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 District III - (505) 334-6178
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV - (505) 476-3460
 1220 S. St. Francis Dr., Santa Fe, NM
 87505

Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

Revised July 18, 2013

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-40448
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator Lucid Energy Delaware LLC		6. State Oil & Gas Lease No. NMLC063798
3. Address of Operator 3100 MCKINNON STREET, SUITE 800, DALLAS, TX		7. Lease Name or Unit Agreement Name RED HILLS AGI
4. Well Location Unit Letter <u>I</u> : <u>1600</u> feet from the <u>SOUTH</u> line and <u>150</u> feet from the <u>EAST</u> line Section <u>13</u> Township <u>24S</u> Range <u>33E</u> NMPM County <u>LEA</u>		8. Well Number #001
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3580 GR		9. OGRID Number 372422
		10. Pool name or Wildcat EXPL. CHERRY CANYON

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> DOWNHOLE COMMINGLE <input type="checkbox"/> CLOSED-LOOP SYSTEM <input type="checkbox"/> OTHER: <input type="checkbox"/>		SUBSEQUENT REPORT OF: REMEDIAL WORK <input checked="" type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: <input type="checkbox"/>	
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Lucid Energy ran a Distributive Temperature Survey from 2/01/21 to 2/03/21 using Baker Hughes Sureview Technology and Fiber Optics run from the surface to the Permanent Packer at 6188' (KB corrected). The Baker Hughes report (attached) indicates an anomaly in the tubing/annulus from 5320'-5410' and a second anomaly in the casing at 4930'. Baker also ran a MultiFinger MF) Caliper Log and a High Resolution (HR) Verti Log. The entire wellbore was logged with the MF Log and 100% of the casing was rated Class 1 indicating no or very little corrosion. The HR Verti Log logged from 5698' to surface and 100% of that casing was rated Class 1 with no internal or external corrosion detected. These logs and reports will be attached.

The 3 1/2" injection tubing was pulled and will be tested in Lovington to determine the tubing condition.

A work string of 2 7/8" tubing was picked up and a 7" test packer was run to accurately test all casing. After multiple settings, it was determined there is small leak-off in and around the DV tool from 5530' to 5540', the DV tool is at 5535'. Test pressure of 1500 psi was used and leak off was less than 100 psi in 1 hour.

Lucid proposes to run a casing patch from 5520' to 5560' and pressure test casing and patch. A new Halliburton Permanent packer will be run and stung into the existing packer at 6188'. New packer Depth will be estimated at 6168' and will be within 100' of top perf at 6226'.

Spud Date: October 23, 2013

Rig Release Date: November 20, 2013

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Paul Ragdale TITLE Consultant Lucid Energy DATE 02/12/2021

Type or print name PAUL RAGSDALE E-mail address: pragsdale3727@gmail.com PHONE: 575-626-7903

For State Use Only

APPROVED BY: Phillip R. Lutz TITLE Acting UIC Manager DATE 02/12/2021

Conditions of Approval (if any):



Red Hills AGI-1 Leak Detection

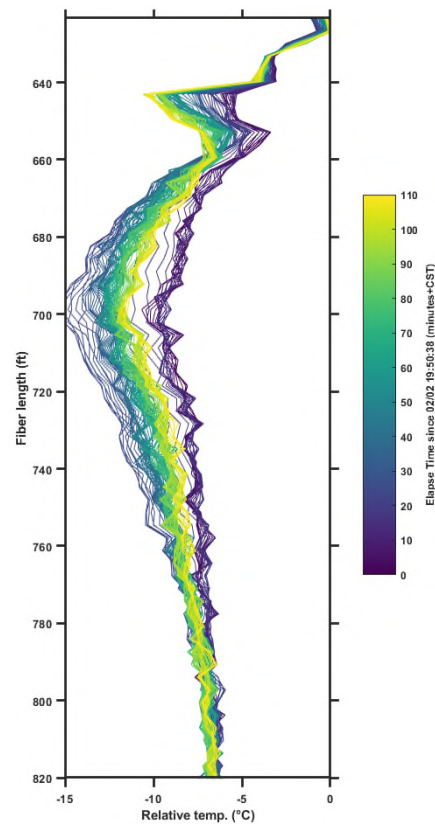
Preliminary report

February 5, 2021

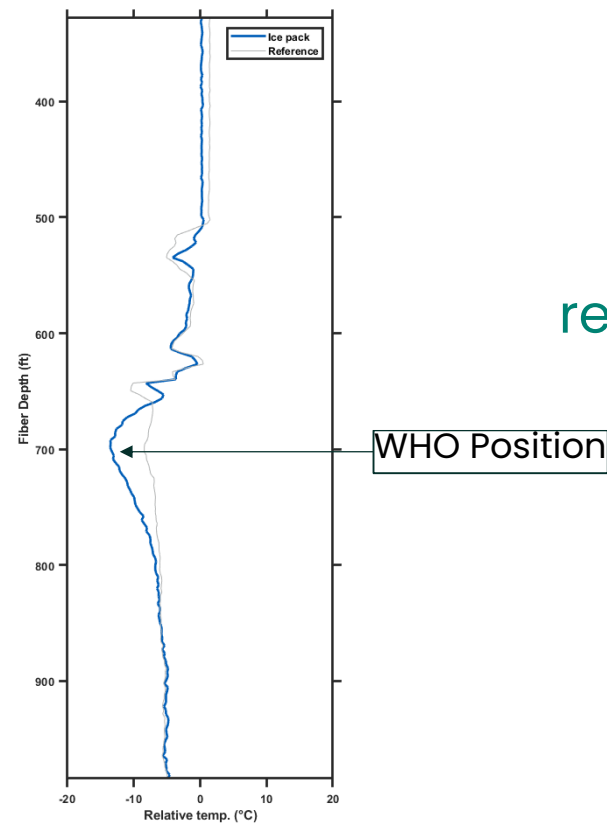
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Depth Calibration

Ice pack placed on the Fiber
Wellhead Outlet (WHO):
temperature drops and warms
back

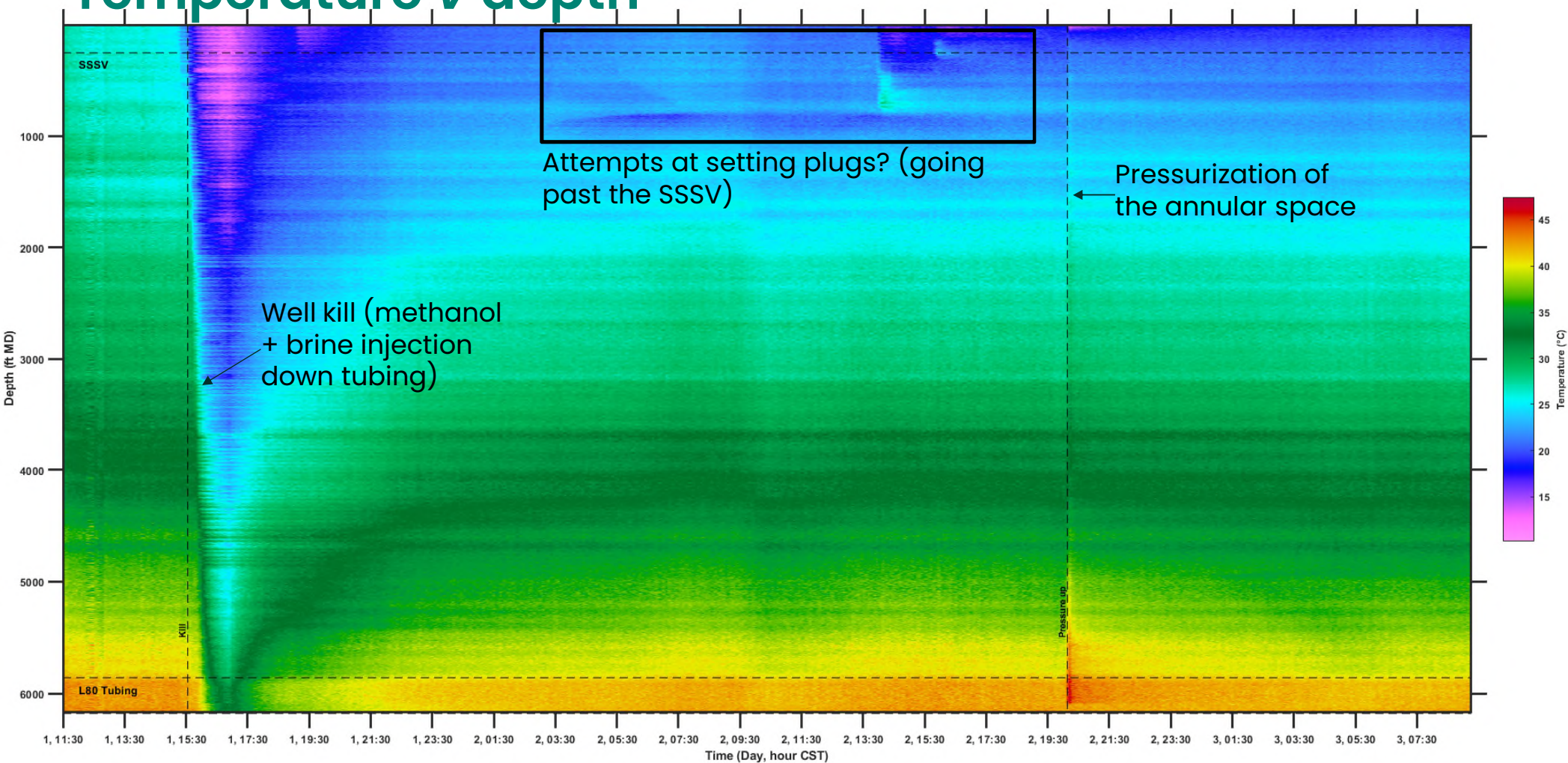


Average temperature with and
without ice-pack: locates WHO
along the fiber

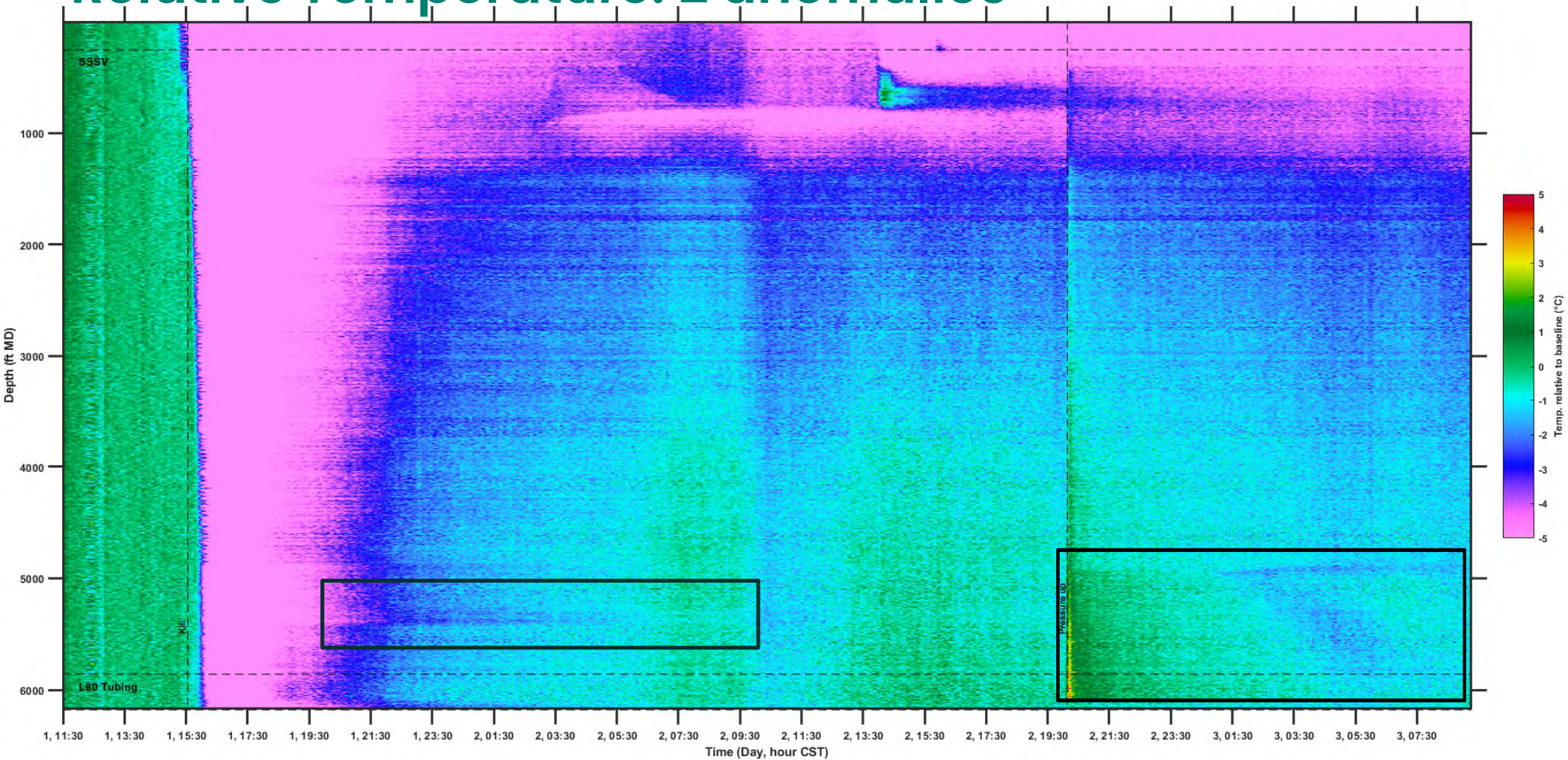


All reported
depth are
relative to WHO

Temperature v depth

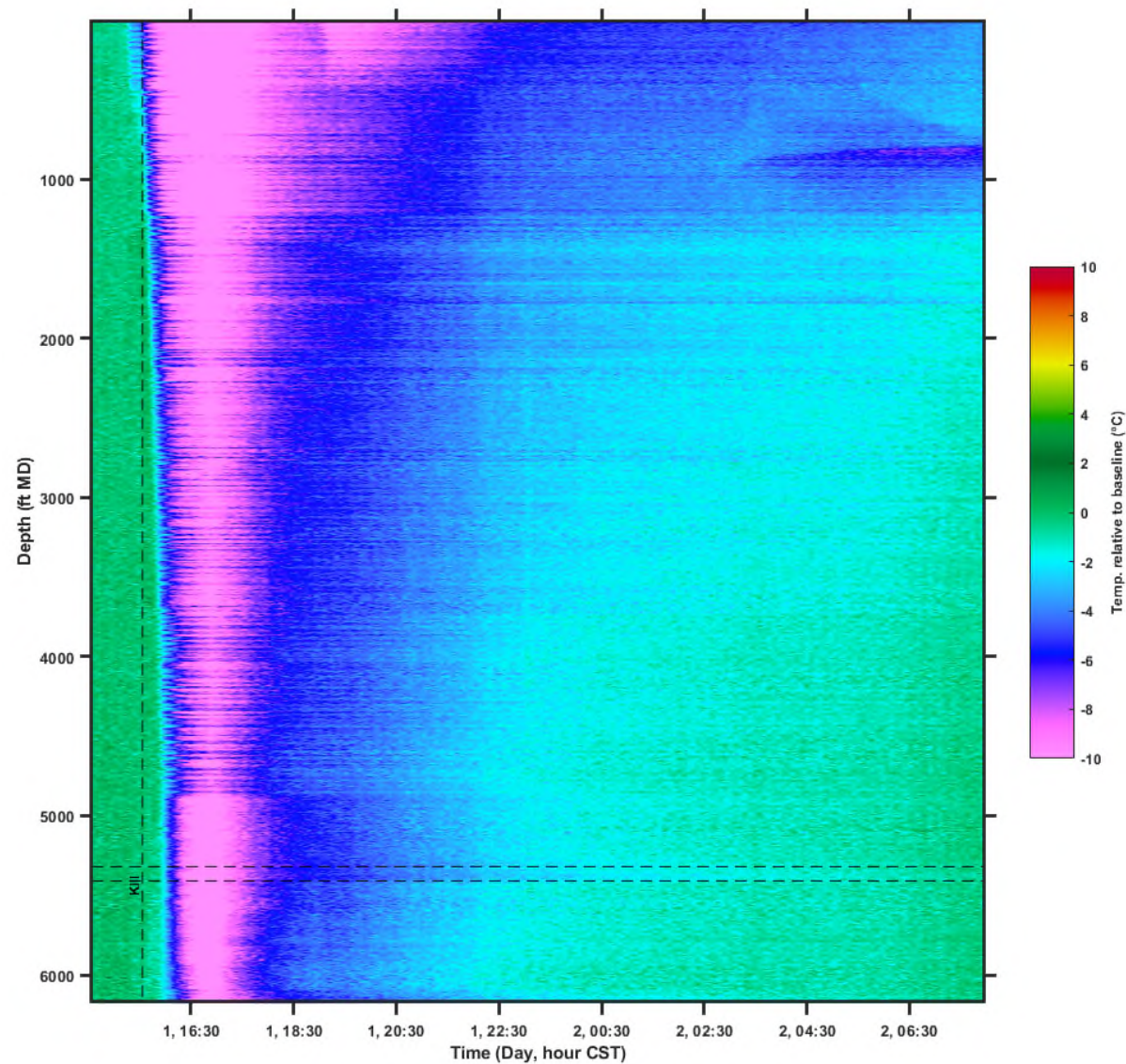


Relative Temperature: 2 anomalies



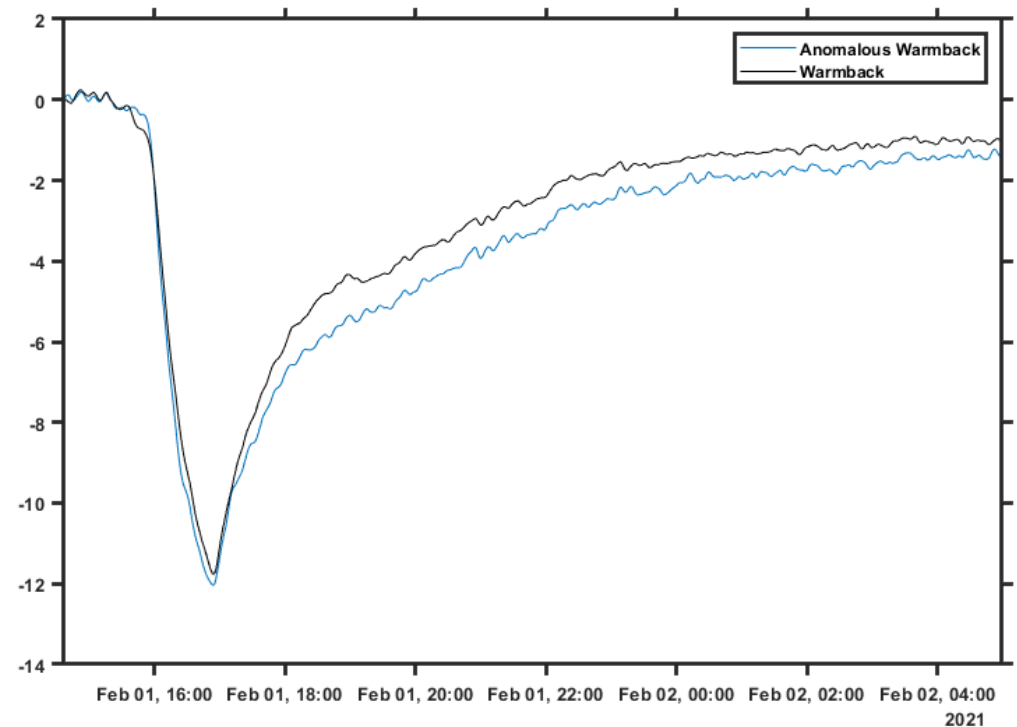
Anomaly 1

- Cold fluids in tubing → conduction driven warmback in the annulus
- Warmback rate anomaly $\approx 5,320\text{ft} - 5,410\text{ft}$: slower warmback, implying cold fluids flowing into the annulus.



Anomaly 1

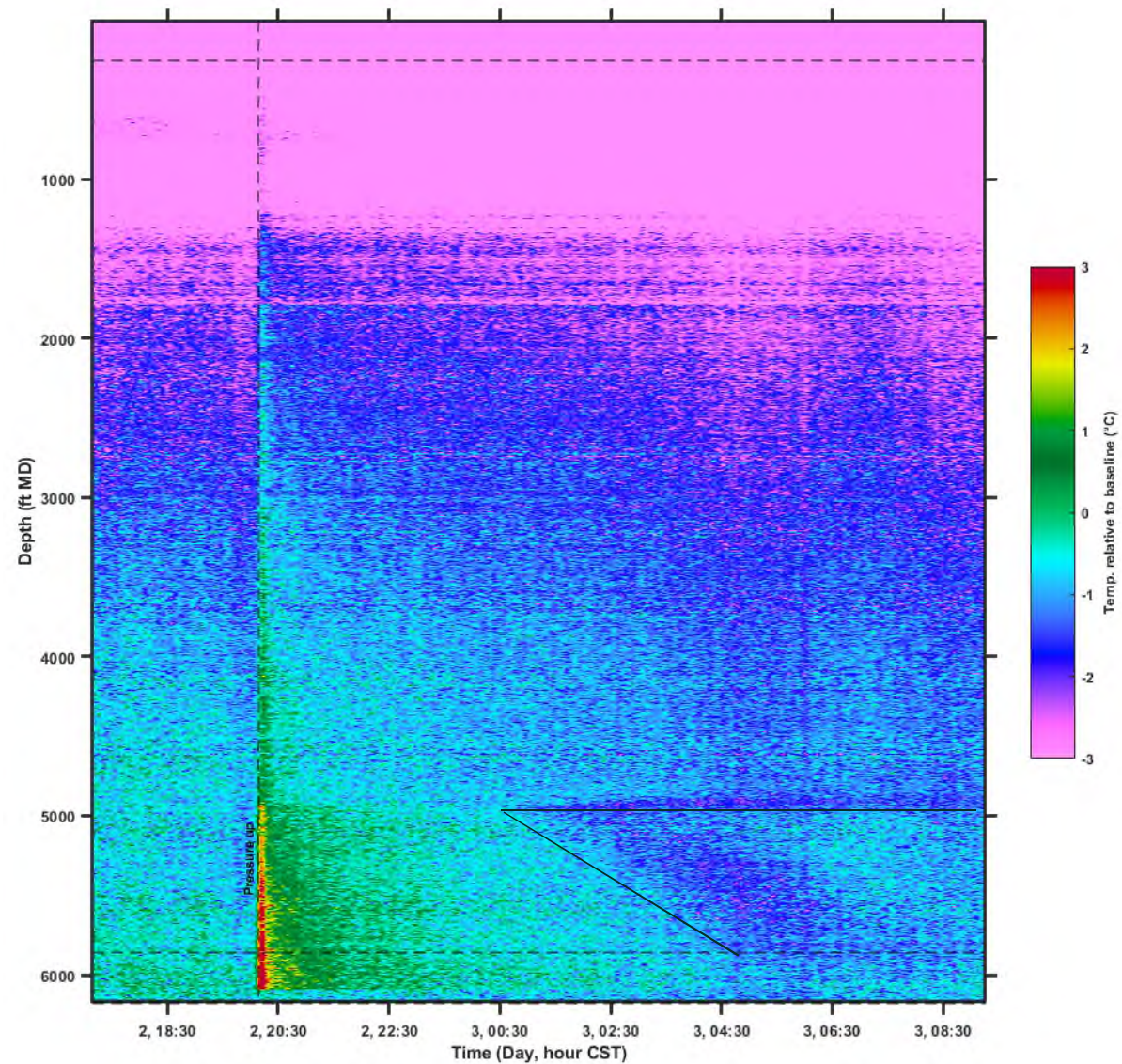
- Cold fluids in tubing → conduction driven warmback in the annulus
- Warmback rate anomaly $\approx 5,320\text{ft} - 5,410\text{ft}$: slower warmback, implying cold fluids flowing into the annulus
- Comparison of average temperatures in the above depth range (5,320-5,410) to average temperatures 100ft below this range shows a clear warmback rate difference signature.



Anomaly 2

Pressurization of the annular space generates an “immediate” temperature increase in the annular space.

Temperature anomaly clearly shows at about 4,930', both during the pressurization and the following cool down.



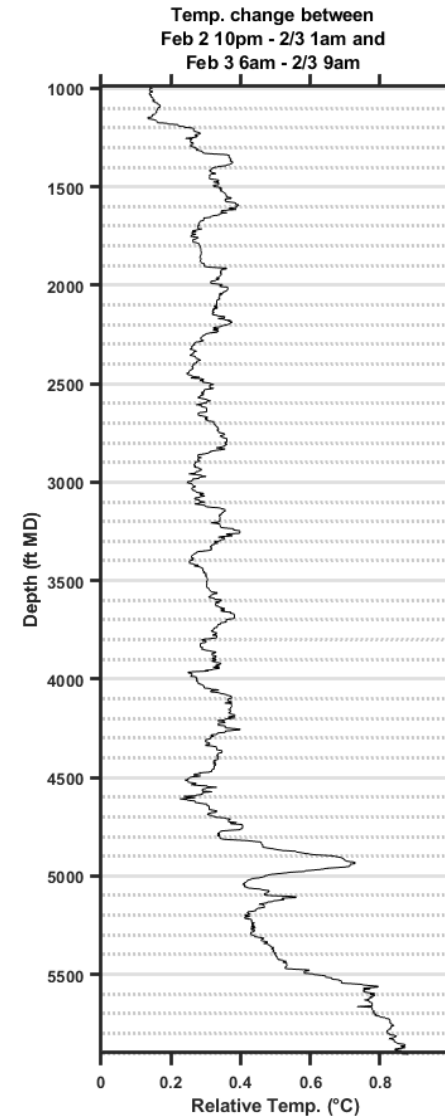
Anomaly 2

Pressurization of the annular space generates an “immediate” temperature increase in the annular space.

Temperature anomaly clearly shows at about 4,930', both during the pressurization and the following cool down.

Figure shows difference of temperatures averaged in two distinct time windows – between 10pm and 1am, on one hand, and 6am and 9am, on the other.

A possible scenario (to be confirmed) is that (colder, denser) reservoir fluids penetrate in the annular space at the $\approx 4,930'$ mark and percolate down the annulus.



Conclusion

- Two anomalies were found during (1) well kill and (2) annulus pressurization:
 - **Warmback anomaly** found at **5,320' – 5,410'**. This feature can **possibly** be related to a leak between **tubing** and annulus
 - **Temperature anomaly** found at \approx **4,930'**. While inconclusive without further information (formation pressure and temperature, formation fluid composition), this anomaly can be related to reservoir fluids penetrating the annular space, suggesting a **casing** integrity breach at this depth
- Multiple anomalies can be observed in the upper (< 1,000') section of the well when attempting to set the plugs in the tubing.



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

The parameters used to analyze the data set: OD: 7", ID: 6.184", 29# with a wall thickness of 0.408" (Best fit for the data set)

The MAC survey was correlated to the CBL logged 12-14-2017.

All joints by reported in the Class 1 range at this time.

Note that the upper connection of Joints 140, 141 and 142 are different from the rest (See log for example). The upper connection of Joint 140 also looks different on the HRVRT data set and could possibly be a welded connection.

Joint #139 is a 11.1' short joint.

Joint #140 is a 7.7' short joint.

Joint #141 is a 16.1' short joint.

Joint #142 is a 19.9' short joint.

DV Tool from 5535.0' – 5537.9'

DISCLAIMER:

These results were generated semi-automatically, using EPIDOTE - MIPS analysis software. The data was acquired using HotWell casing inspection tools. HotWell accepts no responsibility for the accuracy of the results that are presented.

