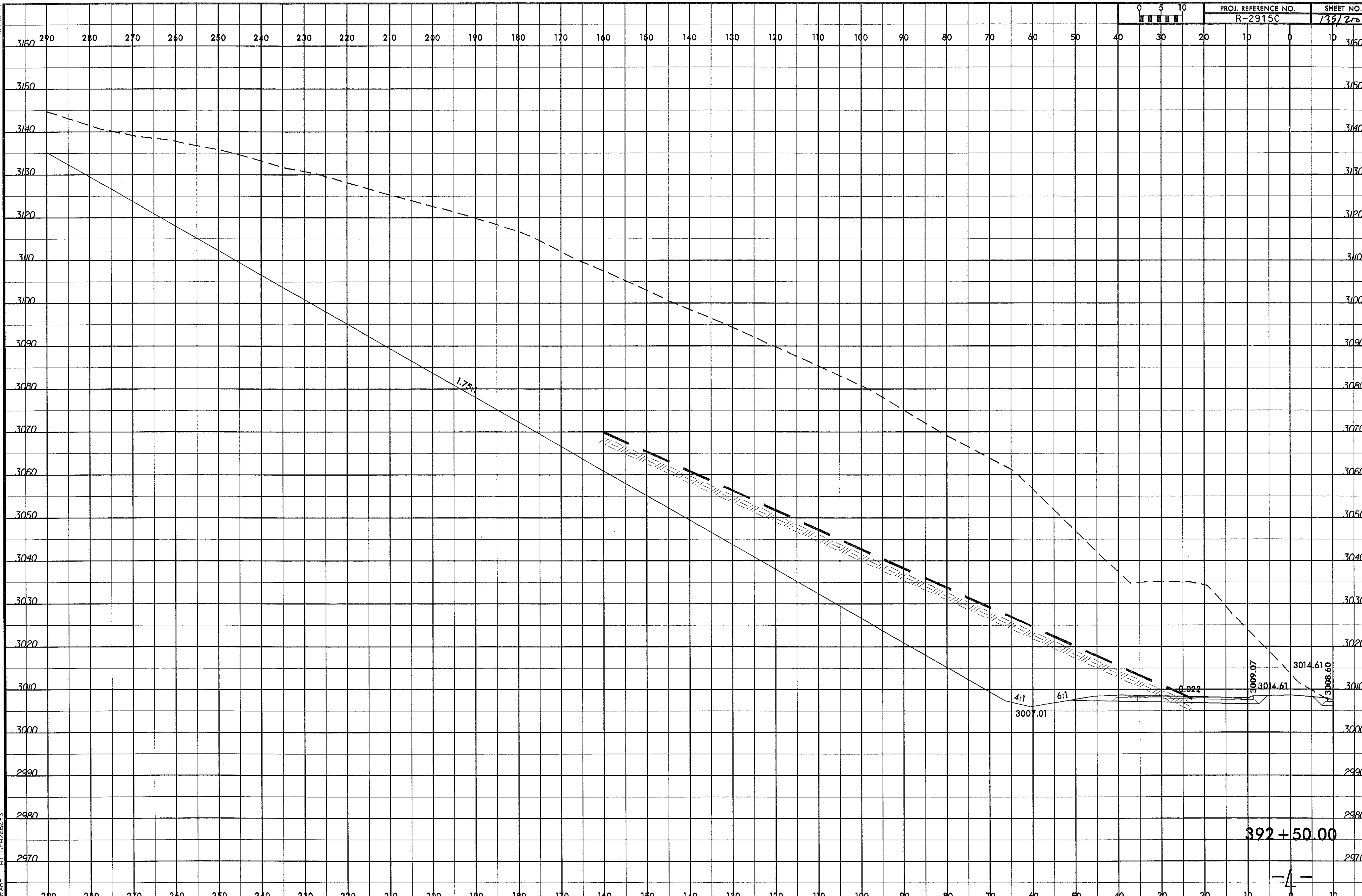
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	134/210



8/23/99

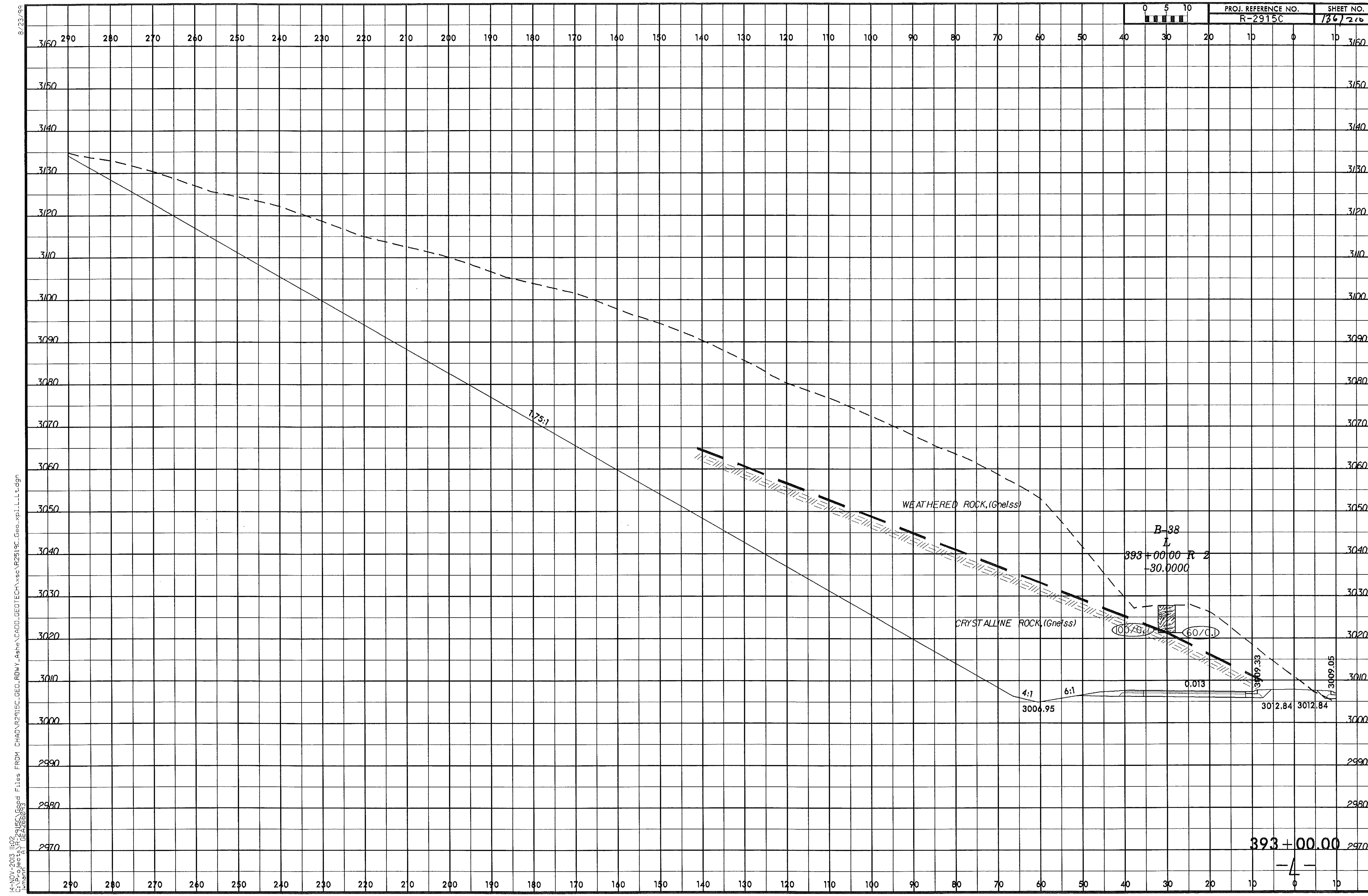
14-NOV-2013 10:57 C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	135/210

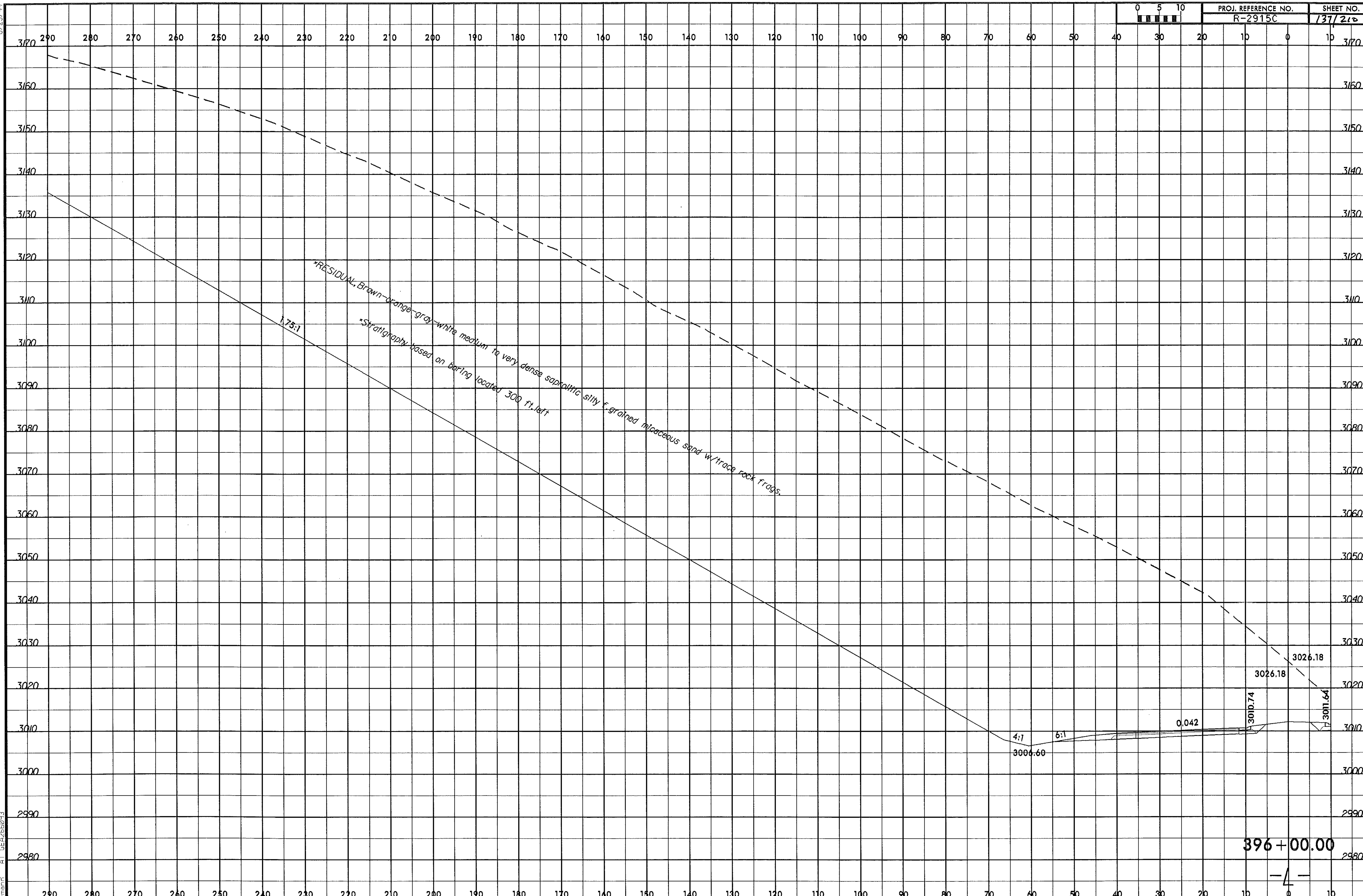


8/23/99

14-NOV-2013 11:00
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
136/210
0 5 10
WEATHERED ROCK (Gneiss)
CRYSTALLINE ROCK (Gneiss)
B-38
L
393+00.00 R 2
-30.0000
100/0.
60/0.1
1.75:1
4:1
6:1
0.013
3006.95
3009.33
3009.05
3012.84
3012.84
393+00.00
-L-

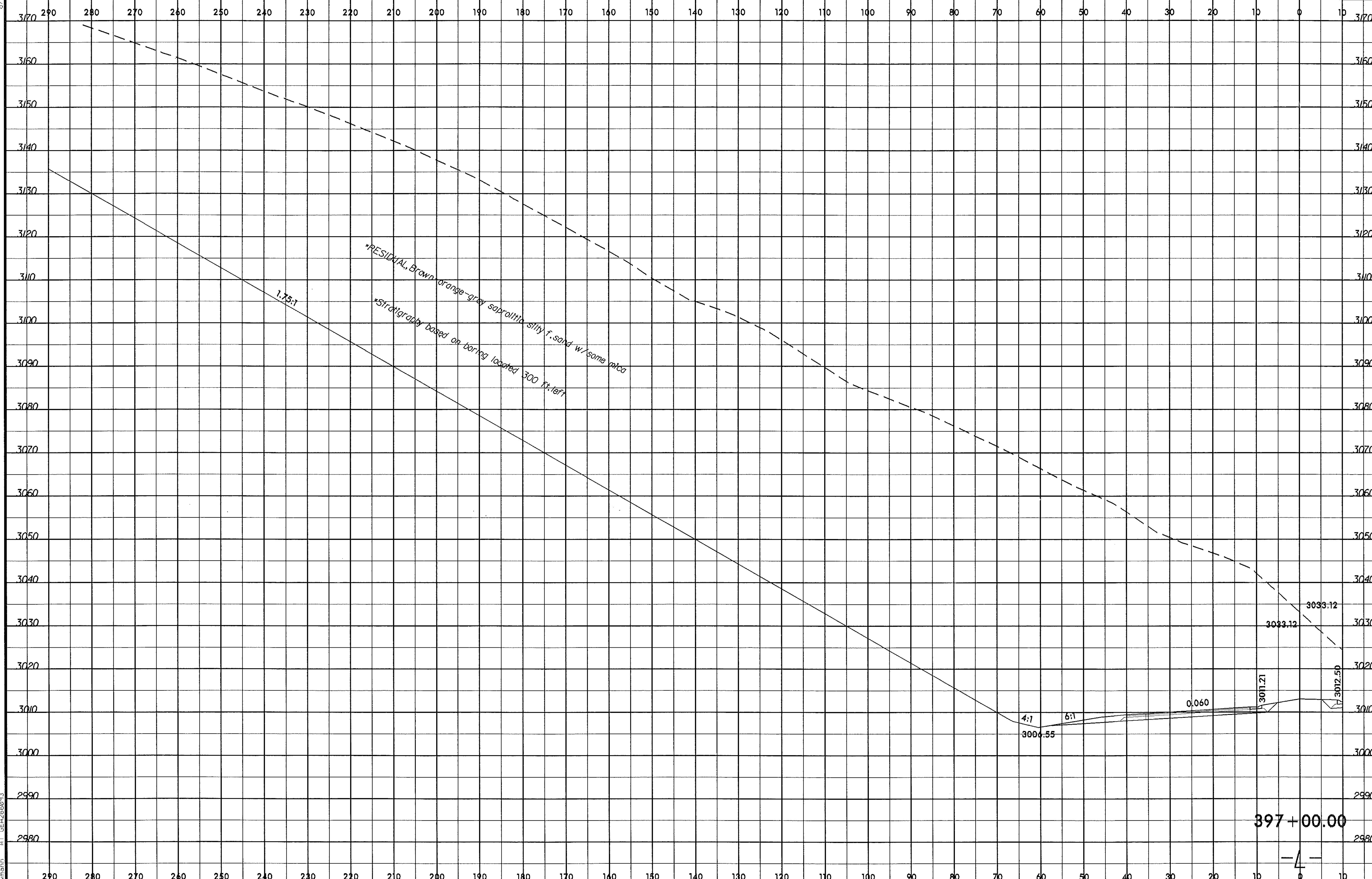
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	137/210



8/23/99

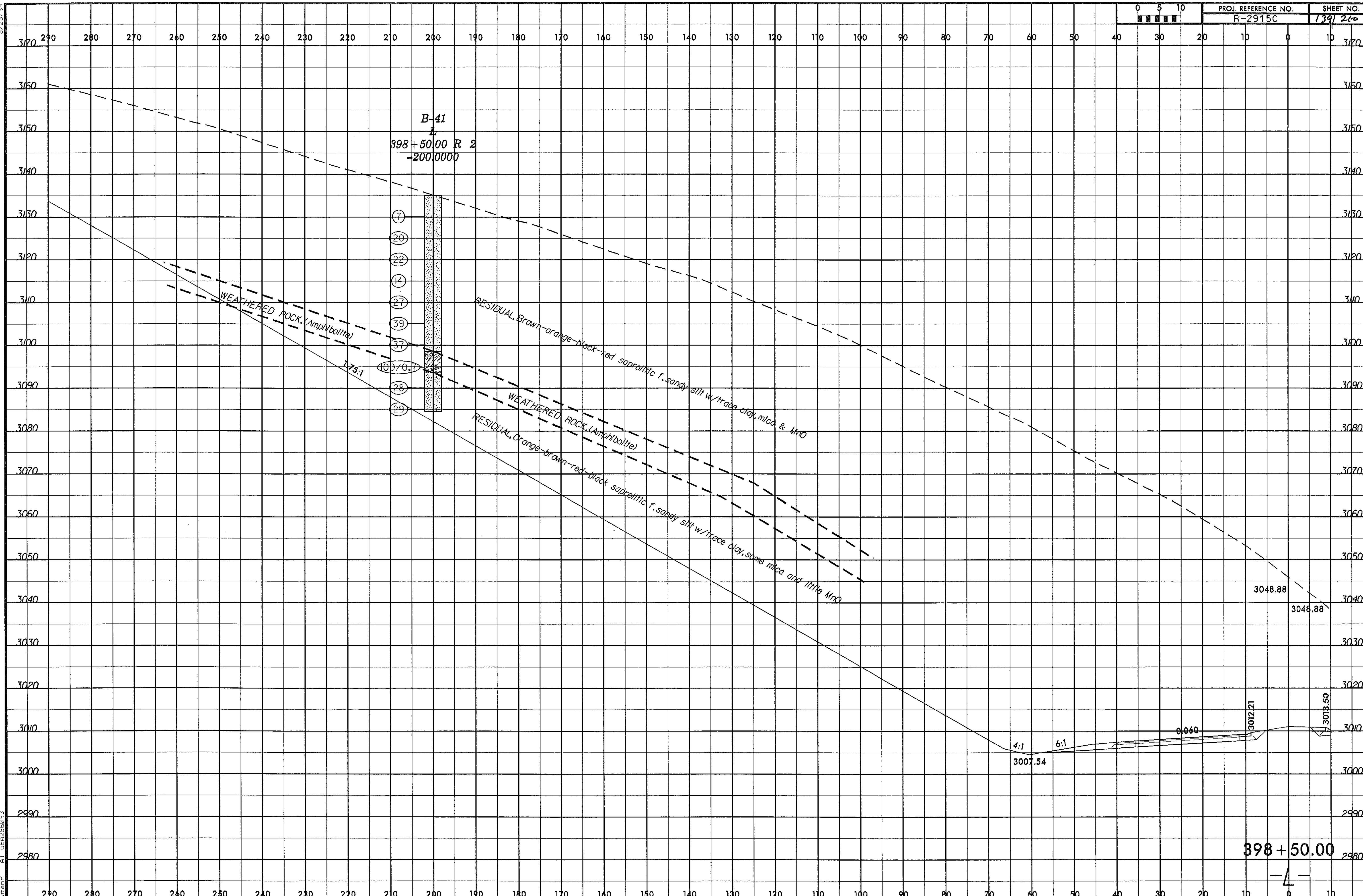
14-NOV-2013 11:04
G:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo.xpl_L_Lt.dgn
lwmann AT GEA286093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	138/210



8/23/99

14-NOV-2013 11:05 C:\Projects\R-2915C\Geod Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn iwmann AT GEA28093



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
139/260
B-41
L
398+50.00 R 2
-200.0000
WEATHERED ROCK (Amphibolite)
RESIDUAL, Brown-orange-black-red saprolitic f. sandy silt w/trace clay, mica & MnO
WEATHERED ROCK (Amphibolite)
RESIDUAL, Orange-brown-red-black saprolitic f. sandy silt w/trace clay, some mica and little MnO
1.75:1
4:1
6:1
0.060
3007.54
3048.88
3048.88
3012.21
3013.50
398+50.00
8/23/99

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	140/218

0 5 10

B-42
L
399+00.00 R 2
-200.0000

(9) (56) (40) (21) (100/0.5) (100/0.3) (100/0.1) (60/0.0)

RESIDUAL, Brown-orange-gray saprolitic some mica to highly micaceous silty f. sand w/trace MnO

WEATHERED ROCK, (Amphibolite)

CRYSTALLINE ROCK, (Amphibolite)

1.73:1

3050.58

3050.58

4:1

6:1

0.060

3012.54

3013.83

3007.87

399+00.00

-L-

14-NOV-2013 11:10
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLLLt.dgn
kmann
GEOPAK 8.1

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	14/20

B-43
L
399+50.00 R 2
-200.0000

36
8
27
20
15
100/70.5
38
10
60/0.0

08/13

RESIDUAL, Orange-brown-black saprolitte f. sandy silt w/trace mica rock frags & MnO

Orange-brown-black saprolitic silty f. sand w/some mica

WEATHERED ROCK, (Amphibolite)

RESIDUAL, Orange-brown-black saprolitte silty f. sand w/some mica little rock frags and trace MnO

CRYSTALLINE ROCK, Crystalline rock (Amphibolite)

1.75:1

3051.89

3051.89

4:1

6:1

3008.20

0.060

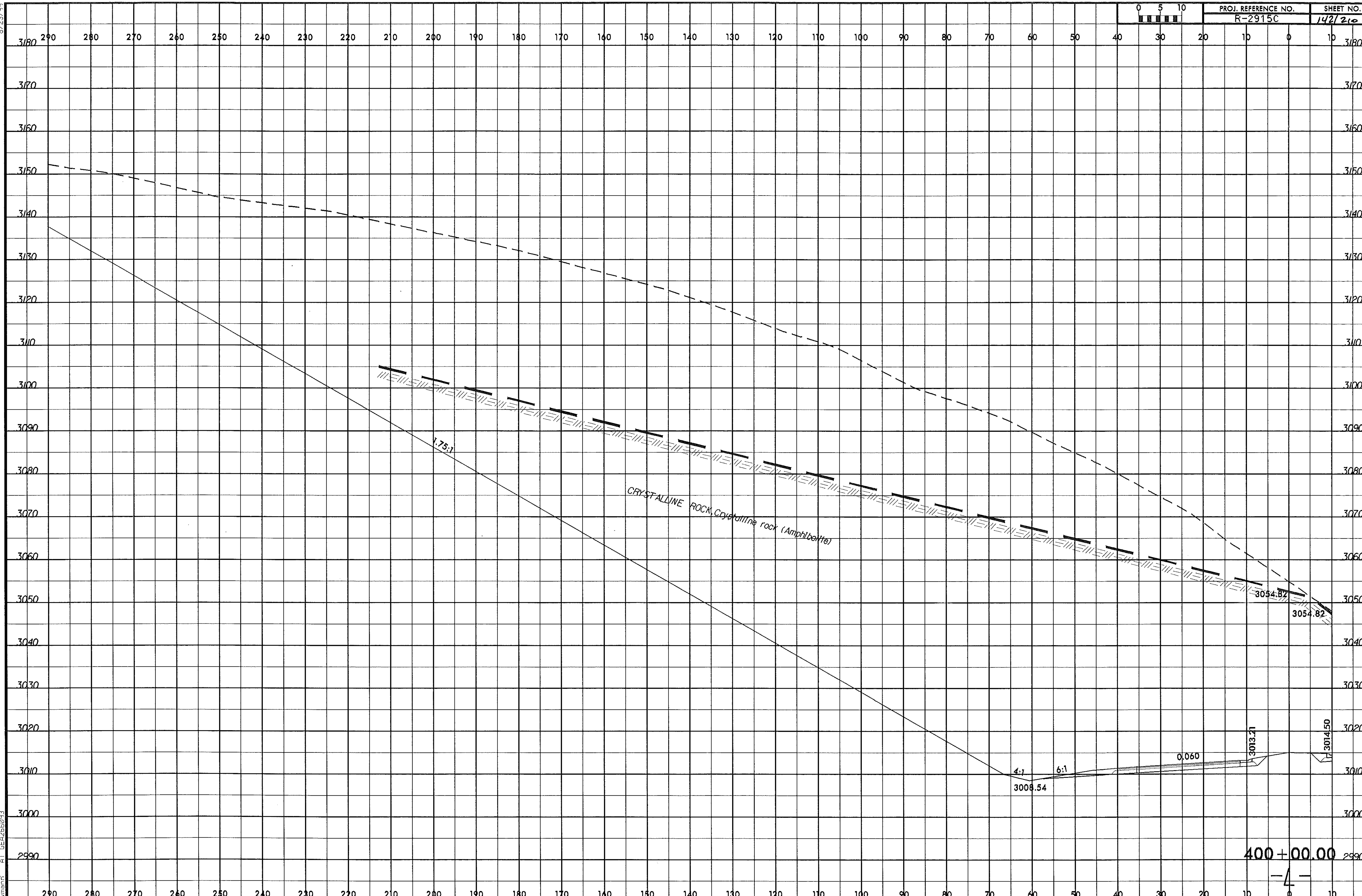
3012.88

3014.17

399+50.00

-L-

14-NOV-2013 11:11
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo-xpLLLLt.dgn
jwilson
CE-2256(3)



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
142/210
0 5 10
CRYSTALLINE ROCK,Crystalline rock (Amphibolite)
1.75:1
4:1
6:1
0.060
3008.54
3013.21
3014.50
3054.82
3054.82
400+00.00
-L-

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	143/210

1.75:1

CRYSTALLINE ROCK, Crystalline rock (Amphibolite)

3056.12

3056.12

4:1

6:1

0.060

3013.54

3014.83

3008.87

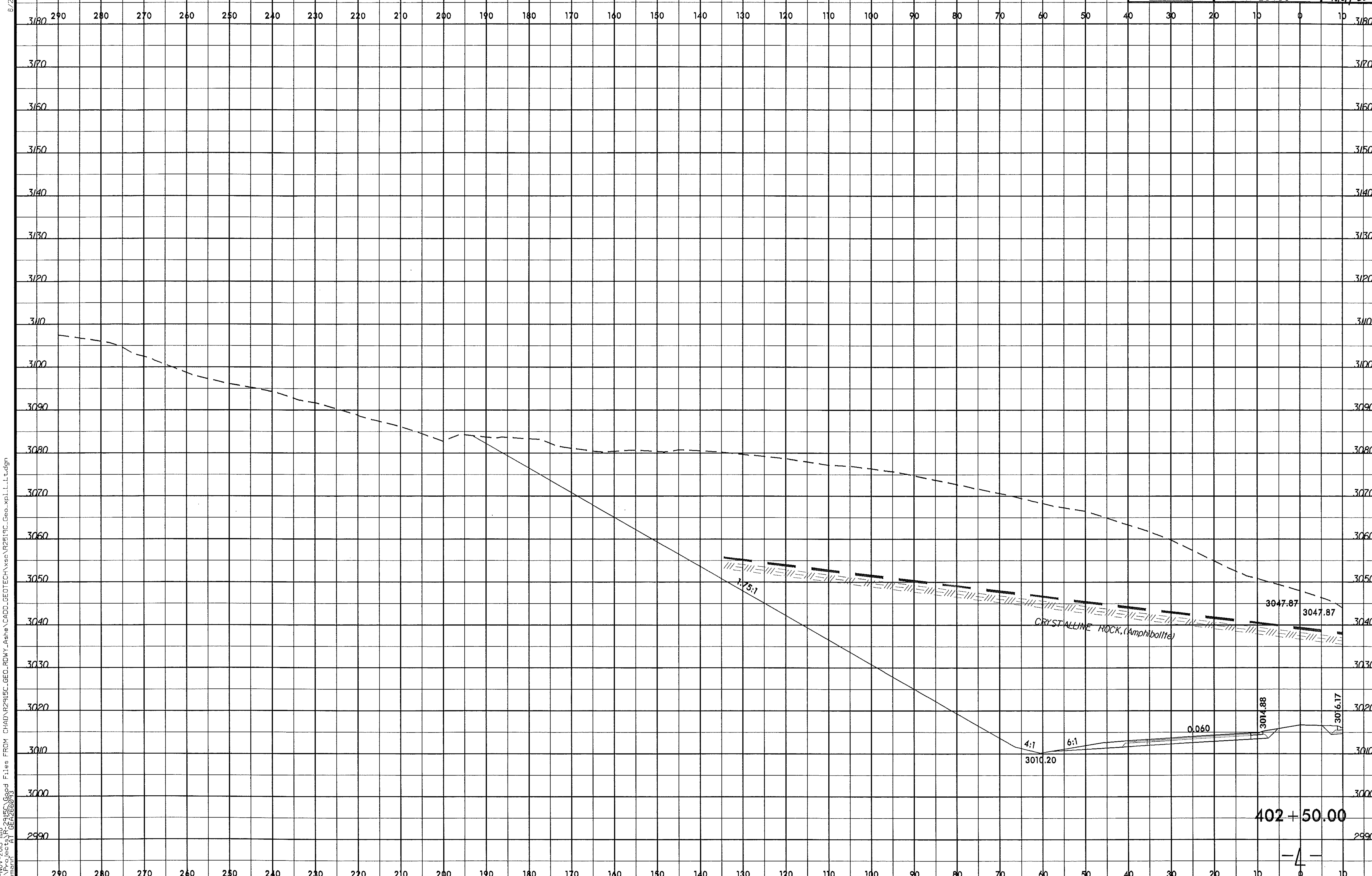
400+50.00

-L-

14-NOV-2013 11:15
C:\Projects\R-2915C\Good Files FROM CHADVK\2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsec\R2915C_Geo_xpi_LLL.dgn
kmsmith

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	144/200

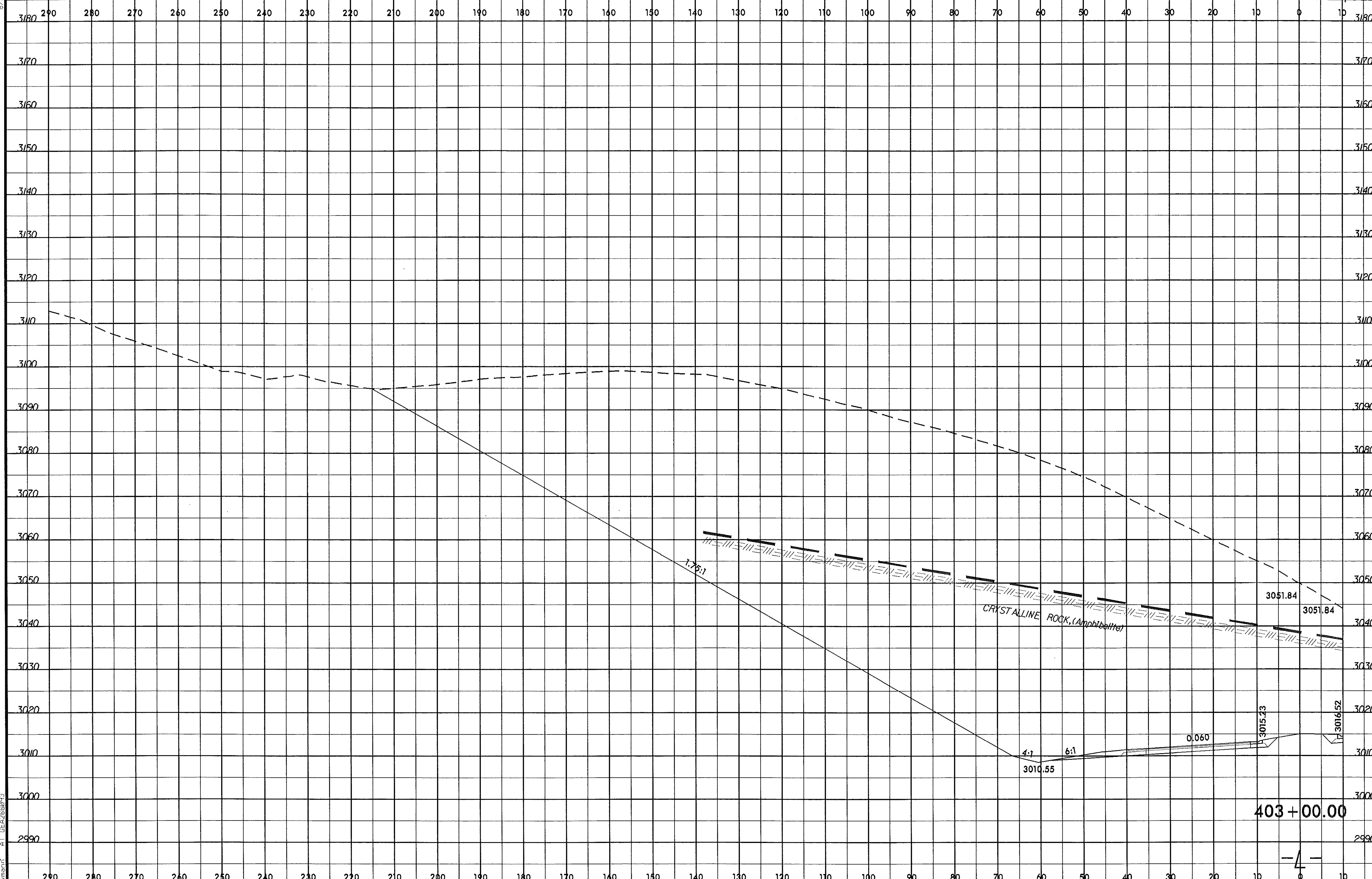


402+50.00

-4-

14-NOV-2013 11:18 C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn jwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	145/210



8/23/99

14-NOV-2013 11:20
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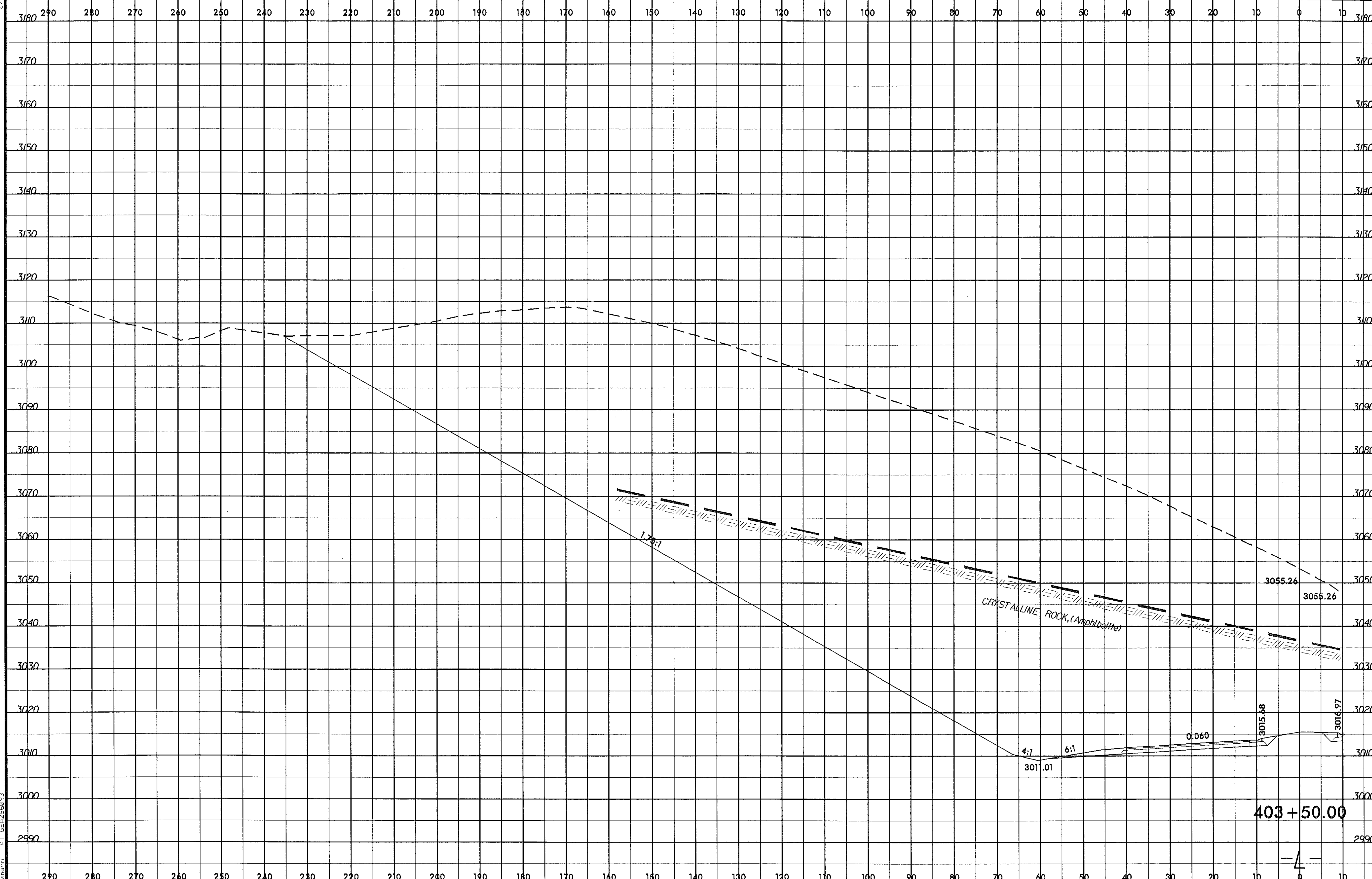
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	146/260



