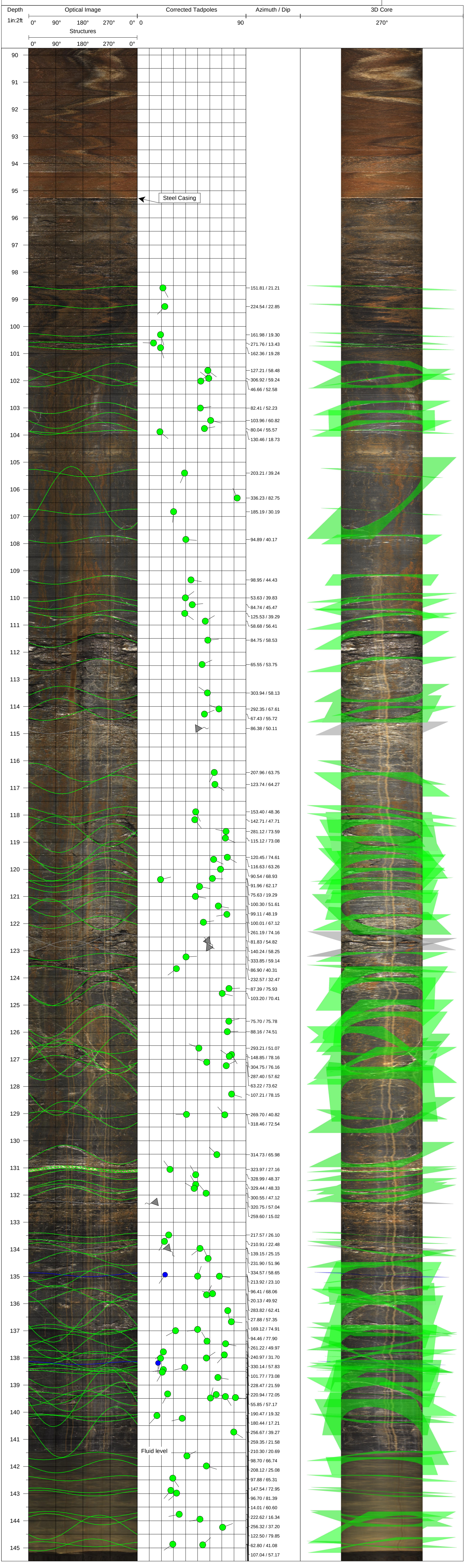
GEOVision geophysical services

Interpreted Log Type: OTV

Project:	Last Chance Grade	**Date:**	10/26/20
Location:	Crescent City, CA	**Diameter:**	3.84"
Client:	Kleinfelder	**Logged By:**	R Steller
Borehole ID:	RC-20-011 (B-32)	**Start Depth:**	89.75
Comments:	Corected Tadpoes and Azimuth Dip oriented to true north.	**End Depth:**	145.49

Structural Legend:

Broken Zone / Undifferentiated — Filled Joint / Fracture — Bedding / Banding / Foliation



CRUX Subsurface, Inc.
A REGENTA SERVICES COMPANY

GEOVision geophysical services

Aquisition Information:

Project:	Last Chance Grade
Location:	Crescent City, CA
Client:	Kleinfelder
Service Company:	Crux Subsurface Inc.
Borehole ID:	RC-21-001 (B-47)
Date:	01-10-2021
Diameter:	HQ
Start Depth:	34.42
End Depth:	144.12
Tool Type(s):	ABI40 Acoustic Televiewer

Structural Legend:

Open Joint / Fracture

Filled Joint / Fracture

Bedding / Banding / Foliation

Processing Information:

Processing Company:	GEOVision Inc.	
Processed:	A McNab	03/04/2021
Reviewed:	VMG	03/11/2021

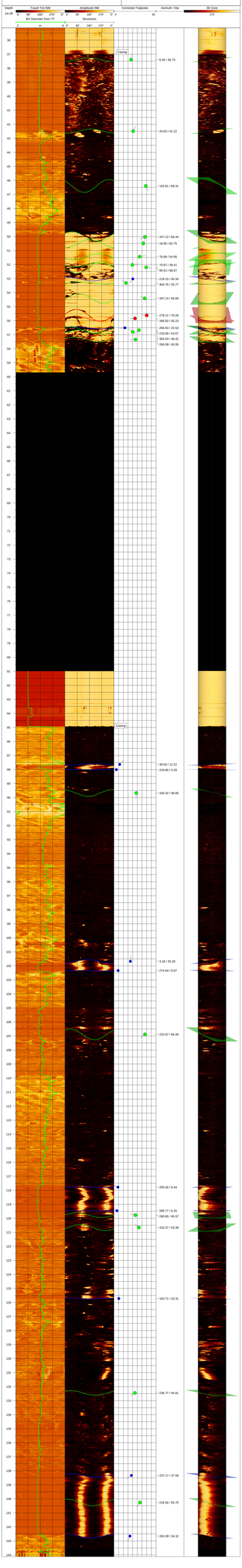
Depth Unit: Feet Log Scale: 1in:2ft Log Version: Final

Log Nomenclature:

Amplitude-NM = Acoustic amplitude (magnetic north)
BH Diameter from TT = Borehole diameter estimated from acoustic travel time (magnetic north and centralized)
Structures = Apparent Structures oriented to hole
Corrected Tadpoles and Azimuth / Dip = Structures Oriented to true north
3D Core = 3D representation of acoustic log

Comments:

1. 34.42 to 40.0 and 87.6 to 90.3 feet borehole azimuth estimated due to magnetic effects of casing.
2. Borehole logged in two section. No data between 59.7 and 80.3.
3. Feature dip calculated using average borehole radius from travel time.



CRUX subsurface, inc.
A MOUNTS SERVICES COMPANY

GEOVision geophysical services

Aquisition Information:

Project:	Last Chance Grade
Location:	Crescent City, CA
Client:	Kleinfelder
Service Company:	Crux Subsurface Inc.
Borehole ID:	RC-21-001 (B-47)
Date:	01-11-2021
Diameter:	HQ
Start Depth:	33.52
End Depth:	131.73
Tool Type(s):	OBI40 Optical Televiewer

Processing Information:

Processing Company:	GEOVision Inc.		
Processed:	A McNab	03/04/2021	
Reviewed:	VMG	03/11/2021	

Depth Unit: Feet Log Scale: 1in:2ft Log Version: Final

Log Nomenclature:

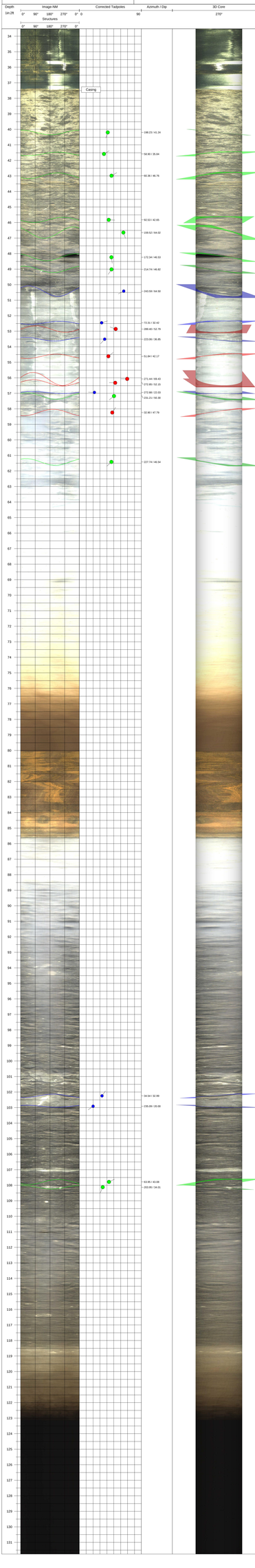
Image-NM = Optical image oriented to magnetic north
Structures = Apparent Structures oriented to hole
Corrected Tadpoles and Azimuth / Dip = Structures oriented to true north
3D Core = 3D representation of optical log

Structural Legend:

Open Joint / Fracture
Filled Joint / Fracture
Bedding / Banding / Foliation

Comments:

1. 33.52 to 41.0 feet borehole azimuth estimated due to magnetic effects of casing.
2. Image contains two logs from different runs.
3. Borehole caliper calculated from acoustic televiewer data used for dip calculation of features.



