

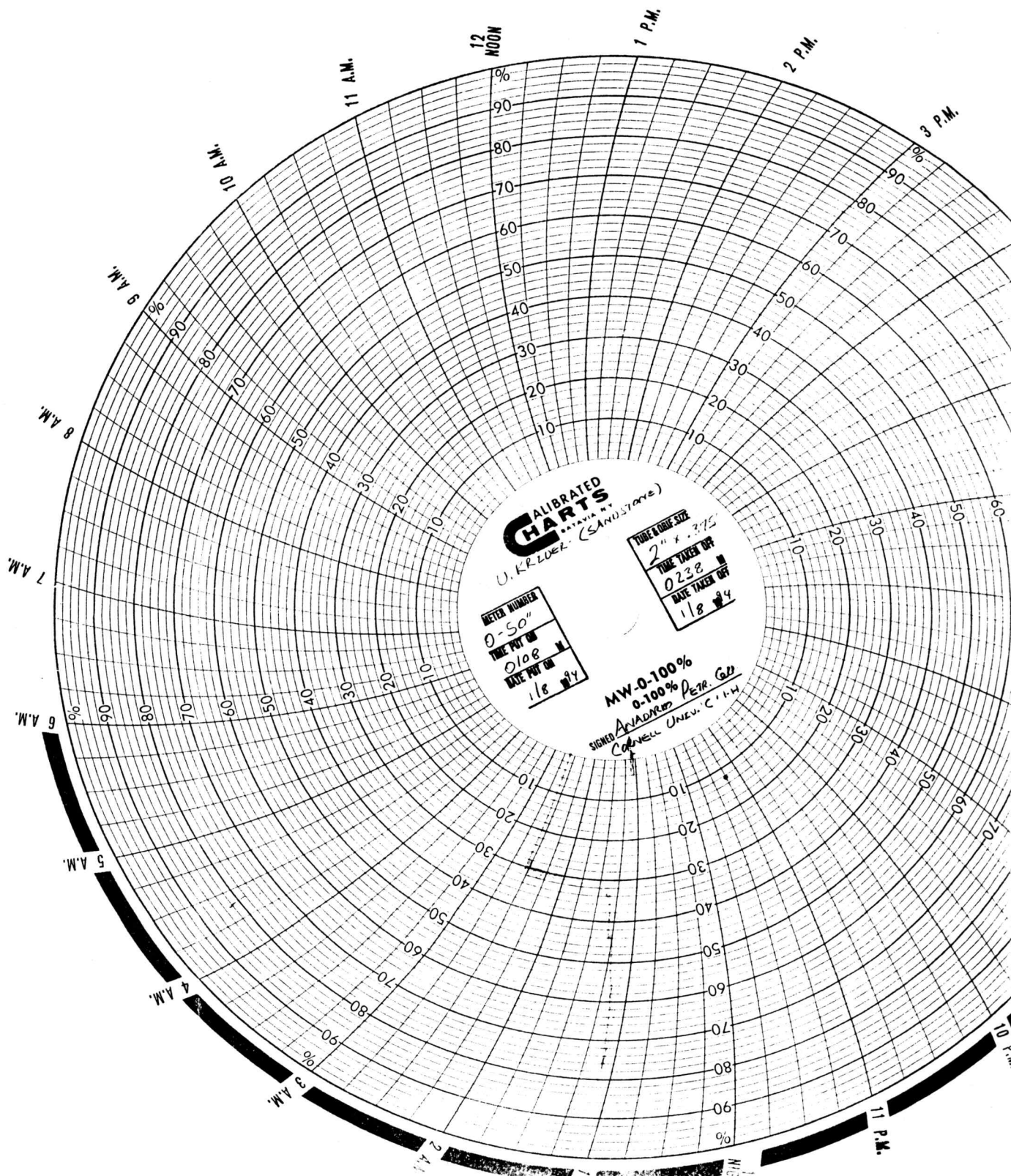
Cornell Univ. C-1H

DST data

35-32-40W

15-129-21249

525301



CALIBRATED CHARTS
U. K. L. O. E. (SANDSTONE)

METER NUMBER
0-50"
TIME PUT ON
0108 M.
DATE PUT ON
1/8 84

TUBE & GAGE SIZE
2" x 3/4"
TIME TAKEN OFF
0238
DATE TAKEN OFF
1/8 84

MW-0-100%
0-100% PER G.D.
SIGNED *ARADROD PER G.D.*
COWELL UNIV. C. H.



RILOBITE
TESTING L.L.C.

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

Jars

5'

Safety Jt.

2'

Shale
Packer

8'

Shale
Packer

8'

2288'

2296'

Total depth 2339'

Cornell University
DST #1

REC

ID
3/4"

Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG WT SET @ TD PB GL
TBG WT SET @ SN PKR KB
PERFS TO TO TO TO
PROVER METER TAPS ORIFICE PCR TCR
GG .7415 API @ GM RESERVOIR UPPER KRIDER
(SANDSTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE			
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL/S	WATER BBL/S	TEST:	INITIAL	SPECIAL	ENDING
															ANNUAL	RETEST	DATE
REMARKS PERTINENT TO TEST DATA QUALITY																	
FRIDAY 1-7-94																	
1550																	CORE BARREL ON BOTTOM AT 2339'.
1815																	CORE BARREL ON SURFACE.
2243																	POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.
																	TOP GAUGE - 76051
																	BOTTOM GAUGE - 76052
2258																	START IN WELL WITH TOOLS.
SATURDAY 1-8-94																	
0108																	TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT OFF.
																	BOTTOM OF TOP PACKER - 2296
																	BOTTOM OF TOP GAUGE - 2303
																	BOTTOM OF BOTTOM GAUGE - 2307
																	BOTTOM OF BOTTOM PACKER - 2339
0108		START FLOW PERIOD WITH 2" O.W.T. AND 3/8" PLATE.															(GAS VOLUME CORRECTED TO .7415 SPECIFIC GRAVITY.)
0118								25.0			15.9						
0128								19.0			13.9						
0138								16.0			12.8						
0148								15.5			12.6						
0158								15.5			12.6						
0208								15.5			12.6						
0218								15.5			12.6						
0228								15.5			12.6						
0238								15.5			12.6						CLOSE DOWNHOLE SHUT-OFF

Precision Well Testing

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L.L.C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, L.L.C.
728 North Roosevelt
Liberal, Kansas 67901
Phone: 316-324-5389
Fax: 316-626-7108

Lab Number: 940003
Sample From: Cornell Univ 1H
Producer: Anadarko Pet. Corp.
Date:
Time:
Sampler:
Source: DST 1

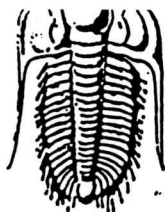
Analyzed: 01/09/94
Pressure:
Temperature:
Location: 35-32-40
County: Morton
State: Kansas
Formation: Chase

	Mole %	GPM
Helium	He: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 14.101	0.000
Carbon Dioxide	CO2: 0.114	0.000
Methane	C1: 72.069	0.000
Ethane	C2: 6.517	1.743
Propane	C3: 3.953	1.089
Iso Butane	iC4: 0.433	0.142
Normal Butane	nC4: 1.264	0.399
Iso Pentane	iC5: 0.241	0.088
Normal Pentane	nC5: 0.430	0.156
Hexanes Plus	C6+: 0.878	0.383

TOTAL: 100.000 3.999
Z Fact: 0.9973
SP.GR.: 0.7415
BTU (SAT): 1056.6 @ 14.73 psia
BTU (DRY): 1075.3 @ 14.73 psia

COMMENTS:

Sample entered under vacuum
Insufficient pressure for Helium Analysis



RILOBITE
TESTING L.L.C.

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

Jars

5'

Safety Jt.

2'

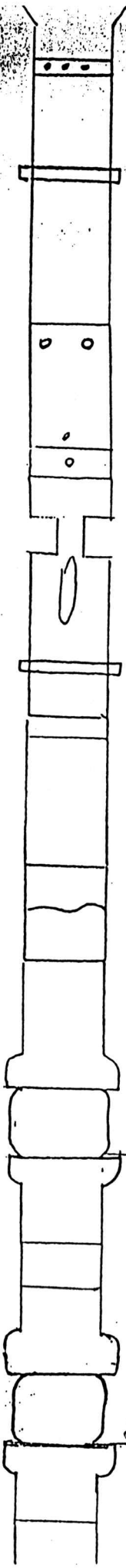
Shale
Packer

8'

Shale
Packer

4'

2'



000	2'
000	1'
000	1'
000	5'
000	3'
000	4'

REC.

