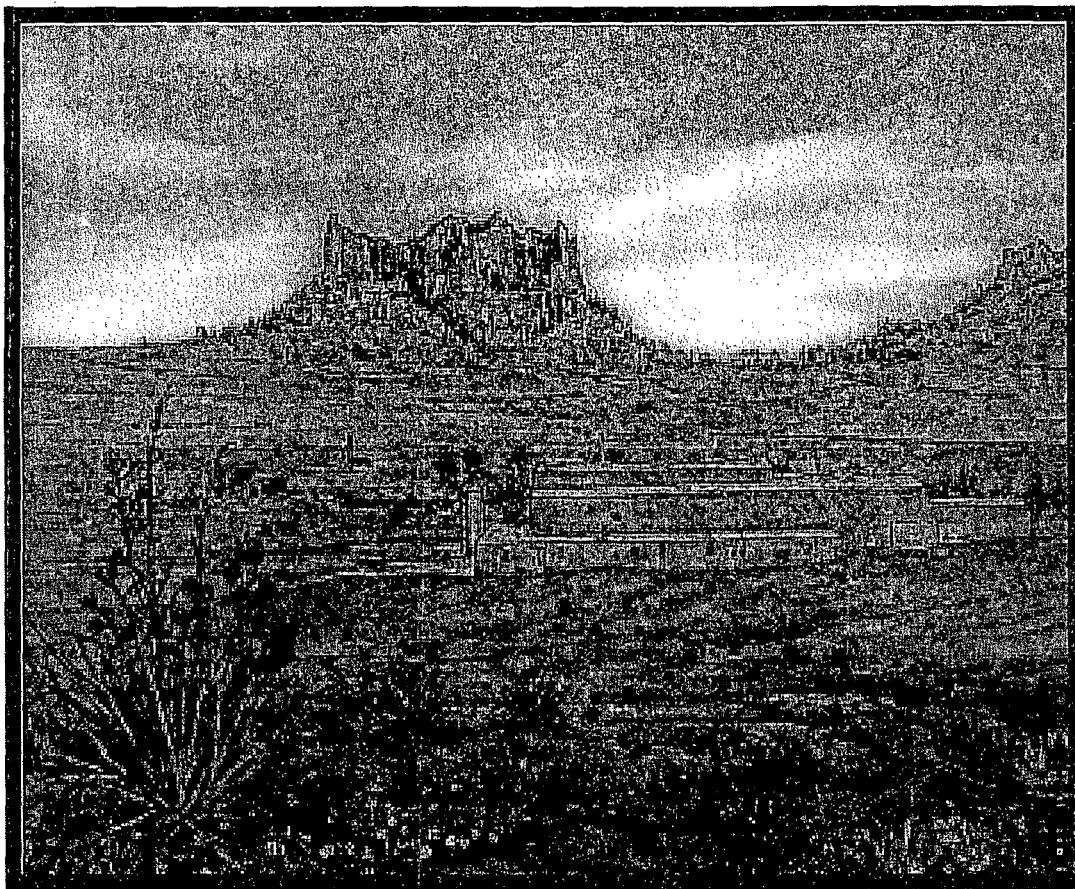


**Application for Amendment of
USNRC Source Materials License SUA-1534
Three Crow Expansion Area
Crawford, Nebraska**

**Technical Report
Volume II
Appendices**



**Prepared by
Crow Butte Resources, Inc.
86 Crow Butte Road
Crawford, Nebraska 69339**

August 2010

CROW BUTTE RESOURCES, INC.



Nuclear Regulatory Commission

Technical Report

Volume II - Appendices

Three Crow Expansion Area

August 2010

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



TCEA Technical Report Appendices

Appendix

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- C Mineralogical and Particle Size Distribution Analyses
- D Geophysical Boring Logs
- E Three Crow Pump Test #7 Report
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CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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CROW BUTTE RESOURCES, INC.

Technical Report
Three Crow Expansion Area



APPENDIX A

WATER WELL COMPLETION REPORTS

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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Mail to
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008-194934-WNPF(2)

October 2001
DNR Form 145

Department of Natural Resources

STATE OF NEBRASKA

DEPARTMENT OF NATURAL RESOURCES

WATER WELL REGISTRATION

BOW2006 /

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194934 Registration No. 6-151081
Owner Code No. 39475 Receipt No. K23418 WNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: SE 1/4 of the NE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 2260 feet from the (North) section line and 916 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 30 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-1

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____ (indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

6-151081

BOW2006-1

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 15 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 120 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 135 feet. b. Static water level: 52.8 feet.
- c. Pumping water level 103 feet. d. Well Construction began 06/09/06
- e. Well construction completed 07/09/06 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	45	Casing	4.320	4.950	0.297	PVC		Certa-lok
45	135	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	45	Grout	Neat Cement
45	135	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	40	Quaternary Alluvium			
40	132	ST/SS Interbedded			
132	170	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

BOW2006-1

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008-194935-WWRF(2)

October 2001
DNR Form 145

Department of Natural Resources

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

BOW2006 2

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194935 Registration No. 6-151182
Owner Code No. 39475 Receipt No. 123415 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA

3. a. Well Location: SW 1/4 of the SE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 945 feet from the (South) section line and 2490 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 30 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-2

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-635))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(Indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

BOW2006-2

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 15 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 160 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 180 feet. b. Static water level: 60 feet.
- c. Pumping water level 110 feet. d. Well Construction began 06/11/07
- e. Well construction completed 07/11/07 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are ☒ Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	75	Casing	4.320	4.950	0.297	PVC		Certa-lok
75	180	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

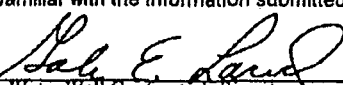
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	75	Grout	Neat Cement
75	180	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	40	Quaternary Alluvium			
40	175	ST/SS Interbedded			
175	180	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

BOW2006-2

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008 - 194936 - NNW (2)
Department of Natural Resources

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

BOW2006 3

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194936 Registration No. 6-151083
Owner Code No. 39475 Receipt No. R23418 NNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: SE 1/4 of the SE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 125 feet from the (South) section line and 30 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 30 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-3

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

BOW2006-3

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 15 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 180 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 190 feet. b. Static water level: 77 feet.
- c. Pumping water level 127 feet. d. Well Construction began 04/29/05
- e. Well construction completed 05/29/05 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	50	Casing	4.320	4.950	0.297	PVC		Certa-lok
50	190	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

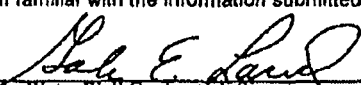
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	50	Grout	Neat Cement
50	190	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	40	Quaternary Alluvium			
40	190	ST/SS Interbedded			
190	200	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

BOW2006-3

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

BOW2006-4

FOR DEPARTMENT USE ONLY

Registration Date _____ Sequence No. _____ Registration No. _____
Owner Code No. _____ Receipt No. _____ NRD _____

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: SW 1/4 of the SW 1/4 of Section 28, Township 31 North, Range 52 West, Sioux County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 1275 feet from the (South) section line and 790 feet from the (West) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 28 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-4

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____ (indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
 Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
 If pump is installed by pump installer, please fill out license number below

b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
 c. Pumping Rate 5 gallons per minute. Measured ☒ Estimated ☐
 d. Drop pipe diameter 2 inches e. Length of drop pipe 180 feet
 f. Pumping equipment installed 11/30/2009 g. Pump Brand Grundfos
 h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 280 feet. b. Static water level: 105 feet.
 c. Pumping water level 155 feet. d. Well Construction began 11/28/08
 e. Well construction completed 12/28/08 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	115	Casing	4.320	4.950	0.297	PVC		Certa-lok
115	205	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or	Material Description
From	To	Gravel Pack	
0	115	Grout	Neat Cement
115	205	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	20	Quaternary Alluvium			
20	260	ST/SS Interbedded			
260	280	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.

Robert E. Land
 Water Well Contractor's Signature

December 8, 2009
 Date

BOW2006-4

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

BOW2006-5

FOR DEPARTMENT USE ONLY

Registration Date _____ Sequence No. _____ Registration No. _____
Owner Code No. _____ Receipt No. _____ NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: NE 1/4 of the NE 1/4 of Section 25, Township 31 North, Range 53 West, Sioux County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 1106 feet from the (North) section line and 93 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 25 T 31N R53W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-5

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
 Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
 If pump is installed by pump installer, please fill out license number below
- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 5 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 140 feet
- f. Pumping equipment installed 11/30/2009 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 180 feet. b. Static water level: 50.4 feet.
 c. Pumping water level 100 feet. d. Well Construction began 10/23/09
 e. Well construction completed 11/22/09 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	60	Casing	4.320	4.950	0.297	PVC		Certa-lok
60	155	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	60	Grout	Neat Cement
60	155	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	20	Quaternary Alluvium			
20	155	ST/SS Interbedded			
155	180	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.

Bob E. Land
 Water Well Contractor's Signature

December 3, 2009
 Date

BOW2006-5

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

BOW2006-6

FOR DEPARTMENT USE ONLY

Registration Date _____ Sequence No. _____ Registration No. _____
Owner Code No. _____ Receipt No. _____ NRD _____

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: SW 1/4 of the SW 1/4 of Section 30, Township 31 North, Range 52 West, Sioux County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 70 feet from the (South) section line and 7 feet from the (West) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 30 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-6

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes. X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
 Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
 If pump is installed by pump installer, please fill out license number below
- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 5 gallons per minute. ☐ Measured ☒ Estimated
 d. Drop pipe diameter 2 inches e. Length of drop pipe 140 feet
 f. Pumping equipment installed 11/30/2009 g. Pump Brand Grundfos
 h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 230 feet. b. Static water level: 50.3 feet.
 c. Pumping water level 100 feet. d. Well Construction began 10/23/09
 e. Well construction completed 11/22/09 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	60	Casing	4.320	4.950	0.297	PVC		Certa-lok
60	195	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	60	Grout	Neat Cement
60	195	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	20	Quaternary Alluvium			
20	195	ST/SS Interbedded			
195	230	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.

Sal E. Land
 Water Well Contractor's Signature

December 8, 2009
 Date

BOW2006-6

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

BOW2006-7

FOR DEPARTMENT USE ONLY

Registration Date _____ Sequence No. _____ Registration No. _____
Owner Code No. _____ Receipt No. _____ NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: SW 1/4 of the NW 1/4 of Section 33, Township 31 North, Range 52 West, Sioux County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 1326 feet from the (North) section line and 1096 feet from the (West) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 33 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable BOW2006-7

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
 Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
 If pump is installed by pump installer, please fill out license number below
- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 5 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 140 feet
- f. Pumping equipment installed 11/30/2009 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 180 feet. b. Static water level: 46.9 feet.
 c. Pumping water level 96.9 feet. d. Well Construction began 10/23/09
 e. Well construction completed 11/22/09 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	60	Casing	4.320	4.950	0.297	PVC		Certa-lok
60	155	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	60	Grout	Neat Cement
60	155	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil			
10	20	Quaternary Alluvium			
20	155	ST/SS Interbedded			
155	180	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.

Sal E. Land December 8, 2009
 Water Well Contractor's Signature Date

BOW2006-7

Mail to
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008-194926-WNRFC2

Department of Natural Resources

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

COW2006-1

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194926 Registration No. 6-151074
Owner Code No. 39495 Receipt No. R23418 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention _____ Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA
3. a. Well Location: NE 1/4 of the NE 1/4 of Section 25, Township 31 North, Range 53 West, Sioux County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 1180 feet from the (North) section line and 45 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 29 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable COW2006-1
4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____
5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(Indicate Use)
6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____
7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 829 feet. b. Static water level: 181 feet.
- c. Pumping water level 281 feet. d. Well Construction began 08/25/06
- e. Well construction completed 09/24/06 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	764	Casing	4.320	4.950	0.297	PVC		Certa-lok
764	829	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

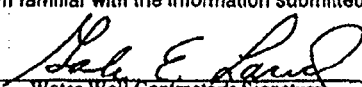
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	764	Grout	Neat Cement
764	829	Grout	Neat Cement

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	695	830	Sandstone w/ Clay Interbeds
10	30	Quaternary Alluvium	830	840	Shale
30	170	ST/SS Interbedded			
170	695	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 27, 2008
 Date

COW2006-1

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008 - 194929 - WWRP(2)
Department of Natural Resources

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

COW2006 2

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194929 Registration No. 6-15/075
Owner Code No. 39475 Receipt No. R23418 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA

3. a. Well Location: NW 1/4 of the NE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 845 feet from the (North) section line and 2460 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 30 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable COW2006-2

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L. Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. Measured ☒ Estimated ☐
- d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 851 feet. b. Static water level: 212 feet.
- c. Pumping water level 312 feet. d. Well Construction began 08/23/06
- e. Well construction completed 09/22/06 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	781	Casing	4.320	4.950	0.297	PVC		Certa-lok
781	851	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

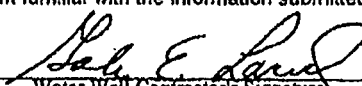
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	781	Grout	Neat Cement
781	851	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	681	862	Sandstone w/ Clay Interbeds
10	35	Quaternary Alluvium	862	880	Shale
35	195	ST/SS Interbedded			
195	681	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

COW2006-2

Mail to:
DNR
PO Box 94678
Lincoln, NE 68509-4678
Phone (402) 471-2383

10302002-194930-WNRFC2

October 2001
DNR Form 145

Department of Natural Resources

STATE OF NEBRASKA

DEPARTMENT OF NATURAL RESOURCES

WATER WELL REGISTRATION

COW2006 3

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194930 Registration No. 6-151076
Owner Code No. 39475 Receipt No. 1223413 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firm's Email Address NA

3. a. Well Location: NE 1/4 of the NE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 1240 feet from the (North) section line and 410 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 30 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable COW2006-3

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-618))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA

c. Pumping Rate 25 gallons per minute. ☐ Measured ☒ Estimated
 d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
 f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
 h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

a. Total well depth 811 feet. b. Static water level: 185 feet.
 c. Pumping water level 285 feet. d. Well Construction began 08/18/06
 e. Well construction completed 09/17/06 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are ☒ Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	731	Casing	4.320	4.950	0.297	PVC		Certa-lok
731	811	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	731	Grout	Neat Cement
731	811	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	640	814	Sandstone w/ Clay Interbeds
10	45	Quaternary Alluvium	814	840	Shale
45	200	ST/SS Interbedded			
200	640	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

COW2006-3

Mail to:
DNR
PO Box 94876
Lincoln, NE 68509-4876
Phone (402) 471-2363

10302008-194931 NWCF(2)
October 2001
DNR Form 145
Department of Natural Resources
STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

COW2006 4

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194931 Registration No. 6-151077
Owner Code No. 39475 Receipt No. R23418 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA

3. a. Well Location: SE 1/4 of the SE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 206 feet from the (South) section line and 17 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable: _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 30 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable: COW2006-4

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y) _____
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y) _____
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y) _____
g. Location of water use of abandoned well: _____

8. Pump Information

COW2006-4

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 878 feet. b. Static water level: 233 feet.
- c. Pumping water level 333 feet. d. Well Construction began 08/21/06
- e. Well construction completed 09/20/06 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	783	Casing	4.320	4.950	0.297	PVC		Certa-lok
783	878	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

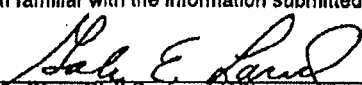
Placement Depth in Feet		Grout or	Material Description
From	To	Gravel Pack	
0	783	Grout	Neat Cement
783	878	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	660	885	Sandstone w/ Clay Interbeds
10	40	Quaternary Alluvium	885	910	Shale
40	230	ST/SS Interbedded			
230	660	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

COW2006-4

Mail to:
DNR
PO Box 94676
Lincoln NE 68509-4676
Phone (402) 471-2363

10302008-194927-WWRF(2)

October 2001
DNR Form 145

Department of Natural Resources

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

COW2006 5

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194927 Registration No. 6-151078
Owner Code No. 39475 Receipt No. 623418 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA
3. a. Well Location: SE 1/4 of the SW 1/4 of Section 29, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 141 feet from the (South) section line and 1940 feet from the (West) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction Yes No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 29 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable COW2006-5
4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____
5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)
6. Wells in a Series.
a. Is this well a part of a series? Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____
7. Replacement and abandoned well information.
a. Is this well a replacement well? Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

B-K1678

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
If pump is installed by pump installer, please fill out license number below
- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
Pump Installer's Email Address NA
Pump Installer's Firm Name Crow Butte Resources
Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. Measured ☒ Estimated ☐
d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 901 feet. b. Static water level: 261 feet.
c. Pumping water level 361 feet. d. Well Construction began 08/29/06
e. Well construction completed 09/28/06 f. Bore hole diameter in inches Top 8 Bottom 8
g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	851	Casing	4.320	4.950	0.297	PVC		Certa-lok
851	901	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	851	Grout	Neat Cement
851	901	Gravel Pack	Natural Gravel

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	680	901	Sandstone w/ Clay Interbeds
10	40	Quaternary Alluvium	901	920	Shale
40	255	ST/SS Interbedded			
255	680	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.

Sal E. Land
Water Well Contractor's Signature

October 20, 2008
Date

COW2006-5

Mail to:
DNR
PO Box 94876
Lincoln, NE 68509-4876
Phone (402) 471-2363

01042010 - 202684 WNWFF(2)

Department of Natural Resources
STATE OF NEBRASKA

October 2001
DNR Form 145

DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

COW2006-6

FOR DEPARTMENT USE ONLY

Registration Date 11/4/10 Sequence No. 202684 Registration No. 6-154913
Owner Code No. 34475 Receipt No. 124339 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA

3. a. Well Location: SE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 28, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 62 feet from the (South) section line and 2311 feet from the (West) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) _____
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable COW2006-6

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-636))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y) _____
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y) _____
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y) _____
g. Location of water use of abandoned well: _____

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
 Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
 If pump is installed by pump installer, please fill out license number below
- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. Measured ☒ Estimated ☐
 d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
 f. Pumping equipment installed 11/30/2009 g. Pump Brand Grundfos
 h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 940 feet. b. Static water level: 269 feet.
 c. Pumping water level 369 feet. d. Well Construction began 11/24/08
 e. Well construction completed 12/24/08 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	836	Casing	4.320	4.950	0.297	PVC		Certa-lok
836	881	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

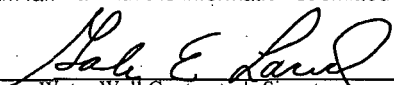
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	836	Grout	Neat Cement
836	881	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	675	881	Sandstone w/ Clay
10	20	Quaternary Alluvium	881	940	Shale
20	320	ST/SS Interbedded			
320	675	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

December 3, 2009
 Date

COW2006-6

Mail to:
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

COW2006-7

FOR DEPARTMENT USE ONLY

Registration Date _____ Sequence No. _____ Registration No. _____
Owner Code No. _____ Receipt No. _____ NRD _____

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA

3. a. Well Location: SE 1/4 of the NW 1/4 of Section 28, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 1338 feet from the (North) section line and 2525 feet from the (West) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable(give legal descriptions) Section 28 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable COW2006-7

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

- a. Is pump installed at this time? ☒ Yes ☐ No
 Is pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No
 If pump is installed by pump installer, please fill out license number below
- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. Measured ☒ Estimated ☐
 d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
 f. Pumping equipment installed 11/30/2009 g. Pump Brand Grundfos
 h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 720 feet. b. Static water level: 213 feet.
 c. Pumping water level 313 feet. d. Well Construction began 11/19/08
 e. Well-construction completed 12/19/08 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	645	Casing	4.320	4.950	0.297	PVC		Certa-lok
645	695	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	645	Grout	Neat Cement
645	695	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	629	694	Sandstone w/ Clay
10	20	Quaternary Alluvium	694	720	Shale
20	280	ST/SS Interbedded			
280	629	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.

Bob E. Land
 Water Well Contractor's Signature

December 8, 2009
 Date

COW2006-7

Submit to:
Department of Natural Resources
301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509-4676
Phone (402) 471 2363

Oct 2007
DNR DECO

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES

This form is required to be filed
within 60 days of decommissioning
of the water well.

NOTICE OF WATER WELL DECOMMISSIONING

FOR DEPARTMENT USE ONLY

Date Filed 9/12/08 Owner Code No. 39475 Registration No.
09122008 - 194217 - DECF (1) UPPER NIobrara WHITE NRD
Well ID

1. Well Owner's First Name Last Name
OR Company Name Crow Butte Resources, Inc.
Attention Name Wade Beins
Address PO BOX 169
City Crawford State NE Zip 69339 Telephone 308 665 2215 ext 113

2. Contractor (if applicable) Landrill Exploration Telephone Number (308) 665 2493
Address 102 Pine St. Contractor License No. 19019
City Crawford State NE Zip Code 69339 +
Email:

3a. Well Registration No. Well was not registered
3b. Purpose of Well: Pump Test Well (monitoring)
3c. Date Well Last Operated Well was not completed 3d. Date of Decommissioning 8-1-06

3e. List complete well location: Legal, Footage and/or GPS Coordinates
Well location: SE 1/4 of the NE 1/4 of Section 30, Township 31 North, Range 52 E W, Dawes County.
The well is 2420 feet from the (N ☒ or S ☐) section line and 950 feet from the (E ☒ W ☐) section line.

OR Latitude Degree: Minute: Second:
Longitude Degree: Minute: Second:

3f. Location of Water Use: Same as well location

4. Actual Method for Decommissioning of Well

Placement Depth in Feet		Detailed Description of Material
From	To	
768'	692'	20 tubes of bentonite chips
692'	0'	13 bags of Plug Gel abandonment mud weighing 8.8 lbs/gallon -
		Marsh Funnel Data TD vis 27 - Final vis 75

5a. Well Casing Size: 4.5' Certalok

5b. Bore Hole Diameter: 8 inch

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

RECEIVED

Wade Beins

9-10-08

SEP 12 2008

Contractor (**owner)

Date

* **Owner may sign on wells prior to 7/1/2001 or sandpoint or if well no longer exists and it is unknown when decommissioning occurred

The Department reserves the right to request verification of information provided.

Mail to
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008 194928 - WNW (2)
Department of Natural Resources
STATE OF NEBRASKA

October 2001
DNR Form 145

DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

CPW2006 2

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194928 Registration No. 6-151073
Owner Code No. 39475 Receipt No. 123418 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215

2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA

3. a. Well Location: SE 1/4 of the NE 1/4 of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 2290 feet from the (North) section line and 890 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 30 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable CPW2006-2

4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____

5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____ (indicate use)

6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____

7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

6-151073

CPW2006-2

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 871 feet. b. Static water level: 192 feet.
- c. Pumping water level 292 feet. d. Well Construction began 07/26/06
- e. Well construction completed 08/25/06 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	791	Casing	4.320	4.950	0.297	PVC		Certa-lok
791	871	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

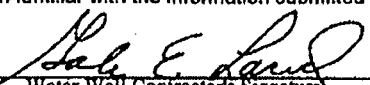
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	791	Grout	Neat Cement
791	871	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	665	869	Sandstone w/ Clay Interbeds
10	40	Quaternary Alluvium	869	900	Shale
40	230	ST/SS Interbedded			
230	665	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

CPW2006-2

Mail to
DNR
PO Box 94676
Lincoln, NE 68509-4676
Phone (402) 471-2363

10302008 - 194932 - WNWDF(2)

October 2001
DNR Form 145

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES
WATER WELL REGISTRATION

UBCOW21

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194932 Registration No. B-151079
Owner Code No. 39475 Receipt No. 123418 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2493
Drilling Firms Email Address NA
3. a. Well Location: SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 30, Township 31 North, Range 52 West, Dawes County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 2294 feet from the (North) section line and 845 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 30 T 31N R 52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable UBCOW2006-1
4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____
5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)
6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____
7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

UBCOW2006-1

6-151079

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. ☐ Measured ☒ Estimated
- d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
- f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
- h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 744 feet. b. Static water level: 193 feet.
- c. Pumping water level 243 feet. d. Well Construction began 07/28/06
- e. Well construction completed 08/27/06 f. Bore hole diameter in inches Top 8 Bottom 8
- g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen)- c, d, e & g measurements should be in inches to three decimal places

a Placement Depth in Feet		b Casing or Screen	c Inside Diameter	d Outside Diameter	e Wall Thickness	f Type of Material	g Screen Slot Size	h Trade Name
From	To							
0	654	Casing	4.320	4.950	0.297	PVC		Certa-lok
654	744	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	654	Grout	Neat Cement
654	744	Gravel Pack	Natural Gravel Pack

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	655	742	Sandstone w/ Clay Interbeds
10	40	Quaternary Alluvium	742	760	Clay
40	230	ST/SS Interbedded			
230	655	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 8, 2008
 Date

UBCOW2006-1

Mail to:
DNR
PO Box 84676
Lincoln, NE 68509-4876
Phone (402) 471-2363

10302008-194933-WNR(F2)

October 2001
DNR Form 145

STATE OF NEBRASKA

Department of Natural Resources

DEPARTMENT OF NATURAL RESOURCES

WATER WELL REGISTRATION

UBCOW21

FOR DEPARTMENT USE ONLY

Registration Date 10/30/08 Sequence No. 194933 Registration No. 6-151080
Owner Code No. 39475 Receipt No. R23478 UNW NRD

1. a. Well Owner's First Name _____ Last Name _____
b. Company Name Crow Butte Resources
c. Correspondent Name _____ Attention Wade Beins
Address PO BOX 169, 86 Crow Butte Road
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2215
2. Contractor's License No. 19019 Contractor's Name Gale Land
Contractor's Email Address NA
Drilling Firm Name Landrill Exploration
Address 102 Pine Street
City Crawford State NE Zip Code 69339 Telephone Number (308) 665-2493
Drilling Firms Email Address NA
3. a. Well Location: SE 1/4 of the SE 1/4 of Section 30, Township 31 North, Range 52 West, Sioux County.
b. Natural Resources District Upper Niobrara/White NRD
c. The well is 218 feet from the (South) section line and 36 feet from the (East) section line.
(CIRCLE ONE) (CIRCLE ONE)
or Latitude Degree _____ Minute _____ Second _____
Longitude Degree _____ Minute _____ Second _____ Differential Correction _____ Yes _____ No
d. Street address and subdivision, if applicable _____
Block _____ Lot _____
e. Location of water use, if applicable (give legal descriptions) Section 29 T 31N R52W
f. If for irrigation, the land to be irrigated is _____ acres.
g. Well reference letter(s), if applicable UBCOW2006-2
4. Permits
Management Area Permit Number _____ Surface Water Permit Number _____
Geothermal Permit Number _____ Industrial Permit Number _____
Municipal Permit Number _____ Transfer Out-of-State Permit Number _____
Well Spacing Permit Number _____ Conduct Permit Number _____
Other Permit Number _____
5. Purpose of well (indicate one): _____ Aquaculture _____ Commercial/Industrial _____ Dewatering (over 90 days)
_____ Domestic _____ Ground Heat Exchanger _____ Groundwater Source Heat Pump _____ Irrigation _____ Injection
_____ Livestock X Monitoring _____ Observation _____ Public Water Supply (with spacing (46-638))
_____ Public Water Supply (without spacing) _____ Recovery _____ Other _____
(indicate use)
6. Wells in a Series.
a. Is this well a part of a series? _____ Yes go to part b of this section. X No go to part 7 of this application.
b. If one or more of the wells in the series is currently registered, give the well registration number. _____
c. How many wells in the series are you registering at this time? _____
7. Replacement and abandoned well information.
a. Is this well a replacement well? _____ Yes X No
b. Registration number of abandoned well: _____ If not registered, date abandoned well was constructed (m) / (d) / (y)
c. Replacement well is _____ feet from abandoned well. d. Abandoned well last operated (m) / (d) / (y)
e. Original well pump column size: _____ inches. f. Completion of original well abandonment on (m) / (d) / (y)
g. Location of water use of abandoned well: _____

8. Pump Information

a. Is pump installed at this time? ☒ Yes ☐ NoIs pump installed by well owner in section 1? ☒ Yes ☐ No Is pump installed by contractor in section 2? ☐ Yes ☒ No

If pump is installed by pump installer, please fill out license number below

- b. Pump Installer's License No. 29370 Pump Installer's Name Robert L Dunn
 Pump Installer's Email Address NA
 Pump Installer's Firm Name Crow Butte Resources
 Pump Installer's Firm Address PO Box 169, 86 Crow Butte Road
 City Crawford State NE Zip Code 69339 Telephone Number (308) 665 - 2215
 Pump Installer's Firm Email Address NA
- c. Pumping Rate 25 gallons per minute. Measured ☒ Estimated ☐
 d. Drop pipe diameter 2 inches e. Length of drop pipe 400 feet
 f. Pumping equipment installed 2/14/2008 g. Pump Brand Grundfos
 h. This well will be used to pump less than 50 gpm ☒ Yes ☐ No

9. Well Construction Information

- a. Total well depth 766 feet. b. Static water level: 234 feet.
 c. Pumping water level 284 feet. d. Well Construction began 06/12/07
 e. Well construction completed 07/12/07 f. Bore hole diameter in inches Top 8 Bottom 8
 g. Casing and Screen Joints are Welded ☐ Glued ☐ Threaded ☐ Other Spline & Groove

10. Well Construction (Casing & Screen) - c, d, e & g measurements should be in inches to three decimal places

a		b	c	d	e	f	g	h
Placement Depth in Feet		Casing or Screen	Inside Diameter	Outside Diameter	Wall Thickness	Type of Material	Screen Slot Size	Trade Name
From	To							
0	666	Casing	4.320	4.950	0.297	PVC		Certa-lok
666	766	Screen	3.000	3.500	0.250	PVC	0.020	Johnson

11. Grout and Gravel Pack

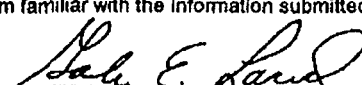
Placement Depth in Feet		Grout or Gravel Pack	Material Description
From	To		
0	666	Grout	Neat Cement
666	766	Grout	Neat Cement

12. Geologic Materials Logged

Depth in Feet		Description	Depth in Feet		Description
From	To		From	To	
0	10	Topsoil	660	769	Sandstone w/ Clay Interbeds
10	40	Quaternary Alluvium	769	770	Shale
40	230	ST/SS Interbedded			
230	660	Clay			

(Additional Sheets may be submitted)

13. I am familiar with the information submitted on this registration, and to the best of my knowledge it is true.


 Water Well Contractor's Signature

 October 28, 2008
 Date

UBCOW2006-2

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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CROW BUTTE RESOURCES, INC.

**Technical Report
Three Crow Expansion Area**



APPENDIX B

WATER WELL ABANDONMENT RECORDS

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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Appendix B-1 Farner 1 Oil and Gas Test Well

Nebraska Oil and Gas Conservation Commission
Form 6

PLUGGING RECORD

Instructions: Within thirty days following the plugging of a dry hole, or the abandonment of a producing well, the owner or operator shall submit this form in duplicate for wells on patented or Federal lands, and in triplicate for wells on State lands. Geological information will be held confidential for a period of twelve months if requested in writing. Fill out form as completely as possible.

Operator: **Graham S. Campbell** and **Brinkerhoff Drilling Company, Inc.**
Address: **1412 Walker Bank Building** **870 Denver Club Building**
Salt Lake City, Utah 84111 **Denver, Colorado 80202**

Well Number: **1** Lease Name: **Farner F.** Field and reservoir (if without, so state): **Wildcat**

Location: **NW SW** Sec. **26** Twp. **31 N** Range **52 W** County: **DAMES**

Permit Location: **1950** N. from (M) (S) Dm. **660** N. from (M) (S) Dm. of **SW** N. **1**
Spud Date: **8/24/69** Date reached T.D.: **8/27/69** Date Plugged: **8/28/69** Total Depth: **3470'** Log: **P.B.T.D.**

Elevation: **3909'** KB (KB) (GL) (DP) **3899'** GA Producing rate on initial completion
Oil (bbls/day) Gas (MCF/day) Water (bbls/day)

Application to drill this well was filed in name of: **As Above** Producing rate at time of abandonment
Oil (bbls/day) Gas (MCF/day) Water (bbls/day)

CONDITION OF HOLE

Notes each abbreviation containing oil or gas. Indicate which formations open to well bore at time of plugging.	Fluid Content	Depth Interval	Size, kind and depth of plug used. Indicate same sequence connected during abandonment of cement.
Plug #1		610' - 505'	35 ex.
Plug #2		153' - 110'	15 ex.
Plug #3		Top of Surface Casing	10 ex.

Size, kind and depth of any additional plugs

CASING RECORD

Size casing in O.D.	Weight lbs/ft.	Setting Depth	Amount Recovered	Amount left in well	Method of setting (shot, record, etc.)
8-5/8"	24#	130.56'	None	130.56'	

Was hole filled with mud-tolerant fluid? **Yes**

If this well was plugged back for use as a fresh hole well, give pertinent details of plugging operations in bore of fresh well, and attach copies of pertinent completion of this well as a fresh well and agreeing to assume the liability for subsequent plugging operations.

I/We hereby swear or affirm that the statements herein made are complete and correct.

(If new dry hole, complete well log on reverse side of form.)

Vice President

September 23, 1969

FORMATION LOG TOPS

Chadron Sandstone 550'
Pierre Shale 603'
Niobrara 2030'
Greenhorn 2572'
Muddy (1) 2860'
Muddy (2) 2950'
Muddy (3) 3040'
Skull Creek 3067'
Dakota Siltstone 3250'
Dakota Sandstone 3280'
Morrison 3420'

CORES: **NONE**

DST: **NONE**

LOGS: **Schlumberger (ES, Sidewall Neutron Porosity Sonic Gamma Ray**

Appendix B-2 Federal 1 (W 030995) Oil and Gas Test Well

2

Nebraska Oil and Gas Conservation Commission
Form 8

PLUGGING RECORD

Instructions: While plugging the slugging of a dry hole, or the abandonment of a producing well, the owner or operator shall submit this form to the Nebraska Oil and Gas Conservation Commission, and to the appropriate local or state agency. Confidential information will be held confidential for a period of 12 months if requested in writing. Fill out form as completely as possible.

Operator: **San Jacinto Petroleum Corp.**

Address: **500 San Jacinto Building, Houston 2, Texas**

Well Number: **1** (Lease Name) **Federal (W 030995)** (Date and month of well, or date) **Wildcat**

Location: **Sec. 37 Twp. 31N Range 52W** County: **Dallas**

Foreign Location: **500 N. Hwy. 99 W. Sec. 37 Twp. 31N Range 52W** N. Hwy. 99 W. Sec. 37 Twp. 31N Range 52W

Start Date: **11-26-62** (Date received T.O.) **12-14-62** (Date Plugged) **12-16-62** (Total Depth) **5,884** (P. & T. C.) **Surface**

Production: **3,754** (Reference (Production)) **None** (Production rate as listed completion) **None** (Rate (P. & T. C.)) **None** (Water (P. & T. C.))

Completion: **SPRINGER CRT** (Reference (Production)) **None** (Production rate as listed completion) **None** (Rate (P. & T. C.)) **None** (Water (P. & T. C.))

Additional to 800 T.O. well was used in name of: **San Jacinto Petroleum Corp.** (Reference (Production)) **None** (Production rate as listed completion) **None** (Rate (P. & T. C.)) **None** (Water (P. & T. C.))

CHOICES OF T.O.

Well No.	Formation	Depth	Production	Rate	Water
None	10.28 and 10.29 cement plug	listed below			

Interval and depth of any additional plug: **Spotted cement plugs 50-50 Rosin plus 2% gel at following**

Intervals:	50-50 Rosin	50 sacks	50-50 Rosin	50 sacks
5050-5070	50 sacks	50 sacks	50-50 Rosin	50 sacks
5070-5080	50 sacks	50 sacks	50-50 Rosin	50 sacks
5080-5090	50 sacks	50 sacks	50-50 Rosin	50 sacks

10.28 and 10.29 cement plugs

CASING RECORD

Size casing (in. O.D.)	Weight (lb./ft.)	Depth (ft.)	Amount (lb./ft.)	Amount (lb./ft.)	Amount (lb./ft.)
10 3/4	32.75	506	None	506	506

Was hole lined with production casing? **Yes**

If this well was plugged back for use as a high water well, give pertinent details of plugging operations to base of fresh water well, and attach copy of log of this well as a high water well and attaching to ensure full history for subsequent plugging of this well.

I/We hereby swear or affirm that the statements herein made are complete and correct.

