

CONFIDENTIAL



Heaven Hill 3-7HU

MD
1"-100'

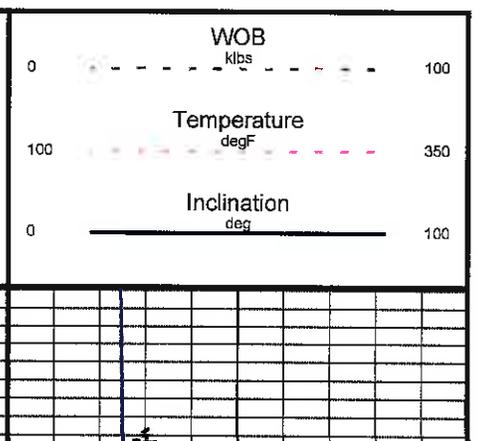
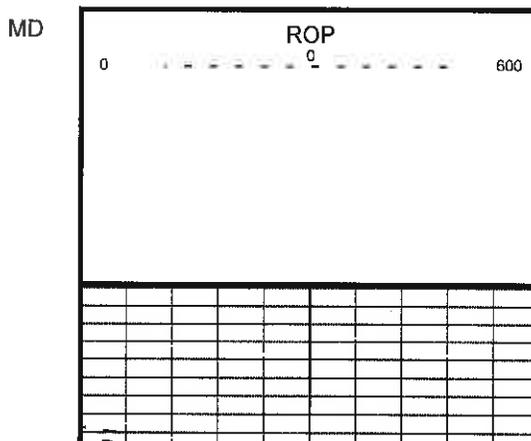
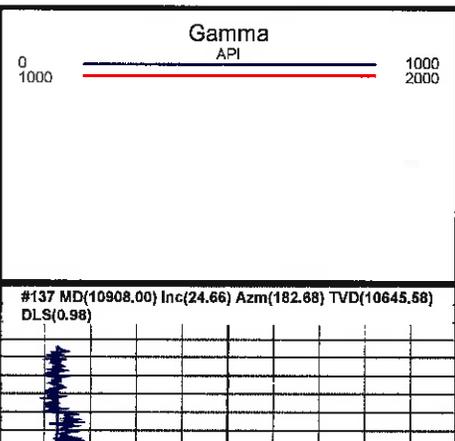
Company: Tug Hill Op
 Well Name: Heaven Hill 3-7HU
 API: 47-051-01969-00
 County/Parish: Marshall Co.
 State: West Virginia
 Country: USA
 Job number: THO-18-1083A
 Field: Ulica
 Rig Id: Nabors B28
 Survey Company: NZone Guidance LLC

Log measurements: FT
 Depth measured from: 10908 ft
 Maximum temperature: 248
 Depth Start: 10908 ft
 Depth End: 22722 ft
 Date Start: 10/30/2018
 Date End: 11/12/2018

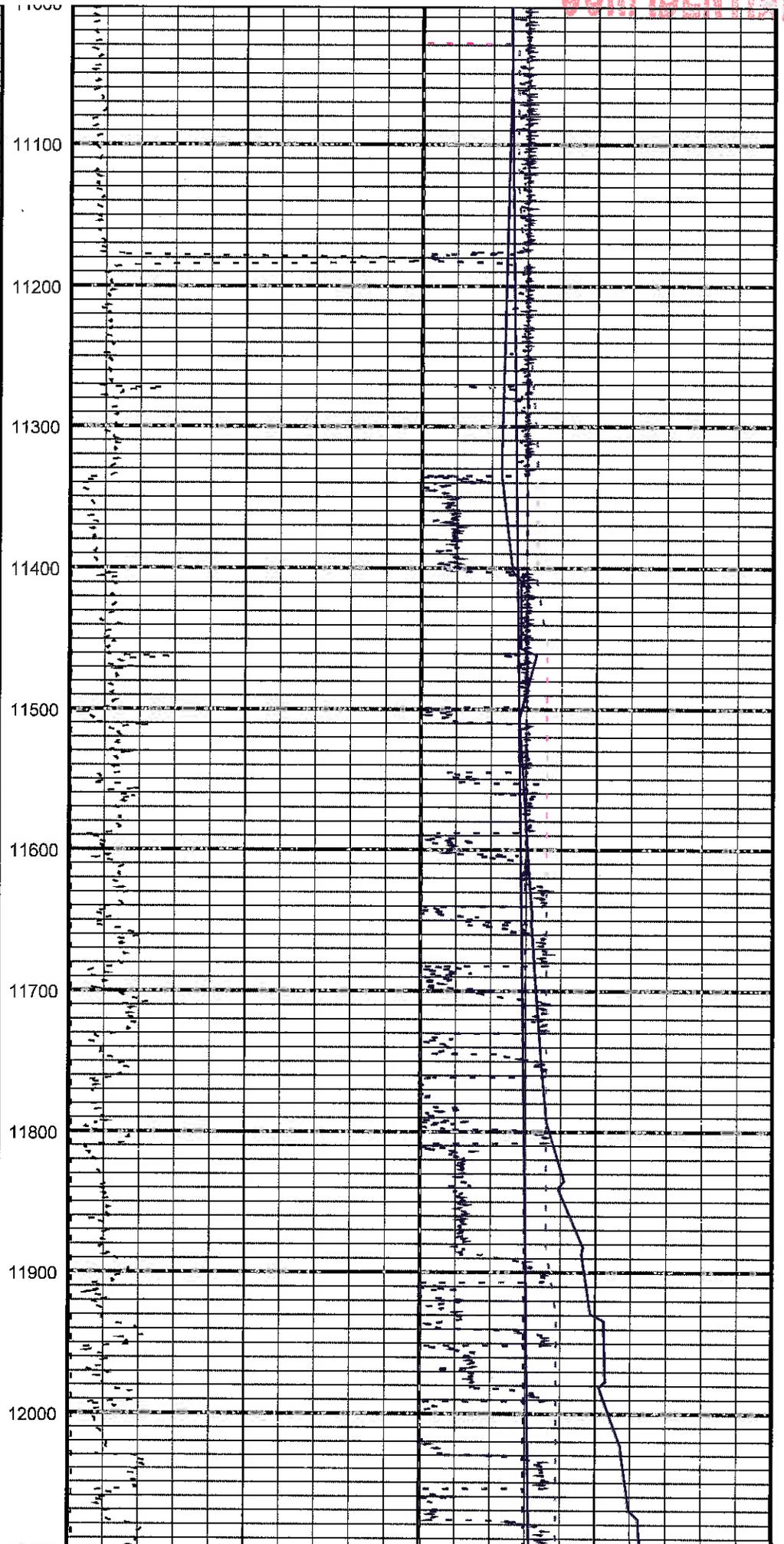
Casing Depth Size
 Surface: 10908 ft 13 3/8"
 Intermediate: 22722 ft 9 5/8"
 Intermediate2: 4.75"
 Mud Type: OBM
 Density: 13.35
 Viscosity: 55 SEC/QT
 Rm: Rmf: Rmc:
 Elevations
 KB: 1352
 GL: 1326
 DF: 1352

