



### Comparison Of The Capabilities Of The Analogue DCVG And Sham Combined Digital CIPS/DCVG Lateral Technique During A Survey

Note. Sham DCVG data loggers can require up to 25 different steps to set up to survey.

N°	Item	ANALOGUE DCVG	SHAM DCVG - LATERAL CIPS
1	Equipment Easy to Use	Yes	No - up to 25 different steps.
2	Uses Trailing Wire	No	Yes - vital
3	Fault Location	To 15 cm	To within Several Metres
4	Locates Small Defects	Yes	No Up to 70 % of All Faults Missed
5	Fault Location During Survey	Yes	No – Post Processing
6	Gives Severity of Fault	Yes All Faults	Large Ones Only
7	Protection Level	Yes Based on Current Flow	Yes, Based on Potential
8	Locates Pipe	Yes to a Few cm	No, You Need to Locate Pipe
9	Fault Shape	Yes, Isopotential Plot	No
10	Data Sensitive to Pipe Location	No as Locates Epicentre	Very
11	Data Fault Specific	Yes	No
12	Fault CP Current Flow	Yes, Anodic/Cathodic Method	No
13	Interference of Other CP	Yes by Pulse Amplitude	Yes by Potential
14	Test Interference On Structure	Yes by Pulse Amplitude	Yes by Potential
15	DC Traction Pick Up Location	Yes, Large mV OFF Values	Possibly
16	DC Traction Discharge	Yes, Negative mV Values	Possibly
17	Locating New Drainage Bonds	Yes	No
18	Test Insulating Flanges	Yes by Pulse Amplitude	Yes by Potential
19	Test Pipe Support Insulators	Yes by Pulse Amplitude	Yes by Potential
20	Field Joint Problem Recognition	Yes, By Fault Spacing	No
21	Field Bend Evaluation	Yes	Possibly
22	Valve Coating Evaluation	Yes	Possibly
23	CP Cable / Pipe Coating Repair	Yes, Fault at Test Post	No
24	Metal Test Post Shorts	Yes by Pulse Amplitude	Potential
25	Pipe / Cable Identification	Yes	No
26	Effective T/R Influence	Yes, Decay of Pulse Amplitude	Possibly Potential Decay

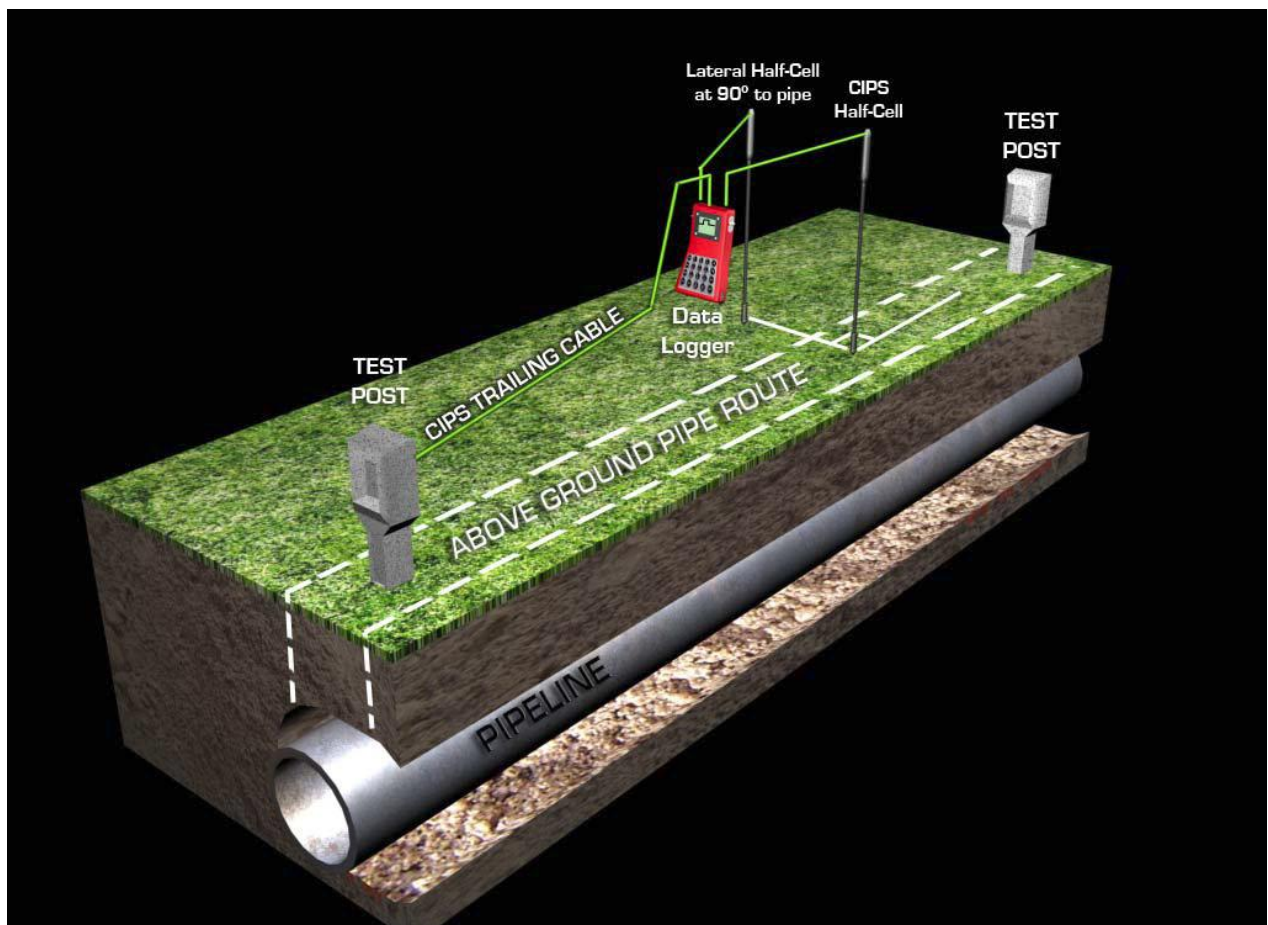


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N°	Item	ANALOGUE DCVG	SHAM DCVG - LATERAL CIPS
27	Identify Fault CP Source	Yes	No
28	Parallel Pipe Survey	Yes	Poor
29	Plant / Tank Farm Survey	Yes	No
30	Locate Ground Beds and Anodes	Yes	No
31	Locate Sacrificial Anodes	Yes, Anodic / Anodic Defect	No
32	Anode Field Effect Sizing	Yes	Possibly
33	Survey Under River Water	Yes	Yes Special Method
34	Survey Under Sea Water	Yes, Only Change Electrodes	Yes Special Method
35	Evaluate Casing / Pipe Short	Yes by Pulse Amplitude	Potential
36	Ease of Setting up to Relocate	Yes, Very Easy	Complex
37	Use on Pipe with no CP	Yes Temporary CP System	Yes Data Suspect
38	Can be Operated Same Time as Pipe Locator	Yes, No Influence	Depends on Data Logger
39	Survey Under Power Lines	Yes	Yes but can be Affected
40	Survey When CP Weak	Yes	No if ON/OFF Potentials Same
41	Test Post Step Errors	No	Yes when Wire Moved



**A Schematic of Lateral CIPS. The literature on this SHAM technique uses the distance of the Lateral Electrode to the CIPS Electrode to vary from 2 metres to remote earth (15 metres). 2 metres would represent only a fraction of the Lateral Gradient resulting in meaningless rubbish data. Lateral CIPS is not the same as true Analogue DCVG.**