

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

API No. 15- -081-20930-0000

County HASKELL

Spot: 19°N & 180°E of

NE - NE - SE Sec. 16 Twp. 29 Rge. 34 X E

SHL 2319 Feet from X (circle one) Line of Section

SHL 150 Feet from E (circle one) Line of Section

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

Lease Name OWENS "A" Well # 2

Field Name EUBANK

Producing Formation CHESTER

Elevation: Ground 2974.2 KB --

Total Depth 5712 TMD, 5587 TVD PBDT 5652

Amount of Surface Pipe Set and Cemented at 1810 Feet

Multiple Stage Cementing Collar Used? X Yes      No

If yes, show depth set 3237 Feet

If Alternate II completion, cement circulated from     

feet depth to      w/      sx cmt.

Drilling Fluid Management Plan ALT 1 5-10-94  
(Data must be collected from the Reserve Pit) Dow

Chloride content 1400 ppm Fluid volume 700 bbls

Dewatering method used NATURAL EVAPORATION

Location of fluid disposal if hauled offsite: KCC

Operator Name      **NOV 20**

Lease Name      License      **CONFIDENTIAL**

     Quarter      Sec.      Twp.      S Rng.      E/W

County      Docket No.     

Operator: License # 4549

Name: ANADARKO PETROLEUM CORPORATION

Address P. O. BOX 351

**CONFIDENTIAL**

City/State/Zip LIBERAL, KANSAS 67905-0351

Purchaser: NATIONAL COOPERATIVE REFINING ASSOCIATION

Operator Contact Person: J. L. ASHTON

Phone ( 316 ) 624-6253

Contractor: Name: NORSEMAN DRILLING INC.

License: 3779

Wellsite Geologist: NA

Designate Type of Completion

X New Well      Re-Entry      Workover

X Oil      SWD      SIOW      Temp. Abd.

     Gas      ENHR      SIGW

     Dry      Other (Core, WSW, Expl., Cathodic, etc)

If Workover:

Operator:      **RELEASED**

Well Name:     

Comp. Date      Old Total Depth      **MAR 23 1998**

     Deepening      Re-perf.      Conv. to Inj/SWD

     Plug Back      **FROM CONFIDENTIAL**

     Commingled      Docket No.     

     Dual Completion      Docket No.     

     Other (SWD or Inj?)      Docket No.     

9-12-95 9-27-95 11-07-95

Spud Date      Date Reached TD      Completion Date     

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 David W. Kapple

DAVID W. KAPPLE

Title DIVISION DRILLING ENGINEER Date 11/20/95

Subscribed and sworn to before me this 20th day of November, 19 95.

Notary Public L. Marc Harvey

**L. MARC HARVEY**  
Notary Public - State of Kansas  
My Appt. Expires 6-12-99

Date Commission Expires     

K.C.C. OFFICE USE ONLY	
F <input checked="" type="checkbox"/>	Letter of Confidentiality Attached
C <input checked="" type="checkbox"/>	Wireline Log Received
C <input type="checkbox"/>	Geologist Report Received
Distribution	
<input checked="" type="checkbox"/> KCC-	<u>    </u> SWD/Rep <u>    </u> NGPA
<input type="checkbox"/> KGS	<u>    </u> Plug <u>    </u> Other
<b>RECEIVED</b>	
KANSAS CORPORATION COMMISSION	

Form ACO-1 (7-91)

**NOV 21 1995**

11-21-95  
CONSERVATION DIVISION  
WICHITA, KS

Operator Name ANADARKO PETROLEUM CORPORATION Lease Name OWENS "A" Well # 2

Sec. 16 Twp. 29 Rge. 34  East  West County HASKELL

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 (Attach Additional Sheets.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Log <input type="checkbox"/> Sample Formation (Top), Depth and Datums Name Top Datum HEEBNER 3982 TORONTO 4003 LANSING 4064 KANSAS CITY 4532 MARMATON 4692 MORROW 5250 CHESTER 5426 ST LOUIS 5638
Samples Sent to Geological Survey	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Cores Taken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Electric Log Run (Submit Copy.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
List All E.Logs Run: CNL-LDT, DIL, ML, SONIC, SBL-CCL-GR.		

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> 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	12.25	8.625	24	1810	THRIFTY LITE/CLASS C	50/160	2%CC, 1/4#/SK FLC/SAME.
PRODUCTION	7.875	5.5	15.5	5707A	VERSASET 11PPG /14.5 PPG.	50/180	.6% HALAD 322, 5%KCL, 1/4#SK FLC .9%VERSASET/SAME.
			FO TOOL	5257M	MIDCON 2	60	NONE

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	5530-5536	ACID: 600 GAL 7-1/2% FEHCL	5530-5536'
4	5536-5541	ACID: 500 GAL 7-1/2% FEHCL ACID: 200 GAL 7-1/2% HCL, 1500 GAL 3% HF & 12%HCL FRAC: 1554 GAL NITRIFIED X LINKD GLD 2% KCL WTR & 4500# 20/40 SD.	5536-5541'

TUBING RECORD	Size 2-3/8	Set At 5518	Packer At	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or Inj. 11-08-95	Producing Method <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)			
Estimated Production Per 24 Hours	Oil 107 Bbls.	Gas Mcf	Water 3 Bbls.	Gas-Oil Ratio Gravity

Disposition of Gas:  Vented  Sold  Used on Lease (If vented, submit ACO-18.)

Method of completion:  Open Hole  Perf.  Dually Comp.  Commingled  Other (Specify)

Production Interval: 5530-5541

LPH  
KCC

CONFIDENTIAL

ORIGINAL

NORSEMAN DRILLING, INC.  
WICHITA, KANSAS  
DRILLERS' WELL LOG

WELL NAME: OWENS A-2  
SECTION 16-29S-34W  
HASKELL COUNTY, KANSAS

15-081-20930

COMMENCED: SEPTEMBER 11, 1995

COMPLETED: SEPTEMBER 28, 1995

OPERATOR: ANADARKO PETROLEUM CORPORATION

KCC

NOV 20

CONFIDENTIAL

Depth		Formation	Remarks
From	To		
0	1279	Sand & Redbed	Ran 44 jts of 24#
1280	1465	Glorietta Sand	8 5/8" csg set @
1466	2209	Redbed & Shale	1810'; w/300 SX of
2210	5675	Lime - Shale	Class C; 3% SMS; 2% CC; 1/4 SX Flocele; Tailed w/160 SX Class C; 2% CC; 1/4# SX Flocele; Plug down at 10:00 p.m. on 09/14/95.

RELEASED  
MAR 23 1998  
FROM CONFIDENTIAL

Ran 134 jts 5 1/2" 15.5#, Set @ 5707'; w/50 SX  
Premium; 10% Halad 322; 10% Versaset; 1/4# SX Flocele;  
Tailed w/180 SX Premium Lite "C"; 10% Halad 322; 10%  
Versaset; 1/4# SX Flocele; Plug down at 2:00 p.m., on  
09/28/95

STATE OF KANSAS )I, the undersigned, being duly sworn on  
                          )oath, state that the above Drillers' Well  
                          )Log is true and correct to the best of my  
                          )knowledge and belief and according to the  
COUNTY OF SEDGWICK )records of this office.

NORSEMAN DRILLING, INC.

