6/30/2023

Eagle Newsletter

Eagle Reservoir Services

EPA Requirement - Mechanical Integrity Testing (MIT)

Special points of interest:

- The EPA requires that Mechanical Integrity tests are performed routinely. The primary purpose is for the protection of underground sources of drinking water.
- Internal Mechanical Integrity testing consists of options such as pressure testing to determine loss of pressure from a leak, or direct evaluation of the casing. Pressure testing will not reveal the extent of damage. Sudden failure due to unseen casing damage can be the result. Run a casing inspection log with a multi finger caliper and other sensors such as temperature, spinner and pressure combined in the run.
- External Mechanical Integrity testing consists of options that evaluate any unwanted fluid movement through vertical channels in the injection wellbore annulus. Options consist of temperature logging, cement bond logs, and tracer logs or injection profiles. Injection profiles can directly determine the nature, location and quantity of injection that may be misplaced.

Inside this issue:

Casing Inspection using Multifinger calipers will not only find leaks that pressure testing will expose, but will also find areas that are likely to leak soon based on casing wall loss or pits that may eventually penetrate. This first casing inspection is an obvious example of very severe casing degradation.

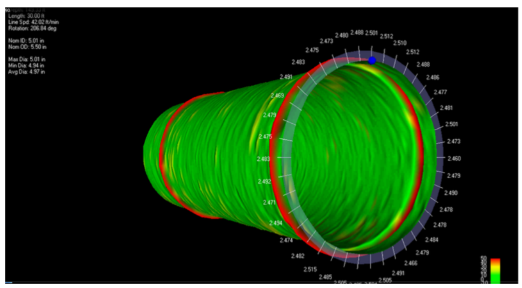
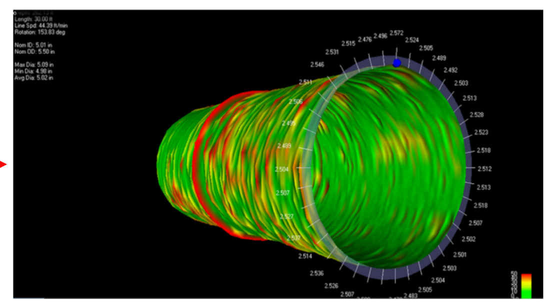


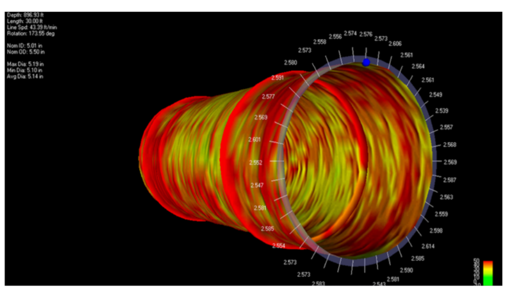
Figure 1

These examples are from the video that is supplied with the analysis report. The user can change many aspects of the video and put it in motion to move up and down the well. At 150', this casing has light/moderate ring damage and light/moderate corrosion.

At 270', the casing has moderate ring damage with heavy corrosion and pitting.

Figure 2



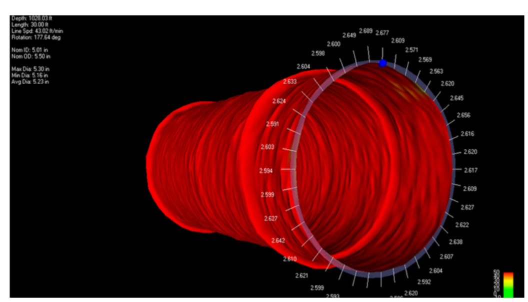


At 895' the casing has multiple holes and heavy ring damage and corrosion

Figure 3

At 1028', the casing is heavily corroded with massive metal loss and holes.

Figure 4



A COMPLETE REPORT GRADES EACH JOINT OF CASING FOR METAL LOSS OR SCALE

MIT Joint Tabulation Sheet (Penetration)

Data: field/well/run1/pass9 Location: USA

MIT Grade 1[0%-19%] 2[20%-39%] 3[40%-59%] 4[60%-69%] 5[70%-100%]

