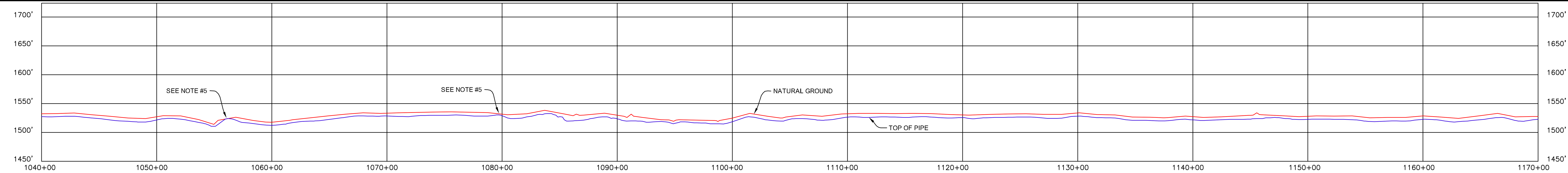
RIGHT-OF-WAY
HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

Station	Tract number
1040+00	ML-ND-ST-0232.0000
1062+45	ML-ND-ST-0234.0000
1085+91	ML-ND-ST-0234.0000 BURLINGTON NORTHERN RAILWAY
1086+92	ML-ND-ST-0234.0000
1091+21	RD-ND-ST-0234.0001 15TH STREET NE; ML-ND-ST-0235.0000
1117+89	ML-ND-ST-0236.0000
1145+55	RD-ND-ST-0236.0001 14TH STREET NE; ML-ND-ST-0237.0000
1170+00	

LAND USE

PIPELINE PROFILE

HORIZ: 1"=500' VER: 1"=100'
HORIZONTAL REPRESENTATION (2D)



LEGEND

- KEYSTONE PIPELINE
- STATE BOUNDARY
- COUNTY/TOWNSHIP
- SECTIONS
- NATIONAL OR STATE RESERVATION BOUNDARY
- PROPERTY LINE
- FENCE
- EXCLUSIONARY FENCE
- POWER LINE
- TELEPHONE LINE
- BURIED CABLE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER / DRAIN
- FOREIGN PIPELINE
- RAILROAD
- HIGHWAY / ROAD
- STREAM / DITCH
- WETLAND
- INTERSTATE ROUTE
- U.S. ROUTE
- STATE ROUTE
- POINT OF INTERSECTION (PI)
- PIPELINE MILEPOST
- DIRECTION OF FLOW
- HOUSE
- BUILDING
- WATER WELL
- MAINLINE VALVE
- ML-XX-XX-0000.0000 TRACT NUMBER

PIPELINE PLAN (SCALE 1" = 500')HORIZONTAL REPRESENTATION (2D)

DISCLAIMER

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PIPELINE SCHEMATIC

- HEAVYWALL PIPE
- WELD FITTING
- TRANSITION PIECE
- CASING PIPE
- CONCRETE COATING
- SET-ON WEIGHTS
- PIPELINE WARNING SIGN
- PIPELINE MARKER
- MATERIAL ITEM
- GROUNDING MAT
- ZINC RIBBON
- AERIAL MARKER
- CATHODIC TEST STATION
- MAINLINE VALVE
- CHECK VALVE
- O.C. OPEN CUT
- BR. BORE
- D DRINKING WATER USA
- E ECOLOGICAL USA
- H HIGHLY POPULATED AREA
- K OPERATOR (KEYSTONE) DEFINED
- O OTHER POPULATED AREA
- S SOURCE WATER PROTECTION AREA
- W WELLHEAD PROTECTION AREA

HORIZONTAL STATIONS (2D): MATCHLINE 1040+00 … MATCHLINE 1170+00

SLOPE STATIONS (3D) STATION/DESCRIPTION: MATCHLINE 1040+83 … MATCHLINE 1170+97

PIPE SLOPE REPRESENTATION (3D) PIPELINE DATA:

Station	Item	Length	Description
1040+83			
1055+52			
	2	4,587'	FBE
1060+21			
1063+15			
1086+70 / 1086+75 / 1087+94	3	130'	FBE & ARO BR. 36" CASING 119'
1088+00	2	372'	FBE
1091+72	3	81'	FBE & ARO BR.
1092+53 / 1095+36			
1099+88			
	2	5,359'	FBE
1146+12	3	80'	FBE & ARO BR.
1146+92			
	2	2,405'	FBE
1170+97			

