

STATE CORPORATION COMMISSION OF KANSAS
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
ACO-1 WELL HISTORY
DESCRIPTION OF WELL AND LEASE

CONFIDENTIAL

Operator: License # 4549

Name: ANADARKO PETROLEUM CORPORATION

Address P. O. BOX 351

City/State/Zip LIBERAL, KANSAS 67905-0351

Purchaser: NATIONAL COOPERATIVE REFINERY CORPORATION

Operator Contact Person: SHAWN YOUNG

Phone (316) 624-6253

Contractor: Name: BIG "A" DRILLING

License: 31572

Wellsite Geologist: _____

Designate Type of Completion
 New Well Re-Entry Workover

Oil SWD SIOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSW, Expl., Cathodic, etc)

If Workover: _____

Operator: NOV 12 2002

Well Name: _____

Comp. Date _____ Old Total Depth _____

Deepening Re-perf. Conv. to Inj/SWD
 Plug Back PBD
 Commingled Docket No. _____
 Dual Completion Docket No. _____
 Other (SWD or Inj?) Docket No. _____
 HORIZONTAL Docket No. 195,490-C
6-21-2000 7-5-2000 8-1-2000

Spud Date 6-21-2000 Date Reached TD 7-5-2000 Completion Date 8-1-2000

API No. 15- 15-175-21792-0100

County SEWARD

APPX - NE - SW - NE Sec. 36 Twp. 34S Rge. 34 E W

SHL: 1793 Feet from X (circle one) Line of Section

SHL: 1678 Feet from X (circle one) Line of Section

BHL: 2460 FNL & 1028 FEL.

Footages Calculated from Nearest Outside Section Corner:
 NE, SE, NW or SW (circle one)

Lease Name CITY OF LIBERAL "C" Well # 1

Field Name WILDCAT **KCC**

Producing Formation ST. LOUIS **AUG 23 2000**

Elevation: Ground 2876 **CONFIDENTIAL**

Total Depth 7016 PBDT 6942

Amount of Surface Pipe Set and Cemented at 1564 Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from _____

feet depth to _____ w/ _____ sx cm.

Drilling Fluid Management Plan Part 1 5/15/01 JB
(Data must be collected from the Reserve Pit)

Chloride content 1900 ppm Fluid volume 700 bbls

Dewatering method used DRY, BACKFILL & RESTORE LOCATION.

Location of fluid disposal if hauled offsite: _____

Operator Name _____

Lease Name _____ License No. _____

_____ Quarter Sec. _____ Twp. _____ S Rng. _____ E/W

County _____ Docket No. _____

STATE CORPORATION COMMISSION
RECEIVED
AUG 28 2000
CONSERVATION DIVISION
Wichita, Kansas

RELEASED

FROM CONFIDENTIAL

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature L. Marc Harvey
L. MARC HARVEY
Title ENGINEERING TECHNICIAN III Date 8-23-2000

Subscribed and sworn to before me this 23rd day of August
20 00.

Notary Public Shirley J Childers

Date Commission Expires _____

NOTARY PUBLIC - State of Kansas
SHIRLEY J. CHILDERS
My Appt. Exp. 11/14/02

K.C.C. OFFICE USE ONLY
F Letter of Confidentiality Attached
C Wireline Log Received
C Geologist Report Received

Distribution
____ KCC _____ SWD/Rep _____ NGPA
____ KGS _____ Plug _____ Other
(Specify)

Operator Name ANADARKO PETROLEUM CORPORATION Lease Name CITY OF LIBERAL "C" Well # 1

Sec. 36 Twp. 34S Rge. 34
 East
 West

County SEWARD

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken Yes No
 (Attach Additional Sheets.)

Samples Sent to Geological Survey Yes No

Cores Taken Yes No

Electric Log Run Yes No
 (Submit Copy)

List All E.Logs Run: CBL-CCL-GR, DIL, CNL-LDT, ML, BHC SONIC, INCLINOMETRY LOG.

Log Formation (Top), Depth and Datums Sample

Name	Top (MD)	Datum
B/STONE CORRAL	1616	
KRIDER	2654	
B/HIEBNER	4330	
TORONTO	4340	
MARMATON	5240	
MORROW	5912	
CHESTER	6226	
ST. LOUIS	6668	

CASING RECORD

New Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
SURFACE	12-1/4"	8-5/8"	23.0	1564	CLASS C/ CLASS C.	335/100	16%GEL, 3%SALT, 1/2#/SK CF/2%CC, 1/2#/SK CF.
PRODUCTION	7-7/8"	5-1/2"	17.0	7001	CLASS H/ CLASS H.	25/85	10%A10, 5.7#/SK SALT .5%FL52/10%A10, 10% SALT.

