

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

OCD-HOBBS

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 20105. Lease Serial No.
NMNM33955

6. If Indian, Allottee or Tribe Name

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

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other: UNKNOWN OTH

2. Name of Operator

R360 PERMIAN BASIN LLC

Contact: CHRIS RUANE

E-Mail: chrisr@wasteconnections.com

3a. Address

3 WATERWAY SQUARE PLACE SUITE 110
THE WOODLANDS, TX 77380

3b. Phone No. (include area code)

Ph: 832.442.2204

8. Well Name and No.
HALFWAY SWD 1

9. API Well No.

30-025-42545-00-X1

10. Field and Pool, or Exploratory
SWD

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 22 T20S R32E SWSW 845FSL 1030FWL

11. County or Parish, and State

LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Production Start-up
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

R360 would like to give notice of first injection for the SWD.

**SUBJECT TO LIKE
APPROVAL BY STATE**

14. I hereby certify that the foregoing is true and correct. Electronic Submission #326774 verified by the BLM Well Information System For R360 PERMIAN BASIN LLC, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 01/05/2016 (16PP0089SE)	
Name (Printed/Typed) JEREMY CANNADY	Title ENGINEERING
Signature (Electronic Submission)	Date 12/18/2015
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By _____	Title _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office _____
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.	

ACCEPTED FOR RECORD

JAN 25 2016

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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

FOR RECORD ONLY

B2 OGD 2/18/16

FEB 18 2016

jm

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DEPARTMENT OF THE INTERIOR
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BLUE BIRD DRILL ISLAND

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Subsequent sundry for the hydrocarbon producing test and lab results.

I have attached the petrophysical log and the lab report of the hydrocarbon test.

Test was ran on 10/29/2015.

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14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #326776 verified by the BLM Well Information System
For R360 PERMIAN BASIN, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 01/11/2016 ()**

Name (Printed/Typed) JEREMY CANNADY

Title ENGINEERING

Signature (Electronic Submission)

Date 12/18/2015

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Approved By

Title

Date

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

FOR RECORD ONLY

BLM 2/17/16

am

R360 PERMIAN BASIN, LLC
PETROPHYSICAL ANALYSIS REPORT

R360 PERMAIN BASIN, LLC
HALFWAY SWD FEDERAL #1
LEA COUNTY, NEW MEXICO

BY
David Farmer
Geologist
DAVID FARMER EXPLORATION, LLC

FOR RECORD ONLY

INTRODUCTION

The R360 Permian Basin, LLC Halfway SWD Federal #1 (30025425450000) was drilled in Lea County New Mexico to a driller's total depth of 14,634' and was logged by Halliburton on 9/16/2015. Casing was set at 14,627' and the well was drilled out to a driller's TD of 16,000' and was logged by Schlumberger on 10/23/2015. The following table represents the logs run and the intervals logged by each of the two logging companies. The well was also mud logged by Morco Geological Services Inc. from 2,900' to 16,009'.

Halliburton	LOG	Log Top	Log Base	Schlumberger	LOG	Log Top	Log Base
KB: 3558' 9 5/8" CSG @ 4992'	Dual	4,981'	14,612'	KB: 3558 7" CSG @ 14627'	High Resolution	14,209'	15,983'
	Laterolog				Laterolog Array		
	Micro-Guard				Micro-CFL		
	Dual	200'	14,631'		Compensated	14,610'	16,005'
	Spaced				Neutron Three		
	Neutron				Detector Litho-		
	Density				Density		
	Spectral						
	Gamma						
	Ray						
	Wave	4,981'	14,573'		PEX-HRLA ELAN	14,600'	16,028'
	Sonic						(15,983')

GEOLOGY & PETROPHYSICS

The Devonian Formation was encountered at a MD of 14,620' (SS -11,062') with 1,388' of the formation being drilled to a TD of 16,009' in the SiluroDevonian. The lithology is comprised primarily of dolomite, siliceous limestone and chert. The log below is a Prizm (GeoGraphix Log Analysis Program) compilation of the log curves run with the mud log information and calculated curves displayed in a single template.



R360 PERMIAN BASIN SWD FED 1.bmp

The log displays all of the standard log curves plus the mudlog lithology, oil and gas shows, a calculated curve for R_{wa} ($R_{wa} = RT * \phi^2$) and a calculated SW curve (Archie Water Saturation \ $Sw = \sqrt{Rw/(RT*\phi^2)}$) using a Rw value of .34 (derived from the R_{wa} value from the porous and wet interval at 15,357'). The water saturation curve has been color filled to

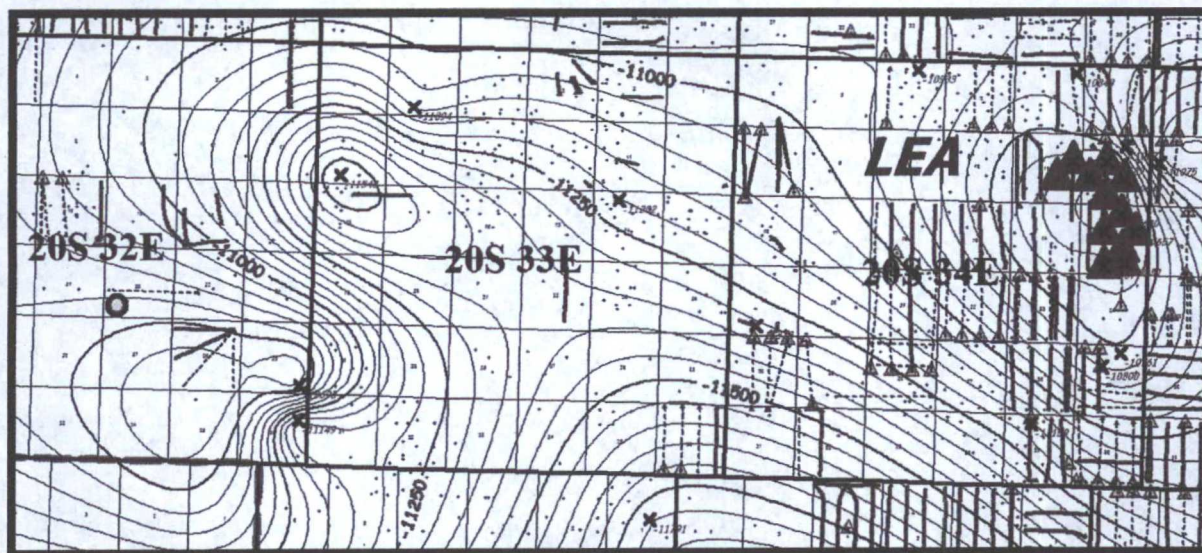
FOR RECORD ONLY

visually differentiate the various cutoffs. The colors represent the ranges as follows: 100% SW in blue, SW<50% in a green hatch and SW<35% being red. The red and green color fills in the Resistivity Tract represent an RT greater than 100 and 30 ohm-m respectively. X-plot porosity greater than 6% is also color filled with a green hatch. A hydrocarbon pay flag is posted on the right side of the depth tract in green and represents intervals that have a porosity value greater than .06 and a SW value less than 35%. Any discrepancy between the Prizm log calculations and the Schlumberger ELAN log are due to the variances between the log parameters used for cutoffs and calculations. Schlumberger used a RW of .25 vs. .34, an m value of 2.5 vs. 2.0 and a much more liberal pay flag cutoff of 75% for SW vs. 35%,

The vast majority of the SiluroDevonian section which exhibits reservoir quality rocks calculates wet with a few minor log shows displayed on the depth tract in the Devonian starting at 14,852' through 15,784'. None of these extremely thin, (1') calculated shows have any mudlog show support to indicate that any hydrocarbons are present. At @ 15,786', an unusually high resistivity zone (off scale to TD, possibly due to a Laterolog being run in fresher mud) generates a thicker pay flag due to the thicker porosity in a cherty zone. Part of the porosity might also be questionable due to the washout indicated by the caliper in the bottom part of the porous interval (see bitmap above). The thinner porosity streak at the top of the interval has what appears to be a slight gas show but is identified as trip gas on the mudlog with the remaining, thicker part of the porosity showing only background gas from there to TD.

CONCLUSION

The closest Devonian production (brown triangles below) is from the Lea Devonian Field, a structural trap 15 miles to the east in 20S 34E. The R 360 Halfway SWD Federal, located in 20S 32E (yellow centered black circle), is well below any structural closure on the Devonian and therefore has no commercial hydrocarbon producing potential in the Siluro-Devonian section.



DISCLAIMER

All interpretations are opinions based on inferences from electrical or other measurements (logs) and I cannot, and do not guarantee the accuracy or correctness of interpretation and shall not, except in case of gross or willful negligence on my part, be liable or responsible for any loss, costs, damage or expense incurred or sustained by anyone resulting from my interpretations.



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

October 30, 2015

GREG OGDEN

MARTIN WATER LABORATORIES, INC.

