BAKER HUGHES
Baker Atlas

MicroVertilog
Magnetic Flux Leakage Inspection

Company	Inergy Midstream LLC
Well	34
Field	US Salt
County	Schuyler
State	New York
Location:	

Section N/A	Township Reading	Range N/A

Date	Jan. 26, 2009
Service Order	558424
Recorded by	Clinton Pernack
Witnessed by	Mr. Barry Moon
API Serial No.	31-097-61190

Permanent Datum:	G.L.	Elevation: 706.000 ft.	Depth	2383.000
Log Measured From:	M.G.	2.000 ft. above Perm. Datum	Btm. Log Interval	1820.000
Drilling Measured From:	K.B.	0.000 ft. above Perm. Datum	Top Log Interval	-3.000
			Fluid Type	Brine Water

Casing Data

Size	Weight	Grade	From	To
5 1/2 inch	15.5 lb/ft	J55	0	2225
8 5/8 inch	36	N/A	0	175

Equipment Data

Tool	5-1/2 Inch 10 FL + 10 DIS Channel Tool
Magnetizer	144485mb
Telemetery	
Processor	
Software Version	MV 903 MV32 3.1.5.0

In making interpretations of logs our employees will give customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Remarks

Set down on salt at 1821'

Interpretation Summary

The bottom of the 8 5/8" surface casing was detected at 167.3 feet.

The survey indicates Class 3 corrosion at the top of joint 1. The top of the external 8 5/8" casing appears to be at 0.1 feet and the wellhead flange center at -1.4 feet. The area between the bottom of the wellhead flange and what appears on the log to be the top of the surface casing is where the probable corrosion is present. This is in an area of external metal mass change and this can have an adverse effect on the accuracy of the analysis. Visual inspection of this area is recommended.

The indications at 105.5 and 145.5 feet appears to be the result of influences from collars in the external casing string and were not classified as corrosion.

Hardware was found at the following locations:

From	To
1668.71	1668.05
1666.62	1665.96
1585.55	1584.90
1583.44	1582.79
1456.83	1456.18
1454.74	1454.08
1286.93	1286.27
1284.88	1284.22
1028.83	1028.18
1026.74	1026.08
643.53	642.88
641.41	640.75
302.38	301.72
300.32	299.65

Joint Interpretation Summary

Joint	From	To	Length	Class	Max Depth	Position	Type	ID/OD
1	-1.33	40.00	41.33	Class 3	56%	-0.47	GEN	OD
2	40.00	83.53	43.53	Class 2	38%	82.28	ISO	OD
3	83.53	127.33	43.80	Class 2	25%	88.50	ISO	OD
4	127.33	170.38	43.05	Class 2	26%	128.09	ISO	OD
5	170.38	213.56	43.19	Class 3	50%	212.69	GEN	OD
6	213.56	257.11	43.55	Class 3	41%	214.30	GEN	OD
7	257.11	301.06	43.95	Class 2	28%	274.36	ISO	OD
8	301.06	342.39	41.33	Class 2	28%	327.99	ISO	OD
9	342.39	385.63	43.23	Class 2	25%	350.77	ISO	OD
10	385.63	428.49	42.86	Class 2	28%	422.63	ISO	ID
11	428.49	471.88	43.39	Class 2	31%	431.61	ISO	OD
12	471.88	514.72	42.84	Class 2	21%	507.66	ISO	OD
13	514.72	555.46	40.73	Class 2	25%	515.64	ISO	OD
14	555.46	598.52	43.06	Class 2	26%	580.60	ISO	OD
15	598.52	642.24	43.72	Class 2	30%	640.05	ISO	ID
16	642.24	683.88	41.64	Class 2	27%	669.19	ISO	ID
17	683.88	725.52	41.64	Class 2	22%	695.92	ISO	OD
18	725.52	768.78	43.27	Class 2	24%	731.47	ISO	OD
19	768.78	811.93	43.14	Class 2	24%	775.60	ISO	OD
20	811.93	854.97	43.05	Class 2	24%	849.46	ISO	OD
21	854.97	898.28	43.31	Class 2	23%	868.43	ISO	OD
22	898.28	941.57	43.28	Class 2	26%	909.80	ISO	OD
23	941.57	984.60	43.03	Class 2	30%	953.97	ISO	OD
24	984.60	1027.57	42.97	Class 2	25%	999.19	ISO	OD
25	1027.57	1071.46	43.89	Class 2	25%	1037.80	ISO	OD
26	1071.46	1114.68	43.22	Class 2	22%	1078.91	ISO	OD
27	1114.68	1158.60	43.92	Class 2	28%	1137.97	ISO	OD
28	1158.60	1201.33	42.73	Class 2	31%	1169.96	ISO	OD
29	1201.33	1244.58	43.25	Class 1	-	-	-	-
30	1244.58	1285.66	41.08	Class 2	30%	1266.22	ISO	OD
31	1285.66	1328.74	43.08	Class 2	28%	1288.15	ISO	OD
32	1328.74	1371.65	42.91	Class 2	21%	1357.16	ISO	OD
33	1371.65	1413.29	41.64	Class 2	26%	1380.76	ISO	ID
34	1413.29	1455.57	42.28	Class 2	27%	1439.51	ISO	OD
35	1455.57	1498.60	43.03	Class 2	25%	1468.87	ISO	OD
36	1498.60	1541.21	42.61	Class 2	22%	1514.24	ISO	OD
37	1541.21	1584.24	43.03	Class 2	22%	1560.16	ISO	OD
38	1584.24	1623.58	39.34	Class 2	32%	1586.02	ISO	ID
39	1623.58	1667.46	43.88	Class 2	26%	1625.46	ISO	OD
40	1667.46	1711.10	43.64	Class 2	21%	1686.54	ISO	ID
41	1711.10	1753.73	42.63	Class 2	27%	1734.16	ISO	OD
42	1753.73	1793.98	40.25	Class 2	28%	1792.29	ISO	OD
43	1793.98	1815.95	21.97	Class 2	30%	1814.69	ISO	OD