Signature: **W. J. Quinn** (Production Superintendent)

Date: **January 4, 1963**

If one dry hole, complete well log on reverse side of form

Electrical Log Tops

Pierre	709
Niobrara	2125
Carlisle	2410
Greenhorn	2623
"a"	2929
"g"	3002
"r"	3097
Skull Creek	3127
Dakota silt	3303
Dakota ss	3338
Morrison	3442
Sundance	3582
Spearfish	3818
Minnekahta	4092
Opeche	4127
Minnelusa (1) ss	4301
Minnelusa carbonate	4382
Middle Minnelusa	4751
Lower Minnelusa	5089
Fairbank ss	5190
Mississippian	5254
Cambrian ss	5350
Weathered or re-worked Pre-C	5359
Fresh Pre-Cambrian	5383

DOT #1 4886-4904 (straddle test after logging using hookball packers)
Open 30 min, Rec 30' very slightly gas cut mud. BHTP 0-0, 30 min BHTP
1600, BHTP unsuccessful, HT 2777-2817.

You will note in the attached transmittal letter we are requesting geological information on this well be held confidential for a period of 12 months.

Appendix B-3 Heath 1 Oil and Gas Test Well

SEP 23 1957

PLUGGING AFFIDAVIT—STATE OF NEBRASKA

INSTRUCTIONS: Fill in completely as possible one copy and mail to Nebraska Geological Survey, Nebraska Hall, University of Nebraska, Lincoln, Nebraska within 10 days after plugging (Revised Statutes of Nebraska, 1943, sections 87-213 to 87-217, amended by Legislative Bill 423, 42nd Session, Legislature of Nebraska.) Underline applicable words or letters, cross out those not applicable.

Lease Name Heath Well No. 1 Notification No. _____

Legal Description Location (Example: C N/2-NE/4-NE/4):

N. NE Sec. 1 Twp. 33 No. 30 (S) (W); County Dawson

1953 Ft. (S) (W) of (N) (E) line of 10 Ft. (N) (S) of (S) (N) line of NE

Operating Company Far West Trading Company

Complete Mailing Address 1135 East Huntington Drive

Glendora, California BEST COPY AVAILABLE

Contractor H. F. Allison Drilling Company

Complete Mailing Address 1500 Patterson Building

Denver, Colorado

Drilled with (cable) (rotary) tools. Spudding date 9/5/57; completion date 9/9/57; plugging date 9/10/57

Surface Pipe Data: Casing (in) (ft) Size 6 in. Weight 21 lb.

Amount Set 173 ft.; Cement used 1 sack; kind Portland

Surface Hole Data: Size of hole 12 in.; Depth of hole 200 ft.

Total Depth of hole 3317 ft. Elevation 4000 ground

Nature of Well: (wildcat) (field extension well) (abandoned producer) derick floor

Reason for Abandonment dry hole 4074 Kelley bushing

Casing record other than surface pipe (indicate amount, size and weight of each string run, how set or cemented,

whether pulled or left in hole and where cut if partially pulled) none

Plugging Record (state in detail each step in plugging procedure)

Plug set in bottom of surface casing and 10 sacks cement mixed and poured in. Another plug in top of casing with 10 sack cement on top.

Attach Electric or Radioactive Log or Drilling Time Record.

Plugging Procedure Approved by _____ Date _____
(must "blanket" approval in case of fields or areas where standard plugging procedure has been approved by the Nebraska Geological Survey)

Name of Witness to Plugging Richard D. Dalrymple Address 1500 Patterson Building
Geologist Denver, Colorado

AFFIDAVIT

I, RICHARD D. DALRYMPLE of the H. F. Allison Drilling Company, being first duly sworn on oath, state that I have knowledge of the facts, statements and matters herein contained and that the same are true and correct.

Richard D. Dalrymple

In Witness whereof I heretofore set my hand and affix my official seal this 10th day of

September, 1957

My commission Expires March 23, 1959

G. James D. Brown
Notary Public, Genovieve D. Brown

Appendix B-4 Sikorski, Ralph 1 Oil and Gas Test Well

Nebraska Oil and Gas Conservation Commission
Form 8

4

PLUGGING RECORD

Instructions: Within thirty days following the plugging of a dry hole, or the abandonment of a producing well, the owner or operator shall submit this form in duplicate for wells on patented or federal lands, and in triplicate for wells on State lands. Geological information will be held confidential for a period of twelve months if requested in writing. Fill out form as completely as possible.

Operator: **Graham S. Campbell** and **Brinkerhoff Drilling Company, Inc.**
 Address: **1412 Walker Bank Building** **870 Denver Club Building**
Salt Lake City, Utah 84111 **Denver, Colorado 80202**

Well Number: **1** Lease Name: **Ralph Sikorski** Field and reservoir (if different, so state): **Wildcat**

Location: **NW NW** Sec. **10** Twp. **30 N** Range **52 W** County: **Dawes**

Footage Location: **500** N. from (D.R. line) **660** N. from (N.M. line) of **NW** **1**

Spud Date: **8/19/69** Date received T.D.: **8/23/69** Date Plugged: **8/23/69** **3826' Driller** **3882' Log** P.R.T.D. **1**

Elevation: **4176' GR** Reference (foot/cable): **4186' KB** Producing rate on initial completion: Oil (bbl/day) **0** Gas (MCF/day) **0** Water (bbl/day) **0**

Applications to drill this well was filed in name of: **As Above** Producing rate at time of abandonment: Oil (bbl/day) **0** Gas (MCF/day) **0** Water (bbl/day) **0**

CONDITION OF HOLE

Name and formation containing oil or gas, indicate which formation open to well bore at time of plugging	Fluid Content	Depth Interval	Size, kind and depth of plugs used. Indicate depth intervals cemented, grout cemented, etc.
Plug #1		950' - 845'	35 Sacks Cement
Plug #2		153' - 108'	15 Sacks Cement
Surface casing capped			

State, kind and depth of any additional plugs:

CASING RECORD

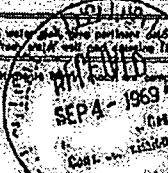
Size casing in O.D.	Weight lb./ft.	Setting Depth	Amount Recovered	Amount left in well	Method of setting (shot, reamed, etc.)
8-5/8"	24.4	128' KB	None	128'	

Was hole filled with mud-laden fluid?

If this well was plugged back for use as a fresh water well, the plugging operator is to base of fresh water sand. Attach letter from surface owner certifying completion of this well as a fresh water well and assume full liability for subsequent plugging which may be required.

I/We hereby agree to certify that the information furnished on this form is true and correct to the best of our knowledge.

(If new dry hole, complete well log on reverse side of form)


SEP 4 - 1969
Vice President
September 2, 1969

FORMATION LOG TOPS

Pierre	900'
Niobrara	2270'
Greenhorn	2807'
Muddy (1)	3100'
Muddy (2)	3190'
Muddy (3)	3227'
Muddy (4) (J)	3280'
Dakota siltstone	3490'
Dakota sandstone	3520'
Harrison	3585'

CORES: **None**

DST: **None**

LOGS: **Schlumberger IES and Sonic Gamma Ray Compensated**

Appendix B-5 Crow Butte Resources Well 194217

Oct 2007
DNR DECO

Submit to:
Department of Natural Resources
301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509-4676
Phone (402) 471 2363

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES

This form is required to be filed
within 60 days of decommissioning
of the water well.

NOTICE OF WATER WELL DECOMMISSIONING

FOR DEPARTMENT USE ONLY

Date Filed 9/12/08 Owner Code No. 39475 Registration No. 09122008
194217 - DECF (1) UPPER NIobrARA WHITE NRD
Well ID

1. Well Owner's First Name _____ Last Name _____

OR Company Name Crow Butte Resources, Inc.

Attention Name Wade Beins

Address PO BOX 169

City Crawford

State NE

Zip 69339

Telephone 308 665 2215 ext 113

2. Contractor (if applicable) Landrill Exploration

Telephone Number (308) 665 2493

Address 102 Pine St.

Contractor License No. 19019

City Crawford

State NE

Zip Code 69339

Email: _____

3a. Well Registration No. Well was not registered

3b. Purpose of Well: Pump Test Well (monitoring)

3c. Date Well Last Operated. Well was not completed

3d. Date of Decommissioning 8-1-06

3e. List complete well location: Legal, Footage and/or GPS Coordinates

Well location: SE 1/4 of the NE 1/4 of Section 30, Township 31 North, Range 52 E ☐ W ☒, Dawes County.

The well is 2420 feet from the (N ☒ or S ☐) section line and 950 feet from the (E ☒ W ☐) section line.

OR Latitude Degree: _____ Minute: _____ Second: _____

Longitude Degree: _____ Minute: _____ Second: _____

3f. Location of Water Use: Same as well location

4. Actual Method for Decommissioning of Well

Placement Depth in Feet		Detailed Description of Material
From	To	
768'	692'	20 tubes of bentonite chips
692'	0'	13 bags of Plug Gel abandonment mud weighing 8.8 lbs/gallon -
		Marsh Funnel Data TD vis 27 - Final vis 75

5a. Well Casing Size: 4.5' Certalok

5b. Bore Hole Diameter: 8 inch

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

RECEIVED

Wade Beins

9-10-08

SEP 12 2008

Contractor (**owner)

Date

* * Owner may sign on wells prior to 7/1/2001 or sandpoint or if well no longer exists and it is unknown when decommissioning occurred

The Department reserves the right to request verification of information provided.

Department of Natural Resources
301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509-4676
Phone (402) 471 2363

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES

This form is required to be filed
within 60 days of decommissioning
of the water well.

NOTICE OF WATER WELL DECOMMISSIONING

FOR DEPARTMENT USE ONLY

Date Filed 8/31/09 Owner Code No. 23733 Registration No. _____
09312009 200443 DECE (U) UPPER NIobrara - WHITE NRD
Well ID

1. Well Owner's First Name Ne Game & Parks Last Name Fort Robinson

OR Company Name _____

Attention Name Mike Morava
Address 3206 Hwy 20
City Crawford State Ne Zip 68329 Telephone 665 2900

2. Contractor (if applicable) Jim Pinner Telephone Number 809 665 2254
Address 791 4th St Rd Contractor License No. 39482
City Crawford State Ne Zip Code 68329 +
Email: _____

3a. Well Registration No. Unknown
3b. Purpose of Well: Livestock
3c. Date Well Last Operated unknown 3d. Date of Decommissioning 7-6-09
3e. List complete well location: Legal, Footage and/or GPS Coordinates
Well location: SW 1/4 of the SW 1/4 of Section 17, Township 31 North, Range 52E W 1/4, Dawes County.
The well is 1050 feet from the (N ☐ or S ☒) section line and 912 feet from the (E ☐ W ☒) section line.

OR Latitude Degree: _____ Minute: _____ Second: _____
Longitude Degree: _____ Minute: _____ Second: _____

3f. Location of Water Use: None as 3e

4. Actual Method for Decommissioning of Well

Placement Depth in Feet		Detailed Description of Material
From	To	
10.0	10	2 inches gravel
10	5	benzene chips
5	4	grout cap
4	0	topsoil

5a. Well Casing Size: 5 5b. Bore Hole Diameter: unknown

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

Jim Pinner Contractor (**owner) 7-18-09 Date

** Owner may sign on wells prior to 7/1/2001 or sandpoint or if well no longer exists and it is unknown when decommissioning occurred

The Department reserves the right to request verification of information provided.

RECEIVED

AUG 31 2009

DEPARTMENT OF
NATURAL RESOURCES

Oct 2007
DNR DECO

Submit to:
Department of Natural Resources
301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509-4676
Phone (402) 471 2363

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES

This form is required to be filed
within 60 days of decommissioning
of the water well.

SHEET 1 of 1

NOTICE OF WATER WELL DECOMMISSIONING

FOR DEPARTMENT USE ONLY

Date Filed 8/31/09 Owner Code No. 23333 Registration No. _____
08312009 - 200447 - DECO(1) UPPER NIobrara - WHITE NRD
Well ID

1. Well Owner's First Name Ne Game & Parks Last Name Fort Robinson

OR Company Name

Attention Name Mike Moran
Address 3200 Hwy 20
City Chawford State Ne Zip 68339 Telephone 308 665 2900

2. Contractor (if applicable): Jim Pinner Telephone Number 308 665 2254
Address 791 4 Mile Rd Contractor License No. 39482
City Chawford State Ne Zip Code 68339 +
Email: _____

3a. Well Registration No. _____
3b. Purpose of Well: livestock
3c. Date Well Last Operated: unknown 3d. Date of Decommissioning: 7-2-09
3e. List complete well location: Legal, Footage and/or GPS Coordinates
Well location: SW 1/4 of the NE 1/4 of Section 8, Township 31 North, Range 52 E, W 1/2, Lane County.
The well is 1626 feet from the (N ☒ or S ☐) section line and 1239 feet from the (E ☒ W ☐) section line.

OR Latitude Degree: _____ Minute: _____ Second: _____
Longitude Degree: _____ Minute: _____ Second: _____

3f. Location of Water Use: same as 3e

4. Actual Method for Decommissioning of Well

Placement Depth in Feet		Detailed Description of Material
From	To	
<u>220</u>	<u>170</u>	<u>gravel</u>
<u>170</u>	<u>155</u>	<u>benzene chips</u>
<u>155</u>	<u>10</u>	<u>gravel</u>
<u>10</u>	<u>5</u>	<u>benzene chips</u>
<u>5</u>	<u>3</u>	<u>cement cap</u>

5a. Well Casing Size: 5" 5b. Bore Hole Diameter: _____

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

Jim Pinner
Contractor (**owner)

7-11-09
Date

**Owner may sign on wells prior to 7/1/2001 or sandpoint or if well no longer exists and it is unknown when decommissioning occurred

The Department reserves the right to request verification of information provided. RECEIVED

AUG 31 2009

DEPARTMENT OF
NATURAL RESOURCES

Oct 2007
DNR DECO

Submit to:
Department of Natural Resources
301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509-4676
Phone (402) 471 2363

STATE OF NEBRASKA
DEPARTMENT OF NATURAL RESOURCES

This form is required to be filed
within 60 days of decommissioning
of the water well.

NOTICE OF WATER WELL DECOMMISSIONING *chug creek*

FOR DEPARTMENT USE ONLY

Date Filed 8/31/09 Owner Code No. 23333 Registration No. _____
08312009 - 200450 - DECF(1) UPPER NIOBRARA - WHITE NRD
Well ID

1. Well Owner's First Name Ne Dean + Parker Last Name Fort Robinson
OR Company Name _____

Attention Name Mr. Morris
Address 3200 Highway 20
City Crawford State NE Zip 69339 Telephone 665 2900

2. Contractor (if applicable) Ken Brown Telephone Number 808 665 2254
Address 2914 Maple Rd Contractor License No. 39482
City Crawford State NE Zip Code 69339 +
Email: _____

3a. Well Registration No. _____
3b. Purpose of Well: Livestock
3c. Date Well Last Operated unknown 3d. Date of Decommissioning 8-20-09
3e. List complete well location: Legal, Footage and/or GPS Coordinates
Well location: NE 1/4 of the SW 1/4 of Section 16, Township 31 North, Range 52E W 1/2, Daws County.
The well is 2438 feet from the (N ☐ or S ☒) section line and 1759 feet from the (E ☐ W ☒) section line.

OR Latitude Degree: _____ Minute: _____ Second: _____
Longitude Degree: _____ Minute: _____ Second: _____

3f. Location of Water Use: same as 3e

4. Actual Method for Decommissioning of Well

Placement Depth in Feet		Detailed Description of Material
From	To	
110	10	gravel
10	5	benzene chys
5	3	cement cap
3	0	top soil

5a. Well Casing Size: 5" 5b. Bore Hole Diameter: _____

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

Ken Brown 8-20-09
Contractor (**owner) Date

* *Owner may sign on wells prior to 7/1/2001 or sandpoint or if well no longer exists and it is unknown when decommissioning occurred

The Department reserves the right to request verification of information provided.

AUG 31 2009

DEPARTMENT OF
NATURAL RESOURCES

Appendix B-9 Nebraska Game & Parks Commission Well G-0022460A

NEBRASKA DEPARTMENT OF NATURAL RESOURCES
P.O. BOX 94676, LINCOLN, NEBRASKA 68509-4676
(402) 471-2363

DNR DECO
July 2006

FILE REF #

NOTICE OF WATER WELL DECOMMISSIONING

Instructions

Complete by printing in ink or typing the appropriate information. Submit the completed form to the above address within 60 days of decommissioning. This form is to be completed by water well contractor or pump installation contractor (owner signature not required) for all wells decommissioned after 7/1/2001, except for sandpoint wells. For wells decommissioned prior to 7/1/2001, or for a sand point well, the well owner may complete and sign the form if they did the actual decommissioning or if the well no longer exists, and it is unknown when the decommissioning occurred or who decommissioned the well.

1. Well Owner Name: Nebraska Game & Parks Commission

Address: Interagency

City: Lincoln State: NE Zip: 68503

() ()

Home Phone Number Work Phone Number

2. Person Completing Decommissioning (if not owner)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

() ()

Business Phone Number Contractor's License Number

3a. Well Registration Number G-022460A

3b. Purpose of Well Irrigation

3c. Date Well Last Operated Unknown

3d. Date of Decommissioning Unknown

3e. Location of Well: SE 1/4 of the NE 1/4, Section 18

Township 31 Range 52 ☐ E ☐ W ☒ W

County Dawes

3f. The well is 2390 feet from the (N ☐ S ☒) section line

and 770 feet from the (E ☐ W ☒) section line OR

Latitude Degree _____ Minutes _____ Second _____

Longitude Degree _____ Minutes _____ Second _____

3g. Street Address of Block, Lot and Subdivision (if applicable).

UNKNOWN

3h. Location of Water Use: _____ 1/4 of the _____ 1/4, Section _____

Township _____ Range _____ ☐ E ☐ W ☒ W

County _____

UNKNOWN

FOR DEPARTMENT USE ONLY

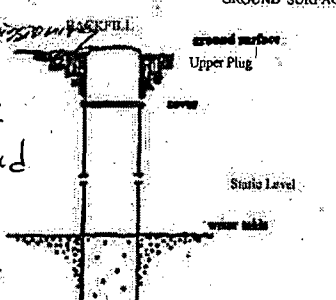
Filing Date 11-2-2007 Registration Number G-022460A

Owner Code 23333 NRD Upper Nebraska White

11022007 - 28828 - ABNF (1)

4a. Actual Method for Decommissioning of Well. Use Sketch below (if appropriate), or illustrate method of decommissioning on a separate sheet.

Actual decommissioning unknown. Wells cannot be located and do not exist anymore to our knowledge.



4b. Type of Back Fill Used in Upper Plug. (If excavated area is greater than three feet, indicate depth of excavation.)

4c. Illustrate method to create upper plug.

4d. Type, Amount, and Location of Materials Used in Lower Casing.

4e. Type and Thickness of Materials Used Between Confining Layers and at static water levels. Indicate plug depth(s) on left side of sketch.

4f. Well Casing Size _____

4g. Bore Hole Diameter _____

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

Water Well Contractor's Signature _____ Date _____

Michael Mon 10/31/07
Well Owner's Signature Date

The Department reserves the right to request verification of information provided.

RECEIVED

NOV 02 2007

DEPARTMENT OF
NATURAL RESOURCES

Appendix B-10 Nebraska Game & Parks Commission Well G-0022460B

NEBRASKA DEPARTMENT OF NATURAL RESOURCES
P.O. BOX 94676, LINCOLN, NEBRASKA 68509-4676
(402) 471-2363

DNR DECO
July 2006
FILE REF #

NOTICE OF WATER WELL DECOMMISSIONING

Instructions

Complete by printing in ink or typing the appropriate information. Submit the completed form to the above address within 60 days of decommissioning. This form is to be completed by water well contractor or pump installation contractor (owner signature not required) for all wells decommissioned after 7/1/2001, except for sandpoint wells. For wells decommissioned prior to 7/1/2001, or for a sand point well, the well owner may complete and sign the form if they did the actual decommissioning or if the well no longer exists, and it is unknown when the decommissioning occurred or who decommissioned the well.

1. Well Owner Name: Nebraska Game & Parks Commission

Address: Interagency

City: Lincoln State: NE Zip: 68503

Home Phone Number _____ Work Phone Number _____

2. Person Completing Decommissioning (if not owner)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Business Phone Number _____ Contractor's License Number _____

3a. Well Registration Number G-022460B

3b. Purpose of Well Irrigation

3c. Date Well Last Operated Unknown

3d. Date of Decommissioning Unknown

3e. Location of Well: SE 1/4 of the NE 1/4, Section 18
Township 31 Range 52 E ☐ W ☒
County Douglas

3f. The well is 2140 feet from the (N ☐ S ☒) section line
and 770 feet from the (E ☐ W ☒) section line OR
Latitude Degree _____ Minutes _____ Second _____
Longitude Degree _____ Minutes _____ Second _____

3g. Street Address of Block, Lot and Subdivision (if applicable).
UNKNOWN

3h. Location of Water Use: _____ 1/4 of the _____ 1/4, Section _____
Township _____ Range _____ E ☐ W ☒
County _____
UNKNOWN

FOR DEPARTMENT USE ONLY

Filing Date 11-2-2007

Registration Number G-022460B

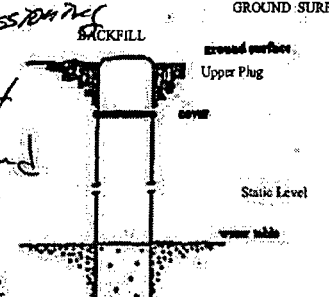
Owner Code 23333

NRD Upper Nebraska-White

11022007 - 28829 - ABNF(1)

4a. Actual Method for Decommissioning of Well. Use Sketch below (if appropriate), or illustrate method of decommissioning on a separate sheet.

Actual Decommissioning Unknown.
Wells cannot be located and do not exist anymore to our knowledge



4b. Type of Back Fill Used in Upper Plug. (If excavated area is greater than three feet, indicate depth of excavation.)

4c. Illustrate method to create upper plug.

4d. Type, Amount, and Location of Materials Used in Lower Casing.

4e. Type and Thickness of Materials Used Between Confining Layers and at static water levels. Indicate plug depth(s) on left side of sketch.

4f. Well Casing Size _____

4g. Bore Hole Diameter _____

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

Water Well Contractor's Signature _____

Date _____

Well Owner's Signature _____

Date _____

The Department reserves the right to request verification of information provided.

RECEIVED

NOV 02 2007

DEPARTMENT OF
NATURAL RESOURCES

CROW BUTTE RESOURCES, INC.

Technical Report
Three Crow Expansion Area



APPENDIX C

**MINERALOGICAL AND
PARTICLE SIZE DISTRIBUTION
ANALYSES**

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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PTS File No: 39978
 Client: Crow Butte Resources

X-RAY DIFFRACTION ANALYSIS DATA

Project Name: Three Crow Core Samples
 Project Number: N/A

	Sample ID:	T-1050c Run 1 310-315'	T-1050c Run 2 440-445'	T-1050c Run 3 560-565'	T-1050c Run 5 900-905'
Mineral Constituents	Chemical Formula	Relative Abundance, percent			
Quartz	SiO_2	24	17	23	31
Cristobalite	SiO_2			8	
Tridymite	SiO_2			4	
Plagioclase Feldspar	$(Na,Ca)AlSi_3O_8$	8	7	6	1
K-Feldspar	$KAlSi_3O_8$	2	2	3	7
Calcite	$CaCO_3$	26	8	trc	trc
Dolomite	$(Ca,Mg)CO_3$			1	2
Siderite	$FeCO_3$			1	
Gypsum	$CaSO_4 \cdot 2H_2O$			2	
Fluorapatite	$Ca_5F(PO_4)_3$	1			trc
Pyrite	FeS_2				1
Hematite	$\alpha\text{-}Fe_2O_3$			1	
Kaolinite	$Al_2Si_2O_5(OH)_4$				3
Chlorite	$(Mg,Al)_6(Si,Al)_4O_{10}(OH)_8$				5
Illite / Mica	$KAl_2(Si_3AlO_{10})(OH)_2$	2	2	3	17
Montmorillonite	$Na_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot xH_2O$	<u>37</u>	<u>64</u>		
Mixed-Layered Illite/ Smectite	$K_{0.5}Al_2(Si,Al)_4O_{10}(OH)_2 \cdot 2H_2O$			<u>48</u>	<u>33</u>
% Illite Layers in M. L. I/S				10-30%	10-30%
TOTAL		100	100	100	100

PTS File No: 39978
 Client: Crow Butte Resources

X-RAY DIFFRACTION ANALYSIS DATA

Project Name: Three Crow Core Samples
 Project Number: N/A

	Sample ID:	T-1051c Run 1 290-295'	T-1051c Run 2 480-485'	T-1051c Run 3 600-605'	T-1051c Run 5 890-895'
Mineral Constituents	Chemical Formula	Relative Abundance, percent			
Quartz	SiO_2	25	12	36	40
Cristobalite	SiO_2				
Tridymite	SiO_2				
Plagioclase Feldspar	$(Na,Ca)AlSi_3O_8$	9	5	2	5
K-Feldspar	$KAlSi_3O_8$	3	2	2	3
Calcite	$CaCO_3$	trc	17		
Dolomite	$(Ca,Mg)CO_3$				5
Siderite	$FeCO_3$				
Gypsum	$CaSO_4 \cdot 2H_2O$		24		
Fluorapatite	$Ca_5F(PO_4)_3$			trc?	
Pyrite	FeS_2				1
Hematite	$\alpha\text{-}Fe_2O_3$				
Kaolinite	$Al_2Si_2O_5(OH)_4$				trc
Chlorite	$(Mg,Al)_6(Si,Al)_4O_{10}(OH)_8$	trc			3
Illite / Mica	$KAl_2(Si_3AlO_{10})(OH)_2$	2	2	1	6
Montmorillonite	$Na_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot xH_2O$	<u>61</u>		<u>59</u>	<u>37</u>
Mixed-Layered Illite/ Smectite	$K_{0.5}Al_2(Si,Al)_4O_{10}(OH)_2 \cdot 2H_2O$		38		
% Illite Layers in M. L. I/S			0-10%		
TOTAL		100	100	100	100

PARTICLE SIZE SUMMARY
(METHODOLOGY: ASTM D422/D4464M)

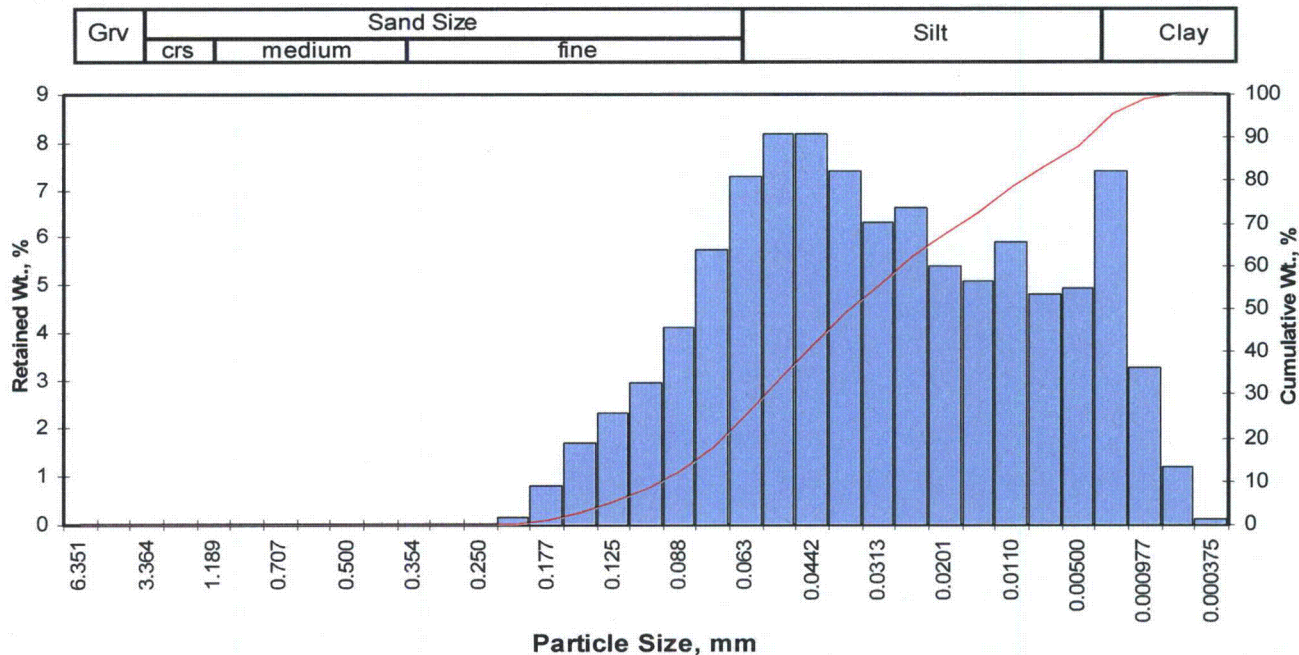
PROJECT NAME: Three Crow Core Samples
PROJECT NO: N/A

Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
T-1050c Run 1	310-315	Silt	0.036	0.00	0.00	0.00	17.84	70.18	11.99	82.16
T-1050c Run 2	440-445	Silt	0.032	0.00	0.00	6.31	21.01	56.33	16.35	72.68
T-1050c Run 3	560-565	Silt	0.016	0.00	0.00	0.00	14.99	58.22	26.80	85.01
T-1050c Run 5	900-905	Silt	0.004	0.00	0.00	0.00	0.01	42.13	57.86	99.99
T-1051c - Run 1	290-295	Silt	0.037	0.00	0.00	6.07	21.94	58.42	13.58	72.00
T-1051c - Run 2	480-485	Silt	0.012	0.00	0.00	0.00	4.64	65.90	29.46	95.36
T-1051c - Run 3	600-605	Clay	0.004	0.00	0.00	0.00	0.00	38.39	61.61	100.00
T-1051c - Run 5	890-895	Silt	0.007	0.00	0.00	0.00	2.77	57.41	39.81	97.23

(1) Based on Mean from Trask

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1050c Run 1
Depth, ft: 310-315



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent	Cumulative Weight Percent greater than			
Inches	Millimeters						Weight percent	Phi Value	Particle Size	
							Inches	Millimeters		
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00	5	3.00	0.0049	0.125
0.1873	4.757	-2.25	4	0.00	0.00	0.00	10	3.37	0.0038	0.097
0.1324	3.364	-1.75	6	0.00	0.00	0.00	16	3.67	0.0031	0.079
0.0787	2.000	-1.00	10	0.00	0.00	0.00	25	4.00	0.0025	0.063
0.0468	1.189	-0.25	16	0.00	0.00	0.00	40	4.45	0.0018	0.046
0.0331	0.841	0.25	20	0.00	0.00	0.00	50	4.79	0.0014	0.036
0.0278	0.707	0.50	25	0.00	0.00	0.00	60	5.23	0.0010	0.027
0.0234	0.595	0.75	30	0.00	0.00	0.00	75	6.22	0.0005	0.013
0.0197	0.500	1.00	35	0.00	0.00	0.00	84	7.12	0.0003	0.007
0.0166	0.420	1.25	40	0.00	0.00	0.00	90	8.01	0.0002	0.004
0.0139	0.354	1.50	45	0.00	0.00	0.00	95	8.92	0.0001	0.002
0.0117	0.297	1.75	50	0.00	0.00	0.00				
0.0098	0.250	2.00	60	0.01	0.01	0.01				
0.0083	0.210	2.25	70	0.17	0.17	0.18				
0.0070	0.177	2.50	80	0.82	0.82	1.00				
0.0059	0.149	2.75	100	1.71	1.71	2.71				
0.0049	0.125	3.00	120	2.32	2.32	5.03				
0.0041	0.105	3.25	140	2.96	2.96	7.99				
0.0035	0.088	3.50	170	4.11	4.11	12.10				
0.0029	0.074	3.75	200	5.74	5.74	17.84				
0.0025	0.063	4.00	230	7.30	7.30	25.14				
0.0021	0.053	4.25	270	8.17	8.17	33.31				
0.00174	0.0442	4.50	325	8.19	8.19	41.50				
0.00146	0.0372	4.75	400	7.42	7.42	48.92				
0.00123	0.0313	5.00	450	6.34	6.34	55.26				
0.000986	0.0250	5.32	500	6.62	6.62	61.87				
0.000790	0.0201	5.64	635	5.40	5.40	67.27				
0.000615	0.0156	6.00		5.10	5.10	72.37				
0.000435	0.0110	6.50		5.91	5.91	78.28				
0.000308	0.00781	7.00		4.82	4.82	83.10				
0.000197	0.00500	7.65		4.91	4.91	88.01				
0.000077	0.00195	9.00		7.40	7.40	95.41				
0.000038	0.000977	10.00		3.27	3.27	98.68				
0.000019	0.000488	11.00		1.22	1.22	99.90				
0.000015	0.000375	11.38		0.10	0.10	100.00				
TOTALS				100.00	100.00	100.00				

Measure	Trask	Inman	Folk-Ward
Median, phi	4.79	4.79	4.79
Median, in.	0.0014	0.0014	0.0014
Median, mm	0.036	0.036	0.036
Mean, phi	4.72	5.39	5.19
Mean, in.	0.0015	0.0009	0.0011
Mean, mm	0.038	0.024	0.027
Sorting	2.164	1.724	1.760
Skewness	0.803	0.349	0.371
Kurtosis	0.266	0.719	1.091

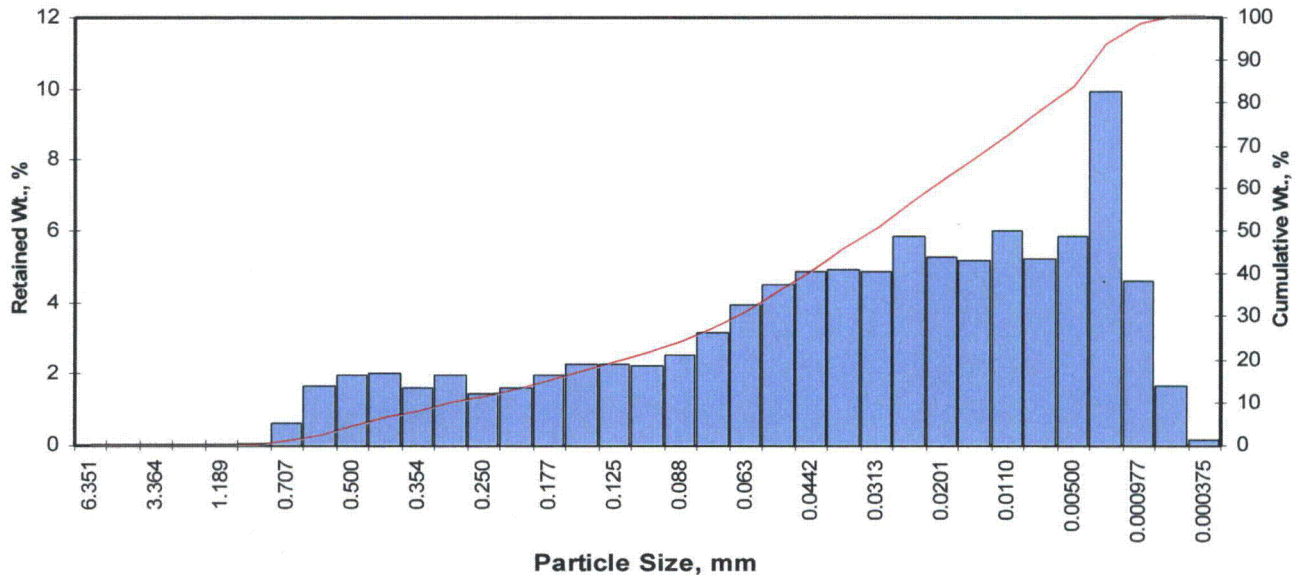
Grain Size Description		Silt
(ASTM-USCS Scale)		(based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	17.84
Silt	>0.005 mm	70.18
Clay	<0.005 mm	11.99
Total		100

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1050c Run 2
Depth, ft: 440-445