709 W. INDIANA AVE.

MIDLAND, TX 79701

RE: HALFWAY SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 10/29/15 8:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

FOR RECORD ONLY



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

MARTIN WATER LABORATORIES, INC.
GREG OGDEN
709 W. INDIANA AVE.
MIDLAND TX, 79701
Fax To: (432) 682-8819

Received: 10/29/2015
Reported: 10/30/2015
Project Name: HALFWAY SWD #1
Project Number: NONE GIVEN
Project Location: R360

Sampling Date: 10/29/2015
Sampling Type: Water
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: WELL HEAD (H502835-01)

TPH TX1005		mg/L		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C12	<2.50	2.50	10/29/2015	ND	49.7	99.4	50.0	4.11	
DRO >C12-C28	<2.50	2.50	10/29/2015	ND	52.7	105	50.0	3.97	
DRO >C28-C35	<2.50	2.50	10/29/2015	ND					
Total TPH C6-C35*	<2.50	2.50	10/29/2015	ND	103	103	100	4.07	
<hr/>									
Surrogate: 1-Chlorooctane	98.9 %	70-130							
Surrogate: 1-Chlorooctadecane	110 %	82.1-120							

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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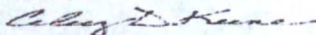
Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager**FOR RECORD ONLY**

Martin Water Laboratories, Inc.

709 W. Indiana Ave., Midland, TX 79701

P.O. Box 98, Midland, TX 79702

432-683-4521 • (F) 432-682-8819

martinwaterlabs@mts-online.net

PO #/Charge code, etc.:

Invoicing Address / Notes:

RUSH	
MWL:	Next Day Rush / Same Day Rush
Day Due:	M T W T F
Sub/d Out:	
Day Due:	M T W T F

Mail To:
Company / Client:
Address:
Phone #:
email:

CHAIN OF CUSTODY AND ANALYSIS
David Hines
R360
575) 631-4124
David Hines & EMSM.com

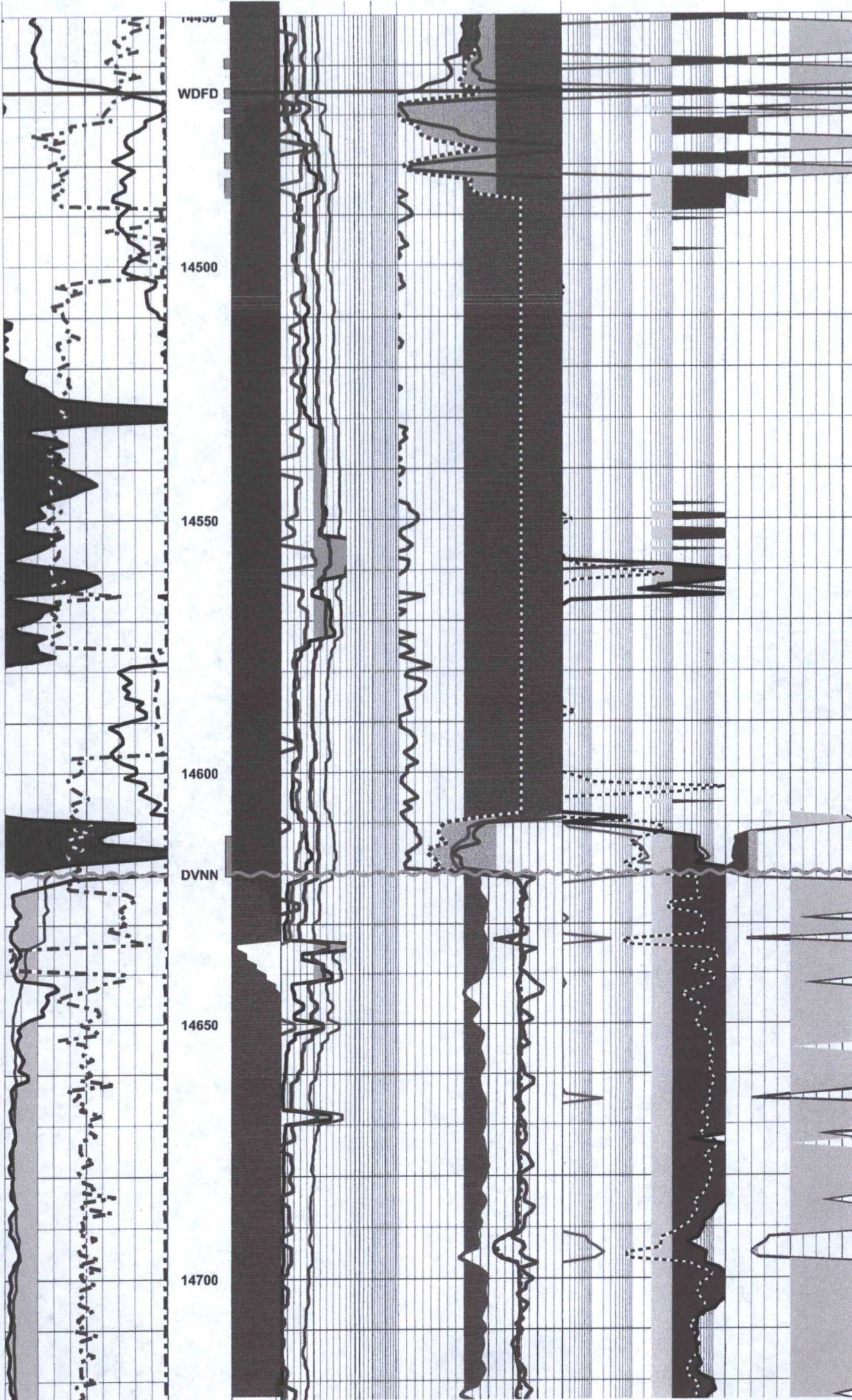
LEASE / PROJECT NAME:		MATRIX		PRESERVATIVE		SAMPLING		SUBCONTRACTED		CAPROCK		MARTIN WATER LABS	
LOCATION / SAMPLE POINT	# of CONTAINERS	WATER	SOIL / OIL / GAS	SLUDGE / SOLIDS	HCL - Hydrochloric Acid	HNO ₃ - Nitric Acid	H ₂ SO ₄ - Sulfuric Acid	NaOH - Sodium Hydroxide	ICE	NONE	DATE TAKEN: Month/Day/Year	TIME TAKEN: Hour/Minutes (am/pm)	
Halfway SWD #1 H502835	2										10/28	5:57	
Well head	1												
5.57 Am 2447 Bars 2	2												
	3												
	4												
	5												
	6												
	7												
	8												

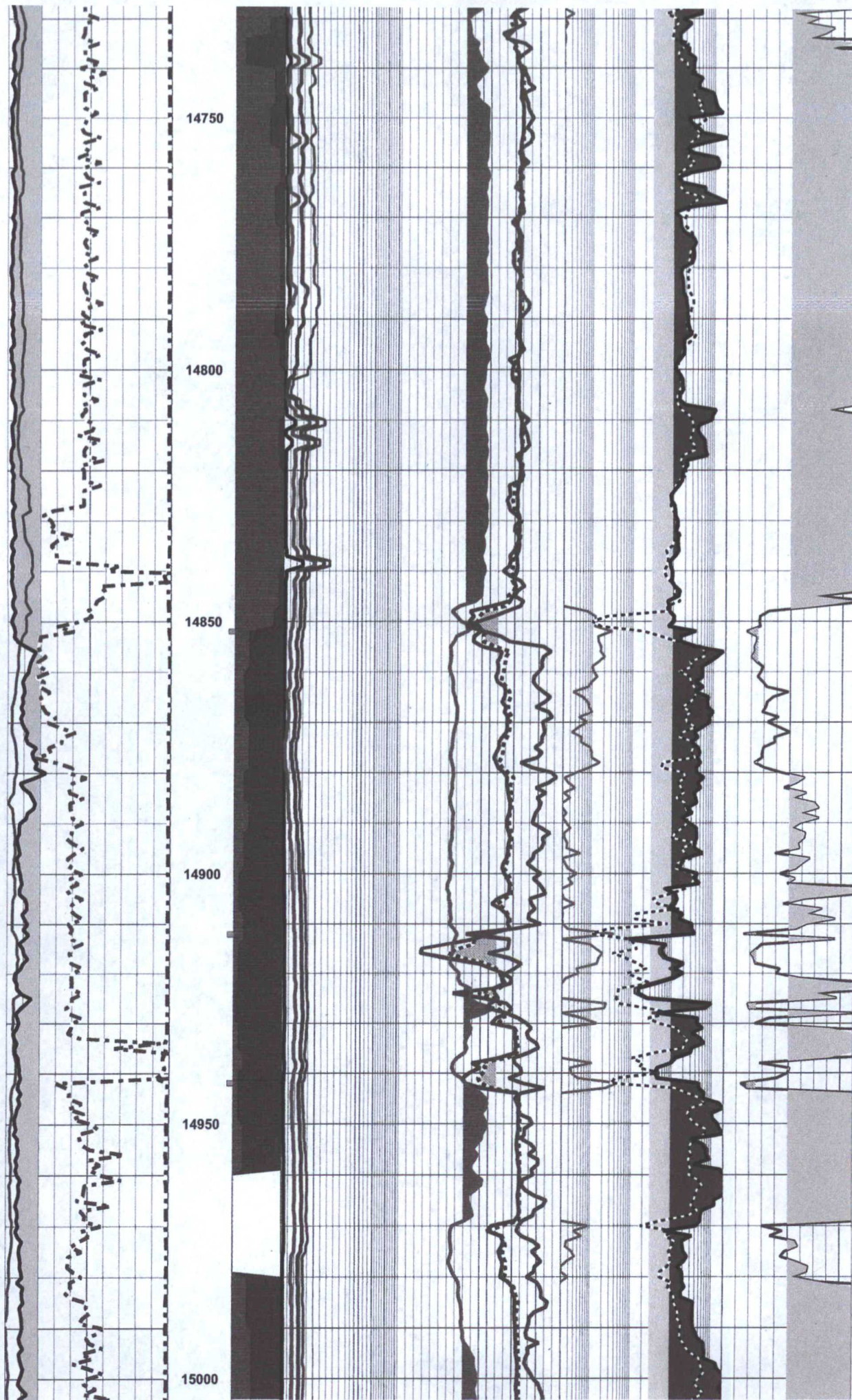
BTEX - Method 80218 (Water)	TPH - Method TX 1005 (Water)	METALS: Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Bromide, Cadmium, Calcium, Cobalt, Copper (total), Iron (total), Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Uranium, Vanadium, Zinc
TCLP Metals: RCRA 8 / TCLP Metals: RCRA 11	TOC: (Total Organic Carbon)	TIC (Total Inorganic Carbon)
VOC (Volatile Organic Compound)	COD (Chemical Oxygen Demand)	Strontium /
Ammonia, Nitrogen, Kjeldahl, Total (TKN) / Cyanide / Total Phosphorous	Sulfur, % by Weight / Gas Chromatograph	Fingerprint of Oil / Extn'd Chromatographic of Oil
Drinking Water / Irrigation / EPA / Basic / Basic +ST / Coupon	Solids / Scale / Microscopic Examination of Suspended Solids for Particle Sizing	Bacteria: Coliform / Fecal / E-coli / MPN / APB / GHB / SRB / Total Bacteria
ASTM / Asphaltenes / Paraffin / Cloud Point / Pour Point / Viscosity / API Oil Gravity / Suspended Oil / % oil and water	RESIDUALS: Amine / Chlorine / Corrosion Inhibitor Hydrogen Peroxide (H ₂ O ₂) Phosphate	