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	6840-46, 6850-56.	ACID: 1200 GAL 15% HCL.	6840-56 OA

TUBING RECORD	Size 2 3/8"	Set At 6882	Packer At	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Date of First, Resumed Production, SWD or Inj. 8-3-2000 Producing Method Flowing Pumping Gas Lift Other (Explain)

Estimated Production Per 24 Hours	Oil 61 Bbls.	Gas 86 Mcf	Water 12 Bbls.	Gas-Oil Ratio 1410	Gravity 46
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Disposition of Gas: Vented Sold Used on Lease (If vented, submit ACO-18.) METHOD OF COMPLETION Open Hole Perf. Dually Comp. Commingled Production Interval 6840-6856 OA
 Other (Specify) _____

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KCC TRILOBITE TESTING L.L.C.

ORIGINAL

P.O. Box 362 • Hays, Kansas 67601

AUG 23 2000

Test Ticket

Nº 12600

CONFIDENTIAL

Well Name & No. City of Liberal C-1 Test No: #1 Date 7-7-00
 Company Anadarko Pet. Corp. Zone Tested St. Louis
 Address P.O. Box 351 Liberal Ks. 67905-0351 Elevation _____ KB _____ GL _____
 Co. Rep/Geo. Dan Eisenhower Cont. Big A. Rig 2 Est. Ft. of Pay _____ Por. _____ %
 Location: Sec. 16 Twp. 36S Rge. 34W Co. Seward State Ks.
 No. of Copies _____ Distribution Sheet (Y, N) _____ Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested ~~6830-6870~~ Initial Str Wt./Lbs. 78,000 Unseated Str Wt./Lbs. 88,000
 Anchor Length 40' Wt. Set Lbs. 40,000 Wt. Pulled Loose/Lbs. 130,000
 Top Packer Depth 6830 Tool Weight 2,000
 Bottom Packer Depth 6870 Hole Size — 7 7/8" Rubber Size — 6 3/4"
 Total Depth 7016 Wt. Pipe Run _____ Drill Collar Run 373
 Mud Wt. 9.1 LCM 5 Vis. 54 WL led Drill Pipe Size 4 1/2 X H Ft. Run ~~6580~~
 Blow Description Strong blow B.O.B. in 2 min. GTS in 13 min.
Blow 2" Blow never completely died had 1" Blow back

Recovery — Total Feet	<u>1950</u>	GIP	<u>GTS</u>	Ft. in DC	<u>373</u>	Ft. in DP	<u>1577</u>
Rec.	<u>736</u>	Feet Of	<u>Clean oil</u>	%gas	<u>100</u>	%oil	_____
Rec.	<u>7214</u>	Feet Of	<u>Gas + mud cut oil</u>	%gas	<u>50</u>	%oil	<u>20</u>
Rec.	_____	Feet Of	_____	%gas	_____	%oil	_____
Rec.	_____	Feet Of	_____	%gas	_____	%oil	_____
Rec.	_____	Feet Of	_____	%gas	_____	%oil	_____
BHT	_____	°F Gravity	<u>49</u>	°API D@	<u>90</u>	°F Corrected Gravity	<u>46</u>
RW	_____	@	_____	°F Chlorides	_____	ppm Recovery	_____
				Chlorides	_____	ppm System	_____

(A) Initial Hydrostatic Mud	<u>3236</u> AK-1	Alpine	PSI	Recorder No.	<u>3026</u>	T-On Location	<u>7:30 P.M.</u>
(B) First Initial Flow Pressure	<u>391</u> 367	<u>204</u>	PSI	(depth)	<u>6840</u>	T-Started	<u>9:30 P.M.</u>
(C) First Final Flow Pressure	<u>768</u> 712	<u>782</u>	PSI	Recorder No.	<u>13252</u>	T-Open	<u>3:23 A.M.</u>
(D) Initial Shut-in Pressure	<u>2059</u> 1873	<u>2067</u>	PSI	(depth)	<u>6870</u>	T-Pulled	<u>6:15 A.M.</u>
(E) Second Initial Flow Pressure	<u>825</u> 785	<u>801</u>	PSI	Recorder No.	<u>13277</u>	T-Out	<u>12:51 P.M.</u>
(F) Second Final Flow Pressure	<u>825</u> 785	<u>858</u>	PSI	(depth)	<u>7016</u>	T-Off Location	<u>2:30 P.M.</u>
(G) Final Shut-in Pressure	<u>2139</u> 1946	<u>2150</u>	PSI	Initial Opening	<u>3:0 min.</u>	Test	<input checked="" type="checkbox"/> <u>900⁰⁰</u>
(Q) Final Hydrostatic Mud	<u>3213</u> 3212	<u>3221</u>	PSI	Initial Shut-in	<u>12</u>	Jars	<input checked="" type="checkbox"/> <u>200⁰⁰</u>
				Final Flow	<u>5</u>	Safety Joint	<input checked="" type="checkbox"/> <u>50⁰⁰</u>
				Final Shut-in	<u>120</u>	Straddle	<input checked="" type="checkbox"/> <u>250⁰⁰</u>
						Circ. Sub	<input checked="" type="checkbox"/> <u>35⁰⁰</u>
						Sampler	<input checked="" type="checkbox"/> <u>200⁰⁰</u>
						Extra Packer	<input checked="" type="checkbox"/> <u>150⁰⁰</u>
						Elec. Rec.	<input checked="" type="checkbox"/> <u>150⁰⁰</u>
						Mileage	<u>35⁰⁰</u>
						Other	<u>5.5 hrs std by 165⁰⁰</u>
						TOTAL PRICE \$	<u>2135⁰⁰</u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Chad McAllister
 Our Representative Scott Bugher