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.05	0.04	0.04
0.0278	0.707	0.50	25	0.64	0.64	0.68
0.0234	0.595	0.75	30	1.67	1.67	2.35
0.0197	0.500	1.00	35	1.94	1.94	4.29
0.0166	0.420	1.25	40	2.02	2.02	6.31
0.0139	0.354	1.50	45	1.61	1.61	7.92
0.0117	0.297	1.75	50	1.94	1.94	9.86
0.0098	0.250	2.00	60	1.47	1.47	11.33
0.0083	0.210	2.25	70	1.60	1.60	12.93
0.0070	0.177	2.50	80	1.97	1.97	14.90
0.0059	0.149	2.75	100	2.27	2.27	17.17
0.0049	0.125	3.00	120	2.26	2.26	19.43
0.0041	0.105	3.25	140	2.22	2.22	21.65
0.0035	0.088	3.50	170	2.51	2.51	24.16
0.0029	0.074	3.75	200	3.16	3.16	27.32
0.0025	0.063	4.00	230	3.92	3.92	31.24
0.0021	0.053	4.25	270	4.49	4.49	35.73
0.00174	0.0442	4.50	325	4.84	4.84	40.57
0.00146	0.0372	4.75	400	4.93	4.93	45.50
0.00123	0.0313	5.00	450	4.84	4.84	50.34
0.000986	0.0250	5.32	500	5.83	5.83	56.17
0.000790	0.0201	5.64	635	5.29	5.29	61.46
0.000615	0.0156	6.00		5.15	5.15	66.61
0.000435	0.0110	6.50		6.01	6.01	72.62
0.000308	0.00781	7.00		5.21	5.21	77.83
0.000197	0.00500	7.65		5.82	5.82	83.65
0.000077	0.00195	9.00		9.95	9.95	93.60
0.000038	0.000977	10.00		4.61	4.61	98.21
0.000019	0.000488	11.00		1.66	1.66	99.87
0.000015	0.000375	11.38		0.13	0.13	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	1.09	0.0185	0.471
10	1.77	0.0115	0.293
16	2.62	0.0064	0.163
25	3.57	0.0033	0.084
40	4.47	0.0018	0.045
50	4.98	0.0012	0.032
60	5.55	0.0008	0.021
75	6.73	0.0004	0.009
84	7.69	0.0002	0.005
90	8.51	0.0001	0.003
95	9.30	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	4.98	4.98	4.98
Median, in.	0.0012	0.0012	0.0012
Median, mm	0.032	0.032	0.032
Mean, phi	4.41	5.16	5.10
Mean, in.	0.0018	0.0011	0.0011
Mean, mm	0.047	0.028	0.029
Sorting	2.992	2.536	2.513
Skewness	0.892	0.069	0.060
Kurtosis	0.129	0.620	1.065

Grain Size Description	Silt
(ASTM-USCS Scale)	(based on Mean from Trask)

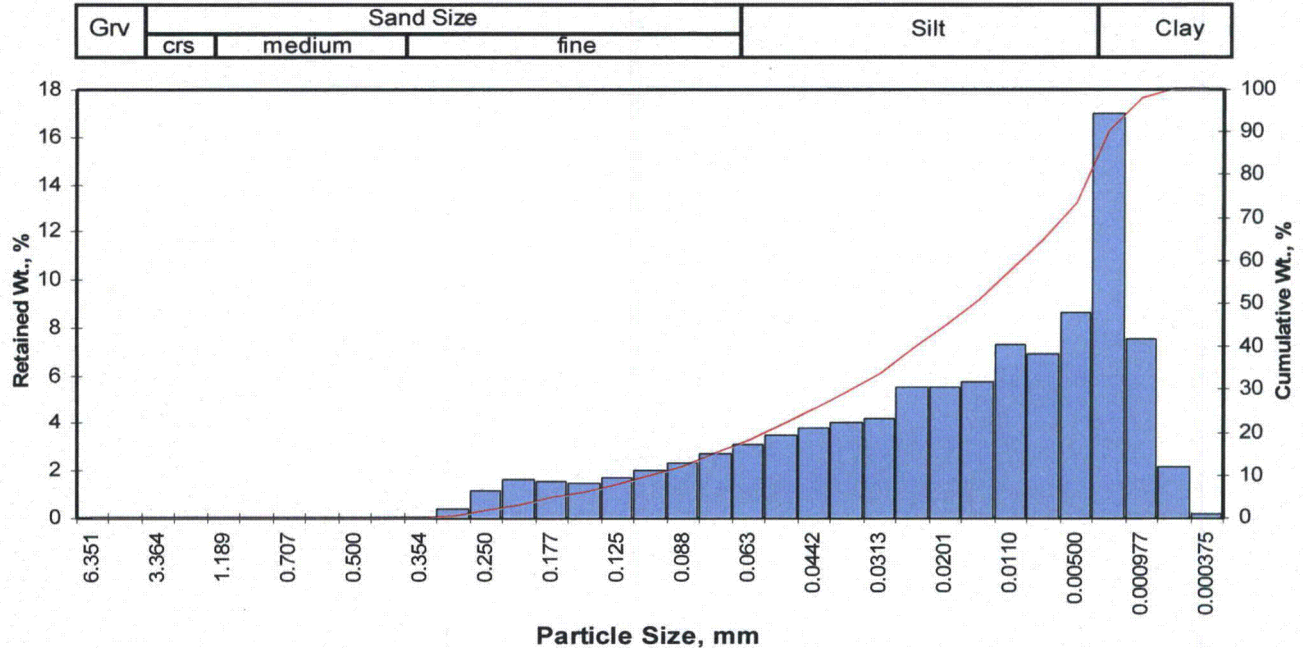
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	6.31
Fine Sand	200	21.01
Silt	>0.005 mm	56.33
Clay	<0.005 mm	16.35
Total		100

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D464M

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1050c Run 3
Depth, ft: 560-565



Particle Size, mm

Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent	Cumulative Weight Percent greater than			
Inches	Millimeters						Weight percent	Phi Value	Particle Size	
									Inches	Millimeters
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00	5	2.55	0.0067	0.171
0.1873	4.757	-2.25	4	0.00	0.00	0.00	10	3.26	0.0041	0.104
0.1324	3.364	-1.75	6	0.00	0.00	0.00	16	3.83	0.0028	0.070
0.0787	2.000	-1.00	10	0.00	0.00	0.00	25	4.47	0.0018	0.045
0.0468	1.189	-0.25	16	0.00	0.00	0.00	40	5.37	0.0010	0.024
0.0331	0.841	0.25	20	0.00	0.00	0.00	50	5.98	0.0006	0.016
0.0278	0.707	0.50	25	0.00	0.00	0.00	60	6.67	0.0004	0.010
0.0234	0.595	0.75	30	0.00	0.00	0.00	75	7.79	0.0002	0.005
0.0197	0.500	1.00	35	0.00	0.00	0.00	84	8.51	0.0001	0.003
0.0166	0.420	1.25	40	0.00	0.00	0.00	90	8.98	0.0001	0.002
0.0139	0.354	1.50	45	0.01	0.01	0.01	95	9.64	0.0000	0.001
0.0117	0.297	1.75	50	0.36	0.36	0.37				
0.0098	0.250	2.00	60	1.16	1.16	1.53				
0.0083	0.210	2.25	70	1.65	1.65	3.18				
0.0070	0.177	2.50	80	1.53	1.53	4.71				
0.0059	0.149	2.75	100	1.44	1.44	6.15				
0.0049	0.125	3.00	120	1.71	1.71	7.86				
0.0041	0.105	3.25	140	2.05	2.05	9.91				
0.0035	0.088	3.50	170	2.35	2.35	12.27				
0.0029	0.074	3.75	200	2.72	2.72	14.99				
0.0025	0.063	4.00	230	3.14	3.14	18.13				
0.0021	0.053	4.25	270	3.49	3.49	21.62				
0.00174	0.0442	4.50	325	3.80	3.80	25.42				
0.00146	0.0372	4.75	400	4.03	4.03	29.45				
0.00123	0.0313	5.00	450	4.21	4.21	33.66				
0.000986	0.0250	5.32	500	5.49	5.49	39.15				
0.000790	0.0201	5.64	635	5.47	5.47	44.62				
0.000615	0.0156	6.00		5.74	5.74	50.37				
0.000435	0.0110	6.50		7.30	7.30	57.67				
0.000308	0.00781	7.00		6.92	6.92	64.59				
0.000197	0.00500	7.65		8.61	8.61	73.20				
0.000077	0.00195	9.00		17.00	17.00	90.21				
0.000038	0.000977	10.00		7.50	7.50	97.71				
0.000019	0.000488	11.00		2.15	2.15	99.86				
0.000015	0.000375	11.38		0.14	0.14	100.00				
TOTALS				100.00	100.00	100.00				

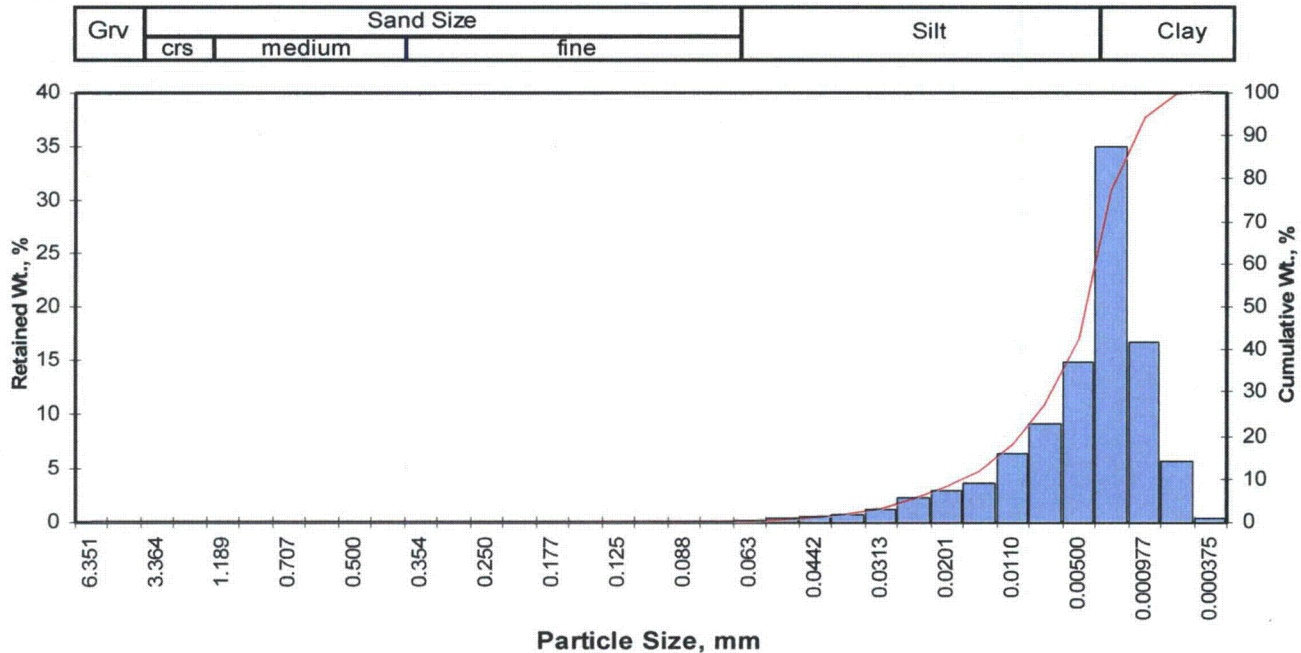
Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	2.55	0.0067	0.171
10	3.26	0.0041	0.104
16	3.83	0.0028	0.070
25	4.47	0.0018	0.045
40	5.37	0.0010	0.024
50	5.98	0.0006	0.016
60	6.67	0.0004	0.010
75	7.79	0.0002	0.005
84	8.51	0.0001	0.003
90	8.98	0.0001	0.002
95	9.64	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.98	5.98	5.98
Median, in.	0.0006	0.0006	0.0006
Median, mm	0.016	0.016	0.016
Mean, phi	5.33	6.17	6.10
Mean, in.	0.0010	0.0005	0.0006
Mean, mm	0.025	0.014	0.015
Sorting	3.156	2.337	2.243
Skewness	0.899	0.082	0.057
Kurtosis	0.198	0.516	0.876

Grain Size Description		Silt	
(ASTM-USCS Scale)		(based on Mean from Trask)	
Description	Retained on Sieve #	Weight Percent	
Gravel	4	0.00	
Coarse Sand	10	0.00	
Medium Sand	40	0.00	
Fine Sand	200	14.99	
Silt	>0.005 mm	58.22	
Clay	<0.005 mm	26.80	
Total		100	

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1050c Run 5
Depth, ft: 900-905



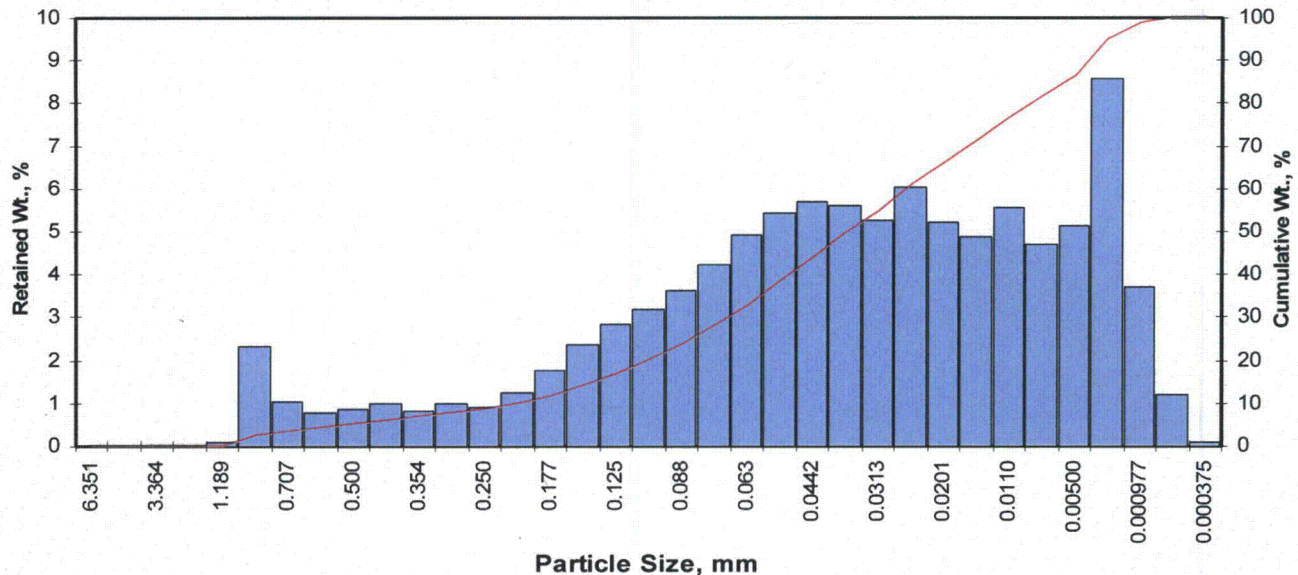
Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent	Cumulative Weight Percent greater than			
Inches	Millimeters						Weight percent	Phi Value	Particle Size	
									Inches	Millimeters
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00	5	5.29	0.0010	0.026
0.1873	4.757	-2.25	4	0.00	0.00	0.00	10	5.83	0.0007	0.018
0.1324	3.364	-1.75	6	0.00	0.00	0.00	16	6.33	0.0005	0.012
0.0787	2.000	-1.00	10	0.00	0.00	0.00	25	6.88	0.0003	0.009
0.0468	1.189	-0.25	16	0.00	0.00	0.00	40	7.55	0.0002	0.005
0.0331	0.841	0.25	20	0.00	0.00	0.00	50	7.95	0.0002	0.004
0.0278	0.707	0.50	25	0.00	0.00	0.00	60	8.34	0.0001	0.003
0.0234	0.595	0.75	30	0.00	0.00	0.00	75	8.92	0.0001	0.002
0.0197	0.500	1.00	35	0.00	0.00	0.00	84	9.41	0.0001	0.001
0.0166	0.420	1.25	40	0.00	0.00	0.00	90	9.77	0.0000	0.001
0.0139	0.354	1.50	45	0.00	0.00	0.00	95	10.19	0.0000	0.001
0.0117	0.297	1.75	50	0.00	0.00	0.00				
0.0098	0.250	2.00	60	0.00	0.00	0.00				
0.0083	0.210	2.25	70	0.00	0.00	0.00				
0.0070	0.177	2.50	80	0.00	0.00	0.00				
0.0059	0.149	2.75	100	0.00	0.00	0.00				
0.0049	0.125	3.00	120	0.00	0.00	0.00				
0.0041	0.105	3.25	140	0.00	0.00	0.00				
0.0035	0.088	3.50	170	0.00	0.00	0.00				
0.0029	0.074	3.75	200	0.01	0.01	0.01				
0.0025	0.063	4.00	230	0.14	0.14	0.15				
0.0021	0.053	4.25	270	0.35	0.35	0.50				
0.00174	0.0442	4.50	325	0.45	0.45	0.95				
0.00146	0.0372	4.75	400	0.73	0.73	1.68				
0.00123	0.0313	5.00	450	1.25	1.25	2.93				
0.000986	0.0250	5.32	500	2.30	2.30	5.23				
0.000790	0.0201	5.64	635	2.85	2.85	8.07				
0.000615	0.0156	6.00		3.60	3.60	11.67				
0.000435	0.0110	6.50		6.47	6.46	18.14				
0.000308	0.00781	7.00		9.12	9.11	27.25				
0.000197	0.00500	7.65		14.90	14.89	42.14				
0.000077	0.00195	9.00		35.00	34.97	77.11				
0.000038	0.000977	10.00		16.80	16.79	93.89				
0.000019	0.000488	11.00		5.68	5.68	99.57				
0.000015	0.000375	11.38		0.43	0.43	100.00				
TOTALS				100.10	100.00	100.00				

Grain Size Description				Silt	
(ASTM-USCS Scale)				(based on Mean from Trask)	
Description				Retained on Sieve #	Weight Percent
Gravel				4	0.00
Coarse Sand				10	0.00
Medium Sand				40	0.00
Fine Sand				200	0.01
Silt				>0.005 mm	42.13
Clay				<0.005 mm	57.86
Total					100

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1051c - Run 1
Depth, ft: 290-295

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent	Cumulative Weight Percent greater than			
Inches	Millimeters						Weight percent	Phi Value	Particle Size	
								Inches	Millimeters	
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00	5	0.97	0.0200	0.509
0.1873	4.757	-2.25	4	0.00	0.00	0.00	10	2.25	0.0083	0.211
0.1324	3.364	-1.75	6	0.00	0.00	0.00	16	2.91	0.0052	0.133
0.0787	2.000	-1.00	10	0.00	0.00	0.00	25	3.57	0.0033	0.084
0.0468	1.189	-0.25	16	0.09	0.09	0.09	40	4.32	0.0020	0.050
0.0331	0.841	0.25	20	2.32	2.32	2.41	50	4.77	0.0014	0.037
0.0278	0.707	0.50	25	1.05	1.05	3.46	60	5.27	0.0010	0.026
0.0234	0.595	0.75	30	0.78	0.78	4.24	75	6.36	0.0005	0.012
0.0197	0.500	1.00	35	0.85	0.85	5.09	84	7.34	0.0002	0.006
0.0166	0.420	1.25	40	0.98	0.98	6.07	90	8.21	0.0001	0.003
0.0139	0.354	1.50	45	0.80	0.80	6.87	95	9.00	0.0001	0.002
0.0117	0.297	1.75	50	1.01	1.01	7.88				
0.0098	0.250	2.00	60	0.91	0.91	8.79				
0.0083	0.210	2.25	70	1.23	1.23	10.01				
0.0070	0.177	2.50	80	1.77	1.77	11.78				
0.0059	0.149	2.75	100	2.38	2.38	14.16				
0.0049	0.125	3.00	120	2.83	2.83	16.99				
0.0041	0.105	3.25	140	3.17	3.17	20.16				
0.0035	0.088	3.50	170	3.61	3.61	23.77				
0.0029	0.074	3.75	200	4.23	4.23	28.00				
0.0025	0.063	4.00	230	4.92	4.92	32.92				
0.0021	0.053	4.25	270	5.44	5.44	38.36				
0.00174	0.0442	4.50	325	5.70	5.70	44.06				
0.00146	0.0372	4.75	400	5.59	5.59	49.65				
0.00123	0.0313	5.00	450	5.25	5.25	54.90				
0.000986	0.0250	5.32	500	6.04	6.04	60.93				
0.000790	0.0201	5.64	635	5.21	5.21	66.14				
0.000615	0.0156	6.00		4.89	4.89	71.03				
0.000435	0.0110	6.50		5.58	5.58	76.61				
0.000308	0.00781	7.00		4.68	4.68	81.29				
0.000197	0.00500	7.65		5.13	5.13	86.42				
0.000077	0.00195	9.00		8.59	8.59	95.01				
0.000038	0.000977	10.00		3.72	3.72	98.73				
0.000019	0.000488	11.00		1.19	1.19	99.92				
0.000015	0.000375	11.38		0.08	0.08	100.00				
TOTALS				100.00	100.00	100.00				

Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	0.97	0.0200	0.509
10	2.25	0.0083	0.211
16	2.91	0.0052	0.133
25	3.57	0.0033	0.084
40	4.32	0.0020	0.050
50	4.77	0.0014	0.037
60	5.27	0.0010	0.026
75	6.36	0.0005	0.012
84	7.34	0.0002	0.006
90	8.21	0.0001	0.003
95	9.00	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	4.77	4.77	4.77
Median, in.	0.0014	0.0014	0.0014
Median, mm	0.037	0.037	0.037
Mean, phi	4.38	5.13	5.01
Mean, in.	0.0019	0.0011	0.0012
Mean, mm	0.048	0.029	0.031
Sorting	2.623	2.214	2.323
Skewness	0.872	0.162	0.109
Kurtosis	0.173	0.812	1.182

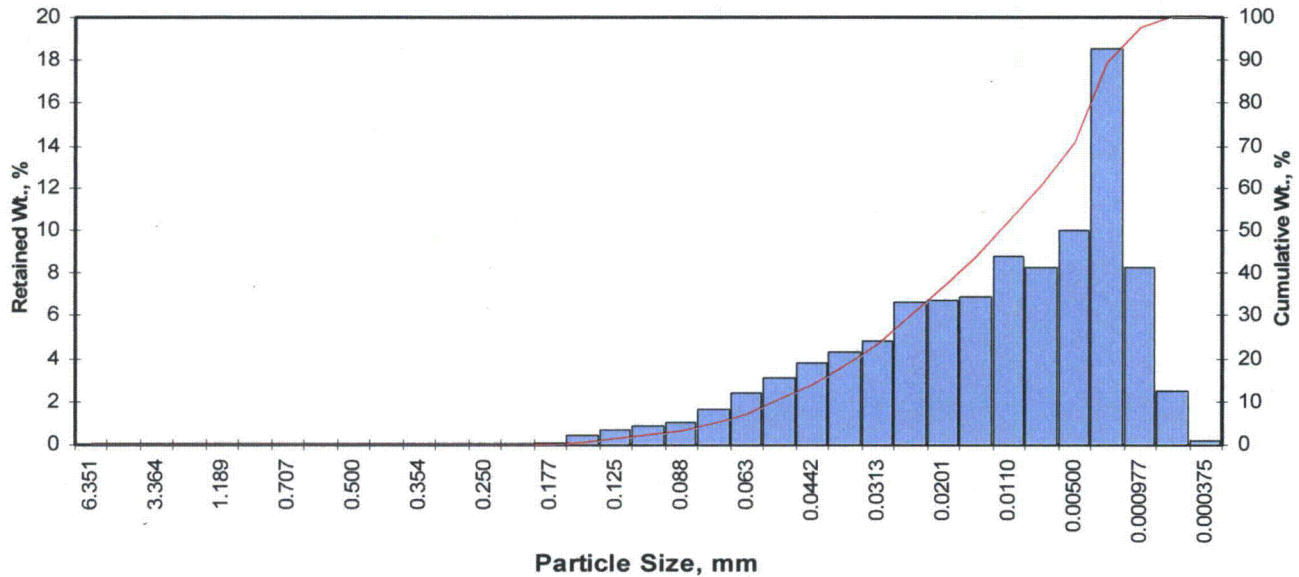
Grain Size Description		Silt	
(ASTM-USCS Scale)		(based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	6.07
Fine Sand	200	21.94
Silt	>0.005 mm	58.42
Clay	<0.005 mm	13.58
Total		100

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1051c - Run 2
Depth, ft: 480-485

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.00	0.00	0.00
0.0098	0.250	2.00	60	0.00	0.00	0.00
0.0083	0.210	2.25	70	0.00	0.00	0.00
0.0070	0.177	2.50	80	0.08	0.08	0.09
0.0059	0.149	2.75	100	0.39	0.39	0.48
0.0049	0.125	3.00	120	0.69	0.69	1.17
0.0041	0.105	3.25	140	0.82	0.82	1.99
0.0035	0.088	3.50	170	1.05	1.05	3.04
0.0029	0.074	3.75	200	1.60	1.60	4.64
0.0025	0.063	4.00	230	2.40	2.40	7.04
0.0021	0.053	4.25	270	3.14	3.14	10.18
0.00174	0.0442	4.50	325	3.77	3.77	13.95
0.00146	0.0372	4.75	400	4.31	4.31	18.26
0.00123	0.0313	5.00	450	4.84	4.84	23.10
0.000986	0.0250	5.32	500	6.67	6.67	29.77
0.000790	0.0201	5.64	635	6.72	6.72	36.50
0.000615	0.0156	6.00		6.93	6.93	43.43
0.000435	0.0110	6.50		8.80	8.80	52.23
0.000308	0.00781	7.00		8.31	8.31	60.54
0.000197	0.00500	7.65		10.00	10.00	70.54
0.000077	0.00195	9.00		18.50	18.50	89.05
0.000038	0.000977	10.00		8.26	8.26	97.31
0.000019	0.000488	11.00		2.52	2.52	99.83
0.000015	0.000375	11.38		0.17	0.17	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	3.79	0.0029	0.072
10	4.24	0.0021	0.053
16	4.62	0.0016	0.041
25	5.09	0.0012	0.029
40	5.82	0.0007	0.018
50	6.37	0.0005	0.012
60	6.97	0.0003	0.008
75	7.97	0.0002	0.004
84	8.63	0.0001	0.003
90	9.12	0.0001	0.002
95	9.72	0.0000	0.001

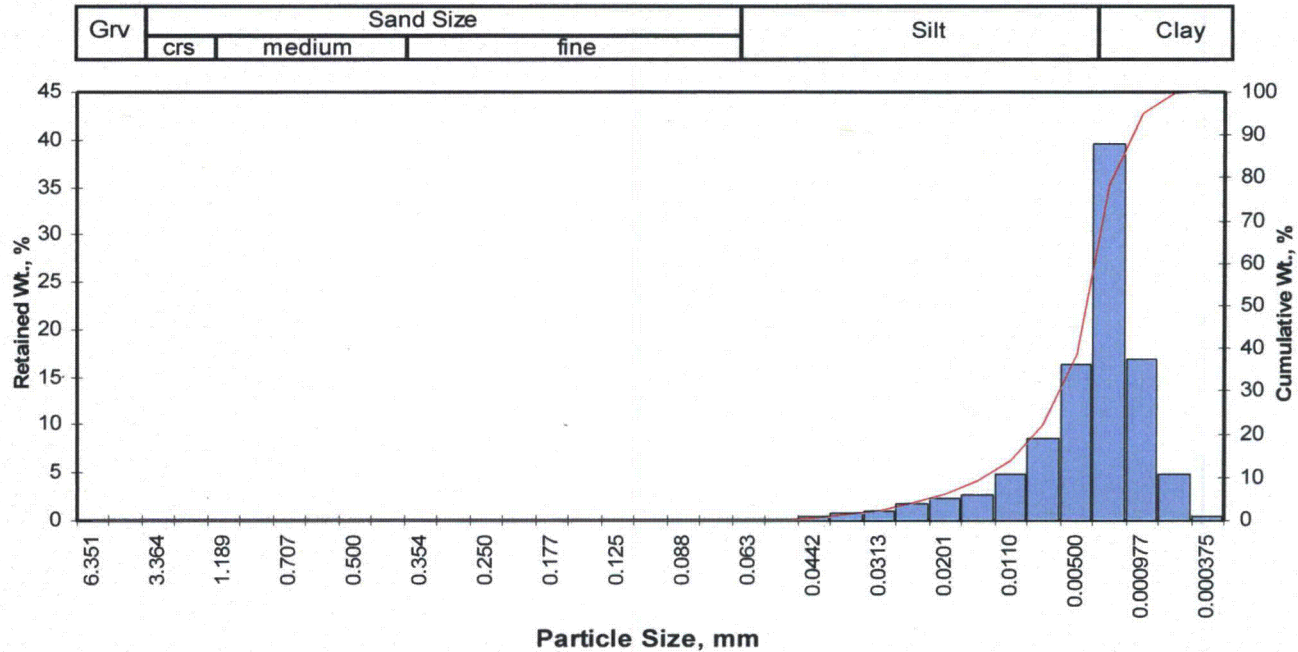
Measure	Trask	Inman	Folk-Ward
Median, phi	6.37	6.37	6.37
Median, in.	0.0005	0.0005	0.0005
Median, mm	0.012	0.012	0.012
Mean, phi	5.91	6.62	6.54
Mean, in.	0.0007	0.0004	0.0004
Mean, mm	0.017	0.010	0.011
Sorting	2.714	2.006	1.902
Skewness	0.896	0.125	0.127
Kurtosis	0.247	0.479	0.844

Grain Size Description	Silt
(ASTM-USCS Scale)	(based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	4.64
Silt	>0.005 mm	65.90
Clay	<0.005 mm	29.46
Total		100

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1051c - Run 3
Depth, ft: 600-605



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent	Cumulative Weight Percent greater than			
Inches	Millimeters						Weight percent	Phi Value	Particle Size	
									Inches	Millimeters
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00	5	5.47	0.0009	0.023
0.1873	4.757	-2.25	4	0.00	0.00	0.00	10	6.12	0.0006	0.014
0.1324	3.364	-1.75	6	0.00	0.00	0.00	16	6.64	0.0004	0.010
0.0787	2.000	-1.00	10	0.00	0.00	0.00	25	7.11	0.0003	0.007
0.0468	1.189	-0.25	16	0.00	0.00	0.00	40	7.70	0.0002	0.005
0.0331	0.841	0.25	20	0.00	0.00	0.00	50	8.04	0.0001	0.004
0.0278	0.707	0.50	25	0.00	0.00	0.00	60	8.39	0.0001	0.003
0.0234	0.595	0.75	30	0.00	0.00	0.00	75	8.90	0.0001	0.002
0.0197	0.500	1.00	35	0.00	0.00	0.00	84	9.36	0.0001	0.002
0.0166	0.420	1.25	40	0.00	0.00	0.00	90	9.72	0.0000	0.001
0.0139	0.354	1.50	45	0.00	0.00	0.00	95	10.06	0.0000	0.001
0.0117	0.297	1.75	50	0.00	0.00	0.00				
0.0098	0.250	2.00	60	0.00	0.00	0.00				
0.0083	0.210	2.25	70	0.00	0.00	0.00				
0.0070	0.177	2.50	80	0.00	0.00	0.00				
0.0059	0.149	2.75	100	0.00	0.00	0.00				
0.0049	0.125	3.00	120	0.00	0.00	0.00				
0.0041	0.105	3.25	140	0.00	0.00	0.00				
0.0035	0.088	3.50	170	0.00	0.00	0.00				
0.0029	0.074	3.75	200	0.00	0.00	0.00				
0.0025	0.063	4.00	230	0.00	0.00	0.00				
0.0021	0.053	4.25	270	0.07	0.07	0.07				
0.00174	0.0442	4.50	325	0.36	0.36	0.43				
0.00146	0.0372	4.75	400	0.72	0.72	1.15				
0.00123	0.0313	5.00	450	1.02	1.02	2.17				
0.000986	0.0250	5.32	500	1.75	1.75	3.92				
0.000790	0.0201	5.64	635	2.27	2.27	6.19				
0.000615	0.0156	6.00		2.69	2.69	8.88				
0.000435	0.0110	6.50		4.81	4.81	13.69				
0.000308	0.00781	7.00		8.49	8.49	22.19				
0.000197	0.00500	7.65		16.20	16.20	38.39				
0.000077	0.00195	9.00		39.50	39.51	77.90				
0.000038	0.000977	10.00		16.80	16.80	94.71				
0.000019	0.000488	11.00		4.94	4.94	99.65				
0.000015	0.000375	11.38		0.35	0.35	100.00				
TOTALS				100.00	100.00	100.00				

Grain Size Description			
(ASTM-USCS Scale)			
Clay			
(based on Mean from Trask)			

Measure	Trask	Inman	Folk-Ward
Median, phi	8.04	8.04	8.04
Median, in.	0.0001	0.0001	0.0001
Median, mm	0.004	0.004	0.004
Mean, phi	7.75	8.00	8.01
Mean, in.	0.0002	0.0002	0.0002
Mean, mm	0.005	0.004	0.004
Sorting	1.859	1.364	1.377
Skewness	1.026	-0.032	-0.077
Kurtosis	0.194	0.682	1.051

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	0.00
Silt	>0.005 mm	38.39
Clay	<0.005 mm	61.61
Total		100

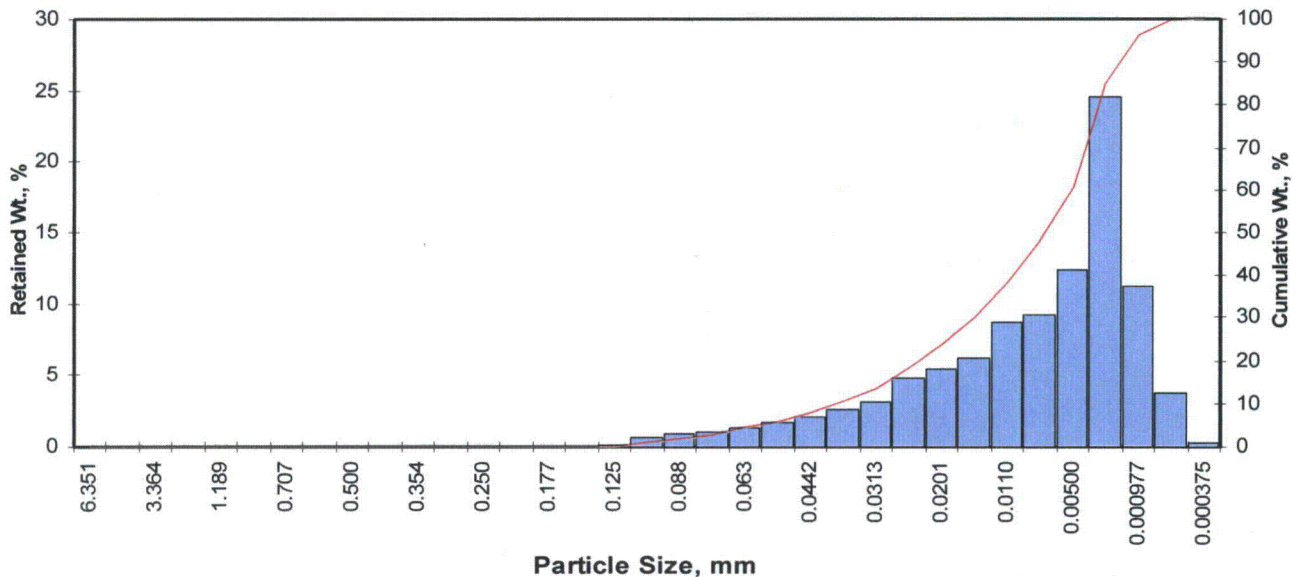
PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Crow Butte Resources
Project: Three Crow Core Samples
Project No: N/A

PTS File No: 39978
Sample ID: T-1051c - Run 5
Depth, ft: 890-895

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Opening		Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
Inches	Millimeters					
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.00	0.00	0.00
0.0098	0.250	2.00	60	0.00	0.00	0.00
0.0083	0.210	2.25	70	0.00	0.00	0.00
0.0070	0.177	2.50	80	0.00	0.00	0.00
0.0059	0.149	2.75	100	0.01	0.01	0.01
0.0049	0.125	3.00	120	0.19	0.19	0.20
0.0041	0.105	3.25	140	0.60	0.60	0.80
0.0035	0.088	3.50	170	0.89	0.89	1.69
0.0029	0.074	3.75	200	1.08	1.08	2.77
0.0025	0.063	4.00	230	1.33	1.33	4.10
0.0021	0.053	4.25	270	1.67	1.67	5.77
0.00174	0.0442	4.50	325	2.10	2.10	7.88
0.00146	0.0372	4.75	400	2.56	2.56	10.44
0.00123	0.0313	5.00	450	3.11	3.11	13.55
0.000986	0.0250	5.32	500	4.76	4.76	18.31
0.000790	0.0201	5.64	635	5.44	5.44	23.76
0.000615	0.0156	6.00		6.16	6.16	29.92
0.000435	0.0110	6.50		8.62	8.63	38.54
0.000308	0.00781	7.00		9.23	9.24	47.78
0.000197	0.00500	7.65		12.40	12.41	60.19
0.000077	0.00195	9.00		24.60	24.61	84.80
0.000038	0.000977	10.00		11.20	11.21	96.01
0.000019	0.000488	11.00		3.72	3.72	99.73
0.000015	0.000375	11.38		0.27	0.27	100.00
TOTALS				99.90	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	4.13	0.0022	0.057
10	4.71	0.0015	0.038
16	5.16	0.0011	0.028
25	5.71	0.0008	0.019
40	6.58	0.0004	0.010
50	7.12	0.0003	0.007
60	7.64	0.0002	0.005
75	8.46	0.0001	0.003
84	8.96	0.0001	0.002
90	9.46	0.0001	0.001
95	9.91	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	7.12	7.12	7.12
Median, in.	0.0003	0.0003	0.0003
Median, mm	0.007	0.007	0.007
Mean, phi	6.51	7.06	7.08
Mean, in.	0.0004	0.0003	0.0003
Mean, mm	0.011	0.007	0.007
Sorting	2.592	1.896	1.823
Skewness	1.020	-0.029	-0.031
Kurtosis	0.220	0.524	0.862

Grain Size Description	Silt
(ASTM-USCS Scale)	(based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	2.77
Silt	>0.005 mm	57.41
Clay	<0.005 mm	39.81
Total		100

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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CROW BUTTE RESOURCES, INC.