2348'

2350'

2356'

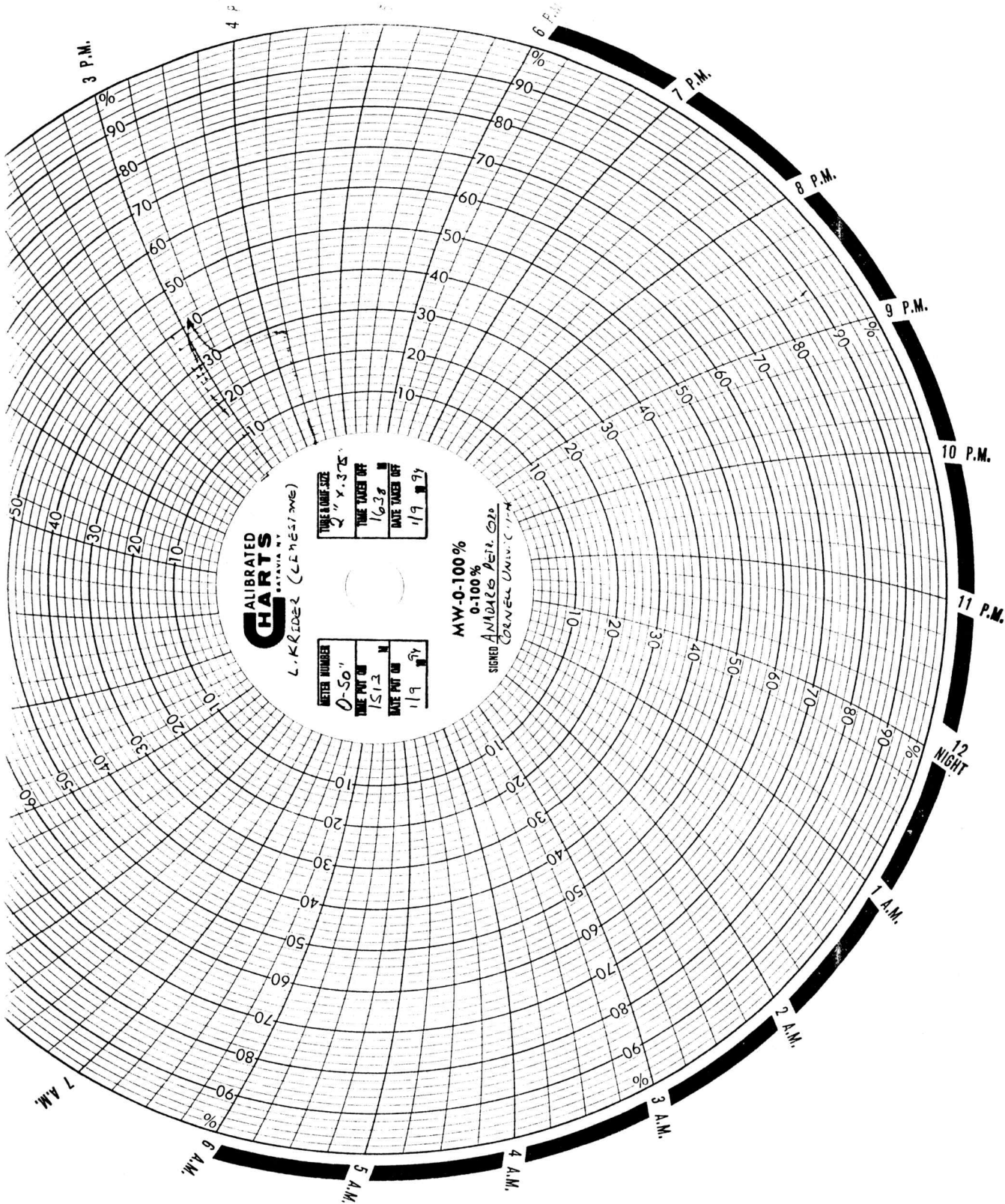
Total depth 2360'

2337'

2342'

Cornell University
DST #2

ID
3/4"



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG _____ WT _____ SET @ _____ TD _____ PB _____ GL _____
TBG _____ WT _____ SET @ _____ SN _____ PKR _____ KB _____
PERFS _____ TO _____ , _____ TO _____ , _____ TO _____
PROVER _____ METER _____ TAPS _____ ORIFICE _____ PCR _____ TCR _____
GG _____ API _____ @ _____ GM _____ RESERVOIR LOWER KRIDER
(LIMESTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL _____ SPECIAL _____ ENDING _____ ANNUAL _____ RETEST _____ DATE <u>1-10-94</u>		
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBLs.	WATER BBLs.		REMARKS PERTINENT TO TEST DATA QUALITY		
SUNDAY 1-9-94																	
1030																	CORE BARREL ON BOTTOM AT 2360'.
1230																	CORE BARREL ON SURFACE.
1309																	POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.
																	TOP GAUGE - 76051
																	BOTTOM GAUGE - 76052
1327																	START IN WELL WITH TOOLS.
1513																	TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.
																	BOTTOM OF TOP PACKER - 2337
																	BOTTOM OF BOTTOM PACKER - 2342
																	BOTTOM OF TOP GAUGE - 2352
																	BOTTOM OF BOTTOM GAUGE - 2356
1513																	(GAS VOLUMES CORRECTED TO EST. .740 SPECIFIC GRAVITY).
1523								17.0			13.2						
1533								20.5			14.6						
1543								15.0			12.5						
1553								14.5			12.3						
1603								14.5			12.3						
1613								14.5			12.3						
1623								14.5			12.3						
1633								14.5			12.3						
1638								14.5			12.3						CLOSE DOWNHOLE SHUT-OFF.

Precision Well Testing

[illegible]



**RILOBITE
TESTING L.L.C.**

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

Jars

5'

Safety Jt.

2'

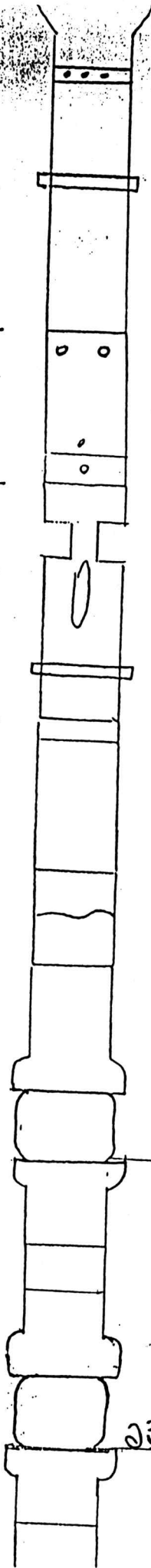
Shale
Packer

8'

Shale
Packer

4'

2'



000	2'
000	1'
000	1'
000	1'
000	5'
000	3'
000	4'

Rec.

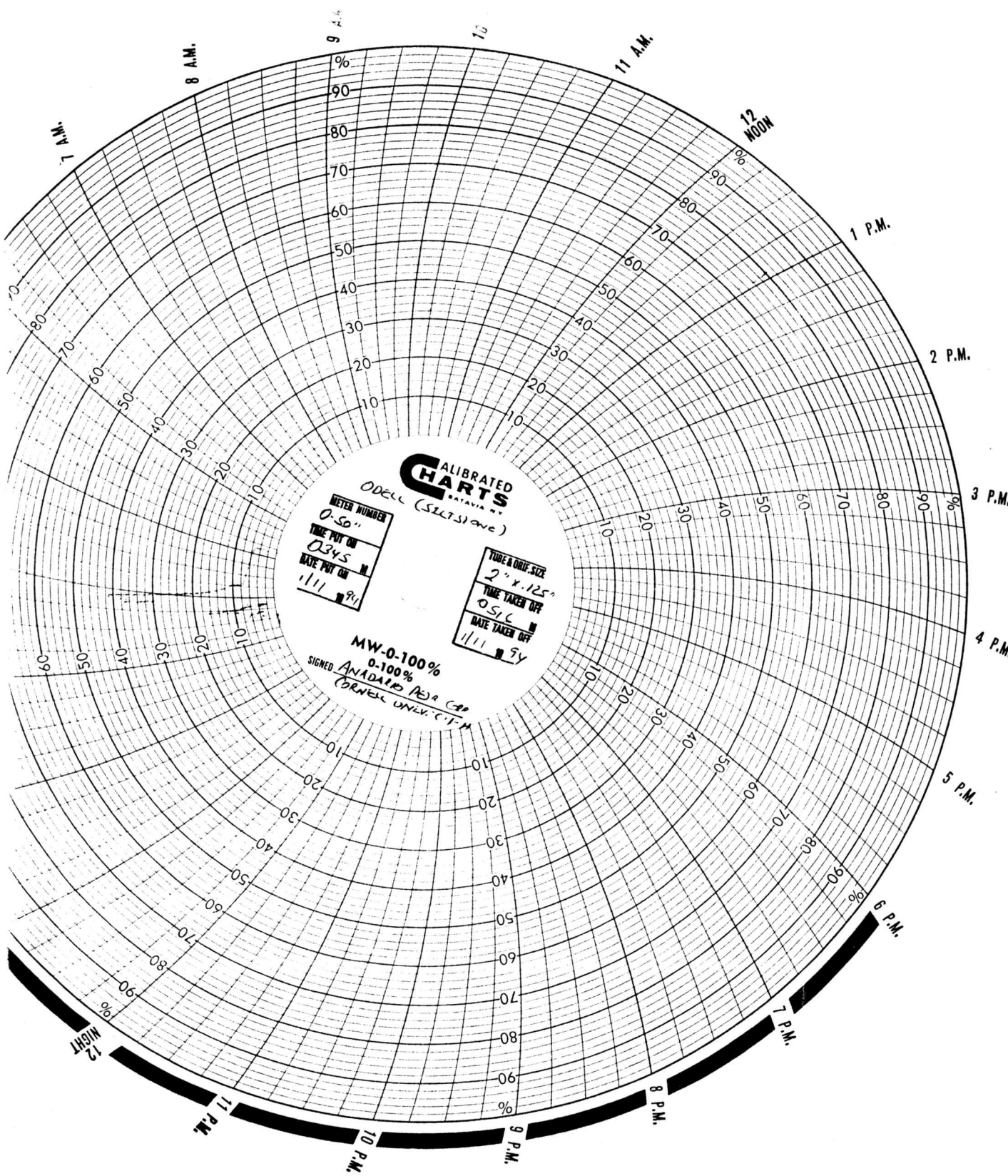
2371'

2375'

2379'

Total depth 2383'

Cornell University
DST # 3



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905-1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG WT SET @ TD PB GL
TBG WT SET @ SN PKR KB
PERFS TO TO TO TO
PROVER METER TAPS ORIFICE PCR TCR
GG API @ GM RESERVOIR ODELL (SILTSTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL <u> </u> SPECIAL <u> </u> ENDING <u> </u>		
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL.	WATER BBL.		ANNUAL	RETEST	DATE <u>1-12-94</u>
MONDAY 1-10-94															REMARKS PERTINENT TO TEST DATA QUALITY		
2000																	
2315															CORE BARREL ON BOTTOM AT 2383' (LOGGER TD).		
															CORE BARREL ON SURFACE.		
TUESDAY 1-11-94																	
0138															POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS		
															TOP GAUGE - 76051		
															BOTTOM GAUGE - 77747		
0143															START IN WELL WITH TOOLS		
0345															TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.		
															BOTTOM OF TOP PACKER - 2360		
															BOTTOM OF BOTTOM PACKER - 2365		
															BOTTOM OF TOP GAUGE - 2377		
															BOTTOM OF BOTTOM GAUGE - 2379		
0345															START FLOW PERIOD WITH 2" O.W.T. AND 1/8" PLATE.		
0355								3.0			.82						
0405								2.0			.67						
0415								11.0			1.58						
0425								4.5			1.01						
0435								3.5			.89						
0445								3.5			.89						
0505								3.0			.82						
0516								3.0			.82				CLOSE DOWNHOLE SHUT-OFF.		