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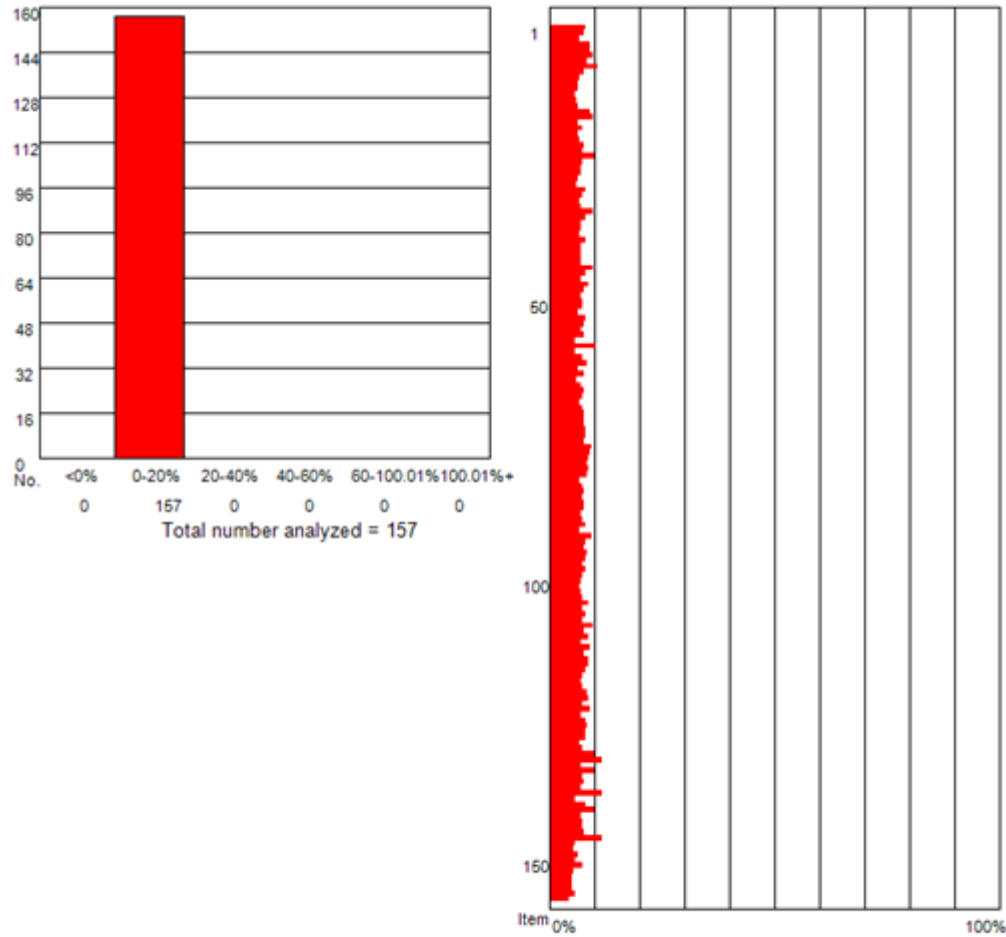
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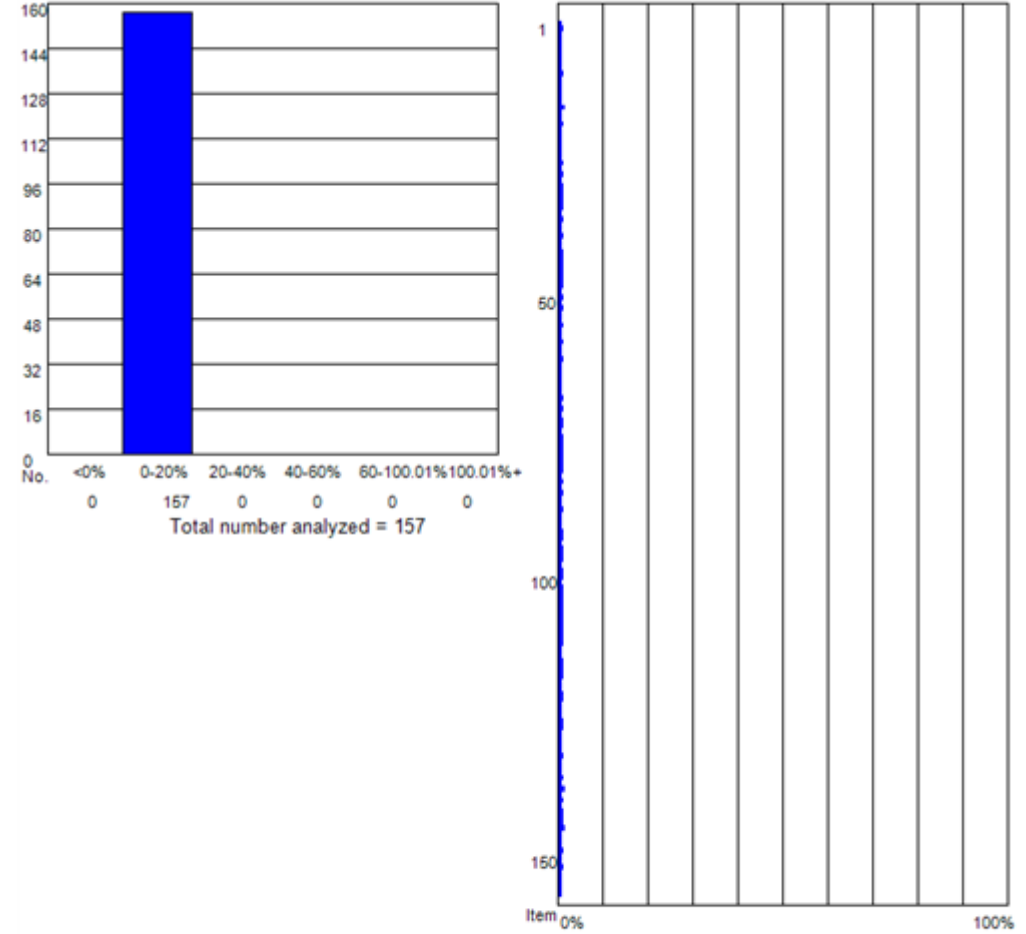
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Correlated to CBL logged 12-14-2017



Maximum Percent Penetration



Maximum Percent Projection



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Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
1	16.923	14.136	6.184	6.293	6.348	7.823	30.122	1.086	0.326	6.255	Class 1
2	31.569	39.830	6.184	6.260	6.315	7.472	50.343	1.556	0.342	6.225	Class 1
3	72.199	37.840	6.184	6.276	6.324	6.650	82.293	1.233	0.338	6.239	Class 1
4	111.729	42.302	6.184	6.252	6.318	8.833	148.734	1.764	0.341	6.220	Class 1
5	154.911	37.104	6.184	6.266	6.332	8.946	190.028	1.307	0.334	6.226	Class 1
6	192.684	34.866	6.184	6.266	6.336	9.481	226.266	2.190	0.332	6.212	Class 1
7	228.351	42.248	6.184	6.250	6.312	8.296	245.294	1.216	0.344	6.205	Class 1
8	271.508	39.189	6.184	6.252	6.331	10.567	301.399	1.268	0.335	6.212	Class 1
9	311.480	39.569	6.184	6.239	6.295	7.412	348.997	2.065	0.352	6.198	Class 1
10	351.849	35.758	6.184	6.270	6.318	6.611	384.554	0.960	0.341	6.212	Class 1
11	388.217	34.083	6.184	6.256	6.302	6.183	413.337	1.686	0.349	6.230	Class 1
12	423.100	36.600	6.184	6.276	6.319	6.004	434.609	1.420	0.341	6.245	Class 1
13	460.609	33.867	6.184	6.257	6.298	5.541	479.225	0.952	0.351	6.224	Class 1
14	495.456	36.849	6.184	6.259	6.302	5.835	502.669	0.777	0.349	6.227	Class 1
15	533.270	43.012	6.184	6.256	6.302	6.205	573.073	1.198	0.349	6.222	Class 1
16	577.262	41.592	6.184	6.249	6.315	8.818	608.076	1.048	0.342	6.183	Class 1
17	619.834	39.717	6.184	6.264	6.333	9.397	657.549	1.626	0.333	6.220	Class 1
18	660.488	38.951	6.184	6.251	6.298	6.248	697.366	1.085	0.351	6.210	Class 1
19	700.433	41.677	6.184	6.254	6.308	7.271	715.456	1.494	0.346	6.201	Class 1

Penetration Tally Min Wall

From 0 to 20
Class 1From 20 to 40
Class 2From 40 to 60
Class 3From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
20	743.090	39.093	6.184	6.251	6.297	6.170	758.340	1.098	0.352	6.211	Class 1
21	783.148	38.383	6.184	6.254	6.302	6.394	819.287	1.166	0.349	6.215	Class 1
22	822.510	38.979	6.184	6.251	6.306	7.382	831.541	1.623	0.347	6.210	Class 1
23	862.526	42.501	6.184	6.262	6.316	7.260	893.240	1.135	0.342	6.222	Class 1
24	905.589	41.071	6.184	6.256	6.329	9.826	932.163	1.442	0.336	6.216	Class 1
25	947.460	34.090	6.184	6.272	6.325	7.246	948.251	1.174	0.338	6.230	Class 1
26	982.459	36.622	6.184	6.270	6.319	6.675	1005.250	1.299	0.341	6.221	Class 1
27	1020.061	39.845	6.184	6.243	6.295	6.864	1058.898	1.047	0.352	6.206	Class 1
28	1060.928	38.596	6.184	6.245	6.291	6.145	1064.436	0.898	0.355	6.200	Class 1
29	1100.489	39.007	6.184	6.266	6.309	5.908	1126.191	0.996	0.345	6.230	Class 1
30	1140.477	42.387	6.184	6.255	6.314	7.864	1172.838	1.023	0.343	6.202	Class 1
31	1183.843	38.396	6.184	6.255	6.308	7.133	1200.031	0.960	0.346	6.202	Class 1
32	1223.262	37.900	6.184	6.238	6.288	6.543	1254.119	1.280	0.356	6.196	Class 1
33	1262.156	42.923	6.184	6.258	6.309	6.906	1288.284	1.030	0.345	6.204	Class 1
34	1305.863	41.136	6.184	6.267	6.336	9.396	1322.364	1.665	0.332	6.222	Class 1
35	1347.799	40.352	6.184	6.274	6.330	7.670	1384.092	2.220	0.335	6.231	Class 1
36	1388.805	39.111	6.184	6.238	6.291	6.976	1425.854	1.171	0.355	6.200	Class 1
37	1428.716	38.842	6.184	6.289	6.338	6.840	1466.523	1.142	0.331	6.254	Class 1
38	1468.358	42.142	6.184	6.285	6.332	6.638	1507.788	1.812	0.334	6.245	Class 1
39	1511.451	41.450	6.184	6.249	6.308	7.907	1541.896	1.247	0.346	6.199	Class 1

Penetration Tally Min Wall

From 0 to 20
Class 1From 20 to 40
Class 2From 40 to 60
Class 3From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
40	1553.839	41.478	6.184	6.261	6.311	6.814	1580.535	1.121	0.345	6.221	Class 1
41	1596.297	39.561	6.184	6.254	6.306	6.968	1629.326	1.323	0.347	6.210	Class 1
42	1636.866	39.249	6.184	6.225	6.279	6.981	1661.972	1.212	0.361	6.177	Class 1
43	1677.152	39.291	6.184	6.258	6.309	6.920	1711.956	1.317	0.345	6.214	Class 1
44	1717.408	42.685	6.184	6.262	6.331	9.368	1727.931	1.778	0.335	6.210	Class 1
45	1761.073	37.814	6.184	6.249	6.309	7.982	1781.706	1.045	0.345	6.204	Class 1
46	1799.868	39.845	6.184	6.261	6.312	6.958	1831.974	1.258	0.344	6.207	Class 1
47	1840.678	39.874	6.184	6.256	6.319	8.417	1880.481	1.906	0.341	6.214	Class 1
48	1881.518	38.582	6.184	6.249	6.306	7.556	1897.067	1.085	0.347	6.199	Class 1
49	1921.079	42.217	6.184	6.239	6.292	6.999	1929.514	1.227	0.354	6.198	Class 1
50	1964.276	38.084	6.184	6.235	6.290	7.190	1992.122	1.537	0.355	6.191	Class 1
51	2003.311	37.800	6.184	6.245	6.299	7.204	2038.754	0.946	0.351	6.210	Class 1
52	2042.091	39.036	6.184	6.248	6.295	6.287	2064.272	0.932	0.352	6.201	Class 1
53	2082.107	38.951	6.184	6.251	6.309	7.789	2120.632	1.134	0.345	6.199	Class 1
54	2122.037	40.541	6.184	6.244	6.301	7.511	2151.147	0.970	0.349	6.203	Class 1
55	2163.572	39.874	6.184	6.261	6.311	6.703	2191.390	0.797	0.345	6.214	Class 1
56	2204.426	39.476	6.184	6.239	6.296	7.529	2243.149	1.019	0.352	6.202	Class 1
57	2244.882	39.093	6.184	6.253	6.293	5.349	2273.807	0.993	0.353	6.217	Class 1
58	2284.940	39.476	6.184	6.257	6.332	10.151	2296.286	1.213	0.334	6.210	Class 1
59	2324.998	39.046	6.184	6.257	6.299	5.628	2356.096	1.125	0.351	6.214	Class 1

Penetration Tally Min Wall

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Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
60	2364.844	42.238	6.184	6.284	6.336	7.293	2385.731	1.180	0.332	6.241	Class 1
61	2407.882	36.760	6.184	6.284	6.343	8.216	2443.909	3.902	0.329	6.238	Class 1
62	2445.557	39.702	6.184	6.286	6.329	6.063	2484.450	2.089	0.336	6.254	Class 1
63	2486.113	38.067	6.184	6.276	6.330	7.467	2523.727	1.596	0.335	6.240	Class 1
64	2524.980	34.630	6.184	6.257	6.300	5.743	2557.409	1.604	0.350	6.223	Class 1
65	2560.519	37.275	6.184	6.248	6.300	6.866	2594.713	2.165	0.350	6.216	Class 1
66	2598.731	39.107	6.184	6.253	6.310	7.602	2637.597	1.207	0.345	6.212	Class 1
67	2638.818	38.482	6.184	6.257	6.309	7.059	2666.636	1.070	0.345	6.208	Class 1
68	2678.280	41.208	6.184	6.258	6.307	6.622	2716.165	1.068	0.346	6.212	Class 1
69	2720.468	40.612	6.184	6.254	6.306	7.030	2757.132	1.524	0.347	6.212	Class 1
70	2762.060	38.084	6.184	6.250	6.307	7.545	2793.385	1.120	0.346	6.202	Class 1
71	2801.124	39.632	6.184	6.260	6.316	7.591	2812.867	0.899	0.342	6.222	Class 1
72	2841.736	42.018	6.184	6.249	6.306	7.573	2860.920	1.192	0.347	6.212	Class 1
73	2884.734	41.152	6.184	6.256	6.315	7.885	2916.911	1.576	0.342	6.208	Class 1
74	2926.851	40.911	6.184	6.245	6.303	7.669	2953.021	2.414	0.349	6.198	Class 1
75	2968.545	41.201	6.184	6.258	6.314	7.604	2986.391	1.860	0.343	6.203	Class 1
76	3010.546	39.575	6.184	6.291	6.355	9.082	3049.823	2.590	0.322	6.238	Class 1
77	3051.087	43.069	6.184	6.239	6.306	8.853	3079.458	1.444	0.347	6.184	Class 1
78	3095.149	37.545	6.184	6.252	6.316	8.608	3108.426	0.997	0.342	6.204	Class 1
79	3133.660	39.419	6.184	6.254	6.314	8.051	3149.663	1.201	0.343	6.194	Class 1

Penetration Tally Min Wall

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Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
80	3174.044	38.439	6.184	6.261	6.324	8.522	3207.514	1.842	0.338	6.204	Class 1
81	3213.449	42.089	6.184	6.240	6.302	8.170	3214.472	1.260	0.349	6.190	Class 1
82	3256.504	39.107	6.184	6.276	6.323	6.525	3276.242	1.235	0.339	6.239	Class 1
83	3296.590	35.798	6.184	6.263	6.316	7.241	3331.664	1.247	0.342	6.212	Class 1
84	3333.326	34.236	6.184	6.274	6.327	7.358	3362.791	1.672	0.336	6.235	Class 1
85	3368.528	35.173	6.184	6.236	6.290	7.082	3383.665	1.819	0.355	6.186	Class 1
86	3404.652	37.872	6.184	6.251	6.307	7.456	3441.033	1.954	0.346	6.216	Class 1
87	3443.504	38.141	6.184	6.256	6.312	7.533	3461.864	1.566	0.344	6.217	Class 1
88	3482.625	36.962	6.184	6.238	6.290	6.873	3518.551	1.566	0.355	6.194	Class 1
89	3520.567	33.597	6.184	6.259	6.313	7.255	3548.342	1.026	0.343	6.214	Class 1
90	3555.116	39.675	6.184	6.257	6.315	7.850	3560.213	1.176	0.342	6.212	Class 1
91	3595.756	40.683	6.184	6.253	6.303	6.660	3600.982	1.243	0.349	6.208	Class 1
92	3637.362	37.303	6.184	6.252	6.321	9.251	3669.908	1.211	0.339	6.199	Class 1
93	3675.602	40.442	6.184	6.232	6.293	7.902	3682.234	0.931	0.353	6.186	Class 1
94	3717.067	38.127	6.184	6.241	6.298	7.466	3750.536	1.523	0.351	6.195	Class 1
95	3756.202	38.993	6.184	6.268	6.328	8.220	3790.296	0.954	0.336	6.226	Class 1
96	3796.118	42.302	6.184	6.269	6.325	7.679	3835.537	1.185	0.338	6.214	Class 1
97	3839.400	41.734	6.184	6.249	6.302	7.022	3873.877	1.277	0.349	6.195	Class 1
98	3882.113	36.650	6.184	6.266	6.324	7.955	3893.317	1.342	0.338	6.223	Class 1
99	3919.701	35.521	6.184	6.258	6.311	7.083	3950.827	1.315	0.345	6.210	Class 1

Penetration Tally Min Wall

From 0 to 20
Class 1From 20 to 40
Class 2From 40 to 60
Class 3From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
100	3955.875	39.046	6.184	6.274	6.324	6.915	3982.706	2.174	0.338	6.236	Class 1
101	3995.721	41.016	6.184	6.251	6.300	6.554	4033.812	1.272	0.350	6.208	Class 1
102	4037.445	38.589	6.184	6.243	6.295	6.841	4044.675	0.910	0.352	6.199	Class 1
103	4076.834	39.352	6.184	6.273	6.324	7.072	4106.459	1.147	0.338	6.224	Class 1
104	4117.166	38.780	6.184	6.251	6.314	8.362	4154.611	1.461	0.343	6.205	Class 1
105	4156.926	39.291	6.184	6.259	6.311	7.080	4189.358	1.235	0.345	6.207	Class 1
106	4197.140	36.849	6.184	6.280	6.336	7.793	4227.642	1.292	0.332	6.227	Class 1
107	4234.969	33.512	6.184	6.266	6.319	7.188	4240.720	0.975	0.341	6.224	Class 1
108	4269.447	40.257	6.184	6.265	6.335	9.508	4270.228	1.603	0.332	6.219	Class 1
109	4310.669	37.942	6.184	6.244	6.301	7.503	4325.877	1.030	0.349	6.200	Class 1
110	4349.606	34.307	6.184	6.255	6.319	8.547	4350.813	1.424	0.341	6.198	Class 1
111	4384.558	40.287	6.184	6.241	6.292	6.669	4400.598	1.042	0.354	6.190	Class 1
112	4425.645	38.129	6.184	6.263	6.329	8.902	4461.786	1.769	0.336	6.215	Class 1
113	4464.753	39.362	6.184	6.254	6.309	7.381	4475.702	1.230	0.345	6.201	Class 1
114	4505.025	37.204	6.184	6.272	6.335	8.636	4540.539	1.415	0.332	6.232	Class 1
115	4543.208	42.884	6.184	6.249	6.314	8.596	4583.565	1.491	0.343	6.195	Class 1
116	4587.115	39.107	6.184	6.238	6.297	7.745	4601.343	1.134	0.352	6.187	Class 1
117	4627.201	35.031	6.184	6.268	6.320	7.113	4656.681	0.947	0.340	6.216	Class 1
118	4663.213	37.687	6.184	6.244	6.296	6.875	4674.062	0.868	0.352	6.195	Class 1
119	4701.879	38.397	6.184	6.247	6.300	7.012	4719.019	1.087	0.350	6.201	Class 1

Penetration Tally Min Wall

From 0 to 20
Class 1From 20 to 40
Class 2From 40 to 60
Class 3From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
120	4741.242	40.995	6.184	6.253	6.314	8.184	4756.024	1.209	0.343	6.205	Class 1
121	4783.217	39.249	6.184	6.255	6.319	8.610	4811.404	2.100	0.341	6.206	Class 1
122	4823.445	42.444	6.184	6.253	6.307	7.204	4857.525	1.152	0.346	6.207	Class 1
123	4866.855	38.951	6.184	6.256	6.322	8.837	4887.559	1.291	0.339	6.214	Class 1
124	4906.785	39.930	6.184	6.257	6.309	6.973	4919.239	1.240	0.345	6.219	Class 1
125	4947.738	41.918	6.184	6.254	6.312	7.753	4964.551	1.412	0.344	6.212	Class 1
126	4990.707	42.174	6.184	6.262	6.322	8.190	5006.568	1.279	0.339	6.223	Class 1
127	5033.861	37.857	6.184	6.254	6.312	7.835	5061.167	1.114	0.344	6.209	Class 1
128	5072.769	37.630	6.184	6.230	6.291	7.949	5088.872	1.042	0.355	6.185	Class 1
129	5111.308	38.141	6.184	6.236	6.286	6.602	5128.362	0.840	0.357	6.194	Class 1
130	5150.486	37.474	6.184	6.243	6.296	7.006	5185.460	1.012	0.352	6.202	Class 1
131	5188.939	40.569	6.184	6.265	6.337	9.762	5226.456	2.480	0.332	6.216	Class 1
132	5230.446	42.728	6.184	6.255	6.340	11.354	5245.654	2.385	0.330	6.211	Class 1
133	5274.054	40.129	6.184	6.258	6.309	6.843	5298.861	1.385	0.345	6.223	Class 1
134	5315.390	41.081	6.184	6.251	6.324	9.803	5347.212	0.956	0.338	6.207	Class 1
135	5357.451	41.421	6.184	6.241	6.294	7.015	5396.543	1.448	0.353	6.195	Class 1
136	5399.809	36.792	6.184	6.257	6.312	7.461	5418.227	1.141	0.344	6.217	Class 1
137	5437.196	39.046	6.184	6.246	6.297	6.769	5441.628	1.619	0.352	6.206	Class 1
138	5477.042	37.248	6.184	6.269	6.354	11.656	5479.485	1.927	0.323	6.202	Class 1
139	5515.213	11.186	6.184	6.261	6.302	5.574	5515.695	1.128	0.349	6.229	Class 1

Penetration Tally Min Wall

From 0 to 20
Class 1From 20 to 40
Class 2From 40 to 60
Class 3From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
140	5527.199	7.764	6.184	6.260	6.318	7.795	5534.794	1.706	0.341	6.222	Class 1
141	5538.097	16.123	6.184	6.289	6.360	9.973	5550.627	1.818	0.320	6.251	Class 1
142	5555.020	19.960	6.184	6.260	6.311	6.884	5560.255	1.096	0.345	6.212	Class 1
143	5575.918	39.590	6.184	6.257	6.309	7.045	5577.409	1.408	0.345	6.203	Class 1
144	5616.473	40.655	6.184	6.263	6.315	7.102	5652.342	0.864	0.342	6.214	Class 1
145	5658.065	39.533	6.184	6.248	6.303	7.343	5680.927	0.997	0.349	6.199	Class 1
146	5698.634	37.218	6.184	6.227	6.315	11.435	5699.600	4.062	0.342	6.195	Class 1
147	5736.960	37.857	6.184	6.229	6.272	5.555	5772.076	1.173	0.364	6.197	Class 1
148	5775.896	38.155	6.184	6.229	6.269	5.135	5807.732	0.763	0.365	6.196	Class 1
149	5815.145	35.486	6.184	6.223	6.272	6.312	5849.253	2.273	0.364	6.184	Class 1
150	5851.611	38.028	6.184	6.227	6.269	5.384	5886.458	0.983	0.365	6.190	Class 1
151	5890.689	37.758	6.184	6.229	6.284	7.092	5912.969	0.866	0.358	6.195	Class 1
152	5929.441	38.880	6.184	6.226	6.266	5.134	5931.060	1.317	0.367	6.186	Class 1
153	5969.385	39.732	6.184	6.227	6.264	4.768	5995.031	1.014	0.368	6.190	Class 1
154	6010.154	35.798	6.184	6.226	6.264	4.904	6019.838	1.233	0.368	6.192	Class 1
155	6046.960	38.922	6.184	6.225	6.263	4.929	6065.008	1.131	0.368	6.195	Class 1
156	6086.895	36.294	6.184	6.224	6.266	5.385	6120.090	2.078	0.367	6.187	Class 1
157	6123.843	36.751	6.184	6.221	6.254	4.274	6159.112	1.093	0.373	6.191	Class 1

Penetration Tally Min Wall

From 0 to 20
Class 1From 20 to 40
Class 2From 40 to 60
Class 3From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Joint Analysis Statistics Definitions

Title	Units	Description	Formula
Item Number		The sequential pipe section number	
Top Body	ft/m	Processed measured depth of the top of the joint body	
Body Length	ft/m	Length of the joint body	
Mean Median Ins	in	The mean average value of the median radius*2 over the body length.	Mean Median = Mean (Median (Arm radii *2))
Max Pen Ins	in	Maximum twice radius in the joint.	Max pen = Max (radius*2)
Max Pen %	%	Maximum radius*2 in the pipe section expressed as a percentage relative to the difference between the joint Nominal OD and Median ID.	Max pen% = 100 * Max (Radius*2- NomID)/(NomOD-MedianID)
Max Pen Depth	ft/m	Depth of the maximum wall penetration in the joint	
Min Wall Ins	in	Min Wall = Min (NomOD-Arm radii *2)/2	
NomID At Max Pen	in	Nominal ID at the maximum radius depth	
Max Loss %	%	The maximum value of metal loss in the pipe expressed as the percentage areal loss of wall relative to the outer diameter and median inner diameter.	%age Wall Loss = (100/n) * Sum (Si^2 - ID^2)/(OD^2 - ID^2) where n is the number of caliper arms. Si is twice the radius measured by caliper arm i. ID is the Median ID of the pipe. Max loss% = Max (%age wall loss) in the pipe body
Min Diam Ins	in	Smallest diameter in the joint measured across opposing arms.	Min Diam = Min(Arm [x] radius*2 + Arm [x+Narms/2] radius*2)/2



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

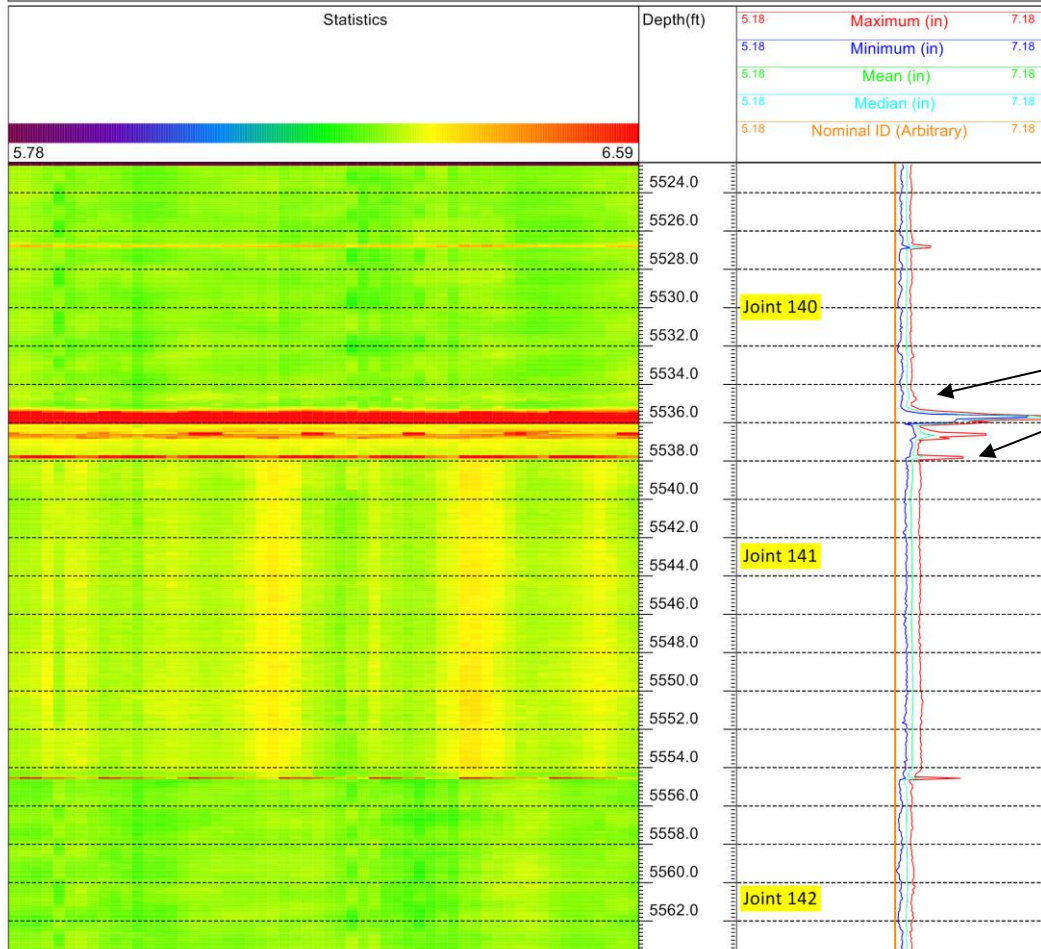
Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Filename: E:\CSG\INSP-PROCESSING\WSP_Lucid Red Hills AGI 1\Project\processing\MFC\main\main_stats.mip1



DV Tool from 5535.0' - 5537.9'



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veliz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Definition of terms in MIPS Pipe analysis report

Pipe dimensions

Item (no.) In 'pipe-by-pipe' analysis this represents the sequential pipe section number, selected during pipe end detection and editing, and indexed from the bottom up.

Top Body (ft/m) Processed measured depth in m/ft of top of the pipe section.

Bottom Body (ft/m) Processed measured depth in m/ft of bottom of the pipe section.

Body Length (ft/m) Length in m/ft of the pipe section.

Maximum penetration

Maximum penetration [Max.Pen] (ins or mm) Twice radius in inches or mm at maximum penetration of the pipe wall in the pipe section.

(Expressed as a diameter - twice radius - for comparison with Median ID and Drift IDs).

Maximum penetration % [Max.Pen (%)] Maximum penetration of the wall in the pipe section, expressed as a percentage relative to the difference between Median ID and OD at the maximum penetration point.

Maximum penetration depth [Max.Pen depth] Depth in m/ft of the maximum wall penetration in the pipe section.

Wall Loss

Maximum loss % [Max.Loss (%)] The maximum value of metal loss in the pipe, expressed as the percentage areal loss of wall relative to the outer diameter and nominal diameters. For each sampled depth in the pipe the loss is calculated as:

Percentage wall loss = $(100/n) \sum (S_i - ID_2) / (OD_2 - ID_2)$, where n is the number of caliper arms, S_i is twice the radius measured by caliper arm i, ID is the Median ID of the pipe.

Minimum diametric restriction [Min Diam. (ins or mm)]

Smallest diameter in inches or mm of the pipe section measured on opposing arms. Min Diam = $\text{Min}(\text{Arm [x] radius}^2 + \text{Arm [x+Narms/2] radius}^2) / 2$

Minimum diametric restriction % [Min Diam. (%)]

Smallest diameter in the pipe section measured on opposing arms as a %age of Median ID. Min Diam % = $100 * \text{Min}(\text{Arm [x] radius}^2 + \text{Arm [x+Narms/2] radius}^2) / (2 * \text{MedID})$

Minimum radial restriction [Min Res (ins or mm)] Smallest arm reading in inches or mm in the pipe section, (expressed as twice radius for comparison with Median and Drift IDs).

Maximum projection [Max Proj (ins or mm)] Largest projection into the well bore from the pipe wall in ins or mm based on Median IR.

Maximum projection % [Max Proj (%)] Largest projection into the well bore from the pipe wall as a %age of Median IR.

Deformation & Ovality

The terms "deformation & ovality" are used to describe tubulars that are out of round. When encountering issues of this nature during the analysis the evaluation software reports it as "damage" because there is a change from the nominal ID that indicates metal loss. **The reported magnitude (% Ovality) is based on the percent of measured wall loss relative to the wall thickness.** It is our opinion, that when encountering this type of damage there is most often no actual metal loss as is reported during the analysis by the software. The software looks for changes from nominal ID, thus ovality or "egg shaped" casing results in a change from nominal ID (in both the minimum and maximum) and forces the reporting as such. It is our opinion that even though there is usually no metal loss associated with this type of damage it should be left in the report to serve as an identifier to the operator, that there could be an issue with the pipe and should be monitored.

Note: **(below is just a precautionary statement to the operator and cannot be proved or disproved by the data set obtained by this service as it outside the scope of said service).** A feature of this type is from a mechanical mechanism and not corrosion based in our opinion. One exception is when this type of feature occurs at the coupling. Occurring at the coupling could pose an issue for the operator in the form of a leaking tubular connection.



