



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 CALPER PIG RUN, WAS SEPTEMBER 23, 2009 FOR M.P. 114.00 TO M.P. 130.00, AUGUST 05, 2009 FOR M.P. 129.90 TO M.P. 168.72 AND AUGUST 07, 2009 M.P. 168.73 TO M.P. 195.68.
- 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 6528+26 AND DIVIDE BY 5280.

OPERATING AND TEST PRESSURE

1. THE MAXIMUM OPERATING PRESSURE (MOP) IS 1440 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 180 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
1	30" O.D. X 0.438" W.T., API-SLX-70 WFBE COATING	264'
2	30" O.D. X 0.386" W.T., API-SLX-70 WFBE COATING	12,240'
3	30" O.D. X 0.516" W.T., API-SLX-70 WFBE COATING & 493'	493'
408	ABRASION RESISTANT OVERCOAT	
	LUVERNE PUMP STATION ASSEMBLY (+299')	1 EA

ITEM	QUANTITY
PIPELINE MARKERS	0 EA
PIPELINE WARNING SIGNS	11 EA
CATHODIC TEST STATION	6 EA
AERIAL MARKER	1 EA

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE
408	1830-01-ML-03-108	6	LUVERNE PUMP STATION
	1830-01-ML-03-109	0	LUVERNE PUMP STATION
	1830-01-ML-03-110	0	LUVERNE PUMP STATION

REVISIONS

NO.	DATE	REV. BY	CHKD. BY	APP'D. BY	DESCRIPTION
1	5/17/08	UEI	RDG	LAG	ISSUED FOR CONSTRUCTION
2	8/27/08	UEI	GTG	LAG	ADDED CROSSING DETAILS ISSUED FOR AS-BUILT
3	9/17/08	UEI			REPLACES COVERAGE OF 1830-03-ML-02-001 IFC DRAWINGS
					1830-03-ML-02-001
					1830-03-ML-02-002

ENGINEERING RECORDS

DRAWN BY	INITIAL	DATE	ENY. APPRD.	INITIAL	DATE
UEI		10/01/18			

PROFESSIONAL ENGINEER

NAME	STATE	LIC#	REV#	DATE
LOYS A. GRAY, III	ND	PE5714		

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

KEYSTONE MAINLINE (NPS 30 2008) LUVERNE SECTION

AS-BUILT ALIGNMENT

M.P. 123.64 TO M.P. 126.11
SHEET 1 OF 20 SHEETS
STA. 0+00 TO STA. 130+19 (3D)

DRAWING NO. 1830-03-ML-02-001 REV. 3

DISCLAIMER

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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

PIPELINE SCHEMATIC

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



STATIONS (3D)

STATION	DESCRIPTION
0+00	RESERVE LINE OF MAINLINE LUVERNE PUMP STATION
1+00	CONCRETE OPTIC CABLE
1+08	EDGE OF ROAD
1+18	EDGE OF ROAD
1+28	EDGE OF ROAD
1+38	EDGE OF ROAD
1+48	EDGE OF ROAD
1+58	EDGE OF ROAD
1+68	EDGE OF ROAD
1+78	EDGE OF ROAD
1+88	EDGE OF ROAD
1+98	EDGE OF ROAD
2+08	BEGIN SLOUGH
2+18	CL. SLOUGH
2+28	CL. SLOUGH
2+38	CL. SLOUGH
2+48	CL. SLOUGH
2+58	CL. SLOUGH
2+68	CL. SLOUGH
2+78	CL. SLOUGH
2+88	CL. SLOUGH
2+98	CL. SLOUGH
3+08	BEGIN SLOUGH
3+18	CL. SLOUGH
3+28	CL. SLOUGH
3+38	CL. SLOUGH
3+48	CL. SLOUGH
3+58	CL. SLOUGH
3+68	CL. SLOUGH
3+78	CL. SLOUGH
3+88	CL. SLOUGH
3+98	CL. SLOUGH
4+08	BEGIN SLOUGH
4+18	CL. SLOUGH
4+28	CL. SLOUGH
4+38	CL. SLOUGH
4+48	CL. SLOUGH
4+58	CL. SLOUGH
4+68	CL. SLOUGH
4+78	CL. SLOUGH
4+88	CL. SLOUGH
4+98	CL. SLOUGH
5+08	BEGIN SLOUGH
5+18	CL. SLOUGH
5+28	CL. SLOUGH
5+38	CL. SLOUGH
5+48	CL. SLOUGH
5+58	CL. SLOUGH
5+68	CL. SLOUGH
5+78	CL. SLOUGH
5+88	CL. SLOUGH
5+98	CL. SLOUGH
6+08	BEGIN SLOUGH
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6+68	CL. SLOUGH
6+78	CL. SLOUGH
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6+98	CL. SLOUGH
7+08	BEGIN SLOUGH
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10+88	CL. SLOUGH
10+98	CL. SLOUGH
11+08	BEGIN SLOUGH
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11+68	CL. SLOUGH
11+78	CL. SLOUGH
11+88	CL. SLOUGH
11+98	CL. SLOUGH
12+08	BEGIN SLOUGH
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13+08	BEGIN SLOUGH
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13+38	CL. SLOUGH
13+48	CL. SLOUGH
13+58	CL. SLOUGH
13+68	CL. SLOUGH
13+78	CL. SLOUGH
13+88	CL. SLOUGH
13+98	CL. SLOUGH

TEST SECTIONS (3D)

TEST SECTION	ILTO
TEST SECTION 1A-6	ILTO-021-2010
TEST SECTION 1A-6	ILTO-022-2010

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