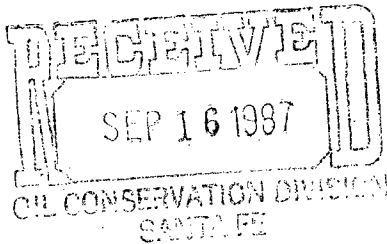


Release Date: Oct 5, 1987

ROBERT L. BAYLESS

PETROLEUM PLAZA BUILDING
P. O. BOX 168
FARMINGTON, NEW MEXICO 87499
(505) 326-2659



September 11, 1987

William J. Lemay, Chairman
Oil Conservation Commission
P.O. Box 2089
Santa Fe, New Mexico

RE: Request for Administrative
Approval to Downhole Commingle
Robert L. Bayless
Jicarilla 491 #1
Unit J, Sec. 32, T28N-R2W
Undesignated Pictured Cliffs,
Undesignated Mesa Verde, and
Undesignated Gallup Fields
Jicarilla Contract #491
Rio Arriba County, New Mexico

Dear Mr. Lemay:

By this letter, we request administrative approval to commingle production from the Pictured Cliffs, Mesa Verde, and Gallup formations within the wellbore of the above captioned well.

The Jicarilla 491 #1 well was spudded by Amoco Production Company in August of 1985. A complete daily activity report for this well is presented as Attachment #1. Production casing, (7") was set and cemented at 8284 feet with PBTD at 8205 feet. The Gallup interval (6848-7320) was perforated and fracture stimulated with 308,346 gallons of 30# cross-linked gelled fluid containing 287,500 lbs. of 20-40 sand. Amoco tested this zone and determined it was uneconomical. A cast iron bridge plug was set at 5925 feet.

The Mesa Verde interval was completed separately in the Point Lookout and Cliffhouse formations. The Point Lookout was perforated from 5752 to 5792 feet and fracture stimulated with 75,000 gallons of 75 quality foam containing 90,000 lbs of 20-40 sand. Amoco tested this zone and determined it was uneconomical. A cast iron bridge plug was set at 5610 feet. The Cliffhouse formation was perforated from 5492 to 5566 feet and fracture stimulated with 40,000 gallons of 75 quality foam containing 58,000 lbs. of 20-40 sand. Amoco tested this zone and determined it was uneconomical. A cast iron bridge plug was set at 3720 feet.

The Pictured Cliffs interval was completed separately in the Lower and Upper Pictured Cliffs formations. The Lower Pictured Cliffs interval

William J. Lemay, Chairman
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was perforated from 3618 to 3626 feet and fracture stimulated with 18,000 gallons of 75 quality foam containing 23,000 lbs. of 20-40 sand.

Amoco tested this zone and determined it was uneconomical. A cast iron bridge plug was set at 3550 feet. The Upper Pictured Cliffs formation was perforated from 3452 to 3496 feet and fracture stimulated with 35,400 gallons of 70 quality foam containing 41,600 lbs. of 20-40 sand. Amoco tested this zone and determined it was uneconomical. The well was then turned over to Bayless.

Bayless drilled the cast iron bridge plugs at 3550 feet, 3720 feet, 5610 feet, and 5925 feet, which opened the Pictured Cliffs, Mesa Verde and Gallup zones. The well was then cleaned up to be tested.

A 3 hour flow test was conducted on the well (all zones open) on September 9, 1987, which resulted in an AOF of 5218 MCFGPD (Attachment #2). It should be noted here that the tubing was logged off with water when this test was performed. Therefore, the test was taken on the annulus of this well. When the AOF is taken in this manner, the gas volumes will be unusually high, making the production test meaningless.

In addition to the AOF test performed on the well by Bayless, a 29 day flow test was performed on the Gallup formation by Amoco in October and November of 1985. The Gallup zone averaged 196 MCFGPD with 1.5 BOPD and 3 BWPD, for the last 14 days of the test. This test is presented as Attachment #3.

A 17 day flow test was performed on the Point Lookout formation in November and December of 1985. The Point Lookout formation averaged 140 MCFGPD and 7 BWPD for the last 7 days of the test. A 3 day flow test was performed on the Cliffhouse formation in January of 1986. The Cliffhouse formation averaged 119 MCFGPD with 16 BWPD. The combined Mesa Verde zone which includes the Point Lookout and Cliffhouse formations averages 259 MCFGPD and 23 BWPD. These tests are presented as Attachment #4.

A 1 day flow test was performed on the Lower Pictured Cliffs formation in February of 1986. The Lower Pictured Cliffs formation flowed 55 MCFGPD and 50 BWPD. A 6 day flow test was performed on the Upper Pictured Cliffs formation in February of 1986. The Upper Pictured Cliffs formation averaged 114 MCFGPD with 29 BWPD over the last 4 days of the test. The combined Pictured Cliffs zone which includes the Lower and Upper Pictured Cliffs formations averages 169 MCFGPD and 79 BWPD. These tests are presented as Attachment #5.

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The flow test results from each zone and the fact that the tubing was logged off for the AOF test indicate that each zone has marginal gas production capabilities with significant associated water production. These tested flow rates were all performed against 50-270 psi backpressure, while line pressures in the area can get as high as 300-400 psi. The actual gas sales production rates from each zone will be even lower against this higher backpressure, with the possibility of the backpressure stopping flow from the zone, which would result in compression expenses to re-establish the flow. The water production seen from each zone could also restrict gas production from each zone, or possibly log off the flow from the zone, as was seen in the AOF test. Logging off the well could necessitate artificially lifting this fluid, resulting in further expenditures. If commingling is granted in this wellbore, the combined zones would have a better chance of production against higher line pressures without compression and would be better able to lift the associated water production in these zones without artificial lift.

The gas produced from the Gallup, Mesa Verde, and Pictured Cliffs zones should be fairly similar in this area. The average gas gravity for these zones should be approximately 0.65 with an approximate BTU value of 1100 BTU/CFT. From the AOF test taken on this well (Attachment #2), the 1127 psi surface shutin pressure taken on the annulus of this well is a little lower than shutin pressures seen on the Mesa Verde and Gallup formations in this area. These pressures should average between 1400 and 1600 psi. The Pictured Cliffs formation should shut-in for approximately 1000 psi. This pressure data can be found in wells to the south and west of the Jicarilla 491 #1 well. It is apparent from this well and offset wells that the shutin pressures for any zone producing in this well is not less than 50% of any other zone in the well. This suggests that no significant crossflow will take place between any zones in this well.

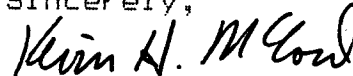
The production from the Gallup, Mesa Verde, and Pictured Cliffs zones can be allocated using the ratios of the rate of flow rate production tests performed by Amoco. Using these production tests, 31 % of the commingled gas production should be allocated to the Gallup formation, 42 % to the Mesa Verde zone, and 27 % of the gas should be allocated to the Pictured Cliffs formation. This well should produce very little oil, and what oil is produced will come from the Gallup formation. Therefore, 100% of the oil production from this well should be allocated to the Gallup formation. This allocation formula is shown in Attachment #6. The value of the gas from each zone is approximately the same, so the commingling of this natural gas will not decrease its sales value.

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Attachment #7 is an acreage plat showing the ownership of leases in the vicinity of the Jicarilla 491 #1 well. The ownership (working interest, royalty, and overriding royalty) of the Gallup, Mesa Verde, and the Pictured Cliffs zones is common in this well. The operation of each of the spacing units around this well is either controlled by Robert L. Bayless through farmout agreements, or is unleased (open) acreage. By copy of this application, we are advising the BLM of our plans to downhole commingle the Gallup, Mesa Verde, and Pictured Cliffs zones in this well.

It is obvious from the production tests taken on the Gallup, Mesa Verde, and Pictured Cliffs zones that gas production from this well will be low, resulting in marginal gas reserves and economics for the well. The high pipeline pressures in the area could force Bayless to compress this gas to produce it, or the water produced from each zone could force more expenditures to artificially lift this produced fluid. Either or both of these expenditures could possibly be avoided by approval of downhole commingling in this well.

Sincerely,



Kevin H. McCord
Petroleum Engineer

KHM/v1
Attachments

copies: NMOCD, Aztec
BLM, Farmington
Amoco Production Co.

AMOCO PRODUCTION COMPANY

CHRONOLOGICAL REPORT

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*** JOB INITIATION REPORT: COMPANY OPERATED - DRILLING - EXPLORATORY

API 300392380400 FLAC 846569

WILDCAT, JICARILLA CONTRACT 491 NO., 1, RIO ARRIJA, NEW MEXICO
OPERATOR: AMOCO PRODUCTION

AMOCO W.I.: 1.0000

AUTH DATE 03/22/85, AUTH TO 8371
CONTINUOUS ROTARY DRILLING OPERATIONS DATE 03/08/85

SUSPENDED 02/20/86

STATE OF PRODUCTION READINESS DATE 12/06/85

*** CONTRACTOR(S) INFORMATION:

DRAKE, 0021, RIG RELEASED 10/27/85
FOUR CORNERS, 0004, RIG MOVE ON 08/08/85, RIG RELEASED 08/27/85
DRAKE, 0019, RIG MOVE ON 09/10/85, RIG RELEASED 10/15/85
FARMINGTON, 0027, RIG MOVE ON 11/07/85, RIG RELEASED 12/06/85
FARMINGTON, 27A, RIG MOVE ON 01/02/86, RIG RELEASED 02/19/86

#491

*** 08/01/87 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 845569-01-0, API 300322380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 1

OPERATIONS: TO 558 FT, WCC-RAN 9-5/8 CSG, 558

MUD: DEPTH 505 FT, NATIVE MUD, 8.8 PPG, VISC. 43

BIT AND HYDRAULICS: BIT #00001, 12.250 IN, OSC3, JETS 12/12/3 /-,
DEPTH CUT 558 FT, 558 FT, 8.75 HPS, 110 RPM, SERIAL 02ETIP, PP 1000 PSI,

PMP #1: SIZE 8.00 X 8.00 X 100 SP4

DEVIATION: DEPTH 125 FT, INCL 0.25 DEG, DIR NOSE

DEPTH 387 FT, INCL 0.75 DEG, DIR NOSE

DEPTH 538 FT, INCL 1.00 DEG, DIR NOSE

TIME: DPL 8.00, TPIP 0.50, RIG REPAIR 1.75, SURVEY 0.75, CSG & CMT 2.75,

WCC 1.50, CIRC 1.25, RIG UP 4.00, OTHER: 4.00 HRS

COSTS: DAILY WELL \$25634, CUM WELL \$25654

CASING: SURFACE, SET 558 FT, 08/09/85

REMARKS: WTRU: SPUD AT 2:00 PM 080885: DPL 12-1/4 INCH HOLE; RUN 13 JT

9-5/8 X55 26 LB LTC CSG SA 558 FT; CMT X 400 SX CLASS B X

CACL2

MUD ADDITIVES: TYPE-VISCOFIFIERS, 5200.00 GEL LB,

TYPE-VISCOFIFIERS, 80.00 LIME LB,

CHRON TIME DISTRIBUTION (HRS):

2.50 - 000037, ROAD TO LOC

3.00 - 000035, RU

0.50 - 000039, DRL RAT X MOUSE HOLE

0.50 - 000002, DRL 12.25

3.00 - 000035, RU FIN

1.50 - 000002, DRL

1.75 - 000005, RIG REPAIR-DRUM CLUTCH

1.25 - 000002, DRL

0.25 - 000006, SURVEY

1.50 - 000002, DRL

0.25 - 000006, SURVEY

2.75 - 000002, DRL

0.25 - 000019, CIRC

0.25 - 000006, SURVEY

0.50 - 000004, TO

1.75 - 000011, RUN CSG

1.00 - 000011, CMT

1.50 - 000013, WCC

DETAIL: BOTTOM 558.0 FT, 9.625 IN, WT 35.00 #/FT,

GRADE K55, CONNECTION 8 RD LT&C, NO OF JTS. 13

TOOLS: TYPE-NON-RIGID CENTRALIZERS, TOP 181.0 FT, BOTTOM 538.0 FT,

NO. OF TOOLS 5, NAME-BRANDCO CENTRALIZERS

TYPE-FLOAT SHOE, TOP 557.0 FT, BOTTOM 558.0 FT,

NO. OF TOOLS 1, NAME-BRANDCO FLOAT SHOE

TYPE-OTHER, TOP 521.1 FT, BOTTOM 521.1 FT,

NO. OF TOOLS 1, NAME-BAFFLE PLATE

PRIMARY CEMENTING REPORT: STAGE 1, BATCH 1, API CLASS B,

WOODCO, VOL 400 SX,

SLURRY DENSITY 15.6 PPG,

HOLE FLUID DENSITY 8.8 PPG, TYPE-MUD,

AVG. DISPLACEMENT PRESS 400 PSI,

AVG. DISPLACEMENT RATE 3.0 BPM,

AVG. DISPLACEMENT RATE 3.0 BPM, CEMENT 2.7 000

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WOBBLER, VCL 400 SK,
SLURRY DENSITY 15.6 PPG,
HOLE FLUID DENSITY 8.3 PPG, TYPE-MUD,
AVG. DISPLACEMENT PRES 400 PSI,
AVG. DISPLACEMENT RATE 3.0 BPM,
PRE-FLUSH WATER, 10 BBLs, DENSITY 8.3 PPG,
DISPLACEMENT FLUID-WATER, DENSITY 8.3 PPG,
PIPE MOVEMENT-STATIONARY,
VCL CIRC. OUT 10 BBLs,
RETURN FLOW 100.0%,
SUCCESS FLAG = YES

ADDITIVES:

TYPE-ACCELERATOR, CACL 2.00 %

*** 08/10/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 2

OPERATIONS: TD 1626 FT, TRIP FOR BIT, FM SN X SH, 1058

MUD: DEPTH 1600 FT, LSND POLYMER, 3.6 PPG, VISC. 30, FL 8.2

BIT AND HYDRAULICS: BIT 200002, 8.750 IN, J1, JETS 11/11/B /-,

DEPTH OUT 1526 FT, 1058 FT, 11.00 4RS, WOB 30, 80 RPM, CONDITION 7/4/1/-,

SERIAL #192LG, PP 1800 PSI, 8 GPM, PMP #1: SIZE 6.00 X 8.00 X 102 SPM

DEVIATION: DEPTH 772 FT, INCL 1.75 DEG, DIR NOOE

DEPTH 992 FT, INCL 2.25 DEG, DIR NOOE

DEPTH 1210 FT, INCL 1.75 DEG, DIR NOOE

DEPTH 1492 FT, INCL 1.75 DEG, DIR NOOE

DEPTH 1586 FT, INCL 1.00 DEG, DIR NOOE

TIME: DRL 11.00, TRIP 1.00, SURVEY 1.25, WOC 10.00, SERVICE RIG 0.25,

OTHER: 0.50 HRS

COSTS: DAILY WELL \$15190, CUM WELL \$40844

BOTTOM HOLE ASSEMBLY: DEPTH IN 1626 FT,

DP OR TBG: OD 4.500

BHA DETAIL: COLLAR, 1.000 FT, STEEL, OD 8.750 IN, MANUFACTURER BIT

COLLAR, 3.000 FT, STEEL, OD 6.380 IN, ID 2.250 IN,

MANUFACTURER BIT SUB

COLLAR, 619.000 FT, STEEL, OD 6.385 IN, ID 2.250 IN,

MANUFACTURER 20 DCS

MUD ADDITIVES: TYPE-FLOCCULANTS, 15.00 NEW DRL GAL,

TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 380.00 DRISPAC LH,

TYPE-CALCIUM TREATMENT, 40.00 LIME,

TYPE-MATERIAL FOR LOST CIRCULATION, 50.00 HULLS,

TYPE-OTHER, 50.00 ULTRI SWEEP,

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000013, WOC

8.00 - 000013, WOC

0.50 - 000002, DRL CNT X SHOE

1.00 - 000002, DRL

0.25 - 000006, SURVEY

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1.50 - 000002, DRL
0.25 - 000006, SURVEY
2.00 - 000002, DRL
0.25 - 000006, SURVEY
2.15 - 000002, DRL
0.25 - 000021, SERVICE RIG
1.50 - 000002, DRL
0.25 - 000006, SURVEY
2.75 - 000002, DRL
0.25 - 000006, SURVEY
1.00 - 000004, TRIP

*** 03/11/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846559-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 3

OPERATIONS: TD 2750 FT, DRL, FM SN X SH, 1124

MUD: DEPTH 2745 FT, LSND POLYMER, 3.7 PPG, VISC. 29, FL 8.6, PH 8.5, PV 3,
YP 3, GELS 1/2, SOLIDS 2.3%, CL 200, CA 60, MBT 2.5, FILTER CAKE 1,

PF 1.2, MF 1.2, PM 1.0

BIT AND HYDRAULICS: BIT #00003, 8.750 IN, F2, JETS 11/11/B /-,

DEPTH OUT 2518 FT, 392 FT, 15.00 HRS, WOB 40, 75 RPM, CONDITION 2/6/T/-,

SERIAL #FAA1, PP 1800 PSI, 8 GPM, PMP #1: SIZE 6.00 X 9.00 X 102 SPM

BIT #00004, 8.750 IN, J22, JETS 11/12/B /-, 234 FT, 4.25 HRS, WOB 40,

75 RPM, SERIAL #0000157007, PP 1800 PSI, 3 GPM,

PMP #1: SIZE 6.00 X 8.00 X 102 SPM

DEVIATION: DEPTH 1925 FT, INCL 0.75 DEG, DIR NOOE

DEPTH 2422 FT, INCL 1.00 DEG, DIR NOOE

TIME: DRL 19.25, TRIP 3.25, SURVEY 0.50, SERVICE RIG 0.50, OTHER: 0.50 HRS

COSTS: DAILY WELL \$17152, CUM WELL \$53706

MUD ADDITIVES: TYPE-SHALE CONTROL, 20.00 NEW DRL GAL,

TYPE-INHIBITORS FOR CORROSION, 2.50 777 GAL,

TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 400.00 DRISPAC,

TYPE-INHIBITORS FOR CORROSION, 1.00 415 GAL,

TYPE-CALCIUM TREATMENT, 80.00 LIME,

TYPE-MATERIAL FOR LOST CIRCULATION, 160.00 ULTRISWEEP,

TYPE-MATERIAL FOR LOST CIRCULATION, 400.00 HULLS,

CHRON TIME DISTRIBUTION (HRS):

0.75 - 000004, TI
0.25 - 000037, WASH 35 FT
5.50 - 000002, DRL
0.25 - 000021, RIG SERVICE
0.25 - 000006, SURVEY
3.25 - 000002, DRL
0.25 - 000021, RIG SERVICE
5.25 - 000002, DRL
0.25 - 000006, SURVEY
1.25 - 000002, DRL
1.00 - 000004, TRIP

1.50 - 000004, TRIP
0.25 - 000037, WASH 30 FT
4.00 - 000002, DRL

*** 08/12/85 ***

JICAPILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846547-C1-0, API 300312380400, AUTH TO 8771,

44100 W.I. 1.0000, DAYS PRIM SPUD 4

OPERATIONS: TD 3512 FT, DPL, FM SN X SH, 770

MUD: DEPTH 3440 FT, LSND POLYMER, 8.7 PPT, VISC. 31, FL 8.5, PH 3.5, PV 5,
YP 5, GELS 1/2, SOLIDS 2.5%, MBT 7.5, FILTER CAKE 1, PF 1.0, MF 1.5,
PM 1.0

BIT AND HYDRAULICS: BIT #000004, 8.750 IN, J22, JETS 11/12/8 /-,
DEPTH OUT 3006 FT, 483 FT, 10.75 HRS, WOB 40, 75 RPM, CONDITION 2/4/1/-,

SERIAL #0000137007, PP 1800 PSI, 7 GPM,

PMP #1: SIZE 6.00 X 3.00 X 102 SPM

BIT #000005, 8.750 IN, J22, JETS 11/12/8 /-, 13.50 HRS, WOB 40, 75 RPM,

SERIAL #0000018932, PP 1800 PSI, 7 GPM

DEVIATION: DEPTH 2932 FT, INCL 1.00 DEG, DIR NOCE

DEPTH 3440 FT, INCL 0.25 DEG, DIR NOCE

TIME: DRL 20.00, TRIP 2.25, SURVEY 0.50, CIRC 0.25, SERVICE RIG 0.75,

OTHER: 0.25 HRS

COSTS: DAILY WELL \$13027, CUM WELL \$71733

BOTTOM HOLE ASSEMBLY: DEPTH IN 3006 FT,

DP OR TBG: OD 4.500

BHA DETAIL: OTHER, 1.000 FT, OD 8.750 IN, MANUFACTURER BIT

OTHER, 3.000 FT, OD 6.380 IN, ID 2.250 IN, MANUFACTURER BIT SUB

OTHER, 2.530 FT, MANUFACTURER J 95KT

OTHER, 613.000 FT, OD 6.385 IN, ID 2.250 IN, MANUFACTURER DCS

MUD ADDITIVES: TYPE-FLOCCULANTS, 30.00 NEW DRL GAL,

TYPE-INHIBITORS FOR CORROSION, 2.00 777 GAL,

TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 300.00 DRISPAK LB,

TYPE-INHIBITORS FOR CORROSION, 25.00 415 GAL,

TYPE-OTHER, 120.00 ULTRISWEEP LB,

TYPE-MATERIAL FOR LOST CIRCULATION, 160.00 HULLS LB,

TYPE-CALCIUM TREATMENT, 320.00 LIME LB,

CHRON TIME DISTRIBUTION (HRS):

