CHANDLER & ASSOCIATES, INC.

1860 LINCOLN
1400 LINCOLN TOWER BUILDING
DENVER, COLORADO 80203
OIL & GAS EXPLORATION AND PRODUCTION
303 863-9100

RECEIVED
APR 26 1984
DIVISION OF OIL
GAS & MINING

April 23, 1984

Utah Division of Oil, Gas & Mining
4241 State Office Bldg.
Salt Lake City, Utah 84114

RE: Application for Permit to Drill
Lawrence 16-1
SE SE Sec. 16-18S-8E
Emery County, UT

Gentlemen:

Enclosed please find three copies of the APD for the captioned well.

Please contact us should you need more information.

Sincerely yours,

CHANDLER & ASSOCIATES, INC.

David M. Burnett

DMB/trz
enclosures

Form OGC-1a

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

5. Lease Designation and Serial No.: ML-34259

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

6. If Indian, Allottee or Tribe Name: ----

1a. Type of Work: DRILL ☒ DEEPEN ☐ PLUG BACK ☐

7. Unit Agreement Name: ----

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

8. Farm or Lease Name: Lawrence

2. Name of Operator: Chandler & Associates, Inc.

9. Well No.: 16-1

3. Address of Operator: 1860 Lincoln Street, Denver, Colorado 80203

10. Field and Pool, or Wildcat: Wildcat

RECEIVED
APR 26 1984
DIVISION OF OIL GAS & MINING

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface: 735 FSL; 659 FEL
At proposed prod. zone: Same

11. Sec., T., R., M., or Blk. and Survey or Area: 1-18S-8E

14. Distance in miles and direction from nearest town or post office*: 3.7 miles south of Huntington, Utah

12. County or Parrish: Emery 13. State: Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any): 659'

16. No. of acres in lease: 217

17. No. of acres assigned to this well: 40

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.: -

19. Proposed depth: 9880'

20. Rotary or cable tools: Rotary

21. Elevations (Show whether DF, RT, GR, etc.): 5700' Ground

22. Approx. date work will start*: May 15, 1984

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
17½	13-3/8	54.5#	1600	1,230 sx
8-3/4	5½	15.5#	9880	315 sx

1. Drill to TD of 9880 (Mississippian).
2. Run 5½" casing if commercial production is indicated.
3. If dry hole, P&A as instructed by the State of Utah.
4. Well will be drilled with mud.
5. Well control equipment will include double hydraulic BOP system of 900 series. A fill-up line will be installed, equipment pressure mechanically checked daily while drilling.

Well Name: Lawrence State 16-1

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed: Richard Veghte Title: Petroleum Engineer Date: 4/23/84

(This space for Federal or State office use)

Permit No. .... Approval Date ....

Approved by .... Title .... Date ....
Conditions of approval, if any:

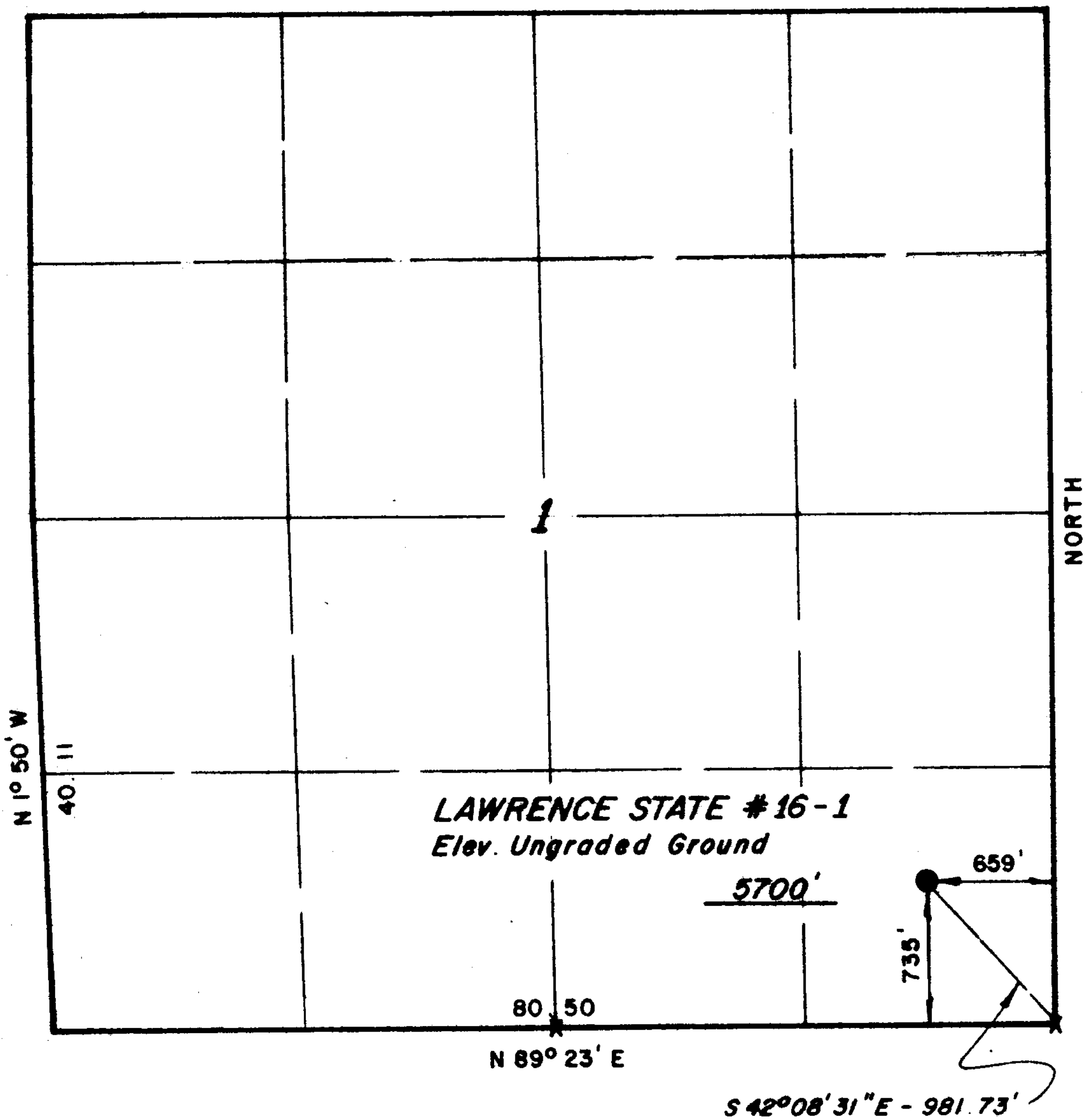
*See Instructions On Reverse Side

T 18 S, R 8 E, S.L.B.& M.

PROJECT

CHANDLER & ASSOCIATES, INC.

Well location, *LAWRENCE STATE #16-1*, located as shown in the SE 1/4 SE 1/4 Section 1, T 18 S, R 8 E, S.L.B. & M. Emery County, Utah.



X = Section Corners Located

CERTIFICATE

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

Lawrence C. Kay

REGISTERED LAND ~~SURVEYOR~~
REGISTRATION Nº 3137
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P. O. BOX Q — 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 2/17/84
PARTY D.A. G.S. D.K. BFW	REFERENCES GLO Plat
WEATHER Cold	FILE CHANDLER & ASSOC.

STATE OF UTAH
NATURAL RESOURCES
Water Rights

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dee C. Hansen, State Engineer

74 West Main Street • P.O. Box 718 • Price, UT 84501 • 801-637-1303

Chart + Assess.

RECEIVED

APR 30 1984

DIVISION OF OIL
GAS & MINING

April 26, 1984

Division of Oil, Gas and Mining
Attn: Norm Stout
4241 State Office Building
Salt Lake City, Utah 84114

Re: Temporary Change 84-93-6

Dear Mr. Stout:

Enclosed please find a copy of the application and approval letter on the above referenced Temporary Change. These copies are for your records. Please contact us if you have any questions.

Sincerely,

Mark

Mark P. Page
Area Engineer

Enclosure

MPP/mjk

Change in location / Water approval OK Hall, per Mary + Rick Water Rights

5/4/84
ab.

STATE OF UTAH
NATURAL RESOURCES
Water Rights

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dee C. Hansen, State Engineer

74 West Main Street • P.O. Box 718 • Price, UT 84501 • 801-637-1303

RECEIVED
APR · 0 1984
DIVISION OF OIL
GAS & MINING

April 26, 1984

Huntington-Cleveland Irrigation Co.
Attn: Mar Grange
55 North Main Street
Huntington, Utah 84528

Re: Temporary Change 84-93-6

Dear Mr. Grange:

The above numbered Temporary Change Application has been approved. A copy is herewith returned to you for your records and future reference.

Sincerely,

Mark P. Page
Area Engineer
for Dee C. Hansen, P.E.
State Engineer

DCH/MPP/mjk

Enclosure

RECEIVED
APR 30 1984
DIVISION OF OIL GAS & MINING

Form 111 8-61

APPLICATION NO. 84-93-6
DISTRIBUTION SYSTEM Huntington Creek

Application For Temporary Change of Point of Diversion, Place or Purpose of Use

RECEIVED
APR 25 1984
STATE ENGINEER
PRICE, UTAH

STATE OF UTAH

(To Be Filed in Duplicate)

Price, Utah (Place) April 25, 19 84 (Date)

For the purpose of obtaining permission to temporarily change the point of diversion, place or purpose of use (Strike out written matter not needed) of water, the right to the use of which was acquired by A.H. Christensen Decree (Give No. of application, title and date of Decree and Award No.) to that hereinafter described, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

1. The owner of right or application is Huntington-Cleveland Irrigation Company
2. The name of the person making this application is Same as above
3. The post office address of the applicant is 55 North Main Huntington, Utah 84528

PAST USE OF WATER

4. The flow of water which has been used in second feet is 392.25
5. The quantity of water which has been used in acre feet is
6. The water has been used each year from January 1 (Month) (Day) to December 31 (Month) (Day), incl.
7. The water has been stored each year from January 1 (Month) (Day) to December 31 (Month) (Day), incl.
8. The direct source of supply is Huntington Crk. & tribs. in Emery County.
9. The water has been diverted into ditch canal at a point located various points of diversion from Huntington Creek and tributary springs
10. The water involved has been used for the following purpose: Irrigation, domestic, stockwater

Total 32,833.01 acres.

NOTE: If for irrigation, give legal subdivisions of land and total acreage which has been irrigated. If for other purposes, give place and purpose of use.

THE FOLLOWING TEMPORARY CHANGES ARE PROPOSED

11. The flow of water to be changed in cubic feet per second is
12. The quantity of water to be changed in acre-feet is 3.00
13. The water will be diverted into the tank truck ditch canal at a point located N. 1200 ft. & W. 320 ft. from S¼ Cor. Sec. 1, T18S, R8E, SLB&M.
14. The change will be made from May 10, 19 84, to July 31, 19 84 (Period must not exceed one year)
15. The reasons for the change are the water will be used for drilling fluid in the construction of an exploration well.
16. The water involved herein has heretofore been temporarily changed years prior to this application.

(List years change has been made)

17. The water involved is to be used for the following purpose: Exploration Drilling: [redacted] Sec. 1, T18S, [redacted] SLB&M
15 660 FSL, 1980 FWL SWSE

Total acres.

NOTE: If for irrigation, give legal subdivisions of land to be irrigated. If for other purposes, give place and purpose of proposed use.

EXPLANATORY

Information for this application was obtained from David Burnett of [redacted] (1-303-863-9100).

A filing fee in the sum of $5.00 is submitted herewith. I agree to pay an additional fee for either investigating or advertising this change, or both, upon the request of the State Engineer.

Marvin Strange
Signature of Applicant

Per Mary Rick Hall Water Rights 5/4/84
LB

RULES AND REGULATIONS

(Read Carefully)

This application blank is to be used only for temporary change of point of diversion, place or nature of use for a definitely fixed period not to exceed one year. If a permanent change is desired, request proper application blanks from the State Engineer.

Application for temporary change must be filed in duplicate, accompanied by a filing fee of $7.50 **Where the water affected is under supervision of a Water Commissioner, appointed by the State Engineer, time will be saved if the Application is filed with the Commissioner, who will promptly investigate the proposed change and forward both copies with filing fee and his report to the State Engineer. Applications filed directly with the State Engineer will be mailed to the Water Commissioner for investigation and report. If there be no Water Commissioner on the source, the Application must be filed with the State Engineer.**

When the State Engineer finds that the change will not impair the rights of others he will authorize the change to be made. If he shall find, either by his own investigation or otherwise, that the change sought might impair existing rights he shall give notice to persons whose rights might be affected and shall give them opportunity to be heard before acting upon the Application. Such notice shall be given five days before the hearing either by regular mail or by one publication in a newspaper. Before making an investigation or giving notice the State Engineer will require the applicant to deposit a sum of money sufficient to pay the expenses thereof.

Address all communications to:
State Engineer
State Capitol Building
Salt Lake City, Utah

STATE ENGINEER'S ENDORSEMENTS

(Not to be filled in by applicant)

Change Application No. ...., ... (River System)

1. 4-25-84 Application received by Water Commissioner Mark U. Draney (Name of Commissioner)

Recommendation of Commissioner ....

2. April 25, 1984 Application received over counter / by mail in State Engineer's Office by [initials]

3. .... Fee for filing application, $7.50 received by ....; Rec. No. ....

4. .... Application returned, with letter, to ...., for correction.

5. .... Corrected application resubmitted over counter / by mail to State Engineer's Office.

6. .... Fee for investigation requested $.............................

7. .... Fee for investigation $............................., received by ....: Rec. No. ....

8. .... Investigation made by ....; Recommendations: ....

9. .... Fee for giving notice requested $.............................

10. .... Fee for giving notice $............................., received by ....: Rec. No. ....

11. .... Application approved for advertising by publication / mail by ....

12. .... Notice published in ....

13. .... Notice of pending change application mailed to interested parties by ....as follows:

14. .... Change application protested by .... (Date Received and Name)

15. .... Hearing set for ...., at ....

16. 4-25-84 Application recommended for rejection / approval by [initials]

17. 4-26-84 Change Application rejected / approved and returned to Huntington-Cleveland Irr. Co.

THIS APPLICATION IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

1. ....
2. ....
3. ....

Mark P. Page Area Engineer
for State Engineer

CHANDLER & ASSOCIATES, INC.

1860 LINCOLN • 1400 LINCOLN TOWER BUILDING
DENVER, COLORADO 80203 • 303 863-9100
OIL & GAS EXPLORATION AND PRODUCTION

May 1, 1984

RECEIVED

MAY 2 1984

DIVISION OF OIL
GAS & MINING

Utah Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Application for Permit to Drill
Lawrence State 15-1
SWSE Sec. 1-18S-8E
Emery County, Utah

Gentlemen:

Enclosed please find three copies of the APD captioned above. We previosly permitted the Lawrence 16-1. Please disregard that application.

Thank you for your assistance with this matter. Should you have any questions, please don't hesitate to call.

Sincerely yours,

David M. Burnett

Form OGC-1a

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well
Oil Well [X] Gas Well [ ] Other Single Zone [X] Multiple Zone [ ]

2. Name of Operator
Chandler & Associates, Inc. David Burnett 303-863-9100

3. Address of Operator
1860 Lincoln Street, Denver, Colorado 80203

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface
660' FSL; 1980 FEL SWSE

At proposed prod. zone
Same

5. Lease Designation and Serial No.
ML-34259

6. If Indian, Allottee or Tribe Name
----

7. Unit Agreement Name
----

8. Farm or Lease Name
Lawrence

9. Well No.
15-1

10. Field and Pool, or Wildcat
Wildcat

11. Sec., T., R., M., or Blk. and Survey or Area
1-18S-8E

12. County or Parrish
Emery

13. State
Utah

14. Distance in miles and direction from nearest town or post office*
3.7 miles south of Huntington, Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)
660'

16. No. of acres in lease
217

17. No. of acres assigned to this well
40

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.
-

19. Proposed depth
9880' Mississippian

20. Rotary or cable tools
Rotary

21. Elevations (Show whether DF, RT, GR, etc.)
5726' From Ground

22. Approx. date work will start*
May 15, 1984

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
17½	13-3/8	54.5#	1600	1,230 sx
8-3/4	5½	15.5#	9880	315 sx

RECEIVED

MAY 2 1984

DIVISION OF OIL
GAS & MINING

1. Drill to TD of 9880 (Mississippian).
2. Run 5½" casing if commercial production is indicated.
3. If dry hole, P&A as instructed by the State of Utah.
4. Well will be drilled with mud.
5. Well control equipment will include double hydraulic BOP system of 900 series. A fill-up line will be installed, equipment pressure mechanically checked daily while drilling.

Well Name: Lawrence State 15-1

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 5/7/84
BY: [illegible]

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

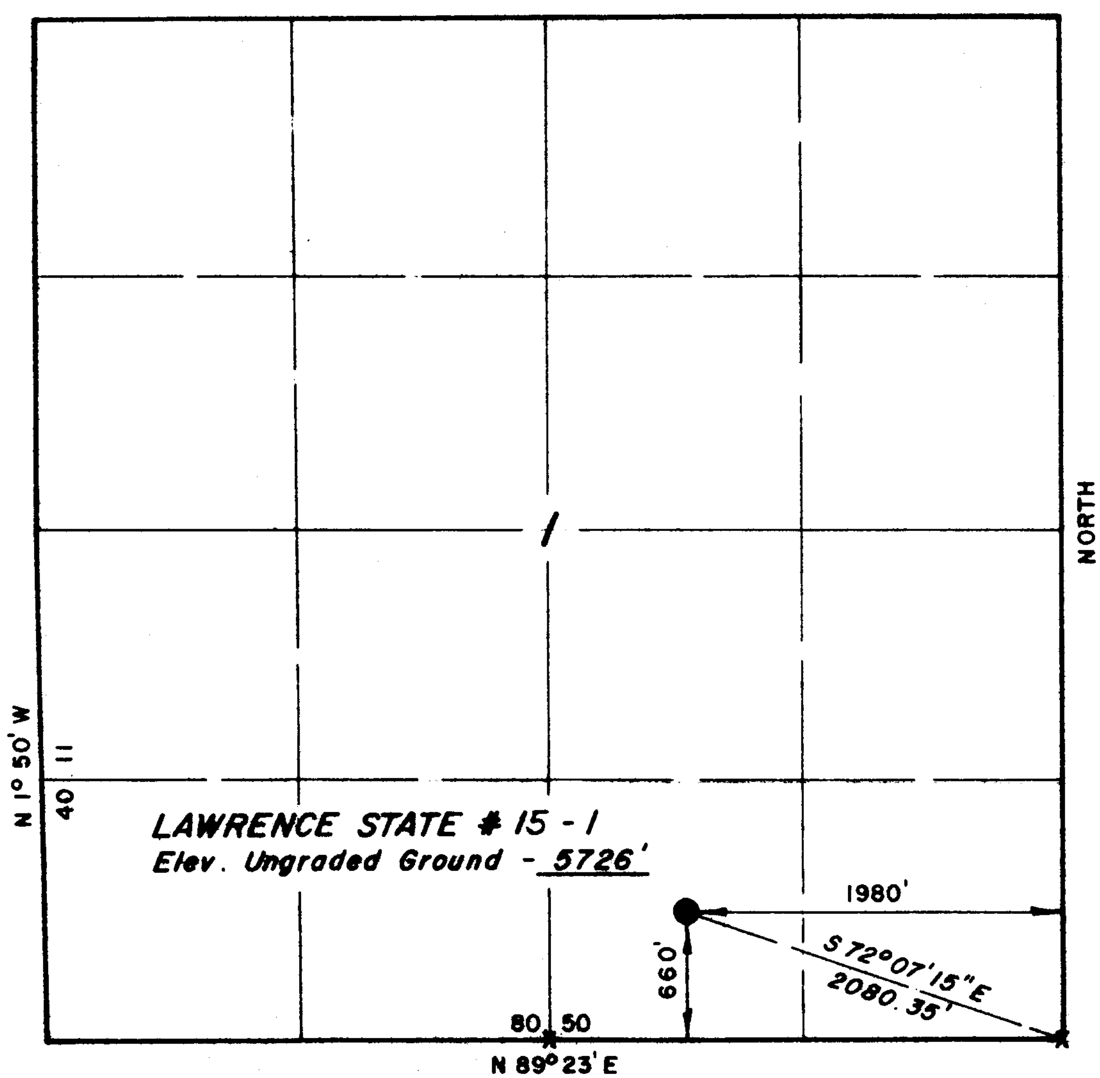
24.
Signed Hugo Cartaya Title Petroleum Engineer Date May 1, 1984

(This space for Federal or State office use)

Permit No. .... Approval Date ....

Approved by .... Title .... Date ....
Conditions of approval, if any:

T 18 S, R 8 E, S.L.B.& M.

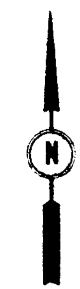


X = Section Corners Located

PROJECT

CHANDLER & ASSOCIATES, INC.

Well location, *LAWRENCE STATE #15 - 1*, located as shown in the SW 1/4 SE 1/4 Section 1, T 18 S, R 8 E, S.L.B.& M. Emery County, Utah.



CERTIFICATE

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

REGISTERED LAND SURVEYOR
REGISTRATION Nº 2454
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P. O. BOX Q — 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 4 / 30 / 84
PARTY D.A. J.H. BFW	REFERENCES GLO Plat
WEATHER Fair	FILE CHANDLER

OPERATOR Chandler & Associates, Inc. DATE 5-3-84

WELL NAME Lawrence 15-1

SEC SWSE 1 T 18S R 8E COUNTY Emery

43-015-30192	State
API NUMBER	TYPE OF LEASE

POSTING CHECK OFF:

- [ ] INDEX
- [ ] HL
- [ ]
- [ ] NID
- [ ] PI
- [ ]
- [ ] MAP
- [ ]
- [ ]

PROCESSING COMMENTS:
No other wells within 1000'
Water OK - # 84-93-6

APPROVAL LETTER:

SPACING:

- [ ] A-3 ________ UNIT
- [ ] c-3-a ________ CAUSE NO. & DATE
- [x] c-3-b
- [ ] c-3-c

SPECIAL LANGUAGE:

- [x] RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.
- [x] AUTHENTICATE LEASE AND OPERATOR INFORMATION
- [x] VERIFY ADEQUATE AND PROPER BONDING
- [x] AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.
- [ ] APPLY SPACING CONSIDERATION
  - [ ] ORDER ____________________
  - [ ] UNIT ____________________
  - [ ] c-3-b
  - [x] c-3-c
- [x] CHECK DISTANCE TO NEAREST WELL.
- [ ] CHECK OUTSTANDING OR OVERDUE REPORTS FOR OPERATOR'S OTHER WELLS.
- [ ] IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER
- [ ] IF IN OIL SHALE DESIGNATED AREA, SPECIAL APPROVAL LANGUAGE.

WELL PROGNOSIS

UTAH
DRLG. DEPT. Carl Winters
GEOLOGIST: Larry Prendergast

DATE: May 1, 1984
PROSPECT: Lawrence
NO.: 8289

ELEVATION: EST. GR DF

SURVEY GR 5726' DF

RECEIVED

MAY 7 1984

DIVISION OF OIL
GAS & MINING

OPERATOR: Chandler & Associates, Inc.
LOCATION: SWSE Section 1-T18S-R8E
Emery County, UT

WELL: Lawrence State 15-1

ESTIMATED FORMATION TOPS:

(Next Page)

SAMPLES:

10' surface to total depth

Wet cut to: Amstrat
6336 E 39th Avenue
Denver, CO 80207

Dry cut to: Amerada Hess
Chevron
Marathon

LOG PROGRAM:
- BHC Sonic/GR-sfc csg to TD
- DIL/GR/SP -sfc csg to TD
- CNL/FDC -sfc csg to TD
- Dipmeter -6000' to TD
- Mudlog -sfc csg to TD

CORES & DST'S:

Four DST's anticipated. Catch representative fluid samples top, middle, bottom, sample chamber of all DST's.

SERVICE COMPANY DIRECT DISTRIBUTION:	ELECTRIC LOGS FIELD	ELECTRIC LOGS FINAL	DST REPORT	MUD LOG
Division of Oil, Gas & Mining 4241 State Office Building Salt Lake City, UT 84114		1	1	1
Chandler & Associates, Inc. 1860 Lincoln St., Suite 1400 Denver, CO 80203 Robert L. Lent (303) 863-9100 (O) (303) 779-0130 (H)	3	4	4	3
Amerada Hess (303) 573-3500 1625 Broadway, Suite 2200 Denver, CO 80202 Bob Lupe - 722-2088 (H) Mac Duncan	4	4 + 1 sepia	4	4
Chevron USA, Inc. (303) 691-7000 P. O. Box 599 Denver, CO 80201 R. B. Christie - 691-7471(O); 985-0107 (H) Steve M. Doherty-691-7231(O); 722-6505 (H)	2	2 + 1 sepia	2	2 + dry cut samples
Marathon Oil Company (307) 577-1555 P. O. Box 2659 Casper, WY 82602 Scott Raymond (307) 577-1216 (H) Alec Steele (307) 266-4153 (H)	3	3 + 1 sepia	2	2 + dry cut samples
Texas International Petroleum Corp. 6525 N. Meridian (405) 728-5125 Oklahoma City, OK 73116 -728-5100 Don Preston (405) 364-4963 (H)	2	2 + 1 sepia	2	2

May 1, 1984

Prospect: Lawrence
No. : 8289
Well : Lawrence State 15-1
Location: SWSE Section 1-T18S-R8E
Emery County, UT

ESTIMATED FORMATION TOPS:

Est KB	5,735'
Ferron	940'
Bentonite Marker #1	1,300'
Bentonite Marker #2	1,550'
Dakota	1,600'
Cedar Mountain	1,660'
Buckhorn	2,315'
Morrison	2,380'
Summerville	2,760'
Curtis	3,110'
Entrada	3,360'
Carmel	4,060'
Navajo	5,060'
Chinle	6,000'
Upper Moenkopi	6,290'
Sinbad	6,890'
Lower Moenkopi	7,040'
Kaibab	7,310'
Toroweap	7,420'
Elephant Canyon	7,890'
Mississippian	8,240'
Mississippian Porosity	8,440'
Mississippian Sh Marker	9,040'
Ouray-Devonian	9,440'
Maxfield	9,530'
Ophir	9,840'
Total Depth	9,880'

May 7, 1984

Chandler & Associates
1860 Lincoln Street
Denver, Colorado 80203

RE: Well No. Lawrence 15-1
SWSE Sec. 1, T. 18S, R. 8E
660' FSL, 1980' FEL
Emery County, Utah

Gentlemen:

Approval to drill the above referenced oil well is hereby granted in accordance with Rule C-3 (b), General Rules and Regulations and Rules of Practice and Procedure.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify R. J. Firth, Associate Director, Telephone (801) 533-5771 (Office), 571-6068 (Home).

4. Compliance with the requirements and regulations of Rule C-27, Associated Gas Flaring, General Rules and Regulations, Oil and Gas Conservation.

5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-015-30192.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

RJF/as
cc: State Lands
Enclosures

Weller ck wd

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

NAME OF COMPANY: CHANDLER & ASSOCIATES

WELL NAME: LAWRENCE 15-1

SECTION SWSE 1 TOWNSHIP 18S RANGE 8E COUNTY EMERY

DRILLING CONTRACTOR LOFLAND

RIG # 1

SPUDDED: DATE 5-15-84

TIME 6:00 AM

HOW Rotary

DRILLING WILL COMMENCE ______

REPORTED BY Rita

TELEPHONE # 303-863-9100

DATE 5-15-84 SIGNED AS

analex
A GEOSCIENCE EXTENSION OF XCO

OPERATOR CHANDLER & ASSOC. SEC 1 TWP 13 S RNG 8 E

WELL 15-1 LAWRENCE STATE EMERY CO., UTAH

analex
A GEOSCIENCE EXTENSION OF XCO

DST REPORT: DST# 1 Formation NAVAJO Interval 4896' To 4940'

Reason for Test DRILLING BREAK AND GAS SHOW

Type Test CONVENTIONAL DUAL PACKER

Testing Company FLOPETROL - JOHNSTON Tester GLEN GRIMES

Water Cushion NONE

IF 15 Minutes

ISI 32 Minutes

FF 60 Minutes

FSI 121 Minutes

RECOVERY: 218' DRILLING MUD 3202' FRESH WATER

BOTTOM HOLE SAMPLER: Pressure 12 psi Recovery 2100 cc

RESISTIVITY DATA: Drill Pipe Recovery 3202' 100 WATER @ Rw 10.0 68° F 2000 PPM Cl

Sampler 2100cc WATER 100% @ Rw 10.0 69° F 2000 PPM Cl

Mud Pit .5 @ 70° F 1800 PPM Cl

PRESSURES: Top Chart 4865' Bottom Chart 4901'

	Top Chart				Bottom Chart			
IH	2302	FH	2265		IH	2331	FH	2297
IF	69	to	597		IF	79	to	613
ISI	1883	to			ISI	1889	to	
FF	608	to	1501		FF	631	to	1524
FSI	1883	to			FSI	1889	to	

Top Choke 1/8" Bottom Choke 15/16"

Bottom Hole Temperature 123° F

Remarks MECHANICALLY GOOD DST

RECEIVED

JUN 22

DIVISION OF OIL GAS & MINING

analex
A GEOSCIENCE EXTENSION OF XCO

OPERATOR CHANDLER & ASSOCIATES, INC. SEC 1 TWP 18 S RNG 8 E
WELL LAWRENCE STATE 15-1 SIDETRACK #1 EMERY CO., UTAH

DST REPORT: DST# 2 Formation SINBAD Interval 6795' To 6840'

Reason for Test GAS SHOW AND STAIN IN RESERVOIR FORMATION.

Type Test OPEN HOLE

Testing Company HALIBURTON Tester CLIFFORD L. RICHARDS

Water Cushion NONE

RECEIVED
JUL 19 1984
DIVISION OF OIL GAS & MINING

IF	10	Minutes	TOOL OPENED 1/16" BLOW ; CLOSED TOOL.
ISI	30	Minutes	OPENED TOOL ; NO BLOW.
FF	60	Minutes	CLOSED TOOL FOR FSI.
FSI	86	Minutes	FINISHED FSI.

RECOVERY: 10' DRILLING MUD.

BOTTOM HOLE SAMPLER: Pressure 0 Recovery 2240 c.c. MUD & LIQUID.

RESISTIVITY DATA:

Drill Pipe Recovery	8.5 @ 80° F	@ 600	PPM Cl
Sampler	8.5 @ 80° F	@ 600	PPM Cl
Mud Pit	8.5 @ 80° F	@ 600	PPM Cl

PRESSURES:

Top Chart				Bottom Chart			
IH	3328'	FH	3315'	IH	3423'	FH	3358'
IF	13	to	13	IF	52	to	52
ISI	13	to	13	ISI	52	to	52
FF	13	to	13	FF	52	to	52
FSI	13	to	13	FSI	52	to	52

Top Choke 1 Bottom Choke .75

Bottom Hole Temperature 138° F

Remarks NONE.

analex
A GEOSCIENCE EXTENSION OF XCO

OPERATOR CHANDLER AND ASSOC. SEC 1 TWP 18 S RNG 8 E

WELL 15-1 LAWRENCE STATE SIDETRACK #1 EMERY CO., UTAH

DST REPORT: DST# 3 Formation KAIBAB Interval 7130' To 7224'

Reason for Test SHOW, POSSIBLE POROSITY IN KAIBAB.

Type Test CONVENTIONAL DUAL PACKER OPEN HOLE

Testing Company HALLIBURTON Tester CLIFFORD RICHARDS

Water Cushion NONE

IF 10 Minutes

ISI 30 Minutes

FF 60 Minutes

FSI 90 Minutes

RECOVERY: 485' OF HIGHLY GAS CUT MUD.

BOTTOM HOLE SAMPLER: Pressure 1200 psi Recovery 1.43 cubic feet of gas with 1800 cc mud

RESISTIVITY DATA:

Drill Pipe Recovery	1.1	@	80°	PPM Cl
Sampler	1.0	@	80°	PPM Cl
Mud Pit	1.0	@	78°	PPM Cl

PRESSURES:

	Top Chart			Bottom Chart		
IH	3491	FH	3436	3568	FH	3568
IF	41	to	55	135	to	148
ISI	1640	to		1713	to	
FF	137	to	192	175	to	243
FSI	1887	to		1970	to	

Top Choke 1/8" Bottom Choke 3/4"

Bottom Hole Temperature 145°

Remarks NO GAS TO SURFACE.

analex A GEOSCIENCE EXTENSION OF XCO

OPERATOR CHANDLER & ASSOCIATES, INC. SEC 1 TWP 18 S RNG 8 E

WELL LAWRENCE STATE 15-1 EMERY CO., UTAH

DST REPORT: DST# 4 Formation TOROWEAP Interval 7450' To 7503'

Reason for Test GAS INCREASE

Type Test OPENHOLE ON BOTTOM

Testing Company HALIBURTON Tester SCOTT R. PITT

Water Cushion NONE

IF 11 Minutes TOOL OPENED ; CLOSED W/ ¼" BLOW

ISI 30 Minutes FINISH, SHUT IN.

FF 30 Minutes OPENED TOOL.

FSI 60 Minutes CLOSED TOOL IN.

RECOVERY: 20' DRILLING MUD.

BOTTOM HOLE SAMPLER: Pressure 2 PSI Recovery 1350 c.c. MUD & LIQUID.

RESISTIVITY DATA:

		@		
Drill Pipe Recovery		@		PPM Cl
Sampler	1.2	@ 75°F	4800	PPM Cl
Mud Pit	1.2	@ 75°F	4800	PPM Cl

PRESSURES:

	Top Chart			Bottom Chart		
IH	3627'	FH 3641	IH	3645	FH 3672
IF	42	to 56	IF	53	to 53
ISI	1704	to	ISI	1714	to
FF	42	to 42	FF	66	to 66
FSI	585	to	FSI	636	to

Top Choke 1/8 Bottom Choke 3/4

Bottom Hole Temperature 140°

Remarks NONE.

analex	**OPERATOR** CHANDLER & ASSOCIATES, INC.	**SEC** 1 **TWP** 18 S **RNG** 8 E	**analex** A GEOSCIENCE EXTENSION OF XCO
A GEOSCIENCE EXTENSION OF XCO	**WELL** LAWRENCE STATE 15-1	EMERY **CO.,** UTAH	

DST REPORT: DST# 5 Formation MISSISSIPPIAN Interval 8402' To 8465'

Reason for Test WEAK SHOW AND POROSITY IN MISSISSIPPIAN DOLOMITE.

Type Test CONVENTIONAL DUAL PACKER , OPEN HOLE.

Testing Company HALLIBURTON Tester CLIFFORD RICHARDS

Water Cushion NONE.

IF 10 Minutes

ISI 30 Minutes

FF 90 Minutes

FSI 180 Minutes

RECOVERY: 94' DRILLING MUD, 633' SULFER WATER; ALL HIGHLY GAS CUT.

BOTTOM HOLE SAMPLER: Pressure 300 PSI Recovery 2000 c.c. SULFER WATER; .2' GAS

RESISTIVITY DATA:

		@		PPM Cl
Drill Pipe Recovery	1.03	@	80°F	780 PPM Cl
Sampler	1.03	@	80°F	780 PPM Cl
Mud Pit	1.09	@	90°F	750 PPM Cl

PRESSURES:

	Top Chart 8379			Bottom Chart 8463'		
IH	4077	FH	3993	4188'	FH	4105'
IF	27	to	69	67	to	122
ISI	3050	to		3101	to	
FF	96	to	328	149	to	351
FSI	3146	to		3151	to	

Top Choke ¼" Bottom Choke 3/4"

Bottom Hole Temperature 159°F @ 8461'.

Remarks NONE.

FLOPETROL JOHNSTON
Schlumberger

WELL PERFORMANCE TEST REPORT

A Production Systems Analysis (NODAL) Based On Drillstem Test Data

Test Date: 6-18-84

Report No.: 42934 E

COMPANY

CHANDLER & ASSOCIATES, INC.

WELL

LAWRENCE STATE #15-1

TEST IDENTIFICATION

Test Type: OPEN HOLE DST
Test Number: 1
Formation: NAVAJO
Test Interval: 4895 - 4940 FT.
Reference Depth: KELLY BUSHING

WELL LOCATION

Field: (WILDCAT)
County: EMERY
State: UTAH
Sec / Twn / Rng: 1 T18S R8E
Elevation: NOT GIVEN

HOLE CONDITIONS

Total Depth (MVD/TVD): 4940 FT.
Hole Size / Deviation Angle: 8 3/4 IN./STRAIGHT
Csg / Liner ID: N/A
Perf'd Interval: N/A
Shot Density / Phasing: N/A
Gun Type / Perf Cond: N/A

MUD PROPERTIES

Mud Type: GEL-CHEM-LSND
Mud Weight: 8.9 LB/GAL
Mud Resistivity: .65 OHMS @ 75°F.
Filtrate Resistivity: .5 OHMS @ 70°F.
Filtrate Chlorides: 1800 CL PPM
Filtrate Nitrates: NOT GIVEN

INITIAL TEST CONDITIONS

Gas Cushion Type: NONE
Surface Pressure: N/A
Liquid Cushion Type: NONE
Height Above DST Valve: N/A

TEST STRING CONFIGURATION

Pipe Length / ID: 4285 FT./3.83 IN.
Collar Length / ID: 559 FT./2.38 IN.
Packer Depth(s): 4888 - 4895 FT.
BH Choke Size: 15/16 IN.

NET PIPE RECOVERY

Volume	Fluid Type	Physical Properties
3.1 BBLS	MUD	.65 OHM-M @ 75°F.
		1800 CHL PPM
40.7 BBLS	WATER	10 OHM-M @ 68°F.
		2000 CHL PPM

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Physical Properties
1.46 SCF	GAS	N/A
2100 CC	WATER	10 OHM-M @ 64°F.
		2000 CHL PPM

Pressure: 12 PSIG | GOR: | GLR: 110

INTERPRETATION RESULTS

Reservoir Pressure @Gauge Depth: N/A
Gauge Depth: 4901, 4846 FT.
Hydrostatic Gradient: N/A
Potentiometric Surface: N/A
Effective Permeability to ______: N/A
Transmissibility: N/A
Skin Factor / Damage Ratio: N/A
Omega / Lambda (2Φ System): N/A
Radius of Investigation: N/A
Measured Wellbore Storage: N/A

ROCK / FLUID / WELLBORE PROPERTIES

Reservoir Temperature: 123°F.
Analysis Fluid Type: N/A
Formation Volume Factor: N/A
Viscosity: N/A
Z-Factor (gas only): N/A
Net Pay: 20 FT.
Porosity: UNKNOWN
Total System Compressibility: N/A
Wellbore Radius: .36 FT.
Expected Wellbore Storage: N/A

FLOW RATE DURING DST

820 BWPD AVERAGE RATE

MAXIMUM FLOW RATE POTENTIAL AFTER COMPLETION

This rate is based on a specific completion design & producing time. Call FJS for details.

FJS-5 B14059

JOHNSTON-MACCO
Schlumberger

DST EVENT SUMMARY

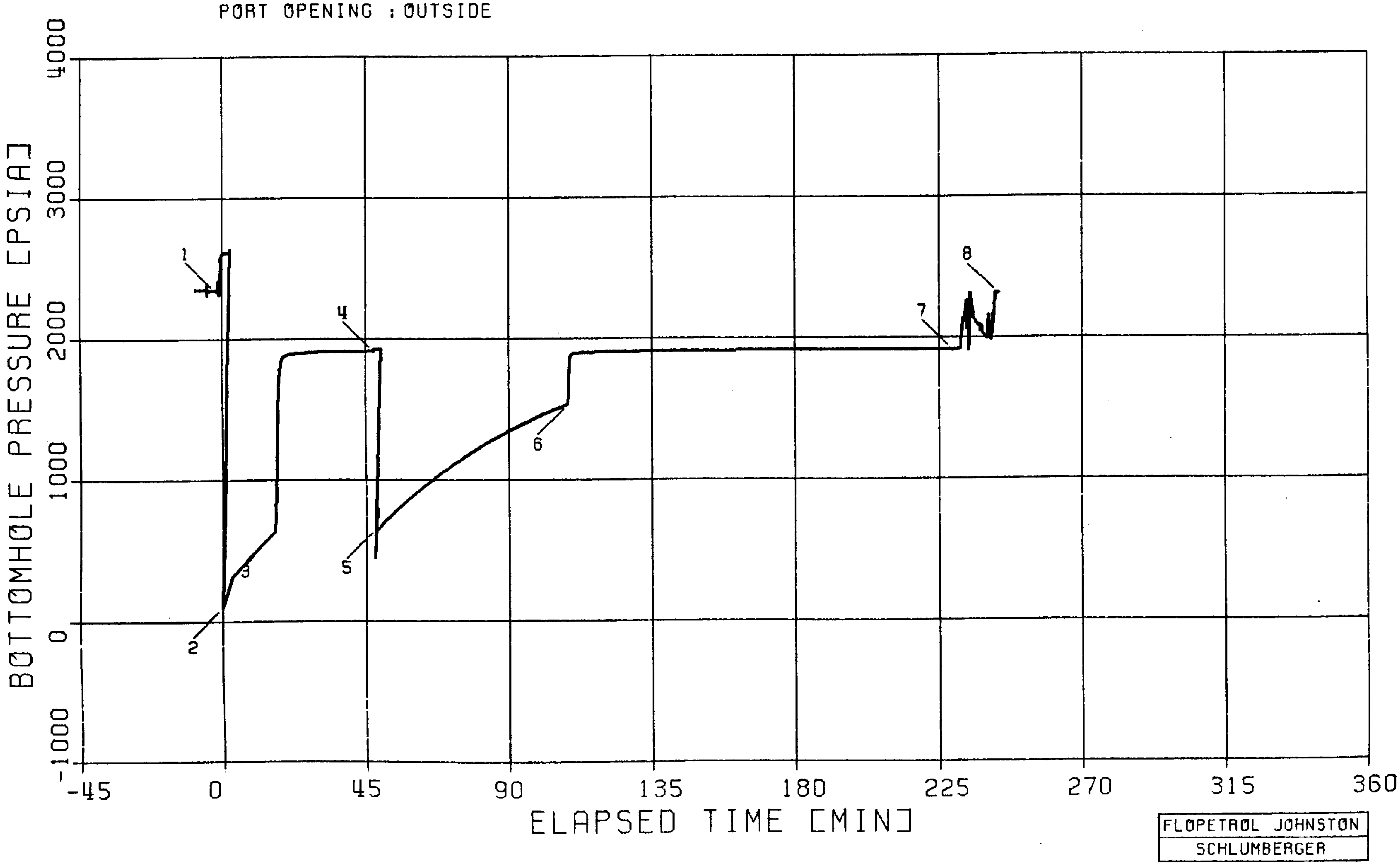
Field Report # 42934 E

DATE (M/D/Y)	TIME (HR:MIN)	EVENT E.T. (MIN)	EVENT DESCRIPTION	SURFACE PRESSURE (PSIG)	FLOOR MANIFOLD CHOKE SIZE (64ths INCH)
6-18-84	2006	—	SET PACKER 1		B
	2009	—	OPENED TEST TOOL FOR INITIAL FLOW 2	3 "	U
			BLOW INCHES IN WATER		B
	2017			39 "	B
	2024			60 "	L
					E
	2025	—	CLOSED TEST TOOL FOR INITIAL SHUT-IN 3	60 "	
	2028			50 "	H
					O
					S
	2056		FINISHED SHUT-IN 4	0 "	E
	2057	—	OPENED TEST TOOL FOR FINAL FLOW 5	1 1/4"	
	2058			9 "	1/8"
	2059			12 "	"
	2100			15 "	"
	2102			23 "	"
	2104			30 "	"
	2106			36 "	"
	2108			44 "	"
	2110			49 "	"
	2112			54 "	"
	2117			69 "	"
	2127			85 "	"
	2137			95 "	"
	2147			92 "	"
	2157			81 "	"
	2157		CLOSED FOR FINAL SHUT-IN 6	79 "	"
	2358	—	FINISHED FINAL SHUT-IN 7	0 "	"
6-19-84	0011	—	UNSEATED PACKER 8		–
		—	REVERSED OUT		
		—	BEGAN TRIP OUT OF HOLE		

BØTTØMHØLE PRESSURE LØG

FIELD REPØRT NØ. 42934E
INSTRUMENT NØ. J-1243
DEPTH : 4901 FT
CAPACITY : 2800 PSI
PØRT ØPENING : ØUTSIDE

CØMPANY : CHANDLER & ASSØCIATES, INC.
WELL : LAWRENCE STATE #15-1



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* WELL TEST DATA PRINTOUT *
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FIELD REPORT # : 42934E

COMPANY : CHANDLER & ASSOCIATES, INC.
WELL : LAWRENCE STATE #15-1

INSTRUMENT # : J-1243
CAPACITY [PSI] : 2800.
DEPTH [FT] : 4901.0
PORT OPENING : OUTSIDE
TEMPERATURE [DEG F] : 123.0

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MM	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA
1	20: 6:43	18-JN	HYDROSTATIC MUD	-2.28	2344
2	20: 9: 0	18-JN	START FLOW	0.00	96
3	20:25:22	18-JN	END FLOW & START SHUT-IN	16.36	634
4	20:56:20	18-JN	END SHUT-IN	47.34	1913
5	20:57: 9	18-JN	START FLOW	48.15	652
6	21:57:31	18-JN	END FLOW & START SHUT-IN	108.52	1530
7	23:58: 0	18-JN	END SHUT-IN	229.00	1917
8	0:12:16	19-JN	HYDROSTATIC MUD	243.27	2316

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	16.36	16.36	96	634
2	48.15	108.52	60.37	652	1530

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	16.36	47.34	30.98	634	1913	634	16.36
2	108.52	229.00	120.48	1530	1917	1530	76.73

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
20: 9: 0	18-JN	0.00	0.00	96
20:14: 0	18-JN	5.00	5.00	364
20:19: 0	18-JN	10.00	10.00	487
20:24: 0	18-JN	15.00	15.00	603
20:25:22	18-JN	16.36	16.36	634

TEST PHASE : SHUTIN PERIOD # 1
FINAL FLOW PRESSURE [PSIA] = 634
PRODUCING TIME [MIN] = 16.36

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
20:25:22	18-JN	16.36	0.00	634	0	
20:26:22	18-JN	17.36	1.00	1322	687	1.240
20:27:22	18-JN	18.36	2.00	1816	1182	0.963
20:28:22	18-JN	19.36	3.00	1873	1239	0.810
20:29:22	18-JN	20.36	4.00	1887	1253	0.707
20:30:22	18-JN	21.36	5.00	1893	1259	0.631
20:31:22	18-JN	22.36	6.00	1896	1262	0.571
20:32:22	18-JN	23.36	7.00	1899	1265	0.523
20:33:22	18-JN	24.36	8.00	1901	1267	0.484
20:34:22	18-JN	25.36	9.00	1902	1268	0.450
20:35:22	18-JN	26.36	10.00	1903	1269	0.421
20:37:22	18-JN	28.36	12.00	1905	1271	0.374
20:39:22	18-JN	30.36	14.00	1907	1273	0.336
20:41:22	18-JN	32.36	16.00	1908	1274	0.306
20:43:22	18-JN	34.36	18.00	1909	1275	0.281
20:45:22	18-JN	36.36	20.00	1910	1276	0.260
20:47:22	18-JN	38.36	22.00	1911	1277	0.241
20:49:22	18-JN	40.36	24.00	1911	1277	0.226
20:51:22	18-JN	42.36	26.00	1912	1278	0.212
20:53:22	18-JN	44.36	28.00	1912	1278	0.200
20:55:22	18-JN	46.36	30.00	1912	1278	0.189
20:56:20	18-JN	47.34	30.98	1913	1278	0.184

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
20:57: 9	18-JN	48.15	0.00	652
21: 2: 9	18-JN	53.15	5.00	754
21: 7: 9	18-JN	58.15	10.00	856
21:12: 9	18-JN	63.15	15.00	949
21:17: 9	18-JN	68.15	20.00	1037
21:22: 9	18-JN	73.15	25.00	1118
21:27: 9	18-JN	78.15	30.00	1192
21:32: 9	18-JN	83.15	35.00	1261
21:37: 9	18-JN	88.15	40.00	1324
21:42: 9	18-JN	93.15	45.00	1381
21:47: 9	18-JN	98.15	50.00	1434
21:52: 9	18-JN	103.15	55.00	1482
21:57: 9	18-JN	108.15	60.00	1527
21:57:31	18-JN	108.52	60.37	1530

TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1530
PRODUCING TIME [MIN] = 76.73

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
21:57:31	18-JN	108.52	0.00	1530	0	
21:58:31	18-JN	109.52	1.00	1876	346	1.891
21:59:31	18-JN	110.52	2.00	1892	362	1.595
22: 0:31	18-JN	111.52	3.00	1896	366	1.425
22: 1:31	18-JN	112.52	4.00	1898	367	1.305
22: 2:31	18-JN	113.52	5.00	1899	369	1.213
22: 3:31	18-JN	114.52	6.00	1900	370	1.140
22: 4:31	18-JN	115.52	7.00	1901	371	1.078
22: 5:31	18-JN	116.52	8.00	1902	372	1.025
22: 6:31	18-JN	117.52	9.00	1902	372	0.979
22: 7:31	18-JN	118.52	10.00	1903	373	0.938
22: 9:31	18-JN	120.52	12.00	1904	374	0.869
22:11:31	18-JN	122.52	14.00	1905	375	0.812
22:13:31	18-JN	124.52	16.00	1905	375	0.763
22:15:31	18-JN	126.52	18.00	1906	376	0.721
22:17:31	18-JN	128.52	20.00	1907	377	0.685
22:19:31	18-JN	130.52	22.00	1907	377	0.652
22:21:31	18-JN	132.52	24.00	1908	378	0.623
22:23:31	18-JN	134.52	26.00	1908	378	0.597
22:25:31	18-JN	136.52	28.00	1909	379	0.573
22:27:31	18-JN	138.52	30.00	1909	379	0.551
22:32:31	18-JN	143.52	35.00	1910	380	0.504
22:37:31	18-JN	148.52	40.00	1911	381	0.465
22:42:31	18-JN	153.52	45.00	1912	382	0.432

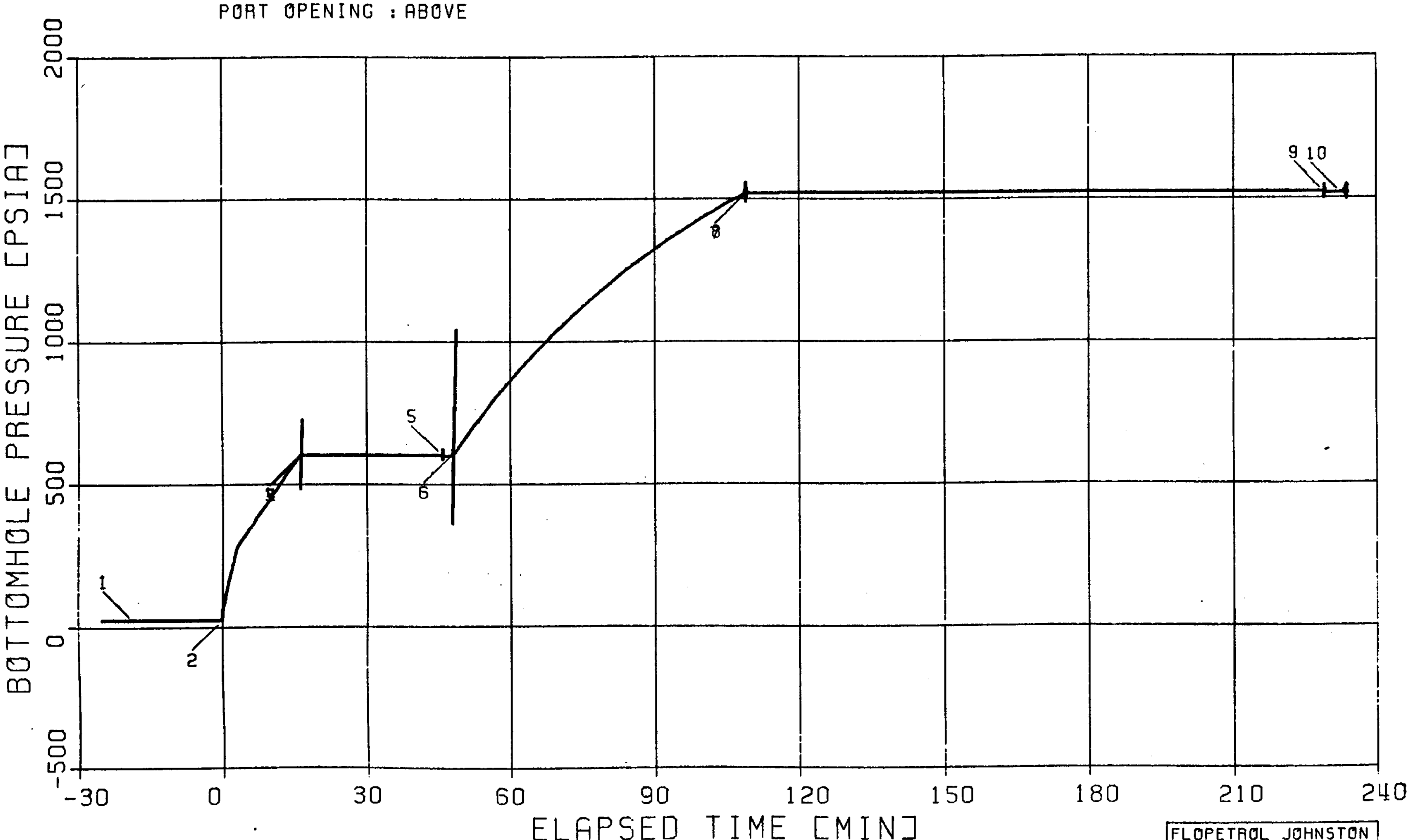
TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1530
PRODUCING TIME [MIN] = 76.73

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
********	*****	********	********	*********	*********	******
22:47:31	18-JN	158.52	50.00	1912	382	0.404
22:52:31	18-JN	163.52	55.00	1913	383	0.379
22:57:31	18-JN	168.52	60.00	1913	383	0.358
23: 2:31	18-JN	173.52	65.00	1914	384	0.339
23: 7:31	18-JN	178.52	70.00	1914	384	0.321
23:12:31	18-JN	183.52	75.00	1914	384	0.306
23:17:31	18-JN	188.52	80.00	1915	385	0.292
23:22:31	18-JN	193.52	85.00	1915	385	0.279
23:27:31	18-JN	198.52	90.00	1915	385	0.268
23:32:31	18-JN	203.52	95.00	1915	385	0.257
23:37:31	18-JN	208.52	100.00	1915	385	0.247
23:42:31	18-JN	213.52	105.00	1915	385	0.238
23:47:31	18-JN	218.52	110.00	1915	385	0.230
23:52:31	18-JN	223.52	115.00	1916	386	0.222
23:57:31	18-JN	228.52	120.00	1917	386	0.215
23:58: 0	18-JN	229.00	120.48	1917	386	0.214

BØTTØMHØLE PRESSURE LØG

FIELD REPØRT NØ. 42934E
INSTRUMENT NØ. J-080
DEPTH : 4846 FT
CAPACITY : 2800 PSI
PØRT ØPENING : ABØVE

CØMPANY : CHANDLER & ASSØCIATES, INC.
WELL : LAWRENCE STATE #15-1



FLØPETRØL JØHNSTØN
SCHLUMBERGER

****
* WELL TEST DATA PRINTOUT *
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FIELD REPORT # : 42934E

COMPANY : CHANDLER & ASSOCIATES, INC.
WELL : LAWRENCE STATE #15-1

INSTRUMENT # : J-080
CAPACITY [PSI] : 2800.
DEPTH [FT] : 4846.0
PORT OPENING : ABOVE
TEMPERATURE [DEG F] : 123.0

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MM	EXPLANATION	ELAPSED TIME,MIN	BOT HOLE PRESSURE PSIA
1	19:50:19	18-JN	HYDROSTATIC MUD	-18.69	25
2	20: 9: 0	18-JN	START FLOW	0.00	25
3	20:25: 4	18-JN	END FLOW	16.06	599
4	20:25:28	18-JN	START SHUT-IN	16.46	602
5	20:54:37	18-JN	END SHUT-IN	45.62	602
6	20:57: 9	18-JN	START FLOW	48.15	609
7	21:57:45	18-JN	END FLOW	108.75	1517
8	21:58: 5	18-JN	START SHUT-IN	109.09	1521
9	23:58: 0	18-JN	END SHUT-IN	229.00	1522
10	0: 1:34	19-JN	HYDROSTATIC MUD	232.56	1517

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	16.06	16.06	25	599
2	48.15	108.75	60.60	609	1517

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	16.46	45.62	29.16	602	602	599	16.06
2	109.09	229.00	119.91	1521	1522	1517	76.66

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
20: 9: 0	18-JN	0.00	0.00	25
20:14: 0	18-JN	5.00	5.00	327
20:19: 0	18-JN	10.00	10.00	452
20:24: 0	18-JN	15.00	15.00	574
20:25: 4	18-JN	16.06	16.06	599

TEST PHASE : SHUTIN PERIOD # 1
FINAL FLOW PRESSURE [PSIA] = 599
PRODUCING TIME [MIN] = 16.06

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
20:25:28	18-JN	16.46	0.00	602	3	
20:26:28	18-JN	17.46	1.00	602	3	1.232
20:27:28	18-JN	18.46	2.00	602	3	0.956
20:28:28	18-JN	19.46	3.00	602	3	0.803
20:29:28	18-JN	20.46	4.00	602	3	0.700
20:30:28	18-JN	21.46	5.00	602	3	0.624
20:31:28	18-JN	22.46	6.00	602	3	0.565
20:32:28	18-JN	23.46	7.00	602	3	0.518
20:33:28	18-JN	24.46	8.00	602	3	0.478
20:34:28	18-JN	25.46	9.00	602	3	0.445
20:35:28	18-JN	26.46	10.00	602	3	0.416
20:37:28	18-JN	28.46	12.00	602	3	0.369
20:39:28	18-JN	30.46	14.00	602	3	0.332
20:41:28	18-JN	32.46	16.00	602	3	0.302
20:43:28	18-JN	34.46	18.00	602	3	0.277
20:45:28	18-JN	36.46	20.00	602	3	0.256
20:47:28	18-JN	38.46	22.00	602	3	0.238
20:49:28	18-JN	40.46	24.00	602	3	0.222
20:51:28	18-JN	42.46	26.00	602	3	0.209
20:53:28	18-JN	44.46	28.00	602	3	0.197
20:54:37	18-JN	45.62	29.16	602	3	0.191

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
20:57: 9	18-JN	48.15	0.00	609
21: 2: 9	18-JN	53.15	5.00	721
21: 7: 9	18-JN	58.15	10.00	827
21:12: 9	18-JN	63.15	15.00	924
21:17: 9	18-JN	68.15	20.00	1013
21:22: 9	18-JN	73.15	25.00	1094
21:27: 9	18-JN	78.15	30.00	1168
21:32: 9	18-JN	83.15	35.00	1237
21:37: 9	18-JN	88.15	40.00	1301
21:42: 9	18-JN	93.15	45.00	1360
21:47: 9	18-JN	98.15	50.00	1415
21:52: 9	18-JN	103.15	55.00	1466
21:57: 9	18-JN	108.15	60.00	1512
21:57:45	18-JN	108.75	60.60	1517

TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1517
PRODUCING TIME [MIN] = 76.66

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
21:58: 5	18-JN	109.09	0.00	1521	4	
21:59: 5	18-JN	110.09	1.00	1521	4	1.890
22: 0: 5	18-JN	111.09	2.00	1521	4	1.595
22: 1: 5	18-JN	112.09	3.00	1521	4	1.424
22: 2: 5	18-JN	113.09	4.00	1521	4	1.305
22: 3: 5	18-JN	114.09	5.00	1521	4	1.213
22: 4: 5	18-JN	115.09	6.00	1521	4	1.139
22: 5: 5	18-JN	116.09	7.00	1522	5	1.077
22: 6: 5	18-JN	117.09	8.00	1522	5	1.025
22: 7: 5	18-JN	118.09	9.00	1522	5	0.979
22: 8: 5	18-JN	119.09	10.00	1522	5	0.938
22:10: 5	18-JN	121.09	12.00	1522	5	0.869
22:12: 5	18-JN	123.09	14.00	1522	5	0.811
22:14: 5	18-JN	125.09	16.00	1522	5	0.763
22:16: 5	18-JN	127.09	18.00	1522	5	0.721
22:18: 5	18-JN	129.09	20.00	1522	5	0.684
22:20: 5	18-JN	131.09	22.00	1522	5	0.652
22:22: 5	18-JN	133.09	24.00	1522	5	0.623
22:24: 5	18-JN	135.09	26.00	1522	5	0.596
22:26: 5	18-JN	137.09	28.00	1522	5	0.573
22:28: 5	18-JN	139.09	30.00	1522	5	0.551
22:33: 5	18-JN	144.09	35.00	1522	5	0.504
22:38: 5	18-JN	149.09	40.00	1522	5	0.465
22:43: 5	18-JN	154.09	45.00	1522	5	0.432

TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1517
PRODUCING TIME [MIN] = 76.66

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
********	*****	********	********	*********	********	******
22:48: 5	18-JN	159.09	50.00	1522	5	0.404
22:53: 5	18-JN	164.09	55.00	1522	5	0.379
22:58: 5	18-JN	169.09	60.00	1522	5	0.357
23: 3: 5	18-JN	174.09	65.00	1522	5	0.338
23: 8: 5	18-JN	179.09	70.00	1522	5	0.321
23:13: 5	18-JN	184.09	75.00	1522	5	0.306
23:18: 5	18-JN	189.09	80.00	1522	5	0.292
23:23: 5	18-JN	194.09	85.00	1522	5	0.279
23:28: 5	18-JN	199.09	90.00	1522	5	0.268
23:33: 5	18-JN	204.09	95.00	1522	5	0.257
23:38: 5	18-JN	209.09	100.00	1522	5	0.247
23:43: 5	18-JN	214.09	105.00	1522	5	0.238
23:48: 5	18-JN	219.09	110.00	1522	5	0.230
23:53: 5	18-JN	224.09	115.00	1522	5	0.222
23:58: 0	18-JN	229.00	119.91	1522	5	0.215

Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

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DIVISION OF OIL GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.: ML-34259

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: --------------

7. UNIT AGREEMENT NAME: --------------

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Chandler & Associates, Inc.

8. FARM OR LEASE NAME: Lawrence

3. ADDRESS OF OPERATOR: 1400 Lincoln Tower Building, Denver, Colorado 80203

9. WELL NO.: 15-1

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
660' FSL; 1980' FEL (SW SE)

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 1-18S-8E

14. PERMIT NO.: 43-015-30192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5726' Ground

12. COUNTY OR PARISH: Emery

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]
(Other)			[ ]

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
(Other) Information Update			[ ]

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

5-15-84 SPUD 6 AM.
5-29-84 Depth 1,690'. Set 41 jts 13 3/8" 54.5# surf csg at 1690' w/935 sx Howco Lite, 2% CaCl, 1/4#/sk flocele, 10% Gilsonite followed by 200 sx Class "G", 2% CaCl, 1/4#/sk flocele. Plug down 9:30 PM w/good returns.
6-19-84 Depth 4,940'. Ran DST #1 in Navajo from 4896-4940'. 15", 32", 60", 121". Rec 218' mud, 3202' fresh wtr. No GTS. Sampler: 2100 cc fresh water.
6-28-84 Depth 5,517'. Prep to Whipstock.
6-29-84 Depth 4,575'. WOC. Plugged back w/165 sx Class "G", 3% salt.

