


United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	CROW BUTTE RESOURCES, INC. (Marsland Expansion Area)
	<b>ASLBP #:</b> 13-926-01-MLA-BD01
	<b>Docket #:</b> 04008943
	<b>Exhibit #:</b> CBR013-00-BD01
	<b>Admitted:</b> 10/30/2018
	<b>Rejected:</b>
	<b>Other:</b>
	<b>Identified:</b> 10/30/2018
	<b>Withdrawn:</b>
	<b>Stricken:</b>



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

CROW BUTTE RESOURCES, INC.

(Marsland Expansion Area)

Docket No. 40-8943-MLA-2

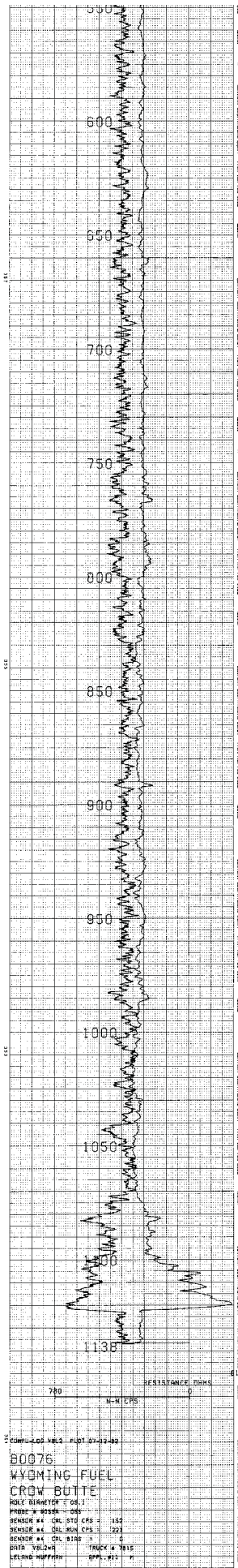
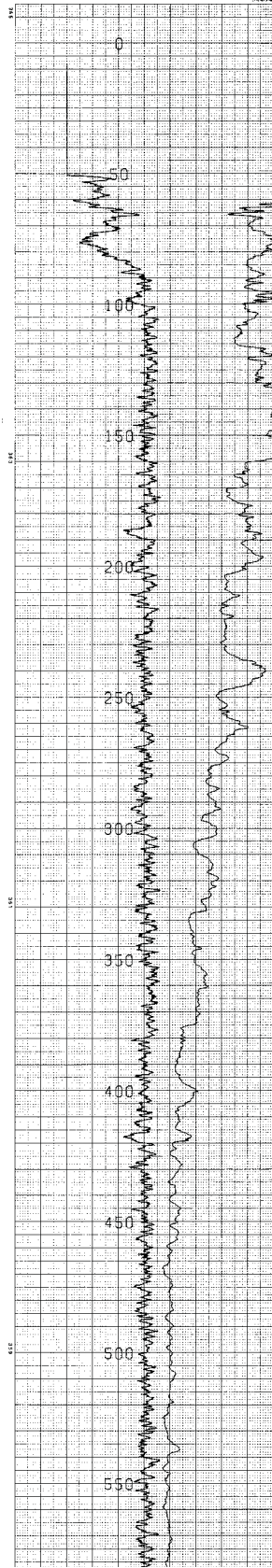
ASLBP No. 13-926-01-MLA-BD01

Hearing Exhibit

Exhibit Number:

Exhibit Title:

CENTURY GEOPHYSICAL CORPORATION  
 876 74 07-12-02  
 3730 WASHINGTON AVE  
 WYOMING FUEL  
 876 74  
 CROW BUTTE  
 LAWLS  
 NEB  
 DRILLER: JEFF



SENSE # 1 CAL RUN CFS 1 221  
 SENSE # 1 CAL RUN CFS 1 221  
 DATA VOLTAGE TRUCK # 7010  
 LOGGING MUFFLER APP # 112

**ORE-GRADE ANALYSIS**  
 COMPU-LOG VLS ORE-GRAB  
 DATA FROM: 780248  
 CLIENT: WYOMING FUEL  
 LOCATION: CROW BUTTE  
 HOLE ID: B0076  
 DATE OF LOG: 07-12-02  
 PROBE: BOSSER OSS  
 X-FACTOR: 0.00005580  
 DEPTH SCALE: 5 FEET/INCH

1120  
 1125  
 CONVERGENCE FACTOR: 1.061

**ORE-GRADE ANALYSIS**  
 COMPU-LOG VLS ORE-GRAB  
 DATA FROM: 780248  
 CLIENT: WYOMING FUEL  
 LOCATION: CROW BUTTE  
 HOLE ID: B0076  
 DATE OF LOG: 07-12-02  
 PROBE: BOSSER OSS  
 X-FACTOR: 0.00005580  
 DEPTH SCALE: 5 FEET/INCH

1120  
 1125  
 CONVERGENCE FACTOR: 1.061

**VERTICAL DEVIATION**  
 COMPU-LOG VLS DEVIATION  
 DATA FROM: 780248  
 CLIENT: WYOMING FUEL  
 LOCATION: CROW BUTTE  
 HOLE ID: B0076  
 DATE OF LOG: 07-12-02  
 PROBE: BOSSER OSS  
 SCALE: 1 FEET = 4.30 FOOT INCH  
 MAG. DECL.: 12.8  
 TRUE DEPTH: 1125 FT  
 MAG. INCL.: 57  
 DISTANCE: 0.047

COMPU-LOG VLS FILE: 07-12-02  
 B0076  
 WYOMING FUEL  
 CROW BUTTE  
 HOLE NUMBER: C-01  
 PROBE: BOSSER OSS  
 SENSE # 1 CAL RUN CFS 1 162  
 SENSE # 1 CAL RUN CFS 1 221  
 SENSE # 1 CAL RUN CFS 1 221  
 DATA VOLTAGE TRUCK # 7010  
 LOGGING MUFFLER APP # 112

**CROW BUTTE RESOURCES, INC.**

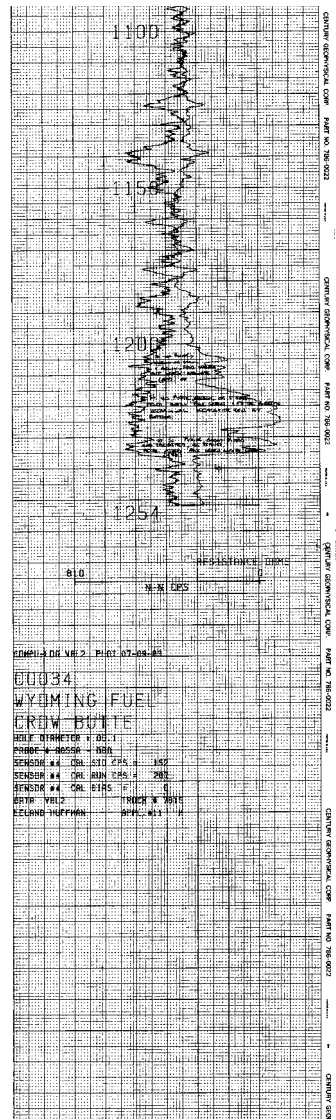
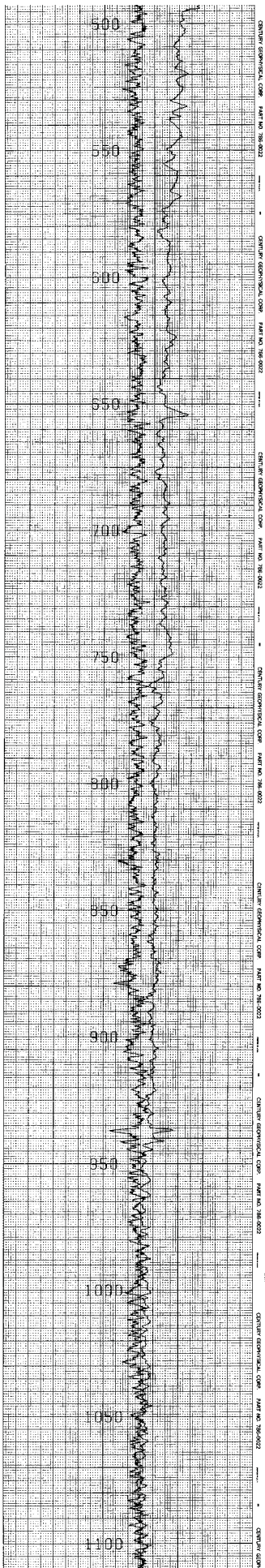
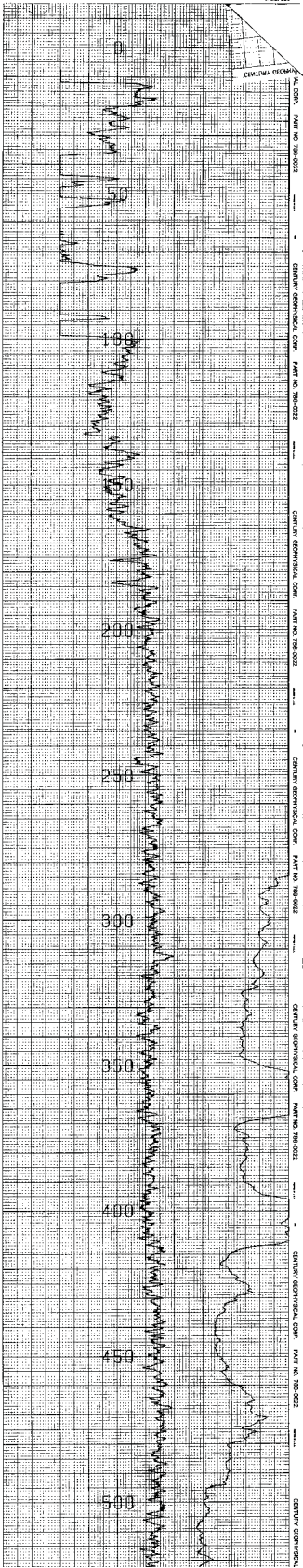
**LOG B-76**

**ARCADIS**

630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

1

<b>CENTURY GEOPHYSICAL CORPORATION</b> The Leader in Geophysical Data Acquisition and Processing	
<b>WYOMING FUEL</b> WELL: <b>CROW BUTTE</b> AREA: <b>DAWES</b> STATE: <b>NEB.</b>	<b>EQUIPMENT DATA</b> LOG # <b>00034</b> DATE <b>07-01-11</b> TIME <b>10:00</b> OPERATOR <b>...</b> SUPERVISOR <b>...</b> COMPANY <b>...</b>
<b>WELL DATA</b> WELL ID: <b>...</b> WELL TYPE: <b>...</b> WELL DEPTH: <b>...</b> WELL STATUS: <b>...</b> WELL DIRECTION: <b>...</b> WELL DIRECTION DEGREE: <b>...</b> WELL DIRECTION DEPTH: <b>...</b> WELL DIRECTION DATE: <b>...</b> WELL DIRECTION TIME: <b>...</b> WELL DIRECTION OPERATOR: <b>...</b> WELL DIRECTION SUPERVISOR: <b>...</b> WELL DIRECTION COMPANY: <b>...</b>	<b>LOG DATA</b> LOG TYPE: <b>...</b> LOG DEPTH: <b>...</b> LOG STATUS: <b>...</b> LOG DIRECTION: <b>...</b> LOG DIRECTION DEGREE: <b>...</b> LOG DIRECTION DEPTH: <b>...</b> LOG DIRECTION DATE: <b>...</b> LOG DIRECTION TIME: <b>...</b> LOG DIRECTION OPERATOR: <b>...</b> LOG DIRECTION SUPERVISOR: <b>...</b> LOG DIRECTION COMPANY: <b>...</b>



FORM # DE V8.2, REV 07-08-01  
**00034**  
**WYOMING FUEL**  
**CROW BUTTE**  
 WELL DIRECTION # **001**  
 TRUBB # **00000000000000000000**  
 SENSOR #1 OSL SRT EPS # **157**  
 SENSOR #4 OSL RUN EPS # **200**  
 SENSOR #4 OSL BIAS # **0**  
 BPT# VELZ TRICH # **0011**  
 RECORD NUMBER **00000000000000000000**

**CROW BUTTE RESOURCES, INC.**

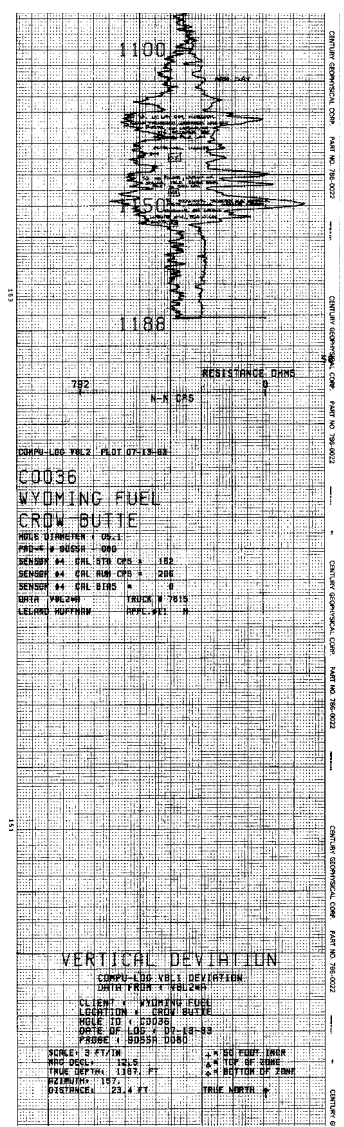
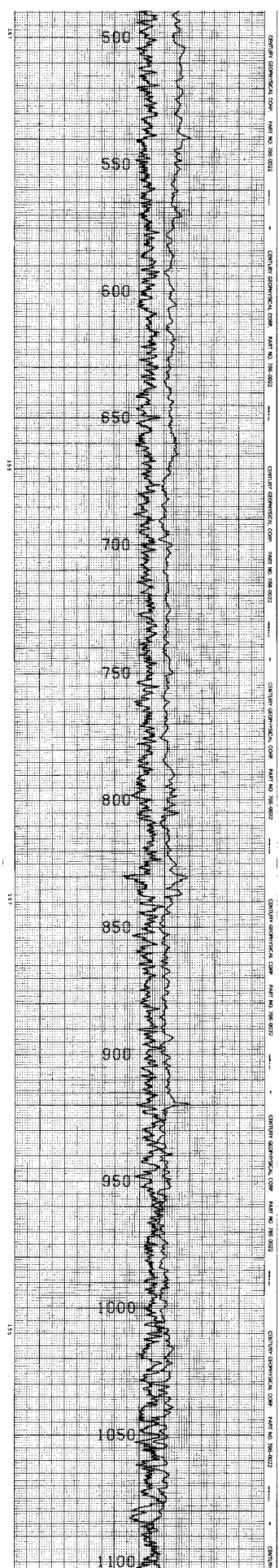
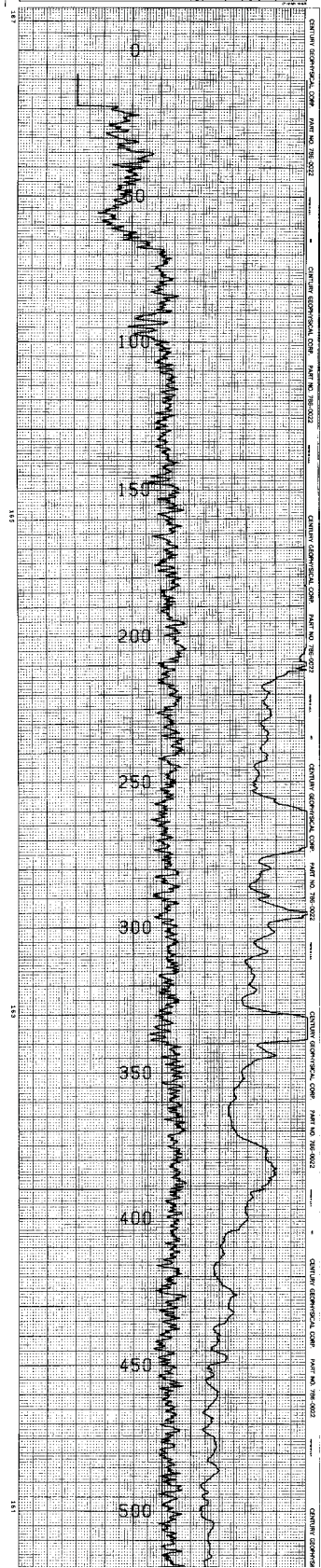
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**LOG C-34**

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630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

CENTURY GEOPHYSICAL CORPORATION Tape Location	
WYOMING FUEL	36 02/13-83
CROW BUTTE	WYOMING CASPER
DAWES	NEB
26	STW
EQUIPMENT DATA	
LOGGING UNIT	1180 FT. W-20
LOGGING HEAD	1180 FT. W-20
LOGGING CABLE	1180 FT. W-20
LOGGING MOTOR	1180 FT. W-20
LOGGING CONTROLLER	1180 FT. W-20
LOGGING SOFTWARE	1180 FT. W-20
LOGGING OPERATOR	1180 FT. W-20
LOGGING DATE	1180 FT. W-20
LOGGING TIME	1180 FT. W-20
LOGGING LOCATION	1180 FT. W-20
LOGGING PROJECT	1180 FT. W-20
LOGGING CLIENT	1180 FT. W-20
LOGGING WELL	1180 FT. W-20
LOGGING LOG	1180 FT. W-20
LOGGING SCALE	1180 FT. W-20
LOGGING UNIT	1180 FT. W-20
LOGGING HEAD	1180 FT. W-20
LOGGING CABLE	1180 FT. W-20
LOGGING MOTOR	1180 FT. W-20
LOGGING CONTROLLER	1180 FT. W-20
LOGGING SOFTWARE	1180 FT. W-20
LOGGING OPERATOR	1180 FT. W-20
LOGGING DATE	1180 FT. W-20
LOGGING TIME	1180 FT. W-20
LOGGING LOCATION	1180 FT. W-20
LOGGING PROJECT	1180 FT. W-20
LOGGING CLIENT	1180 FT. W-20
LOGGING WELL	1180 FT. W-20
LOGGING LOG	1180 FT. W-20
LOGGING SCALE	1180 FT. W-20



COMPANY LOG # 26  
 WYOMING FUEL  
 CROW BUTTE  
 HOLE DIAMETER 4 INCH  
 LOGGING UNIT 1180 FT. W-20  
 SENSOR #4 CAL. RW OPS 152  
 SENSOR #4 CAL. RW OPS 206  
 SENSOR #4 CAL. BBS \* 0  
 OPERATOR PAUL W. TRUCK # 7615  
 LOGGING COMPANY WYOMING FUEL

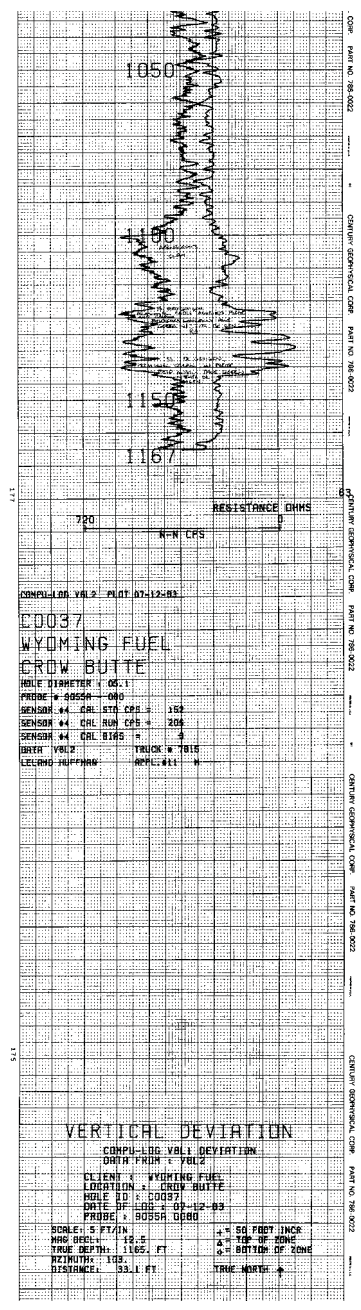
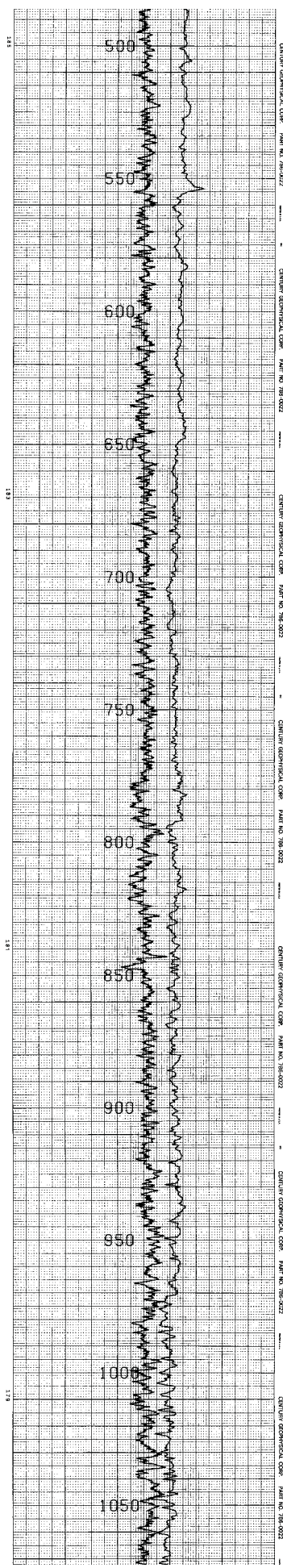
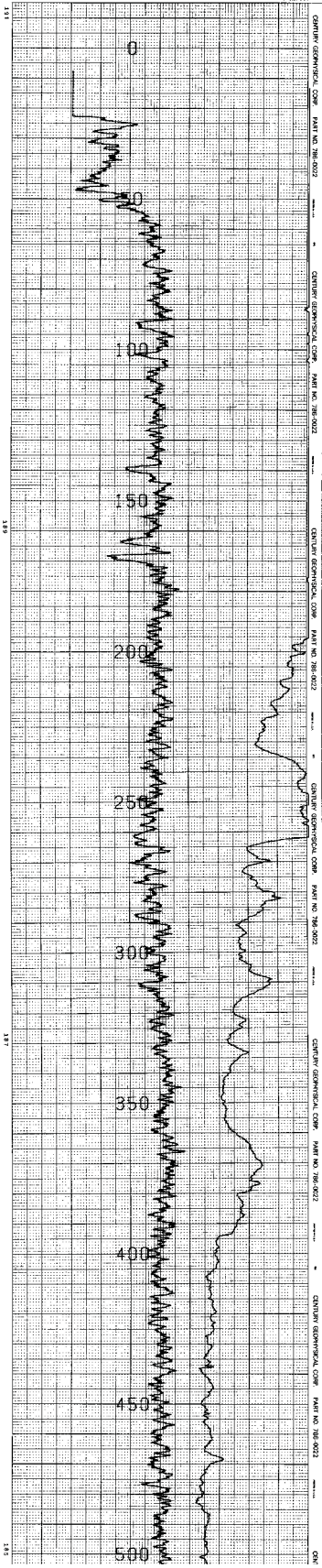
**VERTICAL DEVIATION**  
 COMPANY LOG # 26  
 WYOMING FUEL  
 CROW BUTTE  
 HOLE DIAMETER 4 INCH  
 LOGGING UNIT 1180 FT. W-20  
 SENSOR #4 CAL. RW OPS 152  
 SENSOR #4 CAL. RW OPS 206  
 SENSOR #4 CAL. BBS \* 0  
 OPERATOR PAUL W. TRUCK # 7615  
 LOGGING COMPANY WYOMING FUEL



**LOG C-36**

CENTURY GEOPHYSICAL CORPORATION Log Title		C-37	07-12-03
WYOMING FUEL		WILLIAM CASPER	
LOG NO:	C-37	DATE:	07-12-03
LOCATION:	CROW BUTTE	DRIVER:	WEB
OPERATOR:	DAVID	LOG NO.:	20

HOLE DATA	
WELL DEPTH:	1165 FT
LOG DEPTH:	1165 FT
LOG TYPE:	1165 FT
LOG DATE:	07-12-03
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM
LOG TIME:	10:00 AM



COMPUTED VBL2 PLOT 07-12-03  
**C0037**  
**WYOMING FUEL**  
**CROW BUTTE**  
 HOLE DIAMETER = 05.1  
 PROBE # = 9859A-000  
 SENSOR #1 CBL STD. CBL = 159  
 SENSOR #4 CBL RUN CBL = 206  
 SENSOR #4 CBL BIAS = 0  
 BIRTH VBL2 TRUCK # 7018  
 LOGGING PERSON: APPL: #11 W

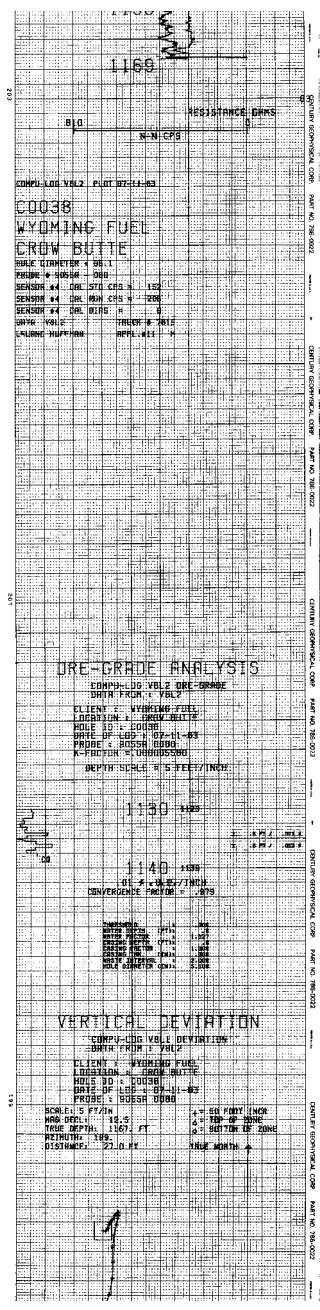
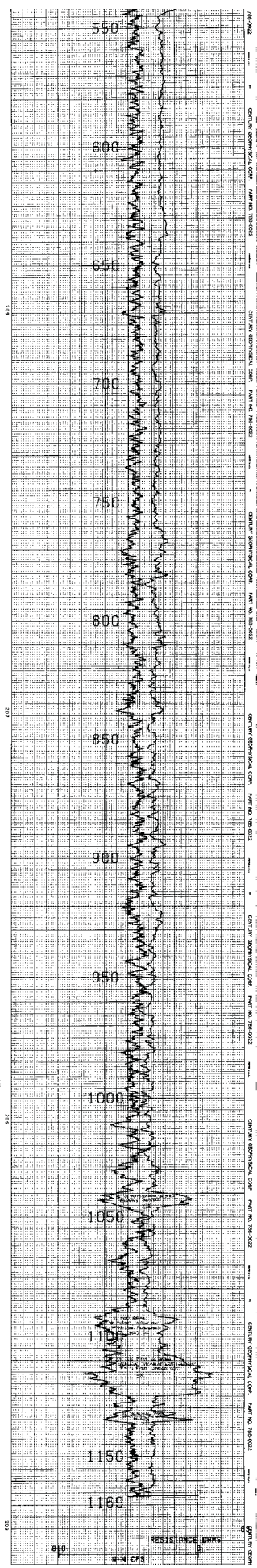
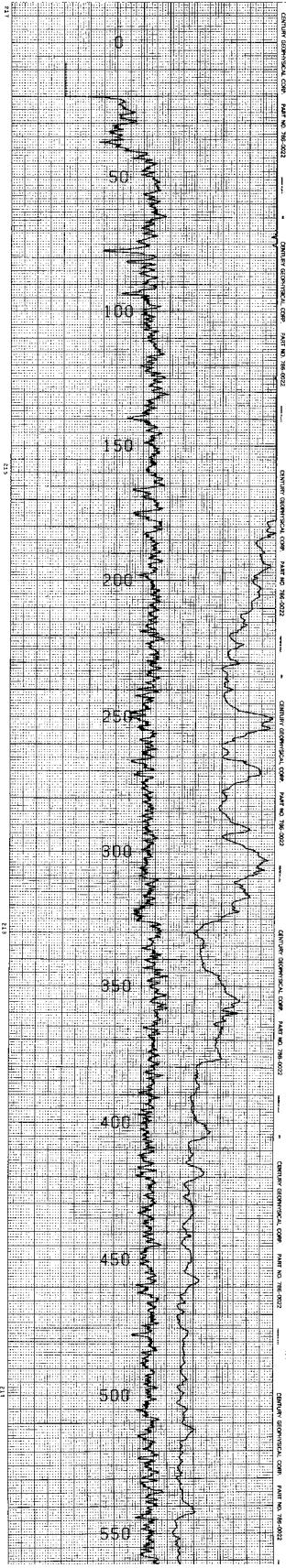
**VERTICAL DEVIATION**  
 COMPUTED VBL1 DEVIATION  
 DATA FROM = VBL2  
 CLIENT = WYOMING FUEL  
 LOCATION = CROW BUTTE  
 HOLE ID = C0037  
 DATE OF LOG = 07-12-03  
 PROBE = 9859A-0000  
 SCALE: 5 FT/INCH + = 50 FOOT INCH  
 WVD SCALE = 12.5 \* = TOP OF ZONE  
 TRUE DEPTH = 1165 FT \* = BOTTOM OF ZONE  
 AZIMUTH = 105 TRUE NORTH  
 DISTANCE = 33.1 FT TRUE NORTH

**CROW BUTTE RESOURCES, INC.**

**LOG C-37**

630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

CENTURY GEOPHYSICAL CORPORATION 2011-11-03	
WYOMING FUEL	
CROW BUTTE	
DAMES	
JOB NO. 2011-11-03	
PROJECT DATA	
CLIENT	WYOMING FUEL
PROJECT	CROW BUTTE
DATE	2011-11-03
TIME	08:00
LOCATION	
EQUIPMENT DATA	
SYSTEM	RESISTIVITY
PROBE	RESISTIVITY
DEPTH	5 FEET/INCH
DRILLER/LOG	
J. CHEN	

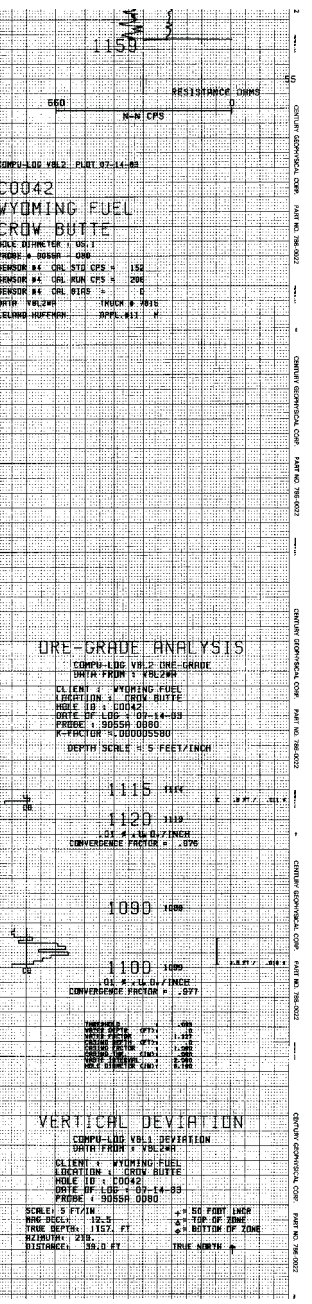
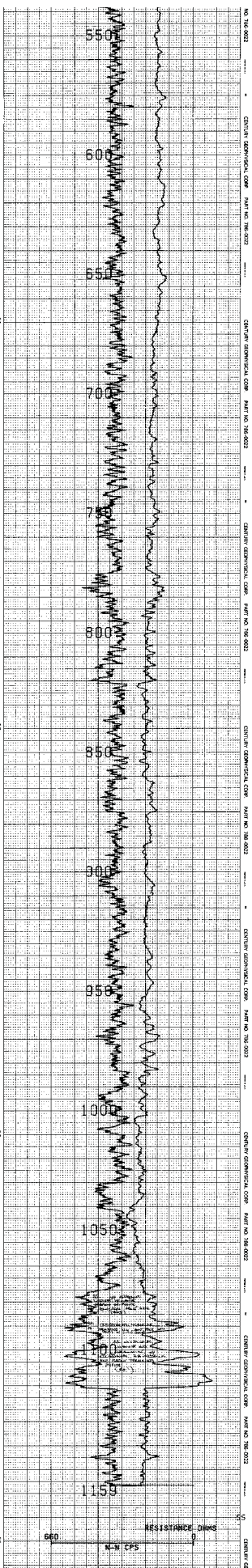
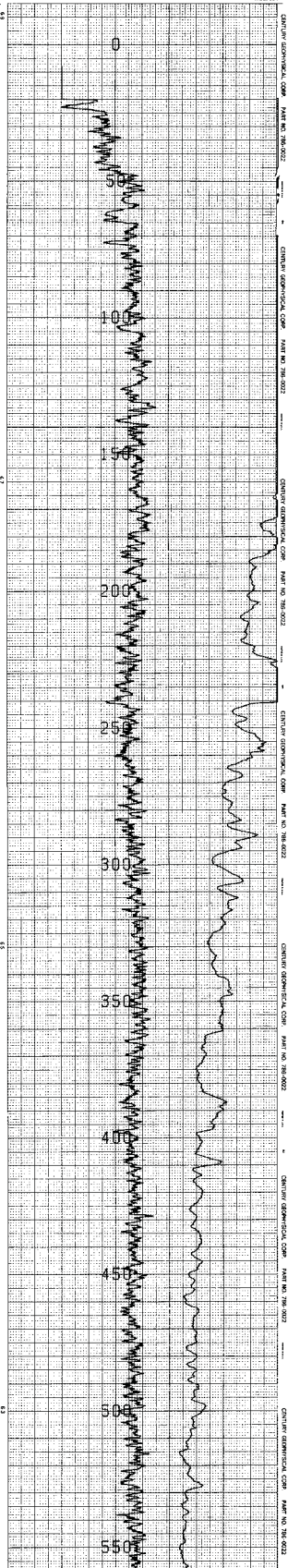


LOG C-38

**CENTURY GEOPHYSICAL CORPORATION**  
 Task Number: **107-14-08**  
**WYOMING FUEL**  
**C-42**  
**CROW BUTTE**  
**DALLAS**

**EQUIPMENT DATA**  
 OPERATOR: **CHRISTOPHER**  
 DATE: **05/09/12**  
 TIME: **10:00**  
 LOCATION: **NEB**

**LOG DATA**  
 SENSORS: **152**  
 SENSORS: **200**  
 SENSORS: **152**  
 SENSORS: **200**  
 SENSORS: **152**  
 SENSORS: **200**

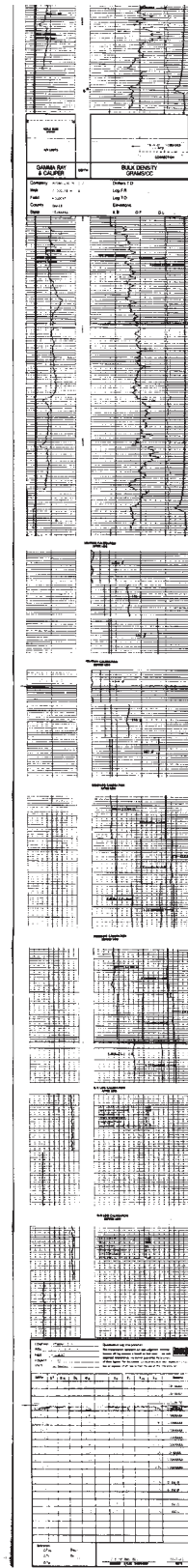
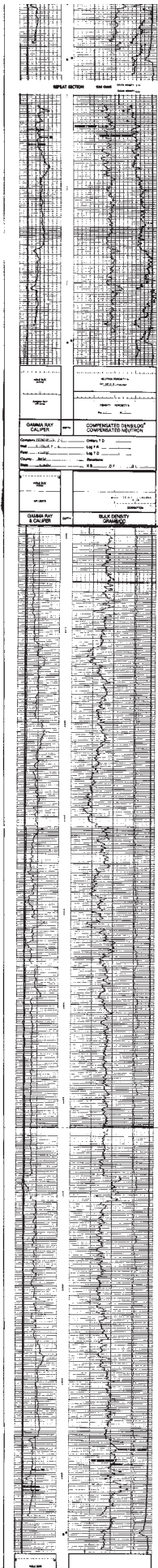
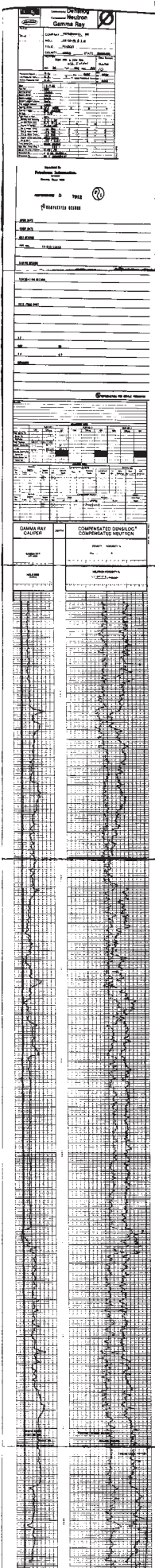


**CROW BUTTE RESOURCES, INC.**

**LOG C-42**

**ARCADIS** 630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P. 720-344-3500 F. 720-344-3535  
 www.arcadis-us.com

6




CROW BUTTE  
RESOURCES, INC.

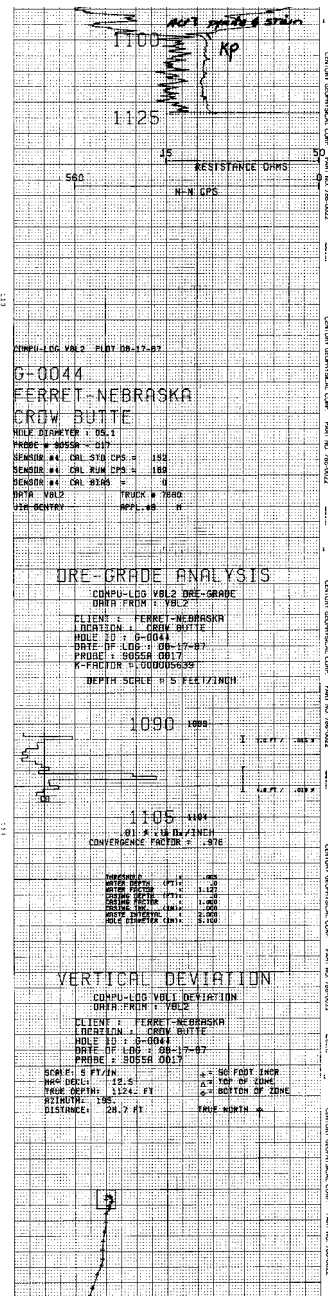
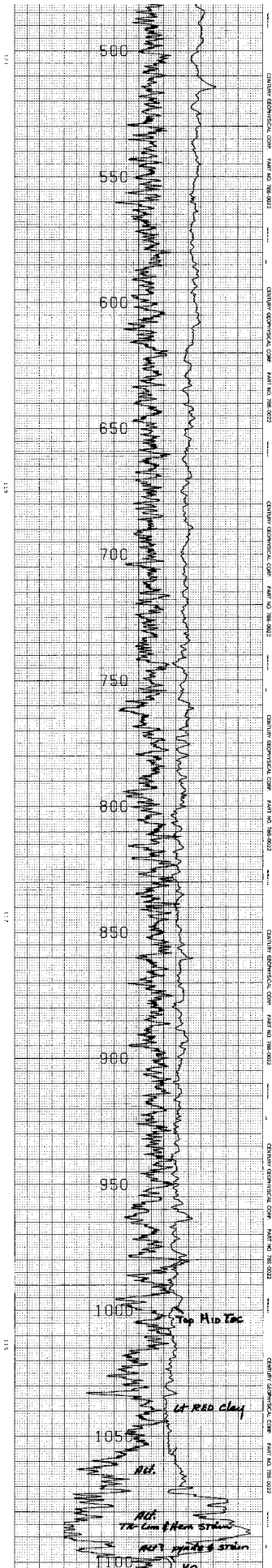
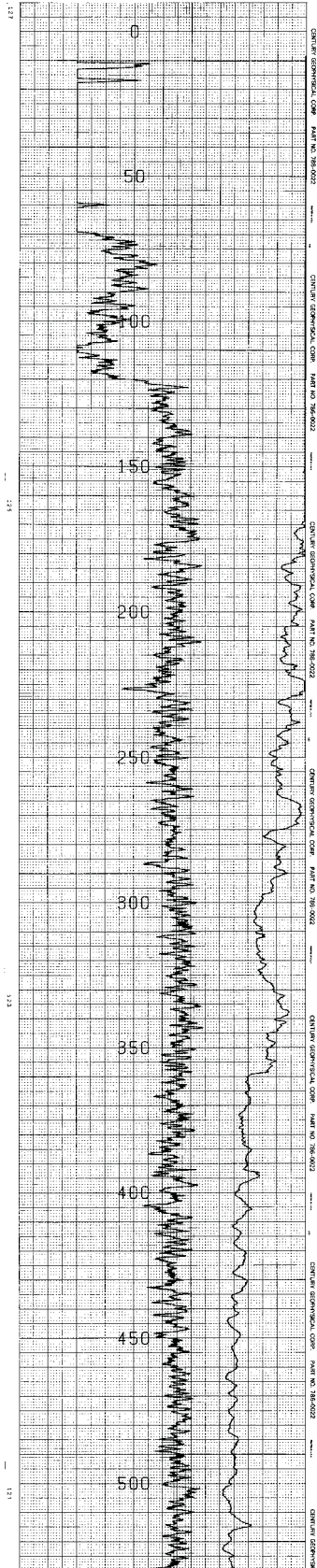
### CHICOINE 1A LOG




630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com



 <b>CENTURY GEOPHYSICAL CORPORATION</b> Falls, Colorado		<b>G-0044</b> 8-17-87 344 7th. Colby 70 USA
<b>FERRET-NEBRASKA</b> G-0044 CROW BUTTE DAWES 30N NE 33 SEW		
<b>EQUIPMENT DATA</b> SENSORS: 1000, 1000, 1000, 1000 CABLES: 1000, 1000, 1000, 1000 BATTERIES: 1000, 1000, 1000, 1000 OPERATOR: J. Chen DATE: 8-17-87		
<b>FIELD DATA</b> HOLE ID: G-0044 DATE OF LOG: 08-17-87 PROBE: BOSSER 0017 K-FACTOR: 0.00005035 SCALE: 5 FEET/INCH SCALE: 12.5 TRAP DEPTH: 1124. FT RITHM: 135 DISTANCE: 28.7 FT TRAP NORTH		
NESE 425' N of R43 Manning		






**CROW BUTTE  
RESOURCES, INC.**

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**LOG G-44**

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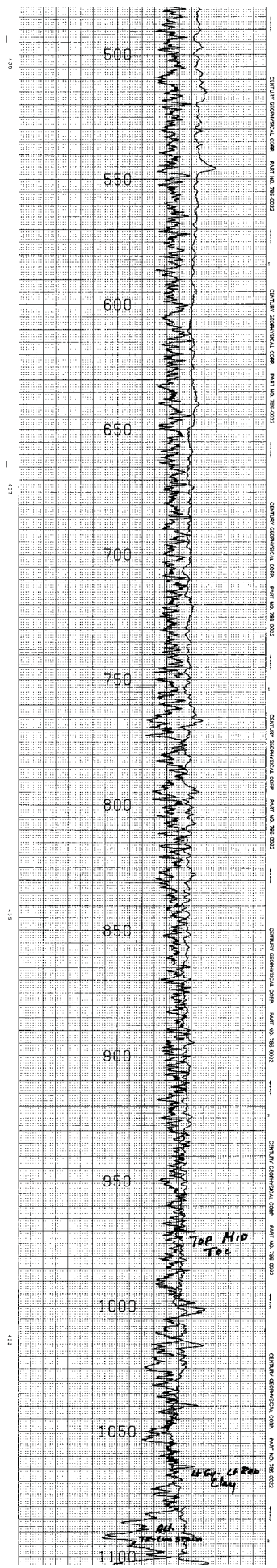
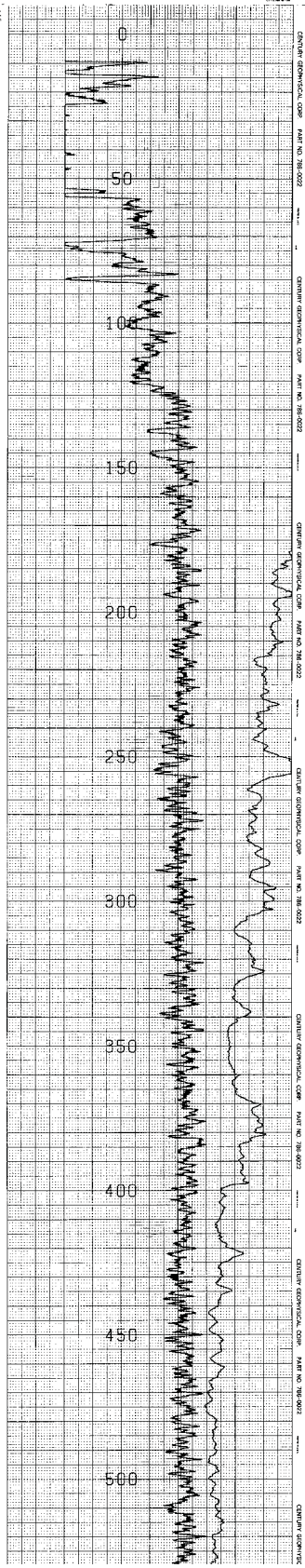