Penetration
Metal Loss

Joint	Depth ft	Nom ID in	Mode ID in	Modal Change %	Penetration Body in	%	Coupling in	%	Metal Loss %	Grade	Damage Description	Profile (%) 0 100
1	5.3	4.950	4.95	0.0	0.23	85.0	0.13	47.3	52.0	5	Multiple possible holes; Heavy Ring Damage;	
2	28.3	4.950	4.95	0.0	0.20	74.1	0.16	57.1	43.9	5	Heavy Ring Damage; Heavy Corrosion;	
3	60.6	4.950	4.95	0.0	0.22	79.0	0.21	76.9	26.0	5	Moderate Ring Damage; Heavy Corrosion;	
4	90.2	4.950	4.95	0.0	0.21	77.4	0.11	39.7	24.3	5	Moderate Ring Damage; Heavy Corrosion;	
5	119.7	4.950	4.95	[illegible]	0.15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Moderate Ring Damage; Moderate Corrosion;	
6	150.8	4.950	4.95	0.0	0.08	30.0	0.07	24.2	12.2	2	Moderate Ring Damage; Moderate Corrosion;	
7	171.9	[illegible]	[illegible]	[illegible]	0.09	33.5	0.07	23.6	11.6	2	Moderate Ring Damage; Heavy Corrosion;	
8	194.2	4.950	4.95	0.0	0.10	35.3	0.08	30.6	10.4	2	Moderate Ring Damage; Heavy Corrosion;	
9	215.3	4.950	4.95	0.0	0.14	52.0	0.07	24.0	11.1	3	Moderate Ring Damage; Heavy Corrosion;	
[illegible]	236.2	4.950	4.95	0.0	0.16	56.9	0.00	0.0	12.6	3	Moderate Ring Damage; Heavy Corrosion;	
11	255.6	4.950	4.95	0.0	0.20	73.6	0.17	62.4	14.7	[illegible]	Moderate Ring Damage; Heavy Corrosion;	
12	279.2	4.950	4.95	0.0	0.19	70.3	0.10	35.3	10.2	5	Moderate Ring Damage; Heavy Corrosion;	
13	301.3	4.950	4.95	0.0	0.19	70.3	0.11	38.7	14.1	5	Moderate Ring Damage; Heavy Corrosion;	
14	323.7	4.950	4.95	0.0	0.22	78.9	0.10	34.6	15.6	5	Moderate Ring Damage; Heavy Corrosion;	
15	344.6	4.950	4.95	0.0	0.26	95.4	0.16	56.9	29.2	5	Multiple possible holes; Moderate Ring Damage;	
16	366.3	4.950	4.95	0.0	0.26	95.6	0.17	62.3	18.7	5	Multiple possible holes; Moderate Ring Damage;	
17	385.1	4.950	4.95	0.0	0.28	100	0.16	59.3	35.1	5	Multiple possible holes; Heavy Ring Damage;	
18	407.1	4.950	4.95	0.0	0.28	100	0.12	45.2	17.7	5	Multiple possible holes; Moderate Ring Damage;	
19	[illegible]	4.950	4.95	0.0	0.19	69.6	0.11	41.2	17.1	4	Moderate Ring Damage; Heavy Corrosion;	
20	[illegible]	4.950	4.95	0.0	0.17	60.1	0.08	30.2	10.8	4	Light Ring Damage; Heavy Corrosion;	
21	470.4	4.950	4.95	0.0	0.18	66.1	0.06	20.9	16.1	4	Moderate Ring Damage; Heavy Corrosion;	
22	491.5	4.950	4.99	0.7	0.28	100	0.02	7.5	7.9	5	Multiple possible holes; Light Ring Damage;	
23	512.9	4.950	4.95	0.0	0.27	99.6	0.11	40.3	15.0	5	Multiple possible holes; Moderate Ring Damage;	
24	536.1	4.950	5.01	1.3	0.11	39.1	0.03	12.1	2.2	2	Moderate Corrosion; Heavy Pitting;	
25	557.2	4.950	4.99	0.9	0.18	65.3	0.02	8.0	6.8	4	Light Ring Damage; Heavy Corrosion;	
26	577.6	4.950	4.97	0.4	0.12	43.4	0.03	10.6	4.0	3	Moderate Corrosion; Heavy Pitting;	
27	600.3	4.950	5.01	1.2	0.08	30.0	0.07	26.4	3.5	2	Moderate Corrosion; Moderate Pitting;	
28	620.5	4.950	4.97	0.4	0.07	25.8	0.02	8.7	3.6	2	Moderate Ring Damage; Moderate Pitting;	
29	643.0	4.950	4.99	0.8	0.06	20.3	0.03	11.6	3.8	2	Moderate Pitting;	
30	664.5	4.950	4.95	0.0	0.14	51.7	0.06	23.3	12.0	3	Moderate Ring Damage; Heavy Corrosion;	
31	686.4	4.950	4.97	0.4	0.08	27.5	0.03	10.1	4.7	2	Moderate Ring Damage; Moderate Corrosion;	
32	707.2	4.950	4.95	0.0	0.11	38.7	0.07	26.2	18.9	2	Moderate Ring Damage; Heavy Corrosion;	
33	729.4	4.950	4.99	0.7	0.09	31.4	0.22	79.5	50.2	5	Moderate Ring Damage; Heavy Corrosion;	
34	750.9	4.950	4.95	0.0	0.10	37.5	0.08	27.3	12.0	2	Moderate Ring Damage; Heavy Corrosion;	
35	772.9	4.950	5.03	1.7	0.07	26.1	0.03	9.8	4.6	2	Moderate Corrosion; Moderate Pitting;	
36	795.5	4.950	4.95	0.0	0.11	41.2	0.06	23.3	13.5	3	Moderate Ring Damage; Heavy Corrosion;	
37	817.6	4.950	4.95	0.0	0.15	53.6	0.08	30.2	15.7	3	Moderate Ring Damage; Heavy Corrosion;	
38	839.7	4.950	4.95	0.0	0.14	49.4	0.12	43.6	27.2	3	Moderate Ring Damage; Heavy Corrosion;	
39	861.8	[illegible]	[illegible]	[illegible]	0.19	68.1	0.15	53.3	33.0	4	Heavy Ring Damage; Heavy Corrosion;	
[illegible]	881.5	4.950	4.95	0.0	0.26	95.6	0.15	53.2	48.7	5	Multiple possible holes; Heavy Ring Damage;	
41	904.1	4.950	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	Multiple possible holes; Heavy Ring Damage;	
42	922.9	4.950	4.95	0.0	0.23	83.3	0.23	84.2	60.3	5	Multiple possible holes; Heavy Ring Damage;	
43	945.4	4.950	4.95	0.0	0.22	80.6	0.19	68.8	55.4	5	Multiple possible holes; Heavy Ring Damage;	
44	965.2	4.950	4.95	0.0	0.26	95.0	0.21	78.0	58.0	5	Multiple possible holes; Heavy Ring Damage;	
45	988.2	4.950	4.95	0.0	0.28	100	0.28	100	64.9	5	Multiple possible holes; Heavy Ring Damage;	
46	[illegible]	4.950	4.95	0.0	0.28	100	0.24	85.5	71.3	5	Multiple possible holes; Heavy Ring Damage;	
47	[illegible]	4.950	4.95	0.0	0.28	100	0.28	100	88.0	5	Multiple possible holes; Heavy Ring Damage;	
48	1055.2	4.950	4.95	0.0	0.28	100	0.28	100	88.4	5	Multiple possible holes; Heavy Ring Damage;	
49	[illegible]	4.950	4.95	0.0	0.28	100	0.26	94.6	74.0	5	Multiple possible holes; Heavy Ring Damage;	
50	[illegible]	4.950	4.95	0.0	0.28	100	0.27	97.1	71.8	5	Multiple possible holes; Heavy Ring Damage;	
51	1119.2	4.950	4.95	0.0	0.28	100	0.28	100	81.1	5	Multiple possible holes; Heavy Ring Damage;	
52	1140.6	4.950	4.95	0.0	0.28	100	0.28	100	84.0	5	Multiple possible holes; Heavy Ring Damage;	
53	1162.3	4.950	4.95	0.0	0.28	100	0.28	100	85.7	5	Multiple possible holes; Heavy Ring Damage;	
54	1185.3	4.950	4.95	0.0	0.28	100	0.28	100	90.8	5	Multiple possible holes; Heavy Ring Damage;	
55	1207.5	4.950	4.95	0.0	0.28	100	0.28	100	89.7	5	Multiple possible holes; Heavy Ring Damage;	
56	1229.2	4.950	4.95	0.0	0.28	100	0.28	100	87.2	5	Multiple possible holes; Heavy Ring Damage;	
57	1250.8	4.950	4.95	0.0	0.28	100	0.28	100	91.4	5	Multiple possible holes; Heavy Ring Damage;	
58	1272.4	4.950	4.95	0.0	0.28	100	0.28	100	82.0	5	Multiple possible holes; Heavy Ring Damage;	
59	1292.0	4.950	4.95	0.0	0.28	100	0.28	100	78.2	5	Multiple possible holes; Heavy Ring Damage;	
60	1314.3	4.950	4.95	0.0	0.28	100	0.28	100	89.3	5	Multiple possible holes; Heavy Ring Damage;	
61	1335.5	4.950	4.95	0.0	0.28	100	0.28	100	93.9	5	Multiple possible holes; Heavy Ring Damage;	
62	1356.3	4.950	4.95	0.0	0.28	100	0.28	100	85.1	5	Multiple possible holes; Heavy Ring Damage;	
63	1376.4	4.950	4.95	0.0	0.28	100	0.28	100	91.8	5	Multiple possible holes; Heavy Ring Damage;	
64	1398.4	4.950	4.95	0.0	0.28	100	0.28	100	98.0	5	Multiple possible holes; Heavy Ring Damage;	
65	1420.2	4.950	4.95	0.0	0.28	100	0.28	100	98.0	5	Multiple possible holes; Heavy Ring Damage;	
66	1442.0	4.950	4.95	0.0	0.28	100	0.28	100	84.7	5	Multiple possible holes; Heavy Ring Damage;	
67	1463.5	4.950	4.95	0.0	0.28	100	0.28	100	82.9	5	Multiple possible holes; Heavy Ring Damage;	
68	1486.4	4.950	4.95	0.0	0.28	100	0.28	100	97.2	5	Multiple possible holes; Heavy Ring Damage;	
69	1505.2	4.950	4.95	0.0	0.28	100	0.28	100	82.2	5	Multiple possible holes; Heavy Ring Damage;	
70	1527.2	4.950	4.95	0.0	0.28	100	0.28	100	82.4	5	Multiple possible holes; Heavy Ring Damage;	