14-NOV-2013 11:22
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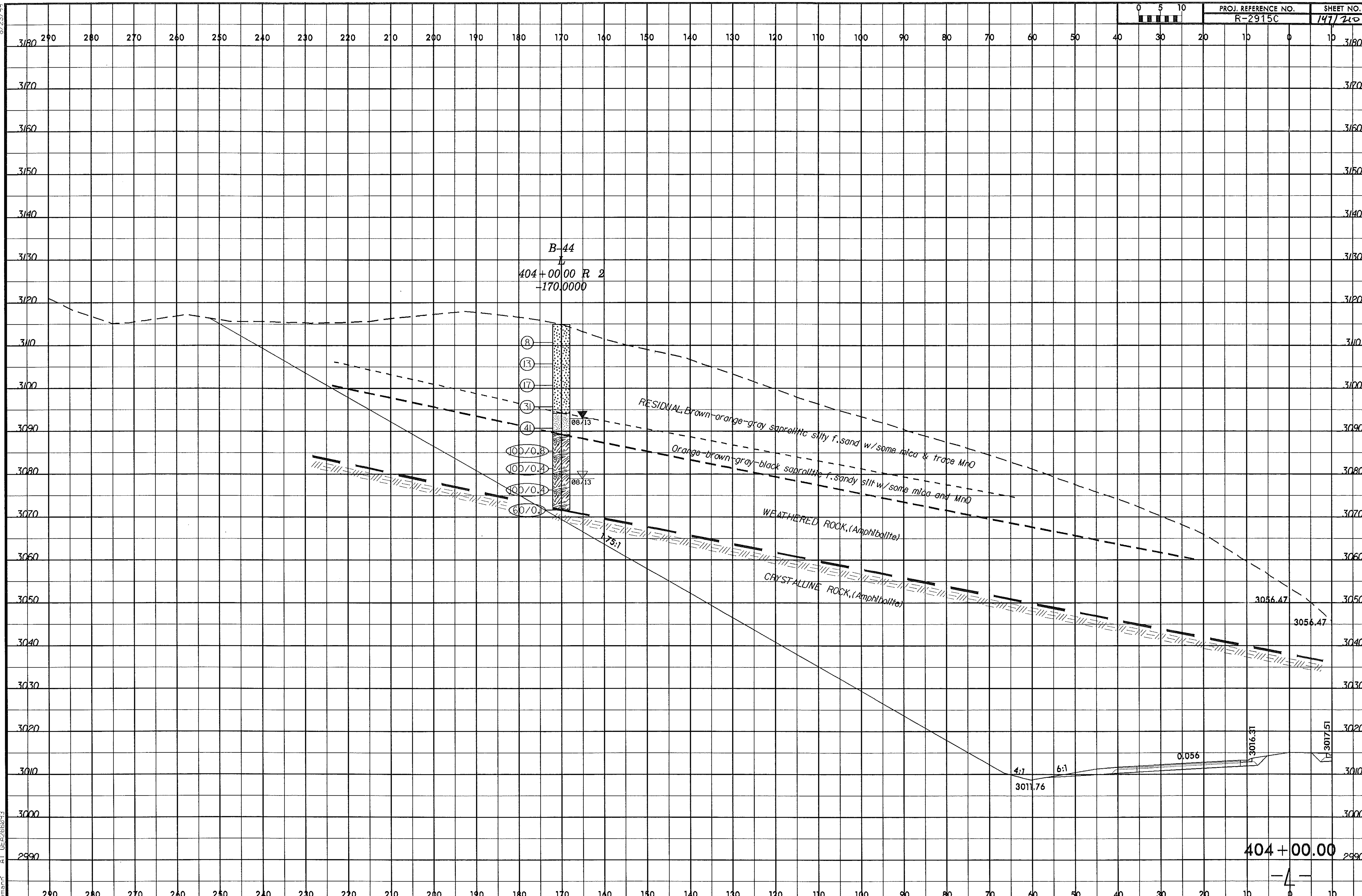
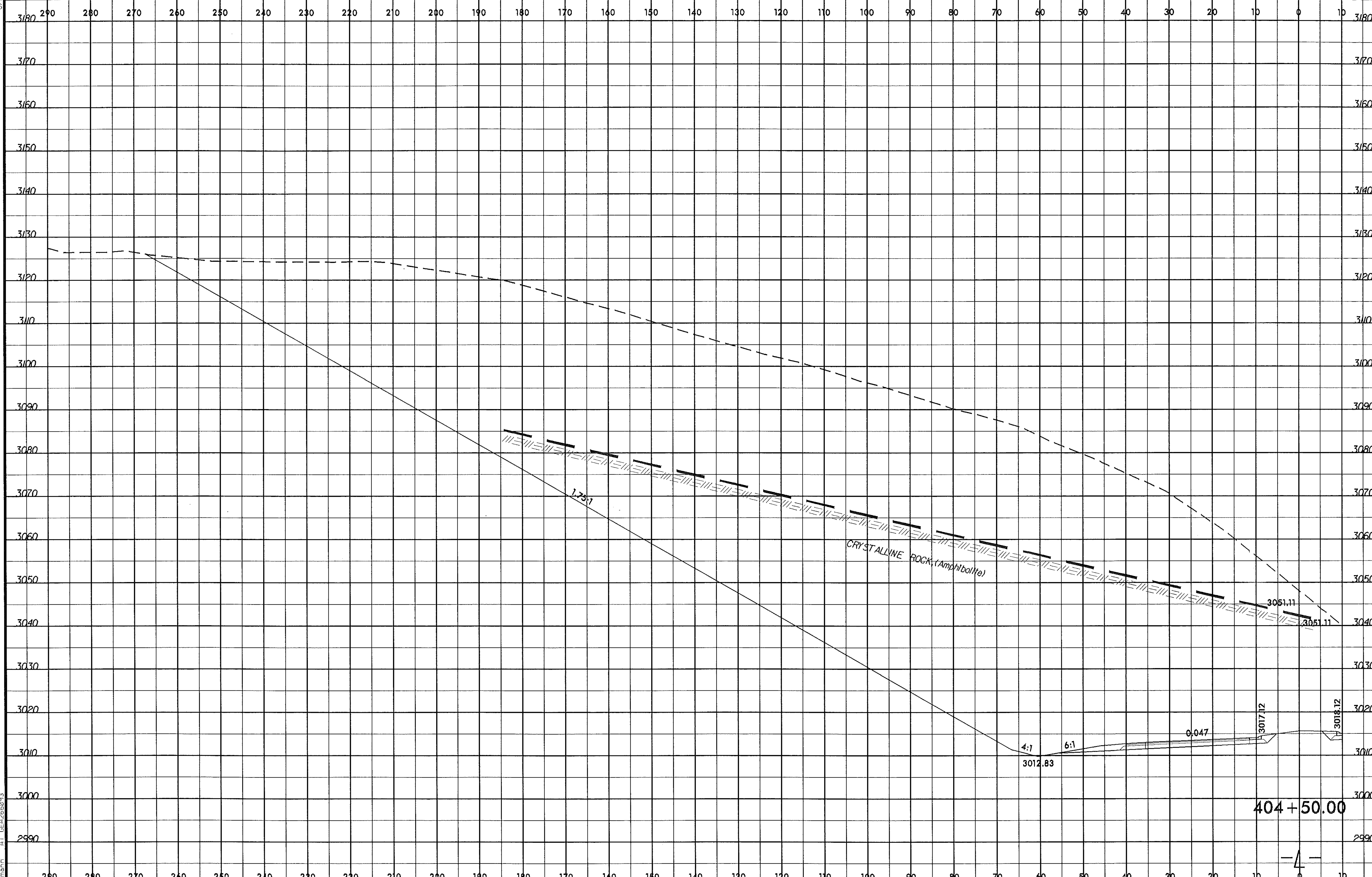
lwmann AT GEA266093



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
147/210
0 5 10
B-44
L
404+00.00 R 2
-170.0000
8
13
17
31
41
100/0.8
100/0.4
100/0.4
60/0.1
08/13
08/13
RESIDUAL,Brown-orange-gray saprolitic silty f.sand w/some mica & trace MnO
Orange-brown-gray-black saprolitic f.sandy silt w/some mica and MnO
WEATHERED ROCK,(Amphibolite)
CRYSTALLINE ROCK,(Amphibolite)
1.75:1
4:1
6:1
0.056
3011.76
3016.31
3017.51
3056.47
3056.47
404+00.00

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	148/210



8/23/99

14-NOV-2013 11:25
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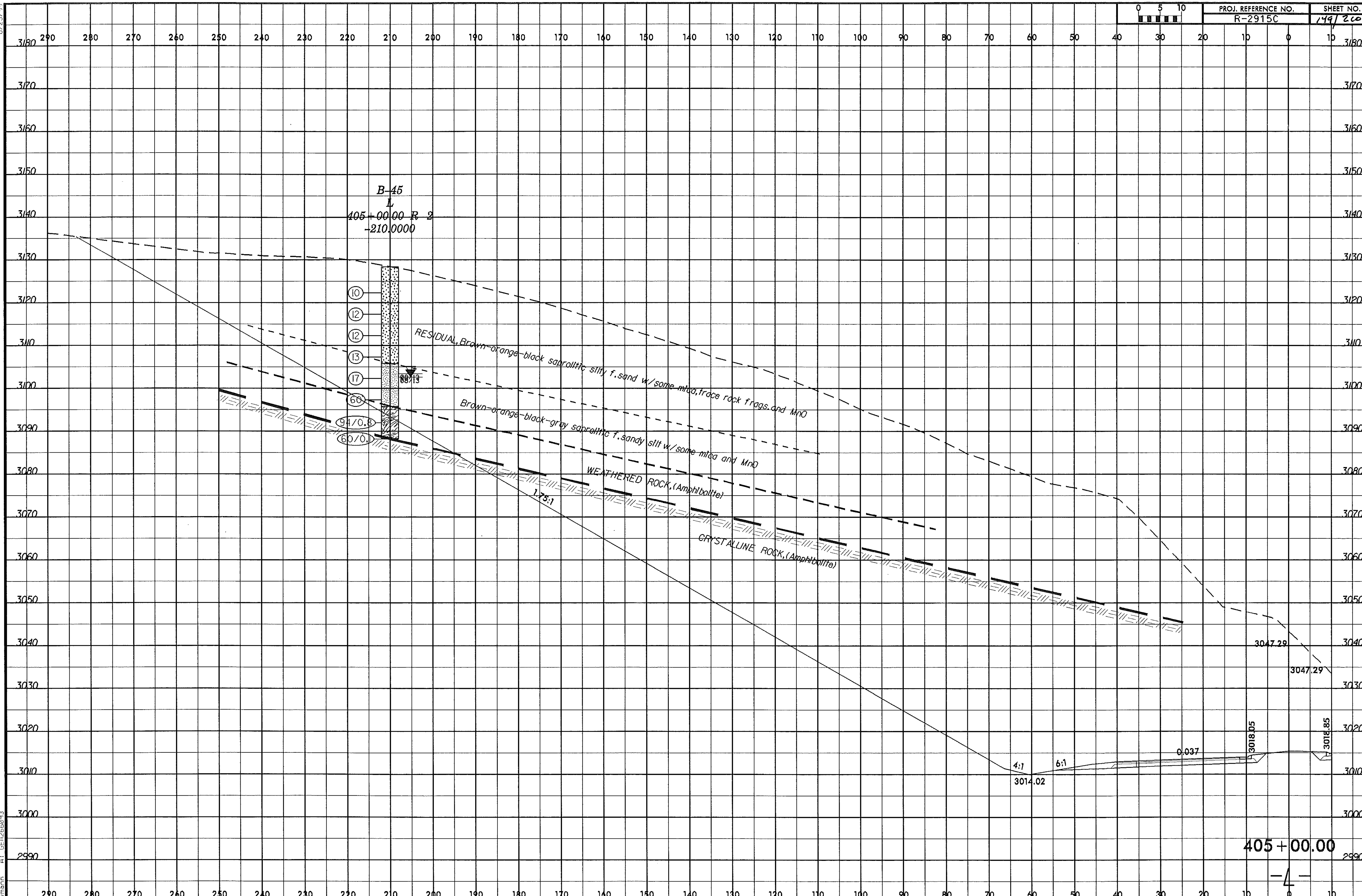
lwmann AT GEA266093

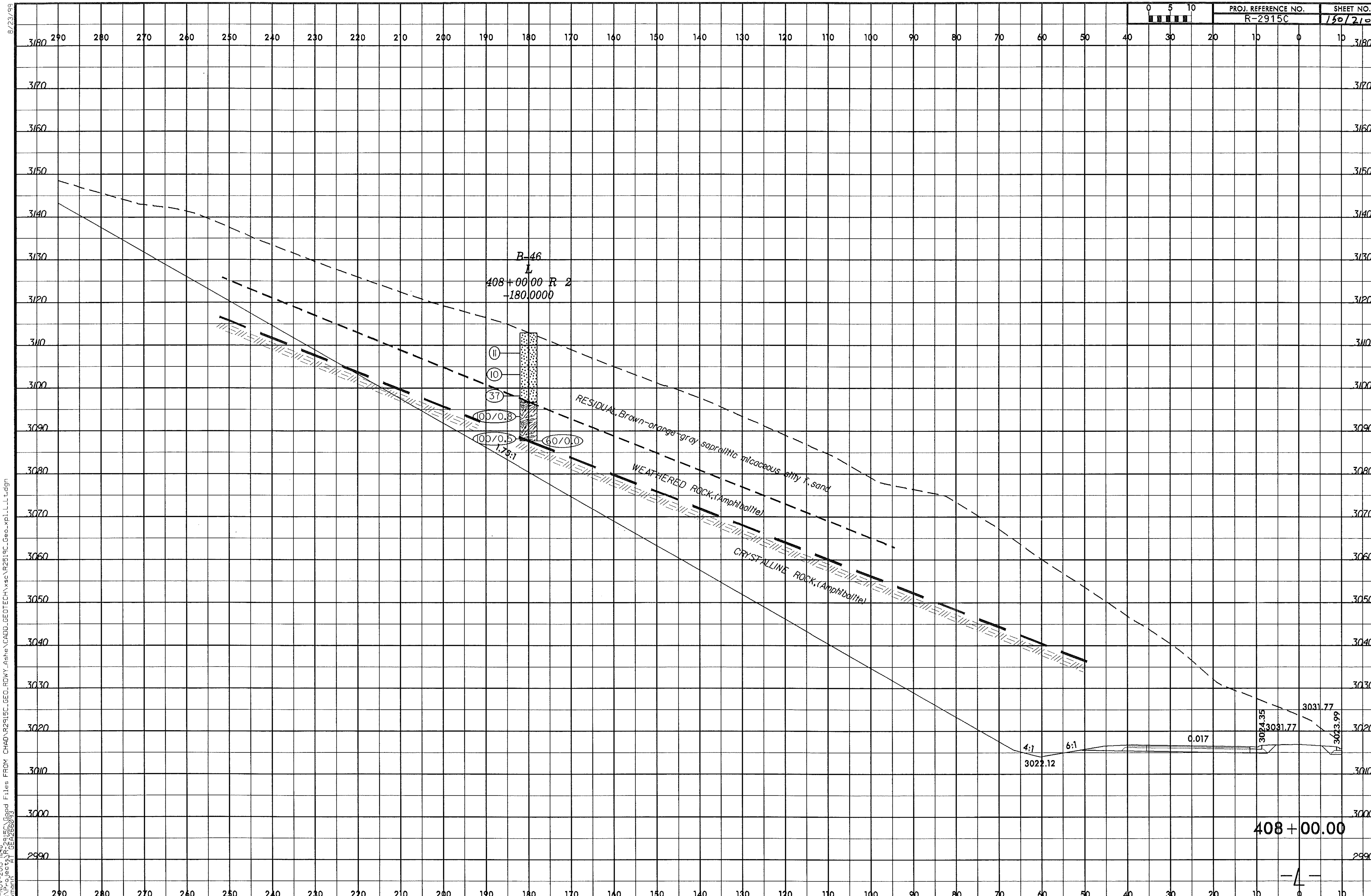


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
149/200
0 5 10
B-45
L
405+00.00 R 2
-210.0000
RESIDUAL, Brown-orange-black saprolitic silty f.sand w/some mica, trace rock frags. and MnO
Brown-orange-black-gray saprolitic f.sandy silt w/some mica and MnO
WEATHERED ROCK, (Amphibolite)
CRYSTALLINE ROCK, (Amphibolite)
10
12
12
13
17
60
94/0.8
60/0.1
88/13
1.75:1
4:1
6:1
0.037
3014.02
3047.29
3047.29
3018.05
3018.85
405+00.00
-L-
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

8/23/99

14-NOV-2013 11:46
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
iwmann AT GEA286093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	150/210


0 5 10
B-46
L
408+00.00 R 2
-180.0000
11
10
37
100/0.8
100/0.5
60/0.0
1.75:1
RESIDUAL. Brown-orange-gray saprolitic micaceous silty f. sand
WEATHERED ROCK.(Amphibolite)
CRYSTALLINE ROCK.(Amphibolite)
4:1
6:1
3022.12
0.017
3024.35
3031.77
3031.77
3023.99
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3180 3170 3160 3150 3140 3130 3120 3110 3100 3090 3080 3070 3060 3050 3040 3030 3020 3010 3000 2990

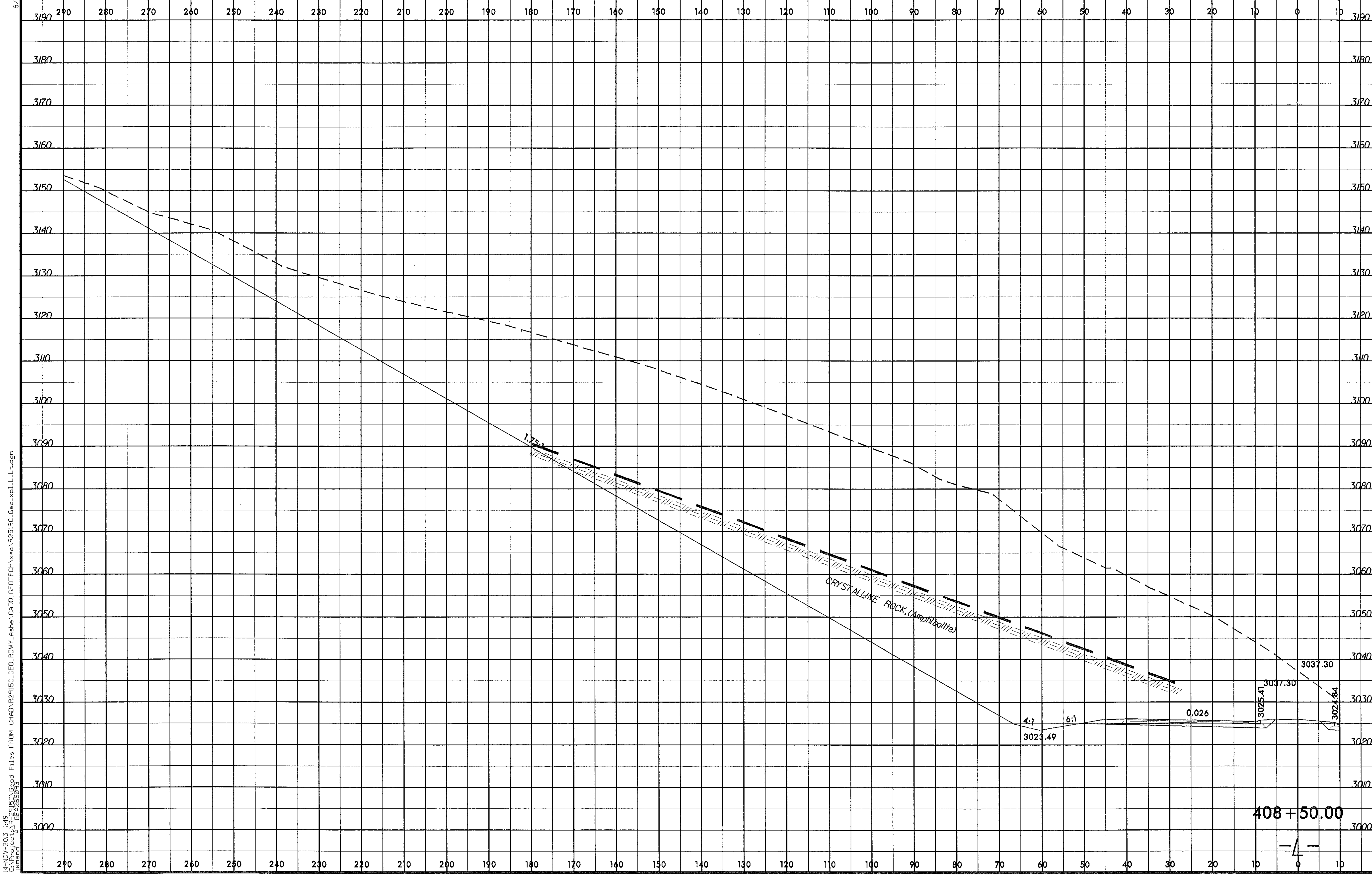
408+00.00

-4-

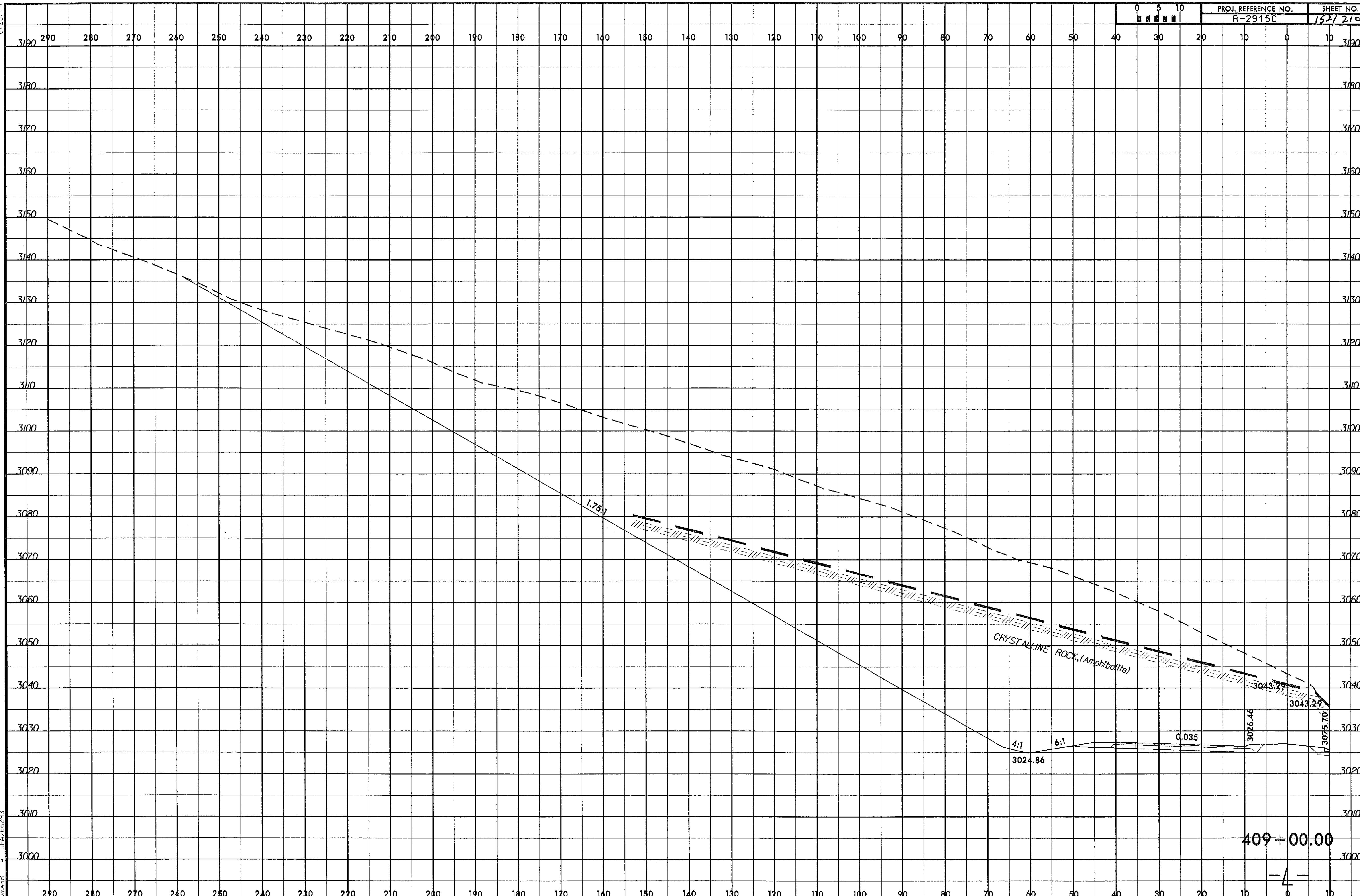
8/23/99

14-NOV-2013 11:48
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
kwmann AT GEA286093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	151/210

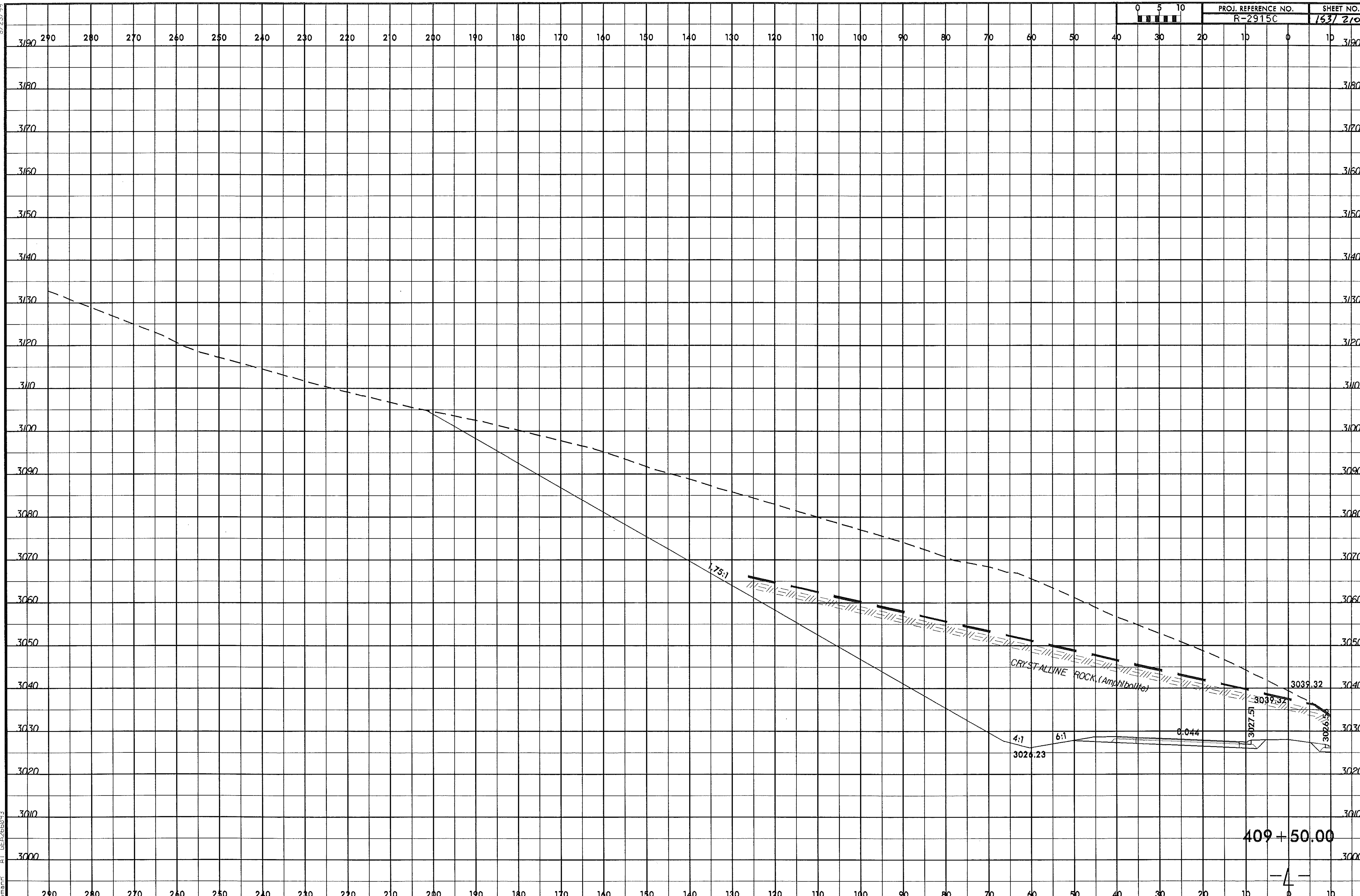


PROJ. REFERENCE NO.	SHEET NO.
R-2915C	152/210



PROJ. REFERENCE NO.	SHEET NO.
R-2915C	153/210

8/23/99



14-NOV-2013 11:54
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lwmann AT GEA266093

8/23/99

PROJ. REFERENCE NO. R-2915C

SHEET NO. 154/218

0 5 10

B-48
L
412+00.00 R 2
-250.0000

(9) (13) (22) (20) (32) (44) (42) (33)

RESIDUAL-Orange-brown-gray saprolitic micaceous to highly micaceous sdy f.grained sand w/trace rock frags.

