

**National Transportation Safety Board
Internal Inspection Factual
Bellingham, Washington
Accident DCA99-MP008**

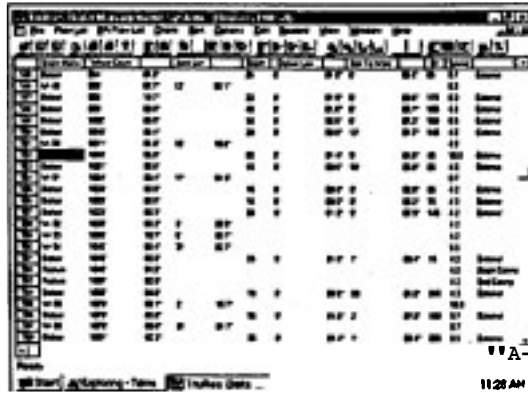
Appendix 2 Linalog Plus Bulletin



Linalog" Plus: Conventional- resolution surveys that are reliable and cost effective.

Tuboscope Vetco's robust and reliable Linalog Plus inspection system has become the industry standard for conventional-resolution pipeline surveys. This cost-effective system has successfully logged more miles than any competitive service and has contributed to our leadership position, with the world's highest first-run success rate.

Although Linalog Plus surveys will generate valuable results in a wide range of environments, your Tuboscope representative will work closely with you to conduct a preliminary risk-based assessment of your pipeline. This is our way of ensuring that each Tuboscope inspection survey we perform is right for each project.