0.25 - 000021, PIG SERVICE

2.00 - 000002, DPL

0.25 - 000021, PIG SERVICE

7.75 - 000002, DPL

4.50 - 000002, DRL

0.25 - 000019, CIRC FLUSH

0.25 - 000006, SURVEY

2.25 - 000004, TRIP

0.25 - 000037, WASH 55 FT TO BTM

0.25 - 000002, DRL

0.25 - 000021, PIG SERVICE

4.00 - 000002, DRL

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0.25 - 000005, SURVEY
1.50 - 000002, DRL

*** 03/13/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 5

OPERATIONS: TD 4071 FT, DRL, PM PC, 750

MUD: DEPTH 4250 FT, LSND POLYMER, 8.3 PPG, VISC. 31, FL 7.0, PH 9.0, PV 5,
YP 6, GELS 1/2, SOLIDS 3.0%, CL 200, CA 100, MBT 15.0, FILTER CAKE 1,

PF 1.5, MF 2.0, PM 3.0

BIT AND HYDRAULICS: BIT #00005, 8.750 IN, J22, JETS 11/12/3 /-, 1265 FT,
36.25 HRS, WOB 45, 75 RPM, SERIAL #0000013932, PP 1800 PSI, 7 GPM,

PMP #1: SIZE 5.00 X 3.00 X 100 SPM

DEVIATION: DEPTH 3948 FT, INCL 0.25 DEG, DIR NOOE

TIME: DRL 22.75, SURVEY 0.50, SERVICE RIG 0.75

COSTS: DAILY MUD \$12350, CUM MUD \$12350, CUM WELL \$71733

REMARKS: SHOW AT 3620

MUD ADDITIVES: TYPE-FLOCCULANTS, 20.00 NEWDRL GAL,
TYPE-INHIBITORS FOR CORROSION, 5.00 777 GAL,
TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 450.00 DRISPAC LB,
TYPE-INHIBITORS FOR CORROSION, 5.00 415 GAL,
TYPE-OTHER, 50.00 ULTRISHP LB,
TYPE-VISCOSIFIERS, 1000.00 GEL LB,
TYPE-OTHER, 150.00 HULLS LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 40.00 SANDUST LB,
TYPE-CALCIUM TREATMENT, 180.00 LIME LB,

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000002, DRL
0.25 - 000021, PIG SERVICE
7.75 - 000002, DRL
0.25 - 000021, RIG SERVICE
5.00 - 000002, DRL
0.50 - 000006, SURVEY
2.25 - 000002, DRL
0.25 - 000021, PIG SERVICE
5.75 - 000002, DRL

*** 03/14/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 6

OPERATIONS: TD 4803 FT, DRL, 532

MUD: DEPTH 4750 FT, LSND POLYMER, 8.3 PPG, VISC. 40, FL 7.0, PH 9.0, PV 5,
YP 7, GELS 1/3, SOLIDS 2.8%, CL 200, CA 100, FILTER CAKE 1, PF 1.0,
MF 2.0, PM 3.5, LCM CONC 5 LB/BBL

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BIT AND HYDRAULICS: BIT #000005, 8.750 IN, J22, JETS 11/12/8 /-,
 DEPTH OUT 4334 FT, 1328 FT, 29.00 HRS, WOB 40, 75 RPM, CONDITION 2/6/1/-,
 SERIAL #000001893, PP 1400 PSI, 7 GPM,
 PMP #1: SIZE 6.00 X 3.00 X 112 SPM
 BIT #000006, 8.750 IN, V817, JETS 12/12/8 /-, 463 FT, 14.50 HRS, WOB 40,
 75 RPM, SERIAL #0000019013, PP 1500 PSI, 7 GPM,
 PMP #1: SIZE 6.00 X 3.00 X 112 SPM
 DEVIATION: DEPTH 4294 FT, INCL 0.75 DEG, DIR NOOE
 DEPTH 4763 FT, INCL 1.00 DEG, DIR NOOE
 TIME: DRL 17.25, TRIP 3.25, SURVEY 0.25, LOC 2.00, SERVICE RIG 0.50,
 CUT DRL LINE 0.50, OTHER: 0.25 HRS
 COSTS: CUM MUD \$12350, DAILY WELL \$17916, CUM WELL \$23649
 BOTTOM HOLE ASSEMBLY: DEPTH IN 4334 FT,
 DP OR T2G: 00 4.500

REMARKS: 120 BBL LOST AT 4300 FT; 120 BBL LOST AT 4360 FT; 160 BBL SEEP
 FROM 4360-4520 FT; MUDDER UP AT 4360 X START 10% LCM

BHA DETAIL: COLLAR, 1.000 FT, STEEL, OD 8.750 IN, MANUFACTURER BIT
 COLLAR, 3.000 FT, STEEL, OD 6.385 IN, ID 2.250 IN,
 MANUFACTURER BIT SUB
 COLLAR, 619.000 FT, STEEL, OD 6.385 IN, ID 2.250 IN,
 MANUFACTURER 20 JCS

MUD ADDITIVES: TYPE-FLOCCULANTS, 5.00 NEW DRL GAL,
 TYPE-DEFOAMERS, 20.00 ALUM STEAR LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1600.00 FIBRE LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 120.00 DRISPAC LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1400.00 SAWDUST LB,
 TYPE-CALCIUM TREATMENT, 120.00 LIME LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1700.00 HULLS LB,
 TYPE-VISCOUSIFIERS, 800.00 GEL LB,
 TYPE-INHIBITORS FOR CORROSION, 2.50 777 GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 2000.00 MULTISEAL LB,
 TYPE-INHIBITORS FOR CORROSION, 4.00 415 GAL,

CHRON TIME DISTRIBUTION (HRS):

1.50	-	000002, DRL
0.50	-	000008, LOSS CIRC; PULL 3 SD
0.25	-	000006, RUN 3 STDS X PMP PILL
1.00	-	000002, DRL
0.25	-	000006, SURVEY
2.25	-	000004, TRIP
0.50	-	000022, CUT DRL LINE
1.00	-	000004, TI
0.25	-	000037, WASH 23 FT
1.00	-	000002, DRL
0.75	-	000008, PULL 3 STD MIX PILL
0.25	-	000004, RUN IN 3 STD
0.25	-	000008, PMP PILL
0.25	-	000002, DRL
0.25	-	000021, RIG SERVICE
7.75	-	000002, DRL
0.25	-	000021, RIG SERVICE
5.75	-	000002, DRL

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*** 03/15/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 7

OPERATIONS: TD 5270 FT, DRL, FM PC, 467

MUD: DEPTH 5250 FT, DISPERSED WATER BASED, 8.1 PPG, VISC. 44, FL 10.0, PH 8.5,

PV 35, YP 10, GELS 2/7, SOLIDS 4.0%, CL 200, CA 100, OIL 10%,

HT-HP FL 1 BT PF 1.0, MF 3.0, PM 0.1, LCM CONC 5 LB/BBL

BIT AND HYDRAULICS: BIT #000006, 8.750 IN. V517, JETS 12/12/B /-, 936 FT,

36.75 HRS, WOB 40, 75 RPM, SERIAL #0000019018, PP 7600 PSI, 7 GPM,

PMP #1: SIZE 6.00 X 8.00 X 100 SPM

DEVIATION: DEPTH 5198 FT, INCL 1.00 DEG, DIR NOOE

TIME: DRL 22.25, SURVEY 1.00, SERVICE RIG 0.75

COSTS: CUM MUD \$12350, DAILY WELL \$21162, CUM WELL \$136811

MUD ADDITIVES: TYPE-VISCOSIFIERS, 5200.00 GEL LB,

TYPE-MATERIAL FOR LOST CIRCULATION, 700.00 HULLS LB,

TYPE-FLOCCULANTS, 3.00 NENDRL GAL,

TYPE-MATERIAL FOR LOST CIRCULATION, 1640.00 MULTISEAL LB,

TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 120.00 DRISPAC LB,

TYPE-INHIBITORS FOR CORROSION, 1.00 KILLIMINE QT,

TYPE-DEFOAMERS, 20.00 ALUM ST LB,

TYPE-INHIBITORS FOR CORROSION, 55.00 777 GAL,

TYPE-MATERIAL FOR LOST CIRCULATION, 2010.00 FIBRE LB,

TYPE-INHIBITORS FOR CORROSION, 4.00 415 GAL,

CHRON TIME DISTRIBUTION (HRS):

1.00	-	000002,	DRL
0.50	-	000005,	SURVEY
0.50	-	000002,	DRL
0.25	-	000021,	RIG SERVICE
7.75	-	000002,	DPL
0.25	-	000021,	RIG SERVICE
7.50	-	000002,	DRL
0.25	-	000021,	RIG SERVICE
3.25	-	000002,	DRL
0.50	-	000006,	SURVEY
2.00	-	000002,	DRL

*** 03/16/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 8

OPERATIONS: TD 5695 FT, DRL, FM CLIFFHOUSE, 425

MUD: DEPTH 5675 FT, LSND POLYMER, 8.9 PPG, VISC. 40, FL 8.0, PH 8.5, PV 15,

YP 10, GELS 2/9, SOLIDS 5.6%, CL 200, CA 100, MHT 15.0, FILTER CAKE 1,

PF 0.1, MF 0.3, PM 0.2, LCM CONC 5 LB/BBL

BIT AND HYDRAULICS: BIT #000006, 8.750 IN. V517, JETS 12/12/B /-, 1361 FT,

60.00 HPS, WOB 40, 55 RPM, SERIAL 0000019011, PP 1700 PSI,
 PMP #1: SIZE 6.00 X 3.00 X 102 SPM
 TIME: DRL 23.26, SERVICE RIG 0.75
 COSTS: CUM MUD \$12250, DAILY WELL \$12441, CUM WELL \$119252
 MUD ADDITIVES: TYPE-BERDAMERS, 20.00 ALUM STERATE LB,
 TYPE-VISCOIFIERS, 3100.00 GEL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 2150.00 CS HULLS LB,
 TYPE-FLOCCULANTS, 5.00 NEWORL GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 2500.00 CEDAR FIBER,
 TYPE-FILTERATE REDUCERS (FLUID LOSS CONTROL), 200.00 DRIS-AC LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 520.00 SAWDUST LB,
 TYPE-CALCIUM TREATMENT, 50.00 LIME LB,
 TYPE-INHIBITORS FOR CORROSION, 7.50 777 GAL,
 TYPE-VISCOIFIERS, 60.00 YP LB,
 TYPE-INHIBITORS FOR CORROSION, 5.50 415 GAL,
 TYPE-INHIBITORS FOR CORROSION, 5.00 FILLIMINE GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 2500.00 MULTISEAL LB,

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000002, DRL
 0.25 - 000021, RIG SERVICE
 7.75 - 000002, DRL
 0.25 - 000021, RIG SERVICE
 7.75 - 000002, DRL
 0.25 - 000021, RIG SERVICE
 5.75 - 000002, DRL

*** 08/17/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 5
 OPERATIONS: TD 6045 FT, CIRC, 350
 MUD: DEPTH 6045 FT, LSND POLYMER, 9.0 PPS, VISC. 40, FL 3.9, PH 8.5, PV 12,
 YP 10, GELS 3/12, SOLIDS 5.4%, CL 200, CA 80, MBT 12.5, FILTER CAKE 1,
 PF 0.2, MF 0.3, PM 0.3, LCM CONC 5 LB/BBL
 BIT AND HYDRAULICS: BIT #000006, 8.750 IN, VS17, JETS 12/12/8 /-,
 DEPTH CUT 6050 FT, 1716 FT, 82.75 HRS, WOB 42, 75 RPM, CONDITION 5/5/-/-,
 SERIAL #0000019013, PP 1700 PSI, 300 GPM,
 PMP #1: SIZE 6.00 X 3.00 X 102 SPM
 DEVIATION: DEPTH 5698 FT, INCL 1.00 DEG, DIR N00E
 TIME: DRL 22.75, SURVEY 0.50, SERVICE RIG 0.75
 COSTS: CUM MUD \$12350, DAILY WELL \$7295, CUM WELL \$126347
 BOTTOM HOLE ASSEMBLY: DEPTH IN 3006 FT,
 DC: 619 FT, OD 6.500, ID 2.250,
 DP DR TNG: OD 4.500, ID 3.826, TJOD 6.250,
 SPECIAL DP: 132 FT, OD 4.500, ID 2.875, TJOD 6.250
 REMARKS: TOP OF PT LOOKOUT 5734; 50/0/0 SG/CG/TG; TOP OF MANCOS 6010 FT
 SHA DETAIL: OTHER, 1.000 FT, STEEL, OD 8.750 IN, MANUFACTURER BIT
 OTHER, 3.000 FT, STEEL, OD 6.375 IN, ID 2.250 IN,
 MANUFACTURER BIT SUB

OTHER, 2.830 FT, STEEL, OD 6.375 IN, ID 2.250 IN,

MANUFACTURER JUNK BASKET

COLLAR, 614.000 FT, STEEL, OD 6.500 IN, ID 2.250 IN

DRILL PIPE & HW, 181.990 FT, STEEL, OD 4.500 IN, ID 2.875 IN

MUD ADDITIVES: TYPE-MATERIAL FOR LOST CIRCULATION, 1100.00 COTN SED MULS #,

TYPE-VISCOSIFIERS, 3200.00 GEL LB,

TYPE-MATERIAL FOR LOST CIRCULATION, 1600.00 MULTISEAL LB,

TYPE-VISCOSIFIERS, 7.00 NEW DRL GAL,

TYPE-VISCOSIFIERS, 40.00 YP LB,

TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 160.00 DRISPAC LB,

TYPE-INHIBITORS FOR CORROSION, 3.00 415 GAL,

TYPE-DEFOAMERS, 20.00 ALUM STERATE LB,

TYPE-INHIBITORS FOR CORROSION, 5.00 777 GAL,

TYPE-MATERIAL FOR LOST CIRCULATION, 800.00 CEDAR FIBER LB,

CHRON TIME DISTRIBUTION (HRS):

2.00	-	000002,	DRL
0.25	-	000021,	RIG SERVICE
0.50	-	000006,	SURVEY
7.25	-	000002,	DRL
0.25	-	000006,	RIG SERVICE
7.75	-	000002,	DRL
0.25	-	000021,	RIG SERVICE
5.75	-	000002,	DRL

*** 08/13/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 10

OPERATIONS: TD 6743 FT, DRL, 698

MUD: DEPTH 5743 FT, LSND POLYMER, 8.9 PPG, VISC. 40, FL 3.9, PH 8.5, PV 11,

YP 8, GELS 3/10, SOLIDS 4.8%, CL 200, CA 100, MBT 10.0, FILTER CAKE 1,

PF 0.2, MF 0.3, PM 0.3, LCM CONC 5 LB/BBL

BIT AND HYDRAULICS: BIT #00007, 3.750 IN, 2BT3, JETS 10/10/10/-, 690 FT,

16.00 HRS, WOB 20, 75 RPM, SERIAL #101E05, PP 1650 PSI, 300 GPM,

PMP #1: SIZE 6.00 X 8.00 X 102 SPM

DEVIATION: DEPTH 6050 FT, INCL 1.00 DEG, DIR NOCE

DEPTH 6233 FT, INCL 1.00 DEG, DIR NOCE

DEPTH 6734 FT, INCL 0.75 DEG, DIR NOCE

TIME: DRL 16.00, TRIP 5.00, SURVEY 1.00, CIRC 1.00, SERVICE RIG 0.50,

OTHER: 0.50 HRS

COSTS: CUM MUD \$12350, DAILY WELL \$15072, CUM WELL \$141619

REMARKS: 300-500/0/200 BG/CG/TG

MUD ADDITIVES: TYPE-VISCOSIFIERS, 20.00 YP LB,

TYPE-VISCOSIFIERS, 3600.00 GEL LB,

TYPE-MATERIAL FOR LOST CIRCULATION, 2400.00 MULTISEAL LB,

TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 160.00 DRISPAC LB,

TYPE-DEFOAMERS, 23.00 ALUM STERATE LB,

TYPE-ALKALINITY, PH CONTROL, 80.00 LIME LB,

TYPE-VISCOSIFIERS, 6.50 NEW DRL GAL,

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TYPE-INHIBITORS FOR CORROSION, 1.50 415 GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1750.00 C.S. HULLS LB,
 TYPE-INHIBITORS FOR CORROSION, 2.50 777 GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 2000.00 CEDAR FIBER LB,

CHRON TIME DISTRIBUTION (HRS):

1.00 - 000018, CIRC
 0.50 - 000006, SURVEY
 0.50 - 000004, TO X TI
 0.50 - 000037, WASH 30 FT TO 6050 FT
 0.50 - 000002, DPL
 0.25 - 000021, RIG SERVICE
 1.75 - 000002, DPL
 0.50 - 000006, SURVEY
 0.50 - 000002, DPL
 0.25 - 000021, RIG SERVICE
 5.75 - 000002, DPL

*** 08/19/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-CL-C, API 300392380400, AUTH TO 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 11

OPERATIONS: TD 7368 FT, DPL, 625

MUD: DEPTH 7335 FT, LSND POLYMER, 9.3 PPG, VISC. 48, FL 10.0, PH 9.0, PV 11,
 YP 8, GELS 3/10, CL 200, CA 120, MBT 10.0, FILTER CAKE 2, PF 0.2, MF C.4,
 PV 0.3, LCM CONC 20 LB/BBL

BIT AND HYDRAULICS: BIT #000007, 8.750 IN, 2BT3, JETS 10/10/10/-, 1318 FT,
 33.00 HRS, WOB 20, 75 RPM, SERIAL #101E05, PP 1750 PSI, 300 GPM,

PMP #1: SIZE 6.00 X 8.00 X 102 SPM

DEVIATION: DEPTH 7253 FT, INCL 1.25 DEG, DIR NOOE

TIME: DRL 17.00, SURVEY 1.00, CIRC 5.50, SERVICE RIG 0.50

COSTS: CUM MUD \$12350, DAILY WELL \$11646, CUM WELL \$153265

REMARKS: 1500 UNITS 6590 FT; LOST 420 BBL; 1650 UNITS 6615 FT; 1800 UNITS 7012 FT; 4000 UNITS 7200 FT

MUD ADDITIVES: TYPE-VISCOSIFIERS, 7500.00 GEL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 400.00 MULTSEAL LB,
 TYPE-VISCOSIFIERS, 8.50 NEW DRL GAL,
 TYPE-DEFOAMERS, 25.00 ALUM STERATE LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 200.00 DRISPAC LB,
 TYPE-INHIBITORS FOR CORROSION, 5.00 777 GAL,
 TYPE-ALKALINITY, PH CONTROL, 100.00 LIME LB,
 TYPE-INHIBITORS FOR CORROSION, 4.00 415 GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 400.00 CEDAR FIBER LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 500.00 COTTN SED HULS#,

CHRON TIME DISTRIBUTION (HRS):

1.00 - 000002, DPL
 0.50 - 000006, SURVEY
 0.50 - 000002, DPL
 0.25 - 000021, RIG SERVICE
 7.75 - 000002, DPL

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0.25 - 000001, BIG SERVICE
 0.75 - 000002, DRL
 0.50 - 000005, SURVEY
 5.50 - 000019, MIX BAR X LCM
 2.00 - 000002, DPL

