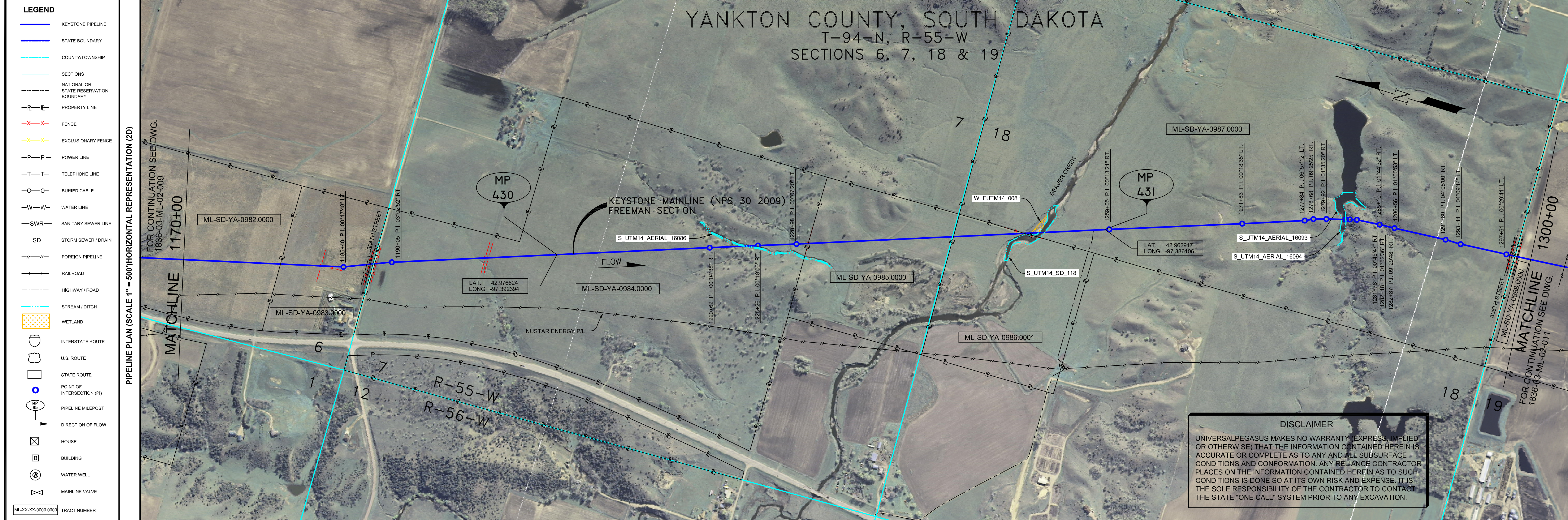


- GENERAL NOTES**
- 1) ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.
 - 2) DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.
 - 3) FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.
 - 4) UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER 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) TWO TYPES OF COATING WERE APPLIED TO THE FIELD WELDS DURING THE ORIGINAL CONSTRUCTION. ONE TYPE WAS TWO COMPONENT LIQUID EPOXY. THE PRODUCTS USED WERE DENSOL 7200 OR SPC SP-2888. THE OTHER TYPE WAS APPLIED TO THE FIELD WELDS WAS FBE. THE PRODUCT NAME WAS 3M 6223 11G.
 - 7) THE SUBSTANTIAL CONSTRUCTION COMPLETION DATE, BASED ON CALIPER PIG RUN, WAS AUGUST 17, 2009 FOR M.P. 403.90 TO 422.96 AND OCTOBER 28, 2009 FOR M.P. 422.96 TO 463.18.
 - 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 21466.76 AND DIVIDE BY 5280.



