API Well Number: 43047540810000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
NORTH ALGER #27-41E

2. TYPE OF WORK
DRILL NEW WELL ■ REENTER P&A WELL ☐ DEEPEN WELL ☐

3. FIELD OR WILDCAT
NATURAL BUTTES

4. TYPE OF WELL
Gas Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
NORTH ALGER

6. NAME OF OPERATOR
KOCH EXPLORATION COMPANY LLC

7. OPERATOR PHONE
303 325-2562

8. ADDRESS OF OPERATOR
9777 Pyramid Court Ste 210, Englewood, CO, 80112

9. OPERATOR E-MAIL
howard4d@kochind.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
UTU49518

11. MINERAL OWNERSHIP
FEDERAL ■ INDIAN ☐ STATE ☐ FEE ☐

12. SURFACE OWNERSHIP
FEDERAL ■ INDIAN ☐ STATE ☐ FEE ☐

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ■ (Submit Commingling Application) NO ☐

19. SLANT
VERTICAL ☐ DIRECTIONAL ■ HORIZONTAL ☐

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	712 FSL 311 FWL	SWSW	27	10.0 S	19.0 E	S
Top of Uppermost Producing Zone	990 FSL 990 FWL	SWSW	27	10.0 S	19.0 E	S
At Total Depth	990 FSL 990 FWL	SWSW	27	10.0 S	19.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
311

23. NUMBER OF ACRES IN DRILLING UNIT
640

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
2150

26. PROPOSED DEPTH
MD: 10374 TVD: 10300

27. ELEVATION - GROUND LEVEL
5255

28. BOND NUMBER
COB000296

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
49-2231, 43-8496, 49-1645

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	12.25	8.625	0 - 2500	32.0	J-55 LT&C	0.2	Type V	231	3.82	11.0
							Class G	473	1.15	15.8
Prod	7.875	4.5	0 - 10374	11.6	L-80 LT&C	13.0	Premium Lite High Strength	618	1.79	12.0
							Premium Lite High Strength	1350	1.27	13.5

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ✔ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ✔ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ✔ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ✔ TOPOGRAPHICAL MAP

NAME Janni Keidel | **TITLE** Operations/Regulatory Coordinator | **PHONE** 303 325-2578

SIGNATURE | **DATE** 10/25/2013 | **EMAIL** janni.keidel@kochind.com

API NUMBER ASSIGNED
43047540810000

APPROVAL
Permit Manager

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Koch Exploration Company
DRILLING PROGRAM

North Alger 27-41E

WELL:	NA 27-41E	**PROPOSED DEPTH:**	10,374' MD
COUNTY:	Uintah	**TRUE VERTICAL DEPTH:**	10,300' TVD
API:	TBD	**ELEVATION:**	5,255' GL
Lease No.	UTU-49518	**ESTIMATED RKB:**	+/-5,275' KB
SHL:	712' FSL & 311' FWL (SWSW) Section 27, T10S, R19E S.L.B.&M. 39.912807, -109.776324 (NAD 83)		
BHL:	990' FSL & 990' FWL (SWSW) Section 27, T10S, R19E S.L.B.&M. 39.913570, -109.773922 (NAD 83)		

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1. & 2. Estimated Tops of Important Geologic Markers:
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	TVDepth	Potential Problems	Resource
Green River	974'	Lost Circulation	Possible Oil
Wasatch	4,384'		Gas
Chapita Wells	4,979'		Gas
Buck Canyon	5,690'		Gas
North Horn	6,636'		Gas
Mesaverde	7,905'	Tight Hole	Gas
Middle Price River	9,010'		Gas
Lower Price River	9,812'		Gas
Sego	10,060'	Tight Hole	Gas
TD	10,300'		
Max Anticipated Bottom Hole Pressure			6,592 psi
Max Anticipated Surface Pressure (MASP)			4,326 psi

3. Pressure Control Equipment (Schematic Attached):
Please see attached diagram.

4. Proposed Casing & Cementing Program:
Please see attached table.

5. Drilling Fluids Program:
Well to be drilled using closed loop system.
Please see attached table.

6. Evaluation Program:
Mud logging program TBD. If any, loggers will be out before Top of Wasatch through TD.
Cased hole logs will be run from TD through surface casing.

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7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 10,300' TVD, approximately equals 6,592 psi, assuming 0.64 psi/ft bottom hole pressure gradient.

Maximum anticipated surface pressure equals approximately 4,326 psi, per Onshore Order No. 2 equation:
Max Anticipated Surface Pressure (MASP)
MASP = Pore Pressure at next csg point – (0.22 psi/ft X TVD of next csg point).
Where 0.22 psi/ft is the partially evacuated pressure gradient

8. Anticipated Starting Dates:

Drilling is planned to commence after approval of this application, pending winter location construction and drill timing.

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order # 2 – Air Drilling Variance

Koch Exploration Company, LLC (KEC) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2:

- Blowout Prevention Equipment (BOPE) requirements
- Mud program requirements
- Special drilling operation (surface equipment placement) requirements associated with air drilling

This Standard Operating Practices addendum provides supporting information as to why KEC air drilling practices for constructing the surface hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rig follows the air rig, and is used to drill and construct the majority of the wellbore.

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Background:

In a typical well, KEC would utilize an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which vary in depth from 2,000 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in the KEC operated field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 ¼ inch hole for the first 200 feet, then will drill an 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with an 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8 5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KEC fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operation. However, the requirements of Onshore Order 2 are excessive with respect of the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KEC fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the

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drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do no support the use of a BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements
Onshore Order 2 also states that sufficient quantities of mud material shall be maintained or readily accessible for the purpose of assuming adequate well control. Once again, the surface hole drilling operation does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit, or from tanks spotted on location for closed loop drilling, for well control, if necessary. A skid pump which is near the reserve pit or tanks will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment replacement) Requirements
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit locations in the Natural Buttes area.

Typically, the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KEC well, the reserve pit or closed loop system is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit or discharge of the closed loop system, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KEC locations, the air rig compressor are approximately 10 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements
KEC also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when a FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion
The air rig operating procedures have effectively maintained well control while drilling the surface holes in the Natural Buttes field. KEC respectfully requests variance form Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

<u>DIRECTIONS TO LOCATION:</u>

Proceed in a westerly direction from Vernal, Utah, along U.S. Highway 40 approximately 13.9 miles to the junction of State Highway 88. Exit left and proceed in a southerly direction along State Highway 88 approximately 16.8 miles to Ouray, Utah. From Ouray, proceed in a southerly direction along the Seep Ridge Road (County B Road 2810) approximately 9.5 miles to the junction of Turkey Track Road (County B Road 5110). Exit right and proceed in a southerly direction along the Turkey Track Road approximately 1.6

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miles to the junction of Willow Creek Road approximately 1.2 miles to the junction of Hill Creek Road (Tribal Road 5125). Exit right and proceed in a westerly then southerly direction along the Hill Creek Road approximately 0.5 miles to the junction of County Road 5220 (Class D). Exit right and proceed in a northerly then southwesterly direction along County Road 5220 approximately 6.9 miles to a second Class D County Road to the West. Exit right and proceed in a westerly then northwesterly direction along the second Class D County Road approximately 2.5 miles to a third Class D County Road to the southwest. Exit left and proceed in a southwesterly then northwesterly direction along the third Class D County Road approximately 0.6 miles to the proposed access road. Follow road flags in a westerly then northwesterly direction approximately 3,205 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 54.1 miles in a southwesterly direction.

WELL CONTROL

Pressure Control Equipment:

11" 5M with one annular and 2 rams.
BOP schematic attached.

BOP Testing:

BOP will be tested with a professional tester to conform to Onshore Order #2.
Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
Annular Preventer will be tested to 50% working pressure, 2,500 psi.
Casing will be tested to 0.22 psi / ft. or 1,500psi. Not to exceed 70% of burst strength, whichever is greater.
All lines subject to well pressure will be tested to the same pressure as the blind and pipe rams.
All BOPE specification and configurations will meet Onshore Order #2 requirements.

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MUD LOGGING PROGRAM

GAS DETECTION: Continuous from spud to Total Depth.

Consulting geologist will be on location to evaluate samples at the Top of the Wasatch. Geologist to oversee sample collection as per following schedule:

Sample Collection:

Interval	Depth	Sets
30'	Surface Casing – TD	2

Or as directed by KEC personnel or site Geologist.

PROPOSED DIRECTIONAL PROGRAM`

Directional well – Please see attached directional plan.

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CASING PROGRAM

Casing String	Size	Weight	Grade	Thread	Depth	Bit Size	Casing Type
Conductor	14”				0 - 40’		New
Surface	8 5/8”	32#	J-55	LTC	+/-2500’	12 1/4”	New
Production	4 1/2”	11.6#	L-80	LTC	+/-10,300’	7 7/8”	New

Surface Casing:

Burst Assumption: Casing will be tested to 0.22 psi / ft. or 1,500psi. Not to exceed 70% of burst strength, whichever is greater.
0.73 psi/ft = frac gradient at surface shoe

Collapse Assumption: Fully evacuated casing with Max MW

Tension Assumption: Air weight of csg * Buoyancy factor of water

Production Casing:

Burst Assumption: will be tested during completion operations as needed for fracture stimulation design.
0.64 psi/ft = bottomhole frac gradient

Collapse Assumption: Fully evacuated casing with Max MW

Tension Assumption: Air weight of csg * Buoyancy factor of water

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CEMENT PROGRAM

String	Design	Ft. of Fill	Description	Sacks	Excess	Weight (ppg)	Yield (ft3/sk)
Surface	Lead	1527’	Premium Type V Cement + 3% Salt + 0.25#/sk Flocele	231	40%	11.0	3.82
	Tail	975’	Premium Type G Cement + 2% CaCl + 0.25#/sk Flocele	473	35%	15.8	1.15
	Top Out Cement	200’	Premium Type G Cement + 2% CaCl + 0.25#/sk Flocele	100		15.8	1.15
Production	Lead	4047’	Conventional cmt + 1.0% extender + 0.7% retarder	618	35%	12.0	1.79
	Tail	6272’	Conventional cmt + 1.0% extender + 0.5% retarder	1350	35%	13.5	1.27

Float Equipment and Centralizers

Surface: Guide shoe, 1 jnt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.

Production: Float shoe, 2 jnt, float collar. Approximately 65 centralizers for Mesaverde wells, with 1 centralizer on the first 3 joints and one every third joint thereafter up through surface casing (2500’).

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MUD PROGRAM

Hole Size and Casing Size (in)	Depth MD (ft)	Formation Depth (ft)	Formation Top	Mud System	Mud Weight (ppg)	Potential Issues
12 1/4"	40'	974'	Green River	Air Mist	N/A	Spud with 12 1/4" slim down to 11" at 200' Mud up if needed for Over pressured areas
8 5/8"	+/- 2500'	2500'	Surface TD			Expect Trona water flows in surface
7 7/8"				Drill with Gyp Water and high vis PHPA/Gel sweeps Gypsum increase the efficiency of dewatering Maintain 3ppb Gypsum to increase dewatering efficiency Additions of PHPA down drill pipe for hole cleaning	8.8-9.0	
		4,384'	Wasatch			
		4,979'	Chapita Wells	pH maintained @ 9.0-10.0	9.4-9.8	Hydrateable Clays within the Shale
		5,690'	Buck Canyon	Low Fluid loss after mud up with PAC material		
		+/- 6,500'	Mud Up Point	Adjust viscosity utilizing gel - maintain vis 38-42 sec/qt		
		6,636'	North Horn			
		7,905'	Mesaverde		9.9-11.0	Potential Gas - mud up SS in Upper portion
		9,010'	Middle Price River	High viscosity sweeps to ensure proper hole cleaning		Ledge Forming
		9,812'	Lower Price River	Flip to a Potassium Formate system if hole problems exist		Containing Coal seams
		10,060'	Sego	Increase viscosity @ TD to 50-60 sec/qt for logging.	11.5-11.7	Slower Drilling
	10,300' TVD		Castlegate	Chemically thin for CMT		
4 1/2"	10,374' MD	10,300' TVD	Production TD		12.5-13.0	

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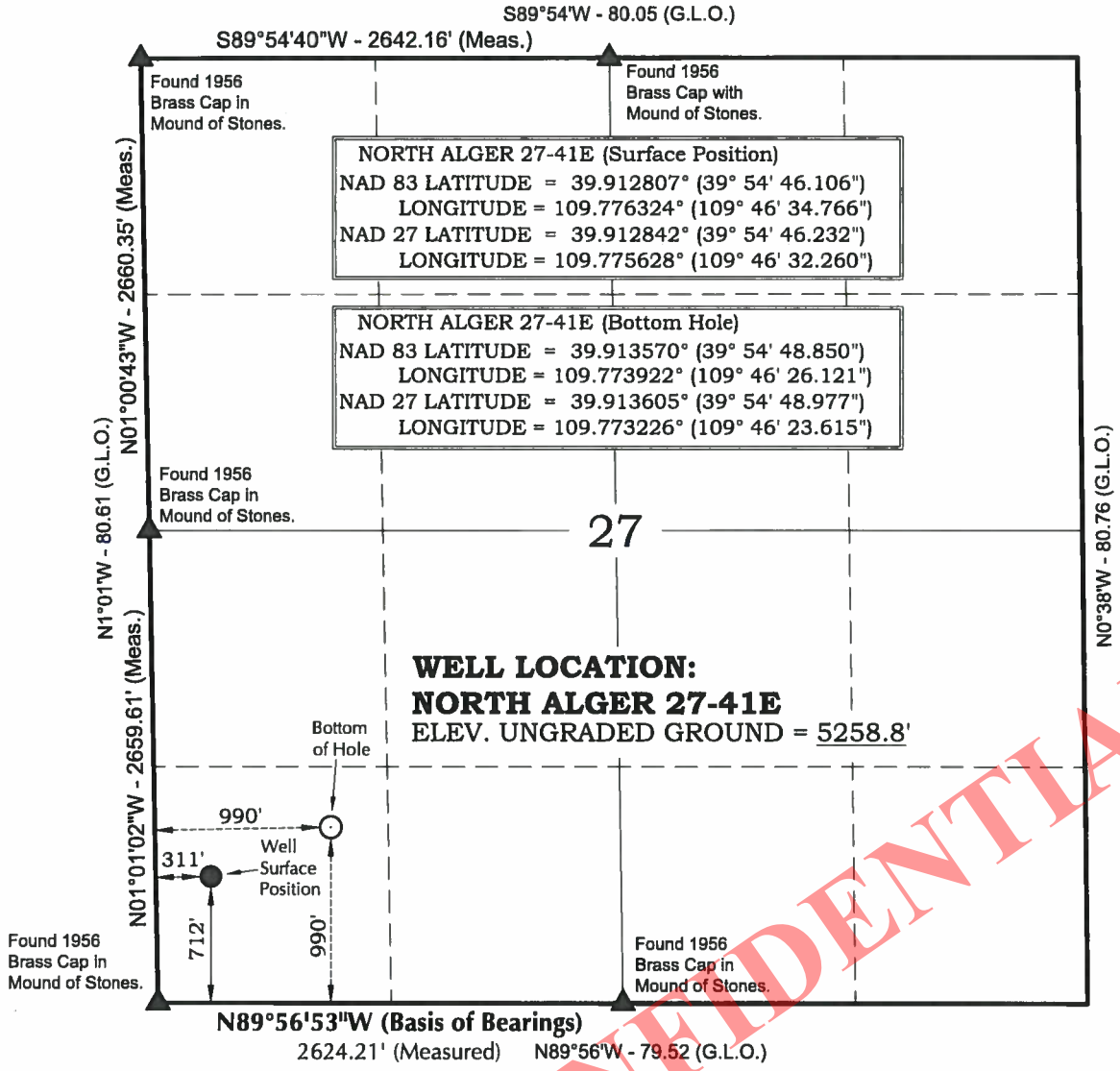
API Well Number: 43047540810000

T10S, R19E, S.L.B.&M.



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1000' 500' 0' 1000'

SCALE

NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears N67°35'59"E 728.88' from the Surface Position.
4. Basis of elevation is the South 1/4 Corner of Section 27, T10S, R19E, S.L.B.&M. (Being a 1956 Brass Cap). The elevation of this Section Corner was Calculated using an NGS OPUS Solution report to be 5279.5' (NAVD 88).

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

2-14-13

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

JOHN R. LAUGHE No.6028691 STATE OF UTAH

Koch Exploration Company, LLC
950 17th Street, Suite 1900 - Denver, Colorado 80202

WELL PAD: 27-41

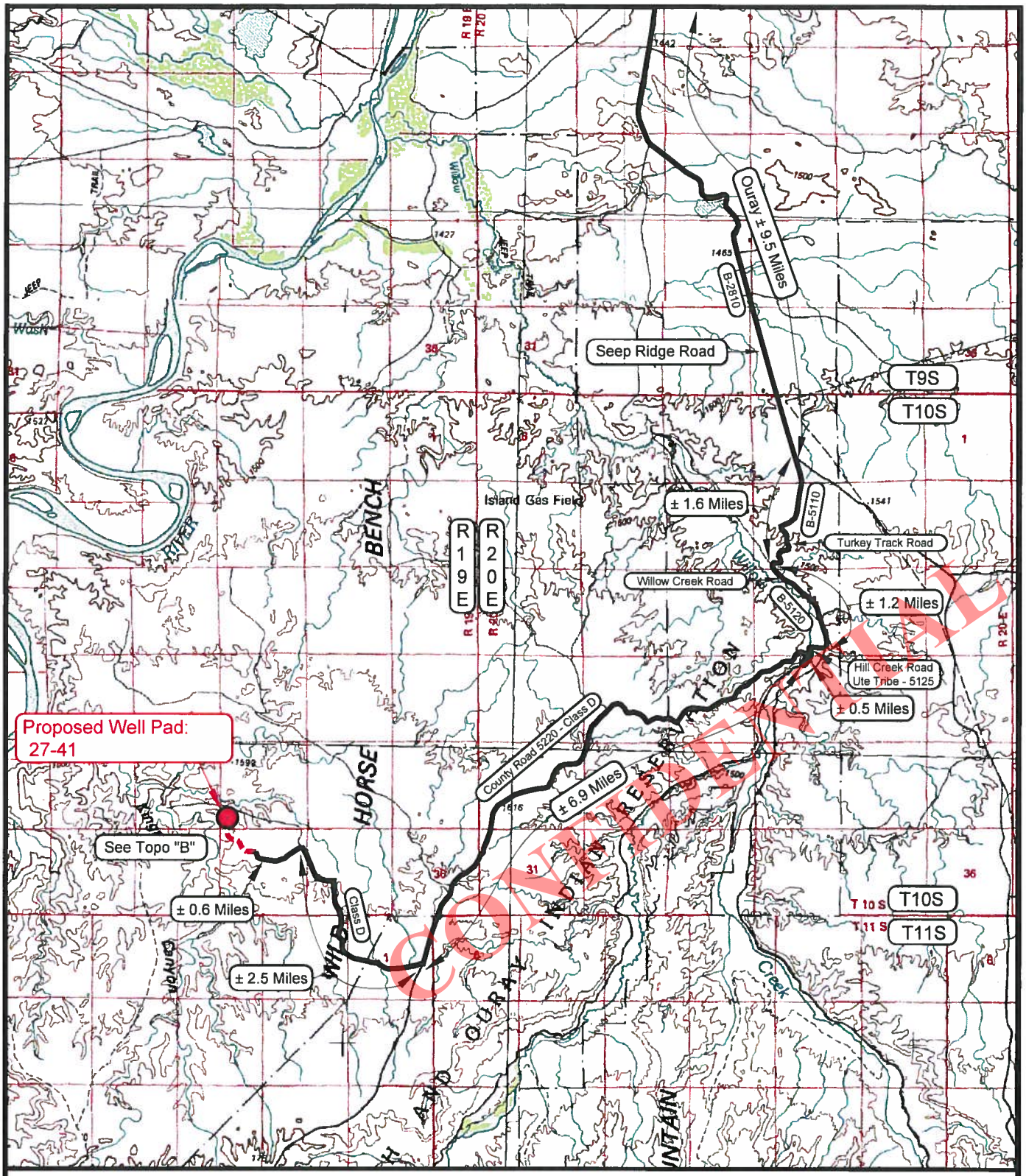
NORTH ALGER 27-41E
WELL PLAT
990' FSL, 990' FWL (Bottom Hole)
SW ¼ SW ¼ OF SECTION 27, T10S, R19E, S.L.B.&M., UINTAH COUNTY, UTAH.

N

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST – VERNAL, UTAH 84078

DATE SURVEYED: 1-31-13	SURVEYED BY: A.F.	SHEET NO: 2C OF 12
DATE DRAWN: 8-15-13	DRAWN BY: T.J.R.	
SCALE: 1" = 1000'	Date Last Revised:	

API Well Number: 43047540810000



LEGEND

PROPOSED ACCESS ROAD
= SUBJECT WELL
= OTHER WELLS
= EXISTING ROAD
= EXISTING ROAD (TO BE IMPROVED)

B-5460 = COUNTY ROAD CLASS & NUMBER

N

Koch Exploration Company, LLC

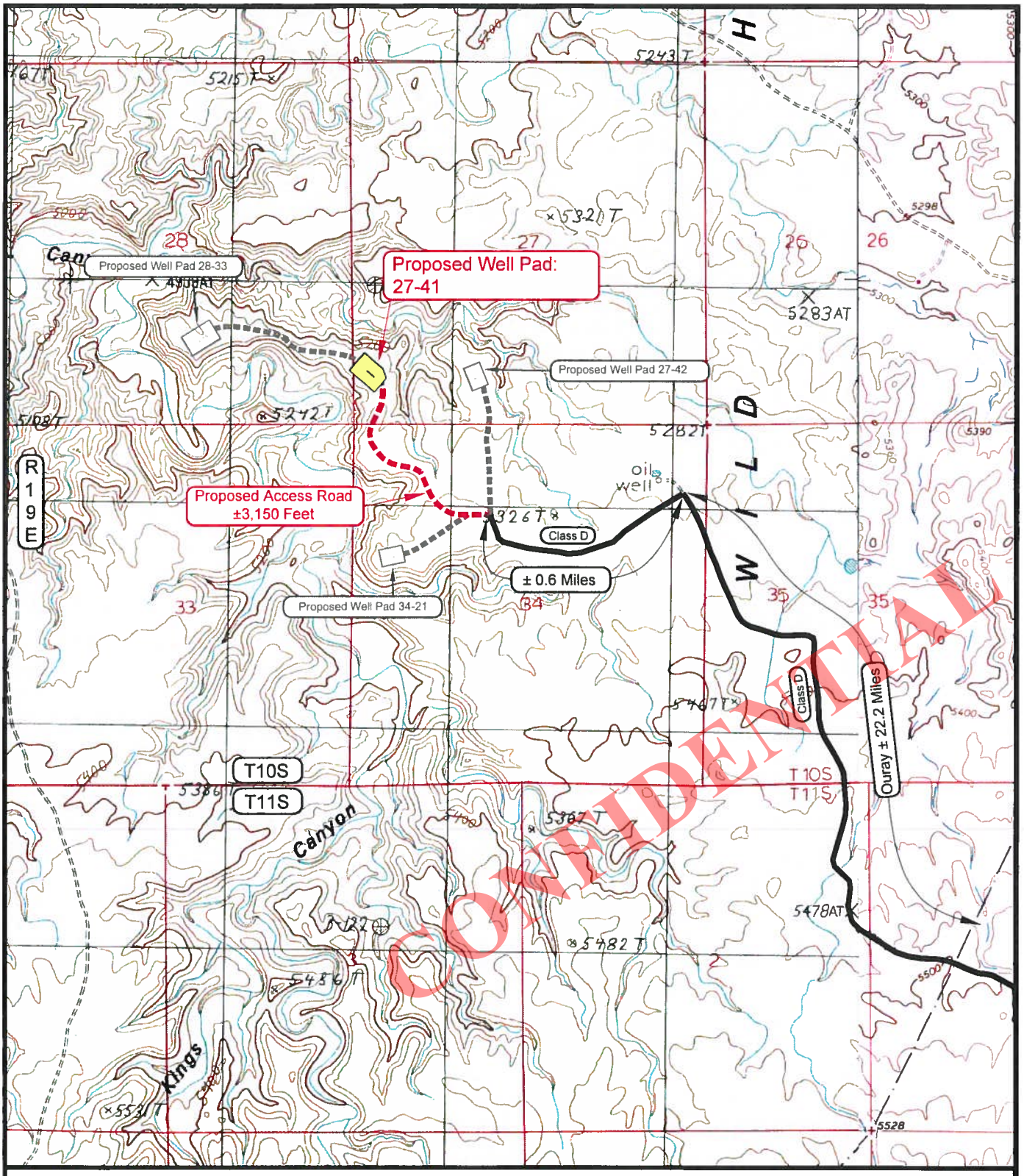
WELL PAD - 27-41
WELLS - NORTH ALGER 27-41D, NORTH ALGER 27-41C, NORTH ALGER 27-41E, NORTH ALGER 27-41B, NORTH ALGER 27-41F, NORTH ALGER 27-41A, NORTH ALGER 27-41H, NORTH ALGER 27-41G, NORTH ALGER 27-41J & NORTH ALGER 27-41I
LOCATED IN SECTION 27, T10S, R19E, S.L.B.&M., UINTAH COUNTY, UTAH.

TOPOGRAPHIC MAP "A"		DATE SURVEYED: 1-31-13
		DATE DRAWN: 2-11-13
SCALE: 1:100,000	DRAWN BY: C.T.C	REVISED: 8-15-13 M.W.W.

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SHEET 8 OF 12

API Well Number: 43047540810000



LEGEND

PROPOSED ACCESS ROAD
= SUBJECT WELL
= OTHER WELLS
= EXISTING ROAD
= EXISTING ROAD (TO BE IMPROVED)

B-5460 = COUNTY ROAD CLASS & NUMBER
= LEASE LINE AND / OR PROPERTY LINE

N

Koch Exploration Company, LLC

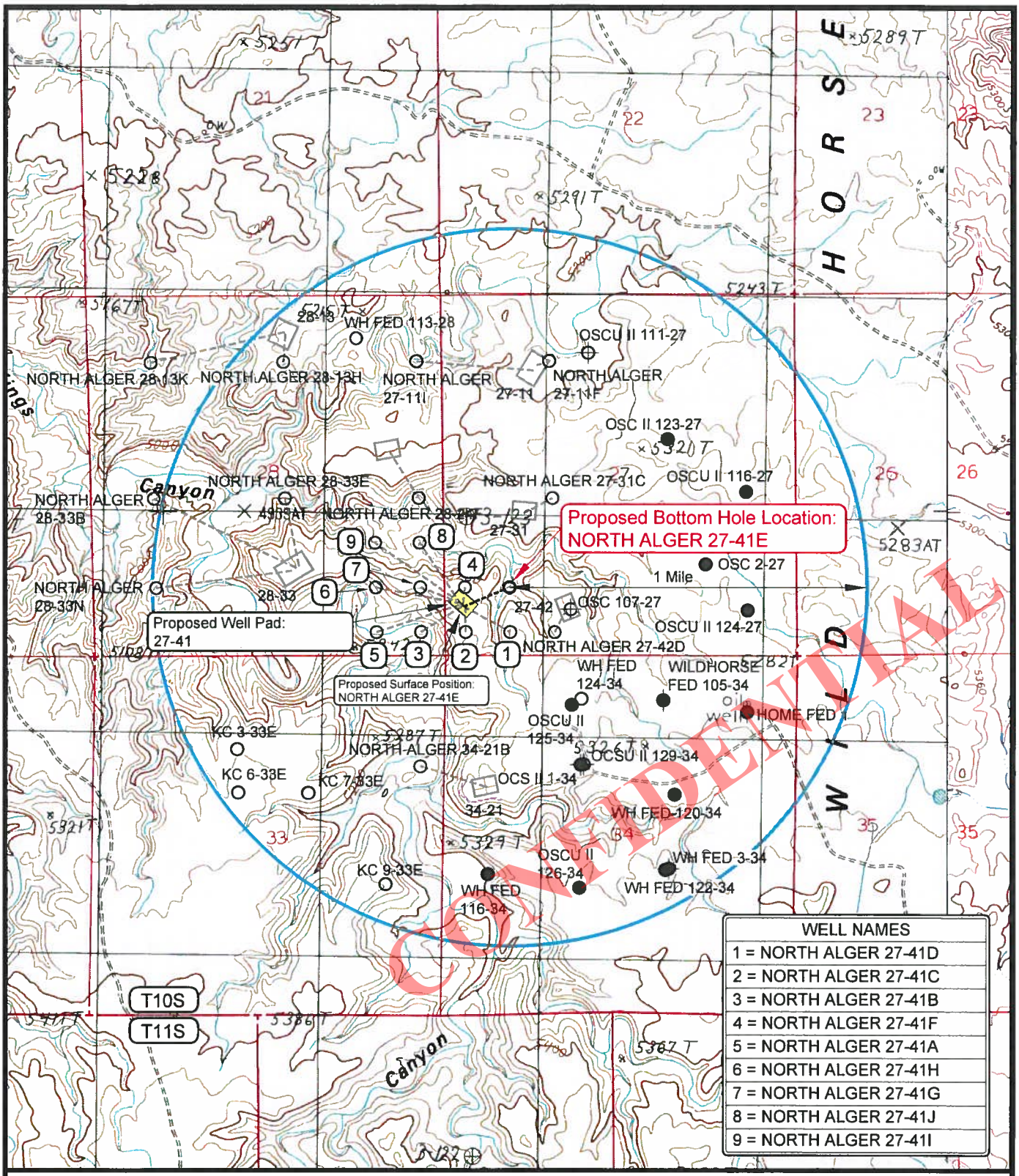
WELL PAD - 27-41
WELLS - NORTH ALGER 27-41D, NORTH ALGER 27-41C, NORTH ALGER 27-41E, NORTH ALGER 27-41B, NORTH ALGER 27-41F, NORTH ALGER 27-41A, NORTH ALGER 27-41H, NORTH ALGER 27-41G, NORTH ALGER 27-41J & NORTH ALGER 27-41I
LOCATED IN SECTION 27, T10S, R19E, S.L.B.&M., UINTAH COUNTY, UTAH.

TOPOGRAPHIC MAP "B"		DATE SURVEYED: 1-31-13
		DATE DRAWN: 2-11-13
SCALE: 1" = 2000'	DRAWN BY: C.T.C	REVISED: 8-15-13 M.W.W.

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SHEET 9 OF 12

API Well Number: 43047540810000



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LEGEND

- = DISPOSAL WELL
- = PRODUCING WELL
- = SHUT IN WELL
- = PROPOSED WELL
- = WATER WELL
- = ABANDONED WELL
- = TEMPORARILY ABANDONED WELL
- = ABANDONED LOCATION

N

Koch Exploration Company, LLC

WELL PAD - 27-41
NORTH ALGER 27-41E
990' FSL & 990' FWL (Bottom Hole)
LOCATED IN SECTION 27, T10S, R19E,
S.L.B.&M., UINTAH COUNTY, UTAH.

TOPOGRAPHIC MAP "C"		DATE SURVEYED: 1-31-13
		DATE DRAWN: 8-15-13
SCALE: 1" = 2000'	DRAWN BY: J.G.C.	REVISED:

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

SHEET 10C OF 12

API Well Number: 43047540810000

Scientific Drilling

Company: Koch Exploration Co. LLC
Project: Uintah County, UT
Site: NA 27-41 Pad

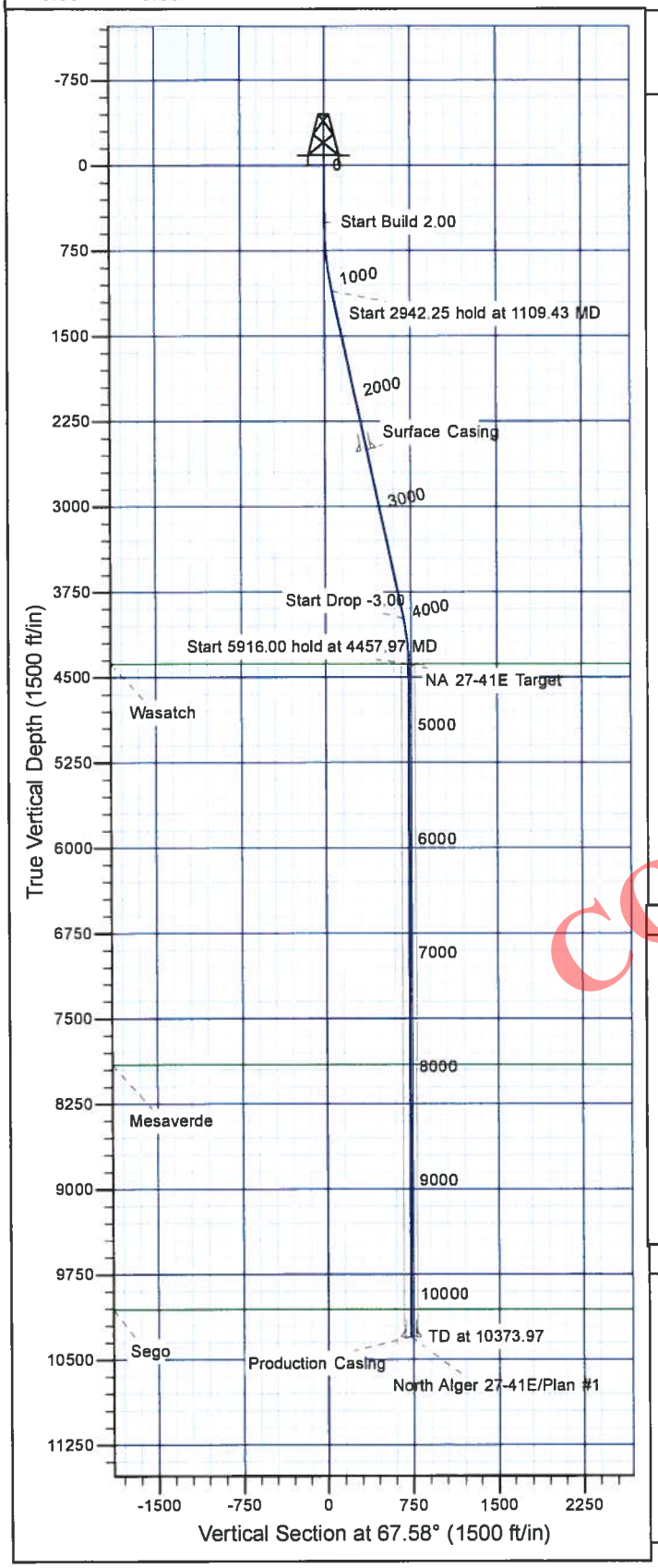
Well Details: North Alger 27-41E

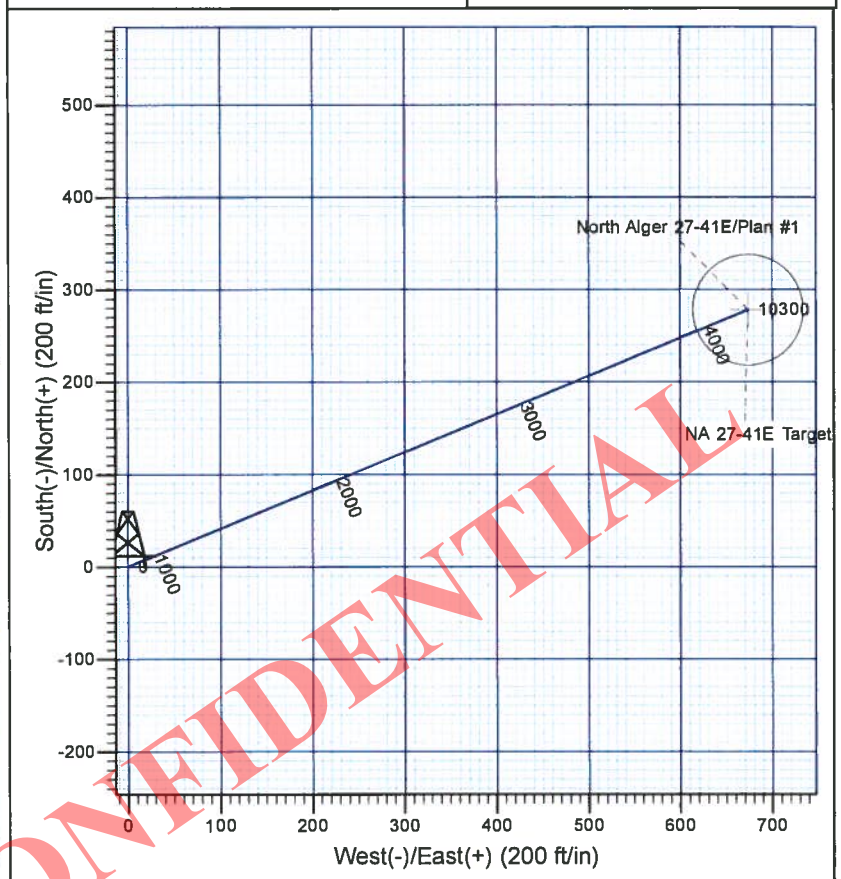
TVD Reference: GL 5257' @ 5257.00ft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	579961.00	2483653.14	39° 54' 46.231 N	109° 46' 32.261 W	E

T M Azimuths to True North
Magnetic North: 10.99°

Magnetic Field
Strength: 51959.3snT
Dip Angle: 65.68°
Date: 7/12/2013
Model: BGGM2013





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FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4384.00	4457.97	Wasatch
7905.00	7978.97	Mesaverde
10060.00	10133.97	Sego

Plan: Plan #1

12:40, July 15 2013
Created By: Janie Collins

PROJECT DETAILS: Uintah County, UT

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302

System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	1109.43	12.19	67.58	1104.85	24.63	59.70	2.00	67.58	64.58	
4	4051.68	12.19	67.58	3980.77	261.53	633.95	0.00	0.00	685.78	
5	4457.97	0.00	0.00	4384.00	277.95	673.75	3.00	180.00	728.83	NA 27-41E Target
6	10373.97	0.00	0.00	10300.00	277.95	673.75	0.00	0.00	728.83	

API Well Number: 43047540810000

Koch Exploration Co. LLC

Uintah County, UT
NA 27-41 Pad
North Alger 27-41E - Slot E

OH

Plan: Plan #1

Standard Planning Report

15 July, 2013

CONFIDENTIAL

Scientific Drilling

www.scientificdrilling.com

Planning Report

Scientific Drilling

Database:	Grand Junction District	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Company:	Koch Exploration Co. LLC	**TVD Reference:**	GL 5257' @ 5257.00ft
Project:	Uintah County, UT	**MD Reference:**	GL 5257' @ 5257.00ft
Site:	NA 27-41 Pad	**North Reference:**	True
Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project Uintah County, UT

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site NA 27-41 Pad

Site Position:		**Northing:**	579,989.88 usft	**Latitude:**	39° 54' 46.523 N
From:	Lat/Long	**Easting:**	2,483,618.63 usft	**Longitude:**	109° 46' 32.696 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.10 °

Well North Alger 27-41E - Slot E

Well Position	**+N/-S**	-29.53 ft	**Northing:**	579,961.01 usft	**Latitude:**	39° 54' 46.231 N
	+E/-W	33.94 ft	**Easting:**	2,483,653.13 usft	**Longitude:**	109° 46' 32.261 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,257.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	7/12/2013	10.99	65.66	51,959

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	67.58

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,109.43	12.19	67.58	1,104.85	24.63	59.70	2.00	2.00	0.00	67.58	
4,051.68	12.19	67.58	3,980.77	261.53	633.95	0.00	0.00	0.00	0.00	
4,457.97	0.00	0.00	4,384.00	277.95	673.75	3.00	-3.00	0.00	180.00	NA 27-41E Target
10,373.97	0.00	0.00	10,300.00	277.95	673.75	0.00	0.00	0.00	0.00	

CONFIDENTIAL

Planning Report

Scientific Drilling

Database:	Grand Junction District	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Company:	Koch Exploration Co. LLC	**TVD Reference:**	GL 5257' @ 5257.00ft
Project:	Uintah County, UT	**MD Reference:**	GL 5257' @ 5257.00ft
Site:	NA 27-41 Pad	**North Reference:**	True
Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	2.00	67.58	599.98	0.67	1.61	1.75	2.00	2.00	0.00
700.00	4.00	67.58	699.84	2.66	6.45	6.98	2.00	2.00	0.00
800.00	6.00	67.58	799.45	5.98	14.51	15.69	2.00	2.00	0.00
900.00	8.00	67.58	898.70	10.63	25.77	27.88	2.00	2.00	0.00
1,000.00	10.00	67.58	997.47	16.60	40.23	43.52	2.00	2.00	0.00
1,100.00	12.00	67.58	1,095.62	23.87	57.87	62.60	2.00	2.00	0.00
1,109.43	12.19	67.58	1,104.85	24.63	59.70	64.58	2.00	2.00	0.00
1,200.00	12.19	67.58	1,193.37	31.92	77.37	83.70	0.00	0.00	0.00
1,300.00	12.19	67.58	1,291.12	39.97	96.89	104.81	0.00	0.00	0.00
1,400.00	12.19	67.58	1,388.86	48.02	116.41	125.93	0.00	0.00	0.00
1,500.00	12.19	67.58	1,486.61	56.08	135.93	147.04	0.00	0.00	0.00
1,600.00	12.19	67.58	1,584.36	64.13	155.44	168.15	0.00	0.00	0.00
1,700.00	12.19	67.58	1,682.10	72.18	174.96	189.27	0.00	0.00	0.00
1,800.00	12.19	67.58	1,779.85	80.23	194.48	210.38	0.00	0.00	0.00
1,900.00	12.19	67.58	1,877.59	88.28	214.00	231.49	0.00	0.00	0.00
2,000.00	12.19	67.58	1,975.34	96.33	233.51	252.61	0.00	0.00	0.00
2,100.00	12.19	67.58	2,073.08	104.39	253.03	273.72	0.00	0.00	0.00
2,200.00	12.19	67.58	2,170.83	112.44	272.55	294.83	0.00	0.00	0.00
2,300.00	12.19	67.58	2,268.58	120.49	292.07	315.94	0.00	0.00	0.00
2,400.00	12.19	67.58	2,366.32	128.54	311.58	337.06	0.00	0.00	0.00
2,500.00	12.19	67.58	2,464.07	136.59	331.10	358.17	0.00	0.00	0.00
2,536.76	12.19	67.58	2,500.00	139.55	338.28	365.93	0.00	0.00	0.00
Surface Casing									
2,600.00	12.19	67.58	2,561.81	144.65	350.62	379.28	0.00	0.00	0.00
2,700.00	12.19	67.58	2,659.56	152.70	370.14	400.40	0.00	0.00	0.00
2,800.00	12.19	67.58	2,757.30	160.75	389.65	421.51	0.00	0.00	0.00
2,900.00	12.19	67.58	2,855.05	168.80	409.17	442.62	0.00	0.00	0.00
3,000.00	12.19	67.58	2,952.80	176.85	428.69	463.74	0.00	0.00	0.00
3,100.00	12.19	67.58	3,050.54	184.90	448.21	484.85	0.00	0.00	0.00
3,200.00	12.19	67.58	3,148.29	192.96	467.72	505.96	0.00	0.00	0.00
3,300.00	12.19	67.58	3,246.03	201.01	487.24	527.08	0.00	0.00	0.00
3,400.00	12.19	67.58	3,343.78	209.06	506.76	548.19	0.00	0.00	0.00
3,500.00	12.19	67.58	3,441.52	217.11	526.28	569.30	0.00	0.00	0.00
3,600.00	12.19	67.58	3,539.27	225.16	545.79	590.42	0.00	0.00	0.00
3,700.00	12.19	67.58	3,637.02	233.21	565.31	611.53	0.00	0.00	0.00
3,800.00	12.19	67.58	3,734.76	241.27	584.83	632.64	0.00	0.00	0.00
3,900.00	12.19	67.58	3,832.51	249.32	604.35	653.75	0.00	0.00	0.00
4,000.00	12.19	67.58	3,930.25	257.37	623.86	674.87	0.00	0.00	0.00
4,051.68	12.19	67.58	3,980.77	261.53	633.95	685.78	0.00	0.00	0.00
4,100.00	10.74	67.58	4,028.12	265.19	642.83	695.38	3.00	-3.00	0.00
4,200.00	7.74	67.58	4,126.82	271.32	657.67	711.44	3.00	-3.00	0.00
4,300.00	4.74	67.58	4,226.21	275.46	667.71	722.30	3.00	-3.00	0.00
4,400.00	1.74	67.58	4,326.04	277.61	672.94	727.95	3.00	-3.00	0.00
4,457.97	0.00	0.00	4,384.00	277.95	673.75	728.83	3.00	-3.00	0.00
Wasatch - NA 27-41E Target									
4,500.00	0.00	0.00	4,426.03	277.95	673.75	728.83	0.00	0.00	0.00
4,600.00	0.00	0.00	4,526.03	277.95	673.75	728.83	0.00	0.00	0.00
4,700.00	0.00	0.00	4,626.03	277.95	673.75	728.83	0.00	0.00	0.00

CONFIDENTIAL

Planning Report

Scientific Drilling

Database:	Grand Junction District	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Company:	Koch Exploration Co. LLC	**TVD Reference:**	GL 5257' @ 5257.00ft
Project:	Uintah County, UT	**MD Reference:**	GL 5257' @ 5257.00ft
Site:	NA 27-41 Pad	**North Reference:**	True
Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,800.00	0.00	0.00	4,726.03	277.95	673.75	728.83	0.00	0.00	0.00
4,900.00	0.00	0.00	4,826.03	277.95	673.75	728.83	0.00	0.00	0.00
5,000.00	0.00	0.00	4,926.03	277.95	673.75	728.83	0.00	0.00	0.00
5,100.00	0.00	0.00	5,026.03	277.95	673.75	728.83	0.00	0.00	0.00
5,200.00	0.00	0.00	5,126.03	277.95	673.75	728.83	0.00	0.00	0.00
5,300.00	0.00	0.00	5,226.03	277.95	673.75	728.83	0.00	0.00	0.00
5,400.00	0.00	0.00	5,326.03	277.95	673.75	728.83	0.00	0.00	0.00
5,500.00	0.00	0.00	5,426.03	277.95	673.75	728.83	0.00	0.00	0.00
5,600.00	0.00	0.00	5,526.03	277.95	673.75	728.83	0.00	0.00	0.00
5,700.00	0.00	0.00	5,626.03	277.95	673.75	728.83	0.00	0.00	0.00
5,800.00	0.00	0.00	5,726.03	277.95	673.75	728.83	0.00	0.00	0.00
5,900.00	0.00	0.00	5,826.03	277.95	673.75	728.83	0.00	0.00	0.00
6,000.00	0.00	0.00	5,926.03	277.95	673.75	728.83	0.00	0.00	0.00
6,100.00	0.00	0.00	6,026.03	277.95	673.75	728.83	0.00	0.00	0.00
6,200.00	0.00	0.00	6,126.03	277.95	673.75	728.83	0.00	0.00	0.00
6,300.00	0.00	0.00	6,226.03	277.95	673.75	728.83	0.00	0.00	0.00
6,400.00	0.00	0.00	6,326.03	277.95	673.75	728.83	0.00	0.00	0.00
6,500.00	0.00	0.00	6,426.03	277.95	673.75	728.83	0.00	0.00	0.00
6,600.00	0.00	0.00	6,526.03	277.95	673.75	728.83	0.00	0.00	0.00
6,700.00	0.00	0.00	6,626.03	277.95	673.75	728.83	0.00	0.00	0.00
6,800.00	0.00	0.00	6,726.03	277.95	673.75	728.83	0.00	0.00	0.00
6,900.00	0.00	0.00	6,826.03	277.95	673.75	728.83	0.00	0.00	0.00
7,000.00	0.00	0.00	6,926.03	277.95	673.75	728.83	0.00	0.00	0.00
7,100.00	0.00	0.00	7,026.03	277.95	673.75	728.83	0.00	0.00	0.00
7,200.00	0.00	0.00	7,126.03	277.95	673.75	728.83	0.00	0.00	0.00
7,300.00	0.00	0.00	7,226.03	277.95	673.75	728.83	0.00	0.00	0.00
7,400.00	0.00	0.00	7,326.03	277.95	673.75	728.83	0.00	0.00	0.00
7,500.00	0.00	0.00	7,426.03	277.95	673.75	728.83	0.00	0.00	0.00
7,600.00	0.00	0.00	7,526.03	277.95	673.75	728.83	0.00	0.00	0.00
7,700.00	0.00	0.00	7,626.03	277.95	673.75	728.83	0.00	0.00	0.00
7,800.00	0.00	0.00	7,726.03	277.95	673.75	728.83	0.00	0.00	0.00
7,900.00	0.00	0.00	7,826.03	277.95	673.75	728.83	0.00	0.00	0.00
7,978.97	0.00	0.00	7,905.00	277.95	673.75	728.83	0.00	0.00	0.00
Mesaverde									
8,000.00	0.00	0.00	7,926.03	277.95	673.75	728.83	0.00	0.00	0.00
8,100.00	0.00	0.00	8,026.03	277.95	673.75	728.83	0.00	0.00	0.00
8,200.00	0.00	0.00	8,126.03	277.95	673.75	728.83	0.00	0.00	0.00
8,300.00	0.00	0.00	8,226.03	277.95	673.75	728.83	0.00	0.00	0.00
8,400.00	0.00	0.00	8,326.03	277.95	673.75	728.83	0.00	0.00	0.00
8,500.00	0.00	0.00	8,426.03	277.95	673.75	728.83	0.00	0.00	0.00
8,600.00	0.00	0.00	8,526.03	277.95	673.75	728.83	0.00	0.00	0.00
8,700.00	0.00	0.00	8,626.03	277.95	673.75	728.83	0.00	0.00	0.00
8,800.00	0.00	0.00	8,726.03	277.95	673.75	728.83	0.00	0.00	0.00
8,900.00	0.00	0.00	8,826.03	277.95	673.75	728.83	0.00	0.00	0.00
9,000.00	0.00	0.00	8,926.03	277.95	673.75	728.83	0.00	0.00	0.00
9,100.00	0.00	0.00	9,026.03	277.95	673.75	728.83	0.00	0.00	0.00
9,200.00	0.00	0.00	9,126.03	277.95	673.75	728.83	0.00	0.00	0.00
9,300.00	0.00	0.00	9,226.03	277.95	673.75	728.83	0.00	0.00	0.00
9,400.00	0.00	0.00	9,326.03	277.95	673.75	728.83	0.00	0.00	0.00
9,500.00	0.00	0.00	9,426.03	277.95	673.75	728.83	0.00	0.00	0.00
9,600.00	0.00	0.00	9,526.03	277.95	673.75	728.83	0.00	0.00	0.00
9,700.00	0.00	0.00	9,626.03	277.95	673.75	728.83	0.00	0.00	0.00
9,800.00	0.00	0.00	9,726.03	277.95	673.75	728.83	0.00	0.00	0.00
9,900.00	0.00	0.00	9,826.03	277.95	673.75	728.83	0.00	0.00	0.00

CONFIDENTIAL

Planning Report

Scientific Drilling

Database:	Grand Junction District	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Company:	Koch Exploration Co. LLC	**TVD Reference:**	GL 5257' @ 5257.00ft
Project:	Uintah County, UT	**MD Reference:**	GL 5257' @ 5257.00ft
Site:	NA 27-41 Pad	**North Reference:**	True
Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,000.00	0.00	0.00	9,926.03	277.95	673.75	728.83	0.00	0.00	0.00
10,100.00	0.00	0.00	10,026.03	277.95	673.75	728.83	0.00	0.00	0.00
10,133.97	0.00	0.00	10,060.00	277.95	673.75	728.83	0.00	0.00	0.00
Sego									
10,200.00	0.00	0.00	10,126.03	277.95	673.75	728.83	0.00	0.00	0.00
10,300.00	0.00	0.00	10,226.03	277.95	673.75	728.83	0.00	0.00	0.00
10,373.97	0.00	0.00	10,300.00	277.95	673.75	728.83	0.00	0.00	0.00
Production Casing									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NA 27-41E Target - plan hits target center - Circle (radius 60.00)	0.00	0.00	4,384.00	277.95	673.75	580,251.89	2,484,321.40	39° 54' 48.978 N	109° 46' 23.614 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,536.76	2,500.00	Surface Casing	8.625	12.250
10,373.97	10,300.00	Production Casing	4.500	7.875

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,457.97	4,384.00	Wasatch		0.00	
7,978.97	7,905.00	Mesaverde		0.00	
10,133.97	10,060.00	Sego		0.00	

CONFIDENTIAL

API Well Number: 43047540810000

Koch Exploration Co. LLC

Uintah County, UT
NA 27-41 Pad
North Alger 27-41E

OH
Plan #1

Anticollision Report

15 July, 2013

CONFIDENTIAL

Scientific Drilling

www.scientificdrilling.com

API Well Number: 43047540810000

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Reference Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	**Casing Method:**	Not applied

Survey Tool Program **Date** 7/15/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	10,373.97	Plan #1 (OH)	Gyro	

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NA 27-41 Pad						
North Alger 27-41A - OH - Plan #1	0.00	0.00	44.97	44.97	10,000.000	SF
North Alger 27-41A - OH - Plan #1	500.00	500.00	44.97	44.97	10,000.000	CC, ES
North Alger 27-41B - OH - Plan #1	0.00	0.00	14.92	14.92	10,000.000	SF
North Alger 27-41B - OH - Plan #1	500.00	500.00	14.92	14.92	10,000.000	CC, ES
North Alger 27-41C - OH - Plan #1	0.00	0.00	14.90	14.90	10,000.000	SF
North Alger 27-41C - OH - Plan #1	500.00	500.00	14.90	14.90	10,000.000	CC, ES
North Alger 27-41D - OH - Plan #1	0.00	0.00	29.81	29.81	10,000.000	SF
North Alger 27-41D - OH - Plan #1	500.00	500.00	29.81	29.81	10,000.000	CC, ES
North Alger 27-41F - OH - Plan #1	0.00	0.00	30.05	30.05	10,000.000	SF
North Alger 27-41F - OH - Plan #1	500.00	500.00	30.05	30.05	10,000.000	CC, ES
North Alger 27-41G - OH - Plan #1	0.00	0.00	75.02	75.02	10,000.000	SF
North Alger 27-41G - OH - Plan #1	500.00	500.00	75.02	75.02	10,000.000	CC, ES
North Alger 27-41H - OH - Plan #1	0.00	0.00	59.89	59.89	10,000.000	SF
North Alger 27-41H - OH - Plan #1	500.00	500.00	59.89	59.89	10,000.000	CC, ES
North Alger 27-41I - OH - Plan #1	0.00	0.00	105.07	105.07	10,000.000	SF
North Alger 27-41I - OH - Plan #1	500.00	500.00	105.07	105.07	10,000.000	CC, ES
North Alger 27-41J - OH - Plan #1	0.00	0.00	89.94	89.94	10,000.000	SF
North Alger 27-41J - OH - Plan #1	500.00	500.00	89.94	89.94	10,000.000	CC, ES

CONFIDENTIAL

Offset Design NA 27-41 Pad - North Alger 27-41A - OH - Plan #1 — Offset Site Error: 0.00 ft

Survey Program: 0-Gyro — Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-49.00	29.50	-33.94	44.97	44.97	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-49.00	29.50	-33.94	44.97	44.97	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-49.00	29.50	-33.94	44.97	44.97	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-49.00	29.50	-33.94	44.97	44.97	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-49.00	29.50	-33.94	44.97	44.97	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-49.00	29.50	-33.94	44.97	44.97	0.00	N/A	CC, ES
600.00	599.98	599.08	599.06	0.00		-120.25	28.97	-35.57	46.74	46.74	0.00	N/A	
700.00	699.84	697.45	697.30	0.00		-129.55	27.38	-40.40	53.04	53.04	0.00	N/A	
800.00	799.45	794.42	793.90	0.00		-140.44	24.79	-48.30	65.80	65.80	0.00	N/A	
900.00	898.70	889.33	888.14	0.00		-149.70	21.26	-59.04	86.12	86.12	0.00	N/A	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

API Well Number: 43047540810000

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41A - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,000.00	997.47	981.60	979.34	0.00		-156.47	16.90	-72.31	113.99	113.99	0.00	N/A	
1,109.43	1,104.85	1,078.92	1,074.99	0.00		-161.53	11.31	-89.32	152.57	152.57	0.00	N/A	
1,200.00	1,193.37	1,156.76	1,151.03	0.00		-164.56	6.11	-105.15	189.14	189.14	0.00	N/A	
1,300.00	1,291.12	1,240.45	1,232.23	0.00		-166.87	-0.20	-124.35	232.44	232.44	0.00	N/A	
1,400.00	1,388.86	1,321.72	1,310.50	0.00		-168.51	-7.03	-145.14	278.53	278.53	0.00	N/A	
1,500.00	1,486.61	1,400.00	1,385.27	0.00		-169.72	-14.26	-167.15	327.22	327.22	0.00	N/A	
1,600.00	1,584.36	1,476.95	1,458.12	0.00		-170.65	-21.99	-190.67	378.35	378.35	0.00	N/A	
1,700.00	1,682.10	1,550.90	1,527.49	0.00		-171.37	-29.99	-215.02	431.77	431.77	0.00	N/A	
1,800.00	1,779.85	1,622.45	1,593.95	0.00		-171.95	-38.26	-240.19	487.37	487.37	0.00	N/A	
1,900.00	1,877.59	1,691.61	1,657.54	0.00		-172.42	-46.74	-266.01	545.03	545.03	0.00	N/A	
2,000.00	1,975.34	1,758.42	1,718.34	0.00		-172.80	-55.39	-292.33	604.63	604.63	0.00	N/A	
2,100.00	2,073.08	1,835.56	1,788.04	0.00		-173.18	-65.70	-323.72	665.45	665.45	0.00	N/A	
2,200.00	2,170.83	1,914.85	1,859.69	0.00		-173.50	-76.31	-356.00	726.30	726.30	0.00	N/A	
2,300.00	2,268.58	1,994.15	1,931.33	0.00		-173.77	-86.92	-388.28	787.16	787.16	0.00	N/A	
2,400.00	2,366.32	2,073.44	2,002.98	0.00		-174.01	-97.52	-420.56	848.03	848.03	0.00	N/A	
2,500.00	2,464.07	2,152.74	2,074.62	0.00		-174.21	-108.13	-452.84	908.91	908.91	0.00	N/A	
2,600.00	2,561.81	2,232.03	2,146.27	0.00		-174.39	-118.73	-485.12	969.80	969.80	0.00	N/A	
2,700.00	2,659.56	2,311.32	2,217.92	0.00		-174.54	-129.34	-517.40	1,030.69	1,030.69	0.00	N/A	
2,800.00	2,757.30	2,390.62	2,289.56	0.00		-174.68	-139.95	-549.68	1,091.58	1,091.58	0.00	N/A	
2,900.00	2,855.05	2,469.91	2,361.21	0.00		-174.81	-150.55	-581.96	1,152.48	1,152.48	0.00	N/A	
3,000.00	2,952.80	2,549.21	2,432.85	0.00		-174.92	-161.16	-614.24	1,213.39	1,213.39	0.00	N/A	
3,100.00	3,050.54	2,628.50	2,504.50	0.00		-175.02	-171.76	-646.52	1,274.29	1,274.29	0.00	N/A	
3,200.00	3,148.29	2,707.80	2,576.14	0.00		-175.11	-182.37	-678.81	1,335.20	1,335.20	0.00	N/A	
3,300.00	3,246.03	2,787.09	2,647.79	0.00		-175.19	-192.98	-711.09	1,396.11	1,396.11	0.00	N/A	
3,400.00	3,343.78	2,866.38	2,719.43	0.00		-175.27	-203.58	-743.37	1,457.02	1,457.02	0.00	N/A	
3,500.00	3,441.52	2,945.68	2,791.08	0.00		-175.34	-214.19	-775.65	1,517.93	1,517.93	0.00	N/A	
3,600.00	3,539.27	3,024.97	2,862.72	0.00		-175.41	-224.79	-807.93	1,578.84	1,578.84	0.00	N/A	
3,700.00	3,637.02	3,104.27	2,934.37	0.00		-175.47	-235.40	-840.21	1,639.76	1,639.76	0.00	N/A	
3,800.00	3,734.76	3,183.56	3,006.01	0.00		-175.52	-246.01	-872.49	1,700.67	1,700.67	0.00	N/A	
3,900.00	3,832.51	3,262.86	3,077.66	0.00		-175.57	-256.61	-904.77	1,761.59	1,761.59	0.00	N/A	
4,000.00	3,930.25	3,342.15	3,149.30	0.00		-175.62	-267.22	-937.05	1,822.51	1,822.51	0.00	N/A	
4,051.68	3,980.77	3,383.13	3,186.33	0.00		-175.65	-272.70	-953.73	1,853.99	1,853.99	0.00	N/A	
4,100.00	4,028.12	3,421.81	3,221.28	0.00		-175.75	-277.87	-969.48	1,882.94	1,882.94	0.00	N/A	
4,200.00	4,126.82	3,504.12	3,295.65	0.00		-175.93	-288.88	-1,002.99	1,939.70	1,939.70	0.00	N/A	
4,300.00	4,226.21	3,589.29	3,372.60	0.00		-176.07	-300.27	-1,037.66	1,992.09	1,992.09	0.00	N/A	
4,400.00	4,326.04	3,677.07	3,451.92	0.00		-176.18	-312.02	-1,073.40	2,039.96	2,039.96	0.00	N/A	
4,457.97	4,384.00	3,729.07	3,498.90	0.00		-108.65	-318.97	-1,094.56	2,065.59	2,065.59	0.00	N/A	
4,500.00	4,426.03	4,689.42	4,426.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
4,600.00	4,526.03	4,789.42	4,526.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
4,700.00	4,626.03	4,889.42	4,626.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
4,800.00	4,726.03	4,989.42	4,726.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
4,900.00	4,826.03	5,089.42	4,826.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,000.00	4,926.03	5,189.42	4,926.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,100.00	5,026.03	5,289.42	5,026.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,200.00	5,126.03	5,389.42	5,126.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,300.00	5,226.03	5,489.42	5,226.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,400.00	5,326.03	5,589.42	5,326.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,500.00	5,426.03	5,689.42	5,426.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,600.00	5,526.03	5,789.42	5,526.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,700.00	5,626.03	5,889.42	5,626.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,800.00	5,726.03	5,989.42	5,726.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
5,900.00	5,826.03	6,089.42	5,826.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41A - OH - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Gyro **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,000.00	5,926.03	6,189.42	5,926.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,100.00	6,026.03	6,289.42	6,026.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,200.00	6,126.03	6,389.42	6,126.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,300.00	6,226.03	6,489.42	6,226.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,400.00	6,326.03	6,589.42	6,326.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,500.00	6,426.03	6,689.42	6,426.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,600.00	6,526.03	6,789.42	6,526.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,700.00	6,626.03	6,889.42	6,626.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,800.00	6,726.03	6,989.42	6,726.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
6,900.00	6,826.03	7,089.42	6,826.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,000.00	6,926.03	7,189.42	6,926.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,100.00	7,026.03	7,289.42	7,026.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,200.00	7,126.03	7,389.42	7,126.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,300.00	7,226.03	7,489.42	7,226.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,400.00	7,326.03	7,589.42	7,326.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,500.00	7,426.03	7,689.42	7,426.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,600.00	7,526.03	7,789.42	7,526.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,700.00	7,626.03	7,889.42	7,626.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,800.00	7,726.03	7,989.42	7,726.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
7,900.00	7,826.03	8,089.42	7,826.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,000.00	7,926.03	8,189.42	7,926.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,100.00	8,026.03	8,289.42	8,026.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,200.00	8,126.03	8,389.42	8,126.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,300.00	8,226.03	8,489.42	8,226.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,400.00	8,326.03	8,589.42	8,326.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,500.00	8,426.03	8,689.42	8,426.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,600.00	8,526.03	8,789.42	8,526.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,700.00	8,626.03	8,889.42	8,626.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,800.00	8,726.03	8,989.42	8,726.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
8,900.00	8,826.03	9,089.42	8,826.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,000.00	8,926.03	9,189.42	8,926.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,100.00	9,026.03	9,289.42	9,026.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,200.00	9,126.03	9,389.42	9,126.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,300.00	9,226.03	9,489.42	9,226.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,400.00	9,326.03	9,589.42	9,326.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,500.00	9,426.03	9,689.42	9,426.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,600.00	9,526.03	9,789.42	9,526.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,700.00	9,626.03	9,889.42	9,626.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,800.00	9,726.03	9,989.42	9,726.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
9,900.00	9,826.03	10,089.42	9,826.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
10,000.00	9,926.03	10,189.42	9,926.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
10,100.00	10,026.03	10,289.42	10,026.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
10,200.00	10,126.03	10,389.42	10,126.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
10,300.00	10,226.03	10,489.42	10,226.03	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	
10,373.97	10,300.00	10,563.38	10,300.00	0.00		-108.61	-384.58	-1,294.24	2,076.52	2,076.52	0.00	N/A	

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Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41B - OH - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Gyro **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-48.76	9.84	-11.22	14.92	14.92	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-48.76	9.84	-11.22	14.92	14.92	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-48.76	9.84	-11.22	14.92	14.92	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-48.76	9.84	-11.22	14.92	14.92	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-48.76	9.84	-11.22	14.92	14.92	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-48.76	9.84	-11.22	14.92	14.92	0.00	N/A	CC, ES
600.00	599.98	599.73	599.71	0.00		-127.57	8.91	-12.69	16.51	16.51	0.00	N/A	
700.00	699.84	698.74	698.58	0.00		-148.93	6.17	-17.05	23.80	23.80	0.00	N/A	
800.00	799.45	796.34	795.81	0.00		-163.69	1.68	-24.18	39.10	39.10	0.00	N/A	
900.00	898.70	891.87	890.65	0.00		-171.50	-4.41	-33.87	62.04	62.04	0.00	N/A	
1,000.00	997.47	984.73	982.42	0.00		-175.74	-11.95	-45.85	91.93	91.93	0.00	N/A	
1,109.43	1,104.85	1,082.67	1,078.66	0.00		-178.41	-21.61	-61.20	132.06	132.06	0.00	N/A	
1,200.00	1,193.37	1,163.46	1,157.62	0.00		-179.82	-30.71	-75.67	169.19	169.19	0.00	N/A	
1,300.00	1,291.12	1,254.47	1,246.51	0.00		179.15	-41.10	-92.19	210.51	210.51	0.00	N/A	
1,400.00	1,388.86	1,345.48	1,335.41	0.00		178.47	-51.49	-108.71	251.87	251.87	0.00	N/A	
1,500.00	1,486.61	1,436.49	1,424.30	0.00		177.97	-61.88	-125.22	293.25	293.25	0.00	N/A	
1,600.00	1,584.36	1,527.50	1,513.20	0.00		177.60	-72.27	-141.74	334.64	334.64	0.00	N/A	
1,700.00	1,682.10	1,618.52	1,602.10	0.00		177.31	-82.66	-158.26	376.04	376.04	0.00	N/A	
1,800.00	1,779.85	1,709.53	1,690.99	0.00		177.08	-93.04	-174.77	417.45	417.45	0.00	N/A	
1,900.00	1,877.59	1,800.54	1,779.89	0.00		176.89	-103.43	-191.29	458.87	458.87	0.00	N/A	
2,000.00	1,975.34	1,891.55	1,868.78	0.00		176.73	-113.82	-207.80	500.28	500.28	0.00	N/A	
2,100.00	2,073.08	1,982.56	1,957.68	0.00		176.60	-124.21	-224.32	541.70	541.70	0.00	N/A	
2,200.00	2,170.83	2,073.58	2,046.57	0.00		176.48	-134.60	-240.84	583.12	583.12	0.00	N/A	
2,300.00	2,268.58	2,164.59	2,135.47	0.00		176.38	-144.99	-257.35	624.55	624.55	0.00	N/A	
2,400.00	2,366.32	2,255.60	2,224.37	0.00		176.29	-155.38	-273.87	665.97	665.97	0.00	N/A	
2,500.00	2,464.07	2,346.61	2,313.26	0.00		176.22	-165.77	-290.39	707.40	707.40	0.00	N/A	
2,600.00	2,561.81	2,437.62	2,402.16	0.00		176.15	-176.16	-306.90	748.83	748.83	0.00	N/A	
2,700.00	2,659.56	2,528.63	2,491.05	0.00		176.08	-186.55	-323.42	790.25	790.25	0.00	N/A	
2,800.00	2,757.30	2,619.65	2,579.95	0.00		176.03	-196.94	-339.93	831.68	831.68	0.00	N/A	
2,900.00	2,855.05	2,710.66	2,668.84	0.00		175.98	-207.33	-356.45	873.11	873.11	0.00	N/A	
3,000.00	2,952.80	2,801.67	2,757.74	0.00		175.93	-217.72	-372.97	914.54	914.54	0.00	N/A	
3,100.00	3,050.54	2,892.68	2,846.63	0.00		175.89	-228.11	-389.48	955.97	955.97	0.00	N/A	
3,200.00	3,148.29	2,983.69	2,935.53	0.00		175.85	-238.49	-406.00	997.40	997.40	0.00	N/A	
3,300.00	3,246.03	3,074.71	3,024.43	0.00		175.82	-248.88	-422.52	1,038.83	1,038.83	0.00	N/A	
3,400.00	3,343.78	3,165.72	3,113.32	0.00		175.79	-259.27	-439.03	1,080.26	1,080.26	0.00	N/A	
3,500.00	3,441.52	3,256.73	3,202.22	0.00		175.76	-269.66	-455.55	1,121.69	1,121.69	0.00	N/A	
3,600.00	3,539.27	3,347.74	3,291.11	0.00		175.73	-280.05	-472.07	1,163.13	1,163.13	0.00	N/A	
3,700.00	3,637.02	3,438.75	3,380.01	0.00		175.70	-290.44	-488.58	1,204.56	1,204.56	0.00	N/A	
3,800.00	3,734.76	3,529.77	3,468.90	0.00		175.68	-300.83	-505.10	1,245.99	1,245.99	0.00	N/A	
3,900.00	3,832.51	3,620.78	3,557.80	0.00		175.65	-311.22	-521.61	1,287.42	1,287.42	0.00	N/A	
4,000.00	3,930.25	3,711.79	3,646.70	0.00		175.63	-321.61	-538.13	1,328.85	1,328.85	0.00	N/A	
4,051.68	3,980.77	3,758.82	3,692.64	0.00		175.62	-326.98	-546.67	1,350.27	1,350.27	0.00	N/A	
4,100.00	4,028.12	3,803.05	3,735.83	0.00		175.66	-332.03	-554.69	1,369.73	1,369.73	0.00	N/A	
4,200.00	4,126.82	3,896.05	3,826.68	0.00		175.71	-342.64	-571.57	1,406.43	1,406.43	0.00	N/A	
4,300.00	4,226.21	3,990.84	3,919.26	0.00		175.74	-353.46	-588.77	1,438.24	1,438.24	0.00	N/A	
4,400.00	4,326.04	4,257.51	4,182.03	0.00		175.66	-377.06	-626.28	1,461.96	1,461.96	0.00	N/A	
4,457.97	4,384.00	4,459.79	4,384.00	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
4,500.00	4,426.03	4,501.82	4,426.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
4,600.00	4,526.03	4,601.82	4,526.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
4,700.00	4,626.03	4,701.82	4,626.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
4,800.00	4,726.03	4,801.82	4,726.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
4,900.00	4,826.03	4,901.82	4,826.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41B - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	5,001.82	4,926.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,100.00	5,026.03	5,101.82	5,026.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,200.00	5,126.03	5,201.82	5,126.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,300.00	5,226.03	5,301.82	5,226.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,400.00	5,326.03	5,401.82	5,326.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,500.00	5,426.03	5,501.82	5,426.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,600.00	5,526.03	5,601.82	5,526.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,700.00	5,626.03	5,701.82	5,626.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,800.00	5,726.03	5,801.82	5,726.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
5,900.00	5,826.03	5,901.82	5,826.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,000.00	5,926.03	6,001.82	5,926.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,100.00	6,026.03	6,101.82	6,026.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,200.00	6,126.03	6,201.82	6,126.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,300.00	6,226.03	6,301.82	6,226.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,400.00	6,326.03	6,401.82	6,326.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,500.00	6,426.03	6,501.82	6,426.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,600.00	6,526.03	6,601.82	6,526.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,700.00	6,626.03	6,701.82	6,626.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,800.00	6,726.03	6,801.82	6,726.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
6,900.00	6,826.03	6,901.82	6,826.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,000.00	6,926.03	7,001.82	6,926.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,100.00	7,026.03	7,101.82	7,026.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,200.00	7,126.03	7,201.82	7,126.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,300.00	7,226.03	7,301.82	7,226.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,400.00	7,326.03	7,401.82	7,326.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,500.00	7,426.03	7,501.82	7,426.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,600.00	7,526.03	7,601.82	7,526.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,700.00	7,626.03	7,701.82	7,626.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,800.00	7,726.03	7,801.82	7,726.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
7,900.00	7,826.03	7,901.82	7,826.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,000.00	7,926.03	8,001.82	7,926.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,100.00	8,026.03	8,101.82	8,026.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,200.00	8,126.03	8,201.82	8,126.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,300.00	8,226.03	8,301.82	8,226.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,400.00	8,326.03	8,401.82	8,326.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,500.00	8,426.03	8,501.82	8,426.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,600.00	8,526.03	8,601.82	8,526.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,700.00	8,626.03	8,701.82	8,626.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,800.00	8,726.03	8,801.82	8,726.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
8,900.00	8,826.03	8,901.82	8,826.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,000.00	8,926.03	9,001.82	8,926.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,100.00	9,026.03	9,101.82	9,026.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,200.00	9,126.03	9,201.82	9,126.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,300.00	9,226.03	9,301.82	9,226.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,400.00	9,326.03	9,401.82	9,326.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,500.00	9,426.03	9,501.82	9,426.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,600.00	9,526.03	9,601.82	9,526.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,700.00	9,626.03	9,701.82	9,626.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,800.00	9,726.03	9,801.82	9,726.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
9,900.00	9,826.03	9,901.82	9,826.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
10,000.00	9,926.03	10,001.82	9,926.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
10,100.00	10,026.03	10,101.82	10,026.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41B - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,201.82	10,126.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
10,300.00	10,226.03	10,301.82	10,226.03	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	
10,373.97	10,300.00	10,375.79	10,300.00	0.00		-116.78	-382.05	-634.22	1,465.05	1,465.05	0.00	N/A	

