

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

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 page 2

RECEIVED

AUG 17 2009

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Energen Resources Corporation

Bureau of Land Management

3a. Address

2010 Afton Place Farmington, NM 87401

3b. Phone No. (include area code)

505.325.6800

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

1,870' FSL, 903' FEL Sec.25, T27N, R09W, Unit Letter I

5. Lease Serial No.

NM 011285

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Navajo 1

#1 M

9. API Well No

30-045-34919

10. Field and Pool, or Exploratory Area

Blanco Mesa Verde/
Basin Dakota

11. County or Parish, State

San Juan

NM

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

TYPE OF SUBMISSION

☐ Notice of Intent☒ Subsequent Report☐ Final Abandonment Notice

TYPE OF ACTION

☐ Acidize☐ Alter Casing☐ Casing Repair☐ Change Plans☐ Convert to Injection☐ Deepen☐ Fracture Treat☐ New Construction☐ Plug and Abandon☐ Plug Back☐ Production (Start/Resume)☐ Reclamation☐ Recomplete☐ Temporarily Abandon☐ Water Disposal☐ Water Shut-Off☐ Well Integrity☒ Other DownholeCommingled

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 recompletable 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 recompletion 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 final site is ready for final inspection.)

In accordance to Case 13246, Order # R-11363, this well is downhole commingled in the Blanco Mesa Verde (72319) and Basin DK (71599) and was done according to the attached reports. 91% of the production is allocated to the Basin DK from the analysis of the Weatherford Production Log.

RCVD AUG 24 '09

OIL CONS. DIV.

DIST. 3

AZT-3134

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Andrew Soto

Title District Engineer

Signature

Date 8/13/09

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

AUG 21 2009

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

FARMINGTON FIELD OFFICE

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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

NMOC



Weatherford®

Production Log Interpretation Report

Company:	Energen Resources
Well:	Navajo #1-1M
Field:	Dakota/Blanco Mesaverde
County:	San Juan
State:	New Mexico
API:	30-045-34919
Survey Date:	10-Aug-2009

Interpretation Date:	11-Aug-2009
Analyst:	Nilesh Kadam

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Purpose of Survey

To quantify the production rate from the MesVaerde and Dakota for Royalt allocation.

Discussion / Conclusions

The flowing conditions of this well were stable across the Dakota but then it was loading up water. Hence the logging surveys were done in two separate stages across the Dakota and then the Mesa Verde. The analysis was done across the Dakotas and the production rates from the Mesa Verde have been estimated by subtracting from the surface rates as no reliable data could be obtained across the Mesa Verde.

The production log analysis indicates that the majority of the gas production in the well (@ 91% of the total downhole production) is from the Dakotas.

The major gas contributuing perforation is at 6498' – 6503' (@ 65% of the total downhole production) as indicated by the sharp decrease in fluid density and a corresponding large deflection on the flowmeter passes.

The upper stage perforations in the Mesa Verde are contributing less then 10 % of the total downhole production.