*James P. Reilly*  
\_\_\_\_\_  
JAMES P. REILLY, PRESIDENT

Subscribed & sworn to before me this

October 4, 1995

My Appointment Expires:

July 21, 1999

*Phyllis E. Brewer*  
\_\_\_\_\_  
Phyllis E. Brewer, Notary Public  
11817 Jamesburg  
Wichita, KS 67212





**BJ Services Company**

**CEMENT JOB DETAIL SHEET**

CUSTOMER: ANAPARKO			DATE: 9-15-95			SER. SUP. T. ARNOLD			TYPE OF SURFACE				
WELL NAME: 101			LOCATION: 24			COUNTY: POLK			BLOCK: 15				
DISTRICT: 101			DEPT. CONTRACTOR: KRSTIC			OPERATOR: ANAPARKO							
MATERIAL FURNISHED BY WPS	TYPE OF PLUGS		LIST-CSG-HARDWARE			SQ MANI FOLD Y N	TOP OF EACH FLUID	PHYSICAL SLURRY PROPERTIES					
	XIDE BTM	8 5/8 RUBBER	4 CENTRALIZERS 1 BASKET 1 INSERT FLOAT	1 GUIDE SHOE				SLURRY WGT PPG	SLURRY YLD FT <sup>3</sup>	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
300 SKS 'C'	+ 3% SMS + 2% CACL <sub>2</sub> + 1#/SK CELLO-SEAL							11.1	3.22	20.3	172	145	
160 SKS 'C'	+ 2% CACL <sub>2</sub> + 1#/SK CELLO-SEAL							14.8	1.34	6.32	38	24	
TOP OUT ORIGINAL													
175 SKS 'C'								14.8	1.34	6.32	42	26	
Available Mix Water 400 Bbl.			Available Displ. Fluid 250 Bbl.						TOTAL				
HOLE			TBG-D.P.			TBG-CSG-D.P.			COLLAR DEPTHS				
SIZE	% EXCESS	DEPTH	SIZE	WGT.	TYPE	DEPTH	SIZE	WGT.	TYPE	DEPTH	SHOE	FLOAT	STAGE
12 1/2	100	1810	8 5/8	24		1824					1810	1779	
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.	
									8 5/8	SRD	MUD	9.0	
CAL DISPL VOL-Bbl.			CAL PSI		CAL MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		DISPL FLUID		WATER
TBG	CSG	CSG	TOTAL	BUMP PLUG	TO REV	SO. PSI	RATED	OP.	RATED	OP.	TYPE	WGT.	SOURCE
			113	113	750							1420	8.3 RIG
EXPLANATION: TROUBLE SETTING TOOL RUNNING CSG, ETC PRIOR TO CEMENTING													
PRESSURE RATE DETAIL						EXPLANATION							
TIME HR: MIN.	PRESSURE-PSI		RATE	Bbl. FLUID	FLUID	SAFETY MEETING: WPS CREW <input checked="" type="checkbox"/> CO. REP <input checked="" type="checkbox"/>							
	PIPE	ANNULUS	BPM	PUMPED	TYPE	TEST LINES 2500 PSI <input checked="" type="checkbox"/>							
						CIRCULATING WELL-RIG <input checked="" type="checkbox"/> WPS <input type="checkbox"/>							
809	0-500		0-5	10	WATER	START WATER NOV 20							
812	500-100		5-2	210	CEMENT	START CEMENT							
916	100-0		2-0			SHUTDOWN DROP PLUG CONFIDENTIAL							
918	0-500		0-7	113	WATER	START DISPLACEMENT							
938	500-1000		7-3			BUMP PLUG							
939	1000-0					BLEED OFF CONFIDENTIAL							
						TOP OUT							
208	0-500		0-2	1	WATER	WATER AHEAD							
210	500		2	42	CEMENT	START CEMENT							
233	500-0		2-0			SHUT DOWN							
RELEASED						RECEIVED KANSAS CORPORATION COMMISSION							
MAR 23 1998						NOV 21 1995							
FROM CONFIDENTIAL						CONSERVATION DIVISION WICHITA, KS							
BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	TOTAL Bbl. PUMPED	Bbl CMT RETURNS/ REVERSED	PSI LEFT ON CSG	SPOT TOP CEMENT	SER. SUP. T. ARNOLD						
X N	1000	Y N	333	5	0	SURF	CUSTOMER REP. BARLOW						

Dwens A-2

FIELD Fort Hill Eubank SEC. 16 TWP. 29S RNG. 34W COUNTY Haskell STATE KS

FORMATION NAME \_\_\_\_\_ TYPE \_\_\_\_\_  
FORMATION THICKNESS \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_  
INITIAL PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD  
PRESENT PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD  
COMPLETION DATE \_\_\_\_\_ MUD TYPE \_\_\_\_\_ MUD WT. \_\_\_\_\_  
PACKER TYPE \_\_\_\_\_ SET AT \_\_\_\_\_  
BOTTOM HOLE TEMP. \_\_\_\_\_ PRESSURE \_\_\_\_\_  
MISC. DATA \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	<u>N</u>	<u>15.5</u>	<u>5 1/2</u>	<u>GL</u>	<u>5707</u>	
LINER						
TUBING						
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

**JOB DATA**

CALLER OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>9-28-95</u>	DATE <u>9-28-95</u>	DATE <u>9-28-95</u>	DATE <u>9-28-95</u>
TIME <u>6:30</u>	TIME <u>0500</u>	TIME <u>1249</u>	TIME <u>1349</u>

**TOOLS AND ACCESSORIES**

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR <u>INSERT Float</u>	<u>1</u>	<u>Howco</u>
FLOAT SHOE		
GUIDE SHOE	<u>1</u>	
CENTRALIZERS	<u>24</u>	
BOTTOM PLUG		
TOP PLUG	<u>1</u>	
HEAD	<u>1</u>	
PACKER		
OTHER <u>FD Tool</u>	<u>1</u>	<u>BAKER</u>

**PERSONNEL AND SERVICE UNITS**

NAME	UNIT NO. & TYPE	LOCATION
<u>W. Fox</u>	<u>D4437</u>	<u>Liberal, KS</u>
<u>N. TATA</u>	<u>E0568</u>	<u>Liberal, KS</u>
<u>D. Corpinis</u>	<u>6612</u>	<u>Hugoton, KS</u>
	<u>Bulk</u>	

**MATERIALS**

TREAT. FLUID \_\_\_\_\_ DENSITY \_\_\_\_\_ LB/GAL. API  
DISPL. FLUID \_\_\_\_\_ DENSITY \_\_\_\_\_ LB/GAL. API  
PROP. TYPE \_\_\_\_\_ SIZE \_\_\_\_\_ LB.  
PROP. TYPE \_\_\_\_\_ SIZE \_\_\_\_\_ LB.  
ACID TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ %  
ACID TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ %  
ACID TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ %  
SURFACTANT TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ IN  
NE AGENT TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ IN  
FLUID LOSS ADD. TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
GELLING AGENT TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
FRIC. RED. AGENT TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
BREAKER TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
BLOCKING AGENT TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
PERFPAC BALLS TYPE \_\_\_\_\_ QTY. \_\_\_\_\_  
OTHER \_\_\_\_\_  
OTHER \_\_\_\_\_

**CONFIDENTIAL**

NOV 20

DEPARTMENT SDDI-LEMENT

DESCRIPTION OF JOB 5 1/2 long string

JOB DONE THRU: TUBING  CASING  ANNULUS  TBG./ANN.

CUSTOMER REPRESENTATIVE X. [Signature]

HALLIBURTON OPERATOR Wes Fox COPIES REQUESTED \_\_\_\_\_

**CEMENT DATA**

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
<u>230</u>	<u>1</u>	<u>Premium</u>		<u>B</u>	<u>90% Halad 322 / 10% UERSASET / 1/4# Floccr / 5% KLL</u>	<u>1.42</u>	<u>14.5</u>

**PRESSURES IN PSI**

CIRCULATING \_\_\_\_\_ DISPLACEMENT \_\_\_\_\_  
BREAKDOWN \_\_\_\_\_ MAXIMUM \_\_\_\_\_  
AVERAGE \_\_\_\_\_ FRACTURE GRADIENT \_\_\_\_\_  
SHUT-IN: INSTANT \_\_\_\_\_ 5-MIN \_\_\_\_\_ 15-MIN \_\_\_\_\_  
HYDRAULIC HORSEPOWER \_\_\_\_\_