*** 08/20/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

 FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 12
 OPERATIONS: TD 7405 FT, WO WIRELINE, 37
 MUD: DEPTH 7405 FT, LSND POLYMER, 9.6 PPG, VISC. 47, FL 12.0, PH 8.3, PV 14,
 YP 10, GELS 3/12, SOLIDS 9.2%, CL 200, CA 80, MBT 10.0, FILTER CAKE 2,
 PF 0.2, MF 0.4, PM 0.4
 BIT AND HYDRAULICS: BIT #00007, 8.750 IN, 2DT3, JETS 10/10/10/-, 1355 FT,
 35.00 HRS, WOB 20, 75 RPM, SERIAL #101E05, PP 1750 PSI, 315 GPM,
 PMP #1: SIZE 6.00 X 8.00 X 102 SPM
 TIME: DRL 2.00, TRIP 0.50, LOC 0.75, COND MUD 5.75, OTHER: 15.00 HRS
 COSTS: CUM MUD \$12350, DAILY WELL \$20157, CUM WELL \$173422
 REMARKS: LOST RETURNS 7405 FT; LOST APPROX 1300 BBLs MUD; WO WIRELINE
 X PMP PILL EVERY 20 MIN
 MUD ADDITIVES: TYPE-VISCOSIFIERS, GEL 12900#
 TYPE-MATERIAL FOR LOST CIRCULATION, 1150.00 MICA LB,
 TYPE-MATERIAL FOR WEIGHTING, BAR 65800#
 TYPE-VISCOSIFIERS, 60.00 YP LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 6450.00 FIBER LB,
 TYPE-VISCOSIFIERS, 10.00 NEW DRL GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, HULLS 12000 LB
 TYPE-MATERIAL FOR LOST CIRCULATION, 7750.00 SAWDUST LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, MULTISEAL 12.3#

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000002, DRL
 0.75 - 000008, LOST CIRC
 0.50 - 000004, TO 5 STDS
 0.50 - 000020, MIX PILL/NO CIRC
 2.50 - 000020, MIX MUD VOLUME
 0.50 - 000020, PMP MUD/NO CIRC
 2.00 - 000020, MIX MUD VOL
 0.25 - 000020, PMP MUD/NO CIRC
 15.00 - 000037, WO WIRELINE: PMP PILL EVERY 20 MIN

*** 08/21/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

 FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 13
 OPERATIONS: TD 7405 FT, TRIP FOR BIT, FM GLLP

MUD: DEPTH 7405 FT, LSND POLYMER, 3.0 PPS, VISC. 45, FL 3.6, PH 3.0, PV 13,
 YP 13, GELS 2/2, SOLIDS 5.33, CL 200, CA 30, MBT 5.0, FILTER CAKE 1,
 PF 0.1, MF 0.3, PM 0.2, LCM CONC 6 LB/83L
 BIT AND HYDRAULICS: BIT #000037, 8.750 IN, 23T3, JETS 10/10/10/-, 1355 FT,
 35.00 HRS, WOB 20, 75 RPM, SERIAL #101E05, PP 1350 PSI, 315 GPM,
 PMP #1: SIZE 6.00 X 8.00 X 102 SPM

TIME: TRIP 6.00, WIRE LINE 2.00, CIRC 0.75, OTHER: 15.25 HRS

COSTS: CUM MUD #12350, DAILY WELL \$13246, CUM WELL \$135668

REMARKS: SW 147000; RUN RADIO ACTIVE TRACER TOOL; LOST CIRC
 AT 7380 FT: MIX SALT GEL SQ; PMP AWAY SALT GEL SQ; WD SQ;
 CIRC HOLE; TRIP FOR PLUG BIT

MUD ADDITIVES: TYPE-MATERIAL FOR LOST CIRCULATION, 1150.00 HULLS LB,
 TYPE-VISCOFIFIERS, 50.00 LINE LB,
 TYPE-VISCOFIFIERS, 4500.00 GEL LB,
 TYPE-VISCOFIFIERS, 2.50 NEWDRL LB,
 TYPE-OTHER, 1200.00 SALT GAL LB,
 TYPE-OTHER, 25.00 NEWWISE LB,
 TYPE-OTHER, 55.00 DISCAL LB,
 TYPE-VISCOFIFIERS, 40.00 YP,
 TYPE-MATERIAL FOR LOST CIRCULATION, 2500.00 FIBER LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1200.00 MULTI SEAL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 500.00 MICA LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 30.00 SAWDUST LB,

CHRON TIME DISTRIBUTION (HRS):

1.00 - 000037, WD WIRELINE
 1.00 - 000013, RUN TRACER LOG
 2.75 - 000037, MIX X PMP SQ
 0.75 - 000004, TO TC 5335
 1.75 - 000037, PMP ON SQ X PR UP
 12.50 - 000037, WD SQUEEZE
 0.75 - 000019, CIRC AT 5335
 3.50 - 000004, TRIP FOR PLUG BIT

*** 08/22/35 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

 FLAC 346569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 14
 OPERATIONS: TR 7740 FT, DRL, 335
 MUD: DEPTH 7405 FT, LSND POLYMER, 3.0 PPS, VISC. 44, FL 3.1, PH 3.0, PV 15,
 YP 12, GELS 4/12, SOLIDS 4.23, CL 200, CA 120, MBT 12.5, PF 0.1, MF 0.4,
 PM 0.1, LCM CONC 10 LB/83L
 BIT AND HYDRAULICS: BIT #000037, 8.750 IN, 23T3, JETS 10/10/10/-,
 DEPTH OUT 7405 FT, 1355 FT, 35.00 HRS, WOB 20, 75 RPM, SERIAL #101E05,
 PP 1350 PSI, 315 GPM, PMP #1: SIZE 6.00 X 8.00 X 102 SPM
 BIT #000003, 8.750 IN, B527, JETS 12/12/X /-, 335 FT, 15.25 HRS, WOB 40,
 72 RPM, SERIAL #0000004729, PP 1800 PSI, 315 GPM,
 PMP #1: SIZE 6.00 X 8.00 X 102 SPM
 TIME: DRL 15.25, TRIP 5.00, LOC 1.75, CIRC 0.25, SERVICE RIG 0.50,
 REAMING 1.25

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COSTS: CUM MUD \$12350, DAILY WELL \$15662, CUM WELL \$202330

REMARKS: 152000 SW/PHA; TRIP GAS 3375 UNITS AT 7425; BGG 1000-2000 UNITS
SHOWN AT 7675--3700 UNITS

MUD ADDITIVES: TYPE-VISCOFIFIERS, 5.00 NEW DRL GAL,
TYPE-VISCOFIFIERS, 9300.00 GEL LB,
TYPE-DEFOAMERS, 50.00 AL STERATE L2,
TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 250.00 DRISPAK LB,
TYPE-BIDCITES, 200.00 PARACIDE LB,
TYPE-ALKALINITY, PH CONTROL, 150.00 LIME LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 1250.00 DIACEL M LB,
TYPE-VISCOFIFIERS, 25.00 N-VIS L2,
TYPE-VISCOFIFIERS, 1300.00 SALT GEL LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 2450.00 HULLS LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 900.00 WICA LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 1800.00 MULTISEAL LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 1600.00 SAWDUST LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 3000.00 FIBER LB,
TYPE-VISCOFIFIERS, 40.00 YP LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 50.00 FILM LB,

CHRON TIME DISTRIBUTION (HRS):

2.00	-	000004,	TI
0.25	-	000020,	BREAK CIRC
2.00	-	000004,	TI TO 5010
1.75	-	000008,	CIRC BUILD VOLUME
1.00	-	000004,	TI TO 7015
1.25	-	000024,	WASH FROM 7015-7405
1.75	-	000002,	DRL
0.25	-	000021,	SERVICE RIG
7.75	-	000002,	DRL
0.25	-	000021,	SERVICE RIG
5.75	-	000002,	DRL

*** 08/23/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-01-0, APT 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 15

OPERATIONS: TD 3032 FT, WASH AT 7730 THRU BRIDGE, FM DKOT, 292

MUD: DEPTH 7790 FT, LSND POLYMER, 8.9 PPS, VISC. 48, FL 3.2, PH 3.5, PV 15,
YP 12, GELS 4/12, SOLIDS 4.2%, CL 200, CA 160, MBT 10.0, PF 0.1, MF 0.4,
PM 0.2, LCM CONC 6 LB/BAL

BIT AND HYDRAULICS: BIT #000008, 8.750 IN, 3527, JETS 12/12/X /-.

DEPTH OUT 8032 FT, 627 FT, 28.50 HRS, WOB 40, 72 RPM, CONDITION 3/3/I/-,

SERIAL #0000004729, PP 1800 PSI, 315 GPM,

PMP #1: SIZE 6.00 X 8.00 X 102 SPM

BIT #000009, 8.750 IN, J44, JETS 12/12/X /-, SERIAL #F624, PP 1800 PSI,
315 GPM, PMP #1: SIZE 6.00 X 3.00 X 102 SPM

DEVIATION: DEPTH 7894 FT, INCL 1.75 DEG, DIR N00E

TIME: DRL 13.75, TRIP 6.75, SURVEY 0.50, SERVICE RIG 0.50, REAMING 0.50,

LD DP & DC 0.50, OTHER: 0.25 HRS

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COSTS: CUM MUD \$12350, DAILY WELL \$7713, CUM WELL \$210043
 REMARKS: SW/SHA 145000/630; 13000 BGG; 2500-3000 U CONN GAS; DKOT CAME
 IN 112 FT HIGH 8022

MUD ADDITIVES: TYPE-VISCOUSIFIERS, 200.00 GEL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1350.00 SANDUST LB,
 TYPE-VISCOUSIFIERS, 5.00 NEWDRL GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 400.00 FIBER LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 300.00 DRISPAK LB,
 TYPE-VISCOUSIFIERS, 80.00 YP LB,
 TYPE-ALKALINITY, PH CONTROL, 50.00 LIME LB,
 TYPE-INHIBITORS FOR CORROSION, 5.00 AMINE GAL,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1080.00 MULTISEAL LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 100.00 FIC LB,
 TYPE-FOAMING AGENTS, 50.00 AL STERATE LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 200.00 MICA LB,

CHRON TIME DISTRIBUTION (HRS):

0.00 - 000000, DRL
 0.25 - 000021, RIG SERVICE
 4.75 - 000002, DRL
 0.25 - 000006, SURVEY
 3.75 - 000002, DRL
 0.25 - 000021, RIG SERVICE
 3.75 - 000002, DRL
 1.25 - 000019, CIRC SAMPLES 8032
 0.25 - 000037, MIX SLUG
 0.25 - 000006, SURVEY
 3.25 - 000004, TRIP
 0.50 - 000029, LD 4 DC
 3.00 - 000004, TI
 0.50 - 000024, WASH THRU BRIDGE AT 7730

*** 03/24/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

 FLAC 346569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 16

OPERATIONS: TD 8222 FT, DRL, 190

MUD: DEPTH 8040 FT, LSND POLYMER, 8.9 PPG, VISC. 54, FL 5.8, PH 3.5, PV 16,
 YP 13, GELS 4/11, SOLIDS 4.2%, CL 200, CA 160, MFT 12.5, PF 0.1, MF 0.4,
 PM 0.3, LCM CONC 5 LB/3BL

BIT AND HYDRAULICS: BIT 000009, 8.750 IN, J44, JETS 12/12/X /-, 190 FT,
 19.25 HPS, WOB 40, 65 RPM, SERIAL #F524, PP 1800 PSI, 315 GPM,
 PMP #1: SIZE 6.00 X 3.00 X 102 SPM

TIME: DRL 19.25, TRIP 0.50, RIG REPAIR 2.00, SERVICE RIG 0.75, REAMING 1.50
 COSTS: CUM MUD \$12350, DAILY WELL \$7910, CUM WELL \$217953

REMARKS: 150000 SW/SHA; BGG 150-200; CONN GAS 900-1100; SHORT TRIP GAS
 800 UNITS

MUD ADDITIVES: TYPE-VISCOUSIFIERS, 4500.00 GEL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1560.00 MULTISEAL LB,
 TYPE-VISCOUSIFIERS, 5.00 NEW DRL GAL,

TYPE-MATERIAL FOR WEIGHTING, 2500.00 BARITE LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 100.00 DRISPAC LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 1520.00 FIBER LB,
 TYPE-ALKALINITY, PH CONTROL, 50.00 LIME LB,
 TYPE-VISCOFIFIERS, YP LB 100
 TYPE-VISCOFIFIERS, 25.00 N. VIS LB,
 TYPE-DEFOAMERS, 250.00 AL STERATE LB,
 TYPE-INHIBITORS FOR CORROSION, 50.00 DESCO LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 100.00 FLC LB,

CHRON TIME DISTRIBUTION (HRS):

1.50 - 000024, REAM 7730-3032 FT
 2.30 - 000002, DRL
 0.25 - 000021, SERVICE RIG
 7.00 - 000003, DRL
 0.25 - 000021, SERVICE RIG
 6.50 - 000002, DRL
 0.25 - 000021, SERVICE RIG
 2.75 - 000002, DRL
 0.25 - 000004, TO 5 STDS
 2.00 - 000005, RIG REPAIR DWKS MTR
 0.25 - 000004, TO 5 STDS
 0.50 - 000002, DRL

*** 03/25/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 17

OPERATIONS: TD 8290 FT, CUT DRL LINE, 68

MUD: DEPTH 8239 FT, LSND POLYMER, 8.9 PPG, VISC. 58, FL 6.2, PH 8.5, PV 16,

YP 15, GELS 3/14, SOLIDS 4.2%, CL 207, CA 120, MBT 15.0, PF 0.1, MF 0.4,

PM 0.2, LCM CONC 3 LB/BSL

BIT AND HYDRAULICS: BIT #00079, 8.750 IN, J44, JETS 12/12/X /-,

DEPTH OUT 8290 FT, 253 FT, 32.75 HRS, WOB 40, 65 RPM, SERIAL #F624,

PP 1800 PSI, 315 GPM, PMP #1: SIZE 6.00 X 8.00 X 102 SPM

DEVIATION: DEPTH 8250 FT, INCL 0.50 DEG, DIR NOCE

TIME: DRL 13.50, TRIP 3.75, SURVEY 0.50, LOGGING 3.25, CIRC 2.50,

SERVICE RIG 0.25, CUT DRL LINE 0.25

COSTS: CUM MUD \$12750, DAILY WELL \$4411, CUM WELL \$222364

REMARKS: TOP OF MOPRISON 3230 FT; BGG 150-200; CONN 900-1100; TRIP 2160

MUD ADDITIVES: TYPE-VISCOFIFIERS, 7900.00 GEL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 120.00 FIBER LB,
 TYPE-VISCOFIFIERS, 5.00 NEW DRL GAL,
 TYPE-VISCOFIFIERS, 240.00 YP LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 50.00 DRISPAC LB,
 TYPE-DEFOAMERS, 250.00 AL STERATE LB,
 TYPE-THINNERS, DISPEPANTS, 150.00 DESCO LB,
 TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 200.00 FLC LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 520.00 MULTISEAL LB,
 TYPE-MATERIAL FOR LOST CIRCULATION, 280.00 MICA LB,

TYPE-MATERIAL FOR WEIGHTING, 3100.00 BARITE LB,
CHRON TIME DISTRIBUTION (HRS):

2.00 - 0000002, DRL
0.25 - 0000001, SERVICE RIG
11.00 - 0000000, DRL
0.50 - 0000004, SHORT TRIP & STD
2.50 - 0000019, CIRC FOR LOGS
00.30 - 0000003, SLUR PIPE DROP SURVEY
3.25 - 0000004, TD FOR LOGS
0.25 - 0000017, PH X RUN LOGS STOP AT 7813 FT
0.25 - 0000001, CUT DRL LINE

LOGS: 08/2/85, CALIPER LOG,
TOP DEPTH 558 FT, BTM DEPTH 8284 FT, BHT 173 F,
SERVICE COMPANY-SCHLUMBERGER
08/25/85, NEUTRON POROSITY LOG,
TOP DEPTH 558 FT, BTM DEPTH 8284 FT, BHT 173 F,
SERVICE COMPANY-SCHLUMBERGER
08/25/85, DENSITY POROSITY LOG,
TOP DEPTH 558 FT, BTM DEPTH 8284 FT, BHT 173 F,
SERVICE COMPANY-SCHLUMBERGER
08/25/85, GAMMA RAY LOG,
TOP DEPTH 558 FT, BTM DEPTH 8234 FT, BHT 173 F,
SERVICE COMPANY-SCHLUMBERGER
08/25/85, INDUCTION LOG,
TOP DEPTH 558 FT, BTM DEPTH 8234 FT, BHT 173 F,
SERVICE COMPANY-SCHLUMBERGER
08/25/85, SPONTANEOUS POTENTIAL LOG,
TOP DEPTH 558 FT, BTM DEPTH 8234 FT, BHT 173 F,
SERVICE COMPANY-SCHLUMBERGER

*** 08/26/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 346569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 18

OPERATIONS: TD 8290 FT, CIRC

MUD: DEPTH 8290 FT, LSND POLYMER, 8.9 PPS, VISC. 80, FL 7.2, PH 8.5, PV 16,
YP 18, GELS 6/15, SOLIDS 4.2%, CL 200, CA 100, MBT 15.0, PF 0.1, MF 0.3,
PM 0.2, LCM CONC 3 LB/BBL

TIME: TRIP 9.50, LOGGING 9.75, CIRC 4.25, CUT DRL LINE 0.50

COSTS: CUM MUD \$12350, DAILY WELL \$8196, CUM WELL \$230560

CASING: PRODUCTION, SET 3245 FT, 08/26/85, MAX OD 7.000, MIN ID 6.151

REMARKS: BG 150-200; TG 2100 UNITS: 1ST LOG TO 8284 DIL SP GR; 2ND LOG
TO 8284 FDC CNL GR

MUD ADDITIVES: TYPE-VISCOSIFIERS, 2300.00 GEL LB,
TYPE-MATERIAL FOR WEIGHTING, 3100.00 BARITE LB,
TYPE-VISCOSIFIERS, 10.00 NEW DRL GAL,
TYPE-MATERIAL FOR LOST CIRCULATION, 320.00 SAWDUST LB,
TYPE-FILTRATE REDUCERS (FLUID LOSS CONTROL), 50.00 CRISPAC LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 360.00 FIBER LB,

TYPE-VISCOFIFIERS, 25.00 N. VIS LB,
TYPE-VISCOFIFIERS, 240.00 YP LB,
TYPE-THINNERS, DISPERSANTS, 50.00 DESCO LB,
TYPE-DEFOAMERS, 50.00 AL STERATE LB,
TYPE-MATERIAL FOR LOST CIRCULATION, 320.00 MULTISEAL LB,

CHRON TIME DISTRIBUTION (HRS):

0.50 - 000022, CUT DRL LINE
3.50 - 000004, TI KNOCK OUT BRIDGE
2.00 - 000019, CIRC
3.75 - 000004, TO FOR LOGS
9.75 - 000017, RU X RUN LOGS
2.25 - 000004, TI
2.25 - 000019, CIRC

DETAIL: BOTTOM 7265.5 FT, 7.000 IN, WT 26.00 #/FT,
GRADE K55, CONNECTION 8 RD LTSC, NO OF JTS. 170
TOP 7265.5 FT, BOTTOM 8241.6 FT, 7.000 IN, WT 26.00 #/FT,
GRADE K55, CONNECTION 8 RD STSC, NO OF JTS. 24

TOOLS: TYPE-NON-RIGID CENTRALIZERS, TOP 3363.0 FT, BOTTOM 8225.0 FT,
NO. OF TOOLS 20, NAME-N RIGID CENT
TYPE-DV TOOL, TOP 3962.2 FT, BOTTOM 3964.4 FT,
NO. OF TOOLS 1, NAME-DV TOOL
TYPE-FLOAT COLLAR, TOP 3204.7 FT, BOTTOM 8205.7 FT,
NO. OF TOOLS 1, NAME-FLOAT COLLAR
TYPE-GUIDE SHOE, TOP 8244.1 FT, BOTTOM 8245.1 FT,
NO. OF TOOLS 1, NAME-GUIDE SHOE

PRIMARY CEMENTING REPORT: STAGE 1, BATCH 1, API CLASS B,
POZ-MIX, VOL 550 SX,
SLURRY DENSITY 12.3 PPG,
HOLE FLUID DENSITY 8.9 PPG, TYPE-MUD,
AVG. DISPLACEMENT PRES 400 PSI,
AVG. DISPLACEMENT RATE 6.0 BPM,
PRE-FLUSH WATER, 10 BBLs, DENSITY 8.4 PPG,
DISPLACEMENT FLUID-OTHER, DENSITY 13.9 PPG,
PIPE MOVEMENT-RECIPROATE,
VOL CIRC. OUT 100 BBLs,
RETURN FLOW 75.0%
STAGE 1, BATCH 2, API CLASS B,
POZMIX, VOL 600 SX,
SLURRY DENSITY 13.9 PPG,
HOLE FLUID DENSITY 8.9 PPG, TYPE-MUD,
AVG. DISPLACEMENT PRES 600 PSI,
AVG. DISPLACEMENT RATE 8.0 BPM,
PRE-FLUSH OTHER, 100 BBLs, DENSITY 12.3 PPG,
DISPLACEMENT FLUID-WATER, DENSITY 3.3 PPG,
PIPE MOVEMENT-RECIPROATE,
VOL CIRC. OUT 120 BBLs,
RETURN FLOW 75.0%
STAGE 2, BATCH 1, API CLASS B,
POZ-MIX, VOL 1200 SX,
SLURRY DENSITY 13.5 PPG,
HOLE FLUID DENSITY 8.9 PPG, TYPE-MUD,
AVG. DISPLACEMENT PRES 500 PSI,