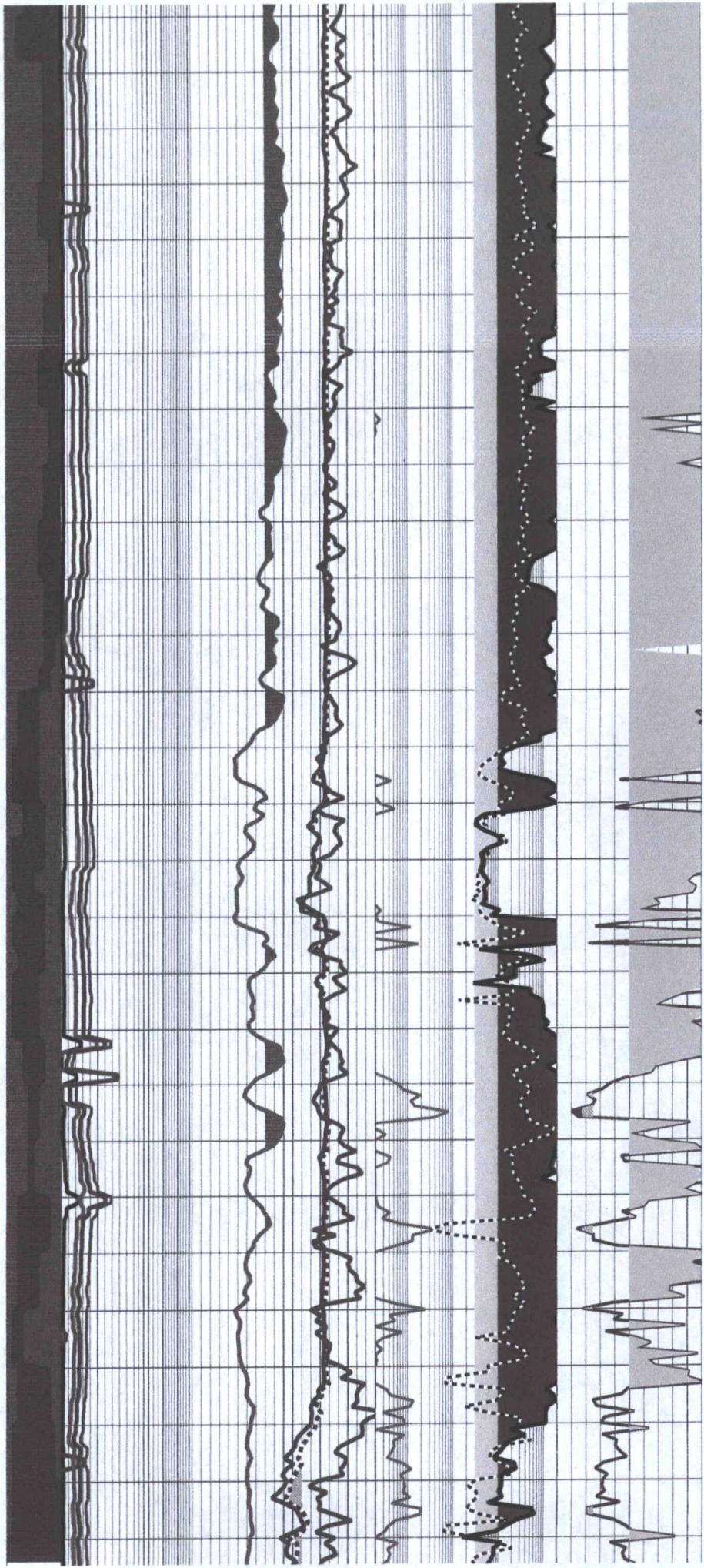
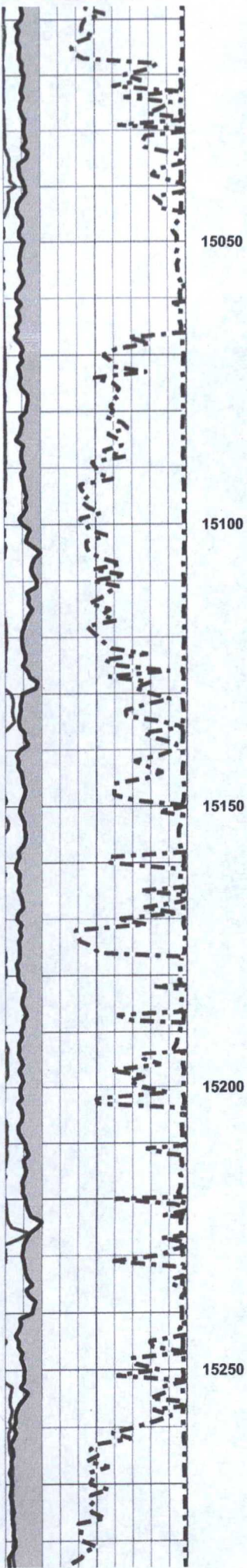
Special Instructions:	Sample(s) delivered by: <i>Seven Cydon Mmt</i> Date: <i>10/29/15</i> Time: <i>6:00 Am</i>	Sample(s) received by: <i>David Hines</i> Date: <i>10/29/15</i> Time: <i>6:10 AM</i>
	Sample(s) delivered by: Date: Time:	Sample(s) received by: Date: Time:
	Sample(s) delivered by: Date: Time:	Sample(s) received by: Date: Time:

