

ORIGINAL

15-075-20461-0000

CONFIDENTIAL

SIDE ONE

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

API NO. 15- 075-20,461 NOV 13 1991

County Hamilton
NE/4 Sec. 16 Twp. 21S Rge. 41 X West

Operator: License # 04680

3960 Ft. North from Southeast Corner of Section

Name: American Exploration Company

1320 Ft. West from Southeast Corner of Section
(NOTE: Locate well in section plat below.)

Address 2100 NCNB Center

Houston, Texas 77002

Lease Name HCU Well # 1611-B

City/State/Zip _____

Field Name Bradshaw

Purchaser: KN Energy

Producing Formation Winfield

Operator Contact Person: Marty B. McClanahan

Elevation: Ground 3639 KB _____

Phone (713) 220-8251

Total Depth 2908 PBTD 2852

Contractor: Name: Cheyenne Drilling Co.

License: 05382

Wellsite Geologist: Gary Oliver

Designate Type of Completion

- New Well Re-Entry Workover
- Oil SWD Temp. Abd.
- Gas SI Inj Delayed Comp.
- Dry Other (Core, Water Supply, etc.)

If ~~OWNO~~: old well info as follows:

Operator: _____

Well Name: _____

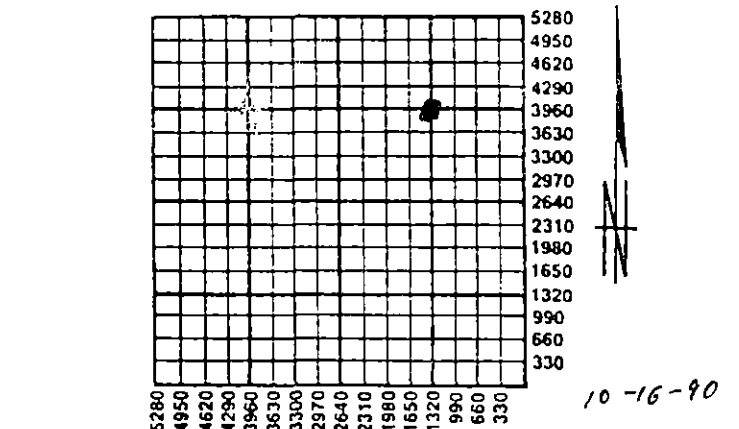
Comp. Date _____ Old Total Depth _____

Drilling Method:

Mud Rotary Air Rotary Cable

7/10/90 7/12/90 8/10/90

Spud Date Date Reached TD Completion Date



Amount of Surface Pipe Set and Cemented at 359 Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from 2908

feet depth to Surface w/ 710 940 sx cmt.

INSTRUCTIONS: This form shall be completed in triplicate and filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date of any well. Rule 82-3-130, 82-3-107 and 82-3-106 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 drillers time log 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. Any recompletion, workover or conversion of a well requires filing of ACO-2 within 120 days from commencement date of such work.

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.

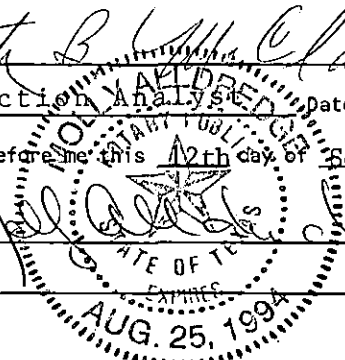
Signature Marty B. McClanahan

Title Sr. Production Analyst Date 8/12/90

Subscribed and sworn to before me this 12th day of September 19 90.

Notary Public _____

Date Commission Expires _____



K.C.C. OFFICE USE ONLY

Letter of Confidentiality Attached

Wireline Log Received

Drillers Time Log Received

Distribution

KCC SWD/Rep NGPA

OGS Plug Other

(Specify)

10-15-90

CONFIDENTIAL

SIDE TWO

Operator Name American Exploration Co. Lease Name HCU Well # 1611-B

Sec. 16 Twp. 21S Rge. 41 East West County Hamilton

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.)