STAGE 2, BATCH 1, API CLASS B,
PCZ-MIX, VOL 1200 SX,
SLURRY DENSITY 13.5 PPG,
HOLE FLUID DENSITY 8.9 PPG, TYPE-MUD,
AVG. DISPLACEMENT PRES 500 PSI,

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AVG. DISPLACEMENT RATE 9.0 BPM,
PES-FLUSH WATER, 10 PPLS, DENSITY 8.4 PPG,
DISPLACEMENT FLUID-WATER, DENSITY 8.3 PPG,
PIPE MOVEMENT-STATIONARY

ADDITIVES:

TYPE--RETARDER, H24 35.00 LB
TYPE--WEIGHT REDUCER, GILSONITE 6875 LB
TYPE--LOST CIRCULATION CONTROL, OILCEL D 150.00 FT3
TYPE--ACCELERATOR, SALT 2945 LB
TYPE--WEIGHT REDUCER, GEL 12.00 SX
TYPE--LOST CIRCULATION CONTROL, FLICEL 150.00 LB
TYPE--FILTRATION OR WATER LOSS CONTROL, HALAD9 323.00 LB
TYPE--ACCELERATOR, SALT 5892 LB
TYPE--WEIGHT REDUCER, GEL 24.00 SX
TYPE--LOST CIRCULATION CONTROL, CAL SEAL 91.00 SX
TYPE--LOST CIRCULATION CONTROL, FLOCCEL 300.00 LB

*** 03/27/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FOUR CORNERS 4, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 19

OPERATIONS: TD 8290 FT, PBTD 8245, RREL: SI: WOSU, FM MORRISON

MUD: DEPTH 8290 FT, LSND POLYMER, 8.3 PPG

TIME: CSG & CMT 15.75, CIRC 0.50, LD DP & DC 4.75

COSTS: CUM MUD \$12350, DAILY WELL \$178653, CUM WELL \$409213

REMARKS: RREL C300 HR 082785: 1ST STAGE 75% RETURNS; 2ND STAGE 0 RETURNS
3MP PLUG

MUD ADDITIVES: TYPE-MATERIAL FOR WEIGHTING, 2500.00 BARITE LB,
CHRON TIME DISTRIBUTION (HRS):

0.50 - 000019, CIRC
4.75 - 000029, LDDP X DC
0.75 - 000011, CHG RAMS X RU CASERS
6.50 - 000011, RUN 7 INCH CSG
1.50 - 000011, CMT 1ST STAGE
2.00 - 000011, OPEN DV TOOL X CIRC
1.00 - 000011, CMT 2ND STAGE
1.00 - 000011, RD HOWCO
3.00 - 000011, SET SLIPS CUT CSG CLEAN PITS

*** 03/23/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 20

OPERATIONS: TD 8290 FT, PBTD 8245, SI: WOSU

COSTS: CUM MUD \$12350, CUM WELL \$409213

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*** 07/10/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 21

OPERATIONS: TD 8290 FT, PBTD 8245, SI: WJSU

COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 08/30/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 22

OPERATIONS: TD 8290 FT, PBTD 8245, SI: WJSU

COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 09/03/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 26

OPERATIONS: TD 8290 FT, PBTD 8245, SI: WJSU

COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 09/04/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 27

OPERATIONS: TD 8290 FT, PBTD 8245, SI: WJSU

COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 09/05/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 28

OPERATIONS: TD 8290 FT, PBTD 8245, SI: WJSU

COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 09/06/85 ***

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JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 19
OPERATIONS: TD 8290 FT, P3TD 8245, SI: WDSU
COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 09/03/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 32
OPERATIONS: TD 8290 FT, P3TD 8245, SI: WDSU
COSTS: CUM MUD \$12350, CUM WELL \$409213

*** 09/10/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 33
OPERATIONS: TD 8245 FT, P3TD 8205, MIRUSU
PERTINENT DATA: RIG MOVE ON 09/10/85, RIG RELEASED 10/15/85
COSTS: CUM MUD \$12350, DAILY WELL \$421563, CUM WELL \$830776
RIG CONTRACT DATA: CONTRACTOR BA CODE 755051, DRAKE, RIG #0019, SERVICE UNIT

*** 09/11/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 34
OPERATIONS: TD 8245 FT, P3TD 8205, NU BOP
COSTS: CUM MUD \$12350, CUM WELL \$830776
CHRON TIME DISTRIBUTION (HRS):
5.00 - 000037, MIRUSU
19.00 - 000037, SIFN

*** 09/12/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 35
OPERATIONS: TD 8245 FT, P3TD 8205, DRL BY TOOL
COSTS: CUM MUD \$12350, DAILY WELL \$7000, CUM WELL \$837776

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CHRON TIME DISTRIBUTION (HRS):

6.00 - 000037, MU SPUDLS X BOP
3.00 - 000004, PICK UP TBG X TI
1.00 - 000037, TAG CMT 3935 FT
2.50 - 000037, DRL CN DV 4014 FT
12.50 - 000037, SD FOR NIGHT

*** 09/13/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 36

OPERATIONS: TD 8245 FT, PBTD 8205, PR TST X ROLL HOLE

COSTS: CUM MUD \$12350, DAILY WELL \$5000, CUM WELL \$842776

REMARKS: CLEAN OUT TO 8215 FT

CHRON TIME DISTRIBUTION (HRS):

4.00 - 000037, DRL DV TOOL
5.00 - 000004, TI PICK UP TBG
1.00 - 000037, DRL CMT
14.00 - 000037, SIFN

*** 09/14/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 37

OPERATIONS: TD 8245 FT, PBTD 8215, SI, FM WILDCAT

COSTS: CUM MUD \$12350, DAILY WELL \$14646, CUM WELL \$257422

REMARKS: PR TST CSG X BOP TO 3900 PSI OK; RUN CBL 8215-3000

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000037, CIRC HOLE X 310 BBL
2.50 - 000004, TC
10.50 - 000037, RUN CBL X 1000 PSI
9.00 - 000037, SIFN

*** 09/15/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 38

OPERATIONS: TD 8245 FT, PBTD 8215, SI

COSTS: CUM MUD \$12350, CUM WELL \$357422

*** 09/16/85 ***

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JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 39

OPERATIONS: TD 8245 FT, PSTD 8215, PERF DKOT

COSTS: CUM MUD \$12350, CUM WELL \$857422

REMARKS: SI

PERFORATIONS: 09/16/85, TOP 8169 FT, BOTTOM 8190 FT, TYPE-OPEN,
SHOTS/FT: 4, PERF DIAM. 0.500 IN, TOTAL NO. SHOT 64,
GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG,
FLUID TRT-WATER, DENSITY 8.3 PPG, LEVEL 7000 FT

*** 09/17/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 40

OPERATIONS: TD 8245 FT, PSTD 8215, SWB TST

COSTS: CUM MUD \$12350, DAILY WELL \$11032, CUM WELL \$868454

REMARKS: SET PKT 8070; 1 SWB RUN; REC 0 FLUID; NO GAS; FLUID LEVEL
7800; MORNING TBG PR VACUUM

CHRON TIME DISTRIBUTION (HRS):

2.50	-	000004,	TI TBG
1.50	-	000037,	BLOW HOLE AT 7000 FT
2.50	-	000004,	TD TBG
1.50	-	000037,	PERF 8169-8190
2.50	-	000004,	TI PKR X TBG
1.00	-		SWB
12.50	-		TST

*** 09/18/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 41

OPERATIONS: TD 8245 FT, PSTD 8215, SWB TST

COSTS: CUM MUD \$12350, DAILY WELL \$27208, CUM WELL \$895662

REMARKS: 51 BLW; 189 BLWTR; SKN 8168-8190 FT X 240 BSL 2% KCL WT; FM
BROKE 1780 PSI; ISIP 950; AVG RATE 16 BPM; AVG PSI 5000;
ISIP 1600; 5 MIN 1400; 10 MIN 1050; 15 MIN 975; FLW 51 BW
4.5 HP; SI 11 HR; TP C

CHRON TIME DISTRIBUTION (HRS):

1.00	-	000037,	SWB
4.50	-	000037,	WD TRUCKS
3.00	-	000037,	PKN
4.50	-	000037,	FLW WELL
11.00	-	000037,	SI

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*** 09/19/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 346569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 42

OPERATIONS: TD 8245 FT, PBTD 8215, SWB TST

COSTS: CUM MUD \$12350, DAILY WELL \$6518, CUM WELL \$902180

REMARKS: BLW 113; PLWTR 71; MADE 23 SWB RUNS; FL 4000; FFL 4500; TP 0;
NO SIGN OF GAS OR OIL

CHRON TIME DISTRIBUTION (HRS):

11.00 - 000037, SWB

13.00 - 000037, SI

*** 09/20/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 346569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 43

OPERATIONS: TD 8245 FT, PBTD 8215, SWB TST

COSTS: CUM MUD \$12350, DAILY WELL \$10189, CUM WELL \$912369

REMARKS: 71 BLW; 63 BNW; MADE 28 SWB RUNS; REC 139 BBL TOTAL; NO GAS; NO
OIL; FL 2100; FFL 4500 FT; TP 0; PKR SET 4070 FT

CHRON TIME DISTRIBUTION (HRS):

12.00 - 000037, SWB

12.00 - 000037, SI

*** 09/21/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 346569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 44

OPERATIONS: TD 8245 FT, PBTD 8215, SI

COSTS: CUM MUD \$12350, DAILY WELL \$12035, CUM WELL \$924404

REMARKS: BP HUNG UP 3455 FT; WOULD NOT SET; PULLED OFF X LEFT HALLIBURTON
EZE DRL BP; BAKER SETTING TOOL; PETRO COLLAR LOCATOR IN HOLE;
TI 3.125 OVERSHOT; PULLED 16000 OVER X WOULD SLIP OFF; TD; SD
FOR NIGHT

CHRON TIME DISTRIBUTION (HRS):

2.50 - 000004, TO TBG X PKR

1.50 - 000037, WIRELINE BP

1.00 - 000037, WORK BP

2.00 - 000037, LOAD HOLE X WT

1.00 - 000004, TI OVERSHOT

1.50 - 000004, TO OVERSHOT

13.50 - 000037, SD FOR NIGHT

*** 09/22/85 ***

CAPILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 45
 PERATIONS: TD 8245 FT, PSTD 8215, SI
 OST: CUM MUD \$12350, CUM WELL \$924404
 HRON TIME DISTRIBUTION (HRS):
 24.00 - 000037, SI

*** 09/23/85 ***

CAPILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 46
 PERATIONS: TD 8245 FT, PSTD 8215, RETRIEVE BP
 OST: CUM MUD \$12350, CUM WELL \$924404
 HRON TIME DISTRIBUTION (HRS):
 24.00 - 000037, SI

*** 09/24/85 ***

CAPILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 47
 PERATIONS: TD 8245 FT, PSTD 8215, PERF GALLUP
 OST: CUM MUD \$12350, DAILY WELL \$1973, CUM WELL \$926377
 REMARKS: HOWCO BP EZE DRL 8020 FT
 HRON TIME DISTRIBUTION (HRS):
 1.00 - 000004, TI OVERSHOT
 1.50 - 000004, TI OVERSHOT X TOOLS
 1.00 - 000004, TI BIT
 3.50 - 000002, DRL BP
 2.00 - 000004, TI TO 8213 FT
 2.00 - 000004, TD
 1.00 - 000037, PR TST 1500 PSI BP
 12.00 - 000037, SD FOR NIGHT
 PERATIONS: 09/24/85, TOP 6980 FT, BOTTOM 7320 FT, TYPE-OPEN,
 SHOTS/FT. 1, PERF DIAM. 0.480 IN, TOTAL NO. SHOT 340,
 GUN-NGN-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG,
 FLUID TRT-WATER, DENSITY 8.4 PPG, LEVEL 5910 FT,
 CONTINUOUS PERFORATIONS

*** 09/25/85 ***

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JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846759-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 43

OPERATIONS: TD 8245 FT, PSTD 8215, PERF 6848-6980

COSTS: CUM MUD \$12350, DAILY WELL \$6508, CUM WELL \$932385

REMARKS: START OF PERF FL 5910; END OF GUN #12 FL 5580

CHRON TIME DISTRIBUTION (HRS):

1.50 - 000004, TI TBS 6000 FT

1.50 - 000037, PLW HOLE ON

1.50 - 000037, TD

8.00 - 000037, PERF 6980-7320

11.50 - 000037, SIFN

PERFORATIONS: 09/25/85, TOP 6848 FT, BOTTOM 6980 FT, TYPE-OPEN,
SHOTS/FT. 1, PERF DIAM. 3.430 IN, TOTAL NO. SHOT 132,
GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG,
FLUID TRT-WATER, DENSITY 8.4 PPG, LEVEL 5600 FT,
CONTINUOUS PERFORATIONS

*** 09/26/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 49

OPERATIONS: TD 8245 FT, PSTD 8020, TST GLLP FOR PROD

COSTS: CUM MUD \$12350, DAILY WELL \$27782, CUM WELL \$960667

REMARKS: 175 BLW; 146.43 BLWTR; 8.3 BND; PKR 6738 FT; BKN 6848-7320 FT X
321.43 BBL 2% KCL WT; FM RPK ; ISIP ; AVG RATE 15; MAX RATE
15.7; AVG PR 3700; MAX PR 3940; ISIP 1300; 5 MIN 1140; 10 MIN
1090; 15 MIN 1040; WELL HAD 125 PSI CSG PR AFTER GUN RUN NO. 12;
FLW 15.5 HP; TP 465; SEP 361; STATIC 6.1; DIFF 2.0; MCFD 445;
PLATE 1.375 INCH; TEMP 63 DEG; CH 24/64

CHRON TIME DISTRIBUTION (HRS):

4.00 - 000037, PERF 6848-6980 FT

2.50 - 000004, TI PKR X TBS

2.00 - 000037, PRKN 6848-7320 FT

15.50 - 000037, FLW WELL

*** 09/27/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 50

OPERATIONS: TD 8245 FT, PSTD 8020, TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$3350, CUM WELL \$964027

REMARKS: BLW 14; BLWTR 132.43; BND 8.3; TP 195; MCFD 324; STATIC 5.4;
DIF 5; SEP PR 191; TEMP 50; PLATE .875; CH 30/64; FLW 24 HR;

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*** 09/28/85 ***

ICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 51
OPERATIONS: TD 8245 FT, PRD 8020, FLW TST
COSTS: CUM MUD \$12350, CUM WELL \$964027
REMARKS: BLW 5; BLWTR 127; BND 7; TBG PR 51; MCFD 263; STATIC 2.5;
DIFF 7.3; SEP PR 51; TEMP 86; PLATE .875; CH 32/64; 24 HR FLW;

*** 09/29/85 ***

ICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 52
OPERATIONS: TD 8245 FT, PRD 8020, FLW TST (/
COSTS: CUM MUD \$12350, CUM WELL \$964027
REMARKS: BLW 2; BLWTR 125; BND 5; TP 65; MCFD 221; STATIC 2.4;
DIFF 6.4; SEP PR 46; TEMP 80; PLATE .875; CH 32/64; 24 HR
FLW

*** 09/30/85 ***

ICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 53
OPERATIONS: TD 8245 FT, PRD 8020, TD X PKR X FRAC
COSTS: CUM MUD \$12350, CUM WELL \$964027
REMARKS: TP 50; MCFD 173; STATIC 2.4; DIFF 5.1; SEP PR 4.6; TEMP 70;
PLATE .875; CH 32/64; 24 HR FLW
COMPL, RECOMPL, REPAIR OPERATIONS: 09/30/85, TYPE-FLUID TREATMENT,
TOP DEPTH 6848 FT, BOTTOM 7320 FT
FLUID TREATMENT: NO. 1, OTHER FRAC, 308000 GALS,
INJ PRES 1850 PSI, INJ RATE 64.00 BPM,
INJ STRING-CASING,
DISP. FLUID 258.0 BBL, OTHER,
INIT SITP 1648 PSI,
SITP AFT 1341 PSI
TREATMENT COMPONENTS: BASE FLUID,
KCL, 2.00 %
GELLING AGENT,
WG11, 30.00 LB/1000OGL
PROPPING AGENT,
20-40 SN, 2.00 PPG/123KGL
TRACER MATERIAL,
IRIDIUM 192, 1.00 ML/1K LBSN

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OTHER,
GBW3 BREAKER, 30.00 LB/303K GAL
OTHER,
LOSURE SURF, 1.00 LB/1000GL
OTHER,
SP BREAKER, 100.00 LB/303K GL

*** 10/01/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 54

OPERATIONS: TD 8245 FT, PBTD 8020, SI

COSTS: CUM MUD \$12350, DAILY WELL \$60862, CUM WELL \$1024889

REMARKS: BLWTR 7592; FRAC GLLP X 308346 GAL 300 GEL WTR; CONTAINING

2% KCL; 1 GAL SURF PER 1000 GAL FLUID; 287500 LB 20-40 SN AS

FOLLOWS: 115000 GAL PAD; 70000 GAL 1 PPG; 123000 GAL 2PPG;

FLUSH X 10845 GAL; ISIP 1648; 5 MIN 1429; 10 MIN 1378;

15 MIN 1341; MAX PR 1983; AVG PR 1850; AIR 64 BPM; SI TO STAB

*** 10/02/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 55

OPERATIONS: TD 8245 FT, PBTD 8020, FLW BACK AFTER FRAC

COSTS: CUM MUD \$12350, CUM WELL \$1024889

REMARKS: SI TO STAB; PREP TO FLW BACK AFTER FRAC

*** 10/03/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 56

OPERATIONS: TD 8245 FT, PBTD 8020, FLW BACK FRAC

COSTS: CUM MUD \$12350, DAILY WELL \$3220, CUM WELL \$1028109

REMARKS: 525 BLW REC; 7067 BLWTR; 36 HR SICP 825; FLW THRU .25 INCH CH

FOR 10 HR; REC 480 BLW; FLW THRU SEP 12 HR; REC 45 BLW; CP 320

SEP 85; STATIC 3.1; DIFF 3.3; MCFD 47.8; PLATE .50; CH .25;

SEP TEMP 81 DEG; TRACE SN

*** 10/04/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

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FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 57
OPERATIONS: TD 8245 FT, PBTD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$1400, CUM WELL \$1029509
REMARKS: 509 BLW REC; 6558 BLWTR; 24 HR TST: 509 BW; 0 BO; CP 580; SEP
91; STATIC 3.2; DIFF 6.6; MCFD 154.3; PLATE .625; 1/4 INCH CH
SEP TEMP 68 DEG

*** 10/05/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 58
OPERATIONS: TD 8245 FT, PBTD 8020, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$2280, CUM WELL \$1031739
REMARKS: 1022 BLW REC; 5536 BLWTR; 24 HR TST: 0 BO; CP 460; SEP 157;
STATIC 4.1; DIFF 5.9; MCFD 454.5; PLATE 1 INCH; CH 32/64; SEP
TEMP 96 DEG

*** 10/06/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 59
OPERATIONS: TD 8245 FT, PBTD 8020, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, CUM WELL \$1031789
REMARKS: 489 BLW REC; 5047 BLWTR; 22 BND; 23 HR TST; 22 BO; CP 250;
SEP 157; STATIC 4.1; DIFF 7.0; MCFD (542.4); PLATE 1 INCH; CH
32/64; SEP TEMP 100 DEG; 1 HR ST TO CO SEP

*** 10/07/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 60
OPERATIONS: TD 8245 FT, PBTD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, CUM WELL \$1031789
REMARKS: 187 BLW REC; 4565 BLWTR; 3 BND; 23 HR TST; 3 BO; CP 210; SEP 193;
STATIC 4.4; DIFF 6.0; MCFD (499.7); PLATE 1 INCH; CH 32/64; SEP
TEMP 110 DEG; 1 HR ST TO CO SEP

*** 10/08/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

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FLAC 846569-C1-0, API 300322380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 61
OPERATIONS: TD 8245 FT, PBD 8020, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$3052, CUM WELL \$1034348
REMARKS: BLW 39; BLWTR 4776; BND 7; 23.75 HR TST; SW 39; 30 7;
CP 190; SEP PR 149; STATIC 4; DIFF 4.6; MCFD 349; PLATE 1;
CH 32/64; SEP TEMP 34 DEG; TRACE SN

*** 10/09/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300322380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 62
OPERATIONS: TD 8245 FT, PBD 8020, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$5000, CUM WELL \$1039348
REMARKS: 59 BLW REC; 4717 BLWTR; 5 BND; 23 HR TST; WT 59; 30 5; CP 140;
SEP PR 129; STATIC 3.6; DIFF 5.5; MCFD 374; PLATE 1; CH 42/64
SEP TEMP 120 DEG; HAS NOT MADE ANY WT IN LAST 12 HR