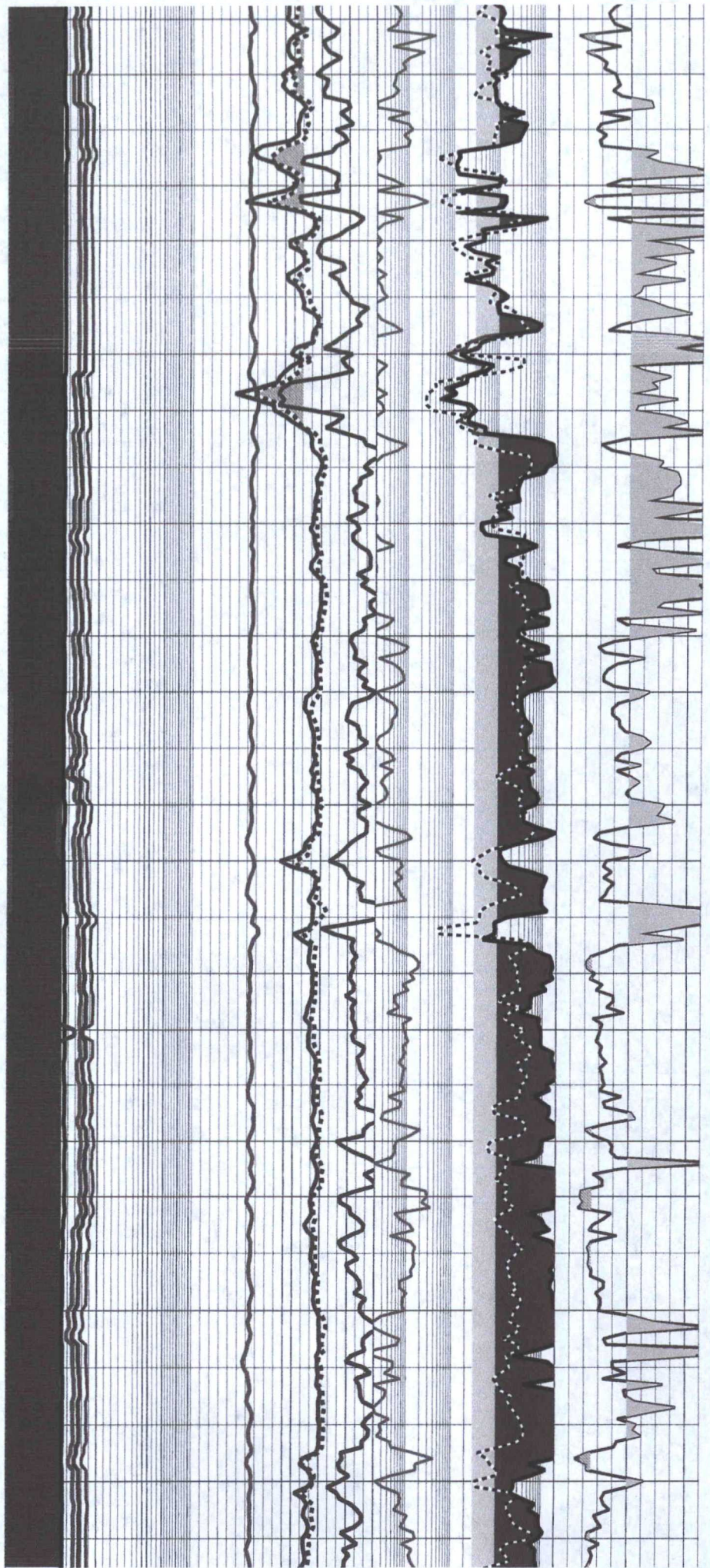
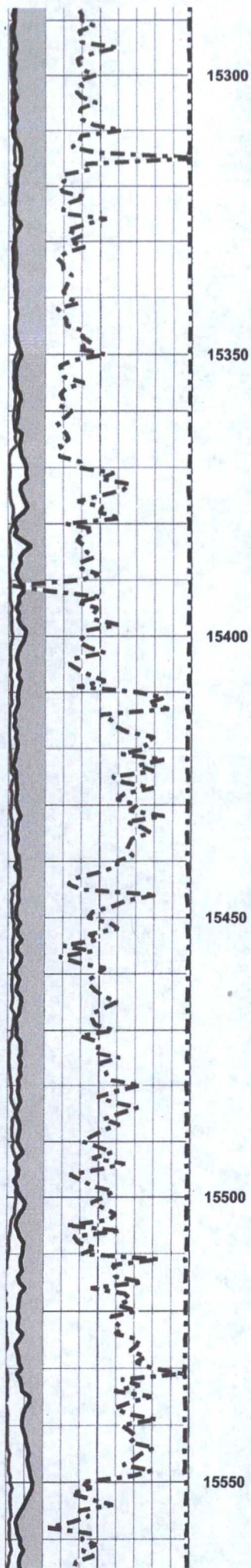
Sample(s) delivered by: OR RECORD ONLY	Temperature upon Receipt: <i>20.2</i> °C
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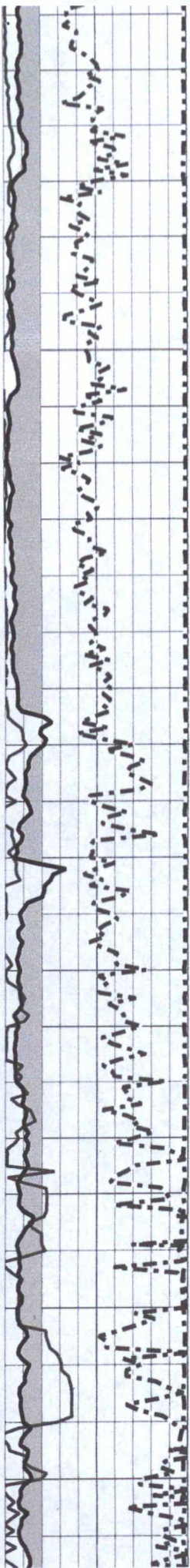
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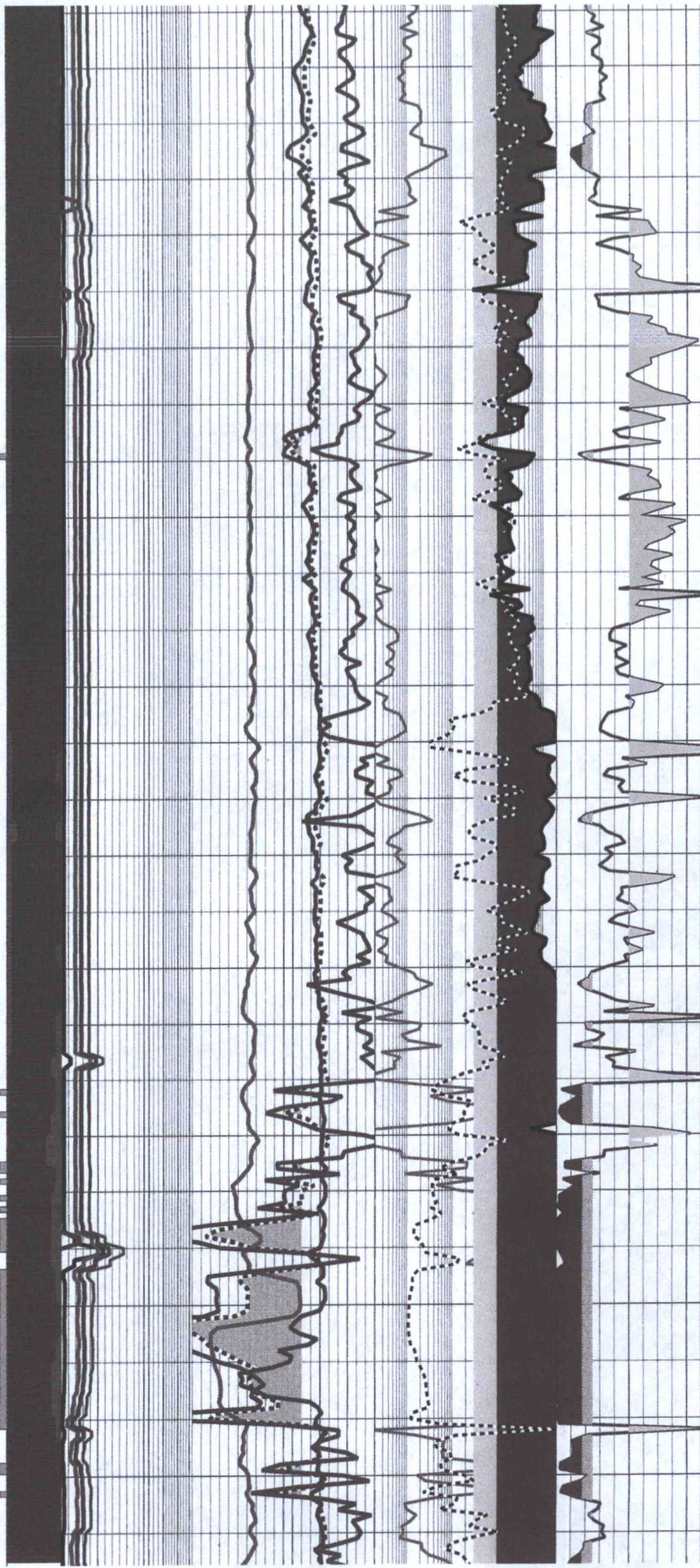
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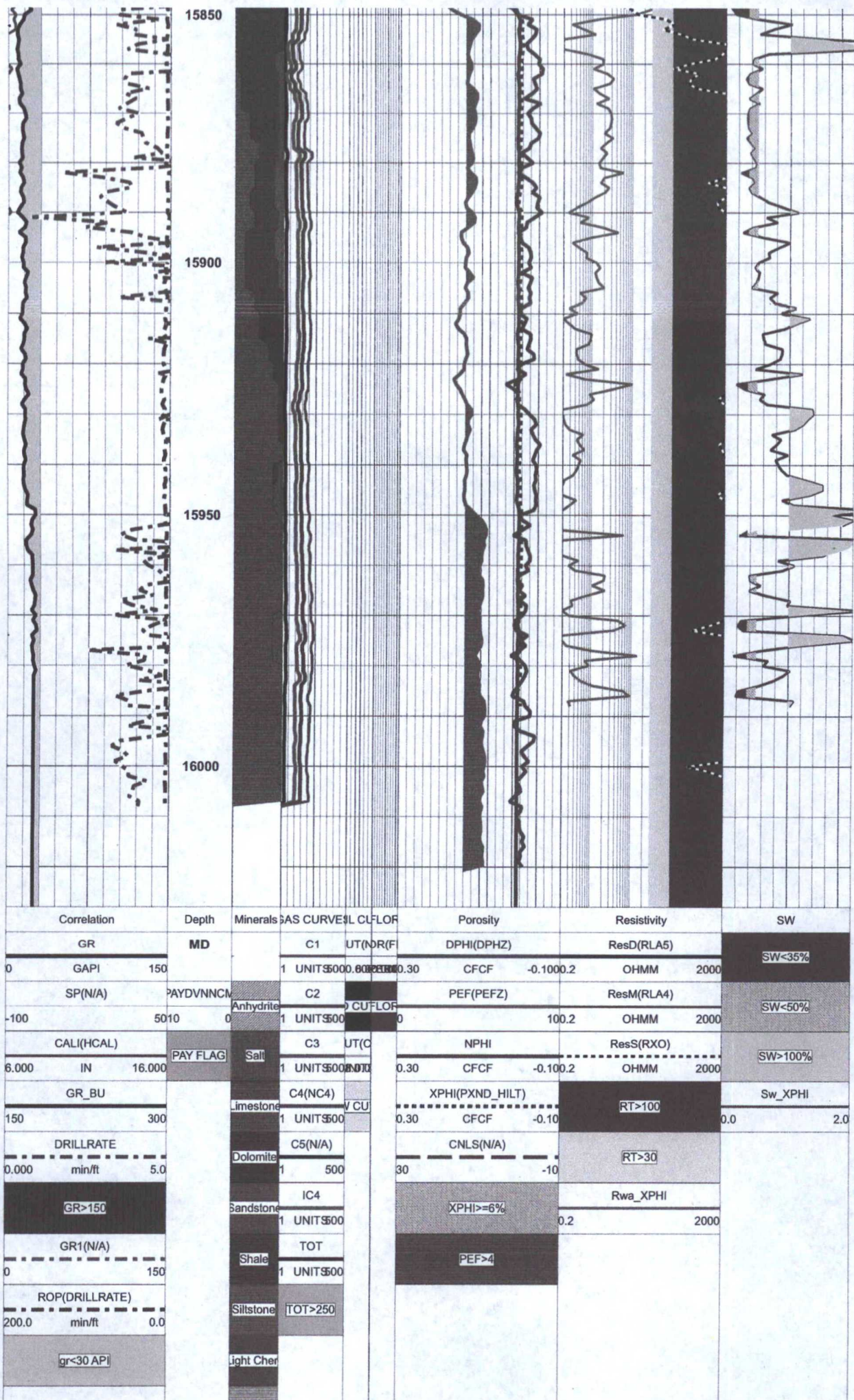
15650

