


CRUDE OIL TRANSPORTATION NETWORK / OIL BATTERIES TO REFINERY
INTERNAL CORROSION DIRECT ASSESSMENT (ICDA) AND CORROSION MITIGATION GUIDANCE

 Mitigation Change Necessary at Low Flow Conditions

No.	OD Inches	Length miles	PIPELINE SUSPENSION PROCEDURE		OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH	OIL RATE BPH					
			Suspension Option 1 (preferred)	Suspension Option 2 (alternative)																					
18	6	35.15	GLYCOL-BASED CORROSION INHIBITOR SLUG 20 gal 4 hours prior to shut-in	BASELINE SCORE	LOW		NORMAL		MAX																
					50	50	5	5	1																
					PIGGING + GLYCOL SLUG Pigging: 90 days / Glycol: 20 gal				PIGGING ONLY Pigging: 90 days																
19	10	31.2	BATCH INHIBITOR APPLIED BETWEEN PIGS 936 gal 1 hour prior to shut-in	BASELINE SCORE	LOW																NORMAL		MAX		
					100	100	100	100	100	100	100	25	25	25	10	10	10								
					PIGGING + BATCH INHIBITOR - PRE-EXISTING CORROSION DAMAGE Inhibitor: 936 gal / 30 days				PIGGING + GLYCOL SLUG Pigging: 90 days / Glycol: 20 gal				PIGGING ONLY Pigging: 90 days												
20	6	14.9	NO ACTION REQUIRED	BASELINE SCORE	LOW		NORMAL		MAX																
					10	10	10	10	1	1	1	1	1												
					PIGGING ONLY Pigging: 90 days																				
21	8	0.75	NO ACTION REQUIRED	BASELINE SCORE	LOW										NORMAL		MAX								
					50	50	50	25	25	25	25	25	25	5	5	5	5								
					PIGGING + GLYCOL SLUG Pigging: 60 days / Glycol: 10 gal										PIGGING ONLY Pigging: 90 days										
22	12	0.375	GLYCOL-BASED CORROSION INHIBITOR SLUG 20 gal 1 hour prior to shut-in	BASELINE SCORE	LOW		NORMAL		MAX																
					50	50	25	25	25	25	25	25	25	10	10	10	10	10							
					PIGGING + GLYCOL SLUG Pigging: 60 days / Glycol: 5 gal										PIGGING ONLY Pigging: 90 days										
23	12	0.375	GLYCOL-BASED CORROSION INHIBITOR SLUG 20 gal 1 hour prior to shut-in	BASELINE SCORE	LOW		NORMAL		MAX																
					25	25	10	10	10	10	10	10	10	10	10	10	10	10							
					PIGGING + GLYCOL SLUG Pigging: 60 days / Glycol: 5 gal				PIGGING ONLY Pigging: 90 days																
24	6	7.4	GLYCOL-BASED CORROSION INHIBITOR SLUG 20 gal 1 hour prior to shut-in <i>(a uniquely conservative approach because of possible exposure to oxygen ingress from upstream tankage)</i>	BASELINE SCORE	LOW		NORMAL		MAX																
					50	50	5	5	5	5	5	5	5	5	5	5	5								
					PIGGING + GLYCOL SLUG Pigging: 60 days / Glycol: 40 gal				PIGGING ONLY Pigging: 90 days																