*** 10/10/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300322380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 63
OPERATIONS: TD 8245 FT, PBD 8020, CK FOR FILL
COSTS: CUM MUD \$12350, DAILY WELL \$3200, CUM WELL \$1043048
REMARKS: BLW 39; BLWTR 4763; TAG SN 7620; MADE 9 SWB RUNS; REC 39 BLW
WTR GAS CUT; FLW 3 HR X DIED; SI

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000037, CK FOR FILL
1.00 - 000004, PU
5.00 - 000037, SWB WELL
3.00 - 000037, FLW WELL
13.00 - 000037, SI

*** 10/11/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300322380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 64
OPERATIONS: TD 8245 FT, PBD 8020, FLW TST GLLP
COSTS: CUM MUD \$12350, DAILY WELL \$2652, CUM WELL \$1045700
REMARKS: 229 BLW; 4639 BLWTR; 6.6 BND; FLW 5 HR; RAN TRACER SURVEY;
FLW 13 HR; CPF 720; TPF 260; SEP 118; SEP TEMP 104 DEG; STATIC
3.6; DIFF 5.6; PLATE 1 INCH; CH 13/64; MCFD 381.5
CHRON TIME DISTRIBUTION (HRS):

5.00 - 000037, FLW WELL
6.00 - 000037, PUN TRACER SURVEY
13.00 - 000037, FLW WELL

*** 10/12/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 65
OPERATIONS: TD 8245 FT, PRTD 8020, FLW TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1045700
REMARKS: FLW 24 HR; CSG FLW 550; TBG 220; SEP 118; STATIC 3.6;
BLWTR 4639; BNO 25; DIFF 6.3; MCFD 429.3; PLATE .1; CH 20/64;
TEMP 17 DEG

*** 10/13/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 66
OPERATIONS: TD 8245 FT, PRTD 8020, FLW TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1045700
REMARKS: BLW 33; BLWTR 4606; BNO 40; FLW 24 HR; CSG FLW 545; TBG 165;
SEP PR 111; STATIC 3.5; DIFF 5; MCFD 331; PLATE 1; CH 20/64;
TEMP 103 DEG

*** 10/14/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 67
OPERATIONS: TD 8245 FT, PRTD 8020, FLW TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1045700
REMARKS: BLW 34; BLWTR 4572; BNO 0; FLW 24 HR; CSG 520; TBG 160; SEP
PR 111; STATIC 3.5; DIFF 4.8; MCFD 318; PLATE 1; CH 20/64;
TEMP 84

*** 10/15/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 19, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 68
OPERATIONS: TD 8245 FT, PRTD 8020, RUN PWP X RODS
COSTS: CUM MUD \$12350, DAILY WELL \$20365, CUM WELL \$1066065

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REMARKS: 11.6 PLW; 4560.4 BLWTR; TBG LANDED AT 7385 FT; FLW 15 HR; CPF
500; TPF 300; SEP 61; STATIC 3.7; DIFF 6.3; MCEB 147; TEMP 8 DEG
PLATE 1 INCH; CH 40/64; TOTAL 33 PWD TO DATE 122.5
CHRON TIME DISTRIBUTION (HRS):
4.00 - 000037, BLOW WELL ON
2.00 - 000037, LAND TBG
3.00 - 000037, PU TO RUN RODS
15.00 - 000037, FLW TST

*** 10/16/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 69

OPERATIONS: TD 8245 FT, PSTD 8020, RREL; SET PMP JACK TO TST

COSTS: CUM MUD \$12350, DAILY WELL \$1400, CUM WELL \$1067465

REMARKS: TBG AT 7385; SEAT NIPPLE ON BTM; RAN 196.75 RODS X 97 .875 RODS

CHRON TIME DISTRIBUTION (HRS):

4.50 - 000037, RUN PMP X RODS

1.00 - 000037, SPACE PMP

0.50 - 000037, RD

18.00 - 000037, RREL

*** 10/17/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 70

OPERATIONS: TD 8245 FT, PSTD 8020, SET UP PMP JACK

COSTS: CUM MUD \$12350, CUM WELL \$1067465

CHRON TIME DISTRIBUTION (HRS):

13.00 - 000037, SET PMP JACK

11.00 - 000037, SD FOR NIGHT

*** 10/18/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 71

OPERATIONS: TD 8245 FT, PSTD 8020, TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$1000, CUM WELL \$1068465

REMARKS: BLWTR 4560.4; FLW 17.5 HR; CP 82; TP 82; SEP 79; TEMP 84;

STATIC 3; DIFF 4.6; MCEB 261; PLATE 1; CH 40/64; PMP JACK

SHOULD BE RUNNING TODAY

CHRON TIME DISTRIBUTION (HRS):

6.50 - 000037, SET PMP JACK

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17.50 - 000037, FLW TST

*** 10/19/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 72
OPERATIONS: TD 8245 FT, PBTD 8020, TST GLLP
COSTS: CUM MUD \$12350, DAILY WELL \$13725, CUM WELL \$1082190
REMARKS: BLWT 4560.4; PMP X FLW 24 HR; CSG 79; TBG 79; SEP 79; TEMP
45 DEG; STATIC 3; DIFF 4; MCFD 227; /PLATE 1; CH 40/64; 4.5 SPM;
101 INCH STROKE LENGTH; PMP WILL NOT PMP UP
CHRON TIME DISTRIBUTION (HRS):
24.00 - 000037, PMP TST

*** 10/20/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 73
OPERATIONS: TD 8245 FT, PBTD 8020, TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1082190
REMARKS: BLWT 4560.4; PMP X FLW 24 HR; CP 73; TP 0; SEP 73; STATIC 2.9;
DIFF 3.6; MCFD 197; /PLATE 1; CH 40/64; TEMP 40 DEG; 4 SPM;
101 INCH STROKE LENGTH; PMP WILL PMP UP
CHRON TIME DISTRIBUTION (HRS):
20.00 - 000037, PMP TST
4.00 - 000037, FLW TST

*** 10/21/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 74
OPERATIONS: TD 8245 FT, PBTD 8020, TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1082190
REMARKS: PMP X FLW 24 HR; CP 83; TP 0; SEP 73; STATIC 2.9; DIFF 3.4;
MCFD 186.6; PLATE 1; CH 40/64; TEMP 32; 101 INCH LENGTH;
4SPM; PMP WILL NOT PMP UP
CHRON TIME DISTRIBUTION (HRS):
24.00 - 000037, TST

*** 10/22/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

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FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 75
OPERATIONS: TD 8245 FT, P3TD 8020, TST GLLP
COSTS: CUM MUD \$12350, DAILY WELL \$485, CUM WELL \$1082675
REMARKS: BLWR 4560.4; FLW 24 HR; CP 400; TP 75; SEP 73; STATIC 2.9;
DIFF 0; MCFD 0; PLATE 1; CH 40/64; TEMP 36 DEG; 101 FT
LENGTH; 4 SPM; PMP NOT PMPING; FL 3496 BY SONO LOG

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*** 10/23/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 76
OPERATIONS: TD 8245 FT, P3TD 8020, RESPACE PMP
COSTS: CUM MUD \$12350, DAILY WELL \$1947, CUM WELL \$1084622
REMARKS: ADDED 2 FT SUB; PMP BUMPING X SAW PMP ACTION; AS TBG LOADED
UP PMP LOST ACTION; SD FOR NIGHT

CHRON TIME DISTRIBUTION (HRS):

5.00 - 000037, MIRUSU
1.00 - 000037, SPACE OUT PMP
2.00 - 000037, PMP WELL
16.00 - 000037, SD FOR NIGHT

*** 10/24/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 77
OPERATIONS: TD 8245 FT, P3TD 8020, RUN TBG ANCHOR X NEW PMP
COSTS: CUM MUD \$12350, DAILY WELL \$7483, CUM WELL \$1092105
REMARKS: PMP WOULD PMP UP X RIG OR JACK; CHANGE 3.5 SPROCKET TO 12 INCH
SPROCKET; JACK WAS AT 6 SPM; PMP WOULD PMP UP

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000037, RESPACE PMP
1.00 - 000037, LOAD TBG X WTR
2.00 - 000037, WORK PMP X RIG
3.50 - 000037, PMP X PMP JACK
3.00 - 000037, X OUT SPROCKET ON JACK
12.00 - 000037, SIFN

*** 10/25/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 78

OPERATIONS: TO 8245 FT, PSTD 8020, TO RODS X TBG
COSTS: CUM MUD \$12350, DAILY WELL \$7483, CUM WELL \$1099588
REMARKS: PULLED 240 RODS; PULLED TBG; PULLED 32 RODS; TO TBG; SD FOR NIGHT
20 RODS X PMP STILL IN TBG; 70 JTS TBG STILL IN WELL

CHRON TIME DISTRIBUTION (HRS):

2.00 - 000037, PMP WELL
6.00 - 000037, BACK OFF RODS X TO RODS
1.50 - 000037, TO TBG
2.00 - 000037, BACK OFF POPS
1.50 - 000037, TO TBG
11.00 - 000037, SD FOR NIGHT

*** 10/26/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 79

OPERATIONS: TO 8245 FT, PSTD 8020, RUN PMP X RODS

COSTS: CUM MUD \$12350, DAILY WELL \$6392, CUM WELL \$1105980

REMARKS: CHANGE SPROCKET ON JACK TO 14 INCH

CHRON TIME DISTRIBUTION (HRS):

8.00 - 000037, FIN STRIPPING RODS
2.00 - 000037, TO TBG
1.00 - 000037, NU WH
13.00 - 000037, SD FOR NIGHT

*** 10/27/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, DRAKE 21, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 80

OPERATIONS: TO 8245 FT, PSTD 8020, PMP TST GALLUP

COSTS: CUM MUD \$12350, CUM WELL \$1105980

REMARKS: 111 BLW; 449.4 BLWT; 2.3 BND; PMP 17.5 HP; CP 150 LB; TP 110;

SEP 79; STATIC 3.0; DIFF 5.5; MCFD 312.3; PLATE 1.0 INCH;

48/64 CH; TEMP 62 DEG; SPM 6.5; SEX 15000 LB PULL ON TBG ANCHOR

CHRON TIME DISTRIBUTION (HRS):

6.50 - 000037, TO RODS X PMP
17.50 - 000037, PMP WELL

*** 10/28/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 81

OPERATIONS: TO 8245 FT, PSTD 8020, PMP TST GLLP

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COSTS: CUM MUD \$12350, CUM WELL \$1105980

REMARKS: 95 BLW: 4373.4 BLWTR: 3.3 BND: PMP 24 HR: CP 140: TP 95: SEP 79;
STATIC 3.0: DIFF 4.4: MCFD 249: PLATE 1.0: 48/64 CH: TEMP 53 DEG
SPM 6.5: 101 STROKE

CHRON TIME DISTRIBUTION (HRS):

24.00 - 000037, PMP WELL

*** 10/29/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 82

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, CUM WELL \$1105980

REMARKS: 32 BLW: 4.9 BND: PMP 24 HR: CP 135 L3: TP 90: SEP 79: STATIC 3.0
DIFF 4.2: MCFD 238: PLATE 1 INCH: 48/64 CH: TEMP 50 DEG: SPM 6.5
101 STROKE

CHRON TIME DISTRIBUTION (HRS):

24.00 - 000037, PMP WELL

*** 10/30/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 83

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$9788, CUM WELL \$1115768

REMARKS: PMP 24 HR: CP 140: TP 90: SEP 79: STATIC 3: DIFF 4: MCFD 227;
PLATE 1: CH 48/64: TEMP 52: SPM 6.5: 101 INCH STROKE;
16 BLW: BND 1.67

*** 10/31/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 84

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$1573, CUM WELL \$1117341

REMARKS: 9 BLW: 4296 BLWTR: 4.9 BND: PMP HR: CP 100: TP 35: SEP 79;
STATIC 3.0: DIFF 3.5: MCFD 204.4: PLATE 1.0 INCH: 48/64 CH:
TEMP 50 DEG: SPM 6.5: 101 STROKE

CHRON TIME DISTRIBUTION (HRS):

24.00 - 000037, PMP WELL

*** 11/01/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 85

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$7411, CUM WELL \$1124752

REMARKS: BLW 5; PLWTR 4291; ~~3NO .5~~; PMP 24 HR; CP 80; TP 80; SEP 79;STATIC 3; DIFF 3.7; ~~MCFD 211.5~~; PLATE 1; 48/64 CH; TEMP 59;

SPM 6.5; 101 STROKE

*** 11/02/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 86

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$709, CUM WELL \$1125460

REMARKS: ~~BWC 1.2~~; PMP 24 HR; CP 80; TP 80; SEP 79; STATIC 3; DIFF 3.5;

MCFD 198; PLATE 1; 48/64 CH; TEMP 37; SPM 7; 101 INCH STROKE

*** 11/03/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 87

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, CUM WELL \$1125460

REMARKS: PMP 24 HR; CP 80; TP 80; SEP 79; STATIC 3; DIFF 3.3; MCFD 187;

PLATE 1; 48/64 CH; TEMP 42; SPM 7; 101 INCH STROKE

*** 11/04/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 88

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, CUM WELL \$1125460

REMARKS: PMP 24 HR; CP 80; TP 80; SEP 79; STATIC 3; DIFF 3.2; MCFD 181;

PLATE 1; 48/64 CH; TEMP 40; SPM 7; 101 INCH STROKE

*** 11/05/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

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FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 89
OPERATIONS: TD 8245 FT, PSTD 8020, PIP TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$123460
REMARKS: PMP 24 HR; 30 O; BW O; CP 80; TP 80; SEP 79; STATIC 3;
DIFF 3.2; MCFD 183; 1.0 PLATE; 48/64 CH; 7 GPM

*** 11/06/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 90
OPERATIONS: TD 8245 FT, PSTD 8020, TST GLLP
COSTS: CUM MUD \$12350, DAILY WELL \$70719, CUM WELL \$187652
REMARKS: FLW 24 HR; 0 BW; 0 CP 80; TP 80; SEP 79; STATIC 3.0; DIFF
3.0; 170 MCFD; PLATE 1.00 INCH; 48/64 INCH CH; 40 DEG TEMP
SHOT SONOLOG FOR FL; FL AT 5764 FT; APPROX 1540 FT FOP

*** 11/07/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 91
OPERATIONS: TD 8245 FT, PSTD 8020, MIRUSU
PERTINENT DATA: RIG MOVE ON 11/07/85, RIG RELEASED 12/06/85
COSTS: CUM MUD \$12350, DAILY WELL \$4675, CUM WELL \$1837327
REMARKS: FLW 24 HR; 0 BW; 0 CP 70; TP 0; SEP 62; STATIC 2.7;
DIFF 3.6; MCFD 183; 1.0 PLATE; 48/64 CH; 31 DEG TEMP
RIG CONTRACT DATA: CONTRACTOR BA CODE 547541, FARMINGTON, RIG #0027,
SERVICE UNIT

*** 11/08/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 92
OPERATIONS: TD 8245 FT, PSTD 8020, TD X RODS X PMP
COSTS: CUM MUD \$12350, DAILY WELL \$2364, CUM WELL \$1839691
REMARKS: FLW 24 HR; 0 BW; 0 CP 60; TP 60; SEP 51; STATIC 2.5; DIFF
3.4; 161 MCFD; 1.0 INCH PLATE; 48/64 INCH CH; 40 DEG TEMP;
MIRUSU

*** 11/09/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

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FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 93
OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP
COSTS: CUM MUD \$12350, DAILY WELL \$585, CUM WELL \$1840276
REMARKS: 2 BLW: 4289 BLWTR: 3.7 BNO: TO X PODS X PMP: TI X NEW PMP X
RODS: PUT WELL ON PMP UNIT; PMP TST 14 HR: 2 BW: 3.7 BO: CP 110
TP 110: SEP 79: STATIC 3.0: DIFF 4.6: 261 MCFD: 1.00 INCH PLATE
50 DEG TEMP: 48/64 INCH CH: 5 SPM

*** 11/10/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 94
OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1840276
REMARKS: 4 BLW: 4285 BLWTR: 1.6 BNO: PMP TST 24 HR: 4 BW: 1.6 BO: CP 85
TP 85: SEP 79: STATIC 3.0: DIFF 3.7: 210 MCFD: 1 INCH PLATE
40 DEG TEMP: 48/64 INCH CH: 8 SPM

*** 11/11/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 95
OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1840276
REMARKS: 7 BLW: 4278 BLWTR: 3.4 BNO: PMP TST 24 HR: 7 BW: 3.4 BO: CP 71
TP 71: SEP 64: STATIC 2.7: DIFF 3.6: 189 MCFD: 1.00 INCH PLATE
48/64 INCH CH: 55 DEG TEMP

*** 11/12/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 96
OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP
COSTS: CUM MUD \$12350, CUM WELL \$1840276
REMARKS: 7 BLW: 4271 BLWTR: 3.2 BNO: PMP 24 HR: 7 BW: 3.2 BO: CP 71: TP
71: SEP 61: STATIC 2.7: DIFF 3.7: 189 MCFD: PLATE 1.00 INCH
48/64 INCH CH: 42 DEG TEMP: 7 SPM

*** 11/13/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 87

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$2107, CUM WELL \$1842393

REMARKS: BLW 3; BLWTR 4253; PMP TST 24 HP; 0 BW; CP 71; TP 71; SEP 55;
STATIC 2.7; DIFF 3.5; 143 MCFD; 1.0 PLATE; 43/64 CH; 40 DEG
TEMP; 7 SPM

*** 11/14/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 98

OPERATIONS: TD 8245 FT, PBTD 8020, PMP TST GALLUP

COSTS: CUM MUD \$12350, DAILY WELL \$4961, CUM WELL \$1347344

REMARKS: 6 BLW; 4257 BLWTR; 1.7 BNO; PMP TST 21 HR; 6 BW; 1.7 BO; CP 70
TP 70; SEP 62; STATIC 2.7; DIFF 3.4; 174 MCFD; 1.00 INCH PLATE;
43/64 INCH CH; 30 DEG TEMP; 7 SPM; DN 3 HR TO REPAIR BELTS;
SHOT FL; ONLY 160 FT FDP

*** 11/15/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 99

OPERATIONS: TD 8245 FT, PBTD 8020, TO X RODS X PMP, FM GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$936, CUM WELL \$1848280

REMARKS: BLW 9; BLWTR 4248; BNO 1.6; PMP TST 24 HP; 9 BW; 1.6 BO;
CP 115; TP 115; SEP 104; STATIC 3.4; DIFF 4.2; 270 MCFD;
1 INCH PLATE; 43/64 CH; 44 DEG TEMP; 7 SPM

*** 11/16/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 100

OPERATIONS: TD 8245 FT, PBTD 8020, SI, FM GLLP

COSTS: CUM MUD \$12350, DAILY WELL \$5138, CUM WELL \$1953418

REMARKS: TO X RODS X PMP; TO X TRG; SIFW

*** 11/17/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 101
OPERATIONS: TD 8245 FT, PBTD 8020, SIFW
COSTS: CUM MUD \$12350, CUM WELL \$1853413

*** 11/18/85 ***

ICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 102
OPERATIONS: TD 8245 FT, PBTD 8020, SET BP
COSTS: CUM MUD \$12350, CUM WELL \$1853418
REMARKS: SIFW

*** 11/19/85 ***

ICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 103
OPERATIONS: TD 8245 FT, PBTD 8020, TD X TRG
COSTS: CUM MUD \$12350, DAILY WELL \$4065, CUM WELL \$1857486
REMARKS: WIRELINE SET A RETR BP AT 5925; PR TST BP TO 3000; HELD OK; *Retract*
TD X TRG TO 5000; UNLOAD HOLE X N2; SIFW
PERFORATIONS: 11/19/85, TOP 5752 FT, BOTTOM 5792 FT, TYPE-OPEN,
SHOTS/FT. 4, PERF DIAM. 0.480 IN, TOTAL NO. SHOT 160,
GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG,
FLUID TRT-WATER, DENSITY 8.4 PPG, LEVEL 4950 FT,
CONTINUOUS PERFORATIONS

*** 11/20/85 ***

ICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 104
OPERATIONS: TD 8245 FT, PBTD 8020, FRAC MV
COSTS: CUM MUD \$12350, DAILY WELL \$17384, CUM WELL \$1874870
REMARKS: TD X TRG; PERF AT LOOKOUT 5752 FT TO 5792 FT; NO HALLIBURTON TO
FRAC; SD FOR NIGHT
CMPL, RECOMPL, REPAIR OPERATIONS: 11/20/85, TYPE-FLUID TREATMENT,
TOP DEPTH 5752 FT, BOTTOM 5792 FT
FLUID TREATMENT: NO. 1, FOAM FRAC, 75000 GALS,
INJ PRES 1850 PSI, INJ RATE 30.00 BPM,
INJ STRING-CASING,
ETSP. FLUID 215.0 PPL, OTHER,
SITP AFT 1930 PSI