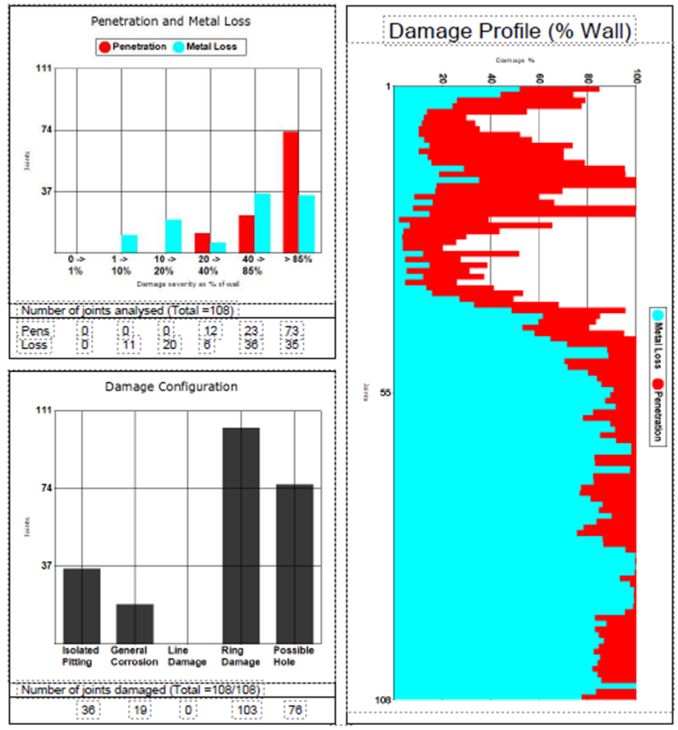
Figure 1 from page 1 grading is 2, moderate—light ring damage, moderate corrosion

Figure 2 grading is 3, moderate ring damage, heavy corrosion

Figure 3 grading is 5, Heavy corrosion, heavy ring damage, hole penetration

Figure 4 grading is 5, heavy corrosion, ring damage and hole penetration

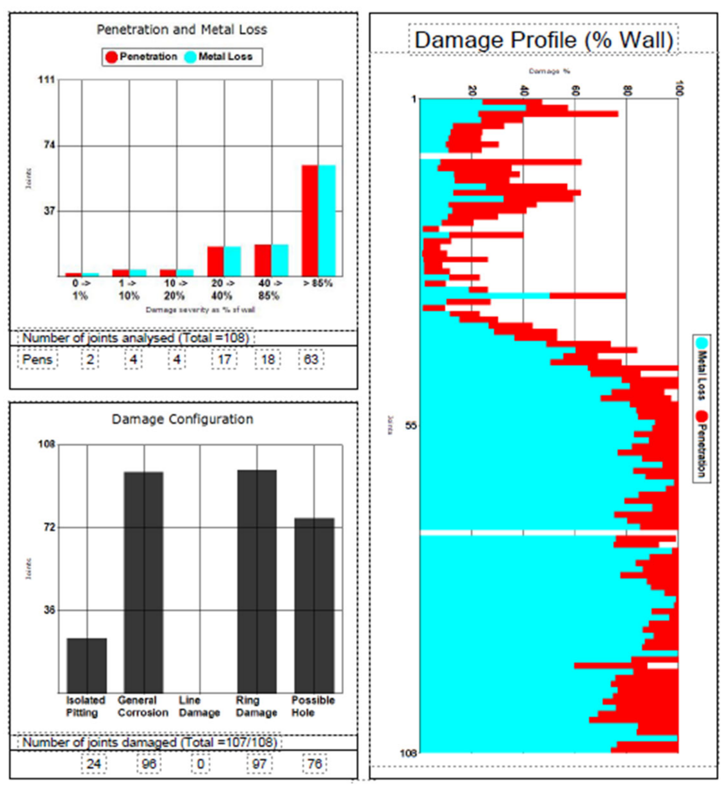
Joint Metal Loss and Penetration



Wall penetration is evident in the first 15-25 joints, before becoming consistent in the joints below 880 feet

Casing Inspection can evaluate the damage and potential failure of casing before it occurs. Eagle can acquire and analyze all necessary data and reporting requirements for MIT.

Collar Metal Loss and Penetration



Collar penetration is evident in joints below 880 feet.

Scaling and buildup is also evaluated but not shown here as it is very minimal

Troubleshooting a problem completion

A production log was run to evaluate oil and gas production and a source of water. Crossflow was suspected and shut in passes were run also.

The objective was to perform a standard production logging analysis of phase entry and quantification, as well as identify any problems or crossflow.

Reported perforations are from 13540'-13568' Casing size is 5 1/2"-20#

Reported average 5 day flowrates at surface are: Water=154 BWPD Oil=65BOPD, Gas=204 MCFD

Shut in Pressure=1800 psi

Procedure:

A standard production logging string was deployed via wireline with the well shut in. Multiple passes were made at different speeds. The well was then opened to produce and multiple passes as well as stationary passes were made.