Formation Description

Log Sample

Name	Top	Bottom
Stone Corral Anhy.	-----	2360 (+1290)
Winfield	2764 (+886)	
Ft. Riley	2862 (+788)	

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	20#	359	65/35 Poz Class H	130 100	6% gel 3% CC 1/4# Flak
Production	7-7/8	4-1/2	9.5#	2906	35/65 Poz Class H	400 110 200	6% gel, 3% CC " " 3% D-60 1/4# sk Flake

PERFORATION RECORD

Shots Per Foot	Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
1 SPF	2806-2820	1,000 gals. 15% HCL +	
1 SPF	2823-25' & 2832-44	28 frac balls	
1 SPF	2766-69 & 2773-82		

TUBING RECORD

Size 2-3/8 Set At 2767 Packer At 2767 Liner Run Yes No

Date of First Production SI WOPL Producing Method Flowing Pumping Gas Lift Other (Explain)

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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

METHOD OF COMPLETION Open Hole Perforation Dually Completed Commingled Other (Specify) _____

Production Interval _____

ORIGINAL

CONFIDENTIAL

NOV 13 1991

DRILLERS LOG

FROM CONFIDENTIAL

AMERICAN EXPLORATION COMPANY
HCU #1611-B
SECTION 16-T21S-R41W
HAMILTON COUNTY, KANSAS

COMMENCED: 07-09-90
COMPLETED: 07-12-90

SURFACE CASING: 347' OF 8 5/8"
CMTD W/130 SX 65/35 POZ, 6% D-20,
3% C.C., 1/4#/SX D-29, TAILED IN
W/100 SX "H", 3% CC, 1/4#/SX D-29

FORMATION	DEPTH
SURFACE HOLE	0- 362
SAND & CLAY	362-1588
SHALE	1588-2270
SHALE & LIME	2270-2890
SHALE	2890-2908 RTD

I DO HEREBY CERTIFY THAT THE FOREGOING STATEMENTS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

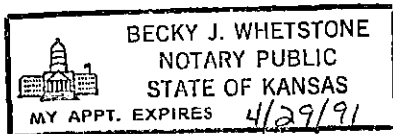
CHEYENNE DRILLING, INC.

A. J. Jacques

A. J. JACQUES

STATE OF KANSAS :ss:

SUBSCRIBED AND SWORN TO BEFORE ME THIS 16TH DAY OF JULY, 1990.



Becky J. Whetstone
BECKY J. WHETSTONE, NOTARY PUBLIC

RECEIVED
STATE CORPORATION COMMISSION

OCT 15 1990

CONSERVATION DIVISION
Wichita, Kansas

RELEASED

CASING & CEMENTING REPORT

CONFIDENTIAL

NOV 13 1990 ORIGINAL

Well Name 16-11-B
Casing 8 5/8 S&W CONNOR

Location N.E. 1/4 Sec. 16 T1-S 41-W
Date 7-10-90

Jts. On	m On	Size	Wt.					Jts. Depth	m Run
Locat.	Locat.	mm	kg/m	Cr.	Rqe.	THD	T&C	Make	Run Landed
8	8	85/8	200		3	10	5	8	347.42 m
									m
									m
									m

Shoe Make Wheatland Type Texas Length 1.00 m
 Collar Make _____ Type _____ Length _____ m

Landing Jt. (When Used) Length _____ m
 Overall Length of Casing String _____ m
 m Up From K.B. (subtract) _____ m

Setting Depth By Driller 359 m By Tally 359.42 m

CENTRALIZERS

SCRATCHERS

Make & No. 12 Position 10' OFF Bottom #3 collar
 Remarks (Thread Lock, Weld, Mill) Thread Lock Bottom
3 COLLARS

Hole Size 12 1/4 mm Casing In Hole Size 11.4 mm
 Depth 362 m Setting Depth _____ m
 Mud Type FRESH Chem. Wt. 8.8 kg/m Visc. 30 S/LWL cm³
 BOP's V.A.
 Power Tong Co _____ Torque Max. 1050 Min. 1000
 Casing String Wt. 7000 daN Remarks _____