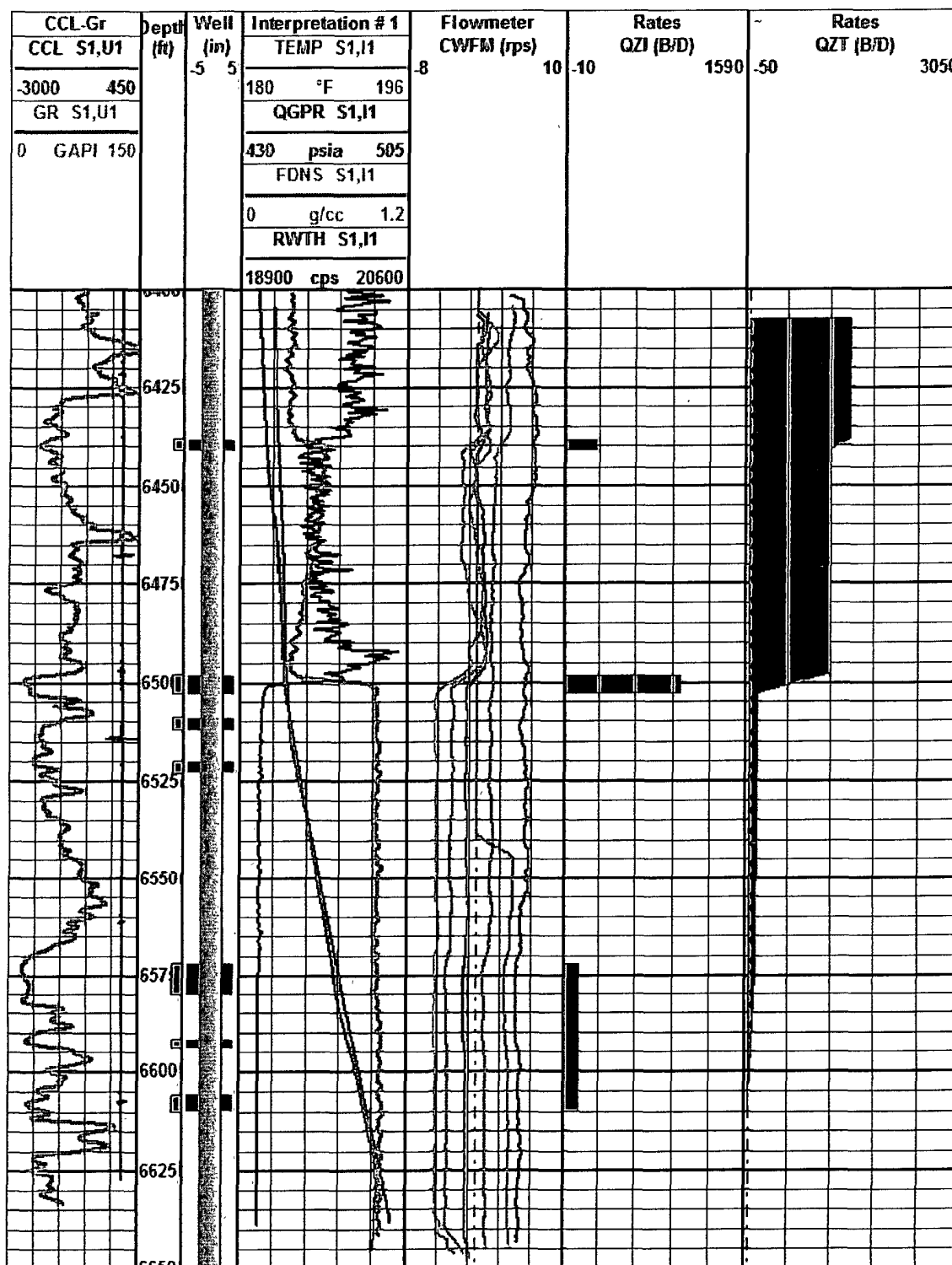
There is a reported surface production rate of 4 BWPD and @ 14 BPD of condensate oil but no liquid was detected downhole due to its small volume compared to the total downhole produced gas.

Field personnel reported that the well head pressure was 200 psi at the time of logging operation.

Refer to page 4 for a graphical representation of the flow profile, and pages 6,7 and 10 for a tabular display of the calculated results by analyzed zones in this well.

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFULL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES, OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR GENERAL TERMS AND CONDITIONS SET OUT IN OUR CURRENT PRICE SCHEDULE.

Production Profile





Survey Summary

Survey Name: Flowing
Reported Surface rates:
Gas 230 Mscf/D
Oil 14 STB/D
Water 4 STB/D

Tools Summary

String OD 1.6875 in
Capacitance (Calib. Type)
100% Water N/A
100% HC N/A
Density Nuclear tool
Spinner blade OD 2.44 in