4:1 6:1 0.060

303.72

3031.10

3032.46

3031.10

3031.17

412+00.00

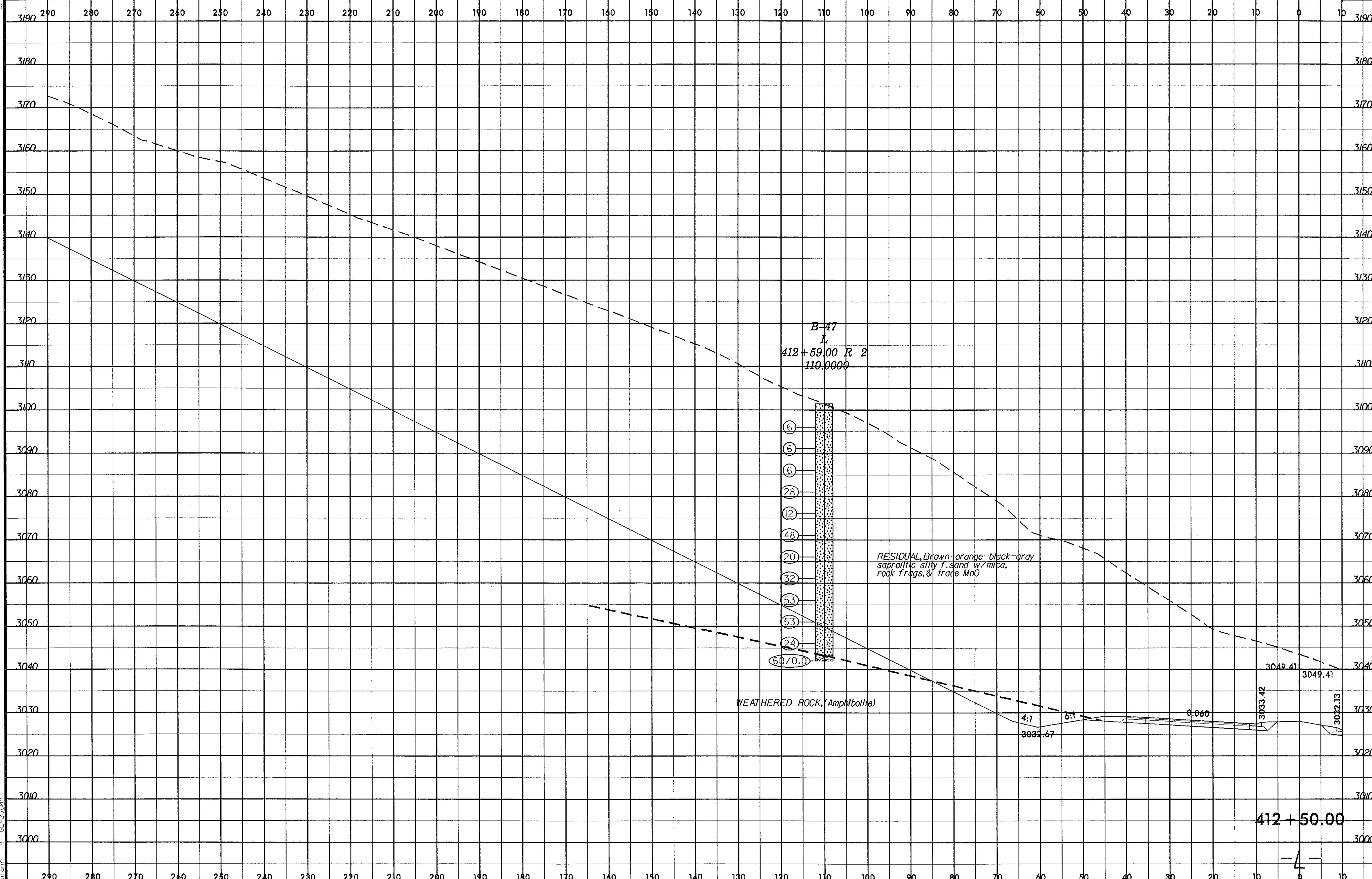
-4-

14-NOV-2013 11:56
C:\Projects\R-2915C\GEO\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsec\R2915C_Geo_xpLLLt.dgn
Armann AT GEA26803

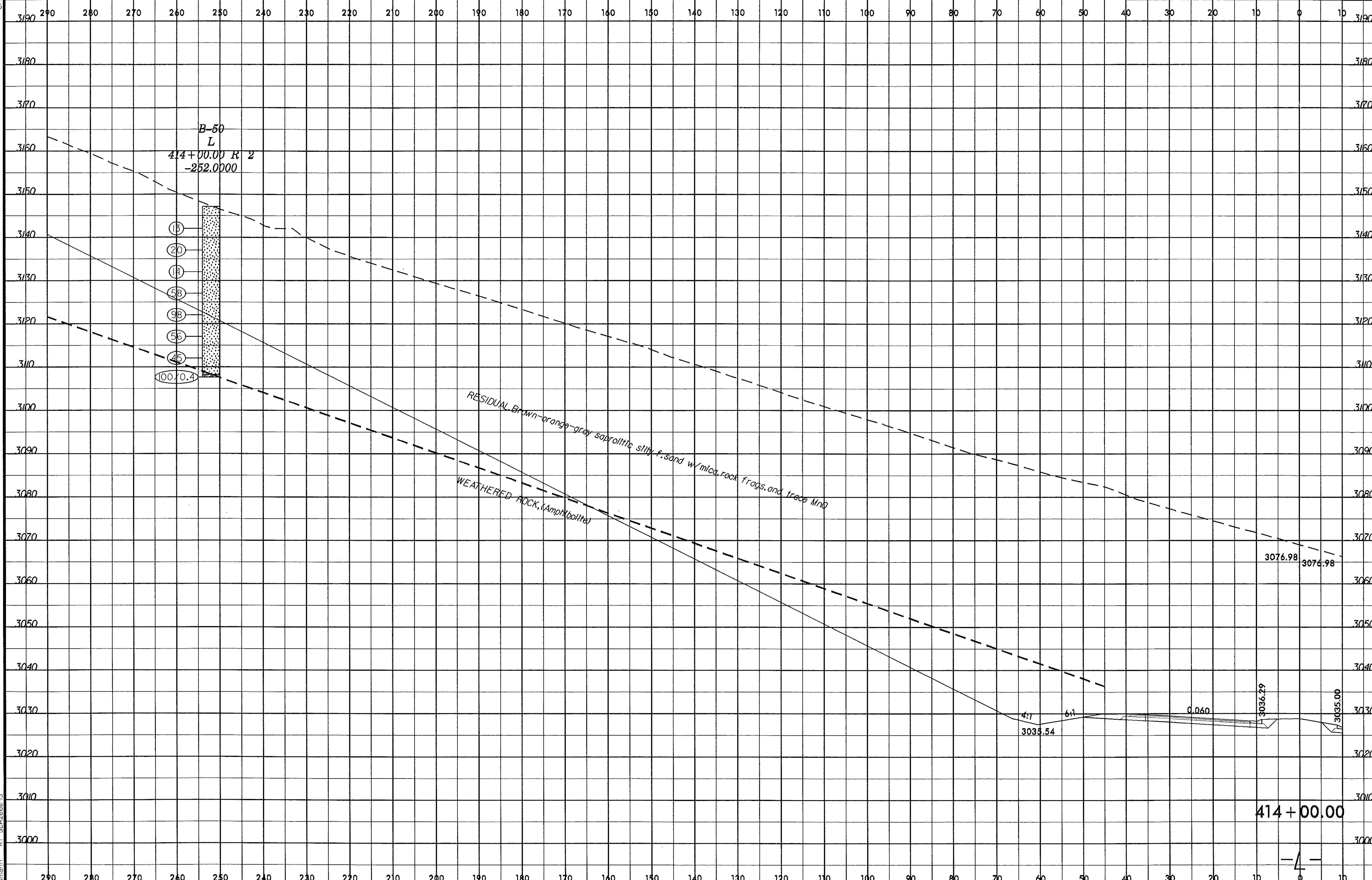
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

3190 3180 3170 3160 3150 3140 3130 3120 3110 3100 3090 3080 3070 3060 3050 3040 3030 3020 3010 3000

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	155/210

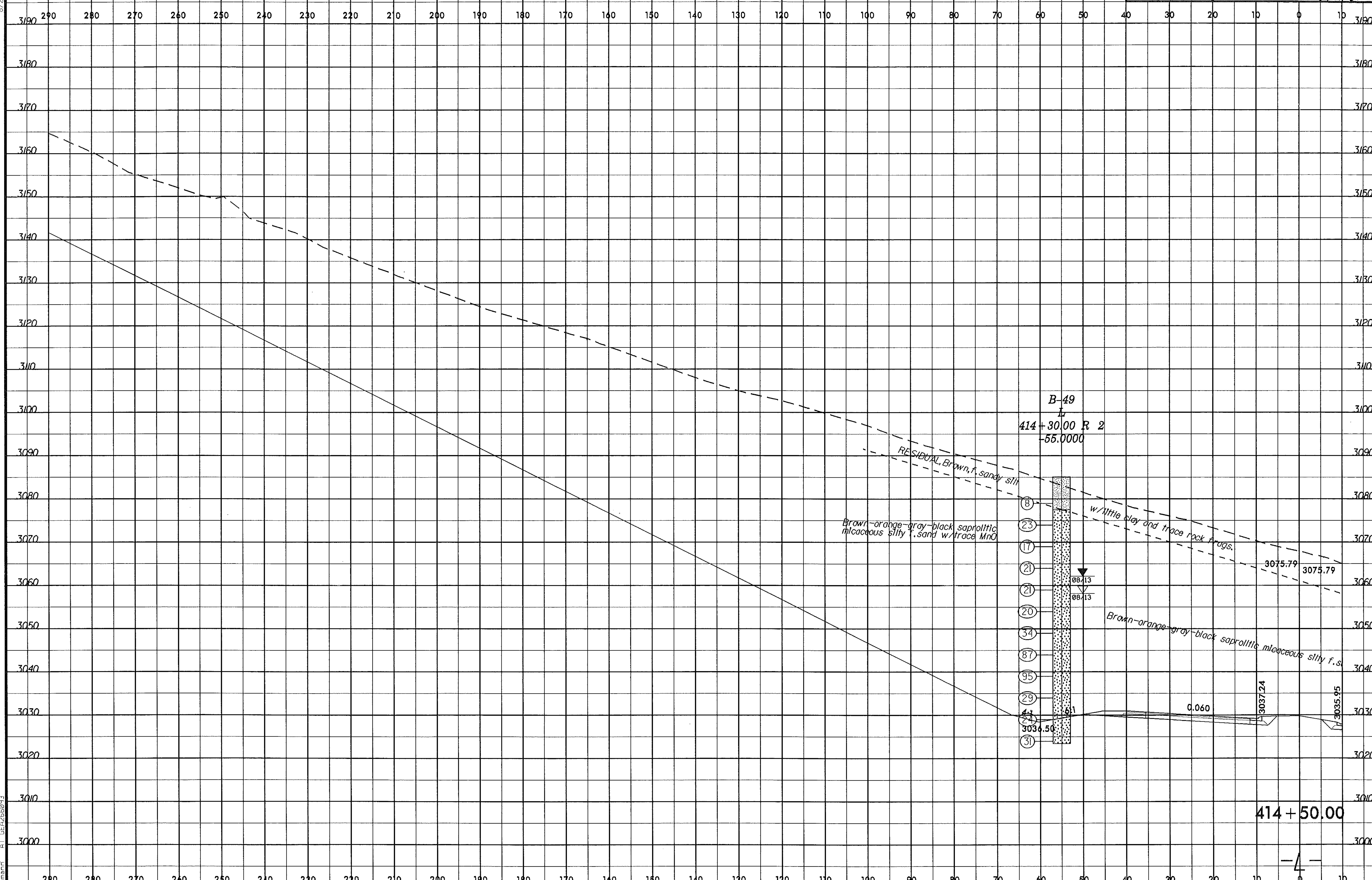


PROJ. REFERENCE NO.	SHEET NO.
R-2915C	156/210



14-NOV-2013 11:59
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093
8/23/99

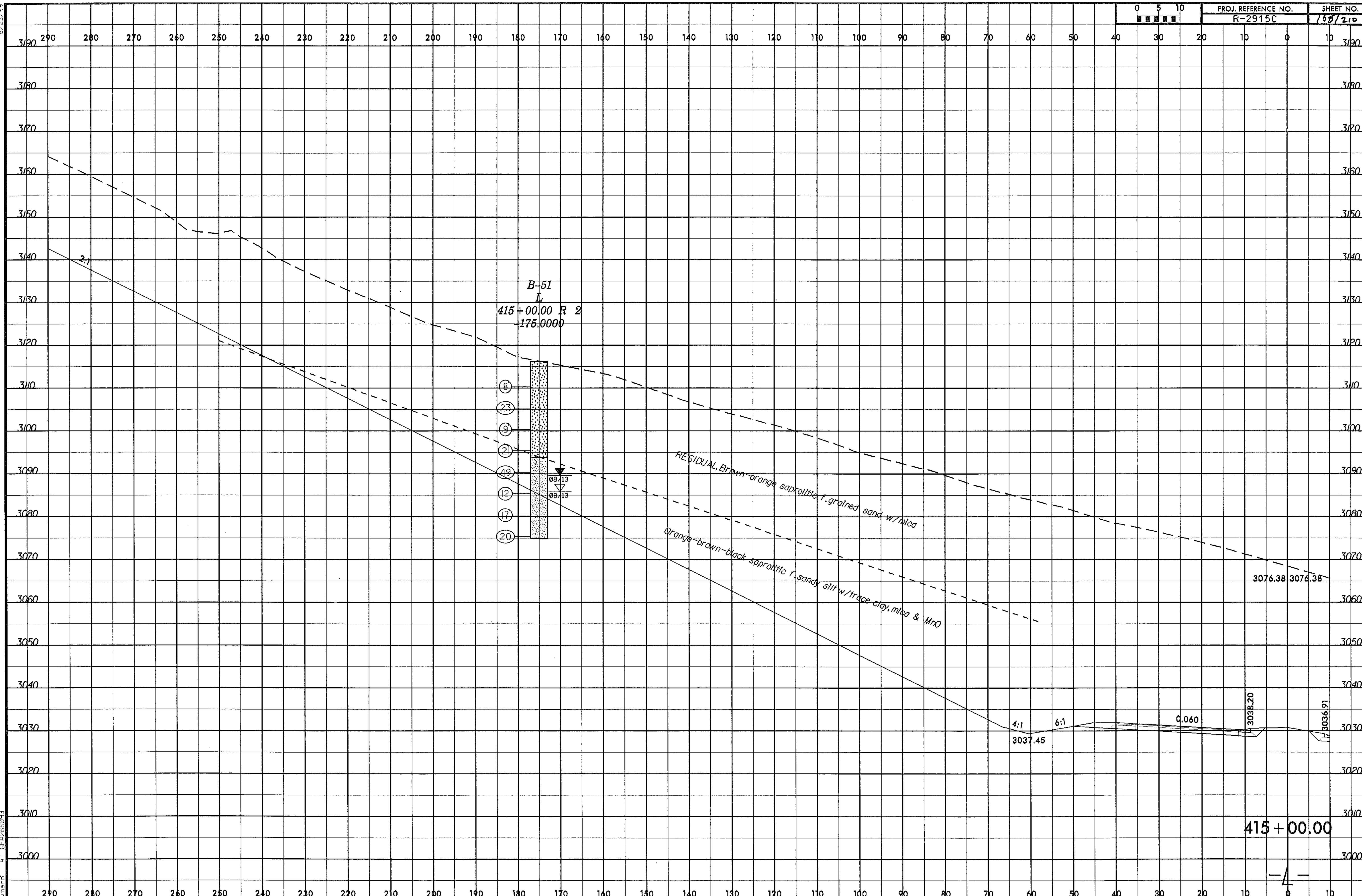
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	157/210



0 5 10
3190
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
B-49
L
414+30.00 R 2
-55.0000
RESIDUAL,Brown,f.sandy silt
w/little clay and trace rock frags.
Brown-orange-gray-black saprolitic micaceous silty f.sand w/trace MnO
Brown-orange-gray-black saprolitic micaceous silty f.s
8
23
17
21
21
20
34
87
95
29
24
31
08/13
08/13
3075.79
3075.79
4:1
6:1
3036.50
0.060
3037.24
3035.95
414+50.00

8/23/99

14-NOV-2013 12:01
G:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
kwmann AT GEA266093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
159/210
B-51
L
415+00.00 R 2
-175.0000
RESIDUAL Brown-orange saprolitic f.grained sand w/mica
Orange-brown-black saprolitic f.sandy silt w/trace clay, mica & MnO
3076.38 3076.38
3037.45
3038.20
3036.91
0.060
4:1
6:1
2:1
415+00.00

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	159/210

*RESIDUAL Orange-brown-black-gray med.stiff to hard saprolitic highly micaceous f.sandy silt w/trace MnO

*Brown-gray v.dense saprolitic highly micaceous silty f.sand w/trace MnO

*WEATHERED ROCK, (Amphibolite)

2:1

*Stratigraphy based on boring located 350 ft.left

3065.52 3065.52

4:1

6:1

3039.22

0.057

3040.08

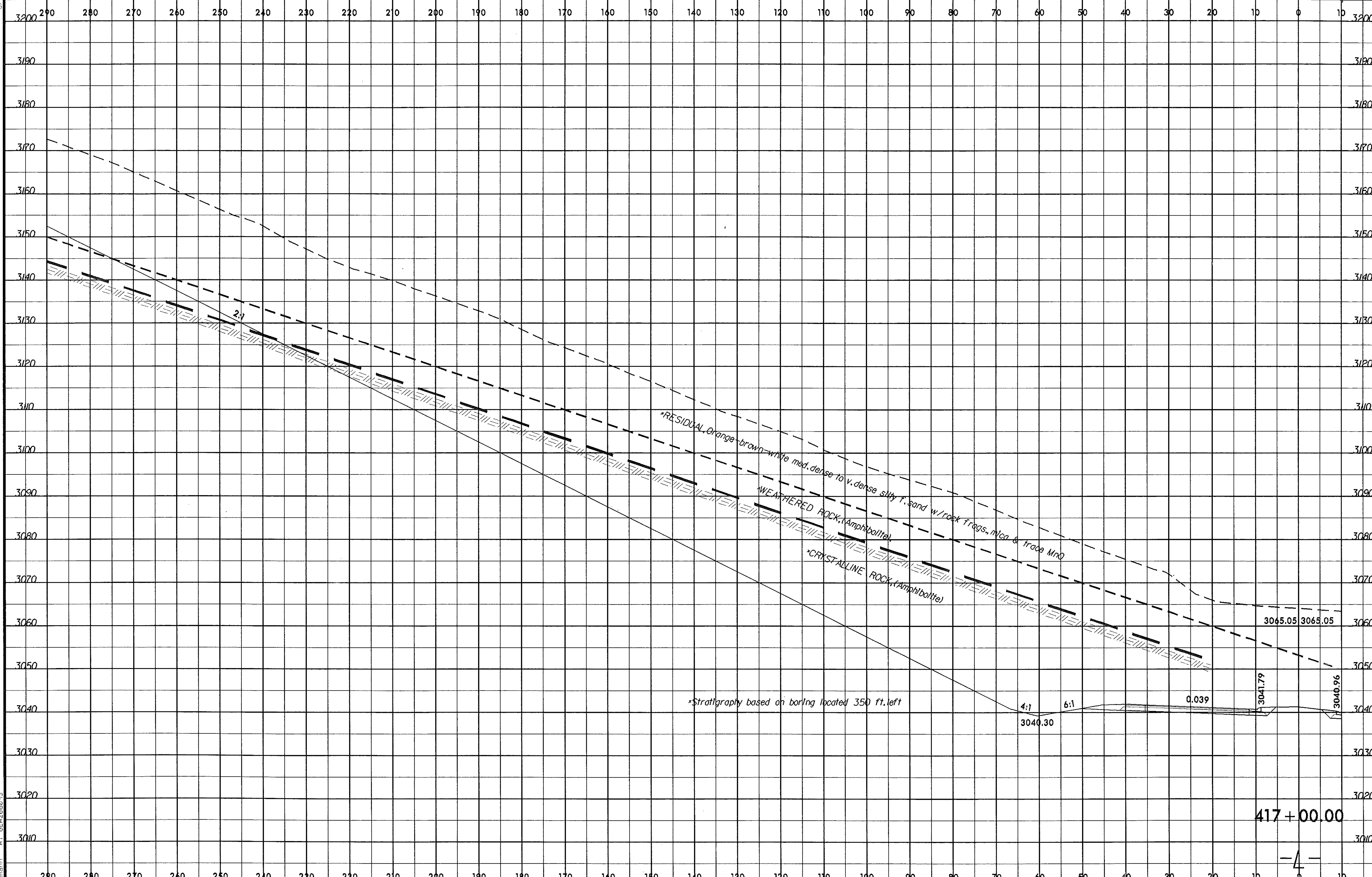
3038.86

416+00.00

-L-

14-NOV-2013 12:04
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpLLLt.dgn
lwhsmith
ALT GEN2560M3

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	160/210



417+00.00

8/23/99
14-NOV-2013 12:05
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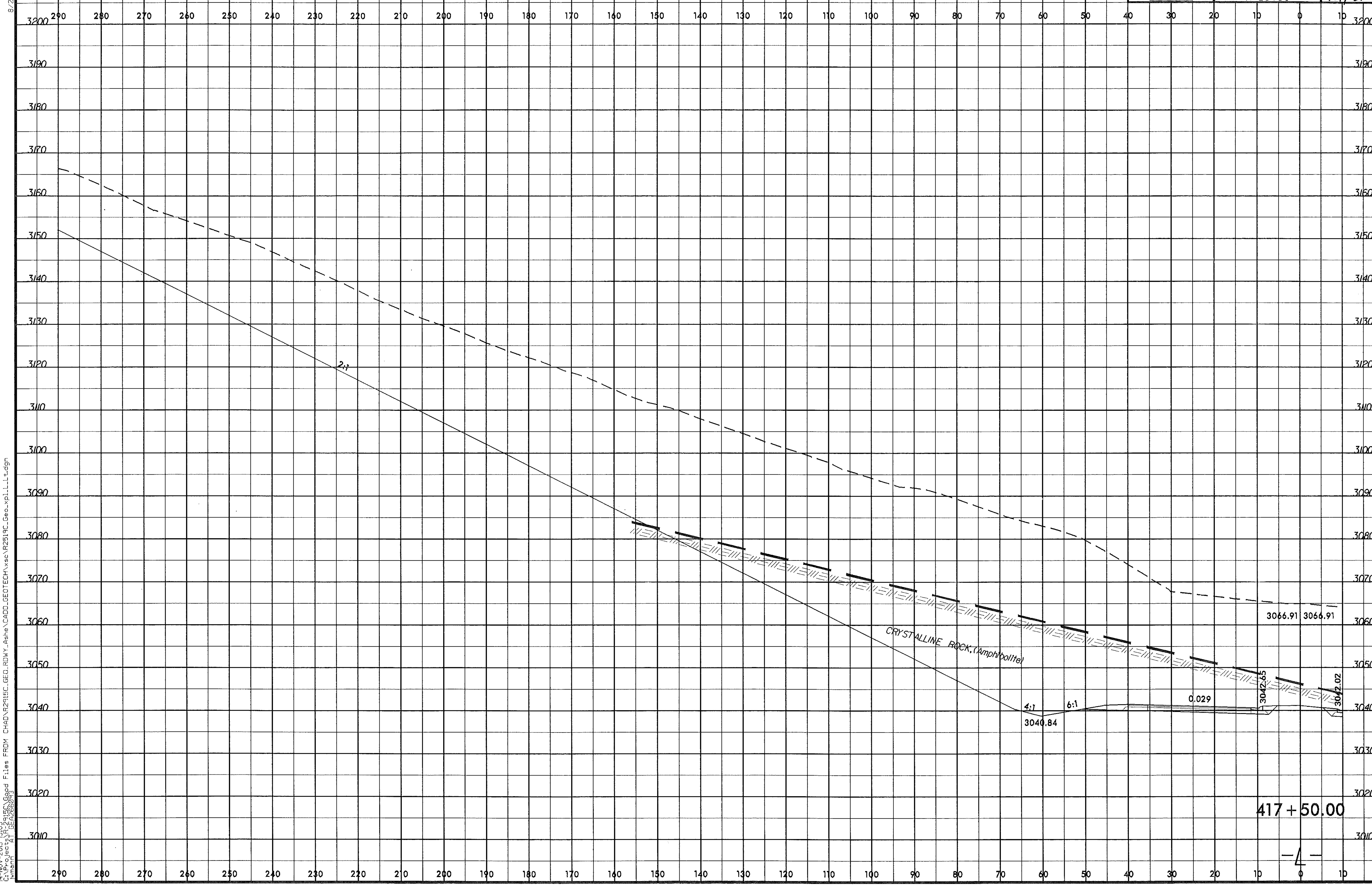
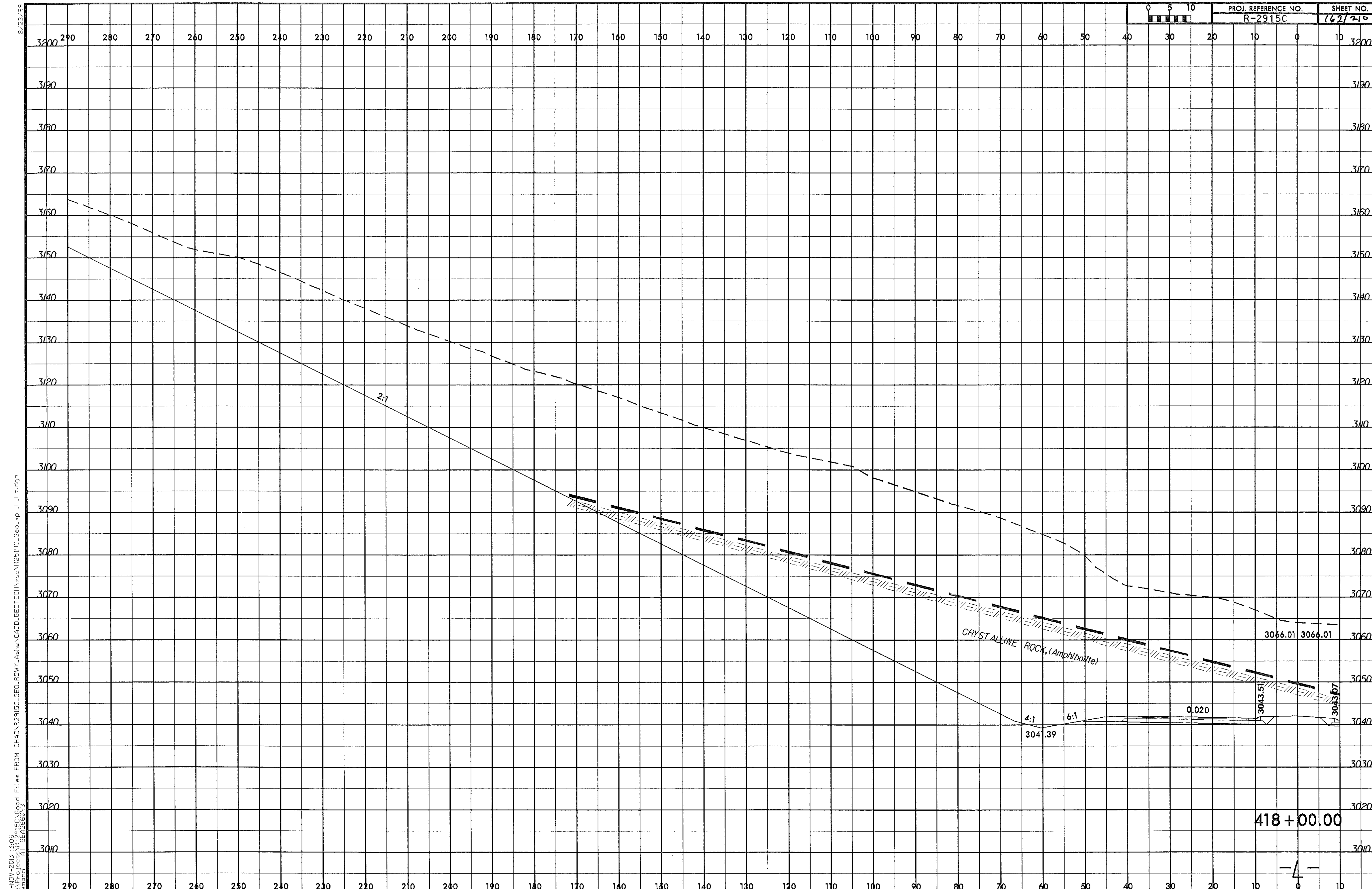
jwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	161/210

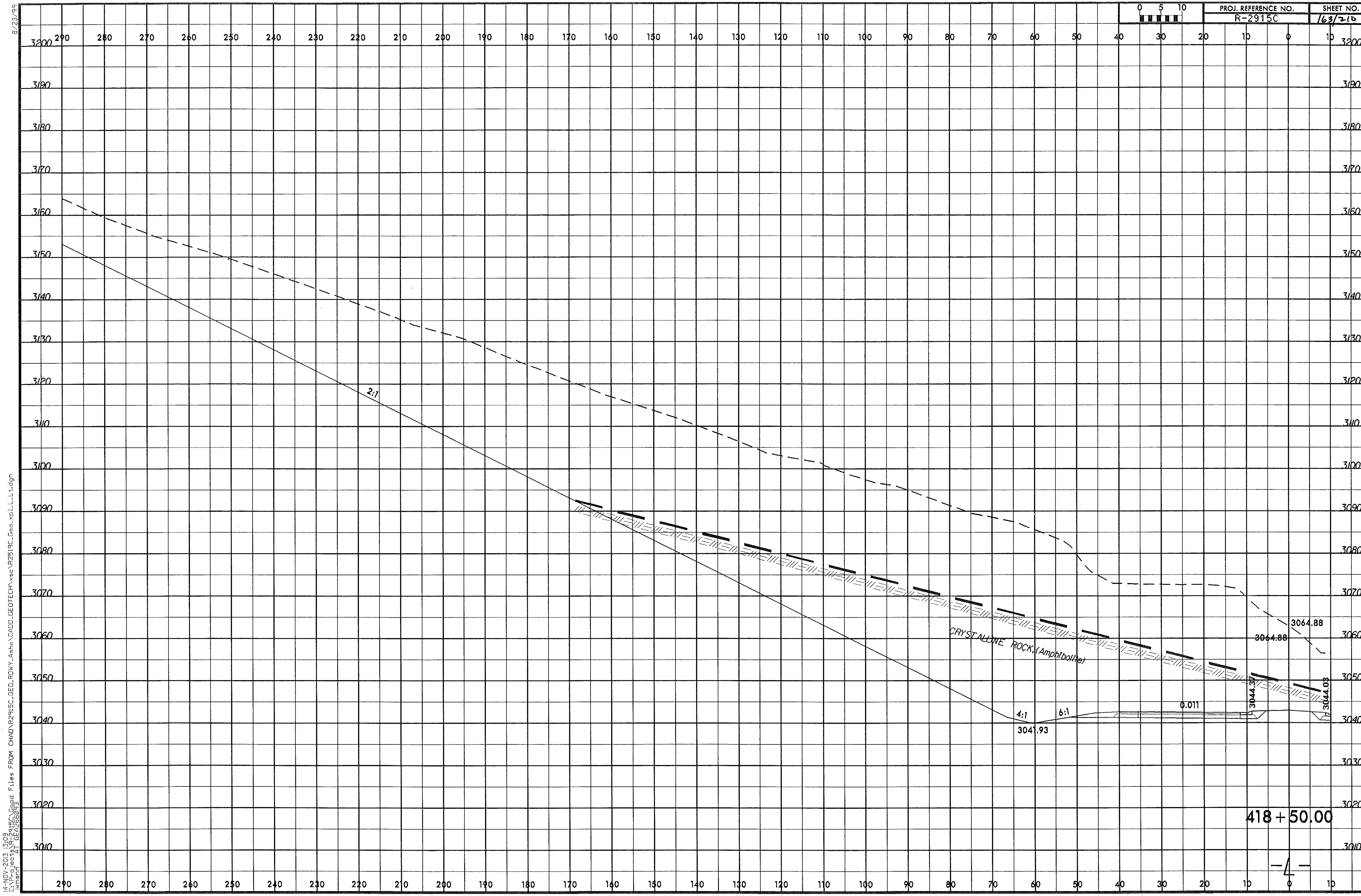


8/23/99

14-NOV-2013 13:05
G:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA26093

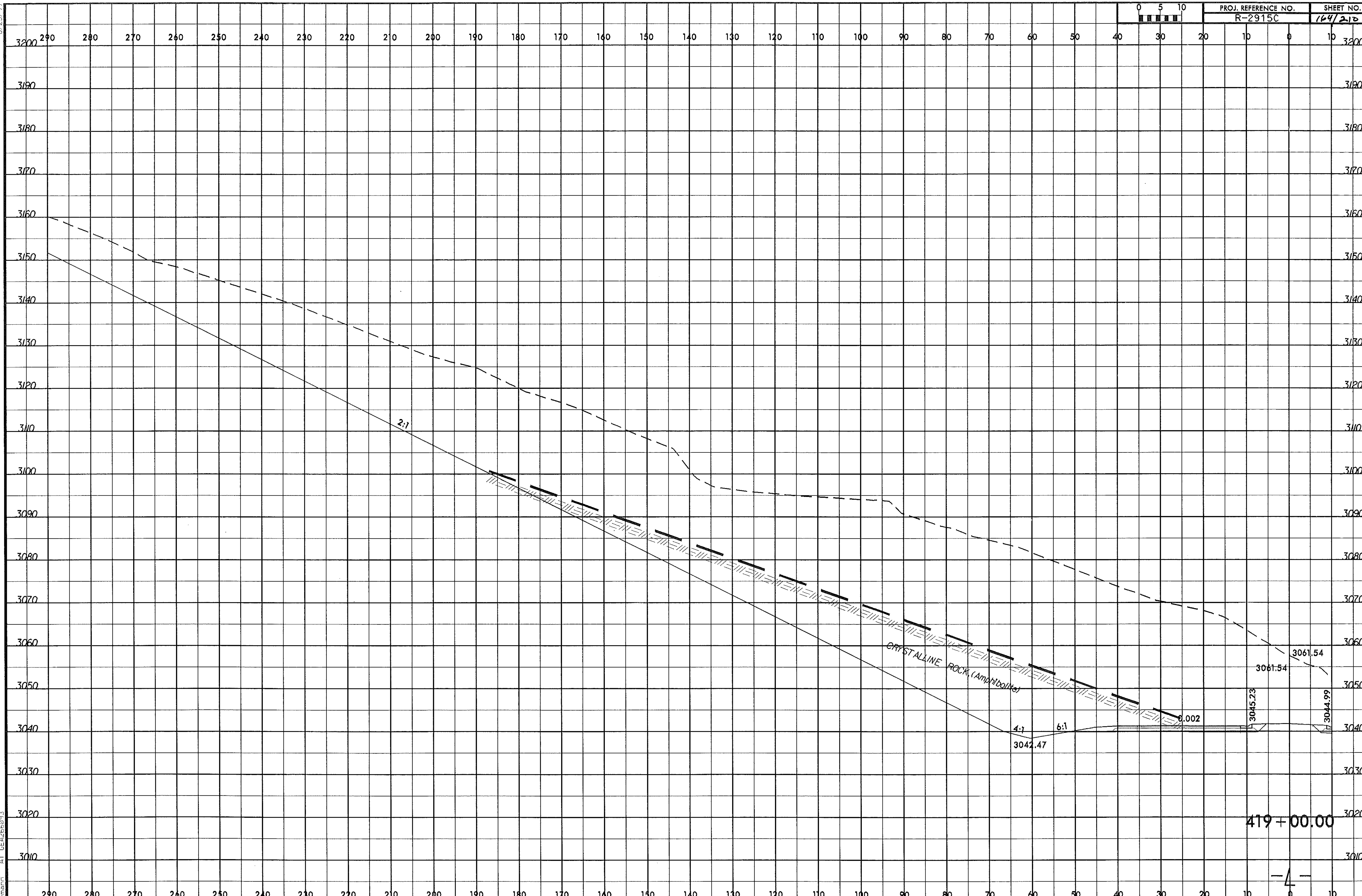


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
162/210
0 5 10
CRYSTALLINE ROCK (Amphibolite)
2:1
4:1
6:1
0.020
3041.39
3043.51
3043.07
3066.01
3066.01
418+00.00
-4-

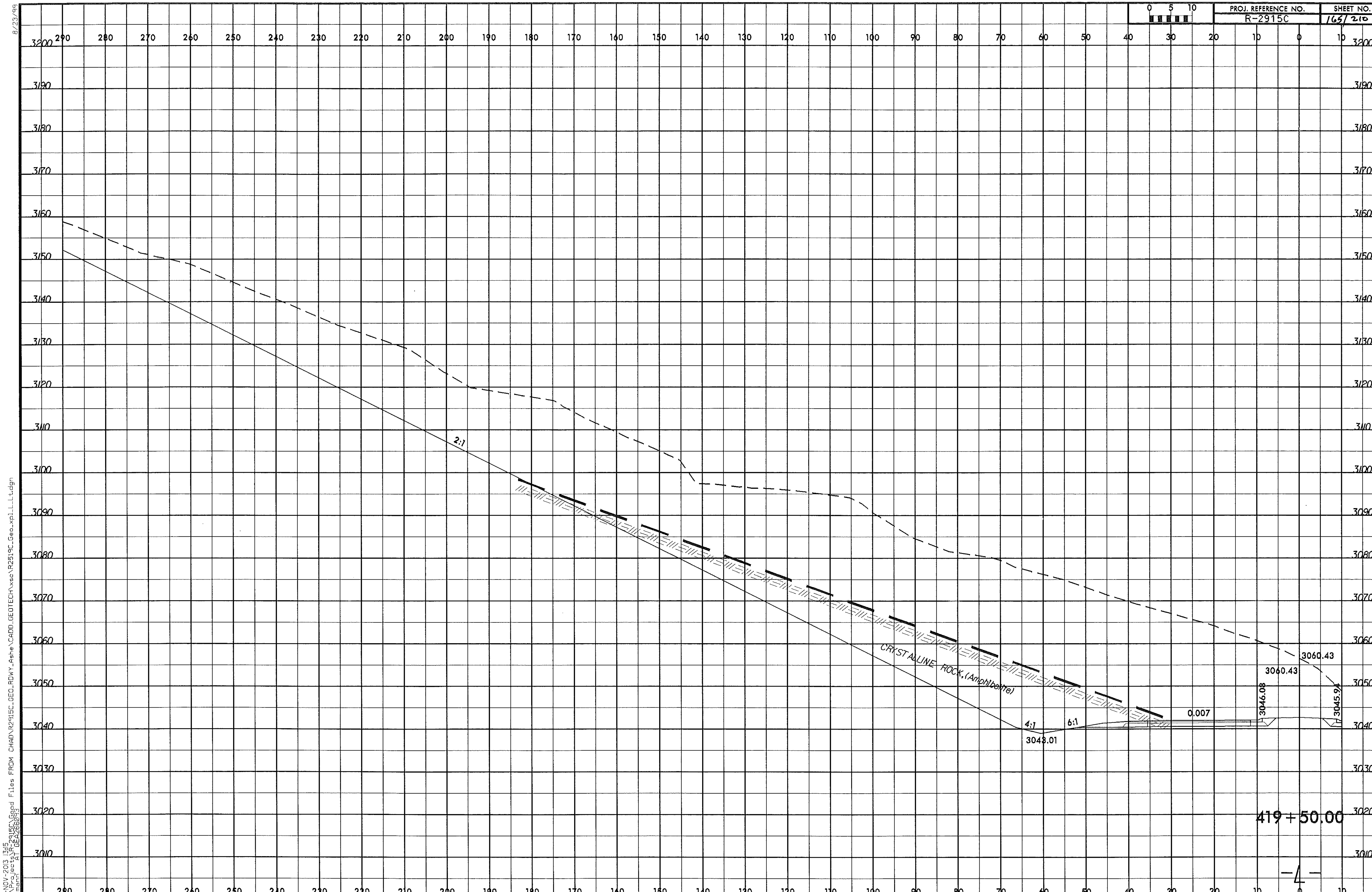


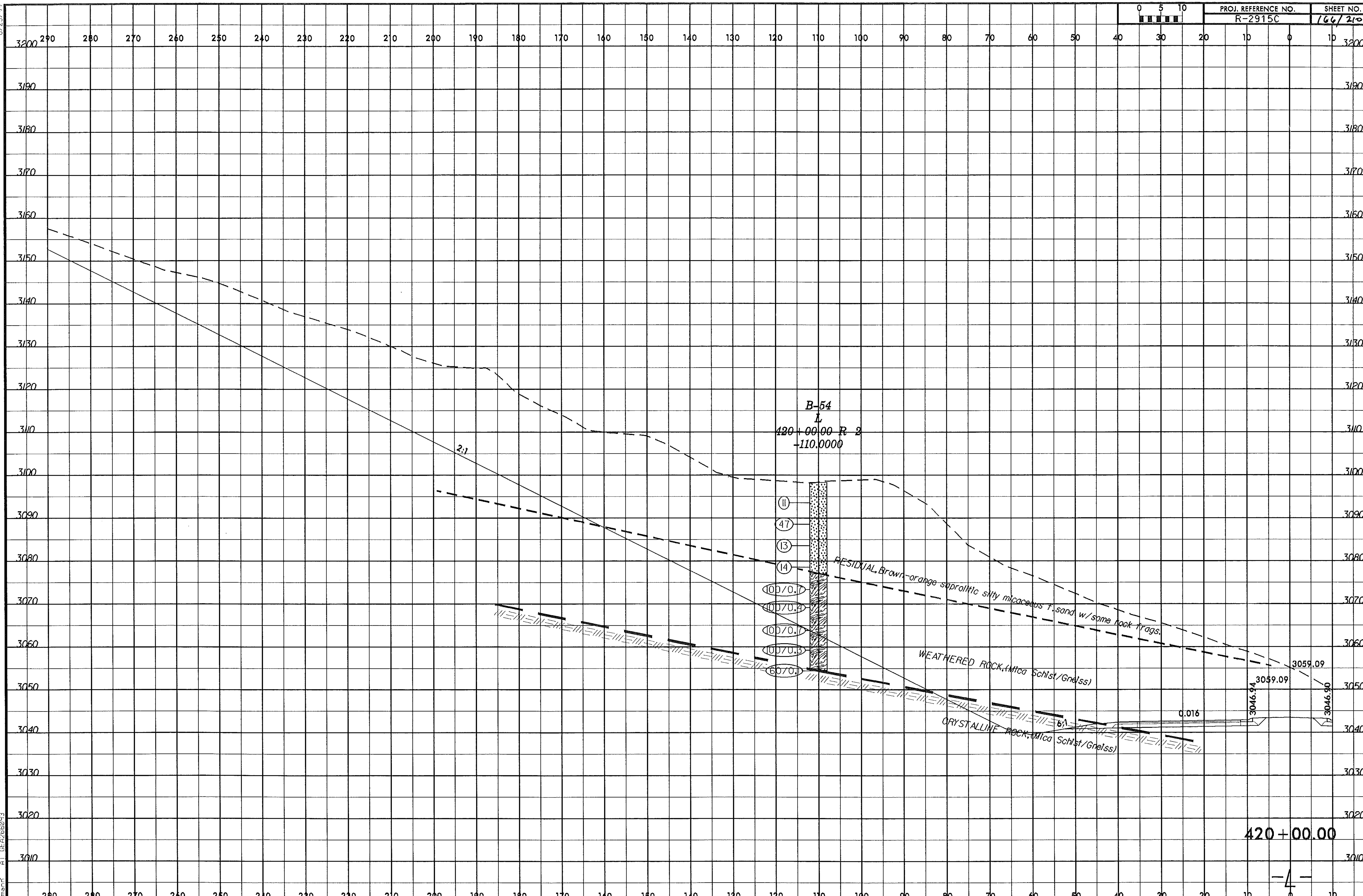
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
163/210
0 5 10
CRYSTALLINE ROCK (Amphibolite)
2:1
4:1
6:1
0.011
3041.93
3064.88
3064.88
3044.37
3044.03
418+50.00
-L-
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	164/210