ORDERED \_\_\_\_\_ AVAILABLE \_\_\_\_\_ USED \_\_\_\_\_  
AVERAGE RATES IN BPM \_\_\_\_\_

TREATING \_\_\_\_\_ DISPL. \_\_\_\_\_ OVERALL \_\_\_\_\_  
CEMENT LEFT IN PIPE \_\_\_\_\_

FEET 43.52 REASON SHOE JOINT

**SUMMARY**

PRESLUSH BBL 70 VOLUMES NOV 21 1995

LOAD & BKDN: BBL-GAL. \_\_\_\_\_ PAD: BBL-GAL. \_\_\_\_\_

TREATMENT: BBL-GAL. \_\_\_\_\_ CONSERVATION DISPLACEMENT 135.2

CEMENT SLURRY: BBL-GAL. 28-45.5 WICHITA KS

TOTAL VOLUME: BBL-GAL. 278.7

REMARKS SEE Job Log





**HALLIBURTON ENERGY SERVICES**

HAL-1906-N

ADDRESS: Amador's Petroleum Corp  
 CITY, STATE, ZIP CODE: \_\_\_\_\_

No. **881236** - **4**

PAGE \_\_\_\_\_  
**RELEASED**  
**MAR 23 1996**

SERVICES LOCATIONS <u>12, 601, KS 025540</u>	WELL/PROJECT NO. <u>2</u>	LEASE <u>Wells 'A'</u>	COUNTY/PARISH <u>Haskell</u>	STATE <u>KS</u>	CITY/OFFSHORE LOCATION <u>W/SALE</u>	DATE <u>11-23-95</u>	OWNER <u>Amador's</u>
<u>2Hwy 20, KS 625535</u>	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CONTRACTOR <u>Waiseman</u>	RIG NAME/NO. <u>Rig 1</u>	SHIPPED VIA <u>CIT.</u>	DELIVERED TO <u>W/SALE</u>	ORDER NO. <u>15-275-241</u>
3.	WELL TYPE <u>01</u>	WELL CATEGORY <u>01</u>	JOB PURPOSE <u>035</u>	WELL PERMITTING <u>NOV 21 1995</u>	CONSERVATION DIVISION <u>NOV 21 1995</u>	WELL LOCATION <u>15-275-241</u>	
4.	REFERRAL LOCATION	INVOICE INSTRUCTIONS					

PRICE REFERENCE	SECONDARY REFERENCE/PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
000 117		1			MILEAGE 75.574	1 EA	54 mi			148	EA
021-46		1			Pump Charge	6 hrs	4.			2000	EA
030-018		1			5w-per Top Plug	1 EA	5 1/2 in			60	EA
018-314		1			mud Flush	1260 gal				817	EA
314 163		1			Clay Fix II	4 gal			28	112	EA
12A	825.1205	1			Regular Guide Shoe	1 EA	5 1/2 in			121	EA
24A	815.19251	1			1.5 inch Float	1 EA	"			110	EA
27	815.19311	1			Filling	1 EA	"			55	EA
40	806.60022	1			CENTRALIZERS (54)	12 EA	"		50	600	EA
50	806.60122	1			CENTRALIZERS (FL & MASTER)	12 EA	"		75	800	EA
001-018		1			Rel. Manual Hours	1 EA				NL	EA
001-018		1			Rel. Manual Gloves	1 EA				235	EA

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

**SUB SURFACE SAFETY VALVE WAS:**  
 PULLED & RETURN  PULLED  RUN

TYPE LOCK	DEPTH	SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL <u>500</u>
BEAN SIZE	SPACERS		OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
TYPE OF EQUALIZING SUB.	CASING PRESSURE	WE UNDERSTOOD AND MET YOUR NEEDS?				FROM CONTINUATION PAGE(S) <u>53/4</u>
TUBING SIZE	TUBING PRESSURE	OUR SERVICE WAS PERFORMED WITHOUT DELAY?				SUB-TOTAL <u>10380</u>
WELL DEPTH		WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				
DATE SIGNED <u>X</u>	TIME SIGNED <u>11:00 AM</u>	TREE CONNECTION	TYPE VALVE	ARE YOU SATISFIED WITH OUR SERVICE? <input type="checkbox"/> YES <input type="checkbox"/> NO	APPLICABLE TAXES WILL BE ADDED ON INVOICE	

do  do not require IPC (Instrument Protection).  Not offered

CUSTOMER DID NOT WISH TO RESPOND

**CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES** The customer hereby acknowledges receipt of the materials and services listed on this ticket.

CUSTOMER OR CUSTOMER'S AGENT (PLEASE PRINT) <u>Waiseman</u>	CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE) <u>X</u>	HALLIBURTON OPERATOR/ENGINEER <u>WES FOR</u>	EMP # <u>D4437</u>	HALLIBURTON APPROVAL
--	--	---	-----------------------	----------------------

CONFIDENTIAL

ORIGINAL

NOV 20 1995

CONFIDENTIAL

FROM CONFIDENTIAL







HALLIBURTON

JOB SUMMARY

HALLIBURTON DIVISION

Mid Cont

HALLIBURTON LOCATION

Pampa, TX

BILLED ON TICKET NO.

871302

WELL DATA

FIELD \_\_\_\_\_ SEC \_\_\_\_\_ TWP \_\_\_\_\_ RNG \_\_\_\_\_ COUNTY Haskell STATE KS.

FORMATION NAME \_\_\_\_\_ TYPE \_\_\_\_\_  
FORMATION THICKNESS \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_  
INITIAL PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD  
PRESENT PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD  
COMPLETION DATE \_\_\_\_\_ MUD TYPE \_\_\_\_\_ MUD WT. \_\_\_\_\_  
PACKER TYPE \_\_\_\_\_  
BOTTOM HOLE TEMP. \_\_\_\_\_  
MISC. DATA \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	u		5 1/2	61		
LINER						
TUBING	N	4.7	2 3/8	KR	5549'	
OPEN HOLE						SHOTS/FT.
PERFORATIONS			ORIGINAL			
PERFORATIONS						
PERFORATIONS						

RELEASED

MAR 23 1998

JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG		
HEAD		
PACKER		
OTHER		

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>10/10/95</u>	DATE <u>10/10/95</u>	DATE <u>10/10/95</u>	DATE <u>10/10/95</u>
TIME <u>0730</u>	TIME <u>1300</u>	TIME <u>1344</u>	TIME <u>1750</u>

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
<u>M. L. ...</u>	<u>4079</u>	<u>Pampa</u>
<u>P. Connolly</u>	<u>7848</u>	<u>"</u>
<u>T. Hastings</u>	<u>75799</u>	<u>"</u>
<u>J. McLaughlin</u>	<u>75819</u>	<u>"</u>

FROM CONFIDENTIAL

CONFIDENTIAL

MATERIALS

TREAT. FLUID \_\_\_\_\_ DENSITY \_\_\_\_\_ LB/GAL. API  
DISPL. FLUID \_\_\_\_\_ DENSITY \_\_\_\_\_ LB/GAL. API  
PROP. TYPE \_\_\_\_\_ SIZE \_\_\_\_\_ LB.  
ACID TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ %  
SURFACTANT TYPE \_\_\_\_\_ GAL. \_\_\_\_\_ IN  
FLUID LOSS ADD. TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
GELLING AGENT TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
FRIC. RED. AGENT TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_ IN  
BLOCKING AGENT TYPE \_\_\_\_\_ GAL.-LB. \_\_\_\_\_  
PERFPAC BALLS TYPE \_\_\_\_\_ QTY. \_\_\_\_\_  
OTHER \_\_\_\_\_

DEPARTMENT Cont.  
DESCRIPTION OF JOB Re cement & Pickle Tbg.

JOB DONE THRU: TUBING  CASING  ANNULUS  TSG/ANN.