Feature ID	Feature Name	Start Station	End Station	Depth (mm)	Length (mm)	Orientation	Defect Type
001	Weld	1000	1005	0	5000	0	Weld
002	Weld	1010	1015	0	5000	0	Weld
003	Weld	1020	1025	0	5000	0	Weld
004	Weld	1030	1035	0	5000	0	Weld
005	Weld	1040	1045	0	5000	0	Weld
006	Weld	1050	1055	0	5000	0	Weld
007	Weld	1060	1065	0	5000	0	Weld
008	Weld	1070	1075	0	5000	0	Weld
009	Weld	1080	1085	0	5000	0	Weld
010	Weld	1090	1095	0	5000	0	Weld
011	Weld	1100	1105	0	5000	0	Weld
012	Weld	1110	1115	0	5000	0	Weld
013	Weld	1120	1125	0	5000	0	Weld
014	Weld	1130	1135	0	5000	0	Weld
015	Weld	1140	1145	0	5000	0	Weld
016	Weld	1150	1155	0	5000	0	Weld
017	Weld	1160	1165	0	5000	0	Weld
018	Weld	1170	1175	0	5000	0	Weld
019	Weld	1180	1185	0	5000	0	Weld
020	Weld	1190	1195	0	5000	0	Weld
021	Weld	1200	1205	0	5000	0	Weld
022	Weld	1210	1215	0	5000	0	Weld
023	Weld	1220	1225	0	5000	0	Weld
024	Weld	1230	1235	0	5000	0	Weld
025	Weld	1240	1245	0	5000	0	Weld
026	Weld	1250	1255	0	5000	0	Weld
027	Weld	1260	1265	0	5000	0	Weld
028	Weld	1270	1275	0	5000	0	Weld
029	Weld	1280	1285	0	5000	0	Weld
030	Weld	1290	1295	0	5000	0	Weld
031	Weld	1300	1305	0	5000	0	Weld
032	Weld	1310	1315	0	5000	0	Weld
033	Weld	1320	1325	0	5000	0	Weld
034	Weld	1330	1335	0	5000	0	Weld
035	Weld	1340	1345	0	5000	0	Weld
036	Weld	1350	1355	0	5000	0	Weld
037	Weld	1360	1365	0	5000	0	Weld
038	Weld	1370	1375	0	5000	0	Weld
039	Weld	1380	1385	0	5000	0	Weld
040	Weld	1390	1395	0	5000	0	Weld
041	Weld	1400	1405	0	5000	0	Weld
042	Weld	1410	1415	0	5000	0	Weld
043	Weld	1420	1425	0	5000	0	Weld
044	Weld	1430	1435	0	5000	0	Weld
045	Weld	1440	1445	0	5000	0	Weld
046	Weld	1450	1455	0	5000	0	Weld
047	Weld	1460	1465	0	5000	0	Weld
048	Weld	1470	1475	0	5000	0	Weld
049	Weld	1480	1485	0	5000	0	Weld
050	Weld	1490	1495	0	5000	0	Weld
051	Weld	1500	1505	0	5000	0	Weld
052	Weld	1510	1515	0	5000	0	Weld
053	Weld	1520	1525	0	5000	0	Weld
054	Weld	1530	1535	0	5000	0	Weld
055	Weld	1540	1545	0	5000	0	Weld
056	Weld	1550	1555	0	5000	0	Weld
057	Weld	1560	1565	0	5000	0	Weld
058	Weld	1570	1575	0	5000	0	Weld
059	Weld	1580	1585	0	5000	0	Weld
060	Weld	1590	1595	0	5000	0	Weld
061	Weld	1600	1605	0	5000	0	Weld
062	Weld	1610	1615	0	5000	0	Weld
063	Weld	1620	1625	0	5000	0	Weld
064	Weld	1630	1635	0	5000	0	Weld
065	Weld	1640	1645	0	5000	0	Weld
066	Weld	1650	1655	0	5000	0	Weld
067	Weld	1660	1665	0	5000	0	Weld
068	Weld	1670	1675	0	5000	0	Weld
069	Weld	1680	1685	0	5000	0	Weld
070	Weld	1690	1695	0	5000	0	Weld
071	Weld	1700	1705	0	5000	0	Weld
072	Weld	1710	1715	0	5000	0	Weld
073	Weld	1720	1725	0	5000	0	Weld
074	Weld	1730	1735	0	5000	0	Weld
075	Weld	1740	1745	0	5000	0	Weld
076	Weld	1750	1755	0	5000	0	Weld
077	Weld	1760	1765	0	5000	0	Weld
078	Weld	1770	1775	0	5000	0	Weld
079	Weld	1780	1785	0	5000	0	Weld
080	Weld	1790	1795	0	5000	0	Weld
081	Weld	1800	1805	0	5000	0	Weld
082	Weld	1810	1815	0	5000	0	Weld
083	Weld	1820	1825	0	5000	0	Weld
084	Weld	1830	1835	0	5000	0	Weld
085	Weld	1840	1845	0	5000	0	Weld
086	Weld	1850	1855	0	5000	0	Weld
087	Weld	1860	1865	0	5000	0	Weld
088	Weld	1870	1875	0	5000	0	Weld
089	Weld	1880	1885	0	5000	0	Weld
090	Weld	1890	1895	0	5000	0	Weld
091	Weld	1900	1905	0	5000	0	Weld
092	Weld	1910	1915	0	5000	0	Weld
093	Weld	1920	1925	0	5000	0	Weld
094	Weld	1930	1935	0	5000	0	Weld
095	Weld	1940	1945	0	5000	0	Weld
096	Weld	1950	1955	0	5000	0	Weld
097	Weld	1960	1965	0	5000	0	Weld
098	Weld	1970	1975	0	5000	0	Weld
099	Weld	1980	1985	0	5000	0	Weld
100	Weld	1990	1995	0	5000	0	Weld

The TDMS Flaw List digitally provides pipeline features, markers and defects.

- Highly cost-effective survey option
- Robust and reliable inspection system
- Most widely used system in the world
- Applicable in various environments
- Flexible digital reporting option

Conventional resolution. Exceptional results.

Tuboscope's Linalog Plus inspection system is based on the magnetic flux leakage inspection tool, which uses specially designed circuits to uniformly magnetize the pipe wall. Because the magnetic field levels are optimized for defect detection, any discontinuities in the pipe wall cause the uniform magnetic field to distort and "leak" outside the pipe. This leakage is detected by a circumferential array of sensors which generate electrical signals proportional to the defect's length and depth.

Linalog Plus reliably detects both isolated and

It provides the axial location of identified pipeline welds, features and markers as well as the axial location, length, depth and orientation of each anomaly representing 20% or greater pipe-wall loss. All anomalies detected below 20% are readily viewable on your survey record.

The output from our Linalog Plus system interfaces with our proven Data Management System (DMS) to deliver your survey results in a user-friendly Windows®-based format. What makes these results so exceptional is their flexibility: you are able to manipulate the information to fit virtually any reporting format you require.