Interpretation Summary

Interpretation Name: Interpretation # 1

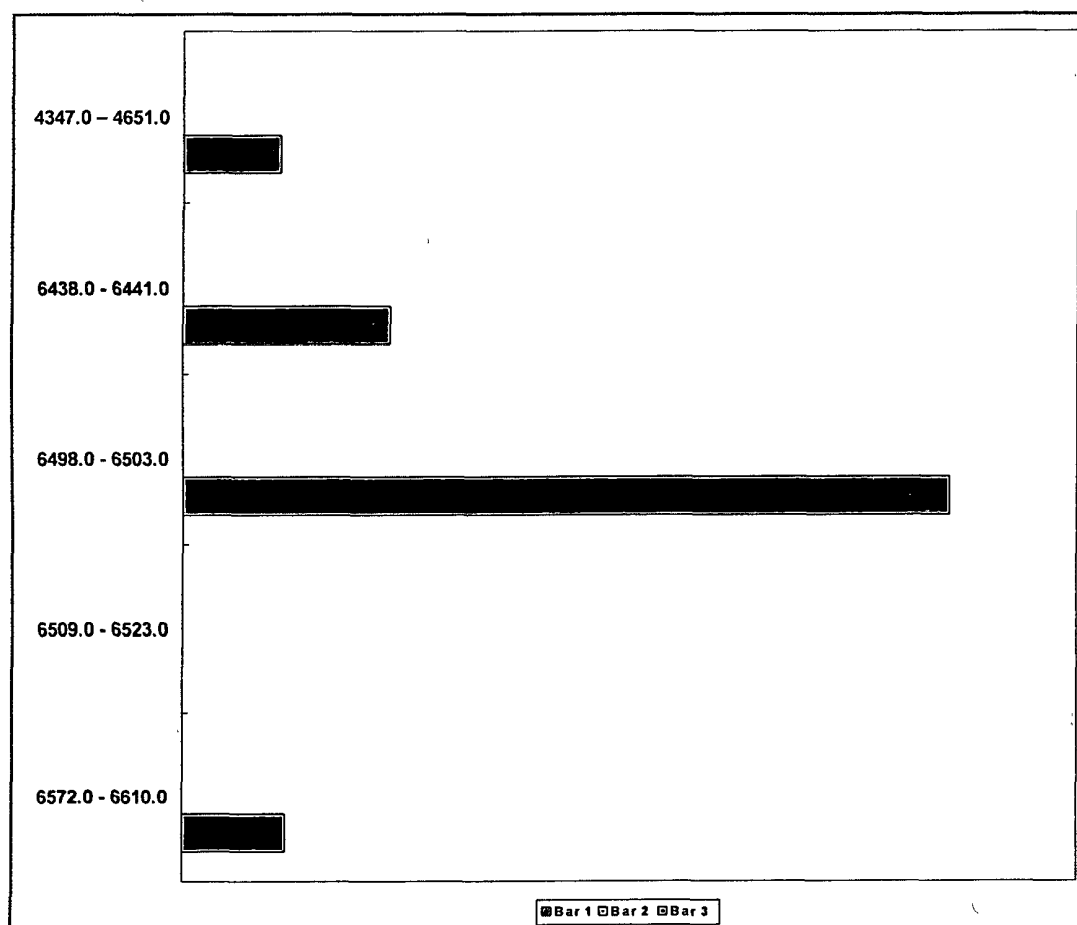
Flow type Single-phase
Flow model
Flow model L-G
Flow model W-O
Vpcf multiplier 1
Vslip multiplier N/A
Vslip mult.W-O N/A

General Interpretation Comments:

- 1) The well is producing up a 2-3/8" tubing in a 4-1/2" casing with no packer in the hole.
- 2) The flowing conditions of this well were stable across the Dakota but then it was loading up water. Hence the logging surveys were done in two separate stages across the Dakota and then the Mesa Verde.
- 3) The well was swabbed right before the PL Surveys.
- 4) A number of perforations have been grouped together for the purpose of the analysis based on the observed flow profile downhole.
- 5) Reported surface rates are 4 BWP/D, 14 BOP/D and 230 Mscf/D.
- 6) A single phase gas analysis was done on this well. The analysis was done across the Dakotas and the production rates from the Mesa Verde have been estimated by subtracting from the surface rates as no reliable data could be obtained across the Mesa Verde.
- 7) Reported WHP=200 psi at the time of logging operation.