CRUX Subsurface, Inc.
A Schlumberger Technology Company

GEOVision
geophysical services

Aquisition Information:

Project:	Last Chance Grade
Location:	Crescent City, CA
Client:	Kleinfelder
Service Company:	Crux Subsurface Inc.
Borehole ID:	RC-20-019 (B-50)
Date:	12-19-2020
Diameter:	5"HQ
Start Depth:	7.0
End Depth:	142.5
Tool Type(s):	ABAcO Acoustic Televiewer

Structural Legend:

Filled Joint / Fracture | Sedding / Banding / Foliation

Processing Information:

Processing Company:	GEOVision Inc.
Processed:	A McNab 03/04/2021
Reviewed:	VMG 03/11/2021

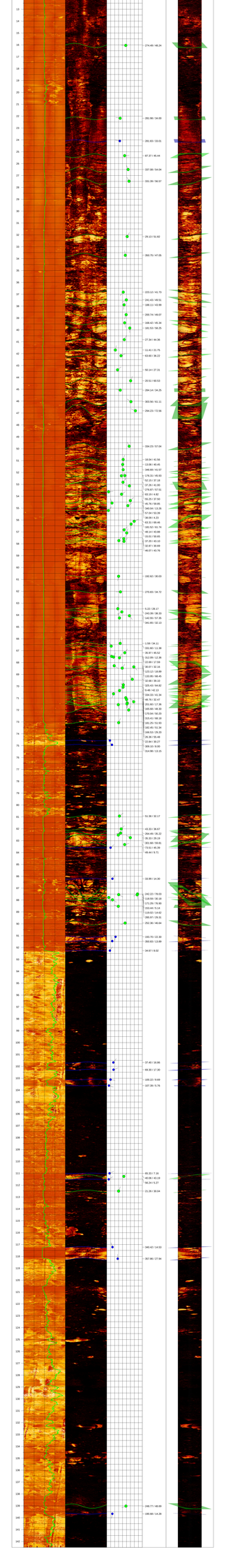
Depth Unit: Feet Log Scale: 1in:2ft Log Version: Final

Log Nomenclature:

Amplitude+MAI = Acoustic amplitude (magnetic north)
Travel Time = Two-way acoustic travel time estimated from acoustic travel time (magnetic north and centralized)
Structures = Apparent Structures oriented to hole
Corrected Tadpoles and Azimuth / Dip = Structures Oriented to true north
3D Core = 3D representation of acoustic log
Corrected Travel Time = Two-way acoustic travel time (magnetic north and centralized)

Comments:

1.- 7.0 to 14.0 feet borehole azimuth estimated due to magnetic effects of casing.
2.- Corrected borehole diameter of 3.779 inches used for feature dip calculation due to scattered travel time data.



CRUX subsurface, inc.
A QUANTA SERVICES COMPANY

GEOVision geophysical services

Aquisition Information:

Project:	Last Chance Grade
Location:	Crescent City, CA
Client:	Kleinfelder
Service Company:	Crux Subsurface Inc.
Borehole ID:	RC-20-016 (WP3)
Date:	12-05-2020
Diameter:	HQ
Start Depth:	117.39
End Depth:	272.99
Tool Type(s):	OBI40 Optical Televiewer

Processing Information:

Processing Company:	GEOVision Inc.	
Processed:	A McNab	03/04/2021
Reviewed:	VMG	3/12/2021

Depth Unit: Feet Log Scale: 1in:2ft Log Version: Final

Log Nomenclature:

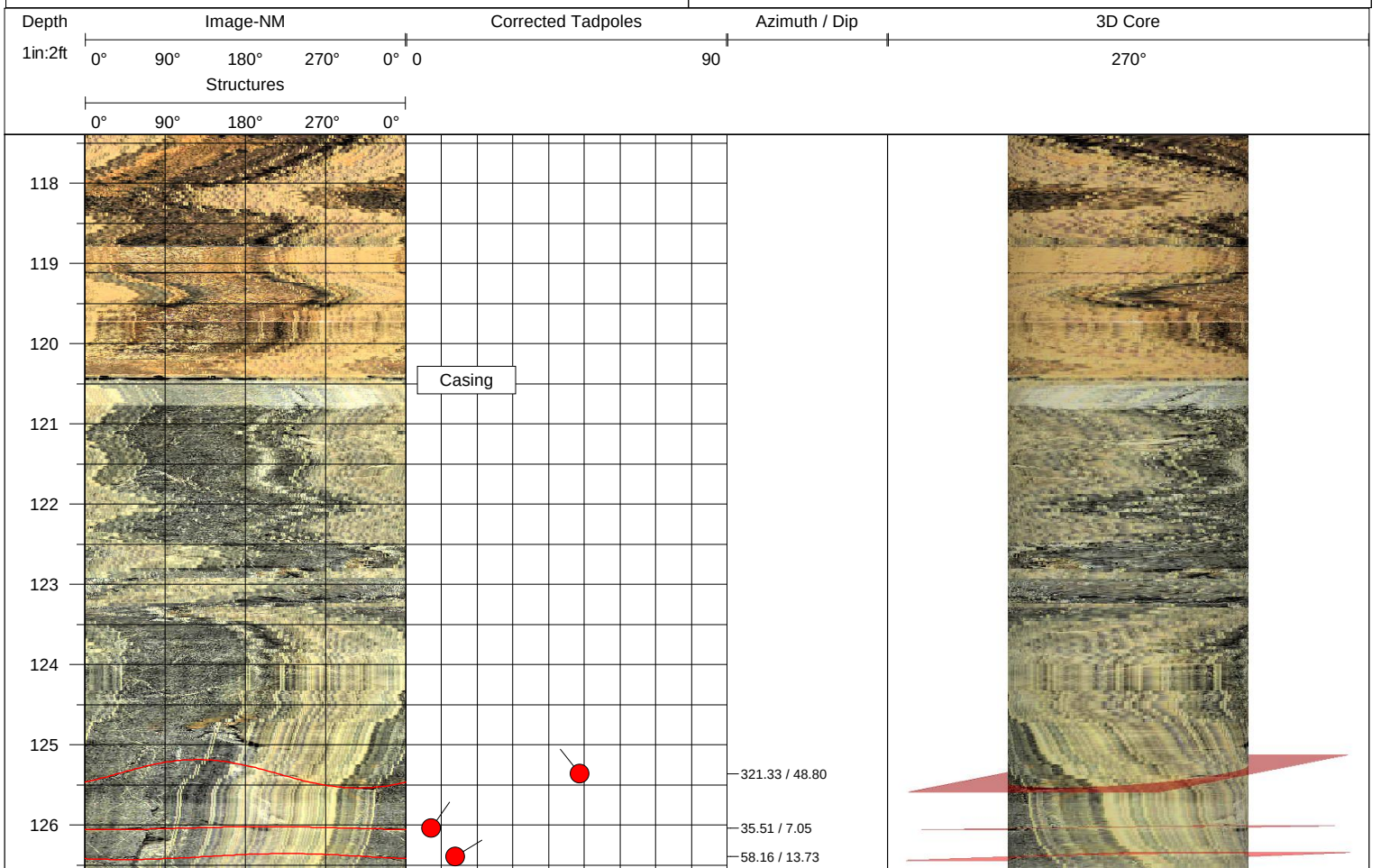
Image-NM = Optical image oriented to magnetic north
Structures = Apparent Structures oriented to hole
Corrected Tadpoles and Azimuth / Dip = Structures Oriented to true north
3D Core = 3D representation of optical log

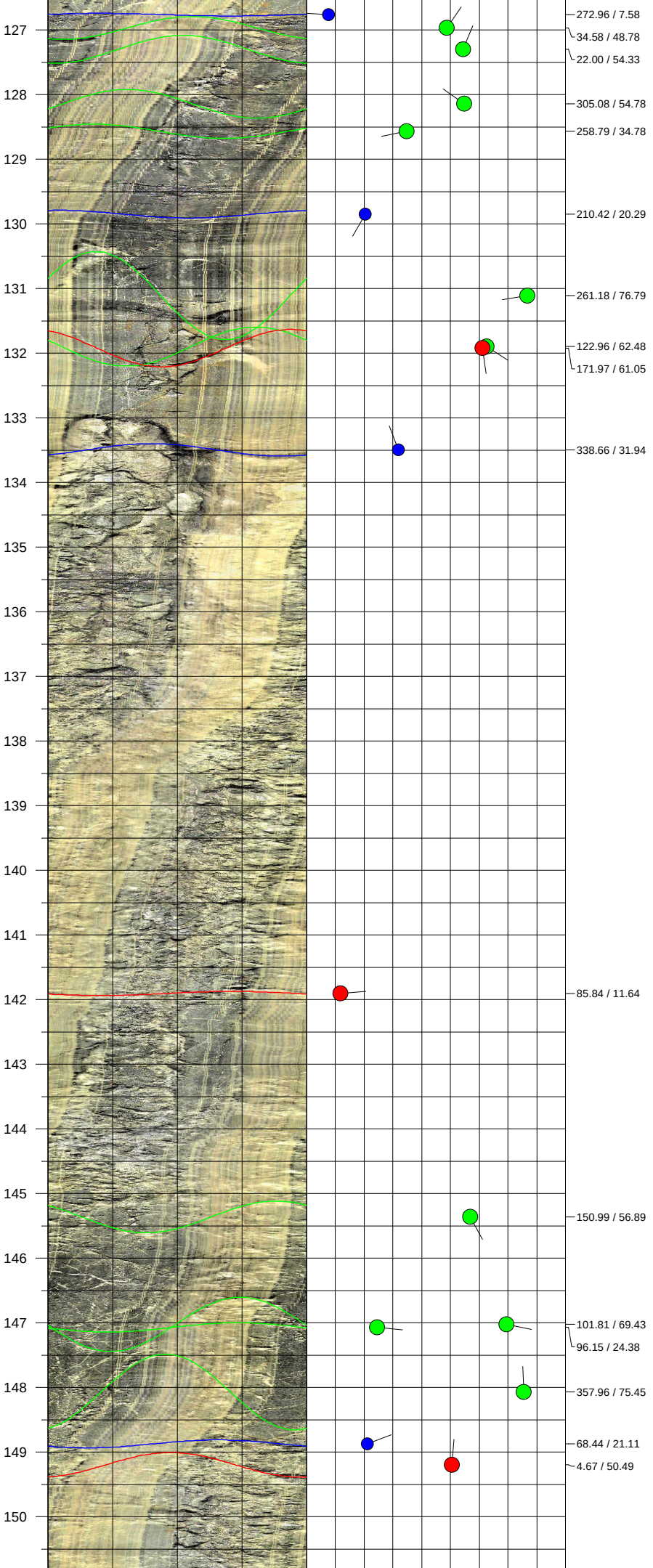
Structural Legend:

Open Joint / Fracture
Filled Joint / Fracture
Bedding / Banding / Foliation

Comments:

1. 117.09 to 124.0 feet borehole azimuth estimated due to magnetic effects of casing.
2. Assumed borehole diameter of 3.779 inches used for feature dip calculation.