15700

15750

15800





[illegible]

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MIT test was run on 11/11/2015.

Paul Swartz from BLM was on site to witness.

550 psi for 30 mins. Surface and inter. csgs. open during test.

Please see attached log.

**SUBJECT TO LIKE
APPROVAL BY STATE**

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For R360 PERMIAN BASIN LLC, sent to the Hobbs
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Name (Printed/Typed) JEREMY CANNADY

Title ENGINEERING

Signature (Electronic Submission)

Date 12/18/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By: _____

Title

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Office

ACCEPTED FOR RECORD

JAN 19 2016

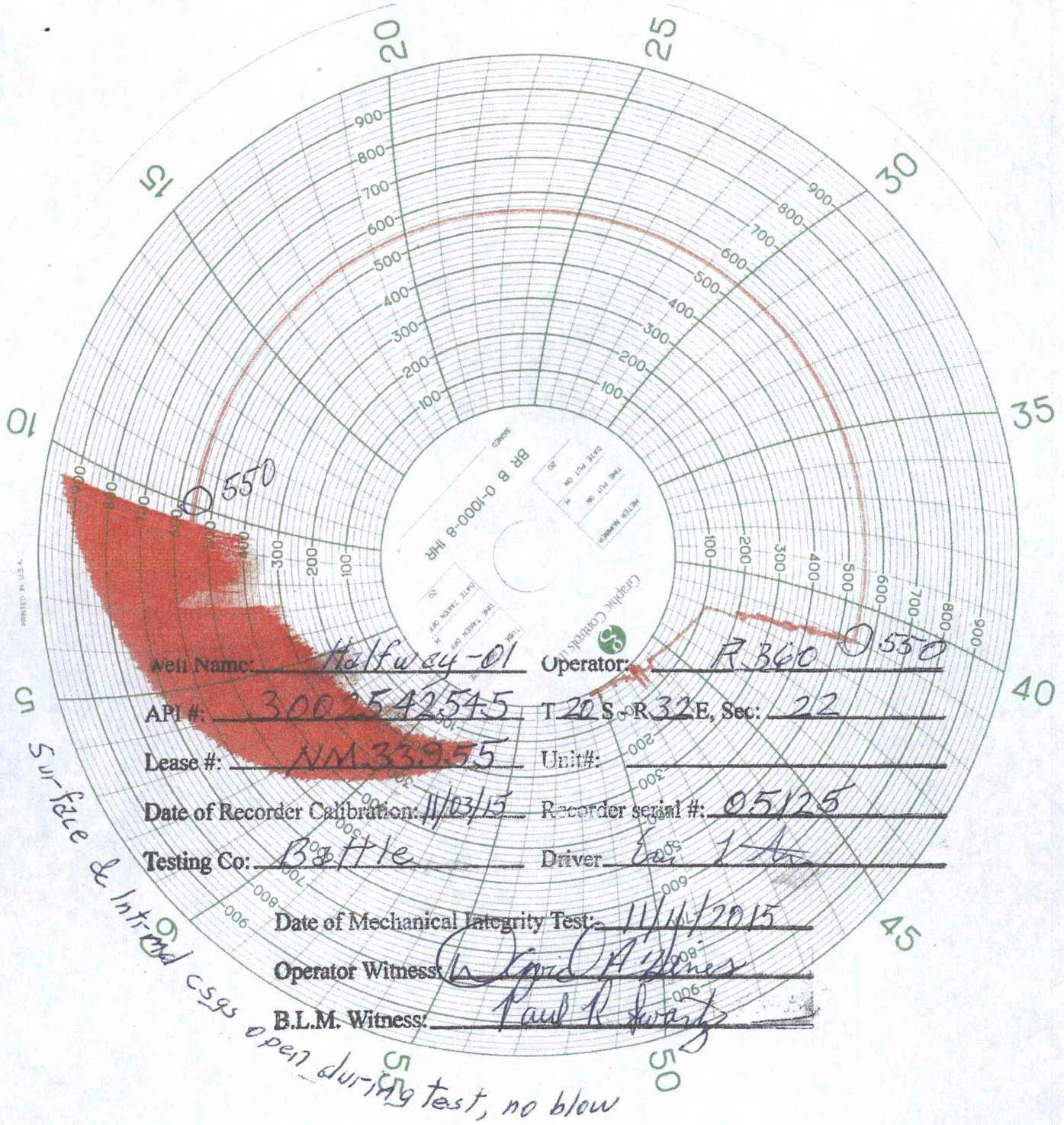
BUREAU OF LAND MANAGEMENT

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****
FOR RECORD ONLY

B8cd 2/17/16

BM



Well Name: Halfway-01 Operator: R 360 0550
API #: 3002542545 T 22 S & R 32 E, Sec: 22
Lease #: NM 33955 Unit#: _____
Date of Recorder Calibration: 11/03/15 Recorder serial #: 05125
Testing Co: Battle Driver: Earl 1-A
Date of Mechanical Integrity Test: 11/11/2015
Operator Witness: [Signature]
B.L.M. Witness: Paul R. Swartz

Surface & Int-rod csgs open during test, no blow

OR RECORD ONLY

BB ocd
2/17/16

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD OCD-HOBBS

FEB 16 2016

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

RECEIVED

5. Lease Serial No.
NMNM33955

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.
HALFWAY SWD 1

9. API Well No.
30-025-42545

10. Field and Pool, or Exploratory
DEVONIAN

11. Sec., T., R., M., or Block and Survey
or Area Sec 22 T20S R32E Mer

12. County or Parish
LEA

13. State
NM

17. Elevations (DF, KB, RT, GL)*
3533 GL

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

2. Name of Operator
R360 PERMIAN BASIN, LLC Contact: CHRIS RUANE
E-Mail: chrisr@wasteconnections.com

3. Address 3 WATERWAY SQUARE PLACE, SUITE 110
THE WOODLANDS, TX 77380 3a. Phone No. (include area code)
Ph: 832-442-2200

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

At surface 845FSL 1030FWL 32.554615 N Lat, 103.754308 W Lon

At top prod interval reported below 845FSL 1030FWL 32.554615 N Lat, 103.754308 W Lon