CONFIDENTIAL

API Well Number: 43047540810000

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41C - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		129.47	-9.47	11.50	14.90	14.90	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		129.47	-9.47	11.50	14.90	14.90	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		129.47	-9.47	11.50	14.90	14.90	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		129.47	-9.47	11.50	14.90	14.90	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		129.47	-9.47	11.50	14.90	14.90	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		129.47	-9.47	11.50	14.90	14.90	0.00	N/A	CC, ES
600.00	599.98	599.57	599.55	0.00		72.38	-11.20	11.57	15.49	15.49	0.00	N/A	
700.00	699.84	698.66	698.50	0.00		96.53	-16.35	11.76	19.78	19.78	0.00	N/A	
800.00	799.45	796.84	796.30	0.00		116.25	-24.82	12.08	31.06	31.06	0.00	N/A	
900.00	898.70	895.14	894.09	0.00		127.85	-34.84	12.46	47.61	47.61	0.00	N/A	
1,000.00	997.47	992.83	991.28	0.00		135.38	-44.80	12.83	67.52	67.52	0.00	N/A	
1,109.43	1,104.85	1,098.91	1,096.80	0.00		141.19	-55.61	13.24	93.07	93.07	0.00	N/A	
1,200.00	1,193.37	1,186.30	1,183.74	0.00		144.70	-64.52	13.58	116.03	116.03	0.00	N/A	
1,300.00	1,291.12	1,282.79	1,279.72	0.00		147.26	-74.36	13.95	141.71	141.71	0.00	N/A	
1,400.00	1,388.86	1,379.28	1,375.71	0.00		149.02	-84.19	14.32	167.56	167.56	0.00	N/A	
1,500.00	1,486.61	1,475.77	1,471.70	0.00		150.32	-94.03	14.69	193.53	193.53	0.00	N/A	
1,600.00	1,584.36	1,572.26	1,567.68	0.00		151.31	-103.87	15.06	219.56	219.56	0.00	N/A	
1,700.00	1,682.10	1,668.75	1,663.67	0.00		152.09	-113.70	15.43	245.65	245.65	0.00	N/A	
1,800.00	1,779.85	1,765.24	1,759.66	0.00		152.72	-123.54	15.80	271.76	271.76	0.00	N/A	
1,900.00	1,877.59	1,861.73	1,855.64	0.00		153.24	-133.38	16.17	297.91	297.91	0.00	N/A	
2,000.00	1,975.34	1,958.22	1,951.63	0.00		153.68	-143.21	16.54	324.07	324.07	0.00	N/A	
2,100.00	2,073.08	2,054.71	2,047.62	0.00		154.05	-153.05	16.92	350.25	350.25	0.00	N/A	
2,200.00	2,170.83	2,151.20	2,143.60	0.00		154.37	-162.88	17.29	376.43	376.43	0.00	N/A	
2,300.00	2,268.58	2,247.69	2,239.59	0.00		154.64	-172.72	17.66	402.63	402.63	0.00	N/A	
2,400.00	2,366.32	2,344.18	2,335.58	0.00		154.89	-182.56	18.03	428.84	428.84	0.00	N/A	
2,500.00	2,464.07	2,440.67	2,431.56	0.00		155.10	-192.39	18.40	455.05	455.05	0.00	N/A	
2,600.00	2,561.81	2,537.16	2,527.55	0.00		155.30	-202.23	18.77	481.27	481.27	0.00	N/A	
2,700.00	2,659.56	2,633.65	2,623.54	0.00		155.47	-212.06	19.14	507.49	507.49	0.00	N/A	
2,800.00	2,757.30	2,730.14	2,719.52	0.00		155.62	-221.90	19.51	533.72	533.72	0.00	N/A	
2,900.00	2,855.05	2,826.63	2,815.51	0.00		155.76	-231.74	19.88	559.95	559.95	0.00	N/A	
3,000.00	2,952.80	2,923.12	2,911.50	0.00		155.89	-241.57	20.25	586.18	586.18	0.00	N/A	
3,100.00	3,050.54	3,019.61	3,007.48	0.00		156.01	-251.41	20.63	612.41	612.41	0.00	N/A	
3,200.00	3,148.29	3,116.10	3,103.47	0.00		156.12	-261.25	21.00	638.65	638.65	0.00	N/A	
3,300.00	3,246.03	3,212.59	3,199.46	0.00		156.22	-271.08	21.37	664.89	664.89	0.00	N/A	
3,400.00	3,343.78	3,309.08	3,295.44	0.00		156.31	-280.92	21.74	691.13	691.13	0.00	N/A	
3,500.00	3,441.52	3,405.57	3,391.43	0.00		156.39	-290.75	22.11	717.37	717.37	0.00	N/A	
3,600.00	3,539.27	3,502.06	3,487.42	0.00		156.47	-300.59	22.48	743.61	743.61	0.00	N/A	
3,700.00	3,637.02	3,598.55	3,583.40	0.00		156.55	-310.43	22.85	769.86	769.86	0.00	N/A	
3,800.00	3,734.76	3,695.04	3,679.39	0.00		156.61	-320.26	23.22	796.10	796.10	0.00	N/A	
3,900.00	3,832.51	3,791.53	3,775.38	0.00		156.68	-330.10	23.59	822.35	822.35	0.00	N/A	
4,000.00	3,930.25	3,888.02	3,871.36	0.00		156.74	-339.93	23.96	848.60	848.60	0.00	N/A	
4,051.68	3,980.77	3,937.89	3,920.97	0.00		156.77	-345.02	24.16	862.16	862.16	0.00	N/A	
4,100.00	4,028.12	3,984.66	3,967.49	0.00		156.93	-349.79	24.34	874.30	874.30	0.00	N/A	
4,200.00	4,126.82	4,082.27	4,064.59	0.00		157.11	-359.74	24.71	895.95	895.95	0.00	N/A	
4,300.00	4,226.21	4,180.76	4,162.58	0.00		157.10	-369.78	25.09	912.88	912.88	0.00	N/A	
4,400.00	4,326.04	4,321.34	4,302.75	0.00		156.94	-380.04	25.48	923.18	923.18	0.00	N/A	
4,457.97	4,384.00	4,402.61	4,384.00	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
4,500.00	4,426.03	4,444.64	4,426.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
4,600.00	4,526.03	4,544.64	4,526.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
4,700.00	4,626.03	4,644.64	4,626.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
4,800.00	4,726.03	4,744.64	4,726.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
4,900.00	4,826.03	4,844.64	4,826.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

API Well Number: 43047540810000

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41C - OH - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-Gyro

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	4,944.64	4,926.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,100.00	5,026.03	5,044.64	5,026.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,200.00	5,126.03	5,144.64	5,126.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,300.00	5,226.03	5,244.64	5,226.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,400.00	5,326.03	5,344.64	5,326.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,500.00	5,426.03	5,444.64	5,426.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,600.00	5,526.03	5,544.64	5,526.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,700.00	5,626.03	5,644.64	5,626.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,800.00	5,726.03	5,744.64	5,726.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
5,900.00	5,826.03	5,844.64	5,826.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,000.00	5,926.03	5,944.64	5,926.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,100.00	6,026.03	6,044.64	6,026.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,200.00	6,126.03	6,144.64	6,126.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,300.00	6,226.03	6,244.64	6,226.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,400.00	6,326.03	6,344.64	6,326.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,500.00	6,426.03	6,444.64	6,426.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,600.00	6,526.03	6,544.64	6,526.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,700.00	6,626.03	6,644.64	6,626.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,800.00	6,726.03	6,744.64	6,726.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
6,900.00	6,826.03	6,844.64	6,826.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,000.00	6,926.03	6,944.64	6,926.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,100.00	7,026.03	7,044.64	7,026.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,200.00	7,126.03	7,144.64	7,126.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,300.00	7,226.03	7,244.64	7,226.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,400.00	7,326.03	7,344.64	7,326.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,500.00	7,426.03	7,444.64	7,426.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,600.00	7,526.03	7,544.64	7,526.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,700.00	7,626.03	7,644.64	7,626.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,800.00	7,726.03	7,744.64	7,726.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
7,900.00	7,826.03	7,844.64	7,826.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,000.00	7,926.03	7,944.64	7,926.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,100.00	8,026.03	8,044.64	8,026.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,200.00	8,126.03	8,144.64	8,126.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,300.00	8,226.03	8,244.64	8,226.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,400.00	8,326.03	8,344.64	8,326.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,500.00	8,426.03	8,444.64	8,426.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,600.00	8,526.03	8,544.64	8,526.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,700.00	8,626.03	8,644.64	8,626.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,800.00	8,726.03	8,744.64	8,726.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
8,900.00	8,826.03	8,844.64	8,826.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,000.00	8,926.03	8,944.64	8,926.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,100.00	9,026.03	9,044.64	9,026.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,200.00	9,126.03	9,144.64	9,126.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,300.00	9,226.03	9,244.64	9,226.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,400.00	9,326.03	9,344.64	9,326.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,500.00	9,426.03	9,444.64	9,426.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,600.00	9,526.03	9,544.64	9,526.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,700.00	9,626.03	9,644.64	9,626.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,800.00	9,726.03	9,744.64	9,726.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
9,900.00	9,826.03	9,844.64	9,826.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
10,000.00	9,926.03	9,944.64	9,926.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
10,100.00	10,026.03	10,044.64	10,026.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41C - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,144.64	10,126.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
10,300.00	10,226.03	10,244.64	10,226.03	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	
10,373.97	10,300.00	10,318.61	10,300.00	0.00		-135.48	-381.33	25.53	924.58	924.58	0.00	N/A	

CONFIDENTIAL

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41D - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		130.35	-19.30	22.72	29.81	29.81	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		130.35	-19.30	22.72	29.81	29.81	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		130.35	-19.30	22.72	29.81	29.81	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		130.35	-19.30	22.72	29.81	29.81	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		130.35	-19.30	22.72	29.81	29.81	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		130.35	-19.30	22.72	29.81	29.81	0.00	N/A	CC, ES
600.00	599.98	598.97	598.95	0.00		64.98	-20.13	24.22	30.73	30.73	0.00	N/A	
700.00	699.84	697.81	697.65	0.00		70.81	-22.58	28.71	33.73	33.73	0.00	N/A	
800.00	799.45	796.38	795.85	0.00		78.39	-26.66	36.16	39.33	39.33	0.00	N/A	
900.00	898.70	894.57	893.32	0.00		85.78	-32.33	46.52	48.01	48.01	0.00	N/A	
1,000.00	997.47	992.24	989.82	0.00		91.95	-39.56	59.73	59.93	59.93	0.00	N/A	
1,109.43	1,104.85	1,098.39	1,094.05	0.00		97.07	-49.20	77.34	76.67	76.67	0.00	N/A	
1,200.00	1,193.37	1,186.67	1,180.20	0.00		99.89	-58.43	94.21	92.85	92.85	0.00	N/A	
1,300.00	1,291.12	1,284.92	1,276.03	0.00		101.94	-68.85	113.25	111.08	111.08	0.00	N/A	
1,400.00	1,388.86	1,383.18	1,371.87	0.00		103.41	-79.27	132.29	129.40	129.40	0.00	N/A	
1,500.00	1,486.61	1,481.44	1,467.70	0.00		104.52	-89.69	151.34	147.79	147.79	0.00	N/A	
1,600.00	1,584.36	1,579.70	1,563.53	0.00		105.38	-100.11	170.38	166.23	166.23	0.00	N/A	
1,700.00	1,682.10	1,677.96	1,659.36	0.00		106.07	-110.53	189.42	184.69	184.69	0.00	N/A	
1,800.00	1,779.85	1,776.22	1,755.19	0.00		106.64	-120.95	208.46	203.17	203.17	0.00	N/A	
1,900.00	1,877.59	1,874.48	1,851.03	0.00		107.11	-131.37	227.50	221.67	221.67	0.00	N/A	
2,000.00	1,975.34	1,972.74	1,946.86	0.00		107.50	-141.79	246.54	240.18	240.18	0.00	N/A	
2,100.00	2,073.08	2,071.00	2,042.69	0.00		107.84	-152.21	265.58	258.70	258.70	0.00	N/A	
2,200.00	2,170.83	2,169.26	2,138.52	0.00		108.14	-162.63	284.62	277.23	277.23	0.00	N/A	
2,300.00	2,268.58	2,267.52	2,234.35	0.00		108.40	-173.05	303.66	295.76	295.76	0.00	N/A	
2,400.00	2,366.32	2,365.78	2,330.19	0.00		108.62	-183.47	322.70	314.30	314.30	0.00	N/A	
2,500.00	2,464.07	2,464.04	2,426.02	0.00		108.83	-193.89	341.74	332.84	332.84	0.00	N/A	
2,600.00	2,561.81	2,562.30	2,521.85	0.00		109.01	-204.31	360.78	351.39	351.39	0.00	N/A	
2,700.00	2,659.56	2,660.55	2,617.68	0.00		109.17	-214.74	379.82	369.94	369.94	0.00	N/A	
2,800.00	2,757.30	2,758.81	2,713.51	0.00		109.32	-225.16	398.86	388.49	388.49	0.00	N/A	
2,900.00	2,855.05	2,857.07	2,809.35	0.00		109.45	-235.58	417.90	407.04	407.04	0.00	N/A	
3,000.00	2,952.80	2,955.33	2,905.18	0.00		109.57	-246.00	436.94	425.60	425.60	0.00	N/A	
3,100.00	3,050.54	3,053.59	3,001.01	0.00		109.69	-256.42	455.98	444.16	444.16	0.00	N/A	
3,200.00	3,148.29	3,151.85	3,096.84	0.00		109.79	-266.84	475.03	462.72	462.72	0.00	N/A	
3,300.00	3,246.03	3,250.11	3,192.67	0.00		109.88	-277.26	494.07	481.28	481.28	0.00	N/A	
3,400.00	3,343.78	3,348.37	3,288.51	0.00		109.97	-287.68	513.11	499.84	499.84	0.00	N/A	
3,500.00	3,441.52	3,446.63	3,384.34	0.00		110.05	-298.10	532.15	518.41	518.41	0.00	N/A	
3,600.00	3,539.27	3,544.89	3,480.17	0.00		110.13	-308.52	551.19	536.97	536.97	0.00	N/A	
3,700.00	3,637.02	3,643.15	3,576.00	0.00		110.20	-318.94	570.23	555.54	555.54	0.00	N/A	
3,800.00	3,734.76	3,741.41	3,671.83	0.00		110.27	-329.36	589.27	574.10	574.10	0.00	N/A	
3,900.00	3,832.51	3,839.67	3,767.67	0.00		110.33	-339.78	608.31	592.67	592.67	0.00	N/A	
4,000.00	3,930.25	3,937.93	3,863.50	0.00		110.39	-350.20	627.35	611.24	611.24	0.00	N/A	
4,051.68	3,980.77	3,988.71	3,913.02	0.00		110.42	-355.58	637.19	620.83	620.83	0.00	N/A	
4,100.00	4,028.12	4,038.47	3,961.57	0.00		110.64	-360.84	646.79	629.57	629.57	0.00	N/A	
4,200.00	4,126.82	4,156.90	4,077.97	0.00		110.96	-371.27	665.85	644.49	644.49	0.00	N/A	
4,300.00	4,226.21	4,276.59	4,196.75	0.00		111.19	-378.27	678.64	654.48	654.48	0.00	N/A	
4,400.00	4,326.04	4,397.03	4,316.95	0.00		111.35	-381.70	684.90	659.48	659.48	0.00	N/A	
4,457.97	4,384.00	4,464.08	4,384.00	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
4,500.00	4,426.03	4,506.11	4,426.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
4,600.00	4,526.03	4,606.11	4,526.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
4,700.00	4,626.03	4,706.11	4,626.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
4,800.00	4,726.03	4,806.11	4,726.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
4,900.00	4,826.03	4,906.11	4,826.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41D - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	5,006.11	4,926.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,100.00	5,026.03	5,106.11	5,026.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,200.00	5,126.03	5,206.11	5,126.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,300.00	5,226.03	5,306.11	5,226.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,400.00	5,326.03	5,406.11	5,326.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,500.00	5,426.03	5,506.11	5,426.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,600.00	5,526.03	5,606.11	5,526.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,700.00	5,626.03	5,706.11	5,626.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,800.00	5,726.03	5,806.11	5,726.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
5,900.00	5,826.03	5,906.11	5,826.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,000.00	5,926.03	6,006.11	5,926.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,100.00	6,026.03	6,106.11	6,026.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,200.00	6,126.03	6,206.11	6,126.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,300.00	6,226.03	6,306.11	6,226.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,400.00	6,326.03	6,406.11	6,326.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,500.00	6,426.03	6,506.11	6,426.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,600.00	6,526.03	6,606.11	6,526.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,700.00	6,626.03	6,706.11	6,626.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,800.00	6,726.03	6,806.11	6,726.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
6,900.00	6,826.03	6,906.11	6,826.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,000.00	6,926.03	7,006.11	6,926.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,100.00	7,026.03	7,106.11	7,026.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,200.00	7,126.03	7,206.11	7,126.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,300.00	7,226.03	7,306.11	7,226.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,400.00	7,326.03	7,406.11	7,326.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,500.00	7,426.03	7,506.11	7,426.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,600.00	7,526.03	7,606.11	7,526.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,700.00	7,626.03	7,706.11	7,626.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,800.00	7,726.03	7,806.11	7,726.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
7,900.00	7,826.03	7,906.11	7,826.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,000.00	7,926.03	8,006.11	7,926.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,100.00	8,026.03	8,106.11	8,026.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,200.00	8,126.03	8,206.11	8,126.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,300.00	8,226.03	8,306.11	8,226.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,400.00	8,326.03	8,406.11	8,326.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,500.00	8,426.03	8,506.11	8,426.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,600.00	8,526.03	8,606.11	8,526.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,700.00	8,626.03	8,706.11	8,626.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,800.00	8,726.03	8,806.11	8,726.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
8,900.00	8,826.03	8,906.11	8,826.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,000.00	8,926.03	9,006.11	8,926.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,100.00	9,026.03	9,106.11	9,026.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,200.00	9,126.03	9,206.11	9,126.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,300.00	9,226.03	9,306.11	9,226.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,400.00	9,326.03	9,406.11	9,326.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,500.00	9,426.03	9,506.11	9,426.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,600.00	9,526.03	9,606.11	9,526.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,700.00	9,626.03	9,706.11	9,626.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,800.00	9,726.03	9,806.11	9,726.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
9,900.00	9,826.03	9,906.11	9,826.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
10,000.00	9,926.03	10,006.11	9,926.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
10,100.00	10,026.03	10,106.11	10,026.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41D - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,206.11	10,126.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
10,300.00	10,226.03	10,306.11	10,226.03	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	
10,373.97	10,300.00	10,380.08	10,300.00	0.00		178.98	-382.05	685.55	660.10	660.10	0.00	N/A	

CONFIDENTIAL

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41F - OH - Plan #1 — Offset Site Error: 0.00 ft

Survey Program: 0-Gyro — Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-49.12	19.67	-22.72	30.05	30.05	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-49.12	19.67	-22.72	30.05	30.05	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-49.12	19.67	-22.72	30.05	30.05	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-49.12	19.67	-22.72	30.05	30.05	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-49.12	19.67	-22.72	30.05	30.05	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-49.12	19.67	-22.72	30.05	30.05	0.00	N/A	CC, ES
600.00	599.98	599.40	599.38	0.00		-116.85	21.38	-22.48	31.78	31.78	0.00	N/A	
700.00	699.84	698.63	698.47	0.00		-117.21	26.49	-21.76	36.95	36.95	0.00	N/A	
800.00	799.45	798.29	797.89	0.00		-119.41	33.41	-20.78	44.72	44.72	0.00	N/A	
900.00	898.70	897.73	897.08	0.00		-124.05	40.32	-19.81	54.42	54.42	0.00	N/A	
1,000.00	997.47	996.81	995.91	0.00		-129.58	47.20	-18.84	66.55	66.55	0.00	N/A	
1,109.43	1,104.85	1,104.67	1,103.51	0.00		-135.58	54.70	-17.78	83.12	83.12	0.00	N/A	
1,200.00	1,193.37	1,193.66	1,192.28	0.00		-139.78	60.88	-16.91	98.64	98.64	0.00	N/A	
1,300.00	1,291.12	1,291.92	1,290.29	0.00		-143.10	67.71	-15.95	116.20	116.20	0.00	N/A	
1,400.00	1,388.86	1,390.17	1,388.31	0.00		-145.54	74.53	-14.99	134.04	134.04	0.00	N/A	
1,500.00	1,486.61	1,488.43	1,486.32	0.00		-147.41	81.36	-14.02	152.07	152.07	0.00	N/A	
1,600.00	1,584.36	1,586.68	1,584.33	0.00		-148.88	88.19	-13.06	170.21	170.21	0.00	N/A	
1,700.00	1,682.10	1,684.94	1,682.35	0.00		-150.07	95.01	-12.10	188.45	188.45	0.00	N/A	
1,800.00	1,779.85	1,783.19	1,780.36	0.00		-151.05	101.84	-11.14	206.75	206.75	0.00	N/A	
1,900.00	1,877.59	1,881.45	1,878.37	0.00		-151.87	108.67	-10.17	225.10	225.10	0.00	N/A	
2,000.00	1,975.34	1,979.70	1,976.39	0.00		-152.56	115.49	-9.21	243.48	243.48	0.00	N/A	
2,100.00	2,073.08	2,077.96	2,074.40	0.00		-153.16	122.32	-8.25	261.90	261.90	0.00	N/A	
2,200.00	2,170.83	2,176.22	2,172.41	0.00		-153.68	129.15	-7.29	280.34	280.34	0.00	N/A	
2,300.00	2,268.58	2,274.47	2,270.43	0.00		-154.14	135.97	-6.32	298.80	298.80	0.00	N/A	
2,400.00	2,366.32	2,372.73	2,368.44	0.00		-154.54	142.80	-5.36	317.27	317.27	0.00	N/A	
2,500.00	2,464.07	2,470.98	2,466.45	0.00		-154.90	149.63	-4.40	335.76	335.76	0.00	N/A	
2,600.00	2,561.81	2,569.24	2,564.47	0.00		-155.22	156.45	-3.44	354.26	354.26	0.00	N/A	
2,700.00	2,659.56	2,667.49	2,662.48	0.00		-155.51	163.28	-2.47	372.77	372.77	0.00	N/A	
2,800.00	2,757.30	2,765.75	2,760.49	0.00		-155.77	170.11	-1.51	391.29	391.29	0.00	N/A	
2,900.00	2,855.05	2,864.00	2,858.51	0.00		-156.00	176.93	-0.55	409.82	409.82	0.00	N/A	
3,000.00	2,952.80	2,962.26	2,956.52	0.00		-156.22	183.76	0.41	428.35	428.35	0.00	N/A	
3,100.00	3,050.54	3,060.51	3,054.53	0.00		-156.42	190.59	1.38	446.88	446.88	0.00	N/A	
3,200.00	3,148.29	3,158.77	3,152.55	0.00		-156.60	197.41	2.34	465.43	465.43	0.00	N/A	
3,300.00	3,246.03	3,257.03	3,250.56	0.00		-156.77	204.24	3.30	483.97	483.97	0.00	N/A	
3,400.00	3,343.78	3,355.28	3,348.57	0.00		-156.93	211.07	4.26	502.52	502.52	0.00	N/A	
3,500.00	3,441.52	3,453.54	3,446.59	0.00		-157.08	217.89	5.23	521.08	521.08	0.00	N/A	
3,600.00	3,539.27	3,551.79	3,544.60	0.00		-157.21	224.72	6.19	539.63	539.63	0.00	N/A	
3,700.00	3,637.02	3,650.05	3,642.61	0.00		-157.34	231.55	7.15	558.19	558.19	0.00	N/A	
3,800.00	3,734.76	3,748.30	3,740.63	0.00		-157.46	238.37	8.11	576.75	576.75	0.00	N/A	
3,900.00	3,832.51	3,846.56	3,838.64	0.00		-157.57	245.20	9.08	595.32	595.32	0.00	N/A	
4,000.00	3,930.25	3,944.81	3,936.65	0.00		-157.67	252.03	10.04	613.88	613.88	0.00	N/A	
4,051.68	3,980.77	3,995.59	3,987.31	0.00		-157.72	255.56	10.54	623.48	623.48	0.00	N/A	
4,100.00	4,028.12	4,043.17	4,034.77	0.00		-157.85	258.86	11.00	631.89	631.89	0.00	N/A	
4,200.00	4,126.82	4,142.19	4,133.54	0.00		-157.92	265.74	11.97	645.76	645.76	0.00	N/A	
4,300.00	4,226.21	4,241.73	4,232.84	0.00		-157.78	272.66	12.95	654.81	654.81	0.00	N/A	
4,400.00	4,326.04	4,337.60	4,328.57	0.00		-157.58	277.59	13.64	659.30	659.30	0.00	N/A	
4,457.97	4,384.00	4,393.04	4,384.00	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
4,500.00	4,426.03	4,435.07	4,426.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
4,600.00	4,526.03	4,535.07	4,526.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
4,700.00	4,626.03	4,635.07	4,626.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
4,800.00	4,726.03	4,735.07	4,726.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
4,900.00	4,826.03	4,835.07	4,826.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41F - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	4,935.07	4,926.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,100.00	5,026.03	5,035.07	5,026.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,200.00	5,126.03	5,135.07	5,126.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,300.00	5,226.03	5,235.07	5,226.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,400.00	5,326.03	5,335.07	5,326.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,500.00	5,426.03	5,435.07	5,426.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,600.00	5,526.03	5,535.07	5,526.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,700.00	5,626.03	5,635.07	5,626.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,800.00	5,726.03	5,735.07	5,726.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
5,900.00	5,826.03	5,835.07	5,826.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,000.00	5,926.03	5,935.07	5,926.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,100.00	6,026.03	6,035.07	6,026.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,200.00	6,126.03	6,135.07	6,126.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,300.00	6,226.03	6,235.07	6,226.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,400.00	6,326.03	6,335.07	6,326.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,500.00	6,426.03	6,435.07	6,426.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,600.00	6,526.03	6,535.07	6,526.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,700.00	6,626.03	6,635.07	6,626.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,800.00	6,726.03	6,735.07	6,726.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
6,900.00	6,826.03	6,835.07	6,826.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,000.00	6,926.03	6,935.07	6,926.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,100.00	7,026.03	7,035.07	7,026.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,200.00	7,126.03	7,135.07	7,126.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,300.00	7,226.03	7,235.07	7,226.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,400.00	7,326.03	7,335.07	7,326.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,500.00	7,426.03	7,435.07	7,426.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,600.00	7,526.03	7,535.07	7,526.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,700.00	7,626.03	7,635.07	7,626.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,800.00	7,726.03	7,735.07	7,726.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
7,900.00	7,826.03	7,835.07	7,826.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,000.00	7,926.03	7,935.07	7,926.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,100.00	8,026.03	8,035.07	8,026.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,200.00	8,126.03	8,135.07	8,126.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,300.00	8,226.03	8,235.07	8,226.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,400.00	8,326.03	8,335.07	8,326.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,500.00	8,426.03	8,435.07	8,426.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,600.00	8,526.03	8,535.07	8,526.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,700.00	8,626.03	8,635.07	8,626.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,800.00	8,726.03	8,735.07	8,726.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
8,900.00	8,826.03	8,835.07	8,826.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,000.00	8,926.03	8,935.07	8,926.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,100.00	9,026.03	9,035.07	9,026.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,200.00	9,126.03	9,135.07	9,126.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,300.00	9,226.03	9,235.07	9,226.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,400.00	9,326.03	9,335.07	9,326.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,500.00	9,426.03	9,435.07	9,426.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,600.00	9,526.03	9,535.07	9,526.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,700.00	9,626.03	9,635.07	9,626.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,800.00	9,726.03	9,735.07	9,726.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
9,900.00	9,826.03	9,835.07	9,826.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
10,000.00	9,926.03	9,935.07	9,926.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
10,100.00	10,026.03	10,035.07	10,026.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41F - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,135.07	10,126.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
10,300.00	10,226.03	10,235.07	10,226.03	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	
10,373.97	10,300.00	10,309.04	10,300.00	0.00		-89.97	278.30	13.74	660.01	660.01	0.00	N/A	

CONFIDENTIAL

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41G - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-49.05	49.17	-56.66	75.02	75.02	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-49.05	49.17	-56.66	75.02	75.02	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-49.05	49.17	-56.66	75.02	75.02	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-49.05	49.17	-56.66	75.02	75.02	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-49.05	49.17	-56.66	75.02	75.02	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-49.05	49.17	-56.66	75.02	75.02	0.00	N/A	CC, ES
600.00	599.98	597.50	597.48	0.00		-118.13	49.77	-58.21	77.44	77.44	0.00	N/A	
700.00	699.84	694.40	694.25	0.00		-122.07	51.56	-62.81	84.96	84.96	0.00	N/A	
800.00	799.45	790.13	789.63	0.00		-127.20	54.48	-70.35	98.23	98.23	0.00	N/A	
900.00	898.70	884.14	882.99	0.00		-132.30	58.47	-80.64	117.72	117.72	0.00	N/A	
1,000.00	997.47	975.92	973.73	0.00		-136.69	63.43	-93.44	143.61	143.61	0.00	N/A	
1,109.43	1,104.85	1,076.60	1,072.82	0.00		-140.61	69.87	-110.06	178.58	178.58	0.00	N/A	
1,200.00	1,193.37	1,161.18	1,156.01	0.00		-143.48	75.38	-124.29	209.65	209.65	0.00	N/A	
1,300.00	1,291.12	1,254.56	1,247.87	0.00		-145.81	81.47	-139.99	244.35	244.35	0.00	N/A	
1,400.00	1,388.86	1,347.95	1,339.72	0.00		-147.56	87.56	-155.70	279.32	279.32	0.00	N/A	
1,500.00	1,486.61	1,441.34	1,431.58	0.00		-148.92	93.64	-171.40	314.47	314.47	0.00	N/A	
1,600.00	1,584.36	1,534.72	1,523.43	0.00		-150.01	99.73	-187.10	349.74	349.74	0.00	N/A	
1,700.00	1,682.10	1,628.11	1,615.28	0.00		-150.90	105.82	-202.81	385.11	385.11	0.00	N/A	
1,800.00	1,779.85	1,721.49	1,707.14	0.00		-151.64	111.90	-218.51	420.54	420.54	0.00	N/A	
1,900.00	1,877.59	1,814.88	1,798.99	0.00		-152.27	117.99	-234.22	456.02	456.02	0.00	N/A	
2,000.00	1,975.34	1,908.26	1,890.85	0.00		-152.80	124.08	-249.92	491.55	491.55	0.00	N/A	
2,100.00	2,073.08	2,001.65	1,982.70	0.00		-153.26	130.16	-265.63	527.11	527.11	0.00	N/A	
2,200.00	2,170.83	2,095.03	2,074.55	0.00		-153.67	136.25	-281.33	562.69	562.69	0.00	N/A	
2,300.00	2,268.58	2,188.42	2,166.41	0.00		-154.02	142.34	-297.04	598.30	598.30	0.00	N/A	
2,400.00	2,366.32	2,281.80	2,258.26	0.00		-154.34	148.43	-312.74	633.92	633.92	0.00	N/A	
2,500.00	2,464.07	2,375.19	2,350.12	0.00		-154.62	154.51	-328.45	669.56	669.56	0.00	N/A	
2,600.00	2,561.81	2,468.58	2,441.97	0.00		-154.88	160.60	-344.15	705.21	705.21	0.00	N/A	
2,700.00	2,659.56	2,561.96	2,533.82	0.00		-155.11	166.69	-359.85	740.87	740.87	0.00	N/A	
2,800.00	2,757.30	2,655.35	2,625.68	0.00		-155.32	172.77	-375.56	776.55	776.55	0.00	N/A	
2,900.00	2,855.05	2,748.73	2,717.53	0.00		-155.51	178.86	-391.26	812.23	812.23	0.00	N/A	
3,000.00	2,952.80	2,842.12	2,809.38	0.00		-155.68	184.95	-406.97	847.91	847.91	0.00	N/A	
3,100.00	3,050.54	2,935.50	2,901.24	0.00		-155.84	191.03	-422.67	883.61	883.61	0.00	N/A	
3,200.00	3,148.29	3,028.89	2,993.09	0.00		-155.99	197.12	-438.38	919.31	919.31	0.00	N/A	
3,300.00	3,246.03	3,122.27	3,084.95	0.00		-156.13	203.21	-454.08	955.01	955.01	0.00	N/A	
3,400.00	3,343.78	3,215.66	3,176.80	0.00		-156.25	209.29	-469.79	990.72	990.72	0.00	N/A	
3,500.00	3,441.52	3,309.04	3,268.65	0.00		-156.37	215.38	-485.49	1,026.43	1,026.43	0.00	N/A	
3,600.00	3,539.27	3,402.43	3,360.51	0.00		-156.48	221.47	-501.19	1,062.15	1,062.15	0.00	N/A	
3,700.00	3,637.02	3,495.81	3,452.36	0.00		-156.59	227.55	-516.90	1,097.87	1,097.87	0.00	N/A	
3,800.00	3,734.76	3,589.20	3,544.22	0.00		-156.68	233.64	-532.60	1,133.59	1,133.59	0.00	N/A	
3,900.00	3,832.51	3,682.59	3,636.07	0.00		-156.77	239.73	-548.31	1,169.31	1,169.31	0.00	N/A	
4,000.00	3,930.25	3,775.97	3,727.92	0.00		-156.86	245.82	-564.01	1,205.04	1,205.04	0.00	N/A	
4,051.68	3,980.77	3,824.23	3,775.40	0.00		-156.90	248.96	-572.13	1,223.51	1,223.51	0.00	N/A	
4,100.00	4,028.12	3,869.56	3,819.98	0.00		-157.14	251.92	-579.75	1,240.24	1,240.24	0.00	N/A	
4,200.00	4,126.82	3,964.53	3,913.39	0.00		-157.50	258.11	-595.72	1,271.50	1,271.50	0.00	N/A	
4,300.00	4,226.21	4,060.88	4,008.16	0.00		-157.70	264.39	-611.93	1,298.13	1,298.13	0.00	N/A	
4,400.00	4,326.04	4,282.08	4,227.16	0.00		-157.62	275.34	-640.19	1,316.85	1,316.85	0.00	N/A	
4,457.97	4,384.00	4,439.09	4,384.00	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
4,500.00	4,426.03	4,481.12	4,426.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
4,600.00	4,526.03	4,581.12	4,526.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
4,700.00	4,626.03	4,681.12	4,626.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
4,800.00	4,726.03	4,781.12	4,726.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
4,900.00	4,826.03	4,881.12	4,826.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41G - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	4,981.12	4,926.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,100.00	5,026.03	5,081.12	5,026.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,200.00	5,126.03	5,181.12	5,126.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,300.00	5,226.03	5,281.12	5,226.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,400.00	5,326.03	5,381.12	5,326.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,500.00	5,426.03	5,481.12	5,426.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,600.00	5,526.03	5,581.12	5,526.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,700.00	5,626.03	5,681.12	5,626.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,800.00	5,726.03	5,781.12	5,726.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
5,900.00	5,826.03	5,881.12	5,826.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,000.00	5,926.03	5,981.12	5,926.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,100.00	6,026.03	6,081.12	6,026.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,200.00	6,126.03	6,181.12	6,126.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,300.00	6,226.03	6,281.12	6,226.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,400.00	6,326.03	6,381.12	6,326.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,500.00	6,426.03	6,481.12	6,426.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,600.00	6,526.03	6,581.12	6,526.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,700.00	6,626.03	6,681.12	6,626.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,800.00	6,726.03	6,781.12	6,726.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
6,900.00	6,826.03	6,881.12	6,826.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,000.00	6,926.03	6,981.12	6,926.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,100.00	7,026.03	7,081.12	7,026.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,200.00	7,126.03	7,181.12	7,126.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,300.00	7,226.03	7,281.12	7,226.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,400.00	7,326.03	7,381.12	7,326.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,500.00	7,426.03	7,481.12	7,426.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,600.00	7,526.03	7,581.12	7,526.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,700.00	7,626.03	7,681.12	7,626.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,800.00	7,726.03	7,781.12	7,726.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
7,900.00	7,826.03	7,881.12	7,826.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,000.00	7,926.03	7,981.12	7,926.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,100.00	8,026.03	8,081.12	8,026.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,200.00	8,126.03	8,181.12	8,126.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,300.00	8,226.03	8,281.12	8,226.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,400.00	8,326.03	8,381.12	8,326.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,500.00	8,426.03	8,481.12	8,426.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,600.00	8,526.03	8,581.12	8,526.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,700.00	8,626.03	8,681.12	8,626.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,800.00	8,726.03	8,781.12	8,726.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
8,900.00	8,826.03	8,881.12	8,826.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,000.00	8,926.03	8,981.12	8,926.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,100.00	9,026.03	9,081.12	9,026.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,200.00	9,126.03	9,181.12	9,126.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,300.00	9,226.03	9,281.12	9,226.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,400.00	9,326.03	9,381.12	9,326.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,500.00	9,426.03	9,481.12	9,426.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,600.00	9,526.03	9,581.12	9,526.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,700.00	9,626.03	9,681.12	9,626.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,800.00	9,726.03	9,781.12	9,726.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
9,900.00	9,826.03	9,881.12	9,826.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
10,000.00	9,926.03	9,981.12	9,926.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
10,100.00	10,026.03	10,081.12	10,026.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41G - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,181.12	10,126.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
10,300.00	10,226.03	10,281.12	10,226.03	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	
10,373.97	10,300.00	10,355.09	10,300.00	0.00		-90.02	277.58	-645.98	1,319.73	1,319.73	0.00	N/A	

CONFIDENTIAL

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41H - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-48.94	39.34	-45.16	59.89	59.89	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-48.94	39.34	-45.16	59.89	59.89	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-48.94	39.34	-45.16	59.89	59.89	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-48.94	39.34	-45.16	59.89	59.89	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-48.94	39.34	-45.16	59.89	59.89	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-48.94	39.34	-45.16	59.89	59.89	0.00	N/A	CC, ES
600.00	599.98	598.12	598.10	0.00		-118.68	39.65	-46.81	62.19	62.19	0.00	N/A	
700.00	699.84	695.60	695.45	0.00		-124.22	40.57	-51.72	69.57	69.57	0.00	N/A	
800.00	799.45	791.82	791.31	0.00		-131.06	42.07	-59.76	82.97	82.97	0.00	N/A	
900.00	898.70	886.17	885.00	0.00		-137.43	44.12	-70.70	103.04	103.04	0.00	N/A	
1,000.00	997.47	978.13	975.91	0.00		-142.56	46.66	-84.29	129.90	129.90	0.00	N/A	
1,109.43	1,104.85	1,075.44	1,071.58	0.00		-146.72	49.94	-101.78	166.80	166.80	0.00	N/A	
1,200.00	1,193.37	1,153.52	1,147.86	0.00		-149.43	53.00	-118.11	201.82	201.82	0.00	N/A	
1,300.00	1,291.12	1,237.64	1,229.51	0.00		-151.44	56.72	-137.99	243.40	243.40	0.00	N/A	
1,400.00	1,388.86	1,319.51	1,308.38	0.00		-152.79	60.76	-159.59	287.78	287.78	0.00	N/A	
1,500.00	1,486.61	1,400.00	1,385.27	0.00		-153.73	65.14	-182.98	334.74	334.74	0.00	N/A	
1,600.00	1,584.36	1,476.39	1,457.60	0.00		-154.36	69.67	-207.13	384.13	384.13	0.00	N/A	
1,700.00	1,682.10	1,551.36	1,527.92	0.00		-154.81	74.45	-232.67	435.82	435.82	0.00	N/A	
1,800.00	1,779.85	1,624.02	1,595.40	0.00		-155.11	79.40	-259.14	489.68	489.68	0.00	N/A	
1,900.00	1,877.59	1,694.39	1,660.08	0.00		-155.32	84.50	-286.36	545.61	545.61	0.00	N/A	
2,000.00	1,975.34	1,773.84	1,732.59	0.00		-155.48	90.48	-318.29	602.87	602.87	0.00	N/A	
2,100.00	2,073.08	1,855.79	1,807.37	0.00		-155.62	96.65	-351.25	660.17	660.17	0.00	N/A	
2,200.00	2,170.83	1,937.73	1,882.14	0.00		-155.74	102.82	-384.21	717.47	717.47	0.00	N/A	
2,300.00	2,268.58	2,019.68	1,956.91	0.00		-155.84	109.00	-417.17	774.78	774.78	0.00	N/A	
2,400.00	2,366.32	2,101.62	2,031.68	0.00		-155.93	115.17	-450.12	832.08	832.08	0.00	N/A	
2,500.00	2,464.07	2,183.57	2,106.45	0.00		-156.00	121.34	-483.08	889.39	889.39	0.00	N/A	
2,600.00	2,561.81	2,265.51	2,181.22	0.00		-156.07	127.51	-516.04	946.70	946.70	0.00	N/A	
2,700.00	2,659.56	2,347.45	2,255.99	0.00		-156.13	133.68	-549.00	1,004.01	1,004.01	0.00	N/A	
2,800.00	2,757.30	2,429.40	2,330.76	0.00		-156.18	139.85	-581.95	1,061.32	1,061.32	0.00	N/A	
2,900.00	2,855.05	2,511.34	2,405.53	0.00		-156.23	146.02	-614.91	1,118.63	1,118.63	0.00	N/A	
3,000.00	2,952.80	2,593.29	2,480.30	0.00		-156.27	152.19	-647.87	1,175.94	1,175.94	0.00	N/A	
3,100.00	3,050.54	2,675.23	2,555.07	0.00		-156.31	158.37	-680.83	1,233.25	1,233.25	0.00	N/A	
3,200.00	3,148.29	2,757.18	2,629.84	0.00		-156.35	164.54	-713.78	1,290.56	1,290.56	0.00	N/A	
3,300.00	3,246.03	2,839.12	2,704.62	0.00		-156.38	170.71	-746.74	1,347.88	1,347.88	0.00	N/A	
3,400.00	3,343.78	2,921.07	2,779.39	0.00		-156.41	176.88	-779.70	1,405.19	1,405.19	0.00	N/A	
3,500.00	3,441.52	3,003.01	2,854.16	0.00		-156.44	183.05	-812.66	1,462.50	1,462.50	0.00	N/A	
3,600.00	3,539.27	3,084.96	2,928.93	0.00		-156.46	189.22	-845.61	1,519.81	1,519.81	0.00	N/A	
3,700.00	3,637.02	3,166.90	3,003.70	0.00		-156.48	195.39	-878.57	1,577.13	1,577.13	0.00	N/A	
3,800.00	3,734.76	3,248.85	3,078.47	0.00		-156.51	201.56	-911.53	1,634.44	1,634.44	0.00	N/A	
3,900.00	3,832.51	3,330.79	3,153.24	0.00		-156.53	207.74	-944.49	1,691.75	1,691.75	0.00	N/A	
4,000.00	3,930.25	3,412.74	3,228.01	0.00		-156.54	213.91	-977.45	1,749.07	1,749.07	0.00	N/A	
4,051.68	3,980.77	3,455.09	3,266.65	0.00		-156.55	217.10	-994.48	1,778.68	1,778.68	0.00	N/A	
4,100.00	4,028.12	3,495.00	3,303.07	0.00		-156.94	220.10	-1,010.53	1,805.92	1,805.92	0.00	N/A	
4,200.00	4,126.82	3,579.55	3,380.21	0.00		-157.62	226.47	-1,044.53	1,859.28	1,859.28	0.00	N/A	
4,300.00	4,226.21	3,666.51	3,459.57	0.00		-158.13	233.02	-1,079.51	1,908.49	1,908.49	0.00	N/A	
4,400.00	4,326.04	3,755.66	3,540.91	0.00		-158.51	239.73	-1,115.37	1,953.43	1,953.43	0.00	N/A	
4,457.97	4,384.00	3,808.25	3,588.89	0.00		-91.08	243.69	-1,136.52	1,977.48	1,977.48	0.00	N/A	
4,500.00	4,426.03	4,670.14	4,426.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
4,600.00	4,526.03	4,770.14	4,526.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
4,700.00	4,626.03	4,870.14	4,626.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
4,800.00	4,726.03	4,970.14	4,726.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
4,900.00	4,826.03	5,070.14	4,826.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41H - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	5,170.14	4,926.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,100.00	5,026.03	5,270.14	5,026.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,200.00	5,126.03	5,370.14	5,126.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,300.00	5,226.03	5,470.14	5,226.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,400.00	5,326.03	5,570.14	5,326.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,500.00	5,426.03	5,670.14	5,426.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,600.00	5,526.03	5,770.14	5,526.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,700.00	5,626.03	5,870.14	5,626.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,800.00	5,726.03	5,970.14	5,726.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
5,900.00	5,826.03	6,070.14	5,826.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,000.00	5,926.03	6,170.14	5,926.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,100.00	6,026.03	6,270.14	6,026.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,200.00	6,126.03	6,370.14	6,126.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,300.00	6,226.03	6,470.14	6,226.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,400.00	6,326.03	6,570.14	6,326.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,500.00	6,426.03	6,670.14	6,426.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,600.00	6,526.03	6,770.14	6,526.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,700.00	6,626.03	6,870.14	6,626.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,800.00	6,726.03	6,970.14	6,726.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
6,900.00	6,826.03	7,070.14	6,826.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,000.00	6,926.03	7,170.14	6,926.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,100.00	7,026.03	7,270.14	7,026.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,200.00	7,126.03	7,370.14	7,126.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,300.00	7,226.03	7,470.14	7,226.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,400.00	7,326.03	7,570.14	7,326.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,500.00	7,426.03	7,670.14	7,426.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,600.00	7,526.03	7,770.14	7,526.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,700.00	7,626.03	7,870.14	7,626.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,800.00	7,726.03	7,970.14	7,726.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
7,900.00	7,826.03	8,070.14	7,826.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,000.00	7,926.03	8,170.14	7,926.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,100.00	8,026.03	8,270.14	8,026.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,200.00	8,126.03	8,370.14	8,126.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,300.00	8,226.03	8,470.14	8,226.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,400.00	8,326.03	8,570.14	8,326.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,500.00	8,426.03	8,670.14	8,426.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,600.00	8,526.03	8,770.14	8,526.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,700.00	8,626.03	8,870.14	8,626.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,800.00	8,726.03	8,970.14	8,726.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
8,900.00	8,826.03	9,070.14	8,826.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,000.00	8,926.03	9,170.14	8,926.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,100.00	9,026.03	9,270.14	9,026.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,200.00	9,126.03	9,370.14	9,126.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,300.00	9,226.03	9,470.14	9,226.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,400.00	9,326.03	9,570.14	9,326.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,500.00	9,426.03	9,670.14	9,426.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,600.00	9,526.03	9,770.14	9,526.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,700.00	9,626.03	9,870.14	9,626.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,800.00	9,726.03	9,970.14	9,726.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
9,900.00	9,826.03	10,070.14	9,826.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
10,000.00	9,926.03	10,170.14	9,926.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
10,100.00	10,026.03	10,270.14	10,026.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41H - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,370.14	10,126.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
10,300.00	10,226.03	10,470.14	10,226.03	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	
10,373.97	10,300.00	10,544.10	10,300.00	0.00		-90.07	275.43	-1,305.99	1,979.74	1,979.74	0.00	N/A	

CONFIDENTIAL

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41I - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-49.07	68.84	-79.38	105.07	105.07	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-49.07	68.84	-79.38	105.07	105.07	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-49.07	68.84	-79.38	105.07	105.07	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-49.07	68.84	-79.38	105.07	105.07	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-49.07	68.84	-79.38	105.07	105.07	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-49.07	68.84	-79.38	105.07	105.07	0.00	N/A	CC, ES
600.00	599.98	596.39	596.38	0.00		-117.50	69.77	-80.71	107.54	107.54	0.00	N/A	
700.00	699.84	692.27	692.13	0.00		-119.80	72.54	-84.67	115.08	115.08	0.00	N/A	
800.00	799.45	787.13	786.65	0.00		-123.00	77.08	-91.16	128.00	128.00	0.00	N/A	
900.00	898.70	880.48	879.36	0.00		-126.45	83.30	-100.05	146.59	146.59	0.00	N/A	
1,000.00	997.47	971.88	969.75	0.00		-129.69	91.07	-111.15	170.97	170.97	0.00	N/A	
1,109.43	1,104.85	1,069.19	1,065.45	0.00		-132.72	101.15	-125.56	204.28	204.28	0.00	N/A	
1,200.00	1,193.37	1,147.69	1,142.19	0.00		-135.03	110.63	-139.12	235.98	235.98	0.00	N/A	
1,300.00	1,291.12	1,232.63	1,224.67	0.00		-136.80	122.24	-155.73	273.86	273.86	0.00	N/A	
1,400.00	1,388.86	1,315.64	1,304.67	0.00		-137.99	134.95	-173.88	314.51	314.51	0.00	N/A	
1,500.00	1,486.61	1,400.00	1,385.27	0.00		-138.81	149.21	-194.27	357.74	357.74	0.00	N/A	
1,600.00	1,584.36	1,475.65	1,456.90	0.00		-139.29	163.15	-214.21	403.35	403.35	0.00	N/A	
1,700.00	1,682.10	1,552.55	1,529.03	0.00		-139.59	178.43	-236.05	451.28	451.28	0.00	N/A	
1,800.00	1,779.85	1,627.35	1,598.48	0.00		-139.74	194.35	-258.81	501.39	501.39	0.00	N/A	
1,900.00	1,877.59	1,700.00	1,665.21	0.00		-139.80	210.80	-282.33	553.59	553.59	0.00	N/A	
2,000.00	1,975.34	1,770.58	1,729.33	0.00		-139.77	227.71	-306.50	607.78	607.78	0.00	N/A	
2,100.00	2,073.08	1,839.03	1,790.80	0.00		-139.69	244.97	-331.18	663.89	663.89	0.00	N/A	
2,200.00	2,170.83	1,900.00	1,844.94	0.00		-139.59	261.05	-354.16	721.84	721.84	0.00	N/A	
2,300.00	2,268.58	1,969.67	1,906.05	0.00		-139.44	280.22	-381.57	781.49	781.49	0.00	N/A	
2,400.00	2,366.32	2,040.60	1,967.55	0.00		-139.26	300.48	-410.53	842.63	842.63	0.00	N/A	
2,500.00	2,464.07	2,119.55	2,035.91	0.00		-139.08	323.11	-442.89	903.97	903.97	0.00	N/A	
2,600.00	2,561.81	2,198.50	2,104.27	0.00		-138.93	345.75	-475.25	965.32	965.32	0.00	N/A	
2,700.00	2,659.56	2,277.44	2,172.63	0.00		-138.79	368.38	-507.61	1,026.67	1,026.67	0.00	N/A	
2,800.00	2,757.30	2,356.39	2,240.99	0.00		-138.67	391.02	-539.97	1,088.03	1,088.03	0.00	N/A	
2,900.00	2,855.05	2,435.33	2,309.35	0.00		-138.56	413.65	-572.33	1,149.39	1,149.39	0.00	N/A	
3,000.00	2,952.80	2,514.28	2,377.71	0.00		-138.46	436.29	-604.69	1,210.75	1,210.75	0.00	N/A	
3,100.00	3,050.54	2,593.23	2,446.07	0.00		-138.38	458.93	-637.05	1,272.11	1,272.11	0.00	N/A	
3,200.00	3,148.29	2,672.17	2,514.42	0.00		-138.30	481.56	-669.41	1,333.47	1,333.47	0.00	N/A	
3,300.00	3,246.03	2,751.12	2,582.78	0.00		-138.22	504.20	-701.77	1,394.84	1,394.84	0.00	N/A	
3,400.00	3,343.78	2,830.06	2,651.14	0.00		-138.16	526.83	-734.13	1,456.20	1,456.20	0.00	N/A	
3,500.00	3,441.52	2,909.01	2,719.50	0.00		-138.10	549.47	-766.49	1,517.57	1,517.57	0.00	N/A	
3,600.00	3,539.27	2,987.96	2,787.86	0.00		-138.04	572.10	-798.85	1,578.94	1,578.94	0.00	N/A	
3,700.00	3,637.02	3,066.90	2,856.22	0.00		-137.99	594.74	-831.21	1,640.31	1,640.31	0.00	N/A	
3,800.00	3,734.76	3,145.85	2,924.58	0.00		-137.94	617.37	-863.57	1,701.68	1,701.68	0.00	N/A	
3,900.00	3,832.51	3,224.79	2,992.94	0.00		-137.89	640.01	-895.93	1,763.05	1,763.05	0.00	N/A	
4,000.00	3,930.25	3,303.74	3,061.29	0.00		-137.85	662.65	-928.29	1,824.42	1,824.42	0.00	N/A	
4,051.68	3,980.77	3,344.54	3,096.62	0.00		-137.83	674.34	-945.01	1,856.14	1,856.14	0.00	N/A	
4,100.00	4,028.12	3,382.95	3,129.89	0.00		-138.53	685.36	-960.76	1,885.43	1,885.43	0.00	N/A	
4,200.00	4,126.82	3,464.08	3,200.14	0.00		-139.78	708.62	-994.01	1,943.71	1,943.71	0.00	N/A	
4,300.00	4,226.21	3,547.22	3,272.12	0.00		-140.78	732.46	-1,028.09	1,998.72	1,998.72	0.00	N/A	
4,400.00	4,326.04	3,632.14	3,345.65	0.00		-141.55	756.80	-1,062.90	2,050.34	2,050.34	0.00	N/A	
4,457.97	4,384.00	3,682.09	3,388.91	0.00		-74.32	771.13	-1,083.37	2,078.68	2,078.68	0.00	N/A	
4,500.00	4,426.03	4,772.36	4,426.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
4,600.00	4,526.03	4,872.36	4,526.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
4,700.00	4,626.03	4,972.36	4,626.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
4,800.00	4,726.03	5,072.36	4,726.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
4,900.00	4,826.03	5,172.36	4,826.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41I - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	5,272.36	4,926.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,100.00	5,026.03	5,372.36	5,026.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,200.00	5,126.03	5,472.36	5,126.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,300.00	5,226.03	5,572.36	5,226.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,400.00	5,326.03	5,672.36	5,326.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,500.00	5,426.03	5,772.36	5,426.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,600.00	5,526.03	5,872.36	5,526.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,700.00	5,626.03	5,972.36	5,626.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,800.00	5,726.03	6,072.36	5,726.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
5,900.00	5,826.03	6,172.36	5,826.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,000.00	5,926.03	6,272.36	5,926.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,100.00	6,026.03	6,372.36	6,026.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,200.00	6,126.03	6,472.36	6,126.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,300.00	6,226.03	6,572.36	6,226.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,400.00	6,326.03	6,672.36	6,326.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,500.00	6,426.03	6,772.36	6,426.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,600.00	6,526.03	6,872.36	6,526.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,700.00	6,626.03	6,972.36	6,626.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,800.00	6,726.03	7,072.36	6,726.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
6,900.00	6,826.03	7,172.36	6,826.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,000.00	6,926.03	7,272.36	6,926.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,100.00	7,026.03	7,372.36	7,026.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,200.00	7,126.03	7,472.36	7,126.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,300.00	7,226.03	7,572.36	7,226.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,400.00	7,326.03	7,672.36	7,326.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,500.00	7,426.03	7,772.36	7,426.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,600.00	7,526.03	7,872.36	7,526.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,700.00	7,626.03	7,972.36	7,626.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,800.00	7,726.03	8,072.36	7,726.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
7,900.00	7,826.03	8,172.36	7,826.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,000.00	7,926.03	8,272.36	7,926.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,100.00	8,026.03	8,372.36	8,026.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,200.00	8,126.03	8,472.36	8,126.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,300.00	8,226.03	8,572.36	8,226.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,400.00	8,326.03	8,672.36	8,326.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,500.00	8,426.03	8,772.36	8,426.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,600.00	8,526.03	8,872.36	8,526.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,700.00	8,626.03	8,972.36	8,626.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,800.00	8,726.03	9,072.36	8,726.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
8,900.00	8,826.03	9,172.36	8,826.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,000.00	8,926.03	9,272.36	8,926.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,100.00	9,026.03	9,372.36	9,026.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,200.00	9,126.03	9,472.36	9,126.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,300.00	9,226.03	9,572.36	9,226.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,400.00	9,326.03	9,672.36	9,326.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,500.00	9,426.03	9,772.36	9,426.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,600.00	9,526.03	9,872.36	9,526.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,700.00	9,626.03	9,972.36	9,626.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,800.00	9,726.03	10,072.36	9,726.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
9,900.00	9,826.03	10,172.36	9,826.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
10,000.00	9,926.03	10,272.36	9,926.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
10,100.00	10,026.03	10,372.36	10,026.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41I - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,472.36	10,126.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
10,300.00	10,226.03	10,572.36	10,226.03	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	
10,373.97	10,300.00	10,646.33	10,300.00	0.00		-71.74	935.06	-1,317.73	2,097.09	2,097.09	0.00	N/A	

CONFIDENTIAL

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41J - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00		-49.00	59.01	-67.88	89.94	89.94	0.00	N/A	SF
100.00	100.00	100.00	100.00	0.00		-49.00	59.01	-67.88	89.94	89.94	0.00	N/A	
200.00	200.00	200.00	200.00	0.00		-49.00	59.01	-67.88	89.94	89.94	0.00	N/A	
300.00	300.00	300.00	300.00	0.00		-49.00	59.01	-67.88	89.94	89.94	0.00	N/A	
400.00	400.00	400.00	400.00	0.00		-49.00	59.01	-67.88	89.94	89.94	0.00	N/A	
500.00	500.00	500.00	500.00	0.00		-49.00	59.01	-67.88	89.94	89.94	0.00	N/A	CC, ES
600.00	599.98	596.99	596.97	0.00		-117.21	60.37	-68.80	92.36	92.36	0.00	N/A	
700.00	699.84	693.57	693.43	0.00		-118.91	64.43	-71.53	99.69	99.69	0.00	N/A	
800.00	799.45	789.35	788.86	0.00		-121.22	71.13	-76.02	112.03	112.03	0.00	N/A	
900.00	898.70	883.93	882.78	0.00		-123.65	80.33	-82.20	129.50	129.50	0.00	N/A	
1,000.00	997.47	976.96	974.76	0.00		-125.90	91.89	-89.97	152.11	152.11	0.00	N/A	
1,109.43	1,104.85	1,076.60	1,072.71	0.00		-127.95	107.01	-100.12	182.66	182.66	0.00	N/A	
1,200.00	1,193.37	1,157.41	1,151.66	0.00		-129.49	121.35	-109.75	211.55	211.55	0.00	N/A	
1,300.00	1,291.12	1,245.19	1,236.81	0.00		-130.44	139.01	-121.61	245.97	245.97	0.00	N/A	
1,400.00	1,388.86	1,331.31	1,319.69	0.00		-130.86	158.43	-134.66	282.86	282.86	0.00	N/A	
1,500.00	1,486.61	1,415.68	1,400.17	0.00		-130.92	179.46	-148.78	322.11	322.11	0.00	N/A	
1,600.00	1,584.36	1,504.40	1,484.18	0.00		-130.80	203.13	-164.68	363.10	363.10	0.00	N/A	
1,700.00	1,682.10	1,595.56	1,570.47	0.00		-130.69	227.55	-181.08	404.19	404.19	0.00	N/A	
1,800.00	1,779.85	1,686.73	1,656.76	0.00		-130.60	251.96	-197.48	445.29	445.29	0.00	N/A	
1,900.00	1,877.59	1,777.89	1,743.04	0.00		-130.52	276.38	-213.88	486.38	486.38	0.00	N/A	
2,000.00	1,975.34	1,869.05	1,829.33	0.00		-130.46	300.80	-230.28	527.48	527.48	0.00	N/A	
2,100.00	2,073.08	1,960.22	1,915.62	0.00		-130.40	325.22	-246.68	568.57	568.57	0.00	N/A	
2,200.00	2,170.83	2,051.38	2,001.91	0.00		-130.36	349.63	-263.08	609.67	609.67	0.00	N/A	
2,300.00	2,268.58	2,142.55	2,088.20	0.00		-130.32	374.05	-279.48	650.77	650.77	0.00	N/A	
2,400.00	2,366.32	2,233.71	2,174.49	0.00		-130.28	398.47	-295.88	691.86	691.86	0.00	N/A	
2,500.00	2,464.07	2,324.87	2,260.78	0.00		-130.25	422.88	-312.28	732.96	732.96	0.00	N/A	
2,600.00	2,561.81	2,416.04	2,347.06	0.00		-130.22	447.30	-328.68	774.06	774.06	0.00	N/A	
2,700.00	2,659.56	2,507.20	2,433.35	0.00		-130.19	471.72	-345.08	815.16	815.16	0.00	N/A	
2,800.00	2,757.30	2,598.37	2,519.64	0.00		-130.17	496.13	-361.48	856.26	856.26	0.00	N/A	
2,900.00	2,855.05	2,689.53	2,605.93	0.00		-130.15	520.55	-377.88	897.35	897.35	0.00	N/A	
3,000.00	2,952.80	2,780.69	2,692.22	0.00		-130.13	544.97	-394.28	938.45	938.45	0.00	N/A	
3,100.00	3,050.54	2,871.86	2,778.51	0.00		-130.11	569.38	-410.68	979.55	979.55	0.00	N/A	
3,200.00	3,148.29	2,963.02	2,864.80	0.00		-130.09	593.80	-427.08	1,020.65	1,020.65	0.00	N/A	
3,300.00	3,246.03	3,054.19	2,951.08	0.00		-130.08	618.22	-443.48	1,061.75	1,061.75	0.00	N/A	
3,400.00	3,343.78	3,145.35	3,037.37	0.00		-130.06	642.63	-459.88	1,102.85	1,102.85	0.00	N/A	
3,500.00	3,441.52	3,236.51	3,123.66	0.00		-130.05	667.05	-476.28	1,143.94	1,143.94	0.00	N/A	
3,600.00	3,539.27	3,327.68	3,209.95	0.00		-130.04	691.47	-492.68	1,185.04	1,185.04	0.00	N/A	
3,700.00	3,637.02	3,418.84	3,296.24	0.00		-130.03	715.88	-509.08	1,226.14	1,226.14	0.00	N/A	
3,800.00	3,734.76	3,510.01	3,382.53	0.00		-130.02	740.30	-525.48	1,267.24	1,267.24	0.00	N/A	
3,900.00	3,832.51	3,601.17	3,468.82	0.00		-130.01	764.72	-541.88	1,308.34	1,308.34	0.00	N/A	
4,000.00	3,930.25	3,692.33	3,555.10	0.00		-130.00	789.14	-558.28	1,349.44	1,349.44	0.00	N/A	
4,051.68	3,980.77	3,739.45	3,599.70	0.00		-129.99	801.75	-566.76	1,370.68	1,370.68	0.00	N/A	
4,100.00	4,028.12	3,783.65	3,641.54	0.00		-130.46	813.59	-574.71	1,390.18	1,390.18	0.00	N/A	
4,200.00	4,126.82	3,876.04	3,728.98	0.00		-131.21	838.34	-591.33	1,428.21	1,428.21	0.00	N/A	
4,300.00	4,226.21	4,049.61	3,894.43	0.00		-131.45	881.80	-620.52	1,461.94	1,461.94	0.00	N/A	
4,400.00	4,326.04	4,344.66	4,184.00	0.00		-131.30	927.52	-651.23	1,481.88	1,481.88	0.00	N/A	
4,457.97	4,384.00	4,522.22	4,361.13	0.00		-63.66	936.97	-657.58	1,485.69	1,485.69	0.00	N/A	
4,500.00	4,426.03	4,587.12	4,426.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
4,600.00	4,526.03	4,687.12	4,526.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
4,700.00	4,626.03	4,787.12	4,626.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
4,800.00	4,726.03	4,887.12	4,726.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
4,900.00	4,826.03	4,987.12	4,826.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	

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CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41J - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-Gyro — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,926.03	5,087.12	4,926.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,100.00	5,026.03	5,187.12	5,026.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,200.00	5,126.03	5,287.12	5,126.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,300.00	5,226.03	5,387.12	5,226.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,400.00	5,326.03	5,487.12	5,326.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,500.00	5,426.03	5,587.12	5,426.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,600.00	5,526.03	5,687.12	5,526.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,700.00	5,626.03	5,787.12	5,626.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,800.00	5,726.03	5,887.12	5,726.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
5,900.00	5,826.03	5,987.12	5,826.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,000.00	5,926.03	6,087.12	5,926.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,100.00	6,026.03	6,187.12	6,026.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,200.00	6,126.03	6,287.12	6,126.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,300.00	6,226.03	6,387.12	6,226.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,400.00	6,326.03	6,487.12	6,326.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,500.00	6,426.03	6,587.12	6,426.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,600.00	6,526.03	6,687.12	6,526.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,700.00	6,626.03	6,787.12	6,626.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,800.00	6,726.03	6,887.12	6,726.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
6,900.00	6,826.03	6,987.12	6,826.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,000.00	6,926.03	7,087.12	6,926.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,100.00	7,026.03	7,187.12	7,026.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,200.00	7,126.03	7,287.12	7,126.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,300.00	7,226.03	7,387.12	7,226.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,400.00	7,326.03	7,487.12	7,326.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,500.00	7,426.03	7,587.12	7,426.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,600.00	7,526.03	7,687.12	7,526.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,700.00	7,626.03	7,787.12	7,626.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,800.00	7,726.03	7,887.12	7,726.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
7,900.00	7,826.03	7,987.12	7,826.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,000.00	7,926.03	8,087.12	7,926.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,100.00	8,026.03	8,187.12	8,026.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,200.00	8,126.03	8,287.12	8,126.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,300.00	8,226.03	8,387.12	8,226.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,400.00	8,326.03	8,487.12	8,326.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,500.00	8,426.03	8,587.12	8,426.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,600.00	8,526.03	8,687.12	8,526.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,700.00	8,626.03	8,787.12	8,626.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,800.00	8,726.03	8,887.12	8,726.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
8,900.00	8,826.03	8,987.12	8,826.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,000.00	8,926.03	9,087.12	8,926.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,100.00	9,026.03	9,187.12	9,026.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,200.00	9,126.03	9,287.12	9,126.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,300.00	9,226.03	9,387.12	9,226.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,400.00	9,326.03	9,487.12	9,326.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,500.00	9,426.03	9,587.12	9,426.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,600.00	9,526.03	9,687.12	9,526.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,700.00	9,626.03	9,787.12	9,626.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,800.00	9,726.03	9,887.12	9,726.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
9,900.00	9,826.03	9,987.12	9,826.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
10,000.00	9,926.03	10,087.12	9,926.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
10,100.00	10,026.03	10,187.12	10,026.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	

CONFIDENTIAL

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Offset Design NA 27-41 Pad - North Alger 27-41J - OH - Plan #1

Survey Program: 0-Gyro

Offset Site Error: 0.00 ft

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,126.03	10,287.12	10,126.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
10,300.00	10,226.03	10,387.12	10,226.03	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	
10,373.97	10,300.00	10,461.09	10,300.00	0.00		-63.66	937.22	-657.74	1,485.77	1,485.77	0.00	N/A	

CONFIDENTIAL

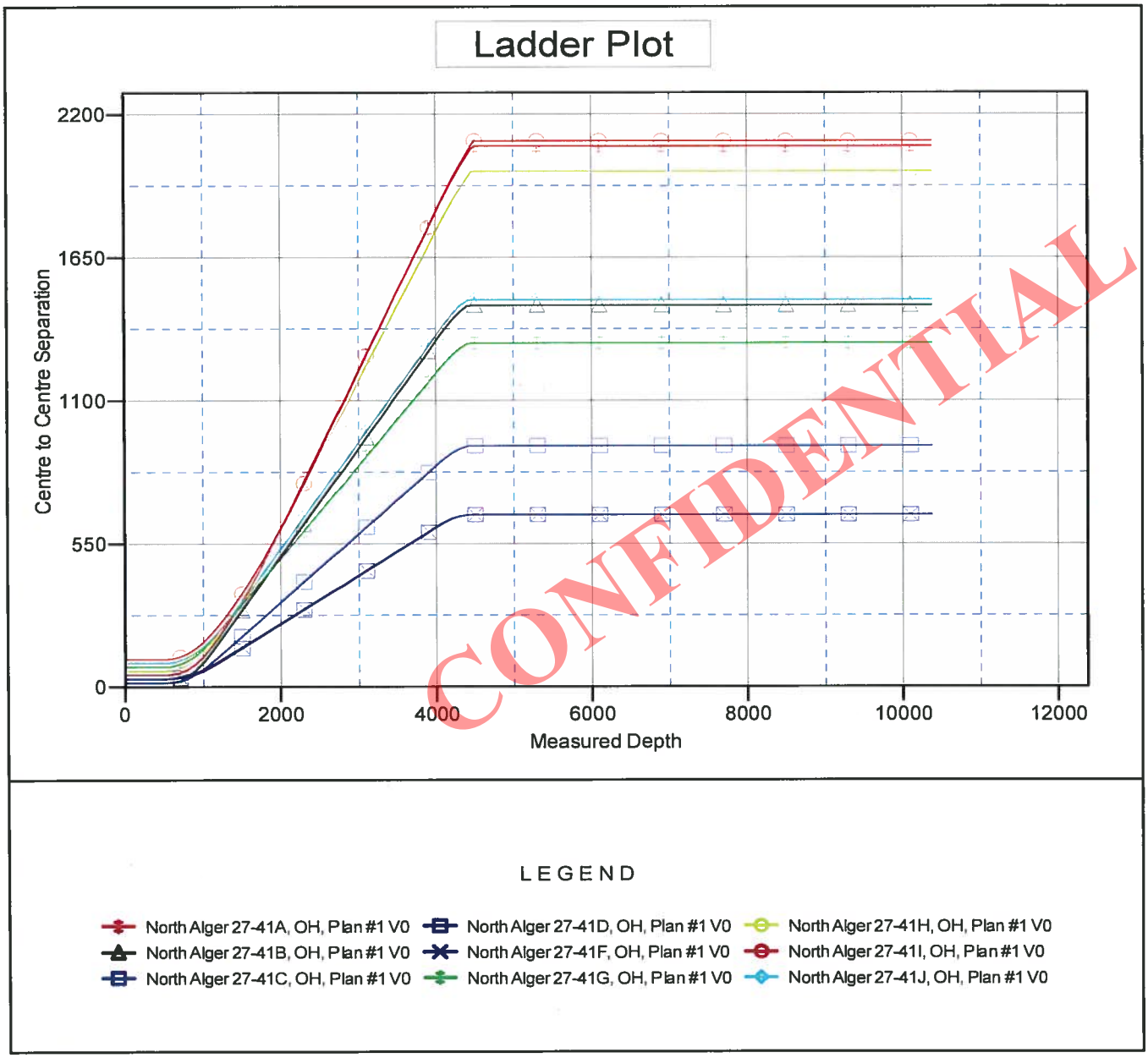
Anticollision Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to GL 5257' @ 5257.00ft
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: North Alger 27-41E - Slot E
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 1.10°



CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

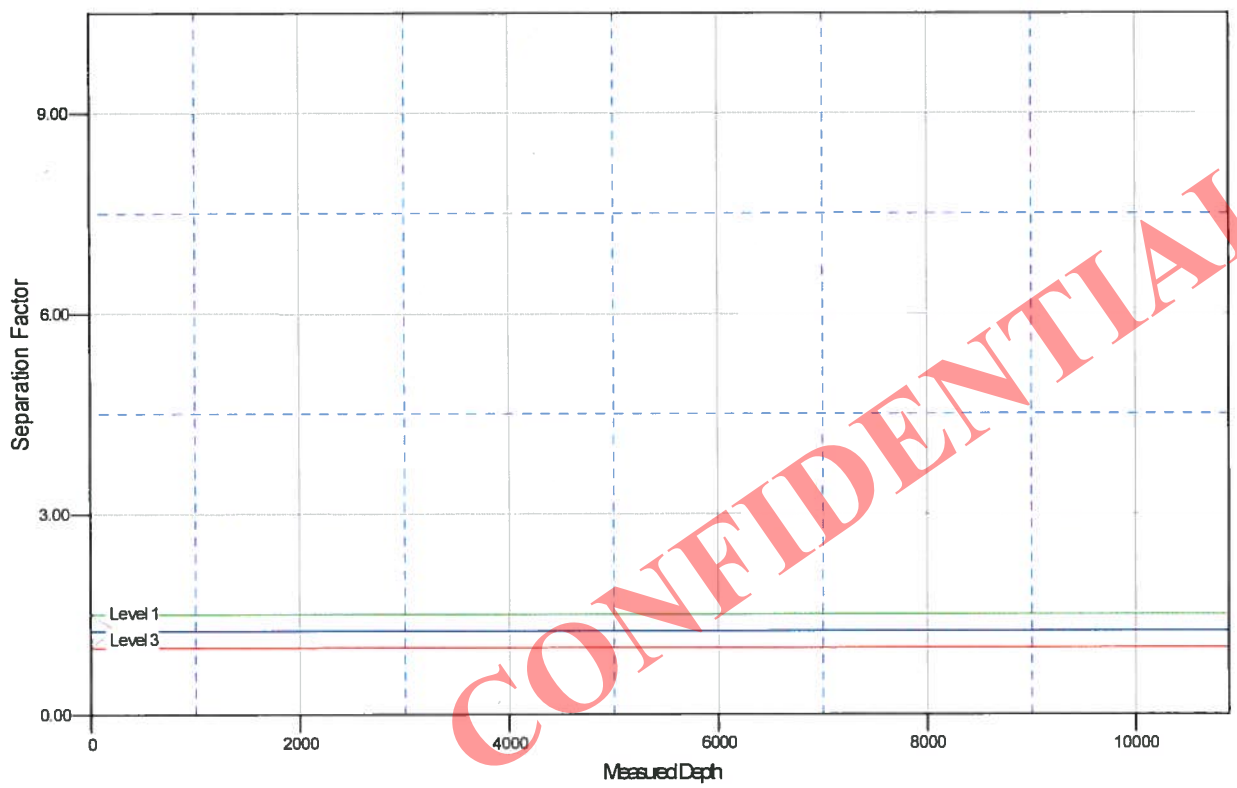
Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' @ 5257.00ft
Reference Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' @ 5257.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	North Alger 27-41E	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction District
Reference Design:	Plan #1	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to GL 5257' @ 5257.00ft
Offset Depths are relative to Offset Datum
Central Meridian is 111° 30' 0.000 W

Coordinates are relative to: North Alger 27-41E - Slot E
Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302
Grid Convergence at Surface is: 1.10°

Separation Factor Plot

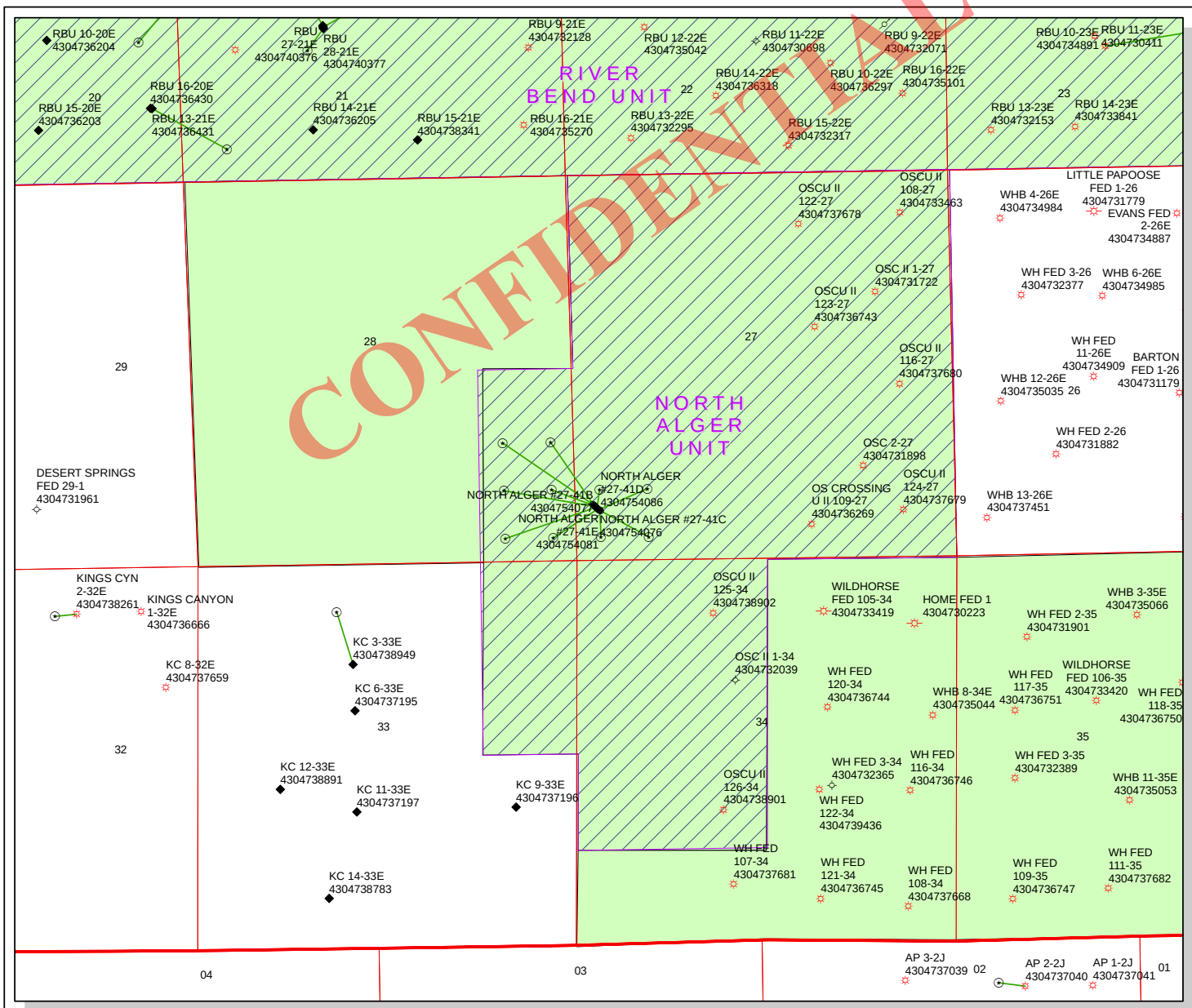


CONFIDENTIAL

LEGEND

- North Alger 27-41A, OH, Plan #1 V0
- North Alger 27-41B, OH, Plan #1 V0
- North Alger 27-41C, OH, Plan #1 V0
- North Alger 27-41D, OH, Plan #1 V0
- North Alger 27-41F, OH, Plan #1 V0
- North Alger 27-41G, OH, Plan #1 V0
- North Alger 27-41H, OH, Plan #1 V0
- North Alger 27-41I, OH, Plan #1 V0
- North Alger 27-41J, OH, Plan #1 V0

API Well Number: 43047540810000



API Number: 4304754081

Well Name: NORTH ALGER #27-41E

Township: T10.0S Range: R19.0E Section: 27 Meridian: S

Operator: KOCH EXPLORATION COMPANY LLC

Map Prepared: 10/30/2013
Map Produced by Diana Mason

Wells Query
Status

- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Units
STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

1,700 850 0 1,700 Feet

1:16,807

RECEIVED: October 30, 2013

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/25/2013 **API NO. ASSIGNED:** 43047540810000

WELL NAME: NORTH ALGER #27-41E

OPERATOR: KOCH EXPLORATION COMPANY LLC (N3755) **PHONE NUMBER:** 303 325-2578

CONTACT: Janni Keidel

PROPOSED LOCATION: SWSW 27 100S 190E **Permit Tech Review:** ✔

SURFACE: 0712 FSL 0311 FWL **Engineering Review:** ✔

BOTTOM: 0990 FSL 0990 FWL **Geology Review:** ✔

COUNTY: UINTAH

LATITUDE: 39.91273 **LONGITUDE:** -109.77629

UTM SURF EASTINGS: 604590.00 **NORTHINGS:** 4418788.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU49518 **PROPOSED PRODUCING FORMATION(S):** SEGO

SURFACE OWNER: 1 - Federal **COALBED METHANE:** NO

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RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** FEDERAL - COB000296
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** 49-2231, 43-8496, 49-1645
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ✔ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NORTH ALGER

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: Cause 259-02

Effective Date: 9/27/2012

Siting: Suspends General Siting

- ✔ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason

RECEIVED: November 14, 2013

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NORTH ALGER #27-41E
API Well Number: 43047540810000
Lease Number: UTU49518
Surface Owner: FEDERAL
Approval Date: 11/14/2013

Issued to:
KOCH EXPLORATION COMPANY LLC, 9777 Pyramid Court Ste 210, Englewood, CO 80112

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 259-02. The expected producing formation or pool is the SEGO Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 259-02, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the

following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284
  (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
NOV 06 2013
BLM Vernal UT

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

CONFIDENTIAL

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

5. Lease Serial No.
UTU49518

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
NORTH ALGER 27-41E

2. Name of Operator
KOCH EXPLORATION COMPANY, LLC
Contact: JANNI KEIDEL
E-Mail: janni.keidel@kochind.com

9. API Well No.
43-047-54081

3a. Address
950 17TH STREET, SUITE 1900
DENVER, CO 80202

3b. Phone No. (include area code)
Ph: 303-325-2578
Fx: 303-325-2599

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWSW 712FSL 311FWL 39.912807 N Lat, 109.776324 W Lon

At proposed prod. zone SWSW 990FSL 990FWL 39.913570 N Lat, 109.773922 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 27 T10S R19E Mer SLB

14. Distance in miles and direction from nearest town or post office*
54.1 MILES SW FROM VERNAL, UT

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any)
311' E OF UTU49519 LEASE LINE

16. No. of Acres in Lease
640.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
2150' NW OF OSCU II 125-34

19. Proposed Depth
10374 MD
10300 TVD

20. BLM/BIA Bond No. on file
COB000296

21. Elevations (Show whether DF, KB, RT, GL, etc.
5255 GL

22. Approximate date work will start
04/01/2014

23. Estimated duration
30

RECEIVED
MAY 30 2014
DIV. OF OIL, GAS & MINING

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
NATALIE L NAEVE Ph: 303-325-2565

Date
10/17/2013

Title
SENIOR OPERATIONS ENGINEER

Approved by (Signature)

Name (Printed/Typed) Jerry Kenczka

MAY 23 2014

Title Assistant Field Manager
Lands & Mineral Resources

Office VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached. CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #223305 verified by the BLM Well Information System
For KOCH EXPLORATION COMPANY, LLC, sent to the Vernal
Committed to AFMSS for processing by LESLIE BUHLER on 11/12/2013 ()

NOTICE OF APPROVAL

UDOGM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	**Koch Exploration Company, LLC**	**Location:**	**SWSW SEC 27 T10S R19E**
Well No:	**NORTH ALGER 27-41E**	**Lease No:**	**UTU49518**
API No:	**43-047-54081**	**Agreement:**	

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: blm_ut_vn_opreport@blm.gov
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)

Air Quality:

- The Operator will utilize drilling rig engines of Tier 2 quality or better.
- The Operator will install dehydrator volatile organic compound (VOC) emission controls to attain + 90 percent efficiency.
- If needed, the Operator will install stationary internal combustion engines that meet an emissions standard of 2 grams/BHP-hour for engines less than 300 horsepower (HP) and 1 gram/BHP-hour (base horsepower-hour) for engines greater than or equal to 300 HP. Note: No stationary internal combustion engines are proposed for this project.
- The Operator will install 95 percent efficient VOC emission controls on production tanks with the potential to emit more than 6 tons per year (TPY) VOCs, as required by NSPS Subpart OOOO (EPA, 2011f-as cited in the EA).
- The Operator will utilize low-bleed (or equivalent device that does not exceed the EPA low-bleed emissions thresholds of 6 scfh) pneumatic devices at all new and existing production facilities (EPA, 2011f-as cited in the EA).
- The Operator will establish a thief hatch/Enardo inspection and replacement program to minimize tank losses.
- The Operator will utilize telemetry to minimize well visits.
- The Operator will install solar-powered chemical pumps on production facilities.

The Operator will employ measures to mitigate any potential exceedences of the 1-hour NO2 standard during drilling operations by employing effective public health buffer zones out to 200 meters (m) from the nearest emission source. Examples of an effective public health protection buffer zone include the demarcation of a public access exclusion zone by signage at intervals of every 250 feet that is visible from a distance of 125 feet during daylight hours, and a physical buffer such as active surveillance to ensure the property is not accessible by the public during drilling operations. Additionally, the applicant commits to developing a project-specific adaptive management strategy, to be informed by periodic emission inventory updates. Implementation of this strategy and associated application of "enhanced" ozone mitigation measures would be required once the proposed project is initiated if:

1) USEPA designates the area "nonattainment" for ozone;
2) There is a monitored ozone standard exceedance;
3) The ARMS modeling shows that additional mitigation is needed to prevent future ozone exceedances; or
4) The ARMS group establishes industry-wide mitigation requirements through ongoing modeling.

If implementation of this adaptive management strategy is triggered, the applicant commits to working with the BLM to analyze project-specific "enhanced" mitigation measures and employ them within 1 year. The measures to be considered could include, but would not be limited to, the following:

- Reducing the total number of drill rigs.
- Installing Tier 4 or better drill rig engines.
- Seasonally reducing or ceasing drilling during specified periods.
- Using only lower-emitting drill and completion rig engines during specified time periods.
- Using natural gas-fired drill and completion rig engines.

- Replacing internal combustion engines with gas turbines for natural gas compression.
- Using electric drill rig or compression engines.
- Centralizing gathering facilities.
- Limiting blow-downs or restricting them during specified periods.
- Installing plunger lift systems with smart automation.
- Employing a monthly Forward Looking Infrared, or FLIR, monitoring program to reduce
- VOCs.
- Enhancing a direct inspection and maintenance program.
- Employing tank load out vapor recovery.
- Employing enhanced VOC emission controls with 95 percent control efficiency on additional production equipment having a potential to emit of greater than 5 tons per year.
- In addition to the commitments discussed above, the applicant commits to complying with applicable air pollution control rules and regulations.

Air quality issues are being addressed on a Utah-wide basis through the Utah Air Resource Technical Advisory Group (UTAG) and the BLM's ARMS. The actions outlined below have been designed to address ozone levels possibly associated with oil and gas operations in the Uinta Basin. The actions consist of the following elements:

- Refine air quality modeling predictions;
- Develop a Uinta Basin ozone action plan; and
- Implement a regional ozone action plan.

The first two elements of this strategy are being implemented by the BLM and other agency stakeholders, independent of the decision to be made regarding further development in the Uinta Basin. Regional operators may participate in these initial planning steps, thereby having the opportunity to contribute to the outcome of the process. The third element would require specific action by the applicant and other oil and gas operators in the Uinta Basin following the approval of the Decision Record. All three elements are described in more detail in the following paragraphs.

Cultural Resources:

- If any historic or archaeological resources are found during operations, all operations that could further disturb such materials will be suspended, and the AO will be contacted for direction.

Livestock Grazing:

- If existing range improvements were to be damaged by project operations, the Operator will contact the AO immediately for direction.

- Stock ponds in the NAPA would be avoided such that they would not be damaged by project operations. If existing stock ponds were to be functionally impaired by sedimentation resulting from project operations, the Operator will contact the AO immediately for direction and will take measures to restore the functionality of affected range improvements.

Paleontological Resources:

If any paleontological resources are found during operations, all operations that could further disturb such materials will be suspended, and the AO will be contacted for direction.

Soils and Water:

Stormwater flow and sedimentation will be controlled with the implementation of Gold Book BMPs and the Operator's Post-construction Stormwater plan (SWPPP) (See Appendix E of the EA).

Threatened, Endangered, and Candidate Species:

Re-initiation of section 7 consultation with the USFWS will be sought immediately if any loss of Threatened or Endangered species is causes as a result of project activities

Vegetation:

- The Operator would implement site-specific reclamation activities based on a Reclamation Plan (Appendix D) and the Green River District Reclamation Guidelines
- The Operator would initiate an active weed management program in its NAPA leases in the spring of 2012. The Operator would use herbicides to control infestations of weeds, using procedures described in a weed control plan.
- All herbicide treatments will follow the guidance of the Record of Decision for the BLM Vegetation Treatments Using Herbicides (BLM, 2007b) and any future local Weed Management direction received from the FO to ensure the use of safeguards with respect to approved chemicals, application rates, and BMPs.
- Weed-free mulching or other means, as determined appropriate during the onsite or reclamation inspections, will be used.

Re-initiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants of Threatened or Endangered species is causes as as a result of project activities.

DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)

SITE SPECIFIC DOWNHOLE COAs:

1. A CBL shall be run from TD to TOC for the production casing.

2. Surface casing cement shall be brought to surface.

3. Production casing cement shall be brought 400' up and into the surface casing. This measure is to effectively protect useable water.

4. A variance is granted for Onshore Order #2 Drilling Operations III. B. I. pressure integrity test (PIT) or formation integrity test (FIT) of surface casing shoe.

5. A variance is granted for Onshore Order #2 Drilling Operations III. E. "Blooie line discharge 100 feet from well bore and securely anchored" Blooie line can be 75 feet.

6. All requirements will be adhered to covering air/gas drilling operations as described in Onshore Order #2 III. E. 1. Drilling Operations, Special Drilling Operations, air/gas drilling.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.

- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in CD (compact disc) format to the Vernal BLM Field Office. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
    - Operator name, address, and telephone number.

- Well name and number.
- Well location (¼¼, Sec., Twn, Rng, and P.M.).
- Date well was placed in a producing status (date of first production for which royalty will be paid).
- The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
- The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
- Unit agreement and/or participating area name and number, if applicable.
- Communitization agreement number, if applicable.

- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.

- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU49518

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NORTH ALGER

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NORTH ALGER #27-41E

2. NAME OF OPERATOR: KOCH EXPLORATION COMPANY LLC

9. API NUMBER: 43047540810000

3. ADDRESS OF OPERATOR: 9777 Pyramid Court Ste 210 , Englewood, CO, 80112

PHONE NUMBER: 303 325-2562 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0712 FSL 0311 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 27 Township: 10.0S Range: 19.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT — Approximate date work will start:
- ☐ SUBSEQUENT REPORT — Date of Work Completion:
- ✓ SPUD REPORT — Date of Spud: 6/3/2014
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Koch Exploration Company, LLC spud the North Alger 27-41E on 6/3/2014. 16" conductor was run and cemented from 40' to surface.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
July 01, 2014

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
J. Darlene Tadlock	505 334-9111	E&P Technician

SIGNATURE	DATE
N/A	7/1/2014

RECEIVED: Jul. 01, 2014

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU49518

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NORTH ALGER

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NORTH ALGER #27-41E

2. NAME OF OPERATOR: KOCH EXPLORATION COMPANY LLC

9. API NUMBER: 43047540810000

3. ADDRESS OF OPERATOR: 9777 Pyramid Court Ste 210 , Englewood, CO, 80112

PHONE NUMBER: 303 325-2562 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0712 FSL 0311 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 27 Township: 10.0S Range: 19.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ NOTICE OF INTENT — Approximate date work will start:
- ✓ SUBSEQUENT REPORT — Date of Work Completion: 6/16/2014
- ☐ SPUD REPORT — Date of Spud:
- ☐ DRILLING REPORT — Report Date:

TYPE OF ACTION

☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Ran Surface Casing w/ Ceme

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Koch Exploration Company, LLC drilled 12 1/4" hole from 44' KB to 210'KB. KB=4.0. Began directional drilling of 11" hole from 210 to 2569' KB. Ran 8 5/8" 32# J-55 LTC surface casing, landed at 2538.83' KB. Ran centralizers on the first 3 joints. Cemented surface casing as follows: Lead Cement - 300 sks Premium Type V Cement, 16% gel, 10#/sk Gilsonite, 2#/sk GR3, 3% salt, 1/4#/sk Flocele (wt. 12#, yield 2.86; 858 cf (152.94 BBLs)); Tail Cement - 250 sks Premium Type G Cement, 2% Calcium Chloride, 1/4#/sk Flocele (wt. 15.8#, yield 1.15; 287.5 cf (51.25 BBLs)) had no cement to surface. Wait one hour. Ran 200' 1" pipe down back side of casing for top off cement. Pumped Top Off Cement - 162 sks Premium Type G Cement, 2% Calcium Chloride, 1/4#/sk Flocele (wt. 15.8#, yield 1.15; 186.3 cf (33.21 BBLs)) cement held at surface. WOC

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
July 01, 2014

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
J. Darlene Tadlock	505 334-9111	E&P Technician

SIGNATURE	DATE
N/A	6/30/2014

RECEIVED: Jun. 30, 2014

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU49518

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NORTH ALGER

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NORTH ALGER #27-41E

2. NAME OF OPERATOR: KOCH EXPLORATION COMPANY LLC

9. API NUMBER: 43047540810000

3. ADDRESS OF OPERATOR: 9777 Pyramid Court Ste 210 , Englewood, CO, 80112

PHONE NUMBER: 303 325-2562 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0712 FSL 0311 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 27 Township: 10.0S Range: 19.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 8/21/2014	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

KEC on 8/13/14 press test BOPs & 8 5/8" 32# J-55 LTC surf casing to 1500# for 30 minutes held OK On 8/13/14 tagged cement shoe drilled 7 7/8" hole from 2554' KB(KB=22.0'). Drilling 8/14-8/19/14 to 10302' KB-TD. 8/21/14 ran 4 1/2" 11.6# L-80 Prod Casing landed @10268.61' KB. Ran 65 centralizers 1 on each of the first 3 joints in the hole then every 3rd joint until all used. Cemented production casing with Lead 510 sks Premium Lite + .25# sk CelloFlake + .2% CD-32 + .45% R-3 +5 lbs/sk Kol-Seal + 6% Bentonite II + 0.5% FL-57 (wt. 12.5# yield 1.98 1009.8 cf (180.0 bbls)) Tail:1340 sks 50/50 Class G Poz + 10% Sodium Chloride + .55% R-3 + .25#sk CelloFlake + 0.1% CD-32 + 5# sk Kol Seal + 0.002 gps FP-6L + .07% Sodium Metasilicate + 2% Bentonite II. (wt. 14.3 yield 1.34 1795.6 cf (320.07 bbls)). No cement returns to surface did see flush water BHL @ 978'FSL & 1007'FWL La39.91357 Lo109.773146.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
September 26, 2014

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
J. Darlene Tadlock	505 334-9111	E&P Technician

SIGNATURE	DATE
N/A	9/25/2014

RECEIVED: Sep. 25, 2014

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. UTU49518

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator KOCH EXPLORATION COMPANY LLC
Contact: DOUG HOWARD
E-Mail: howard4d@kochind.com

8. Lease Name and Well No. NORTH ALGER 27-41E

3. Address 9777 PYRAMID COURT, SUITE 210
ENGLEWOOD, CO 80112

3a. Phone No. (include area code) Ph: 720.201.4681

9. API Well No. 43-047-54081-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface SWSW 712FSL 311FWL 39.912807 N Lat, 109.776324 W Lon

At top prod interval reported below SWSW 712FSL 311FWL

At total depth SWSW 978FSL 1007FWL 39.913570 N Lat, 109.773146 W Lon

10. Field and Pool, or Exploratory NATURAL BUTTES
UNKNOWN

11. Sec., T., R., M., or Block and Survey or Area Sec 27 T10S R19E Mer SLB

12. County or Parish UINTAH

13. State UT

14. Date Spudded 06/03/2014

15. Date T.D. Reached 08/19/2014

16. Date Completed ☐ D & A ☒ Ready to Prod. 10/28/2014

17. Elevations (DF, KB, RT, GL)* 5255 GL

18. Total Depth: MD 10302 TVD 10225

19. Plug Back T.D.: MD 10177 TVD

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
CBL RMT MUD

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.250	8.625 J-55	32.0	0	2538		300	153		
7.875	4.500 L-80	11.6	0	10297		510	180		

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom
A) SEGO		
B) WASATCH/MESAVERDE	5430	96
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
5430 TO 9774	0.410	336	OPEN

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
5430 TO 9774	(SEE ATTACHED) 15 STAGE FRAC TOTAL OF 518,372 LBS 30/50 WHITE SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
11/10/2014	11/12/2014	5	→	6.3	559.0	19.0			FLOWS FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
18/64		1615.0	→	30	2683	91		PGW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #286248 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RECEIVED: Jan. 14, 2015

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas*(Sold, used for fuel, vented, etc.)*
FLARED

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				DOUGLAS CREEK	3672
				UTELAND BUTTE	4272
				WASATCH	4441
				BUCK CANYON	5586
				MESAVERDE	7410
				PRICE RIVER	8828
				SEGO	10040
				CASTLEGATE	10154

32. Additional remarks (include plugging procedure):
This well is flowing through CBPs once volumes and pressures reduce enough we will drill out the CBPs, and run tubing in the hole.

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #286248 Verified by the BLM Well Information System.
For KOCH EXPLORATION COMPANY LLC, sent to the Vernal
Committed to AFMSS for processing by JOHNETTA MAGEE on 12/29/2014 (15JM0719SE)

Name *(please print)* DARLENE TADLOCK Title E & P TECHNICIAN

Signature (Electronic Submission) Date 12/23/2014

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

RECEIVED: Jan. 14, 2015

Revisions to Operator-Submitted EC Data for Well Completion #286248

	Operator Submitted	BLM Revised (AFMSS)
Lease:	UTU49518	UTU49518
Agreement:		
Operator:	KOCH EXPLORATION COMPANY, LLC 950 17TH STREET SUITE 1900 DENVER, CO 80202 Ph: 303-325-2562	KOCH EXPLORATION COMPANY LLC 9777 PYRAMID COURT, SUITE 210 ENGLEWOOD, CO 80112
Admin Contact:	DOUG HOWARD VP OPERATIONS E-Mail: howard4d@kochind.com Ph: 303-325-2562	DOUG HOWARD VP OPERATIONS E-Mail: howard4d@kochind.com Cell: 720.201.4681 Ph: 720.201.4681
Tech Contact:	DARLENE TADLOCK E&P TECHNICIAN E-Mail: tadlockd@kochind.com Ph: 505-334-9111	DARLENE TADLOCK E & P TECHNICIAN E-Mail: tadlockd@kochind.com Ph: 505-334-9111
Well Name:	NORTH ALGER	NORTH ALGER
Number:	27-41E	27-41E
Location:		
State:	UT	UT
County:	UINTAH	UINTAH
S/T/R:	Sec 27 T10S R19E Mer SLB	Sec 27 T10S R19E Mer SLB
Surf Loc:	SWSW 712FSL 311FWL 39.912807 N Lat, 109.776324 W Lon	SWSW 712FSL 311FWL 39.912807 N Lat, 109.776324 W Lon
Field/Pool:	NATURAL BUTTES,WASATCH/MV	NATURAL BUTTES
Logs Run:	CBL, RMT, MUD	CBL RMT MUD
Producing Intervals - Formations:	WASATCH/MESAVERDE	SEGO WASATCH/MESAVERDE
Porous Zones:		
Markers:	DOUGLAS CREEK UTELAND BUTTE WASATCH BUCK CANYON MESAVERDE PRICE RIVER SEGO CASTLEGATE	DOUGLAS CREEK UTELAND BUTTE WASATCH BUCK CANYON MESAVERDE PRICE RIVER SEGO CASTLEGATE

RECEIVED: Jan. 14, 2015

NORTH ALGER 27-41E

Date	Perforations Top	Perforations Bottom	SPF	Size	Total Holes per foot	Total Holes Per Stage	Frac Stage	Total lbs. Sand per Stage
10/24/2014	9773	9774	3	0.41	3		1	
	9768	9769	3	0.41	3		1	
	9751	9752	3	0.41	3		1	
	9744	9745	3	0.41	3		1	
	9702	9703	3	0.41	3		1	
	9667	9668	3	0.41	3		1	
	9662	9663	3	0.41	3	21	1	29052
10/25/2014	9633	9634	3	0.41	3		2	
	9626	9627	3	0.41	3		2	
	9618	9619	3	0.41	3		2	
	9612	9613	3	0.41	3		2	
	9505	9606	3	0.41	3		2	
	9601	9602	3	0.41	3		2	
	9597	9598	3	0.41	3		2	
	9579	9580	3	0.41	3	24	2	38027
	9501	9502	3	0.41	3		3	
	9495	9496	3	0.41	3		3	
	9480	9481	3	0.41	3		3	
	9472	9473	3	0.41	3		3	
	9459	9460	3	0.41	3		3	
	9449	9450	3	0.41	3	18	3	28961
	9421	9422	3	0.41	3		4	
	9413	9414	3	0.41	3		4	
	9406	9407	3	0.41	3		4	
	9401	9402	3	0.41	3		4	
	9392	9393	3	0.41	3		4	
	9382	9383	3	0.41	3		4	
	9377	9378	3	0.41	3		4	
	9328	9329	3	0.41	3		4	
	9322	9323	3	0.41	3		4	
	9312	9313	3	0.41	3	30	4	47056

Date	Perforations Top	Perforations Bottom	SPF	Size	Total Holes per foot	Total Holes Per Stage	Frac Stage	Total lbs. Sand per Stage
10/25/2014	8979	8980	3	0.41	3		5	
	8957	8958	3	0.41	3		5	
	8953	8954	3	0.41	3		5	
	8854	8855	3	0.41	3		5	
	8849	8850	3	0.41	3		5	
	8844	8845	3	0.41	3	18	5	29345
	8734	8735	3	0.41	3		6	
	8728	8729	3	0.41	3		6	
	8723	8724	3	0.41	3		6	
	8703	8704	3	0.41	3		6	
	8698	8699	3	0.41	3		6	
	8643	8644	3	0.41	3		6	
	8638	8639	3	0.41	3	21	6	28944
	8543	8544	3	0.41	3		7	
	8540	8541	3	0.41	3		7	
	8536	8537	3	0.41	3		7	
	8501	8502	3	0.41	3		7	
	8482	8483	3	0.41	3		7	
	8458	8459	3	0.41	3	18	7	28969
10/26/2014	8367	8368	3	0.41	3		8	
	8362	8363	3	0.41	3		8	
	8359	8360	3	0.41	3		8	
	8356	8357	3	0.41	3		8	
	8352	8353	3	0.41	3		8	
	8330	8331	3	0.41	3		8	
	8325	8326	3	0.41	3		8	
	8315	8316	3	0.41	3		8	
	8310	8311	3	0.41	3		8	
	8305	8306	3	0.41	3	30	8	46994

RECEIVED: Jan. 14, 2015

NORTH ALGER 27-41E

Date	Perforations Top	Perforations Bottom	SPF	Size	Total Holes per foot	Total Holes Per Stage	Frac Stage	Total lbs. Sand per Stage
10/26/2014	8173	8174	3	0.41	3		9	
	8168	8168	3	0.41	3		9	
	8124	8125	3	0.41	3		9	
	8117	8118	3	0.41	3		9	
	8095	8096	3	0.41	3		9	
	8089	8090	3	0.41	3		9	
	8085	8085	3	0.41	3	21	9	29003
	8053	8054	3	0.41	3		10	
	8039	8040	3	0.41	3		10	
	8034	8035	3	0.41	3		10	
	8027	8028	3	0.41	3		10	
	8004	8005	3	0.41	3		10	
	7997	7998	3	0.41	3		10	
	7992	7993	3	0.41	3		10	
	7986	7987	3	0.41	3	24	10	38107
10/28/2014	7386	7387	3	0.41	3		11	
	7379	7380	3	0.41	3		11	
	7366	7367	3	0.41	3		11	
	7131	7132	3	0.41	3		11	19788
	6941	6942	3	0.41	3		12	
	6938	6939	3	0.41	3		12	
	6934	6935	3	0.41	3		12	
	6931	6932	3	0.41	3		12	
	6727	6728	3	0.41	3		12	
	6719	6720	3	0.41	3	30	12	28966
	6678	6679	3	0.41	3		13	
	6672	6673	3	0.41	3		13	
	6503	6504	3	0.41	3		13	
	6499	6500	3	0.41	3		13	
	6492	6493	3	0.41	3		13	
	6489	6490	3	0.41	3	18	13	29335

Date	Perforations Top	Perforations Bottom	SPF	Size	Total Holes per foot	Total Holes Per Stage	Frac Stage	Total lbs. Sand per Stage
10/28/2014	6068	6069	3	0.41	3		14	
	5980	5981	3	0.41	3		14	
	5976	5977	3	0.41	3		14	
	5972	5973	3	0.41	3		14	
	5960	5961	3	0.41	3		14	
	5957	5958	3	0.41	3		14	
	5914	5915	3	0.41	3		14	
	5899	5900	3	0.41	3		14	
	5895	5896	3	0.41	3		14	
	5888	5889	3	0.41	3		14	
	5884	5885	3	0.41	3	33	14	46931
	5727	5728	3	0.41	3		15	
	5719	5720	3	0.41	3		15	
	5711	5712	3	0.41	3		15	
	5659	5660	3	0.41	3		15	
	5642	5643	3	0.41	3	15	15	28985
	5457	5458	3	0.41	3		16	
	5452	5453	3	0.41	3		16	
	5437	5438	3	0.41	3		16	
	5434	5435	3	0.41	3		16	
	5430	5431	3	0.41	3	**15**	16	19909
					336			**518372**

Total Sand used all 15 stages = 518,372 lbs 30/50 White

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27-41E	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16	Totals
WFR 6	34	99	59	60	42	43	41	60	43	43	30	45	35	47	39	42	762
SUPER 100 NE	51	75	55	66	42	44	48	59	41	47	30	41	42	60	43	35	779
CLAY TREAT LT	45	98	44	61	40	38	42	51	36	42	28	36	34	53	36	33	717
KR-153-SL	11	26	17	19	15	14	13	17	13	17	14	15	15	18	12	14	250
ScaleSorb 7	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	25	775
ACID 15%																	0
Clean Volume GAL	41034	50660	50492	63584	42487	43415	43168	59073	41042	45793	29354	42113	38644	56238	41832	30517	719446
Clean Volume BBL	977	1206	1202	1514	1012	1034	1028	1407	977	1090	699	1003	920	1339	996	727	17130
Sand Pumped Lbs	29052	38027	28961	47056	29345	28944	28969	46994	29003	38107	19788	28966	29335	46931	28985	19909	518372
Total Pumped Time	0:25	0:29	0:51	0:45	0:24	0:31	0:46	0:35	0:25	0:28	0:19	0:24	0:20	0:29	0:21	0:19	7:51
ACID INHIBITOR 3M																	0
IC-100L																	0
Total Fluid																	0
Total Fluid BBL	1102	1370	1354	1715	1152	1168	1161	1603	1098	1283	817	1157	1060	1543	1141	830	19554

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Koch Exploration Co. LLC

Uintah County, UT
NA 27-41 Pad
North Alger 27-41E - Slot E

OH

Design: OH

Standard Survey Report

22 August, 2014

Scientific Drilling

www.scientificdrilling.com

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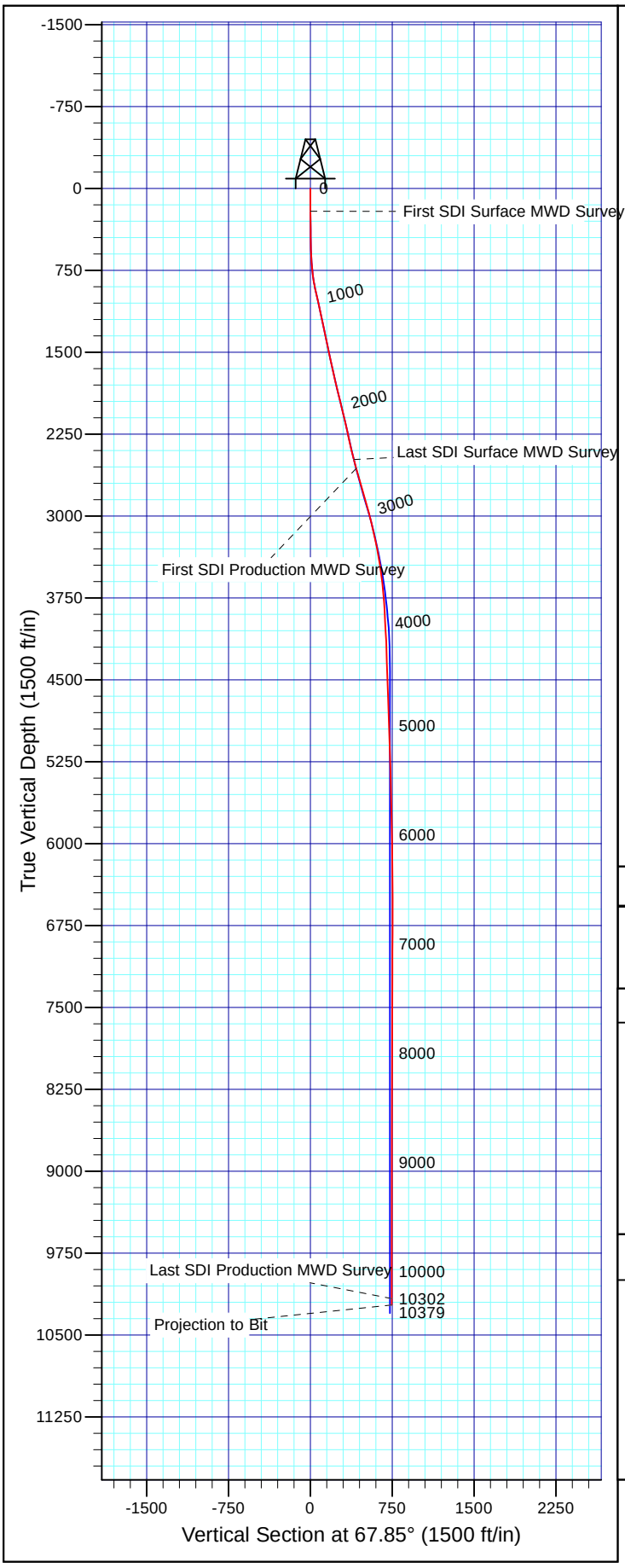
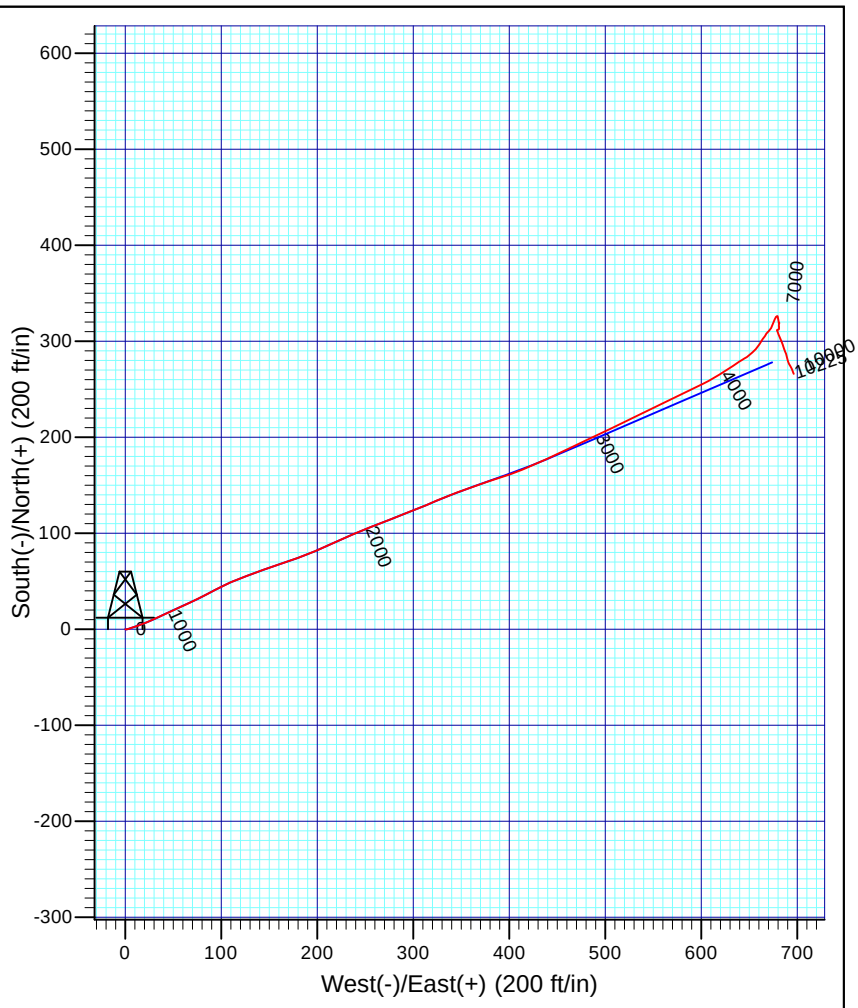
Scientific Drilling

Scientific Drilling

Company:	Koch Exploration Co. LLC
Project:	Uintah County, UT
Site:	NA 27-41 Pad
Well:	North Alger 27-41E
Wellbore:	OH
Design:	OH





Well Details: North Alger 27-41E

TVD Reference: GL 5257' & RKB 24" @ 5281.00ft (Patterson 306) Ground Level: 5257.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	579961.00	2483653.14	39° 54' 46.231 N	109° 46' 32.261 W	E

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well North Alger 27-41E - Slot E, True North
Vertical (TVD) Reference: GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Section (VS) Reference: Slot - E(0.00N, 0.00E)
Measured Depth Reference: GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Calculation Method: Minimum Curvature

PROJECT DETAILS: Uintah County, UT

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Utah Central 4302

System Datum: Mean Sea Level

Plan: OH

16:17, August 22 2014
Created By: Mel Mireles

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Survey Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Well:	North Alger 27-41E	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Grand Junction District

Project Uintah County, UT

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Utah Central 4302		

Site NA 27-41 Pad

Site Position:		**Northing:**	579,989.88 usft	**Latitude:**	39° 54' 46.523 N
From:	Lat/Long	**Easting:**	2,483,618.63 usft	**Longitude:**	109° 46' 32.696 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	1.10 °

Well North Alger 27-41E - Slot E

Well Position	**+N/-S**	0.00 ft	**Northing:**	579,961.01 usft	**Latitude:**	39° 54' 46.231 N
	+E/-W	0.00 ft	**Easting:**	2,483,653.13 usft	**Longitude:**	109° 46' 32.261 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,257.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	7/16/2014	10.90	65.66	51,827

Design OH

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	67.85

Survey Program **Date** 8/22/2014

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
20.00	2,524.00	Survey #1 - Surface MWD (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
2,609.00	10,302.00	Survey #2 - Production MWD (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
209.00	0.26	104.87	209.00	-0.11	0.41	0.34	0.14	0.14	0.00
First SDI Surface MWD Survey									
292.00	0.53	79.03	292.00	-0.09	0.97	0.87	0.38	0.33	-31.13
377.00	0.88	82.19	376.99	0.08	2.01	1.89	0.41	0.41	3.72
467.00	0.97	67.25	466.98	0.47	3.39	3.32	0.29	0.10	-16.60
557.00	0.97	70.32	556.97	1.02	4.81	4.84	0.06	0.00	3.41

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Survey Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Well:	North Alger 27-41E	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Grand Junction District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
647.00	3.43	71.82	646.89	2.11	8.09	8.29	2.73	2.73	1.67
737.00	5.63	70.85	736.61	4.40	14.82	15.38	2.45	2.44	-1.08
827.00	8.62	66.28	825.90	8.57	25.17	26.54	3.38	3.32	-5.08
917.00	11.43	65.05	914.52	15.04	39.43	42.19	3.13	3.12	-1.37
1,007.00	13.10	65.67	1,002.46	23.01	56.81	61.29	1.86	1.86	0.69
1,097.00	13.19	64.00	1,090.10	31.71	75.33	81.73	0.43	0.10	-1.86
1,187.00	12.49	62.06	1,177.85	40.77	93.16	101.66	0.91	-0.78	-2.16
1,277.00	11.43	66.11	1,265.90	48.94	109.91	120.25	1.50	-1.18	4.50
1,367.00	11.43	69.45	1,354.12	55.68	126.41	138.08	0.74	0.00	3.71
1,457.00	12.05	70.68	1,442.23	61.92	143.63	156.38	0.74	0.69	1.37
1,547.00	11.96	71.38	1,530.26	68.01	161.33	175.07	0.19	-0.10	0.78
1,637.00	12.49	70.50	1,618.22	74.23	179.34	194.10	0.62	0.59	-0.98
1,727.00	13.01	66.72	1,706.01	81.49	197.82	213.95	1.09	0.58	-4.20
1,817.00	13.63	65.40	1,793.58	89.91	216.77	234.67	0.77	0.69	-1.47
1,907.00	13.63	66.54	1,881.05	98.54	236.14	255.87	0.30	0.00	1.27
1,997.00	13.72	68.83	1,968.50	106.62	255.82	277.14	0.61	0.10	2.54
2,087.00	13.37	69.09	2,056.00	114.19	275.50	298.22	0.39	-0.39	0.29
2,177.00	13.19	68.04	2,143.59	121.74	294.74	318.89	0.33	-0.20	-1.17
2,267.00	13.19	67.78	2,231.21	129.46	313.77	339.42	0.07	0.00	-0.29
2,357.00	12.57	66.90	2,318.95	137.19	332.28	359.48	0.72	-0.69	-0.98
2,447.00	13.32	69.90	2,406.66	144.59	351.03	379.64	1.12	0.83	3.33
2,524.00	13.89	70.76	2,481.50	150.69	368.08	397.73	0.79	0.74	1.12
Last SDI Surface MWD Survey									
2,609.00	15.48	73.21	2,563.72	157.33	388.58	419.22	2.01	1.87	2.88
First SDI Production MWD Survey									
2,704.00	16.67	67.69	2,655.01	166.16	413.32	445.47	2.04	1.25	-5.81
2,799.00	16.40	64.98	2,746.09	177.01	438.08	472.49	0.86	-0.28	-2.85
2,894.00	15.84	64.65	2,837.35	188.23	461.95	498.83	0.60	-0.59	-0.35
2,989.00	14.77	64.34	2,928.98	199.03	484.58	523.86	1.13	-1.13	-0.33
3,083.00	14.14	64.69	3,020.00	209.12	505.76	547.28	0.68	-0.67	0.37
3,178.00	13.09	63.84	3,112.33	218.83	525.91	569.60	1.13	-1.11	-0.89
3,273.00	12.35	63.46	3,205.00	228.11	544.66	590.46	0.78	-0.78	-0.40
3,369.00	11.04	64.35	3,299.01	236.68	562.13	609.88	1.38	-1.36	0.93
3,461.00	9.80	64.54	3,389.49	243.85	577.14	626.49	1.35	-1.35	0.21
3,558.00	8.38	64.26	3,485.27	250.47	590.96	641.78	1.46	-1.46	-0.29
3,653.00	6.95	62.67	3,579.42	256.12	602.30	654.42	1.52	-1.51	-1.67
3,748.00	5.67	61.35	3,673.84	261.01	611.53	664.80	1.36	-1.35	-1.39
3,843.00	4.31	57.57	3,768.48	265.17	618.66	672.98	1.47	-1.43	-3.98
3,938.00	3.34	54.93	3,863.26	268.68	623.94	679.19	1.04	-1.02	-2.78
4,033.00	2.79	59.00	3,958.13	271.46	628.18	684.17	0.62	-0.58	4.28
4,128.00	2.90	59.68	4,053.01	273.86	632.24	688.83	0.12	0.12	0.72
4,223.00	2.80	55.27	4,147.89	276.40	636.22	693.48	0.25	-0.11	-4.64

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Survey Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Well:	North Alger 27-41E	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Grand Junction District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,318.00	2.03	52.96	4,242.81	278.73	639.47	697.37	0.82	-0.81	-2.43
4,413.00	2.02	59.68	4,337.75	280.59	642.26	700.65	0.25	-0.01	7.07
4,508.00	1.44	63.50	4,432.70	281.97	644.77	703.50	0.62	-0.61	4.02
4,603.00	2.37	52.47	4,527.65	283.70	647.40	706.58	1.05	0.98	-11.61
4,698.00	2.29	51.51	4,622.57	286.08	650.44	710.30	0.09	-0.08	-1.01
4,793.00	1.85	45.62	4,717.51	288.33	653.02	713.54	0.51	-0.46	-6.20
4,888.00	1.56	51.96	4,812.47	290.20	655.14	716.20	0.36	-0.31	6.67
4,983.00	1.71	38.15	4,907.43	292.11	657.03	718.68	0.44	0.16	-14.54
5,078.00	2.93	34.29	5,002.35	295.23	659.27	721.93	1.29	1.28	-4.06
5,173.00	2.51	32.51	5,097.24	298.99	661.76	725.65	0.45	-0.44	-1.87
5,268.00	2.44	35.21	5,192.15	302.40	664.04	729.05	0.14	-0.07	2.84
5,363.00	1.99	32.27	5,287.08	305.45	666.09	732.10	0.49	-0.47	-3.09
5,458.00	1.79	34.65	5,382.03	308.06	667.82	734.68	0.23	-0.21	2.51
5,553.00	1.74	46.15	5,476.99	310.28	669.70	737.26	0.38	-0.05	12.11
5,647.00	1.42	38.67	5,570.95	312.18	671.46	739.60	0.40	-0.34	-7.96
5,742.00	1.32	35.25	5,665.92	313.99	672.82	741.55	0.14	-0.11	-3.60
5,837.00	2.29	16.28	5,760.88	316.71	673.99	743.65	1.19	1.02	-19.97
5,932.00	2.11	21.97	5,855.81	320.15	675.17	746.05	0.30	-0.19	5.99
6,027.00	1.95	24.78	5,950.75	323.24	676.50	748.45	0.20	-0.17	2.96
6,122.00	0.77	38.96	6,045.72	325.20	677.58	750.19	1.28	-1.24	14.93
6,217.00	0.83	57.14	6,140.71	326.07	678.56	751.42	0.27	0.06	19.14
6,312.00	0.43	142.68	6,235.71	326.16	679.36	752.19	0.95	-0.42	90.04
6,406.00	0.53	182.81	6,329.70	325.45	679.55	752.10	0.36	0.11	42.69
6,501.00	0.61	158.21	6,424.70	324.54	679.72	751.91	0.27	0.08	-25.89
6,597.00	0.91	172.41	6,520.69	323.31	680.01	751.72	0.37	0.31	14.79
6,692.00	0.44	164.38	6,615.68	322.21	680.20	751.49	0.50	-0.49	-8.45
6,786.00	0.74	174.72	6,709.68	321.26	680.36	751.27	0.34	0.32	11.00
6,881.00	0.89	174.55	6,804.67	319.91	680.48	750.88	0.16	0.16	-0.18
6,976.00	0.17	330.55	6,899.66	319.30	680.48	750.65	1.10	-0.76	164.21
7,071.00	0.30	92.50	6,994.66	319.41	680.66	750.86	0.44	0.14	128.37
7,166.00	0.39	151.60	7,089.66	319.12	681.07	751.12	0.37	0.09	62.21
7,261.00	0.86	195.92	7,184.66	318.15	681.02	750.72	0.68	0.49	46.65
7,356.00	1.14	188.18	7,279.64	316.53	680.69	749.80	0.33	0.29	-8.15
7,451.00	0.19	136.45	7,374.64	315.48	680.67	749.38	1.09	-1.00	-54.45
7,545.00	0.29	137.23	7,468.63	315.19	680.94	749.52	0.11	0.11	0.83
7,640.00	0.54	188.35	7,563.63	314.57	681.04	749.38	0.45	0.26	53.81
7,735.00	0.89	177.88	7,658.62	313.39	681.00	748.90	0.39	0.37	-11.02
7,830.00	0.34	254.71	7,753.62	312.58	680.75	748.37	0.92	-0.58	80.87
7,925.00	0.37	217.16	7,848.62	312.26	680.30	747.82	0.24	0.03	-39.53
8,020.00	0.26	295.67	7,943.62	312.11	679.92	747.41	0.43	-0.12	82.64
8,115.00	0.38	253.98	8,038.62	312.12	679.42	746.96	0.27	0.13	-43.88
8,210.00	0.41	216.37	8,133.61	311.75	678.91	746.35	0.27	0.03	-39.59

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Survey Report

Scientific Drilling

Company:	Koch Exploration Co. LLC	**Local Co-ordinate Reference:**	Well North Alger 27-41E - Slot E
Project:	Uintah County, UT	**TVD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Site:	NA 27-41 Pad	**MD Reference:**	GL 5257' & RKB 24" @ 5281.00ft (Patterson 306)
Well:	North Alger 27-41E	**North Reference:**	True
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Grand Junction District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,305.00	0.30	179.24	8,228.61	311.23	678.72	745.97	0.26	-0.12	-39.08
8,400.00	0.88	148.54	8,323.61	310.36	679.10	746.00	0.67	0.61	-32.32
8,495.00	1.07	163.45	8,418.59	308.89	679.73	746.03	0.33	0.20	15.69
8,590.00	1.32	161.54	8,513.57	307.00	680.33	745.87	0.27	0.26	-2.01
8,685.00	1.35	149.91	8,608.55	304.99	681.24	745.96	0.29	0.03	-12.24
8,780.00	0.62	158.29	8,703.53	303.55	681.99	746.11	0.78	-0.77	8.82
8,875.00	0.79	167.78	8,798.53	302.43	682.32	745.99	0.22	0.18	9.99
8,970.00	1.23	152.23	8,893.51	300.89	682.93	745.98	0.54	0.46	-16.37
9,065.00	1.41	156.10	8,988.49	298.92	683.88	746.11	0.21	0.19	4.07
9,160.00	1.41	165.41	9,083.46	296.72	684.65	746.00	0.24	0.00	9.80
9,255.00	1.51	164.53	9,178.43	294.38	685.28	745.70	0.11	0.11	-0.93
9,350.00	1.67	159.35	9,273.39	291.88	686.10	745.51	0.23	0.17	-5.45
9,445.00	1.67	160.14	9,368.35	289.28	687.06	745.42	0.02	0.00	0.83
9,540.00	1.58	156.27	9,463.31	286.78	688.06	745.40	0.15	-0.09	-4.07
9,635.00	1.74	164.30	9,558.27	284.19	688.97	745.28	0.30	0.17	8.45
9,730.00	1.49	172.27	9,653.23	281.58	689.53	744.81	0.35	-0.26	8.39
9,825.00	1.65	160.84	9,748.20	279.07	690.15	744.43	0.37	0.17	-12.03
9,920.00	1.58	153.02	9,843.16	276.61	691.19	744.47	0.24	-0.07	-8.23
10,015.00	1.93	147.13	9,938.12	274.10	692.65	744.88	0.41	0.37	-6.20
10,110.00	1.85	159.79	10,033.06	271.31	694.05	745.12	0.45	-0.08	13.33
10,205.00	1.58	155.66	10,128.02	268.68	695.12	745.12	0.31	-0.28	-4.35
10,244.00	1.76	161.46	10,167.00	267.62	695.53	745.10	0.63	0.46	14.87
Last SDI Production MWD Survey									
10,302.00	1.76	161.46	10,224.98	265.93	696.10	744.99	0.00	0.00	0.00
Projection to Bit									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
209.00	209.00	-0.11	0.41	First SDI Surface MWD Survey
2,524.00	2,481.50	150.69	368.08	Last SDI Surface MWD Survey
2,609.00	2,563.72	157.33	388.58	First SDI Production MWD Survey
10,244.00	10,167.00	267.62	695.53	Last SDI Production MWD Survey
10,302.00	10,224.98	265.93	696.10	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	1 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Tuesday, August 12, 2014 at 0000 to Tuesday, August 12, 2014 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM	
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0 - 0	0	
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type				PV	0	SOLID	0
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %	0

PERSONNEL	
Lead Directional :	Adam Warren
Second Directional :	Chad Ogg
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Don Braithwaite

cASING		
Size	Lb/ft	Set Depth

Signature:

BHA: N/A

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Aug-14	00:00	24:00	24.00	0	0	Other	Cementing Operations/Skid Rig

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	2 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Wednesday, August 13, 2014 at 0000 to Wednesday, August 13, 2014 at 2400

DRILLING SUMMARY

Start Depth	2430.00	Rotary Hours	10.75
End Depth	3519.00	Circulating Hours	0.00
Total Drilled:	1089.00	Avg. Total ROP:	99.00
Total Rotary Drilled:	1073.00	Avg. Rotary ROP:	99.81
Total Drilled Sliding:	16.00	Avg. Slide ROP:	64.00
Slide Hours:	0.25	Percent Rotary:	98.53
Below Rotary Hrs.	20.00	Percent Slide:	1.47

Drilling Parameters

WOB	15	Pick UP	114	Slack Off	90	SPM	
RAB	103	SPP	1518	FlowRate	0 - 509	121	

Mud Data

Type				PV	0	SOLID	0
Weight	0	GAS	0	YP	0	BHT°	0
Viscosity	0	SAND	0	PH	0	Flow T°	0
Chlorides	0	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Adam Warren
Second Directional :	Chad Ogg
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 1:Varel V616DRU 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Aug-14	00:00	04:00	4.00	0	0	Test BOPS	Test BOPS
13-Aug-14	04:00	07:00	3.00	0	0	Other	Slip/ Cut Drill Line
13-Aug-14	07:00	10:00	3.00	0	0	Change BHA	Change BHA
13-Aug-14	10:00	10:45	0.75	0	997	TIH	TIH
13-Aug-14	10:45	11:45	1.00	997	997	Other	Install Rotating Rubber
13-Aug-14	11:45	13:00	1.25	997	2430	TIH	TIH
13-Aug-14	13:00	14:20	1.33	2430	2589	Drilling Cement	TIH
13-Aug-14	14:20	14:50	0.50	2589	2636	Drilling	TIH
13-Aug-14	14:50	14:55	0.08	2636	2641	Sliding	TIH
13-Aug-14	14:55	15:25	0.50	2641	2667	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)
13-Aug-14	15:25	15:30	0.08	2667	2672	Sliding	Sliding - (WOB:20;GPM :509;TFO:270))
13-Aug-14	15:30	16:20	0.83	2672	2762	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)
13-Aug-14	16:20	16:25	0.08	2762	2768	Sliding	Sliding - (WOB:20;GPM :509;TFO:255))
13-Aug-14	16:25	24:00	7.58	2768	3519	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	3 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Thursday, August 14, 2014 at 0000 to Thursday, August 14, 2014 at 2400

DRILLING SUMMARY

Start Depth	3519.00	Rotary Hours	20.83
End Depth	5274.00	Circulating Hours	0.00
Total Drilled:	1755.00	Avg. Total ROP:	80.38
Total Rotary Drilled:	1730.00	Avg. Rotary ROP:	83.04
Total Drilled Sliding:	25.00	Avg. Slide ROP:	25.00
Slide Hours:	1.00	Percent Rotary:	98.58
Below Rotary Hrs.	24.00	Percent Slide:	1.42

Drilling Parameters

WOB	15	Pick UP	114	Slack Off	90	SPM	
RAB	103	SPP	1518	FlowRate	509 - 509	121	

Mud Data

Type				PV	2	SOLID	3
Weight	8.8	GAS	0	YP	0	BHT°	108
Viscosity	29	SAND	0	PH	7	Flow T°	0
Chlorides	1200	WL	0			Oil %	0

PERSONNEL

Lead Directional :	Adam Warren
Second Directional :	Chad Ogg
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 1:Varel V616DRU 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Aug-14	00:00	05:00	5.00	3519	3970	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)
14-Aug-14	05:00	06:00	1.00	3970	4091	Drilling	Drilling - (WOB:15; :509;RPM:30)
14-Aug-14	06:00	06:05	0.08	4091	4096	Sliding	Sliding - (WOB:20; :509;TFO:40))
14-Aug-14	06:05	13:10	7.08	4096	4661	Drilling	Drilling - (WOB:15; :509;RPM:30)
14-Aug-14	13:10	15:20	2.17	4661	4661	Rig repair	Rig repair-Swivel Packing
14-Aug-14	15:20	18:30	3.17	4661	4946	Drilling	Drilling - (WOB:15; :509;RPM:30)
14-Aug-14	18:30	18:55	0.42	4946	4956	Sliding	Sliding - (WOB:20; :509;TFO:40)
14-Aug-14	18:55	20:00	1.08	4956	5041	Drilling	Drilling - (WOB:15; :509;RPM:30)
14-Aug-14	20:00	20:30	0.50	5041	5051	Sliding	Sliding - (WOB:20; :509;TFO:360M)
14-Aug-14	20:30	24:00	3.50	5051	5274	Drilling	Drilling - (WOB:15; :509;RPM:30)

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	4 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Friday, August 15, 2014 at 0000 to Friday, August 15, 2014 at 2400

DRILLING SUMMARY

Start Depth	5274.00	Rotary Hours	22.08
End Depth	6754.00	Circulating Hours	0.75
Total Drilled:	1480.00	Avg. Total ROP:	63.66
Total Rotary Drilled:	1450.00	Avg. Rotary ROP:	65.66
Total Drilled Sliding:	30.00	Avg. Slide ROP:	25.71
Slide Hours:	1.17	Percent Rotary:	97.97
Below Rotary Hrs.	24.00	Percent Slide:	2.03

Drilling Parameters

WOB	10	Pick UP	195	Slack Off	140	SPM	
RAB	155	SPP	1850	FlowRate	509 - 509	121	

Mud Data

Type				PV	8	SOLID	3
Weight	8.8	GAS	0	YP	4	BHT°	133
Viscosity	32	SAND	1	PH	9	Flow T°	0
Chlorides	950	WL	20.8			Oil %	0

PERSONNEL

Lead Directional :	Adam Warren
Second Directional :	Chad Ogg
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 1:Varel V616DRU 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Aug-14	00:00	05:00	5.00	5274	5583	Drilling	Drilling - (WOB:15; :509;RPM:30)
15-Aug-14	05:00	08:35	3.58	5583	5800	Drilling	Drilling - (WOB:15; :509;RPM:30)
15-Aug-14	08:35	08:50	0.25	5800	5815	Sliding	Sliding - (WOB:20; :509;TFO:360M))
15-Aug-14	08:50	12:15	3.42	5815	6085	Drilling	Drilling - (WOB:15; :509;RPM:30)
15-Aug-14	12:15	12:35	0.33	6085	6090	Sliding	Sliding - (WOB:20; :509;TFO:230M))
15-Aug-14	12:35	15:05	2.50	6090	6275	Drilling	Drilling - (WOB:15; :509;RPM:30)
15-Aug-14	15:05	15:20	0.25	6275	6280	Sliding	Sliding - (WOB:20; :509;TFO:230M))
15-Aug-14	15:20	16:30	1.17	6280	6370	Drilling	Drilling - (WOB:15; :509;RPM:30)
15-Aug-14	16:30	17:15	0.75	6370	6370	Rig Service-Inhole	Rig Service-Inhole
15-Aug-14	17:15	21:55	4.67	6370	6655	Drilling	Drilling - (WOB:15; :509;RPM:30)
15-Aug-14	21:55	22:15	0.33	6655	6660	Sliding	Sliding - (WOB:20;GPM :509;TFO:355M))
15-Aug-14	22:15	24:00	1.75	6660	6754	Drilling	Drilling - (WOB:10;GPM :509;RPM:38)

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	5 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Saturday, August 16, 2014 at 0000 to Saturday, August 16, 2014 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	6754.00	Rotary Hours	21.42	WOB	15	Pick UP	220	Slack Off	160	SPM	
End Depth	7795.00	Circulating Hours	0.75	RAB	180	SPP	2285	FlowRate	509 - 509	121	
Total Drilled:	1041.00	Avg. Total ROP:	44.77	Mud Data							
Total Rotary Drilled:	1014.00	Avg. Rotary ROP:	47.35	Type				PV	12	SOLID	6
Total Drilled Sliding:	27.00	Avg. Slide ROP:	14.73	Weight	9.2	GAS	0	YP	10	BHT°	146
Slide Hours:	1.83	Percent Rotary:	97.41	Viscosity	39	SAND	2	PH	9	Flow T°	0
Below Rotary Hrs.	24.00	Percent Slide:	2.59	Chlorides	1000	WL	18			Oil %	0

PERSONNEL	
Lead Directional :	Adam Warren
Second Directional :	Chad Ogg
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING		
Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 1:Varel V616DRU 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Aug-14	00:00	04:10	4.17	6754	6939	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)
16-Aug-14	04:10	04:45	0.58	6939	6949	Sliding	Sliding - (WOB:15;GPM :509;TFO:355M)
16-Aug-14	04:45	05:00	0.25	6949	6954	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)
16-Aug-14	05:00	13:45	8.75	6954	7414	Drilling	Drilling - (WOB:15; :509;RPM:30)
16-Aug-14	13:45	14:20	0.58	7414	7429	Sliding	Sliding - (WOB:15; :509;TFO:355M)
16-Aug-14	14:20	15:55	1.58	7429	7509	Drilling	Drilling - (WOB:15; :509;RPM:30)
16-Aug-14	15:55	16:40	0.75	7509	7509	Rig Service-Inhole	Rig Service-Inhole
16-Aug-14	16:40	23:20	6.67	7509	7793	Drilling	Drilling - (WOB:15; :509;RPM:30)
16-Aug-14	23:20	24:00	0.67	7793	7795	Sliding	Sliding - (WOB:15; :509;TFO:360M))

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	6 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Sunday, August 17, 2014 at 0000 to Sunday, August 17, 2014 at 2400

DRILLING SUMMARY

Start Depth	7795.00	Rotary Hours	11.92
End Depth	8363.00	Circulating Hours	1.42
Total Drilled:	568.00	Avg. Total ROP:	44.55
Total Rotary Drilled:	555.00	Avg. Rotary ROP:	46.57
Total Drilled Sliding:	13.00	Avg. Slide ROP:	15.60
Slide Hours:	0.83	Percent Rotary:	97.71
Below Rotary Hrs.	24.00	Percent Slide:	2.29

Drilling Parameters

WOB	15	Pick UP	220	Slack Off	160	SPM	
RAB	180	SPP	2285	FlowRate	509 - 509	121	

Mud Data

Type				PV	12	SOLID	6
Weight	9.2	GAS	0	YP	10	BHT°	146
Viscosity	39	SAND	2	PH	9	Flow T°	0
Chlorides	1000	WL	18			Oil %	0

PERSONNEL

Lead Directional :	Adam Warren
Second Directional :	Chad Ogg
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 2:Security FX65D 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Aug-14	00:00	00:50	0.83	7795	7808	Sliding	Sliding - (WOB:15; :509;TFO:360M)
17-Aug-14	00:50	05:00	4.17	7808	8017	Drilling	Drilling - (WOB:15; :509;RPM:30)
17-Aug-14	05:00	12:45	7.75	8017	8363	Drilling	Drilling - (WOB:15; :509;RPM:30)
17-Aug-14	12:45	14:10	1.42	8363	8363	Circulating	Mix and Pump Pill
17-Aug-14	14:10	19:15	5.08	8363	8363	POOH	POOH
17-Aug-14	19:15	20:00	0.75	8363	8363	Change BHA	XO Bit
17-Aug-14	20:00	24:00	4.00	8363	8363	TIH	TIH

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	7 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Monday, August 18, 2014 at 0000 to Monday, August 18, 2014 at 2400

DRILLING SUMMARY

Start Depth	8363.00	Rotary Hours	18.25
End Depth	9313.00	Circulating Hours	0.50
Total Drilled:	950.00	Avg. Total ROP:	47.90
Total Rotary Drilled:	930.00	Avg. Rotary ROP:	50.96
Total Drilled Sliding:	20.00	Avg. Slide ROP:	12.63
Slide Hours:	1.58	Percent Rotary:	97.89
Below Rotary Hrs.	24.00	Percent Slide:	2.11

Drilling Parameters

WOB	15	Pick UP	225	Slack Off	160	SPM	
RAB	190	SPP	2285	FlowRate	509 - 509	121	

Mud Data

Type				PV	12	SOLID	6
Weight	9.2	GAS	0	YP	10	BHT°	146
Viscosity	39	SAND	2	PH	9	Flow T°	0
Chlorides	1000	WL	18			Oil %	0

PERSONNEL

Lead Directional :	Chad Ogg
Second Directional :	Adam Warren
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 2:Security FX65D 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Aug-14	00:00	03:40	3.67	8363	8363	TIH	TIH
18-Aug-14	03:40	05:00	1.33	8363	8417	Drilling	Drilling - (WOB:15; :509;RPM:30)
18-Aug-14	05:00	10:20	5.33	8417	8743	Drilling	Drilling - (WOB:15; :509;RPM:30)
18-Aug-14	10:20	11:55	1.58	8743	8763	Sliding	Sliding - (WOB:15; :509;TFO:360M)
18-Aug-14	11:55	17:00	5.08	8763	9028	Drilling	Drilling - (WOB:15;GPM :509;RPM:30)
18-Aug-14	17:00	17:30	0.50	9028	9028	Rig Service-Inhole	Rig Service-Inhole
18-Aug-14	17:30	19:40	2.17	9028	9123	Drilling	Drilling - (WOB:15; :509;RPM:30)
18-Aug-14	19:40	22:00	2.33	9123	9218	Drilling	Drilling - (WOB:15; :509;RPM:30)
18-Aug-14	22:00	24:00	2.00	9218	9313	Drilling	Drilling - (WOB:15; :509;RPM:30)

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	8 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Tuesday, August 19, 2014 at 0000 to Tuesday, August 19, 2014 at 2400

DRILLING SUMMARY

Start Depth	9313.00	Rotary Hours	24.00
End Depth	10302.00	Circulating Hours	0.00
Total Drilled:	989.00	Avg. Total ROP:	41.21
Total Rotary Drilled:	989.00	Avg. Rotary ROP:	41.21
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	100.00
Below Rotary Hrs.	24.00	Percent Slide:	.00

Drilling Parameters

WOB	15	Pick UP	225	Slack Off	160	SPM	
RAB	190	SPP	2285	FlowRate	509 - 509	121	

Mud Data

Type				PV	12	SOLID	6
Weight	9.2	GAS	0	YP	10	BHT°	146
Viscosity	39	SAND	2	PH	9	Flow T°	0
Chlorides	1000	WL	18			Oil %	0

PERSONNEL

Lead Directional :	Chad Ogg
Second Directional :	Dustin Kissling
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 2:Security FX65D 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Aug-14	00:00	05:00	5.00	9313	9566	Drilling	Drilling - (WOB:15; :509;RPM:30)
19-Aug-14	05:00	24:00	19.00	9566	10302	Drilling	Drilling - (WOB:15; :509;RPM:30)

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	9 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Wednesday, August 20, 2014 at 0000 to Wednesday, August 20, 2014 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	14.25
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	24.00	Percent Slide:	NA

Drilling Parameters

WOB	15	Pick UP	225	Slack Off	160	SPM	
RAB	190	SPP	2285	FlowRate	509 - 509	121	

Mud Data

Type				PV	12	SOLID	6
Weight	9.2	GAS	0	YP	10	BHT°	146
Viscosity	39	SAND	2	PH	9	Flow T°	0
Chlorides	1000	WL	18			Oil %	0

PERSONNEL

Lead Directional :	Chad Ogg
Second Directional :	Dustin Kissling
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 2:Security FX65D 6x16, 6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal, 6 1/2 Pony Monel, 6 1/2 HOS, 6 1/2 Monel, 6 1/2 Gap Sub, 6 1/2 Pony Monel, 6 1/2 Monel, 4 1/2 HWDP 27 JTS, Shock Sub, 4 1/2 HWDP 3 JTS,

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
20-Aug-14	00:00	05:00	5.00	10302	10302	Circulating	Circulating
20-Aug-14	05:00	07:00	2.00	10302	10302	Circulating	Circulating
20-Aug-14	07:00	09:55	2.92	10302	10302	POOH	POOH
20-Aug-14	09:55	12:05	2.17	10302	10302	TIH	TIH
20-Aug-14	12:05	19:20	7.25	10302	10302	Circulating	Circulating
20-Aug-14	19:20	24:00	4.67	10302	10302	POOH	POOH

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	Report Time:	2400	10 of 10
COMPANY:	Koch Exploration Co. LLC	API JOB #	43-047-54081	
LOCATION:	North Alger 27-41 Pad	WORK ORDER#	183517	
RIG NAME:	Petterson 306	FIELD:	Uintah,UT	
STATE:	Utah	Township:	19E	
COUNTY:	Uintah	SECT\RANGE:	7	10S
WELL NAME:	North Alger 27-41E			

From Thursday, August 21, 2014 at 0000 to Thursday, August 21, 2014 at 2400

DRILLING SUMMARY

Start Depth	0.00	Rotary Hours	0.00
End Depth	0.00	Circulating Hours	0.00
Total Drilled:	0.00	Avg. Total ROP:	NA
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA
Slide Hours:	0.00	Percent Rotary:	NA
Below Rotary Hrs.	24.00	Percent Slide:	NA

Drilling Parameters

WOB	15	Pick UP	225	Slack Off	160	SPM	
RAB	190	SPP	2285	FlowRate	509 - 509	121	

Mud Data

Type				PV	12	SOLID	6
Weight	9.2	GAS	0	YP	10	BHT°	146
Viscosity	39	SAND	2	PH	9	Flow T°	0
Chlorides	1000	WL	18			Oil %	0

PERSONNEL

Lead Directional :	Chad Ogg
Second Directional :	Dustin Kissling
MWD Operator1	Travis Tyler
MWD Operator2	
Directional Company:	Scientific Drilling
Geologist:	
Company Man:	Scott Watkins

cASING

Size	Lb/ft	Set Depth

Signature:

BHA

BHA # 3

Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
21-Aug-14	00:00	02:05	2.08	10302	10302	POOH	POOH
21-Aug-14	02:05	04:10	2.08	10302	10302	Change BHA	Lay Dn Dir Tools
21-Aug-14	04:10	24:00	19.83	10302	10302	Other	Casing,Cement,Rig Skid

RECEIVED: Jan. 14, 2015

BHA # 1 — PDT

Scientific Drilling

JOB NO.:	420814DEF183517 **Work Order:** 183517	**FIELD:**	Uintah,UT
COMPANY:	Koch Exploration Co. LLC	**Township:**	19E
LOCATION:	North Alger 27-41 Pad	**SECT. RANGE:**	7 10S
RIG NAME:	Petterson 306	**Lead DD:**	Adam Warren
STATE:	Utah	**Co. Man:**	Scott Watkins
COUNTY:	Uintah	**BHA TYPE:**	Steerable Assembly
WELL NAME:	North Alger 27-41E	**BHA WT:** 53636	**Wt @ Jars:** N/A

Time and Depths

Date In:	13-Aug-14 @ 07:00
Date Out:	17-Aug-14 @ 19:15
Hrs In Hole:	108.25
Start Depth:	2430.00
End Depth:	8363.00
Total Drilled:	5933.00
Avg. Total ROP:	64.43
Circ Hrs: Tot/Only	95.00 / 2.92
Percent Slide:	1.87
Percent Hrs:	5.52
Slide Hours:	5.08
Total Sliding:	111.00
Avg. Slide ROP:	21.84
Percent Rotary:	98.13
Percent Hrs:	94.48
Rotary Hours:	87.00
Total Rotary:	5822.00
Avg. Rotary ROP:	66.92
Reason POOH:	

MOTOR DATA

6 1/2 Hunting 7/8 Lobe, 3.3 Stg.