Damage Classification Summary

	Class	Defect Range	Joints	Total Length	Percentage
	1	0 - 20	1	43.25	2.4
	2	20 - 40	39	1645.96	90.6
	3	40 - 60	3	128.06	7.0
	4	60 - 100	0	0.00	0.0
Total			43	1817.27	100.0

Joint Summary based on the following settings:

Joint analysis sensors:
FL_1 FL_2 FL_3 FL_4 FL_5 FL_6 FL_7 FL_8 FL_9 FL_10
DIS_1 DIS_2 DIS_3 DIS_4 DIS_5 DIS_6 DIS_7 DIS_8 DIS_9 DIS_10

Joint detection parameters:
Correlation step: 4
Floating correlation threshold: 10.0
Disturbed zone lead / lag: 7.00 in / 7.00 in

Hardware analyisis: No
Fixed hardware threshold: 0.8
Hardware width: 8.0 in

Classification parameters:
FL Activity threshold: 142.7
Sensor percentage: 40
Window width: 4.0 in
Generalized corrosion FL reduction factor: 50.0%
Internal corrosion threshold: 400.0

Zoned parameters:

From	Surface	0.100	167.300
To	0.100	167.300	Bottom
Weight	15.5 lb/ft	15.5 lb/ft	15.5 lb/ft
Grade	J55	J55	J55
A Factor	1.06979	1.06979	1.06979
B Factor	1.63348	1.63348	1.63348
Class 1	0.0	0.0	0.0
Class 2	205.5	205.5	205.5
Class 3	442.8	442.8	442.8
Class 4	858.8	858.8	858.8
Model	Auto	Auto	Auto
External string correction	1.00	1.27	1.00

Main Log
5"/100'

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File 20090126.0F2

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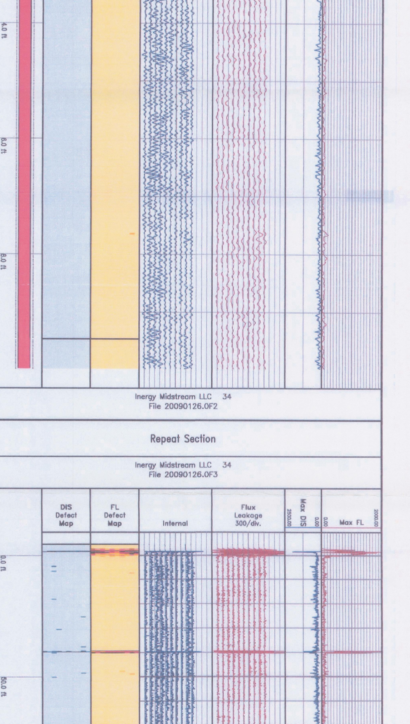
EXPANDED SCALE – TOP OF WELL

Inergy Midstream LLC 34
File 20090126.0F2



Inergy Midstream LLC 34
File 20090126.0F2

Repeat Section

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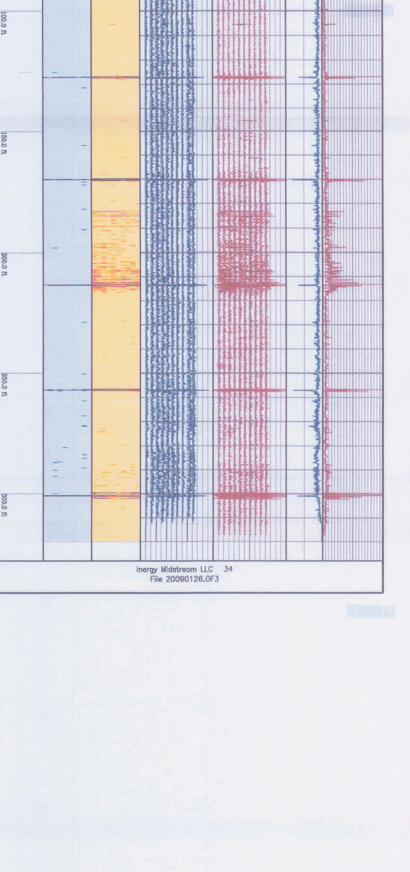
File 20090126.0F3



Inergy Midstream LLC 34
File 20090126.0F3