CUSTOMER REPRESENTATIVE [Signature]

HALLIBURTON OPERATOR W. C. Cooper COPIES REQUESTED 1

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
<u>1</u>	<u>60</u>	<u>Prem Plus</u>		<u>B</u>	<u>midcon w/ 2%</u>	<u>3.22</u>	<u>11.1</u>

PRESSURES IN PSI

SUMMARY

VOLUMES

CIRCULATING \_\_\_\_\_ DISPLACEMENT \_\_\_\_\_ PRESLUSH: BBL.-GAL. \_\_\_\_\_ TYPE \_\_\_\_\_  
BREAKDOWN \_\_\_\_\_ MAXIMUM \_\_\_\_\_ LOAD & BKDN: BBL.-GAL. \_\_\_\_\_ PAD: BBL.-GAL. \_\_\_\_\_  
AVERAGE \_\_\_\_\_ FRACTURE GRADIENT \_\_\_\_\_ TREATMENT: BBL.-GAL. \_\_\_\_\_ DISPL. BBL.-GAL. 14  
SHUT-IN: INSTANT \_\_\_\_\_ 5-MIN \_\_\_\_\_ 15-MIN \_\_\_\_\_ CEMENT SLURRY BBL.-GAL. 34  
HYDRAULIC HORSEPOWER \_\_\_\_\_ TOTAL VOLUME BBL.-GAL. 48  
ORDERED \_\_\_\_\_ AVAILABLE \_\_\_\_\_ USED \_\_\_\_\_ REMARKS  
AVERAGE RATES IN BPM \_\_\_\_\_ see Job Log.  
TREATING \_\_\_\_\_ DISPL. \_\_\_\_\_ OVERALL \_\_\_\_\_  
CEMENT LEFT IN PIPE \_\_\_\_\_  
FEET \_\_\_\_\_ REASON \_\_\_\_\_



JOB LOG HAL-2013-C

CUSTOMER Anadarko Pet.		WELL NO. Z	LEASE Owens "A"	JOB TYPE Re cement.	TICKET NO. 871302			
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1300							CONFIDENTIAL ON Loc. ORIGINAL
	1344		1 1/2			1500		Test FO Tool To 1500 Psi
	1354	1 1/2				250		Break Circ. Bring Rate To 5 BPM @ 750
	1356	5	34			750		start Cmt. 34 BBLs.
	1403	5	14					start DISP.
	1406							Shut Down.
	1408							Test Tool To 1500 Psi
	1418	2 1/2	21			400		Reverse out. 21 BBLs.
	1427							Shut Down. Run Tbg in Hole
	1548	1/4	6			-	-	start Acid 1/4 BPM
	1553	1/4	25			-	-	start DISP. 25 BBLs.
	1641	4	40			1000		Reverse out. 4 BPM @ 1000 PSI
	1653							Shut Down. NOV 20
								CONFIDENTIAL
								Thanks for Calling Halliburton!
								RELEASED
								MAR 23 1998
								FROM CONFIDENTIAL



**HALLIBURTON ENERGY SERVICES**

HAL-1906-N

CHARGE TO: Anadarko Pet. Corp.  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE, ZIP CODE: \_\_\_\_\_

No. 871302 - 3

PAGE 1 OF 2

1. SERVICE LOCATIONS <u>25270</u>	WELL/PROJECT NO. <u>7</u>	LEASE <u>Owens A11</u>	COUNTY/PARISH <u>Haskell</u>	STATE <u>KS</u>	CITY/OFFSHORE LOCATION <u>N. Santamba</u>	DATE <u>10/10/95</u>	OWNER <u>Same</u>
2. _____	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CONTRACTOR	RIG NAME/NO.	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Loc.</u>	ORDER NO.
3. _____	WELL TYPE	WELL CATEGORY	JOB PURPOSE	WELL PERMIT NO.	WELL LOCATION	_____	
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS <u>01-Oil 02-Workover 205 - Recement.</u>						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
000-117		1			MILEAGE 7848	70	mi			2.85	199.50
011-205					Pump Charge	1500	Psi				1200.00
207-001	201.004				FE Acid 15%	<del>250</del>	gal	minimum		1.33	266.00
210-017					HAI 81	1	gal				39.00
000-131					Transport Charge	4	Hrs	minimum		62.00	248.00

RELEASED

MAR 23 1996

FROM CONFIDENTIAL

ORIGINAL

NOV 20

CONFIDENTIAL

CONFIDENTIAL

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

SUB SURFACE SAFETY VALVE WAS: <input type="checkbox"/> PULLED & RETURN <input type="checkbox"/> PULLED <input type="checkbox"/> RUN		<b>SURVEY</b>		AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL <u>1952.50</u>
TYPE LOCK	DEPTH	OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					
BEAN SIZE	SPACERS	WE UNDERSTOOD AND MET YOUR NEEDS?					FROM CONTINUATION PAGE(S) <u>1149.90</u>
TYPE OF EQUALIZING SUB.	CASING PRESSURE	OUR SERVICE WAS PERFORMED WITHOUT DELAY?					
TUBING SIZE	TUBING PRESSURE	WELL DEPTH	WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				
DATE SIGNED <u>10/10/95</u>	TIME SIGNED <u>1300</u>	<input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	ARE YOU SATISFIED WITH OUR SERVICE? <input type="checkbox"/> YES <input type="checkbox"/> NO		SUB-TOTAL APPLICABLE TAXES WILL BE ADDED ON INVOICE		
<input type="checkbox"/> do <input type="checkbox"/> do not require IPC (Instrument Protection). <input type="checkbox"/> Not offered		TREE CONNECTION		TYPE VALVE		<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND	

**CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES** The customer hereby acknowledges receipt of the materials and services listed on this ticket.

CUSTOMER OR CUSTOMER'S AGENT (PLEASE PRINT) <u>David Gilmore</u>	CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE) <u>[Signature]</u>	HALLIBURTON OPERATOR/ENGINEER <u>Mike Cooper</u>	EMP # <u>D7987</u>	HALLIBURTON APPROVAL
---	--	---	-----------------------	----------------------

# 3102.40



HALLIBURTON ENERGY SERVICES

TICKET CONTINUATION CUSTOMER COPY

TICKET No.  

CUSTOMER: ANADARKO PETROLEUM  
 WELL: OWENS A 2  
 DATE: 10/10/95  
 PAGE:   OF:  

FORM 1911 R-10

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT	
		LOC	ACCT	DF								
504-282		1			MIDCON-2 Cement	600		SK		1551	930.60	
509-406	890.50812	1			Calcium Chloride @ 290	1		SK		36.75	36.75	
ORIGINAL NOV 20 1995 CONFIDENTIAL					(HUGOTON AREA PRICES) Justin McCORRAUGH 52063-75819							
CONFIDENTIAL RELEASED MAR 23 1996 FROM CONFIDENTIAL												
500-207		1			SERVICE CHARGE			CUBIC FEET				
500-306		1			MILEAGE CHARGE	TOTAL WEIGHT	LOADED MILES	TON MILES				
						2946	35	104.055				
										62	135	85.70
										25	98.85	