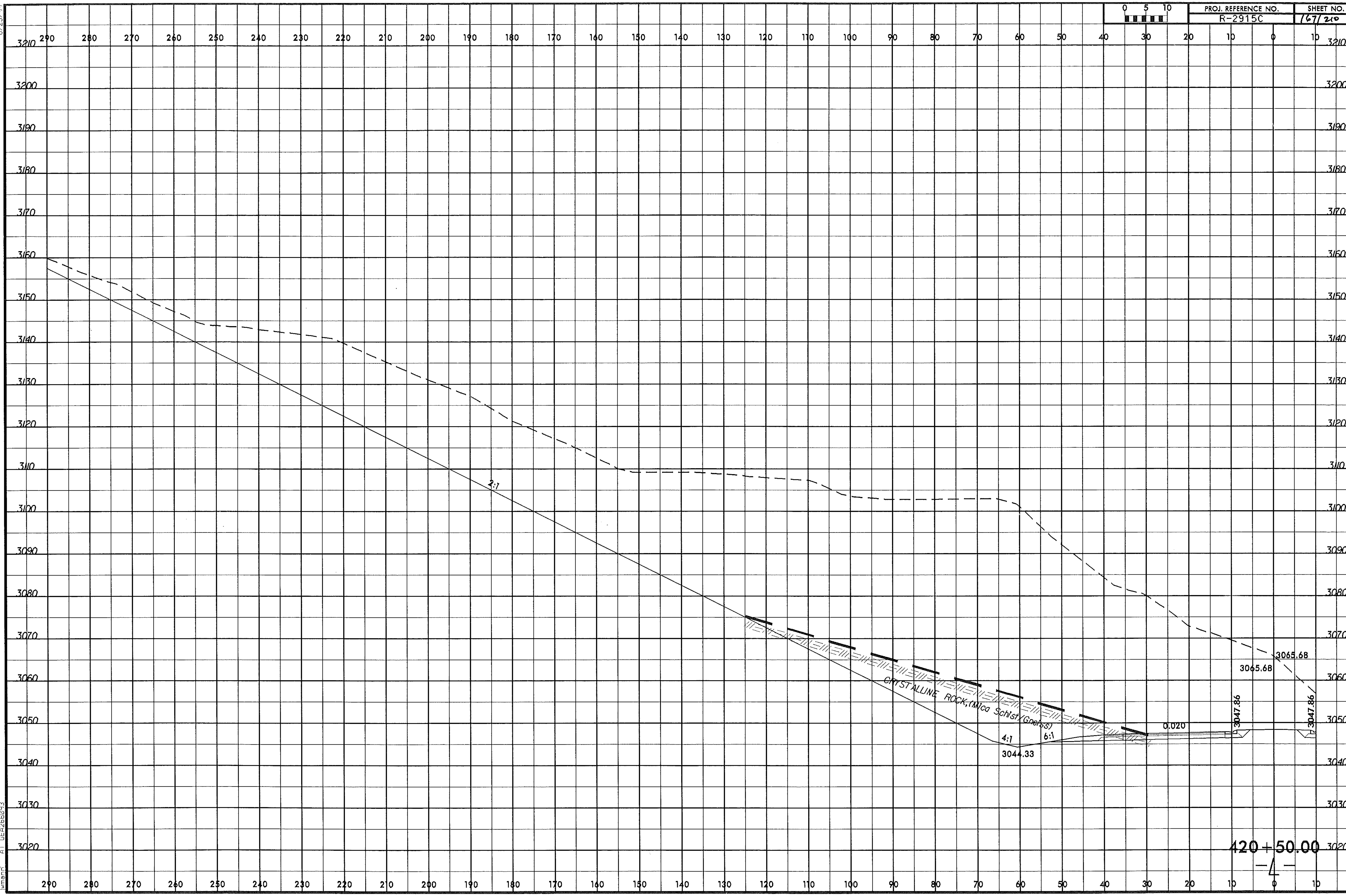


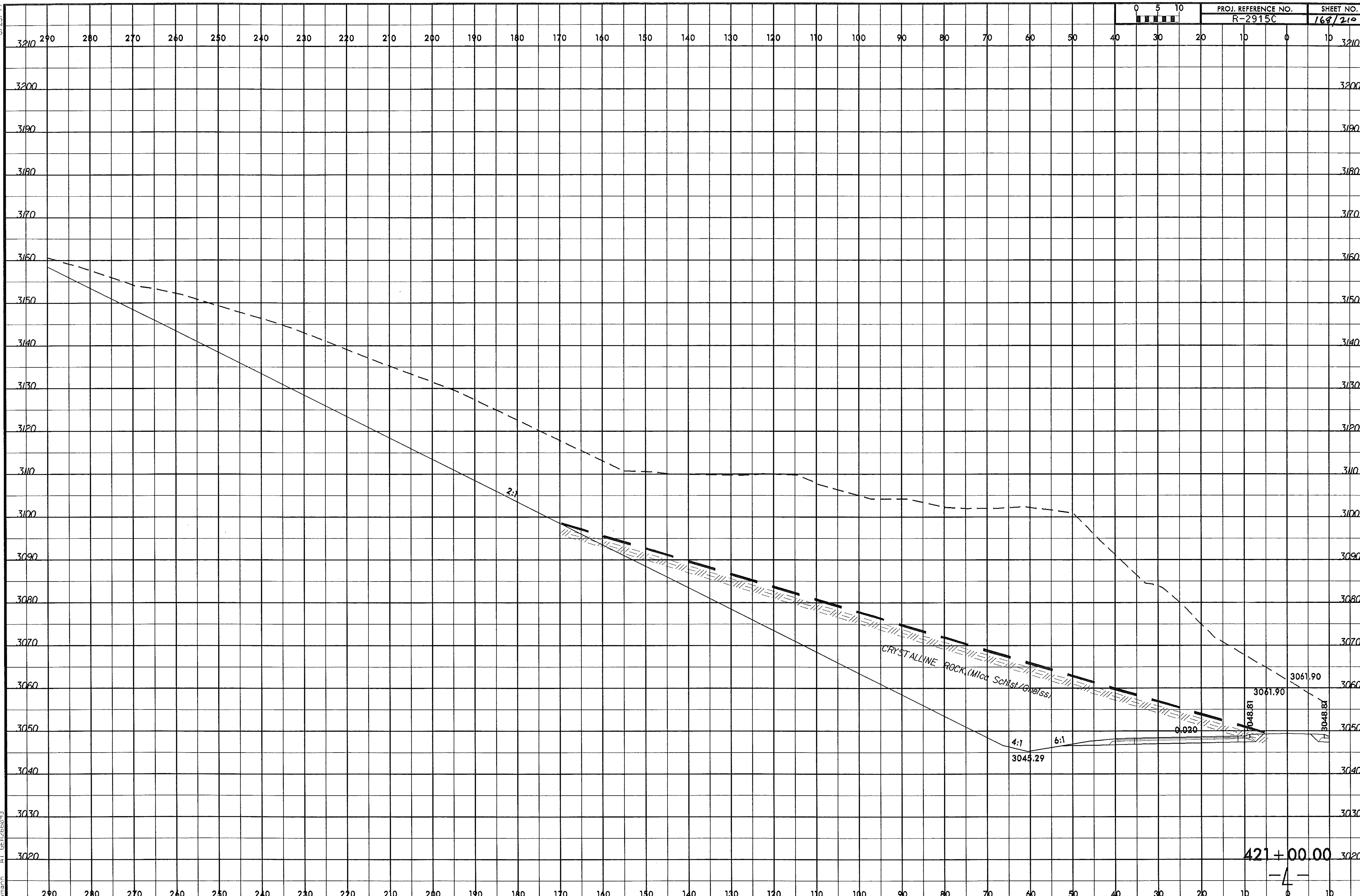
14-NOV-2013 13:11
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GED_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
165/210
0 5 10
8/23/99
2:1
CRYSTALLINE ROCK (Amphibolite)
4:1
6:1
3043.01
0.007
3046.08
3060.43
3060.43
3045.94
419 + 50.00
-L-

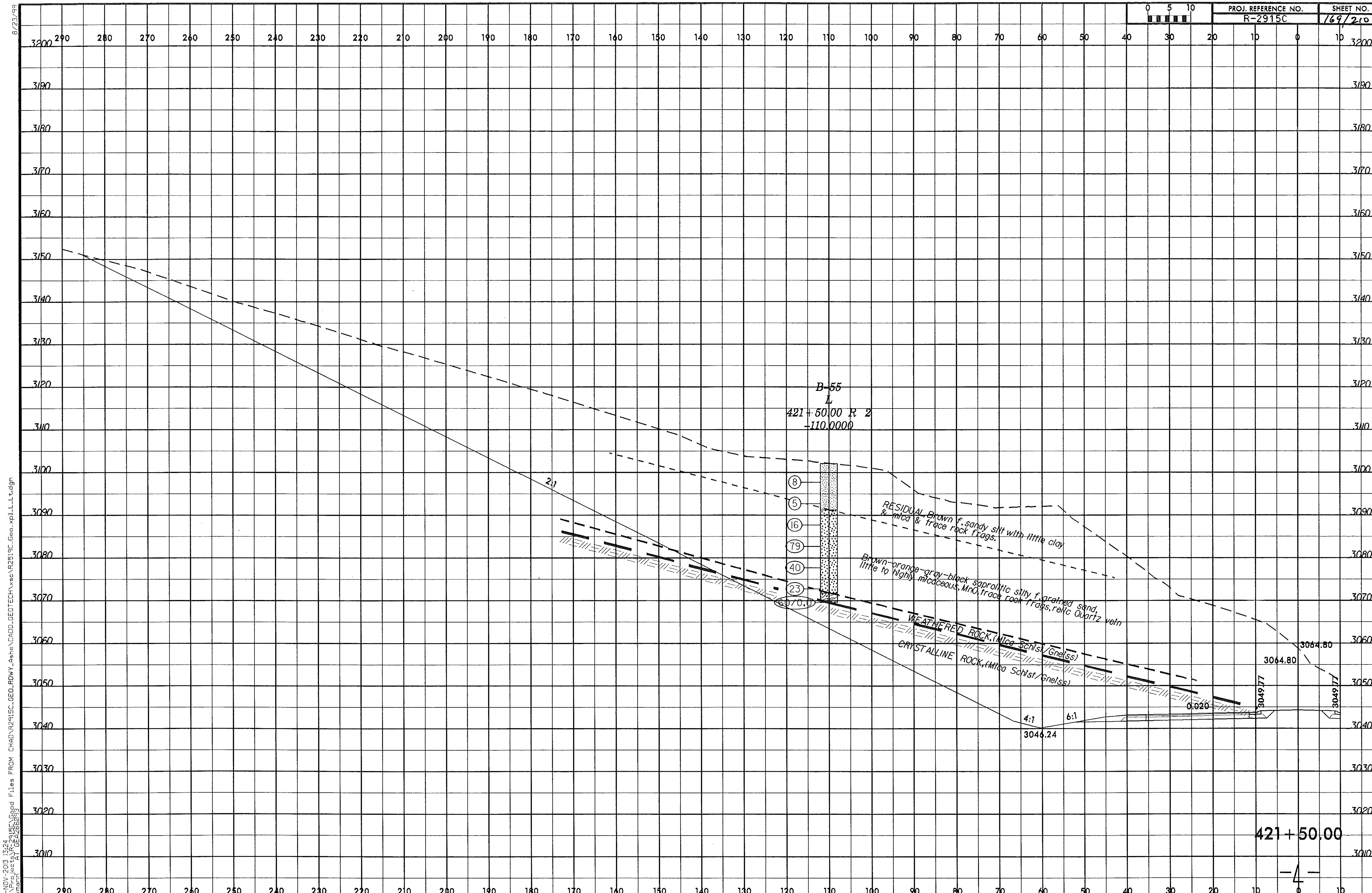


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
166/210
B-54
L
420+00.00 R 2
-110.0000
2:1
RESIDUAL, Brown-orange saprolitic silty micaceous f. sand w/ some rock frags.
WEATHERED ROCK, (Mica Schist/Gneiss)
CRYSTALLINE ROCK, (Mica Schist/Gneiss)
3059.09
3059.09
3046.94
3046.90
0.016
6:1
11
47
13
14
100/0.7
100/0.4
100/0.7
100/0.3
60/0.1
420+00.00
-L-


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
167/210
0 5 10
2:1
CRYSTALLINE ROCK,(Mica Schist/Gneiss)
4:1
6:1
3044.33
0.020
3065.68
3065.68
3047.86
3047.86
420+50.00
-L-

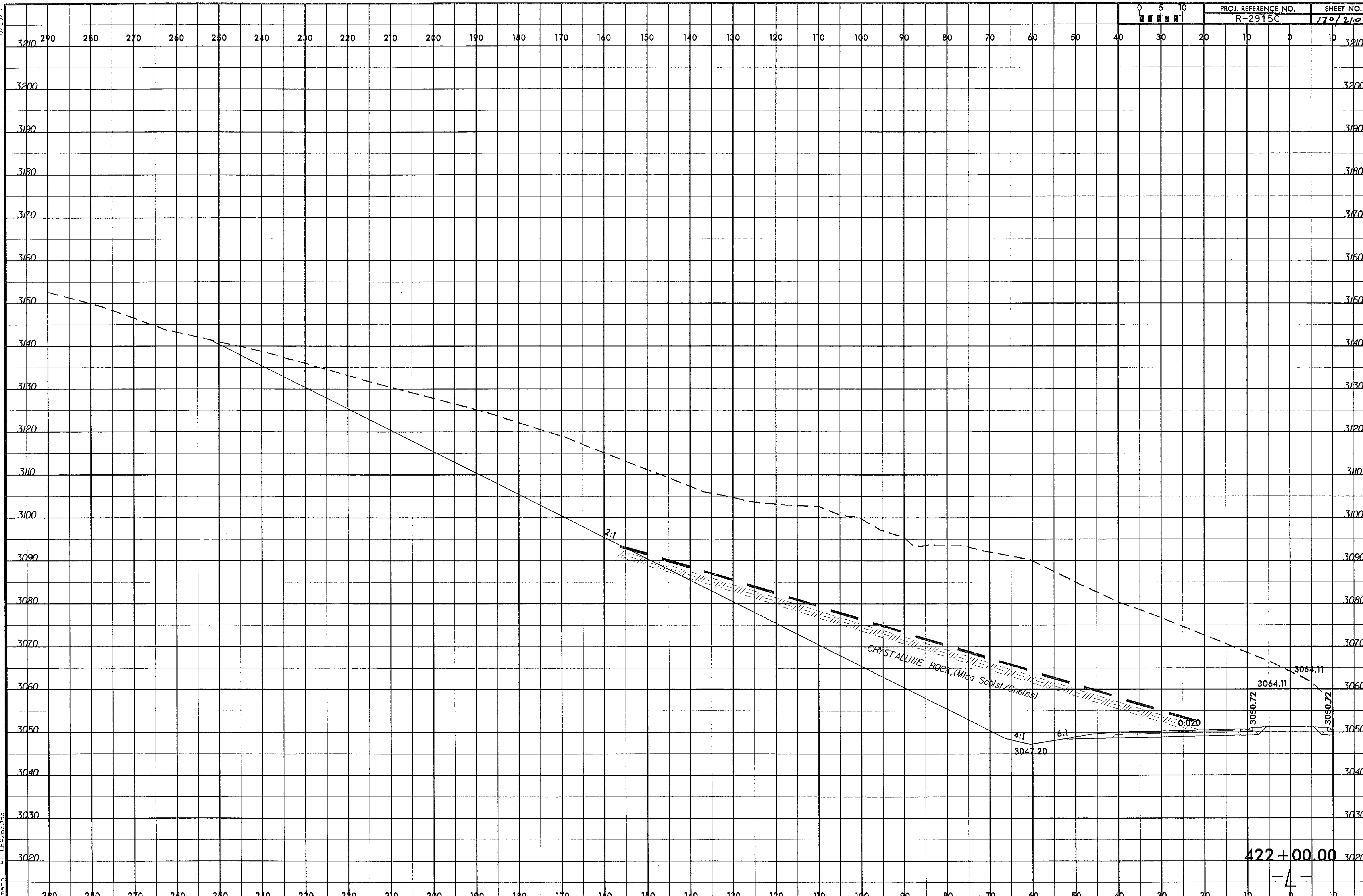


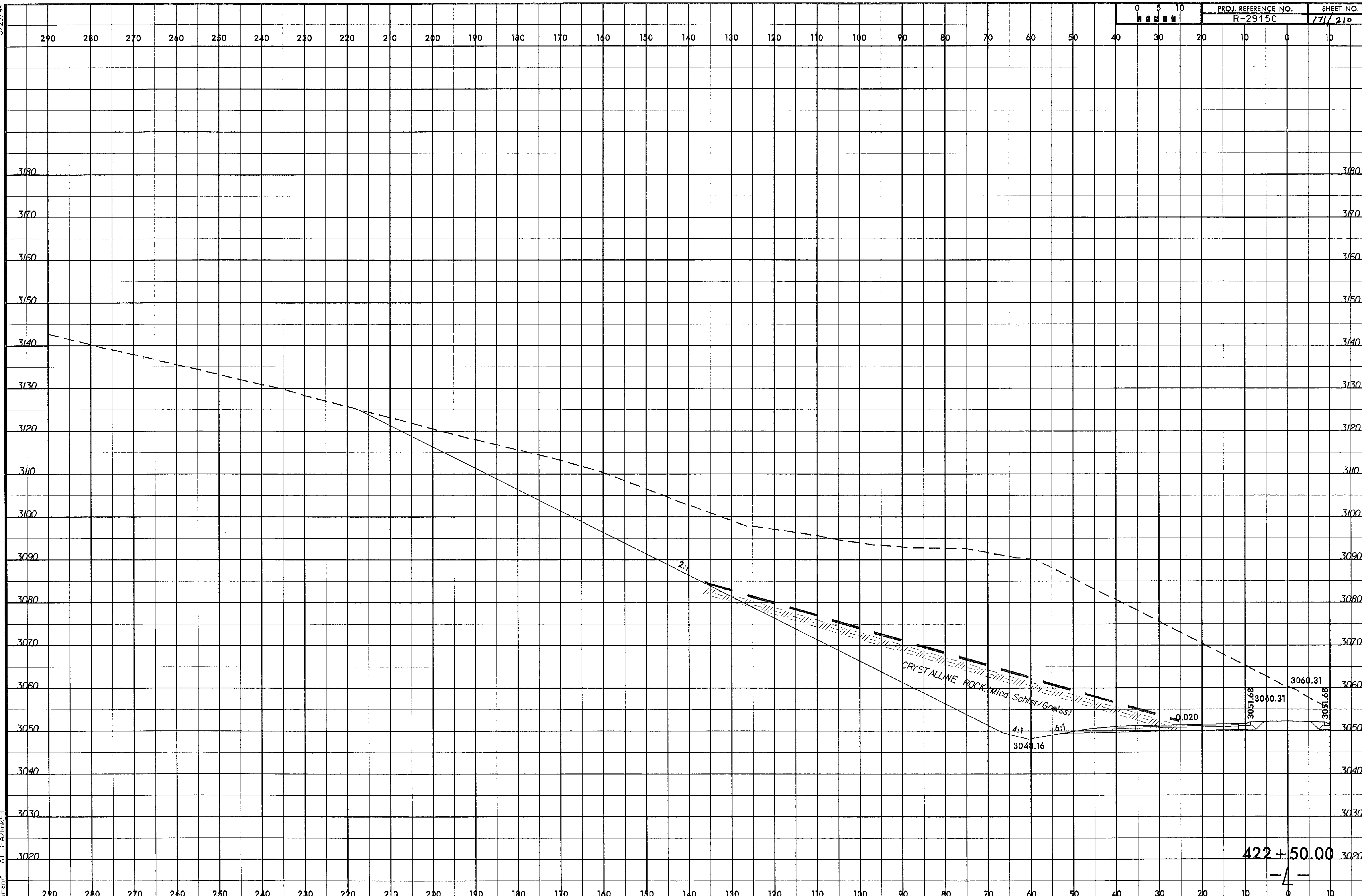
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
168/210
2:1
4:1
6:1
0.020
CRYSTALLINE ROCK (Mica Schist/Gneiss)
3061.90
3061.90
3048.81
3048.81
3045.29
421+00.00
-L-



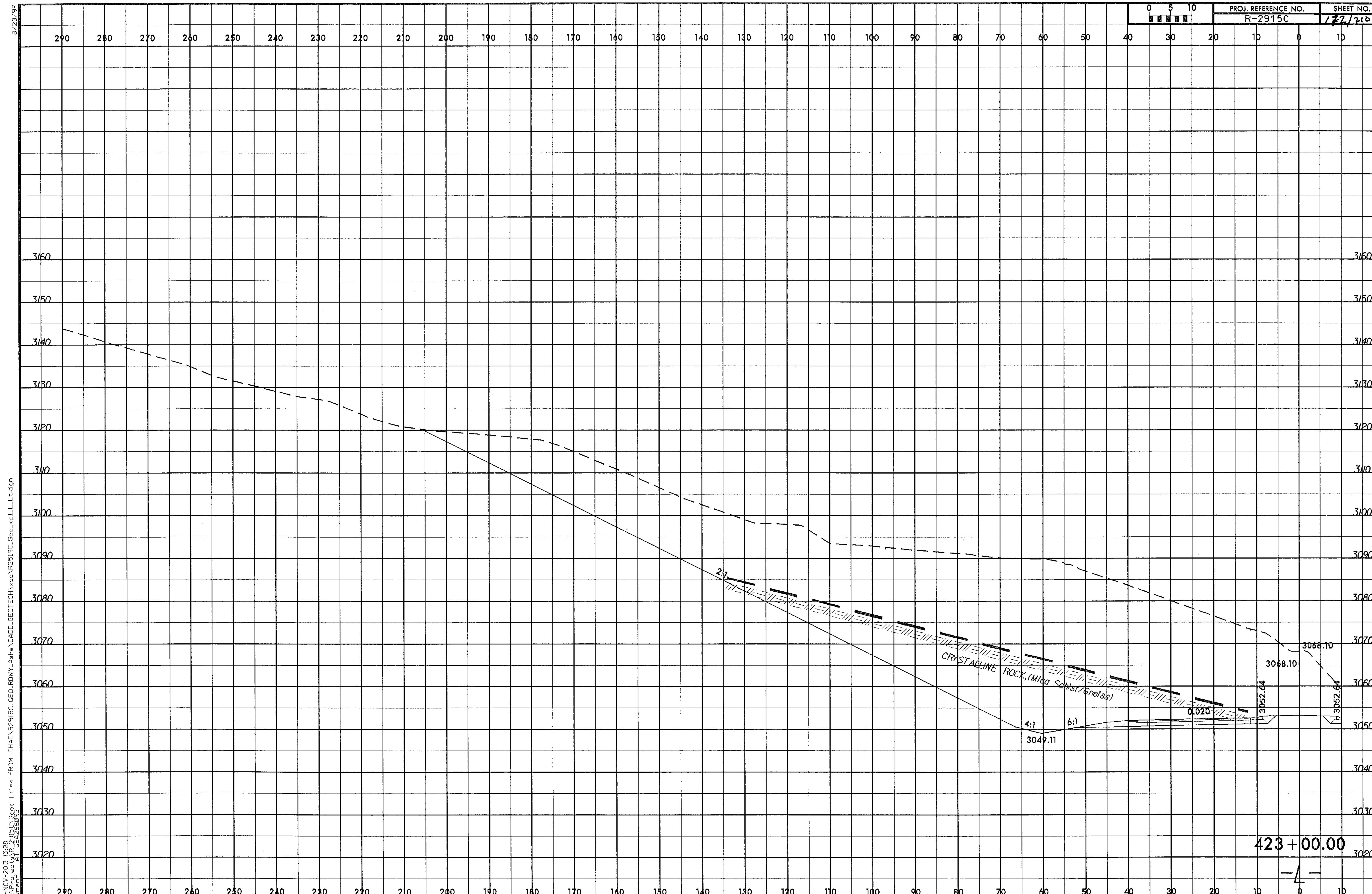
0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
169/210
8/23/99
B-55
L
421+50.00 R 2
-110.0000
2:1
RESIDUAL,Brown f.sandy silt with little clay
& mica & trace rock frags.
Brown-orange-gray-black saprolitic silty f.grained sand,
little to highly micaceous,MnO,trace rock frags,relic Quartz vein
WEATHERED ROCK,(Mica Schist/Gneiss)
CRYSTALLINE ROCK,(Mica Schist/Gneiss)
3070.0
4:1
6:1
3046.24
0.020
3064.80
3064.80
3049.77
3049.77
421+50.00
-4-
14-NOV-2013 13:24
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	170/210



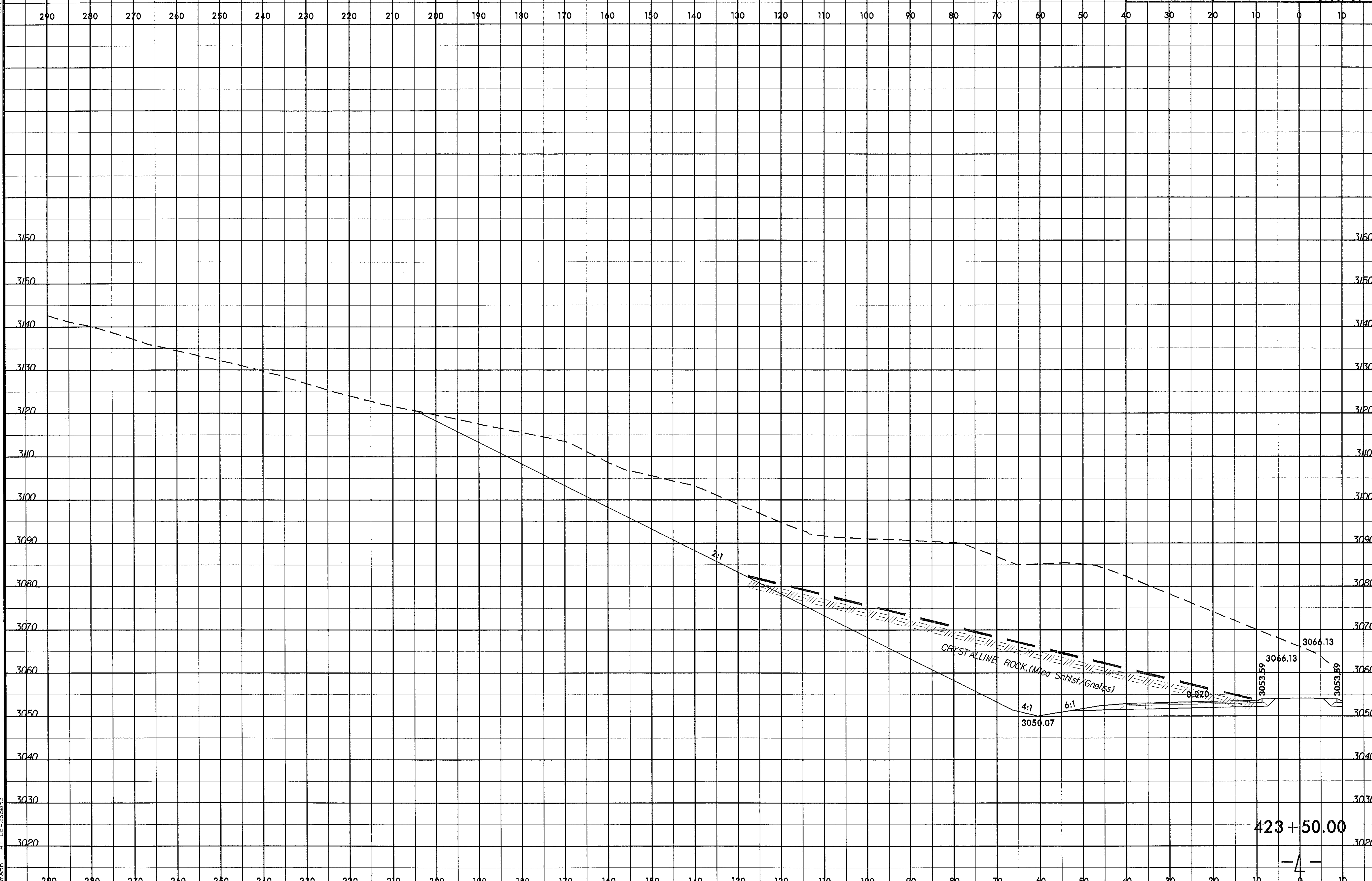


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
171/210
0 5 10
8/23/99
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
2:1
CRYSTALLINE ROCK (Mica Schist/Gneiss)
4:1
6:1
3048.16
0.020
3051.68
3060.31
3060.31
3051.68
422+50.00
-L-



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
172/210
2:1
CRYSTALLINE ROCK, (Mica Schist/Gneiss)
0.020
4:1
6:1
3049.11
3068.10
3068.10
3052.64
3052.64
423+00.00
-L-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	173/ 210



8/23/99

14-NOV-2013 13:30
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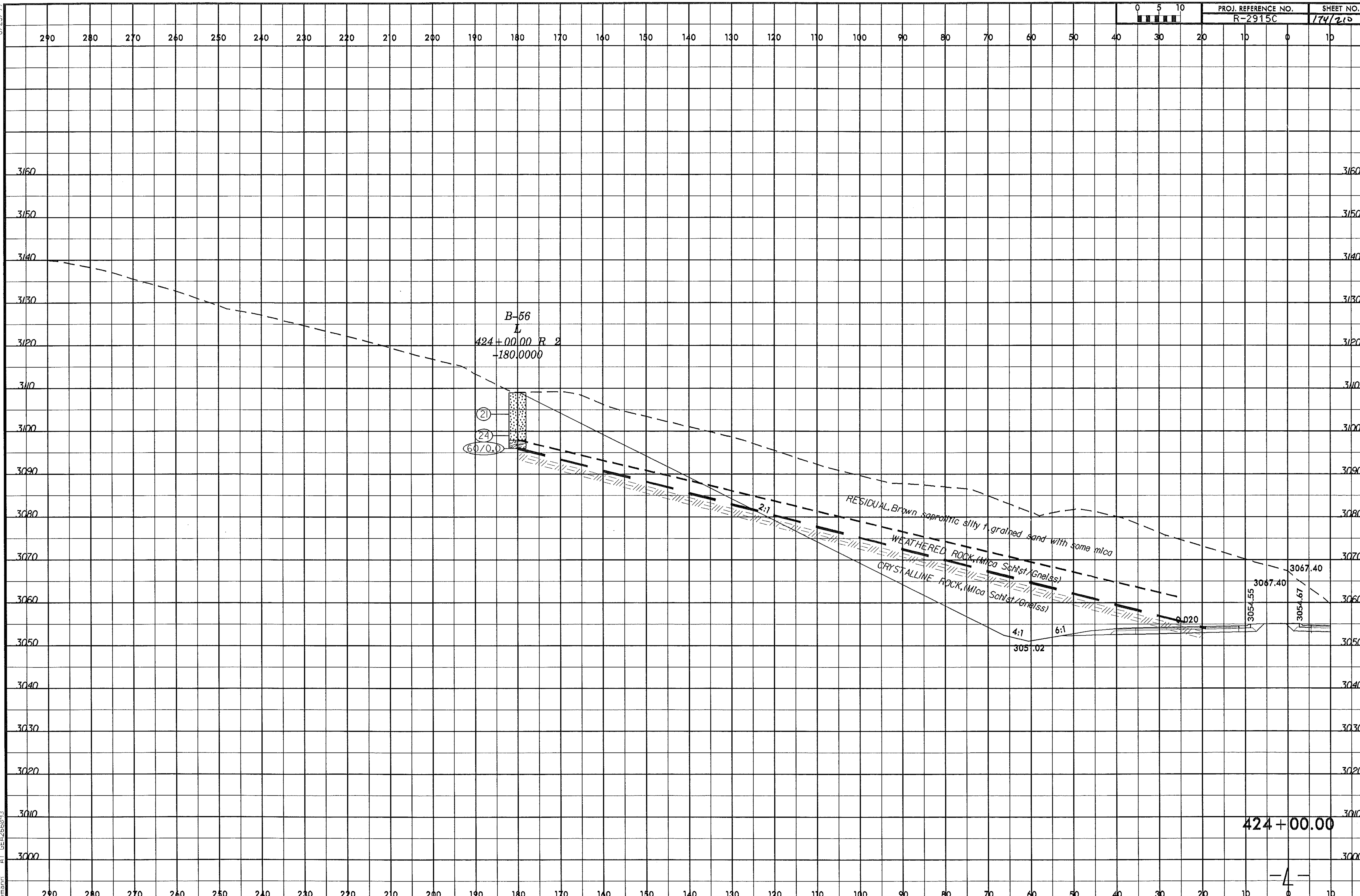
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	174/210