Cementing Co. Dowell Operator _____

TYPES & QUANTITIES OF CEMENT

Date 7-10-90

Filler Volume Amount 130 ST m³ Type 65/35 P02 Wt. 12.5 kg/m³
 Additives 8% Gal 3% CC m³ Floke
 Tail In Volume Amount 100 SX m³ Type H Wt. 15.5 kg/m³
 Additives 3% 44H-D-29
 HT. Cemented SURFACE Water Ahead 10 DBL m³ Start Mix 1:10 m³
 Finish Mix 1:25 m³ Pumping Press 100 kPa Bump Press 700 kPa
 Float Held YES Cement Returns 10 13 16 m³
 Plug Down 1:30 AM. Date 7-10-90
 Wt. Landed in Slips _____ daN Make of Bowl _____
 Size _____ mm Series _____ Slip & Seal Esembly _____
 Remarks (Wellhead - Make, Type, Size)

RECEIVED

STATE CORPORATION COMMISSION

Co. Rep. _____

OCT 15 1990

CONSERVATION DIVISION
Wichita, Kansas

CEMENTING SERVICE REPORT



DOWELL SCHLUMBERGER INCORPORATED

TREATMENT NUMBER: 03-12-2811 DATE: 9-9-90
 STAGE: DS DISTRICT: 1045588 KS

DS-496 PRINTED IN U.S.A.

WELL NAME AND NO.: HCU 1611-B Sep. 16-215-416
 LOCATION (LEGAL):
 FIELD POOL: Breadshaw
 COUNTY/PARISH: Hamilton STATE: KS API NO:

RIG NAME: Cheyenne #5
 WELL DATA: BIT SIZE: 2 1/4 CSG/Liner Size: 2 1/2
 TOTAL DEPTH: 20 WEIGHT: 20
 ROT CABLE: FOOTAGE: 202.42
 MUD TYPE: GRADE: KFS
 BHST BHCT: THREAD: 8pd
 MUD DENSITY: LESS FOOTAGE SHOE JOINT(S): 43
 MUD VISC.: Disp. Capacity: 20.7
 NOTE: Include Footage From Ground Level To Head in Disp. Capacity

NAME: American Exploration
 AND:
 ADDRESS:
 ZIP CODE: FROM CONFIDENTIAL

SPECIAL INSTRUCTIONS: Cmt. 8" casing

Float TYPE: 2 1/2" Fill DEPTH: 314.33
 Stage Tool TYPE: Texas Pattern DEPTH: 362.42
 Head & Plugs: Double, Single, Swage, Knockoff, TBG, D.P., SQUEEZE JOB
 SIZE, WEIGHT, GRADE, THREAD, TUBING VOLUME, CASING VOL. BELOW TOOL, TOTAL, ANNUAL VOLUME

IS CASING/TUBING SECURED? YES NO
 LIFT PRESSURE: 124 PSI CASING WEIGHT - SURFACE AREA (3.14 x R²)
 PRESSURE LIMIT: PSI BUMP PLUG TO: 920 PSI
 ROTATE: RPM RECIPROCATATE FT No. of Centralizers: 3

JOB SCHEDULED FOR TIME: 3:30 DATE: 9-9-90 ARRIVE ON LOCATION TIME: 3:30 DATE: 9-9-90 LEFT LOCATION TIME: 2:30 DATE: 9-10-90

TIME	PRESSURE		VOLUME PUMPED BBL		JOB SCHEDULED FOR			ARRIVE ON LOCATION		LEFT LOCATION		SERVICE LOG DETAIL
	TBG OR D.P.	CASING	INCREMENT	CUM	INJECT RATE	FLUID TYPE	FLUID DENSITY	TIME	DATE	TIME	DATE	
0105		950				Lea						PRE-JOB SAFETY MEETING PSI Test
0110		0	10		6	H2O						start water ahead
0112		120	46.3		6	cmt	12.4					start lead cement
0119		40	21		6	cmt	15.6					start tail cement
0123		30										shutdown, drop top plug
0123		0	70.7		5.8	H2O						start displacement
0126		100		11	5.8	H2O						cement to surface
0126		70		15	2	H2O						lower rate
0129		920		21	2	H2O						bump top plug
0130												check float & holding
												end job

REMARKS:

SYSTEM CODE	NO. OF SACKS	YIELD CU FT/SK	COMPOSITION OF CEMENTING SYSTEMS				SLURRY MIXED	
			1	2	3	4	BBLs	DENSITY
1.	130	2.0	35%	20%	3%	4%	46.3	12.4
2.								
3.	100	1.18	class H	3%	4%		21	15.6
4.								
5.								
6.								