RELEASED

NOV 12 2002

FROM CONFIDENTIAL

CONFIDENTIAL



CEMENT JOB REPORT

ORIGINAL

CUSTOMER Anadarko Petroleum Corporation		DATE 22-JUN-00	F.R. # 211110177		SERV. SUPV. Randy Sheets	
LEASE & WELL NAME City Of Liberal C-1 - API 15175217920100		LOCATION Sec 38 - 34S - 34W		COUNTY-PARISH-BLOCK Seward Kansas		
DISTRICT Perryton		DRILLING CONTRACTOR RIG # Big A Drg #2		TYPE OF JOB Surface		
SIZE & TYPE OF PLUGS Cement Plug, Rubber, Top 8-5/8 In		LIST-CSG-HARDWARE Guide Shoe, Cement Nose, 8-5/8 I Insert Float, AFU, LTC, 8-5/8 - 8rd		PHYSICAL SLURRY PROPERTIES		
MATERIALS FURNISHED BY BJ		SLURRY WGT PPG	SLURRY YLD FY ³	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY
355 sx C + 16% Gel + 3% Salt + 25#/sk CF		11.8	2.96	17.66		187
100 sx C + 2% Cacl ₂ + 25#/sk CF		14.8	1.34	6.31		24
						Bbl MIX WATER
						149.15
						15.11
Available Mix Water 250 Bbl.		Available Displ. Fluid 150 Bbl.		TOTAL		211
						164.26

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HOLE			TBG-CSG-D.P.				COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	SIZE	WGT.	TYPE	DEPTH	GRADE	SHOE	FLOAT	STAGE
12.25		1584	8.625	24	CSG	1578	J-55	1578	1533	

LAST CASING		PKR-CMT RET-BR PL-LINER		PERF. DEPTH		TOP CONN		WELL FLUID	
SIZE	WGT	TYPE	DEPTH	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD
								8.625	BRD
									WATER BASED MUD
									9.8

DISPL. VOLUME		DISPL. FLUID		CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		MIX WATER SOURCE
VOLUME	UOM	TYPE	WGT.	BUMP PLUG	TO REV.	SQ. PSI	RATED	Operator	RATED	Operator	Rig
97.6	BBLS			350							Rig

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR:MIN.	PRESSURE - PSI		RATE	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS	BPM			TEST LINES	2000 PSI
11:49	2000					CIRCULATING WELL - RIG <input checked="" type="checkbox"/>	BJ <input checked="" type="checkbox"/>
11:51	200		6		H2O	TEST LINES	
12:17	200		4.5	187	C	START CEMENT	
12:24	0		0	24	C	START TAIL CEMENT	
12:25	100		6.5		H2O	FINISH CEMENT DROP PLUG	
12:40	400		2.5	87	H2O	START DISPLACEMENT	
12:43	750		0	97.6	H2O	SLOW RATE	
12:44	0		0			BUMP PLUG TEST FLOAT	
						FLOAT HELD OK	

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL CMT RETURNS/ REVERSED	TOTAL BBL PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERV. SUPV.
Y	N 750	Y	N 10	309	0	Y N	

RELEASED
NOV 12 2002
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CEMENT JOB REPORT