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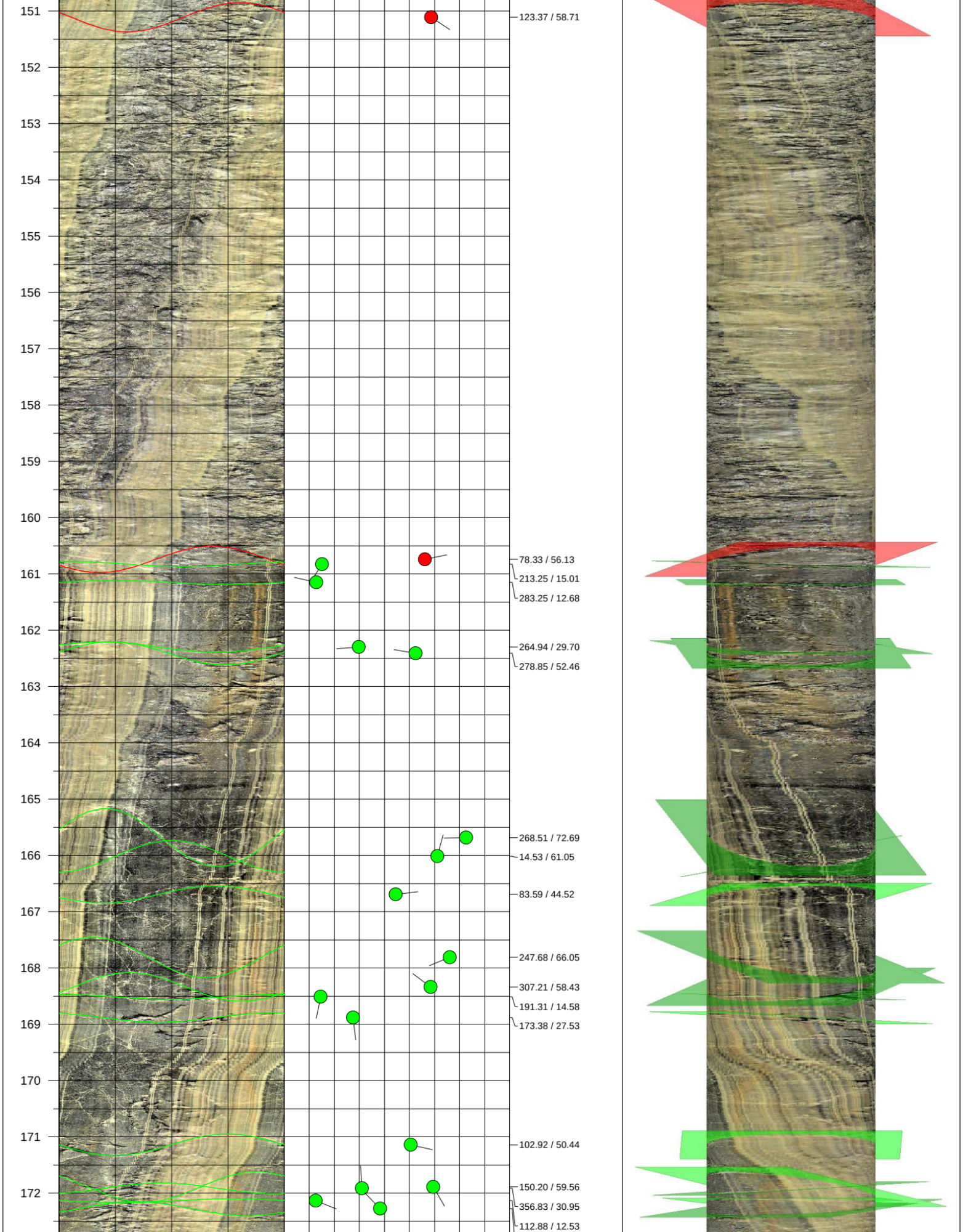
272.96 / 7.58
34.58 / 48.78
22.00 / 54.33
305.08 / 54.78
258.79 / 34.78
210.42 / 20.29
261.18 / 76.79
122.96 / 62.48
171.97 / 61.05
338.66 / 31.94
85.84 / 11.64
150.99 / 56.89
101.81 / 69.43
96.15 / 24.38
357.96 / 75.45
68.44 / 21.11
4.67 / 50.49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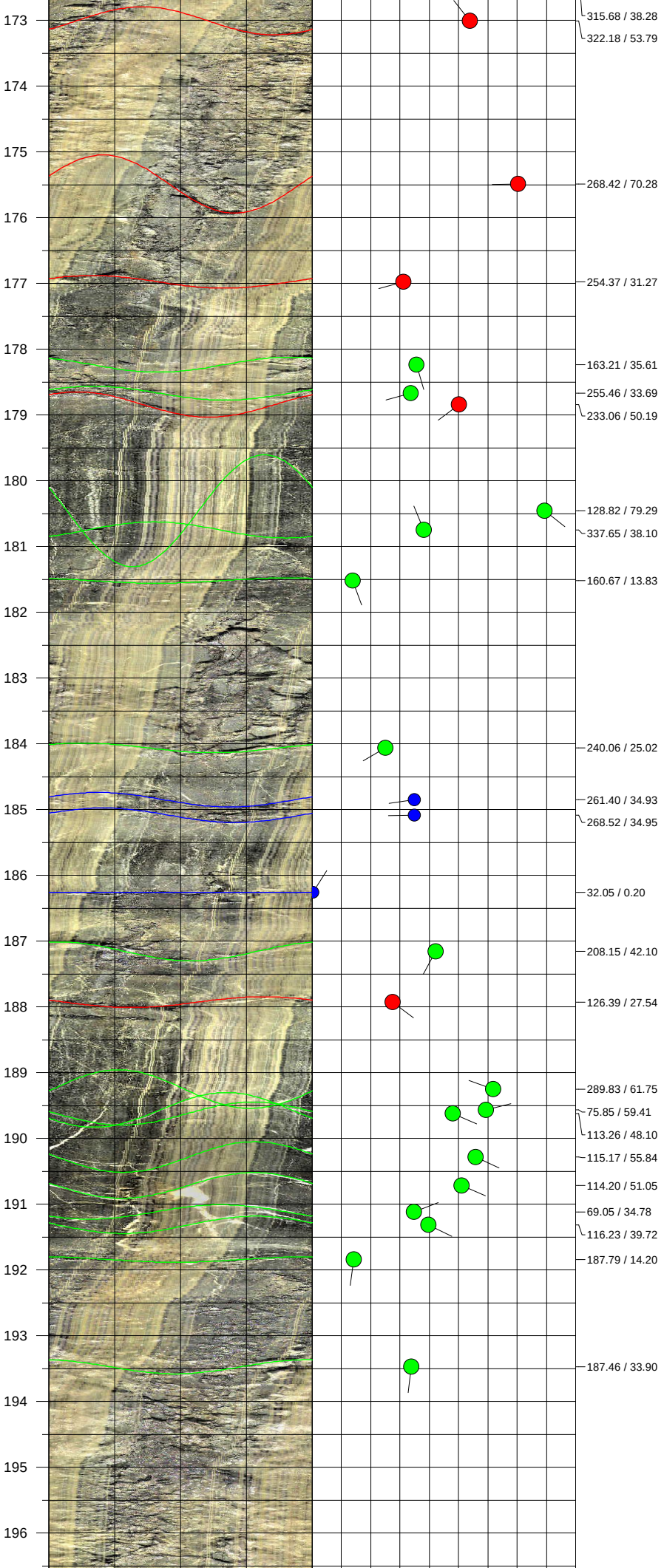
123.37 / 58.71
78.33 / 56.13
213.25 / 15.01
283.25 / 12.68
264.94 / 29.70
278.85 / 52.46
268.51 / 72.69
14.53 / 61.05
83.59 / 44.52
247.68 / 66.05
307.21 / 58.43
191.31 / 14.58
173.38 / 27.53
102.92 / 50.44
150.20 / 59.56
356.83 / 30.95
112.88 / 12.53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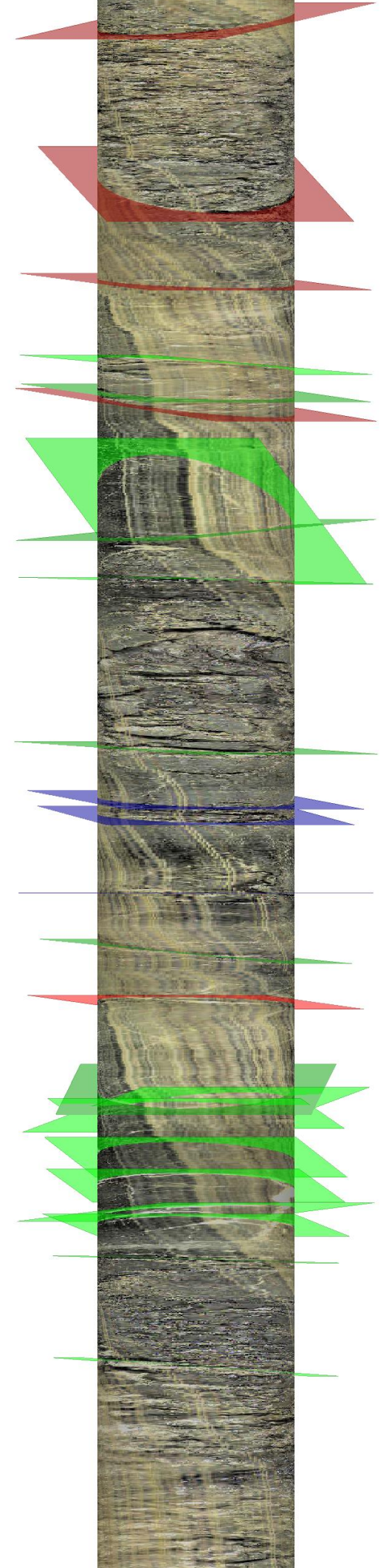
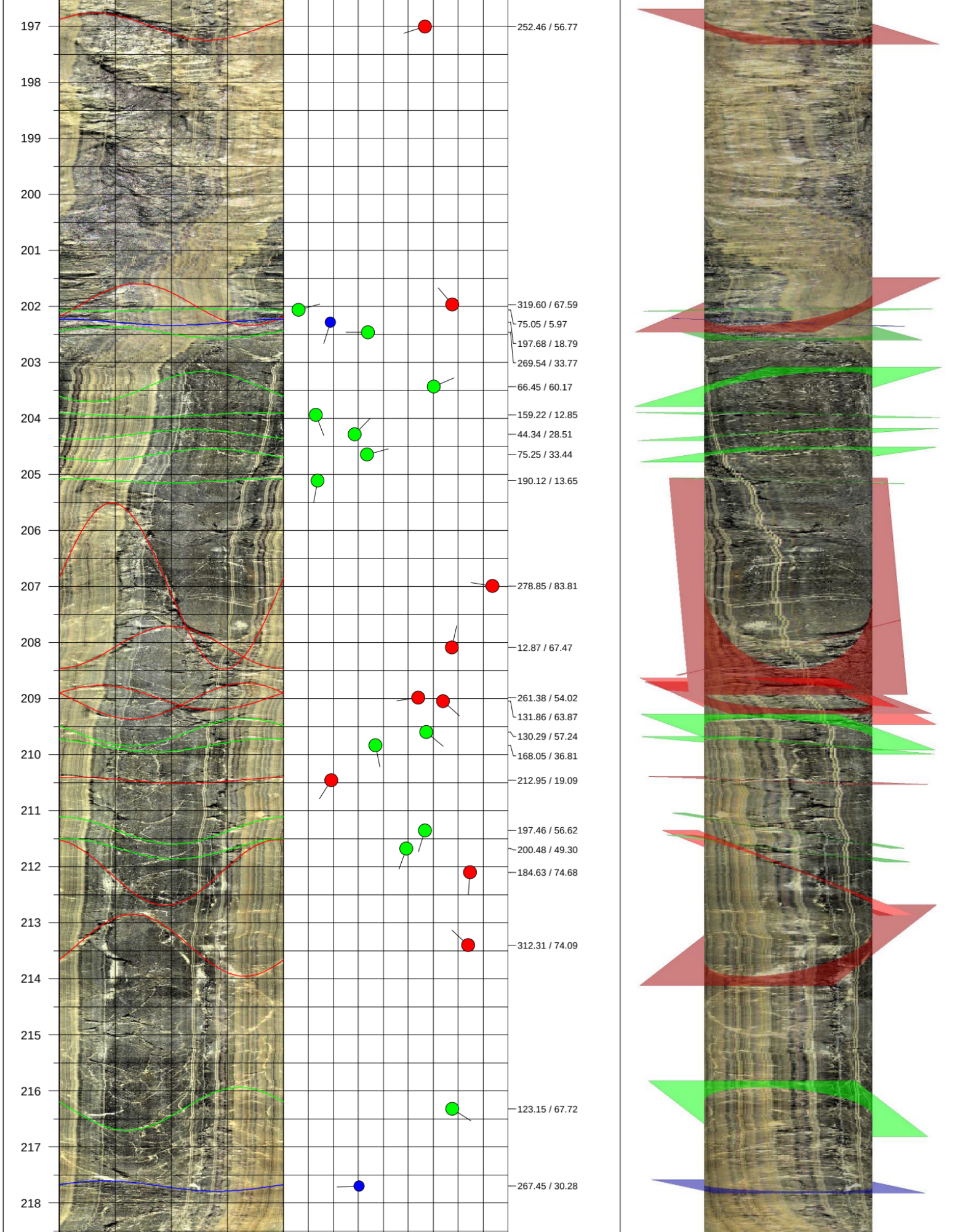
315.68 / 38.28
322.18 / 53.79
268.42 / 70.28
254.37 / 31.27
163.21 / 35.61
255.46 / 33.69
233.06 / 50.19
128.82 / 79.29
337.65 / 38.10
160.67 / 13.83
240.06 / 25.02
261.40 / 34.93
268.52 / 34.95
32.05 / 0.20
208.15 / 42.10
126.39 / 27.54
289.83 / 61.75
75.85 / 59.41
113.26 / 48.10
115.17 / 55.84
114.20 / 51.05
69.05 / 34.78
116.23 / 39.72
187.79 / 14.20
187.46 / 33.90