Technical Report
Three Crow Expansion Area



APPENDIX D

GEOPHYSICAL BORING LOGS

CROW BUTTE RESOURCES, INC.

Technical Report Three Crow Expansion Area



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ORD. REF. # K 5551H

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Zone	Effective Productivity Density	Water Saturation to %	Residual Production	Peak Core Temp. (Coul. Bank)
295C	1852	16	water	RM - 6 FROM SP
295C	2957	100	water	RM - 6 FROM SP
2957	17	100	water	RM - 12 ARCHIE METHOD
1041	1066	100	water	RM - 22 ARCHIE METHOD
1285	1291	12	water	RM - 22 ARCHIE METHOD
1291	1295	100	...	RM - 22 ARCHIE METHOD
1295	1311	17	water	RM - 22 ARCHIE METHOD
1311	1390	8	water	RM - 22 FROM SP
1390	1390	100	water	RM - 22 FROM SP
1390	1390	22 AVE.	water	RM - 22 ARCHIE METHOD

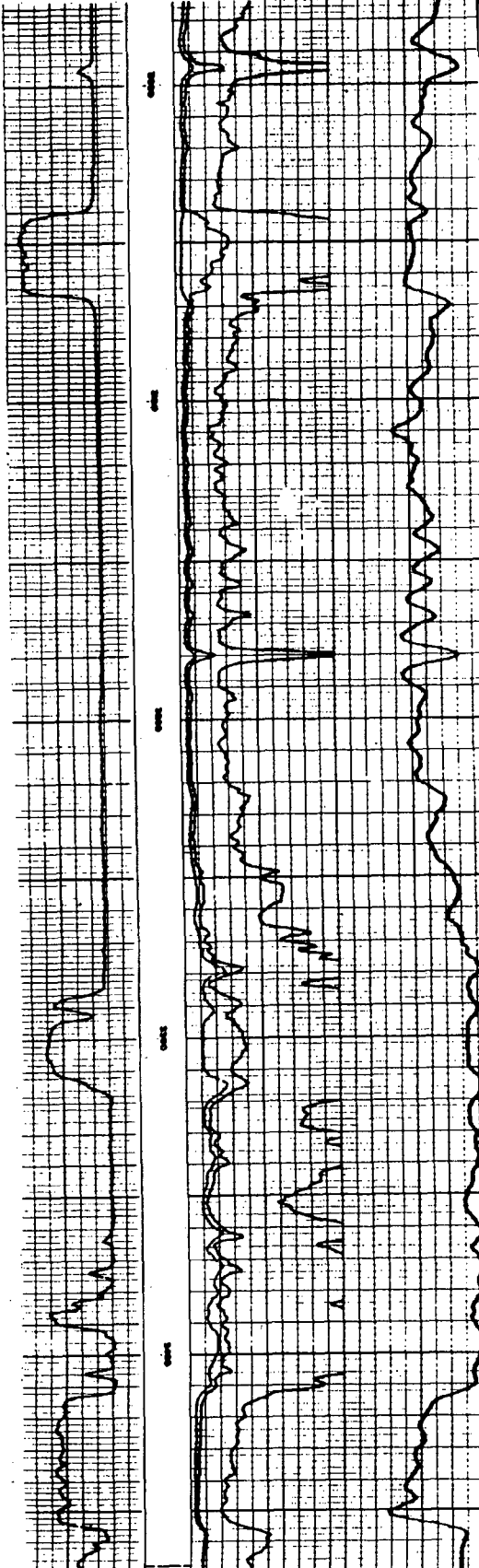
QUANTITATIVE ANALYSIS

All interpretations are opinions based on information here described or other sources available and are advisory, and do not, guarantee the correctness of any interpretation, and shall not be taken as an expression of the opinion of the IRS. The IRS is not responsible for any loss, damage, or expense incurred or sustained by anyone relying upon any interpretation made by any of the Officers, agents, or employees. These interpretations are only subject to Clause 7 of our General Terms and Conditions as set out in our Services Price Schedule.

COMPANY C. S. CAMPBELL AND BIRMINGHAM DRILLING COMPANY
VILL F. ABERN H 1
WILL VILL
COUNTY DAVIS STATE ALABAMA
SON R15E
RCH T46N
DAD RD 1E1
Rm
R1509
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C1509

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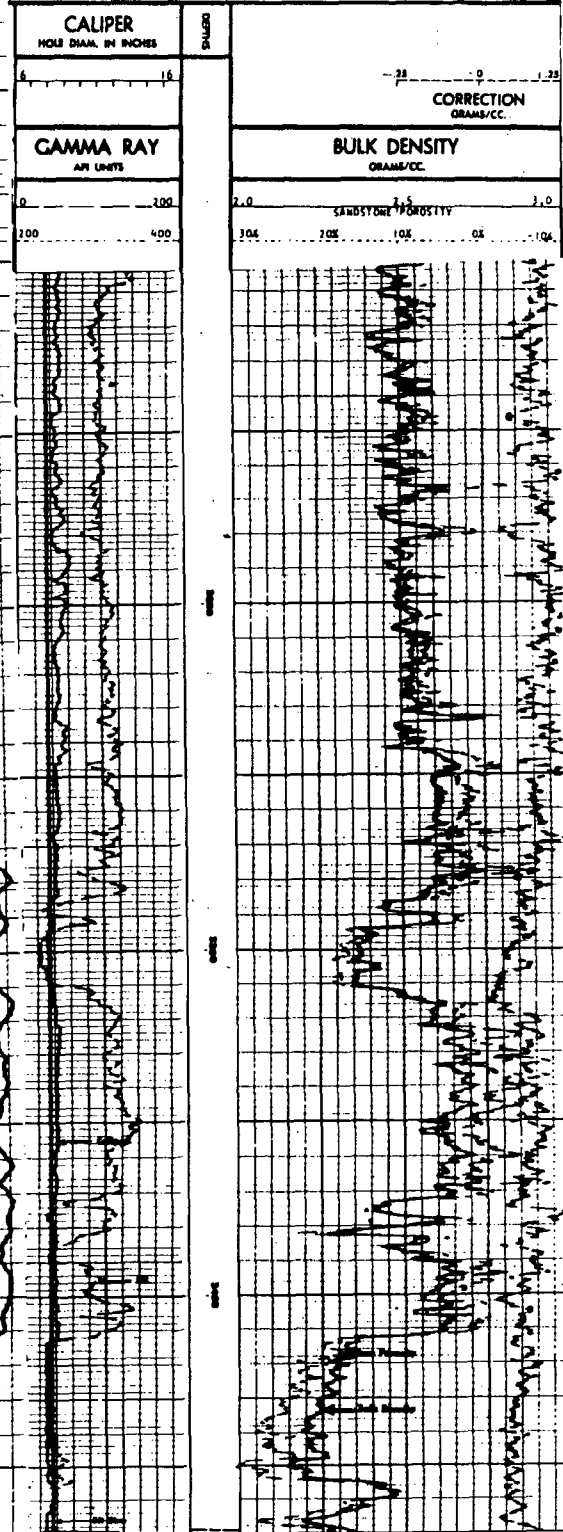
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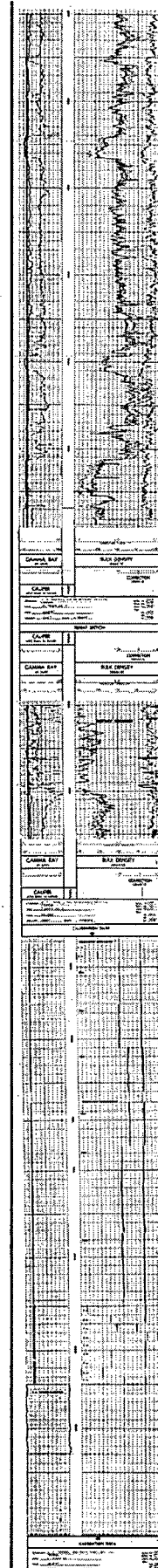
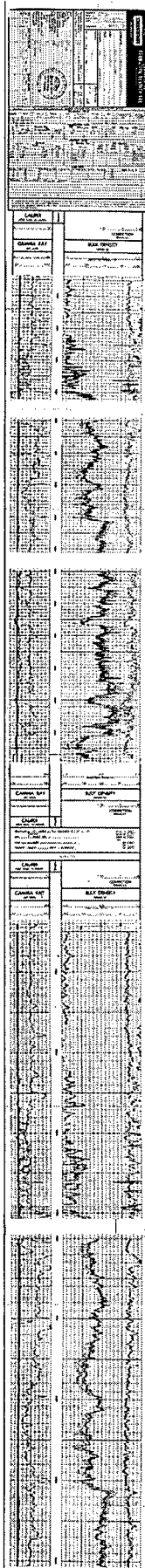


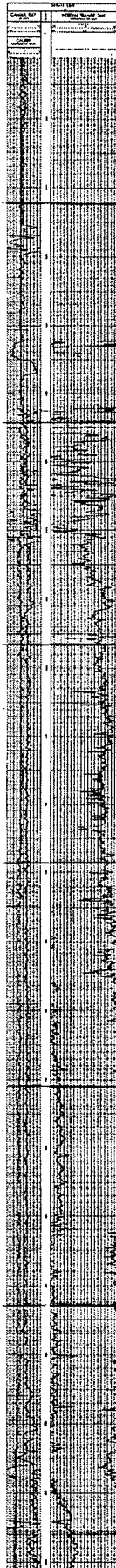
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 Sec. 26 Twp. 31N Rgn. 52W

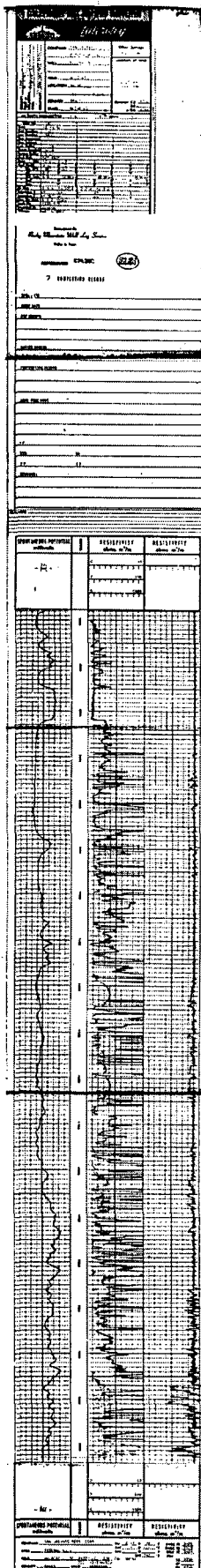
COMPANY: C. S. CAMPBELL AND BRINKHOFF DRILLING
 WELL: F. ARNER NO. 1
 FIELD: WILDCAJ
 COUNTY: DAKES STATE: NEBRASKA

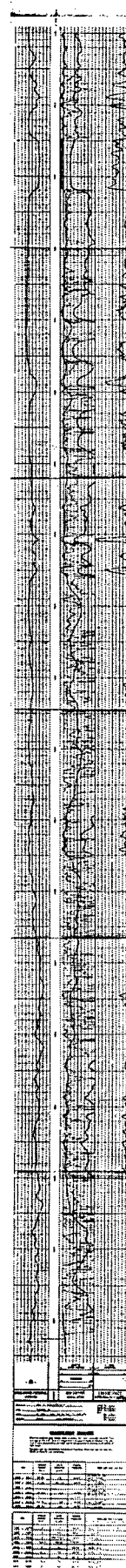
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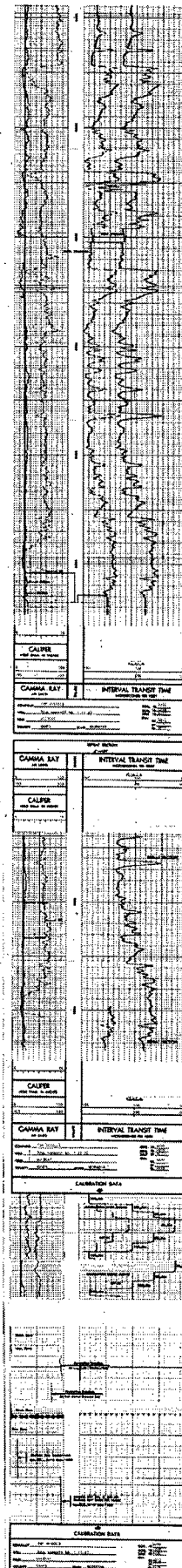
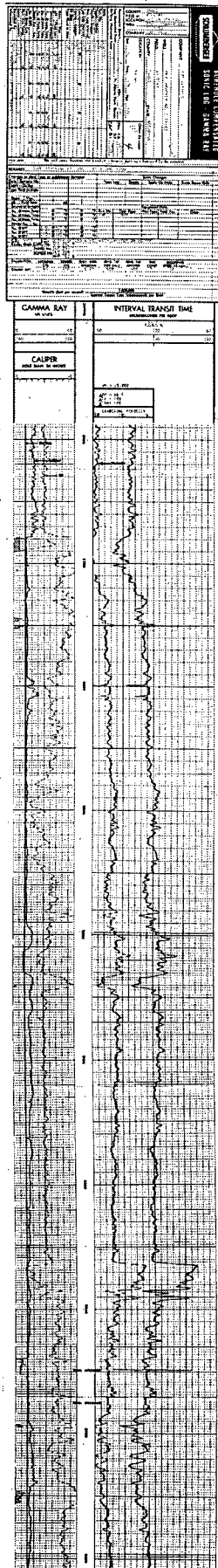










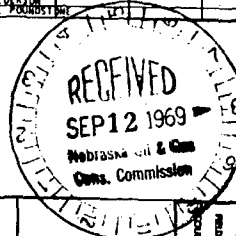


ROCKY MOUNTAIN WELL LOG SERVICE

ORD. REF. # K 522811



SCHUMBERGER ESTABLISHED 1902		ROULETTE ESTABLISHED 1902	
COMPANY FORM VESSELS			
WELL PAUL HANAUER NO 1 (S-9)		FIELD MILWAU	
LOCATION DAVIS		STATE NEBRASKA	
LOCATION NEW NW		OTHER SERVICES: GNC GR	
Sec. 76 Twp. 10N Rge. 57W		S1	
Permiss. Duration G.I.		Other Services: GNC GR	
Log. Measured From H. N. Above Perm. Datum		D.P. G.I. 4611	
Logging Measured From		D.P. G.I. 4605	
Date D-25-69			
Time 10:25 AM			
Wind S			
Weather Clear			
Air Temp 60°F			
Surface Temp 60°F			
Bottom Temp 60°F			
Water Temp 60°F			
Air Sat. 100%			
Water Sat. 100%			
Air Hum. 100%			
Water Hum. 100%			
Air Pres. 30.0 in Hg			
Water Pres. 30.0 in Hg			
Air Wind 10 mph			
Water Wind 10 mph			
Air Dir. 170°			
Water Dir. 170°			
Air Speed 10 mph			
Water Speed 10 mph			
Air Tides 17N 17N			
Water Tides 17N 17N			
Air Current 17N 17N			
Water Current 17N 17N			
Air Direction 17N 17N			
Water Direction 17N 17N			
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Air Date 17N 17N			
Water Date 17			



COMPLAINT		DATE RECEIVED	FILE NUMBER	DATE	STATUS	ASSIGNED TO	DATE	STATUS
15-46	35502	24	90					
15-46	35501	17-10	90-100					
15-46	35494	21	100					
15-46	35480	18	100					
15-46	35476	20	95					
15-46	35473	20	100					
15-46	35470	22-24	150417					
15-46	35469	20	100					
15-46	35468	22-24	90-100					

NOTE: The following information is for your information only. It is not to be used for any other purpose. The information is for your information only. It is not to be used for any other purpose.

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FILE: 10-15-10

STATUS: 10-15-10

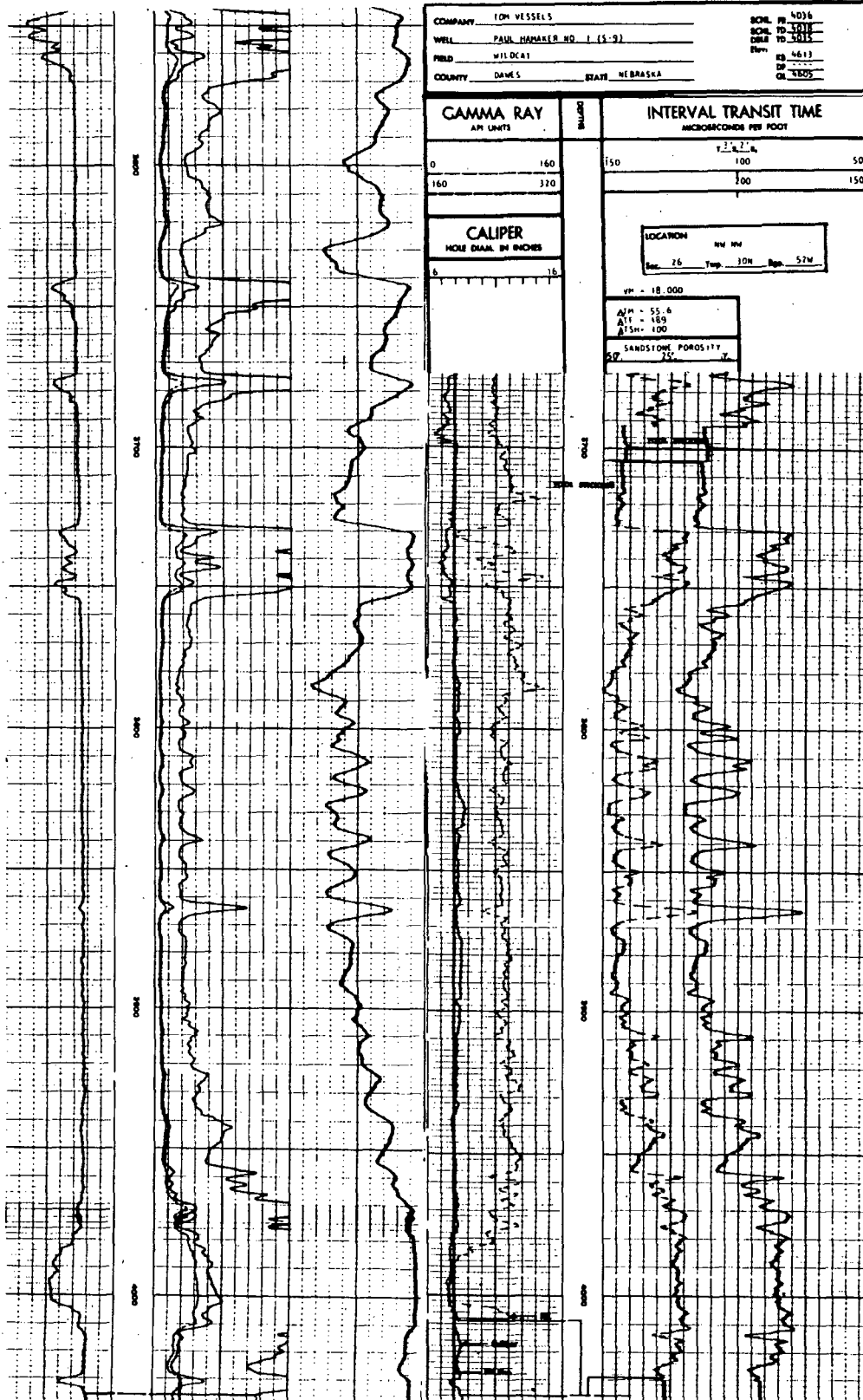
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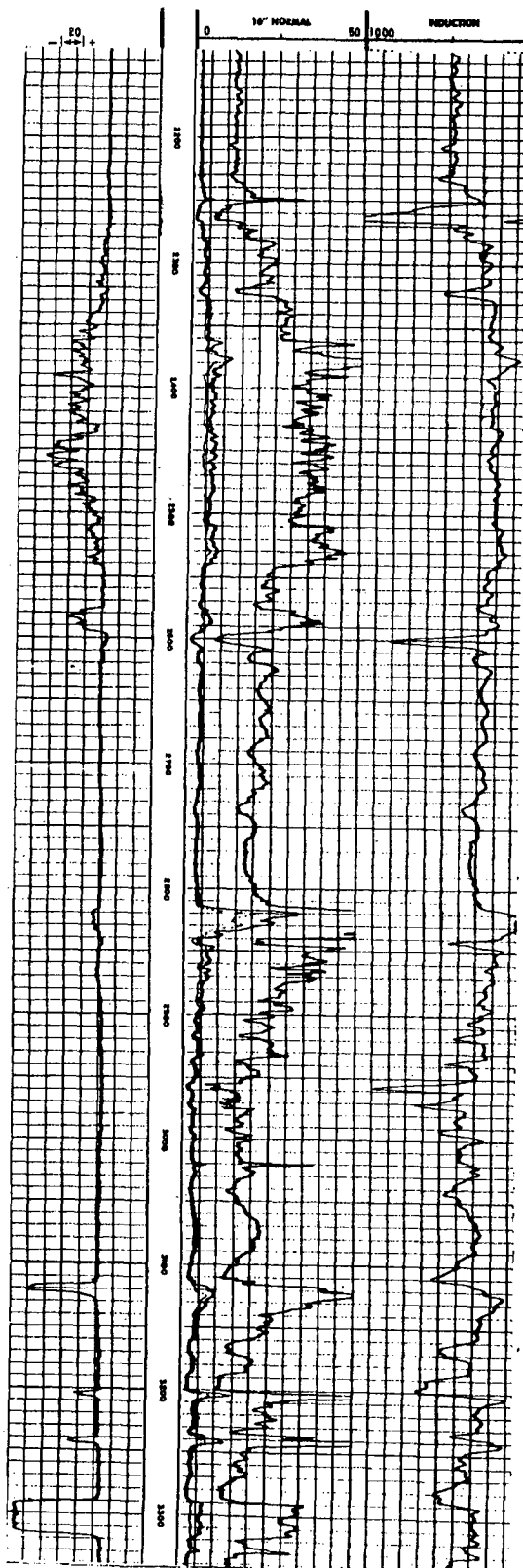
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FILE: 10-15-10

STATUS: 10-15-10

ASSIGNED TO: 10-15-10





LOG NO.	16097 IE	Distributed by
		Petroleum Information
COMPANY	Eddie Fisher	
WELL	#1 Mouth	
PROD	Wildcat	
LOC (P.L.)	C NW NE 4 SWW 6SW	
	Davos, MoBr.	

P.I. COMPLETION INFORMATION

[illegible]

SCALDINGER WELL SURVEYING CORPORATION

Producing Horizontal Log

COUNTY WILLIAM

WELL NO. 4-30H-522

LOCATION SEC. 4-30H-522

WELL WELL

COMPANY ERBIE FISHER

COMPANY ERBIE FISHER

WELL WELL

FIELD WILDECAT

LOCATION MN NE

SECTION 4-30H-522

COUNTY DAMES

STATE NEBRASKA

Other Surveys

ML

Location of Well

Elevation, D.P.

S.A. (ft)

or O.A. (ft)

BLIND No. ONE

DATE 1917

BY ERBIE FISHER

REMARKS

WELL NO. 4-30H-522

SECTION 4-30H-522

COUNTY DAMES

STATE NEBRASKA

WELL WELL

FIELD WILDECAT

LOCATION MN NE

SECTION 4-30H-522

COUNTY DAMES

STATE NEBRASKA

FILE NO. 522

DATE 1917

BY ERBIE FISHER

REMARKS

WELL NO. 4-30H-522

SECTION 4-30H-522

COUNTY DAMES

STATE NEBRASKA

WELL WELL

FIELD WILDECAT

LOCATION MN NE

SECTION 4-30H-522

COUNTY DAMES

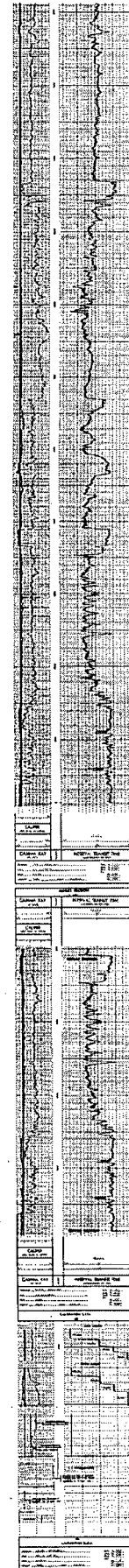
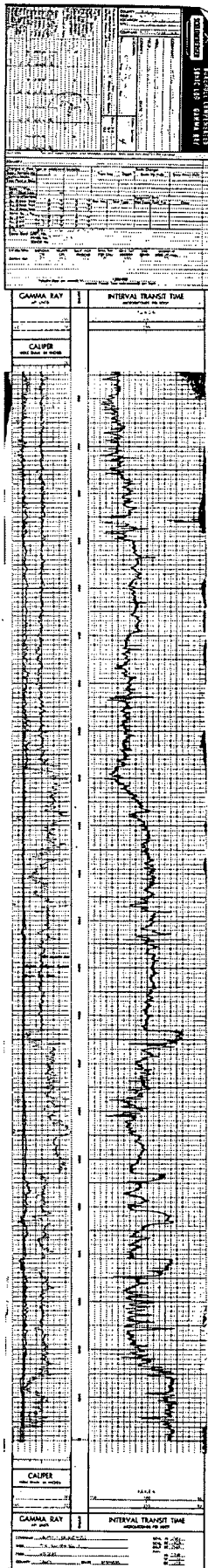
STATE NEBRASKA

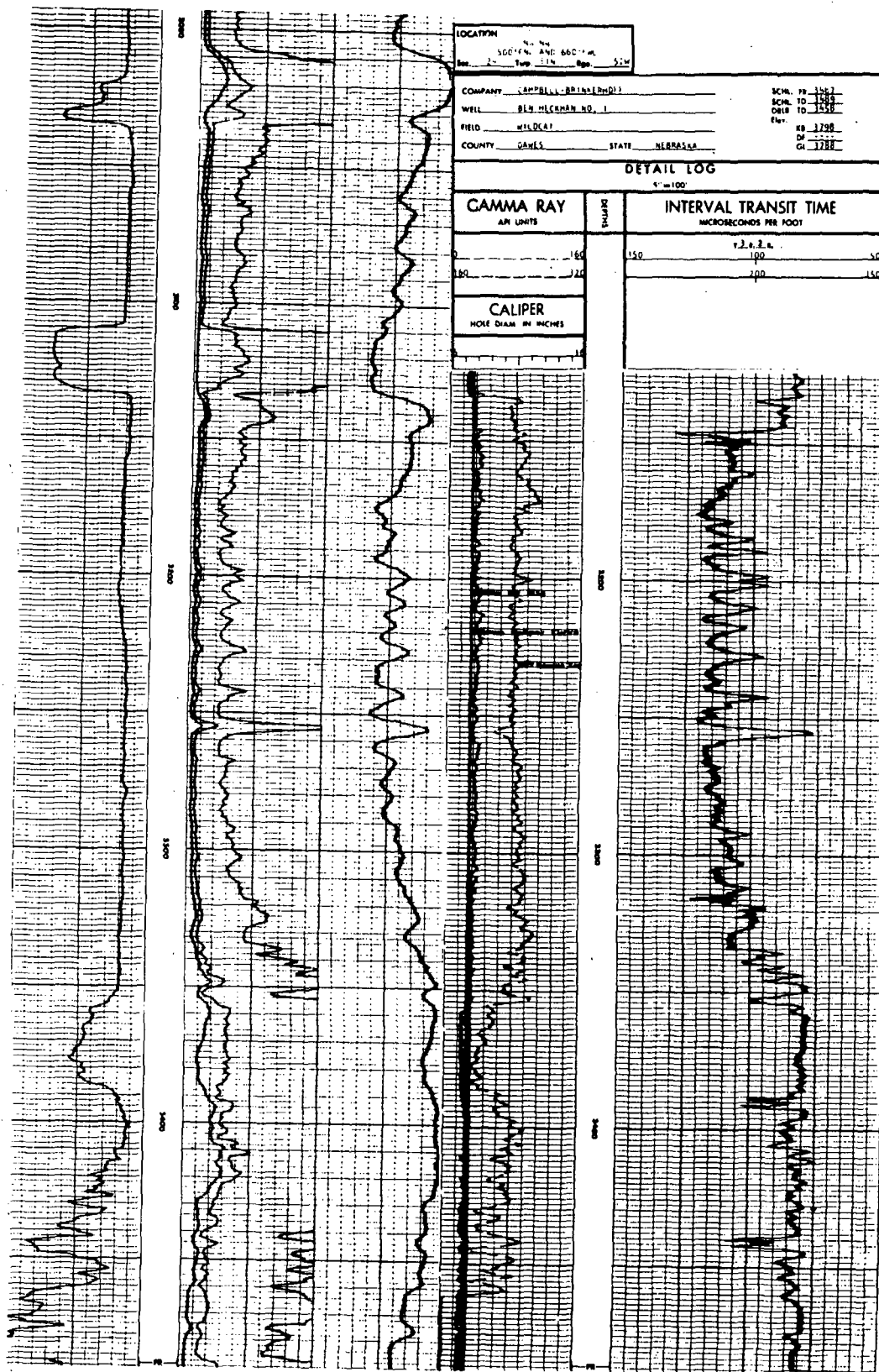
NO.	INJECTING MATERIAL PT. IN	SOLVENT L. & S.	PREPARATION	PHASES OBS'D. OTHER
2115.	3180	19	Water	C-4; C-2; B-2
2102.	3190	18	Water	C-4; C-2; B-2
3150.	3244	12	Water	C-4; C-12; B-2
3150.	3308	20-75	Water	C-4; C-12; B-2

QUANTITATIVE ANALYSIS

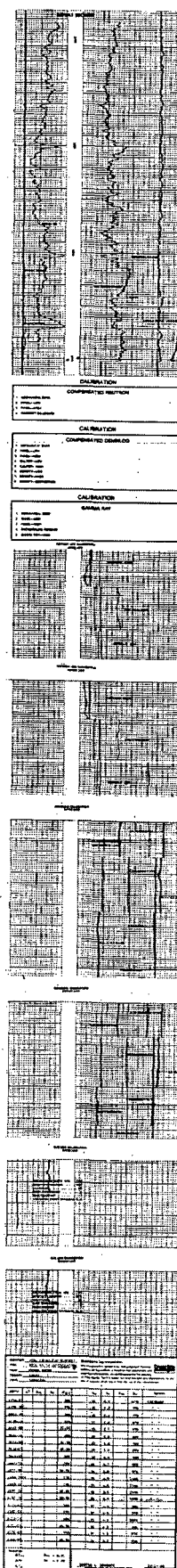
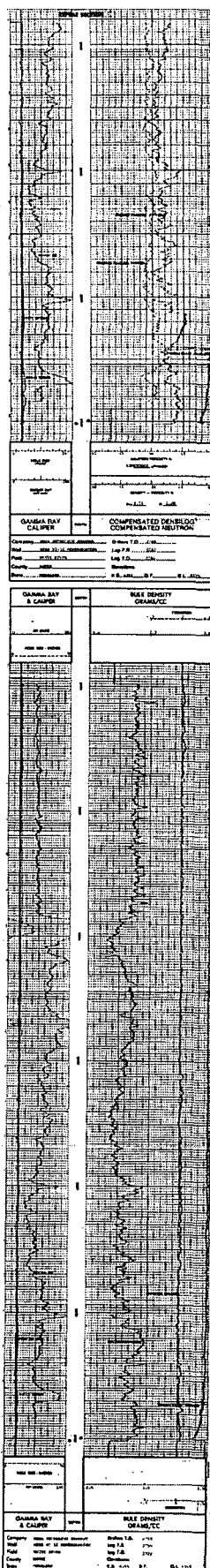
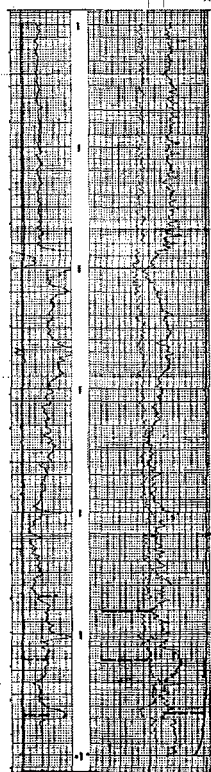
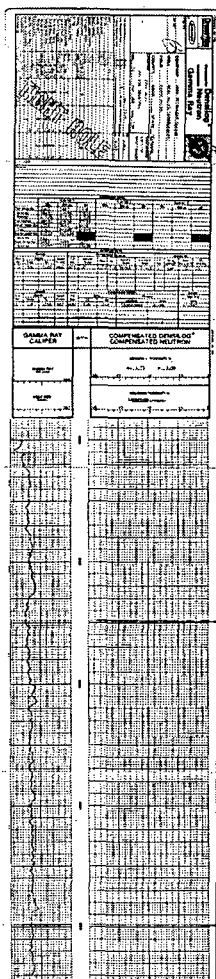
For people like the Schlesingers, Immigration Court will not need far more information to decide if you are "credible."