AUG 23 2000

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ORIGINAL

Page ___ of ___

CUSTOMER Anadarko		DATE 7-9-00		F.R.# 211110199		SERV. SUPP. R Sheets							
LEASE & WELL NAME - OCSG Cathedral C-1		LOCATION Sec 36 - 34S - 34W		COUNTY/PARISH/BLCK Seward, KS									
DISTRICT Perrinton		DRILLING CONTRACTOR/RIG# B.A. Ory #2		TYPE OF JOB Long String									
SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE		PHYSICAL SLURRY PROPERTIES									
TOP	5/2 Rubber	160	1 Fc	10 Cent	SLURRY WGT PPG	SLURRY YLD FT ³	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER			
BTM		150											
MATERIALS FURNISHED BY BJ													
10 Bbl muo clean JL													
2.5 SKs H + 10°/10 A-10 + 5.7°/15K Salt					11.0	3.68	23.15		16	14			
7.5°/10 FL-S2													
85 SKs H + 10°/10 Salt + 10°/10 A-10 + 5.5°/10					15.0	1.48	6.83		22	14			
FL-S2													
Available Mix Water _____ Bbl.			Available Displ. Fluid _____ Bbl.			TOTAL			38	28			
HOLE			TBG-CSG-D.P.			TBG-CSG-D. P.			COLLAR DEPTHS				
SIZE	% EXCESS	DEPTH	SIZE	WGT.	TYPE	DEPTH	SIZE	WGT.	TYPE	DEPTH	SHOE	FLOAT	STAGE
77/8"		7020'					5 1/2	17#	A-110	7015'	44'	6971'	
LAST CASING			PKR-CMT RET-BR PL-LINER			PERF. DEPTH		TOP CONN		WELL FLUID			
SIZE	WGT.	TYPE	DEPTH	BRAND & TYPE		DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.	
85/8"	24#	J-55	1578'						5/2	8rd	mud	9.1	
CAL. DISPL. VOL. - Bbl				CAL. PSI	CAL. MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG	DISPL. FLUID		WATER SOURCE	
TBG.	CSG.	CSG/D.P.	TOTAL	BUMP PLUG	TO REV.	SQ. PSI	RATED	OP.	DEPTH	TYPE	WGT.		
			161.7	500						H2O	8.4	Rig	
COMMENTS: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING.													
PRESSURE RATE DETAIL						JOB EVENT SUMMARY							
TIME HR:MIN.	PRESSURE-PSI		RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>							
	PIPE	ANNULUS				TEST LINES 3000 PSI							
8:00			RELEASED			CIRCULATING WELL RIG <input checked="" type="checkbox"/> BJ <input checked="" type="checkbox"/>							
						On location Safety Meeting Spot Equipment Lay line to well head For Rystonia casing casing headed Hook Rig to circulate Hook Pump to casing Test lines start mud clean JL							
						Start Cement							
11:17	3000					Start Tail Cement							
11:22	200					Finish Cement Wash P/L							
11:21	200			10	mc22	Drop Plug Start Displacement							
11:23	150			4.5	16	Slow Rate							
11:29	0			5	22	Bump Plug test Float							
11:32	50			6.5	H2O	Float Held OK							
11:57	400			2.0	151								
1:04	850			0	161.7								
1:05	0			0									
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BARRELS CEMENT RETURNED	TOTAL BBL PUMPED	PSI LEFT ON CSG	CAL. TOP OF CEMENT	SERV. SUPP.						
(V) N	850	(V) N	N/A	210	0	5720'	R Sheets						

CONFIDENTIAL

Scientific Drilling International
Survey Completion Report

ORIGINAL

WF

Company: ANADARKO PETROLEUM	Date: 07/10/2000	Time: 13:49:24	Page: 1
Field: SEWARD COUNTY KANSAS	Co-ordinate(N/E) Reference:	Site: SECTION 36-34S-34W, True North	
Site: SECTION 36-34S-34W	Vertical (TVD) Reference:	SITE 0.0 above Mean Sea Level	
Well: CITY OF LIBERAL C-1	Section (VS) Reference:	Well (0.00E, 0.00N, 135.00Azi)	
Wellpath: OH Original Hole	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: CITY OF LIBERAL C-1 SEWARD COUNTY KANSAS	Start Date: 06/26/2000
Company: Scientific Drilling Internatio	Engineer: Deanna Jacobs
Tool:	Tied-to: From Surface

KCC

Field: SEWARD COUNTY KANSAS LIBERAL SEWARD COUNTY KANSAS	Map System:	Map Zone:	Site Centre
Geo Datum:	Sys Datum: Mean Sea Level	Coordinate System:	Wmm_2000
		Geomagnetic Model:	

AUG 23 2000

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Site: SECTION 36-34S-34W LIBERAL AIRPORT DIRECTIONAL IN SECTION 36-34S-34W OF SEWARD CO KANSAS	Released: NOV 12 2002
Site Position: From: Local Only	Northing: m
Position Uncertainty: 0.0 ft	Latitude: m
Ground Level: 0.0 ft	Longitude: m
	North Reference: True
	Grid Convergence: deg

RELEASED

FROM CONFIDENTIAL

Well: CITY OF LIBERAL C-1 CITY OF LIBERAL #C-1	Slot Name:
Well Position: +N/-S 0.0 ft	Latitude: m
+E/-W 0.0 ft	Longitude: m
Position Uncertainty: 0.0 ft	

Wellpath: OH Original hole	Drilled From: Surface
City of Liberal #C-1 Liberal Airport	Tie-on Depth: 0.0 ft
Current Datum: SITE	Above System Datum: Mean Sea Level
Magnetic Data: 00/00/2000	Declination: 7.91 deg
Field Strength: 0 nT	Mag Dip Angle: 0.00 deg
Vertical Section: Depth From (TVD)	Direction deg
ft	ft
0.0	0.0
0.0	135.00