56 ARM CALIPER

Company		LUCID ENERGY	
Well	AGI #1		
Field	RED HILLS		
County	LEA	State	NEW MEXICO
Location:		API # : 30-025-40448	
1600' FSL & 150' FEL			
Permanent Datum	GL	Elevation	3574
Log Measured From	KB	18.5 FT	
Drilling Measured From	KB		
Other Services		JCGR HVRT Elevation K.B. 3592.5 D.F. 3591.5 G.L. 3574	
Date	8-FEB-2021		
Run Number	1		
Service Order #	178167		
Depth Driller	6650		
Depth Logger	6155		
Bottom Logged Interval	6150		
Top Log Interval	Surface		
Type Fluid	WATER		
Density / Viscosity	FRESHWATER		
Max. Recorded Temp.	103 DEG. F		
Estimated Cement Top	NA		
Time Well Ready	7:45		
Time Logger on Bottom	09:15		
Equipment Number	6670		
Location	OKLAHOMA CITY, OK		
Recorded By	CHRIS COFFELT		
Witnessed By	MICHEAL		
Borehole Record		Tubing Record	
Run Number	Bit	From	To
		Size	Weight
		From	To
Casing Record	Size	Wgt/Ft	Top
	9.625"	40 LB/FT	SURFACE
	7"	26 LB/FT	SURFACE
			Bottom
			5346 FT
			6650 FT

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Comments

WELLHEAD PSI 0 psi
LOG CORRELATED TO DV TOOL @ 5535 FT IN WELLBORE

N/A = Information not available at time of logging.
All depths are based off wireline measurments
THANK YOU FOR USING BAKER HUGHES WIRELINE

Baker Hughes

The param

The MAC

All joints

Note that
HVRT d

Joint #139

Joint #140

Joint #141

Joint #142

DV Tool

DISC

These

accept

© 2019 B

informa

partic

claim



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2017

meters used to analyze the data set: OD: 7", ID: 6.184", 29# with a wall thickness of 0.408" (Best fit for the data set)

survey was correlated to the CBL logged 12-14-2017.

reported in the Class 1 range at this time.

The upper connection of Joints 140, 141 and 142 are different from the rest (See log for example). The upper connection of Joint 140 also looks different on the data set and could possibly be a welded connection.

is a 11.1' short joint.

is a 7.7' short joint.

is a 16.1' short joint.

is a 19.9' short joint.

from 5535.0' - 5537.9'

M.R:

Results were generated semi-automatically, using EPIDOTE - MIPS analysis software. The data was acquired using HotWell casing inspection tools. HotWell is responsible for the accuracy of the results that are presented.

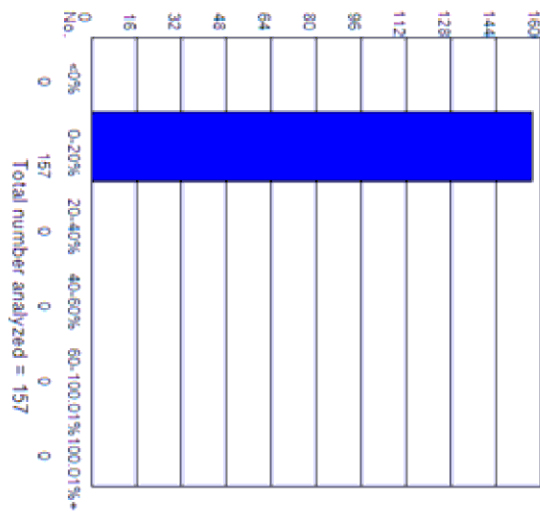
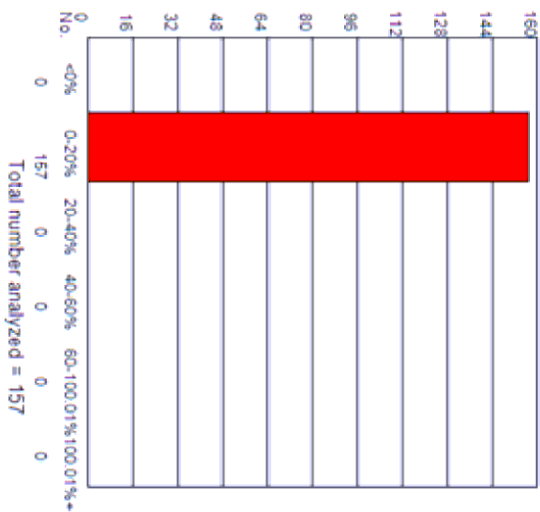
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Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2017



Maximum Percent Penetration

Maximum Percent Projection




Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veilz
Pipe: 7", 29#


Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm


Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2017


Item Number	Top Body	Body Length	NormID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
1	16.923	14.136	6.184	6.293	6.348	7.823	30.122	1.086	0.326	6.255	Class 1
2	31.569	39.830	6.184	6.260	6.315	7.472	50.343	1.556	0.342	6.225	Class 1
3	72.199	37.840	6.184	6.276	6.324	6.650	82.293	1.233	0.338	6.239	Class 1
4	111.729	42.302	6.184	6.252	6.318	8.833	148.734	1.764	0.341	6.220	Class 1
5	154.911	37.104	6.184	6.266	6.332	8.946	190.028	1.307	0.334	6.226	Class 1
6	192.684	34.866	6.184	6.266	6.336	9.481	226.266	2.190	0.332	6.212	Class 1
7	228.351	42.248	6.184	6.250	6.312	8.296	245.294	1.216	0.344	6.205	Class 1
8	271.508	39.189	6.184	6.252	6.331	10.567	301.399	1.268	0.335	6.212	Class 1
9	311.480	39.569	6.184	6.239	6.295	7.412	348.997	2.065	0.352	6.198	Class 1
10	351.849	35.758	6.184	6.270	6.318	6.611	384.554	0.960	0.341	6.212	Class 1
11	388.217	34.083	6.184	6.256	6.302	6.183	413.337	1.686	0.349	6.230	Class 1
12	423.100	36.600	6.184	6.276	6.319	6.004	434.609	1.420	0.341	6.245	Class 1
13	460.609	33.867	6.184	6.257	6.298	5.541	479.225	0.952	0.351	6.224	Class 1
14	495.456	36.849	6.184	6.259	6.302	5.835	502.669	0.777	0.349	6.227	Class 1
15	533.270	43.012	6.184	6.256	6.302	6.205	573.073	1.198	0.349	6.222	Class 1
16	577.262	41.592	6.184	6.249	6.315	8.818	608.076	1.048	0.342	6.183	Class 1
17	619.834	39.717	6.184	6.264	6.333	9.397	657.549	1.626	0.333	6.220	Class 1
18	660.488	38.951	6.184	6.251	6.298	6.248	697.366	1.085	0.351	6.210	Class 1
19	700.433	41.677	6.184	6.254	6.308	7.271	715.456	1.494	0.346	6.201	Class 1

Penetration Tally Min Wall

 From 0 to 20
Class 1

 From 20 to 40
Class 2

 From 40 to 60
Class 3

 From 60 to 100
Class 4



Client: Lucid Energy
Well: AG1 #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2017

Item Number	Top Body	Body Length	NormID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins
20	743.090	39.093	6.184	6.251	6.297	6.170	758.340	1.098	0.352	6.211
21	783.148	38.383	6.184	6.254	6.302	6.394	819.287	1.166	0.349	6.215
22	822.510	38.979	6.184	6.251	6.306	7.382	831.541	1.623	0.347	6.210
23	862.526	42.501	6.184	6.262	6.316	7.260	893.240	1.135	0.342	6.222
24	905.589	41.071	6.184	6.256	6.329	9.826	932.163	1.442	0.336	6.216
25	947.460	34.090	6.184	6.272	6.325	7.246	948.251	1.174	0.338	6.230
26	982.459	36.622	6.184	6.270	6.319	6.675	1005.250	1.299	0.341	6.221
27	1020.061	39.845	6.184	6.243	6.295	6.864	1058.898	1.047	0.352	6.206
28	1060.928	38.596	6.184	6.245	6.291	6.145	1064.436	0.898	0.355	6.200
29	1100.489	39.007	6.184	6.266	6.309	5.908	1126.191	0.996	0.345	6.230
30	1140.477	42.387	6.184	6.255	6.314	7.864	1172.838	1.023	0.343	6.202
31	1183.843	38.396	6.184	6.255	6.308	7.133	1200.031	0.960	0.346	6.202
32	1223.262	37.900	6.184	6.238	6.288	6.543	1254.119	1.280	0.356	6.196
33	1262.156	42.923	6.184	6.258	6.309	6.906	1288.284	1.030	0.345	6.204
34	1305.863	41.136	6.184	6.267	6.336	9.396	1322.364	1.665	0.332	6.222
35	1347.799	40.352	6.184	6.274	6.330	7.670	1384.092	2.220	0.335	6.231
36	1388.805	39.111	6.184	6.238	6.291	6.976	1425.854	1.171	0.355	6.200
37	1428.716	38.842	6.184	6.289	6.338	6.840	1466.523	1.142	0.331	6.254
38	1468.358	42.142	6.184	6.285	6.332	6.638	1507.788	1.812	0.334	6.245
39	1511.451	41.450	6.184	6.249	6.308	7.907	1541.896	1.247	0.346	6.199

Penetration Tally Min Wall

From 0 to 20
Class 1

From 20 to 40
Class 2

From 40 to 60
Class 3

From 60 to 100
Class 4



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins
40	1553.839	41.478	6.184	6.261	6.311	6.814	1580.535	1.121	0.345	6.221
41	1596.297	39.561	6.184	6.254	6.306	6.968	1629.326	1.323	0.347	6.210
42	1636.866	39.249	6.184	6.225	6.279	6.981	1661.972	1.212	0.361	6.177
43	1677.152	39.291	6.184	6.258	6.309	6.920	1711.956	1.317	0.345	6.214
44	1717.408	42.685	6.184	6.262	6.331	9.368	1727.931	1.778	0.335	6.210
45	1761.073	37.814	6.184	6.249	6.309	7.982	1781.706	1.045	0.345	6.204
46	1799.868	39.845	6.184	6.261	6.312	6.958	1831.974	1.258	0.344	6.207
47	1840.678	39.874	6.184	6.256	6.319	8.417	1880.481	1.906	0.341	6.214
48	1881.518	38.582	6.184	6.249	6.306	7.556	1897.067	1.085	0.347	6.199
49	1921.079	42.217	6.184	6.239	6.292	6.999	1929.514	1.227	0.354	6.198
50	1964.276	38.084	6.184	6.235	6.290	7.190	1992.122	1.537	0.355	6.191
51	2003.311	37.800	6.184	6.245	6.299	7.204	2038.754	0.946	0.351	6.210
52	2042.091	39.036	6.184	6.248	6.295	6.287	2064.272	0.932	0.352	6.201
53	2082.107	38.951	6.184	6.251	6.309	7.789	2120.632	1.134	0.345	6.199
54	2122.037	40.541	6.184	6.244	6.301	7.511	2151.147	0.970	0.349	6.203
55	2163.572	39.874	6.184	6.261	6.311	6.703	2191.390	0.797	0.345	6.214
56	2204.426	39.476	6.184	6.239	6.296	7.529	2243.149	1.019	0.352	6.202
57	2244.882	39.093	6.184	6.253	6.293	5.349	2273.807	0.993	0.353	6.217
58	2284.940	39.476	6.184	6.257	6.332	10.151	2296.286	1.213	0.334	6.210
59	2324.998	39.046	6.184	6.257	6.299	5.628	2356.096	1.125	0.351	6.214

Penetration Tally Min Wall

From 0 to 20
Class 1

From 20 to 40
Class 2

From 40 to 60
Class 3

From 60 to 100
Class 4



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veilz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logs

Comments
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1
Class 1

Item Number	Top Body	Body Length	NormID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min Wall Ins	Min
60	2364.844	42.238	6.184	6.284	6.336	7.293	2385.731	1.180	0.332	
61	2407.882	36.760	6.184	6.284	6.343	8.216	2443.909	3.902	0.329	
62	2445.557	39.702	6.184	6.286	6.329	6.063	2484.450	2.089	0.336	
63	2486.113	38.067	6.184	6.276	6.330	7.467	2523.727	1.596	0.335	
64	2524.980	34.630	6.184	6.257	6.300	5.743	2557.409	1.604	0.350	
65	2560.519	37.275	6.184	6.248	6.300	6.866	2594.713	2.165	0.350	
66	2598.731	39.107	6.184	6.253	6.310	7.602	2637.597	1.207	0.345	
67	2638.818	38.482	6.184	6.257	6.309	7.059	2666.636	1.070	0.345	
68	2678.280	41.208	6.184	6.258	6.307	6.622	2716.165	1.068	0.346	
69	2720.468	40.612	6.184	6.254	6.306	7.030	2757.132	1.524	0.347	
70	2762.060	38.084	6.184	6.250	6.307	7.545	2793.385	1.120	0.346	
71	2801.124	39.632	6.184	6.260	6.316	7.591	2812.867	0.899	0.342	
72	2841.736	42.018	6.184	6.249	6.306	7.573	2860.920	1.192	0.347	
73	2884.734	41.152	6.184	6.256	6.315	7.885	2916.911	1.576	0.342	
74	2926.851	40.911	6.184	6.245	6.303	7.669	2953.021	2.414	0.349	
75	2968.545	41.201	6.184	6.258	6.314	7.604	2986.391	1.860	0.343	
76	3010.546	39.575	6.184	6.291	6.355	9.082	3049.823	2.590	0.322	
77	3051.087	43.069	6.184	6.239	6.306	8.853	3079.458	1.444	0.347	
78	3095.149	37.545	6.184	6.252	6.316	8.608	3108.426	0.997	0.342	
79	3133.660	39.419	6.184	6.254	6.314	8.051	3149.663	1.201	0.343	

Penetration Tally Min Wall

From 0 to 20
Class 1

From 20 to 40
Class 2

From 40 to 60
Class 3

From 60 to 80
Class 4



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veilz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Date: Feb.
Tool Size: 3
Tool Type:
Correlated

Diam Ins	Comments
6.241	Class 1
6.238	Class 1
6.254	Class 1
6.240	Class 1
6.223	Class 1
6.216	Class 1
6.212	Class 1
6.208	Class 1
6.212	Class 1
6.212	Class 1
6.202	Class 1
6.222	Class 1
6.212	Class 1
6.208	Class 1
6.198	Class 1
6.213	Class 1
6.208	Class 1
6.194	Class 1
6.204	Class 1
6.194	Class 1

Item Number	Top Body	Body Length	NormID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max Loss %	Min
80	3174.044	38.439	6.184	6.261	6.324	8.522	3207.514	1.842	0
81	3213.449	42.089	6.184	6.240	6.302	8.170	3214.472	1.260	0
82	3256.504	39.107	6.184	6.276	6.323	6.525	3276.242	1.235	0
83	3296.590	35.798	6.184	6.263	6.316	7.241	3331.664	1.247	0
84	3333.326	34.236	6.184	6.274	6.327	7.358	3362.791	1.672	0
85	3368.528	35.173	6.184	6.236	6.290	7.082	3383.665	1.819	0
86	3404.652	37.872	6.184	6.251	6.307	7.456	3441.033	1.954	0
87	3443.504	38.141	6.184	6.256	6.312	7.533	3461.864	1.566	0
88	3482.625	36.962	6.184	6.238	6.290	6.873	3518.551	1.566	0
89	3520.567	33.597	6.184	6.259	6.313	7.255	3548.342	1.026	0
90	3555.116	39.675	6.184	6.257	6.315	7.850	3560.213	1.176	0
91	3595.756	40.683	6.184	6.253	6.303	6.660	3600.982	1.243	0
92	3637.362	37.303	6.184	6.252	6.321	9.251	3669.908	1.211	0
93	3675.602	40.442	6.184	6.232	6.293	7.902	3682.234	0.931	0
94	3717.067	38.127	6.184	6.241	6.298	7.466	3750.536	1.523	0
95	3756.202	38.993	6.184	6.268	6.328	8.220	3790.296	0.954	0
96	3796.118	42.302	6.184	6.269	6.325	7.679	3835.537	1.185	0
97	3839.400	41.734	6.184	6.249	6.302	7.022	3873.877	1.277	0
98	3882.113	36.650	6.184	6.266	6.324	7.955	3893.317	1.342	0
99	3919.701	35.521	6.184	6.258	6.311	7.083	3950.827	1.315	0

Penetration Tally Min Wall

60-100 *eiv*

4

Re

From 0 to 20

Class 1

From 20 to 40

Class 2

From 40 to 60

Class 3

08/2021
3.5"
Multi Arm
to CBL logged 12-14-2017

Wall Ins	Min Diam Ins	Comments
338	6.204	Class 1
349	6.190	Class 1
339	6.239	Class 1
342	6.212	Class 1
336	6.235	Class 1
355	6.186	Class 1
346	6.216	Class 1
344	6.217	Class 1
355	6.194	Class 1
343	6.214	Class 1
342	6.212	Class 1
349	6.208	Class 1
339	6.199	Class 1
353	6.186	Class 1
35	6.195	Class 1
336	6.226	Class 1
336	6.214	Class 1
346	6.195	Class 1
333	6.223	Class 1
346	6.210	Class 1



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#

Top Depth: 17.0'
Bottom Depth: 6162.5'
Run#: 1
Fingers: 56 Arm

Item Number	Top Body	Body Length	NomID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max Pen Depth	Max L
100	3955.875	39.046	6.184	6.274	6.324	6.915	3982.706	2.1
101	3995.721	41.016	6.184	6.251	6.300	6.554	4033.812	1.2
102	4037.445	38.589	6.184	6.243	6.295	6.841	4044.675	0.9
103	4076.834	39.352	6.184	6.273	6.324	7.072	4106.459	1.1
104	4117.166	38.780	6.184	6.251	6.314	8.362	4154.611	1.4
105	4156.926	39.291	6.184	6.259	6.311	7.080	4189.358	1.2
106	4197.140	36.849	6.184	6.280	6.336	7.793	4227.642	1.2
107	4234.969	33.512	6.184	6.266	6.319	7.188	4240.720	0.9
108	4269.447	40.257	6.184	6.265	6.335	9.508	4270.228	1.6
109	4310.669	37.942	6.184	6.244	6.301	7.503	4325.877	1.0
110	4349.606	34.307	6.184	6.255	6.319	8.547	4350.813	1.4
111	4384.558	40.287	6.184	6.241	6.292	6.669	4400.598	1.0
112	4425.645	38.129	6.184	6.263	6.329	8.902	4461.786	1.7
113	4464.753	39.362	6.184	6.254	6.309	7.381	4475.702	1.2
114	4505.025	37.204	6.184	6.272	6.335	8.636	4540.539	1.4
115	4543.208	42.884	6.184	6.249	6.314	8.596	4583.565	1.4
116	4587.115	39.107	6.184	6.238	6.297	7.745	4601.343	1.1
117	4627.201	35.031	6.184	6.268	6.320	7.113	4656.681	0.9
118	4663.213	37.687	6.184	6.244	6.296	6.875	4674.062	0.8
119	4701.879	38.397	6.184	6.247	6.300	7.012	4719.019	1.0

Penetration Tally Min Wall

From 60 to 100
Class 4

From 0 to 20
Class 1

From 20 to 40
Class 2

From 40 to 60
Class 3

Date: Feb. 08, 2021

Tool Size: 3.5"

Tool Type: Multi Arm

Correlated to CBL logged 12-14-2017

Loss %	Min Wall Ins	Min Diam Ins	Comments
74	0.338	6.236	Class 1
72	0.350	6.208	Class 1
10	0.352	6.199	Class 1
47	0.338	6.224	Class 1
61	0.343	6.205	Class 1
35	0.345	6.207	Class 1
92	0.332	6.227	Class 1
75	0.341	6.224	Class 1
03	0.332	6.219	Class 1
30	0.349	6.200	Class 1
24	0.341	6.198	Class 1
42	0.354	6.190	Class 1
69	0.336	6.215	Class 1
30	0.345	6.201	Class 1
15	0.332	6.232	Class 1
91	0.343	6.195	Class 1
34	0.352	6.187	Class 1
47	0.340	6.216	Class 1
68	0.352	6.195	Class 1
87	0.350	6.201	Class 1

From 60 to 100
Class 4



Client: Lucid Energy

Well: AGI #1

County: Lea

Analyst: E. Veilz

Pipe: 7", 29#

Top Depth: 17.0'

Bottom Depth: 6162.5'

Run#: 1

Fingers: 56 Arm

Item Number	Top Body	Body Length	NormID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen %	Max P Depth
120	4741.242	40.995	6.184	6.253	6.314	8.184	4756.0.0
121	4783.217	39.249	6.184	6.255	6.319	8.610	4811.4.4
122	4823.445	42.444	6.184	6.253	6.307	7.204	4857.5.5
123	4866.855	38.951	6.184	6.256	6.322	8.837	4887.5.5
124	4906.785	39.930	6.184	6.257	6.309	6.973	4919.2.2
125	4947.738	41.918	6.184	6.254	6.312	7.753	4964.5.5
126	4990.707	42.174	6.184	6.262	6.322	8.190	5006.5.5
127	5033.861	37.857	6.184	6.254	6.312	7.835	5061.1.1
128	5072.769	37.630	6.184	6.230	6.291	7.949	5088.8.8
129	5111.308	38.141	6.184	6.236	6.286	6.602	5128.3.3
130	5150.486	37.474	6.184	6.243	6.296	7.006	5185.4.4
131	5188.939	40.569	6.184	6.265	6.337	9.762	5226.4.4
132	5230.446	42.728	6.184	6.255	6.340	11.354	5245.6.6
133	5274.054	40.129	6.184	6.258	6.309	6.843	5303.8.8
134	5315.390	41.081	6.184	6.251	6.324	9.803	5357.2.2
135	5357.451	41.421	6.184	6.241	6.294	7.015	5393.5.5
136	5399.809	36.792	6.184	6.257	6.312	7.461	5433.2.2
137	5437.196	39.046	6.184	6.246	6.297	6.769	5471.6.6
138	5477.042	37.248	6.184	6.269	6.354	11.656	5513.4.4
139	5515.213	11.186	6.184	6.261	6.302	5.574	5555.6.6

Penetration Tally Min Wall

From 0 to 20
Class 1

From 20 to 40
Class 2

Date: Feb. 08, 2021
 Tool Size: 3.5"
 Tool Type: Multi Arm
 Correlated to CBL logged 12-14-2017

Item	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
24	1.209	0.343	6.205	Class 1
04	2.100	0.341	6.206	Class 1
25	1.152	0.346	6.207	Class 1
59	1.291	0.339	6.214	Class 1
39	1.240	0.345	6.219	Class 1
51	1.412	0.344	6.212	Class 1
68	1.279	0.339	6.223	Class 1
67	1.114	0.344	6.209	Class 1
72	1.042	0.355	6.185	Class 1
62	0.840	0.357	6.194	Class 1
60	1.012	0.352	6.202	Class 1
56	2.480	0.332	6.216	Class 1
54	2.385	0.330	6.211	Class 1
61	1.385	0.345	6.223	Class 1
12	0.956	0.338	6.207	Class 1
43	1.448	0.353	6.195	Class 1
27	1.141	0.344	6.217	Class 1
28	1.619	0.352	6.206	Class 1
85	1.927	0.323	6.202	Class 1
95	1.128	0.349	6.229	Class 1



Client: Lucid Energy
 Well: AGI #1
 County: Lea
 Analyst: E. Veliz
 Pipe: 7", 29#

Top Depth: 1
 Bottom Depth:
 Run#: 1
 # Fingers: 56

Item Number	Top Body	Body Length	NormID At Max Pen	Mean Median Ins	Max Pen Ins	Max Pen
140	5527.199	7.764	6.184	6.260	6.318	7.795
141	5538.097	16.123	6.184	6.289	6.360	9.973
142	5555.020	19.960	6.184	6.260	6.311	6.884
143	5575.918	39.590	6.184	6.257	6.309	7.045
144	5616.473	40.655	6.184	6.263	6.315	7.102
145	5658.065	39.533	6.184	6.248	6.303	7.343
146	5698.634	37.218	6.184	6.227	6.315	11.435
147	5736.960	37.857	6.184	6.229	6.272	5.555
148	5775.896	38.155	6.184	6.229	6.269	5.135
149	5815.145	35.486	6.184	6.223	6.272	6.312
150	5851.611	38.028	6.184	6.227	6.269	5.384
151	5890.689	37.758	6.184	6.229	6.284	7.092
152	5929.441	38.880	6.184	6.226	6.266	5.134
153	5969.385	39.732	6.184	6.227	6.264	4.718
154	6010.154	35.798	6.184	6.226	6.264	4.14
155	6046.960	38.922	6.184	6.225	6.263	4.19
156	6086.895	36.294	6.184	6.224	6.266	5.15
157	6123.843	36.751	6.184	6.221	6.254	4.14

Penetration Tally Min Wall

From 0 to 20
 Class 1

From 20 to 100
 Class 2

From 40 to 60
 Class 3

From 60 to 100
 Class 4

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2017

%	Max Pen Depth	Max Loss %	Min Wall Ins	Min Diam Ins	Comments
5534.794	1.706	0.341	6.222		Class 1
5550.627	1.818	0.320	6.251		Class 1
5560.255	1.096	0.345	6.212		Class 1
5577.409	1.408	0.345	6.203		Class 1
5552.342	0.864	0.342	6.214		Class 1
5680.927	0.997	0.349	6.199		Class 1
5699.600	4.062	0.342	6.195		Class 1
5772.076	1.173	0.364	6.197		Class 1
5807.732	0.763	0.365	6.196		Class 1
5849.253	2.273	0.364	6.184		Class 1
5886.458	0.983	0.365	6.190		Class 1
5912.969	0.866	0.358	6.195		Class 1
5931.060	1.317	0.367	6.186		Class 1
5995.031	1.014	0.368	6.190		Class 1
6019.838	1.233	0.368	6.192		Class 1
6065.008	1.131	0.368	6.195		Class 1
6120.090	2.078	0.367	6.187		Class 1
6159.112	1.093	0.373	6.191		Class 1

From 40 to 60
Class 3

From 60 to 100
Class 4



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#

Joint Analysis Statistics Definitions

Title	Units	Description
Item Number		The sequential pipe section number
Top Body	ft/m	Processed measured depth of the top of the pipe
Body Length	ft/m	Length of the joint body
Mean Median Ins	in	The mean average value of the median radius.
Max Pen Ins	in	Maximum twice radius in the joint.
Max Pen %	%	Maximum radius*2 in the pipe section expanded percentage relative to the difference between OD and Median ID.
Max Pen Depth	ft/m	Depth of the maximum wall penetration in the joint.
Min Wall Ins	in	Min Wall = Min (NomOD-Arm radii *2)/2
NomID At Max Pen	in	Nominal ID at the maximum radius depth
Max Loss %	%	The maximum value of metal loss in the pipe section relative to the difference between the median inner diameter.
Min Diam Ins	in	Smallest diameter in the joint measured at the arms.

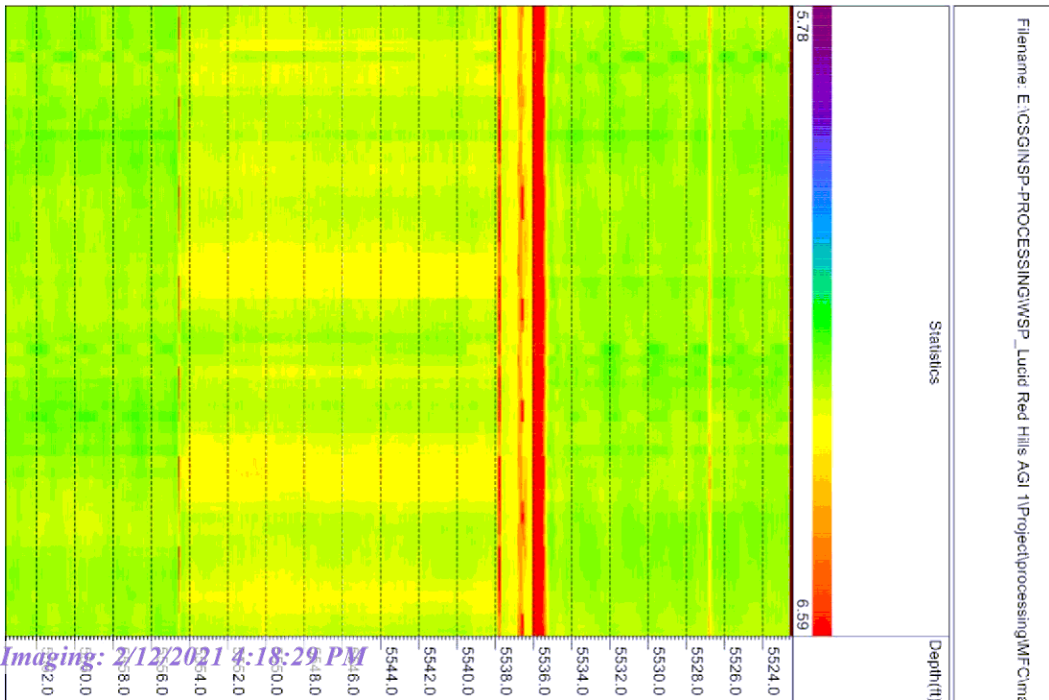
Depth: 17.0'
Bottom Depth: 6162.5'
Arm#: 1
Fingers: 56 Arm

Date: Feb. 08, 2021
Tool Size: 3.5"
Tool Type: Multi Arm
Correlated to CBL logged 12-14-2017

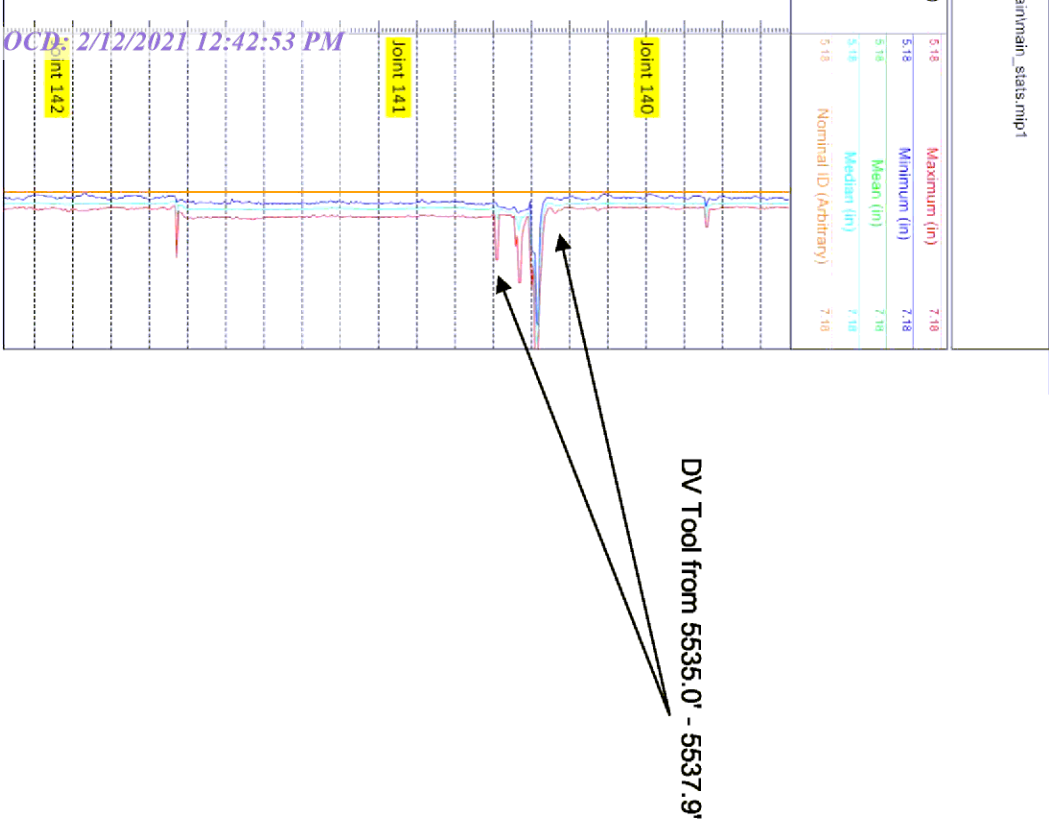
	Formula
the joint body	
radius*2 over the body	Mean Median = Mean (Median (Arm radii *2))
	Max pen = Max (radius*2)
pressed as a between the joint Nominal	Max pen% = 100 * Max (Radius*2- NomID)/(NomOD-MedianID)
the joint	
pipe expressed as the the outer diameter and	%age Wall Loss = (100/n) * Sum (Si^2 - ID^2)/(OD^2 - ID^2) where n is the number of calliper arms. Si is twice the radius measured by calliper arm i. ID is the Median ID of the pipe. Max loss% = Max (%age wall loss) in the pipe body
Micro opposing	Min Diam = Min(Arm [x] radius*2 + Arm [x+Narms/2] radius*2)/2



Client: Lucid Energy
Well: AGI #1
County: Lea
Analyst: E. Veliz
Pipe: 7", 29#



Top Depth: 17.0'
 Bottom Depth: 6162.5'
 Run#: 1
 # Fingers: 56 Arm
 Date: Feb. 08, 2021
 Tool Size: 3.5"
 Tool Type: Multi Arm
 Correlated to CBL logged 12-14-2017



Client: Lucid Energy
 Well: AGI #1
 County: Lea
 Analyst: E. Veliz
 Pipe: 7", 29#

Definition of terms in MIPS Pipe analysis report

Pipe dimensions

Item (no.) In 'pipe-by-pipe' analysis this represents the sequence number of the item.
Top Body (ft/m) Processed measured depth in m/ft of top of body.
Bottom Body (ft/m) Processed measured depth in m/ft of bottom of body.
Body Length (ft/m) Length in m/ft of the pipe section.

