

- 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 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.
 - 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 LOCATION NUMBER 21496-76 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 0.388" W.T., API-SLX-70 W/FBE COATING	12,807'
3	30" O.D. X 0.516" W.T., API-SLX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT	219'
PIPELINE MARKERS		
	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	CHKD. BY	APP'D. BY	DESCRIPTION
1	5/17/08	UEI	RDG	LAG	ISSUED FOR CONSTRUCTION
2	10/17/18	UEI			ISSUED FOR AS-BUILT
					1836-03-MI-02-003
					REPLACES COVERAGE OF IFC DRAWINGS
					1836-03-MI-02-004
					1836-03-MI-02-005

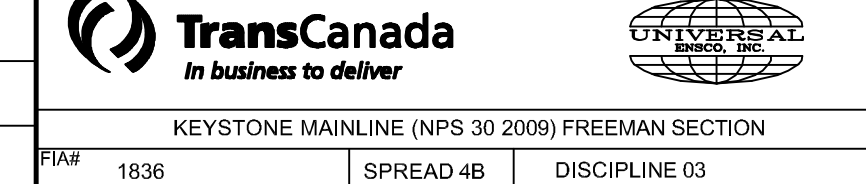
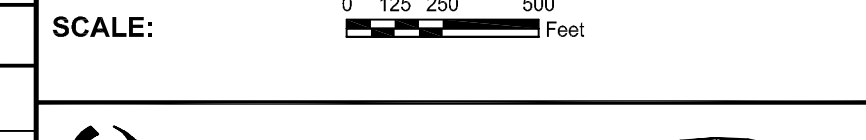
PIPELINE SCHEMATIC	HORIZONTAL STATIONS (2D)	PIPELINE DESCRIPTION	STATIONING (3D)	PIPELINE DATA
HEAVY WALL PIPE				
WELD FITTING				
TRANSITION PIECE				
CASING PIPE				
CONCRETE COATING				
SET ON WEIGHS				
PIPELINE WARNING SIGN				
PIPELINE MARKER				
MATERIAL ITEM				
GROUNDING MAT				
ZINC RIBBON				
AERIAL MARKER				
CATHODIC TEST STATION				
MAINLINE VALVE				
CHECK VALVE				
OPEN CUT				
BORER				
DRINKING WATER USA				
ECOLOGICAL USA				
HIGHLY 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				

ENGINEERING RECORDS

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

PROFESSIONAL ENGINEER

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



KEYSTONE MAINLINE (NPS 30 2009) FREEMAN SECTION
 FWF 1836 SPREAD 4B DISCIPLINE 03

AS-BUILT ALIGNMENT
 M.P. 412.06 TO M.P. 414.53
 SHEET 3 OF 13 SHEETS
 STA. 260+27 TO STA. 390+46 (3D)
 DRAWING NO. 1836-03-ML-02-003 REV. 2