Sta	MD ft	Incl deg	Azim deg	CIen ft	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CRD ft	CIa deg
1	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00
2	87.0	1.20	127.30	87.0	87.0	0.9	-0.6	0.7	1.38	0.9	127.30
3	187.0	1.20	115.60	100.0	187.0	2.9	-1.6	2.5	0.24	3.0	123.23
4	288.0	0.60	117.70	101.0	288.0	4.4	-2.3	3.9	0.59	4.6	120.83
5	387.0	0.40	136.60	99.0	387.0	5.3	-2.8	4.6	0.26	5.4	121.52
6	487.0	0.60	100.40	100.0	487.0	6.1	-3.2	5.4	0.36	6.2	120.62
7	587.0	0.90	89.70	100.0	586.9	7.0	-3.3	6.7	0.33	7.4	116.11
8	686.0	0.50	101.40	99.0	685.9	7.9	-3.4	7.9	0.43	8.6	113.06
9	786.0	1.00	99.40	100.0	785.9	9.0	-3.6	9.2	0.50	9.8	111.35
10	887.0	3.10	138.90	101.0	886.9	12.5	-5.8	11.8	2.39	13.2	116.06
11	988.0	2.70	134.80	101.0	987.7	17.6	-9.5	15.3	0.45	18.0	121.87
12	1086.0	1.80	135.60	98.0	1085.7	21.4	-12.2	18.0	0.92	21.8	124.18
13	1187.0	0.90	150.10	101.0	1186.6	23.8	-14.1	19.5	0.95	24.1	125.76
14	1287.0	0.60	128.10	100.0	1286.6	25.0	-15.1	20.3	0.41	25.3	126.54
15	1386.0	0.30	163.80	99.0	1385.6	25.8	-15.6	20.8	0.40	26.0	126.92
16	1487.0	0.50	182.90	101.0	1486.6	26.3	-16.3	20.9	0.24	26.5	128.05
17	1587.0	1.00	169.70	100.0	1586.6	27.3	-17.6	21.0	0.53	27.4	130.01
18	1687.0	1.00	176.20	100.0	1686.6	28.7	-19.4	21.2	0.11	28.7	132.37
19	1788.0	0.90	186.80	101.0	1787.6	29.8	-21.0	21.2	0.20	29.8	134.79
20	1886.0	0.70	180.00	98.0	1885.6	30.7	-22.4	21.1	0.23	30.8	136.71
21	1987.0	0.90	194.10	101.0	1986.6	31.6	-23.8	20.9	0.28	31.7	138.68
22	2088.0	0.80	201.40	101.0	2087.5	32.3	-25.2	20.4	0.15	32.5	140.94
23	2188.0	0.40	204.30	100.0	2187.5	32.7	-26.2	20.0	0.40	33.0	142.54
24	2287.0	0.40	195.80	99.0	2286.5	33.0	-26.8	19.8	0.06	33.3	143.54

Scientific Drilling International

Survey Completion Report

NOV 12 2002

CONFIDENTIAL

ORIGINAL

Company: ANADARKO PETROLEUM	KCC	Date: 07/10/2000	Time: 13:49:24	Page: 2
Field: SEWARD COUNTY KANSAS		Co-ordinate (NAD 83) Reference: (11)	Site: SECTION 36-34S-34W True North	
Site: SECTION 36-34S-34W	AUG 23 2000	Vertical (TVD) Reference:	SITE: 0.0 above Mean Sea Level	
Well: CITY OF LIBERAL C-1		Section (VS) Reference:	Well: (0.00E-0.00N-135.00Az)	
Wellpath: OH Original hole		Survey Calculation Method:	Minimum Curvature	Db: Sybase