Run	Bit Size	Offsets		Depths		Dates	
		Gamma	Survey	Start	End	Start	End
1	8.50"	41.00 ft	52.00 ft	10908 ft	22722 ft	10/30/2018	11/12/2018
2				ft	ft		
3				ft	ft		
4							
5							
6							
7							
8							
9							
10							

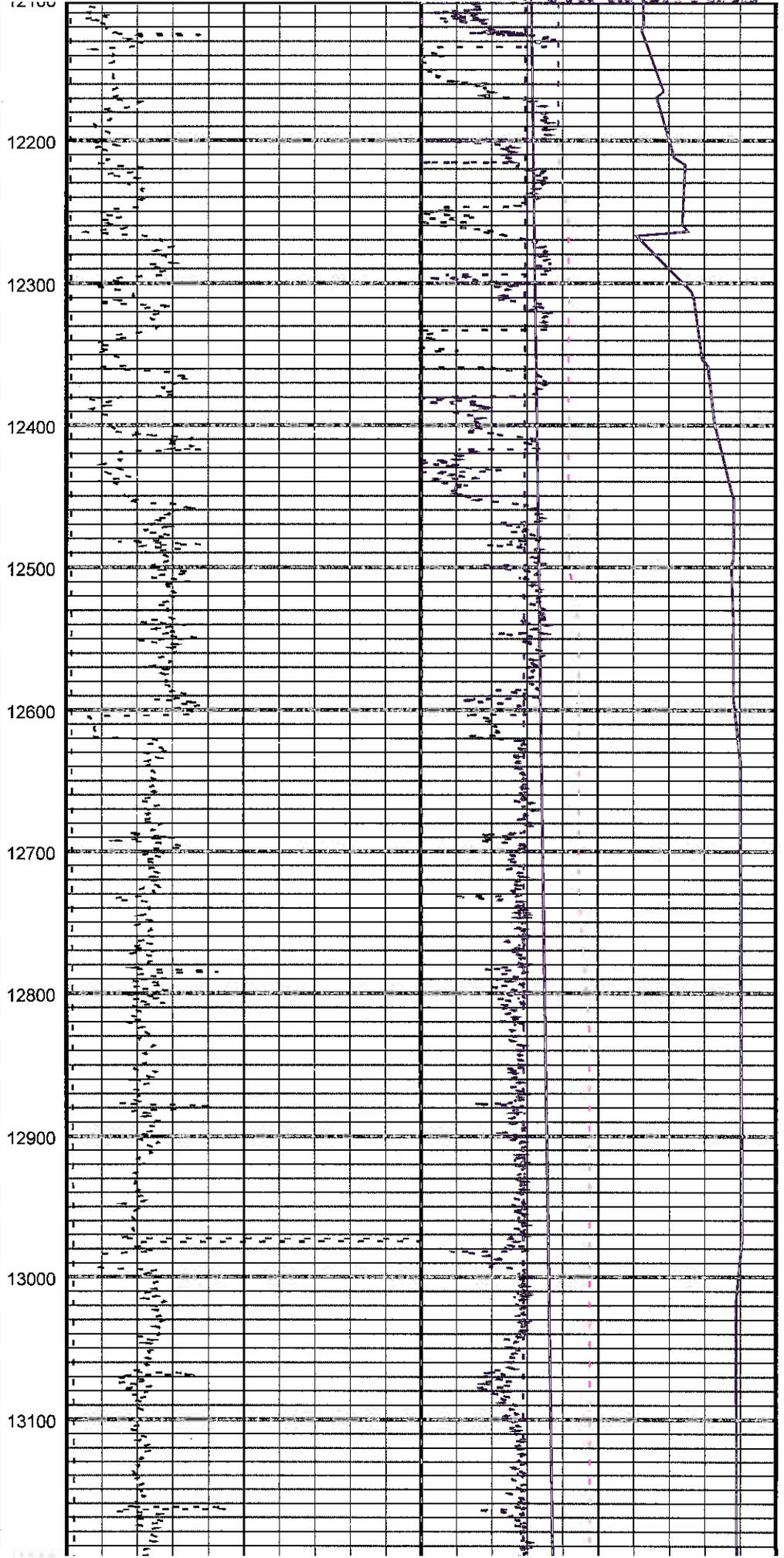
NZone Guidance LLC uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.