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

SIGNED Hugo Cartaya TITLE Petroleum Engineer DATE 6-28-84
Hugo Cartaya

(This space for Federal or State office use)

APPROVED BY ____________ TITLE ____________ DATE ____________
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UINTA RESEARCH & ANALYTICAL SERVICES
291 EAST 200 NORTH (801) 722-2532
ROOSEVELT,UTAH 84066

— file

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JUL 25 1984
DIVISION OF OIL
GAS & MINING

SAMPLE PRODUCED BY: CHANDLER & ASSOCIATE

LOCATION: DENVER COLORADO
SAMPLE #: GC 2475
LINE PRESS:
CYL PRESS:
DATE SAMPLED :7-19-84

ANALYSIS DATE: 7-20-84
CYL #:
WELL #:LAWRENCE STATE 15-1
SAMPLED BY:
ANALYST:JS

BTU/CU FT (BASE PRESS DRY @ 14.73)= 18.5
BTU/CU FT (BASE PRESS WET @ 14.73 = 18.1782
SPECIFIC GRAVITY/BASED ON ANALYSIS(VAPOR)= 1.4852
SPECIFIC GRAVITY/BASED ON ANALYSIS(LIQUID)= .6322
SPECIFIC GRAVITY/RANAREX FIELD OBSERVED=

PSEUDOCRITICAL TEMPERATURE= 497 RANKIN
PSEUDOCRITICAL PRESSURE= 1044 PSIA

ABSOLUTE VIS = 9.53414E-6 (LB MASS/FT SEC. @ 40 1 ATM)

COMPONENT	MOL %	LIQ VOL%	GAL/MCF
HYDROGEN SULFIDE	0		
HYDROGEN	0		
NITROGEN	3.53		
OXYGEN	0		
METHANE	1.54		
CARBON DIOXIDE	94.83		
CARBON MONOXIDE	0		
ETHANE	.06		
ETHYLENE	0		
PROPANE	0	0	0
PROPYLENE	0	0	0
ISOBUTANE	0	0	0
N-BUTANE	.02	43.38	.01
BUTENE-1, I-BU	0	0	0
TRANS-BUTENE-2	0	0	0
CIS-BUTENE-2	0	0	0
ISOPENTANE	0	0	0
N-PENTANE	0	0	0
C5 UNSAT, C6 PLUS	.02	56.61	.01
TOTAL	100	99.99	.02

REMARKS :WILDCAT-DST #3

THANK YOU FOR THE BUSINESS

JAMES [illegible]

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JUL 30 1984

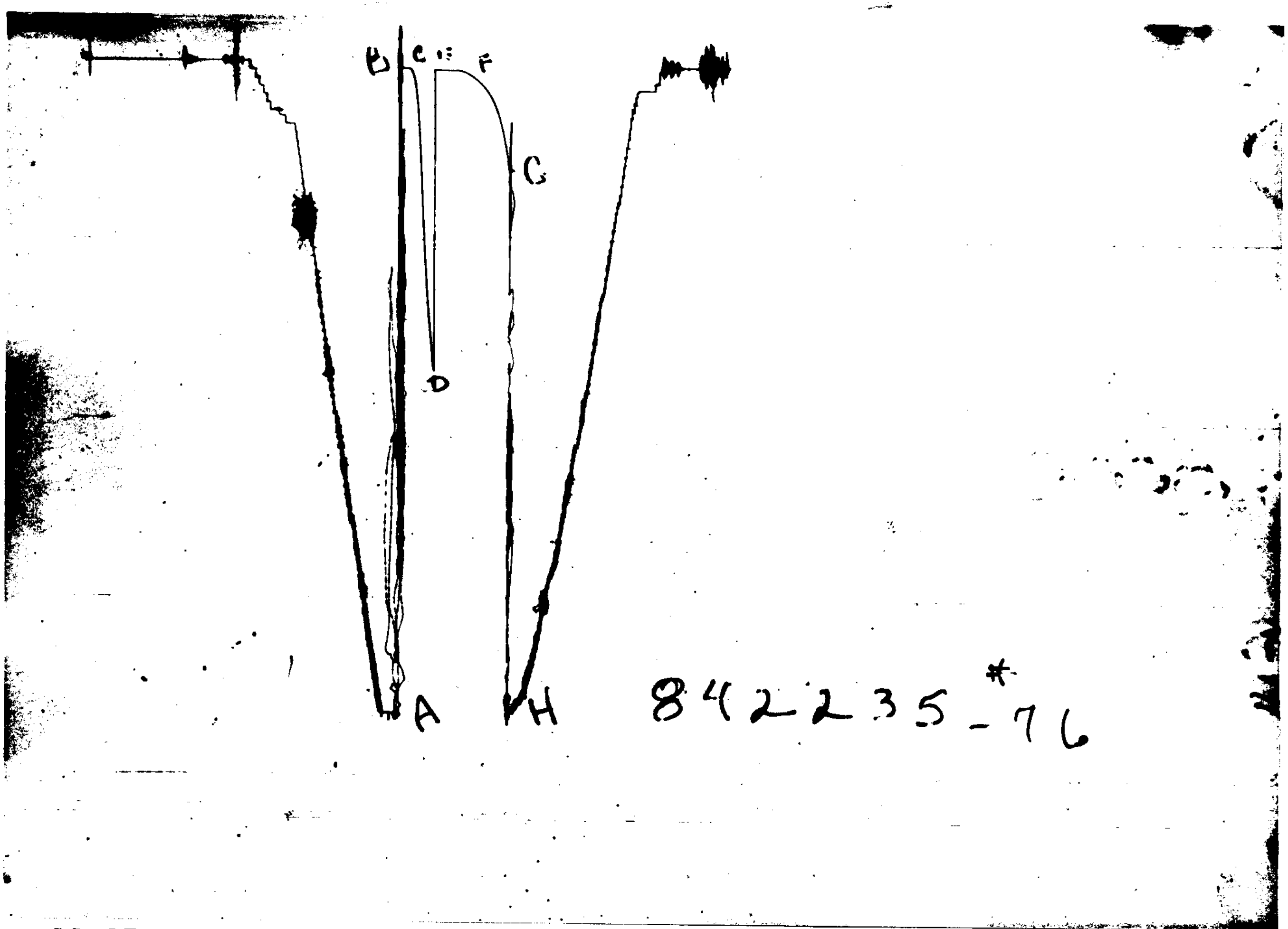
DIVISION OF OIL
GAS & MINING

HALLIBURTON
SERVICES

TICKET NO. 84223500
26-JUL-84
VERNAL

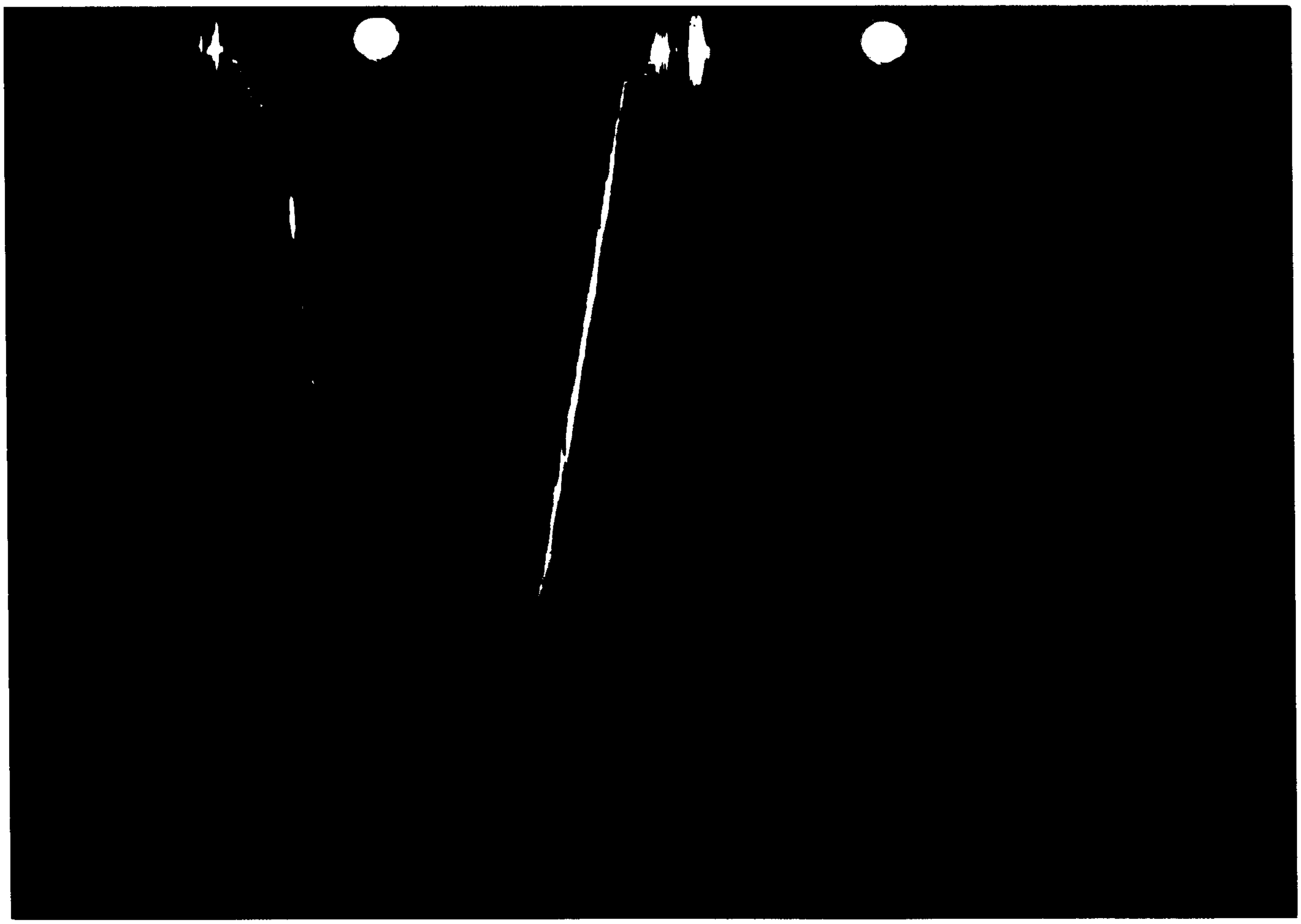
FORMATION TESTING SERVICE REPORT

LEASE NAME	LAWRENCE STATE
WELL NO.	1-15
TEST NO.	4
TESTED INTERVAL	7450.' - 7503.'
LEASE OWNER/COMPANY NAME	CHANDLER AND ASSOCIATES, INCORPORATED
LEGAL LOCATION SEC. - TWP. - RNG.	SEC. 1 T 18S - R 8E
FIELD AREA	WILDCAT
COUNTY	EMERY
STATE	UTAH NM



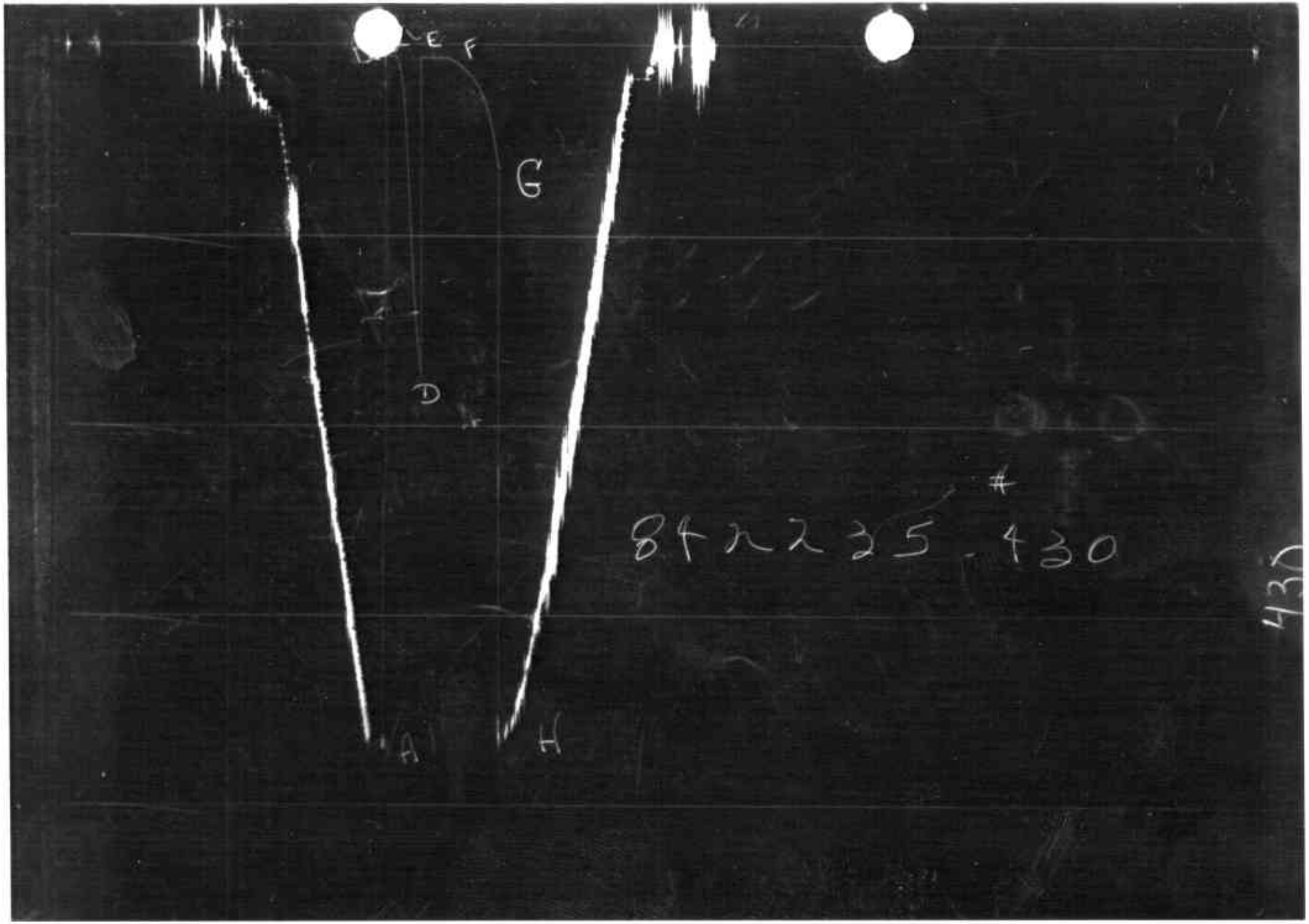
GAUGE NO: 76 DEPTH: 7427.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3627	3635.1			
B	INITIAL FIRST FLOW	42	31.6	11.0	11.0	F
C	FINAL FIRST FLOW	56	34.7			
C	INITIAL FIRST CLOSED-IN	56	34.7	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	1704	1714.7			
E	INITIAL SECOND FLOW	42	42.5	30.0	30.0	F
F	FINAL SECOND FLOW	42	45.5			
F	INITIAL SECOND CLOSED-IN	42	45.5	60.0	60.0	C
G	FINAL SECOND CLOSED-IN	585	609.8			
H	FINAL HYDROSTATIC	3641	3633.8			



GAUGE NO: 430 DEPTH: 7500.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3645	3649.3			
B	INITIAL FIRST FLOW	53	57.9	11.0	11.0	F
C	FINAL FIRST FLOW	53	59.0			
C	INITIAL FIRST CLOSED-IN	53	59.0	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	1714	1728.9			
E	INITIAL SECOND FLOW	66	70.7	30.0	30.0	F
F	FINAL SECOND FLOW	66	69.3			
F	INITIAL SECOND CLOSED-IN	66	69.3	60.0	60.0	C
G	FINAL SECOND CLOSED-IN	636	641.7			
H	FINAL HYDROSTATIC	3672	3648.8			



GAUGE NO: 430 DEPTH: 2500.0 BLANKED OFF: YES HOUR OF CLOCK: 24

0 8 3

EQUIPMENT & HOLE DATA

FORMATION TESTED: TOROWEAP
NET PAY (ft):
GROSS TESTED FOOTAGE: 53.0
ALL DEPTHS MEASURED FROM: GROUND LEVEL
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.750
ELEVATION (ft): 5726
TOTAL DEPTH (ft): 7503.0
PACKER DEPTH(S) (ft): 7442, 7450
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.20
MUD VISCOSITY (sec):
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 140 @ 7500.0 ft

TICKET NUMBER: 84223500

DATE: 7-23-84 TEST NO: 4

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: SCOTT R. PITT

WITNESS: CLAYTON LOFFERTY

DRILLING CONTRACTOR: LOFFLAND # 1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	1.200 @ 75 °F	4848 ppm
TOP	1.200 @ 75 °F	4800 ppm
MIDDLE	1.200 @ 75 °F	4800 ppm
BOTTOM	1.200 @ 75 °F	4800 ppm
SAMPLER	1.200 @ 0 °F	4800 ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 2
cu.ft. OF GAS: 0.00
cc OF OIL: 0
cc OF WATER: 0
cc OF MUD: 1350
TOTAL LIQUID cc: 1350

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

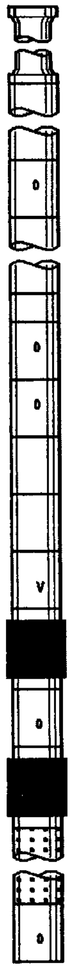
20 FEET OF DRILLING MUD

MEASURED FROM TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: LT 20 MANIFOLD					TICKET NO: 84223500
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-22-84					
1800					CALLED OUT.
2100					ON LOCATION.
2200					STARTED OPERATIONS.
2230					STARTED CLOCKS.
2400					PICKED UP THE TOOL.
7-23-84					
0130					TRIP IN THE HOLE.
0430					RIGGED UP CONTROL HEAD.
0443					SET PACKERS.
0444					TOOL OPENED - SURFACE BLOW IN
					A 5 GALLON BUCKET OF WATER.
0455					CLOSED TOOL WITH 1/4" BLOW IN
					A 5 GALLON BUCKET OF WATER.
0525					OPENED TOOL FOR THE SECOND FLOW
					WITH A SURFACE BLOW IN A 5
					GALLON BUCKET OF WATER.
0550					BLOW WAS DEAD.
0555					CLOSED TOOL.
0655					OPENED BYPASS.
0705					TRIP OUT OF THE HOLE.
1100					TOOLS AT THE TABLE.
1210					FINISHED JOB.

TICKET NO. 84223500



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE......................	4.500	3.826	6779.0	
3	DRILL COLLARS...................	6.750	2.875	541.0	
50	IMPACT REVERSING SUB............	6.500	3.000	1.0	7320.0
3	DRILL COLLARS...................	6.750	2.875	92.0	
5	CROSSOVER.......................	5.750	2.000	1.0	
13	DUAL CIP SAMPLER................	5.000	0.750	6.8	
60	HYDROSPRING TESTER..............	5.000	0.750	5.0	7425.0
80	AP RUNNING CASE.................	5.000	2.250	4.1	7427.0
15	JAR.............................	5.000	1.750	5.0	
16	VR SAFETY JOINT.................	5.000	1.000	2.8	
70	OPEN HOLE PACKER................	7.750	1.530	5.8	7442.0
18	DISTRIBUTOR VALVE...............	5.000	1.680	2.2	
70	OPEN HOLE PACKER................	7.750	1.530	5.8	7450.0
20	FLUSH JOINT ANCHOR..............	5.750	2.870	47.4	
81	BLANKED-OFF RUNNING CASE........	5.750		4.2	7500.0

TOTAL DEPTH 7503.0

EQUIPMENT DATA

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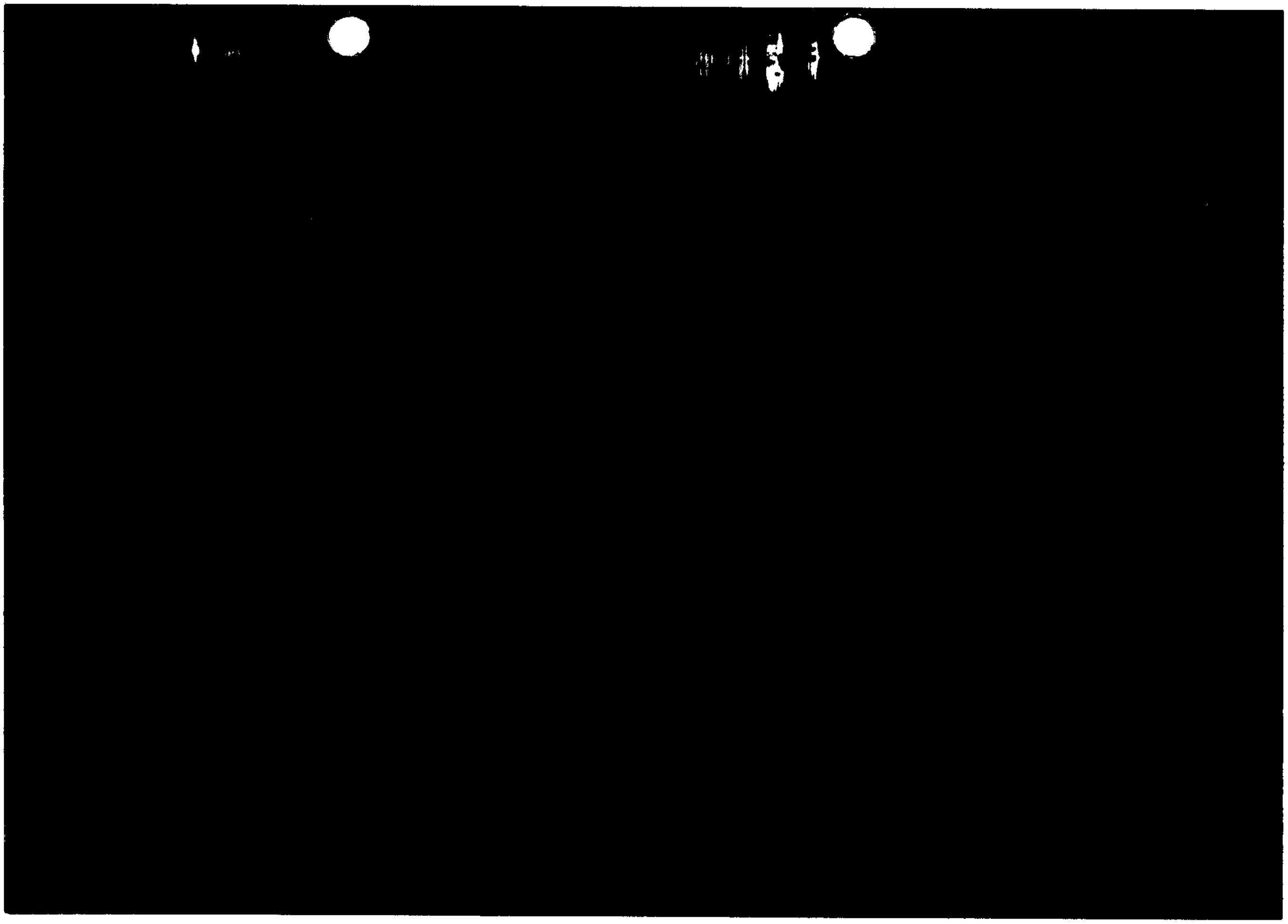
DIVISION OF OIL
GAS & MINING

HALLIBURTON
SERVICES

TICKET NO. 74047000
24-JUL-84
VERNAL

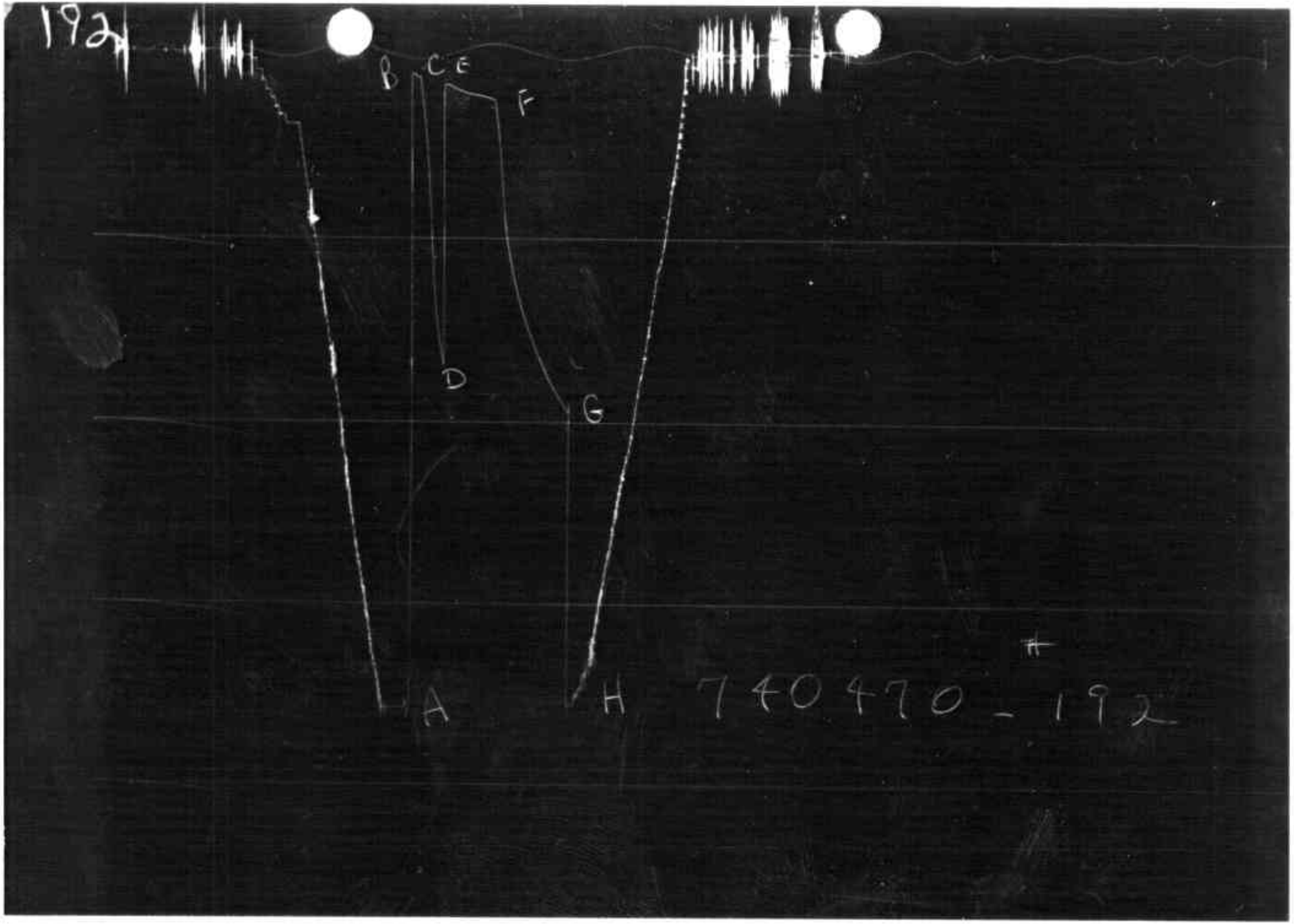
LEASE NAME	LAWRENCE STATE
WELL NO.	15-1
TEST NO.	3
TESTED INTERVAL	7130.' - 7224.'
LEASE OWNER/COMPANY NAME	CHANDLER AND ASSOCIATES,INCORPORATED
LEGAL LOCATION SEC. - TWP. - RNG.	SEC. 1, T 18S, R 8E
FIELD AREA	WILDCAT
COUNTY	EMERY
STATE	UTAH NM

FORMATION TESTING SERVICE REPORT

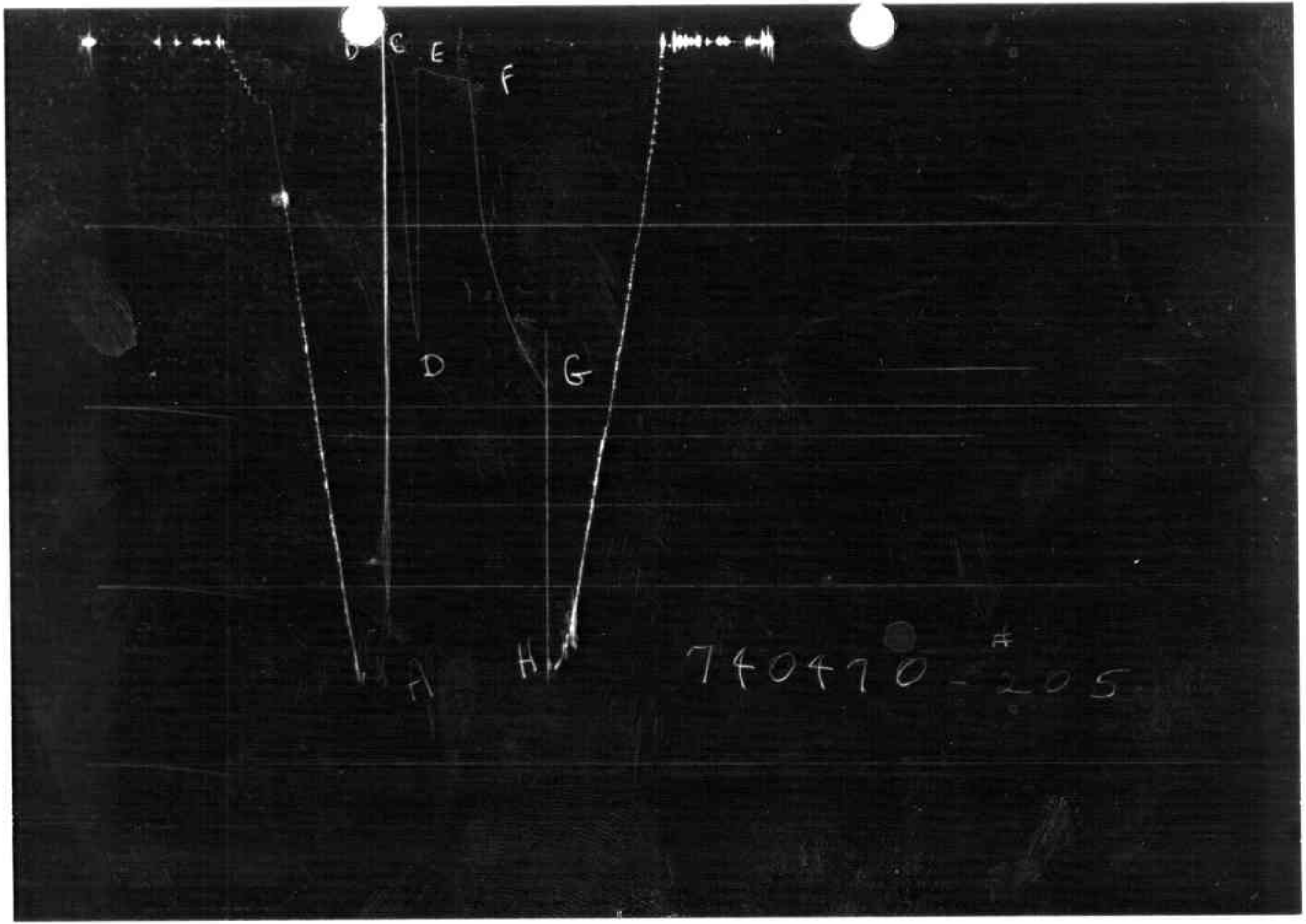


GAUGE NO: 192 DEPTH: 7221.0 BLANKED OFF: YES HOUR OF CLOCK: 24

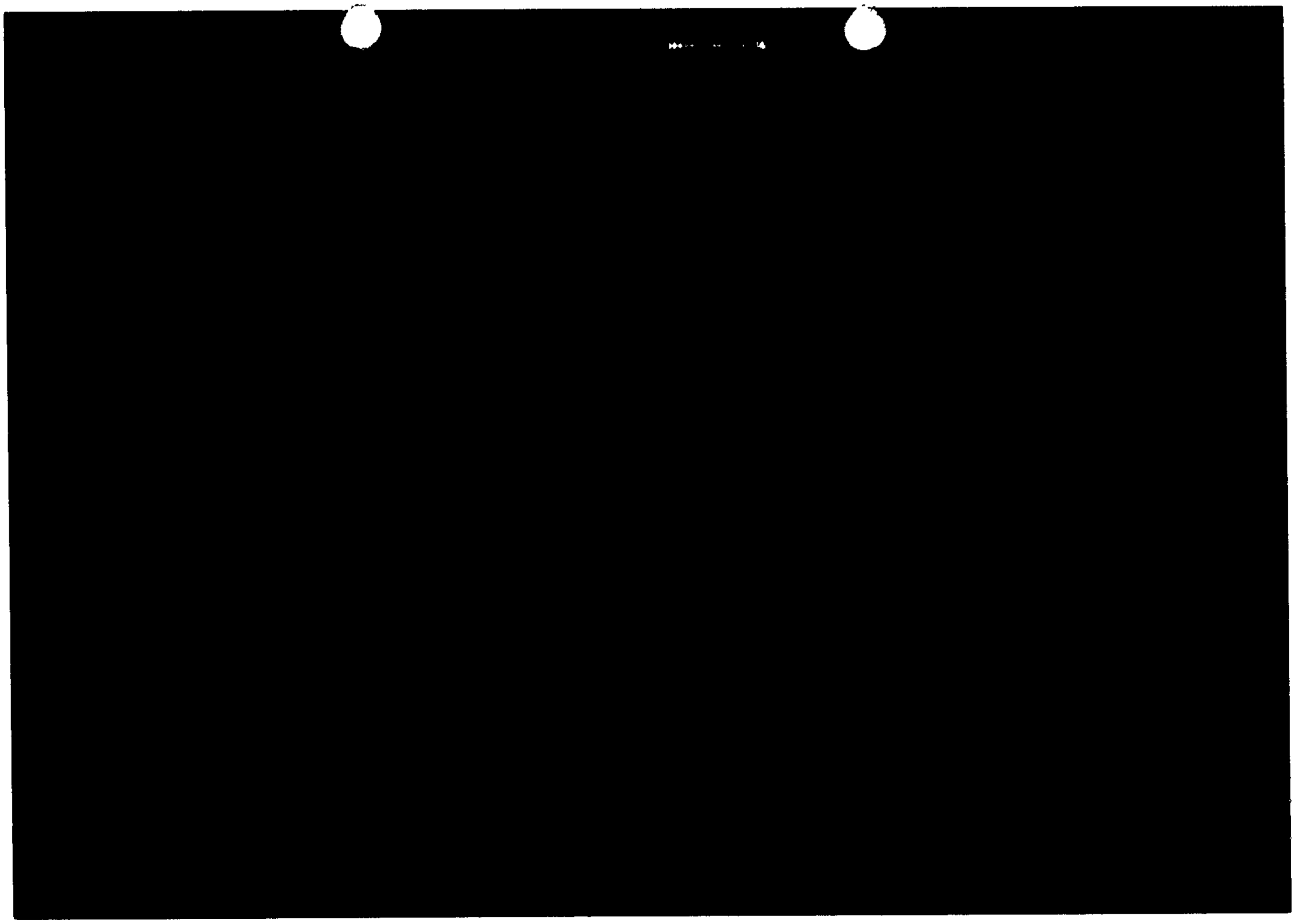
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3568	3574.2			
B	INITIAL FIRST FLOW	135	116.5	10.0	10.2	F
C	FINAL FIRST FLOW	148	131.6			
C	INITIAL FIRST CLOSED-IN	148	131.6	30.0	28.1	C
D	FINAL FIRST CLOSED-IN	1713	1682.8			
E	INITIAL SECOND FLOW	175	183.8	60.0	60.0	F
F	FINAL SECOND FLOW	243	252.0			
F	INITIAL SECOND CLOSED-IN	243	252.0	90.0	90.0	C
G	FINAL SECOND CLOSED-IN	1970	1941.8			
H	FINAL HYDROSTATIC	3568	3550.0			



[illegible] NO: [illegible] DEPTH: [illegible] [illegible] OFF: [illegible] HOUR OF [illegible]: [illegible]



GOUGE NO.: [illegible] DEPTH: [illegible] CLAMPED OFF: [illegible] HOUR OF CLOCK: [illegible]



GAUGE NO: 205 DEPTH: 7106.9 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3491	3515.2			
B	INITIAL FIRST FLOW	41	57.3	10.0	10.2	F
C	FINAL FIRST FLOW	55	95.5			
C	INITIAL FIRST CLOSED-IN	55	95.5	30.0	28.1	C
D	FINAL FIRST CLOSED-IN	1640	1631.0			
E	INITIAL SECOND FLOW	137	153.6	60.0	60.0	F
F	FINAL SECOND FLOW	192	207.2			
F	INITIAL SECOND CLOSED-IN	192	207.2	90.0	90.0	C
G	FINAL SECOND CLOSED-IN	1887	1890.5			
H	FINAL HYDROSTATIC	3436	3492.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: KAIBAB
NET PAY (ft):
GROSS TESTED FOOTAGE: 94.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.750
ELEVATION (ft): 5726
TOTAL DEPTH (ft): 7224.0
PACKER DEPTH(S) (ft): 7122, 7130
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.20
MUD VISCOSITY (sec): 48
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 145 @ 7220.0 ft

TICKET NUMBER: 74047000

DATE: 7-18-84 TEST NO: 3

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: CLIFFORD L. RICHARDS

WITNESS: LARRY PRENDERGAST

DRILLING CONTRACTOR: LOFFLAND DRILLING # 1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	1.000 @ 78 °F	ppm
TOP - MUD	1.100 @ 80 °F	ppm
MIDDLE-MUD-GAS CUT	1.100 @ 80 °F	ppm
BOTTOM	1.000 @ 80 °F	ppm
SAMPLER	1.000 @ 80 °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 1200
cu.ft. OF GAS: 1.43
cc OF OIL: 0
cc OF WATER: 0
cc OF MUD: 1800
TOTAL LIQUID cc: 1800

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

485 FEET OF HIGHLY GAS CUT MUD

MEASURED FROM TESTER VALVE

REMARKS:

ELEVATION REPORTED IS AT GROUND LEVEL.

TYPE & SIZE MEASURING DEVICE:					TICKET NO: 74047000
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-18-84					
1530					CALLED OUT.
1730					LEFT SHOP.
2200					ON LOCATION.
2220					STARTED CLOCKS.
2300					PICKED UP THE TOOLS.
7-19-84					
0005					TRIP IN THE HOLE.
0402					SET PACKERS.
0405	*				TOOL OPENED - 1/2" BLOW IN A 5
					GALLON BUCKET.
0407					BLEW TO THE BOTTOM OF THE BUCKET
0413		2#			
0415					CLOSED TOOL.
0445	*				OPENED TOOL - 4" BLOW IN A 5
					GALLON BUCKET OF WATER.
0447		10 OZ.			
0450		16 OZ.			
0455		20 OZ.			
0458		2#			
0503		2.5#			
0515		2#			
0520		1#			
0530		14 OZ.			
0535		12.5 OZ			
0540		11.5 OZ			
0545		10.5 OZ			
0545					CLOSED TOOL FOR THE FINAL
					CLOSED IN PRESSURRE.
0715					FINISHED CLOSED IN.
0717					OPENED BYPASS AND PULLED
					PACKER LOOSE.
0725					TRIP OUT OF THE HOLE.
1125					OUT OF THE HOLE WITH THE TOOL.
1135					DRAINED SAMPLER AND LAID DOWN
					THE TOOL.
1335					JOB COMPLETE.

TICKET NO: 74047000	GAUGE NO: 205
CLOCK NO: 11654 HOUR: 24	DEPTH: 7106.9

HALLIBURTON SERVICES

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	57.3			
2	2.0	66.1	8.8		
3	4.0	70.9	4.8		
4	6.0	86.2	15.3		
5	8.0	94.0	7.8		
C 6	10.2	95.5	1.5		
		FIRST CLOSED-IN			
C 1	0.0	95.5			
2	2.0	170.9	75.4	1.7	0.781
3	4.0	260.2	164.7	2.9	0.548
4	6.0	350.5	255.0	3.8	0.433
5	8.0	440.0	344.4	4.5	0.358
6	10.0	564.5	469.0	5.1	0.306
7	12.0	730.7	635.2	5.5	0.267
8	13.9	954.8	859.3	5.9	0.239
9	16.0	1136.0	1040.5	6.2	0.215
10	18.0	1259.5	1163.9	6.5	0.195
11	20.0	1365.9	1270.4	6.8	0.179
12	22.0	1457.8	1362.3	7.0	0.166
13	24.0	1519.7	1424.1	7.2	0.154
14	25.9	1577.1	1481.6	7.3	0.144
D 15	28.1	1631.0	1535.4	7.5	0.135
		SECOND FLOW			
E 1	0.0	153.6			
2	5.0	142.4	-11.2		
3	10.0	148.9	6.4		
4	15.0	158.7	9.9		
5	20.0	167.0	8.2		
6	25.0	173.0	6.0		
7	30.0	179.8	6.9		
8	35.0	182.0	2.2		
9	40.0	186.3	4.2		
10	45.0	189.2	2.9		
11	50.0	195.6	6.4		
12	55.0	200.5	4.9		
F 13	60.0	207.2	6.7		
		SECOND CLOSED-IN			
F 1	0.0	207.2			
2	5.0	376.6	169.4	4.6	1.179
3	10.0	689.1	481.9	8.8	0.903
4	15.0	946.9	739.7	12.4	0.753
5	20.0	1084.2	877.0	15.6	0.654
6	25.0	1183.4	976.2	18.4	0.581

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
7	30.0	1270.7	1063.5	21.0	0.524
8	35.0	1344.2	1137.0	23.4	0.478
9	40.0	1417.5	1210.3	25.5	0.440
10	45.0	1486.2	1279.0	27.4	0.408
11	50.0	1547.3	1340.1	29.2	0.381
12	55.0	1602.1	1394.9	30.8	0.357
13	60.0	1653.4	1446.2	32.4	0.337
14	65.0	1701.7	1494.5	33.8	0.318
15	70.0	1744.6	1537.4	35.1	0.302
16	75.0	1784.7	1577.5	36.3	0.287
17	80.0	1822.5	1615.3	37.4	0.274
18	85.0	1860.7	1653.5	38.4	0.262
G 19	90.0	1890.5	1683.3	39.4	0.251

REMARKS:

TICKET NO: 74047000	GAUGE NO: 192
CLOCK NO: 2786 HOUR: 24	DEPTH: 7221.0

HALLIBURTON SERVICES

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	116.5			
2	2.0	115.0	-1.5		
3	4.0	120.7	5.7		
4	6.0	130.0	9.3		
5	8.0	133.8	3.8		
C 6	10.2	131.6	-2.2		
		FIRST CLOSED-IN			
C 1	0.0	131.6			
2	2.0	218.7	87.1	1.7	0.784
3	4.0	302.9	171.3	2.9	0.551
4	6.0	395.9	264.3	3.8	0.431
5	8.0	498.4	366.7	4.5	0.359
6	10.0	635.5	503.9	5.1	0.306
7	12.0	831.1	699.5	5.5	0.267
8	14.0	1015.4	883.8	5.9	0.239
9	16.0	1215.9	1084.3	6.2	0.214
10	18.0	1354.9	1223.2	6.5	0.195
11	20.0	1444.6	1313.0	6.8	0.179
12	22.0	1518.2	1386.5	7.0	0.166
13	24.0	1578.8	1447.2	7.2	0.154
14	26.0	1635.6	1504.0	7.3	0.144
D 15	28.1	1682.8	1551.2	7.5	0.135
		SECOND FLOW			
E 1	0.0	183.8			
2	5.0	174.0	-9.8		
3	10.0	184.7	10.7		
4	15.0	196.2	11.5		
5	20.0	205.1	8.9		
6	25.0	212.9	7.8		
7	30.0	221.0	8.1		
8	35.0	224.0	3.0		
9	40.0	228.2	4.2		
10	45.0	231.6	3.4		
11	50.0	238.9	7.3		
12	55.0	244.8	5.9		
F 13	60.0	252.0	7.1		
		SECOND CLOSED-IN			
F 1	0.0	252.0			
2	5.0	437.8	185.8	4.7	1.176
3	10.0	737.7	485.7	8.7	0.905
4	15.0	994.9	743.0	12.3	0.755
5	20.0	1135.0	883.0	15.6	0.654
6	25.0	1241.9	990.0	18.5	0.581
		SECOND CLOSED-IN - CONTINUED			
7	30.0	1333.2	1081.2	21.0	0.523
8	35.0	1409.0	1157.1	23.4	0.478
9	40.0	1478.1	1226.2	25.5	0.440
10	45.0	1539.2	1287.3	27.4	0.408
11	50.0	1600.6	1348.6	29.2	0.381
12	55.0	1654.1	1402.2	30.8	0.357
13	60.0	1707.5	1455.6	32.4	0.336
14	65.0	1755.5	1503.6	33.8	0.318
15	70.0	1796.1	1544.1	35.1	0.302
16	75.0	1838.2	1586.3	36.3	0.287
17	80.0	1873.1	1621.2	37.4	0.274
18	85.0	1912.3	1660.4	38.5	0.262
G 19	90.0	1941.8	1689.8	39.4	0.251

REMARKS:

TICKET NO. 74047000

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....................	4.500	3.826	6516.3	
3	DRILL COLLARS..................	6.750	2.250	455.3	
50	IMPACT REVERSING SUB...........	6.750	3.000	1.2	6972.0
3	DRILL COLLARS..................	6.750	2.250	120.0	
5	CROSSOVER......................	6.500	2.250	1.2	
13	DUAL CIP SAMPLER...............	5.000	0.750	6.8	
60	HYDROSPRING TESTER.............	5.000	0.750	5.0	7104.9
80	AP RUNNING CASE................	5.000	2.100	4.1	7106.9
15	JAR............................	5.000	1.750	5.0	
16	VR SAFETY JOINT................	5.000	1.000	2.8	
70	OPEN HOLE PACKER...............	7.750	1.530	5.8	7122.0
18	DISTRIBUTOR VALVE..............	5.000	1.680	2.2	
70	OPEN HOLE PACKER...............	7.750	1.530	5.8	7130.0
20	FLUSH JOINT ANCHOR.............	5.750	2.870	15.0	
5	CROSSOVER......................	6.500	2.250	1.0	
3	DRILL COLLARS..................	6.750	2.250	58.1	
5	CROSSOVER......................	6.750	2.250	3.2	
5	CROSSOVER......................	5.750	2.250	1.0	
20	FLUSH JOINT ANCHOR.............	5.750	2.870	10.0	
81	BLANKED-OFF RUNNING CASE.......	5.750		4.2	7221.0
	TOTAL DEPTH				7224.0

EQUIPMENT DATA

RECEIVED

JUL 30 1984

DIVISION OF OIL
GAS & MINING

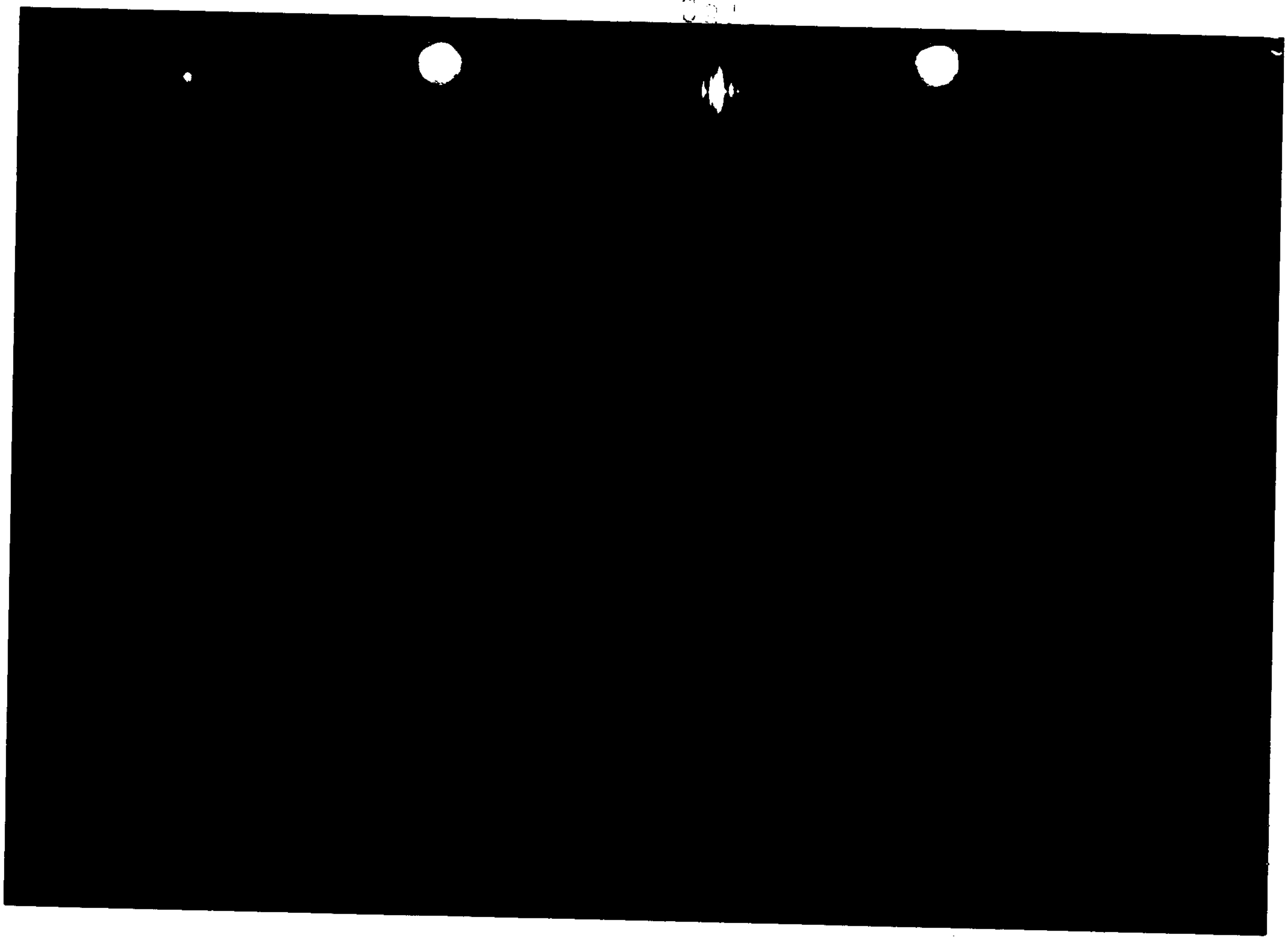
HALLIBURTON
SERVICES

TICKET NO. 74046900
24-JUL-84
VERNAL

FORMATION TESTING SERVICE REPORT

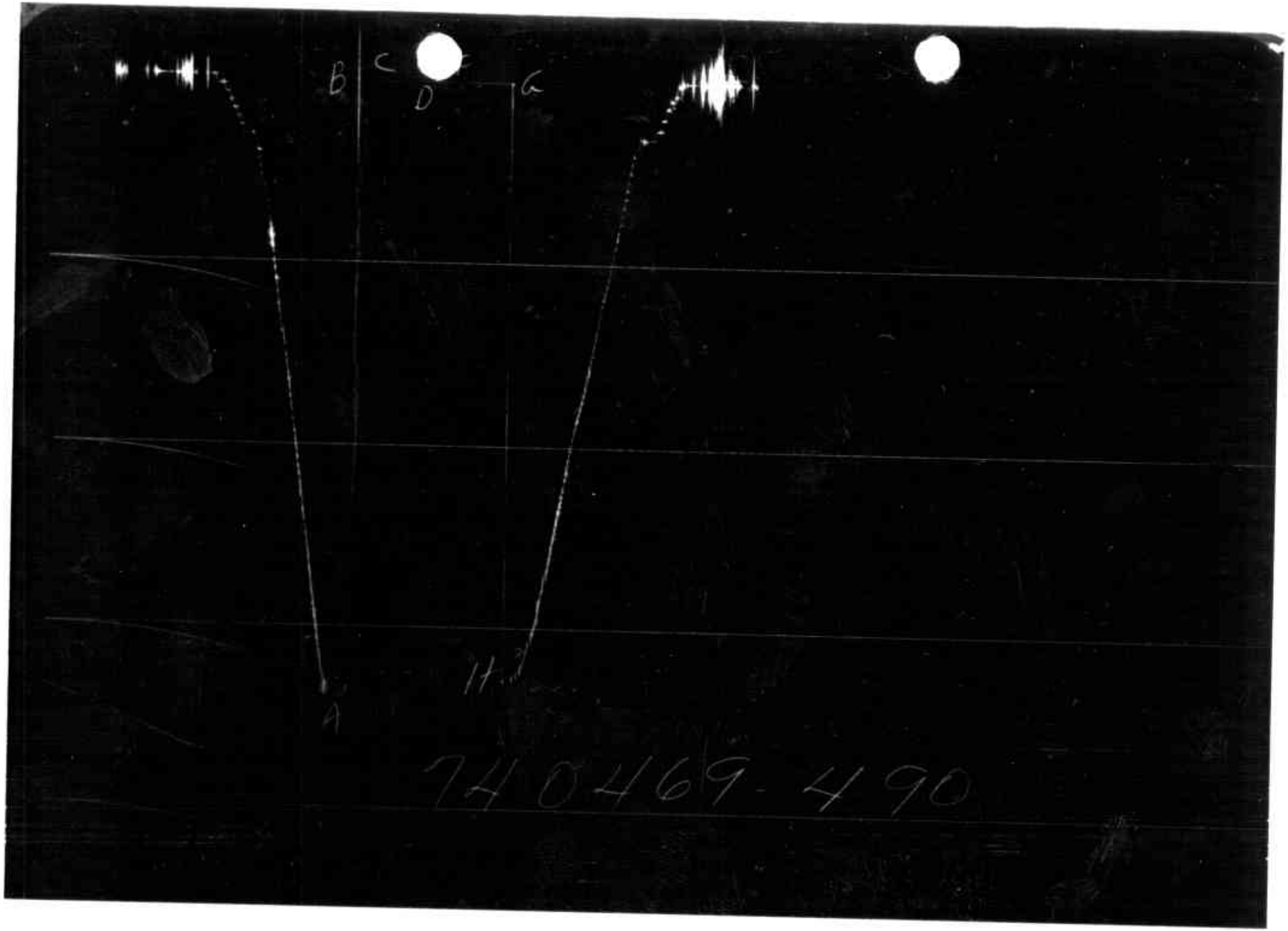
LAWRENCE STATE — LEASE NAME
15-1 — WELL NO.
2 — TEST NO.
6795.' - 6840.' — TESTED INTERVAL
CHANDLER AND ASSOCIATES — LEASE OWNER/COMPANY NAME

LEGAL LOCATION SEC. - TWP. - RNG. — 1 - 18S - 8E
FIELD AREA — WILDCAT
COUNTY — EMERY
STATE — UTAH SM



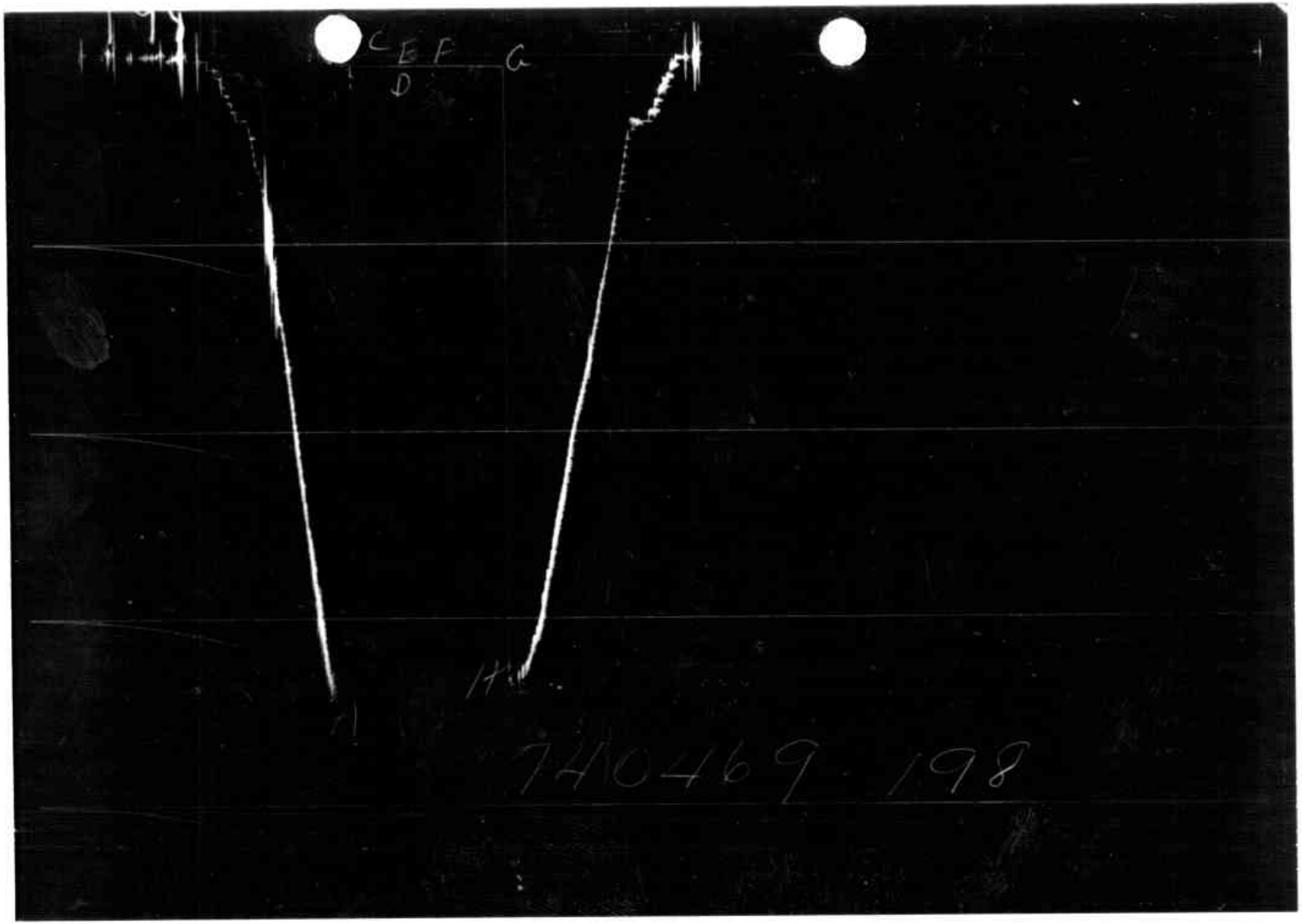
GAUGE NO: 490 DEPTH: 6772.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3328	3333.6			
B	INITIAL FIRST FLOW	13	15.0	10.0	10.0	F
C	FINAL FIRST FLOW	13	15.0			
C	INITIAL FIRST CLOSED-IN	13	15.0	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	13	22.1			
E	INITIAL SECOND FLOW	13	18.3	60.0	60.0	F
F	FINAL SECOND FLOW	13	17.9			
F	INITIAL SECOND CLOSED-IN	13	17.9	86.0	86.0	C
G	FINAL SECOND CLOSED-IN	13	20.7			
H	FINAL HYDROSTATIC	3315	3324.7			

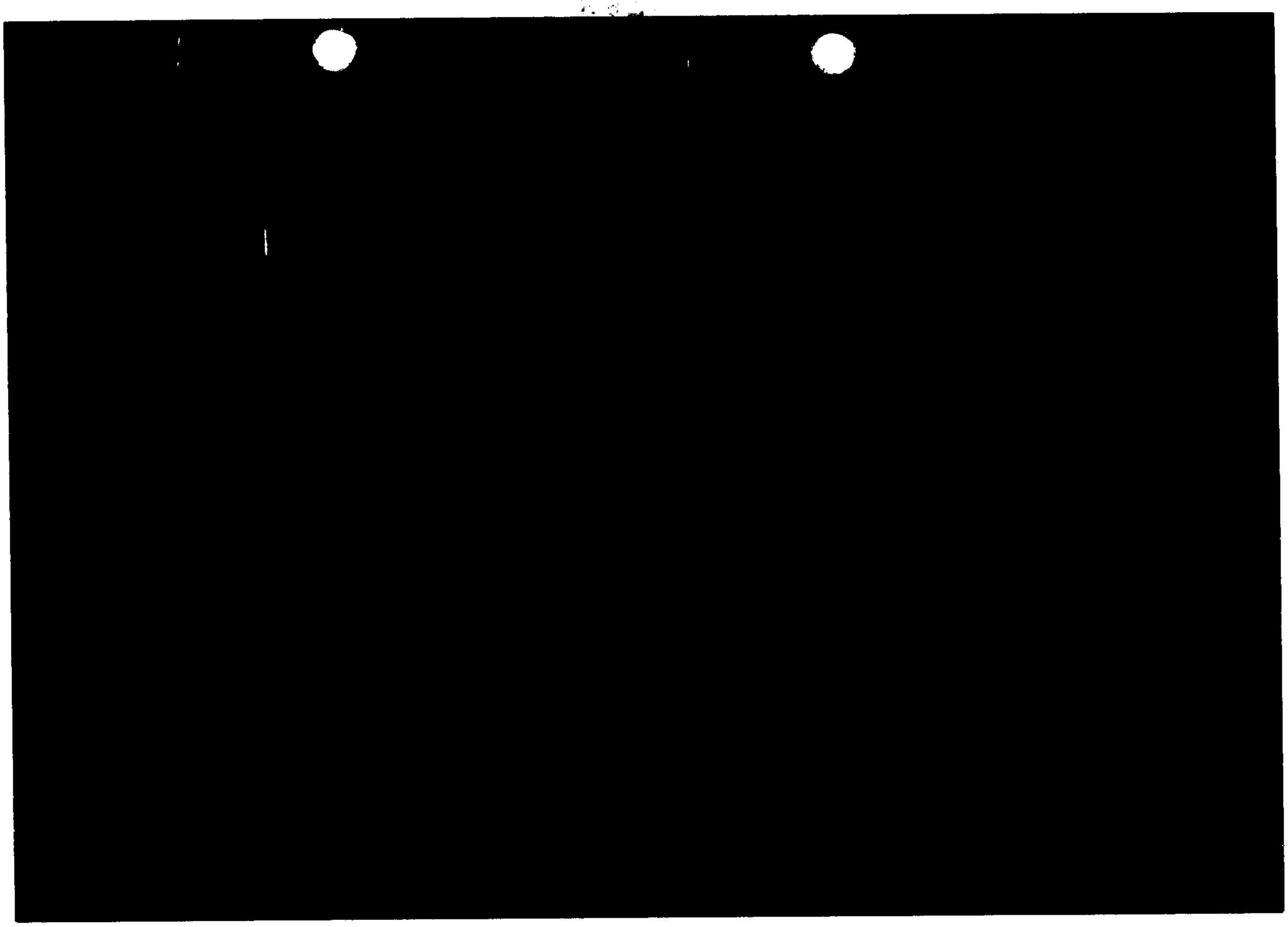


GAUGE NO: 490 DEPTH: 6772.0 BLANKED OFF: NO HOUR OF CLOCK: 24

		PRESSURE	TIME	



GAUGE NO: 198 DEPTH: 6837.0 BLANKED OFF: YES HOUR OF CLOCK: 24



GAUGE NO: 198 DEPTH: 6837.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3423	3345.1			
B	INITIAL FIRST FLOW	52	58.8	10.0	10.0	F
C	FINAL FIRST FLOW	52	55.7			
C	INITIAL FIRST CLOSED-IN	52	55.7	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	52	60.5			
E	INITIAL SECOND FLOW	52	58.5	60.0	60.0	F
F	FINAL SECOND FLOW	52	55.8			
F	INITIAL SECOND CLOSED-IN	52	55.8	86.0	86.0	C
G	FINAL SECOND CLOSED-IN	52	57.8			
H	FINAL HYDROSTATIC	3358	3359.6			

EQUIPMENT & HOLE DATA

FORMATION TESTED: SINBAD
NET PAY (ft): 15.0
GROSS TESTED FOOTAGE: 45.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.750
ELEVATION (ft): 5726
TOTAL DEPTH (ft): 6840.0
PACKER DEPTH(S) (ft): 6787, 6795
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.20
MUD VISCOSITY (sec): 47
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 138 @ 6836.0 ft

TICKET NUMBER: 74046900

DATE: 7-16-84 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: CLIFFORD L. RICHARDS

WITNESS: BOB LARRY PRENDERGAST

DRILLING CONTRACTOR: LOFFLAND DRILLING #1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	8.500 @ 80 °F	600 ppm
BOTTOM	8.500 @ 80 °F	600 ppm
SAMPLER	8.500 @ 80 °F	600 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 0
cu.ft. OF GAS: 0.00
cc OF OIL: 0
cc OF WATER: 0
cc OF MUD: 2240
TOTAL LIQUID cc: 2240

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

10 FEET OF DRILLING MUD

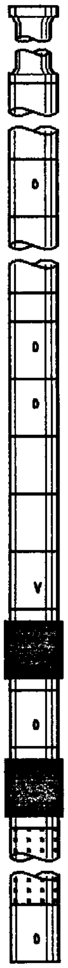
MEASURED FROM TESTER VALVE

REMARKS:

ELEVATION REPORTED IS AT GROUND LEVEL.

TYPE & SIZE MEASURING DEVICE:					TICKET NO: 74046900
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-15-84					
2200					CALLED OUT
7-16-84					
0230					ON LOCATION
0231					STARTED CLOCKS
0300					PICKED UP TOOLS
0400					TRIPPED IN HOLE
0723					SET PACKERS
0725	1/4 BH				TOOL OPENED, 1/16" BLOW
0735					CLOSED TOOL
0805	1/4 BH				OPENED TOOL WITH NO BLOW
0905					CLOSED TOOL FOR SECOND CIP
					PERIOD.
1031					FINISHED SHUT IN.
1033					PULLED PACKERS LOOSE.
1037					TRIPPED OUT OF HOLE
1500					OUT OF HOLE WITH TOOLS
1510					DRAINED SAMPLER, LAID DOWN
					TOOLS.
1615					JOB COMPLETED.

TICKET NO. 74046900



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE......................	4.500	3.826	6128.0	
3	DRILL COLLARS...................	6.750	2.875	541.0	
50	IMPACT REVERSING SUB............	6.500	3.000	1.0	6669.0
3	DRILL COLLARS...................	6.750	2.875	92.0	
5	CROSSOVER.......................	5.750	2.000	1.0	
13	DUAL CIP SAMPLER................	5.000	0.750	6.8	
60	HYDROSPRING TESTER..............	5.000	0.750	5.0	6770.0
80	AP RUNNING CASE.................	5.000	2.100	4.1	6772.0
15	JAR.............................	5.000	1.750	5.0	
16	VR SAFETY JOINT.................	5.000	1.000	2.8	
70	OPEN HOLE PACKER................	7.750	1.530	5.8	6787.0
18	DISTRIBUTOR VALVE...............	5.000	1.680	2.2	
70	OPEN HOLE PACKER................	7.750	1.530	5.8	6795.0
20	FLUSH JOINT ANCHOR..............	5.750	2.870	39.1	
81	BLANKED-OFF RUNNING CASE........	5.750		4.2	6837.0
	TOTAL DEPTH				6840.0

EQUIPMENT DATA

NTA RESEARCH & ANALYT AL SERVICES
291 E. 200 N. (801) 722-2532
ROOSEVELT, UTAH 84066

RECEIVED
AUG 8 1984
DIVISION OF OIL GAS & MINING

SAMPLE PRODUCED BY: CHANDLER & ASSOC.

LOCATION: EMERY
SAMPLE #: GC 2503
LINE PRESS:
CYL PRESS:
DATE SAMPLED :8-2-84

ANALYSIS DATE: 8-6-84
CYL #:
WELL #: LAWRENCE STATE 15-1
SAMPLED BY:
ANALYST: JH

BTU/CU FT (BASE PRESS DRY @ 14.73)= 28.5
BTU/CU FT (BASE PRESS WET @ 14.73 = 28.0043
SPECIFIC GRAVITY/BASED ON ANALYSIS(VAPOR)= 1.4696
SPECIFIC GRAVITY/BASED ON ANALYSIS(LIQUID)= .6217
SPECIFIC GRAVITY/RANAREX FIELD OBSERVED=

PSEUDOCRITICAL TEMPERATURE= 489 RANKIN
PSEUDOCRITICAL PRESSURE= 1024 PSIA

ABSOLUTE VIS = 9.5602E-6 (LB MASS/FT SEC. @ 40 1 ATM)

COMPONENT	MOL %	LIQ VOL%	GAL/MCF
HYDROGEN SULFIDE	0		
HYDROGEN	0		
NITROGEN	6.68		
OXYGEN	0		
METHANE	1.59999		
CARBON DIOXIDE	91.38		
CARBON MONOXIDE	0		
ETHANE	.04		
ETHYLENE	0		
PROPANE	0	0	0
PROPYLENE	0	0	0
ISOBUTANE	.01	3.04	0
N-BUTANE	.07	20.65	.02
BUTENE-1, I-BU	0	0	0
TRANS-BUTENE-2	0	0	0
CIS-BUTENE-2	0	0	0
ISOPENTANE	.09	30.83	.03
N-PENTANE	.1	33.91	.04
C5 UNSAT, C6 PLUS	.03	11.55	.01
TOTAL	100	99.98	.1

REMARKS :

THANK YOU FOR THE BUSINESS
JAMES F. SMITH

ORAL APPROVAL TO PLUG AND ABANDON WELL Loffler #1 → Nova Maddox Toolpusher

Operator Chandler & Associates Inc Representative Larry Pendergast

Well No. 15-1 Location SW¼ SE¼ Section 1 Township 18S Range 8E

County Emery Field ______ State Ut

Unit Name and Required Depth ______ Base of fresh water sands ______

T.D. 9734' Size hole and Fill per sack 8¾ ' Mud Weight and Top 9.3 59 vis. #/gal. ______ '

Casing Size	Set At	Top of Cement	To Be Pulled	Plugging Requirements From	To	Sacks Cement
13⅜	@1690	surface.		① 100' @ Miss top	@ 8050' ±	
				② 100' @ 5800' equalized		
				③ 100' @ 4900' equalized (Freshwater)		

Formation	Top	Base	Shows			
Cedar Mtn.	1707'	Chinle 5824'		④ 100' @ 3150'		
Buckhorn	2230'	Shinarump 5958'		⑤ 100' @ Shoe @ 1700' ±		
Morrison	2318'	Moenkopi 6088'		⑥ 50' @ surface w/ marker.		
Summerville	2804'	Sinbad 6792'				
Curtis	3158'	Kaibab 7122'				
Entrada	3312'	Toroweap 7262'				
Carmel	4090'	Elephant Cyn. 7708'				
Navajo	4992'	Mississippian 8054'				
Kayenta	5342'	Ouray 9288'				
Wingate	5503	Manfred 9306				
		Ophir 9690'				

REMARKS

DST's, lost circulation zones, water zones, etc., No shows or appreciable porosity zones

Approved by RJFirth Date 8/10/84 Time ______ a.m. p.m.