MFG.:	Hunting
Pad OD:	6 11/16
NB Stab:	0
Bit to Bend:	6.2
Bent Hsg/Sub°:	1.5 /
Lobe/Stage:	7/8 / 3.3
Rev/GAL:	0.16
Rotor Jet:	0
Prop BUR:	
Act BUR:	

Drilling Parameters

SO/PU:	0 - 160 / 0-220
Rot Strg Wt:	0-180
WOB:	0 - 20
TORQ:	6000 - 12850
SPP:	0 - 2285
Motor RPM:	81
Rotary RPM:	30 - 38
Flow Rate:	0 - 509
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Mud Data

Type

WT:	9.2	**GAS:**	0
Vis:	39	**PV:**	12
WL:	18	**PH:**	9
SOL:	6	**SAND:**	2
Oil %:	0	**T °:**	146
Chlor:	1000	**YP:**	10

Bit Record

OTHER / Varel V616DRU 6x16

Run #:	1		
Type Bit:	PDC		
IADC#:		**TFA:**	1.178
JETS:	6-16		
Bit Drop:	158 PSI @ 509 GPM		
Cond.:			

MWD Spacing — **Gamma:** 0 **Restiv:** 0 **Sensor:** 58 **GYRO:** 0 **DNSC:** 2526 **Sonic:** 0

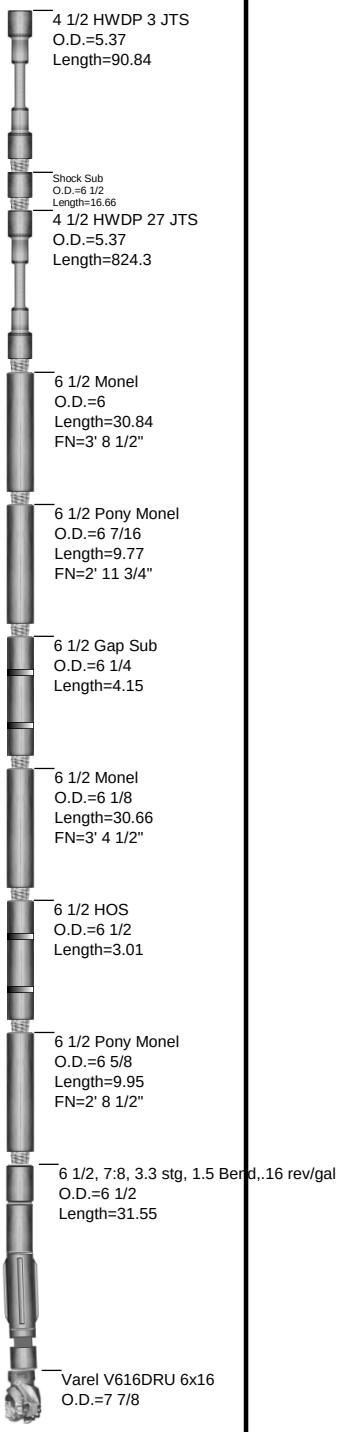
Last Casing — **O.D.:** 9 5/8 **Shoe @:** 2526 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

6 1/2" Motor Info
Max Flow 600 GPM
Max Diff 743 PSI
Optimum diff 100-400 PSI
.16 Revs Per/Gal

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Varel V616DRU 6x16	4007038		7 7/8	1.00	1.00	4 1/2 REGP	OTHER
6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal	6295-NBRHR		6 1/2	31.55	32.55	4 1/2 XHB	OTHER
6 1/2 Pony Monel	125-090	3 1/4	6 5/8	9.95	42.50	4 1/2 XHB	SDI
6 1/2 HOS	8-1088	3 1/4	6 1/2	3.01	45.51	4 1/2 XHB	SDI
6 1/2 Monel	122-312	3 1/4	6 1/8	30.66	76.17	4 1/2 XHB	SDI
6 1/2 Gap Sub	69-054	2 7/8	6 1/4	4.15	80.32	4 1/2 XHB	SDI
6 1/2 Pony Monel	125-110	3 1/4	6 7/16	9.77	90.09	4 1/2 XHB	SDI
6 1/2 Monel	122-347	3 1/4	6	30.84	120.93	4 1/2 XHB	SDI
4 1/2 HWDP 27 JTS	RIG	2.8	5.37	824.30	945.23	4 1/2 XHB	RIG
Shock Sub	MMS-M0650-00	2 1/4	6 1/2	16.66	961.89	4 1/2 XHB	Other
4 1/2 HWDP 3 JTS	RIG 1	2.8	5.37	90.84	1052.73	4 1/2 XHB	RIG



WinSURV II BHA Report - License: NP2506

Scientific Drilling

JOB NO.:	420814DEF183517	**FIELD:**	Uintah,UT
COMPANY:	Koch Exploration Co. LLC	**Township:**	19E
LOCATION:	North Alger 27-41 Pad	**Range**	10S
RIG NAME:	Petterson 306		
STATE:	Utah		
COUNTY:	Country		
WELL NAME:	North Alger 27-41E		

MOTOR INFORMATION

Desc: 6 1/2 Hunting 7/8 Lobe, 3.3 Stg. .16 rev/gal

Bent Hsg/Sub: 1.5 / 0 **Bit to Bend: 6.2**

Pad OD: 6 11/16 **NB Stab:**

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	13-Aug	Drilling	14:20	14:50	0.50	2589	2636	47	15	94.0	30	6000	509	1518		15.80	75.00	2.04	
1	13-Aug	Sliding	14:50	14:55	0.08	2636	2641	5	20	60.0	0	6000	509	1518	315	15.86	75.00	2.04	
1	13-Aug	Drilling	14:55	15:25	0.50	2641	2667	26	15	52.0	30	6000	509	1518		16.19	77.00	2.04	
1	13-Aug	Sliding	15:25	15:30	0.08	2667	2672	5	20	60.0	30	6000	509	1518	270	16.25	77.00	2.04	
1	13-Aug	Drilling	15:30	16:20	0.83	2672	2762	90	15	108.0	30	6000	509	1518		16.50	69.00	0.86	
1	13-Aug	Sliding	16:20	16:25	0.08	2762	2768	6	20	72.0	30	6000	509	1518	255	16.48	70.00	0.86	
1	13-Aug	Drilling	16:25	24:00	7.58	2768	3519	751	15	99.0	30	6000	509	1518		8.95	65.00	1.46	
1	14-Aug	Drilling	00:00	05:00	5.00	3519	3970	451	15	90.2	30	7500	509	1518		3.15	56.00	0.62	
1	14-Aug	Drilling	05:00	06:00	1.00	3970	4091	121	15	121.0	30	7500	509	1518		2.86	59.00	0.12	
1	14-Aug	Sliding	06:00	06:05	0.08	4091	4096	5	20	60.0	30	7500	509	1518	40	2.86	59.00	0.12	
1	14-Aug	Drilling	06:05	13:10	7.08	4096	4661	565	15	79.8	30	7500	509	1518		2.32	53.00	0.09	
1	14-Aug	Drilling	15:20	18:30	3.17	4661	4946	285	15	90.0	30	7500	509	1518		1.64	61.00	0.44	
1	14-Aug	Sliding	18:30	18:55	0.42	4946	4956	10	20	24.0	30	7500	509	1518	360M	1.66	62.00	0.44	
1	14-Aug	Drilling	18:55	20:00	1.08	4956	5041	85	15	78.5	30	7500	509	1518		2.45	41.00	1.29	
1	14-Aug	Sliding	20:00	20:30	0.50	5041	5051	10	20	20.0	30	7500	509	1518	360M	2.58	41.00	1.29	
1	14-Aug	Drilling	20:30	24:00	3.50	5051	5274	223	15	63.7	30	7500	509	1518		2.41	35.00	0.49	
1	15-Aug	Drilling	00:00	05:00	5.00	5274	5583	309	15	61.8	30	7500	509	1518		1.64	48.00	0.40	
1	15-Aug	Drilling	05:00	08:35	3.58	5583	5800	217	15	60.6	30	7500	509	1518		1.89	49.00	1.19	
1	15-Aug	Sliding	08:35	08:50	0.25	5800	5815	15	20	60.0	30	7500	509	1518	360M	2.05	51.00	1.19	
1	15-Aug	Drilling	08:50	12:15	3.42	5815	6085	270	15	79.0	30	7500	509	1518		1.22	30.00	1.28	
1	15-Aug	Sliding	12:15	12:35	0.33	6085	6090	5	20	15.0	30	7500	509	1518	205M	1.16	31.00	1.28	
1	15-Aug	Drilling	12:35	15:05	2.50	6090	6275	185	15	74.0	30	7500	509	1518		0.43	94.00	0.95	
1	15-Aug	Sliding	15:05	15:20	0.25	6275	6280	5	20	20.0	30	7500	509	1518	230M	0.41	100.00	0.95	
1	15-Aug	Drilling	15:20	16:30	1.17	6280	6370	90	15	77.1	30	7500	509	1518		0.47	170.00	0.36	
1	15-Aug	Drilling	17:15	21:55	4.67	6370	6655	285	15	61.1	30	7500	509	1518		0.62	176.00	0.50	
1	15-Aug	Sliding	21:55	22:15	0.33	6655	6660	5	15	15.0	30	7500	509	1518	355M	0.60	176.00	0.50	

RECEIVED: Jan. 14, 2015

Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	15-Aug	Drilling	22:15	24:00	1.75	6660	6754	94	10	53.7	38	9800	509	1850		0.64	172.00	0.34	
1	16-Aug	Drilling	00:00	04:10	4.17	6754	6939	185	15	44.4	30	10000	509	1850		0.26	184.00	1.10	
1	16-Aug	Sliding	04:10	04:45	0.58	6939	6949	10	15	17.1	30	10000	509	1850	355M	0.15	194.00	1.10	
1	16-Aug	Drilling	04:45	05:00	0.25	6949	6954	5	15	20.0	30	10000	509	1850		0.10	206.00	1.10	
1	16-Aug	Drilling	05:00	13:45	8.75	6954	7414	460	15	52.6	30	10000	509	1850		0.52	198.00	1.09	
1	16-Aug	Sliding	13:45	14:20	0.58	7414	7429	15	15	25.7	30	10000	509	1850	360M	0.37	206.00	1.09	
1	16-Aug	Drilling	14:20	15:55	1.58	7429	7509	80	15	50.5	30	10000	509	1850		0.25	137.00	0.11	
1	16-Aug	Drilling	16:40	23:20	6.67	7509	7793	284	15	42.6	30	10000	509	1850		0.44	205.00	0.92	
1	16-Aug	Sliding	23:20	24:00	0.67	7793	7795	2	15	3.0	30	12850	509	2285	360M	0.43	207.00	0.92	
1	17-Aug	Sliding	00:00	00:50	0.83	7795	7808	13	15	15.6	30	12850	509	2285	360M	0.37	222.00	0.92	
1	17-Aug	Drilling	00:50	05:00	4.17	7808	8017	209	15	50.2	30	12850	509	2285		0.25	293.00	0.43	
1	17-Aug	Drilling	05:00	12:45	7.75	8017	8363	346	15	44.6	30	12850	509	2285		0.64	205.00	0.67	

Total Drilled:	5933	**Avg. Total ROP:**	64.43		**DEPTH% - TIME %**
Total Rotary Drilled:	5822	**Avg. Rotary ROP:**	66.92	**Percent Rotary:**	98.13 - 94.48
Total Drilled Sliding:	111	**Avg. Slide ROP:**	21.84	**Percent Slide:**	1.87 - 5.52

RECEIVED: Jan. 14, 2015

BHA # 2 — PDT

Scientific Drilling

JOB NO.:	420814DEF183517 **Work Order:** 183517	**FIELD:**	Uintah,UT
COMPANY:	Koch Exploration Co. LLC	**Township:**	19E
LOCATION:	North Alger 27-41 Pad	**SECT. RANGE:**	7 10S
RIG NAME:	Petterson 306	**Lead DD:**	Chad Ogg
STATE:	Utah	**Co. Man:**	Scott Watkins
COUNTY:	Uintah	**BHA TYPE:**	Steerable Assembly
WELL NAME:	North Alger 27-41E	**BHA WT:** 53636	**Wt @ Jars:** N/A

Time and Depths

Date In:	17-Aug-14 @ 19:15
Date Out:	21-Aug-14 @ 04:10
Hrs In Hole:	80.92
Start Depth:	8363.00
End Depth:	10302.00
Total Drilled:	1939.00
Avg. Total ROP:	44.24
Circ Hrs: Tot/Only	58.58 / 14.75
Percent Slide:	1.03
Percent Hrs:	3.61
Slide Hours:	1.58
Total Sliding:	20.00
Avg. Slide ROP:	12.63
Percent Rotary:	98.97
Percent Hrs:	96.39
Rotary Hours:	42.25
Total Rotary:	1919.00
Avg. Rotary ROP:	45.42
Reason POOH:	

MOTOR DATA

6 1/2 Hunting 7/8 Lobe, 3.3 Stg.

MFG.:	Hunting
Pad OD:	6 11/16
NB Stab:	0
Bit to Bend:	6.2
Bent Hsg/Sub°:	1.5 /
Lobe/Stage:	7/8 / 3.3
Rev/GAL:	0.16
Rotor Jet:	0
Prop BUR:	
Act BUR:	

Drilling Parameters

SO/PU:	160 - 160 / 220-225
Rot Strg Wt:	180-190
WOB:	15 - 15
TORQ:	12850 - 12850
SPP:	2285 - 2285
Motor RPM:	81
Rotary RPM:	30 - 30
Flow Rate:	509 - 509
Avg Diff:	
Stall Pres.:	
Off Bot Pres.:	

Mud Data

Type

WT:	9.2	**GAS:**	0
Vis:	39	**PV:**	12
WL:	18	**PH:**	9
SOL:	6	**SAND:**	2
Oil %:	0	**T °:**	146
Chlor:	1000	**YP:**	10

Bit Record

OTHER / Security FX65D 6x16

Run #:	1		
Type Bit:	PDC		
IADC#:		**TFA:**	1.178
JETS:	6-16		
Bit Drop:	158 PSI @ 509 GPM		
Cond.:			

MWD Spacing

Gamma: 0	**Restiv:** 0	**Sensor:** 58	
GYRO: 0	**DNSC:** 2526	**Sonic:** 0	

Last Casing O.D.: 9 5/8

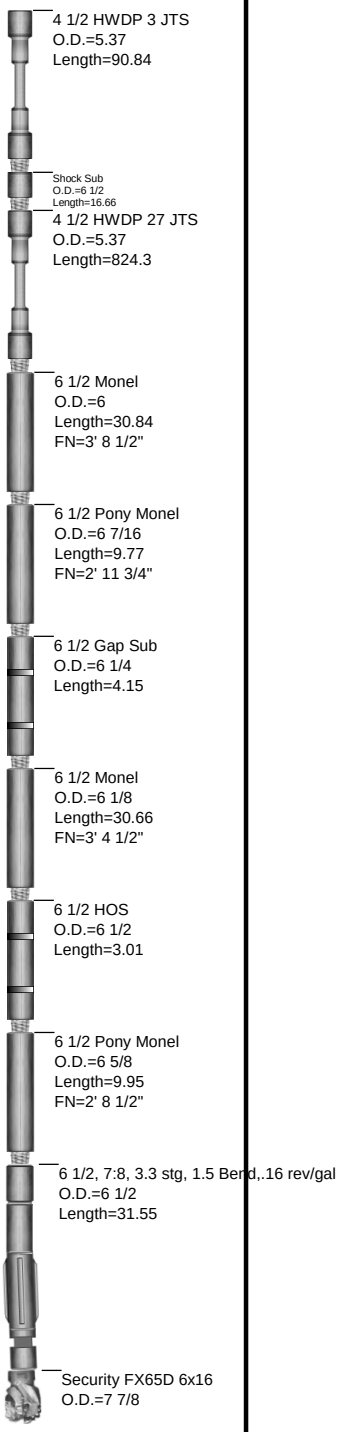
Shoe @: 2526 **Hanger @:**

INC IN: .0 **INC OUT:** .0 **AZM IN:** .00 **AZM OUT:** .00

6 1/2" Motor Info
Max Flow 600 GPM
Max Diff 743 PSI
Optimum diff 100-400 PSI
.16 Revs Per/Gal

BHA Detail

Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn	MFG.
Security FX65D 6x16	12432511		7 7/8	1.00	1.00	4 1/2 REGP	OTHER
6 1/2, 7:8, 3.3 stg, 1.5 Bend,.16 rev/gal	6295-NBRHR		6 1/2	31.55	32.55	4 1/2 XHB	OTHER
6 1/2 Pony Monel	125-090	3 1/4	6 5/8	9.95	42.50	4 1/2 XHB	SDI
6 1/2 HOS	8-1088	3 1/4	6 1/2	3.01	45.51	4 1/2 XHB	SDI
6 1/2 Monel	122-312	3 1/4	6 1/8	30.66	76.17	4 1/2 XHB	SDI
6 1/2 Gap Sub	69-054	2 7/8	6 1/4	4.15	80.32	4 1/2 XHB	SDI
6 1/2 Pony Monel	125-110	3 1/4	6 7/16	9.77	90.09	4 1/2 XHB	SDI
6 1/2 Monel	122-347	3 1/4	6	30.84	120.93	4 1/2 XHB	SDI
4 1/2 HWDP 27 JTS	RIG	2.8	5.37	824.30	945.23	4 1/2 XHB	RIG
Shock Sub	MMS-M0650-00	2 1/4	6 1/2	16.66	961.89	4 1/2 XHB	Other
4 1/2 HWDP 3 JTS	RIG 1	2.8	5.37	90.84	1052.73	4 1/2 XHB	RIG



WinSURV II BHA Report - License: NP2506

RECEIVED: Jan. 14, 2015

Scientific Drilling

JOB NO.:	420814DEF183517	**FIELD:**	Uintah,UT
COMPANY:	Koch Exploration Co. LLC	**Township:**	19E
LOCATION:	North Alger 27-41 Pad	**Range**	10S
RIG NAME:	Petterson 306		
STATE:	Utah		
COUNTY:	Country		
WELL NAME:	North Alger 27-41E		

MOTOR INFORMATION

Desc: 6 1/2 Hunting 7/8 Lobe, 3.3 Stg. .16 rev/gal

Bent Hsg/Sub: 1.5 / 0 **Bit to Bend: 6.2**

Pad OD: 6 11/16 **NB Stab:**

Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	18-Aug	Drilling	03:40	05:00	1.33	8363	8417	54	15	40.5	30	12850	509	2285		0.91	152.00	0.33	
2	18-Aug	Drilling	05:00	10:20	5.33	8417	8743	326	15	61.1	30	12850	509	2285		0.90	153.00	0.78	
2	18-Aug	Sliding	10:20	11:55	1.58	8743	8763	20	15	12.6	30	12850	509	2285	360M	0.75	156.00	0.78	
2	18-Aug	Drilling	11:55	17:00	5.08	8763	9028	265	15	52.1	30	12850	509	2285		1.34	155.00	0.21	
2	18-Aug	Drilling	17:30	19:40	2.17	9028	9123	95	15	43.8	30	12850	509	2285		1.41	162.00	0.24	
2	18-Aug	Drilling	19:40	22:00	2.33	9123	9218	95	15	40.7	30	12850	509	2285		1.47	166.00	0.11	
2	18-Aug	Drilling	22:00	24:00	2.00	9218	9313	95	15	47.5	30	12850	509	2285		1.61	168.00	0.23	
2	19-Aug	Drilling	00:00	05:00	5.00	9313	9566	253	15	50.6	30	12850	509	2285		1.62	159.00	0.30	
2	19-Aug	Drilling	05:00	24:00	19.00	9566	10302	736	15	38.7	30	12850	509	2285		1.76	161.00	0.00	

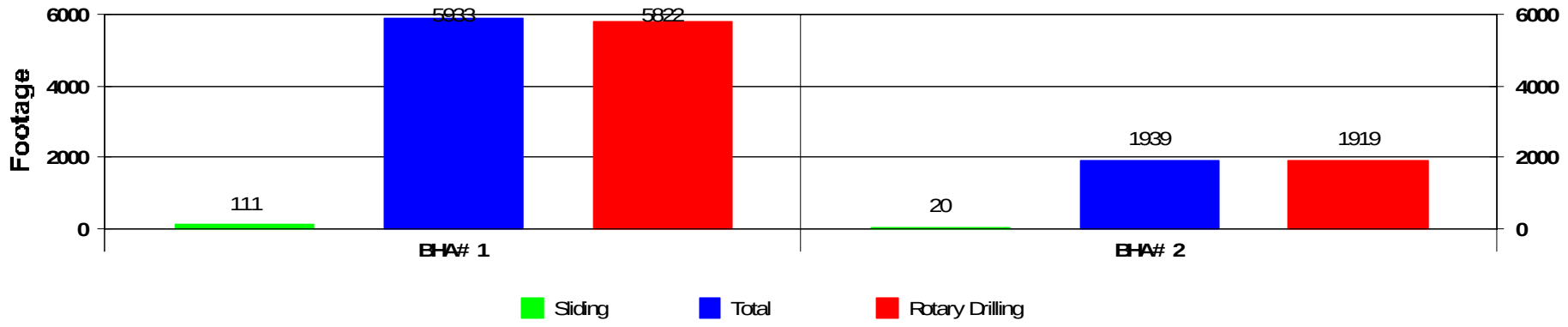
Total Drilled:	1939	**Avg. Total ROP:**	44.24		**DEPTH% - TIME %**
Total Rotary Drilled:	1919	**Avg. Rotary ROP:**	45.42	**Percent Rotary:**	98.97 - 96.39
Total Drilled Sliding:	20	**Avg. Slide ROP:**	12.63	**Percent Slide:**	1.03 - 3.61

RECEIVED: Jan. 14, 2015

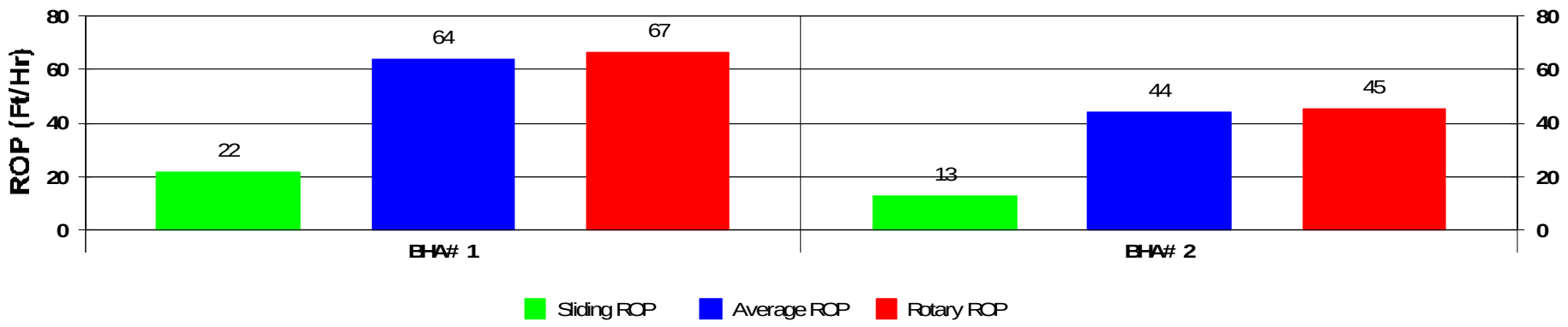
Scientific Drilling

JOB NO.:	420814DEF183517	**FIELD:**	Uintah,UT	
COMPANY:	Koch Exploration Co. LLC	**Township:**	19E	
LOCATION:	North Alger 27-41 Pad	**SECT\RANGE:**	7	10S
RIG NAME:	Petterson 306	**COMMENT**		
STATE:	Utah			
COUNTY:	Uintah			
WELL NAME:	North Alger 27-41E			

Footage Drilled with BHA



ROP vs BHA



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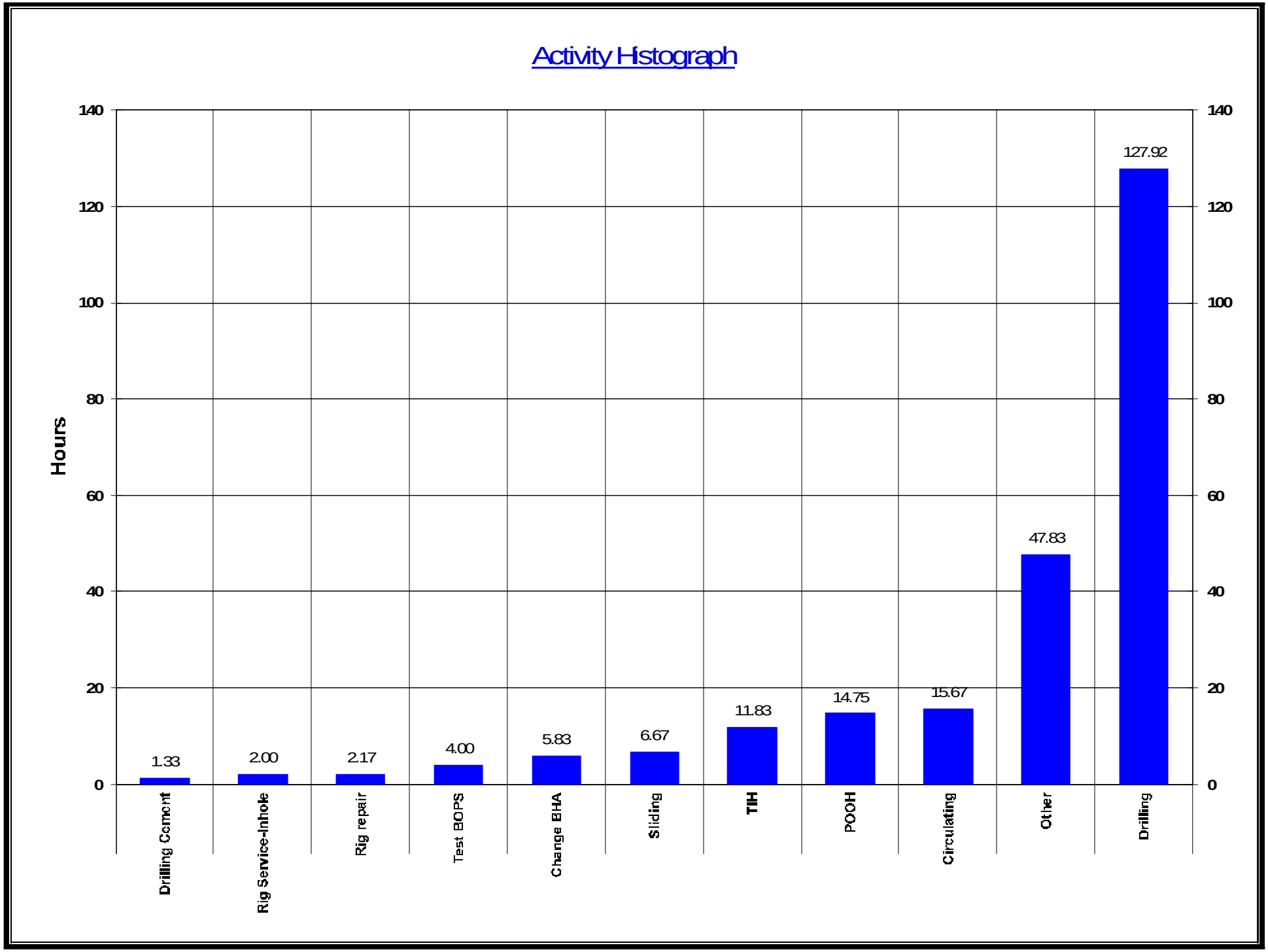

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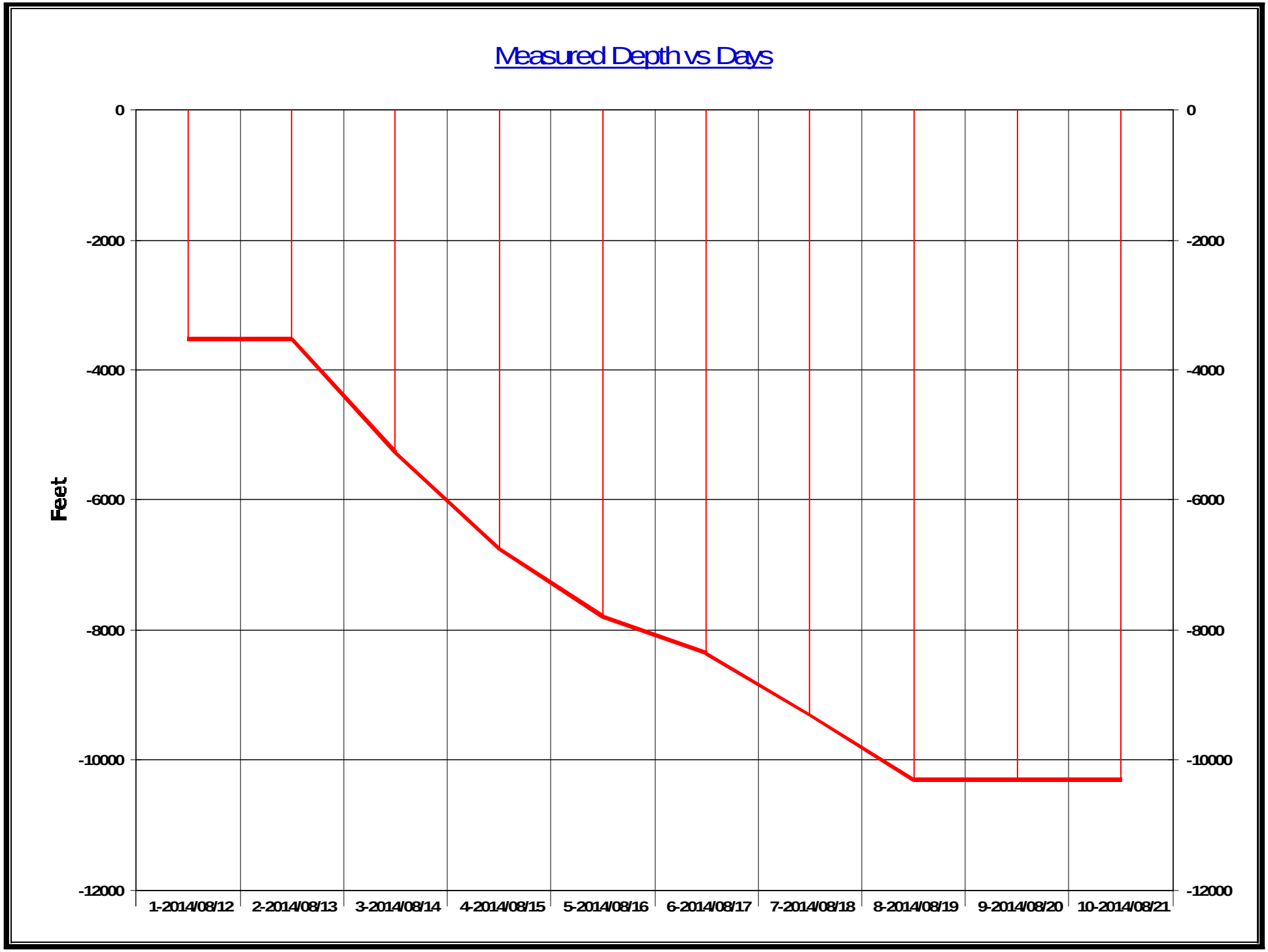

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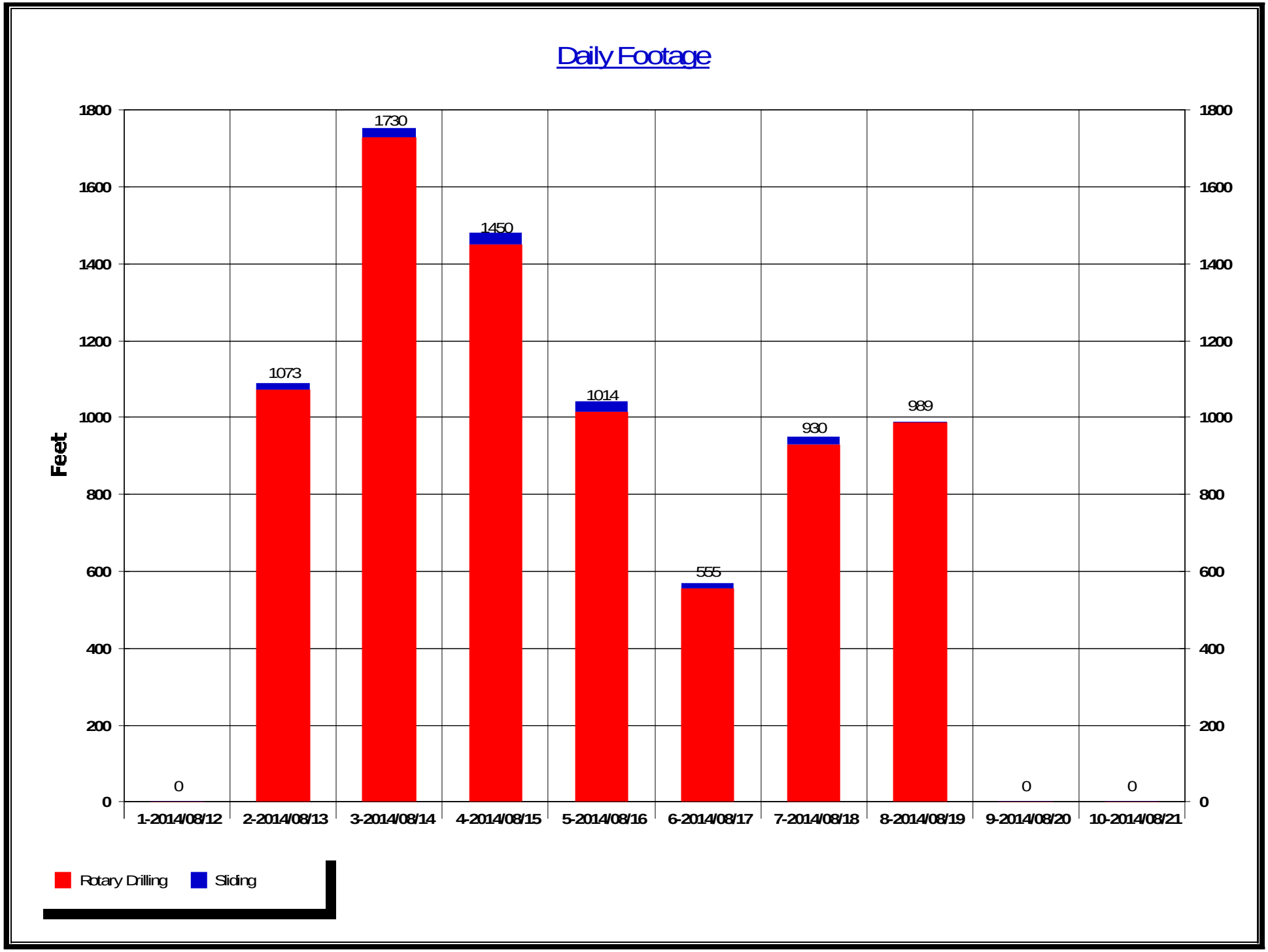

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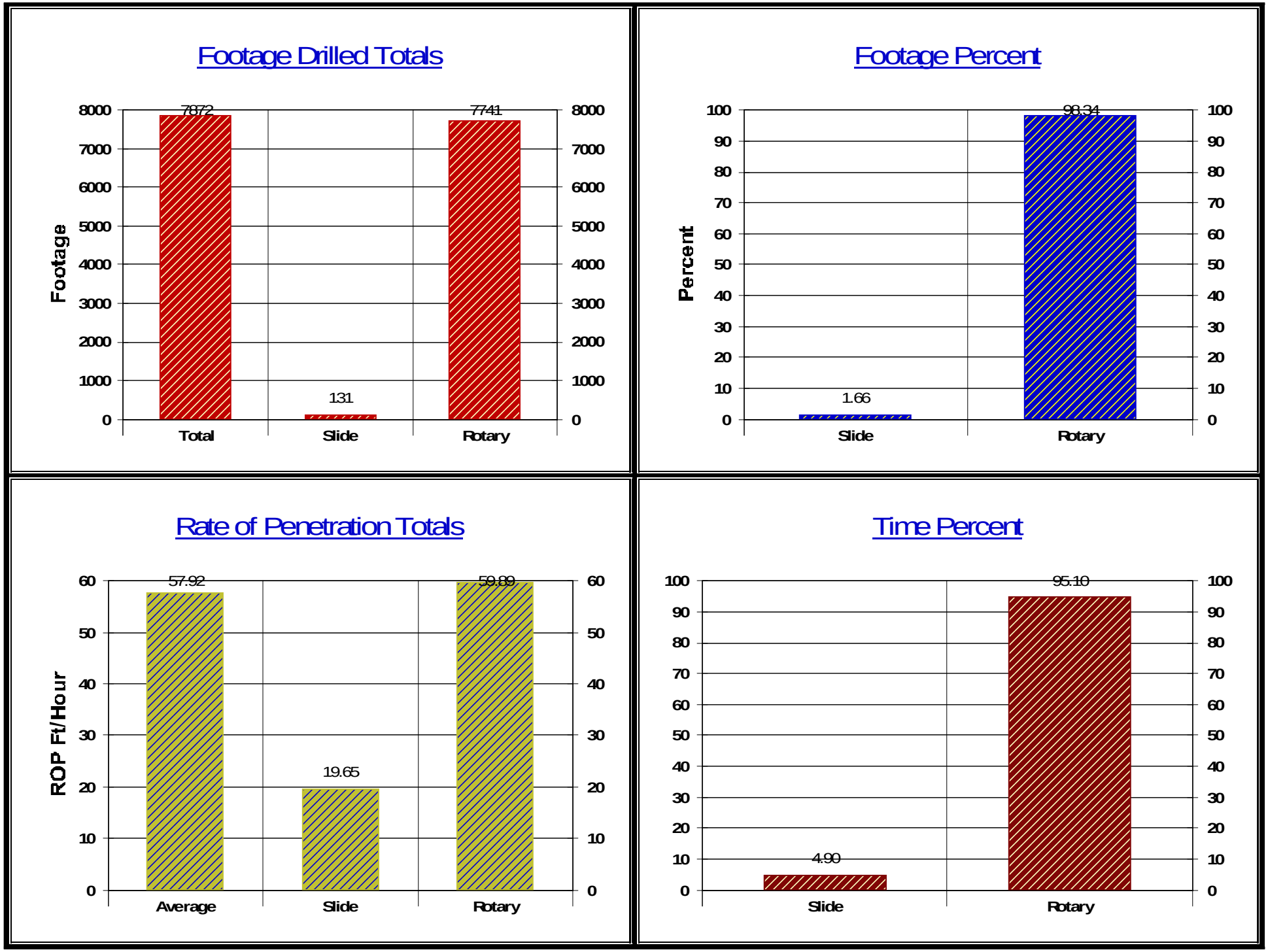

RECEIVED: Jan. 14, 2015

SUPPORT STAFF

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Janie Collins and Mel Mireles Jr.

Directional Drillers:
D. Kissling, A. Warren, and C. Ogg

MWD Operators:
T, Tyler

2948 I-70 Bus. Loop
Grand Junction, CO 81504
(970) 245-9447

Scientific Drilling

WELL NAME: "NOR-ST BOLT" - 00/07-17-047-12-W5M

Photo Taken: 2011/07/17 - 14:00 MST

Well Name: NOR-STBOLT	
Surface Location: 00/07-17-047-12-W5M	
Latitude: 53.0000	Longitude: -114.7000
Elevation: KB: 1000.00 m	Elevation: DF: 1000.00 m
Elevation: GL: 1000.00 m	Elevation: KB to GL: 0.00 m
Spud Date: 2011/07/17 - 14:00 MST	Rig Release: 2011/07/18 - 00:00 MST
Drilling Contractor:	Drilling Method: Conventional Vertical
Total Depth: 1000.00 m	Total Depth: 1000.00 m
Formation at TD:	Age at TD:
Last Formation Drilled:	Age of Last Formation Drilled:
Drilling Fluid Type: Fresh Water Gel	Drilling Fluid Density: 1000 kg/m3
Drilling Fluid Volume: 0.00 m3	Drilling Fluid Cost: $0.00
Bit Program: 1 - 311.0 mm, 2 - 200.0 mm, 3 - 152.0 mm, 4 - 152.0 mm	Casing Program: 244.5 mm @ 0.00 m, 177.8 mm @ 0.00 m

Comments:

Author: Sedimentologist: Jon Lonergan
Author: Petrophysicist: Jon Lonergan
Author: Petroleum Geologist: Jon Lonergan

Legend

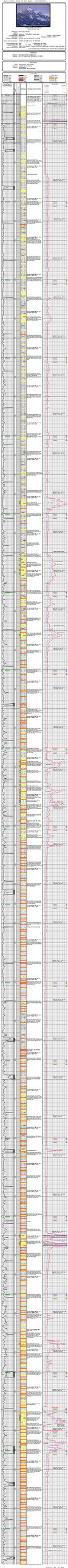
Lithology: Shale, Siltstone, Sandstone, Coal, Conglomerate, Limestone, Dolomite, Anhydrite, Salt, Chert, Tuff, Bentonite, Pebble Conglomerate, Granite, Gneiss, Quartzite, Schist, Phyllite, Slate, Marble, Basement

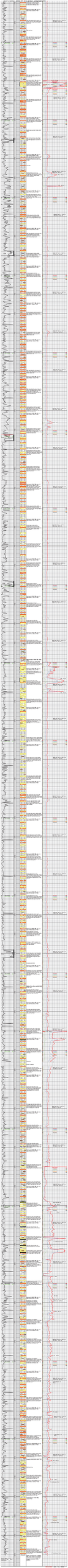
Fossils: Ammonite, Bivalve, Brachiopod, Bryozoan, Crinoid, Echinoid, Gastropod, Foraminifera, Ostracod, Palynomorph, Plant Fragment, Trace Fossil, Vertebrate, Coral, Sponge, Radiolaria, Diatom, Conodont, Graptolite, Trilobite, Brachiopod, Bryozoan, Crinoid, Echinoid, Gastropod, Foraminifera, Ostracod, Palynomorph, Plant Fragment, Trace Fossil, Vertebrate, Coral, Sponge, Radiolaria, Diatom, Conodont, Graptolite, Trilobite

Lithology: Shale, Siltstone, Sandstone, Coal, Conglomerate, Limestone, Dolomite, Anhydrite, Salt, Chert, Tuff, Bentonite, Pebble Conglomerate, Granite, Gneiss, Quartzite, Schist, Phyllite, Slate, Marble, Basement

Fossils: Ammonite, Bivalve, Brachiopod, Bryozoan, Crinoid, Echinoid, Gastropod, Foraminifera, Ostracod, Palynomorph, Plant Fragment, Trace Fossil, Vertebrate, Coral, Sponge, Radiolaria, Diatom, Conodont, Graptolite, Trilobite, Brachiopod, Bryozoan, Crinoid, Echinoid, Gastropod, Foraminifera, Ostracod, Palynomorph, Plant Fragment, Trace Fossil, Vertebrate, Coral, Sponge, Radiolaria, Diatom, Conodont, Graptolite, Trilobite

Depth (m) | Lithology | Lithology Description | Formation | Gamma Ray | Caliper | Bit Size | Deviation | Resistivity | Porosity | Permeability | Water Saturation | Hydrocarbon Saturation | Density | Sonic | Velocity | Fluid Type | Fluid Density | Fluid Viscosity | Fluid Resistivity | Fluid Temperature | Fluid Pressure | Fluid Flow Rate | Fluid Velocity | Fluid Acoustic Impedance | Fluid Dielectric Constant | Fluid Magnetic Susceptibility | Fluid Radioactivity | Fluid Chemistry | Fluid Composition | Fluid Phase | Fluid Viscosity | Fluid Resistivity | Fluid Temperature | Fluid Pressure | Fluid Flow Rate | Fluid Velocity | Fluid Acoustic Impedance | Fluid Dielectric Constant | Fluid Magnetic Susceptibility | Fluid Radioactivity | Fluid Chemistry | Fluid Composition | Fluid Phase





HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company KOCH EXPLORATION
Well NORTH ALGER 27-41E
Field NATURAL BUTTES
County UINTAH State UT

API No.: 43-047-54081-0000 Serv #: 901706607

Location: SURFACE HOLE LOCATION:
0712' FSL & 0311' FWL (SWSW)

BOTTOM HOLE LOCATION:
0990' FSL & 0990' FWL (SWSW)

Sec: 27 Twp: 10S Rge: 19E

Other Services

GAUGE RING
RMT

Permanent Datum	GROUND LEVEL	Elevation	5258'
Log Measured From	KB , 22.5 Ft. above perm. datum		
Drilling Measured From	KB		

Elevation
K.B. 5280.5'
D.F. 5279.5'
G.L. 5258'

Date @ Time Logged	02 OCT 2014	Type Fluid in Hole	WATER
Run No.	ONE	Density of Fluid	8.4#
Depth - Driller	10319'	Fluid Level	FULL
Depth - Logger	10094'	Cement Top Est. Logged	1040'
Bottom - Logged Interval	10094'	Equipment / Location	11726117 / G.J.
Top - Log Interval	SURFACE	Recorded by	D. SOLIS
Max. Recorded Temp.	228 DEG F	Witnessed by	J. CLARK

CEMENTING DATA	Surface	Protection	Production	Liner
	String	String	String	
Date / Time Cemented	N/A	N/A	N/A	N/A
Primary / Squeeze				
Expected Compressive Strength	psi@ hrs	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume				
Cement Type / Weight	/	/	/	/
Formulation				
Mud Type / Mud Wgt.	/	/	/	/

Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	SURFACE	2500'	8.625"	32.0#	SURFACE	2500'
TWO	7.875"	2500'	10319'	4.5"	11.6#	SURFACE	10319'

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

<<< Fold Here >>>

Comments

HES CBL DATED 02 OCT 2014 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-RBT RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINT @: 5267' - 5290'.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No. 901706607 API No. 43-04-54081-0000 PGM Ver 14.05.12001

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

TELEMETRY		CEMENT BOND TOOL		RESERVOIR MONITOR TOOL		
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.
Serial No.	11510542	Serial No.	11923474	Serial No.	12210614	Serial No.
Model No.	TTTC-U-002	Model No.	CBL-M	Model No.	RMTI-A	Model No.
Diameter	1.688"	Diameter	2.75"	Diameter	2.125"	Diameter

LOGGING DATA

General Data

Pass No.	Depths From	Depths To	Well Head Pressure	Speed Ft/Min	Logging Run Comments

43047540810000 KOCH EXPLORATION NORTH ALGER 27-41E NATURAL BUTTES UINTAH UT
Company Well Field County State
Sundry Number 59566 API Well Number

Sundry Number: 59866 API Well Number: 43047540810000

No.	From	To	Pressure	Ft/Min	
ONE	10094'	SURFACE	2500#	REC	MAIN LOG SECTION

	GAMMA RAY		TRAVEL TIME		AMPLITUDE		MSG	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	405	205	0	100	200	1060

DIRECTIONAL INFORMATION

Maximum Deviation	N/A	deg. @	N/A	KOP	N/A	

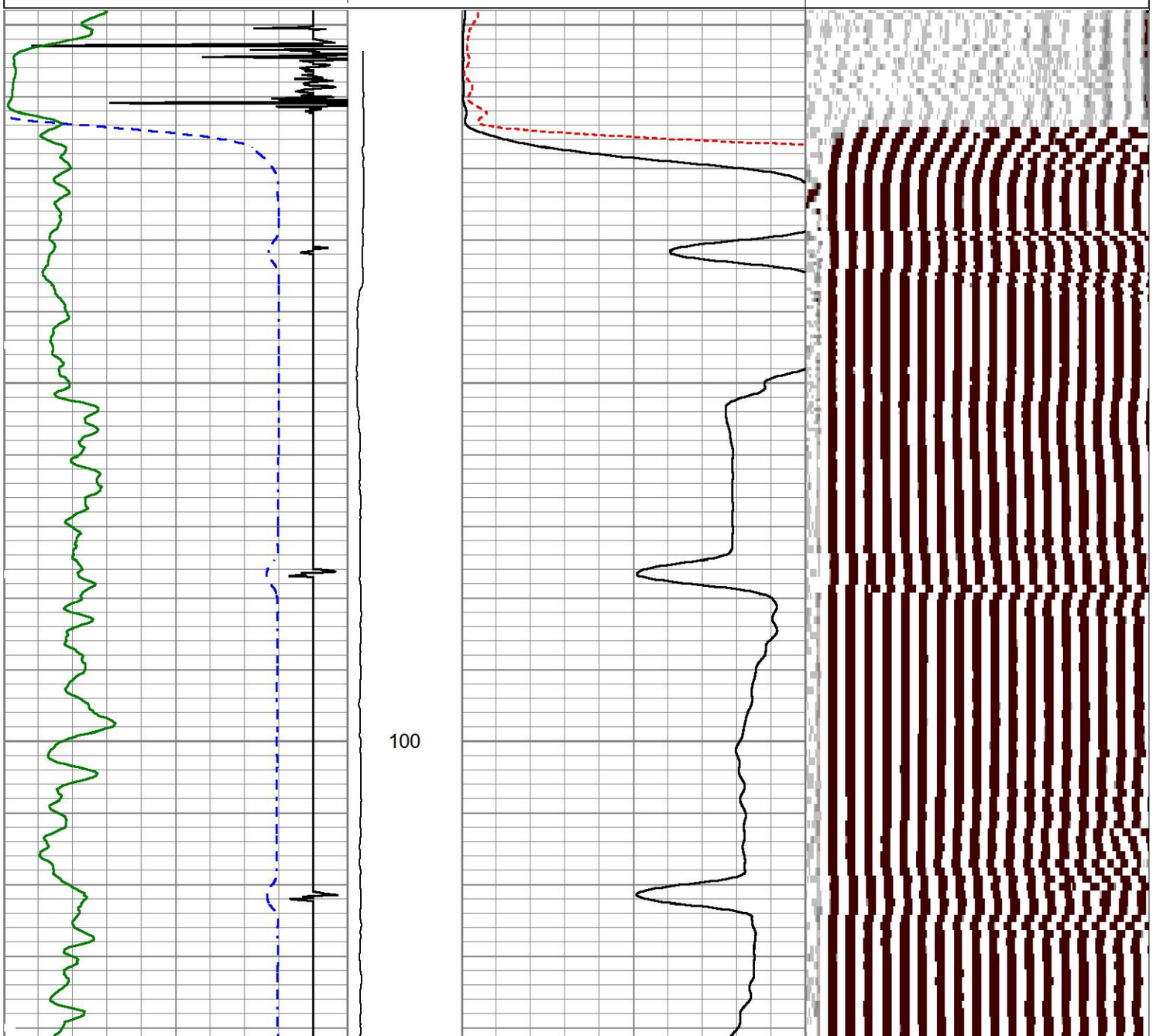
HALLIBURTON

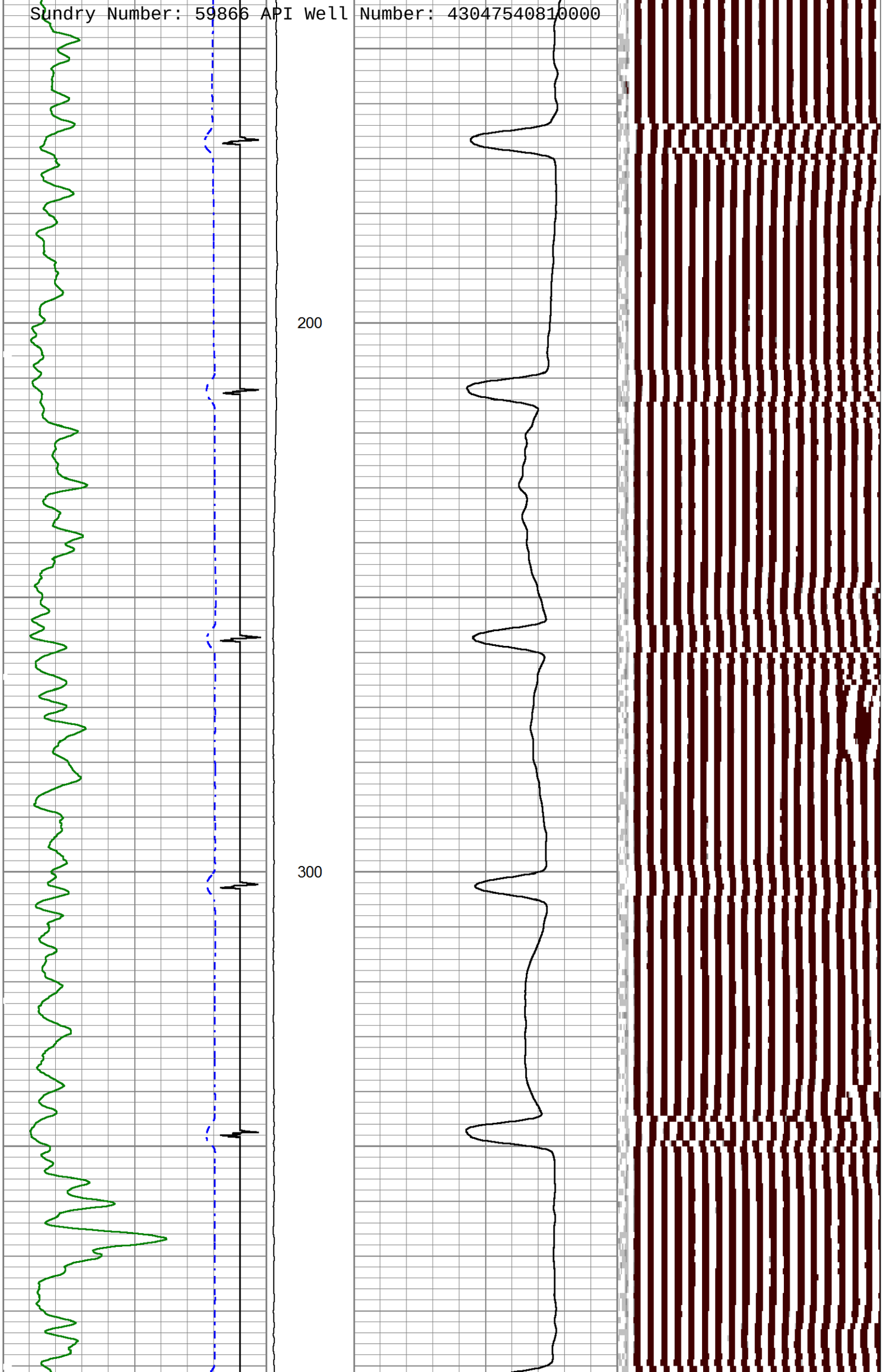
MAIN LOG SECTION

2500 PSI
5" = 100'

Database File	k_27_41e_cmb.db
Dataset Pathname	MAIN1
Presentation Format	hcbl
Dataset Creation	Thu Oct 02 12:52:33 2014
Charted by	Depth in Feet scaled 1:240

405	3' Travel Time	205	LTEN	0	3' Amplitude (mV)	100	200	MSG	1060
-2700	CCL	300	0 (lb)	2000	0 3' Amplitude X5 (mV)	20	10		50
0	Gamma Ray (GAPI)	200							

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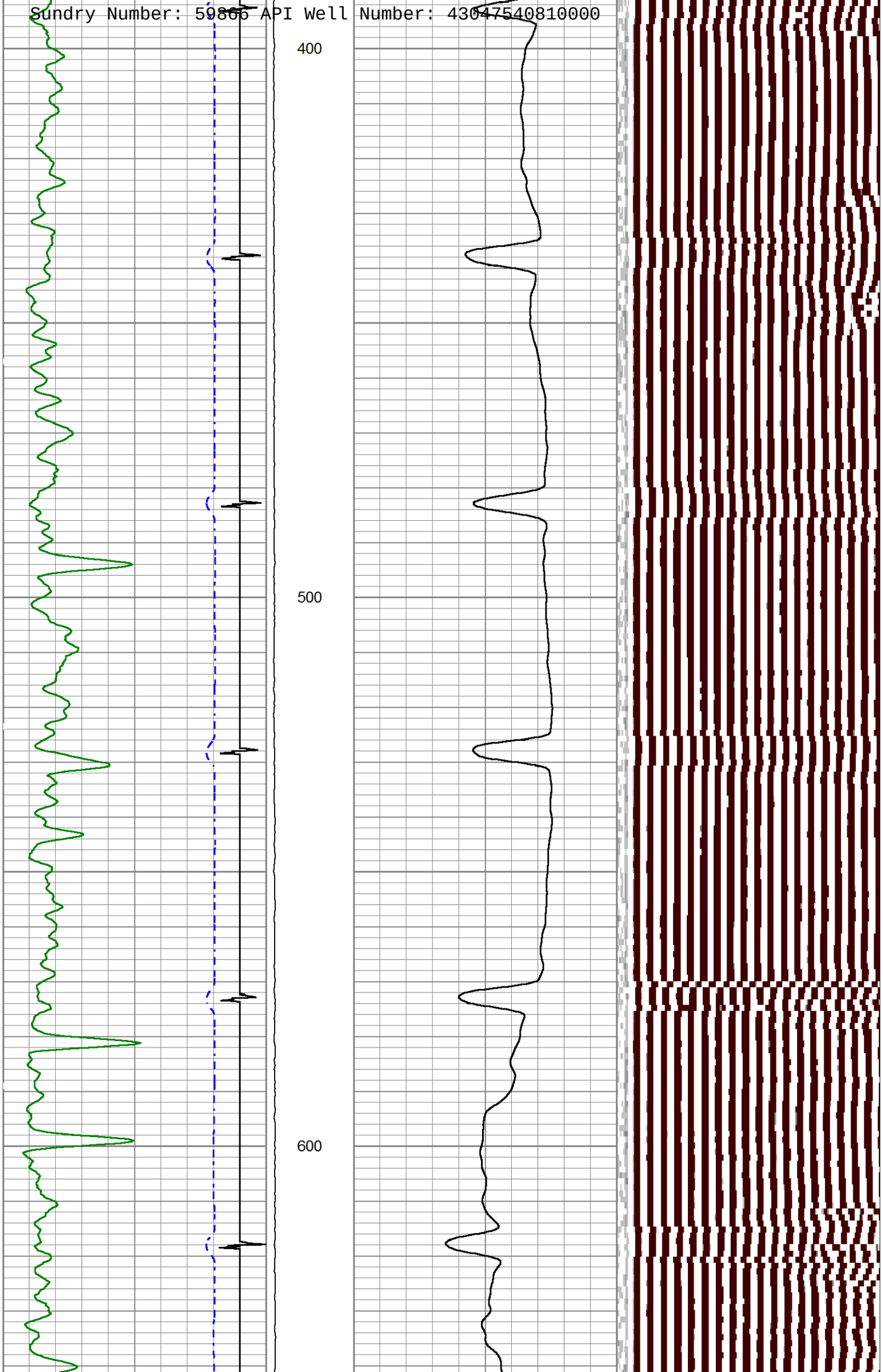
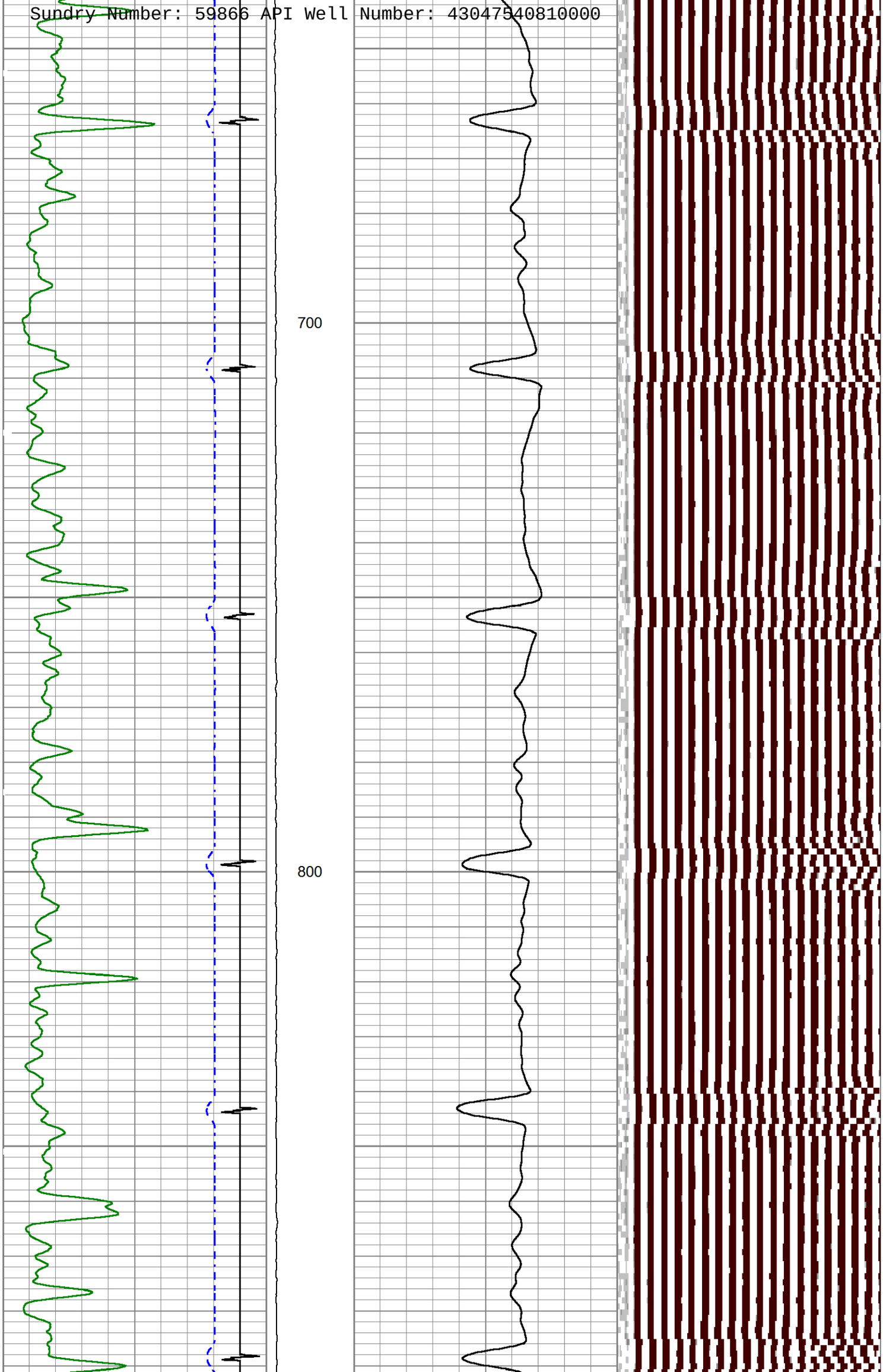
Sundry Number: 59866 API Well Number: 43047540810000