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
 Trilobite Testing, L.L.C.
 Hays, Kansas
 Scott City, Kansas
 Phone: 800-728-5369
 Fax: 913-625-5620

Analyzed by:
 Caraway Analytical, L.L.C.
 728 North Roosevelt
 Liberal, Kansas 67901
 Phone: 316-324-5389
 Fax: 316-626-7108

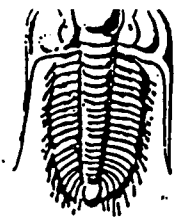
Lab Number: 940009B
Sample From: Cornell Univ 1H
Producer: Anadarko Pet. Corp.
Date:
Time:
Sampler:
Source: DST 3

Analyzed: 01/12/94
Pressure:
Temperature:
Location: 35-32-40
County: Morton
State: Kansas
Formation: Odell

		Mole %	GPM
Helium	He:	0.000	0.000
Oxygen	O2:	0.000	0.000
Nitrogen	N2:	55.280	0.000
Carbon Dioxide	CO2:	0.700	0.000
Methane	C1:	35.546	0.000
Ethane	C2:	3.400	0.909
Propane	C3:	2.118	0.584
Iso Butane	iC4:	0.375	0.123
Normal Butane	nC4:	0.824	0.260
Iso Pentane	iC5:	0.262	0.096
Normal Pentane	nC5:	0.370	0.134
Hexanes Plus	C6+:	1.125	0.491

TOTAL: 100.000 2.596
Z Fact: 0.9986
SP.GR.: 0.8843
BTU (SAT): 586.4 @ 14.73 psia
BTU (DRY): 596.8 @ 14.73 psia

COMMENTS: Air calculated out
 Sample entered under vacuum
 Insufficient pressure for Helium Analysis



**RILOBITE
TESTING L.L.C.**

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

Jars

5'

Safety Jt.

2'

Shale
Packer

8'

Shale
Packer

8'

2376'

2384'

0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

5'

3'

2381

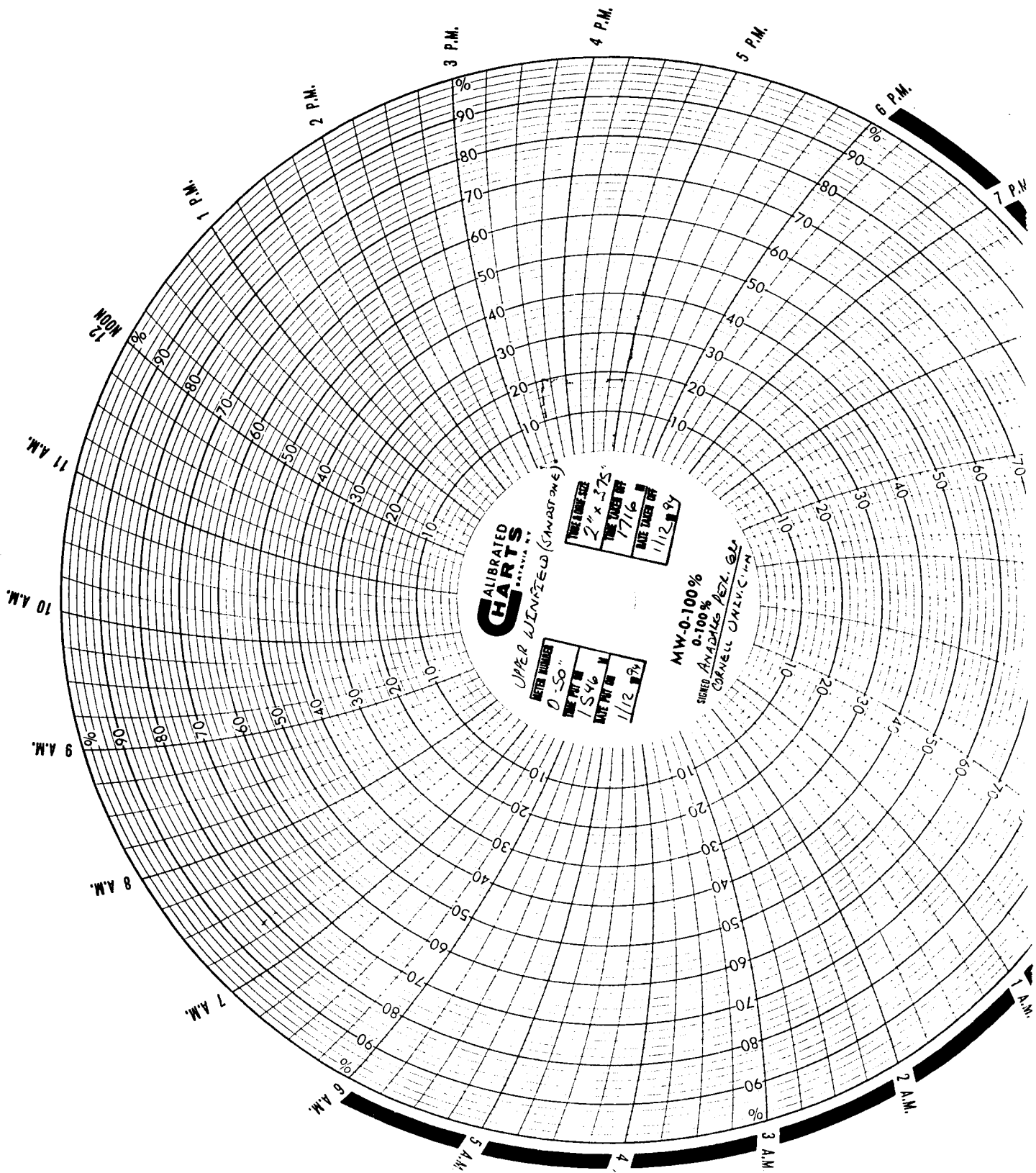
2391'

2395'

Total depth 2395'

ID
3/4"

Cornell University
DST #4



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG _____ WT _____ SET 0 TD _____ PB _____ GL _____
TBG _____ WT _____ SET 0 SN _____ PKR _____ KB _____
PERFS. _____ TO _____ TO _____ TO _____ TO _____
PROVER _____ METER _____ TAPS _____ ORIFICE _____ PCR _____ TCR _____
GG .728 API _____ 0 GM _____ RESERVOIR UPPER WINFIELD
(SANDSTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE	INITIAL	SPECIAL	ENDING	
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL/S	WATER BBL/S	TEST:	ANNUAL	RETEST	DATE	
WEDNESDAY 1-12-94															REMARKS PERTINENT TO TEST DATA QUALITY			1-13-94
1030															CORE BARREL ON BOTTOM AT 2395'			
1235															CORE BARREL ON SURFACE			
1402															POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.			
															TOP GAUGE - 76051			
															BOTTOM GAUGE - 77747			
1414															START IN WELL WITH TOOLS			
1546															TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.			
															BOTTOM OF TOP PACKER - 2376			
															BOTTOM OF BOTTOM PACKER - 2384			
															BOTTOM OF TOP GAUGE - 2391			
															BOTTOM OF BOTTOM GAUGE - 2395			
1546		START FLOW PERIOD WITH 2" O.W.T. AND 3/8" PLATE.																
1556									10.0		10.3							
1606									9.5		10.0							
1616									9.0		9.7							
1626									9.0		9.7							
1636									8.5		9.4							
1646									8.5		9.4							
1656									9.0		9.7							
1706									9.0		9.7							
1716									9.0		9.7				CLOSE DOWNHOLE SHUT-OFF.			

***Precision* Well Testing**

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L.L.C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, L.L.C.
728 North Roosevelt
Liberal, Kansas 67901
Phone: 316-324-5389
Fax: 316-626-7108

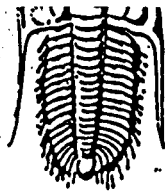
Lab Number: 940010B
Sample From: Cornell Univ 1H
Producer: Anadarko Pet. Corp.
Date:
Time:
Sampler:
Source: DST 4

Analyzed: 01/12/94
Pressure:
Temperature:
Location: 35-32-40
County: Morton
State: Kansas
Formation: Winfield Up.