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AUG 1 4 1984

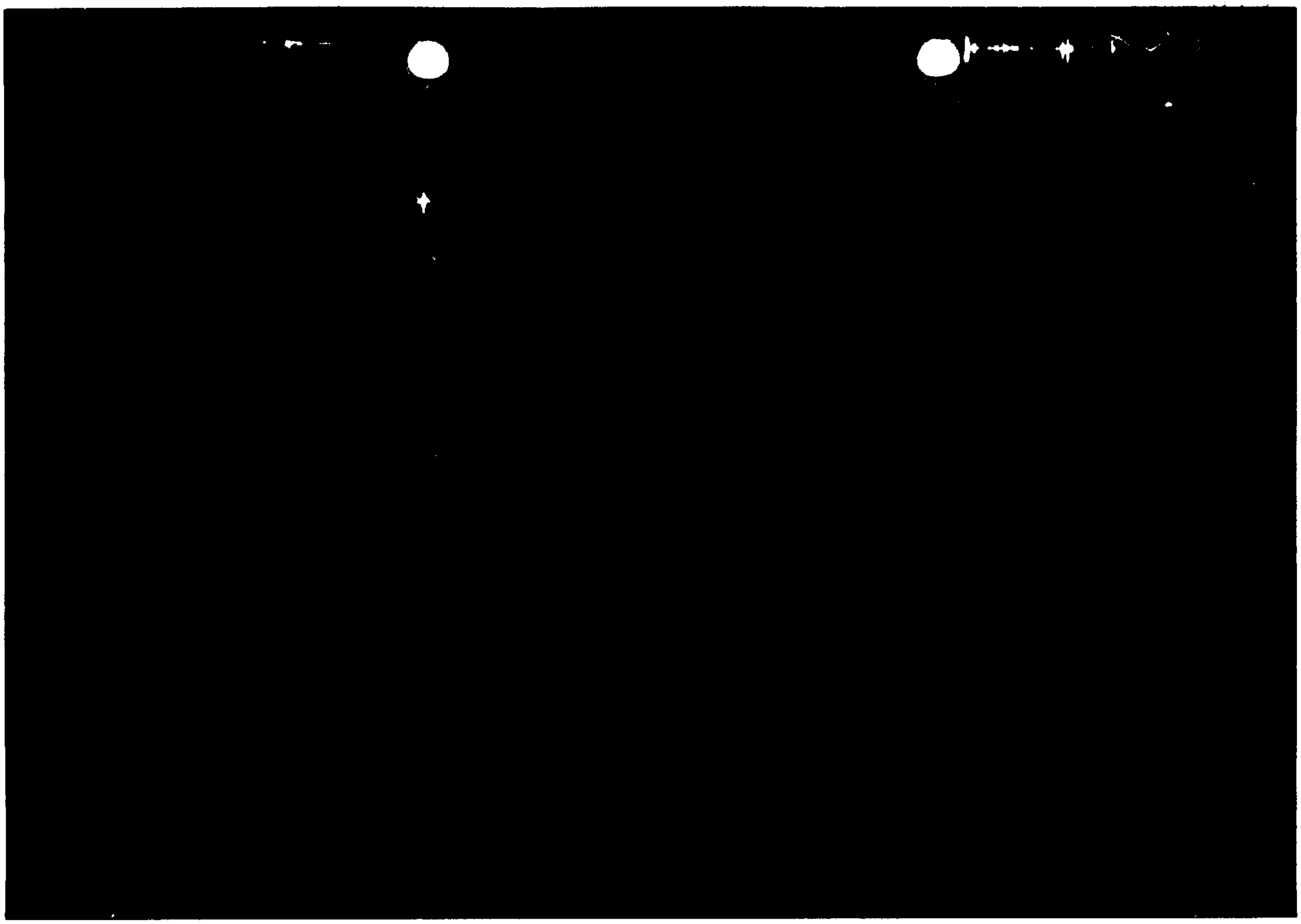
DIVISION OF OIL
GAS & MINING

HALLIBURTON
SERVICES

TICKET NO. 74047100
07-AUG-84
VERNAL

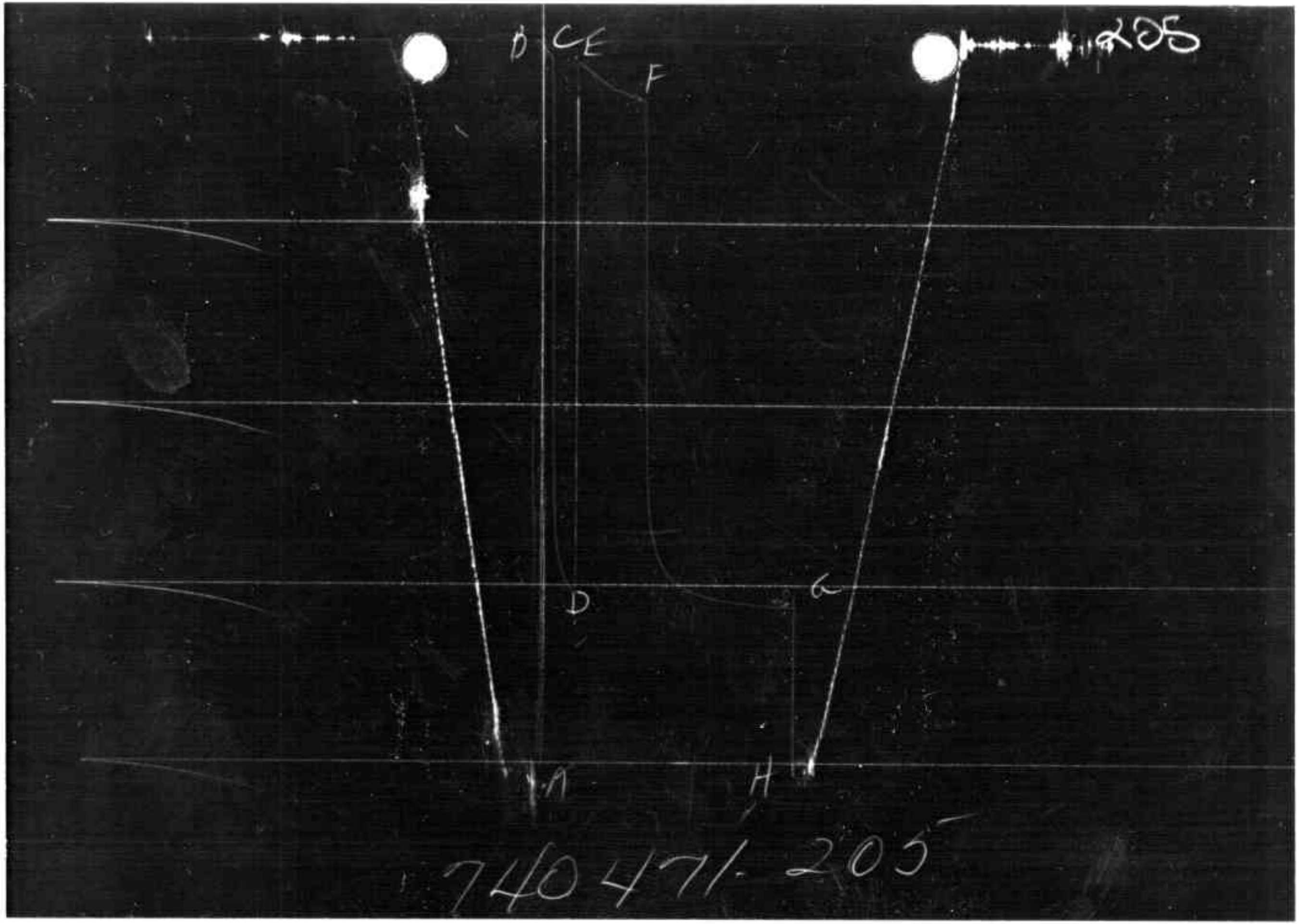
LEASE NAME	LAWRENCE STATE
WELL NO.	15-1
TEST NO.	5
TESTED INTERVAL	8402.' - 8465.'
LEASE OWNER/COMPANY NAME	CHANDLER AND ASSOCIATES INCORPORATED
LEGAL LOCATION SEC. - TWP. - RNG.	SEC 1, 18S, 8E
FIELD AREA	WILDCAT
COUNTY	EMERY
STATE	UTAH SM

FORMATION TESTING SERVICE REPORT

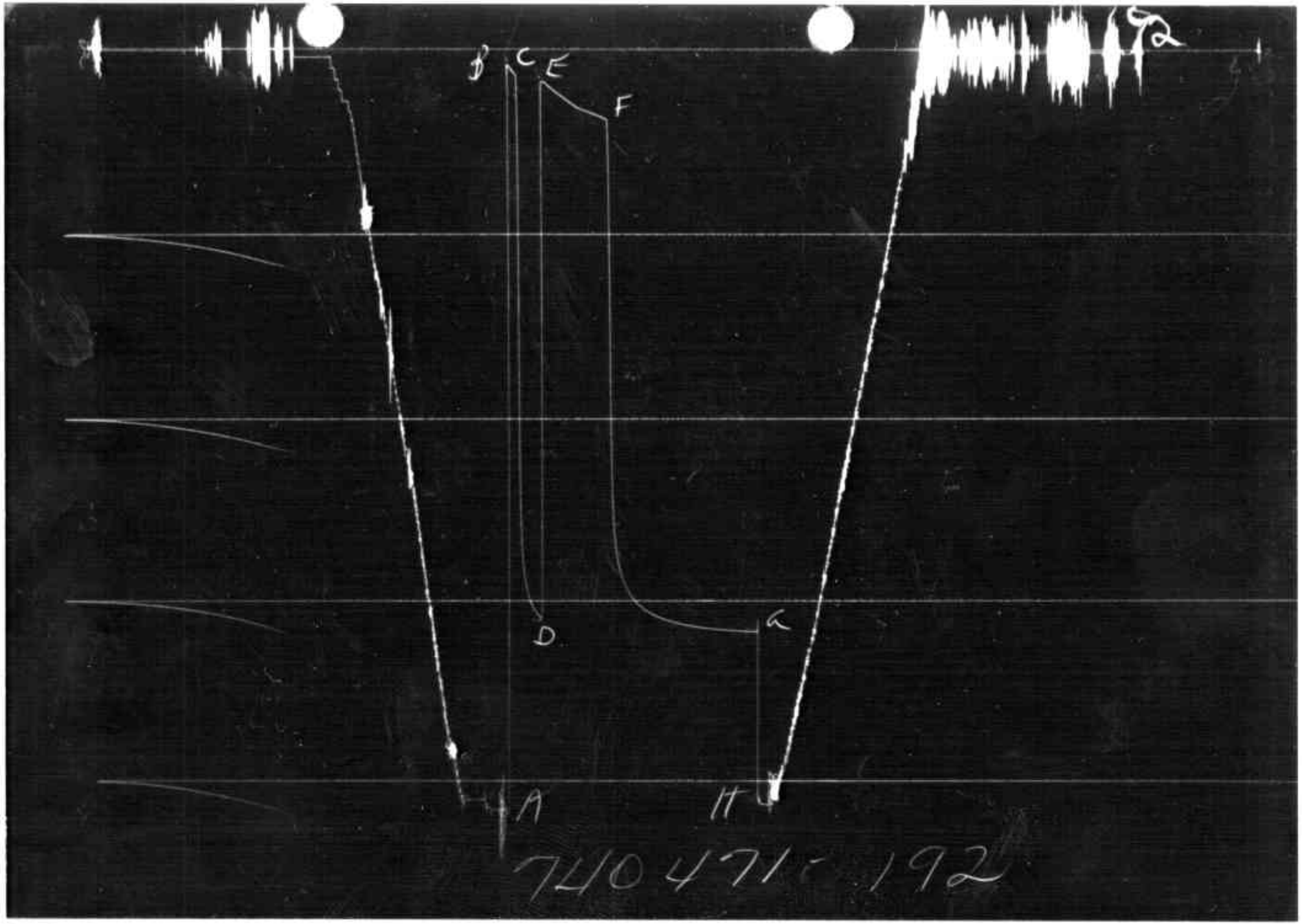


GAUGE NO: 205 DEPTH: 8379.0 BLANKED OFF: NO HOUR OF CLOCK: 24

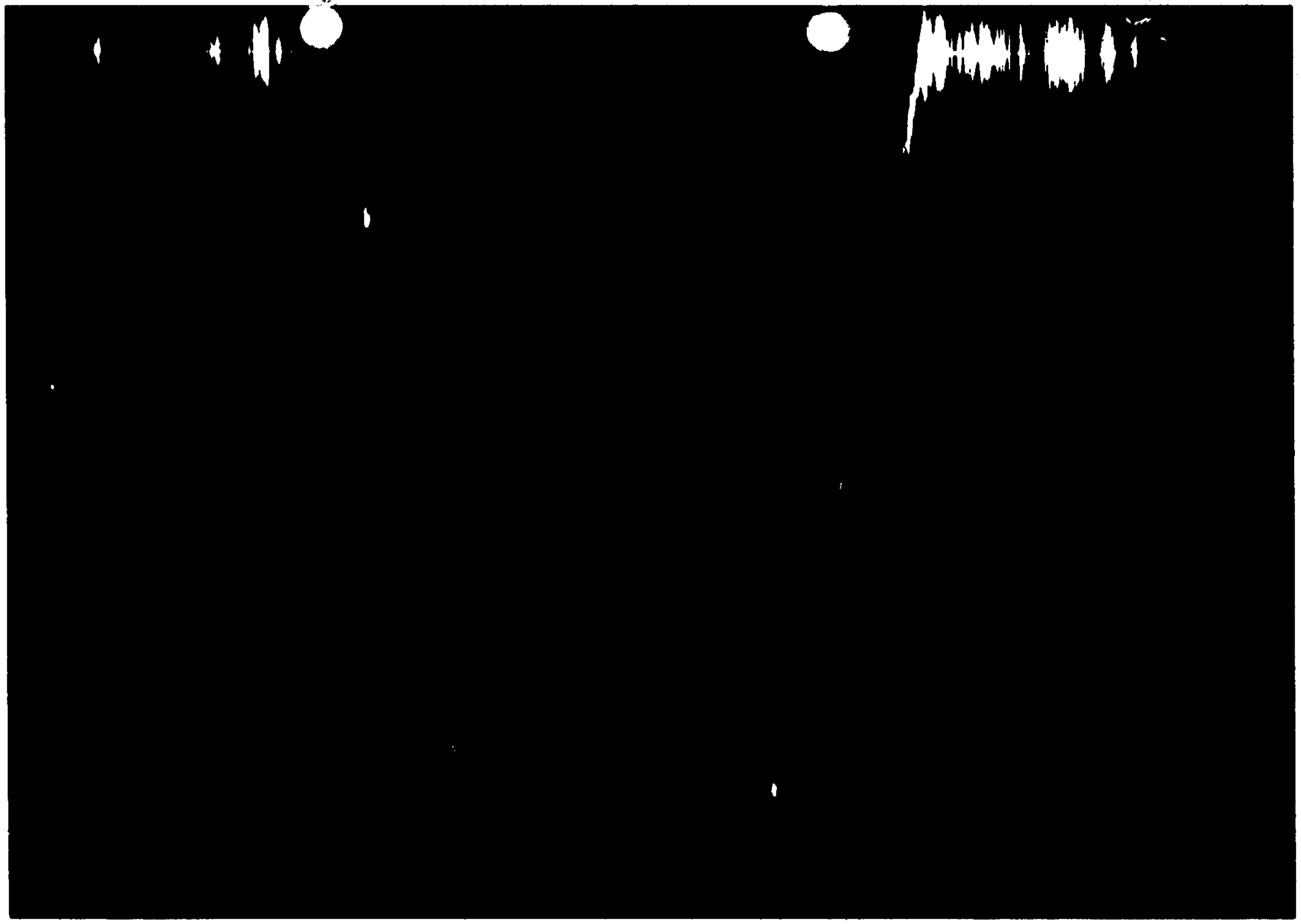
ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	4077	4108.7			
B	INITIAL FIRST FLOW	27	33.3	10.0	10.6	F
C	FINAL FIRST FLOW	69	89.2			
C	INITIAL FIRST CLOSED-IN	69	89.2	20.0	30.1	C
D	FINAL FIRST CLOSED-IN	3050	3048.5			
E	INITIAL SECOND FLOW	96	119.3	90.0	80.1	F
F	FINAL SECOND FLOW	328	328.4			
F	INITIAL SECOND CLOSED-IN	328	328.4	182.0	181.2	C
G	FINAL SECOND CLOSED-IN	3116	3123.5			
H	FINAL HYDROSTATIC	3993	4081.5			



GAUGE NO: 205 DEPTH: 8379.0 BLANKED OFF: NO HOUR OF CLOCK: 24



GAUGE NO: 192 DEPTH: 8462.0 BLANKED OFF: YES HOUR OF CLOCK: 24



GAUGE NO: 192 DEPTH: 8462.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	4188	4163.8			
B	INITIAL FIRST FLOW	67	84.5	10.0	10.6	F
C	FINAL FIRST FLOW	122	134.6			
C	INITIAL FIRST CLOSED-IN	122	134.6	20.0	30.1	C
D	FINAL FIRST CLOSED-IN	3101	3101.5			
E	INITIAL SECOND FLOW	149	181.0	90.0	80.1	F
F	FINAL SECOND FLOW	351	377.2			
F	INITIAL SECOND CLOSED-IN	351	377.2	182.0	181.2	C
G	FINAL SECOND CLOSED-IN	3151	3173.8			
H	FINAL HYDROSTATIC	4105	4131.9			

EQUIPMENT & HOLE DATA

FORMATION TESTED: MISSISSIPPIAN
NET PAY (ft): 56.0
GROSS TESTED FOOTAGE: 63.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.750
ELEVATION (ft): 5726
TOTAL DEPTH (ft): 8465.0
PACKER DEPTH(S) (ft): 8394, 9402
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.20
MUD VISCOSITY (sec): 51
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 159 @ 8461.0 ft

TICKET NUMBER: 74047100
DATE: 8-1-84 TEST NO: 5
TYPE DST: OPEN HOLE
HALLIBURTON CAMP: VERNAL
TESTER: CLIFFORD L. RICHARDS
WITNESS: BOB ??
DRILLING CONTRACTOR: LOFFLAND DRILLING #1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	1.090 @ 90 °F	750 ppm
TOP	1.090 @ 85 °F	750 ppm
MIDDLE	1.050 @ 85 °F	760 ppm
BOTTOM	1.030 @ 80 °F	780 ppm
SAMPLER	1.030 @ 80 °F	780 ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 300
cu.ft. OF GAS: 0.20
cc OF OIL: 0
cc OF WATER: 2000
cc OF MUD: 0
TOTAL LIQUID cc: 2000

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

94 FEET OF DRILLING MUD, HIGHLY GAS CUT
633 FEET OF SULPHUR WATER, HIGHLY GAS CUT

MEASURED FROM TESTER VALVE

REMARKS:

REPORTED ELEVATION WAS MEASURED AT GROUND LEVEL.

TYPE & SIZE MEASURING DEVICE:					TICKET NO: 74047100
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-31-84					
2100					CALLED OUT
2230					LEFT SHOP
8-1-84					
0200					ON LOCATION
0205					STARTED CLOCKS
0415					PICKED UP TOOL
0530					TRIPPED IN HOLE
1005					SET PACKERS
1008	1/4				OPENED TOOL WITH 1/4" BLOW
					INCREASING TO 4" IN 10 MINUTES.
1018					CLOSED TOOL IN
1038					OPENED TOOL FOR SECOND FLOW
					1" BLOW.
1043					5" BLOW
1048					7" BLOW
1103		5 OZ.			
1108		7 OZ.			
1113		8 OZ.			
1118		9 OZ.			
1123		9.5 OZ.			
1128		10 OZ.			GAS TO THE SURFACE AT 1130.
1133		10.5 OZ.			
1138		11.5 OZ.			
1143		12 OZ.			
1148		13.5 OZ.			
1153		14.5 OZ.			
1158		15.5 OZ.			
1203		16.5 OZ.			
1208		18 OZ.			
1208					CLOSED TOOL
1510					PULLED LOOSE
1520					TRIPPED OUT OF THE HOLE
2100					DRAINED SAMPLER
2115					LAID DOWN TOOLS AND LOADED OUT
2200					JOB COMPLETED.

TICKET NO: 74047100		GAUGE NO: 205
CLOCK NO: 11654 HOUR: 24	HALLIBURTON SERVICES	DEPTH: 8379.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	33.3			
	2	2.0	39.4	6.0		
	3	4.0	52.9	13.6		
	4	6.0	65.4	12.5		
	5	8.0	77.2	11.8		
C	6	10.6	89.2	12.1		
			FIRST CLOSED-IN			
C	1	0.0	89.2			
	2	2.0	1005.8	916.6	1.7	0.805
	3	4.0	2583.4	2494.1	2.9	0.564
	4	6.0	2740.9	2651.6	3.8	0.442
	5	8.0	2821.8	2732.6	4.6	0.364
	6	10.0	2870.0	2780.8	5.1	0.314
	7	12.0	2906.5	2817.3	5.6	0.275
	8	14.0	2936.6	2847.4	6.0	0.244
	9	16.0	2959.4	2870.2	6.4	0.220
	10	18.0	2978.5	2889.2	6.7	0.201
	11	20.0	2993.8	2904.6	6.9	0.184
	12	22.0	3008.9	2919.7	7.1	0.171
	13	24.0	3021.4	2932.2	7.3	0.158
	14	26.0	3031.8	2942.6	7.5	0.148
	15	28.0	3040.8	2951.6	7.7	0.139
D	16	30.1	3048.5	2959.2	7.8	0.131
			SECOND FLOW			
E	1	0.0	119.3			
	2	10.0	146.1	26.9		
	3	20.0	183.5	37.4		
	4	30.0	218.6	35.1		
	5	40.0	251.2	32.6		
	6	50.0	274.0	22.7		
	7	60.0	289.6	15.6		
	8	70.0	306.9	17.3		
F	9	80.1	328.4	21.5		
			SECOND CLOSED-IN			
F	1	0.0	328.4			
	2	10.0	2724.5	2396.0	9.0	1.003
	3	20.0	2873.4	2545.0	16.4	0.744
	4	30.0	2947.5	2619.1	22.5	0.605
	5	40.0	2991.1	2662.7	27.7	0.514
	6	50.0	3022.2	2693.8	32.2	0.449
	7	60.0	3043.8	2715.4	36.1	0.400
	8	70.0	3061.4	2733.0	39.5	0.361
	9	80.0	3073.9	2745.5	42.5	0.329

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			SECOND CLOSED-IN - CONTINUED			
	10	90.0	3084.0	2755.6	45.2	0.303
	11	100.0	3092.1	2763.7	47.5	0.280
	12	110.0	3099.5	2771.1	49.7	0.261
	13	120.0	3104.2	2775.8	51.7	0.244
	14	130.0	3108.3	2779.9	53.4	0.230
	15	140.0	3112.7	2784.3	55.0	0.217
	16	150.0	3116.5	2788.1	56.5	0.205
	17	160.0	3118.9	2790.5	57.9	0.195
	18	170.0	3121.7	2793.3	59.1	0.186
G	19	181.2	3123.5	2795.1	60.4	0.176

REMARKS:

TICKET NO: 74047100		GAUGE NO: 192
CLOCK NO: 2290 HOUR: 24	HALLIBURTON SERVICES	DEPTH: 8462.0

FIRST FLOW

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
B	1	0.0	84.5			
	2	2.0	88.5	4.1		
	3	4.0	101.6	13.1		
	4	6.0	115.1	13.5		
	5	8.0	125.3	10.1		
C	6	10.6	134.6	9.3		

FIRST CLOSED-IN

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
C	1	0.0	134.6			
	2	2.0	845.4	710.7	1.7	0.805
	3	4.0	2427.7	2293.1	2.9	0.562
	4	6.0	2714.4	2579.8	3.8	0.439
	5	8.0	2829.0	2694.4	4.6	0.366
	6	10.0	2896.0	2761.4	5.1	0.313
	7	12.0	2947.2	2812.6	5.6	0.274
	8	14.0	2981.4	2846.8	6.0	0.244
	9	16.0	3007.2	2872.6	6.4	0.220
	10	18.0	3028.0	2893.4	6.7	0.201
	11	20.0	3045.6	2911.0	6.9	0.185
	12	22.0	3061.7	2927.0	7.1	0.170
	13	24.0	3074.3	2939.7	7.3	0.158
	14	26.0	3085.8	2951.2	7.5	0.148
	15	28.0	3094.8	2960.2	7.7	0.139
D	16	30.1	3101.5	2966.9	7.8	0.131

SECOND FLOW

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
E	1	0.0	181.0			
	2	10.0	196.9	15.8		
	3	20.0	233.6	36.8		
	4	30.0	266.6	33.0		
	5	40.0	299.5	32.9		
	6	50.0	322.7	23.3		
	7	60.0	338.2	15.4		
	8	70.0	357.0	18.8		
F	9	80.1	377.2	20.3		

SECOND CLOSED-IN

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
F	1	0.0	377.2			
	2	10.0	2722.9	2345.6	9.0	1.002
	3	20.0	2907.7	2530.4	16.4	0.743
	4	30.0	2990.1	2612.9	22.5	0.605
	5	40.0	3035.4	2658.2	27.7	0.514
	6	50.0	3067.6	2690.3	32.2	0.449
	7	60.0	3092.4	2715.2	36.1	0.400
	8	70.0	3109.1	2731.8	39.5	0.361
	9	80.0	3122.4	2745.2	42.5	0.329

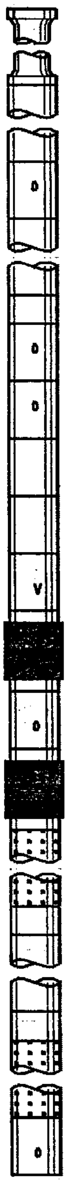
SECOND CLOSED-IN - CONTINUED

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
	10	90.0	3133.5	2756.3	45.2	0.303
	11	100.0	3141.8	2764.5	47.5	0.280
	12	110.0	3149.0	2771.8	49.7	0.261
	13	120.0	3154.3	2777.0	51.6	0.244
	14	130.0	3159.2	2782.0	53.4	0.230
	15	140.0	3163.3	2786.1	55.0	0.217
	16	150.0	3166.2	2789.0	56.5	0.205
	17	160.0	3169.4	2792.1	57.9	0.195
	18	170.0	3172.3	2795.0	59.1	0.186
G	19	181.2	3173.8	2796.5	60.4	0.176

REMARKS:

686

TICKET NO. 74047100



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE......................	4.500	3.826	7790.5	
3	DRILL COLLARS..................	6.750	2.875	514.0	
50	IMPACT REVERSING SUB...........	6.500	3.000	1.0	8305.5
3	DRILL COLLARS..................	6.750	2.875	60.0	
5	CROSSOVER......................	5.750	2.000	0.8	
13	DUAL CIP SAMPLER...............	5.000	0.750	6.8	
60	HYDROSPRING TESTER.............	5.000	0.750	5.0	8377.0
80	AP RUNNING CASE................	5.000	2.250	4.1	8379.0
15	JAR............................	5.000	1.750	5.0	
16	VR SAFETY JOINT................	5.000	1.000	2.8	
70	OPEN HOLE PACKER...............	7.750	1.530	5.8	8394.0
18	DISTRIBUTOR VALVE..............	5.000	1.680	2.2	
70	OPEN HOLE PACKER...............	7.750	1.530	5.8	8402.0
20	FLUSH JOINT ANCHOR.............	5.750	2.850	8.0	
5	CROSSOVER......................	5.750	2.500	1.0	
3	DRILL COLLARS..................	6.750	2.875	32.2	
5	CROSSOVER......................	5.750	2.500	1.0	
20	FLUSH JOINT ANCHOR.............	5.750	2.875	15.0	
81	BLANKED-OFF RUNNING CASE........	5.750		4.2	8462.0
	TOTAL DEPTH				8465.0

EQUIPMENT DATA

Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
ML-34259

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME
----

2. NAME OF OPERATOR
Chandler & Associates, Inc.

8. FARM OR LEASE NAME
Lawrence

3. ADDRESS OF OPERATOR
1400 Lincoln Tower Building, Denver, Colorado 80203

9. WELL NO.
15-1

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
660' FSL; 1980' FEL (SW SE)

RECEIVED
AUG 2 2 1984
DIVISION OF OIL GAS & MINING

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
1-18S-8E

14. PERMIT NO.
43-015-30192

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5726' Ground

12. COUNTY OR PARISH
Emery

13. STATE
Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			[ ]
(Other)			[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

5-15-84 SPUD 6 AM.
5-29-84 Depth 1,690'. Set 41 jts 13 3/8" 54.5# surf csg at 1690' w/935 sx Howco Lite, 2% CaCl, 1/4#/sk flocele, 10% Gilsonite followed by 200 sx Class "G", 2% CaCl, 1/4#/sk flocele, Plug down 9:30 PM w/good returns.
6-19-84 Depth 4,940'. Ran DST #1 in Navajo from 4896-4940'. 15", 32", 60", 121". Rec 218' mud, 3202' fresh wtr. No GTS. Sampler: 2100 cc fresh water.
6-28-84 Depth 5,517'. Prep to Whipstock.
6-29-84 Depth 4,575'. WOC. Plugged back w/165 sx Class "G", 3% salt.
7-17-84 Depth 6,920'. Ran DST #2 from 6795-6840'. 10", 30", 60", 86". Rec 10' DM. Sampler: 2240 cc mud, no gas.
7-20-84 Depth 7,312'. Ran DST #3 in Kaibab from 7130-7224'. 10", 30", 60", 90". No GTS. Rec 485' HGC mud. Sampler: 1.43 cfg, 1800 cc HGC mud.
7-24-84 Depth 7,581'. Ran DST #4 in Toroweap from 7450-7503'. 10", 30", 30", 60". Rec 20' DM. No oil, water or gas. Sampler: 1350 cc mud.
8-2-84 Depth 8,530'. Ran DST #5 in Mississippian from 8402-8465'. 10", 30", 90", 180". Rec 94' HGC mud, 633' HGC sulfur wtr. Sampler: 2000 cc sulfur wtr, .2 cfg.
8-9-84 Depth 9,728'. Logged well. Ran DIFL-GR, BHC-Sonic, CNL-CN logs.

(Con't on Pg 2)

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

SIGNED Hugo Cartaya TITLE Petroleum Engineer DATE 8-17-84

(This space for Federal or State office use)

APPROVED BY ________ TITLE ________ DATE ________
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

2

Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
ML-34259

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME
----

2. NAME OF OPERATOR
Chandler & Associates, Inc.

8. FARM OR LEASE NAME
Lawrence

3. ADDRESS OF OPERATOR
1400 Lincoln Tower Building, Denver, Colorado 80203

9. WELL NO.
15-1

RECEIVED
AUG 22 1984
DIVISION OF OIL GAS & MINING

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
660' FSL; 1980' FEL (SW SE)

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 1-18S-8E

14. PERMIT NO.
43-015-30192

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5726' Ground

12. COUNTY OR PARISH
Emery

13. STATE
Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[X]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			[ ]
(Other)			[ ]				

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

8-11-84 Depth 9,728'. After evaluation on logs, tests & samples, it was determined to plug the well. Permission was received from the Utah Division of Oil, Gas and Mining to plug the well on 8-11-84 as follows:

Plug #1	8100-8000	46 sx
Plug #2	5850-5750	56 sx
Plug #3	5030-4930	46 sx
Plug #4	3200-3100	78 sx
Plug #5	1750-1650	74 sx
Plug #6	Surface	37 sx

RIG RELEASED 10 PM 8-11-84. Mud laden fluid between plugs. Location will be restored as per approved plan.

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 8/23/84
BY: John R. Baza

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

SIGNED Hugo Cartaya TITLE Petroleum Engineer DATE 8-17-84
Hugo Cartaya

(This space for Federal or State office use)

APPROVED BY ____________ TITLE ____________ DATE ____________
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

CHANDLER AND ASSOCIATES DIP 414
LAWRENCE 15-1
WILDCAT
EMERY UTAH
08-09-84

RECEIVED
AUG 27 1984
DIVISION OF OIL GAS & MINING

INTERVAL 4400.0 TO 9800.0
RUN 2 RLAC 414.
ENGINEER MILLER MAG DEC 14.

```
*************************************************
* WINDOW-8 FT   STEP-2 FT   SEARCH-8 IN        *
*                                               *
*     4     0     0     0     0                 *
*************************************************
```

		FORMATION DIP				**BOREHOLE**		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
4488.0	8.00	15.6	164	S 16 E	6	4.8	251	S 71 W
4494.0	8.00	21.3	157	S 23 E	12	4.9	254	S 74 W
4506.0	8.00	11.1	123	S 57 E	100	4.9	253	S 73 W
4508.0	8.00	13.6	120	S 60 E	100	4.9	252	S 72 W
4510.0	8.00	16.3	121	S 59 E	94	4.9	250	S 70 W
4530.0	8.00	12.5	116	S 64 E	100	5.0	247	S 67 W
4532.0	8.00	18.0	120	S 60 E	91	5.2	245	S 65 W
4534.0	8.00	20.9	118	S 62 E	87	5.3	247	S 67 W
4536.0	8.00	18.1	117	S 63 E	34	5.1	248	S 68 W
4538.0	8.00	17.7	114	S 66 E	66	5.0	247	S 67 W
4554.0	8.00	3.9	75	N 75 E	82	4.3	243	S 63 W
4558.0	8.00	3.5	80	N 80 E	100	4.2	242	S 62 W
4562.0	8.00	29.0	346	N 14 W	95	4.4	240	S 60 W
4564.0	8.00	28.3	346	N 14 W	100	4.2	237	S 57 W
4566.0	8.00	27.3	345	N 15 W	98	4.0	238	S 58 W
4568.0	8.00	15.9	338	N 22 W	100	3.8	239	S 59 W
4576.0	8.00	7.5	352	N 8 W	90	3.5	231	S 51 W
4578.0	8.00	5.5	6	N 6 E	100	3.4	233	S 53 W
4580.0	8.00	21.5	342	N 18 W	57	3.3	235	S 55 W
4582.0	8.00	21.7	345	N 15 W	49	3.4	233	S 53 W
4586.0	8.00	4.6	33	N 33 E	78	3.3	224	S 44 W
4588.0	8.00	5.8	29	N 29 E	81	3.3	225	S 45 W
4598.0	8.00	6.1	345	N 15 W	67	3.1	224	S 44 W
4600.0	8.00	4.8	342	N 18 W	77	2.9	227	S 47 W
4604.0	8.00	13.2	149	S 31 E	100	2.7	225	S 45 W
4606.0	8.00	16.0	149	S 31 E	100	2.5	224	S 44 W
4608.0	8.00	14.2	151	S 29 E	100	2.4	219	S 39 W
4616.0	8.00	19.3	172	S 8 E	100	2.0	220	S 40 W
4618.0	8.00	16.4	184	S 4 W	100	1.9	215	S 35 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
4624.0	8.00	7.0	232	S 52 W	100	1.7	210	S 30 W
4626.0	8.00	7.0	233	S 53 W	100	1.6	209	S 29 W
4628.0	8.00	7.2	232	S 52 W	94	1.5	207	S 27 W
4630.0	8.00	14.5	238	S 58 W	74	1.5	207	S 27 W
4632.0	8.00	9.5	241	S 61 W	99	1.5	201	S 21 W
4644.0	8.00	28.0	256	S 76 W	38	1.4	193	S 13 W
4654.0	8.00	21.2	261	S 81 W	96	1.3	188	S 8 W
4656.0	8.00	21.0	260	S 80 W	95	1.3	188	S 8 W
4672.0	8.00	16.0	329	N 31 W	65	1.1	182	S 2 W
4676.0	8.00	7.5	291	N 69 W	48	1.1	176	S 4 E
4678.0	8.00	11.9	288	N 72 W	59	1.1	177	S 3 E
4680.0	8.00	15.3	302	N 58 W	39	1.0	178	S 2 E
4684.0	8.00	17.7	296	N 64 W	81	1.1	178	S 2 E
4686.0	8.00	16.4	315	N 45 W	59	1.1	178	S 2 E
4688.0	8.00	17.6	339	N 21 W	100	1.1	177	S 3 E
4694.0	8.00	13.6	358	N 2 W	100	1.4	177	S 3 E
4696.0	8.00	13.3	359	N 1 W	70	1.4	177	S 3 E
4698.0	8.00	10.7	17	N 17 E	100	1.4	176	S 4 E
4700.0	8.00	11.8	348	N 12 W	100	1.4	176	S 4 E
4702.0	8.00	13.9	339	N 21 W	100	1.4	176	S 4 E
4704.0	8.00	15.4	356	N 4 W	100	1.4	176	S 4 E
4706.0	8.00	14.2	337	N 23 W	100	1.4	177	S 3 E
4708.0	8.00	16.5	336	N 24 W	99	1.3	176	S 4 E
4710.0	8.00	30.0	349	N 11 W	64	1.3	177	S 3 E
4712.0	8.00	31.9	343	N 17 W	76	1.4	176	S 4 E
4714.0	8.00	27.8	347	N 13 W	56	1.4	175	S 5 E
4722.0	8.00	24.3	15	N 15 E	30	1.6	171	S 9 E
4736.0	8.00	14.7	23	N 23 E	100	2.1	172	S 8 E
4738.0	8.00	6.5	76	N 76 E	76	2.1	170	S 10 E
4740.0	8.00	24.1	41	N 41 E	38	2.2	168	S 12 E
4744.0	8.00	32.3	39	N 39 E	33	2.4	174	S 6 E
4746.0	8.00	29.6	35	N 35 E	14	2.4	174	S 6 E
4750.0	8.00	29.4	40	N 40 E	23	2.5	169	S 11 E
4752.0	8.00	14.5	61	N 61 E	21	2.6	171	S 9 E
4756.0	8.00	3.6	16	N 16 E	74	2.7	172	S 8 E
4758.0	8.00	3.4	8	N 8 E	84	2.8	173	S 7 E
4760.0	8.00	8.6	308	N 52 W	70	2.9	174	S 6 E
4764.0	8.00	8.6	338	N 22 W	90	2.9	173	S 7 E
4766.0	8.00	20.1	347	N 13 W	32	2.9	174	S 6 E
4768.0	8.00	13.0	14	N 14 E	100	3.0	173	S 7 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
4772.0	8.00	21.3	289	N 71 W	100	3.0	172	S 8 E
4774.0	8.00	19.0	302	N 58 W	89	3.0	173	S 7 E
4776.0	8.00	19.1	296	N 64 W	97	3.0	172	S 8 E
4778.0	8.00	16.5	285	N 75 W	89	3.0	173	S 7 E
4780.0	8.00	16.3	310	N 50 W	91	3.0	173	S 7 E
4788.0	8.00	3.1	340	N 20 W	100	3.2	175	S 5 E
4792.0	8.00	3.1	333	N 27 W	99	3.2	171	S 9 E
4794.0	8.00	14.3	339	N 21 W	60	3.2	175	S 5 E
4796.0	8.00	14.6	338	N 22 W	97	3.2	173	S 7 E
4798.0	8.00	14.3	326	N 34 W	71	3.1	174	S 6 E
4800.0	8.00	16.3	325	N 35 W	100	3.1	173	S 7 E
4802.0	8.00	15.6	324	N 36 W	100	3.1	173	S 7 E
4804.0	8.00	16.9	323	N 37 W	95	3.1	174	S 6 E
4814.0	8.00	19.3	286	N 74 W	82	3.2	172	S 8 E
4820.0	8.00	13.4	286	N 74 W	93	3.2	168	S 12 E
4822.0	8.00	15.7	187	S 7 W	96	3.2	168	S 12 E
4828.0	8.00	10.9	119	S 61 E	76	3.2	172	S 8 E
4830.0	8.00	9.6	125	S 55 E	86	3.3	172	S 8 E
4832.0	8.00	8.9	142	S 38 E	51	3.3	171	S 9 E
4834.0	8.00	19.8	169	S 11 E	68	3.3	172	S 8 E
4838.0	8.00	15.3	163	S 17 E	92	3.4	173	S 7 E
4842.0	8.00	15.8	137	S 43 E	100	3.5	167	S 13 E
4844.0	8.00	16.0	140	S 40 E	66	3.5	168	S 12 E
4848.0	8.00	3.3	139	S 41 E	52	3.7	168	S 12 E
4860.0	8.00	18.6	204	S 24 W	100	3.8	168	S 12 E
4864.0	8.00	17.0	219	S 39 W	100	3.6	162	S 18 E
4866.0	8.00	17.7	210	S 30 W	50	3.6	166	S 14 E
4868.0	8.00	20.0	246	S 66 W	61	3.6	171	S 9 E
4870.0	8.00	3.8	255	S 75 W	100	3.5	166	S 14 E
4876.0	8.00	11.3	134	S 46 E	82	3.5	166	S 14 E
4878.0	8.00	5.9	98	S 82 E	100	3.5	165	S 15 E
4880.0	8.00	5.5	103	S 77 E	100	3.5	163	S 17 E
4882.0	8.00	4.8	92	S 88 E	100	3.5	162	S 18 E
4884.0	8.00	4.3	34	N 34 E	100	3.5	161	S 19 E
4888.0	8.00	4.2	38	N 38 E	100	3.6	160	S 20 E
4890.0	8.00	2.3	359	N 1 W	100	3.5	161	S 19 E
4892.0	8.00	2.5	22	N 22 E	100	3.5	163	S 17 E
4898.0	8.00	9.9	189	S 9 W	86	3.5	164	S 16 E
4900.0	8.00	10.2	230	S 50 W	100	3.5	163	S 17 E
4904.0	8.00	7.8	269	S 89 W	100	3.5	158	S 22 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
4906.0	8.00	7.8	308	N 52 W	100	3.5	158	S 22 E
4908.0	8.00	7.7	305	N 55 W	100	3.5	158	S 22 E
4910.0	8.00	7.6	303	N 57 W	100	3.5	162	S 18 E
4912.0	8.00	8.4	299	N 61 W	100	3.5	161	S 19 E
4916.0	8.00	4.3	324	N 36 W	100	3.6	158	S 22 E
4920.0	8.00	5.6	280	N 80 W	100	3.7	161	S 19 E
4924.0	8.00	9.2	275	N 85 W	100	3.5	158	S 22 E
4926.0	8.00	8.2	284	N 76 W	100	3.5	159	S 21 E
4928.0	8.00	14.5	235	S 55 W	100	3.6	162	S 18 E
4930.0	8.00	14.5	233	S 53 W	64	3.5	163	S 17 E
4932.0	8.00	16.3	232	S 52 W	69	3.5	160	S 20 E
4934.0	8.00	17.6	231	S 51 W	66	3.5	159	S 21 E
4936.0	8.00	7.8	191	S 11 W	100	3.6	161	S 19 E
4944.0	8.00	18.0	323	N 37 W	70	3.3	161	S 19 E
4946.0	8.00	14.5	292	N 68 W	62	3.3	160	S 20 E
4950.0	8.00	15.6	266	S 86 W	75	3.3	165	S 15 E
4952.0	8.00	13.6	288	N 72 W	34	3.3	164	S 16 E
4954.0	8.00	16.8	254	S 74 W	74	3.3	163	S 17 E
4958.0	8.00	20.2	233	S 53 W	82	3.3	169	S 11 E
4964.0	8.00	25.6	219	S 39 W	61	3.3	169	S 11 E
4970.0	8.00	19.4	244	S 64 W	62	3.3	167	S 13 E
4974.0	8.00	25.0	232	S 52 W	83	3.3	166	S 14 E
4986.0	8.00	19.6	320	N 40 W	100	3.2	172	S 8 E
4990.0	8.00	16.7	330	N 30 W	87	3.2	171	S 9 E
4992.0	8.00	20.1	28	N 28 E	100	3.2	170	S 10 E
4994.0	8.00	22.5	16	N 16 E	100	3.1	172	S 8 E
4996.0	8.00	20.9	20	N 20 E	100	3.1	174	S 6 E
4998.0	8.00	14.1	34	N 34 E	97	3.1	176	S 4 E
5002.0	8.00	7.0	158	S 22 E	100	3.1	177	S 3 E
5004.0	8.00	19.9	247	S 67 W	39	3.1	175	S 5 E
5006.0	8.00	18.5	234	S 54 W	100	3.0	174	S 6 E
5008.0	8.00	18.4	244	S 64 W	100	3.0	175	S 5 E
5010.0	8.00	19.6	240	S 60 W	100	3.0	175	S 5 E
5012.0	8.00	20.0	235	S 55 W	100	3.0	175	S 5 E
5014.0	8.00	22.8	228	S 48 W	97	3.0	175	S 5 E
5016.0	8.00	23.1	229	S 49 W	78	3.0	175	S 5 E
5020.0	8.00	25.3	245	S 65 W	19	3.0	178	S 2 E
5022.0	8.00	24.6	247	S 67 W	39	3.1	178	S 2 E
5024.0	8.00	24.6	246	S 66 W	39	3.1	178	S 2 E
5026.0	8.00	24.7	247	S 67 W	39	3.0	179	S 1 E