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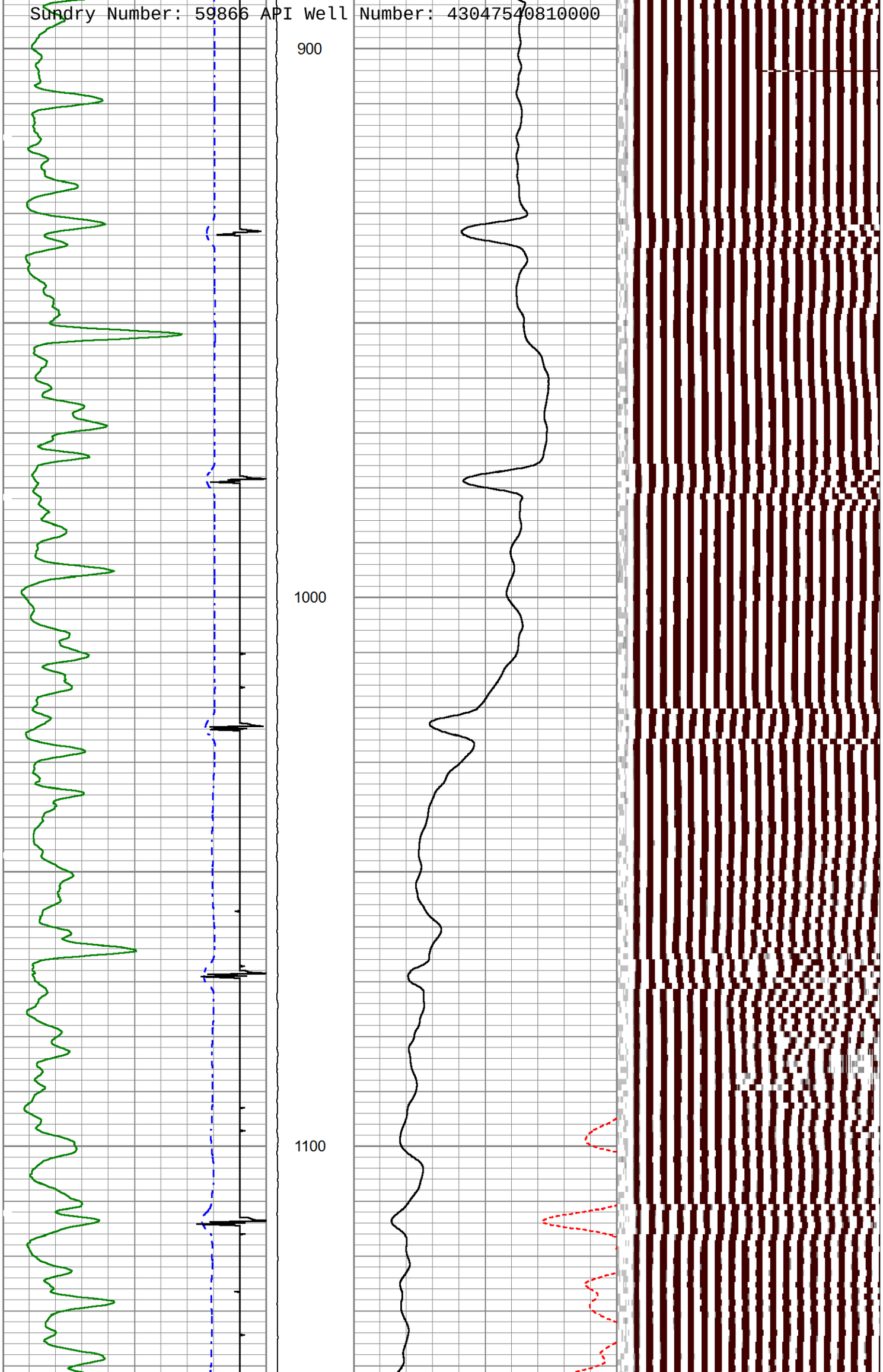
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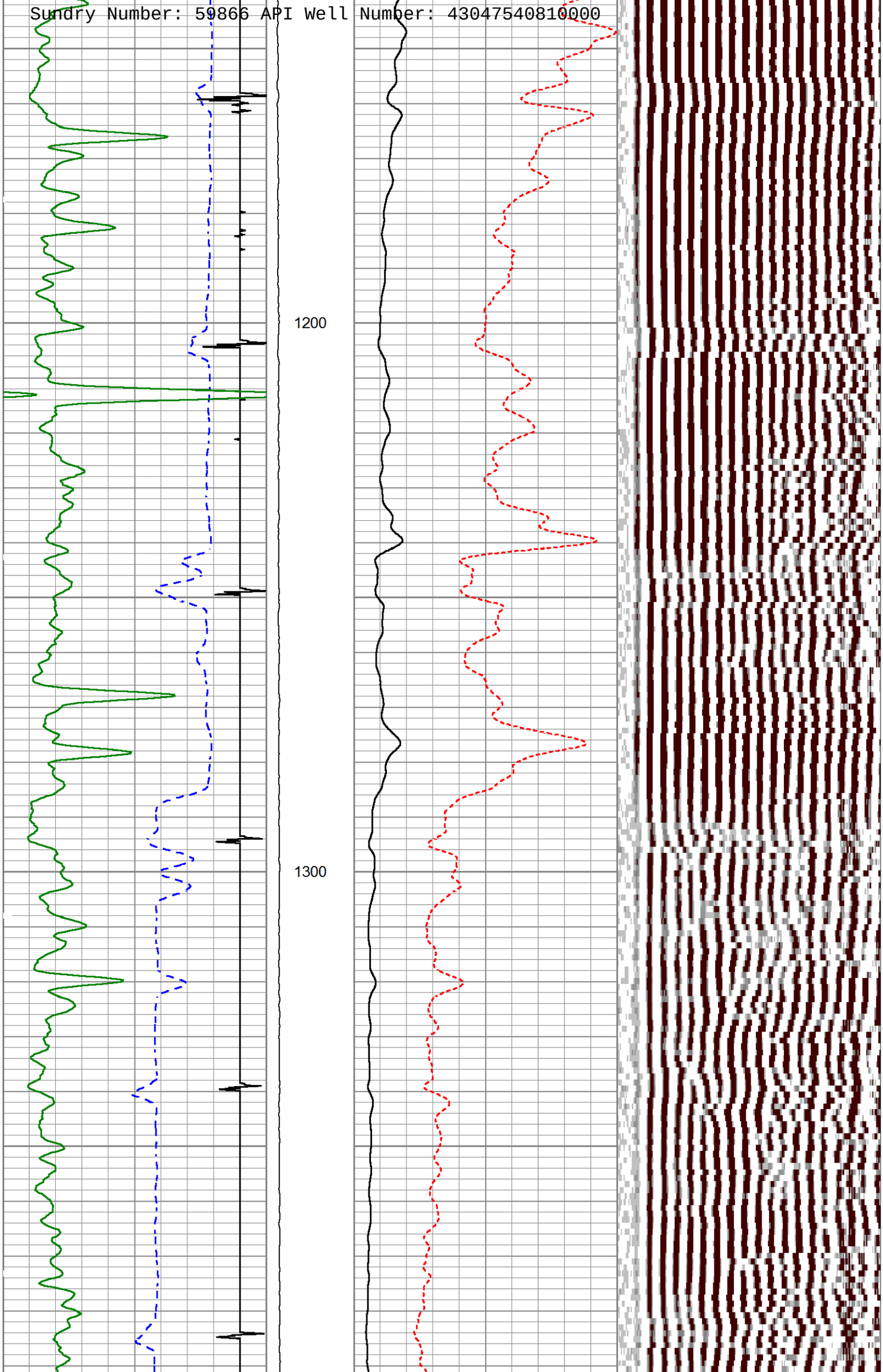
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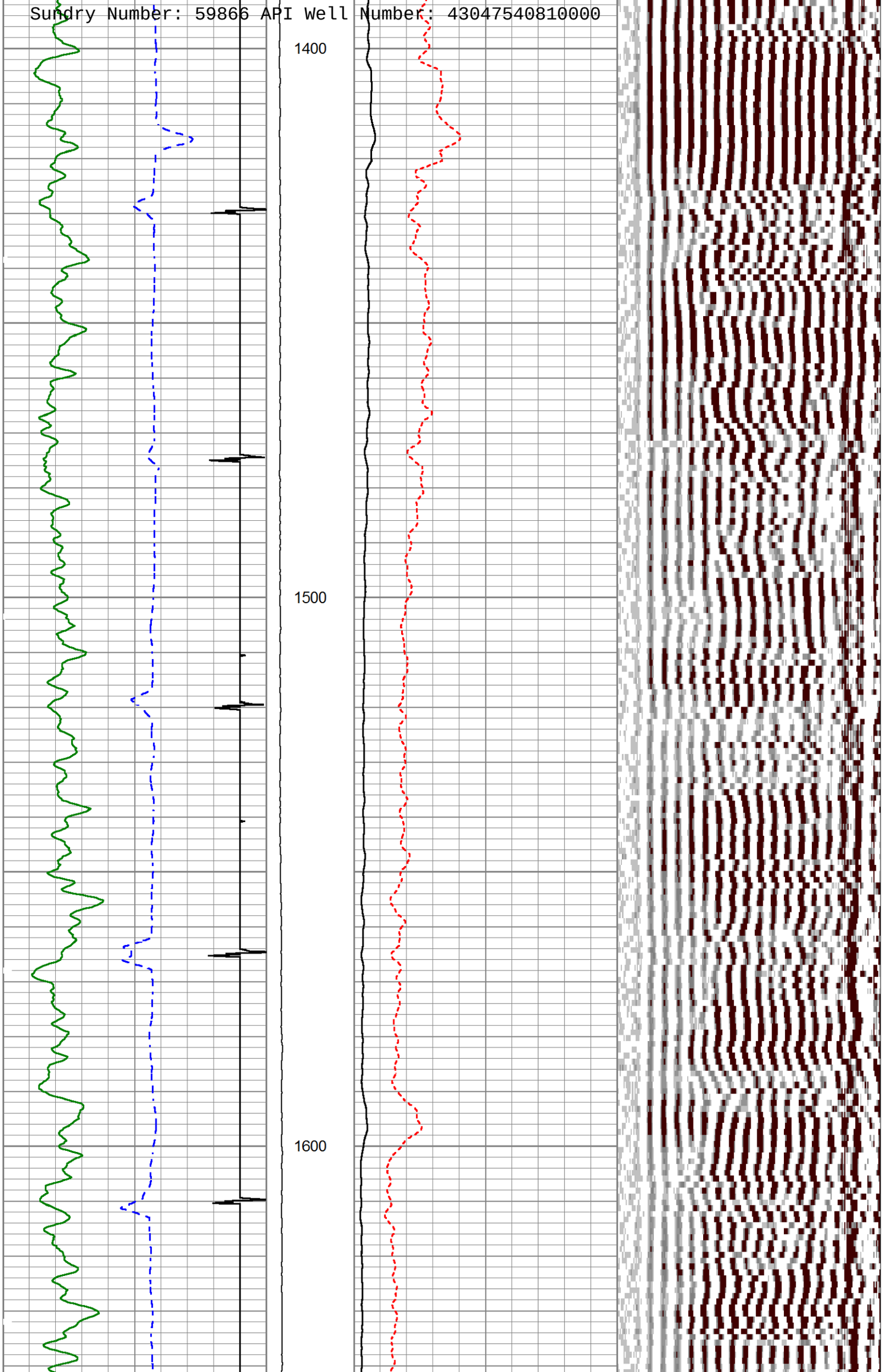
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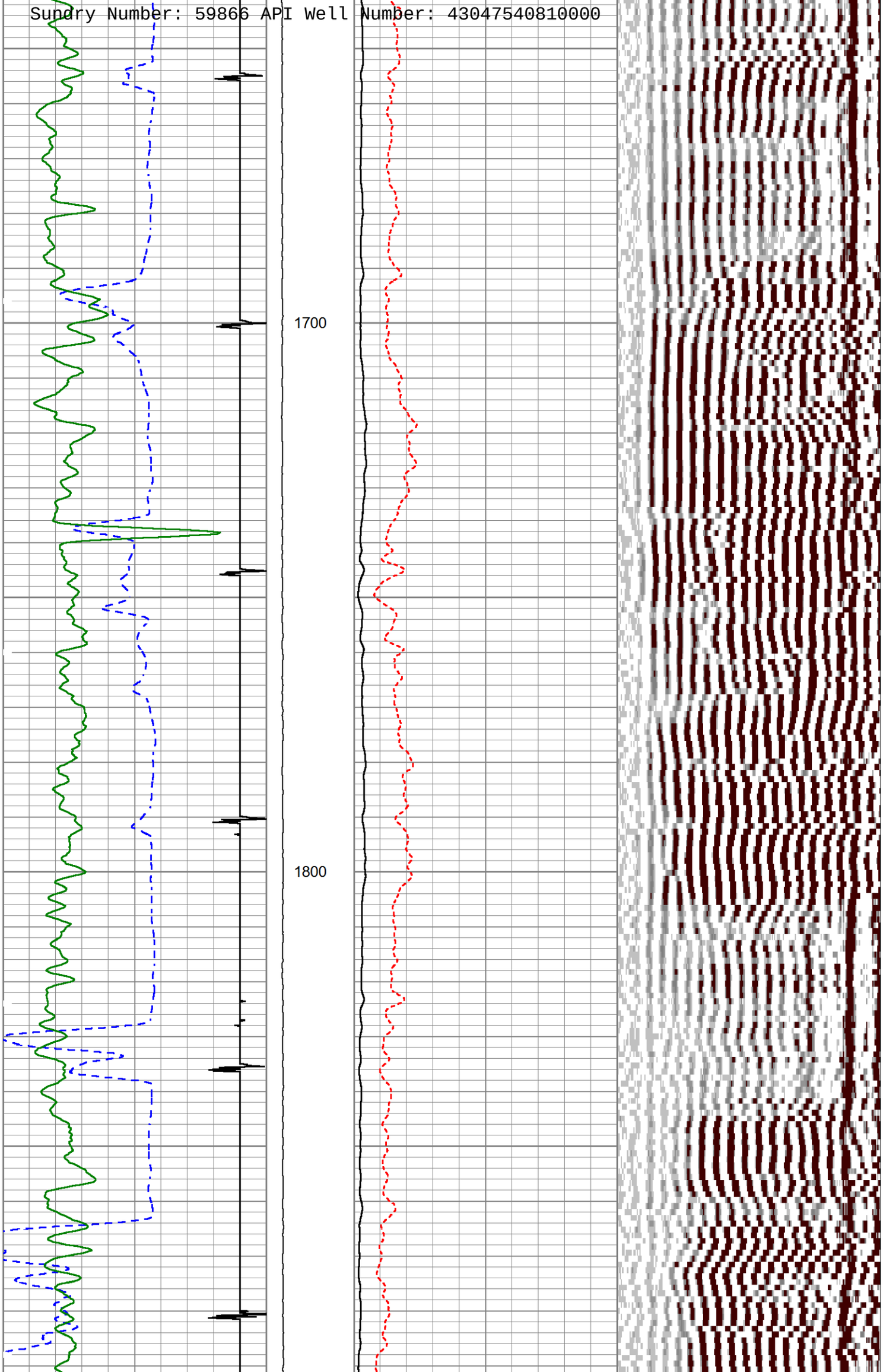
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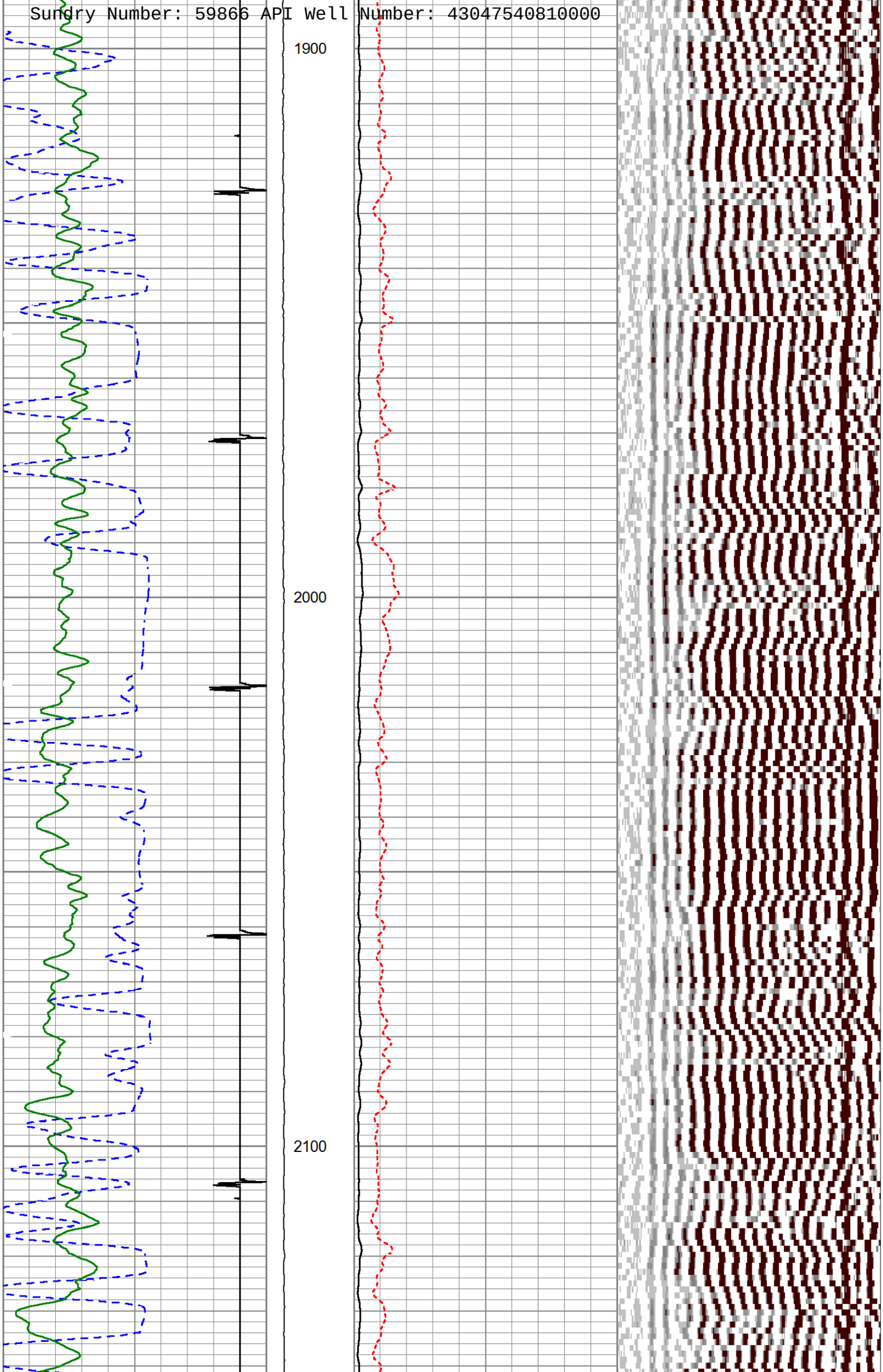
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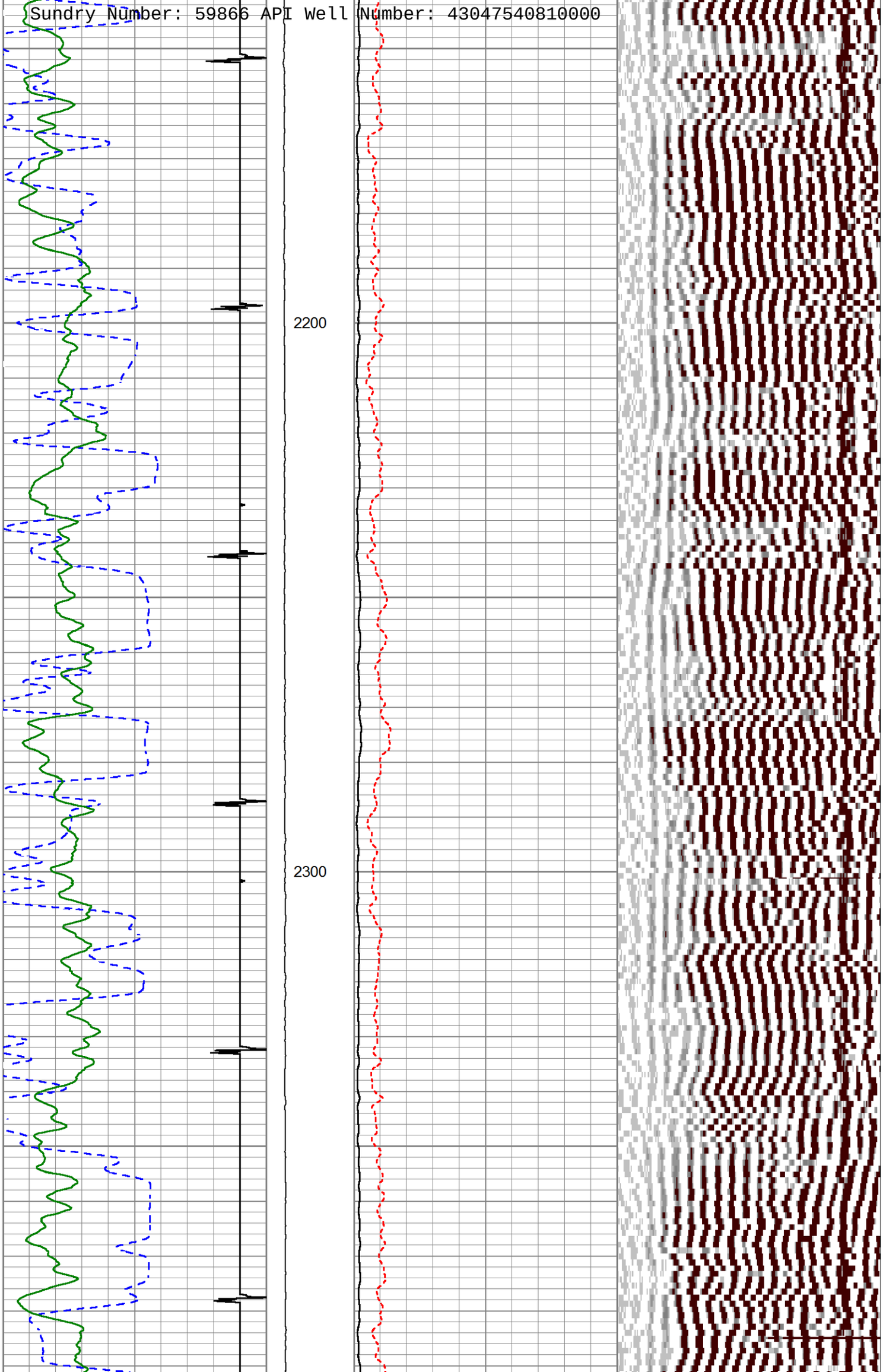
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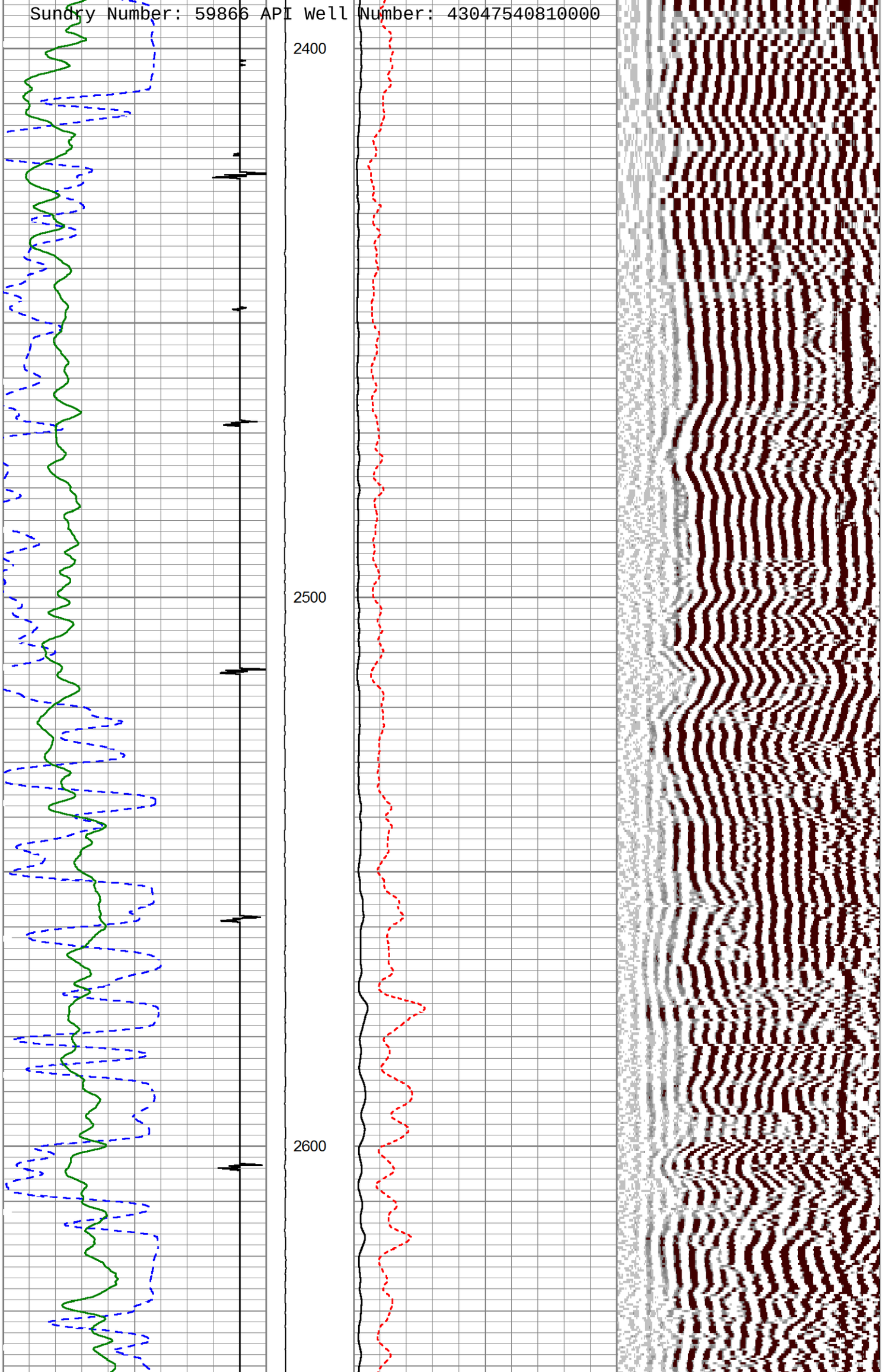
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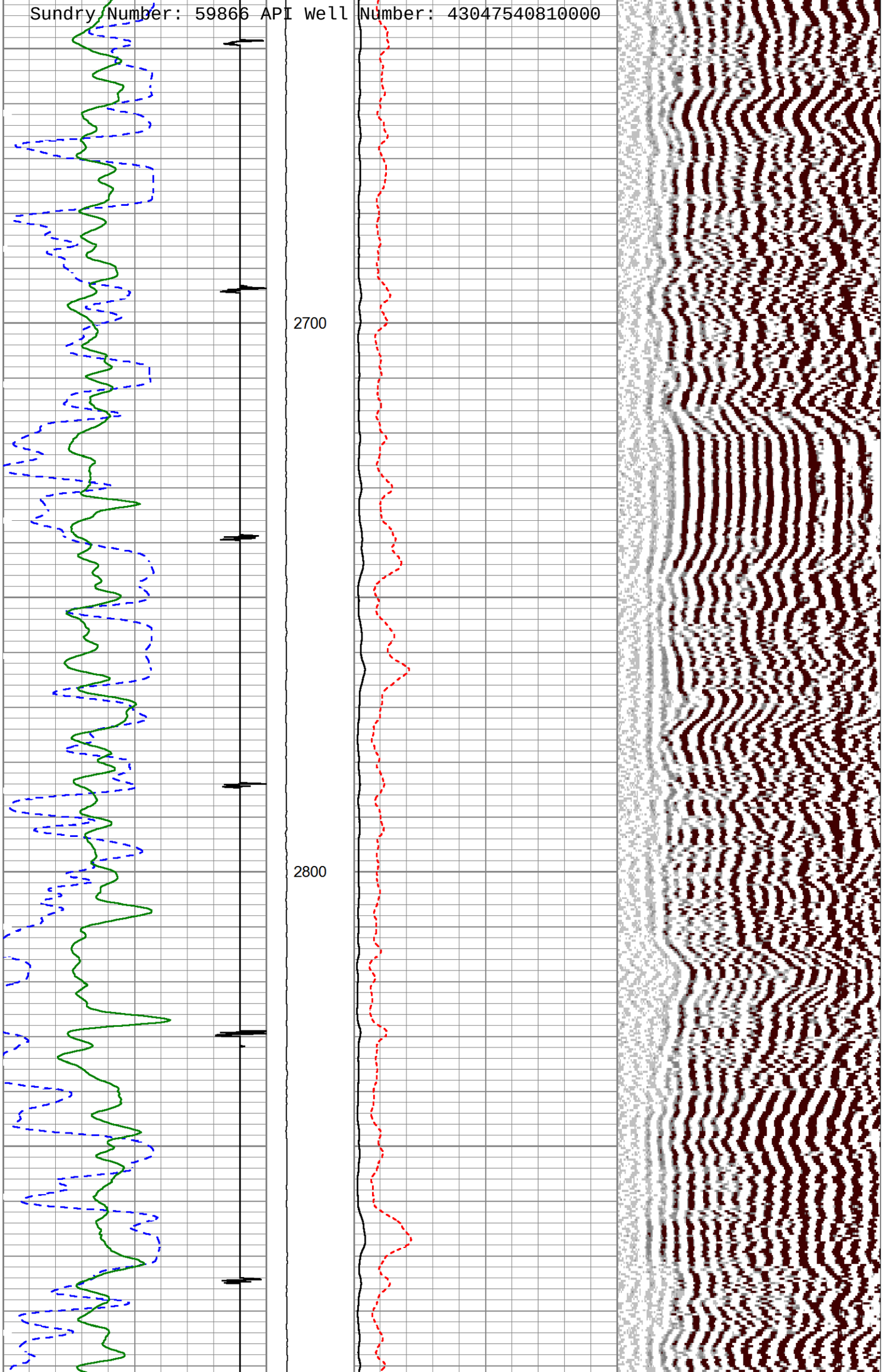
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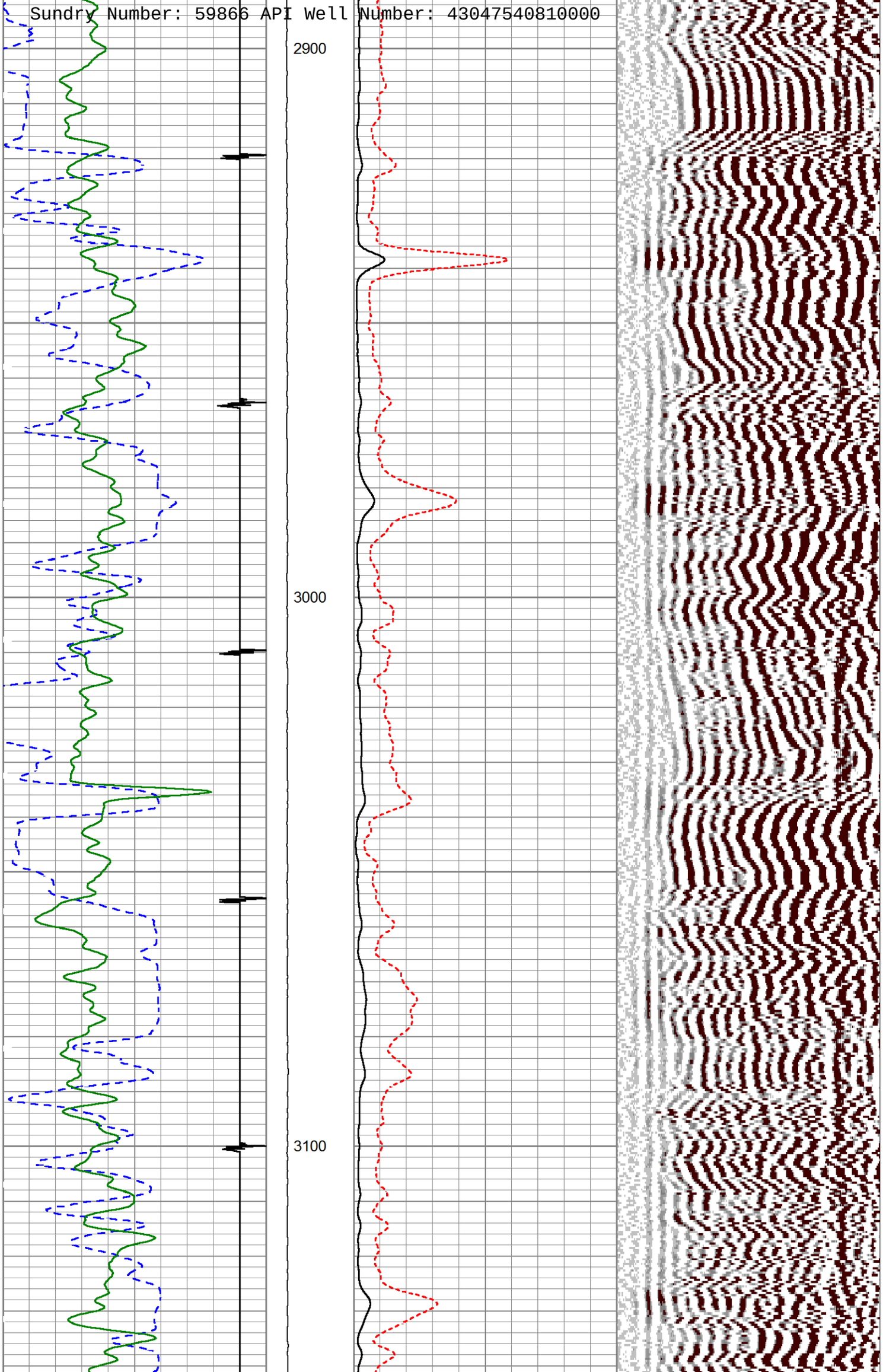
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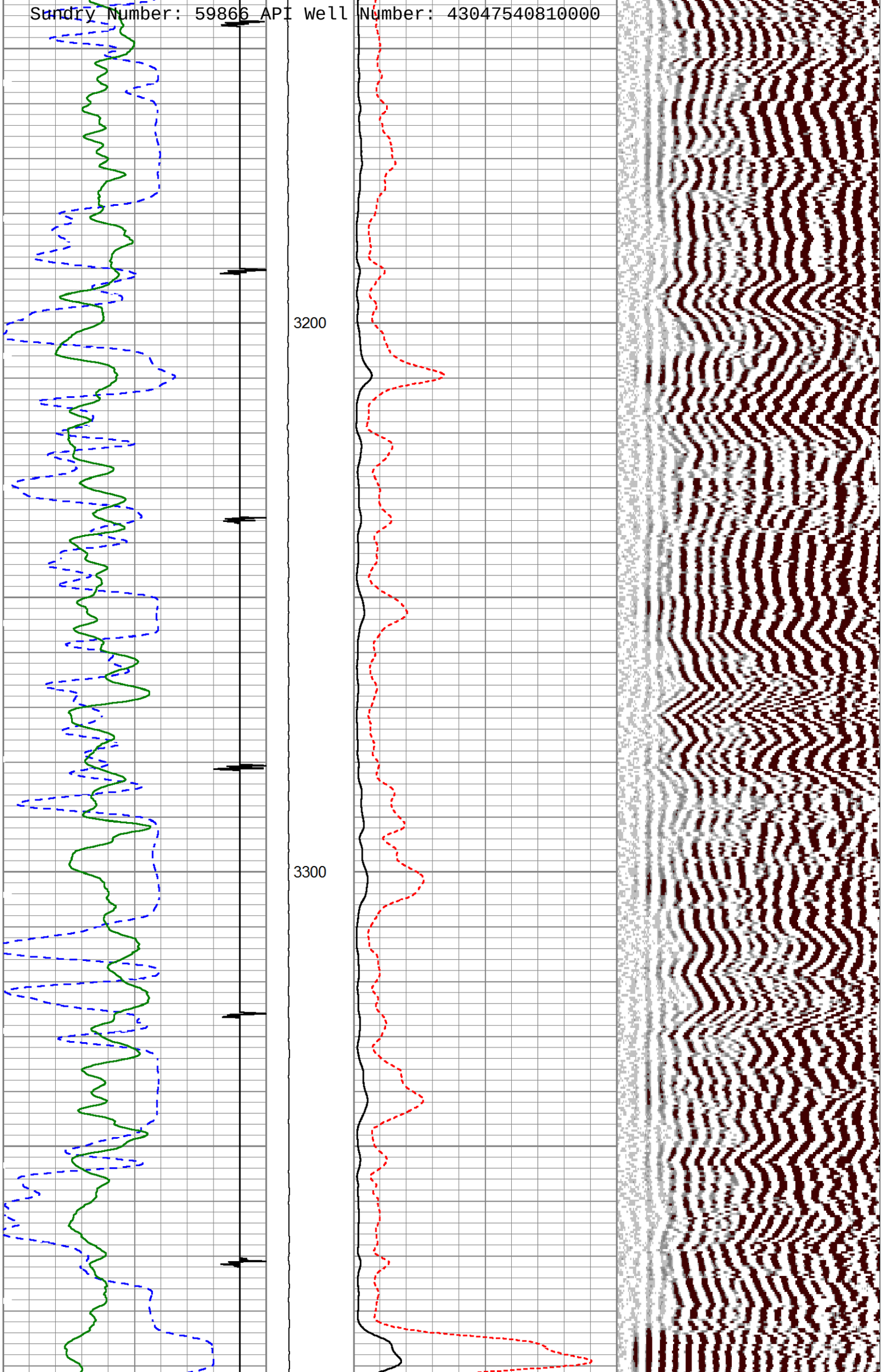
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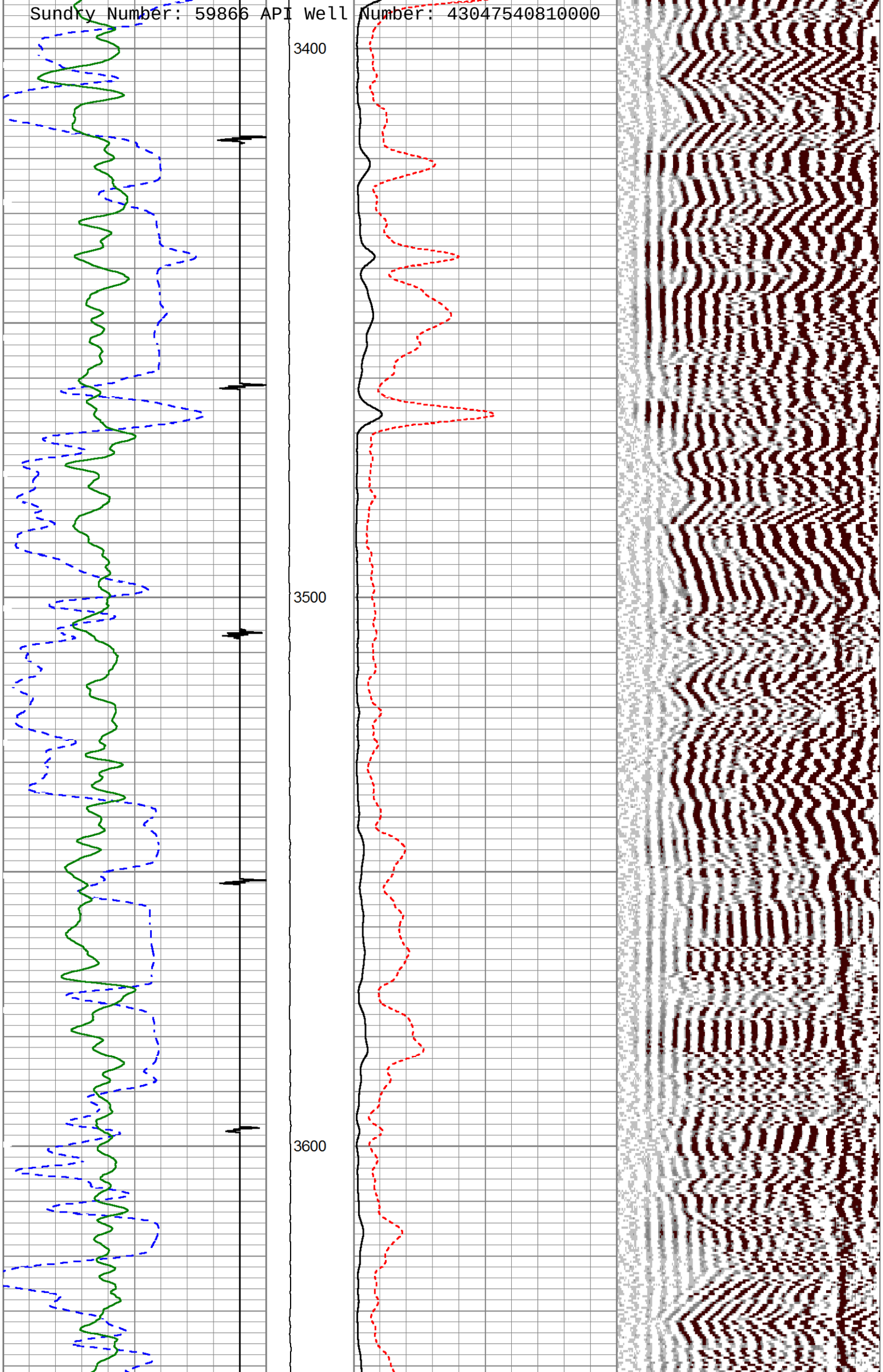
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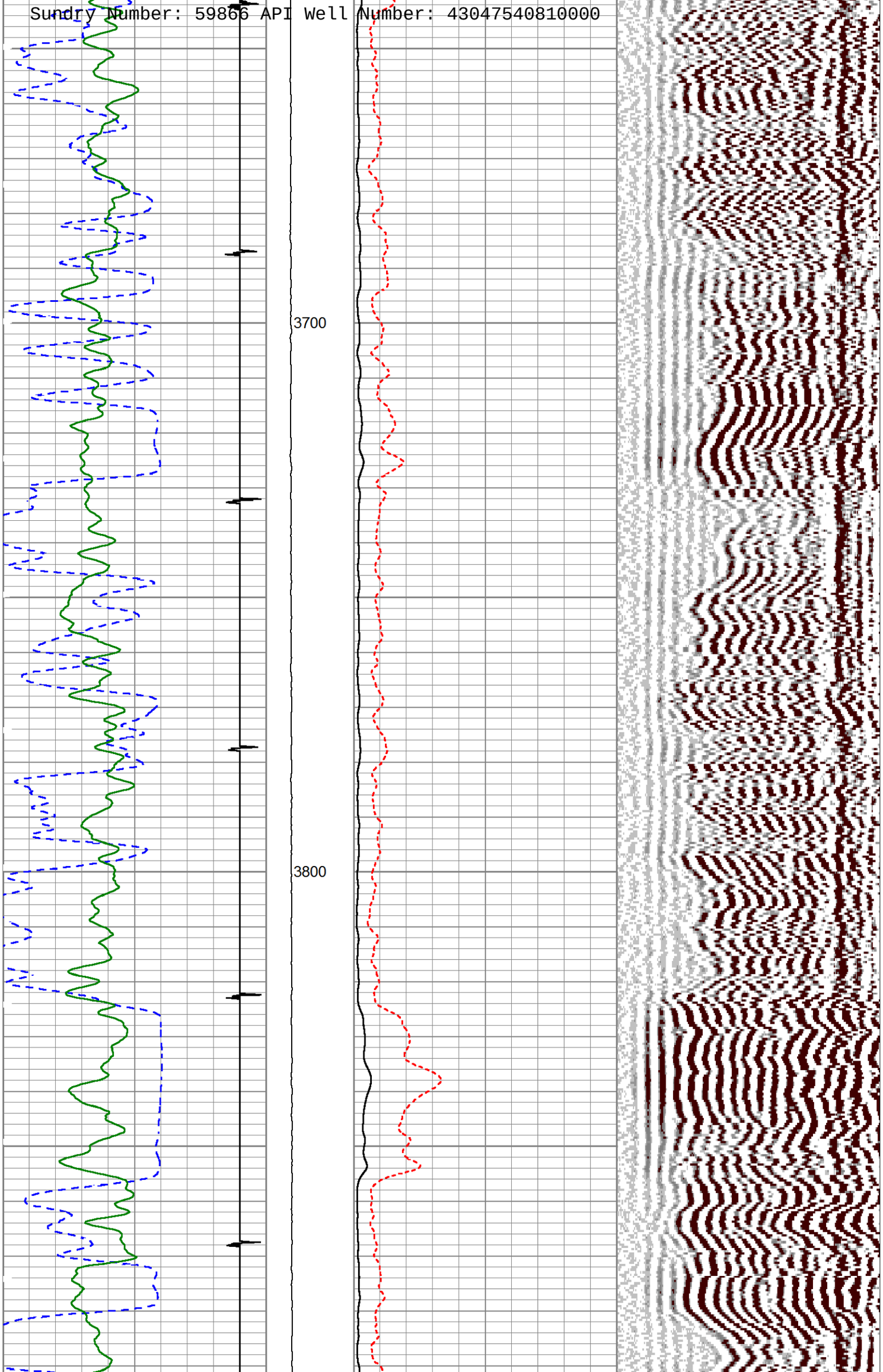
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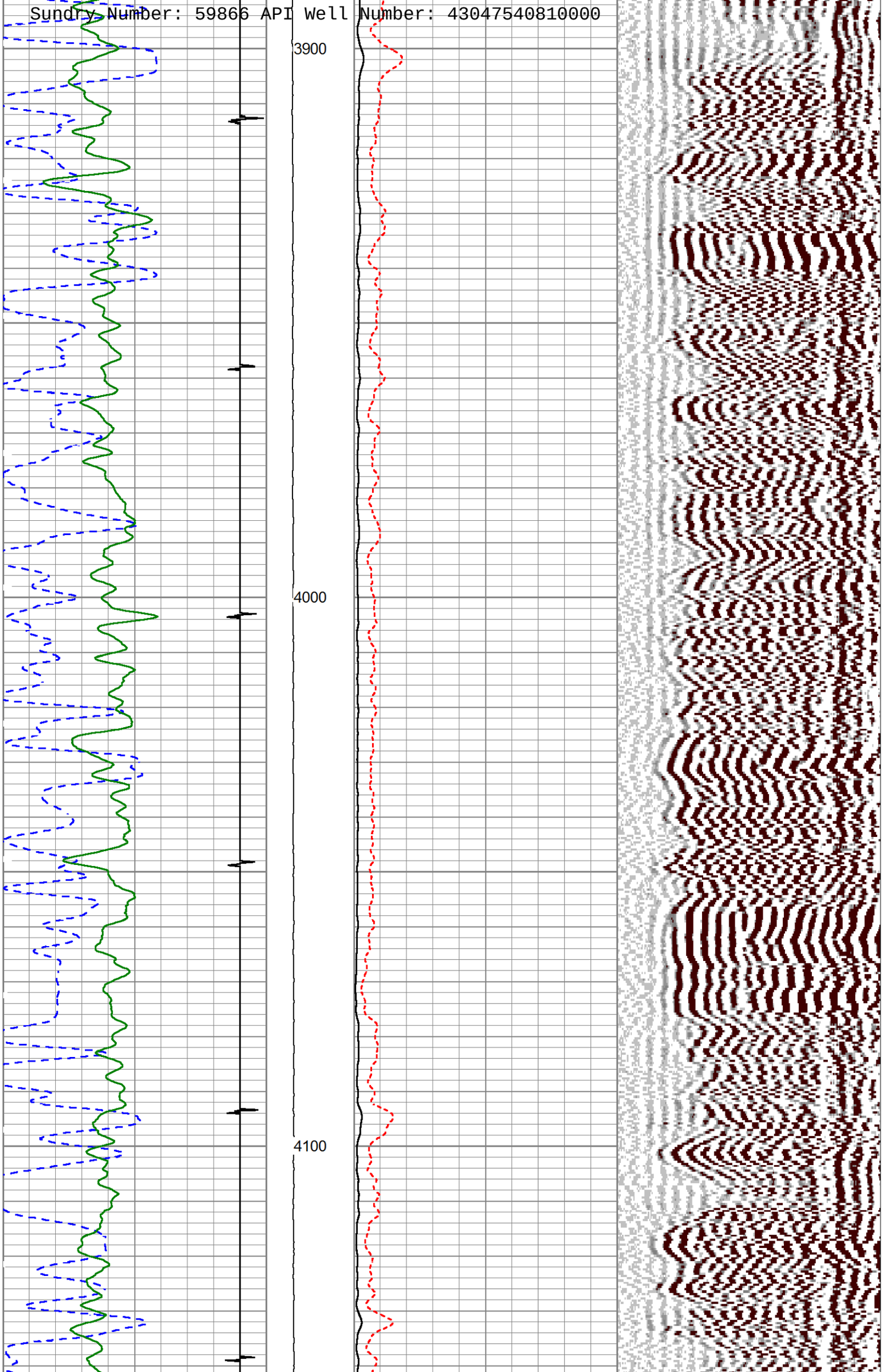
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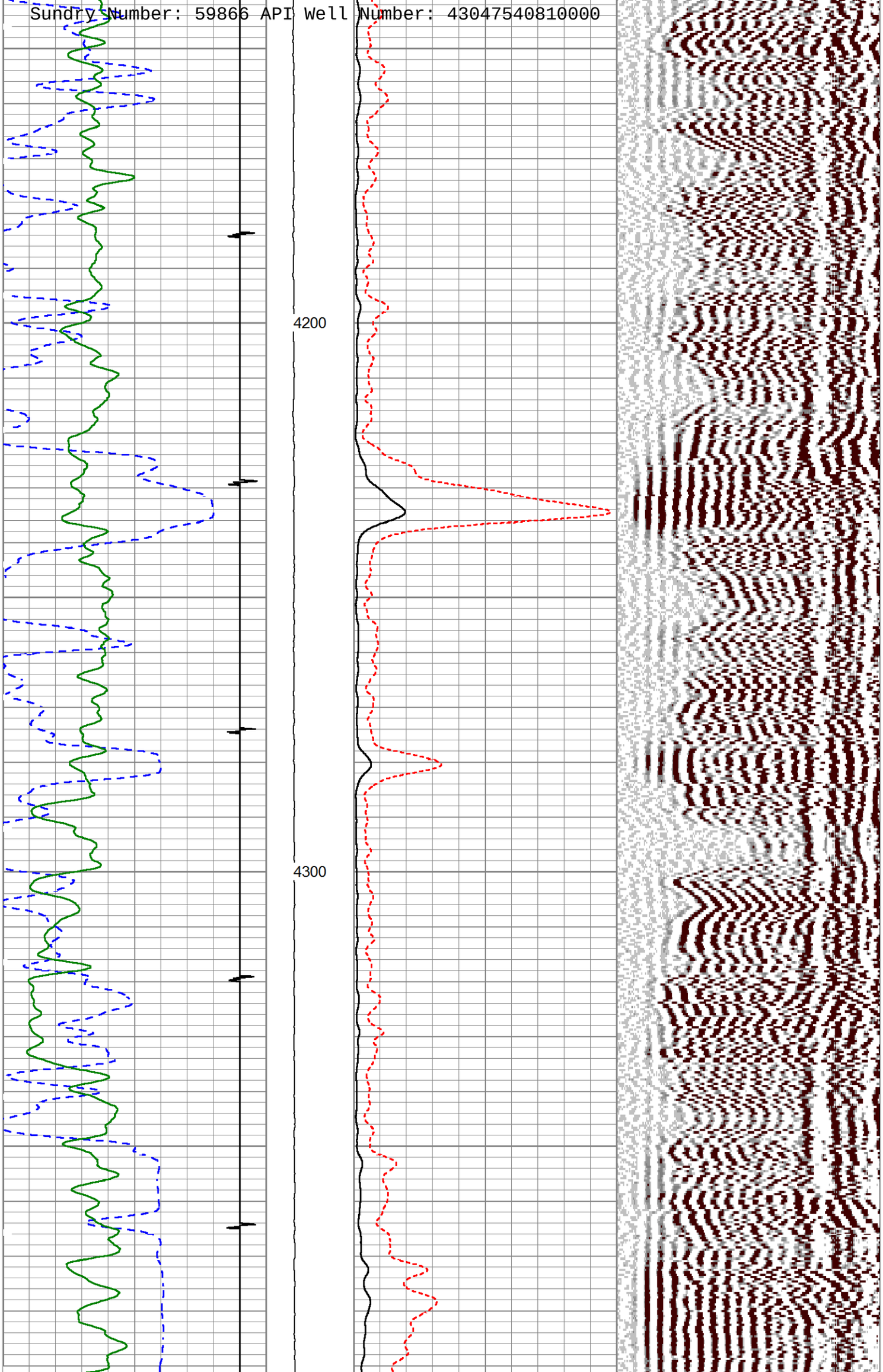
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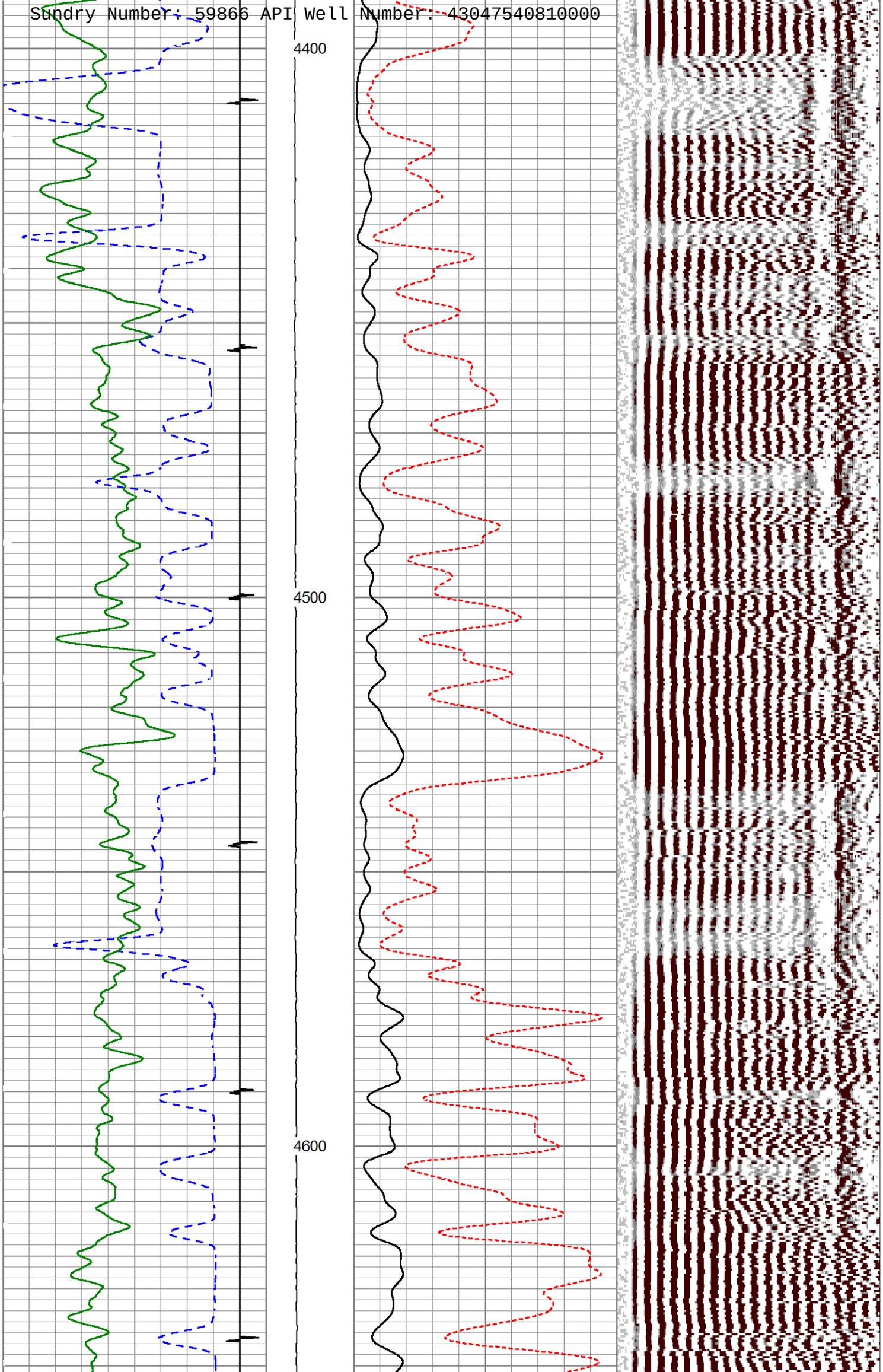
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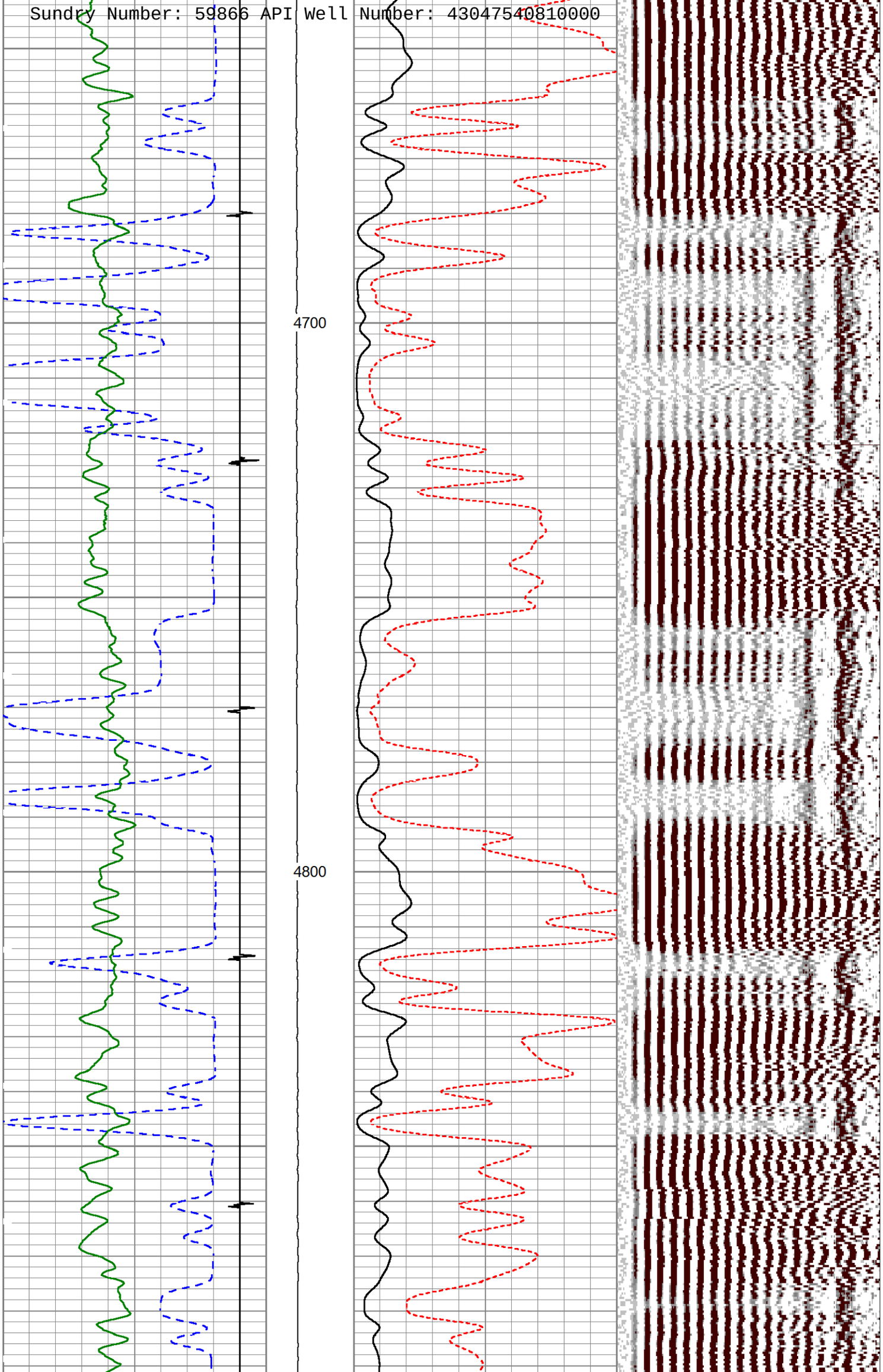
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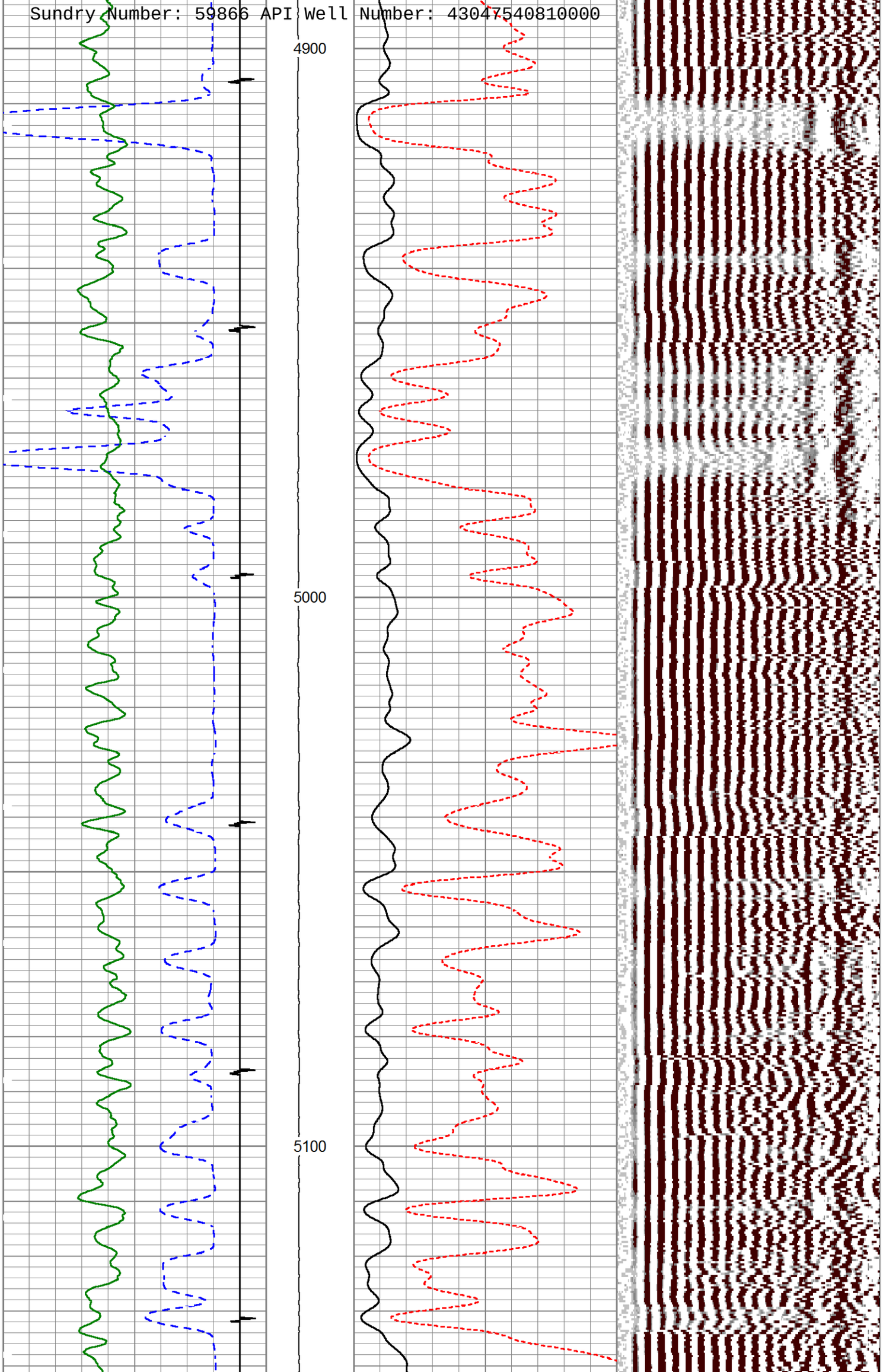
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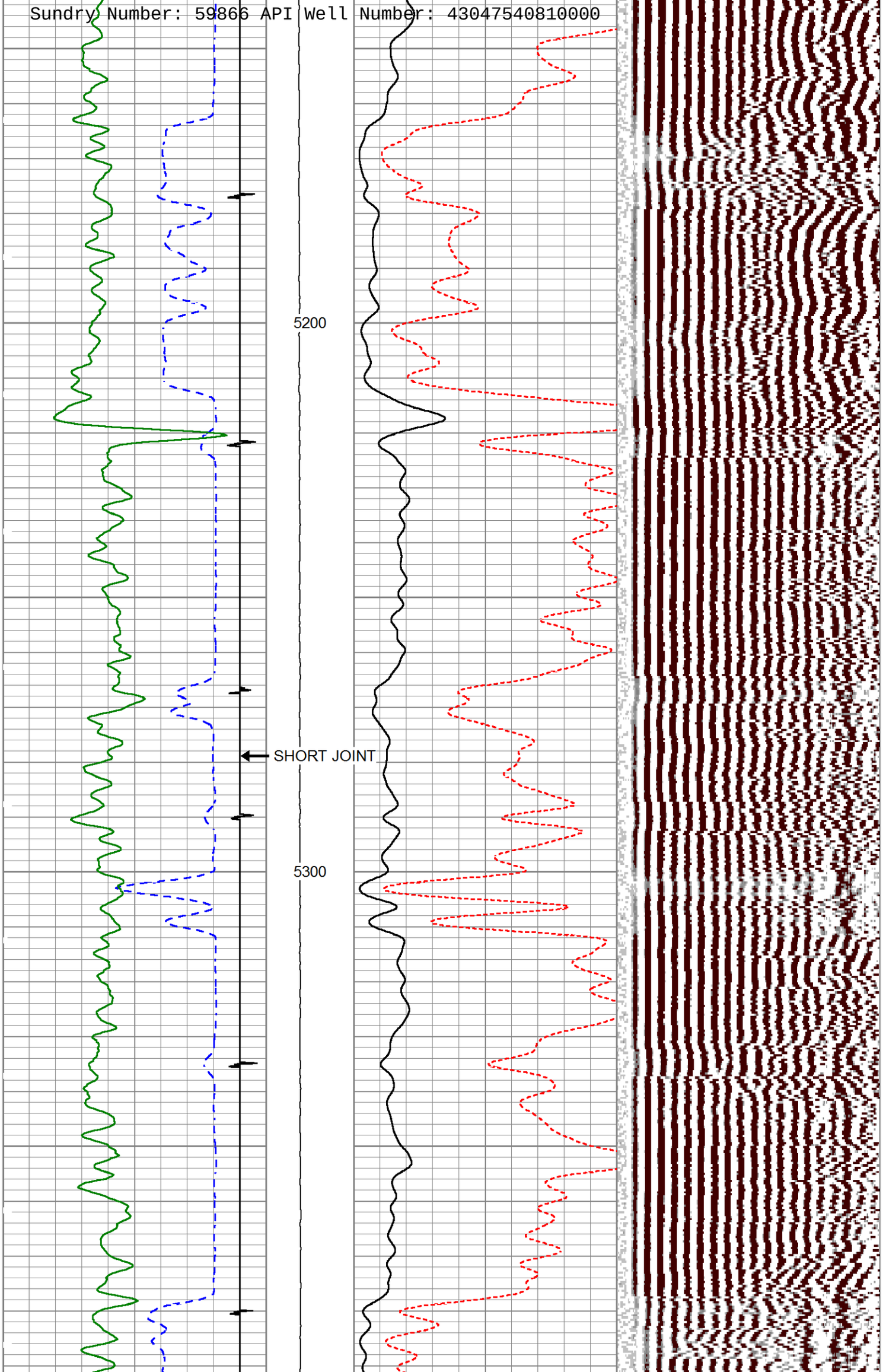
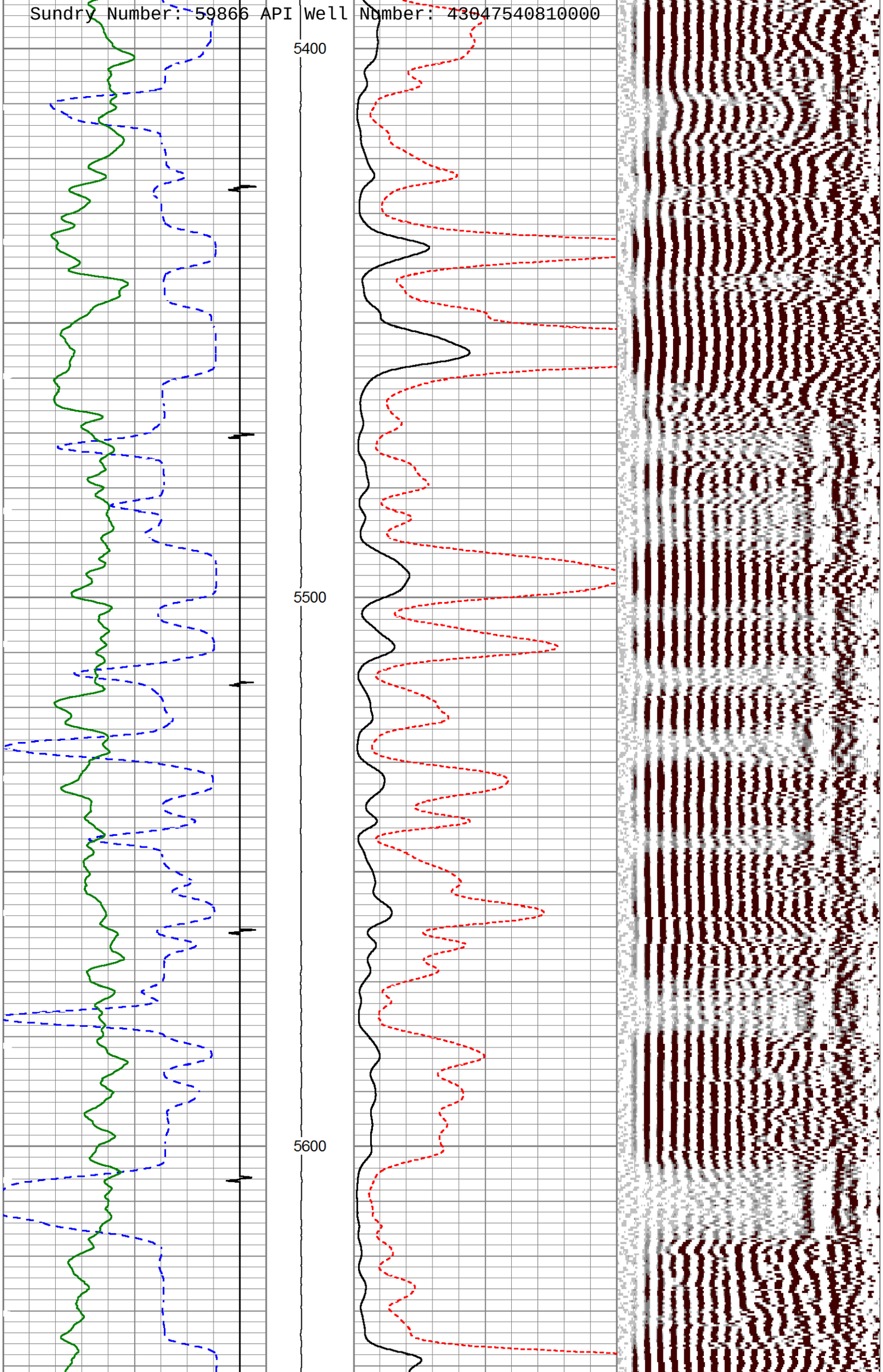
Sundry Number: 59866 API Well Number: 43047540810000