TREATMENT COMPONENTS: AIR, NITROGEN, GAS,
N2 1352500 SCF
GELLING AGENT,
WG-11 GEL, 500.00 LB
PROPPING AGENT,
20-40 MESH BRADY SN, 30.00 X LB
TRACER MATERIAL,
IRIDIUM 192, 45.00 ML
CLAY CONTROL,
KCL, 2.00 %
EMULSIFIER,
L730RF 259 SUPP, 30.00 GAL
OTHER,
HOWCO SUB FOAMER, 110.00 GAL
OTHER,
HYG3 BUFFER, 50.00 LB
OTHER,
K34 BUFFER, 150.00 LB

*** 11/21/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 105
OPERATIONS: TD 8245 FT, P3TD 8020, SI TO LEFT FRAC HEAL
COSTS: CUM MUD \$12350, DAILY WELL \$50241, CUM WELL \$1925111
REMARKS: BLWTR 1840; FRAC PT LOCKOUT DN CSG X 75000 GAL 75 QUAL FORM X
90000 LB SN AS FOLLOWS: 20000 GAL PAD; 20000 GAL AT 1PPG;
35000 GAL AT 2PPG X 215 EBL FLUSH; ISIP 1930; 5 MIN 1900;
10 MIN SIP 1880; 15 MIN SIP 1870; AVG RATE 30 BPM;
AVG PR 1250; MAX PR 2100; MIN PR 1720; SI

*** 11/22/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 106
OPERATIONS: TD 8245 FT, P3TD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$4392, CUM WELL \$1929503
REMARKS: SICP 1700

*** 11/23/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 107

OPERATIONS: TD 8245 FT, P8TD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$5417, CUM WELL \$1934920
REMARKS: 250 BLW; 1690 BLWTR; OPEN UP X FLW BACK FRAC 19 HR; 250 BW;
O BO; CPF 675 LB; 8/64 INCH CH; STILL FLW BACK N2

*** 11/24/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 108
OPERATIONS: TD 8245 FT, P8TD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, CUM WELL \$1934920
REMARKS: 100 BLW; 1490 BLWTR; FLW 20 HR; 100 BW; O BO; CPF 550; 8/64 INCH
CH; STILL FLW BACK N2; MAKING SOME GAS--WELL WOULD FLARE
OCCASIONALLY

*** 11/25/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 109
OPERATIONS: TD 8245 FT, P8TD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, CUM WELL \$1934920
REMARKS: 53 BLW; 1437 BLWTR; FLW 17.5 HR; 53 BW; O BO; CPF 260; SEP 111
STATIC 3.5; DIFF 5.7; 378 MCFD; 1.00 INCH PLATE; 16/64 INCH
CH; 48 DEG TEMP

*** 11/26/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 110
OPERATIONS: TD 8245 FT, P8TD 8020, FLW BACK FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$1652, CUM WELL \$1936572
REMARKS: FLW 24 HR; 41 BW; CP 220; O BO; SEP 111; STATIC 3.5; DIFF 4.4
MCF 291.5; PLATE 1.0; CH 16/64; RUN TEMP 46 DEG; 41 BLW;
1096 BLWTR

*** 11/27/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 111
OPERATIONS: TD 8245 FT, P8TD 8020, FLW BACK FRAC

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COSTS: CUM MUD \$12350, DAILY WELL \$687, CUM WELL \$1937259
REMARKS: 13 BLW: 1383 BLWTR: FLW 24 HR: 130 FCP: NA FTP: MCFD 193: PLATE
1.0 INCH: CH 16/64: TEMP 42 DEG F: SEP 79 PSI: STATIC 3.0;
DIFF 3.4

*** 11/23/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 112
OPERATIONS: TD 8245 FT, P3TD 5925, FLW WELL BACK
COSTS: CUM MUD \$12350, DAILY WELL \$2000, CUM WELL \$1939259
REMARKS: 7 BLW: 1376 BLWTR: 3.3 BND: BLOW WELL DN X TI X TAG FILL AT
5309 FT X 115 FT FILL X WD FOAM FOR CO X SI FOR THANKSGIVING
FLW 15 HR: FCP 75: FTP 53: MCF 165.6: PLATE 1.0 INCH: 48/64 CH
TEMP 30 DEG: SEP 51: STATIC 2.5: DIFF 3.5

*** 11/29/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 113
OPERATIONS: TD 8245 FT, P3TD 5925, FD SN X RUN TRACER SURVEY
COSTS: CUM MUD \$12350, CUM WELL \$1939259
REMARKS: 71 BLW: 1305 BLWTR: 24 HR FLW: FCP 55: STATIC 2.5: DIFF 3.0;
PLATE 1.25 INCH: CH 48/64: SEP 51: MCF 141.0: FTP 10: TEMP
32 DEG

*** 11/30/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 114
OPERATIONS: TD 8245 FT, P3TD 5925, FLW WELL BACK
COSTS: CUM MUD \$12350, DAILY WELL \$10854, CUM WELL \$1950113
REMARKS: 21 BLW: 1234 BLWTR: 12 HR FLW: ICP 150: ITP 100: MCF 313: PLATE
1-1/4 INCH: CH 32/64: SEP 46: TEMP 30 DEG: STATIC 2.4: DIFF
4.4: TI CO TO P3D 5925 X RAN TRACER SURVEY X RU SEP TO FLW WELL
OVER WEEKEND

*** 12/01/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 115
 OPERATIONS: TD 8245 FT, PBTD 5925, FLW WELL BACK
 COSTS: CUM MUD \$12350, DAILY WELL \$750, CUM WELL \$1950863
 REMARKS: 16 BLW: 1258 BLWTR: 24 HR FLW: ACP 150; ATP 60; MCFD 269; PLATE
 1-1/4 INCH; CH 32/64; SEP 50; TEMP 40 DEG; STATIC 2.5; DIFF 3.6

*** 12/02/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

 FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 116
 OPERATIONS: TD 8245 FT, PBTD 5925, TI TO TAG FOR FILL
 COSTS: CUM MUD \$12350, DAILY WELL \$750, CUM WELL \$1951613
 REMARKS: 16 BLW: 1252 BLWTR: 24 HR FLW: ICP 150; ITP 60; MCFD 161; PLATE
 3/4 INCH; CH 32/64; SEP 51; TEMP 38 DEG; STATIC 2.5; DIFF 6.1

*** 12/03/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

 FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 117
 OPERATIONS: TD 8245 FT, PBTD 5925, BLW WELL DN; TAG FOR FILL
 COSTS: CUM MUD \$12350, DAILY WELL \$12641, CUM WELL \$1964254
 REMARKS: .5 BLW: 1251.5 BLWTR: 9 HR FLW: ACP 300; ATP 175; MCFD 111;
 PLATE 1/2 INCH; CH 16/64; SEP 51; TEMP 45 DEG; STATIC 2.5;
 DIFF 9.5; TI X TAGGED 60 FT FILL X CD TO PBD OF 5925; FLW
 WELL BACK ON 1/4 INCH CH X INCREASE BACK PSI

*** 12/04/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

 FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 118
 OPERATIONS: TD 8245 FT, PBTD 5925, BLD WELL DN
 COSTS: CUM MUD \$12350, CUM WELL \$1964254
 REMARKS: BLW .5; BLWTR 1251; FLW 18 HR; ACP 175; ATP 158; MCFD 122;
 PLATE .5; CH 16/64; SEP 141; TEMP 40; STATIC 3.9; DIFF 6.7; TI;
 TAG 20 FT FILL X CLEAN OUT TO 5925; PULL UP TO 5720; HOOK UP
 SEP X FLW WELL BACK; NO SN

*** 12/05/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

 FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 119
 OPERATIONS: TD 8245 FT, PBTD 5925, LD RODS X EXCESS T36
 COSTS: CUM MUD \$12350, CUM WELL \$1964254
 REMARKS: 2 BLW; 24 HR FLW: ACP 250; ATP 200; MCFD 111; PLATE .5 INCH
 CH 19/64; SEP 150; TEMP 22 DEG; STATIC 4.0; DIFF 5.0; TI
 T408FT 10 FT FILL X CO TO 5925 X LANDED AT 5804

*** 12/06/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27, AMOCO PRODUCTION,

 FLAC 346569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 120
 OPERATIONS: TD 8245 FT, PBTD 5925, LD RODS X EXCESS PIPE MOVED
 COSTS: CUM MUD \$12350, DAILY WELL \$6417, CUM WELL \$1970671
 REMARKS: EXCESS PIPE MOVED TO 492 NO. 1; 12 HR FLW: ACP 0; ATP 115;
 MCFD 20; PLATE .25; CH 16/64; SEP 35; TEMP 33 DEG; STATIC 3.1;
 DIFF 5.7; LD 30 JT TBG X RIG REPAIR

*** 12/07/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

 FLAC 346569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 121
 OPERATIONS: TD 8245 FT, PBTD 5925, SI FOR WEEKEND
 COSTS: CUM MUD \$12350, CUM WELL \$1970671
 REMARKS: 1250.5 BLWTR; WELL SI OVER WEEKEND
 CHRON TIME DISTRIBUTION (HRS):
 1.00 - 000013, BLOW WELL DN
 6.00 - 000013, LD TBG X RODS
 1.00 - 000013, ND X NU WH
 2.00 - 000013, MOVE RIG TO JIC CONTRACT 492 NO. 1

*** 12/08/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

 FLAC 346569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 122
 OPERATIONS: TD 8245 FT, PBTD 5925, SI FOR WEEKEND
 COSTS: CUM MUD \$12350, CUM WELL \$1970671
 REMARKS: 1250.5 BLWTR; WELL SI OVER WEEKEND

*** 12/09/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 123
 OPERATIONS: TD 8245 FT, PSTD 5925, HOOK UP WH TO MANIFOLD SEP
 COSTS: CUM MUD \$12350, CUM WELL \$1970671
 REMARKS: 1250.5 BLWTR: WELL ST OVER WEEKEND HOOKING UP WH TO TST SEP TO
 FLW WELL BACK

*** 12/10/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

 FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 124
 OPERATIONS: TD 8245 FT, PSTD 5925, FLW WELL BACK X SEP
 COSTS: CUM MUD \$12350, DAILY WELL \$1957, CUM WELL \$1972628
 REMARKS: HOOKED UP SEP X WELL ST UNABLE TO GET TO LOC

*** 12/11/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

 FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 125
 OPERATIONS: TD 8245 FT, PSTD 5925, FLW WELL THRU SEP
 COSTS: CUM MUD \$12350, DAILY WELL \$1419, CUM WELL \$1974047
 REMARKS: BLW 609.5; BLWTR 1230.5; FLW 18.5 HR; ACP 500; ATP 500;
 MCFD 340; PLATE 1; CH 16/64; SEP 149; TEMP 30; STATIC 4;
 DIFF 4.5; SICP 890; SITP 640; FLUID LEVEL SHOT APPROX 440 FT
 OR 174 COLLARS NO FLUID; REC 20 BBL LAST 24 HR

*** 12/12/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

 FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 126
 OPERATIONS: TD 8245 FT, PSTD 5925, FLW WELL BACK THRU SEP
 COSTS: CUM MUD \$12350, DAILY WELL \$750, CUM WELL \$1974797
 REMARKS: 14 BLW: 1216.5 BLWTR: 24 HR FLW; ACP 320; ATP 180; MCFD 160;
 PLATE .525; CH 16/64; SEP 149; TEMP 30 DEG; STATIC 4.0; DIFF 5.5

*** 12/13/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

 FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 127
 OPERATIONS: TD 8245 FT, PSTD 5925, FLW THRU SEP

COSTS: CUM MUD \$12350, DAILY WELL \$750, CUM WELL \$1975547
REMARKS: FLW 15.5 HR; CGG FROZE: T2G 280; MCFD 134; PLATE .625; CH 16/64;
SEP PR 149; TEMP 28 DEG; STATIC 4; DIFF 4.5; WELL FROZE UP; SI
2030 HR 121255

*** 12/14/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 122
OPERATIONS: TD 8245 FT, P8TD 5925, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$739, CUM WELL \$1978286
REMARKS: FLW 16 HR; CP 350; TP 240; SEP 29 239; STATIC 5; DIFF 6;
MCFD 219; PLATE .625; CH 16/64; TEMP 30 DEG; WELL FREEZING OFF

*** 12/15/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 129
OPERATIONS: TD 8245 FT, P8TD 5925, FLW TST
COSTS: CUM MUD \$12350, CUM WELL \$1976286
REMARKS: BLW 10; BLWTR 1206.5; 2 HR FROZE; FLW 22 HR; TP 200; CP 330;
SEP PR 157; STATIC 4.1; DIFF 4.5; MCFD 137; PLATE .625;
CH 14/64; TEMP 20

*** 12/16/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 130
OPERATIONS: TD 8245 FT, P8TD 5925, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$2982, CUM WELL \$1979268
REMARKS: BLW 4; BLWTR 108.5; CP 338; TP 153; SEP 149; STATIC 4;
DIFF 4.7; MCFD 140; PLATE .625; CH 16/64; TEMP 20

*** 12/17/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 131
OPERATIONS: TD 8245 FT, P8TD 5925, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$280, CUM WELL \$1979546
REMARKS: BLWTR 1182.5; FLW 24 HR; BW 16; BO 0; CP 160; TP 350; SEP 149;

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STATIC 4; DIFF 4.5; MCF 132; .625 OFFICE; 16/84 CH; TEMP 30 DEG;

*** 10/18/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 132

OPERATIONS: TD 8245 FT, PBTD 5925, FLW TST

COSTS: CUM MUD \$12350, CUM WELL \$1979548

REMARKS: BLWTR 13; REC 5 BK; 80 0; CP 525; TP 170; SEP 150; STATIC 4;
DIFF 4.2; MCFD 125; PLATE .625; CH 32/64; TEMP GAS 30 DEG

*** 12/19/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 133

OPERATIONS: TD 8245 FT, PBTD 5925, SI

COSTS: CUM MUD \$12350, DAILY WELL \$3501, CUM WELL \$1983149

REMARKS: 661 BLW; 5 BLWTP; 8 BW; 0 BO; CP 350; TP 200; 149 SEP; STATIC
4.0; DIFF 4.8; MCF 93; .500 INCH PLATE; TEMP 34 DEG; CH 32/64

PROD TANK ON LOC HAS: 9 INCH WT FROZE; APPROX 147 30

CHRON TIME DISTRIBUTION (HRS):

6.00 - FLW TST

*** 12/20/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 134

OPERATIONS: TD 8245 FT, PBTD 5925, SI

COSTS: CUM MUD \$12350, CUM WELL \$1983149

*** 12/26/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 140

OPERATIONS: TD 8245 FT, PBTD 5925, SI

COSTS: CUM MUD \$12350, CUM WELL \$1983149

*** 12/27/85 ***

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JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 141
OPERATIONS: TD 8245 FT, PBTD 5925, SI
COSTS: CUM MUD \$12350, CUM WELL \$1983149

*** 12/30/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 144
OPERATIONS: TD 8245 FT, PBTD 5925, SI
COSTS: CUM MUD \$12350, CUM WELL \$1983149

*** 12/31/85 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 145
OPERATIONS: TD 8245 FT, PBTD 5925, SI
COSTS: CUM MUD \$12350, CUM WELL \$1983149

*** 01/02/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 147
OPERATIONS: TD 8245 FT, PBTD 5925, SI
PERTINENT DATA: RIG MOVE ON 01/02/86, RIG RELEASED 02/19/86
COSTS: CUM MUD \$12350, CUM WELL \$1983149
RIG CONTRACT DATA: CONTRACTOR BA CODE 547541, FARMINGTON, RIG #27A, SERVICE

*** 01/03/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 148
OPERATIONS: TD 8245 FT, PBTD 5925, TO X TBG
COSTS: CUM MUD \$12350, CUM WELL \$1983149
REMARKS: MISU X SPOT EQUIP; WAIT TO SET ANCHOR; RUSU; NO WH; NU BOPS
SI FOR NIGHT

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*** 01/04/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 149
OPERATIONS: TD 8245 FT, TO X BP
COSTS: CUM MUD \$12350, CUM WELL \$1983149
REMARKS: LOAD HOLE X 750 BBL 2%; TRY TO CIRC: COULD NOT: TO: PICK UP
RETR HEAD FOR RET BP: TI: TAG SN AT 5910 FT: CIRC SN OUT
X N2: REL RBP BLOW WELL DN: TO 8 STDS ABOVE ALL PERFS: SI
FOR NIGHT

*** 01/05/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 150
OPERATIONS: TD 8245 FT, PBTD 8215, SI
COSTS: CUM MUD \$12350, CUM WELL \$1983149
REMARKS: SICP 1250; BLEW WELL DN TO X TBS X RET BP: LEFT BTM 10 INCH
RET BP X 1 SLIP SEGMENT IN HOLE
CHRON TIME DISTRIBUTION (HRS):
2.00 - FLOW DN
2.00 - TRIP
3.00 - WOO

*** 01/06/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 151
OPERATIONS: TD 8245 FT, PBTD 8215, TI PUSH BTM RBP TO BTM
COSTS: CUM MUD \$12350, DAILY WELL \$2850, CUM WELL \$1985999
REMARKS: SI SUNDAY

*** 01/07/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 152
OPERATIONS: TD 8245 FT, PBTD 8020, TI: FISH FOR MILL
COSTS: CUM MUD \$12350, DAILY WELL \$4250, CUM WELL \$1990249
REMARKS: TI X 6-1/8 INCH MILL: TAG FISH AT 5954 FT: PUSH TO 7111 FT
WORKED COULD NOT GET AWAY DEEPER: PULLED 40000 OVER STRING
WEIGHT TO GET OFF BTM: TO X TBS: LEFT 6-1/8 INCH MILL ON BTM

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KILLED WELL 6 TIMES; PMP 250 BBL 2% KCL TO KEEP WELL DEAD

*** 01/01/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TO 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 153

OPERATIONS: TD 8245 FT, PBTD 8020, TI X TAPPER TAP

COSTS: CUM MUD \$12350, DAILY WELL \$6706, CUM WELL \$1996935

REMARKS: BLW DN: KILL WELL 50 BBL 2% KCL; TI X BUMPER SUB X JARS;
TAG MILL X 7080; SCREW INTO MILL; TI; TAG SOLID AT 7104; BLEW
X N2; WORKED TO GET THROUGH SOLID SPOT AT 7104; JAR DN
TOOK 40000 LB PULL OVER STRING WT TO GET FREE; PMP 50 BBL
2% DN TBG; TO; LD MILL; MILL SHOWS POSSIBLE TIGHT SPOT IN CSG

*** 01/09/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TO 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 154

OPERATIONS: TD 8245 FT, PBTD 8020, SET CIBP

COSTS: CUM MUD \$12350, DAILY WELL \$6377, CUM WELL \$2003332

REMARKS: PU TI X 5-5/8 INCH TAPPER TAP; 5-3/4 INCH XOVER; JARS X
BUMPER SUB COULD NOT FEEL TIGHT SPOT AT 7104 FT; CONT TO TI
TO 7560 FT X TAG; 240 FT BELOW GLLP BTM PERF; TO; LD
NOTE: PUSHED BTM OF BAKER SERVICE TOOLS RET BP TO 7560 FT
PERFORATIONS: 01/09/86, TOP 5546 FT, BOTTOM 5566 FT, TYPE-OPEN,
SHOTS/FT. 4, PERF DIAM. 0.450 IN, TOTAL NO. SHOT 80, X
GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG,
FLUID TRT-WATER, DENSITY 8.4 PPG, LEVEL 4800 FT

*** 01/10/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TO 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 155

OPERATIONS: TD 8245 FT, PBTD 5610, PERF, FM CLIFF HOUSE

COSTS: CUM MUD \$12350, DAILY WELL \$3035, CUM WELL \$2006367

REMARKS: SET HALCO CIBP AT 5925 X 5610; TI X TBG TO 5000; LOAD HOLE
TEST CIBP AT 5610 TO 25000; TST OK; BLW WELL ON X N2;
TO X TBG; PERF CLIFFHOUSE 5546-5565; FL 4800; BLEW GUN UP HOLE
MADE 1 BIRD NEST X GUNS 600 FT IN HOLE X 1 BIRD NEST X GUN
246 FT IN HOLE; KICKED 1 HR AFTER PERF; 40 BLW; PMP 30 BBL 2%
TO KILL; UNLOAD 30 BBL 1.5 HR; NO TOOLS
PERFORATIONS: 01/10/86, TOP 5492 FT, BOTTOM 5503 FT, TYPE-OPEN,
SHOTS/FT. 4, PERF DIAM. 0.450 IN, TOTAL NO. SHOT 44,