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		FORMATION DIP				**BOREHOLE**		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5028.0	8.00	26.7	208	S 28 W	92	3.0	180	S 0 E
5030.0	8.00	26.8	208	S 28 W	97	3.0	181	S 1 W
5032.0	8.00	26.9	207	S 27 W	100	3.0	180	S 0 E
5034.0	8.00	26.4	205	S 25 W	100	3.0	180	S 0 E
5036.0	8.00	27.1	199	S 19 W	57	3.0	181	S 1 W
5038.0	8.00	25.5	198	S 18 W	100	3.0	181	S 1 W
5040.0	8.00	22.9	199	S 19 W	100	2.9	182	S 2 W
5042.0	8.00	22.0	201	S 21 W	100	2.9	181	S 1 W
5044.0	8.00	17.6	208	S 28 W	100	2.8	182	S 2 W
5046.0	8.00	16.7	214	S 34 W	100	2.7	183	S 3 W
5048.0	8.00	12.4	216	S 36 W	100	2.6	181	S 1 W
5050.0	8.00	9.4	237	S 57 W	83	2.6	182	S 2 W
5052.0	8.00	8.3	230	S 50 W	100	2.6	183	S 3 W
5054.0	8.00	6.3	264	S 84 W	100	2.6	183	S 3 W
5056.0	8.00	6.5	354	N 6 W	100	2.6	182	S 2 W
5058.0	8.00	10.1	357	N 3 W	100	2.5	182	S 2 W
5060.0	8.00	8.5	359	N 1 W	100	2.5	183	S 3 W
5064.0	8.00	22.9	239	S 59 W	84	2.6	184	S 4 W
5066.0	8.00	22.8	247	S 67 W	74	2.6	185	S 5 W
5068.0	8.00	9.3	284	N 76 W	100	2.6	186	S 6 W
5070.0	8.00	5.4	284	N 76 W	100	2.6	184	S 4 W
5072.0	8.00	5.4	309	N 51 W	100	2.6	184	S 4 W
5074.0	8.00	4.8	289	N 71 W	100	2.7	184	S 4 W
5076.0	8.00	13.8	220	S 40 W	100	2.6	186	S 6 W
5078.0	8.00	20.2	210	S 30 W	77	2.5	188	S 8 W
5080.0	8.00	13.3	169	S 11 E	100	2.5	186	S 6 W
5082.0	8.00	14.4	165	S 15 E	57	2.5	187	S 7 W
5084.0	8.00	22.1	149	S 31 E	86	2.5	181	S 1 W
5086.0	8.00	13.7	161	S 19 E	70	2.4	183	S 3 W
5088.0	8.00	19.7	169	S 11 E	75	2.3	187	S 7 W
5090.0	8.00	21.5	169	S 11 E	100	2.3	190	S 10 W
5092.0	8.00	19.3	171	S 9 E	57	2.3	191	S 11 W
5094.0	8.00	19.2	188	S 8 W	100	2.2	191	S 11 W
5096.0	8.00	18.5	190	S 10 W	100	2.1	190	S 10 W
5098.0	8.00	18.2	232	S 52 W	100	2.2	191	S 11 W
5100.0	8.00	17.6	226	S 46 W	90	2.1	190	S 10 W
5102.0	8.00	12.4	243	S 63 W	70	2.1	190	S 10 W
5104.0	8.00	5.7	209	S 29 W	100	2.2	190	S 10 W
5106.0	8.00	15.7	223	S 43 W	100	2.2	190	S 10 W
5108.0	8.00	10.0	47	N 47 E	77	2.2	189	S 9 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5110.0	8.00	9.3	46	N 46 E	100	2.3	190	S 10 W
5112.0	8.00	9.3	40	N 40 E	100	2.3	189	S 9 W
5114.0	8.00	10.0	44	N 44 E	100	2.3	189	S 9 W
5116.0	8.00	9.6	55	N 55 E	71	2.4	189	S 9 W
5126.0	8.00	18.2	71	N 71 E	73	2.3	192	S 12 W
5128.0	8.00	18.6	69	N 69 E	77	2.4	198	S 18 W
5132.0	8.00	16.1	93	S 87 E	69	2.3	187	S 7 W
5134.0	8.00	13.7	344	N 16 W	36	2.3	188	S 8 W
5136.0	8.00	11.2	340	N 20 W	67	2.4	193	S 13 W
5142.0	8.00	8.5	345	N 15 W	100	2.3	193	S 13 W
5148.0	8.00	18.8	153	S 27 E	83	2.1	192	S 12 W
5150.0	8.00	17.7	149	S 31 E	83	2.1	190	S 10 W
5152.0	8.00	20.4	154	S 26 E	70	2.0	191	S 11 W
5156.0	8.00	5.1	278	N 82 W	85	2.0	193	S 13 W
5158.0	8.00	16.6	253	S 73 W	82	2.0	198	S 18 W
5160.0	8.00	19.5	241	S 61 W	71	2.0	197	S 17 W
5164.0	8.00	14.9	278	N 82 W	35	2.0	200	S 20 W
5178.0	8.00	4.5	352	N 8 W	100	2.0	201	S 21 W
5180.0	8.00	5.7	338	N 22 W	100	2.0	203	S 23 W
5182.0	8.00	7.5	316	N 44 W	100	2.0	203	S 23 W
5184.0	8.00	5.6	293	N 67 W	100	2.0	204	S 24 W
5186.0	8.00	6.7	291	N 69 W	100	1.9	202	S 22 W
5188.0	8.00	6.1	277	N 83 W	83	1.9	201	S 21 W
5190.0	8.00	5.7	253	S 73 W	100	2.0	199	S 19 W
5192.0	8.00	17.8	204	S 24 W	67	2.0	195	S 15 W
5210.0	8.00	15.1	186	S 6 W	100	2.0	204	S 24 W
5218.0	8.00	1.8	293	N 67 W	75	2.0	204	S 24 W
5220.0	8.00	1.7	285	N 75 W	75	2.0	204	S 24 W
5228.0	8.00	12.7	258	S 78 W	43	1.9	206	S 26 W
5230.0	8.00	9.8	232	S 52 W	45	1.9	206	S 26 W
5232.0	8.00	5.9	238	S 58 W	82	1.9	207	S 27 W
5234.0	8.00	7.3	243	S 63 W	90	2.0	206	S 26 W
5238.0	8.00	29.3	252	S 72 W	54	2.0	206	S 26 W
5240.0	8.00	28.7	252	S 72 W	54	2.0	204	S 24 W
5242.0	8.00	4.5	241	S 61 W	100	2.1	209	S 29 W
5250.0	8.00	11.1	275	N 85 W	100	2.1	211	S 31 W
5252.0	8.00	6.8	307	N 53 W	100	2.1	214	S 34 W
5254.0	8.00	12.7	283	N 77 W	100	2.2	215	S 35 W
5256.0	8.00	12.9	283	N 77 W	100	2.2	214	S 34 W
5258.0	8.00	15.1	287	N 73 W	78	2.3	214	S 34 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5260.0	8.00	16.4	276	N 84 W	41	2.4	211	S 31 W
5262.0	8.00	17.0	298	N 62 W	100	2.4	209	S 29 W
5264.0	8.00	11.4	279	N 81 W	91	2.5	211	S 31 W
5266.0	8.00	10.0	290	N 70 W	57	2.6	208	S 28 W
5268.0	8.00	9.5	269	S 89 W	49	2.4	200	S 20 W
5272.0	8.00	6.5	240	S 60 W	100	2.4	202	S 22 W
5274.0	8.00	6.8	216	S 36 W	100	2.4	200	S 20 W
5276.0	8.00	7.1	247	S 67 W	92	2.4	201	S 21 W
5280.0	8.00	7.5	240	S 60 W	91	2.5	200	S 20 W
5282.0	8.00	8.1	241	S 61 W	91	2.5	200	S 20 W
5284.0	8.00	7.8	207	S 27 W	73	2.6	200	S 20 W
5286.0	8.00	5.0	214	S 34 W	93	2.6	201	S 21 W
5288.0	8.00	11.5	44	N 44 E	96	2.6	207	S 27 W
5290.0	8.00	12.1	61	N 61 E	100	2.7	206	S 26 W
5292.0	8.00	13.7	81	N 81 E	100	3.0	203	S 23 W
5294.0	8.00	14.8	83	N 83 E	100	3.1	194	S 14 W
5296.0	8.00	14.3	90	N 90 E	100	3.0	197	S 17 W
5298.0	8.00	13.3	81	N 81 E	100	3.0	192	S 12 W
5300.0	8.00	15.5	60	N 60 E	100	3.1	189	S 9 W
5302.0	8.00	16.6	53	N 53 E	100	3.0	201	S 21 W
5304.0	8.00	12.3	45	N 45 E	100	3.0	200	S 20 W
5306.0	8.00	20.6	113	S 67 E	76	3.1	202	S 22 W
5308.0	8.00	19.0	110	S 70 E	100	3.1	204	S 24 W
5310.0	8.00	18.6	105	S 75 E	100	3.2	200	S 20 W
5312.0	8.00	17.4	99	S 81 E	100	3.2	197	S 17 W
5314.0	8.00	18.3	92	S 88 E	85	3.3	193	S 13 W
5316.0	8.00	6.7	319	N 41 W	100	3.3	200	S 20 W
5318.0	8.00	6.0	298	N 62 W	86	3.3	202	S 22 W
5324.0	8.00	14.0	238	S 58 W	92	3.3	202	S 22 W
5326.0	8.00	17.0	227	S 47 W	100	3.2	201	S 21 W
5328.0	8.00	16.8	217	S 37 W	99	3.3	198	S 18 W
5330.0	8.00	18.8	214	S 34 W	66	3.3	202	S 22 W
5332.0	8.00	13.4	206	S 26 W	50	3.3	201	S 21 W
5334.0	8.00	21.6	93	S 87 E	100	3.3	199	S 19 W
5336.0	8.00	22.5	106	S 74 E	100	3.3	203	S 23 W
5338.0	8.00	24.2	101	S 79 E	100	3.2	204	S 24 W
5340.0	8.00	23.7	103	S 77 E	100	3.2	204	S 24 W
5342.0	8.00	21.9	103	S 77 E	99	3.2	207	S 27 W
5374.0	8.00	8.5	313	N 47 W	100	3.5	219	S 39 W
5376.0	8.00	4.4	311	N 49 W	100	3.4	209	S 29 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5378.0	8.00	6.5	325	N 35 W	100	3.4	209	S 29 W
5382.0	8.00	5.8	329	N 31 W	100	3.4	211	S 31 W
5384.0	8.00	3.6	347	N 13 W	100	3.3	210	S 30 W
5386.0	8.00	3.9	335	N 25 W	41	3.3	212	S 32 W
5388.0	8.00	3.5	307	N 53 W	100	3.3	213	S 33 W
5390.0	8.00	5.7	312	N 48 W	100	3.2	215	S 35 W
5392.0	8.00	4.4	320	N 40 W	100	3.2	218	S 38 W
5394.0	8.00	4.7	306	N 54 W	100	3.2	219	S 39 W
5396.0	8.00	4.3	8	N 8 E	100	3.2	276	N 84 W
5398.0	8.00	3.7	22	N 22 E	100	3.2	284	N 76 W
5406.0	8.00	7.6	270	N 90 W	100	3.3	208	S 28 W
5408.0	8.00	7.6	268	S 88 W	100	3.2	209	S 29 W
5410.0	8.00	7.8	269	S 89 W	100	3.2	210	S 30 W
5412.0	8.00	5.5	274	N 86 W	100	3.3	211	S 31 W
5414.0	8.00	3.6	281	N 79 W	100	3.3	211	S 31 W
5418.0	8.00	1.1	293	N 67 W	100	3.4	210	S 30 W
5420.0	8.00	2.7	305	N 55 W	100	3.3	212	S 32 W
5434.0	8.00	14.0	253	S 73 W	90	3.3	209	S 29 W
5436.0	8.00	19.6	255	S 75 W	73	3.4	209	S 29 W
5438.0	8.00	20.6	255	S 75 W	79	3.5	209	S 29 W
5450.0	8.00	6.1	285	N 75 W	100	3.4	208	S 28 W
5478.0	8.00	4.2	269	S 89 W	100	3.4	217	S 37 W
5482.0	8.00	4.2	279	N 81 W	100	3.4	212	S 32 W
5488.0	8.00	8.0	257	S 77 W	100	3.3	208	S 28 W
5490.0	8.00	8.1	254	S 74 W	88	3.4	211	S 31 W
5492.0	8.00	9.5	248	S 68 W	100	3.4	210	S 30 W
5494.0	8.00	8.4	236	S 56 W	100	3.4	203	S 23 W
5526.0	8.00	13.5	233	S 53 W	56	3.0	218	S 38 W
5530.0	8.00	12.9	276	N 84 W	76	2.9	212	S 32 W
5532.0	8.00	14.2	245	S 65 W	100	3.0	213	S 33 W
5534.0	8.00	14.8	250	S 70 W	100	3.0	213	S 33 W
5536.0	8.00	17.3	208	S 28 W	100	3.1	213	S 33 W
5538.0	8.00	17.9	206	S 26 W	76	3.0	215	S 35 W
5540.0	8.00	20.1	208	S 28 W	100	3.0	215	S 35 W
5542.0	8.00	20.6	209	S 29 W	100	3.0	215	S 35 W
5544.0	8.00	21.7	208	S 28 W	100	3.0	216	S 36 W
5546.0	8.00	18.9	207	S 27 W	92	3.0	217	S 37 W
5548.0	8.00	13.9	221	S 41 W	88	2.9	216	S 36 W
5550.0	8.00	15.2	220	S 40 W	100	2.8	216	S 36 W
5552.0	8.00	16.7	222	S 42 W	64	2.7	214	S 34 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5554.0	8.00	17.6	224	S 44 W	60	2.7	218	S 38 W
5558.0	8.00	4.7	272	N 88 W	52	2.6	216	S 36 W
5560.0	8.00	4.8	287	N 73 W	100	2.5	221	S 41 W
5562.0	8.00	4.5	288	N 72 W	100	2.6	220	S 40 W
5564.0	8.00	8.8	296	N 64 W	54	2.5	220	S 40 W
5566.0	8.00	9.3	295	N 65 W	54	2.5	220	S 40 W
5568.0	8.00	12.3	305	N 55 W	100	2.5	219	S 39 W
5570.0	8.00	12.4	307	N 53 W	100	2.5	219	S 39 W
5572.0	8.00	5.9	286	N 74 W	100	2.5	217	S 37 W
5574.0	8.00	7.2	262	S 82 W	100	2.5	215	S 35 W
5576.0	8.00	17.0	148	S 32 E	68	2.5	218	S 38 W
5578.0	8.00	17.3	149	S 31 E	100	2.5	222	S 42 W
5580.0	8.00	17.2	145	S 35 E	100	2.5	217	S 37 W
5582.0	8.00	17.0	136	S 44 E	100	2.5	212	S 32 W
5584.0	8.00	17.8	132	S 48 E	100	2.6	220	S 40 W
5586.0	8.00	17.4	130	S 50 E	100	2.5	216	S 36 W
5588.0	8.00	17.1	126	S 54 E	100	2.5	222	S 42 W
5590.0	8.00	17.1	128	S 52 E	100	2.5	222	S 42 W
5592.0	8.00	16.6	130	S 50 E	100	2.5	226	S 46 W
5594.0	8.00	17.2	129	S 51 E	100	2.4	225	S 45 W
5596.0	8.00	6.4	162	S 18 E	82	2.4	225	S 45 W
5598.0	8.00	5.6	158	S 22 E	98	2.4	227	S 47 W
5600.0	8.00	4.1	245	S 65 W	100	2.4	226	S 46 W
5606.0	8.00	3.8	237	S 57 W	91	2.5	229	S 49 W
5608.0	8.00	3.8	267	S 87 W	100	2.5	227	S 47 W
5612.0	8.00	20.3	261	S 81 W	100	2.7	221	S 41 W
5614.0	8.00	20.1	255	S 75 W	100	3.1	226	S 46 W
5616.0	8.00	17.1	247	S 67 W	100	3.5	225	S 45 W
5618.0	8.00	16.0	241	S 61 W	100	3.6	227	S 47 W
5620.0	8.00	15.4	240	S 60 W	100	3.4	224	S 44 W
5622.0	8.00	14.1	241	S 61 W	100	3.3	225	S 45 W
5624.0	8.00	9.0	291	N 69 W	100	3.4	223	S 43 W
5628.0	8.00	6.8	327	N 33 W	85	3.3	224	S 44 W
5630.0	8.00	8.3	322	N 38 W	100	3.2	224	S 44 W
5636.0	8.00	12.6	308	N 52 W	88	3.2	221	S 41 W
5638.0	8.00	15.1	281	N 79 W	58	3.2	222	S 42 W
5642.0	8.00	10.3	313	N 47 W	97	3.3	226	S 46 W
5644.0	8.00	9.8	310	N 50 W	100	3.2	223	S 43 W
5646.0	8.00	9.3	299	N 61 W	100	3.3	222	S 42 W
5648.0	8.00	7.0	334	N 26 W	100	3.1	222	S 42 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5650.0	8.00	5.6	344	N 16 W	100	3.2	222	S 42 W
5652.0	8.00	5.1	339	N 21 W	100	3.2	226	S 46 W
5654.0	8.00	5.8	310	N 50 W	100	3.2	222	S 42 W
5656.0	8.00	6.5	325	N 35 W	97	3.0	224	S 44 W
5658.0	8.00	6.6	323	N 37 W	91	3.2	227	S 47 W
5660.0	8.00	6.6	305	N 55 W	100	3.1	226	S 46 W
5662.0	8.00	6.0	305	N 55 W	100	3.0	225	S 45 W
5664.0	8.00	4.0	279	N 81 W	100	2.8	227	S 47 W
5666.0	8.00	7.5	303	N 57 W	87	2.6	225	S 45 W
5670.0	8.00	4.2	319	N 41 W	100	2.6	226	S 46 W
5672.0	8.00	4.6	326	N 34 W	77	2.5	224	S 44 W
5674.0	8.00	18.6	246	S 66 W	74	2.5	228	S 48 W
5678.0	8.00	20.7	233	S 53 W	71	2.4	226	S 46 W
5680.0	8.00	18.6	237	S 57 W	59	2.4	225	S 45 W
5696.0	8.00	4.6	267	S 87 W	73	2.5	225	S 45 W
5698.0	8.00	4.7	267	S 87 W	94	2.5	224	S 44 W
5700.0	8.00	4.8	265	S 85 W	94	2.4	224	S 44 W
5702.0	8.00	4.8	275	N 85 W	65	2.4	225	S 45 W
5704.0	8.00	6.7	285	N 75 W	100	2.4	224	S 44 W
5706.0	8.00	9.8	254	S 74 W	23	2.5	222	S 42 W
5708.0	8.00	9.4	248	S 68 W	20	2.6	222	S 42 W
5712.0	8.00	11.8	267	S 87 W	17	2.5	224	S 44 W
5718.0	8.00	22.3	287	N 73 W	30	2.6	229	S 49 W
5720.0	8.00	22.8	272	N 88 W	65	2.6	228	S 48 W
5722.0	8.00	25.6	271	N 89 W	61	2.6	229	S 49 W
5724.0	8.00	23.1	267	S 87 W	100	2.6	225	S 45 W
5726.0	8.00	24.1	271	N 89 W	66	2.6	227	S 47 W
5728.0	8.00	23.7	274	N 86 W	100	2.6	228	S 48 W
5730.0	8.00	23.6	276	N 84 W	100	2.5	227	S 47 W
5732.0	8.00	20.1	283	N 77 W	100	2.5	228	S 48 W
5734.0	8.00	15.5	286	N 74 W	100	2.5	226	S 46 W
5736.0	8.00	5.7	259	S 79 W	74	2.4	225	S 45 W
5738.0	8.00	16.9	103	S 77 E	60	2.4	224	S 44 W
5740.0	8.00	16.8	94	S 86 E	60	2.3	228	S 48 W
5742.0	8.00	14.8	76	N 76 E	100	2.3	230	S 50 W
5744.0	8.00	16.6	79	N 79 E	100	2.1	231	S 51 W
5746.0	8.00	16.3	72	N 72 E	100	2.1	230	S 50 W
5748.0	8.00	14.8	70	N 70 E	100	2.1	230	S 50 W
5750.0	8.00	17.1	218	S 38 W	42	2.1	229	S 49 W
5752.0	8.00	17.6	217	S 37 W	100	2.0	230	S 50 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
5754.0	8.00	17.9	217	S 37 W	100	2.1	231	S 51 W
5756.0	8.00	18.5	223	S 43 W	100	2.1	231	S 51 W
5758.0	8.00	18.6	226	S 46 W	100	2.1	233	S 53 W
5760.0	8.00	19.8	232	S 52 W	100	2.1	235	S 55 W
5762.0	8.00	20.2	240	S 60 W	100	2.1	231	S 51 W
5764.0	8.00	19.3	239	S 59 W	100	2.1	232	S 52 W
5766.0	8.00	20.9	240	S 60 W	80	2.0	230	S 50 W
5768.0	8.00	20.3	243	S 63 W	100	2.0	231	S 51 W
5770.0	8.00	19.2	229	S 49 W	56	2.0	231	S 51 W
5780.0	8.00	12.8	237	S 57 W	91	2.3	235	S 55 W
5782.0	8.00	12.4	227	S 47 W	81	2.3	239	S 59 W
5788.0	8.00	14.2	195	S 15 W	99	2.1	237	S 57 W
5792.0	8.00	20.6	325	N 35 W	46	2.1	238	S 58 W
5794.0	8.00	27.1	323	N 37 W	32	2.1	239	S 59 W
5808.0	8.00	21.2	322	N 38 W	62	2.0	237	S 57 W
5810.0	8.00	15.8	315	N 45 W	92	2.2	238	S 58 W
5824.0	8.00	2.4	44	N 44 E	100	2.7	248	S 68 W
5826.0	8.00	2.7	37	N 37 E	100	2.8	243	S 63 W
5828.0	8.00	3.2	27	N 27 E	100	3.1	229	S 49 W
5830.0	8.00	2.3	33	N 33 E	100	2.6	240	S 60 W
5836.0	8.00	17.9	81	N 81 E	6	1.8	253	S 73 W
5838.0	8.00	20.2	74	N 74 E	8	1.8	253	S 73 W
5852.0	8.00	2.5	36	N 36 E	100	2.3	249	S 69 W
5854.0	8.00	2.6	36	N 36 E	100	2.5	250	S 70 W
5856.0	8.00	2.8	39	N 39 E	100	2.6	248	S 68 W
5858.0	8.00	3.2	44	N 44 E	49	3.2	253	S 73 W
5860.0	8.00	2.2	68	N 68 E	87	2.9	251	S 71 W
5862.0	8.00	1.5	106	S 74 E	68	2.1	253	S 73 W
5902.0	8.00	2.7	276	N 84 W	100	1.5	247	S 67 W
5904.0	8.00	1.5	246	S 66 W	100	1.6	248	S 68 W
5906.0	8.00	2.7	264	S 84 W	100	1.3	248	S 68 W
5908.0	8.00	1.1	318	N 42 W	100	1.3	243	S 63 W
5952.0	8.00	5.2	311	N 49 W	70	1.3	235	S 55 W
5956.0	8.00	14.1	274	N 86 W	10	1.3	229	S 49 W
5964.0	8.00	16.9	290	N 70 W	13	1.1	235	S 55 W
5980.0	8.00	15.4	333	N 27 W	50	1.2	233	S 53 W
5988.0	8.00	8.9	346	N 14 W	100	1.2	226	S 46 W
5990.0	8.00	6.6	346	N 14 W	100	1.2	229	S 49 W
5992.0	8.00	17.3	344	N 16 W	95	1.1	225	S 45 W
6002.0	8.00	9.3	347	N 13 W	86	1.0	222	S 42 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6004.0	8.00	1.0	25	N 25 E	99	1.0	222	S 42 W
6006.0	8.00	12.2	359	N 1 W	100	1.2	224	S 44 W
6016.0	8.00	23.6	301	N 59 W	23	1.2	218	S 38 W
6022.0	8.00	7.3	291	N 69 W	94	0.9	213	S 33 W
6024.0	8.00	7.0	289	N 71 W	100	0.9	215	S 35 W
6026.0	8.00	5.7	286	N 74 W	100	1.0	216	S 36 W
6072.0	8.00	12.4	340	N 20 W	77	1.3	211	S 31 W
6134.0	8.00	21.6	272	N 88 W	70	1.6	160	S 20 E
6136.0	8.00	19.8	270	N 90 W	93	1.8	207	S 27 W
6140.0	8.00	5.6	274	N 86 W	64	1.7	188	S 8 W
6144.0	8.00	2.1	333	N 27 W	55	1.6	202	S 22 W
6146.0	8.00	1.1	11	N 11 E	74	1.6	202	S 22 W
6148.0	8.00	2.5	351	N 9 W	100	1.6	201	S 21 W
6150.0	8.00	2.9	358	N 2 W	100	2.2	203	S 23 W
6152.0	8.00	3.0	347	N 13 W	100	2.1	178	S 2 E
6154.0	8.00	2.5	0	N 0 E	100	1.7	205	S 25 W
6160.0	8.00	1.8	312	N 48 W	100	1.8	207	S 27 W
6162.0	8.00	2.1	281	N 79 W	100	1.2	202	S 22 W
6170.0	8.00	1.1	310	N 50 W	100	1.1	201	S 21 W
6172.0	8.00	2.4	300	N 60 W	100	1.0	203	S 23 W
6174.0	8.00	3.4	275	N 85 W	100	1.2	198	S 18 W
6178.0	8.00	6.7	266	S 86 W	100	1.1	198	S 18 W
6180.0	8.00	2.6	281	N 79 W	100	1.1	206	S 26 W
6182.0	8.00	3.8	283	N 77 W	100	1.1	195	S 15 W
6184.0	8.00	3.3	289	N 71 W	100	1.1	193	S 13 W
6186.0	8.00	1.9	312	N 48 W	81	1.1	195	S 15 W
6188.0	3.00	4.0	286	N 74 W	35	1.0	191	S 11 W
6190.0	8.00	4.2	280	N 80 W	91	0.9	187	S 7 W
6192.0	8.00	1.5	318	N 42 W	100	0.8	190	S 10 W
6194.0	8.00	1.5	301	N 59 W	100	0.8	188	S 8 W
6196.0	8.00	1.7	289	N 71 W	100	0.9	191	S 11 W
6198.0	8.00	1.8	286	N 74 W	100	0.9	189	S 9 W
6200.0	8.00	3.2	255	S 75 W	100	0.7	190	S 10 W
6202.0	8.00	2.5	254	S 74 W	100	0.6	187	S 7 W
6204.0	8.00	2.5	249	S 69 W	100	0.5	184	S 4 W
6206.0	8.00	4.1	264	S 84 W	100	0.6	184	S 4 W
6208.0	8.00	6.3	277	N 83 W	100	0.5	181	S 1 W
6210.0	8.00	4.9	268	S 88 W	100	0.4	177	S 3 E
6212.0	6.00	5.9	259	S 79 W	100	0.6	176	S 4 E
6214.0	8.00	3.7	279	N 81 W	100	0.6	183	S 3 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6216.0	8.00	4.4	274	N 86 W	100	0.4	181	S 1 W
6218.0	8.00	2.6	285	N 75 W	100	0.4	181	S 1 W
6220.0	8.00	3.9	284	N 76 W	100	0.3	181	S 1 W
6222.0	8.00	3.9	288	N 72 W	100	0.3	179	S 1 E
6224.0	8.00	4.8	282	N 78 W	100	0.3	176	S 4 E
6226.0	8.00	4.8	278	N 82 W	100	0.4	170	S 10 E
6228.0	8.00	3.7	265	S 85 W	100	0.3	169	S 11 E
6230.0	8.00	3.3	255	S 75 W	100	0.2	172	S 8 E
6232.0	8.00	3.3	255	S 75 W	100	0.3	170	S 10 E
6236.0	8.00	3.2	256	S 76 W	100	0.2	170	S 10 E
6238.0	8.00	3.9	263	S 83 W	100	0.2	170	S 10 E
6240.0	8.00	4.0	265	S 85 W	100	0.2	170	S 10 E
6242.0	8.00	4.1	297	N 63 W	100	0.2	171	S 9 E
6244.0	8.00	4.2	287	N 73 W	100	0.2	170	S 10 E
6246.0	8.00	4.6	285	N 75 W	100	0.2	170	S 10 E
6248.0	8.00	5.1	288	N 72 W	100	0.2	168	S 12 E
6250.0	8.00	2.7	313	N 47 W	100	0.3	176	S 4 E
6252.0	8.00	2.4	222	S 42 W	84	0.2	162	S 18 E
6254.0	8.00	2.3	217	S 37 W	82	0.1	162	S 18 E
6256.0	8.00	2.8	224	S 44 W	72	0.1	162	S 18 E
6258.0	8.00	3.4	288	N 72 W	100	0.1	163	S 17 E
6262.0	8.00	4.4	280	N 80 W	100	0.1	163	S 17 E
6264.0	8.00	3.7	274	N 86 W	100	0.1	162	S 18 E
6266.0	8.00	3.8	262	S 82 W	100	0.1	162	S 18 E
6268.0	8.00	3.4	276	N 84 W	100	0.1	164	S 16 E
6270.0	8.00	3.2	277	N 83 W	100	0.1	161	S 19 E
6272.0	8.00	2.7	275	N 85 W	100	0.2	162	S 18 E
6274.0	8.00	1.9	271	N 89 W	81	0.2	165	S 15 E
6276.0	8.00	3.0	251	S 71 W	100	0.3	160	S 20 E
6278.0	8.00	2.5	215	S 35 W	100	0.2	164	S 16 E
6280.0	8.00	4.2	237	S 57 W	100	0.2	161	S 19 E
6282.0	8.00	3.4	258	S 78 W	100	0.2	160	S 20 E
6284.0	8.00	4.8	300	N 60 W	87	0.2	167	S 13 E
6286.0	8.00	4.4	290	N 70 W	73	0.3	161	S 19 E
6288.0	8.00	3.3	263	S 83 W	100	0.4	164	S 16 E
6290.0	8.00	2.7	273	N 87 W	33	0.5	167	S 13 E
6292.0	8.00	3.6	259	S 79 W	100	0.4	166	S 14 E
6296.0	8.00	16.9	203	S 23 W	43	0.2	169	S 11 E
6298.0	8.00	17.2	216	S 36 W	60	0.2	157	S 23 E
6300.0	8.00	20.9	228	S 48 W	31	0.2	154	S 26 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6304.0	8.00	14.2	232	S 52 W	24	0.3	152	S 28 E
6306.0	8.00	16.2	215	S 35 W	22	0.3	152	S 28 E
6308.0	8.00	15.0	208	S 28 W	32	0.4	154	S 26 E
6310.0	8.00	5.3	294	N 66 W	78	0.4	153	S 27 E
6312.0	8.00	5.5	298	N 62 W	100	0.5	152	S 28 E
6314.0	8.00	7.9	287	N 73 W	100	0.5	154	S 26 E
6316.0	8.00	8.1	284	N 76 W	100	0.5	154	S 26 E
6318.0	8.00	7.7	290	N 70 W	100	0.3	153	S 27 E
6320.0	8.00	11.0	272	N 88 W	100	0.4	153	S 27 E
6324.0	8.00	2.0	281	N 79 W	100	0.4	155	S 25 E
6326.0	8.00	1.6	236	S 56 W	80	0.4	149	S 31 E
6328.0	8.00	1.5	234	S 54 W	100	0.4	155	S 25 E
6330.0	8.00	1.6	277	N 83 W	100	0.3	157	S 23 E
6332.0	8.00	2.1	278	N 82 W	100	0.3	153	S 27 E
6334.0	8.00	2.3	292	N 68 W	100	0.2	154	S 26 E
6338.0	8.00	3.5	296	N 64 W	90	0.2	153	S 27 E
6340.0	8.00	1.8	332	N 28 W	94	0.3	151	S 29 E
6342.0	8.00	3.6	302	N 58 W	97	0.4	152	S 28 E
6344.0	8.00	6.0	306	N 54 W	100	0.6	148	S 32 E
6346.0	8.00	4.2	310	N 50 W	100	0.3	149	S 31 E
6348.0	8.00	3.2	317	N 43 W	100	0.3	147	S 33 E
6350.0	8.00	2.3	333	N 27 W	100	0.3	152	S 28 E
6352.0	8.00	2.9	353	N 7 W	79	0.3	153	S 27 E
6364.0	8.00	1.7	322	N 38 W	100	0.4	152	S 28 E
6366.0	8.00	1.5	317	N 43 W	100	0.5	149	S 31 E
6368.0	8.00	2.4	286	N 74 W	100	0.6	149	S 31 E
6370.0	8.00	2.2	282	N 78 W	100	0.6	147	S 33 E
6372.0	8.00	3.3	269	S 89 W	100	0.5	151	S 29 E
6374.0	8.00	4.2	272	N 88 W	100	0.5	150	S 30 E
6376.0	8.00	3.1	282	N 78 W	100	0.5	148	S 32 E
6378.0	8.00	3.5	279	N 81 W	100	0.4	148	S 32 E
6380.0	8.00	5.3	273	N 87 W	24	0.4	146	S 34 E
6390.0	8.00	3.1	295	N 65 W	100	0.4	146	S 34 E
6392.0	8.00	1.7	249	S 69 W	52	0.5	146	S 34 E
6394.0	8.00	4.0	255	S 75 W	100	0.4	147	S 33 E
6396.0	8.00	2.3	271	N 89 W	100	0.4	142	S 38 E
6398.0	8.00	1.7	281	N 79 W	100	0.5	143	S 37 E
6400.0	8.00	2.2	276	N 84 W	100	0.5	139	S 41 E
6414.0	8.00	1.1	310	N 50 W	95	0.6	144	S 36 E
6416.0	8.00	1.4	316	N 44 W	99	0.6	146	S 34 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6426.0	8.00	1.1	297	N 63 W	100	0.6	139	S 41 E
6428.0	8.00	1.2	297	N 63 W	100	0.6	129	S 51 E
6430.0	8.00	1.0	304	N 56 W	100	0.7	136	S 44 E
6432.0	8.00	1.2	324	N 36 W	100	0.6	137	S 43 E
6434.0	8.00	2.7	300	N 60 W	100	0.5	137	S 43 E
6478.0	8.00	2.5	267	S 87 W	95	1.3	118	S 62 E
6490.0	8.00	1.2	230	S 50 W	71	1.2	109	S 71 E
6492.0	8.00	2.8	316	N 44 W	100	1.3	110	S 70 E
6494.0	8.00	3.8	336	N 24 W	100	1.4	112	S 68 E
6496.0	8.00	3.4	343	N 17 W	100	1.4	114	S 66 E
6498.0	8.00	3.9	305	N 55 W	100	1.5	110	S 70 E
6500.0	8.00	2.4	283	N 77 W	80	1.5	110	S 70 E
6544.0	8.00	1.4	333	N 27 W	100	2.1	108	S 72 E
6546.0	8.00	1.6	327	N 33 W	100	2.2	108	S 72 E
6550.0	8.00	2.1	326	N 34 W	100	2.4	106	S 74 E
6552.0	8.00	2.3	316	N 44 W	100	2.5	109	S 71 E
6554.0	8.00	1.9	319	N 41 W	100	2.5	107	S 73 E
6556.0	8.00	2.7	50	N 50 E	100	2.1	103	S 77 E
6558.0	8.00	2.9	40	N 40 E	100	2.2	109	S 71 E
6560.0	8.00	11.5	336	N 24 W	73	2.3	109	S 71 E
6562.0	8.00	11.9	342	N 18 W	35	2.4	107	S 73 E
6564.0	8.00	27.6	267	S 87 W	48	2.5	108	S 72 E
6580.0	8.00	7.8	303	N 57 W	100	2.8	109	S 71 E
6594.0	8.00	3.6	298	N 62 W	100	3.0	106	S 74 E
6598.0	8.00	5.0	343	N 17 W	100	3.0	105	S 75 E
6602.0	8.00	4.1	306	N 54 W	100	2.9	111	S 69 E
6604.0	8.00	4.0	302	N 58 W	100	2.9	106	S 74 E
6606.0	8.00	4.0	310	N 50 W	100	2.9	107	S 73 E
6608.0	8.00	3.7	306	N 54 W	100	3.0	102	S 78 E
6610.0	8.00	3.5	320	N 40 W	100	3.1	108	S 72 E
6612.0	8.00	3.1	319	N 41 W	100	3.4	109	S 71 E
6614.0	8.00	2.5	299	N 61 W	100	3.5	103	S 77 E
6616.0	8.00	2.1	314	N 46 W	100	2.8	109	S 71 E
6618.0	8.00	2.2	311	N 49 W	100	2.9	108	S 72 E
6620.0	8.00	2.2	309	N 51 W	100	2.9	106	S 74 E
6622.0	8.00	2.3	305	N 55 W	100	3.0	106	S 74 E
6624.0	8.00	2.4	307	N 53 W	100	3.0	106	S 74 E
6628.0	8.00	10.1	316	N 44 W	70	2.9	110	S 70 E
6630.0	8.00	7.0	333	N 27 W	100	3.0	110	S 70 E
6634.0	8.00	4.0	285	N 75 W	96	3.1	108	S 72 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6636.0	8.00	2.0	290	N 70 W	100	3.1	104	S 76 E
6638.0	8.00	4.5	279	N 81 W	100	3.3	99	S 81 E
6640.0	8.00	20.4	258	S 78 W	100	2.9	107	S 73 E
6642.0	6.00	14.0	319	N 41 W	10	3.0	108	S 72 E
6654.0	8.00	3.7	321	N 39 W	100	3.1	110	S 70 E
6656.0	8.00	5.9	354	N 6 W	100	3.0	112	S 68 E
6658.0	8.00	8.1	349	N 11 W	100	3.0	109	S 71 E
6660.0	8.00	7.1	353	N 7 W	100	3.0	110	S 70 E
6662.0	8.00	3.6	295	N 65 W	100	3.1	108	S 72 E
6668.0	8.00	6.2	310	N 50 W	100	3.0	110	S 70 E
6672.0	8.00	5.8	344	N 16 W	86	3.2	105	S 75 E
6674.0	8.00	2.6	307	N 53 W	78	3.3	110	S 70 E
6676.0	8.00	1.7	325	N 35 W	100	3.1	106	S 74 E
6678.0	8.00	3.1	324	N 36 W	100	3.1	110	S 70 E
6680.0	8.00	4.0	333	N 27 W	100	3.1	112	S 68 E
6682.0	8.00	4.6	321	N 39 W	100	3.2	115	S 65 E
6684.0	8.00	4.6	318	N 42 W	100	3.2	110	S 70 E
6686.0	8.00	4.8	315	N 45 W	100	3.2	109	S 71 E
6688.0	8.00	4.4	312	N 48 W	100	3.3	108	S 72 E
6690.0	8.00	15.4	319	N 41 W	94	3.2	103	S 77 E
6692.0	8.00	17.3	314	N 46 W	100	3.2	113	S 67 E
6694.0	8.00	13.2	314	N 46 W	100	3.2	113	S 67 E
6696.0	8.00	2.8	336	N 24 W	100	3.2	111	S 69 E
6698.0	8.00	3.0	310	N 50 W	100	3.2	111	S 69 E
6700.0	8.00	3.2	319	N 41 W	100	3.2	115	S 65 E
6704.0	8.00	16.2	194	S 14 W	100	3.1	119	S 61 E
6706.0	8.00	4.0	203	S 23 W	100	3.1	118	S 62 E
6708.0	8.00	6.9	245	S 65 W	100	3.1	118	S 62 E
6710.0	8.00	2.0	282	N 78 W	100	3.1	117	S 63 E
6718.0	8.00	3.3	321	N 39 W	100	3.1	117	S 63 E
6722.0	8.00	2.7	325	N 35 W	100	3.1	115	S 65 E
6724.0	8.00	3.4	306	N 54 W	100	3.1	113	S 67 E
6726.0	8.00	2.6	323	N 37 W	100	3.1	114	S 66 E
6728.0	8.00	2.0	270	N 90 W	73	3.1	114	S 66 E
6730.0	8.00	1.5	262	S 82 W	97	3.1	121	S 59 E
6736.0	8.00	2.5	237	S 57 W	100	3.1	122	S 58 E
6738.0	8.00	1.4	306	N 54 W	100	3.0	125	S 55 E
6740.0	8.00	1.8	327	N 33 W	100	3.1	121	S 59 E
6746.0	8.00	2.8	322	N 38 W	100	3.0	117	S 63 E
6748.0	8.00	2.6	334	N 26 W	100	3.0	117	S 63 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6750.0	8.00	3.1	331	N 29 W	100	3.1	124	S 56 E
6752.0	8.00	3.1	334	N 26 W	100	3.1	122	S 58 E
6758.0	8.00	6.4	300	N 60 W	100	3.1	118	S 62 E
6760.0	8.00	4.7	300	N 60 W	100	3.2	119	S 61 E
6762.0	8.00	5.1	305	N 55 W	100	3.3	123	S 57 E
6764.0	8.00	5.4	299	N 61 W	100	3.3	122	S 58 E
6766.0	8.00	5.0	301	N 59 W	100	3.3	120	S 60 E
6768.0	8.00	4.7	291	N 69 W	100	3.2	119	S 61 E
6770.0	8.00	4.2	291	N 69 W	100	3.2	119	S 61 E
6772.0	8.00	1.6	293	N 67 W	100	3.2	119	S 61 E
6776.0	8.00	4.0	301	N 59 W	100	3.2	116	S 64 E
6778.0	8.00	4.6	295	N 65 W	88	3.2	116	S 64 E
6780.0	8.00	4.6	297	N 63 W	95	3.2	120	S 60 E
6782.0	8.00	4.4	288	N 72 W	100	3.3	116	S 64 E
6784.0	8.00	1.9	313	N 47 W	100	3.3	114	S 66 E
6786.0	8.00	2.2	325	N 35 W	100	3.3	116	S 64 E
6788.0	8.00	2.3	338	N 22 W	100	3.3	118	S 62 E
6790.0	8.00	2.1	308	N 52 W	100	3.3	118	S 62 E
6792.0	8.00	2.0	323	N 37 W	100	3.3	121	S 59 E
6794.0	8.00	4.5	281	N 79 W	100	3.3	120	S 60 E
6796.0	8.00	4.7	286	N 74 W	100	3.2	112	S 68 E
6798.0	8.00	4.4	279	N 81 W	100	3.3	111	S 69 E
6800.0	8.00	4.6	279	N 81 W	100	3.2	110	S 70 E
6806.0	8.00	4.1	273	N 87 W	100	3.2	110	S 70 E
6808.0	8.00	2.8	316	N 44 W	100	3.2	108	S 72 E
6810.0	8.00	2.6	327	N 33 W	100	3.2	113	S 67 E
6812.0	8.00	2.8	329	N 31 W	100	3.2	114	S 66 E
6816.0	8.00	3.2	319	N 41 W	100	3.2	114	S 66 E
6818.0	8.00	2.7	273	N 87 W	100	3.2	113	S 67 E
6820.0	8.00	3.5	270	N 90 W	100	3.2	112	S 68 E
6826.0	8.00	3.5	269	S 89 W	100	3.2	113	S 67 E
6828.0	8.00	1.7	280	N 80 W	100	3.2	110	S 70 E
6830.0	8.00	2.8	276	N 84 W	100	3.2	113	S 67 E
6832.0	8.00	2.1	338	N 22 W	100	3.2	113	S 67 E
6834.0	8.00	1.9	339	N 21 W	100	3.2	110	S 70 E
6838.0	8.00	2.6	314	N 46 W	100	3.2	113	S 67 E
6840.0	8.00	4.2	295	N 65 W	100	3.2	112	S 68 E
6842.0	8.00	4.5	294	N 66 W	100	3.2	113	S 67 E
6844.0	8.00	3.6	244	S 64 W	100	3.2	113	S 67 E
6848.0	8.00	2.3	256	S 76 W	100	3.3	110	S 70 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6856.0	8.00	1.7	260	S 80 W	100	3.2	119	S 61 E
6858.0	8.00	1.7	268	S 88 W	91	3.2	123	S 57 E
6860.0	8.00	1.7	279	N 81 W	100	3.2	120	S 60 E
6862.0	8.00	1.9	286	N 74 W	100	3.2	119	S 61 E
6864.0	8.00	2.5	322	N 38 W	100	3.2	119	S 61 E
6866.0	8.00	1.6	290	N 70 W	100	3.2	123	S 57 E
6868.0	8.00	1.7	287	N 73 W	100	3.2	121	S 59 E
6870.0	8.00	4.5	305	N 55 W	100	3.2	122	S 58 E
6872.0	8.00	4.4	305	N 55 W	100	3.2	122	S 58 E
6874.0	8.00	3.0	324	N 36 W	100	3.2	121	S 59 E
6876.0	8.00	2.9	327	N 33 W	100	3.2	120	S 60 E
6884.0	8.00	2.9	311	N 49 W	100	3.1	122	S 58 E
6886.0	8.00	1.7	354	N 6 W	100	3.1	122	S 58 E
6888.0	8.00	1.6	338	N 22 W	100	3.2	124	S 56 E
6890.0	8.00	1.9	320	N 40 W	100	3.2	123	S 57 E
6892.0	8.00	3.1	319	N 41 W	100	3.2	122	S 58 E
6894.0	8.00	2.9	317	N 43 W	100	3.2	122	S 58 E
6896.0	8.00	1.9	346	N 14 W	100	3.1	123	S 57 E
6898.0	8.00	4.1	340	N 20 W	100	3.2	123	S 57 E
6900.0	8.00	3.7	326	N 34 W	100	3.1	123	S 57 E
6902.0	8.00	3.5	324	N 36 W	100	3.1	123	S 57 E
6904.0	8.00	3.3	322	N 38 W	100	3.1	122	S 58 E
6906.0	8.00	3.3	325	N 35 W	100	3.1	122	S 58 E
6908.0	8.00	3.0	316	N 44 W	100	3.1	121	S 59 E
6910.0	8.00	3.4	321	N 39 W	100	3.2	121	S 59 E
6912.0	8.00	3.8	330	N 30 W	100	3.2	121	S 59 E
6914.0	8.00	3.7	327	N 33 W	100	3.2	120	S 60 E
6916.0	8.00	3.6	331	N 29 W	100	3.1	119	S 61 E
6918.0	8.00	2.9	330	N 30 W	100	3.1	121	S 59 E
6920.0	8.00	2.5	342	N 18 W	100	3.1	123	S 57 E
6922.0	8.00	2.3	342	N 18 W	100	3.1	123	S 57 E
6924.0	8.00	3.0	339	N 21 W	100	3.1	121	S 59 E
6926.0	8.00	3.4	330	N 30 W	100	3.1	120	S 60 E
6928.0	8.00	3.7	321	N 39 W	100	3.1	122	S 58 E
6930.0	8.00	3.8	323	N 37 W	100	3.1	124	S 56 E
6932.0	8.00	3.6	318	N 42 W	100	3.1	125	S 55 E
6934.0	8.00	3.3	325	N 35 W	100	3.1	124	S 56 E
6942.0	8.00	2.6	311	N 49 W	100	3.1	121	S 59 E
6944.0	8.00	1.9	308	N 52 W	100	3.1	123	S 57 E
6946.0	8.00	2.3	324	N 36 W	100	3.1	122	S 58 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WT.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
6948.0	8.00	2.6	329	N 31 W	100	3.1	125	S 55 E
6950.0	8.00	3.4	328	N 32 W	100	3.1	124	S 56 E
6952.0	8.00	3.7	326	N 34 W	100	3.1	123	S 57 E
6954.0	8.00	3.8	324	N 36 W	100	3.1	124	S 56 E
6956.0	8.00	4.0	323	N 37 W	100	3.2	123	S 57 E
6958.0	8.00	4.0	333	N 27 W	100	3.1	124	S 56 E
6960.0	8.00	3.9	333	N 27 W	100	3.1	124	S 56 E
6962.0	8.00	4.0	351	N 9 W	89	3.1	124	S 56 E
6964.0	8.00	3.9	325	N 35 W	100	3.2	125	S 55 E
6966.0	8.00	4.1	325	N 35 W	100	3.2	125	S 55 E
6968.0	8.00	3.4	329	N 31 W	100	3.3	125	S 55 E
6970.0	8.00	3.2	333	N 27 W	100	3.3	126	S 54 E
6972.0	8.00	2.3	344	N 16 W	100	3.3	125	S 55 E
6974.0	8.00	3.1	6	N 6 E	100	3.3	130	S 50 E
6976.0	8.00	3.2	9	N 9 E	100	3.3	129	S 51 E
6978.0	8.00	4.7	2	N 2 E	100	3.2	130	S 50 E
6980.0	8.00	2.6	337	N 23 W	100	3.2	129	S 51 E
6982.0	8.00	2.6	355	N 5 W	100	3.2	129	S 51 E
6984.0	8.00	2.5	352	N 8 W	100	3.2	129	S 51 E
6986.0	8.00	1.8	332	N 28 W	100	3.2	129	S 51 E
6988.0	8.00	2.1	318	N 42 W	100	3.2	128	S 52 E
6990.0	8.00	2.1	271	N 89 W	100	3.2	127	S 53 E
6992.0	8.00	1.7	306	N 54 W	100	3.2	127	S 53 E
6994.0	8.00	2.8	340	N 20 W	100	3.2	127	S 53 E
6996.0	8.00	3.3	347	N 13 W	100	3.2	127	S 53 E
7000.0	8.00	3.6	339	N 21 W	100	3.2	126	S 54 E
7002.0	8.00	3.3	342	N 18 W	68	3.2	127	S 53 E
7004.0	8.00	3.5	7	N 7 E	100	3.3	127	S 53 E
7006.0	8.00	3.1	350	N 10 W	100	3.3	128	S 52 E
7008.0	8.00	5.2	343	N 17 W	100	3.3	129	S 51 E
7010.0	8.00	3.9	341	N 19 W	100	3.3	130	S 50 E
7012.0	8.00	3.2	339	N 21 W	100	3.3	126	S 54 E
7014.0	8.00	3.3	329	N 31 W	100	3.2	125	S 55 E
7016.0	8.00	3.9	334	N 26 W	100	3.2	126	S 54 E
7018.0	8.00	1.9	359	N 1 W	100	3.2	126	S 54 E
7020.0	8.00	1.7	25	N 25 E	100	3.2	126	S 54 E
7022.0	8.00	1.9	42	N 42 E	100	3.2	126	S 54 E
7024.0	8.00	3.0	359	N 1 W	100	3.2	127	S 53 E
7028.0	8.00	3.7	347	N 13 W	100	3.2	126	S 54 E
7030.0	8.00	5.1	341	N 19 W	100	3.2	127	S 53 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WT.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7032.0	8.00	4.8	359	N 1 W	100	3.2	126	S 54 E
7034.0	8.00	4.7	344	N 16 W	100	3.2	127	S 53 E
7036.0	8.00	3.8	336	N 24 W	100	3.2	127	S 53 E
7038.0	8.00	3.6	324	N 36 W	100	3.2	127	S 53 E
7046.0	8.00	2.3	323	N 37 W	100	3.1	131	S 49 E
7048.0	8.00	4.7	349	N 11 W	100	3.1	131	S 49 E
7050.0	8.00	4.5	347	N 13 W	100	3.1	131	S 49 E
7052.0	8.00	3.3	346	N 14 W	100	3.1	131	S 49 E
7054.0	8.00	2.8	348	N 12 W	100	3.0	131	S 49 E
7056.0	8.00	4.2	349	N 11 W	100	3.1	131	S 49 E
7058.0	8.00	3.0	347	N 13 W	100	3.1	131	S 49 E
7060.0	8.00	3.0	12	N 12 E	100	3.1	132	S 48 E
7062.0	8.00	3.7	339	N 21 W	100	3.1	132	S 48 E
7064.0	8.00	4.4	358	N 2 W	100	3.1	132	S 48 E
7066.0	8.00	4.1	345	N 15 W	100	3.1	127	S 53 E
7068.0	8.00	4.1	339	N 21 W	100	3.1	127	S 53 E
7070.0	8.00	3.8	343	N 17 W	100	3.2	126	S 54 E
7072.0	8.00	3.8	326	N 34 W	100	3.2	126	S 54 E
7074.0	8.00	3.5	337	N 23 W	100	3.2	127	S 53 E
7076.0	8.00	6.7	344	N 16 W	100	3.1	126	S 54 E
7078.0	8.00	6.5	345	N 15 W	100	3.1	128	S 52 E
7080.0	8.00	4.7	341	N 19 W	100	3.2	122	S 58 E
7082.0	8.00	5.9	347	N 13 W	100	3.2	120	S 60 E
7088.0	8.00	7.0	355	N 5 W	100	3.1	121	S 59 E
7090.0	8.00	5.9	353	N 7 W	100	3.1	120	S 60 E
7092.0	8.00	4.0	341	N 19 W	100	3.1	123	S 57 E
7094.0	8.00	4.8	326	N 34 W	100	3.1	125	S 55 E
7098.0	8.00	3.7	312	N 48 W	100	3.1	125	S 55 E
7100.0	8.00	2.9	320	N 40 W	100	3.1	124	S 56 E
7102.0	8.00	3.5	345	N 15 W	100	3.1	130	S 50 E
7104.0	8.00	4.2	347	N 13 W	100	3.1	132	S 48 E
7116.0	8.00	4.4	316	N 44 W	86	3.0	124	S 56 E
7118.0	8.00	3.3	322	N 38 W	100	3.0	127	S 53 E
7120.0	8.00	3.1	340	N 20 W	100	3.1	125	S 55 E
7122.0	8.00	5.6	341	N 19 W	100	3.1	122	S 58 E
7126.0	8.00	10.9	5	N 5 E	70	3.2	128	S 52 E
7128.0	8.00	2.1	338	N 22 W	100	3.3	127	S 53 E
7132.0	8.00	2.3	334	N 26 W	100	3.1	121	S 59 E
7146.0	8.00	8.7	2	N 2 E	100	3.1	125	S 55 E
7148.0	8.00	9.9	355	N 5 W	100	3.1	129	S 51 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7150.0	8.00	9.3	14	N 14 E	100	3.1	129	S 51 E
7152.0	8.00	9.0	19	N 19 E	100	3.1	125	S 55 E
7154.0	8.00	6.0	8	N 8 E	100	3.2	126	S 54 E
7156.0	8.00	1.9	41	N 41 E	100	3.3	126	S 54 E
7158.0	8.00	5.3	359	N 1 W	83	3.2	129	S 51 E
7160.0	8.00	3.3	9	N 9 E	100	3.2	131	S 49 E
7162.0	8.00	3.2	6	N 6 E	84	3.2	130	S 50 E
7164.0	8.00	9.3	303	N 57 W	34	3.1	125	S 55 E
7166.0	8.00	16.7	222	S 42 W	55	3.2	126	S 54 E
7178.0	8.00	15.3	242	S 62 W	100	3.2	133	S 47 E
7182.0	8.00	14.0	207	S 27 W	100	3.2	135	S 45 E
7184.0	8.00	10.0	239	S 59 W	100	3.2	135	S 45 E
7186.0	8.00	6.1	226	S 46 W	100	3.2	134	S 46 E
7188.0	8.00	14.2	265	S 85 W	92	3.2	133	S 47 E
7190.0	8.00	27.1	288	N 72 W	49	3.2	136	S 44 E
7192.0	8.00	26.9	285	N 75 W	25	3.1	139	S 41 E
7194.0	8.00	8.9	269	S 89 W	75	3.0	137	S 43 E
7196.0	8.00	8.8	265	S 85 W	75	3.0	134	S 46 E
7206.0	8.00	13.3	210	S 30 W	65	3.1	140	S 40 E
7208.0	8.00	13.5	180	S 0 E	68	3.0	139	S 41 E
7210.0	8.00	12.1	200	S 20 W	69	3.1	137	S 43 E
7212.0	8.00	13.4	197	S 17 W	63	3.0	139	S 41 E
7216.0	8.00	10.1	236	S 56 W	99	3.0	137	S 43 E
7218.0	8.00	13.2	200	S 20 W	93	3.0	135	S 45 E
7220.0	8.00	10.8	197	S 17 W	93	3.0	140	S 40 E
7222.0	8.00	10.3	197	S 17 W	92	3.0	139	S 41 E
7224.0	8.00	9.6	203	S 23 W	100	3.0	146	S 34 E
7226.0	8.00	10.3	200	S 20 W	100	3.0	140	S 40 E
7230.0	8.00	12.3	252	S 72 W	70	2.9	131	S 49 E
7232.0	8.00	12.0	243	S 63 W	80	2.9	132	S 48 E
7240.0	8.00	7.8	258	S 78 W	100	3.0	141	S 39 E
7242.0	8.00	5.9	292	N 68 W	100	3.1	142	S 38 E
7246.0	8.00	4.2	266	S 86 W	100	2.9	128	S 52 E
7248.0	8.00	12.0	337	N 23 W	95	3.0	128	S 52 E
7250.0	8.00	11.7	340	N 20 W	100	3.0	129	S 51 E
7252.0	8.00	10.1	330	N 30 W	100	3.0	129	S 51 E
7254.0	8.00	10.0	314	N 46 W	100	3.0	129	S 51 E
7256.0	8.00	8.8	296	N 64 W	75	3.0	135	S 45 E
7266.0	8.00	17.6	265	S 85 W	6	3.0	133	S 47 E
7270.0	8.00	10.8	226	S 46 W	62	3.0	126	S 54 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7272.0	8.00	14.4	248	S 68 W	46	2.9	131	S 49 E
7276.0	8.00	1.6	219	S 39 W	100	2.9	131	S 49 E
7282.0	8.00	12.9	156	S 24 E	100	2.9	132	S 48 E
7284.0	8.00	15.0	140	S 40 E	100	2.9	128	S 52 E
7286.0	8.00	14.3	134	S 46 E	100	2.8	135	S 45 E
7290.0	8.00	2.8	74	N 74 E	100	2.8	135	S 45 E
7300.0	8.00	4.6	63	N 63 E	100	2.9	141	S 39 E
7302.0	8.00	4.9	46	N 46 E	100	2.8	139	S 41 E
7304.0	8.00	6.6	278	N 82 W	52	2.7	135	S 45 E
7306.0	8.00	4.9	266	S 86 W	76	2.8	148	S 32 E
7308.0	8.00	6.3	269	S 89 W	90	2.9	141	S 39 E
7310.0	8.00	9.2	285	N 75 W	100	2.9	146	S 34 E
7312.0	8.00	8.6	277	N 83 W	100	2.9	146	S 34 E
7314.0	8.00	12.6	232	S 52 W	82	3.0	140	S 40 E
7316.0	8.00	6.1	203	S 23 W	100	3.0	138	S 42 E
7318.0	8.00	8.6	155	S 25 E	96	2.8	128	S 52 E
7322.0	8.00	12.6	129	S 51 E	45	2.9	134	S 46 E
7326.0	8.00	11.4	115	S 65 E	50	2.9	133	S 47 E
7332.0	8.00	8.3	116	S 64 E	100	2.9	128	S 52 E
7338.0	8.00	13.6	104	S 76 E	53	2.9	132	S 48 E
7342.0	8.00	3.2	188	S 8 W	62	2.9	129	S 51 E
7356.0	8.00	16.0	253	S 73 W	72	2.9	130	S 50 E
7358.0	8.00	10.4	255	S 75 W	73	2.9	127	S 53 E
7370.0	8.00	22.5	273	N 87 W	34	2.8	134	S 46 E
7376.0	8.00	21.9	243	S 63 W	36	2.5	133	S 47 E
7390.0	8.00	3.3	100	S 80 E	100	2.8	139	S 41 E
7392.0	8.00	3.4	95	S 85 E	100	2.8	139	S 41 E
7394.0	8.00	2.7	99	S 81 E	100	2.9	135	S 45 E
7396.0	8.00	28.6	222	S 42 W	24	2.7	133	S 47 E
7398.0	8.00	24.2	193	S 13 W	41	2.7	134	S 46 E
7400.0	8.00	19.3	247	S 67 W	69	2.8	140	S 40 E
7402.0	8.00	15.6	237	S 57 W	100	2.8	139	S 41 E
7404.0	8.00	6.9	226	S 46 W	100	2.9	135	S 45 E
7406.0	8.00	10.5	231	S 51 W	100	2.8	137	S 43 E
7408.0	8.00	4.9	225	S 45 W	100	2.9	138	S 42 E
7410.0	8.00	4.8	231	S 51 W	82	2.9	138	S 42 E
7412.0	8.00	3.8	263	S 83 W	63	2.9	135	S 45 E
7414.0	8.00	3.6	253	S 73 W	100	2.9	131	S 49 E
7416.0	8.00	4.8	19	N 19 E	100	2.9	135	S 45 E
7418.0	8.00	7.1	339	N 21 W	94	2.9	135	S 45 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7420.0	8.00	3.4	46	N 46 E	100	2.9	137	S 43 E
7430.0	8.00	1.7	20	N 20 E	100	2.7	121	S 59 E
7432.0	8.00	4.8	300	N 60 W	100	2.7	125	S 55 E
7434.0	8.00	5.0	301	N 59 W	100	2.5	127	S 53 E
7436.0	8.00	5.1	304	N 56 W	100	2.5	132	S 48 E
7438.0	8.00	6.1	294	N 66 W	100	2.4	124	S 56 E
7442.0	8.00	7.2	296	N 64 W	92	2.4	125	S 55 E
7444.0	8.00	7.2	256	S 76 W	19	2.4	126	S 54 E
7452.0	8.00	22.3	205	S 25 W	80	2.4	120	S 60 E
7456.0	8.00	22.0	196	S 16 W	100	2.5	129	S 51 E
7458.0	8.00	1.3	96	S 84 E	100	2.6	128	S 52 E
7462.0	8.00	6.3	54	N 54 E	100	2.6	126	S 54 E
7464.0	8.00	6.5	67	N 67 E	100	2.6	124	S 56 E
7470.0	8.00	21.2	142	S 38 E	66	2.8	123	S 57 E
7472.0	8.00	21.4	142	S 38 E	70	2.9	124	S 56 E
7474.0	8.00	21.4	146	S 34 E	50	2.8	120	S 60 E
7476.0	8.00	21.0	141	S 39 E	53	2.8	120	S 60 E
7488.0	8.00	26.0	191	S 11 W	53	2.0	129	S 51 E
7492.0	8.00	2.1	173	S 7 E	96	2.0	132	S 48 E
7500.0	8.00	9.6	213	S 33 W	85	2.0	132	S 48 E
7502.0	8.00	16.9	212	S 32 W	100	2.0	132	S 48 E
7504.0	8.00	16.3	215	S 35 W	41	1.9	129	S 51 E
7506.0	8.00	22.8	245	S 65 W	35	1.9	131	S 49 E
7512.0	8.00	4.0	184	S 4 W	100	1.9	123	S 57 E
7514.0	8.00	19.9	194	S 14 W	59	1.9	123	S 57 E
7518.0	8.00	25.0	202	S 22 W	92	1.8	118	S 62 E
7520.0	8.00	25.7	198	S 18 W	88	1.8	125	S 55 E
7522.0	8.00	19.3	202	S 22 W	63	1.8	126	S 54 E
7524.0	8.00	19.3	236	S 56 W	60	1.7	132	S 48 E
7526.0	8.00	3.2	40	N 40 E	94	1.7	127	S 53 E
7528.0	8.00	2.8	2	N 2 E	78	1.7	129	S 51 E
7532.0	8.00	1.9	351	N 9 W	100	1.7	132	S 48 E
7534.0	8.00	4.0	348	N 12 W	100	1.8	129	S 51 E
7536.0	8.00	13.4	31	N 31 E	100	1.9	135	S 45 E
7538.0	8.00	11.4	20	N 20 E	100	1.8	139	S 41 E
7540.0	8.00	12.3	12	N 12 E	100	1.8	136	S 44 E
7542.0	8.00	18.9	231	S 51 W	100	1.8	133	S 47 E
7544.0	8.00	16.1	235	S 55 W	100	1.8	131	S 49 E
7546.0	8.00	17.2	232	S 52 W	100	1.9	133	S 47 E
7550.0	8.00	15.6	229	S 49 W	100	1.9	134	S 46 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7552.0	8.00	16.3	235	S 55 W	100	1.9	137	S 43 E
7554.0	8.00	16.7	237	S 57 W	100	1.9	137	S 43 E
7556.0	8.00	17.5	236	S 56 W	100	1.9	135	S 45 E
7558.0	8.00	17.7	238	S 58 W	100	1.9	133	S 47 E
7560.0	8.00	20.7	246	S 66 W	100	1.9	131	S 49 E
7562.0	8.00	21.3	246	S 66 W	100	2.0	131	S 49 E
7564.0	8.00	20.0	253	S 73 W	100	1.9	131	S 49 E
7566.0	8.00	20.3	257	S 77 W	100	1.9	131	S 49 E
7568.0	8.00	9.5	294	N 66 W	100	1.9	130	S 50 E
7570.0	8.00	6.0	302	N 58 W	100	1.9	129	S 51 E
7572.0	8.00	10.7	277	N 83 W	100	1.9	129	S 51 E
7574.0	8.00	6.5	285	N 75 W	100	1.9	130	S 50 E
7576.0	8.00	8.7	191	S 11 W	100	2.0	128	S 52 E
7578.0	8.00	9.1	190	S 10 W	100	2.0	119	S 61 E
7580.0	8.00	21.4	230	S 50 W	100	1.8	140	S 40 E
7582.0	8.00	28.2	225	S 45 W	100	1.9	123	S 57 E
7584.0	8.00	27.8	223	S 43 W	100	1.9	120	S 60 E
7586.0	8.00	23.1	220	S 40 W	100	1.9	117	S 63 E
7588.0	8.00	26.2	241	S 61 W	29	1.9	123	S 57 E
7590.0	8.00	19.4	255	S 75 W	100	1.9	117	S 63 E
7592.0	8.00	20.4	230	S 50 W	100	1.9	117	S 63 E
7594.0	8.00	20.8	187	S 7 W	100	1.9	118	S 62 E
7596.0	8.00	19.0	215	S 35 W	100	1.9	123	S 57 E
7600.0	8.00	20.7	259	S 79 W	93	1.9	120	S 60 E
7602.0	8.00	20.4	257	S 77 W	98	1.9	119	S 61 E
7604.0	8.00	20.2	252	S 72 W	100	1.9	120	S 60 E
7606.0	8.00	24.9	220	S 40 W	90	1.9	118	S 62 E
7608.0	8.00	9.4	145	S 35 E	100	1.9	117	S 63 E
7610.0	8.00	9.1	133	S 47 E	100	1.9	121	S 59 E
7612.0	8.00	9.0	126	S 54 E	82	1.9	121	S 59 E
7614.0	8.00	9.0	126	S 54 E	77	1.9	120	S 60 E
7616.0	8.00	8.9	228	S 48 W	89	1.9	120	S 60 E
7618.0	8.00	17.2	216	S 36 W	100	1.9	120	S 60 E
7620.0	8.00	17.8	213	S 33 W	100	1.9	121	S 59 E
7622.0	8.00	19.1	214	S 34 W	100	1.9	121	S 59 E
7624.0	8.00	18.9	213	S 33 W	100	1.9	120	S 60 E
7626.0	8.00	17.5	216	S 36 W	100	1.9	117	S 63 E
7628.0	8.00	14.7	231	S 51 W	65	1.9	117	S 63 E
7632.0	8.00	4.4	204	S 24 W	100	1.9	116	S 64 E
7638.0	8.00	17.4	201	S 21 W	92	1.8	115	S 65 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7640.0	8.00	17.7	204	S 24 W	100	1.8	114	S 66 E
7642.0	8.00	17.0	203	S 23 W	88	1.8	115	S 65 E
7644.0	8.00	15.4	190	S 10 W	77	1.8	113	S 67 E
7648.0	8.00	1.6	208	S 28 W	100	1.8	108	S 72 E
7656.0	8.00	3.7	175	S 5 E	100	1.8	115	S 65 E
7670.0	8.00	9.0	156	S 24 E	64	1.7	113	S 67 E
7672.0	8.00	10.3	157	S 23 E	72	1.7	116	S 64 E
7674.0	8.00	6.1	178	S 2 E	59	1.7	117	S 63 E
7676.0	8.00	12.5	149	S 31 E	72	1.7	116	S 64 E
7678.0	8.00	20.3	201	S 21 W	69	1.7	115	S 65 E
7680.0	8.00	6.4	173	S 7 E	76	1.7	115	S 65 E
7682.0	8.00	6.3	15	N 15 E	100	1.7	116	S 64 E
7684.0	8.00	5.1	4	N 4 E	83	1.7	116	S 64 E
7692.0	8.00	12.6	44	N 44 E	14	1.7	118	S 62 E
7694.0	8.00	12.4	46	N 46 E	14	1.7	116	S 64 E
7696.0	8.00	13.9	39	N 39 E	75	1.7	120	S 60 E
7700.0	8.00	1.9	217	S 37 W	90	1.8	117	S 63 E
7702.0	8.00	1.9	213	S 33 W	100	1.8	120	S 60 E
7704.0	8.00	1.5	217	S 37 W	92	1.8	121	S 59 E
7706.0	8.00	2.3	242	S 62 W	100	1.7	120	S 60 E
7710.0	8.00	12.8	226	S 46 W	98	2.0	108	S 72 E
7712.0	8.00	7.0	252	S 72 W	100	1.8	80	N 80 E
7722.0	8.00	18.1	319	N 41 W	28	1.9	110	S 70 E
7724.0	8.00	16.6	311	N 49 W	48	1.7	107	S 73 E
7728.0	8.00	8.0	333	N 27 W	99	1.5	110	S 70 E
7730.0	8.00	4.4	349	N 11 W	98	1.8	99	S 81 E
7732.0	8.00	4.5	352	N 8 W	100	1.8	99	S 81 E
7734.0	8.00	5.6	28	N 28 E	75	1.8	98	S 82 E
7736.0	8.00	8.6	10	N 10 E	89	1.7	98	S 82 E
7738.0	8.00	4.1	32	N 32 E	100	1.8	98	S 82 E
7740.0	8.00	1.7	1	N 1 E	100	1.8	99	S 81 E
7744.0	8.00	9.5	212	S 32 W	100	1.7	106	S 74 E
7746.0	8.00	19.5	226	S 46 W	66	1.7	107	S 73 E
7748.0	8.00	19.5	226	S 46 W	55	1.7	101	S 79 E
7750.0	8.00	7.3	206	S 26 W	100	1.7	102	S 78 E
7754.0	8.00	8.3	129	S 51 E	100	1.7	103	S 77 E
7758.0	8.00	11.3	129	S 51 E	100	1.8	98	S 82 E
7760.0	8.00	10.9	117	S 63 E	100	1.8	96	S 84 E
7762.0	8.00	11.5	114	S 66 E	100	1.8	95	S 85 E
7766.0	8.00	8.1	105	S 75 E	100	1.8	91	S 89 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7768.0	8.00	18.3	77	N 77 E	35	1.8	91	S 89 E
7772.0	8.00	18.8	294	N 66 W	67	1.6	105	S 75 E
7776.0	8.00	18.9	287	N 73 W	100	1.7	104	S 76 E
7778.0	8.00	8.0	330	N 30 W	100	1.7	99	S 81 E
7780.0	8.00	8.6	4	N 4 E	100	1.6	101	S 79 E
7782.0	8.00	16.2	129	S 51 E	44	1.6	103	S 77 E
7788.0	8.00	3.2	142	S 38 E	66	1.6	109	S 71 E
7790.0	8.00	3.6	218	S 38 W	100	1.7	104	S 76 E
7806.0	8.00	19.0	215	S 35 W	100	1.7	96	S 84 E
7808.0	8.00	12.9	232	S 52 W	38	1.7	97	S 83 E
7810.0	8.00	16.3	284	N 76 W	66	1.7	97	S 83 E
7812.0	8.00	16.1	294	N 66 W	47	1.8	94	S 86 E
7814.0	8.00	12.8	347	N 13 W	21	1.8	94	S 86 E
7816.0	8.00	10.0	356	N 4 W	79	2.0	97	S 83 E
7818.0	8.00	10.3	334	N 26 W	79	1.7	78	N 78 E
7820.0	8.00	9.7	358	N 2 W	98	1.7	110	S 70 E
7822.0	8.00	19.5	338	N 22 W	57	1.7	106	S 74 E
7824.0	8.00	11.0	331	N 29 W	52	1.6	111	S 69 E
7826.0	8.00	13.4	123	S 57 E	100	1.6	111	S 69 E
7828.0	8.00	13.4	122	S 58 E	93	1.6	110	S 70 E
7830.0	8.00	12.8	114	S 66 E	100	1.7	108	S 72 E
7832.0	8.00	8.8	102	S 78 E	100	1.6	108	S 72 E
7834.0	8.00	4.8	66	N 66 E	100	1.6	111	S 69 E
7836.0	8.00	5.8	75	N 75 E	100	1.6	104	S 76 E
7838.0	8.00	12.0	52	N 52 E	51	1.5	111	S 69 E
7844.0	8.00	11.1	241	S 61 W	63	1.4	108	S 72 E
7846.0	8.00	23.0	244	S 64 W	100	1.4	108	S 72 E
7852.0	8.00	26.5	254	S 74 W	79	1.4	110	S 70 E
7862.0	8.00	11.5	277	N 83 W	81	1.4	105	S 75 E
7866.0	8.00	13.3	283	N 77 W	69	1.4	103	S 77 E
7868.0	8.00	21.6	304	N 56 W	98	1.4	102	S 78 E
7870.0	8.00	13.5	280	N 80 W	71	1.5	104	S 76 E
7872.0	8.00	14.4	266	S 86 W	94	1.5	104	S 76 E
7874.0	8.00	24.1	358	N 2 W	100	1.5	106	S 74 E
7876.0	8.00	26.3	358	N 2 W	98	1.4	109	S 71 E
7878.0	8.00	19.7	12	N 12 E	24	1.4	112	S 68 E
7886.0	8.00	13.4	239	S 59 W	60	1.4	110	S 70 E
7888.0	8.00	11.8	254	S 74 W	76	1.4	109	S 71 E
7890.0	8.00	14.5	316	N 44 W	25	1.4	108	S 72 E
7892.0	8.00	10.4	323	N 37 W	26	1.4	109	S 71 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
7908.0	8.00	18.7	271	N 89 W	100	1.4	107	S 73 E
7910.0	8.00	18.4	268	S 88 W	100	1.3	104	S 76 E
7914.0	8.00	12.8	288	N 72 W	100	1.3	99	S 81 E
7916.0	8.00	12.1	307	N 53 W	100	1.4	99	S 81 E
7918.0	8.00	13.1	302	N 58 W	91	1.3	101	S 79 E
7922.0	8.00	21.1	36	N 36 E	15	1.3	110	S 70 E
7924.0	8.00	19.9	34	N 34 E	24	1.3	110	S 70 E
7948.0	8.00	8.0	69	N 69 E	100	1.3	107	S 73 E
7960.0	8.00	15.3	115	S 65 E	35	1.3	103	S 77 E
7964.0	8.00	11.1	145	S 35 E	56	1.3	105	S 75 E
7966.0	8.00	16.3	156	S 24 E	30	1.3	103	S 77 E
7968.0	8.00	14.8	151	S 29 E	31	1.2	102	S 78 E
7972.0	8.00	21.2	261	S 81 W	25	1.2	104	S 76 E
7974.0	3.00	15.1	259	S 79 W	30	1.2	104	S 76 E
7990.0	8.00	23.7	252	S 72 W	28	1.3	102	S 78 E
7992.0	8.00	14.4	245	S 65 W	86	1.2	101	S 79 E
7994.0	8.00	14.2	243	S 63 W	80	1.2	99	S 81 E
7996.0	8.00	23.1	255	S 75 W	86	1.2	104	S 76 E
7998.0	8.00	19.7	256	S 76 W	53	1.3	105	S 75 E
8002.0	8.00	20.8	258	S 78 W	66	1.3	107	S 73 E
8004.0	8.00	20.3	238	S 58 W	58	1.3	105	S 75 E
8006.0	8.00	19.6	239	S 59 W	58	1.4	102	S 78 E
8008.0	8.00	22.4	239	S 59 W	100	1.4	103	S 77 E
8062.0	8.00	25.7	239	S 59 W	36	1.0	109	S 71 E
8064.0	8.00	24.8	237	S 57 W	13	1.0	110	S 70 E
8068.0	8.00	6.5	183	S 3 W	24	1.1	111	S 69 E
8070.0	8.00	19.0	128	S 52 E	32	1.1	110	S 70 E
8072.0	8.00	25.3	116	S 64 E	24	1.0	110	S 70 E
8080.0	8.00	10.0	180	S 0 E	80	1.0	113	S 67 E
8084.0	8.00	31.4	186	S 6 W	59	1.0	107	S 73 E
8086.0	8.00	15.6	206	S 26 W	36	1.0	108	S 72 E
8096.0	8.00	4.9	185	S 5 W	30	0.9	110	S 70 E
8098.0	8.00	4.6	189	S 9 W	21	0.9	110	S 70 E
8100.0	8.00	20.0	112	S 68 E	25	0.9	110	S 70 E
8106.0	8.00	4.6	145	S 35 E	100	0.9	108	S 72 E
8108.0	8.00	9.7	138	S 42 E	100	1.0	108	S 72 E
8110.0	8.00	7.4	117	S 63 E	100	0.9	110	S 70 E
8114.0	8.00	11.9	70	N 70 E	100	0.9	110	S 70 E
8116.0	8.00	10.6	62	N 62 E	74	0.8	106	S 74 E
8124.0	8.00	8.2	97	S 83 E	5	0.8	114	S 66 E

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		FORMATION DIP						****BOREHOLE*****			
DEPTH	WL.	ANG	AZ	BEARING			GRADE	DA	DAZ	BEARING	
8126.0	8.00	13.3	140	S	40	E	60	0.8	114	S 66	E
8130.0	8.00	28.2	243	S	63	W	47	0.8	107	S 73	E
8134.0	8.00	28.3	272	N	88	W	15	0.7	107	S 73	E
8136.0	8.00	28.2	269	S	89	W	34	0.7	105	S 75	E
8138.0	8.00	31.0	274	N	86	W	22	0.6	109	S 71	E
8150.0	8.00	10.8	229	S	49	W	100	0.6	108	S 72	E
8152.0	8.00	11.1	225	S	45	W	69	0.5	105	S 75	E
8154.0	8.00	13.0	212	S	32	W	79	0.5	104	S 76	E
8158.0	8.00	5.1	149	S	31	E	90	0.5	104	S 76	E
8160.0	8.00	5.4	135	S	45	E	62	0.6	110	S 70	E
8162.0	8.00	5.3	138	S	42	E	72	0.7	113	S 67	E
8164.0	8.00	5.9	136	S	44	E	77	0.6	114	S 66	E
8166.0	8.00	16.1	67	N	67	E	68	0.5	113	S 67	E
8168.0	8.00	15.3	7	N	7	E	76	0.5	112	S 68	E
8170.0	8.00	22.5	38	N	38	E	64	0.4	113	S 67	E
8172.0	8.00	24.9	66	N	66	E	44	0.3	115	S 65	E
8174.0	8.00	33.9	28	N	28	E	11	0.2	116	S 64	E
8180.0	8.00	10.1	79	N	79	E	29	0.2	113	S 67	E
8192.0	8.00	27.7	116	S	64	E	54	0.2	105	S 75	E
8194.0	8.00	21.9	122	S	58	E	65	0.2	107	S 73	E
8196.0	8.00	20.3	139	S	41	E	48	0.3	107	S 73	E
8198.0	8.00	21.4	126	S	54	E	24	0.4	109	S 71	E
8202.0	8.00	13.8	244	S	64	W	71	0.4	113	S 67	E
8204.0	8.00	15.4	251	S	71	W	51	0.3	113	S 67	E
8206.0	8.00	15.2	250	S	70	W	57	0.3	112	S 68	E
8208.0	8.00	12.8	242	S	62	W	74	0.4	114	S 66	E
8214.0	8.00	32.0	127	S	53	E	14	0.4	116	S 64	E
8216.0	8.00	29.6	115	S	65	E	13	0.4	111	S 69	E
8240.0	8.00	4.2	129	S	51	E	27	0.2	106	S 74	E
8248.0	8.00	19.9	129	S	51	E	34	0.2	104	S 76	E
8250.0	8.00	20.1	120	S	60	E	25	0.2	109	S 71	E
8252.0	8.00	14.4	117	S	63	E	39	0.2	112	S 68	E
8256.0	8.00	11.7	95	S	85	E	16	0.2	109	S 71	E
8258.0	8.00	11.2	91	S	89	E	16	0.2	115	S 65	E
8270.0	8.00	24.0	340	N	20	W	52	0.1	118	S 62	E
8288.0	8.00	1.1	320	N	40	W	100	0.2	99	S 81	E
8292.0	8.00	24.2	20	N	20	E	37	0.2	110	S 70	E
8294.0	8.00	9.4	354	N	6	W	98	0.3	105	S 75	E
8296.0	8.00	5.3	358	N	2	W	75	0.2	107	S 73	E
8304.0	8.00	6.6	293	N	67	W	61	0.4	101	S 79	E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
8308.0	8.00	27.7	237	S 57 W	11	0.2	105	S 75 E
8322.0	8.00	26.0	240	S 60 W	81	0.4	110	S 70 E
8324.0	8.00	25.3	232	S 52 W	95	0.5	109	S 71 E
8328.0	8.00	25.7	213	S 33 W	96	0.1	107	S 73 E
8330.0	8.00	5.9	297	N 63 W	98	0.1	111	S 69 E
8332.0	8.00	4.9	322	N 38 W	99	0.1	111	S 69 E
8334.0	8.00	25.1	280	N 80 W	68	0.1	112	S 68 E
8338.0	8.00	23.4	313	N 47 W	50	0.0	107	S 73 E
8340.0	8.00	23.6	304	N 56 W	72	0.0	126	S 54 E
8342.0	8.00	32.1	337	N 23 W	63	0.0	118	S 62 E
8356.0	8.00	29.0	335	N 25 W	44	0.0	133	S 47 E
8358.0	8.00	26.2	4	N 4 E	50	0.0	135	S 45 E
8360.0	8.00	15.0	25	N 25 E	68	0.0	133	S 47 E
8370.0	8.00	34.5	296	N 64 W	65	0.0	125	S 55 E
8372.0	8.00	34.4	296	N 64 W	66	0.0	126	S 54 E
8374.0	8.00	24.7	346	N 14 W	40	0.0	130	S 50 E
8376.0	8.00	31.8	19	N 19 E	51	0.0	129	S 51 E
8378.0	8.00	7.6	7	N 7 E	31	0.0	128	S 52 E
8380.0	8.00	25.3	340	N 20 W	36	0.0	129	S 51 E
8394.0	8.00	6.8	48	N 48 E	73	0.0	137	S 43 E
8396.0	8.00	6.0	15	N 15 E	100	0.0	133	S 47 E
8398.0	8.00	9.0	46	N 46 E	67	0.0	140	S 40 E
8404.0	8.00	31.6	128	S 52 E	62	0.0	140	S 40 E
8406.0	8.00	35.0	110	S 70 E	62	0.0	139	S 41 E
8412.0	8.00	10.0	69	N 69 E	100	0.1	126	S 54 E
8414.0	8.00	10.2	63	N 63 E	100	0.1	129	S 51 E
8416.0	8.00	10.2	56	N 56 E	100	0.1	125	S 55 E
8418.0	8.00	10.3	50	N 50 E	100	0.1	130	S 50 E
8420.0	8.00	28.5	1	N 1 E	15	0.1	127	S 53 E
8422.0	8.00	17.9	32	N 32 E	21	0.1	127	S 53 E
8424.0	8.00	23.2	26	N 26 E	13	0.1	130	S 50 E
8426.0	8.00	13.2	33	N 33 E	29	0.2	142	S 38 E
8430.0	8.00	6.6	179	S 1 E	62	0.1	143	S 37 E
8432.0	8.00	9.3	162	S 18 E	57	0.1	145	S 35 E
8434.0	8.00	9.4	182	S 2 W	70	0.1	146	S 34 E
8436.0	8.00	7.3	168	S 12 E	74	0.0	146	S 34 E
8440.0	8.00	3.3	42	N 42 E	72	0.0	118	S 62 E
8442.0	8.00	2.6	53	N 53 E	99	0.0	142	S 38 E
8444.0	8.00	3.4	34	N 34 E	74	0.0	124	S 56 E
8446.0	8.00	5.5	70	N 70 E	100	0.0	128	S 52 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
8448.0	8.00	11.5	51	N 51 E	57	0.0	115	S 65 E
8450.0	8.00	16.5	40	N 40 E	69	0.0	146	S 34 E
8452.0	8.00	12.4	25	N 25 E	81	0.0	138	S 42 E
8454.0	8.00	14.3	24	N 24 E	98	0.0	132	S 48 E
8464.0	8.00	18.9	20	N 20 E	68	0.0	146	S 34 E
8466.0	8.00	18.2	9	N 9 E	84	0.0	141	S 39 E
8468.0	8.00	19.8	346	N 14 W	69	0.0	182	S 2 W
8480.0	8.00	15.5	16	N 16 E	74	0.0	162	S 18 E
8486.0	8.00	15.6	29	N 29 E	68	0.0	244	S 64 W
8490.0	8.00	6.0	46	N 46 E	65	0.1	158	S 22 E
8492.0	8.00	5.0	50	N 50 E	100	0.1	150	S 30 E
8494.0	8.00	6.7	55	N 55 E	100	0.1	143	S 37 E
8496.0	8.00	6.3	134	S 46 E	36	0.1	147	S 33 E
8500.0	8.00	22.6	133	S 47 E	33	0.1	145	S 35 E
8506.0	8.00	5.8	126	S 54 E	100	0.2	148	S 32 E
8508.0	8.00	5.9	120	S 60 E	100	0.2	141	S 39 E
8510.0	8.00	8.3	148	S 32 E	88	0.2	136	S 44 E
8512.0	8.00	6.2	113	S 67 E	66	0.2	132	S 48 E
8518.0	8.00	19.5	109	S 71 E	53	0.2	130	S 50 E
8520.0	8.00	13.0	140	S 40 E	70	0.2	177	S 3 E
8532.0	8.00	3.2	206	S 26 W	100	0.1	163	S 17 E
8534.0	8.00	15.9	233	S 53 W	31	0.1	163	S 17 E
8536.0	8.00	17.0	245	S 65 W	20	0.1	163	S 17 E
8538.0	8.00	23.5	148	S 32 E	30	0.1	161	S 19 E
8540.0	8.00	23.5	147	S 33 E	23	0.1	160	S 20 E
8542.0	8.00	24.6	136	S 44 E	52	0.1	157	S 23 E
8546.0	8.00	23.6	118	S 62 E	62	0.0	145	S 35 E
8564.0	8.00	13.6	90	N 90 E	29	0.0	148	S 32 E
8576.0	8.00	25.6	171	S 9 E	66	0.0	151	S 29 E
8594.0	8.00	9.3	144	S 36 E	72	0.0	188	S 8 W
8596.0	8.00	18.0	109	S 71 E	60	0.0	178	S 2 E
8598.0	8.00	17.6	118	S 62 E	71	0.0	194	S 14 W
8602.0	8.00	21.6	162	S 18 E	56	0.0	188	S 8 W
8604.0	8.00	21.1	155	S 25 E	54	0.0	184	S 4 W
8606.0	8.00	21.3	144	S 36 E	86	0.0	177	S 3 E
8610.0	8.00	12.0	164	S 16 E	44	0.0	168	S 12 E
8618.0	8.00	8.2	157	S 23 E	100	0.0	172	S 8 E
8620.0	8.00	9.4	173	S 7 E	100	0.0	164	S 16 E
8622.0	8.00	8.8	154	S 26 E	100	0.0	160	S 20 E
8624.0	8.00	9.6	165	S 15 E	88	0.0	157	S 23 E

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WL	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
8626.0	8.00	10.0	157	S 23 E	86	0.0	151	S 29 E
8630.0	8.00	25.8	151	S 29 E	43	0.0	145	S 35 E
8642.0	8.00	9.6	115	S 65 E	89	0.0	136	S 44 E
8652.0	8.00	9.1	81	N 81 E	100	0.0	118	S 62 E
8654.0	8.00	9.9	84	N 84 E	100	0.0	114	S 66 E
8658.0	8.00	3.1	115	S 65 E	100	0.0	213	S 33 W
8664.0	8.00	12.3	67	N 67 E	75	0.0	202	S 22 W
8666.0	8.00	16.3	27	N 27 E	80	0.0	242	S 62 W
8668.0	8.00	16.8	31	N 31 E	84	0.0	293	N 67 W
8670.0	8.00	16.7	21	N 21 E	84	0.0	260	S 80 W
8672.0	8.00	32.0	354	N 6 W	71	0.0	245	S 65 W
8678.0	8.00	17.6	43	N 43 E	46	0.0	233	S 53 W
8684.0	8.00	10.6	106	S 74 E	29	0.0	205	S 25 W
8686.0	8.00	10.8	89	N 89 E	66	0.0	211	S 31 W
8688.0	8.00	26.4	3	N 3 E	53	0.0	201	S 21 W
8698.0	8.00	20.7	19	N 19 E	66	0.0	175	S 5 E
8700.0	8.00	17.7	11	N 11 E	70	0.0	161	S 19 E
8704.0	8.00	20.7	11	N 11 E	29	0.0	155	S 25 E
8706.0	8.00	20.3	275	N 85 W	4	0.0	156	S 24 E
8708.0	8.00	34.8	275	N 85 W	20	0.0	165	S 15 E
8722.0	8.00	18.1	294	N 66 W	21	0.0	186	S 6 W
8724.0	8.00	18.2	289	N 71 W	31	0.0	181	S 1 W
8728.0	8.00	6.0	346	N 14 W	21	0.0	183	S 3 W
8730.0	8.00	6.1	350	N 10 W	8	0.0	185	S 5 W
8732.0	8.00	6.0	349	N 11 W	8	0.0	185	S 5 W
8744.0	8.00	14.6	341	N 19 W	48	0.0	179	S 1 E
8746.0	8.00	28.8	305	N 55 W	35	0.0	178	S 2 E
8754.0	8.00	5.0	341	N 19 W	56	0.0	188	S 8 W
8758.0	8.00	1.8	16	N 16 E	94	0.0	179	S 1 E
8774.0	8.00	13.7	294	N 66 W	68	0.0	188	S 8 W
8776.0	8.00	14.7	293	N 67 W	50	0.0	200	S 20 W
8778.0	8.00	14.3	289	N 71 W	55	0.0	196	S 16 W
8782.0	8.00	27.6	303	N 57 W	67	0.0	196	S 16 W
8790.0	8.00	7.9	294	N 66 W	61	0.0	191	S 11 W
8792.0	8.00	14.0	289	N 71 W	78	0.0	192	S 12 W
8794.0	8.00	14.3	284	N 76 W	74	0.0	190	S 10 W
8806.0	8.00	9.8	287	N 73 W	19	0.3	189	S 9 W
8814.0	8.00	22.8	156	S 24 E	14	0.6	182	S 2 W
8816.0	8.00	22.3	160	S 20 E	14	0.6	186	S 6 W
8818.0	8.00	23.5	164	S 16 E	14	0.6	194	S 14 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
8820.0	8.00	18.5	218	S 38 W	21	0.6	190	S 10 W
8822.0	8.00	20.0	228	S 48 W	43	0.5	186	S 6 W
8824.0	8.00	20.5	235	S 55 W	21	0.5	182	S 2 W
8840.0	8.00	16.2	252	S 72 W	42	1.1	185	S 5 W
8842.0	8.00	23.0	254	S 74 W	39	1.0	178	S 2 E
8858.0	8.00	22.5	210	S 30 W	49	0.9	192	S 12 W
8860.0	8.00	21.6	211	S 31 W	25	0.9	194	S 14 W
8862.0	8.00	17.4	107	S 73 E	21	0.9	196	S 16 W
8868.0	8.00	1.0	20	N 20 E	100	1.0	192	S 12 W
8870.0	8.00	1.0	27	N 27 E	100	0.9	196	S 16 W
8902.0	8.00	21.7	92	S 88 E	32	1.1	198	S 18 W
8904.0	8.00	31.8	81	N 81 E	14	1.1	196	S 16 W
8914.0	8.00	1.5	58	N 58 E	87	0.7	194	S 14 W
8926.0	8.00	22.2	38	N 38 E	18	0.5	197	S 17 W
8948.0	8.00	35.2	71	N 71 E	4	0.2	206	S 26 W
8952.0	8.00	34.0	59	N 59 E	36	0.2	205	S 25 W
8960.0	8.00	2.0	205	S 25 W	100	0.3	216	S 36 W
8962.0	8.00	1.8	197	S 17 W	94	0.3	214	S 34 W
8964.0	8.00	2.2	183	S 3 W	71	0.3	228	S 48 W
8966.0	8.00	1.7	186	S 6 W	100	0.3	226	S 46 W
8970.0	8.00	17.5	187	S 7 W	15	0.3	221	S 41 W
8974.0	8.00	21.4	293	N 67 W	55	0.2	229	S 49 W
8976.0	8.00	23.4	298	N 62 W	60	0.3	227	S 47 W
8980.0	8.00	17.4	276	N 84 W	52	0.2	225	S 45 W
8990.0	8.00	1.1	237	S 57 W	100	0.5	227	S 47 W
9002.0	8.00	8.2	293	N 67 W	79	0.2	231	S 51 W
9004.0	8.00	11.1	288	N 72 W	100	0.2	229	S 49 W
9006.0	8.00	13.2	174	S 6 E	91	0.3	224	S 44 W
9010.0	8.00	21.9	213	S 33 W	91	0.2	225	S 45 W
9012.0	8.00	22.1	218	S 38 W	67	0.2	223	S 43 W
9014.0	8.00	20.6	31	N 31 E	25	0.2	224	S 44 W
9016.0	8.00	23.7	5	N 5 E	26	0.2	222	S 42 W
9018.0	8.00	24.2	2	N 2 E	35	0.2	221	S 41 W
9024.0	8.00	22.8	333	N 27 W	30	0.2	217	S 37 W
9026.0	8.00	21.5	329	N 31 W	32	0.2	218	S 38 W
9028.0	8.00	20.6	319	N 41 W	73	0.2	228	S 48 W
9030.0	8.00	26.1	57	N 57 E	23	0.2	222	S 42 W
9038.0	8.00	25.4	49	N 49 E	32	0.2	226	S 46 W
9040.0	8.00	23.9	51	N 51 E	65	0.2	228	S 48 W
9044.0	8.00	18.3	49	N 49 E	66	0.1	226	S 46 W