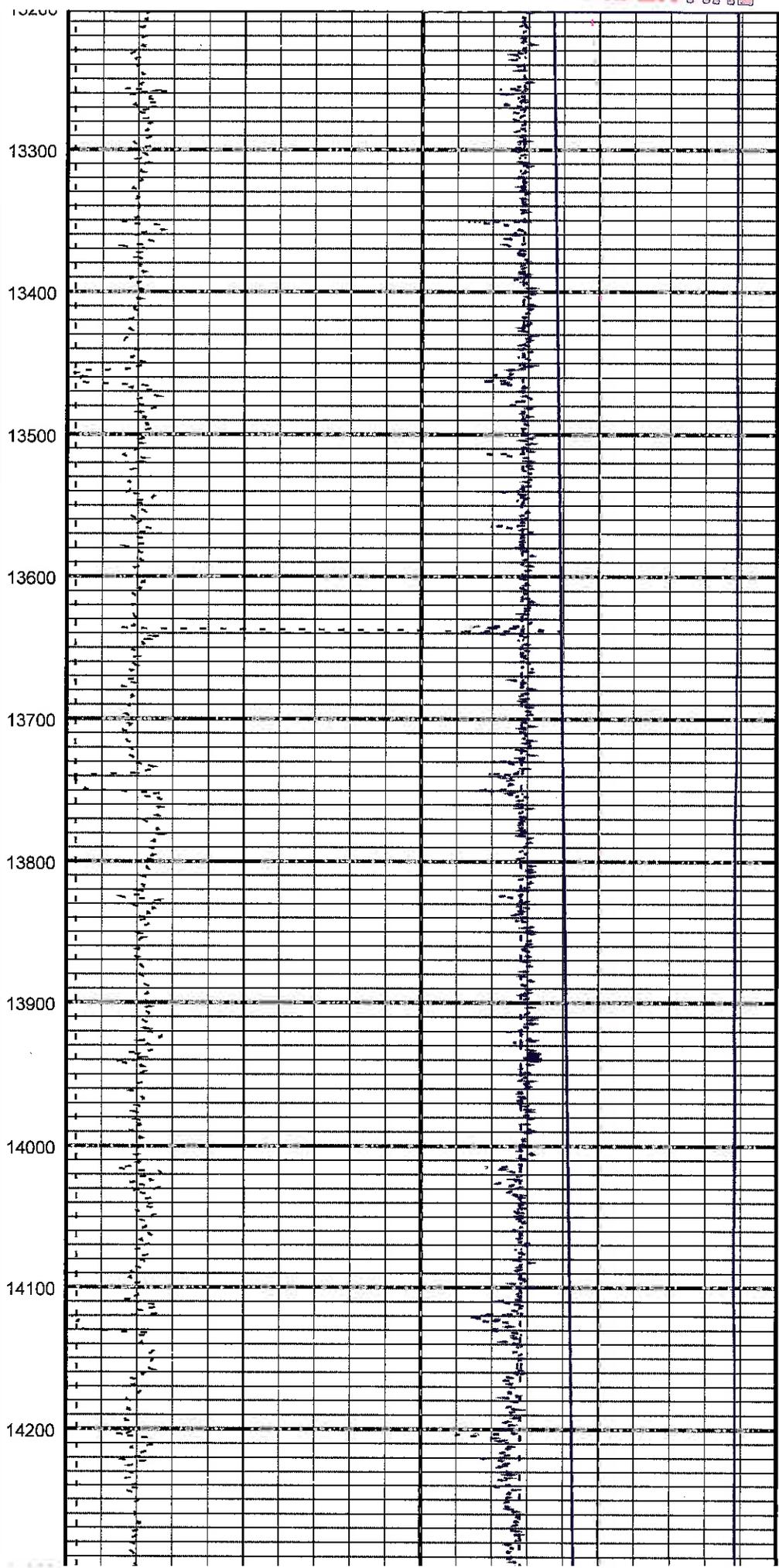
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#139 MD(11125.00) Inc(24.60) Azm(181.00) TVD(10842.23) DLS(0.85)
#140 MD(11220.00) Inc(23.70) Azm(180.80) TVD(10928.81) DLS(0.95)
#141 MD(11315.00) Inc(22.80) Azm(180.80) TVD(11016.19) DLS(0.95)
#143 MD(11350.00) Inc(23.50) Azm(174.80) TVD(11048.42) DLS(10.52)
#144 MD(11409.00) Inc(28.40) Azm(165.50) TVD(11101.48) DLS(10.77)
#145 MD(11456.00) Inc(28.20) Azm(165.30) TVD(11142.86) DLS(0.47)
#146 MD(11504.00) Inc(28.10) Azm(163.90) TVD(11185.19) DLS(1.39)
#147 MD(11551.00) Inc(29.20) Azm(161.10) TVD(11226.43) DLS(3.69)
#148 MD(11599.00) Inc(30.30) Azm(159.40) TVD(11268.11) DLS(2.89)
#149 MD(11646.00) Inc(31.70) Azm(159.20) TVD(11308.39) DLS(2.99)
#150 MD(11694.00) Inc(32.70) Azm(158.20) TVD(11349.01) DLS(2.36)
#151 MD(11746.00) Inc(34.20) Azm(156.40) TVD(11392.40) DLS(3.46)
#152 MD(11788.00) Inc(36.40) Azm(155.60) TVD(11426.67) DLS(5.35)
#153 MD(11835.00) Inc(40.90) Azm(155.80) TVD(11463.37) DLS(9.68)
#154 MD(11882.00) Inc(46.30) Azm(155.90) TVD(11497.39) DLS(11.49)
#155 MD(11929.00) Inc(48.50) Azm(154.70) TVD(11529.21) DLS(5.04)
#156 MD(11977.00) Inc(52.70) Azm(153.70) TVD(11559.67) DLS(8.90)
#157 MD(12024.00) Inc(57.20) Azm(150.30) TVD(11586.66) DLS(11.26)
#158 MD(12070.00) Inc(69.60) Azm(149.50) TVD(11610.76) DLS(5.42)