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Survey

Stn	MD ft	Incl deg	Azim deg	CLen ft	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CLS ft	CLSA deg
25	2387.0	0.50	193.00	100.0	2386.5	33.4	-27.6	19.6	0.10	33.8	144.57
26	2488.0	0.30	201.30	101.0	2487.5	33.7	-28.3	19.4	0.21	34.3	145.49
27	2587.0	0.10	239.40	99.0	2586.5	33.8	-28.5	19.3	0.23	34.4	145.99
28	2688.0	0.30	185.10	101.0	2687.5	33.9	-28.8	19.2	0.25	34.6	146.41
29	2786.0	0.50	192.30	98.0	2785.5	34.3	-29.5	19.0	0.21	35.1	147.17
30	2888.0	0.60	186.90	102.0	2887.5	34.9	-30.5	18.9	0.11	35.9	148.22
31	2987.0	0.30	122.40	99.0	2986.5	35.5	-31.1	19.0	0.55	36.5	148.56
32	3086.0	0.50	198.40	99.0	3085.5	35.9	-31.7	19.1	0.52	37.0	148.89
33	3187.0	0.40	222.50	101.0	3186.5	36.1	-32.4	18.7	0.21	37.4	149.92
34	3288.0	0.30	289.30	101.0	3287.5	35.9	-32.5	18.3	0.39	37.9	150.70
35	3387.0	0.10	287.10	99.0	3386.5	35.6	-32.4	17.9	0.20	37.1	151.06
36	3463.0	0.20	261.20	76.0	3462.5	35.5	-32.4	17.7	0.16	37.0	151.32
37	3497.0	0.10	76.10	34.0	3496.5	35.4	-32.4	17.7	0.88	36.9	151.37
38	3528.0	0.80	151.00	31.0	3527.5	35.7	-32.6	17.8	2.52	37.2	151.32
39	3558.0	1.60	155.10	30.0	3557.5	36.3	-33.2	18.1	2.68	37.8	151.36
40	3588.0	2.60	133.90	30.0	3587.5	37.3	-34.0	18.8	4.17	38.9	151.10
41	3619.0	3.30	124.50	31.0	3618.4	38.9	-35.0	20.0	2.74	40.3	150.24
42	3651.0	3.30	118.80	32.0	3650.4	40.7	-36.0	21.6	1.02	42.0	149.04
43	3682.0	3.60	121.00	31.0	3681.3	42.5	-36.9	23.2	1.06	43.6	147.85
44	3712.0	3.90	124.40	30.0	3711.3	44.4	-38.0	24.9	1.24	45.4	146.80
45	3744.0	4.80	127.30	32.0	3743.2	46.8	-39.4	26.8	2.89	47.7	145.76
46	3775.0	5.50	127.80	31.0	3774.1	49.6	-41.1	29.0	2.26	50.3	144.77
47	3806.0	5.70	129.40	31.0	3804.9	52.6	-43.0	31.4	0.82	53.2	143.87
48	3837.0	6.30	128.80	31.0	3835.7	55.8	-45.0	33.9	1.95	56.4	143.02
49	3869.0	6.80	127.90	32.0	3867.5	59.4	-47.3	36.8	1.60	59.9	142.14
50	3900.0	7.50	128.70	31.0	3898.3	63.3	-49.7	39.8	2.28	63.7	141.31
51	3930.0	7.90	131.20	30.0	3928.0	67.3	-52.3	42.9	1.74	67.6	140.64
52	3962.0	8.50	134.70	32.0	3959.7	71.8	-55.4	46.2	2.44	72.1	140.16
53	3992.0	9.30	136.70	30.0	3989.3	76.5	-58.7	49.4	2.86	76.8	139.89
54	4024.0	9.70	137.70	32.0	4020.9	81.8	-62.6	53.0	1.35	82.0	139.72
55	4056.0	10.30	138.40	32.0	4052.4	87.3	-66.7	56.7	1.91	87.6	139.62
56	4087.0	10.80	136.80	31.0	4082.9	93.0	-70.9	60.6	1.87	93.3	139.49
57	4119.0	11.10	137.10	32.0	4114.3	99.0	-75.3	64.7	0.95	99.3	139.34
58	4148.0	11.50	136.80	29.0	4142.7	104.7	-79.5	68.6	1.39	105.0	139.21
59	4179.0	12.40	139.00	31.0	4173.1	111.1	-84.3	72.9	3.25	111.4	139.13
60	4209.0	12.70	140.80	30.0	4202.3	117.6	-89.2	77.1	1.64	117.9	139.18
61	4240.0	12.40	140.70	31.0	4232.6	124.3	-94.5	81.4	0.97	124.7	139.26
62	4270.0	13.00	140.30	30.0	4261.9	130.9	-99.6	85.6	2.02	131.3	139.32
63	4330.0	14.80	139.00	60.0	4320.1	145.3	-110.5	94.9	3.04	145.7	139.35
64	4394.0	16.60	136.10	64.0	4381.7	162.6	-123.3	106.6	3.07	163.0	139.15
65	4456.0	17.70	135.50	62.0	4441.0	180.8	-136.4	119.3	1.80	181.2	138.81
66	4520.0	17.60	135.70	64.0	4501.9	200.2	-150.3	132.9	0.18	200.6	138.50
67	4581.0	17.70	135.00	61.0	4560.1	218.7	-163.4	145.9	0.38	219.1	138.24
68	4644.0	19.10	133.40	63.0	4619.9	238.6	-177.3	160.2	2.36	238.9	137.90
69	4676.0	19.00	133.40	32.0	4650.1	249.1	-184.4	167.8	0.31	249.3	137.71
70	4770.0	18.40	134.20	94.0	4739.1	279.2	-205.3	189.5	0.69	279.4	137.29
71	4832.0	19.00	133.10	62.0	4797.9	299.1	-219.0	203.9	1.12	299.2	137.05
72	4895.0	18.20	133.60	63.0	4857.6	319.1	-232.8	218.5	1.29	319.3	136.81
73	4925.0	18.10	134.20	30.0	4886.1	328.5	-239.3	225.3	0.71	328.6	136.73
74	5019.0	18.60	134.20	94.0	4975.3	358.1	-259.9	246.5	0.53	358.2	136.52
75	5082.0	18.60	133.60	63.0	5035.0	378.2	-273.9	261.0	0.30	378.3	136.38
76	5145.0	18.60	134.00	63.0	5094.7	398.3	-287.8	275.5	0.20	398.4	136.25

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NOV 12 2002

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Scientific Drilling International
Survey Completion Report

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ORIGINAL

Company: ANADARKO PETROLEUM	KCC	Date: 07/10/2000	Time: 13:49:24	Page: 3
Field: SEWARD COUNTY KANSAS		Co-ordinate(N/E) Reference:	Site: SECTION 36-34S-34W	True North
Site: SECTION 36-34S-34W	AUG 23 2000	Vertical (TVD) Reference:	SH F 0.0 above Mean Sea Level	
Well: CITY OF LIBERAL C-1		Section (VS) Reference:	Well (0.00E,0.00N,135.00Az)	
Wellpath: OH Original hole		Survey Calculation Method:	Minimum Curvature	Db: Sybase