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DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
9050.0	8.00	6.0	1	N 1 E	62	0.1	221	S 41 W
9052.0	8.00	5.8	0	N 0 E	61	0.1	220	S 40 W
9054.0	8.00	3.8	300	N 60 W	79	0.2	218	S 38 W
9062.0	8.00	17.2	189	S 9 W	31	0.2	228	S 48 W
9078.0	8.00	7.7	132	S 48 E	55	0.4	228	S 48 W
9082.0	8.00	8.5	139	S 41 E	62	0.2	238	S 58 W
9084.0	8.00	8.8	140	S 40 E	63	0.2	239	S 59 W
9094.0	8.00	23.6	147	S 33 E	19	0.1	241	S 61 W
9096.0	8.00	34.9	127	S 53 E	9	0.1	240	S 60 W
9098.0	8.00	30.7	128	S 52 E	7	0.1	242	S 62 W
9100.0	8.00	17.2	159	S 21 E	7	0.1	243	S 63 W
9104.0	8.00	9.2	244	S 64 W	37	0.1	244	S 64 W
9106.0	8.00	4.3	230	S 50 W	78	0.1	242	S 62 W
9110.0	8.00	3.6	217	S 37 W	99	0.1	239	S 59 W
9112.0	8.00	31.2	183	S 3 W	55	0.1	239	S 59 W
9114.0	8.00	22.5	181	S 1 W	94	0.1	239	S 59 W
9116.0	8.00	22.7	129	S 51 E	86	0.1	240	S 60 W
9118.0	8.00	22.6	127	S 53 E	77	0.1	237	S 57 W
9120.0	8.00	17.8	233	S 53 W	33	0.1	241	S 61 W
9124.0	8.00	25.4	308	N 52 W	53	0.1	245	S 65 W
9126.0	8.00	27.2	312	N 48 W	41	0.1	244	S 64 W
9128.0	8.00	38.2	251	S 71 W	51	0.1	239	S 59 W
9130.0	8.00	31.0	249	S 69 W	41	0.1	233	S 53 W
9140.0	8.00	19.2	254	S 74 W	96	0.1	245	S 65 W
9142.0	8.00	18.5	247	S 67 W	53	0.1	248	S 68 W
9144.0	8.00	28.6	221	S 41 W	27	0.1	244	S 64 W
9152.0	8.00	1.2	202	S 22 W	64	0.2	257	S 77 W
9154.0	8.00	1.2	200	S 20 W	99	0.3	254	S 74 W
9156.0	8.00	1.2	119	S 61 E	100	0.1	258	S 78 W
9158.0	8.00	4.5	141	S 39 E	100	0.1	252	S 72 W
9160.0	8.00	4.9	137	S 43 E	100	0.1	243	S 63 W
9162.0	8.00	6.1	123	S 57 E	100	0.1	260	S 80 W
9164.0	8.00	6.3	176	S 4 E	100	0.2	256	S 76 W
9168.0	8.00	9.2	167	S 13 E	16	0.1	247	S 67 W
9172.0	8.00	21.4	163	S 17 E	16	0.1	249	S 69 W
9176.0	8.00	4.0	143	S 37 E	100	0.1	245	S 65 W
9178.0	8.00	4.2	139	S 41 E	100	0.1	242	S 62 W
9180.0	8.00	4.8	137	S 43 E	84	0.1	248	S 68 W
9182.0	8.00	5.2	126	S 54 E	76	0.2	242	S 62 W
9184.0	8.00	18.9	32	N 32 E	46	0.3	256	S 76 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
9186.0	8.00	17.9	359	N 1 W	20	0.3	242	S 62 W
9188.0	8.00	18.6	358	N 2 W	31	0.1	238	S 58 W
9190.0	8.00	26.8	319	N 41 W	46	0.1	232	S 52 W
9206.0	8.00	22.1	335	N 25 W	71	0.1	228	S 48 W
9210.0	8.00	4.5	339	N 21 W	45	0.2	243	S 63 W
9212.0	8.00	27.1	329	N 31 W	37	0.3	239	S 59 W
9214.0	8.00	32.0	228	S 48 W	11	0.1	169	S 11 E
9216.0	8.00	27.3	150	S 30 E	62	0.1	240	S 60 W
9218.0	8.00	27.2	146	S 34 E	26	0.1	241	S 61 W
9220.0	8.00	29.4	144	S 36 E	21	0.1	260	S 80 W
9222.0	8.00	27.8	124	S 56 E	22	0.1	245	S 65 W
9230.0	8.00	31.9	211	S 31 W	72	0.2	268	S 88 W
9232.0	8.00	31.7	202	S 22 W	78	0.2	264	S 84 W
9234.0	8.00	31.2	194	S 14 W	90	0.3	263	S 83 W
9242.0	8.00	14.0	205	S 25 W	54	0.1	250	S 70 W
9244.0	8.00	13.4	185	S 5 W	74	0.2	253	S 73 W
9246.0	8.00	23.9	31	N 31 E	32	0.2	246	S 66 W
9248.0	8.00	23.8	12	N 12 E	65	0.2	238	S 58 W
9268.0	8.00	18.0	7	N 7 E	35	0.1	251	S 71 W
9286.0	8.00	1.2	356	N 4 W	91	0.3	257	S 77 W
9288.0	8.00	1.3	103	S 77 E	65	0.3	245	S 65 W
9290.0	8.00	1.3	90	N 90 E	80	0.2	251	S 71 W
9300.0	8.00	2.1	42	N 42 E	76	0.1	229	S 49 W
9302.0	8.00	2.1	27	N 27 E	84	0.1	237	S 57 W
9312.0	8.00	1.3	43	N 43 E	71	0.1	257	S 77 W
9314.0	8.00	5.5	39	N 39 E	63	0.2	267	S 87 W
9316.0	8.00	1.8	7	N 7 E	100	0.0	266	S 86 W
9318.0	8.00	2.9	2	N 2 E	100	0.0	267	S 87 W
9320.0	8.00	2.4	345	N 15 W	100	0.1	272	N 88 W
9322.0	8.00	3.8	4	N 4 E	100	0.1	260	S 80 W
9324.0	8.00	3.5	345	N 15 W	100	0.1	222	S 42 W
9326.0	8.00	3.1	331	N 29 W	100	0.0	259	S 79 W
9328.0	8.00	2.6	354	N 6 W	100	0.0	268	S 88 W
9332.0	8.00	2.0	357	N 3 W	100	0.1	260	S 80 W
9334.0	8.00	1.3	13	N 13 E	100	0.1	262	S 82 W
9336.0	8.00	3.1	34	N 34 E	100	0.2	261	S 81 W
9338.0	8.00	4.7	46	N 46 E	100	0.2	251	S 71 W
9340.0	8.00	4.2	26	N 26 E	100	0.3	251	S 71 W
9342.0	8.00	3.8	11	N 11 E	100	0.2	249	S 69 W
9344.0	8.00	3.8	351	N 9 W	100	0.2	238	S 58 W

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		FORMATION DIP				****BOREHOLE*****		
DEPTH	WI.	ANG	AZ	BEARING	GRADE	DA	DAZ	BEARING
9348.0	8.00	1.8	3	N 3 E	100	0.3	240	S 60 W
9350.0	8.00	3.0	337	N 23 W	100	0.3	247	S 67 W
9352.0	8.00	3.5	308	N 52 W	100	0.2	235	S 55 W
9356.0	8.00	3.7	25	N 25 E	53	0.1	254	S 74 W
9358.0	8.00	4.2	22	N 22 E	65	0.2	250	S 70 W
9360.0	8.00	3.5	358	N 2 W	100	0.2	248	S 68 W
9364.0	8.00	1.4	17	N 17 E	100	0.1	255	S 75 W
9366.0	8.00	1.4	6	N 6 E	100	0.1	262	S 82 W
9368.0	8.00	2.4	12	N 12 E	100	0.1	256	S 76 W
9370.0	8.00	2.3	18	N 18 E	100	0.2	252	S 72 W
9372.0	8.00	1.9	7	N 7 E	100	0.3	255	S 75 W
9374.0	8.00	1.0	13	N 13 E	100	0.1	255	S 75 W
9376.0	8.00	2.4	95	S 85 E	78	0.2	247	S 67 W
9378.0	8.00	2.6	83	N 83 E	100	0.3	247	S 67 W
9380.0	8.00	3.6	76	N 76 E	100	0.4	244	S 64 W
9382.0	8.00	4.2	78	N 78 E	100	0.4	250	S 70 W
9384.0	8.00	6.0	86	N 86 E	100	0.4	232	S 52 W
9386.0	8.00	1.4	72	N 72 E	100	0.4	230	S 50 W
9388.0	8.00	3.6	29	N 29 E	100	0.2	226	S 46 W
9390.0	8.00	1.1	65	N 65 E	100	0.2	229	S 49 W
9394.0	8.00	1.5	61	N 61 E	100	0.2	233	S 53 W
9400.0	8.00	1.5	49	N 49 E	100	0.1	243	S 63 W
9402.0	8.00	2.3	90	N 90 E	100	0.1	251	S 71 W
9404.0	8.00	1.5	100	S 80 E	77	0.2	247	S 67 W
9412.0	8.00	1.6	23	N 23 E	100	0.3	242	S 62 W
9418.0	8.00	4.8	19	N 19 E	100	0.3	237	S 57 W
9422.0	8.00	3.6	20	N 20 E	100	0.5	235	S 55 W
9424.0	8.00	2.4	9	N 9 E	100	0.4	230	S 50 W
9426.0	8.00	2.4	15	N 15 E	100	0.3	232	S 52 W
9432.0	8.00	1.3	44	N 44 E	100	0.2	215	S 35 W
9434.0	8.00	1.3	30	N 30 E	100	0.2	211	S 31 W
9436.0	8.00	2.9	5	N 5 E	100	0.3	212	S 32 W
9438.0	8.00	2.0	355	N 5 W	61	0.1	217	S 37 W
9440.0	8.00	1.3	323	N 37 W	85	0.1	234	S 54 W
9442.0	8.00	1.5	70	N 70 E	100	0.1	230	S 50 W
9444.0	8.00	1.3	73	N 73 E	100	0.1	246	S 66 W
9446.0	8.00	1.3	61	N 61 E	100	0.2	232	S 52 W
9448.0	8.00	3.2	40	N 40 E	100	0.1	222	S 42 W
9450.0	8.00	2.0	45	N 45 E	100	0.2	226	S 46 W
9456.0	8.00	1.3	73	N 73 E	100	0.3	225	S 45 W

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DEPTH	WL	**FORMATION DIP** ANG	AZ	BEARING	GRADE	****BOREHOLE***** DA	DAZ	BEARING
9458.0	8.00	1.7	50	N 50 E	100	0.4	228	S 48 W
9460.0	8.00	2.4	44	N 44 E	100	0.7	240	S 60 W
9462.0	8.00	2.2	28	N 28 E	100	0.8	225	S 45 W
9466.0	8.00	2.0	29	N 29 E	100	0.7	224	S 44 W
9468.0	8.00	2.4	62	N 62 E	30	0.7	216	S 36 W
9470.0	8.00	14.0	233	S 53 W	13	0.7	212	S 32 W
9474.0	8.00	16.8	210	S 30 W	26	0.7	205	S 25 W
9476.0	8.00	16.9	165	S 15 E	43	0.8	200	S 20 W
9480.0	8.00	29.9	179	S 1 E	46	0.5	220	S 40 W
9482.0	8.00	14.2	212	S 32 W	99	0.5	214	S 34 W
9486.0	8.00	12.6	163	S 17 E	58	0.5	222	S 42 W
9488.0	8.00	10.0	159	S 21 E	95	0.5	228	S 48 W
9494.0	8.00	3.8	153	S 27 E	100	0.6	226	S 46 W
9496.0	8.00	6.1	145	S 35 E	100	0.7	224	S 44 W
9498.0	8.00	7.6	124	S 56 E	100	0.8	230	S 50 W
9500.0	8.00	8.6	106	S 74 E	100	0.9	223	S 43 W
9502.0	8.00	17.7	83	N 83 E	94	1.0	218	S 38 W
9506.0	8.00	22.2	74	N 74 E	26	0.8	218	S 38 W
9508.0	8.00	12.5	102	S 78 E	76	0.8	209	S 29 W
9510.0	8.00	14.6	89	N 89 E	100	0.7	205	S 25 W
9512.0	8.00	14.0	73	N 73 E	100	0.7	211	S 31 W
9514.0	8.00	12.0	54	N 54 E	100	0.7	209	S 29 W
9518.0	8.00	3.2	89	N 89 E	100	0.4	206	S 26 W
9520.0	8.00	1.9	140	S 40 E	56	0.3	225	S 45 W
9522.0	8.00	1.5	133	S 47 E	77	0.4	226	S 46 W
9532.0	8.00	39.1	177	S 3 E	64	0.3	225	S 45 W
9544.0	8.00	7.0	147	S 33 E	91	0.3	218	S 38 W
9552.0	8.00	19.4	155	S 25 E	100	0.4	211	S 31 W
9556.0	8.00	8.6	139	S 41 E	62	0.4	216	S 36 W
9562.0	8.00	30.3	220	S 40 W	26	0.3	195	S 15 W
9566.0	8.00	34.3	190	S 10 W	34	0.2	222	S 42 W
9576.0	8.00	6.6	0	N 0 E	98	0.3	225	S 45 W
9578.0	8.00	5.0	47	N 47 E	60	0.4	231	S 51 W
9580.0	8.00	23.9	71	N 71 E	55	0.3	227	S 47 W
9582.0	8.00	8.7	65	N 65 E	79	0.2	218	S 38 W
9584.0	8.00	10.6	36	N 36 E	100	0.2	219	S 39 W
9586.0	8.00	18.4	352	N 8 W	90	0.1	227	S 47 W
9590.0	8.00	2.8	329	N 31 W	97	0.2	223	S 43 W
9592.0	8.00	16.3	288	N 72 W	100	0.3	221	S 41 W
9596.0	8.00	7.6	167	S 13 E	100	0.2	211	S 31 W

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		FORMATION DIP					****BOREHOLE*****			
DEPTH	WL	ANG	AZ	BEARING		GRADE	DA	DAZ	BEARING		
9598.0	8.00	1.8	199	S	19 W	100	0.2	210	S	30	W
9600.0	8.00	3.7	245	S	65 W	100	0.2	210	S	30	W
9604.0	8.00	12.9	274	N	86 W	65	0.2	202	S	22	W
9606.0	8.00	12.4	253	S	73 W	75	0.2	195	S	15	W
9608.0	8.00	16.5	247	S	67 W	71	0.2	196	S	16	W
9632.0	8.00	25.8	298	N	62 W	67	0.2	226	S	46	W
9634.0	8.00	26.3	288	N	72 W	34	0.2	217	S	37	W
9636.0	8.00	26.5	281	N	79 W	21	0.2	214	S	34	W
9638.0	8.00	6.1	281	N	79 W	92	0.3	221	S	41	W
9642.0	8.00	12.9	246	S	66 W	20	0.1	204	S	24	W
9644.0	8.00	19.3	206	S	26 W	42	0.1	205	S	25	W
9650.0	8.00	3.1	267	S	87 W	100	0.1	188	S	8	W
9652.0	8.00	5.8	314	N	46 W	88	0.2	191	S	11	W
9654.0	8.00	5.0	300	N	60 W	100	0.2	184	S	4	W
9656.0	8.00	3.6	307	N	53 W	100	0.2	175	S	5	E
9658.0	8.00	3.3	294	N	66 W	100	0.3	165	S	15	E
9662.0	8.00	6.2	340	N	20 W	82	0.1	178	S	2	E
9664.0	8.00	6.0	352	N	8 W	75	0.1	178	S	2	E
9666.0	8.00	6.5	355	N	5 W	64	0.1	194	S	14	W
9668.0	8.00	6.1	351	N	9 W	98	0.1	184	S	4	W
9672.0	8.00	6.0	323	N	37 W	100	0.1	189	S	9	W
9674.0	8.00	7.2	337	N	23 W	100	0.2	192	S	12	W
9676.0	8.00	3.8	283	N	77 W	100	0.2	207	S	27	W
9682.0	8.00	15.1	248	S	68 W	54	0.1	195	S	15	W
9684.0	8.00	4.7	265	S	85 W	100	0.1	198	S	18	W
9686.0	8.00	6.0	211	S	31 W	100	0.1	200	S	20	W
9694.0	8.00	10.9	234	S	54 W	100	0.2	186	S	6	W
9698.0	8.00	2.7	340	N	20 W	86	0.2	180	S	0	E
9700.0	8.00	3.7	346	N	14 W	100	0.3	176	S	4	E
9702.0	8.00	9.1	340	N	20 W	100	0.2	188	S	8	W
9704.0	8.00	7.9	341	N	19 W	100	0.1	193	S	13	W
9716.0	8.00	3.8	339	N	21 W	80	0.1	194	S	14	W
9718.0	8.00	4.8	24	N	24 E	80	0.1	207	S	27	W
9722.0	8.00	28.7	1	N	1 E	30	0.2	210	S	30	W
9724.0	8.00	30.8	329	N	31 W	85	0.2	209	S	29	W
9736.0	8.00	2.2	327	N	33 W	77	0.1	184	S	4	W
9738.0	8.00	2.3	321	N	39 W	85	0.2	179	S	1	E
9740.0	8.00	45.0	59	N	59 E	63	0.2	179	S	1	E
9742.0	8.00	45.0	59	N	59 E	12	0.2	179	S	1	E

Form OGCC-3

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

6

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

RECEIVED
SEP 6 1984
DIVISION OF OIL GAS & MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [X] Other

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR
Chandler & Associates, Inc.

3. ADDRESS OF OPERATOR
1400 Lincoln Tower Building, Denver, Colorado 80203

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface 660' FSL; 1980' FEL (SW SE)
At top prod. interval reported below
At total depth
as above

5. LEASE DESIGNATION AND SERIAL NO.
ML-34259

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
----

7. UNIT AGREEMENT NAME
----

8. FARM OR LEASE NAME
Lawrence

9. WELL NO.
15-1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
Sec. 1-T18S-R8E

14. PERMIT NO. 43-015-30192 | DATE ISSUED 5-7-84

12. COUNTY OR PARISH Emery | 13. STATE Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
5-15-84	8-9-84	P&A 8-11-84	GR 5726'	

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY →	ROTARY TOOLS	CABLE TOOLS
9,728'	------			All	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
None

25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
DIFL-GR, BHC-Sonic, CNL-CN

27. WAS WELL CORED
No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	54.5	1690'	17 1/2"	1135 sx.	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
----				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
----		

31. PERFORATION RECORD (*Interval, size and number*)
None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
None	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)
None		P&A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)
None

TEST WITNESSED BY

35. LIST OF ATTACHMENTS
Logs & DST Charts previously mailed by sub-contractors.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Hugo Cartaya
Hugo Cartaya
TITLE Petroleum Engineer DATE 9-3-84

*(See Instructions and Spaces for Additional Data on Reverse Side)

2

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.
If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.
Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.
Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.
Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.
Item 29: *"Sacks Cement"*: Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.
Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Cedar Mountain	1708		DST No. 1, 4896-4940'; 15", 32", 60", 121"
Buckhorn	2230		Rec. 218' mud, 3202' fresh wtr. No GTS.
Morrison	2318		Sampler: 2100 cc fresh water.
Summerville	2804		
Curtis	3158		DST No. 2, 6795-6840'; 10", 30", 60", 86".
Entrada	3312		Rec. 10' DM. Sampler: 2240 cc mud, no gas.
Carmel	4094		
Navajo	4915		DST No. 3, 7130-7224'; 10", 30", 60", 90".
Kayenta	5342		No GTS. Rec. 485' HGC mud. Sampler: 1.43 cfg,
Wingate	5503		1800 cc HGC mud.
Chinle	5824		
Shinarump	5978		DST No. 4, 7450-7503'; 10", 30", 30", 60".
Moenkopi	6088		Rec. 20' DM. No oil, wtr. or gas. Sampler:
Sinbad	6756		1350 cc mud,
L. Moenkopi	6900		
Kaibab	7122		DST No. 5, 8402-8465'; 10", 30", 90", 180".
Toroweap	7274		Rec. 94' HGC mud, 633' HGC sulfur wtr.
Elephant Canyon	7708		Sampler: 2000 cc sulfur wtr., .2 cfg.
Mississippian	8054		
Ouray	9288		
Maxfield	9306		
Ophir	9690		

38. GEOLOGIC MARKERS

NAME	TOP: MEAS. DEPTH	TOP: TRUE VERT. DEPTH

CHANDLER & ASSOCIATES, INC.

LAWRENCE STATE 15-1

EMERY COUNTY, UTAH

By

L. A. (Larry) Prendergast
187 Reta Drive
Grand Junction, Colorado 81503
(303) 245-3921

CHANDLER & ASSOCIATES, INC.

LAWRENCE STATE 15-1

EMERY COUNTY, UTAH

RECEIVED

OCT 3 1984

DIVISION OF OIL
GAS & MINING

By

L. A. (Larry) Prendergast
187 Reta Drive
Grand Junction, Colorado 81503
(303) 245-3921

L. A. PRENDERGAST
CONSULTING GEOLOGIST

Grand Junction, Colorado 81503
(303) 245-3921

WELL DATA SUMMARY

Well Name:	LAWRENCE STATE 15-1
Operator:	CHANDLER & ASSOCIATES, INC.
Location:	SW/4 SE/4 Sec. 1, T18S, R8E
Province:	EMERY COUNTY, UTAH
Area:	WILDCAT
Drilling Contractor:	LOFFLAND BROTHERS
Elevation:	GR 5726'
	KB 5745'
Depth Logged:	9734'
Well Status:	Plugged and Abandoned
Casing Program:	13 3/8" @ 1690'
Mechanical Logs Run:	FDC/CNL Surface - TD
	Sonic Surface - TD
	DIL Surface - 1684
	DLL 1690 - TD
	Dipmeter 4500 - TD
D.S.T.:	5 Total - DST Reports
Mudlogging Company:	Analex - Denver, Colorado
Geologist:	L.A. Prendergast - Grand Junction, Colorado

K.B. 5745

FORMATION TOPS

FORMATION	PROGNOSIS	SAMPLE	ESTIMATED TOP	E-LOG	SUBSEA LOG
Ferron	940		970	978	
Marker #1	1300		1323	1323	
Marker #2	1550		1555	1582	
Dakota	1600		1632	1632	
Cedar Mountain	1660		1713	1707	
Buckhorn	2315		2228	2230	
Morrison	2380		2327	2318	
Summerville	2760		2823	2804	
Curtis	3110		3158	3158	
Entrada	3360		3355	3312	
Carmel	4060		4087	4094	
Navajo	5060		4896	4892	
Kayenta			5338	5342	
Wingate			5505	5503	
Chinle	6000		5823	5824	
"Shinarump"			5978	5978	
Upper Moenkopi	6290		6085	6088	
Sinbad	6890		6795	6792	
Lower Moenkopi	7040		6924	6900	
Kaibab	7310		7130	7122	
Toroweap	7420		7260	7262	
Elephant Canyon	7890		7774	7708	
Mississippian	8240		8048	8054	
Mississippian Porosity	8440		8410	8412	

FORMATION TOPS

FORMATION	PROGNOSIS	SAMPLE	ESTIMATED TOP	E-LOG	SUBSEA LOG
Mississippian Shale Marker	9040		Not Seen	8858	
Ouray	9440		9297	9288	
Maxfield	9530		9323	9306	
Ophir	9840		Not Seen In Samples	9690	

DEVIATION SURVEYS

Deviation surveys after surface casing

DEPTH	SURVEY	CHANGE
70	1/2°	
189	3/4°	+1/4°
350	1°	+1/4°
440	3/4°	-1/4°
963	1/2°	-1/4°
1119	1°	+1/2°
1659	3°	+2
1755	3°	0
1845	2 3/4°	-1/4°
1970	2°	-3/4°
2156	1°	-1°
2375	3/4°	-1/4°
2524	1°	+1/4°
3004	4 1/2°	+3 1/2°
3220	4 3/4°	+1/4°
3270	5°	+1/4°
3336	4 3/4°	-1/4°
3365	5°	+1/4°
3402	5°	0
3467	4 3/4°	-1/4°
3592	5°	+1/4°
3712	5°	0
3762	5°	0

DEVIATION SURVEYS

Deviation surveys after surface casing

DEPTH	SURVEY	CHANGE
3832	5°	0
4030	5°	0
4200	5 3/4°	+3/4°
4245	5 3/4°	0
4302	5 1/4°	-1/2°
4361	4 3/4°	-1/2°
4490	4 1/2°	-1/4°
4608	6°	+1 1/2°
4670	5 3/4°	-1/4°
4763	5 1/2°	-1/4°
4860	5 3/4°	+1/4°
4920	5 3/4°	0
4963	5 1/2°	-1/4°
5154	4 1/2°	-1
5517	4 3/4°	+1/4°
BEGIN SIDETRACK #1		
4494	5° S 73° W	Orientation Survey
4519	5° S 63° W	
4551	3 3/4° S 54° W	
4582	2 1/4° S 38° W	
4644	1 3/4° S 11° E	
4737	3 1/4° S 15° E	
4828	3 1/2° S 26° E	

DEVIATION SURVEYS

Deviation surveys after surface casing

DEPTH	SURVEY	CHANGE
4891	3 3/4° S 24° E	
5420	3° S 37° W	
5803	3 1/2°	+ 1/2
6132	1 3/4°	-1 3/4°
6810	3 1/4°	+ 1 1/2°
7184	3°	-1/4°
7363	3°	0
7503	2 1/2°	-1/2°
7596	2°	-1/2°
7676	1 3/4°	-1/4°
7893	1 3/4°	0
8268	1 1/2°	- 1/4°
8465	1/4°	-1 1/4°
8831	1 3/4°	+1 1/2°
9271	3/4°	-1°

BIT RECORD

OPERATOR: Chandler & Associates WELL NAME: Lawrence Ste LOCATION NO: 15-1

CONTRACTOR: Loffland Bros RIG#: 1 AREA: Sec 1, T18S, R8E STATE/COUNTY Emery County, Utah

RIG MAKE & MODEL: U-40 SURF CSG: INT. CSG: PROD CSG:

NO 1 PUMP, MAKE & MODEL: D-700 SPUD DATE: 15 May 84 G.L.: 5726

NO 2 PUMP, MAKE & MODEL: DB-700 T.D. DATE: 10 Aug. 84 K.B.: 5745

BIT NO.	SIZE	MAKE Type	JETS	BIT SER.NO	DEPTH OUT	FEET	HOURS	ACCUM. HOURS	WT. M.	RPM	VERT. DEV.	PUMP PSI	MUD WT.	MUD VIS	BIT COND. T	B	G	REMARKS
1	12¼	Reed S13G	14,14 13	L34901	729	697	24½	24½	10/ 20	80/ 100		500	ppg. 8.6					
2	12¼	Reed S136	18,18 18	L34951	1087	358	16½	41	10/ 30	60/ 70		500	8.6					
3	12¼	HTC X33	20,20 16	XB085	1656	569	58½	99½	30/ 35	60/ 80	3°	200/ 500	8.8		4	5	1/ 8	
4	12¼	HTC X44	20,20 16	ZP687	1689	33	5	104½	30/ 35	60/ 70		200	8.9		2	2	I	
IA	17½	R93	20,20 16	2060R	975	928	45	149½							6	6	1"	
2A	17½	Reed HO	16,16 16	RB4071	1080	105	22 3/4	171¼										
5	17½	STC 4JS	18,18 18	SAH097	1615	535	67	239¼	35	70		850	8.9		4	6	1/ 8	
6	17½	HTC X33	16,16 16	PJ326	1690	75	9½	248 3/4										
7	8 3/4	Reed FP53A	14,14 14	A26150	2400	710	55	303 3/4	40	94		700			6	5	¼	
8	8 3/4	Reed HPM	13,13 13	JH17111	2534	134	11	314 3/4							7	6	1/8	
9	8 3/4	Sec M90F	14,14 14	177789	3004	470	41	355 3/4							2	2	I	
10	83/4	Reed FP53A	14,14 14	E80745	3365	361	37½	393¼							2	2	I	
11	8 3/4	SEC M44N	14,14 14	182742	3405	40	11½	404 3/4	15/ 20	100		800			5	3	I	
12	8 3/4	Reed FP53A	14,14 14	A26318	3762	357	37¼	442	32/ 35	100					5	4	¼	
13	8 3/4	HTC J33H	13,13 13	E8050	4245	483	50½	492½	40/ 45	65		850			4	4	I	

BIT RECORD

OPERATOR: Chandler & Associates WELL NAME: Lawrence State LOCATION NO: 15-1

CONTRACTOR: Loffland Bros RIG#: AREA: STATE/COUNTY

RIG MAKE & MODEL: SURF CSG: INT. CSG: PROD CSG:

NO 1 PUMP, MAKE & MODEL: SPUD DATE: G.L.:

NO 2 PUMP, MAKE & MODEL: T.D. DATE: K.B.:

BIT NO.	SIZE	MAKE Type	JETS	BIT SER.NO	DEPTH OUT	FEET	HOURS	ACCUM. HOURS	WT. M.	RPM	VERT. DEV.	PUMP PSI	MUD WT. ppg.	MUD VIS	BIT COND. T	BIT COND. B	BIT COND. G	REMARKS
14	8 3/4	HTC J33H	13,13 13	DR972	4940	695	69½	562	40/45	70		850			4	5	I	
15	8 3/4	Sec M84F	13,13 13	161648	5517	577	39	601	Stuck at 5517 Plug back and sidetrack									
16	8 3/4	Reed FP53A	14,14 14	A26053	4529	Dress cement for Dyna Drill and Sidetrack bit												
17	8 3/4	Chris MD435T		0109752	4615	86	30	631	5/15			1000	Diamond Sidetrack Bit					
RR 18	8 3/4	RR#16 FP53A	14,14 14	A26053	5459	844	84 3/4	715 3/4	20/35	70		700			6	4	¼	
19	8 3/4	STC F-4	13,13 13	HA4786	5835	376	50½	766¼	35/40	70		900			8	4	1/8	
20	8 3/4	STC F-5	13,13 13	EK1638	6132	297	49½	815 3/4	40	60	1 3/4	950	9.1	50	4	3	1/16	
21	8 3/4	Reed FP67	13,13 13	952501	6738	606	74¼	890	45	60	3 3/4	950	9.2	50	2	2	1	
22	8 3/4	HTC J33H	13,13 13	EB159	6840	102	12	902	40	65	3 1/4	950	9.2	50	INC			
23	RR #22		13,13 13	EB159	7220	486	56½	958½	40/45	65	3°	900	9.3	47	5	4	I	
24	8 3/4	SEC M84F	13,13 13	161249	7363	143	18	976½	45	65	3°	1000	9.2	45	Lost 2 cones - 3 nose tips			
25	8 3/4	HTC J-55R	13,13 13	DM491	7440	77	12½	989	45	50		1000	9.2	45	8	4	½	
26	8 3/4	HTC J-77	13,13 13	DP 502	7503	63	9½	998½	48	45	2½	1050	9.1	47	6	4	1	
27	8 3/4	Reed FP83J	13,13 13	T58409	7615	112	18½	1017	45	50	2°	1100	9.1	47	BT	E	1/8	
28	8 3/4	SEC H100F	13,13 13	165680	7704	89	18	1035	45	45	1 3/4	1100	9.1	49	5	7	1	

BIT RECORD

OPERATOR: ______ WELL NAME: ______ LOCATION NO: ______

CONTRACTOR: ______ RIG#: ______ AREA: ______ STATE/COUNTY ______

RIG MAKE & MODEL: ______ SURF CSG: ______ INT. CSG: ______ PROD CSG: ______

NO 1 PUMP, MAKE & MODEL: ______ SPUD DATE: ______ G.L.: ______

NO 2 PUMP, MAKE & MODEL: ______ T.D. DATE: ______ K.B.: ______

BIT NO.	SIZE	MAKE Type	JETS	BIT SER.NO.	DEPTH OUT	FEET	HOURS	ACCUM. HOURS	WT. M.	RPM	VERT. DEV.	PUMP PSI	MUD WT.	MUD VIS	BIT COND. T	BIT COND. B	BIT COND. G	REMARKS
29	8 3/4	Reed HPH	13,13 13	A15271	7779	75	19½	1054½	48	50	1¼	1000	ppg. 9.1	49	BT 4	SE	1	
30	8 3/4	Reed FP62B	13,13 13	890826	7945	166	30½	1085	45	45/50	1 3/4	1000	9.1	48	BT 5	SE	1/16	
31	8 3/4	Reed FP62B	12,12 12	168489	8280	335	46 3/4	1131 3/4	40	55	1¼	1200	9.2	48	8	4	1/16	
32	8 3/4	Reed HPM	12,12 13	H69137	8465	185	15	1146 3/4	40	55	¼	1200	9.2	48	BT 3	2	I	
33	8 3/4	Sec M89F	12,12 13	165159	8842	377	30	1176 3/4	40	55	1 3/4	1250	9.2	50	BT 5	6	1	
34	8 3/4	Sec M89F	13,13 13	165144	9301	459	46	1222 3/4	40	55	3/4	1250	9.2	49	5	4	1/16	
35	8 3/4	Sec M90F	13,13 13	177787	9728	427	51½	1274¼	45	40/55	1 3/4	1200	9.2	50	4	6	1	

COMPANY Chandler & Associates, Inc.

WELL NO. Lawrence State 15-1

LOCATION

ZONE OF INTEREST NO. 1

INTERVAL: From 4899 To 4940

DRILL RATE: Abv 6-8 m/ft Thru 1½ - 2 m/ft. Below

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C_1	C_2	C_3	C_4	C_5	OTHER
Before	16	trace					
During	19	trace					
After	11	trace					

Type gas increase: Gradual [X] Sharp [ ]

Gas variation within zone: Steady [X] Erratic [ ] Increasing [ ] Decreasing [ ]

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = Sensitivity: Poor [X] Fair [X] Good [ ]

FLUO: Mineral [ ] None [ ] Poor [X] Fair [ ] Good [ ]
Even [X] Spotty [ ]
% in total sample 80
% in show lithology *)
COLOR: yellow

CUT: None [ ] Poor [X] Fair [ ] Good [ ]
Streaming Slow [X] Mod [X] Fast [ ]
COLOR: yellow

STAIN: None [ ] Poor [X] Fair [ ] Good [ ] Live [ ] Dead [ ] Residue [ ] Even [ ] Spotty [ ] Lt. [X] Dk. [ ]

POROSITY: Poor [X] Fair [X] Good [ ] Kind Intergranular, trace fracture.

LITHOLOGY SS wh, clr, vf-fg subrdd, p-m cem, calc. 10% w/brn stain; 80% yel fluo; moderate slo yel cut w/yel residue ring

SAMPLE QUALITY good

NOTIFIED Bob Lent @ **HRS. DATE:** 19 June, 1984

REMARKS Recommend DST #1 4896-4940

ZONE DESCRIBED BY L. A. Prendergast

COMPANY Chandler & Associates, Inc.

WELL NO. Lawrence State 15-1

LOCATION

ZONE OF INTEREST NO. 2

INTERVAL: From 6807 To 6834

DRILL RATE: Abv 6 m/ft. Thru 4 m/ft. Below 7-8 m/ft.

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C_1	C_2	C_3	C_4	C_5	OTHER
Before	17	1.3u	trace				
During	34	9.6u	1.4u	.6u			
After	14	1.3u	trace				

Type gas increase: Gradual ☒ Sharp ☐

Gas variation within zone: Steady ☒ Erratic ☐ Increasing ☐ Decreasing ☐

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = ____ Sensitivity: Poor ☐ Fair ☐ Good ☐

FLUO: Mineral ☐ None ☐ v Poor ☒ Fair ☐ Good ☐
Even ☐ Spotty ☒
% in total sample &
% in show lithology 10
COLOR: weak yel

CUT: None ☐ v Poor ☐ Fair ☐ Good ☐
Streaming Slow ☐ Mod ☐ Fast ☐
COLOR: v weak yel

STAIN: None ☐ Poor ☒ Fair ☐ Good ☐ Live ☐ Dead ☒ Residue ☐ Even ☐ Spotty ☒ Lt. ☐ Dk. ☐

POROSITY: Poor ☒ Fair ☐ Good ☐ Kind Intercrystalline fracture.

LITHOLOGY LS lt. gry micro-vfxln arg, dolomitic microsacrosic w/dk brn-blk stain.
v poor weak yel fluo & cut

SAMPLE QUALITY good

NOTIFIED Bob Lent @ ____ HRS. DATE: 16 July, 1984

REMARKS DST #2 6795-6840

ZONE DESCRIBED BY L. A. Prendergast

COMPANY Chandler & Associates, Inc.

WELL NO. Lawrence State 15-1

LOCATION

ZONE OF INTEREST NO. 3

INTERVAL: From ______ To ______

DRILL RATE: Abv ______ Thru ______ Below ______

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C_1	C_2	C_3	C_4	C_5	OTHER
Before	NO APPRECIABLE GAS INCREASE						
During	10 - 12 UNITS BACKGROUND GAS						
After							

Type gas increase: Gradual ☐ Sharp ☐

Gas variation within zone: Steady ☐ Erratic ☐ Increasing ☐ Decreasing ☐

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = ______ Sensitivity: Poor ☐ Fair ☐ Good ☐

FLUO: Mineral ☐ None ☒ Poor ☐ Fair ☐ Good ☐ Even ☐ Spotty ☐ % in total sample ______ % in show lithology ______ COLOR: ______

CUT: None ☒ Poor ☐ Fair ☐ Good ☐ Streaming Slow ☐ Mod ☐ Fast ☐ COLOR: ______

STAIN: None ☐ Poor ☐ Fair ☒ Good ☒ Live ☐ Dead ☒ Residue ☒ Even ☐ Spotty ☐ Lt. ☐ Dk. ☒

POROSITY: Poor ☐ Fair ☐ Good ☐ Kind Intercrystalline, fracture.

LITHOLOGY LS lt gry slty, sdy dolomity, Dolo crm, wh cryptoxln-microxln w/abn dead stain

SAMPLE QUALITY good

NOTIFIED Bob Lent @ ______ **HRS. DATE:** 19 July 1984

REMARKS DST #3 Kaibab 7130-7224

ZONE DESCRIBED BY L. A. Prendergast

COMPANY Chandler & Associates, Inc.

WELL NO. Lawrence State 15-1

LOCATION ____________________

ZONE OF INTEREST NO. 4

INTERVAL: From 7456 To 7491

DRILL RATE: Abv 9-13 m/ft Thru 5-11 erratic Below ______

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C_1	C_2	C_3	C_4	C_5	OTHER CO_2
Before	10	trace					1.8-2.5
During	22	1.6u	trace				1.5u
After							

Type gas increase: Gradual [X] Sharp [ ]

Gas variation within zone: Steady [ ] Erratic [ ] Increasing [ ] Decreasing [ ]

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = ______ Sensitivity: Poor [ ] Fair [ ] Good [ ]

FLUO: Mineral [ ] None [X] Poor [X] Fair [ ] Good [ ]

Even [ ] Spotty [X]

% in total sample trace

% in show lithology trace

COLOR: yel-blu

CUT: None [X] Poor [X] Fair [ ] Good [ ]

Streaming: v Slow [ ] Mod [ ] Fast [ ]

COLOR: pale yel

STAIN: None [X] Poor [ ] Fair [ ] Good [ ] Live [ ] Dead [ ] Residue [ ] Even [ ] Spotty [ ] Lt. [ ] Dk. [ ]

POROSITY: Poor [ ] Fair [ ] Good [ ] Kind Possible fracture

LITHOLOGY SS wh, clr vf-mg subang-subrdd m cem s/fria v scant tr. yel-blue fluo

SAMPLE QUALITY good

NOTIFIED Bob Lent @ ______ **HRS. DATE:** ______

REMARKS Brown scum on pits that has yel fluo & cut

ZONE DESCRIBED BY L. A. Prendergast

COMPANY Chandler & Associates, Inc.

WELL NO. Lawrence State 15-1

LOCATION

ZONE OF INTEREST NO. 5

INTERVAL: From 8400 To 8465

DRILL RATE: Abv 7-9 m/ft. Thru 2-3; 2-5 Below

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C_1	C_2	C_3	C_4	C_5	OTHER
Before	1-5	trace					CO_2 1.2
During Max.	18	trace	trace				1.2
After							

Type gas increase: Gradual ☒ Sharp ☐

Gas variation within zone: Steady ☐ Erratic ☒ Increasing ☐ Decreasing ☐

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = ____ Sensitivity: Poor ☐ Fair ☐ Good ☐

FLUO: Mineral ☒ None ☐ Poor ☐ Fair ☐ Good ☐
Even ☒ Spotty ☐
% in total sample 1
% in show lithology 1
COLOR: yel

CUT: None ☒ Poor ☐ Fair ☐ Good ☐
Streaming Slow ☐ Mod ☐ Fast ☐
COLOR:

STAIN: None ☐ Poor ☒ Fair ☐ Good ☐ Live ☐ Dead ☒ Residue ☐ Even ☐ Spotty ☒ Lt. ☐ Dk. ☒

POROSITY: Poor ☐ Fair ☒ Good ☐ Kind Interxln, fracture

LITHOLOGY Dolo m tan-lt brn cryptoxln; m brn microxln

SAMPLE QUALITY good

NOTIFIED Bob Lent @ **HRS. DATE:** 1 Aug 1984

REMARKS Very scant indications of hydrocarbons - DST on basis of increased drill rate.

ZONE DESCRIBED BY L. A. Prendergast

DST #1 4895 - 4940

Formation: Navajo   Hole Size: 8 3/4"

Test Type: Conventional Dual Packer

Testing Company: Johnston-Macco; Vernal, Utah
Glenn Grimes

Mud Properties: Wt: 8.9   Vis. 40   Rm. 65 @ 75 °F

Water Cusion: None

Top Cnoke: 1/8" Bubble Hose   Bottom Choke: 15/16"

Flow #1: 15 minutes
Shut in #1: 32 minutes
Flow #2: 60 minutes
Shut in #2: 121 minutes

Top Chart - Inside		Bottom Chart - Outside	
IH	2302	IH	2331
FH	2265	FH	2297
Flow #1	69-597	Flow #1	79-613
Snut in #1	1885	Shut in #1	1889
Flow #2	608-1501	Flow #2	613-1524
Snut in #2	1883	Shut in #2	1889
BHT	123o		

Rec: 218' drilling mud   Rw: .65 @75 °F
3202 Fresnwater   Rw: 10 @68oF

Sample Chamber: 12psi
2100 cc water Rw: 10 @ 64oF

DST #2 6795 - 6840

Formation: Sinbaa

Hole size: 8 3/4"

Test Type: Conventional Dual Packer

Testing Company: Halliburton; Vernal, Utah
Cliff Richards

Mud Properties: Wt. 9.2

Water Cushion: None
Top Choke: 1/4" Bottom Choke: 3/4"

Flow #1	10
Shut in #1	30
Flow #2	60
Shut in #2	86

Top Chart - Inside		Bottom Chart - Outside	
IH	3325	IH	3423
FH	3315	FH	3358
Flow #1	13	Flow #1	52
Shut in #1	13-13	Shut in #1	52-52
Flow #2	13	Flow #2	52
Shut in #2	13-13	Shut in #2	52-52
BHT	138oF		

Rec: 10' drilling mud.

Rw: 8.5 @ 80 ^{o}F

Sample Chamber 2240 cc mud. Rm 8.5 @ 8 ^{o}F

DST #3 7130 - 7224

Formation: Kaibab Hole Size: 8 3/4"

Test Type: Conventional Open Hole Dual Packer

Testing Company: Halliburton; Vernal, Utah
Cliff Richards

Mud properties: Wt. 9.2 Vis. 48

Top Choke: 1/8" Bottom Choke: 3/4"

Flow #1	10 minutes
Shut in #1	30 minutes
Flow #2	60 minutes
Shut in #2	90 minutes

Top Chart - Inside		Bottom Chart - Outside	
IH	3491	IH	3568
FH	3436	FH	3568
Flow #1	41-35	Flow #1	135-148
Shut in #1	1640	Shut in #1	1713
Flow #2	137-192	Flow #2	175-243
Shut in #2	1887	Shut in #2	1970

Rec: 485' Highly gas cut mud.
Sample Chamber: 1200 psi 1.43 ft3 gas
1800 cc mud.

Top:	Rm 1.1 @ 80° F
Middle:	Rm 1.1 @ 80° F
Bottom:	Rm 1.1 @ 80° F
Sampler:	Rm 1.0 @ 80° F

BLOW DESCRIPTION

Time:		
0405		Open tool with 1/2 blow
0407		Blow to bottom of bucke.
0413		2 psi
0415		Closed Tool
0445		Open tool with 4" blow.
0447	10 oz.	
0450	16 oz.	
0455	20 oz.	
0458	2 psi	
0503	2 1/2 psi	
0515	2 psi	
0520	1 psi	
0530	14 oz.	
0535	12 1/2 oz.	
0540	11 1/2 oz.	
0545	10 1/2 oz. Closed tool.	

DST #4 7450 - 7503

Formation: Toroweap Hole Size: 8 3/4#

Test Type: Conventional Dual Packer

Testing Company: Halliburton; Vernal, Utah
Scott Pitt

Mud Properties: Wt. 9.2

Top Cnoke: 1/8" Bottom Choke: 3/4"

Flow #1	11 minutes
Shut in #1	30 minutes
Flow #2	30 minutes
Shut in #2	60 minutes

Top Cnart - Inside		Bottom Chart - Outside	
IH	3627	IH	3645
FH	3541	FH	3672
Flow #1	42-56	Flow #1	53-53
Shut in #1	1704	Shut in #1	1714
Flow #2	42-42	Flow #2	66-66
Snut in #2	585	Shut in #2	636
BHT	140o F		

Rec: 20' Drilling Mud Rm 1.2 @ 75° F

Sample Cnamber: 2 psi
1350 cc mud Rm 1.2 @ 75o F

DST #5 8402 - 8465

Formation: Mississippian Hole Size: 8 3/4"

Test Type: Conventional Dual Packer

Testing Company: Halliburton; Vernal, Utah
Cliff Richards

Mud Properties: Wt. 9.2 Vis. 51

Top Choke: 1/4" Bottom Choke: 3/4"

Flow #1	10 minutes
Shut in #1	30 minutes
Flow #2	90 minutes
Shut in #2	180 minutes

Top Chart - Inside		Bottom Chart - Outside	
IH	4077	IH	4188
FH	3993	FH	4105
Flow #1	27-69	Flow #1	67-122
Shut in #1	3050	Shut in #1	3101
Flow #2	96-328	Flow #2	149-351
Shut in #2	3116	Shut in #2	3151
BHT	159° F		

Rec: 94' Drilling mud Rm: 1.09 @ 85° F
633 Sulfur water Rm: Top: 1.05 @ 80°F
Middle: 1.03 @ 80°F
Bottom: 1.03 @ 80°F

Sample Chamber: 300 psi .202 ft^3 gas

BLOW DESCRIPTION

Time:	
1008	Open tool with 1/4" blow increasing to 4" in 10 minutes
1018	Closed tool in
1038	Open tool with 1" blow
1043	3" blow
1048	7" blow
1103	5 oz.
1108	7 oz.
1113	8 oz.
1118	9 oz.
1123	9 1/2 oz.
1128	10 oz.
1133	10 1/2 oz.
1138	11 1/2 oz.
1143	12 oz.
1148	13 1/2 oz.
1153	14 1/2 oz.
1158	15 1/2 oz.
1203	16 1/2 oz.
1208	18 oz. Closed tool in

DAILY REPORT

TEMP ______ SPUD 15 May 84 DAY 1 DATE 15 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION SW SE Sec.1 T18S R8E Emery County, UT

DEPTH YEST. --- TODAY 50 Time 7:00am FTG 18 FT/HR ______

OPERATION Drilling

BIT NO. 1 TYPE Reed S-13G IN 32 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM 70-75 PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT 8.6 VIS 32. WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Blue Gate Shale

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 863-9100 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 2 DATE 16 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 50 TODAY 575 Time 6:00 FTG 525 FT/HR ______

OPERATION Drilling with Bit #1

BIT NO. 1 TYPE Reed S-13G IN 32 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 15/20 RPM 89 PP 400 SPM 62 LAG 4 @ 381

MUD 513 WT 8.7 VIS 47 WL 9 CK 2 PH 9 CL 1000 ~~xxx~~ RE/CA 80

SURVEYS 70 - 1/2, 189 - 3/4, 350 - 1, 440 - 3/4

GEOLOGICAL

FORM TOPS ______

FORMATION Blue Gate Shale

LITHOLOGY Sh dk gry, dk gry brn firm blocky slty calc. w/tr foss frag.

MUD GAS ______ TG ______ BACKGROUND 4 tr C_1, C_2

Zone of Interest No. None @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: Dresser Atlas - Roosevelt (801) 722-3627

Carl Jones alerted for Fri. or Sat.

Called Bob Lent @ 863-9100 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD 15 May 84 DAY 3 DATE 17 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 525 TODAY 729 Time ______ FTG 204. FT/HR ______

OPERATION Trip - repair rig

BIT NO. 1 TYPE R S13 G IN 32 OUT 729 FT. 697 HRS. 27

BIT NO. 2 TYPE R S13 G IN 729 OUT ______ FT. ______ HRS. ______

WOB 15/20 RPM 88 PP 450 SPM 60 LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Blue Gate Shale

LITHOLOGY Sh dk gry firm blocky slty calc, tr foss frag

MUD GAS ______ TG ______ BACKGROUND A

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: Because stuck at 729 w/loss of returns --
lost 1700 bbl mud; stuck 12 hrs
Call B. Lent at Ferron top 779-0130

Called Bob Lent @ 863-9100 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 4 DATE 18 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ____

DEPTH YEST. 729 TODAY 1062 Time ____ FTG 333 FT/HR ____

OPERATION Drilling with Bit #2

BIT NO. 2 TYPE Reed S-13G IN 729 OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB 40 RPM 70 PP 500 SPM ____ LAG ____ @ ____

MUD 1016 WT 8.7 VIS 64 WL 9 CK 2 PH 10.0 CL 400 ~~FE~~/CA 80

SURVEYS 936 - 1/2°

GEOLOGICAL

FORM TOPS Ferron

FORMATION ____

LITHOLOGY Sh dk gry firm blocky slty calc
Ferron SS lt tan to lt gry-brn to lt gry vf - fg subang
subrdd M-W cem calc w/clay Matrix abn dk min incl.

MUD GAS 10U CG TG ____ BACKGROUND 6-7

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks None

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: 6:30 a.m. Saturday

Called Bob Lent @ 863-9100 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 5 DATE 19 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION 3-5m/ft

DEPTH YEST. 1062 TODAY 1265 Time ______ FTG 203 FT/HR ______

OPERATION Drilling with bit #3

BIT NO. 3 TYPE 12¼ HTC X-33 IN 1087 OUT ______ FT. ______ HRS. ______

BIT NO. 2 TYPE S-13G IN 729 OUT 1087 FT. 358 HRS. 16¼

WOB 35/40 RPM 75 PP 550 SPM 50/50 LAG ______ @ ______

MUD 1240 WT 8.7 VIS 66 WL 7 CK 2 PH 9.5 CL 400 ~~FE~~/CA 80

SURVEYS 936 - 1/2°
1119 - 1°

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY SlTSN lt - M gry brn firm - hd, lite

MUD GAS ______ TG ______ BACKGROUND 6-10

Zone of Interest No. None @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 303-779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD 15 May 84 DAY 6 DATE 20 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION

DEPTH YEST. 1265 TODAY 1417 Time ____ FTG 152 FT/HR 14 ft/hr

OPERATION Drilling with Bit #3

BIT NO. 3 TYPE X-33 IN 1087 OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB 30/35 RPM 60 PP 200 SPM ____ LAG 10 @ 1130

MUD 1406 WT 8.7 VIS 60 WL 8 CK 2 PH 9.5 CL 500 ~~XXX~~/CA 80

SURVEYS

GEOLOGICAL

FORM TOPS

FORMATION Tunuck 1200+ Bent #1 1323

LITHOLOGY Sh dk gry firm block slty w/occasional thin SS & SlTSN interlams

5726 GR + 18½ ft to KB = KB 5744.5

MUD GAS ____ TG ____ BACKGROUND 6-7

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: Lost returns 1291' - 100 bbl

1313' - 600 bbl

Called Bob Lent @ 303-779-0130 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 7 DATE 21 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 1417 TODAY 1600 Time ______ FTG 183 FT/HR ______

OPERATION Drilling with Bit #3

BIT NO. 3 TYPE X-33 IN 1087 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 35/38 RPM 70 PP 200 SPM ______ LAG ______ @ ______

MUD 1580 WT 8.9+ VIS 70 WL 6.2 CK 2 PH 9 CL 500 ~~FE~~/CA 80

SURVEYS ______

GEOLOGICAL

Eloq 1582

FORM TOPS ______

FORMATION Tununk Bent #2 1555

LITHOLOGY Sh m-dk gry firm-soft slty sl mgry soft bentic

Measured: .44 @ 78

RW .25 @ 78 Ferron

RW .33 @ 78 Dakota

MUD GAS ______ TG ______ BACKGROUND 6-10

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: 801-722-3627

Called Bob Lent @ 863-9100 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 8 DATE 22 May 84

COMPANY Chandler & Associates

WELL

LOCATION

DEPTH YEST. 1600 TODAY 1689 Time ______ FTG 89 FT/HR ______

OPERATION Logging with Dresser Atlas

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS 5° 1659

Ferron 978
Tununk 1200
Bent #1 1323
Bent #2 1582
Dakota 1632

GEOLOGICAL

FORM TOPS Dakota 1632

FORMATION Dakota

LITHOLOGY Drlr TD 1689
SLM 1686
Logger 1684

MUD GAS ______ TG ______ BACKGROUND 6-7

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: Logging Tool FDC/CNL Malfunction

DIL to 1684
FDC/CNL 1684
So Nic - 1679

Called Bob Lent @ 1-800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ________ SPUD ________ DAY 9 DATE 23 May 84

COMPANY ________

WELL ________

LOCATION ________

DEPTH YEST. ________ TODAY ________ Time ________ FTG ________ FT/HR ________

OPERATION Open hole to 17½"

BIT NO. ____ TYPE ________ IN ____ OUT ________ FT. ____ HRS. ____

BIT NO. ____ TYPE ________ IN ____ OUT ________ FT. ____ HRS. ____

WOB ________ RPM ________ PP ____ SPM ________ LAG ________ @ ________

MUD ____ WT ____ VIS ____ WL ____ CK ____ PH ____ CL ____ FE/CA ____

SURVEYS ________

GEOLOGICAL

FORM TOPS ________

FORMATION ________

LITHOLOGY ________

MUD GAS ________ TG ____ BACKGROUND ________

Zone of Interest No. ________ @ ________ To ________

Shows-Breaks ________

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: ________

Called ________ @ ________ Date ________

Geology ________ Logging ________ Mileage ________ Exp. ________

DAILY REPORT

TEMP ______ SPUD ______ DAY 10 DATE 24 May 84
COMPANY ______
WELL ______
LOCATION ______

DEPTH YEST. ______ TODAY 940 Time ______ FTG ______ FT/HR ______
OPERATION ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______
Zone of Interest No. ______ @ ______ To ______
Shows-Breaks ______
Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 863-9100 Date ______
Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 11 DATE 25 May 84

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. ____ TODAY ____ Time ____ FTG ____ FT/HR ____

OPERATION Open hole to 17½"

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB ____ RPM ____ PP ____ SPM ____ LAG ____ @ ____

MUD ____ WT ____ VIS ____ WL ____ CK ____ PH ____ CL ____ FE/CA ____

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION ____

LITHOLOGY ____

MUD GAS ____ TG ____ BACKGROUND ____

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 12 DATE 26 May 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION Open hole to 17½"

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW C1 C2 C3 C4 C5 Flou ______

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 13 DATE 27 May 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION Open hole to 17½"

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 14 DATE 28 May 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION Open hole to 17½"

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 15 DATE 29 May 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION Open hole to 17½", Run 13 3/8" Casing to 1690' (54.5 16ft)

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 16 DATE 30 May 84

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. ____ TODAY ____ Time ____ FTG ____ FT/HR ____

OPERATION Wait on cement. Nipple up B.O.P. Plug down @ 9:30 p.m. 29 May 84

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB ____ RPM ____ PP ____ SPM ____ LAG ____ @ ____

MUD ____ WT ____ VIS ____ WL ____ CK ____ PH ____ CL ____ FE/CA ____

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION ____

LITHOLOGY ____

MUD GAS ____ TG ____ BACKGROUND ____

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called Bob Lent @ 800-521-2459 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 17 DATE 31 May 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. ______ TODAY 1690 Time ______ FTG --- FT/HR ______

OPERATION Finish Nipple Up; go in hole w/8 3/4 bit. Mudlogger on location

BIT NO. 7 TYPE Reed 8 3/4 FP53A IN 1690 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD 15 May 84 DAY 18 DATE 1 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 1690 TODAY 1894 Time ______ FTG 204 FT/HR ______

OPERATION Drilling with Bit #7

BIT NO. 7 TYPE Reed 8 3/4 FP53A IN 1690 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 20 RPM 70/80 PP 600 SPM 60 LAG ______ @ ______

MUD 1886 WT 8.8 VIS 39 WL 8.4 CK 2 PH 9.5 CL 480 ~~FE~~/CA tr.

SURVEYS 1845 - 2 3/4

1755 3°

GEOLOGICAL

FORM TOPS Cedar Mtn. 1713

FORMATION Cedar Mtn.

LITHOLOGY Pred sh grn-gry bentonetic w/thin ss & sltsn interbeds

Begin red-brn, maroon @ 1800'+. Tr dkgy ls nodules and thin interlams.

MUD GAS ______ TG ______ BACKGROUND 4

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 19 DATE 2 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION

DEPTH YEST. 1894 TODAY 2215 Time ______ FTG 321 FT/HR ______

OPERATION Drilling with Bit #7

BIT NO. 7 TYPE Reed 8 3/4 FP53A IN 1690 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 30/35 RPM 94 PP 600 SPM ______ LAG ______ @ ______

MUD 2197 WT 8.8 VIS 39 WL 7.6 CK 2 PH 9.5 CL 420 ~~FE~~/CA tr.

SURVEYS 1970 - 2°

2156 - 1°

GEOLOGICAL

FORM TOPS

FORMATION Cedar Mtn.

LITHOLOGY Sh varicolor w/thin ss &

MUD GAS ______ TG ______ BACKGROUND 2

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS:

Called Bob Lent @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 20 DATE 3 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 2215 TODAY 2460 Time ______ FTG 245 FT/HR ______

OPERATION Drilling with Bit #8. Trip at 2400 -

BIT NO. 8 TYPE Reed HPM IN 2400 OUT ______ FT. ______ HRS. ______

BIT NO. 7 TYPE Reed FP53A IN 1690 OUT 2400 FT. 710 HRS. 52½

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 2437 WT 8.9 VIS 42 WL 8.4 CK 2 PH 9.5 CL 450 ~~FE~~/CA tr.

SURVEYS 3/4 @ 2375

GEOLOGICAL

FORM TOPS Buckhorn 2228

FORMATION Buckhorn

LITHOLOGY Pred. cht pebble cong w/s varicolor sh

MUD GAS ______ TG ______ BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 21 DATE 4 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 2460 TODAY 2655 Time ______ FTG 195 FT/HR ______

OPERATION Drilling with Bit #9

BIT NO. 9 TYPE Sec M90F IN 2534 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 30 RPM 60 PP 700 SPM 60 LAG ______ @ ______

MUD ______ WT 8.9 VIS 42 WL 7.6 CK 2 PH 9.5 CL 450 ~~EX~~/CA tr.

SURVEYS ______

GEOLOGICAL

FORM TOPS Morrison 2327

FORMATION Morrison

LITHOLOGY Sh gry-grn

MUD GAS ______ TG ______ BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B. Lent @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 22 DATE 5 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 2655 TODAY 2910 Time ______ FTG 255 FT/HR ______

OPERATION Drilling with Bit #9

BIT NO. 9 TYPE 8 3/4 Sec. M 90 F IN 2534 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 35/45 RPM 60/65 PP 800 SPM ______ LAG ______ @ ______

MUD 2900 WT 8.9 VIS 48 WL 6.8 CK 2 PH 9.5 CL 450 FE/CA 100

SURVEYS ______

GEOLOGICAL

FORM TOPS Summerville 2823

FORMATION Summerville

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 23 DATE 6 June 84

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. 2910 TODAY 3116 Time ____ FTG 206 FT/HR ____

OPERATION Drilling with Bit #10

BIT NO. 10 TYPE Reed FP53 IN 3004 OUT ____ FT. ____ HRS. ____

BIT NO. 9 TYPE ____ IN 2534 OUT 3004 FT. 470 HRS. 41

WOB 35 RPM 70/80 PP 750 SPM ____ LAG ____ @ ____

MUD 3095 WT 8.9 VIS 45 WL 7.2 CK 2 PH 9 CL 450 ~~FH~~/CA 80

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION Summerville

LITHOLOGY Sh red-brn slty w/abn Anhy incl

MUD GAS ____ TG ____ BACKGROUND 1

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called B. Lent @ 800-521-2459 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 24 DATE 7 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 3116 TODAY 3340 Time ______ FTG 224 FT/HR ______

OPERATION Drilling with Bit #10

BIT NO. 10 TYPE Reed FP53 IN 3004 OUT ______ FT. 341 HRS. 40

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 20 RPM 75 - 100 PP 750 SPM ______ LAG ______ @ ______

MUD 3340 WT 8.9 VIS 43 WL 7.5 CK 2 PH 9 CL 450 [illegible]/CA 80

SURVEYS

3270 - 5°	2375 - 3/4°	1755 - 3°
3220 - 4 3/4	2155 - 1°	3340 - 4 3/4
3004 - 4 1/2	1970 - 2°	2750 - 2 1/2
2524 - 1°	1845 - 2 3/4	

GEOLOGICAL

FORM TOPS Curtis 3158

FORMATION Curtis

LITHOLOGY SS lt-mgry f-mg msort, subang-subrdd fria - mcem calc w/wh clay
Matrix, blk, brn incl. abn Glauc incl
sh mgry firm block sli calc

MUD GAS ______ TG ______ BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: 3235 lost 100 bbl mud

Called B. Lent @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 25 DATE 8 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 3340 TODAY 3365 Time ______ FTG 25 FT/HR ______

OPERATION Backing off; stuck drill string. Free-point truck on location.

BIT NO. 10 TYPE Reed FP53 a IN 3004 OUT 3368 FT. 361 HRS. 37½

BIT NO. 11 TYPE FP53 a IN 3365 OUT ______ FT. ______ HRS. ______

WOB 20 RPM 100 PP 800 SPM 60 LAG ______ @ ______

MUD 3365 WT 8.9 VIS 42 WL 7.6 CK 2 PH 9 CL 450 ~~FH~~/CA 80

SURVEYS 3336 - 4 3/4
3365 - 5°

GEOLOGICAL

FORM TOPS ______

FORMATION Curtis

LITHOLOGY Trip out of hole; pick up stabilizer. Trip in hole; stuck @ 2496.
Spotted 2800 gal diesel & pipe free.

MUD GAS ______ TG ______ BACKGROUND 1 Before diesel

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B. Lent @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 26 DATE 9 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______ 20-25m/ft

DEPTH YEST. 3365 TODAY 3378 Time ______ FTG 13 FT/HR 2 - 3

OPERATION Back off stuck pipe. Trip in w/jars; screw into fish jar loose. TOH w/fish. TIH w/bit - present operation; drilling.

BIT NO. 11 TYPE Sec M44N IN 3365 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 15 RPM 100 PP 700 SPM ______ LAG ______ @ ______

MUD 3365 WT 8.8 VIS 43 WL 6.0 CK 2 PH 8.5 CL 450 ~~XXX~~/CA 40

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Entrada

LITHOLOGY Sample very contaminated following fishing operation;
NOTE: 2800 gal diesel added to mud during fishing operation.

MUD GAS ______ TG ______ BACKGROUND 50 - 65 Units

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 27 DATE 10 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 3378 TODAY 3405 Time ______ FTG 27 FT/HR ______

OPERATION Reaming to bottom w/3pt reamer; 70 pendulum.

BIT NO. 12 TYPE FP53 IN 3405 OUT ______ FT. ______ HRS. ______

BIT NO. 11 TYPE Sec M44N IN 3365 OUT 3405 FT. 40 HRS. 11½

WOB 30 RPM 90 - 100 PP 700 SPM ______ LAG ______ @ ______

MUD 3405 WT 8.8 VIS 49 WL 7.2 CK 2 PH 9.0 CL 450 ~~XXX~~/CA 60

SURVEYS 3402 - 5°

GEOLOGICAL

FORM TOPS ______

FORMATION Entrada

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND 25 Units

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 28 DATE 11 June 84

COMPANY Chandler & Associates

WELL ______

LOCATION ______

DEPTH YEST. 3405 TODAY 3622 Time ______ FTG 217 FT/HR ______

OPERATION Drilling with Bit #12

BIT NO. 12 TYPE FP53 IN 3405 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 20/30 RPM 90/100 PP ______ SPM ______ LAG ______ @ ______

MUD 3610 WT 8.9 VIS 52 WL 10.0 CK 2 PH 8.3 CL 450 ~~XX~~/CA 80

SURVEYS 3467 - 4 3/4

3561 - M R

3592 - 5°

GEOLOGICAL

FORM TOPS ______

FORMATION Entrada

LITHOLOGY SS lt red-org vfg vslty w/wh Anhy incl.

MUD GAS ______ TG ______ BACKGROUND From Diesel contamination 40+

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called Bob Lent @ 800 521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 29 DATE 12 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 3622 TODAY 3762 Time ______ FTG 140 FT/HR ______

OPERATION Trip for Bit #13

BIT NO. 12 TYPE Reed FP53A IN 3405 OUT 3762 FT. 357 HRS. 37½

BIT NO. 13 TYPE HTC J-33A IN 3762 OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 3762 WT 8.9 VIS 60 WL 10.2 CK 2 PH 9.0 CL 425 ~~EX~~/CA 20

SURVEYS 3592 - 5°

3712 - 5°

3762 - 5°

GEOLOGICAL

FORM TOPS ______

FORMATION Entrada

LITHOLOGY 100% SS lt red-org vfg w/abn Anhy incl.

1800 - 1940 Mud log to partners & Ch missing.

MUD GAS ______ TG ______ BACKGROUND 30

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ 521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 30 DATE 13 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______ 6-7m/ft

DEPTH YEST. 3762 TODAY 3885 Time ______ FTG 123 FT/HR ______

OPERATION Drilling with Bit #13

BIT NO. 13 TYPE HTC J-33A IN 3762 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40/45 RPM 65 PP 850 SPM 60 LAG 49 @ 3850

MUD 3880 WT 8.9 VIS 48 WL 7.0 CK 2 PH 8.9 CL 400 ~~FK~~/CA 60

SURVEYS 3832 - 5°

GEOLOGICAL

FORM TOPS ______

FORMATION Entrada

LITHOLOGY 100% SS lt red-org to brick red; vf-fg slty w/s vfg grdng to SlTSN Sli calc w/abn Anhy incl.

MUD GAS ______ TG 112 BACKGROUND 40

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 31 DATE 14 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ____

DEPTH YEST. 3885 TODAY 4110 Time ____ FTG 225 FT/HR ____

OPERATION Drilling with Bit #13

BIT NO. 13 TYPE J-33A IN 3762 OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB ____ RPM ____ PP ____ SPM ____ LAG ____ @ ____

MUD 4105 WT 8.9 VIS 43 WL 8.0 CK 2 PH 9.0 CL 425 ~~EX~~/CA 120

SURVEYS ____

GEOLOGICAL

FORM TOPS Carmel 4087

FORMATION Carmel

LITHOLOGY 50% Entrada

50% SS vlt gry-gry vf-fg w/sort mcem calc

MUD GAS ____ TG ____ BACKGROUND 25

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: Call @ 7:00 Home

Called B.L. @ 800-521-2459 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ____ SPUD ____ DAY 32 DATE 15 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ____

DEPTH YEST. 4110 TODAY 4256 Time ____ FTG 146 FT/HR ____

OPERATION Drilling with Bit #14

BIT NO. 13 TYPE J-33H IN 3762 OUT 4245 FT. 483 HRS. 50½

BIT NO. 14 TYPE J-33H IN 4245 OUT ____ FT. ____ HRS. ____

WOB 30 RPM 70 PP 850 SPM 60 LAG 5½ @ ____

MUD 4245 WT 8.9 VIS 46 WL 8.2 CK 2 PH 9.0 CL 400 ~~XX~~/CA 90

SURVEYS
4245 - 5 3/4 3762 - 5°
4200 - 5 3/4 3712 - 5°
4030 - 5° 3592 - 5°
3832 - 5° 3467 - 4 3/4

GEOLOGICAL

FORM TOPS ____

FORMATION Carmel

LITHOLOGY SS wh, crm vf-fh mcem w/abn Anhy incl.
Sh mgry, mgry-grn w/abn Anhy incl.

MUD GAS ____ TG ____ BACKGROUND 15

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called B.L. @ 303-779-0130 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ____ SPUD ____ DAY 33 DATE 16 June 84

COMPANY Chandler & Associates

WELL

LOCATION

DEPTH YEST. 4256 TODAY 4466 Time ____ FTG 210 FT/HR ____

OPERATION Drilling with Bit #14

BIT NO. 14 TYPE HTC-J-33H IN ____ OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB 45 RPM 70 PP 850 SPM 60 LAG 52 @ 4373

MUD 4465 WT 8.8 VIS 45 WL 9.2 CK 2 PH 9.0 CL 400 ~~FE~~/CA 140

SURVEYS 4361 - 4 3/4

4302 - 5 1/4

GEOLOGICAL

FORM TOPS

FORMATION Carmel

LITHOLOGY Various - w/abn Anhy in everything.

MUD GAS ____ TG ____ BACKGROUND 12

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks

Depth ____ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS:

Called B.L. @ 303-779-0130 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 34 DATE 17 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 4466 TODAY 4680 Time ______ FTG 214 FT/HR ______

OPERATION Drilling with Bit #14

BIT NO. 14 TYPE J-33H IN 4245 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 RPM 70 PP 850 SPM 60 LAG ______ @ ______

5½X16

MUD 4680 WT 8.9 VIS 50 WL 10.0 CK 2 PH 8.9 CL 425 ~~XXX~~/CA 200

SURVEYS 4670 - 5 3/4

4490 - 4 1/2

4608 - 6°

GEOLOGICAL

FORM TOPS ______

FORMATION Carmel

LITHOLOGY Various w/abn Anhy in alot of it

MUD GAS ______ TG ______ BACKGROUND 11

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 303-779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 35 DATE 18 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 4680 TODAY 4904 Time ______ FTG 224 FT/HR ______

OPERATION Drilling with Bit #14

BIT NO. 14 TYPE J-33H IN 4245 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40M RPM 70 PP 850 SPM ______ LAG ______ @ ______

MUD 4900 WT 8.9 VIS 44 WL 7.6 CK 2 PH 10.0 CL 500 ~~XXX~~/CA 40

SURVEYS 4763 - 5 1/2

4860 - 5 3/4

GEOLOGICAL

FORM TOPS ______

FORMATION Carmel

LITHOLOGY Intbdd Gry LS & limey sh

Top oolitic LS @ 4725

Tr Navajo 4899

MUD GAS ______ TG ______ BACKGROUND 11 1-2min/ft

Zone of Interest No. 1 Navajo 4899 @ 4920 To 40

Shows-Breaks ______

Depth	Lithology	HW	CI	C2	C3	C4	C5	Flou	Cut
	Before	16	tr	--	--	--	--	--	--
	During	19	tr	--	--	--	--	yel	yel w/ring
REMARKS:	After	13	tr						

SS wh, clr vf-fg subrdd pcem sli calc; abn w/brn stain 10% - 80% yel fluo

Moderate slo yel cut w/yel residue ring.