	Mole %	GPM
Helium	He: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 16.931	0.000
Carbon Dioxide	CO2: 0.249	0.000
Methane	C1: 70.566	0.000
Ethane	C2: 6.449	1.725
Propane	C3: 3.716	1.024
Iso Butane	iC4: 0.382	0.125
Normal Butane	nC4: 1.056	0.333
Iso Pentane	iC5: 0.144	0.053
Normal Pentane	nC5: 0.255	0.092
Hexanes Plus	C6+: 0.252	0.110

TOTAL: 100.000 3.462
Z Fact: 0.9976
SP.GR.: 0.7278
BTU (SAT): 983.4 @ 14.73 psia
BTU (DRY): 1000.8 @ 14.73 psia

COMMENTS: Air calculated out
Sample entered under vacuum
Insufficient pressure for Helium Analysis



TESTING L.L.C.

o o o
o o o
o o o
o o o
o o o

5
4'

2402'
2406'
2410'

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

ID
3/4"

Jars

5'

Safety Jt.

2'

Shale
Packer

8'

2392'

Shale
Packer

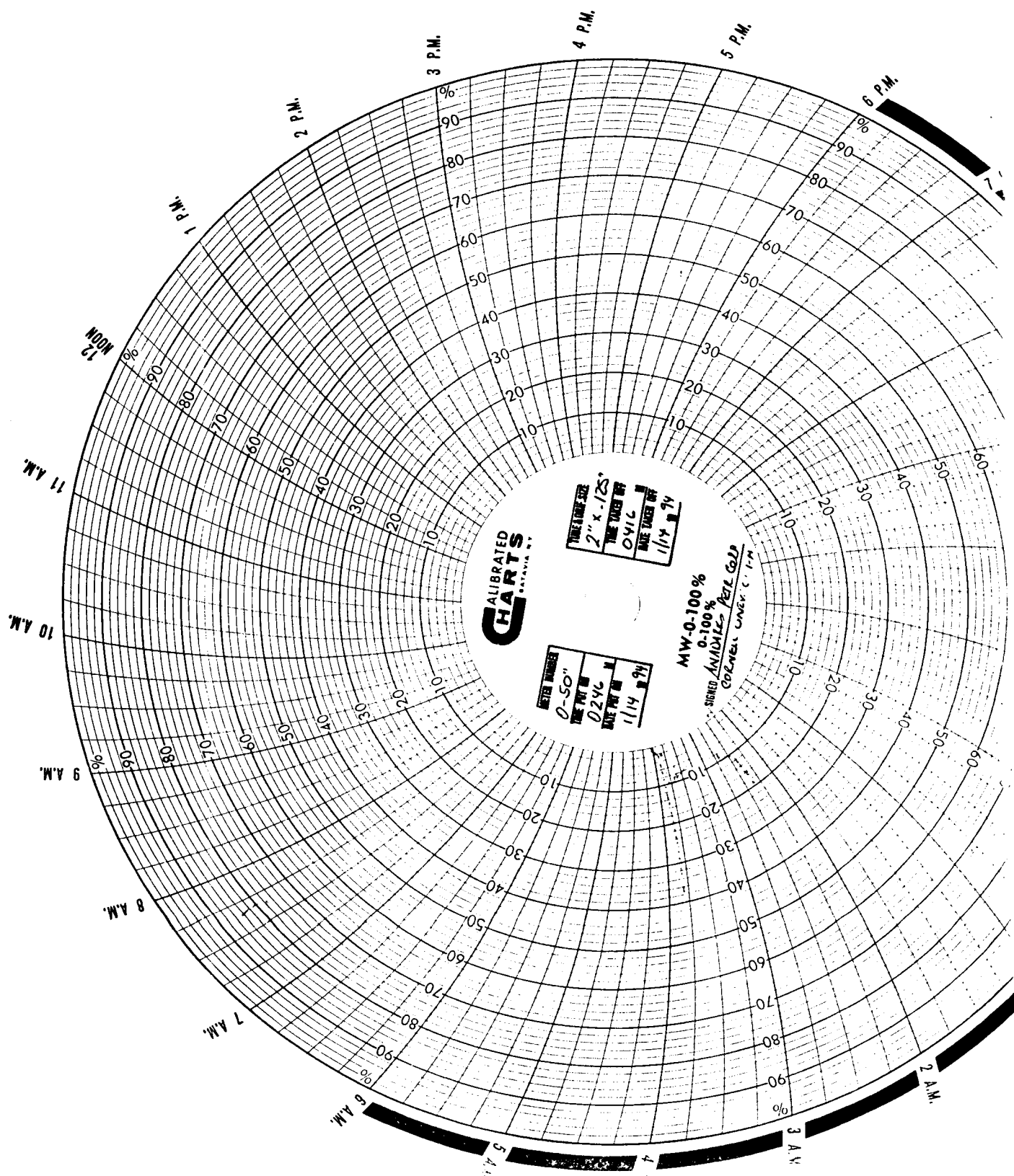
8'

2400'

Cornell University
DST #5

1'

2'



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG WT SET ② TD PB GL
TBG WT SET ② SN PKR KB
PERFS TO TO TO TO
PROVER METER TAPS ORIFICE PCR TCR
GG .728 API ② GM RESERVOIR LOWER WINFIELD
(LIMESTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL ANNUAL	SPECIAL RETEST	ENDING DATE
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL.	WATER BBL.				
THURSDAY 1-13-94																	1-15-94
2100																	CORE BARREL ON BOTTOM AT 2412.5'
2350																	CORE BARREL ON SURFACE.
FRIDAY 1-14-94																	
0048																	POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.
																	TOP GAUGE - 76051
																	BOTTOM GAUGE - 76052
																	START IN WELL WITH TOOLS.
0113																	TOOLS ON BOTTOM, SET PACKER, OPEN DOWNHOLE SHUT-OFF.
0246																	BOTTOM OF TOP PACKER - 2392
																	BOTTOM OF BOTTOM PACKER - 2400
																	BOTTOM OF TOP GAUGE - 2406
																	BOTTOM OF BOTTOM GAUGE - 2410
0246																	START FLOW PERIOD WITH 2" O.W.T. AND 1/8" PLATE.
0256									5.5		1.12						
0306									4.0		.95						
0316									3.5		.89						
0326									3.5		.89						
0336									3.5		.89						
0346									4.0		.95						
0356									4.5		1.01						
0406									4.5		1.01						
0416									5.0		1.06						CLOSE DOWNHOLE SHUT-OFF.

Precision Well Testing

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
 Trilobite Testing, L.L.C.
 Hays, Kansas
 Scott City, Kansas
 Phone: 800-728-5369
 Fax: 913-625-5620

Analyzed by:
 Caraway Analytical, L.L.C.
 728 North Roosevelt
 Liberal, Kansas 67901
 Phone: 316-324-5389
 Fax: 316-626-7108

Lab Number: 940012
Sample From: Cornell Univ 1H
Producer: Anadarko Pet. Corp.
Date:
Time:
Sampler:
Source: DST 5

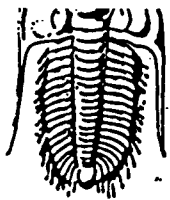
Analyzed: 01/14/94
Pressure:
Temperature:
Location: 35-32-40
County: Morton
State: Kansas
Formation: Winfield Lower

	Mole %	GPM
Helium	He: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 14.333	0.000
Carbon Dioxide	CO2: 0.221	0.000
Methane	C1: 72.359	0.000
Ethane	C2: 6.749	1.805
Propane	C3: 3.923	1.081
Iso Butane	iC4: 0.426	0.139
Normal Butane	nC4: 1.135	0.358
Iso Pentane	iC5: 0.168	0.061
Normal Pentane	nC5: 0.249	0.090
Hexanes Plus	C6+: 0.437	0.191

TOTAL: 100.000 3.726
Z Fact: 0.9974
SP.GR.: 0.7282
BTU (SAT): 1025.8 @ 14.73 psia
BTU (DRY): 1044.0 @ 14.73 psia

COMMENTS:

Sample entered under vacuum
 Insufficient pressure for Helium Analysis



MELODITE
TESTING L.L.C.

REC.

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

ID
3/4"

Jars

5'

Safety Jt.

2'

Shale
Packer

8'

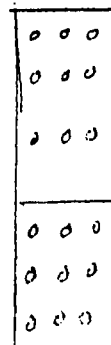
2424'

Shale
Packer

8'

2432'

Cornell University (C-1H)
DST #6



5'

4'