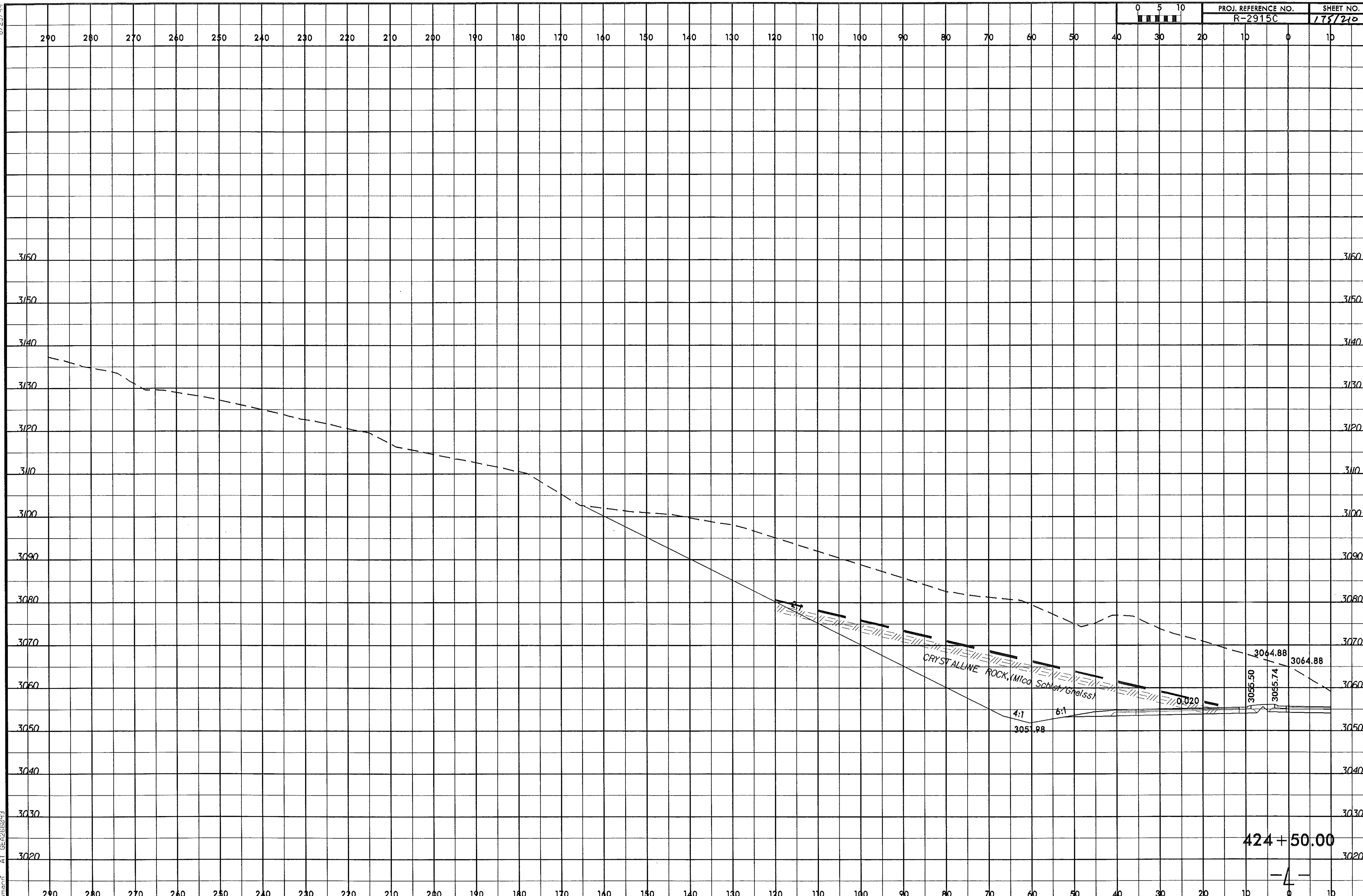


0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
B-56
L
424+00.00 R 2
-180.0000
21
24
60/0.0
2:1
RESIDUAL,Brown saprolitic silty f.grained sand with some mica
WEATHERED ROCK,(Mica Schist/Gneiss)
CRYSTALLINE ROCK,(Mica Schist/Gneiss)
4:1
6:1
3051.02
0.020
3054.55
3054.67
3067.40
3067.40
424+00.00

8/23/99

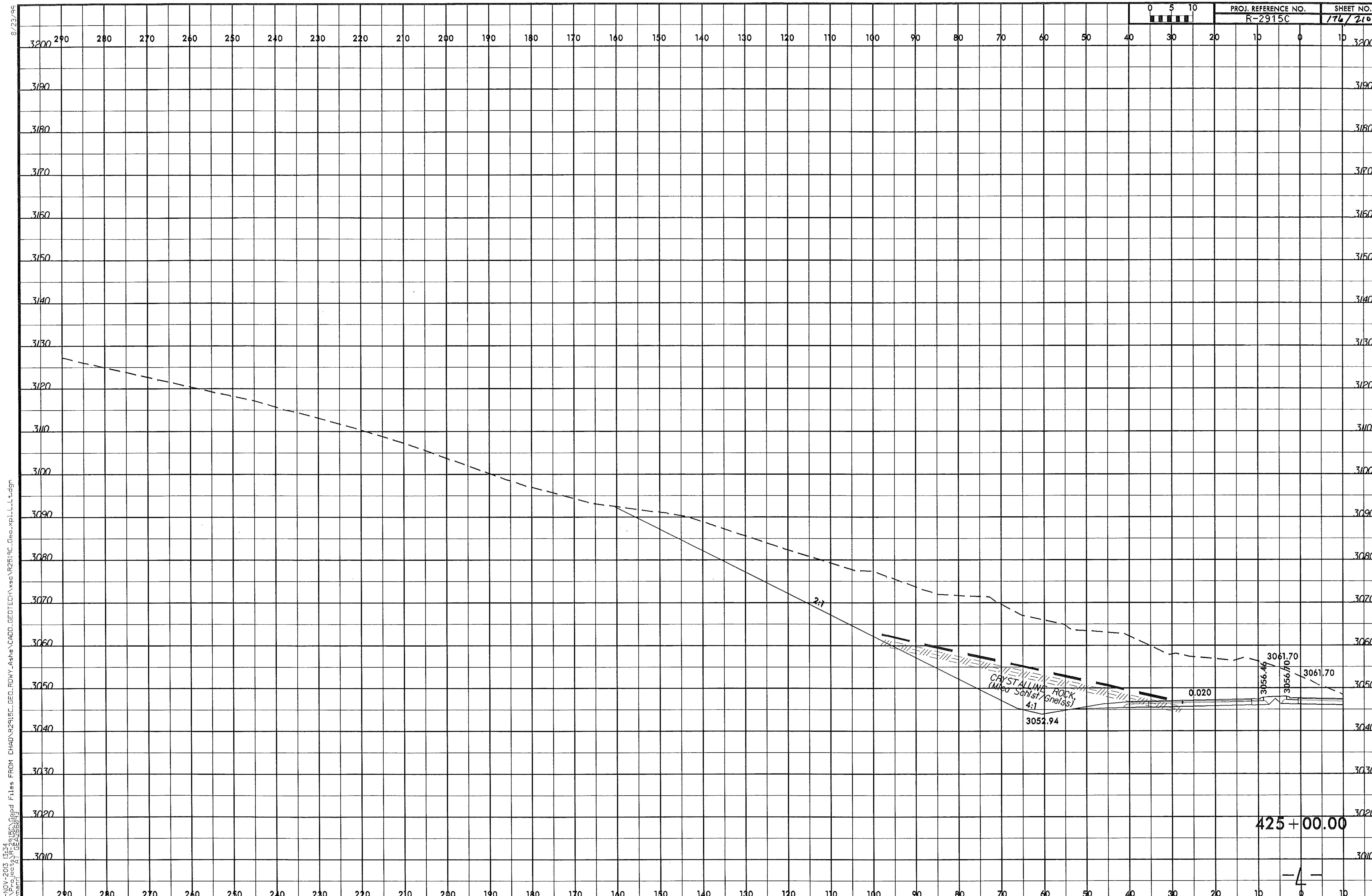
14-NOV-2013 13:31
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GED_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
jwmann AT GEA266093

8/23/99



14-NOV-2013 13:33
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	176/210



8/23/99

14-NOV-2013 13:34
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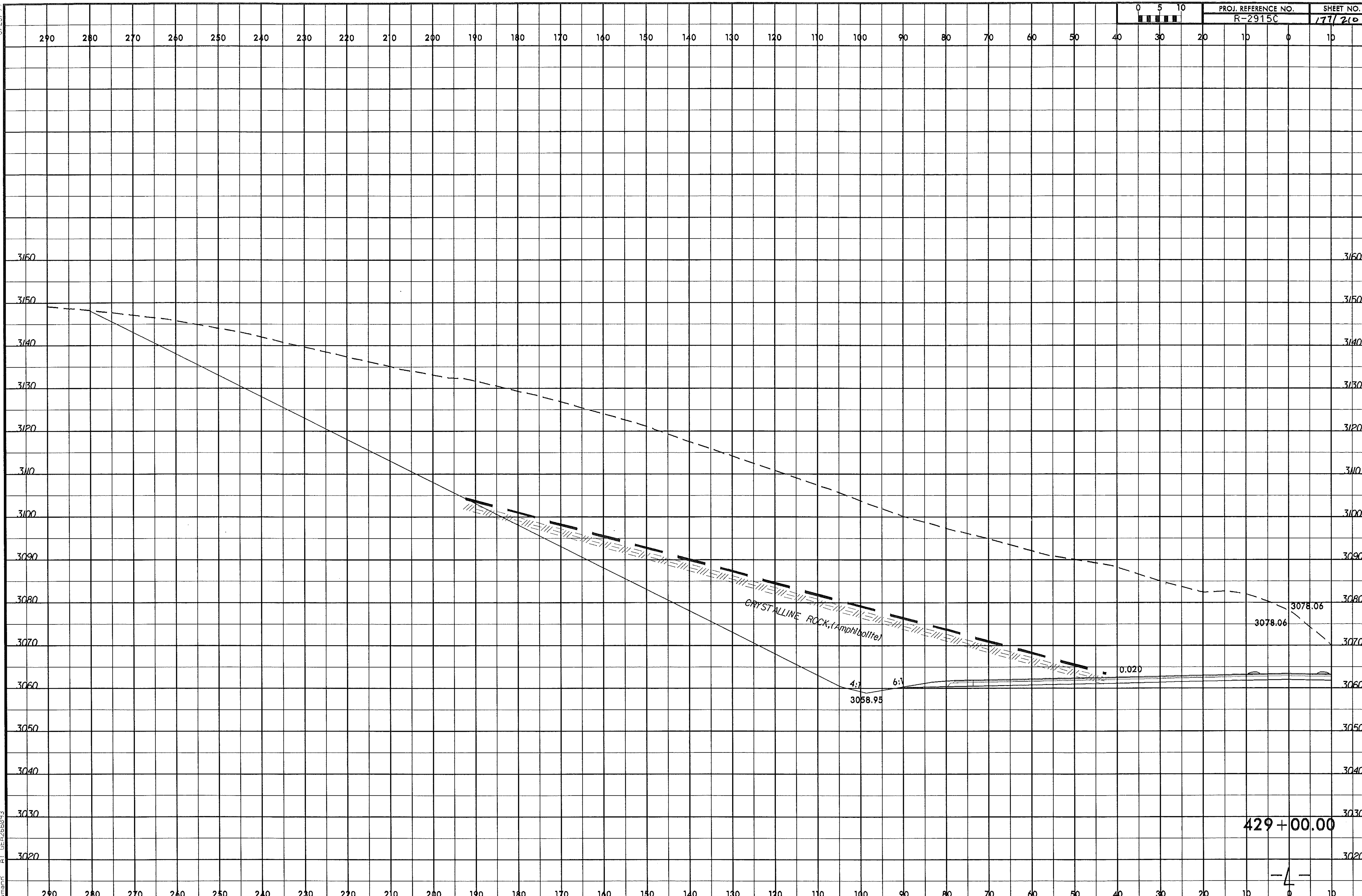
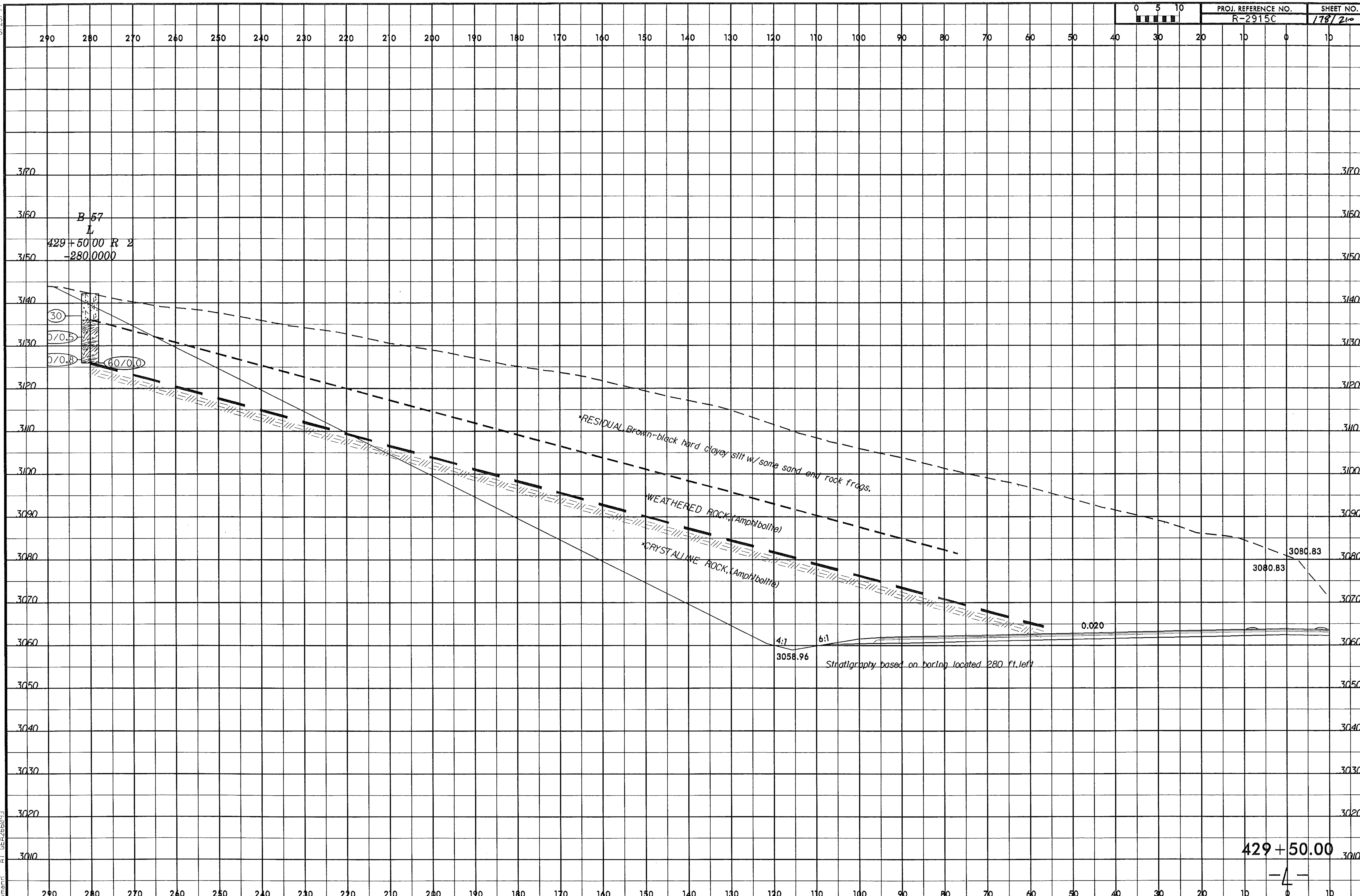
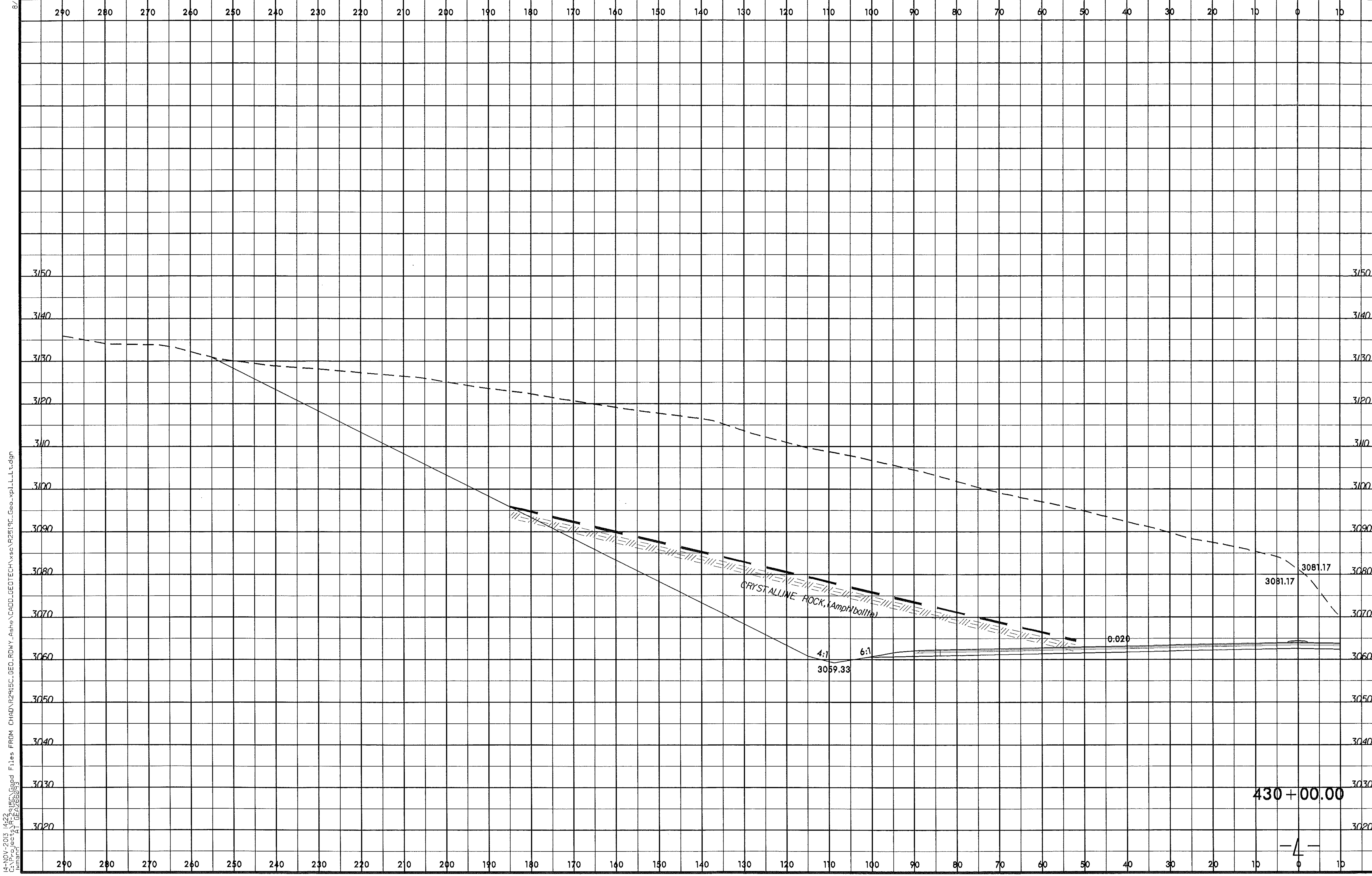

8/23/99
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
177/210
0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
CRYSTALLINE ROCK,(Amphibolite)
3078.06
3078.06
0.020
4:1
6:1
3058.95
429+00.00
-4-


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
178/210
B 57
L
429+50.00 R 2
-280.0000
30
60/0.0
*RESIDUAL Brown-black hard clayey silt w/ some sand and rock frags.
*WEATHERED ROCK,(Amphibolite)
*CRYSTALLINE ROCK,(Amphibolite)
3080.83
3080.83
0.020
4:1
6:1
3058.96
Stratigraphy based on boring located 280 ft.left
429+50.00
-L-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	179/210



8/23/99

14-NOV-2013 14:22
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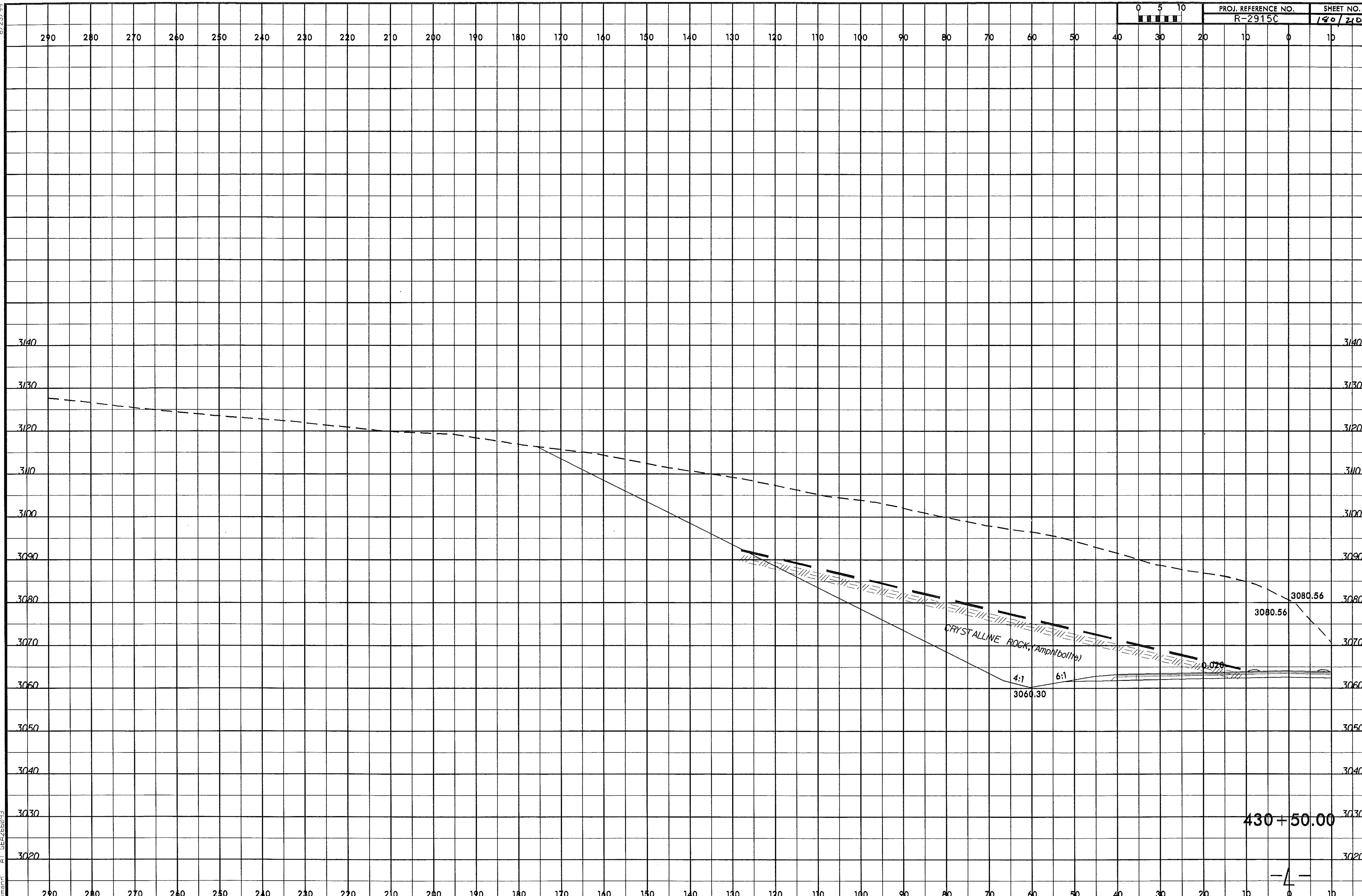
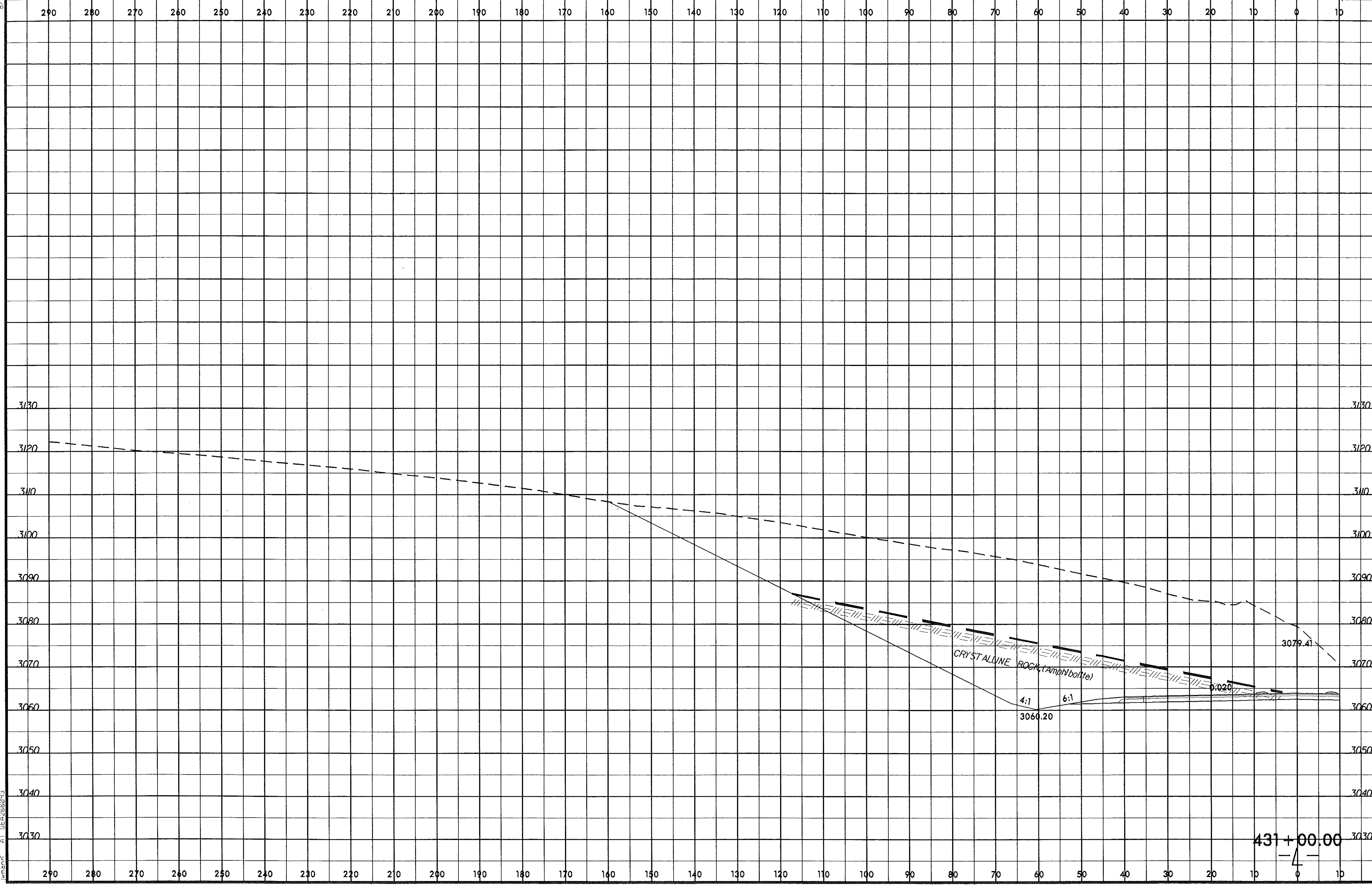
lwmann AT GEA266093



0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
180/210
8/23/99
CRYSTALLINE ROCK (Amphibolite)
0.020
4:1
6:1
3060.30
3080.56
3080.56
430+50.00
-L-

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	181/260



14-NOV-2013 14:26
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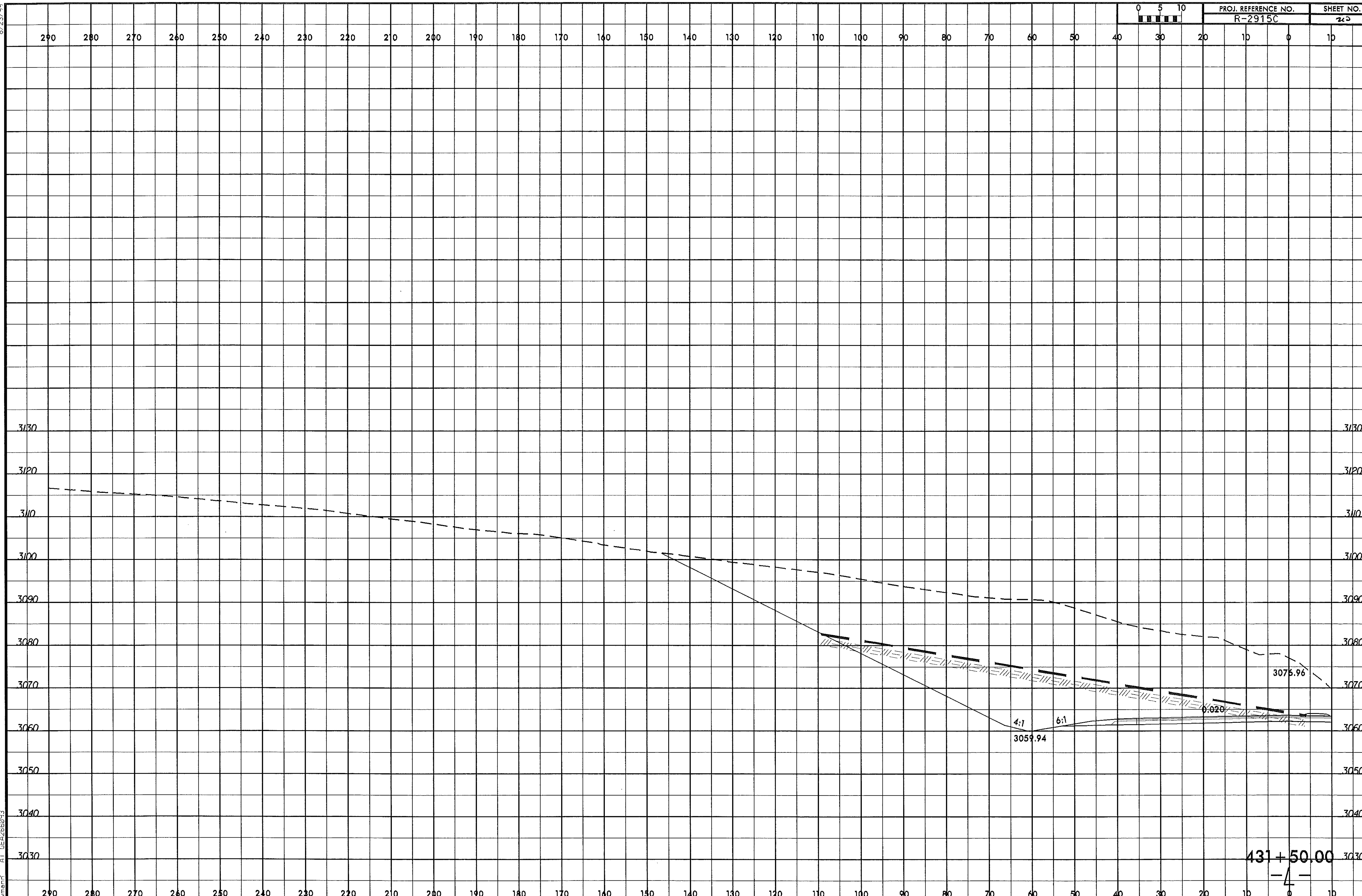
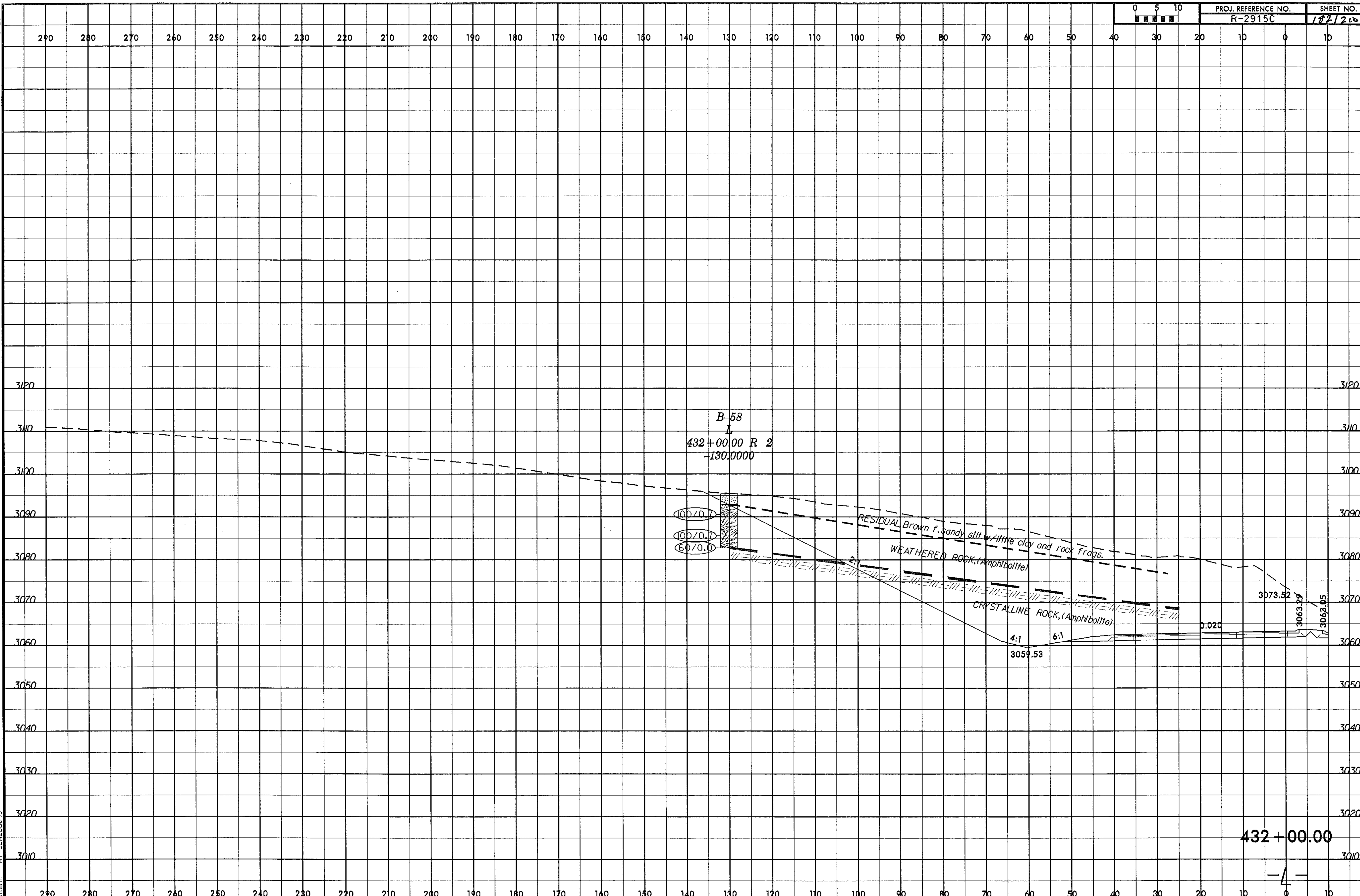
lwmann AT GEA266093

8/23/99



8/23/99
0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3076.96
0.020
4:1
6:1
3059.94
431+50.00
-L-



