

Smart pig  
12/2023/S

### In Line inspection Services

National Petroleum company have pipeline in its location which is close to Iraqi border, use to transport natural gas from south Area (ANQA) to north area (dehydration plant), its built in 2002 by welded connecting pipe and using to layer of outer insulation coating, with the following specifications:

- Length :40 km
- Diameter :16 inch
- API5L SCH STD
- Use for natural gas (attach the composition)
- Working pressure :400 psi
- Flow rate:15mmscf
- Start working: Aug.2003
- CO<sub>2</sub>=7.5%
- H<sub>2</sub>S=10 ppm
- W. T=10 mm



And looking to make in line inspection by using intelligent pig as the following conditions

#### In line inspection services

corrosion and metal loss assessment use tools for metal loss assessment with high resolution Axial MFL inspection tools are used to determine the ionization and severity of metal loss anomalies within the line. determine if loss is internal or external or external.

Generate an inspection completion report generate a preliminary inspection report (electronic copy) and final inspection report (electronic copy) following POF specification and requirements for intelligent pig inspection of pipelines, version 2009, version 2016

An electronic copy of the final inspection report will be provided on USB flash Drive or Hard Drive along with the row inspection data and interactive report a software.

Component	Un Normalized	Normalized	Dry Ideal CV (Btu/SCF)	Dry Ideal Relative Density	Dry GPM (USgal / MCF)	Wet Ideal CV (Btu/SCF)	Wet Ideal Relative Density	Wet GPM (USgal / MCF)	Peak Times	Peak Areas	Peak Heights	Response Factor
1 Propane	0.02439	0.02345	0.5901	0.000357	0.006	0.5798	0.000351	0.006	53.550	106458	1106	2.11428
2 Isobutane	0.00028	0.00027	0.0087	0.000005	0.000	0.0085	0.000005	0.000	74.875	1440	38	1.63862
3 Butane	0.00114	0.00110	0.0359	0.000022	0.000	0.0352	0.000022	0.000	83.775	6102	54	7.01862
4 Neopentane	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
5 Isopentane	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
6 Pentane	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
7 Hexane+	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
8 Nitrogen	0.92704	0.89142	0	0.008622	0.098	0.0000	0.008472	0.097	37.775	3058234	37176	3.32342
9 Methane	95.04401	91.39239	923.0631	0.506228	15.523	906.9957	0.497416	15.253	47.475	174784265	696312	1.29418
10 Carbon Dioxide	7.46762	7.18071	0	0.109113	1.228	0.0000	0.107214	1.206	85.425	20357837	85102	1.33484
11 Ethylene	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
12 Ethane	0.53106	0.51066	9.0371	0.005302	0.137	8.8798	0.005209	0.134	204.475	1133583	2343	1.56594
13												
14 Hexanes	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
15 Heptanes	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
16 Octanes	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
17 Nonanes	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
18 Decanes	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
19 Undecanes	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
20												
21 Ethane-	0	0	0	0	0	0.0000	0.000000	0	38.650	193688769	1444930	0
22 Propane+	0	0	0	0	0	0.0000	0.000000	0	27.550	149044	1318	0
23												
24 Hydrogen Sulfide	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
25 Water	0	0	0	0	0	0.0000	0.010827	0.100	0	0	0	0
26 Helium	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
27 Hydrogen	0	0	0	0	0	0.0000	0.000000	0	0	0	0	0
28												
29												
30 Total	103.99554	100.00000	932.7348	0.629649	16.993	916.4991	0.629517	16.797				

Value  
 Compressibility: 0.99788 Dry  
 Real Normal Density: 0.04827 (lbm/ft<sup>3</sup>) Wet  
 Real Relative Density: 0.63076 0.04826 (lbm/ft<sup>3</sup>)  
 Ideal CV: 932.7349 (Btu/SCF) 0.63065  
 Wobbe: 1179.652 (Btu/SCF) 0.63065 (Btu/SCF)  
 CV: 936.8821 (Btu/SCF) 1159.267 (Btu/SCF)  
 Time: 01/22/2023 11:15:13 920.6171 (Btu/SCF)

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