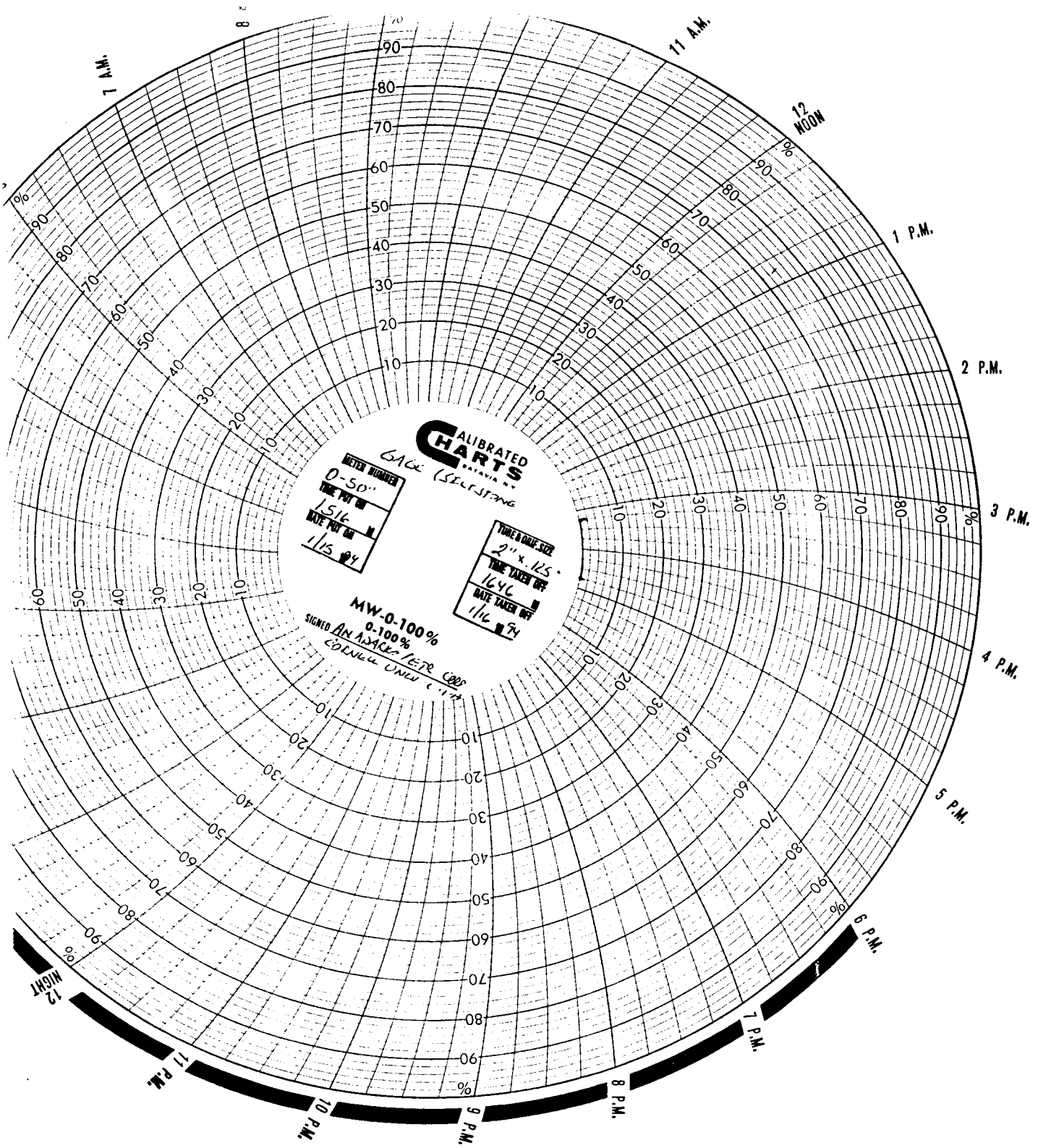
2436'

2440'

2444'

Total depth 2445'

3'



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1813
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG _____ WT _____ SET @ _____ TD _____ PB _____ GL _____
TBG _____ WT _____ SET @ _____ SN _____ PKR _____ KB _____
PERFS _____ TO _____ TO _____ TO _____ TO _____
PROVER _____ METER _____ TAPS _____ ORIFICE _____ PCR _____ TCR _____
GG _____ API _____ @ _____ GM _____ RESERVOIR GAGE (SILTSTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL _____ SPECIAL _____ ENDING _____ ANNUAL _____ RETEST _____ DATE <u>1-16-94</u>		
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL.	WATER BBL.		REMARKS PERTINENT TO TEST DATA QUALITY		
SATURDAY 1-15-94																	
0955															CORE BARREL ON BOTTOM AT 2444'		
1130															CORE BARREL ON SURFACE.		
1351															POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.		
															TOP GAUGE - 76051		
															BOTTOM GAUGE - 76052		
1355															START IN WELL WITH TOOLS.		
1514															TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.		
															BOTTOM OF TOP PACKER - 2424		
															BOTTOM OF BOTTOM PACKER - 2432		
															BOTTOM OF TOP GAUGE - 2440		
															BOTTOM OF BOTTOM GAUGE - 2444		
1516															START FLOW PERIOD WITH 2" O.W.T. AND 1/8" PLATE.		
1526									0		0						
1536									0		0						
1546									0		0						
1556									0		0						
1606									0		0						
1616									0		0						
1626									0		0						
1636									0		0						
1646									0		0				CLOSE DOWNHOLE SHUT-OFF.		

Precision Well Testing

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

TESTING L.L.C.

Shut-in fool

Sampler

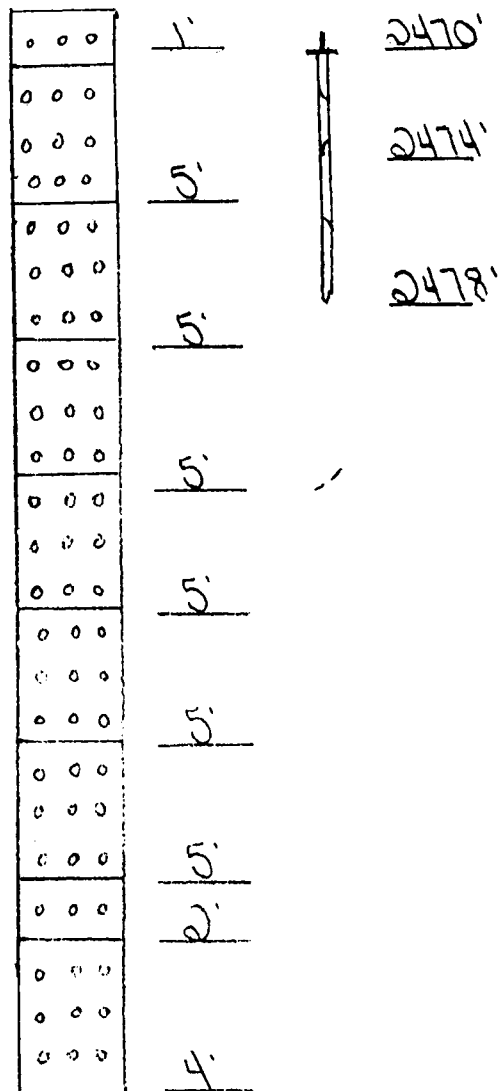
Hydraulic tool

Jars

Safety It.

Shale
Packer

Shale
Packer



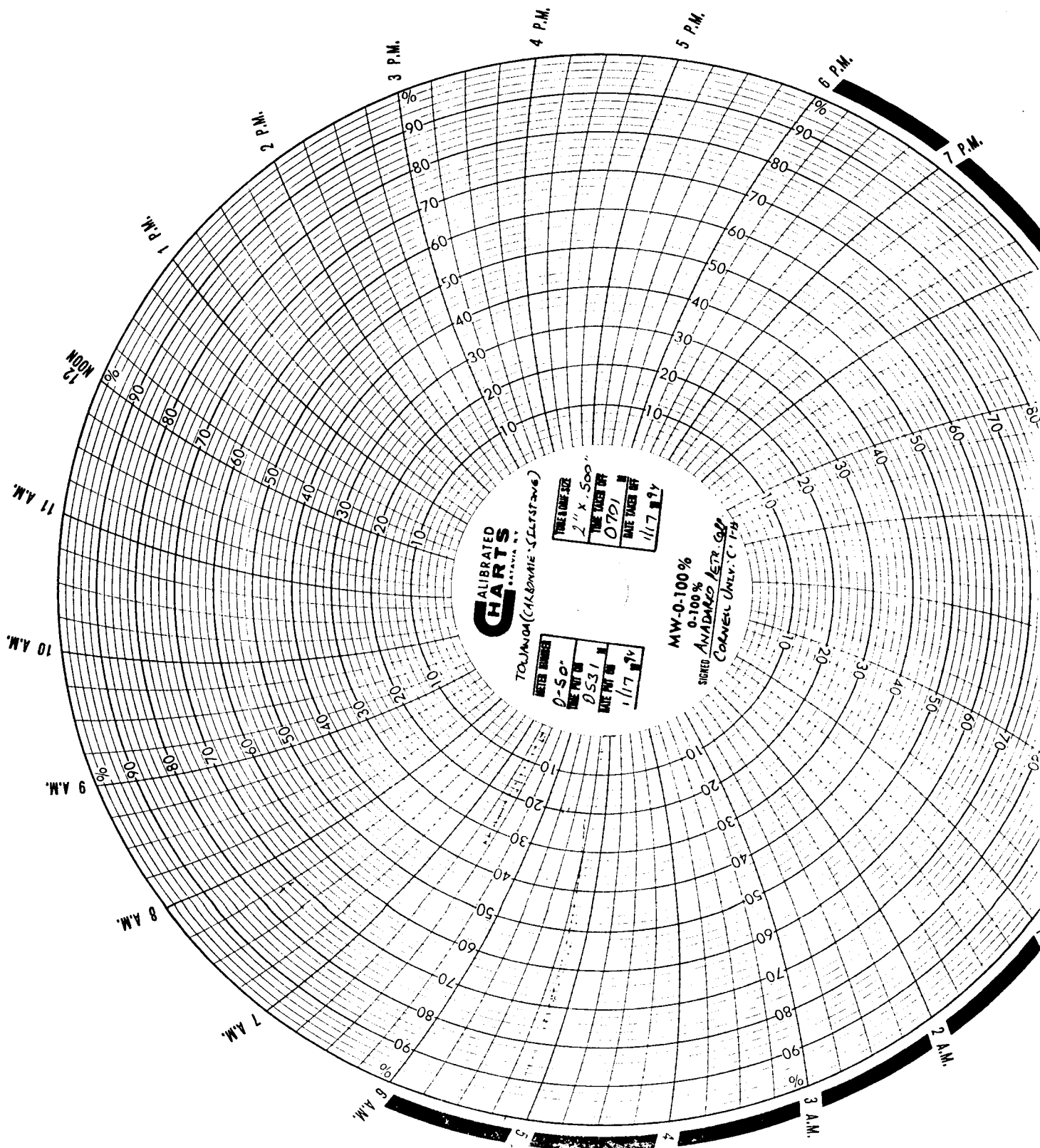
Total depth 2506'