No. B 309515

CONTINUATION TOTAL 1149.70

15-081-20930

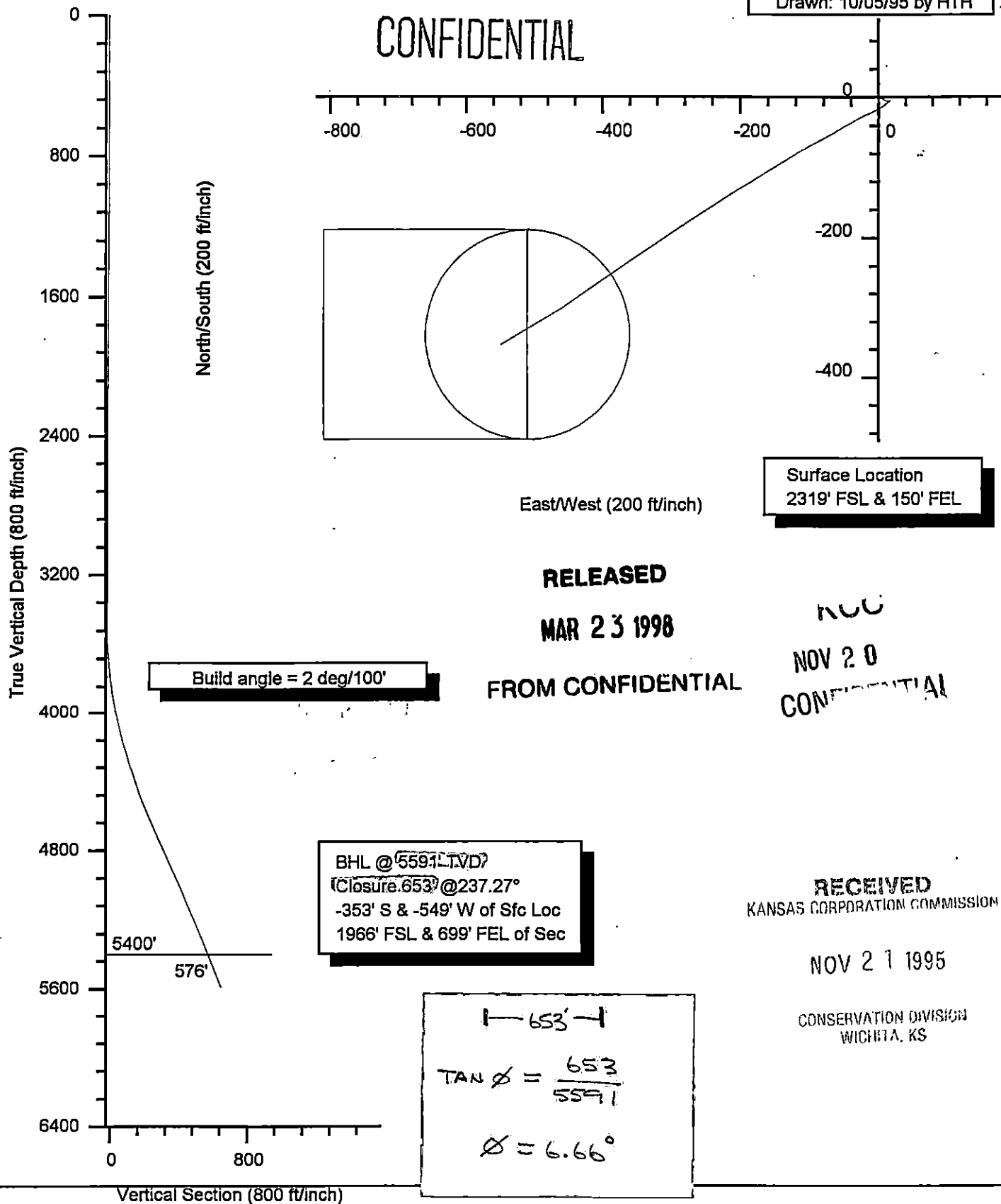
OWENS A-2  
Final Report

ORIGINAL

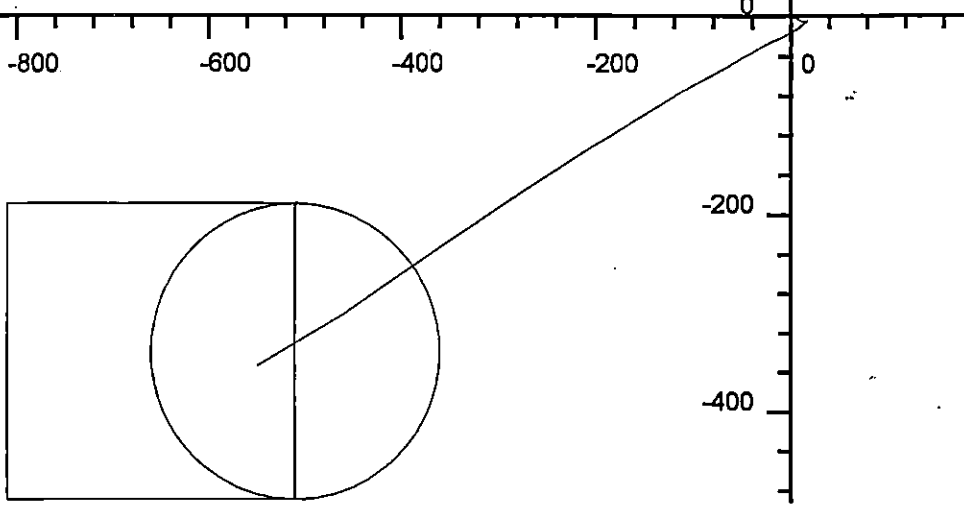


Drawn: 10/05/95 by HTH

CONFIDENTIAL



North/South (200 ft/inch)



East/West (200 ft/inch)

Surface Location  
2319' FSL & 150' FEL

RELEASED

MAR 23 1998

FROM CONFIDENTIAL

Build angle = 2 deg/100'

BHL @ 5591 TVD  
(Closure 653) @ 237.27°  
-353' S & -549' W of Sfc Loc  
1966' FSL & 699' FEL of Sec

NOV 20  
CONFIDENTIAL

RECEIVED  
KANSAS CORPORATION COMMISSION

NOV 21 1995

CONSERVATION DIVISION  
WICHITA, KS

$$\text{---} 653 \text{---}$$

$$\tan \phi = \frac{653}{5591}$$

$$\phi = 6.66^\circ$$

# CONFIDENTIAL

Problem: OWENS A-2  
 Description: Haskell County, KS  
 Location: Eubank Field  
 FSL: 2319  
 FEL: 150