PETROLEUM INFORMATION
DENVER-JULESBURG BASIN
SPECIAL LOG
COPYRIGHT 1955





LOCATION Twp. 20 N. R. 14 E. S. 24 Sec. 36 Twp. 20 N. R. 14 E. S. 24		SCH. NO. 1798 SCH. TO 1798 OIL TO 1798 G. 1798 G. 1798
COMPANY CAMPBELL-BRINERD WELL HECKMAN NO. 1 FIELD WILDCAT COUNTY DAWES STATE NEBRASKA		SCH. NO. 1798 SCH. TO 1798 OIL TO 1798 G. 1798 G. 1798
DETAIL LOG 1" = 100'		
GAMMA RAY API UNITS	INTERVAL TRANSIT TIME MICROSECONDS PER FOOT	CALIPER HOLE DIAM. IN INCHES
0 100 100 200	0 100 200 300 400 500 100 200 300 400 500	0 10 10 20



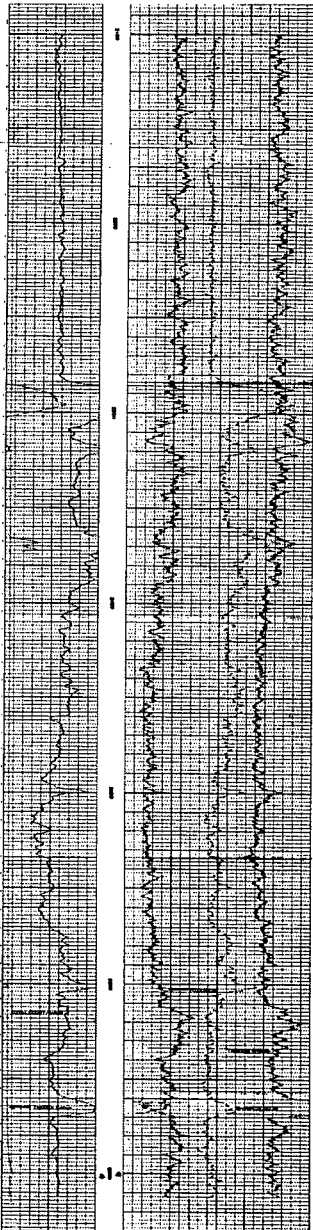
Shearberg

Company: **HESS PETROLEUM COMPANY**
 Well: **AREA 91-10 HOMERHAUSEN**
 Field: **WILLYS RIVER**
 County: **DAVIES**
 State: **KENTUCKY**

Driller I.D.: **2749**
 Log I.D.: **3782**
 Elevation: **435.5**
 E.S. **435.5** D.F. **435.5** O.L. **435.5**

Depth	Gamma	Neutron	Resistivity	Temperature	Pressure	Flow	Other
0	1.15	1.15	1.15	1.15	1.15	1.15	1.15
1	1.15	1.15	1.15	1.15	1.15	1.15	1.15
2	1.15	1.15	1.15	1.15	1.15	1.15	1.15
3	1.15	1.15	1.15	1.15	1.15	1.15	1.15
4	1.15	1.15	1.15	1.15	1.15	1.15	1.15
5	1.15	1.15	1.15	1.15	1.15	1.15	1.15
6	1.15	1.15	1.15	1.15	1.15	1.15	1.15
7	1.15	1.15	1.15	1.15	1.15	1.15	1.15
8	1.15	1.15	1.15	1.15	1.15	1.15	1.15
9	1.15	1.15	1.15	1.15	1.15	1.15	1.15
10	1.15	1.15	1.15	1.15	1.15	1.15	1.15
11	1.15	1.15	1.15	1.15	1.15	1.15	1.15
12	1.15	1.15	1.15	1.15	1.15	1.15	1.15
13	1.15	1.15	1.15	1.15	1.15	1.15	1.15
14	1.15	1.15	1.15	1.15	1.15	1.15	1.15
15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
16	1.15	1.15	1.15	1.15	1.15	1.15	1.15
17	1.15	1.15	1.15	1.15	1.15	1.15	1.15
18	1.15	1.15	1.15	1.15	1.15	1.15	1.15
19	1.15	1.15	1.15	1.15	1.15	1.15	1.15
20	1.15	1.15	1.15	1.15	1.15	1.15	1.15
21	1.15	1.15	1.15	1.15	1.15	1.15	1.15
22	1.15	1.15	1.15	1.15	1.15	1.15	1.15
23	1.15	1.15	1.15	1.15	1.15	1.15	1.15
24	1.15	1.15	1.15	1.15	1.15	1.15	1.15
25	1.15	1.15	1.15	1.15	1.15	1.15	1.15
26	1.15	1.15	1.15	1.15	1.15	1.15	1.15
27	1.15	1.15	1.15	1.15	1.15	1.15	1.15
28	1.15	1.15	1.15	1.15	1.15	1.15	1.15
29	1.15	1.15	1.15	1.15	1.15	1.15	1.15
30	1.15	1.15	1.15	1.15	1.15	1.15	1.15
31	1.15	1.15	1.15	1.15	1.15	1.15	1.15
32	1.15	1.15	1.15	1.15	1.15	1.15	1.15
33	1.15	1.15	1.15	1.15	1.15	1.15	1.15
34	1.15	1.15	1.15	1.15	1.15	1.15	1.15
35	1.15	1.15	1.15	1.15	1.15	1.15	1.15
36	1.15	1.15	1.15	1.15	1.15	1.15	1.15
37	1.15	1.15	1.15	1.15	1.15	1.15	1.15
38	1.15	1.15	1.15	1.15	1.15	1.15	1.15
39	1.15	1.15	1.15	1.15	1.15	1.15	1.15
40	1.15	1.15	1.15	1.15	1.15	1.15	1.15
41	1.15	1.15	1.15	1.15	1.15	1.15	1.15
42	1.15	1.15	1.15	1.15	1.15	1.15	1.15
43	1.15	1.15	1.15	1.15	1.15	1.15	1.15
44	1.15	1.15	1.15	1.15	1.15	1.15	1.15
45	1.15	1.15	1.15	1.15	1.15	1.15	1.15
46	1.15	1.15	1.15	1.15	1.15	1.15	1.15
47	1.15	1.15	1.15	1.15	1.15	1.15	1.15
48	1.15	1.15	1.15	1.15	1.15	1.15	1.15
49	1.15	1.15	1.15	1.15	1.15	1.15	1.15
50	1.15	1.15	1.15	1.15	1.15	1.15	1.15
51	1.15	1.15	1.15	1.15	1.15	1.15	1.15
52	1.15	1.15	1.15	1.15	1.15	1.15	1.15
53	1.15	1.15	1.15	1.15	1.15	1.15	1.15
54	1.15	1.15	1.15	1.15	1.15	1.15	1.15
55	1.15	1.15	1.15	1.15	1.15	1.15	1.15
56	1.15	1.15	1.15	1.15	1.15	1.15	1.15
57	1.15	1.15	1.15	1.15	1.15	1.15	1.15
58	1.15	1.15	1.15	1.15	1.15	1.15	1.15
59	1.15	1.15	1.15	1.15	1.15	1.15	1.15
60	1.15	1.15	1.15	1.15	1.15	1.15	1.15
61	1.15	1.15	1.15	1.15	1.15	1.15	1.15
62	1.15	1.15	1.15	1.15	1.15	1.15	1.15
63	1.15	1.15	1.15	1.15	1.15	1.15	1.15
64	1.15	1.15	1.15	1.15	1.15	1.15	1.15
65	1.15	1.15	1.15	1.15	1.15	1.15	1.15
66	1.15	1.15	1.15	1.15	1.15	1.15	1.15
67	1.15	1.15	1.15	1.15	1.15	1.15	1.15
68	1.15	1.15	1.15	1.15	1.15	1.15	1.15
69	1.15	1.15	1.15	1.15	1.15	1.15	1.15
70	1.15	1.15	1.15	1.15	1.15	1.15	1.15
71	1.15	1.15	1.15	1.15	1.15	1.15	1.15
72	1.15	1.15	1.15	1.15	1.15	1.15	1.15
73	1.15	1.15	1.15	1.15	1.15	1.15	1.15
74	1.15	1.15	1.15	1.15	1.15	1.15	1.15
75	1.15	1.15	1.15	1.15	1.15	1.15	1.15
76	1.15	1.15	1.15	1.15	1.15	1.15	1.15
77	1.15	1.15	1.15	1.15	1.15	1.15	1.15
78	1.15	1.15	1.15	1.15	1.15	1.15	1.15
79	1.15	1.15	1.15	1.15	1.15	1.15	1.15
80	1.15	1.15	1.15	1.15	1.15	1.15	1.15
81	1.15	1.15	1.15	1.15	1.15	1.15	1.15
82	1.15	1.15	1.15	1.15	1.15	1.15	1.15
83	1.15	1.15	1.15	1.15	1.15	1.15	1.15
84	1.15	1.15	1.15	1.15	1.15	1.15	1.15
85	1.15	1.15	1.15	1.15	1.15	1.15	1.15
86	1.15	1.15	1.15	1.15	1.15	1.15	1.15
87	1.15	1.15	1.15	1.15	1.15	1.15	1.15
88	1.15	1.15	1.15	1.15	1.15	1.15	1.15
89	1.15	1.15	1.15	1.15	1.15	1.15	1.15
90	1.15	1.15	1.15	1.15	1.15	1.15	1.15
91	1.15	1.15	1.15	1.15	1.15	1.15	1.15
92	1.15	1.15	1.15	1.15	1.15	1.15	1.15
93	1.15	1.15	1.15	1.15	1.15	1.15	1.15
94	1.15	1.15	1.15	1.15	1.15	1.15	1.15
95	1.15	1.15	1.15	1.15	1.15	1.15	1.15
96	1.15	1.15	1.15	1.15	1.15	1.15	1.15
97	1.15	1.15	1.15	1.15	1.15	1.15	1.15
98	1.15	1.15	1.15	1.15	1.15	1.15	1.15
99	1.15	1.15	1.15	1.15	1.15	1.15	1.15
100	1.15	1.15	1.15	1.15	1.15	1.15	1.15

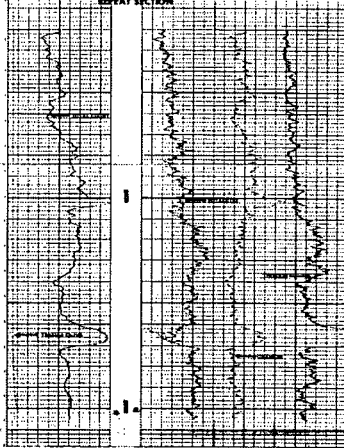
TOTAL COUNTS	DEPTH	COUNTS PER MINUTE
CPM		Thorium 1.15/CS
		Uranium 1.15/CS
		Potassium 1.15/CS



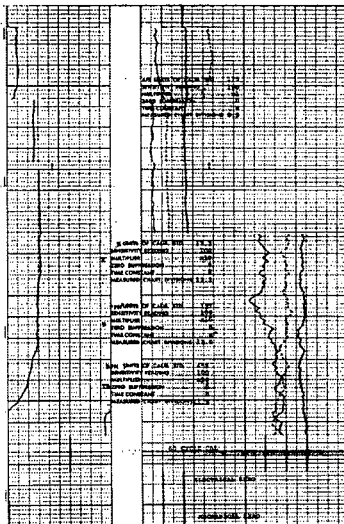
TOTAL COUNTS	DEPTH	COUNTS PER MINUTE
CPM		Thorium 1.15/CS
		Uranium 1.15/CS
		Potassium 1.15/CS

Company: **HESS PETROLEUM COMPANY**
 Well: **AREA 91-10 HOMERHAUSEN**
 Field: **WILLYS RIVER**
 County: **DAVIES**
 State: **KENTUCKY**

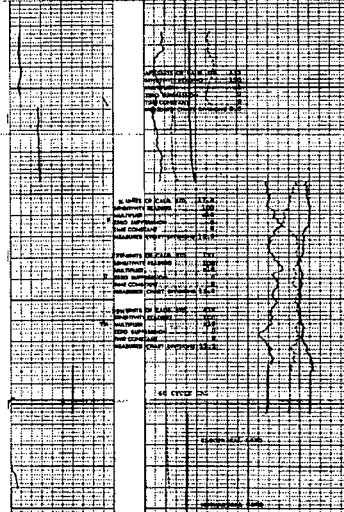
Driller I.D.: **2749**
 Log I.D.: **3782**
 Elevation: **435.5**
 E.S. **435.5** D.F. **435.5** O.L. **435.5**

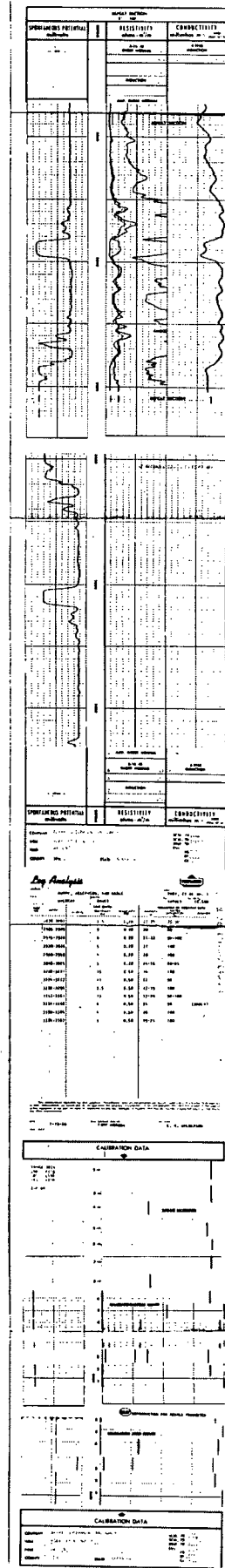
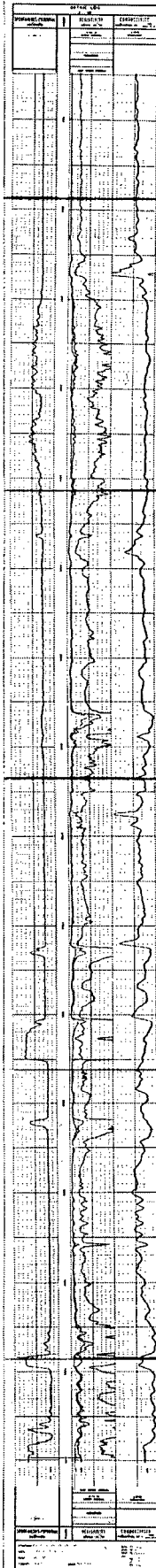
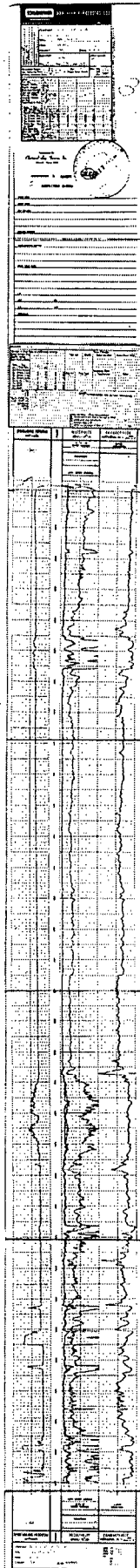


CALIBRATION-BEFORE SURVEY



CALIBRATION-AFTER SURVEY





ROCKY MOUNTAIN WELL LOG SERVICE

ORD. REF. # K 54454

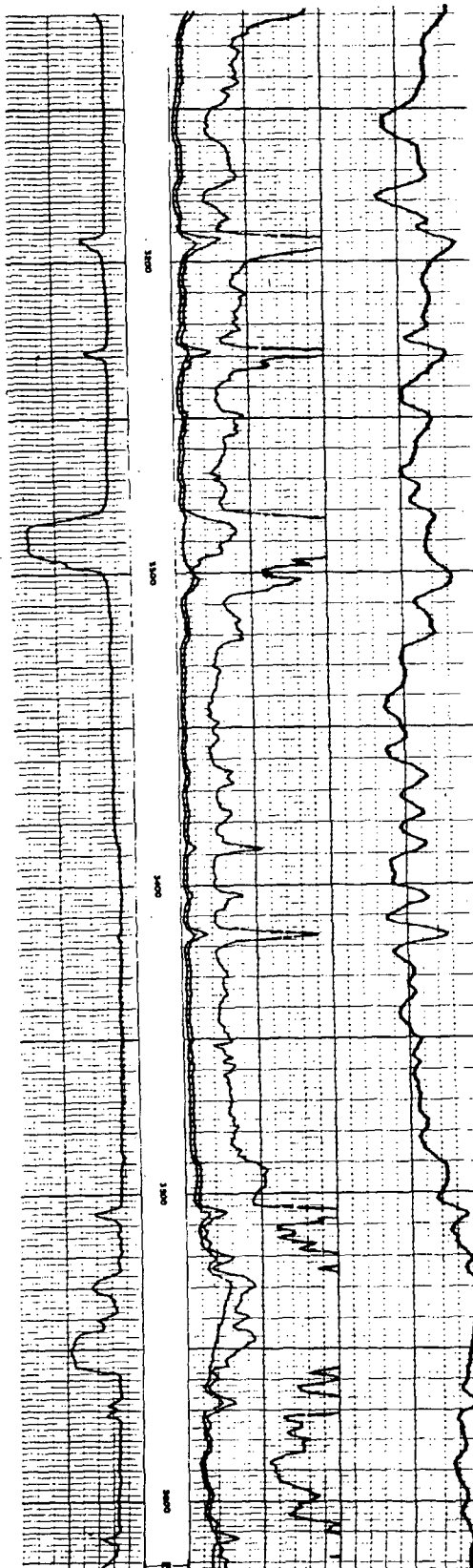


SCHLUMBERGER INDUCT ON ELECTRICAL LTD

RECEIVED
OCT 17 1969
Nebraska Oil & Gas
Cons. Commission

Zone	Effective Population 5,000 ± 2	Within Simulation L = 5	Revised Population	Phase and Core Data Band
833	846	77	wt18	Rev-2.0
852	852	80	wt18	Rev 2.0
854	869	66	wt18	Rev 2.0
860	888	80	wt18	Rev 2.0
862	1100	103	wt18	Rev 2.0
872	1110	100	wt18	Rev 2.0
873	1116	21	wt18	Rev 2.0
874	1119	20	wt18	Rev 2.0
875	1195	95	wt18	Rev 2.0
876	1211	90	wt18	Rev 2.0
877	1212	90	wt18	Rev 2.0
878	1290	20	wt18	Rev 2.0
879	1296	85	wt18	Rev 2.0
880	1304	78	wt18	Rev 2.0
881	1308	19	wt18	Rev 2.0
882	1308	179	wt18	Rev 2.0
883	1312	15	wt18	Rev 2.0
884	1322	17	wt18	Rev 2.0
885	1322	65	wt18	Rev 2.0
886	1322	72	wt18	Rev 2.0
887	1351	75	wt18	Rev 2.0
888	1351	100	wt18	Rev 2.0
889	1370	14	wt18	Rev 2.0

QUANTITATIVE ANALYSES



LOCATION NW NW
500' E. AND 660' N.
Sec. 10 Twp. 30N Rge. 52W

COMPANY G. S. CAMPBELL-BRINKENHOFF
WELL RALPH F. SIKORSKI NO. 1
FIELD WILDCAT
COUNTY DAWSON STATE NEBRASKA

SCH. FR. 3521
SCH. TO 3577
DRIE TO 3575
REV. 4186
DI 4175

GAMMA RAY
API UNITS

INTERVAL TRANSIT TIME
MICROSECONDS PER FOOT

0 160
100 120

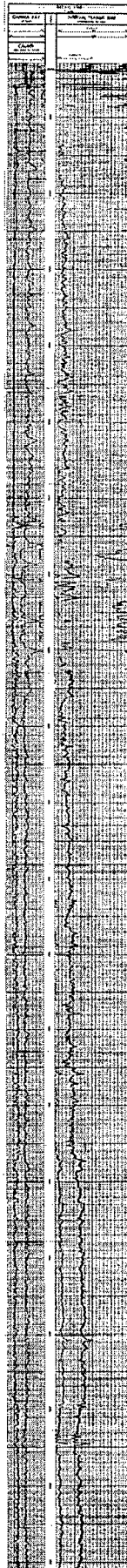
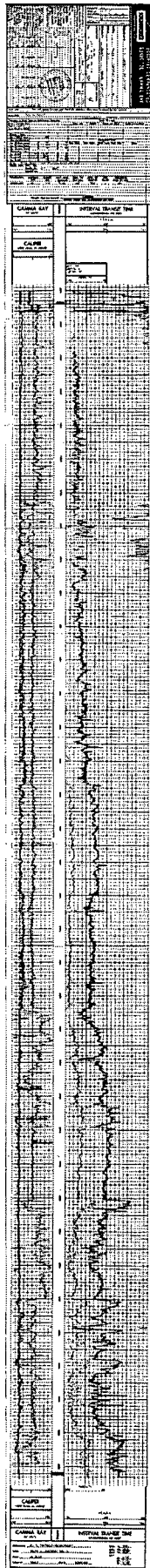
150 72.8, 2.8, 50
100 200 150

CALIPER
HOLE DIAM. IN INCHES

POROSITY

6 16

50% 0%



UICAW 2006-1
3915
S22.27 S01NE S1W 52W
60 E 97m. CPD ADD-2

SP	RES
5	10
10	20
20	30

GAMMA

CPS 6000

MA

CPS 1000

GAMMA

CPS 5000

GAMMA

CPS 1000

GAMMA

CPS 5000

GAMMA

CPS 1000

GAMMA

CPS 5000

GAMMA

CPS 1000

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CPS 5000

GAMMA

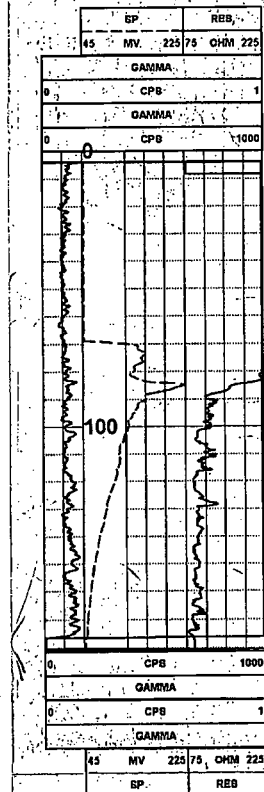
CPS 1000

GAMMA

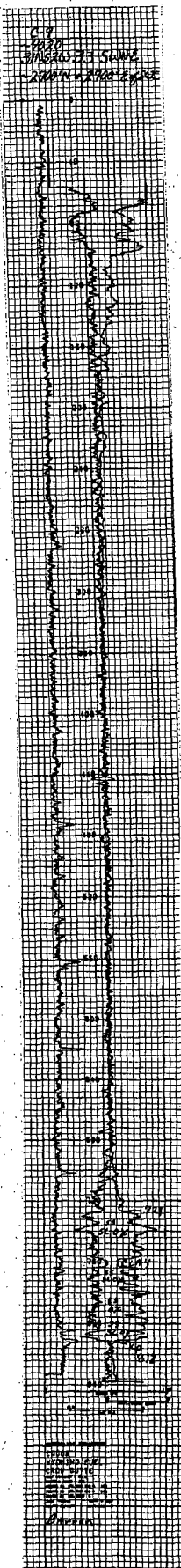
UICAW 2006-1

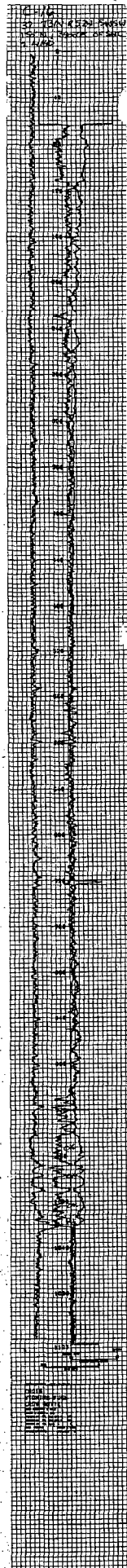
2.1 @
21.2°

bow-2006-2A

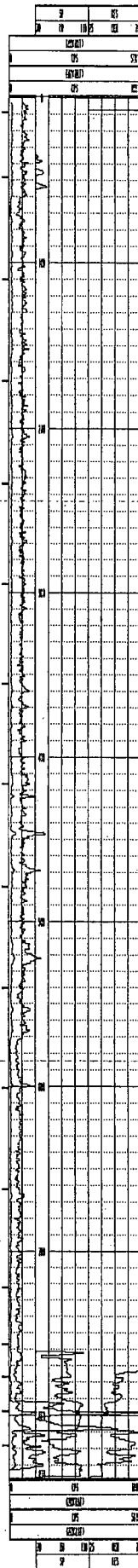


6-18
1960
MAGNETIC TAPE
TAPES - 2000-1-100

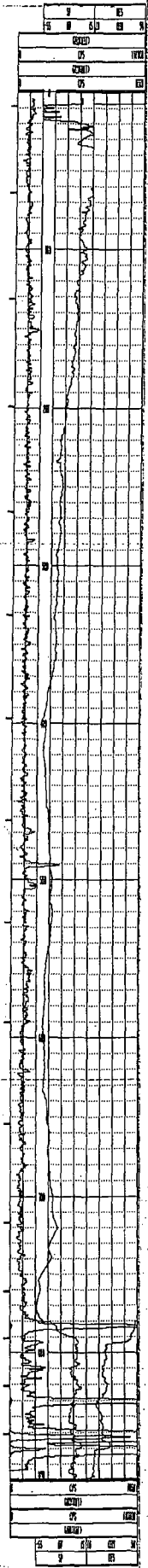




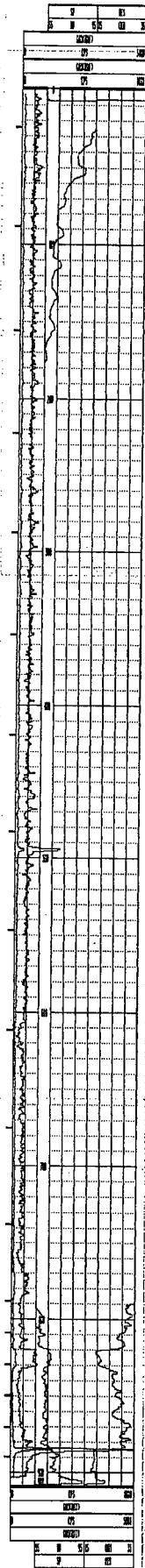
LOW 2006-1



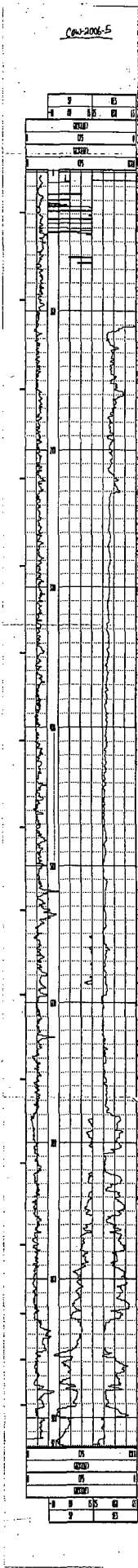
100-2004-2



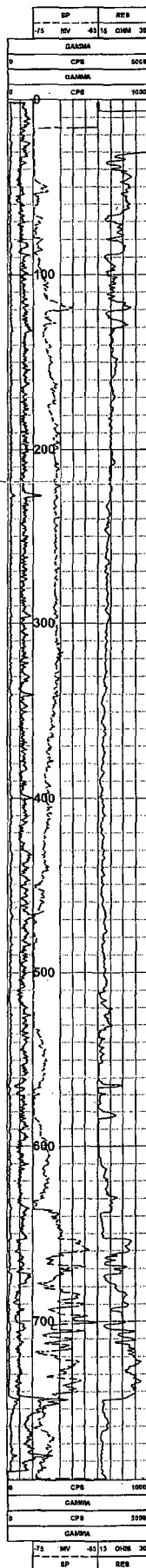
00000004



CW-200-5



CPW-2006-1

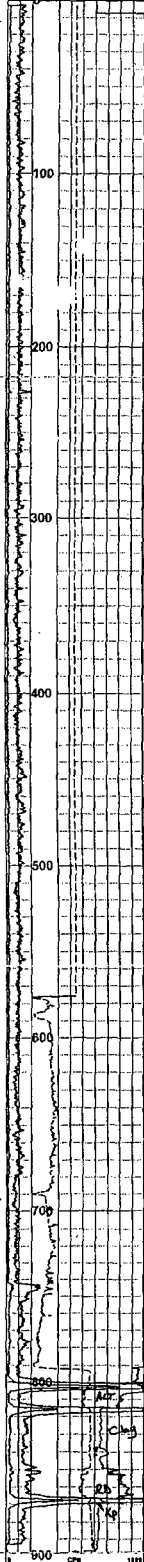


CPW 2006-2
3915
SEA 20 SEA 31M 62W
50 630m CROSSLINK

SP	RES
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50

CANNA	1000
CPS	1000
CANNA	1000
CPS	1000

CANNA	1000
CPS	1000
CANNA	1000
CPS	1000

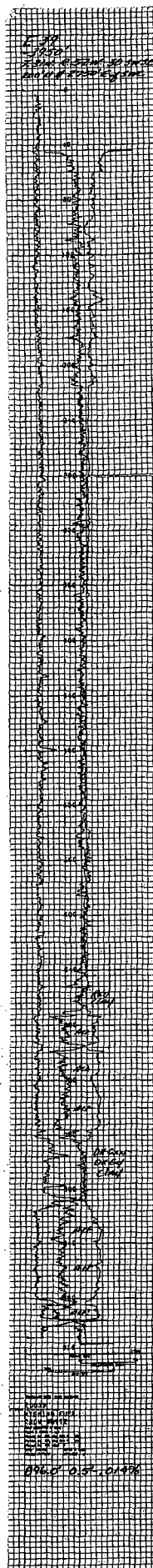


CANNA	1000
CPS	1000
CANNA	1000
CPS	1000

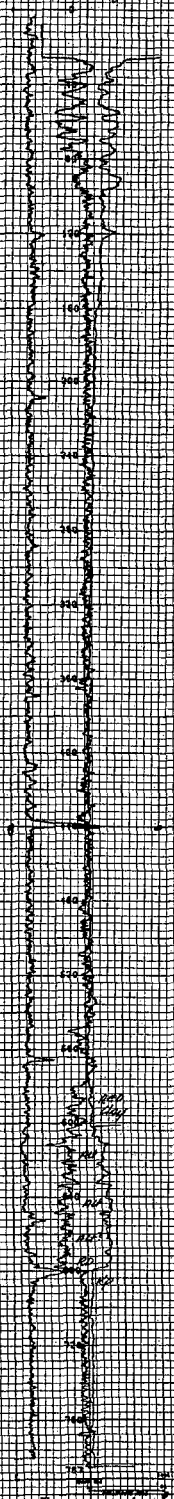
CANNA	1000
CPS	1000
CANNA	1000
CPS	1000

CPW 2006-2
3915
SEA 20 SEA 31M 62W
50 630m CROSSLINK

202.5 2.0 - 0.05
315.5 2.0 - 0.05
467.5 2.0 - 0.05

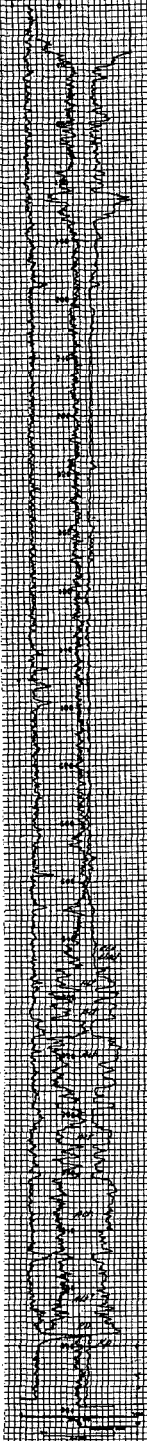


7-48
2500
1000 ft. 1000 ft.
1000 ft. 1000 ft.



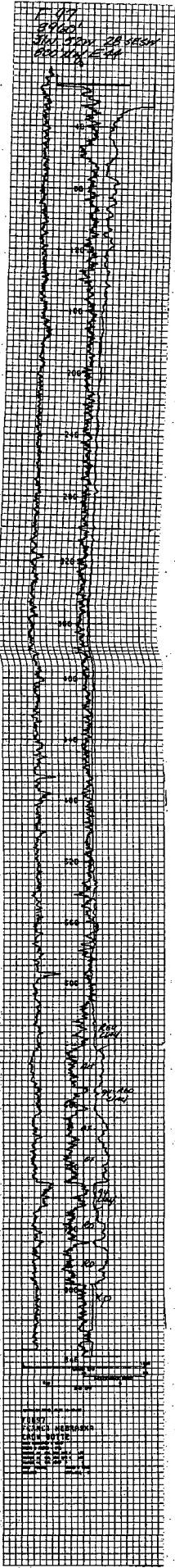
1000
1000 ft.
1000 ft.
1000 ft.
1000 ft.
1000 ft.
1000 ft.

10/10/10
10/10/10
10/10/10



10/10/10
10/10/10
10/10/10

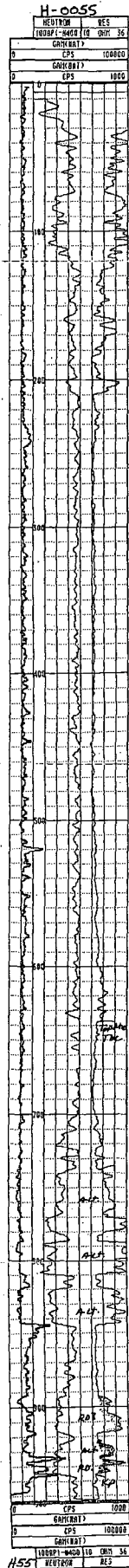
1-11-64
2400
2400
2400
2400



1-11-64
2400
2400
2400
2400

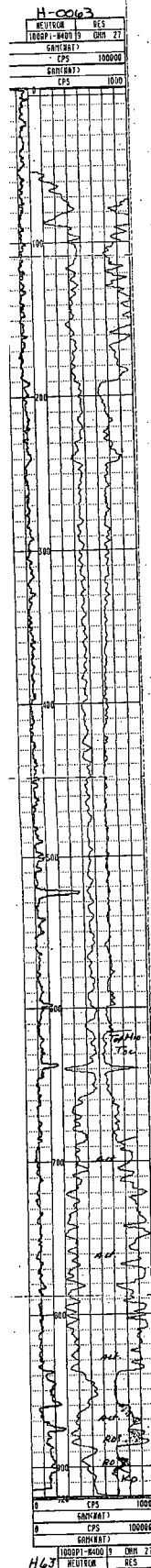
H55
4000'
31N. 52W 29 SWSN
200' E of 879

H
3
1



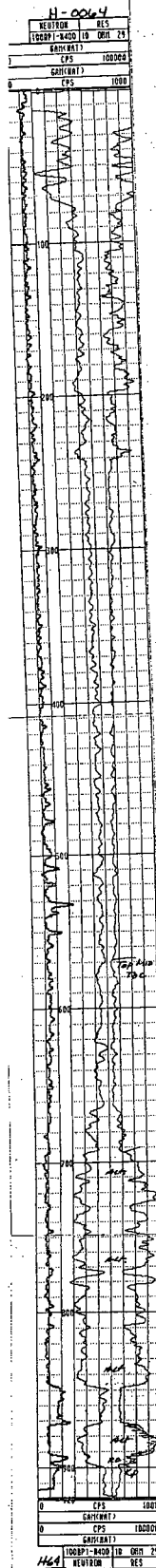
DRIFT 14.5' SN

163 3990'
 100' 52" 32 NENW
 100' 54" 61



DRIFT 5.7' SE

H64
 4000'
 51W. 52W. 32.4MMW
 150'E of H59



DART 4.6' 35E

H71
3990'
314.52W.291N
190'W/H53

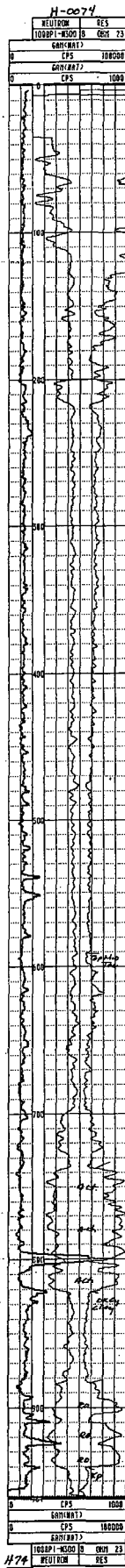
H-0071	RES
REVISION	RES
100001-100010	100001
DATE	100000
TIME	100000
BY	100000
FOR	100000



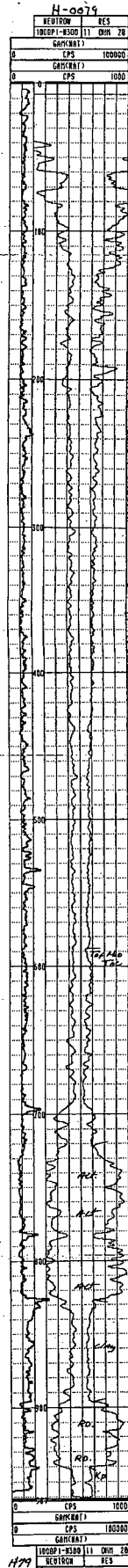
H71	RES
REVISION	RES
100001-100010	100001
DATE	100000
TIME	100000
BY	100000
FOR	100000

935.0' 1.5' 100000
DIP 19.0°

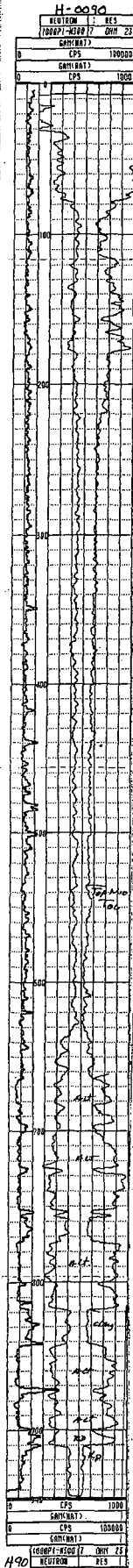
H74
 5990'
 814.52W. 29.14N
 200' of 077



H 79
 3990
 31N. 52W. 29 HNSW
 100'E of H 74

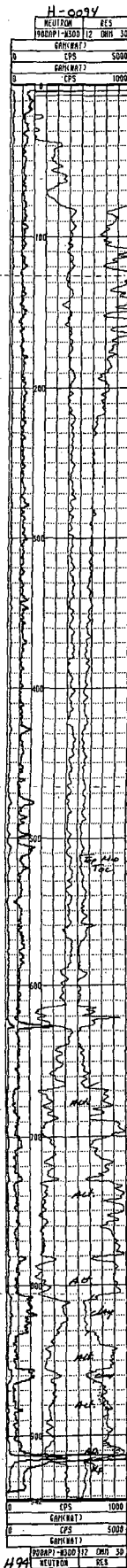


H 90.
 3970
 30N-52W-32 NNNW
 100' W/H H 89

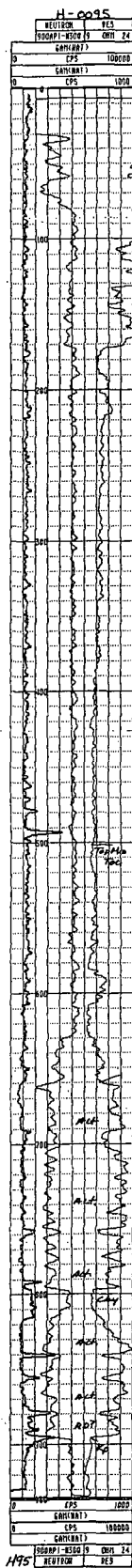


DEIFT 6.5'
 REMAIN 158.5'

H94
 3970
 31W. 52W. 29 3WSW
 100' N 85' N of HOB

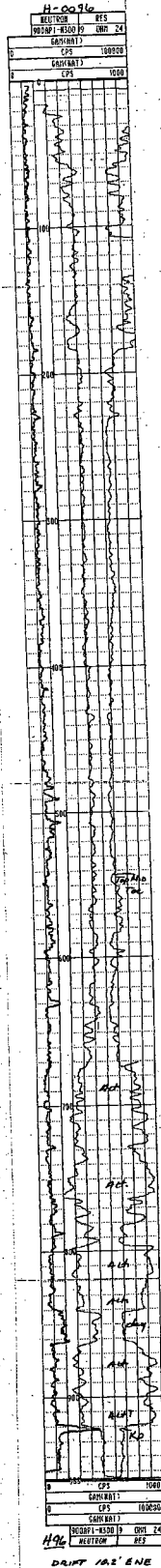


H95
 5960'
 31N. 32W. 31 ABNAG
 100' WY H40

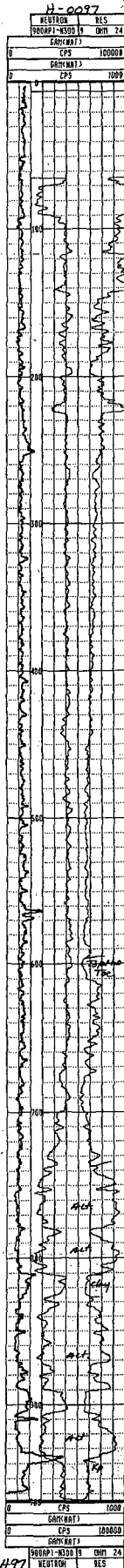


DIET 8.5'S

H 96
 7000
 8' N. 52' W. 32. N.W. 1/4
 400 50' H 90

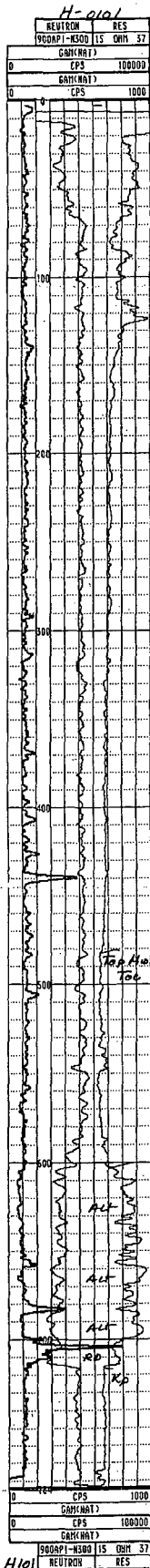


497
 1020'
 31W.52W 325W NW
 600' S of 491



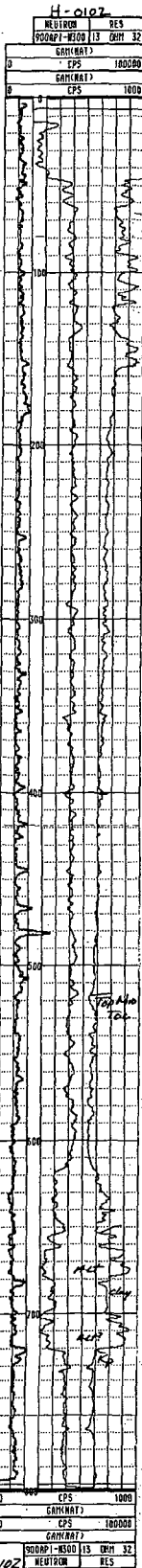
PRINT 24.1 S

H101
 3920'
 31N.52W. 28NESE
 ~2550'W & 5000'E
 of SWC.