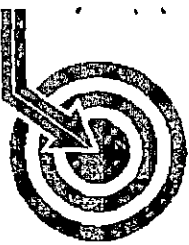
CONFIDENTIAL

Survey

Sta	MD ft	Incl deg	Azim deg	CLen ft	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClD ft	ClA deg
77	5208.0	19.00	134.50	63.0	5154.4	418.6	-301.9	290.0	0.68	418.6	136.16
78	5269.0	19.30	134.70	61.0	5212.0	438.6	-316.0	304.2	0.50	438.6	136.08
79	5332.0	19.60	133.80	63.0	5271.4	459.5	-330.6	319.3	0.67	459.6	136.00
80	5460.0	18.90	134.30	128.0	5392.2	501.7	-360.0	349.6	0.56	501.8	135.84
81	5554.0	17.70	134.00	94.0	5481.5	531.2	-380.5	370.8	1.28	531.3	135.74
82	5677.0	15.80	136.70	123.0	5599.3	566.7	-405.7	395.7	1.67	566.7	135.71
83	5770.0	16.80	133.00	93.0	5688.5	592.8	-424.1	414.2	1.55	592.8	135.67
84	5863.0	18.70	136.00	93.0	5777.1	621.1	-444.0	434.4	2.27	621.2	135.62
85	5925.0	18.30	135.30	62.0	5835.9	640.8	-458.0	448.2	0.74	640.8	135.62
86	5985.0	19.10	130.80	60.0	5892.7	660.0	-471.1	462.2	2.75	660.0	135.55
87	6016.0	19.60	129.20	31.0	5922.0	670.2	-477.7	470.1	2.35	670.3	135.46
88	6047.0	19.90	126.90	31.0	5951.1	680.6	-484.2	478.3	2.69	680.6	135.35
89	6079.0	19.20	125.00	32.0	5981.3	691.2	-490.5	487.0	2.95	691.2	135.20
90	6110.0	18.80	123.80	31.0	6010.6	701.1	-496.2	495.3	1.80	701.1	135.05
91	6141.0	18.10	124.50	31.0	6040.0	710.8	-501.7	503.5	2.37	710.8	134.90
92	6172.0	17.60	123.40	31.0	6069.5	720.1	-507.0	511.3	1.95	720.1	134.76
93	6203.0	17.30	124.50	31.0	6099.1	729.2	-512.2	519.0	1.44	729.2	134.62
94	6234.0	16.90	127.30	31.0	6128.7	738.2	-517.5	526.4	2.95	738.2	134.51
95	6296.0	16.40	131.70	62.0	6188.1	755.9	-528.8	540.1	2.19	755.9	134.39
96	6358.0	16.30	135.90	62.0	6247.6	773.3	-540.9	552.7	1.91	773.4	134.38
97	6421.0	16.40	138.20	63.0	6308.1	791.0	-553.9	564.8	1.04	791.1	134.44
98	6484.0	15.40	139.00	63.0	6368.7	808.3	-566.8	576.2	1.62	808.3	134.53
99	6546.0	13.70	142.20	62.0	6428.7	823.8	-578.8	586.1	3.03	823.8	134.64
100	6609.0	13.80	143.20	63.0	6489.9	838.6	-590.7	595.2	0.41	838.6	134.78
101	6672.0	13.50	142.80	63.0	6551.1	853.3	-602.6	604.1	0.50	853.3	134.93
102	6734.0	13.30	143.60	62.0	6611.4	867.5	-614.1	612.8	0.44	867.5	135.06
103	6796.0	13.20	144.30	62.0	6671.8	881.6	-625.6	621.1	0.30	881.6	135.21
104	6891.0	12.90	145.10	95.0	6764.3	902.7	-643.1	633.5	0.37	902.7	135.43
105	6983.0	13.10	144.10	92.0	6853.9	923.1	-660.0	645.5	0.33	923.2	135.64
106	7020.0	13.10	144.10	37.0	6890.0	931.4	-666.8	650.4	0.00	931.5	135.71

1793
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 NOV 12 2002
 FROM CONFIDENTIAL



