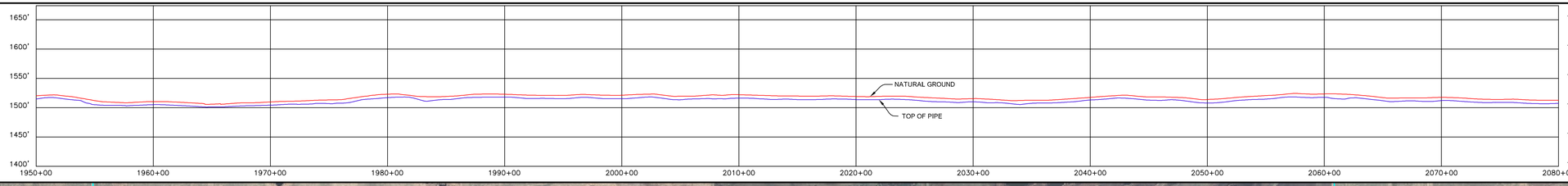
**RIGHT-OF-WAY**
**HORIZONTAL REPRESENTATION (2D)**
TRACT NUMBER
OWNERSHIP/AGENCY
LENGTH
APPLICABLE DWG. NO.

| 1950+00 | ML-ND-NL-0179.0000 | RD-ND-NL-0179.0000 40TH STREET NE | ML-ND-NL-0179.0001 | RD-ND-NL-0179.0001 39TH STREET NE | ML-ND-NL-0180.0000 | 2034+61 | ML-ND-NL-0181.0000 | RD-ND-NL-0181.0000 38TH STREET NE | ML-ND-NL-0182.0000 | 2080+00 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1955+23 | | 2008+19 | | | | 2061+06 | | |

LAND USE

**PIPELINE PROFILE**

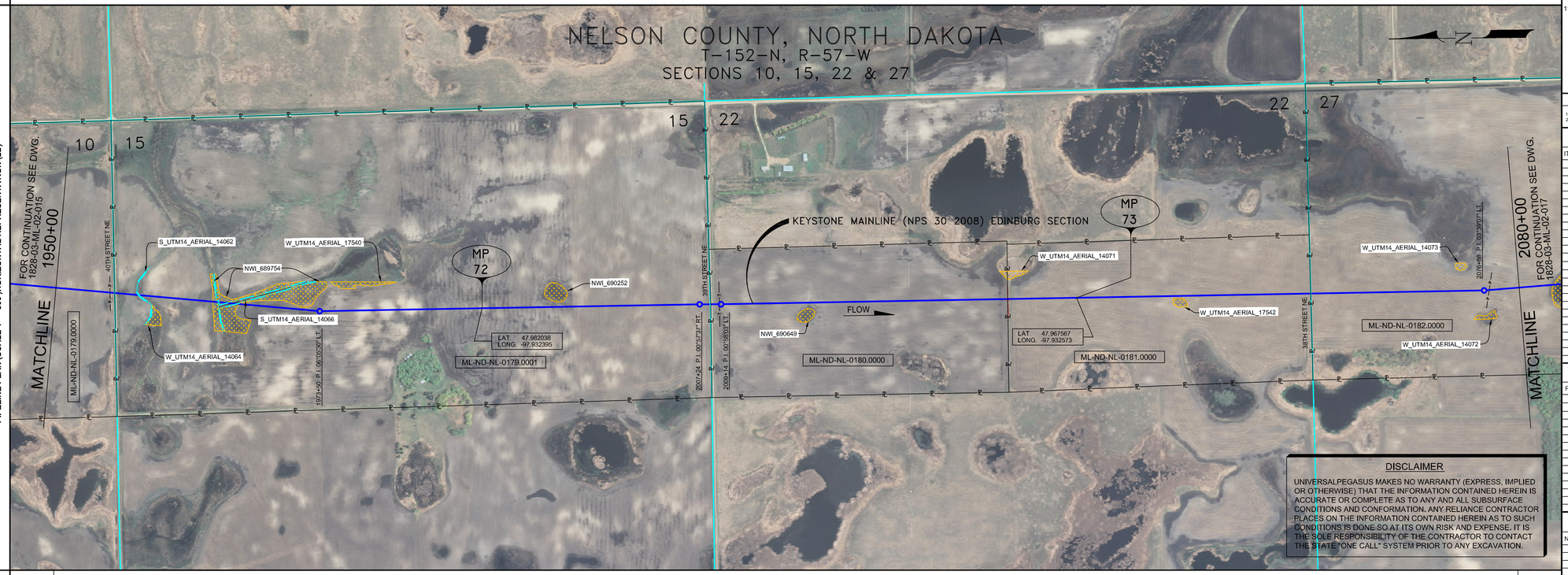
**HORIZ. 1"=500' VER. 1"=100'**
**HORIZONTAL REPRESENTATION (2D)**




**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 (MP 65)
- 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
- (3) SET-ON WEIGHTS
- PIPELINE WARNING SIGN
- (1) PIPELINE MARKER
- MATERIAL ITEM
- (GM) GROUNDING MAT
- ZINC RIBBON
- (AM) AERIAL MARKER
- CATHODIC TEST STATION
- MAINLINE VALVE
- CHECK VALVE
- O.C. OPEN CUT
- BR. BORE