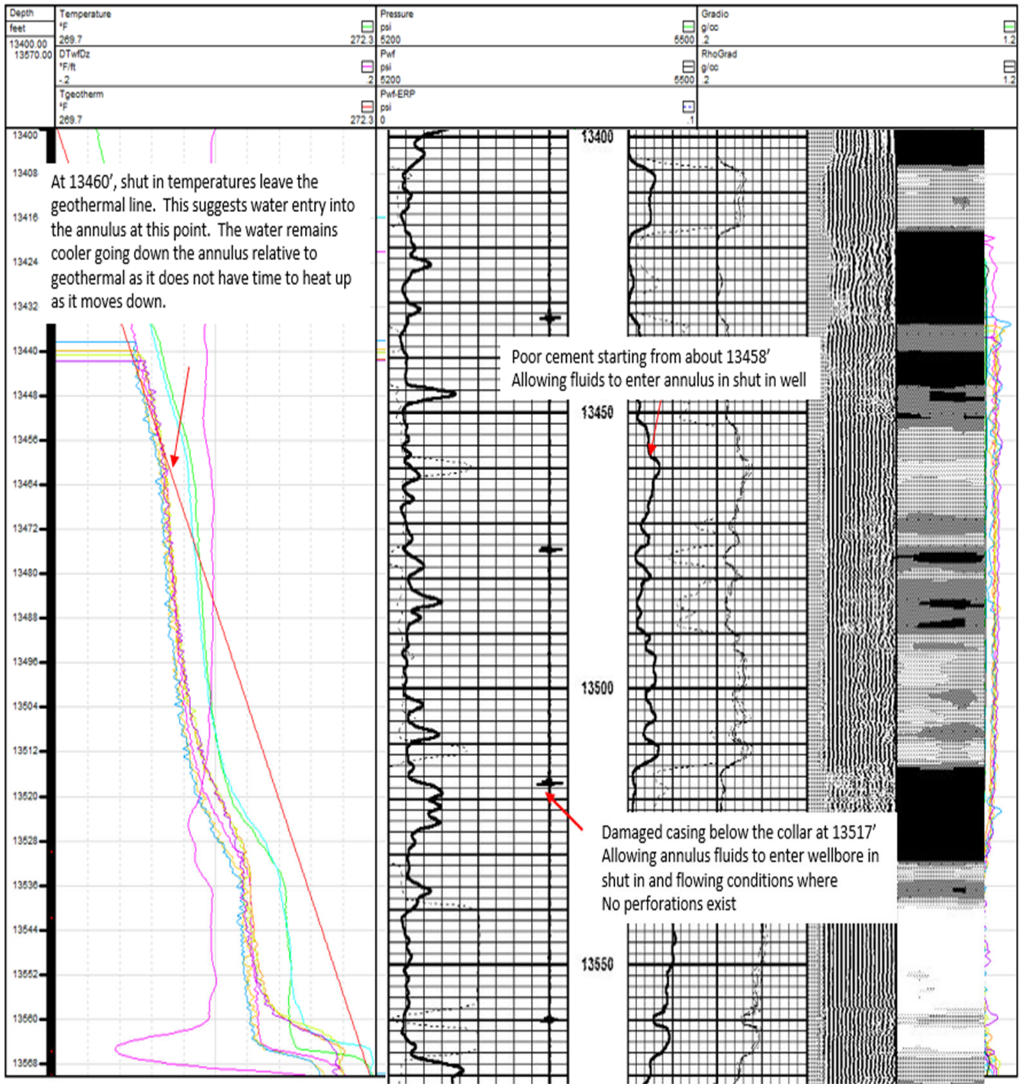


Figure 1

Observations:

During the shut in passes, the shut in temperature is observed to be departing from geothermal at approximately 13460'. No reported perforations exist here.

During the flowing passes, spinner velocity suggests production entry into the wellbore at approximately 13517'. No reported perforations exist here.

At approximately 13460', the temperature acquired while the well was shut in deviates from the geothermal. A bond log indicates poor cement from about 13458' down the well to good cement at about 13515'.near a collar at 13517'

The bond log information indicates that poor cement allows fluid to move in the annulus and casing in the poor cement between the points of good bond at 13458' and 13516'. The shut in temperature indicates that this is occurring.

Troubleshooting a problem completion

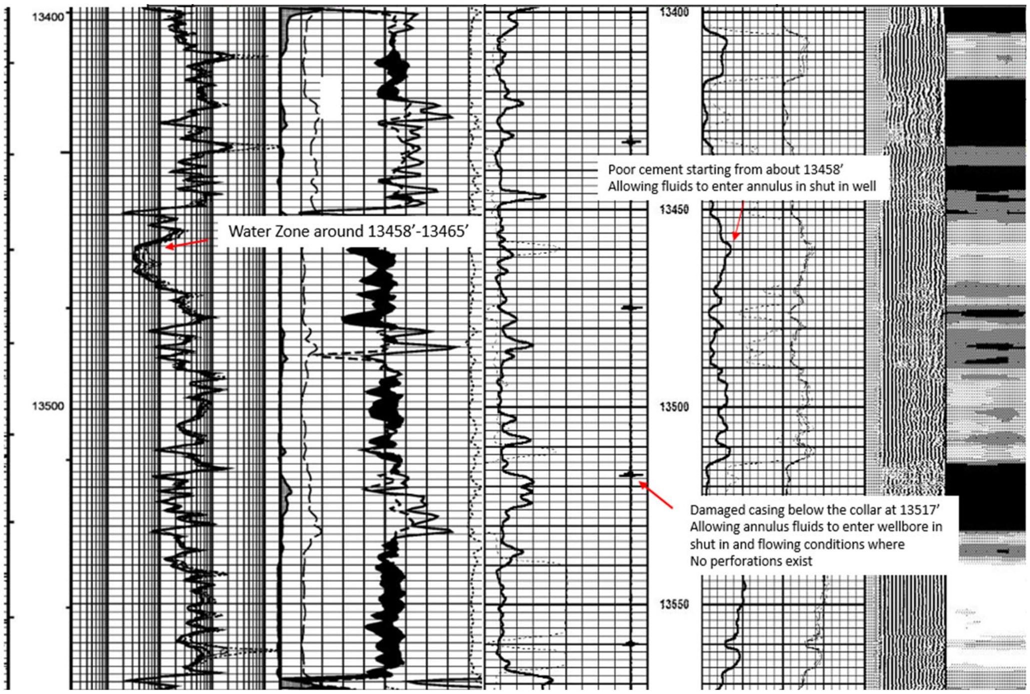


Figure 2

An open hole log was referenced in this well. A water zone from around 13458'-13465' is apparent from the open hole log. This zone is adjacent to where the poor bonding starts at 13458' as shownon the bond log (**Figure 2**)

Figure 3 demonstrates the shut in passes made with temperature, spinner and calculated velocities shown.