Date: 10/05/95 Time: 13:14  
 Calculation Method: Minimum Curvature

ORIGINAL

NOV 20

Wellhead: 2974.2  
 Planned Azimuth: 236.39

MD	Incl	Dir	TVD	Vert Sect	Clos Dist	Clos Direc	+N / -S	+E / -W	DLS	CON Build	Walk	FEL	FSL
ft	deg	bearing	ft	ft	ft	bearing	ft	ft	d/100ft	d/100ft	d/100ft	ft	ft
0	0	236.39	0	0	0	0	0	0	0	0	0	150	2319
250	0.33	145.86	250	0	0.7	145.86	-0.6	0.4	0.13	0.13	-36.21	149.6	2318.4
500	0.17	191.22	500	0.2	1.7	154.68	-1.6	0.7	0.1	-0.06	18.14	149.3	2317.4
750	0.5	82.6	750	-0.5	2.5	135.54	-1.8	1.7	0.23	0.13	-43.45	148.3	2317.2
1000	0.58	73.24	1000	-2.7	4.2	107.5	-1.3	4	0.05	0.03	-3.74	146	2317.7
1250	0.55	177.78	1250	-3.2	5.7	111.7	-2.1	5.3	0.36	-0.01	41.82	144.7	2316.9
1500	0.5	88.27	1500	-3.5	7.2	116.97	-3.3	6.4	0.3	-0.02	-35.8	143.6	2315.7
1750	0.67	118.77	1750	-5.1	9.6	114.13	-3.9	8.8	0.14	0.07	12.2	141.2	2315.1
2000	1	101.52	1999.9	-7.4	13.2	112.58	-5.1	12.2	0.16	0.13	-6.9	137.8	2313.9
2250	0.42	78.03	2249.9	-9.8	16.2	109.25	-5.3	15.3	0.25	-0.23	-9.4	134.7	2313.7
2500	0.25	226.68	2499.9	-10.1	16.7	109.28	-5.5	15.8	0.26	-0.07	59.46	134.2	2313.5
2750	0.17	301.23	2749.9	-9.4	16.1	110.74	-5.7	15	0.1	-0.03	29.82	135	2313.3
3000	0.33	94.05	2999.9	-9.8	16.4	109.78	-5.6	15.4	0.19	0.06	61.13	134.6	2313.4
3250	0.25	357.99	3249.9	-10.6	16.9	107.4	-5.1	16.1	0.17	-0.03	-38.42	133.9	2313.9
3460	0.5	90	3459.9	-11.6	17.7	105.11	-4.6	17	0.27	0.12	43.81	133	2314.4
3538	0.3	220.6	3537.9	-11.7	17.9	105.41	-4.8	17.3	0.94	-0.26	167.44	132.7	2314.2
3570	1.2	237.1	3569.9	-11.3	17.6	106.47	-5	16.9	2.86	2.81	51.56	133.1	2314
3629	3.7	236.3	3628.8	-8.8	16.1	113.35	-6.4	14.8	4.24	4.24	-1.36	135.2	2312.6
3660	4	230.3	3659.8	-6.7	15.2	120.16	-7.6	13.1	1.62	0.97	-19.35	136.9	2311.4
3691	4.7	227.5	3690.7	-4.4	14.6	128.92	-9.2	11.4	2.36	2.26	-9.03	138.6	2309.8
3722	5.5	233.8	3721.6	-1.7	14.3	139.76	-10.9	9.2	3.15	2.58	20.32	140.8	2308.1
3753	6.4	239.6	3752.4	1.6	14.3	152.65	-12.7	6.6	3.49	2.9	18.71	143.4	2306.3
3824	7.9	239.9	3822.8	10.4	17.2	183.6	-17.1	-1.1	2.11	2.11	0.42	151.1	2301.9
3848	8	246.7	3846.6	13.7	19	192.25	-18.6	-4	3.94	0.42	28.33	154	2300.4
3879	9.1	244.1	3877.3	18.2	22.1	201.83	-20.5	-8.2	3.76	3.55	-8.39	158.2	2298.5
3911	9.5	244.8	3908.8	23.3	26.2	209.52	-22.8	-12.9	1.3	1.25	2.19	162.9	2296.2
3941	10.1	246.3	3938.4	28.4	30.4	215.19	-24.9	-17.5	2.17	2	5	167.5	2294.1
3972	10.4	242.4	3968.9	33.8	35.4	219.54	-27.3	-22.5	2.44	0.97	-12.58	172.5	2291.7
4003	11.3	242.5	3999.4	39.6	40.8	222.73	-30	-27.7	2.9	2.9	0.32	177.7	2289
4033	11.8	242.7	4028.7	45.6	46.5	225.25	-32.7	-33	1.67	1.67	0.67	183	2286.3
4064	12.7	242.4	4059	52.2	52.8	227.37	-35.8	-38.9	2.91	2.9	-0.97	188.9	2283.2
4094	13.4	241.8	4088.3	58.9	59.4	229.03	-38.9	-44.8	2.38	2.33	-2	194.8	2280.1
4124	14.1	240.3	4117.4	66	66.4	230.31	-42.4	-51.1	2.62	2.33	-5	201.1	2276.6
4185	15.7	242.2	4176.3	81.6	81.8	232.41	-49.9	-64.8	2.74	2.62	3.11	214.8	2269.1
4248	16.6	240.9	4236.9	99.1	99.2	234.01	-58.3	-80.2	1.54	1.43	-2.06	230.2	2260.7
4310	17.5	242	4296.1	117.2	117.2	235.16	-67	-96.2	1.54	1.45	1.77	246.2	2252
4372	18.1	239.3	4355.2	136.1	136.1	235.92	-76.2	-112.7	1.65	0.97	-4.35	262.7	2242.8
4434	18.6	238.8	4414	155.6	155.6	236.32	-86.3	-129.5	0.85	0.81	-0.81	279.5	2232.7
4494	20.7	237.5	4470.5	175.7	175.7	236.52	-96.9	-146.6	3.57	3.5	-2.17	296.6	2222.1
4553	21.5	237.9	4525.6	197	197	236.65	-108.3	-164.5	1.38	1.36	0.68	314.5	2210.7
4614	22.2	239	4582.2	219.7	219.7	236.84	-120.2	-183.9	1.33	1.15	1.8	333.9	2198.8
4675	22.7	238	4638.6	242.9	243	237	-132.3	-203.7	1.03	0.82	-1.64	353.7	2186.7
4769	24.5	237.4	4724.7	280.6	280.6	237.09	-152.5	-235.6	1.93	1.91	-0.64	385.6	2166.5
4832	24.8	238.1	4782	306.8	306.9	237.15	-166.5	-257.8	0.66	0.48	1.11	407.8	2152.5
4892	25.5	237.4	4836.3	332.3	332.4	237.19	-180.1	-279.3	1.27	1.17	-1.17	429.3	2138.9
4924	24.6	237.4	4865.3	345.9	345.9	237.2	-187.4	-290.8	2.81	-2.81	0	440.8	2131.6
5095	24	236	5021.1	416.2	416.3	237.12	-226	-349.6	0.49	-0.35	-0.82	499.6	2093
5187	23.5	236	5105.3	453.3	453.3	237.03	-246.7	-380.3	0.54	-0.54	0	530.3	2072.3
5312	23	236	5220.2	502.6	502.6	236.92	-274.3	-421.2	0.4	-0.4	0	571.2	2044.7
5435	22	236	5333.8	549.7	549.7	236.85	-300.6	-460.2	0.81	-0.81	0	610.2	2018.4
5712	22	243	5590.7	653.1	653.2	237.27	-353.2	-549.5	0.95	0	2.53	699.5	1965.8

Points Of Interest	Description	MD	Incl	Dir	TVD	+N / -S	+E / -W	Closr Dst	FEL	FSL
		ft	deg	bearing	ft	ft	ft	ft	ft	ft
	Heebner	3982	10.69	242.43	3978.7	-28.1	-24.1	37.1	150	2319
	Toronto	4003	11.3	242.5	3999.4	-30	-27.7	40.8	177.7	2289
	Lansing	4064	12.7	242.4	4059	-35.8	-38.9	52.8	188.9	2283.2
	Kansas City	4532	21.22	237.76	4506	-104.2	-158.1	189.3	308.1	2214.8
	Marmaton	4692	23.03	237.89	4654.2	-135.8	-209.3	249.6	359.3	2183.2
	Cherokee	4894	25.44	237.84	4838.1	-180.5	-280.1	333.2	430.1	2138.5
	Atoka	5028	24.24	236.55	4960	-210.8	-326.8	388.9	476.8	2108.2
	Morrow	5250	23.25	236	5163.1	-260.7	-401	478.3	551	2058.3
	Chester	5426	22.07	236	5325.5	-298.7	-457.4	546.3	607.4	2020.3
	St. Louis	5638	22	241.13	5522	-340.3	-525.1	625.7	675.1	1978.7

RELEASED

MAR 23 1998

FROM CONFIDENTIAL

# Adarko Petroleum Corporation SURVEY REPORT

ORIGINAL

**Problem:** OWENS A-2  
**Description:** Haskell County, KS  
**Location:** Eubank Field  
**Well Number:**

**Date:** 10/05/1995     **Time:** 13:14     **Page:** 1

CONFIDENTIAL

Surface Location			
Slot	0.0 ft		Location
N+/-S	0.0 ft		ONSHORE
E+/-W	0.0 ft	FSL	RKB Wellhead
Latitude	0.000000 deg	FEL	2974.2 ft
Longitude	0.000000 deg		RKB MGL
			0.0 ft
			RKB MSL
			0.0 ft
			Water Depth
			0.0 ft
			RKB Mudline
			0.0 ft