BREAKDOWN FLUID TYPE: HESITATION SO, RUNNING SO, CIRCULATION LOST, DISPLACEMENT VOL. 20.7
 WASHED THRU PERFS: YES NO TO FT. MEASURED DISPLACEMENT: WIRELINE
 PERFORATIONS: TO TO
 CUSTOMER REPRESENTATIVE: Hank Deillos
 DS SUPERVISOR: James Esquivel

DOWELL SCHLUMBERGER INCORPORATED

P.O. BOX 4378 HOUSTON, TEXAS 77210

CUSTOMER

CONFIDENTIAL

ORIGINAL NOV 13 1991

OILFIELD SERVICES INDUSTRIAL SERVICES

DSI SERVICE ORDER RECEIPT AND INVOICE NO. 03-12-2811

DSI SERVICE LOCATION NAME AND NUMBER: *Ulysses, TX 07-12*
 CUSTOMER NUMBER FROM: _____ CUSTOMER P.O. NUMBER: _____
 TYPE SERVICE CODE: 271 BUSINESS CODES: _____

CUSTOMER'S NAME: *American Exploration*

ADDRESS: _____
 CITY, STATE AND ZIP CODE: _____

WORKOVER NEW WELL OTHER: W N API OR IC NUMBER: _____

ARRIVE LOCATION: MO. 7 DAY 9 YR. 90 TIME 2330

DSI will furnish and Customer shall purchase materials and services required in the performance of the following SERVICE INSTRUCTIONS or DSI INDUSTRIAL SERVICE CONTRACT NO. _____ in accordance with the terms and conditions as printed on the reverse side of this form.

SERVICE ORDER RECEIPT
 I certify that the materials and services listed were authorized and received in a workmanlike manner and that I have the authority to accept and execute this document.

cont. 8" casing, 130sf 35pcf + 6% D20 + 3% calch + 1/4" D29
100sf class H + 3% calch + 1/4" D29

JOB COMPLETION: MO. 7 DAY 10 YR. 90 TIME 0130

STATE: *TX* CODE: _____ COUNTY/PARISH: *HAMILTON* CODE: _____ CITY: _____

SIGNATURE OF CUSTOMER OR AUTHORIZED REPRESENTATIVE: *Will [unclear]*

WELL NAME AND NUMBER / JOB SITE: *HCU 1611-B* LOCATION AND POOL / PLANT ADDRESS: *Sec 16-215-414* SHIPPED VIA: *DS*

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
048209-000	PUMP chp	EA	1	433.00	433.00
048209-001	Additional Footage 300'	ft	62	.41	25.42
059200-102	PUMP mileage	mi	74	2.40	177.60
059497-000	PAKE chp	EA	1	110.00	110.00
049102-000	hauling 2200sf x 74	ton/mi	917	.80	653.60
049100-000	Service chp	EA	254	1.08	274.32
040003-000	D903 class C	sk	85	7.00	595.00
040015-000	D909 class H	sk	100	6.85	685.00
045008-000	D35 litapor	sk	43	2.30	103.50
045014-050	D20 GARDONITE	lb	679	.13	88.27
067005-100	calch	lb	621	.32	198.72
044003-025	D29 cellulosic Flakes	lb	58	1.37	79.46
050001-085	Texas sandstone shoe	EA	1	200.00	200.00
053003-085	Orifice Fill in seal	EA	1	300.00	300.00
056011-085	centralizers	EA	2	68.00	136.00
048501-085	Top wooden plug	EA	1	86.00	86.00
057499-001	Thread lock	EA	1	22.00	22.00
056019-085	stop ring	EA	1	21.00	21.00

