Marrie Ma		eyParsons		FLOW TRANS					TASHEET No.	SHT 1 OF:
resou	irces & energy			NO BY DATE		REVISION	25472-101-JFD-JF00-W0001		01	
				00	TR	6-May-10	Issued for Quotation		B NUMBER:	DATE:
				01	TR	29-Jul-10	Issued for Purchase	7	08E4490	29-Jul-10
PROJECT: Keystone XL Pipeline								REQU	ISITION No.	P.O. No.
		dian Pump Stations						25472-101-1	MRA-JF00-W0001 25472	2-101-ASPA-SF00-W000
INSTRUMENT	DA.	TA SHEET					***	BY	CHKD	APPR.
								根	AM AM	DG M
	1	Tag Number	See Attached List							
	2	Service	Mainline Pump Seal Leak Detection							
GENERAL				See Attached List						
		Line Number / Vessel Number	See Attached List 1 1/2" Pipe / XS A333 Gr.6 SMLS / I1 1/2" E Flow							
		Pipeline/Schedule/Insulation Application								
	7	Fluid	Dilunnt Bit			in Cauda				
	8	Unit	Diluent Bit		ynine I					
		Pressure kPag	Mir O			Max 1900				
	_	Temperature °C	0	*		70				
		Specific Gravity	0,81	5	<u> </u>	0.953				
		Viscosity cSt	2		<u> </u>	350		2	3472-101-V1A-J	F00-W00
		Flow ml/s	0			<30			r Documer	and the second second
PROCESS		Velocity m/s	0			0.023		• •	1	n Statt
CONDITIONS	15	Thermal Conductivity W/mK						_	ODE: 1	
		Clean or Dirty	Clean < 0.5% of Solid & Water			Code 1 = Wor	k may proc	ed.		
		% Solids				Code 1a = Wo	ork may pro	eed, submit certifi bmit. Work may r	rea piint.	
	18 19	·····				to resolution of indicated comments Code 3 = Revise and resubmit. Work may not pro Code 4 = Review not required. Work may proceed				
	20		<u> </u>				Code 3 = Rev	ise and resu	bmit. Work may r	not proceed
		Type		Thermal Dispersion			Permission to	proceed do	ne not constitute a	ccentance
		Transmitter Output		4-20mA			approval of de	sign details	es not constitute a calculations, ana	lyses, test
	23	Power Supply	24V DC				methods, or if	iateriais dev	eloped or selected supplier from full c	TOV THE SUL
	24	Housing Material		Copper free Aluminum			contractual ob		supplier from full c	ompuance v
TRANSMITTER		Agency Approval		CSA			Responsible		Maghadam Ata	le o b
		Accuracy	± 1% of set point velocity				-	Moghadam_Atc	Ken	
		Repeatability	± 0,5% of reading			Date Issued	- 11/18/20	110.		
		Flow Velocity	0.003 to 1.5 m/s			Supplier Rec	uirement C	ategory -		
		Calibration range	0.125 to 80 ml/s			Equipment N	ю 121-Н	RDBP-B2-FT-10)25	
		Switch Point range Electrical Area Classification	0112							
		Enclosure Type	Class I, Zone II , Group IIA							
		Electrical Connection	NEMA 4X 1" NPT							
		Electrical Secondary Seal	Single Seal Approval							
		Type	Thermal Dispersion					<u> </u>		
		Wetted Parts Material	316L SS							
		Temperature Range	-55°C to 200°C							
	38	Pressure Range	24 MPa @ 21°C						l	
PROBE		Thermal Conductivity								
		Process Connection Size	11/2" MNPT (Note 3)			3)				
		Response Rate	0.5 to 30 sec							
<u> </u>		Insertion Length		1.75						
		Type	SDPT							
		No. of Switches		2						
	45 46	Output Rating	5 Amps @ 24V DC Max							
SWII CHES	46 47	<u> </u>								
	48									
	49									
		Manufacturer		Varia	on		•		·	
PURCHASE		Model Number	910.0	Kayd 4G-0017		045				···
CITOLINGE	52	madel Hallings	61U-R	10-0017	0-016	VAIE				
		CRN Number		0F0943	7 215					
				J. USTO.	١٠٤ ان				<u> </u>	

- Notes:
 1. Supply 316SS Tag, nameplate containing tag number, model/serial number, body ratings, operating conditions/limitations.
 2. Ambient Temperature is -40 °C to 40 °C (-40 °F to 104 °F).
 3. Flow Transmitter is mounted vertically and top mounted on threaded 11/2" Tee.