At total depth 845FSL 1030FWL 32.554615 N Lat, 103.754308 W Lon

14. Date Spudded
07/01/2015 15. Date T.D. Reached
10/04/2015 16. Date Completed
☐ D & A ☐ Ready to Prod.
11/11/2015

18. Total Depth: MD 16009
TVD 16007 19. Plug Back T.D.: MD
TVD 20. Depth Bridge Plug Set: MD
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
SEE REMARKS

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 Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
36.000	30.000		0	120					
26.000	20.000 J-55	106.4	0	1076		2475	586	0	0
17.500	13.375 J-55	68.0	0	2902	1802	2242	428	0	0
12.250	9.625 L-80	47.0	0	4992	3284	806	362	0	0
8.500	7.000 HCL-80	35.0	0	14627	10456	1764	383	0	0

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
4.500	14635	14543						

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) DEVONIAN OPEN HOLE	14627	16009				
B)						
C)						
D)						

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

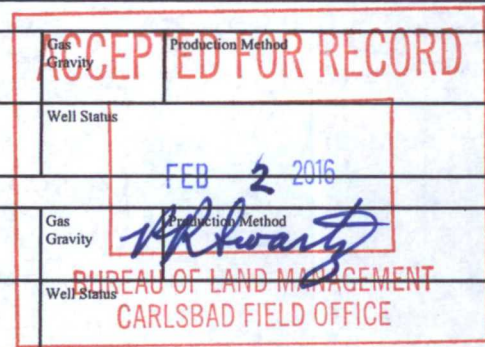
Depth Interval	Amount and Type of Material

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

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 #329575 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

FOR RECORD ONLY

BS OCD 2/17/16

KAG

fm

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.)
UNKNOWN

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
SALADO	356	2969		ATOKA	12216
YATES	2969	2800		MORROW	12793
TANSIL	2800	3300		BARNETT	13752
CAPITAN	3300	5129		MISS	13884
DELAWARE	5129	7738		WOODFORD SHALE	14409
BONESPRINGS	7738	10754		DEVONIAN	14623
WOLFCAMP	10754	11714		MONTOYA	15870
STRAWN	11714	12216		SIMPSON	15950

32. Additional remarks (include plugging procedure):

Logs:
Dual Laterlog Micro-Guard
Dual Spaced Neutron Density Spectral Gamma Ray
Wave Sonic
Confidential
High Resolution Laterlog Array Micro-CFL
Compensated Neutron Three Detector Litho-Density
PEX-HRLA A ELAN

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 #329575 Verified by the BLM Well Information System.
For R360 PERMIAN BASIN, LLC, sent to the Hobbs

Name (please print) JEREMY CANNADYTitle STAFF PROFESSIONAL

Signature _____ (Electronic Submission)

Date 01/22/2016

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.

** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL **

FOR RECORD ONLY

Additional data for transaction #329575 that would not fit on the form

32. Additional remarks, continued

LOGS WILL BE SENT BY MAIL(DVD) WITH COVER LETTER.

Formation Tops:

Section 30 and 31 represent the Formation Marks as there was not enough space to fit more than 8 formations in the WIS system.

Open hole completion.

See attached Well Bore Diagram.

FOR RECORD ONLY

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.
NMNM33955

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.
HALFWAY SWD 1

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

2. Name of Operator R360 PERMIAN BASIN, LLC Contact: CHRIS RUANE
E-Mail: chrisr@wasteconnections.com

3. Address 3 WATERWAY SQUARE PLACE, SUITE 110 3a. Phone No. (include area code)
THE WOODLANDS, TX 77380

FOR RECORD ONLY

Survey Report: Survey (0)

Operator	R360 Environmental Solutions	Northing	565676.200	Date	3-Dec-15
Dir. Co.	M3P Directional	Easting	718199.160	System	2 - St. Plane
Well Name	Survey (0)	Elevation	3560.00	Datum	1983 - NAD83
Location	Lea Co. NM.	Latitude	32.553790	Zone	3001 - New Mexico East
Rig	Precision #593	Longitude	103.759317	Scale Fac.	
Job	2015019	Units	Feet	Converg.	

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@0°	BR	TR	DLS
1897.8	1.14	36.99	1897.73	-6.1	3.49	-6.1	0	0	0
1897.8: Tie-in From GYRO									
1981	1.1	28.2	1980.91	-4.74	4.37	-4.74	-0.05	-10.57	0.21
2002	0.5	29	2001.91	-4.48	4.51	-4.48	-2.86	3.81	2.86
2037	0.2	265.6	2036.91	-4.35	4.52	-4.35	-0.86	676	1.81
2082	0.4	146.9	2081.91	-4.49	4.53	-4.49	0.44	-263.78	1.17
2171	0.6	92.1	2170.91	-4.76	5.16	-4.76	0.22	-61.57	0.55
2260	0.9	68.5	2259.9	-4.52	6.28	-4.52	0.34	-26.52	0.48
2350	1	78.6	2349.89	-4.11	7.7	-4.11	0.11	11.22	0.22
2439	0.8	85.9	2438.88	-3.91	9.09	-3.91	-0.22	8.2	0.26
2529	1	90	2528.87	-3.87	10.5	-3.87	0.22	4.56	0.23
2618	1.1	81.8	2617.85	-3.75	12.12	-3.75	0.11	-9.21	0.2
2708	0.9	77.5	2707.84	-3.47	13.67	-3.47	-0.22	-4.78	0.24
2797	0.7	85.4	2796.83	-3.27	14.89	-3.27	-0.22	8.88	0.26
2847	0.3	84.1	2846.83	-3.24	15.32	-3.24	-0.8	-2.6	0.8
2963	0.1	78	2962.83	-3.18	15.73	-3.18	-0.17	-5.26	0.17
3063	0.2	353.8	3062.83	-2.99	15.79	-2.99	0.1	-84.2	0.21
3152	0.2	321.8	3151.83	-2.72	15.68	-2.72	0	-35.96	0.12
3241	0.3	9.4	3240.82	-2.36	15.62	-2.36	0.11	53.48	0.25
3331	0.3	16.7	3330.82	-1.91	15.73	-1.91	0	8.11	0.04
3420	0.1	74.7	3419.82	-1.66	15.87	-1.66	-0.22	65.17	0.29
3510	0.4	86.8	3509.82	-1.62	16.26	-1.62	0.33	13.44	0.34
3599	0.4	123.4	3598.82	-1.78	16.83	-1.78	0	41.12	0.28
3688	0.5	73.3	3687.82	-1.84	17.46	-1.84	0.11	-56.29	0.44
3778	0.2	48.3	3777.82	-1.62	17.95	-1.62	-0.33	-27.78	0.37
3868	0.3	46.7	3867.81	-1.35	18.24	-1.35	0.11	-1.78	0.11
3957	0.1	92.1	3956.81	-1.2	18.49	-1.2	-0.22	51.01	0.27
4046	0.1	134.1	4045.81	-1.25	18.62	-1.25	0	47.19	0.08
4136	0	147.2	4135.81	-1.31	18.68	-1.31	-0.11	14.56	0.11
4225	0.1	20.2	4224.81	-1.23	18.71	-1.23	0.11	-142.7	0.11
4315	0.2	10.1	4314.81	-1.01	18.76	-1.01	0.11	-11.22	0.11
4404	0.3	5.2	4403.81	-0.62	18.81	-0.62	0.11	-5.51	0.11
4493	0.4	30.7	4492.81	-0.12	18.99	-0.12	0.11	28.65	0.21
4583	0.3	39.2	4582.81	0.33	19.3	0.33	-0.11	9.44	0.13
4672	0.2	330	4671.81	0.65	19.37	0.65	-0.11	-77.75	0.33
4761	0.3	13.7	4760.81	1.01	19.35	1.01	0.11	49.1	0.23
4851	0.1	332.4	4850.81	1.31	19.37	1.31	-0.22	-45.89	0.26
4929	0.2	275	4928.81	1.38	19.2	1.38	0.13	-73.59	0.22
5019	0.3	334.3	5018.81	1.6	18.94	1.6	0.11	65.89	0.29
5108	0.4	314.2	5107.8	2.03	18.62	2.03	0.11	-22.58	0.18
5198	0.4	291	5197.8	2.36	18.1	2.36	0	-25.78	0.18
5288	0.5	349.7	5287.8	2.86	17.73	2.86	0.11	65.22	0.5
5377	0.6	348.1	5376.8	3.7	17.57	3.7	0.11	-1.8	0.11
5466	0.4	358	5465.79	4.47	17.46	4.47	-0.22	11.12	0.24
5555	0.8	324.9	5554.79	5.28	17.09	5.28	0.45	-37.19	0.58
5645	0.8	348.6	5644.78	6.41	16.61	6.41	0	26.33	0.37
5734	0.8	315.4	5733.77	7.47	16.05	7.47	0	-37.3	0.51
5823	0.3	346.8	5822.77	8.14	15.56	8.14	-0.56	35.28	0.64
5913	0.4	307.9	5912.77	8.56	15.26	8.56	0.11	-43.22	0.28
6002	0.8	318.5	6001.76	9.21	14.6	9.21	0.45	11.91	0.46
6092	0.7	291.5	6091.75	9.89	13.67	9.89	-0.11	-30	0.4
6181	0.7	285.6	6180.75	10.23	12.64	10.23	0	-6.63	0.08
6271	0.4	315.2	6270.74	10.6	11.89	10.6	-0.33	32.89	0.45