OPERATING AND TEST PRESSURE

1. THE MAXIMUM OPERATING PRESSURE (MOP) IS 1440 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 1601 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
2	30" O.D. X 0.386" W.T. API-5L X 70 W/FBE COATING	3.101'
3	30" O.D. X 0.516" W.T. API-5L X 70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	391'
4	30" O.D. X 0.622" W.T. API-5L X 70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	521'
6	30" O.D. X 0.429" W.T. API-5L X 70 W/FBE COATING	9.031'

ITEM	QUANTITY
PIPELINE MARKERS	0 EA
PIPELINE WARNING SIGNS	4 EA
CATHODIC TEST STATION	2 EA
AERIAL MARKER	0 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE

REVISIONS

NO.	DATE	REV. BY	CHK'D	APPR'D	REV. APPR'D	DESCRIPTION
1	5/17/09	UEI	RDG	LAG	SEC	ISSUED FOR CONSTRUCTION
2	10/17/18	UEI				ISSUED FOR AS-BUILT
						1836-03-ML-02-016
						REPLACES COVERAGE OF IFC DRAWINGS
						1836-03-ML-02-015
						1836-03-ML-02-015
						1836-03-ML-02-015

ENGINEERING RECORDS

DRAWN BY	INITIAL	DATE	ENY APPR'D	INITIAL	DATE
UEI		10/03/01			

CHECKED BY	INITIAL	DATE	COMPANY APPROVED

PROFESSIONAL ENGINEER

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

SCALE: 0 125 250 500 Feet



KEYSTONE MAINLINE (NPS 30 2009) FREEMAN SECTION
SPREAD 4B BY DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 429.32 TO M.P. 431.79
SHEET 10 OF 13 SHEETS

STA. 1171+26 TO STA. 1301+70 (3D)
DRAWING NO. 1836-03-ML-02-010

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
- SD
- 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
- TRACT NUMBER

PIPELINE SCHEMATIC

- HEAVY WALL PIPE
- WELD FITTING
- TRANSITION PIECE
- CASING PIPE
- CONCRETE COATING
- SET-ON WELD JOINT
- PIPELINE WARNING SIGN
- PIPELINE MARKER
- MATERIAL ITEM
- GROUNDING MAT
- ZINC RIBBON
- AERIAL MARKER
- CATHODIC TEST STATION
- MAINLINE VALVE
- CHECK CUT
- OPEN CUT
- BORER
- DRINKING WATER USA
- ECOLOGICAL USA
- HIGHLY POPULATED AREA
- OPERATOR (KEYSTONE) DEFINED
- OTHER POPULATED AREA
- SOURCE WATER PROTECTION AREA
- WELLHEAD PROTECTION AREA

HORIZONTAL STATIONS (2D)

MATCHLINE 1170+00

1172+29 5.1' C.V.R.

1184+51 FENCE (WIRE)
1183+72 FENCE (WIRE)
1185+40 FENCE (WIRE)
1187+43 TELEPHONE LINE
1187+48 OVERHEAD POWER LINE
1187+48 POWER LINE, HT #30
1188+16 CL TO BANK
1188+26 5.0' C.V.R.
1189+06 CL TO BANK
1189+06 ROAD BAR DITCH
1189+25 5.0' C.V.R.
1189+44 EDGE OF ROAD
1189+45 FENCE (WIRE)
1189+46 FENCE (WIRE)
1189+46 CL TO BANK
1189+60 ROAD BAR DITCH
1189+65 FENCE (WIRE)
1191+54 P.L. 0.876292' RL

1190+04 FENCE (BARBED WIRE)
1190+36 FENCE (BARBED WIRE)

1200+34 FENCE (BARBED WIRE)
1200+45 FENCE (BARBED WIRE)

1208+14 5.1' C.V.R.
1207+24 M.P. 430

1220+62 4.6 C.V.R.
1221+50 CL TO BANK
1223+43 TOP BANK
1225+46 CL TO DITCH
1225+47 TOP BANK

1225+26 P.L. 0.071800' RL

1228+33 P.L. 0.072922' LL

1231+45 FENCE (BARBED WIRE)

1240+33 4.6 C.V.R.