630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

**8**

CENTURY GEOPHYSICAL CORPORATION Full Service		G-0050 8-25-97 N.W.S.E. Quarry T.A.S.A	
<b>FERRET-NEBRASKA</b> G-0050 <b>CROW BUTTE</b> 1150' <b>DAWES</b> NE 35                      S.W.			
EQUIPMENT DATA			
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR
LOG #	LOG DATE	LOG TIME	LOG OPERATOR

*NWSE  
400 N of G-48  
Manning*



**7-8 Cor Station**  
**1100**  
*1158*  
**RESISTANCE OHMS**  
**IN-CPS**

COMPU-LOG VBL2 PLT1 DE-25-B7  
**G-0050**  
**FERRET-NEBRASKA**  
**CROW BUTTE**  
 REL. SURF. TO 100'  
 PROBE: BSSR 0013  
 SENSOR #1: CHL STD OPS # 152  
 SENSOR #2: CHL RUN OPS # 150  
 SENSOR #3: CHL BIAS # 1  
 DATE: 8/25/97  
 TIME: 12:35  
 TRUCK # 7601  
 JIM: BENTLEY      RAY: LARSON #

**DRE-GRADE ANALYSIS**  
 COMPU-LOG VBL2 DRE-GRADE  
 DATA FROM: VBL2  
 CLIENT: FERRET-NEBRASKA  
 LOCATION: CROW BUTTE  
 HOLE ID: G-0050  
 DATE OF LOG: 08-25-97  
 PROBE: BSSR 0013  
 K-FACTOR: 0.00005539  
 DEPTH SCALE: 5 FEET/INCH

**1125** 1195  
 01 2 x 8 IN / 1 INCH  
 CONVERGENCE FACTOR: .880

**1135** 1195  
 01 2 x 8 IN / 1 INCH  
 CONVERGENCE FACTOR: .880

**1110** 1195  
 01 2 x 8 IN / 1 INCH  
 CONVERGENCE FACTOR: .897

**1115** 1195  
 01 2 x 8 IN / 1 INCH  
 CONVERGENCE FACTOR: .897


SENS. 1	1125	1195
SENS. 2	1135	1195
SENS. 3	1110	1195
SENS. 4	1115	1195
SENS. 5	1125	1195
SENS. 6	1135	1195
SENS. 7	1110	1195
SENS. 8	1115	1195
SENS. 9	1125	1195
SENS. 10	1135	1195

**VERTICAL DEVIATION**  
 COMPU-LOG VBL1 DEVIATION  
 DATA FROM: VBL2  
 CLIENT: FERRET-NEBRASKA  
 LOCATION: CROW BUTTE  
 HOLE ID: G-0050  
 DATE OF LOG: 08-25-97  
 PROBE: BSSR 0013

SCALE: 1 FT/IN	± 50 FOOT INCH
MAP SCALE: 1:2.5	± TOP-OF-ZONE
TRUCK DEPTH: 1100 FT	± BOTTOM-OF-ZONE
AZIMUTH: 420	±
DISTANCE: 6.8 FT	TRUCK DEPTH: ±



**LOG G-50**



# Century

G-00e5

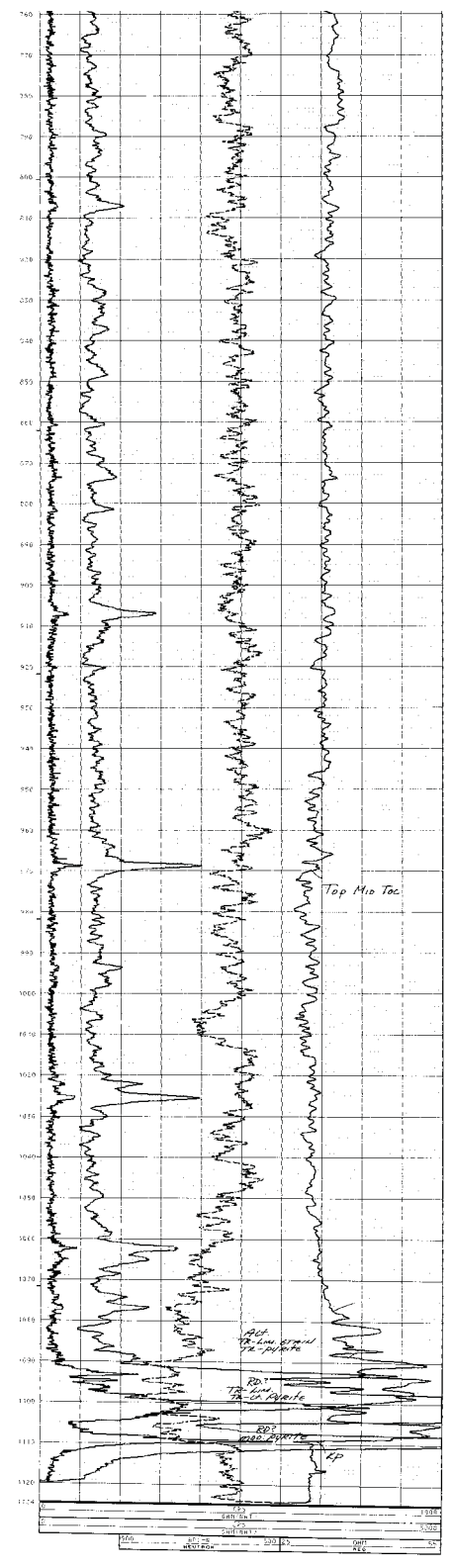
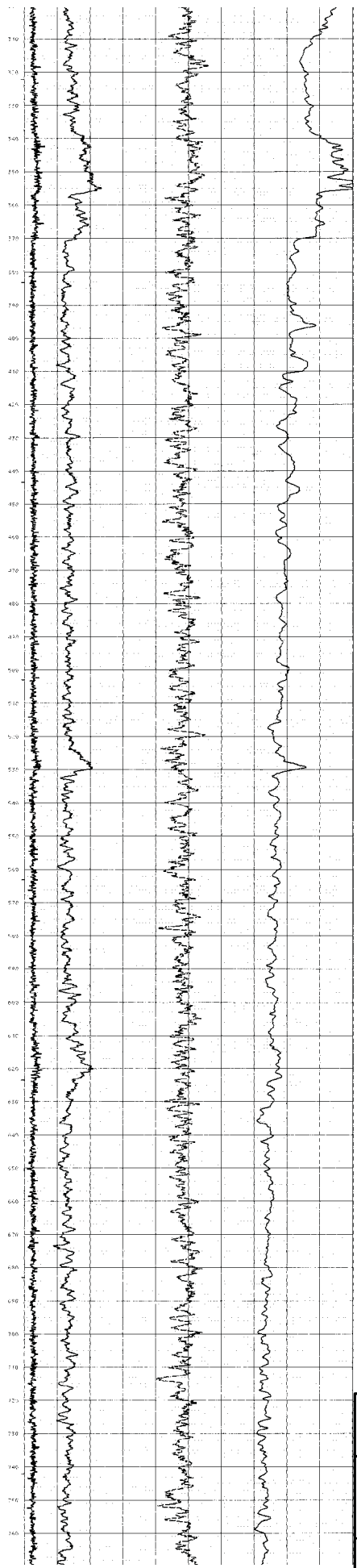
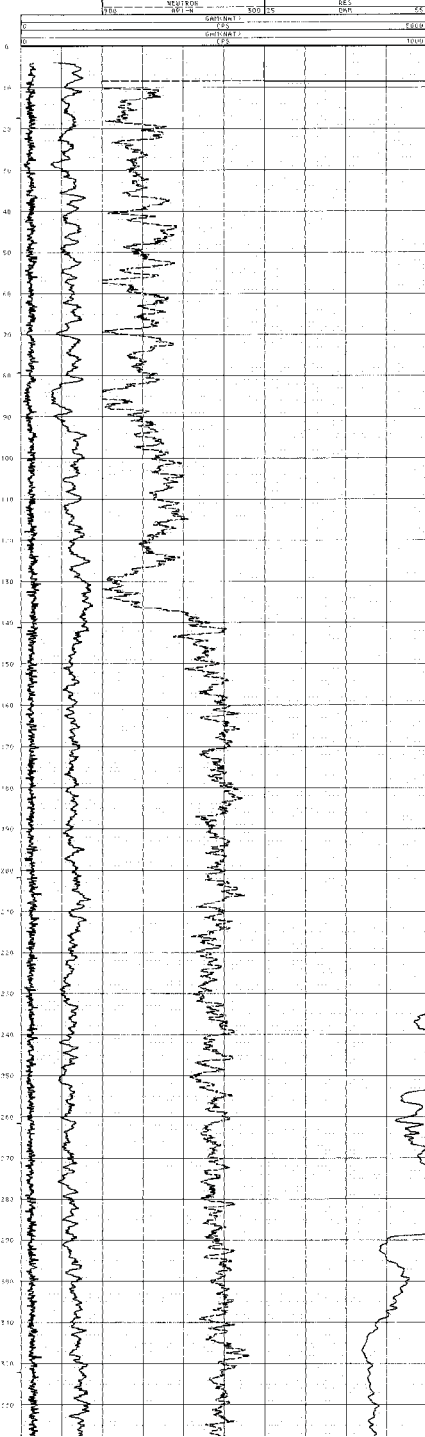
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COMPANY : FERRET-HEBEGAN WELL : G-00e5 LOCATION/FIELD : SPAN BUTTE COUNTY : JAMES STATE : MONTANA SECTION : 25 40R50P	OTHER SERVICES : NONE TOWNSHIP : 30W RANGE : 51N
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DEPTH : 1021.07 CASINO DRILLER : C CASINO THICKNESS : C EST. DATE : 1-1-125 MAGNETIC DEVL. : 12.0 POROSITY DENSITY : 1.68 FLUID DENSITY : 1.0 SECTION DEPTH : 2006.4 REFERENCE : 2006.4	FORMER DATE : GL ELEV. FROM DATUM : 4300' LOG MEASURED FROM : GL DP : 1 LOG MEASURED FROM : GL LOG : 1 LOGGING UNIT : 8704 FIELD OFFICE : TULSA RECORDED BY : JOHN GURBY	ELEVATIONS : M : F : D : L : FILE : ORIGINAL PIPE : WESSE LOG : 1 PLOT : LOGMAN 14 THRESH : 2.000
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ALL SERVICES PROVIDED SUBJECT TO CCC STANDARD TERMS AND CONDITIONS






## CROW BUTTE RESOURCES, INC.


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### LOG G-65

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630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com



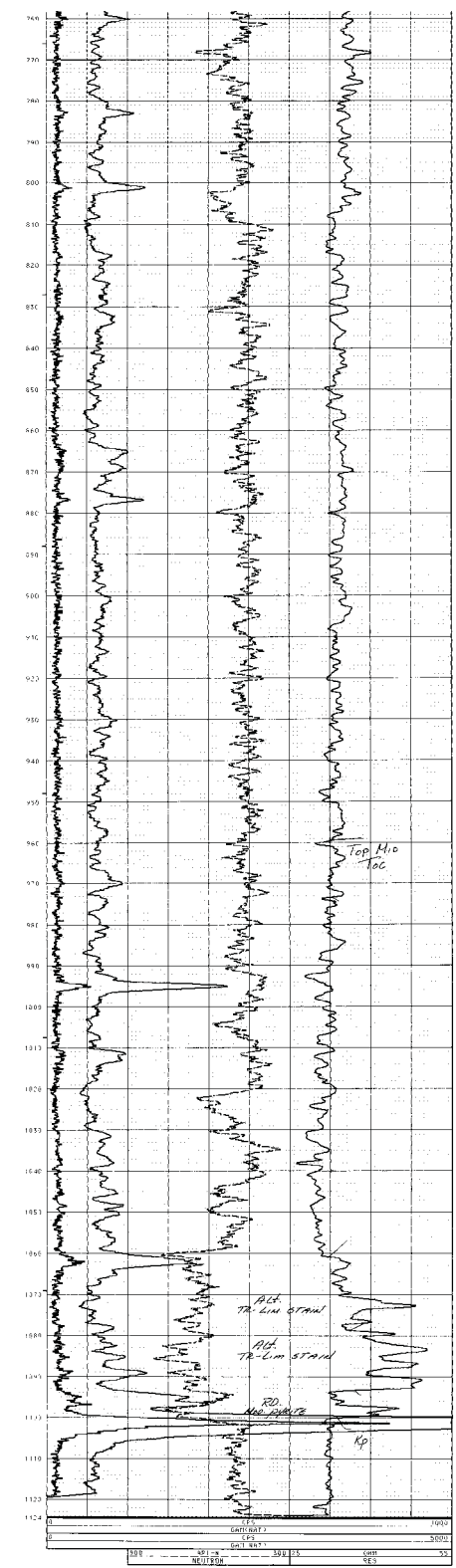
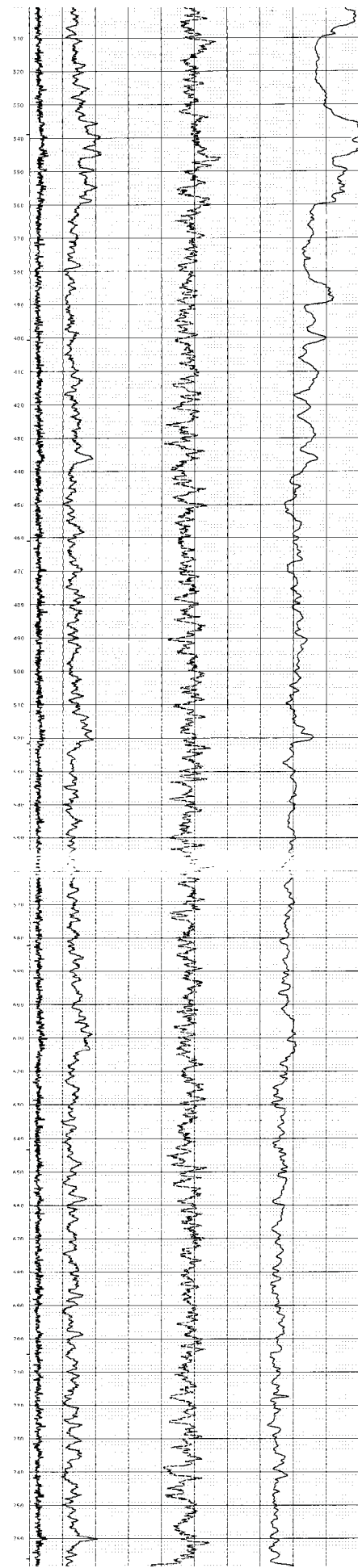
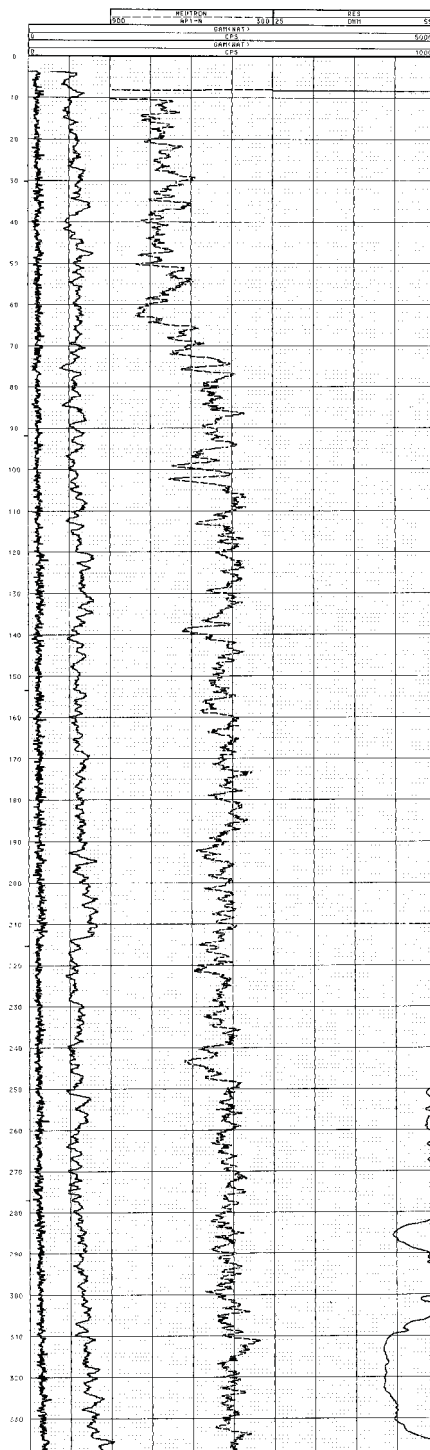
**G-0071**


COMPANY : PERRET-MERASKAN	OTHER SERVICES : NONE
WELL / OFFFIELD : G-0071	
COUNTY : GUNN RIFLE	
SECTION : 35 SE/4E	TOWNSHIP : 30N
DATE : 10/29/07	PERMIT DATION : GL
DEPTH BOLLER : 1120	ELEV. FROM DATUM : 830
LOG BOTTOM : 1124.45	LOG MEASURED FROM : GL
LOG TOP : 1.70	DR. MEASURED FROM : GL
CORING BOLLER : 0	LOGGING UNIT : 8704
CASING TYPE : 0	FIELD OFFICE : TALSIA
CASING THICKNESS : 0	RECORDED BY : JIP GENTRY

BIT SIZE : 8 1/2	BOREHOLE FLUID : M30-SEL	FILE : ORIGINAL
MAGNETIC DECL. : 32.5	IN	TYPE : WESS
PALEO DEPTH : 2.48	W. TEMPERATURE : 70	LOG : 6
FLUID DENSITY : 1.0	METRIC DELTA : 1.5	PLAT : HURAN 16
WELTON MATRIX : SANDSTONE	FLUID DELTA : 210	THRESH : 2000
REMARKS : 450'S 45° from CB		


ALL SERVICES PROVIDED SUBJECT TO CEC STANDARD TERMS AND CONDITIONS



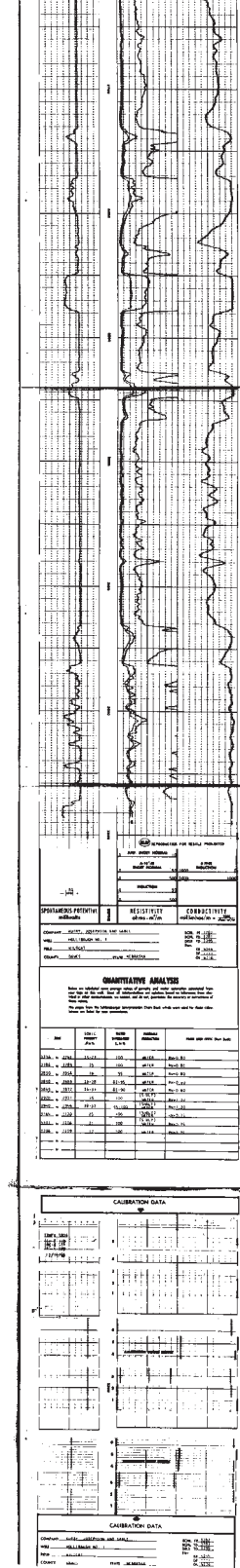
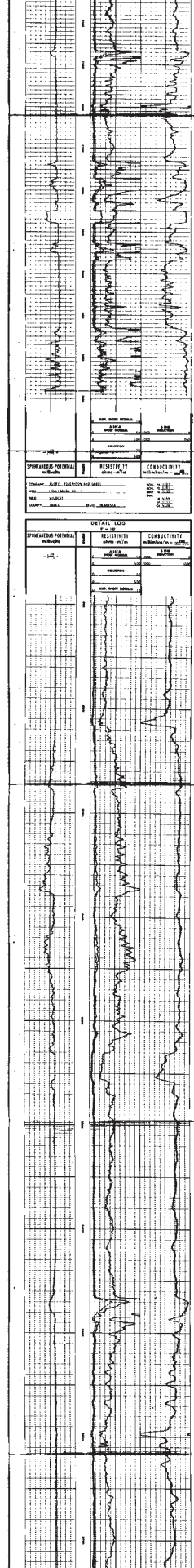
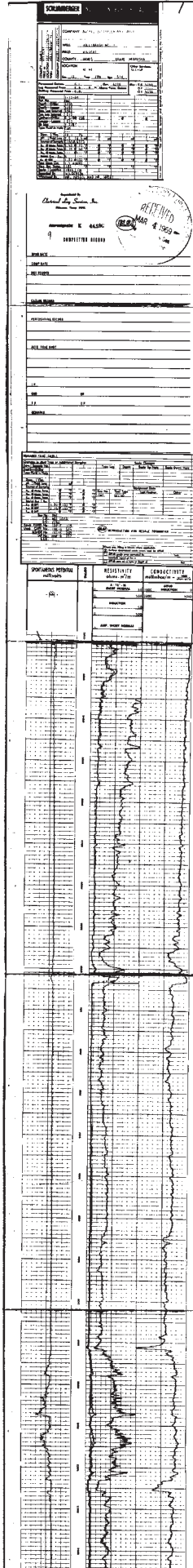



**CROW BUTTE  
RESOURCES, INC.**

**LOG G-71**



630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P. 720-344-3500 F. 720-344-3535  
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**CROW BUTTE  
RESOURCES, INC.**

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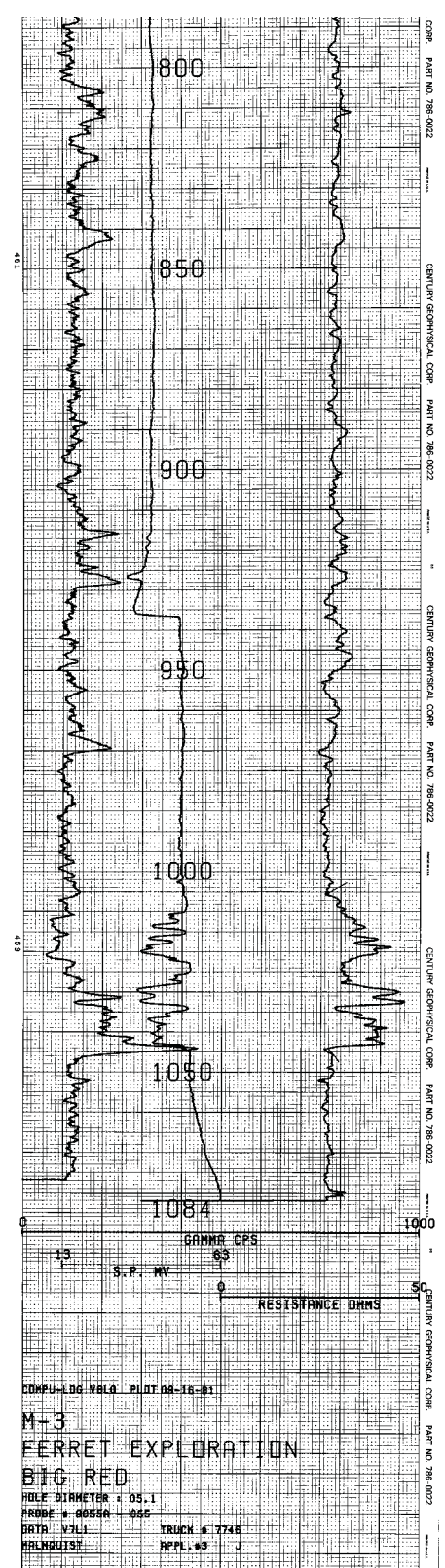
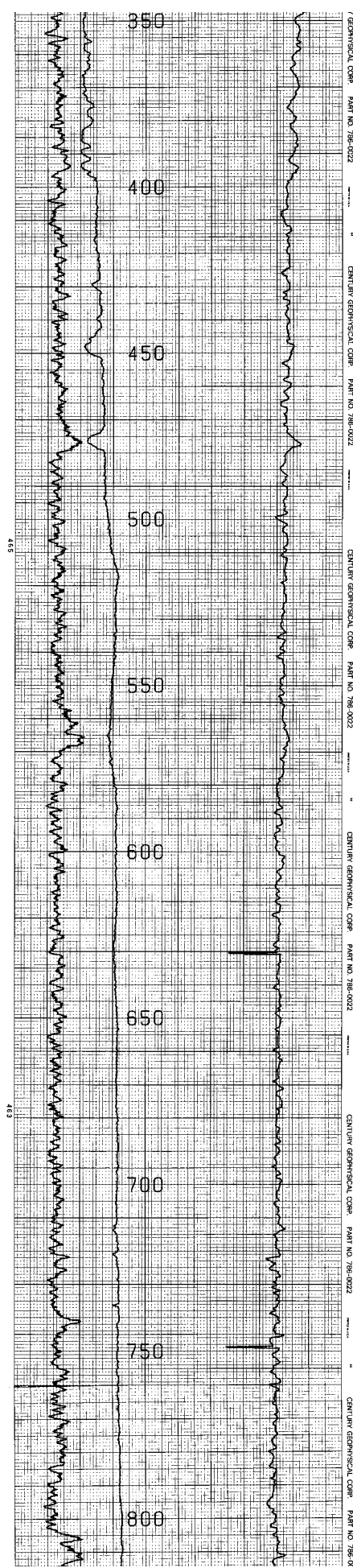
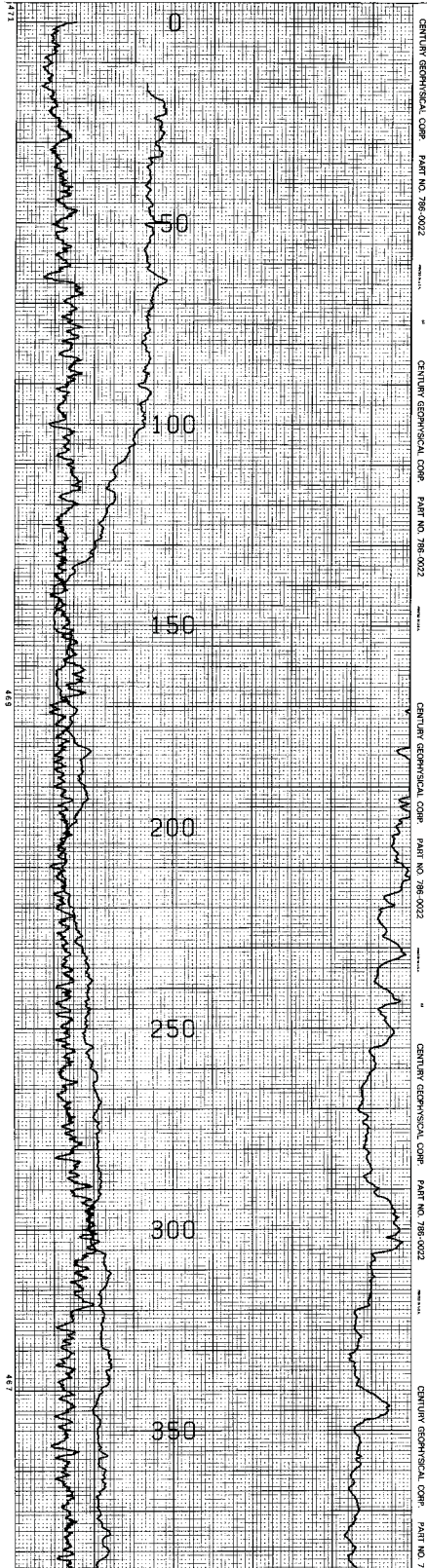
**HOLIBAUGH 1 LOG**

---



630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

CENTURY GEOPHYSICAL CORPORATION  
 Title, Oklahoma N 40S R5E E 11AS552  
**FERRET EXPLORATION 271232**  
 M-3  
 316 RED  
 JAVES  
 12 N 8 W E 21 N  
 NEBRASKA  
 S1W  
 HOLE DATA  
 JOB # 1084  
 HOLE DEPTH - LOGGED 1084  
 TOTAL FORMER LOGS 1084  
 LOGGING METHOD 400/200  
 REFERENCE SURFACE SURFACE  
 REMARKS GAMMA, SP, S2, DEV.  
 5400 - 5400  
 EQUIPMENT DATA  
 STAKE/MAN/COAST CASPER  
 DATE 09 16 81  
 TIME 10:00 AM  
 OPERATOR  
 INSTRUMENT  
 BATTERY  
 GEOPHYSICAL COMPANY PART NO. 786-0022



**CROW BUTTE RESOURCES, INC.**

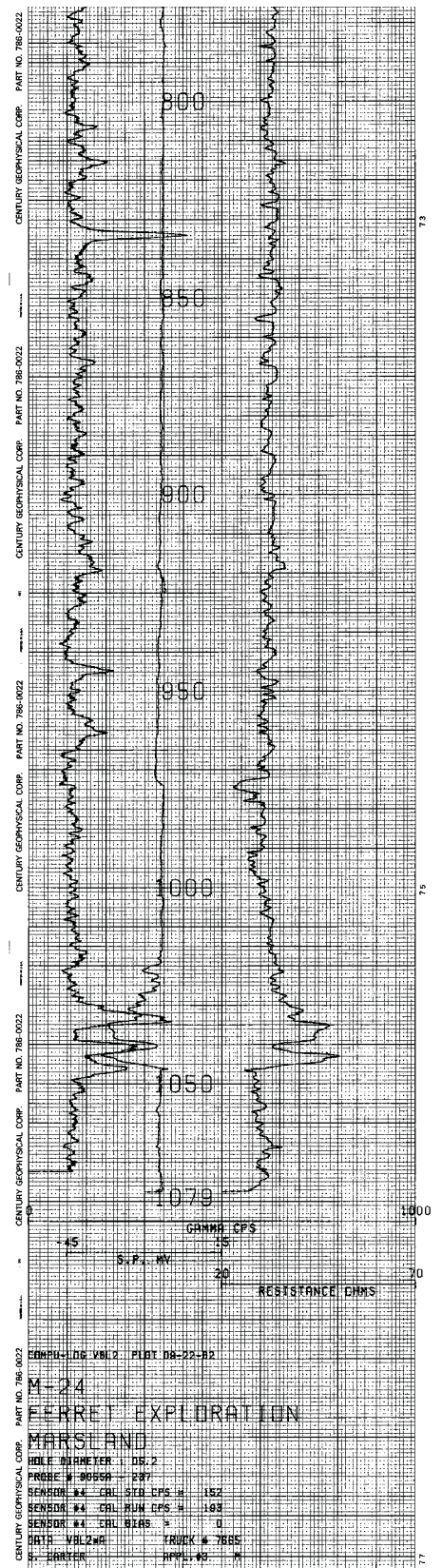
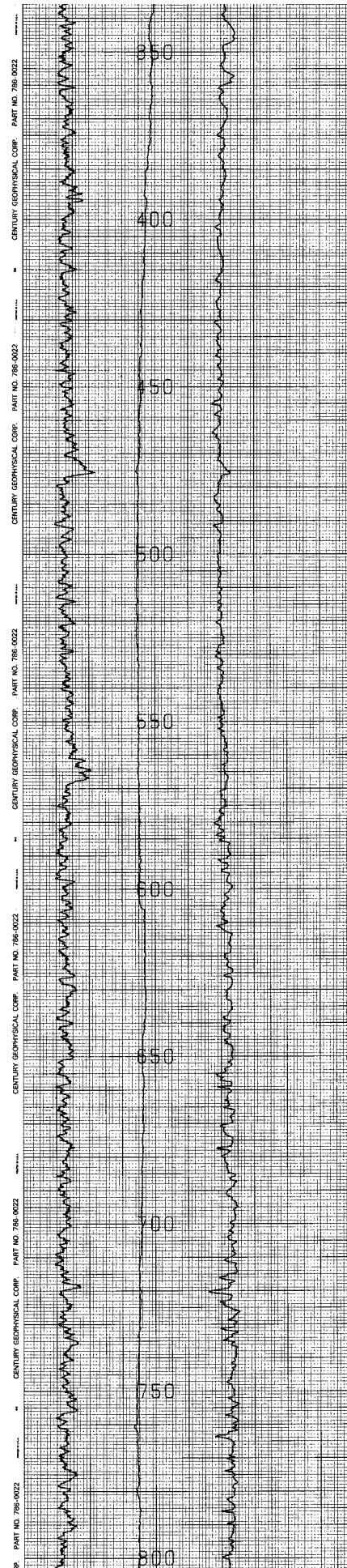
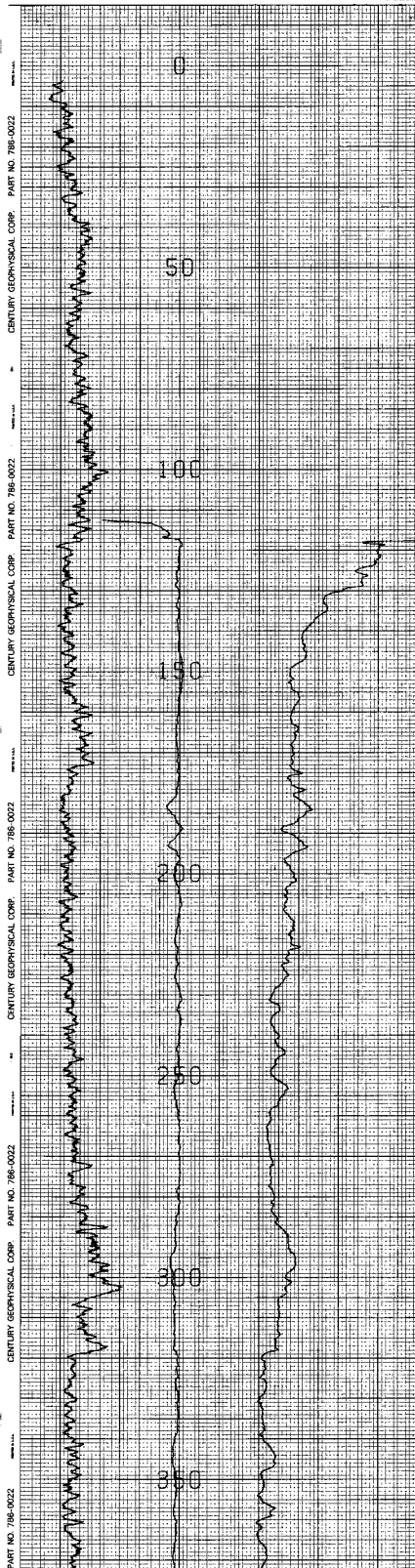
**LOG M-3**



630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P. 720-344-3500 F. 720-344-3535  
 www.arcadis-us.com

533 L62

CENTURY GEOPHYSICAL CORPORATION 151610 2377 FERRET EXPLORATION		M-24 9-22-82 151610 2377 CAMPER
HOLE NO. M-24 MARS LAND DAWES 1.58 NW 2.9 N 51W		
HOLE DATA TOTAL DEPTH - FEET: 1097 TOTAL FOOTAGE LOGGED: 1074 LOGGING INTERVAL: 10' MIN PERFORMANCE LEVEL: 6.1 TIME 1980-2020: 2750-2400 REASON: GAMMA, S.P., RES., DEV. LOG NO. 117		
2750' & 2550' of NW COR		
EQUIPMENT DATA LOGGING SYSTEM: 151610 2377 LOGGING RATE: 10' MIN LOGGING INTERVAL: 10' MIN LOGGING DEPTH: 1097 LOGGING FOOTAGE: 1074 LOGGING INTERVAL: 10' MIN LOGGING PERFORMANCE LEVEL: 6.1 LOGGING TIME: 1980-2020 LOGGING REASON: GAMMA, S.P., RES., DEV. LOGGING LOG NO. 117		



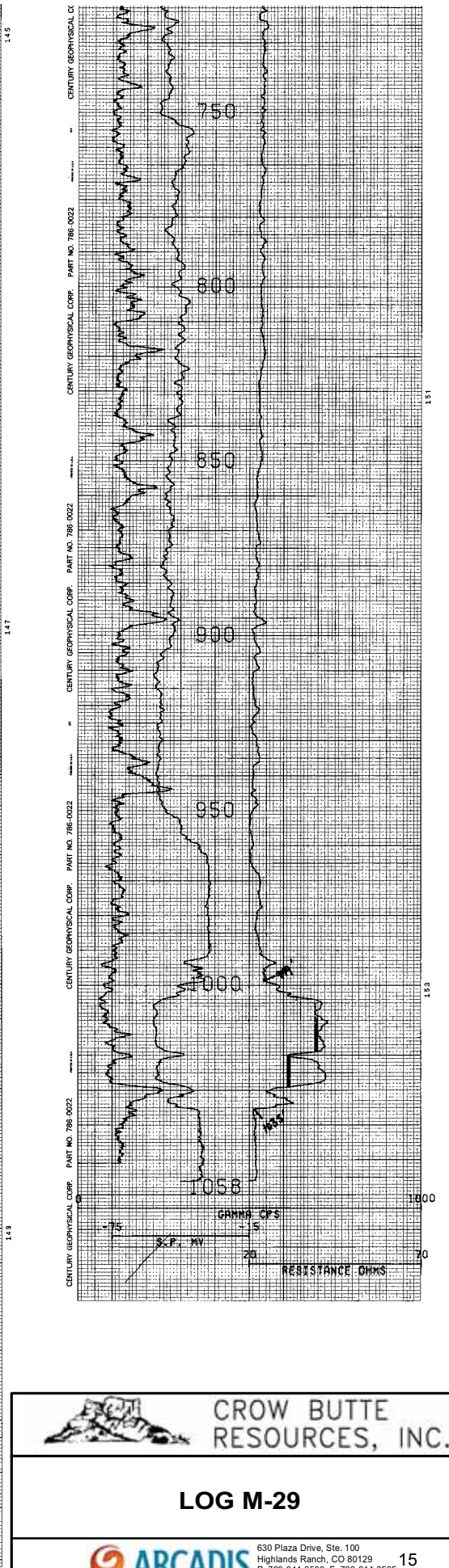
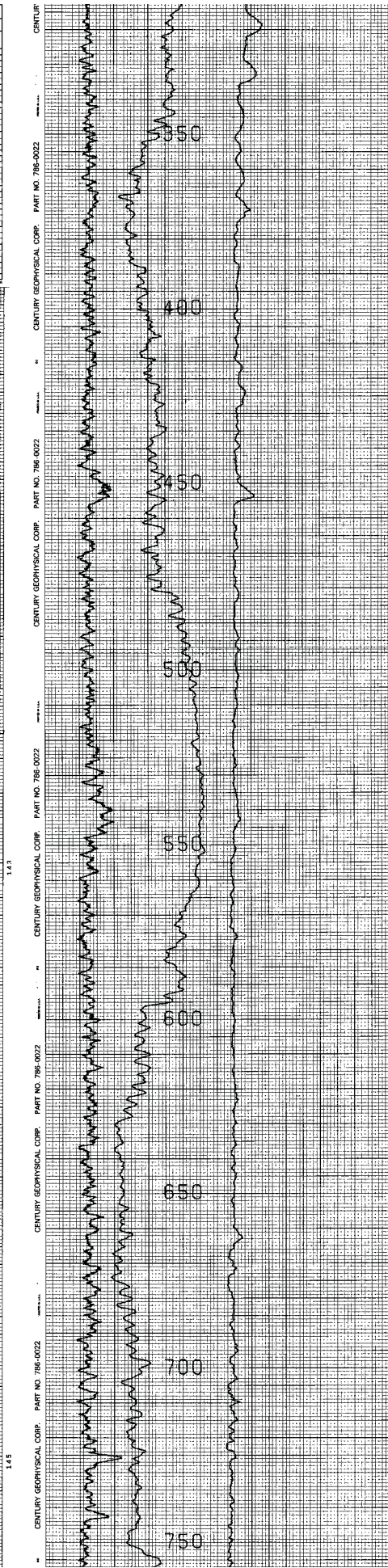
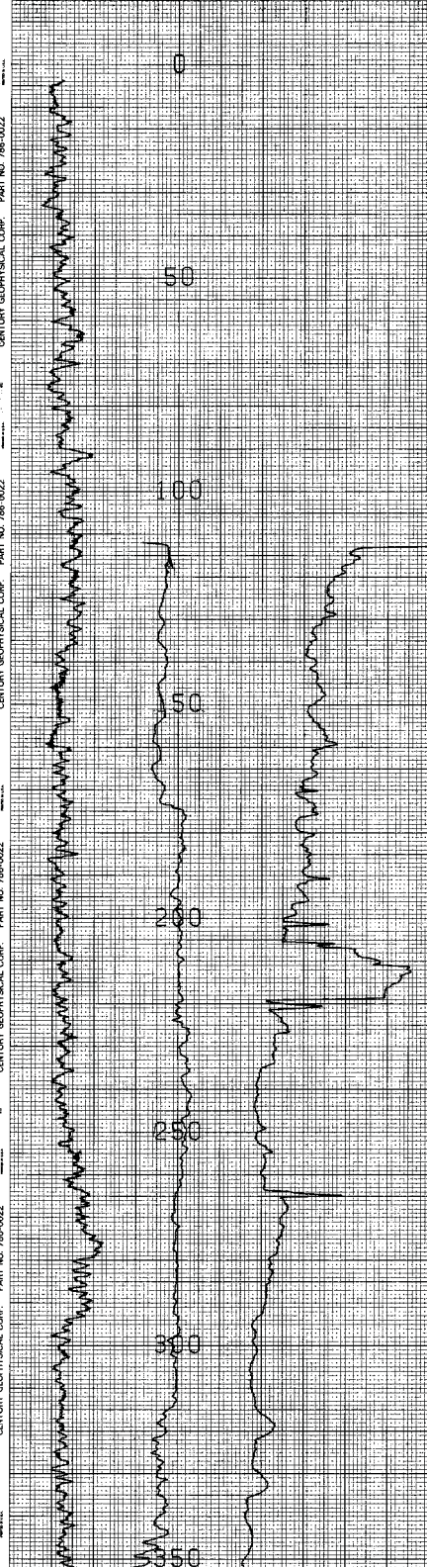
CROW BUTTE  
RESOURCES, INC.

LOG M-24



630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

CENTURY GEOPHYSICAL CORPORATION Total Ohms: 112,490 112,490		DATE: M-29 TIME: 9:24-82 OPERATOR: CASPER
PROJECT: FERRET EXPLORATION 13.5/2 1662		
WPT: M-29 LOC: MARSLAND DAWES 17 NE 36 29.1 51W	HOLE DATA TOTAL DEPTH - SHALLER: 1000' 54" TOTAL DEPTH - LOGGED: 1058' LOGGING SPEED: 60' / MIN REFERENCE LEVEL: G.L. PROJECT NO: 766A-217 SOFTWARE LEVEL: V444A	EQUIPMENT DATA SYSTEM: CASPER LOGGING SPEED: 60' / MIN REFERENCE LEVEL: G.L. PROJECT NO: 766A-217 SOFTWARE LEVEL: V444A
TIME: 1000-1200 RECORD: GAMMA, S.P., RES., DEU. 4228 2675-5000 GAMMA S.P. 15 145 RES. 0-20 600' N & 2700' E. 85' N.E. COR.		