Maximum penetration

Maximum penetration [Max.Pen] (ins or mm) Twice radius (Expressed as a diameter - twice radius - for comparison with nominal ID).
Maximum penetration % [Max.Pen (%)] Maximum penetration divided by nominal ID.
Maximum penetration depth [Max.Pen depth] Depth in m/ft.

Wall Loss

Maximum loss % [Max.Loss (%)] The maximum value of maximum loss in the pipe the loss is calculated as:
 $\text{Percentage wall loss} = (100/n) \times ((S_1 - ID_2) / (OD - ID_2))$, where S_1 is the radius measured by caliper arm 1, ID is the Median ID.

Minimum diametric restriction [Min Diam. (ins or mm)]

Smallest diameter in inches or mm of the pipe section measured.

Minimum diametric restriction % [Min Diam. (%)]

Smallest diameter in the pipe section measured on opposing sides.
Minimum radial restriction [Min Res (ins or mm)] Smallest measured radial restriction.
Maximum projection [Max Proj (ins or mm)] Largest projection from nominal ID.
Maximum projection % [Max Proj (%)] Largest projection divided by nominal ID.

Deformation & Ovality

The terms "deformation & ovality" are used to describe the change in pipe diameter. The software looks for changes in the wall thickness. It is our opinion that the software reports it as "damage" because there is a change in the wall loss relative to the wall thickness. It is our opinion that the software analysis by the software. The software looks for changes in the wall thickness (maximum) and forces the reporting as such. It is our opinion that the software to serve as an identifier to the operator, that there could be a mechanical mechanism and not corrosion.

Note: (below is just a precautionary statement to the operator) this type is from a mechanical mechanism and not corrosion operator in the form of a leaking tubular connection.

Top Depth: 17.0'
 Bottom Depth: 6162.5'
 Run#: 1
 # Fingers: 56 Arm
 Date: Feb. 08, 2021
 Tool Size: 3.5"
 Tool Type: Multi Arm
 Correlated to CBL logged 12-14-2017

ential pipe section number, selected during pipe end detection and editing, and indexed from the bottom up.
 the pipe section.
 bottom of the pipe section.

in inches or mm at maximum penetration of the pipe wall in the pipe section.
 Median ID and Drift Ids).

ion of the wall in the pipe section, expressed as a percentage relative to the difference between Median ID and OD at the maximum penetration
 of the maximum wall penetration in the pipe section.

et al loss in the pipe, expressed as the percentage areal loss of wall relative to the outer diameter and nominal diameters. For each sampled
 ID of the pipe.
 n is the number of caliper arms, Si is

ured on opposing arms. Min Diam = Min(Arm [x] radius*2 + Arm [x+Narms/2] radius*2)/2

arms as a %age of Median ID. Min Diam % = 100 * Min(Arm [x] radius*2 + Arm [x+Narms/2] radius*2)/(2* MediD) Restrictions
 t arm reading in inches or mm in the pipe section, (expressed as twice radius for comparison with Median and Drift Ids).
 ction into the well bore from the pipe wall in ins or mm based on Median IR.
 into the well bore from the pipe wall as a %age of Median IR.

tulars that are out of round. When encountering issues of this nature during the analysis the evaluation software
 th nominal ID that indicates metal loss. **The reported magnitude (% Ovality) is based on the percent of measured**
 or that when encountering this type of damage there is most often no actual metal loss as is reported during the
 from nominal ID, thus ovality or "egg shaped" casing results in a change from nominal ID (in both the minimum and
 pition that even though there is usually no metal loss associated with this type of damage it should be left in the report
 d to an issue with the pipe and should be monitored.

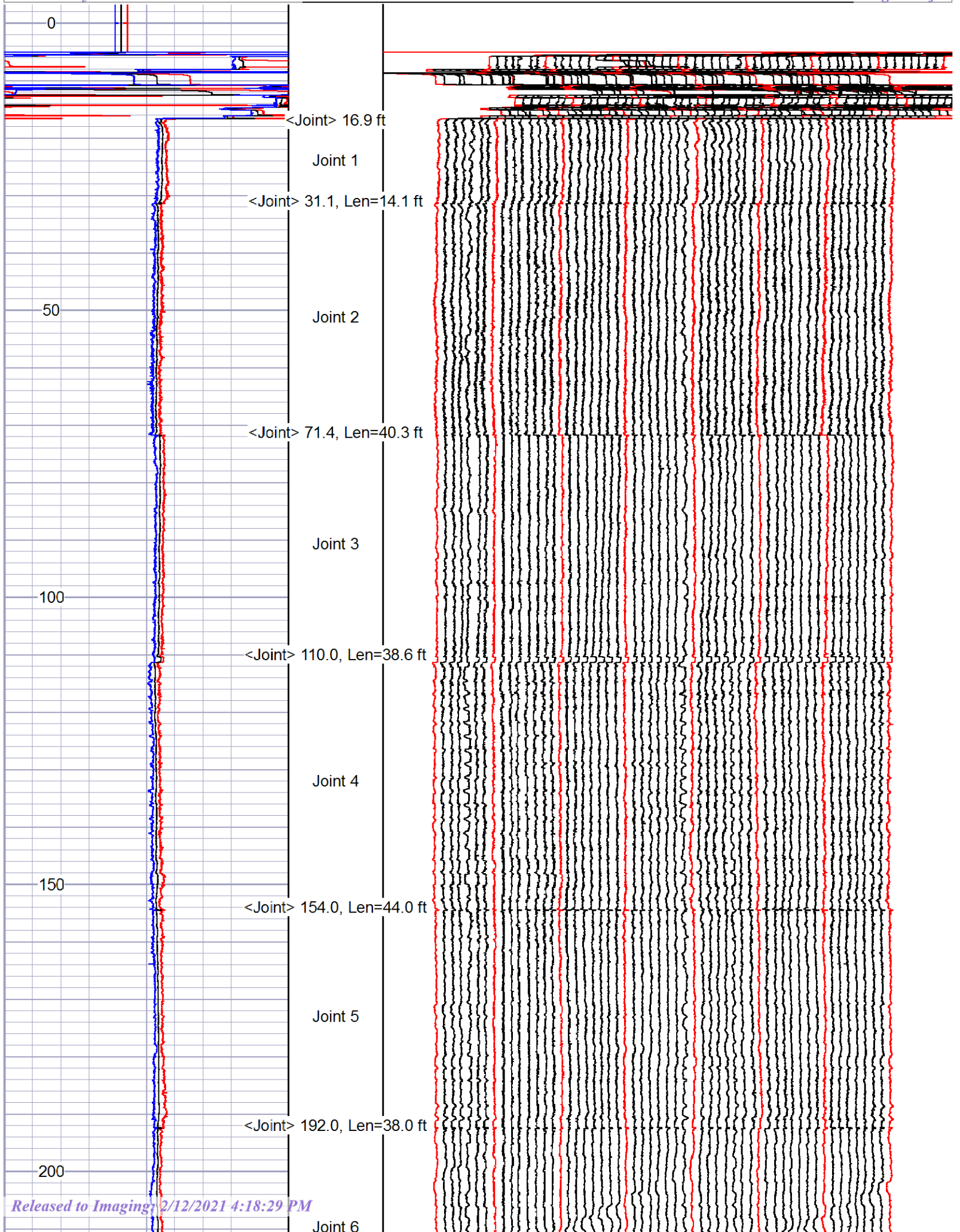
ated, and cannot be proved or disproved by the data set obtained by this service as it outside the scope of said service). A feature of
 based in our opinion. One exception is when this type of feature occurs at the coupling. Occurring at the coupling could pose an issue for the



Main Pass: 5" / 100'

Database File wsp_lucid red hills agi 1\project\processing\main_final.db
 Dataset Pathname main_final
 Presentation Format 56f_29lb-hw
 Dataset Creation Tue Feb 09 11:08:43 2021
 Charted by Depth in Feet scaled 1:240

5.184	Maximum-Finger (in)	7.184	PTANN	56 FINGER TRACE
5.184	Average-Finger (in)	7.184		
5.184	Minimum-Finger (in)	7.184		



250

<Joint> 227.6, Len=35.5 ft

Joint 7

300

<Joint> 270.6, Len=43.0 ft

Joint 8

350

<Joint> 310.7, Len=40.1 ft

Joint 9

400

<Joint> 351.0, Len=40.4 ft

Joint 10

<Joint> 387.6, Len=36.6 ft

Joint 11

<Joint> 422.3, Len=34.7 ft

450

Joint 12

<Joint> 459.7, Len=37.4 ft

Joint 13

<Joint> 494.5, Len=34.8 ft

500

Joint 14

<Joint> 532.3, Len=37.8 ft

550

Joint 15

<Joint> 576.3, Len=44.0 ft

600

Joint 16

<Joint> 618.9, Len=42.6 ft

Joint 17

650

<Joint> 659.6, Len=40.7 ft

Joint 18

700

<Joint> 699.4, Len=39.9 ft

Joint 19

750

<Joint> 742.1, Len=42.7 ft

Joint 20

800

<Joint> 782.2, Len=40.1 ft

Joint 21

850

<Joint> 821.5, Len=39.3 ft

Joint 22

<Joint> 861.5, Len=40.0 ft

900

Joint 23

<Joint> 905.0, Len=43.5 ft

Joint 24

950

<Joint> 946.7, Len=41.6 ft

Joint 25

<Joint> 981.5, Len=34.9 ft

1000

Joint 26

<Joint> 1019.1, Len=37.5 ft

Joint 27

1050

<Joint> 1059.9, Len=40.8 ft

Joint 28

1100

<Joint> 1099.5, Len=39.6 ft

Joint 29

1150

<Joint> 1139.5, Len=40.0 ft

Joint 30

1200

<Joint> 1182.9, Len=43.4 ft

Joint 31

1250

<Joint> 1222.2, Len=39.4 ft

Joint 32

1300

<Joint> 1261.2, Len=38.9 ft

Joint 33

<Joint> 1305.1, Len=43.9 ft

1350

Joint 34

<Joint> 1347.0, Len=41.9 ft

Joint 35

<Joint> 1388.2, Len=41.2 ft

1400

Joint 36

<Joint> 1427.9, Len=39.8 ft

1450

Joint 37

<Joint> 1467.6, Len=39.6 ft

1500

Joint 38

<Joint> 1510.5, Len=42.9 ft

Joint 39

1550

<Joint> 1552.9, Len=42.4 ft

Joint 40

1600

<Joint> 1595.3, Len=42.4 ft

Joint 41

1650

<Joint> 1635.9, Len=40.5 ft

Joint 42

1700

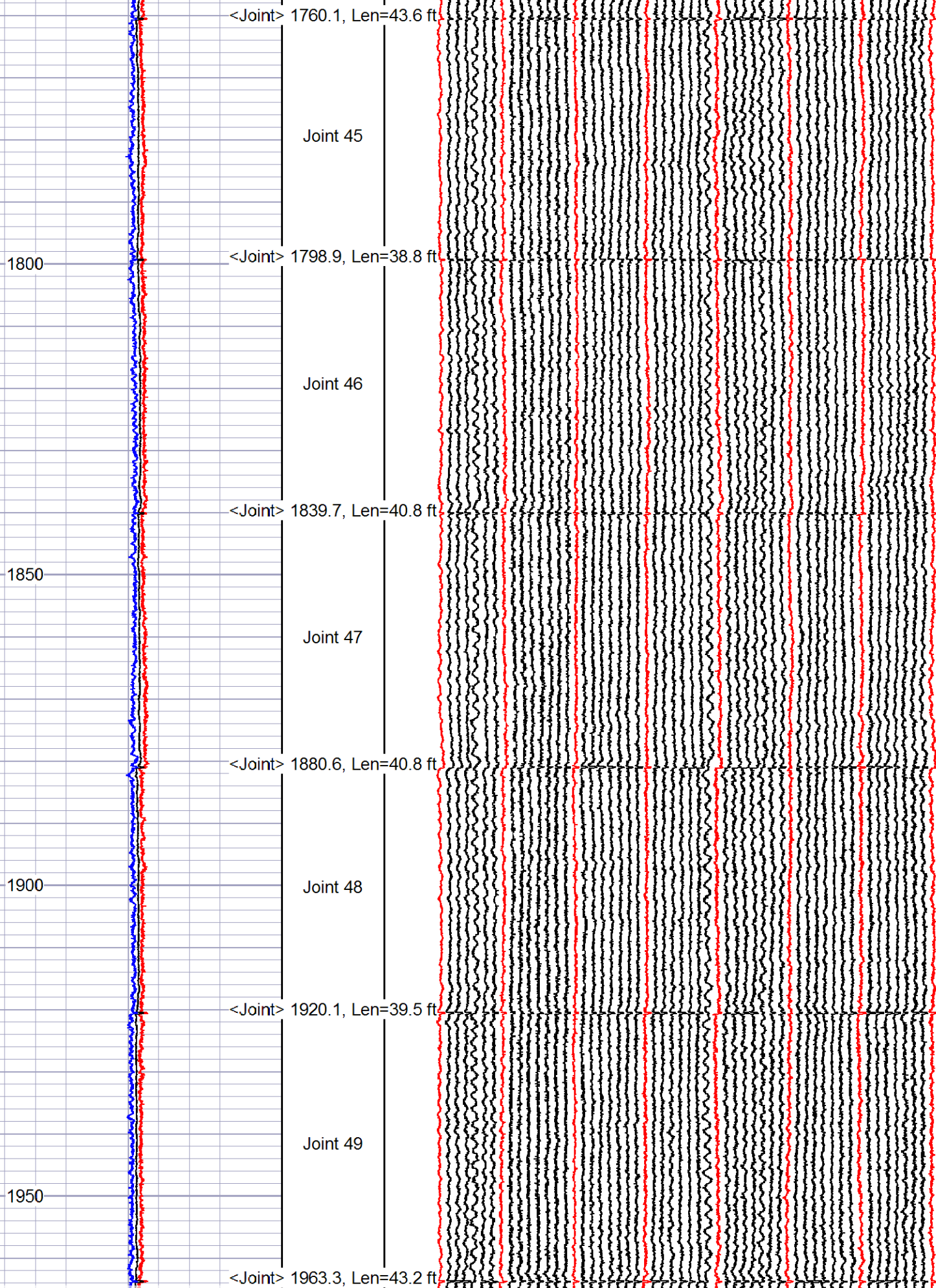
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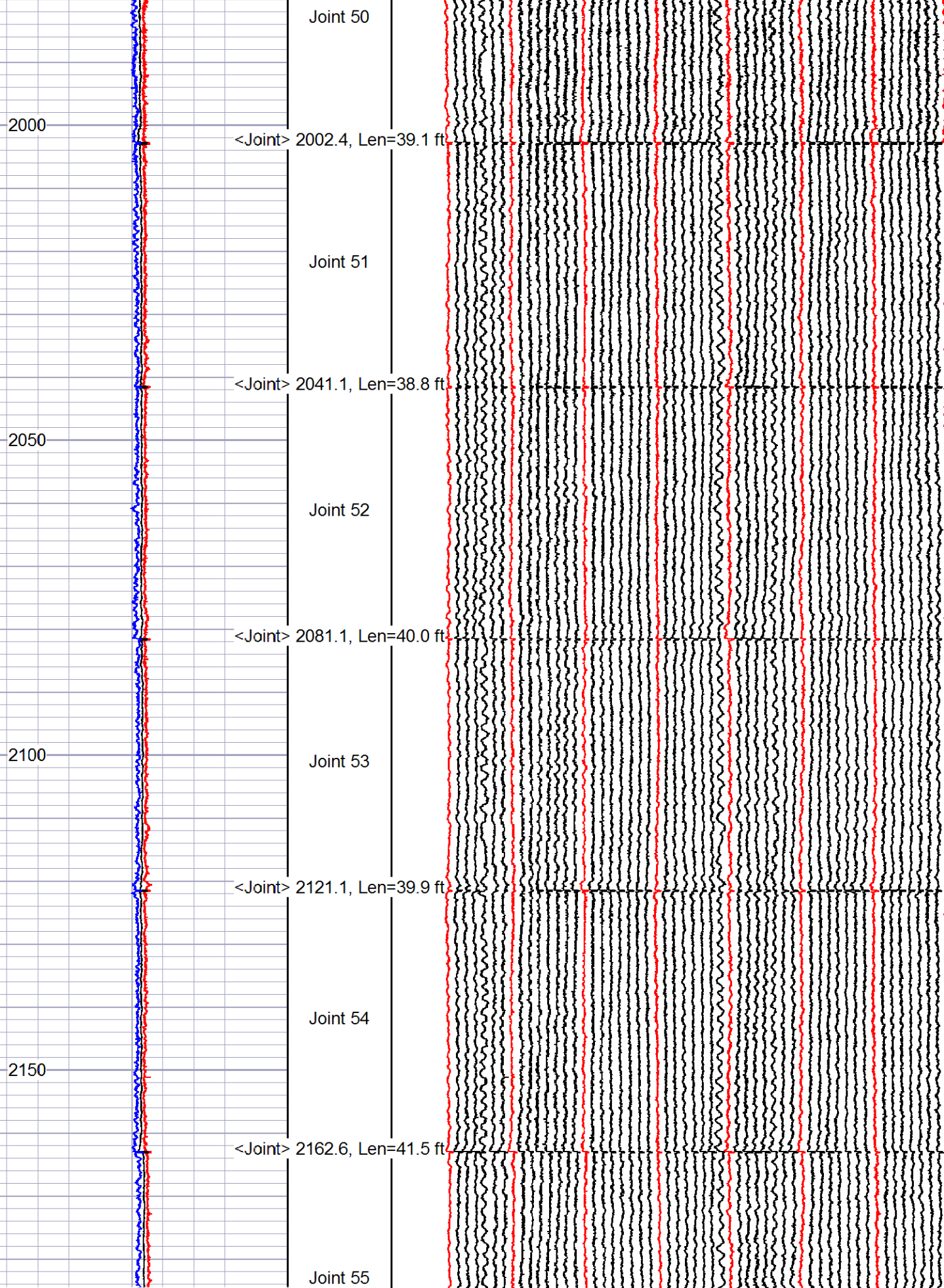
Joint 43

<Joint> 1716.4, Len=40.3 ft

Joint 44

1750





2200

<Joint> 2203.4, Len=40.9 ft

Joint 56

2250

<Joint> 2243.9, Len=40.5 ft

Joint 57

2300

<Joint> 2284.0, Len=40.1 ft

Joint 58

2350

<Joint> 2324.4, Len=40.4 ft

Joint 59

2400

<Joint> 2364.0, Len=39.6 ft

Joint 60

<Joint> 2407.1, Len=43.0 ft

2450

Joint 61

<Joint> 2444.6, Len=37.6 ft

Joint 62

<Joint> 2485.3, Len=40.6 ft

2500

Joint 63

<Joint> 2524.2, Len=38.9 ft

2550

Joint 64

<Joint> 2559.6, Len=35.4 ft

Joint 65

2600

<Joint> 2597.8, Len=38.2 ft

Joint 66

2650

<Joint> 2637.8, Len=40.0 ft

Joint 67

2700

<Joint> 2677.3, Len=39.5 ft

Joint 68

2750

<Joint> 2719.5, Len=42.2 ft

Joint 69

2800

<Joint> 2761.1, Len=41.6 ft

Joint 70

<Joint> 2800.1, Len=39.1 ft

Joint 71

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2850

2880
Joint 72

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2900
Joint 73

<Joint> 2925.9, Len=42.1 ft

2950
Joint 74

<Joint> 2967.8, Len=41.9 ft

3000
Joint 75

<Joint> 3009.7, Len=42.0 ft

3050
Joint 76

<Joint> 3050.1, Len=40.4 ft

Joint 77

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3100

Joint 78

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3150

Joint 79

<Joint> 3173.1, Len=40.4 ft

3200

Joint 80

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3250

Joint 81

<Joint> 3255.5, Len=43.1 ft

Joint 82

3300

Joint 83

<Joint> 3329.6, Len=40.1 ft

<Joint> 3332.4, Len=36.8 ft

3350

Joint 84

<Joint> 3367.6, Len=35.2 ft

3400

Joint 85

<Joint> 3403.7, Len=36.1 ft

Joint 86

<Joint> 3442.5, Len=38.8 ft

3450

Joint 87

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3500

Joint 88

<Joint> 3519.6, Len=37.9 ft

Joint 89

3550

<Joint> 3554.2, Len=34.6 ft

Joint 90

3600

<Joint> 3594.8, Len=40.6 ft

Joint 91

3650

<Joint> 3636.4, Len=41.6 ft

Joint 92

3700

<Joint> 3674.7, Len=38.2 ft

Joint 93

<Joint> 3716.0, Len=41.4 ft

3750

<Joint> 3755.2, Len=39.1 ft

Joint 94

Joint 95

3800

<Joint> 3795.2, Len=40.0 ft

Joint 96

3850

<Joint> 3838.4, Len=43.2 ft

Joint 97

<Joint> 3881.1, Len=42.7 ft

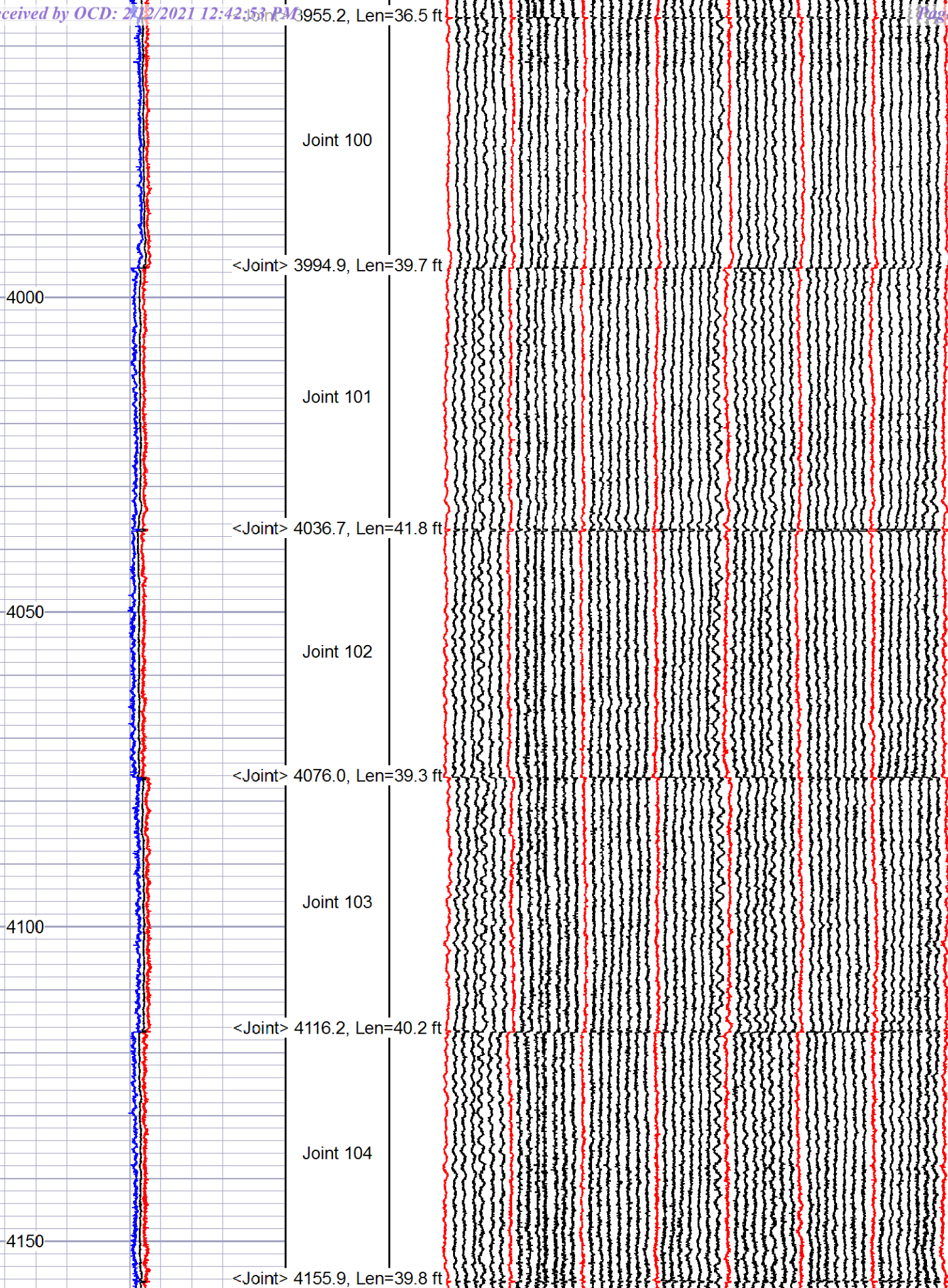
3900

Joint 98

<Joint> 3918.8, Len=37.6 ft

Joint 99

3950



4200

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Joint 106

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4250

Joint 107

<Joint> 4268.5, Len=34.5 ft

4300

Joint 108

<Joint> 4309.7, Len=41.2 ft

Joint 109

4350

<Joint> 4348.6, Len=38.9 ft

Joint 110

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4400

Joint 111

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4450

Joint 112

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4500

Joint 113

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Joint 114

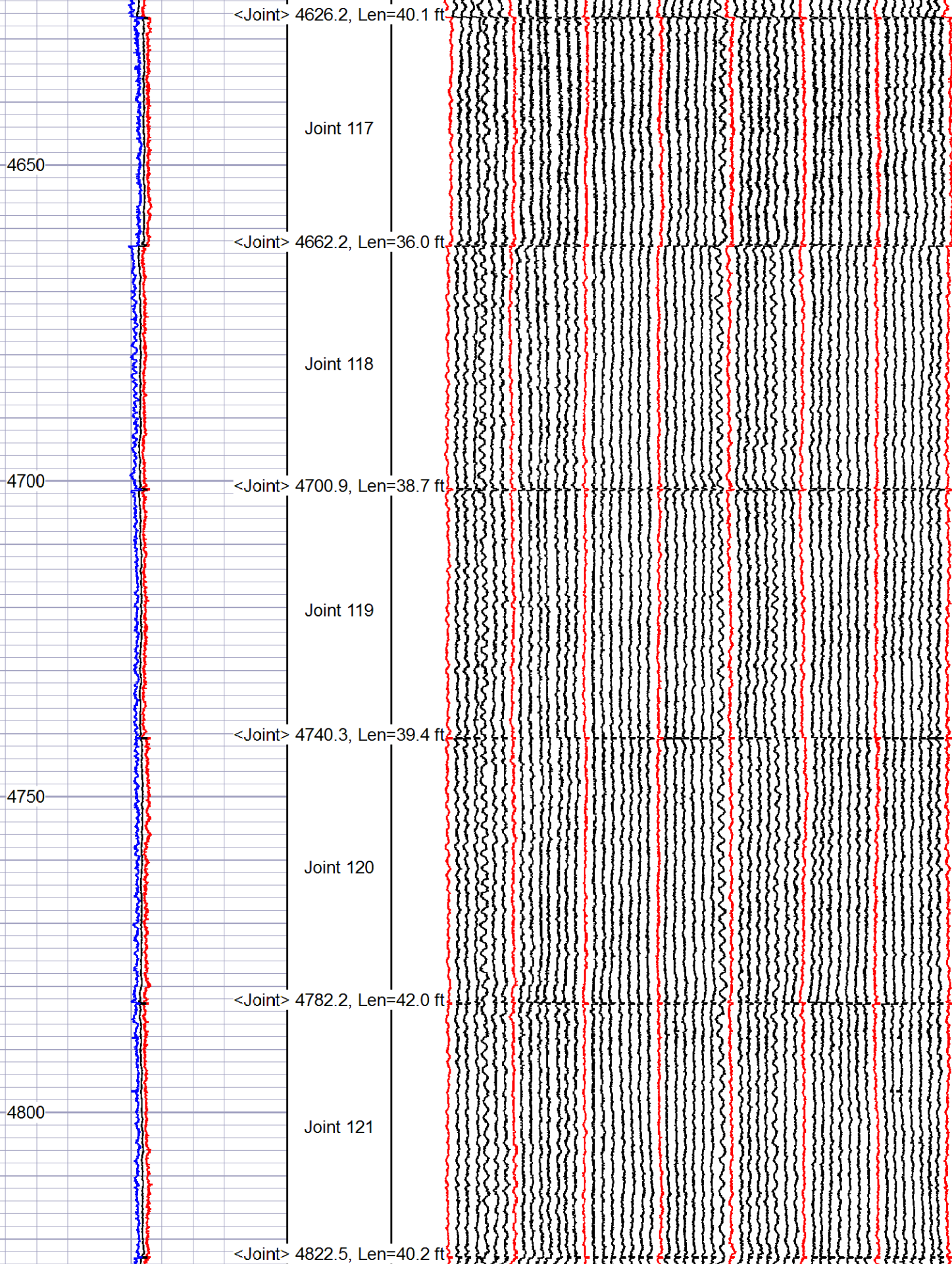
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4550