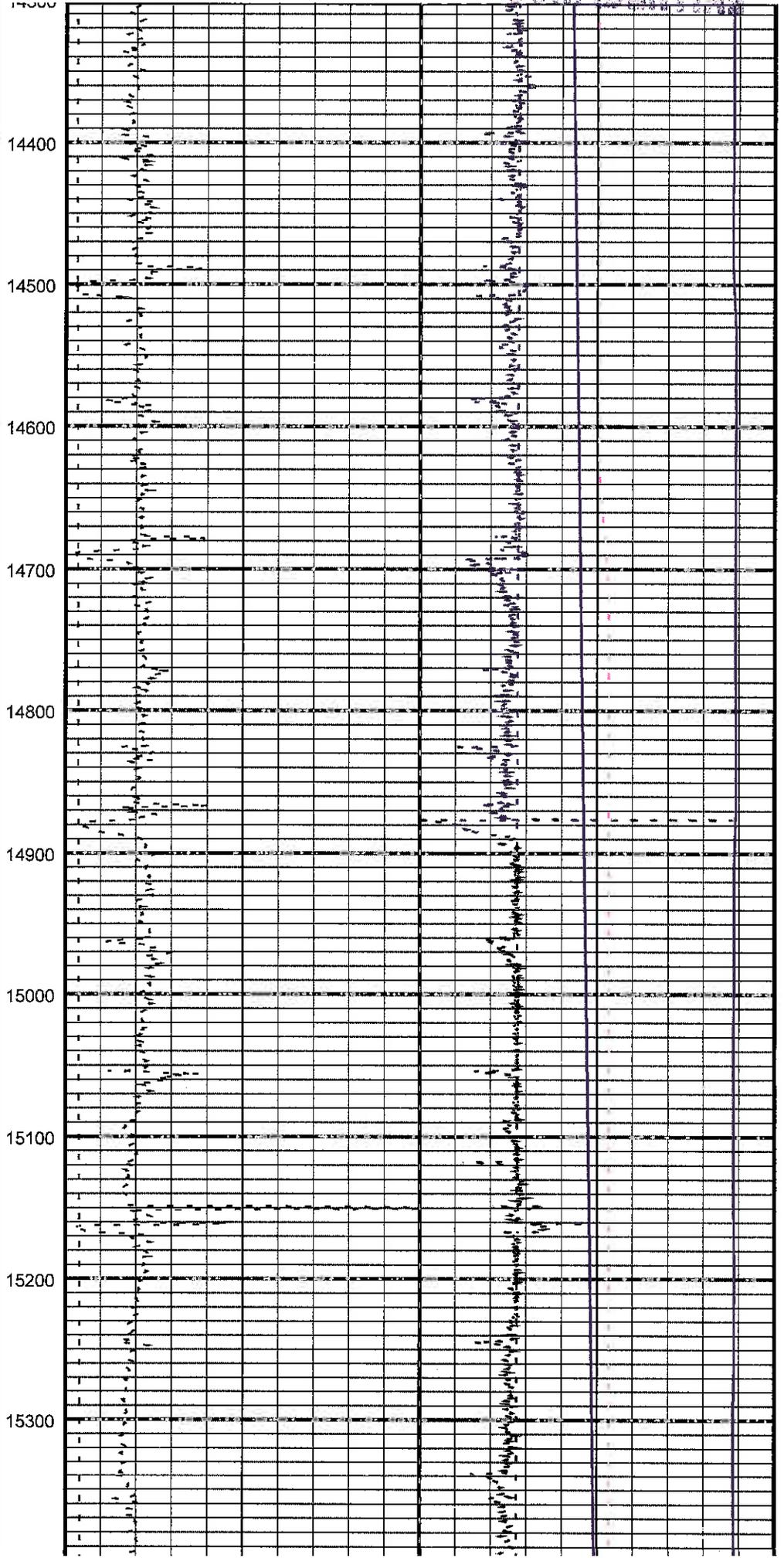
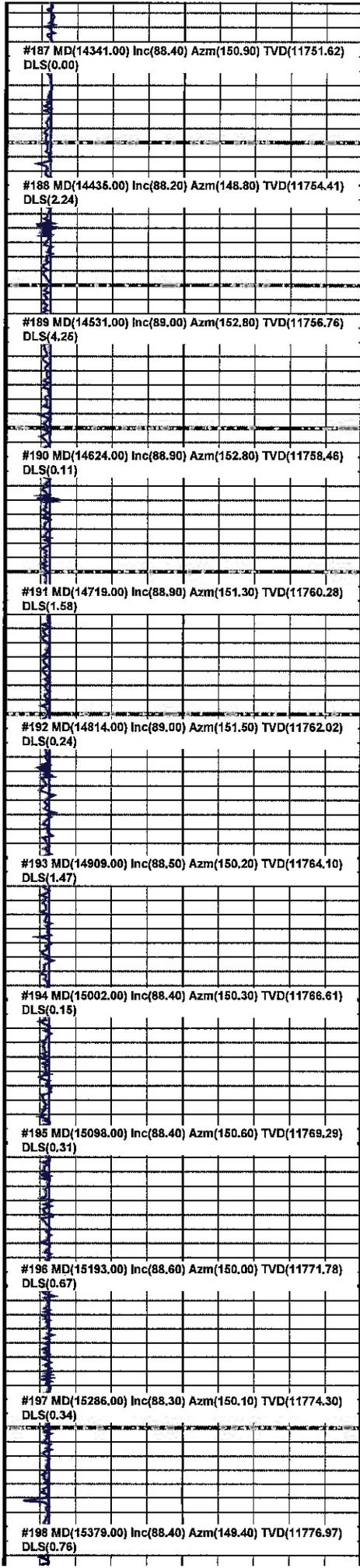