**CROW BUTTE  
RESOURCES, INC.**

**LOG M-29**



630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
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15



5477 4783

CENTURY GEOPHYSICAL CORPORATION  
 7000 W. Highway 101, Suite 100, Denver, CO 80231  
 Tel: 303.440.3553 Fax: 303.440.3554

FERRAT EXPLORATION 3536265

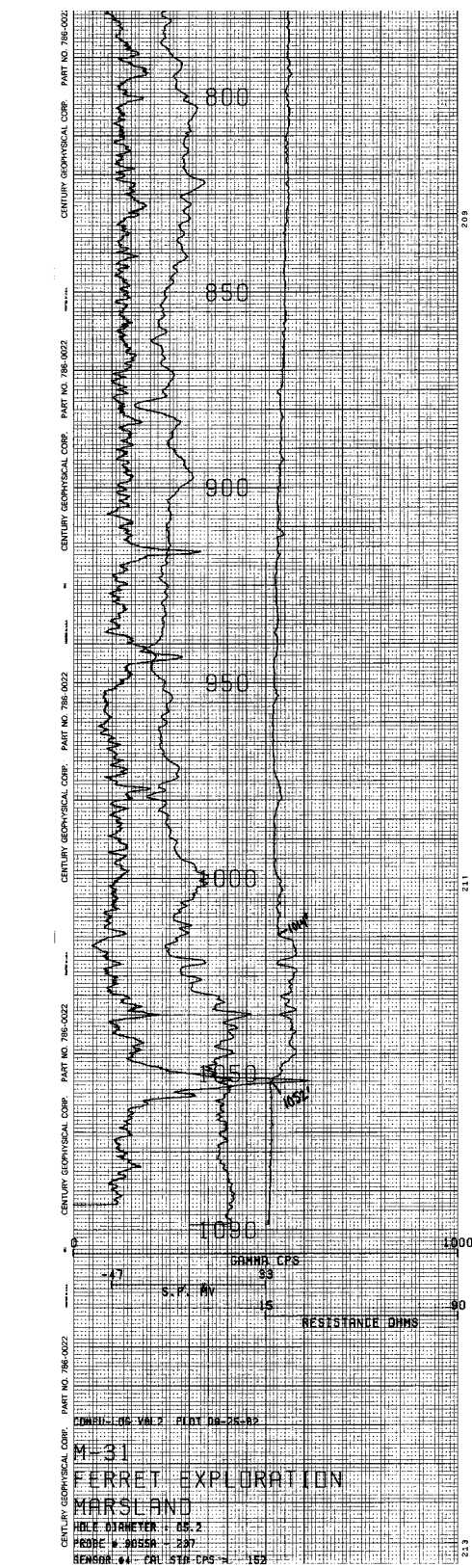
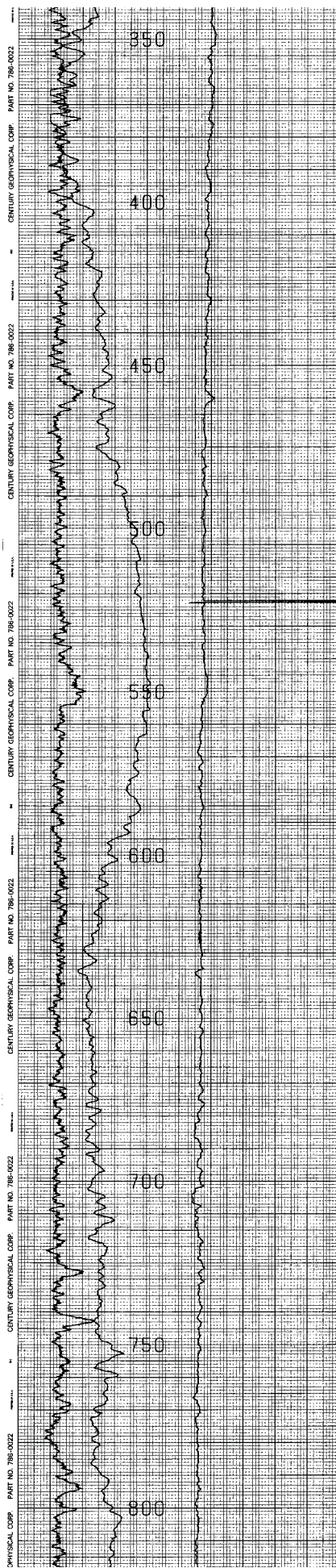
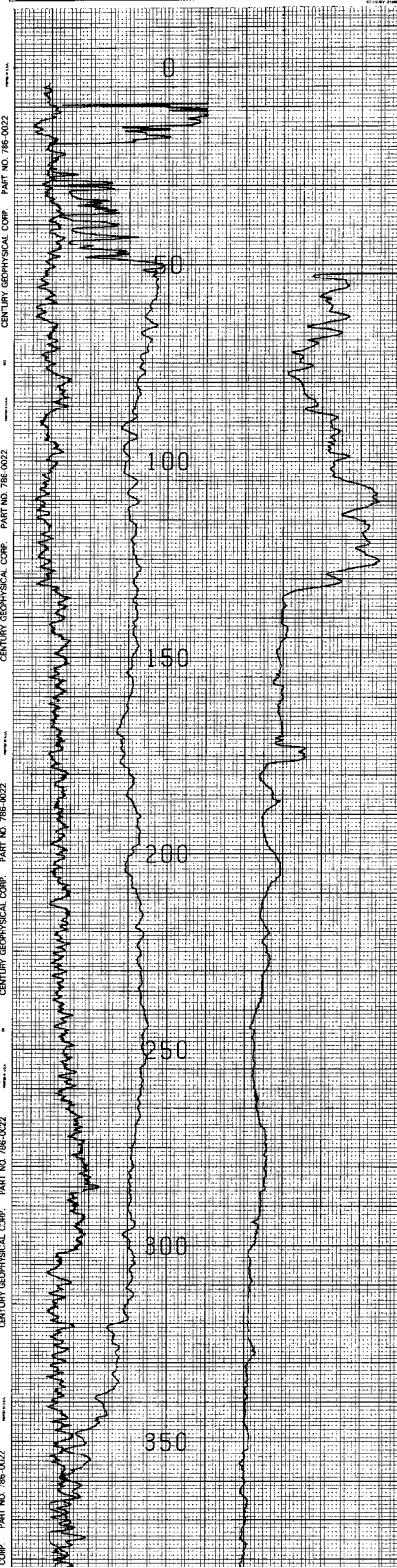
M-31  
 MARS LAND  
 DAWES  
 15 SW 58 2.9N 51W


LOG NO. 4240 4243  
 NEB  
 2.9N 51W

HOLE DATA  
 TOTAL DEPTH - 1090' 1090' 1090'  
 TOTAL LOGGING INTERVAL - 1090' 1090' 1090'  
 LOGGING SPEED - 60' MIN  
 REFERENCE LEVEL - SURFACE  
 TIME 11:55 - 12:55  
 GAMMA SP, RES, DEU


40E 52  
 0175-2800  
 2.850' E & 100' N of SW cor.

EQUIPMENT DATA  
 LOGGING SYSTEM - 7666/7668R  
 LOGGING HEAD - 7666/7668R  
 LOGGING CABLE - 7666/7668R  
 LOGGING TOOL - 7666/7668R  
 LOGGING HEAD - 7666/7668R  
 LOGGING CABLE - 7666/7668R  
 LOGGING TOOL - 7666/7668R

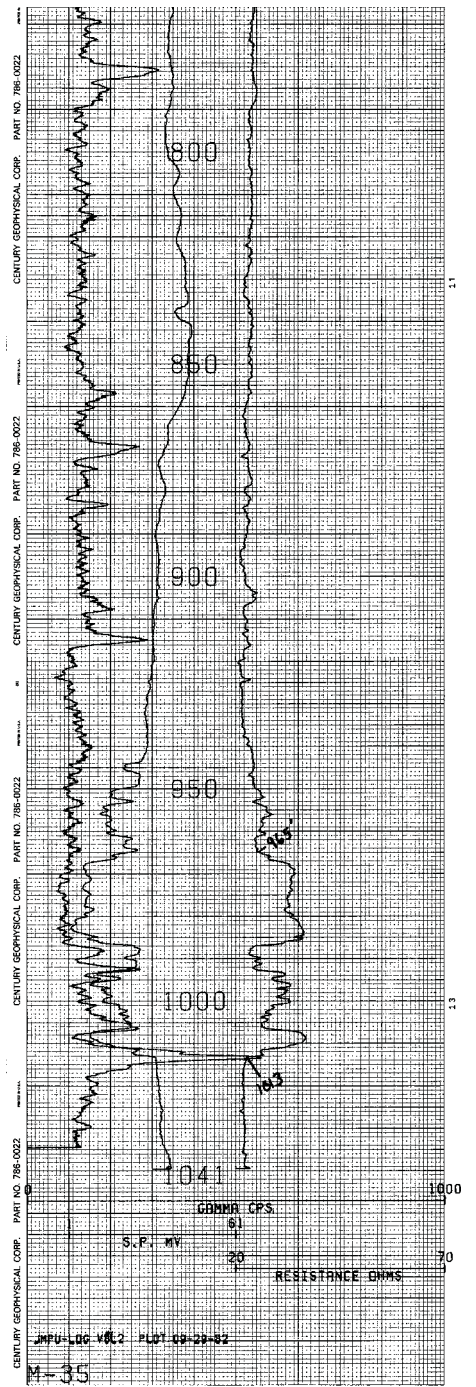
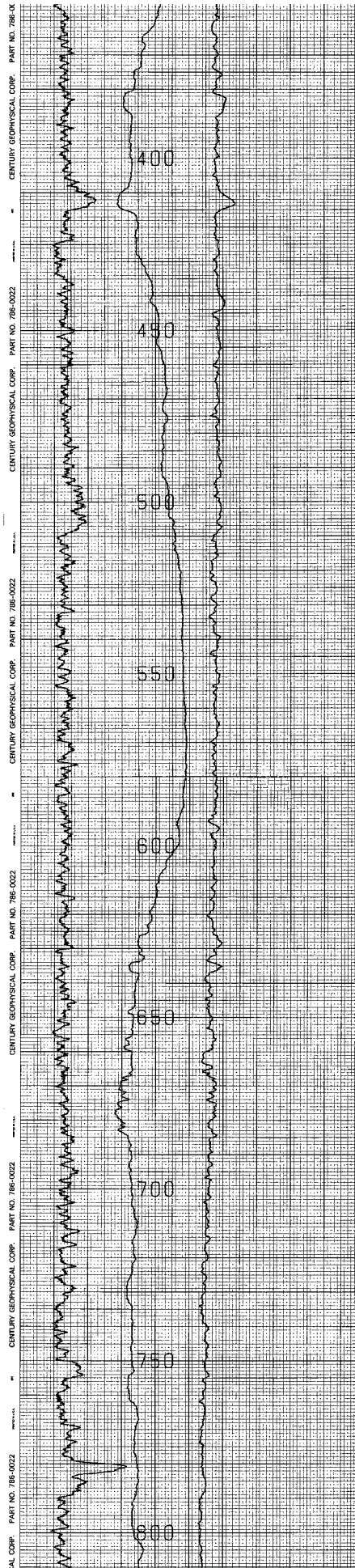
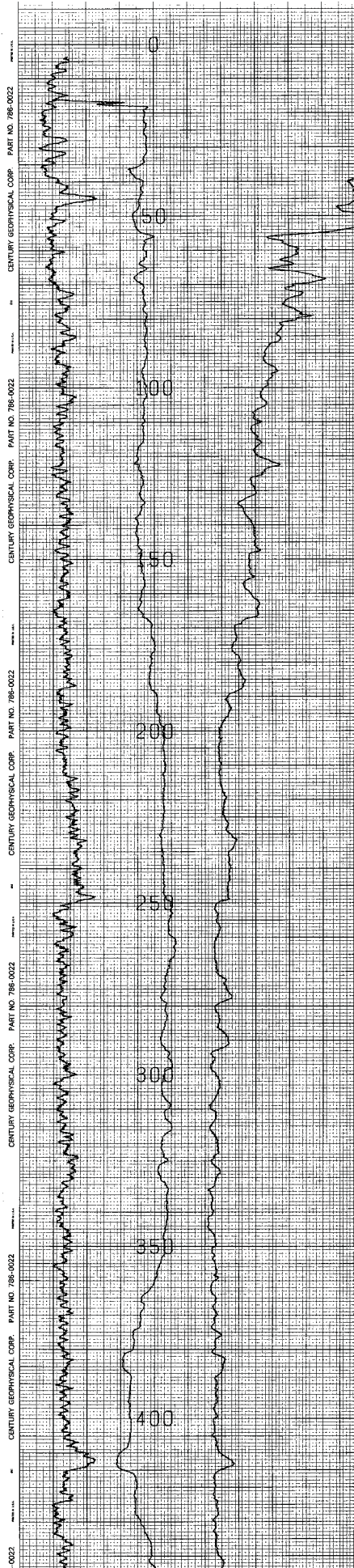


 CROW BUTTE RESOURCES, INC.

**LOG M-31**

 630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
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16



CROW BUTTE  
RESOURCES, INC.

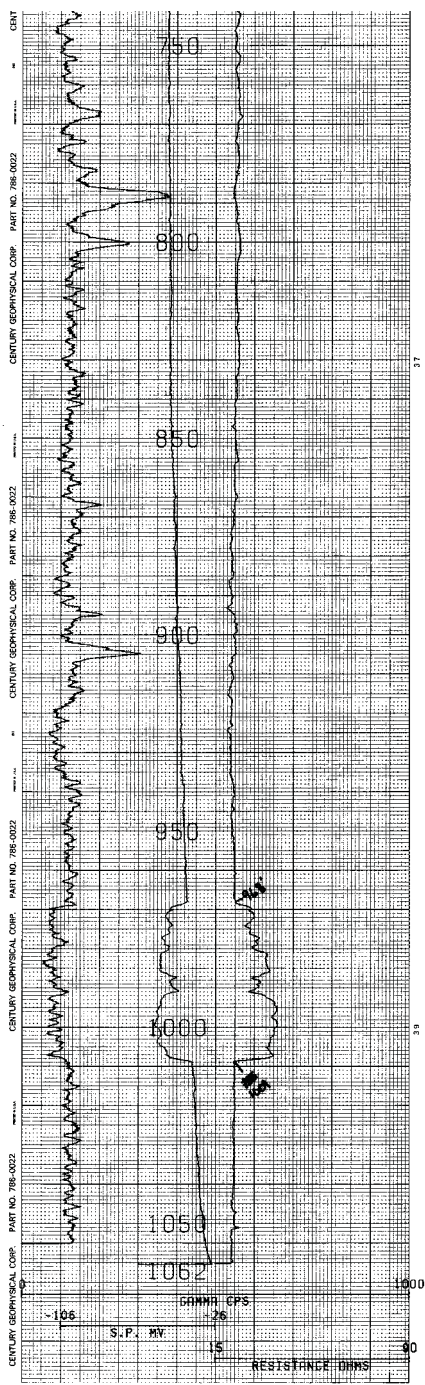
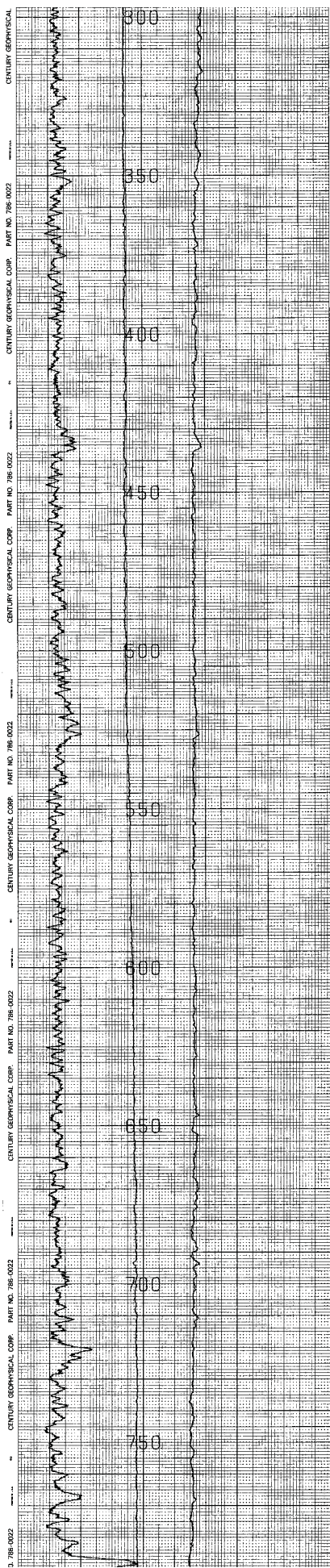
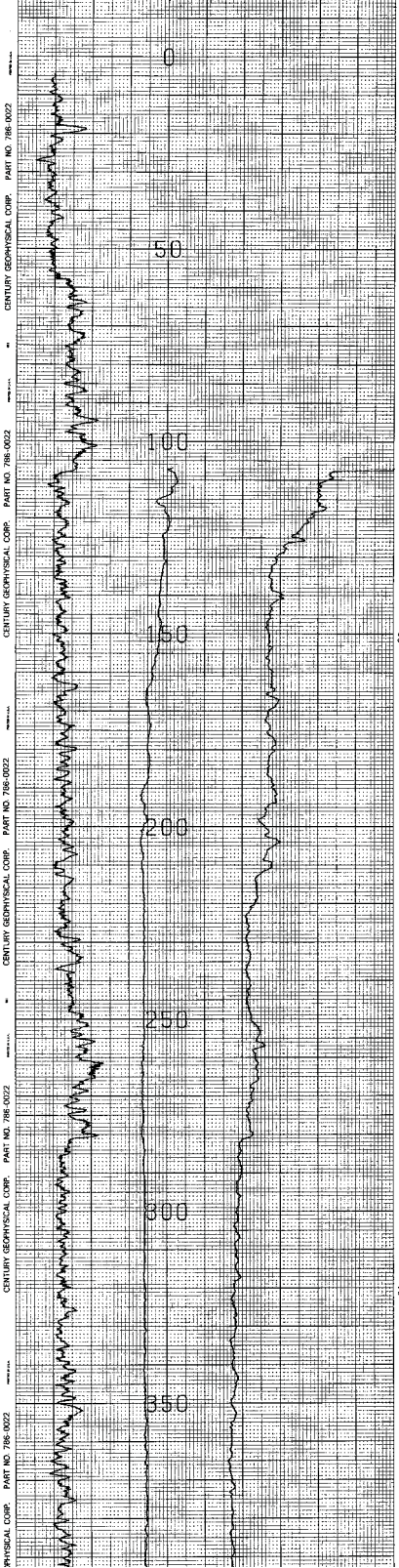
LOG M-35



630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

**CENTURY GEOPHYSICAL CORPORATION**  
 11440227  
 1127283  
**FERRET EXPLORATION** 18420521  
**M-36**  
**MARSLAND**  
**DIKES**  
**2.2** **50W**  
**176**  
**NES**  
**50W**  
**THE 130-100**  
**DATA S.P. RES. DEV**  
**402 108**  
**0100-2250** **SCALE** **BIAS**  
**2250 E 4.50' N of SW COR** **100** **1K**  
**15**

EQUIPMENT DATA	
DATE	11-30-82
TIME	10:00
OPERATOR	...
...	...





**CROW BUTTE  
RESOURCES, INC.**

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**LOG M-36**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

18

533 1797

**CENTURY GEOPHYSICAL CORPORATION**  
 10000 E. 17th Avenue, Suite 100  
 Denver, CO 80232  
 Phone: 303.751.1000  
 Fax: 303.751.1001  
 E-mail: sales@centurygeophysical.com

**FERRET EXPLORATION**  
 M-38  
 MARS LAND  
 DAWES  
 18 June 29N  
 50N

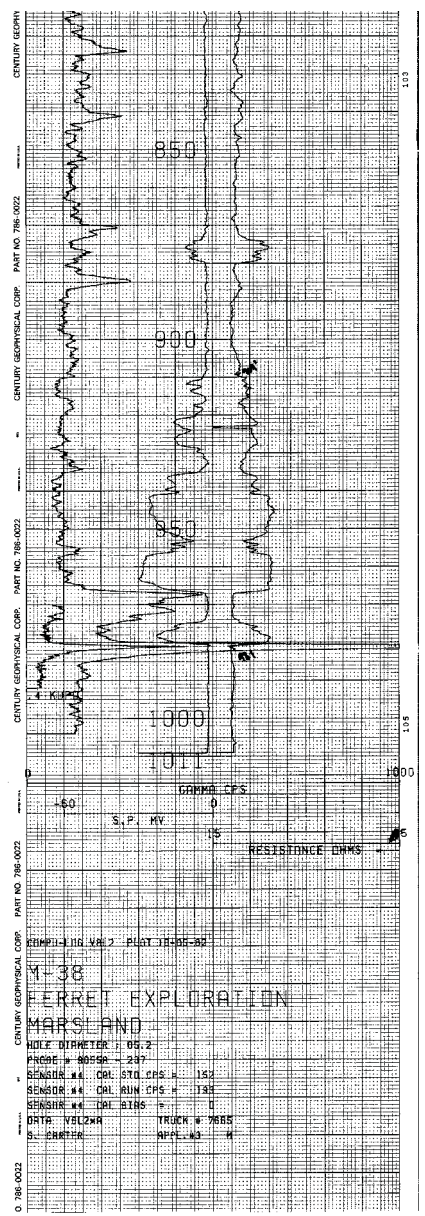
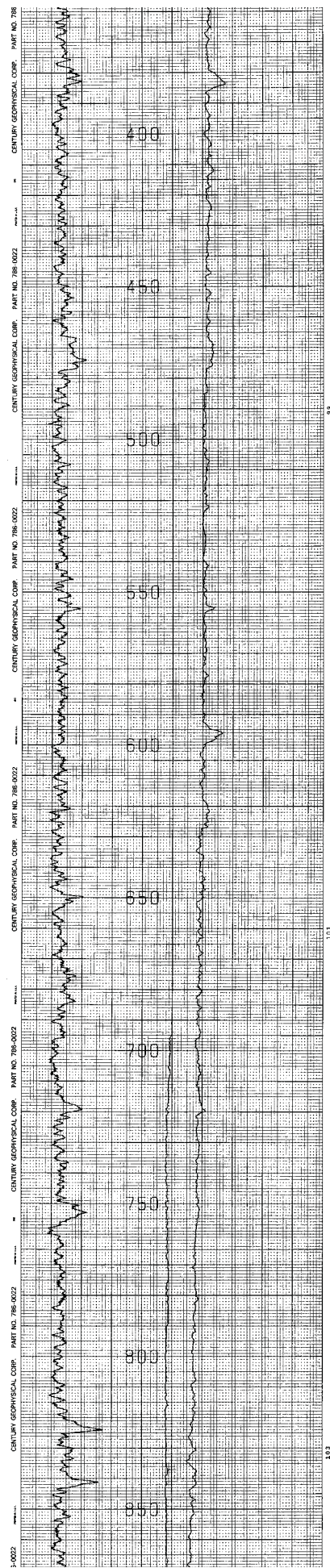
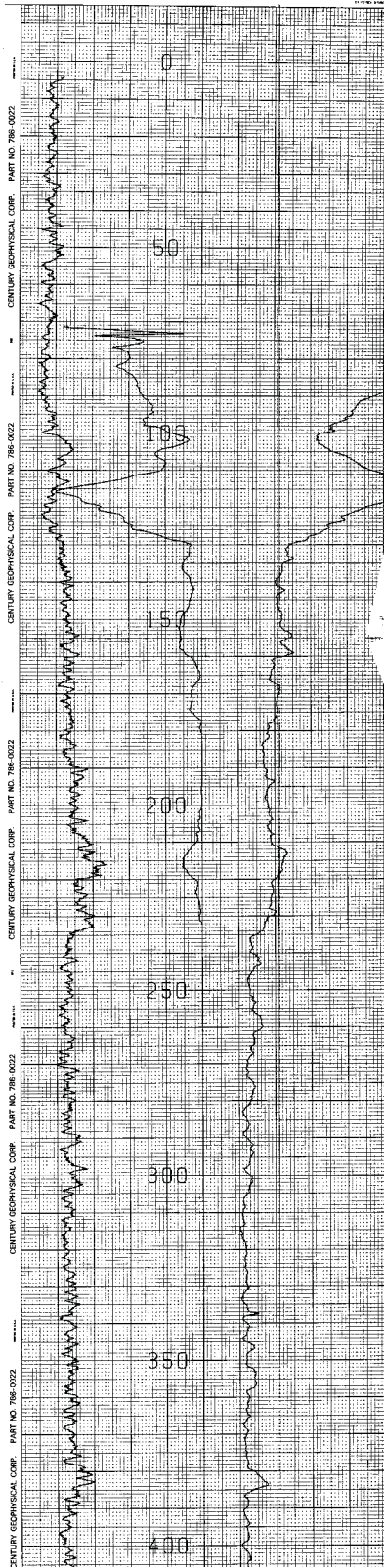
**HOLE DATA**

DATE	16-20-1975	LOG	29N
TIME	0800-1700	LOG	50N
LOG	29N	LOG	50N
LOG	29N	LOG	50N

**EQUIPMENT DATA**

TYPE	77-38	LOG	10-E-87
MANUFACTURER	GEOPHYSICAL	LOG	CASPER

**SCALE**  
 0.250-2.650  
 200 N & 50 N of 50 car





**CROW BUTTE  
RESOURCES, INC.**

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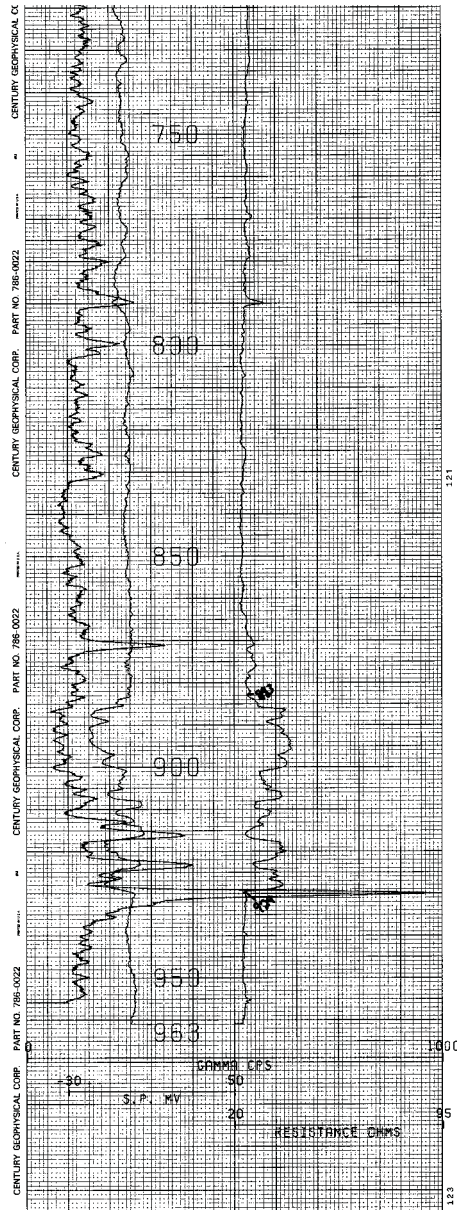
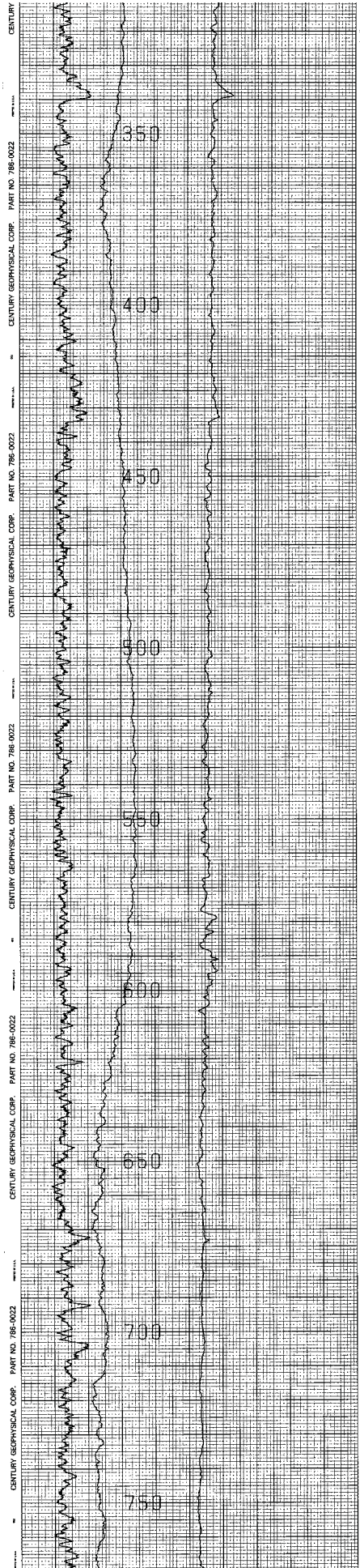
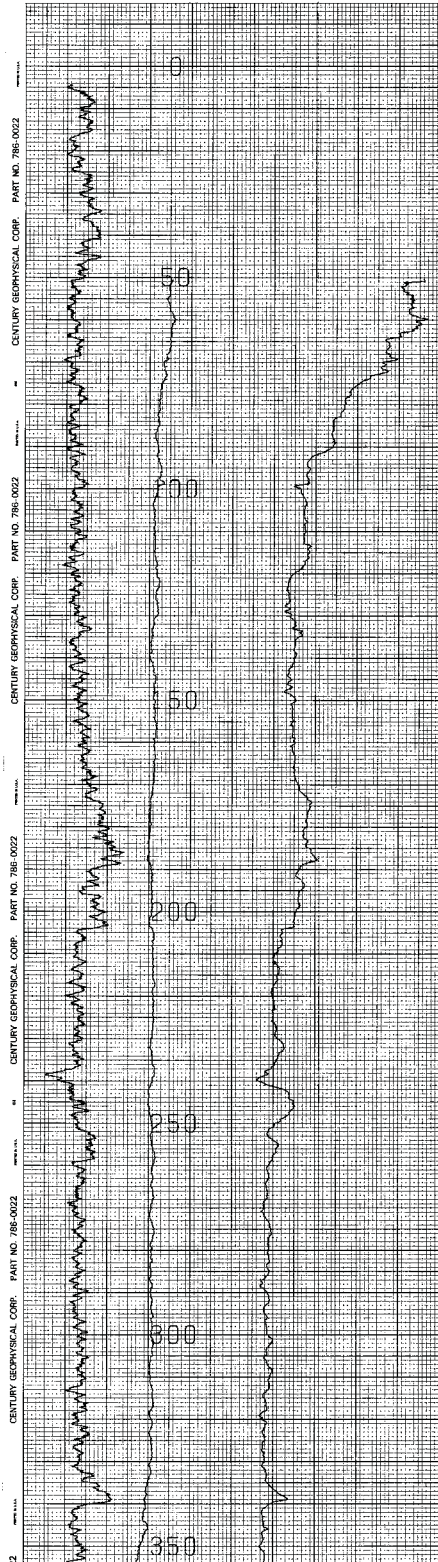
**LOG M-38**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

<b>CENTURY GEOPHYSICAL CORPORATION</b> <small>TYPE: ORDINARY</small> W 432236 <small>E 1107665</small>		<small>DATE:</small> 11-30-10 <small>LOG NO:</small> 10-4-02 <small>CASPER</small>
<b>FERRET EXPLORATION</b> 100' @ 1100'		
M-37 MARS LAND DAWES	4106.5' NEB	EQUIPMENT DATA MODEL: CASPER SERIAL: 1107665 DATE: 11-30-10
19 23H MOLE DATA TOTAL DEPTH - SPILLER: 760' BT SIZE: 5/8" TOTAL DEPTH - LOGGING: 460' CORED - TYP & SIZE: NA CORE TECHNIQUE/LOGGING: 5/8" STABILIZER: NA LOGGING SPEED: 60 ft/min. MUDFLOW RATE: 4.0 L/MIN. PRESSURE LEVEL: 6.4" FLUID RESISTIVITY: 100 OHM-FT MUD NO: 10000-237 OTHER MUD: 10000-237 MUD WEIGHT: 15.5 MUD VISCOSITY: 200 MUD SOLIDS: 15%		
TIME LOGS: 1100 FROM: GAMMA, RES, DEV H <sub>2</sub> O @ 50' 2800-2700 SCALE BIAS GAMMA: 100 SV: 300 -10 RES: 15 -20 2600 W @ 2550' @ NE COR.		



**CROW BUTTE  
RESOURCES, INC.**

**LOG M-39**



630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
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26 1975

**CENTURY GEOPHYSICAL**  
 10000 E. 10th Ave.  
 Denver, CO 80231

**FERRET EXPLORATION MARSLAND**  
 M-47  
 MARSLAND  
 13 3/4" DIA  
 20m  
 NEG  
 51m

**EQUIPMENT DATA**

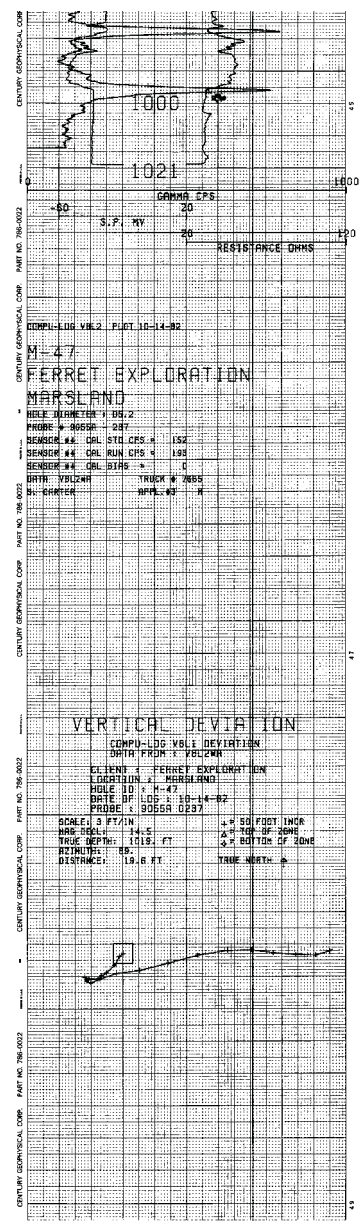
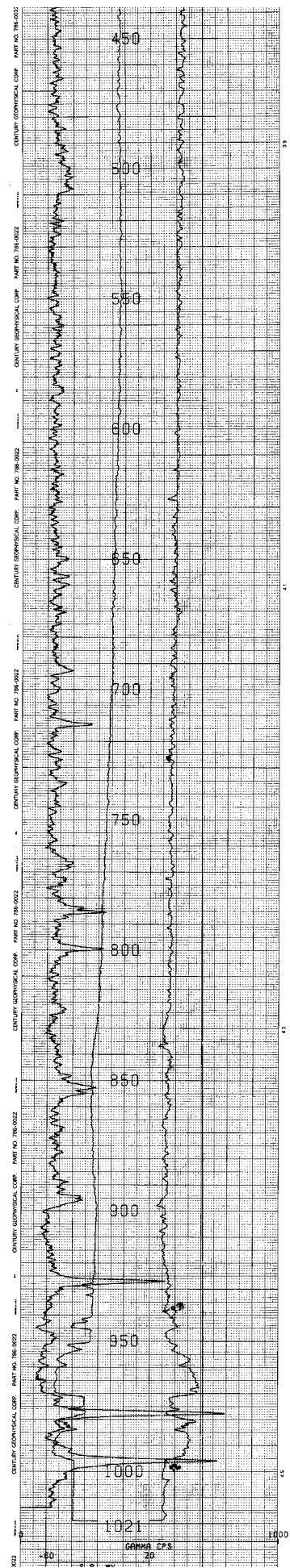
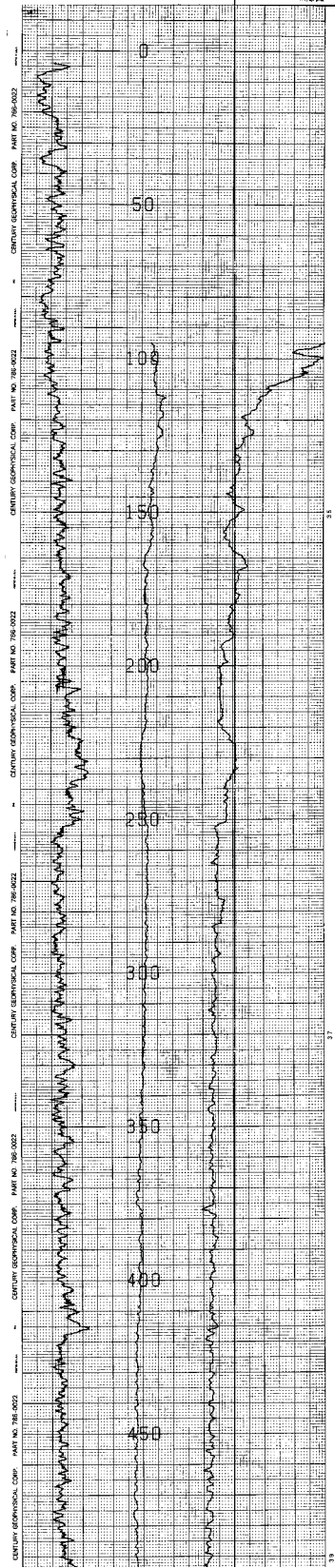
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RESISTANCE UNIT	10201	PROBE	9055A
TEMPERATURE UNIT	10201	PROBE	9055A
DEPTH UNIT	10201	PROBE	9055A
LOGGING UNIT	10201	PROBE	9055A
RESISTANCE UNIT	10201	PROBE	9055A
TEMPERATURE UNIT	10201	PROBE	9055A
DEPTH UNIT	10201	PROBE	9055A

**HOLE DATA**

LOG NO.	1280-1330
DATE	10/14/82
TIME	12:00
LOCATION	1350 W R 200 S of NE cor.

5200-4100

1350 W R 200 S of NE cor.



COMPU-LOG VBL.2 PLOT 10-14-82

**M-47**  
**FERRET EXPLORATION MARSLAND**

WELL DIAMETER: 13 3/4"  
 PROBE: 9055A 0297  
 SENSOR #1: CAL STD. CPS: 152  
 SENSOR #2: CAL RUN CPS: 193  
 SENSOR #3: CAL STAB: 1  
 DATA: VBL24H TRACK: 4855  
 BY: CARTER APRIL 83

**VERTICAL DEVIATION**  
 COMPU-LOG VBL.1 DEVIATION  
 DATA FROM: VBL24H  
 CLIENT: FERRET EXPLORATION  
 LOCATION: MARSLAND  
 HOLE ID: M-47  
 DATE OF LOG: 10-14-82  
 PROBE: 9055A 0297

SCALE: 3 FT/IN ± 50 FOOT 1MCR  
 HOR. SCL: 1:1 ± 10' 3F ZONE  
 TRAC DEPTH: 1019. FT ± 3' BOTTOM OF ZONE  
 WINDING: 89'  
 DISTANCE: 19.6 FT. TRUE NORTH

5-54 410

CENTURY GEOPHYSICAL CORPORATION  
 1500 W. 95th St. #200, Denver, CO 80231  
 PHONE: 303.752.1000 FAX: 303.752.1001

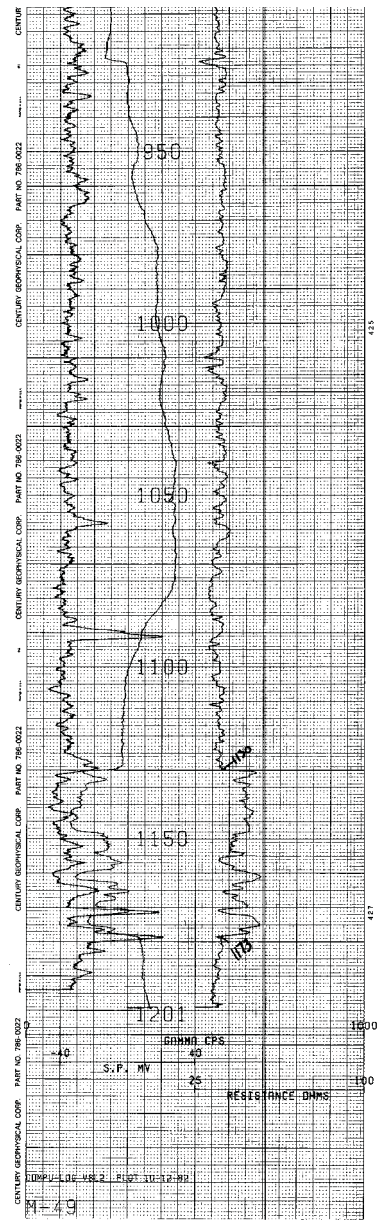
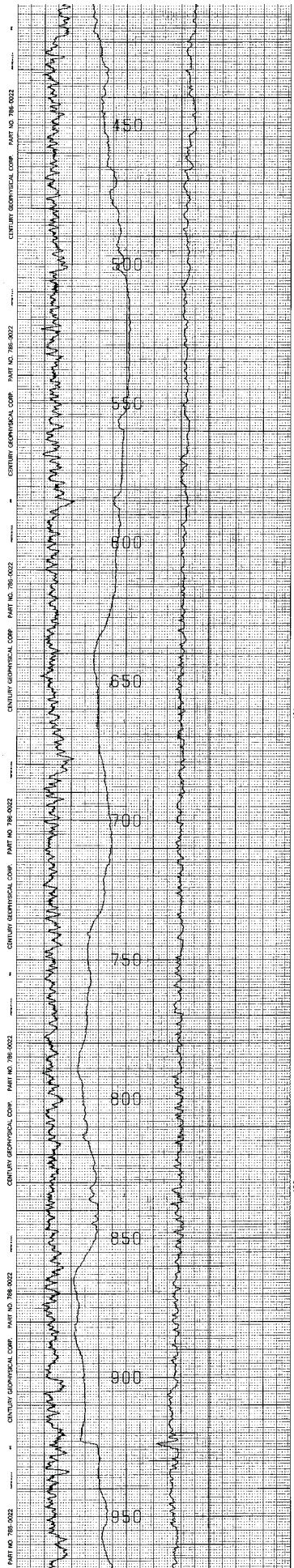
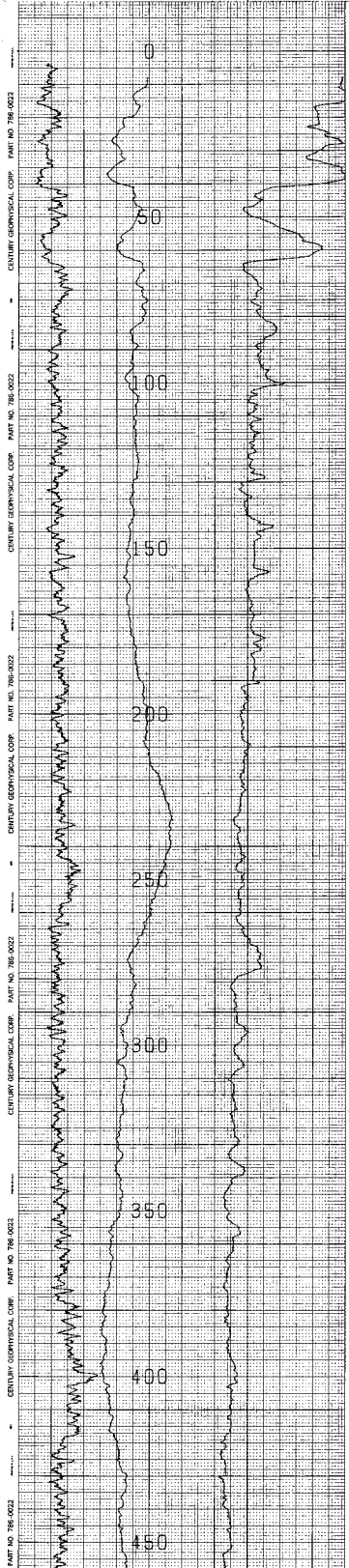
**PERRET EXPLORATION**  
 2552  
 11/15/80

CLIENT: MARILAND  
 4400  
 DAVIES  
 NEB  
 2 NW 1/4 1 23W  
 51W

HOLE DATA  
 HOLE NO. 53220-1000  
 1500' W 95th St. NEB COR.