STATION/DESCRIPTION

PIPELINE DATA

- 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 1950+00 | 1804+82 OVERHEAD POWERLINE 1804+94 ROAD BAR DITCH | 1953+15 EDGE OF ROAD 1953+53 EDGE OF ROAD 1953+58 ROAD BAR DITCH | 1964+18 BEGIN SLOUGH 1964+34 END SLOUGH 1964+36 BEGIN SLOUGH 1964+47 END SLOUGH 1964+50 END SLOUGH | 1973+50 P.I. 06°05'39" LT. | 2007+24 P.I. 00°52'37" RT. 2007+59 ROAD BAR DITCH | 2008+11 EDGE OF ROAD 2008+18 CENTERLINE 2008+26 EDGE OF ROAD 2008+45 ROAD BAR DITCH | 2008+99 TELEPHONE LINE 2009+14 P.I. 00°58'03" LT. | 2034+61 FENCE (BARBED WIRE) | 2060+86 EDGE OF ROAD 2061+06 CENTERLINE 2061+16 EDGE OF ROAD | 2076+98 P.I. 03°39'07" LT. | 2077+33 OVERHEAD POWERLINE | MATCHLINE 2080+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**SLOPE STATIONS (3D)**

| MATCHLINE 1952+97 1954+34 4.6' CVR. | 1957+41 6.4' CVR. 1957+77 OVERHEAD POWERLINE, HT. ≈ 25' 1957+90 ROAD BAR DITCH, 6.3' CVR. | 1958+10 EDGE OF ROAD 1958+29 CENTERLINE 1958+48 EDGE OF ROAD 1958+68 ROAD BAR DITCH, 6.5' CVR. | 1967+14 BEGIN SLOUGH 1967+30 END SLOUGH 1967+32 BEGIN SLOUGH 1967+43 END SLOUGH 1967+46 END SLOUGH | 1976+47 P.I. 06°05'39" LT. | 1982+08 6.5' CVR. | 1990+91 M.P. 72 | 1993+38 4.6' CVR. | 2010+22 P.I. 00°52'37" RT. 2010+59 ROAD BAR DITCH, 6.3' CVR. 2011+09 EDGE OF ROAD 2011+27 CENTERLINE 2011+42 EDGE OF ROAD 2011+62 ROAD BAR DITCH, 6.3' CVR. 2011+97 TELEPHONE LINE 2012+13 P.I. 00°58'03" LT. | 2022+29 5.0' CVR. | 2030+09 6.2' CVR. | 2037+61 FENCE (BARBED WIRE) | 2043+71 M.P. 73 2042+41 4.6' CVR. | 2054+01 6.1' CVR. | 2063+49 8.0' CVR. | 2063+97 EDGE OF ROAD 2064+07 CENTERLINE 2064+17 EDGE OF ROAD | 2077+48 5.0' CVR. | 2078+98 P.I. 03°39'07" LT. | 2080+36 OVERHEAD POWERLINE, HT. ≈ 25' 2080+50 5.8' CVR. | MATCHLINE 2083+02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**PIPE SLOPE REPRESENTATION (3D)**

| 1952+97 | ② 483' FBE | 1957+80 | ③ 80' FBE & ARO BR. | 1958+60 | 1967+12 | ② 5,219' FBE | 2010+79 | ③ 79' FBE & ARO BR. | 2011+58 | ② 5,209' FBE | 2063+67 | ③ 79' FBE & ARO O.C. | 2064+46 | ② 1,856' FBE | 2083+02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

CPS (3D)

TEST SECTIONS (3D) — TEST SECTION 1A-4 ILTO-020-2010

**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 12, 2009 FOR M.P. 31.03 TO M.P. 66.93 AND AUGUST 16, 2009 FOR M.P. 66.90 TO M.P. 88.54.

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 1810+69 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 | 12,767' |
| 3 | 30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT | 238' |
| | PIPELINE MARKERS | 1 EA |
| | PIPELINE WARNING SIGNS | 5 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 | CHCK BY | APPRD BY | ENV APPRD | DESCRIPTION |
|---|---|---|---|---|---|---|
| 1 | 5/12/08 | UEI | RDG | LAG | SEC | ISSUED FOR CONSTRUCTION |
| 2 | 10/11/22 | UEI | | | | ISSUED FOR AS-BUILT 1828-03-ML-02-016 REPLACES COVERAGE OF IFC DRAWINGS 1828-03-ML-02-025, 1828-03-ML-02-026, 1828-03-ML-02-027 |

## ENGINEERING RECORDS

| | INITIAL | DATE | | INITIAL | DATE |
|---|---|---|---|---|---|
| DRAWN BY | UEI | 10/01/04 | 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

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KEYSTONE MAINLINE (NPS 30 2008) EDINBURG SECTION

| P(A)# | SPREAD | DISCIPLINE |
|---|---|---|
| 1828 | 1A | 03 |

# AS-BUILT ALIGNMENT

M.P. 71.28 TO M.P. 73.74

SHEET 16 OF 18 SHEETS

STA.1952+97 TO STA. 2083+02 (3D)

DRAWING NO. 1828-03-ML-02-016 REV. 2

Z:\00_KEYSTONE_AS_BUILT\4-alignment sheets for North Dakota\ND1828_ASBUILTWD1828-016.dwg, 3/9/2011 9:59:28 AM, pdfFactory.pc3