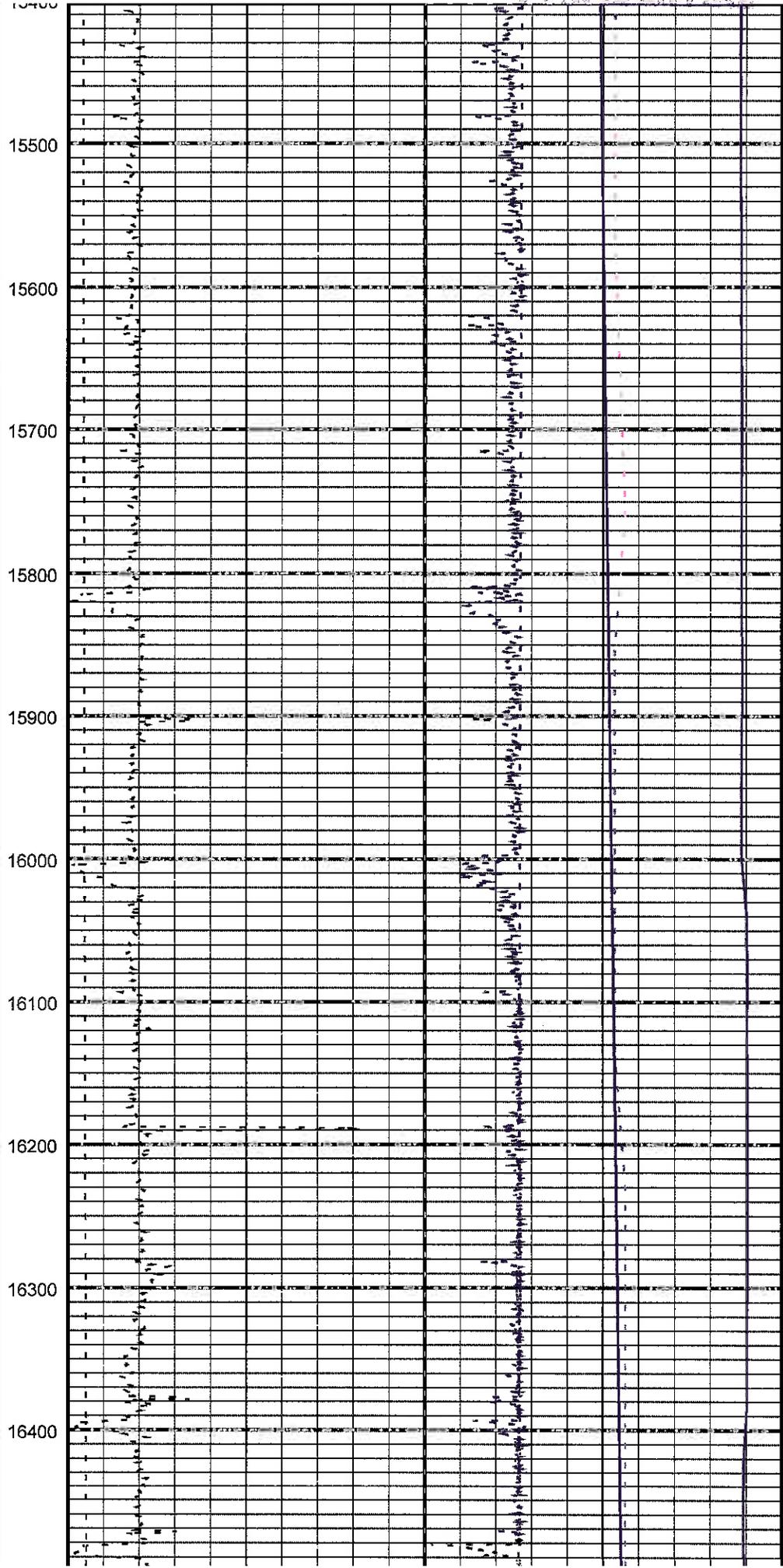
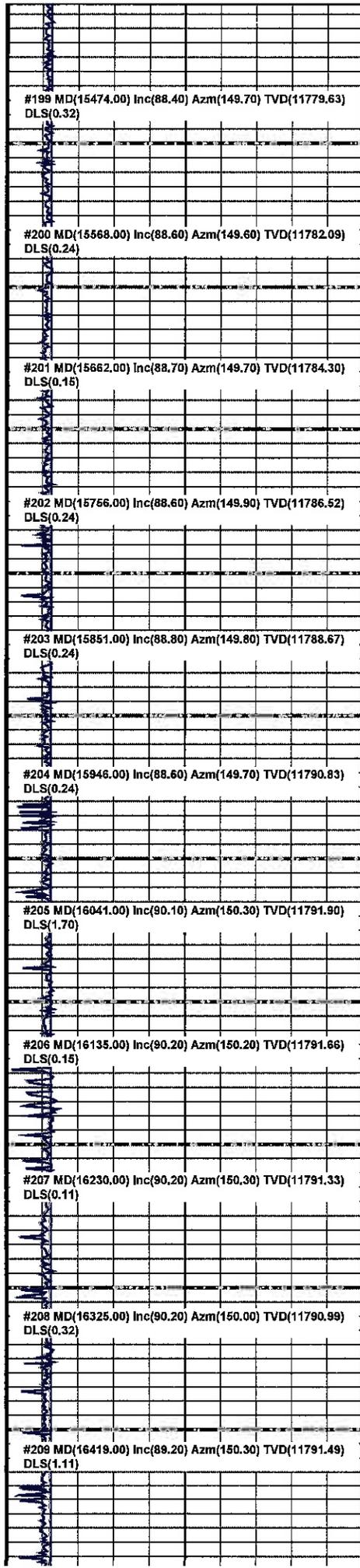
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#160 MD(12165.00) Inc(68.50) Azm(149.60) TVD(11653.11) DLS(11.74)
#161 MD(12212.00) Inc(71.50) Azm(149.60) TVD(11669.18) DLS(5.38)
#162 MD(12259.00) Inc(73.80) Azm(150.30) TVD(11683.19) DLS(5.10)
#163 MD(12306.00) Inc(76.40) Azm(150.00) TVD(11695.28) DLS(5.57)
#164 MD(12353.00) Inc(79.40) Azm(148.90) TVD(11705.13) DLS(6.78)
#165 MD(12400.00) Inc(82.90) Azm(148.20) TVD(11712.36) DLS(7.69)
#166 MD(12447.00) Inc(87.60) Azm(149.30) TVD(11716.25) DLS(10.27)
#167 MD(12494.00) Inc(88.10) Azm(149.60) TVD(11718.01) DLS(1.24)
#168 MD(12541.00) Inc(88.20) Azm(148.80) TVD(11719.53) DLS(0.48)
#169 MD(12636.00) Inc(90.10) Azm(149.70) TVD(11720.94) DLS(2.00)
#170 MD(12731.00) Inc(90.30) Azm(150.20) TVD(11720.61) DLS(0.57)
#171 MD(12826.00) Inc(90.40) Azm(150.10) TVD(11720.03) DLS(0.15)
#172 MD(12920.00) Inc(90.50) Azm(150.00) TVD(11719.29) DLS(0.15)
#173 MD(13015.00) Inc(88.80) Azm(150.30) TVD(11719.87) DLS(1.82)
#174 MD(13110.00) Inc(88.90) Azm(150.50) TVD(11721.78) DLS(0.24)