**Survey (Referenced To Tie-In Coordinates)**     **Calculation Method: Minimum Curvature**

Planned Azimuth 236.39											
MD	Incl	Dircc	TVD	Vert	Clos	Clos	+N / -S	+E / -W	DLS	Build	Walk
ft	deg	bearing	ft	ft	Dist	Dircc	ft	ft	d/100ft	d/100ft	d/100ft
					ft	bearing					
0.0	0.00	236.39	0.0	0.0	0.0	0.00	0.0	0.0	0.00	0.00	0.00
250.0	0.33	145.86	250.0	0.0	0.7	145.86	-0.6	0.4	0.13	0.13	-36.21
500.0	0.17	191.22	500.0	0.2	1.7	154.68	-1.6	0.7	0.10	-0.06	18.14
750.0	0.50	82.60	750.0	-0.5	2.5	135.54	-1.8	1.7	0.23	0.13	-43.45
1000.0	0.58	73.24	1000.0	-2.7	4.2	107.50	-1.3	4.0	0.05	0.03	-3.74
1250.0	0.55	177.78	1250.0	-3.2	5.7	111.70	-2.1	5.3	0.36	-0.01	41.82
1500.0	0.50	88.27	1500.0	-3.5	7.2	116.97	-3.3	6.4	0.30	-0.02	-35.80
1750.0	0.67	118.77	1750.0	-5.1	9.6	114.13	-3.9	8.8	0.14	0.07	12.20
2000.0	1.00	101.52	1999.9	-7.4	13.2	112.58	-5.1	12.2	0.16	0.13	-6.90
2250.0	0.42	78.03	2249.9	-9.8	16.2	109.25	-5.3	15.3	0.25	-0.23	-9.40
2500.0	0.25	226.68	2499.9	-10.1	16.7	109.28	-5.5	15.8	0.26	-0.07	59.46
2750.0	0.17	301.23	2749.9	-9.4	16.1	110.74	-5.7	15.0	0.10	-0.03	29.82
3000.0	0.33	94.05	2999.9	-9.8	16.4	109.78	-5.6	15.4	0.19	0.06	61.13
3250.0	0.25	357.99	3249.9	-10.6	16.9	107.40	-5.1	16.1	0.17	-0.03	-38.42
3460.0	0.50	90.00	3459.9	-11.6	17.7	105.11	-4.6	17.0	0.27	0.12	43.81
3538.0	0.30	220.60	3537.9	-11.7	17.9	105.41	-4.8	17.3	0.94	-0.26	167.44
3570.0	1.20	237.10	3569.9	-11.3	17.6	106.47	-5.0	16.9	2.86	2.81	51.56
3629.0	3.70	236.30	3628.8	-8.8	16.1	113.35	-6.4	14.8	4.24	4.24	-1.36
3660.0	4.00	230.30	3659.8	-6.7	15.2	120.16	-7.6	13.1	1.62	0.97	-19.35
3691.0	4.70	227.50	3690.7	-4.4	14.6	128.92	-9.2	11.4	2.36	2.26	-9.03
3722.0	5.50	233.80	3721.6	-1.7	14.3	139.76	-10.9	9.2	3.15	2.58	20.32
3753.0	6.40	239.60	3752.4	1.6	14.3	152.65	-12.7	6.6	3.49	2.90	18.71
3824.0	7.90	239.90	3822.8	10.4	17.2	183.60	-17.1	-1.1	2.11	2.11	0.42
3848.0	8.00	246.70	3846.6	13.7	19.0	192.25	-18.6	-4.0	3.94	0.42	28.33
3879.0	9.10	244.10	3877.3	18.2	22.1	201.83	-20.5	-8.2	3.76	3.55	-8.39
3911.0	9.50	244.80	3908.8	23.3	26.2	209.52	-22.8	-12.9	1.30	1.25	2.19
3941.0	10.10	246.30	3938.4	28.4	30.4	215.19	-24.9	-17.5	2.17	2.00	5.00
3972.0	10.40	242.40	3968.9	33.8	35.4	219.54	-27.3	-22.5	2.44	0.97	-12.58
4003.0	11.30	242.50	3999.4	39.6	40.8	222.73	-30.0	-27.7	2.90	2.90	0.32
4033.0	11.80	242.70	4028.7	45.6	46.5	225.25	-32.7	-33.0	1.67	1.67	0.67
4064.0	12.70	242.40	4059.0	52.2	52.8	227.37	-35.8	-38.9	2.91	2.90	-0.97
4094.0	13.40	241.80	4088.3	58.9	59.4	229.03	-38.9	-44.8	2.38	2.33	-2.00
4124.0	14.10	240.30	4117.4	66.0	66.4	230.31	-42.4	-51.1	2.62	2.33	-5.00
4185.0	15.70	242.20	4176.3	81.6	81.8	232.41	-49.9	-64.8	2.74	2.62	3.11
4248.0	16.60	240.90	4236.9	99.1	99.2	234.01	-58.3	-80.2	1.54	1.43	-2.06
4310.0	17.50	242.00	4296.1	117.2	117.2	235.16	-67.0	-96.2	1.54	1.45	1.77
4372.0	18.10	239.30	4355.2	136.1	136.1	235.92	-76.2	-112.7	1.65	0.97	-4.35
4434.0	18.60	238.80	4414.0	155.6	155.6	236.32	-86.3	-129.5	0.85	0.81	-0.81
4494.0	20.70	237.50	4470.5	175.7	175.7	236.52	-96.9	-146.6	3.57	3.50	-2.17
4553.0	21.50	237.90	4525.6	197.0	197.0	236.65	-108.3	-164.5	1.38	1.36	0.68
4614.0	22.20	239.00	4582.2	219.7	219.7	236.84	-120.2	-183.9	1.33	1.15	1.80
4675.0	22.70	238.00	4638.6	242.9	243.0	237.00	-132.3	-203.7	1.03	0.82	-1.64
4769.0	24.50	237.40	4724.7	280.6	280.6	237.09	-152.5	-235.6	1.93	1.91	-0.64
4832.0	24.80	238.10	4782.0	306.8	306.9	237.15	-166.5	-257.8	0.66	0.48	1.11
4892.0	25.50	237.40	4836.3	332.3	332.4	237.19	-180.1	-279.3	1.27	1.17	-1.17
4924.0	24.60	237.40	4865.3	345.9	345.9	237.20	-187.4	-290.8	2.81	-2.81	0.00

# Adarko Petroleum Corporation SURVEY REPORT

# ORIGINAL

**Problem:** OWENS A-2  
**Description:** Haskell County, KS  
**Location:** Eubank Field  
**Well Number:**

**Date:** 10/05/1995    **Time:** 13:14    **Page:** 2

## CONFIDENTIAL

**Survey (Referenced To Tie-In Coordinates)** **Calculation Method: Minimum Curvature**

Planned Azimuth		236.39									
MD	Incl	Direc	TVD	Vert Sect	Clos Dist	Clos Direc	+N / -S	+E / -W	DLS	Build	Walk
ft	deg	bearing	ft	ft	ft	bearing	ft	ft	d/100ft	d/100ft	d/100ft
5095.0	24.00	236.00	5021.1	416.2	416.3	237.12	-226.0	-349.6	0.49	-0.35	-0.82
5187.0	23.50	236.00	5105.3	453.3	453.3	237.03	-246.7	-380.3	0.54	-0.54	0.00
5312.0	23.00	236.00	5220.2	502.6	502.6	236.92	-274.3	-421.2	0.40	-0.40	0.00
5435.0	22.00	236.00	5333.8	549.7	549.7	236.85	-300.6	-460.2	0.81	-0.81	0.00
5712.0	22.00	243.00	5590.7	653.1	653.2	237.27	-353.2	-549.5	0.95	0.00	2.53