H101
 704.0' 2.0'-009%
 DEIFT 7.3' SE

H 102
 8740'
 37N. 52W. 38 N64E
 ~5050' N & 4050' E
 of SWC



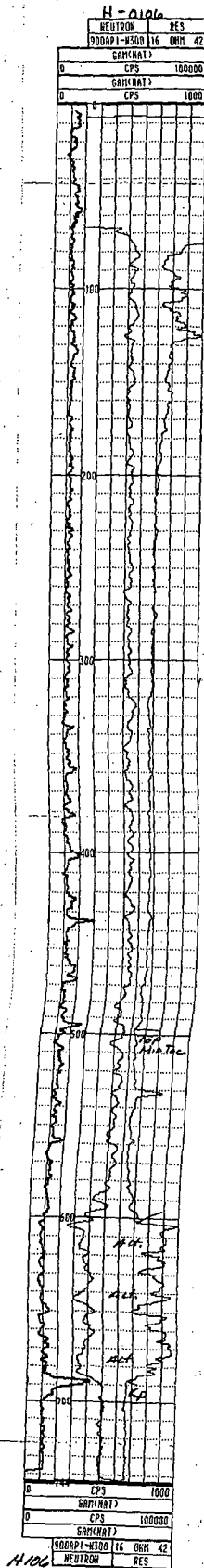
DACT 11.7'S

H105
 3900'
 31N. 52W. 27' NNSW
 325' E of H 01



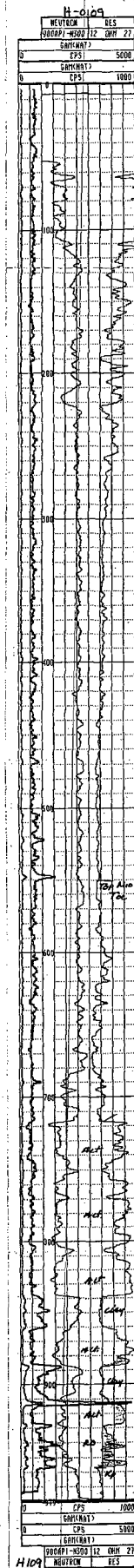
712.0' 3.0-0.010%
 ORIENT 20'S

H 106
3900'
31N. 62W. 28N45E
400' W of H 101



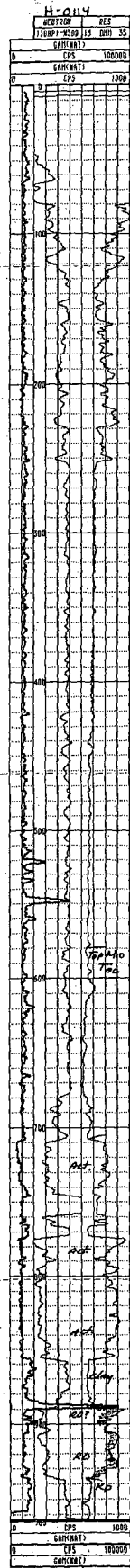
DRIFT 21.5' NW

H109
 4000'
 81N. 52W. 29 6N3W
 200' S of H72



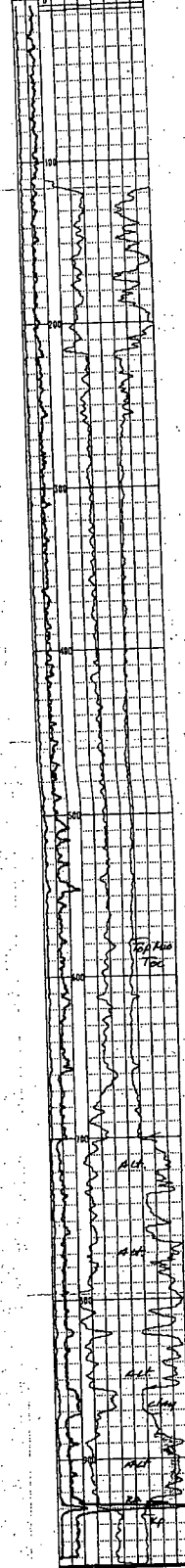
913.5' 2.0'-0.10%
 DRIFT 6.6' ESE

H114
 4010'
 31W. 52N 29SW
 200' E of H67



H132
 4000
 814.52W. 32.2N MIN
 100'S 41' N 60

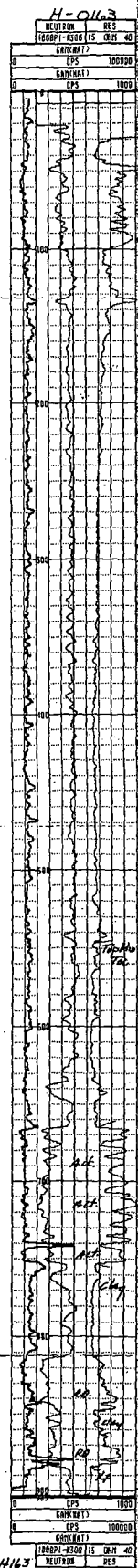
H-0137	RES
WESTON	RES
1000P1-8500 117	DRIFT 45
CANARY	
CPS	5000
CANARY	
CPS	1000



H132	RES
WESTON	RES
1000P1-8500 117	DRIFT 45

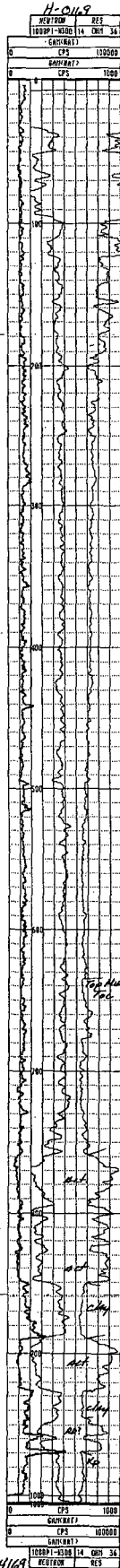
729.5' 3.5' - 0.11%
 DRIFT 2.9 E

H163
 3925'
 31W. 52N. 30 S&NE
 200' E of H161



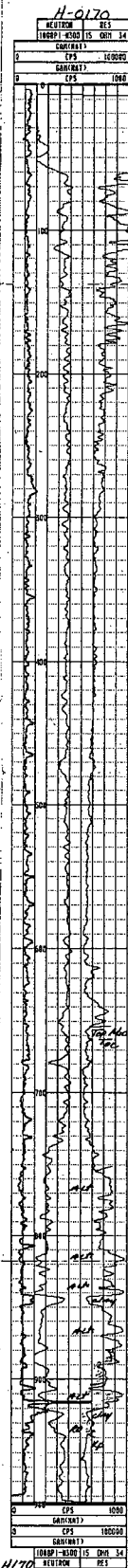
H163
 DRIFT 16.5° SSE

H-169
 4040
 SW. 52N. 32 WSW
 ~2300' N & 2100' E
 of SWC



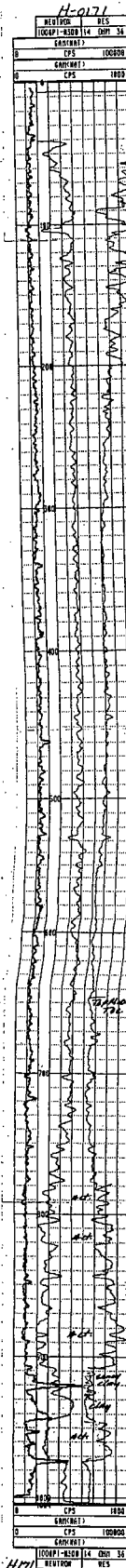
DIET 12.5'S

H170
 4049'
 32°N 72°W 32.1 NWSE
 32°N 72°W 32.1 NWSE



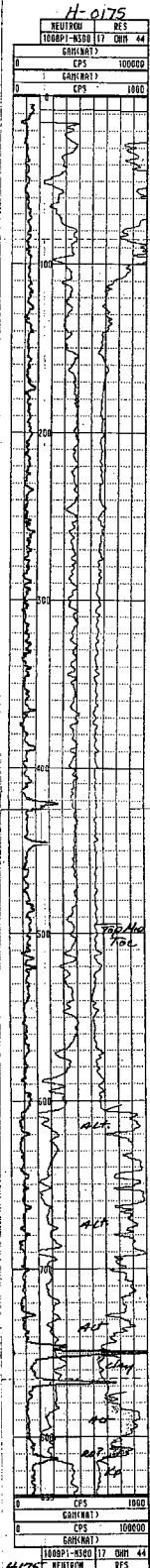
H170
 977.0' 1.0" - 0.10%
 DRIFT 14.2' SE

H-171
 4052'
 241.52N 32.5N4E
 1700' N 128.00 E
 SWC



ORIENT 166 SSE

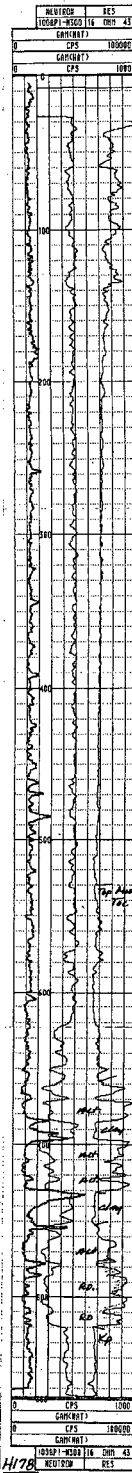
H175
 3870'
 341.53N, 25.56W6
 375'W of F93



H175
 749.5' 2.0' - 0.13%
 767.5' 2.0' - 0.09%
 DRIFT 13.5' E

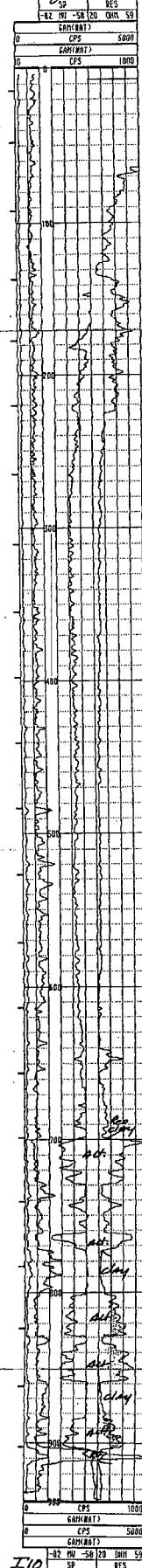
H178
 3950'
 31W.52N 33N/11W/12
 1100' 54' H176

H-0178



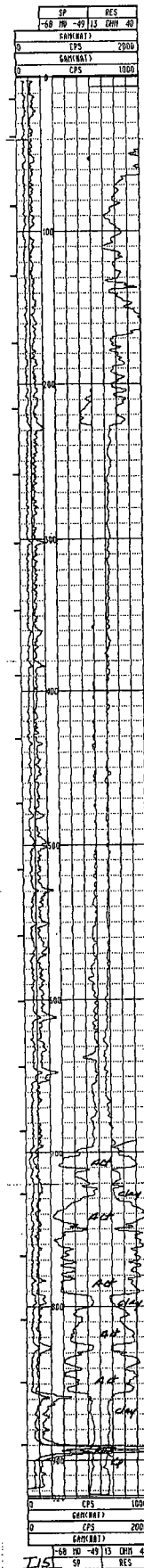
DRIFT 76' 53N

I-10
 7000
 31N, 52W, 72 AENE
 200 25 0103



I-10
 904.5' 7.5' - .008%
 DRIFT 15.4' SE

I-15
 3990
 31N.52N.32N6NE
 200 E. I-15



I-15
 892.0 5.0 - 0.11%
 DRIFT 10'S

I-23
 1000'
 3m. 52m. 325m. N
 600' N 1300' W 1167

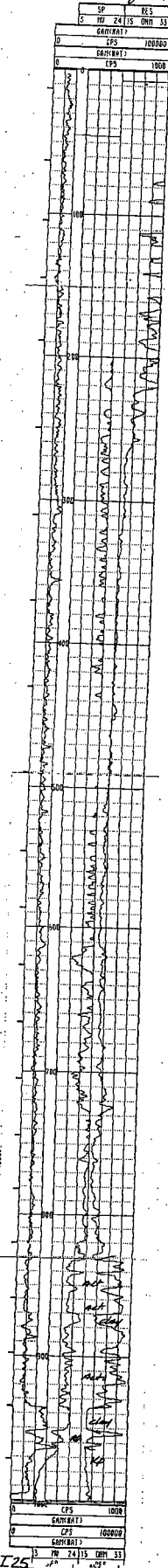
SP	RES
-55 100 -45 16	min 34
CONTINUIT	
CPS	5000
CONTINUIT	
CPS	1000



23
 1000'
 1000' 1.0-0.16%
 720' 1.5-0.08%
 DIST 10.4'S

I-25

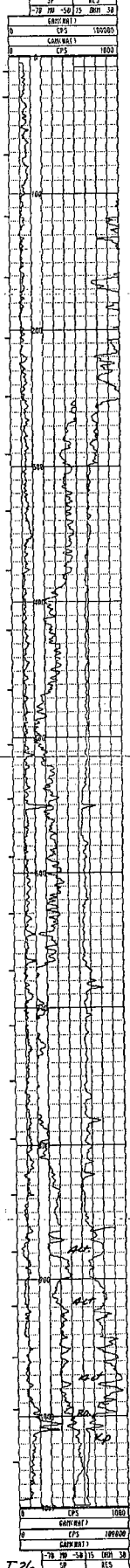
4070
S/N. 52W. 52 SWSE
400'S & 250'E 1/4 1171



I-25

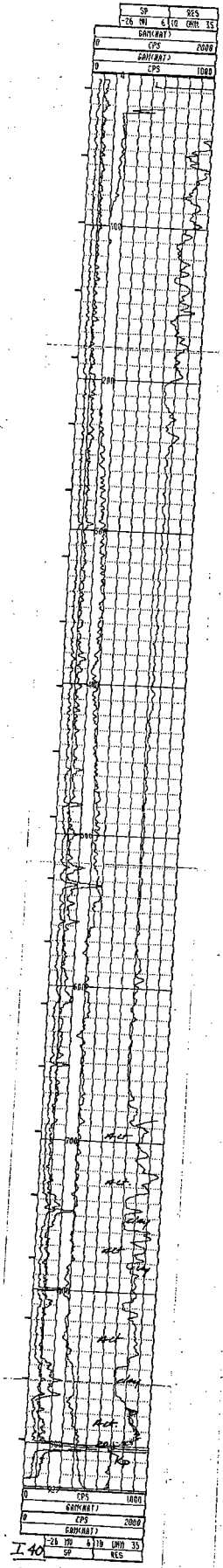
ORINT 4.4' NW

I-26
 4100'
 31N.52W.32.SW56
 200' 5' 100' 80' 12'



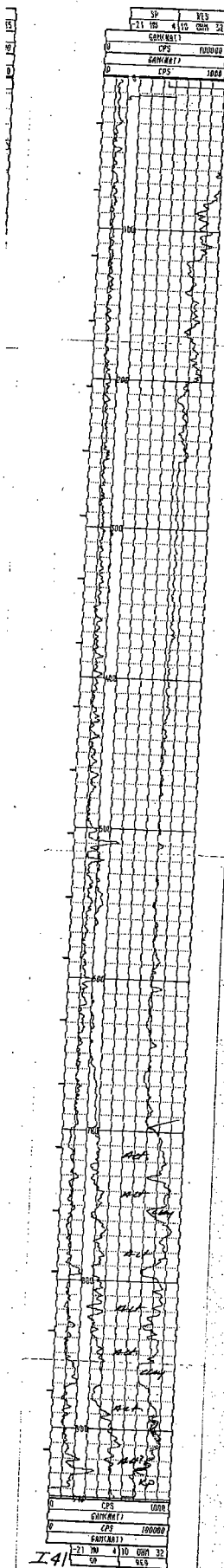
I-26
 DRIFT 17' NNE

I-40
 4000'
 31W.52N.32NENW
 100' W of I-36



I-40
 902.5' 2.0'-.014%
 DRIFT 6.2' W

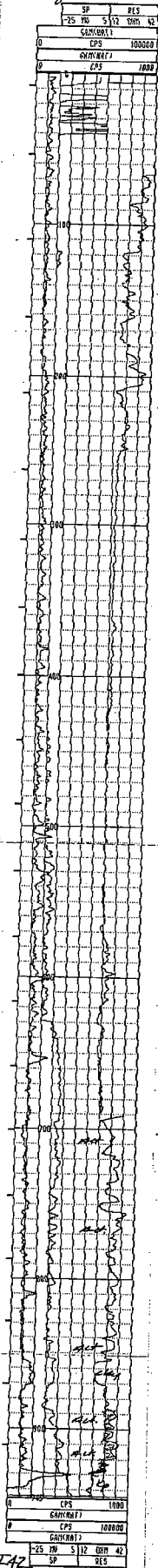
I-41
 4000'
 31N. 52W. 32 NW 1/4
 100' W of H-57



I-41

DRIFT 45' ESE

I-42
 4000
 31N.52W. 52NNNW
 200' W/ I 35



I-42

DRIFT 72' SE

I-45
 3940'
 31N.52W.33NNWNW
 100' E of I 20

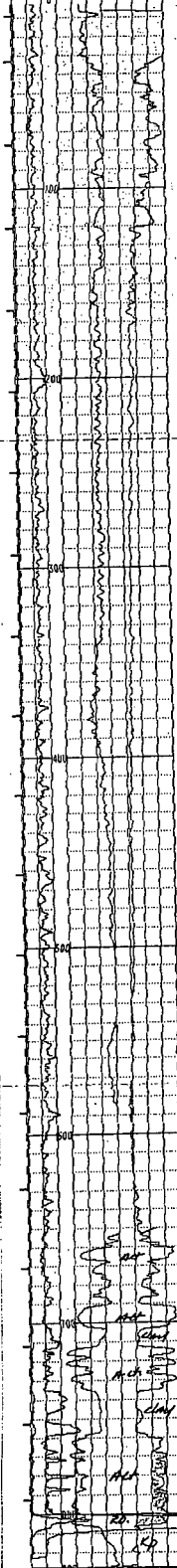


I 45

DRIFT 6.7' WSW

1-47
 3950'
 31W 52W 83NWNW
 200' E of I 43

SP	RES
1-20 100 12 12 00H 41	
GAMMA	
CPS	12000
GAMMA	
CPS	1000

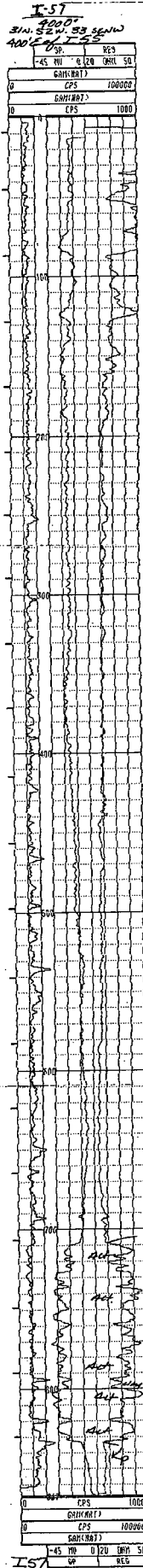


SP	RES
1-20 100 12 12 00H 41	
GAMMA	
CPS	12000
GAMMA	
CPS	1000

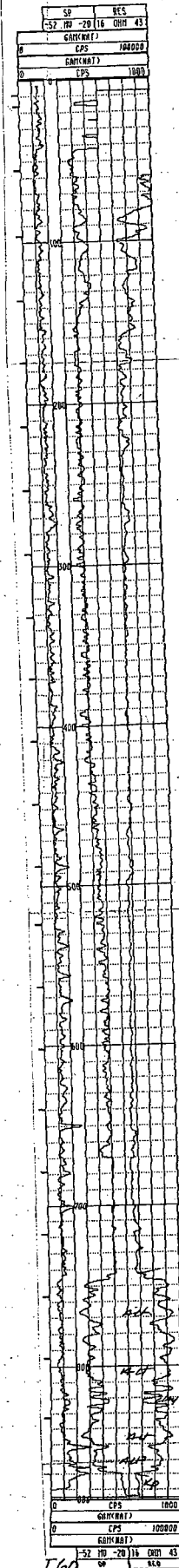
I 47
 802.5' 6.5' - 0.29%

DRIFT 4.3' E

DRIFT 2.9' SE

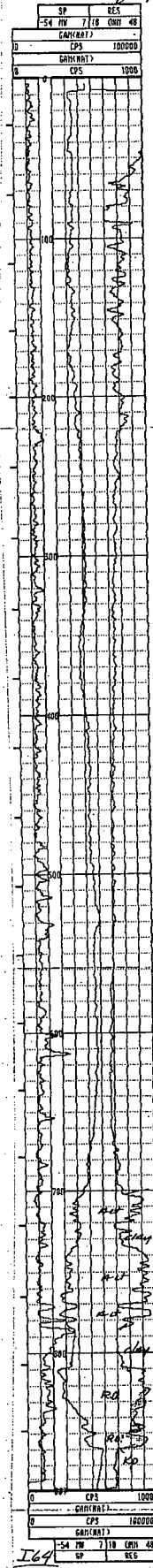


I 60
 4010'
 31N.52W.33 NESW
 400' S of I 54



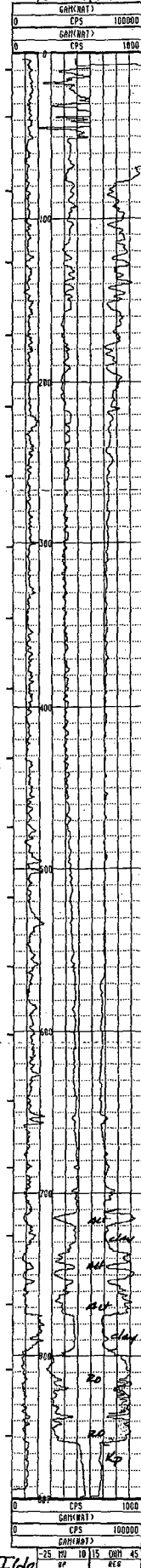
DRIFT 2.6' NNE

I-64
 8980
 31N. 52W. 28 SWSW
 800' N of 200' W of I-64



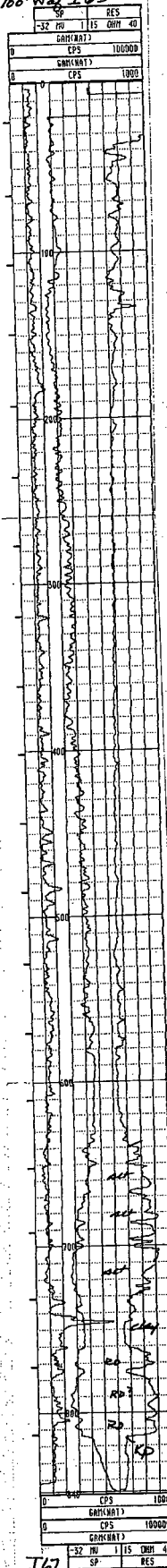
DIAT 9.5' SSW

1-66
 9995
 31N. 52W. 28 SWSW
 200' ~~100'~~ 10 15 45



166
 DIRT 12.1 SSW

I-67
 3995
 JIN 52N 28 3W 5W
 100' W of I-65



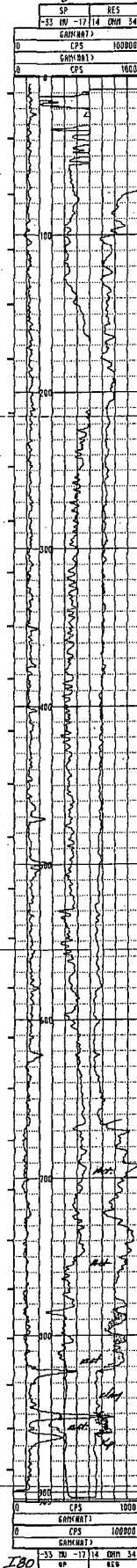
I-67
 DRIET 41 SSE

I-70
 8950
 81N, 52W, 20 SWSW
 100 W, 16.5

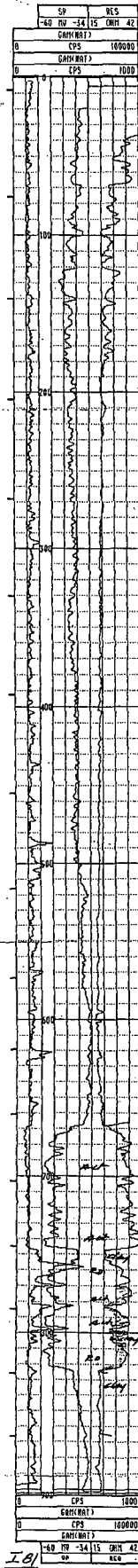


I-70
 2012 17.3' 53E

I-80
 5760
 3/4 52W 29 SESE
 375 W of I 75

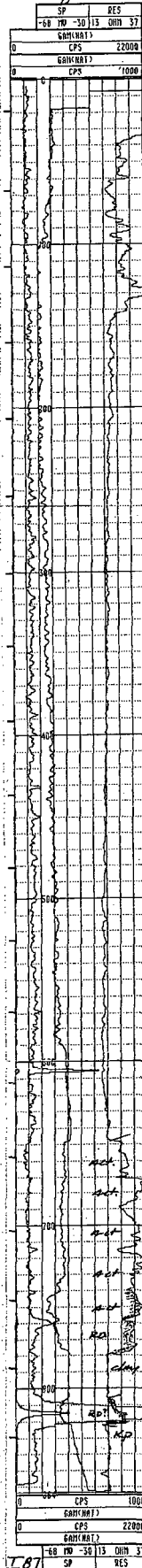


I-81
 3960'
 81W 52W 29.5E
 200' E of I-79



I-81
 DRIFT 18.3' SE

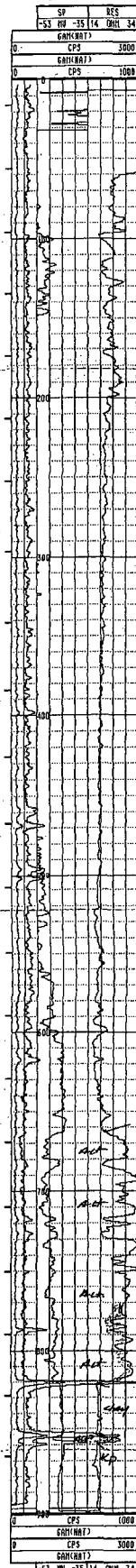
I-87
 3960-3951
 31N 52W 29NESE
 200' E of L77



I-87
 813.0' 5.0'-.056%
 DRIFT 80 SE

DRIFT 4.5' ENE

I 95
 3960'
 IN 52W 29.56SE
 100' W of I 91



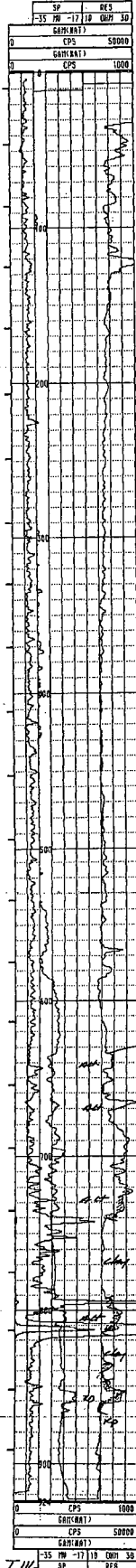
I 95
 820.0' 3.0'-.011%
 854.5' 10'-.011%
 DIRT 4.2' 6SE

I-109
 8940'
 31W 52N 30 SE NE
 300' E of I-106



I-109
 7940' 2.0% -0.00%
 8940' 3.5% -0.51%
 DRIFT 5.4' E

T-116
 3910
 314 52N, 30 00E
 200' E of 4154



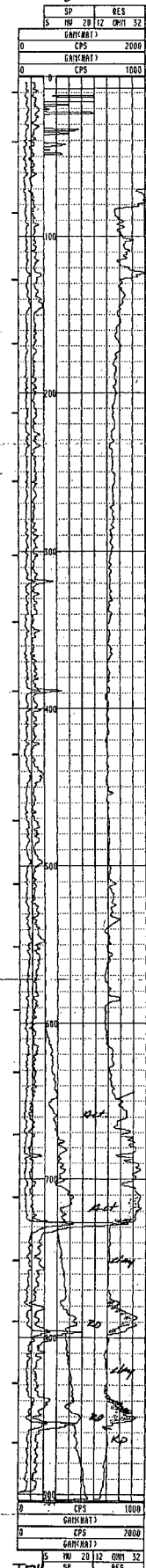
T-116
 794.5' 10' - 0.25%
 811.0' 35' - 3.47%
 DRIET 10.7' N

I-117
 3940
 314 524 30 SWNE
 200' W of I-112



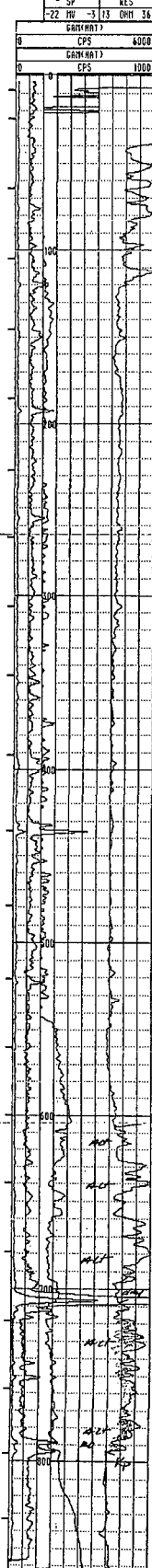
I-117
 753.0' 2.0' - 0.12%
 778.5' 1.5' - 0.11%
 801.5' 1.5' - 0.07%
 815.5' 2.5' - 0.75%
 847.0' 3.5' - 0.33%
 DRIFT 4.4 W

I 124
 8920'
 5' N 52° W 30' SENE
 200' W of I 122



I 124
 728.5' 2.0'-.011%
 DRIAT 12.4' SE

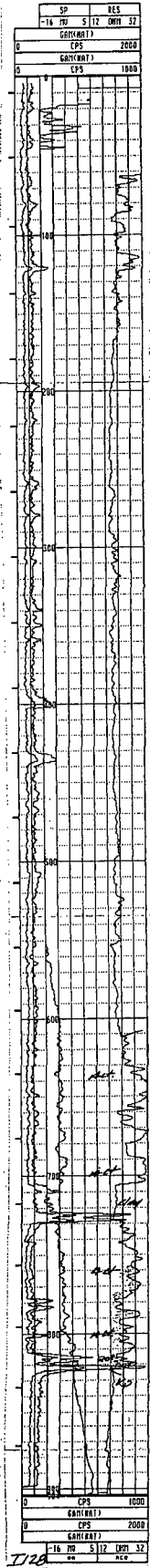
T-127
 31W 52N 30 6W 1W
 800' V. I. 126



T-127
 705.5 40'-0.29%

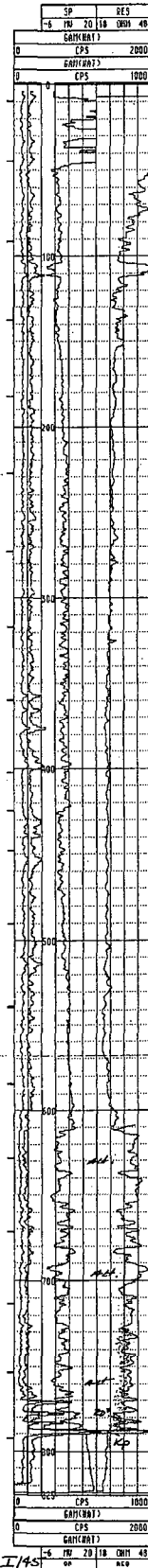
DRIFT 13.7 NNE

I-128
 31° 52' W 30° 5' N NW
 800' W of I-128



I-128
 72.5' 1.0' - 0.15%
 82.5' 3.0' - 0.10%
 DRIFT 18.5'

I-145
 5890'
 31N. 52W. 30 NNNW
 400' N of I 128

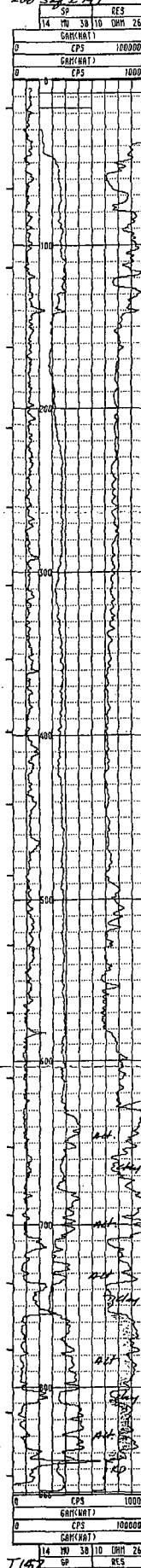


I-146
 3420'
 31° 52' W 50' N
 200' 6" I 133



DRIET 50' NNE

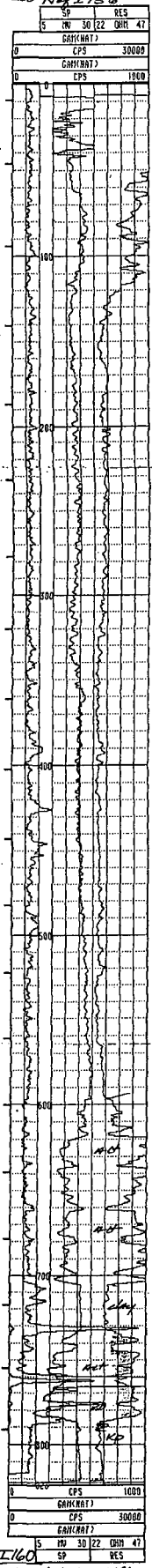
I 152
 3090
 31N 52W 30 SWNW
 200 54 2 147