Joint 115

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4600



4850

Joint 122

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4900

Joint 123

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4950

Joint 124

<Joint> 4946.7, Len=40.9 ft

5000

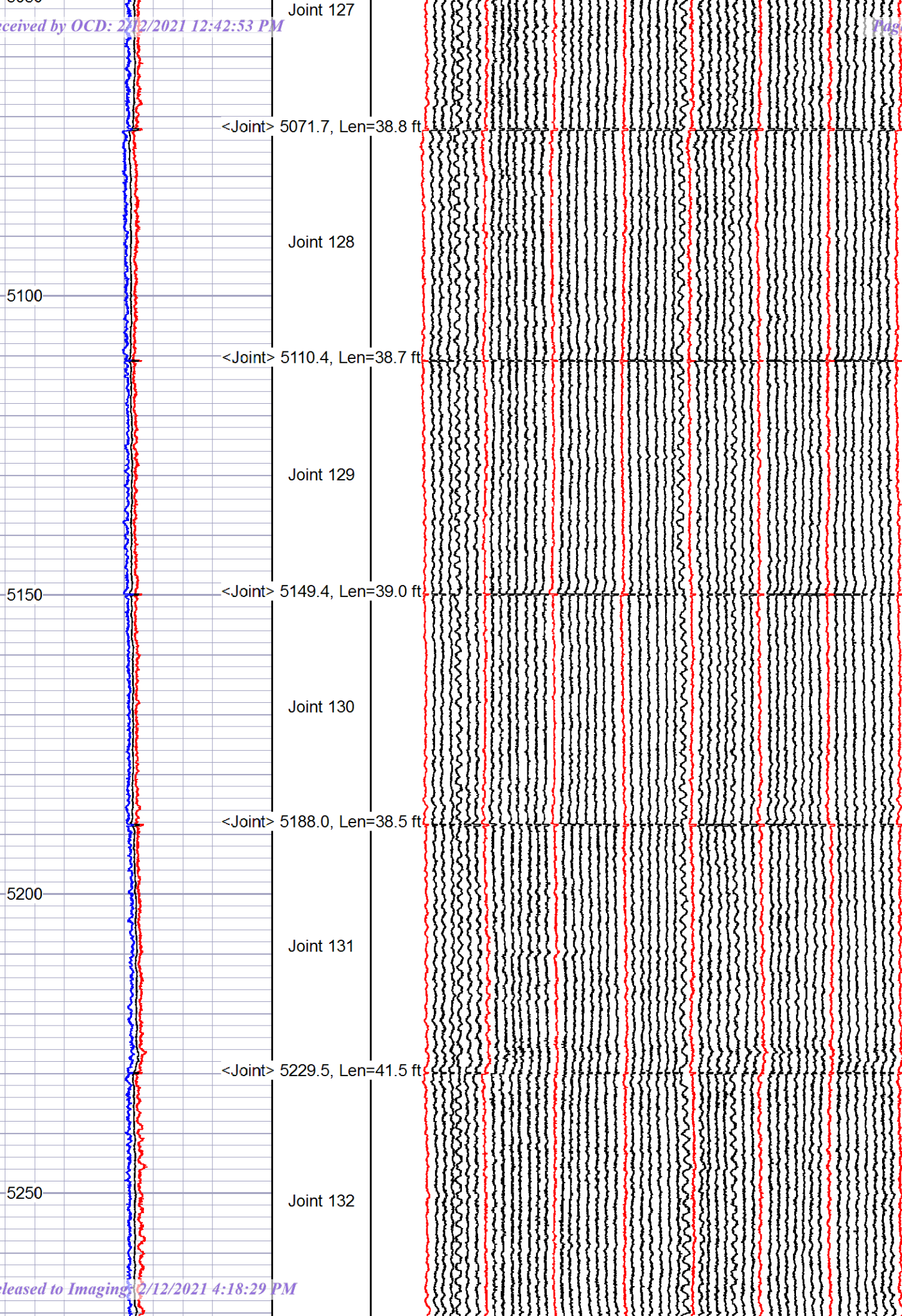
Joint 125

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Joint 126

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5050



5300

Joint 133

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5350

Joint 134

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5400

Joint 135

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5450

Joint 136

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Joint 137

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5500

<Joint> 5514.3, Len=38.0 ft

Joint 139

<Joint> 5526.4, Len=12.1 ft

Joint 140

<Joint> 5535.0, Len=8.6 ft

Different collar
response

Joint 141

<Joint> 5554.2, Len=19.3 ft

Joint 142

<Joint> 5575.0, Len=20.8 ft

Joint 143

<Joint> 5615.5, Len=40.5 ft

Joint 144

<Joint> 5657.1, Len=41.6 ft

Joint 145

<Joint> 5697.6, Len=40.5 ft

5550

5600

5650

5700

Joint 146

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5750

Joint 147

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5800

Joint 148

<Joint> 5814.1, Len=39.2 ft

5850

Joint 149

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Joint 150

<Joint> 5889.6, Len=39.0 ft

5900

Joint 151

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5950

Joint 152

<Joint> 5968.3, Len=39.9 ft

6000

Joint 153

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6050

Joint 154

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6100

Joint 155

<Joint> 6085.9, Len=39.9 ft

Joint 156

<Joint> 6123.2, Len=37.3 ft

Joint 157

6150

<Joint> 6160.6, Len=37.4 ft

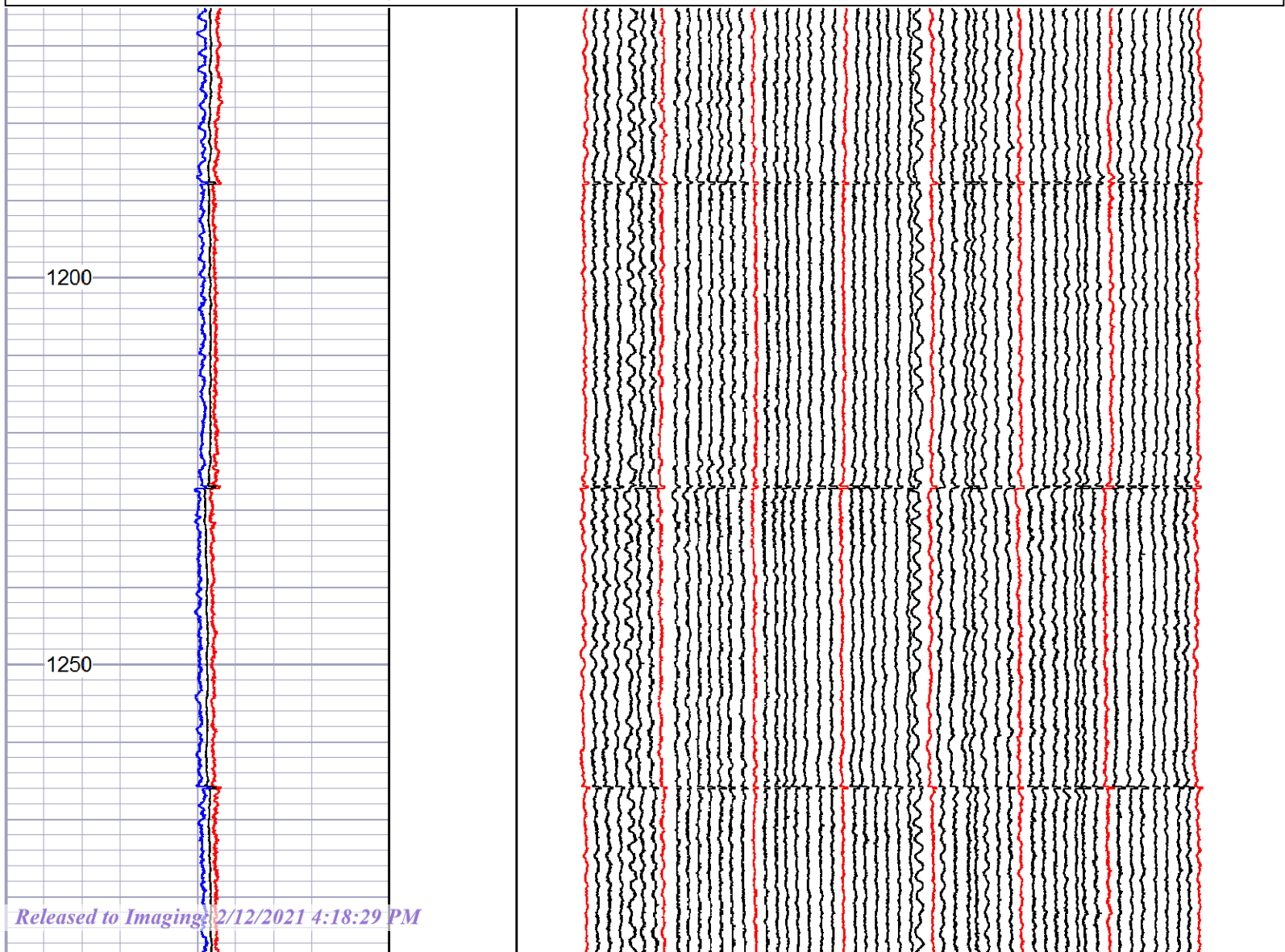
5.184	Maximum-Finger (in)	7.184	PTANN	56 FINGER TRACE
5.184	Average-Finger (in)	7.184		
5.184	Minimum-Finger (in)	7.184		
6.825	Nominal ID (in)	8.825		



Repeat Pass: 5"/ 100'

Database File wsp_lucid red hills agi 1\project\processing\repeat_final.db
 Dataset Pathname repeat_final
 Presentation Format 56f_29lb-hw
 Dataset Creation Tue Feb 09 11:53:42 2021
 Charted by Depth in Feet scaled 1:240

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5.184	Average-Finger (in)	7.184	
5.184	Minimum-Finger (in)	7.184	



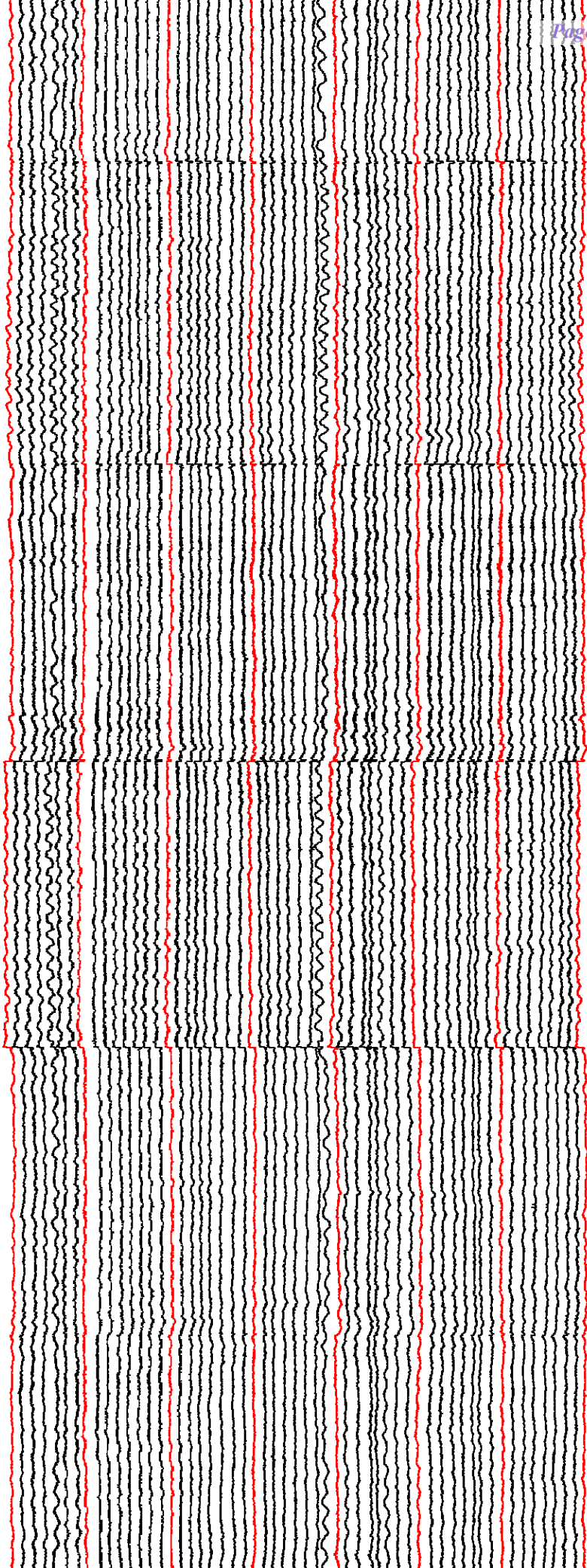
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1350

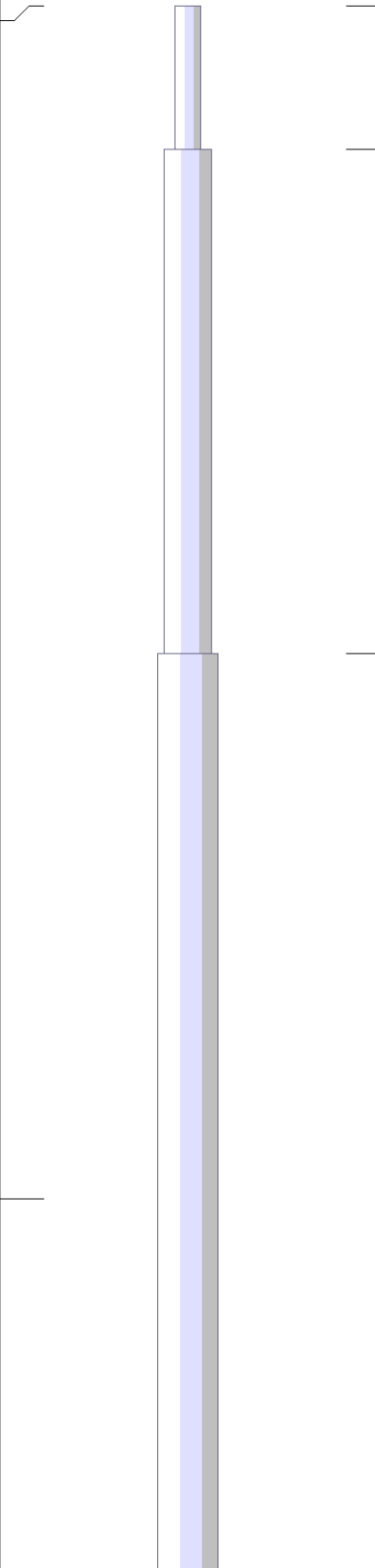
1400

1450

1500



5.184	Maximum-Finger (in)	7.184
5.184	Average-Finger (in)	7.184
5.184	Minimum-Finger (in)	7.184

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
LTENUSR	14.86		<p>CHD-STNDRD Standard Cable Head</p> <p>CENT-3.625' A2_InLine 2 3/4" 3.625' A2 Style In-Line Centralizer</p> <p>XIPEMAC-56 (10113) Hotwell 56 Arm caliper</p>	1.03	1.45	10.00
Meas	6.29					
Aux1	3.63					

LOCTIM
UTCTIM0.00
0.00

Dataset: wsp_casing_log.db: lucid_red_hills/agi_1/run0/ical_main_pass
 Total length: 14.86 ft
 Total weight: 170.00 lb
 O.D.: 3.50 in

Calibration Report

Database File E:\CSGINSP-PROCESSING\WSP_Lucid Red Hills AGI 1\Raw Data & Info\wsp_casing_log.db
 Dataset Pathname lucid_red_hills/agi_1/run0/ical_main_pass1
 Dataset Creation Mon Feb 08 13:16:07 2021

GOWell 56 Arm Calibration Report

Serial Number: 10113
 Tool Model: 56
 Performed: Tue Feb 02 12:41:46 2021

Ref ID:	5.00	6.00	7.00	8.00	9.00	Offset	in
Arm1	5.33	6.31	7.28	8.20	9.19	0.00	in
Arm2	5.22	6.23	7.16	8.11	9.10	0.00	in
Arm3	5.19	6.22	7.15	8.11	9.11	0.00	in
Arm4	5.29	6.32	7.26	8.22	9.20	0.00	in
Arm5	5.20	6.25	7.21	8.16	9.14	0.00	in
Arm6	5.35	6.39	7.34	8.32	9.29	0.00	in
Arm7	5.31	6.34	7.28	8.27	9.23	0.00	in
Arm8	5.15	6.18	7.14	8.11	9.07	0.00	in
Arm9	5.31	6.34	7.29	8.28	9.23	0.00	in
Arm10	5.43	6.48	7.43	8.42	9.34	0.00	in
Arm11	5.40	6.43	7.40	8.39	9.34	0.00	in
Arm12	5.24	6.25	7.23	8.22	9.15	0.00	in
Arm13	5.28	6.31	7.29	8.30	9.23	0.00	in
Arm14	5.23	6.25	7.23	8.23	9.17	0.00	in
Arm15	5.39	6.38	7.36	8.37	9.30	0.00	in
Arm16	5.31	6.31	7.31	8.31	9.24	0.00	in
Arm17	5.11	6.11	7.12	8.13	9.05	0.00	in
Arm18	5.39	6.38	7.37	8.37	9.26	0.00	in
Arm19	5.21	6.21	7.25	8.27	9.21	0.00	in
Arm20	5.39	6.26	7.16	8.08	8.91	0.00	in
Arm21	5.65	6.57	7.50	8.42	9.30	0.00	in
Arm22	5.33	6.28	7.28	8.23	9.11	0.00	in
Arm23	5.20	6.16	7.20	8.20	9.12	0.00	in
Arm24	5.08	6.00	7.04	8.02	8.92	0.00	in
Arm25	5.25	6.19	7.23	8.20	9.15	0.00	in
Arm26	5.33	6.24	7.26	8.21	9.14	0.00	in
Arm27	5.21	6.12	7.19	8.16	9.10	0.00	in
Arm28	5.15	6.06	7.08	8.02	8.95	0.00	in
Arm29	4.65	5.62	6.56	7.61	8.48	0.00	in
Arm30	5.17	6.03	7.05	7.98	8.86	0.00	in

* Bad

GOWell 56 Arm Calibration Report

Ref ID:	5.00	6.00	7.00	8.00	9.00	Offset	in
Arm31	5.05	5.96	6.97	7.99	8.88	0.00	in
Arm32	5.12	5.99	7.00	7.93	8.86	0.00	in
Arm33	5.06	5.93	6.97	7.92	8.87	0.00	in
Arm34	5.08	5.95	7.01	7.94	8.89	0.00	in
Arm35	5.18	6.06	7.11	8.04	9.02	0.00	in
Arm36	5.12	5.97	6.97	7.86	8.82	0.00	in
Arm37	5.07	5.94	6.95	7.90	8.86	0.00	in
Arm38	5.26	6.13	7.14	8.04	9.01	0.00	in
Arm39	5.14	6.01	7.05	7.97	8.98	0.00	in
Arm40	5.24	6.10	7.10	8.00	9.00	0.00	in
Arm41	5.10	5.99	7.00	7.92	8.96	0.00	in
Arm42	5.20	6.09	7.09	7.99	9.02	0.00	in
Arm43	5.12	6.02	7.00	7.93	8.97	0.00	in
Arm44	5.30	6.21	7.20	8.12	9.12	0.00	in
Arm45	5.08	6.00	7.00	7.92	8.98	0.00	in
Arm46	5.29	6.21	7.20	8.09	9.11	0.00	in
Arm47	5.10	6.04	7.03	7.95	9.01	0.00	in
Arm48	5.14	6.11	7.10	8.02	9.06	0.00	in
Arm49	5.13	6.09	7.11	8.05	9.12	0.00	in
Arm50	5.18	6.15	7.12	8.04	9.10	0.00	in
Arm51	5.15	6.13	7.10	8.04	9.10	0.00	in
Arm52	5.18	6.15	7.17	8.11	9.06	0.00	in
Arm53	5.08	6.10	7.10	8.07	9.10	0.00	in
Arm54	5.08	6.10	7.09	8.03	9.07	0.00	in
Arm55	5.15	6.16	7.13	8.08	9.11	0.00	in
Arm56	5.12	6.13	7.08	8.02	9.05	0.00	in
Arm57							in
Arm58							in
Arm59							in
Arm60							in

* Bad

GOWell 56 Arm Verification Report

Performed:	Pre Verification Tue Feb 02 12:45:08 2021	Post Verification Mon Feb 08 13:16:00 2021	Casing Check Tue Feb 02 12:53:09 2021	
Ref ID:	7.00	7.00	7.00	in
Min.	6.96	6.89	6.96	in
Max.	7.01	6.98	7.01	in
Avg.	7.00	6.95	7.00	in
Dia1	7.00	6.94	7.00	in
Dia2	7.00	6.95	7.00	in
Dia3	7.01	6.97	7.01	in
Dia4	7.00	6.94	7.00	in
Dia5	6.99	6.95	7.00	in
Dia6	7.00	6.93	7.00	in
Dia7	7.00	6.95	7.00	in
Dia8	6.99	6.94	6.99	in
Dia9	7.01	6.97	7.01	in
Dia10	7.00	6.94	7.00	in
Dia11	7.00	6.97	7.00	in
Dia12	7.00	6.95	7.00	in
Dia13	7.00	6.98	7.00	in
Dia14	7.00	6.96	7.00	in
Dia15	7.00	6.98	7.00	in
Dia16	7.00	6.96	7.00	in
Dia17	7.00	6.97	7.00	in
Dia18	7.00	6.96	7.00	in
Dia19	7.00	6.98	7.00	in
Dia20	7.00	6.96	7.00	in

Dia20	7.00	6.90	7.00	in
Dia21	7.00	6.96	7.00	in
Dia22	7.00	6.89	7.00	in
Dia23	6.99	6.97	6.99	in
Dia24	6.96	6.90	6.96	in
Dia25	6.99	6.94	6.99	in
Dia26	7.00	6.93	7.00	in
Dia27	7.00	6.97	7.00	in
Dia28	7.00	6.96	7.00	in



Company	LUCID ENERGY
Well	AGI #1
Field	RED HILLS
County	LEA
State	NEW MEXICO



Baker Hughes Company
12701 N Santa Fe Ave
Oklahoma City, OK 73114

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Tel. 618 392 3300

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Executive Summary

On February 8, 2021, Baker Hughes Company Wireline Services, operating from OKLAHOMA CITY, OK completed a HR Vertilog magnetic flux leakage (MFL) casing inspection survey on the LUCID ENERGY RED HILLS AGI #1.

A total of 145 individual joints of casing were identified during the inspection survey. Within this report, the term "casing" is intended to mean the downhole tubulars which are the subject of the survey, and which may include well casings, liners or production tubing.

A total of 0 metal loss features exceeding the 20% reporting threshold were identified during the HR Vertilog survey. Of the 0 total metal loss features, 0 were identified as internal features, and 0 were identified as external features.

A total of 0 metal loss features exhibited predicted depths exceeding 80% of wall thickness. The maximum depth among all metal loss features was 0%. Any metal loss features of 80% or greater body wall loss will have a 0 PSI burst pressure rating and should be considered to have possible total or near total body wall penetration.

A total of 0 metal loss features exhibited ERF values exceeding 1.0. The maximum ERF among all metal loss features was 0.000.

This Final Report is intended to serve as an overall summary of the inspection results. The accompanying InSight Data CD contains a comprehensive Feature List which represents the complete findings of the HR Vertilog casing survey.

Evaluation Comments:

17.79 ft Hardware - External CSG Head Response.

5351.42 ft Hardware - Bottom of 9.625" external CSG.

5527.03 ft Collar - Non standard connection. Possibly welded.

5536.94 ft Hardware - DV Tool

5545.72 ft Hardware - Unknown external casing hardware.

The Baker Hughes caliper analysis dated 8-Feb-2021 revealed that the casing weight was a better fit for 7.0" - 29.0 lb/ft API specifications. 7.0" - 29.0 lb/ft casing parameters were used for the HRVRT burst pressure calculations.

This analysis depth correlated to Baker Hughes caliper analysis dated 8-Feb-2021.

All joints surveyed report class 1 at this time.

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HR VERTILOG INSPECTION FINAL REPORT

1. Job Information

Baker Hughes Company Wireline Services completed a HR Vertilog casing inspection survey on the LUCID ENERGY AGI #1 on February 8, 2021. The job parameters are summarized in the following well, service and equipment data tables.

1.1. Well Data

The following well data and casing records were provided by representatives of LUCID ENERGY.

Table 1. Well Data

Well Identification					
Company	LUCID ENERGY				
Well	AGI #1				
Field	RED HILLS				
County/Parish	LEA				
State/Province	NEW MEXICO		Country	U.S.A	
API Number	30-025-40448		Location	1600' FSL & 150' FEL	
Section	13	Township	24S	Range	33E
Elevations					
Kelly Bushing		3592.50 feet			
Drilling Floor		3592.50 feet			
Ground/Sea Floor		3574.00 feet			
Permanent Datum Is		GL	Permanent Datum Elevation		3574.00 feet
Log Measured From		KB	Height Above Datum		18.50 feet
Drilling Measured From		KB	Height Above Datum		3592.50 feet
Borehole Information					
Fluid	FRESHWATER	Wellhead Pressure		0 psi	Well Depth 6650.00 feet
Casing Record					
Size	Weight	Grade	From	To	Length
7.000 in	26.0 lb/ft	L80	0.00 ft	6650.00 ft	6650.00 ft
9.625 in	40.0 lb/ft	J55	0.00 ft	5346.00 ft	5346.00 ft

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1.2. Service Data

The Baker Hughes Company Wireline Services field services are summarized in the table below.

Table 2. Service Data

Service Information	
Job Date	February 8, 2021
Service Order	US178167
Recorded By	CHRIS COFFELT
Witnessed By	MR. MIKE FOURRIER
Service Location	OKLAHOMA CITY, OK
Service Unit Number	6670
Logging Information	
Service	
Bottom Logged Interval	5694.00 feet
Top Logged Interval	0.00 feet
Additional Services	
Remarks:	

1.3. Pressure Calculations

The following information was provided by LUCID ENERGY for use in pressure calculations.

Pressure Calculations:	
Burst Pressure Calculation	Modified B31G
Interaction Criteria	RP0102 - Fixed BW Ratio 6.0T x 6.0T

1.4. Equipment Data

The following Baker Hughes Company Wireline Services equipment assets were utilized in the performance of the inspection services.

Table 3. Equipment Data

Equipment Data	
Tool Series Number	7 to 9-5/8 Inch HRVRT 96 FL + 96 DIS Tool
Electronics Series Number	MuxDB
Interface Panel Series Number	4921
Calibration Reference Number	
Acquisition Software	Microvision 32-bit 7.6.2.2
Analysis Software	Insight 2.7.1.20180409.1

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2. Casing Configuration

2.1. Casing Segments

For the purpose of this report, a casing “segment” refers to an interval of casing with consistent physical properties and operating parameters. The concept of casing segments is used within the context of this report to define casing intervals for the purpose of pressure-based analysis, including burst strength analysis and pressure ratio calculations.

Casing segments with consistent nominal wall thickness (T), external diameter (D), maximum allowable operating pressure (MAOP), internal design pressure (Pi), and specified minimum yield strength (SMYS) are defined as “major” casing segments.

MFL inspection technology alone does not conclusively identify or quantify the parameters which define a major casing segment. It is therefore the responsibility of the well operator to provide the appropriate casing specifications in advance of the survey for the purpose of pressure-based analysis and reporting.

The high-resolution MFL technology employed for this survey may, under certain conditions, provide data which indicates a casing parameter that differs from the operator’s reported values. Such discrepancies, typically in the form of a suspected weight or grade variation, will be brought to the attention of the operator by designating these intervals as “minor” casing segments. A minor segment is therefore identified by the analyst as a subset of the major casing segment reported by the well operator.

If the casing weight or grade of a minor segment can be reliably ascertained by the analyst, it will be noted in the inspection database. However, only the major segment parameters provided and/or approved by the operator will be used for the purpose of pressure-based analysis and reporting. If the well operator subsequently determines to re-specify a minor casing segment for any reason, it then becomes, by definition, a major segment, and the data over this interval must be re-interpreted accordingly.

Major casing segments will be identified and indexed numerically (i.e. 1, 2, 3) by increasing depth, while minor segments will be identified with respect to the major segment in which they occur (i.e. 1.1, 1.2, 2.1).

The major and minor casing segments identified in the course of this survey are summarized in the Casing Segment Report (on the accompanying CD).

2.2. External Casings

Any interval of casing positioned coaxially and external to the primary casing undergoing inspection is considered to be an “external casing” for the purpose of this report. External casings do not directly affect the pressure-based analysis in the primary casing, so the presence of one or more external casings has no bearing on the determination of major or minor casing segments, as described above.

External casings can, however, directly affect metal loss feature sizing by altering magnetic interactions within the primary casing. Consequently, all external casing intervals must be identified and compensated for in the course of data analysis.

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The start and end positions of all external casings and major/minor casing segments shall be reported as the logging depth whenever these positions can be reliably determined directly from the inspection data. In the absence of sufficient log data, all casing positions will be analyzed and reported according to the casing data provided by the well operator.

The external casings identified during this survey are summarized in the External Casing Report (on the accompanying CD).

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3. Feature List

Casing “features” are defined as all of the downhole casing components and anomalies identified during the inspection survey.

Features include components related to the physical construction of the well, such as collars, perforations, centralizers, repairs, and downhole hardware. Features also include individual casing anomalies, such as metal loss features, mill-related anomalies, and deformations.

The “Feature List” is simply a comprehensive list of all individual casing features identified during the survey, organized by their position within the well. The position of any feature is always reported as the logging depth to the mid-point, or centerline, of each feature.

The Feature Summary (Table 4, below) lists the casing features identified during the survey, summarized by category.

Table 4: Feature Summary

Occurrences	Description
145	Casing Joints
144	Collars
4	Casing Hardware
0	Perforated Intervals
0	Repair Intervals
0	Metal Loss Features
0	Mill-Related Anomalies
0	Deformation Features

The Feature List (on the accompanying CD) contains a complete listing of the features identified during the inspection survey, and serves as the database for all of the individual summaries, reports, and figures contained in this Final Report.