Thanks for using DS

SUB TOTAL: *4182.87*
 STATE CORP. RECEIVED
 OCT 15 1990

LICENSE/REIMBURSEMENT FEE: _____
 REMARKS: _____
 STATE: _____ % TAX ON \$ _____
 COUNTY: _____ % TAX ON \$ _____
 CITY: _____ % TAX ON \$ _____
 SIGNATURE OF DSI REPRESENTATIVE: *James Equinell* TOTAL \$ _____

ORIGINAL CASING & CEMENTING REPORT
RELEASED

CONFIDENTIAL

Well Name 16-11-B Location _____
Casing 1142 Date 7-12-90

Jts. On	m On	Size	Wt.	FROM CONFIDENTIAL				Jts	Depth	m	Run
Locat.	Locat.	mm	kg/m	Cr.	Rqe.	THD	T&C	Run	Landed	In Well	
66	2915.37	4 1/2	9.5	3	BRD	STHC	MT	66	2915.37	2915.37	

Shoe Make WEATHERFORD Type REGULAR Length 1.8 m
Collar Make WEATHERFORD Type ATU FILE Length 1.8 m

Landing Jt. (When Used) Length N/A m
Overall Length of Casing String 2915.37 m
m Up From K.B. (subtract)

Setting Depth By Driller 2908 m By Tally _____ m

CENTRALIZERS

SCRATCHERS

Make & No. WEATHERFORD BAND-TURBOLIZER Make & No. NONE
Position 2870-2932 (4) 2117-1501 (8) Position _____
Remarks (Thread Lock, Weld, Mill) THRD LOCK. W/ 3 COLLARS, PLAT SKOTX
FLOAT COLLAR

Hole Size 7 7/8 mm Casing In Hole Size 4 1/2 mm
Depth 2908 m Setting Depth 2908 m
Mud Type STAPLE Wt. 9.4 kg/m Visc. 48 S/LWL 9.6 cm
BOP's ANMULLER
Power Tong Co FRANLIS Torque Max. 1400 Min. 1000
Casing String Wt. 26.00 daN Remarks _____

Cementing Co. POWELL SCHLUMERGER Operator _____

TYPES & QUANTITIES OF CEMENT Date 7-12-90

Filler Volume Amount 400SK m³ Type 35/69 802 Wt. 12.4 kg/m³
Additives 6% GEL, 3% W/L, 2% FLAKE / 4% SALT
Tail In Volume Amount 200SK m³ Type H Wt. 15.6 kg/m³
Additives 3% PGO, 1% FLAKE
HT. Cemented SURFACE Water Ahead 10/10 GEL m³ Start Mix 250K m³
Finish Mix 220 m³ Pumping Press 590 kPa Bump Press 1320 kPa
Float Held YES Cement Returns 5.3%
Plug Down N/A Date 7-12-90
Wt. Landed in Slips 26.00 daN Make of Bowl _____
Size _____ mm Series _____ Slip & Seal Esembly _____
Remarks (Wellhead - Make, Type, Size)

Co. Rep. Allen Hain

OCT 15 1990

CONSERVATION DIVISION
Wichita, Kansas

OILFIELD SERVICES
 INDUSTRIAL SERVICES

ORIGINAL

DSI SERVICE LOCATION NAME AND NUMBER

Ulysses, KS

DSI SERVICE ORDER RECEIPT AND INVOICE NO.
 03-12-2823

CUSTOMER NUMBER

CUSTOMER P.O. NUMBER

TYPE SERVICE CODE

285

BUSINESS CODES

CUSTOMER'S NAME

American Exploration

NOV 13 1991

ADDRESS

FROM CONFIDENTIAL

CITY, STATE AND ZIP CODE

DSI will furnish and Customer shall purchase materials and services required in the performance of the following SERVICE INSTRUCTIONS or DSI INDUSTRIAL SERVICE CONTRACT NO. _____ in accordance with the terms and conditions as printed on the reverse side of this form.

WORKOVER W
 NEW WELL N
 OTHER O

API OR IC NUMBER

ARRIVE LOCATION MO. DAY YR. TIME
 07 12 90 14:00

SERVICE ORDER RECEIPT
 I certify that the materials and services listed were authorized and received and all services performed in a workmanlike manner and that I have the authority to accept and execute this document.

