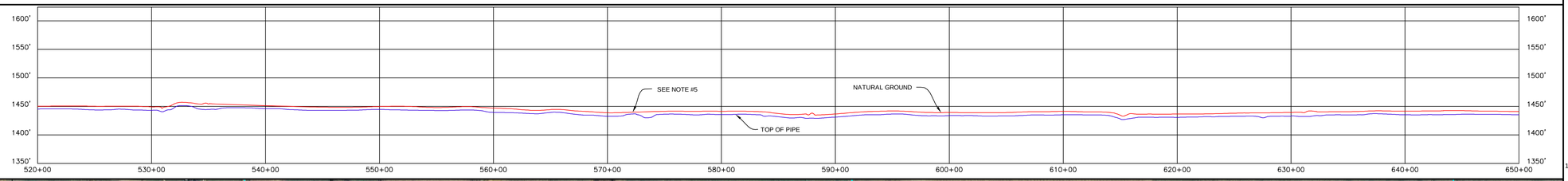
RIGHT-OF-WAY
HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

520+00	ML-SD-DY-0619.0000	RD-SD-DY-0619.0000 COUNTY ROAD 1 (154TH STREET)	ML-SD-CK-0620.0000	561+46	ML-SD-CK-0621.0000	RD-SD-CK-0621.0000 155TH STREET	ML-SD-CK-0622.0000	614+40	ML-SD-CK-0623.0000	RD-SD-CK-0623.0000 413TH AVENUE	ML-SD-CK-0624.0000	649+34	ML-SD-CK-0625.0000	650+00
		534+70				587+93				631+63				

LAND USE

PIPELINE PROFILE

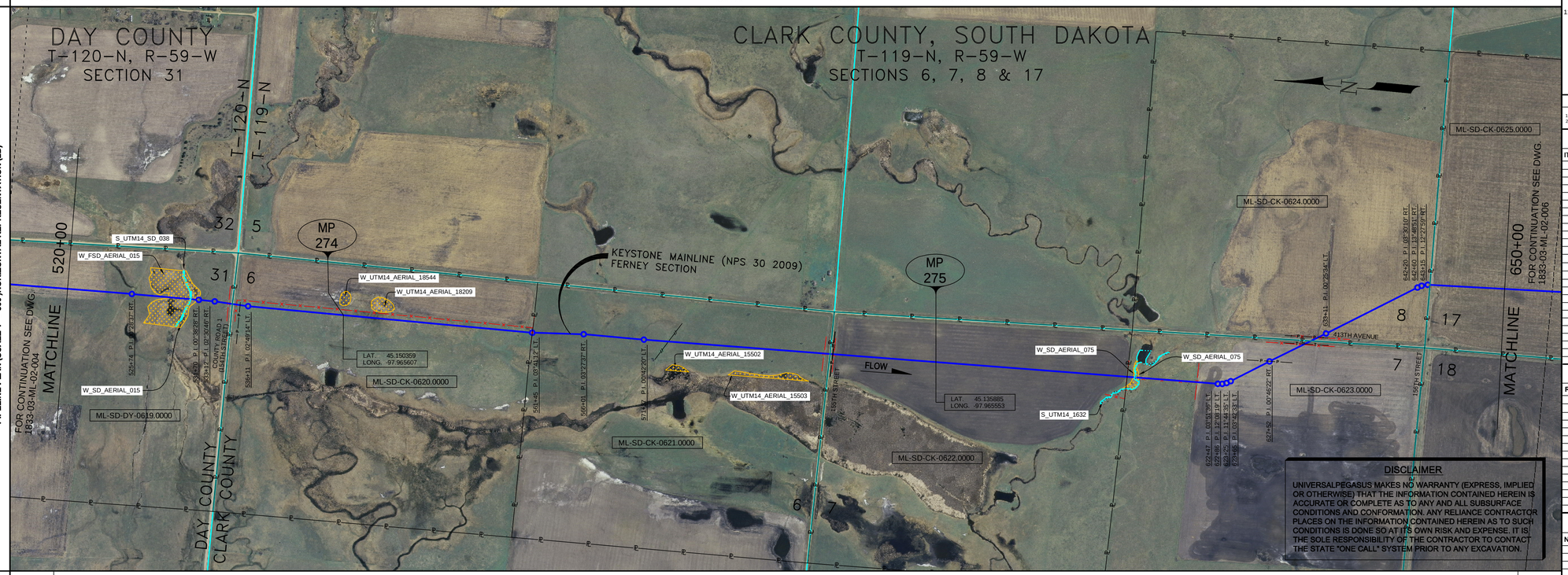
HORIZ: 1"=500' VER: 1"=100'
HORIZONTAL REPRESENTATION (2D)