Called B.L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 36 DATE 19 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 4504 TODAY 4940 Time ______ FTG 36 FT/HR ______

OPERATION Lay down DST Tools

BIT NO. 14 TYPE HTC J-33H IN 4245 OUT 4940 FT. 695 HRS. 69½

BIT NO. 15 TYPE Sec M84F IN 4940 OUT ______ FT. ______ HRS. ______

WOB 40M RPM 70 PP 850 SPM ______ LAG ______ @ ______

MUD 4940 WT 8.9 VIS 44 WL 7.2 CK 2 PH 10.0 CL 450 ~~KCL~~/CA 40

SURVEYS 4920 - 5 3/4

GEOLOGICAL

FORM TOPS Navajo 4899

FORMATION ______

LITHOLOGY SS wh, clr - vf-fg subrdd. p-mcem calc.
10% w/brn stn; 80% yel fluo; moderate slo; yel cut w/yel residue ring
Rec DST #1 4896 - 4940

MUD GAS ______ TG ______ BACKGROUND 10 - 11

Zone of Interest No. 1 @ 4899 To 4940

Shows-Breaks 4920-40 before 6-8m/ft During 1½-2m/ft

Depth	Lithology	HW	CI	C2	C3	C4	C5	Flou	
	Before	16	tr						
	During	19	tr					yel	yel cut
	After	11	tr						

REMARKS:

DST #1 Flo petrol - Johnston, Vernal, Utah

Called Bob Lent @ 800-521-2429 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 37 DATE 20 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 4940 TODAY 5267 Time ______ FTG 327 FT/HR ______

OPERATION Drilling with Bit #15

BIT NO. 15 TYPE Sec M84F IN 4940 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 351 RPM 70 PP 900 SPM ______ LAG ______ @ ______

MUD 5257 WT 9.0 VIS 47 WL 6.8 CK 2 PH 9.0 CL 500 ~~FE~~/CA 160

SURVEYS 4963 - 5 1/2

4920 - 5 3/4

5154 - 4 1/2

GEOLOGICAL

FORM TOPS ______

FORMATION Navajo

LITHOLOGY SS lt org-wh vf-fg w/s mg msort subrdd - rdd.

Base of show Zone at approx. 4960 coincides w/color change from gry,

whss to lt org SS

MUD GAS ______ TG ______ BACKGROUND 6

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B. L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 38 DATE 21 June 84

COMPANY Chandler & Associates

WELL

LOCATION

DEPTH YEST. 5267 TODAY 5517 Time ____ FTG 250 FT/HR ____

OPERATION Drilling with Bit #15 (Stuck)

BIT NO. 15 TYPE Sec M84F IN 4950 OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB 40 RPM 70 PP 900 SPM ____ LAG ____ @ ____

MUD 5517 WT 9.1 VIS 48 WL 7.0 CK 2 PH 10.0 CL 475 ~~KE~~/CA 40

SURVEYS 5517 - 4 3/4

GEOLOGICAL

FORM TOPS Kayenta 5334, Wingate 5501

FORMATION

LITHOLOGY SS wh vf-fg mcons.

MUD GAS ____ TG ____ BACKGROUND 10

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks None

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS:

Called B.L. @ 800-521-2459 Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ____ SPUD ____ DAY 39 DATE 22 June 84

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. 5517 TODAY 5517 Time ____ FTG --- FT/HR ____

OPERATION Fishing on stuck drill collars

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB ____ RPM ____ PP ____ SPM ____ LAG ____ @ ____

MUD 5517 WT 9.0 VIS 50 WL 6.0 CK 2 PH 9.5 CL 500 ~~FE~~/CA 60

SURVEYS Spotted 70,000 ft3 N^2 - No

Success

GEOLOGICAL

FORM TOPS ____

FORMATION Wingate

LITHOLOGY Possible Backoff and washover

MUD GAS ____ TG ____ BACKGROUND --

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 40 DATE 23 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY 5517 Time ______ FTG ______ FT/HR ______

OPERATION After washing over 96.30 gallons - jarring on Fish

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 5517 WT 9.0 VIS 65 WL 6.4 CK 2 PH 9.5 CL 500 FE/CA 60

SURVEYS ______

GEOLOGICAL

FORM TOPS (5501)?

FORMATION Wingate(?)

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 41 DATE 24 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 5517 TODAY 5517 Time ______ FTG ______ FT/HR ______

OPERATION Fishing - washover; drill collars

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 5517 WT 90 VIS 65 WL 64 CK 2 PH 9.5 CL 500 ~~KCL~~ CA 60

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Washover & pull one D.C. (3 jts wash pipe) TIH w/5 jts washover pipe.

LITHOLOGY Do not get to fish; TOH, lay down two jts wash pipe.
TIH; washover

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: 6:00 a.m. Mon. Home

Called B.L. @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 42 DATE 25 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 5517 TODAY 5517 Time ______ FTG ______ FT/HR ______

OPERATION Fishing

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 5517 WT 9.0 VIS 62 WL 7.2 CK 2 PH 9.0 CL 500 ~~FE~~/CA 80

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Wash over to 5054; top of Fish 4958. P.O.O.H.; stand back, wash pipe.

LITHOLOGY P/I screw in sub. - TIH; screw in, attempt to back off.
Back off; (broke wire line) screw in, jar. Attempt back off (2 collars)broke at
screw in sub. Attempt back off (2 collars)- backed off, packed up 2 collars --

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: Loggers and Geo on stdby; 26 June

Called B.L. @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ________ SPUD ________ DAY 43 DATE 26 June 84

COMPANY ________

WELL ________

LOCATION ________

DEPTH YEST. ________ TODAY ________ Time ________ FTG ________ FT/HR ________

OPERATION ________

BIT NO. ____ TYPE ________ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ____ TYPE ________ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ________

GEOLOGICAL

FORM TOPS Standby

FORMATION ________

LITHOLOGY ________

MUD GAS ________ TG ____ BACKGROUND ________

Zone of Interest No. ________ @ ______ To ______

Shows-Breaks ________

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ________

Called ________ @ ________ Date ________

Geology ________ Logging ________ Mileage ________ Exp. ________

DAILY REPORT

TEMP ______ SPUD ______ DAY 44 DATE 27 June 84
COMPANY ______
WELL ______
LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______
OPERATION ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______
BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______
WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______
SURVEYS ______

GEOLOGICAL

FORM TOPS ______ Standby
FORMATION ______
LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______
Zone of Interest No. ______ @ ______ To ______
Shows-Breaks ______
Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______
Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 45 DATE 28 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS Standby

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 46 DATE 29 June 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS Standby

FORMATION Plug back well to 4415. Carmel; prepare to side track hole.

LITHOLOGY Plug down @ 5:30 a.m.; 29 June 84. Cemt w/1.65 sx light w/.75% CFR2 3% salt

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 47 DATE 30 June 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. ______ TODAY ______ Time ______ FTG ______ FT/HR ______

OPERATION Trip in hole to dress plug; top of plug @ 5517 - fish left @ 5517

BIT NO. 15 TYPE Sec M84F IN 4940 OUT 5517 FT. 577 HRS. 39

BIT NO. 16 TYPE Reed FP53F IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS 4575

GEOLOGICAL

FORM TOPS ______

FORMATION Carmel --

LITHOLOGY Trip in hole to dress plug.

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 48 DATE 1 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 4529 TODAY 4553 Time ______ FTG 24 FT/HR ______

OPERATION Begin side track #1 w/Dynadrill & Diamond Bit

BIT NO. 16 TYPE Reed FP53 IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. 17 TYPE Chris IN 4529 OUT ______ FT. ______ HRS. ______

WOB 5000 RPM ______ PP 850 SPM ______ LAG ______ @ ______

MUD 4548 WT 8.8 VIS 60 WL 6.8 CK 2 PH 10.5 CL 580 ~~XX~~/CA 36

SURVEYS (S73W) Orientation Survey to start side track #1; 1½ bent sub on bottom.

GEOLOGICAL

FORM TOPS ______

FORMATION Carmel

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND 7

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B. L. @ 779-0130 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 49 DATE 2 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 4553 TODAY 4615 Time ______ FTG ______ FT/HR ______

OPERATION Trip

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 4615 WT 8.7 VIS 43 WL 6 CK 2 PH 11.5 CL 500 PF/CA 32

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Carmel

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 50 DATE 3 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 4615 TODAY 4720 Time ______ FTG 105 FT/HR ______

OPERATION Drilling with Bit #18

BIT NO. 18 TYPE Reed FP539 IN 4615 OUT ______ FT. ______ HRS. ______

BIT NO. 17 TYPE Chris IN 4529 OUT 4615 FT. 86 HRS. 30

WOB 35 RPM 70 PP 650 SPM 60 LAG ______ @ ______

MUD 4710 WT 8.7 VIS 44 WL 6.4 CK 2 PH 11.5 CL 490 XX/CA 54

SURVEYS 4644 - 1 3/4 S11E 4519 - 5° S63W

4582 - 2 1/4 S38W 4494 - 5° S73W

4551 - 3 3/4 S54W

GEOLOGICAL

FORM TOPS ______

FORMATION Carmel

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND 25

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 303-863-9100 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 51 DATE 4 July 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 4720 TODAY 4888 Time ______ FTG 168 FT/HR ______

OPERATION Drilling with Bit #18

BIT NO. 18 TYPE Reed FP53 IN 4615 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 4879 WT 8.7 VIS 42 WL 6.2 CK 2 PH 12 CL 460 FE/CA 32

SURVEYS 4828 - 3 1/2 S26E

4737 - 3 1/4 S15E

4891 - 3 3/4 S24E

GEOLOGICAL

FORM TOPS Navajo 4896 (?) Minor reverse break possible --

FORMATION Carmel

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND 25

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 52 DATE 5 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 4888 TODAY 5192 Time ______ FTG 204 FT/HR ______

OPERATION Drilling with Bit #18

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 20 RPM 70 PP 700 SPM 60 LAG ______ @ ______

MUD 5180 WT 8.6+ VIS 48 WL 5.8 CK 2 PH 11.5 CL 450 FE/CA Tr

SURVEYS ______

GEOLOGICAL

FORM TOPS Navajo 4896

FORMATION Navajo

LITHOLOGY (Kayenta 5338) SS

MUD GAS ______ TG ______ BACKGROUND 30

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 53 DATE 6 July 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 5192 TODAY 5452 Time ______ FTG 260 FT/HR ______

OPERATION Drilling with Bit #18

BIT NO. 18 TYPE Reed FP53A IN 4615 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 20 RPM 70 PP 650/700 SPM ______ LAG ______ @ ______

MUD 5449 WT 9.0 VIS 46 WL 6.6 CK 2 PH 11.0 CL 550 ~~XX~~/CA 20

SURVEYS ______

GEOLOGICAL

FORM TOPS Kayenta 5338

FORMATION ______

LITHOLOGY 90% SS wh vffg

10% Sltsn & Sh; tr Anhy

Bgg - 1 Unit @ 6:00 a.m.

MUD GAS ______ TG ______ BACKGROUND 7

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: NOTE: changed out poly flow; found contamination in system was causing high back ground.

Called B.L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 54 DATE 7 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1 ST#1

LOCATION ______

DEPTH YEST. 5452 TODAY 5556 Time ______ FTG 104 FT/HR ______

OPERATION Drilling with Bit #19

BIT NO. 18 TYPE Reed FP53A IN 4615 OUT 5459 FT. 844 HRS. 84 3/4

BIT NO. 19 TYPE STC F-4 IN 5459 OUT ______ FT. ______ HRS. ______

WOB 35 RPM 70 PP 800 SPM ______ LAG ______ @ ______

MUD 5557 WT 9.0 VIS 47 WL 6.2 CK 2 PH 11.0 CL 550 ~~FE~~ XX/CA 40

SURVEYS 5420 - 3° S37W

GEOLOGICAL

FORM TOPS Wingate 5505 (?)

FORMATION Wingate

LITHOLOGY 100% SS wh, lt-org vf-fg w/s mg m-wcem vsli - non calc

MUD GAS ______ TG ______ BACKGROUND 6

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks NONE

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 55 DATE 8 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1 ST#1

LOCATION ______

DEPTH YEST. 5556 TODAY 5750 Time ______ FTG 194 FT/HR ______

OPERATION Drilling with Bit #19

BIT NO. 19 TYPE ST&C F-4 IN 5459 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 M RPM 70 PP 850 SPM 60 LAG ______ @ ______

MUD 5743 WT 9.1 VIS 52 WL 6.6 CK 2 PH 11 CL 550 ~~XXX~~ FE/CA 60

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Wingate

LITHOLOGY SS wh, lt-org vf-fg subang m-w cem; vsli - non calc.

MUD GAS ______ TG ______ BACKGROUND 6-9

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 56 DATE 9 July 84

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 5750 TODAY 5847 Time ______ FTG 97' FT/HR ______

OPERATION Drilling with Bit #20

BIT NO. 19 TYPE STC F-4 IN 5459 OUT 5835 FT. 376 HRS. 50½

BIT NO. 20 TYPE STC F-5 IN 5835 OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 950 SPM 60 LAG ______ @ ______

MUD 5845 WT 9.2 VIS 51 WL 7.2 CK 2 PH 10.0 CL 600 ~~xx~~/CA 80

SURVEYS 5803 - 3 1/2°

GEOLOGICAL

FORM TOPS Chinle 5823

FORMATION Chinle

LITHOLOGY Sh & Sltsn red-brn firm vsli non calc.

MUD GAS ______ TG ______ BACKGROUND 6-10

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 57 DATE 10 July 84

COMPANY Chandler & Associates

WELL Lawrence State 15-1

LOCATION ______

DEPTH YEST. 5847 TODAY 5995 Time ______ FTG 148 FT/HR ______

OPERATION Drilling with Bit #20

BIT NO. 20 TYPE STC F-5 IN 5835 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 900 SPM 60 LAG ______ @ ______

MUD 5993 WT 9.1 VIS 55 WL 7.0 CK 2 PH 10.5 CL 550 ~~KK~~/CA 50

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Chinle

LITHOLOGY Sh red-brn, varicolor firm slty vsli - non calc.

MUD GAS ______ TG ______ BACKGROUND 4

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called B.L. @ 800-521-2459 Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 58 DATE 11 July

COMPANY Chandler & Associates

WELL ______

LOCATION ______

DEPTH YEST. 5995 TODAY 6132 Time 137 FTG ______ FT/HR 6ft/min

OPERATION Trip for bit #21

BIT NO. 20 TYPE STC F-5 IN 5835 OUT 6132 FT. 297 HRS. 49

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 6131 WT 9.2 VIS 52 WL 6.8 CK 2 PH 10.0 CL 600 FE/CA 40

SURVEYS ______

GEOLOGICAL

FORM TOPS Shinarump 5978

FORMATION ______

LITHOLOGY SS wh, clr vf-mg p sort p-vw cem s/hd, sharp w/top 30' having 10-15% dead black stain w/v weak yel fluo & cut - show decreasing with depth below 6010 - No gas incr

MUD GAS ______ TG ______ BACKGROUND 6

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks 5978 As reported to B.L. on 10 July

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 59 DATE 12 July

COMPANY Chandler & Associates

WELL ______

LOCATION ______

DEPTH YEST. 6132 TODAY 6234 Time ______ FTG 102 FT/HR 6¼

OPERATION Drlg w/bit #21

BIT NO. 21 TYPE Reed FP62 IN 6234 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 45 RPM 60 PP ______ SPM ______ LAG ______ @ ______

MUD 62.33 WT 9.3 VIS 65 WL 6.4 CK 2+ PH 10 CL 550 ~~FE~~/CA 40

SURVEYS 1 3/4 @ 6132

GEOLOGICAL

FORM TOPS Moenkopi 6085

FORMATION Moenkopi

LITHOLOGY Shale brn-red varicolor non calc

MUD GAS ______ TG ______ BACKGROUND 04

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 60 DATE 12 July

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. 6234 TODAY 6423 Time ____ FTG 189 FT/HR ____

OPERATION Drilling with Bit #21

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB 45 RPM 60 PP ____ SPM ____ LAG ____ @ ____

MUD 6423 WT 9.1 VIS 49 WL 2.6 CK 2 PH 9.0 CL 500 FE/CA 140

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION Moenkoopi

LITHOLOGY Sh varicolor

MUD GAS ____ TG ____ BACKGROUND 3

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 61 DATE 14 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 6423 TODAY 6621 Time ______ FTG 198 FT/HR ______

OPERATION ______

BIT NO. 21 TYPE FP62 IN 6132 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 45 RPM 60 PP 900 SPM 60 LAG ______ @ ______

MUD ______ WT 9.1 VIS 44 WL 7.0 CK 2 PH 9.5 CL 500 ~~FE~~/CA 60

SURVEYS ______

GEOLOGICAL

FORM TOPS Green Sh 6450±

FORMATION Moenkopi

LITHOLOGY

6492-6500	Bg 5 - 11	
6532-34	4 - 7½	NO DRILL BREAKS
6574-84	4-17	
6602-14	5 -12	PROB. FRACTURE

MUD GAS ______ TG ______ BACKGROUND 6-7

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 62 DATE 15 July

COMPANY Chandler & Associates

WELL

LOCATION

DEPTH YEST. 6621 TODAY 6738 Time ______ FTG 117 FT/HR ______

OPERATION Trip for Bit #22 (Work on Drawworks)

BIT NO. 21 TYPE FP 62 IN 6132 OUT 6738 FT. 606 HRS. 79¼

BIT NO. 22 TYPE J33H IN 6738 OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 6738 WT 9.2 VIS 45 WL 6.6 CK 2 PH 10.0 CL 500 ~~PM~~ FE/CA 60

SURVEYS

GEOLOGICAL

FORM TOPS

FORMATION Moenkopi

LITHOLOGY "

MUD GAS ______ TG ______ BACKGROUND Tripping

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS:

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 63 DATE 16 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 6738 TODAY 6840 Time ______ FTG 102 FT/HR ______

OPERATION TIH w/DST #2 Halliburton

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT 9.2 VIS 47 WL 6.0 CK 2 PH 10.5 CL 600 FE/CA 20

SURVEYS 3¼ @ 6810

GEOLOGICAL

FORM TOPS Sinbad 6795

FORMATION ______

LITHOLOGY LS lt gry micro-vfxln ang dolomitic
microcucrosic w/drk brn-blk stain
vpoor weak yel cut w/vweak yellow fluo

MUD GAS ______ TG 6738 67 BACKGROUND ______

Zone of Interest No. 2 @ ______ To ______

Shows-Breaks 6795-6810

Depth	Lithology	HW	CI	C2	C3	C4	C5	Flou
	Before	17	1.3	trace				
	During	34	9.6	1.4	.6	tr?		
		14	1.3	tr				

REMARKS: ______

DST #2 6795-6840

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 64 DATE 17 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 6840 TODAY 6922 Time ______ FTG 82 FT/HR ______

OPERATION Drilling w/bit #23 RR#22

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 RPM 60 PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT 9.2 VIS 47 WL 6.0 CK 2 PH 10.5 CL 600 ~~FE~~/CA 20

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Sinbad

LITHOLOGY LS crm, ltgray microxlyn

MUD GAS ______ TG 45 BACKGROUND after trip

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 65 DATE 18 July

COMPANY Chander & Associates

WELL ______

LOCATION ______

DEPTH YEST. 6922 TODAY 7113 Time ______ FTG 191 FT/HR ______

OPERATION Drillingwith Bit # 23 RR#22

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 7110 WT 9.2 VIS 43 WL 6.0 CK 2 PH 9.0 CL 450 xFE/CA 40

SURVEYS ______

GEOLOGICAL

FORM TOPS Lower Moenkopi 6924

FORMATION Lower Moenkopi 6924

LITHOLOGY Siltstone wh, ltgry w/abn blk stn
No fluo, no cut

MUD GAS ______ TG ______ BACKGROUND 5

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 66 DATE 19 July

COMPANY

WELL

LOCATION

DEPTH YEST. 7224 TODAY 7113 Time ______ FTG 111 FT/HR ______

OPERATION DST #3

BIT NO. 23 TYPE 5-33H IN 6738 OUT 7224 FT. 486 HRS. 56½

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 45M RPM 65 PP 900 SPM 60 LAG ______ @ ______

MUD 7224 WT 9.3 VIS 48 WL 6.0 CK 2 PH 10.0 CL 500 FE/CA 50

SURVEYS 3° 7184

GEOLOGICAL

FORM TOPS Kaibab - 7130

FORMATION

LITHOLOGY LS lt gry slty sdy dolomitic
Dolo crm, wh cryptoxln - microxln
w/abn dead stn, no fluo, no cut SLM 7224=7220 4' uphole

MUD GAS ______ TG ______ BACKGROUND 10-12

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: open w/1/2" incr BOB in 2 min 82 psi

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 67 DATE 20 July

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. 7224 TODAY 7313 Time ____ FTG 89 FT/HR ____

OPERATION Drlg w/Bit # 24 SLM 7224=7220

BIT NO. 24 TYPE M89F IN 7220 OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB ____ RPM ____ PP ____ SPM ____ LAG ____ @ ____

MUD 7308 WT 9.2 VIS 43 WL 6.6 CK 2 PH 9.0 CL 525 ~~FE~~/CA 60

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION Toroweap 7260

LITHOLOGY SS wh, clr vf-mg p sort ang-subrdd, p-m cem sil-vsli calc
tr dead black oil stain no fluo no cut

MUD GAS ____ Following DST #3 TG 34 BACKGROUND 4-5

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks None

Depth ____ Lithology HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 68 DATE 21 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7313 TODAY 7363 Time ______ FTG 50 FT/HR ______

OPERATION Trip out w/magnet (lost 2 cones & tip of 3rd)

BIT NO. 24 TYPE M84F IN 7220 OUT 7363 FT. 143 HRS. 18

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 45 RPM 65 PP 900 SPM 60 LAG ______ @ ______

MUD 7363 WT 9.2 VIS 45 WL 6.8 CK 2 PH 9.5 CL 525 FE/CA 60

SURVEYS 7363 - 3°

GEOLOGICAL

FORM TOPS ______

FORMATION Toroweap

LITHOLOGY SS wh, clr vf-mg p sort ang-subrdd. p-m cem sil - vsl calc.
tr dead blk stn no fluo, no cut

MUD GAS ______ TG ______ BACKGROUND 4-5

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: Red 3 tip & 2 largecone ends- several bearings

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 69 DATE 22 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7363 TODAY 7440 Time ______ FTG 77 FT/HR ______

OPERATION Drlg w/ bit #26

BIT NO. 25 TYPE J55R IN 7363 OUT 7440 FT. 77 HRS. 12½

BIT NO. 26 TYPE J77 IN 7440 OUT ______ FT. ______ HRS. ______

WOB 45 RPM 50 PP 1000 SPM ______ LAG 100 @ 7411

MUD 7440 WT 9.3 VIS 47 WL 6.4 CK 2 PH 8.5 CL 500 ~~FE~~/CA 72

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Toroweap

LITHOLOGY SS wh, clr-fv-mg ang-subrdd hd tite sil-sli calc. tr gry Dolo

MUD GAS ______ TG ______ BACKGROUND 4-5

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 70 DATE 23 July,

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. ____ TODAY ____ Time ____ FTG ____ FT/HR ____

OPERATION ____

BIT NO. 27 TYPE FP83 IN 7503 OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB ____ RPM ____ PP ____ SPM ____ LAG ____ @ ____

MUD ____ WT ____ VIS ____ WL ____ CK ____ PH ____ CL ____ FE/CA ____

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION ____

LITHOLOGY ____

MUD GAS ____ TG ____ BACKGROUND ____

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW ____ CI ____ C2 ____ C3 ____ C4 ____ C5 ____ Flou ____

REMARKS: ____

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 71 DATE 24 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7503 TODAY 7581 Time ______ FTG 78 FT/HR ______

OPERATION Driling w/Bit #27

BIT NO. 27 TYPE FP83 IN 7503 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 45 RPM 50 PP 1000 SPM ______ LAG ______ @ ______

MUD 7525 WT 9.1 VIS 47 WL 5.6 CK 1 PH 10.0 CL 400 ~~FE~~/CA 40

SURVEYS 2½ 7503

GEOLOGICAL

FORM TOPS ______

FORMATION Toroweap

LITHOLOGY SS wh, clr

MUD GAS ______ TG ______ BACKGROUND 5

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 72 DATE 25 July

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. 7581 TODAY 7645 Time ____ FTG 64 FT/HR ____

OPERATION Drlg w/bit #28

BIT NO. 27 TYPE FP83 IN 7503 OUT 7615 FT. 112 HRS. 18½

BIT NO. 28 TYPE H100F IN 7615 OUT ____ FT. ____ HRS. ____

WOB 45 RPM 50 PP 900 SPM ____ LAG ____ @ ____

MUD 7640 WT 9.2 VIS 45 WL 5.6 CK 2 PH 10.0 CL 400 FE/CA 36

SURVEYS 2° 7596

GEOLOGICAL

FORM TOPS ____

FORMATION Toroweap

LITHOLOGY SS wh, clr vf-mg w/s cg pred hd, tite sil w/s cg rdd clr frstd lse

MUD GAS ____ TG ____ BACKGROUND 8

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS:

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 73 DATE 26 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7645 TODAY 7717 Time ______ FTG 72 FT/HR ______

OPERATION Drlg w/Bit #29

BIT NO. 28 TYPE H100F IN 7615 OUT 7704 FT. 89 HRS. 18

BIT NO. 29 TYPE Reed HPH IN 7704 OUT ______ FT. ______ HRS. ______

WOB 45 RPM 40/50 PP 1000 SPM ______ LAG ______ @ ______

MUD 7712 WT 9.1 VIS 44 WL 5.6 CK 2 PH 10.5 CL 400 ~~FE~~/CA tr

SURVEYS 1 3/4 7676

GEOLOGICAL

FORM TOPS ______

FORMATION Toroweap

LITHOLOGY SS wh, clr

MUD GAS ______ TG 13 BACKGROUND 6

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 74 DATE 27 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7717 TODAY 7782 Time ______ FTG ______ FT/HR ______

OPERATION Drlg w/Bit #30

BIT NO. 30 TYPE FP62 IN 7779 OUT ______ FT. ______ HRS. ______

BIT NO. 29 TYPE HPH IN 7707 OUT 7779 FT. 75 HRS. 19½

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 7779 WT 9.0 VIS 46 WL 6.0 CK 2 PH 10.5 CL 500 ~~FE~~/CA 400

SURVEYS 1¼ 7779

2 7596

GEOLOGICAL

FORM TOPS ______

FORMATION Elephant Canyon 7708

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND tr-1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ____ SPUD ____ DAY 75 DATE 28 July

COMPANY ____

WELL ____

LOCATION ____

DEPTH YEST. 7782 TODAY 7905 Time ____ FTG 123 FT/HR ____

OPERATION Drlg w/Bit #30

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

BIT NO. ____ TYPE ____ IN ____ OUT ____ FT. ____ HRS. ____

WOB 45 RPM 45/50 PP 1000 SPM 60 LAG 86 @ 7698

MUD 7900 WT 9.1 VIS 43 WL 5.6 CK 2 PH 10.5 CL 500 ~~FE~~/CA 52

SURVEYS ____

GEOLOGICAL

FORM TOPS ____

FORMATION Elephant Canyon

LITHOLOGY ____

MUD GAS ____ TG ____ BACKGROUND 2-3

Zone of Interest No. ____ @ ____ To ____

Shows-Breaks ____

Depth ____ Lithology ____ HW CI C2 C3 C4 C5 Flou

REMARKS: ____

Called ____ @ ____ Date ____

Geology ____ Logging ____ Mileage ____ Exp. ____

DAILY REPORT

TEMP ______ SPUD ______ DAY 76 DATE 29 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7905 TODAY 7998 Time ______ FTG 93 FT/HR ______

OPERATION Drlg w/Bit #31

BIT NO. 30 TYPE FP62B IN 7779 OUT 7945 FT. 166 HRS. 30½

BIT NO. 31 TYPE FP62B IN 7945 OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 1200 SPM ______ LAG ______ @ ______

MUD 7981 WT 9.1 VIS 43 WL 5.8 CK 2 PH 11.0 CL 500 ~~FE~~/CA 32

SURVEYS 7893 1 3/4

GEOLOGICAL

FORM TOPS ______

FORMATION Elephant Canyon

LITHOLOGY Dolo crm, pk cryptosln-microxln hd dense, sdy in pt, silty in part w/Anhy incl Anhy wh, pk soft calc. Sh pale grn-gry firm splntry-blocky sli calc

MUD GAS ______ TG ______ BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 77 DATE 30 July

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 7998 TODAY 8175 Time ______ FTG 177 FT/HR ______

OPERATION Drlg w/Bit #31

BIT NO. 31 TYPE FP62B IN 7945 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 1200 SPM 60 LAG ______ @ ______

MUD 8168 WT 9.2 VIS 56 WL 6.8 CK 2 PH 10.5 CL 800 ~~FE~~/CA ;--

SURVEYS ______

GEOLOGICAL

FORM TOPS Mississippian 8048 (Deseret)

FORMATION ______

LITHOLOGY Dolo lt tan-buff microxln hd, dense w/tan, cht incl tr anhy

MUD GAS ______ TG ______ BACKGROUND tr-1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 78 DATE 31 July

COMPANY Chandler & Associates

WELL LS 15-1

LOCATION ______

DEPTH YEST. 8175 TODAY 8300 Time ______ FTG 125 FT/HR ______

OPERATION Drlg w/Bit #32

BIT NO. 31 TYPE FP 62B IN 7945 OUT 8280 FT. 335 HRS. 46 3/4

BIT NO. 32 TYPE HPM IN 8280 OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 1200 SPM 60 LAG ______ @ ______

MUD 8280 WT 9.2 VIS 42 WL 6.8 CK 2 PH 10.2 CL 800 ~~FE~~/CA 40

SURVEYS 1½ 8268

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY Dolo lt tan-tan microxln hd, dnse tr poor interxln porosity
Tr gry-grn sh in 8270-80 spl
8280-90

MUD GAS ______ TG 1 BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 79 DATE 1 Aug.

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 8300 TODAY 8465 Time ______ FTG 165 FT/HR ______

OPERATION Trip for DST #5 8402-8465

BIT NO. 32 TYPE HPM IN 8280 OUT 8465 FT. 185 HRS. 15

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 8465 WT 9.2 VIS 51 WL 6.0 CK 2 PH 10.5 CL 800 ~~FE~~/CA 40

SURVEYS SLM 8.44

8466 = 8474 Downhole correction

GEOLOGICAL

FORM TOPS ______

FORMATION Mississippian - Deseret

LITHOLOGY Dolo lt tan-mbrn microxln-vfxln w/tr xln porosity and .5mm frct porosity

MUD GAS ______ TG ______ BACKGROUND 1-5

Zone of Interest No. 5 @ 8400 To 8465

Shows-Breaks ______

Depth	Lithology	HW	CI	C2	C3	C4	C5	Flou	CO2
		18	tr	tr				tr min	1.2

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 80 DATE 2 Aug

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 8465 TODAY 8530 Time ______ FTG 65 FT/HR 4-5 m/ft

OPERATION Drlg w/Bit #33

BIT NO. 33 TYPE SEC M89F IN 8468 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD 8519 WT 9.3 VIS 49 WL 5.6 CK 1 PH 10.0 CL 800 FE/CA 50

SURVEYS ¼ @ DST trip

GEOLOGICAL

FORM TOPS ______

FORMATION Deseret - Mississippian

LITHOLOGY Dolo lt tan cryptoxln - microxln

MUD GAS ______ TG 8 BACKGROUND 12

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 81 DATE 3 Aug.

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 8530 TODAY 8828 Time ______ FTG 298 FT/HR ______

OPERATION Drlg w/Bit #33

BIT NO. 33 TYPE SEC M89F IN 8465 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 1200 SPM ______ LAG ______ @ ______

MUD 8814 WT 9.2 VIS 58 WL 2.8 CK 2 PH 9.5 CL 1000 FE/CA 80

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Deseret - Miss. -

LITHOLOGY Dolo tan-lt brn - microxln v chty

MUD GAS ______ TG ______ BACKGROUND 3

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ________ SPUD ________ DAY 82 DATE 4 Aug.

COMPANY ________

WELL ________

LOCATION ________

DEPTH YEST. 8828 TODAY 8946 Time ________ FTG 118 FT/HR ________

OPERATION Drlg w/Bit #34

BIT NO. 33 TYPE Sec M89F IN 8465 OUT 8842 FT. 377 HRS. 30

BIT NO. 34 TYPE SEC 89F IN 8842 OUT ________ FT. ________ HRS. ________

WOB 40 RPM 55 PP 1200 SPM 60 LAG 109 @ 8907

MUD 8937 WT 9.2 VIS 55 WL 6.8 CK 2 PH 11.0 CL 90 ~~FE~~/CA 40

SURVEYS 1 3/4 8831

GEOLOGICAL

FORM TOPS ________

FORMATION Miss. - Deseret

LITHOLOGY Dolo tan-lt brn microxln hd, dnse Cherty s/crm vfxln Anhydritic

MUD GAS ________ TG 9 BACKGROUND 3

Zone of Interest No. ________ @ ________ To ________

Shows-Breaks ________

Depth ________ Lithology ________ HW CI C2 C3 C4 C5 Flou

REMARKS: ________

Called ________ @ ________ Date ________

Geology ________ Logging ________ Mileage ________ Exp. ________

DAILY REPORT

TEMP ______ SPUD ______ DAY 83 DATE 5 Aug.

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 8946 TODAY 9195 Time ______ FTG 250 FT/HR 6-7

OPERATION Drlb w/Bit #34

BIT NO. 34 TYPE Sec M89F IN 8842 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 40 RPM 55 PP 1200 SPM ______ LAG ______ @ ______

MUD 9195 WT 9.3 VIS 46 WL 7.4 CK 1 PH 9.5 CL 900 FE/CA 30

SURVEYS

8831 - 1 3/4	7893 - 1 3/4	7596 - 2
8465 - 1/4	7779 - 1 1/4	7503 - 2 ½
8268 - 1 1/4	7676 - 1 3/4	7363 - 3

GEOLOGICAL

FORM TOPS ______

FORMATION Miss - Deseret?

LITHOLOGY Dolo tan-lt brn vfxln-fxln; crm-vlt tan, vf-mxln dnse w/tr vuggy porosity abn Anhy incl; tr Cht incl in darker Dolo

Spls started change to coarser texture @ 8990-9000 possible Lower Miss. Gardison @ 8995. No black Shale marker at base of Deseret was noted.

MUD GAS ______ TG ______ BACKGROUND 3

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks None

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 84 DATE 6 Aug.

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 9196 TODAY 9317 Time ______ FTG 121 FT/HR 12-15 m/ft

OPERATION Drlg w/bit #33

BIT NO. 34 TYPE SEC M89F IN 8842 OUT 9301 FT. 459 HRS. 46

BIT NO. 35 TYPE M90F IN 9301 OUT ______ FT. ______ HRS. ______

WOB 45 RPM 55 PP 120 SPM 60 LAG ______ @ ______

MUD 9312 WT 9.3 VIS 49 WL 6.8 CK 1 PH 9.5 CL 900 ~~FE~~/CA 60

SURVEYS 3/4 - 9271

GEOLOGICAL

FORM TOPS Dev - Ouray 9297

FORMATION Ouray

LITHOLOGY 95% Dolo crm microxln hd, dnse

05% Sh gry, gry-grn, maroon pastel waxy

MUD GAS ______ TG 2 BACKGROUND 1

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 85 DATE 7 Aug.

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 9317 TODAY 9470 Time ______ FTG 153 FT/HR ______

OPERATION Drlg w/bit #35

BIT NO. 35 TYPE M90F IN 9301 OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB 45 RPM 55 PP 120 SPM 60 LAG 105 @ 9402

MUD 9463 WT 9.2 VIS 46 WL 6.8 CK 1 PH 10.5 CL 900 ~~FE~~/CA 20

SURVEYS ______

GEOLOGICAL

FORM TOPS Maxfield 9323

FORMATION ______

LITHOLOGY Dolo crm-lt tan, dk gry-brn

Sh gry, gry-grn scant tr vfg glauc SS begin @ 9370

MUD GAS ______ TG ______ BACKGROUND 3

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ________ SPUD ________ DAY 86 DATE 8 Aug

COMPANY ________

WELL ________

LOCATION ________

DEPTH YEST. 9470 TODAY 9698 Time ________ FTG 228 FT/HR ________

OPERATION Drlg w/Bit #35

BIT NO. 35 TYPE M90F IN 9301 OUT ________ FT. ________ HRS. ________

BIT NO. ________ TYPE ________ IN ________ OUT ________ FT. ________ HRS. ________

WOB 45 RPM 40/55 PP 1200 SPM 60 LAG ________ @ ________

MUD 9689 WT 9.3 VIS 50 WL 6.6 CK 1 PH 10.5 CL 900 ~~FE~~/CA 20

SURVEYS ________

GEOLOGICAL

FORM TOPS ________

FORMATION Maxfield

LITHOLOGY Dolo wh, crm, lt tan vf-fxl microsucrosi w/tr pk Limey Anhy incl

NO SHOWS OF HYDROCARBONS

MUD GAS ________ TG ________ BACKGROUND 2

Zone of Interest No. ________ @ ________ To ________

Shows-Breaks ________

Depth ________ Lithology ________ HW CI C2 C3 C4 C5 Flou

REMARKS: TD 9728 9:00 A.M.

Called ________ @ ________ Date ________

Geology ________ Logging ________ Mileage ________ Exp. ________

DAILY REPORT

TEMP ______ SPUD ______ DAY 87 DATE 9 Aug. 1984

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 9698 TODAY 9728 Time ______ FTG 30 FT/HR ______

OPERATION TD 9728

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ FE/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION Ophir

LITHOLOGY Dresser Atlas - Craig Miller Engr.

Run #1 DLL/FDC/GR GR failure

Run #2 FDC /CNL matrix change @ 6750 4880 @ 6:00 A.M. TD 9735

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: ______

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

DAILY REPORT

TEMP ______ SPUD ______ DAY 88 DATE 10 Aug.,

COMPANY ______

WELL ______

LOCATION ______

DEPTH YEST. 9728 TODAY 9728 Time ______ FTG ______ FT/HR ______

OPERATION ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

BIT NO. ______ TYPE ______ IN ______ OUT ______ FT. ______ HRS. ______

WOB ______ RPM ______ PP ______ SPM ______ LAG ______ @ ______

MUD ______ WT ______ VIS ______ WL ______ CK ______ PH ______ CL ______ ~~FE~~/CA ______

SURVEYS ______

GEOLOGICAL

FORM TOPS ______

FORMATION ______

LITHOLOGY ______

MUD GAS ______ TG ______ BACKGROUND ______

Zone of Interest No. ______ @ ______ To ______

Shows-Breaks ______

Depth ______ Lithology ______ HW CI C2 C3 C4 C5 Flou

REMARKS: Run E logs w/Dresser Atlas - Charter flight packages to Denver as per instructions. Receive plugging orders from Utah State Officials

Called ______ @ ______ Date ______

Geology ______ Logging ______ Mileage ______ Exp. ______

CHANDLER & ASSOCIATES
LAWRENCE STATE 15-1
Emery County, Utah

Begin Sample Descriptions @ 0038
in Blue Gate Shale

0032-	40	100%	Shale, dark gray firm blocky calcareous, very silty with some grading to Siltstone. Trace very fine grain, very silty light tan Sandstone. Trace light brown microcrystalline Limestone nodules.
40-	50	100%	Shale as above.
50-	60	100%	Shale as above with slight thin light tan Siltstone interlaminations; trace Limestone nodules as above.
60-	70	100%	Shale dark gray - dark gray brown, very silty firm calcareous.
70-	80	100%	Shale as above, trace fossil fragments.
80-	90	100%	Shale as above.
90-	0100	No Sample	Shaker by-passed.
100-	110	No Sample	Shaker by passed.
110-	120	100%	Shale, dark gray firm, slight calcareous.
120-	30	100%	Shale as above, trace fossil fragments.
130-	40	100%	Shale as above.
140-	50	100%	Shale as above.
150-	60	100%	Shale as above.
160-	70	100%	Shale as above.
170-	80	100%	Shale as above, trace fossil fragments
180-	90	100%	Shale as above.
190-	200	100%	Shale as above.
200-	10	100%	Shale, dark gray, dark gray-brown firm, slighty calcareous, trace fossil fragments. Trace light tan Siltstone interlaminations.
10-	20	100%	Shale as above.

20-	30	100%	Shale as above.
30-	40	100%	Shale as above.
40-	50	100%	Shale as above.
50-	60	100%	Shale as above with decreasing silty interlaminations.
60-	70	100%	Shale, dark gray, firm blocky, slightly calcareous.
70-	80	100%	Shale as above.
80-	90	100%	Shale as above, trace fossil fragments.
90-	300	100%	Shale as above.
300-	10	100%	Shale as above.
10-	20	100%	Shale as above, trace fossil fragments.
20-	30	100%	Shale as above, trace Bentonite, white soft
30-	40	100%	Shale as above.
40-	50	100%	Shale as above.
50-	60	100%	Shale as above.
60-	70	100%	Shale as above.
70-	80	100%	Shale as above. Trace fossil fragments, trace light green Bentonite.
80-	90	100%	Shale as above.
90-	400	100%	Shale as above.
400-	10	100%	Shale, dark gray, firm blocky, slightly calcareous, trace fossil fragments.
10-	20	100%	Shale as above.
20-	30	100%	Shale as above.
30-	40	100%	Shale as above.
440-	50	No sample. Shaker by-passed.	
50-	60	100%	Shale as above, some becoming gray-brown silty.
60-	70	100%	Shale as above.
70-	80	100%	Shale as above.

80-	90	100%	Shale as above.
90-	500	100%	Shale as above, trace fossil fragments.
500-	10	100%	Shale dark gray, some dark gray-brown blocky, silty, calcareous with trace fossil fragments.
10-	20	100%	Shale as above.
20-	30	100%	Shale as above.
30-	40	100%	Shale as above.
40-	50	100%	Shale as above.
50-	60	100%	Shale as above.
60-	70	100%	Shale as above, trace fossil fragments.
70-	80	100%	Shale as above.
80-	90	100%	Shale as above.
90-	600	100%	Shale as above.
600-	10	100%	Shale dark gray, firm blocky, silty, calcareous with trace fossil fragments.
10-	20	100%	Shale as above.
20-	30	100%	Shale as above.
30-	40	100%	Shale as above.
40-	50	100%	Shale as above.
50-	60	100%	Shale as above.
60-	70	100%	Shale as above.
70-	80	100%	Shale as above.
80-	90	100%	Shale as above.
690-	700	100%	Shale as above.
700-	10	100%	Shale as above.
10-	20	100%	Shale as above.
20-	30	100%	Shale as above.
30-	40	No Sample.	Shaker by-passed. Lost circulation @ 729.
40-	50	No Sample.	Shaker by passed.

50-	60	100%	Shale as above. Abundant Lost Circulation Material.
60-	70	100%	Shale as above. Abundant Lost Circulation Material.
70-	80	No Sample. Shaker by-passed.	
80-	90	100%	Shale as above.
90-	800	100%	Shale as above.
800-	10	100%	Shale as above.
10-	20	100%	Shale as above.
20-	30	100%	Shale, dark gray firm blocky, silty, calcareous with trace fossil fragments.
30-	40	100%	Shale as above.
40-	50	100%	Shale as above.
50-	60	100%	Shale, dark gray, firm, silty, calcareous, trace fossil fragments. Abundant Lost Circulation Material contamination.
60-	70	100%	Shale as above.
70-	80	100%	Shale as above. (Losing Returns)
80-	90	100%	Shale as above. Abundant Lost Circulation Material.
90-	900	100%	Shale as above.
900-	10	No Sample. Shaker by-passed.	
10-	20	90%	Shale, medium gray, firm, very silty, with some Siltston interlams. Calcareous.
		10%	Siltstone, light gray firm, calcareous.
20-	30	90%	Shale, light-medium gray, very silty as above.
		10%	Siltstone as above. Some grading to very fine Sandstone.
30-	40	90%	Shale as above.
		10%	Siltstone as above.

40- 50	70%	Shale, light-medium gray, firm, very silty, calcareous.
	20%	Siltstone, light-medium gray, firm calcareous.
	10%	Sandstone, light gray, light gray-brown, silty, firm, calcareous.
50- 60	70%	Shale as above.
	10%	Sandstone as above.
	20%	Siltstone as above.
60- 70	90%	Shale as above becoming medium-dark gray.
	10%	Sandstone gray-brown very fine-fine grain, subangular-subround. Medium cemented, calcareous.
70- 80	50%	Shale as above.
	50%	Sandstone tan to gray-brown very fine-fine grain, sub-angular-sub-round, predominately firm with some friable. Calcareous with white clay matrix. Abundant mineral inclusions.
80- 90	40%	Shale as above.
	60%	Sandstone as above.
90-1000	30%	Shale as above.
	70%	Sandstone as above.
1000-1010	40%	Shale, dark-medium gray, firm silty calcareous.
	60%	Sandstone becoming very light tan-light gray, very fine-fine grain with trace medium grained, sub-angular - sub-round, medium-well cemented, calcareous, abundant dark mineral inclusions.
1010-1020	30%	Shale as above.
	70%	Sandstone as above becoming predominately light gray-brown, very fine grain, medium-well cemented.
1020-1030	30%	Shale as above.
	70%	Sandstone as above, light gray-brown-white, very fine grain-fine grain.

1030-1040	50%	Shale as above.
	50%	Sandstone as above.
1040-1050	95%	Shale as above. Some very silty grading to Siltstone.
	5%	Sandstone as above.
1050-1060	80%	Shale, medium gray, firm, silty, very slightly calcareous with trace fossil fragments.
	20%	Siltstone, light-medium gray, firm slightly calcareous. Trace Sandstone, light gray, very fine grain, very well cemented, slightly calcareous.
1060-1070	20%	Shale as above.
	60%	Siltstone as above.
	20%	Sandstone as above with some very fine-fine grain, sub-round moderately cemented.
1070-1080	30%	Shale as above.
	50%	Siltstone as above.
	20%	Sandstone as above.
1080-1090		Very poor sample. Predominately Lost Circulation Material.
1090-1100	20%	Shale, medium-dark gray as above.
	50%	Siltstone as above.
	30%	Sandstone as above. Trace coal.
1100-1110	20%	Shale medium gray-brown, firm, very silty, calcareous.
	70%	Siltstone, light-medium gray-brown, firm calcareous.
	10%	Sandstone light gray-white, very fine-fine grained, moderately cemented, some very silty calcareous. Trace dead brown stain.
1110-1120	10%	Shale as above.
	30%	Siltstone as above.
	60%	Sandstone as above, predominately very fine grain grading to Siltstone.

1120-1130	20%	Siltstone as above.
	80%	Sandstone, light gray, very fine grain as above. Trace Shale as above.
1130-1140	10%	Shale as above.
	20%	Silstone as above.
	70%	Sandstone as above, predominately very fine grain well cemented, calcareous.
1140-1150	20%	Siltstone as above.
	80%	Sandstone as above. Trace Shale as above.
1150-1160	100%	Sandstone, light gray, light gray-brown, very fine grain, sub-round. Well sort, well cem. slightly calcareous. Trace Siltstone as above. Trace Shale as above.
1160-1170	80%	Sandstone as above with trace dead brown stain.
	20%	Siltstone as above. Trace shale as above.
1170-1180	70%	Sandstone as above.
	30%	Siltstone as above. Trace Shale as above.
1180-1190	40%	Sandstone, light-medium gray, very fine grain as above.
	60%	Siltstone as above. Trace common Shale, dark gray firm, silty.
1190-1200	60%	Siltstone
	30%	Sandstone as above.
	10%	Shale as above.
1200-1210	20%	Sandstone, light gray, very fine grain grading to Siltstone , well cemented, calcareous with trace coal interlaminations.
	20%	Siltstone, light gray moderately cemented, calcareous some very shaley.
	60%	Shale, light-medium gray with some dark gray firm, blocky, silty calcareous.

1210-1220	10%	Sandstone as above.
	20%	Siltstone as above.
	70%	Shale as above.
1220-1230	10%	Sandstone as above.
	10%	Siltstone as above.
	80%	Shale as above with increasing dark gray
1230-1240	10%	Siltstone as above.
	90%	Shale, predominately dark gray, firm blocky, very silty, calcareous. Trace Sandstone as above.
1240-1250		No Sample. Shaker by-passed.
1250-1260	100%	Shale, predominately dark gray with some medium gray, firm block, very silty, calcareous. Trace Siltstone as above. Trace Sandstone as above. (Cavings?).
1260-1270	100%	Shale as above. Trace Siltstone as above. Trace Sandstone as above (cavings?)
1270-1280	100%	Shale as above with trace Siltstone and Sandstone cavings as above.
1280-1290	100%	Shale as above. Trace Sandstone, light gray, fine-medium grained with Glauconite inclusions. Trace Siltstone, light-medium gray, very shaley.
1290-1300		No Sample. Shaker by-passed.
1300-1310		No Sample. Shaker by-passed.
1310-1320	100%	Shale as above. Very poor sample. Abundant LCM contamination - abundant cavings. Trace Bentonite, white, soft with brown micaceous inclusions.
1320-1330	100%	Shale as above, some very silty. Trace-common Bentonite, white, soft with brown micaeous inclusions.
1330-1340	100%	Shale, dark gray, firm, blocky some very silty grading to Siltstone. Trace common Bentonite white, soft with green micaeous inclusions.
1340-1350	100%	Shale as above. Abundant LCM contamination.
1350-1360	100%	Shale as above.

1360-1370	100%	Shale as above, some with clear quartz green inclusions, some very silty grading to Siltstone.
1370-1380	100%	Shale as above.
1380-1390	100%	Shale as above.
1390-1400	100%	Shale as above.
1400-1410	100%	Shale as above.
1410-1420	100%	Shale as above, trace light gray Siltstone, hard, tight.
1420-1430	100%	Shale medium-dark gray, firm blocky, silty, calcareous.
1430-1440	100%	Shale as above.
1440-1450	100%	Shale as above.
1450-1460	100%	Shale as above, trace light gray Siltstone.
1460-1470	100%	Shale as above.
1470-1480	100%	Shale as above.
1480-1490	100%	Shale as above.
1490-1500	100%	Shale as above.
1500-1510	100%	Shale, dark-medium gray firm, silty, blocky calcareous. Trace light gray Siltstone.
1510-1520	100%	Shale as above. LCM contamination.
1520-1530	100%	Shale as above, trace Siltstone as above.
1530-1540	100%	Shale as above.
1540-1550	100%	Shale as above.
1550-1560	100%	Shale as above, trace Bentonite, light tan, soft.
1560-1570	100%	Shale as above, trace Bentonite, light tan, soft.
1570-1580	100%	Shale as above. Siltstone, gray soft, bentonitic.
1580-1590	100%	Shale as above. Siltstone, light gray, soft, bentonitic.

1590-1600	100%	ale becoming predominatel medium gray, very silty some soft bentonitic, some with trace very fine-fine grain with round quartz grain inclusions. Trace-common Bentonite, very light brown, soft.
1600-1610	90%	Shale as above, some very silty, some very sandy.
	10%	Sandstone, clear, white, very fine-fine grain, sub-angular, predominately loose grains.
1610-1620	90%	Shale as above, some grading to Siltstone.
	10%	Sandstone as above.
1620-1630	100%	Shale as above. Trace-common loose quartz grains.
1630-1640	100%	Shale, predominately medium gray with some dark gray firm blocky calcareous, very silty; some grading to Siltstone, some very sandy.
1640-1650	90%	Shale as above.
	10%	Sandstone as above with some light gray very fine-fine grain well cemented, calcareous, silty; trace weak yellow fluorescence; trace pale milky yellow cut. Trace brown siltstone.
1650-1660	70%	Shale medium gray, very silty as above. Some light gray bentonitic.
	30%	Sandstone, light gray very fine grain, very silty.
1660-1670	60%	Shale medium gray very silty as above with common light gray soft bentonitic; trace common light gray-brown Bentonite.
	40%	Sandstone white, light tan very fine-medium grain, medium sort, medium cemented. Calcareous with white clay matrix.
1670-1680	40%	Shale, predominately light gray-green, soft, bentonitic with abundant medium gray-dark gray very silty firm blocky, calcareous.
	60%	Sandstone as above with abundant loose grains.

1680-1690	60%	Shale as above.
	40%	Sandstone as above, some very well cemented. Driller's TD 1689 SLM 1686 Logger's TD 1684 Circulate samples, prepare to run Electrical Logs - Dresser Atlas. Prepare to open hole to 17 1/2" and Run 13 3/8" Casing.
1690-1700		Very poor sample. Predominately cement.
1700-1710	80%	Sandstone white, clear, very light tan, very fine-fine grain, medium sort, sub-angular, well cemented, calcareous with some white clay matrix. NSOFC
	20%	Shale, medium gray firm, blocky, silty calcareous, abundant very pale green-white soft, bentonitic. Abundant cement contamination.
1710-1720	60%	Sandstone as above.
	40%	Shale as above becoming predominately pale pastel gray-green bentonitic, arenaceous non-calcareous. Trace common Limestone medium-dark gray microcrystalline, hard, dense very silty (stringers and nodules).
1720-1730	80%	Shale as above some with very thin white Siltstone interbeds.
	20%	Sandstone as above becoming predominately very fine grain, grading to Siltstone. Trace Pyrite.
1730-1740	90%	Shale pale green-gray soft-firm bentonitic, arenaceous in part with thin white Siltstone interbeds. Trace dark gray silty micritic Limestone nodules.
	10%	Sandstone white very fine grain sub-angular poor-medium cement, some grading to Siltstone. Trace Limestone nodules as above.
1740-1750	80%	Shale as above.
	20%	Sandstone as above some very silty, trace common Limestone as above.

1750-1760	80%	Shale, pale gray-green to very light cream. Soft-firm blocky, silty in part, bentonitic; some medium gray silty limey.
	20%	Sandstone very light tan very fine grain very silty thinly interbedded with above shale. Trace common Limestone medium-dark gray very silty micrite nodules and interlaminations.
1760-1770	90%	Shale as above with trace Pyrite.
	10%	Limestone as above, trace Sandstone very silty as above.
1770-1780	100%	Shale as above. Some very silty thin interlaminations.
1780-1790	80%	Shale green-gray some very pale pastel green, some medium gray with trace maroon cast. Trace orange chert inclusions.
	20%	Sandstone, light gray-brown, light gray, tan, very fine-fine grain with trace medium grain, poor-medium sort predominately subangular, poor-medium cement, calcareous, some with abundant green nodular inclusions (Glauconite). Trace Pyrite.
1790-1800	80%	Shale as above.
	20%	Sandstone as above with some very light gray-green glauconitic. Trace Pyrite.
1800-1810	90%	Shale green-gray bentonitic with abundant red-brown firm, blocky, silty, non-calcareous to very slightly calcareous; abundant dark red-gray to maroon firm, slightly calcareous.
	10%	Sandstone, light tan, very fine grain friable, some light gray-green Glauconitic. Abundant LCM contamination.
1810-1820	90%	Shale, predominately light green-gray bentonitic with abundant red-brown silty, maroon silty.
	10%	Sandstone as above with increasing light gray-green Glauconitic.
1820-1830	100%	Shale as above, predominately green-gray with abundant red-brown and maroon. Trace common Sandstone as above.
1830-1840	100%	Shale as above with trace Siltstone interlaminations some becoming arenaceous.
1840-1850	100%	Shale as above.

1850-1860	100%	Shale predominately very light gray-green firm-soft, noncalcareous-very slightly calcareous with trace common red-brown silty, very slightly-noncalcareous. Common Limestone cream-medium gray cryptocrystalline silty dense nodules.
1860-1870	90%	Shale as above.
	10%	Limestone as above.
1870-1880	90%	Shale as above with increasing red-brown, maroon bentonitic some silty. Trace very thin Siltstone interlaminations.
	10%	Limestone as above.
1880-1890	90%	Shale as above.
	10%	Limestone as above.
1890-1900	100%	Shale predominately very light green-gray with some red-brown thin Sandstone, very fine grain laminations. Trace Limestone nodules as above.
1900-1910	80%	Shale very pale green-gray soft-firm bentonitic, arenaceous in part, noncalcareous; some red mottled.
	10%	Sandstone white, very fine-fine grained, medium sort, subangular calcareous with white clay matrix.
	10%	Limestone white, light cream cryptocrystalline, dense, trace Pyrite inclusions in Shale, Sandstone.
1910-1920	70%	Shale as above with some red, maroon, mottled.
	10%	Sandstone as above.
	20%	Limestone as above.
1920-1930	70%	Shale as above.
	10%	Sandstone as above some with green glauconitic inclusions.
	20%	Limestone as above.
1930-1940	20%	Shale as above with increasing dark red-brown, maroon arenaceous noncalcareous.
	10%	Sandstone as above some very well cemented.
	10%	Limestone as above thinly interbedded.

1940-1950	80%	Shale as above some varicolored, mottled.
	20%	Sandstone white, light cream very fine-fine grain medium sort, medium-well cemented, calcareous with clay matrix. Trace Pyrite inclusions.
1950-1960	50%	Shale predominately very pale cream bentonitic with some pale green-gray bentonitic noncalcareous.
	50%	Sandstone white, light cream as above; predominately very fine-fine grained subround poor-medium cemented, calcareous with clay matrix. Trace Pyrite inclusions. Trace Limestone, white, light cream cryptocrystalline hard, dense nodules and very thin interbeds.
1960-1970	30%	Shale as above.
	70%	Sandstone as above Trace common Limestone as above.
1970-1980	100%	Shale very pale gray-brown, maroon varicolor mottled firm, noncalcareous with trace brown mica flake inclusions; arenaceous, argillaceous in part.
	Trace Sandstone as above, trace Limestone as above.	
1980-1990	100%	Shale predominately pale maroon, pale varicolor mottled with some pale gray-green noncalcareous as above. Trace Limestone nodules as above. Trace Sandstone as above.
1990-2000	100%	Shale as above.
2000-2010	100%	Shale maroon, dark red-brown, varicolor as above with trace dense Limestone as above.
2010-2020	100%	Shale as above.
2020-2030	100%	Shale as above with trace dense Limestone as above some pink, dense.
2030-2040	100%	Shale as above with trace dense Limestone as above.
2040-2050	100%	Shale as above.
2050-2060	100%	Shale maroon varicolor as above some silty. Trace Limestone dense nodules light pink, light gray-brown.
2060-2070	100%	Shale as above, trace Limestone as above.

2070-2080	100%	Shale as above with increasing pale gray-green some silty. Trace Limestone as above.
2080-2090	100%	Shale as above becoming predominately pale gray-green with some pale maroon varicolor. Trace Limestone as above.
2090-2100	100%	Shale as above with trace Limestone dense nodules as above.
2100-2110	100%	Shale predominately pale green-gray with some pale cream bentonitic, common pale red-brown silty. Trace common dense Limestone fragments pale cream, pale maroon. Trace Pyrite.
2110-2120	90%	Shale as above.
	10%	Limestone varicolor dense thin interbeds and nodules.
2120-2130	100%	Shale becoming predominately pale red-brown, varicolor with abundant pale green-gray as above. Trace dense Limestone as above.
2130-2140	100%	Shale as above. Trace dense Limestone as above, trace orange Chert hard, sharp.
2140-2150	100%	Shale as above with trace Limestone as above, trace Chert as above.
2150-2160	100%	Shale as above with trace Sandstone white very fine grain medium cemented, calcareous.
2160-2170	80%	Shale varicolor, maroon
	20%	Sandstone white very fine-fine grain, poor-medium cemented, calcareous. Trace Limestone pink, cream cryptocrystalline hard, dense.
2170-2180	80%	Shale varicolor, maroon, red-brown with thin Sandstone interbeds.
	10%	Sandstone white, very fine grain as above.
	10%	Limestone hard, dense as above.
2180-2190	90%	Shale varicolor as above.
	10%	Limestone as above.
2200-2210	100%	Shale varicolor, red-brown, maroon firm arenaceous in part. Common Limestone pink, cream, light gray, hard, dense.
2210-2220	100%	Shale varicolor as above. Common Limestone nodules and thin interbeds.

2220-2230	100%	Shale predominately light gray-white bentonitic very water sensitive with some varicolor as above.
2230-2240	40%	Shale varicolor as above.
	60%	Conglomerate-medium conglomerate chert pebbles, varicolor, hard, sharp, loose. Trace Limestone pebbles, hard, dense. Abundant LCM contamination.
2240-2250	50%	Shale varicolor as above.
	50%	Conglomerate as above.
2250-2260	100%	Shale predominately pale green-gray firm bentonitic with abundant maroon thin varicolor Siltstone interbeds. Common conglomerate chert fragments orange, hard, sharp.
2260-2270	100%	Shale pale green-gray, maroon as above. Common chert fragments as above.
2270-2280	100%	Shale as above with very thin white Sandstone interlaminations some silty. Common chert fragments as above. Trace Limestone fragments white, gray, hard, dense.
2280-2290	40%	Shale pale green-gray, maroon as above.
	60%	Siltstone red-brown soft-firm shaley calcareous. Common Limestone white, pink, gray cryptocrystalline hard, dense. Trace Chert fragments.
2290-2300	40%	Shale as above.
	60%	Siltstone as above. Common Limestone as above. Trace chert as above.
2300-2310	20%	Shale pale green-gray, pale maroon firm very slightly calcareous, silty in part.
	80%	Sandstone very light orange, light red-brown, white very fine-fine grained, well sorted, friable. Trace chert fragments orange, clear, white hard, sharp. Trace Limestone pebbles, hard, dense.
2310-2320	100%	Conglomerate predominately orange, clear, white chert fragments, medium-coarse hard, sharp, loose with common Sandstone fragments as above. Common shale as above.
2320-2330	70%	Shale red-brown silty firm slightly calcareous.
	30%	Conglomerate as above.

2330-2340	80%	Shale predominately pale gray-white with pale pastel green shading, firm bentonitic; some red-brown silty as above, some maroon.
	20%	Conglomerate as above predominately chert pebbles with trace common Sandstone, very light orange, white, common dense Limestone fragments.
2340-2350	90%	Shale varicolor as above.
	10%	Conglomerate predominately chert pebbles becoming red.
2350-2360	90%	Shale varicolor as above.
	10%	Chert pebbles medium-coarse grained, red loose.
2360-2370	20%	Shale as above varicolor
	80%	Conglomerate predominately chert fragments medium-coarse grained, hard, sharp with some Sandstone, white, fine-medium grained, subround-subangular well cemented with clay matrix.
2370-2380	100%	Conglomerate predominately varicolor chert fragments loose. Trace varicolor Shale as above.
2380-2390	60%	Shale varicolor as above.
	40%	Conglomerate as above.
2390-2400	70%	Shale as above.
	30%	Conglomerate as above.
2400-2410	80%	Chert fragments Conglomerate; varicolor medium-coarse grained, hard, sharp.
	20%	Shale varicolor.
2410-2420	90%	Conglomerate as above.
	10%	Shale as above.
2420-2430	70%	Conglomerate as above.
	30%	Shale predominately light gray-white with some varicolor.
2430-2440	70%	Shale predominately varicolor as above.
	30%	Conglomerate as above with abundant Sandstone fragments, fine-medium grained, well cemented calcareous, trace Limestone pebbles.

2440-2450	40%	Shale as above.
	60%	Conglomerate as above.
2450-2460	20%	Shale as above.
	80%	Conglomerate predominately chert fragments, coarse grained, hard, sharp with abundant Sandstone, white, fine-coarse grained, poor sort, very well cemented, calcareous.
2460-2470	30%	Shale as above.
	70%	Conglomerate as above.
2470-2480	80%	Shale varicolor with abundant red-brown silty very slightly calcareous.
	20%	Conglomerate as above.
2480-2490	90%	Shale as above.
	10%	Conglomerate as above predominately Sandstone white, fine-medium grained, medium sort very well cemented, calcareous with abundant chert fragments.
2490-2500	95%	Shale as above.
	5%	Conglomerate as above.
2500-2510	100%	Shale varicolor soft-firm bentonitic very slightly noncalcareous with some red-brown silty calcareous. Trace chert, Sandstone fragments as above.
2510-2520	90%	Shale varicolor predominately pale green-white with some lavendar; some red-brown silty calcareous.
	10%	Sandstone very light tan, light gray-brown, very fine-fine grained, subangular, medium sort, very well cemented siliceous. Trace chert fragments hard, sharp.
2520-2530	80%	Shale predominately pale green-white bentonitic. Noncalcareous.
	20%	Sandstone as above some very slightly calcareous.
2530-2540	100%	Shale as above some arenaceous. Trace-common red-brown silty. Trace Common Sandstone as above.
2540-2550	100%	Shale as above with some varicolor, some pale lavendar.

2550-2560	100%	Shale as above, predominately pale green with some varicolor common Sandstone white, light tan, very fine grained, very well cemented.
2560-2570	100%	Shale as above some silty. Trace-common Sandstone as above. Trace chert white, hard, sharp.
2570-2580	100%	Shale as above some red-brown silty. Trace Sandstone as above. Trace chert.
2580-2590	100%	Shale as above. Trace red-brown silty. Trace Sandstone as above.
2590-2600	100%	Shale becoming predominately medium gray firm bentonitic noncalcareous. Trace Sandstone, light tan very fine grain, trace chert white, gray hard, sharp.
2600-2610	100%	Shale light-medium gray firm blocky, bentonitic noncalcareous. Trace Limestone medium gray cryptocrystalline hard, dense. Trace Sandstone light tan very fine grained, very well cemented.
2610-2620	100%	Shale as above, trace Limestone, trace Sandstone as above.
2620-2630	100%	Shale as above, trace Limestone as above, trace Sandstone as above.
2630-2640	90%	Shale as above, trace Limestone as above.
	10%	Sandstone light tan to light gray-white, very fine grained, subangular, very well cemented.
2640-2650	90%	Shale as above, trace Limestone nodules as above.
	10%	Sandstone as above.
2650-2660	100%	Shale predominately light gray-green firm bentonitic, noncalcareous with trace dense Limestone fragments. Trace-common Sandstone light tan very fine grain very well cemented, very slightly noncalcareous.
2660-2670	100%	Shale as above, trace Sandstone as above.
2670-2680	100%	Shale as above, trace Sandstone as above, trace dense Limestone.
2680-2690	100%	Shale as above.
2690-2700	100%	Shale as above, trace common medium gray dense Limestone.

2700-2710	100%	Shale medium gray, firm blocky, very slightly noncalcareous with trace-common dense Limestone. Trace-common Sandstone, very fine grained, very well cemented.
2710-2720	90%	Shale as above with some varicolor.
	10%	Sandstone light tan, light gray, very fine grained, very well cemented.
2720-2730	90%	Shale as above.
	10%	Sandstone as above.
2730-2740	100%	Shale as above, common Sandstone as above, trace Limestone hard, dense.
2740-2750	100%	Shale as above, trace Limestone hard, dense, trace Sandstone as above.
2750-2760	90%	Shale medium gray as above with some varicolor.
	10%	Limestone light gray, light tan, cryptocrystalline, hard, dense.
2760-2770	100%	Shale as above with some medium-dark gray. Common Limestone as above, common Sandstone light tan, very fine grained, very well cemented.
2770-2780	100%	Shale as above predominately medium-dark gray. Trace Limestone, Sandstone; trace chert hard, sharp.
2780-2790	90%	Shale as above.
	10%	Sandstone light-medium tan, very fine grained, very well cemented, some medium gray very silty, calcareous.
2790-2800	100%	Shale as above becoming dark gray. Common Sandstone as above. Trace chert hard, sharp.
2800-2810	60%	Shale as above.
	40%	Sandstone light tan, light gray, cream very fine grained, well sorted, subangular-subrounded, very well cemented. Calcareous with white clay matrix.
2810-2820	60%	Shale as above.
	30%	Sandstone as above.
	10%	Limestone light gray, light tan, cryptocrystalline hard, dense. Trace common chert, hard, sharp.

2820-2830	40%	Shale as above.
	10%	Sandstone as above.
	50%	Siltstone red-brown firm, some shaley with white Anhydritic inclusions.
2830-2840	100%	Shale, Siltstone red-brown Anhydritic predominately grading to silty Shale.
2840-2850	90%	Shale red-brown very silty with some grading to Siltstone, very abundant Anhydrite, white, light tan soft-firm nodular, some varicolor Shale.
	10%	Anhydrite, white, soft nodular.
2860-2870	100%	Shale varicolor Anhydritic with common white, soft nodular Anhydrite.
2870-2880	90%	Shale as above.
	10%	Sandstone light tan, red-brown, very fine-fine grained, medium sorted, subround, medium-very well cemented, calcareous, some with Anhydritic matrix. Common Anhydrite, white, soft.
2880-2890	100%	Shale as above some very silty, anhydritic. Trace Sandstone. Common Anhydrite white, soft.
2890-2900	100%	Shale predominately red-brown silty, anhydritic with some varicolor. Trace Limestone pink, tan hard, dense. Common Anhydrite, white soft.
2900-2910	100%	Shale predominately red-brown, silty, firm very slightly calcareous, anhydritic with some varicolor. Common dense Limestone nodules. Common Anhydrite, white, soft nodular.
2910-2920	100%	Shale as above with some becoming micro-micaceous. Common Limestone, Anhydrite as above.
2920-2930	100%	Shale, red-brown, maroon, silty micaceous, very slightly calcareous with trace dense Limestone inclusions.
2930-2940	100%	Shale as above with some varicolor, some micromicaceous.
2940-2950	100%	Shale as above some with Anhydritic inclusions. Trace orange, fair-medium grained, medium sort Sandstone. Trace Anhydrite.