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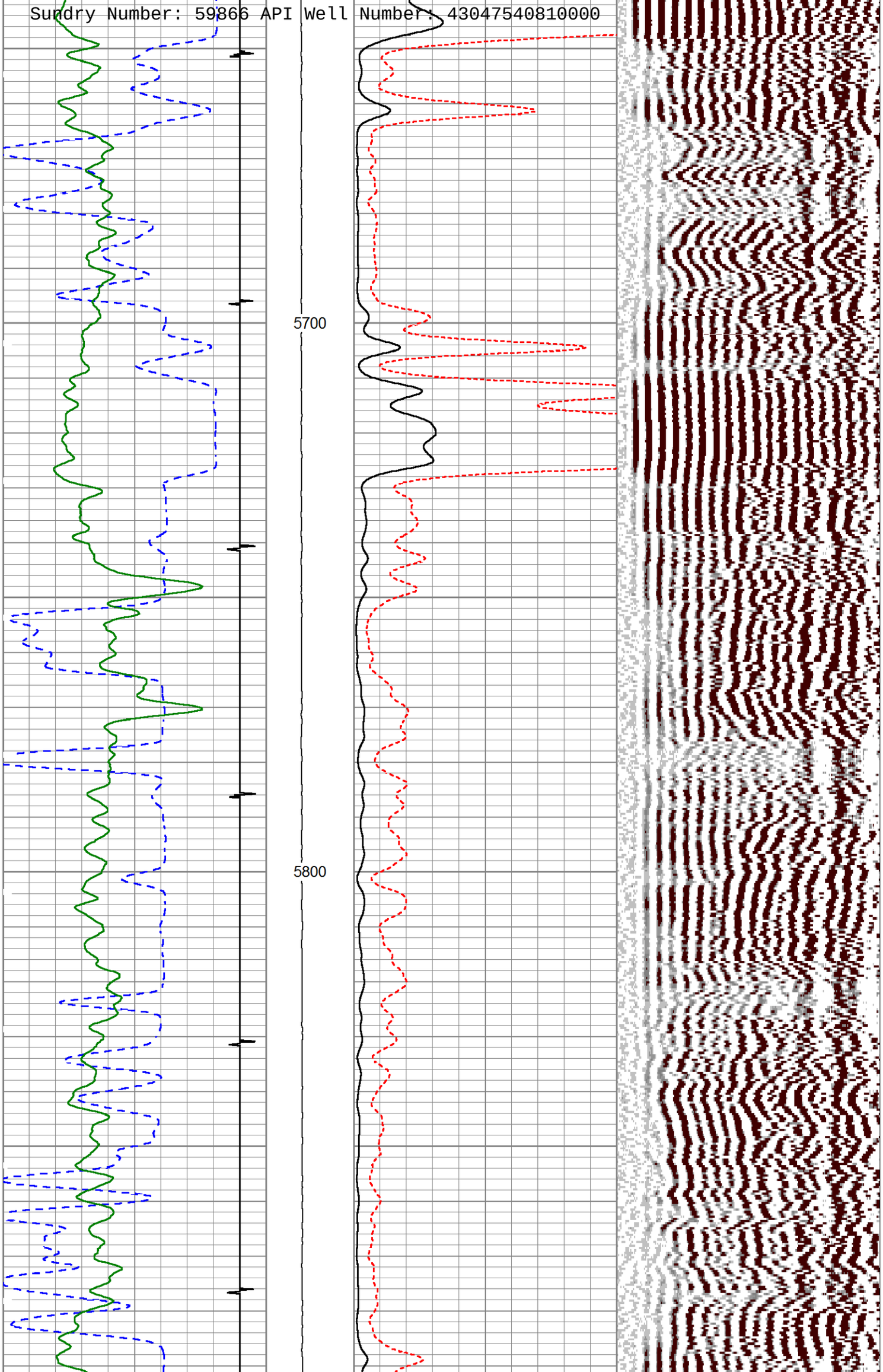
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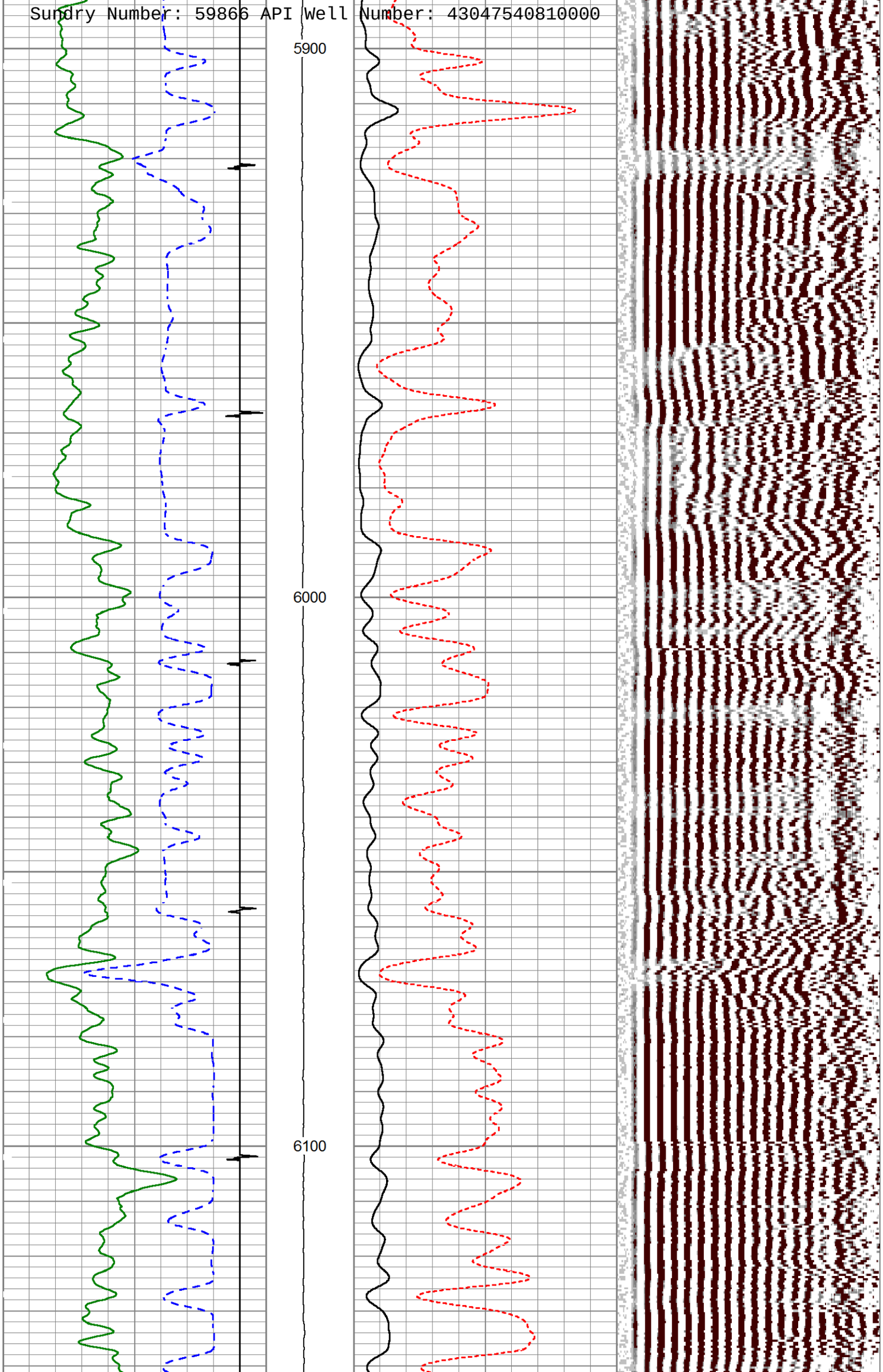
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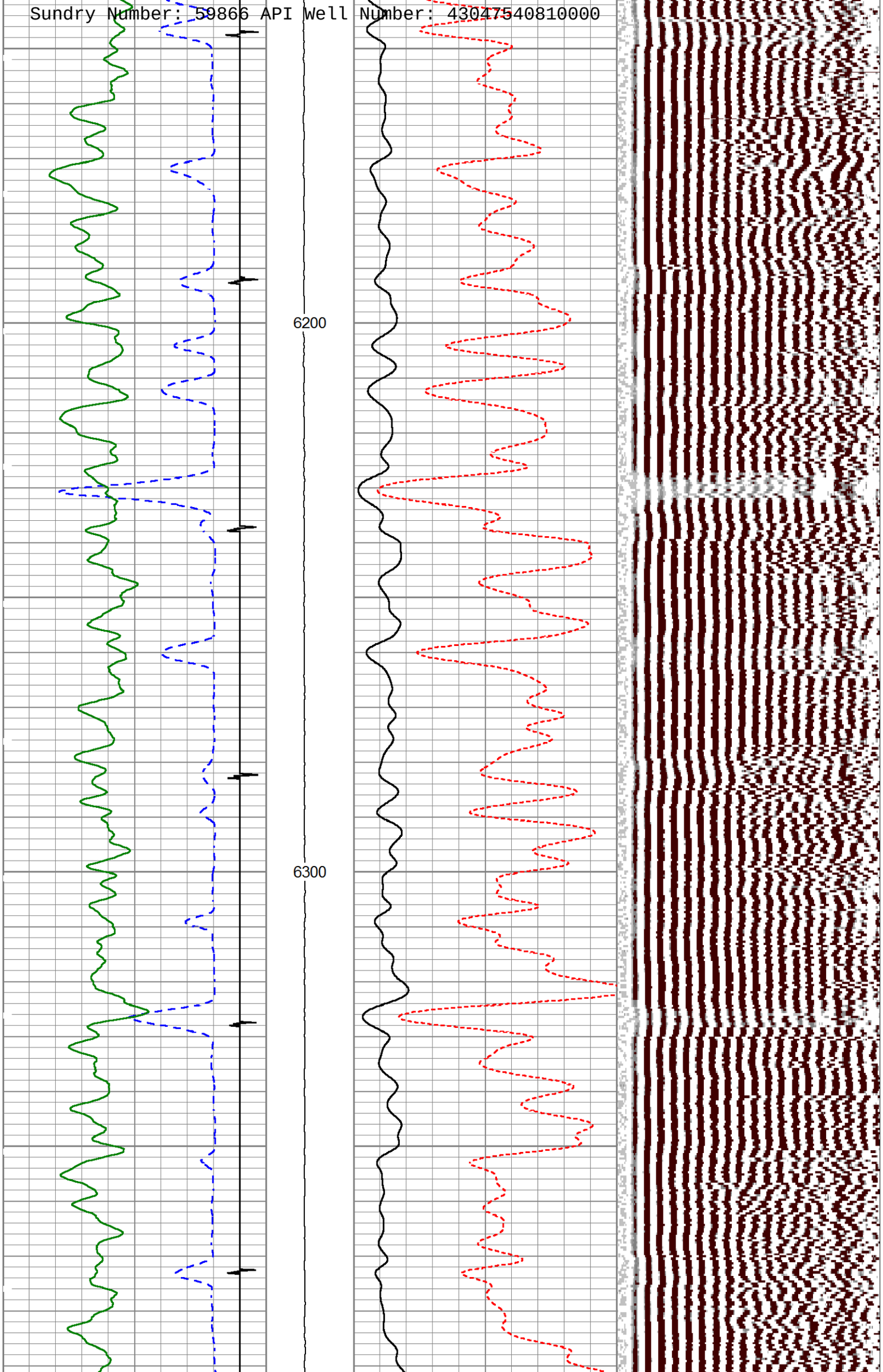
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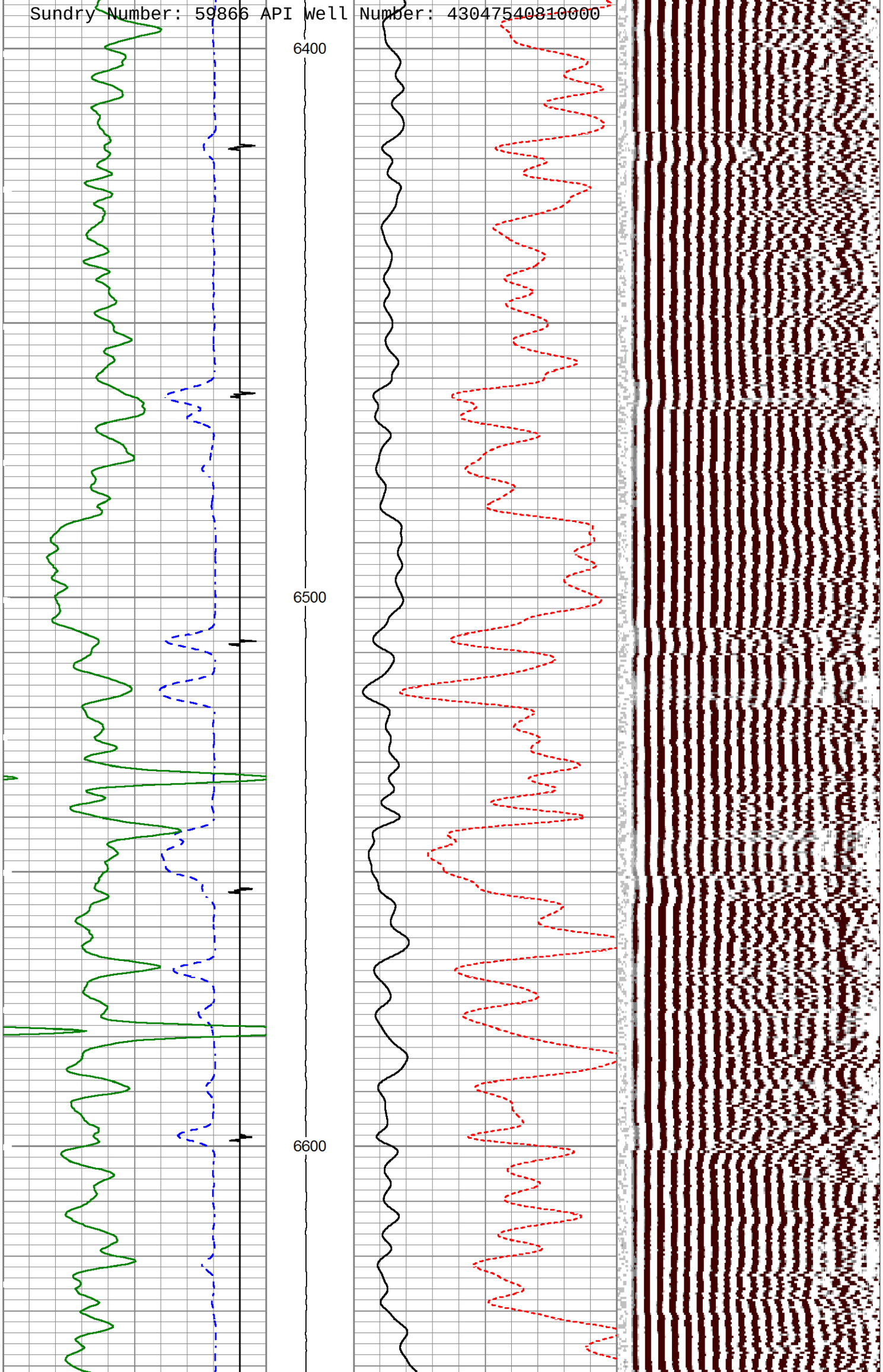
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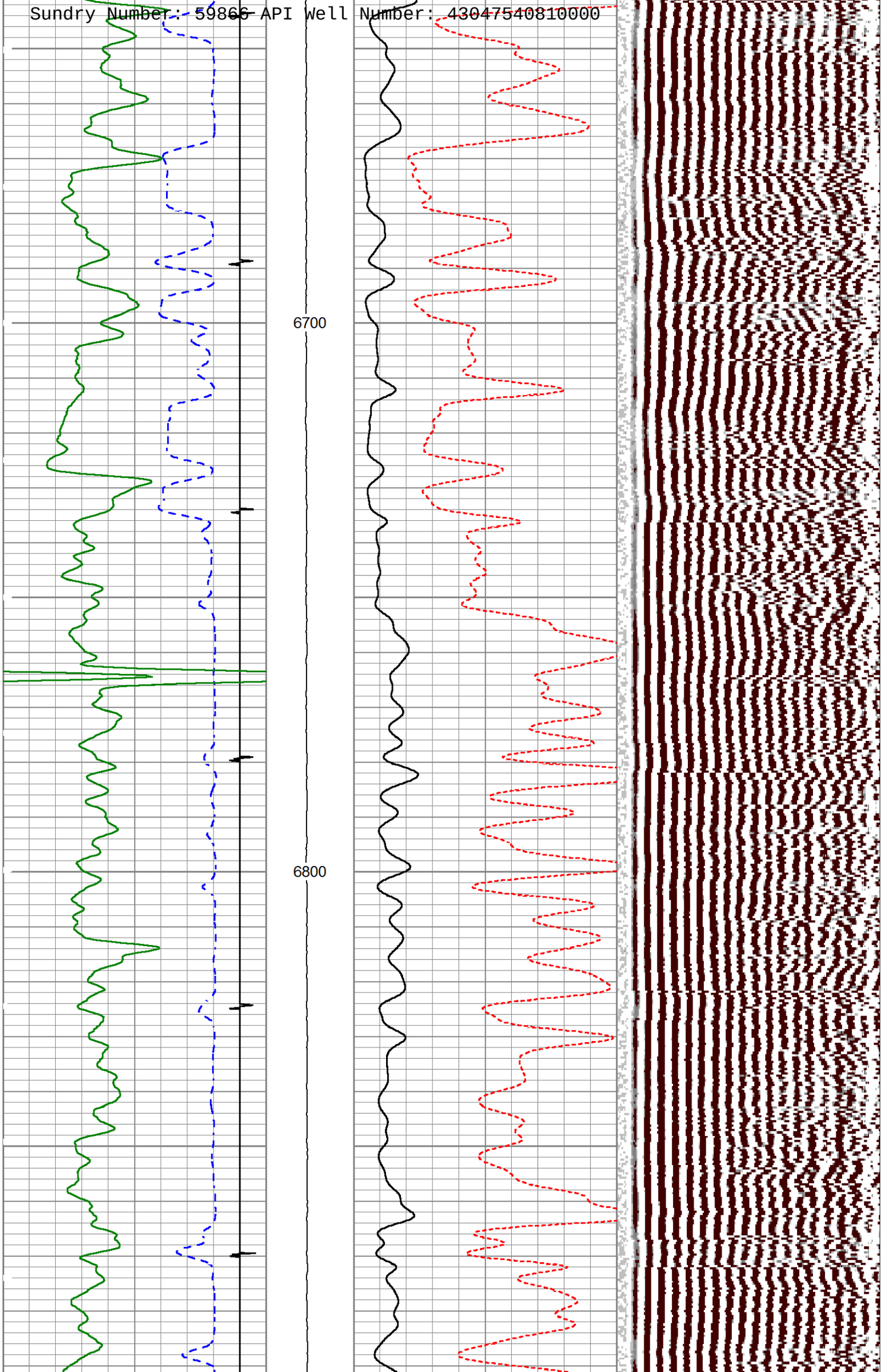
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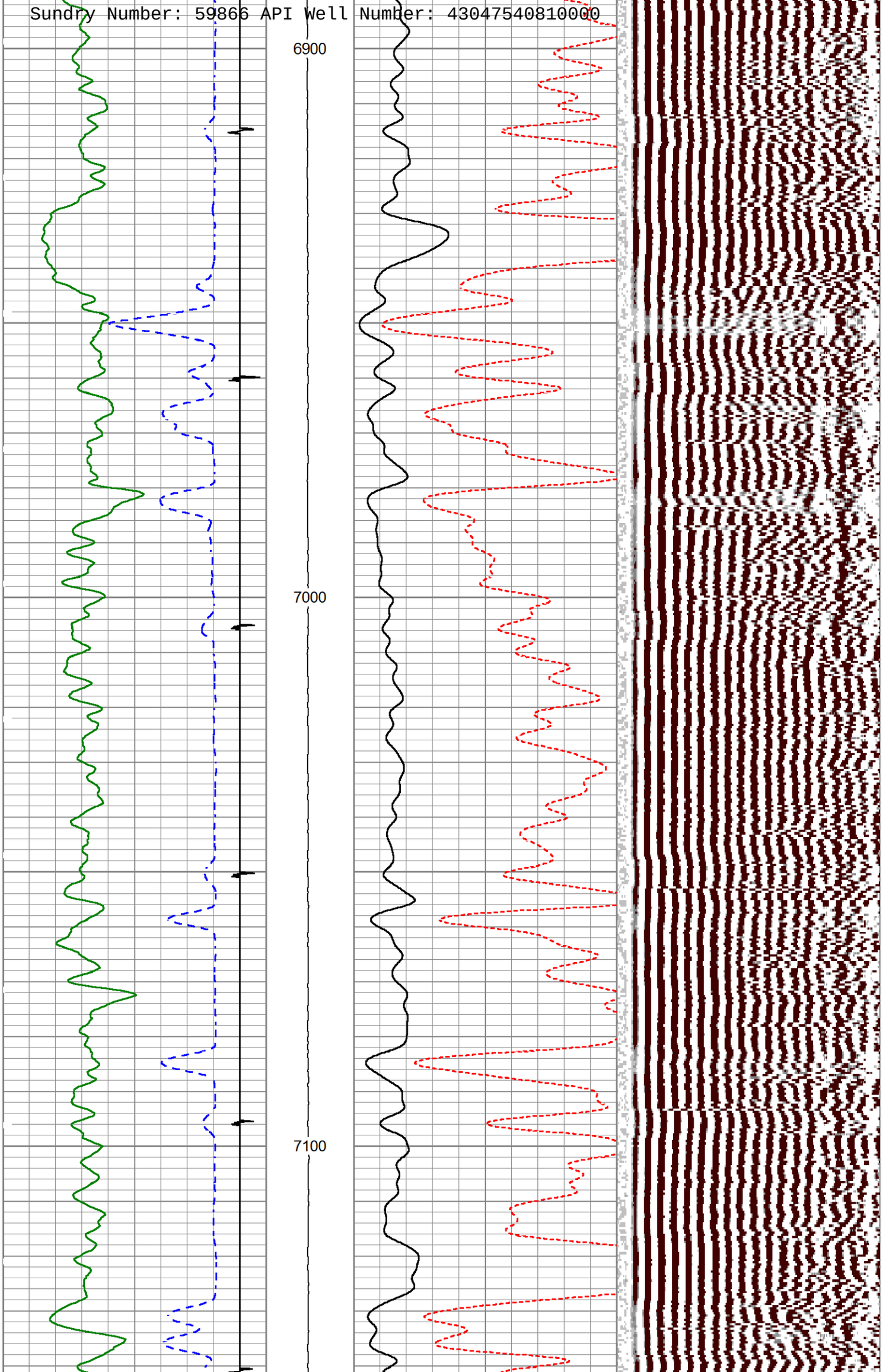
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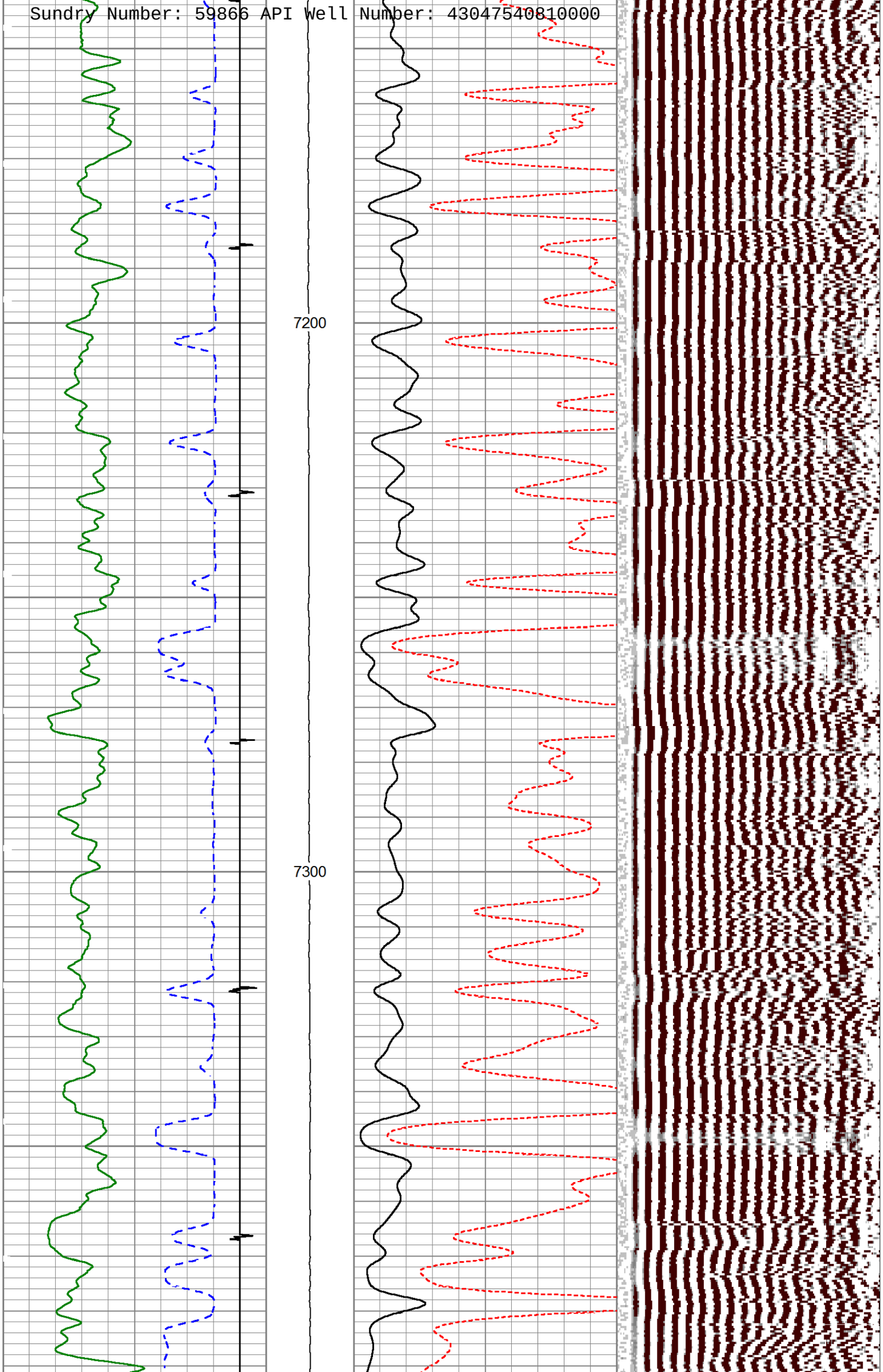
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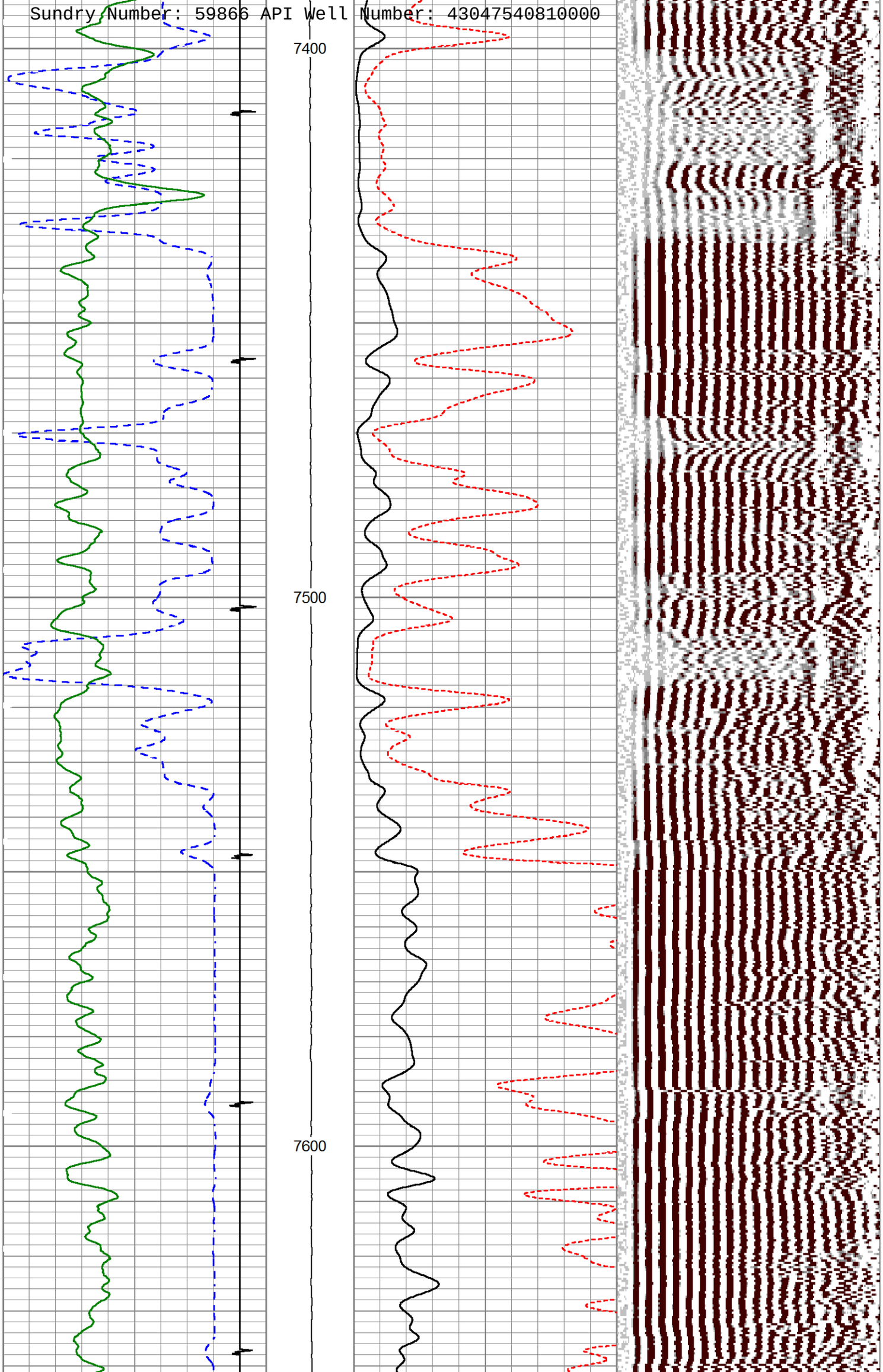
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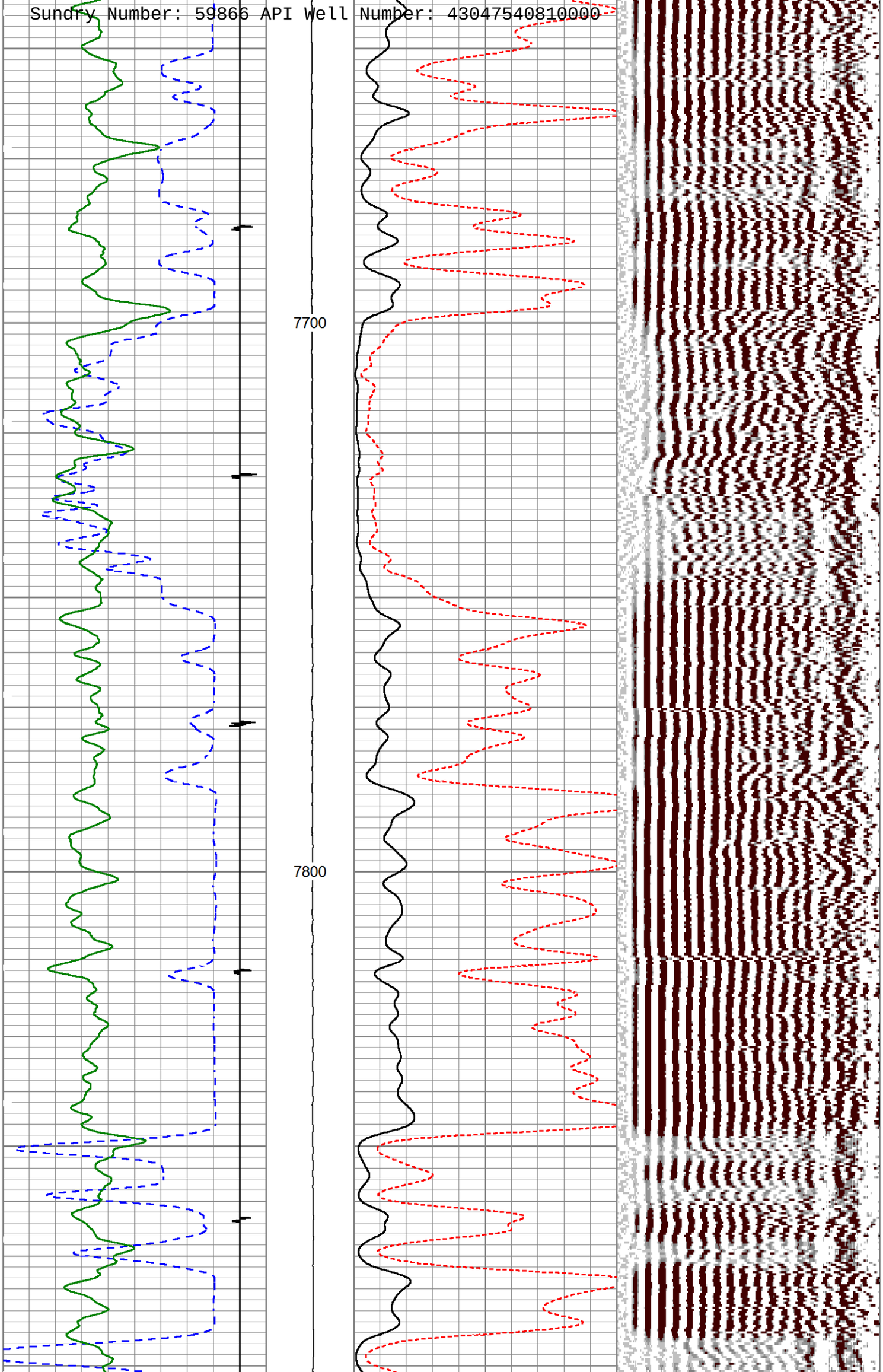
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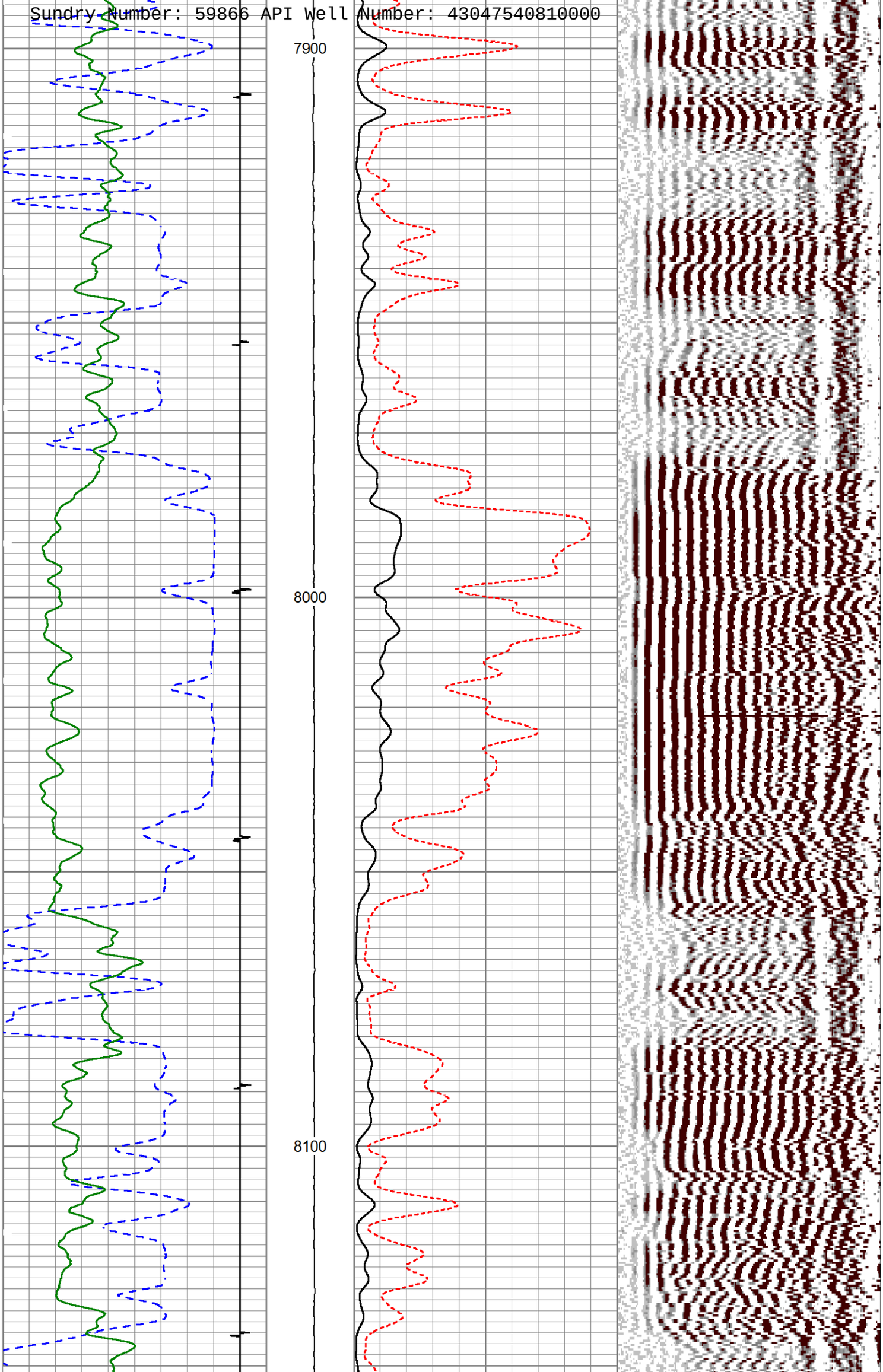
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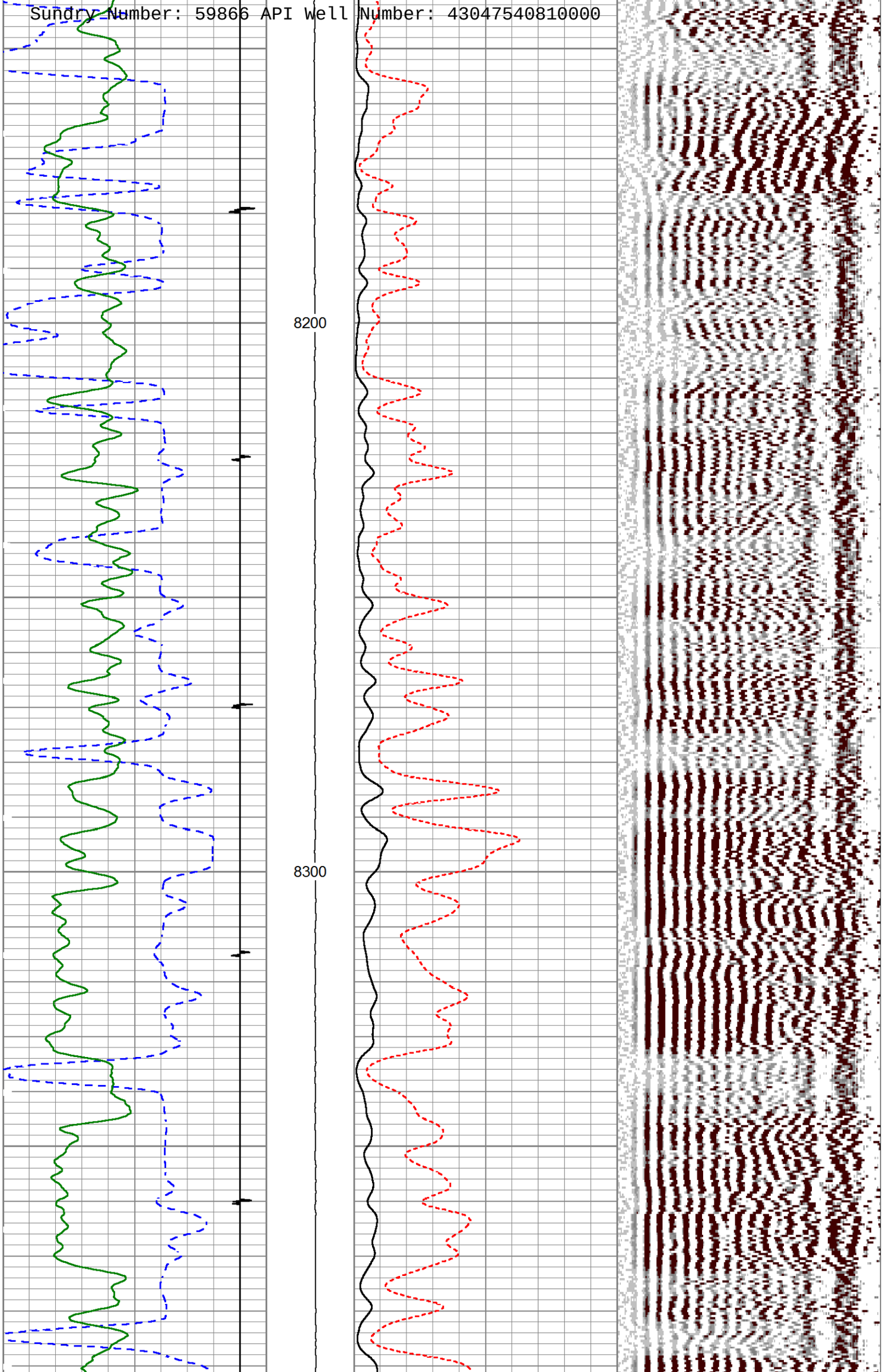
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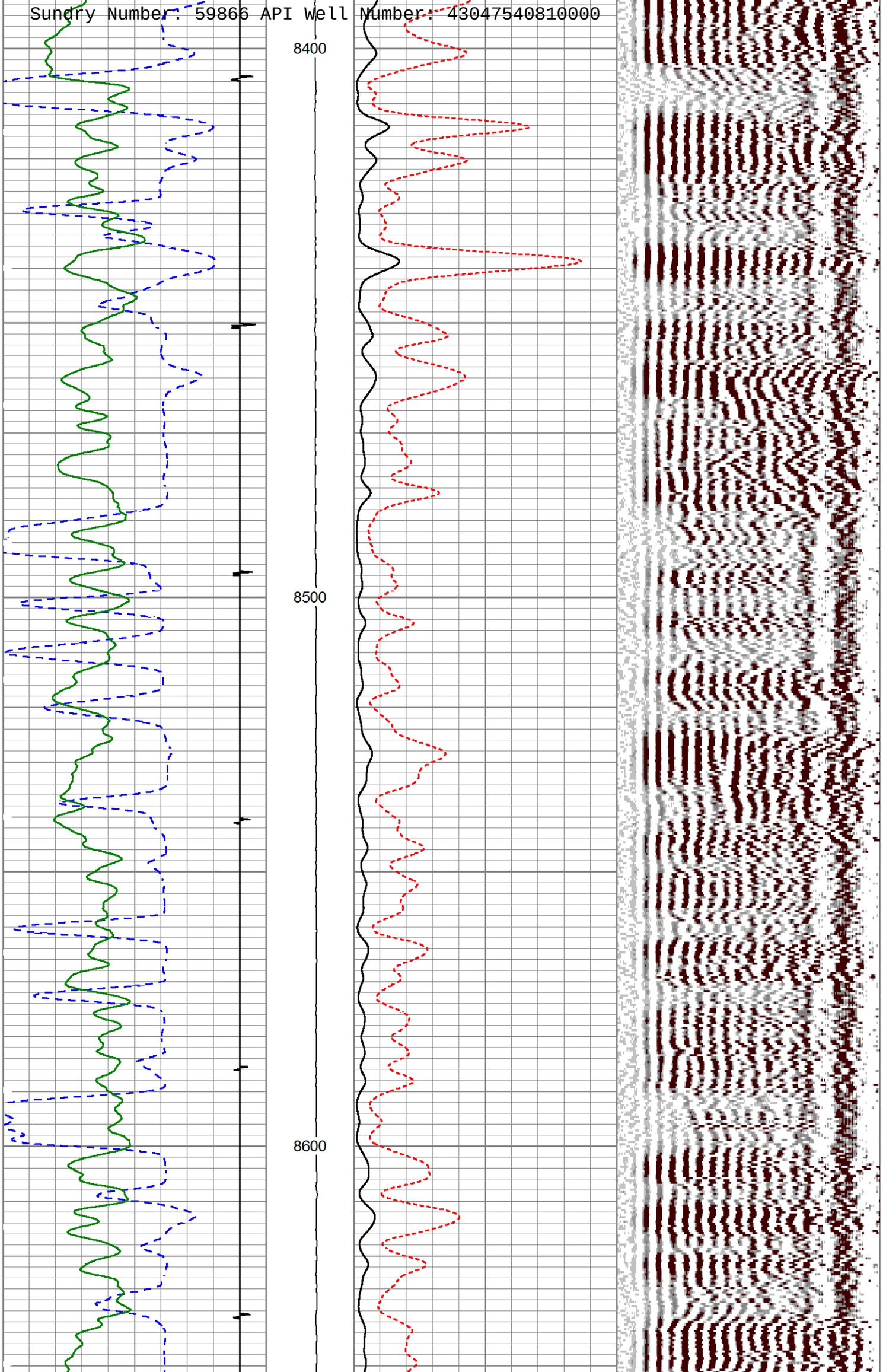
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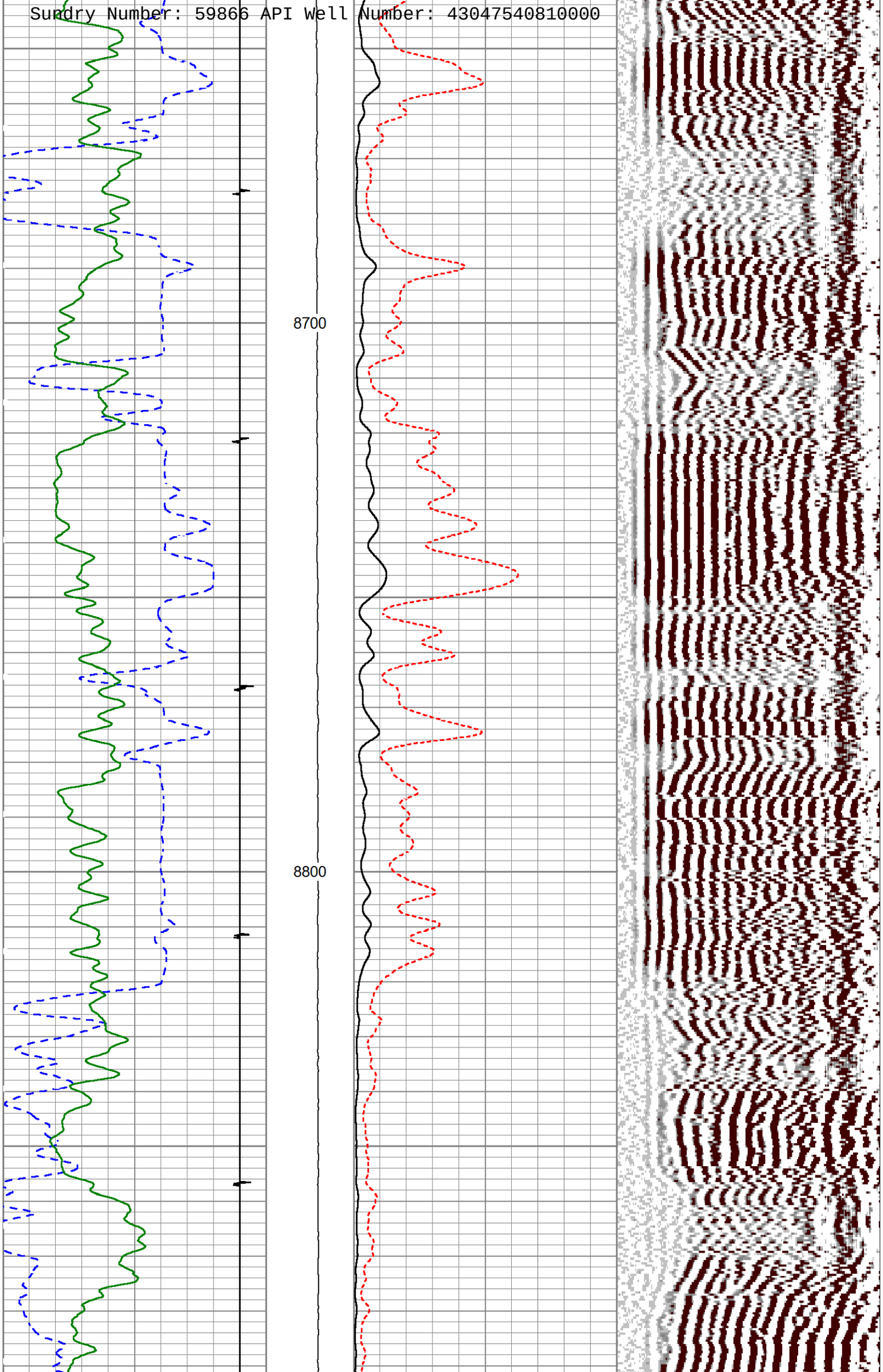
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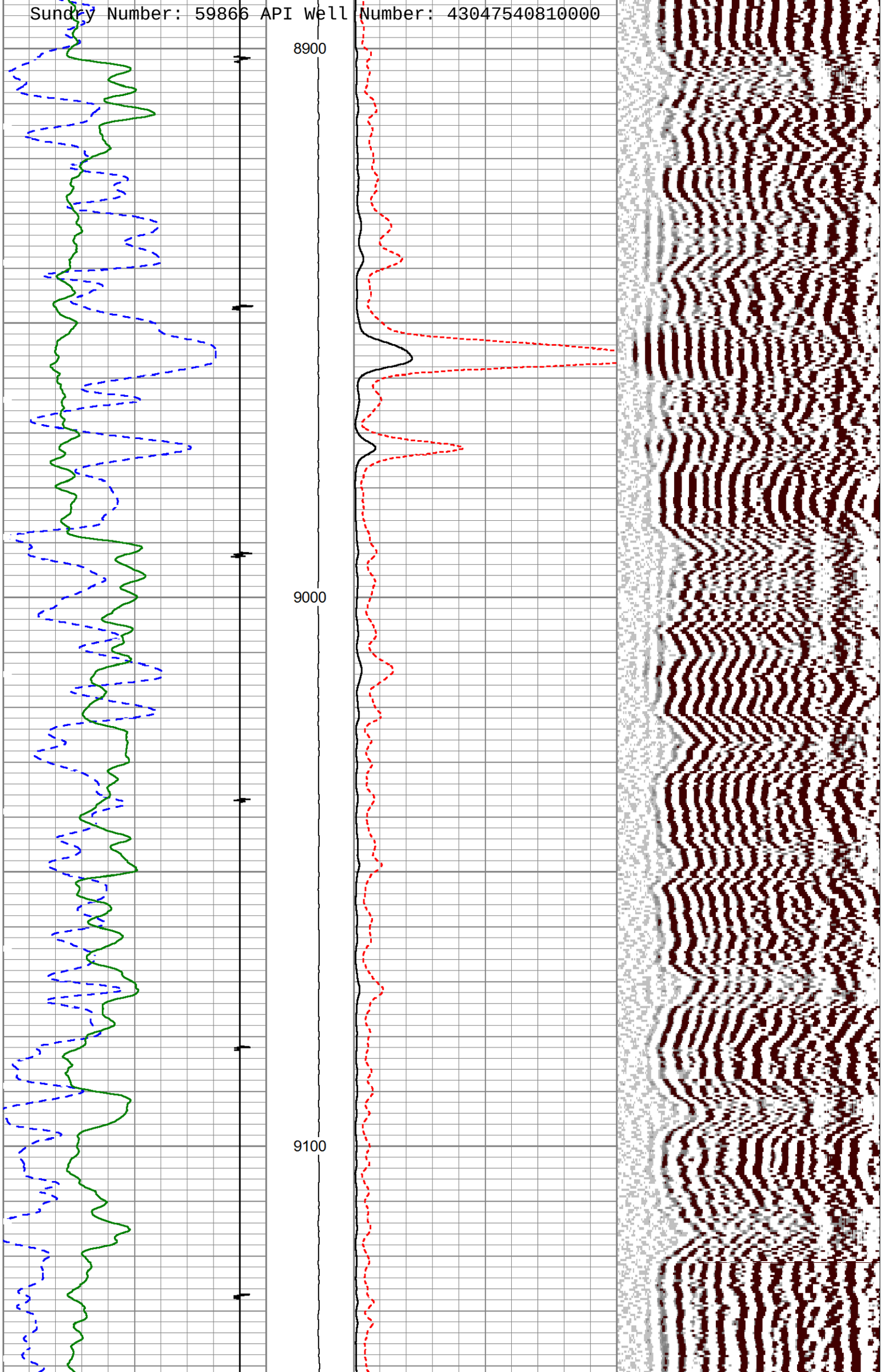
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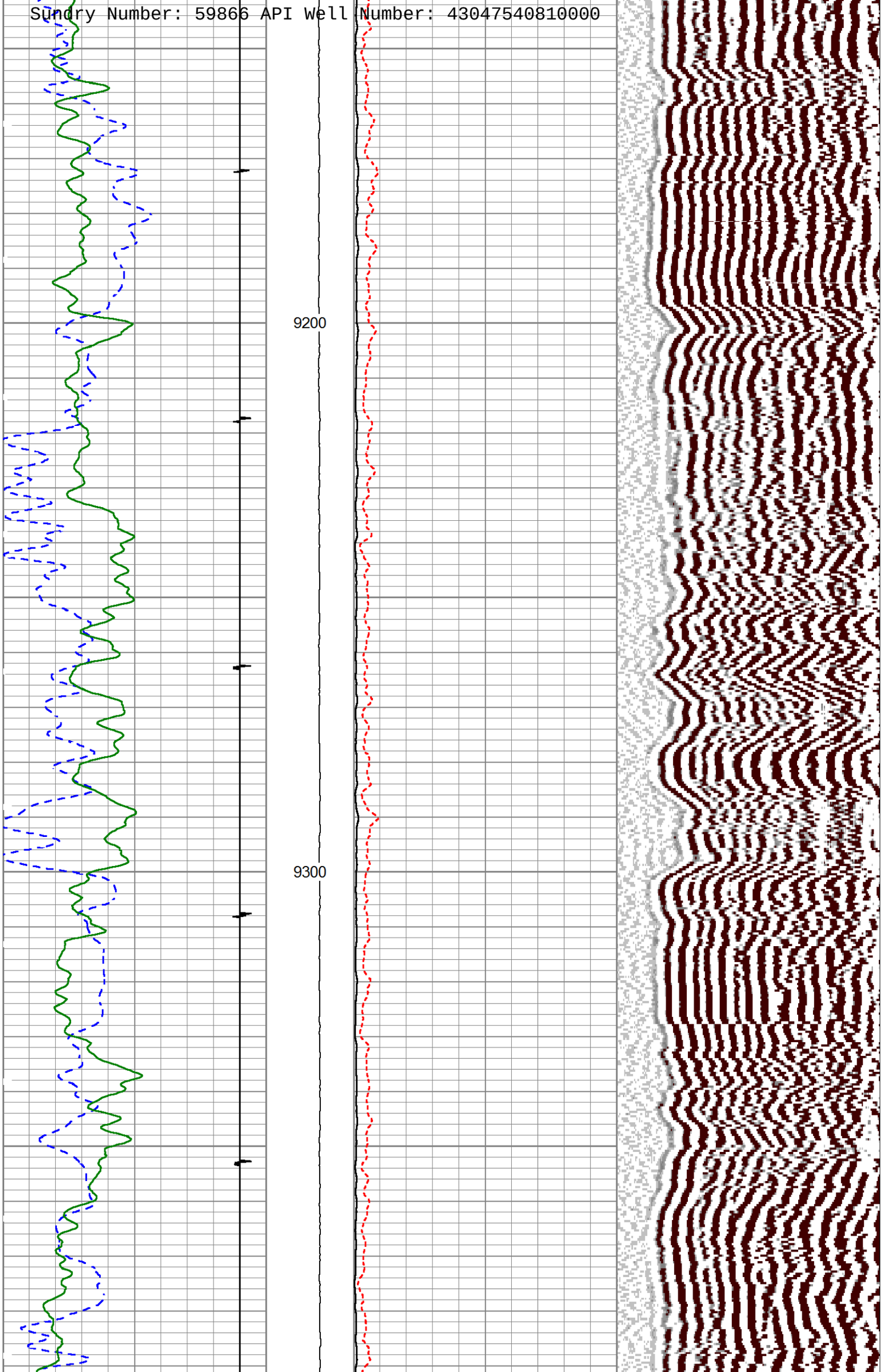
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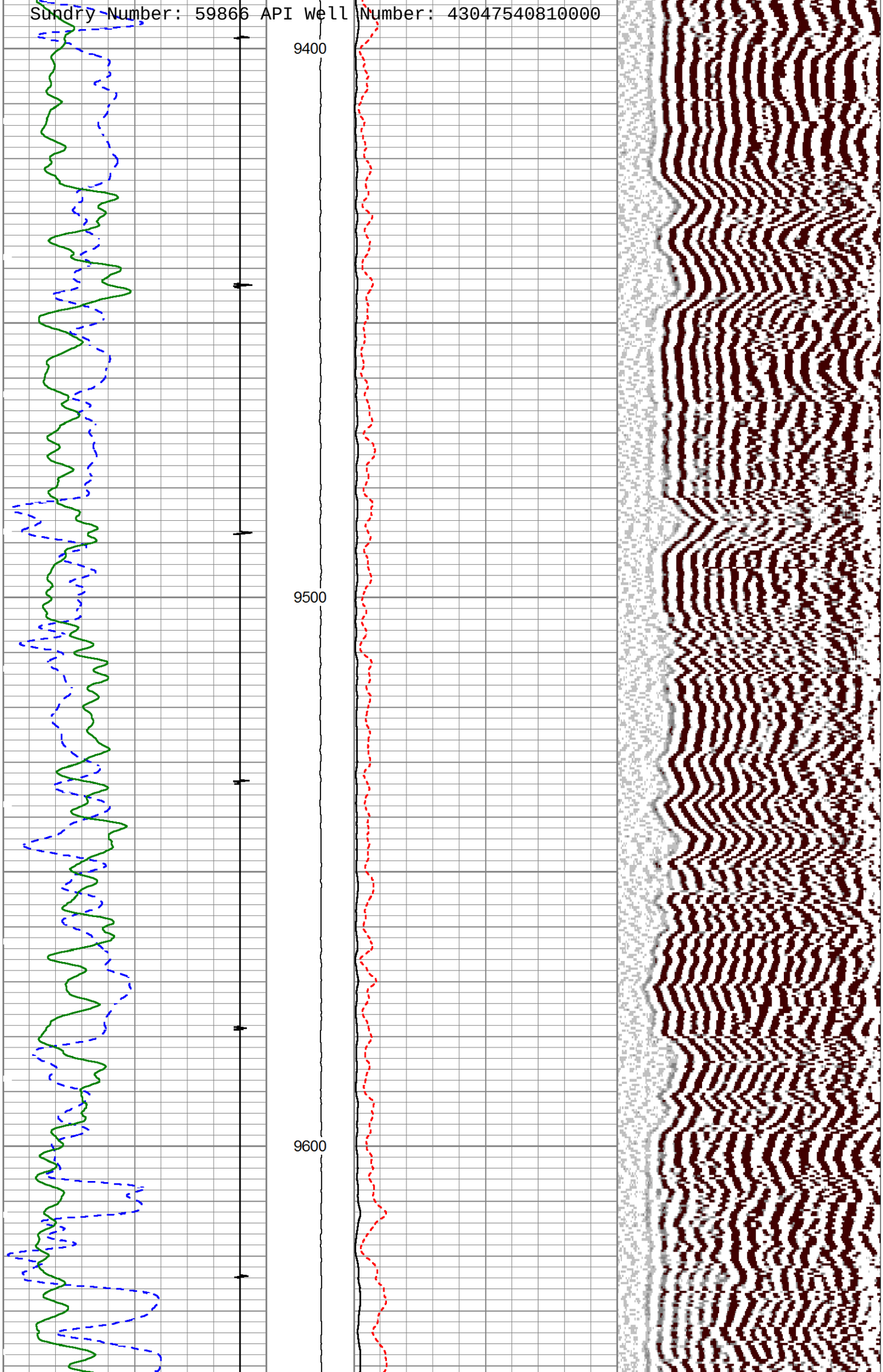
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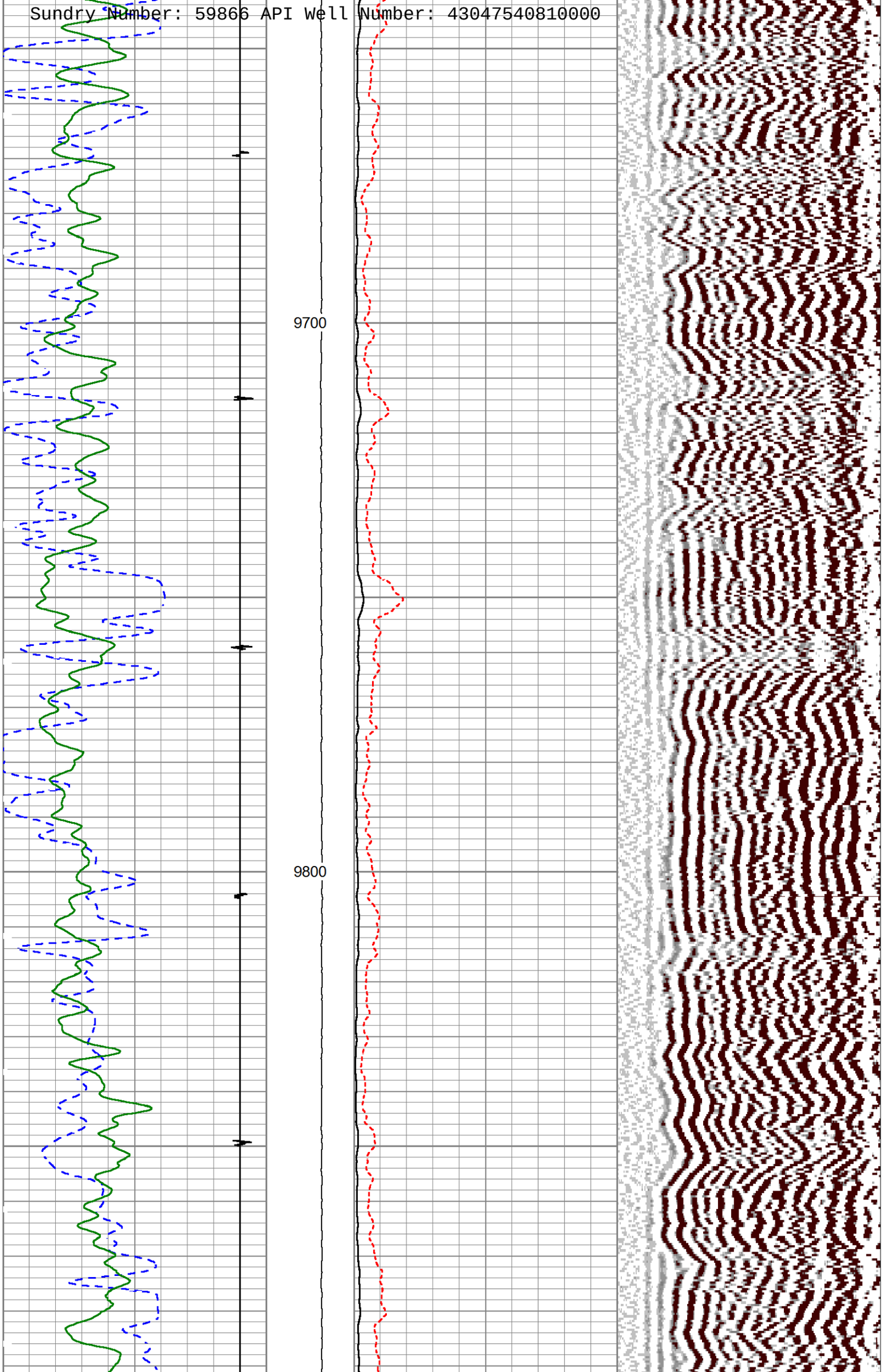
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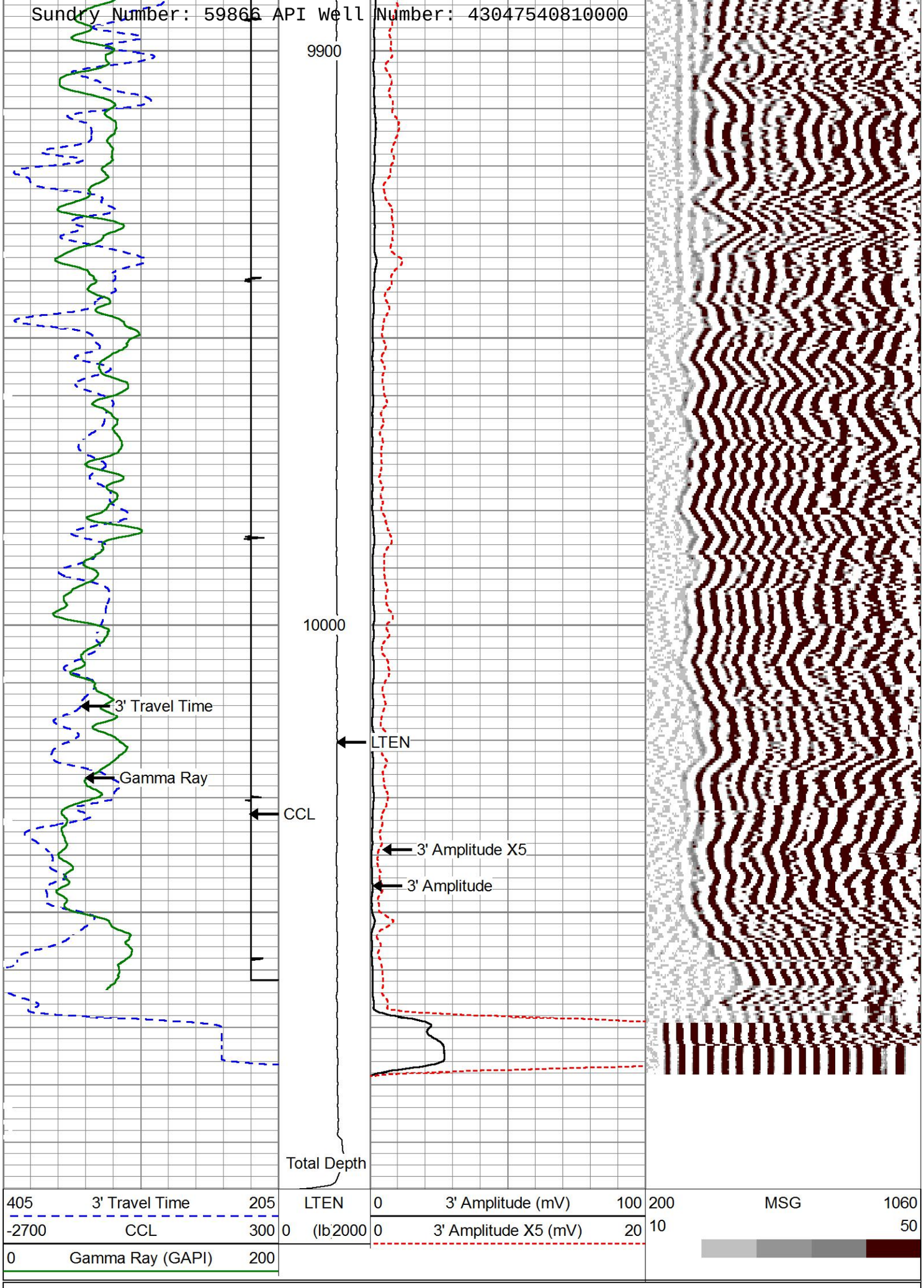


HALLIBURTON

MAIN LOG SECTION

2500 PSI
5" = 100'

Sundry Number: 59866 API Well Number: 43-047-54031-00-00

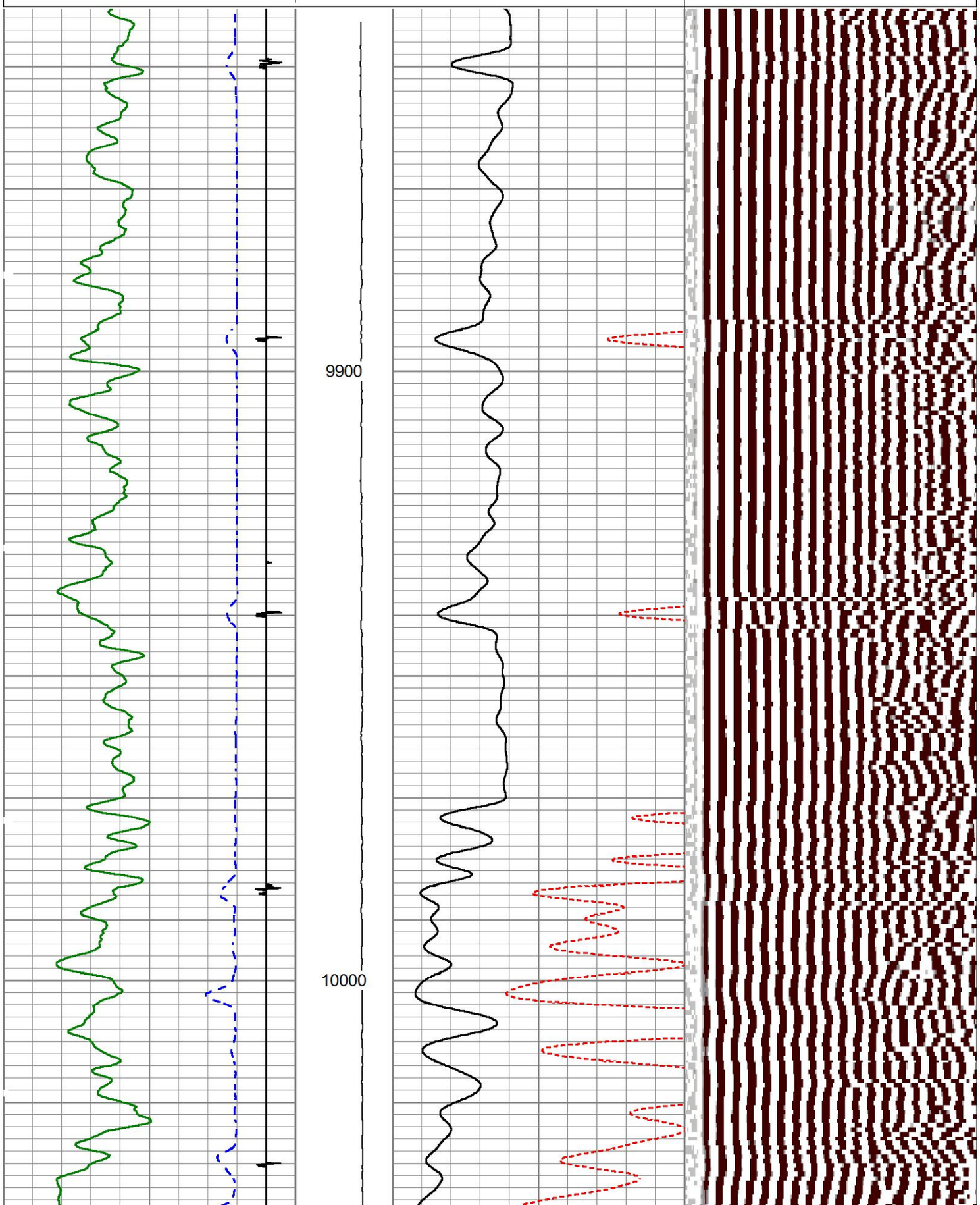
REPEAT LOG SECTION

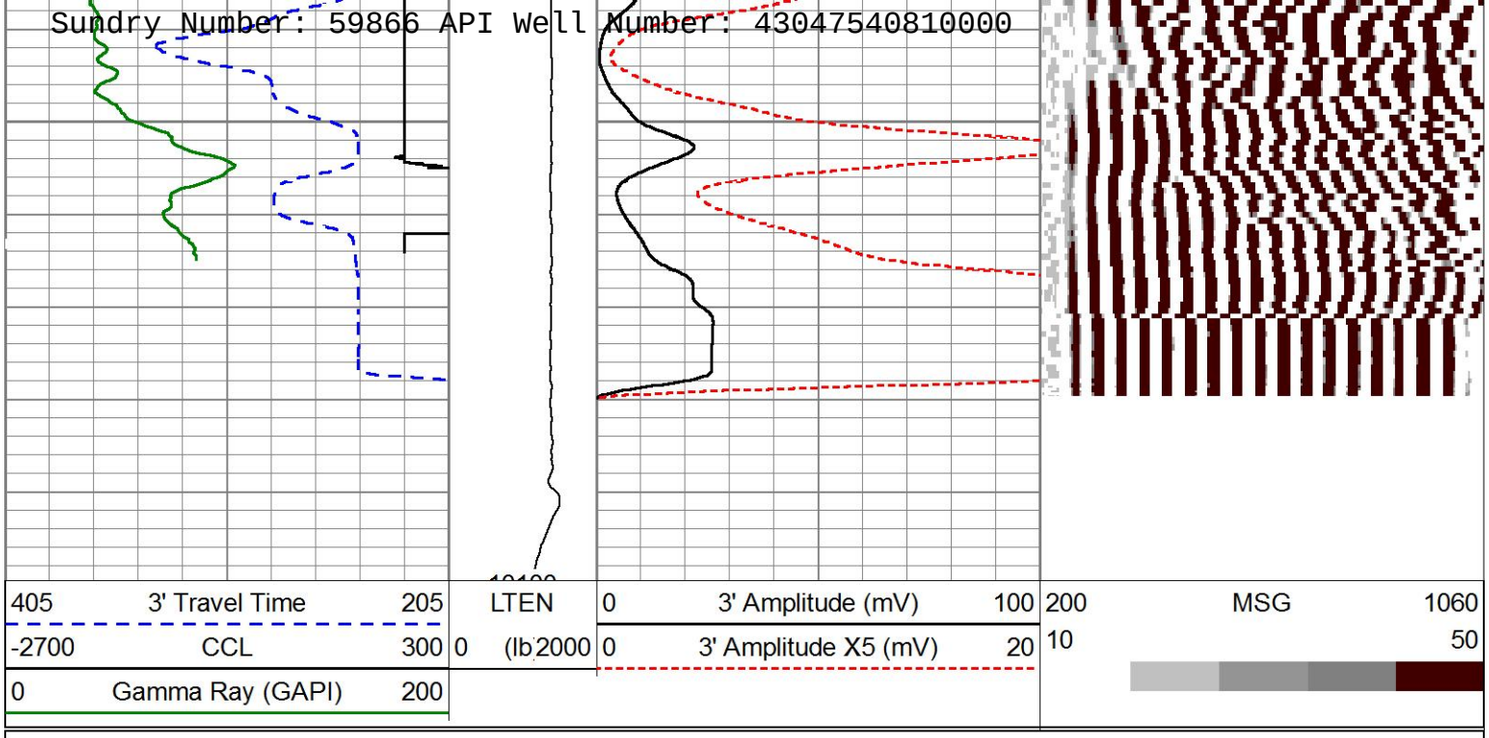
HALLIBURTON

0 PSI
5" = 100'

Database File	k_27_41e_cmb.db
Dataset Pathname	CBLRPT1
Presentation Format	hcbl
Dataset Creation	Thu Oct 02 12:41:03 2014
Charted by	Depth in Feet scaled 1:240

405	3' Travel Time	205	LTEN	0	3' Amplitude (mV)	100	200	MSG	1060
-2700	CCL	300	0 (lb)	2000	0 3' Amplitude X5 (mV)	20	10		50
0	Gamma Ray (GAPI)	200							





HALLIBURTON

REPEAT LOG SECTION

0 PSI
5" = 100'

Log Variables

Database D:\Warrior_data\k_27_41e_cmb.db
Dataset field/well/run1/MAIN1

Top - Bottom

BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1	LTH	UHSGC	RHOCF
1	0	1	0	1	Sandstone	NONE	0.25
SO in	BORSAL kppm	CASED?	MSGGN	USERFTT usec/ft	ZREF MRayl	CASEWGHT lb/ft	SRFTEMP degF
0	150	Yes	1	0	1.7	11.6	0
MudWgt lb/gal	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BITSIZE in	
8.4	0.25	4.5	0	0	100	7.875	

Calibration Report

Database File k_27_41e_cmb.db
Dataset Pathname MAIN1
Dataset Creation Thu Oct 02 12:52:33 2014

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12210614-A

Shop Calibration Performed: Thu Sep 11 10:53:22 2014

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
ITCR2	3323	3250	73	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	59	60 +/-2	0.0281	5.25	<6.00
Fe	205	206 +/-2	0.0972	-----	-----
NGAIN = 1.000	NZOFF = 0.7				

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0356	5.69	<6.50
Fe	209	208 +/-2	0.0918	-----	-----
FGAIN = 0.991	FZOFF = 0.4				

Flask Temperature 57.4 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.64	1.64	0.00	+/-0.05	
TCCR2	5357	5000	357	+/-1000	cps
ITCR2	3314	3200	114	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
FCAP	10259	10000	259	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.95	0.95	-0.00		
N/F Inel Norm	0.61	0.61	0.00		
RNF	1.05	1.07	-0.02	+/-0.12	
RINC	1.63	1.64	-0.01	+/-0.18	
SGFN	24.13	24.00	0.13	+/-0.50	cu
SGFF	22.90	22.85	0.05	+/-0.50	cu
FSIN	24743	24000	743	+/-2000	cps
FCAP	10417	10000	417	+/-1000	cps
NFTR	0.83			<5.00	
FFTR	0.88			<5.00	
NBKG	181			<500	cps
FBKG	96			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.42	0.40	0.02	+/-0.10	usec

Calibration Software Modules

HRMTI Module	2013.11.14.0
RMTI Module	2014.5.9.1

Log Data Acquisition Software Modules

HRMTI Module	2013.11.14.0
RMTI Module	2014.5.9.1

Cement Bond Log Shop Calibration Report

Serial-Model:	11923474-A
Calibration Performed:	Tue Sep 30 14:02:23 2014

Free Pipe Calibration

	Measured	Units
TT	246.0	usec
Amplitude	869.1	mV
Log Base Line	8.8	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.094	

Gamma Ray Calibration Report

Type / Serial: 002 / 11510542

SHOP CALIBRATION — Thu Oct 02 11:08:08 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	31.7				cps
Calibrator	314.5				cps
		1.4425			GAPI/cps

PRIMARY VERIFICATION — Thu Oct 02 11:10:27 2014

Background	43.1				cps
Calibrator	451.9				cps
Difference				408.8	GAPI

BEFORE SURVEY VERIFICATION

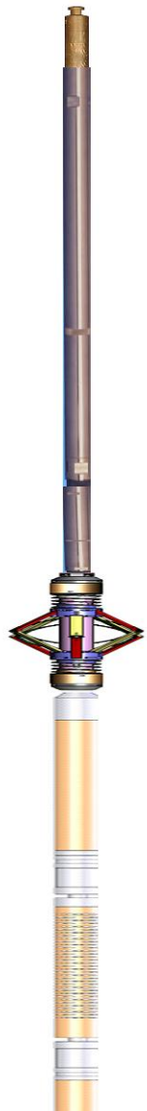
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Sensor	Offset (ft)
CCL	35.09
GR	32.83
Temp	23.11
TT3FT	20.86
AMP3FT	20.86
WVF5FT	19.90
FrameCnt	16.38
TLINITCNT	16.38
CblCTT	16.38
CblCCsgWgt	16.38
CblCCsgOD	16.38
CblCAmp	16.38
CblBLine	16.38
CblTTThresh	16.38
CblAGate	16.38
CblLWvCnt	16.38
CblCStat	16.38
CblIVolt	16.38
CblITemp	16.38
CblSeqNum	16.38
CblTStat	16.38
WVF3FT	16.38
RmtTFGT	8.47
RmtFBACK	8.47
RmtFCAPT	8.47
RmtFINEL	8.47
RmtTNGT	7.97
RmtNBACK	7.97
RmtNCAPT	7.97
RmtNINEL	7.97

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb
STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.13	1.44	1.00
TTTCU-002 (11510542) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
XHU-003 (12218041) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
HCBLM-A (11923474) Halliburton HCBLM Tool	9.38	2.75	116.00

TLINHCNT	0.22			
RImpBTEST	0.22			
RImpBCYC	0.22			
RImpBRGW	0.22	CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
RImpBRGO	0.22			
RImpState	0.22			
RImpPhase	0.22			
RImpCyc	0.22			
RmtGenClampV	0.22			
RmtFTemp	0.22			
RmtFP5V	0.22			
RmtFPMHV	0.22			
RmtFPMI	0.22			
RmtFPrgSt1	0.22			
RmtFDetStat	0.22			
RmtNTemp	0.22	RMTI-A (12210614) Halliburton RMTI Tool	14.00	2.13	77.00
RmtNPMHV	0.22			
RmtNPMI	0.22			
RmtNPrgSt1	0.22			
RmtNDetStat	0.22			
RmtGenIonI	0.22			
RmtGen15BusV	0.22			
RmtGenLvdsV	0.22			
RmtGenSyncV	0.22			
RmtGenClampV	0.22			
RmtGenP5V	0.22			
RmtGenP33V	0.22	BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
RmtGen200V	0.22			
RmtGenP15VI	0.22			
RmtGenTemp	0.22			
RmtGenP5VI	0.22			

Dataset: k_27_41e_cmb.db: field/well/run1/MAIN1
Total length: 38.28 ft
Total weight: 352.20 lb
O.D.: 3.13 in

Company	KOCH EXPLORATION		
Well	NORTH ALGER 27-41E		
Field	NATURAL BUTTES		
County	UINTAH	State	UT

HALLIBURTON

ACOUSTIC CEMENT
BOND LOG

HALLIBURTON

RESERVOIR MONITOR TOOL - ELITE

Company KOCH EXPLORATION
Well NORTH ALGER 27-41E
Field NATURAL BUTTES
County UINTAH State UT

API No.: 43-047-54081-0000 Serv #: 901706607

Location: SURFACE HOLE LOCATION:
0712' FSL & 0311' FWL (SWSW)

BOTTOM HOLE LOCATION:
0990' FSL & 0990' FWL (SWSW)

Sec: 27 Twp: 10S Rge: 19E

Other Services

GAUGE RING
CBL

Permanent Datum	GROUND LEVEL	Elevation	5258'
Log Measured From	KB , 22.5 Ft. above perm. datum		
Drilling Measured From	KB		

Elevation
K.B. 5280.5'
D.F. 5279.5'
G.L. 5258'

Date @ Time Logged	02 OCT 2014	Type Fluid in Hole	WATER
Run No.	ONE	Density of Fluid	8.4#
Depth - Driller	10319'	Fluid Level	FULL
Depth - Logger	10094'	Cement Top Est. Logged	N/A
Bottom - Logged Interval	10094'	Equipment / Location	11726117 / G.J.
Top - Log Interval	2500'	Recorded by	D. SOLIS
Max. Recorded Temp.	228 DEG F	Witnessed by	J. CLARK

CEMENTING DATA	Surface	Protection	Production	Liner
	String	String	String	
Date / Time Cemented	N/A	N/A	N/A	N/A
Primary / Squeeze				
Expected Compressive Strength	psi@ hrs	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume				
Cement Type / Weight	/	/	/	/
Formulation				
Mud Type / Mud Wgt.	/	/	/	/

Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	SURFACE	2500'	8.625"	32.0#	SURFACE	2500'
TWO	7.875"	2500'	10319'	4.5"	11.6#	SURFACE	10319'

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

HES CBL DATED 02 OCT 2014 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL.