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4. Casing Components

The category of “casing components” represents three types of downhole hardware features which contribute to the physical make-up and functionality of the well, and two types of casing anomalies which do not fit within the conventional definition of metal loss features, as described in Section 5.

Casing components associated with downhole hardware include various mechanical features which routinely form part of the well construction, such as collars, centralizers, perforations, mandrels and repairs. The casing joints themselves are analyzed separately, and are therefore not identified as casing “components” for the purpose of this report.

Casing components also include two types of features associated with casing anomalies which fall outside of the conventional metal loss feature definition. These features are mill-related anomalies, which result from the casing manufacturing process, and collar anomalies, which are features associated specifically with the casing collar connections.

The five types of casing components identified by the survey are described and summarized in the sections below.

4.1. Hardware

Casing hardware is determined to mean any physical downhole hardware, other than the casing joints themselves, which comprise the downhole well casing below the log “zero” point, which is typically identified as the top of the master valve or casing flange. Wellhead components above the log zero point are not considered part of the casing or casing components for the purpose of this report.

Casing hardware includes components that serve to connect the casing joints together (e.g., collars), components affixed to the outside of casing (e.g., centralizers, scratchers, clamps), and any class of downhole tools or components which make-up integral to the casing (e.g., mandrels, DV tools, float collars, casing shoes, safety valves, casing packers).

Many casing hardware components represent a significant addition of ferromagnetic material, which adversely affects the tool’s magnetic interactions with the casing body. As a result, metal loss anomalies in the casing body which may occur in association with hardware, for example corrosion under a centralizer, are not identified or sized as part of the standard analysis.

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The Hardware Summary (Table 5, below) serves to summarize the casing hardware identified during the survey by type.

Table 5: Hardware Summary

Occurrences	Description
144	Collars
0	Centralizers
0	Scratchers
0	Clamps
0	Gas Lift Mandrels
1	DV Tools
0	Girth Welds
0	Casing Shoes
0	Casing Packers
0	Safety Valves
3	Other

The Feature List (on the accompanying CD) contains a comprehensive listing of individual casing hardware components identified during the survey.

4.2. Perforations

Perforations are intervals of the well casing in which perforations, slotted liners or other means of communication with the formation are located. Analysis of the survey data will serve to identify the beginning and end of the perforated intervals, but no attempt is made to ascertain perforation shot type, density, or phasing.

Metal loss anomalies which may occur within the perforated intervals are not identified or sized as part of the standard analysis.

The Perforated Interval Summary (Table 6, below) provides a summary of the perforated intervals identified during the survey.

Table 6: Perforated Interval Summary

Occurrences	Description
0	Perforated Intervals
0	Slotted Liners

The Feature List (on the accompanying CD) contains a comprehensive listing of individual perforated intervals identified during the survey, including their start point, end point, and total length.

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4.3. Repair Intervals

Repair intervals are segments of the well that contain existing casing repairs at the time of the survey, such as an internal casing patch, or other form of repair sleeve.

Any metal loss anomalies which may occur within repair intervals are not identified or sized as part of the standard analysis.

The Repair Interval Summary (Table 7, below) provides a summary of the repairs identified during the survey.

Table 7: Repair Interval Summary

Occurrences	Description
0	Repair Intervals

The Feature List (on the accompanying CD) contains a comprehensive listing of individual existing repair intervals identified during the survey.

4.4. Mill-related Anomalies

Mill-related anomalies are features in the casing body or weld metal resulting from the manufacturing process. Mill-related anomalies may be identified, but not sized, as part of the standard analysis.

Mill-related anomalies are classified in two general categories:

- i. Manufacturing Anomalies: manufacturing anomalies are features of the manufacturing process which occur in the casing body, such as laminations, inclusions, or scabs.*
- ii. Seam Weld Anomalies: Seam weld anomalies are features of the manufacturing process which occur in the casing seam weld (if present), such as incomplete fusion or lack of penetration.*

The Mill-related Anomalies Summary (Table 8, below) serves to summarize the mill-related anomalies, organized by type.

Table 8: Mill-related Anomalies Summary

Occurrences	Description
0	Manufacturing Anomalies
0	Seam Weld Anomalies
0	Total

The Feature List (on the accompanying CD) contains a comprehensive listing of the mill-related anomalies identified during the survey.

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4.5. Collar Anomalies

For the purpose of this report, casing “collars” are defined to include any means of mechanically coupling individual joints of casing together in a well. Collars include conventional casing connection methods utilizing a short external collar, as well as all types of “flush” joint connections, where both the male and female threads are integral to the casing.

Collars are employed to connect two joints of casing together, or to connect one end of a joint of casing to an integral downhole tool, mandrel, or other casing component. Any girth weld occurring below the master valve or casing flange is considered to be a collar, within this report.

The HR Vertilog survey may detect two types of anomalies associated with the collars:

- i. *Collar Anomalies: Metal loss anomalies occurring within the casing body, either under the collar in the case of an external collar, or within the threaded connection interval in the case of a flush joint collar.*
- ii. *Make-up Anomalies: Any MFL collar signature that deviates in one or more material respects (e.g. signature length, amplitude, form) from the typical collar response in the well. For example, a collar signature with an atypically long “gap” between casing ends may indicate cross-threading, insufficient make-up torque, or improper seating, all of which may be a possible sources of collar leaks.*

Collar length is determined according to the length of the MFL signature, which typically exceeds the physical dimensions of the collar connection. Since collars contain threads and other complex metal gain/loss profiles, the capacity of MFL technology to detect and size metal loss features in the casing body may be diminished or eliminated within the collar, depending on the collar type.

Accordingly, collar anomalies may be identified, but are not sized, as part of the standard analysis. If collar anomaly size is provided, the performance specification for anomaly sizing does not apply.

Collar anomalies identified during the survey are included in the Collar Anomaly Summary (Table 9, below), which serves to summarize these features by type.

Table 9: Collar Anomalies Summary

Occurrences	Description
0	Collar Anomalies
0	Make-up Anomalies
144	Total Collars

The Feature List (on the accompanying CD) contains a comprehensive listing of the collar anomalies and make-up anomalies identified during the survey.

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5. Metal Loss Features

Metal loss features are defined as anomalies in the casing body in which metal has been removed, typically as a result of corrosion or mechanical damage, such as gouging.

Metal loss features detected during the survey are summarized in this report by the following methods:

- i. *Surface location: according to the surface of origin, either internal or external*
- ii. *Depth-based: according to the depth of penetration*
- iii. *Pressure-based: according to the effect on remaining strength of the casing*
- iv. *Feature type: according to a classification based on length, width, and wall thickness*
- v. *Joint summary: according to the most severe features identified per individual casing joint*

5.1. Surface Location

The metal loss features detected during the survey are summarized according to their surface location, either internal or external, in the Surface Location Summary (Table 10, below).

Table 10: Surface Location Summary

Occurrences	Description
0	Internal Metal Loss Features
0	External Metal Loss Features
0	Total

The distribution of metal loss features according to their surface location is illustrated in a series of Surface-Based Histograms (Attachment 5.1). Three histograms are presented:

- Surface location: all metal loss features
- Surface location: internal metal loss features
- Surface location: external metal loss features

The vertical axis of each histogram corresponds to the log depth, and the horizontal axis corresponds to the number of occurrences. Each horizontal bar in the histogram represents the total number of occurrences within a 10.00 foot interval of the well.

5.2. Depth-Based Analysis

The metal loss features identified during the survey are summarized according to their depth of penetration (DOP) in the Metal Loss Depth-Based Summary (Table 11, below).

The individual metal loss features are summarized in the three columns on the left of the table according to their depth range and surface location. All individual metal loss features identified during the survey are represented in this section of the summary.

In the right hand column of the table, the maximum depth of any metal loss feature within individual joints of casing is summarized. Where more than one metal loss feature is contained in a joint, only the

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feature with the maximum depth of penetration is reported, so that each joint of casing appears in the table only once.

Table 11: Metal Loss Depth-Based Summary

Metal Loss Features			Metal Loss Depth	Number of Joints
Internal	External	Total		
N/A	N/A	N/A	$0\% \leq d < 20\%$	145
0	0	0	$20\% \leq d < 30\%$	0
0	0	0	$30\% \leq d < 40\%$	0
0	0	0	$40\% \leq d < 50\%$	0
0	0	0	$50\% \leq d < 60\%$	0
0	0	0	$60\% \leq d < 70\%$	0
0	0	0	$70\% \leq d < 80\%$	0
0	0	0	$80\% \leq d$	0
0	0	0	Total	145

5.2.1. Maximum Depth

The distribution of metal loss features within the well according to their maximum depth of penetration is illustrated in a series of Maximum Depth Histograms (Attachment 5.2.1). Three histograms are presented:

- Maximum depth: all metal loss features
- Maximum depth: internal metal loss features
- Maximum depth: external metal loss features

The vertical axis of each histogram corresponds to the HR Vertilog Log depth, and the horizontal axis corresponds to the number of occurrences. Each horizontal bar in the histogram represents the total number of occurrences within a 10.00 foot interval of the well.

5.2.2. Depth Range

The distribution of metal loss features within the well according to their depth range is illustrated in a series of Depth Range Histograms (Attachment 5.2.2). Four histograms are presented:

- All metal loss features (all reported depths)
- Metal loss features with $20\% \leq \text{depth} < 50\%$
- Metal loss features with $50\% \leq \text{depth} < 80\%$
- Metal loss features with $\text{depth} \geq 80\%$

The vertical axis of each histogram corresponds to the HR Vertilog Log depth, and the horizontal axis corresponds to the number of occurrences. Each horizontal bar in the histogram represents the total number of occurrences within a 10.00 foot interval of the well.

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5.2.3. Severity List and Feature Location Sheets

The Depth-Based Severity Report (Attachment 5.2.3) lists the 5 most severe metal loss features detected during the survey, according to their depth of penetration.

In order to help facilitate the location and recovery of these features in the field, the Depth-Based Severity Report includes a Feature Location Sheet for each feature listed.

The Feature Location Sheets includes a description of each feature, and a schematic diagram that indicates a) the feature with respect to casing joint number and depth in the well b) the feature location within the specified casing joint, and c) the joint location with respect to adjacent joints.

5.3. Pressure-Based Analysis

Pressure-sentenced ratios are non-dimensional terms which help operators assess the severity of metal loss features detected during the survey.

This report determines the Estimated Repair Factor (ERF) on the basis of operating pressures and metal loss feature assessment methods selected by the operator, and identified in Section 1.2 of this report. The ERF is calculated as follows;

$$ERF = P/P_{safe}$$

Where; P = MAOP, MOP, or other Operator selected pressure value, and

P_{safe} = the safe operating pressure as calculated by the metal loss features assessment method selected by the Operator (e.g. B31G, Modified B31G, Effective Area)

The ERF Summary is presented in Table 12, below.

Table 12: ERF Summary

Occurrences	ERF Values	Number of Joints
0	Metal loss features with $ERF < 0.6$	145
0	Metal loss features with $0.6 \leq ERF < 0.8$	0
0	Metal loss features with $0.8 \leq ERF < 0.90$	0
0	Metal loss features with $0.9 \leq ERF < 1.0$	0
0	Metal loss features with $ERF \geq 1.0$	0
0	Total	145

5.3.1. Pressure-Sentenced Plot

The pressure-sentenced plot graphically displays all metal loss features within each major segment on the basis of feature length (x-axis) and depth (y-axis). The reference line on the

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plot corresponds to an ERF equal to 1.0. Metal loss features with a calculated ERF *greater than* 1.0 plot *above* the reference line.

This report contains one pressure-sentenced plot for each major pipeline segment defined by the operator. The value for pipeline external diameter, D, is assumed to be constant throughout each major segment.

Pressure-Sentenced Plots are presented in Attachment 5.3.1.

5.3.2. Pressure-Based Histograms

The distribution of metal loss features within the well, according to their effect on remaining strength, is illustrated in a series of Pressure-Based Histograms (Attachment 5.3.2). Four histograms are presented:

- All metal loss features
- Metal loss features with $ERF < 0.8$
- Metal loss features with $0.8 \leq ERF < 1.0$
- Metal loss features with $ERF \geq 1.0$

The vertical axis of each histogram corresponds to the HR Vertilog log depth, and the horizontal axis corresponds to the number of occurrences. Each horizontal bar in the histogram represents the total number of occurrences within a 10.00 foot interval of the well.

5.3.3. Severity List and Feature Location Sheets

The Pressure-Based Severity Report (Attachment 5.3.3) lists the 5 most severe metal loss features detected during the survey according to their Estimated Repair Factor (ERF).

In order to help facilitate the location and recovery of these features in the field, the Pressure-Based Severity Report includes a Feature Location Sheet for each feature listed.

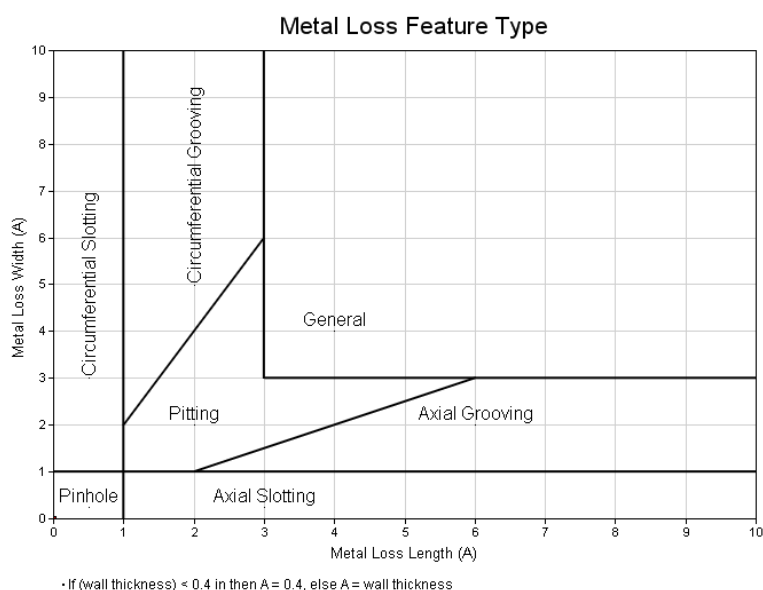
The Feature Location Sheets includes a description of each feature, and a schematic diagram that indicates: a) the feature with respect to casing joint number and depth in the well; b) the feature location within the specified casing joint, and; c) the joint location with respect to adjacent joints.

5.4. Feature Type

Feature type is a classification system that serves to group metal loss features within one of seven geometric categories. Feature Type classifies features according to their estimated length and width as a function of casing body wall thickness ("t"), as illustrated in the graphic, below.

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*Metal Loss Feature Type graphic adapted from the Pipeline Operators Forum [POF]
 Metal Loss Definitions*

The Feature Type Summary (Table 13 below) serves to summarize all metal loss features identified during the survey according to type.

Table 13: Feature Type Summary

Feature Type	Occurrences		
	Internal	External	Total
Pinholes	0	0	0
Pits	0	0	0
General	0	0	0
Axial Grooving	0	0	0
Axial Slotting	0	0	0
Circumferential Grooving	0	0	0
Circumferential Slotting	0	0	0
Total	0	0	0

The distribution of metal loss by feature type is graphically illustrated in the Feature Type Plot (Attachment 5.4).

5.5. Joint Summary

The Joint Summary represents a comprehensive list of the individual joints of casing in the well. By convention, joint numbering starts from the surface, or top logged interval, and increments with increasing well depth.

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The Joint Summary uniquely identifies each joint by joint number, start/end depth, length, casing weight and grade. The mid-point, or centerline, of the uphole and downhole collars serves to identify the start and end point of a casing joint.

The Joint Summary additionally describes the condition of each joint in terms of the maximum metal loss feature DOP. The individual feature number associated with the maximum DOP is also indicated.

A Joint Classification is assigned to each joint per the well operators' convention based on maximum DOP per joint.

The Joint Classification (Table 14, below) serves to summarize the casing joints by maximum metal loss feature DOP.

Table 14: Joint Classification

Occurrences	Description
145	Class 1 (0% - 20%)
0	Class 2 (20% - 40%)
0	Class 3 (40% - 60%)
0	Class 4 (60% - 100%)
145	Total

The Joint Summary Report (on the accompanying CD) contains a comprehensive listing of the casing joints identified during the survey.

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6. System Qualification and Quality Control

6.1. System Qualification

The HR Vertilog system used to acquire and analyze the magnetic flux leakage casing inspection data and generate this report is a part of Baker Hughes Company Pipe Evaluation Services. Baker Hughes Company is a recognized industry leader in the field of downhole casing inspection technology, and provides MFL casing inspection services utilizing the Vertilog, Digital Vertilog, MicroVertilog and HR Vertilog series tools on a global basis.

The personnel and equipment used to perform this HR Vertilog inspection survey have been qualified according to the Vertilog Tools Operations (WS-CHL-1004-Q) – Qualification Assessment. Well log Data Analysts have been qualified to perform according to the B Geoscience *Magnetic Flux Leakage Certification Policy* (OPS-GLB-En-104271).

The complete HR Vertilog performance specifications are contained in the *HR Vertilog Performance Specification* (document PS 501).

6.2. Best Efforts

All opinions, interpretations, and analysis provided in this report or in connection with this survey are provided to the well operators on a “best efforts” basis. It remains as the sole responsibility of the well operator to use the information contained in this report to draw their own conclusions regarding the condition of the casing, and to undertake appropriate actions to ensure the wells ongoing safety, casing integrity and fitness for purpose.

In the course of analyzing the survey data and producing this report, Baker Hughes Company Wireline Services Data Analysts have provided the well operator with interpretations based on their experience and judgment, but always within the limits of the inspection technologies employed, and the downhole operating conditions encountered. Since all MFL interpretations and analyses are opinions based on inferences from electrical, magnetic, and other indirect measurements, the accuracy or completeness of any interpretation is not, and cannot be, guaranteed.

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6.3. Analysis Quality Control

The data in this report was processed in accordance with written work instruction *InSight HR Vertilog Analysis* (document WI 501), the purpose of which is to ensure the ongoing consistency, integrity, and quality control over the HR Vertilog analysis process.

6.4. Continuous Process Improvement

The InSight™ HR Vertilog analysis software incorporates various technologies to identify and size metal loss features, including a system of supervised learning that relies on known input from large-scale calibration defect sets, magnetic FEA, and recovered casing defects.

Consequently, InSight™ has the capacity to integrate inspection data with recovered metal loss feature dimensions obtained from reliable sources. Such data may include properly identified and procured feature rubbings, dimensioned sketches, scaled photos, laser scans, x-ray, or casing samples.

We invite you to participate in our Continuous Process Improvement program by contacting one of the Baker Hughes Company Wireline Services representatives listed below. Data from your recovered casing will be used to help expand the understanding of MFL- defect interactions, improve analysis processes, and optimize feature-sizing capabilities.

Rodney L. Foster
Geoscience MGR – Cased Hole
Baker Hughes Company
930 South West Street
Olney, Illinois 62450
(618) 392 - 3300
Rodney.foster2@bakerhughes.com

List of Attachments

Attachment

1. Job Information.....See Report Section 1
2. Casing Configuration
 - Casing Segment Report
 - External Casing Report
3. Feature List
 - Feature List
4. Casing ComponentsSee Feature List
5. Metal Loss Features
 - Surface-Based Histograms 5.1
 - Maximum Depth Histograms 5.2.1
 - Depth Range Histograms 5.2.2
 - Depth-Based Severity Report 5.2.3
 - Pressure-Sentenced Plots 5.3.1
 - Pressure-Based Histograms 5.3.2
 - Pressure-Based Severity Report 5.3.3
 - Feature Type Plot 5.4
 - Joint Summary Report 5.5
6. Depth Based Report
 - Depth Based Report
7. Pressure Based Severity Report
 - Pressure Based Severity Report

Casing Segment Report

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Identifier	Start Log Position	Stop Log Position	Diameter	Wall Thickness	Weight	Type	Grade	SMYS	MAOP	Design Factor
	ft	ft	in	in	lb/ft			ksi	psi	
1	16.86	5698.64	7.000	0.408	29.0	Seamless	API L80	80	2085	1.00

Inspection Date: 02-08-2021
Report Date: 02-09-2021

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External Casings

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Start Log Position	Stop Log Position	Diameter	Wall Thickness	Weight
ft	ft	in	in	lb/ft
16.86	5351.51	9.625	0.395	40.0

Inspection Date: 02-08-2021

Report Date: 02-09-2021

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Feature List - Multiple Burst P

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Log Depth ft	Dist UHC ft	Joint Length ft	Identifier	Class	Description	Surface Indication	Length in	Width in	Depth %	Dim Class	P Safe B31G psi	ERF B31G	P Safe Mod B31G psi	ERF Mod B31G	P Safe Effective Area psi	ERF Effective Area	NWT in	Comment
16.86	0.00	14.69			Begin External Casing												0.408	
16.86	0.00	14.69	C-1	Appurtenance	Flange												0.408	
17.79	0.93	14.69	H-1-1	Hardware	External CSG Head Response												0.408	
31.55	0.00	40.02	C-2	Collar													0.408	
71.57	0.00	39.51	C-3	Collar													0.408	
111.08	0.00	43.80	C-4	Collar													0.408	
154.88	0.00	38.07	C-5	Collar													0.408	
192.95	0.00	35.19	C-6	Collar													0.408	
228.14	0.00	43.37	C-7	Collar													0.408	
271.52	0.00	40.02	C-8	Collar													0.408	
311.54	0.00	40.39	C-9	Collar													0.408	
351.93	0.00	36.40	C-10	Collar													0.408	
388.33	0.00	34.83	C-11	Collar													0.408	
423.16	0.00	37.46	C-12	Collar													0.408	
460.62	0.00	34.86	C-13	Collar													0.408	
495.48	0.00	37.80	C-14	Collar													0.408	
533.28	0.00	44.05	C-15	Collar													0.408	
577.33	0.00	42.55	C-16	Collar													0.408	
619.88	0.00	40.63	C-17	Collar													0.408	
660.51	0.00	39.91	C-18	Collar													0.408	
700.43	0.00	42.42	C-19	Collar													0.408	
742.85	0.00	40.08	C-20	Collar													0.408	
782.93	0.00	39.42	C-21	Collar													0.408	
822.35	0.00	39.98	C-22	Collar													0.408	
862.33	0.00	43.27	C-23	Collar													0.408	
905.60	0.00	41.83	C-24	Collar													0.408	
947.44	0.00	34.95	C-25	Collar													0.408	
982.39	0.00	37.64	C-26	Collar													0.408	
1020.03	0.00	40.74	C-27	Collar													0.408	
1060.77	0.00	39.55	C-28	Collar													0.408	
1100.32	0.00	39.80	C-29	Collar													0.408	
1140.13	0.00	43.36	C-30	Collar													0.408	
1183.48	0.00	39.33	C-31	Collar													0.408	
1222.82	0.00	38.87	C-32	Collar													0.408	
1261.69	0.00	43.73	C-33	Collar													0.408	
1305.42	0.00	41.86	C-34	Collar													0.408	
1347.28	0.00	40.99	C-35	Collar													0.408	
1388.28	0.00	39.80	C-36	Collar													0.408	
1428.08	0.00	39.62	C-37	Collar													0.408	
1467.70	0.00	42.97	C-38	Collar													0.408	
1510.67	0.00	42.47	C-39	Collar													0.408	
1553.15	0.00	42.44	C-40	Collar													0.408	
1595.59	0.00	40.67	C-41	Collar													0.408	
1636.26	0.00	40.37	C-42	Collar													0.408	
1676.64	0.00	40.31	C-43	Collar													0.408	
1716.95	0.00	43.72	C-44	Collar													0.408	
1760.67	0.00	38.87	C-45	Collar													0.408	
1799.54	0.00	40.79	C-46	Collar													0.408	
1840.33	0.00	40.90	C-47	Collar													0.408	
1881.23	0.00	39.64	C-48	Collar													0.408	
1920.88	0.00	43.25	C-49	Collar													0.408	
1964.13	0.00	39.13	C-50	Collar													0.408	
2003.26	0.00	38.74	C-51	Collar													0.408	
2042.00	0.00	40.06	C-52	Collar													0.408	
2082.06	0.00	39.88	C-53	Collar													0.408	
2121.94	0.00	41.56	C-54	Collar													0.408	
2163.50	0.00	40.82	C-55	Collar													0.408	
2204.32	0.00	40.42	C-56	Collar													0.408	
2244.75	0.00	40.04	C-57	Collar													0.408	
2284.79	0.00	40.15	C-58	Collar													0.408	
2324.94	0.00	39.90	C-59	Collar													0.408	
2364.83	0.00	42.76	C-60	Collar													0.408	
2407.59	0.00	37.63	C-61	Collar													0.408	
2445.23	0.00	40.61	C-62	Collar													0.408	
2485.83	0.00	38.85	C-63	Collar													0.408	
2524.68	0.00	35.42	C-64	Collar													0.408	
2560.10	0.00	38.19	C-65	Collar													0.408	
2598.29	0.00	40.07	C-66	Collar													0.408	
2638.37	0.00	39.54	C-67	Collar													0.408	
2677.90	0.00	42.15	C-68	Collar													0.408	

Feature List - Multiple Burst P

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Log Depth ft	Dist UHC ft	Joint Length ft	Identifier	Class	Description	Surface Indication	Length in	Width in	Depth %	Dim Class	P Safe B31G psi	ERF B31G	P Safe Mod B31G psi	ERF Mod B31G	P Safe Effective Area psi	ERF Effective Area	NWT in	Comment
2720.05	0.00	41.60	C-69	Collar													0.408	
2761.65	0.00	39.16	C-70	Collar													0.408	
2800.82	0.00	40.60	C-71	Collar													0.408	
2841.41	0.00	43.10	C-72	Collar													0.408	
2884.52	0.00	42.01	C-73	Collar													0.408	
2926.53	0.00	41.82	C-74	Collar													0.408	
2968.35	0.00	42.15	C-75	Collar													0.408	
3010.50	0.00	40.27	C-76	Collar													0.408	
3050.78	0.00	44.17	C-77	Collar													0.408	
3094.94	0.00	38.52	C-78	Collar													0.408	
3133.46	0.00	40.44	C-79	Collar													0.408	
3173.90	0.00	39.31	C-80	Collar													0.408	
3213.20	0.00	43.18	C-81	Collar													0.408	
3256.38	0.00	40.13	C-82	Collar													0.408	
3296.52	0.00	36.68	C-83	Collar													0.408	
3333.20	0.00	35.27	C-84	Collar													0.408	
3368.47	0.00	36.07	C-85	Collar													0.408	
3404.53	0.00	38.80	C-86	Collar													0.408	
3443.33	0.00	39.15	C-87	Collar													0.408	
3482.48	0.00	37.97	C-88	Collar													0.408	
3520.45	0.00	34.58	C-89	Collar													0.408	
3555.04	0.00	40.53	C-90	Collar													0.408	
3595.57	0.00	41.64	C-91	Collar													0.408	
3637.21	0.00	38.24	C-92	Collar													0.408	
3675.45	0.00	41.36	C-93	Collar													0.408	
3716.81	0.00	39.20	C-94	Collar													0.408	
3756.01	0.00	39.93	C-95	Collar													0.408	
3795.94	0.00	43.13	C-96	Collar													0.408	
3839.07	0.00	42.86	C-97	Collar													0.408	
3881.93	0.00	37.63	C-98	Collar													0.408	
3919.56	0.00	36.52	C-99	Collar													0.408	
3956.08	0.00	39.56	C-100	Collar													0.408	
3995.65	0.00	41.82	C-101	Collar													0.408	
4037.46	0.00	39.52	C-102	Collar													0.408	
4076.98	0.00	40.32	C-103	Collar													0.408	
4117.30	0.00	39.80	C-104	Collar													0.408	
4157.11	0.00	40.43	C-105	Collar													0.408	
4197.54	0.00	37.84	C-106	Collar													0.408	
4235.39	0.00	34.25	C-107	Collar													0.408	
4269.64	0.00	41.03	C-108	Collar													0.408	
4310.67	0.00	39.00	C-109	Collar													0.408	
4349.67	0.00	34.95	C-110	Collar													0.408	
4384.62	0.00	40.96	C-111	Collar													0.408	
4425.57	0.00	38.92	C-112	Collar													0.408	
4464.49	0.00	40.23	C-113	Collar													0.408	
4504.73	0.00	37.85	C-114	Collar													0.408	
4542.58	0.00	43.78	C-115	Collar													0.408	
4586.36	0.00	39.99	C-116	Collar													0.408	
4626.35	0.00	35.97	C-117	Collar													0.408	
4662.32	0.00	38.77	C-118	Collar													0.408	
4701.10	0.00	39.54	C-119	Collar													0.408	
4740.64	0.00	42.02	C-120	Collar													0.408	
4782.65	0.00	40.28	C-121	Collar													0.408	
4822.93	0.00	43.63	C-122	Collar													0.408	
4866.56	0.00	39.91	C-123	Collar													0.408	
4906.47	0.00	41.01	C-124	Collar													0.408	
4947.48	0.00	42.78	C-125	Collar													0.408	
4990.26	0.00	43.76	C-126	Collar													0.408	
5034.02	0.00	38.91	C-127	Collar													0.408	
5072.93	0.00	38.44	C-128	Collar													0.408	
5111.37	0.00	39.13	C-129	Collar													0.408	
5150.50	0.00	38.48	C-130	Collar													0.408	
5188.98	0.00	41.44	C-131	Collar													0.408	
5230.43	0.00	43.76	C-132	Collar													0.408	
5274.19	0.00	41.14	C-133	Collar													0.408	
5315.33	0.00	42.09	C-134	Collar													0.408	
5351.42	36.09	42.09	H-134-1	Hardware	Bottom Of External Casing												0.408	Bottom of 9.625" external CSG.
5351.51	36.18	42.09		End External Casing													0.408	
5357.41	0.00	42.51	C-135	Collar													0.408	
5399.93	0.00	37.55	C-136	Collar													0.408	