Survey Report: Survey (0)

Operator	R360 Environmental Solutions			Northings	565676.200		Date	3-Dec-15	
Dir. Co.	M3P Directional			Easting	718199.160		System	2 - St. Plane	
Well Name	Survey (0)			Elevation	3560.00		Datum	1983 - NAD83	
Location	Lea Co. NM.			Latitude	32.553790		Zone	3001 - New Mexico East	
Rig	Precision #593			Longitude	103.759317		Scale Fac.		
Job	2015019			Units	Feet		Converg.		
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@0°	BR	TR	DLS
6360	0.5	283.5	6359.74	10.91	11.3	10.91	0.11	-35.62	0.3
6450	0.9	284.1	6449.73	11.18	10.23	11.18	0.44	0.67	0.44
6539	1	284	6538.72	11.54	8.8	11.54	0.11	-0.11	0.11
6629	0.7	304.4	6628.71	12.04	7.58	12.04	-0.33	22.67	0.47
6718	1.2	310.4	6717.7	12.95	6.42	12.95	0.56	6.74	0.57
6807	0.2	215.1	6806.69	13.42	5.62	13.42	-1.12	-107.08	1.39
6897	1	187.1	6896.69	12.52	5.44	12.52	0.89	-31.11	0.92
6986	0.9	205.3	6985.67	11.11	5.04	11.11	-0.11	20.45	0.36
7076	0.6	193.7	7075.67	10.02	4.63	10.02	-0.33	-12.89	0.37
7165	0.6	236.1	7164.66	9.3	4.13	9.3	0	47.64	0.49
7255	0.7	190.8	7254.66	8.5	3.64	8.5	0.11	-50.33	0.57
7344	0.7	215.5	7343.65	7.53	3.22	7.53	0	27.75	0.34
7433	0.3	229.3	7432.65	6.93	2.73	6.93	-0.45	15.51	0.47
7523	0.3	274.3	7522.65	6.79	2.31	6.79	0	50	0.26
7612	0.5	145.1	7611.64	6.49	2.3	6.49	0.22	-145.17	0.82
7702	0.6	156.4	7701.64	5.74	2.72	5.74	0.11	12.56	0.16
7791	0.4	195.9	7790.64	5.01	2.82	5.01	-0.22	44.38	0.43
7878	0.7	165.4	7877.63	4.21	2.87	4.21	0.34	-35.06	0.47
7968	0.4	135.5	7967.63	3.45	3.23	3.45	-0.33	-33.22	0.45
8057	0.6	147.3	8056.63	2.84	3.7	2.84	0.22	13.26	0.25
8147	1	150.5	8146.62	1.76	4.34	1.76	0.44	3.56	0.45
8236	1.2	161.1	8235.6	0.2	5.02	0.2	0.22	11.91	0.32
8325	0.4	191.7	8324.59	-0.99	5.26	-0.99	-0.9	34.38	0.99
8415	0.4	253.3	8414.59	-1.38	4.9	-1.38	0	68.44	0.46
8504	0.9	253.2	8503.58	-1.68	3.93	-1.68	0.56	-0.11	0.56
8593	0.5	256.1	8592.58	-1.97	2.88	-1.97	-0.45	3.26	0.45
8683	0.3	336	8682.57	-1.85	2.41	-1.85	-0.22	88.78	0.6
8772	0.2	136.2	8771.57	-1.75	2.42	-1.75	-0.11	-224.49	0.55
8861	0.3	83.2	8860.57	-1.83	2.76	-1.83	0.11	-59.55	0.27
8951	0.2	357.7	8950.57	-1.65	2.99	-1.65	-0.11	-95	0.39
9040	0.4	7.3	9039.57	-1.19	3.02	-1.19	0.22	10.79	0.23
9130	0.3	35.5	9129.57	-0.68	3.2	-0.68	-0.11	31.33	0.22
9220	0.6	307.2	9219.57	-0.21	2.96	-0.21	0.33	-98.11	0.74
9309	0.6	327.1	9308.56	0.47	2.33	0.47	0	22.36	0.23
9399	0.5	329.2	9398.56	1.2	1.88	1.2	-0.11	2.33	0.11
9488	0.4	359.5	9487.56	1.85	1.67	1.85	-0.11	34.04	0.29
9577	0.4	358.5	9576.55	2.47	1.66	2.47	0	-1.12	0.01
9667	0.4	33.2	9666.55	3.04	1.83	3.04	0	38.56	0.27
9756	0.1	296.2	9755.55	3.34	1.93	3.34	-0.34	-108.99	0.48
9846	0.2	88.5	9845.55	3.38	2.01	3.38	0.11	169.22	0.32
9936	0.5	49.5	9935.55	3.64	2.47	3.64	0.33	-43.33	0.41
10025	0.4	40.8	10024.55	4.12	2.97	4.12	-0.11	-9.78	0.14
10114	0.7	320.7	10113.54	4.78	2.83	4.78	0.34	-90	0.84
10204	0.9	315.2	10203.54	5.71	1.98	5.71	0.22	-6.11	0.24
10293	0.6	299.6	10292.53	6.43	1.08	6.43	-0.34	-17.53	0.4
10383	0.6	292.7	10382.52	6.85	0.24	6.85	0	-7.67	0.08
10472	0.6	235.1	10471.52	6.76	-0.57	6.76	0	-64.72	0.65
10562	0.9	205.2	10561.51	5.85	-1.26	5.85	0.33	-33.22	0.54
10651	1	200.8	10650.5	4.49	-1.83	4.49	0.11	-4.94	0.14
10740	1.1	208.1	10739.48	3.01	-2.51	3.01	0.11	8.2	0.19
10829	1.2	215.2	10828.47	1.5	-3.45	1.5	0.11	7.98	0.2
10919	1.2	209	10918.45	-0.1	-4.45	-0.1	0	-6.89	0.14
11009	1.1	198.7	11008.43	-1.74	-5.19	-1.74	-0.11	-11.44	0.25

Survey Report: Survey (0)