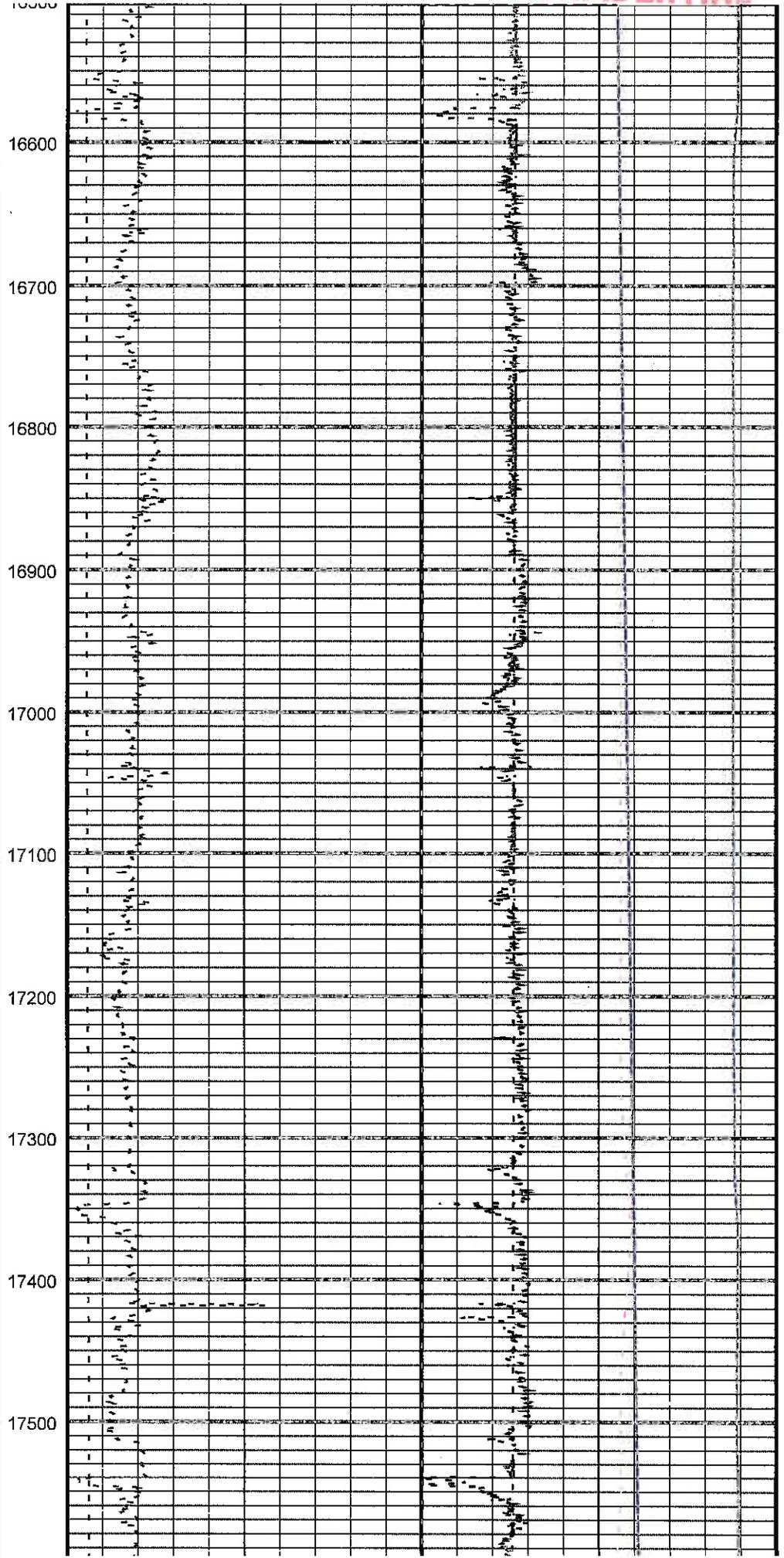
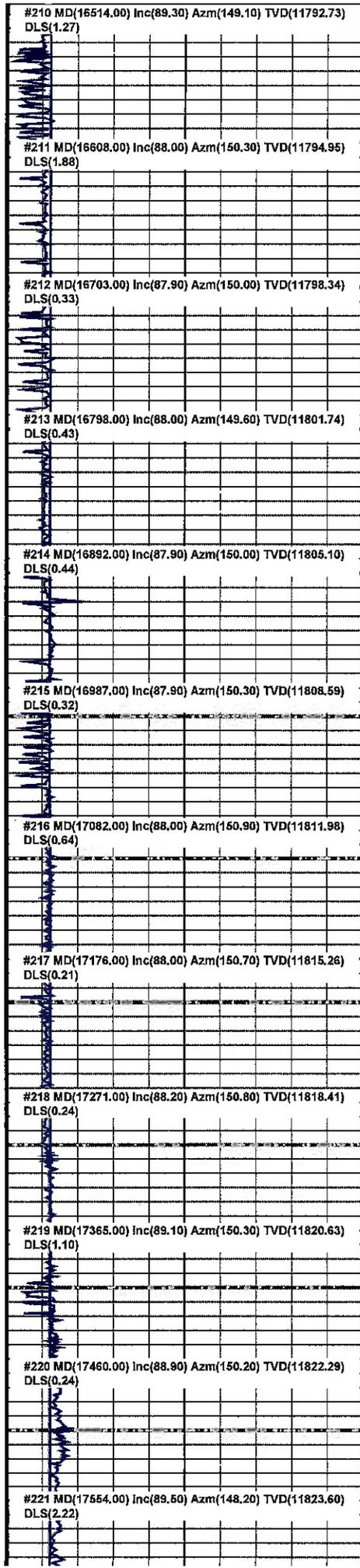