Contributions by Phase (Downhole)

Formation Names	Zones (ft)	Qw res. (B/D)	Qo res. (B/D)	Qg res. (B/D)
Mesaverde	4347.0 – 4651.0	0.00	0.00	130.23
Dakota	6438.0 - 6441.0	0.00	0.00	279.01
Dakota	6498.0 - 6503.0	0.00	0.00	1029.16
Dakota	6509.0 - 6523.0	0.00	0.00	0.00
Dakota	6572.0 - 6610.0	0.00	0.00	137.25



Contributions by Phase (Surface)

Formation	Zones (ft)	Qw s.c. (STB/D)	Qo s.c. (STB/D)	Qg s.c. (Mscf/D)
Mesaverde	4347.0 – 4651.0	0.00	0.00	19.60
Dakota	6438.0 - 6441.0	0.00	0.00	39.58
Dakota	6498.0 - 6503.0	0.00	0.00	148.42
Dakota	6509.0 - 6523.0	0.00	0.00	0.00
Dakota	6572.0 - 6610.0	0.00	0.00	20.16

Water total contribution SC: 0 STB/D
Oil total contribution SC: 0 STB/D
Gas total contribution SC: 227.761 Mscf/D

Fluid Parameters Summary

Fluid Type: Gas

Gas: ()

Specific gravity	0.72
N2 %	0
CO2 %	0
H2S %	0
Z factor	Beggs and Brill
μ_g	Lee et al.

Oil: (NO)

Gravity	N/A
GOR	N/A
WOR	
Rs, Pb	
Bo	
Co	
μ_o	

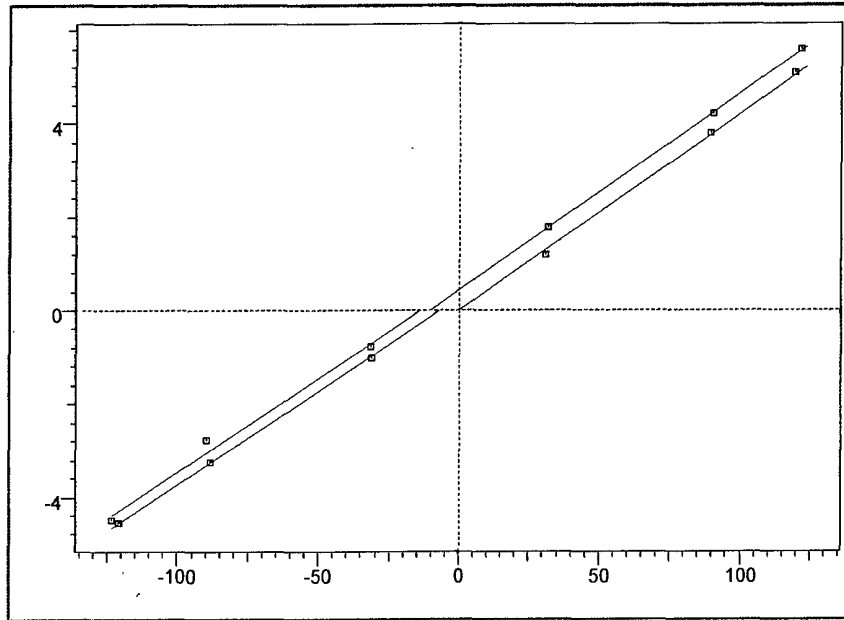
Condensate: (NO)

Tank GOR	N/A
Tank gas gravity	N/A
Separator GOR	N/A
Separator gas gravity	N/A
Separator P	N/A
Separator T	N/A
Dew point P	N/A
Dew point T	N/A
Liq. Gravity	N/A
N2 %	N/A
CO2 %	N/A
H2S %	N/A

Water: (NO)

Salinity, ppm	N/A
Rsw	
Cw	
μ_w	
μ_w	

Spinner Calibration Summary



rps versus ft/min

Threshold (+) 0 ft/min Threshold (-) 0 ft/min

Calib. Zone (ft)	Slope (+)	Slope (-)	Int (+) (ft/min)	Int (-) (ft/min)	Int. Diff. (ft/min)
6551.8 - 6559.7	0.042	0.040	-10.295	-13.861	3.566
6603.0 - 6616.4	0.042	0.040	0.082	-7.173	7.255