CONFIDENTIAL
**Scientific
 Drilling**

ANADARKO PETROLEUM

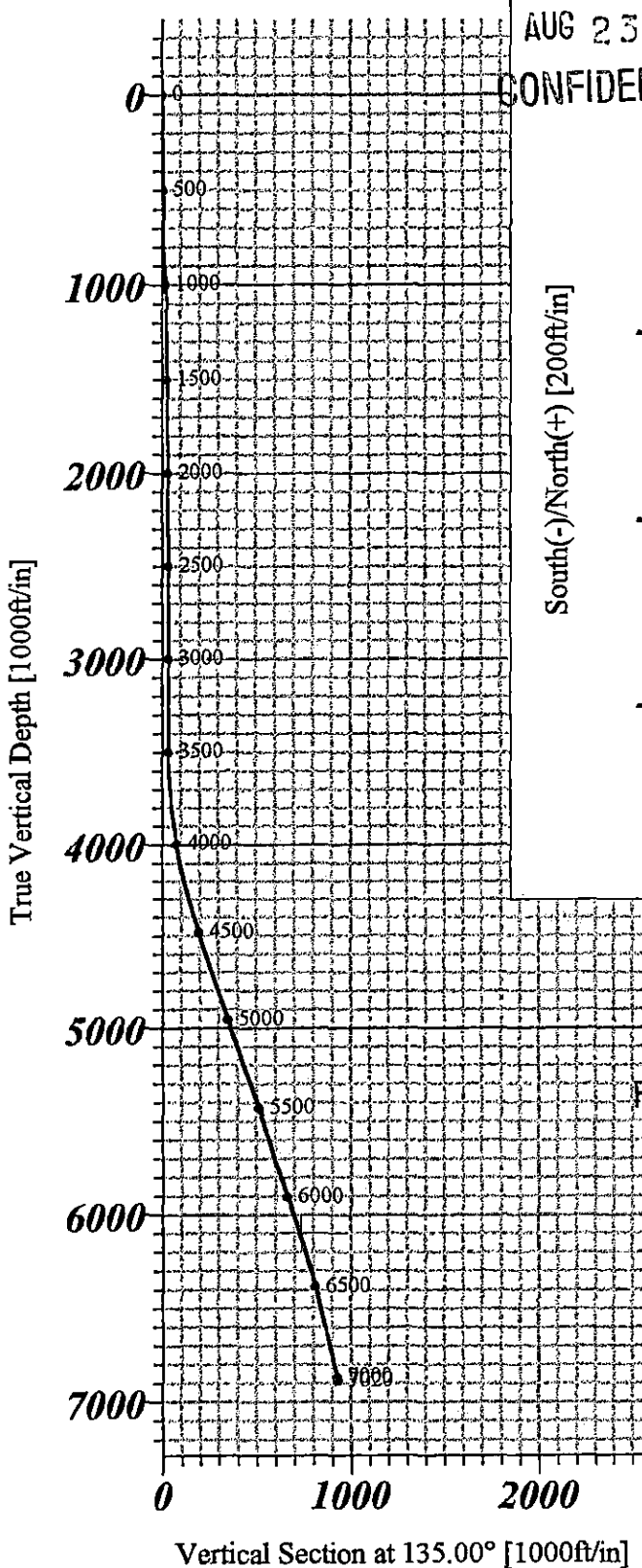
Field: SEWARD COUNTY KANSAS
 Site: SECTION 36-34S-34W
 Well: CITY OF LIBERAL C-1
 Wellpath: OH Original hole
 Survey: CITY OF LIBERAL C-1

KCC



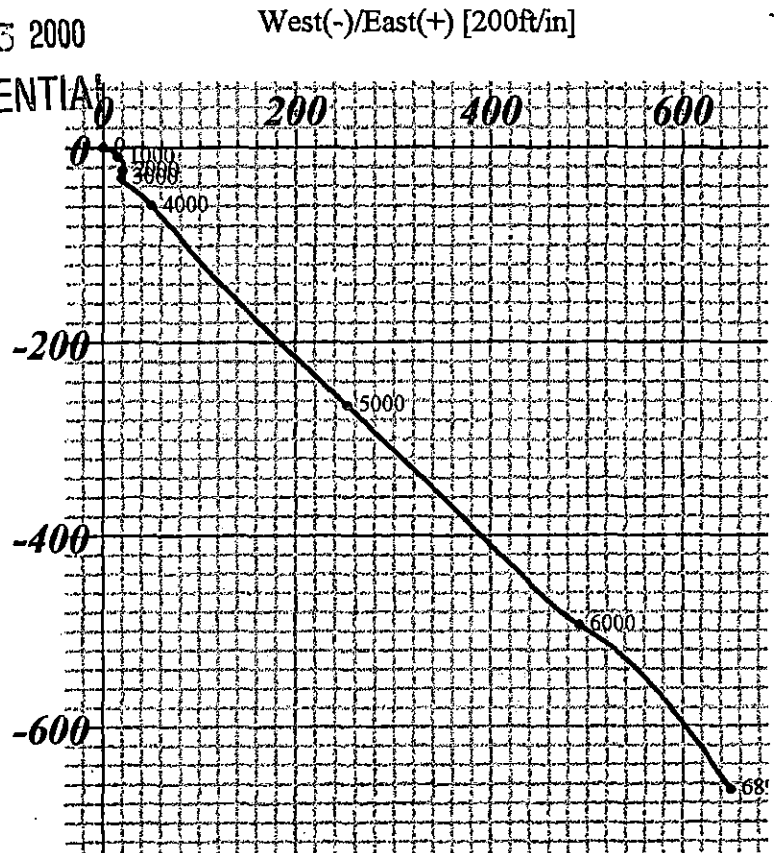
ORIGINAL

Azimuths to True North
 Magnetic North: 7.91°



CONFIDENTIAL

South(-)/North(+) [200ft/in]



RELEASED

NOV 12 2002

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Bottom Hole Location from Surface
 6890.0' TVD 666.8' South 650.4' East

Bottom Hole Vertical Section
 7020' MD 931.4' @ 135 Azimuth

*This survey is correct to the best of my knowledge
 and is supported by actual field data.*

[Signature]
 Company Representative