Feature List - Multiple Burst P

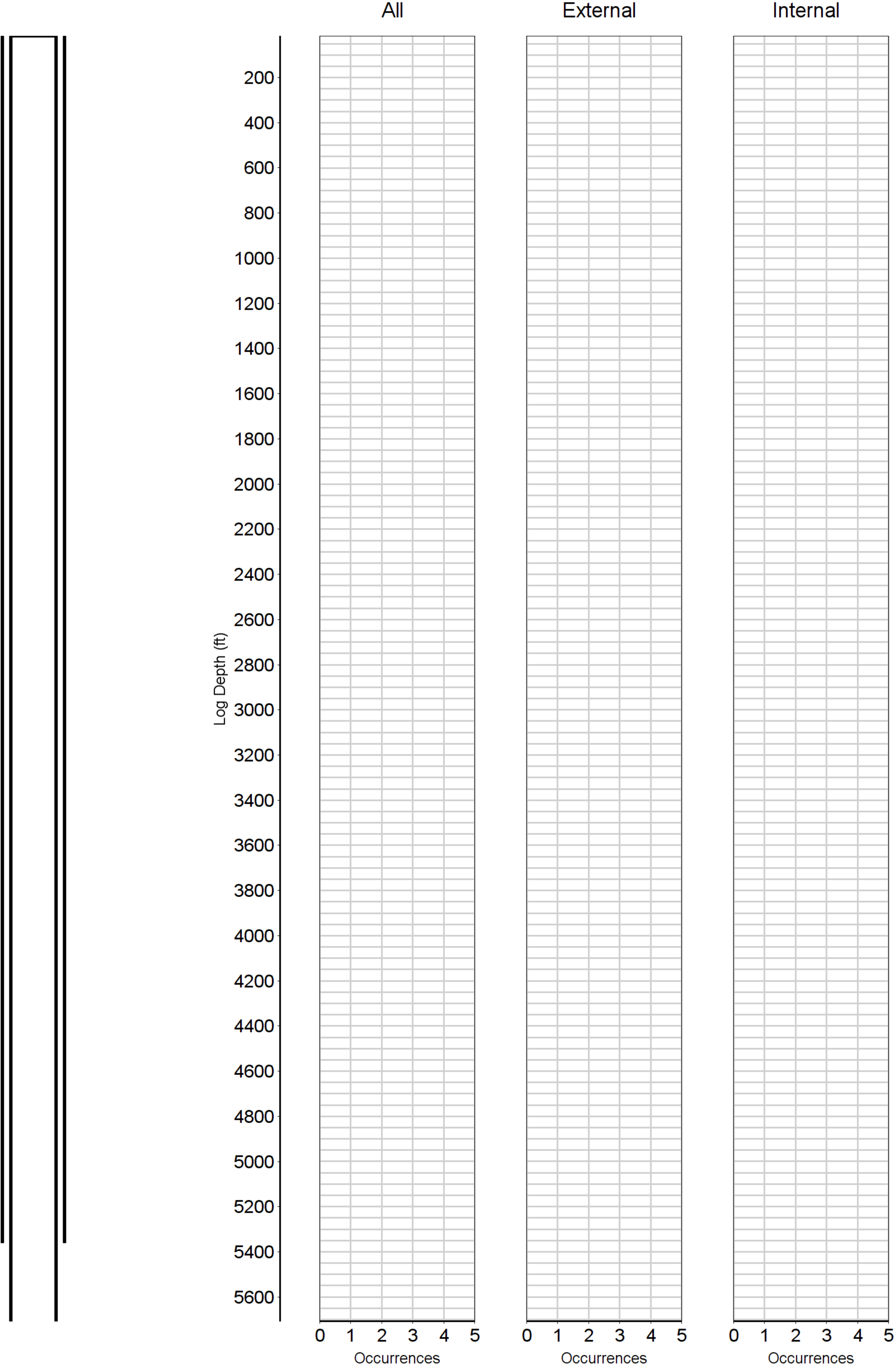
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Log Depth ft	Dist UHC ft	Joint Length ft	Identifier	Class	Description	Surface Indication	Length in	Width in	Depth %	Dim Class	P Safe B31G psi	ERF B31G	P Safe Mod B31G psi	ERF Mod B31G	P Safe Effective Area psi	ERF Effective Area	NWT in	Comment
5437.48	0.00	39.66	C-137	Collar													0.408	
5477.13	0.00	38.52	C-138	Collar													0.408	
5515.65	0.00	11.38	C-139	Collar													0.408	
5527.03	0.00	11.24	C-140	Collar													0.408	Non standard connection. Possibly welded.
5536.94	9.91	11.24	H-140-1	Hardware	DV Tool												0.408	
5538.27	0.00	16.59	C-141	Collar													0.408	
5545.72	7.45	16.59	H-141-1	Hardware	Other												0.408	Unknown external casing hardware.
5554.86	0.00	21.06	C-142	Collar													0.408	
5575.92	0.00	40.69	C-143	Collar													0.408	
5616.60	0.00	41.49	C-144	Collar													0.408	
5658.09	0.00	40.55	C-145	Collar													0.408	
5698.64			C-146	Interpretation Boundary														

Attachment 5.1 - Surface Based Histograms



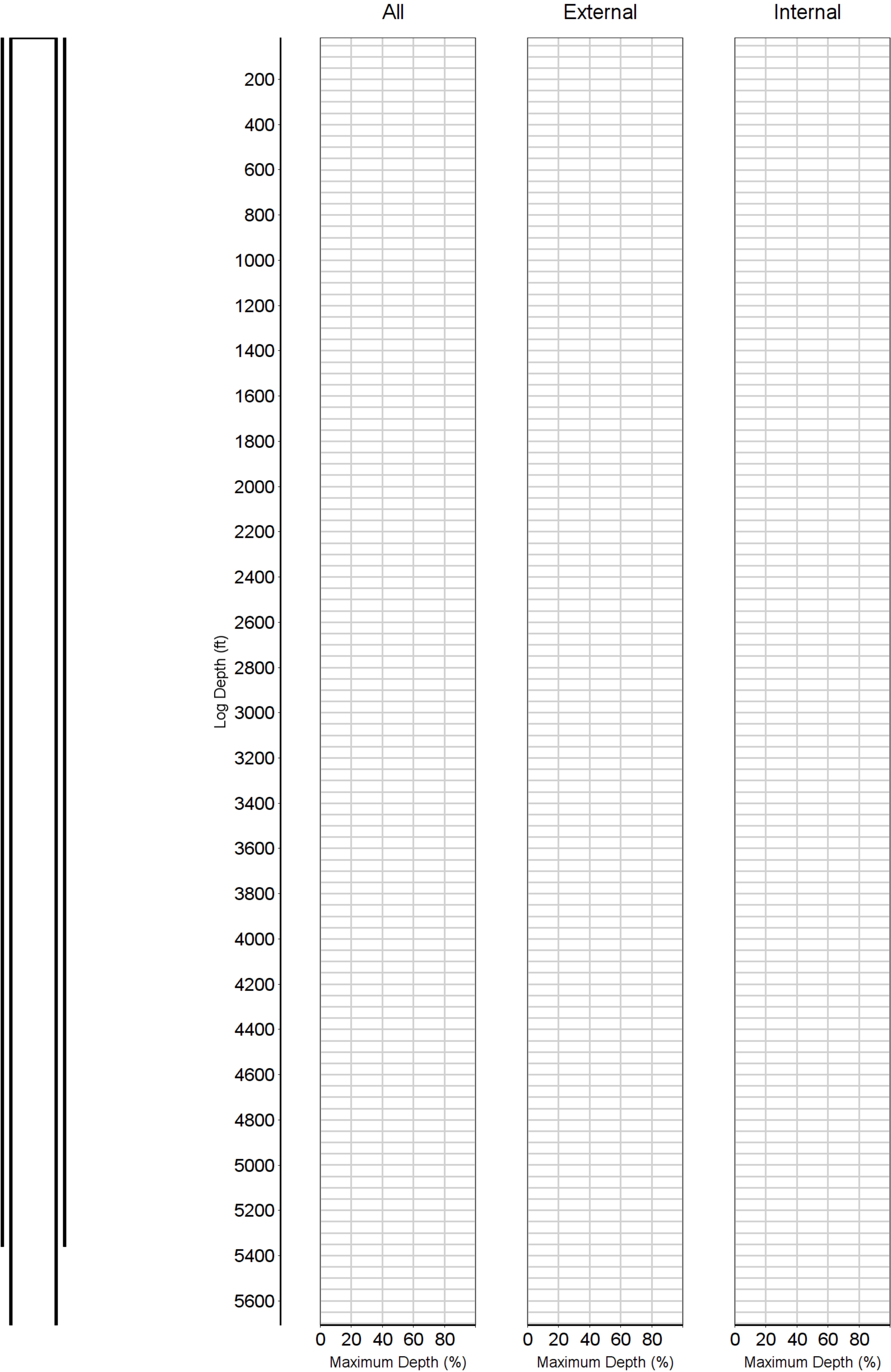
Company: LUCID ENERGY
Field: RED HILLS
Well: AGI #1
Inspection Date: 02-08-2021
Report Date: 02-09-2021



Attachment 5.2.1 - Maximum Depth Histograms



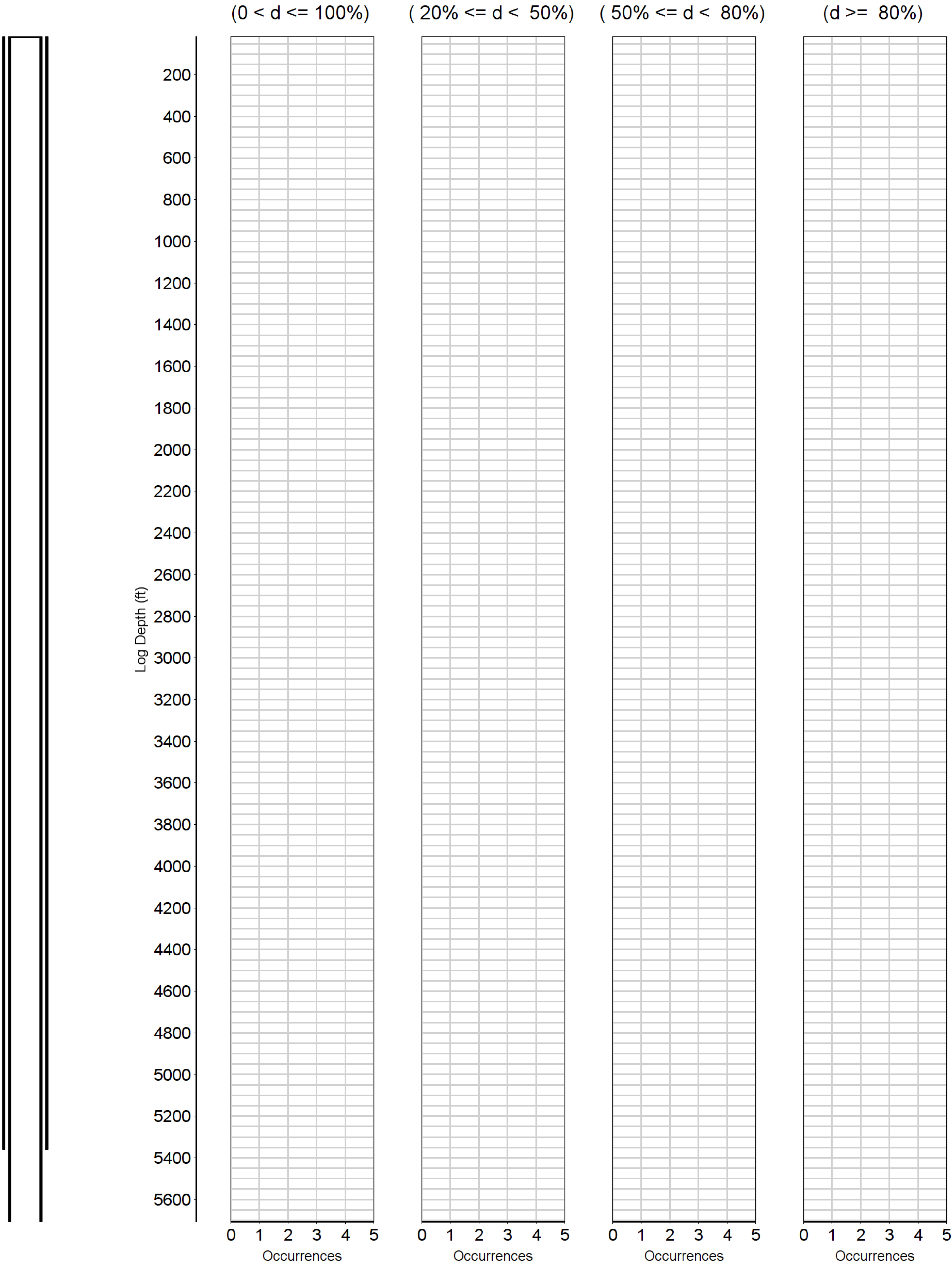
Company: LUCID ENERGY
Field: RED HILLS
Well: AGI #1
Inspection Date: 02-08-2021
Report Date: 02-09-2021



Attachment 5.2.2 - Depth Range



Company: LUCID ENERGY
Field: RED HILLS
Well: AGI #1
Inspection Date: 02-08-2021
Report Date: 02-09-2021

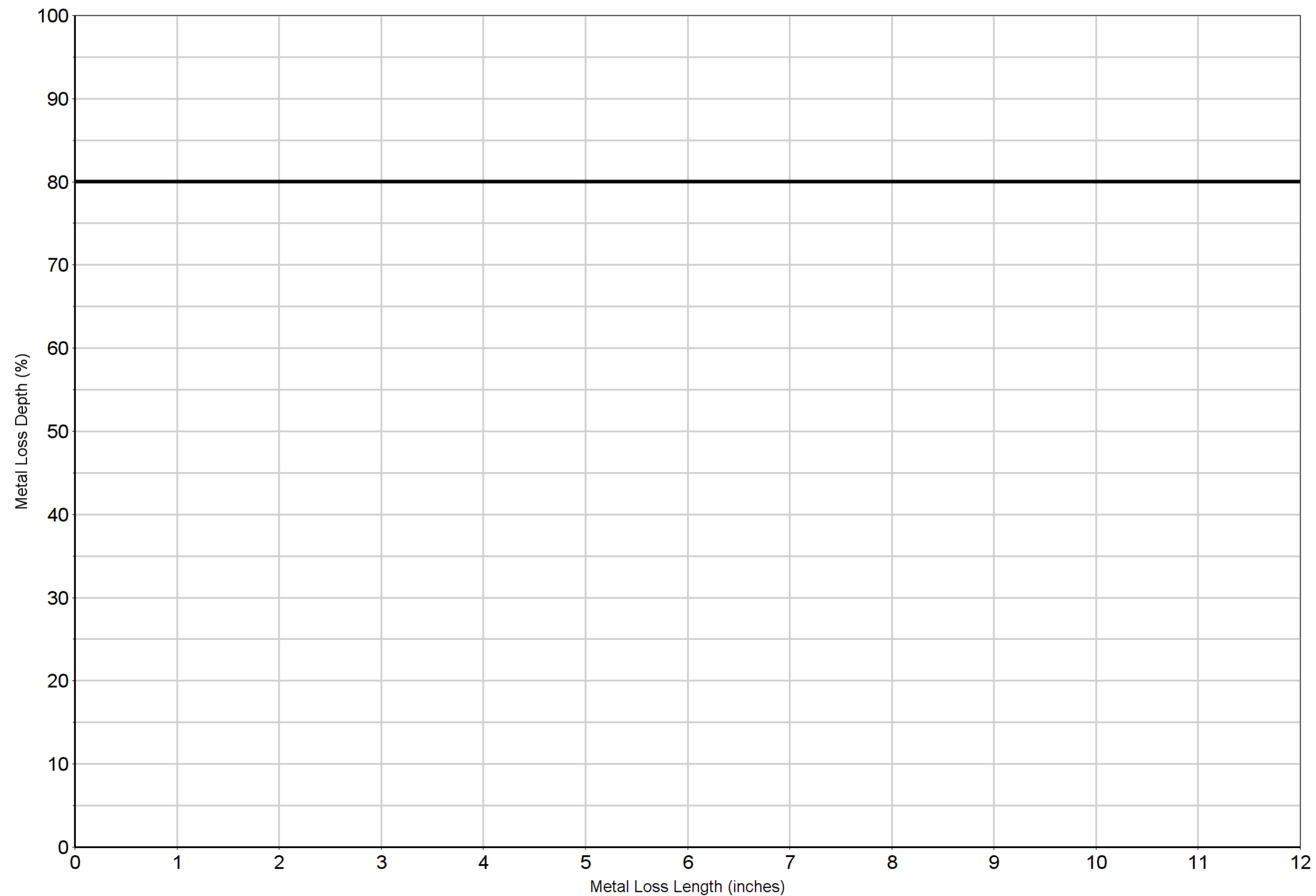


Attachment 5.3.1 - Pressure Sentenced Plot



Company: LUCID ENERGY
Field: RED HILLS
Well: AGI #1
Inspection Date: 02-08-2021
Report Date: 02-09-2021

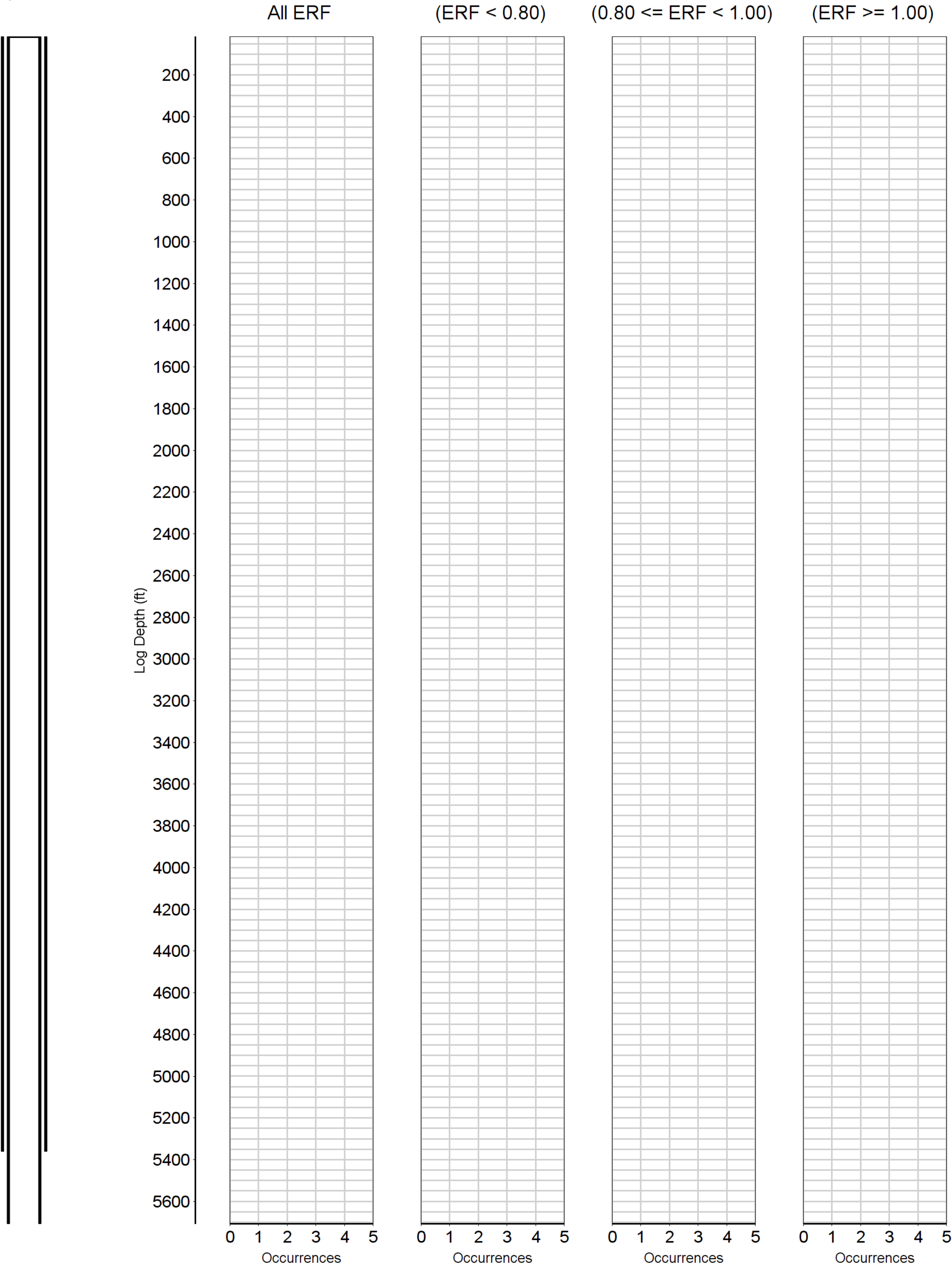
Diameter: 7.000 in, Wall Thickness: 0.408 in, SMYS: 80.0 ksi



Attachment 5.3.2 - Pressure Based Histograms



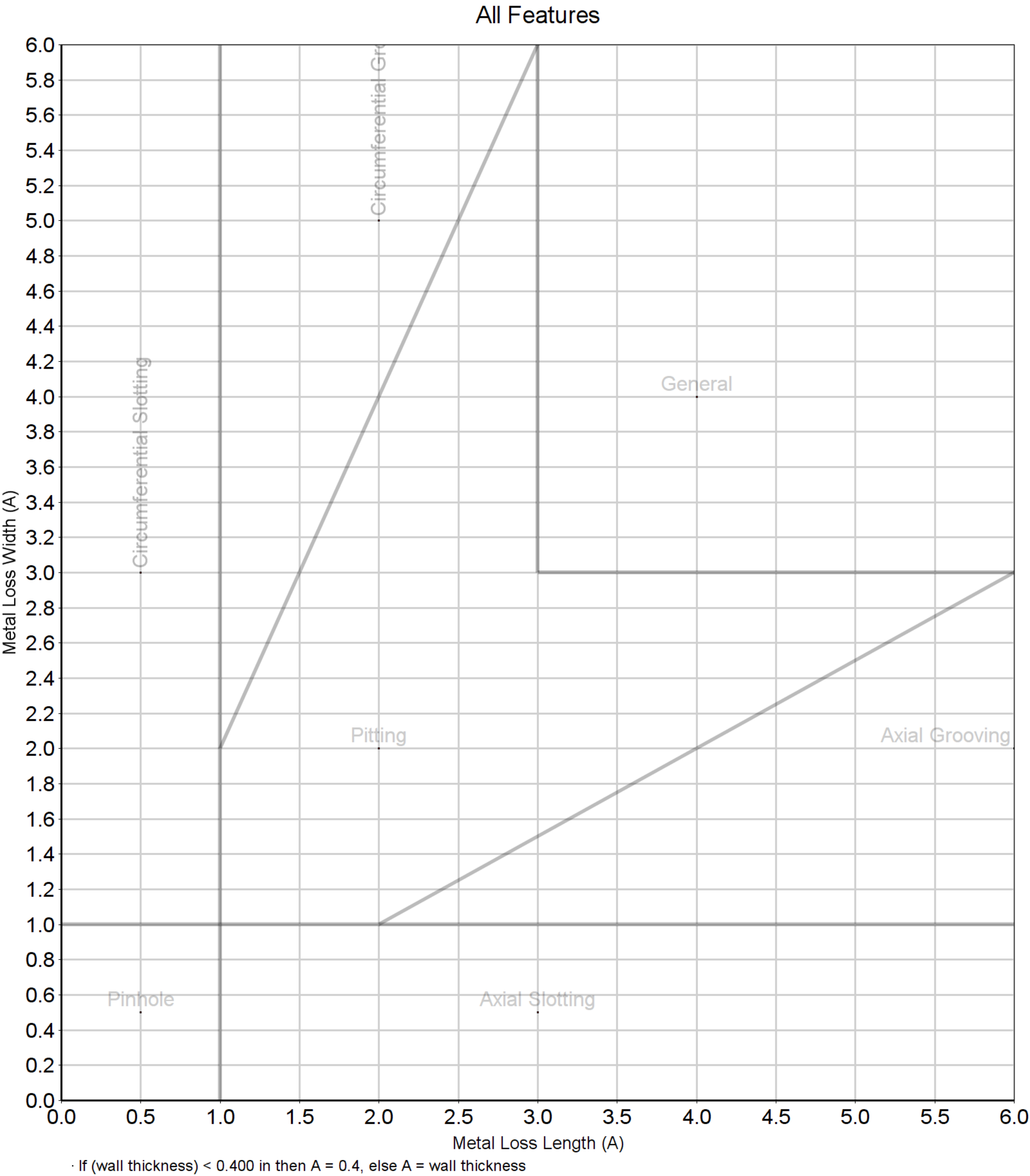
Company: LUCID ENERGY
Field: RED HILLS
Well: AGI #1
Inspection Date: 02-08-2021
Report Date: 02-09-2021



Attachment 5.4 - Feature Type Plot



Company: LUCID ENERGY
Field: RED HILLS
Well: AGI #1
Inspection Date: 02-08-2021
Report Date: 02-09-2021



Joint Summary

LUCID ENERGY
RED HILLS
AGI #1

Identifier	Start Log Depth	Joint Length	Diameter	Wall Thickness	Weight	Max ML Depth	Max ML Position	Min Burst Pressure	Joint Depth Class
	ft	ft	in	in	lb/ft	%	ft	psi	
JT-1	16.86	14.69	7.000	0.408	29.0	0			1
JT-2	31.55	40.02	7.000	0.408	29.0	0			1
JT-3	71.57	39.51	7.000	0.408	29.0	0			1
JT-4	111.08	43.80	7.000	0.408	29.0	0			1
JT-5	154.88	38.07	7.000	0.408	29.0	0			1
JT-6	192.95	35.19	7.000	0.408	29.0	0			1
JT-7	228.14	43.37	7.000	0.408	29.0	0			1
JT-8	271.52	40.02	7.000	0.408	29.0	0			1
JT-9	311.54	40.39	7.000	0.408	29.0	0			1
JT-10	351.93	36.40	7.000	0.408	29.0	0			1
JT-11	388.33	34.83	7.000	0.408	29.0	0			1
JT-12	423.16	37.46	7.000	0.408	29.0	0			1
JT-13	460.62	34.86	7.000	0.408	29.0	0			1
JT-14	495.48	37.80	7.000	0.408	29.0	0			1
JT-15	533.28	44.05	7.000	0.408	29.0	0			1
JT-16	577.33	42.55	7.000	0.408	29.0	0			1
JT-17	619.88	40.63	7.000	0.408	29.0	0			1
JT-18	660.51	39.91	7.000	0.408	29.0	0			1
JT-19	700.43	42.42	7.000	0.408	29.0	0			1
JT-20	742.85	40.08	7.000	0.408	29.0	0			1
JT-21	782.93	39.42	7.000	0.408	29.0	0			1
JT-22	822.35	39.98	7.000	0.408	29.0	0			1
JT-23	862.33	43.27	7.000	0.408	29.0	0			1
JT-24	905.60	41.83	7.000	0.408	29.0	0			1
JT-25	947.44	34.95	7.000	0.408	29.0	0			1
JT-26	982.39	37.64	7.000	0.408	29.0	0			1
JT-27	1020.03	40.74	7.000	0.408	29.0	0			1
JT-28	1060.77	39.55	7.000	0.408	29.0	0			1
JT-29	1100.32	39.80	7.000	0.408	29.0	0			1
JT-30	1140.13	43.36	7.000	0.408	29.0	0			1

Inspection Date: 02-08-2021

Report Date: 02-09-2021

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Joint Summary

LUCID ENERGY
RED HILLS
AGI #1

Identifier	Start Log Depth	Joint Length	Diameter	Wall Thickness	Weight	Max ML Depth	Max ML Position	Min Burst Pressure	Joint Depth Class
	ft	ft	in	in	lb/ft	%	ft	psi	
JT-31	1183.48	39.33	7.000	0.408	29.0	0			1
JT-32	1222.82	38.87	7.000	0.408	29.0	0			1
JT-33	1261.69	43.73	7.000	0.408	29.0	0			1
JT-34	1305.42	41.86	7.000	0.408	29.0	0			1
JT-35	1347.28	40.99	7.000	0.408	29.0	0			1
JT-36	1388.28	39.80	7.000	0.408	29.0	0			1
JT-37	1428.08	39.62	7.000	0.408	29.0	0			1
JT-38	1467.70	42.97	7.000	0.408	29.0	0			1
JT-39	1510.67	42.47	7.000	0.408	29.0	0			1
JT-40	1553.15	42.44	7.000	0.408	29.0	0			1
JT-41	1595.59	40.67	7.000	0.408	29.0	0			1
JT-42	1636.26	40.37	7.000	0.408	29.0	0			1
JT-43	1676.64	40.31	7.000	0.408	29.0	0			1
JT-44	1716.95	43.72	7.000	0.408	29.0	0			1
JT-45	1760.67	38.87	7.000	0.408	29.0	0			1
JT-46	1799.54	40.79	7.000	0.408	29.0	0			1
JT-47	1840.33	40.90	7.000	0.408	29.0	0			1
JT-48	1881.23	39.64	7.000	0.408	29.0	0			1
JT-49	1920.88	43.25	7.000	0.408	29.0	0			1
JT-50	1964.13	39.13	7.000	0.408	29.0	0			1
JT-51	2003.26	38.74	7.000	0.408	29.0	0			1
JT-52	2042.00	40.06	7.000	0.408	29.0	0			1
JT-53	2082.06	39.88	7.000	0.408	29.0	0			1
JT-54	2121.94	41.56	7.000	0.408	29.0	0			1
JT-55	2163.50	40.82	7.000	0.408	29.0	0			1
JT-56	2204.32	40.42	7.000	0.408	29.0	0			1
JT-57	2244.75	40.04	7.000	0.408	29.0	0			1
JT-58	2284.79	40.15	7.000	0.408	29.0	0			1
JT-59	2324.94	39.90	7.000	0.408	29.0	0			1
JT-60	2364.83	42.76	7.000	0.408	29.0	0			1

Inspection Date: 02-08-2021

Report Date: 02-09-2021

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Joint Summary

LUCID ENERGY
RED HILLS
AGI #1

Identifier	Start Log Depth	Joint Length	Diameter	Wall Thickness	Weight	Max ML Depth	Max ML Position	Min Burst Pressure	Joint Depth Class
	ft	ft	in	in	lb/ft	%	ft	psi	
JT-61	2407.59	37.63	7.000	0.408	29.0	0			1
JT-62	2445.23	40.61	7.000	0.408	29.0	0			1
JT-63	2485.83	38.85	7.000	0.408	29.0	0			1
JT-64	2524.68	35.42	7.000	0.408	29.0	0			1
JT-65	2560.10	38.19	7.000	0.408	29.0	0			1
JT-66	2598.29	40.07	7.000	0.408	29.0	0			1
JT-67	2638.37	39.54	7.000	0.408	29.0	0			1
JT-68	2677.90	42.15	7.000	0.408	29.0	0			1
JT-69	2720.05	41.60	7.000	0.408	29.0	0			1
JT-70	2761.65	39.16	7.000	0.408	29.0	0			1
JT-71	2800.82	40.60	7.000	0.408	29.0	0			1
JT-72	2841.41	43.10	7.000	0.408	29.0	0			1
JT-73	2884.52	42.01	7.000	0.408	29.0	0			1
JT-74	2926.53	41.82	7.000	0.408	29.0	0			1
JT-75	2968.35	42.15	7.000	0.408	29.0	0			1
JT-76	3010.50	40.27	7.000	0.408	29.0	0			1
JT-77	3050.78	44.17	7.000	0.408	29.0	0			1
JT-78	3094.94	38.52	7.000	0.408	29.0	0			1
JT-79	3133.46	40.44	7.000	0.408	29.0	0			1
JT-80	3173.90	39.31	7.000	0.408	29.0	0			1
JT-81	3213.20	43.18	7.000	0.408	29.0	0			1
JT-82	3256.38	40.13	7.000	0.408	29.0	0			1
JT-83	3296.52	36.68	7.000	0.408	29.0	0			1
JT-84	3333.20	35.27	7.000	0.408	29.0	0			1
JT-85	3368.47	36.07	7.000	0.408	29.0	0			1
JT-86	3404.53	38.80	7.000	0.408	29.0	0			1
JT-87	3443.33	39.15	7.000	0.408	29.0	0			1
JT-88	3482.48	37.97	7.000	0.408	29.0	0			1
JT-89	3520.45	34.58	7.000	0.408	29.0	0			1
JT-90	3555.04	40.53	7.000	0.408	29.0	0			1

