RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)

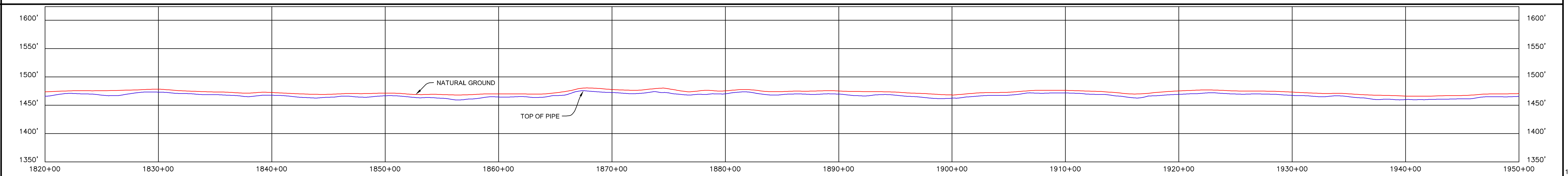
TRACT NUMBER / OWNERSHIP/AGENCY / LENGTH / APPLICABLE DWG. NO.

Station	Tract
1820+00	ML-ND-BR-0366.0003
1820+13	ML-ND-BR-0366.0004
1846+85	RD-ND-BR-0366.0004 45TH STREET SE
	ML-ND-BR-0366.0005
1873+16	ML-ND-BR-0366.0006
1875+18	ML-ND-BR-0366.0007
1899+77	RD-ND-BR-0366.0007 46TH STREET SE
	ML-ND-BR-0366.0008
1926+06	ML-ND-BR-0366.0009
1950+00	

LAND USE

PIPELINE PROFILE

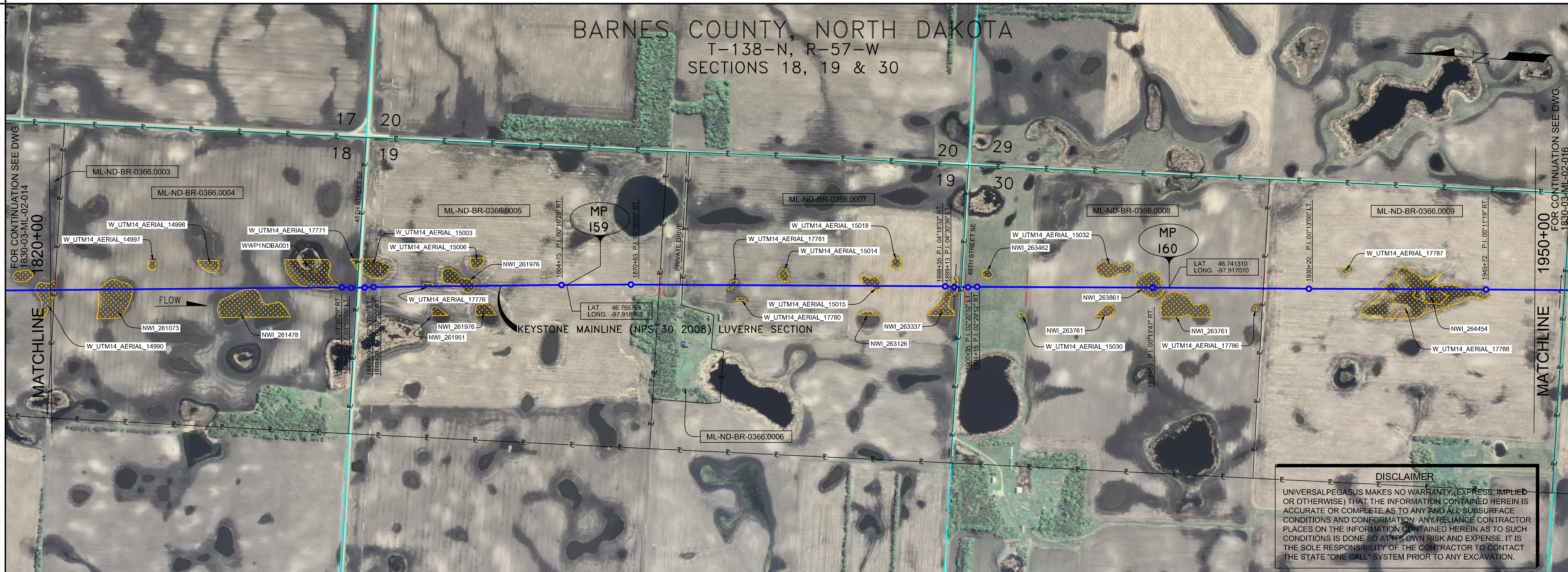
HORIZ: 1"=500' VER: 1"=100' HORIZONTAL REPRESENTATION (2D)