DATE: 11/15/80  
 TIME: 10:00 AM  
 OPERATOR: J. CHEN  
 SUPERVISOR: J. CHEN  
 INSTRUMENT: 2400  
 GEOPHYSICIAN: J. CHEN

EQUIPMENT DATA  
 SYSTEM: 2400  
 CHANNELS: 24  
 FILTERS: 24  
 GAIN: 1000  
 SENSITIVITY: 1000  
 SCALING: 1000  
 OFFSET: 0  
 CORRECTIONS: 0  
 GEOPHYSICIAN: J. CHEN





**CROW BUTTE  
RESOURCES, INC.**

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**LOG M-49**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

5-286 4-662

**CENTURY GEOPHYSICAL CORPORATION**  
 10000 E. Harvard Ave. Suite 100  
 Denver, CO 80231  
 F 303.751.1000

**FERRET EXPLORATION 31403341**

**M-51** NO. 13-BZ  
 2-298 4306  
 2-298 4306  
 2-298 4306

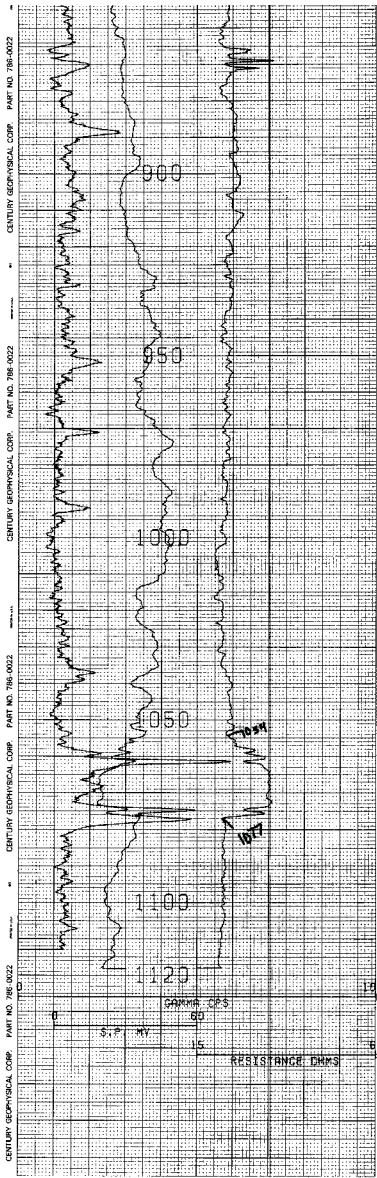
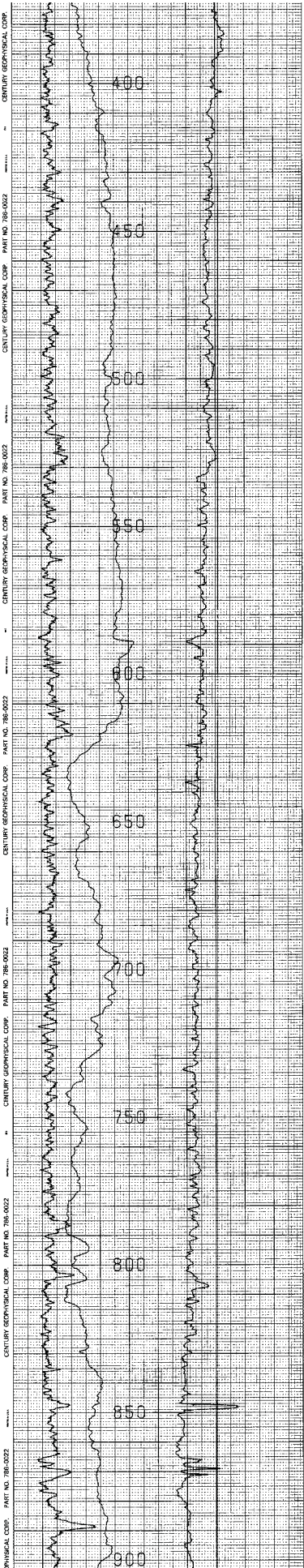
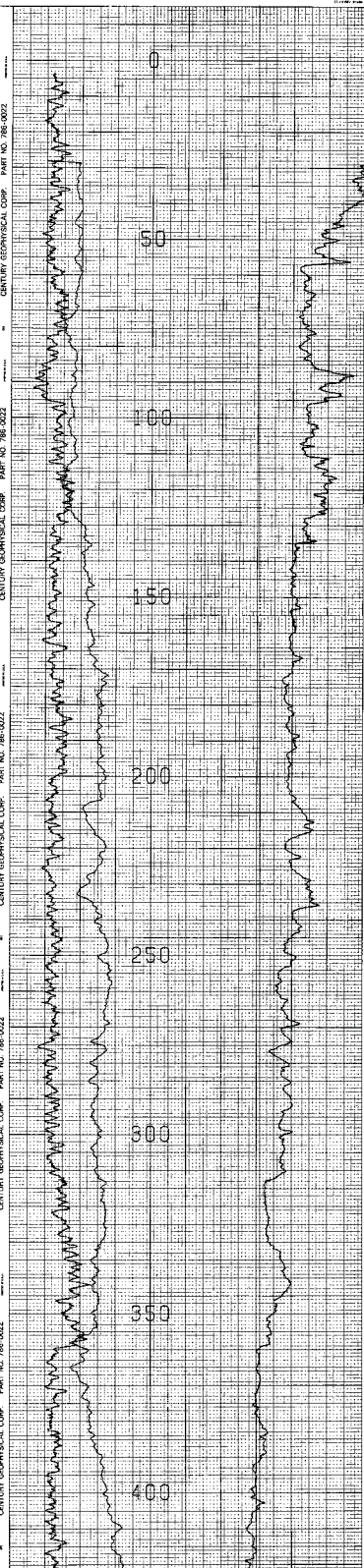
**THOSLAND** **NEB**  
**DAWES** **SIW**  
**NINAN** **23N**


**HOLE DATA**

DATE: 11/20/00  
 TIME: 11:00  
 LOCATION: 300 E OF M-44  
 DEPTH: 1120  
 DIAMETER: 6.0  
 LOGGING: 1120  
 LOGGING: 1120  
 LOGGING: 1120


**LOG DATA**

LOG NO: 5300-1375  
 SCALE: 100  
 DATE: 11/20/00  
 TIME: 11:00  
 LOCATION: 300 E OF M-44



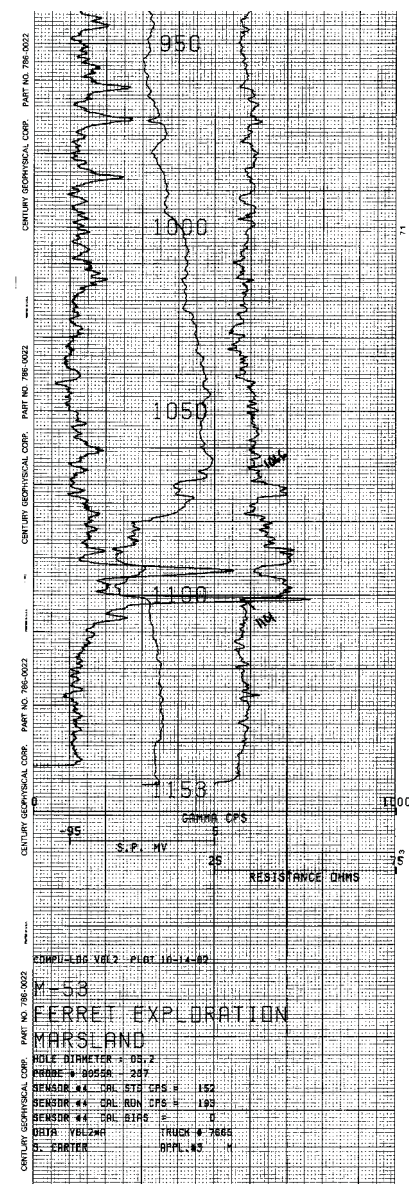
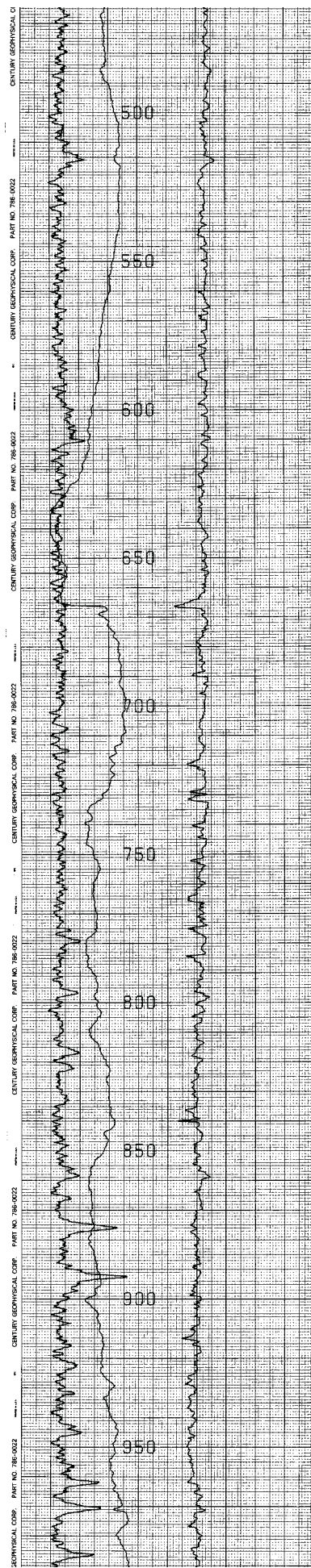
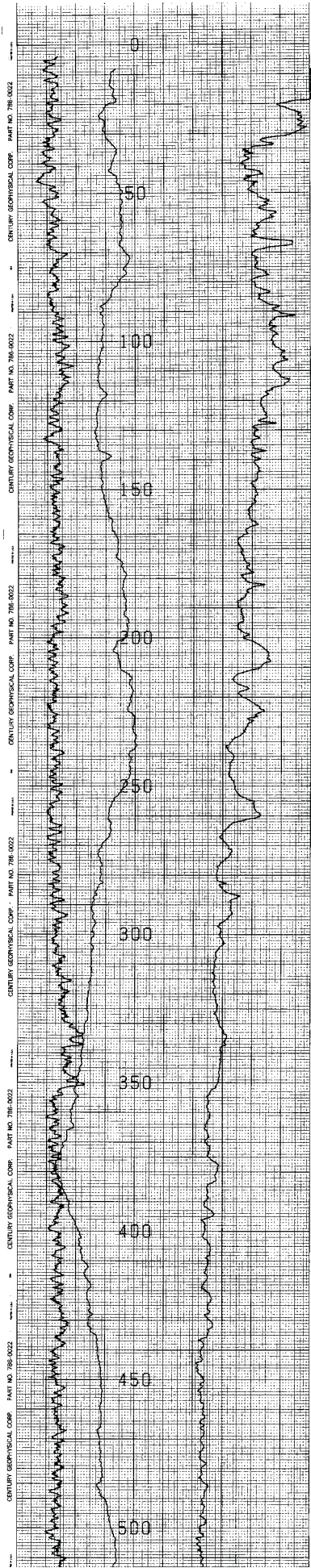
 **CROW BUTTE RESOURCES, INC.**

**LOG M-51**

 **ARCADIS** 630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

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CROW BUTTE  
RESOURCES, INC.

LOG M-53



630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

5-201 L413

**CENTURY GEOPHYSICAL CORPORATION**  
 Title: **FERRET EXPLORATION 27.2.2002**  
 Date: **02/28/02**  
 Project: **102-82**

**MARISLAND**  
**DAWES**  
 12 WIRE **2.20** **51W**

TIME: **11:18 - 12:25**  
**WALTER GARCIA, S.P. RES., DEV.**

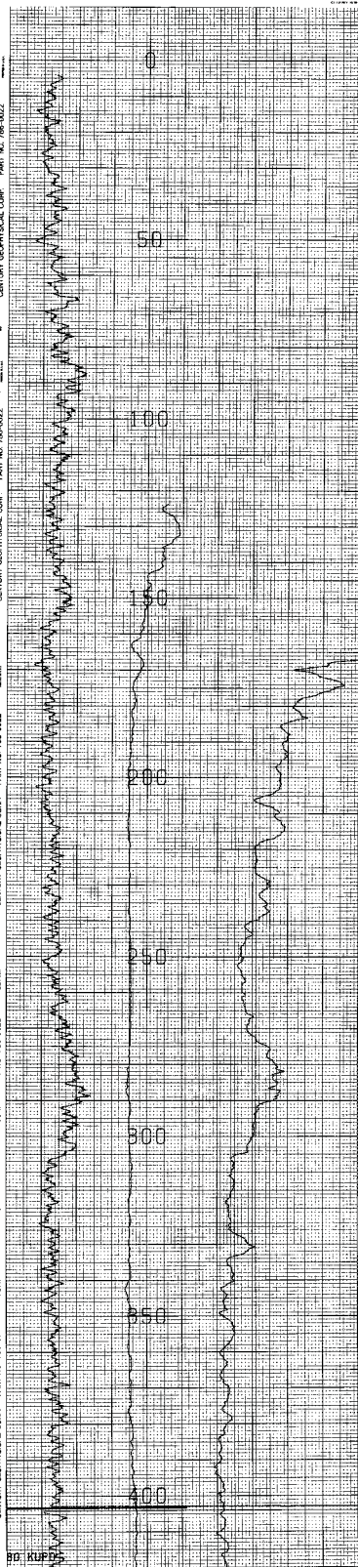
**42.45** **NEB**

WIRE DATA

WIRE NO.	WIRE TYPE	WIRE COLOR	WIRE GAUGE	WIRE LENGTH	WIRE RESISTANCE	WIRE CAPACITANCE	WIRE INDUCTANCE
1	12	RED	18	1000	1.2	0.0001	0.0001
2	12	RED	18	1000	1.2	0.0001	0.0001
3	12	RED	18	1000	1.2	0.0001	0.0001
4	12	RED	18	1000	1.2	0.0001	0.0001
5	12	RED	18	1000	1.2	0.0001	0.0001
6	12	RED	18	1000	1.2	0.0001	0.0001
7	12	RED	18	1000	1.2	0.0001	0.0001
8	12	RED	18	1000	1.2	0.0001	0.0001
9	12	RED	18	1000	1.2	0.0001	0.0001
10	12	RED	18	1000	1.2	0.0001	0.0001
11	12	RED	18	1000	1.2	0.0001	0.0001
12	12	RED	18	1000	1.2	0.0001	0.0001

SCALE: **5400-5000**

DISSEMINATED PERIOD AT FOOT  
**750 W & 50 S OF NE COR.**



**CENTURY GEOPHYSICAL CORPORATION**

**FERRET EXPLORATION 27.2.2002**

**MARISLAND**  
**DAWES**

TIME: **11:18 - 12:25**  
**WALTER GARCIA, S.P. RES., DEV.**

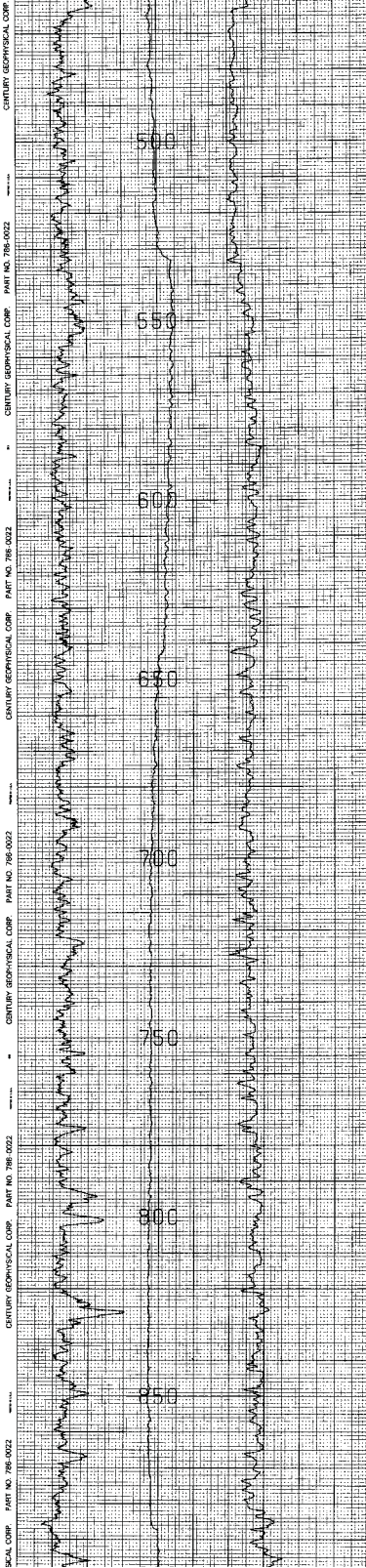
**42.45** **NEB**

WIRE DATA

WIRE NO.	WIRE TYPE	WIRE COLOR	WIRE GAUGE	WIRE LENGTH	WIRE RESISTANCE	WIRE CAPACITANCE	WIRE INDUCTANCE
1	12	RED	18	1000	1.2	0.0001	0.0001
2	12	RED	18	1000	1.2	0.0001	0.0001
3	12	RED	18	1000	1.2	0.0001	0.0001
4	12	RED	18	1000	1.2	0.0001	0.0001
5	12	RED	18	1000	1.2	0.0001	0.0001
6	12	RED	18	1000	1.2	0.0001	0.0001
7	12	RED	18	1000	1.2	0.0001	0.0001
8	12	RED	18	1000	1.2	0.0001	0.0001
9	12	RED	18	1000	1.2	0.0001	0.0001
10	12	RED	18	1000	1.2	0.0001	0.0001
11	12	RED	18	1000	1.2	0.0001	0.0001
12	12	RED	18	1000	1.2	0.0001	0.0001

SCALE: **5400-5000**

DISSEMINATED PERIOD AT FOOT  
**750 W & 50 S OF NE COR.**



**CENTURY GEOPHYSICAL CORPORATION**

**FERRET EXPLORATION 27.2.2002**

**MARISLAND**  
**DAWES**

TIME: **11:18 - 12:25**  
**WALTER GARCIA, S.P. RES., DEV.**

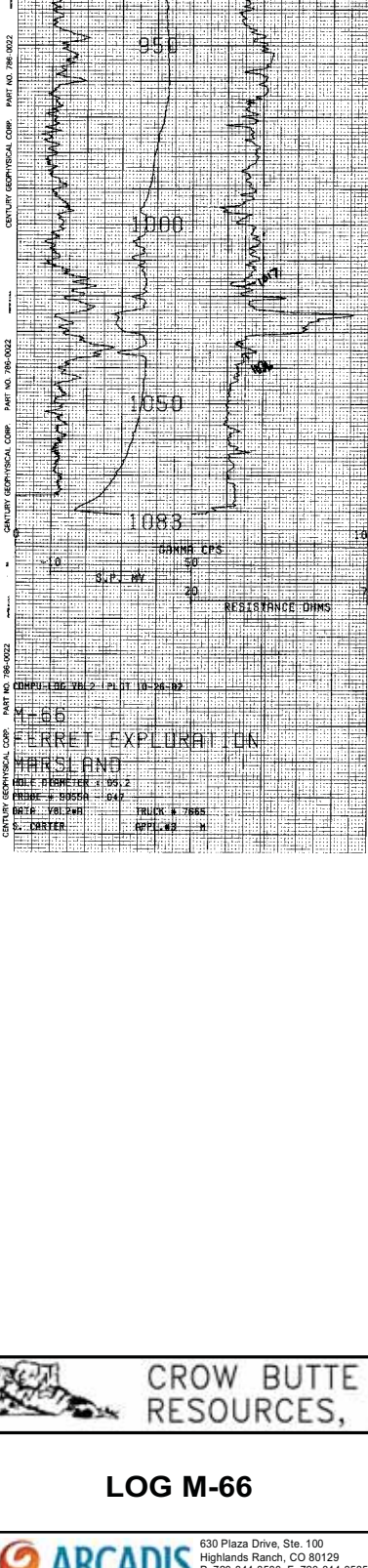
**42.45** **NEB**


WIRE DATA

WIRE NO.	WIRE TYPE	WIRE COLOR	WIRE GAUGE	WIRE LENGTH	WIRE RESISTANCE	WIRE CAPACITANCE	WIRE INDUCTANCE
1	12	RED	18	1000	1.2	0.0001	0.0001
2	12	RED	18	1000	1.2	0.0001	0.0001
3	12	RED	18	1000	1.2	0.0001	0.0001
4	12	RED	18	1000	1.2	0.0001	0.0001
5	12	RED	18	1000	1.2	0.0001	0.0001
6	12	RED	18	1000	1.2	0.0001	0.0001
7	12	RED	18	1000	1.2	0.0001	0.0001
8	12	RED	18	1000	1.2	0.0001	0.0001
9	12	RED	18	1000	1.2	0.0001	0.0001
10	12	RED	18	1000	1.2	0.0001	0.0001
11	12	RED	18	1000	1.2	0.0001	0.0001
12	12	RED	18	1000	1.2	0.0001	0.0001

SCALE: **5400-5000**


DISSEMINATED PERIOD AT FOOT  
**750 W & 50 S OF NE COR.**





**CROW BUTTE RESOURCES, INC.**

**LOG M-66**



630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

5-15 L-388

**CENTURY GEOPHYSICAL CORPORATION**  
 Type: Exploration M-72 11/13/02  
 E 113302

**FERRET EXPLORATION 2321052**

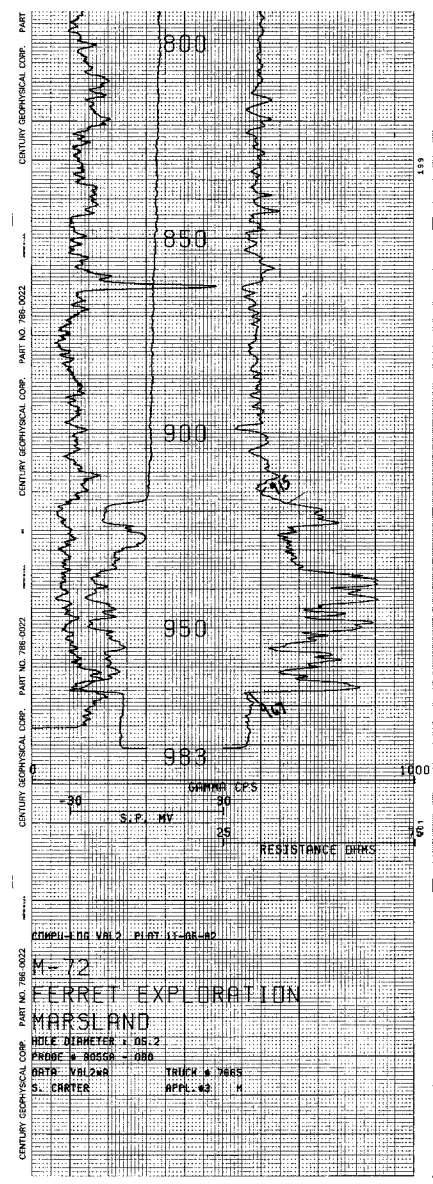
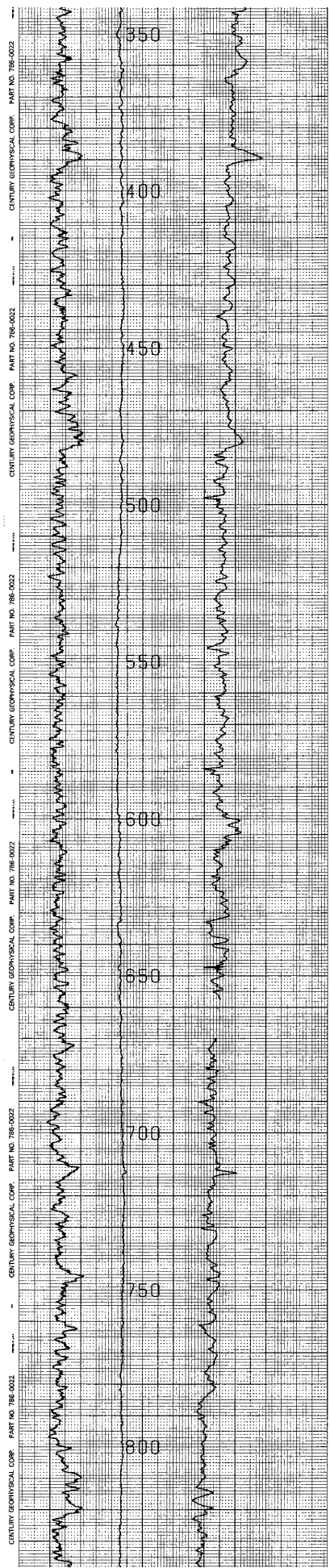
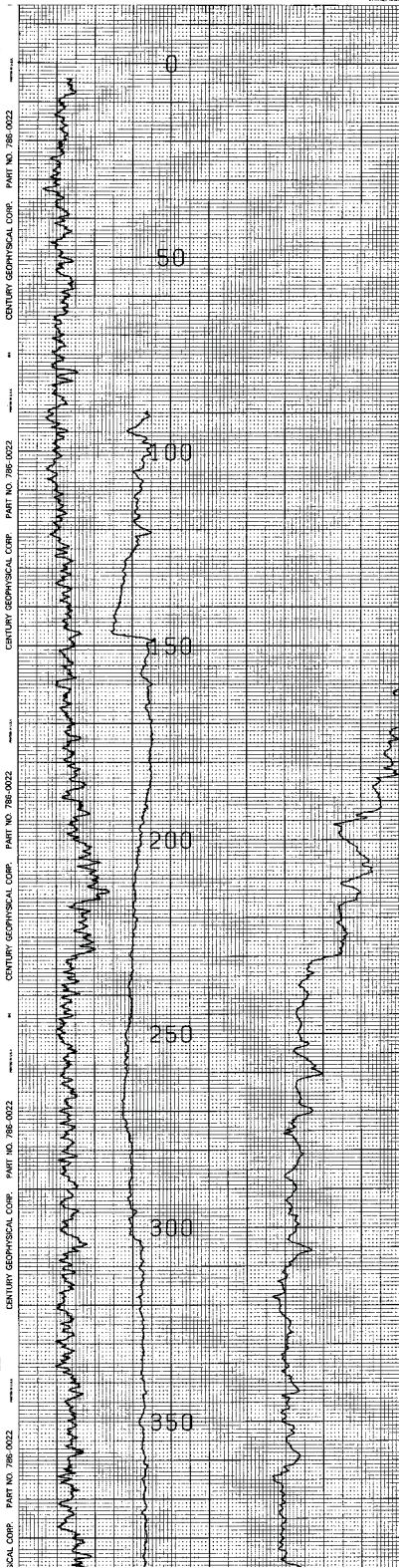
M-72  
 WKSLAND  
 DAWES  
 29N  
 50W

HOLE DATA  
 HOLE DEPTH - METERS 2825  
 HOLE DEPTH - FEET 9287  
 TOTAL DEPTH - LOGGED 2825  
 TOTAL DEPTH - MEASURED 2825  
 PROBE DEPTH 607M  
 PROBE LEVEL 5.6  
 PROBE LOG 2825

LOG 170-180  
 GAMMA, SP, RES, DEU  
 H<sub>2</sub>O @ 70'

0100 2825  
 2500' W 100' N of 36.60m

EQUIPMENT DATA  
 LOG NO. 113302  
 DATE 11/13/02  
 TIME 11:30  
 OPERATOR J. CHEN  
 INSTRUMENT S.P. 100  
 PROBE 30550-080  
 TRUCK # 7685  
 APPL # 43 H



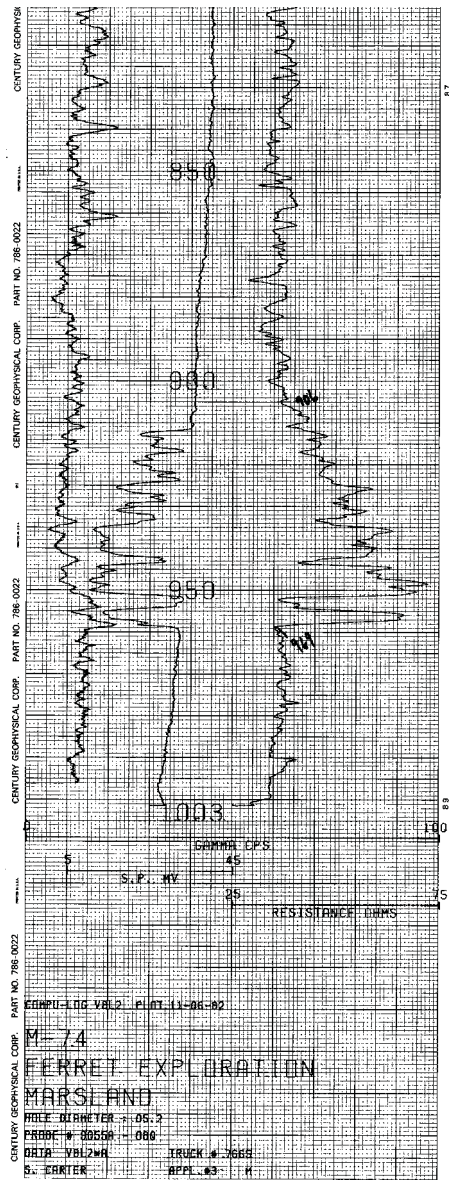
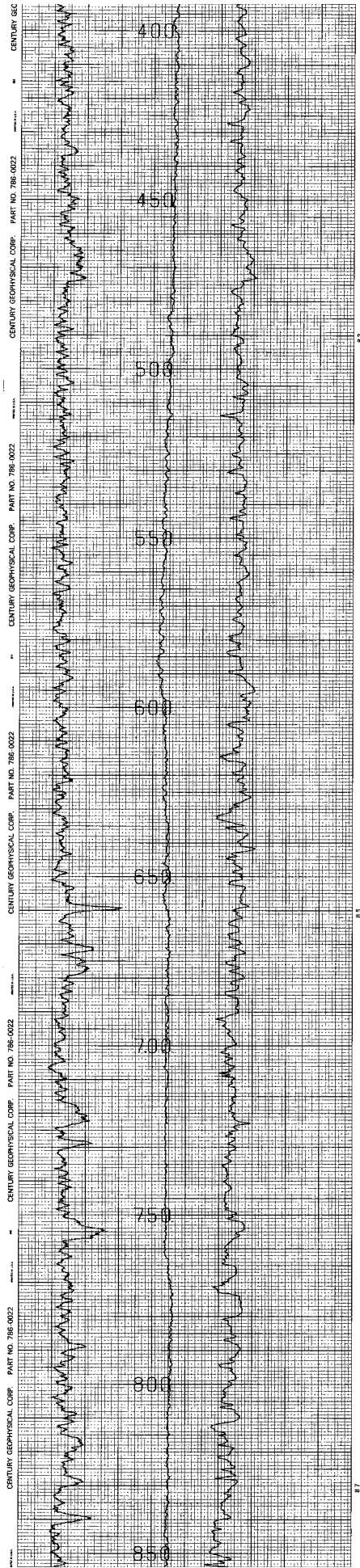
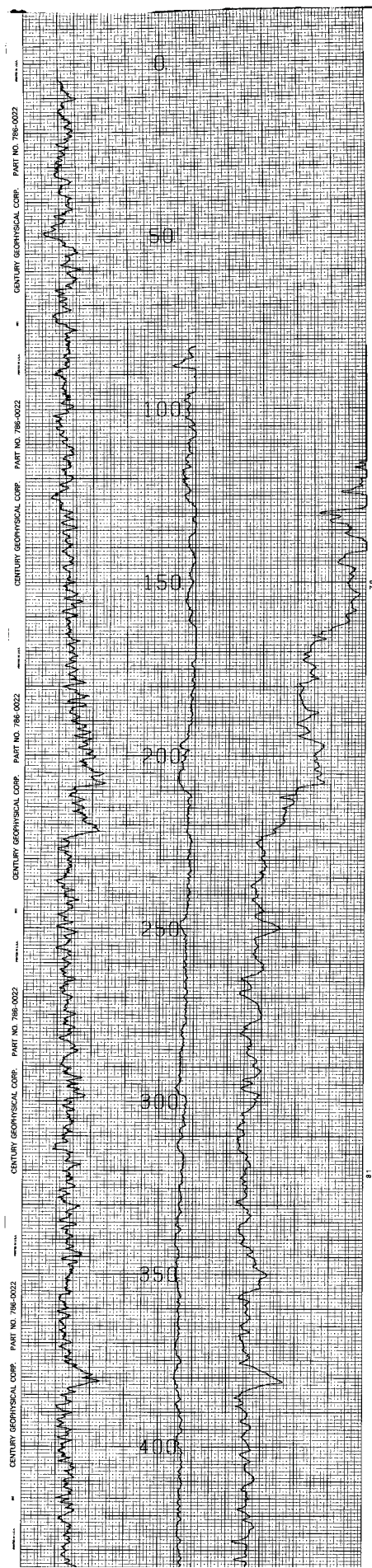
**CROW BUTTE RESOURCES, INC.**

**LOG M-72**

**ARCADIS**

630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

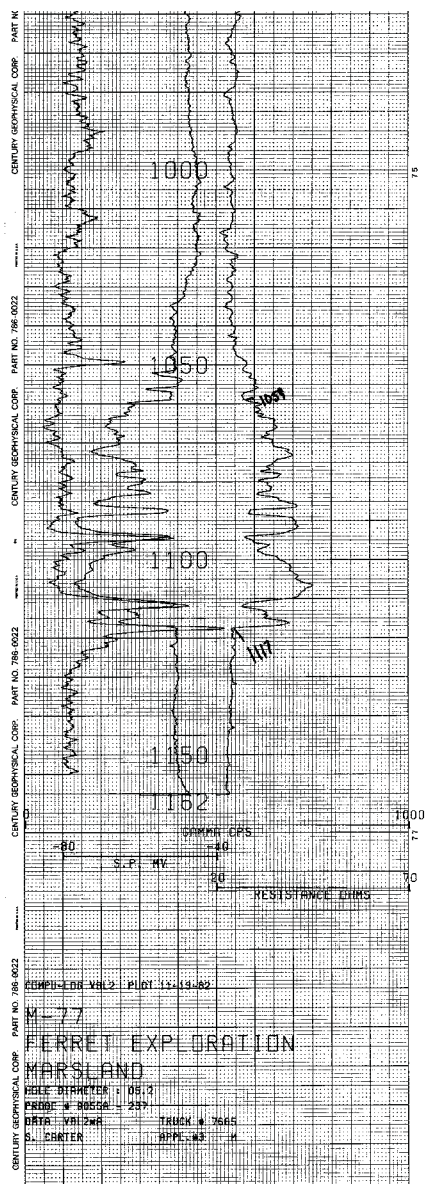
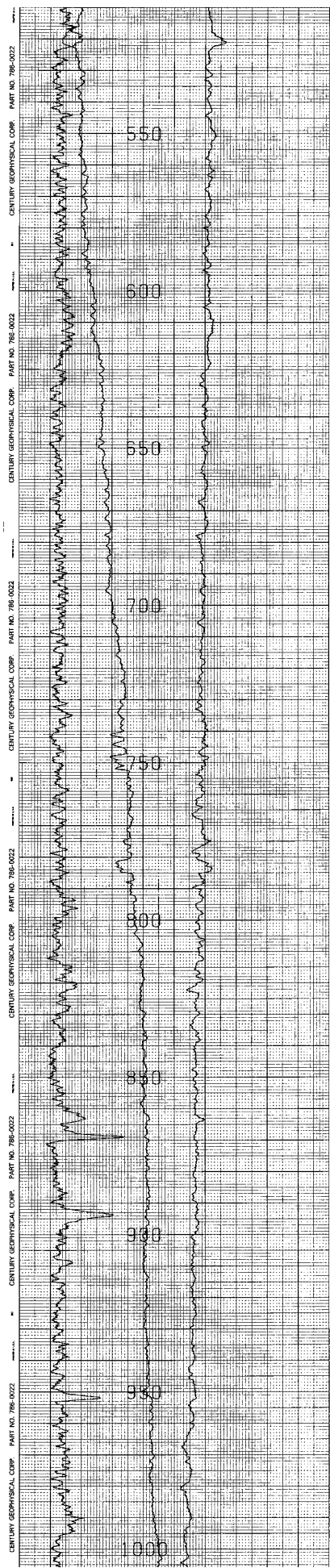
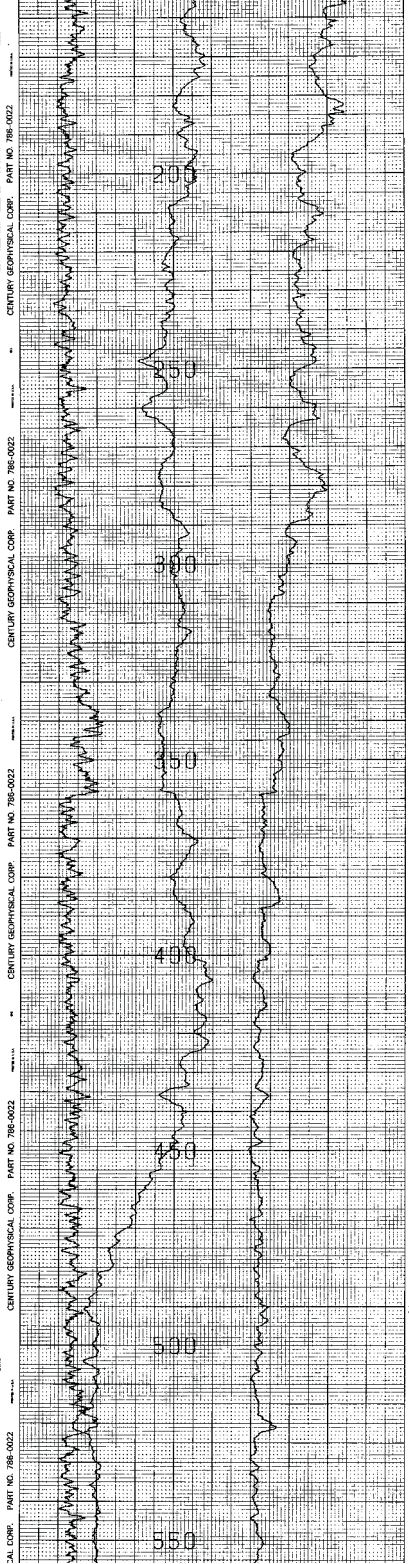
26



CROW BUTTE  
RESOURCES, INC.

LOG M-74

**CENTURY GEOPHYSICAL CORPORATION**  
 11115715  
 E 1119820  
**FERRET EXPLORATION**  
 M-77  
 MARSLAND  
 DAVES  
 2. INSE  
 51W  
 HOLE DATA  
 TOTAL DEPTH - FEET 1162  
 TOTAL DEPTH - METERS 354  
 TOTAL LOGGING FEET 1162  
 TOTAL LOGGING METERS 354  
 HOLE NO. 51W  
 DATE 11/13/87  
 TIME 1100-1200  
 LOCATION GADSDEN, S.P. RIGS, W.VA.  
 HOLE DEPTH 1162.0'  
 CORRECTION 0.00  
 SAID BIAS  
 0050-3050  
 S.P. 20  
 20  
 ZAR WILSON OF SE COR.





**CROW BUTTE  
RESOURCES, INC.**

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**LOG M-77**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

28

525 144

CENTURY GEOPHYSICAL CORPORATION  
 1115 20th St  
 DENVER, CO 80202

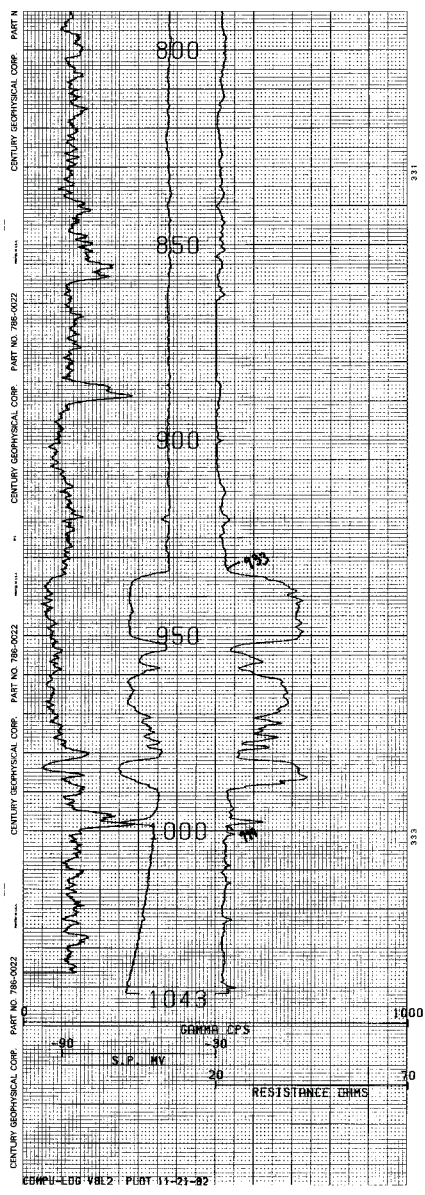
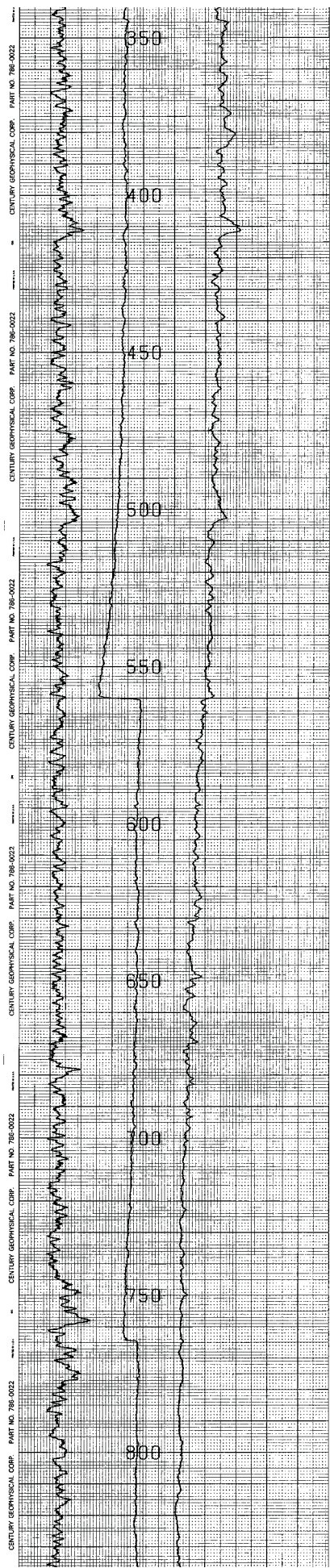
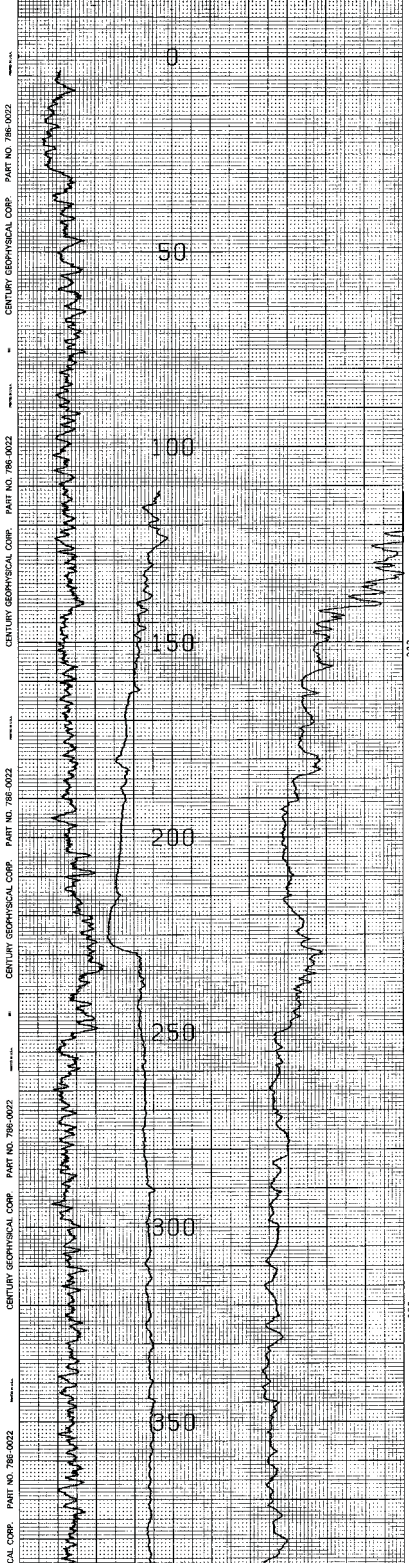
FERRET EXPLORATION 24712  
 M-90  
 MARSLAND  
 DAWES  
 20 20 20 W  
 20 N  
 50 W

DATE: 11-21-82  
 TIME: 11:30 AM  
 OPERATOR: CASPER

EQUIPMENT DATA  
 SYSTEM: 24712  
 CHANNELS: 24  
 GEOPHYSICAL CORPORATION

HOLE DATA  
 HOLE NO: 2750-1300  
 HOLE DEPTH: 1043  
 HOLE TYPE: S  
 HOLE SIZE: 8 1/2  
 HOLE LOCATION: 20 20 20 W  
 HOLE DEPTH: 1043  
 HOLE TYPE: S  
 HOLE SIZE: 8 1/2  
 HOLE LOCATION: 20 20 20 W

TIME: 11:30 AM  
 OPERATOR: CASPER  
 SCALE: 100  
 RES: 10  
 1250 E & 7600 N NE SW COR.