2950-2960	90%	Shale as above some very silty, trace Anhydritic inclusions.
	10%	Limestone red-brown very silty, dense.
2960-2970	100%	Shale, red-brown silty as above, some green bentonitic. Common Limestone red-brown silty, dense.
2970-2980	100%	Shale as above with some green bentonitic.
2980-2990	100%	Shale as above, trace Limestone red-brown, silty.
2990-3000	100%	Shale predominately red-brown very silty, firm calcareous with some pale green bentonitic. Trace-common white Anhydrite inclusions. Trace Limestone red-brown very silty, hard, dense.
3000-3010	100%	Shale, predominately red-brown silty, firm, calcareous with Anhydrite inclusions; some green bentonitic, some very silty grading to Siltstone.
3010-3020	100%	Shale as above with some varicolor. Trace Limestone nodules red-brown.
3020-3030	100%	Shale as above.
3030-3040	100%	Shale as above with increasing Anhydrite inclusion. Trace light orange fine-medium grain Sandstone. Trace red-brown dense Limestone.
3040-3050	100%	Shale, red-brown silty with Anhydrite inclusions.
3050-3060	100%	Shale as above with some varicolor, very common red-gray, red-brown Limestone nodules. Trace very thin interlaminated Sandstone white, light gray very fine grained.
3060-3070	100%	Shale red-brown firm very silty with common Anhydrite inclusions; common dense Limestone inclusions. Trace Sandstone inclusions.
3070-3080	100%	Shale red-brown very silty as above.
3080-3090	100%	Shale as above with some pale green, varicolor.
3090-3100	100%	Shale as above.

3100-3110	100%	Shale predominately red-brown silty, micromicaceous firm, blocky some very silty grading to Siltstone; common pale green-white bentonitic, some lavendar, maroon, varicolor. Trace dense red-brown Limestone fragments, trace Chert.
3110-3120	100%	Shale as above.
3120-3130	100%	Shale as above, some pale orange with white Anhydrite inclusions.
3130-3140	90%	Shale as above with increasing Anhydrite inclusions.
	5%	Sandstone orange, white fine-medium, subround, friable.
3140-3150	90%	Shale as above.
	5%	Limestone as above.
	5%	Sandstone as above some becoming dark brown-orange with Anhydrite matrix.
3150-3160	95%	Shale as above.
	5%	Limestone as above, trace Chert orange, white, gray, hard, sharp. Very slight trace Sandstone, very light gray-green, very fine-fine grained, well sorted, subangular-subround, very well cemented, calcareous.
3160-3170 NSOFC	80%	Sandstone, medium-dark gray-brown, very fine-fine grained, medium sort, subangular-subround, predominately medium cemented, calcareous with some very well cemented slightly calcareous; abundant brown, black inclusions; abundant glauconitic inclusion. Some with white clay matrix; possible brown dead oil stain on some fragments.
	20%	Shale as above.
3170-3180	100%	Sandstone, medium-dark green-brown as above. Trace Limestone green-brown microcrystalline hard, dense, very sandy. Trace clay gray-white soft, slightly calcareous.
3180-3190	100%	Sandstone as above.
3190-3200	100%	Sandstone as above, very glauconitic. Common clay as above.
3200-3210	100%	Sandstone as above with abundant uphole red to brown cavings.

3210-3220	100%	Sandstone as above becoming predominately gray-white with brown, black, green inclusions.
3220-3230	100%	Sandstone as above.
3230-3240	100%	Sandstone as above. Lost 100 barrels drilling mud. Abundant LCM contamination; abundant cavings.
3240-3250	100%	Sandstone as above.
3250-3260	100%	Sandstone as above with some white marly clay.
3260-3270	100%	Sandstone as above. Common cavings.
3270-3280	100%	Sandstone as above.
3280-3290	100%	Sandstone as above.
3290-3300	100%	Sandstone as above, common medium gray marly shale.
3300-3310	90%	Sandstone as above.
	10%	Shale, light-medium gray, firm blocky slightly calcareous with some varicolor, maroon.
3310-3320	70%	Sandstone, light gray-white, fine-medium grained with some very fine grain, medium sort, subangular-subround, friable, medium cemented calcareous with clay matrix; black, brown inclusions, glauconitic inclusions.
	30%	Shale, medium gray, varicolor blocky, subwaxy, slightly calcareous; some white marly.
3320-3330	10%	Sandstone as above.
	90%	Shale as above.
3330-3340	100%	Shale, medium gray, varicolor as above; abundant cavings. Trace Sandstone as above.
3340-3350	60%	Shale as above.
	40%	Sandstone as above with abundant medium grain, clear frosted grains, loose. Trace Limestone white, cream, hard, dense.

3350-3360	40%	Shale as above.
	40%	Sandstone as above.
	20%	Siltstone red-orange firm, calcareous with anhydritic inclusions some grading to very fine grained sandstone.
3360-3370	40%	Shale dark red-brown firm, blocky, very slightly calcareous. Tract Siltstone, red-orange grading to Sandstone as above.
	60%	CAVINGS predominately Morrison, Cedar Mountain.
3370-3380	70%	Siltstone red-orange grading to very fine grain Sandstone as above.
	10%	Shale dark red-brown as above.
	20%	CAVINGS.
3380-3390	70%	Siltstone red-brown very fine grained, very silty grading to Siltstone with white Anhydritic inclusions, firm, calcareous.
	20%	Shale dark red-brown firm, blocky, silty, slightly calcareous.
	10%	CAVINGS - ABUNDANT LCM contamination.
3390-3400	60%	Sandstone light red-orange very silty as above.
	10%	Shale red-brown silty as above.
	30%	CAVINGS predominately Morrison.

NOTE: Became stuck at 2496' while tripping for bit at 3405'. Stuck going in hole. Backoff and jar fish loose. It was necessary to ream from approximately 2450' to approximately 2650' when tripping in to resume drilling at 3405'. Samples continue to be very contaminated by Morrison lithology, shale light gray-green, varicolor, pale lavendar, soft-firm, bentonitic, very slightly calcareous with occasional Chert fragments.

3400-3410	30%	Sandstone light red-orange, medium red-brown, very fine grained, firm, silty, calcareous some grading to Siltstone.
	10%	Shale medium red-brown, firm, silty, slightly calcareous.
	60%	Cavings.

3410-3420	60%	Sandstone as above some with Anhydritic inclusions.
	10%	Shale as above.
	30%	Cavings predominately Morrison, varicolor, pale green Shale.
3420-3430	70%	Sandstone light red-orange with Anhydritic inclusions, some medium red-brown firm, very silty, calcareous-very slightly calcareous. Trace dark red-brown Shale inclusions.
	10%	Shale dark red-brown firm, silty blocky, slightly calcareous.
	20%	CAVINGS.
3430-3440	70%	Sandstone as above.
	10%	Shale as above.
	20%	Cavings, predominately pale green bentonitic Shale.
3440-3450	50%	Sandstone very silty red-orange, red-brown as above.
	50%	Cavings- varicolor Morrison.
3450-3460	30%	Sandstone as above.
	70%	Cavings as above. Trace Chert fragments.
3460-3470	40%	Sandstone as above.
	60%	Cavings.
3470-3480	40%	Sandstone red-orange very fine grained, very silty as above.
	10%	Shale dark red-brown, firm, silty as above.
	50%	Cavings, varicolor bentonitic Shale, Chert fragments.
3480-3490	60%	Sandstone as above.
	10%	Shale as above.
	30%	Cavings.
3490-3500	70%	Sandstone as above.
	10%	Shale as above.
	20%	Cavings as above.

3500-3510	60%	Sandstone light red-orange, very fine grained, very silty with white Anhydritic inclusions; some medium red-brown, well cemented, slightly calcareous. Some very fine grained grading to Siltstone.
	10%	Shale medium red-brown firm silty, slightly calcareous.
	30%	Cavings, predominately pale green, medium gray-green, varicolor Shale.
3510-3520	50%	Sandstone as above. Trace Shale as above.
	50%	Cavings.
3520-3530	40%	Sandstone as above.
	60%	Cavings predominately Morrison with trace Glauconite Sandstone (Curtis).
3530-3540	60%	Sandstone light red-orange very fine grained, very silty as above.
	40%	Cavings as above most fragments with rounded edges.
3540-3550	60%	Sandstone as above.
	40%	Cavings - VERY ABUNDANT LCM contamination.
3550-3560		VERY POOR SAMPLE - Predominately LCM
3560-3570	50%	Sandstone light red-orange as above.
	50%	Cavings VERY ABUNDANT LCM contamination.
3570-3580	40%	Sandstone as above.
	10%	Shale medium-dark red-brown, firm very silty.
	50%	Cavings, VERY ABUNDANT LCM contamination.
3580-3590	20%	Sandstone light red-orange as above some very silty grading to Siltstone.
	20%	Shale medium-dark red-brown, firm very silty, slightly calcareous.
	60%	Cavings varicolor, medium gray Shale, most fragments with red.

3590-3600	20%	Sandstone as above.
	20%	Shale as above.
	60%	Cavings - varicolor Shale. Abundant LCM contamination.
3600-3610	10%	Sandstone light red-orange very fine grained, grading to Siltstone, poor-medium cemented, slightly calcareous with Anhydrite matrix.
	20%	Shale medium-dark red-brown firm, very silty, slightly calcareous some with Anhydritic inclusions.
	70%	Cavings.
3610-3620	20%	Sandstone as above.
	20%	Shale as above.
	60%	CAVINGS
3620-3630	20%	Sandstone as above with Anhydritic inclusions.
	20%	Shale as above.
	60%	CAVINGS
3630-3640	30%	Sandstone as above.
	10%	Shale as above.
	60%	CAVINGS.
3640-3650	30%	Sandstone as above.
	10%	Shale as above.
	60%	CAVINGS.
3650-3660	20%	Sandstone as above.
	10%	Shale as above.
	70%	CAVINGS.
3660-3670	10%	Sandstone as above.
	30%	Shale as above some with Anhydritic fracture filling.
	60%	Cavings, abundant LCM contamination.

3670-3680	10%	Sandstone as above.
	20%	Shale as above some very silty grading to Siltstone.
	70%	Cavings, abundant LCM.
3680-3690	20%	Sandstone as above.
	20%	Shale as above.
	60%	Cavings, abundant LCM.
3690-3700	20%	Sandstone as above.
	20%	Shale as above.
	60%	Cavings.
3700-3710	10%	Sandstone light red-orange very fine grained, very silty with Anhydritic inclusions, poor-moderately cemented, slightly calcareous.
	20%	Shale medium red-brown to brick red, firm calcareous with Anhydritic inclusion. Trace Anhydritic fracture fill.
	70%	Cavings, abundant LCM contamination.
3710-3720	20%	Sandstone as above.
	20%	Shale as above.
	60%	CAVINGS.
3720-3730	50%	Sandstone as above.
	10%	Shale as above.
	40%	Cavings.
3730-3740	70%	Sandstone light red-orange very fine grained, very silty with some grading to Siltstone, poor-moderately cemented, slightly calcareous with abundant Anhydritic inclusions.
	10%	Shale medium red-brown, firm, very silty grading to Siltstone, slightly calcareous with abundant Anhydritic fracture filling.
	20%	Cavings.
3740-3750	100%	Sandstone as above some with Anhydrite matrix, some very silty grading to Siltstone. Common cavings.

NOTE:	It was discovered that the fluid loss of the mud was up to 14+ cc and that the pH was down below 8.3. When remedial action was began at depth 3700', the quantity of cavings in the sample was reduced dramatically.	
3750-3750	100%	Sandstone light red-orange to brick red, predominately very fine-fine grained, well sorted, subangular-subrounded some very fine grain grading to Siltstone, friable-firm, slightly-medium calcareous, some with Anhydrite matrix; abundant clay matrix. Trace Shale brick red, firm, silty, slightly calcareous, thinly interbedded.
3760-3770	100%	Sandstone as above. Trace-common cavings from Tripat 3762.
3770-3780	100%	Sandstone as above.
3780-3790	100%	Sandstone as above.
3790-3800	100%	Sandstone as above.
3800-3810	100%	Sandstone as above, trace Shale as above.
3810-3820	100%	Sandstone as above, trace Shale as above.
3820-3830	100$	Sandstone as above, trace orange Chert fragments.
3830-3840	100%	Sandstone as above.
3840-3850	100%	Sandstone as above.
3850-3860	100%	Sandstone as above.
3860-3870	100%	Sandstone as above.
3870-3880	100%	Sandstone as above.
3880-3890	100%	Sandstone as above.
3890-3900	100%	Sandstone as above.
3900-3910	100%	Sandstone light red-orange to brick red, very fine-fine grained, medium-well sort, moderately cemented calcareous; some very fine grained grading to Siltstone. Abundant Anhydritic inclusions.
3910-3920	100%	Sandstone as above.
3920-3930	100%	Sandstone as above.
3930-3940	100%	Sandstone as above.
3940-3950	100%	Sandstone as above.

3950-3960	100%	Sandstone as above. Trace orange Chert.
3960-3970	100%	Sandstone as above. Trace orange Chert.
3970-3980	100%	Sandstone as above becoming predominately brown-red.
3980-3990	100%	Sandstone as above predominately brown-red.
3990-4000	100%	Sandstone as above, some very silty.
4000-4010	100%	Sandstone as above, trace orange Chert, trace Shale red-brown, firm.
4010-4020	100%	Sandstone as above with increasing white Anhydritic inclusions.
4020-4030	100%	Sandstone as above becoming very silty.
4030-4040	100%	Sandstone as above becoming very silty, very abundant white Anhydritic inclusions.
4040-4050	100%	Sandstone as above, trace red-brown Shale.
4050-4060	100%	Sandstone as above, trace orange Chert.
4060-4070	100%	Sandstone as above, very silty common Shale fragments, very abundant white Anhydrite.
4070-4080	100%	Sandstone as above, common Chert fragments, common Shale fragments. Very abundant white Anhydrite nodules, inclusions.
4080-4090	90%	Sandstone brown-red silty Anhydritic as above.
	10%	Sandstone, very light gray-green, very fine-fine grained, medium cemented, calcareous with thin gray-green Shale interlaminations.
4090-4100	40%	Sandstone red-brown, silty, very Anhydritic as above.
	60%	Sandstone very light gray-green, very fine-fine grained, well sort, subround, medium-well cemented, calcareous with thin light gray, light gray-green bentonitic Shale interlaminations. Trace common white Anhydrite nodules.

4100-4110	40%	Sandstone red-brown silty, very fine-fine grained, friable, moderately cemented, calcareous with abundant white Anhydritic inclusions.
	40%	Sandstone light gray to gray-white, very fine grained, well sort, moderately cemented, calcareous with black inclusions.
	20%	Shale medium gray, light gray-green firm, calcareous predominately blocky, with some splintery; some white marly.
4110-4120	40%	Sandstone red-brown silty as above.
	40%	Sandstone light gray-white as above becoming very limey.
	20%	Shale as above.
4120-4130	20%	Sandstone red-brown silty anhydritic as above.
	40%	Sandstone light gray-white, very fine grained, moderately cemented, very limey.
	40%	Shale, medium gray-green, firm calcareous, very sandy, abundant claystone white, marly with brown biotite inclusions.
4130-4140	10%	Sandstone red-brown silty as above.
	30%	Shale medium gray-green as above with abundant white Claystone as above.
NSOFC	60%	Sandstone light gray, light gray-white, very fine-fine grained, well cemented, very limey, some with black, orange inclusions. Some with white Anhydrite matrix. Trace Anhydrite white, soft.
4140-4150	40%	Sandstone light gray, light gray white as above, some with white Anhydritic inclusions.
NSOFC	40%	Shale predominately medium gray, medium gray-green as above. Some with white Anhydritic inclusions with abundant white marly claystone.
	10%	Limestone, very light gray, very light tan cryptocrystalline-microcrystalline, hard, tight, brittle.
	10%	Sandstone red-brown, silty as above. Abundant Anhydrite, white, soft.

4150-4160	90%	Sandstone white, cream, light gray very fine-fine grained, medium sort, predominately subround, friable-medium cemented, calcareous to very limey; abundant black, orange inclusions; some very silty.
	10%	Shale medium gray-green subwxy, firm, splintery, slightly-moderately calcareous. Trace Limestone light tan cryptocrystalline, hard dense. Trace Marlstone, cream silty.
4160-4170	90%	Sandstone as above.
	10%	Shale as above. Trace Limestone as above.
4170-4180	80%	Sandstone as above some with white Anhydritic inclusions.
	20%	Shale gray-green as above, some silty, some very limey. Trace Limestone as above.
4180-4190	20%	Sandstone as above some with Anhydritic inclusions.
	80%	Shale medium gray, medium gray-green firm, blocky, silty calcareous-very limey. Some grading to Shaley Limestone, abundant Anhydrite fracture fill. Common Anhydrite clear, crystalline, white, soft.
4190-4200	10%	Sandstone, cream, white with inclusions as above.
	80%	Shale as above with Anhydritic inclusions as above.
	10%	Limestone medium gray, tan microcrystalline, silty, shaley with abundant Anhydrite inclusions. Very abundant Anhydrite.

4200-4210	70%	Shale medium gray, firm blocky, very silty calcareous-very limey with very abundant white Anhydritic inclusions, fracture filling.
	10%	Limestone, light-medium gray, light tan cryptocrystalline-microcrystalline, hard, dense some red-brown silty.
	10%	Siltstone medium-dark red-brown firm, some sandy calcareous-limey with Anhydritic inclusions.
	10%	Anhydrite, white soft nodules, fracture fill. Trace Sandstone white, cream, light gray, very fine-fine grained, medium sort, subround, medium cemented, calcareous with black, orange inclusions.
4210-4220	50%	Siltstone medium-dark red-brown as above some very sandy grading to very fine grain Sandstone; common interlaminations of brick red Shale; very Anhydritic.
	40%	Shale as above with some becoming dark gray.
	10%	Anhydrite, white, soft. Trace Limestone cryptocrystalline as above.
4220-4230	70%	Siltstone as above.
	20%	Shale medium-dark gray as above.
	10%	Anhydrite as above with some very light red-orange silty, calcareous.
4230-4240	70%	Siltstone as above. Common red-brown Shale interlaminations.
	20%	Shale as above.
	10%	Anhydrite as above.
4240-4250	80%	Siltstone as above with increasing dark red-brown firm calcareous.
	10%	Shale as above.
	10%	Anhydrite as above.
		TRIP SAMPLE - ABUNDANT CAVINGS

4250-4260	90%	Siltstone predominately dark red-brown with some red-brown firm calcreous sandy with some grading to very fine grain Sandstone; abundant white Anhydritic inclusions. Trace-common Anhydrite fracture filling; common dark red-brown Shale interlaminations.
	5%	Shale medium-dark gray firm blocky calcareous.
	5%	Anhydrite white, soft, clear crystalline, light red-orange soft.
4260-4270	90%	Siltstone as above.
	10%	Sandstone medium red-brown very fine grain, very silty calcareous with Anhydritic inclusions.
		Trace Shale medium-dark gray.
		Common Anhydrite as above.
4270-4280	90%	Siltstone as above some very sandy.
	10%	Sandstone as above, very silty Trace Shale as above. Trace-common Anhydrite as above.
4280-4290	80%	Siltstone as above.
	20%	Sandstone as above. Very silty, very Anhydritic. Trace varicolor Shale with Anhydritic inclusions.
4290-4300	90%	Siltstone as above.
	10%	Sandstone as above. Trace Shale as above.
4300-4310	90%	Siltstone medium-dark red-brown firm calcareous, very sandy, very Anhydritic.
	10%	Sandstone medium red-brown with some medium red-orange firm, silty calcareous with abundant Anhydritic inclusions. Trace Shale medium gray-green. Common Anhydrite, white, soft.
4310-4320	90%	Siltstone as above.
	10%	Sandstone as above. Trace Snale as above. Common Anhydrite as above.

4320-4330	80%	Siltstone as above.
	20%	Sandstone as above. Trace Shale medium gray-green, firm blocky, calcareous. Trace Limestone medium gray cryptocrystalline-microcrystalline, silty, hard, dense.
4330-4340	80%	Siltstone as above with abundant Anhydritic inclusions.
	10%	Sandstone as above with Anhydritic inclusions.
	10%	Limestone medium-dark gray microcrystalline, tite, very silty, dolomitic with thin gray-green Shale interlaminations, some very shaley grading to limey Shale.
4340-4350	60%	Siltstone as above.
	10%	Sandstone as above.
	10%	Anhydrite, white, soft.
	10%	Limestone medium-dark gray microcrystalline as above. Trace Pyrite inclusions.
	10%	Shale medium-dark gray-green firm, silty very limey. Trace Pyrite inclusions.
4350-4360	30%	Siltstone red-brown very sandy with Anhydritic inclusions, common red-brown Shale interlaminations.
	30%	Shale medium gray-green, firm silty, limey
	30%	Limestone light gray-medium gray, microcrystalline, silty, sandy.
	5%	Sandstone white-light gray, very fine-fine grained, medium cemented, calcareous with orange, black inclusions, abundant Anhydrite in filling.
	5%	Anhydrite, white, light red-orange, clear.
4360-4370	20%	Siltstone red-brown as above.
	20%	Shale medium gray-green as above.
	20%	Limestone as above, some white soft marly.
	40%	Sandstone white-light gray, very fine-fine grain as above with abundant Anhydrite fracture filling, in filling as above. Common Anhydrite white, clear, soft, firm as above.

4370-4380	10%	Siltstone red-brown as above.
	10%	Limestone as above.
	20%	Shale as above some very limey.
	60%	Sandstone white, light tan, light gray very fine-fine grained, medium sort, medium-well cemented, calcareous with black, orange inclusions. Abundant Anhydrite in filling, trace Glauconite inclusions.
4380-4390	80%	Sandstone as above, some very limey.
	10%	Shale some becoming dark gray with Anhydritic inclusions.
	10%	Limestone as above becoming medium gray. Trace Siltstone as above.
4390-4400	60%	Sandstone as above.
	30%	Limestone as above some very shaley, some white soft marly.
	10%	Shale as above.
4400-4410	70%	Sandstone, light-medium gray some cream very fine-fine grained, medium-well cemented, calcareous-limey with black, orange inclusions. Trace Glauconite inclusions, very abundant Anhydrite in filling.
	20%	Shale, medium-dark gray, firm blocky, silty, calcareous-limey, abundant Anhydritic inclusions.
	10%	Limestone medium gray cryptocrystalline-microcrystalline, very silty, hard, dense with anhydrite fracture filling, some white soft marly.
4410-4420	60%	Sandstone as above.
	30%	Shale as above.
	10%	Limestone as above. Common Anhydrite, white, soft.
4420-4430	10%	Siltstone red-brown firm, very Anhydritic.
	60%	Sandstone as above some with Anhydrite fracture filling.
	30%	Shale as above, some very limey. Very common Anhydrite white, crystalline soft.

4430-4440	10%	Sandstone as above.
	10%	Limestone as above.
	80%	Shale becoming predominately dark gray, firm blocky, calcareous-limey with abundant Anhydrite fracture filling, abundant Anhydritic inclusions.
4440-4450	90%	Shale predominately dark gray with some medium gray; abundant Anhydrite as above.
	10%	Anhydrite, clear-white, crystalline soft. Trace Sandstone as above. Trace Limestone as above. Trace Siltstone as above.
4450-4460	90%	Shale, predominately medium-dark gray, firm, silty calcareous-very limey with abundant Anhydritic inclusions, trace-common Anhydrite fracture filling.
	10%	Anhydrite, white, soft, clear, crystalline.
4460-4470	80%	Shale as above.
	10%	Siltstone, very light red-orange, very Anhydritic, calcareous.
	10%	Anhydrite. Trace Limestone, light gray-brown, light tan, hard dense.
4470-4480	70%	Shale as above, some very silty.
	10%	Siltstone very light red-orange as above.
	10%	Sandstone light gray very fine grain, medium-well cemented, calcareous-limey.
	10%	Anhydrite, white soft.
4480-4490	90%	Shale, medium-dark gray, firm, blocky, silty, calcareous-very limey, some grading to shaley Limestone with abundant Anhydritic inclusions, fracture fill.
	10%	Anhydrite, white, clear, crystalline-soft. Trace Siltstone, Sandstone, Limestone as above.
4490-4500	90%	Shale as above.
	10%	Anhydrite as above. Trace Siltstone, Sandstone, Limestone as above. Trace orange Chert.

4500-4510	90%	Shale medium-dark gray, firm, blocky, silty, calcareous-limey; some grading to shaley Limestone, some very silty grading to Siltstone; abundant Anhydrite fractrue fill inclusions; thinly interbedded light-medium gray Siltstone, Sandstone very fine grain. Common light tan-light gray Limestone fragments.
	10%	Anhydrite, white, soft.
4510-4520	80%	Shale as above.
	10%	Limestone light tan-light gray crytocrystalline-microcrystalline, hard, dense, some very shaley, very silty.
	10%	Anhydrite, as above. Trace Siltstone red-orange Anhydritic. Trace Sandstone light gray very fine grain, calcareous.
4520-4530	70%	Shale as above some very silty grading to Siltstone. Some very limey grading to Limestone.
	20%	Limestone as above with some white, soft marly.
	10%	Anhydrite as above.
4530-4540	70%	Shale as above.
	20%	Limestone as above.
	10%	Anhydrite as above.
4540-4550	80%	Shale as above, very silty.
	20%	Limestone as above, some very silty. Common Anhydrite. Trace orange Chert pebbles.
4550-4560	60%	Shale as above some very silty very limey.
	30%	Limestone light tan-medium gray, crypto-crystalline, hard, dense, very silty some light gray, soft, marly.
	10%	Anhydrite, white soft.
4560-4570	60%	Shale as above.
	10%	Siltsone, shale red-orange soft, calcareous, very anhydritic.
	20%	Anhydrite, white, light orange, soft. Trace Limestone as above.

4570-4580	70%	Shale a above, very Anhydritic.
	30%	Anhydrite as above. Trace Shale, Siltstone, red-orange. Trace Limestone as above.
4580-4590	70%	Shale as above, very Anhydritic.
	30%	Anhydrite as above. Trace Shale-Siltstone, red-orange Anhydritic. Trace Limestone medium gray-light tan, very silty as above. Trace Siltstone light gray calcareous Anhydritic.
4590-4600	60%	Shale as above.
	20%	Limestone as above with some light gray soft marly.
	20%	Anhydrite as above. Trace Siltstone-Shale, light red-orange as above.
4600-4610	60%	Shale, light-medium gray with some dark gray, firm blocky, very silty very limey with abundant Anhydrite in filling.
	10%	Limestone light-medium gray very silty, very shaley with abundant Anhydrite in filling. Trace Siltstone. Trace very fine grained Sandstone, trace Chert orange.
4610-4620	60%	Shale as above.
	10%	Limestone as above with some light gray soft, marly.
	30%	Anhydrite as above.
4620-4630	70%	Shale as above.
	10%	Limestone as above.
	30%	Anhydrite as above. Trace red-orange Siltstone. Trace orange Chert.
4630-4640	80%	Shale as above.
	20%	Anhydrite as above. Trace-common Limestone as above. Some light gray soft, marly. Trace red-orange Siltstone. Trace orange Chert.
4640-4650	80%	Shale as above. Trace Pyrite inclusions.
	20%	Anhydrite as above.

		Trace Limestone as above. Trace Siltstone red-orange as above. Trace orange chert.
4650-4660	60%	Shale light-medium gray with some dary gray firm blocky very silty, very limey with some dark gray grading to argillaceous. Limestone; very abundant white crystalline Anhydrite in filling.
	40%	Anhydrite, white cream, light gray, crystalline, soft-firm; some with limey inclusions.
4660-4670	60%	Shale as above.
	30%	Anhydrite as above.
	10%	Limestone predominately medium gray, light tan microcrystalline, hard, dense, some very silty, very shaley.
4670-4680	30%	Shale as above.
	50%	Anhydrite as above.
	20%	Limestone as above with Anhydritic inclusions.
4680-4690	20%	Shale as above.
	60%	Anhydrite as above.
	20%	Limestone with some becoming dolomitic.
4690-4700	20%	Shale as above some very limey.
	60%	Anhydrite as above with some very sandy grading to very fine grain Sandstone.
	20%	Limestone predominately light tan-light gray-brown microcrystalline, hard, dense, very sandy dolomitic.
4700-4710	80%	Limestone, light gray-brown, light gray, light tan crytocrystalline-microcrystalline, silty, shaley, hard, dense, some with Anhydritic inclusions.
4710-4720	90%	Limestone as above, with trace Pyrite inclusions.
NSOFC	10%	Anhydrite as above. Trace Shale as above.
4720-4730	100%	Limestone as above with abundant cream-white soft, marly with light gray-brown oolite inclusions some very oolitic.
NSOFC		Trace Anhydrite as above.

4730-4740 NSOFC	100%	Limestone as above becoming very oolitic. Trace Calcite fracture filling.
4740-4750 NSOFC	100%	Limestone as above, trace Calcite fracture filling.
4750-4760 NSOFC	100%	Limestone predominately medium gray with brown cast, some cream with gray-brown oolites microcrystalline-very fine crystalline, hard, dense, silty in part; trace Calcite fracture fill, trace Pyrite inclusions.
4760-4770 NSOFC	100%	Limestone medium gray-brown as above some very oolitic. Trace Anhydrite, white crystalline.
4770-4780 NSOFC	100%	Limestone as above, predominately microcrystalline with few oolites.
4780-4790 NSOFC	100%	Limestone as above with very abundant oolites.
4800-4810 NSOFC	90%	Limestones as above with very abundant oolites.
	5%	Siltstone red-brown, firm micaceous very slightly-noncalcareous; trace varicolor Shale.
	5%	Sandstone, light red-orange, very fine-medium grain, poor sort weell cemented, calcareous.
4810-1820	20%	Limestone.
	50%	Siltstone as above some very sandy granding to very fine grain Sandstone.
	20%	Shale, brick red, dark red-brown, varicolor firm, silty, very slightly-noncalcareous.
	10%	Sandstone as above, very silty grading to Siltstone.
4820-4830	20%	Limestone as above.
	70%	Siltstone as above some very sandy grading to very fine grain Sandstone.
	10%	Shale as above, red-brown, varicolor, silty as above. Common Sandstone, light red-orange very fine grain subrounded well cemented, calcareous with Anhydritic inclusions.

4840-4850	30%	Limestone as above.
	20%	Siltsone and Shale red-brown as above.
	30%	Shale medium gray, firm blocky, silty very calcareous-limey, some grading to Limestone.
	20%	Sandstone, very light gray-medium gray very fine-fine grain, well cemented, calcareous, very silty, very shaley.
4850-4860	60%	Shale, medium gray-dark gray as above.
	30%	Limestone medium gray-brown very silty, very shaley with few oolites, some grading to limey Shale.
	10%	Shale and Siltstone red-brown as above.
4860-4870	60%	Shale as above.
	40%	Limestone as above. Trace Siltstone red-brown as above.
4870-4880	40%	Shale as above.
	60%	Limestone as above, some very shaley, very few oolites.
4880-4890	90%	Limestone, light-medium gray some tan microcrystalline, hard, dense with very abundant dark gray oolites. Silty in part, shaley in part, some cream marly.
	10%	Shale medium-dark gray, firm blocky silty, calcareous. Common cavings.
4890-4900	100%	Limestone as above with thin interlaminations of Shale as above.
		Trace Sandstone clear, white, very fine-grained medium sort, poor-medium cemented, calcareous.
4900-4910	40%	Limestone medium-dark gray with some cream, very oolitic as above.
	60%	Sandstone, clear, white very fine-fine grained, medium sort, poor-medium cemented, calcareous, some with white clay matrix. 10% with light-brown stain, 80% with bright yellow fluorescence, slow streaming to milky yellow cut; bright yellow residue ring.

4910-4920	30%	Limestone as above.
	70%	Sandstone as above with abundant light gray very fine-fine grained with brown stain. Abundant white clay matrix with show as above.
4920-4930	90%	Sandstone as above with increasing poor-very poor cemented; trace white red medium grain quartz grains. Abundant yellow fluorescence and cut as above.
	10%	Limestone as above.
	Drilled	1 1/2 - 2 min./ft.
4930-4940	80%	Sandstone as above.
	20%	Limestone as above. Abundant Cavings.
	Drilled	1 1/2 - 2 min./ft.
4940-4950		Very Poor Sample. Cavings following DST #1.
	100%	Sandstone becoming cream-very light red-orange, decreasing in yellow fluorescence and cut.
4950-4960		VERY POOR SAMPLE. ABUNDANT CAVINGS.
	100%	Sandstone light red-orange, white, very fine-fine grained. 30% fluorescence with trace yellow cut. (light red-orange does not fluorese)
4960-4970	70%	Sandstone as above with 20% yellow fluorescence and trace cut.
	30%	Cavings predominately Limestone, Shale, mediun-dark gray.
4970-4980	90%	Sandstone predominately very light orange-white, very fine-fine grained with some medium-coarse grain, bimodal; very poor cemented, calcareous. Grains are generally clear, frosted quartz grains. 10% fluorescent yellow, very slight cast, trace yellow cut, very poor show.
	10%	CAVINGS, predominately gray Limestone, Shale.
4980-4990	90%	Sandstone as above. 10% fluorescence, very slight cast, trace, very poor show yellow cut.
	10%	Cavings, predominately gray, Limestone, Shale Trace orange Chert.

4990-5000	100%	Sandstone as above. Light trace yellow fluorescence, NO CUT. Common cavings.
5000-5010	100%	Sandstone, light orange-white, very fine-fine grain with some medium grain, medium sort, subround-round, poor cement, very slightly-noncalcareous with abundant loose grains; grains are frosted quartz grains with very light orange hematite stain. Occasional very thin red-brown Shale interlaminations. Abundant CAVINGS Limestone, Shale medium-dark gray probably caused by key-seat wiper placed at top of Drill Collar string.
5010-5020	100%	Sandstone as above.
5020-5030	100%	Sandstone as above.
5030-5040	100%	Sandstone as above.
5040-5050	100%	Sandstone as above.
5050-5060	100%	Sandstone as above with trace very fine grain grading to Siltstone.
5060-5070	100%	Sandstone as above with trace red-brown miaceous Shale.
5070-5080	100%	Sandstone as above.
5080-5090	100%	Sandstone as above.
5090-5100	100%	Sandstone as above, abundant CAVINGS.
5100-5110	100%	Sandstone as above with CAVINGS as above.
5110-5120	100%	Sandstone as above.
5120-5130	100%	Sandstone as above.
5130-5140	100%	Sandstone as above.
5140-5150	100%	Sandstone as above with trace thin gray-white Shale interlaminations.
5150-5160		NO SAMPLE
5160-5170	100%	Sandstone, very light orange, very fine-fine grain with some medium grain, subround-round as above.
5170-5180	100%	Sandstone as above.
5180-5190	100%	Sandstone as above, some with black, orange inclusions.
5190-5200	100%	Sandstone as above.

5200-5210	100%	Sandstone predominately light orange-white with some clear, white very fine-fine grain with some medium grain, medium sort, subround-round. Poor-medium cemented, slightly calcareous-noncalcareous. Common white clay partings.
5210-5220	100%	Sandstone as above, some with white clay matrix.
5220-5230	100%	Sandstone as above.
5230-5240	100%	Sandstone as above.
5240-5250	100%	Sandstone as above with trace red-brown Shale interlaminations.
5250-5260	100%	Sandstone as above with white clay partings as above.
5260-5270	100%	Sandstone as above with trace red-brown Shale as above.
5270-5280	100%	Sandstone as above with Cavings as above, Shale partings as above.
5280-5290	100%	Sandstone as above with increasing medium-coarse grain, well rounded, clear, frosted quartz grains.
5290-5300	100%	Sandstone as above.
5300-5310	100%	Sandstone, light orange, very fine-fine grain, well sort, with abundant medium-coarse grain, round, clear, frosted quartz grains uncons; bimodal. Trace white clay partings.
5310-5320	100%	Sandstone bimodal as above.
5320-5330	100%	Sandstone as above.
5330-5340	100%	Sandstone predominately light orange bimodal as above with abundant white very fine-fine grain subround-subangular, medium cement, non-very slightly calcareous with white clay matrix.
5340-5350	100%	Sandstone predominately white very fine-fine grained medium cement as above; some with light green Shale inclusions.
5350-5360	100%	Sandstone white very fine-fine grained with trace medium-coarse grian, predominately subround with some round; common Shale partings, light green waxy, red-brown silty.
5360-5370	95%	Sandstone white, very fine-fine grain as above.

	5%	Shale, predominately red-brown silty, calcareous with some light green waxy.
5370-5380	95%	Sandstone white, very fine-fine grain as above.
	5%	Shale as above.
5390-5400	95%	Sandstone as above.
	5%	Shale as above.
5400-5410	95%	Sandstone white, very fine-fine grain subround-subangular, medium sort, medium cement, very slightly-noncalcareous with clay matrix some medium-coarse grain, clear, frosted quartz grains.
	5%	Shale red-brown silty slightly calcareous, light green waxy, thinly interbedded.
5410-5420	95%	Sandstone white, very fine-fine grain as above.
	5%	Shale as above.
5420-5430	95%	Sandstone as above.
	5%	Shale as above.
5430-5440	90%	Sandstone as above.
	5%	Shale as above with some medium gray silty calcareous.
5440-5450	80%	Sandstone as above.
	20%	Shale predominately medium gray, silty, micaceous, calcareous with abundant red-brown silty very slightly calcareous, some varicolor.
5450-5460	80%	Sandstone as above.
5460-5470	80%	Sandstone white very fine-fine grain with white clay in filling as above.
	10%	Shale as above some varicolor.
	10%	Limestone as above, some very argillaceous.
5470-5480	90%	Sandstone as above
	5%	Shale as above.
	5%	Limestone as above.

5480-5490	90%	Sandstone as above
	5%	Shale as above.
	5%	Limestone as above.
5490-5500	90%	Sandstone as above
	5%	Shale as above.
	5%	Limestone as above.

BEGIN SIDETRACK #1

4529-4550	100%	Cement Trace-common Shale medium-dark gray, firm, blocky, silty.
4550-4560	95%	Cement
	5%	Shale as above with some grading to shaley Limestone microcrystalline, hard, dense; some varicolor Shale. Common Anhydrite, white, buff, soft.
4560-4570	95%	Cement
	5%	Shale as above, some red-brown very silty, some varicolor. Common Anhydrite.
4570-4580	90%	Cement
	10%	Shale as above with trace Limestone as above, trace pink limestone. Common Anhydrite.
4580-4590	85%	Cement
	15%	Shale as above, with trace Limestone as above, trace pink Limestone. Common Anhydrite.
4590-4600	85%	Cement
	15%	Shale as above. Common Anhydrite as above.
4600-4610	85%	Cement
	15%	Shale, medium-dark gray, firm silty blocky, calcareous.
4610-4620	80%	Cement
	20%	Shale as above with abundant red-brown silty, Anhydritic. Common Anhydritie, white, tan, soft.

4620-4630	60%	Cement
	30%	Shale as above abundant varicolor Anhydritic.
	10%	Anhydirte, white, tan, soft, some medium-coarse crystalline.
4630-4640	30%	Cement
	60%	Shale as above some very limey grading to shaley Limestone.
	10%	Anhydrite.
4640-4650	80%	Shale medium-dark gray, firm silty, limey with abundant Anhydritic inclusions; trace varicolor Shale.
	20%	Anhydrite, white, light cream, tan soft-firm. Trace Limestone medium-dark gray, silty, shaley, hard dense. Trace Siltstone red-brown, very Anhydritic.
4650-4660	60%	Shale, light-medium gray with some dark gray firm blocky very silty, very limey with some grading to argillaceous Limestone; very abundant white, light cream crystalline Anhydrite in filling.
	40%	Anhydrite white, cream, light tan, light gray crystalline soft-firm.
4660-4670	40%	Shale as above.
	10%	Limestone medium-dark gray microcrystalline, very argillaceous with common oolites.
	50%	Anhydrite as above.
4670-4680	30%	Shale as above.
	20%	Limestone as above.
	50%	Anhydrite as above.
4680-4690	20%	Shale as above.
	10%	Limestone as above.
	70%	Anhydrite as above.
4690-4700	20%	Shale as above.
	60%	Anhydrite as above.

	20%	Limestone light tan-light gray, microcrystalline, hard, dense, very sandy dolomitic. Trace-common Sandstone, light tan, very fine grain-silt, very well cemented, calcareous.
4700-4710	90%	Limestone, light gray to light gray-brown cryptocrystalline-microcrystalline, silty, shaley hard, dense. Some with Anhydrite fracture filling, some very shaley grading to limey Shale.
	10%	Anhydrite white, cream crystalline soft.
4710-4720	80%	Limestone as above.
	10%	Shale medium-dark gray firm, silty calcareous.
	10%	Anhydrite as above.
4720-4730	80%	Limestone as above, common oolites.
	10%	Shale as above.
	10%	Anhydrite as above. Trace Chert cream, light gray, hard, sharp.
4730-4740	90%	Limestone light-medium gray microcrystalline, hard, dense, oolitic some calcite fracture filling.
	10%	Anhydrite white, light cream. Trace Shale as above.
4740-4750	90%	Limestone as above some very oolitic. Some with trace Pyrite inclusions. Trace Calcite fracture filling.
	10%	Anhydrite as above.
4750-4760	90%	Limestone, light-medium gray with some light cream some with brown shading; abundant light cream with gray-brown oolites, silty in part. Trace Calcite fracture filling; trace Pyrite inclusions.
	10%	Anhydrite as above. Trace medium gray calcareous, red-brown, silty, trace varicolor Shale.
4760-4770	90%	Limestone as above.
	10%	Anhydrite as above. Trace Shale as above.
4780-4790	90%	Limestone as above.
	10%	Anhydrite as above. Trace Shale as above.

4790-4800	100%	Limestone predominately medium gray microcrystalline, silty oolitic with abundant cream, light gray, very oolitic some with Anhydritic inclusions. Trace Siltstone red-brown firm calcareous, Anhydritic. Common Anhydritic, white soft, marly.
4810-4820	60%	Limestone as above.
	40%	Siltstone as above. Trace Shale, red-brown, maroon, varicolor. Common Anhydrite as above.
4820-4830	40%	Limestone as above.
	60%	Siltstone as above, some sandy, some micromicaceous. Common Anhydrite as above.
4830-4840	20%	Limestone as above.
	80%	Siltstone as above. Common Anhydrite as above.
4840-4850	30%	Limestone as above, some cream, light gray, very fine crystalline.
	70%	Siltstone as above, some very Anhydritic. Common Anhydrite as above.
4850-4860	70%	Limestone medium-dark gray cryptocrystalline-microcrystalline, silty, shaley some very oolitic, some very Anhydritic.
	20%	Shale medium-dark gray, firm, fissile, calcareous.
	10%	Siltstone red-brown, firm, calacreous.
4860-4870	80%	Limestone as above.
	20%	Shale as above. Trace Siltstone as above.
4870-4880	100%	Limestone as above, some light gray-cream very oolitic. Trace Shale as above with some varicolor.
4880-4890	100%	Limestone as above with some fossil fragments. Trace Shale as above. Trace Anhydrite, white, crystalline, soft.
4890-4900	100%	Limestone as above. Trace Shale as above. Trace Anhydrite as above. Trace Sandstone light gray, clear very fine grain, subangular-subround, very well

		cemented, slightly calcareous with yellow fluorescense, trace yellow cut with yellow residue ring.
4900-4910	80%	Sandstone, white, light gray very vine-fine grained, subangular-subround, poor-medium cemented, calcareous some with brown stain; abundant yellow fluorescence. Trace yellow cut with yellow ring as above.
	20%	Limestone as above. Trace Shale as above. Trace Anhydrite as above. Trace Cavings.
4910-4920	90%	Sandstone as above.
	10%	Limestone as above. Trace Cavings.
4920-4930	90%	Sandstone as above.
	10%	Cavings, various lithology.
4930-4940	100%	Sandstone predominately white, clear, frosted with some light gray very fine to fine grain with trace show as above.
	Common cavings.	
4940-4950	100%	Sandstone as above.
	Common cavings as above.	
	NOTE:	As per orders from the Denver office, the bentonite content of the drilling mud was significantly raised beginning at 4910.
4950-4960	100%	Sandstone predominately white, clear, frosted very fine-fine grain, subangular-subround poor-medium cement, calcareous with white clay matrix; trace orange-red.
	Common cavings as above. Abundant LCM contamination.	
4960-4970	100%	Sandstone becoming predominately orange, light orange. Abundant LCM contamination.
4970-4980	100%	Sandstone white, light orange very fine-fine grain, subangular-subround, poor cement. slightly calcareous. Trace yellow mineral fluorescence.
	Abundant LCM contamination.	
4980-4990	100%	Sandstone as above.
	Abundant cavings. Abundant LCM contamination.	

4990-5000	100%	Sandstone as above.
	Cavings as above.	
5000-5010	100%	Sandstone as above.
	Cavings as above.	
5010-5020	100%	Sandstone as above.
5020-5030	100%	Sandstone as above with cavings as above.
5030-5040	100%	Sandstone as above with red very fine-fine grain with some medium coarse grain, well rounded, loose.
5040-5050	100%	Sandstone as above. Common cavings.
5050-5060	100%	Sandstone, light orange, very fine-fine grain with some medium-coarse grain, poor-medium cement with some coarse loose slightly calcareous.
	Common cavings.	
	Common LCM contamination.	
5060-5070	100%	Sandstone, light orange, very fine-fine grain with some medium-coarse grain, poor-medium cement with some coarse loose slightly calcareous.
	Common cavings.	
	Common LCM contamination.	
5070-5080	100%	Sandstone, light orange, very fine-fine grain with some medium-coarse grain, poor-medium cement with some coarse loose slightly calcareous.
	Common cavings.	
	Common LCM contamination.	
5080-5090	100%	Sandstone, light orange, very fine-fine grain with some medium-coarse grain, poor-medium cement with some coarse loose slightly calcareous.
	Common cavings.	

5090-5100	100%	Sandstone, light orange, very fine-fine grain with some medium-coarse grain, poor-medium cement with some coarse loose slightly calcareous.
	Common cavings.	
	Common LCM contamination.	
5100-5110	100%	Sandstone light orange very fine-fine grain with some medium grain, poor-medium cement slightly calcareous.
	Common cavings.	
	Trace LCM contamination.	
5110-5120	100%	Sandstone light orange very fine-fine grain with some medium grain, poor-medium cement slightly calcareous.
	Common cavings.	
	Trace LCM contamination.	
5120-5130	100%	Sandstone light orange very fine-fine grain with some medium grain, poor-medium cement slightly calcareous.
	Common cavings.	
	Trace LCM contamination.	
5130-5140	100%	Sandstone light orange very fine-fine grain with some medium grain, poor-medium cement slightly calcareous.
	Common cavings.	
	Trace LCM contamination.	
5140-5150	100%	Sandstone light orange very fine-fine grain with some medium grain, poor-medium cement slightly calcareous.
	Common cavings.	
	Trace LCM contamination.	
5150-5160	100%	Sandstone as above, trace pink Limestone.
	Common cavings.	
	Trace LCM contamination	
	Trace-common white Bentonite.	

5160-5170 100% Sandstone as above, trace pink Limestone.

Common cavings.

Trace LCM contamination.

Trace-common white Bentonite.

5170-5180 100% Sandstone as above, trace pink Limestone.

Common cavings.

Trace LCM contamination.

Trace-common white Bentonite.

5180-5190 100% Sandstone as above, trace pink Limestone.

Common cavings.

Trace LCM contamination.

Trace-common white Bentonite.

5190-5200 100% Sandstone as above, trace pink Limestone.

Common cavings.

Trace LCM contamination.

Trace-common white Bentonite.

5200-5210 100% Sandstone light-medium orange-red very fine-fine grained with some medium grain, medium sort, subangular-subround, poor-medium cement, slightly calcareous some with white clay matrix, some with black, orange inclusions.

Common cavings.

Trace-common white Bentonite (possible non-dissolved drilling mud additive.)

5210-5220 100% Sandstone light-medium orange-red very fine-fine grain with some medium grained, medium cement, slightly calcareous some with white clay matrix, some with black, orange inclusions.

Common cavings.

Trace-common white Bentonite (possible non-dissolved drilling mud additive.)

5220-5230	100%	Sandstone light-medium orange-red very fine-fine grain with some medium grain, medium cement, slightly calcareous some with white clay matrix, some with black, orange inclusions.
		Common cavings.
		Trace-common white Bentonite (possible non-dissolved drilling mud additive.)
5230-5240	100%	Sandstone light-medium orange-red very fine-fine grain with some medium grain, medium cement, slightly calcareous some with white clay matrix, some with black, orange inclusions.
		Common cavings.
		Trace-common white Bentonite (possible non-dissolved drilling mud additive.)
5240-5250	100%	Sandstone light-medium orange-red very fine-fine grain with some medium grain, medium cement, slightly calcareous some with white clay matrix, some with black, orange inclusions.
		Common cavings.
		Trace-common white Bentonite (possible non-dissolved drilling mud additive.)
5250-5260	100%	Sandstone as above with some medium-coarse grain clear frosted with round loose quartz grains.
		Trace cavings.
		Trace white Bentonite as above.
5260-5270	100%	Sandstone as above with some medium-coarse grain clear frosted with round loose quartz grains.
		Trace cavings.
		Trace white Bentonite as above.
5270-5280	100%	Sandstone as above with some medium-coarse grain clear frosted with round loose quartz grains.
		Trace cavings.
		Trace white Bentonite as above.

5280-5290	100%	Sandstone as above with some medium-coarse grain clear frosted with round loose quartz grains.
	Trace cavings.	
	Trace white Bentonite as above.	
5290-5300	100%	Sandstone as above with some medium-coarse grain clear frosted with round loose quartz grains.
	Trace cavings.	
	Trace white Bentonite as above.	
5300-5310	100%	Sandstone light orange very fine-medium grain as above.
	Common cavings.	
5310-5320	100%	Sandstone light orange very fine-medium grain as above.
	Common cavings.	
5320-5330	100%	Sandstone light orange very fine-medium grain as above.
	Common cavings.	
5330-5340	No Sample.	
5340-5350	90%	Sandstone becoming predominately white, very light orange, very fine-fine grain with decreasing medium grain. Medium sort, subangular-subround.
	10%	Siltstone red-brown firm calcareous.
	Trace-Commone Shale dark gray-green firm fissile, very slightly-noncalcareous.	
	Common cavings.	
5350-5360	90%	Sandstone as above.
	10%	Siltstone and Shale as above.
5360-5370	90%	Sandstone as above.
	10%	Siltstone and Shale as above.
	Common cavings.	

5370-5380	90%	Sandstone predominately white, clear frosted with trace very light orange, very fine-fine grain, medium sort subangular-subround. medium cement, very slightly calcareous.
	10%	Siltstone as above.
	Trace Shale varicolor firm blocky very slightly-noncalcareous.	
5380-5390	95%	Sandstone as above.
	5%	Siltstone and Shale as above.
5390-5400	95%	Sandstone as above.
	5%	Siltstone and Shale as above.
5400-5410	100%	Sandstone white, clear very fine grained with some medium grain, poor-medium sort, predominately subangular, well cement very slightly-noncalcareous with some poor-medium cement; trace medium-coarse grain round -well rounded loose quartz grains; common very light orange very fine-fine grain, medium sort, subangular-subround, poor-medium cement, calcareous clusters.
	Common cavings predominately medium-dark gray Shale and Limestone from Carmel.	
	Trace Siltstone red-orange firm calcareous.	
5410-5420	As above with 1-2% white Bentonite possibly from undissolved mud additives.	
5420-5430	As above.	
5430-5440	As above.	
5440-5450	As above.	
5450-5460	100%	Sandstone as above with cavings as above, Siltstone as above.
5460-5470	100%	Sandstone as above with increasing light orange; some with red-orange hematite stain.
5470-5480	100%	Sandstone as above becoming 50% red-orange.
5480-5490	100%	Sandstone as above becoming predominately red-orange. Trace Anhydrite.
5490-5500	100%	Sandstone as above becoming predominately white, clear with 20% red-orange.

5650-5660	100%	Sandstone as above.
5660-5670	100%	Sandstone as above.
5670-5680	100%	Sandstone as above.
5680-5690	100%	Sandstone as above.
5690-5700	100%	Sandstone as above.
5700-5710	100%	Sandstone as above becoming predominately very light orange-red.
5710-5720	100%	Sandstone as above.
5720-5730	100%	Sandstone as above. Very abundant cavings.
5730-5740	100%	Sandstone as above, thin Siltstone interlaminations.
5740-5750	100%	Sandstone as above with Siltstone as above.
5750-5760	100%	Sandstone, predominately light orange-red very fine-fine grain, well sort, subangular-subrounded some white clear very fine-fine grain with white clay matrix; predominately medium-well cement very slightly-noncalcareous with some poor cemented; common thin red-brown silty Shale and Siltstone interlaminations.
	Abundant gray Shale and Limestone cavings.	
5760-5770	100%	Sandstone as above.
5770-5780	100%	Sandstone as above.
5780-5790	100%	Sandstone as above.
5790-5800	100%	Sandstone as above with Siltstone and Shale as above.
	Abundant cavings as above.	
5800-5810	100%	Sandstone predominately light-medium orange-red very fine-fine grain well sort, subangular-subrounded poor-medium cement, very slightly-noncalcareous; some with white clay matrix, some with trace Anhydrite matrix.
	Common cavings.	
5810-5820	100%	Sandstone as above.

5820-5830	95%	Sandstone as above.
	5%	Shale medium-dark red-brown firm silty blocky some fissile, micromicaceous very slightly-noncalcareous some medium red-orange very silty grading to Siltstone. Trace pink, cream Anhydrite inclusions, some gray-green waxy Shale.
		Very poor sample - abundant cavings.
5830-5840	60%	Sandstone as above.
	40%	Shale as above with increasing gray-green waxy noncalcareous.
		Very poor sample. Abundant cavings.
5840-5850	30%	Sandstone as above.
	70%	Shale as above.
5850-5860	80%	Shale dark red-brown, maroon, gray-green, green some red-green mottled firm blocky slightly-noncalcareous some very silty grading to Siltstone some with Anhydrite inclusions.
	20%	Sandstone white, light red-orange very fine grain very silty medium-well cement, calcareous with Shale fragment inclusions.
		Abundant cavings.
5860-5870	80%	Shale as above.
	20%	Sandstone as above.
5870-5880	90%	Shale predominately red-brown, maroon, varicolor with some light gray green firm silty, some micromicaceous, very slightly-noncalcareous.
	10%	Sandstone predominately very light green-white, very fine grain very silty, very slightly calcareous.
5880-5890	85%	Shale as above.
	15%	Sandstone as above.
5890-5900	90%	Shale as above with trace Anhydrite inclusions.
	10%	Sandstone as above.

5900-5910	95%	Shale predominately red-brown silty micromacaceouse firm blocky, slightly calcareous, abundant maroon varicolor with common Anhydrite inclusions. Trace thin very fine grain Sandstone interlaminations.
	5%	Sandstone white, light orange very fine grain very silty medium cemented, slightly calcareous.
	Trace Anhydrite white, light orange soft.	
5910-5920	95%	Shale as above.
	5%	Sandstone as above.
	Trace Anhydrite as above.	
5920-5930	95%	Shale as above. Trace dense Limestone.
	5%	Sandstone as above.
	Trace Anhydrite as above.	
5930-5940	90%	Shale as above. Trace dense Limestone.
	10%	Sandstone as above.
	Trace Anhydrite as above.	
5940-5950	100%	Shale as above with some gray-green.
	Common Sandstone as above.	
	Trace Anhydrite. Trace dense Limestone fragments.	
5950-5960	100%	Shale as above. Trace Limestone fragments.
5960-5970	100%	Shale as above some very silty.
5970-5980	90%	Shale as above.
	10%	Sandstone clear, white very fine-medium grain poor sort, predominately subangular, poor-medium cemented, slightly calcareous with dead black oil stain. Trace very weak yellow fluorescence.
	Trace Anhydrite white, soft.	
5980-5990	30%	Shale as above.
	70%	Sandstone as above with 10-15% having stain and show as above.
	Common white clay, white Anhydrite.	

5990-6000	30%	Shale as above.
	70%	Sandstone as above with 10% having show as above.
6000-6010	70%	Sandstone white, clear very fine-medium grain poor sort, angular-subangular, medium-well cemented, slightly-noncalcareous, hard, sharp, 10% with show as above. Trace green Shale inclusions. Trace mica inclusions.
	30%	Shale predominately red-brown firm, silty, micromicaceous with trace white Anhydrite inclusions; some gray-green firm silty.
	Trace	Anhydrite, white, soft.
6010-6020	80%	Sandstone as above.
	20%	Shale as above some maroon, varicolor.
6020-6030	80%	Sandstone as above.
	20%	Shale as above.
6030-6040	85%	Sandstone as above.
	15%	Shale as above.
6040-6050	85%	Sandstone as above.
	15%	Shale as above.
6050-6060	80%	Sandstone white, clear very fine-medium grain, poor sort angular-subangular hard, sharp.
	20%	Shale red-brown, maroon, varicolor, silty firm-hard, slightly-noncalcareous some with white Anhydrite inclusions.
6060-6070	70%	Sandstone as above.
	30%	Shale as above.
6070-6080	70%	Sandstone as above.
	30%	Shale as above, trace white clay, trace white Anhydrite.
6080-6090	90%	Sandstone as above some with green Shale inclusions becoming very hard, sharp.
	10%	Shale as above.

6090-6100	30%	Shale as above with some green waxy, varicolor.
	70%	Sandstone as above.
6100-6110	60%	Sandstone as above.
	40%	Shale as above.
6110-6120	50%	Sandstone as above.
	50%	Shale as above with increasing maroon, varicolor.
6120-6130	90%	Shale brown-red, maroon, gray-green varicolor firm silty, some waxy predominately noncalcareous with some very slightly calcareous, some red-brown very silty grading to Siltstone, some with white Anhydrite inclusions.
	10%	Sandstone white very fine-medium grain angular well cemented, noncalcareous with trace medium-coarse quartz grains loose.
6130-6140	100%	Shale varicolor waxy-subwaxy all with gray tones and shading; firm noncalcareous.
	Trace Sandstone as above.	
6140-6150	95%	Shale varicolor as above.
	5%	Sandstone white, clear very fine-medium grain angular with dead black stain very scant trace yellow fluorescence and very weak cut (6140-42 very poor 6 min/ft. drilling break) 2' net interval 4 unit increasing over background.
		Sandstone is slightly conglomeratic.
6150-6160	100%	Shale brown-red, varicolor as above.
	Trace Sandstone as above.	
6160-6170	100%	Shale varicolor as above.
	Trace Sandstone as above.	
6170-6180	100%	Shale as above becoming predominately red-brown with abundant varicolor.
6180-6190	100%	Shale as above some becoming micro-micaceous with trace very fine grain white Sandstone, very thinly interbedded.
6190-6200	100%	Shale as above with some very silty grading to Siltstone.

6200-6210	100%	Shale red-brown silty, micromicaceous firm blocky, slightly calcareous, varicolor firm waxy, subwaxy very slightly-noncalcareous.

Trace Limestone dense nodules.

Trace Anhydrite weak, light red-brown soft.

Trace Siltstone gray micaceous slightly calcareous, thinly bedded.

6210-6220	100%	Shale as above with trace Limestone, Anhydrite, Siltstone as above.
6220-6230	100%	Shale as above with increasing Anhydrite, trace Limestone, Chert.
6230-6240	100%	Shale as above some silty some very Anhydritic.

Trace Limestone, Chert fragments.

6240-6250	100%	Shale as above becoming predominately red-brown very silty grading to Siltstone; abundant varicolor as above some arenaceous gray-green, lavender-gray waxy.

Trace Limestone, Chert fragments.

6250-6260	100%	Shale as above.

Trace white Siltstone with black dead stain (cavings?).

Trace-common Anhydrite white, soft.

6260-6270	100%	Shale predominately red-brown silty slightly calcareous with abundant varicolor waxy arenaceous in part, some red-brown with abundant Anhydrite inclusions.

Trace Limestone dense varicolor fragments.

Trace Chert white, gray hard, dense.

Common Anhydrite white, pink soft.

6270-6280	95%	Shale as above.
	5%	Siltstone white, gray firm dolomitic with dead black stain, no fluorescence, trace weak yellow cut, thinly interlaminated with Shale as above.

Trace Limestone fragments, Chert fragments.

Common Anhydrite white, soft.

6280-6290	95%	Shale as above with varicolor arenaceous as above.
	5%	Siltstone as above with stain as above thinly interlaminated with Shale as above.
	Common-1% dense Limestone fragments.	
	Trace Chert.	
	Trace Anhydrite white, pink soft.	
6290-6300	90%	Shale as above.
	10%	Siltstone as above (trace-1% with dead stain and weak cut as above).
	Trace Chert, trace Limestone fragments.	
	Trace Anhydrite.	
6300-6310	90%	Shale red-brown silty, varicolor waxy firm slightly-noncalcareous some varicolor arenaceous, some red-brown with white Anhydrite inclusions, some red-brown grading to Siltstone.
	5%	Siltstone white, gray firm dolomitic with dead black stain very poor weak yellow cut, no fluorescence.
	5%	Anhydrite, white, pink soft.
	Trace Limestone, Chert pebbles.	
6310-6320	95%	Shale as above.
	5%	Anhydrite as above.
	Trace Siltstone gray as above, trace Limestone, Chert pebbles.	
6320-6330	100%	Shale as above.
	Trace Anhydrite, Siltstone, Limestone, Chert as above.	
6330-6340	100%	Shale as above some with Anhydrite inclusions as above.
6340-6350	100%	Shale as above with trace Limestone, Chert, Anhydrite as above.
6350-6360	95%	Shale as above.
	5%	Anhydrite as above.
	Trace Limestone, Chert, Siltstone as above.	

6360-6370	100%	Shale as above.
	Trace Siltstone red-brown firm Anhydritic.	
	Trace Anhydrite white, pink soft.	
6370-6380	100%	Shale as above some red-brown silty.
6380-6390	100%	Shale as above, trace Anhydrite white, soft.
6390-6400	100%	Shale as above becoming predominately red-brown silty, with white Anhydrite inclusions.
6400-6410	100%	Shale predominately red-brown silty with abundant varicolor waxy-subwaxy firm very slightly-noncalcareous; some with white Anhydrite inclusions.
	Trace Siltstone gray soft-firm very slightly calcareous.	
	Trace Anhdrite, white, soft.	
	Trace Limestone, chert pebbles.	
	Trace Sandstone white, thin interlaminations.	
6410-6420	100%	Shale as above predominately red-brown, silty with abundant red-orange soft Anhydritic.
6420-6430	100%	Shale red-brown silty with some red-orange Anhydritic some pastel varicolor waxy.
	Trace Siltstone gray.	
6430-6440	100%	Shale as above.
6440-6450	100%	Shale as above with common loose quartz grains fine-medium grain, well rounded.
	Trace-common Anhydrite white, pink soft.	
	Trace Shale gray-green waxy, subwaxy, firm very slightly-noncalcareous, arenaceous in part.	
6450-6460	100%	Shale as above with increasing gray,gray-green waxy.
	Common loose quartz grains as above.	
	Trace Anhydrite white, soft.	

6460-6470	100%	Shale predominately gray-green, pastel green, waxy with abundant lavendar, varicolor waxy; common red-brown silty micaceous.
	Trace Siltstone, red-brown, gray firm very slightly calcareous.	
	Trace Limestone, Chert pebbles.	
6470-6480	100%	Shale as above some pale gray with Pyrite inclusions; abundant varicolor mottled waxy-subwaxy, firm calcareous.
6480-6490	90%	Shale as above, predominately pale gray, gray-green.
	10%	Siltstone gray, light gray-green soft-firm, slightly calcareous, very thinly interlaminated with Shale as above. Trace dead black stain.
	Trace loose quartz grains, very fine-medium grain subrounded.	
6490-6500	100%	Shale as above with trace Pyrite inclusions.
	Trace Siltstone as above.	
	Trace dense Limestone pebbles.	
	Trace white Chert.	
	Trace-common loose quartz grains.	
6500-6510	90%	Shale pale gray-green firm silty, very slightly-noncalcareous, some arenaceous, some micaceous; common red-brown silty, common varicolor waxy; trace Pyrite inclusions.
	10%	Siltstoone pale gray-green, white firm slightly calcareous, micaceous in part.
	Trace Sandstone white very fine-fine grain with some grading to Siltstone well sorted, poor-medium cement slightly calcareous with clay matrix.	
	Trace Chert, Limestone fragments, trace Anhydrite white, soft.	
6510-6520	90%	Shale as above with trace Pyrite inclusions.
	10%	Siltstone as above.
	Trace Sandstone, Chert, Limestone, Anhydrite as above.	

6520-6530	95%	Shale as above predominately pale gray-green some with Anhydrite inclusions, trace Pyrite inclusions.
	5%	Anhydrite white, soft.
	Trace Siltstone, Sandstone as above.	
6530-6540	95%	Shale as above with common Pyrite inclusions.
	5%	Anhydrite as above.
	Trace Siltstone, Sandstone as above.	
6540-6550	100%	Shale as above some very silty, some with Anhydrite inclusions, very common Pyrite inclusions.
	Trace Siltstone interlaminations.	
6550-6560	100%	Shale pale gray-green as above with trace red-brown silty, some very Anhydritic.
6560-6570	100%	Shale as above with Pyrite inclusions as above.
	Trace Siltstone, Anhydrite as above.	
6570-6580	100%	Shale as above.
6580-6590	90	Shale as above, some micaceous.
	10%	Siltstone, white, light gray-green firm, calcareous micaceous with Pyrite inclusions.
6590-6600	90%	Shale as above.
	10%	Siltstone as above.
6600-6610	90%	Shale pale gray-green, light gray firm, silty micaceous very slightly-noncalcareous, common red-brown silty with Anhydrite inclusions. Common Pyrite inclusions.
	10%	Siltstone light gray, light gray-green firm very slightly-noncalcareous, micaceous in part with trace Pyrite inclusions, slightly dolomitic.

6610-6620	70%	Shale as above.
	30%	Siltstone as above with 10% having dead black stain, very weak pale yellow cut, no fluorescence.
	Trace Anhydrite as above.	
6620-6630	60%	Shale as above.
	40%	Siltstone as above, trace stain as above.
	Trace Anhydrite as above.	
6630-6640	80%	Shale as above.
	20%	Siltstone as above, trace-common stain and cut as above.
	Trace Anhydrite as above.	
6640-6650	50%	Shale as above.
	50%	Siltstone as above with 15% having dead black stain, very weak pale yellow cut, no fluorescence, some very fine grain light gray, very silty Sandstone grading to Siltstone.
	Trace Anhydrite.	
6650-6660	70%	Shale light gray-green, light green firm silty in part, waxy in part, micaceous in part, very slightly-noncalcareous; some red-brown silty very slightly calcareous with Anhydrite inclusions common, Pyrite inclusions.
	30%	Siltstone, white, light gray, firm very slightly calcareous, medium cement, slightly calcareous with 10% having dead black stain, very weak pale yellow cut, no fluorescence, very poor porosity and permeability. Common Pyrite inclusions.
	Trace Anhydrite white, soft.	
6660-6670	50%	Shale as above with Pyrite inclusions.
	50%	Siltstone as above with black stain, Pyrite inclusions as above.
	Trace Anhydrite as above.	

6670-6680	70%	Shale as above with Pyrite inclusions.
	30%	Siltstone as above with black stain, Pyrite inclusions.
	Trace Anhydrite, Chert fragments.	
6680-6690	90%	Shale as above.
	10%	Siltstone as above, trace dead black stain as above.
	Trace Anhydrite, Chert as above.	
6690-6700	70%	Shale as above with Pyrite inclusions some becoming dolomitic.
	30%	Siltstone as above with dead black stain, very poor, very weak pale yellow cut, no fluorescence, some very slightly calcareous-dolomitic; abundant clay, Anhydrite matrix.
	Trace-common Anhydrite white, soft.	
6700-6710	70%	Shale pale gray-green, light gray firm, very slightly-noncalcareous with some becoming dolomitic some subwaxy, some silty, abundant very fine crystalline Pyrite inclusions. Common red-brown silty with Anhydrite inclusions, some gray-green very micaceous.
	30%	Siltstone light gray-green, white, light gray firm very slightly calcareous-dolomitic with very fine crystalling Pyrite inclusions some very micaceous; 10% with dead black stain, very poor very weak pale yellow cut, no fluorescence, abundant clay, Anhydrite matrix with very poor porosity and permeability.
	Trace Anhydrite white, soft.	
6710-6720	40%	Shale as above with some lavendar, varicolor waxy.
	50%	Siltstone as above.
	10%	Sandstone light gray, white very fine grain very silty grading to Siltstone as above. Common dead black stain as above. Very poor porosity and permeability.
	Trace Anhydrite white, soft.	