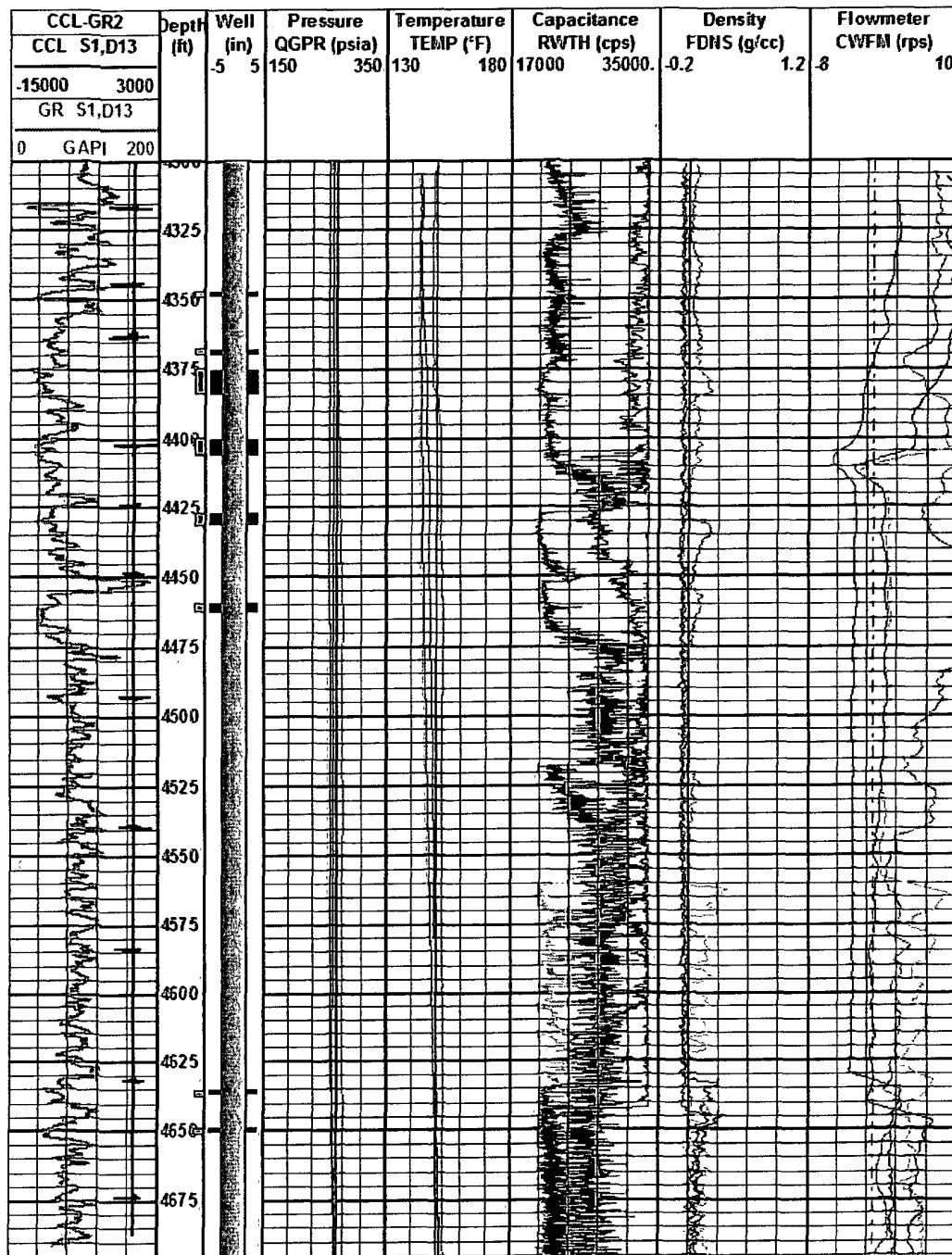
Percentage Total Production (Downhole)