2457

Cornell University (C-1H)
DST #7

2465'

ID
3/4"



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG _____ WT _____ SET $\odot$ _____ TD _____ PB _____ GL _____
TBG _____ WT _____ SET $\odot$ _____ SN _____ PKR _____ KB _____
PERFS _____ TO _____ TO _____ TO _____ TO _____
PROVER _____ METER _____ TAPS _____ ORIFICE _____ PCR _____ TCR _____
GG .725 API _____ $\odot$ _____ GM _____ RESERVOIR TOWANDA (CARBONATE & SILTSTONE)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL	SPECIAL	ENDING
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL.	WATER BBL.		ANNUAL	RETEST	DATE
SUNDAY 1-16-94															REMARKS PERTINENT TO TEST DATA QUALITY		
2215															CORE BARREL ON BOTTOM AT 2506'.		
MONDAY 1-17-94																	
0110															CORE BARREL ON SURFACE.		
0341															POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.		
															TOP GAUGE - 76051		
															BOTTOM GAUGE - 76052		
0345															START IN WELL WITH TOOLS.		
0531															TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.		
															BOTTOM OF TOP PACKER - 2457		
															BOTTOM OF BOTTOM PACKER - 2465		
															BOTTOM OF TOP GAUGE - 2474		
															BOTTOM OF BOTTOM GAUGE - 2478		
0531		START FLOW PERIOD WITH 2" O.W.T. AND 1/2" PLATE.															
0541									10.0		17.91						
0551									10.0		17.91						
0601									10.0		17.91						
0611									9.5		17.37						
0621									9.5		17.37						
0631									9.5		17.37						
0641									9.5		17.37						
0651									9.5		17.37						
0701									9.5		17.37				CLOSE DOWNHOLE SHUT-OFF.		

***Precision* Well Testing**

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L.L.C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, L.L.C.
728 North Roosevelt
Liberal, Kansas 67901
Phone: 316-324-5389
Fax: 316-626-7108

Lab Number: 940015
Sample From: Cornell C 1-H
Producer: Anadarko Pet. Corp.
Date:
Time:
Sampler:
Source: DST 7

Analyzed: 01/17/94
Pressure:
Temperature:
Location: 35°32'-40
County: Morton
State: Kansas
Formation: Towanda

	Mole %	GPM
Helium	He:	
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 14.918	0.000
Carbon Dioxide	CO2: 0.074	0.000
Methane	C1: 72.244	0.000
Ethane	C2: 6.668	1.783
Propane	C3: 3.812	1.050
Iso Butane	iC4: 0.482	0.158
Normal Butane	nC4: 1.074	0.339
Iso Pentane	iC5: 0.276	0.101
Normal Pentane	nC5: 0.284	0.103
Hexanes Plus	C6+: 0.168	0.073
TOTAL:	100.000	3.607
Z Fact:	0.9975	
SP.GR.:	0.7250	
BTU (SAT):	1012.3 @ 14.73 psia	
BTU (DRY):	1030.2 @ 14.73 psia	

COMMENTS:

Sample entered under vacuum
Insufficient pressure for Helium Analysis



RILOBITE
TESTING L.L.C.

Shut-in tool

5'

3'

Sampler

5'

Hydraulic tool

5'

Jars

2'

Safety Jt.

8'

Shale
Packer

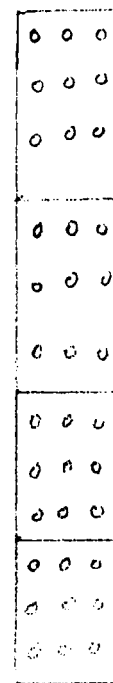
2517'

8'

Shale
Packer

2525'

3'



5'

5'

4'

4'

Rec.

2529'

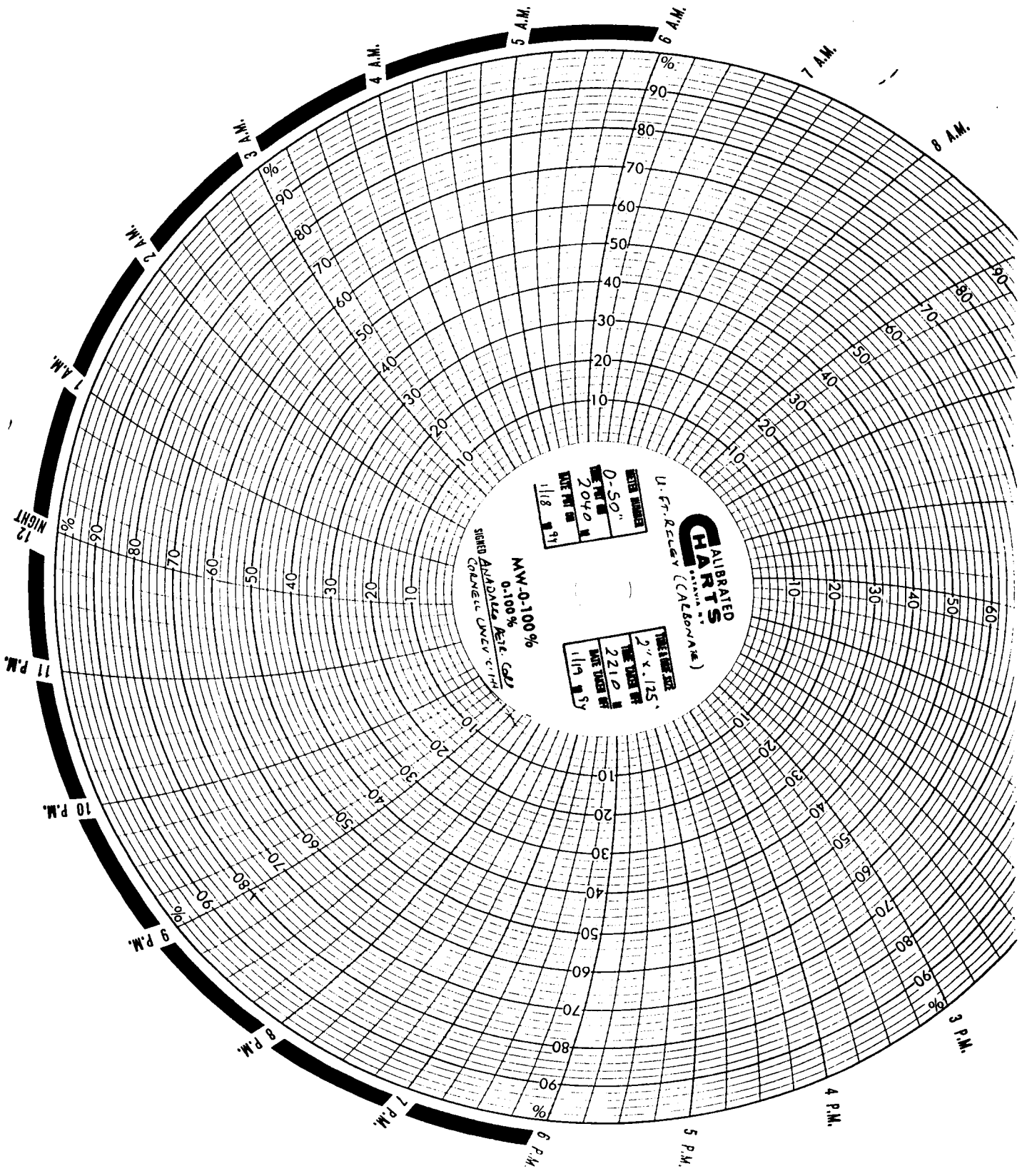
2533'

2537'

Total depth 2547'

Cornell University (C-14)
DST #8

ID
3/4"



P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

CSG _____ WT _____ SET ● _____ TD _____ PB _____ GL _____
TBG _____ WT _____ SET ● _____ SN _____ PKR _____ KB _____
PERFS. _____ TO _____ , _____ TO _____ , _____ TO _____
PROVER _____ METER _____ TAPS _____ ORIFICE _____ PCR _____ TCR _____
GG - .725 _____ API _____ ● _____ GM _____ RESERVOIR UPPER FT. RILEY
(CARBONATE)

[illegible]

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L.L.C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, L.L.C.
728 North Roosevelt
Liberal, Kansas 67901
Phone: 316-324-5389
Fax: 316-626-7108

Lab Number: 940021
Sample From: Cornell C 1-H
Producer: Anadarko Pet. Corp.
Date:
Time:
Sampler:
Source: DST 9

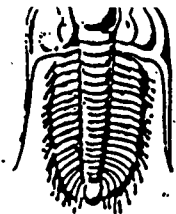
Analyzed: 01/17/94
Pressure:
Temperature:
Location: 35-32-40
County: Morton
State: Kansas
Formation: Up Ft. Riley

	Mole %	GPM
Helium	He:	
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 15.210	0.000
Carbon Dioxide	CO2: 0.182	0.000
Methane	C1: 71.969	0.000
Ethane	C2: 6.647	1.778
Propane	C3: 4.061	1.119
Iso Butane	iC4: 0.391	0.128
Normal Butane	nC4: 1.052	0.332
Iso Pentane	iC5: 0.137	0.050
Normal Pentane	nC5: 0.231	0.084
Hexanes Plus	C6+: 0.120	0.052

TOTAL: 100.000 3.542
Z Fact: 0.9976
SP.GR.: 0.7208
BTU (SAT): 1001.7 @ 14.73 psia
BTU (DRY): 1019.4 @ 14.73 psia

COMMENTS:

Sample entered under vacuum
Insufficient pressure for Helium Analysis



RILUBITE
TESTING L.L.C.