127+70 6.0' C.V.R.
128+82 CL PRIVATE ROAD
128+82 END ROCK SHIELD
1289+04 M.P. 431
1289+05 P.L. 0.071321' RL
1293+91 CL DITCH

1271+43 P.L. 0.071835' LL

1277+84 P.L. 0.052742' LL
1278+76 P.L. 0.072525' RL
1279+42 P.L. 0.135200' RL
1281+79 CL DITCH
1281+78 P.L. 0.074597' RL
1281+79 P.L. 0.074597' RL
1281+79 P.L. 0.074597' RL
1281+79 CL DITCH
1283+25 P.L. 0.124355' RL
1283+25 P.L. 0.124355' RL
1283+25 P.L. 0.124355' RL
1283+25 P.L. 0.124355' RL
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1283+25 P.L. 0.124355' RL
1283+25 P.L. 0.124355' RL

1284+03 FIBER OPTIC CABLE
1288+03 FIBER OPTIC CABLE
1288+05 FENCE (BARBED WIRE)
1288+13 ROAD BAR DITCH
1288+16 TELEPHONE LINE
1288+28 EDGE OF ROAD
1288+28 CL TO BANK
1288+41 CL TO BANK
1288+45 ROAD BAR DITCH
1288+46 TELEPHONE LINE
1288+74 TELEPHONE LINE
1288+75 FENCE (WIRE)

MATCHLINE 1300+00

SLOPE STATIONS (3D)

MATCHLINE 1170+00

1172+29 5.1' C.V.R.

1184+51 FENCE (WIRE)
1183+72 FENCE (WIRE)
1185+40 FENCE (WIRE)
1187+43 TELEPHONE LINE
1187+48 OVERHEAD POWER LINE
1187+48 POWER LINE, HT #30
1188+16 CL TO BANK
1188+26 5.0' C.V.R.
1189+06 CL TO BANK
1189+06 ROAD BAR DITCH
1189+25 5.0' C.V.R.
1189+44 EDGE OF ROAD
1189+45 FENCE (WIRE)
1189+46 FENCE (WIRE)
1189+46 CL TO BANK
1189+60 ROAD BAR DITCH
1189+65 FENCE (WIRE)
1191+54 P.L. 0.876292' RL

1190+04 FENCE (BARBED WIRE)
1190+36 FENCE (BARBED WIRE)

1200+34 FENCE (BARBED WIRE)
1200+45 FENCE (BARBED WIRE)

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1223+43 TOP BANK
1225+46 CL TO DITCH
1225+47 TOP BANK

1225+26 P.L. 0.071800' RL

1228+33 P.L. 0.072922' LL

1231+45 FENCE (BARBED WIRE)

1240+33 4.6 C.V.R.

127+70 6.0' C.V.R.
128+82 CL PRIVATE ROAD
128+82 END ROCK SHIELD
1289+04 M.P. 431
1289+05 P.L. 0.071321' RL
1293+91 CL DITCH

1271+43 P.L. 0.071835' LL

1277+84 P.L. 0.052742' LL
1278+76 P.L. 0.072525' RL
1279+42 P.L. 0.135200' RL
1281+79 CL DITCH
1281+78 P.L. 0.074597' RL
1281+79 P.L. 0.074597' RL
1281+79 P.L. 0.074597' RL
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1283+25 P.L. 0.124355' RL
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1283+25 P.L. 0.124355' RL

1284+03 FIBER OPTIC CABLE
1288+03 FIBER OPTIC CABLE
1288+05 FENCE (BARBED WIRE)
1288+13 ROAD BAR DITCH
1288+16 TELEPHONE LINE
1288+28 EDGE OF ROAD
1288+28 CL TO BANK
1288+41 CL TO BANK
1288+45 ROAD BAR DITCH
1288+46 TELEPHONE LINE
1288+74 TELEPHONE LINE
1288+75 FENCE (WIRE)

MATCHLINE 1301+70

ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)

TEST SECTIONS (3D)

TOPSOIL SALVAGE METHOD

STREAMS

WETLANDS

TIMING CONSTRAINTS

STATIONS

MONITORING

RECLAMATION

SPECIAL CONSIDERATIONS

TEST SECTION 4B-2
ILTO-028-2010