JOB COMPLETION MO. DAY YR. TIME
 07 12 90 17:00

SIGNATURE OF CUSTOMER OR AUTHORIZED REPRESENTATIVE
John Alan

To Cement 4 1/2" Production casing to a depth of ± 2900'

RUN 10 BBLs H₂O ahead

STATE CODE COUNTY/PARISH CODE CITY
 KANSAS HAMILTON

WELL NAME AND NUMBER / JOB SITE LOCATION AND POOL / PLANT ADDRESS
 16-11-B

SHIPPED VIA
 DS

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
048215-000	LAND CHARGES (2501 - 3000')	8hrs	1	1026. ⁰⁰	\$ 1026. ⁰⁰
049102-000	DELIVERY CHARGE	Tonnile	2359	0.80	\$ 1887. ³⁹
049100-000	LAND Jobs	CFT	781	1.08	\$ 843. ⁸⁸
059200-002	Mileage CHARGE	Mile	70	2.40	\$ 168. ⁰⁰
059697-000	PACR (Design/Monitor)	Job	1	\$ 110. ⁰⁰	\$ 110. ⁰⁰
056704-044	4 1/2" Top Rubber Plug	Job	1	70. ⁰⁰	70. ⁰⁰
056011-044	Regular Centralizers	each	4	48. ⁰⁰	192. ⁰⁰
057499-001	THREAD Lock Compound Kit	each	1	22. ⁰⁰	22. ⁰⁰
056019-044	Hinge type STOP Ring	Each	1	14. ⁰⁰	14. ⁰⁰
052004-044	4 1/2" ALUMINUM ORFICE Pill Collar	Each	1	385. ⁰⁰	\$ 385. ⁰⁰
050101-044	4 1/2" Guide shoe	Each	1	105. ⁰⁰	\$ 105. ⁰⁰
	Turbidizer	Each	8	50. ⁰⁰	400. ⁰⁰
040015-000	CLASS H Cement	CFT	200	7.15	1430. ⁰⁰
040003-000	CLASS C Cement	CFT	332	7.30	2423. ⁶⁰
045008-000	Lite Poz 3 (LADUE)	CFT	178	2.30	409. ⁴⁰
045014-050	D20 - (Bentonite Extender)	lb	2662	0.13	346. ⁰⁶
067005-100	S1 - Calcium Chloride	lb	1333	0.32	425. ⁹²
044003-025	D29 - Cellulose Filler	lb	178	1.37	243. ⁸⁶
044002-050	D60 - Dispersant	lb	56	6.70	375. ²⁰
	244		4086	1.00	4086. ⁰⁰
	J-443 cel.		592	32.50	162. ⁰⁰

Field Estimate #11,447 SUB TOTAL \$16,200

LICENSE/REIMBURSEMENT FEE
 LICENSE/REIMBURSEMENT FEE

REMARKS: Thank you For USING DS

STATE % TAX ON \$
 COUNTY % TAX ON \$ CONSERVATION DIVISION
 CITY % TAX ON \$ Wichita, Kansas
 SIGNATURE OF DSI REPRESENTATIVE TOTAL \$
James Wilkins

OCT 15 1990

CEMENTING SERVICE REPORT



TREATMENT NUMBER _____ DATE 07-12-11
 STAGE 293 DS DISTRICT WY333 KS (03-12)

DS-496 PRINTED IN U.S.A. ORIGINAL DOWELL SCHLUMBERGER INCORPORATED

WELL NAME AND NO. 16-11-B
 FIELD-POOL Bradshaw
 COUNTY/PARISH HAMILTON
 STATE KANSAS
 NAME American Exploration
 AND _____
 ADDRESS _____
 ZIP CODE _____

RIG NAME: Cheyenne #5
 WELL DATA: BOTTOM TOP
 BIT SIZE CSG/Liner Size 4 1/2"
 TOTAL DEPTH WEIGHT 9.5
 ROT CABLE FOOTAGE 2907
 MUD TYPE GRADE
 BHST 110 : THREAD 3"
 BHCT 96 :
 MUD DENSITY LESS FOOTAGE SHOE JOINT(S) 44 TOTAL
 MUD VISC. 25 Disp. Capacity 46.3 TOTAL 46.3
 NOTE: Include Footage From Ground Level To Head In Disp. Capacity

