

RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)

TRACT NUMBER
OWNERSHIP/AGENCY

LENGTH APPLICABLE DWG. NO.

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
- W-SW-R SANITARY SEWER LINE
- SD 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-SD-HU-0927.0000 TRACT NUMBER

PIPELINE SCHEMATIC

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

TEST SECTIONS (3D)

TOPSOIL SALVAGE METHOD

STREAMS

WETLANDS

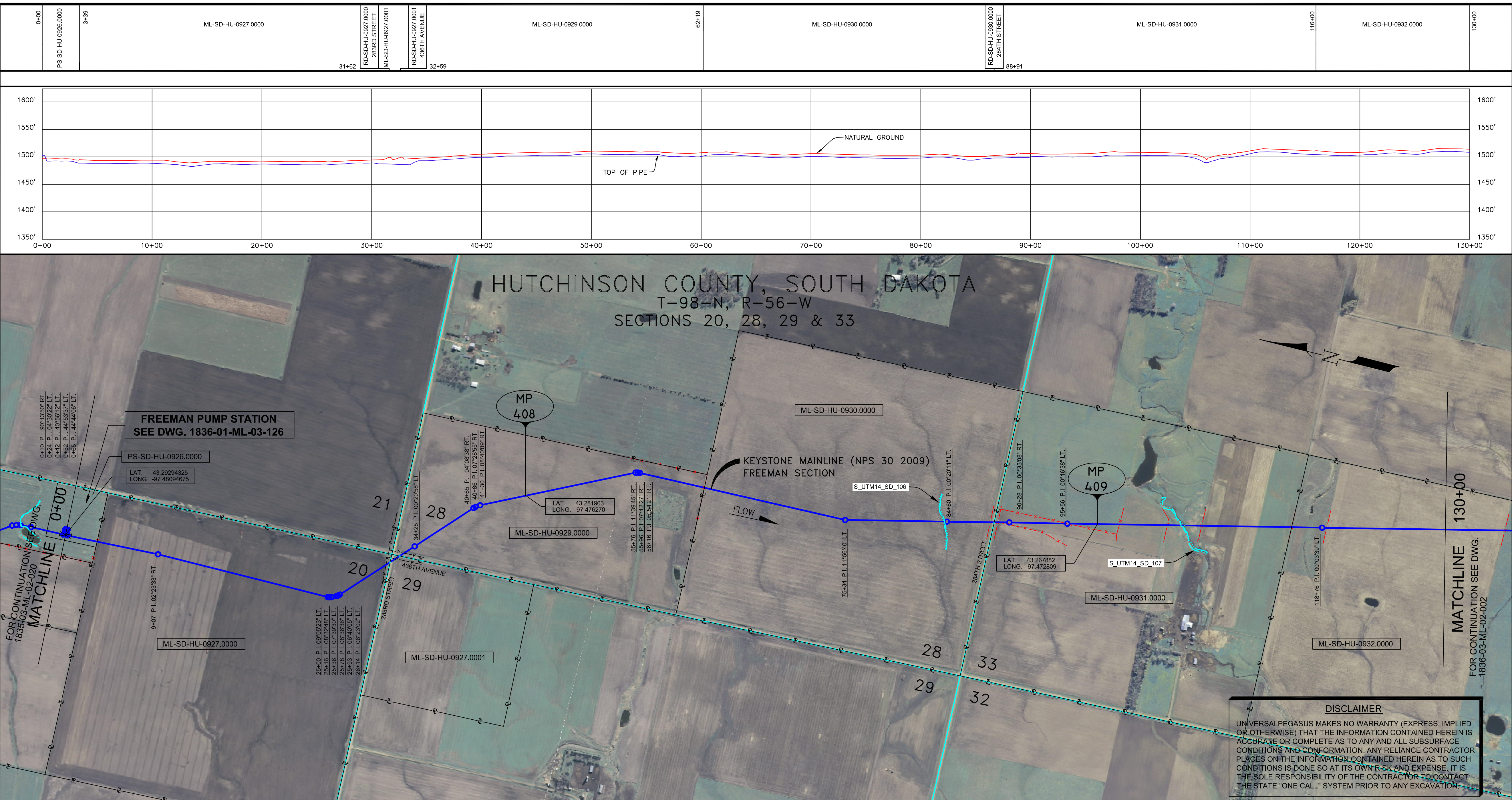
TIMING CONSTRAINTS

STATIONS

MONITORING

RECLAMATION

SPECIAL CONSIDERATIONS



GENERAL NOTES

- ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.
- DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.
- FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.
- UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER EXCEPT 36 INCHES IN AREAS OF CONSOLIDATED ROCK.
- NO ACTUAL AS-BUILT GROUND SHOTS WERE TAKEN AT THIS LOCATION. THE PROFILE REPRESENTS A PROJECTION FROM SHOTS TAKEN AT 150' TO 250' INTERVALS.
- 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 DENSO 7200 OR SPC SP-2888. THE OTHER TYPE THAT WAS APPLIED TO THE FIELD WELDS WAS FBE. THE PRODUCT NAME WAS 3M 6223 11G.
- 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.
- ORIGINAL IN-SERVICE DATE OF THE KEYSTONE PIPELINE (PHASE 1): JUNE 30, 2010.
- CPS CALCULATION DATE: MAY 2010.
- ORION STATION SERIES NUMBER: 1182700.
- TO DETERMINE THE MILE POST AT A GIVEN LOCATION, ADD THE 3D STATION NUMBER FROM THIS SEGMENT TO STATION NUMBER 21496.76 AND DIVIDE BY 5283.

OPERATING AND TEST PRESSURE

- THE MAXIMUM OPERATING PRESSURE (MOP) IS 1400 PSIG.
- THE MINIMUM TEST PRESSURE WAS 950 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 | 12,331' |
| 3 | 30" O.D. X 0.516" W.T. API 5L X-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT | 308' |
