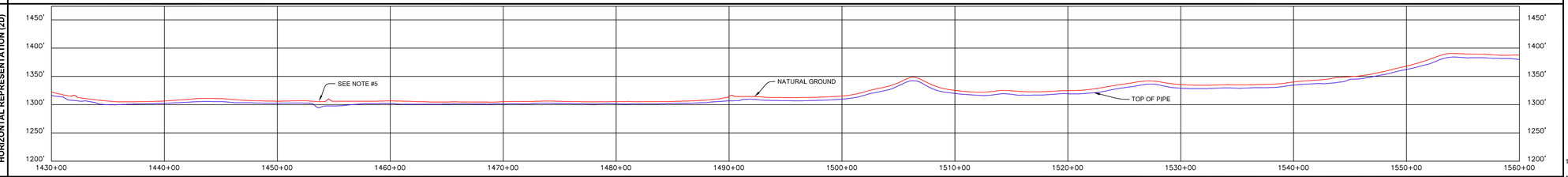
RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)

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

1430+00 | ML-ND-SR-0436.0000 | RD-ND-SR-0436.0000 84ND STREET SE | 1431+94 | ML-ND-SR-0437.0000 | RL-ND-SR-0437.0000 BURLINGTON NORTHERN RAILWAY | 1459+50 | ML-ND-SR-0438.0000 | 1461+45 | ML-ND-SR-0439.0000 | RD-ND-SR-0439.0000 84TH STREET SE | 1490+14 | ML-ND-SR-0440.0000 | 1523+30 | ML-ND-SR-0441.0000 | RD-ND-SR-0441.0000 84TH STREET SE | 1543+49 | ML-ND-SR-0442.0000 | 1560+00

PIPELINE PROFILE

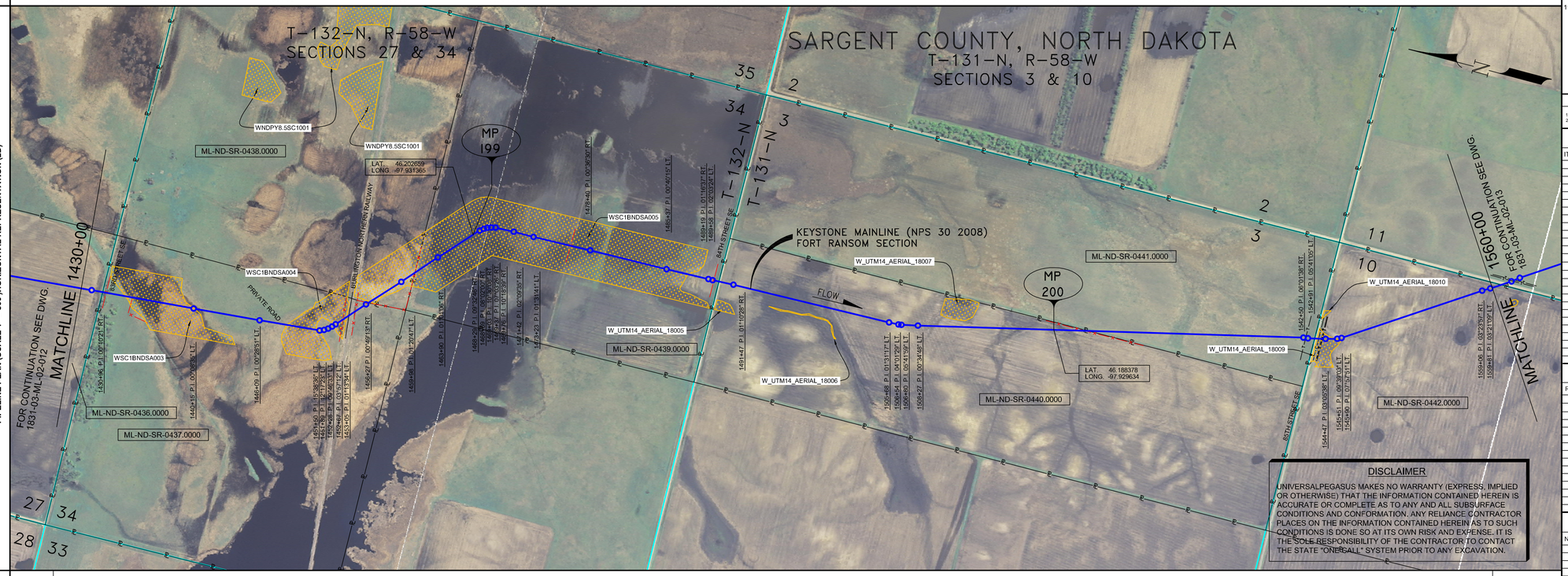
HORIZ. 1"=500' VER. 1"=100'
HORIZONTAL REPRESENTATION (2D)