GR-RMT-RBT RAN IN COMBINATION.

LOG INTERVALS PER CUSTOMER REQUEST.

SHORT JOINT @: 5267' - 5290'.

RMT RAN IN SIGMA MODE. GENERATOR VOLTAGE: 80 VOLTS.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Sundry Number 59566 API Well Number 43047540810000

Company KOCH EXPLORATION
Well NORTH ALGER 27-41E
Field NATURAL BUTTES
County UINTAH State UT

<<< Fold Here >>>

Service Ticket No. 901706607 API No. 43-04-54081-0000 PGM Ver 14.05.12001

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

TELEMETRY		CEMENT BOND TOOL		RESERVOIR MONITOR TOOL		
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.
Serial No.	11510542	Serial No.	11923474	Serial No.	12210614	Serial No.
Model No.	TTTC-U-002	Model No.	CBL-M	Model No.	RMTI-A	Model No.
Diameter	1.688"	Diameter	2.75"	Diameter	2.125"	Diameter

LOGGING DATA

General Data

Pass No.	Depths From	To	Well Head Pressure	Speed Ft/Min	Logging Run Comments

No.	From	To	Pressure	Ft/min	
ONE	10094'	2500'	2500#	25	MAIN LOG SECTION

	GAMMA RAY		NEAR BORE SI (SGBN)		SGIN		RATION (RNF)	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	200	0	60	0	2	0.5

DIRECTIONAL INFORMATION

Maximum Deviation	N/A	deg. @	N/A	KOP	N/A	

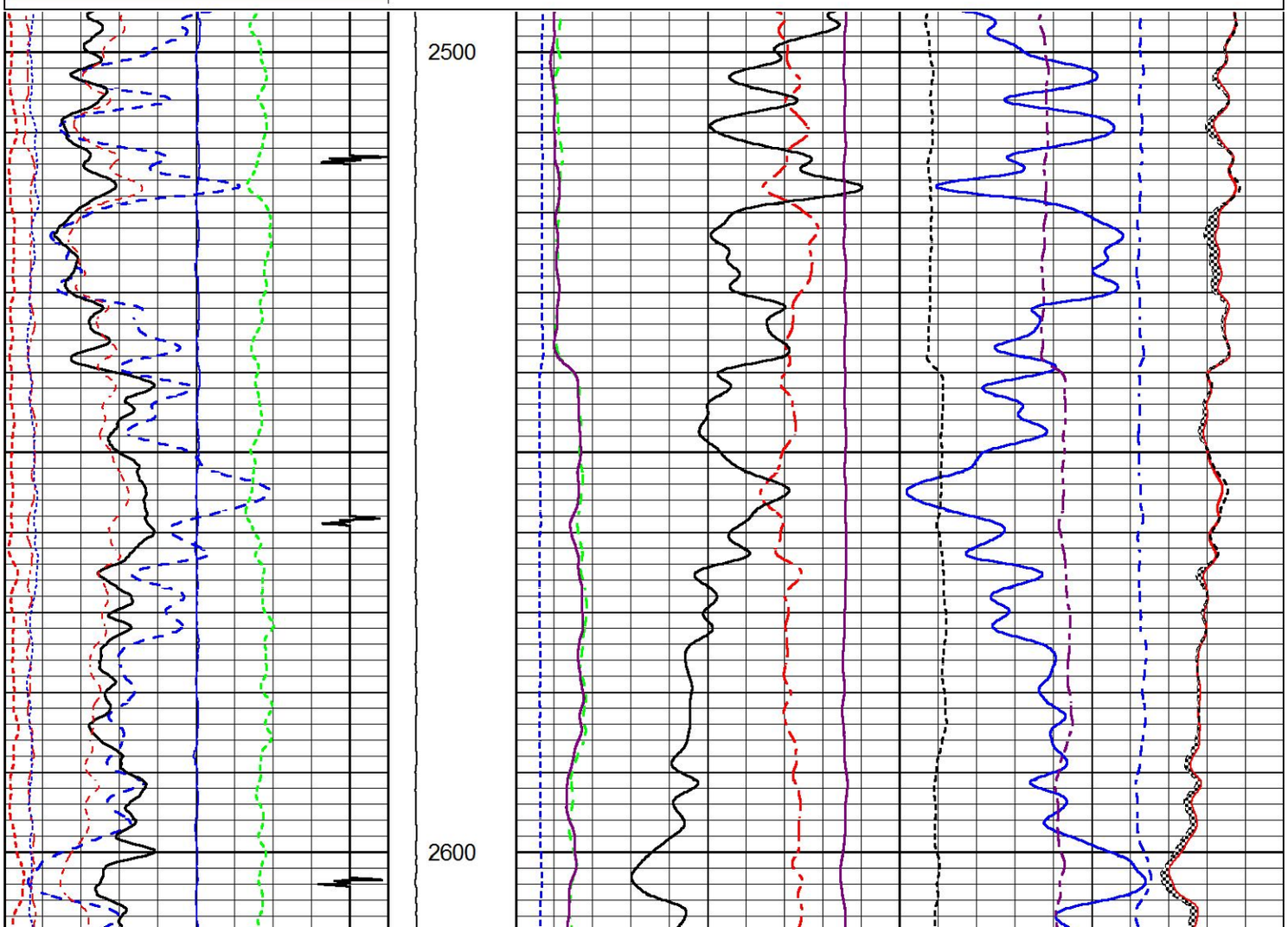
HALLIBURTON

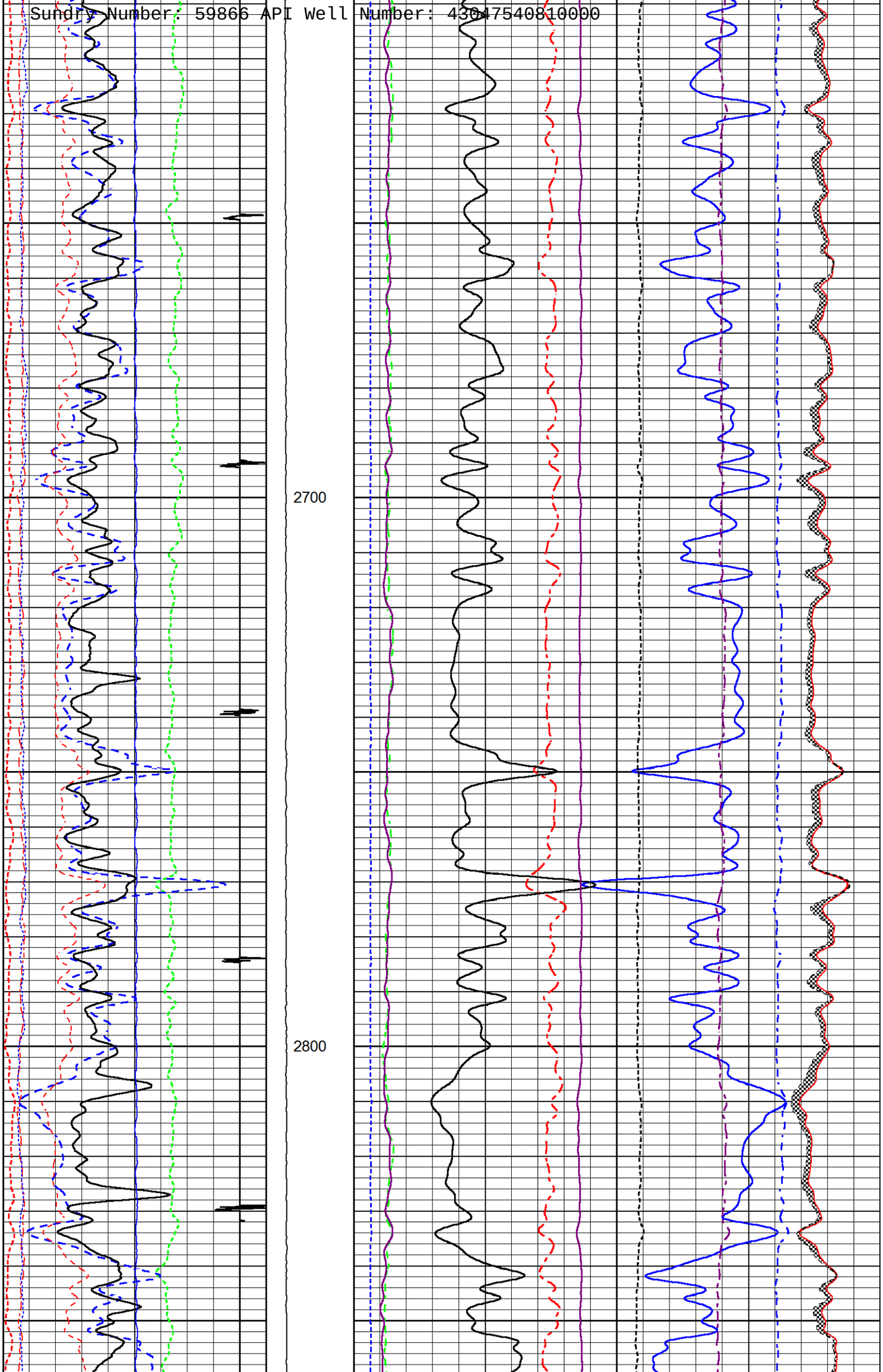
MAIN LOG SECTION

2500 PSI
5" = 100'

Database File	k_27_41e_cmb.db
Dataset Pathname	MAIN1
Presentation Format	RMTE_M~2
Dataset Creation	Thu Oct 02 12:52:33 2014
Charted by	Depth in Feet scaled 1:240

200	Near Bore Si (SGBN)	0	TENSION	60	SGIN	0			
0	OAI	100		2	RATIO (RNF)	0.5	60000	Near Counts (NCAP)	0
10	FAR FIT ERR (SGFF)	40		0	RIN	15	60000	Far Counts (FCAP)	0
0	GR (GAPI)	200		0	RICF	6	100000	FAR INTEL CT (FSIN)	0
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1	10000	(NEAR INTEL CT (NSIN)	0
-2700	CCL	300		0	H YIELD (YH1)	1		ET INL NEAR (NNII	
0	IN FIT ERR (CFTR1) NEAR	1			INOX2		50000	-1000	
0	IN FIT ERR (CFTR2) FAR	1			-1500	1500			
50	LSPD (ft/min) (ft/min)	0							

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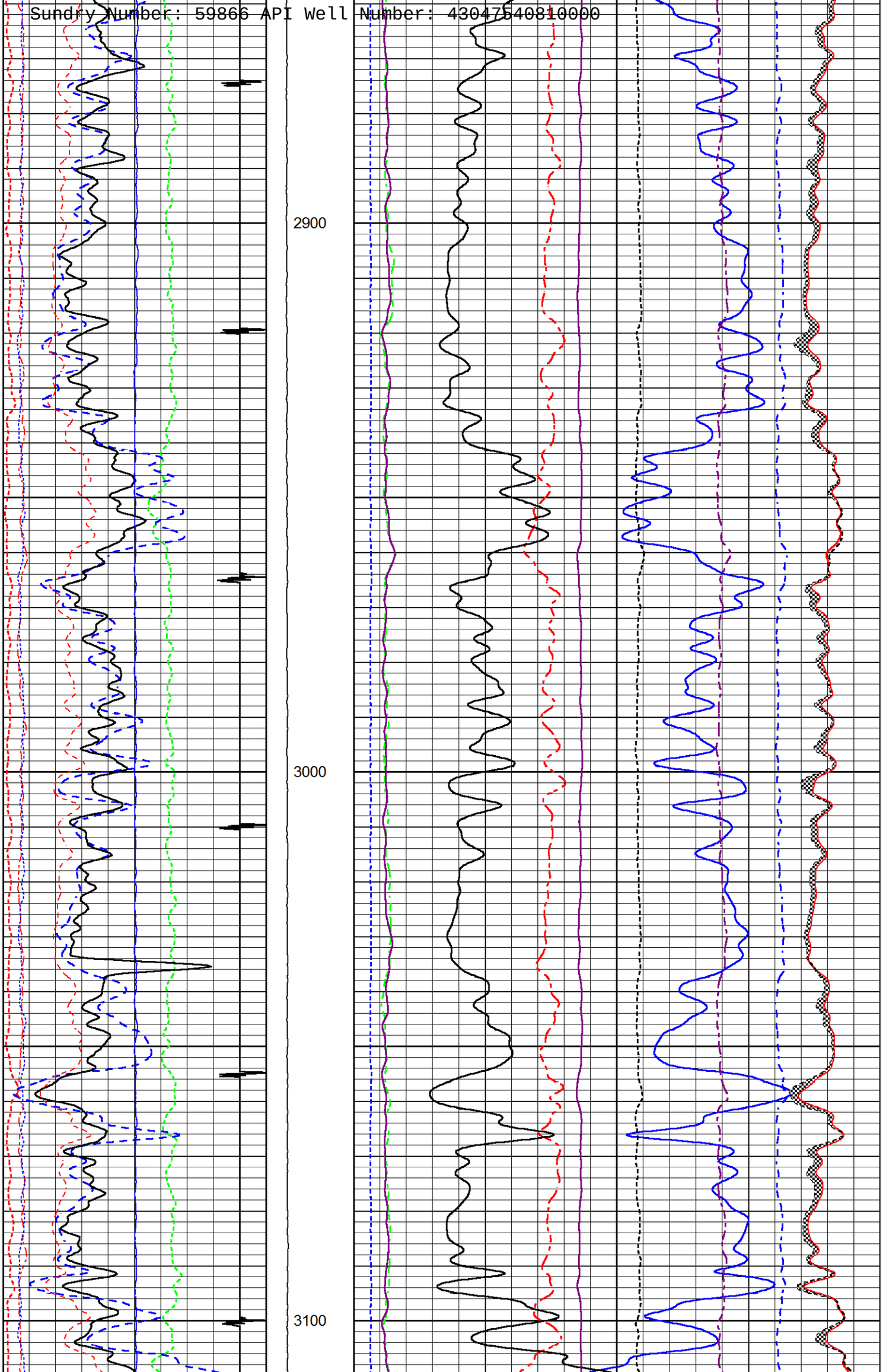
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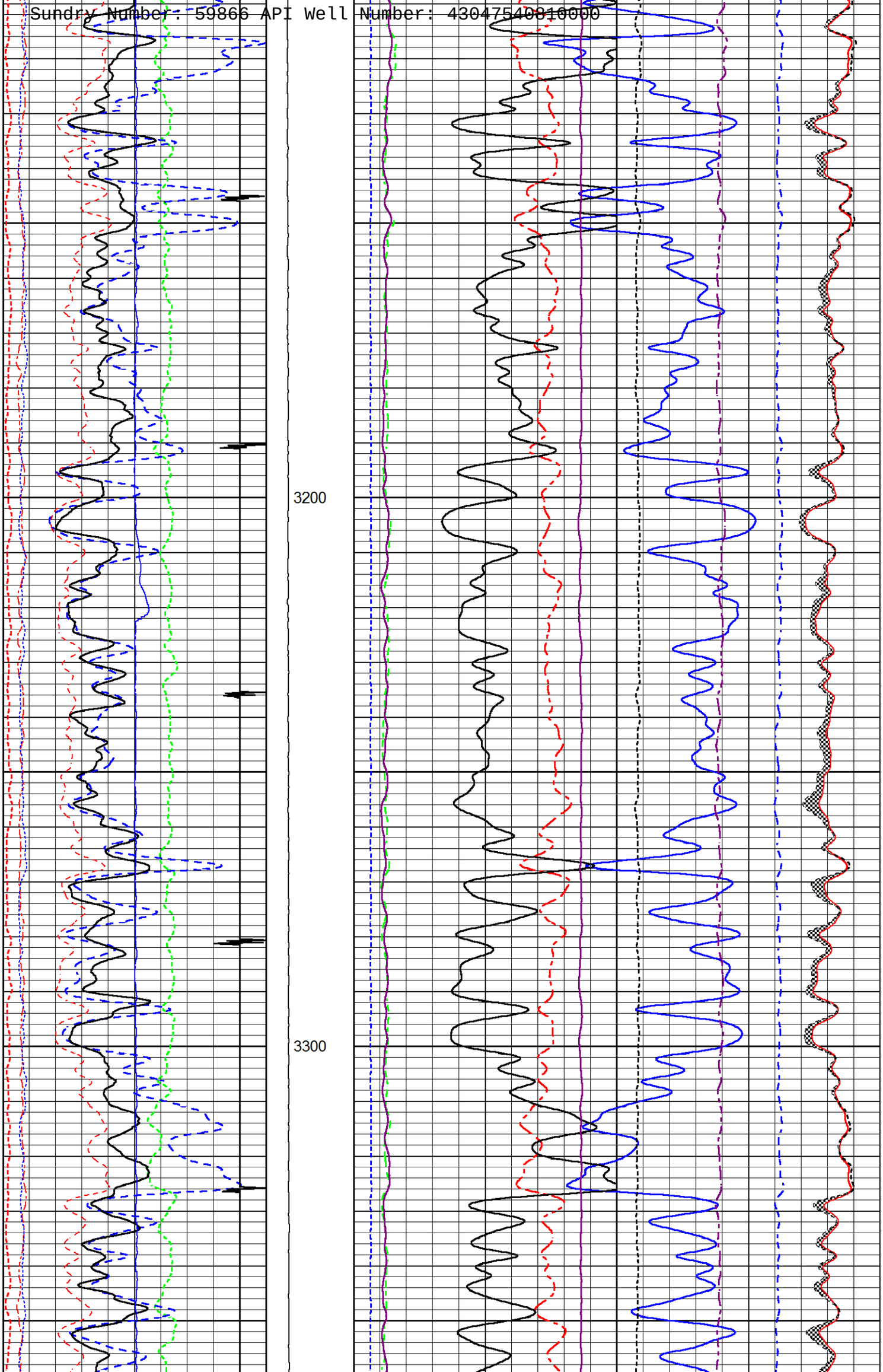
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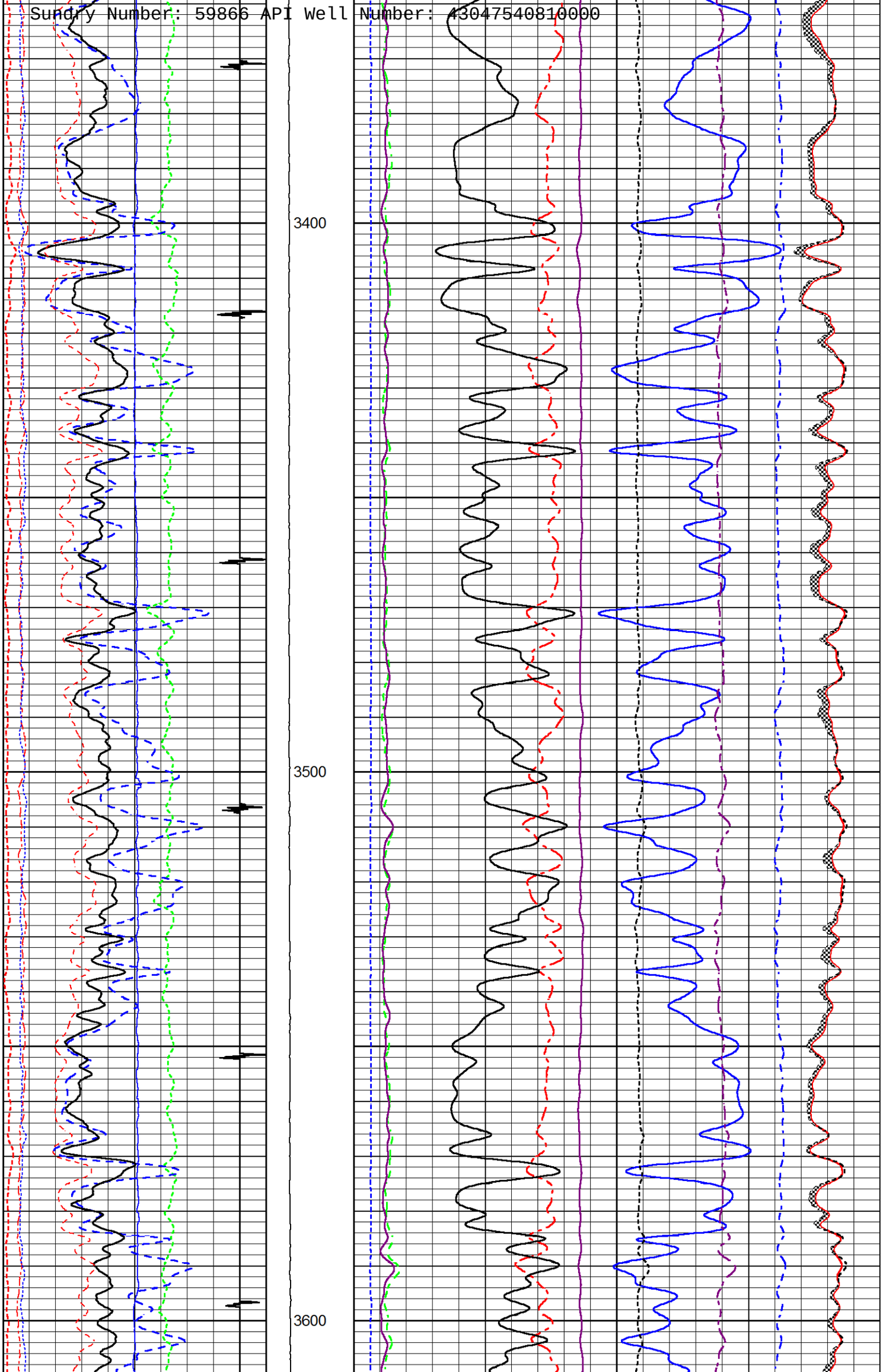
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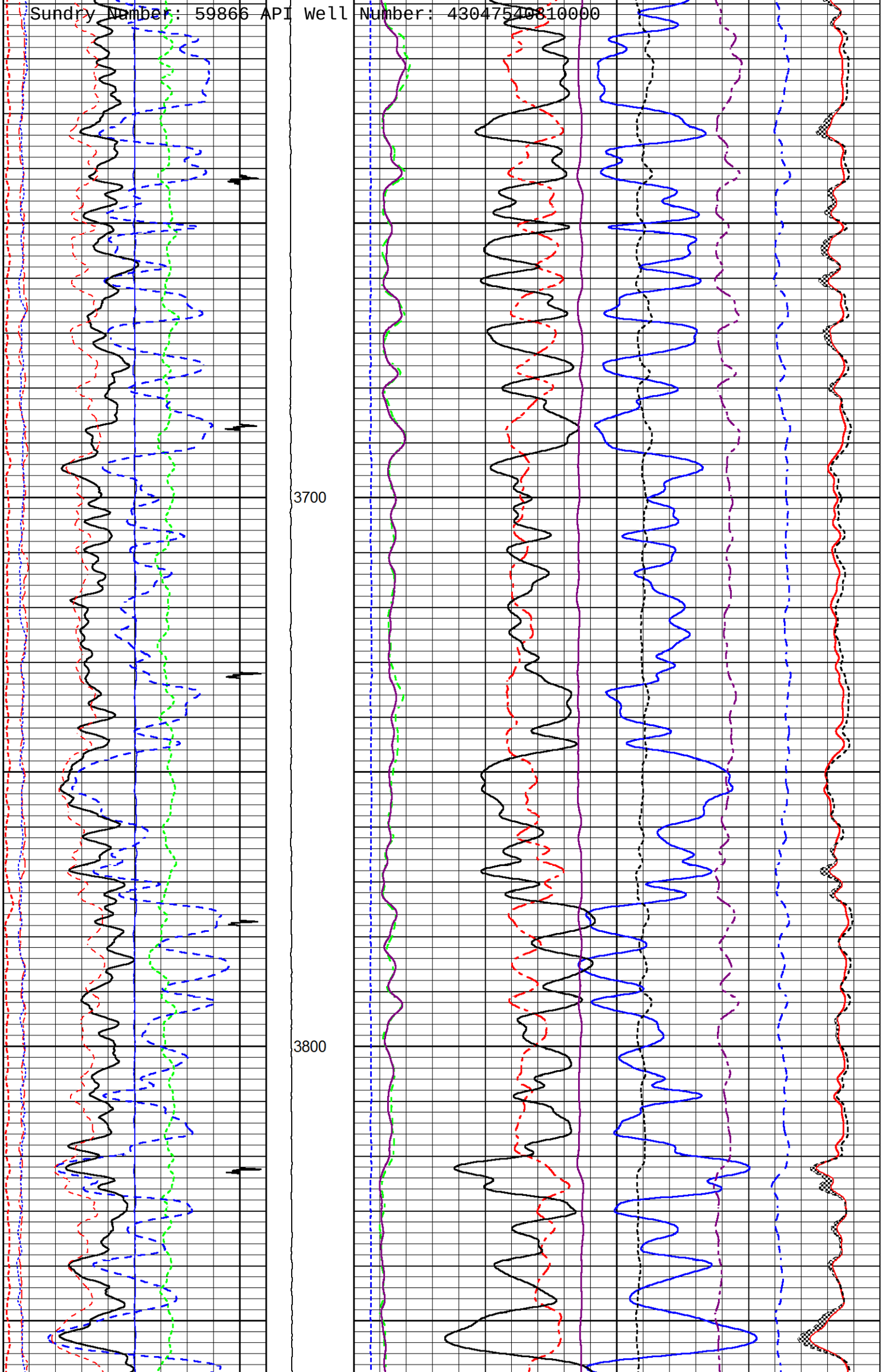
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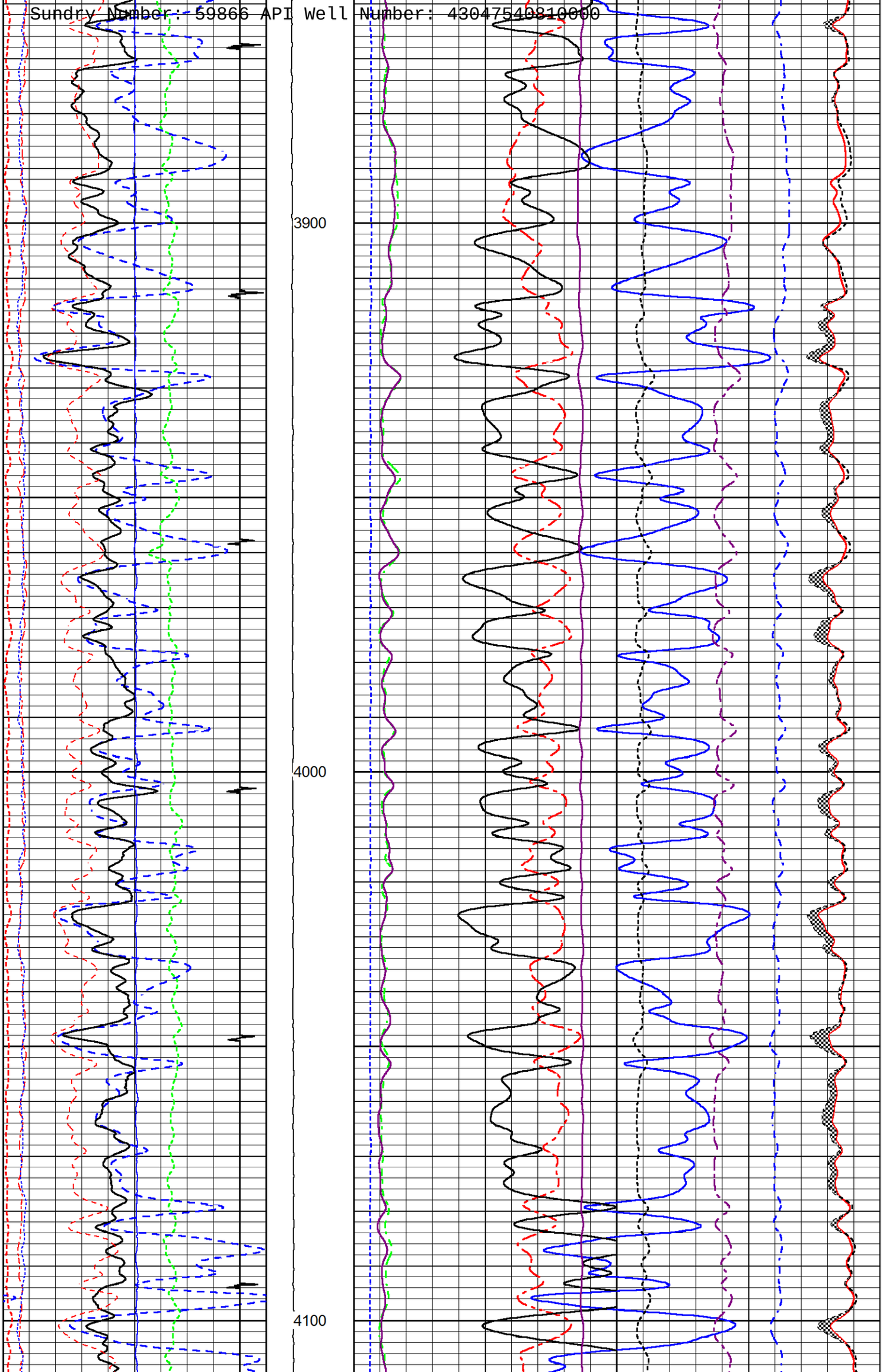
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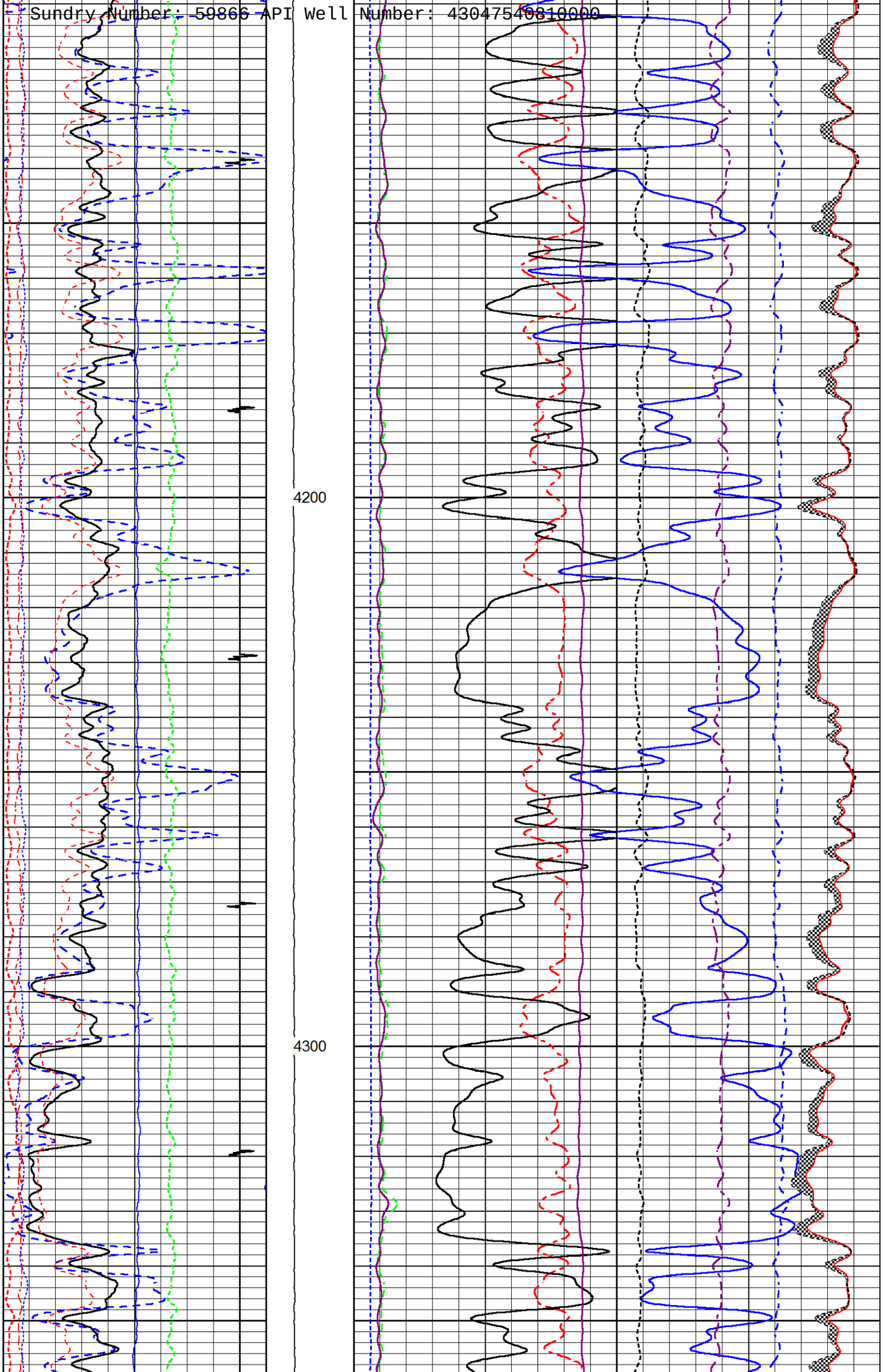
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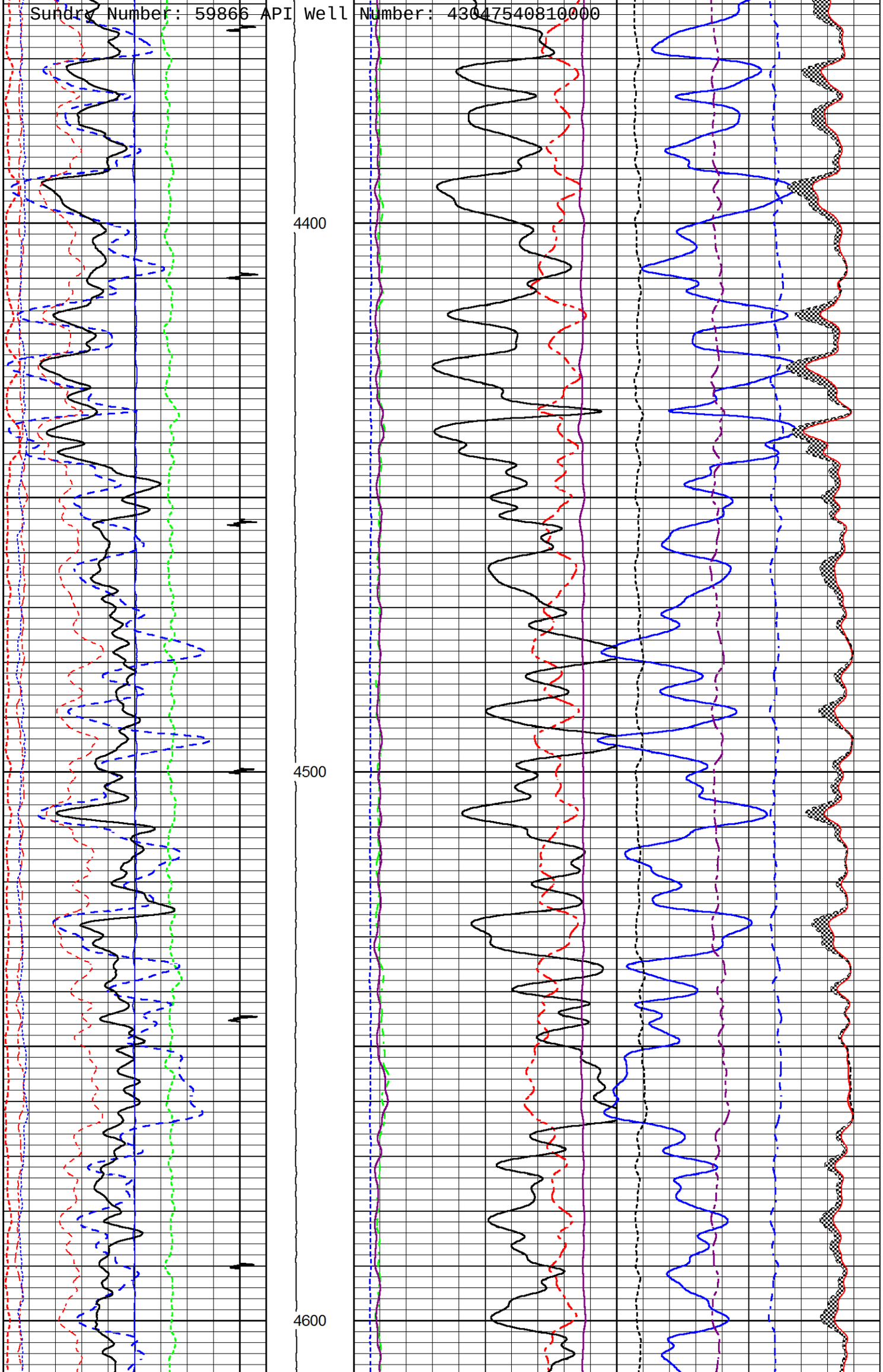
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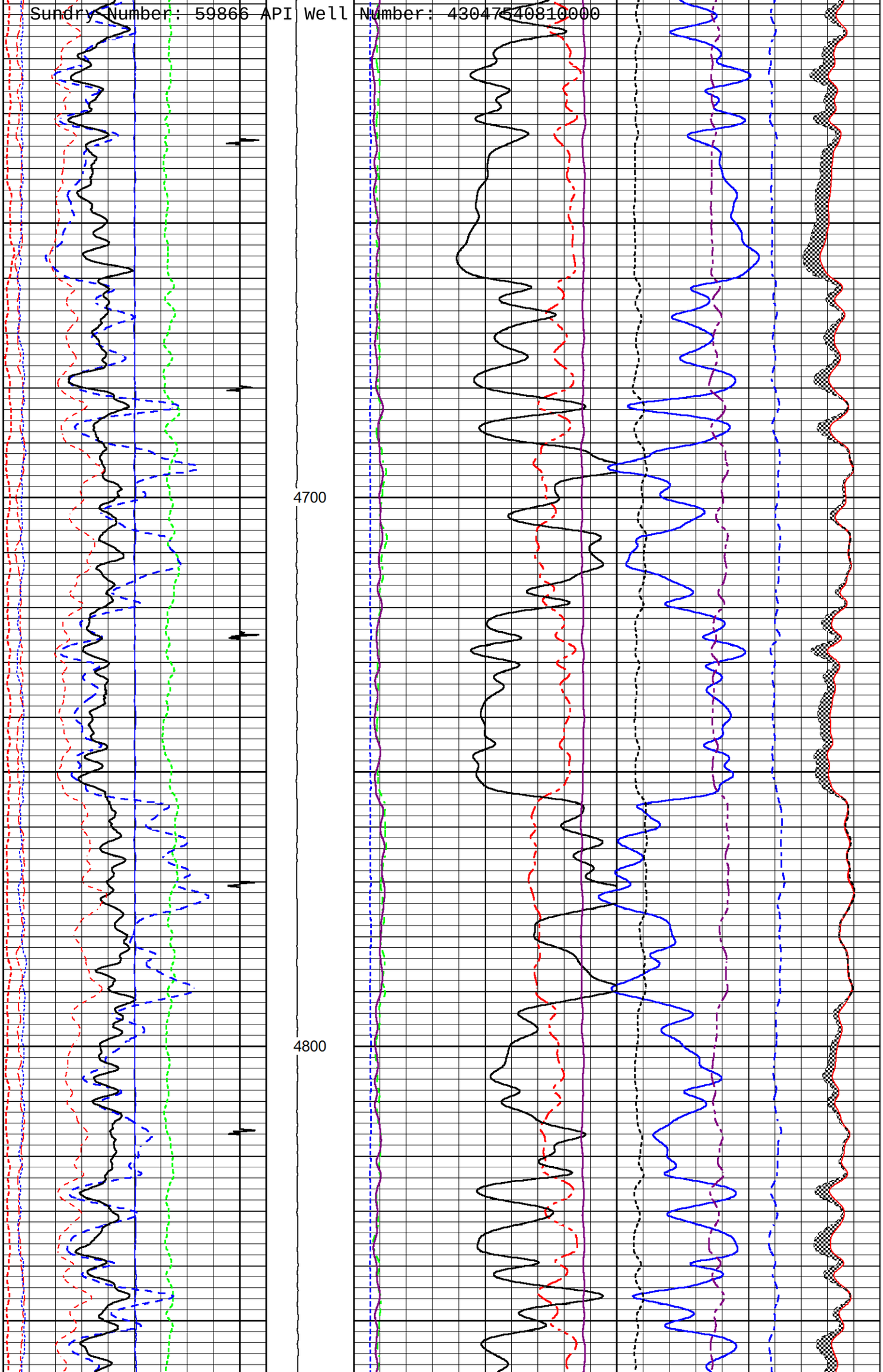
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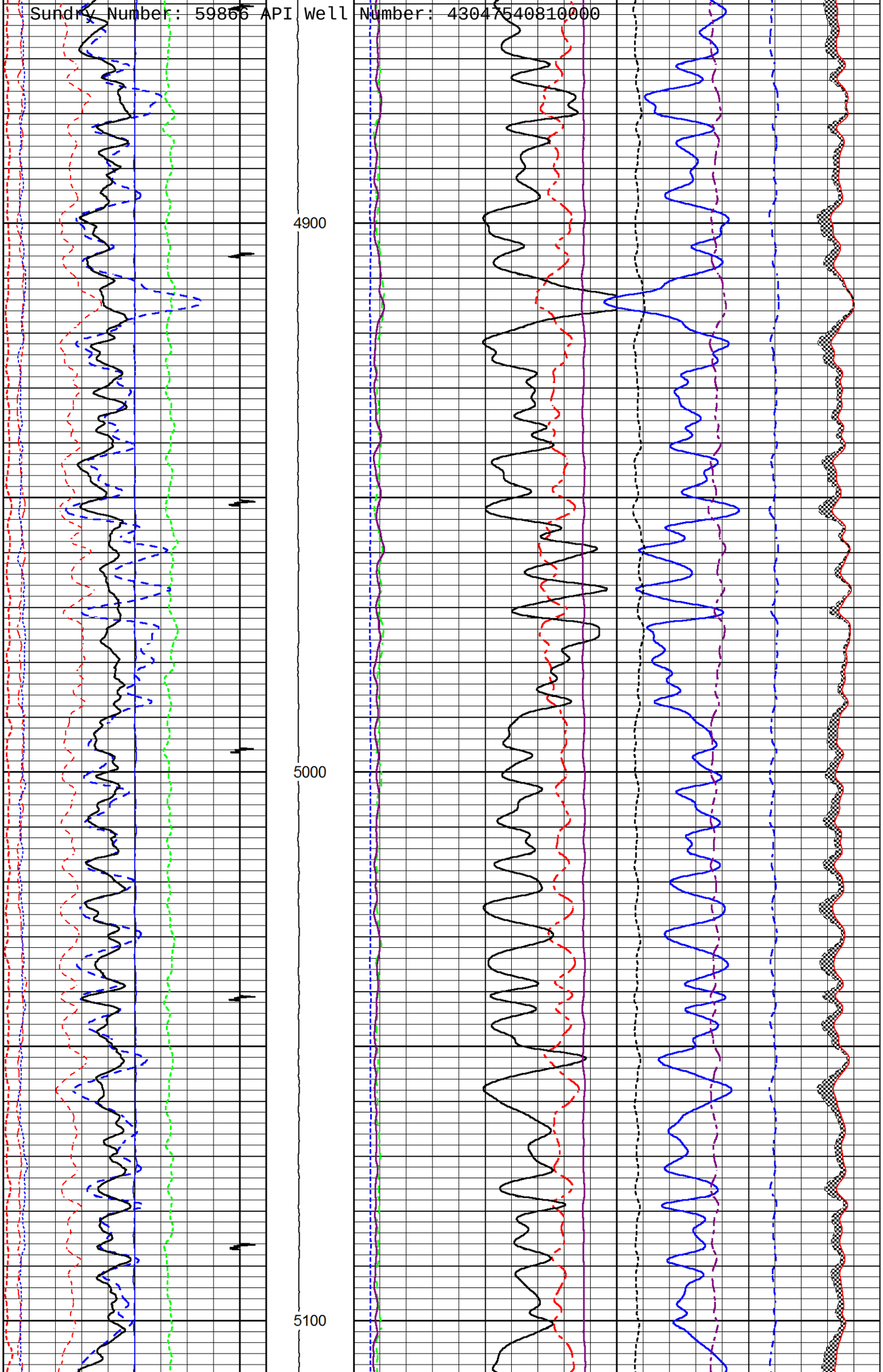
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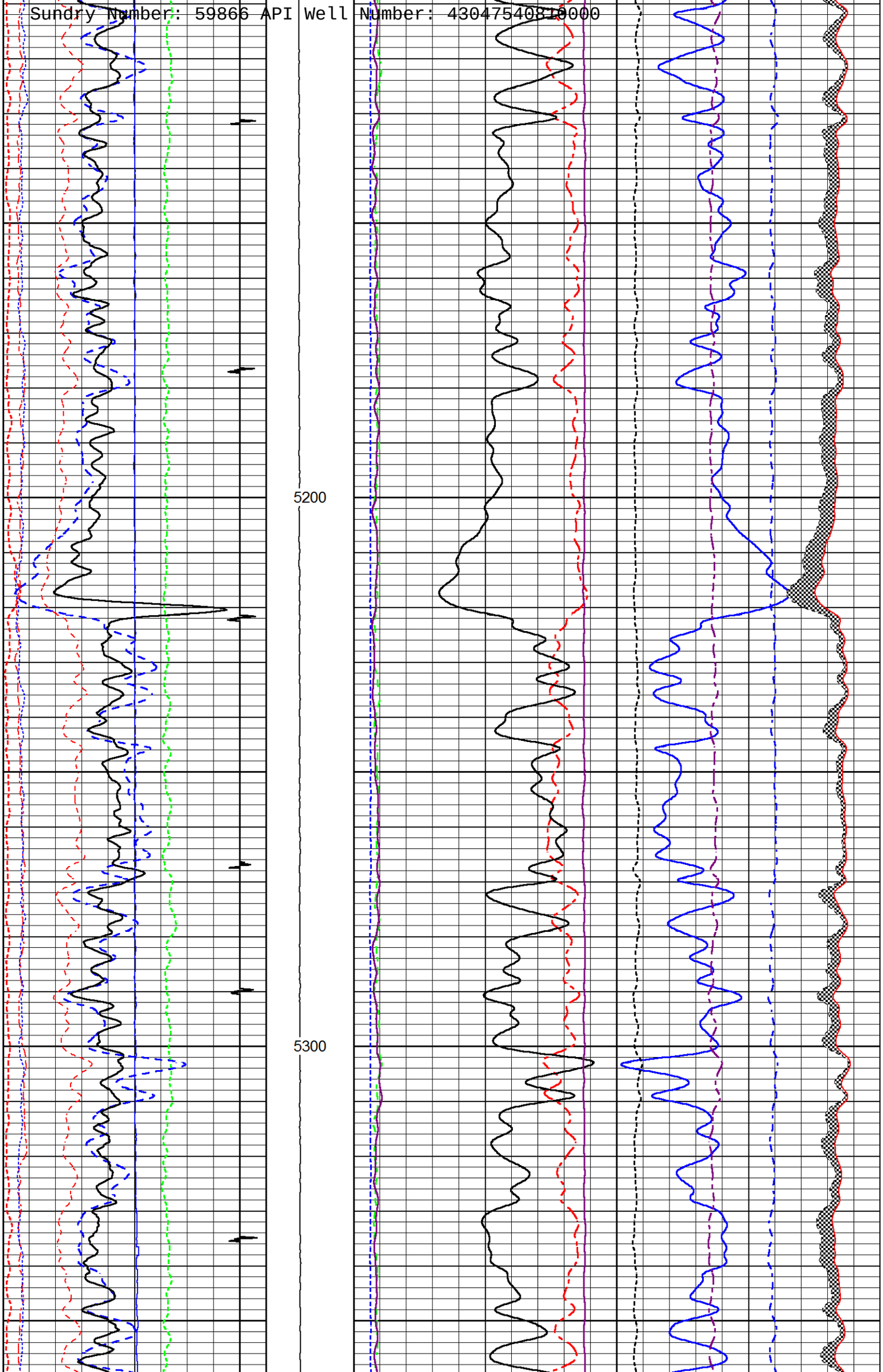
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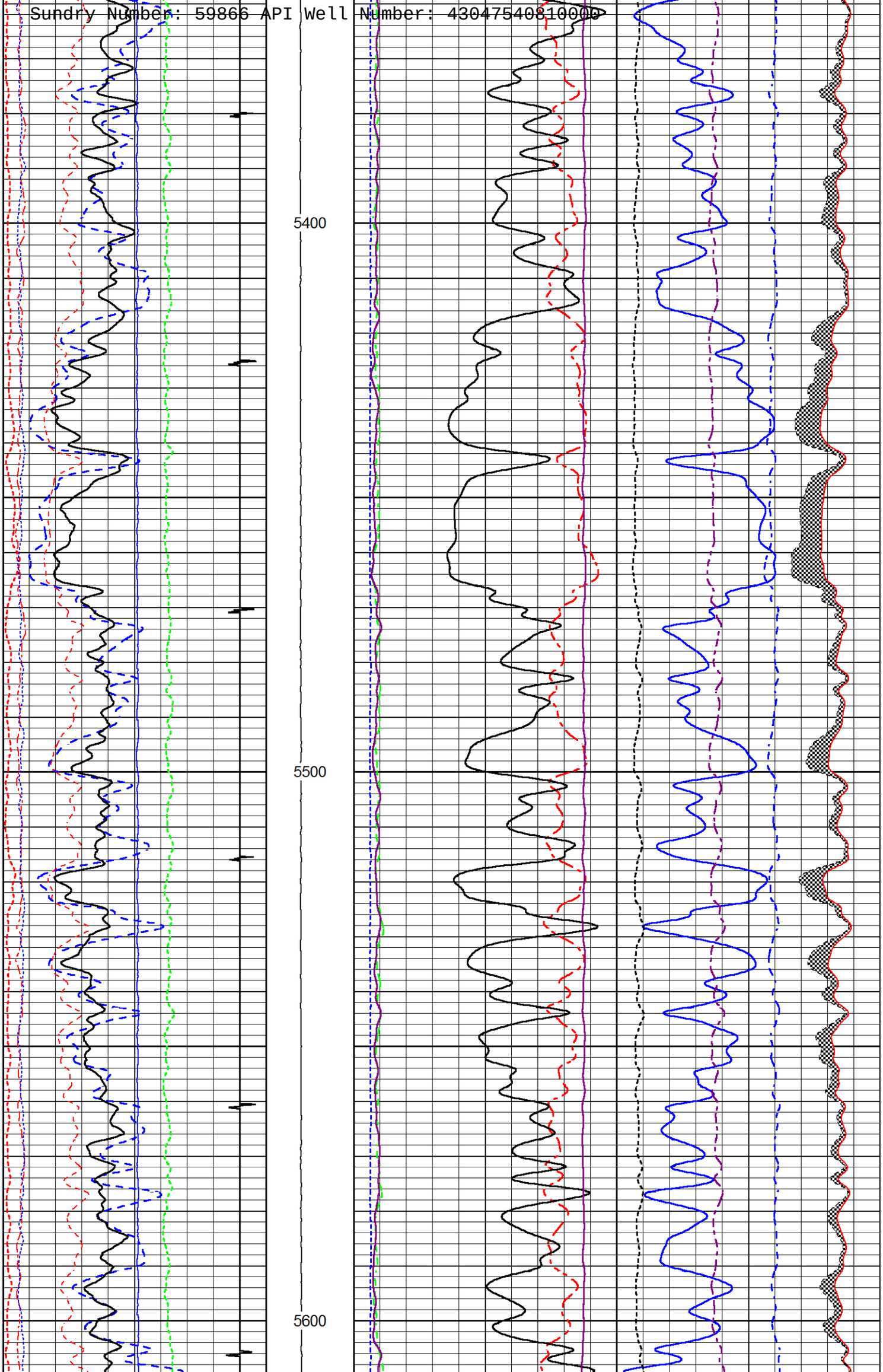
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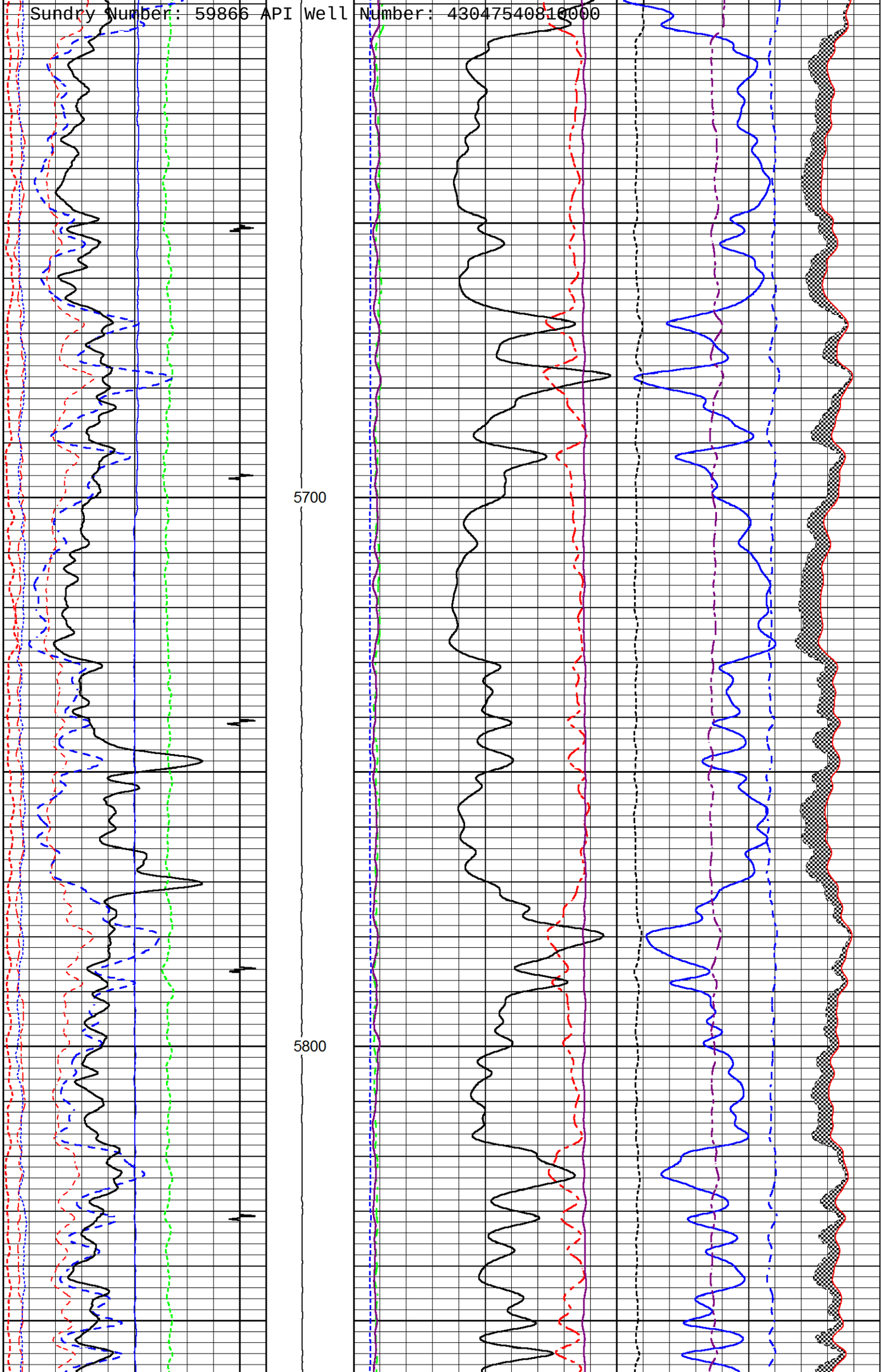
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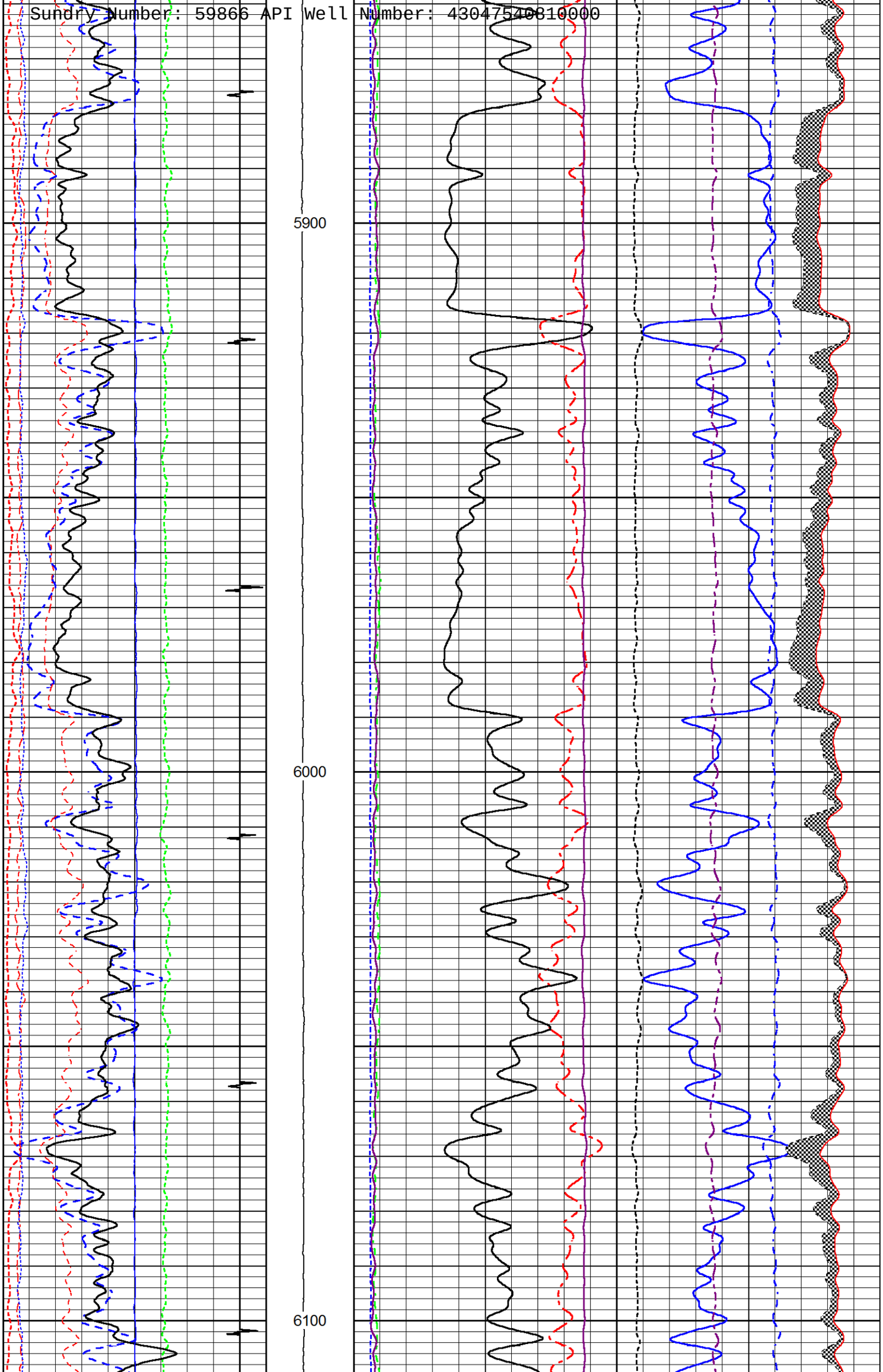
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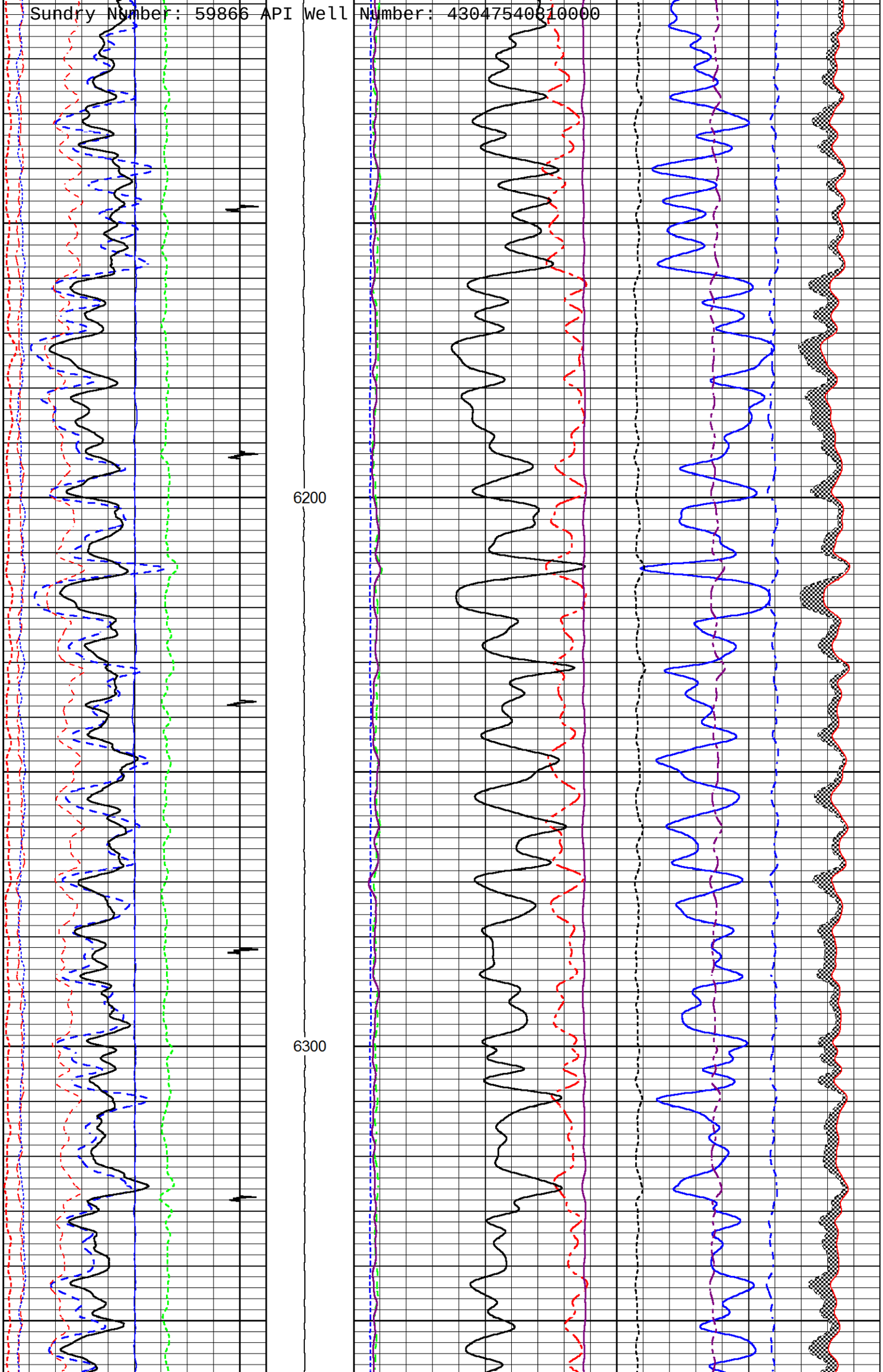
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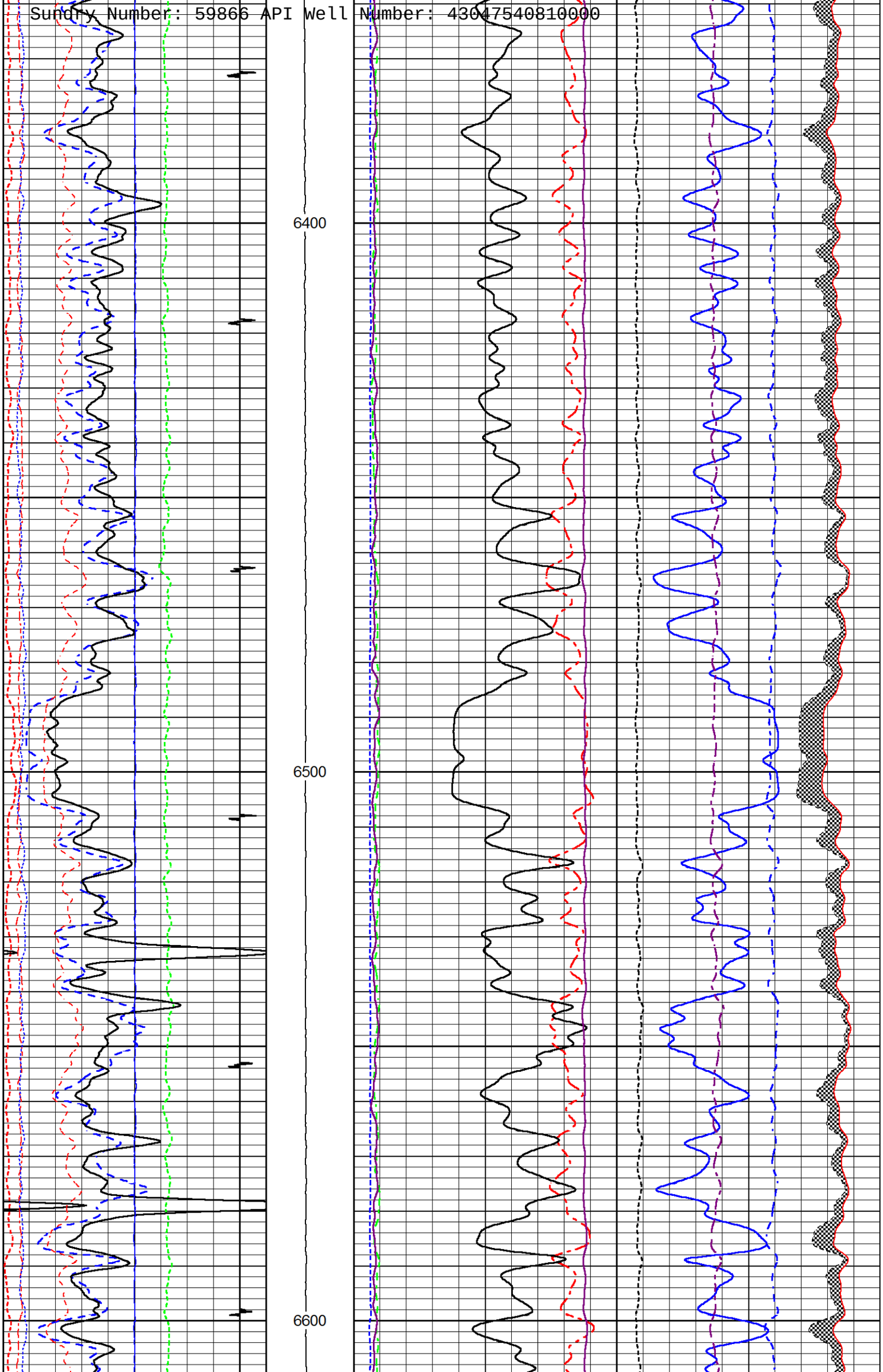
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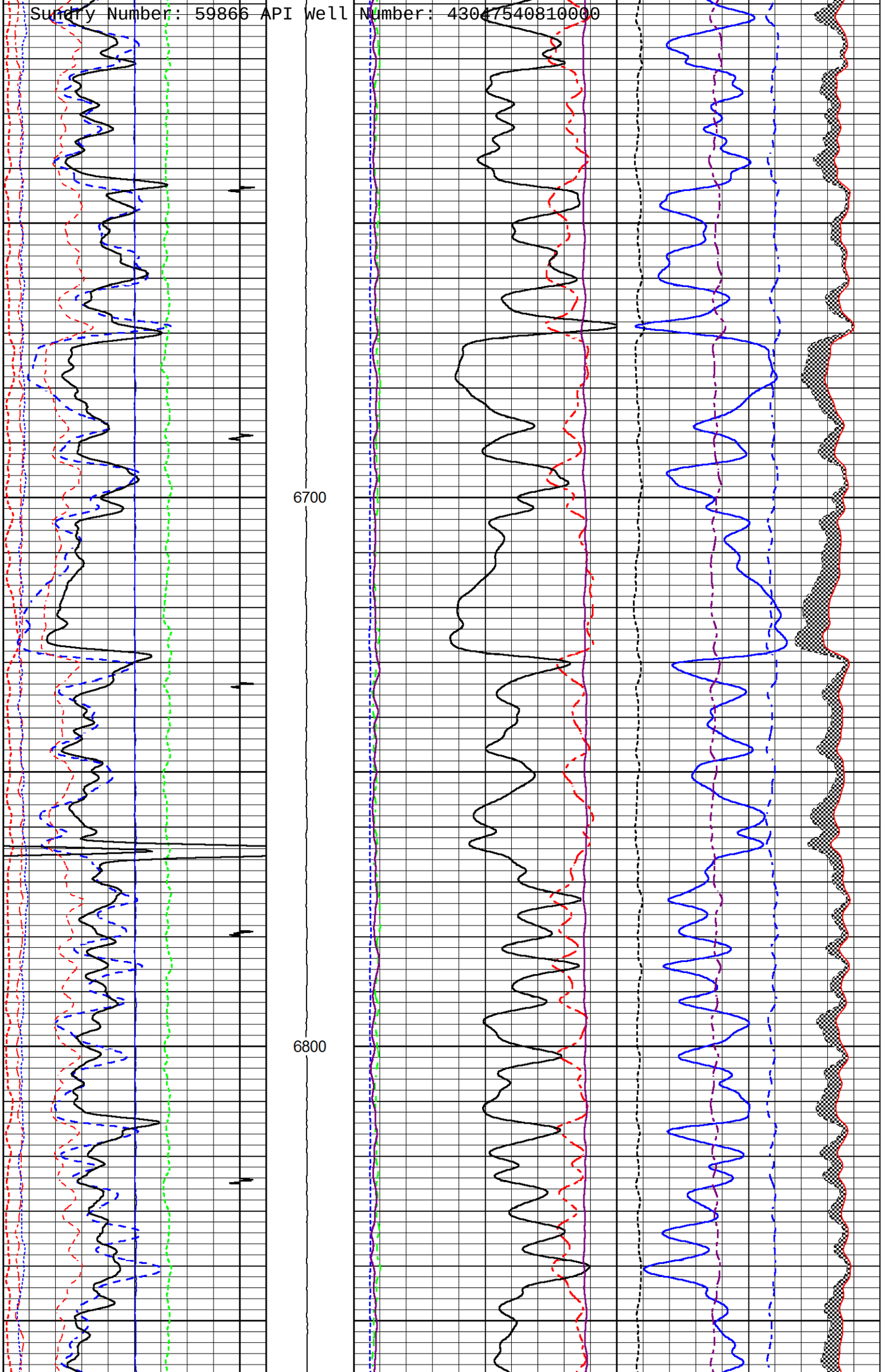
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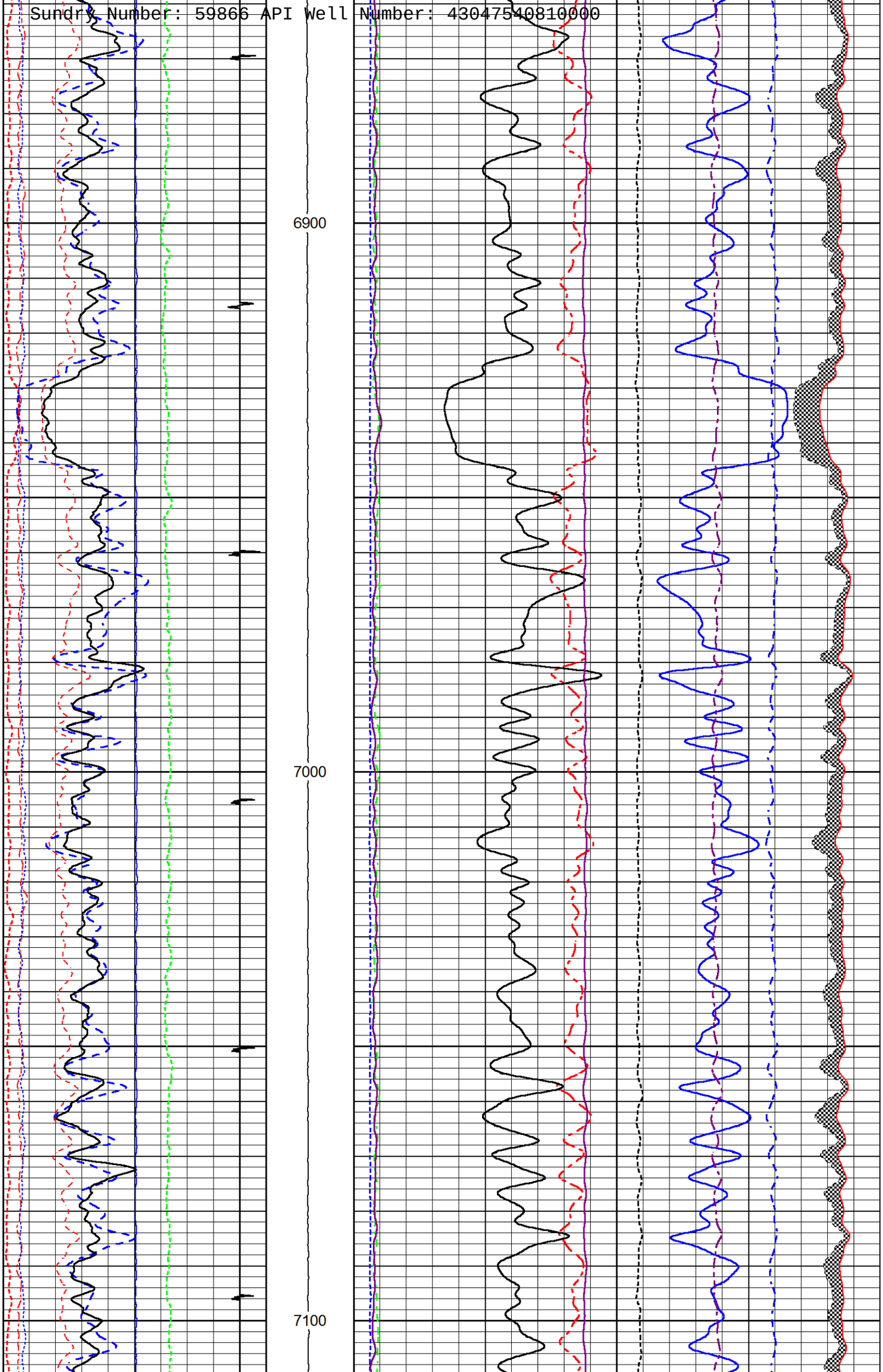
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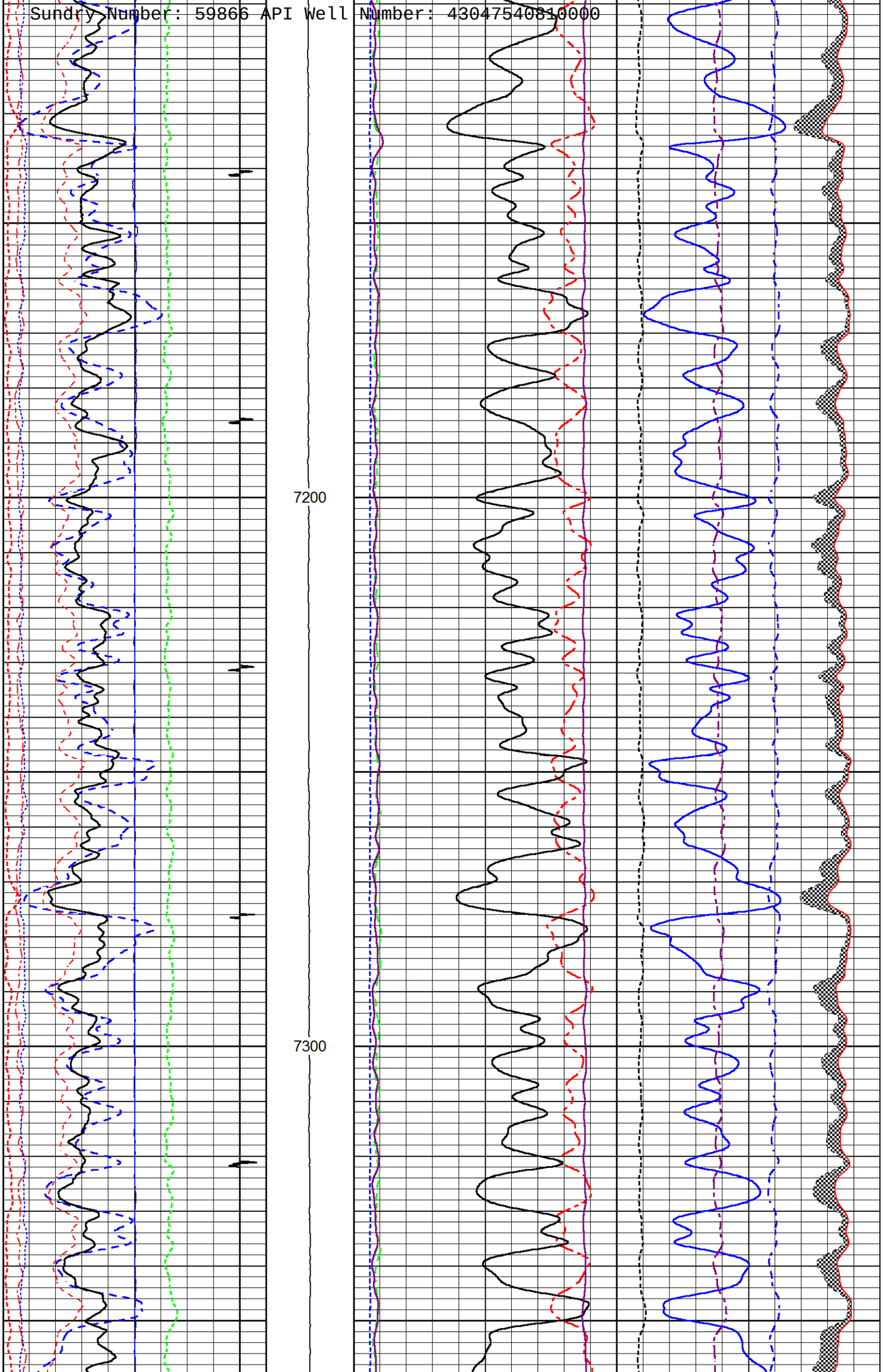
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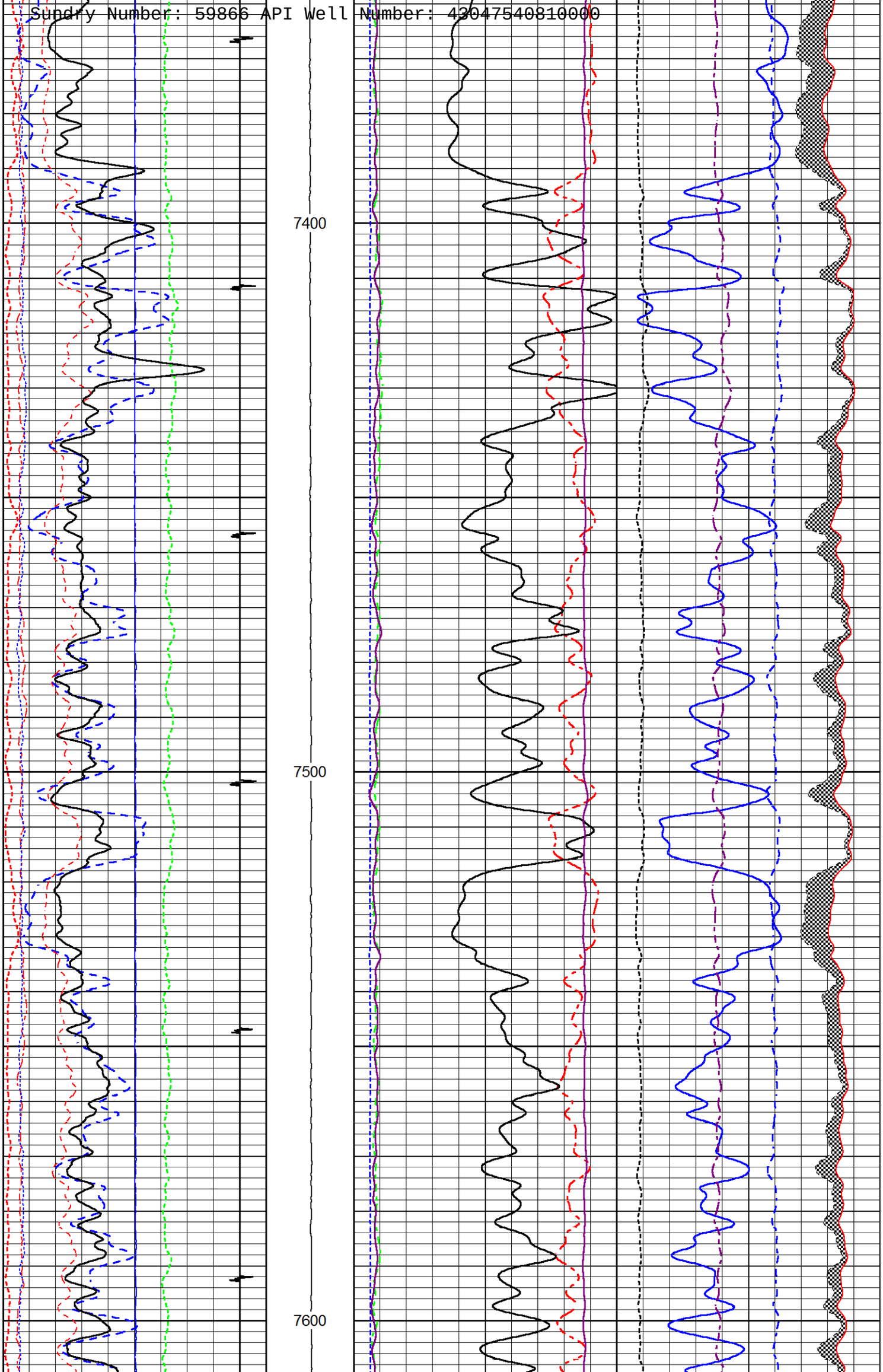
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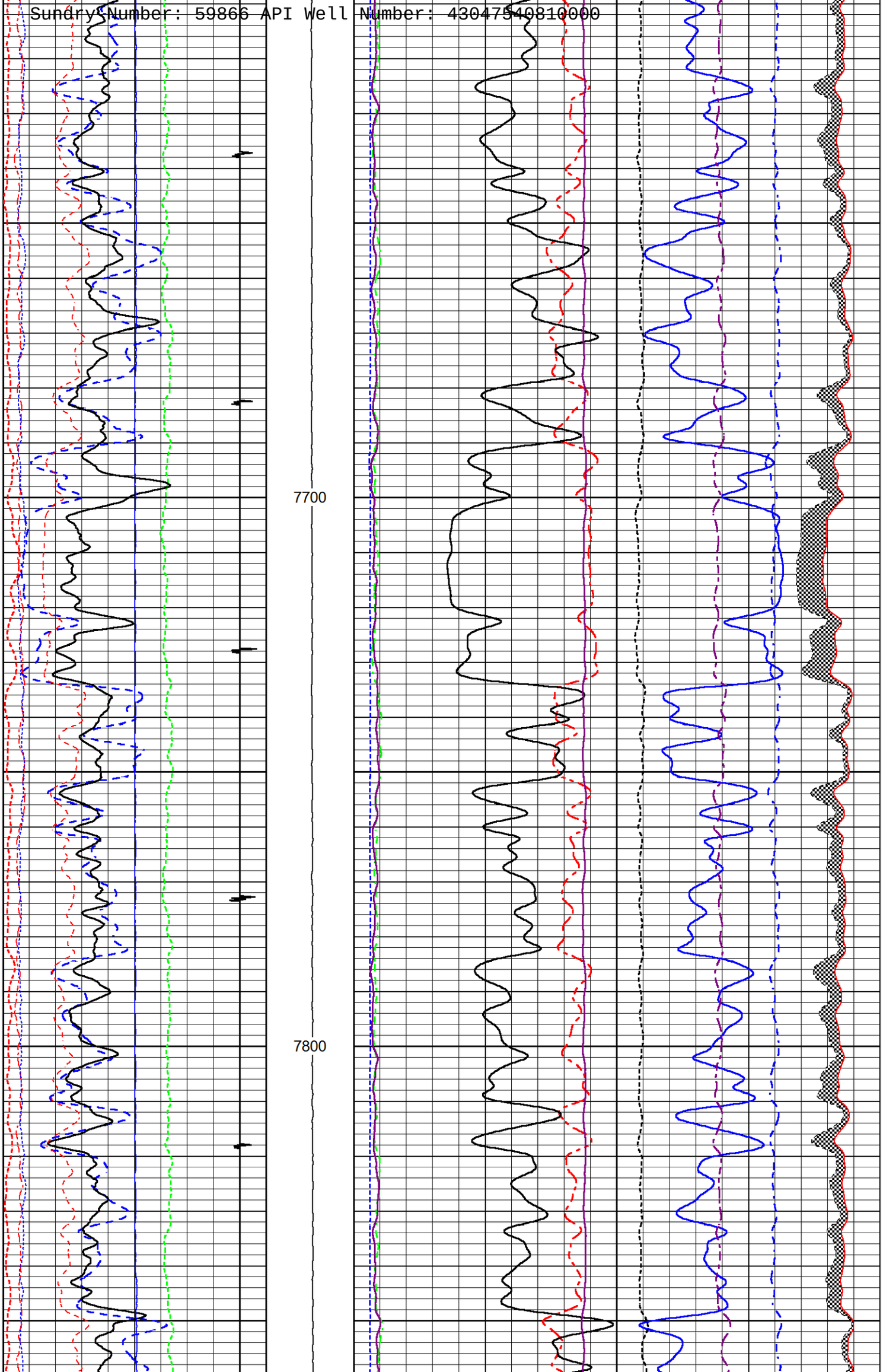
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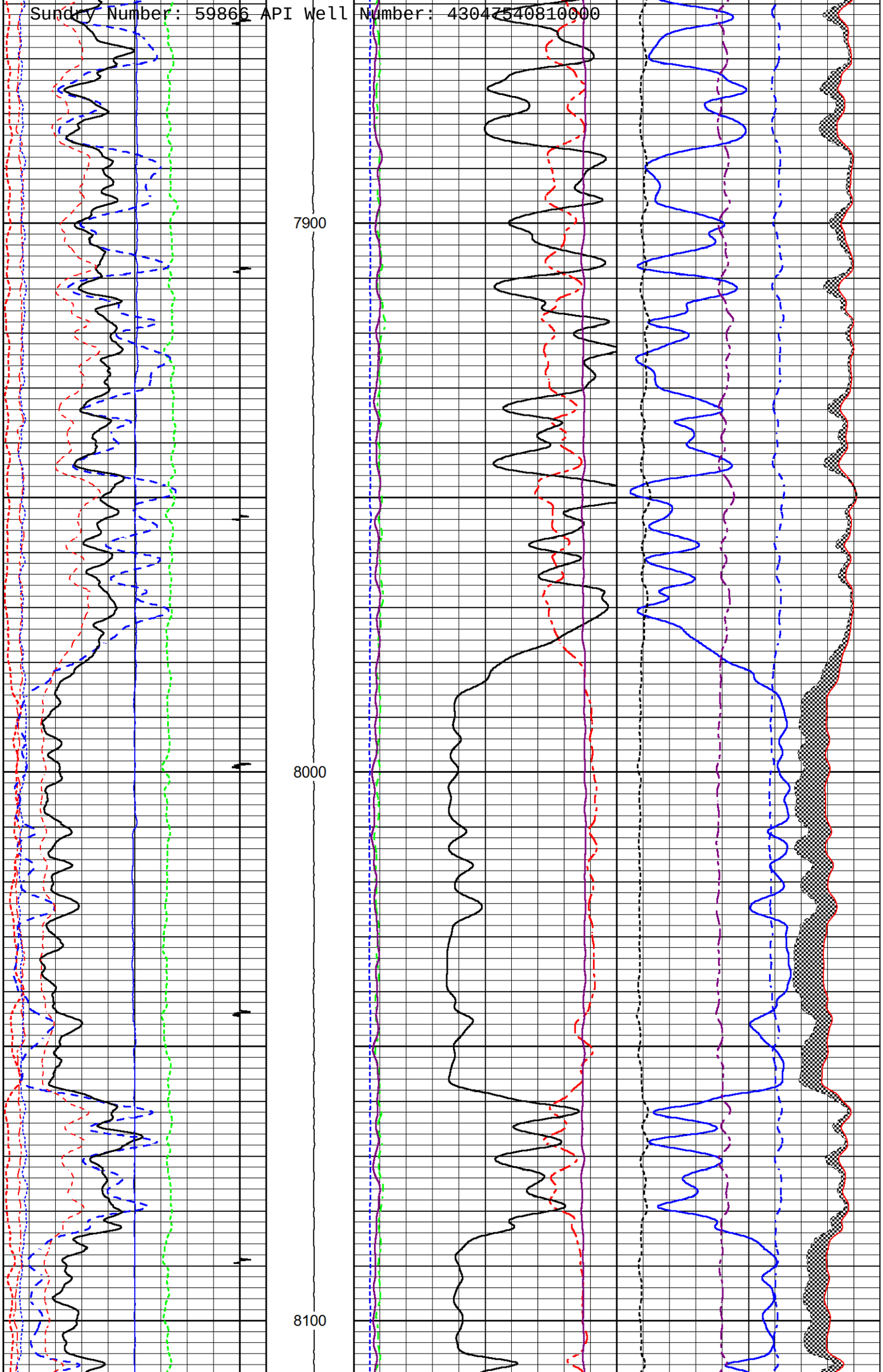
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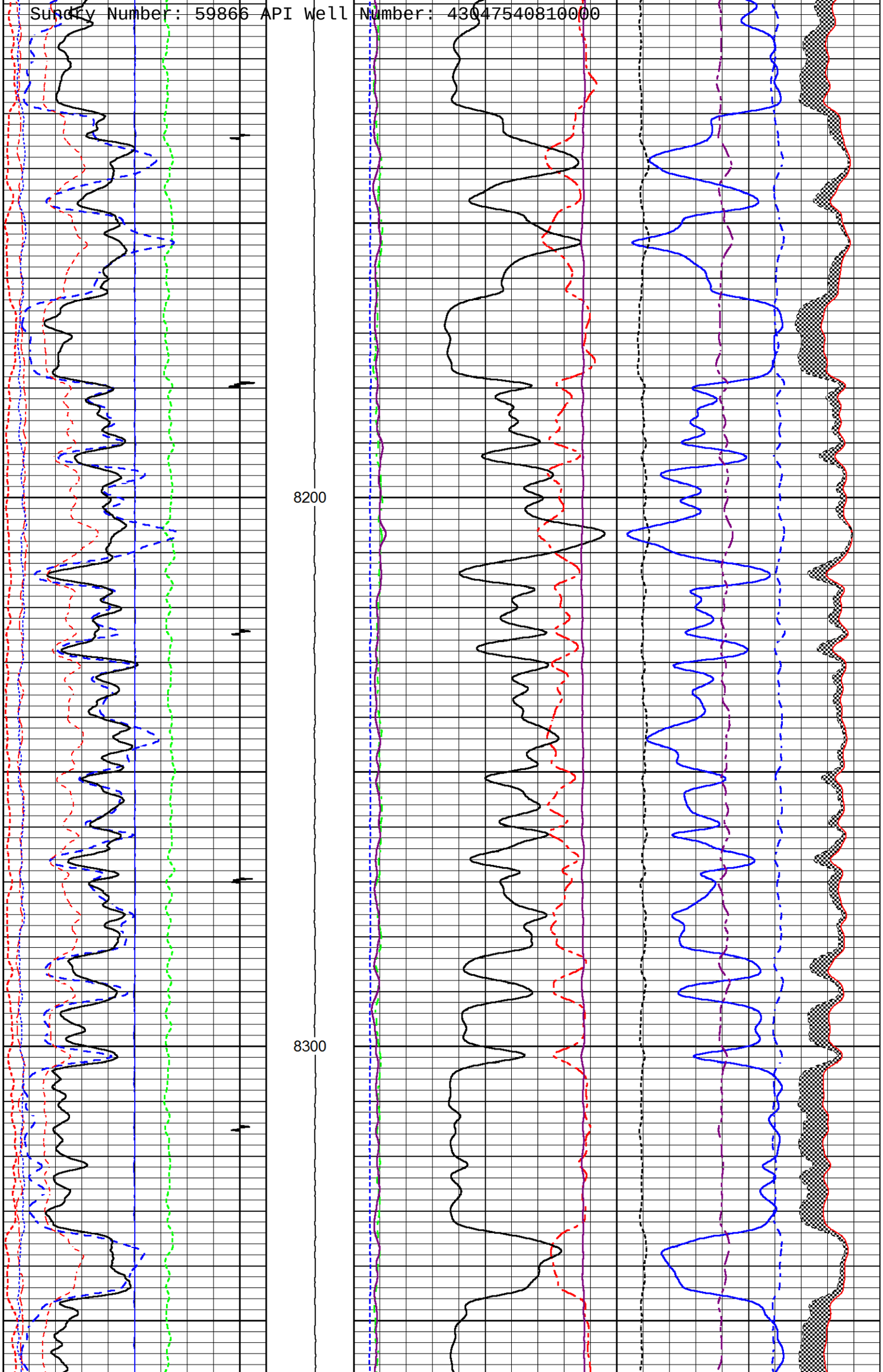
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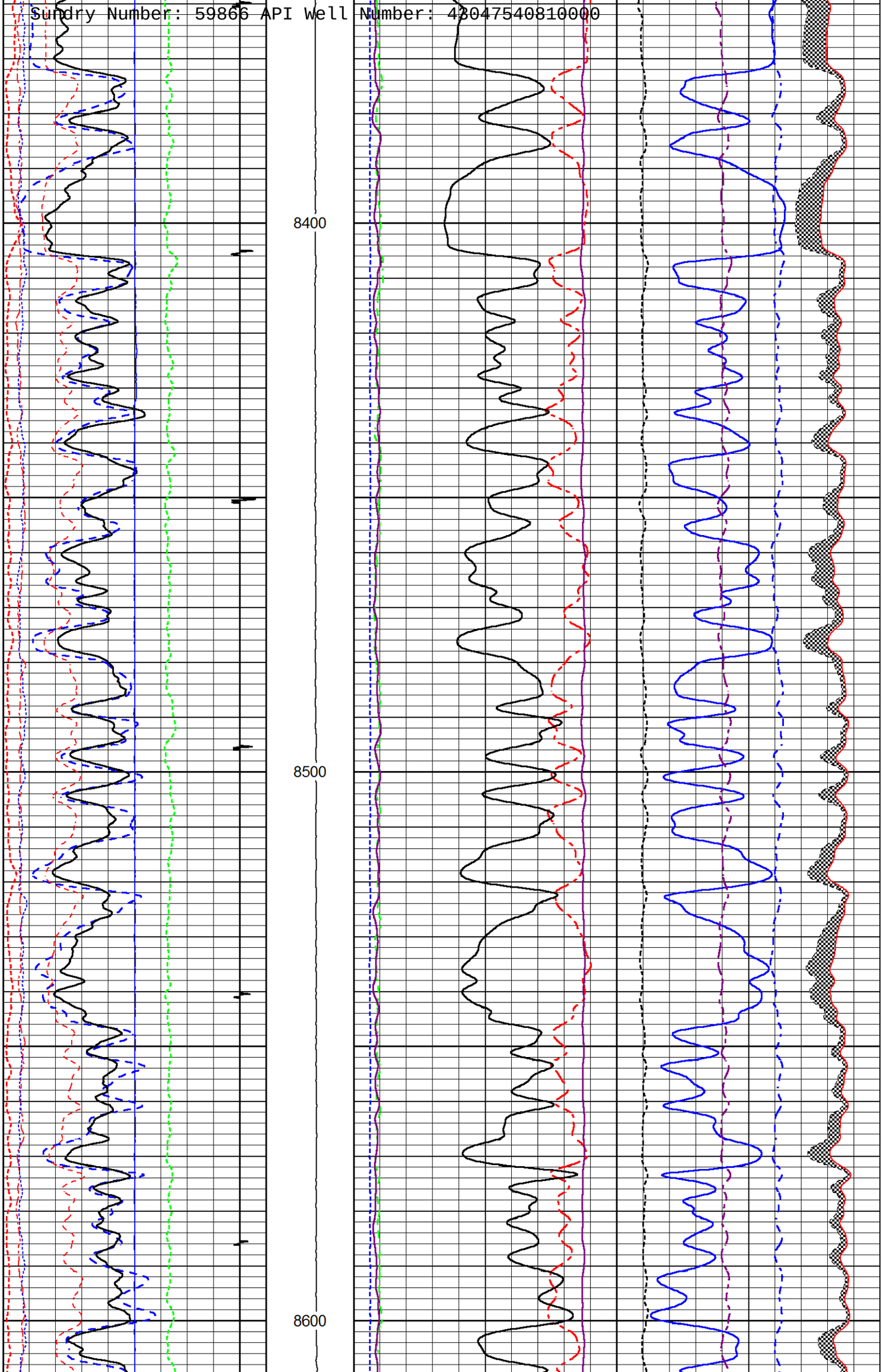
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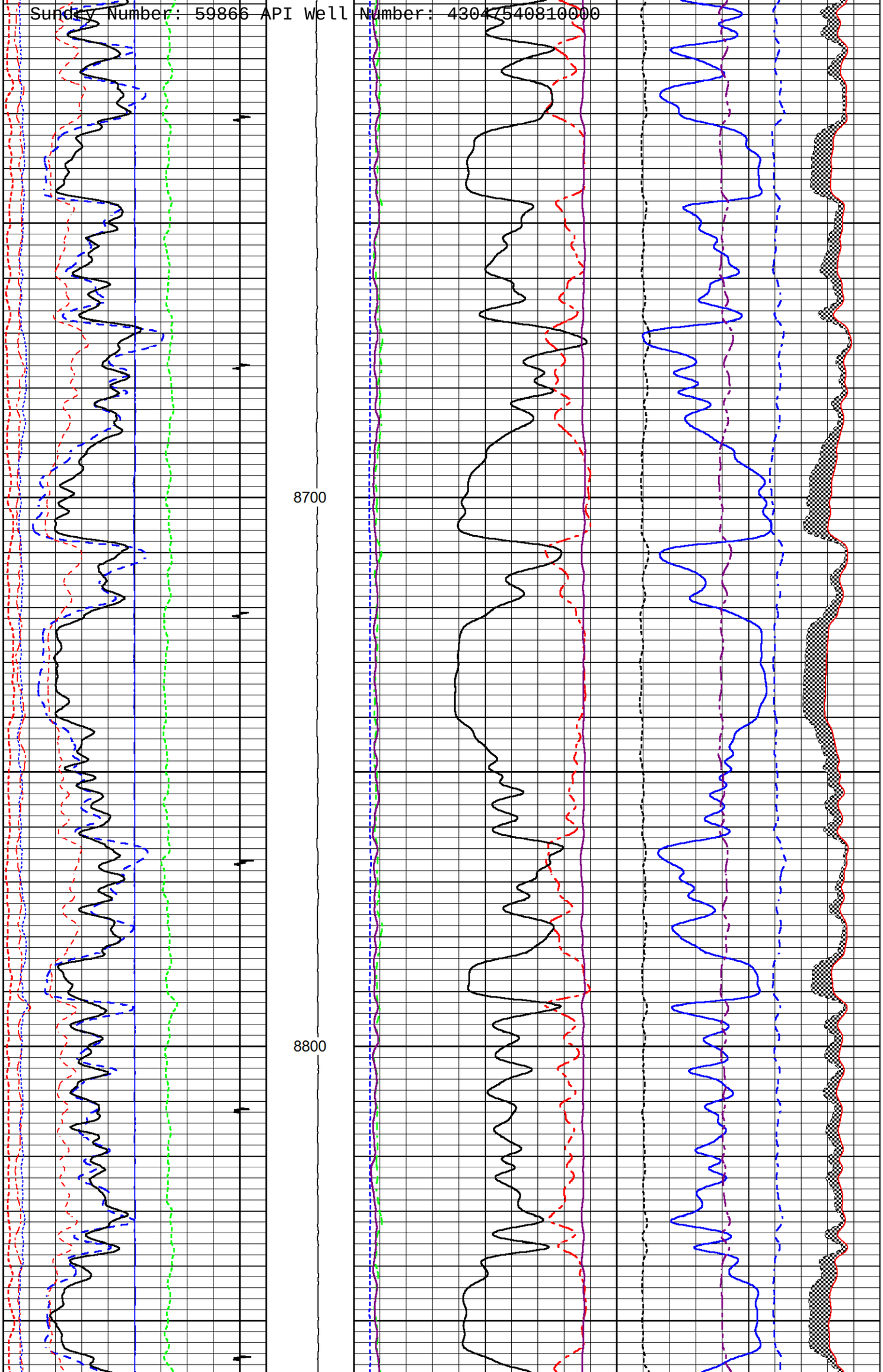
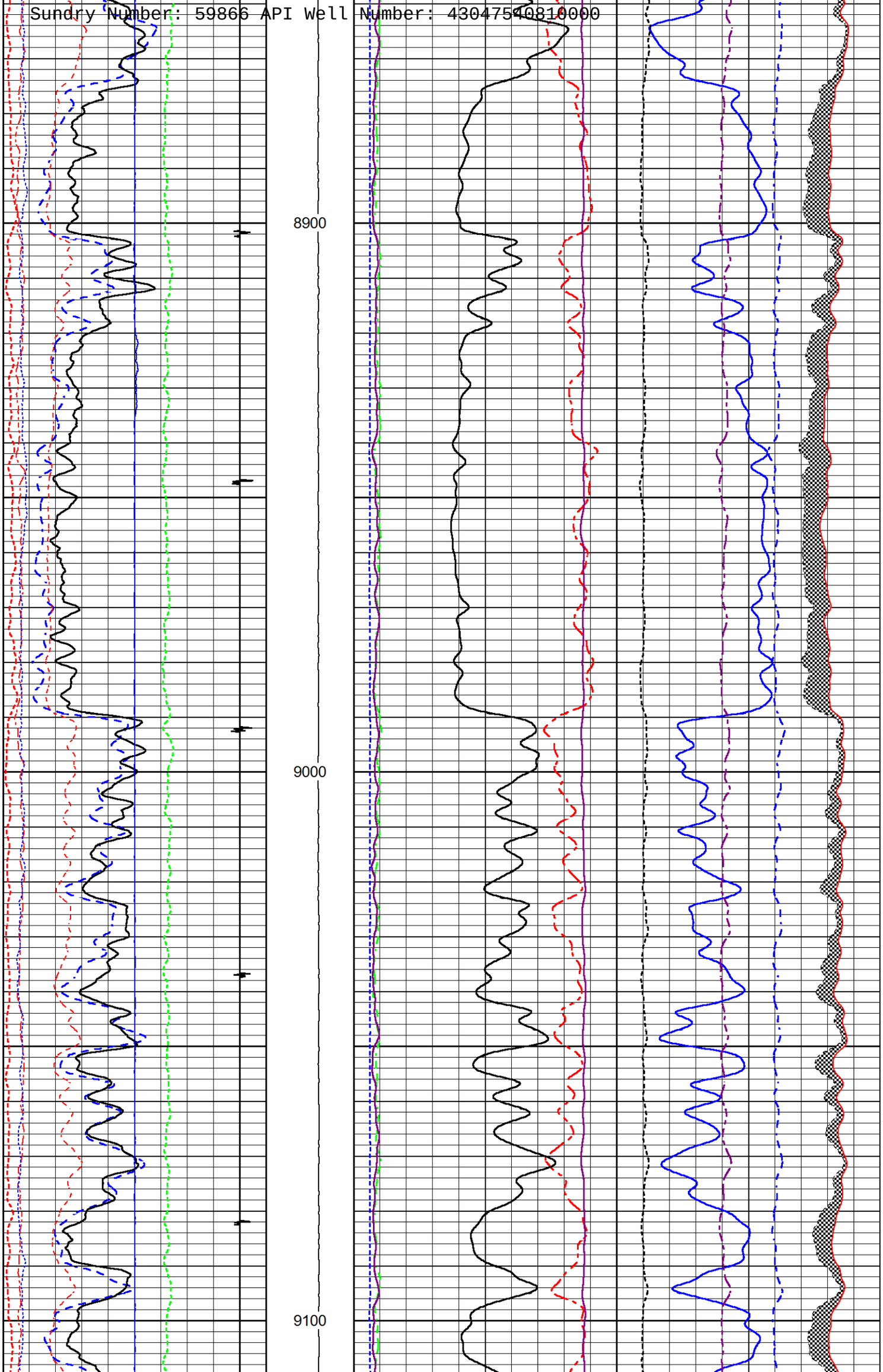
Sundry Number: 59866 API Well Number: 43047540810000