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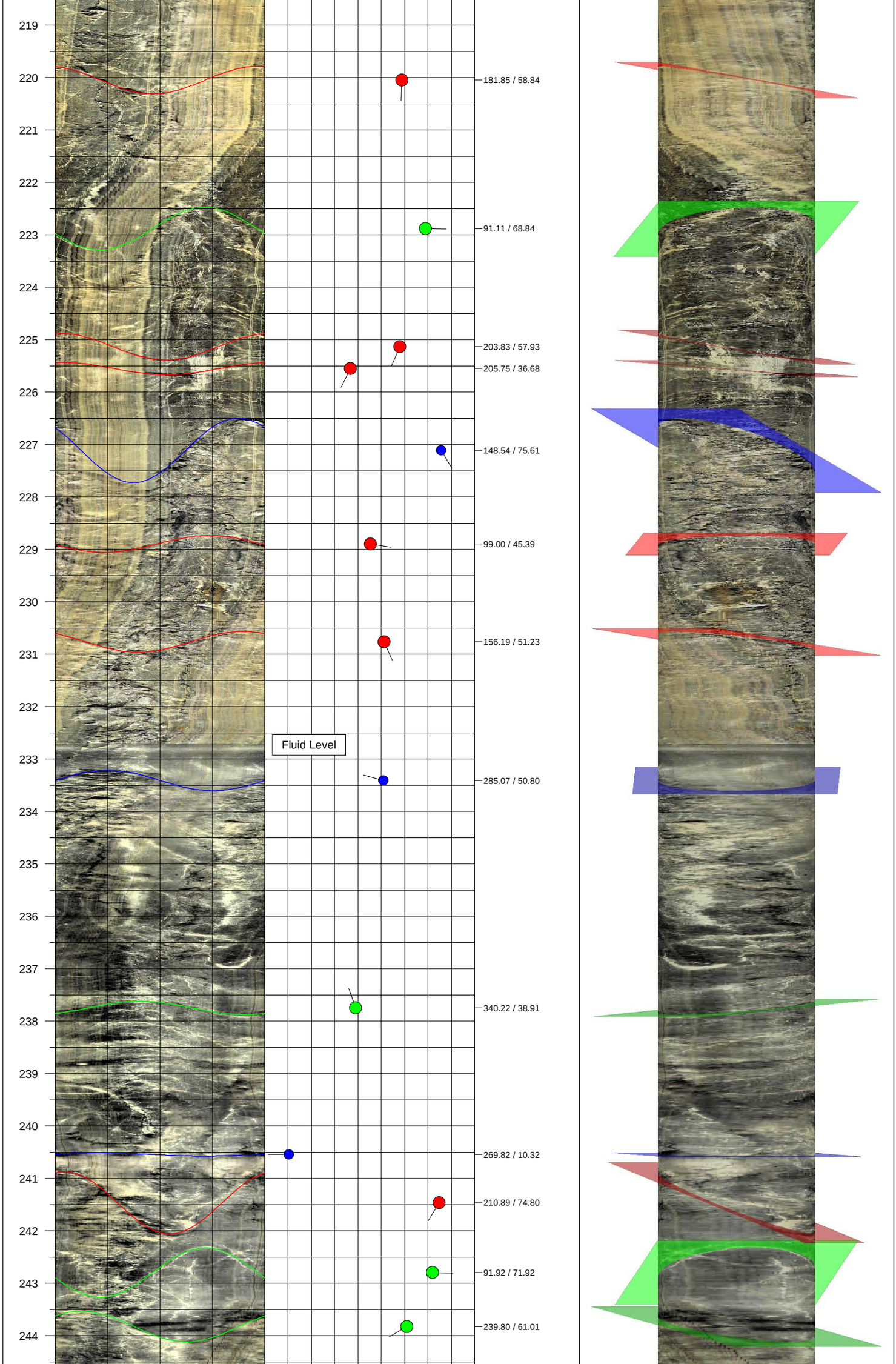
252.46 / 56.77
319.60 / 67.59
75.05 / 5.97
197.68 / 18.79
269.54 / 33.77
66.45 / 60.17
159.22 / 12.85
44.34 / 28.51
75.25 / 33.44
190.12 / 13.65
278.85 / 83.81
12.87 / 67.47
261.38 / 54.02
131.86 / 63.87
130.29 / 57.24
168.05 / 36.81
212.95 / 19.09
197.46 / 56.62
200.48 / 49.30
184.63 / 74.68
312.31 / 74.09
123.15 / 67.72
267.45 / 30.28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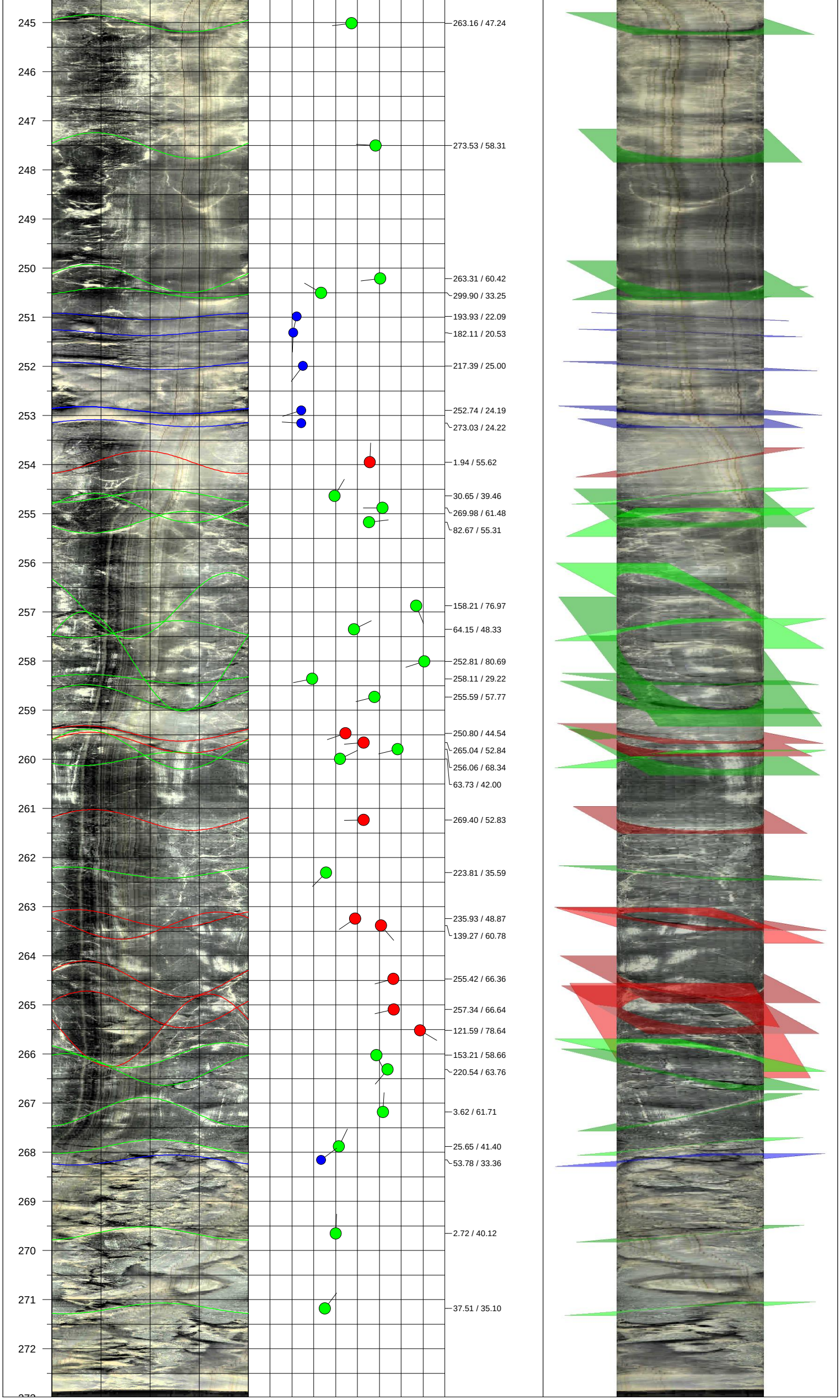
181.85 / 58.84
91.11 / 68.84
203.83 / 57.93
205.75 / 36.68
148.54 / 75.61
99.00 / 45.39
156.19 / 51.23
Fluid Level
285.07 / 50.80
340.22 / 38.91
269.82 / 10.32
210.89 / 74.80
91.92 / 71.92
239.80 / 61.01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272
263.16 / 47.24
273.53 / 58.31
263.31 / 60.42
299.90 / 33.25
193.93 / 22.09
182.11 / 20.53
217.39 / 25.00
252.74 / 24.19
273.03 / 24.22
1.94 / 55.62
30.65 / 39.46
269.98 / 61.48
82.67 / 55.31
158.21 / 76.97
64.15 / 48.33
252.81 / 80.69
258.11 / 29.22
255.59 / 57.77
250.80 / 44.54
265.04 / 52.84
256.06 / 68.34
63.73 / 42.00
269.40 / 52.83
223.81 / 35.59
235.93 / 48.87
139.27 / 60.78
255.42 / 66.36
257.34 / 66.64
121.59 / 78.64
153.21 / 58.66
220.54 / 63.76
3.62 / 61.71
25.65 / 41.40
53.78 / 33.36
2.72 / 40.12
37.51 / 35.10