Inspection Date: 02-08-2021

Report Date: 02-09-2021

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Joint Summary

LUCID ENERGY
RED HILLS
AGI #1

Identifier	Start Log Depth	Joint Length	Diameter	Wall Thickness	Weight	Max ML Depth	Max ML Position	Min Burst Pressure	Joint Depth Class
	ft	ft	in	in	lb/ft	%	ft	psi	
JT-91	3595.57	41.64	7.000	0.408	29.0	0			1
JT-92	3637.21	38.24	7.000	0.408	29.0	0			1
JT-93	3675.45	41.36	7.000	0.408	29.0	0			1
JT-94	3716.81	39.20	7.000	0.408	29.0	0			1
JT-95	3756.01	39.93	7.000	0.408	29.0	0			1
JT-96	3795.94	43.13	7.000	0.408	29.0	0			1
JT-97	3839.07	42.86	7.000	0.408	29.0	0			1
JT-98	3881.93	37.63	7.000	0.408	29.0	0			1
JT-99	3919.56	36.52	7.000	0.408	29.0	0			1
JT-100	3956.08	39.56	7.000	0.408	29.0	0			1
JT-101	3995.65	41.82	7.000	0.408	29.0	0			1
JT-102	4037.46	39.52	7.000	0.408	29.0	0			1
JT-103	4076.98	40.32	7.000	0.408	29.0	0			1
JT-104	4117.30	39.80	7.000	0.408	29.0	0			1
JT-105	4157.11	40.43	7.000	0.408	29.0	0			1
JT-106	4197.54	37.84	7.000	0.408	29.0	0			1
JT-107	4235.39	34.25	7.000	0.408	29.0	0			1
JT-108	4269.64	41.03	7.000	0.408	29.0	0			1
JT-109	4310.67	39.00	7.000	0.408	29.0	0			1
JT-110	4349.67	34.95	7.000	0.408	29.0	0			1
JT-111	4384.62	40.96	7.000	0.408	29.0	0			1
JT-112	4425.57	38.92	7.000	0.408	29.0	0			1
JT-113	4464.49	40.23	7.000	0.408	29.0	0			1
JT-114	4504.73	37.85	7.000	0.408	29.0	0			1
JT-115	4542.58	43.78	7.000	0.408	29.0	0			1
JT-116	4586.36	39.99	7.000	0.408	29.0	0			1
JT-117	4626.35	35.97	7.000	0.408	29.0	0			1
JT-118	4662.32	38.77	7.000	0.408	29.0	0			1
JT-119	4701.10	39.54	7.000	0.408	29.0	0			1
JT-120	4740.64	42.02	7.000	0.408	29.0	0			1

Inspection Date: 02-08-2021

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Joint Summary

LUCID ENERGY
RED HILLS
AGI #1

Identifier	Start Log Depth	Joint Length	Diameter	Wall Thickness	Weight	Max ML Depth	Max ML Position	Min Burst Pressure	Joint Depth Class
	ft	ft	in	in	lb/ft	%	ft	psi	
JT-121	4782.65	40.28	7.000	0.408	29.0	0			1
JT-122	4822.93	43.63	7.000	0.408	29.0	0			1
JT-123	4866.56	39.91	7.000	0.408	29.0	0			1
JT-124	4906.47	41.01	7.000	0.408	29.0	0			1
JT-125	4947.48	42.78	7.000	0.408	29.0	0			1
JT-126	4990.26	43.76	7.000	0.408	29.0	0			1
JT-127	5034.02	38.91	7.000	0.408	29.0	0			1
JT-128	5072.93	38.44	7.000	0.408	29.0	0			1
JT-129	5111.37	39.13	7.000	0.408	29.0	0			1
JT-130	5150.50	38.48	7.000	0.408	29.0	0			1
JT-131	5188.98	41.44	7.000	0.408	29.0	0			1
JT-132	5230.43	43.76	7.000	0.408	29.0	0			1
JT-133	5274.19	41.14	7.000	0.408	29.0	0			1
JT-134	5315.33	42.09	7.000	0.408	29.0	0			1
JT-135	5357.41	42.51	7.000	0.408	29.0	0			1
JT-136	5399.93	37.55	7.000	0.408	29.0	0			1
JT-137	5437.48	39.66	7.000	0.408	29.0	0			1
JT-138	5477.13	38.52	7.000	0.408	29.0	0			1
JT-139	5515.65	11.38	7.000	0.408	29.0	0			1
JT-140	5527.03	11.24	7.000	0.408	29.0	0			1
JT-141	5538.27	16.59	7.000	0.408	29.0	0			1
JT-142	5554.86	21.06	7.000	0.408	29.0	0			1
JT-143	5575.92	40.69	7.000	0.408	29.0	0			1
JT-144	5616.60	41.49	7.000	0.408	29.0	0			1
JT-145	5658.09	40.55	7.000	0.408	29.0	0			1

Inspection Date: 02-08-2021

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Depth Based Severity

LUCID ENERGY
RED HILLS
AGI #1

Log Depth	Dist UHC	Joint Length	Identifier	Class	Description	Surface Indication	Length	Width	Depth	Dim Class	P Safe	ERF	NWT	Comment
ft	ft	ft					in	in	%		psi		in	

Pressure Based Severity

LUCID ENERGY
RED HILLS
AGI #1

Log Depth	Dist UHC	Joint Length	Identifier	Class	Description	Surface Indication	Length	Width	Depth	Dim Class	P Safe	ERF	NWT	Comment
ft	ft	ft					in	in	%		psi		in	



HR Vertilog

Magnetic Flux Leakage Inspection

Advanced Analysis

Company	LUCID ENERGY
Well	AGI #1
Field	RED HILLS
County	LEA
State	NEW MEXICO

Location:
1600' FSL & 150' FEL

Section 13	Township 24S	Range 33E	
Date	Feb. 8, 2021		
Service Order	US178167		
Recorded by	CHRIS COFFELT		
Witnessed by	MR. MIKE FOURRIER		
API Serial No.	30-025-40448		

Permanent Datum:	GL	Elevation: 3574.000 ft.	Depth	6650.000
Log Measured From:	KB	18.500 ft. above Perm. Datum	Btm. Log Interval	5694.000
Drilling Measured From:	KB	3592.500 ft. above Perm. Datum	Top Log Interval	0.000
			Fluid Type	FRESHWATER

Casing Data

Size	Weight	Grade	From	To	Length
7.0 inch	26.0 lb/ft	N80	0	6650	6650.0
9.625 inch	40.0 lb/ft	J55	0	5346	5346.0

Equipment Data

Software Version 7.6.2.2

Run	Trip	Tool Type	Tool Series	Serial Number	Position
1	1	HRVRT MFL	4997	QB15299166	LOWER
1	1	HRVRT MFL	4997	PB15299170	UPPER
1	1	HRVRT TELEM	4993EA	10399265	

Calibration Data

Calibration File Name	4997-7-001-PB15299170-U.CAL
Date of Calibration	11/24/2020 15:18
Calibration Identifier	27D1C2D4-D395-45E7-88B4-6974FAE49A4E
Tool Number	4997-00

Calibrator Size	(7 In - 178 mm)
Calibration Source File	20201124_154840_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.6.2.1
Comment	New Tool QB WO 107539876 PB WO 107539952

Calibration Data

Calibration File Name	4997-7-001-QB15299166-L.CAL
Date of Calibration	11/24/2020 15:18
Calibration Identifier	27D1C2D4-D395-45E7-88B4-6974FAE49A4E
Tool Number	4997-00
Calibrator Number	4997-7-001
Calibrator Size	(7 In - 178 mm)
Calibration Source File	20201124_154840_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.6.2.1
Comment	New Tool QB WO 107539876 PB WO 107539952

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Remarks

DV TOOL IN WELLBORE @ 5535 FT

Interpretation

17.79 ft Hardware - External CSG Head Response.
5351.42 ft Hardware - Bottom of 9.625" external CSG.
5527.03 ft Collar - Non standard connection. Possibly welded.
5536.94 ft Hardware - DV Tool
5545.72 ft Hardware - Unknown external casing hardware.

The Baker Hughes caliper analysis dated 8-Feb-2021 revealed that the casing weight was a better fit for 7.0" - 29.0 lb/ft API specifications. 7.0" - 29.0 lb/ft casing parameters were used for the HRVRT burst pressure calculations.

This analysis depth correlated to Baker Hughes caliper analysis dated 8-Feb-2021.

All joints surveyed report class 1 at this time.

Analysis by: J Wood

Joint Interpretation Summary

Joint	From	To	Length	Class	Max Depth	Position	ID/OD
1	16.86	31.55	14.69	Class 1	-	-	-
2	31.55	71.57	40.02	Class 1	-	-	-
3	71.57	111.08	39.51	Class 1	-	-	-
4	111.08	154.88	43.80	Class 1	-	-	-
5	154.88	192.95	38.07	Class 1	-	-	-
6	192.95	228.14	35.19	Class 1	-	-	-
7	228.14	271.52	43.38	Class 1	-	-	-
8	271.52	311.54	40.02	Class 1	-	-	-
9	311.54	351.93	40.39	Class 1	-	-	-
10	351.93	388.33	36.40	Class 1	-	-	-
11	388.33	423.16	34.83	Class 1	-	-	-
12	423.16	460.62	37.46	Class 1	-	-	-
13	460.62	495.48	34.86	Class 1	-	-	-
14	495.48	533.28	37.80	Class 1	-	-	-
15	533.28	577.33	44.05	Class 1	-	-	-
16	577.33	619.88	42.55	Class 1	-	-	-
17	619.88	660.51	40.63	Class 1	-	-	-
18	660.51	700.43	39.92	Class 1	-	-	-
19	700.43	742.85	42.42	Class 1	-	-	-
20	742.85	782.93	40.08	Class 1	-	-	-
21	782.93	822.35	39.42	Class 1	-	-	-
22	822.35	862.33	39.98	Class 1	-	-	-
23	862.33	905.60	43.27	Class 1	-	-	-
24	905.60	947.44	41.84	Class 1	-	-	-
25	947.44	982.39	34.95	Class 1	-	-	-
26	982.39	1020.03	37.64	Class 1	-	-	-
27	1020.03	1060.77	40.74	Class 1	-	-	-
28	1060.77	1100.32	39.55	Class 1	-	-	-
29	1100.32	1140.13	39.81	Class 1	-	-	-
30	1140.13	1183.48	43.35	Class 1	-	-	-
31	1183.48	1222.82	39.34	Class 1	-	-	-
32	1222.82	1261.69	38.87	Class 1	-	-	-
33	1261.69	1305.42	43.73	Class 1	-	-	-
34	1305.42	1347.28	41.86	Class 1	-	-	-
35	1347.28	1388.28	41.00	Class 1	-	-	-
36	1388.28	1428.08	39.80	Class 1	-	-	-
37	1428.08	1467.70	39.62	Class 1	-	-	-
38	1467.70	1510.67	42.97	Class 1	-	-	-
39	1510.67	1553.15	42.48	Class 1	-	-	-
40	1553.15	1595.59	42.44	Class 1	-	-	-
41	1595.59	1636.26	40.67	Class 1	-	-	-
42	1636.26	1676.64	40.38	Class 1	-	-	-
43	1676.64	1716.95	40.31	Class 1	-	-	-
44	1716.95	1760.67	43.72	Class 1	-	-	-
45	1760.67	1799.54	38.87	Class 1	-	-	-
46	1799.54	1840.33	40.79	Class 1	-	-	-
47	1840.33	1881.23	40.90	Class 1	-	-	-
48	1881.23	1920.88	39.65	Class 1	-	-	-
49	1920.88	1964.13	43.25	Class 1	-	-	-
50	1964.13	2003.26	39.13	Class 1	-	-	-
51	2003.26	2042.00	38.74	Class 1	-	-	-
52	2042.00	2082.06	40.06	Class 1	-	-	-
53	2082.06	2121.94	39.88	Class 1	-	-	-
54	2121.94	2163.50	41.56	Class 1	-	-	-
55	2163.50	2204.32	40.82	Class 1	-	-	-
56	2204.32	2244.75	40.43	Class 1	-	-	-
57	2244.75	2284.79	40.04	Class 1	-	-	-
58	2284.79	2324.94	40.15	Class 1	-	-	-
59	2324.94	2364.83	39.89	Class 1	-	-	-
60	2364.83	2407.39	42.76	Class 1	-	-	-
61	2407.39	2445.23	37.64	Class 1	-	-	-

61	2407.55	2443.25	37.04	Class 1
62	2445.23	2485.83	40.60	Class 1
63	2485.83	2524.68	38.85	Class 1
64	2524.68	2560.10	35.42	Class 1
65	2560.10	2598.29	38.19	Class 1
66	2598.29	2638.37	40.08	Class 1
67	2638.37	2677.90	39.53	Class 1
68	2677.90	2720.05	42.15	Class 1
69	2720.05	2761.65	41.60	Class 1
70	2761.65	2800.82	39.17	Class 1
71	2800.82	2841.41	40.59	Class 1
72	2841.41	2884.52	43.11	Class 1
73	2884.52	2926.53	42.01	Class 1
74	2926.53	2968.35	41.82	Class 1
75	2968.35	3010.50	42.15	Class 1
76	3010.50	3050.78	40.28	Class 1
77	3050.78	3094.94	44.16	Class 1
78	3094.94	3133.46	38.52	Class 1
79	3133.46	3173.90	40.44	Class 1
80	3173.90	3213.20	39.30	Class 1
81	3213.20	3256.38	43.18	Class 1
82	3256.38	3296.52	40.14	Class 1
83	3296.52	3333.20	36.68	Class 1
84	3333.20	3368.47	35.27	Class 1
85	3368.47	3404.53	36.06	Class 1
86	3404.53	3443.33	38.80	Class 1
87	3443.33	3482.48	39.15	Class 1
88	3482.48	3520.45	37.97	Class 1
89	3520.45	3555.04	34.59	Class 1
90	3555.04	3595.57	40.53	Class 1
91	3595.57	3637.21	41.64	Class 1
92	3637.21	3675.45	38.24	Class 1
93	3675.45	3716.81	41.36	Class 1
94	3716.81	3756.01	39.20	Class 1
95	3756.01	3795.94	39.93	Class 1
96	3795.94	3839.07	43.13	Class 1
97	3839.07	3881.93	42.86	Class 1
98	3881.93	3919.56	37.63	Class 1
99	3919.56	3956.08	36.52	Class 1
100	3956.08	3995.65	39.57	Class 1
101	3995.65	4037.46	41.81	Class 1
102	4037.46	4076.98	39.52	Class 1
103	4076.98	4117.30	40.32	Class 1
104	4117.30	4157.11	39.81	Class 1
105	4157.11	4197.54	40.43	Class 1
106	4197.54	4235.39	37.85	Class 1
107	4235.39	4269.64	34.25	Class 1
108	4269.64	4310.67	41.03	Class 1
109	4310.67	4349.67	39.00	Class 1
110	4349.67	4384.62	34.95	Class 1
111	4384.62	4425.57	40.95	Class 1
112	4425.57	4464.49	38.92	Class 1
113	4464.49	4504.73	40.24	Class 1
114	4504.73	4542.58	37.85	Class 1
115	4542.58	4586.36	43.78	Class 1
116	4586.36	4626.35	39.99	Class 1
117	4626.35	4662.32	35.97	Class 1
118	4662.32	4701.10	38.78	Class 1
119	4701.10	4740.64	39.54	Class 1
120	4740.64	4782.65	42.01	Class 1
121	4782.65	4822.93	40.28	Class 1
122	4822.93	4866.56	43.63	Class 1
123	4866.56	4906.47	39.91	Class 1

124	4906.47	4947.48	41.01	Class 1	-	-	-
125	4947.48	4990.26	42.78	Class 1	-	-	-
126	4990.26	5034.02	43.76	Class 1	-	-	-
127	5034.02	5072.93	38.91	Class 1	-	-	-
128	5072.93	5111.37	38.44	Class 1	-	-	-
129	5111.37	5150.50	39.13	Class 1	-	-	-
130	5150.50	5188.98	38.48	Class 1	-	-	-
131	5188.98	5230.43	41.45	Class 1	-	-	-
132	5230.43	5274.19	43.76	Class 1	-	-	-
133	5274.19	5315.33	41.14	Class 1	-	-	-
134	5315.33	5357.41	42.08	Class 1	-	-	-
135	5357.41	5399.93	42.52	Class 1	-	-	-
136	5399.93	5437.48	37.55	Class 1	-	-	-
137	5437.48	5477.13	39.65	Class 1	-	-	-
138	5477.13	5515.65	38.52	Class 1	-	-	-
139	5515.65	5527.03	11.38	Class 1	-	-	-
140	5527.03	5538.27	11.24	Class 1	-	-	-
141	5538.27	5554.86	16.59	Class 1	-	-	-
142	5554.86	5575.92	21.06	Class 1	-	-	-
143	5575.92	5616.60	40.68	Class 1	-	-	-
144	5616.60	5658.09	41.49	Class 1	-	-	-
145	5658.09	5698.64	40.55	Class 1	-	-	-

LUCID ENERGY AGI #1

File 20210208_184134_RSP_0_0_0_0_0_0.mvl

Main Log

5"/100'

Class 1
0 - 20%Class 2
20 - 40%Class 3
40 - 60%Class 4
60 - 100%

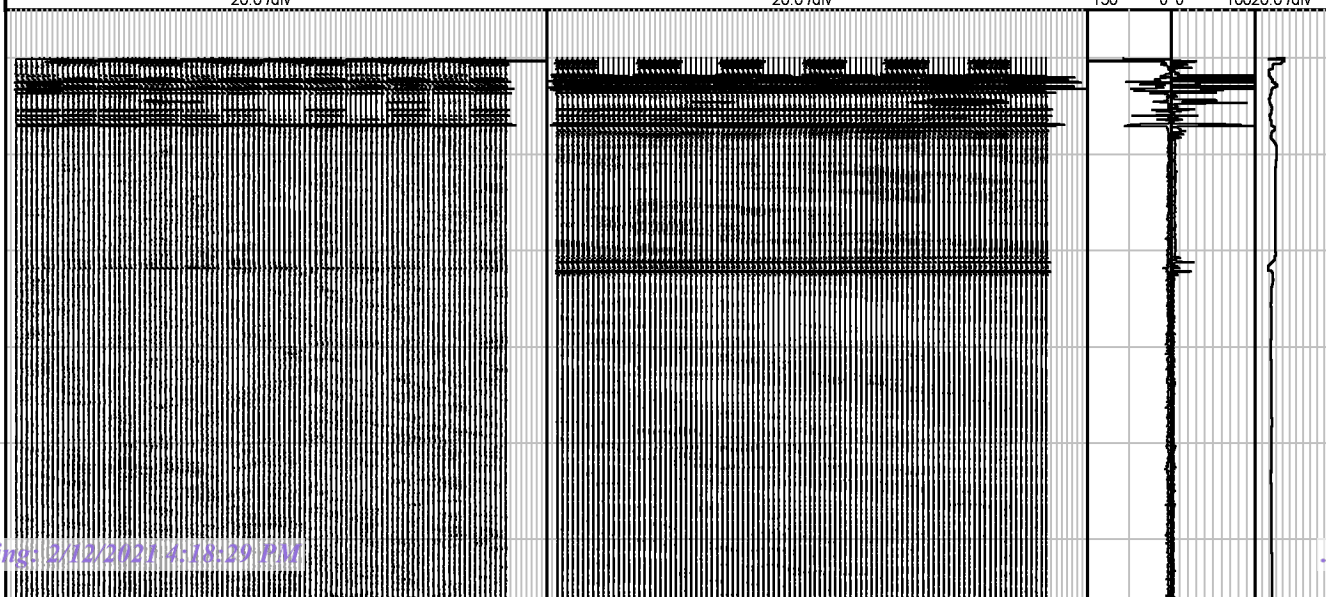
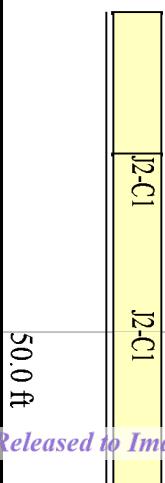
DIS

FL
AxialMAX
DIS
MAX
FL
Axial
Axial
BKG

20.0 /div

20.0 /div

150 0 0 10020.0 /div



J3-C1	J3-C1	J4-C1	J4-C1	J5-C1	J5-C1	J6-C1	J6-C1	J7-C1	J7-C1
100.0 ft	150.0 ft	200.0 ft	250.0 ft						

300.0 ft

J9-C1

J9-C1

350.0 ft

J10-C1

J10-C1

400.0 ft

J11-C1

J11-C1

450.0 ft

J12-C1

J12-C1

J13-C1

J13-C1

0 ft	J14-C1	J15-C1	J15-C1	J16-C1	J16-C1	J17-C1	J17-C1	J18-C1	J18-C1	J19-C1
550.0 ft										
600.0 ft										
650.0 ft										
700.0 ft										

750.0 ft

800.0 ft

850.0 ft

900.0 ft

J19-C1

J20-C1

J20-C1

J21-C1

J21-C1

J22-C1

J22-C1

J23-C1

J23-C1

J24-C1

J24-C1

950.0 ft

J25-C1

J25-C1

J26-C1

J26-C1

J27-C1

J27-C1

1000.0 ft

J28-C1

J28-C1

1050.0 ft

J29-C1

J29-C1

1100.0 ft

J30-C1

1150.0 ft

1200.0 ft

1250.0 ft

1300.0 ft

1350.0 ft

J31-C1

J31-C1

J31-C1

J32-C1

J32-C1

J33-C1

J33-C1

J34-C1

J34-C1

J35-C1

J35-C1

J36-C1	J36-C1	J37-C1	J37-C1	J38-C1	J38-C1	J39-C1	J39-C1	J40-C1	J40-C1
1400.0 ft									
1450.0 ft									
1500.0 ft									
1550.0 ft									

Rec

J4-C1	J47-C1	J47-C1	J48-C1	J48-C1	J49-C1	J49-C1	J50-C1	J50-C1	J51-C1	J51-C1
1850.0 ft										
1900.0 ft										
1950.0 ft										
2000.0 ft										

2050.0 ft

J52-C1

J53-C1

J53-C1

2100.0 ft

J54-C1

J54-C1

2150.0 ft

J55-C1

J55-C1

2200.0 ft

J56-C1

J56-C1

2250.0 ft

J57-C1

2300.0 ft

2350.0 ft

2400.0 ft

2450.0 ft

J5-C1

J58-C1

J58-C1

J59-C1

J59-C1

J60-C1

J60-C1

J61-C1

J61-C1

J62-C1

J62-C1

J63-C1	J63-C1	J64-C1	J64-C1	J65-C1	J65-C1	J66-C1	J66-C1	J67-C1	J67-C1	J68-C1
	2500.0 ft			2550.0 ft		2600.0 ft		2650.0 ft		

000 ft	J69-C1	J69-C1	J69-C1	J70-C1	J70-C1	J71-C1	J71-C1	J72-C1	J72-C1	J73-C1	J73-C1
2750.0 ft											
2800.0 ft											
2850.0 ft											
2900.0 ft											

2950.0 ft

3000.0 ft

3050.0 ft

3100.0 ft

J74-C1

J74-C1

J75-C1

J75-C1

J76-C1

J76-C1

J77-C1

J77-C1

J78-C1

J78-C1

3150.0 ft

J79-C1

J80-C1

3200.0 ft

J81-C1

J81-C1

3250.0 ft

J82-C1

J82-C1

3300.0 ft

J83-C1

J83-C1

J84-C1

3350 ft

J85-C1	J85-C1	J86-C1	J86-C1	J87-C1	J87-C1	J88-C1	J88-C1	J89-C1	J89-C1	J90-C1
3400.0 ft				3450.0 ft			3500.0 ft			3550.0 ft

J91-C1	J91-C1	J92-C1	J92-C1	J93-C1	J93-C1	J94-C1	J94-C1	J95-C1	J95-C1
3600.0 ft		3650.0 ft		3700.0 ft		3750.0 ft			

3800.0 ft

3850.0 ft

3900.0 ft

3950.0 ft

4000.0 ft

J96-C1 J97-C1 J97-C1 J98-C1 J98-C1 J99-C1 J99-C1 J100-C1 J100-C1 J101-C1

4050.0 ft

4100.0 ft

4150.0 ft

4200.0 ft

J10-C1

J102-C1

J102-C1

J103-C1

J103-C1

J104-C1

J104-C1

J105-C1

J105-C1

J106-C1

J106-C1

4250.0 ft

J10-C1

J108-C1

J108-C1

4300.0 ft

J109-C1

J109-C1

4350.0 ft

J110-C1

J110-C1

J111-C1

4400.0 ft

J111-C1

J112-C1

J112-C1

4450.0 ft

4500.0 ft

4550.0 ft

4600.0 ft

4650.0 ft

4700.0 ft

4750.0 ft

4800.0 ft

4850.0 ft

J119-C1

J119-C1

J119-C1

J120-C1

J120-C1

J121-C1

J121-C1

J122-C1

J122-C1

J123-C1

J123-C1

4900.0 ft

J124-C1

J124-C1

J125-C1

J125-C1

J126-C1

J126-C1

J127-C1

J127-C1

J128-C1

J128-C1

4950.0 ft

5000.0 ft

5050.0 ft

5100.0 ft

J12-C1	J130-C1	J130-C1	J131-C1	J131-C1	J132-C1	J132-C1	J133-C1	J133-C1	J134-C1
5150.0 ft									
5200.0 ft									
5250.0 ft									
5300.0 ft									

5350.0 ft

J13-C1

J135-C1

J135-C1

5400.0 ft

J136-C1

J136-C1

5450.0 ft

J137-C1

J137-C1

5500.0 ft

J138-C1

J138-C1

J141-C1

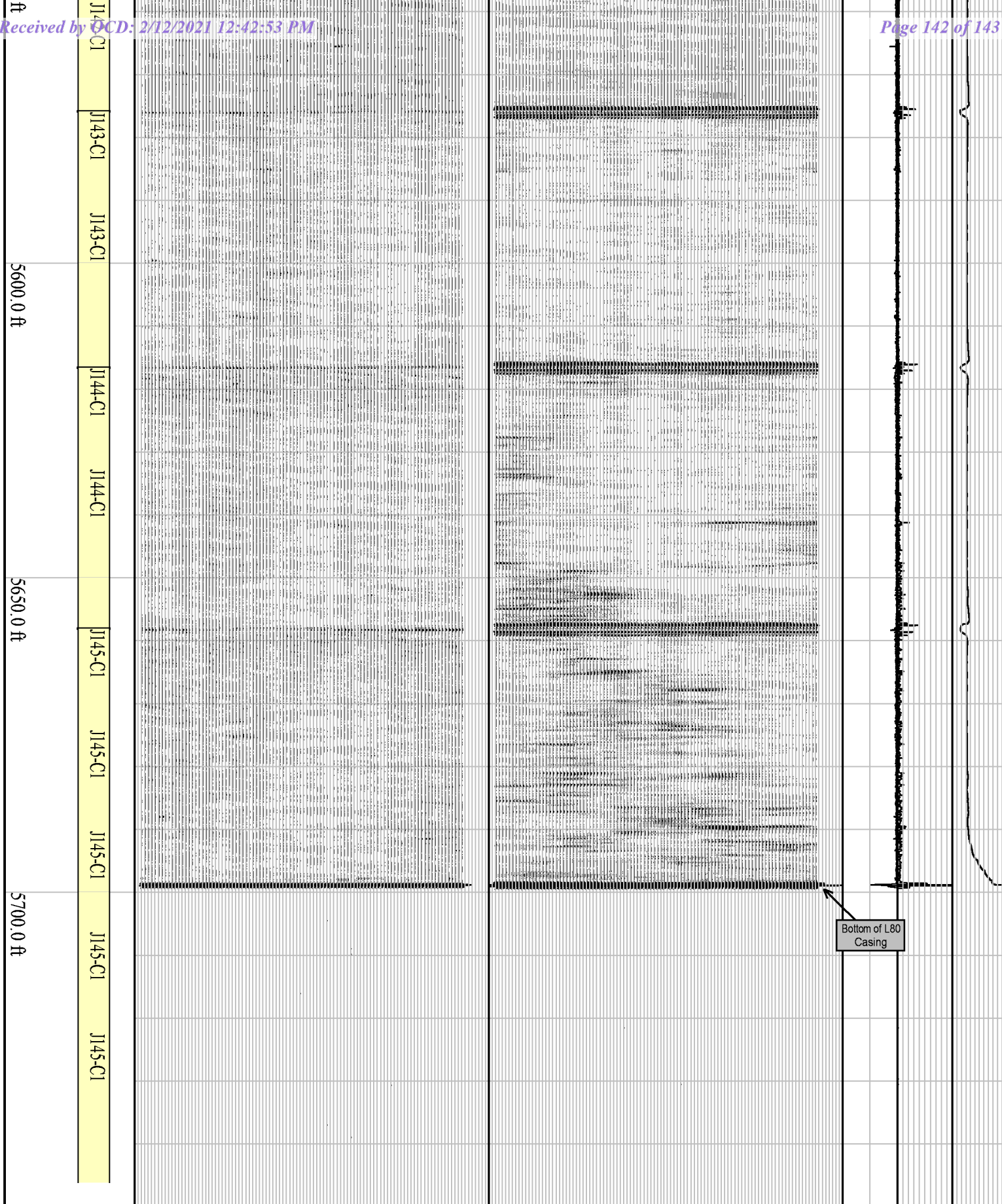
5550.0 ft

Bottom of 9.625"
External CSG.

Possible Welded
Connection

DV Tool

Unknown External
Hardware



LUCID ENERGY AGI #1

File 20210208_184134_RSP_0_0_0_0_0_0.mvl

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 17946

CONDITIONS OF APPROVAL

Operator: LUCID ENERGY DELAWARE, LLC 3100 Mckinnon Suite 800 Dallas, TX75201			OGRID: 372422	Action Number: 17946	Action Type: C-103R
OCD Reviewer			Condition		
pgoetze			None		