6720-6730	30%	Shale as above with Pyrite inclusions as above.
	50%	Siltstone as above with very poor show as above.
	20%	Sandstone as above with very poor show as above.
6730-6740	60%	Shale predominately pale gray-green, red-brown silty, very slightly-noncalcareous with abundant very fine crystalline Pyrite inclusions, some very micaceous.
	40%	Siltstone as above with very poor show as above.
	Trace	Sandstone as above with very poor show as above.
6740-6750	70%	Shale as above.
	30%	Siltstone as above.
	Trace	Sandstone as above.
6750-6760	80%	Shale as above predominately pale gray-green with some varicolor common red-brown silty, abundant pyrite inclusions.
	20%	Siltstone gray, light gray firm very slightly calcareous with black dead stain, trace yellow cut, no fluorescence.
	Trace	Chert cream, white hard, sharp.
6760-6770	60%	Shale as above with Pyrite inclusions.
	40%	Siltstone as above with very poor show as above.
6770-6780	50%	Shale as above with common red-green mottled.
	50%	Siltstone as above.
	Trace	Sandstone very fine grain grading to Siltstone above.
	Trace-common	Pyrite.

6780-6790	30%	Shale as above with Pyrite inclusions as above.
	60%	Siltstone as above.
	10%	Sandstone gray, light gray very fine grain very silty grading to Siltstone, very slightly calcareous with dead black stain, very poor weak yellow cut, no fluorescence.
6790-6800	20%	Shale as above.
	50%	Siltstone as above with very poor show as above.
	10%	Sandstone as above with very poor show as above.
	20%	Limestone white, cream, light gray microcrystalline-very fine crystalline, hard, tite silty, dolomitic some cream chalky; some light gray microcrystalline with microsacrosic texture. Trace light gray oolites.
6800-6810	70%	Limestone light gray, white, cream as above with common light gray oolites some microcrystalline with dark brown-black stain, very poor weak yellow fluorescence, very poor weak yellow cut.
	20%	Shale as above with Pyrite inclusions as above.
	10%	Siltstone as above.
6810-6820	90%	Limestone as above with abundant cream chalky with light gray oolites. Trace cream chalky with broken fossil inclusions; abundant light gray silty dolomitic, 80% with poor show as above.
	10%	Shale as above with Pyrite as above.
	Common	Siltstone light gray firm slightly calcareous.
6820-6830	90%	Limestone as above with abundant medium-dark gray very fine crystalline microsacrosic with 80% having dark brown-black stain, very poor weak yellow fluorescence, very poor weak yellow cut, very scant trace pinpoint porosity at 45X.
	10%	Shale as above with Pyrite, trace Siltstone as above.

6830-6840	90%	Limestone as above with 20% having very poor show as above.
	10%	Shale as above.
6840-6850	80%	Limestone as above with increasing cream, white chalky oolitic.
	20%	Shale as above.
6850-6860	95%	Limestone as above some very silty, dolomitic, common oolites, trace broken fossils.
	5%	Shale as above some very silty grading to Siltstone.
6860-6870	100%	Limestone predominately medium-dark gray-brown microcrystalline hard, dense, silty dolomitic with show as above, some grading to dolomitic Siltstone.
	Trace Shale, Siltstone as above. Trace Pyrite as above.	
6870-6880	90%	Limestone as above becoming very silty very dolomitic with very thin Siltstone interlaminations.
	10%	Siltstone light-medium gray, hard, dense dolomitic, trace black dead stain. No porosity or permeability.
6880-6890	100%	Limestone as above with thin Siltstone interlaminations as above. No porosity or permeability.
6890-6900	100%	Limestone predominately cream, white, light gray some chalky oolitic, some with broken fossils, abundant medium-dark gray, very silty very dolomitic, trace black stain with very poor show. No visible porosity or permeability.
6900-6910	60%	Limestone cream chalky crypotcrystalline-microcrystalline, silty in part, dolomitic in part with abundant Pyrite inclusions.
	40%	Shale very light gray-green firm, silty dolomitic with very finely dissiminated Pyrite inclusions.
6910-6920	40%	Limestone as above with Pyrite as above.
	60%	Shale as above with Pyrite as above.

6920-6930	90%	Siltstone light gray, white, light gray-green firm-very well cemented noncalcareous to dolomitic with common Pyrite inclusions, trace dead black stain with no fluorescence, no cut.
	10%	Shale very light green as above.
	Trace Limestone as above.	
6930-6940	100%	Siltstone as above with Pyrite inclusions as above.
	Trace Shale as above.	
6940-6950	100%	Siltstone as above with trace very thinly interlaminated gray Shale.
	Trace Limestone white, chalky.	
6950-6960	100%	Siltstone as above with thinly interlaminated Shale as above, common Pyrite inclusions.
	Trace Limestone white, chalky.	
6960-6970	90%	Siltstone as above.
	10%	Shale pale gray-green firm silty some waxy dolomitic in part.
6970-6980	80%	Siltstone as above.
	20%	Shale as above with some red-brown silty.
6980-6990	70%	Siltstone as above some white with black stain, no fluorescence, no cut.
	30%	Shale as above with red-brown silty, some varicolor.
6990-7000	90%	Siltstone white, light gray some grading to very fine grain Sandstone, firm calcareous with abundant dead black stain, no fluorescence. No cut.
	10%	Shale as above.
7000-7010	100%	Siltstone as above with 80% having dead black stain, no fluorescence, no cut.
	Trace Shale as above.	
7010-7020	100%	Siltstone with stain as above; abundant Pyrite inclusions.
	Trace Shale as above.	

7020-7030	100%	Siltstone as above with stain as above.
7030-7040	100%	Siltstone as above with trace thinly interlaminated Shale as above. Common Pyrite inclusions.
7040-7050	100%	Siltstone as above.
7050-7060	90%	Siltstone as above with Pyrite inclusions.
	10%	Shale pale green, varicolor waxy, trace red-brown silty firm very slightly calcareous.
7060-7070	90%	Siltstone as above with stain as above.
	10%	Shale as above with Pyrite inclusions.
7070-7080	90%	Siltstone as above with stain as above.
	10%	Shale as above.
7080-7090	90%	Siltstone as above with Pyrite inclusions.
	10%	Shale as above.
7090-7100	90%	Siltstone as above.
	10%	Shale as above.
7100-7110	90%	Siltstone pale gray-green firm dolomitic with abundant very fine crystalline Pyrite inclusions some micromicaceous. Trace very thin interlaminations, Sandstone white very fine grain silty with black stain, no fluorescence, no cut.
	10%	Shale pale gray-green, pale lavendar firm silty in part waxy in part with very fine crystalline Pyrite inclusions, slightly calcareous-dolomitic, trace red-brown silty.
	Trace Limestone white, chalky.	
7110-7120	50%	Siltstone as above with abundant Pyrite inclusions.
	40%	Shale as above with abundant Pyrite inclusions.
	10%	Sandstone white, light gray with very abundant (80%) dark brown, black dead stain, no fluorescence, no cut. No visible porosity or permeability, common Pyrite inclusions.

7120-7130	20%	Siltstone as above.
	30%	Shale as above.
	50%	Sandstone white, light gray very fine grained firm, very silty calcareous-dolomitic with abundant black stain with no cut, fluorescence.
	Trace Limestone light gray microcrystalline, very silty, sandy in part, very dolomitic with abundant Pyrite inclusions.	
7430-7140	70%	Limestone light-medium gray microcrystalline, hard, dense, very sandy, very dolomitic grading to Dolomite, very abundant Pyrite inclusions with very abundant dark brown-black dead stain, no fluorescence no cut, no gas increase, no visible porosity and permeability. Trace Chert inclusions gray, white, smokey hard, sharp.
	20%	Shale as above.
	10%	Siltstone as above.
7140-7150	80%	Limestone as above with some very silty, some with medium-coarse grain quartz grain inclusions, all very dolomitic grading to silty Dolomite, abundant (80%) with black stain as above, some very cherty.
	20%	Shale as above.
	Trace-common Chert white, gray, smokey.	
7150-7160	60%	Limestone as above with stain as above, some very cherty.
	40%	Dolomite cream, light tan crypocrystalline-microcrystalline, hard, dense some very silty, very sandy with 50% having black stain, no fluorescence, no cut, no visible porosity; abundant Pyrite inclusions.
	Common Chert.	
7160-7170	80%	Dolomite as above with 80% having stain as above.
	20%	Limestone as above.
	Very common Chert.	
7170-7180	90%	Dolomite as above with stain as above.
	10%	Limestone as above.

7180-7190	100%	Dolomite cream, white, light tan, cryptocrystalline-microcrystalline hard, dense, silty, sandy with 50% having black stain, no fluorescence, no cut, no visible porosity. Abundant Pyrite inclusions, abundant Chert gray, white.
7190-7200	100%	Dolomite as above with dead oil show as above, trace Pyrite, trace Chert.
7200-7210	100%	Dolomite as above with dead oil show as above. Trace Calcite inclusions.
	Common Pyrite inclusions.	
	Trace Chert inclusions.	
7210-7220	100%	Dolomite as above with dead oil show as above, very scant trace intercrystalline porosity.
7220-7230	90%	Dolomite as above with show as above.
	10%	Shale predominately pale green waxy dolomitic with Pyrite inclusions.
7230-7240	80%	Dolomite as above with 20% having dead oil show as above, no fluorescence, cut.
	20%	Shale pale green waxy, pastel varicolor waxy, silty.
		Abundant Pyrite inclusions.
		Abundant Chert white, gray hard, sharp.
7240-7250	80%	Dolomite as above, trace fracture porosity.
	20%	Shale as above with some red-brown silty.
	Abundant Chert.	
	Trace Pyrite.	
7250-7260	80%	Dolomite as above with trace dead oil show as above.
	20%	Shale as above.
	Very common Chert white, gray hard, sharp.	
	Common Pyrite.	
	Trace Sandstone white, very fine-medium grain, poor sort, poor cement, silicaeous.	

7260-7270	50%	Dolomite as above some very sandy.
	30%	Shale as above.
	20%	Sandstone white, clear frosted, very fine-medium grain poor sort, subangular-subrounded, poor-medium cement, silicaeous-very slightly calcareous; very scant trace dead black oil stain with no fluorescence, no cut.
	Trace Pyrite, trace Chert.	
7270-7280	40%	Dolomite as above.
	20%	Shale as above.
	40%	Sandstone as above.
	Trace Pyrite, trace Chert.	
7280-7290	80%	Sandstone as above with 10% dead black stain, no fluorescence, no cut. Trace Pyrite inclusions.
	20%	Dolomite as above.
7290-7300	95%	Sandstone white, clear very fine-medium grain, poor sort angular-subrounded, medium-well cemented silicaeous-very slightly calcareous, trace dead black stain, no fluorescence, no cut.
	Trace Pyrite inclusions.	
	5%	Dolomite as above.
	Common cavings.	
7310-7320	100%	Sandstone as above, poor sort, well cemented, hard, sharp.
7320-7330	100%	Sandstone as above.
7330-7340	100%	Sandstone as above, possible very thin microcrystalline Dolomite interbeds.
	Common cavings.	
7340-4350	100%	Sandstone as above.
7350-7360	100%	Sandstone as above.
	Very common cavings.	
7360-7370	??100%	Sandstone as above. Very poor sample, abundant LCM.

7370-7380 ??? Unreadable - Predominately LCM

7380-7390 ?? Very Poor Sample 100% Sandstone as above. Abundant LCM.

7390-7400 ?? 100% Sandstone as above. Abundant LCM.

7400-7410 100% Sandstone as above. Trace Pyrite inclusions. Trace Shale pale gray-green. Trace Pyrite. Trace Dolomite cryptocrystalline hard, dense.

7410-7420 100% Sandstone as above with trace green Shale partings, trace Pyrite, trace Dolomite gray, crypotcrystalline, hard, dense.

7420-7430 100% Sandstone as above, very well cemented, hard, sharp.

7430-7440 100% Sandstone as above, trip sample, abundant cavings.

7440-7450 100% Sandstone white, clear as above.

Thin gray-green Shale interbeds.

Thin light-medium gray Dolomite interbeds.

Very common cavings.

7450-7460 100% Sandstone white, clear very fine-medium grain with predominately fine-medium grain, subrounded-subangular predominately very well cemented, silaceous with some poor-medium cement, slightly calcareous, common loose grains; some very hard sharp. Very scant trace pale yellow-blue fluorescence with barely findable poor weak milky yellow cut.

Trace-1% Dolomite very light brown-tan microcrystalline hard, dense, some with ghost oolite structure.

Common cavings.

7460-7470 100% Sandstone as above with very poor show as above.

Trace-1% Dolomite as above.

Common cavings.

7470-7480 100% Sandstone as above with very poor show as above.

Trace-1% Dolomite as above.

Common cavings.

7480-7490	100%	Sandstone as above.
	Common cavings.	
7490 7500	100%	Sandstone as above, trace Pyrite inclusions.
	Common cavings.	
	DST #4	7450-7503
7500-7510	100%	Sandstone white, clear very fine-medium grain, poor sort, angular-subrounded, predominately very well cement, silaceous with some med. cement, slightly calcareous; trace Pyrite inclusions.
	Trip Sample with very abundant cavings.	
7510-7520	100%	Sandstone as above.
	Common cavings.	
7520-7530	100%	Sandstone as above with some medium-coarse grain, subrounded frosted grains.
	Common cavings.	
7530-7540	100%	Sandstone as above.
	Common cavings.	
7540-7550	100%	Sandstone as above, trace Pyrite inclusions.
	Common-1% pale green dolomitic Shale thinly interbedded.	
7550-7560	100%	Sandstone as above.
	Trace-1% Shale thinly interbedded as above.	
7560-7570	100%	Sandstone as above, trace Anhydrite white, soft.
	Trace-1% Shale as above. Common cavings.	
7570-7580	100%	Sandstone as above. Trace Anhydrite white, soft.
7580-7590	100%	Sandstone as above. Trace Pyrite.
7590-7600	100%	Sandstone as above, trace Pyrite.

7600-7610	100%	Sandstone white, clear very fine-medium grain with some coarse grain, poor sort, predominately fine-medium grain, very well cement, siliceous abundant medium-coarse grain, rounded-subrounded clear frosted grains, very poor cement-loose;
	Trace Pyrite inclusions.	
	Trace Anhydrite, white, soft.	
	Trace Dolomite, light gray microcrystalline, hard, dense.	
7610-7620	100%	Sandstone as above.
7620-7630	100%	Sandstone as above.
	Common cavings.	
7630-7640	100%	Sandstone as above.
	Trace Marlstone white, soft chalky, some with pink shading.	
7640-7650	100%	Sandstone as above.
	Trace Limestone white, soft chalky as above.	
	Trace Siltstone red-brown firm micaceous.	
	Very common cavings.	
7650-7660	100%	Sandstone white, clear, predominately fine-medium grain, medium sort, angular-subrounded, medium-well cemented, silaceous with abundant medium-coarse grain clear frosted with rounded loose quartz grains.
	Trace Limestone white, pink soft, marly.	
	Common cavings.	
7660-7670	100%	Sandstone as above.
	Trace Limestone.	
	Common cavings.	
7670-7680	100%	Sandstone as above.
	Trace Limestone white, soft, marly.	
	Common cavings.	
7680-7690	100%	Sandstone as above.
7690-7700	100%	Sandstone as above.

7700-7710	Trip Sample - Abundant cavings.	
	100%	Sandstone white, clear frosted, predominately fine-medium grain, medium-well cement, silaceous. Trace-1% Limestone white, soft marly some with pink shading, Anhydritic.
7710-7720	100%	Sandstone as above.
	Trace Siltstone red-brown firm blocky calcareous some micromicaceous, some Anhydritic, very thinly interbeaded.	
	Trace-1% Limestone white, soft chalky, Anhydritic in part.	
7720-7730	100%	Sandstone as above.
	Trace	Siltstone as above.
	Trace	Limestone as above some becoming very Anhydritic grading to calcareous Anhydrite.
7730-7740	100%	Sandstone as above.
	Trace	Siltstone as above.
	Trace - 1% Anhydrite white, chalky soft.	
	Trace Chert white, cream, hard, sharp.	
7740-7750	90%	Sandstone as above.
	3%	Anhydrite as above.
	2%	Siltstone red-brown as above.
	5%	Dolomite as above.
	Common cavings.	
7750-7760	95%	Sandstone, white, clear some frosted, very fine-medium grained, medium sorted, medium-well cemented siliceous, some medium-coarse grained, well rounded, loose quartz grains.
	2%	Siltstone red-brown as above.
	3%	Anhydrite, white soft chalky.
	Trace	Chert white, cream hard, sharp.

7760-7770	90%	Sandstone as above.
	10%	Anhydrite predominately white, light gray soft chalky with trace cream, light tan, hard, dolomitic.
	Trace-common	Siltstone red-brown soft Anhydritic.
7770-7780	80%	Sandstone as above.
	15%	Anhydrite as above some red-brown silty.
	5%	Siltstone red-brown firm-soft some very Anhydritic.
	Trace	Shale varicolor, pale green, firm, waxy slightly calcareous.
7780-7790	70%	Sandstone as above becoming poor-moderately cemented, silicaeous-slightly calcareous with abundant loose quartz grains.
	10%	Anhydrite as above.
	10%	Siltstone red-brown Anhydritic as above.
	5%	Shale varicolor, pale green-gray waxy as above.
	5%	Dolomite, cream, light tan, cryptocrystalline, hard dense, cherty.
7790-7800	60%	Sandstone as above.
	10%	Anhydrite as above.
	10%	Siltstone as above.
	10%	Shale as above.
	10%	Dolomite as above some becoming light pink silicaeous.
7800-7810	70%	SAndstone white, clear some frosted, predominately very fine-fine grained, moderately sorted, with some medium grained, predominately subangular-subrounded with trace medium-coarse grained clear frosted, well-rounded loose. Trace Pyrite inclusions.
	20%	Anhydrite, white, light pink, soft, chalky.
	5%	Siltstone red-brown, firm, slightly calcareous, some red-orange, soft Anhydritic.
	10%	Shale, pale gray-green firm, splintery, blocky, waxy, very slightly calcareous; trace varicolor, mottled.

	5%	Dolomite, white, light cream, very light tan, cryptocrystalline-microcrystalline, hard, dense, cherty in part.
7810-7820	60%	Sandstone as above, predominately poorly cemented with very abundant loose grains.
	20%	Anhydrite as above.
	5%	Siltstone as above.
	5%	Shale as above.
	10%	Dolomite as above. Trace Pyrite, trace Chert.

7820-7830	50%	Sandstone as above.
	15%	Anhydrite as above.
	5%	Siltstone as above.
	10%	Shale as above.
	20%	Dolomite as above.
7830-7840	50%	Sandstone as above.
	10%	Anhydrite as above.
	5%	Siltstone as above.
	5%	Shale as above.
	30%	Dolomite as above.
7840-7850	60%	Sandstone as above some medium-coarse grained with pink stain.
	20%	Dolomite as above.
	10%	Anhydrite as above.
	5%	Shale, pale gray-green, varicolor waxy as above.
	5%	Siltstone, red-brown firm slightly calcareous as above.
7850-7860	40%	Sandstone as above.
	40%	Dolomite as above.
	10%	Anhydrite as above.
	10%	Shale as above.
	Trace-1%	Siltstone as above. Trace Pyrite.
7860-7870	50%	Sandstone as above, predominately loose quartz grains.
	40%	Dolomite as above.
	5%	Anhydrite as above.
	5%	Shale as above.
	Trace-1%	Siltstone as above.

Common Pyrite.

7870-7880	40%	Sandstone white, clear frosted, loose as above.
	40%	Dolomite cream, light pink, light tan, dense as above.
	10%	Anhydrite, white, cream, light pink soft, chalky.
	10%	Shale pale gray-green.
	Trace-1%	Siltstone red-brown.
	Trace	Pyrite.
7880-7890	40%	Sandstone white, clear some frosted, very fine-fine grained, moderately sorted, with some fine-medium grains, predominately subangular-subrounded, predominately friable with abundant loose grains, silicaeous-very slight calcareous; occasional cluster very well cemented silicaeous. Trace Pyrite inclusions.
	40%	Dolomite, cream, very light pink, cryptocrystalline-microcrystalline, hard, dense some very light tan microcrystalline, hard, dense; very common floating medium-coarse quartz grains, some very sandy grading to dolomitic Sandstone.
	10%	Shale, pale gray-green waxy firm, splintery some blocky, predominately noncalcareous with some very slightly calcareous; abundant Pyrite inclusions.
	10%	Siltstone red-brown firm micaceous very slightly-noncalcareous with common Anhydrite inclusions.
	Trace-1%	Anhydrite, pink, white soft chalky, limey.
7890-7900	20%	Sandstone as above.
	45%	Dolomite as above.
	2%	Shale as above.
	3%	Siltstone as above.
	30%	Limestone pink, white soft, chalky some very Anhydritic grading to limey Anhydrite.

7900-7910	10%	Sandstone as above.
	75%	Dolomite as above.
	5%	Limestone as above, some very Anhydritic.
	5%	Shale gray-green as above.
	5%	Siltstone as above.
7910-7920	50%	Dolomite, cream, light pink cryptocrystalline-microcrystalline, hard, dense, sandy as above.
	40%	Limestone, cream, light pink, soft, chalky some very Anhydritic.
	10%	Sandstone as above.
	Trace	Shale and Siltstone as above.
7920-7930	40%	Dolomite as above.
	50%	Limestone as above.
	5%	Shale, gray-green waxy splintery.
	5%	Siltstone red-brown, firm Anhydritic.
	Trace	Sandstone as above.
7930-7940	60%	Dolomite as above some very sandy grading to dolomitic Sandstone.
	30%	Limestone cream, light pink chalky.
	5%	Shale as above.
	5%	Siltstone as above.
	Trace	Sandstone clear, white very fine-medium grained, subangular-subrounded, friable, very slightly-noncalcareous, some dolomitic.
7940-7950	30%	Dolomite as above.
	10%	Limestone as above.
	20%	Sandstone as above with some becoming very well cemented; some fine-coarse grained, poorly sorted, subangular, very well cemented.
	30%	Shale, gray, gray-green waxy, splintery, dolomitic with Pyrite inclusions.
	10%	Siltstone red-brown as above.

7950-7960	30%	Dolomite cream, pink as above.
	10%	Limestone white, cream, pink, soft, chalky as above.
	10%	Sandstone clear, white as above. Trace Pyrite.
	10%	Siltstone as above.
	40%	Shale, gray, gray-green, varicolor mottled, firm blocky, some splintery, noncalcareous, dolomitic, some with Pyrite inclusions.
	Trace	Anhydrite, white, soft, chalky, limey.
	Trace	Chert white, cream, hard, sharp.
7960-7970	55%	Dolomite as above.
	10%	Limestone as above.
	20%	Shale as above.
	10%	Siltstone as above.
	5%	Sandstone as above.
	Trace	Anhydrite as above.
	Common	Pyrite as above.
	Trace	Chert as above.
7970-7980	60%	Dolomite as above.
	Trace	Limestone as above.
	20%	Shale as above.
	10%	Siltstone as above.
	10%	Sandstone as above.
	Trace	Anhydrite, Pyrite, Chert as above.
7980-7990	80%	Dolomite as above.
	15%	Shale as above.
	5%	Siltstone as above.
	Trace	Limestone, Sandstone, Anhydrite, Pyrite, Chert as above.

7990-8000	70%	Dolomite, cream, pink, cryptocrystalline hard, dense, very sandy in part.
	20%	Shale, gray, gray-green some varicolor, firm, splintery, waxy, dolomitic in part, noncalcareous in part with Pyrite inclusions.
	5%	Siltstone red-brown firm, micaceous, Anhydritic in part.
	5%	Sandstone predominately very fine-fine grained, clear frosted, loose quartz grains.
	Trace	Limestone white, soft chalky.
8000-8010	85%	Dolomite as above.
	10%	Shale as above with Pyrite inclusions.
	Trace-1%	Siltstone as above.
	5%	Sandstone as above.
8010-8020	90%	Dolomite as above.
	10%	Shale, pale gray-green waxy as above.
	Trace	Siltstone as above.
	Trace	Sandstone as above, trace Pyrite, trace Chert, orange, white.
8020-8030	805	Dolomite as above, very sandy.
	10%	Shale as above.
	10%	Sandstone predominately very fine-fine grained, loose subrounded quartz grains.
	Trace	Siltstone red-brown as above.
	Trace	Pyrite, trace Chert.
8030-8040	80%	Dolomite as above.
	10%	Shale as above with increasing maroon, varicolor waxy.
	10%	Sandstone-loose quartz grains as above.
	Trace-1%	Siltstone red-brown micaceous.

8040-8050	80%	Dolomite, cream, pink, cryptocrystalline-microcrystalline, hard, dense, silty in part. Some very sandy grading to dolomitic Sandstone.
	10%	Shale, pale gray-green, varicolor, waxy, calcareous-noncalcareous with Pyrite inclusions.
	10%	Sandstone very fine-fine grained, predominately loose rounded-subrounded quartz grains.
	Trace	Siltstone red-brown micaceous.
	Trace	Limestone white, soft, chalky.
8050-8060	90%	Dolomite predominately cream, pink as above with very common light tan, light buff cryptocrystalline-microcrystalline hard, dense.
NSOFC	10%	Shale as above with increasing maroon, varicolor, mottled.
	Trace	Siltstone, Sandstone as above.
8060-8070	100%	Dolomite, light tan, light buff, cryptocrystalline-microcrystalline, hard, dense; trace cream, pink as above.
NSOFC	Trace-1%	Shale and Siltstone as above (cavings?)
8070-8080	100%	Dolomite as above.
	Trace-1%	Shale and siltstone as above (cavings?)
8080-8090	100%	Dolomite as above.
8090-8100	100%	Dolomite as above.
	Trace	Chert, cream, light tan, hard, sharp.
8100-8110 NSOFC	100%	Dolomite light tan, buff, microcrystalline, hard, dense with trace light tan Chert inclusions. Trace ghost oolite structure.
8110-8120 NSOFC	100%	Dolomite as above.
8120-8130	100%	Dolomite as above.
8130-8140	100%	Dolomite as above some becoming silicaeous, increasing Chert, light tan, buff, hard, sharp.
8140-8150	100%	Dolomite as above.

8250-8160	100%	Dolomite light tan, cream, light buff, cryptocrystalline-microcrystalline, hard, dense with trace ghost oolite, fossil fragments.
	Trace	Anhydrite white, soft, chalky, limey.
8160-8170	100%	Dolomite as above.
8170-8180	100%	Dolomite as above, trace Chert, tan, hard, sharp.
8180-8190 NSOFC	100%	Dolomite as above, hard, dense, trace Chert. No visible porosity or permeability.
8190-8200	100%	Dolomite, trace Chert.
8200-8210 NSOFC	100%	Dolomite, light tan, buff, microcrystalline, hard, dense, very scant trace pinpoint intercrystalline porosity. Trace Chert.
8210-8220 NSOFC	100%	Dolomite as above predominately light tan-cream, cryptocrystalline with trace light tan-tan microcrystalline. No visible porosity or permeability.
8220-8230 NSOFC	100%	Dolomite as above. No visible porosity or permeability.
8230-8240 NSOFC	100%	Dolomite as above. No visible porosity or permeability. Trace stylolites.
8240-8250 NSOFC	100%	Dolomite as above with increasing tan-light brown microcrystalline. No visible porosity or permeability.
8250-8260 NSOFC	100%	Dolomite light tan-tan, light brown microcrystalline with very abundant cream cryptocrystalline hard, dense. No visible porosity or permeability.
8260-8270 NSOFC	100%	Dolomite as above. No visible porosity or permeability.
	Trace	Anhydrite white, pink, very limey.
8270-8280	100%	Dolomite as above. No visible porosity or permeability.
	Trace	Pale green, varicolor Shale.
	Trace	Anhydrite white, soft, limey.

8280-8290	100%	Dolomite as above, no visible porosity or permeability.
	Trace	Shale, pale green, varicolor, waxy with Pyrite inclusions.
	Trace	Anhydrite, white soft.
8290-8300	100%	Dolomite as above.
	Trace	Shale as above.
	Trace	Anhydrite as above.
8300-8310	99%	Dolomite as above, no visible porosity or permeability.
NSOFC	1%	Shale as above.
	Trace	Siltstone red-brown micaceous.
	Trace	Chert, cream, light tan, hard, sharp.
8310-8320	99%	Dolomite as above.
	1%	Shale, pale green, varicolor waxy with trace Pyrite inclusions.
	Trace	Siltstone red-brown micaceous.
	Very Scant Trace	Sandstone, clear frosted, very fine-fine grained with Anhydrite, Dolomite matrix.
8320-8330	98%	Dolomite, light tan, cream cryptocrystalline-microcrystalline, dense. Trace stylolites, trace Anhydritic inclusions.
NSOFC	2%	Shale as above.
	Trace	Anhydrite, cream, white soft, marly.
	Trace	Chert, cream, light tan, hard, sharp.
8330-8340	100%	Dolomite, light tan, cream, trace light brown, cryptocrystalline-microcrystalline, hard, dense with trace stylolites. No visible porosity or permeability.
	Trace	Shale, Siltstone as above.
	Trace	Chert, Anhydrite as above.

8340-8350	100%	Dolomite becoming predominately light tan-very light brown, microcrystalline hard, dense, with trace microsucrosic texture.
		Trace intercrystalline porosity.
		Trace .5mm open fracture porosity << 1% of sample.
	Trace-1% yellow mineral fluorescence. No cut.	
	No gas increase, no CO2 increase.	
8350-8360	100%	Dolomite as above some cream with floating quartz grain inclusion. No visible porosity or permeability.
NSOFC		
	Trace	Chert, Trace Anhydrite as above.
8360-8370	100%	Dolomite as above with very scant trace dead black stain, intercrystalline on fract faces, no cut, no gas increase, no CO2 increase.
	Trace	Chert, trace Anhydrite, pink, cream limey.
8370-8380	100%	Dolomite light tan-light brown as above. Trace Chert, trace Anhydrite as above.
8380-8390	100%	Dolomite becoming light-medium brown, microcrystalline, hard, dense, no visible porosity or permeability.
	Trace	Chert, trace Anhydrite as above.
8390-8400	100%	Dolomite as above, light-medium brown.
8400-8410	100%	Dolomite cream, light tan, very light brown, microcrystalline, hard, dense. Very scant trace dead black stain.
	Trace	Chert, trace Anhydrite.
8410-8420	100%	Dolomite as above some becoming very fine crystalline with trace intercrystalline porosity. Trace fract porosity. Trace black stain on fract faces. Trace yellow mineral fluorescence, no cut.
8420-8430	100%	Dolomite becoming predominately very light tan-cream microcrystalline to very fine crystalline with common microsacrosic texture. Trace crystalline porosity, trace fract porosity with black stain on fract faces, extremely weak milky yellow cut and residue ring from pinch of gross sample. 5% yellow mineral fluorescence.

8430-8440	100%	Dolomite as above with extremely weak show as above.
	Trace	Chert, trace Anhydrite.
8440-8450	100%	Dolomite very light tan-cream, very fine crystalline microsucrosic with extremely weak show as above.
	Trace	Chert, trace Anhydrite.
8450-8460	100%	Dolomite as above.
8460-8470	100%	Dolomite as above.
	TRIP SAMPLE	ABUNDANT CAVINGS.
8470-8480	100%	Dolomite as above.
		Common cavings.
8480-8490	100%	Dolomite as above.
8490-8500	100%	Dolomite as above.
8500-8510	100%	Dolomite as above with common very vuggy, crystalline porosity, trace fract porosity, very scant trace dead oil stain, trace mineral fluorescence. No cut.
8510-8520	100%	Dolomite predominately cream with some very light tan microcrystalline-fine crystalline with common vuggy, crystalline porosity, trace fract porosity, trace dead stain, mineral fluorescence, no cut.
8520-8530	100%	Dolomite with porosity as above.
8530-8540	100%	Dolomite as above with porosity as above.
8540-8550	100%	Dolomite as above.
8550-8560	100%	Dolomite predominately cream, with some very light tan microcrystalline-fine crystalline, with common vuggy and crystalline porosity, trace fract porosity, very scant trace dead black stain with no cut.
		Trace mineral flourescence.
		Trace Anhydrite white, pink soft.
		Trace Chert, white, cream.
8560-8570	100%	Dolomite as above, trace Chert.
8570-8580	100%	Dolomite as above, trace Chert.

8580-8590	100%	Dolomite as above, trace Chert.
8590-8600	100%	Dolomite as above, trace Chert.
8600-8610	100%	Dolomite as above, with increasing light tan microcrystalline.
	Trace	Chert.
8610-8620	100%	Dolomite as above with increasing light tan microcrystalline.
8620-8630	100%	Dolomite as above with very common light tan-tan cryptocrystalline-microcrystalline hard, dense.
8630-8640	100%	Dolomite predominately light tan-tan microcrystalline, hard, dense, with trace fract, trace Chert inclusions. Common cream very fine-fine crystalline with porosity as above.
8640-8650	100%	Dolomite predominately light tan-tan microcrystalline as above. NSOFC with trace-common cream very fine-fine crystalline with vuggy, crystalline, fract porosity as above. Trace dead black stain, no cut.
8650-8660	100%	Dolomite predominately tan microcrystalline, hard, dense with common cream very fine crystalline.
	Trace	Anhydrite, white, soft.
	Trace	Chert, cream, light tan hard, sharp.
8660-8670	100%	Dolomite, predominately tan microcrystalline as above with common cream very fine crystalline as above.
	Trace	Anhydrite, Chert as above.
8670-8680	100%	Dolomite as above, common Chert white, cream.
	Trace	Anhydrite, white, soft.
8680-8690	100%	Dolomite as above becoming very cherty.
	Trace	Anhydrite.
8690-8700	100%	Dolomite tan-light brown with very common Chert white, cream, light tan, hard, sharp.
NSOFC	Trace	Anhydrite.
8700-8710	90%	Dolomite as above.
	10%	Chert, white, cream, hard, sharp.

8710-8720	90%	Dolomite as above tan-light brown micro-crystalline.
	10%	Chert white, cream, light tan hard, sharp.
8720-8730	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite white soft.
8730-8740	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite as above.
8740-8750	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite white, soft.
8750-8760	95%	Dolomite tan-light brown, some medium brown microcrystalline, hard, dense with very abundant Chert inclusions.
	5%	Chert cream, light tan-tan hard, sharp.
	Trace	Anhydrite white, soft.
8760-8770	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite as above.
8770-8780	95	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite as above.
8780-8790	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite as above.
8790-8800	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite as above.

8800-8810	95%	Dolomite tan-light brown, microcrystalline hard, dense with very abundant Chert inclusions.
	5%	Chert, cream, tan, smokey, hard, sharp.
	Trace	Anhydrite white, soft chalky.
8810-8820	95%	Dolomite as above.
	5%	Chert as above.
	Trace	Anhydrite as above.
8820-8830	95%	Dolomite as above.
	5%	Chert as above.
	Trace-common	Anhydrite as above.
8830-8840	95%	Dolomite as above.
	5%	Chert as above.
	Trace-common	Anhydrite as above.
8840-8850	95%	Dolomite as above.
	5%	Chert as above.
	Trace-common	Anhydrite as above.
8850-8860	90%	Dolomite predominately tan-light brown, microcrystalline, hard, dense with abundant chert inclusions, trace-common Anhydrite inclusions; some cream very fine crystalline Dolomite.
	10%	Chert white, tan, clear, smokey, hard, sharp.
	Trace-common	Anhydrite white, soft marly.
NSOFC		
8860-8870	90%	Dolomite predominately tan-light brown, microcrystalline, hard, dense with abundant chert inclusions, trace-common Ahydrite inclusions; some cream very fine crystalline Dolomite.
NSOFC		
	10%	Chert white, tan, clear, smokey, hard, sharp.
	Trace-common	Anhydrite white, soft marly.

8870-8880	90%	Dolomite predominately tan-light brown, microcrystalline, hard, dense with abundant chert inclusions, trace-commmon Anhydrite inclusions; some cream very fine crystalline Dolomite.
NSOFC	10%	Chert white, tan, clear, smokey, hard, sharp.
		Trace-common Anhydrite white, soft marly.
8880-8890	90%	Dolomite predominately tan-light brown, microcrystalline, hard, dense with abundant chert inclusions, trace-common Anhydrite inclusions; some cream very fine crystalline Dolomite.
NSOFC	10%	Chert white, tan, clear, smokey, hard, sharp.
		Trace-common Anhydrite white, soft marly.
8890-8900	90%	Dolomite predominately tan-light brown, microcrystalline, hard, dense with abundant chert inclusions, trace-common Anhydrite inclusions; some cream very fine crystalline Dolomite.
NSOFC	10%	Chert white, tan, clear, smokey, hard, sharp.
		Trace-common Anhydrite white, soft marly.
8900-8910	95%	Dolomite tan-light brown microcrystalline with abundant cream very fine crystalline; abundant Chert inclusions, abundant Anhydrite inclusions.
	5%	Chert, white, tan, trace smokey hard, sharp.
		Trace-common Anhydrite white, soft marly.
NSOFC		
8910-8920	95%	Dolomite tan-light brown microcrystalline with abundant cream very fine crystalline; abundant Chert inclusions, abundant Anhydrite inclusions.
	5%	Chert, white, tan, trace smokey, hard, sharp.
		Trace-common Anhydrite white, soft marly.
NSOFC		

8920-8930	95%	Dolomite tan-light brown microcrystalline with abundant cream very fine crystalline; abundant Chert inclusions, abundant Anhydrite inclusions.
	5%	Chert, white, tan, trace smokey, hard, sharp.
NSOFC		
	Trace-common Anhydrite white, soft marly.	
8930-8940	95%	Dolomite tan-light brown microcrystalline with abundant cream very fine crystalline; abundant Chert inclusions, abundant Anhydrite inclusions.
	5%	Chert, white, tan, trace smokey, hard, sharp.
NSOFC		
	Trace-common Anhydrite white, soft marly.	
8940-8950	95%	Dolomite tan-light brown microcrystalline with abundant cream very fine crystalline; abundant Chert inclusions, abundant Anhydrite inclusions.
	5%	Chert, white, tan, trace smokey, hard, sharp.
NSOFC		
	Trace-common Anhydrite white, soft marly.	
8950-8960	100%	Dolomite tan-light brown microcrystalline-very fine crystalline with trace fine-medium crystalline, abundant Chert inclusions, trace Anhydrite inclusions; common cream-very light tan, very fine-medium crystalline with abundant Anhydrite inclusions.
	Trace-1% Chert tan, smokey, hard, sharp.	
	Common Anhydrite, white, soft chalky, limey. NSOFC	
8960-8970	100%	Dolomite tan-light brown microcrystalline-very fine crystalline with trace fine-medium crystalline, abundant Chert inclusions, trace Anhydrite inclusions; common cream-very light tan, very fine-medium crystalline with abundant Anhydrite inclusions.
	Trace-1% Chert tan, smokey, hard, sharp.	
	Common Anhydrite, white, soft chalky, limey. NSOFC	

8970-8980	100%	Dolomite tan-light brown microcrystalline-very fine crystalline with trace fine-medium crystalline, abundant Chert inclusions, trace Anhydrite inclusions; common cream-very light tan, very fine-medium crystalline with abundant Anhydrite inclusions.

Trace-1% Chert tan, smokey, hard, sharp.

Common Anhydrite, white, soft chalky, limey.
NSOFC

8980-8990	100%	Dolomite tan-light brown microcrystalline-very fine crystalline with trace fine-medium crystalline, abundant Chert inclusions, trace Anhydrite inclusions; common cream-very light tan, very fine-medium crystalline with abundant Anhydrite inclusions.

Trace-1% Chert tan, smokey, hard, sharp.

Common Anhydrite, white, soft chalky, limey.
NSOFC

8990-9000	100%	Dolomite tan-light brown microcrystalline-very fine crystalline with trace fine-medium crystalline, abundant Chert inclusions, trace Anhydrite inclusions; common cream-very light tan, very fine-medium crystalline with abundant Anhydrite inclusions.

Trace-1% Chert tan, smokey, hard, sharp.

Common Anhydrite, white, soft chalky, limey.
NSOFC

9000-9010	100%	Dolomite predominately cream-light tan, fine-medium crystalline, dense with trace-common Anhydrite inclusions. Trace vuggy, crystalline porosity. NSOFC; common tan-light brown, very fine-fine crystalline with some microcrystalline hard, dense, cherty.
	Common	Chert tan, white, clear hard, sharp.
	Common	Anhydrite white, very light tan soft, earthy marly.

9010-9020	100%	Dolomite predominately cream-light tan, fine-medium crystalline, dense with trace-common Anhydrite inclusions. Trace vuggy, crystalline porosity. NSOFC; common tan-light brown, very fine-fine crystalline with some microcrystalline hard, dense, cherty.
	Common	Chert tan, white, clear hard, sharp.
	Common	Anhydrite white, very light tan soft, earthy marly.
9020-9030	100%	Dolomite predominately cream-light tan, fine-medium crystalline, dense with trace-common Anhydrite inclusions. Trace vuggy, crystalline porosity. NSOFC; common tan-light brown, very fine-fine crystalline with some microcrystalline hard, dense, cherty.
	Common	Chert tan, white, clear hard, sharp.
	Common	Anhydrite white, very light tan soft, earthy marly.
9030-9040	100%	Dolomite predominately cream-light tan, fine-medium crystalline, dense with trace-common Anhydrite inclusions. Trace vuggy, crystalline porosity. NSOFC; common tan-light brown, very fine-fine crystalline with some microcrystalline hard, dense, cherty.
	Common	Chert tan, white, clear hard, sharp.
	Common	Anhydrite white, very light tan soft, earthy marly.
9040-9050	100%	Dolomite predominately cream-light tan, fine-medium crystalline, dense with trace-common Anhydrite inclusions. Trace vuggy, crystalline porosity. NSOFC; common tan-light brown, very fine-fine crystalline with some microcrystalline hard, dense, cherty.
	Common	Chert tan, white, clear hard, sharp.
	Common	Anhydrite white, very light tan soft, earthy marly.

9050-9060 100% Dolomite dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part, anhydritic in part; no visible porosity very scant trace dead, black small trace .

Trace Chert and tan, hard, sharp.

Common Anhydrite white, very light tan, very soft earthy, marly.

9060-9070 100% Dolomite dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part, anhydritic in part; no visible porosity very scant trace dead, black small trace .

Trace Cnert and tan, hard, sharp.

Common Anhydrite white, very light tan, very soft earthy, marly.

9070-9080 100% Dolomite dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part, anhydritic in part; no visible porosity very scant trace dead, black small trace .

Trace Cnert and tan, hard, sharp.

Common Anhydrite white, very light tan, very soft earthy, marly.

9080-9090 100% Dolomite dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline Chert in part, Anhydritic in part; no visible porosity very scant trace dead, black small trace .

Trace Chert and tan, hard, sharp.

Common Anhydrite white, very light tan, very soft earthy, marly.

9090-9100 100% Dolomite dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part, anhydritic in part; no visible porosity very scant trace dead, black small trace .

Trace Chert and tan, hard, sharp.

Common Anhydrite white, very light tan, very soft earthy, marly.

9100-9110 100% Dolomite, cream, dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part anhydritic in part very scant trace vuggy porosity in cream-dark cream. Very scant trace dead black stain.

NOFC

Trace Cnert tan, hard sharp.

Trace Annydrite white, soft, earthy, chalky.

9110-9120 100% Dolomite, cream, dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part, anhydritic in part very scant trace vuggy porosity in cream-dark cream. Very scant trace dead black stain.

NOFC

Trace Cnert tan, hard sharp.

Trace Anhydrite white, soft, earthy, chalky.

9120-9130 100% Dolomite, cream, dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part anhydritic in part very scant trace vuggy porosity in cream-dark cream. Very scant trace dead black stain.

NOFC

Trace Chert tan, hard sharp.

Trace Anhydrite white, soft, earthy, chalky.

9130-9140 100% Dolomite, cream, dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part anhydrite in part very scant trace vuggy porosity in cream-dark cream. Very scant trace dead black stain.

NOFC

Trace Cnert tan, hard sharp.

Trace Anhydrite white, soft, earthy, chalky.

9140-9150 100% Dolomite, cream, dark cream-very light tan, very fine-fine crystalline with some tan microcrystalline-very fine crystalline cherty in part anhydritic in part very scant trace vuggy porosity in cream-dark cream. Very scant trace dead black stain.

NOFC

Trace Cnert tan, hard sharp.

Trace Anhydrite white, soft, earthy, chalky.

9150-9160 100% Dolomite cream very fine-fine crystalline, light tan-tan microcrystalline-very fine crystalline cherty in part anhydritic in part with very scant trace vuggy and fracture porosity very scant trace dead black stain:

Trace Chert tan, white hard, sharp.

Trace Anhydrite white, soft.

Trace Shale parting some black siliceous Micaceous.

9160-9170 100% Dolomite cream very fine-fine crystalline, light tan-tan microcrystalline-very fine crystalline cherty in part anhydritic in part with very scant trace vuggy and fracture porosity very scant trace dead black stain:

Trace Chert tan, white hard, sharp.

Trace Anhydrite white, soft.

Trace Shale parting some black siliceous Micaceous.

9170-9180 100% Dolomite cream very fine-fine crystalline, light tan-tan microcrystalline-very fine crystalline cherty in part anhydritic in part with very scant trace vuggy and fracture porosity very scant trace dead black stain:

Trace Chert tan, white hard, sharp.

Trace Anhydrite white, soft.

Trace Shale parting some black siliceous Micaceous.

9180-9190 100% Dolomite cream very fine-fine crystalline, light tan-tan microcrystalline-very fine crystalline cherty in part anhydritic in part with very scant trace vuggy and fracture porosity very scant trace dead black stain:

Trace Chert tan, white hard, sharp.

Trace Anhydrite white, soft.

Trace Shale parting some black siliceous micaceous.

9190-9200	100%	Dolomite cream very fine-fine crystalline, light tan-tan microcrystalline-very fine crystalline, cherty in part anhydritic in part with very scant trace vuggy and fracture porosity very scant trace dead black stain:

Trace Chert tan, white hard, sharp.

Trace Anhydrite white, soft.

Trace Shale parting some black siliceous Micaceous.

9200-9210	100%	Dolomite light-dark cream very fine crystalline-fine crystalline dense-fracture with common white Anhydrite inclusions light tan-light brown microcrystalline-fine crystalline hard, dense cherty in part; occasional black shale partings included within darker Dolomite; occasional ghost pelletal or oolitical structure; ghost broken fossil fragments; cherty in part, no visible porosity.

Trace Chert white, clear, tan hard, sharp

Common Anhydrite white, soft, chalky.

Scattered black siliceous shale partings.

9210-9220	100%	Dolomite light-dark cream very fine crystalline-fine crystalline dense-fracture with common white anhydritic inclusions light tan-light brown microcrystalline-fine crystalline hard, dense cherty in part; occasional black shale partings included within darker Dolomite; occasional ghost pelletal or oolitical structure; ghost broken fossil fragments; cherty in part, no visible porosity.

Trace Chert white, clear, tan hard, sharp.

Common Anhydrite white, soft, chalky.

Scattered black siliceous shale partings.

9220-9230	100%	Dolomite light-dark cream very fine crystalline-fine crystalline dense-fracture with common white Anhydrite inclusions light tan-light brown microcrystalline-fine crystalline hard, dense chert in part; occasional black shale partings included within darker Dolomite; occasional ghost pelletal or oolitical structure; ghost broken fossil fragments; chert in part, no visible porosity.

Trace Chert white, clear, tan hard, sharp.

Common Anhydrite white, soft, chalky.

Scattered black siliceous shale partings.

9230-9240	100%	Dolomite light-dark cream very fine crystalline-fine crystalline dense-fracture with common white anhydritic inclusions light tan-light brown microcrystalline-fine crystalline hard, dense cherty in part; occasional black shale partings included within darker Dolomite; occasional ghost pelletal or oolitical structure; ghost broken fossil fragments; cherty in part, no visible porosity.

Trace Chert white, clear, tan hard, sharp

Common Anhydrite white, soft, chalky.

Scattered black siliceous shale partings.

9240-9250	100%	Dolomite light-dark cream very fine crystalline-fine crystalline dense-fracture with common white aAnhydritic inclusions light tan-light brown microcrystalline-fine crystalline hard, dense cherty in part; occasional black shale partings included within darker Dolomite; occasional ghost pelletal or oolitical structure; ghost broken fossil fragments; cherty in part, no visible porosity.

Trace Chert white, clear, tan hard, sharp

Common Anhydrite white, soft, chalky.

Scattered black siliceous shale partings..

9250-9260 100% Dolomite predominately dark cream-very light tan microcrystalline-very fine crystalline hard dense; some light cream anhydritic, some tan-light brown Cherty.

Trace Chert white, cream, light tan trace hard, sharp.

Trace-common Anhydrite.

Trace Shale partings-gray waxy, black siliceous Miaceous very scant trace Siltstone partings red-brown sandy or ghose pelletal or oolitical structure; trace ghost fossil fragments.

9260-9270 100% Dolomite predominantly dark cream-very light tan microcrystalline-very fine crystalline hard dense; some light cream anhydritic, some tan-light brown cherty.

Trace Cnert white, cream, light tan trace hard, sharp.

Trace-common Anhydrite.

Trace Snale partings-gray waxy, black siliceous Miaceous very scant trace Siltstone partings red-brown sandy or ghost pelletal or oolitical structure; trace ghost fossil fragments.

9270-9280 100% Dolomite predominately dark cream-very light tan microcrystalline-very fine crystalline hard dense; some light cream Anhydritic, some tan-light brown cherty.

Trace Chert white, cream, light tan trace hard, sharp.

Trace-common Anhydrite.

Trace Snale partings-gray waxy, black siliceous Miaceous very scant trace Siltstone partings red-brown sandy or ghost pelletal or oolitical structure; trace ghost fossil fragments.

9280-9290	100%	Dolomite predominantly dark cream-very light tan microcrystalline-very fine crystalline hard dense; some light cream anhydritic, some tan-light brown cherty.

Trace Cnert white, cream, light tan trace hard, sharp.

Trace-common Anhydrite.

Trace Shale partings-gray waxy, black siliceous Miaceous very scant trace Siltstone partings red-brown sandy or ghost pelletal or oolitical structure; trace ghost fossil fragments.

9290-9300 Loggea after trip-

95% Dolomite cream-light brown as above.

Trace Cnert as above.

Trace Anhydrite as above.

Common Shale gray-green waxy non calcite.

9300-9310	98%	Dolomite cream-light tan microcrystalline hard, dense cherty in part; some cream-light tan very fine crystalline microsucrosic Annydritic in part.
	01%	Shale gray-green, gray waxy.
	01%	Siltstone red-brown sandy Anhydritic
		Trace Chert tan, cream hard, sharp.
		Trace Anhydrite white, soft.
9310-9320	95%	Dolomite as above predominately cream-tan microcrystalline hard, dense. Some anhydritic.
	03%	Shale gray, gray-green, maroon waxy.
	02%	Siltstone red-brown sandy anhydrite trace cherty and anhydritic as above.

9320-9330	70%	Dolomite as above with some decreasing medium brown hard, dense. Some Dolomite with trace floating medium green quartz greens.
	20%	Shale gray, dark gray-green waxy, Micaceous in part above maroon, varicolor paste light waxy.
	05%	Siltstone red-brown sandy Anhydrite in part.
	03%	Anhydrite white, soft-fine some very fine crystalline.
	02%	Chert tan, white, hard, sharp.
9330-9340	70%	Dolomite as above with some decreasing dark gray shaley.
	30%	Shale predominately dark gray-green firm waxy Micaceous in part Dolomite in part with variable gray-green. gray, variable color waxy.
	Trace Siltstone, Anhydrite, Chert as above.	
9340-9350	80%	Dolomite predominately cream-light tan microcrystalline hard, dense with common gray gray-brown microcrystalline-very fine crystalline; trace microsucrosic texture; Cherty in part some cream-light tan Anhydritic in part, some dark gray Dolomite shaley, silty.
	20%	Shale gray, gray-green, green, dark gray maroon firm, waxy, some Dolomitic, thinly interbedded with Dolomite as above.
	Trace Siltstone red-brown sandy.	
	Trace Anhydrite and Chert as above.	
9350-9360	60%	Dolomite as above with increasing dark gray-brown microcrystalline-very fine crystalline hard, dense.
	40%	Shale as above some becoming very dolomitic.
	Common - 1% Chert and Anhydrite as above.	
9360-9370	90%	Dolomite as above subequal cream-light tan and dark gray-brown predominantly microcrystalline hard, dense Cherty, with common very fine-fine crystalline microsucrosic Anhydritic.
	10%	Shale gray-green, dark green, varicolor waxy.
	Common Chert, Anhydrite as above.	

9370-9380	90%	Dolomite as above.
	10%	Shale as above. Trace some Sandstone very fine grained white, Glauconite.
	Common Chert, Anhydrite as above.	
9380-9390	95%	Dolomite as above becoming predominantly cream-light tan.
	05%	Shale as above. Trace Sandstone with very fine grained Glauconite.
	Common Chert, Anhydrite as above.	
9390-9400	98%	Dolomite as above predominately cream-light tan.
	05%	Shale as above. Trace Sandstone with very fine grained Glauconite.
	02%	Shale as above.
	Trace common Chert, Anhydrite as above.	
9400-9410	100%	Dolomite predominantly light tan-cream microcrystalline-very fine crystalline, hard dense some Anhydritic, some Cherty.
	Common - 1% Shale dark gray-green, varicolor, Siltstone red-brown, thinly interbedded with Dolomite as above.	
	Common Anhydrite white, soft, marly.	
9410-9420	100%	Dolomite as above.
	Trace-1% Shale as above.	
	Common Anhydrite white, soft, marly, trace Pyrite.	
	Trace Sandstone with very fine grained Glauconite.	
9420-9430	100%	Dolomite as above.
	Trace-1% Shale as above.	
	Common Anhydrite white, soft, marly.	
	Trace Chert and light tan, hard, sharp.	
	Trace Sandstone white, very fine-fine grained Glauconite, trace Pyrite.	

9430-9440 100% Dolomite as above.

Trace-1% Shale as above.

Common Anhydrite white, soft, marly.

Trace Chert and light tan, hard, sharp.

Trace Sandstone white, very fine-fine grained Glauconite, trace Pyrite.

9440-9450 100% Dolomite as above.

Trace-1% Shale as above.

Common Anhydrite white, soft, marly.

Trace Chert and light tan, hard, sharp.

Trace Sandstone white, very fine-fine grained Glauconite, trace Pyrite.

9450-9460 100% Dolomite subequal cream-light tan microcrystalline-very fine crystalline, hard, dense; medium-dark gray-brown microcrystalline-very fine crystalline hard, dense. Trace cream medium crystalline with tan pelloid structure.

Trace Shale dark gray-gren Micaeous waxy, trace Siltstone red-brown sandy, trace Chert tan, white, hard, sharp. Trace Anhydrite white, soft, trace Pyrite, trace Stylotites in Dolomite.

9460-9470 100% Dolomite subequal cream-light tan microcrystalline-very fine crystalline, hard, dense; medium-dark gray-brown microcrystalline-very fine crystalline hard, dense. Trace cream medium crystalline with tan pelloid structure.

Trace Shale dark gray-gren Micaeous waxy, trace Siltstone red-brown sandy, trace Chert tan, white, hard, sharp. Trace Anhydrite white, soft, trace Pyrite, trace Stylotites in Dolomite.

9470-9480 100% Dolomite subequal cream-light tan microcrystalline-very fine crystalline, hard, dense; medium-dark gray-brown microcrystalline-very fine crystalline hard, dense. Trace cream medium crystalline with tan pelloid structure.

Trace Shale dark gray-green Micaeous waxy, trace Siltstone red-brown sandy, trace Chert tan, white, hard, sharp. Trace Anhydrite white, soft, trace Pyrite, trace Stylotites in Dolomite.

9480-9490	100%	Dolomite becoming predominately tan-medium dark gray-brown microcrystalline hard, dense with some very fine-fine crystalline Cherty in part, Anhydritic in part. Decreasing in Shale and Siltstone as above to Pyrite, trace Chert as above, increasing in Anhydrite as above.
9490-9500	100%	Dolomite as above with increasing cream-very light tan microcrystalline-very fine crystalline; increasing Anhydrite inclusion.
	01%	Shale dark gray-green, gray waxy, Siltstone red-brown sandy.

Trace Chert.

Trace Sandstone white, clear, gray-white very fine-grained, subrounded-rounded, poor-medium cemented some very light tan, poor cemented Dolomite with Dolomite matrix, common Glauconite inclusion.

Common large, very fine grained quartz greens.

9500-9510	75%	Dolomite predominately cream-very light tan, fine-medium crystalline with abundant microcrystalline-very fine crystalline, some medium gray-dark gray-brown microcrystalline hard, dense. Some tan-light brown fine microcrystalline with trace vuggy crystalline porosity.
	25%	Sandstone white, clear, gray-white very fine grained subrounded-rounded, poor-medium Dolomite with common Glauconite inclusions, common loose very fine grained quartz greens.

Scant trace dead black stain, no cut.

Common yellow, gold minimum Fluorescence no cut.

Common - 1% Shale gray-green, green waxy Micaceous thinly interbedded in Sandstone and Dolomite as above.

9510-9520	85%	Dolomite as above. Trace dead black stain as above.
	15%	Sandstone as above. Trace dead black stain as above.

Trace - 1% Shale as above.

9520-9530 100% Dolomite predominately white, cream, very light tan fine crystalline-microcrystalline, microsucrose with trace microcrystalline. Trace Euhedral Dolomite crystalline 5-10% crystalline, porosity trace vuggy porosity, tract fracture porosity.

Trace Anhydrite white, very light pink, chalky, very limey grading to Limestone.

Trace Shale gray-green, dark gray-green waxy.

Trace Sandstone white, gray-white very fine grained Glauconitic.

Trace Siltstone red-brown sandy.

9530-9540 100% Dolomite predominately white, cream, very light tan fine crystalline-microcrystalline, microsucrose with trace microcrystalline. Trace Euhedral Dolomite crystalline 5-10% crystalline, porosity trace vuggy porosity, trace fracture porosity.

Trace Anhydrite white, very light pink, chalky, very limey grading to Limestone.

Trace Shale gray-green, dark gray-green waxy.

Trace Sandstone white, gray-white very fine grained Glauconitic.

Trace Siltstone red-brown sandy.

9540-9550 100% Dolomite as above becoming predominately microcrystalline-very fine crystalline, hard, dense with common microsucrosic texture.

Trace Shale gray-green waxy, some Micaceous.

Trace Siltstone red-brown sandy.

Trace Common Anhydrite white, pink, chalky, very limey grading to Limestone.

9550-9560 100% Dolomite as above becoming predominantly dark cream-very light tan microcrystalline-very fine crystalline.

Decreasing Shale, Siltstone as above.

Trace Anhydrite as above.

9560-9570 100% Dolomite as above some becomming very Annydritic.

Trace Snale gray-green waxy.

Trace Anhydrite pink, white chalky, very limey.

Trace Cnert white, tan, hard, sharp.

9570-9580 100% Dolomite as above some becomming very Anhydritic.

Trace Snale gray-green waxy.

Trace Anhydrite pink, white chalky, very limey.

Trace Cnert white, tan, hard, sharp.

9580-9590 100% Dolomite as above some becomming very Annydritic

Trace Snale gray-green waxy.

Trace Anhydrite pink, white chalky, very limey.

Trace Cnert white, tan, hard, sharp.

9590-9600 100% Dolomite as above some becoming very Anhydritic.

Trace Snale gray-green waxy.

Trace Anhydrite pink, white chalky, very limey.

Trace Cnert white, tan, hard, sharp.

9600-9610 100% Dolomite predominately cream-light tan very fine-microcrystalline predominately dense with some microsucrosic trace crystalline, vuggy porosity. Anhydritic in part.

NSOFC

9610-9620 Trace Snale gray-green, dark gray-green waxy, some Micaceous.

Trace Annydrite white, pink, chalky, limey, with some grading to Limestone.

9620-9630 100% Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Shale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9630-9640 100% Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Snale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9640-9650	100%	Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Shale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9650-9660	100%	Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Snale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9660-9670	100%	Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Shale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9670-9680	100%	Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Snale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9680-9690	100%	Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Snale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9690-9700 100% Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Shale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9700-9710 100% Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Snale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9710-9720 100% Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Shale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

9720-9728 100% Dolomite as above becoming predominately microsucrosic with porosity as above. Trace white, tan Chert.

Trace Pyrite, some very Anhydritic.

Dark Snale as above.

Trace Anhydrite white, pink, soft, chalky, Limey.

TD 9728 9:00 A.M. 8 August, 1984

FORMATION EVALUATION

Chandler and Associates, Inc. Lawrence State 15-1 spudded 15 May, 1984 in the Blue Gate Shale Member of the Mancos Formation. Geological evaluation began in the Blue Gate Shale at the surface.

CRETACEOUS

Mancos (Blue Gate Shale) Surface - 978

The Blue Gate Shale was typical dark gray to dark gray-brown shale. It was firm, blocky, silty and calcareous with traces of broken fossil fragments. No shows were encountered.

Ferron Sandstone 978 - 1200

In the L.S. 15-1, the Ferron was predominately light tan to light gray-brown to light gray sandstone. This sandstone was very fine to fine grained and calcareous with white clay matrix and abundant dark mineral inclusions. No shows were noted in the Ferron.

Tununk Snale 1200 - 1632

The Tununk Shale member of the Mancos was a dark gray firm, blocky, silty shale with occasional thin sandstone and siltstone interlaminations. No shows were found in the Tununk.

Dakota 1632 - 1707

The Dakota was primarily sandstone and shale in the L.S. 15-1. The sandstone was white, clear, and light tan very fine to fine grained, moderately sorted and well cemented with white clay matrix. No significant shows were noted in the Dakota sandstone.

The Dakota Shales were light gray-green soft and bentonitic with abundant medium gray firm blocky and silty shale. No shows noted.

Cedar Mountain 1707 - 2230

The Cedar Mountain Formation was primarily Shale with varying amounts of thin white to light tan fine to very fine grained sandstones interbedded. Minor light colored dense Limestones were noted in the samples. The Shale was predominately pale gray-green and soft with varying amounts of red-brown, maroon and varicolored. Abundant red-green mottled shale was noted also. No shows were found in the Cedar Mountain.

Buckhorn Conglomerate 2230 - 2318

The Buckhorn Conglomerate was medium to coarse grained varicolored chent pebble conglomerate interbedded with pale gray-green soft bentonitic shale. No shows were noted.

JURASSIC

Morrison Formation 2318 - 2804

The Morrison Formation was primarily varicolor bentonitic shale very similar to the Cedar Mountain. Abundant pale gray-green and red-brown shales characterize the Morrison. Conglomeratic Sandstones and Chent pebble conglomerates interbedded in the upper portion of the Morrison. No attempt was made to distinguish the various members. No shows were found in the Morrison.

Summerville Formation 2804 - 3158

Red-brown anhydritic silty shales with thin dense Limestone and siltstone interbeds characterize the Summerville Formation. No shows were found.

Curtis Formation 3158 - 3312

The Curtis Formation in the L.S. 15-1 was distinguished by the appearance of medium to dark green-brown very fine to fine grained glauconitic sandstone. This sandstone was subangular to subrounded, moderately sorted and moderately cemented with caleaneous cement. Some fragments near the top had a possible dead brown oil stain. No further evaluation was deemed necessary.

Entrada Sandstone 3312 - 4094

The Entrada Sandstone was light red-orange to brick red very fine to fine grained, silty in part with abundant anhydrite inclusions. No shows were noted.

Carmel Formation 4094 - 4892

The Carmel lithology was a highly variable complex of gray siltstones, sandstones and shales. Oolitic Limestone dominated the lower portion of this formation. Abundant anhydrite was found throughout with several two to four foot thick beds noted. No shows were noted in the Carmel.

JURASSIC - TRIASSIC

Navajo Sandstone 4892 - 5342

The Navajo Sandstone was penetrated with the first appearance of white and clear very fine to fine grained subrounded sandstone. This bleached sandstone persisted to depth 4942, where a color change to the typical light red-orange was noted. The upper portion contained a minor total gas increase and approximately eighty per cent of the sample had yellow fluorescence with a fair yellow cut and yellow residue ring. Drill stem test #1 was run from 4899 to 4940 to evaluate the show. Abundant fresh was recovered (See DST #1 Report). No further shows were encountered.

TRIASSIC

Kayenta Formation 5342 - 5503

The Kayenta Formation was white sandstone very fine to fine grained subrounded to subangular with common red-brown and light green shale partings. No shows were noted.

Wingate Sandstone 5503 - 5824

The Wingate Sandstone in the Lawrence State 15-1 is white to light orange very fine to fine grained sugangular to subrounded poorly to moderately well cemented, very slightly to non-calcareous. No shows were encountered.

Chinle Formation 5824 - 5978

Colored shales encountered at 5824 marked the top of the Chinle Formation. The mixed lithology of claystone, sandstone siltstone and shale of the Chinle is the typical red-brown, maroon, light gray-green and varicolor. No attempt to distinguish the various members was made.

"Shinarump" 5978 - 6088

The "Shinarump" of the Lawrence State 15-1 in all probability is the "Moss Back" Member of the Chinle Formation. Communication with Bob Lupe of Amerada Hess and formerly of the U.S.G.S confirms that the true Shinarump is absent at the location of the L.S. 15-1.

The "Shinarump" consisted primarily of a clear to white very fine to medium grained poorly sorted sandstone with about ten per cent having a dead black oil stain. A very weak yellow fluorescence and cut was noted, but no gas increase was found.

Minor red-brown firm silty micromicaceous shales were noted also.

Moenkopi (Upper) 6088 - 6792

The Upper Moenkopi was primarily red-brown silty and varicolor waxy shales with thin siltstones and sandstones interbedded. Varying small amounts of anhydrite were noted also. No significant hydrocarbon shows were encountered.

Sinbad Limestone 6792 - 6900

Drill Stem Test #2 was run to evaluate a 17 unit gas increase found from 6792 - 6810 in the Sinbad Limestone. Lithology consisted of light gray microcrystalline to very fine crystalline argillaceous dolomites limestone with a darkbrown to black stain. A very poor weak yellow cut and very weak yellow fluorescence was noted also.

Moenkopi (Lower) 6900 - 7122

The Lower Moenkopi was a white to light gray siltstone with common to abundant dead black stain. No fluorescence, cut or gas increase was associated with the black stain. Minor varicolored shales were also present in the Lower Moenkopi.

PERMIAN

Kaibab 7122 - 7262

The Kaibab was tested from 7130 to 7224 to evaluate a marginal show found in the dominant dolomite lithology. This dolomite is cream, light tan cryptocrystilline to microcrystalline, silty with no visible porosity. Although up to eighty percent of the sample had black stain, no fluorescence, cut or gas increase was noted. (See DST #3)

Toroweap 7262 - 7708

The Toroweap is described as nearly one hundred percent sandstone: white, clear very fine to medium grained subangular to subrounded moderately to very well cemented, silicious. The interval from 7450 to 7503 was tested with DST #4 to evaluate a weak show that was related to a zone of erratic drilling times. Although the lithology did not change from that previously drilled, a weak yellow-blue fluorescence was noted and a 12 unit gas increase was recorded. (See DST #4)

Elephant Canyon 7708 - 8054

Beneath the Toroweap the Elephant Canyon was picked with the appearance of white soft chalky anhydrite.

The varible lithology of the Elephant Canyon consisted of a complex of dense dolomote very fine to fine grained sandstones, pastel waxy shales and red-brown siltstones. Abundant anhydrite was found throughout. No significant shows were found.

Deseret Limestone 8054 - 9288

The appearance of light tan to baff chenty dolomite signaled the top of the Deseret Limestone. The porosity zone of the Mississippian was evaluated with DST #5. (8402 - 8465).

A positive drill rate increase associated with visible intercrystalline and fracture porosity necessitated this DST even though the gas increase was very minor. The light tan to cream microcrystalline dolomite had a very weak yellow fluorescence and cut associated with a trace of black stain. (See DST #5)

DEVONIAN

Ouray 9288 - 9306

The Ouray was picked on the appearance in the samples of an increase in gray-green waxy shale. The Ouray was a cream microcrystalline hard, dense dolomite. No show was found in the Ouray.

CAMBRIAN

Maxfield Formation 9306 - 9690

On the basis of electrical and mechanical log correlation at T.D., Bob Lent of Chandler and Associates picked the Maxfield at 9306.

Lithologically the Maxfield was primarily gray-green and dark gray-green waxy shales with thin red siltstones and thin white glauconitic sandstones in the upper part. The lower portion of the Maxfield was a cream to light tan very uniform dolomite.

No shows were noted in the Maxfield.

Ophir Formation 9670 - TD

Even though no indication was found in the samples, logs showed that the Ophir was penetrated at 9690. The well was drilled to T.D. at 9278 and logged by Dresser-Atlas of Vernal, Utah.

Should I be of service in any way, please feel free to contact me at any time.

Respectfully submitted.

L A Prendergast

L. A. Prendergast
Consulting Geologist
187 Reta Drive
Grand Junction, Colorado 81503
(303)245-3921