Shut-in tool

5'

Sampler

3'

Hydraulic tool

5'

ID
3/4"

Jars

5'

Safety Jt.

2'

Shale
Packer

8'

Shale
Packer

4'

2510'

2515'

Cornell University (C-1H)
DST #9

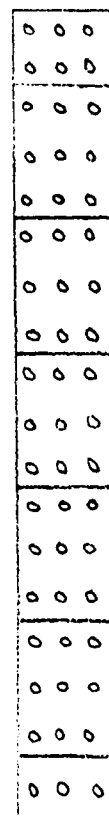
Total depth 2547'

REC.

2520'

2524'

2528'



3'

5'

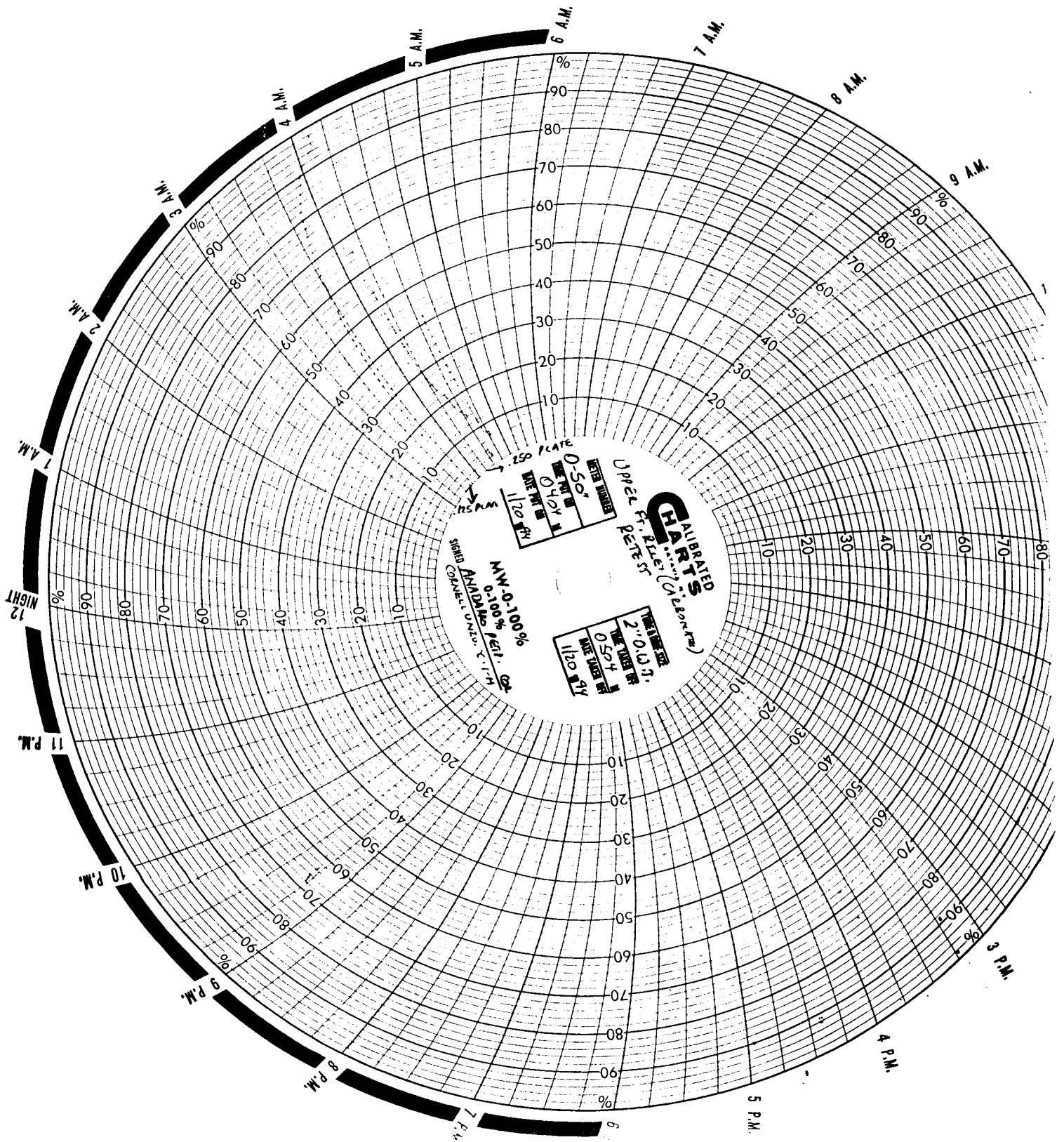
5'

5'

5'

5'

2'



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG WT SET ● TD PB GL
TBG WT SET ● SN PKR KB
PERFS TO TO TO TO
PROVER METER TAPS ORIFICE PCR TCR
GG .725 API ● GM RESERVOIR UPPER FT. RILEY
(RETEST)

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL <u> </u> SPECIAL <u> </u>		ENDING DATE <u>1-21-94</u>
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL.	WATER BBL.		ANNUAL	RETEST	
THURSDAY 1-20-94																	
0038																	POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.
																	TOP GAUGE - 76051
																	BOTTOM GAUGE - 76052
0200																	START IN WELL WITH TOOLS.
0404																	TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.
																	BOTTOM OF TOP PACKER - 2510
																	BOTTOM OF BOTTOM PACKER - 2515
																	BOTTOM OF TOP GAUGE - 2524
																	BOTTOM OF BOTTOM GAUGE - 2528
0404		START	1ST FLOW PERIOD	WITH 2"	O.W.T.	AND 1/8"	PLATE.										
0414									37.5		2.89						
0424									43.0		3.11						
0434									47.0		3.26						CHANGE TO 1/4" PALTE.
0444									13.0		5.49						
0454									7.0		4.01						
0504									6.0		3.71						CLOSE DOWNHOLE SHUT-OFF.
FRIDAY 1-21-94																	
1102																	START OUT OF WELL WITH TOOLS.
1127																	TOOLS ON SURFACE.
1131																	POWERED DOWN EMR-700 ELECTRONIC BHP INSTRUMENTS.
																	UPPER GAUGE ASCII FILE - CORUF2U
																	LOWER GAUGE ASCII FILE - CORUF2L

TESTING L.L.C.

Shut-in fool

5!

3.

Sampler

↑

Hydraulic tool

↑

Jars

2

Safety It.

8.

Shale
Packer

2550'

4'

Shale Packer

2557'

2.2.

0 0 0 0 0 0	<u>2'</u>
0 0 0 0 0 0 0 0 0	<u>5'</u>
0 0 0 0 0 0 0 0 0	<u>5'</u>
0 0 0 0 0 0 0 0 0	<u>3'</u>
0 0 0 0 0 0 0 0 0	<u>4'</u>

Rec.

25/6/31

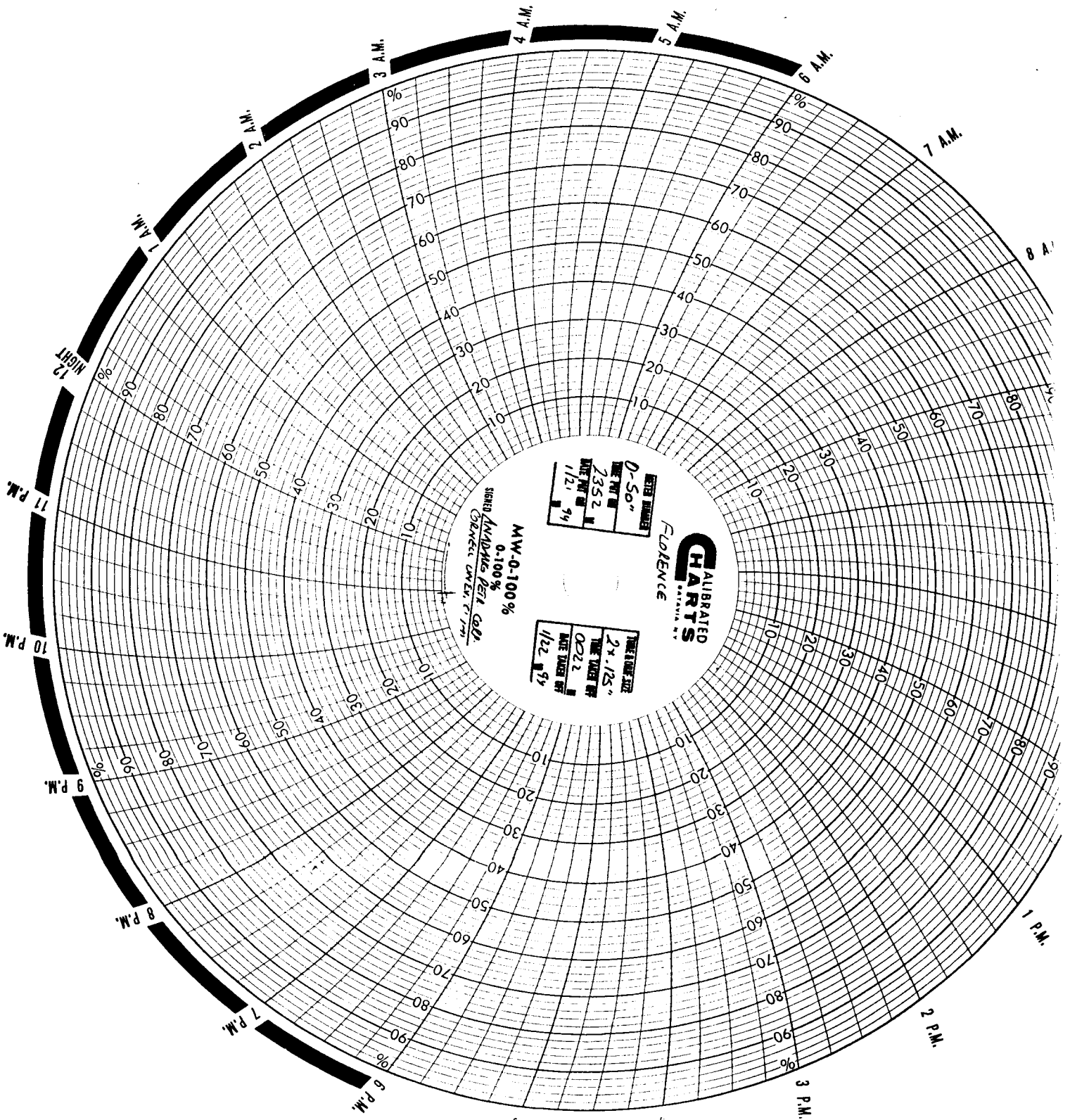
2567

2571'