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GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG,
FLUID TRT-WATER, DENSITY 8.4 PPG, LEVEL 4500 FT

*** 01/11/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 156

OPERATIONS: TD 8245 FT, PBTD 5600, SI

COSTS: CUM MUD \$12350, DAILY WELL \$11134, CUM WELL \$2017501

REMARKS: PERF 5492-5503; SI; PMP 70 BBL 2% KCL

*** 01/12/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 157

OPERATIONS: TD 8245 FT, PBTD 5600, SI

COSTS: CUM MUD \$12350, CUM WELL \$2017501

REMARKS: HEAT FRAC WTR

*** 01/13/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 158

OPERATIONS: TD 8245 FT, PBTD 5600, FRAC CLIFFHOUSE

COSTS: CUM MUD \$12350, DAILY WELL \$6522, CUM WELL \$2024023

REMARKS: SI

COMPL, RECOMPL, REPAIR OPERATIONS: 01/13/86, TYPE-FLUID TREATMENT,
TOP DEPTH 5492 FT, BOTTOM 5566 FT

FLUID TREATMENT: NO. 1, FOAM FRAC, 44000 GALS,

INJ PRES 2100 PSI, INJ RATE 30.00 BPM,

INJ STRING-CASING, TBG OD 7.000 IN, ID 6.276 IN

NO. 2, WATER FRAC, 8400 GALS,

INJ PRES 2300 PSI, INJ RATE 30.00 BPM,

INJ STRING-CASING, TBG OD 7.000 IN, ID 6.276 IN,

DISP. FLUID 200.0 FT3 AIR NITROGEN GAS,

SITP AFT 2300 PSI

TREATMENT COMPONENTS: AIR, NITROGEN, GAS,

NITRO 768500 SCF

GELLING AGENT,

WGLL GEL, 350.00 LB

TRACER MATERIAL,

RA 3N, 25.00 MILLICU

EMULSIFIER,

LOSURE 259, 15.00 GAL
OTHER,
HALCO SUDS FOAMER, 75.00 GAL
OTHER,
HYG-3 BUFFER PH, 50.00 LB
OTHER,
K-14 BUFFER PH, 150.00 LB
OTHER,
2% KCL MICRON FILTERED, 290.00 BBL
OTHER,
20-40 3 SN 580000
OTHER,
62W-3 BREAKER, 15.00 LB

*** 01/14/86 ***

JICAPILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 159
OPERATIONS: TD 8245 FT, PBTD 5600, FLW BACK FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$37210, CUM WELL \$2061233
REMARKS: 360 BLW; FRAC CLIFFHOUSE DN CSG X 40000 GAL OF 75% FOAM X
53000 LB 20-40 BRADY SN AS FOLLOWS: 10000 GAL PAD; 10000 GAL X
1 PPG SN; 24000 GAL X 2 PPG SN; FLUSHED X 50 BBL 2% KCL X
153000 SCFM2 = 200 BBL FLUSH COMBINED; TAG SN X 25 MILLICURIES
RA MARKER MATERIAL; BBL 2% USED TO PERF 70; BBL 2% USED TO FRAC
290 = 360 BLWTR

*** 01/15/86 ***

JICAPILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 160
OPERATIONS: TD 8245 FT, PBTD 5600, FLW BACK FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$8011, CUM WELL \$2069244
REMARKS: BLWTR 235; SICP 1500; OPEN WELL 1300 HR 1/4 CH; BLEW N2 1.5 HR
START UNLOAD WTR; 950 CP; FLW 15 HR; 300 CP AT 1700 HR;
EST 125 BLWR; NO SN; NO BURNABLE GAS

*** 01/16/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 161
OPERATIONS: TD 8245 FT, PBTD 5600, FLW TST THRU SEP
COSTS: CUM MUD \$12350, DAILY WELL \$3412, CUM WELL \$2072656

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REMARKS: 360 BLW; 169 BLWTR; TURNED THRU SEP AT 1000 HR-19 HR THRU SEP
66 BW; C PD; CP 246; SEP 129; STATIC 4.0; DIFF 4.0; MCFD 170
PLATE SIZE 3/4 INCH; CH 16/64; PERFS 5492 TOP DEPTH: 5503 BTM
DEPTH: 5546 TOP X 5556 PTM

*** 01/17/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 162

OPERATIONS: TD 8245 FT, PSTD 5600, FLW THRU SEP

COSTS: CUM MUD \$12350, DAILY WELL \$3498, CUM WELL \$2076154

REMARKS: 360 BLW; 114 BLWTR; 24 HR FLW; 55 BW; 0 BO; 219 CSG; NO TBS

219 SEP; STATIC 4.8; DIFF 4.5; 167.4 MCFD; PLATE .500 INCH

CH 16/64; RUN TEMP 30 DEG

CHRON TIME DISTRIBUTION (HRS):

24.00 - FLW TST

*** 01/18/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 163

OPERATIONS: TD 8245 FT, PSTD 5600, FLW TST THRU SEP

COSTS: CUM MUD \$12350, DAILY WELL \$2772, CUM WELL \$2078926

REMARKS: 360 BLW; 84 BLWTR; 1 BND; CP 240; (MCFD 162; PLATE SIZE .500

CH 16/64; 30 BLW; 1 NO; SEP 219; STATIC 4.8; DIFF 7.3; TEMP AT

METER RUN 28 DEG; TOP PERF 5492 FT; 5503 PTM PERF 44 SPF; TOP

PERF 5546 FT; 5556 BTM PERF; 80 SPF

CHRON TIME DISTRIBUTION (HRS):

24.00 - FLW TST

*** 01/19/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 164

OPERATIONS: TD 8245 FT, PSTD 5600, FLW TST THRU SEP

COSTS: CUM MUD \$12350, CUM WELL \$2078926

REMARKS: 360 BLW; 55 BLWTR; 1 BND; CP 220; MCFD 115; PLATE .500 INCH

CH 16/64; 19 BLW; 1 BND; SEP 200; STATIC 4.6; DIFF 5.4; TEMP AT

METER RUN 25 DEG

CHRON TIME DISTRIBUTION (HRS):

24.00 - FLW TST

*** 01/20/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

 FLAG 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 165
 OPERATIONS: TD 8245 FT, PBD 5600, TI TAG FOR FILL
 COSTS: CUM MUD \$12350, DAILY WELL \$1463, CUM WELL \$2080339
 REMARKS: 360 BLW; 47 BLWTR; 1.66 BND; CP 230; MCFD 127; PLATE .500 INCH
 CH 1-7/8; 18 BLW; 1.66 BND; SEP 150; STATIC 4.2; DIFF 6.5; TEMP
 AT METER RUN 20 DEG;

*** 01/21/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

 FLAG 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 166
 OPERATIONS: TD 8245 FT, PBD 5600, FLW TST
 COSTS: CUM MUD \$12350, DAILY WELL \$1463, CUM WELL \$2081852
 REMARKS: 360 BLW; 6 BLWTR; BLEW ON CSG 45 MIN; TI X 2-7/8 TBG; TO CIBP AT
 5610 FT; RU HALCO; BLEW WELL DRY X N2; REC EST 41 BLW; RD HALCO
 PULL UP TBG TO 5282; 210 FT ABOVE TOP PERF; RUN AFTER FRAC
 GR; SHOWS 50% FRAC WENT PERFS 5492-5503; 20% FRAC WENT 5546-
 5566 FT; SI FOR NIGHT

*** 01/22/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

 FLAG 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 167
 OPERATIONS: TD 8245 FT, PBD 5610, FLW TST
 COSTS: CUM MUD \$12350, DAILY WELL \$2977, CUM WELL \$2084829
 REMARKS: BLW 360; BNW 46; TBG END 5575; SICP 650; TP 500; OPEN WELL TO
 PIT 4 HR; TURN THRU SEP 1200 HR; 6 BLW; 46 BNW; 0 BD; CP 375;
 TP 200; SEP PR 150; STATIC 4; DIFF 5.0; MCFD 93.6; PLATE .5;
 16/64 CH; 30 DEG METER RUN TEMP

*** 01/23/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

 FLAG 846569-01-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 168
 OPERATIONS: TD 8245 FT, PBD 5610, FLW TST
 COSTS: CUM MUD \$12350, DAILY WELL \$5881, CUM WELL \$2090710
 REMARKS: 360 BLW; 63 BNW; 360 CP; 200 TP; 150 SEP; STATIC 4.0; DIFF 5.0
 146 MCFD; .625 PLATE SIZE; 16/64 CH; 35 DEG METER RUN TEMP;

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22 BNW
CHRON TIME DISTRIBUTION (HRS):
24.00 - FLW TST

*** 01/24/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 169

OPERATIONS: TD 8245 FT, PBTD 5610, FLW TST

COSTS: CUM MUD \$12350, DAILY WELL \$1915, CUM WELL \$2092625

REMARKS: FLW 24 HP; CP 350; TP 190; SEP 150; STATIC 4; DIFF 4;

MCFO 117; PLATE .625; 16/64 CH; 32 DEG METER RUN TEMP; 19 BNW;

BO 0; FLW 350; BNW 87

*** 01/25/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 170

OPERATIONS: TD 8245 FT, PBTD 3720, SI

COSTS: CUM MUD \$12350, CUM WELL \$2092625

REMARKS: BLW DN: TD X 2-7/8 TBG; RUWL; SET CIBP 3720 IN MIDDLE OF JT OF

CSG; TEST CIBP 2500; TI SWB FL DN 3000; SIFW

*** 01/26/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 171

OPERATIONS: TD 8245 FT, PBTD 3720, SI

COSTS: CUM MUD \$12350, CUM WELL \$2092625

*** 01/27/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-C, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 172

OPERATIONS: TD 8245 FT, PBTD 3720, TD X PERP

COSTS: CUM MUD \$12350, DAILY WELL \$3433, CUM WELL \$2096063

REMARKS: SI

PERFORATIONS: 01/27/86, TOP 3618 FT, BOTTOM 3626 FT, TYPE-OPEN,
SHOTS/FT. 4, PERP DIA. 0.450 IN, TOTAL NO. SHOT 32,
GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 120 DEG.

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FLUID TPT-WATER, DENSITY 8.4 PPG, LEVEL 3000 FT
 COMPL, RECOMPL, REPAIR OPERATIONS: 01/27/86, TYPE-FLUID TREATMENT
 FLUID TREATMENT: NO. 1, F1AM FRAC, 10000 GALS,

INJ PRES 1700 PSI, INJ RATE 30.00 BPM,
 INJ STRING-CASING, TBG ID 7.000 IN, ID 6.276 IN
 NO. 2, ACID FRAC, 5280 GALS,
 INJ PRES 1700 PSI, INJ RATE 30.00 BPM,
 INJ STRING-CASING, TBG ID 7.000 IN, ID 6.276 IN,
 DISP. FLUID 137.0 FT3 AIR NITROGEN GAS,

TREATMENT COMPONENTS: INIT SITP 2450 PSI
 AIR, NITROGEN, GAS,
 N2 276300 SCF
 GELLING AGENT,
 WG 11 GEL, 170.00 LB
 PROPPING AGENT,
 20-40 BRADY SN, 23000.00 LB
 EMULSIFIER,
 LD SURF 259 SURF, 3.00 GAL
 OTHER,
 BBR BACT, 2.00 GAL
 OTHER,
 GBW3 BREAKER, 5.00 LB
 OTHER,
 HALCO SUD, 40.00 GAL
 OTHER,
 HYG-3 BUFFER, 25.00 LB
 OTHER,
 K-34 BUFFER, 75.00 LB
 OTHER,
 2% KCL WT2, 7560.00 GAL

*** 01/28/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 173

OPERATIONS: TD 8245 FT, P3TD 3720, SI AFTER FRAC

COSTS: CUM MUD \$12350, DAILY WELL \$21193, CUM WELL \$2117256

REMARKS: DID NOT TAG SN X RA MATERIAL: BLW 180; TO: LD 58 JTS 2-7/A TBG;
 PERF 3618-3626; BLEW 1 PORT PLUG PERF; FRAC L PC DN CSG X 13000
 GAL 75% F1AM X 23000# 20-40 BRADY SN; STAGE 1 5000 GAL PAD;
 STAGE 2 3000 GAL X 1 PPG SN; STAGE 3 10000 GAL X 2 PPG SN;
 FLUSHED X 30 BBL 2% KCL X 56700 SCF N2; SI 24 HR;
 ISIP 2450; 5 MIN 2460; 10 MIN 2490; 15 MIN 2510

*** 01/29/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

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FLAC 846569-01-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 173

FLAC 846949-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 174
OPERATIONS: TD 8245 FT, PBTD 3720, TI X TRG
COSTS: CUM MUD \$12350, DAILY WELL \$6109, CUM WELL \$2123165
REMARKS: 180 BLW; WELL ST 20 HR AFTER FPLC 0900 HR 012386; 2300 LB CP
OPENED WELL TO PIT ON 1/8 INCH CH; 1400 HP 650 CP; WELL BLEW
DEAD 0100 HR 012986; NO GAS SHOW; NO BLW REC NO SN PROD

*** 01/30/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 175
OPERATIONS: TD 8245 FT, PBTD 3720, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$5305, CUM WELL \$2129171
REMARKS: BLW 340; BLWTR 340; TI X TRG; TRG SN AT 3238; 340 FT ABOVE PERF
CLEAN OUT X N2 TO CISP AT 3720; BLW WELL X N2 TO CLEAN UP;
MAKING GOOD SN; PULL UP TRG END 3148; 200 FT ABOVE PERF; SIFN
REC EST 40 BLW WHILE CLEANING OUT; END OF DAY SN WOULD CUT COKE
CAN 15 SECONDS

*** 01/31/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 176
OPERATIONS: TD 8245 FT, PBTD 3720, SWB X FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$2059, CUM WELL \$2131230
REMARKS: 180 BLW; 65 BLWTR; SIFN 160; TP 75; PMP 5 BBL; 2% DN TRG; TI;
TAG SN FILL AT 3705 FT; 79 FT BELOW BTM PERF; LAND TRG END AT
3823 FT; OPENED TRG ON 1/8 INCH CH; FLW 30 MIN X DIED; RU SWB;
IFL 1200 FT; FPL 2000; MADE 20 SWB RUNS; REC EST 120 BLW; SLIGHT
SHOW OF GAS LAST 8 RUNS; FIN CP 150; ST FOR NIGHT

*** 02/01/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 177
OPERATIONS: TD 8245 FT, PBTD 3720, SWB
COSTS: CUM MUD \$12350, CUM WELL \$2131230
REMARKS: 100 BLW; 125 BNW; SIFN 330; SITR 110; IFL 1200 FT; FPL 2000 FT
MADE 29 SWB RUNS; KICKED WELL OFF; FLW 30 MIN X LOGGED OFF; MADE
3 ADDL RUNS; WELL DEAD; ST FOR NIGHT; FINAL CP 240; REC EST
100 BK

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*** 02/02/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 173

OPERATIONS: TD 8245 FT, P3TD 3720, SI

COSTS: CUM MUD \$12350, CUM WELL \$2131230

REMARKS: 100 BLW; 360 BNW; SICP 470; SITP 140; IFL 1600 FT; MADE 23 SWB
RUNS; REC 135 BNW; PFL 3100 FT; SI FOR NIGHT

*** 02/03/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 179

OPERATIONS: TD 8245 FT, P3TD 3720, SWB

COSTS: CUM MUD \$12350, CUM WELL \$2131230

REMARKS: SI SUNDAY

*** 02/04/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 180

OPERATIONS: TD 8245 FT, P3TD 3720, SWB

COSTS: CUM MUD \$12350, DAILY WELL \$3096, CUM WELL \$2134326

REMARKS: 180 BLW; 310 BNW; SICP 650; SITP 220; MADE 5 SWB RUNS; IFL 2400;
KICKED WELL OFF AT 0930 AM; WELL FLW ON 1/8 INCH CH UNTIL
1900 FT; 9.5 HR NO MEASURABLE GAS X DIED; CP 470; TP 50; SICP
AT 0500 HR 020435 600 LB; REC .50 BNW FOR DAY

*** 02/05/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,

AMOCO W.I. 1.0000, DAYS FROM SPUD 181

OPERATIONS: TD 8245 FT, P3TD 3720, SET CTBP 3550

COSTS: CUM MUD \$12350, DAILY WELL \$4303, CUM WELL \$2138629

REMARKS: BLW 120; BNW 360; SICP 600; TP 0; KICKED WELL OFF 4 RUNS;

FLW TO PIT 2 HR; TURN THRU SEP 1.5 HR; CP 400; TP 200;

SEP PR 165; STATIC 4.2; DIFF 1.3; AVG MCFD 55; PLATE .625;

RUN TEMP 40; 10/64 CH; DIED; KICKED OFF X 2 ADD SWB RUNS; KICKED

OFF TO PIT 1.5 HR X DIED; REC 50 BNW; TO X TBG

PERFORATIONS: 02/05/86, TCP 3452 FT, BOTTOM 3496 FT, TYPE-OPEN,

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SHOTS/FT. 4, PERF DIAM. 0.500 IN, TOTAL NO. SHOT 176,
GUN-NON-EXPENDABLE, SIZE 4.000 IN, PHASING 180 DEG,
FLUID TRJ-WATER, DENSITY 8.4 PPG, LEVEL 2300 FT

*** 02/06/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 446569-C1-0, API 3003923A0400, AUTH TO 2371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 182
OPERATIONS: TO 3245 FT, FRAC UPPER PC
COSTS: CUM MUD 312350, DAILY WELL \$4660, CUM WELL \$2143289
REMARKS: SET HALCO CIBP AT 3550 FT: PR TST CIBP TO 2500 LB: TI: SWB
FL DN TO 2500 FT: TO: PERF UPPER PC: PREP TO FRAC IN AM
COMPL, RECOMPL, REPAIR OPERATIONS: 02/26/86, TYPE-FLUID TREATMENT,
TOP DEPTH 3452 FT, BOTTOM 3496 FT
FLUID TREATMENT: NO. 1, FOAM FRAC, 21400 GALS,
BREAKDOWN PRES 1850 PSI, BREAKDOWN RATE 30.00 BPM,
INJ PRES 1200 PSI, INJ RATE 30.00 BPM,
INJ STRING-CASING, TBG OD 7.000 IN, ID 6.276 IN
NO. 2, FOAM FRAC, 5208 GALS,
INJ PRES 1190 PSI, INJ RATE 30.00 BPM,
INJ STRING-CASING, TBG OD 7.000 IN, ID 6.276 IN,
DISP. FLUID 5208.0 BBL, WATER
TREATMENT COMPONENTS: AIR, NITROGEN, GAS,
N2, 440.00 K SCF
GELLING AGENT,
WG-11 GEL, 300.00 SX
PROPPING AGENT,
20-40 BRADN SY, 41600.00 LB
TRACER MATERIAL,
RA MATERIAL, 21.00 MCI
EMULSIFIER,
LD SURF 250, 10.00 GAL
OTHER,
EE4 BACTERIA, 2.00 GAL
OTHER,
GWB3 BREAKER, 5.00 LB
OTHER,
HALCO SUD, 45.00 GAL
OTHER,
HGY-3 BUFFER, 50.00 LB
OTHER,
K-34 BUFFER, 150.00 LB
OTHER,
2% KCL, 265.00 BBL

*** 02/07/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

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FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 183
OPERATIONS: TD 8245 FT, PBTD 3550, SI AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$23990, CUM WELL \$2167373
REMARKS: P1 TST 3000; FRAC UP PC ON CSG X 35400 GAL TOP FOAM X 41600 OF
20-40 BRADY SN; FLUSH X 5203 GAL 70% FOAM; ISIP 1140; 5 MIN 1110
10 MIN 1100; 15 MIN 1090; TAG FRAC SN 21 MCI RA MATERIAL

*** 02/08/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 184
OPERATIONS: TD 8245 FT, PBTD 3550, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$4013, CUM WELL \$2171232
REMARKS: 265 BLW; 265 BLWTR; SICP 1700 AT NOON 020786; FLW BACK FRAC ON
1/8 INCH CH; REC 0 BLW; 0 BNO; FLW BACK 17 HR; CP AT 0500 HR
020886 400 LB; SLIGHT SHOW OF BURNABLE GAS; NO SN
CHRON TIME DISTRIBUTION (HRS):
5.00 - SI AFTER FRAC
17.00 - FLW TST

*** 02/09/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 185
OPERATIONS: TD 8245 FT, PBTD 3550, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$1838, CUM WELL \$2173130
REMARKS: 265 BLW; 263.5 BLWTR; FLW BACK FRAC ON 1/8 INCH CH; REC 1.5 BLW
0 BNO; NO SN; 300 CP; SHOW OF GAS; FLARE WILL NOT STAY BURNING
WITHOUT FIRE POT
CHRON TIME DISTRIBUTION (HRS):
24.00 - FLW BACK FRAC