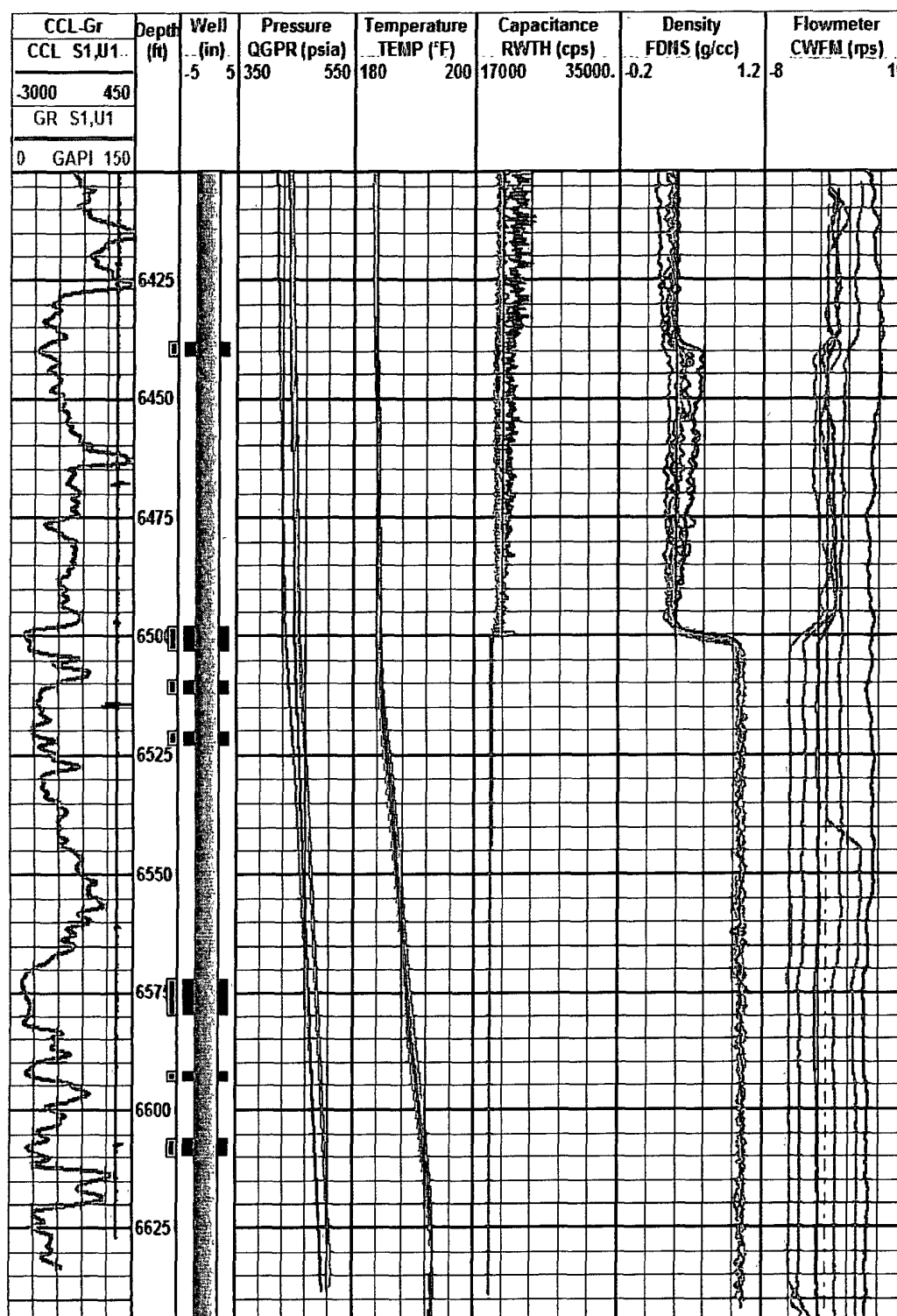
Formation	Zones (ft)	Qt res. (B/D)	Production (%)
Mesaverde	4347.0 – 4651.0	130.23	8.26
Dakota	6438.0 - 6441.0	279.01	17.71
Dakota	6498.0 - 6503.0	1029.16	65.32
Dakota	6509.0 - 6523.0	0.00	0.00
Dakota	6572.0 - 6610.0	137.25	8.71



