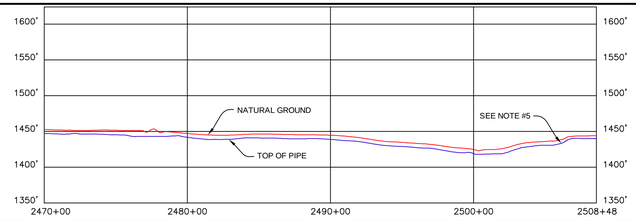
RIGHT-OF-WAY
HORIZONTAL REPRESENTATION (2D)
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

LAND USE

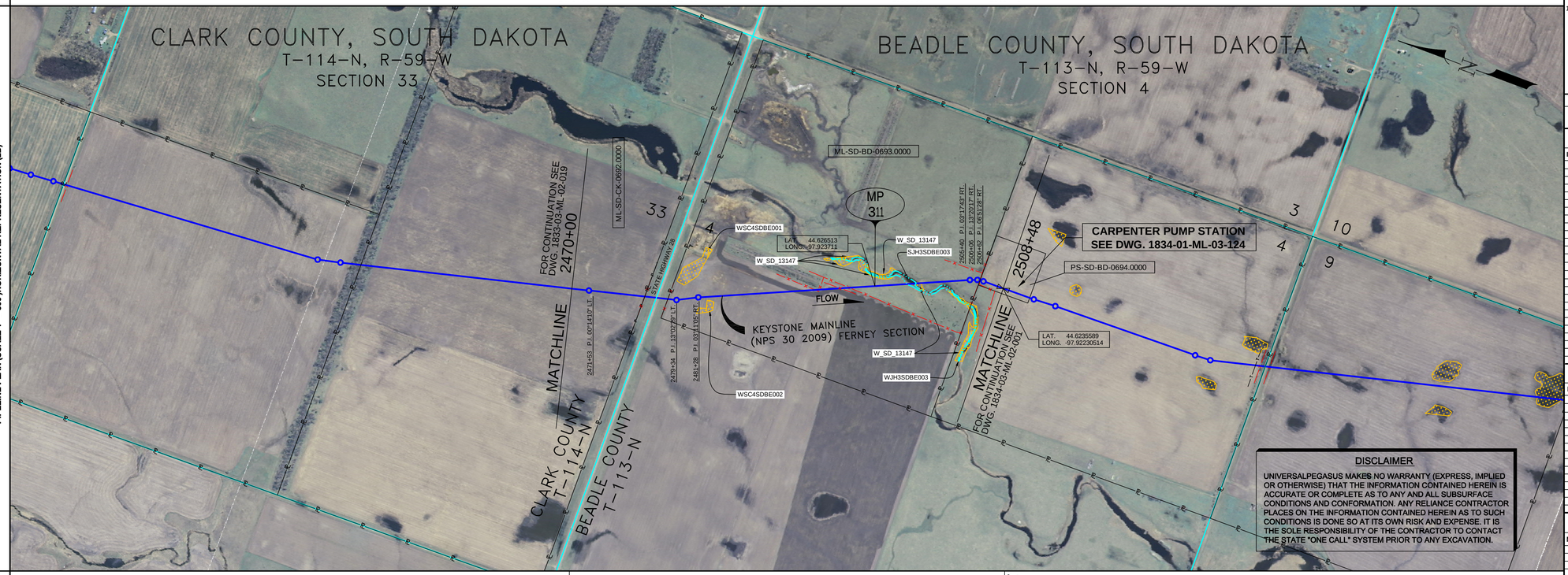
2470+00 | ML-SD-CK-0692.0000 | 2470+51 | RD-SD-CK-0692.0000 STATE HIGHWAY 28 | 2478+56 | ML-SD-BD-0693.0000 | 2506+30 | PS-SD-BD-0694.0000 | 2508+48

PIPELINE PROFILE

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



PIPELINE PLAN (SCALE 1" = 500')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 SCHEMATIC

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

PIPELINE DATA

HORIZONTAL STATIONS (2D)

