

RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)

TRACT NUMBER
OWNER/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
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
TRACT NUMBER

PIPELINE PLAN (SCALE 1" = 500') HORIZONTAL REPRESENTATION (2D)

FOR CONTINUATION SEE DWG. 1833-03-ML-02-018

PIPELINE SCHEMATIC

HEAVY WALL PIPE
WELD FITTING
TRANSITION PIECE
CASING PIPE
CONCRETE COATING
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 USE
ECOLOGICAL USE
HIGHLY POPULATED AREA
OPERATOR (KEYSTONE)
OTHER POPULATED AREA
SOURCE WATER PROTECTION AREA
WELLHEAD PROTECTION AREA

STATION DESCRIPTION

PIPELINE DATA

PIPELINE SLOPE REPRESENTATION (3D)

PIPELINE DATA

TEST SECTIONS (3D)

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 DENSOL 7200 OR SPC SP-2888.
7) THE SUBSTANTIAL CONSTRUCTION COMPLETION DATE, BASED ON CALIPER PIG RUN, WAS SEPTEMBER 01, 2009 FOR M.P. 195.66 TO M.P. 218.50, SEPTEMBER 02, 2009 FOR M.P. 218.50 TO M.P. 259.00, OCTOBER 08, 2009 FOR M.P. 259.21 TO M.P. 301.75.
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 11453+73 AND DIVIDE BY 5280.

OPERATING AND TEST PRESSURE

1. THE MAXIMUM OPERATING PRESSURE (MOP) IS 1440 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 1803 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
2	30" O.D. X 0.386" W.T., API 5LX-70 W/FBE COATING	12,148'
3	30" O.D. X 0.516" W.T., API 5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	246'
416	FERNEY PUMP STATION ASSEMBLY (+304')	1 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE
416	1833-01-ML-03-116	6	FERNEY PUMP STATION
	1833-01-ML-03-117	0	FERNEY PUMP STATION
	1833-01-ML-03-118	0	FERNEY PUMP STATION

REVISIONS

NO.	DATE	REV. BY	CHK. BY	APPRO. BY	ENV. APPR. BY	DESCRIPTION
1	5/12/08	UEI	RDC	LAC	SEC	ISSUED FOR CONSTRUCTION
2	10/10/08	UEI				ISSUED FOR AS-BUILT
						REPLACES COVERAGE OF IFC DRAWINGS
						1832-03-ML-02-019
						1832-03-ML-02-030
						1832-03-ML-02-031

ENGINEERING RECORDS

DRAWN BY	DATE	ENV. APPR. BY	DATE
UEI	10/02/01		

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
In business to deliver

KEYSTONE MAINLINE (NPS 30 2008) LUDDEN SECTION

1832

SPREAD 2A

DISCIPLINE 03

AS-BUILT ALIGNMENT

M.P. 261.27 TO M.P. 263.68
SHEET 19 OF 19 SHEETS

STA. 2341+45 TO STA. 2468+43

DRAWINGS NO. 1832-03-ML-02-019

REV

(3D)