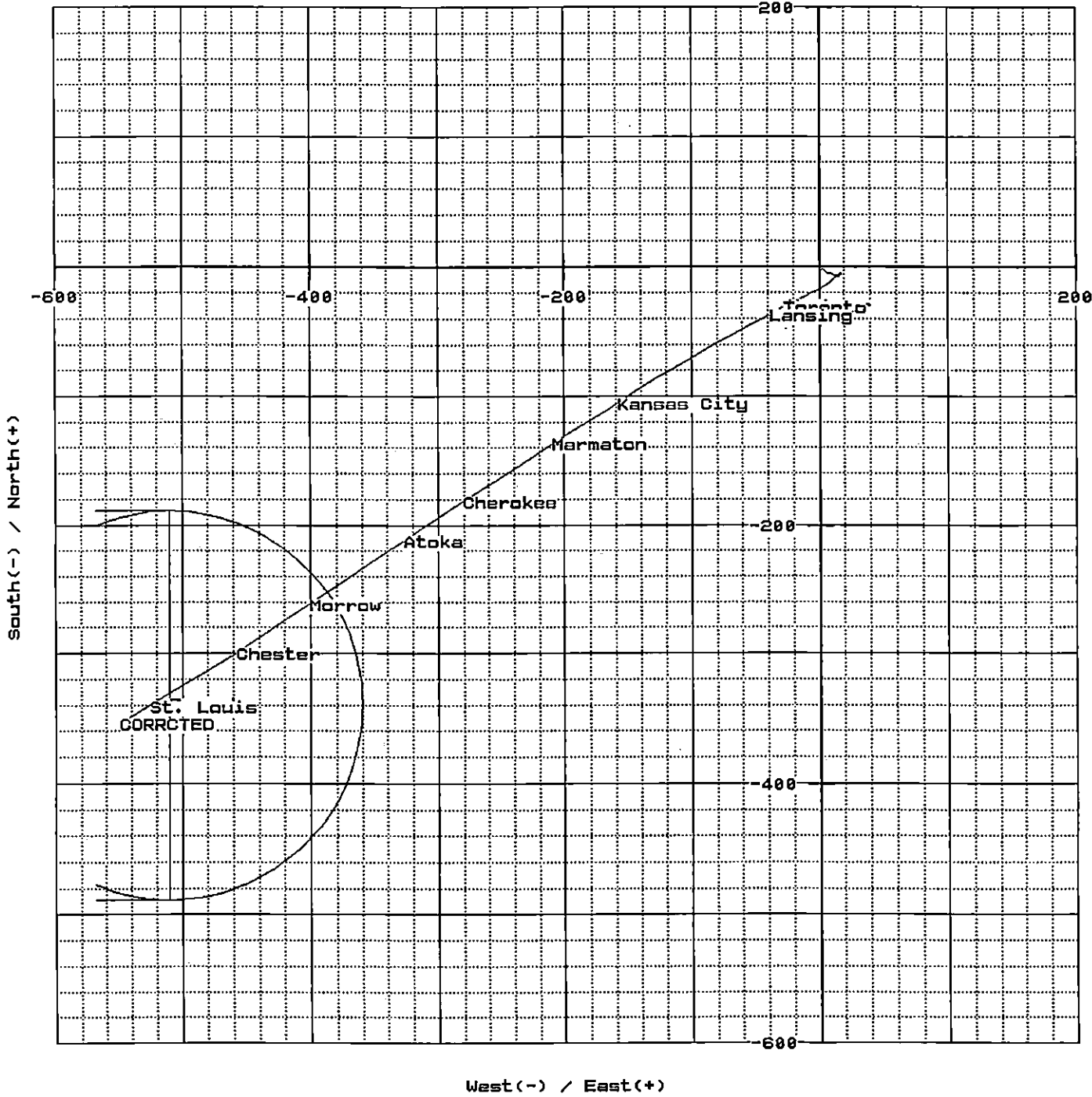
**Points Of Interest**

Description	MD	Incl	Direc	TVD	+N / -S	+E / -W	Clos Dist
	ft	deg	bearing	ft	ft	ft	ft
Heebner	3982.0	10.69	242.43	3978.7	-28.1	-24.1	37.1
Toronto	4003.0	11.30	242.50	3999.4	-30.0	-27.7	40.8
Lansing	4064.0	12.70	242.40	4059.0	-35.8	-38.9	52.8
Kansas City	4532.0	21.22	237.76	4506.0	-104.2	-158.1	189.3
Marmaton	4692.0	23.03	237.89	4654.2	-135.8	-209.3	249.6
Cherokee	4894.0	25.44	237.40	4838.1	-180.5	-280.1	333.2
Atoka	5028.0	24.24	236.55	4960.0	-210.8	-326.8	388.9
Morrow	5250.0	23.25	236.00	5163.1	-260.7	-401.0	478.3
Chester	5426.0	22.07	236.00	5325.5	-298.7	-457.4	546.3
St. Louis	5638.0	22.00	241.13	5522.0	-340.3	-525.1	625.7

KCC  
 NOV 20  
 CONFIDENTIAL



Plan View (ft)



CORRECTED

FROM CONFIDENTIAL

MAR 23 1998

RELEASED

NOV 2 0

RUU

ORIGINAL

CONFIDENTIAL

OWENS A-2

Haskell County, KS

Eubank Field

RELEASED

MAR 23 1998

ORIGINAL FROM CONFIDENTIAL

WVW

NOV 20

CONFIDENTIAL

CONFIDENTIAL

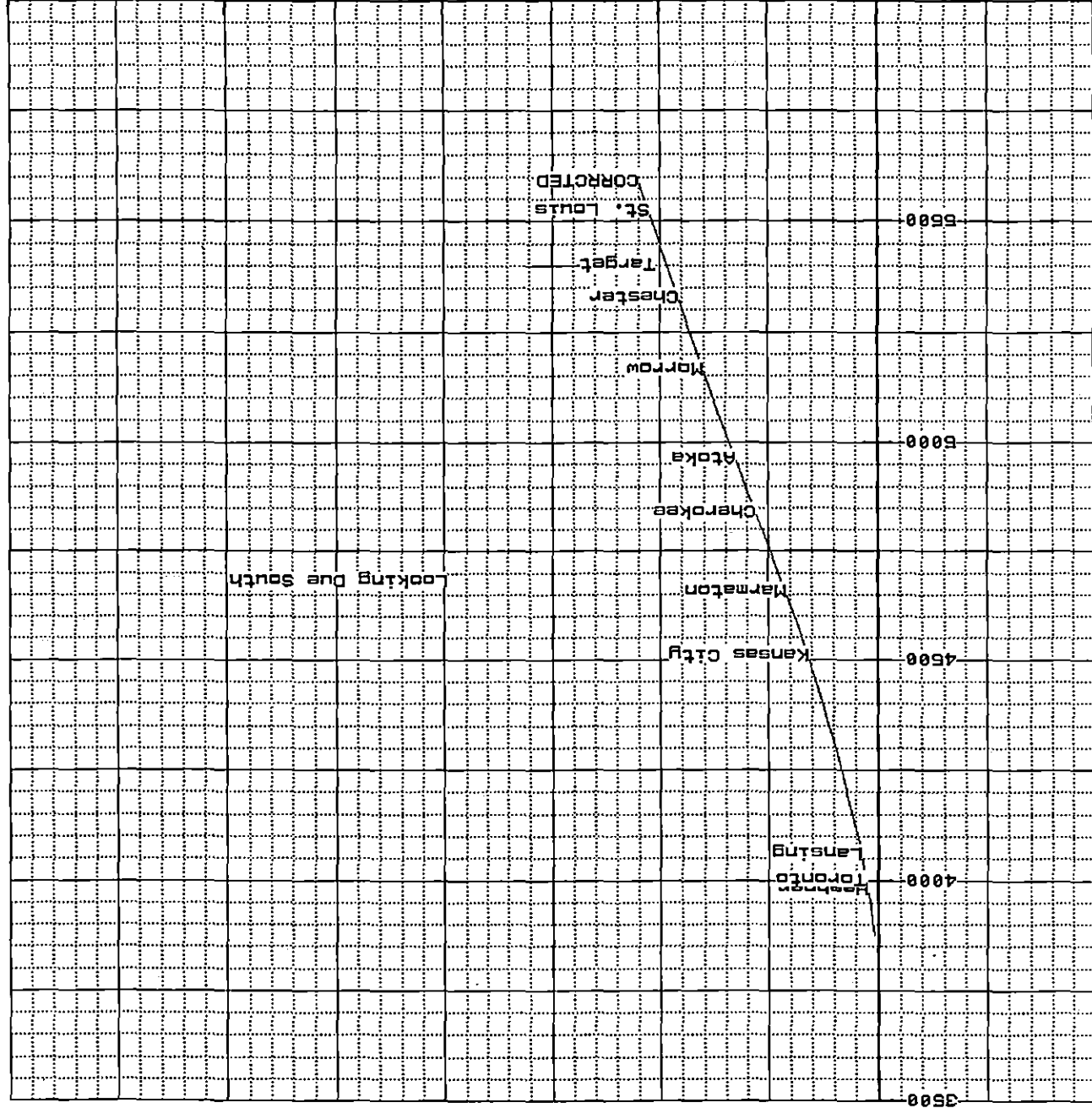
OWENS A-2

Haskell County, KS

Eubank Field

CORRECTED

Section View (ft) (Section View Azm=270.00)



TVD