KEYSTONE XL OIL PIPELINE PO:25472-101-POA-JF00-W0001

In-6-man-1-5 To 1 1-5		SHT2		
Instrument Tag List	FLOW TRANSMITTER	DATASHEET No. 25472-101-JFD-JF00-W0001	REV:	
Tag Number	P & ID Number	Line/Equipment Number		
1 121-HRDBP-B2-FT-1025	25472-100-M6-0000-W0010	B2-MP-02		
2 121-HRDBP-B2-FT-1026	25472-100-M6-0000-W0010	B2-MP-02		
3 121-HRDBP-B3-FT-1035	25472-100-M6-0000-W0010	B3-MP-03		
4 121-HRDBP-B3-FT-1036 5 121-HRDBP-B4-FT-1045	25472-100-M6-0000-W0010	B3-MP-03		
6 121-HRDBP-B4-FT-1045	25472-100-M6-0000-W0010	B4-MP-04		
7 121-HRDBP-B5-FT-1055	25472-100-M6-0000-W0010 25472-100-M6-0000-W0010	B4-MP-04 B5-MP-05		
8 121-HRDBP-B5-FT-1056	25472-100-M6-0000-W0010	B5-MP-05		
9 122-LKSDE-B1-FT-1015	25472-100-M6-0000-W0010	B1-MP-01		
10 122-LKSDE-B1-FT-1016	25472-100-M6-0000-W0010	B1-MP-01		
11 122-LKSDE-B2-FT-1025	25472-100-M6-0000-W0010	B2-MP-02		
12 122-LKSDE-B2-FT-1026	25472-100-M6-0000-W0010	B2-MP-02		
13 122-LK\$DE-B3-FT-1035	25472-100-M6-0000-W0010	B3-MP-03		
14 122-LKSDE-B3-FT-1036	25472-100-M6-0000-W0010	B3-MP-03		
15 123-MTRSP-B1-FT-1015	25472-100-M6-0000-W0010	B1-MP-01		
16 123-MTRSP-B1-FT-1016	25472-100-M6-0000-W0010	B1-MP-01		
17 123-MTRSP-B2-FT-1025	25472-100-M6-0000-W0010	B2-MP-02		
18 123-MTRSP-B2-FT-1026 19 123-MTRSP-B3-FT-1035	25472-100-M6-0000-W0010	82-MP-02		
20 123-MTRSP-B3-FT-1035	25472-100-M6-0000-W0010	B3-MP-03		
20 123-M1RSP-83-F1-1035 21 124-OYENS-81-FT-1015	25472-100-M6-0000-W0010 25472-100-M6-0000-W0010	B3-MP-03 B1-MP-01		
22 124-OYENS-B1-FT-1016	25472-100-M6-0000-W0010	B1-MP-01		
23 124-OYENS-B2-FT-1025	25472-100-M6-0000-W0010	82-MP-02		
24 124-OYENS-B2-FT-1026	25472-100-M6-0000-W0010	B2-MP-02	···	
25 124-OYENS-B3-FT-1035	25472-100-M6-0000-W0010	B3-MP-03		
26 124-OYENS-B3-FT-1036	25472-100-M6-0000-W0010	B3-MP-03		
27 125-BDLSS-B1-FT-1015	25472-100-M6-0000-W0010	B1-MP-01		
28 125-BDLSS-B1-FT-1016	25472-100-M6-0000-W0010	B1-MP-01		
29 125-BDLSS-B2-FT-1025	25472-100-M6-0000-W0010	B2-MP-02		
30 125-BDLSS-B2-FT-1026	25472-100-M6-0000-W0010	B2-MP-02		
31 125-BDLSS-B3-FT-1035	25472-100-M6-0000-W0010	83-MP-03		
32 125-BDLSS-B3-FT-1036	25472-100-M6-0000-W0010	B3-MP-03		
33 126-FXVLY-B1-FT-1015	25472-100-M6-0000-W0010	B1-MP-01		
34 126-FXVLY-B1-FT-1016 35 126-FXVLY-B2-FT-1025	25472-100-M6-0000-W0010	B1-MP-01		
36 126-FXVLY-B2-FT-1026	25472-100-M6-0000-W0010 25472-100-M6-0000-W0010	B2-MP-02		
37 126-FXVLY-B3-FT-1035	25472-100-M6-0000-W0010	B2-MP-02 B3-MP-03		
38 126-FXVLY-B3-FT-1036	25472-100-M6-0000-W0010	B3-MP-03		
39 127-PIAPT-B1-FT-1015	25472-100-M6-0000-W0010	B1-MP-01		
40 127-PIAPT-B1-FT-1016	25472-100-M6-0000-W0010	B1-MP-01		
41 127-PIAPT-B2-FT-1025	25472-100-M6-0000-W0010	82-MP-02		
42 127-PIAPT-B2-FT-1026	25472-100-M6-0000-W0010	B2-MP-02		
43 127-PIAPT-B3-FT-1035	25472-100-M6-0000-W0010	B3-MP-03		
44 127-PIAPT-B3-FT-1036	25472-100-M6-0000-W0010	83-MP-03		
45 128-GRSSY-B1-FT-1015	25472-100-M6-0000-W0010	B1-MP-01		
46 128-GRSSY-B1-FT-1016 47 128-GRSSY-B2-FT-1025	25472-100-M6-0000-W0010	B1-MP-01		
47 128-GRSSY-B2-FT-1025 48 128-GRSSY-B2-FT-1026	25472-100-M6-0000-W0010	B2-MP-02		
49 128-GRSSY-B2-F1-1026	25472-100-M6-0000-W0010 25472-100-M6-0000-W0010	B2-MP-02		
50 128-GRSSY-B3-FT-1036	25472-100-M6-0000-W0010	B3-MP-03 B3-MP-03		

			*	
1	5-44-5-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1			
dditional Comments:				