I 152
 3090
 31N 52W 30 SWNW
 200 54 2 147

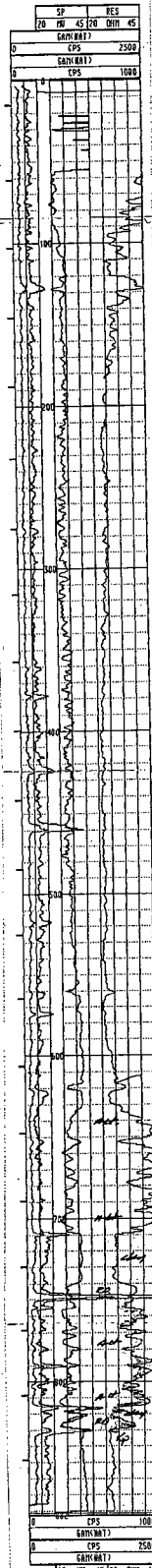
DRIPT 13.5'S

T-160
 3450'
 S1W S2W 80' NNNW
 200' N of T-156



T-160
 732.0' 10' - 0.144%
 762.0' 45' - 1.099%
 776.5' 10' - 0.17%
 DEPT 1' NE

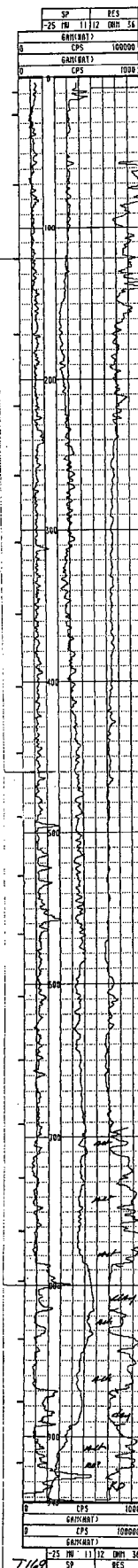
I-165
 314 52W 30 NENW
 200' N-12.6



I-165
 748.5' 2.5'-015%
 DRIET 12.6' NNE

I-169
4000'
31N 52W 32SWNE
1000'S & 100' W of I-169

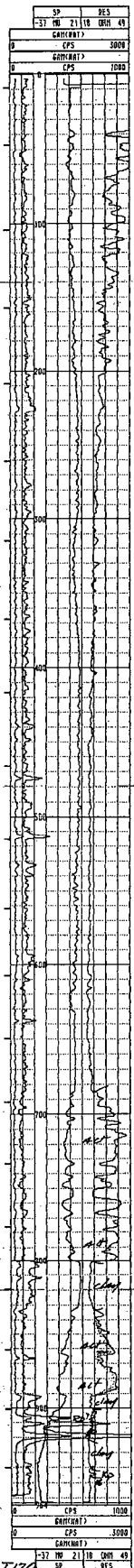
4000'
31N 52W 32SWNE
1000'S & 100'W of I168



I169

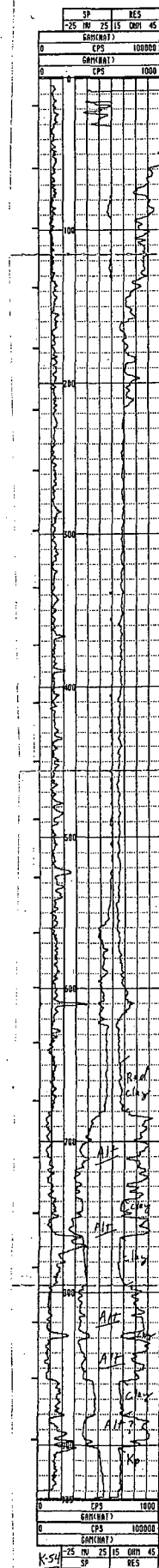
DRAFT 18.9' SE

I-170
 5789
 S/W 52W 32.36N
 1000' E of I-169



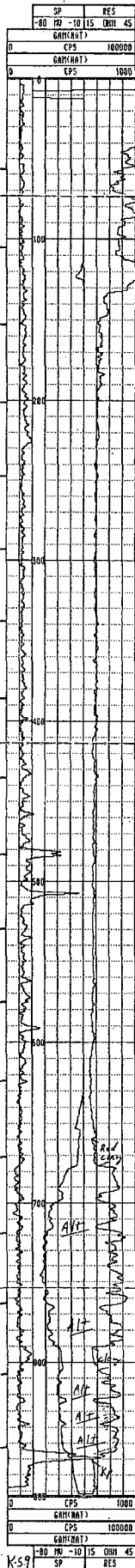
I-170
 911.0 - 2.0' - 0.02%
 918.0 - 4.0' - 0.22%
 DIRT 15.8' SE

K-54
3970
31N 52W 32NWNE
190' W of I 168



Drift 218' SSW

K-59
 3970
 31N 62W 135W NW
 400' E of J13



859.5 1.0-0.01%
 D: f+ 5.6' NW

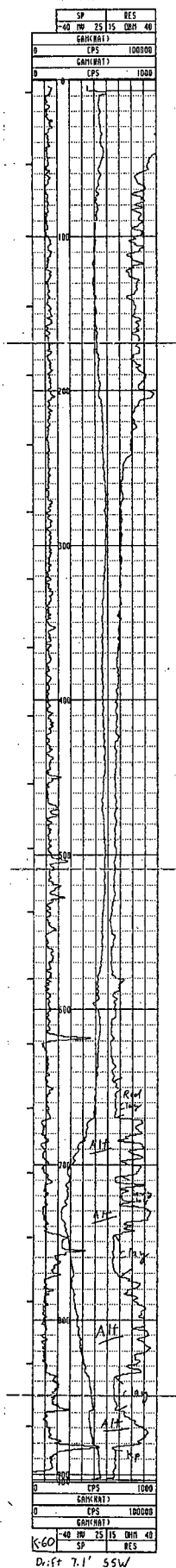


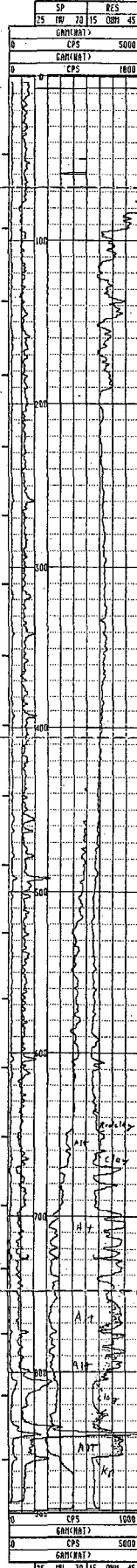
Figure 1 is a detailed stratigraphic column of the K-1 well. The column is divided into three sections. The top section, labeled 'GARDINER', shows depths from 0 to 1000 feet with logs for SP, NW, 10, 15, and RES. The middle section, labeled 'GARDINER', shows depths from 1000 to 1500 feet with logs for CPS and RES. The bottom section, labeled 'GARDINER', shows depths from 1500 to 1800 feet with logs for CPS and RES. The column is annotated with lithological descriptions: 'sh' (shale), 'silt' (siltstone), 'clay' (claystone), 'A.H.' (Anhydrite), and 'A.H. clay' (Anhydrite clay). A scale bar at the bottom indicates depths from 0 to 1800 feet.

881.0 1.0' - 0.011%
D.ift 11.5' SSE

K-62
 3950.
 21N 52W 32 NE NE
 400' E. 6 I 104

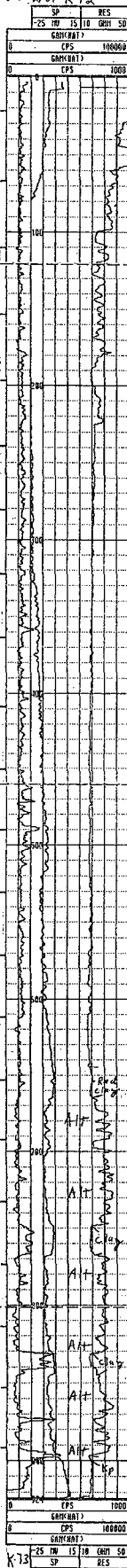


K-68
 3750
 31N 42W 2956 SE
 200 E of K 65



K-68
 837.0 2.0'-0.014%
 Drift 76' SSE

K-73
 3945
 31N 53W 30 SW/SE
 900' W of K-72



D: 10.2' SE

K-74
3965
31N 53W 25 SESE
600 N 50 W 100 E 100 N 100 E



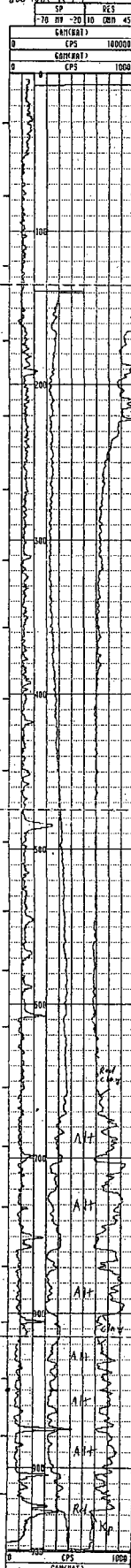
K-74
SP
RES
Drift 15.5'
Az 230.9

3955

K-75

31N 53W 2555SR

600' Nat K74



D. 57 R. 6' SSW

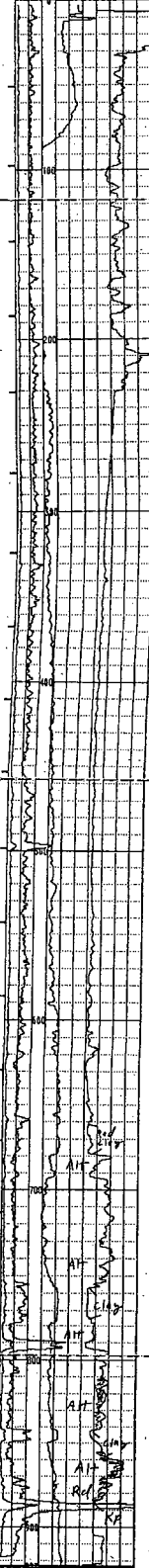
K-77

3970

31N 52W 30 SSE

400' W of K 72

SP	RES
78	10 15 20 25 30
GAIN (dB)	
0	5000
GAIN (dB)	
0	1000



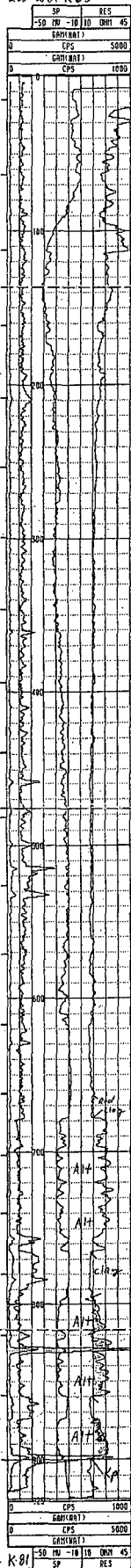
SP	RES
78	10 15 20 25 30
GAIN (dB)	
0	5000
GAIN (dB)	
0	1000

K-77

998.0 2.0 - 0.0172

D: 7.0' SSE

K-81
 3970
 11N 52W 32S NE
 200' JOCK K 63

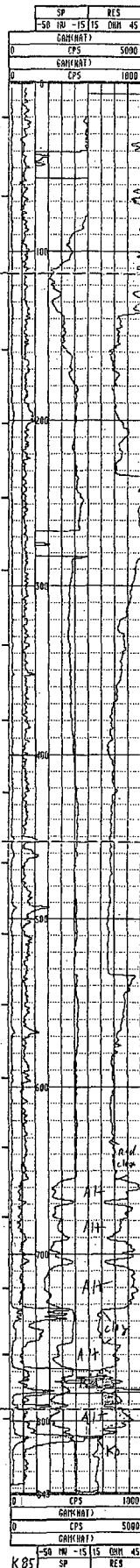


K-81
 Ditch 13.3' SW
 998.5 2.0' - 0.01%

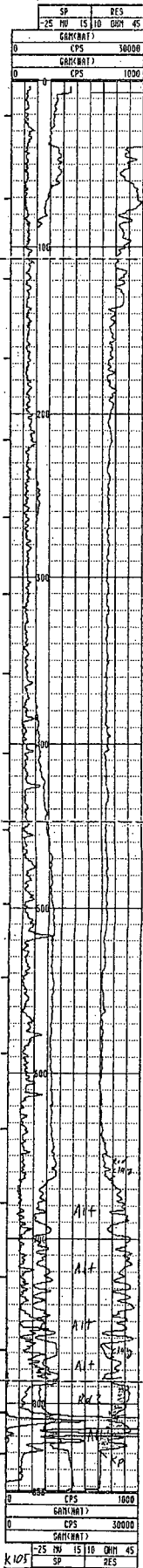
K-83
 3990
 31N 54W 12NW 1/4
 200' E of K-80



K-85
 3970
 T 31N 32W 33 NWNW
 200' W of I 44

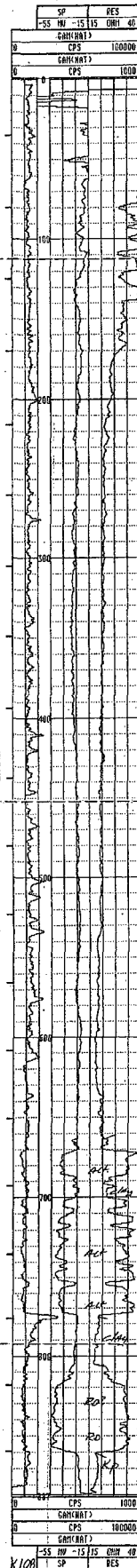


K105
 3960
 31N 52W 33 SWNW
 200' E of I 49



K105
 710.0 3.5 - 0.165%
 819.0 1.0 - 0.028%
 D: 14.3' SE

K108
 7960
 31N 92W 33NE NW
 180' W of K 79



K108
 7960
 31N 92W 33NE NW
 180' W of K 79

Dip: 1.7° ENE

K 111
 7945
 714 52W 28 51WNW
 3720'N + 400'E of
 SWC Sec 28

SP	RES
-5	HW 25 TO CHN 40

CHART	CPS
0	100000

CHART	CPS
0	1000

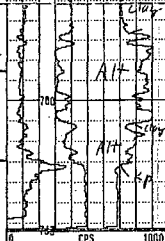
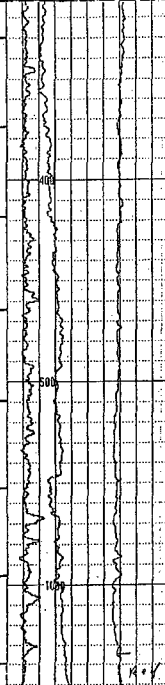
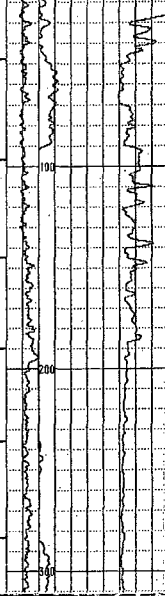


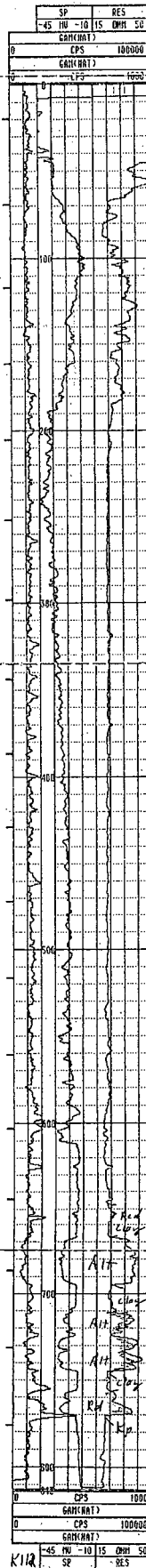
CHART	CPS
0	100000

CHART	CPS
0	1000

SP	RES
-5	HW 25 TO CHN 40

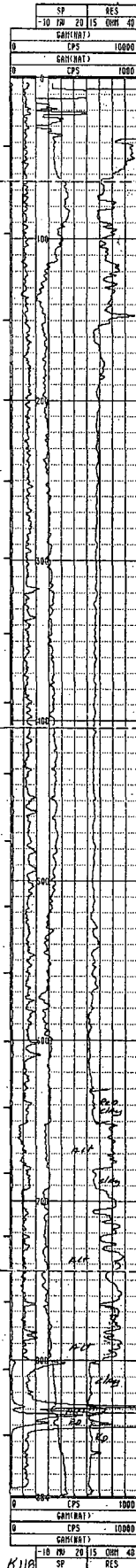
K 111
 Drift 6.1' W

K112
 3960
 71N 92W 29 NESE
 200' W of I 97



DIST 9.6' ENE

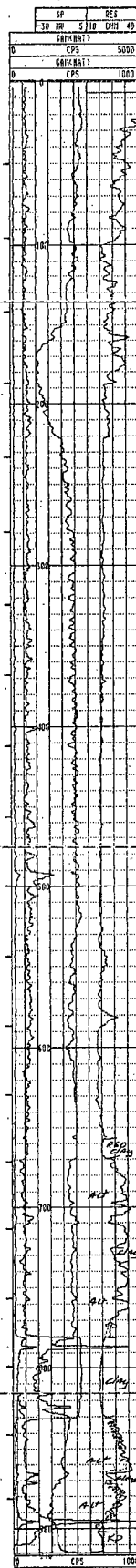
K118
3950'
31N 51W 29.5WSE
200' N of K71



K118
829.0' 1.0' - 0.18%
834.0' 8.0' - 0.37%

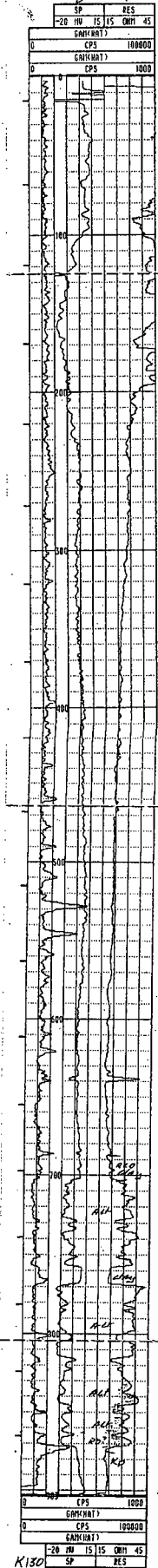
DRIFT 11.5'S

SP	RES
-30 171 5	10 0111 40

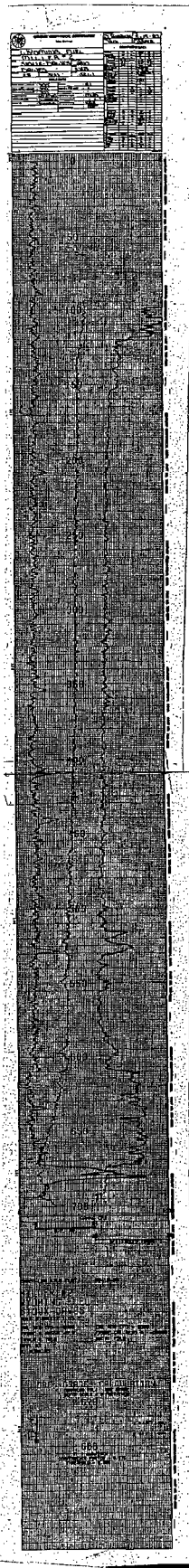


DRIFF 84.5W

K 130
 590
 3/15/74 33 SENW
 200' 5" K104

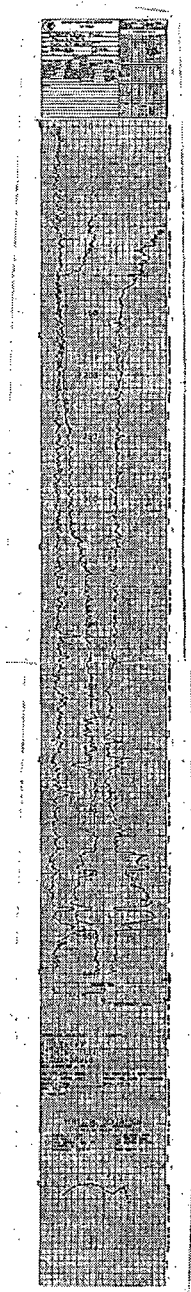


K130
 DRIET 12' SE

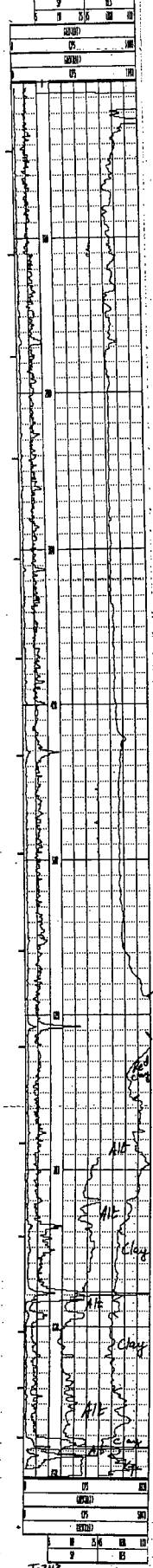


UNITED STATES	
NAVY	
OFFICIAL RECORD	
NO. 1	
DATE	
TIME	
PLACE	
REMARKS	
SIGNATURE	
OFFICIAL	

[The following text is extremely faint and largely illegible due to the quality of the scan. It appears to be a long, narrow strip of paper containing a series of lines, possibly a ledger or a list of entries. The text is oriented vertically on the page.]

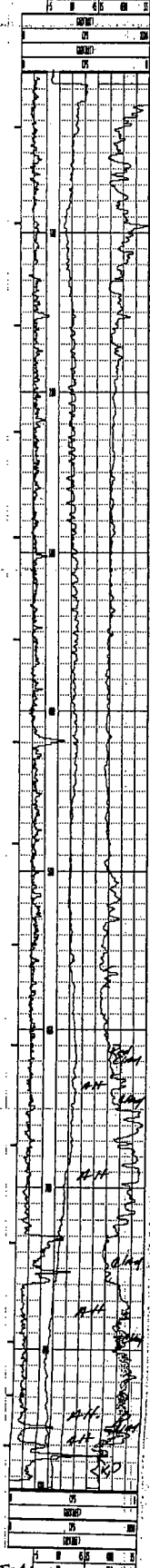


T-043
 3720
 3036000 314 5210
 2700' N + 100' E from Sky



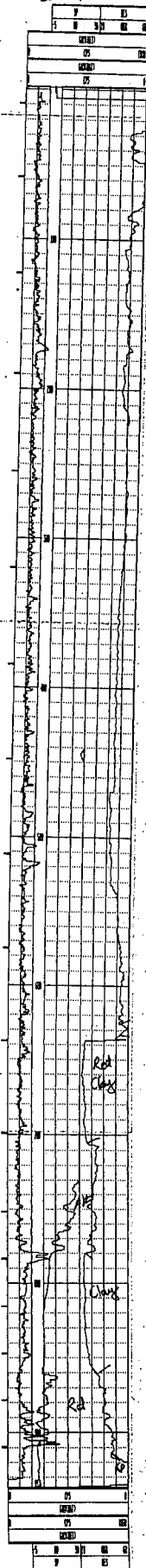
T-243
 0.1 ft 14.9
 A2 207.8
 77.5 1.0 - .019
 87.5 1.0 - .019

T-244
 3910
 20 2015 (Punk)
 600'E / 100' S 242



T-244
 907.0' 1.0' - 0.12
 4.15' 24
 42 32.6

T-249
 3965
 30N50E 31N 52W
 200' N from T-248

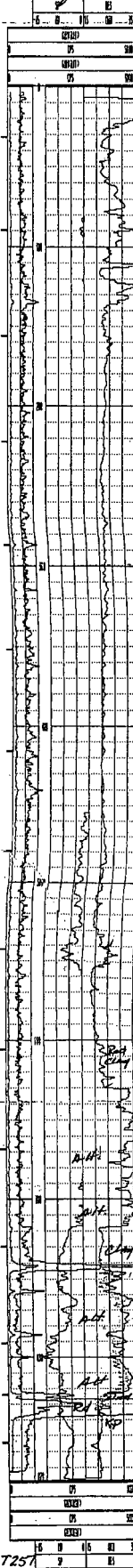


T-249
 Dip 5.0'
 Az 182.8°
 Barren

7254
 Drift 3.9'
 Az 39.7°
 725.0 2.5' - .025
 787.0 3.0' - .019

T-057

3900
Sec. 30 31N 52W
Add'l E from T-245



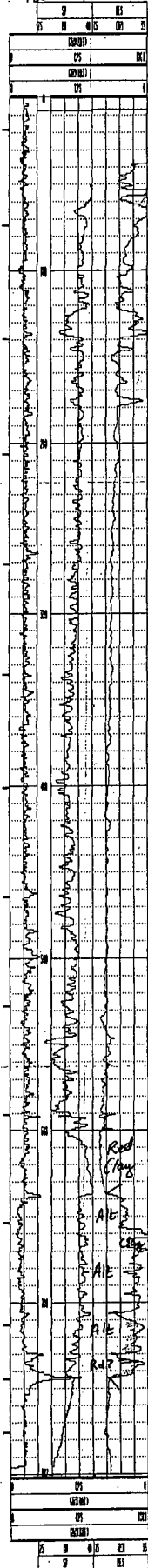
T-251
742.5 30'-03
828.5 100'-023
d-151 135.3
H-L 135.3

T-258
 3900
 3055N 81N52W
 400 N from T257



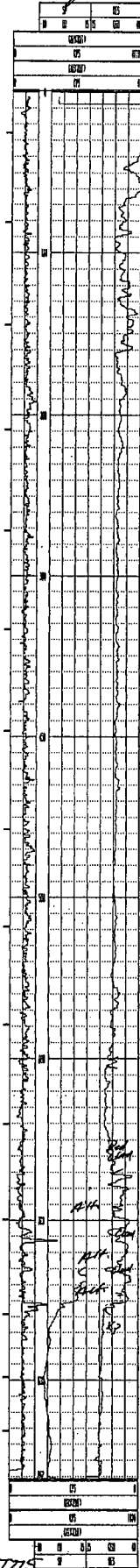
T258
 0.15 17.1
 AZ 45.4
 726.0 2.0 - 0.13
 827.5 2.5 - 0.26

T-274
 3460
 2956 NE 310526
 1800' N from T273



T-274
 Δ 13.6'
 AZ 349.1'

T-275
 3905
 2952W 2950W
 1200 W from T273

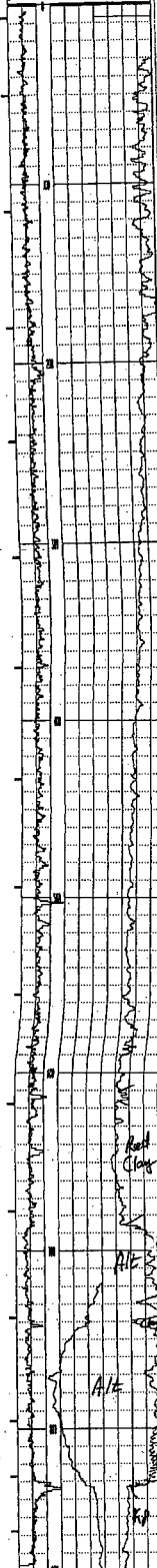


T275

dist 144
 157.5

T-278
 274635E 31N 52W
 200' N from T-273

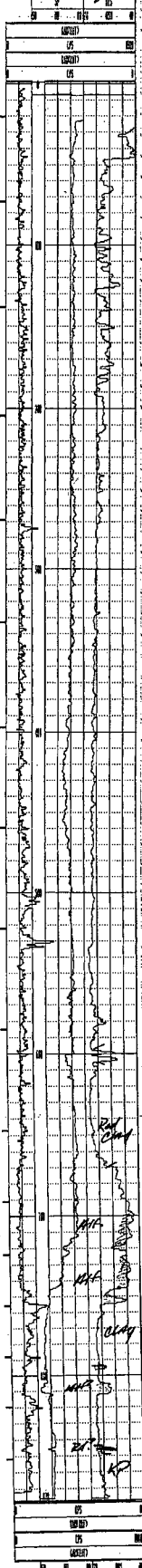
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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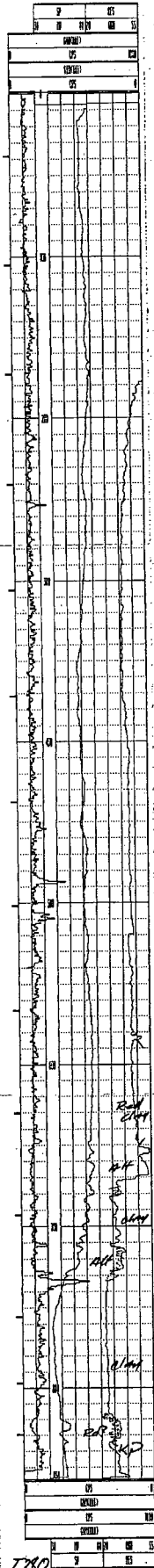
T-278
 Drift 18.0'
 AZ 168.3°

F-279
 5950
 SIN 62 11 29 N W W W W
 1300' 16 520' 16 500'



1277
 LINE 14.7
 12 2524

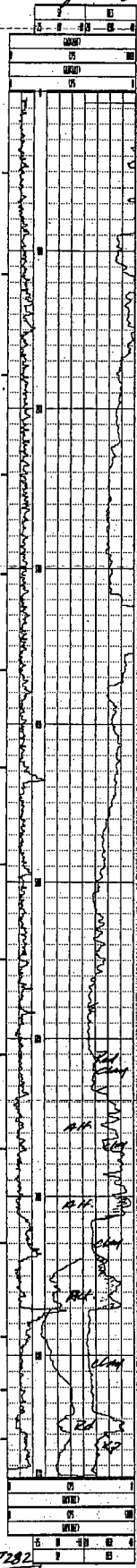
I-250,
3900,
31N 52W 29NNNN
600' E from T27



T260

dip 10.3'
172 307.4

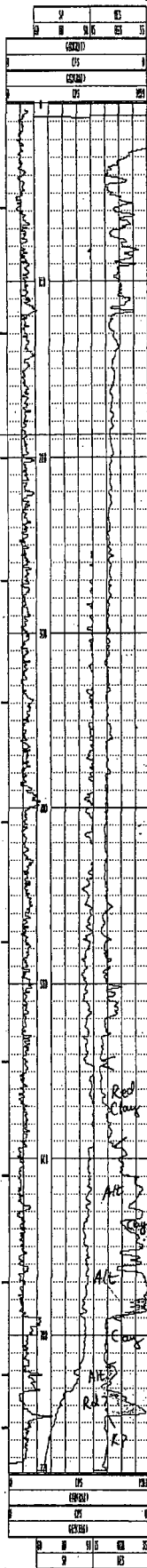
T-282
3920
21 N 52 W 20 km
600' E from T-281



7282

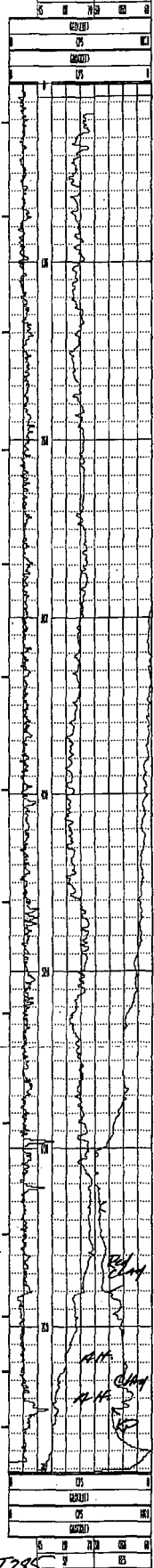
6.15 10.4
14.2 25.4

T-284
 3880
 29 NW 31 NS 26
 600' E + 75' S from
 T283



T284
 Drift 11.4'
 Az 302.2°

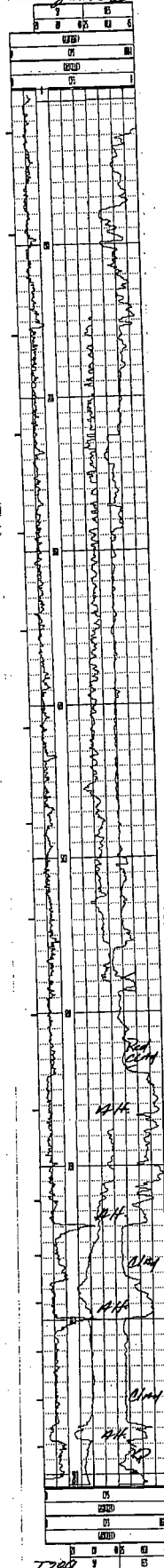
T-285
3860
34W52N, 2830000
1700 6.400 722.3



T285

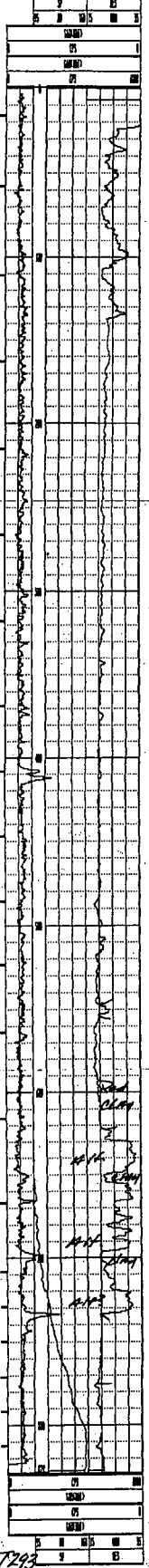
DIET 15.7
WZ 272.3

1-289
3920
 3IN SWN 29 SWNE
 1200'S from T283.