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)



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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

STATION/DESCRIPTION

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

PIPELINE DATA

HORIZONTAL STATIONS (2D): MATCHLINE 1430+00; 1430+96 P.I. 00°10'21" RT.; 1431+94 EDGE OF ROAD 1431+94 CL BRD-STREET SE 1432+27 EDGE OF ROAD 1432+27 FENCE (BARBED WIRE); 1434+30 BEGIN SLOUGH 1436+86 5.3' CVR.; 1437+99 CL SLOUGH; 1440+15 P.I. 00°08'35" LT. 1440+56 END SLOUGH; 1446+09 P.I. 00°28'51" LT.; 1447+41 EDGE OF ROAD 1447+41 CL PRIVATE ROAD 1447+73 EDGE OF ROAD 1448+33 BEGIN SLOUGH; 1451+50 P.I. 00°39'36" LT. 1452+28 P.I. 00°46'33" LT. 1452+40 P.I. 00°47'12" LT. 1453+77 VENT 1453+79 FENCE; 1454+44 TOP OF RAIL 1454+47 CL BURLINGTON NORTHERN RAILWAY 1454+48 TOP OF RAIL 1454+49 FENCE (BARBED WIRE) 1454+57 VENT 1456+27 P.I. 00°49'13" RT.; 1459+98 P.I. 01°20'47" LT. 1461+45 FENCE (BARBED WIRE) 1462+20 CL SLOUGH 1463+12 P.I. 00°00'00" RT. 1468+29 P.I. 00°32'46" RT. 1468+69 P.I. 00°00'00" RT. 1469+76 P.I. 10°16'59" RT.; 1470+11 P.I. 08°02'00" RT. 1470+45 P.I. 00°00'00" RT. 1471+15 P.I. 10°16'59" RT.; 1472+84 P.I. 02°09'35" RT. 1474+68 P.I. 01°31'41" LT.; 1478+04 FENCE (BARBED WIRE) 1478+45 P.I. 00°36'30" RT.; 1478+46 P.I. 00°36'30" RT. 1479+40 P.I. 00°40'15" LT. 1479+47 END SLOUGH 1480+19 P.I. 01°16'37" RT. 1480+44 P.I. 00°00'24" LT. 1481+05 P.I. 00°00'24" LT.; 1489+37 P.I. 00°40'15" LT. 1489+44 END SLOUGH 1489+69 P.I. 01°16'37" RT. 1489+98 P.I. 00°00'24" LT.; 1490+04 EDGE OF ROAD 1490+04 CL 84TH STREET SE 1490+25 EDGE OF ROAD 1490+48 ROAD BAR DITCH 1491+47 P.I. 01°10'28" RT.; 1507+48 P.I. 01°31'17" LT. 1507+99 P.I. 04°01'29" LT. 1509+25 P.I. 05°41'59" LT. 1509+72 P.I. 00°34'48" LT. 1512+95 5.1' CVR.; 1523+07 FENCE; 1524+54 FENCE; 1524+84 M.P. 200; 1542+50 P.I. 06°01'38" RT. 1544+19 TELEPHONE LINE 3.6' CLR. (ABOVE) 1552+91 P.I. 05°41'05" LT.; 1543+40 EDGE OF ROAD 1543+40 CL 84TH STREET SE 1543+49 EDGE OF ROAD 1543+49 FIBER OPTIC CABLE CLR. LINK; 1544+12 TELEPHONE LINE 3.6' CLR. (ABOVE) 1544+47 P.I. 03°05'38" LT. 1545+51 P.I. 09°39'05" LT. 1547+05 P.I. 09°39'05" LT. 1547+58 P.I. 07°27'31" LT.; 1548+88 EDGE OF ROAD 1548+88 CL 84TH STREET SE 1548+97 EDGE OF ROAD 1548+97 FIBER OPTIC CABLE CLR. LINK; 1549+04 TELEPHONE LINE 4.0' CLR. (ABOVE) 1549+47 P.I. 03°05'38" LT. 1550+51 P.I. 09°39'05" LT. 1552+50 P.I. 07°27'31" LT.; 1559+06 P.I. 03°23'57" RT. 1559+81 P.I. 03°21'09" LT.; MATCHLINE 1560+00