8/23/99
14-NOV-2013 14:29
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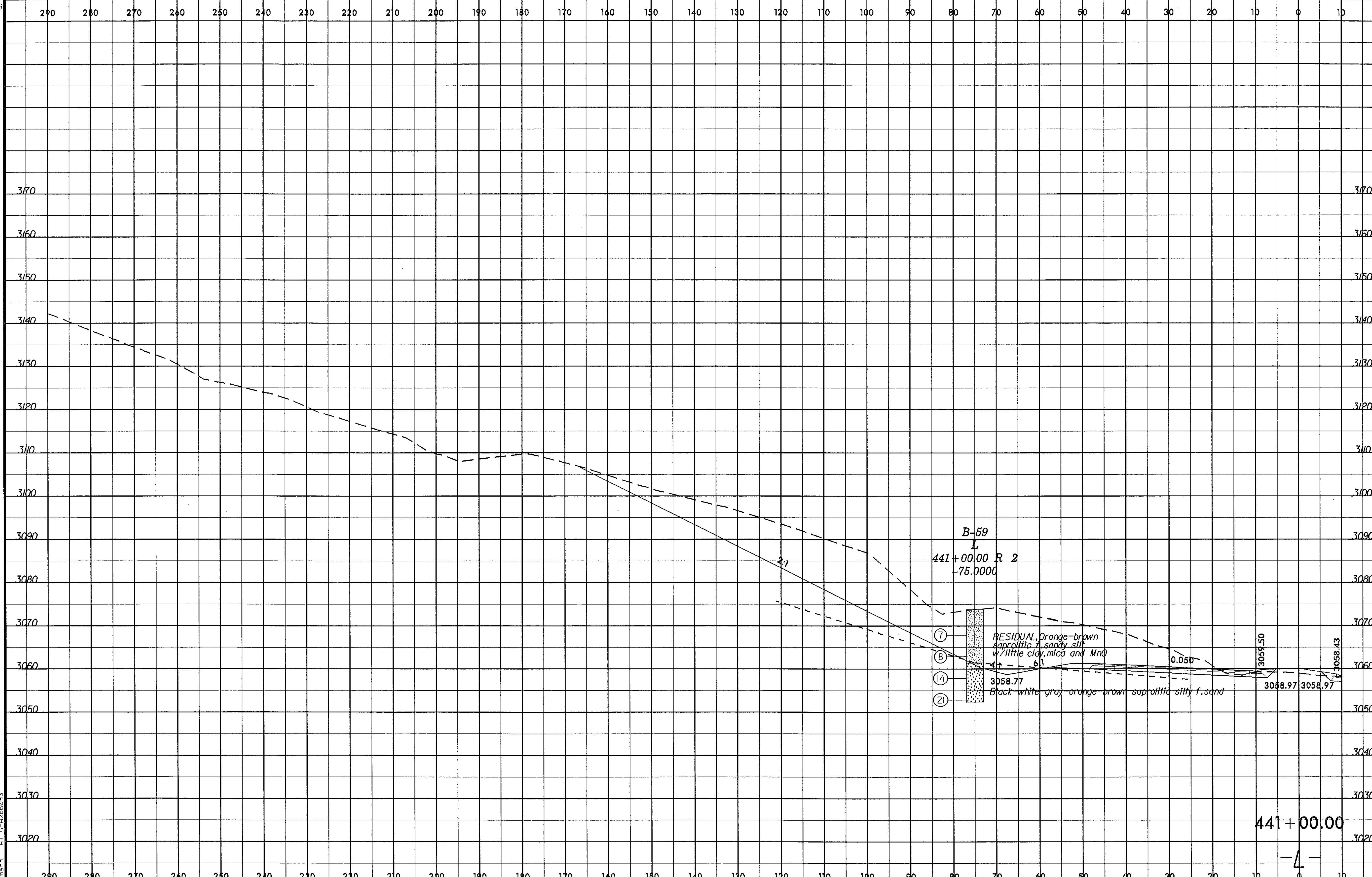
Jwmann AT GEA266093

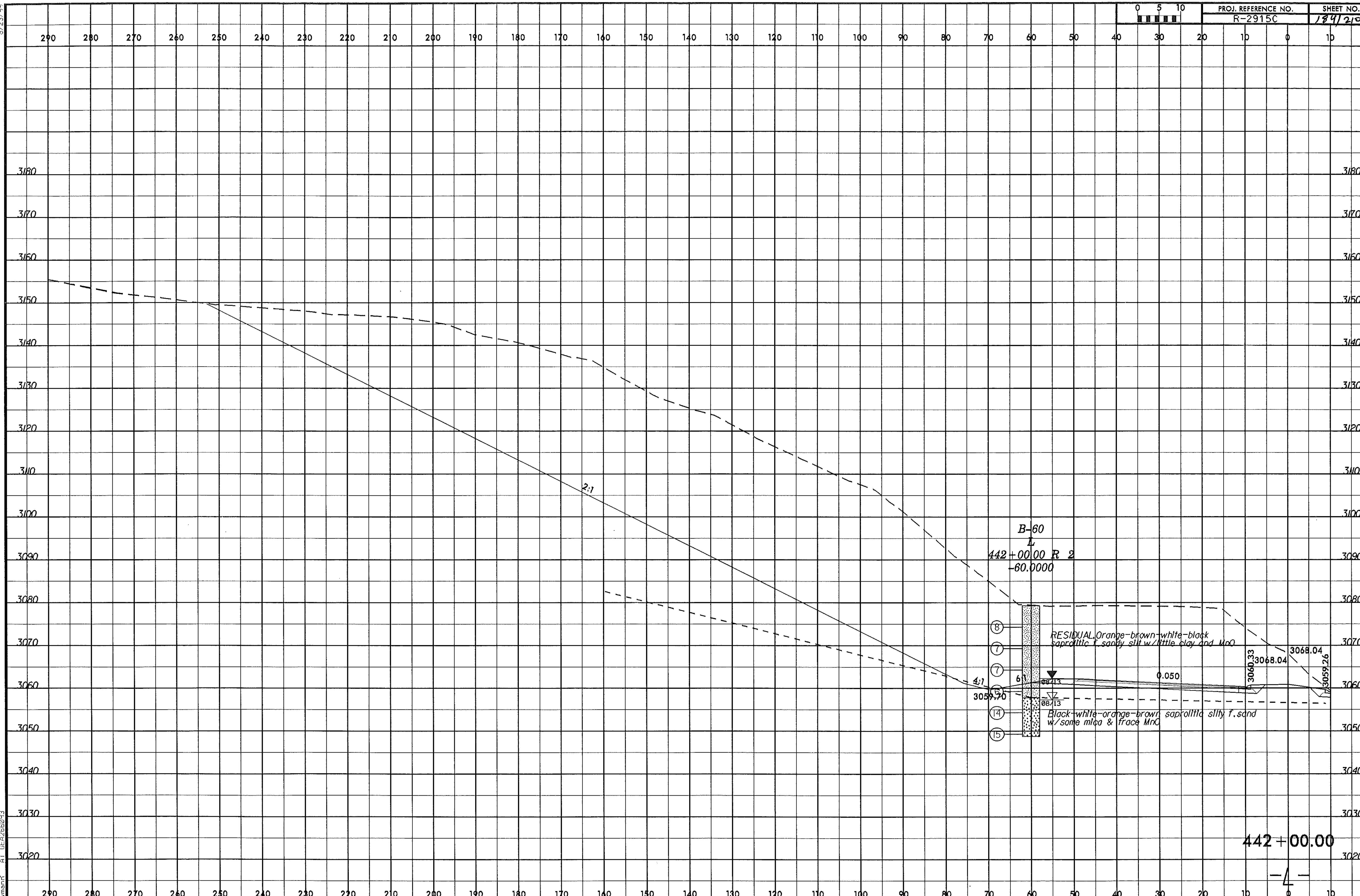
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	183/210



0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
2:1
B-59
L
441+00.00 R 2
-75.0000
7
8
14
21
RESIDUAL,Orange-brown saprolitic f.sandy silt w/little clay,mica and MnO
4:1
6:1
0.050
3059.50
3058.43
3058.77
Black-white-gray-orange-brown saprolitic silty f.sand
3058.97 3058.97
441+00.00
-L-

8/23/99

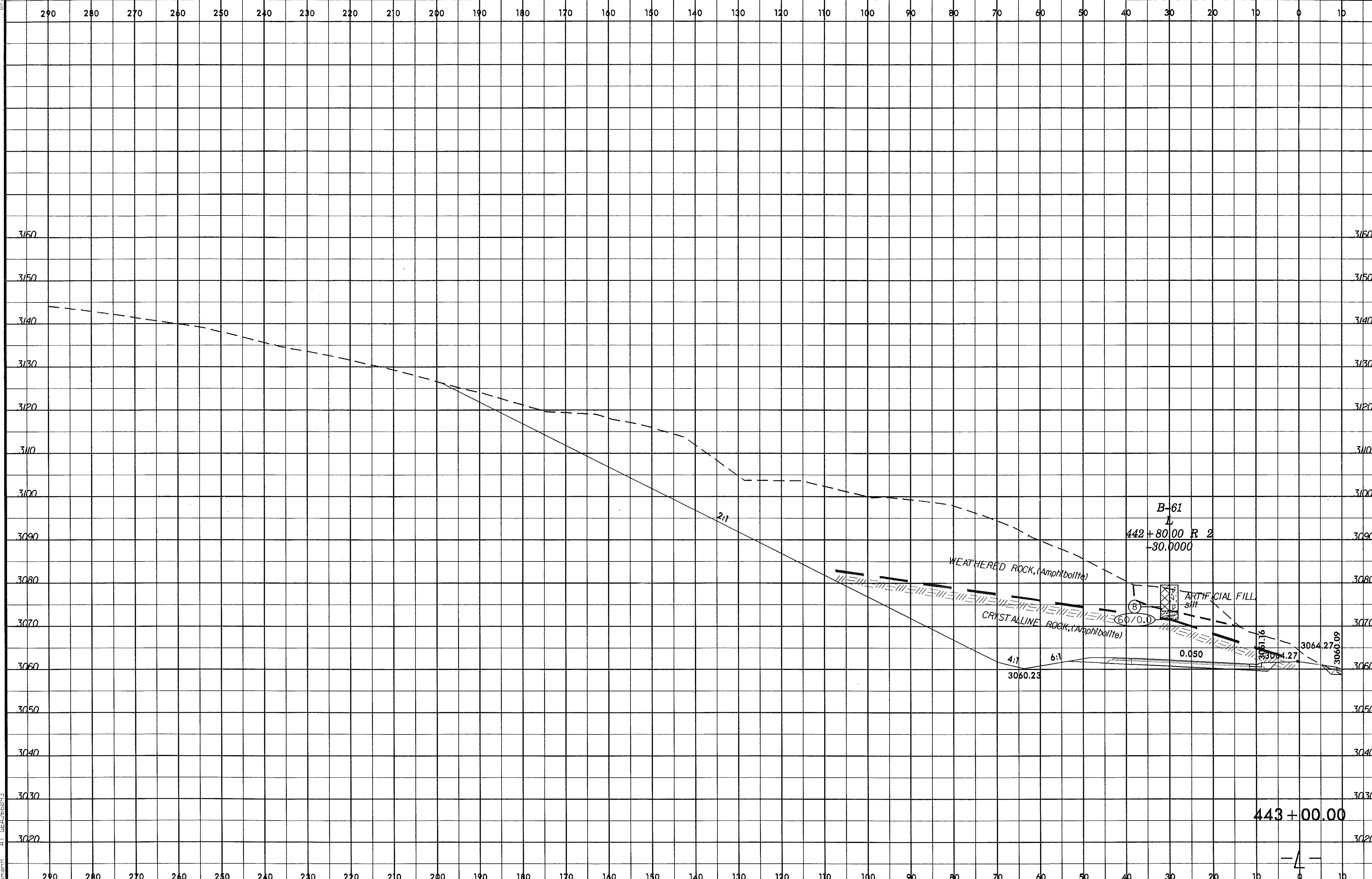
14-NOV-2013 14:32
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093



0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
184/210
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
2:1
4:1
6:1
B-60
L
442+00.00 R 2
-60.0000
RESIDUAL Orange-brown-white-black saprolitic f.sandy silt w/little clay and MnO
Black-white-orange-brown saprolitic silty f.sand w/some mica & trace MnO
8
7
7
6
14
15
08/13
08/13
3059.70
0.050
3060.33
3068.04
3068.04
3059.26
442+00.00
-4-

8/23/99
14-NOV-2013 14:33
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	185/210

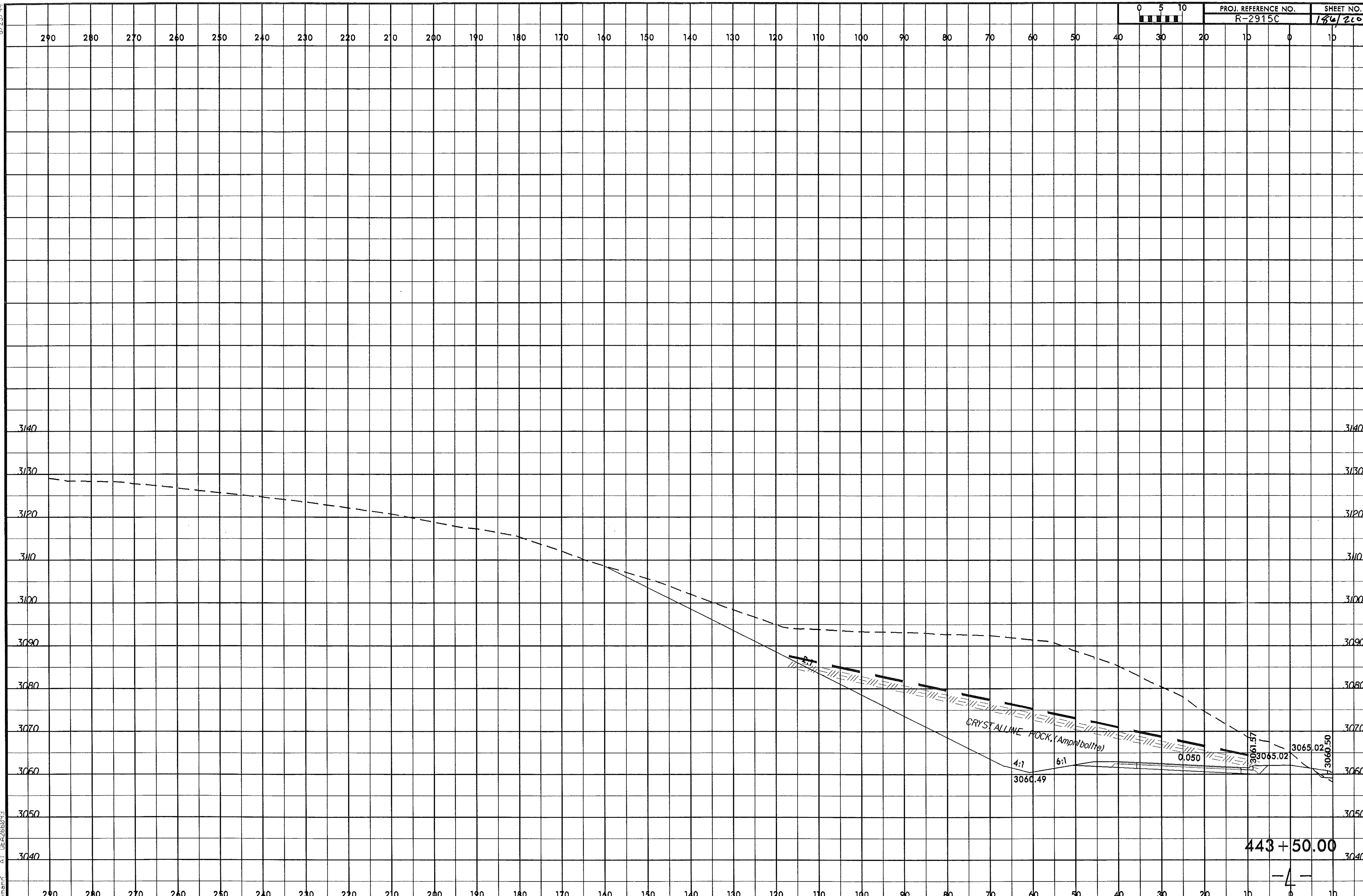


8/23/99

14-NOV-2013 14:35
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsq\R2915C_Geo_xpl_L_Lt.dgn
kwmann AT GEA266093

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	186/210

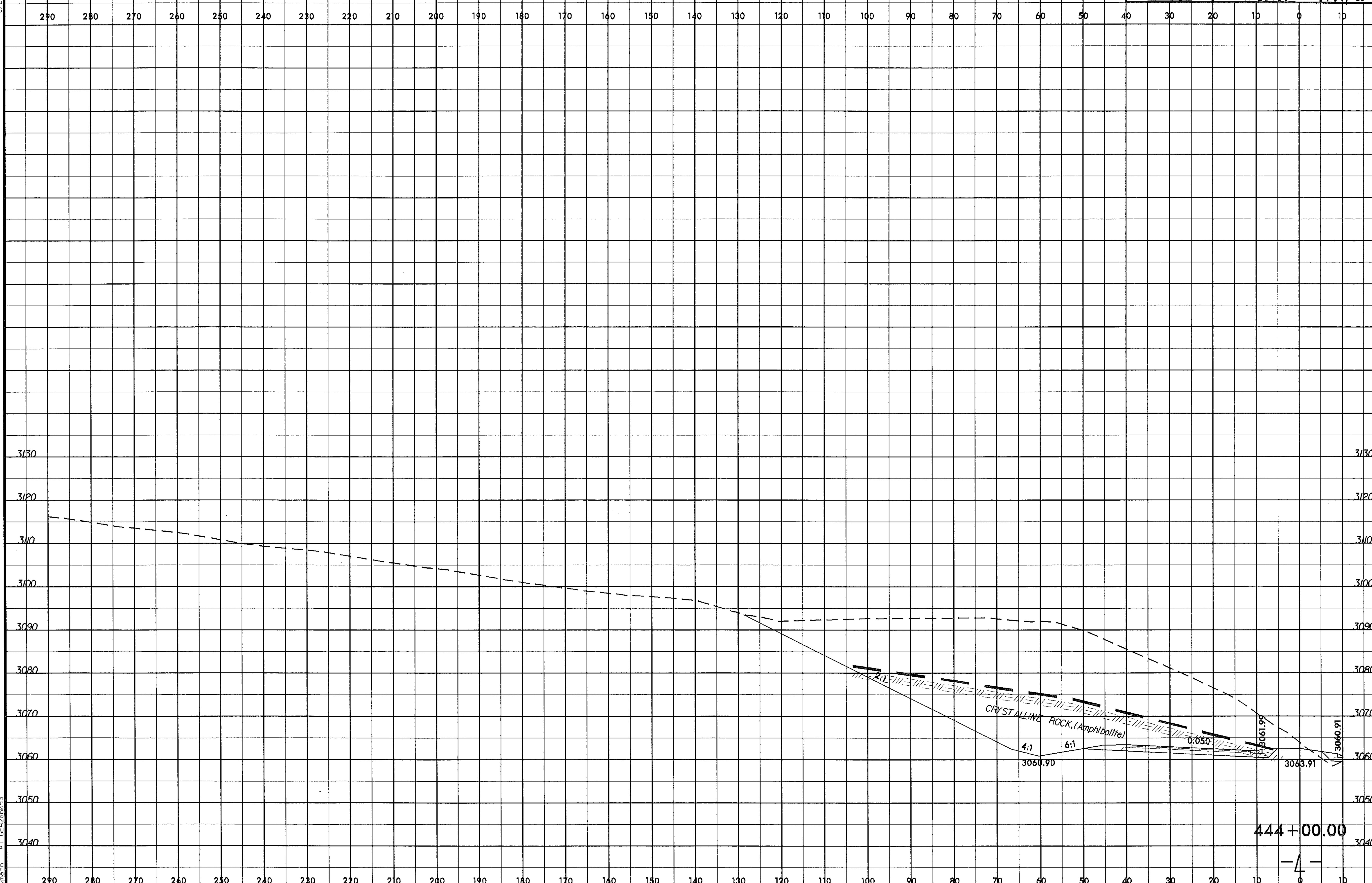


443+50.00

-4-

14-NOV-2013 14:36
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	187/210



8/23/99

14-NOV-2013 14:38
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
Jwmann AT GEA266093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	139/2cn

445+00.00

2:1
4:1
6:1
3061.73
0.050
3062.82
3061.74
3060.70

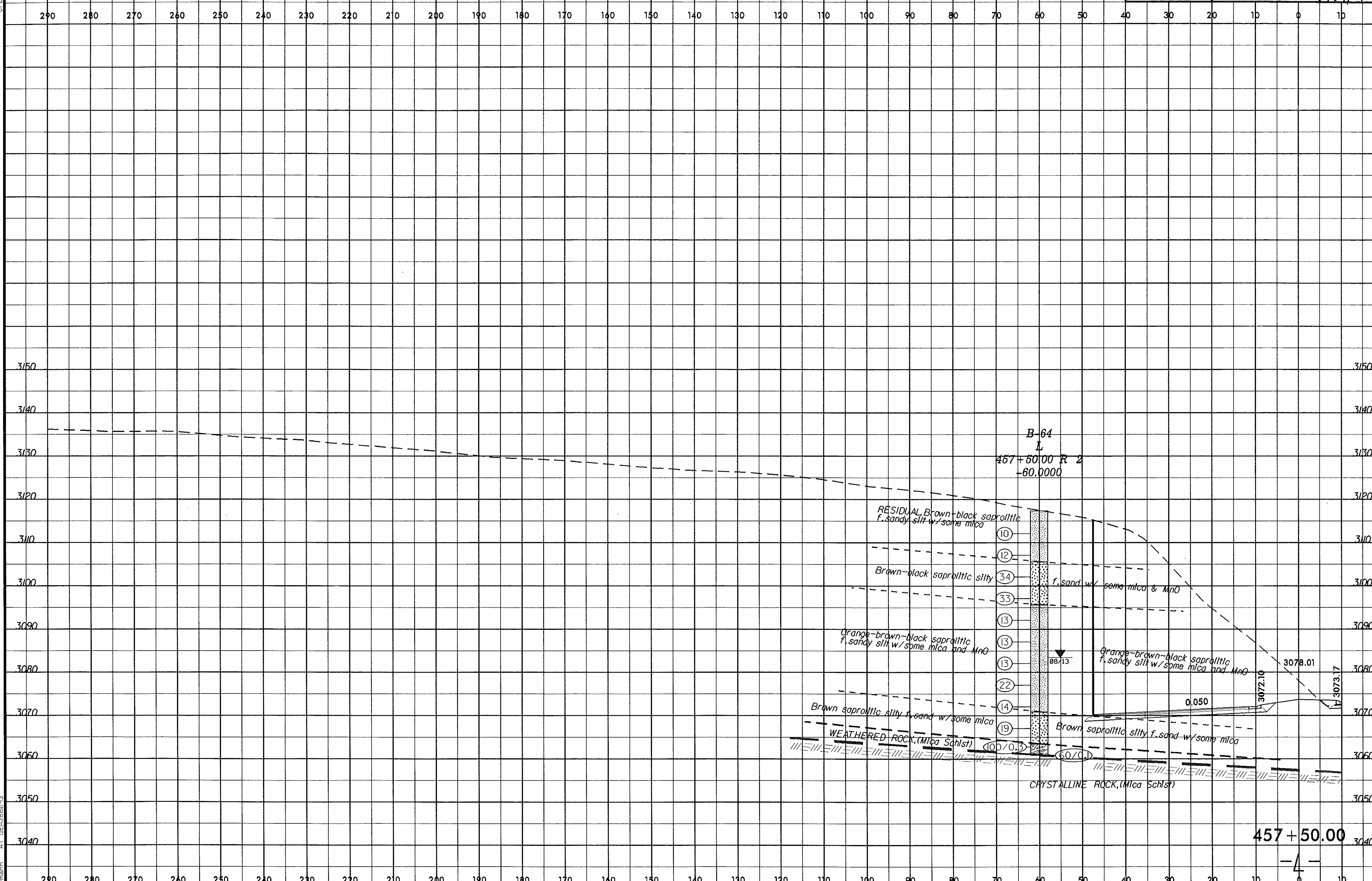
444+50.00

B-62
L
444+50.00 R 2
-100.0000
10570.3
RESIDUAL, Brown, f. sandy silt w/some mica
WEATHERED ROCK (Mica Schist/Gneiss)
CRYSTALLINE ROCK (Mica Schist/Gneiss)
2:1
4:1
6:1
3061.31
0.050
3062.40
3061.33
3060.00

-4-

14-NOV-2013 14:39
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Area\CADD_GEOTECH\xsc\R2915C_Geo_xpLLLt.dgn
lwmann
ALT GEO26B013

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	189/210

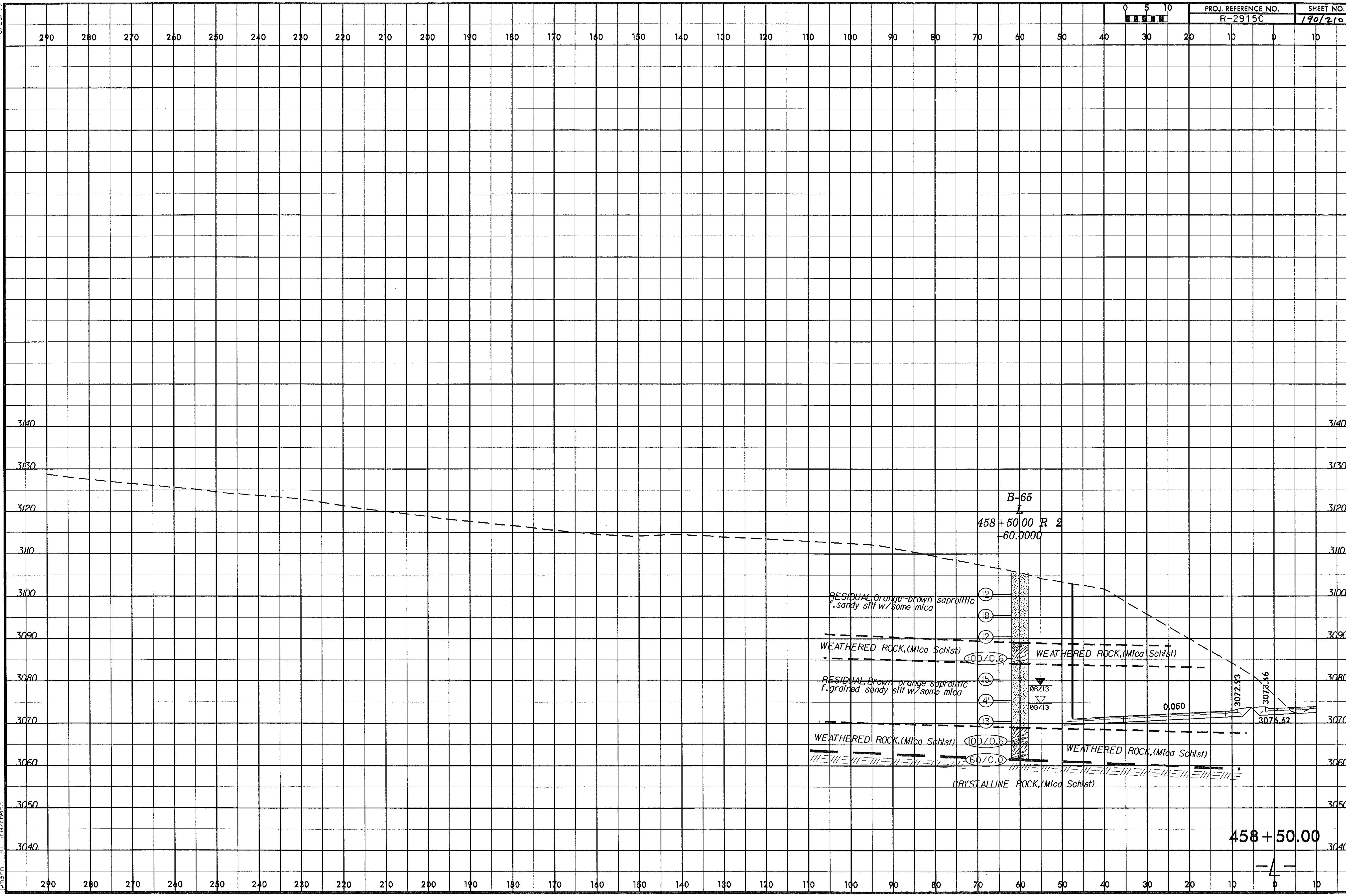


0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
B-64
L
457+50.00 R 2
-60.0000
RESIDUAL,Brown-black saprolitic f.sandy silt w/some mica
10
12
Brown-black saprolitic silty f.sand w/ some mica & MnO
34
33
13
Orange-brown-black saprolitic f.sandy silt w/some mica and MnO
13
13
08/13
Orange-brown-black saprolitic f.sandy silt w/some mica and MnO
22
14
Brown saprolitic silty f.sand w/some mica
19
Brown saprolitic silty f.sand w/some mica
WEATHERED ROCK,(Mica Schist)
100/0.3
60/0.1
CRYSTALLINE ROCK,(Mica Schist)
3078.01
0.050
3072.10
3073.17
457+50.00

8/23/99

14-NOV-2013 14:42
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_L_Lt.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	190/210

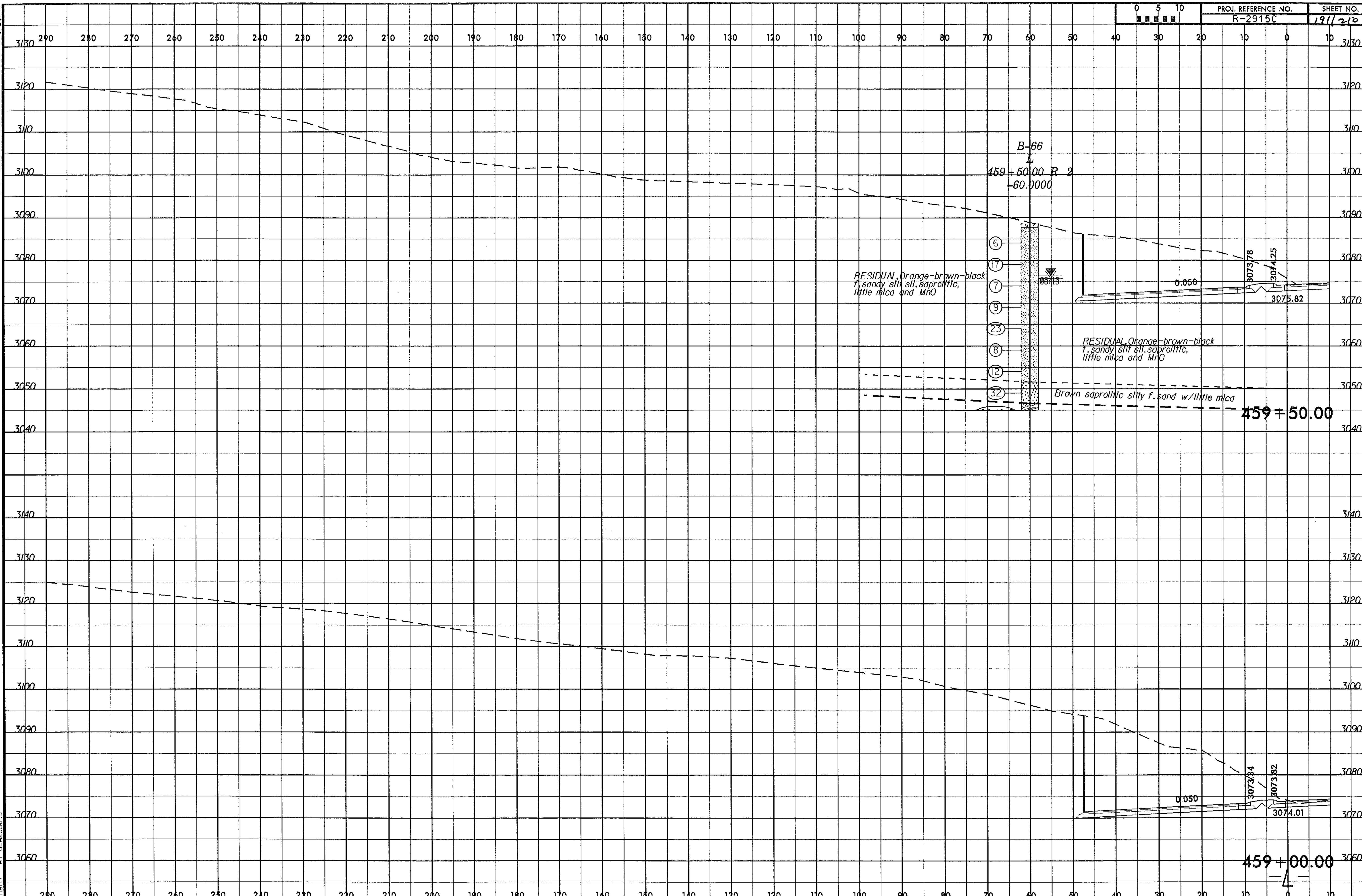


0 5 10
290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
B-65
L
458+50.00 R 2
-60.0000
RESIDUAL Orange-brown saprolitic f.sandy silt w/some mica
12
18
12
WEATHERED ROCK,(Mica Schist)
100/0.6
WEATHERED ROCK,(Mica Schist)
RESIDUAL Brown-orange saprolitic f.grained sandy silt w/some mica
15
08/13
41
08/13
13
0.050
3072.93
3073.46
3075.62
WEATHERED ROCK,(Mica Schist)
100/0.6
60/0.0
WEATHERED ROCK,(Mica Schist)
CRYSTALLINE ROCK,(Mica Schist)
458+50.00

8/23/99

14-NOV-2013 14:44
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_L_Lt.dgn
lwmann AT GEA26093

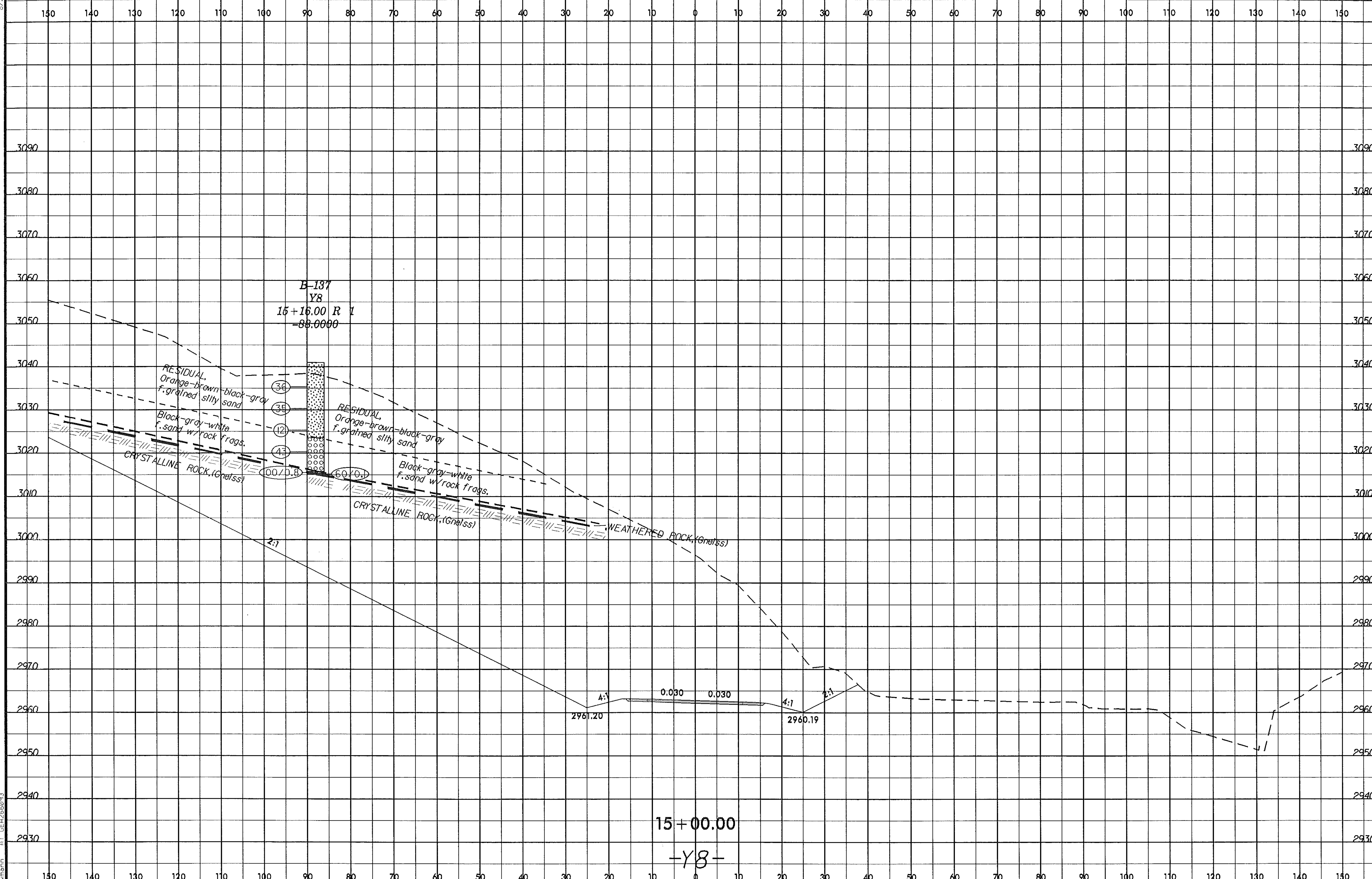
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	191/210