MATCHLINE 2470+00
2471+53 P.I. 00°14'10" LT.
2476+50 OVERHEAD POWERLINE (BARBED WIRE)
2476+51 FENCE (BARBED WIRE)
2477+38 EDGE OF ROAD
2477+54 HIGHWAY 28
2477+71 EDGE OF ROAD
2478+56 FENCE (BARBED WIRE)
2479+24 P.I. 13°03'27" LT.
2481+28 P.I. 03°11'05" RT.
2491+67 FENCE (BARBED WIRE)
2492+02 FENCE (BARBED WIRE)
2493+87 FENCE (BARBED WIRE)
2494+68 FENCE (BARBED WIRE)
2499+74 WATER EDGE
2500+90 WATER EDGE
2505+40 P.I. 03°17'43" RT.
2506+06 P.I. 13°20'17" RT.
2506+27 FENCE (BARBED WIRE)
2506+30 PROPERTY LINE
2506+62 P.I. 06°51'28" RT.
2508+48 CENTERLINE OF MLV CRPTR.AG.MOV.0102

SLOPE STATIONS (3D)

MATCHLINE 2471+63
2473+16 P.I. 00°14'10" LT.
2479+13 OVERHEAD POWERLINE (HT. = 55')
2479+14 FENCE (BARBED WIRE)
2479+17 EDGE OF ROAD
2479+01 HIGHWAY 28
2479+34 EDGE OF ROAD
2480+00 FENCE (BARBED WIRE)
2480+97 P.I. 13°03'27" LT.
2482+92 P.I. 03°11'05" RT.
2493+31 FENCE (BARBED WIRE)
2493+66 FENCE (BARBED WIRE)
2495+51 FENCE (BARBED WIRE)
2496+32 FENCE (BARBED WIRE)
2498+61 M.P. 311
2498+99 6.0' CVR.
2501+38 WATER EDGE
2502+54 WATER EDGE
2504+72 6.5' CVR.
2507+05 P.I. 03°17'43" RT.
6.4' CVR.
2507+72 P.I. 13°20'17" RT.
2507+93 FENCE (BARBED WIRE)
2507+96 PROPERTY LINE
2508+29 P.I. 06°51'28" RT.
2510+23 CENTERLINE OF MLV CRPTR.AG.MOV.0102

PIPE SLOPE REPRESENTATION (2D)

2471+63
② 628' FBE
310
2477+91
③ 246' FBE & ARO BR.
2480+37
② 2,715' FBE
2507+52
⑥ 44' FBE
420 227'
2507+96
PUMP STATION ASSEMBLY MATERIAL SEE DWG. 1834-01-ML-03-124
2510+23

CPS (3D)

TEST SECTIONS (3D)
TEST SECTION 3B-2 ILTO-025-2010
2499+60
TEST SECTION 3B-2 ILTO-026-2010

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	3,343'
3	30" O.D. X 0.516" W.T., API-5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	246'
6	30" O.D. X 0.429" W.T., API-5LX-70 W/FBE COATING	44'
420	CARPENTER PUMP STATION ASSEMBLY (+227')	1 EA
	PIPELINE MARKERS	0 EA
	PIPELINE WARNING SIGNS	2 EA
	CATHODIC TEST STATION	1 EA
	AERIAL MARKER	1 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE
420	1834-01-ML-03-124	5	CARPENTER PUMP STATION
	1834-01-ML-03-125	0	CARPENTER PUMP STATION
	1834-01-ML-03-126	0	CARPENTER PUMP STATION

REVISIONS

NO.	DATE	REV. BY	CHCK BY	APPRD BY	ENV APPRD	DESCRIPTION
1	5/12/08	UEI	RDG	LAG	SEC	ISSUED FOR CONSTRUCTION
2	7/13/09	UEI	JBS	LAG	SEC	ADDED FOREIGN PIPELINE NAME AND NOTE
3	10/12/08	UEI				ISSUED FOR AS-BUILT 1833-03-ML-02-020 REPLACES COVERAGE OF IFC DRAWINGS 1833-03-ML-02-031, 1833-03-ML-02-032

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

UNIVERSAL PEGASUS INTERNATIONAL

KEYSTONE MAINLINE (NPS 30 2009) FERNEY SECTION

FIA# 1833 | SPREAD 3B | DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 310.49 TO M.P. 311.22

SHEET 20 OF 20 SHEETS

STA. 2471+63 TO STA. 2510+23 (3D)

DRAWING NO. 1833-03-ML-02-020 REV. 3