TYPE 'B'

CPS (3D)

TEST SECTIONS (3D): TEST SECTION 1A-5 ILTO-021-2010

ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)
- TOPSOIL SALVAGE METHOD
- STREAMS
- WETLANDS
- TIMING CONSTRAINTS
- STATIONS
- MONITORING
- RECLAMATION
- SPECIAL CONSIDERATIONS

GENERAL NOTES

1) COVER NOT IN PARENTHESIS IS TO TOP OF KEYSTONE PIPELINE. COVER IN PARENTHESIS IS TO TOP OF FOREIGN PIPELINE OR UTILITY LINE.

2) DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.

3) FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.

4) UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER EXCEPT 36 INCHES IN AREAS OF CONSOLIDATED ROCK.

5) NO ACTUAL AS-BUILT GROUND SHOTS WERE TAKEN AT THIS LOW LEVEL CROSSING. THE PROFILE REPRESENTS A PROJECTION FROM SHOTS TAKEN AT 150' TO 250' INTERVALS.

6) THE TYPE OF COATING APPLIED TO THE FIELD WELDS DURING THE ORIGINAL CONSTRUCTION WAS TWO COMPONENT LIQUID EPOXY. THE COATING PRODUCTS USED WERE DENSO 7200 OR SPC SP-2888.

7) THE SUBSTANTIAL CONSTRUCTION COMPLETION DATE, BASED ON CALIPER PIG RUN, WAS AUGUST 16, 2009 FOR M.P. 66.90 TO M.P. 88.54, SEPTEMBER 16, 2009 FOR M.P. 88.54 TO M.P. 114.00 AND SEPTEMBER 23, 2009 FOR M.P. 114.00 TO M.P. 130.00

8) ORIGINAL IN-SERVICE DATE OF THE KEYSTONE PIPELINE (PHASE 1): JUNE 30, 2010.

9) CPS CALCULATION DATE: MAY 2010.

10) ORION STATION SERIES NUMBER: 1182700.

11) TO DETERMINE THE MILE POST AT A GIVEN LOCATION, ADD THE 3D STATION NUMBER FROM THIS SEGMENT TO STATION NUMBER 4028+46 AND DIVIDE BY 5280.

OPERATING AND TEST PRESSURE

1. THE MAXIMUM OPERATING PRESSURE (MOP) IS 1440 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 1801 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
2	30" O.D. X 0.386 W.T., API -5LX-70 W/FBE COATING	12,723'
3	30" O.D. X 0.516 W.T., API -5LX-70 W/FBE COATING &	291'
	ABRASION RESISTANT OVERCOAT	
	PIPELINE MARKERS	3 EA
	PIPELINE WARNING SIGNS	8 EA
	CATHODIC TEST STATION	4 EA
	AERIAL MARKER	0 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE

REVISIONS

NO.	DATE	REV. BY	CHCK. BY	APPRD. BY	ENV. APPRD.	DESCRIPTION
1	5/12/08	UEI	RDG	LAG	SEC	ISSUED FOR CONSTRUCTION
2	10/11/23	UEI				ISSUED FOR AS-BUILT
						1829-03-ML-02-009
						REPLACES COVERAGE OF
						IFC DRAWINGS
						1829-03-ML-02-014,
						1829-03-ML-02-015

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	10/01/11	ENV. APPRD.		
CHECKED BY			APPRD. BY		
			COMPANY APPROVED		

PROFESSIONAL ENGINEER

NAME	STATE	LIC#	REV#	DATE
LOYS A. GRAY, III	ND	PE5714		

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

UNIVERSAL ENSCO, INC.

KEYSTONE MAINLINE (NPS 30 2008) NIAGRA SECTION

FIA# 1829 | SPREAD 1A | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 96.01 TO M.P. 98.47

SHEET 9 OF 20 SHEETS

STA. 1040+83 TO STA. 1170+97 (3D)

DRAWING NO. 1829-03-ML-02-009

REV. 2

Z:\00_KEYSTONE_AS_BUILT\4-alignment sheets for North Dakota\ND1829_ASBUILT\ND1829-009.dwg, 3/9/2011 10:45:01 AM, pdfFactory.pc3