Total depth 2580'

Cornell University (C-1H)
DST #10

ID
3/4"



Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM CORP
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG WT SET ● TD PB GL
TBG WT SET ● SN PKR KB
PERFS TO TO TO TO TO
PROVER METER TAPS ORIFICE PCR TCR
GG API ● GM RESERVOIR FLORENCE

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL	SPECIAL	ENDING		
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL/S	WATER BBL/S		ANNUAL	RETEST	DATE		
FRIDAY 1-21-94															REMARKS PERTINENT TO TEST DATA QUALITY			1-23-94	
1615															CORE BARREL ON BOTTOM AT 2581'				
1930															CORE BARREL ON SURFACE.				
2105															POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.				
															TOP GAUGE - 76051				
															BOTTOM GAUGE - 76052				
															START IN WELL WITH TOOLS.				
2110															TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.				
2252															BOTTOM OF TOP PACKER - 2552				
															BOTTOM OF BOTTOM PACKER - 2557				
															BOTTOM OF TOP GAUGE - 2567				
															BOTTOM OF BOTTOM GAUGE - 2571				
2252		START 1ST FLOW PERIOD WITH 2" O.W.T. AND 1/8" PLATE.																	
2302										TSTM	TSTM								
2312										0	0								
2322										0	0								
2332										0	0								
2342										0	0								
2352										0	0								
SATURDAY 1-22-94																			
0002										0	0								
0012										0	0								
0022										0	0				CLOSE DOWNHOLE SHUT-OFF.				

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

Page 2 of 2

Precision Well Testing

P.O. BOX 1843
LIBERAL, KANSAS 67905 - 1843
PHONE: 316-624-4505
MOBILE: 316-624-6258 UNIT 9390

PRODUCER ANADARKO PETROLEUM
WELL NAME CORNELL UNIVERSITY 'C' 1-H
LOCATION C NE SW 35-32S-40W
COUNTY MORTON STATE KS

CSG _____ WT _____ SET ☒ _____ TD _____ PB _____ GL _____
TBG _____ WT _____ SET ☒ _____ SN _____ PKR _____ KB _____
PERFS _____ TO _____ TO _____ TO _____ TO _____
PROVER _____ METER _____ TAPS _____ ORIFICE _____ PCR _____ TCR _____
GG .736 API _____ ☒ _____ GM _____ RESERVOIR COMINGLED CHASE

DATE TIME OF READING	ELAP TIME HOURS	WELLHEAD PRESSURE DATA						MEASUREMENT DATA				LIQUIDS		TYPE TEST:	INITIAL ANNUAL	SPECIAL RETEST	ENDING DATE
		CSG PSIG	Δ P CSG	TBG PSIG	Δ P TBG	BHP PSIG	Δ P BHP	PRESS. PSIG	DIFF.	TEMP	Q MCF/D	COND. BBL/S	WATER BBL/S				
SUNDAY 1-23-94																	
0159																	POWERED UP EMR-700 ELECTRONIC BHP INSTRUMENTS.
																	TOP GAUGE - 76051
																	BOTTOM GAUGE - 76052
0213																	START IN WELL WITH TOOLS.
0337																	TOOLS ON BOTTOM, SET PACKER. OPEN DOWNHOLE SHUT-OFF.
																	BOTTOM OF TOP PACKER - 2251'
																	BOTTOM OF BOTTOM PACKER - 2256
																	BOTTOM OF TOP GAUGE - 2266
																	BOTTOM OF BOTTOM GAUGE - 2270
0337																	START 1ST FLOW PERIOD WITH 2" O.W.T. AND 1/2" PLATE.
0347									7.0		15.31						
0357									3.0		9.70						CHANGE TO 3/8" PLATE.
0407									22.0		14.86						
0417									10.5		10.32						
0427									9.5		9.79						
0437									9.0		9.52						
0447									6.0		7.84						
0457									5.5		7.45						
0507									4.0		6.35						CLOSE DOWNHOLE SHUT-OFF.
MONDAY 1-24-94																	
0407																	START OUT OF WELL WITH TOOLS.
0527																	TOOLS ON SURFACE.

***Precision* Well Testing**

ANADARKO PETROLEUM CORP - CORNELL UNIVERSITY 'C' 1-H

[illegible]

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L.L.C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, L.L.C.
728 North Roosevelt
Liberal, Kansas 67901
Phone: 316-324-5389
Fax: 316-626-7108

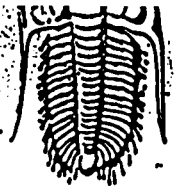
Lab Number:	940033	Analyzed:	01/23/94
Sample From:	Cornell C 1-H	Pressure:	
Producer:	Anadarko Pet. Corp.	Temperature:	
Date:		Location:	35-32-40
Time:		County:	Morton
Sampler:		State:	Kansas
Source:	DST 11	Formation:	Chase Comingled

	Mole %	GPM
Helium	He:	
Oxygen	O2:	0.000 0.000
Nitrogen	N2:	14.485 0.000
Carbon Dioxide	CO2:	0.137 0.000
Methane	C1:	72.097 0.000
Ethane	C2:	6.703 1.793
Propane	C3:	3.892 1.072
Iso Butane	iC4:	0.498 0.163
Normal Butane	nC4:	1.067 0.336
Iso Pentane	iC5:	0.263 0.096
Normal Pentane	nC5:	0.267 0.097
Hexanes Plus	C6+:	0.591 0.258

TOTAL: 100.000 3.815
Z Fact: 0.9974
SP.GR.: 0.7358
BTU (SAT): 1034.1 @ 14.73 psia
BTU (DRY): 1052.4 @ 14.73 psia

COMMENTS:

Sample entered under vacuum
Insufficient pressure for Helium Analysis



TESTING L.L.C.

Shut-in tool

Sampler

Hydraulic tool

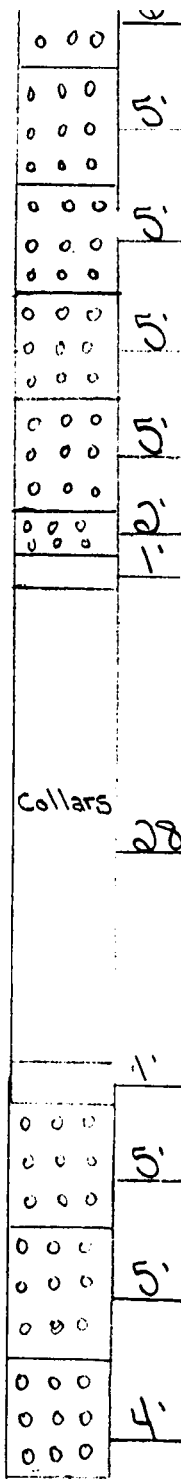
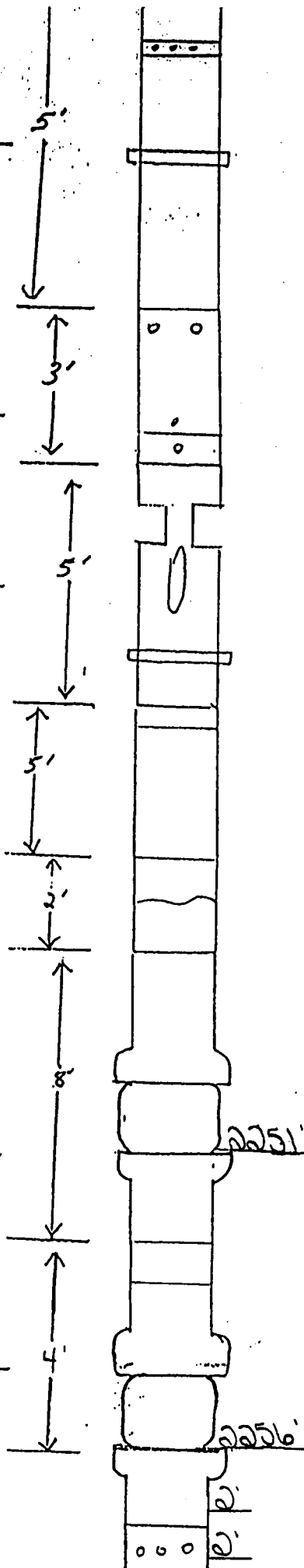
Jars

Safety Jt.

Shale
Packer

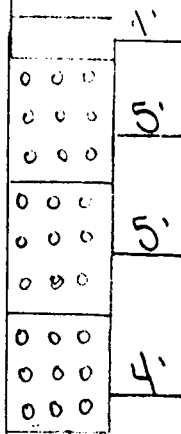
Shale
Packer

ID
3/4"



Collars

2280'



Total depth 2580'

Cornell University (C-14)
DST # 11

REC.

2262'

2266'

2270'