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)



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

STATION/DESCRIPTION

HORIZONTAL STATIONS (2D)

MATCHLINE 520+00

525+74 P.I. 00°28'37" RT.
530+31 ROAD BAR DITCH
531+70 P.I. 00°38'28" RT.
533+12 P.I. 00°30'46" RT.
534+36 FENCE (BARBED WIRE)
534+59 EDGE OF ROAD
534+70 COUNTY ROAD 1 (154TH STREET)
534+82 EDGE OF ROAD
534+92 TELEPHONE LINE
536+09 FENCE (BARBED WIRE)
555+39 UNDERGROUND POWERLINE
558+11 P.I. 02°49'14" LT.
561+45 P.I. 03°41'12" LT.
561+46 FENCE (BARBED WIRE)
566+01 P.I. 03°27'37" RT.
571+37 P.I. 00°42'20" LT.
573+54 42" NORTHERN BORDER PIPELINE COMPANY
587+43 FENCE (BARBED WIRE)
587+85 EDGE OF ROAD
588+03 EDGE OF ROAD
588+18 OVERHEAD POWERLINE
588+20 TELEPHONE LINE
588+29 FENCE (BARBED WIRE)
614+40 FENCE (BARBED WIRE)
614+94 CL STREAM
615+24 WATER EDGE
615+40 CL STREAM
617+72 FENCE (BARBED WIRE)
620+59 FENCE (BARBED WIRE)
622+47 FENCE (BARBED WIRE)
622+86 P.I. 12°09'19" LT.
623+25 P.I. 11°44'35" LT.
623+65 P.I. 03°42'33" LT.
627+52 P.I. 00°46'22" RT.
627+54 UNDERGROUND POWERLINE
630+88 FENCE (BARBED WIRE)
631+00 TELEPHONE LINE
631+41 EDGE OF ROAD
631+63 CL 413TH AVENUE
631+83 EDGE OF ROAD
632+32 OVERHEAD POWERLINE
632+33 FENCE (BARBED WIRE)
633+11 P.I. 00°25'34" LT.
642+20 P.I. 03°39'10" RT.
642+60 P.I. 13°48'51" RT.
643+15 P.I. 12°27'59" RT.
643+35 FENCE (BARBED WIRE)
MATCHLINE 650+00

SLOPE STATIONS (3D)