SLOPE STATIONS (3D): MATCHLINE 1431+38; 1432+94 P.I. 00°10'21" RT. 1433+00 CVR.; 1433+01 EDGE OF ROAD 1433+01 CL BRD-STREET SE 1433+27 EDGE OF ROAD 1433+27 FENCE (BARBED WIRE); 1433+69 BEGIN SLOUGH 1436+86 5.3' CVR.; 1439+37 CL SLOUGH; 1441+54 P.I. 00°08'35" LT. 1441+95 END SLOUGH; 1447+45 P.I. 00°28'51" LT.; 1448+80 EDGE OF ROAD 1448+80 CL PRIVATE ROAD 1448+98 EDGE OF ROAD 1448+98 CL BRD-STREET SE 1449+73 BEGIN SLOUGH; 1450+95 P.I. 00°39'36" LT. 1452+28 P.I. 00°47'12" LT. 1453+68 P.I. 00°46'33" LT.; 1454+06 P.I. 00°47'12" LT. 1454+45 P.I. 00°49'13" RT. 1455+05 P.I. 00°51'54" LT.; 1455+19 VENT 1455+20 FENCE 1455+84 TOP OF RAIL 1455+84 12.4' CVR. 1455+98 CL BURLINGTON NORTHERN RAILWAY 1456+90 TOP OF RAIL 1456+90 FENCE (BARBED WIRE) 1456+96 VENT 1457+69 P.I. 00°49'13" RT.; 1461+45 P.I. 01°20'47" LT. 1461+95 5.6' CVR. 1462+87 FENCE (BARBED WIRE) 1465+12 CL SLOUGH 1468+29 P.I. 00°32'46" RT. 1470+11 P.I. 08°02'00" RT. 1470+45 P.I. 00°00'00" RT. 1471+15 P.I. 10°16'59" RT.; 1472+84 P.I. 02°09'35" RT. 1474+68 P.I. 01°31'41" LT.; 1478+04 FENCE (BARBED WIRE) 1478+45 P.I. 00°36'30" RT.; 1489+81 P.I. 00°40'15" LT. 1490+47 END SLOUGH 1490+63 P.I. 01°16'37" RT. 1491+05 P.I. 00°00'24" LT.; 1507+14 P.I. 01°31'17" LT. 1507+99 P.I. 04°01'29" LT. 1509+25 P.I. 05°41'59" LT.; 1509+79 P.I. 00°34'48" LT. 1512+95 5.1' CVR.; 1523+07 FENCE; 1524+54 FENCE; 1524+84 M.P. 200; 1543+98 P.I. 06°01'38" RT. 1544+19 TELEPHONE LINE 3.6' CLR. (ABOVE) 1544+40 P.I. 05°41'05" LT.; 1544+88 EDGE OF ROAD 1544+88 CL 84TH STREET SE 1544+97 EDGE OF ROAD 1544+97 FIBER OPTIC CABLE CLR. LINK; 1545+12 TELEPHONE LINE 4.0' CLR. (ABOVE) 1545+47 P.I. 03°05'38" LT. 1546+51 P.I. 09°39'05" LT. 1548+07 P.I. 09°39'05" LT.; 1548+58 P.I. 07°27'31" LT.; 1559+57 P.I. 03°23'57" RT. 1561+32 P.I. 03°21'09" LT.; MATCHLINE 1561+51

PIPE SLOPE REPRESENTATION (2D): 1431+38; ② 156' FBE; 1432+94; ③ 81' FBE & ARO O.C.; 1433+75; 1435+42; (70); 1442+29; ② 2,130' FBE; 1449+48; (41); 1454+11; 1455+05; 1455+13; ③ 159' FBE & ARO BR. 36" CASING 150'; 1456+53; 1456+64; TYPE "B"; 1458+46; 1459+91; 1459+43; 1462+84; (123); 1469+43; 1471+02; 1474+02; 1474+44; ② 3,458' FBE; (112); 1489+61; 1491+22; ③ 78' FBE & ARO BR.; 1492+00; 1512+95; ② 5,259' FBE; 1543+98; 1544+59; ③ 80' FBE & ARO BR.; 1545+39; 1548+97; 1549+04; ② 1,612' FBE; 1561+51

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	12,615'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	398'
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	9 EA
	CATHODIC TEST STATION	4 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	10/12/02	UEI				ISSUED FOR AS-BUILT 1831-03-ML-02-012 REPLACES COVERAGE OF IFC DRAWINGS 1831-03-ML-02-018, 1831-03-ML-02-019, 1831-03-ML-02-020

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 INTERNATIONAL

KEYSTONE MAINLINE (NPS 30 2008) FORT RANSOM SECTION

F/A# 1831 | SPREAD 2A | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 198.29 TO M.P. 200.75

SHEET 12 OF 19 SHEETS

STA. 1431+38 TO STA. 1561+51 (3D)

DRAWING NO. 1831-03-ML-02-012 REV. 2

Z:\00_KEYSTONE_AS_BUILT\14-alignment sheets for North Dakota\ND1831_ASBUILT\ND1831-012.dwg, 3/10/2011 7:41:17 AM, pdfFactory.pc3