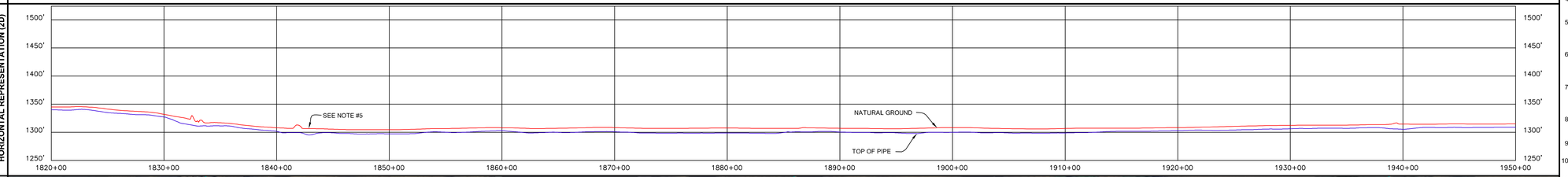
RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)

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

1820+00 | ML-ND-SR-0453.0000 | 1831+95 | RL-ND-SR-0453.0000 SOO LINE RAILROAD | 1832+96 | ML-ND-SR-0453.0000 | RD-ND-SR-0453.0000 90TH STREET | 1833+19 | ML-ND-SR-0454.0000 | 1845+56 | RD-ND-SR-0454.0000 STATE HIGHWAY 11 | 1842+83 | ML-ND-SR-0454.0000 | 1860+70 | ML-ND-SR-0455.0000 | RD-ND-SR-0455.0000 91ST STREET SE | 1886+64 | ML-ND-SR-0456.0000 | 1913+11 | ML-ND-SR-0457.0000 | RD-ND-SR-0457.0000 92ND STREET SE | 1939+29 | ML-ND-SR-0459.0000 | 1950+00

PIPELINE PROFILE

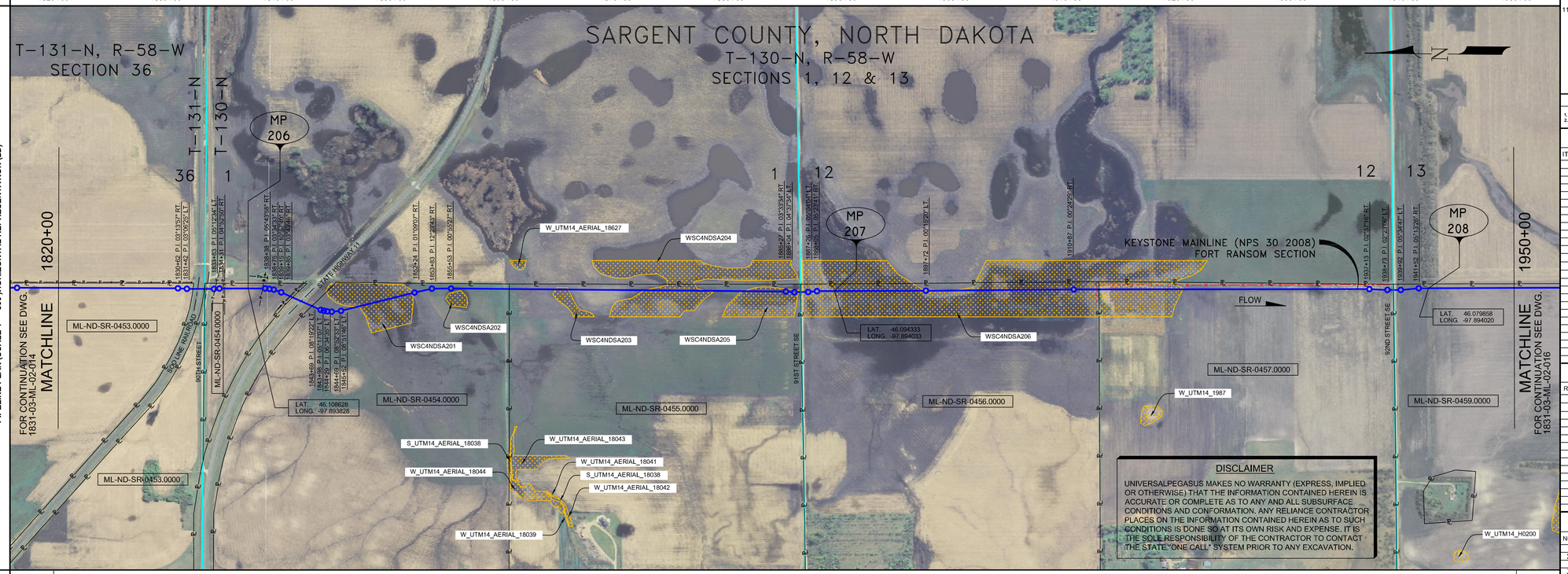
HORIZ. 1"=500' VER. 1"=100'
HORIZONTAL REPRESENTATION (2D)