8/23/99

14-NOV-2013 14:46

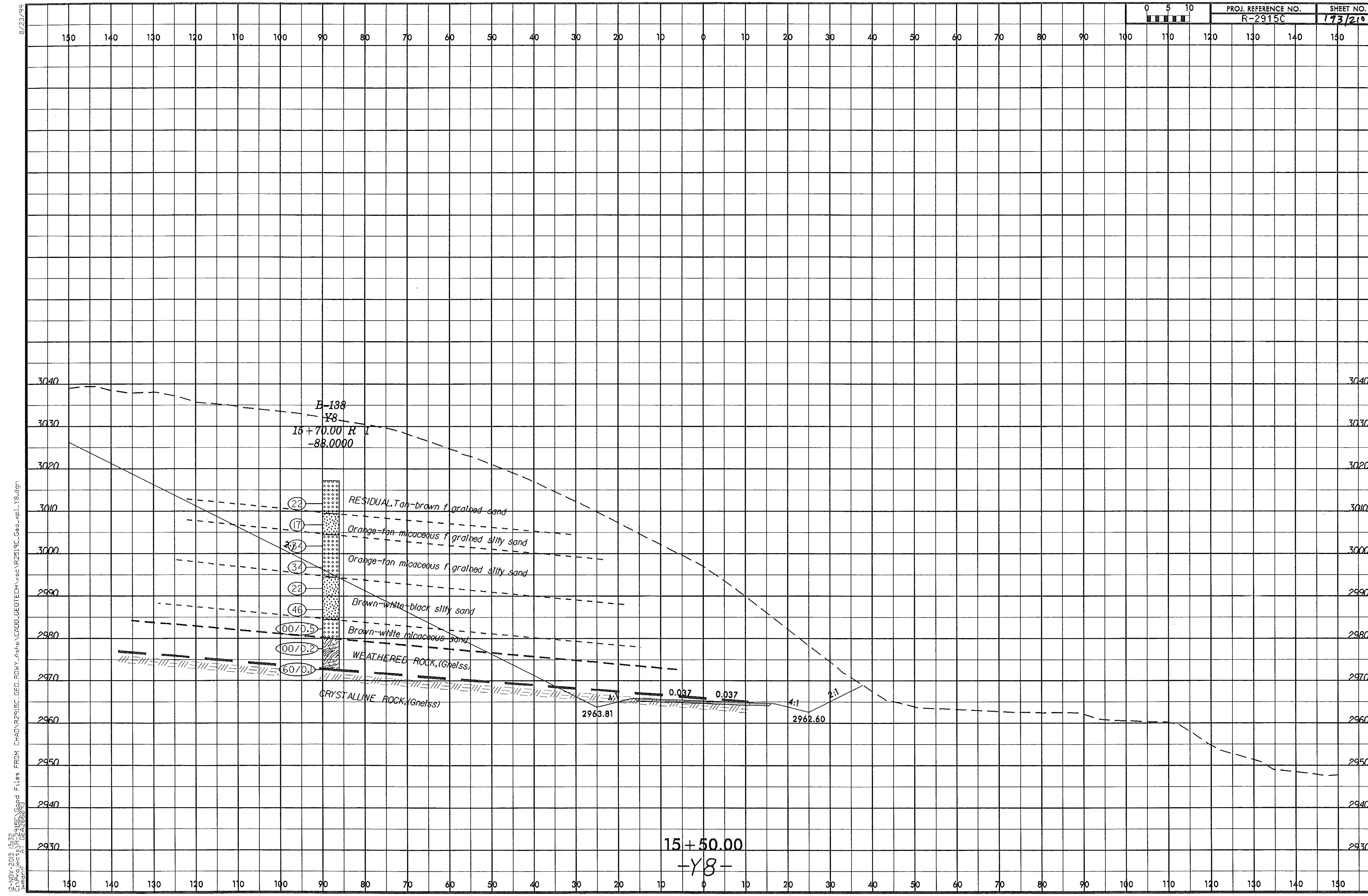
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	192/210



15+00.00

-Y8-

8/23/99
12-NOV-2013 13:30
C:\Projects\R-2915C\Geod Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y8.dgn
lwmann AT GEA286093



0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
193/210
8/23/99
B-138
Y8
15+70.00 R I
-88.0000
22
17
34
34
22
46
100/0.5
100/0.2
60/0.1
RESIDUAL.Tan-brown f grained sand
Orange-tan micaceous f grained silty sand
Orange-tan micaceous f grained silty sand
Brown-white-black silty sand
Brown-white micaceous sand
WEATHERED ROCK.(Gneiss)
CRYSTALLINE ROCK.(Gneiss)
0.037
0.037
4:1
2:1
2963.81
2962.60
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
2940
2930
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
15+50.00
-Y8-
12-NOV-2013 13:32
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y8.dgn
lwmann AT GEA26093

8/23/99

0 5 10

PROJ. REFERENCE NO. R-2915C

SHEET NO. 194/210

B-139
Y9
10+80.00 R 1
30.0000

3005.08

RESIDUAL, Orange-tan-black highly micaceous f. grained silty sand

5
13
59
62
85
100/0.1
60/0.0

Gray-brown highly micaceous f. grained sand

2:1
4:1
0.050
0.050
4:1
2978.53
2975.85

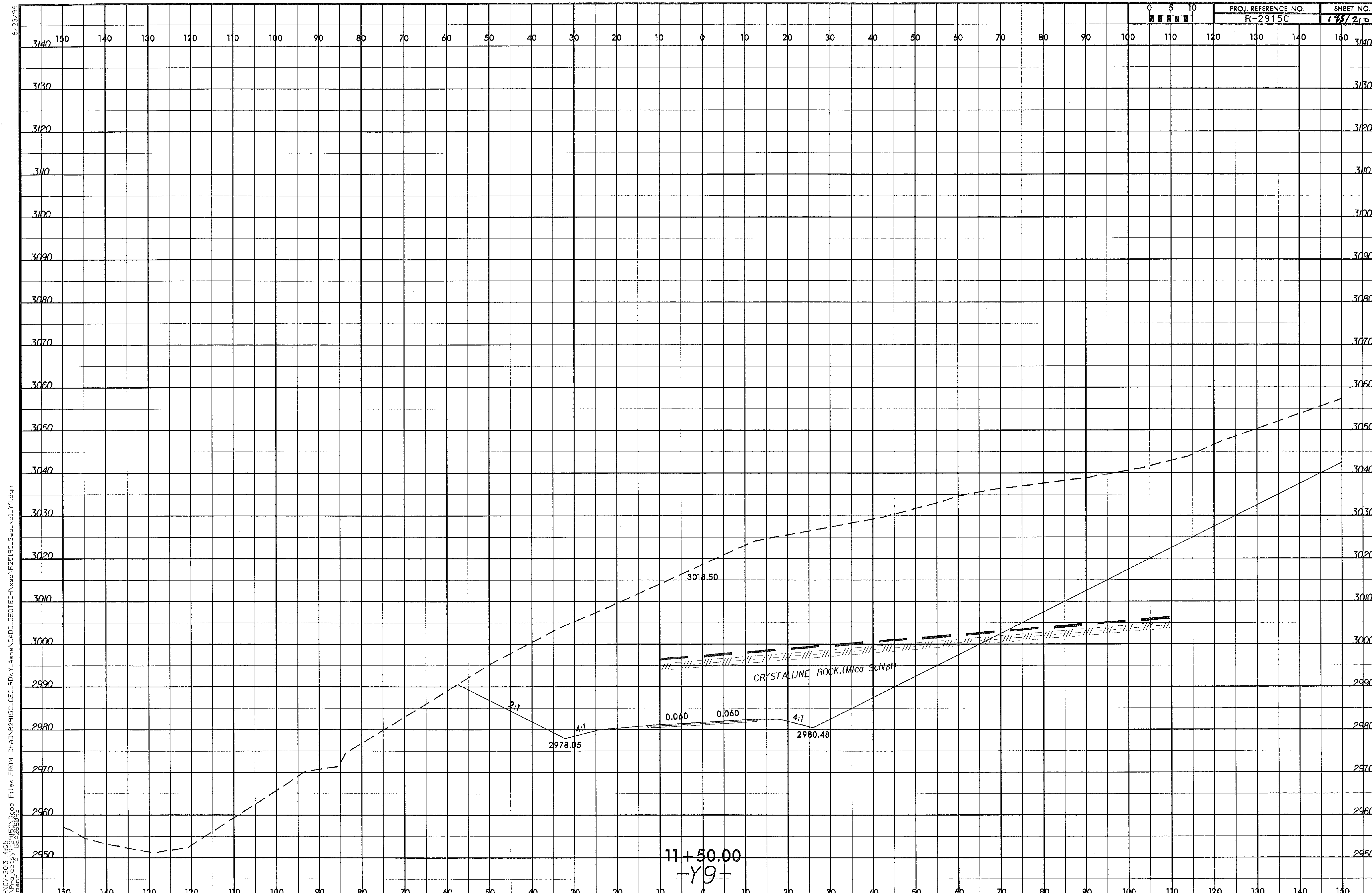
WEATHERED ROCK, (Biotite Gneiss)

CRYSTALLINE ROCK, (Biotite Gneiss)

11+00.00

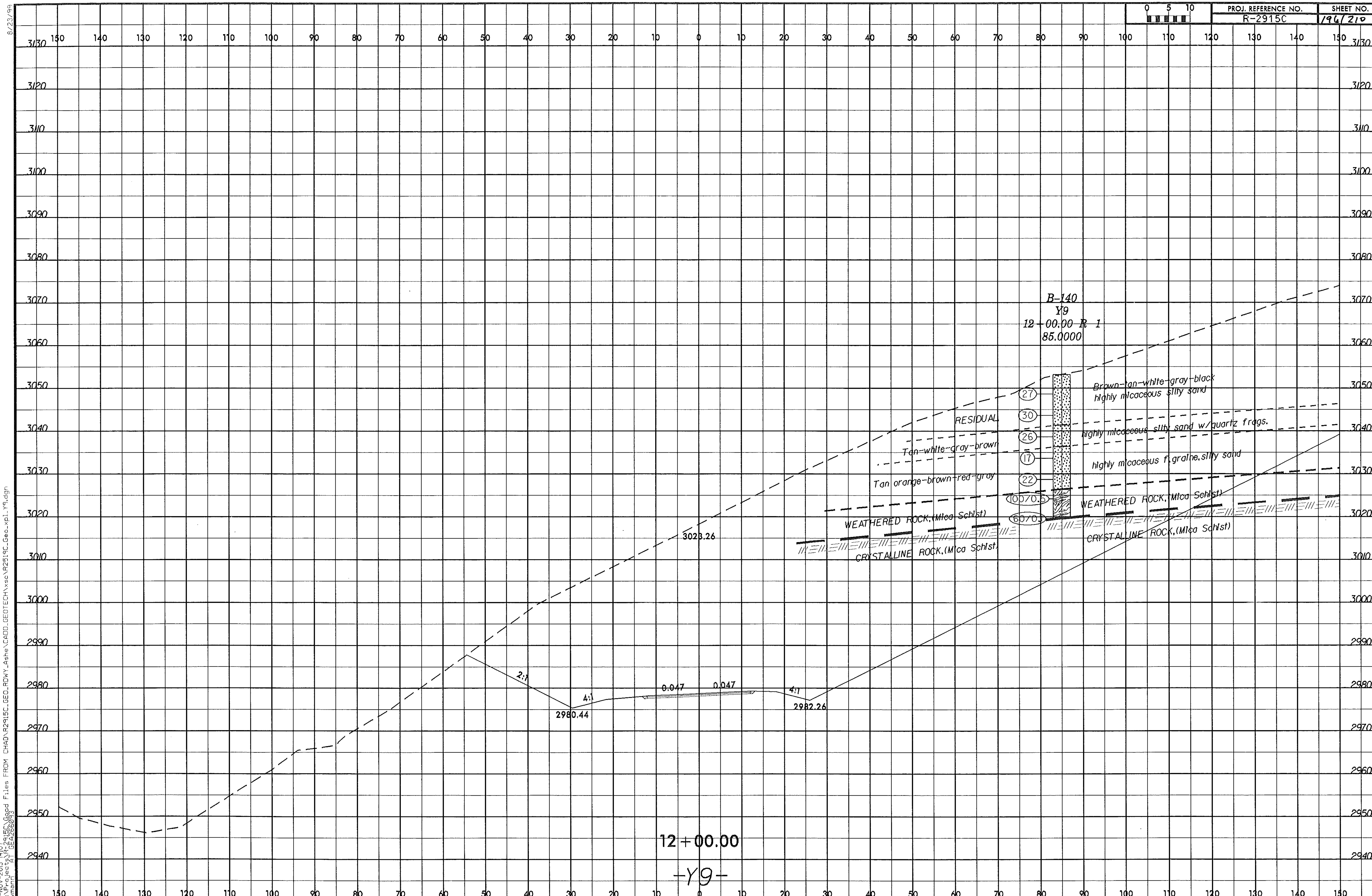
-Y9-

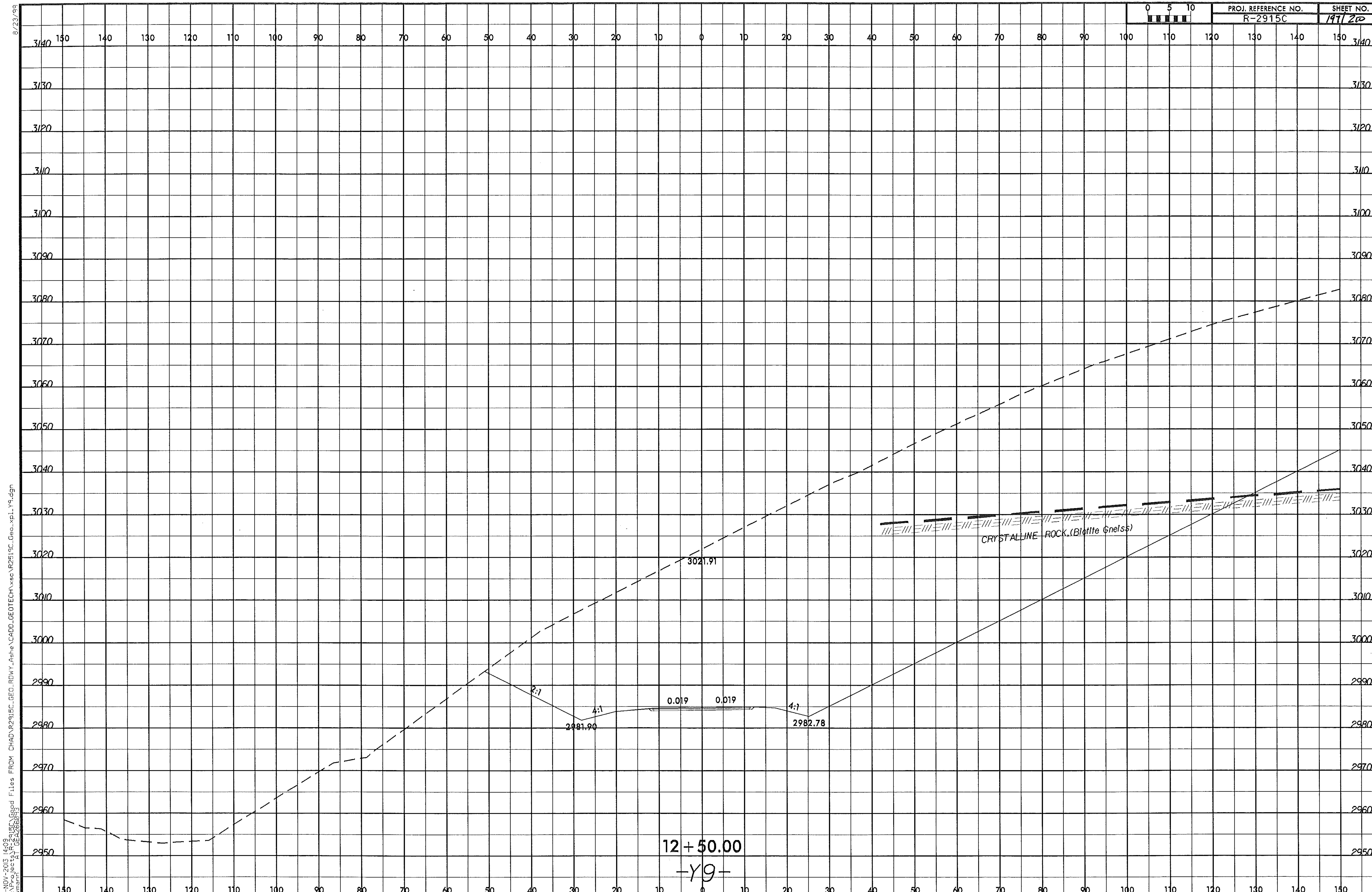
12-NOV-2013 14:02
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_Y9.dgn
lwmann AT GEA2268P3



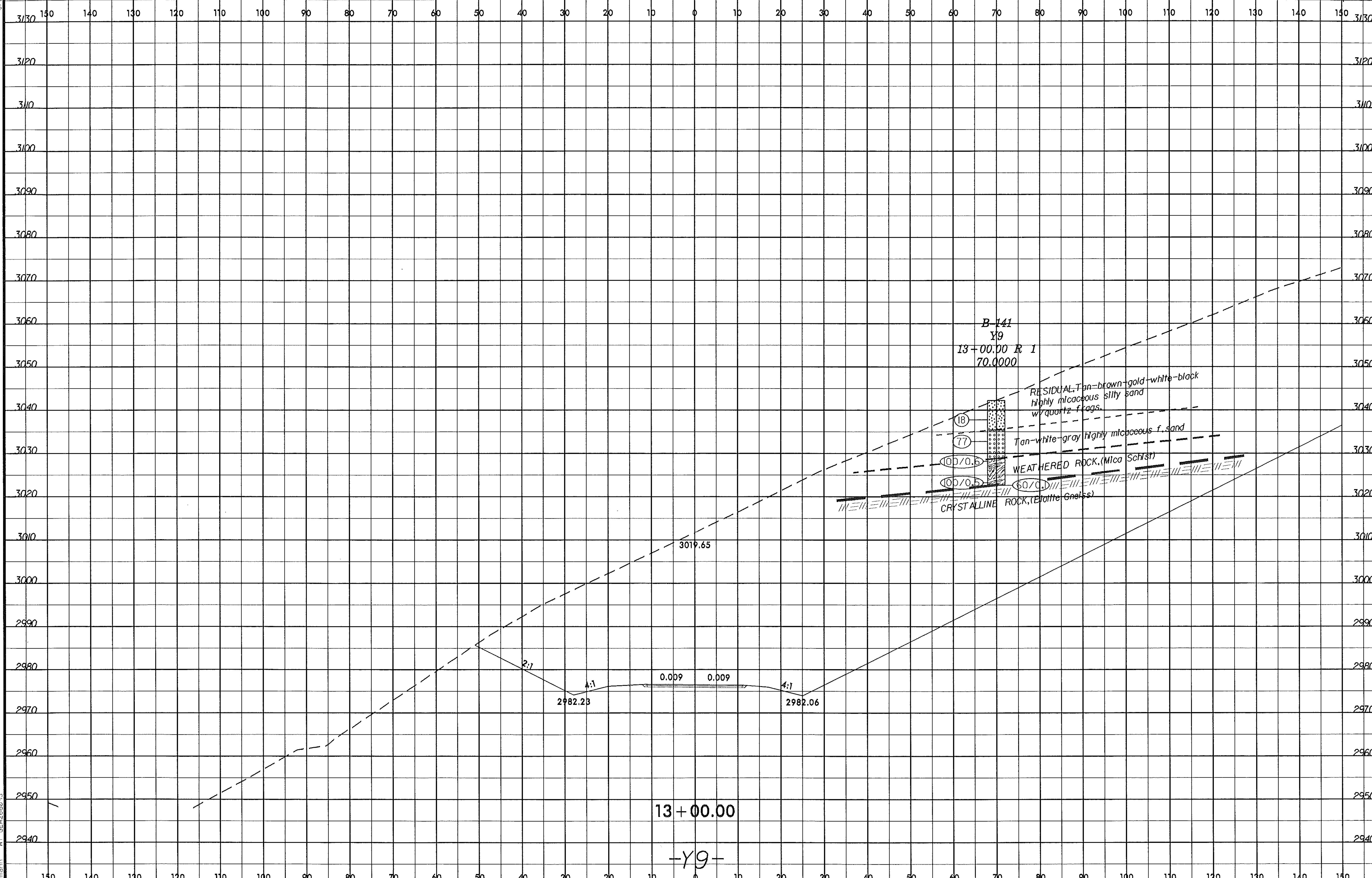
8/23/99

12-NOV-2013 14:05
G:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y9.dgn
wmann AT GEA286093


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
196/210
0 5 10
8/23/99
B-140
Y9
12+00.00 R 1
85.0000
Brown-tan-white-gray-black highly micaceous silty sand
RESIDUAL
highly micaceous silty sand w/quartz frags.
Tan-white-gray-brown
highly micaceous f.graine,silty sand
Tan orange-brown-red-gray
WEATHERED ROCK,(Mica Schist)
CRYSTALLINE ROCK,(Mica Schist)
27
30
26
17
22
100/0.5
60/0.3
3023.26
2980.44
2982.26
2:1
4:1
0.047
0.047
12+00.00
-Y9-
12-NOV-2013 14:07
Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_Y9.dgn


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
0 5 10
CRYSTALLINE ROCK (Biotite Gneiss)
3021.91
2:1
4:1
0.019
0.019
4:1
2981.90
2982.78
12+50.00
-Y9-
8/23/99

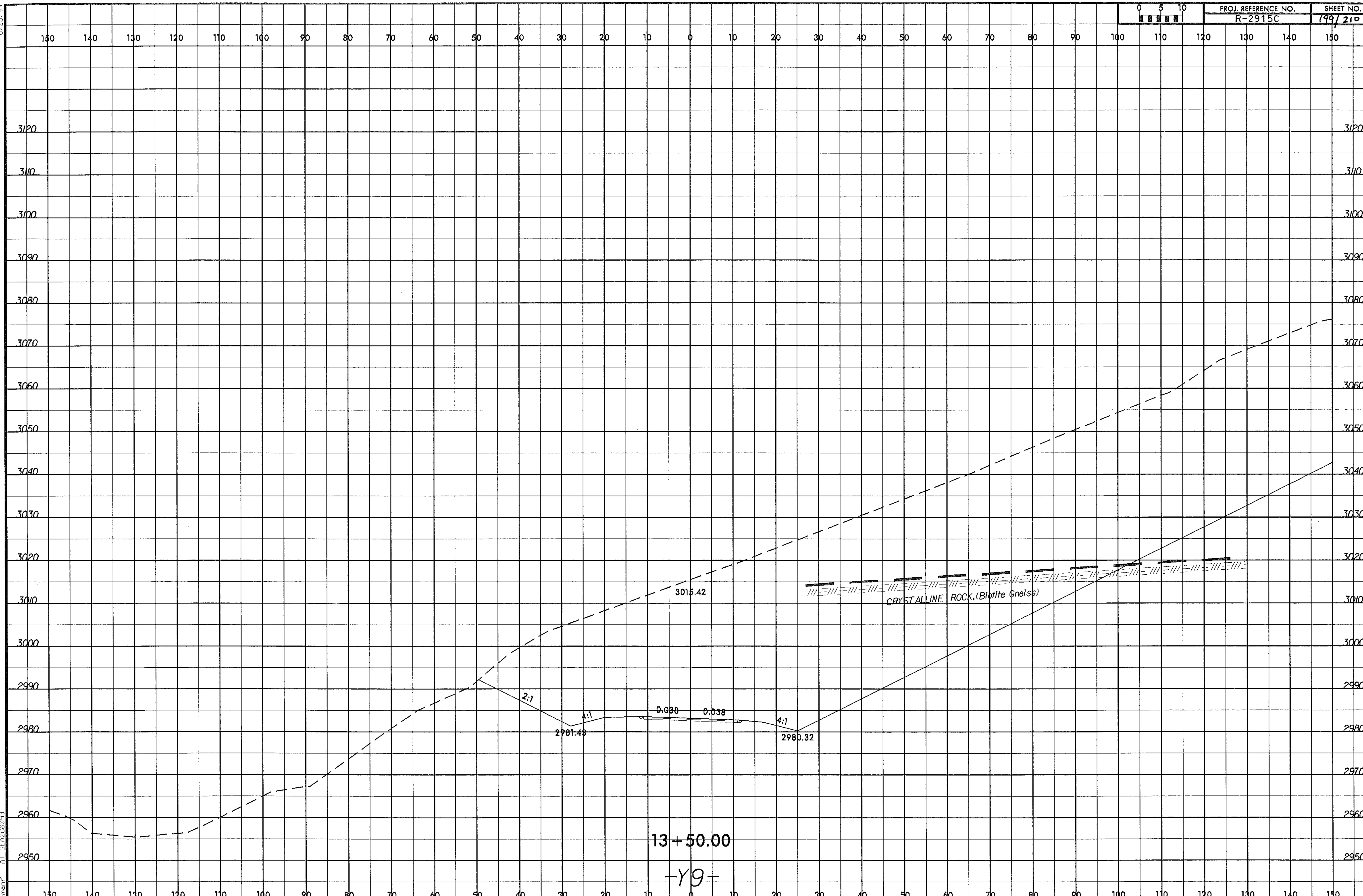
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	198/210



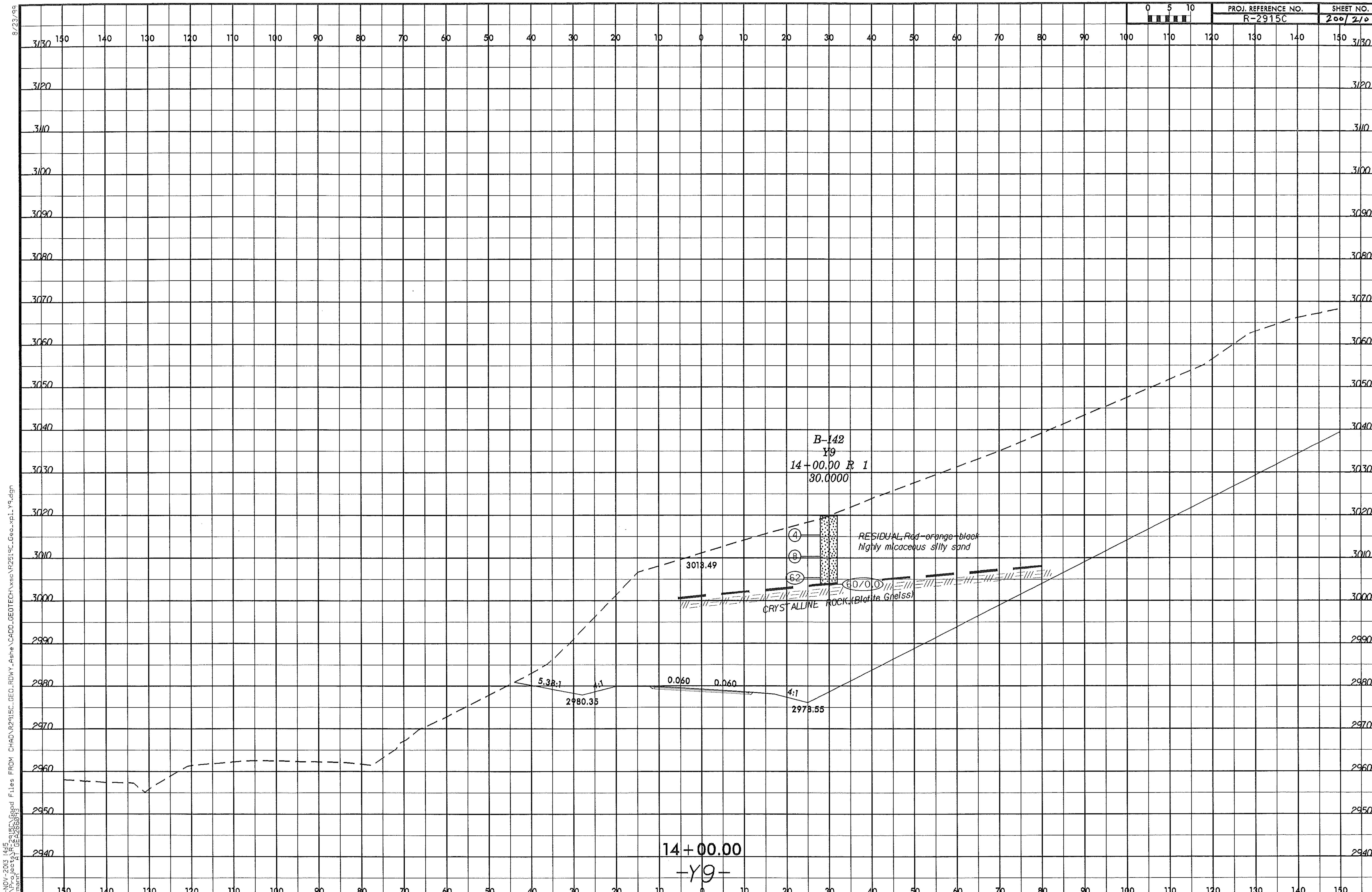
0 5 10
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
2950
2940
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
B-141
Y9
13+00.00 R 1
70.0000
RESIDUAL,Tan-brown-gold-white-black
highly micaceous silty sand
w/quartz frags.
18
77
Tan-white-gray highly micaceous f.sand
100/0.6
WEATHERED ROCK,(Mica Schist)
100/0.5
60/0.1
CRYSTALLINE ROCK,(Biotite Gneiss)
3019.65
2:1
4:1
0.009
0.009
4:1
2982.23
2982.06
13+00.00
-Y9-

8/23/99

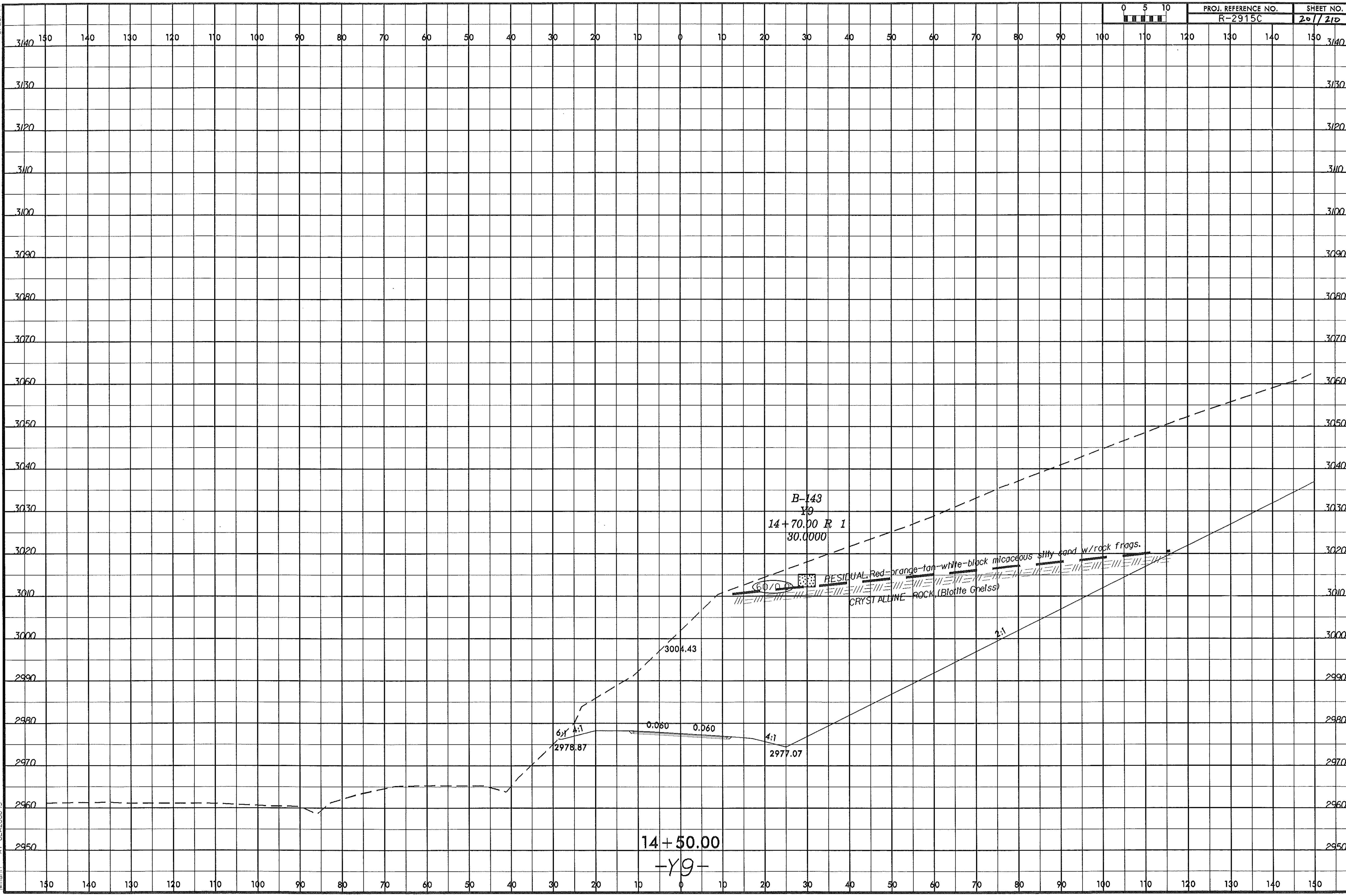
12-NOV-2013 14:12
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y9.dgn
lwmann AT GEA266093