At 13536', the zero velocity increases going up hole, indicating entry of fluid from the annulus at this point. No recorded perforations here. This is fluid reentering the wellbore from damaged casing as the fluid is sealed off from further descent in the annulus with the return of good cement bond

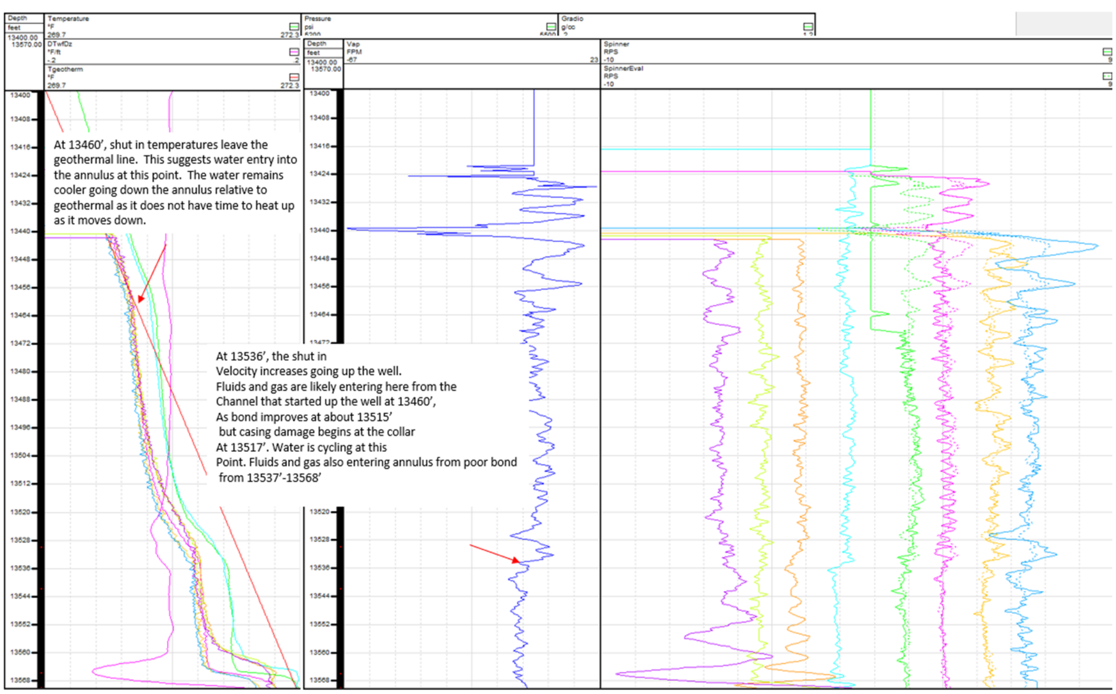


Figure 3

Troubleshooting a problem completion

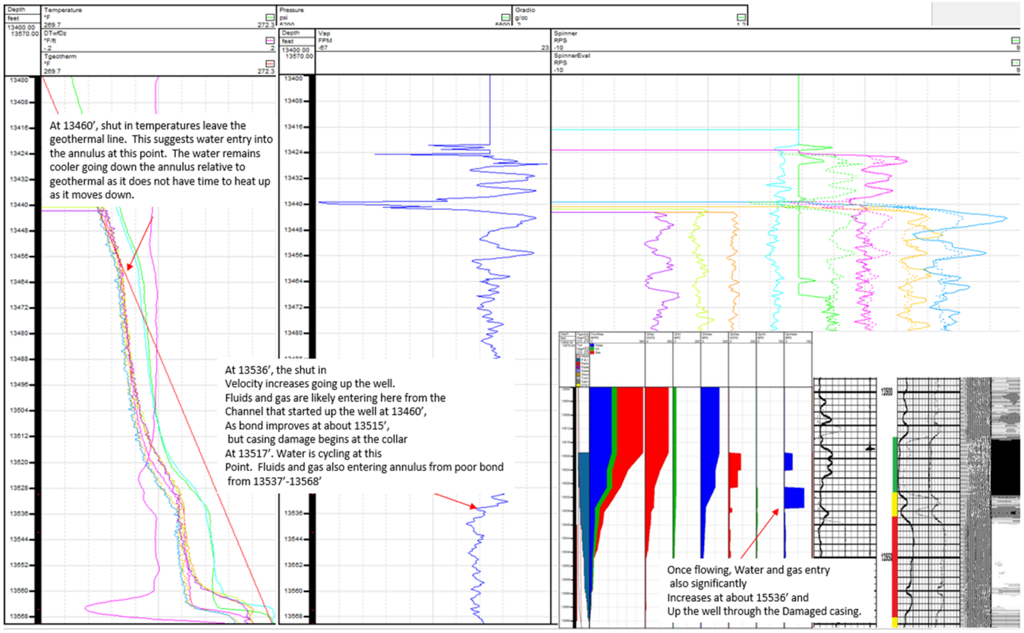


Figure 4

Once the flowing passes are made, the profile indicates a significant increase in water and gas entry at about 15536' and up the well through the damaged casing. The shut in temperature indicates the deflection at this point, indicating increased production above this point as well (not enough time has passed to allow shut in temperature to completely return to geothermal)

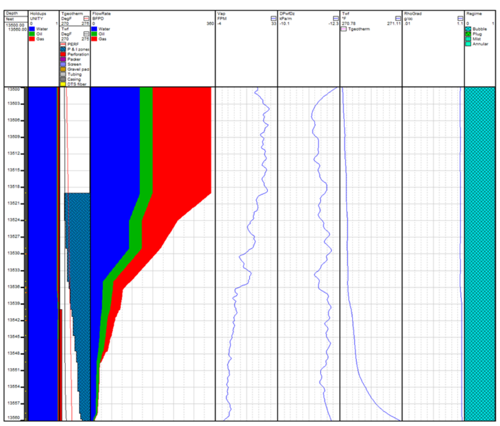


Figure 5

Figure 5 illustrates the flow profile with added entry through damaged casing above perforations