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 SOLEAT 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
- 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 1820+00 | 1830+42 P.I. 03°13'57" RT. | 1831+42 P.I. 03°09'25" LT. | 1832+36 TOP OF RAIL 10.0' CVR. | 1832+36 TOP OF RAIL 7.0' CLR. (ABOVE) | 1832+41 TOP OF RAIL | 1833+37 TOP OF RAIL | 1833+11 EDGE OF ROAD 6.0' CVR. | 1833+19 EDGE OF ROAD 6.0' CLR. | 1833+29 EDGE OF ROAD 3.0' CVR. | 1833+63 TELEPHONE LINE 3.0' CLR. (ABOVE) | 1834+31 P.I. 04°52'50" RT. | 1834+65 UNDERGROUND POWERLINE | 1834+77 UNDERGROUND POWERLINE | 1838+16 OVERHEAD POWERLINE | 1838+38 P.I. 05°43'58" RT. | 1838+75 P.I. 03°24'53" RT. | 1839+15 P.I. 05°43'58" RT. | 1839+85 P.I. 03°24'53" RT. | 1840+73 POWERLINE | 1840+78 FIBER OPTIC CABLE 1.8' CVR. | 1841+63 EDGE OF ROAD | 1841+77 HIGHWAY 11 | 1841+92 EDGE OF ROAD | 1843+69 P.I. 08°19'22" LT. | 1843+98 P.I. 05°17'07" LT. | 1844+29 P.I. 06°34'35" LT. | 1844+77 EDGE OF ROAD | 1845+52 P.I. 08°31'06" LT. | 1845+63 P.I. 12°20'43" RT. | 1847+49 BEGIN SLOUGH | 1848+41 END SLOUGH | 1849+81 BEGIN SLOUGH | 1851+68 END SLOUGH | 1852+01 END SLOUGH | 1852+79 BEGIN SLOUGH | 1853+83 P.I. 12°22'43" RT. | 1855+53 P.I. 00°55'27" RT. | 1857+57 BEGIN SLOUGH | 1858+52 END SLOUGH | 1859+54 END SLOUGH | 1864+75 BEGIN SLOUGH | 1865+18 END SLOUGH | 1867+22 END SLOUGH | 1872+24 BEGIN SLOUGH | 1878+51 CL SLOUGH | 1884+29 END SLOUGH | 1886+27 P.I. 00°33'53" RT. | 1886+54 EDGE OF ROAD | 1886+64 91ST STREET SE | 1886+77 EDGE OF ROAD | 1887+26 P.I. 05°04'04" LT. | 1890+13 BEGIN SLOUGH | 1897+72 P.I. 00°15'20" LT. | 1904+87 CL SLOUGH | 1910+87 P.I. 00°24'29" RT. | 1912+90 FENCE (BARBED WIRE) | 1919+49 END SLOUGH | 1937+13 P.I. 02°37'16" RT. | 1938+73 P.I. 02°27'06" LT. | 1939+20 EDGE OF ROAD | 1939+28 EDGE OF ROAD | 1939+38 92ND STREET SE | 1939+92 P.I. 05°34'47" LT. | 1941+52 P.I. 05°13'26" RT. | 1941+52 P.I. 05°13'26" RT. | MATCHLINE 1950+00

SLOPE STATIONS (3D)