APPENDIX C

DUAL INDUCTION, CALIPER, AND NATURAL GAMMA LOGS

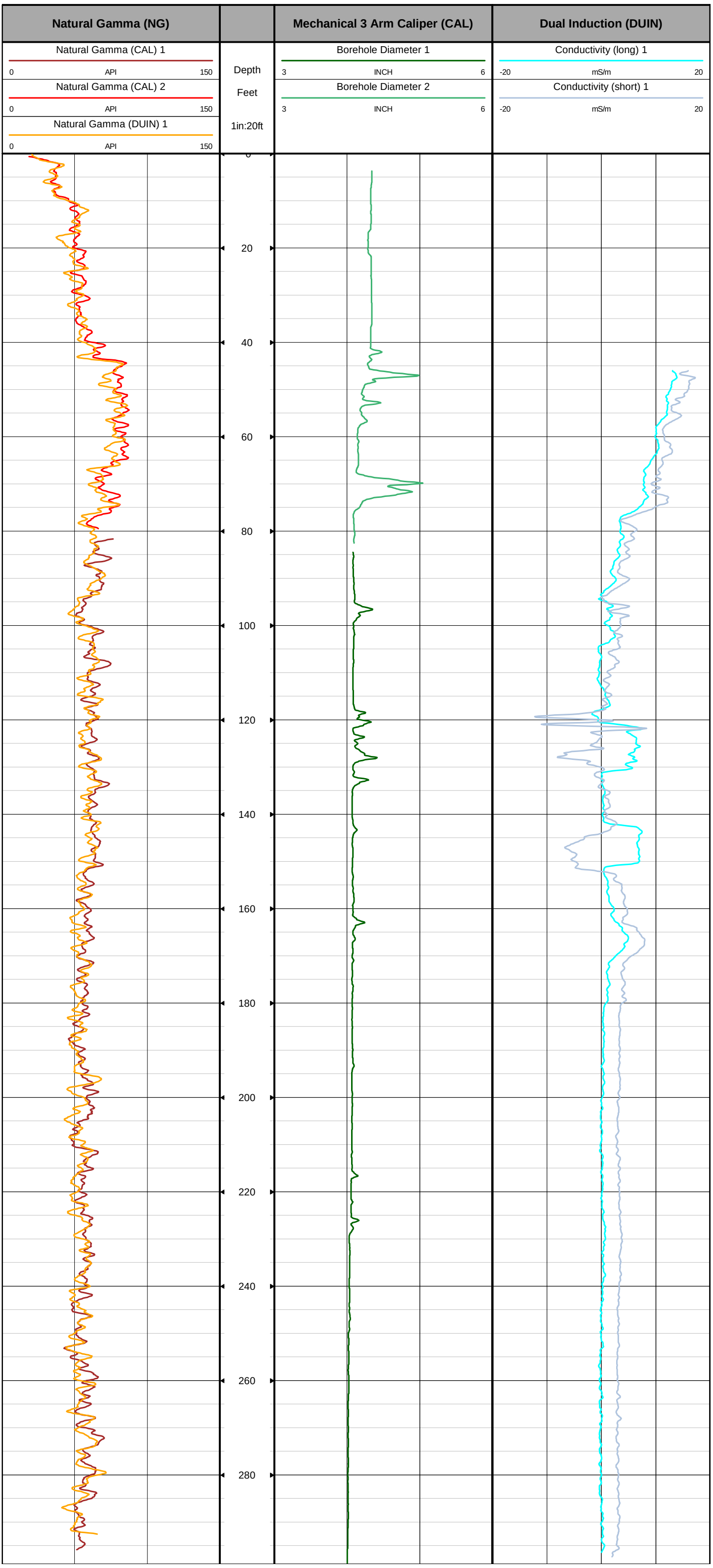
GEOVision geophysical services

CLIENT Kleinfelder

LOG TYPE

CAL
NG
DUIN

PROJECT	Last Chance Grade
WELL	RC-20-014 (B-29)
LOCATION	Last Chance Grade, HWY 101
LOGGER	ATM
DATE	06 Nov 2020