Depth		Profile	Q-Water-STP	Qp-Water-STP	Q-Oil-STP	Qp-Oil-STP	Q-Gas-STP	Qp-Gas-STP	Total Water and Percentage	Total Oil and Percentage	Total Gas and Percentage
feet			BFPD	BFPD	BFPD	BFPD	MCFD	MCFD			
Total Well Production									135.57	21.49	228.73
13519'-13529'				29.80		0.00		155.30	22%	0%	68%
13519	13524	Produce	135.574	29.8	21.492	0	228.732	89.2	22%	0%	39%
13524	13529	Produce	105.774	0	21.492	0	139.532	66.1	0%	0%	29%
13529'-13536'				73.10		4.08		33.16	54%	19%	14%
13529	13535	Produce	105.774	73.1	21.492	3.38	73.432	9.16	54%	16%	4%
13535	13536.3	Produce	32.674	0	18.112	0.696	64.272	24	0%	3%	10%
13536'-13540'				2.35		3.17		5.14	2%	15%	2%
13536.3	13540	Produce	32.674	2.35	17.416	3.17	40.272	5.14	2%	15%	2%
13540'-13549'				14.35		7.07		33.44	11%	33%	15%
13540	13541.3	Produce	30.324	2.69	14.246	2.28	35.132	4.32	2%	11%	2%
13541.3	13544.8	Produce	27.634	3.86	11.966	1.44	30.812	9.77	3%	7%	4%
13544.8	13547.5	Produce	23.774	3.18	10.526	1.97	21.042	6.75	2%	9%	3%
13547.5	13549.5	Produce	20.594	4.62	8.556	1.38	14.292	12.6	3%	6%	6%
13549'-13559'				2.80		2.85		0.00	2%	13%	0%
13549.5	13554.8	Produce	15.974	1.21	7.176	0.756	1.692	0	1%	4%	0%
13554.8	13558.8	Produce	14.764	1.59	6.42	2.09	1.692	0	1%	10%	0%
13559'-13560'				6.13		1.18		0.00	5%	5%	0%
13558.8	13559.8	Produce	13.174	6.13	4.33	1.18	1.692	0	5%	5%	0%
13560'-13565'				3.45		1.28		0.74	3%	6%	0%
13559.8	13561.3	Produce	7.044	1.06	3.15	0	1.692	0	1%	0%	0%
13561.3	13562.5	Produce	5.984	0.914	3.15	0	1.692	0	1%	0%	0%
13562.5	13564.8	Produce	5.07	1.48	3.15	1.28	1.692	0.739	1%	6%	0%
13565'-13568'				3.59		1.87		0.95	3%	9%	0%
13564.8	13567	Produce	3.59	1.62	1.87	1.87	0.953	0.554	1%	9%	0%
13567	13568	Produce	1.97	1.97	0	0	0.399	0.399	1%	0%	0%
Below 13568'				0.00		0.00		0.00	0%	0%	0%
13568	13570	Flow	0	0	0	0	0	0	0%	0%	0%

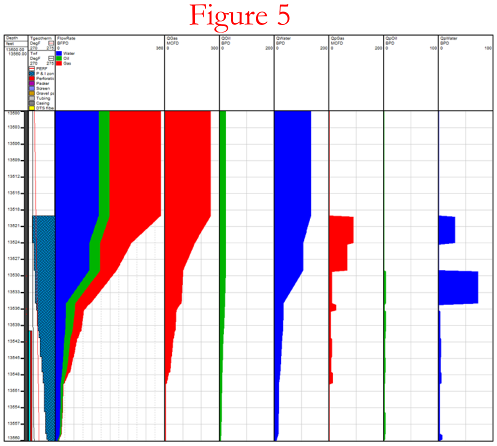


Figure 6

Figure 6 indicates quantitative phase entry

Qualitative Production Index and High Perforation Count Analysis

Objective: This well, like many in this field; has a high perforation count. The objective was to find if the well would produce differently or better at an optimal pressure. The well was logged at multiple stable pressure rates.

Multiple rates allow for a quantitative Production Index to be calculated to help determine the future expected hydrocarbon recovery and water, as well as history match simulations in the reservoir.

Overview

[Reported Surface Rates. Actual logged rates will differ (second run made at different pressure (WHP=656 psi)

QWaterSurf BFPD	500
QOilSurf BFPD	15.0
QGasSurf MCFD	2416

QWater Surf BFPD	711
QCondensate Surf BFPD	20.0
QGas Surf MCFD	2999]

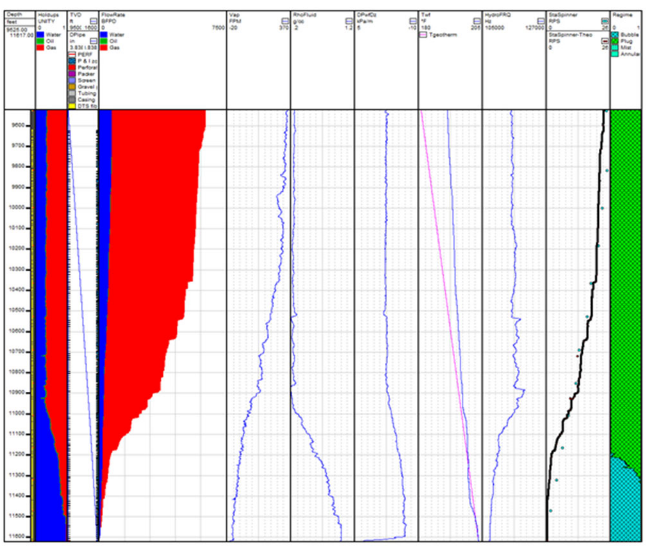


Figure 1

Figure 1 Run 1 Profile (Qwater=711 BWPD, Qoil = 20 BOPD, Qgas = 2999 MCFD

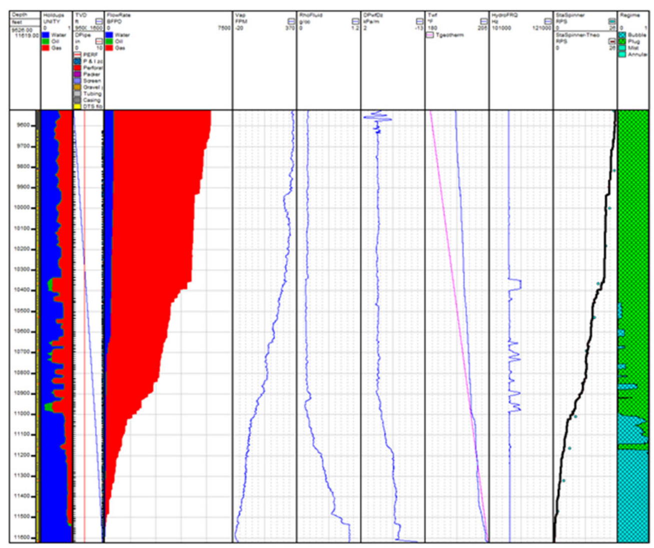


Figure 2

Figure 2 Run 2 Profile (Qwater=500 BWPD, Qoil = 15 BOPD, Qgas = 2416 MCFD

Well choked to a pressure of 656 whp at surface (run 2), produces a lower water cut and likely a better ultimate recovery as the vertical conformity is more consistent and production is better across the qualitatively higher PI intervals as shown on next page