MATCHLINE 520+39

520+70 4.6' CVR.
525+13 P.I. 00°28'37" RT.
530+70 ROAD BAR DITCH, CVR.
532+10 P.I. 00°38'28" RT.
533+52 P.I. 00°30'46" RT.
534+77 FENCE (BARBED WIRE)
535+00 EDGE OF ROAD
535+10 COUNTY ROAD 1 (154TH STREET)
535+22 EDGE OF ROAD
535+33 TELEPHONE LINE
535+49 3.5' CLR. (ABOVE 10' CVR.)
555+49 FENCE (BARBED WIRE)
555+79 UNDERGROUND POWERLINE
8.0' CVR. (ABOVE)
555+94 9.1' CVR.
556+52 P.I. 02°49'14" LT.
545+04 M.P. 274
561+80 P.I. 03°41'12" LT.
561+87 FENCE (BARBED WIRE)
566+43 P.I. 03°27'37" RT.
571+80 P.I. 00°42'20" LT.
573+96 42" NORTHERN BORDER PIPELINE COMPANY 13' CVR. 4.5' CLR. (ABOVE)
587+87 FENCE (BARBED WIRE)
588+29 EDGE OF ROAD
588+42 EDGE OF ROAD
588+57 OVERHEAD POWERLINE
588+64 3.0' CLR. (ABOVE)
588+76 TELEPHONE LINE 5.0' CVR. (ABOVE)
588+73 FENCE (BARBED WIRE)
597+84 M.P. 275
614+85 FENCE (BARBED WIRE)
615+20 WATER EDGE
615+69 CL STREAM
615+86 WATER EDGE
616+18 FENCE (BARBED WIRE)
621+05 FENCE (BARBED WIRE)
622+93 FENCE (BARBED WIRE)
623+32 P.I. 12°09'19" LT.
623+72 P.I. 11°44'35" LT.
624+12 P.I. 03°42'33" LT.
627+99 P.I. 00°46'22" RT.
628+01 UNDERGROUND POWERLINE 7.5' CVR. (ABOVE)
630+36 FENCE (BARBED WIRE)
631+47 TELEPHONE LINE 5.2' CVR. (ABOVE)
631+89 EDGE OF ROAD
632+11 CL 413TH AVENUE
632+30 EDGE OF ROAD
632+80 OVERHEAD POWERLINE HT. = 20'
632+80 FENCE (BARBED WIRE)
633+59 P.I. 00°25'34" LT.
640+38 6.4' CVR.
642+68 P.I. 03°39'10" RT.
643+08 P.I. 13°48'51" RT.
643+64 P.I. 12°27'59" RT.
643+84 7.1' CVR.
MATCHLINE 650+49

PIPE SLOPE REPRESENTATION (2D)

520+99

- ② 1,417' FBE
- 528+87
- (35)
- 532+16
- 534+55
- ③ 119' FBE & ARO BR.
- 535+73
- ② 5,223' FBE
- 561+87
- 587+96
- ⑦ 80' FBE BR.
- 588+76
- ② 4,246' FBE
- 614+85
- 615+09
- (20)
- 616+81
- 619+74
- (34)
- 624+56
- 626+09
- (26)
- 629+87
- 275
- 631+23
- ③ 80' FBE & ARO BR.
- 632+03
- ⑦ 14' FBE BR.
- 632+17
- ③ 81' FBE & ARO BR.
- 632+98
- ② 1,046' FBE
- 643+44
- ③ 80' FBE & ARO O.C.
- 644+24
- ② 625' FBE
- 650+49

CPS (3D)

TEST SECTIONS (3D)

TEST SECTION 3B-1
ILTO-025-2010

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 OCTOBER 08, 2009 FOR M.P. 259.21 TO M.P. 301.75 AND OCTOBER 10, 2009 FOR M.P. 301.75 TO M.P. 343.98.
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 13922+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	12,557'
3	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	360'
7	30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING	94'
	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	10/12/08	UEI				ISSUED FOR AS-BUILT
						1833-03-ML-02-007
						REPLACES COVERAGE OF
						IFC DRAWINGS
						1833-03-ML-02-007,
						1833-03-ML-02-008

ENGINEERING RECORDS

	INITIAL	DATE		INITIAL	DATE
DRAWN BY	UEI	10/02/08	ENV. APPRD.		
CHECKED BY			APPRD. BY		
			COMPANY APPROVED		

PROFESSIONAL ENGINEER

NAME	STATE	LIC#	REV#	DATE
LOYS ALVIN GRAY, III	SD	CE9004		

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

KEYSTONE MAINLINE (NPS 30 2009) FERNEY SECTION

FIA# 1833 | SPREAD 3B | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 273.53 TO M.P. 276.00

SHEET 5 OF 20 SHEETS

STA. 520+39 TO STA. 650+49 (3D)

DRAWING NO. 1833-03-ML-02-005 REV. 2