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

UNIVERSALPEGASUS MAKES NO WARRANTY (EXPRESS, IMPLIED OR OTHERWISE) THAT THE INFORMATION CONTAINED HEREIN IS ACCURATE OR COMPLETE AS TO ANY AND ALL SUBSURFACE CONDITIONS AND CONFORMATION. ANY RELIANCE CONTRACTOR PLACES ON THE INFORMATION CONTAINED HEREIN AS TO SUCH CONDITIONS IS DONE SO AT ITS OWN RISK AND EXPENSE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE STATE "ONE CALL" SYSTEM PRIOR TO ANY EXCAVATION.

PIPELINE SCHEMATIC

- HEAVYWALL PIPE
- WELD FITTING
- TRANSITION PIECE
- CASING PIPE
- CONCRETE COATING
- (3) SET-ON WEIGHTS
- PIPELINE WARNING SIGN
- PIPELINE MARKER
- (1) MATERIAL ITEM
- GM GROUNDING MAT
- ZINC RIBBON
- 200 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

STATION/DESCRIPTION

HORIZONTAL STATIONS (2D)

MATCHLINE 1820+00
1820+34 FENCE (BARBED WIRE)
1820+44 END SLOUGH
1824+45 BEGIN SLOUGH
1825+77 CL SLOUGH
1827+07 END SLOUGH
1836+78 BEGIN SLOUGH
1837+40 CL SLOUGH
1838+39 END SLOUGH
1842+57 BEGIN SLOUGH
1843+34 CL SLOUGH
1844+04 END SLOUGH
1845+52 P.I. 03°35'29" RT.
1846+32 P.I. 03°55'05" LT.
1846+77 EDGE OF ROAD
1846+85 CL 45TH STREET SE
1846+96 EDGE OF ROAD
1847+50 P.I. 02°53'05" LT.
1848+29 P.I. 03°07'50" RT.
1864+75 P.I. 00°16'29" RT.
1870+83 P.I. 00°39'55" RT.
1873+45 FENCE (BARBED WIRE)
1875+07 EDGE OF ROAD
1875+14 CL PRIVATE DRIVE
1875+22 EDGE OF ROAD
1891+35 BEGIN SLOUGH
1892+27 CL SLOUGH
1892+90 END SLOUGH
1898+35 P.I. 04°18'32" RT.
1899+13 P.I. 04°30'36" LT.
1899+21 UNDERGROUND POWERLINE
1899+67 EDGE OF ROAD
1899+77 CL 46TH STREET SE
1899+85 EDGE OF ROAD
1900+00 ROAD BAR DITCH
1900+11 FENCE (BARBED WIRE)
1900+35 P.I. 02°20'32" LT.
1901+15 P.I. 02°29'12" RT.
1905+48 FENCE (BARBED WIRE)
1915+21 BEGIN SLOUGH
1916+33 CL SLOUGH
1916+53 P.I. 00°11'47" RT.
1916+91 END SLOUGH
1926+24 FENCE (BARBED WIRE)
1930+20 P.I. 00°13'00" LT.
1932+09 EDGE OF ROAD
1932+15 CL PRIVATE ROAD
1932+21 EDGE OF ROAD
1936+62 BEGIN SLOUGH
1940+45 CL SLOUGH
1945+72 P.I. 00°11'19" RT.
1945+91 END SLOUGH
1948+94 EDGE OF ROAD
1949+00 CL PRIVATE ROAD
1949+06 EDGE OF ROAD
MATCHLINE 1950+00

SLOPE STATIONS (3D)