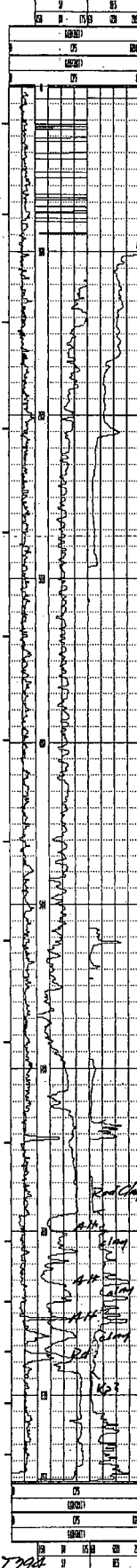
drms 164
H2 274.6

T-213
 3910
 29 2000 3.11 52W
 220 5 8 600 1/4 1/2 3/4



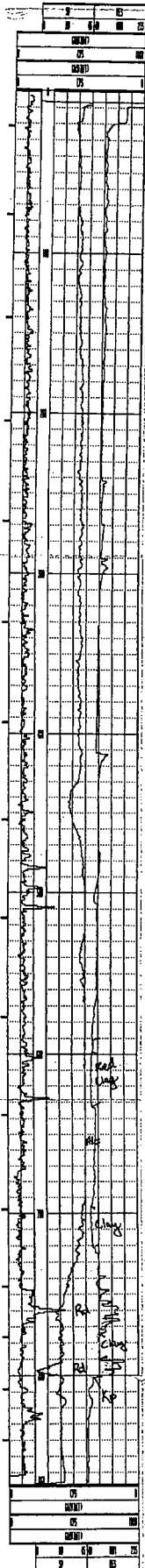
T293
 4.15 7.5
 176 101.7

T-294
 3975
 29N65E 3W52N
 100' from T288



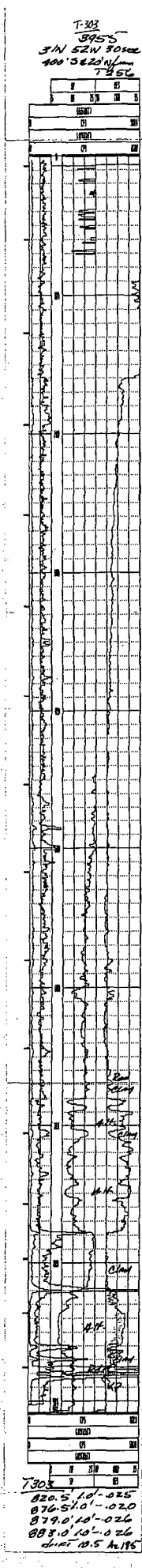
T294
 1540' 10'-01
 dip 30'
 H2 88.3

T-297
 3770
 27 N 52 E 31 M 52 W
 100 S from T-273

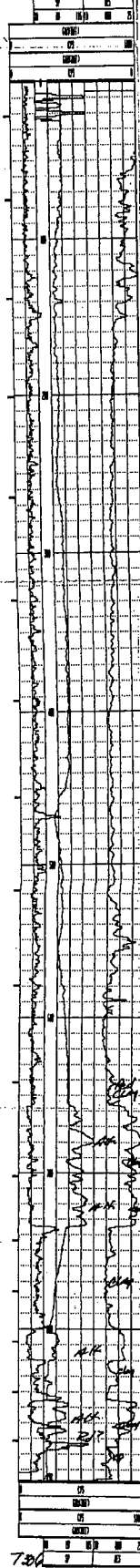


T-297
 DUE 24.5'
 Az 155.2°

T-299
Drift 7.9
Az 153.2°
Barren

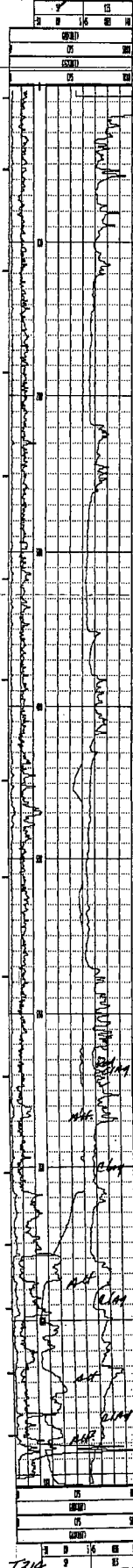


T-301
 5440
 SW 6th Avenue
 100' N / 100' E



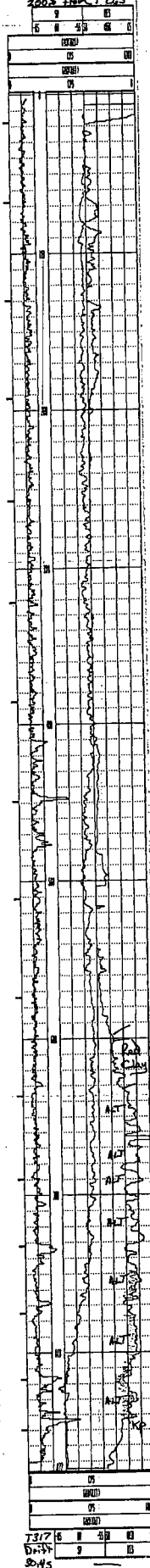
Limit 10'
 12 373

T-314
 30 120
 3 IN 5 IN 30 WUSE
 800' W / 100' T 314

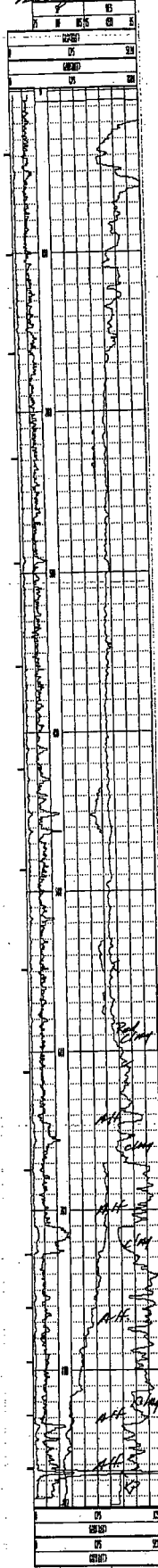


T-314
 8830' 104.044
 8855.5 15.013
 21117 25.4
 HZ 1313

T-317
 SEP 30 2002 11:00 AM
 2002 Data T-243

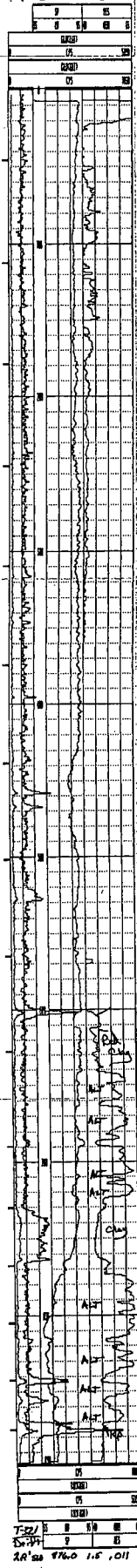


T320
3420
31452130 NE 90
120054m 7763



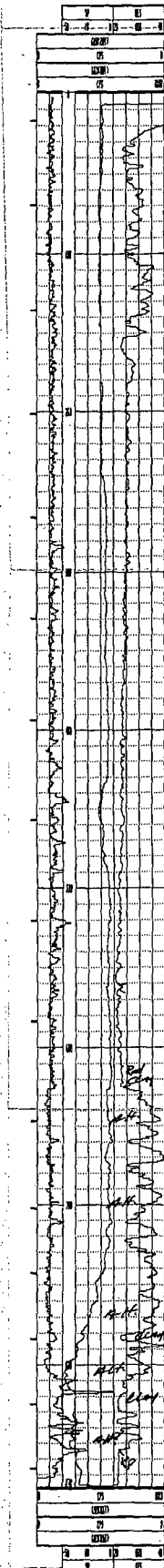
T320
846.5' 10.03
d. 1.5' 13.5'
H2 142.5

T-321
 3750
 Sec. 20 S52W S14W S22W
 4006 Rm. T320



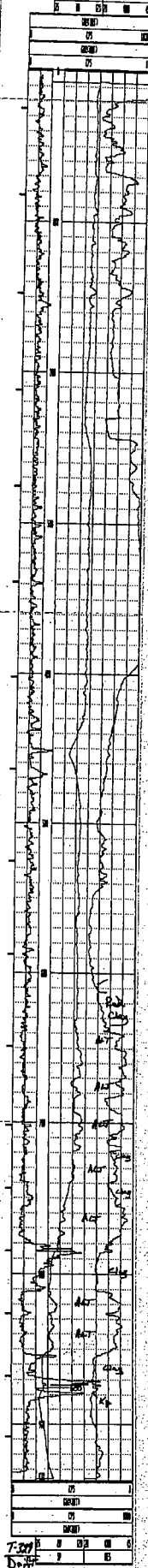
2.0' 1.5' 0.11

T-322
 31°N 52°W 2000m
 400' N of T-320



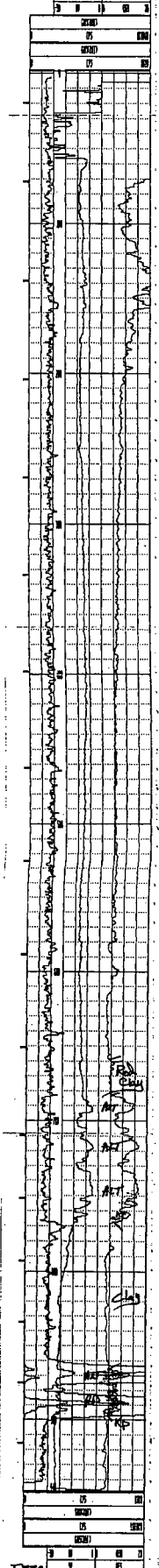
T-322
 810.0' 1.0'-0.1
 d-107 5.7
 H-200.7

1-329
1975
20010 T 215
500 200000 210 520



7-207
D-10
17-20

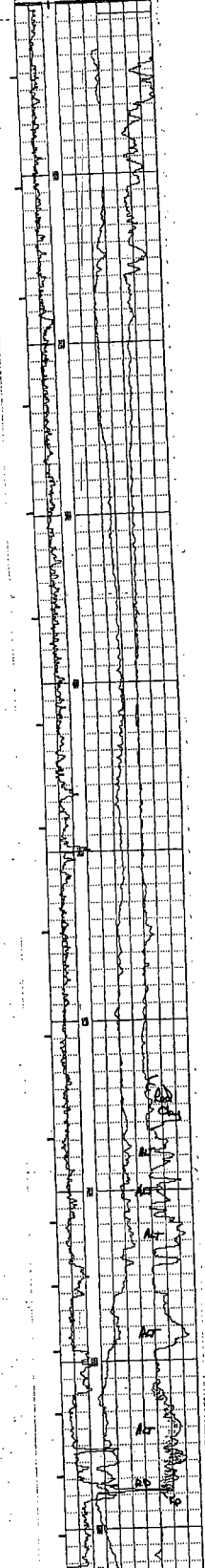
T-338
 3920
 5000 RES 300 50 N
 200 W 1000 T 100



7338
 64.5 2.0 - 0.81
 872.0 2.0 - 1.31
 922.5 5.5 - 1.69

T-348
5780
Sect. 10 6855 3W 52W
100 5 304

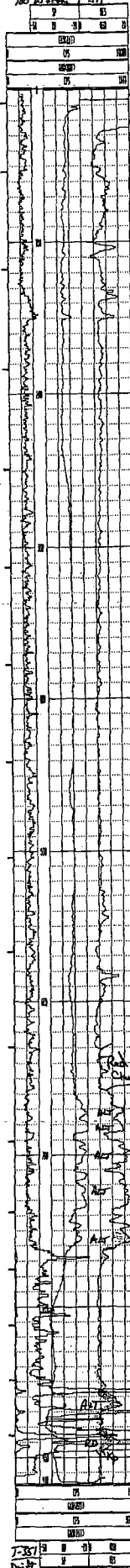
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10



1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

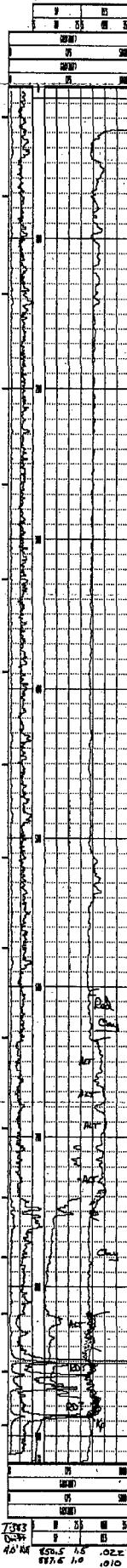
7-348 5 8 9 10 5
Dm-1 9 11
0.2 50 76.0 1.0 0.10

7-351
1955
See 30000 200 500
100 10000 7 311

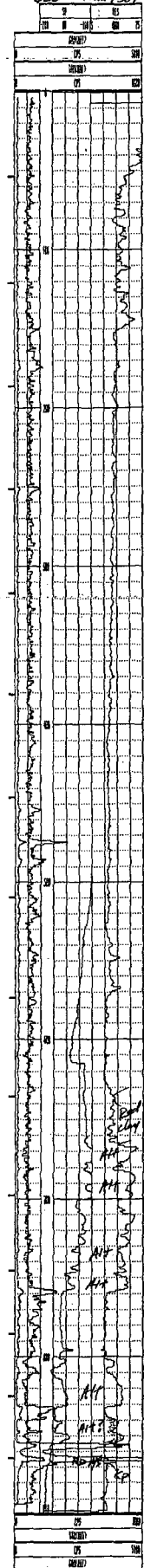


7-351
1955
See 30000 200 500
100 10000 7 311

T.383
 3960
 SEA DO NOTES 210 020
 175 W. from T.352



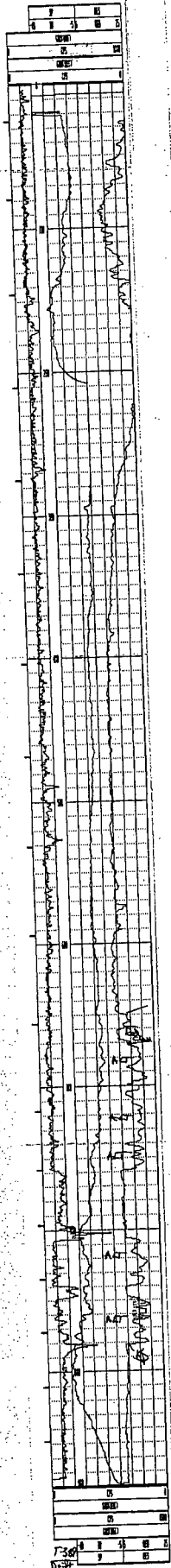
T-988
 Sec 30 SE 34 N 52 W
 600' S from 7387



20
 Sec

7387
 Ditch
 36' 850.0 2.0 .472
 SW 850.0 2.0 .472

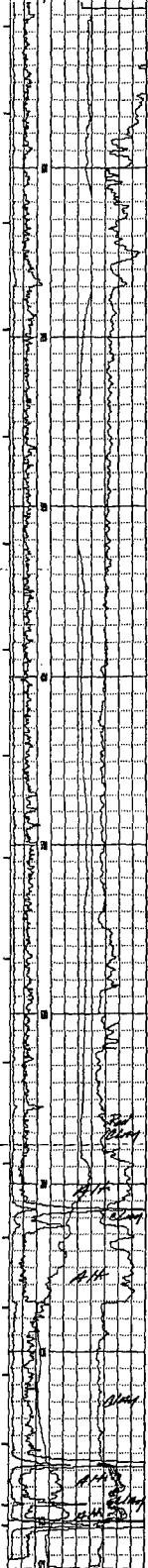
T-389
8155
200 W. UNIT 3.57
SEA 30 NESE 3/10 600



7-389
8155
200 W. UNIT 3.57
SEA 30 NESE 3/10 600

T-412
 395.0'
 3115201 30000
 100' W. from T-410

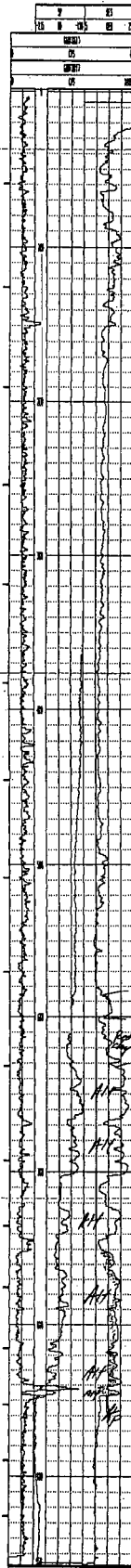
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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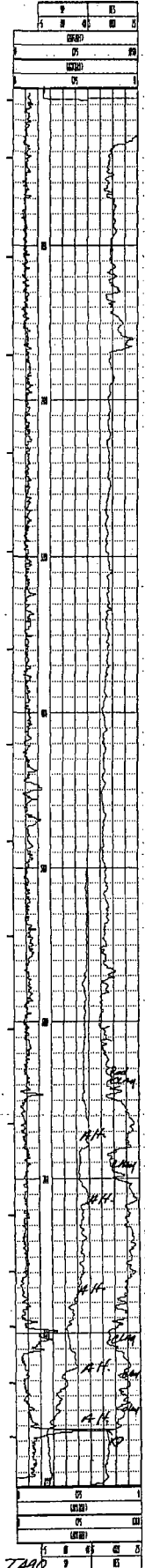
T-413
 716.0 10'-014
 866.5 2.5'-021
 902.5 3.0'-031

T-457
 9910
 Sec 30 NE 1/4 NW 1/4
 20' N. 7327



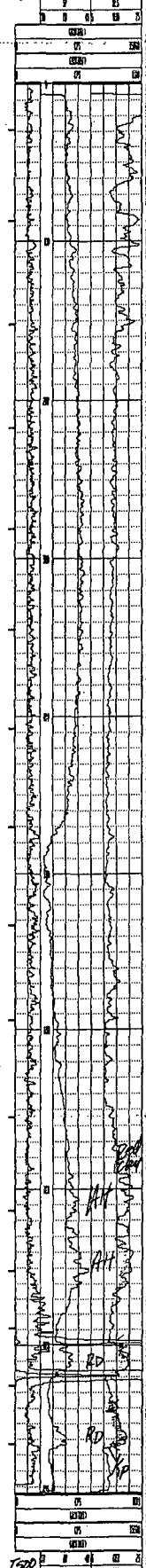
7937
 D-10
 45'
 SW

T-490
 3220
 5152N 30'W
 1000' up from 745



7490
 8640' 10'-014
 DIST 109
 PL 3457

T-500
 39 RD
 SEC 30 N 10 W 15 E 31 N 52 W
 20' E Line T499

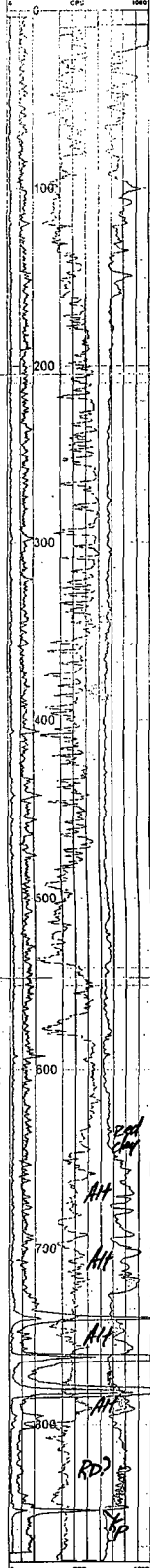


T500
 01-11
 9.3 799.0 1.0 .025
 NE 319.5 1.5 .388

1-507
 3950
 SAC 504 WETTING
 200 S.D. 7506

IN	OUT	QTY	WT
1	2	3	4

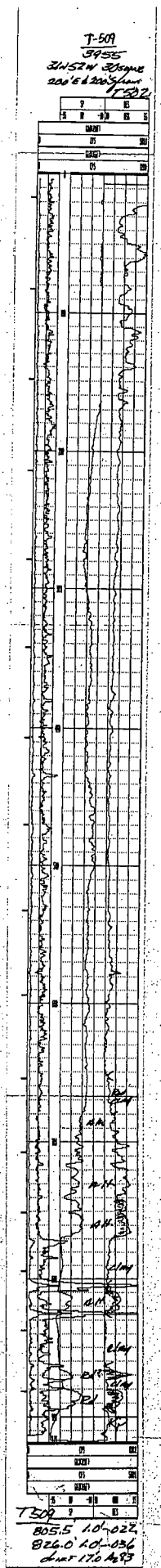
CASE	DATE	TIME	BY
1	2	3	4



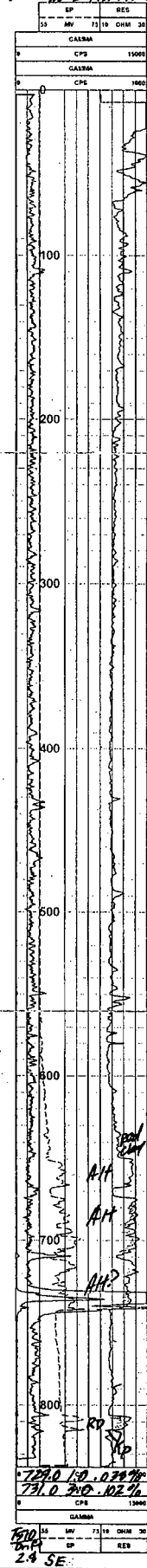
CASE	DATE	TIME	BY
1	2	3	4

IN	OUT	QTY	WT
1	2	3	4

1-507
 3950
 SAC 504 WETTING
 200 S.D. 7506
 776.5 2.0 .04
 777.5 4.0 .023
 778.0 4.0 .039
 780.5 1.0 .013
 846.0 1.0 .010



T-510
3095
SECTION 31N 62W
50° 3' 40" E from T801



T-512

3705

SEC ROSENE 21452W

100 1/4 200E from T504

9 10 11 12

13 14 15 16

17 18 19 20

21 22 23 24

25 26 27 28

29 30 31 32

33 34 35 36

37 38 39 40

41 42 43 44

45 46 47 48

49 50 51 52

53 54 55 56

57 58 59 60

61 62 63 64

65 66 67 68

69 70 71 72

73 74 75 76

77 78 79 80

81 82 83 84

85 86 87 88

89 90 91 92

93 94 95 96

97 98 99 100

101 102 103 104

105 106 107 108

109 110 111 112

113 114 115 116

117 118 119 120

121 122 123 124

125 126 127 128

129 130 131 132

133 134 135 136

137 138 139 140

141 142 143 144

145 146 147 148

149 150 151 152

153 154 155 156

157 158 159 160

161 162 163 164

165 166 167 168

169 170 171 172

173 174 175 176

177 178 179 180

181 182 183 184

185 186 187 188

189 190 191 192

193 194 195 196

197 198 199 200

201 202 203 204

205 206 207 208

209 210 211 212

213 214 215 216

217 218 219 220

221 222 223 224

225 226 227 228

229 230 231 232

233 234 235 236

237 238 239 240

241 242 243 244

245 246 247 248

249 250 251 252

253 254 255 256

257 258 259 260

261 262 263 264

265 266 267 268

269 270 271 272

273 274 275 276

277 278 279 280

281 282 283 284

285 286 287 288

289 290 291 292

293 294 295 296

297 298 299 300

301 302 303 304

305 306 307 308

309 310 311 312

313 314 315 316

317 318 319 320

321 322 323 324

325 326 327 328

329 330 331 332

333 334 335 336

337 338 339 340

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365 366 367 368

369 370 371 372

373 374 375 376

377 378 379 380

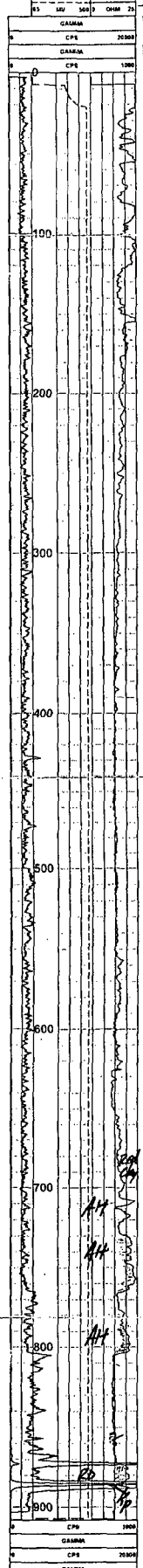
T512

Drift

4.5 824.0 1.0 .259

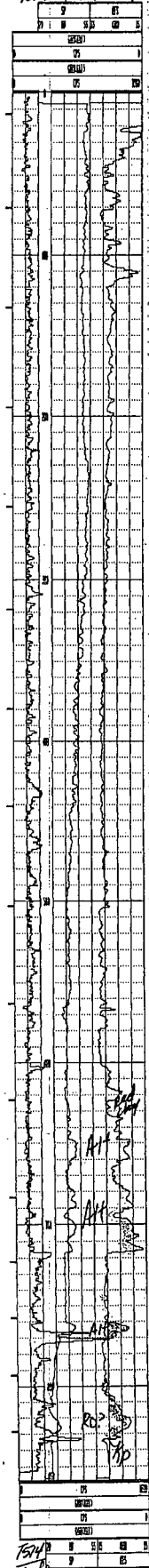
SE 826.5 3.0 .084

T-513
 54.30 SECTING 2.4
 400 MI 2002 FRED. 1954



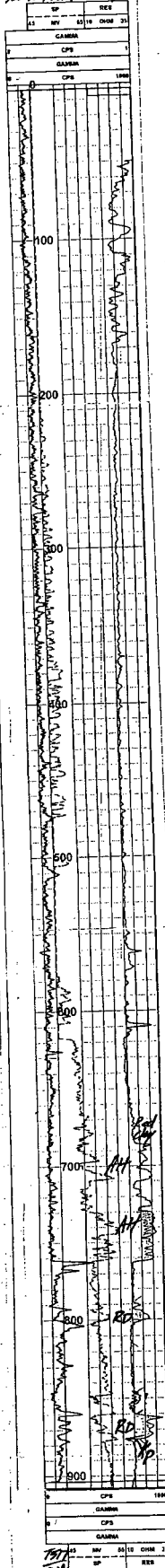
782 13 87 50 3 0111 21
 4.0 8850 2.5 .160
 NE

1-514
 7710
 SEC 30 SE NE 31 NW
 40'E from T504



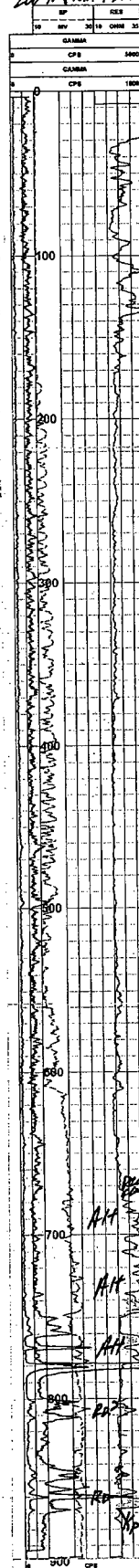
T504
 D.H.
 7.3
 SSW

T-512
 500 ft from 7500



7512
 11.4
 SE

T-522
 2946
 400 2040 102 3100 20
 200 "N" from 1500



SP	20	10	0	10	20
10	20	10	0	10	20

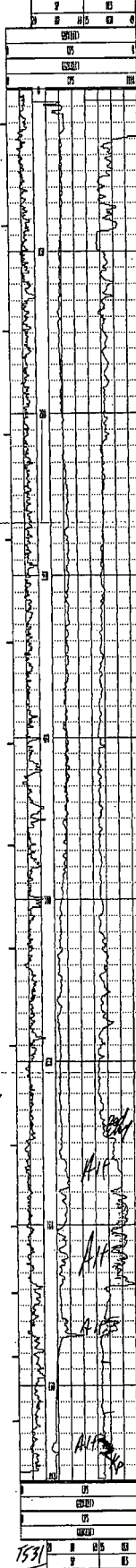
SP	20	10	0	10	20
10	20	10	0	10	20

1522
 10.14 7760 30 .004
 9.7 8570 10 .011
 SSW

T-531
3425

RC PO NEBZINSON

200 E from T511

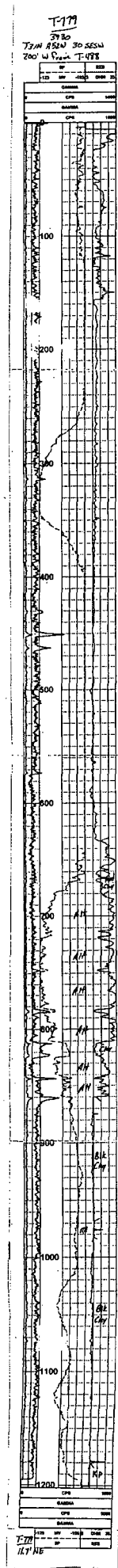


T531

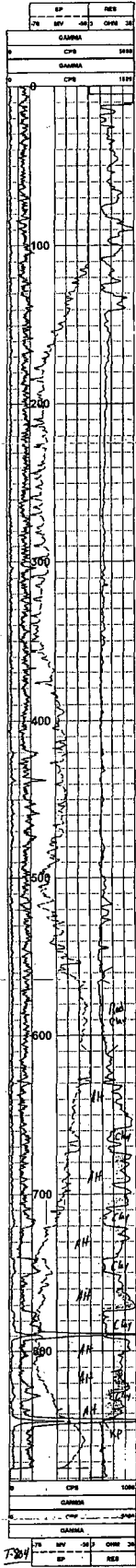
P-A

7.3

NE



T-804
 3720
 TWIN R51W 20 N05E
 200' U.S. from T-803



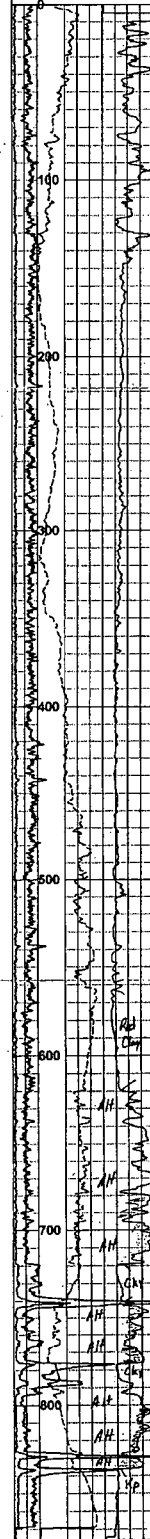
23.8 E56
 789.5 1.8 - 0.4
 844.0 1.5 - 0.21

T-807
 3720'
 T31N R62W 30S NE
 200' N 1/2 T-800

SP	RES
0	20 15 10 5 0

GAMMA
 CPS 1000

GAMMA
 CPS 1000



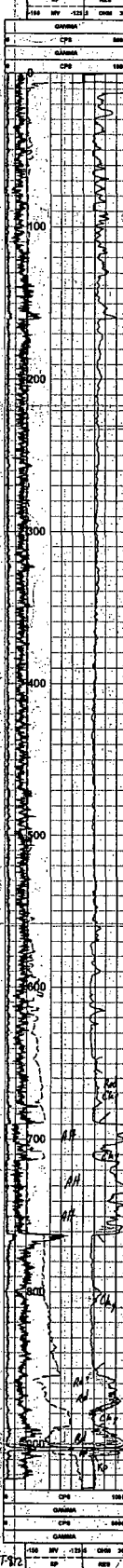
GAMMA
 CPS 1000

GAMMA
 CPS 1000

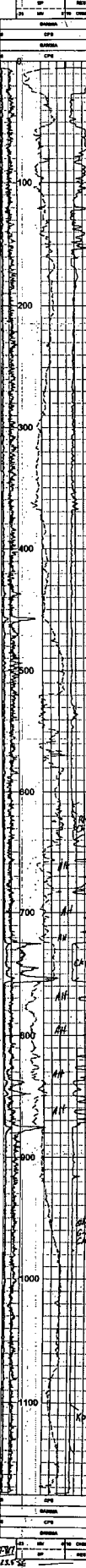
SP	RES
0	20 15 10 5 0

T-807
 2.4 ESE
 741.0 1.5'-.027

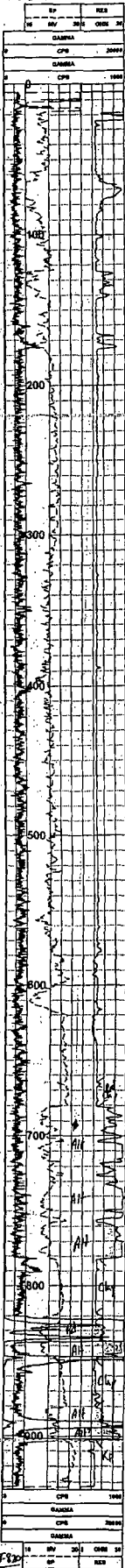
T-812
 3745
 73m R52W 30 SENE
 25 E P.M. T-809



T-817
T-817
T-817
T-817

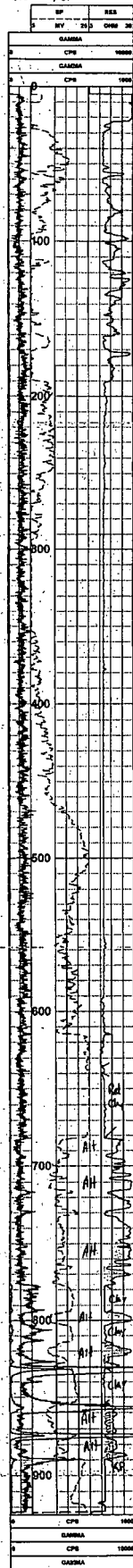


T-920
 3910
 TRIN RSLD SO SENE
 100 E From H-155



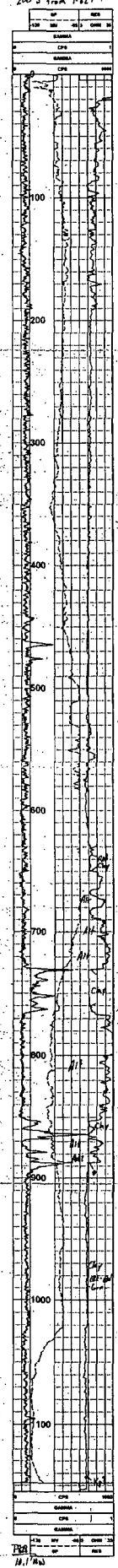
824.0 6.5-112
 834.0 2.0-269
 848.5 1.0-051

T-822
3795
T310 R6210 305646
100' W From H-158



881.0 1.5-.058
873.5 1.5-.037

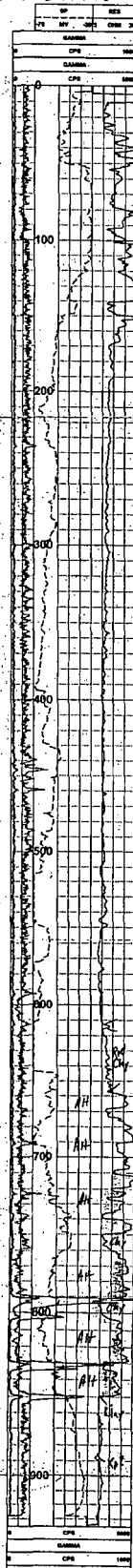
T-28
 3750
 TUN KSTW Sec 30560a
 200 S from T-27



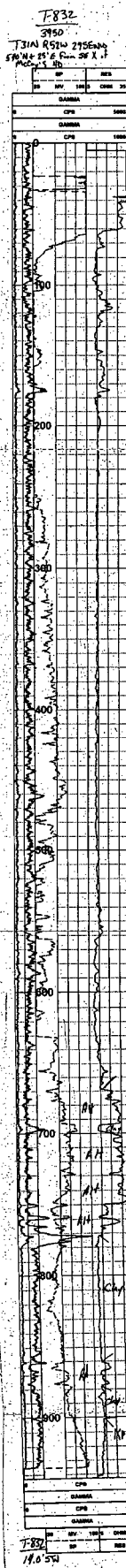
784
 H. / H₀

T-831

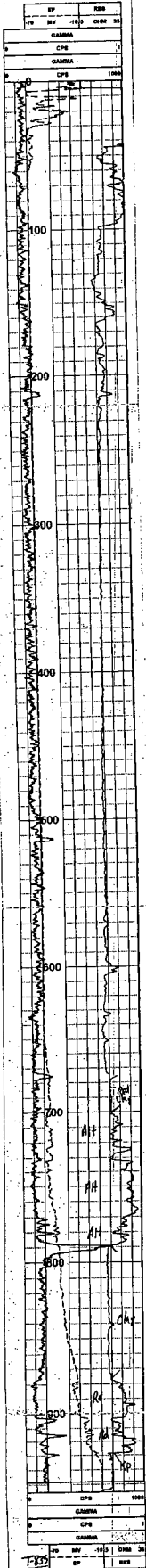
7735
T-831 (RSD) 305000E
100' E from T-814



T-831
18.4 GNE
771.5 1.0' - 0.15
773.5 1.0' - 0.11
775.0 1.0' - 0.11

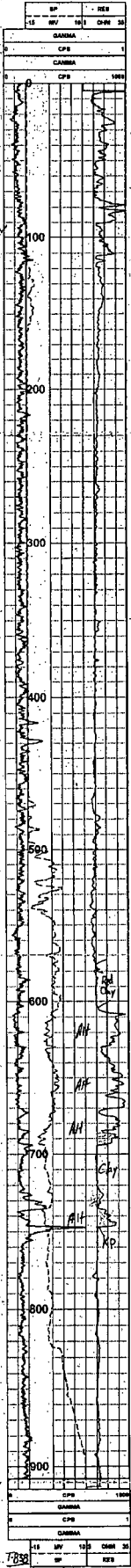


T-935
 3710
 T31N R52W 295m
 400' W from T-934

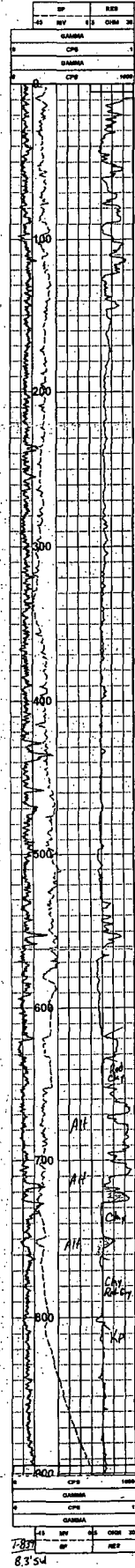


171 ENE

T-938
 3885
 731N R52W 27S6NE
 170' W from F837

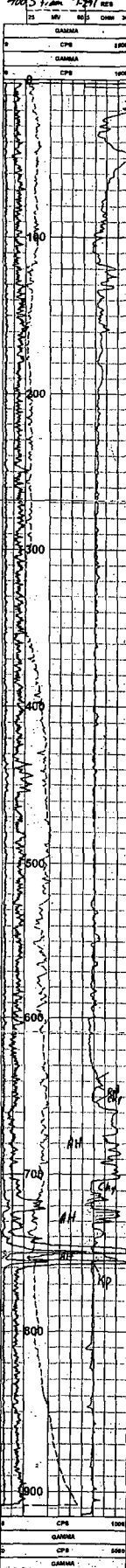


T-839
 3930
 T31N R52W 29SENE
 130' W & 30' S from T-791



839
 8354

T-440
TJIN RSEN SEC 29 SEANE
1003 1.1m F-21 RES



12.4 SE
747.0 3.5'-.023
755.5 1.5'-.020