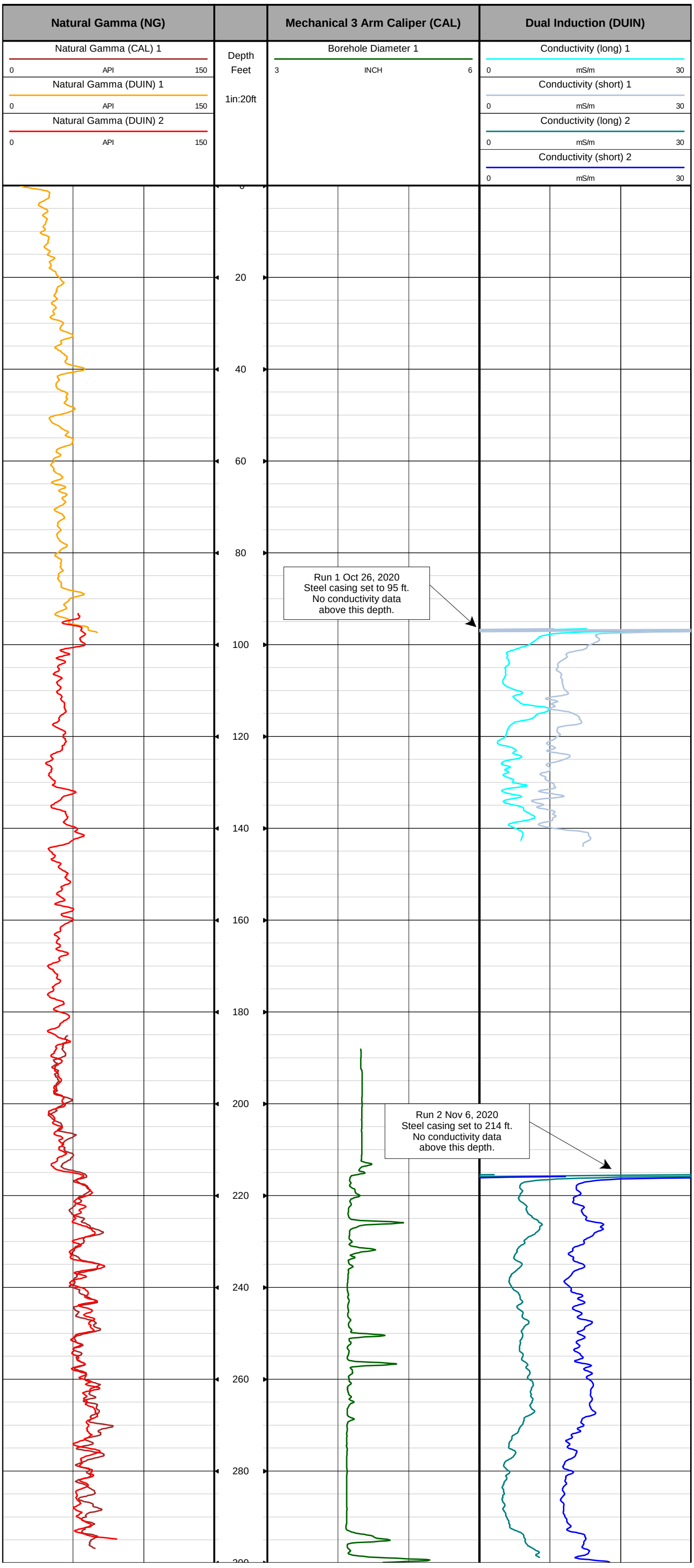
GEOVision geophysical services

CLIENT Kleinfelder

LOG TYPE

CAL
NG
DUIN

PROJECT	Last Chance Grade
WELL	RC-20-011 (B-32)
LOCATION	Last Chance Grade, HWY 101
LOGGER	RAS, ATM
DATE	26 Oct, 6 & 7 Nov 2020



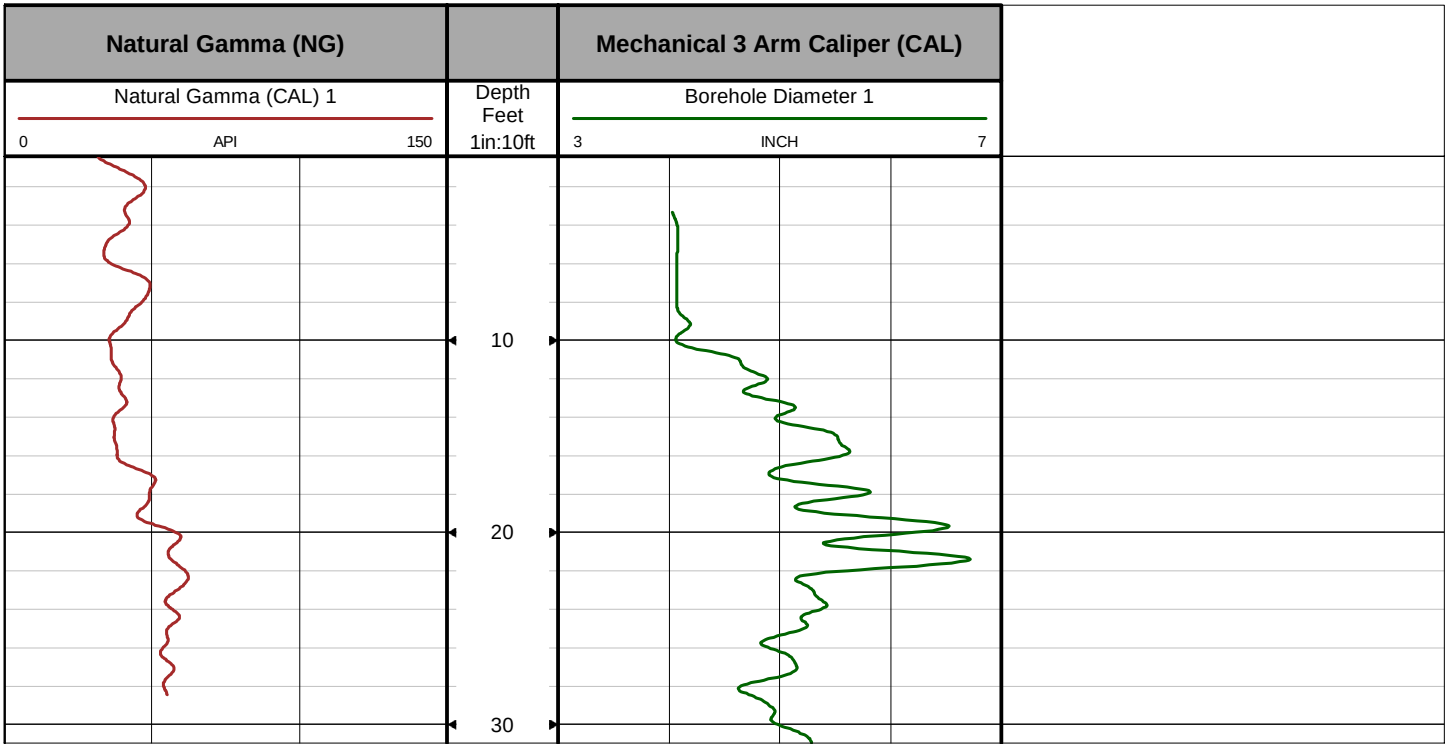
GEOVision geophysical services

CLIENT Kleinfelder

LOG TYPE

CAL
NG

PROJECT	Last Chance Grade
WELL	RC-20-020 (B-46)
LOCATION	Last Chance Grade, HWY 101
LOGGER	ATM
DATE	17 Dec 2020