MATCHLINE 1821+70
1822+03 FENCE (BARBED WIRE)
1822+13 END SLOUGH
1823+46 4.5' CVR.
1826+14 BEGIN SLOUGH
1827+46 CL SLOUGH
1828+77 END SLOUGH
1838+48 BEGIN SLOUGH
1839+10 CL SLOUGH
1840+09 END SLOUGH
1844+27 BEGIN SLOUGH
1845+04 CL SLOUGH
1845+75 END SLOUGH
1847+22 P.I. 03°35'29" RT.
1848+02 P.I. 03°55'05" LT.
1848+47 EDGE OF ROAD
1848+56 45TH STREET SE
1848+66 EDGE OF ROAD
1849+21 P.I. 02°53'05" LT.
1850+00 P.I. 03°07'50" RT.
1860+35 6.4' CVR.
1866+47 P.I. 00°16'29" RT.
1866+94 M.P. 159
1872+55 P.I. 00°39'55" RT.
1875+17 FENCE (BARBED WIRE)
1876+79 EDGE OF ROAD
1876+87 CL PRIVATE DRIVE
1876+94 EDGE OF ROAD
1893+09 BEGIN SLOUGH
1894+01 CL SLOUGH
1894+64 END SLOUGH
1900+09 P.I. 04°18'32" RT.
1900+87 P.I. 04°30'36" LT.
1900+95 UNDERGROUND POWERLINE 5.7' CVR. 2.7' CLR. (ABOVE)
1901+41 EDGE OF ROAD
1901+51 CL 46TH STREET SE
1901+59 EDGE OF ROAD
1901+74 ROAD BAR DITCH, 5.5' CVR.
1901+85 FENCE (BARBED WIRE)
1902+10 P.I. 02°20'32" LT.
1902+89 P.I. 02°29'12" RT.
1907+23 FENCE (BARBED WIRE)
1916+96 BEGIN SLOUGH
1918+08 CL SLOUGH
1918+28 P.I. 00°11'47" RT.
1918+67 END SLOUGH
1919+74 M.P. 160
1924+08 5.6' CVR.
1928+00 FENCE (BARBED WIRE)
1931+96 P.I. 00°13'00" LT.
1933+85 EDGE OF ROAD
1933+91 CL PRIVATE ROAD
1933+97 EDGE OF ROAD
1938+38 BEGIN SLOUGH
1942+22 CL SLOUGH
1945+72 6.4' CVR.
1947+49 P.I. 00°11'19" RT.
1947+68 END SLOUGH
1950+71 EDGE OF ROAD
1950+77 CL PRIVATE ROAD
1950+83 EDGE OF ROAD
MATCHLINE 1951+78

PIPELINE DATA — PIPE SLOPE REPRESENTATION (3D)

1821+70
1825+98 (18) 1828+96
(2) 2,652' FBE
1837+38 (21) 1840+89
1843+40 (16) 1846+16
1848+22 (3) 78' FBE & ARO BR. 1849+00
1856+62 (18) 1859+60
(2) 5,209' FBE
1901+09 (3) 81' FBE & ARO BR. 1901+90
(2) 4,988' FBE
1928+00 (160)
1937+60 (55) 1947+02
1951+78

CPS (3D)

TEST SECTIONS (3D): TEST SECTION 2A-1 ILTO-022-2010

ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)

- TOPSOIL SALVAGE METHOD
- STREAMS
- WETLANDS
- TIMING CONSTRAINTS
- **STATIONS**
- MONITORING
- RECLAMATION
- SPECIAL CONSIDERATIONS

GENERAL NOTES

1) ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.
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 LOCATION. 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 SEPTEMBER 23, 2009 FOR M.P. 114.00 TO M.P. 130.00, AUGUST 05, 2009 FOR M.P. 129.90 TO M.P. 168.72 AND AUGUST 07, 2009 M.P. 168.73 TO M.P. 195.68.
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 6528+26 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	12,849'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	159'
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	4 EA
	CATHODIC TEST STATION	2 EA
	AERIAL MARKER	1 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	ISSUE FOR CONSTRUCTION
2	10/11/29	UEI				ISSUED FOR AS-BUILT 1830-03-ML-02-015 REPLACES COVERAGE OF IFC DRAWINGS 1830-03-ML-02-023, 1830-03-ML-02-024 1830-03-ML-02-025

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	10/01/18	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) LUVERNE SECTION

FIA# 1830 | SPREAD 2A | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 158.14 TO 160.61

SHEET 15 OF 20 SHEETS

STA. 1821+70 TO STA. 1951+78 (3D)

DRAWING NO. 1830-03-ML-02-015 REV. 2

Z:\00_KEYSTONE_AS_BUILT\4-alignment sheets for North Dakota\ND1830_ASBUILT\ND1830-015.dwg, 3/9/2011 3:06:21 PM, pdfFactory.pc3