Operator Dir. Co. Well Name Location Rig Job	R360 Environmental Solutions			Northing Easting Elevation Latitude Longitude Units	565676.200 718199.160 3560.00 32.553790 103.759317 Feet	Date System Datum Zone Scale Fac. Converg.	3-Dec-15 2 - St. Plane 1983 - NAD83 3001 - New Mexico East		
	M3P Directional								
	Survey (0)								
	Lea Co. NM.								
	Precision #593 2015019								
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@0°	BR	TR	DLS
11099	0.8	166.2	11098.42	-3.17	-5.31	-3.17	-0.33	-36.11	0.67
11190	0.7	170.6	11189.41	-4.33	-5.07	-4.33	-0.11	4.84	0.13
11279	0.7	209.2	11278.4	-5.34	-5.25	-5.34	0	43.37	0.52
11370	0.9	229.5	11369.39	-6.29	-6.06	-6.29	0.22	22.31	0.38
11460	0.1	182.3	11459.39	-6.83	-6.6	-6.83	-0.89	-52.44	0.93
11550	0.3	93.1	11549.39	-6.92	-6.37	-6.92	0.22	-99.11	0.35
11640	0.1	356.1	11639.39	-6.86	-6.14	-6.86	-0.22	292.22	0.36
11730	0.4	346.9	11729.39	-6.47	-6.22	-6.47	0.33	-10.22	0.34
11820	0.5	325.1	11819.39	-5.84	-6.51	-5.84	0.11	-24.22	0.22
11909	0.5	328.6	11908.38	-5.19	-6.94	-5.19	0	3.93	0.03
11999	0.4	321.6	11998.38	-4.61	-7.34	-4.61	-0.11	-7.78	0.13
12088	0.3	342	12087.38	-4.15	-7.6	-4.15	-0.11	22.92	0.18
12178	0	356.5	12177.38	-3.92	-7.68	-3.92	-0.33	16.11	0.33
12267	0.2	20.4	12266.38	-3.78	-7.62	-3.78	0.22	26.85	0.22
12357	0.5	300	12356.38	-3.43	-7.91	-3.43	0.33	-89.33	0.56
12447	0.6	309	12446.37	-2.94	-8.61	-2.94	0.11	10	0.15
12537	0.4	299.7	12536.37	-2.49	-9.25	-2.49	-0.22	-10.33	0.24
12627	0.5	322.7	12626.37	-2.02	-9.76	-2.02	0.11	25.56	0.23
12718	0.4	5.9	12717.36	-1.39	-9.97	-1.39	-0.11	47.47	0.38
12808	0.1	90.6	12807.36	-1.08	-9.86	-1.08	-0.33	94.11	0.45
12898	0.2	33.8	12897.36	-0.95	-9.69	-0.95	0.11	-63.11	0.19
12988	0.6	32.1	12987.36	-0.42	-9.36	-0.42	0.44	-1.89	0.44
13077	0.6	50.3	13076.35	0.27	-8.75	0.27	0	20.45	0.21
13167	0.7	30.8	13166.35	1.05	-8.11	1.05	0.11	-21.67	0.27
13257	0.3	44	13256.34	1.69	-7.66	1.69	-0.44	14.67	0.46
13347	0.7	32.1	13346.34	2.33	-7.2	2.33	0.44	-13.22	0.46
13437	0.7	333.9	13436.34	3.28	-7.15	3.28	0	-64.67	0.76
13527	1.4	344.9	13526.32	4.84	-7.68	4.84	0.78	12.22	0.81
13616	1.1	10.7	13615.3	6.73	-7.81	6.73	-0.34	28.99	0.71
13706	0.6	314.7	13705.29	7.91	-7.98	7.91	-0.56	-62.22	1.01
13796	1.5	292.4	13795.27	8.69	-9.41	8.69	1	-24.78	1.08
13885	1.5	323.9	13884.25	10.08	-11.17	10.08	0	35.39	0.91
13974	0.9	309.1	13973.23	11.46	-12.4	11.46	-0.67	-16.63	0.75
14064	0.5	304.8	14063.22	12.13	-13.27	12.13	-0.44	-4.78	0.45
14151	0.6	292.5	14150.22	12.52	-14	12.52	0.11	-14.14	0.18
14241	0.7	282.7	14240.21	12.82	-14.97	12.82	0.11	-10.89	0.17
14332	0.6	275.7	14331.2	12.99	-15.99	12.99	-0.11	-7.69	0.14
14423	0.8	292.2	14422.2	13.28	-17.05	13.28	0.22	18.13	0.31
14512	1.3	294.5	14511.18	13.93	-18.55	13.93	0.56	2.58	0.56
14692	1.1	156.6	14691.16	13.19	-19.72	13.19	-0.11	-76.61	1.25
14790	0.8	178.2	14789.15	11.64	-19.32	11.64	-0.31	22.04	0.47
14885	2.1	128.6	14884.12	9.89	-17.94	9.89	1.37	-52.21	1.78
14980	2.2	127.3	14979.06	7.7	-15.13	7.7	0.11	-1.37	0.12
15074	1.3	173.4	15073.01	5.55	-13.57	5.55	-0.96	49.04	1.7
15169	0.9	185	15168	3.74	-13.51	3.74	-0.42	12.21	0.48
15264	0.6	159.6	15262.99	2.53	-13.41	2.53	-0.32	-26.74	0.46
15359	0.7	161.1	15357.98	1.51	-13.04	1.51	0.11	1.58	0.11
15454	0.4	198.1	15452.98	0.65	-12.96	0.65	-0.32	38.95	0.47
15549	0.8	205.3	15547.97	-0.27	-13.35	-0.27	0.42	7.58	0.43
15643	0.1	243.6	15641.97	-0.9	-13.7	-0.9	-0.74	40.74	0.77
15738	0.4	46	15736.97	-0.7	-13.54	-0.7	0.32	-208	0.52
15833	2.5	30.6	15831.93	1.31	-12.24	1.31	2.21	-16.21	2.23
15927	2.8	32.2	15925.83	5.02	-9.98	5.02	0.32	1.7	0.33

Survey Report: Survey (0)

<div>Operator Dir. Co. Well Name Location Rig Job</div>	R360 Environmental Solutions		Northing	565676.200			Date	3-Dec-15		
	M3P Directional		Easting	718199.160			System	2 - St. Plane		
	Survey (0)		Elevation	3560.00			Datum	1983 - NAD83		
	Lea Co. NM.		Latitude	32.553790			Zone	3001 - New Mexico East		
	Precision #593		Longitude	103.759317			Scale Fac.			
2015019		Units	Feet			Converg.				
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@0°	BR	TR	DLS	
16009	2.8	32.2	16007.74	8.41	-7.84	8.41	0	0	0	
16009: PTB										

FOR RECORD ONLY

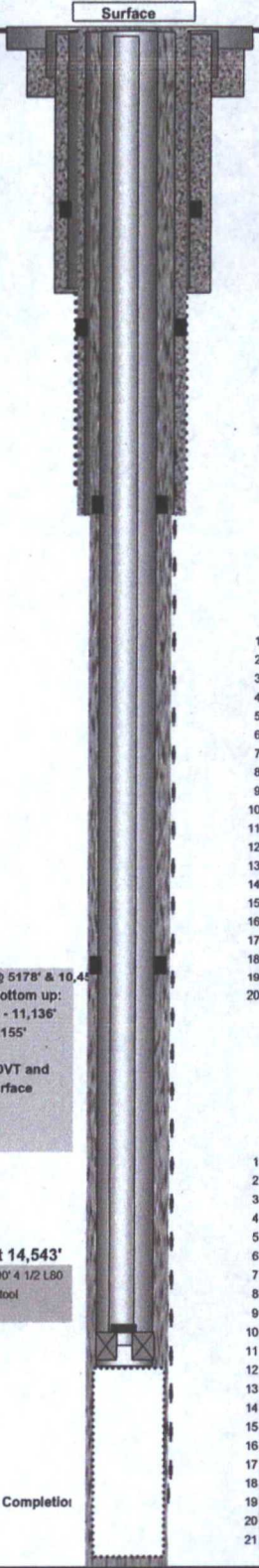
Cambrian Management EXECUTIVE SUMMARY WELLBORE DIAGRAM

WELL NAME:	R 360 Halfway SWD #1	STATE:	New Mexico	Permit #		Job #	
LOCATION:	806 FSL 1007 FWL Unit M (SW/4), SW/4	COUNTY:	Lea	Spud	TD	Rig Release	rig Days
LOCATION:	Seal 22, T 208, R32E 32.533889 - 103.759444	DATE		Drill	JULY 1 2015	Oct 4 2015	Oct 7 2015
ELEVATION:				Complete			
APR				TVD	16000	PSTD	
Drill Contractor	Precision Drilling Rig 593	PREPARED	A Rickard	Total Depth	16000		
	DEPTH	HOLE SIZE	CASING SIZE	WEIGHT	GRADE	THREAD	CMT
Conductor CASING:	120	36"	30"				See cement sluries below
Surf CASING:	1080	24"	20"	106.4 ppi	J55	LTC	See cement tab on bottom
1st Int CASING:	2902	17 1/2"	13 3/8"	68 ppi	J-55	LTC	
2nd Int CASING:	4992	12 1/4"	9 5/8"	47	L-80	LTC	
Prod Casing	14,635	8 1/2"	7"	35/29 ppi	HCL80/HCP-111	LTC	
Tubing	14635	5 7/8"	4 1/2"	11.6	L80/CLS100	8md LTC	
Water Board Depth	1060'						

Last updated
Regulator Mark Larson
Drilling Office 10/3/2015
Complete Andy 10/3/2015
Workover

Initial Potential
Oil (BOPD)
Gas (MCFD)
Water (BPD)
GOR
Flowing/Pumping
Choke
Flowing Tbg psi
Csg Pressure
Oil Gravity

Date



Conductor 120'

20' Surface casing @ 1080'
circulated cmt to surface

13 3/8 1st Intermediate
set @ 2902' with a DV
set @ 1802' circulated
cement to surface

9 5/8" 2nd Intermediate
set @ 4992' with ECP
set @ 4992' with DVT
set @ 3284' circulated
cement to surface

7" set @ 14,635' with DVT @ 5178' & 10,400'
7" casing set as follows f/ bottom up:
7" HCL-80 35# LTC/ 14,635' - 11,136'
7" P-110 29# LTC f/ 11,136' - 155'
7" HCL-80 35# LTC/ 155' - 0'
circulated cement off both DVT and
and circulated cement to surface

injection packer set at 14,543'
CLS100 5000' 4 1/2 p110 9300' 4 1/2 L80
Arrowset 1X w/ O/O tool
F nipple R nipple

5 7/8" Open Hole Completion

5 7/8" >> TD 16,000 +/-

Vendor	Type	Rating
C		
B		
A		

Geology	ACTUAL	Depth (top)
Formation		
1 Triassic		
2 Salado		350
3 Tansil		2800
4 Yates		2696
5 Capitan		3300
6 Delaware Mountain		5129
7 Bone Spring		7738
8 Wolfcamp		10,754
9 Strawn		11,714
10 Aloka		12,216
11 Morrow		12,793
12 Barnett		13,752
13 Mississippian Lime		13,884
14 Woodford Shale		14,409
15 Devonian		14,623
16 Montoya		15,870
17 Simpson		15,950
18 Ellenberger		16,300
19 Granite		

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Production Equip			
Type of Ill	Depth		
Items	Length	ID	OD
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