Appendix (Additional Tables - Log Plots)

Raw Data







Weatherford

Energren Resources Corporation
Navajo #1-1M

COMPANY ENERGEN RESOURCES CORPORATION	
WELL NAVAJO #1-1M	
FIELD BASIN DAKOTA / BLANCO MESAVERDE	
COUNTY SAN JUAN STATE NEW MEXICO	
LOCATION: 1870' FSL & 983' FEL API: #30-045-34919 SEC. 25 TWP. 27N RGE. 09W	OTHER SERVICES: NONE
PERM. DATUM GROUND LEVEL LOG MEASURED FROM K.B. 14 FT. ABOVE PERMANENT DATUM DRILLING MEASURED FROM KELLY BUSHING	ELEV. 6137' ELEV.: K.B. 6151' D.F. 6150' G.L. 6137'
DATE	10-AUG-2009
RUN NO.	TWO
DEPTH DRILLER	6841'
DEPTH LOGGER	6670'
BTM. LOG INTERVAL	6670'
TOP LOG INTERVAL	4300'
OPEN HOLE SIZE	6.250"
TYPE FLUID	WATER/GAS
DENS.	N/A
VISC.	N/A
MAX. REC. TEMP. °F	193
EST. CEMENT TOP	N/A
TIME WELL READY	ROA
TIME LOGGER ON BTM.	SEE LOG
EQUIP. NO.	14131
LOCATION	FARMINGTON
RECORDED BY	C. CALTIENDO
WITNESSED BY	D. MESTAS

BOREHOLE RECORD				TUBING RECORD			
RUN NO.	BIT	FROM	TO	SIZE	WT.	FROM	TO
				2-3/8"	4.7	SURF	4147'

CASING RECORD		SIZE	WT/FT	GRADE	TYPE JOINT	TOP	BOTTOM
SURFACE STRING	9-5/8"	32.3	3-55			SURF	240'
PROT. STRING	7.00"	23	3-55			SURF	2458'
PROD. STRING	4.5"	11.6	3-55			SURF	6836'
LINER							
DV TOOL @	4083'						

PRODUCTION LOG
4.5" 11.6 LBS CASING

All interpretations of log data are opinions based on inferences from electrical or other measurements. We do not guarantee the accuracy or correctness of any interpretation or recommendation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation or recommendation made by any of our employees or agents.

REMARKS:

MULTIPLE PASSES WERE MADE, UP AND DOWN AT 30 FPM, 90 FPM, 120 FPM.
STATIONARY MEASUREMENTS WERE ALSO RECORDED AT THE FOLLOWING
DEPTHS. #1 4345' #2 4366' #3 6436' #4 6497'
ZONES WERE LOGGED APART DO TO THE DAKOTA WAS LOADING UP WITH WATER.
WELL WAS SWABED RIGHT BEFORE WE WENT IN THE HOLE.
THE END OF THE 2-3/8" TUBING WAS AT 4147'.
AT THE TIME OF THE LOG THE WELL HAD A REPORTED PRODUCTION OF 14 BBL OIL,
4 BBL OF WATER, AND 230 MCF/D
DEW POINT: 30 TO 60 PSI.
OIL GAVITY (API) 49.2
GAS GAVITY AT STANDARD CONDITIONS 720-770.
THE TUBING IS HUNG WITHOUT A PACKER.

REMARKS RIG: MESA #201 Service Order # 158921
LOG WAS CORRELATED TO WEATHERFORD CBL DATED 15-MAY-2009. BIT 0 °F

Prints: 6

YOUR CREW TODAY IS: J. HANBROS THANK YOU FOR CHOOSING WEATHERFORD WHILE THE SERVICES FARMINGTON NH (505)564-9131					
EQUIPMENT DATA					
Bit Size	6.250	Run No.	Tool Type	Tool No.	Other
Well Status	NEW DRILL	ONE	CFL	154	
		ONE	GRM	160	
Surface Pressure		ONE	OPD	130	
Shut In	Flowing	ONE	WHUD	145	
	202	ONE	PDJ	147	
		ONE	CFLA	150	