| 6 | 30" O.D. X 0.429" W.T. API 5L X-70 W/FBE COATING | 297' |
| 426 | FREEMAN PUMP STATION ASSEMBLY (+77) | 1 EA |
| (B) BECHTEL | 30" - 30' 3 DIA RAD WELD FITTINGS 0.515" W.T. Y-70 | 1 EA |
| 115L2 | W/2-4 FEET LONG 30" O.D. X 0.516" W.T. API 5L X-70 PUPS | 1 EA |
| 115L0 | 30" - 45' 3 DIA RAD WELD FITTINGS 0.515" W.T. Y-70 | 1 EA |
| 115L4 | W/2-4 FEET LONG 30" O.D. X 0.516" W.T. API 5L X-70 PUPS | 1 EA |
| 115L1 | 30" - 45' 3 DIA RAD WELD FITTINGS 0.515" W.T. Y-70 | 1 EA |
| 115L3 | W/2-4 FEET LONG 30" O.D. X 0.516" W.T. API 5L X-70 PUPS | 1 EA |
| | 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 |
|----------|-------------------|----------|----------------------|
| 426 | 1836-01-ML-03-126 | 3 | FREEMAN PUMP STATION |
| | 1836-01-ML-03-127 | 4 | FREEMAN PUMP STATION |
| | 1836-01-ML-03-128 | 3 | FREEMAN PUMP STATION |
| | 1836-01-ML-03-129 | 3 | FREEMAN PUMP STATION |
| | 1836-01-ML-03-130 | 3 | FREEMAN PUMP STATION |

REVISIONS

| NO. | DATE | REV. BY | CHKD. BY | APPRD. BY | ENV. APPROV. | DESCRIPTION |
|-----|----------|---------|----------|-----------|--------------|-----------------------------------|
| 1 | 5/17/09 | UEI | RDG | LAG | SEC | ISSUED FOR CONSTRUCTION |
| 2 | 10/17/10 | UEI | LAG | LAG | SEC | ISSUED FOR AS-BUILT |
| | | | | | | 1836-03-ML-02-001 |
| | | | | | | REPLACES COVERAGE OF IFC DRAWINGS |
| | | | | | | 1836-03-ML-02-001 |
| | | | | | | 1836-03-ML-02-002 |

ENGINEERING RECORDS

| DRAWN BY | INITIAL | DATE | ENY APPROV. | INITIAL | DATE |
|------------|---------|----------|------------------|---------|------|
| UEI | | 10/03/01 | ENY | | |
| 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) FREEMAN SECTION

DATE: 1836

SCALE: SPREAD 4B

DISCIPLINE: 03

AS-BUILT ALIGNMENT

M.P. 407.14 TO M.P. 409.60

SHEET 1 OF 13 SHEETS

STA. 0+00 TO STA. 130+13

DRAWING NO. 1836-03-ML-02-001

REV. 2