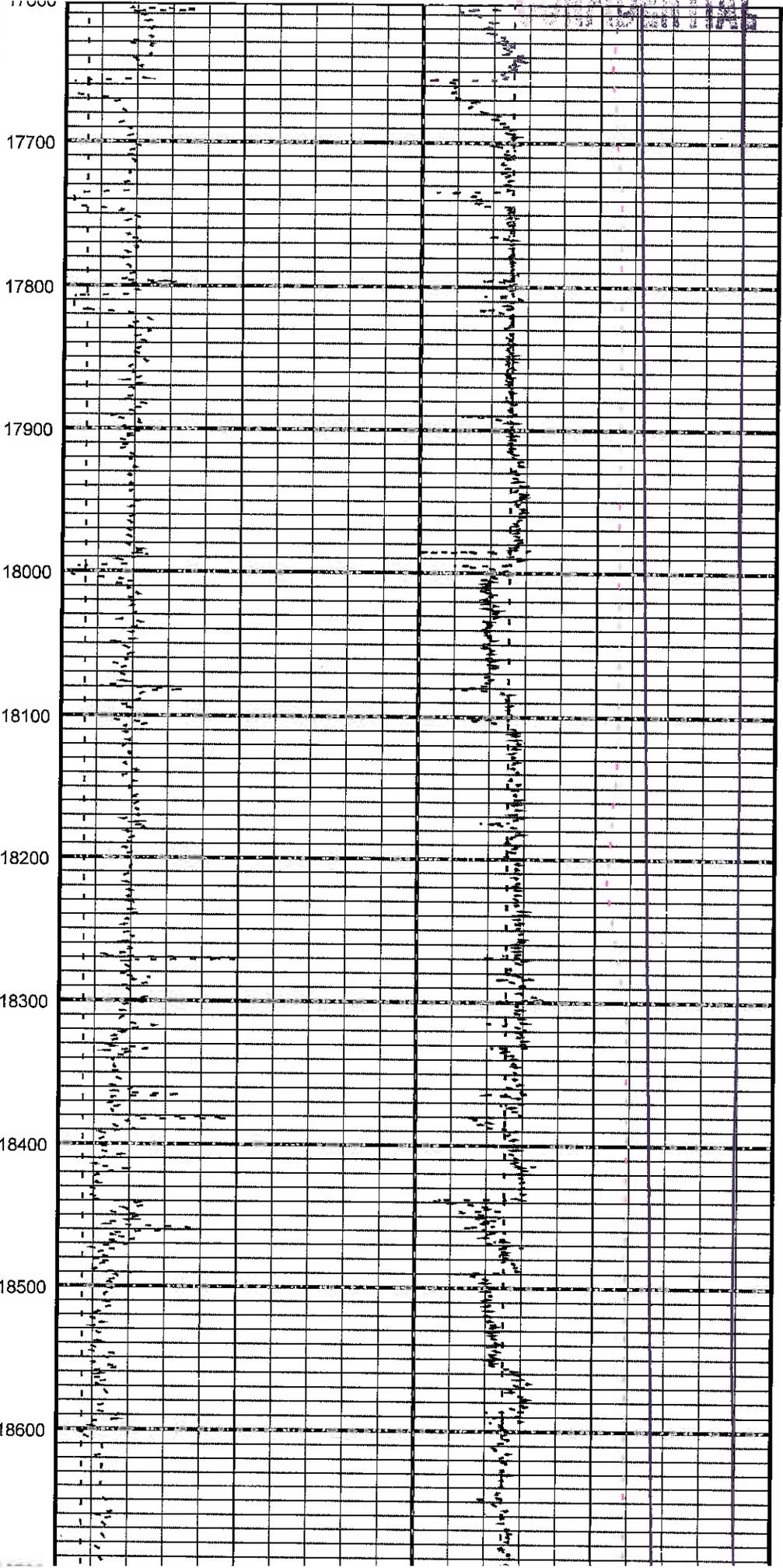
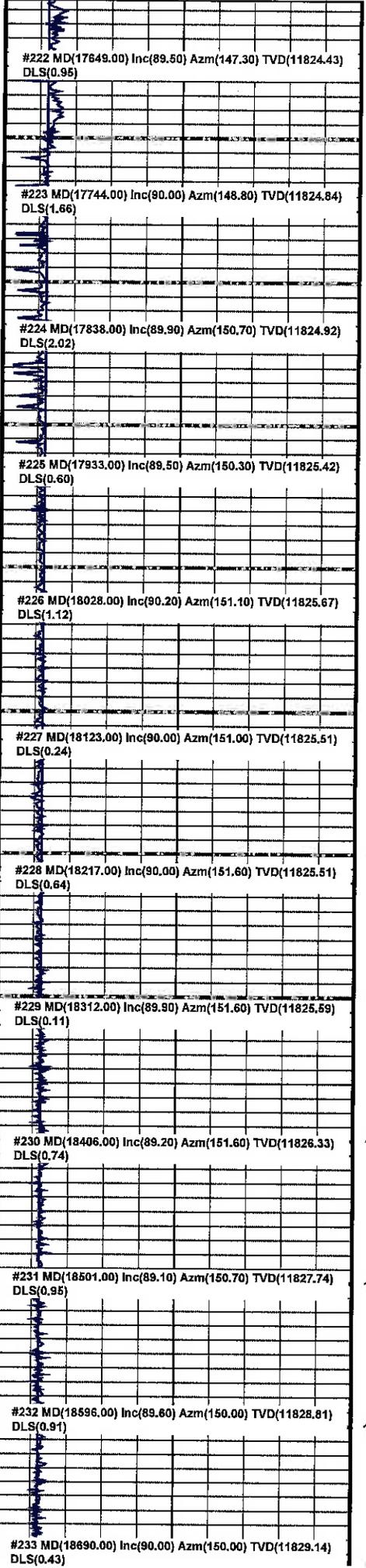
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#176 MD(13299.00) Inc(88.90) Azm(151.10) TVD(11725.41) DLS(0.11)
#177 MD(13394.00) Inc(88.80) Azm(152.10) TVD(11727.31) DLS(1.06)
#178 MD(13488.00) Inc(89.10) Azm(150.20) TVD(11729.05) DLS(2.02)
#179 MD(13583.00) Inc(89.00) Azm(150.40) TVD(11730.61) DLS(0.24)
#180 MD(13677.00) Inc(88.80) Azm(151.70) TVD(11732.42) DLS(1.40)
#181 MD(13772.00) Inc(88.30) Azm(148.60) TVD(11734.82) DLS(3.30)
#182 MD(13867.00) Inc(88.30) Azm(149.20) TVD(11737.64) DLS(0.63)
#183 MD(13962.00) Inc(88.30) Azm(149.20) TVD(11740.46) DLS(0.00)
#184 MD(14057.00) Inc(88.10) Azm(149.30) TVD(11743.44) DLS(0.24)
#185 MD(14152.00) Inc(88.40) Azm(151.00) TVD(11746.34) DLS(1.82)
#186 MD(14247.00) Inc(88.40) Azm(150.90) TVD(11749.00) DLS(0.11)