**CROW BUTTE  
RESOURCES, INC.**

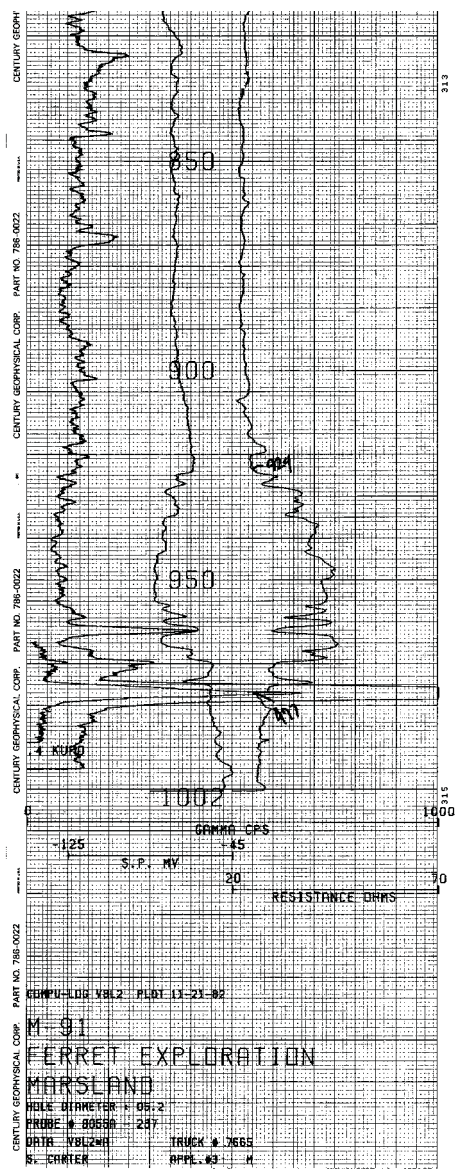
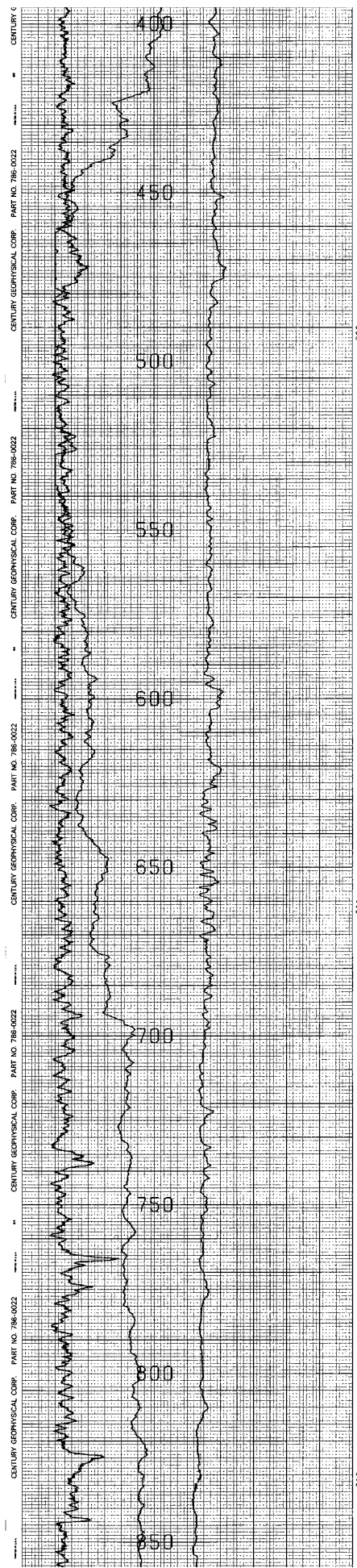
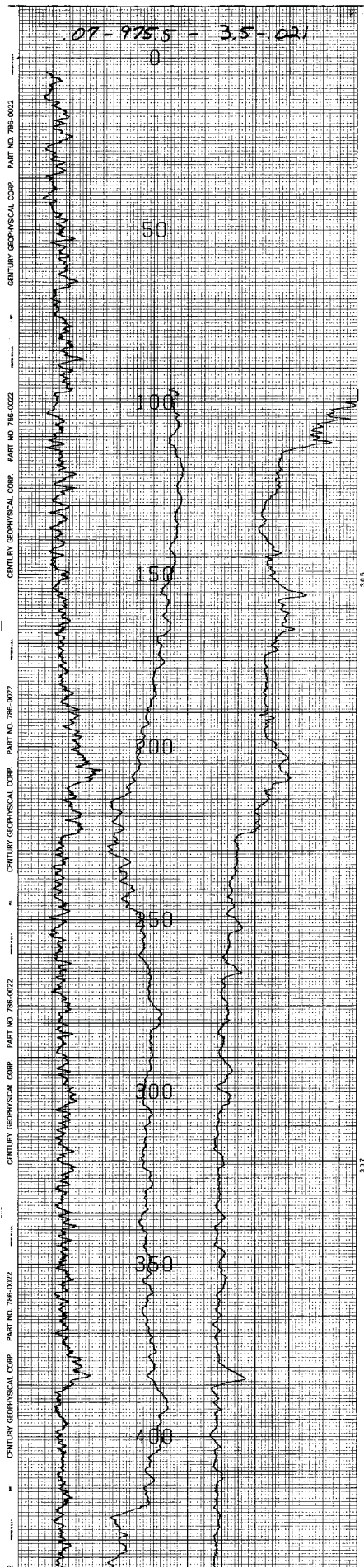
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**LOG M-90**

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Highlands Ranch, CO 80129  
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www.arcadis-us.com



**CROW BUTTE  
RESOURCES, INC.**

**LOG M-91**

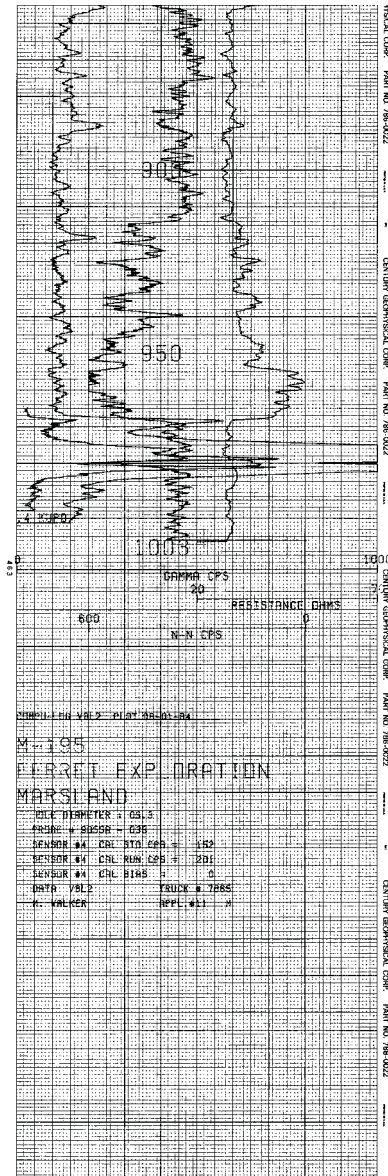
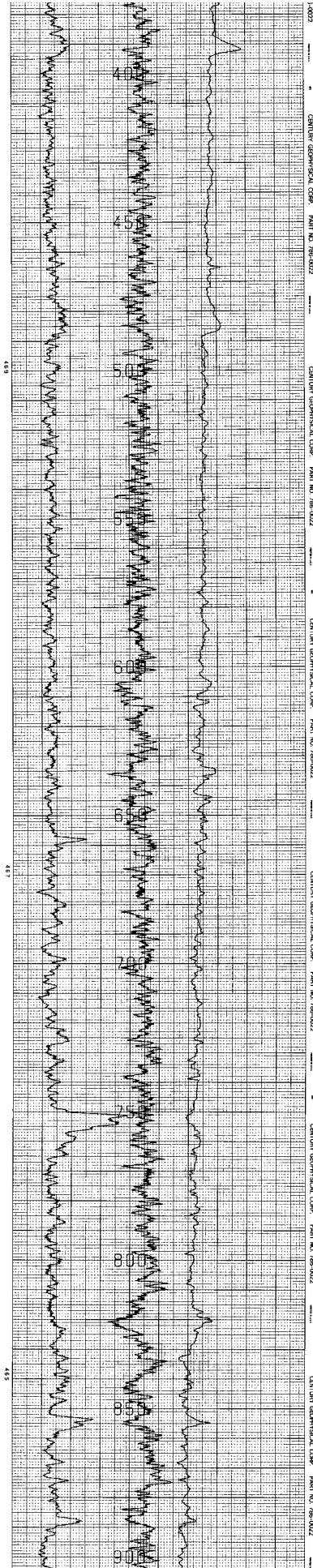
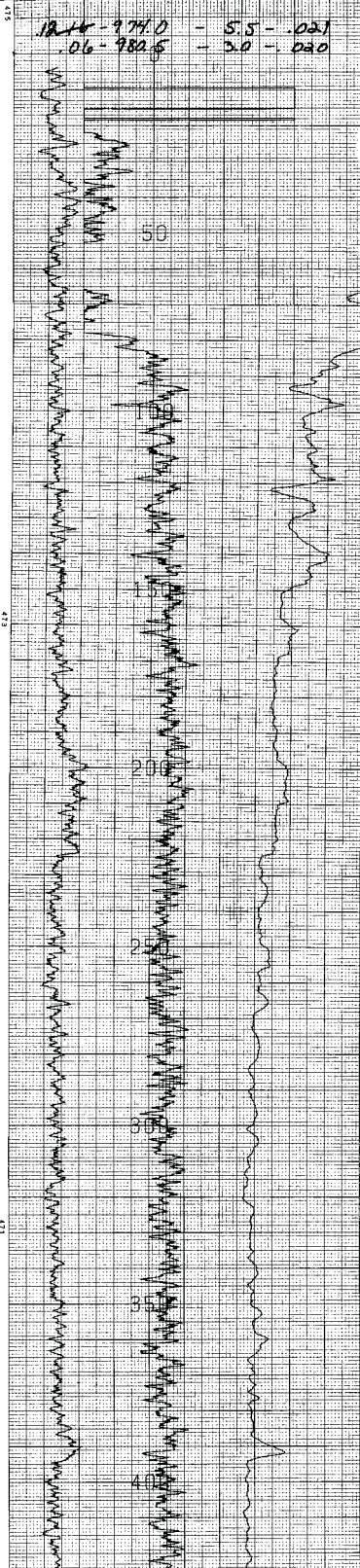
**ARCADIS**

630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P. 720-344-3500 F. 720-344-3535  
www.arcadis-us.com

CENTURY GEOPHYSICAL CORPORATION  
 10000 E. CENTURY BLVD. SUITE 100  
 DENVER, CO 80231  
 PHONE: 303.751.8700  
 FAX: 303.751.8701  
 WWW: WWW.CENTURYGEOPHYSICAL.COM

PROJECT: FERRET EXPLORATION 51.3.0.171  
 DATE: M-195  
 LOCATION: MARSLAND  
 SURVEY: SURVEY 51.3.0.171  
 SHEET: 0950-0525

LOG NO. 786-0022  
 PART NO. 786-0022





**CROW BUTTE  
RESOURCES, INC.**

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**LOG M-195**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

31

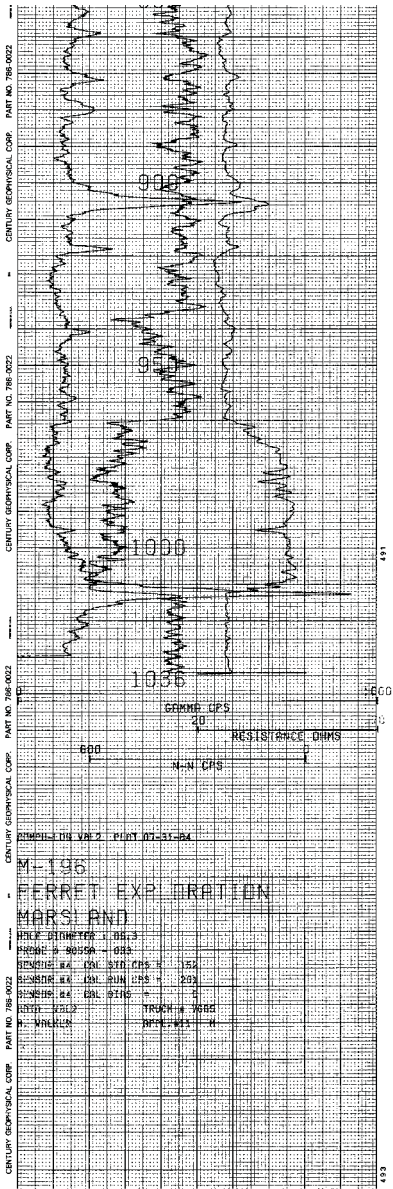
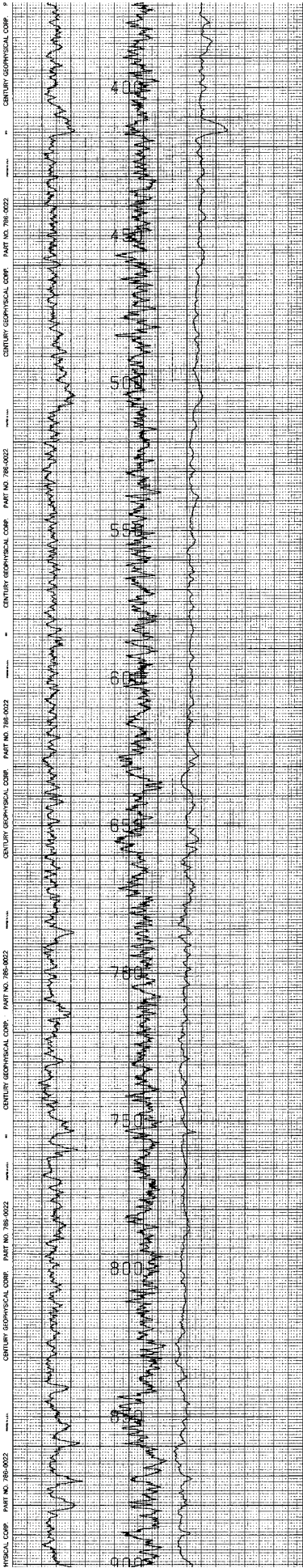
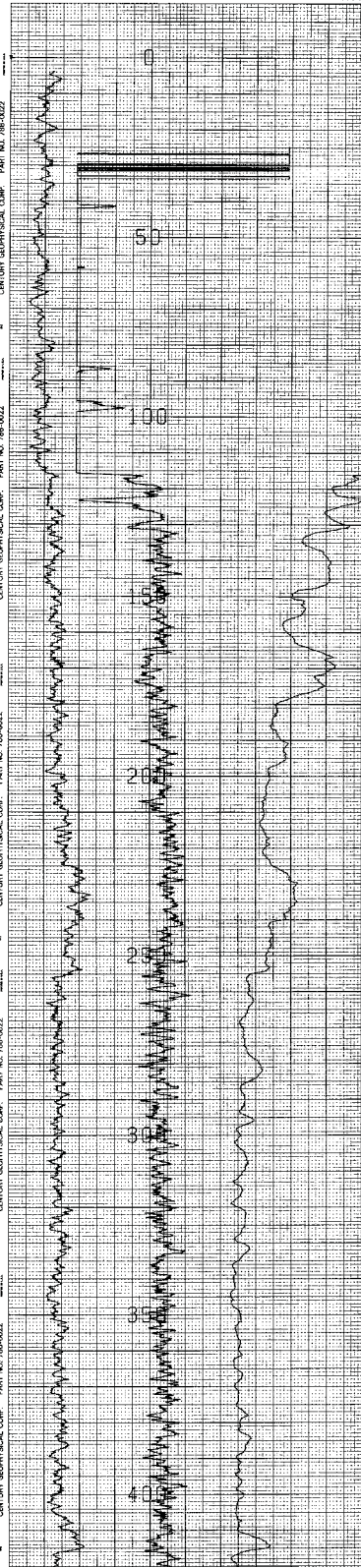


4016 2781  
**CENTURY GEOPHYSICAL CORPORATION**  
 10000 E. Harvard Ave. Suite 100  
 Denver, CO 80231  
 Phone: 303.751.4000  
 Fax: 303.751.4001  
 E-mail: info@centurygeophysical.com

**FERRET EXPLORATION** 33.410.2472  
 M-196  
 MARSLAND  
 DATE: 11/25/02  
 TIME: 11:00 AM  
 SURVEY: 230  
 HOLE DATA  
 HOLE NO: 33.410.2472  
 HOLE DEPTH: 1000  
 HOLE TYPE: MUD  
 HOLE STATUS: OPEN  
 HOLE LOCATION: SURFACE  
 HOLE COORDINATES: 4000.00  
 HOLE ELEVATION: 5000.00  
 HOLE DIRECTION: 000

SURVEY DEVICE: 025  
 SURVEY BETA: 000  
 200' N. of M-191  
 3500-0225

DATE	TIME	OPERATOR	INSTRUMENT	GEOPHYSICIAN	LOGGERS	REMARKS
11/25/02	11:00					





**CROW BUTTE  
RESOURCES, INC.**

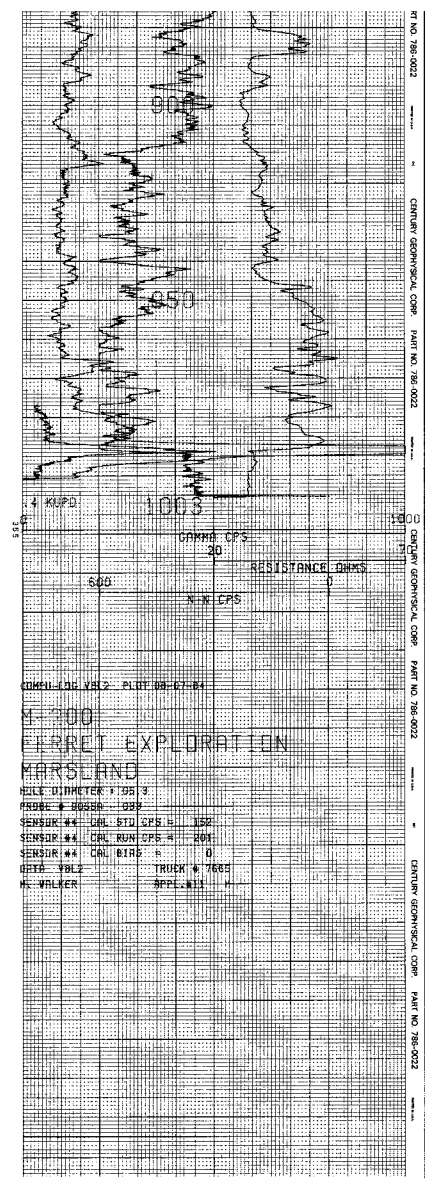
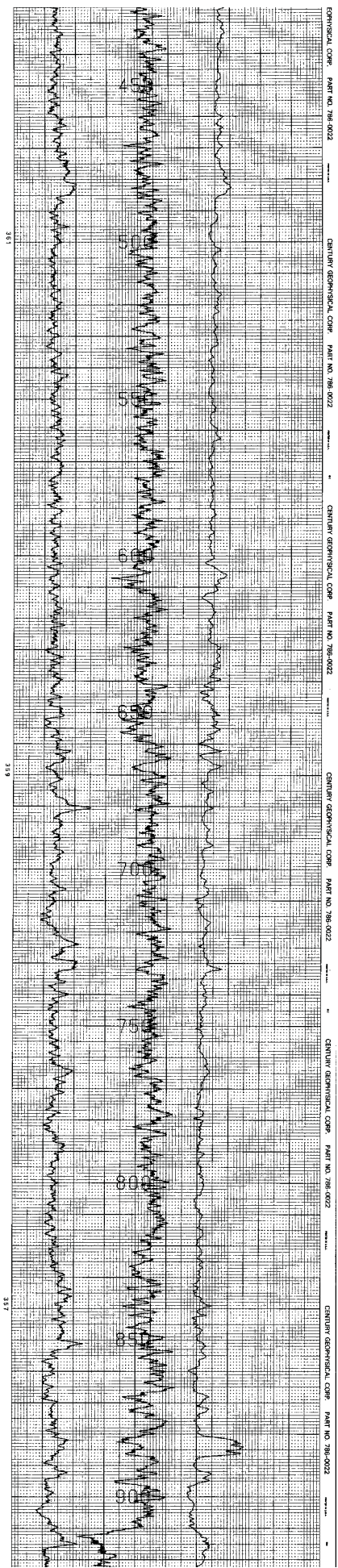
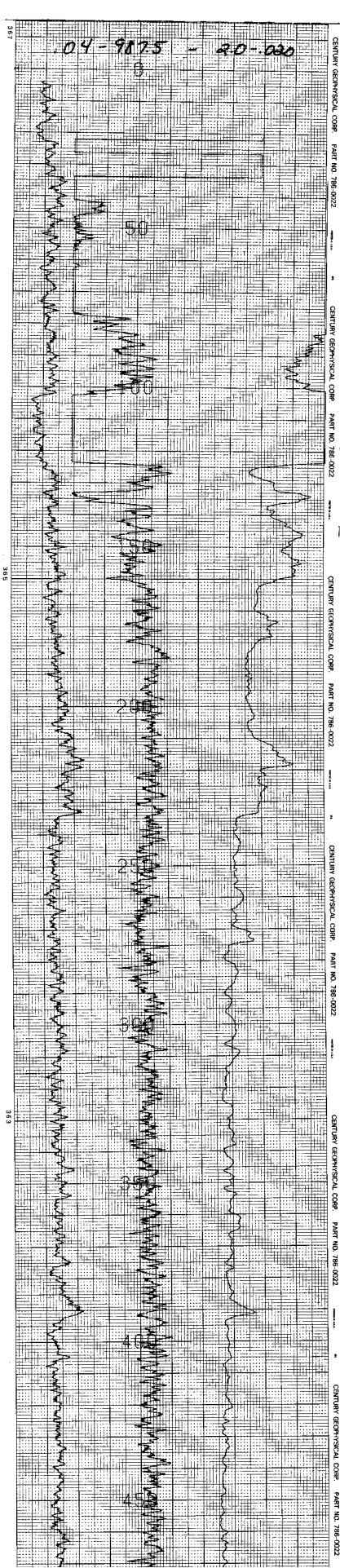
---

**LOG M-196**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com



CROW BUTTE  
RESOURCES, INC.

LOG M-200



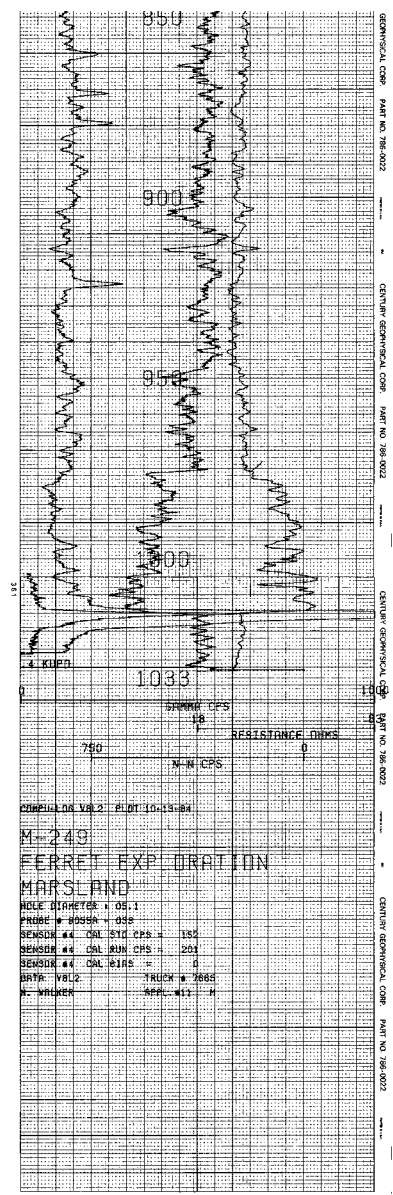
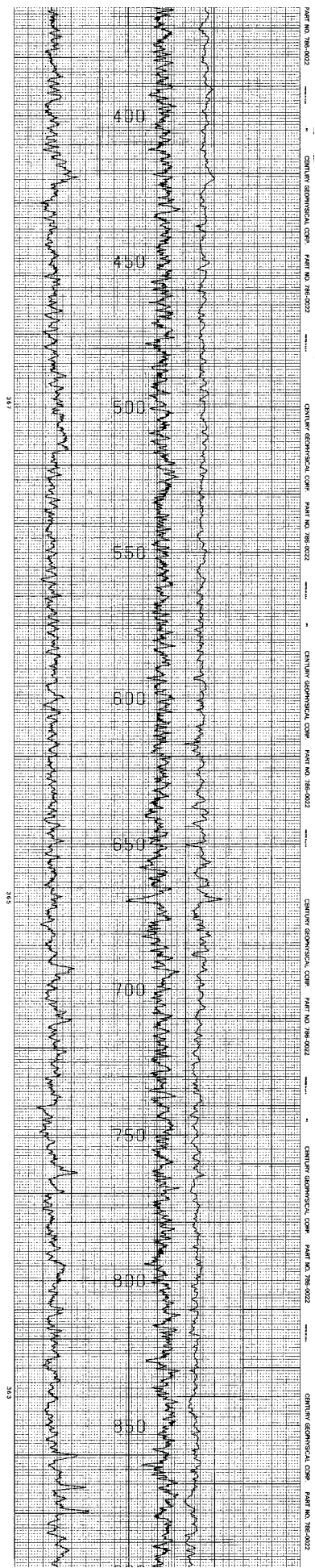
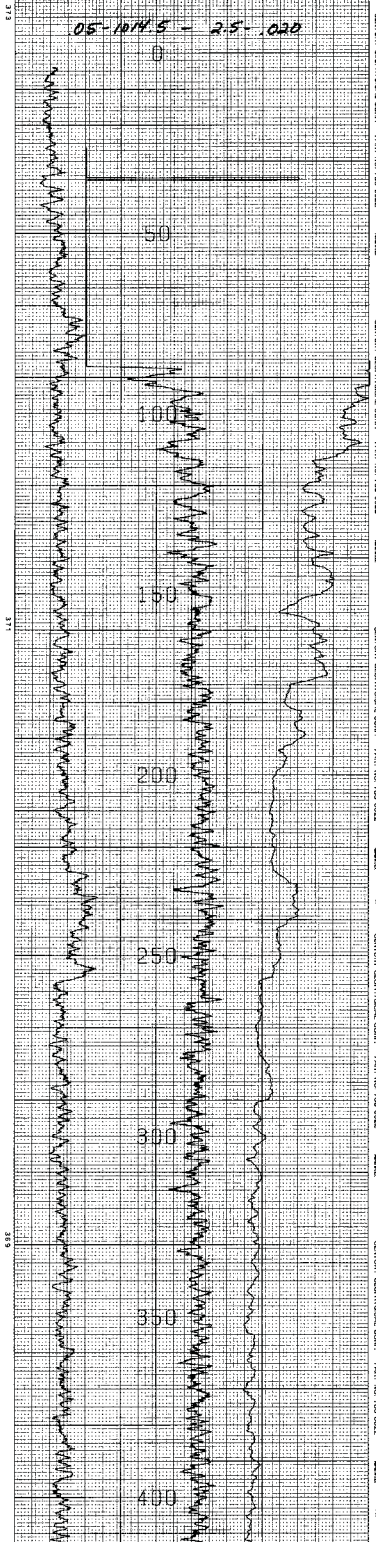
630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

**CENTURY GEOPHYSICAL CORPORATION**  
 1122 S. F. ST. SUITE 100  
 BOULDER, CO 80502  
 TEL: 303.440.1100 FAX: 303.440.1101  
 WWW: www.centurygeophysical.com

**PROJECT INFORMATION**  
 PROJECT: FERRET EXPLORATION  
 HOLE NO: M-249  
 DATE: 10/13/04  
 LOCATION: MARSLAND

**HOLE DATA**  
 HOLE DEPTH: 1033  
 HOLE TYPE: SURFACE  
 HOLE ID: 800'E OF M-188  
 HOLE NO: 3650-1450

**EQUIPMENT DATA**  
 INSTRUMENT: SURVEY METROL 040  
 AFTER: 420





**CROW BUTTE  
RESOURCES, INC.**

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
**LOG M-249**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

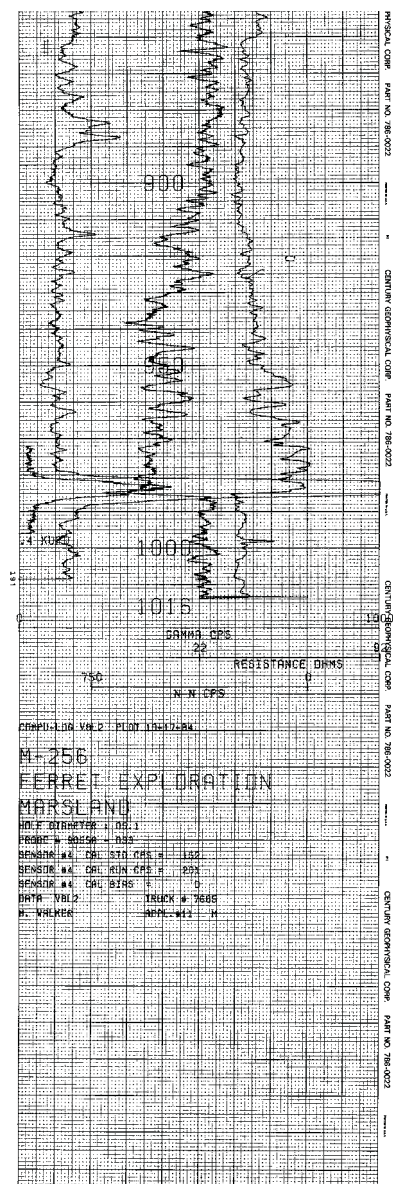
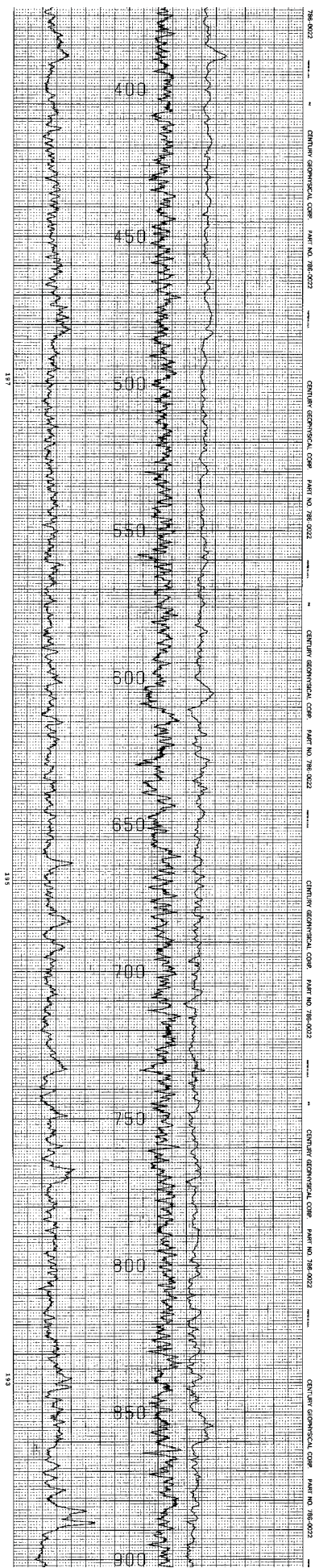
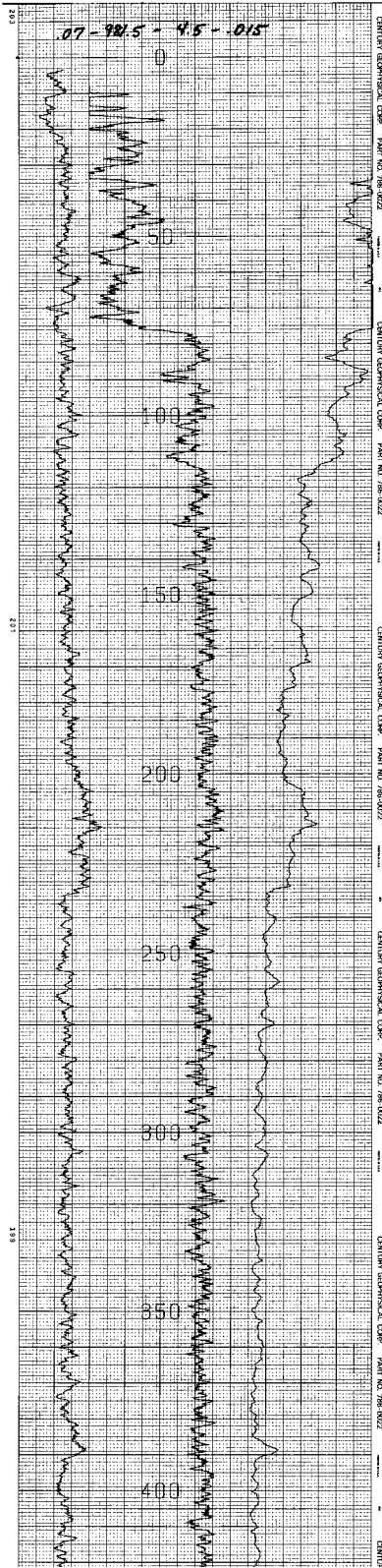
34


**CENTURY GEOPHYSICAL CORPORATION**  
 1455 W. 15th St.  
 Suite 100  
 Boulder, CO 80502  
 Phone: 303.440.1551  
 Fax: 303.440.1552  
 E-mail: info@centurygeophysical.com

**PROJECT: Exploration**  
**DATE: 08/10/2012**  
**WELL: M-256**  
**LOG: M-256**

**HOLE DATA**  
 HOLE NO: M-256  
 HOLE DEPTH: 1015  
 HOLE TYPE: Exploration  
 HOLE STATUS: Open  
 HOLE LOCATION: 800' E of M-200  
 HOLE COORDINATES: 1150-2900  
 HOLE DIAMETER: 3 1/2"  
 HOLE LOG: M-256

**EQUIPMENT DATA**  
 SYSTEM: 1000  
 SOFTWARE: 1000  
 HARDWARE: 1000  
 OPERATOR: J. Chen  
 DATE: 08/10/2012





**CROW BUTTE  
RESOURCES, INC.**

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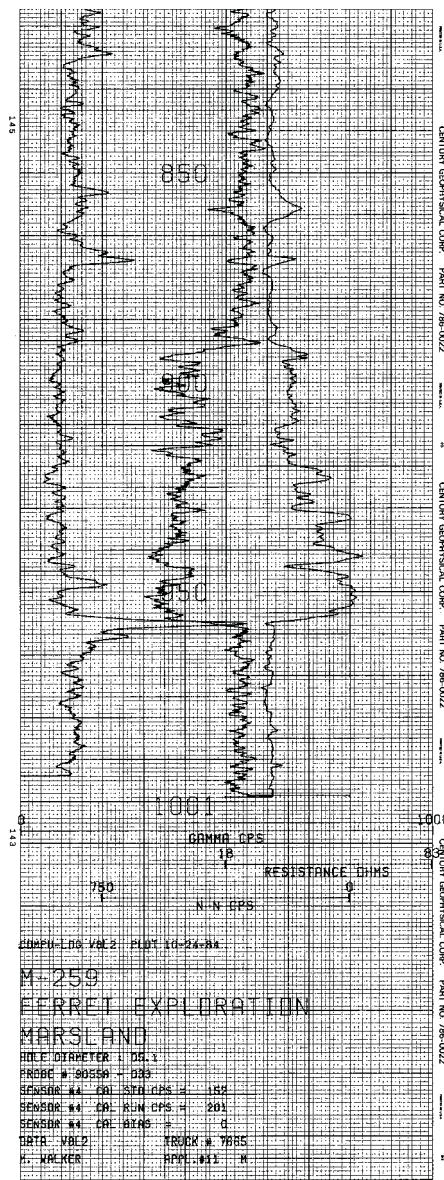
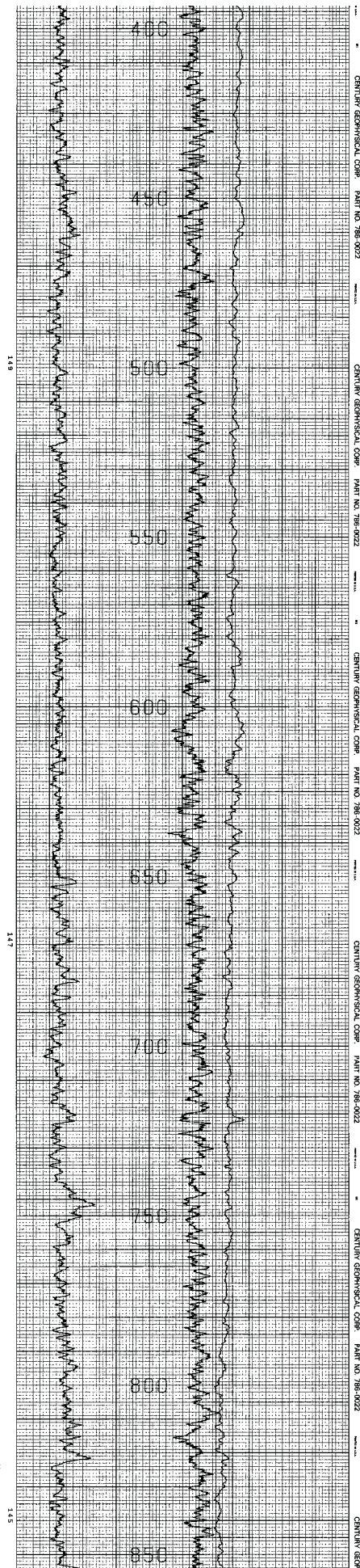
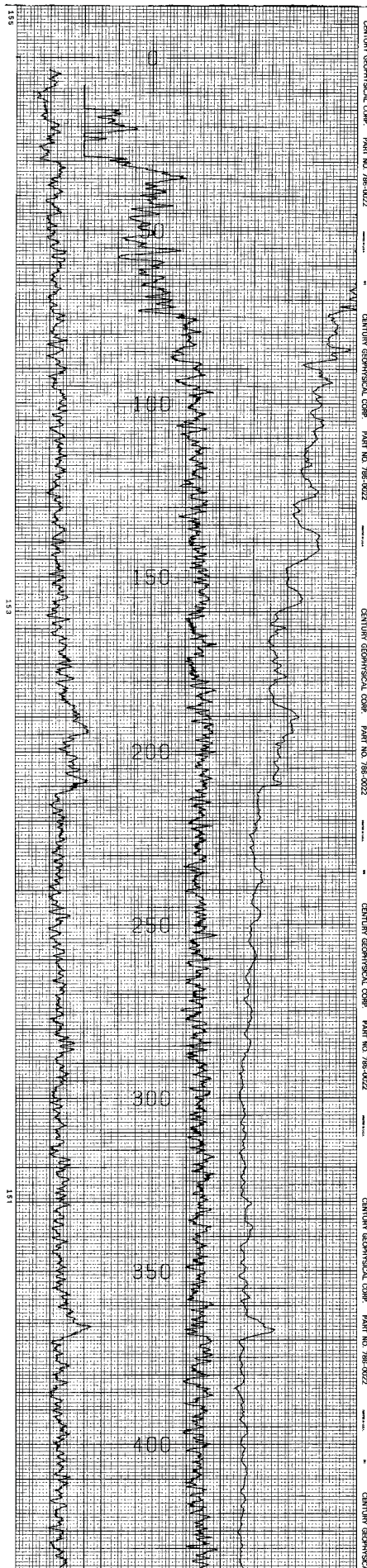
**LOG M-256**

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630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

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MARSH-LOG-VOL2 - PLAT-10-24-84  
 M-259  
 FERRET EXPLORATION  
 MARSLAND  
 HOLE DIAPETER = 08.1  
 PROBE # 90558 - D33  
 SENSOR #1 CR. RES. CPS = 152  
 SENSOR #4 CR. RES. CPS = 201  
 SENSOR #4 CR. RES. = 0  
 DATA VOLT. TRACK # 7885  
 H. WALKER APP. #11 K



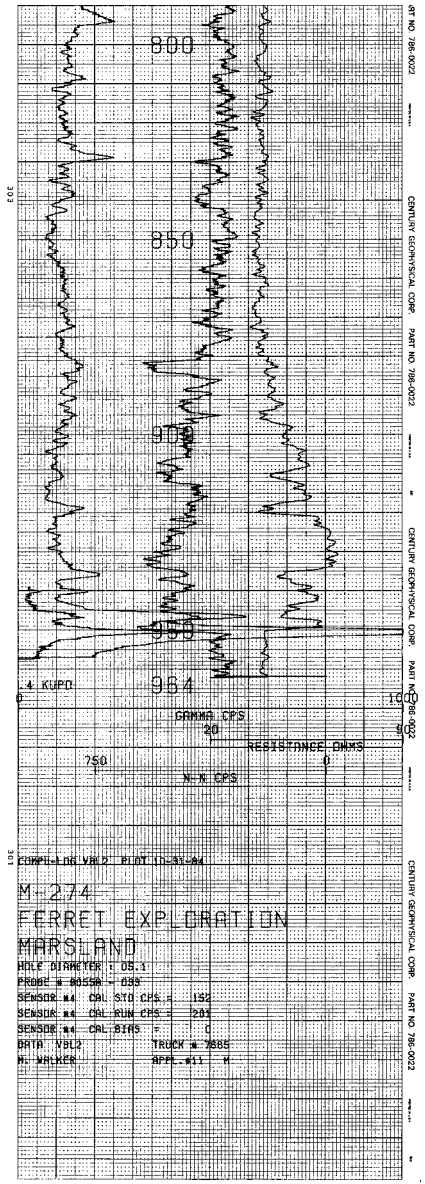
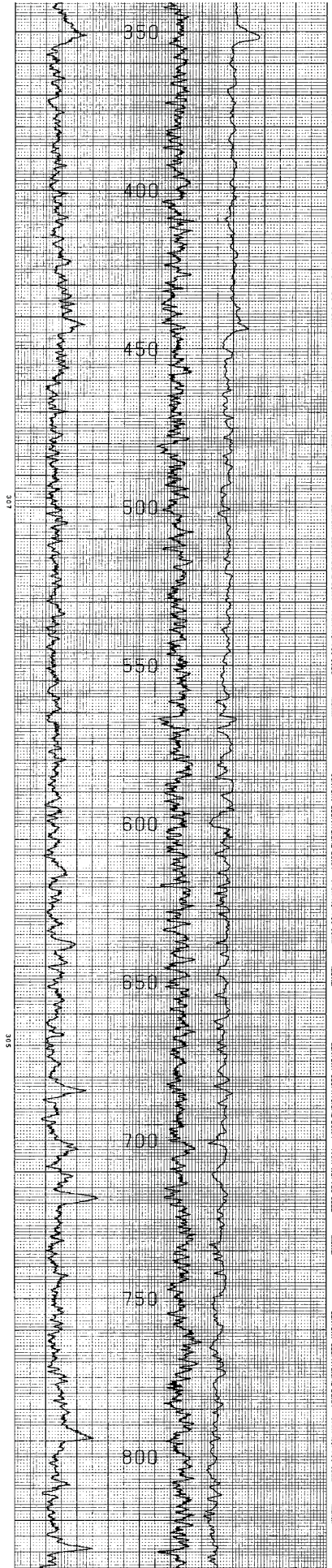
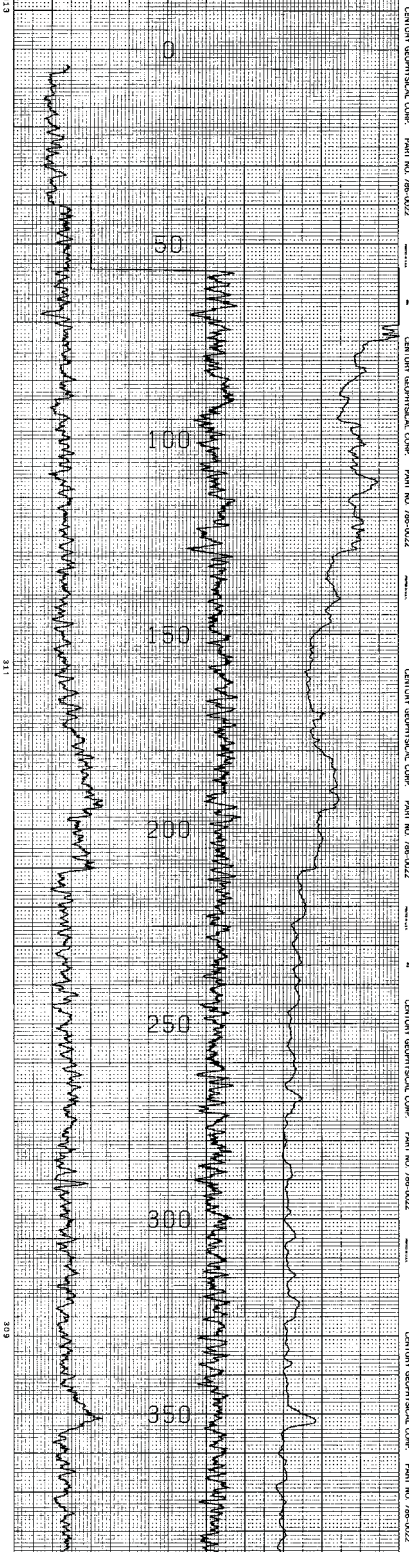
CROW BUTTE  
RESOURCES, INC.