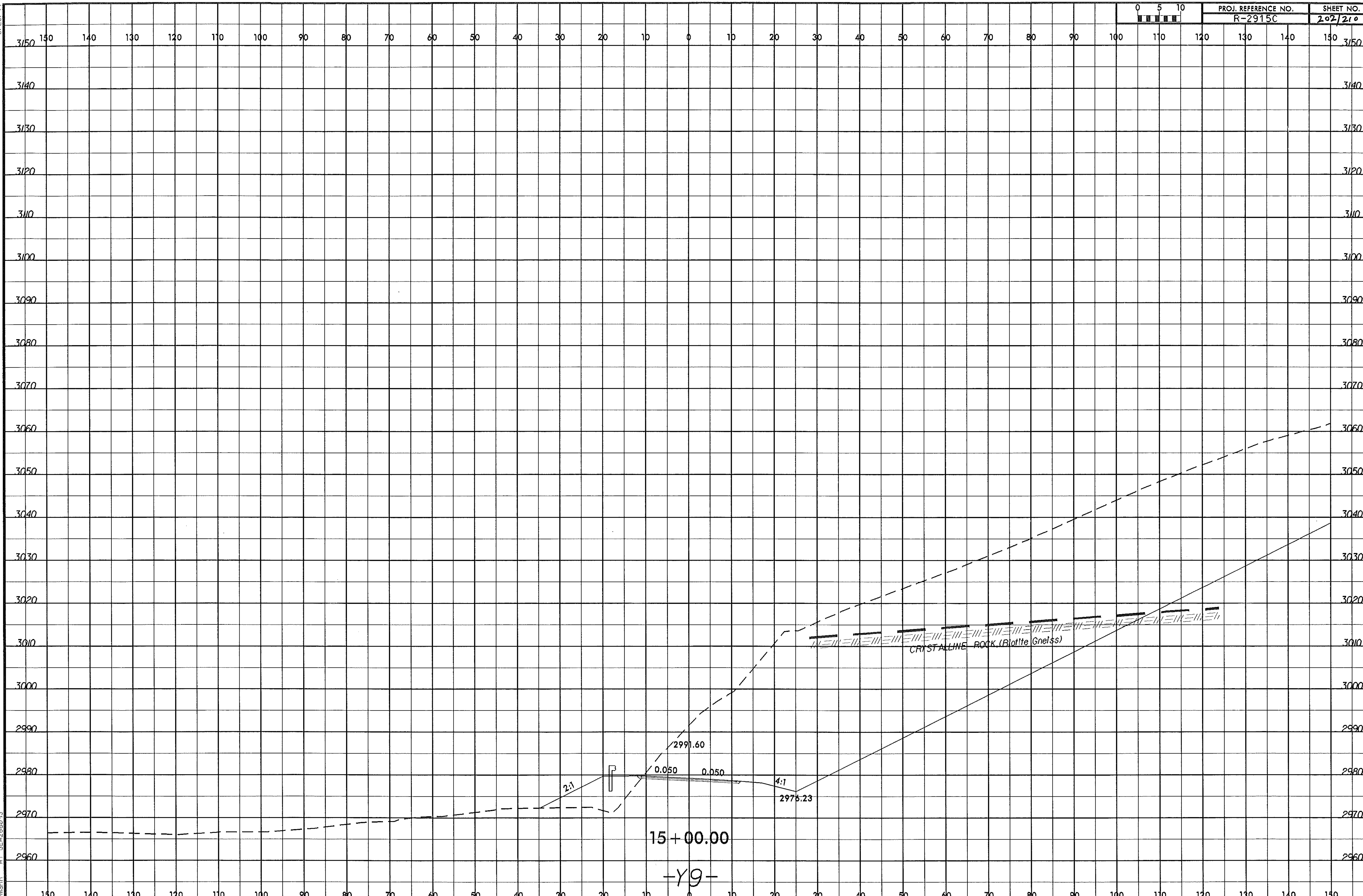


0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
199/210
3015.42
CRYSTALLINE ROCK (Biotite Gneiss)
2:1
4:1
0.038
0.038
4:1
2981.43
2980.32
13+50.00
-Y9-



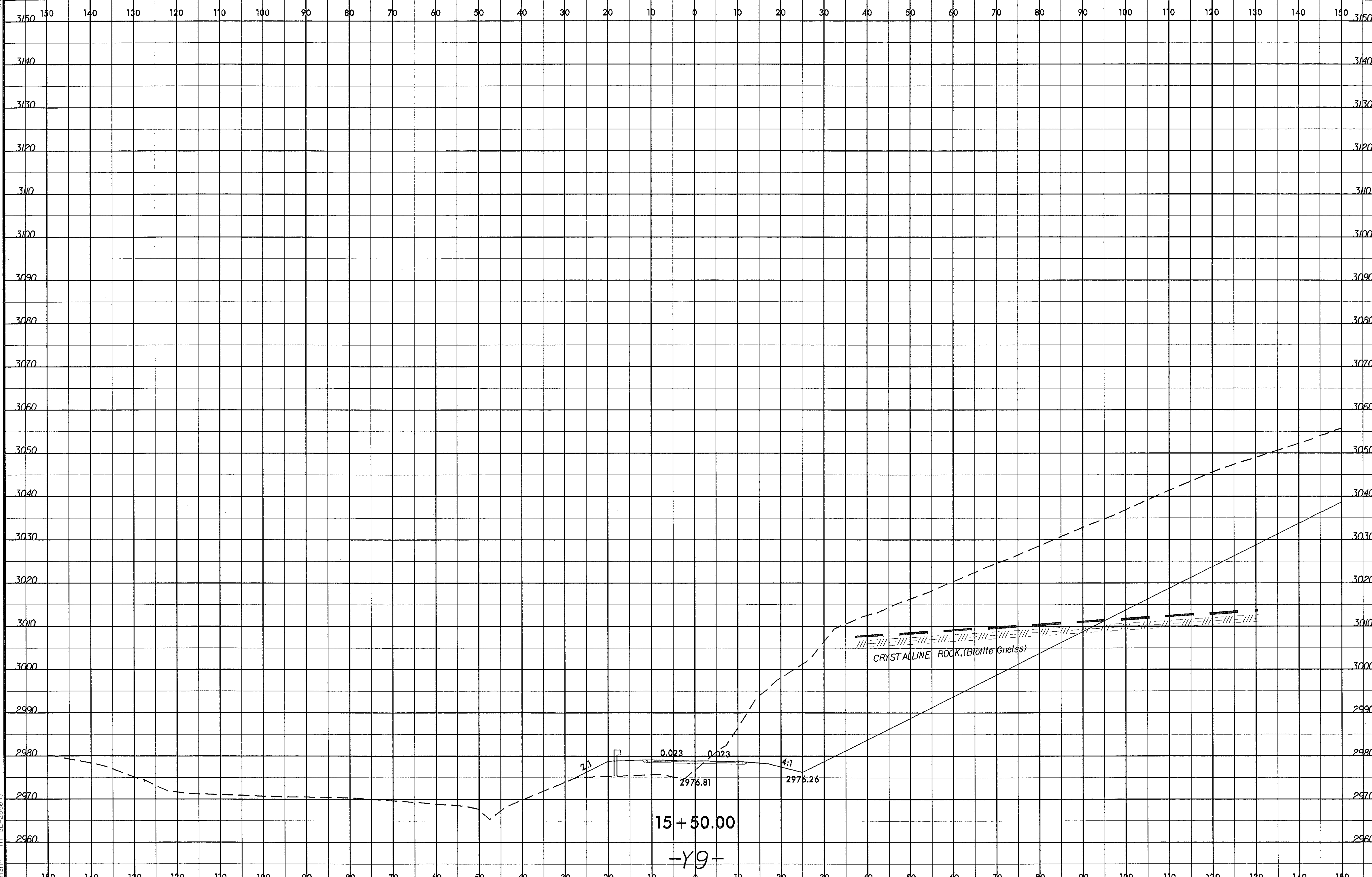
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
200/210
B-142
Y9
14+00.00 R 1
30.0000
RESIDUAL, Red-orange-black highly micaceous silty sand
CRYSTALLINE ROCK (Biotite Gneiss)
60/0.0
3018.49
2980.35
2978.55
5.38:1
4:1
0.060
14+00.00
-Y9-


PROJ. REFERENCE NO.
R-2915C
SHEET NO.
201/210
B-143
Y9
14+70.00 R 1
30.0000
60/0.0
RESIDUAL, Red-orange-tan-white-black micaceous silty sand w/rock frags.
CRYSTALLINE ROCK, (Biotite Gneiss)
3004.43
2978.87
2977.07
6:1
4:1
0.060
0.060
4:1
2:1
14+50.00
-Y9-



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
202/210
0 5 10
8/23/99
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
2960
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
2991.60
0.050
0.050
2:1
4:1
2976.23
CRYSTALLINE ROCK (Biotite Gneiss)
15+00.00
-Y9-

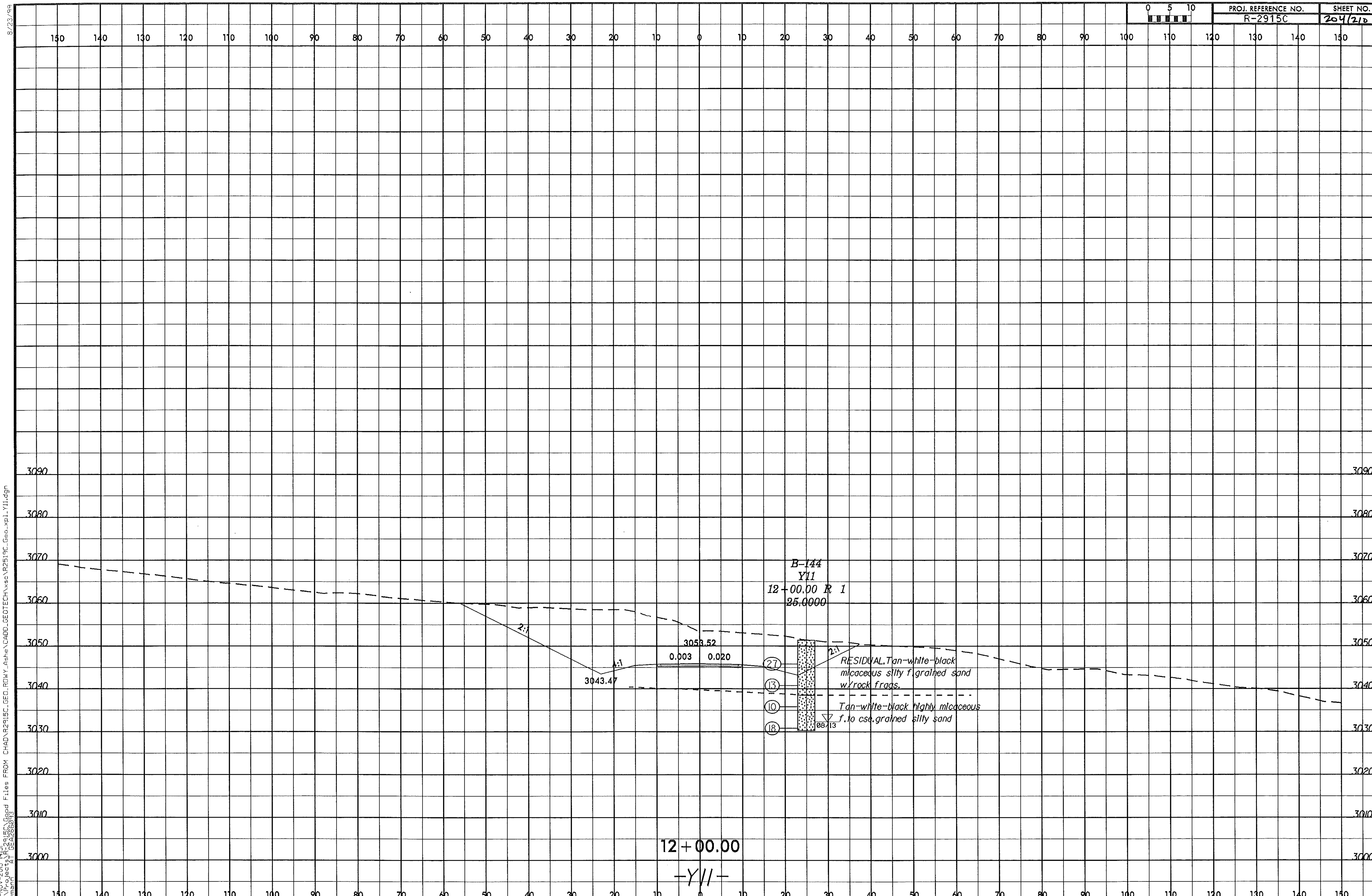
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	203/210



12-NOV-2013 14:18
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y9.dgn
lwmann AT GEA266093

8/23/99

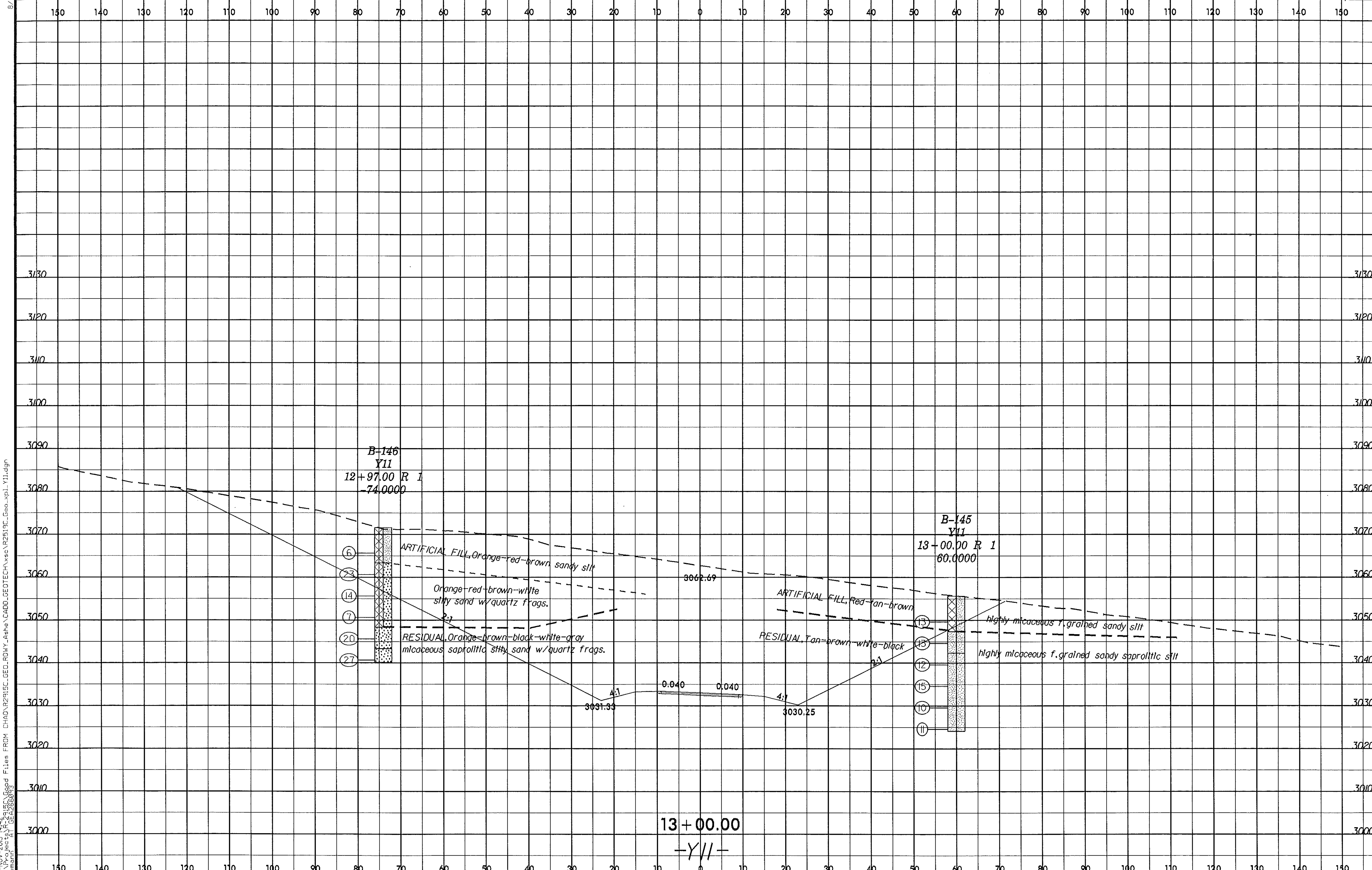
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	204/210



8/23/99

12-NOV-2013 14:31
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y11.dgn
lwmann AT GEA266093

PROJ. REFERENCE NO.	SHEET NO.
R-2915C	205/



0 5 10
B-146
Y11
12+97.00 R 1
-74.0000
ARTIFICIAL FILL,Orange-red-brown sandy silt
Orange-red-brown-white
silty sand w/quartz frags.
RESIDUAL,Orange-brown-black-white-gray
micaceous saprolitic silty sand w/quartz frags.
6
23
14
7
20
27
2:1
4:1
0.040
0.040
4:1
2:1
3062.69
3031.33
3030.25
B-145
Y11
13+00.00 R 1
60.0000
ARTIFICIAL FILL,Red-tan-brown
highly micaceous f.grained sandy silt
RESIDUAL,Tan-brown-white-black
highly micaceous f.grained sandy saprolitic silt
13
13
12
15
10
11
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
13+00.00
-Y11-

8/23/99
12-NOV-2013 14:42
C:\Projects\R2915C\Good Files FROM CHAO\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2519C_Geo_xpl_Y11.dgn
lwmann AT GEA266093

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2915C	206/210

3048.88

2:1

4:1 0.004 0.004 4:1 2:1

3009.91

14+50.00

3009.77

0.026 4:1

3017.57

2:1

B-147
Y11
14+10.00 R 1
-60.0000

18 19 18 32 35 31 32 28

RESIDUAL: Tan-white-black highly micaceous silty f. to cse. grained saprolitic sand

2:1

3053.01

4:1 0.034 0.034 4:1

3017.31

3016.37

B-148
Y11
14+00.00 R 1
30.0000

13 14 13 18 17 22 12 28

08/13

RESIDUAL, Red-tan-gray-brown-white highly micaceous f. grained sandy silt

2:1

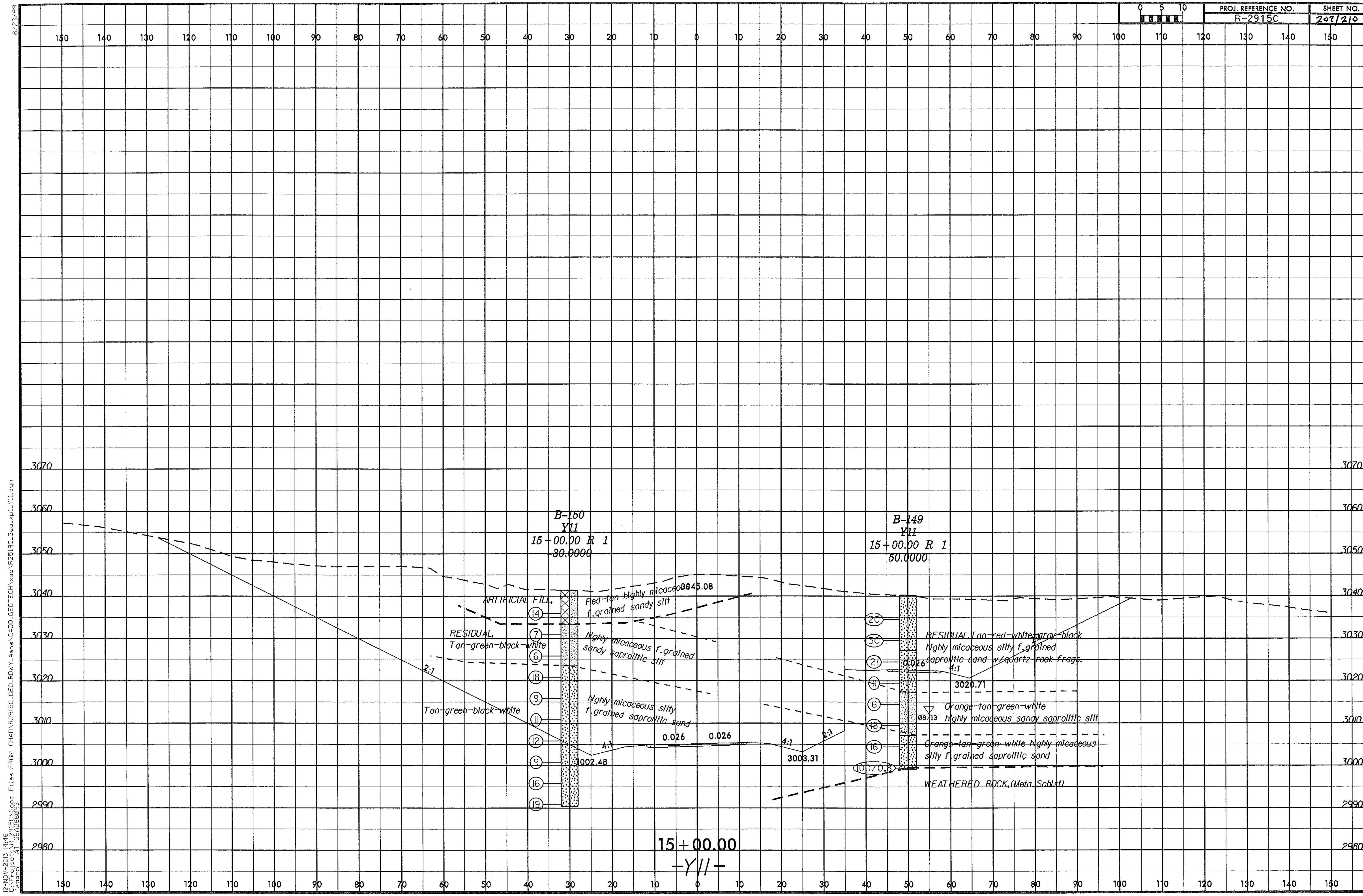
Gray-white-tan highly micaceous silty f. grained saprolitic sand w/rock frags.

14+00.00

-Y11-

12-NOV-2013 14:13
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_Y11.dgn
bmann
AT GEOPAK

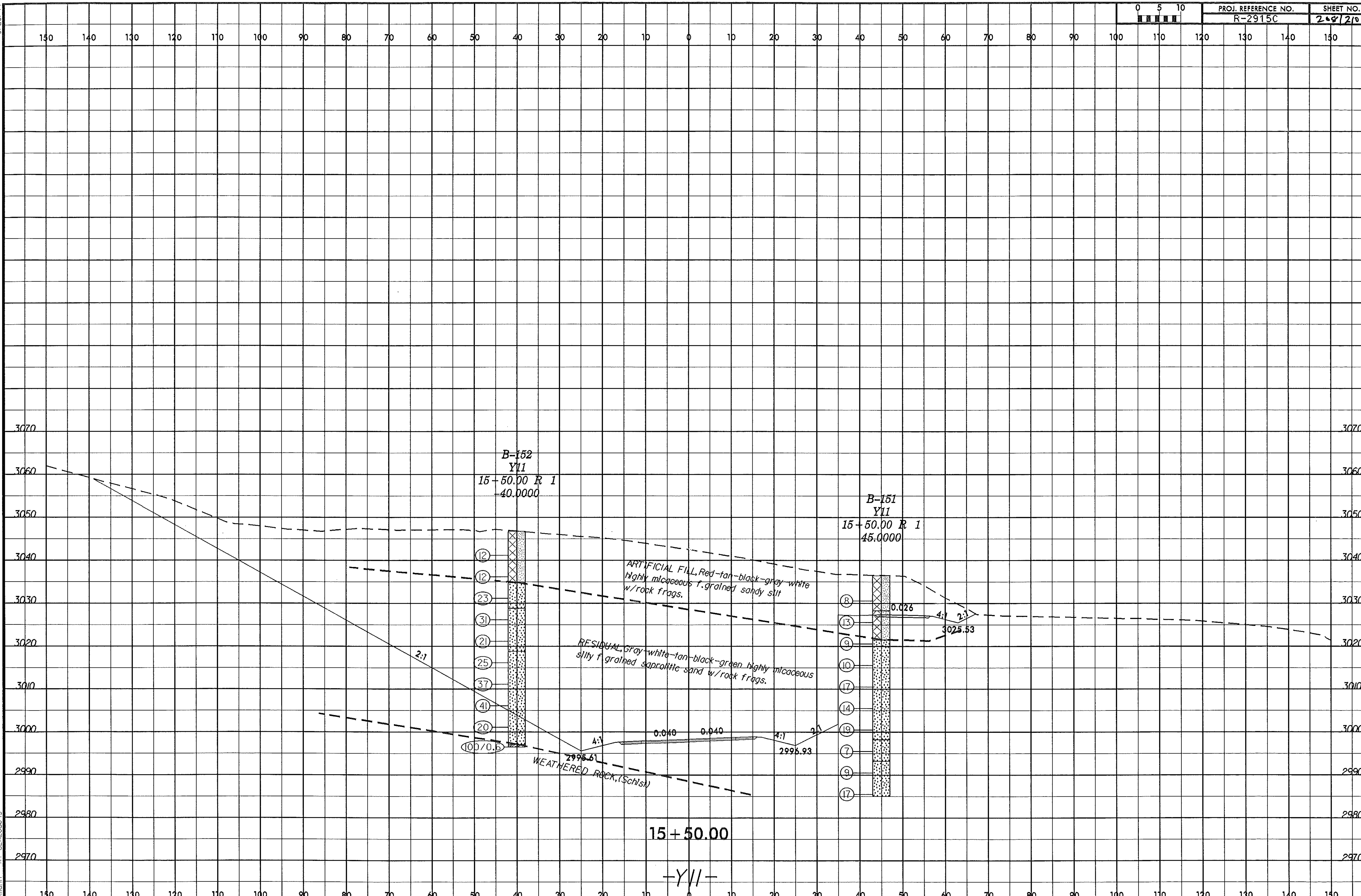
PROJ. REFERENCE NO.	SHEET NO.
R-2915C	207/210

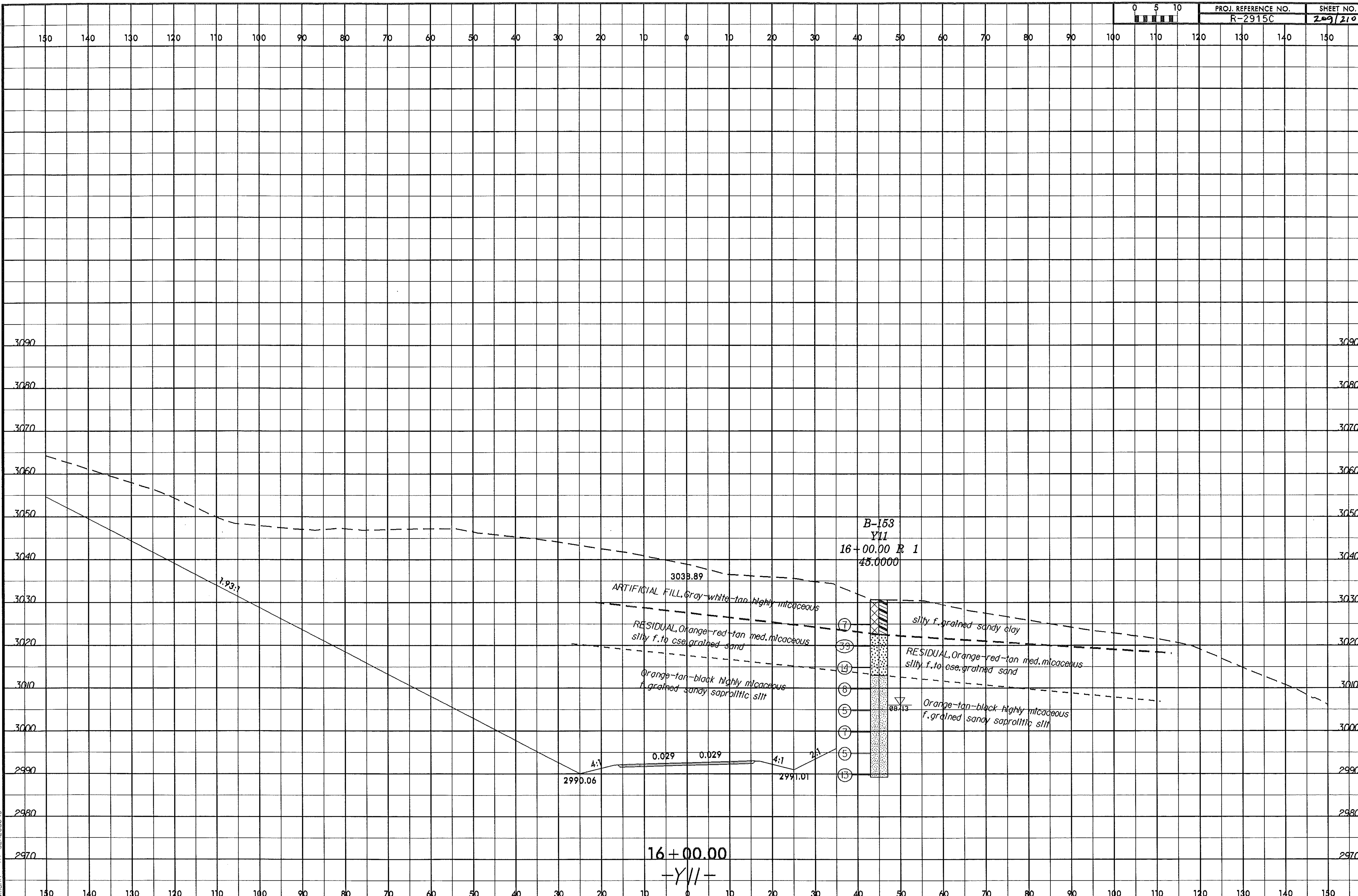


B-150
Y11
15+00.00 R 1
30.0000
B-149
Y11
15+00.00 R 1
50.0000
ARTIFICIAL FILL
Red-tan highly micaceous f.grained sandy silt
3045.08
RESIDUAL
Tan-green-black-white
Highly micaceous f.grained sandy saprolitic silt
Highly micaceous silty f.grained saprolitic sand
Tan-green-black-white
2:1
4:1
0.026
0.026
3002.48
3003.31
RESIDUAL Tan-red-white-gray-black highly micaceous silty f.grained saprolitic sand w/quartz rock frags.
0.026
3020.71
Orange-tan-green-white highly micaceous sandy saprolitic silt
Orange-tan-green-white highly micaceous silty f.grained saprolitic sand
WEATHERED ROCK (Meta Schist)
15+00.00
-Y11-

8/23/99

12-NOV-2013 14:46
C:\Projects\R2915C\Good Files FROM CHAD\R2915C_GEO_RDWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_Y11.dgn
lwmann AT GEA26093

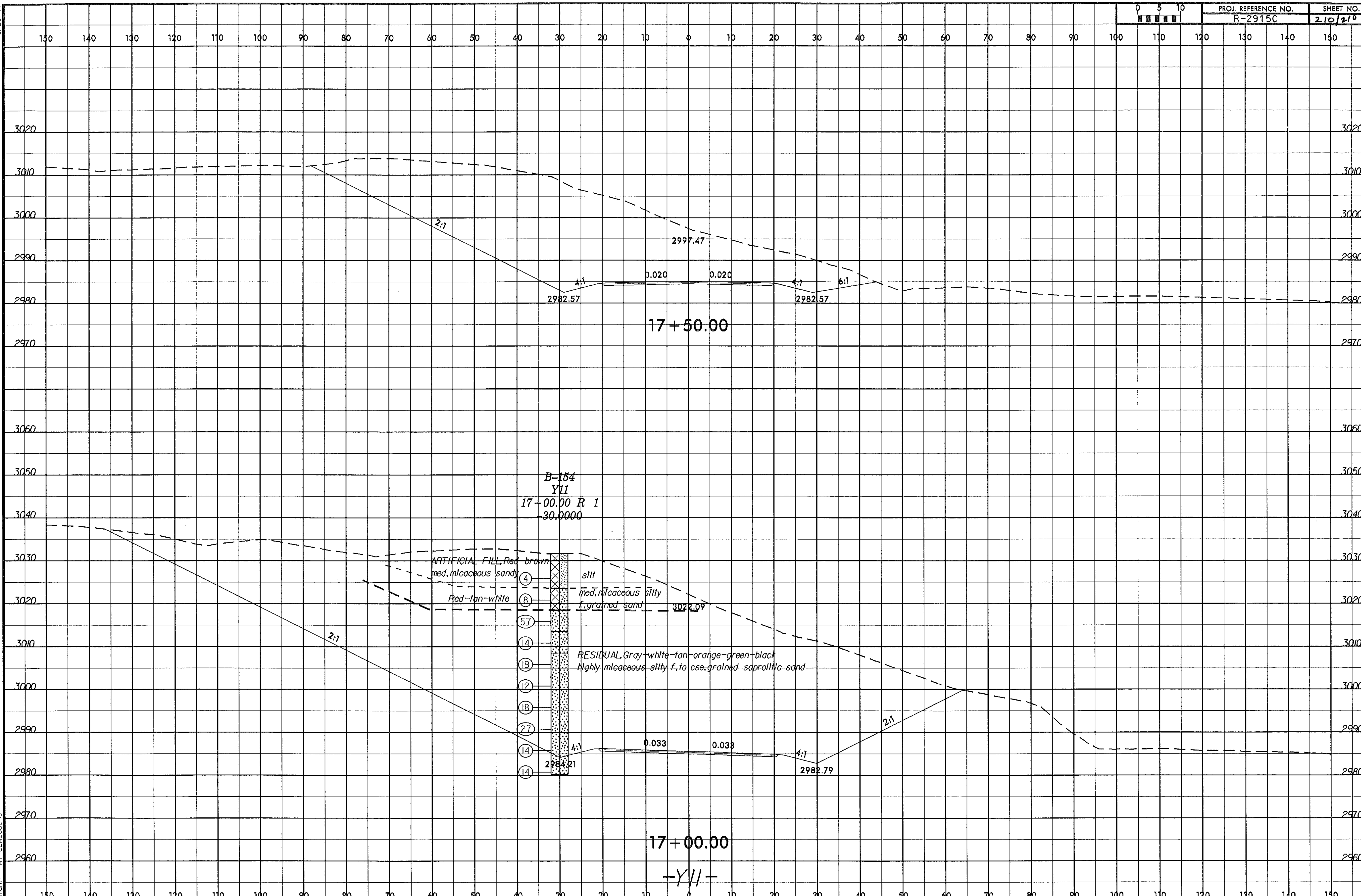

0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
208/210
B-152
Y11
15+50.00 R 1
-40.0000
B-151
Y11
15+50.00 R 1
45.0000
ARTIFICIAL FILL, Red-tan-black-gray-white highly micaceous f. grained sandy silt w/rock frags.
RESIDUAL, Gray-white-tan-black-green highly micaceous silty f. grained saprolitic sand w/rock frags.
WEATHERED ROCK, (Schist)
0.026
4:1
2:1
3025.53
0.040
0.040
2995.61
2996.93
100/0.6
15+50.00
-Y11-



0 5 10
PROJ. REFERENCE NO.
R-2915C
SHEET NO.
209/210
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
2970
B-153
Y11
16+00.00 R 1
45.0000
3033.89
1.93:1
ARTIFICIAL FILL,Gray-white-tan highly micaceous
silty f.grained sandy clay
RESIDUAL,Orange-red-tan med.micaceous
silty f.to cse.grained sand
RESIDUAL,Orange-red-tan med.micaceous
silty f.to cse.grained sand
Orange-tan-black highly micaceous
f.grained sandy saprolitic silt
Orange-tan-black highly micaceous
f.grained sandy saprolitic silt
7
39
14
6
5
7
5
13
08/13
4:1
0.029
0.029
4:1
2:1
2990.06
2991.01
16+00.00
-Y11-

8/23/99

12-NOV-2013 14:48
C:\Projects\R-2915C\Good Files FROM CHAD\R2915C_GEO_ROWY_Ashe\CADD_GEOTECH\xsc\R2915C_Geo_xpl_Y11.dgn
iwmann AT GEA266093



PROJ. REFERENCE NO.
R-2915C
SHEET NO.
210/210
17+50.00
2:1
2997.47
0.020
0.020
4:1
6:1
2982.57
2982.57
B-154
Y11
17+00.00 R 1
-30.0000
ARTIFICIAL FILL,Red-brown
med.micaceous sandy silt
Red-tan-white
med.micaceous silty
f.grained sand
3022.09
RESIDUAL,Gray-white-tan-orange-green-black
highly micaceous silty f.to cse.grained saprolitic sand
4
8
57
14
19
12
18
27
14
14
2984.21
0.033
0.033
2982.79
17+00.00
-Y11-