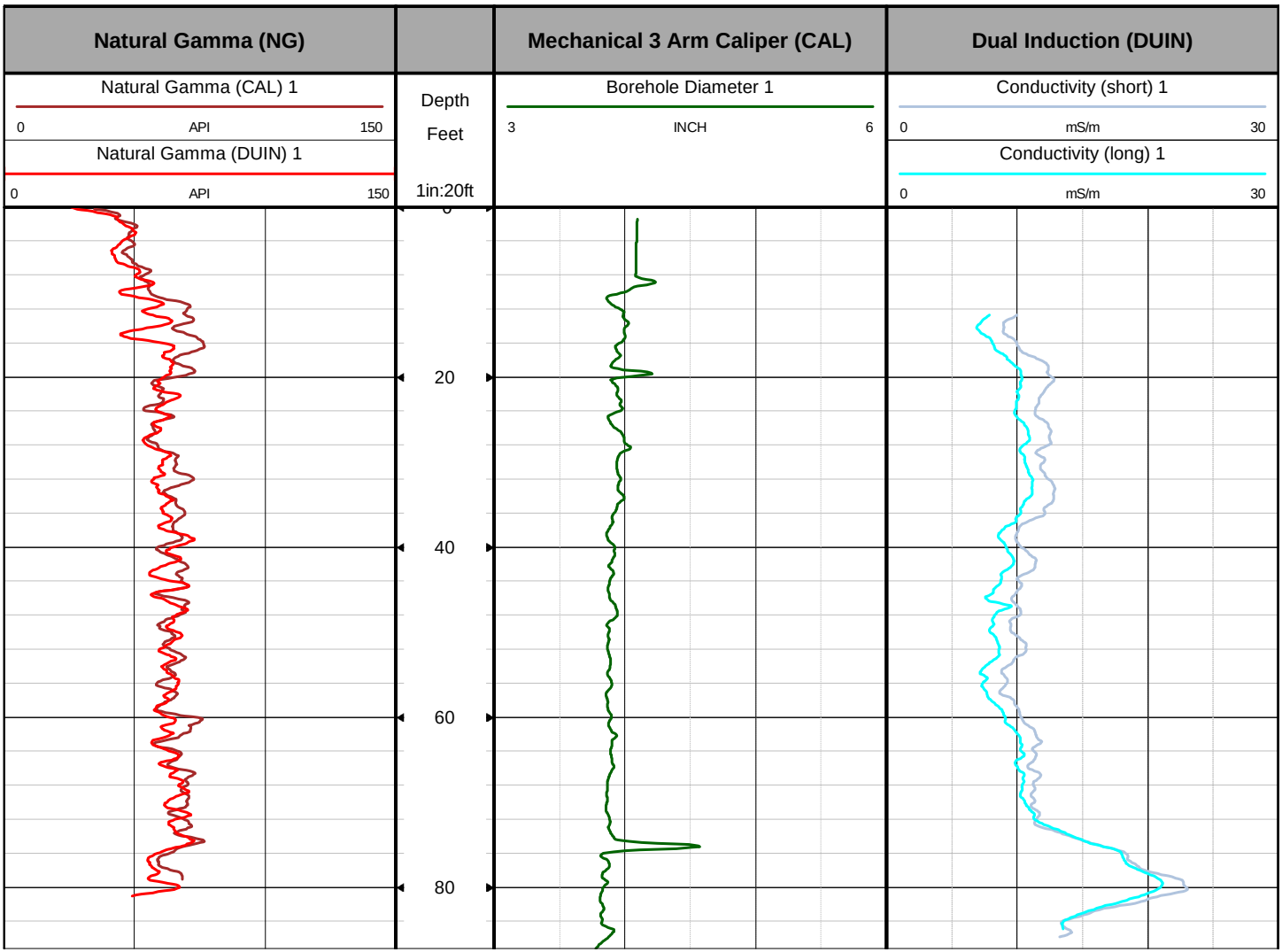
GEOVision geophysical services

CLIENT Kleinfelder

LOG TYPE

CAL
NG
DUIN

PROJECT	Last Chance Grade
WELL	RC-20-019 (B-50)
LOCATION	Last Chance Grade, HWY 101
LOGGER	ATM
DATE	17 Dec 2020



APPENDIX D

BORING GEOPHYSICAL LOGGING SYSTEMS - NIST TRACEABLE CALIBRATION RECORDS

MICRO PRECISION CALIBRATION, INC
2165 N. Glassell St.,
Orange, CA 92865
714-901-5659

Certificate of Calibration

Date: Sep 25, 2020 **Cert No. 551220083842964**

Customer:

GEOVISION

1124 OLYMPIC DRIVE
CORONA CA 92881

		Work Order #:	LA-90048091
		Purchase Order #:	OH-200925-01
MPC Control #:	BG9697	Serial Number:	19029
Asset ID:	19029	Department:	N/A
Gage Type:	LOGGER	Performed By:	TYLER MCKEEN
Manufacturer:	OYO	Received Condition:	IN TOLERANCE
Model Number:	3331-A	Returned Condition:	IN TOLERANCE
Size:	N/A	Cal. Date:	September 18, 2020
Temp/RH:	26.7°C / 41.2%	Cal. Interval:	12 MONTHS
Location:	Calibration performed at MPC facility	Cal. Due Date:	September 18, 2021

Calibration Notes:

See Attached Data Sheet For Calculations (1 Page)

This Certificate Supersedes Cert No. 551220083842708, Corrected Serial Number.

Calibrated IAW customer supplied data form Rev 2.1
Frequency measurement uncertainty = 0.0005 Hz
Unit calibrated with Panasonic Toughbook CF-31 Ser#: 2ITYA90009

Calibrated to 4:1 accuracy ratio.

Standards Used to Calibrate Equipment

I.D.	Description.	Model	Serial	Manufacturer	Cal. Due Date	Traceability #
DB8748	GPS TIME AND FREQUENCY RECEIVER	58503A	3625A01225	HEWLETT PACKARD	Apr 30, 2021	551220083021224
BD7715	UNIVERSAL COUNTER	53131A	3416A05377	HEWLETT PACKARD	Apr 30, 2021	551220082934517
LAS0052	ARB / FUNC GENERATOR	33250A	MY40029031	AGILENT	Oct 31, 2020	551220083302616

Calibrating Technician:  TYLER MCKEEN

QC Approval:  NIKOLAS GROHMAN

STATEMENTS OF PASS OR FAIL CONFORMANCE: The uncertainty of measurement has been taken into account when determining compliance with specification. All measurements and test results guard banded to ensure the probability of false-accept does not exceed 2% in compliance with ANSI/NCSL Z540.3-2006 and in case without guard banded the probability of false-accept depending on test uncertainty ratio.

THE CALIBRATION REPORT STATUS:
PASS- Term used when compliance statement is given, and the measurement result is PASS.
PASS[Z]- Term used when compliance statement is given, and the measurement result is conditional passed or PASS[Z].
FAIL- Term used when compliance statement is given, and the measurement result is FAIL.
FAIL[Z]- Term used when compliance statement is given, and the measurement result is conditional failed or FAIL[Z].
REPORT OF VALUE - Term used when reported measurement is not requiring compliance statement in report.
ADJUSTED- When adjustments are made to an instrument which changes the value of measurement from what was measured as found to new value as left.
LIMITED - When an instrument fails calibration but is still functional in a limited manner.

The expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%, unless otherwise stated. This calibration report complies with ISO/IEC 17025:2017 and ANSI/NCSL Z540.3. Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. The information on this report pertains only to the instrument identified, this may not be reproduced in part or in a whole without the prior written approval of the issuing MP Calibration Laboratory.

MICRO PRECISION CALIBRATION, INC
2165 N. Glassell St.,
Orange, CA 92865
714-901-5659

Certificate of Calibration

Date: Sep 25, 2020 **Cert No. 551220083842964**

Procedures Used in this Event

Procedure Name	Description
GEOVISION SEISMIC Rev. 2.1	Seismic Logger/Recorder Calibration Procedure, Rev. 2.1

Calibrating Technician: 

TYLER MCKEEN

QC Approval: 

NIKOLAS GROHMAN

STATEMENTS OF PASS OR FAIL CONFORMANCE: The uncertainty of measurement has been taken into account when determining compliance with specification. All measurements and test results guard banded to ensure the probability of false-accept does not exceed 2% in compliance with ANSI/NCSL Z540.3-2006 and in case without guard banded the probability of false-accept depending on test uncertainty ratio.

THE CALIBRATION REPORT STATUS:
PASS- Term used when compliance statement is given, and the measurement result is PASS.
PASS^{Z}- Term used when compliance statement is given, and the measurement result is conditional passed or PASS^{Z}.
FAIL- Term used when compliance statement is given, and the measurement result is FAIL.
FAIL^{Z}- Term used when compliance statement is given, and the measurement result is conditional failed or FAIL^{Z}.
REPORT OF VALUE - Term used when reported measurement is not requiring compliance statement in report.
ADJUSTED- When adjustments are made to an instrument which changes the value of measurement from what was measured as found to new value as left.
LIMITED - When an instrument fails calibration but is still functional in a limited manner.

The expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%, unless otherwise stated. This calibration report complies with ISO/IEC 17025:2017 and ANSI/NCSL Z540.3. Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. The information on this report pertains only to the instrument identified, this may not be reproduced in part or in a whole without the prior written approval of the issuing MP Calibration Laboratory.

BG 9697

GEOVision
geophysical services

SUSPENSION PS SEISMIC LOGGER/RECORDER CALIBRATION DATA FORM

INSTRUMENT DATA

System mfg.:	OYO	Model no.:	3331 A
Serial no.:	19029	Calibration date:	9/10/2020
By:	MICROPRECISION	Due date:	9/10/2021
Counter mfg.:	HEWLETT PACKARD	Model no.:	53131A
Serial no.:	3416A05377	Calibration date:	4/23/2020
By:	MICRO PRECISION	Due date:	4/30/2021
Signal generator mfg.:	AGILENT	Model no.:	33250A
Serial no.:	MY40029031	Calibration date:	10/31/2019
By:	MICROPRECISION	Due date:	10/31/2020
Laptop controller mfg.:	PANASONIC	Model no.:	CF-31
Serial no.:	2174A90009	Calibration date:	N/A

SYSTEM SETTINGS:

Gain:	10
Filter	5HZ LOW CUT, 20KHZ HI CUT
Range:	5-200 µs
Delay:	0
Stack (1 std)	1
System date = correct date and time	✓

PROCEDURE:

Set sine wave frequency to target frequency with amplitude of approximately 0.25 volt peak
Note actual frequency on data form.
Set sample period and record data file to disk. Note file name on data form.
Pick duration of 9 cycles using PSLOG.EXE program, note duration on data form, and save as .sps file. Calculate average frequency for each channel pair and note on data form.