LOG M-259



630 Plaza Drive, Ste. 100  
 Highlands Ranch, CO 80129  
 P. 720-344-3500 F. 720-344-3535  
 www.arcadis-us.com

<b>CENTURY GEOPHYSICAL CORPORATION</b> Tom Oberthur 11 924977 6183208	
PROJECT: FERRET EXPLORATION M-274 MARSLAND DOWNS 20 FEBRU 2011	DATE: 10-31-11 OPERATOR: N. WALKER
HOLE DATA HOLE DEPTH - LOGS: 960'      HOLE DEPTH - MEASURE: 26' TOTAL HOLE DEPTH: 986'      LOGGING: LOGGING: SURFACE: SURFACE      SURFACE: SURFACE SURVEY METHOD: CSO      SURVEY METHOD: CSO NETEL: CSO	
1200 W 16 N-271 0175-0050	



M-274  
 FERRET EXPLORATION  
 MARSLAND  
 HOLE DIAMETER: 05.1  
 PROBE # 00558 - 088  
 SENSOR #4 CAL STD CPS = 152  
 SENSOR #4 CAL RUN CPS = 204  
 SENSOR #4 CAL BIAS = 0  
 DATA VBL2 TRUCK # 7885  
 N. WALKER APPL #11 H

**CROW BUTTE  
RESOURCES, INC.**

**LOG M-274**

630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

37

CENTURY GEOPHYSICAL CORPORATION  
 Title: Obsolete W 64° 45' 00"  
 F 128 83.5'

**FERRET EXPLORATION 2009/01/15**

**M-277**  
**MARSLAND**

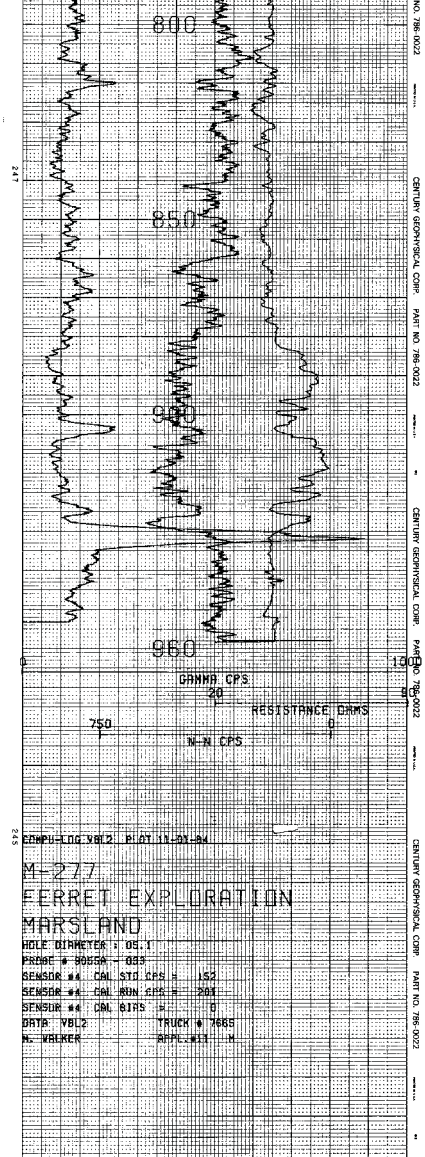
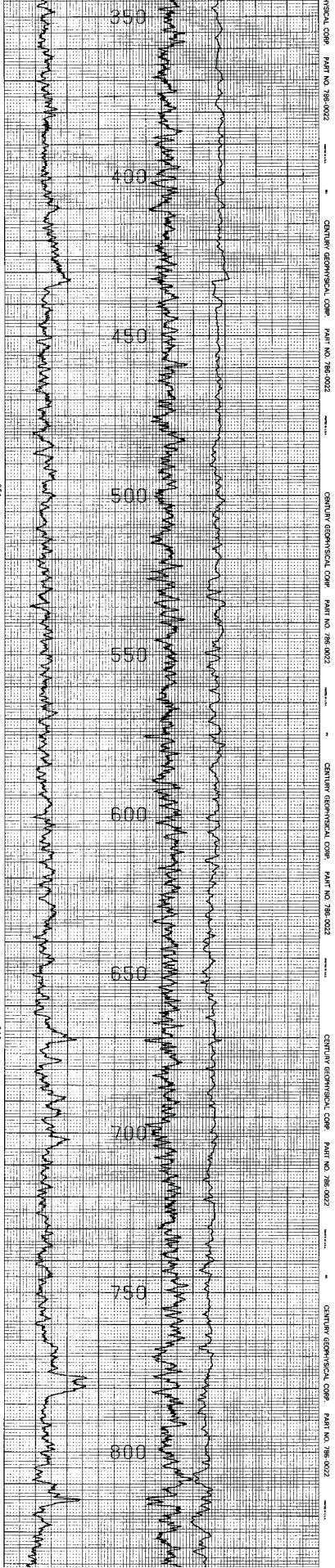
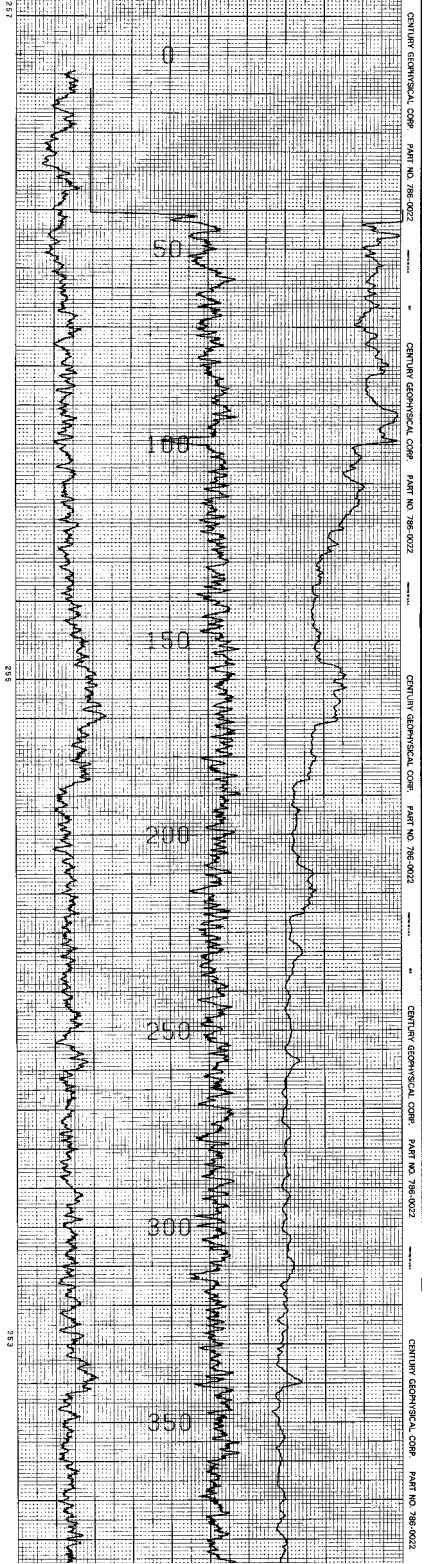
DRUMS: **N/A**  
 COMPASS: **350W**  
 SURVEY BEARING: **031**  
 BEVEL: **023**

HOLE DATA

TOTAL DEPTH - LOGGED	940'	DEPTH - TRUE HOLE	976'
TOTAL DEPTH - SURVEY	940'	DEPTH - SURVEY	976'
REMARKS	KODIAL		
FORMATION	MUD		
SURVEY BEARING	031	DEPTH BEARING	8.8 AF
BEVEL	023	BEVEL	023

**1600' W OF H-278**

**0100-3650**



DEPTH - LOG SURVEY PLAT 111-01-01-A

**M-277**  
**FERRET EXPLORATION**  
**MARSLAND**

HOLE DIAMETER = 05.1  
 PROBE # 8055A - 085  
 SENSOR #4 CAL STD CPS = 152  
 SENSOR #4 CAL RUN CPS = 204  
 SENSOR #6 CAL BIPS = 0  
 DATA VBI2 TRUCK # 7685  
 N. WALKER APPL #113 M

**CROW BUTTE  
 RESOURCES, INC.**

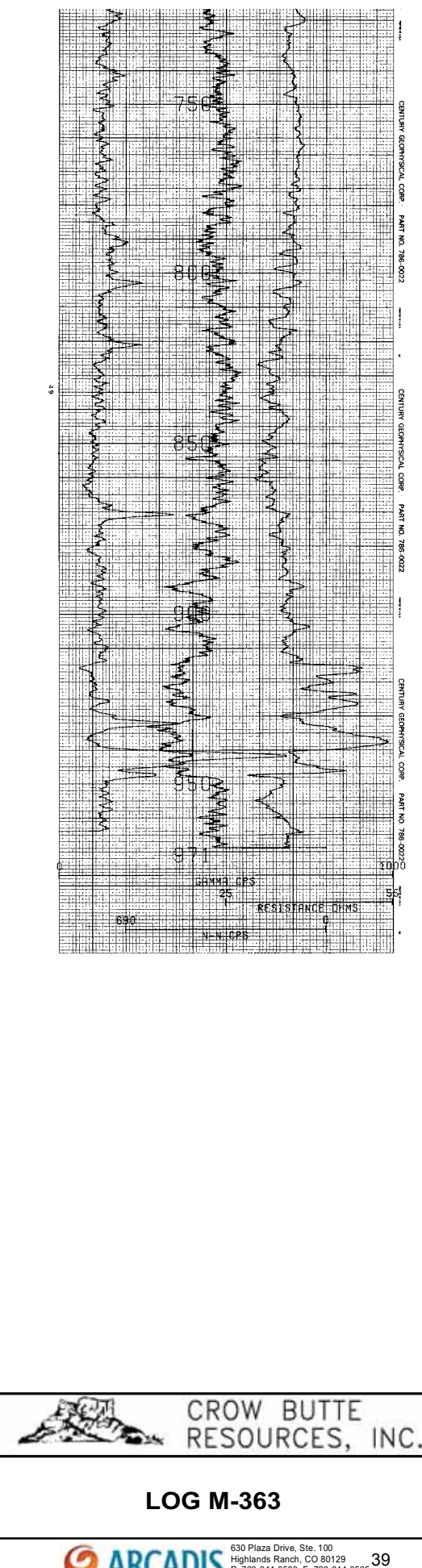
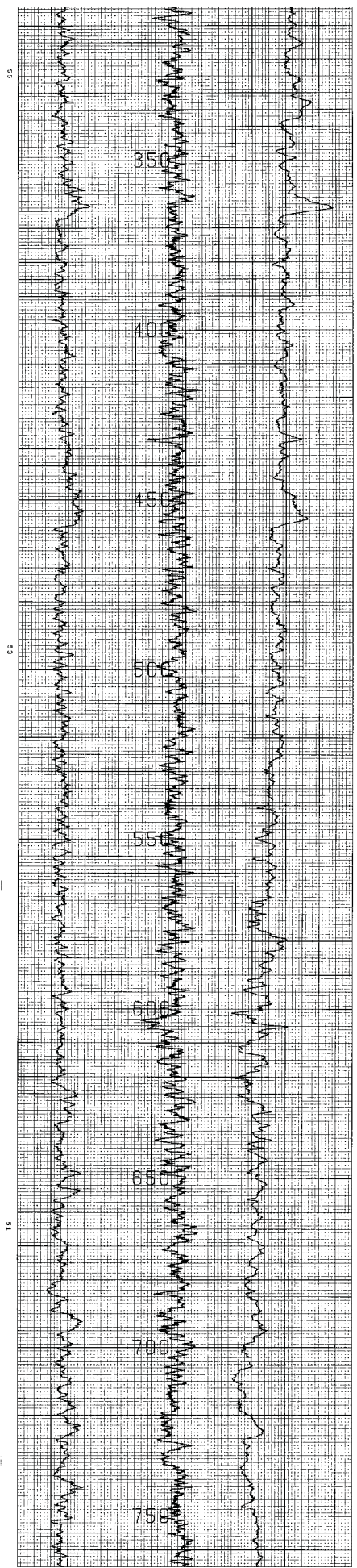
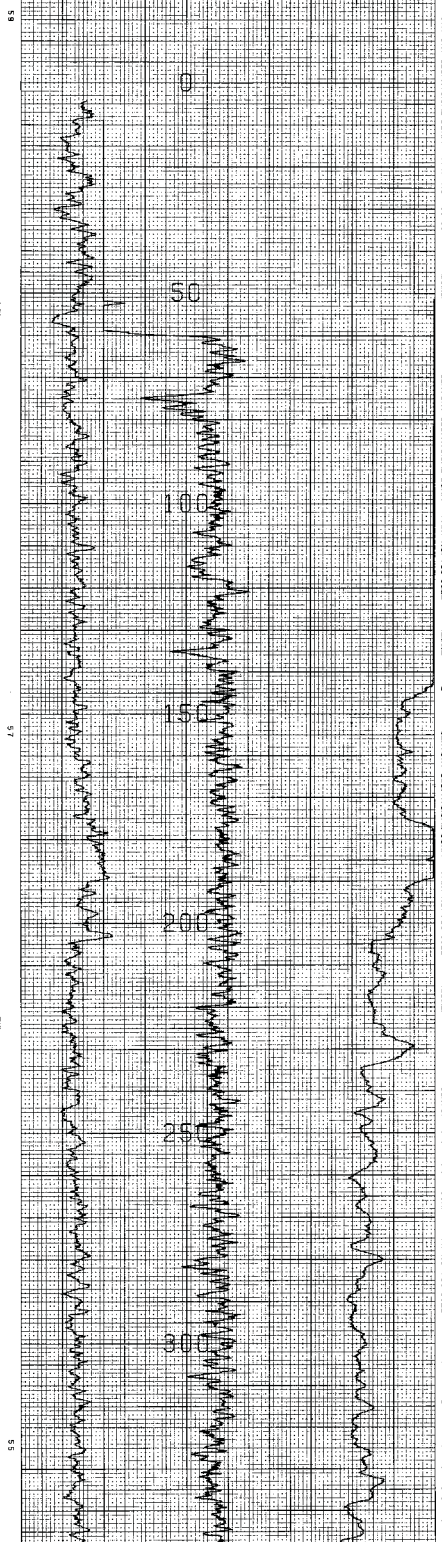
**LOG M-277**

**ARCADIS**

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 Highlands Ranch, CO 80129  
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<b>CENTURY GEOPHYSICAL CORPORATION</b> Total Charge: 21,000.00 Date: 11/20/85 11/20/85 11/20/85	
<b>FERRET Exploration</b> M-363 MASLAND DINES 20 SW 29N 50W	
EQUIPMENT DATA M-363 MASLAND DINES 20 SW 29N 50W	
HOLE DATA TOTAL DEPTH - GALLER 470' INTICE 54' TOTAL DEPTH - LOGGER 271' CASING - PIPE SIZE TOTAL FOOTBALL COVER 77' CASING REPORT LOGGING SPEED 60 MIN/HR MARCH/LEAD M-363 REFERENCE LEVEL SURFACE FUTURE DESTROY PROJECT NO. SURFACE SURFACE 8204 SURVEY BEFORE SURVEY AFTER TOTAL TIME	
700' E of M-363 0150-1025	

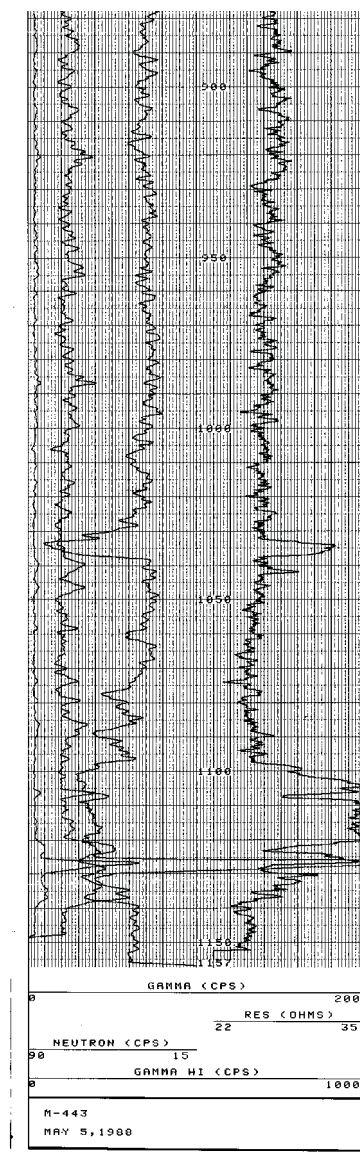
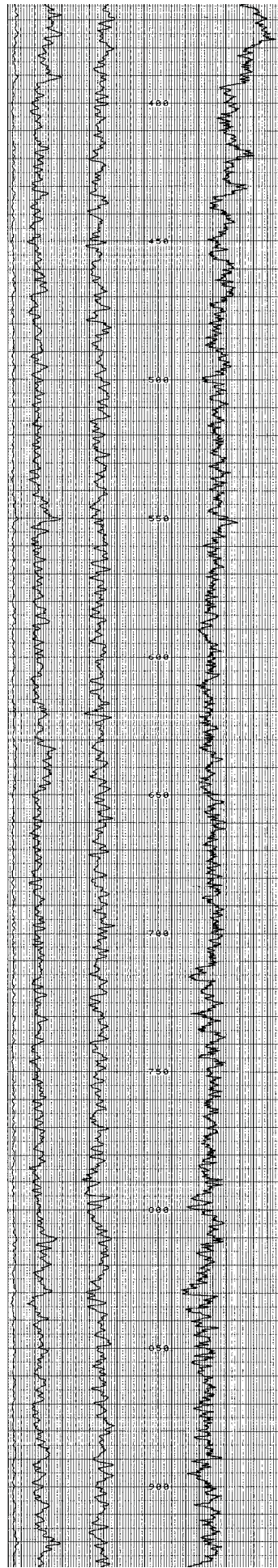
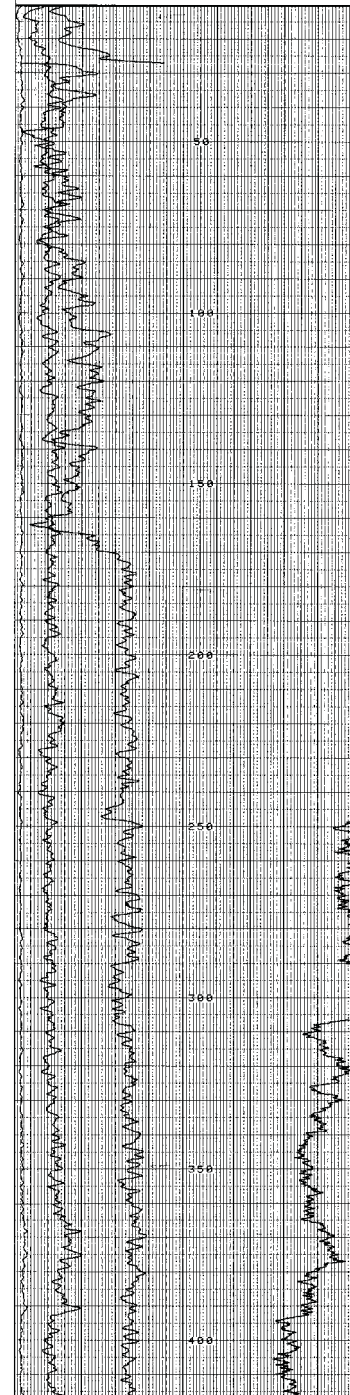


LOG M-363



<b>FRONTIER LOGGING</b> Lakewood, Colorado	
M-443 5-1988	3776-0450
PERVEX EXPLORATION COMPANY INC. 1600 S. JESSIE DENVER, CO 80202	DATE MAY 5, 1988 FIELD NO. 2158
WELL NO. 2158 LOCATION: MARSHLAND	COUNTY: WASHINGTON STATE: COLORADO
DEPTH: CORRECTION: METER POSITIVE/NEGATIVE DEPT GROUND LEVEL TO: MALLORY: 1158 DEPTH: 1000 BIT: 8 1/2" NAME: 8 1/2"	
NATURAL GAMMA NO. 1881 DATE: 1988	NEUTRON NO. 275 DATE: 1988
LOGGING COMPANY: PERVEX LOGGING NO. 2158 LOGGING DATE: MAY 5, 1988	FIELD CALCULATION: CORRECTION: 0.00 LOGGING: 2158
INSTRUMENT: TOBI 443	

GAMMA (CPS)	200
RES (OHMS)	35
NEUTRON (CPS)	15
GAMMA HI (CPS)	1000





**CROW BUTTE RESOURCES, INC.**

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**LOG M-443**

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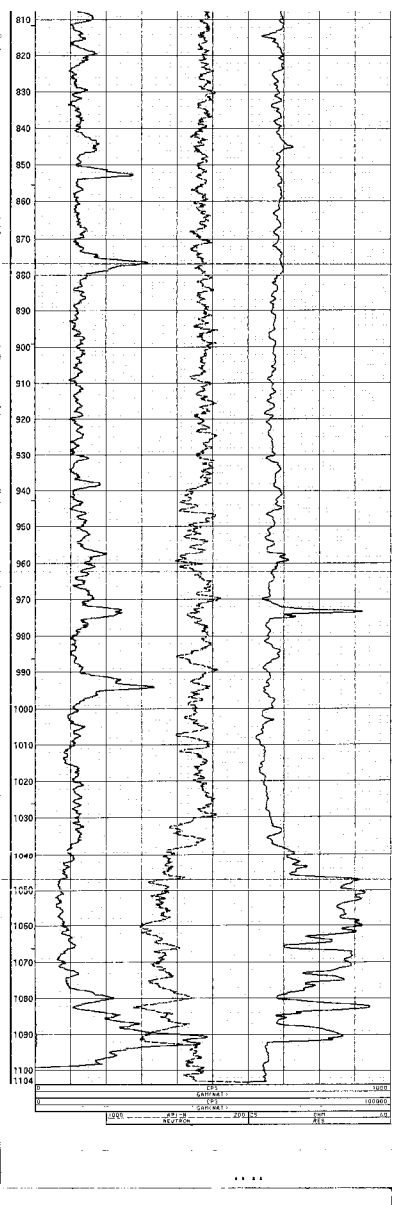
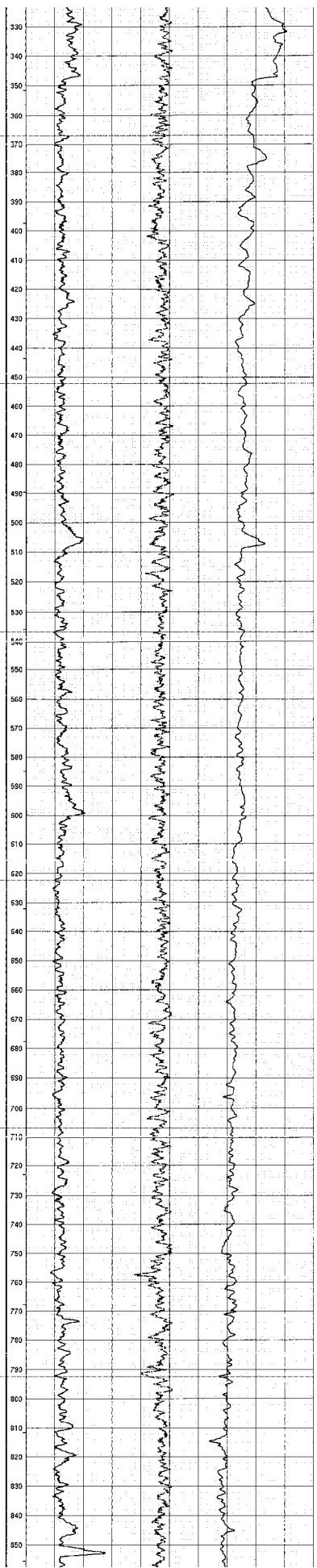
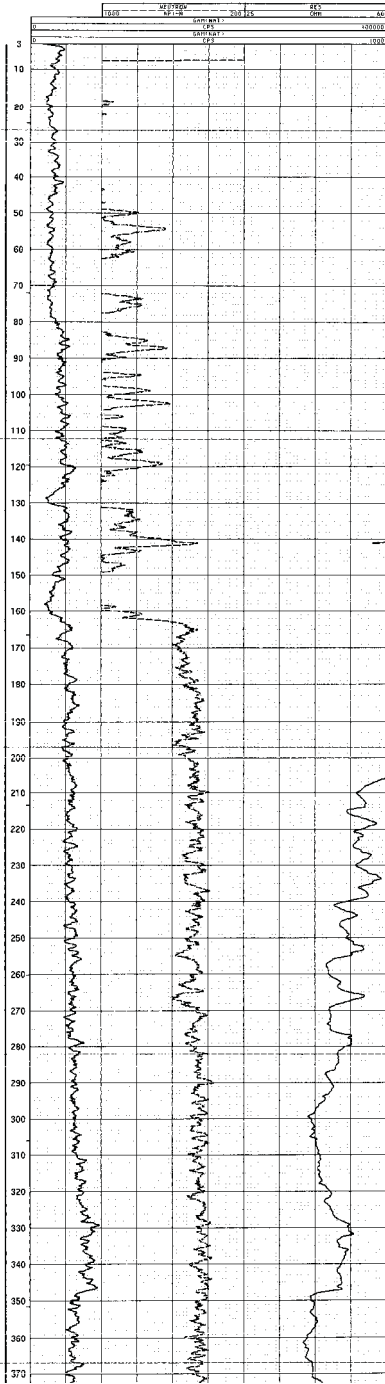


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<b>N-704 5400-0700</b>		
COMPANY: GEOMAX WELL: 5400-0700 LOCATION/FIELD: 4200 EC COUNTY: S. YUCCA STATE: CO SECTION: 10	OTHER SERVICES: 4200 EC S. YUCCA	
DATE: 06/24/95 DEPTH WELLER: 1100 LOG BOTTOM: 1100.00 LOG TOP: 3.58 LOGGING WELLER: [blank] LOGGING TYPE: [blank] LOGGING TECHNICIAN: [blank]	PERMITS: [blank] FILE: [blank] LOG NUMBERED FROM: CL WELL NUMBERED FROM: CL LOGGING UNIT: [blank] FIELD OFFICE: [blank] RECORDED BY: T. WOODRUM	ELEVATIONS: [blank] SP: [blank] CL: [blank]
BIT SIZE: 3.50 PROBE SIZE: 3.0 MATRIX RESISTIVITY: 2.71 FLUID RESISTIVITY: 1.1 NEUTRON MATRIX: [blank] SLOTTING: [blank]	NORMALS: [blank] TEMPERATURE: [blank] NEUTRON SLOTTING: [blank] FLUID RESISTIVITY: 1.1	FILE: [blank] PROCESSED: [blank] LOG: [blank] FLIGHT: [blank] THRESHOLD: [blank]

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS





**CROW BUTTE  
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**LOG M-704**


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41

S-5 2.147

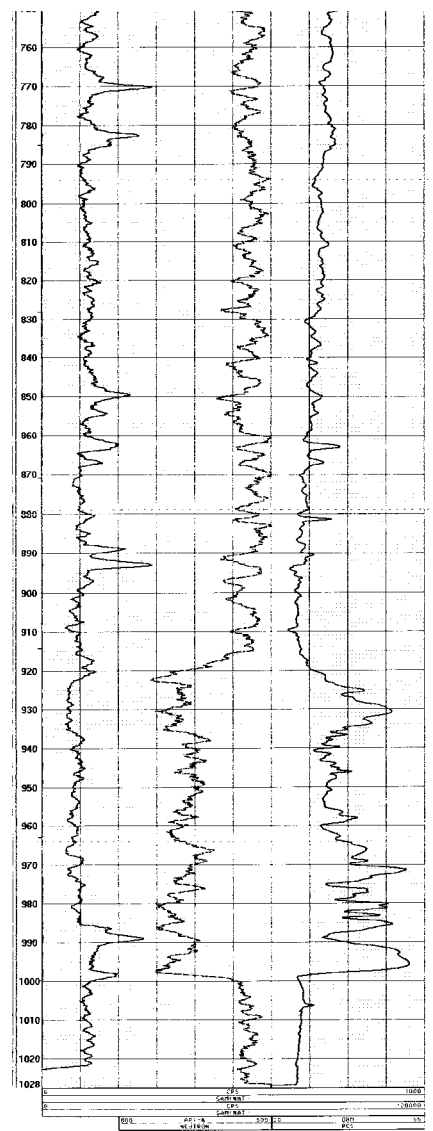
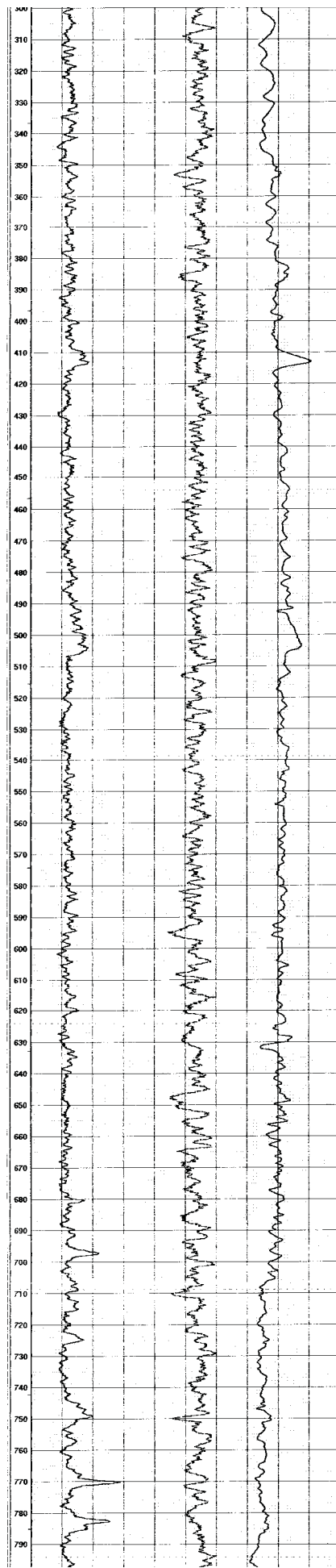
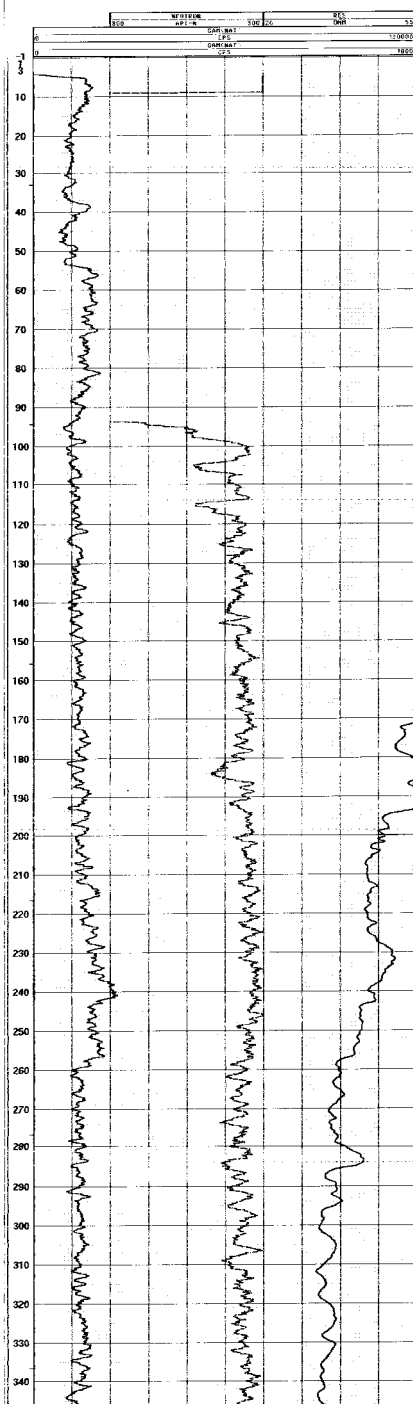


**Century**  
GEOPHYSICAL CORP.

M-783 3660-2600

COMPANY : GEMEK	OTHER SERVICES : IN-HOUSE
FIELD NO. : 10783	BY : GEMEK
LOCATION (ONLY) / TAP : 166-0498	BY DATE : 11-11-78
CONVEY : 10783	
STAKE : 10783	
SECTION : 10	
DATE : 11/12/78	PERMITS/NOTES : C.L.
DEPTH METER : 1000	FIELD TECH. INSTR. NO. : 10783
LAC. METER : 1000	LAC. METER FROM : C.L.
LAC. TAP : 1000	LAC. METER FROM : C.L.
LOGGING MILLER : 1000	LOGGING UNIT : 1000
LOGGING TYPE : 1000	FIELD OFFICE : 1000
LOGGING TELEPHONE : 1000	RECORDED BY : J. R. HETTERICK
BIT SIZE : 0.125	MARKER FLOOR : PLAC GEL
PHYSICAL MEAS. : 1000	FILE : ORIGINAL
PHYSICAL MEAS. : 1000	TYPE : 1000
PHYSICAL MEAS. : 1000	LAC. : 1000
PHYSICAL MEAS. : 1000	PLAY : 1000
PHYSICAL MEAS. : 1000	MARKER : 1000

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**CROW BUTTE  
RESOURCES, INC.**

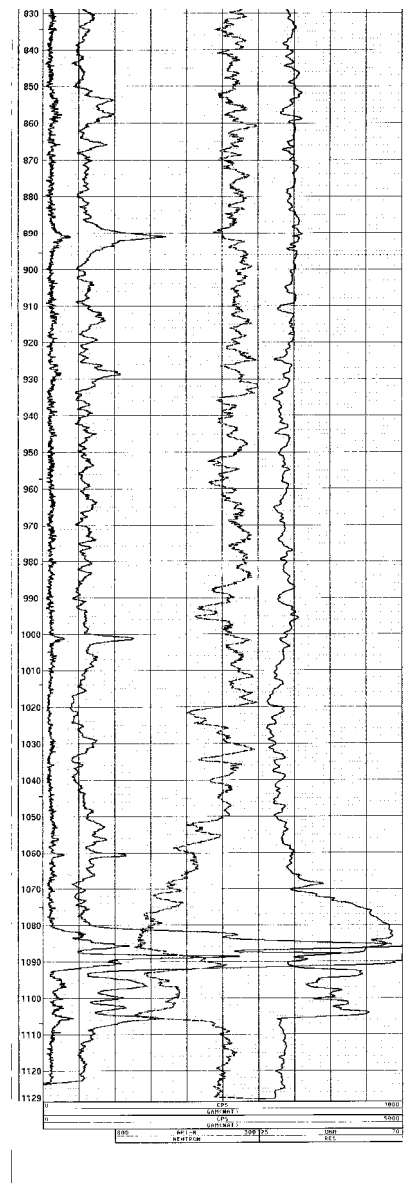
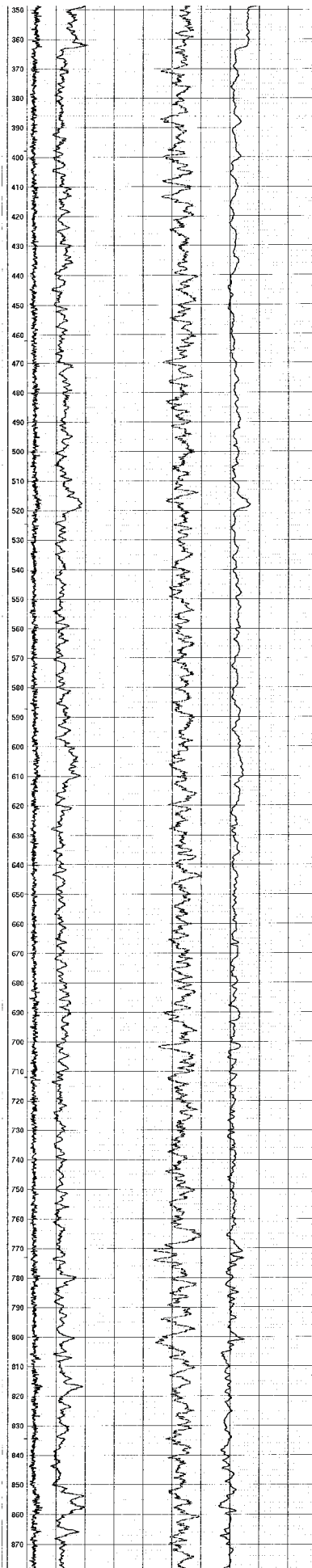
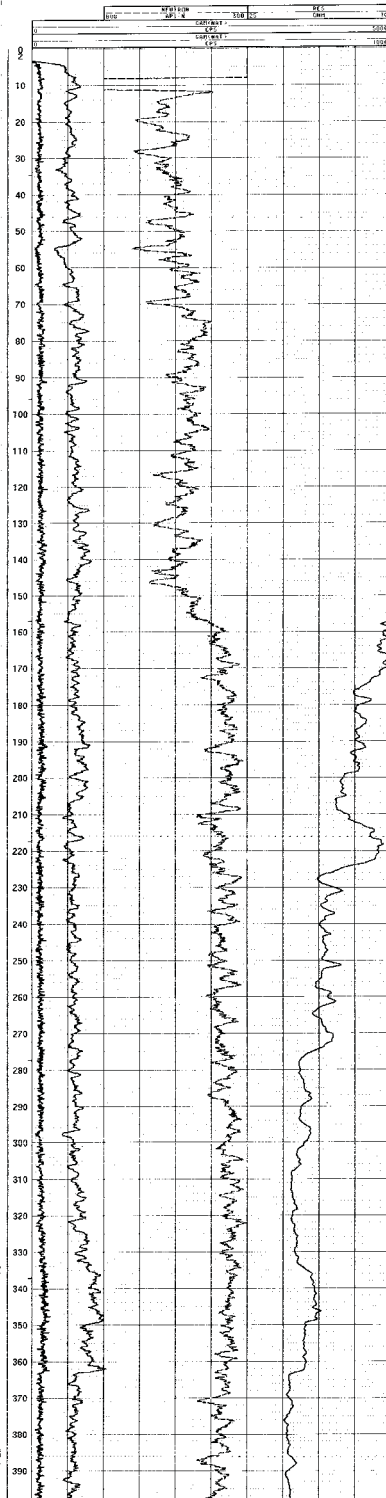
LOG M-783



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 <b>M-797</b>	
COMPANY: GEORGE WELL: M-797 LOCATION: 10000 COUNTY: BOULDER STATE: CO SECTION: 1	SERVICE: 2012 BY: J. CHEN DATE: 05/09/2012
DATE: 05/09/2012 TIME: 11:00 LOG METHOD: 10000 LOG TOP: 4.00	FORMATION: 10000 CEMENT: 10000 LOG PRESSURE: 10000 LOG TEMPERATURE: 10000 LOG RESISTIVITY: 10000
LOGGING UNIT: 10000 LOGGING TYPE: 10000 LOGGING TECHNIQUE: 10000	LOGGING BY: 10000 LOGGING DATE: 10000 LOGGING TIME: 10000
WIT: 10000 WIT SIGNATURE: 10000 WIT TITLE: 10000	WIT SIGNATURE: 10000 WIT TITLE: 10000

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**CROW BUTTE  
RESOURCES, INC.**

**LOG M-797**



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**43**

2010 4-14-12

**Century**  
GEOPHYSICAL CORP.

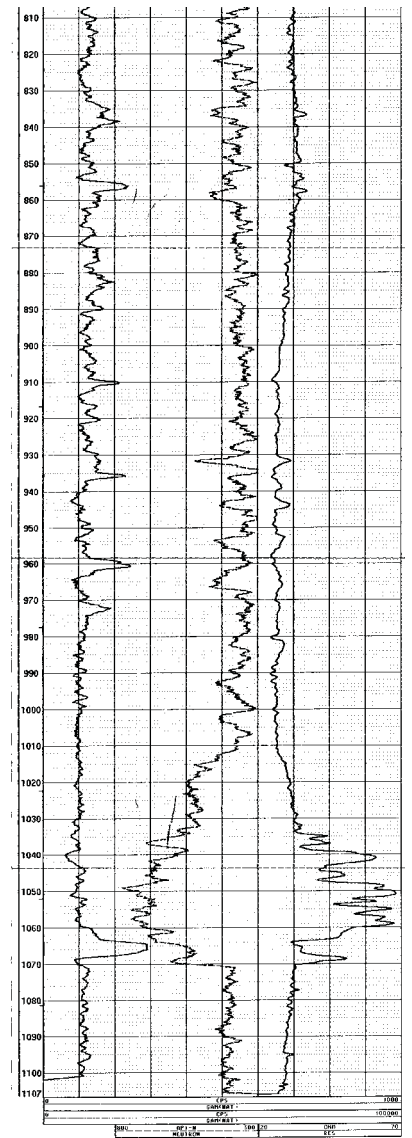
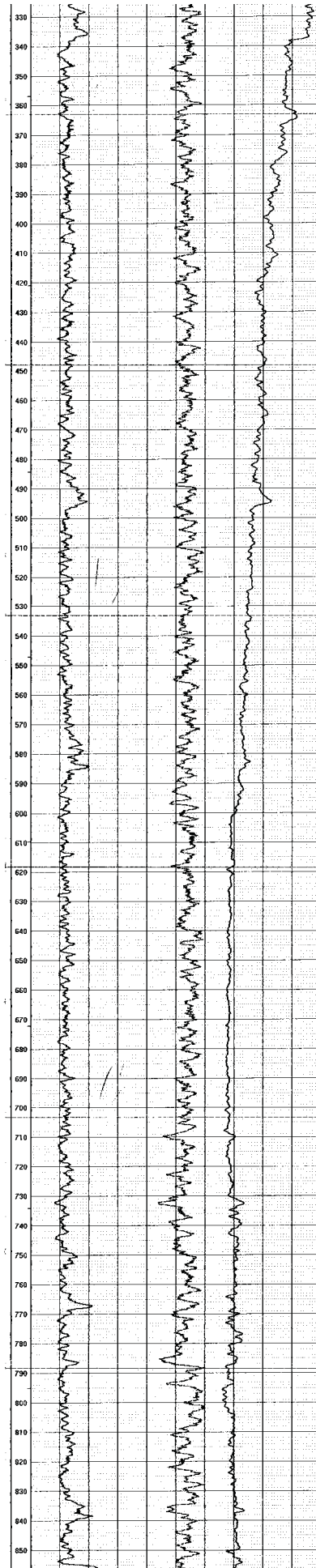
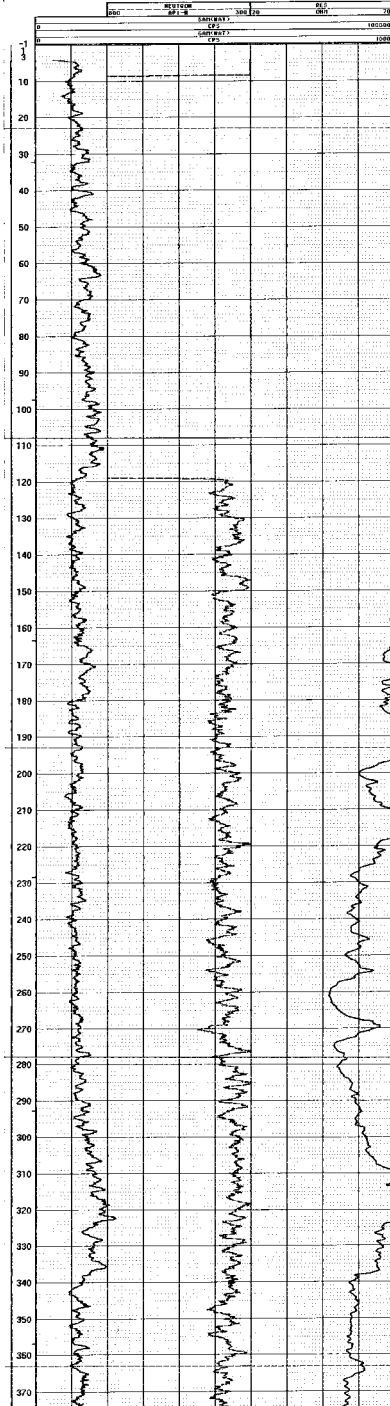
RZ-456046  
PZ-1123287

**M-802** 5000-29900

OTHER SERVICE: 4880.135'

LOGGERS	JOHNSON	FIELD SERVICE	J. CHEN
INSTRUMENTS/LOGS	M-802	DATE	4/11/12
CLIENT	CH2M HILL	PROJECT	456046
SECTION	4-38	SECTION	456046
DATE	4/11/12	FORWARD BY	J. CHEN
DEPTH METER	1.5M	CLIP, PUNCH, WATER	N/A
LOG DEPTH	1.68M	LOG NUMBER FROM	0.0
LOGGING METHOD	4.38	LOG NUMBER TO	1000
LOGGING DEPTH	1.5M	FIELD SERVICE	J. CHEN
LOGGING METHOD	4.38	SECTION BY	J. CHEN
BIT SIZE	1.50	INSTRUMENT	PLUM GEL
INSTRUMENT	1.50	FILE	SECTION
INSTRUMENT	1.50	TYPE	SECTION
INSTRUMENT	1.50	DATE	4/11/12
INSTRUMENT	1.50	TIME	10:00
INSTRUMENT	1.50	FLUID	WATER

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**CROW BUTTE  
RESOURCES, INC.**


**LOG M-802**



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c.b.r. l.a.s.