MATCHLINE 1821+73 | 1832+37 P.I. 03°13'57" RT. | 1831+42 P.I. 03°09'25" LT. | 1833+37 10.0' CVR. | 1834+11 TOP OF RAIL | 1834+13 SOO LINE RAILROAD | 1834+29 6.0' CVR. | 1834+65 EDGE OF ROAD | 1835+04 EDGE OF ROAD | 1835+29 3.0' CVR. | 1835+68 TELEPHONE LINE 3.0' CLR. (ABOVE) | 1836+07 P.I. 04°52'50" RT. | 1836+40 UNDERGROUND POWERLINE | 1836+52 UNDERGROUND POWERLINE | 1838+64 OVERHEAD POWERLINE | 1839+91 OVERHEAD POWERLINE, HT. = 20' | 1840+14 P.I. 05°43'58" RT. | 1840+51 P.I. 03°24'53" RT. | 1841+15 EDGE OF ROAD 6.0' CVR. | 1841+61 EDGE OF ROAD 6.0' CVR. | 1842+14 6.0' CVR. | 1842+49 POWERLINE | 1842+54 FIBER OPTIC CABLE 1.8' CVR. | 1843+39 EDGE OF ROAD | 1843+77 HIGHWAY 11 | 1843+98 HIGHWAY 11 | 1844+23 12.4' CVR. | 1844+52 EDGE OF ROAD | 1845+45 P.I. 08°19'22" LT. | 1846+05 P.I. 06°34'35" LT. | 1846+44 EDGE OF ROAD | 1847+28 P.I. 08°31'06" LT. | 1849+26 BEGIN SLOUGH | 1849+41 END SLOUGH | 1849+81 BEGIN SLOUGH | 1851+68 END SLOUGH | 1852+01 END SLOUGH | 1852+79 BEGIN SLOUGH | 1853+79 END SLOUGH | 1853+83 P.I. 12°22'43" RT. | 1854+60 P.I. 12°22'43" RT. | 1855+82 2.8' CVR. | 1857+57 BEGIN SLOUGH | 1858+52 END SLOUGH | 1859+54 END SLOUGH | 1866+53 BEGIN SLOUGH | 1866+78 END SLOUGH | 1867+22 END SLOUGH | 1874+02 BEGIN SLOUGH | 1879+03 9.0' CVR. | 1880+29 CL SLOUGH | 1886+08 END SLOUGH | 1887+06 P.I. 00°33'53" RT. | 1887+83 P.I. 00°37'44" LT. | 1888+33 EDGE OF ROAD | 1888+44 91ST STREET SE | 1888+44 8.1' CVR. | 1889+05 P.I. 05°04'04" LT. | 1889+84 P.I. 05°23'41" RT. | 1891+93 BEGIN SLOUGH | 1899+52 P.I. 00°15'20" LT. | 1906+67 CL SLOUGH | 1912+67 P.I. 00°24'29" RT. | 1914+71 FENCE (BARBED WIRE) | 1921+29 END SLOUGH | 1938+94 P.I. 02°37'16" RT. | 5.3' CVR. | 1940+54 P.I. 02°27'06" LT. | 1940+73 EDGE OF ROAD | 1941+01 EDGE OF ROAD | 1941+19 EDGE OF ROAD | 1941+28 EDGE OF ROAD | 1941+73 P.I. 05°34'47" LT. | 1942+24 6.4' CVR. | 1943+33 P.I. 05°13'26" RT. | 1944+24 N.W. JOB | MATCHLINE 1951+81

PIPE SLOPE REPRESENTATION (3DV)

PIPELINE DATA

1821+73 | ② 1,164' FBE | 1833+37 | ③ 10' FBE & ARO | 1833+47 | ④ 190' FBE & ARO BR. | 1835+37 | ③ FBE & ARO | 1835+47 | ② 682' FBE | 1842+29 | ③ 230' FBE & ARO BR. | 1844+59 | 1846+75 | (42) | 1853+68 | 1862+03 | ② 4,344' FBE | 1873+69 | (79) | 1887+51 | 1888+03 | ③ 81' FBE & ARO BR. | 1888+84 | 1892+03 | (124) | 1913+59 | 1914+61 | ② 5,189' FBE | 1940+73 | ③ 81' FBE & ARO BR. | 1941+54 | 1945+33 | ② 1,027' FBE | 1951+81

CPS (3D)

TEST SECTIONS (3D): TEST SECTION 2A-3 ILTO-023-2010

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 AUGUST 07, 2009 FOR M.P. 168.73 TO M.P. 195.68 AND SEPTEMBER 01, 2009 FOR M.P. 195.68 TO M.P. 218.50.

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 9038+16 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	12,406'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	412'
4	30" O.D. X 0.622" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	190'
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	10 EA
	CATHODIC TEST STATION	5 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	ISSUED FOR CONSTRUCTION
2	6/11/08	UEI	RDG	LAG	SEC	ADDED 90TH STREET STATIONING
3	10/12/12	UEI				ISSUED FOR AS-BUILT
						1831-03-ML-02-015
						REPLACES COVERAGE OF
						IFC DRAWINGS
						1831-03-ML-02-023,
						1831-03-ML-02-024,
						1831-03-ML-02-025

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	10/01/25	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 PEGASUS INTL. INC.

KEYSTONE MAINLINE (NPS 30 2008) FORT RANSOM SECTION

FIA# 1831 | SPREAD 2A | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 205.68 TO M.P. 208.14

SHEET 15 OF 19 SHEETS

STA. 1821+73 TO STA. 1951+81 (3D)

DRAWING NO. 1831-03-ML-02-015 REV. 3

Z:\00_KEYSTONE_AS_BUILT\4-alignment sheets for North Dakota\ND1831_ASBUILTND1831-015.dwg, 3/10/2011 7:50:43 AM, pdfFactory.pc3