Qualitative Production Index and High Perforation Count Analysis

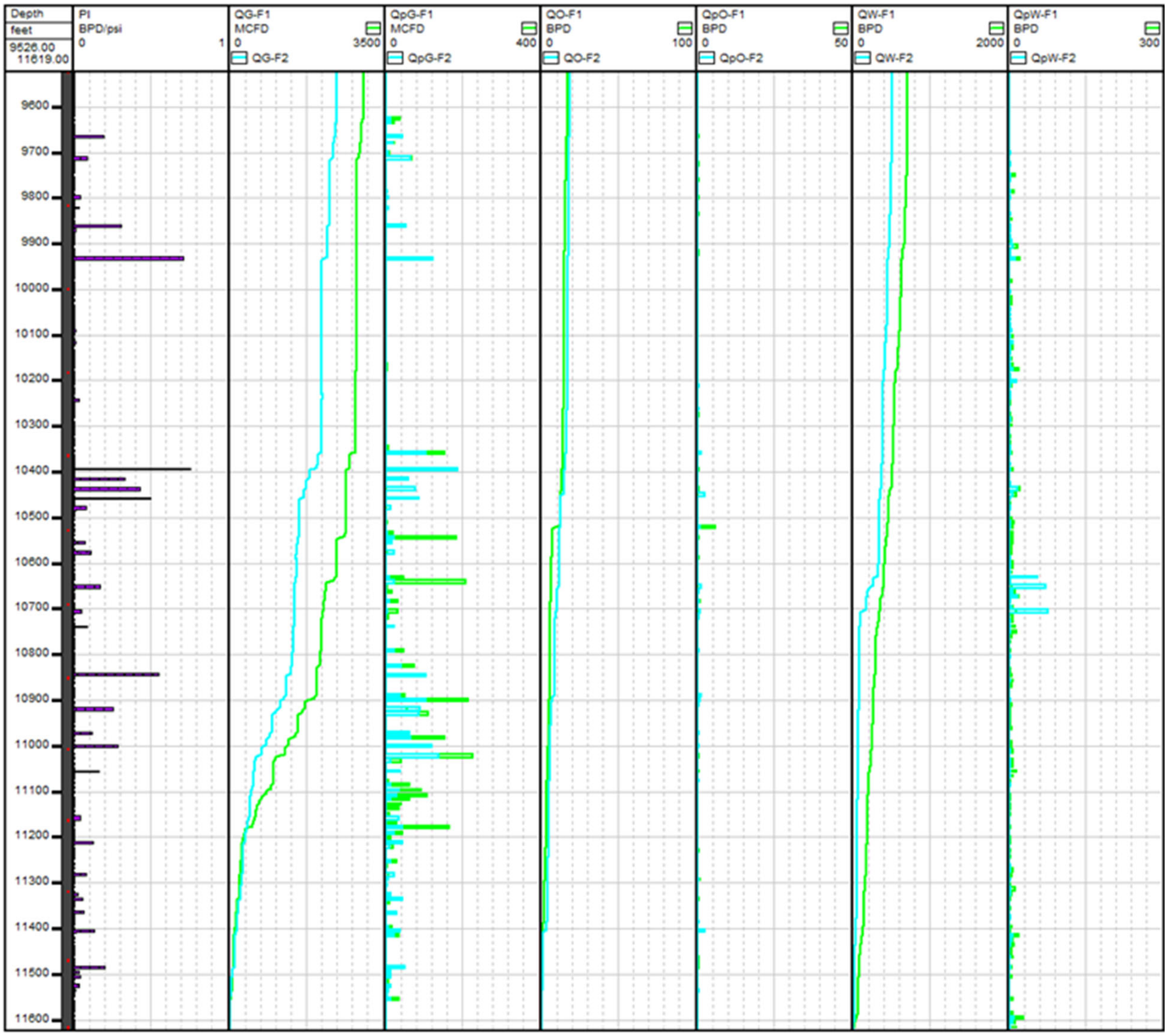


Figure 3

Production Index Gas Profiles 1&2 Gas Entry 1&2 Oil Profiles 1&2 Oil Entry 1&2

Water Profiles 1&2 Water Entry 1&2

Observations:

The Production Index is fairly constant and productive except for the interval between approximately 9950' to 10380'. Run 2 pressure will likely result in higher overall Ultimate Recovery

Lagniappe!

Another Casing Inspection

This casing looked very good for the most part, with only slight to moderate corrosion and pitting. No penetration or scaling seen. MIT passes, unlike the casing on page 1.

Casing Inspection Report

EAGLE Reservoir Services

Company	CCC
Field	
Well	
Country	USA
County	
State	
Analysed By	
Survey Date	

Tools Used in Analysis
MIT 40F
Serial No:

Zone	Size (in)	Weight (lb/ft)	Length (ft)	Nom ID (in)	Grade
1	5.500	14.000	4181.8	5.000	UNKNOWN

Analysis Overview

Joints Analysed = 119
Reported depth range = 4.44ft - 4186.19ft
Joints with possible hole = 1

MIT Joint Tabulation Sheet (Penetration)

MIT Grade 1[0%-19%] 2[20%-39%] 3[40%-59%] 4[60%-69%] 5[70%-100%]