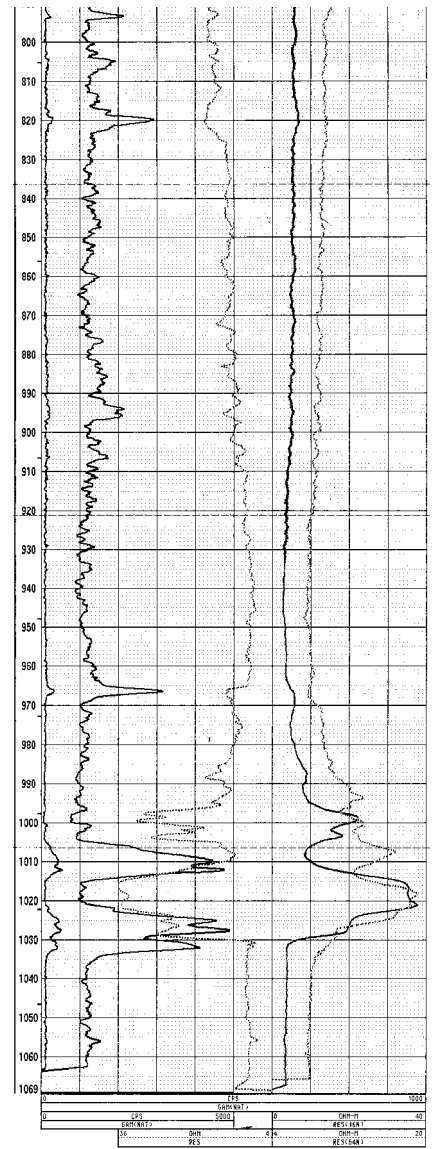
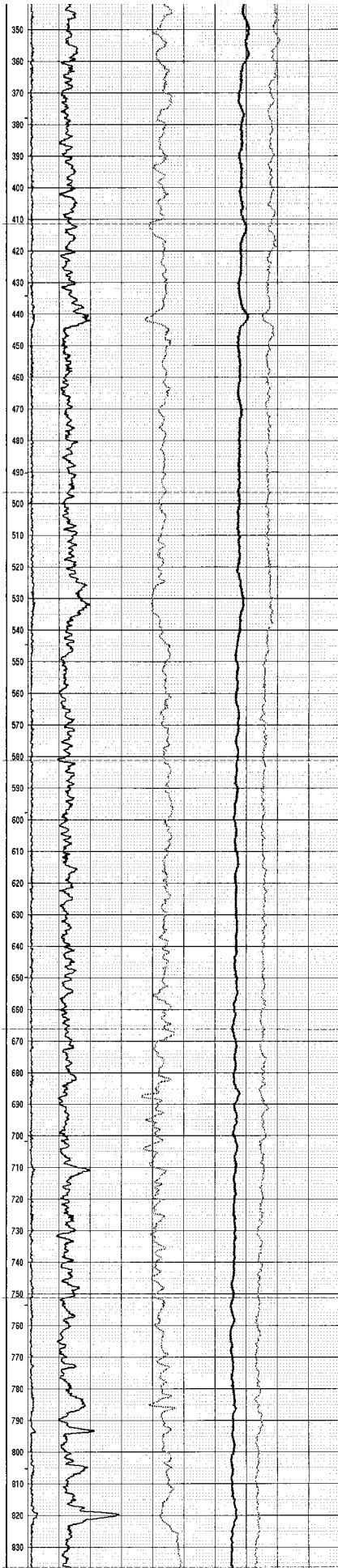
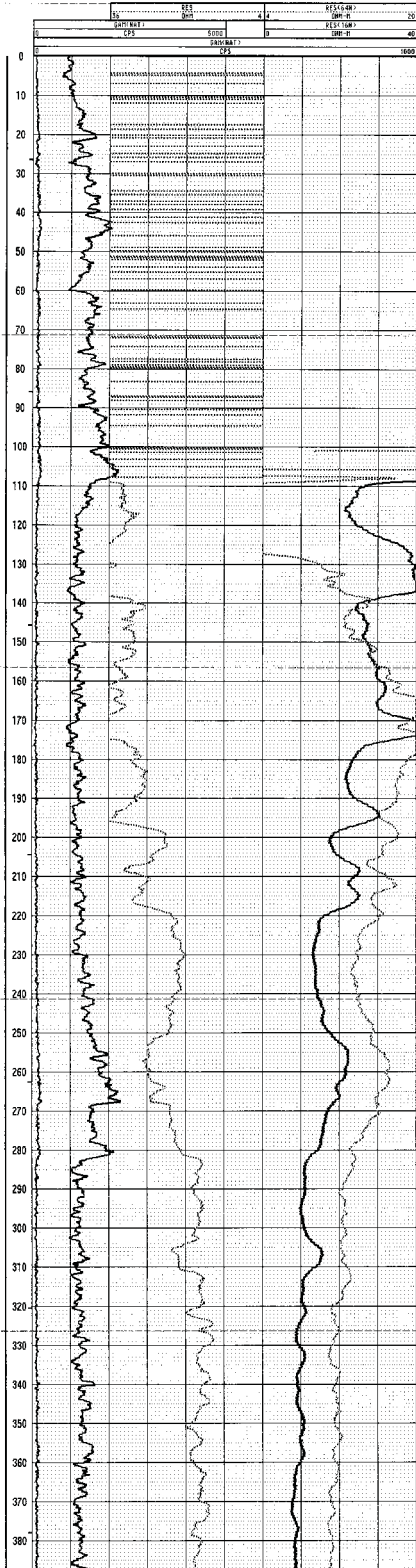
b



**Century**  
GEOPHYSICAL CORP.  
M-845 4650-3400

COMPANY : GOMEX	LOG NO. : 1210183	OTHER SERVICES : 13-ANALYST
WELL : M-845	DATE : 05/28/97	LOG NUMBER : 1210183
LOCATION/FIELD : BIG HED	DEPTH DRIER : 1874	LOG NUMBER FROM : 02
COUNTRY : DENVER	LOG BOTTOM : 1861.39	LOG NUMBER FROM : 02
STATE : CO	LOG TOP : 0.00	LOG NUMBER FROM : 02
SECTION : 18	LOGGING UNIT : 1800	LOG NUMBER FROM : 02
DATE : 05/28/97	FORMATION : 23W	FORMATION : 23W
DEPTH DRIER : 1874	PERMANENT BATHY : 01	ELEVATION : 514
LOG BOTTOM : 1861.39	ELEV. FROM BATHY : 01	NO. : N/A
LOG TOP : 0.00	LOG NUMBER FROM : 02	NO. : N/A
CASING DRIER : 0	LOGGING UNIT : 1800	NO. : N/A
CASING TYPE : 0	FIELD OFFICE : 1800	NO. : N/A
CASING THICKNESS : 0	RECORDED BY : 1800	NO. : N/A
BIT SIZE : 6.25	BOREHOLE FIELD : 1800-01	FILE : ORIGINAL
MAGNETIC INCL. : 12.000	NO. : N/A	TYPE : 1807C
MAGNETIC DECL. : 2.75	NO. : N/A	LOC : 1
FIELD SURVEY : 1.10	NO. : N/A	FLAT : 1807C 0
MAGNETIC WIRE : SANDSTONE	FIELD SURVEY : 1.10	GREEN : 23W
REMARKS :	FIELD SURVEY : 1.10	

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**CROW BUTTE**  
**RESOURCES, INC.**

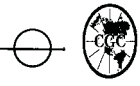
**LOG M-845**



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**45**

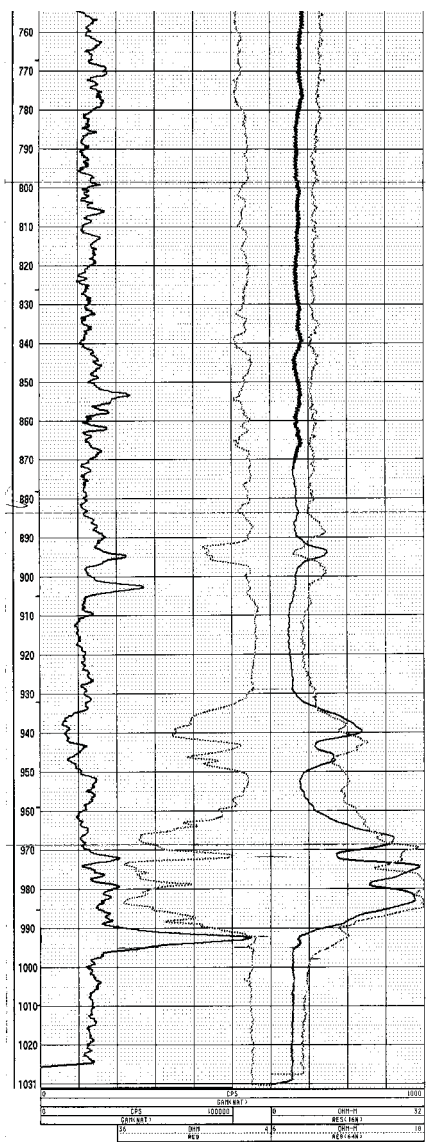
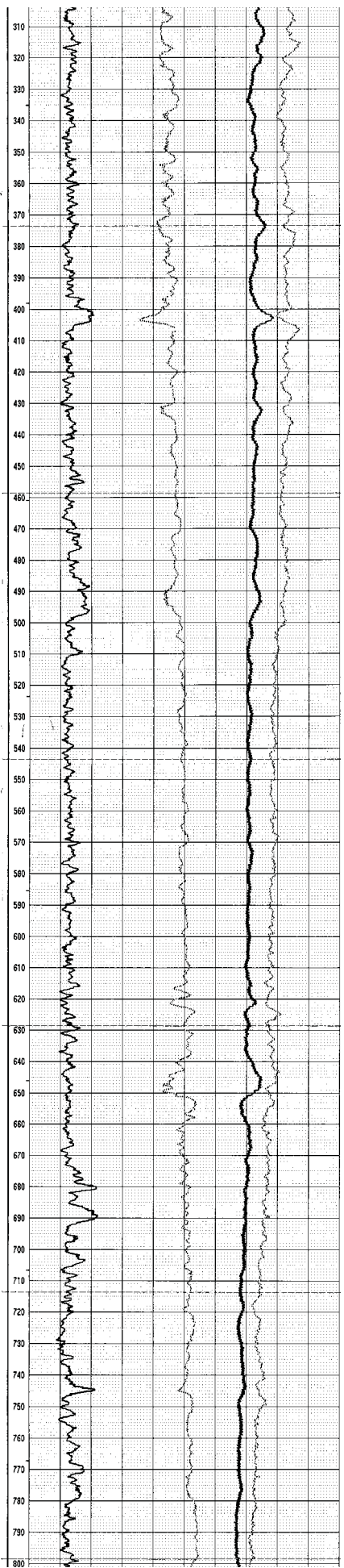
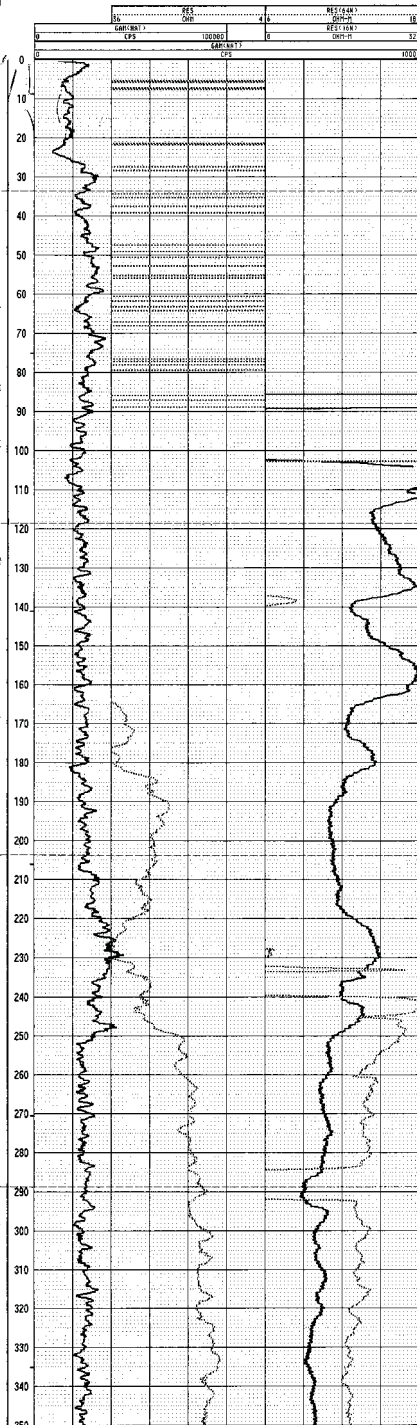
2-15 1-12



**Century**  
GEOPHYSICAL CORP.  
N-894 2350-1800

COMPANY	GEOMEX	OTHER SERVICES	
WELL	M-894	N-1420553	LA 0' 0.0000'
LOCATION/FIELD	316 302		
COUNTY	DANES		
STATE	NEB.		
SECTION	28		
DATE	06/20/12	FORMERLY	23W
DEPTH DRILLER	1853	FORMATION WATER	CL
LOG METHOD	2801.38	ELEV. FROM	CL
LOG TOP	0.58	300. REDUCED FROM	CL
CASING DRILLER	0	LOGGING UNIT	980
CASING TYPE	0	FIELD OFFICE	1000A, OR
CASING THICKNESS	0	RECORDED BY	DTT/DMY
WELL SIZE	5.25	DIAPHRAGM FLUID	WATER
DIAPHRAGM REEL	23.000	300	TYPE
MATRIX DENSITY	0.71	300 TEMPERATURE	00
FLUID DENSITY	1.11	MATRIX SLOPE T	27
MATRIX SLOPE	SANDSTONE	FIELD DELTA T	218

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**CROW BUTTE  
RESOURCES, INC.**

LOG M-894



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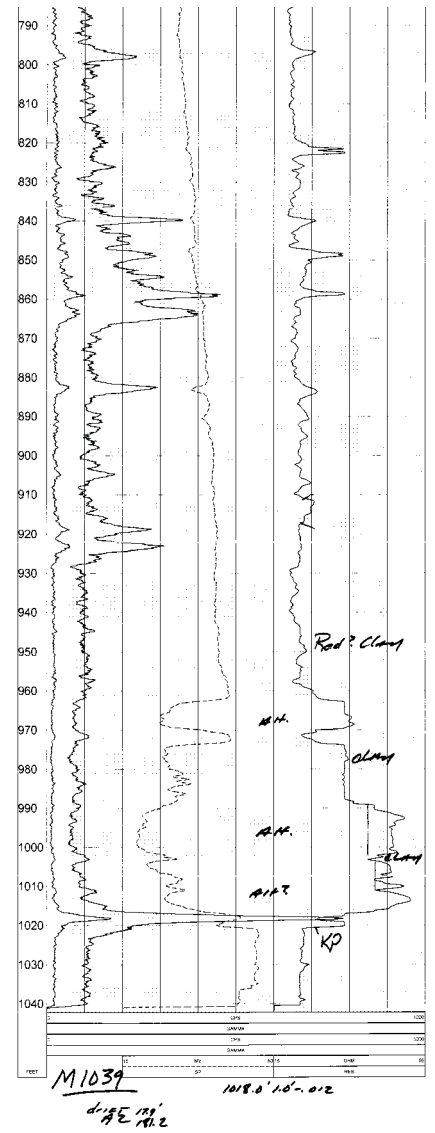
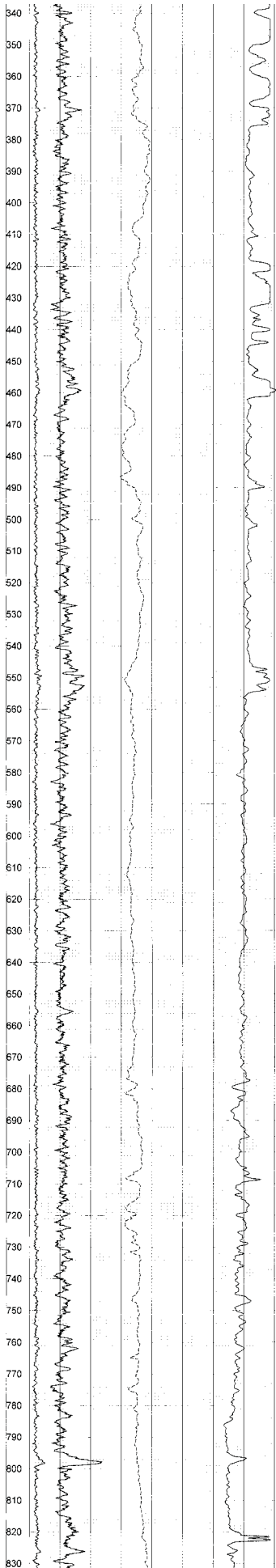
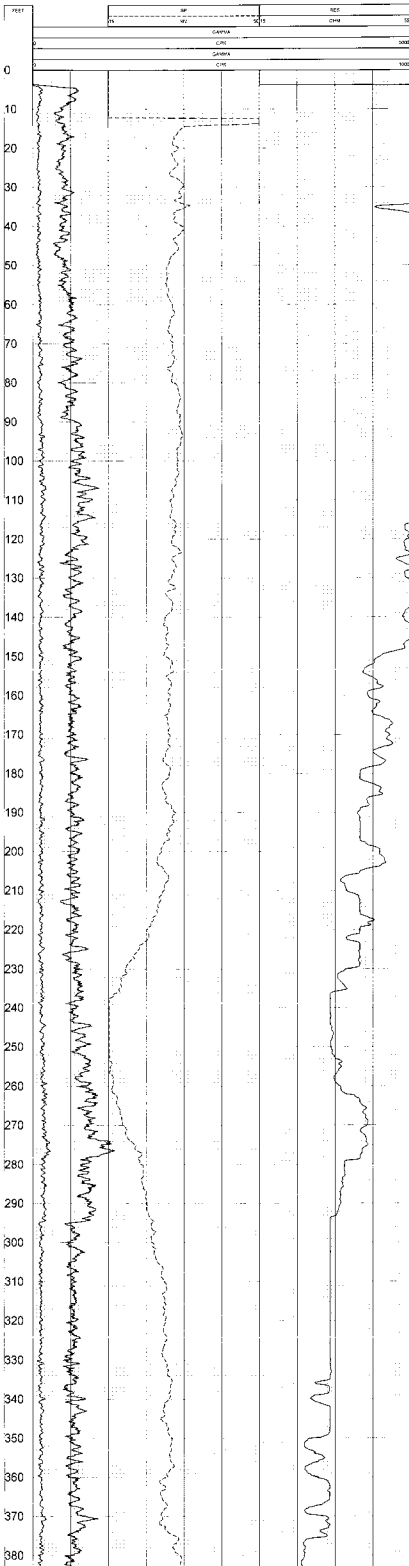
**CROW BUTTE  
RESOURCES, INC.**

M-1039

**1450 - 4950**

DATE	11/18/11	WELL NAME	M1039	4211.3	
WELL TYPE	WATER	WELL DEPTH	12	29	51
WELL ID	1450-4950	WELL STATUS	OPEN		
WELL ID	1450-4950	WELL STATUS	OPEN		

WELL DEPTH: 1450 - 4950  
WELL ID: 1450-4950  
WELL STATUS: OPEN




**CROW BUTTE  
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**LOG M-1039**



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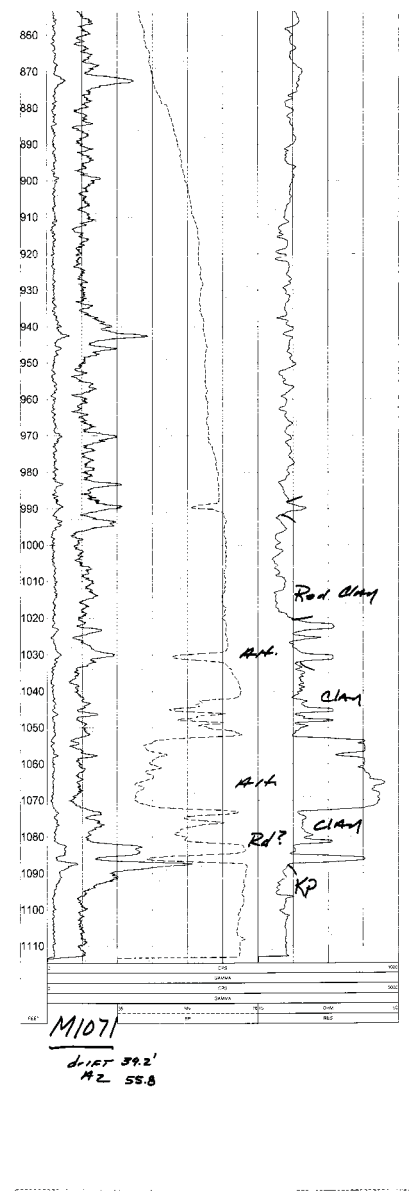
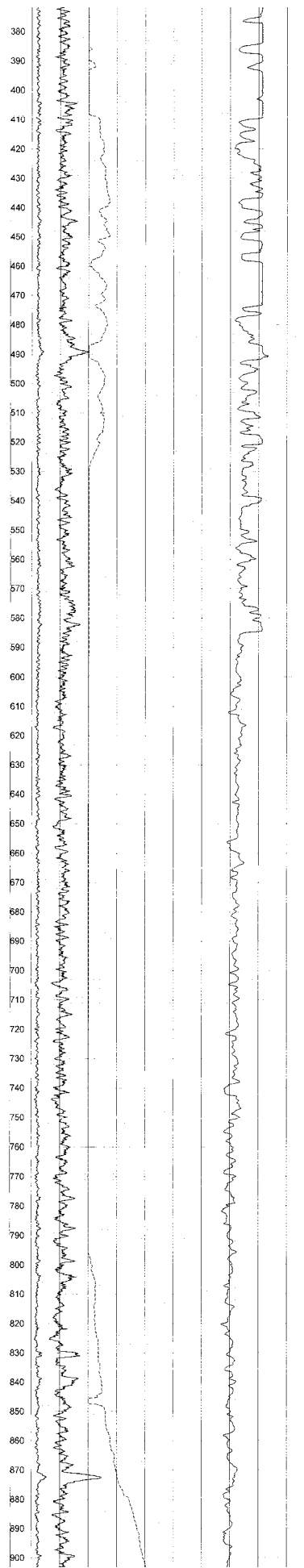
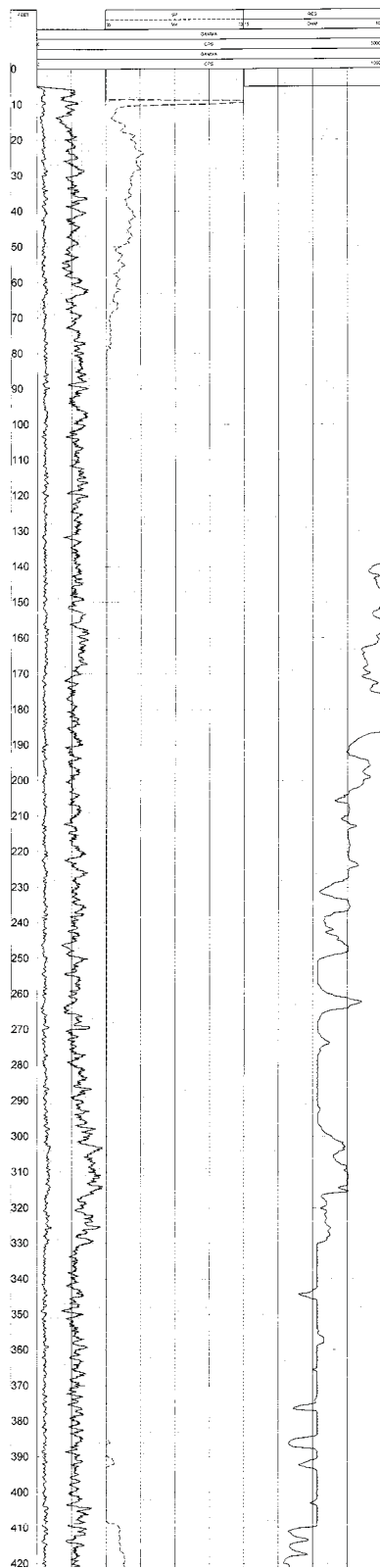
**CROW BUTTE  
RESOURCES, INC.**

M-1071 **2600 - 4850**

CLIENT: CROW BUTTE RESOURCES, INC.  
SITE: M1071 29 51  
PROJECT: 2600 - 4850

DATE: 12/06/11  
PROJECT: 2600 - 4850  
SHEET: 29

DRAWN BY: [Name]  
CHECKED BY: [Name]  
APPROVED BY: [Name]



**CROW BUTTE  
RESOURCES, INC.**


**LOG M-1071**



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48

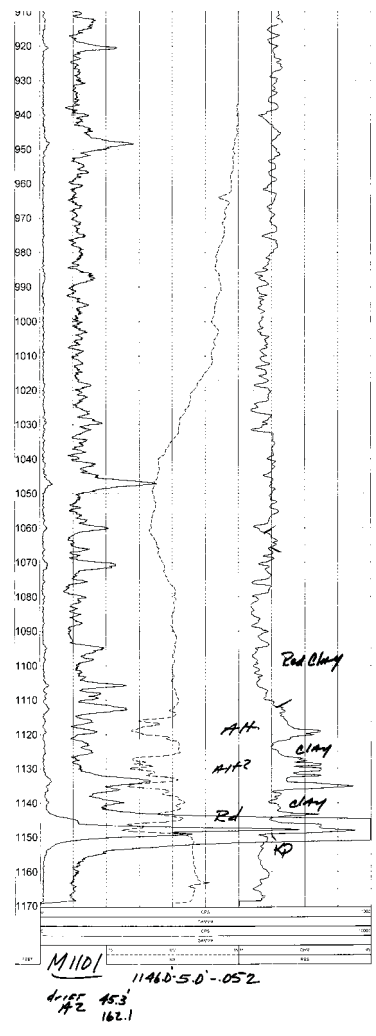
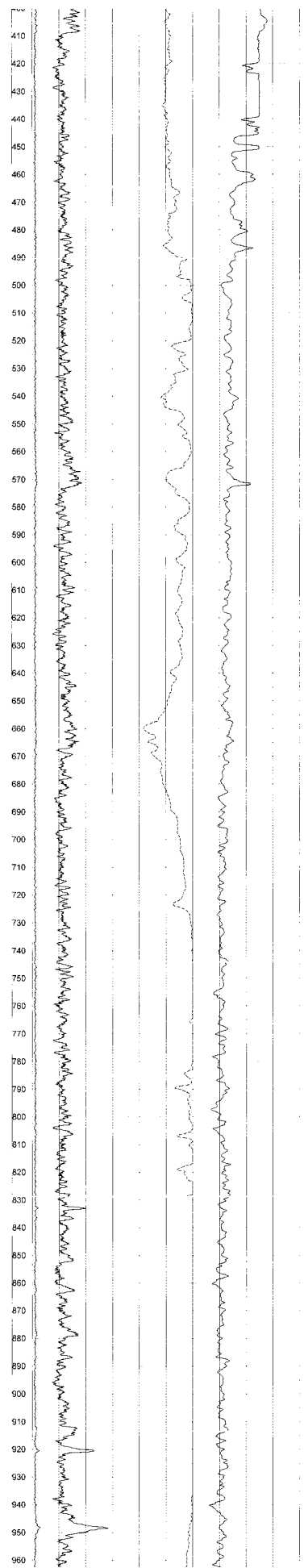
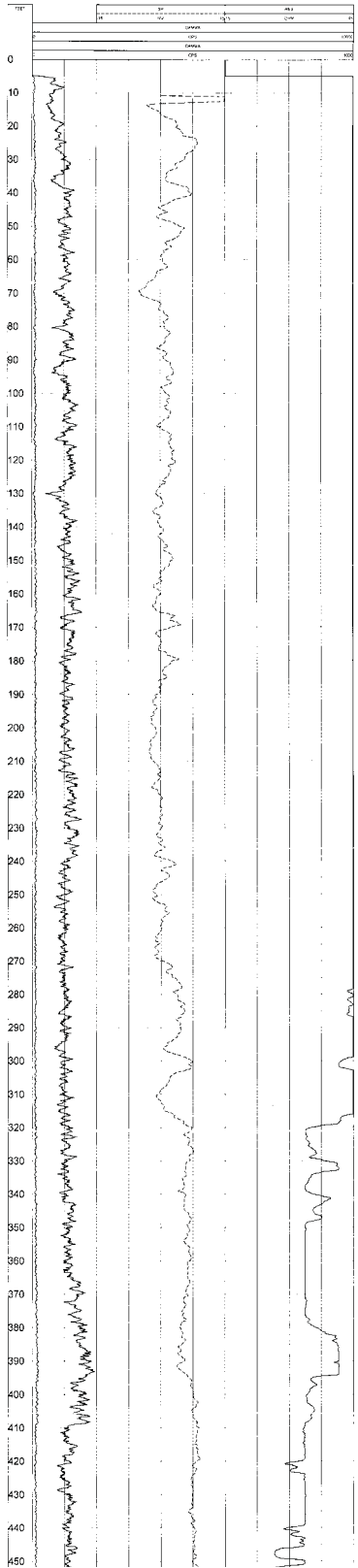


**CROW BUTTE  
RESOURCES, INC.**

M-1101 **4900 - 130**

PROPERTY	OWNER	PROJECT	DATE
4900 - 130	ARCADIS	4900 - 130	05/09/2012
LOCATION	PROJECT	DATE	
4900 - 130	4900 - 130	05/09/2012	
BY	DATE	BY	DATE
J.Chen	05/09/2012	J.Chen	05/09/2012

1146050-052





**CROW BUTTE  
RESOURCES, INC.**

**LOG M-1101**



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49

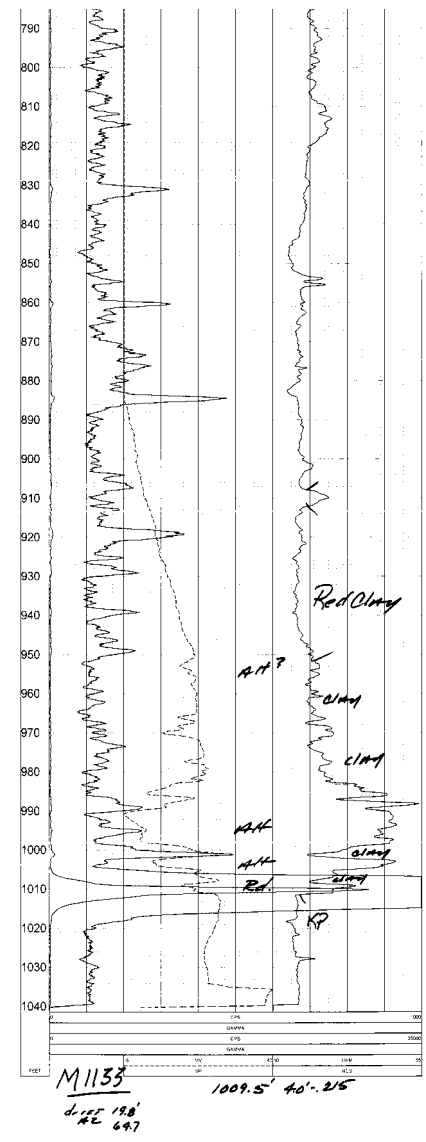
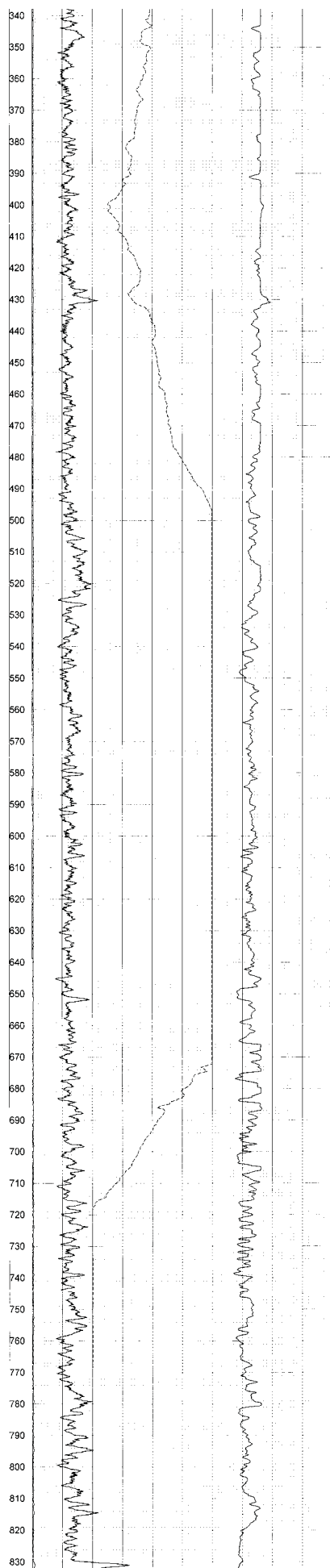
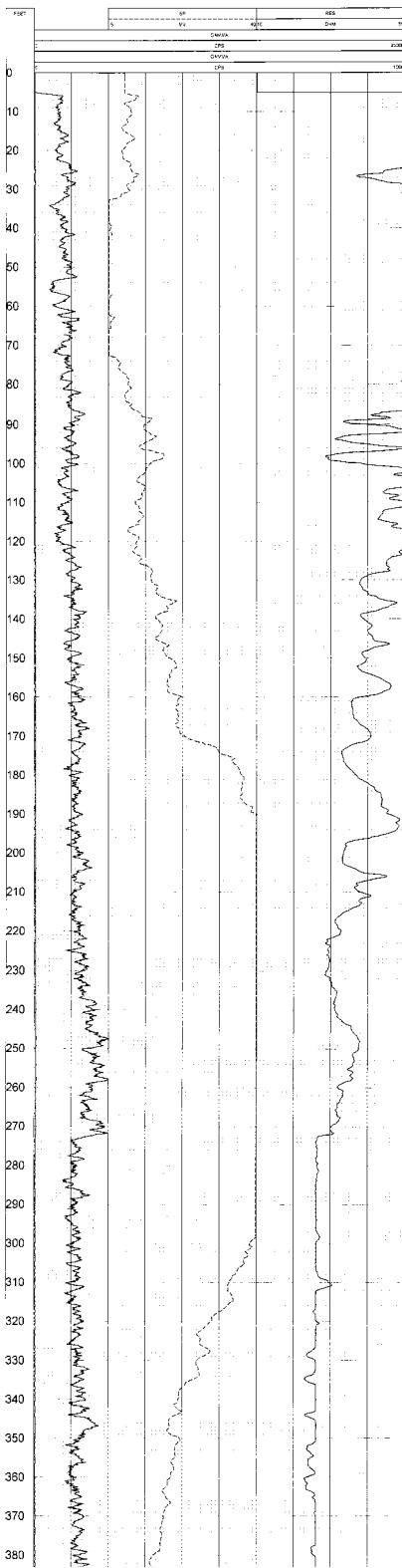


**CROW BUTTE  
RESOURCES, INC.**

M-1133

COMPANY		CROW BUTTE RESOURCES		OTHER SERVICES	
WELL	M-1133	NAME	NEW	DATE	
STATE	COLORADO	NAME	NEW	DATE	
COUNTY	ELDERS	NAME	NEW	DATE	
SECTION	18	SECTION	28	RANGE	50W
TOWNSHIP	38N				
DATE	03/20/12	PERMITS/DATA	C. 1222		
OPERATOR	150	LOGICAL INFORMATION	01	SP	None
LOG TOP/FT	641.35	LOG INFORMATION	01	ST	None
LOG BOT/FT	616	LOG INFORMATION	01	SI	None
PARAMETER	IC	LOGICAL UNIT	0000		
CARD TYPE	0	FILE TO FILE	000000		
CARD NUMBER	0	FILE TO FILE	000000		
BT 500	025	REVERSE FILE	000000	FILE	ORIGINAL
APPROX. DEPTH	1270	BT	0	TRIP	STAGE
WELL NUMBER	150	REVERSE FILE	0		
FLUID NAME	None	BT NUMBER	57	TRIP	500

*Chengping*  
10/10/12





**CROW BUTTE  
RESOURCES, INC.**

**LOG M-1133**



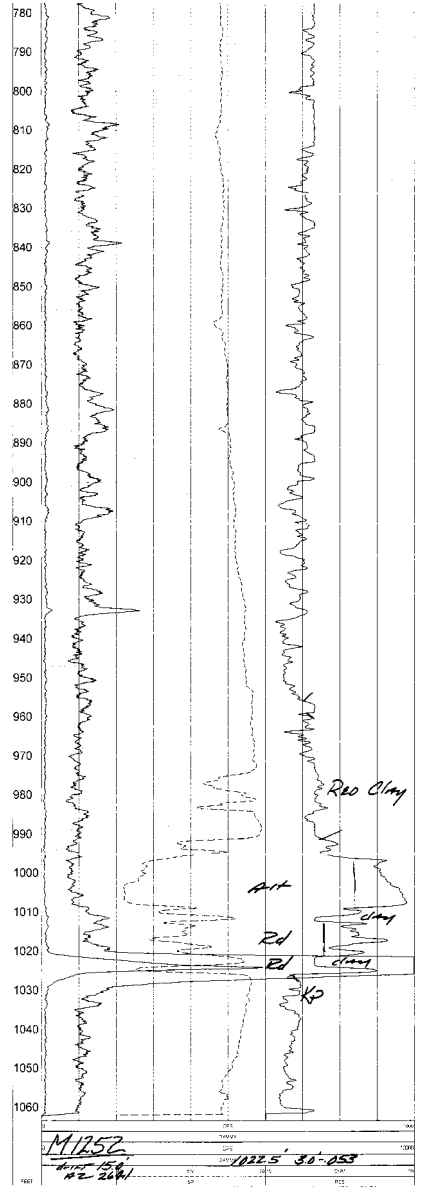
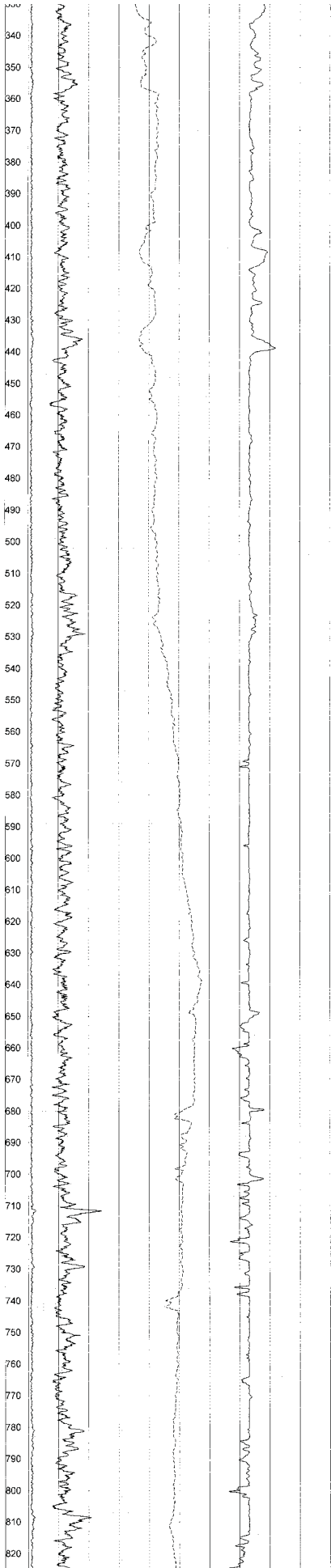
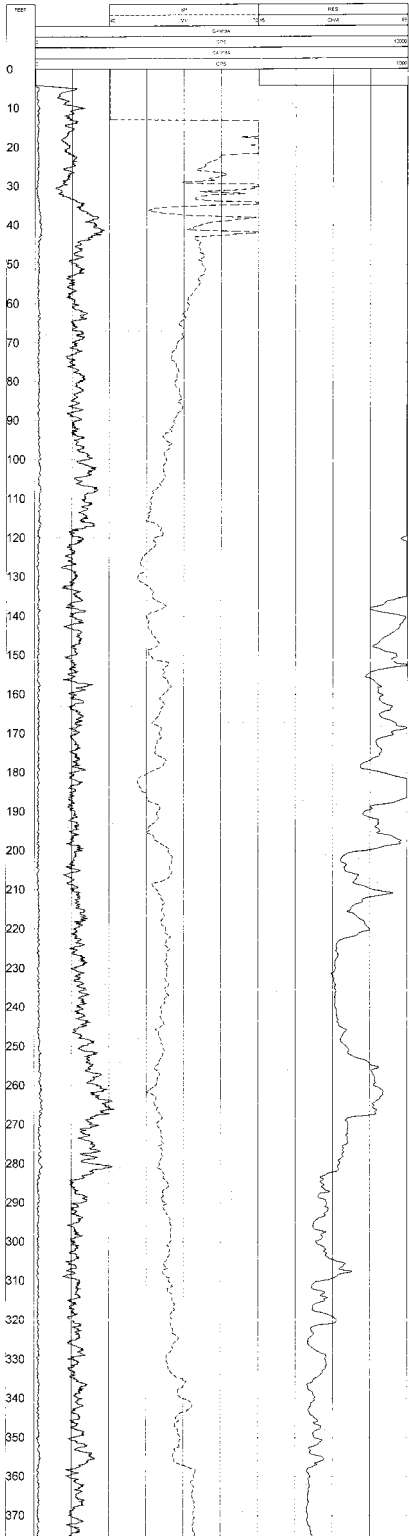
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**CROW BUTTE  
RESOURCES, INC.**

M-1252

CLIENT	DRILLING PERMISSION	CONTRACTOR	
ADDRESS	W-132	NO. 1	
CITY	WINDY HILLS	NO. 2	
COUNTY	CHASE	NO. 3	
ELECTRIC	1000000	NO. 4	
SECTION	4022	NO. 5	
DATE	10/07	PERMISSION NO.	40220
DRILLER	100	OPERATIONAL NO.	
LOCATION	10120	NO. 1	
DEPTH	300	NO. 2	
PERMITS	1000000	NO. 3	
OPERATOR	1000000	NO. 4	
OPERATION	1000000	NO. 5	
ST. NO.	100	SPRINGFIELD	1000000
INDUSTRIAL	1000	NO. 1	
INDUSTRIAL	1000	NO. 2	
INDUSTRIAL	1000	NO. 3	
INDUSTRIAL	1000	NO. 4	
INDUSTRIAL	1000	NO. 5	

by *W/Chen*  
Date *2007/10/07*




**CROW BUTTE  
RESOURCES, INC.**

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**LOG M-1252**

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www.arcadis-us.com

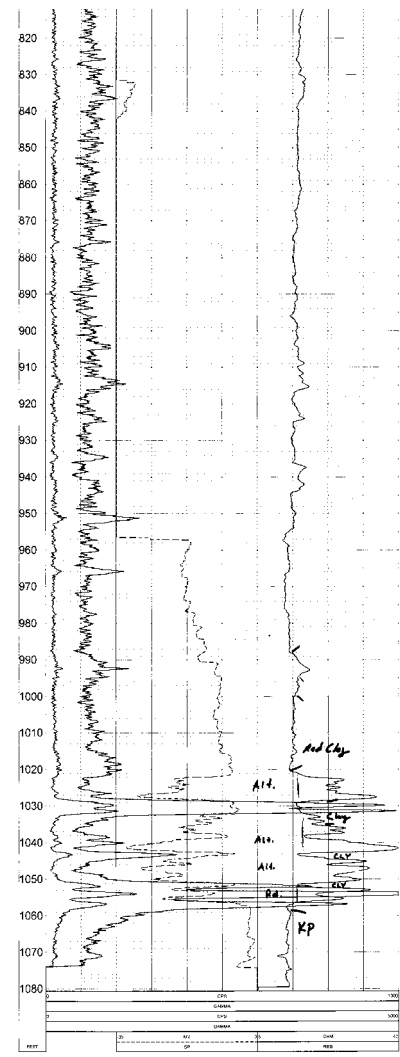
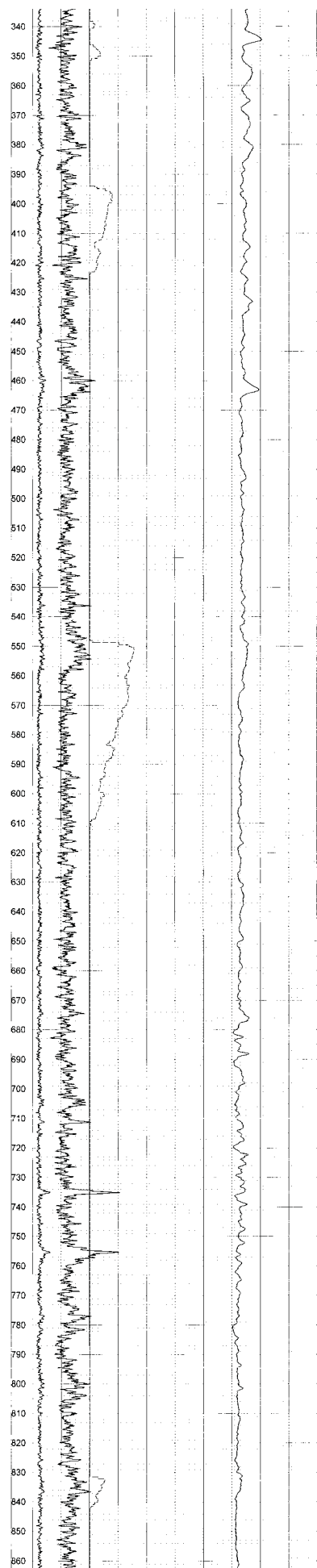
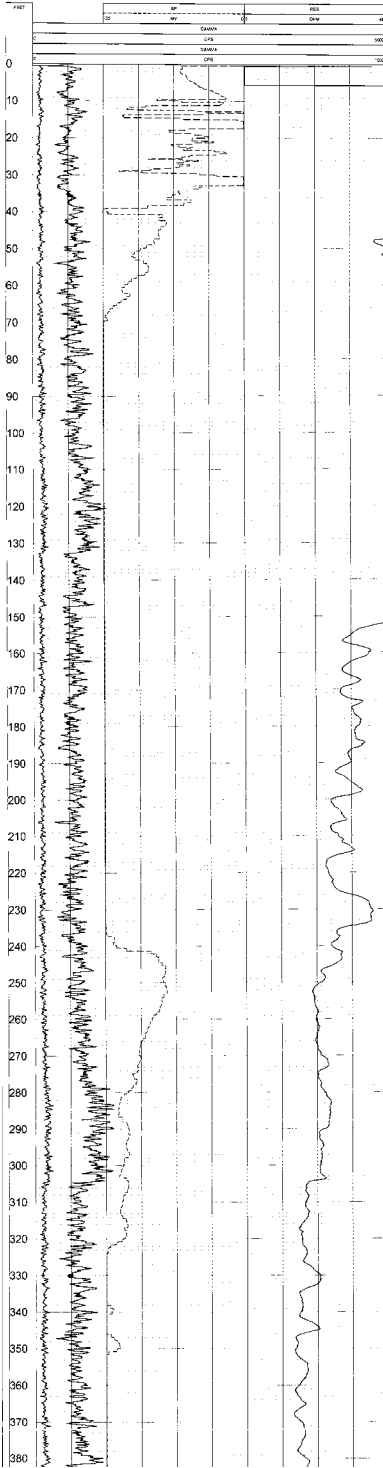