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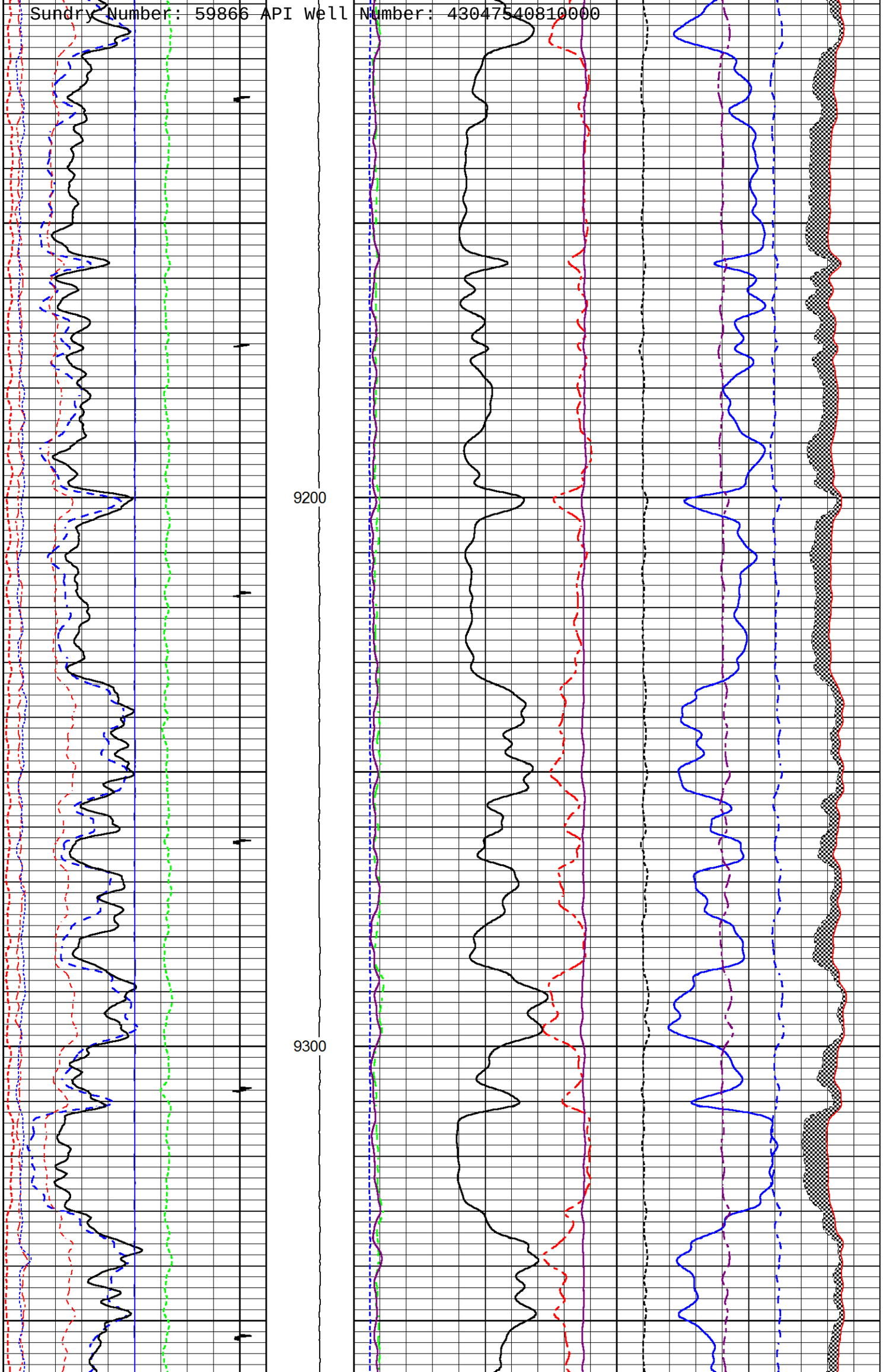
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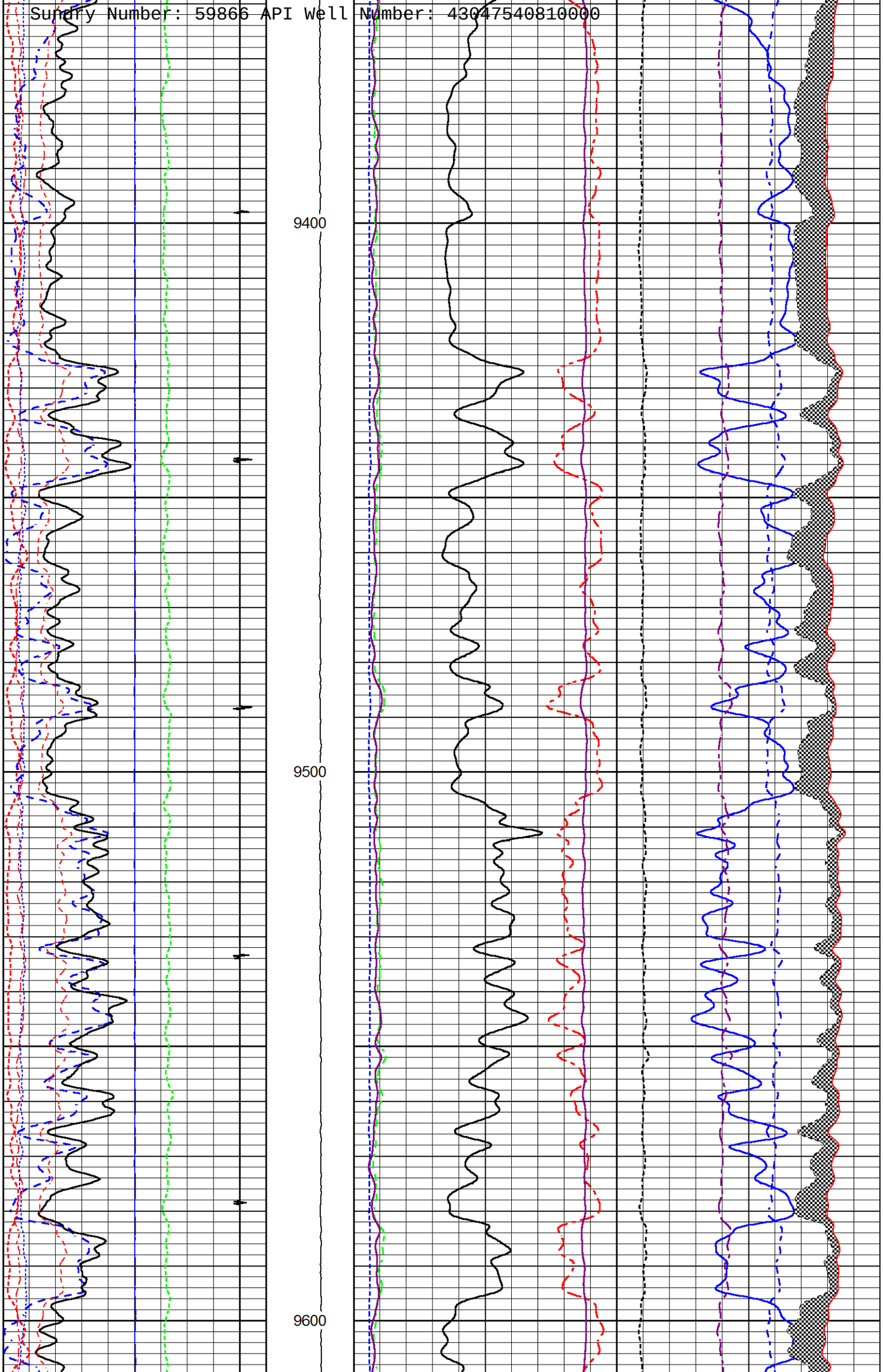
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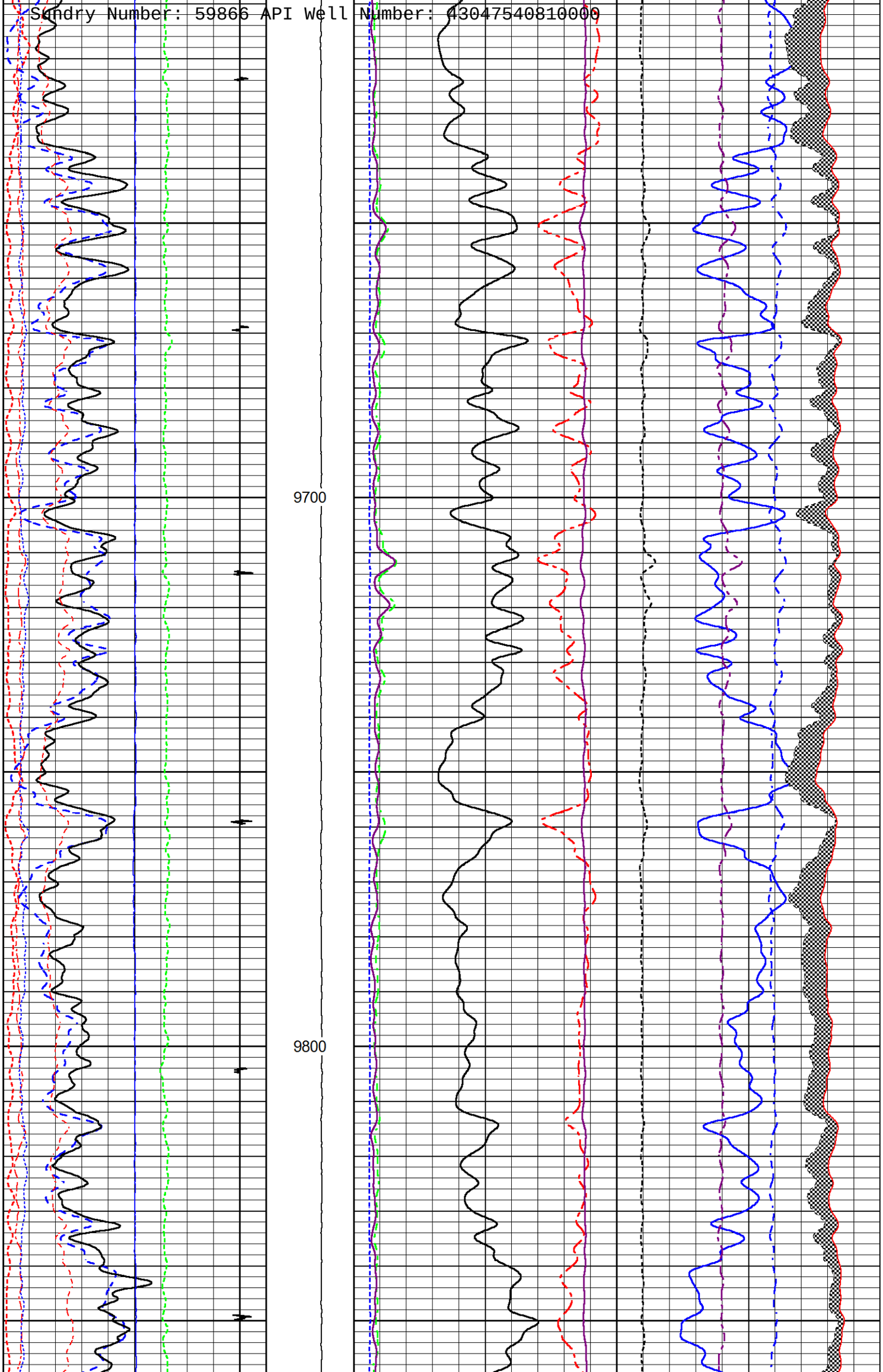
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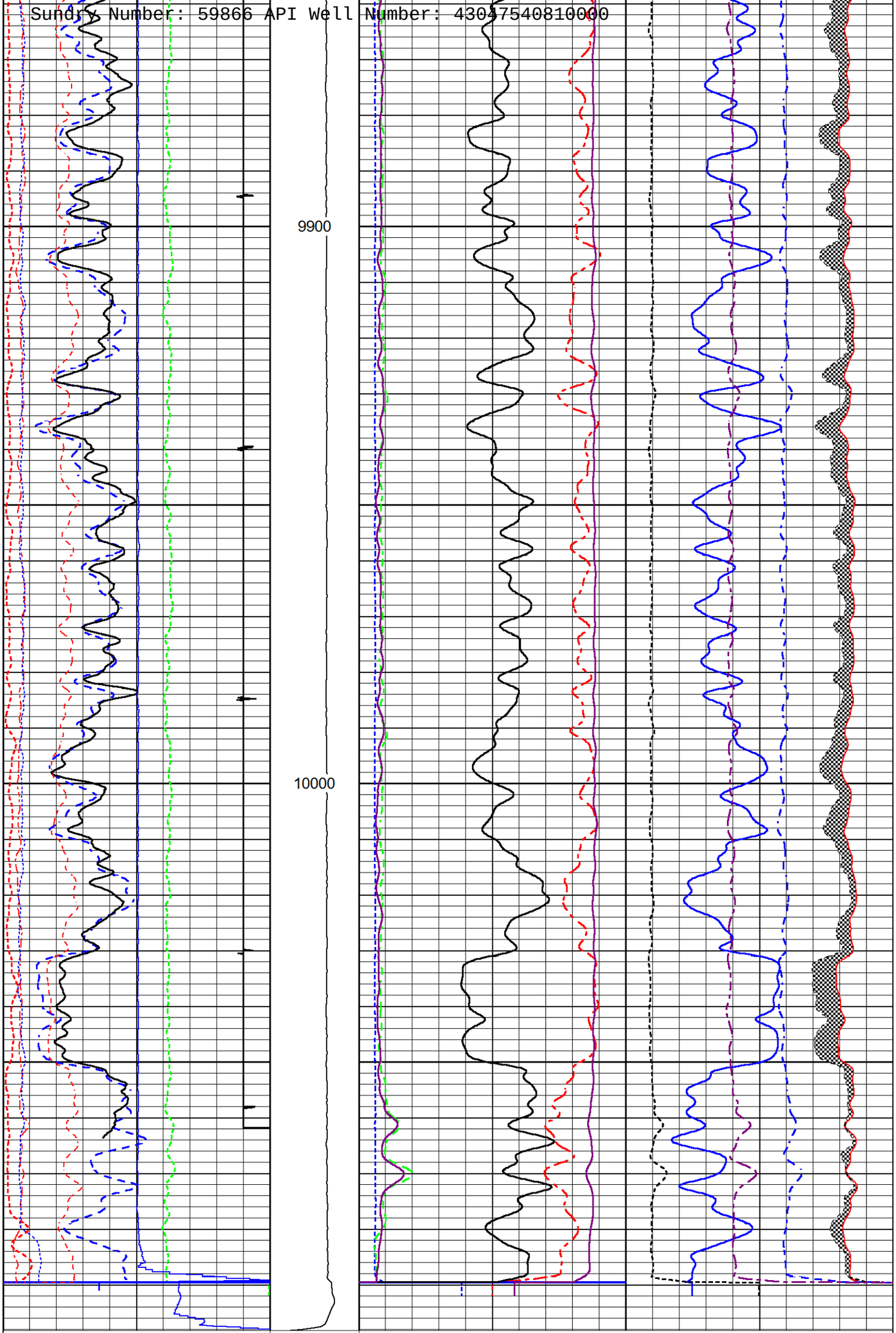

9900
10000
200 Near Bore Si (SGBN) 0
TENSION
60 SGIN 0
0 OAI 100
2 RATIO (RNF) 0.5
60000 Near Counts (NCAP) 0

Sundry Number: 59866 API Well Number: 43047540810000

10	FAR FIT ERR (SGFF)	40		0	RIN	15	60000	Far Counts (FCAP)	0
0	GR (GAPI)	200		0	RICF	6	100000	FAR INTEL CT (FSIN)	0
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1	10000	NEAR INTEL CT (NSIN)	0
-2700	CCL	300		0	H YIELD (YH1)	1	ET INL NEAR (NNI		
0	IN FIT ERR (CFTR1) NEAR	1			INOX2		50000	-1000	
0	IN FIT ERR (CFTR2) FAR	1			-1500	1500			
50	LSPD (ft/min) (ft/min)	0							

HALLIBURTON

MAIN LOG SECTION

2500 PSI
5" = 100'

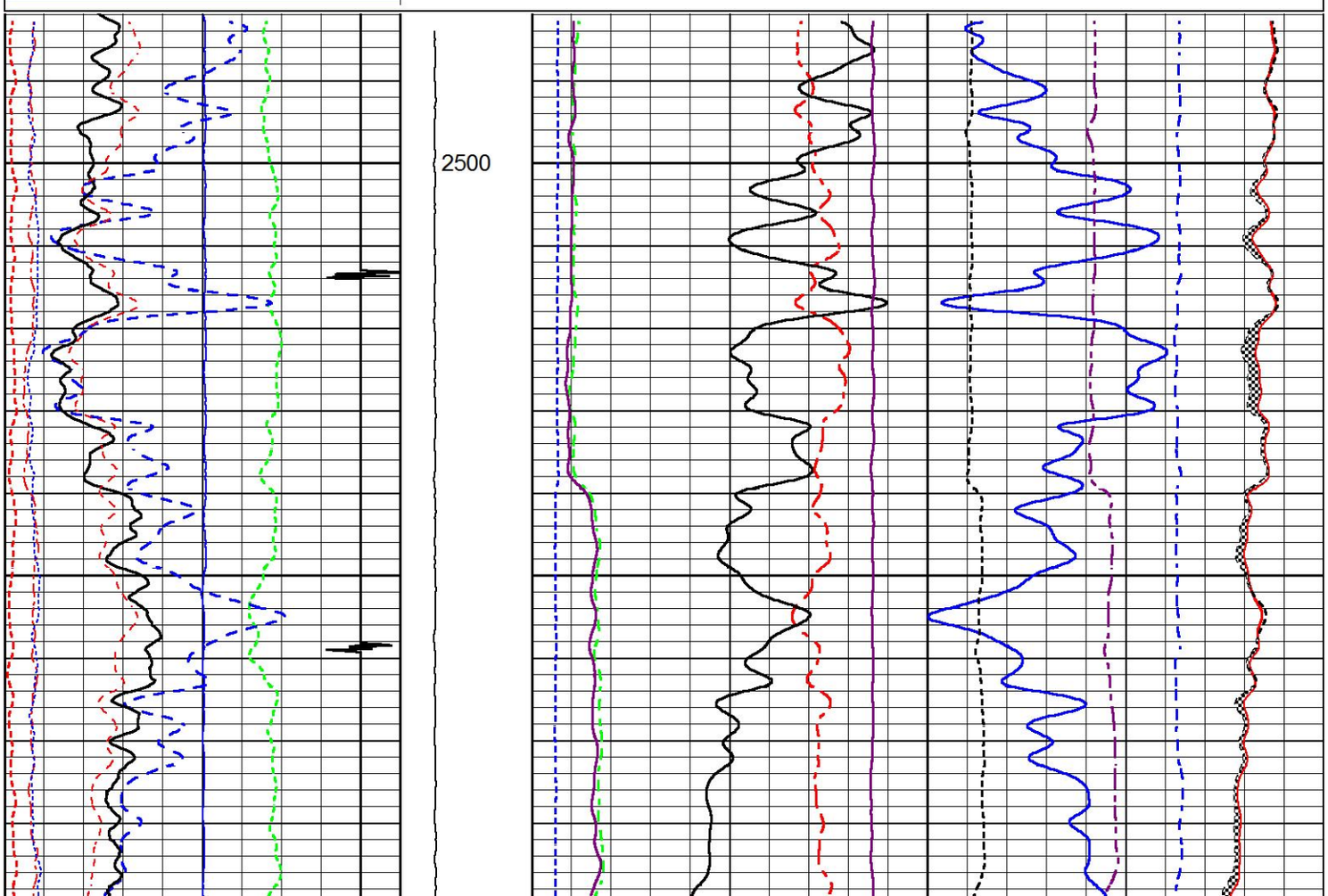
HALLIBURTON

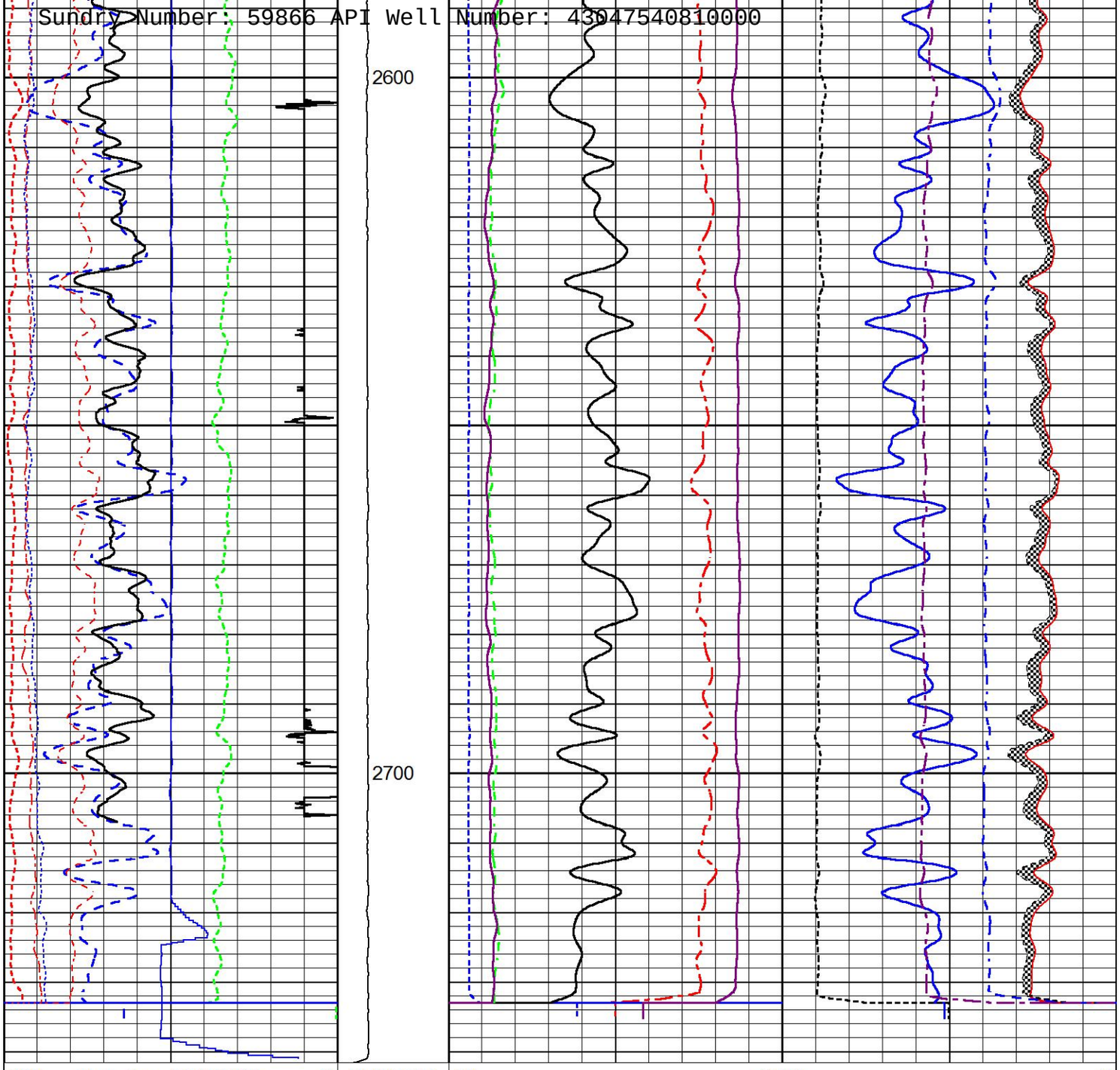
REPEAT LOG SECTION

0 PSI
5" = 100'

Database File	k_27_41e_cmb.db
Dataset Pathname	rmtrpt1
Presentation Format	RMTE_M~2
Dataset Creation	Thu Oct 02 11:52:48 2014
Charted by	Depth in Feet scaled 1:240

200	Near Bore Si (SGBN)	0	TENSION	60	SGIN				0
0	OAI	100		2	RATIO (RNF)	0.5	60000	Near Counts (NCAP)	0
10	FAR FIT ERR (SGFF)	40		0	RIN	15	60000	Far Counts (FCAP)	0
0	GR (GAPI)	200		0	RICF	6	100000	FAR INTEL CT (FSIN)	0
0	NEAR FIT ERR (SGFN)	100		0	H YIELD (YH2)	1	10000	NEAR INTEL CT (NSIN)	0
-2700	CCL	300		0	H YIELD (YH1)	1	ET INL NEAR (NNI		
0	IN FIT ERR (CFTR1) NEAR	1			INOX2		50000	-1000	
0	IN FIT ERR (CFTR2) FAR	1			-1500	1500			
50	LSPD (ft/min) (ft/min)	0							





HALLIBURTON

REPEAT LOG SECTION

0 PSI
5" = 100'

Log Variables

DatabaseD:\Warrior_data\k_27_41e_cmb.db
Dataset field/well/run1/MAIN1

Top - Bottom

BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1	LTH	UHSGC	RHOCF
1	0	1	0	1	Sandstone	NONE	0.25

SO	BORSAL	CASED?	MSGGN	USERFTT	ZREF	CASEWGHT	SRFTEMP
in	kppm			usec/ft	MRayl	lb/ft	degF
0	150	Yes	1	0	1.7	11.6	0

MudWgt	CASETHCK	CASEOD	PERFS	TDEPTH	BOTTEMP	BITSIZE
lb/gal	in	in		ft	degF	in
8.4	0.25	4.5	0	0	100	7.875

Calibration Report

Database File k_27_41e_cmb.db
Dataset Pathname MAIN1
Dataset Creation Thu Oct 02 12:52:33 2014

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12210614-A

Shop Calibration Performed: Thu Sep 11 10:53:22 2014

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
ITCR2	3323	3250	73	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	59	60 +/-2	0.0281	5.25	<6.00
Fe	205	206 +/-2	0.0972	-----	-----
NGAIN = 1.000	NZOFF = 0.7				

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0356	5.69	<6.50
Fe	209	208 +/-2	0.0918	-----	-----
FGAIN = 0.991	FZOFF = 0.4				

Flask Temperature 57.4 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.64	1.64	0.00	+/-0.05	
TCCR2	5357	5000	357	+/-1000	cps
ITCR2	3314	3200	114	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	80.00	80.00	0.00	+/-15.00	V
FCAP	10259	10000	259	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.95	0.95	-0.00		
N/F Inel Norm	0.61	0.61	0.00		
RNF	1.05	1.07	-0.02	+/-0.12	
RINC	1.63	1.64	-0.01	+/-0.18	

SGFN	24.13	24.00	0.13	+/-0.50	cu
SGFF	22.90	22.85	0.05	+/-0.50	cu
FSIN	24743	24000	743	+/-2000	cps
FCAP	10417	10000	417	+/-1000	cps
NFTR	0.83			<5.00	
FFTR	0.88			<5.00	
NBKG	181			<500	cps
FBKG	96			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.42	0.40	0.02	+/-0.10	usec

Calibration Software Modules

HRMTI Module	2013.11.14.0
RMTI Module	2014.5.9.1

Log Data Acquisition Software Modules

HRMTI Module	2013.11.14.0
RMTI Module	2014.5.9.1

Cement Bond Log Shop Calibration Report

Serial-Model: 11923474-A

Calibration Performed: Tue Sep 30 14:02:23 2014

Free Pipe Calibration

	Measured	Units
TT	246.0	usec
Amplitude	869.1	mV
Log Base Line	8.8	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.094	

Gamma Ray Calibration Report

Type / Serial: 002 / 11510542

SHOP CALIBRATION Thu Oct 02 11:08:08 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	31.7				cps
Calibrator	314.5				cps
		1.4425			GAPI/cps

PRIMARY VERIFICATION Thu Oct 02 11:10:27 2014

Background	43.1				cps
Calibrator	451.9				cps
Difference				408.8	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

CCL	35.00	STINGER-STND-CH 1.4375 IN CABLE HEAD	1.13	1.44	1.00
GR	32.83				
Temp	23.11				
TT3FT	20.86				
AMP3FT	20.86				
WVF5FT	19.90				
FrameCnt	16.38				
TLINITCNT	16.38	TTTCU-002 (11510542) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
CblCTT	16.38				
CblCCsgWgt	16.38				
CblCCsgOD	16.38				
CblCAmp	16.38				
CblBLine	16.38				
CblTTThresh	16.38	XHU-003 (12218041) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
CblAGate	16.38				
CblLWvCnt	16.38				
CblCStat	16.38	CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
CblIVolt	16.38				
CblITemp	16.38				
CblSeqNum	16.38				
CblTStat	16.38				
WVF3FT	16.38				
RmtTFGT	8.47				
RmtFBACK	8.47				
RmtFCAPT	8.47				
RmtFINEL	8.47	HCBLM-A (11923474) Halliburton HCBLM Tool	9.38	2.75	116.00
RmtTNGT	7.97				
RmtNBACK	7.97				
RmtNCAPT	7.97				
RmtNINEL	7.97				
TLINITCNT	0.22				
RImpBTEST	0.22				
RImpBCYC	0.22				
RImpBRGW	0.22	CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
RImpBRGO	0.22				
RImpState	0.22				
RImpPhase	0.22				
RImpCyc	0.22				
RmtGenClampV	0.22				
RmtFTemp	0.22				
RmtFP5V	0.22				
RmtFPMHV	0.22				
RmtFPMI	0.22				
RmtFPrgSt1	0.22				
RmtFDetStat	0.22				
RmtNTemp	0.22	RMTI-A (12210614) Halliburton RMTI Tool	14.00	2.13	77.00
RmtNPMHV	0.22				
RmtNPMI	0.22				
RmtNPrgSt1	0.22				
RmtNDetStat	0.22				
RmtGenIonI	0.22				
RmtGen15BusV	0.22				
RmtGenLvdsV	0.22				
RmtGenSyncV	0.22				
RmtGenClampV	0.22				
RmtGenP5V	0.22				
RmtGenP33V	0.22	BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20
RmtGen200V	0.22				
RmtGenP15VI	0.22				
RmtGenTemp	0.22				
RmtGenP5VI	0.22				

Dataset:	k_27_41e_cmb.db: field/well/run1/MAIN1
Total length:	38.28 ft
Total weight:	352.20 lb
O.D.:	3.13 in

Company	KOCH EXPLORATION		
Well	NORTH ALGER 27-41E		
Field	NATURAL BUTTES		
County	UINTAH	State	UT

HALLIBURTON	RESERVOIR MONITOR TOOL - ELITE

FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5.LEASE DESIGNATION AND SERIAL NUMBER: UTU49518

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NORTH ALGER

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NORTH ALGER #27-41E

2. NAME OF OPERATOR: KOCH EXPLORATION COMPANY LLC

9. API NUMBER: 43047540810000

3. ADDRESS OF OPERATOR: 950 17th Street, Suite 1900 , Denver, CO, 80202

PHONE NUMBER: 303 325-2562 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0712 FSL 0311 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 27 Township: 10.0S Range: 19.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 8/1/2016	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: wellbore cleanout

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Koch Exploration Company Company plans to cleanout the wellbore from surface to ~10,000 ft TMD

Accepted by the Utah Division of Oil, Gas and Mining

Date: July 26, 2016

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Theron Hoedel	303 325-2565	Operations Engineer
SIGNATURE N/A		**DATE** 7/21/2016

RECEIVED: Jul. 21, 2016