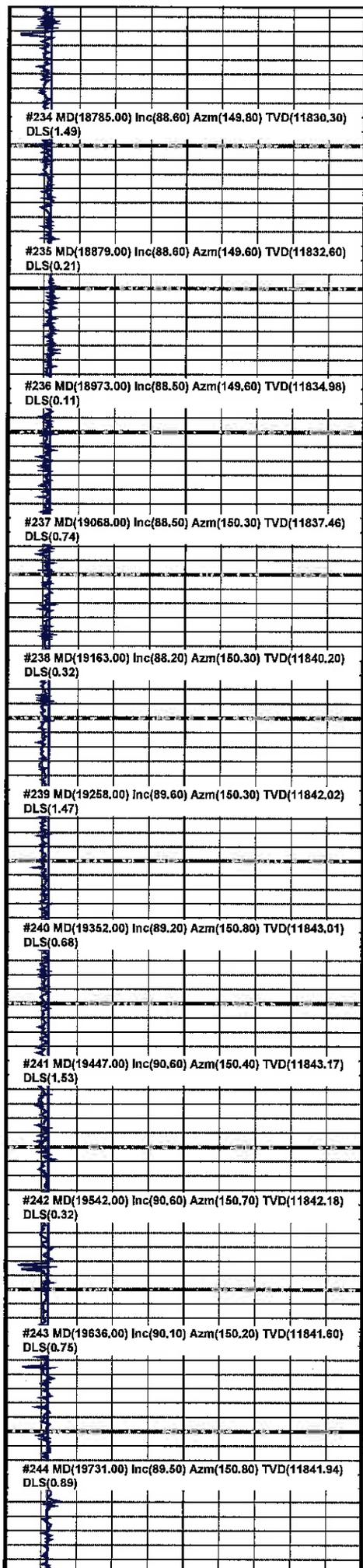




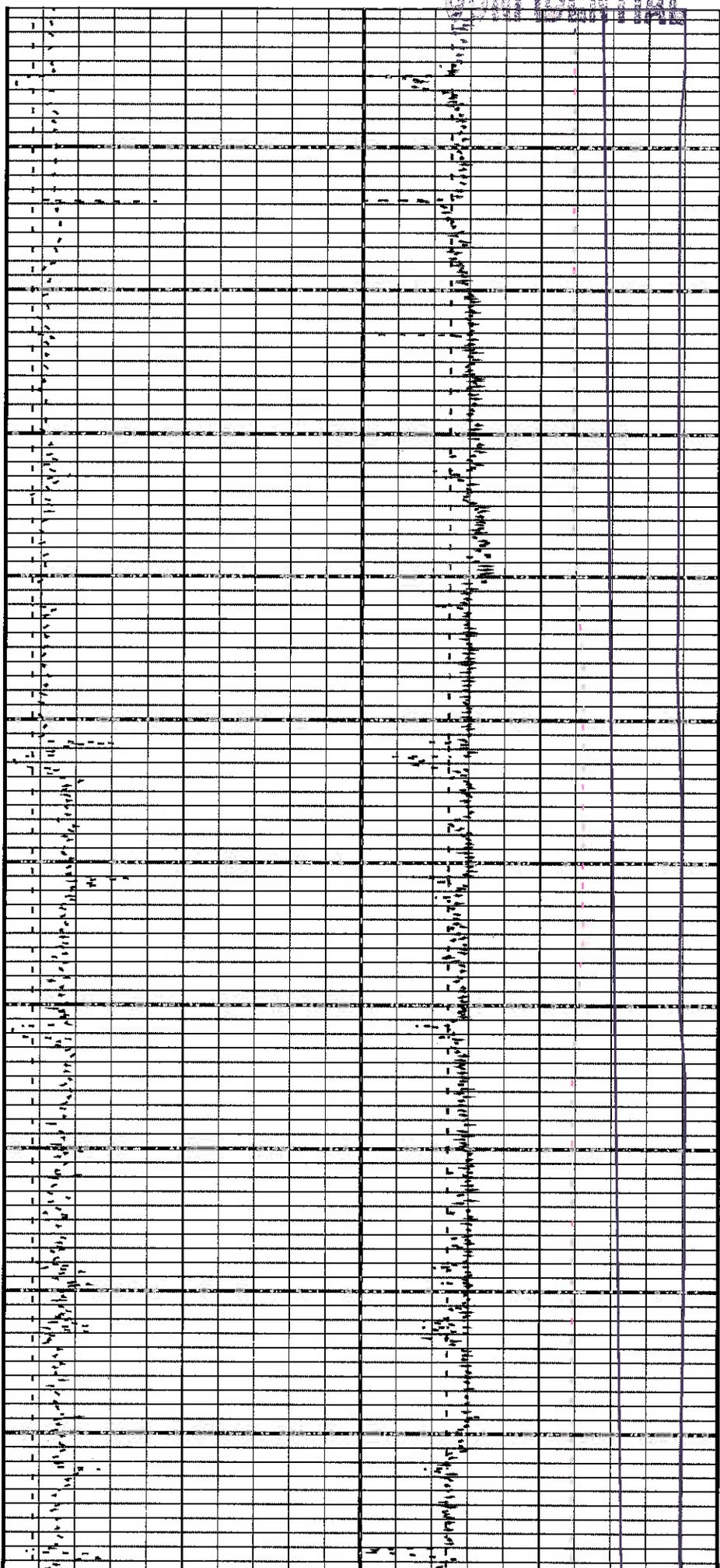








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