**CROW BUTTE  
RESOURCES, INC.**  
M-1271a

DATE: 06/06/08  
LOGGERS: J. Chen, M. Jones  
CITY: BOULDER, CO  
STATE: CO  
WELL NO: 4250'  
WELL TYPE: WATER  
WATER QUANTITY: 780  
WELL DEPTH: 4250'

LOGGERS: J. Chen, M. Jones  
CITY: BOULDER, CO  
STATE: CO  
WELL NO: 4250'  
WELL TYPE: WATER  
WATER QUANTITY: 780  
WELL DEPTH: 4250'

Waters  
90' W FROM MIDSS



**M1271**  
 Dist - 2.7'  
 Area - 100.6

1030.0 - 1.0' - 0.014%  
 1032.0 - 1.0' - 0.013%  
 1034.0 - 1.5' - 0.014%




**CROW BUTTE  
RESOURCES, INC.**

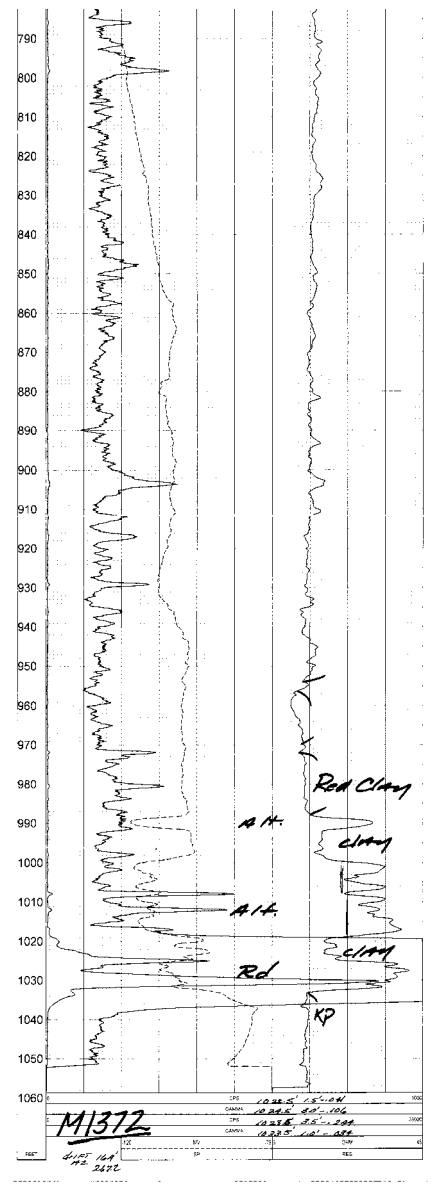
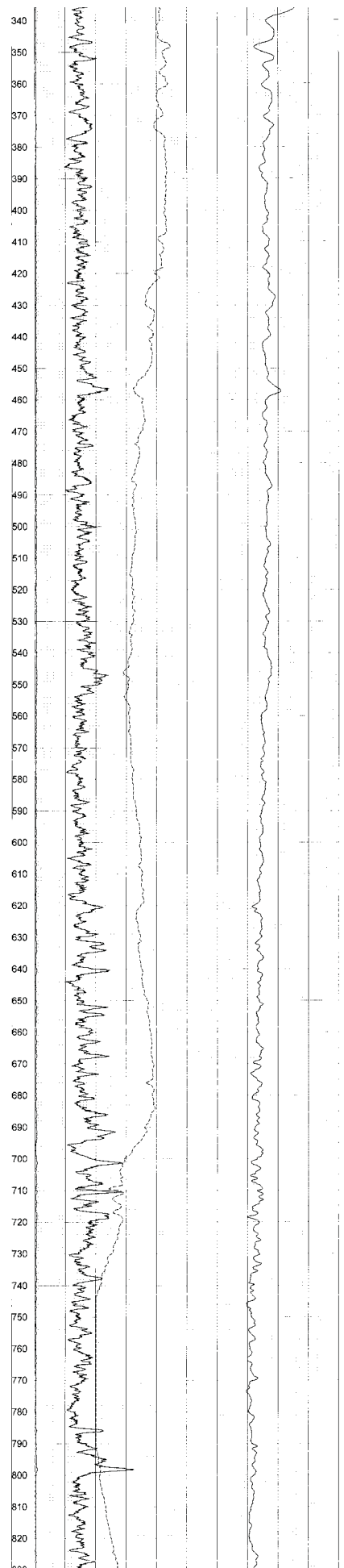
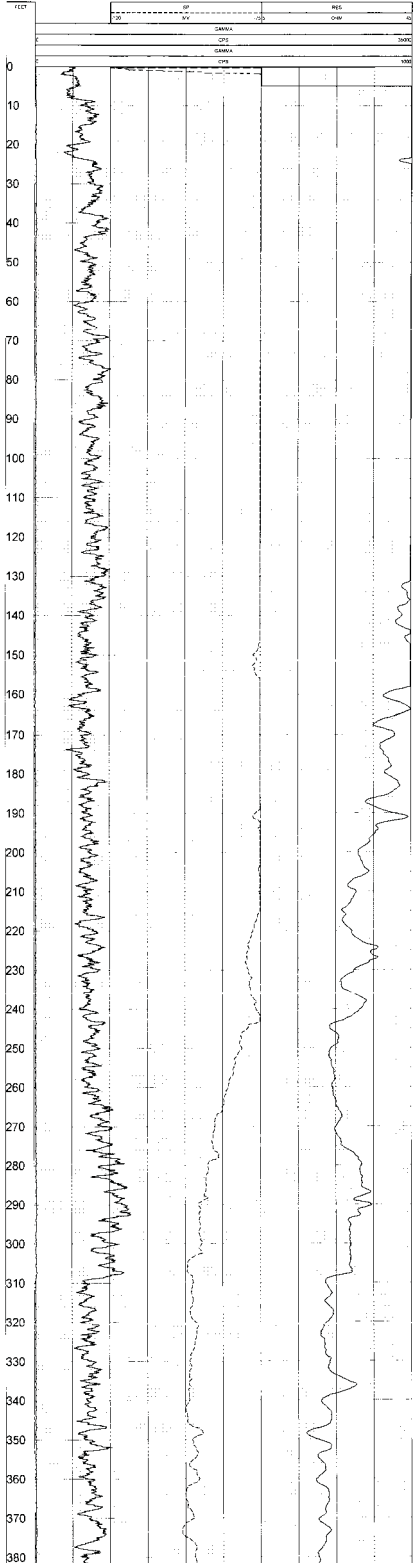
**LOG M-1271**

 **ARCADIS**

630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

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 <p><b>CROW BUTTE RESOURCES, INC.</b></p> <p>M-1372</p>	
COMPANY: CROW BUTTE RESOURCES WELL: M-1372 COUNTY: ARKANSAS LOCATION: ARKANSAS METHOD: 1) MEANW	OTHER SERVICES: DATE: 10/20/08 DEPTH: 325 LOG BOTTOM: 104.80 LOG TOP: 7.50 LOGS AVAILABLE: 10 C-LOGS FILE: 0 C-LOGS END NUMBER: 0 BY: JCH NUMBER OF LOGS: 10 NUMBER OF LOGS: 10 NUMBER OF LOGS: 10
DATE: 10/20/08 DEPTH: 325 LOG BOTTOM: 104.80 LOG TOP: 7.50 LOGS AVAILABLE: 10 C-LOGS FILE: 0 C-LOGS END NUMBER: 0	OTHER SERVICES: DATE: 10/20/08 DEPTH: 325 LOG BOTTOM: 104.80 LOG TOP: 7.50 LOGS AVAILABLE: 10 C-LOGS FILE: 0 C-LOGS END NUMBER: 0



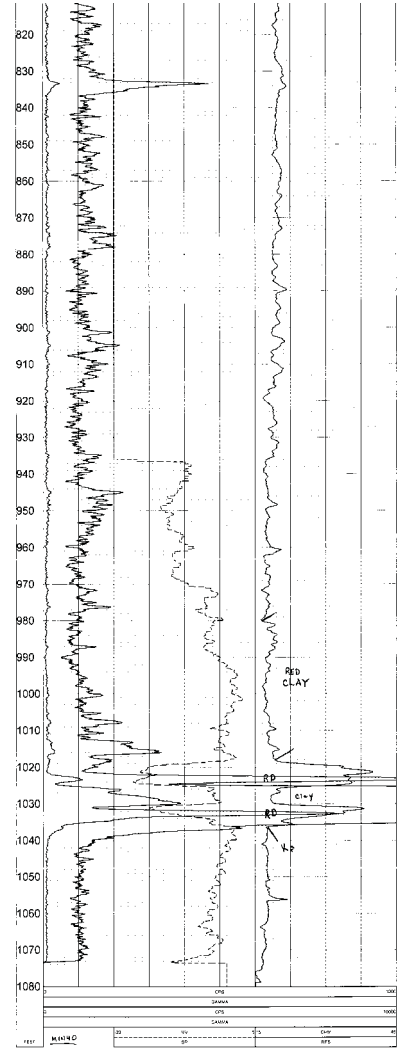
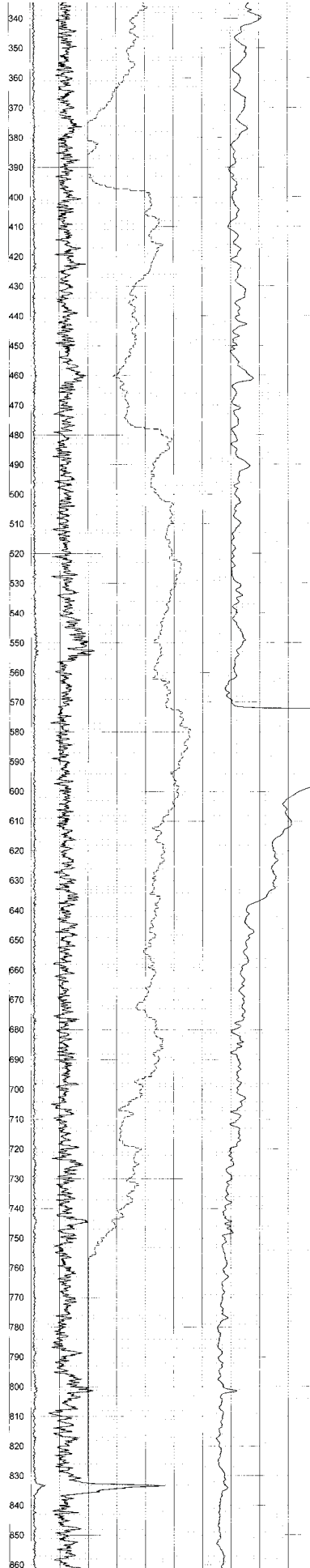
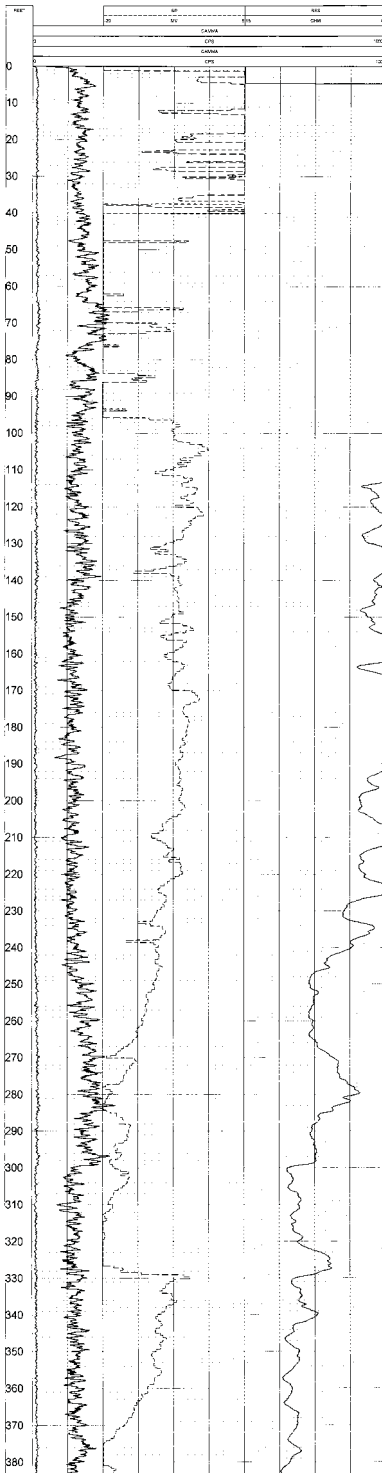
 <p><b>CROW BUTTE RESOURCES, INC.</b></p>	<p><b>LOG M-1372</b></p>
	<p> <b>ARCADIS</b></p> <p>630 Plaza Drive, Ste. 100 Highlands Ranch, CO 80129 P: 720-344-3500 F: 720-344-3535 www.arcadis-us.com</p>

**CROW BUTTE RESOURCES, INC.**  
M-1440

COMPANY		CROW BUTTE RESOURCES, INC.	
DATE		05/08/10	
LOCATION		CROWN MOUNTAIN	
SECTION		SECTION 36	
WELL NO.		M-1440	
WELL DEPTH		395'	
WELL TYPE		C	
WELL STATUS		OPEN	
WELL OWNER		CROW BUTTE RESOURCES, INC.	
WELL OPERATOR		CROW BUTTE RESOURCES, INC.	
WELL PRODUCER		CROW BUTTE RESOURCES, INC.	

100' E + 130' S 4 1/2" W  
M-1440

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS




ASPT: 240.3'  
DST: 20.9'  
1033.0' - 1.0' - 0.013 %  
1025.5' - 5.0' - 0.034 %  
1032.0' - 4.0' - 0.052 %

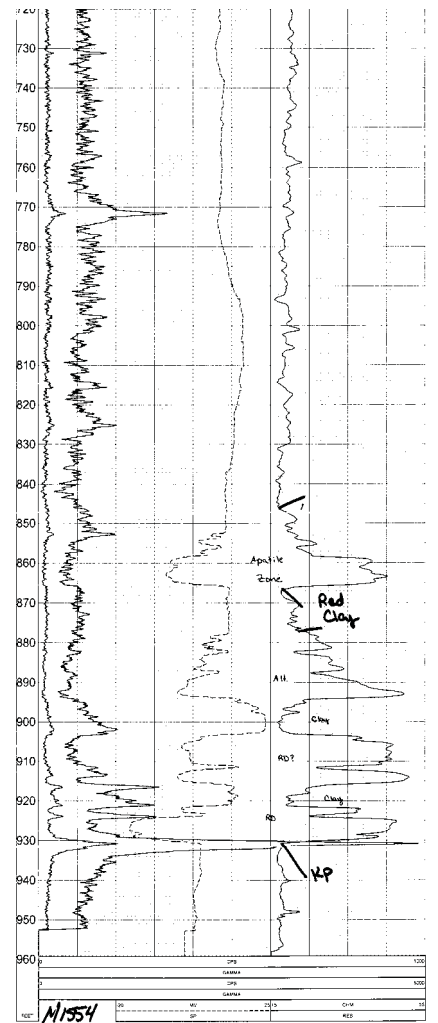
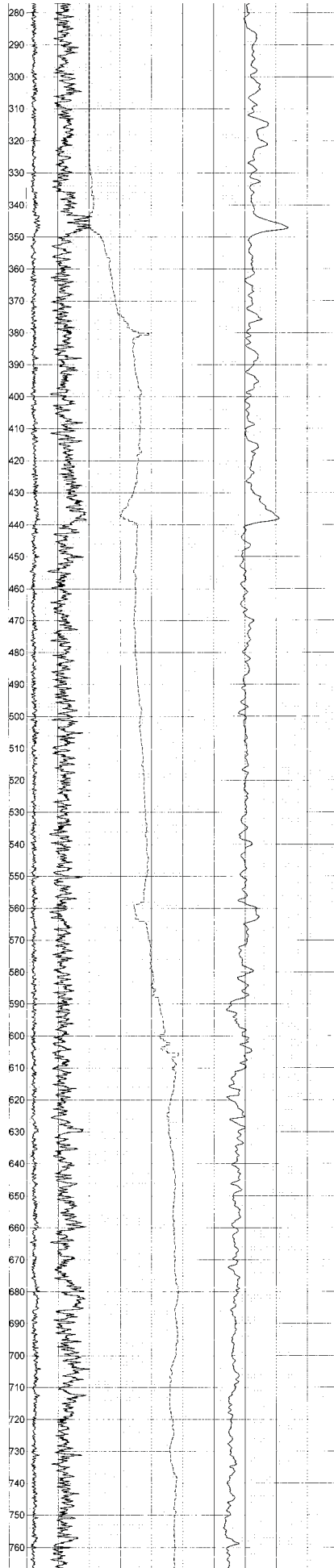
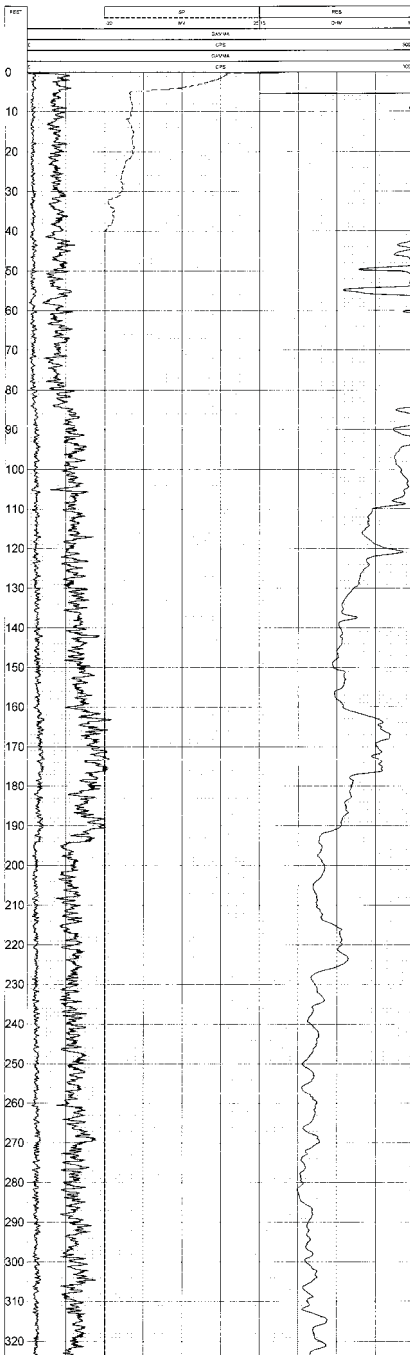
**CROW BUTTE RESOURCES, INC.**

**LOG M-1440**

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Highlands Ranch, CO 80129  
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 <b>CROW BUTTE RESOURCES, INC.</b> M-1554 <b>O</b>	
COMPANY: CROW BUTTE NO.: M-1554 COUNTY: DENVER COUNTY SECTION: 23 SE 4th TOWNSHIP: 29V RANGE: 10W	
DATE: 07/10 TIME: 08:00 JOB NO.: 0474 LOG SHEET: 1/4 LOG SHEET NO.: 10 LOG SHEET DATE: 07/10/10 LOG SHEET TIME: 08:00 LOG SHEET LOCATION: 23 SE 4th	INSTRUMENT: GEOTECH LOG SHEET NO.: 10 LOG SHEET DATE: 07/10/10 LOG SHEET TIME: 08:00 LOG SHEET LOCATION: 23 SE 4th
S-1: 155 PASSENGER: 127 INSTRUMENT: 740 NEUTRON: 0480701	BOREHOLE: 100 HOLE: 100 HOLE TEMPERATURE: 46.5 HOLE DEPTH: 54 FILE: ORIGINAL FILE: 1554 FILE: 1554
Forman ~ 200' E of MST1 ALL SERVICES PROVIDED BY: CROW BUTTE RESOURCES, INC.	





**CROW BUTTE  
RESOURCES, INC.**


**LOG M-1554**



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 Highlands Ranch, CO 80129  
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**55**





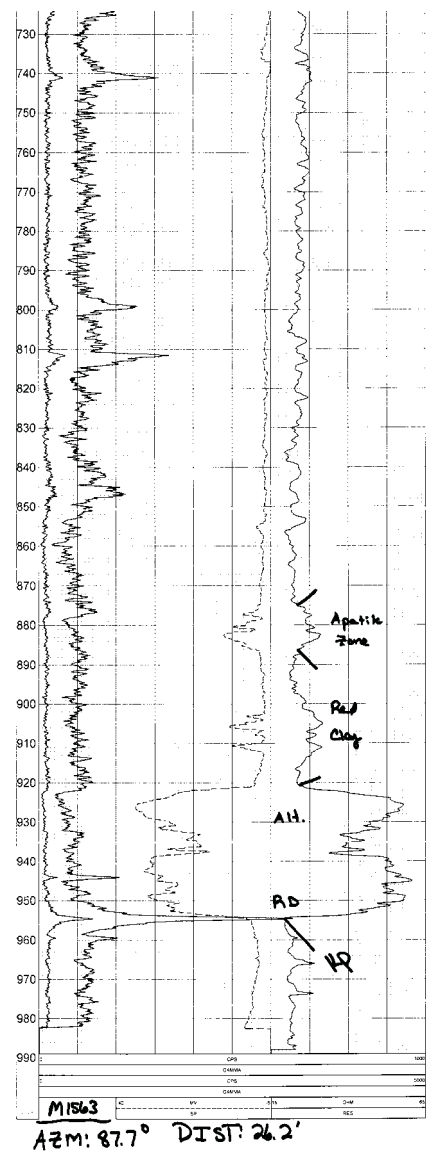
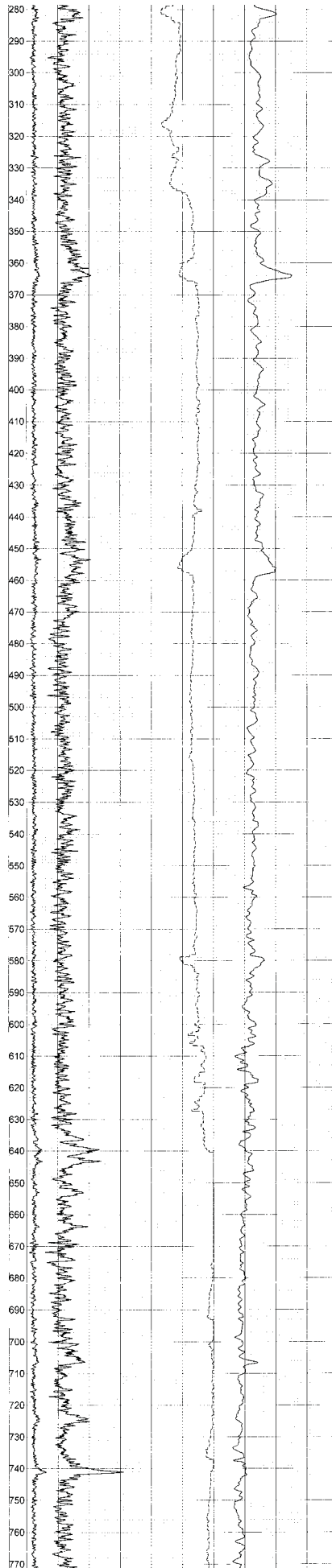
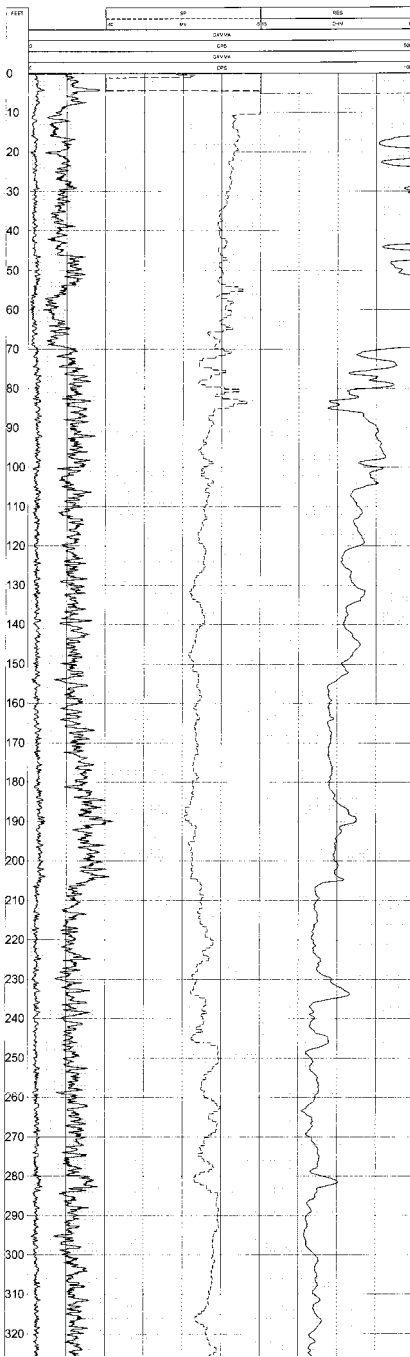
**CROW BUTTE  
RESOURCES, INC.**

M-1563

COMPANY: CROW BUTTE		OTHER SERVICES:	
WELL: M-1563	DATE: 01/29/13	FORMER WELL NO: N1987	
LOCATION: CO	LOGS: 100	LOG NUMBER: 100	
WELL NO: M-1563	LOGS: 100	LOG NUMBER: 100	
DATE: 01/29/13	LOGS: 100	LOG NUMBER: 100	
LOGS: 100	LOGS: 100	LOG NUMBER: 100	
LOGS: 100	LOGS: 100	LOG NUMBER: 100	
LOGS: 100	LOGS: 100	LOG NUMBER: 100	
LOGS: 100	LOGS: 100	LOG NUMBER: 100	
LOGS: 100	LOGS: 100	LOG NUMBER: 100	
LOGS: 100	LOGS: 100	LOG NUMBER: 100	

**Forman ~ 400' N from 1650-5175**

ALL RIGHTS RESERVED SUBJECT TO STANDARD TERMS AND CONDITIONS






**CROW BUTTE  
RESOURCES, INC.**

**LOG M-1563**



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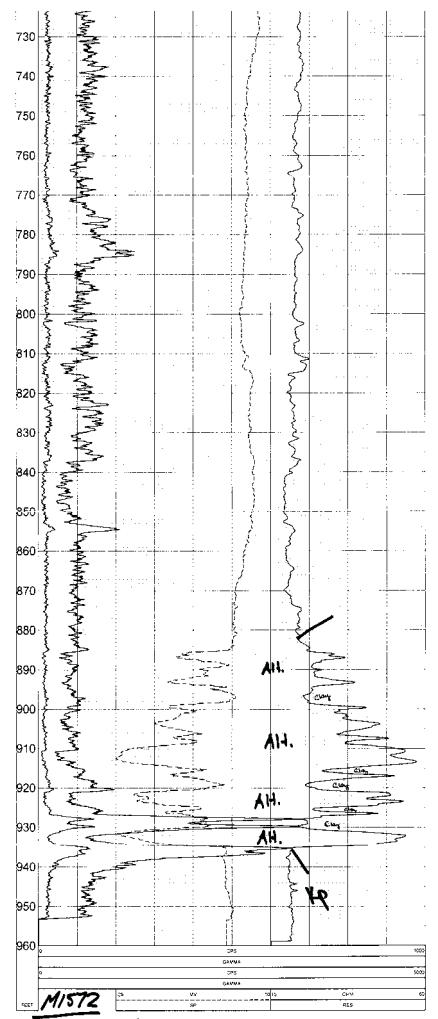
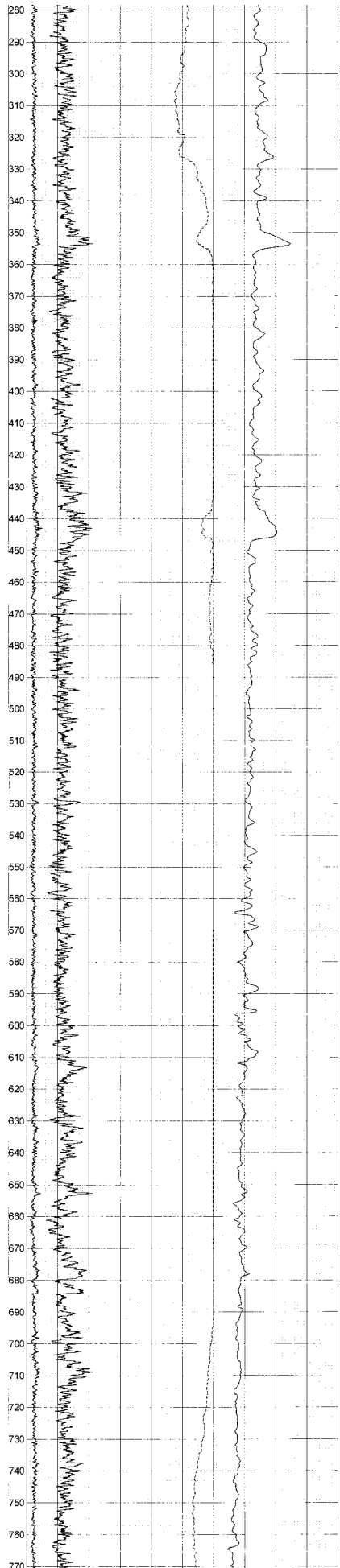
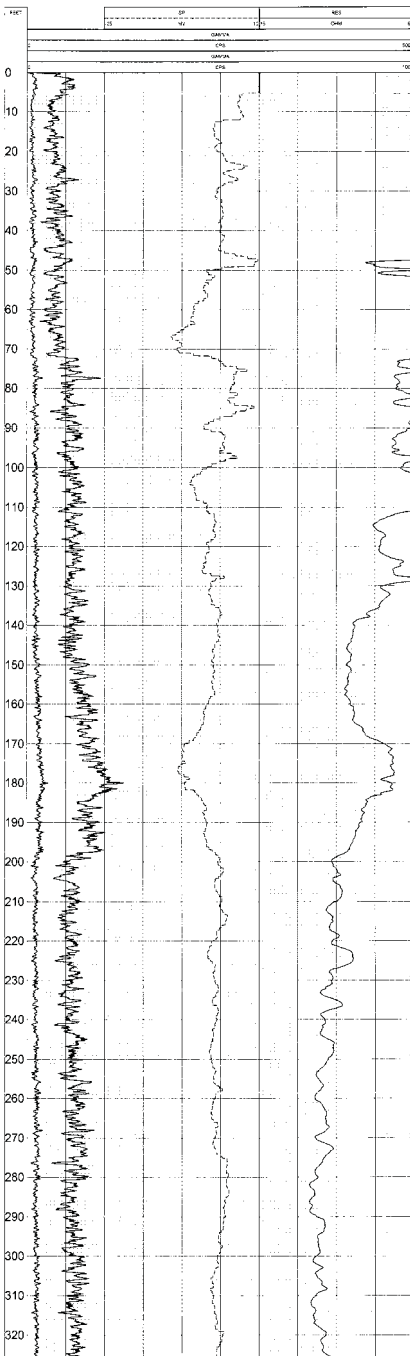
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**CROW BUTTE  
RESOURCES, INC.**  
M-1572

PROPERTY		OTHER SERVICES	
COMPANY	CROW BUTTE	DATE	05/09/12
PROJECT	M-1572	LOG NUMBER	01
LOCATION	CHERRY	LOG DATE	05/09/12
COUNTY	WARRANT COUNTY	LOG TIME	08:00
SECTION	36	LOG TYPE	LOG
TOWNSHIP	20N	LOG BY	JCH
RANGE	50W	LOG CHECKED	
DATE	05/09/12	LOG APPROVED	
DEPTH	320	LOG REVIEWED	
LOG START	08:00	LOG REVIEWED DATE	
LOG STOP	17:00	LOG REVIEWED TIME	
LOG DURATION	09:00	LOG REVIEWED BY	
LOG COMMENTS		LOG REVIEWED DATE	
LOG TYPE	LOG	LOG REVIEWED TIME	
LOG BY	JCH	LOG REVIEWED BY	
LOG CHECKED		LOG REVIEWED DATE	
LOG APPROVED		LOG REVIEWED TIME	
LOG REVIEWED		LOG REVIEWED BY	
LOG REVIEWED DATE		LOG REVIEWED DATE	
LOG REVIEWED TIME		LOG REVIEWED TIME	
LOG REVIEWED BY		LOG REVIEWED BY	

ALL SERVICES PROVIDED SUBJECT TO A SIGNATURE AND DATE



M1572  
AZM: 45.6°  
DIST: 7.2'



**CROW BUTTE  
RESOURCES, INC.**

**LOG M-1572**

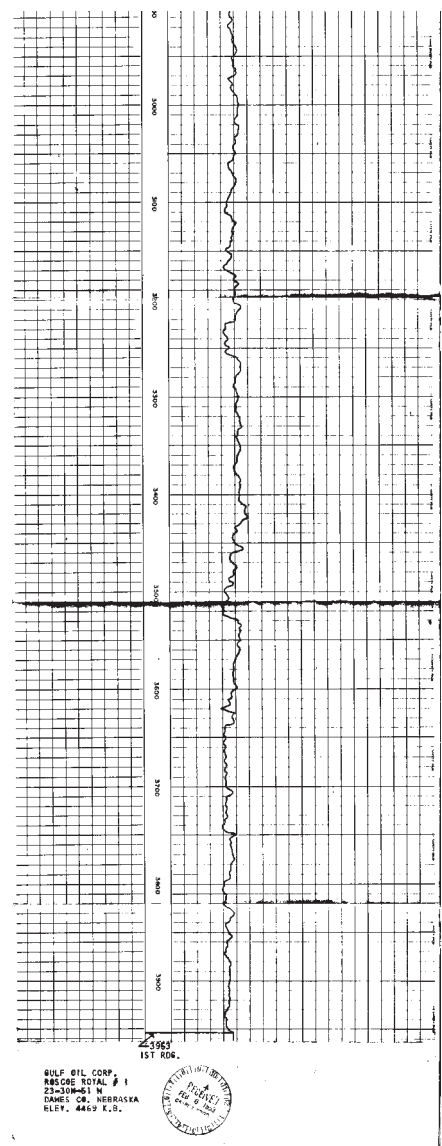
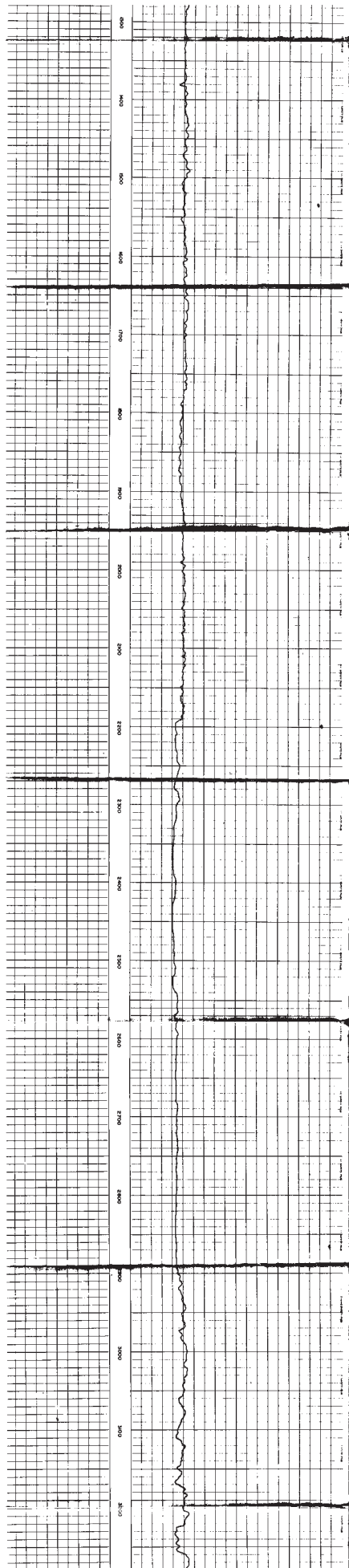


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**CROW BUTTE  
RESOURCES, INC.**

**ROYAL LOG**



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 Highlands Ranch, CO 80129  
 P: 720-344-3500 F: 720-344-3535  
 www.arcadis-us.com

**LANE WELLS**  
-Technology-

COMPANY: **TELTEK DRILLING CO. & O. N. BEER**  
WELL: **4 L.A. SMITH**  
FIELD: **MILDCAT**  
COUNTY: **DAWES**  
STATE: **NEBRASKA**  
SECTION: **NE-NE**  
TWP: **29N**  
RANGE: **15E**

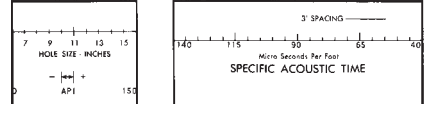
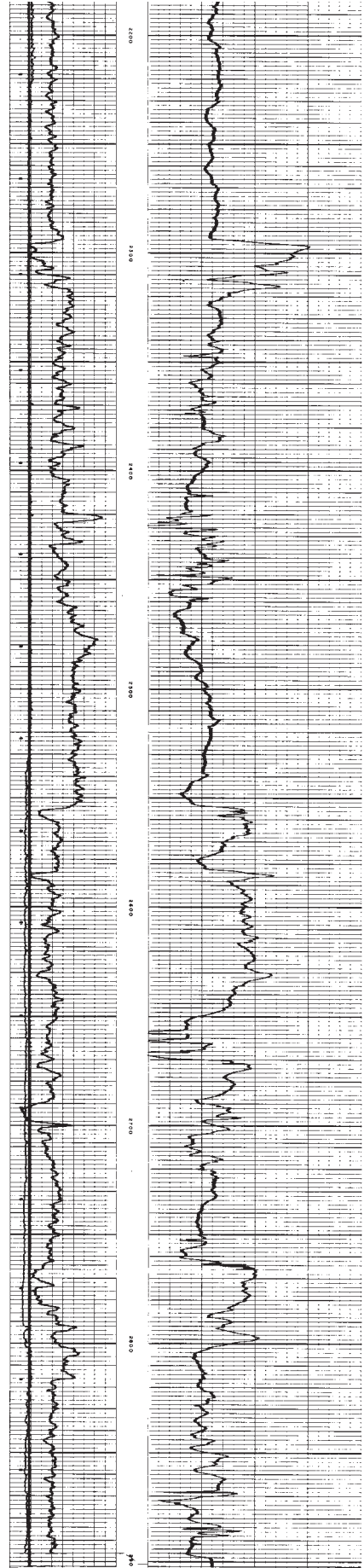
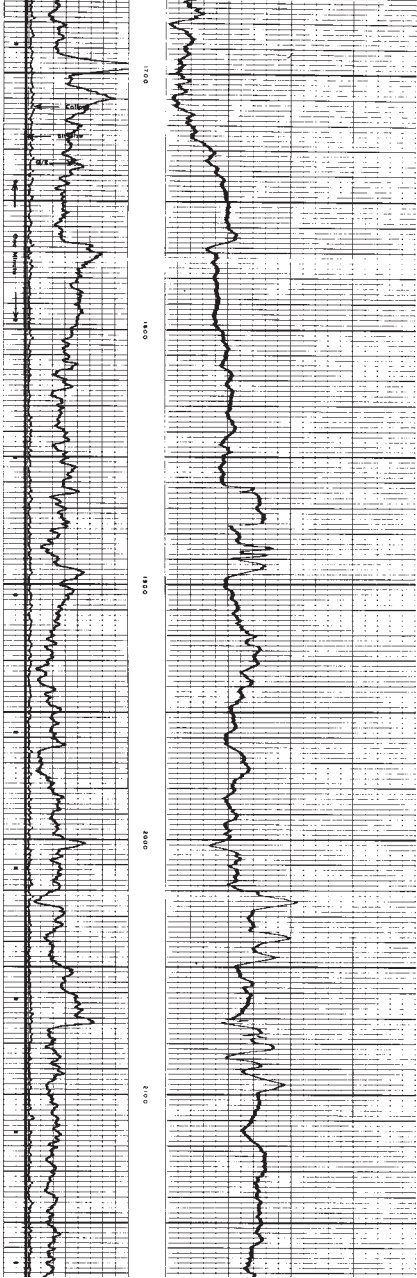
LOG NUMBER: **113**  
DATE: **12/13/89**  
LOGGERS: **...**

LOG TYPE: **...**  
LOG INTERVAL: **...**  
LOG START: **...**  
LOG END: **...**

REMARKS: **CALIPER RECORDED 12" DEEP.**

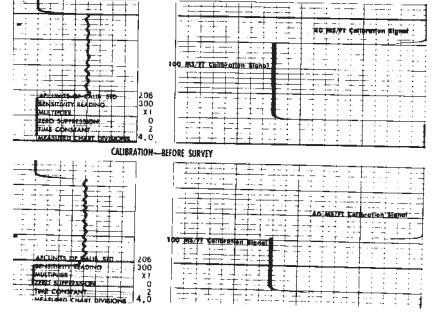
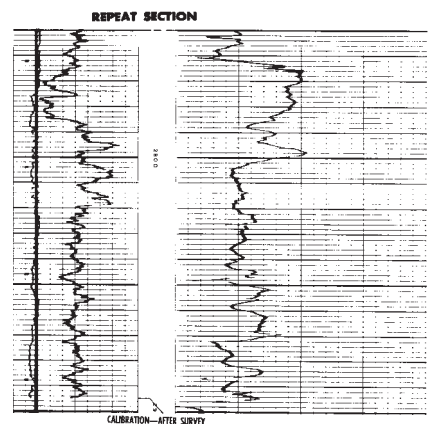
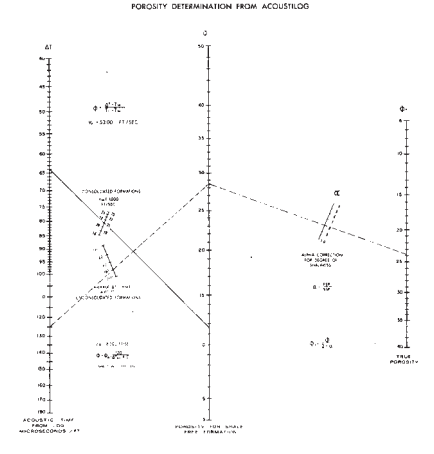
Changes in Mud Type or Additional Samples	Type Log	Depth	Scale Changes	Scale Up Hole	Scale Down Hole

G/R & Caliper	DEPTH	ACOUSTILOG
API -   -   + HOLE SIZE - INCHES	150 9 11 13 15	SPECIFIC ACOUSTIC TIME Micro Seconds Per Foot 3' SPACING



**ACOUSTILOG**  
T 3 R, 1 R, 3 R

Company: **TELTEK DRILLING CO. & O. N. BEER** Drillers: **T.D. 2990**  
Well: **4 L.A. SMITH** Log F.R.: **2898**  
Field: **MILDCAT NE-NE** Log T.D.: **2892**  
County: **DAWES SEC29 TWP29N RANGE15E** Elevations: **...**  
State: **NEBRASKA** K.B. 4116' D.F. G.L. 4106'



**CROW BUTTE RESOURCES, INC.**

**SMITH 1A LOG**

**ARCADIS** 630 Plaza Drive, Ste. 100  
Highlands Ranch, CO 80129  
P: 720-344-3500 F: 720-344-3535  
www.arcadis-us.com

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