Average frequency must be within +/- 1% of actual frequency at all data points.

Maximum error ((AVG-ACT)/ACT*100)% As found -0.07 As left -0.07

Target Frequency (Hz)	Actual Frequency (Hz)	Sample Period (microS)	File Name	Time for 9 cycles Hn (msec)	Average Frequency Hn (Hz)	Time for 9 cycles Hr (msec)	Average Frequency Hr (Hz)	Time for 9 cycles V (msec)	Average Frequency V (Hz)
50.00	50.00	200	201	180.2	49.95	180.0	50.00	180.2	49.95
100.0	100.0	100	202	90.10	99.89	90.00	100.0	90.10	99.89
200.0	200.0	50	203	45.00	200.0	45.00	200.0	45.05	199.8
500.0	500.0	20	204	18.00	500.0	18.00	500.0	18.00	500.0
1000	1000	10	205	9.000	1000	9.000	1000	9.000	1000
2000	2000	5	206	4.500	2000	4.500	2000	4.500	2000

Calibrated by: Tyler McKeen (Name) 9/18/20 (Date) (Signature)

Witnessed by: ROBERT STELLER (Name) 9/18/2020 (Date) (Signature)

MICRO PRECISION CALIBRATION, INC
2165 N. Glassell St.,
Orange, CA 92865
714-901-5659

Certificate of Calibration

ilac-MRA ANAB ACCREDITED ISO/IEC 17025 CALIBRATION LABORATORY AC-1969.03

Date: Nov 11, 2020 **Cert No. 551220083929139**

Customer:

GEOVISION

1124 OLYMPIC DRIVE
CORONA CA 92881

		Work Order #:	LA-90048480
		Purchase Order #:	19401-201023-01
MPC Control #:	AM6767	Serial Number:	160023
Asset ID:	160023	Department:	N/A
Gage Type:	LOGGER	Performed By:	TYLER MCKEEN
Manufacturer:	OYO	Received Condition:	IN TOLERANCE
Model Number:	3403	Returned Condition:	IN TOLERANCE
Size:	N/A	Cal. Date:	October 27, 2020
Temp/RH:	22.5°C / 42.9%	Cal. Interval:	12 MONTHS
Location:	Calibration performed at MPC facility	Cal. Due Date:	October 27, 2021

Calibration Notes:

See attached data sheet for calculations. (1 Page)
Calibrated IAW customer supplied data form Rev 2.1
Frequency measurement uncertainty = 0.0005 Hz
Unit calibrated with Laptop Panasonic Model CF-29, s/n: 6AKSB01291 and RG Micrologger II Serial No. 5772
Calibrated To 4:1 Accuracy Ratio

Calibration performed in accordance with approved GEOVision calibration procedures included in work Instruction No. 13
Software: ML PS 4.00 Suspension Logger, GVLog.jar (2004) and pslog.exe ver 1.00 software.

Standards Used to Calibrate Equipment

I.D.	Description.	Model	Serial	Manufacturer	Cal. Due Date	Traceability #
DB8748	GPS TIME AND FREQUENCY RECEIVER	58503A	3625A01225	HEWLETT PACKARD	Apr 30, 2021	551220083021224
BD7715	UNIVERSAL COUNTER	53131A	3416A05377	HEWLETT PACKARD	Apr 30, 2021	551220082934517
LAS0018	ARB / FUNC GENERATOR	33250A	US40001522	AGILENT	Apr 30, 2021	551220083580408

Calibrating Technician: TYLER MCKEEN

QC Approval: ILYA VAKS

STATEMENTS OF PASS OR FAIL CONFORMANCE: The uncertainty of measurement has been taken into account when determining compliance with specification. All measurements and test results guard banded to ensure the probability of false-accept does not exceed 2% in compliance with ANSI/NCSL Z540.3-2006 and in case without guard banded the probability of false-accept depending on test uncertainty ratio.

THE CALIBRATION REPORT STATUS:
PASS- Term used when compliance statement is given, and the measurement result is PASS.
PASS^{Z}- Term used when compliance statement is given, and the measurement result is conditional passed or PASS^{Z}.
FAIL- Term used when compliance statement is given, and the measurement result is FAIL.
FAIL^{Z}- Term used when compliance statement is given, and the measurement result is conditional failed or FAIL^{Z}.
REPORT OF VALUE - Term used when reported measurement is not requiring compliance statement in report.
ADJUSTED- When adjustments are made to an instrument which changes the value of measurement from what was measured as found to new value as left.
LIMITED - When an instrument fails calibration but is still functional in a limited manner.

The expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%, unless otherwise stated. This calibration report complies with ISO/IEC 17025:2017 and ANSI/NCSL Z540.3. Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. The information on this report pertains only to the instrument identified, this may not be reproduced in part or in a whole without the prior written approval of the issuing MP Calibration Laboratory.

MICRO PRECISION CALIBRATION, INC
2165 N. Glassell St.,
Orange, CA 92865
714-901-5659

Certificate of Calibration

ACCREDITED
ISO/IEC 17025
CALIBRATION LABORATORY
AC-1969.03

Date: Nov 11, 2020 **Cert No. 551220083929139**

Procedures Used in this Event

Procedure Name	Description
GEOVISION SEISMIC Rev. 2.1	Seismic Logger/Recorder Calibration Procedure, Rev. 2.1

Calibrating Technician: 

TYLER MCKEEN

QC Approval: 

ILYA VAKS

STATEMENTS OF PASS OR FAIL CONFORMANCE: The uncertainty of measurement has been taken into account when determining compliance with specification. All measurements and test results guard banded to ensure the probability of false-accept does not exceed 2% in compliance with ANSI/NCSL Z540.3-2006 and in case without guard banded the probability of false-accept depending on test uncertainty ratio.

THE CALIBRATION REPORT STATUS:
PASS- Term used when compliance statement is given, and the measurement result is PASS.
PASS^{Z}- Term used when compliance statement is given, and the measurement result is conditional passed or PASS^{Z}.
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FAIL^{Z}- Term used when compliance statement is given, and the measurement result is conditional failed or FAIL^{Z}.
REPORT OF VALUE - Term used when reported measurement is not requiring compliance statement in report.
ADJUSTED- When adjustments are made to an instrument which changes the value of measurement from what was measured as found to new value as left.
LIMITED - When an instrument fails calibration but is still functional in a limited manner.

The expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%, unless otherwise stated. This calibration report complies with ISO/IEC 17025:2017 and ANSI/NCSL Z540.3. Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. The information on this report pertains only to the instrument identified, this may not be reproduced in part or in a whole without the prior written approval of the issuing MP Calibration Laboratory.

GEOVision
geophysical services

SUSPENSION PS SEISMIC LOGGER/RECORDER CALIBRATION DATA FORM

INSTRUMENT DATA

System mfg.:	OYO	Model no.:	3403
Serial no.:	160023	Calibration date:	10/27/2020
By:	Micro Precision	Due date:	10/27/2021
Counter mfg.:	Hewlett Packard	Model no.:	53131A
Serial no.:	3416A05377	Calibration date:	04/23/2020
By:	Micro Precision	Due date:	04/30/2021
Signal generator mfg.:	Agilent	Model no.:	33250A
Serial no.:	US40001522	Calibration date:	04/02/2020
By:	Micro Precision	Due date:	04/30/2021
Laptop controller mfg.:	Panasonic	Model no.:	CF-29
Serial no.:	6AKSB01291	Calibration date:	N/A

SYSTEM SETTINGS:

Gain:	0 (2 all) (lowest)
Filter	10 KHz low pass
Range:	200 to 5 microsec
Delay:	0
Stack (1 std)	1
System date = correct date and time	yes

PROCEDURE:

Set sine wave frequency to target frequency with amplitude of approximately 0.25 volt peak
Note actual frequency on data form.
Set sample period and record data file to disk. Note file name on data form.
Pick duration of 9 cycles using PSLOG.EXE program, note duration on data form, and save as .sps file. Calculate average frequency for each channel pair and note on data form.

Average frequency must be within +/- 1% of actual frequency at all data points.

Laptop 6AKSB01291 CF-29
Software ML PS 4.00
pslog.exe v1.00
GVLog.jar ver 2004

Maximum error ((AVG-ACT)/ACT*100)% As found 0.2% As left 0.2%

Target Frequency (Hz)	Actual Frequency (Hz)	Sample Period (microS)	File Name C023	Time for 9 cycles Hn (msec)	Average Frequency Hn (Hz)	Time for 9 cycles Hr (msec)	Average Frequency Hr (Hz)	Time for 9 cycles V (msec)	Average Frequency V (Hz)
50.00	50.00	200	001	180	50.00	180	50.00	179.8	50.06
100.0	100.0	100	002	90	100.0	90.1	99.89	89.9	100.1
200.0	200.0	50	003	45.1	199.6	45.1	199.6	45.05	199.8
500.0	500.0	20	004	18	500.0	18 +3 EFF 10/27/20	500.0	18	500.0
1000	1000	10	005	8.99	1001	9.00	1000	8.99	1001
2000	2000	5	006	4.5	2000	4.495	2002	4.505	1998

Calibrated by: Tyler McKean 10/27/20
Name Date Signature

Witnessed by: Emily Feldman 10/27/20
Name Date Signature