*** 02/10/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-01-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 186
OPERATIONS: TD 8245 FT, PBTD 3550, FLW BACK AFTER FRAC
COSTS: CUM MUD \$12350, DAILY WELL \$276, CUM WELL \$2173406
REMARKS: 265 BLW; 263.5 BLWTR; FLW TST; FLW BACK FRAC ON 1/8 INCH CH;
REC 0 WT; 0 B0; NO SN; CP 290; SHOW OF GAS; FLARE WILL NOT
STAY BURNING

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*** 02/11/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 187
OPERATIONS: TD 8245 FT, PRTD 3550, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$2341, CUM WELL \$2175747
REMARKS: FLW THRU 1/8 CH; 1 BLW; 0 BO; 200 CP AT 0400 HR; STARTED BURNING
STEADY GAS; WILL THRU THRU SEP

*** 02/12/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 188
OPERATIONS: TD 8245 FT, PRTD 3550, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$2039, CUM WELL \$2177736
REMARKS: 265 BLW; 209.5 BLWTR; FLW ON 1/8 INCH CH 8 HR; REC 10 BLW;
TURN THRU SEP 7 HR; REC 29 BLW; 0 BO; CP 220; SEP 51 LB; STATIC
2.5; DIFF 6.3; WCFD 111; 625 PLATE; 16/64 CH; SEP TEMP 38 DEG
STARTED MAKING SN; SHUT WELL IN 2 HR; OPENED BACK TO PIT ON
1/8 INCH CH 5 HR; REC 14 BLW; NO SN; CP 290; TOTAL REC 53 BLW

*** 02/13/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 189
OPERATIONS: TD 8245 FT, PRTD 3550, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$10583, CUM WELL \$2186369
REMARKS: PMF 20 BEL 2% DN CSG; TI X TBG; TAG FILL AT 3499; CLEAN OUT TO
3550 X N2; PULL TBG END UP 300 ABOVE PERF; RUN AFTER FRAC
GAMMA RAY; LAND TBG 3481; SIFN

*** 02/14/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 846569-C1-C, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 190
OPERATIONS: TD 8245 FT, PRTD 3550, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$2058, CUM WELL \$2190427
REMARKS: BLW 265; FLWTR 144; SI 0700 HR \$21385; SICP 800; SITP 300;
THRU SEP 15 HR AT 0600 HR \$21485; CP 500; TP 320; REC 101 BLW;

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0 80; SEP PR 269; STATIC 5.3; DIFF 6.6; MCFD 163.7;
.5 PLATE; 14/64 CH
CHRON TIME DISTRIBUTION (HRS):
15.00 - FLW TST

*** 02/15/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 345569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 191
OPERATIONS: TD 8245 FT, PSTD 3550, FLW TST
COSTS: CUM MUD \$12350, DAILY WELL \$4632, CUM WELL \$2195059
REMARKS: 264 BLW; 93 BLWTR; FLW TST 24 HR; REC 51 BLW; 0 80; TP 280 LB
CSG 420; STATIC 5.3; DIFF 3.2; PLATE SIZE .625; 14/64 CH; SEP
270; 124 MCFD
CHRON TIME DISTRIBUTION (HRS):
24.00 - FLW TST

*** 02/16/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 345569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 192
OPERATIONS: TD 8245 FT, PSTD 3550, FLW TST
COSTS: CUM MUD \$12350, CUM WELL \$2195059
REMARKS: 265 BLW; 54 BLWTR; REC 39 BLW; 0 80; MCFD 116.2; .625 PLATE
RUN TEMP 45 DEG; CP 410; TBG 290; STATIC 5.3; DIFF 3.0;
CH 14/64; SEP 269
CHRON TIME DISTRIBUTION (HRS):
24.00 - FLW TST

*** 02/17/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

FLAC 345569-C1-0, API 300392380400, AUTH TD 8371,
AMOCO W.I. 1.0000, DAYS FROM SPUD 193
OPERATIONS: TD 8245 FT, PSTD 3550, FLW TST
COSTS: CUM MUD \$12350, CUM WELL \$2195059
REMARKS: 269 BLW; 23 BLWTR; REC 31 BLW; CP 410; TP 290; SEP 269; STATIC
5.3; DIFF 3.0; 116.2 MCFD; .625 PLATE; 14/64 CH; RUN TEMP
48 DEG
CHRON TIME DISTRIBUTION (HRS):
24.00 - FLW TST

*** 02/18/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

 FLAC 846569-C1-0, API 300332380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 194
 OPERATIONS: TD 8245 FT, PBTD 3550, FLW TST
 COSTS: CUM MUD \$12350, DAILY WELL \$4113, CUM WELL \$2199172
 REMARKS: 269 BLW; 4 BNW; REC 23 BLW; 4 BNW; 400 LB CP; 290 LB TP; 270 LB
 SEP: 5.3 STATIC; 2.9 DIFF; 112 MCFD; .625 PLATE SIZE; 14/64 CH
 41 DEG RUN TEMP
 CHRON TIME DISTRIBUTION (HRS):
 24.00 - FLW TST

*** 02/19/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, FARMINGTON 27A, AMOCO PRODUCTION,

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 195
 OPERATIONS: TD 8245 FT, PBTD 3550, TD X TBG
 COSTS: CUM MUD \$12350, DAILY WELL \$1170, CUM WELL \$2200342
 REMARKS: 269 BLW; 27 BNW; REC 23 BNW; 0 BO; CP 400; TP 290; 269 SEP
 5.3 STATIC; 2.9 DIFF; 112.3 MCFD; .625 PLATE; 45 DEG RUN TEMP
 14/64 CH
 CHRON TIME DISTRIBUTION (HRS):
 24.00 - FLW TST

*** 02/20/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION.

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 196
 OPERATIONS: TD 8245 FT, PBTD 3550, RREL
 PERTINENT DATA: SUSPENDED 02/20/86
 COSTS: CUM MUD \$12350, DAILY WELL \$5991, CUM WELL \$2206333
 REMARKS: PMP 10 BRL 2% DN TBG; PULL 1 STD; SET STRING FLOAT X PKR IN
 WELL; ND FRAC HEAD; NU 3000 LB WH; PULL PKR X STRING FLOAT;
 RELAND TBG; SI; RDSU; COULD NOT MOVE OFF LOC BECAUSE OF MUD

*** 02/21/86 ***

JICARILLA CONTRACT 491 NO. 1, WILDCAT, , AMOCO PRODUCTION.

 FLAC 846569-C1-0, API 300392380400, AUTH TD 8371,
 AMOCO W.I. 1.0000, DAYS FROM SPUD 197
 OPERATIONS: TD 8245 FT, PBTD 3550, SI
 COSTS: CUM MUD \$12350, CUM WELL \$2206333

ROBERT L. BAYLESS

PETROLEUM PLAZA BUILDING
P. O. BOX 168
FARMINGTON, NEW MEXICO 87499
(505) 326-2659

Jicarilla 491 #1
Sec. 32-T28N-R2W
1585'FSL & 1505"FEL
Rio Arriba County, New Mexico

DAILY REPORT

- 8-18-87 Move in and rig up Bayless Rig 6. Lay flow lines. Blow down well. Nipple down Wellhead. Nipple up BOP. Trip out of hole with 2-7/8" tubing (108jts). Pick up 6-1/8" bit, bit sub, and 2-3/8" tubing. Trip in hole to bridge plug at 3550'. SDFN.
- 8-19-87 Rigged up air compressors. Drilled cast iron bridge plug at 3550' with mist. Pictured Cliffs formation providing water to mist. Trip in hole and tag bridge plug at 3720'. Drill on bridge plug at 3720' with air mist. Trip out of hole. Change out 6-1/8" bit. SDFN.
- 8-20-87 Trip in hole with new 6-1/8" bit on tubing. Drill remainder of bridge plug at 3720' with air mist. Trip in hole to bridge plug at 5610'. Drilled on plug remainder of day. Bit acting up. Trip out of hole. Bit had 1 cone missing. SDFN.
- 8-21-87 Trip in hole with mill on tubing. Mill on cone and bridge plug. Mill bridge plug at 5610' with air mist. Trip in hole to bridge plug at 5925'. (had 85 feet of sand on top of bridge plug.) SDFN.
- 8-22-87 Clean 85 feet of sand from top of bridge plug. Milled on bridge plug with air mist. Not making much progress with mill. Trip out of hole to examine mill. Mill was worn. SDFN.
- 8-23-87 SD. Sunday
- 8-24-87 Shut down. Rig repairs.
- 8-25-87 Shut down. Rig repairs.
- 8-26-87 Trip in hole with 6-1/8" bit on tubing. Drill on cast iron bridge plug at 5925'. Well started blowing from Gallup-bridge plug loose-let well blow down. SDFN.

- 8-27-87 Well blowing less. Start drilling on remainder of bridge plug. Strong gas blow died off. Bit became plugged. Tried to unplug bit. Plug would not come free. Trip out of hole. Float in bit sub damaged and plugged with shale and sand debris. Only one cone on bit was free. Wait on string float and bit. Trip in hole. Start drilling on bridge plug again. SDFN.
- 8-28-87 Drilled on bridge plug. No progress. Trip out of hole to check bit. Bit sub and bit twisted off in hole. Trip in hole with overshot. Recovered bit sub and bit. SDFN.
- 8-29-87 Trip in hole with mill on tubing. Drill remainder of bridge plug at 5925'. Well had no change in gas blowing. Tripped tubing to 7550'. (230' below Gallup perfs). Lay down 2-7/8" tubing. Trip 2-3/8" tubing in hole and land as follows:

<u>DESCRIPTION</u>	<u>LENGTH</u>	<u>DEPTH</u>
KB to landing point	8.80	0-9
234 jts, 2-3/8" 4.7#/ft J-55 EUE	7282.98	9-7292
used tubing		
Seating nipple	.75	7292-7293
1 jt 2-3/8" tubing	31.66	7293-7324
	<u>7324.19</u>	

Nipple down wellhead and nipple up BOP. Shut in well.
Release rig.

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9/8/87			
Company Robert L. Bayless				Connection none					
Pool Undesignated Pictured Cliffs Formation Undesignated Mesa Verde Undesignated Gallup				Pictured Cliffs, Mesa Verde, Gallup				Unit	
Completion Date 8/29/87		Total Depth 8284		Plug back TD 8205		Elevation 7115' GL		Farm or Lease Name JIC 491	
Csq. Size 7"	Wt. 26#	d 6.276"	Set At 8245	Perforations: From 3452 To 7320		Well No. 1			
Trq. Size 2-3/8"	Wt. 4.7#	d 2.375"	Set At 7324	Perforations: From To		Unit J	Sec. 32	Twp. 28N	Rye. 2W
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G.G. Multiple				Packer Set At none		County Rio Arriba			
Producing Thru annulus		Reservoir Temp. °F a		Mean Annual Temp. °F		Baro. Press. - P _a 12.0 (est)		State New Mexico	
L	H	G _g .65 (est)	% CO ₂	% N ₂	% H ₂ S	Prover	Meter Run	Taps	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI	10 days						0		1127	
1.	2" x .750"						0		375	65°
2.										
3.										
4.										
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	12.3650		387	.9952	.9608	1.039	4754
2.							
3.							
4.							
5.							

NO.	P _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.	
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.	
2.					Specific Gravity Separator Gas _____ X X X X X X X X	
3.					Specific Gravity Flowing Fluid _____ X X X X X	
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.	
5.					Critical Temperature _____ R _____ R	

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1323$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0977$
1		389	151,606	1145715		
2						
3				(calculated)		
4						
5						

Absolute Open Flow 5218* Mcfd @ 15.025			Angle of Slope θ _____	Slope, n .75
--	--	--	-------------------------------	--------------

Remarks: *tubing was logged off with water - test taken through casing - tubing annulus - slight mist of fluid throughout test - test is meaningless.

Approved By Division	Conducted By: David Ball	Calculated By: Kevin McCord	Checked By:
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ROBERT L. BAYLESS
JICARILLA 491 #1
GALLUP PRODUCTION TEST INFORMATION

ATTACHMENT #3

Date	Flowing Tubing Pressure (PSI)	Annulus Pressure (PSI)	Orifice Size (IN)	Static Reading	Differential Reading	Gas Produced (MCFPD)	Separator Pressure (PSI)	Oil Production (BBLs)	Water Production (BBLs)
10/11/85	260		1.000	3.6	5.6	382	118	0.0	229
10/12/85	220		1.000	3.6	6.3	429	118	0.0	0
10/13/85	165		1.000	3.5	5.0	331	111	0.0	33
10/14/85	160		1.000	3.5	4.8	318	111	0.0	34
10/15/85	200		1.000	2.7	6.8	347	61	0.0	12
10/18/85	82	82	1.000	3.0	4.6	261	79	0.0	0
10/19/85	79	79	1.000	3.0	4.0	227	79	0.0	0
10/20/85	0	73	1.000	2.9	3.6	197	73	0.0	0
10/21/85	0	83	1.000	2.9	3.4	187	73	0.0	0
10/27/85	110	150	1.000	3.0	5.5	312	79	3.3	111
10/28/85	95	140	1.000	3.0	4.4	249	79	3.3	96
10/29/85	90	135	1.000	3.0	4.2	238	79	4.9	32
10/30/85	90	140	1.000	3.0	4.0	227	79	1.7	16
10/31/85	85	100	1.000	3.0	3.6	204	79	4.9	9
11/01/85	80	80	1.000	3.0	3.7	212	79	0.5	5
11/02/85	80	80	1.000	3.0	3.5	198	79	1.2	0
11/03/85	80	80	1.000	3.0	3.3	187	79	0.0	0
11/04/85	80	80	1.000	3.0	3.2	181	79	0.0	0
11/05/85	80	80	1.000	3.0	3.2	183	79	0.0	0
11/06/85	80	80	1.000	3.0	3.0	170	79	0.0	0
11/07/85	60	70	1.000	2.7	3.6	183	62	0.0	0
11/08/85	60	60	1.000	2.5	3.4	161	51	0.0	0
11/09/85	110	110	1.000	3.0	4.6	261	79	3.7	2
11/10/85	85	85	1.000	3.0	3.7	210	79	1.6	4
11/11/85	71	71	1.000	2.7	3.6	189	64	8.4	7
11/12/85	71	71	1.000	2.7	3.7	189	61	3.2	7
11/13/85	71	71	1.000	2.7	3.9	183	65	0.0	8
11/14/85	70	70	1.000	2.7	3.4	174	62	1.7	6
11/15/85	115	115	1.000	3.4	4.2	270	104	1.6	9

Tested 29 days.

Average Gallup Gas Production (last 14 days)

196 MCFGPD

Average Gallup Oil Production (last 14 days)

1.5 BOPD

Associated Gallup Water Production (last 14 days)

3 BWPD

ROBERT L. BAYLESS
JICARILLA 491 #1

MESA VERDE PRODUCTION TEST INFORMATION

ATTACHMENT #4

Flowing									
Date	Tubing Pressure (PSI)	Annulus Pressure (PSI)	Orifice Size (IN)	Static Reading	Differential Reading	Gas Produced (MCFPD)	Separator Pressure (PSI)	Water Production (BBLs)	
Cliffhouse - (5492-5566)									
01/22/86	200	375	0.500	4.0	5.0	94	150	6	
01/23/86	200	360	0.625	4.0	5.0	146	150	22	
01/24/86	190	350	0.625	4.0	4.0	117	150	19	
Tested 3 days									
Average Gas Production		119 MCFGPD							
Associated Water Production		16 BWP							
Point Lookout - (5752-5792)									
11/28/85	50	75	1.000	2.5	3.5	166	51	7	
11/29/85	10	55	1.250	2.5	3.0	141	51	71	
11/30/85	150	100	1.250	2.4	4.4	313	46	21	
12/01/85	60	150	1.250	2.5	3.6	269	50	16	
12/02/85	60	150	0.750	2.5	6.1	161	51	16	
12/03/85	175	300	0.500	2.9	9.5	111	51	1	
12/04/85	158	175	0.500	3.9	6.7	122	141	1	
12/05/85	200	250	0.500	4.0	6.0	111	150	2	
12/11/85	300	500	1.000	4.0	4.5	340	149	20	
12/12/85	180	320	0.625	4.0	5.5	160	149	14	
12/13/85	280		0.625	4.0	4.6	134	149	0	
12/14/85	240	350	0.625	5.0	6.0	219	239	0	
12/15/85	200	330	0.625	4.1	4.6	137	157	10	
12/16/85	153	338	0.625	4.0	4.7	140	149	8	
12/17/85	160	350	0.625	4.0	4.5	132	149	16	
12/18/85	170	325	0.625	4.0	4.2	125	150	5	
12/19/85	200	350	0.500	4.0	4.8	93	149	8	
Tested 17 days									
Average Gas Production (last 7 days)		140 MCFGPD							
Associated Water Production (last 7 days)		7 BWP							
Average Mesa Verde Gas Production		259 MCFGPD							
Associated Mesa Verde Water Production		23 BWP							

ROBERT L. BAYLESS
JICARILLA 491 #1
PICTURED CLIFFS PRODUCTION TEST INFORMATION

Flowing								
DATE	Tubing Pressure (PSI)	Annulus Pressure (PSI)	Orifice Size (IN)	Static Reading	Differential Reading	Gas Produced (MCFPD)	Separator Pressure (PSI)	Water Production (BBLs)

UPPER PICTURED CLIFFS - (3452-3496)								
02/14/86	320	500	0.500	5.3	6.6	164	269	121
02/15/86	280	420	0.625	5.3	3.2	124	270	51
02/16/86	290	410	0.625	5.3	3.0	116	269	39
02/17/86	290	410	0.625	5.3	3.0	116	269	31
02/18/86	290	400	0.625	5.3	2.9	112	270	23
02/19/86	290	400	0.625	5.3	2.9	112	269	23
Tested 6 days.								
Average Gas Production (last 4 days)				114 MCFGPD				
Associated Water Production (last 4 days)				29 BWPD				

LOWER PICTURED CLIFFS - (3618-3626)								
02/19/86	200	400	0.625	4.2	1.8	55	165	50
Tested 1 day.								
Average Gas Production				55 MCFGPD				
Associated Water Production				50 BWPD				

Average Pictured Cliffs Gas Production				169 MCFGPD				
Associated Pictured Cliffs Water Production				79 BWPD				

ROBERT L. BAYLESS

JICARILLA 491 #1

PROPOSED ALLOCATION FORMULA: PROPORTION OF TOTAL PRODUCTION TO EACH ZONE
AS PER AMOCO WELL TESTS.

<u>FORMATION</u>	<u>FLOW TEST PRODUCTION RATES</u>			<u>PERCENTAGE OF TOTAL FLOW</u>		
	<u>GAS</u>	<u>OIL</u>	<u>WATER</u>	<u>GAS</u>	<u>OIL</u>	<u>WATER</u>
Gallup	196	1.5	3	31%	100%	3%
Mesa Verde	259	0	23	42%	0%	22%
Pictured Cliffs	169	0	79	27%	0%	75%
 TOTAL	 624	 1.5	 105	 100%	 100%	 100%

ACREAGE PLAT TIC 491 + 492

24 + OPEN	19 <u>Pasco/MESA</u> TIC COUNT 490	20	21 <u>Amoco/HUGO</u> TIC COUNT 489	22	23 <u>UNION OF CALIF.</u> TIC COUNT 488
25 OPEN	30 <u>BAYLESS</u>	29	28 <u>BAYLESS +</u> TIC COUNT 491	27	26 <u>UNION OF CALIF.</u> TIC COUNT 493
36 +	31	32 + <u>TIC COUNT 491</u>	33	34	35
OPEN	36 +	37 +	38 +	39 +	40 +
12 + <u>MOBILE</u> TIC COUNT 89	6 OPEN	5 OPEN	4 OPEN	3 OPEN	2 OPEN

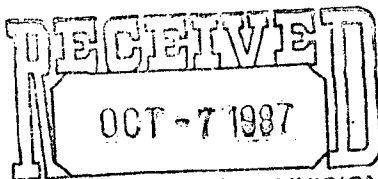


STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

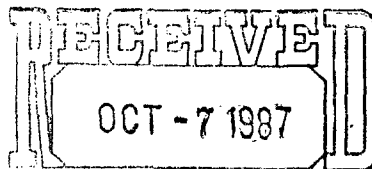
OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 10-5-87



OIL CONSERVATION DIVISION
SANTA FE

RE: Proposed MC _____
Proposed DHC _____
Proposed NSL X _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____



OIL CONSERVATION DIVISION
SANTA FE

Gentlemen:

I have examined the application dated 9-15-87

for the Robert L. Bayless Jicarilla 491 #1 J-32-28N-2W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Em Burch