Penetration
Metal Loss

Joint	Depth ft	Nom ID in	Mode ID in	Modal Change %	Penetration Body in	Penetration Body %	Coupling in	Coupling %	Metal Loss %	Grade	Damage Description	Profile (%) 0 100
1	4.4	5.000	4.89	-2.1	0.05	21.0	0.09	35.6	14.1	2	Moderate Ring Damage; Moderate Corrosion;	
2	5.0	5.000	5.00	0.0	0.17	66.6	0.07	26.8	29.0	4	Moderate Ring Damage; Heavy Corrosion;	
3	37.1	5.000	5.06	1.2	0.03	12.9	0.03	10.6	2.2	1	Moderate Pitting;	
4	66.3	5.000	5.00	0.0	0.09	37.3	0.07	27.5	16.1	2	Moderate Ring Damage; Heavy Corrosion;	
5	97.3	5.000	5.04	0.8	0.05	18.8	0.03	10.2	2.5	1	Moderate Pitting;	
6	128.7	5.000	5.07	1.4	0.06	23.7	0.02	7.4	2.0	2	Moderate Pitting;	
7	160.6	5.000	5.05	1.1	0.04	16.0	0.02	7.6	2.7	1	Moderate Pitting;	
8	192.0	5.000	5.05	1.0	0.06	24.7	0.02	6.8	5.2	2	Moderate Corrosion; Moderate Pitting;	
9	223.1	5.000	5.05	1.0	0.03	10.3	0.01	5.2	2.0	1	Light Corrosion; Moderate Pitting;	
10	255.2	5.000	5.03	0.7	0.08	30.6	0.01	5.9	4.0	2	Moderate Corrosion; Heavy Pitting;	
11	286.7	5.000	5.04	0.9	0.04	16.3	0.02	6.6	2.0	1	Moderate Pitting;	
12	318.3	5.000	5.02	0.3	0.05	18.4	0.03	10.1	3.0	1	Light Corrosion; Moderate Pitting;	
13	350.4	5.000	5.03	0.5	0.03	10.6	0.01	4.9	2.0	1	Moderate Pitting;	
14	381.4	5.000	5.03	0.6	0.07	26.2	0.02	6.4	4.2	2	Moderate Ring Damage; Moderate Corrosion;	
15	412.7	5.000	5.05	0.9	0.04	17.4	0.02	7.3	2.4	1	Moderate Pitting;	
16	443.9	5.000	5.05	0.9	0.02	8.3	0.02	9.1	1.4	1	Light Pitting;	
17	474.9	5.000	5.04	0.7	0.02	8.2	0.01	5.3	1.4	1	Light Pitting;	
18	507.0	5.000	5.04	0.7	0.03	11.7	0.02	7.9	1.6	1	Moderate Pitting;	
19	539.0	5.000	5.05	0.9	0.05	18.3	0.02	7.1	2.1	1	Moderate Pitting;	
20	[illegible]	5.000	5.04	0.8	0.02	7.3	0.02	6.7	1.6	1	Light Pitting;	
21	[illegible]	5.000	5.04	0.8	0.06	23.6	0.02	7.1	2.6	2	Moderate Corrosion; Moderate Pitting;	
22	632.8	5.000	5.05	1.1	0.03	13.5	0.02	6.9	3.2	1	Moderate Pitting;	
23	663.8	5.000	5.04	0.8	0.02	7.7	0.01	5.0	1.8	1	Light Pitting;	
[illegible]	694.6	5.000	5.05	1.0	0.03	11.4	0.01	4.8	2.2	1	Moderate Corrosion; Moderate Pitting;	
25	726.0	5.000	5.06	1.2	0.01	5.0	0.01	5.8	1.3	1	Light Pitting;	
26	757.2	5.000	5.05	0.9	0.02	8.0	0.02	7.4	2.8	1	Light Pitting;	
27	789.0	4.890	4.90	0.3	0.05	17.0	0.01	4.8	1.7	1	Moderate Pitting;	
28	820.9	5.000	5.05	1.1	0.04	15.1	0.01	4.1	1.7	1	Moderate Pitting;	
29	849.0	5.000	5.07	1.3	0.05	18.1	0.01	5.7	1.5	1	Moderate Pitting;	
30	880.6	5.000	5.05	1.1	0.03	10.5	0.01	5.1	2.1	1	Moderate Pitting;	
31	909.3	5.000	5.07	1.4	0.02	7.7	0.01	4.8	1.6	1	Light Pitting;	
32	939.8	5.000	5.05	0.9	0.02	10.0	0.01	3.7	1.5	1	Light Pitting;	
33	971.1	5.000	5.05	1.0	0.02	7.4	0.01	5.1	2.1	1	Light Pitting;	
34	1002.6	5.000	5.03	0.6	0.04	15.5	0.01	4.9	1.2	1	Moderate Pitting;	
35	1033.8	5.000	5.05	1.0	0.07	29.0	0.01	3.9	2.2	2	Moderate Pitting;	

[7]

Figure 1

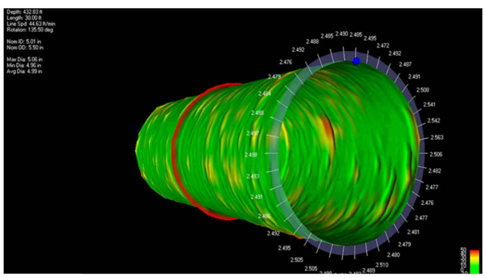


Figure 2

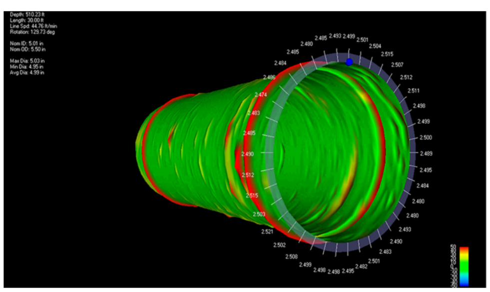


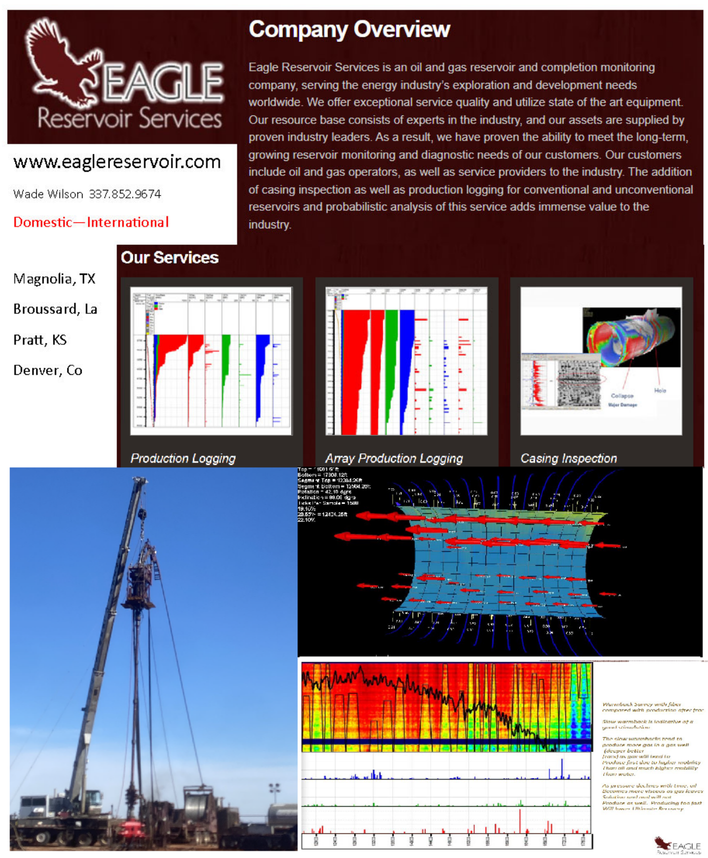
Figure 3

Lagniappe!

Come see our booth at the 2023 Kansas Independent Oil and Gas Association Convention and Expo in Wichita August 20-23.

Join us in supporting the Youth of Texas by advertising in the Houston Livestock Show and Rodeo Souvenir Program or making a charitable contribution to the Houston Livestock Show and Rodeo Scholarship Fund.

Your ad will be seen by thousands of Rodeo fans and potential vendors. Contact us for Details



Eagle Reservoir Services ad in Houston Livestock Show and Rodeo Souvenir Program—2023