CONFIDENTIAL

SPECIAL INSTRUCTIONS
 To cement 4 1/2" Production casing to a depth of +

SHOE FLOAT TYPE Aluminium Fill DEPTH 2863'
 SHOE TOOL TYPE Aluminium Fill DEPTH 2907
 Head & Plugs TBG D.P. SQUEEZE JOB
 Double SIZE WEIGHT
 Single GRADE TAIL PIPE: SIZE DEPTH
 Swage THREAD TUBING VOLUME Bbls
 Knockoff NEW USED CASING VOL. BELOW TOOL Bbls
 BOT W DEPTH TOTAL Bbls
 ANNUAL VOLUME Bbls

IS CASING/TUBING SECURED? YES NO
 LIFT PRESSURE 1732 PSI CASING WEIGHT + SURFACE AREA (3.14 x R²)
 PRESSURE LIMIT 2000 PSI BUMP PLUG TO 500 over PSI
 ROTATE - RPM RECIPROCATE - FT No. of Centralizers -

TIME	PRESSURE	VOLUME PUMPED BBL	JOB SCHEDULED FOR DATE:			ARRIVE ON LOCATION TIME: 13:30 DATE: 07-12	LEFT LOCATION TIME: 07:30 DATE: 07-12
0001 to 2400	TBG OR D.P. CASING	INCREMENT CUM	INJECT RATE	FLUID TYPE	FLUID DENSITY	SERVICE LOG DETAIL	

TIME	TBG OR D.P.	CASING	INCREMENT	CUM	INJECT RATE	FLUID TYPE	FLUID DENSITY	PREJOB SAFETY MEETING
15:19	-	1500	0	0	-	H ₂ O	8.34	Pressure Test Lines
15:20	-	220	10	0	5.3	H ₂ O	8.34	Pump Water Ahead
15:27	-	330	10	10	5.5	CW-9	8.34	Start Pumping Gelled water Ahead
15:32	-	300	185	20	7.5	CNT	12.4	Start Pumping Lead Slurry (SALT SATD)
15:50	-	200	49.3	205	7.4	CNT	15.6	Start Pumping Tail Slurry
16:05	-	0	-	254.3	0	-	-	Shutdown - Wash Lines - Drip Top Plug
16:09	-	30	36.3	254.3	5.5	H ₂ O	8.34	Begin Pumping Displacement
16:15	-	590	10	290.6	2.5	H ₂ O	8.34	Lower Pump Rate - Bump Plug
16:20	-	1320	-	300	-	-	-	Bump Plug - Bleed off Pressure
16:21	-	-	-	-	-	-	-	Float Holding - End Job

REMARKS

SYSTEM CODE	NO. OF SACKS	YIELD CU. FT/SK	COMPOSITION OF CEMENTING SYSTEMS				SLURRY MIXED BBLs DENSITY	
1.	400	2.21	(35/c5) H ₂ O/CLASS H + 6% D20 + 3% SI + 10% D44 + 1/4" #10				161	12.4
2.	110	2.0	(35/c5) H ₂ O/CLASS H + 6% D20 + 3% SI + 1/4" #10				39.6	12.4
3.	200	1.18	CLASS H + 0.3% D60 + 1/4" #10				92.4	15.6
4.								
5.								
6.								

OCT 15 1990

BREAKDOWN FLUID TYPE VOLUME DENSITY PRESSURE CONSERVATION MAX. 2000 MIN: 0
 HESITATION SQ. RUNNING SQ. CIRCULATION LOST YES NO Cement Circulated to Surf. YES NO 5 Bbls.
 BREAKDOWN PSI FINAL PSI DISPLACEMENT VOL. 46.3 Bbls TYPE OF WELL OIL STORAGE BRINE WATER
 Washed Thru Perfs YES NO TO FT MEASURED DISPLACEMENT WIRELINE INJECTION WILDCAT
 PERFORATIONS TO TO CUSTOMER REPRESENTATIVE Glenn Cra... DS SUPERVISOR J... Williams